

The 13th Pacific Rim Conference of Ceramic Societies (PACRIM13)

Oct. 27, 2019 -- Nov. 1, 2019

at Okinawa Convention Center, Japan

Program

■ ■ October 28 (Mon) (Room B3) ■ ■

01:Crystalline and Amorphous Transparent Optical Materials and Photonic Technologies

Session Chairs: WU, Yiquan, Alfred University

13:30

(28-B3-S01-01) Innovation in Optical Isolator (Invited)

IKESUE, Akio^{*1}

1. World-Lab Co., Ltd.

14:00

(28-B3-S01-02) Synthesis and optical properties of near-infrared persistent nanophosphors and ceramics (Invited)

DAI, Zhengfa¹; BOIKO, Vitalii¹; SALADINO, Maria Luisa²; LI, Jiang³; HRENIAK, Dariusz^{*1}

1. Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Okólna 2, PL-50-422 Wrocław, Poland

2. Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF), University of Palermo, Viale delle Scienze, Bld. 17, I-90128 Palermo, Italy

3. Key Laboratory of Transparent and Opto-Functional Inorganic Materials, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China

14:30

(28-B3-S01-03) Transparent Ceramic Persistent Phosphors (Invited)

TANABE, Setsuhisa^{*1}; XU, Jian¹; UEDA, Junpei¹

1. Kyoto University

15:00

(28-B3-S01-04) Transparent Ceramics Spark Optics Advances--Lasers, Scintillations and Infrared ceramics (Invited)

ZHANG, Long¹; JIANG, Benxue^{*2}; FENG, Tao³

1. Shanghai Institute of Optics and Fine Mechanics

2. Shanghai Institute of Optics and Fine Mechanics

3. Shanghai Institute of Optics and Fine Mechanics

(15:15) Break

Session Chairs: WU, Yiquan, Alfred University

15:30

(28-B3-S01-05) Managing the 5d-4f and 4f-4f Pr³⁺ luminescent transitions by compositional variations for wide-range accurate temperature reading (Invited)

ZYCH, Eugeniusz^{*1}; CARLOS, Luis D.²; SOJKA, Małgorzata¹; BRITES, Carlos D. S.²; RAMALHO, Joao F. C. B.²

1. Faculty of Chemistry, University of Wrocław, 14 F. Joliot-Curie Street, 50-383 Wrocław, Poland

2. Physics Department, CICECO-Aveiro Institute of Materials University of Aveiro, 3810-193 Aveiro, Portugal

15:45

(28-B3-S01-06) Chalcogenide glass on two-dimensional materials photonics (Invited)

LIN, Hongtao^{*1}; SONG, Yi³; HUANG, Yizhong^{2,4}; DEREK KITA, Derek Kita²; WANG, Kaiqi²; LI, Lan²; LI, Junying^{2,5}; ZHENG, Hanyu²; SKYLAR DECKOFF-JONES, Skylar Deckoff-Jones²; LUO, Zhengqian^{2,4}; WANG, Haozhe³; ANUPAMA YADAV, Anupama Yadav⁵; CHUNG-CHE HUANG, Chung-Che Huang⁷; GU, Tian²; DANIEL HEWAK, Daniel Hewak⁷; KATHLEEN RICHARDSON, Kathleen Richardson⁶; KONG, Jing³; HU, Juejun²

1. College of Information Science and Electronic Engineering, Zhejiang University, Hangzhou, China

2. Department of Materials Science & Engineering, Massachusetts Institute of Technology, Cambridge, USA

3. Department of Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, USA

4. Department of Electronic Engineering, Xiamen University, Xiamen, China

5. Key Laboratory of Optoelectronic Technology & System, Education Ministry of China, Chongqing University, Chongqing, China

6. The College of Optics & Photonics, University of Central Florida, Orlando, USA

7. Optoelectronics Research Centre, University of Southampton, Southampton, UK

16:00

(28-B3-S01-07) A Novel Approach for Ce:LSO Scintillation Ceramics by Crystallization from Glass (Invited)

SHI, Ying^{*1}; FAN, Lingcong¹; XIE, Jianjun¹; WANG, Lifeng¹

1. School of Materials Science and Engineering, Shanghai University

"*" asterisk Indicates an oral presenter

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16:30

(28-B3-S01-08) Fluoride transparent optical materials (Invited)

CHEN, Xianqiang¹; WU, Yiquan^{*1}

1. Kazuo Inamori School of Engineering, New York State College of Ceramics, Alfred University, Alfred, NY 14802, USA

16:45

(28-B3-S01-09) Dielectric Metasurface with a near-unity transmission and deep modulation in its hybrid structure with graphene (Invited)

LIU, Chuanbao^{1,2,3}; BAI, Yang^{*1,2}; ZHOU, Ji³; ZHAO, Qian⁴; QIAO, Lijie^{1,2}

1. Beijing Advanced Innovation Center for Materials Genome Engineering, University of Science and Technology Beijing, Beijing 100083, China

2. Institute for Advanced Materials and Technology, University of Science and Technology Beijing, Beijing 100083, China

3. State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science and Engineering, Tsinghua University, Beijing 100084, China

4. State Key Laboratory of Tribology, Department of Mechanical Engineering, Tsinghua University, Beijing 100084, China

Session Chairs: TANG, Dingyuan, Nanyang Technological University

17:00

(28-B3-S01-10) Mechanically Flexible and Multi-functional Photonics Based on Amorphous Glass Materials (Invited)

LI, Lan^{*1,2}; LIN, Hongtao³; QIAO, Shutao⁴; HUANG, Yizhong⁵; LI, Junying⁶; MICHON, Jerome⁷; ALONSO-RAMOS, Carlos⁸; VIVIEN, Laurent⁸; YADAV, Aupama⁹; RICHARDSON, Kathleen⁹; LU, Nanshu⁴; GU, Tian⁷; HU, Juejun⁷

1. Key Laboratory of 3D Micro/Nano Fabrication and Characterization of Zhejiang Province, School of Engineering, Westlake University, 18 Shilongshan Road, Hangzhou 310024, Zhejiang Province, China.

2. Institute of Advanced Technology, Westlake Institute for Advanced Study, 18 Shilongshan Road, Hangzhou 310024, Zhejiang Province, China.

3. College of Information Science & Electronic Engineering, Zhejiang University, Hangzhou, China

4. Centre for Mechanics of Solids, Structures and Materials, Department of Aerospace Engineering and Engineering Mechanics, University of Texas at Austin, USA

5. University of Chicago, USA

6. University of Shanghai for Science and Technology, China

7. Department of Materials Science & Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139, USA

8. Institut d'Electronique Fondamentale (IEF), CNRS UMR 8622, Bât. 220, Université Paris-Sud XI, F-91405 ORSAY cedex, France

9. CREOL, The College of Optics and Photonics, University of Central Florida, 4304 Scorpius Street, Orlando, FL 32816-2700, USA

17:15

(28-B3-S01-11) High quality powder synthesis and facile forming technology development for transparent AlON ceramics (Invited)

QI, Jianqi^{*1,2}; FENG, Zhao^{1,2}; HUANG, Xu^{1,3}; CHENG, Gang^{1,3}; LU, Tiecheng^{1,2,3}

1. College of Physics, Sichuan University, Chengdu 610064, China

2. Key Laboratory of Radiation Physics and Technology of Ministry of Education, Sichuan University, Chengdu 610064, China

3. Key Laboratory of High Energy Density Physics of Ministry of Education, Sichuan University, Chengdu 610064, China

■■October 28 (Mon) (Room B5) ■■

02:Solid Oxide Fuel Cells and Hydrogen Technologies

SOFC plenary

Session Chairs: AWANO, Masanobu, AIST

10:45

(28-B5-S02-01) Overview of NEDO Fuel Cell and Hydrogen R&D Program in JAPAN (Invited)

HARA, Daishu^{*1}

1. New Energy and Industrial Technology Development Organization (NEDO)

SOFC electrolyte and cell

Session Chairs: DOGAN, Fatih, Missouri University of Science and Technology

11:15

(28-B5-S02-02) Improvement in sinterability of ceria/lanthanum silicate bi-layer electrolytes

TAKAHASHI, Susumu^{*1}; SUMI, Hirofumi¹; FUJISHIRO, Yoshinobu¹

1. National Institute of Advanced Industrial Science and Technology

11:30

(28-B5-S02-03) Total Scattering Study on Local Structures of Na_{0.5}Bi_{0.5}TiO₃-Based Oxide-Ion Conductors

KITAMURA, Naoto^{*1}; ISHIKAWA, Kazuya¹; HAYASHI, Naoya¹; ISHIDA, Naoya¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

11:45

(28-B5-S02-04) Promising cermet of TiN-Ni for intermediate temperature solid oxide fuel cell interconnects application

LIU, Yan^{*1}; GAI, Linlin¹

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences

SOFC electrode I

Session Chairs: ISHIHARA, Tatsumi, Kyushu University

13:30

(28-B5-S02-05) Designing Planar-type SOFC: Modeling Approaches on different Scales (Invited)

IVERS-TIFFEE, Ellen^{*1}; DIERICKX, Sebastian¹; GEISLER, Helge¹; WEBER, Andre¹

1. Institute of Applied Materials, Karlsruhe Institute of Technology, 76131 Karlsruhe, Germany

“*” asterisk Indicates an oral presenter

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14:00

(28-B5-S02-06) Single Chamber Solid Oxide Fuel Cells and Nanostructured Electrodes (Invited)DOGAN, Fatih*¹

1. Missouri University of Science and Technology

14:30

(28-B5-S02-07) Development of Microtubular Solid Oxide Fuel Cells for Mobile Applications (Invited)SUMI, Hirofumi*¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

Session Chairs: IVERS-TIFFEE, Ellen, Institute of Applied Materials, Karlsruhe Institute of Technology

14:45

(28-B5-S02-08) A Highly Active and Redox Stable Novel Ceramic Anode with In- situ Exsolution of Nanocatalysts (Invited)LEE, Kang Taek*¹

1. DGIST

15:15

(28-B5-S02-09) A Electrode Kinetics of One-step Infiltration Induced Multi-cation Oxide Nano-catalyst Cathode for SOFC (Invited)HONG, Jaewoon¹; NAMGUNG, Yeon¹; SONG, Sun-Ju*¹

1. Chonnam National University

(15:45) Break**SOFC electrode II**

Session Chairs: SINGH, Prabhakar, University of Connecticut

16:00

(28-B5-S02-10) Strain effects on oxygen dissociation activity of Pr₂NiO₄ for low temperature solid oxide fuel cells (Invited)ISHIHARA, Tatsumi*^{1,2}; KIM, Sunjae¹; TAKAGAKI, Atsushi^{1,2}

1. Department of Applied Chemistry, Faculty of Engineering, Kyushu University

2. International Institute for Carbon Neutral Energy Research (WPI-I2CNER), Kyushu University

16:30

(28-B5-S02-11) Mixed conductive properties of Ca doped LaFeO₃ for SOFC cathodes (Invited)KAGOMIYA, Isao*¹; MURAYAMA, Tomoki¹; TSUNEKAWA, Kyosuke¹; KAKIMOTO, Ken-ichi¹; SASAMATA, Yuichi²; OGURA, Yusuke²; YAMAGUCHI, Yuki³

1. Nagoya Institute of Technology

2. Toho Gas Co., Ltd.

3. National Institute of Advanced Industrial Science and Technology (AIST)

Session Chairs: SUMI, Hirofumi, AIST

17:00

(28-B5-S02-12) High Performance Solid Oxide Fuel Cell with Colloidal Processing Derived Nanostructured La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-δ}/Gd_{0.2}Ce_{0.8}O_{1.9} CathodeSATO, Kazuyoshi*¹; IWATA, Chizuru¹; KANNARI, Naokatsu¹; ABE, Hiroya²

1. Graduate School of Science and Engineering, Gunma University

2. Joining and Welding Research Institute, Osaka University

17:15

(28-B5-S02-13) Enhancement of oxygen reduction reaction activity of double-doped bismuth oxide-based cathodes for high performance IT-SOFCsYUN, Byung-Hyun*¹; JOH, Dong Woo¹; KIM, Kyeong Jun¹; LEE, Jong Joon¹; CHAE, Munseok S.*¹; KIM, Dae-Won¹; KANG, Seokbeom¹;CHOI, Doyoung¹; HONG, Seung-Tae¹; LEE, Kang Taek¹

1. DGIST

17:30

(28-B5-S02-14) Nucleation and Growth Kinetics of Ex-solution Particles (Invited)JUNG, WooChul*¹

1. Dept. MSE, KAIST, South Korea

■ ■ October 28 (Mon) (Room A3) ■ ■**03:Advanced Structural Ceramics for Extreme Environments****New methods for joining and machining**

Session Chairs: DEMIRSKYI, Dmytro, Tohoku University

16:00

(28-A3-S03-01) Joining of UHTC Composite using Metallic Interlayer (Invited)SAITO, Noritaka*¹; NISHIOKA, Nobuo²; NAKASHIMA, Kunihiko¹

1. Department of Materials Science and Engineering, Kyushu University

2. Shoen Chemical Inc.

16:30

(28-A3-S03-02) Joining and fusion welding of structural ceramics (Invited)

“*” asterisk Indicates an oral presenter

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WATTS, Jeremy^{*1}; HILMAS, Greg¹; FAHRENHOLTZ, William¹

1. Missouri University of Science and Technology

17:00

(28-A3-S03-03) Indentation-based micromechanical characterization of metastable tetragonal zirconia

MASUDA, Hiroshi^{*1}; MORITA, Koji¹; WATANABE, Makoto¹; OHMURA, Takahito¹

1. National Institute for Materials Science

17:15

(28-A3-S03-04) In-situ formed h-BN platelet reinforced boron carbide composites sintered via SPS

ZHANG, Fan^{*1}; FU, Zhengyi²

1. Wuhan University of Technology

2. Wuhan University of Technology

17:30

(28-A3-S03-05) Synthesis and Thermal Stability of Ti_{3-x}Zr_xSiC₂ MAX Phase Solid Solutions

GUBAREVICH, Anna V.^{*1}; MALETASKIC, Jelena^{1,2}; YOSHIDA, Katsumi¹

1. Tokyo Institute of Technology

2. Institute for Nuclear Sciences, University of Belgrade

■ ■ **October 28 (Mon) (Room A2)** ■ ■

04: Symposium on Multiferroic Materials

Session Chairs: CHEN, Xiang Ming, Zhejiang University

11:15

(28-A2-S04-01) Magnetoelectric effects in topological magnets (Keynote)

TOKURA, Yoshinori^{*1,2}

1. RIKEN Center for Emergent Matter Science

2. Tokyo College and Department of Applied Physics, University of Tokyo

Session Chairs: LIU, Jun-Ming, Nanjing University

13:30

(28-A2-S04-02) Dynamical Properties of Multiferroics (Invited)

BELLAICHE, Laurent^{*1}; SAYEDAGHAEI, S. Omid^{1,2}; PAILLARD, Charles^{1,3}; XU, Bin^{1,4}; PROSANDEEV, Sergey¹

1. Physics Department and Institute for Nanoscience and Engineering, University of Arkansas, Fayetteville, Arkansas 72701, USA

2. Microelectronics-Photonics Program, University of Arkansas, Fayetteville, Arkansas 72701, USA

3. Laboratoire Structures, Propriétés et Modélisation des Solides, CentraleSupélec, CNRS UMR 8580, Université Paris-Saclay, 91190 Gif-sur-Yvette, France

4. School of Physical Science and Technology, Soochow University, Suzhou 215006, China

14:00

(28-A2-S04-03) Topology and functionality in complex oxides (Invited)

INIGUEZ, Jorge^{*1,2}

1. Luxembourg Institute of Science and Technology

2. University of Luxembourg

14:30

(28-A2-S04-04) Dynamic magnetoelectric control of Cr₂O₃ domain (Invited)

SHIRATSUCHI, Yu^{*1}

1. Department of Materials Science and Engineering, Osaka University

15:00

(28-A2-S04-05) Theoretical Design of Low Dimensional Polar Materials (Invited)

DONG, Shuai^{*1}

1. School of Physics, Southeast University

15:30

(28-A2-S04-06) Classification theory of magnetoelectric multipole and candidate materials (Invited)

WATANABE, Hikaru¹; SHITADE, Atsuo^{1,2}; DAIDO, Akito¹; YANASE, Youichi^{*1}

1. Department of Physics, Kyoto University, Kyoto 606-8502, Japan

2. RIKEN, Center for Emergent Matter Science, Wako 351-0198, Japan

16:00

(28-A2-S04-07) Electric-Field Control of Magnetization, Jahn-Teller Distortion, and Orbital Ordering in Ferroelectric Ferromagnets (Invited)

YANG, Yurong^{*1,2}; CHEN, Lan^{1,2}; XU, Changsong¹; TIAN, Hao²; XIANG, Hongjun³; INIGUEZ, Jorge⁴; BELLAICHE, Laurent¹

1. University of Arkansas, USA

2. Nanjing University, China

3. Fudan University, China

4. Luxembourg Institute of Science and Technology, Luxembourg

(16:15) Break

Session Chairs: BELLAICHE, Laurent, University of Arkansas

17:00

(28-A2-S04-08) Multiferroic Hexaferrites: from Fundamental Physics to Memory Device (Invited)

SUN, Young^{*1}; ZHAI, Kun¹; SHEN, Shipeng¹; CHAI, Yisheng¹

1. Institute of Physics, Chinese Academy of Sciences

“*” asterisk Indicates an oral presenter

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17:30

(28-A2-S04-09) Symmetry modulation and electric field-controlled magnetism in $\text{Bi}_{1-x}\text{Nd}_x\text{FeO}_3$ ceramicsCHEN, Jing^{*1}; XU, Bin^{2,3}; LIU, Xiao Qiang¹; GAO, Ting Ting¹; BELLAICHE, Laurent³; CHEN, Xiang Ming¹

1. ZheJiang University
2. Soochow University
3. University of Arkansas

17:45

(28-A2-S04-10) Insights into the Coupled Domains in Conical Spin-driven MultiferroicsFISCHER, Jonas K. H.^{*1}; MISAHA, Ryusuke¹; KIMURA, Kenta¹; KIMURA, Tsuyoshi¹

1. University of Tokyo, Department of Advanced Materials Science

■ ■ **October 28 (Mon) (Room Theater)** ■ ■**07: Dielectric, Piezoelectric, and Ferroelectric Materials: Advances for Emerging Applications****Energy Storage**

Session Chairs: YOSHIMURA, Takeshi, Osaka Prefecture University

10:45

(28-Theater-S07-01) AgNbO_3 -based Lead-free Antiferroelectrics for Energy Storage Applications (Invited)LI, Jing-Feng^{*1}; GAO, Jing¹; ZHAO, Lei¹; ZHANG, Yichi¹; LIU, Qing¹; ZHANG, Shujun²

1. School of Materials Science and Engineering, Tsinghua University
2. Institute for Superconducting and Electronic Materials, Australian Institute of Innovative Materials, University of Wollongong

11:15

(28-Theater-S07-02) Polymer Dielectric Composites with Hierarchical Design for High Energy Density Capacitors (Invited)WANG, Hong^{*1,2}

1. Xi'an Jiaotong University
2. Southern University of Science and Technology

11:45

(28-Theater-S07-03) Dielectric Interface for Li Ion Battery with Ultrahigh Rate CapabilityTERANISHI, Takashi^{*1}; YASUHARA, Sou²; YASUI, Shintaro²; KOZAI, Kaisei¹; YAMANAKA, Ryoji¹; ITOH, Mitsuru²; KISHIMOTO, Akira¹

1. Okayama University
2. Tokyo Institute of Technology

Energy Conversion

Session Chairs: WANG, Hong, Xi'an Jiaotong University

13:30

(28-Theater-S07-04) Ferroic Perovskite Oxides for Caloric Cooling Applications (Invited)MALIC, Barbara^{*1,2}; URSIC, Hana¹; FULANOVIC, Lovro¹; BOBNAR, Vid^{2,3}; DRNOVSEK, Silvo¹; PRAH, Uros^{1,2}; BRADESKO, Andraz^{1,2}; ROJAC, Tadej^{1,2}; JAZBEC, Anze⁴; SNOJ, Luka^{4,5}

1. Electronic Ceramics Department, Jožef Stefan Institute, Jamova cesta 39, 1000 Ljubljana, Slovenia
2. Jožef Stefan International Postgraduate School, Jamova cesta 39, 1000 Ljubljana, Slovenia
3. Condensed Matter Physics Department, Jožef Stefan Institute, Jamova cesta 39, 1000 Ljubljana, Slovenia
4. Reactor Physics Department, Jožef Stefan Institute, Jamova cesta 39, 1000 Ljubljana, Slovenia
5. Faculty of Mathematics and Physics, University of Ljubljana, Jadranska cesta 19, 1000 Ljubljana, Slovenia

14:00

(28-Theater-S07-05) Positive and Negative Electrocaloric Effects in $(\text{Pb},\text{La})(\text{Zr},\text{Ti})\text{O}_3$ CeramicsMAIWA, Hiroshi^{*1}

1. Shonan Institute of Technology

14:15

(28-Theater-S07-06) Energy Harvesting from Electric Power Lines Using Piezoelectric EffectYOSHIMURA, Takeshi^{*1}; UENO, Yuya²; MINAMI, Toshio²; MURAKAMI, Shuichi³; FUJIMURA, Norifumi¹

1. Osaka Prefecture University
2. Daihen Corporation
3. Osaka Research Institute of Industrial Science and Technology

14:30

(28-Theater-S07-07) Ferroelectric Behavior of MAPbX_3 Perovskites and Ferroelectric Semiconductor Solar CellsZHANG, Wenxiong¹; LI, Shen¹; IMAI, Yasuo¹; KODERA, Kei¹; FENG, Qi^{*1}

1. Faculty of Engineering and Design, Kagawa University

Novel Polar Materials

Session Chairs: LI, Jing-Feng, Tsinghua University

14:45

(28-Theater-S07-08) Cation order/disorder behavior of spinel-structured LiGaTiO_4 microwave dielectric ceramicsKAN, Akinori^{*1}; OKAZAKI, Hiroto¹; OGAWA, Hirotaka¹

1. Meijo University

“*” asterisk Indicates an oral presenter

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15:00

(28-Theater-S07-09) Structural Phase Transition of $\text{Ca}_8[\text{AlO}_2]_{12}(\text{SO}_4)_2$ Ferroelectric

NAKAHIRA, Yuki^{*1}; KAWAMURA, Genta¹; WAKAMATSU, Toru²; MORIYOSHI, Chikako¹; KUROIWA, Yoshihiro¹; TERASAKI, Ichiro²; TANIGUCHI, Hiroki²

1. Hiroshima University
2. Nagoya University

15:15

(28-Theater-S07-10) Development of Hybrid Improper Ferroelectric Layered Perovskites

YOSHIDA, Suguru^{*1}; AKAMATSU, Hirofumi²; TSUJI, Ryosuke¹; HERNANDEZ, Olivier³; PADMANABHAN, Haricharan⁴; GIBBS, Alexandra S.⁵; MIBU, Ko⁶; MURAI, Shunsuke¹; GOPALAN, Venkatraman⁴; TANAKA, Katsuhisa¹; FUJITA, Koji¹

1. Kyoto University
2. Kyushu University
3. Université de Rennes 1
4. Pennsylvania State University
5. Rutherford Appleton Laboratory
6. Nagoya Institute of Technology

(15:30) Break

Session Chairs: YONEDA, Yasuhiro, Japan Atomic Energy Agency

15:45

(28-Theater-S07-11) Weak Ferroelectricity in $n = 2$ Pseudo Ruddlesden-Popper-type Niobate $\text{Li}_2\text{SrNb}_2\text{O}_7$

TANIGUCHI, Hiroki^{*1,4}; NAGAI, Takayuki⁴; SHIRAKUNI, Hirokazu¹; NAKANO, Akitoshi¹; SAWA, Hiroshi²; MORIWAKE, Hiroki³; TERASAKI, Ichiro¹

1. Department of Physics, Nagoya University
2. Department of Applied Physics, Nagoya University
3. Nanostructures Research Laboratory, Japan Fine Ceramics Center
4. Materials Research Center for Element Strategy, Tokyo Institute of Technology

16:00

(28-Theater-S07-12) Structural analyses in Ruddlesden – Popper-type $\text{Li}_2\text{SrNb}_2\text{O}_7$ using synchrotron X-ray diffraction experiments

NAKANO, Akitoshi^{*1}; NAGAI, Takayuki²; SAWA, Hiroshi³; TERASAKI, Ichiro¹; TANIGUCHI, Hiroki¹

1. Department of Physics, Nagoya University, Nagoya 464-8602, Japan
2. Materials Research Center for Element Strategy, Tokyo Institute of Technology, Yokohama 226-8503, Japan
3. Department of Applied Physics, Nagoya University, Nagoya 464-8602, Japan

16:15

(28-Theater-S07-13) Microstructures and their relevance to photoluminescence in Eu^{2+} -doped $\text{Sr}_{1-x}\text{Ca}_x\text{Al}_2\text{O}_4$

MORI, Shigeo^{*1}; TSUKASAKI, Hirofumi¹; HIRANO, Hayato¹; KAWAGUCHI, Shogo²; ISHII, Yui¹; TAKEDA, Hiroaki³

1. Department of Materials Science, Osaka Prefecture University
2. Japan Synchrotron Radiation Research Institute (JASRI/SPring-8)
3. School of Materials and Chemical Technology, Tokyo Institute of Technology

HfO₂-based Ferroelectrics

Session Chairs: YASUI, Shintaro, Tokyo Institute of Technology

16:30

(28-Theater-S07-14) Nonlinear Polarization Response of HfO₂-based Thin Films Fabricated by Chemical Solution Deposition (Invited)

YONEDA, Shingo^{*1}

1. Murata Manufacturing Co., Ltd

17:00

(28-Theater-S07-15) The phase stability and epitaxial growth of HfO₂-based ferroelectric materials (Invited)

SHIMIZU, Takao^{*1}; MIMURA, Takanori¹; FUNAKUBO, Hiroshi¹

1. Tokyo Institute of Technology

17:30

(28-Theater-S07-16) Ferroelectric phase formation in hafnia based thin films (Invited)

PARK, Min Hyuk^{*1}; LEE, Youn Hwan²; MIKOLAJICK, Thomas^{3,4}; SCHROEDER, Uwe³; HWANG, Cheol Seong²

1. School of Materials Science and Engineering, Pusan National University, 2 Busandaehak-ro 63beon-gil
2. Department of Materials Science and Engineering & Inter-University Research Center College of Engineering,
3. NaMLab gGmbH, Noethnitzer Str. 64, 01187 Dresden, Germany
4. Chair of Nanoelectronic Materials, TU Dresden, Dresden 01069, Germany

■■October 28 (Mon) (Room B1C) ■■

11:Advanced Powder Processing and Manufacturing Technologies

Synthesis I

Session Chairs: TATAMI, Junichi, Yokohama National University

10:45

(28-B1C-S11-01) Direct formation of photocatalytic anatase-TiO₂ on titanium-metal and its application (Invited)

ISHIKAWA, Toshihiro^{*1}; TSUJIKURA, Keiko¹

1. Tokyo University of Science, Yamaguchi (Sanyo-Onoda City University)

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11:15

(28-B1C-S11-02) Synthesis of transition metal-doped zinc chalcogenide powders (Invited)YU, Shengquan¹; YI, Yiyu¹; MILISAVLJEVIC, Iva¹; WU, Yiquan^{*1}

1. Kazuo Inamori School of Engineering, New York State College of Ceramics Alfred University, Alfred, NY 14802, USA

11:45

(28-B1C-S11-03) Formation Mechanism of Octahedral Molybdenum Cluster Film by Electrophoretic DepositionNGUYEN, Thi Kim Ngan^{1,2}; UCHIKOSHI, Tetsuo^{*1,2}; GRASSET, Fabien¹; CORDIER, Stephane³

1. Research Center for Functional Materials, National Institute for Materials Science

2. Graduate School of Chemical Sciences and Engineering, Hokkaido University

3. Institute of Chemical Sciences of Rennes, UMR 6226 CNRS- University of Rennes 1

Synthesis II

Session Chairs: ISHIKAWA, Toshihiro, Tokyo University of Science, Yamaguchi (Sanyo-Onoda City University)

13:30

(28-B1C-S11-04) Synthesis and High Throughput Screening of Ceramic Phosphors for Wide Applications (Invited)LIU, Qian^{*1}; WAN, Jieqiong^{1,2}; ZHANG, Kong^{1,2}; WEI, Qinhu^{1,2}; ZHOU, Zhenzhen^{1,2}; XU, Xiaoke¹; ZHANG, Ying¹; LI, Ru¹; ZHOU, Yao¹

1. The State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, 1295 Dingxi Road, Shanghai 200050, China

2. Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

14:00

(28-B1C-S11-05) Liquid Phase Synthesis of Functional Nanoparticles Controlled in Size and Shape for Printed Electronics Technology (Invited)KANIE, Kiyoshi^{*1}

1. Tohoku University

Session Chairs: TAKAI, Chika, Gifu University

14:30

(28-B1C-S11-06) Particle Synthesis with Controlled Morphology by Wet Planetary Ball MillingKOZAWA, Takahiro^{*1}; FUKUYAMA, Kayo¹; KONDO, Akira¹; NAITO, Makio¹

1. Joining and Welding Research Institute, Osaka University

14:45

(28-B1C-S11-07) Bi₃TaO₇ Nanosheets as Visible-Light-Active Photocatalysts for Water SplittingRAZAVI-KHOSROSHAHI, Hadi^{*1}; MOHAMMADZADEH, Sara¹; HOJAMBERDIEV, Mirabbos²; KITANO, Sho³; YAMAUCHI, Miho^{3,4}; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology

2. Department of Materials Physics, Faculty of Engineering, Nagoya University

3. Department of Chemistry, Kyushu University

4. International Institute for Carbon-Neutral Energy Research, Kyushu University

15:00

(28-B1C-S11-08) Synergism of Combustion Synthesis, High-Energy Ball Milling and Spark Plasma Sintering for Producing Ceramics and Ceramic-Metal CompositesROGACHEV, Alexander^{*1,2}; MOSKOVSKIY, Dmitry¹; NEPAPUSHEV, Andrey¹; VADCHENKO, Sergei²; SEDEGOV, Aleksey¹;KOCHETOV, Nikolay²; MUKASYAN, Alexander^{1,3}

1. Center of Functional Nano-Ceramics, National University of Science and Technology, "MISIS", Moscow 119049, Russia

2. Merzhanov Institute of Structural Macrokinetics and Materials Science Russian Academy of Sciences (ISMAN), Chernogolovka 142432 Moscow Region, Russia

3. Department of Chemical and Biomolecular Engineering, University of Notre Dame, Indiana 46556, USA

(15:15) Break**Interface**

Session Chairs: UCHIKOSHI, Tetsuo, NIMS

15:30

(28-B1C-S11-09) Non-reactive and reactive wetting of ceramics by liquid metals and alloys (Invited)HODAJ, Fiqiri^{*1}

1. Grenoble Institute of Technology

16:00

(28-B1C-S11-10) NMR as a tool to characterize the aggregation structure of silica nanoparticles in a liquidTAKAI-YAMASHITA, Chika^{*1}; SATO, Emiko²; FUJI, Masayoshi²

1. Gifu University

2. Nagoya Institute of Technology

16:15

(28-B1C-S11-11) Surface modification of hexagonal boron nitride by π - π interactionTOMINAGA, Yuichi^{*1}; HOTTA, Yuji¹; IMAI, Yusuke¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

Synthesis III

Session Chairs: TOMINAGA, Yuichi, AIST

16:30

(28-B1C-S11-12) Effective Preventions of Thermal-and Moisture-Induced Degradations for Sr₂Si₅N₈:Eu²⁺

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

Phosphor via Thermal Treatment in Nitrogen-HydrogenZHANG, Chenning^{*1}; UCHIKOSHI, Tetsuo¹; XIE, Rong-Jun²; LIU, Lihong¹; CHO, Yujin³; HIROSAKI, Naoto³

1. National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan

2. College of Materials, Xiamen University, Xiamen, Fujian 361005, China

3. National Institute for Materials Science, Tsukuba, Ibaraki 305-0044, Japan

16:45**(28-B1C-S11-13) Development of Novel Oxygen Combustion Burner for Forehearth Heating : "Innova-Jet F.H."**SAITO, Takeshi^{*1}; YAMAMOTO, Yasuyuki¹; HAGIHARA, Yoshiyuki¹

1. Combustion Technology Div., Taiyo Nippon Sanso Corp.

17:00**(28-B1C-S11-14) Nanostructured Powder Design and Synthesis for Sustainable Development**KONSTANDOPOULOS, Athanasios^{*1}; ZACHAROPOULOU, Vassiliki¹; SAKELLARIOU, Kyriaki¹; GANAS, George¹

1. Centre for Research and Technology-Hellas (CERTH)

■ ■ October 28 (Mon) (Room T1) ■ ■**12:Novel Nanocrystal Technologies for Advanced Ceramic Materials & Devices****Nanocube assembly**

Session Chairs: SATO, K., Gunma University

10:45**(28-T1-S12-01) Nanocubes and Self-Assembly Toward Dielectrics in The Smart Society (Invited)**KATO, Kazumi^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST)

11:15**(28-T1-S12-02) Solvothermal Synthesis of Barium Titanate Nanocubes and Their Assembly (Invited)**UENO, Shintaro¹; HATAKEYAMA, Sakuya¹; WATANABE, Mutsuki¹; FUKASAWA, Kazuki¹; CHIKATA, Tsukasa¹; FUJII, Ichiro¹; WADA, Satoshi^{*1}

1. University of Yamanashi

11:45**(28-T1-S12-03) Ferroelectric properties and domain structures of BaTiO₃ nanocube self-assembled monolayers**ITASAKA, Hiroki^{*1}; MIMURA, Ken-ichi¹; KATO, Kazumi²

1. Inorganic Functional Materials Research Institute, National Institute of Advanced Industrial Science and Technology

2. National Institute of Advanced Industrial Science and Technology

Session Chairs: UENO, S., University of Yamanashi

13:30**(28-T1-S12-04) Design of Ordered Microarrays by Nanoscale Brickworks of Rectangular Building Blocks (Invited)**IMAI, Hiroaki^{*1}

1. Keio University

Characterization

Session Chairs: UENO, S., University of Yamanashi

14:00**(28-T1-S12-05) Observation of metal oxide nanocrystals and nanoclusters using ultra high resolution scanning electron microscope (Invited)**ASANO, Natsuko¹; ASAHINA, Shunsuke^{*1}; TAKAMI, Seiichi²

1. EP business unit, EP application department, SEM team, JEOL Ltd., 3-1-2 Musashino, Akishima, Tokyo 196-8558, Japan

2. Graduate School of Engineering, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8603, Japan

14:30**(28-T1-S12-06) Electron microscopy of surface reconstruction of a SrTiO₃ photocatalyst**NAKASHIMA, Kouichi^{*1}; YAMAZAKI, Reina¹; OKOUCHI, Naoya¹; KOBAYASHI, Yoshio¹; KAKIHANA, Masato²; HIGASHI, Masanobu³;ABE, Ryu⁴

1. Graduate School of Science and Engineering, Ibaraki University

2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

3. Advanced Research Institute for Natural Science and Technology, Osaka City University

4. Graduate School of Engineering, Kyoto University

14:45**(28-T1-S12-07) Surface Reactivity of Metal Oxide Nanocrystals as Evaluated by Optical Characterization**FUJIIHARA, Shinobu^{*1}; TAKAHASHI, Hideaki¹; UMEHARA, Takashi¹; HAGIWARA, Manabu¹

1. Keio University

(15:00) Break**Crystal growth**

Session Chairs: NAKASHIMA, K., Ibaraki University

15:15**(28-T1-S12-08) Solvothermal Synthesis of Tungsten and Vanadium Based Oxides for Infrared Light Shielding (Invited)**

"*" asterisk Indicates an oral presenter

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RIAPANITRA, Anung¹; ASAKURA, Yusuke¹; YIN, Shu^{*1}

1. IMRAM, Tohoku University

15:45

(28-T1-S12-09) Growth of $\text{La}_{0.75}\text{Sr}_{0.25}\text{Cr}_{0.5}\text{Mn}_{0.5}\text{O}_{3-\delta}$ / $\text{Gd}_{0.2}\text{Ce}_{0.8}\text{O}_{1.9}$ Nanocomposite as Alternative Anode Material of Solid Oxide Fuel Cells

SATO, Kazuyoshi^{*1}; INABA, Yoshiki¹; KANNARI, Naokatsu¹; ABE, Hiroya²; SCIAZKO, Anna³; SHIKAZONO, Naoki³; OKABE, Takao⁴; TANIGUCHI, Jun⁴

1. Graduate School of Science and Engineering, Gunma University

2. Joining and Welding Research Institute, Osaka University

3. Institute of Industrial Science, The University of Tokyo

4. Faculty of Industrial Science and Technology, Tokyo University of Science

16:00

(28-T1-S12-10) Accelerated Oxygen Reduction Reaction in LSM-YSZ Cathode by nanostructurization and composition control

TAMURA, Kana^{*1}; NANTHANA, Pouy¹; SATO, Kazuyoshi¹; KANNARI, Naokatsu¹; ABE, Hiroya²

1. Gunma University

2. Osaka University

16:15

(28-T1-S12-11) Synthesis of morphology-controlled hydroxyapatite and its application as carrier for photocatalyst (Invited)

GOTO, Tomoyo^{*1}; CHO, Sung Hun¹; OHTSUKI, Chikara²; SEKINO, Tohru¹

1. The Institute of Scientific and Industrial Research, Osaka University

2. Graduate School of Engineering, Nagoya University

(16:45) Break

Titania nanocrystals

Session Chairs: TANIGUCHI, T., NIMS

17:00

(28-T1-S12-12) Crystallization of Atomic Layer Deposition TiO_2 Thin Films and Formation of TiO_2 Homo Junction (Invited)

LIU, Ting-Ren¹; CHAO, Shih-Chun¹; WANG, I-Ta¹; WU, Chien-Ting²; WEN, Cheng-Yen^{*1,3,4}

1. Department of Materials Science and Engineering, National Taiwan University, Taipei 10617, Taiwan

2. National Nano device Laboratories, National Applied Research Laboratories, Hsinchu City 30078, Taiwan

3. Center of Atomic Initiative for New Materials, National Taiwan University, Taipei 10617, Taiwan

4. International Graduate Program of Molecular Science and Technology, National Taiwan University, Taipei 10617, Taiwan

17:30

(28-T1-S12-13) Anatase and Brookite TiO_2 Nanocrystals for Electron-Transport Layer of Perovskite Solar Cells (Invited)

TOMITA, Koji^{*1}; SHAHIDUZZAMAN, Md.²; VISAL, Sem³; KASUYA, Kohei¹; ISOMURA, Masao³

1. Graduate School of Science and Technology, Tokai University

2. Nanomaterials Research Institute, Kanazawa University

3. Graduate School of Engineering, Tokai University

■ ■ October 28 (Mon) (Room C1) ■ ■

15:Advanced Nanocharacterization and Atomic-Scale Modeling of Grain Boundaries and Interfaces in Ceramics: Structures, Dynamics and Properties

Grain boundary structure, segregation and dynamics

Session Chairs: SHIBATA, Naoya, University of Tokyo

10:45

(28-C1-S15-01) Alternation of Grain Boundary Core Structures by Externally Applied Electric Fields (Keynote)

HUGHES, Lauren¹; RUSSELL, Sean¹; VAN BENTHEM, Klaus^{*1}

1. University of California, Davis

11:15

(28-C1-S15-02) Disconnections and the Kinetics of Grain Growth (Invited)

MOSHE, Ruth¹; MARDER, Rachel¹; STERNLICHT, Hadas¹; KAPLAN, Wayne D.^{*1}

1. Department of Materials Science and Engineering, Technion - Israel Institute of Technology, Haifa 32000, Israel

Session Chairs: BENTHEM, Klaus van, UC Davis

11:45

(28-C1-S15-03) Direct imaging of atomistic grain boundary migration

WEI, Jiak^{*1}; FENG, Bin¹; ISHIKAWA, Ryo^{1,2}; YOKOI, Tatsuya³; MATSUNAGA, Katsuyuki³; SHIBATA, Naoya^{1,4}; IKUHARA, Yuichi^{1,4}

1. Institute of Engineering Innovation, The University of Tokyo, Tokyo 113-8656, Japan

2. Japan Science and Technology Agency, PRESTO, Kawaguchi, Saitama 332-0012, Japan

3. Department of Materials Physics, Nagoya University, Nagoya 464-8601, Japan

4. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Nagoya 456-8587, Japan

13:30

(28-C1-S15-04) Superplastic forming of oxide ceramics enhanced by strong electric field (Invited)

"*" asterisk Indicates an oral presenter

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YOSHIDA, Hidehiro^{*1}; SASAKI, Yamato²; YAMAMOTO, Takahisa³

1. Department of Materials Science, The University of Tokyo

2. Department of Materials Science and Technology, Tokyo University of Science

3. Materials Design Innovation Engineering, Nagoya University

14:00

(28-C1-S15-05) Segregation behaviors of single and multiple dopants in Al₂O₃ Σ7{4-510} grain boundary

YANG, Chuchu^{*1}; FENG, Bin¹; TOCHIGI, Eita¹; WEI, Jiak¹; SHIBATA, Naoya^{1,2}; IKUHARA, Yuichi^{1,2}

1. Institute of Engineering Innovation, The University of Tokyo, Tokyo, 113-8656, Japan

2. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Nagoya, 456-8587, Japan

14:15

(28-C1-S15-06) Roles of Hetero-Interfaces and Grain Boundaries in Nucleation and Subsequent Grain Growth of δ - γ Massive-like Transformation of Carbon Steel

KUROTSU, Keita^{*1}; YOSHIYA, Masato^{1,2}; YASUDA, Hideyuki³

1. Department of Adaptive Machine Systems, Osaka University

2. Nanostructures Research Laboratory, Japan Fine Ceramics Center

3. Department of Materials and Engineering, Kyoto University

14:30

(28-C1-S15-07) The easy paths for fracture and for shear flow at the atomic scale: Ceramics versus glasses (Invited)

ROUXEL, Tanguy^{*1}

1. University of Rennes 1, France

(15:00) Break

Advanced theory for ceramic materials

Session Chairs: YOSHIYA, Masato(1) ; SHIBATA, Naoya (2), (1) Osaka University; (2)University of Tokyo

15:15

(28-C1-S15-08) Electronic and Atomic Structures of Interfacial Defect Cores in Structural Ceramics (Keynote)

MATSUNAGA, Katsuyuki^{*1,2}

1. Nagoya University

2. Japan Fine Ceramics Center

15:45

(28-C1-S15-09) Characterizing, Predicting, and Utilizing Interfacial Phase-like Transformations (Invited)

LUO, Jian^{*1}

1. University of California, San Diego

16:15

(28-C1-S15-10) Comprehension of interfacial structure and property relationship via machine learning

OTANI, Ryuk¹; KIYOHARA, Shin¹; SHIBATA, Kiyou¹; MIZOGUCHI, Teruyasu^{*1}

1. Institute of Industrial Science, The University of Tokyo

16:30

(28-C1-S15-11) Interpretation of Thermal Conduction Mechanism near Grain Boundaries by Structural Descriptors and Machine Learning

FUJII, Susumu^{*1,2,3}; YOKOI, Tatsuya^{3,4}; YOSHIYA, Masato^{1,3}

1. Nanostructures Research Laboratory, Japan Fine Ceramics Center

2. Center for Materials Research by Information Integration, National Institute for Materials Science

3. Department of Adaptive Machine Systems, Osaka University

4. Department of Materials Physics, Nagoya University

16:45

(28-C1-S15-12) Nanoscopic Thermal Conduction across Ceramic Interfaces (Keynote)

YOSHIYA, Masato^{*1,2}; WATANABE, Naoki¹; FUNAI, Kohei¹; FUJII, Susumu^{1,2}; YOKOI, Tatsuya³

1. Department of Adaptive Machine Systems, Osaka University, Japan

2. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Japan

3. Department of Materials Physics, Nagoya University, Japan

17:15

(28-C1-S15-13) Investigating the effects of local chemistry on diffusion in Spinel; simulating cooperative diffusion in MgAl₂O₄

WARD, Robyn Elizabeth^{*1}; NAKAYAMA, Masanobu^{1,2,3}

1. National Institute of Materials Science, 305-0047, Japan.

2. Nagoya Institute of Technology, 466-8555, Japan

3. ESICB, Kyoto University, 615-8245, Japan

17:30

(28-C1-S15-14) Local Thermal Transport across Nano-Interfaces of Si/SiO₂ Heterostructures

WATANABE, Naoki^{*1}; FUNAI, Kohei¹; FUJII, Susumu^{1,2}; YOSHIYA, Masato^{1,2}; NAKAMURA, Yoshiaki³

1. Department of Adaptive Machine Systems, Osaka University, Osaka 565-0871, Japan.

2. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Nagoya, 456-8587, Japan.

3. Graduate School of Engineering Science, Osaka University, Osaka 560-8531, Japan.

17:45

(28-C1-S15-15) Role of doped Pt²⁺ or Rh³⁺ for promotion of the oxygen vacancy formation and diffusion on ZrO₂ (111) surface: A first-principles study

TONG, Ke^{*1,2}; MORI, Toshiyuki¹; YE, Fei³

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Center for Green Research on Energy and Environmental Materials, National Institute for Materials Science, Ibaraki 305-0044, Japan
2. School of Materials Science and Engineering, Dalian University of Technology, Dalian 116024, China
3. Department of Materials Science and Engineering, Southern University of Science and Technology, Shenzhen 518055, China

■ ■ October 28 (Mon) (Room B6) ■ ■

16: Single Crystals, Thin Films and Microstructures in Rechargeable Battery Systems

Cathode oxide materials

Session Chairs: ISHIKAWA, Ryo, University of Tokyo, Japan

10:45

(28-B6-S16-01) Structural Transitions in Layered Oxides Positive Electrode Materials induced by Electrochemical Intercalation (Invited)

DELMAS, Claude^{*1}

1. ICMCB - CNRS

11:15

(28-B6-S16-02) Lattice Oxygen Redox Activities in Novel Oxides for Next Generation Rechargeable Batteries (Invited)

ZHANG, Minghao¹; MENG, Y. Shirley^{*1}

1. University of California San Diego

11:45

(28-B6-S16-03) Characterization of the Biphasic Interface in Olivine-Type Lithium Iron Phosphate using Scanning Transmission Electron Microscopy

KOBAYASHI, Shunsuke^{*1}; KUWABARA, Akihide¹; FISHER, Craig A. J.¹; UKYO, Yoshio¹; IKUHARA, Yuichi^{1,2}

1. Nanostructures Research Laboratory, Japan Fine Ceramics Center

2. Institute of Engineering Innovation, The University of Tokyo

Session Chairs: CHUNG, Sung-Yoon, Korea Advanced Institute of Science and Technology

13:45

(28-B6-S16-04) Factors Affecting Reversibility of Anionic Redox for Li-excess Metal Oxides as Positive Electrode Materials of Lithium Batteries (Invited)

YABUUCHI, Naoaki^{*1}

1. Yokohama National University

14:15

(28-B6-S16-05) Structure and electronic structure of functional materials under symmetric breaking (Invited)

GU, Lin^{*1}

1. The Institute of Physics, Chinese Academy of Sciences

14:45

(28-B6-S16-06) STEM observation of the interfacial structure between delithiated and pristine in Li_2MnO_3

NAKAYAMA, Kei^{*1}; ISHIKAWA, Ryo^{1,2}; KOBAYASHI, Shunsuke³; SHIBATA, Naoya^{1,3}; IKUHARA, Yuichi^{1,3}

1. The University of Tokyo

2. PRESTO

3. Japan Fine Ceramics Center

15:00

(28-B6-S16-07) Atomic Structure of Li-excess Cathode Thin Films with High Charge-Discharge Capacity

SUGAWARA, Yoshihiro^{*1}; HIKIMA, Kazuhiro²; KUWABARA, Akihide¹; UKYO, Yoshio¹; HIRAYAMA, Masaaki²; KANNO, Ryoji²; IKUHARA, Yuichi^{1,3}

1. Japan Fine Ceramics Center

2. Tokyo Institute of Technology

3. The University of Tokyo

15:15

(28-B6-S16-08) Effect of Co doping on surface structure reconstruction and electron-beam damage behavior of $\text{LiCo}_{0.5}\text{Mn}_{1.5}\text{O}_4$ nanoparticles

HUANG, Rong^{*1,2}; IKUHARA, Yumi H.²; XU, Wangqiong¹; KUWABARA, Akihide²; FISHER, Craig A. J.²; MORIWAKE, Hiroki²; HIRAYAMA, Tsukasa²; IKUHARA, Yuichi^{2,3}

1. Key Laboratory of Polar Materials and Devices (MOE), Department of optoelectronics, East China Normal University, Shanghai 200241, China

2. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Nagoya 456-8587, Japan

3. Institute of Engineering Innovation, the University of Tokyo, Tokyo 113-8656, Japan

(15:30) Break

Characterization of battery materials

Session Chairs: GU, Lin, The Institute of Physics, China

15:45

(28-B6-S16-09) Nanoscale Observations of Ion Dynamics in Battery Materials (Invited)

IKUHARA, Yuichi^{*1,2}; KOBAYASHI, Shunsuke²; SASAKI, Yuki¹; KAWASAKI, Tadahiro¹; KUWABARA, Akihide¹; UKYO, Yoshio¹; FISHER, Craig¹

1. Nanostructures Research Laboratory, Japan Fine Ceramics Center

2. Institute of Engineering Innovation, The University of Tokyo

16:15

(28-B6-S16-10) Elucidating Interfacial Stability of Solid Electrolytes *via in situ* and functional Electron

"*" asterisk Indicates an oral presenter

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Microscopy (Invited)CHI, Miaofang^{*1}; SAKAMOTO, Jeff²; DUDNEY, Nancy³

1. Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Oak Ridge, Tennessee, 37831 United States

2. Mechanical Engineering, University of Michigan, Ann Arbor, Michigan 48109 United States

3. Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee, 37831 United States

16:45**(28-B6-S16-11) Direct STEM Observation of Atomic-Scale Defects in Intercalation Cathode Materials (Invited)**CHUNG, Sung-Yoon^{*1}

1. Korea Advanced Institute of Science and Technology

17:15**(28-B6-S16-12) Three-Dimensional SWCNT and MWCNT Hybrid Networks for Extremely High-loading and High Rate Cathode Materials**ZETTUSU, Nobuyuki^{*1,2}; KIM, Dae-wook¹; TESHIMA, Katsuya^{1,2}

1. Department of Materials Chemistry, Faculty of Engineering, Shinshu University

2. Research Initiative for Supra-Materials (RISM)

17:30**(28-B6-S16-13) Structural transition characterization in chalcogenide storage materials**CHENG, Yan^{*1,2}; ZHENG, Yonghui²; XIN, Tianjiao²; LV, Shilong²; HUANG, Rong¹; SONG, Zhitang²; FENG, Songlin²

1. Key Laboratory of Polar Materials and Devices (MOE), Department of Optoelectronics, East China Normal University, Shanghai 200241, China

2. State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai 200050, China

17:45**(28-B6-S16-14) Aerosol Deposition Method: A new way to fabricate conductive solid electrolytes for next generation Li ion batteries**NAZARENUS, Tobias^{*1}; HANFT, Dominik¹; MOOS, Ralf¹

1. University of Bayreuth, Department of Functional Materials

■ ■ October 28 (Mon) (Room A1) ■ ■**17:Green Processing and Green Energy Materials for Sustainable Society**

Session Chairs: WAKIYA, Naoki, Shizuoka Univ.

10:45**(28-A1-S17-01) Engineering Better Ceramic Membranes for Water and Wastewater Treatment (Keynote)**WANG, John^{*1}

1. National University of Singapore

Session Chairs: MASUMOTO, Hiroshi, Tohoku Univ.

11:15**(28-A1-S17-02) Hydrothermal deposition of epitaxial (K,Na,Li)(Nb,Ta)O₃ films**SHIRAIISHI, Takahisa^{*1}; ITO, Yoshiharu²; TATEYAMA, Akinori²; KIGUCHI, Takanori¹; UCHIDA, Hiroshi³; FUNAKUBO, Hiroshi²; KONNO, Toyohiko J.¹

1. Tohoku University

2. Tokyo Institute of Technology

3. Sophia University

11:30**(28-A1-S17-03) Effect of steric hindrance on preparation of precursor solution for (K_{0.5}Na_{0.5})NbO₃ thin films**ARAI, Takashi^{*1}; NAKAYAMA, Kaho¹; SUZUKI, Maya¹; OHNO, Tomoya²; SAKAMOTO, Naonori³; WAKIYA, Naoki³; SUZUKI, Hisao³

1. National Institute of Technology, Numazu college

2. Kitami Institute of Technology

3. Shizuoka University

11:45**(28-A1-S17-04) Low temperature fabrication of flexible Li-ion conductive solid electrolyte composite film**SAKAMOTO, Naonori^{*1,2}; SHIMA, Munehiko¹; SUGIYAMA, Kazuhiro¹; PADARTI, Jeevan Kumar²; KAWAGUCHI, Takahiko¹; WAKIYA, Naoki^{1,2}; SUZUKI, Hisao^{1,2}

1. Graduate School of Engineering, Shizuoka University

2. Research Institute of Electronics, Shizuoka University

Session Chairs: KIGUCHI, Takanori, Tohoku Univ.

13:30**(28-A1-S17-05) Epitaxial growth of anti-perovskite Mn₃CuN thin films by Dynamic Aurora PLD (Invited)**KAWAGUCHI, Takahiko^{*1}; SUZUKI, Jumpei¹; SHIRAI, Tomoharu¹; SAKAMOTO, Naonori^{1,2}; SUZUKI, Hisao^{1,2}; WAKIYA, Naoki^{1,2}

1. Graduate School of Integrated Science and Technology, Shizuoka University

2. Research Institute of Electronics, Shizuoka University

14:00**(28-A1-S17-06) Room-temperature epitaxy and optoelectronic properties of heavily doped NiO thin films**MATSUDA, Akifumi^{*1}; SEO, Okkyun²; SAKATA, Osami²; KANEKO, Satoru^{3,1}; YOSHIMOTO, Mamoru¹

1. Tokyo Institute of Technology

2. National Institute for Materials Science

3. Kanagawa Institute of Industrial Science and Technology

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

Session Chairs: SHIRAIISHI, Takahisa, Tohoku Univ.

14:15

(28-A1-S17-07) Spontaneous Phase Separation in Composite Thin Films of Strontium Titanate and Ferrites by Dynamic Aurora PLD

TAKASHIMA, Keisuke^{*1}; SAKAMOTO, Naonori¹; KIGUCHI, Takanori²; KAWAGUCHI, Takahiko¹; SHINOZAKI, Kazuo³; SUZUKI, Hisao¹; WAKIYA, Naoki¹

1. Department of Electronics and Materials Science, Shizuoka U., Hamamatsu 432-8561, Japan
2. Institute for Materials and Research, Tohoku U., Sendai 980-8577, Japan
3. School of Materials and Chemical Technology, Tokyo Tech., Tokyo 152-8550, Japan

14:30

(28-A1-S17-08) Structure and Magneto-dielectric Properties in Co-F-C Nanocomposites

CAO, Yang^{*1}; KOBAYASHI, Nobukiyo²; OHNUMA, Shigehiro^{1,2}; MASUMOTO, Hiroshi¹

1. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University
2. Research Institute for Electromagnetic Materials

14:45

(28-A1-S17-09) Fabrication of Crystalline Ceria Films at 60° C by Gas-assisted Liquid Phase Deposition and Their Resistive Switching Behavior

KUBOTA, Yuta^{*1}; FURUKAWA, Tetsuya¹; MATSUSHITA, Nobuhiro¹

1. Tokyo Institute of Technology

(15:00) Break

Session Chairs: YAMAGUCHI, Syuhei, Ehime Univ.

15:15

(28-A1-S17-10) α -Fe₂O₃ and CuO nanosheets fabricated by ionic-layer-epitaxy

HAYASHI, Masaki^{*1}; KUBOTA, Yuta¹; MATSUSHITA, Nobuhiro¹

1. Tokyo Institute of Technology

15:30

(28-A1-S17-11) Nanosheets accumulated CuO films fabricated by one-step solution process at high seed

NITTA, Ryosuke^{*1}; KUBOTA, Yuta¹; MATSUSHITA, Nobuhiro¹

1. Tokyo Institute of Technology

Session Chairs: ARAI, Takashi, National Institute of Technology, Numazu college

15:45

(28-A1-S17-12) Ruthenium perovskite at the metal-insulator boundary as an oxygen evolution catalyst

HIRAI, Shigeto^{*1}; OHNO, Tomoya¹; UEMURA, Ren¹; MARUYAMA, Takahiro¹; FURUNAKA, Masaya¹; FUKUNAGA, Ryo²; SUZUKI, Hisao³; MATSUDA, Takeshi¹; YAGI, Shunsuke²

1. Kitami Institute of Technology
2. Institute of Industrial Science, The University of Tokyo
3. Research Institute of Electronics, Shizuoka University

16:00

(28-A1-S17-13) Hydrogen adsorption and desorption characteristics of calcium carbonate derived from pearl oyster

LI, Heng^{*1}; KOMATSU, Keiji¹; NAKAMURA, Atsushi^{1,2}; ITO, Osamu²; NAMBU, Keiki³; SAITOH, Hidetoshi¹

1. Department of Materials Science and Technology, Nagaoka Univ. Tech.
2. Chubu Chelest Co., Ltd.
3. ACCHE Corporation

16:15

(28-A1-S17-14) Local Analysis of high Li ion Conductive Solid Electrolyte Composite Film using Atomic Force Microscopy

NAKATA, Daisuke^{*1}; HOSHINO, Yuki¹; PADARTI, Jeevan Kumar²; KAWAGUCHI, Takahiko¹; WAKIYA, Naoki²; SUZUKI, Hisao²; SAKAMOTO, Naonori²

1. Graduate School of Engineering, Shizuoka University, 432-8561 Hamamatsu, Japan
2. Research Institute of Electronics, Shizuoka University, 432-8561 Hamamatsu, Japan

(16:30) Break

Session Chairs: SAKAMOTO, Naonori, Shizuoka Univ.

16:45

(28-A1-S17-15) Processing of superconducting joint for GdBa₂Cu₃O_y coated conductors (Invited)

TERANISHI, Ryo^{*1}; MIYAJIMA, Tomohiro¹; YASUYAMA, Syotaro¹; SATO, Yukio¹; KANEKO, Kenji¹; PETRYKIN, Valery²; LEE, Sergey²; AWAJI, Satoshi³; MATSUMOTO, Akiyoshi⁴; INOUE, Masayoshi⁵

1. Kyushu University, Japan
2. SuperOx Japan LLC, Japan
3. Tohoku University, Japan
4. National Institute for Materials Science, Japan
5. Fukuoka Institute of Technology, Japan

Session Chairs: MATSUDA, Akifumi, Tokyo Institute of Technology

17:15

(28-A1-S17-16) Epitaxial Growth of Nd Stabilized Zirconia Thin Films on Si Substrate

JHANSI LAKSHMI, SREERAMA^{*1}; HAMADA, EIJI²; KAWAGUCHI, TAKAHIKO²; SAKAMATO, NAONORI^{2,3}; SHINOZAKI, KAZUO⁴; SUZUKI, HISAO^{1,2,3}; WAKIYA, NAOKI^{1,2,3}

1. Graduate School of Science and Technology, Shizuoka University, 3-5-1 Johoku, Naka-ku, Hamamatsu 432-8561, Japan.

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. Department of Electronics and Materials Science, Shizuoka University, 3-5-1 Johoku, Naka-ku, Hamamatsu 432-8561, Japan
3. Research Institute of Electronics, Shizuoka University, 3-5-1 Johoku, Naka-ku, Hamamatsu 432-8561, Japan
4. School of Materials and Chemical Technology, Tokyo Institute of Technology, 2-22-1 O-okayama, Meguro-ku, Tokyo 152-8550, Japan

17:30

(28-A1-S17-17) RHEED Observation on Phase Separation in Sr-Ti-O Epitaxial Thin Film by Dynamic Aurora PLD

YOSHIDA, Mayu^{*1}; KAWAGUCHI, Takahiko¹; SAKAMOTO, Naonori¹; SHINOZAKI, Kazuo²; SUZUKI, Hisao¹; WAKIYA, Naoki¹

1. Shizuoka U., Hamamatsu, 432-8561, Japan
2. Tokyo Tech., Meguro, 152-8550, Japan

17:45

(28-A1-S17-18) Nanodomain Structure of Ferroelectric HfO₂-Based Epitaxial Thin Films

KIGUCHI, Takanori^{*1}; SHIRAIISHI, Takahisa¹; MIMURA, Takanori²; SHIMIZU, Takao²; FUNAKUBO, Hiroshi²; KONNO, Toyohiko J.¹

1. Tohoku University
2. Tokyo Institute of Technology

■■October 28 (Mon) (Room B4) ■■

19:Mixed Anion Compounds for Novel Functionalities

Mixed oxyfluorides

Session Chairs: POEPPELMEIER, Kenneth, Northwestern University

10:45

(28-B4-S19-01) Structure and Property Tuning of Fluoride Oxyhydrides (Keynote)

KAGEYAMA, Hiroshi^{*1}

1. The Ceramic Society of Japan

11:15

(28-B4-S19-02) Negative thermal expansion in electron doped PbVO_{3-x}F_x (Invited)

OGATA, Takahiro¹; AZUMA, Masaki^{*1,2}; YAMAMOTO, Hajime³; OKA, Kengo⁴; SAKAI, Yuki²

1. Laboratory for Materials and Structures, Tokyo Institute of Technology
2. Kanagawa Institute of Industrial Science and Technology
3. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
4. Department of Applied Chemistry, Faculty of Science and Engineering, Kindai University

11:45

(28-B4-S19-03) Fabrication and electronic states of Sr₂IrO_{4-x}F_{2x} thin films by topotactic fluorination

MARUYAMA, Takahiro^{*1}; CHIKAMATSU, Akira¹; KATAYAMA, Tsukasa¹; KURAMOCHI, Kenta^{2,3}; OGINO, Hiraku³; KITAMURA, Miho⁴; HORIBA, Koji⁴; KUMIGASHIRA, Hiroshi^{4,5}; HASEGAWA, Tetsuya¹

1. Department of Chemistry, The University of Tokyo, Tokyo 113-0033, Japan
2. Department of Physics, Tokyo University of Science, Tokyo 162-8601, Japan
3. National Institute of Advanced Industrial Science and Technology, Ibaraki 305-8568, Japan
4. Institute of Materials Structure Science, KEK, Ibaraki 305-0801, Japan
5. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Miyagi 980-8577, Japan

Mixed anion perovskites

Session Chairs: NEILSON, James, Colorado State University

13:30

(28-B4-S19-04) Influence of polyanions on the magneto-dielectric properties of iron perovskite type oxides

BREARD, Yohann^{*1}; GONANO, Bruno¹; MARIK, Sourav¹; VEILLON, Fabien¹

1. Crismat Laboratory - University of Caen Normandy

13:45

(28-B4-S19-05) Spark Plasma Sintering of Dielectric BaTaO₂N Using Molten BaCN₂ Additive

HOSONO, Akira^{*1}; INOBUCHI, Masashi²; MASUBUCHI, Yuji³; MURAYAMA, Koji²; IHA, Michiaki²; HIGUCHI, Mikio³; KIKKAWA, Shinichi³

1. Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo 060-8628, Japan
2. Murata Manufacturing Co., Ltd., Nagaokakyo-shi, Kyoto 617-8555, Japan
3. Faculty of Engineering, Hokkaido University, Sapporo 060-8628, Japan

14:00

(28-B4-S19-06) Preparation and dielectric characterization of Sr_{1+x}TaO_{2+y}N_{1-z} polycrystalline thin film

YAMAZAKI, Kumiko^{*1}; SHIBAHARA, Takeshi¹; UMEDA, Yuji¹

1. Technology & Intellectual Property HQ, TDK Corporation, Chiba 272-8558, Japan

Session Chairs: YAMAMOTO, Takafumi, Tokyo Institute of Technology

14:15

(28-B4-S19-07) Synthesis and Physical Properties of Carrier-doped Layered Perovskite Ca₃Ti₂O₇

KISHIMOTO, Kazuhisa^{*1}; AKAMATSU, Hirofumi¹; HASEGAWA, George¹; HAYASHI, Katsuro¹

1. Kyushu University

14:30

(28-B4-S19-08) Anion-Lattice Engineering in Chromium Oxide Perovskites

TSUJIMOTO, Yoshihiro^{*1}

1. National Institute for Materials Science

(14:45) Break

Novel synthetic strategy

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Session Chairs: KAGEYAMA, Hiroshi, Kyoto University

15:00

(28-B4-S19-09) Toward "Chemical GPS": Using Computers to Learn from Dark Reactions (Keynote)

POEPPELMEIER, Kenneth^{*1}; NISBET, Matthew¹; PENDLETON, Ian²; NORQUIST, Alex²; NOLIS, Gene³; CABANA, Jordi³

1. Northwestern University
2. Haverford College
3. University of Illinois at Chicago

15:30

(28-B4-S19-10) Enabling Prescriptive Synthesis of Metastable Ternary Oxides with Mixed Anions (Invited)

NEILSON, James^{*1}

1. Colorado State University

16:00

(28-B4-S19-11) Topochemical Synthesis and Structural Analysis of Lithium Niobate-Type Fluorides

KITAKADO, Masahiro^{*1}; AKAMATSU, Hirofumi¹; HASEGAWA, George¹; HAYASHI, Katsuro¹

1. Department of Applied Chemistry, Graduate School of Engineering, Kyushu University

(16:15) Break

Electrides and hydrides

Session Chairs: AZUMA, Masaki, Tokyo Institute of Technology

16:30

(28-B4-S19-12) Discovery of diverse two-dimensional electrides and their physical and chemical properties for emergent applications (Invited)

KIM, SungWng^{*1}

1. Department of Energy Science, Sungkyunkwan University, Korea

17:00

(28-B4-S19-13) ¹H/²H NMR of Hydride Ions in Oxyhydrides

NODA, Yasuto^{*1}; YAMAMOTO, Takafumi^{2,5}; KOBAYASHI, Genki³; HAYASHI, Katsuro⁴; KAGEYAMA, Hiroshi⁵

1. Division of Chemistry, Kyoto University, Kyoto 606-8502, Japan
2. Laboratory for Materials and Structures, Tokyo Institute of Technology, Kanagawa 226-8503, Japan
3. Research Center of Integrative Molecular Systems, Institute for Molecular Science, Aichi 444-8585, Japan
4. Department of Applied Chemistry, Kyushu University, Fukuoka 819-0395, Japan
5. Department of Energy and Hydrocarbon Chemistry, Kyoto University, Kyoto 615-8510, Japan

17:15

(28-B4-S19-14) Controlling the local structure of transition metal oxyhydrides

YAMAMOTO, Takafumi^{*1}; KAGEYAMA, Hiroshi²

1. Tokyo Institute of Technology
2. Kyoto University

Session Chairs: KIM, Sung-Wng, Sungkyunkwan University

17:30

(28-B4-S19-15) Site Selectivity of Hydride Ions in Hexagonal BaVO_{3-x}H_x: A First-Principles Analysis

SHITARA, Kazuki^{*1,2,3}; YAMAMOTO, Takafumi⁴; KAGEYAMA, Hiroshi⁵; MORIWAKE, Hiroki^{2,3}; KUWABARA, Akihide^{2,3}

1. Joining and Welding Research Institute, Osaka University
2. Research and Service Division of Materials Data and Integrated System, National Institute for Materials Science
3. Nanostructures Research Laboratory, Japan Fine Ceramics Center
4. Laboratory for Materials and Structures, Tokyo Institute of Technology
5. Graduate School of Engineering, Kyoto University

17:45

(28-B4-S19-16) First Principles Calculations of Anion Configurations in Oxyhydride Ba₂SchO₃

KUWABARA, Akihide^{*1}; TAKEIRI, Fumitaka^{2,3}; WATANABE, Akihiro^{2,4}; NAWAZ, Haq^{2,3}; AYU, Nur Ika Puji⁵; YONEMURA, Masao⁵; KANNO, Ryoji⁶; KOBAYASHI, Genki^{2,3}

1. Nanostructures Research Laboratory, Japan Fine Ceramics Center
2. Department of Materials Molecular Science, Institute for Molecular Science
3. SOKENDAI (The Graduate University for Advanced Studies)
4. Department of Electronic Chemistry, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology
5. Neutron Science Laboratory (KENS), Institute of Materials Structure Science, High Energy Accelerator Research Organization (KEK)
6. All-Solid-State Battery Unit, Institute of Innovative Research, Tokyo Institute of Technology

■■October 28 (Mon) (Room C2) ■■

22:Layered Double Hydroxides: Science and Design of Binding Field with Charged Layers

Opening

Session Chairs: TERAMURA, Kentaro, Kyoto University

11:15

(28-C2-S22-01) Layered Double Hydroxides: Science and Design of Binding Field with Charged Layers (Keynote)

TADANAGA, Kiyoharu^{*1}

1. Hokkaido University

"*" asterisk Indicates an oral presenter

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11:30

(28-C2-S22-02) Ion Conducting and Electrocatalytic Properties of LDH Nanosheets (Invited)SUN, Pengzhan^{1,2}; CHEN, Fashen^{1,3}; MA, Wei^{1,3}; ZHOU, Wei^{1,4}; MA, Renzhi^{*1}; SASAKI, Takayoshi¹

1. National Institute for Materials Science, Japan

2. University of Manchester, UK

3. Central South University, China

4. Tianjin University, China

Basic properties and applications

Session Chairs: TADANAGA, Kiyoharu, Hokkaido University

13:30

(28-C2-S22-03) Layered Double Hydroxide Nanocluster for the Development of High-Resolution X-ray μ -CT imaging (Invited)TOKUDOME, Yasuaki^{*1}

1. Osaka Prefecture University

14:00

(28-C2-S22-04) Nitrate Selectivity of Layered Double Hydroxide Consisting of Ni and AlSASAI, Ryo^{*1}; SATO, Hiroaki¹; NII, Eisaku¹; SUGATA, Mako¹; NAKAYASHIKI, Yu-to¹; FUJIMURA, Takuya¹; OITA, Naoto²; FUJII, Yasuhiro³; KAWAGUCHI, Shogo⁴; MATSUOKA, Yoshiki⁵; HOASHI, Hirokazu⁵; MORIYOSHI, Chikako⁵

1. Shimane University

2. Aoyama Gakuin University

3. Ritsumeikan University

4. JASRI

5. Hiroshima University

14:15

(28-C2-S22-05) Studies on electrochromism of NiAl layered double hydroxide thin films (Invited)PREVOT, Vanessa^{*1}; KOILRAJ, Paulmanickam¹; MOUSTY, Christine¹; TAKEMOTO, Masanori²; TAKAHASHI, Masahide²; TOKUDOME, Yasuaki²

1. Université Clermont Auvergne, CNRS, Sigma-Clermont, Institut de Chimie de Clermont-Ferrand (ICCF), F-63000 Clermont-Ferrand, France

2. Department of Materials Science, Graduate School of Engineering, Osaka Prefecture University, Osaka

14:45

(28-C2-S22-06) Study on application of Mg-based layered hydroxide to chemical heat storage materialYAMASHITA, Seiji^{*1}; WADA, Kazusa¹; KUBOTA, Mitsuhiro²; KITA, Hideki²

1. Nagoya University, Graduate School of Engineering, Department of Materials Process Engineering, Nagoya 4648603, Japan

2. Nagoya University, Graduate School of Engineering, Department of Chemical System Engineering, Nagoya 4648603, Japan

15:00

(28-C2-S22-07) Control on the characteristics of hydrotalcite (Invited)IWAMOTO, Yoshihito^{*1}

1. Kyowa Chemical Industry Co., Ltd.

(15:15) Break**Catalytic Application**

Session Chairs: OH, Jae-Min, Dongguk University-Seoul

15:30

(28-C2-S22-08) Enhancement of CO Evolution by Layered Double Hydroxide CO₂ Capture and Storage Materials for Photocatalytic Conversion of CO₂ by H₂O as an Electron DonorTERAMURA, Kentaro^{*1,2}; HASEGAWA, Yudai¹; IGUCHI, Shoji¹; ASAKURA, Hiroyuki^{1,2}; HOSOKAWA, Saburo^{1,2}; TANAKA, Tsunehiro^{1,2}

1. Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Kyotodaigaku Katsura, Nishikyo-ku, Kyoto 615-8510, Japan

2. Element Strategy Initiative for Catalysts & Batteries (ESICB), Kyoto University, 1-30 Goryo-Ohara, Nishikyo-ku, Kyoto 615-8245, Japan

15:45

(28-C2-S22-09) Hybridization of Metal Nanoparticle (Ag, Au, Pt, Pd) into ZnAl LDH and its Surface Plasmon Effect toward Photocatalyst Phenol DegradationRIZKA LESTARI, Putri^{*1}; TAKEI, Takahiro¹; SAYAKA, Yanagida¹; KUMADA, Nobuhiro¹

1. Center for Crystal Science and Technology, University of Yamanashi

16:00

(28-C2-S22-10) Nanocomposite of octahedral molybdenum cluster-intercalated layer double hydroxide for catalyst applicationNGUYEN, Thi Kim Ngan^{*1,2}; MATSUI, Yoshio^{1,2}; SHIRAHATA, Naoto⁴; DUMAIT, Noe³; CORDIER, Stephane³; GRASSET, Fabien^{1,2}; UCHIKOSHI, Tetsuo^{1,2}

1. Research Center for Functional Materials, NIMS, Ibaraki 305-0047, Japan

2. CNRS-Saint-Gobain-NIMS, UMI3629, NIMS, Ibaraki 305-0044, Japan

3. University of Rennes, Centre National de la Recherche Scientifique (CNRS, France), Institut des Sciences Chimiques de Rennes (ISCR), F-35000 Rennes, France

4. Research Center for Materials Nanoarchitectonics (MANA), NIMS, Ibaraki 305-0044, Japan

16:15

(28-C2-S22-11) Creation of Active Cu(0) Species Derived from Cu-Al Layered Double Hydroxides for Catalytic Transfer Hydrogenation of Furfural to Furfuryl AlcoholKURNIAWAN, Enggah^{*1}; HARA, Takayoshi¹; PERMANA, Yessi²; ICHIKUNI, Nobuyuki¹; SHIMAZU, Shogo¹

1. Department of Applied Chemistry and Biotechnology, Graduate School of Science and Engineering, Chiba University, Chiba 263-8522, Japan

2. Faculty of Mathematics and Natural Science, Bandung Institute of Technology Bandung 40135, Indonesia

“*” asterisk Indicates an oral presenter

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Biological application

Session Chairs: TOKUDOME, Yasuaki, Osaka Prefecture University

16:30**(28-C2-S22-12) Positively charged layered double hydroxide in its biological behavior (Invited)**OH, Jae-Min^{*1}

1. Department of Energy and Materials Engineering, Dongguk University-Seoul

17:00**(28-C2-S22-13) Bio-medical application of layered double hydroxide monolith synthesized by low temperature spark plasma sintering method**KIM, Hyoung-Jun^{*1}; JEUNG, Do-Gak¹; CAZALBOU, Sophie²; DROUET, Christophe³; OH, Jae-Min¹

1. Department of Energy and Materials Engineering, Dongguk University-Seoul, Seoul 04620, South Korea

2. Université de Toulouse, INPT, Laboratoire de Génie Chimique, 4 Allée Emile Monso, 31432 Toulouse, France

3. CIRIMAT Institute, University of Toulouse, Toulouse, France

17:15**(28-C2-S22-14) Encapsulation of soybean extract into layered double hydroxide: loading and release behavior depending on encapsulation route**JEUNG, Do-Gak^{*1}; KIM, Hyoung-Jun¹; OH, Jae-Min¹

1. Department of Energy and Materials Engineering, Dongguk University-Seoul, Seoul 04620, South Korea

■■October 28 (Mon) (Room B7) ■■**27: Synthesis and Processing of Materials using Electric Currents and Pressures****SPS/ECAS**

Session Chairs: GOTO, Takashi, Tohoku University

11:00**(28-B7-S27-01) Potential of Spark Plasma Sintering (SPS) Method for Manufacturing on Industrial Products (Invited)**TOKITA, Masao^{*1}

1. NJS Co., Ltd. SPS R&D Center

11:30**(28-B7-S27-02) Integration of dissimilar nanoscale phases: Leveraging kinetics to densify functional nanocomposites (Invited)**VOLODCHENKOV, A.¹; CHAN, K. T.¹; KODERA, Y.¹; GARAY, J. E.^{*1}

1. UCSD

Session Chairs: GARAY, Javier E., UCSD

13:30**(28-B7-S27-03) Spark Plasma Sintering of zirconia based ceramics : from the study of mechanisms to the control of their microstructure and mechanical properties. (Invited)**ESTOURNES, Claude^{*1}; FLAUREAU, Andreas¹; FREGEAC, Arnaud^{1,2}; CHEVALLIER, Geoffroy¹; WEIBEL, Alicia¹; ANSART, Florence¹; SELEZNEFF, Serge²; CHUNG, U-Chan³; JOSSE, Michael³; SUCHOMEL, Matthew³; MAJIMEL, Jerome³; GOGLIO, Graziella³; ELISSALDE, Catherine³

1. CIRIMAT, Université de Toulouse, CNRS, Université Toulouse 3 - Paul Sabatier, 31062 Toulouse, France

2. SAFRAN AIRCRAFT ENGINES, 2 Rue Henri Auguste Desbrières, 91100 Corbeil-Essonnes France

3. ICMCB, CNRS Université Bordeaux, 33600 Pessac, France

14:00**(28-B7-S27-04) Fabrication of advanced ceramics by SPS (Invited)**SAKKA, Yoshio^{*1}; GRASSO, Salvatore²

1. National Institute of Materials Science

2. Southwest Jiaotong University

14:30**(28-B7-S27-05) Microstructure Developments in Transparent Oxide Ceramics Prepared by Pulsed Electric Current Sintering Technique (Invited)**NANKO, Makoto^{*1}; NGYEN, Huu Hien¹; DANG, Quoc Khanh^{1,2}

1. Nagaoka University of Technology

2. Hanoi University of Science and Technology

(15:00) Break

Session Chairs: SAKKA, Yoshio, MIMS

15:15**(28-B7-S27-06) COMBINATION OF SHS AND SPS TO OBTAIN UHTCs (Invited)**ORRU', Roberto^{1,2}; TALLARITA, Giovanna^{1,2}; LICHERI, Roberta^{1,2}; CAO, Giacomo^{*1,2}

1. Dipartimento di Ingegneria Meccanica, Chimica e dei Materiali

2. Unità di Ricerca del Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali (INSTM)

15:45**(28-B7-S27-07) Spark Plasma Sintering of SiC Continuous Fiber Reinforced Composite (Invited)**OHYANAGI, Manshi^{*1}; TABATA, Shohei¹; SHIRAI, Kenshiro¹; IMAI, Takahito¹

1. Ryukoku University

“*” asterisk Indicates an oral presenter

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16:15

(28-B7-S27-08) Pressure-assisted densification of nanocrystalline MgO- Effects of water absorption and grain size

DEWITT, D. D.¹; KODERA, Y.^{*1}; GARAY, J. E.¹
1. UCSD

16:30

(28-B7-S27-09) Optimization of the mold design and its effect on the sample temperature gradient during high temperature creep testing by the Spark Plasma Sintering (SPS) system

B. SWEIDAN, Faris^{*1}; RYU, Ho Jin¹
1. Department of Nuclear and Quantum Engineering, KAIST, Yuseong-gu, Daejeon, Republic of Korea

Session Chairs: OHYANAGI, Manshi, Ryukoku University

16:45

(28-B7-S27-10) Fabrication of Diamond-based Composite by Spark Plasma Sintering (Invited)

GOTO, Takashi^{*1,2}; KATSUI, Hirokazu²; KITIWAN, Mettya²
1. Nagaoka University of Technology
2. Tohoku University

17:15

(28-B7-S27-11) Fabrication of Spark Plasma Sintered Body using Recycled Fine Aggregate Powder

ABASS, Mohammed^{*1}; KANDA, Yasuyuki²
1. Graduate School of Engineering and Science University of the Ryukyus
2. Mechanical engineering program, School of engineering, Faculty of engineering, University of the Ryukyus

17:30

(28-B7-S27-12) High entropy B₂(HfMoTaTi)C and SiC ceramic composite

AKHTAR, Farid^{*1}; ZHANG, Hanzhu¹; FENG, Peizhong³; HAN, Gang²; HEDMAN, Daniel¹
1. Division of Materials Science, Luleå University of Technology, 97187 Luleå, Sweden
2. School of Materials Science and Engineering, University of Science and Technology Beijing, 100083, Beijing, China
3. School of Materials Science and Engineering, China University of Mining and Technology, 221116, Xuzhou, China

17:45

(28-B7-S27-13) Flash sintering of bismuth telluride thermoelectric compound

MIKAMI, Masashi^{*1}; KINEMUCHI, Yoshiaki¹; KUBO, Kazuya²; UCHIYAMA, Naoki²; MIYAZAKI, Hidetoshi³; NISHINO, Yoichi³
1. National Institute of Advanced Industrial Science and Technology, AIST
2. Atsumitec Co., Ltd.
3. Nagoya Institute of Technology

■■October 28 (Mon) (Room B1A) ■■

31: Porous Ceramics: From Innovative Processing to Advanced Applications and Functionalities

Process innovation of porous ceramics I

Session Chairs: FUKUSHIMA, Manabu, AIST

11:00

(28-B1A-S31-01) High-porosity geopolymers by Direct Foaming and Additive Manufacturing (Keynote)

COLOMBO, Paolo^{*1}; BAI, Chengying^{1,2}; FRANCHIN, Giorgia¹; SCANFERLA, Paolo¹; FUSS BOTTI, Renata¹; GOULART DE OLIVEIRA, Karine¹
1. University of Padova
2. Harbin Engineering University

11:30

(28-B1A-S31-02) Effect of a ceramic powder and thermal foaming condition on the porous structures of foamed bodies via direct-foaming process

SHIMAMURA, Akihiro^{*1}; FUKUSHIMA, Manabu¹; HOTTA, Mikinori¹; KONDO, Naoki¹
1. National Institute of Advanced Industrial Science and Technology

11:45

(28-B1A-S31-03) Study on the Change of Crystal Structure of PdO-CeO₂ Supported on chi-Al₂O₃ for the Methane Combustion

MURAI, Kei-ichiro^{*1}; LI, Wei Bing²; KANEZAKI, Eiji²; MORIGA, Toshihiro¹; NAKABAYASHI, Ichiro²
1. Graduate School of Technology, Industrial and Social Sciences, Tokushima University
2. Faculty of Engineering, the University of Tokushima

Engineering properties and applications of porous ceramics I

Session Chairs: COLOMBO, Paolo, University of Padova

13:30

(28-B1A-S31-04) Porous ceramics - from processing to novel applications (Keynote)

FEY, Tobias^{*1,2}
1. Institute of Glass and Ceramics, Friedrich-Alexander-Universität Erlangen-Nürnberg, Martensstr. 5, D-91058 Erlangen, Germany
2. Frontier Research Institute for Materials Science, Nagoya Institute of Technology, Gokiso-cho, Showa-ku, Nagoya 466-8555, Japan

14:00

(28-B1A-S31-05) Si₃N₄-SiC Filters for Water Recovery from Waste Liquid (Invited)

^{*} asterisk Indicates an oral presenter

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LU, Yanxia Ann^{*1}

1. Corning, Inc.

14:30

(28-B1A-S31-06) Structurally Controlled Porous Ceramic Filters via Gel-Casting Process for Environmental Purification

XIN, Yunzi^{*1}; ASAI, Daisuke²; NAKAGAWA, Sohei^{1,2}; NISHIKAWA, Harumitsu¹; SHIRAI, Takashi^{1,2}

1. Advanced Ceramics Research Center, Nagoya Institute of Technology

2. Department of Life Science and Applied Chemistry, Graduate School of Engineering, Nagoya Institute of Technology

14:45

(28-B1A-S31-07) Fabrication of asymmetric silicon carbide membranes for microfiltration

LI, Yajie^{*1,2}; WU, Haibo^{1,3}; HUANG, Zhengren¹

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China

2. School of Physical Science and Technology, ShanghaiTech University, Shanghai 201210, China

3. Suzhou Research Center, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Suzhou 215411, China

(15:00) Break

Engineering properties and applications of porous ceramics II

Session Chairs: ZENG, Yu-Ping, Shanghai Institute of Ceramics

15:15

(28-B1A-S31-08) Fiber reinforced highly porous γ -Y₂Si₂O₇ ceramic fabricated by foam-gelcasting-freeze drying method (Invited)

WU, Zhen^{*1}; WANG, Jingyang¹

1. Advanced Ceramics and Composites Division, Shenyang National Laboratory for Materials Science, Institute of Metal Research, CAS

Session Chairs: ZENG, Yu-Ping, Shanghai Institute of Ceramics

15:45

(28-B1A-S31-09) Thermal conductivity and mechanical property prediction using three-dimensional microstructures of gelation freezing derived cellular ceramics

FUKUSHIMA, Manabu^{*1}; HYUGA, Hideki¹; YOSHIZAWA, Yu-ichi¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

16:00

(28-B1A-S31-10) Development of Thermal Insulating Materials with Low Thermal Emissivity and High-Temperature Stability

AKAMINE, Shuko^{*1}

1. CoorsTek KK

Process innovation of porous ceramics II

Session Chairs: FEY, Tobias, University of Erlangen-Nurnberg

16:15

(28-B1A-S31-11) Porous Si₃N₄ ceramics prepared via SHS (Invited)

ZENG, Yu-Ping^{*1}; ZHANG, Ye²

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences

2. Shanghai Institute of Ceramics, Chinese Academy of Sciences

16:45

(28-B1A-S31-12) Synthesis and mechanical properties of highly porous ultrafine-grain Si₃N₄ ceramics via a novel carbothermal reduction-nitridation combined with liquid phase sintering (Invited)

ZHI, Qiang¹; WANG, Bo¹; DENG, Yu-Chen¹; ZHANG, Nan-Long¹; YANG, Jian-Feng^{*1}

1. State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, 710049, China

17:15

(28-B1A-S31-13) High Temperature fracture behavior of Porous Si₃N₄ ceramics

YAO, Dongxu^{*1}; ZENG, Yu-Ping¹

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences

17:30

(28-B1A-S31-14) Porous Ceramics for Energy and Environmental Applications

KONSTANDOPOULOS, Athanasios^{*1}; ZACHAROPOULOU, Vassiliki¹; SYRIGOU, Maria¹; METALLINO, Rozina¹; DIMITRAKIS, Dimitrios¹; OIKONOMIDOU, Chrysa¹; VLACHOS, Nicholas¹

1. Centre for Research and Technology-Hellas (CERTH)

■ ■ October 28 (Mon) (Room B2) ■ ■

32: Crystalline Materials for Electrical, Optical and Medical Applications

New direction

Session Chairs: IMANAKA, Yoshihiko, Fujitsu Laboratories Ltd.

11:15

(28-B2-S32-01) Ab Initio Approach to Localization of Conduction Band Caused by Cation Disorder in Crystalline IGZO

KANAGAWA, Tomosato^{*1}; TAKAHASHI, Masahiro¹; NAKAYAMA, Tomonori¹; BABA, Haruyuki¹; OKUNO, Naoki¹; MIZUKAMI, Shota¹; YAMAZAKI, Shunpei¹

1. Semiconductor Energy Laboratory Co., Ltd.

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

11:45

(28-B2-S32-03) Synthesis of $\text{Mo}_{1-x}\text{Nb}_x\text{S}_2$ thin films by chemical vapor deposition with a separate-flow systemYANASE, Takashi^{*1}; UEHARA, Fumiya²; WATANABE, Sho²; NAGAHAMA, Taro¹; SHIMADA, Toshihiro¹

1. Division of Applied Chemistry, Faculty of Engineering, Hokkaido University

2. Graduate School of Chemical Sciences and Engineering Hokkaido University

Optical material I

Session Chairs: TAKEDA, Hiroaki, Tokyo Institute of Technology

13:30

(28-B2-S32-04) Low Temperature Growth of Epitaxial and Flexible Oxide Thin Films by Photo Assisted Metal Organic Deposition (ELAMOD) (Invited)TSUCHIYA, Tetsuo^{*1}; UZAWA, Yuko¹; NAKAJIMA, Tomohiko¹; YAMAGUCHI, Iwao¹; CHRISSEY, Douglas. B.²

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

2. Department of Physics and Engineering Physics, Tulane University

14:00

(28-B2-S32-05) Photocatalyst Anode using Nanoparticle Deposition for Artificial Photosynthesis System and New Material Development (Invited)IMANAKA, Yoshihiko^{*1}

1. Fujitsu Laboratories Ltd.

14:30

(28-B2-S32-06) Piezoluminescence Crystalline Material And Their Applications (Invited)XU, Chao-Nan^{*1,2}; WANG, Ruiping¹; NISHIBORI, Maiko²; ZHENG, Xu-Guang³

1. National Institute of Advanced Industrial Science and Technology (AIST), Saga 841-0052, Japan

2. Department of Molecular and Material Sciences, Kyushu University, Fukuoka 816-8580, Japan

3. Department of Physics, Saga University, Saga 840-8502, Japan

15:00

(28-B2-S32-07) Fabrication and Photoelectric Properties of $\text{ZnMgO:Eu/ZnO/sapphire}$ HeterostructureXU, Xiaoke^{*1}; ZHANG, Xiang¹; LIU, Qian¹; ZHOU, Zhenzhen¹; ZHANG, Ying¹

1. State Key Laboratory of High Performance Ceramics and Superfine Microstructures, Shanghai Institute of Ceramics, Chinese Academy of Sciences, 1295 Dingxi Road, Shanghai, China

(15:15) Break**Dielectric and piezoelectric**

Session Chairs: TSUCHIYA, Tetsuo, AIST

15:30

(28-B2-S32-08) Potential of Melilite-type Piezoelectric Crystals for High-Temperature Applications (Invited)TAKEDA, Hiroaki^{*1}; KUSAKABE, Hiraku¹; USUI, Haruki¹; OHSIMA, Takuto¹; HOSHINA, Takuya¹; LEBBOU, Kheirreddine²; TSURUMI, Takaaki¹

1. Tokyo Institute of Technology

2. Universite de Lyon 1

16:00

(28-B2-S32-09) Activation of Bone Cells by Piezoelectricity and Nanocrystals in Bone Matrix (Invited)NAKAMURA, Miho^{*1,2}; SALONEN, Jukka¹; YAMASHITA, Kimihiro³

1. Institute of Biomedicine, Faculty of Medicine, University of Turku

2. Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University

3. Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University

16:30

(28-B2-S32-10) Fabrication of polymer-brush modified Ba-Ti oxide / poly(vinylidene fluoride) nanocomposites film (Invited)NISHIBORI, Maiko^{*1,2}; NOSUE, Kohei¹; HAMADA, Ayumi³; KONISHI, Yuko³; TAKAHARA, Atsushi³

1. Interdisciplinary Graduate School of Engineering Science, Kyushu University

2. Faculty of Energy and Material Sciences, Kyushu University

3. Institute for Materials Chemistry and Engineering, Kyushu University

17:00

(28-B2-S32-11) Structural Phase Transition & Pyroelectric Response in PLZST Antiferroelectric Single Crystal (Invited)LI, QIANG^{*1}; ZHUO, FANGPING¹; JI, YONGJIE¹

1. Department of Chemistry, Tsinghua University

17:30

(28-B2-S32-12) Phase formation, stoichiometry and destabilization of ferroelectric order in $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ - 6 wt% BaTiO_3 ceramics (Invited)KONIG, Jakob¹; SUVOROV, Danilo^{*1}

1. Jozef Stefan Institute

■■October 28 (Mon) (Room B1B) ■■**33:Multifunctional Coatings for Structural, Energy and Environmental Applications
JFCA/ADCAL and Cross-sectoral Research cooperation of Ceramic Coating support
Symposia**

“*” asterisk Indicates an oral presenter

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Coatings for Ceramic Matrix Composites (CMCs)

Session Chairs: MECHNICH, Peter, German Aerospace Center (DLR)

11:00

(28-B1B-S33-01) Development of environmental barrier coatings for non-oxide ceramic matrix composites (Invited)

KLEMM, Hagen^{*1}; SCHOENFELD, Katrin¹; GRONDE, Bernd¹; KUNZ, Willy¹

1. Fraunhofer IKTS Dresden, Germany

11:30

(28-B1B-S33-02) Multilayered Ytterbium Silicate Coatings on SiC fiber using Chemical Vapor Deposition for SiC Ceramic Matrix Composite

ITO, Akihiko^{*1}; HARA, Tomohiro¹; GOTO, Ken²

1. Graduate School of Environment and Information Sciences, Yokohama National University, Japan

2. Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Japan

11:45

(28-B1B-S33-03) Heat resistant oxide ceramic fiber coating for SiC/SiC

GOTO, Ken^{*1}; ITO, Akihiko²; MATSUDA, Tetushi³

1. Institute of Space and Astronautical Science, JAXA

2. Yokohama National University

3. Japan Fine Ceramics Center

Kinetic Spray and Aerosol Deposition (AD) Processes

Session Chairs: MOOS, Ralf, University of Bayreuth

13:30

(28-B1B-S33-04) Correlation between mechanical property and plasma erosion resistance of ceramic coatings deposited by vacuum kinetic spraying (Invited)

LEE, Changhee^{*1}

1. Kinetic Spray Coating Laboratory, Division of Materials Science & Engineering, Hanyang University, Seoul, Republic of Korea

14:00

(28-B1B-S33-05) Cold Sprayed MAX-Phase Coatings for Oxidation Protection (Invited)

GAERTNER, Frank^{*1}; GUTZMANN, Henning¹; EISENBERG, Andreas¹; HOECHE, Daniel²; ANASORI, Babak³; KLASSEN, Thomas¹;

BARSOUM, Michel W.³

1. Helmut Schmidt University, Hamburg, Germany

2. Helmholtz-Zentrum Geesthacht GmbH, Geesthacht, Germany

3. Drexel University, Philadelphia, USA

14:15

(28-B1B-S33-06) Effect of Carrier Gas on Deposition Efficiency of Zirconia Films by Granule Spray in Vacuum

TUNGALAGTAMIR, Ochirkhuyag^{1,2}; PARK, Dong-Soo^{*1}; CHOI, Jong-Jin¹; HAHN, Byung-Dong¹; YOON, Woon-Ha¹; KIM, Jongwoo¹;

HWANG, Geon-Tae¹; MIN, Yuho¹; PARK, Chan²

1. Korea Institute of Materials Science

2. Pukyong National University

14:30

(28-B1B-S33-07) Room Temperature Impact Consolidation and Application to Ceramic Coatings - Aerosol Deposition Method - (Invited)

AKEDO, Jun^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST)

15:00

(28-B1B-S33-08) Plasma-assisted Aerosol Deposition of Fine Ceramic Particles on Different Substrates at Room Temperature

SHAHIEN, Mohammed^{*1}; SHINODA, Kentaro¹; SUZUKI, Masato²; AKEDO, Jun³

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology, AIST, Tsukuba 305-8564, Japan

2. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology, AIST, Tsukuba 305-8569, Japan

3. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology, AIST, Tsukuba 305-8565, Japan

(15:15) Break

Materials Design for Thermal and Environmental Barrier Coatings (T/EBCs)

Session Chairs: KLEMM, Hagen, Fraunhofer IKTS

15:45

(28-B1B-S33-09) Slurry-based Protective Coatings for Oxide/Oxide Composites (Invited)

MECHNICH, Peter^{*1}

1. German Aerospace Center (DLR), 51147 Cologne, Germany

16:15

(28-B1B-S33-10) Effect of Oxygen Potential Gradient on Mass Transfer in Polycrystalline Oxides

KITAOKA, Satoshi^{*1}; MATSUDAIRA, Tsuneaki¹; WADA, Masashi¹; KAWASHIMA, Naoki¹; OGAWA, Takafumi¹; TAKATA, Masasuke¹;

TAKEUCHI, Miyuki²

1. Japan Fine Ceramics Center

2. The University of Tokyo

"*" asterisk Indicates an oral presenter

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16:30

(28-B1B-S33-11) Control of Oxygen Shielding Properties of Yb-Silicates at High Temperatures Using Discrete Changes of Chemical PotentialsWADA, Masashi^{*1}; MATSUDAIRA, Tsuneaki¹; YOKOI, Taishi¹; YAMAGUCHI, Norio¹; KAWASHIMA, Naoki¹; OGAWA, Takafumi¹; YOKOE, Daisaku¹; KATO, Takeharu¹; KITAOKA, Satoshi¹; TAKATA, Masasuke¹

1. Japan Fine Ceramics Center

16:45

(28-B1B-S33-12) On the Feasibility of Rare-earth Hafnates as Advanced Thermal/Environmental Barrier Coating (Invited)ZHANG, Jie^{*1}; HU, Wanpeng¹; WANG, Jingyang¹

1. Shenyang National Lab. for Materials Science, Institute of Metal Research, CAS

17:15

(28-B1B-S33-13) A Strategy for Lowering Thermal Conductivity of Heat Resistant Oxides Utilizing Nanodomain StructuresMATSUDAIRA, Tsuneaki^{*1}; KAWASHIMA, Naoki¹; OGAWA, Takafumi¹; FISHER, Craig A. J.¹; KATO, Takeharu¹; YOKOE, Daisaku¹; HABU, Yoichiro²; KITAOKA, Satoshi¹

1. Japan Fine Ceramics Center

2. TOCALO Co. Ltd.

17:30

(28-B1B-S33-14) Thermal Barrier Performance of RTa₃O₉ Coating Deposited by Atmospheric Plasma SprayingHABU, Yoichiro^{*1}; OHIDE, Yuhei¹; TAKAGI, Kaito¹; SHINDO, Ryota¹; TANAKA, Makoto²; YOKOE, Daisaku²; KITAOKA, Satoshi²

1. TOCALO Co., Ltd., Akashi, 674-0093, Japan

2. Japan Fine Ceramics Center, Nagoya, 456-8587, Japan

17:45

(28-B1B-S33-15) Relationship between Chemical Compositions and Crystal Structures of Yb_{2+x}Ti_{2-x}O_{7-x/2}ASAI, Kenta^{*1}; TANAKA, Makoto²; OGAWA, Takafumi²; KAWASHIMA, Naoki²; KITAOKA, Satoshi²; IZUMI, Fujio²; YOSHIDA, Michiyuki¹; SAKURADA, Osamu¹

1. Gifu University

2. Japan Fine Ceramics Center

■■October 29 (Tue) (Room B3) ■■**01:Crystalline and Amorphous Transparent Optical Materials and Photonic Technologies**

Session Chairs: TANG, Dingyuan, Nanyang Technological University

10:15

(29-B3-S01-12) Exploiting microstructural freezing of nano-grained ceramics for a new class of near-IR laser gain medium (Invited)MA, Ho Jin¹; JUNG, Wook Ki¹; KIM, Do Kyung^{*1}

1. Korea Advanced Institute of Science and Technology (KAIST)

10:30

(29-B3-S01-13) Fabrication of Infrared Transparent Ceramics by Spark-Plasma-Sintering (SPS) Method (Invited)MORITA, Koji^{*1}; LIU, Lihong¹; SUZUKI, Thoru S¹; KIM, Byung-Nam¹

1. National Institute for Materials Science (NIMS)

10:45

(29-B3-S01-14) Strategies to Strengthen Ceramics for Windows and Domes (Invited)REIMANIS, Ivar^{*1}

1. Colorado School of Mines

11:15

(29-B3-S01-15) Bulk oxide single crystal growth from the melt without precious metal (Ir, Pt) crucible (Invited)YOSHIKAWA, Akira^{*1,2,3,4}

1. Institute for Material Research, Tohoku University, 2-1-1, Sendai, 980-8577 Japan

2. New Industry Creation Hatchery Center, Tohoku University, 6-6-10 Aoba, Sendai 980-8579

3. C&A corporation, 6-6-10 Aoba, Aramaki, Aoba-ku, Sendai 980-8579, Japan

4. EXA corporation, 6-6-10 Aoba, Aramaki, Aoba-ku, Sendai 980-8579, Japan

11:45

(29-B3-S01-16) Broadband NIR emission from transparent fluorosilicate glass-ceramics containing Rb₂SiF₆:Ni²⁺ nanocrystalsMAO, Qianan^{1,2}; CHEN, Jiejie^{1,2}; LAN, Bijiao^{1,2}; LV, Shichao^{1,2}; FAN, Zhechen^{1,2}; WU, Jinhao^{1,2}; ZHOU, Shifeng^{*1,2}

1. State Key Laboratory of Luminescent Materials and Devices, School of Materials Science and Engineering, South China University of Technology, Guangzhou 510640, China

2. Guangdong Provincial Key Laboratory of Fiber Laser Materials and Applied Techniques, Guangdong Engineering Technology Research and Development Center of Special Optical Fiber Materials and Devices, Guangzhou 510640, China

Session Chairs: KIM, Do Kyung, Korea Advanced Institute of Science and Technology

“*” asterisk Indicates an oral presenter

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13:30

(29-B3-S01-17) Electrooptic and Magneto optic ceramics by current activated pressure assisted (Invited)DUPUY, A. D.¹; MORALES, J. R.¹; KODERA, Y.¹; GARAY, J. E.^{*1}

1. UCSD

14:00

(29-B3-S01-18) Fabrication of transparent ceramics by magnetic-field assisted colloidal processing (Invited)SUZUKI, Tohru^{*1}

1. National Institute for Materials Science

14:15

(29-B3-S01-19) Transition metals doped optically active transparent MgAl₂O₄ ceramicsTALIMIAN, Ali¹; POUCHLY, Vaclav²; MACA, Karel²; GALUSEK, Dusan^{*1,3}

1. Centre for Functional and Surface Functionalised Glass, Alexander Dubcek University of Trencin, Trencin, Slovakia

2. CEITEC BUT, Brno University of Technology, Purkynova 123, Brno, Czech Republic

3. CEITEC BUT, Brno University of Technology, Purkynova 123, Brno, Czech Republic

4. Joint Glass Centre of the IIC SAS, TnUAD and FChPT STU, Trencin, Slovakia

14:30

(29-B3-S01-20) Rare-earth doped sesquioxide transparent ceramics for solid-state laser applications (Invited)TANG, Dingyuan^{*1,2}; WANG, Jun^{1,2}; YIN, Danlei^{2,3}; MA, Jie²; LIU, Peng²; SHEN, Deyuan²; DONG, Zhili³

1. School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798, Singapore

2. Jiangsu Key Laboratory of Advanced Laser Materials and Devices, School of Physics and Electronic Engineering, Jiangsu Normal University, Xuzhou 221116, China

3. School of Materials Science and Engineering, Nanyang Technological University, Singapore 639798, Singapore

14:45

(29-B3-S01-21) Enhanced 1.8 μ m photoluminescence in Tm-Bi co-doped germanate glass under blue light excitation and its temperature dependenceLIU, Chengzhen^{*1}; RUAN, Jian^{1,2}; ZHAO, Xiujian^{1,2}

1. Wuhan University of Technology, PR China

2. Specialty Glass Engineering Technology Research Center of Hubei Province, PR China

15:00

(29-B3-S01-22) Study on preparation and properties of Li_{0.07}Al_{2.76}O_{3.64}N_{0.36} transparent ceramicsCHEN, Qiangguo¹; ZHEN, Kaiping²; ZONG, Xiao³; WANG, Hao^{*1}

1. State Key Lab of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan

2. State Key Lab of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan

3. State Key Lab of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan

■■October 29 (Tue) (Room B5)■■

02:Solid Oxide Fuel Cells and Hydrogen Technologies**SOFC electrode III**

Session Chairs: KAGOMIYA, Isao, Nagoya Institute of Technology

10:15

(29-B5-S02-15) Capture of Trace Airborne impurities and Mitigation of Electrode Poisoning in SOFC's (Invited)SINGH, Prabhakar^{*1}; HU, Boxun¹; APHALE, Ashish¹; HONG, Junsung¹; HEO, Su Jeong¹

1. University of Connecticut

10:45

(29-B5-S02-16) Cr Poisoning mechanisms of (La_{0.6}Sr_{0.4})_{0.95}(Co_{0.2}Fe_{0.8})O_{3- δ} solid oxide fuel cell cathodes at the nanoscale: effects of Temperature and Polarization (Invited)NI, Na^{*1}; WANG, Chengcheng²; JIANG, Sanping³; SKINNER, Stephen⁴

1. Shanghai Jiao Tong University

2. Shen Zhen Polytechnic

3. Curtin University

4. Imperial College London

SOFC modelling

Session Chairs: KAGOMIYA, Isao, Nagoya Institute of Technology

11:15

(29-B5-S02-17) Computational Design of Solid Oxide Fuel Cell Materials (Invited)HAN, Jeong Woo^{*1}

1. Pohang University of Science and Technology (POSTECH)

11:45

(29-B5-S02-18) Interaction of O₂, CO₂, and H₂O with Perovskite Surfaces. Insights from the Theory.STAYKOV, Aleksandar^{*1}; ISHIHARA, Tatsumi^{1,2}; KILNER, John^{1,3}

1. International Institute for Carbon Neutral Energy Research, Kyushu University, Japan

2. Applied Chemistry Department, Kyushu University, Japan

3. Materials Science Department, Imperial College London, Japan

02:Intensive Session in Symposium 2: Proton Conducting Ceramics and Applications**PCC electrolyte I**

“*” asterisk Indicates an oral presenter

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Session Chairs: MATSUMOTO, Hiroshige, Kyushu University

13:30

(29-B5-S02-19) Protonic Ceramic Electrochemical Cells for Power Generation and Renewable Fuels

Production (Invited)

O'HAYRE, Ryan^{*1}; DUAN, Chuancheng¹; ZHU, Linangzhu¹; CADIGAN, Chris¹; HUANG, Jake¹; PAPAC, Meagan¹; ZAKUTAYEV, Andriy²; ZHU, Huayang³; KARIKAYA, Canan³; BRAUN, Robert³; RICOTE, Sandrine³; KEE, Robert³; SULLIVAN, Neal³

1. Department of Metallurgical and Materials Engineering, Colorado School of Mines

2. National Renewable Energy Laboratory

3. Department of Mechanical Engineering, Colorado School of Mines

14:00

(29-B5-S02-20) Effect of Electrode Polarization Resistance on Open-Circuit Voltage in Protonic Ceramic Fuel Cells (Invited)

SHIMADA, Hiroyuki^{*1}; YAMAGUCHI, Toshiaki¹; YAMAGUCHI, Yuki¹; MIZUTANI, Yasunobu¹; FUJISHIRO, Yoshinobu¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

Session Chairs: OKUYAMA, Yuji, University of Miyazaki

14:30

(29-B5-S02-21) Development of Protonic Ceramic Fuel Cells using Yb-doped BaZrO₃ Electrolytes (Invited)

KUROHA, Tomohiro^{*1,2}; YAMAUCHI, Kosuke¹; GOTO, Takehito¹; MIKAMI, Yuichi¹; ASANO, Hiroshi¹; TSUJI, Yoichiro¹; SHIRAISHI, Seigo¹; OKUYAMA, Yuji²

1. Technology Innovation Division, Panasonic Corporation

2. Department of Environmental Robotics, Faculty of Engineering, University of Miyazaki

15:00

(29-B5-S02-22) Electrochemical characteristics and chemical stability of p-SOFCs with bi-layered electrolyte (Invited)

SATO, Koki^{*1}; IINUMA, Hiroki¹; BABA, Yoshitaka¹; MATSUZAKI, Yoshio^{1,2}; TACHIKAWA, Yuya²; MATSUMOTO, Hiroshige²; TANIGUCHI, Shunsuke²; SASAKI, Kazunari²

1. Tokyo Gas Co., Ltd.

2. Kyushu University

15:30

(29-B5-S02-23) Control of electrical properties on transition metal oxide thin films via protonic-electronic coupling

TANAKA, Hidekazu^{*1}; N. HATTORI, Azusa¹; YAMANAKA, Takashi¹; KAWAMOTO, Daiki¹; HAYASHI, Keiichiro¹

1. Institute of Scientific and Industrial Research, Osaka University

(15:45) Break

PCC electrode

Session Chairs: O'HAYER, Ryan, Colorado School of Mines

16:00

(29-B5-S02-24) Intermediate Temperature Steam Electrolysis Using Proton-Conducting Perovskites for Hydrogen Production (Invited)

MATSUMOTO, Hiroshige^{*1}; LEONARD, Kwati¹; LEE, Young-Sung¹; FUJISAKI, Takaya¹

1. International Institute for Carbon Neutral Energy Research (WPI-I2CNER), Kyushu University

16:30

(29-B5-S02-25) Performance and Reliability Improvement of Large-sized Protonic Ceramic Fuel Cells (Invited)

LEE, Jong-Ho^{*1,2}; JI, Ho-Il^{1,2}; IM, Seunghyeok^{1,2}; AN, Hyegsoon^{1,3}; SHIN, Dongwook³; IM, Jinhyuk^{1,4}; SHIM, Joon Hyung⁴; KIM, Byung-Kook¹

1. Center for Energy Materials Research, Korea Institute of Science and Technology

2. Division of Nano & Information Technology, University of Science and Technology

3. Division of Materials Science and Engineering, Hanyang University

4. School of Mechanical Engineering, Korea University

Session Chairs: FISHER, Craig A. J., Japan Fine Ceramics Center

17:00

(29-B5-S02-26) Electrochemical active sites in PCFC cathodes Investigated by using patterned thin film model electrodes

AMEZAWA, Koji^{*1}; NISHIDATE, Katsuya¹; SHINOMIYA, Yuki¹; MIZUNO, Keita¹; KIMURA, Yuta¹; NAKAMURA, Takashi¹; YASHIRO, Keiji¹; KAWADA, Tatsuya¹; MIKAMI, Yuichi²; ONUMA, Shigenori²; KUROHA, Tomohiro²; TANIGUCHI, Noboru²; TSUJI, Yoichiro²

1. Tohoku University

2. Panasonic Corporation

17:15

(29-B5-S02-27) Hydrogen production from methane and steam by electrochemical cell using proton-conducting oxide

OKUYAMA, Yuji^{*1}; NAGATOMO, Satoshi¹; NIISAKA, Aoi¹; MATSUNAGA, Naoki¹; SAKAI, Go¹; SASAMATA, Yuichi²; OGURA, Yusuke²; MIZUTANI, Yasunobu^{2,3}

1. University of Miyazaki

2. Toho Gas Co. Ltd.

3. National Institute of Advanced Industrial Science and Technology

17:30

(29-B5-S02-28) An innovative way to reveal hydration kinetics in triple (O²⁻/H⁺/e⁻) conducting oxides via isotope exchange diffusion profile (Invited)

"*" asterisk Indicates an oral presenter

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KIM, Guntae*¹
1. UNIST

■ ■ October 29 (Tue) (Room A2) ■ ■

04:Symposium on Multiferroic Materials

Session Chairs: KIMURA, Tsuyoshi, The University of Tokyo

10:45

(29-A2-S04-11) Electric Field Control of Magnetism (Keynote)

RAMESH, Ramamoorthy*¹
1. UC Berkeley

11:30

(29-A2-S04-12) Evolution of topological domain structure in in hexagonal manganite ferroelectrics (Invited)

LIU, Jun-Ming*¹; YANG, Kunlun¹
1. Nanjing University

Session Chairs: KAMBA, Stanislav, Institute of Physics, Czech

13:30

(29-A2-S04-13) Coupled order parameters and domains in magnetoelectric multiferroics breaking both space inversion and time reversal symmetries (Invited)

KIMURA, Tsuyoshi*¹
1. University of Tokyo

14:00

(29-A2-S04-14) Multiferroics: hidden functionalities beyond magnetoelectric coupling (Invited)

FIEBIG, Manfred*¹
1. Department of Materials, ETH Zurich

14:30

(29-A2-S04-15) Ferroic Heterostructure-based Prototype Memory Devices (Invited)

YIN, Yuewei¹; LI, Xiaoguang*¹
1. Department of Physics, University of Science and Technology of China, Hefei 230026, China

15:00

(29-A2-S04-16) Manipulation of Individual Skyrmion Switching by Electric Field via Strain-Mediated Magnetoelectric Coupling (Invited)

HOU, Zhipeng*¹; GAO, Xingsen¹; LIUI, Junming²
1. South China Academy of Advanced Optoelectronics, South China Normal University, Guangzhou 510006, China
2. Laboratory of Solid State Microstructures and Innovation Center of Advanced Microstructures, Nanjing University, Nanjing 211102, China

15:15

(29-A2-S04-17) Influence of particle size and morphology on the local properties in EuFeO₃ multiferroic

SKLYAROVA, Anastasia*¹; POPKOV, Vadim I.²; PLESHAKOV, Ivan V.²; MATVEEV, Vladimir V.³; KOHOUT, Jaroslav¹; KMJEC, Tomas¹; ZAVETA, Karel¹; FOMICHOV, Yevhen¹; CHLAN, Vojtech¹; STEPANKOVA, Helena¹
1. Faculty of Mathematics and Physics, Charles University, 18000 Prague 8, Czech Republic
2. Ioffe Institute, 26 Polytekhnicheskaya Str., 194021 St. Petersburg, Russian Federation
3. St. Petersburg State University, 7/9 Universitetskaya nab., 199034 St. Petersburg, Russian Federation

15:30

(29-A2-S04-18) In situ formation of discrete column of (111) oriented NZFO in BTO/NZFO multiferroic thin film on c-Si by sol-gel method

TIAN, Wei*¹; WANG, Zongrong¹; MA, Ning¹; DU, Piyl¹
1. School of Materials Science and Engineering, Zhejiang University, Hangzhou China

(15:45) Break

Session Chairs: DONG, Shuai, Southeast University

16:00

(29-A2-S04-19) Monitoring and design polar states during complex oxide thin film growth (Invited)

TRASSIN, Morgan*¹
1. Department of Materials, ETH Zurich, Switzerland

16:30

(29-A2-S04-20) “Anisotropic” magnetodielectric coupling in EuTiO₃ and multiferroic quantum criticality in Eu_{0.3}Ba_{0.1}Sr_{0.6}TiO₃ (Invited)

KAMBA, Stanislav*¹; REPCEK, Dalibor^{1,2}; SAVINOV, Maxim¹; KADLEC, Christelle¹; KADLEC, Filip¹; GOIAN, Veronica¹; KACHLIK, Martin³; PROSCHEK, Petr⁴; PROKLESKA, Jan⁴; NARAYAN, Awadhesh⁵; SPALDIN, Nicola⁵
1. Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic
2. Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University, Prague, Czech Republic
3. CEITEC - Central European Institute of Technology, Brno University of Technology, Brno, Czech Republic
4. Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
5. Materials Theory, ETH Zurich, Zurich, Switzerland

17:00

(29-A2-S04-21) Electric field control of magnetism in complex oxides through proton evolution (Invited)

YU, Pu*^{1,2}

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Department of Physics, Tsinghua University, Beijing 100084, China
2. RIKEN Center for Emergent Matter Science (CEMS), Wako, 351-0198 Japan

17:30

(29-A2-S04-22) Hybrid Improper Ferroelectricity in Sr-Based Ruddlesden-Popper Ceramics (Invited)

LIU, Xiao Qiang^{*1}; LU, Juan Juan¹; CHEN, Bu Hang¹; CHEN, Xiang Ming¹

1. Zhejiang University

17:45

(29-A2-S04-23) Magnetic and Transport Properties of TmFe₂O₄ Thin Film with Anomalous Interface Structure

KIM, Youjin^{*1}; KONISHI, Shinya¹; HAYASAKA, Yuichiro²; KAKEYA, Itsuhiro³; TANAKA, Kastuhisa¹

1. Department of Material Chemistry, Graduate School of Engineering, Kyoto University
2. The Electronic Microscopy Center, Tohoku University
3. Department of Electronic Science and Engineering, Graduate School of Engineering, Kyoto University

■■October 29 (Tue) (Room C2) ■■

08:Materials for Solar Thermal Energy Conversion and Storage

Absorber and heat storage materials

Session Chairs: ROEB, Martin, German Aerospace Center

10:30

(29-C2-S08-01) High-temperature stability studies of solar-selective coatings (Invited)

KRAUSE, Matthias^{*1}; MENDEZ, Alvaro^{1,2}; LUNGWITZ, Frank¹; HERAS PEREZ, Irene³; GUILLEN RODRIGUEZ, Elena⁴; RODRIGUEZ GARCIA, Jose⁵; FERNANDEZ RECHE, Jesus⁵; ESCOBAR-GALINDO, Ramon⁶

1. Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstraße 400, 01328 Dresden, Germany
2. Nano4Energy S.L.N.E., 28006 Madrid, Spain
3. University of Salamanca, 37008 Salamanca, Spain
4. Profactor GmbH, 4407 Steyr-Gleink, Austria
5. Concentrating Solar Systems Unit, CIEMAT - Plataforma Solar de Almería, 04200 Tabernas,
6. Universidad de Cádiz, 11510 Puerto Real, Spain

11:00

(29-C2-S08-02) Material issues for concentrated solar power (CSP)

SCHMUECKER, Martin^{*1}; SIMON, Heike¹; BLOCK, Tina¹; KNOBLAUCH, Nicole¹

1. German Aerospace Center (DLR), Institute of Materials Research

11:15

(29-C2-S08-03) Recent trends in Thermo-Chemical heat Storage (Invited)

KARAGIANNAKIS, George^{*1}; LORENTZOU, Souzana¹; PAGKOURA, Chrysa¹; SAKELLARIOU, Kyriaki¹; KONSTANDOPOULOS, Athanasios G.^{1,2}

1. Centre for Research & Technology Hellas / Aerosol & Particle Technology Laboratory (CERTH / APTL), 6th km Charilaou - Themi, 57001, Themi - Thessaloniki, Greece
2. Aristotle University of Thessaloniki / Chemical Engineering Dept., University Campus, 54124, Thessaloniki, Greece

11:45

(29-C2-S08-04) Manganese-oxide/iron-oxide system as thermochemical storage material and the influence of zirconia

BLOCK, Tina^{*1}; SIMON, Heike¹; SCHMUECKER, Martin¹

1. German Aerospace Center (DLR)

Materials for solar fuels and fertilizers

Session Chairs: KRAUSE, Matthias, Helmholtz-Zentrum Dresden-Rossendorf

13:30

(29-C2-S08-05) Oxide-Oxide Composites as High Efficiency Photoelectrocatalysts for Solar Hydrogen Production (Invited)

FISCHER, Thomas^{*1}; MATHUR, Sanjay¹

1. University of Cologne

14:00

(29-C2-S08-06) Redox Materials for Solar Thermochemical Looping Processes for Fuel Production and Other Applications

ROEB, Martin^{*1}; BRENDENBERGER, Stefan¹; VIETEN, Josua^{1,2}; PEIN, Mathias^{1,2}; RICHTER, Sebastian^{1,2}; GUBAN, Dorottya¹; SCHMUECKER, Martin³; AGRAFIOTIS, Christos¹; SATTLER, Christian^{1,2}

1. German Aerospace Center (DLR), Institute of Solar Research, Linder Höhe, 51147 Köln, Germany
2. Faculty of Mechanical Science and Engineering, Institute of Power Engineering, Professorship of Solar Fuel production, TU Dresden, 01062 Dresden, Germany
3. German Aerospace Center (DLR), Institute of Materials Research, Linder Höhe, 51147 Köln, Germany

14:15

(29-C2-S08-07) Evidence of entropy effects and changes in re-oxidation behavior of Ceria-Zirconia solutions as function of thermal pre-treatment

KNOBLAUCH, Nicole¹; SCHMUECKER, Martin^{*1}

1. Institute of Material Research, German Aerospace Center, D-51175 Köln, Germany

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

14:30

(29-C2-S08-08) Developing materials and processes for the sustainable nitrogen-based fertilizer production from sun, air, and waterPETERSEN, Stephan^{*1}; JANTZEN, Tatjana¹; HACK, Klaus¹; GUBAN, Dorottya²; ROEB, Martin²; VIETEN, Josua²; KRUEGER, Hanna²; LACHMANN, Bruno²; HABERMEHL, Martin³; HUFSCHEMIDT, Markus³; CHOURIB, Rayen³

1. GTT-Technologies, Herzogenrath, 52134, Germany

2. German Aerospace Center (DLR), Cologne, 51147, Germany

3. aixprocess, Aachen, 52070, Germany

14:45

(29-C2-S08-09) A Material and Reactor Analytics Platform for Solar FuelsKONSTANDOPOULOS, Athanasios^{*1}; DIMITRAKIS, Dimitrios¹; SYRIGOU, Maria¹; ZACHAROPOULOU, Vassiliki¹

1. Centre for Research and Technology-Hellas (CERTH)

■■October 29 (Tue) (Room B1C) ■■**11:Advanced Powder Processing and Manufacturing Technologies****Particle dispersion**

Session Chairs: MORI, Takamasa, Hosei University

10:15

(29-B1C-S11-15) Analysis for the behavior of particles in wet ball milling by DEM-CFD simulationKUSHIMOTO, Kizuku^{*1}; ISHIHARA, Shingo¹; KANO, Junya¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

10:30

(29-B1C-S11-16) Surface Interactions and Flow Curves of SiO₂/Toluene Dense Slurry Treated by PEI Complexed with Different Fatty AcidsTAKI, Naoya^{*1}; IJIMA, Motoyuki¹; TATAMI, Junichi¹

1. Yokohama National University

10:45

(29-B1C-S11-17) Processing Transparent SiO₂ Glass by Pressureless Sintering of Green Body from Photocurable Slurry: Effect of Particle DispersionIJIMA, Motoyuki^{*1}; ARITA, Ryoya¹; TATAMI, Junichi¹

1. Yokohama National University

11:00

(29-B1C-S11-18) Pulverization characteristics of a collision plate type jet mill for particle size adjustment of recovered powder in the MOX fuel fabrication processKAWAGUCHI, Koichi^{*1}; SEGAWA, Tomoomi¹; YAMAMOTO, Kazuya¹; MAKINO, Takayoshi¹; ISO, Hidetoshi¹; ISHII, Katsunori¹

1. Japan Atomic Energy Agency

Shaping I

Session Chairs: IJIMA, Motoyuki, Yokohama National University

11:15

(29-B1C-S11-19) Estimation of green body density from slurry characterization by using sedimentation and filtration test for slip casting and tape casting processesMORI, Takamasa^{*1}; YAMADA, Saori²; IWATA, Naoya²

1. Department of Chemical Science and Technology, Hosei University

2. Graduate School of Science and Engineering, Hosei University

11:30

(29-B1C-S11-20) Effect of Slurry Characteristics on Generation of Drying Defect for Ceramics Green SheetIWATA, Naoya^{*1}; MORI, Takamasa^{2,3}

1. Graduate School of Science and Engineering, Hosei University, Tokyo 184-8584, Japan

2. Department of Chemical Science and Technology, Faculty of Bioscience and Applied Chemistry, Hosei University, Tokyo 184-8584, Japan

3. Hosei University Research Institute for Slurry Engineering, Tokyo 184-8584, Japan

11:45

(29-B1C-S11-21) Effects of water-soluble epoxy resin on gelcasting methodKIJIMA, Misako^{*1}; FUJI, Masayoshi²; MIYAKAWA, Naomichi³

1. AGC Inc.

2. Nagoya Institute of Technology

3. AGC Inc.

Shaping II

Session Chairs: TANAKA, Satoshi, Nagaoka University of Technology

13:30

(29-B1C-S11-22) Splat Formation Issue in Thermal Spray ProcessFUKUMOTO, Masahiro^{*1}

1. Toyohashi University of Technology

13:45

(29-B1C-S11-23) Biodegradable synthetic bone graft substitutes made by biphasic bioceramics with interconnected porous structure

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

CHANG, Hao-Yu^{*1}; TUAN, Wei-Hsing¹; LAI, Po-Liang²

1. Department of Materials Science and Engineering, National Taiwan University, Taipei 106, Taiwan

2. Department of Orthopedic Surgery, Bone and Joint Research Center, Chang Gung Memorial Hospital at Linkou, College of Medicine, Chang Gung University, Taoyuan 333, Taiwan

14:00

(29-B1C-S11-24) In-situ observation of dewaxing process of ceramic powder compacts by optical coherence tomography

KATO, Mayu^{*1}; TATAMI, Junichi^{1,2}; IJIMA, Motoyuki^{1,2}; TAKAHASHI, Takuma²

1. Yokohama National University

2. Kanagawa Institute of Industrial Science and Technology

14:15

(29-B1C-S11-25) Internal structure observation of Al₂O₃ ceramics using optical coherence tomography

TAKAHASHI, Takuma^{*1}; TATAMI, Junichi^{1,2}; SAKAMOTO, Fumika²; ITO, Hidetaka¹; TAGUCHI, Isamu¹; IJIMA, Motoyuki^{1,2}

1. Kanagawa Institute of Industrial Science and Technology

2. Yokohama National University

Sintering

Session Chairs: WU, Yiquan, Alfred University

14:30

(29-B1C-S11-26) Processing and properties of Si₃N₄ ceramics for potential use as circuit substrate in power electronic devices (Invited)

ZHANG, Jingxian^{*1}; DUAN, Yusen¹; JIANG, Dongliang¹

1. State Key Laboratory of High Performance Ceramics and Superfine Microstructures, Shanghai Institute of Ceramics

15:00

(29-B1C-S11-27) Preparation of Transparent and Fluorescent Ca- α -SiAlON: Eu²⁺ Bulk Ceramics

LI, Ying^{*1}; TAKAHASHI, Takuma¹; YOKOUCHI, Masahiro¹; TATAMI, Junichi^{1,2}

1. Kanagawa Institute of Industrial Science and Technology

2. Faculty of Environment and Information Sciences, Yokohama National University

(15:15) Break

Session Chairs: KOZAWA, Takahiro, Osaka University

15:30

(29-B1C-S11-28) Suppression of coarse pore evolution in zirconia-alumina ceramic system

TANAKA, Satoshi^{*1}; YAMAGUCHI, Shuntaro¹

1. Nagaoka University of Technology

15:45

(29-B1C-S11-29) Sintering of Strontium-doped Calcium Sulfate bone void filler

CHEN, Ying-Cen^{*1}; TUAN, Wei-Hsing¹; HSU, Pei-Yi¹; CHANG, Li-Kwan²; LAI, Po-Liang³

1. Department of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan

2. Department of Biochemical Science and Technology, College of Life Science, National Taiwan University, Taipei, Taiwan

3. Department of Orthopaedic Surgery, Chang Gung Memorial Hospital, Taoyuan, Taiwan

16:00

(29-B1C-S11-30) Real-time and 3-dimensional observation of sintering behavior of alumina by optical coherence tomography

TATAMI, Junichi^{*1,2}; SAKAMOTO, Fumika¹; TAKAHASHI, Takuma²; IJIMA, Motoyuki^{1,2}

1. Yokohama National University

2. Kanagawa Institute of Industrial Science and Technology

16:15

(29-B1C-S11-31) Piezoelectric property of [101]-oriented (Li, Na, K)NbO₃ ceramics

ONO, Yuki^{*1}; TANAKA, Satoshi¹; HONMA, Tsuyoshi¹; SHIMIZU, Hiroyuki²; HARADA, Tomohiro²; DOSHIDA, Yutaka³

1. Nagaoka University of Technology

2. Taiyo Yuden Co.Ltd

3. Ashikaga University

Session Chairs: TAKAHASHI, Takuma, KISTEC

16:30

(29-B1C-S11-32) Pressureless Sintering of Transparent Aluminum Oxynitride (Al-O-N)

OHKOSHI, Kazuto^{*1}; OGAWA, Shuhei¹; YOSHINO, Haruhiko²; MIYAKAWA, Naomichi¹

1. Materials Integration Laboratories, AGC Inc.

2. Innovative Technology Laboratories, AGC Inc.

16:45

(29-B1C-S11-33) Microwave Hybrid Sintering of ZrO₂ added Al₂O₃ Composites, And Study of Mechanical Properties, Thermal Properties, and Sintering Kinetics

KHALID, Muhammad Waqas^{*1,2}; KIM, Young Il^{2,3}; LEE, Dong-ju³; KIM, Bum Sung^{1,2}; LEE, Bin²

1. Department of Industrial Materials and Smart Manufacturing Engineering, University of Science and Technology, Daejeon, Republic of Korea

2. Korea Institute for Rare Metals, Korea Institute of Industrial Technology, Incheon, Republic of Korea

3. Department of Advanced Materials Engineering, Chungbuk National University, Cheongju, Republic of Korea

17:00

(29-B1C-S11-34) Fabrication of SiC fiber-reinforced SiC matrix composites derived from SiC nanopowder with a very thin coated layer of additives by SPS

SHIMODA, Kazuya^{*1}; TANAKA, Hidehiko¹; HINOKI, Tatsuya²; KAKISAWA, Hideki¹

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. National Institute for Materials Science
2. Kyoto University

17:15

(29-B1C-S11-35) Fabrication and evaluation of perovskite CsPbBr₃ luminescent films via solvent-free aerosol deposition process for light emitting diode applications

KIM, Ik-Soo^{*1}; KIM, Sunghoon²; CHO, Myung-Yeon¹; KIM, Sang-Wook²; OH, Jong-Min¹

1. Kwangwoon University, Seoul, Republic of Korea
2. Ajou University, Suwon, Republic of Korea

■■October 29 (Tue) (Room T1) ■■

12:Novel Nanocrystal Technologies for Advanced Ceramic Materials & Devices

Quantum dots

Session Chairs: MIMURA, K., AIST

10:15

(29-T1-S12-14) Solution-Processed Silicon Nanocrystals for Optoelectronics and Medical Applications (Invited)

SHIRAHATA, Naoto^{*1,2,3}

1. WPI-MANA, National Institute for Materials Science (NIMS)
2. Graduate School of Chemical Sciences and Engineering, Hokkaido University
3. Department of Physics, Chuo University

10:45

(29-T1-S12-15) Investigation of Photothermal Effect in Silicon Quantum Dots for Bioapplications

OZBILGIN, Irem Nur Gamze^{*1,2}; CHINNATHAMBI, Shanmugavel³; SHIRAHATA, Naoto^{1,2,4}

1. International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan
2. Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo 060-0814, Japan
3. International Center for Young Scientists, National Institute for Materials Science (NIMS), Tsukuba, Japan
4. Department of Physics, Chuo University, 1-13-27 Kasuga, Bunkyo, Tokyo 112-8551, Japan

11:00

(29-T1-S12-16) Color-Tunable Silicon Quantum Dot Light-Emitting Diode with Inverted structure

YAMADA, Hiroyuki^{*1,2}; SHIRAHATA, Naoto^{1,2,3}

1. Department of Physics, Chuo University, 1-13-27 Kasuga, Bunkyo, Tokyo 112-8551, Japan
2. International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan
3. Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo 060-0814, Japan

2D nanomaterials

Session Chairs: SATO, K., Gunma University

11:15

(29-T1-S12-17) 2D Functional Nanosheets: Soft Chemical Synthesis, Hetero-assembly and Emergent Properties (Invited)

MA, Renzhi^{*1}; SASAKI, Takayoshi¹

1. National Institute for Materials Science

11:45

(29-T1-S12-18) Tailoring Electrical and Optical Properties of Unconventional van-der-Waals/Electrostatic Heterostructures of Ca₂Nb₃O₁₀/MoS₂ Bilayer Systems

TANIGUCHI, Takaaki^{*1}; NURDIWIJAYANTO, Leanddas¹; LI, Shisheng¹; MIYATA, Yasumitsu²; TSUKAGOSHI, Kazuhito¹; EBINA, Yasuo¹; OSADA, Minoru^{1,3}; SASAKI, Takayoshi¹

1. World Premier International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan
2. Department of Physics, Tokyo Metropolitan University, Hachioji, Tokyo 192-0397, Japan
3. Institute of Materials and Systems for Sustainability, Nagoya University, Furocho, Chikusa-ku, Nagoya 464-8603, Japan

Session Chairs: TANIGUCHI, T., NIMS

13:30

(29-T1-S12-19) Growth and characterization of two-dimensional heterostructures based on layered chalcogenides (Invited)

MIYATA, Yasumitsu^{*1}

1. Department of Physics, Tokyo Metropolitan University, Hachioji, Tokyo 192-0397, Japan

14:00

(29-T1-S12-20) Finding hidden symmetries in low-dimensional materials by X-ray pair distribution functions (Invited)

TOMINAKA, Satoshi^{*1}

1. National Institute for Materials Science (NIMS)

14:30

(29-T1-S12-21) Flake-Like Metalate Nanosheets Synthesized by Bottom-Up Process in Aqueous Solutions

BAN, Takayuki^{*1}; ITO, Ayaka¹; KAIDEN, Takafumi¹; WAKITA, Takahiro¹; TAKAI, Chika¹; OHYA, Yutaka¹

1. Gifu University

Dielectric/Ferroelectrics

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

Session Chairs: HUEY, B. D., University of Connecticut

14:45

(29-T1-S12-22) Properties of Crystallization Controlled BaTiO₃, SrTiO₃ Thin Films by Chemical Solution Deposition (Invited)

HOSOKURA, Tadasu^{*1}

1. Murata Manufacturing Co., Ltd.,

15:15

(29-T1-S12-23) Nanoscale Characterization of Ferroelectric Nanostructures by Scanning Probe Microscope under Ultrahigh Vacuum (Invited)

SUZUKI, Keigo^{*1}; KONDO, Hiroyuki¹; HOSOKURA, Tadasu¹; MURAYAMA, Koji¹

1. Murata Manufacturing Co., Ltd.

(15:45) Break

Crystal growth

Session Chairs: HUEY, B. D., University of Connecticut

16:00

(29-T1-S12-24) Crystal growth behavior in sheet-like Pb(Zr,Ti)O₃ nanoparticles

TAKADA, Yoko^{*1}; MIMURA, Ken-ichi¹; LIU, Zheng¹; KATO, Kazumi²

1. Inorganic Functional Materials Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)

2. National Institute of Advanced Industrial Science and Technology (AIST)

16:15

(29-T1-S12-25) Solvothermal Synthesis of Alkaline-Niobate Perovskite Nanocubes and Preparation of Nanocube Assemblies for Capacitors

UENO, Shintaro^{*1}; KUNUGI, Chika¹; OSADA, Kazuki¹; KUNISADA, Ryo-ichi¹; YAMAGA, Erika¹; CHIKATA, Tsukasa¹; FUJII, Ichiro¹; WADA, Satoshi¹

1. University of Yamanashi

Session Chairs: DANG, F., Shandong University

16:30

(29-T1-S12-26) Ligand-assisted hydrothermal synthesis of raspberry shaped Co₃O₄ nanoparticles

FUCHIGAMI, Teruaki^{*1}; KIMATA, Ryosuke¹; HANEDA, Masaaki^{1,2,3}; KAKIMOTO, Ken-ichi^{1,3}

1. Department of Life Science and Applied Chemistry, Nagoya Institute of Technology

2. Advanced Ceramics Research Center, Nagoya Institute of Technology

3. Frontier Research Institute for Materials Science, Nagoya Institute of Technology

16:45

(29-T1-S12-27) Fabrication of Oxide Nano-Structure Gas Sensors synthesized by Metal Organic Decomposition Method

SUGAHARA, Tohru^{*1}; ALIPOUR, Leila¹; HIROSE, Yukiko¹; NAKAMURA, Jun-ichi^{2,3}; ONO, Hironobu³; HARADA, Nobuyuki²; SUGANUMA, Katsuaki¹

1. The Institute of Scientific and Industrial Research, Osaka University

2. Nippon Shokubai Research Alliance Laboratories

3. Research Center, Nippon Shokubai Co. Ltd.,

(17:00) Break

Session Chairs: DANG, F., Shandong University

17:15

(29-T1-S12-28) Boron Nitride-based Nanostructures: Structure Regulation and Growth mechanism

WANG, Heng^{*1}; FU, Zhengyi¹

1. Wuhan University of Technology

17:30

(29-T1-S12-29) Hydrothermal Synthesis of Oxide Nanocrystals with Various Morphologies (Invited)

KOBAYASHI, Makoto^{*1}; KATO, Hideki²; OSADA, Minoru¹; KAKIHANA, Masato²

1. Institute of Materials and Systems for Sustainability, Nagoya University

2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

■■October 29 (Tue) (Room B4) ■■

14:Advanced Structure Analysis and Characterization of Ceramic Materials

Nos. 14 & 19 Joint Session

Session Chairs: FUJII, Kotaro, Tokyo Institute of Technology

15:45

(29-B4-S14-01) Designing and Demonstration of Multivalent Ion Conduction in Solids (Invited)

IMANAKA, Nobuhito^{*1}

1. Osaka University

16:15

(29-B4-S14-02) Defect Chemistry of Metal Hydride Agent-Reduced Simple Perovskites (Invited)

HAYASHI, Katsuro^{*1}

1. Kyushu University

Young Scientist Session

Session Chairs: IMANAKA, Nobuhito, Osaka University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

16:45

(29-B4-S14-03) Experimental investigation and thermodynamic modeling of the $\text{ZrO}_2\text{-TiO}_2\text{-MgO}$ systemSAENKO, Ivan^{*1}; FABRICHNAYA, Olga¹

1. Institute of Materials Science, TU Bergakademie Freiberg, Freiberg 09599, Germany

17:00

(29-B4-S14-04) Relationship between the crystal structure and electrical properties of novel oxide ion conductor with hexagonal perovskite-type structureMURAKAMI, Taito^{*1}; TSUJIGUCHI, Takafumi¹; SAKUDA, Yuichi¹; YASUI, Yuta¹; MIAO, Ping²; HAGIHARA, Masato²; TORII, Shuki²; KAMIYAMA, Takashi²; FUJII, Kotaro¹; YASHIMA, Masatomo¹

1. Tokyo Institute of Technology

2. KEK

17:15

(29-B4-S14-05) Acceptor (Fe, Al) doping effects on crystal structures and proton transport properties in layered perovskite Sr_2TiO_4 YAGI, Yutaro^{*1}; KAGOMIYA, Isao¹; KAKIMOTO, Ken-ichi¹

1. Nagoya Institute of Technology

■■October 29 (Tue) (Room C1) ■■**15:Advanced Nanocharacterization and Atomic-Scale Modeling of Grain Boundaries and Interfaces in Ceramics: Structures, Dynamics and Properties****Advanced microscopy for ceramic materials**

Session Chairs: MA, Xiuliang, Chinese Academy of Sciences

10:15

(29-C1-S15-16) Enhanced piezoelectric and thermoelectric materials through aberration-corrected STEM (Invited)PENNYCOOK, Stephen John^{*1}; WU, Haijun¹

1. Department of Materials Science and Engineering, National University of Singapore, Singapore 11757

10:45

(29-C1-S15-17) Electron microscopic understanding of metal-insulator transition in vanadium oxide (Invited)LEE, Daesu¹; SON, Junwoo²; CHOI, Si-Young^{*2}

1. Department of Physics, POSTECH

2. Department of Materials Science & Engineering, POSTECH

11:15

(29-C1-S15-18) Structural origin of enhanced ionic conductivity at yttria-stabilized zirconia dislocation investigated by scanning transmission electron microscopyFENG, Bin^{*1}; ISHIKAWA, Ryo¹; SHIBATA, Naoya^{1,2}; IKUHARA, Yuichi^{1,2}

1. The University of Tokyo

2. Japan Fine Ceramics Center

11:30

(29-C1-S15-19) IN SITU HIGH TEMPERATURE ELECTRON MICROSCOPY OBSERVATION OF SINTERING FIRST STAGE OF MO_2 (M=Ce, Th) MICROSPHERESCLAVIER, Nicolas^{*1}; TRILLAUD, Victor¹; NKOU BOUALA, Galy Ingrid¹; LECHELLE, Jacques²; DACHEUX, Nicolas¹; PODOR, Renaud¹

1. ICSM, CEA, CNRS, ENSCM, Univ. Montpellier, Site de Marcoule, BP 17171, 30207 Bagnols/Cèze, France

2. CEA/DEN/DEC/SESC/LLCC, Site de Cadarache, 13108 St-Paul lez Durance, France

Session Chairs: CHUNG, Sung-Yoon, KAIST

11:45

(29-C1-S15-20) Formation of Nanodomains in a BaTiO_3 Film Induced by Anisotropic Strain from an Orthorhombic GdScO_3 SubstrateKOBAYASHI, Shunsuke^{*1}; INOUE, Kazutoshi²; KATO, Takeharu¹; IKUHARA, Yuichi^{1,2,3}; YAMAMOTO, Takahisa^{1,4}

1. Nanostructures Research Laboratory, Japan Fine Ceramics Center

2. Advanced Institute for Materials Research, Tohoku University

3. Institute of Engineering Innovation, The University of Tokyo

4. Department of Quantum Engineering, Nagoya University

12:00

(29-C1-S15-21) Three-dimensional atomic structures of platinum nanoparticles on SrTiO_3 (001)KUBOTA, Rikuto^{*1}; ISHIKAWA, Ryo^{1,2}; KAWAHARA, Kazuaki¹; SHIBATA, Naoya^{1,3}; IKUHARA, Yuichi^{1,3}

1. Institute of Engineering Innovation, The University of Tokyo

2. Japan Science and Technology Agency, PRESTO

3. Nanostructures Research Laboratory, Japan Fine Ceramics Center

13:30

(29-C1-S15-22) Atomic Mapping of Domains and Interfacial Structures in Ferroelectric Films (Keynote)MA, Xiuliang^{*1}; TANG, Yunlong¹; ZHU, Yinlian¹; LIU, Ying¹; WANG, Yujia¹

1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences

14:00

(29-C1-S15-23) Development of Magnetic Field Free Atomic-Resolution STEM (Keynote)SHIBATA, Naoya^{*1,2}

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Institute of Engineering Innovation, The University of Tokyo
2. NSRL, Japan Fine Ceramics Center

14:15**(29-C1-S15-24) 2D Vortex-Antivortex Arrays in BiFeO₃ Films Stabilized by Orthorhombic Symmetry**ZHU, Yinlian^{*1}; GENG, Wanrong¹; MA, Xiuliang¹

1. Institute of Metal Research, Chinese Academy of Sciences

Functional materials and their interfaces

Session Chairs: MATSUNAGA, Katsuyuki, Nagoya University

14:30**(29-C1-S15-25) Effect of Symmetry-Broken Atomic Configurations at Surface on Oxygen Electrocatalysis in Perovskite Oxides (Keynote)**CHUNG, Sung-Yoon^{*1}

1. Korea Advanced Institute of Science and Technology

15:00**(29-C1-S15-26) Hydrogen-induced reversible phase transition enhanced by interfaces in correlated oxides (Invited)**SON, Junwoo^{*1}

1. Pohang University of Science and Technology (POSTECH)

15:30**(29-C1-S15-27) Surface protonation and catalytic activity of small oxide clusters**JUHASZ, Gergely^{*1,2}

1. Tokyo Institute of Technology
2. JST, CREST

15:45**(29-C1-S15-28) Atomic structures of platinum nanoparticles on a TiO₂ (110) surface**UENO, Yujiro^{*1}; ISHIKAWA, Ryo^{1,2}; KAWAHARA, Kazuki¹; SHIBATA, Naoya^{1,3}; IKUHARA, Yuuichi^{1,3}

1. Institute of Engineering Innovation, School of Engineering, University of Tokyo, Tokyo 113-8035, Japan
2. Japan Science and Technology Agency, PRESTO, Kawaguchi, Saitama 332-0012, Japan
3. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Nagoya 456-8587, Japan

16:00**(29-C1-S15-29) Atomic Column Shift of B-site Cations in (La_{0.3}Sr_{0.7})(Al_{0.65}Ta_{0.35})O₃ Epitaxial Thin Film Grown by Pulsed Laser Deposition**TOKUDA, Yoshinori^{*1}; IRIMOTO, Takeshi¹; FUJII, Ryo¹; KOBAYASHI, Shunsuke²; TOKUNAGA, Tomoharu¹; YAMAMOTO, Takahisa^{1,2}

1. Department of Materials Design Innovation Engineering, Nagoya University
2. Nanostructures Research Laboratory, Japan Fine Ceramics Center

■■October 29 (Tue) (Room B6) ■■**16:Single Crystals, Thin Films and Microstructures in Rechargeable Battery Systems****Characterization of battery materials**

Session Chairs: ZETTSU, Nobuyuki, Shinshu University, Japan

10:15**(29-B6-S16-15) Studies of Solid Electrolyte - Electrode Interfaces (Invited)**CHOI, Chris¹; ASHBY, David²; DUNN, Bruce^{*1}

1. Materials Science and Engineering Department, University of California, Los Angeles, Los Angeles, CA 90095, USA
2. Sandia National Laboratories, Livermore, CA 94551, USA

10:45**(29-B6-S16-16) Elucidation of electrochemical reactions in all-solid-state battery (Invited)**KANNO, Ryoji^{*1}; HIKIMA, Kazuhiro²; KIUCHI, Hisao³; SUZUKI, Kota¹; HIRAYAMA, Masaaki¹

1. Tokyo Institute of Technology
2. Toyohashi University of Technology
3. Kyoto University

11:15**(29-B6-S16-17) Atomic structure and Li-ion conductivity of (La,Li)NbO₃ electrolyte**KAWAHARA, Kazuaki^{*1}; ISHIKAWA, Ryo^{1,2}; NAKAYAMA, Kei¹; HIGASHI, Takuma¹; KIMURA, Teiichi³; IKUHARA, Yumi³; SHIBATA, Naoya^{1,3}; IKUHARA, Yuichi^{1,3}

1. The University of Tokyo
2. JST-PRESTO
3. Japan Fine Ceramics Center

11:30**(29-B6-S16-18) Atomic scale origin of Li-ion resistivity at (Li_{3-x}La_{2/3-x})TiO₃ grain boundary**SASANO, Shun^{*1}; ISHIKAWA, Ryo^{1,2}; OHTA, Hiromichi³; SHIBATA, Naoya^{1,4}; IKUHARA, Yuichi^{1,4}

1. The University of Tokyo
2. Japan Science and Technology Agency
3. Hokkaido University
4. Japan Fine Ceramics Center

“*” asterisk Indicates an oral presenter

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11:45

(29-B6-S16-19) Nanostructural Changes in Lithium-Ion Battery Cathodic Thin FilmsIKUHARA, Yumi^{*1}; GAO, Xiang¹; FISHER, Craig A. J.¹; KUWABARA, Akihide¹; MORIWAKE, Hiroki¹; IKUHARA, Yuichi^{1,2}

1. Japan Fine Ceramics Center

2. The University of Tokyo

Anode and thin film battery system

Session Chairs: IKUHARA, Yumi, Japan Fine Ceramics Center, Japan

13:45

(29-B6-S16-20) Silicon-Based Anode Materials for Lithium Ion Batteries (Invited)RIEDEL, Ralf^{*1}

1. TU Darmstadt

14:15

(29-B6-S16-21) Analysis of non-uniform fading phenomena of lithium ion batteries (Invited)UKYO, Yoshio^{*1}

1. Japan Fine Ceramics Center

14:45

(29-B6-S16-22) Atomically Engineered Interfaces in Solid-state BatteriesHITOSUGI, Taro^{*1}

1. Tokyo Institute of Technology

15:00

(29-B6-S16-23) Reducing the interface resistance at positive electrode/current collector by inserting an interface dipole in all-solid-state lithium batteriesNISHIO, Kazunori^{*1}; SHIRASAWA, Tetsuroh²; SHIMIZU, Koji³; NAKAMURA, Naoto¹; WATANABE, Satoshi³; SHIMIZU, Ryota^{1,4}; HITOSUGI, Taro¹

1. School of Materials and Chemical Technology, Tokyo Institute of Technology

2. National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology

3. Department of Materials Engineering, The University of Tokyo

4. Department of Research Promotion, JST-PRESTO

15:15

(29-B6-S16-24) Mechanical properties Characterization of Battery Materials at Multiple ScaleYU, Qian^{*1}

1. Zhejiang University

8. Zhejiang University

(15:30) Break**In-situ and electron microscopy for battery materials**

Session Chairs: CHI, Miaofang, Oak Ridge National Laboratory, USA

15:45

(29-B6-S16-25) In-Situ TEM Studies of the Electro-Chemo-Mechanics of Li-Ion Batteries (Invited)HUANG, Jianyu^{*1,2}; TANG, Yongfu¹; ZHANG, Liqiang¹

1. Clean Nano Energy Center, State Key Laboratory of Metastable Materials Science and Technology, Yanshan University, Qinhuangdao 066004, PR China

2. School of Materials Science and Engineering, Xiangtan University, Xiangtan, Hunan 411105, PR China

16:15

(29-B6-S16-26) In-situ Microscopy on Battery Materials for Visualization of Electrochemical Reactions (Invited)LEE, Hyun-Wook^{*1}

1. UNIST

16:45

(29-B6-S16-27) Real-Time Observation of Solid State Electrochemical Processes by In-Situ TEM (Invited)WANG, Lifan¹; XU, Zhi¹; WANG, Wenlong¹; BAI, Xuedong^{*1}

1. Institute of Physics, Chinese Academy of Sciences, China

17:15

(29-B6-S16-28) Investigation of SEI Formation in LiCoO₂ Thin FilmsYASUHARA, Sou^{*1}; YOSHIKAWA, Yumi²; TERANISHI, Takashi²; YASUI, Shintaro¹; TANIYAMA, Tomoyasu^{1,3}; ITOH, Mitsuru¹

1. Tokyo Institute of Technology

2. Okayama University

3. Nagoya University

17:30

(29-B6-S16-29) Direct observation of the Redox Orbitals in cathode materials for lithium ion batteries using quantitative CBEDXIAO, Dongdong^{*1}; SHANG, Tongtong¹; ZHANG, Qinghua¹; WU, Lijun²; GU, Lin¹

1. Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China

2. Condensed Matter Physics and Materials Science Department, Brookhaven National Laboratory, Upton, New York 11973, USA

■■October 29 (Tue) (Room Theater) ■■**17:Green Processing and Green Energy Materials for Sustainable Society**

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Session Chairs: HIRAI, Shigeto, Kitami Institute of Technology

13:00

(29-Theater-S17-19) Recent Progress in Chromogenic Smart Windows for Building Energy Conservation

(Invited)

JIN, Ping^{*1}; CAO, Xun¹

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences

13:30

(29-Theater-S17-20) Flexible Electrochromic and Thermochromic Hybrid Devices Based on WO₃/NiO

Complementary Structure

LEE, Sang Jin^{*1,2}; NAHM, Sahn²; HAN, Seung Ho¹

1. Korea Electronics Technology Institute

2. Korea University

Session Chairs: KUBOTA, Yuta, Tokyo Institute of Technology

13:45

(29-Theater-S17-21) Evaporation-driven deposition of functional metal oxide films from aqueous solutions by low-speed dip coating

UCHIYAMA, Hiroaki^{*1}

1. Kansai University

14:00

(29-Theater-S17-22) Fabrication of ZnO: rGO Composite Films by Spin-Spray Method

TANIGUCHI, Hiroaki^{*1}

1. Meiji University

14:15

(29-Theater-S17-23) Spectroelectrochemical Evaluation of ZnO Optically Transparent Electrode Prepared by Spin-Spray Technique

OKAZAKI, Takuya^{*1}; TANIGUCHI, Hiroaki¹; WAGATA, Hajime¹; ITO, Mizuki¹; KURAMITZ, Hideki²; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

2. Department of Environmental Biology and Chemistry, University of Toyama

(14:30) Break

Session Chairs: ADACHI, Nobuyasu, Nagoya Institute of Technology

14:45

(29-Theater-S17-24) Synthesis of transition metal nitrides by reduction and nitridation with melamine

IWAMOTO, Nariyasu^{*1}; KAWAGUCHI, Takahiko¹; SAKAMOTO, Naonori²; SUZUKI, Hisao²; WAKIYA, Naoki²

1. Graduate School of Integrated Science and Technology, Shizuoka University, Hamamatsu, 432-8011, Japan

2. Research Institute of Electronics, Shizuoka University, Hamamatsu, 432-8011, Japan

15:00

(29-Theater-S17-25) Optimal Conditions for Synthesizing TiN-Si₃N₄ Composite Powders from TiSi₂ in Ammonia Atmosphere

ALHUSSAIN, Hanan M.^{*1,3}; MISE, Takuto¹; MATSUO, Yasuyuki¹; KIYONO., Hajime²

1. Division of Applied Chemistry, Graduate School of Science and Engineering, Shibaura Institute of Technology, Koto-ku, Tokyo, 135-8548, Japan

2. Department of Applied Chemistry, College of Engineering, Shibaura Institute of Technology

3. Department of Chemistry, Imam Mohammad Ibn Saud Islamic University (IMSIU), PO Box 230320, Riyadh 11321, Saudi Arabia

15:15

(29-Theater-S17-26) Thin film growth of perovskite oxynitrides by Dynamic Aurora PLD

KAWAGUCHI, Takahiko^{*1}; AOSHIMA, Futa¹; SUGITA, Mayuko¹; SAKAMOTO, Naonori^{1,2}; SUZUKI, Hisao^{1,2}; WAKIYA, Naoki^{1,2}

1. Graduate School of Integrated Science and Technology, Shizuoka University

2. Research Institute of Electronics, Shizuoka University

Session Chairs: MIYAZAKI, Hidetoshi, Shimane Univ.

15:30

(29-Theater-S17-27) Improving photoactivity of BaNbO₂N photoanodes prepared from Ba₅Nb₄O₁₅ by hydrothermal method

KURITA, Kenji^{*1}; ITO, Mizuki¹; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

15:45

(29-Theater-S17-28) Preparation of TiO₂ Thin Films on Polycarbonate Substrates by Non-Seed CBD Method

SHINO, Chihiro^{*1}; WAGATA, Hajime¹

1. Meiji University

16:00

(29-Theater-S17-29) Growth of LaFeO₃ Crystals from a LiCl-NaCl-KCl Flux

WAGATA, Hajime^{*1}; NISHIWAKI, Junpei¹; TOKUDA, Kenzo¹

1. Meiji University

(16:15) Break

Session Chairs: WAGATA, Hajime, Meiji Univ.

16:30

(29-Theater-S17-30) Utility of Oxide Nanoparticles for Morphological Control of Wurtzite Oxynitrides

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(Invited)ASAKURA, Yusuke^{*1}; YIN, Shu¹

1. Tohoku University

17:00**(29-Theater-S17-31) Synthesis of GaN nanoparticles from beta-Ga₂O₃ powder by NH₃ nitridation**KIYONO, Hajime^{*1}; HANASHI, Genki¹; MATSUO, Yasuyuki²

1. College of Engineering, Shibaura Institute of Technology

2. Graduate School of Science and Engineering, Shibaura Institute of Technology

Session Chairs: WATANABE, Tomoaki, Meiji Univ.

17:15**(29-Theater-S17-32) Microstructure Control of the Core-Shell Hybrid Ceramic Particles by Chemical Solution Deposition**OHNO, Tomoya^{*1}; MARUYAMA, Takahiro²; SUZUKI, Hokuto²; HIRAI, Shigeto¹; MATSUDA, Takeshi¹; SAKAMOTO, Naonori³; SUZUKI, Hisao³

1. School of Earth, Energy and Environmental Engineering, Kitami Institute of Technology

2. Department of Materials Science and Engineering, Kitami Institute of Technology

3. Research Institute of Electronics, Shizuoka University

17:30**(29-Theater-S17-33) Enhancement of photocatalytic activity of Ga₂O₃ by impurity doping (Invited)**YAMAKATA, Akira^{*1}; VEQUIZO, Junie Jhon M.¹; ISHIYAMA, Shouta²; HIRAMINE, Taishi²; SAKATA, Yoshihisa²

1. Toyota Technological Institute

2. Yamaguchi University

■■October 29 (Tue) (Room B3) ■■**18: Additive Manufacturing and 3d Printing Technologies****Enabling Applications**

Session Chairs: KIRIHARA, Soshu, Osaka University

16:00**(29-B3-S18-01) Enabling Additive Manufacturing Technologies for Advanced Aero Propulsion Materials & Components (Invited)**HALBIG, Michael^{*1}; SINGH, Mrityunjay²

1. NASA Glenn Research Center

2. Ohio Aerospace Institute

16:30**(29-B3-S18-02) Binder Jetting Additive Manufacturing of Heat Exchangers (Invited)**SINGH, Dileep^{*1}

1. Argonne National Laboratory

Multi Materials & Dimensions

Session Chairs: KIRIHARA, Soshu, Osaka University

17:00**(29-B3-S18-03) New applications of hybrid multi-materials and smart design**BOURJOL, Maxence^{*1}; CHAPUT, Christophe¹; GAIGNON, Richard¹

1. 3DCERAM SINTO

Session Chairs: HALBIG, Michael, NASA Glenn Research Center

17:15**(29-B3-S18-04) Direct 3D-printing of a Geopolymer-based Membrane Dedicated to Cesium Decontamination: Material Formulation, Process Development and Decontamination Efficiency**PARAISO, Kolani¹; SVETLANA, Petlitkaia¹; GERENTON, Adrien¹; PIALLAT, Thomas¹; POULESQUEN, Arnaud¹; FRIZON, Fabien^{*1}

1. CEA (French Atomic and Alternative Energies Commission)

17:30**(29-B3-S18-05) Pellets Additive Manufacturing for complex shaped silicon carbide ceramics**GOTTSCHALK, Nicole^{*1}; MARIGO, Gloria¹; FRIEDRICH, Lion¹; PIEDIMONTE, Elisa¹; KLOPSCH, Linda¹

1. German Aerospace Center (DLR)

17:45**(29-B3-S18-06) Stereolithographic Additive Manufacturing of Fluctuated Surfaces of Ceramic Components for Fluid Flow Modulations**KIRIHARA, Soshu^{*1}

1. Osaka University

■■October 29 (Tue) (Room B4) ■■**19: Mixed Anion Compounds for Novel Functionalities****Photoactive functionalities**

Session Chairs: NODA, Yasuto, Kyoto University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

10:15

(29-B4-S19-17) A Lead-Titanium Oxyfluoride as a New Visible-Light-Absorbing Semiconductor for Photocatalytic and Photoelectrochemical Water Splitting (Invited)MAEDA, Kazuhiko*¹

1. Department of Chemistry, School of Science, Tokyo Institute of Technology, Tokyo 152-8550, Japan

10:45

(29-B4-S19-18) B/N Anions Co-doped Multi-crystalline TiO₂ and Its Photocatalytic ActivityCAO, Jingdi¹; ASAKURA, Yusuke¹; YIN, Shu¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai 980-8577, Japan

11:00

(29-B4-S19-19) Novel Tetragonal BaCN₂:Eu²⁺ Phosphor and Its Temperature Dependent EmissionMASUBUCHI, Yuji¹; NISHITANI, Sayaka²; HIGUCHI, Mikio¹

1. Faculty of Engineering, Hokkaido University

2. Graduate School of Sciences and Engineering, Hokkaido University

11:15

(29-B4-S19-20) Anion-substitution Effect on Eu³⁺ luminescence in YOX (X = Cl or Br)KITAGAWA, Yuuki¹; UEDA, Jumpei¹; TANABE, Setsuhisa¹

1. Kyoto Univ.

Mixed anion effect on battery materials

Session Chairs: MASUBUCHI, Yuji, Hokkaido University

11:30

(29-B4-S19-21) Nitrogen-doping effect on Li_{1.2}Ti_{0.4}Mn_{0.4}O₂ cathode for Li-ion batteryUCHIYAMA, Tomoki¹; WATANABE, Aruto¹; YAMAMOTO, Kentaro¹; HAYASHI, Akitoshi²; MAEDA, Kazuhiko³; KAGEYAMA, Hiroshi⁴; UCHIMOTO, Yoshiharu¹

1. Kyoto University, Graduate School of Human and Environmental Studies

2. Osaka Prefecture University, Graduate School of Engineering

3. Tokyo Institute of Technology, Department of Chemistry, School of Science

4. Kyoto University, The Department of Energy and Hydrocarbon Chemistry, Graduate School of Engineering

11:45

(29-B4-S19-22) Mechanochemical Fluorine-Doping to Antifluorite-Type Lithium Copper Oxide Cathode for Improvement of Cyclability in Li-ion BatteryKOBAYASHI, Hiroaki¹; SHIMADA, Yuta²; OGASAWARA, Yoshiyuki²; HIBINO, Mitsuhiro²; KUDO, Tetsuichi²; MIZUNO, Noritaka²; YAMAGUCHI, Kazuya²

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

2. Department of Applied Chemistry, School of Engineering, The University of Tokyo

Electronic and structural design

Session Chairs: KUWABARA, Akihito, Japan Fine Ceramics Center

13:30

(29-B4-S19-23) Ab initio and experimental design of new oxychalcogenides phases using heteroleptic building block units (Keynote)KABBOUR, Houria¹

1. CNRS - UCCS - University of Lille

14:00

(29-B4-S19-24) Material design and synthesis of new layered oxychalcogenidesIWASA, Yuki¹; OGINO, Hiraku¹; AGULTO, Verdad²; YAMANOI, Kohei²; SHIMIZU, Toshihiko²; UEDA, Jumpei³; HONGO, Kenta⁴; MAEZONO, Ryo⁴; TANABE, Setsuhisa³; SARUKURA, Nobuhiko²

1. National Institute of Advanced Industrial Science and Technology (AIST)

2. Institute of Laser Engineering, Osaka University

3. Graduate School of Human and Environmental Studies, Kyoto University

4. Japan Advanced Institute of Science and Technology (JAIST)

14:15

(29-B4-S19-25) Synthesis, electronic structure and physical properties of CrAs-based layered mixed anion compoundsS, Pavan Kumar Naik¹; OGINO, Hiraku¹; IWASA, Yuki¹; HONGO, Kenta²; MAEZONO, Ryo²

1. Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), 1-1-1 Central 2, Umezono, Tsukuba, Ibaraki, 305-8568, Japan

2. Japan Advanced Institute of Science and Technology, Asahidai 1-1, Nomi, Ishikawa 923-1292, Japan

Structural analysis and diffusion control (Joint session with Session 14: Advanced structure analysis and characterization of ceramic material)

Session Chairs: KABBOUR, Houria, CNRS-UCCS

14:30

(29-B4-S19-26) Structure, electron density and diffusion path of mixed-anion compounds and oxides (Invited)YASHIMA, Masatomo¹; HIBINO, Keisuke¹; TSUJIGUCHI, Takafumi¹; FUJII, Kotaro¹; MURAKAMI, Taito¹; MAEDA, Kazuhiko¹

1. Department of Chemistry, Tokyo Institute of Technology

15:00

(29-B4-S19-27) Investigation of local structure of BaInO₂F by X-ray PDFKATSUMATA, Tetsuhiro¹; INAGUMA, Yoshiyuki²; MORI, Daisuke³; AIMI, Akihisa⁴; YONEDA, Yasutoshi⁵

1. Department of Chemistry, Tokai University

“*” asterisk Indicates an oral presenter

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2. Faculty of Science, Gakushuin University
3. Department of Chemistry for Materials, Mie University
4. Faculty of Science and Technology, Tokyo University of Science
5. Materials Sciences Research Center, Japan Atomic Energy Agency (JAEA)

15:15

(29-B4-S19-28) Novel Bromide Ion Conducting Solid Electrolyte Based on Lanthanum Oxybromide

MISRAN, Muhammad Radzi Iqbal Bin^{*1}; NUNOTANI, Naoyoshi¹; TAMURA, Shinji¹; IMANAKA, Nobuhito¹

1. Osaka University, Japan

■■October 29 (Tue) (Room C2) ■■

21:Specific Reaction Field and Material Fabrication Design

Nonequilibrium reaction field(I)

Session Chairs: ENOMOTO, Naoya, National Institute of Technology, Ariake College

15:30

(29-C2-S21-01) Characteristics of sonochemically produced BaTiO₃ nanocrystals (Invited)

YASUI, Kyuichi^{*1}; KATO, Kazumi¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

Session Chairs: HAYASHI, Yamato, Tohoku University

16:00

(29-C2-S21-02) Dispersion and Aggregation Behavior of Surface-modified Nanoparticles (Invited)

KUBO, Masaki^{*1}

1. Department of Chemical Engineering, Tohoku University

Session Chairs: KUBO, Masaki, Tohoku University

16:30

(29-C2-S21-03) High-Throughput Fabrication and Novel Application of Metal Nanoparticle Related Materials for Positive Spiral by Home Electric Appliances

HAYASHI, Yamato^{*1}

1. Tohoku University

16:45

(29-C2-S21-04) Ultrasound Synthesis of Sn-Bi Nanosolder for Low-Temperature Joining

ARAI, Kazuki^{*1}; HAYASHI, Yamato¹; FUKUSHIMA, Jun¹; TAKIZAWA, Hirotsugu¹

1. Tohoku University, Applied Chemistry, Graduate School of Engineering

Pioneering process (I)

Session Chairs: KUBO, Masaki, Tohoku University

17:00

(29-C2-S21-05) Preparation of Porous Strontium Titanate Particles by Hot Water Conversion of Hydrous Titania

UJIE, Kazuya^{*1}; KOJIMA, Takashi¹; UEKAWA, Naofumi¹

1. Department of Applied Chemistry and Biotechnology, Graduate School of Science and Engineering, Chiba University

Session Chairs: YIN, Shu, Tohoku University

17:15

(29-C2-S21-06) Synthesis of Porous Metal Oxide Particles by Partial Dissolution of Hydrous Metal Oxide and Crystallization

KOJIMA, Takashi^{*1}; YOSHIDA, Tomoya¹; BABA, Tsukasa¹; YUKITA, Chieko¹; YANAGIHARA, Yuya¹; UEKAWA, Naofumi¹

1. Graduate School of Engineering, Chiba University

17:30

(29-C2-S21-07) Crystal phase-based epitaxial growth of noble metal nanostructures on 4H/fcc Au nanowires (Invited)

LU, Qipeng^{*1}

1. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, PR China.

■■October 29 (Tue) (Room A1) ■■

25:Direct Thermal-to-Electrical Energy Conversion Materials and Thermal Energy Harnessing Challenges

TEG

Session Chairs: OHTAKI, Michitaka (1) ; BERTHEBAUD, David (2), (1)Kyushu University, (2)CNRS-Saint Gobain-NIMS

15:30

(29-A1-S25-01) Power enhancement of planar-type Si thermoelectric devices by nanostructuring (Invited)

NOMURA, Masahiro^{*1,2}; YANAGISAWA, Ryoto¹

1. Institute of Industrial Science, The University of Tokyo

2. CREST, Japan Science and Technology Agency

16:00

(29-A1-S25-02) Scalable CMOS Thermoelectric Energy Harvester Using Si Nanowires (Invited)

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

WATANABE, Takanobu^{*1,2}

1. Faculty of Science and Engineering, Waseda University, Tokyo 169-8555, Japan
2. Research Institute for Ambientronics, Waseda University, Tokyo 169-8555, Japan

16:30

(29-A1-S25-03) Life Performance Prediction Approach for the Potential eMMRTG (Invited)

CAILLAT, Thierry^{*1}; MATTHES, Christopher¹; CHI, Su¹; PINKOWSKI, Stanley¹
1. Jet Propulsion Laboratory/California Institute of Technology

17:00

(29-A1-S25-04) Durability and Application of Oxide Thermoelectric Units (Invited)

FUNAHASHI, Ryoji^{*1}; URATA, Tomoyuki¹; MATSUMURA, Yoko¹; SUZUKI, Miho¹; MURAKAMI, Hiroyo¹; IKENISHI, Hitomi¹; SASAKI, Shinya²; SUGIYAMA, Shigeaki³; IKEUCHI, Satoaki⁴; MAEDA, Shinichi⁵; NAGAHAMA, Takuma⁵; TAKEUCHI, Kazuya⁶
1. Inorganic Functional Materials Res. Inst., Natl. Inst. Adv. Ind. Sci. & Tech., Kansai
2. Electronics & Optical Research and Development Division, Akita Ind. Tech. Center
3. Technology Innovation Section, Akita Ind. Tech. Center
4. Production Department, ADVANCE RIKO, Inc.
5. Materials Research Laboratories, Nissan Chemical Corporation
6. Biological Research Laboratories, Nissan Chemical Corporation

17:30

(29-A1-S25-05) Diffusion behaviors of bonding interface of Bi-Te based thermoelectric materials with electroplated and sputtered Ni/Au barrier

EKUBARU, Yusufu^{*1}; SUGAHARA, Tohru¹; OKAJIMA, Michio²; NAMBU, Shutaro²; SUGANUMA, Katsuaki¹
1. Department of Advanced Interconnection Materials, The Institute of Scientific and Industrial Research, Osaka University, Japan
2. E-ThermoGentek Co., Ltd.,

■■October 29 (Tue) (Room C1) ■■

29:Liquid-mediated Structuring of Ceramics and Organic-inorganic Hybrid Materials

Hybrid Materials

Session Chairs: KATAGIRI, Kiyofumi, Hiroshima University

16:30

(29-C1-S29-01) Synthesis of Periodic Mesoporous Hybrid Silica for Drug Delivery (Invited)

WONG CHI MAN, Michel^{*1}
1. Institut Charles Gerhardt Montpellier

17:00

(29-C1-S29-02) Silk based nanocomposites for biophotonic and plasmonic devices

COLUSSO, Elena¹; PEROTTO, Giovanni²; OMENETTO, Fiorenzo³; MARTUCCI, Alessandro^{*1}
1. Dipartimento di Ingegneria Industriale, Università di Padova, Via Marzolo, 9, 35131 Padova, Italy
2. Smart Materials, Istituto Italiano di Tecnologia (IIT), Via Morego 30, 16163 Genova, Italy
3. Department of Biomedical Engineering and Department of Physics, Tufts University, 4 Colby St., Medford, MA 02155, USA

17:15

(29-C1-S29-03) Hexaniobate Nanosheets Modified with Biocompatible Polymers

SONE, Chikako^{*1}; KAMIBE, Takuma¹; GUEGAN, Regis²; IDOTA, Naokazu³; C. YAMASHITA, Akihiro³; SUGAHARA, Yoshiyuki^{1,4}
1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University
2. Global Center for Science and Engineering, Waseda University
3. Department of Chemical Science and Technology, Faculty of Bioscience and Applied Chemistry, Hosei University
4. Kagami Memorial Institute for Materials Science and Technology, Waseda University

17:30

(29-C1-S29-04) New colorless and transparent organic polymer aerogels via non-aqueous sol-gel process

NAKANISHI, Yuki^{*1}; NAKANISHI, Kazuki²; KANAMORI, Kazuyoshi¹
1. Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto 606-8502, Japan
2. Institute of Material and Systems for Sustainability, Nagoya University, Nagoya 464-8601, Japan

17:45

(29-C1-S29-05) Penetration of organic polymer at the interface between floating metal oxide gel film and liquid subphase

SHIMOOKA, Hirokazu^{*1}; KITAMURA, Mitsuru¹; KUWABARA, Makoto²
1. Kyushu Institute of Technology
2. Professor emeritus at the University of Tokyo

■■October 29 (Tue) (Room B1A) ■■

31:Porous Ceramics: From Innovative Processing to Advanced Applications and Functionalities

Process innovation of porous ceramics III

Session Chairs: SHIMAMURA, Akihiro, AIST

11:00

(29-B1A-S31-15) Hybrid additive manufacturing of porous ceramic architectures (Keynote)

ORTONA, Alberto^{*1}
1. SUPSI

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11:30

(29-B1A-S31-16) Cross-linked protein crystals as a model template for synthesis of porous materials (Invited)YAMADA, Yohei^{*1}; TOYAMA, Shota²; SUZUTA, Takahito²; YABUTANI, Tomoki³

1. National Institute of Technology, Anan College, 265 Aoki Minobayashi, Anan, Tokushima 774-0017, Japan

2. Graduate School of Technology, Industrial and Social Sciences, Tokushima University, 2-1 Minamijyousanjimacho, Tokushima 770-8506, Japan

3. Paper Industry Innovation Center, Ehime University, 127 Mendori-cho, Shikokuchuo, Ehime 799-0113, Japan

Engineering properties and applications of porous ceramics III

Session Chairs: ORTONA, Alberto, University of Applied Sciences and Arts of Southern Switzerland

13:30

(29-B1A-S31-17) Porous metal (hydr)oxides for drug stabilization and delivery (Invited)KIM, Hyoung-Jun¹; KIM, Bo-Kyung²; KIM, Tae-il³; OKADA, Tomohiko⁴; INADA, Miki⁵; OH, Jae-Min^{*1}

1. Department of Energy and Materials Engineering, Dongguk University-Seoul

2. Department of Chemistry and Medical Chemistry, College of Science and Technology, Yonsei University

3. Department of Biosystems & Biomaterials Science and Engineering, College of Agriculture and Life Sciences, Seoul National University

4. Department of Chemistry and Material Engineering, Faculty of Engineering, Shinshu University

5. Center of Advanced Instrumental Analysis, Kyushu University

14:00

(29-B1A-S31-18) Photochromism of Layered Oxides with Two-dimensional Nanospace Containing Several Metal Ions (Invited)KAMADA, Kai^{*1}

1. Nagasaki University

14:30

(29-B1A-S31-19) A Hierarchical Nanoporous Layer Etched on a Silicate Glass with Amphiphilic, AR Properties and Material Retention Capability.FUJIMA, Takuya^{*1,2}; YASUMORO, Keita¹; USHIODA, Yuki¹; TABATA, Erika¹; ITO, Takumi¹; FUJITA, Yushi¹

1. Department of Mechanical Engineering, Tokyo City University

2. Advanced Research Laboratories, Tokyo City University

(14:45) Break**Engineering properties and applications of porous ceramics IV**

Session Chairs: BERNARD, Samuel, CNRS - university of Limoges

15:15

(29-B1A-S31-20) Ex situ nanoparticles modified electrode for heavy metal detection (Invited)ABDUL RAZAK, Khairunisak^{*1}; LOCKMAN, Zainovia¹; MATSUDA, Atsunori²

1. School of Materials & Mineral Resources Engineering, Universiti Sains Malaysia

2. Department of Electrical and Electronic Engineering, Faculty of Engineering, Toyohashi University of Technology

Session Chairs: BERNARD, Samuel, CNRS - university of Limoges

15:45

(29-B1A-S31-21) Designing Porous Carbon Electrodes Based on Understanding Local Structures. (Invited)URITA, Koki^{*1}; NOTOHARA, Hiroo¹; URITA, Chiharu¹; ARAKI, Takayuki¹; INOUE, Maya¹; MORIGUCHI, Isamu¹

1. Nagasaki University

16:15

(29-B1A-S31-22) Biomass-derived carbon electrodes: from local atomic structure to electrochemical properties (Invited)GOMEZ-MARTIN, Aurora¹; MARTINEZ-FERNANDEZ, Julian¹; RUTTERT, Mirco²; WINTER, Martin²; PLACKE, Tobias²; RAMIREZ-RICO, Joaquin^{*1}

1. Materials Science Institute in Seville, University of Seville - CSIC, Sevilla, Spain.

2. University of Münster, MEET Battery Research Center, Münster, Germany

High SSA ceramics I

Session Chairs: INADA, Miki, Kyusyu University

16:45

(29-B1A-S31-23) Rational design of polymer-derived ceramics with porous architectures tuned at various length scales (Keynote)BERNARD, Samuel^{*1}

1. Univ. Limoges, CNRS, IRCER, UMR 7315, F-87000, Limoges, France.

17:15

(29-B1A-S31-24) Aluminium doped mesoporous silica in the adsorption thermal energy storage for low temperature applicationsMIKSIK, Frantisek^{*1,2}; MIYAZAKI, Takahiko^{1,2}; INADA, Miki³

1. Department of Energy and Environmental Engineering, IGSES, Kyushu University

2. International Institute for Carbon-Neutral Energy Research, Kyushu University

3. Center of Advanced Instrumental Analysis, Kyushu University

17:30

(29-B1A-S31-25) Effect of Pore Size of Anodic Aluminum Oxide Substrate on loading Silica NanoparticlesSEKIGUCHI, Kazutoshi^{*1,2}; NAKANISHI, Takayuki¹; SEGAWA, Hiroyo^{1,3}; YASUMORI, Atsuo¹

1. Tokyo University of Science

2. Nissan Chemical Corporation

3. National Institute for Materials Science

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■ ■ October 29 (Tue) (Room B2) ■ ■

32:Crystalline Materials for Electrical, Optical and Medical Applications

Optical material II

Session Chairs: TODA, KENJI, Niigata University

10:45

(29-B2-S32-13) Relationship between glass composition and radiophotoluminescence center formation in Ag-doped phosphate glasses

KAWAMOTO, Hiroki^{*1}; KOSHIMIZU, Masanori¹; FUJIMOTO, Yutaka¹; OKADA, Go²; MASAI, Hirokazu³; YANAGIDA, Takayuki⁴; ASAI, Keisuke¹

1. Graduate School of Engineering, Tohoku University
2. College of Bioscience and Chemistry, Kanazawa Institute of Technology
3. National Institute of Advanced Science and Technology
4. Graduate School of Material Science, Nara Institute of Science Technology

11:00

(29-B2-S32-14) High-entropy sesquioxide laser ceramics (Invited)

ZHANG, Guangran¹; WU, Yiquan^{*1}

1. Kazuo Inamori School of Engineering, New York State College of Ceramics, Alfred University, Alfred, NY 14802, USA

11:30

(29-B2-S32-15) Laser sources development at ISL for IRCM application (Invited)

HILDENBRAND-DHOLLANDE, Anne^{*1}; BERROU, Antoine¹; BIGOTTA, Stefano¹; DALLOZ, Nicolas¹; IBACH, Thierry¹; MEDINA, Manuel Alessandro^{1,2}; MOTARD, Arnaud^{1,3}; SCHELLHORN, Martin¹; SCHMITT, Stephan¹; SCURRIA, Giuseppe^{1,3}; WAGNER, Frank R.²; MANEK-HONNINGER, Inka³

1. French-German Research Institute of Saint-Louis (ISL), 5 rue du Général Cassagnou, BP 70034, 68301 Saint-Louis, France
2. Institut Fresnel, University of Aix Marseille, CNRS, Ecole Centrale Marseille, 13013 Marseille, France
3. CELIA, University of Bordeaux-CNRS-CEA UMR5107, 33405 Talence, France

Phosphor

Session Chairs: VILLORA, Garcia, NIMS

13:30

(29-B2-S32-16) InP Based Quantum Dots for Wide Color Gamut Display (Invited)

MORIYAMA, Takafumi^{*1}; SASAKI, Hirokazu¹; UMEDA, Naoki¹; SAKURA, Naoki¹; MITSUKA, Yuko¹; KIDO, Makoto¹; MATSUURA, Keisuke¹; NOMURA, Takeshi¹; HIRANO, Shin-ichi²; AKIMOTO, Yuji¹

1. Shoen Chemical, Inc.
2. Shanghai Jiao Tong University

14:00

(29-B2-S32-17) Color tunable single-phase Eu²⁺ and Ce³⁺ co-activated Sr₂LiAlO₄ phosphors (Invited)

HA, Jungmin¹; KIM, Yoon Hwa²; NOVITSKAYA, Ekaterina³; WANG, Zhenbin⁴; SANCHEZ, Maritza¹; GRAEVE, Olivia A.^{1,3}; ONG, Shyue Ping⁴; IM, Won Bin²; MCKITTRICK, Joanna^{*1,3}

1. Materials Science and Engineering Program, University of California San Diego
2. School of Materials Science and Engineering, Chonnam National University
3. Department of Mechanical and Aerospace Engineering, University of California San Diego
4. Department of Nanoengineering, University of California San Diego

14:30

(29-B2-S32-18) Abnormal Luminescence Property of Phosphor Materials Synthesized by the Melt Quenching Technique (Invited)

TODA, KENJI^{*1}

1. Niigata Univ.

15:00

(29-B2-S32-19) Anisotropic Excitation Polarization Response from a Single White Light-emitting β -NaYF₄:Yb³⁺,Pr³⁺ Microcrystal

YANG, Dandan¹; ZHAN, Qiuqiang²; DONG, Guoping¹; QIU, Jianrong³

1. State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China
2. Centre for Optical and Electromagnetic Research, South China Academy of Advanced Optoelectronics, South China Normal University, Guangzhou 510006, China
3. College of Optical Science and Engineering, State Key Laboratory of Modern Optical Instrumentation, Zhejiang University, Hangzhou 310027, China

15:15

(29-B2-S32-20) Synthesis of Mn⁴⁺ activated Na₂SiF₆ red-emitting phosphors using an ionic liquid

HA, Jungmin¹; NOVITSKAYA, Ekaterina²; LAM, Natalie³; SANCHEZ, Maritza¹; KIM, Yoon Hwa⁴; LI, Zezhou¹; IM, Won Bin⁵; GRAEVE, Olivia A.^{1,2}; MCKITTRICK, Joanna^{*1,2}

1. Materials Science and Engineering Program, University of California San Diego
2. Department of Mechanical and Aerospace Engineering, University of California San Diego
3. Department of Nanoengineering, University of California San Diego
4. School of Materials Science and Engineering, Chonnam National University
5. Division of Materials Science and Engineering, Hanyang University

15:30

(29-B2-S32-21) Investigation of formation process of YAG:Ce exhibiting orange-red luminescence

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NAKAMURA, Hitomi^{*1}; SHINOZAKI, Kenji¹; AKAI, Tomoko¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

(15:45) Break

Optical material III

Session Chairs: MCKITTRICK, Joanna, University of California San Diego

16:00

(29-B2-S32-22) Crystal growth of hybrid perovskite single crystals and their photoelectric properties (Invited)

TAO, Xutang^{*1}; JU, Dianxing¹; YIN, Jian¹; JIANG, Xiaomei¹

1. State Key Lab. of Crystal Materials, Shandong University
2. State Key Lab. of Crystal Materials, Shandong University
3. State Key Lab. of Crystal Materials, Shandong University
4. State Key Lab. of Crystal Materials, Shandong University

16:30

(29-B2-S32-23) Crystallographic orientation control in ceramics by external fields (Invited)

SUZUKI, Tohru^{*1}

1. National Institute for Materials Science

Scintillator I

Session Chairs: MCKITTRICK, Joanna, University of California San Diego

17:00

(29-B2-S32-24) Continued Advances in Engineering Scintillators for Application Purpose, From Idea to Product (Invited)

FRANK, John^{*1}; MENGE, Peter¹; OUSPENSKI, Vladimir²

1. Saint-Gobain Crystals Hiram, Ohio 44313 USA
2. Saint-Gobain Research Paris, France

17:30

(29-B2-S32-25) High-Resolution Gamma-Ray Halide Scintillators (Invited)

ZHURAVLEVA, Mariya^{*1,2}; RUTSTROM, Daniel^{1,2}; STAND, Luis¹; LOYD, Matthew^{1,2}; KOSCHAN, Merry¹; MELCHER, Charles^{1,2,3}

1. Scintillation Materials Research Center, University of Tennessee, Knoxville, TN 37996, USA
2. Department of Materials Science and Engineering, University of Tennessee, Knoxville, TN 37996, USA
3. Department of Nuclear Engineering, University of Tennessee, Knoxville, TN 37996 USA

■■October 29 (Tue) (Room B1B) ■■

**33:Multifunctional Coatings for Structural, Energy and Environmental Applications
JFCA/ADCAL and Cross-sectoral Research cooperation of Ceramic Coating support
Symposia**

Durability Performance of Environmental Barrier Coatings (EBCs)

Session Chairs: KITAOKA, Satoshi, Japan Fine Ceramics Center

10:30

(29-B1B-S33-16) Delamination problems in environmental barrier coatings (EBCs): recent achievements and challenges (Invited)

KAGAWA, Yutaka^{*1}

1. Katayanagi Advanced Research Institutes, Tokyo University of Technology

11:00

(29-B1B-S33-17) Development and evaluation for CMC with EBC (Invited)

NAKAMURA, Takeshi^{*1}; KOTANI, Masahiro¹; HIRANO, Hiroto¹

1. IHI Corporation

11:30

(29-B1B-S33-18) Determination of Interface Toughness and Energy Release Rate in Delamination of Environmental Barrier Coatings on SiC/SiC for Lifetime Prediction

KAKISAWA, Hideki^{*1}; KAWAI, Emi²; YAMAGUCHI, Norio³; YOKOI, Taishi³; KUBO, Atsushi²; KITAOKA, Satoshi³; UMENO, Yoshitaka²

1. National Institute for Materials Science
2. Institute of Industrial Science, the University of Tokyo
3. Japan Fine Ceramics Center

11:45

(29-B1B-S33-19) Microstructural Change during Heat Exposure of Modeled Environmental Barrier Coatings

HASEGAWA, Makoto^{*1}; SHIBUYA, Toshiki²; IUCHI, Atsuhita²

1. Division of Systems Research, Faculty of Engineering, Yokohama National University
2. Department of Systems Integration, Graduate School of Engineering, Yokohama National University

Aerosol Deposition (AD) Processes in Energy Applications

Session Chairs: AKEDO, Jun, AIST

13:30

(29-B1B-S33-20) Aerosol Deposition of High-Temperature Ceramic Capacitors for Power Inverters in Electric Drive Vehicles (Invited)

BALACHANDRAN, U (Balu)^{*1}

1. Argonne National Laboratory

“*” asterisk Indicates an oral presenter

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14:00

(29-B1B-S33-21) Photon Associated Thermal Annealing for Magnetoelectric Heterostructure Fabricated by GSV process (Invited)

RYU, Jungho^{*1}

1. School of Materials Science and Engineering, Yeungnam University

14:15

(29-B1B-S33-22) The evaluation of piezoelectric property and vibration energy harvester of BaTiO₃ thick film formed by Aerosol Deposition method (Invited)

KAWAKAMI, Yoshihiro^{*1}; ARAI, Ken-Ichi¹

1. Research Institute for Electromagnetic Materials

14:45

(29-B1B-S33-23) Structural Characteristics of Ferroelectric PbTiO₃ AD Films by Synchrotron Radiation X-ray Diffraction

ABE, Tomohiro^{*1}; WU, Lin¹; MORIYOSHI, Chikako¹; KUROIWA, Yoshihiro¹; SUZUKI, Muneyasu²; AOYAGI, Rintaro³; AKEDO, Jun³

1. Graduate School of Science, Hiroshima University, Hiroshima 739-8526, Japan

2. Human Augmentation Research Center, AIST, Ibaraki 305-8560, Japan

3. Advanced Coating Technology Research Center, Department of Electronics and Manufacturing, AIST, Ibaraki 305-8565, Japan

15:00

(29-B1B-S33-24) Polarization and Leakage Current Properties of Highly Densely Aggregated PZT films Deposited by Newly Process at a Room Temperature

SUZUKI, Muneyasu^{*1,2}; USHIJIMA, Hiroshi¹; TSUCHIYA, Tetsuo²; AKEDO, Jun²

1. Human Augmentation Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

2. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

(15:15) Break

Aerosol Deposition (AD) Processes in Functional Applications

Session Chairs: BALACHANDRAN, Balu, Argonne National Laboratory

15:45

(29-B1B-S33-25) The Aerosol Deposition Method: Novel Ideas for Functional Films (Invited)

MOOS, Ralf^{*1}; SCHUBERT, Michaela¹; NIEKE, Philipp¹; LEUPOLD, Nico¹; KITA, Jaroslav¹; HANFT, Dominik¹; NAZARENUS, Tobias¹;

GLOSSE, Philipp¹; EXNER, Joerg¹; SCHUBERT, Michael¹

1. University of Bayreuth, Department of Functional Materials

16:15

(29-B1B-S33-26) Fabrication and properties of oxide thermoelectric thick film elements by aerosol deposition method (Invited)

NAKAMURA, Yuichi^{*1}; INOUE, Mitsuteru¹

1. Toyohashi University of Technology

16:30

(29-B1B-S33-27) Fabrication of lead halide perovskite films via aerosol deposition method for optoelectronic applications

LEUPOLD, Nico^{*1}; LUKAS, Daniel¹; HERRMANNSDOERFER, Tim¹; PANZER, Fabian^{1,2}; MOOS, Ralf¹

1. Department of Functional Materials, University of Bayreuth, 95440 Bayreuth

2. Soft Matter Optoelectronics, University of Bayreuth, 95440 Bayreuth

16:45

(29-B1B-S33-28) Fully Room-temperature-fabricated Ultra-sensitive Humidity Sensor by Adopting Ceramic/Metal Halide perovskite Composites

CHO, Myung-Yeon^{*1}; KIM, Ik-Soo¹; KIM, Sunghoon²; KIM, Nam-Young³; KIM, Sang-Wook²; OH, Jong-Min¹

1. Department of Electronic Materials Engineering, Kwangwoon University, Republic of Korea

2. 2Department of Molecular Science and Technology, Ajou University, Republic of Korea

3. RFIC Center, Kwangwoon University, Republic of Korea

17:00

(29-B1B-S33-29) Aerosol deposition coating on front and back 3D curved glass for smartphone. (Invited)

PARK, Jae-Hyuk^{*1}; KIM, Dae-gun¹; SEOK, Hye-Won¹; LEE, Kyung-min¹

1. IONES Co, Ltd

17:30

(29-B1B-S33-30) Fracture and Deformation Behavior of Single Crystalline Alumina Fine Particles in *In Situ* Compression Test for Understanding of Aerosol Deposition Process

SHINODA, Kentaro^{*1}; KUROYANAGI, Shota^{1,2}; YUMOTO, Atsushi³; AKEDO, Jun¹

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

2. Graduate School of Engineering and Science, Shibaura Institute of Technology

3. College of Engineering, Shibaura Institute of Technology

17:45

(29-B1B-S33-31) Titanium Nitride Coating Produced by Aerosol Deposition Method for Die Repair

AOKI, Koichiro^{*1}; HASEGAWA, Makoto²; TAKAGI, Shinichi³

1. Department of Mechanical Engineering, Materials Science, and Ocean Engineering, Graduate School of Engineering Science, Yokohama National University

2. Division of Systems Research, Faculty of Engineering, Yokohama National University

3. Mechanical and Material Technological Group, Kanagawa Institute of Industrial Science and Technology

“*” asterisk Indicates an oral presenter

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■■October 29 (Tue) (Room A3) ■■

36:Second Young Professional Forum (YPF) in PACRIM

Progress in Design and Development of High Performance Materials

Session Chairs: MIURA, Akira, Faculty of Engineering, Hokkaido University

10:15

(29-A3-S36-01) Influence of Sintering Additives on Functionality of Liquid-Phase Sintered Silicon Carbide Ceramics (Invited)

KIM, Young-Wook^{*1}

1. Department of Materials Science and Engineering, University of Seoul, Seoul 02504, Republic of Korea

10:45

(29-A3-S36-02) Oxidation and thermal shock behavior of porous Si₃N₄ ceramics (Invited)

LIANG, Hanqin¹; ZENG, Yuping^{*1}

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences

11:15

(29-A3-S36-03) Pressureless sintering, properties and ablation mechanism of (Ta,Hf)C-SiC ceramics (Invited)

YIN, Jie^{*1}; ZHANG, Buhao²; LIU, Xuejian³; HUANG, Zhengren⁴

1. State Key Laboratory of High-Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, CAS

2. State Key Laboratory of High-Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, CAS; University of Chinese Academy of Sciences, Beijing

3. State Key Laboratory of High-Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, CAS

4. State Key Laboratory of High-Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, CAS; ; Ningbo Institute of Materials Technology and Engineering, CAS

11:45

(29-A3-S36-04) First-principles study, fabrication and characterization of high-entropy metal carbides (Invited)

CHU, Yanhui^{*1}

1. South China University of Technology

Session Chairs: KIM, Young-Wook, Department of Materials Science and Engineering, University of Seoul, Seoul 02504, Republic of Korea

13:30

(29-A3-S36-05) Materials Selection for High Temperature Turbine Blades in Turbochargers (Invited)

MASI, Luca^{*1}; FREDRIKSSON, Claes¹; ZHAO, Wen¹

1. Granta Design Ltd, subsidiary of Ansys Inc, 300 Rustat House, CB1 7EG, Cambridge, UK

14:00

(29-A3-S36-06) Breakdown Characteristics of Silicon Nitrides with Various Thicknesses (Invited)

MATSUNAGA, Chika^{*1}; ZHOU, You¹; TANABE, Gen²; HYUGA, Hideki¹; HIRAO, Kiyoshi¹

1. National Institute of Advanced Industrial Science and Technology

2. Japan Fine Ceramics Co., Ltd.,

14:30

(29-A3-S36-07) Synthesis of Binary and Ternary Nitrides by Self-Combustion Synthesis using NaNH₂

MIURA, Akira^{*1}; ODAHARA, Jin²; ROSERO-NAVARRO, Nataly Carolina¹; NAGAO, Masanori³; TANAKA, Isao³; TADANAGA, Kiyoharu¹

1. Faculty of Engineering, Hokkaido University, Sapporo 060-8628, Japan

2. Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo 060-8628, Japan

3. Center for Crystal Science and Technology, University of Yamanashi, Kofu 400-8511, Japan

(14:45) Break

On the Design and Development of Novel Sustainable Materials

Session Chairs: MASI, Luca, Granta Design Ltd, subsidiary of Ansys Inc, 300 Rustat House, CB1 7EG, Cambridge, UK

15:00

(29-A3-S36-08) Porous Ceramics Prepared by Selective Laser Sintering (SLS) Using Hollow Microspheres as Raw Materials (Invited)

WU, Jia-Min^{*1}; CHEN, Ying¹; CHEN, An-Nan¹; LI, Meng¹; LI, Chen-Hui¹; SHI, Yu-Sheng¹

1. Huazhong University of Science and Technology

15:30

(29-A3-S36-09) Development of Photoelectrochemical Cells for Efficient Sunlight-Driven Water Splitting (Invited)

HIGASHI, Tomohiro^{*1}; NISHIYAMA, Hiroshi¹; SASAKI, Yutaka¹; HISATOMI, Takashi²; KATAYAMA, Masao¹; MINEGISHI, Tsutomu¹

YAMADA, Taro¹; DOMEN, Kazunari^{1,2}

1. Department of Chemical System Engineering, The University of Tokyo

2. Center for Energy & Environmental Science, Shinshu University

16:00

(29-A3-S36-10) Ultra-low thermal conductivity nitrogen-doped graphene aerogels for thermal insulation (Invited)

XU, Jie^{*1}; WU, Wanli¹; MENG, Xuanyu¹; WANG, Yujian¹; GAO, Feng¹

1. Northwestern Polytechnical University

Session Chairs: ZHOU, Aiguo, Henan Polytechnic University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

16:30**(29-A3-S36-11) Review of Novel Functional Materials Derived from Agricultural Precursors**GUPTA, Surojit^{*1}

1. University of North Dakota

16:45**(29-A3-S36-12) High temperature electrolysis: global efforts to reduce the CO₂ footprint of H₂ production**WIFF, Juan Paulo^{*1}

1. Air Liquide Laboratories

17:00**(29-A3-S36-13) On the Design of Novel Hydrogels by Using Environmentally Benign Precursors**MILES, Annie^{*1}; TAMONDONG, Kyle¹; JAVAID, Sabah¹; GUPTA, Surojit¹

1. University of North Dakota

Recent Developments in MAX Phases

Session Chairs: GUPTA, Surojit, University of North Dakota

17:15**(29-A3-S36-14) Novel MAX phases and their Functionality (Invited)**MIAN, Li¹; JUN, Lu²; KAN, Luo¹; YOUNG, Li¹; KEKE, Chang¹; KE, Chen¹; JIE, Zhou¹; JOHANNA, Rosen²; LARS, Hultman²; PER, Eklund²; PER, Persson²; SHIYU, Du¹; ZHIFANG, Chai¹; ZHENGREN, Huang¹; QING, Huang^{*1}

1. Engineering Laboratory of Advanced Energy Materials, Ningbo Institute of Industrial Technology, Chinese Academy of Sciences, Ningbo, Zhejiang, 315201, China;

2. Department of Physics, Chemistry, and Biology (IFM), Linköping University, 58183 Linköping, Sweden

17:30**(29-A3-S36-15) Synthesis and Sintering of double-A-layer MAX phase Mo₂Ga₂C (Invited)**ZHOU, Aiguo^{*1}; HU, Qianku¹; XIA, Qixun¹; JIN, Sen¹; HE, Hongtian¹

1. Henan Polytechnic University

17:45**(29-A3-S36-16) Theoretical Study on the Intrinsic Point Defect Sinks in MAX Phases under Irradiation (Invited)**WANG, Jiemin^{*1}; LIU, Bin²; WANG, Jingyang¹

1. Advanced Ceramics and Composites Division, Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences

2. School of Materials Science and Engineering, Shanghai University

■■October 29 (Tue) (Room B7) ■■**S1:Fulrath Memorial Symposium on Advanced Ceramics****Ceramic Processing**

Session Chairs: KISHI, Hiroshi (1) ; TROLIER-MCKINSTRY, Susan (2), (1)TAIYO YUDEN Co., Ltd., (2)The Pennsylvania State University

10:45**(29-B7-SS1-01) Advanced control method of ceramic powder using nanopulsed electric field (Invited)**NAKAYAMA, Tadachika^{*1}; NIIHARA, Koichi¹

1. Nagaoka University of Technology

11:00**(29-B7-SS1-02) Electric Fields Effects During Sintering: The ACerS Richard M. Fulrath award winner's lecture in Japan 2019 (Invited)**VAN BENTHEM, Klaus^{*1}

1. University of California, Davis

11:15**(29-B7-SS1-03) Low Temperature Processing for Electronics Ceramic Device and its Future Perspective (Invited)**IMANAKA, Yoshihiko^{*1}

1. Fujitsu Laboratories Ltd.

11:30**(29-B7-SS1-04) AC Field-Assisted Ceramic Processing (Invited)**DICKY, Elizabeth C.^{*1}; GRIMLEY, Carolyn¹

1. North Carolina State University

11:45**(29-B7-SS1-05) Recent Progress of Aluminum Nitride Powder and Ceramics for Electric Devices (Invited)**KANECHIKA, Yukihiko^{*1}; KURAMOTO, Akimasa¹; IMOTO, Yasushi¹; INAKI, Yoshitaka¹; FUJII, Saiko¹; MASADA, Isao¹; NAWATA, Teruhiko¹

1. Tokuyama Corp.

IoT and Devices

Session Chairs: IWAZAKI, Yoshiki (1) ; DICKY, Elizabeth C (2), (1)TAIYO YUDEN Co., Ltd., (2)North Carolina State University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

13:00**(29-B7-SS1-06) Current and Future Technology and Business of MLCC (Invited)**CHAZONO, Hirokazu*¹

1. Taiyo Yuden Co., Ltd.

13:15**(29-B7-SS1-07) Mechanical Energy Harvesting for the Internet of Things (Invited)**WANG, Dixiong¹; YEO, Hong Goo¹; KOVACOVA, Veronika¹; YANG, Jung In¹; MENG, Miao¹; XUE, Tiancheng³; ROUNDY, Shad³; LACH, John²; CALHOUN, Ben²; KIANI, Mehdi¹; TROLIER-MCKINSTRY, Susan*¹

1. The Pennsylvania State University

2. University of Virginia

3. University of Utah

13:30**(29-B7-SS1-08) Multilayer Ceramic Chip Varistors with Low Varistor-Voltage for ESD-Protection (Invited)**KOGA, Eiichi*¹

1. Panasonic Corporation

13:45**(29-B7-SS1-09) Electrode Stress and Composition Effects on Performance of Ferroelectric Hafnium****Zirconium Oxide Films: The ACerS Richard M. Fulrath award winner's lecture in Japan 2019 (Invited)**IHLEFELD, Jon F.*^{1,2}; FIELDS, Shelby S.¹; SMITH, Sean W.³; WOLFLEY, Steven³; HENRY, M. David³; SALES, Maria G.¹; MCDONNELL, Stephen J.¹; DAVIDS, Paul S.³

1. Department of Materials Science and Engineering, University of Virginia, VA 22904, USA

2. Department of Electrical and Computer Engineering, University of Virginia, VA 22904, USA

3. Sandia National Laboratories, NM 87185, USA

14:00**(29-B7-SS1-10) Recent sensor applications of piezoelectric materials (Invited)**KISHI, Hiroshi*¹

1. Research and Development Laboratory, TAIYO YUDEN CO., LTD.

14:15**(29-B7-SS1-11) Innovating Healthcare Solutions With Integrated Flexible Technology: The ACerS Richard M. Fulrath award winner's lecture in Japan 2019 (Invited)**WAUGH, Mark*¹

1. Murata Electronics North America, Inc.

14:30**(29-B7-SS1-12) Development of Multilayer Type Thermoelectric Generator for Wireless Sensor Network Node (Invited)**NAKAMURA, Takanori*¹

1. Corporate Technology & Business Development Unit, Murata Manufacturing Co., Ltd

Characterization

Session Chairs: IWAZAKI, Yoshiki (1) ; DICKEY, Elizabeth C (2), (1)TAIYO YUDEN Co., Ltd., (2)North Carolina State University

14:45**(29-B7-SS1-13) Nanoscale Functional Tomography of Dielectrics and Ferroelectrics (Invited)**SONG, Jingfeng¹; MORAN, Thomas¹; STEFFES, James¹; MARTIN, Michael¹; RAMESH, Ramamoorthy²; HUEY, Bryan*¹

1. University of Connecticut, Dept. of Materials Science and Engineering

2. University of California Berkeley, Dept. of Materials Science and Engineering

15:00**(29-B7-SS1-14) Development and Application of Electromagnetic Field Imaging STEM (Invited)**SHIBATA, Naoya*^{1,2}

1. Institute of Engineering Innovation, The University of Tokyo

2. NSRL, Japan Fine Ceramics Center

Fundamentals, Electrochemistry, Energy related

Session Chairs: ANDO, Akira(1) ; HALBIG, Michael C. (2), (1)Murata Manufacturing Co., Ltd., (2)NASA Glenn Research Center

15:45**(29-B7-SS1-15) Development of new process for mass-producing nanoparticles and recent progress of Cd-free type Quantum dots for Display (Invited)**SASAKI, Hirokazu*¹; MORIYAMA, Takafumi¹; SAKURA, Naoki¹; MITSUKA, Yuko¹; UMEDA, Naoki¹; KIDO, Makoto¹; MATSUURA, Keisuke¹; NOMURA, Takeshi¹; AKIMOTO, Yuji¹; HIRANO, Shin-ichi²

1. Shoen Chemical Inc.

2. Shanghai Jiao Tong University

16:00**(29-B7-SS1-16) Crystallization of nepheline and related phases from glass: The ACerS Richard M. Fulrath award winner's lecture in Japan 2019 (Invited)**MCCLOY, John*^{1,2}

1. Washington State University

2. University of Sheffield

“*” asterisk Indicates an oral presenter

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16:15

(29-B7-SS1-17) CeraCharge™ - world's first rechargeable solid-state SMD battery (Invited)SATO, Hiroshi^{*1}; WANG, Yongli¹; OISHI, Masahiro¹; ENOKIDO, Yasushi²

1. TDK Electronics GmbH & Co OG
2. TDK Corporation

16:30

(29-B7-SS1-18) Visible Light-Activated and Self-Supported Photocatalytic Nanogrids (Invited)LEE, Jusang¹; TOPCU, Selda¹; GOUMA, Pelagia-Irene (Perena)^{*1,2}

1. Center for Nanomaterials and Sensor Development, SUNY Stony Brook, NY, USA
2. Dept of Materials Science & Engineering, The Ohio State University, Columbus, OH, USA

16:45

(29-B7-SS1-19) Na⁺ conducting sulfide electrolytes for all-solid-state batteries (Invited)HAYASHI, Akitoshi^{*1}

1. Osaka Prefecture University

17:00

(29-B7-SS1-20) Optimization of SrTiO₃ and BaTiO₃-based catalysts for splitting water (Invited)SONG, Wenjia¹; ZHANG, Mingyi¹; SALVADOR, Paul¹; ROHRER, Gregory^{*1}

1. Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA 15213, USA

Special Lecture to Commemorate the 40th Anniversary of the ACerS W. David Kingery Award

Session Chairs: ANDO, Akira, Murata Manufacturing Co., Ltd.

17:15

(29-B7-SS1-21) Physical properties of crystalline IGZO and its applications (Invited)YAMAZAKI, Shunpei^{*1}

1. Semiconductor Energy Laboratory Co., Ltd.

■ ■ October 30 (Wed) (Room B5) ■ ■**02: Intensive Session in Symposium 2: Proton Conducting Ceramics and Applications****PCC electrolyte II**

Session Chairs: UDA, Testuya, Kyoto University

8:30

(30-B5-S02-29) Design of highly efficient proton-conducting solid oxide fuel cells with multi-layered electrolyte membranesOTOMO, Junichiro^{*1}; KOJO, Gen¹; SAKATA, Kazuma¹; MATSUO, Hiroki¹; MATSUZAKI, Yoshio^{2,3}

1. Department of Environment Systems, Graduate School of Frontier Sciences, The University of Tokyo
2. Fundamental Technology Department, Tokyo Gas Co., Ltd.
3. Next-Generation Fuel Cell Research Center (NEXT-FC), Kyushu University

8:45

(30-B5-S02-30) Arrangement of water molecules and high proton conductivity of tunnel structure phosphate, KMg_{1-x}H_{2x}(PO₃)₃·yH₂OMATSUDA, Yasuaki^{*1}; FUNAKOSHI, Kousei¹; SEBE, Ryosuke¹; KOBAYASHI, Genki²; YONEMURA, Masao³; IMANISHI, Nobuyuki⁴; MORI, Daisuke⁴; HIGASHIMOTO, Shinya¹

1. Department of Applied Chemistry, Faculty of Engineering, Osaka Institute of Technology
2. Research Center of Integrative Molecular Systems (CIMO), Institute for Molecular Science
3. Institute of Materials Structure Science, High Energy Accelerator Research Organization
4. Department of Chemistry for Materials, Graduate School of Engineering, Mie University,

9:00

(30-B5-S02-31) Electrical Properties of Tin Phosphate Glass Synthesized by Sol-Gel MethodOOKAWA, Yoshiaki^{*1}; AKIYAMA, Kazuhiko¹; NOMURA, Kiyoshi¹; PAVIC, Luka²; MILANKOVIC, Andrea Mogus²; KUBUKI, Shiro¹

1. Tokyo Metropolitan University
2. Ruđer Bošković Institute

PCC electrolyte III

Session Chairs: AMEZAWA, Koji, Tohoku University

9:15

(30-B5-S02-32) Fabrication processes for high performance PCFC (Invited)UDA, TETSUYA^{*1}

1. Department of Materials Science and Technology, Kyoto University

9:45

(30-B5-S02-33) Low-Temperature Proton Dynamics in BaZrO₃ (Invited)KOLODIAZHNYI, Taras^{*1}; PULPOL, Phieraya²; VITTAYAKORN, Wanwilai²; VITTAYAKORN, Naratip³

1. National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki, 305-0044, Japan
2. King Mongkut's Institute of Technology Ladkrabang, College of Nanotechnology, Bangkok, 10520, Thailand
3. King Mongkut's Institute of Technology Ladkrabang, Faculty of Science, Bangkok, 10520, Thailand

10:00

(30-B5-S02-34) Chemical sintering of BaZrO₃ based protonic ceramicsYAMAGUCHI, Yuki^{*1}; SHIMADA, Hiroyuki¹; SUMI, Hirofumi¹; NOMURA, Katsuhiro¹; HAMAO, Naoki¹; HAMAMOTO, Koichi¹;

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

FUJISHIRO, Yoshinobu¹

1. Chemical sintering of BaZrO₃ based protonic ceramics

(10:15) Break

PCC modelling

Session Chairs: LEE, Jong-Ho, Korea Institute of Science and Technology, University of Science and Technology

10:30

(30-B5-S02-35) Machine learning for proton-conducting oxide electrolytes (Invited)

YAMAZAKI, Yoshihiro^{*1,2,3}

1. Kyushu University Platform of Inter-/Transdisciplinary Energy Research (Q-PIT), Kyushu University

2. INAMORI Frontier Research Center, Kyushu University

3. Department of Materials Science and Engineering, Kyushu University

11:00

(30-B5-S02-36) Numerical analysis of current efficiency with different fuel utilization in a tubular protonic ceramic fuel cell (PCFC)

LI, Kunpeng^{*1}; KAWAMURA, Toshiki²; OTA, Atsuhito³; OKUYAMA, Yuji⁴; ARAKI, Takuto⁵

1. Graduate School of Engineering, Yokohama National University

2. Graduate School of Engineering Science, Yokohama National University

3. Graduate School of Engineering Science, Yokohama National University

4. Faculty of Engineering, Miyazaki University

5. Faculty of Engineering, Yokohama National University

11:15

(30-B5-S02-37) Charge Carrier Concentrations in Proton-Conducting Oxides from First Principles

TAGUCHI, Ayako¹; OGAWA, Takafumi¹; KUWABARA, Akihito¹; FISHER, Craig A. J.^{*1}

1. Japan Fine Ceramics Center

11:30

(30-B5-S02-38) The Development of Glass Sealant for PCFC Devices

AKATSUKA, Kazumasa^{*1}; TAKAHASHI, Yosuke¹

1. Noritake Co., Limited

■ ■ October 30 (Wed) (Room B1A) ■ ■

03:Advanced Structural Ceramics for Extreme Environments

Novel processing methods

Session Chairs: WATTS, Jeremy, Missouri University of Science and Technology

10:45

(30-B1A-S03-06) Synthesis, Characterization, and Properties of Transition Metal Carbide Ultra-High Temperature Ceramics (Keynote)

FAHRENHOLTZ, William^{*1}; HILMAS, Greg¹

1. Missouri University of Science and Technology

11:15

(30-B1A-S03-07) Damage Tolerant Carbides for Extreme Fusion Reactor Environments (Invited)

HUMPHRY-BAKER, Samuel A.^{*1}

1. Imperial College London

11:45

(30-B1A-S03-08) (TiZrNbTaMe)C (Me=V, Cr, Mo, W) high-entropy carbides prepared by carbothermal reduction-assisted hot pressing

WANG, Yujin^{*1,2}; WANG, Kai^{1,2}; SU, Wentao^{1,2}; CHEN, Lei^{1,2}; ZHOU, Yu^{1,2}

1. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150080, China

2. Key Laboratory of Advanced Structure-Function Integrated Materials and Green Manufacturing Technology (Ministry of Industry and Information Technology), Harbin Institute of Technology, Harbin 150001, China

Materials design, New compositions and composites

Session Chairs: ZHOU, Yanchun, Aerospace Research Institute of Material & Processing Technology

13:30

(30-B1A-S03-09) Synthesis of high quality UHTC powders with various methods (Invited)

LEE, Sea Hoon^{*1}; LEE, Hee Jung¹; ZHAO, Lin¹; QUYET, Nguyen Van¹

1. Korea Institute of Materials Science

14:00

(30-B1A-S03-10) Sintered UHTCMCs for aerospace components reusable beyond 2500° C (Keynote)

SCITI, Diletta^{*1}; ZOLI, Luca¹; VINCI, Antonio¹; REIMER, Thomas²; ESSER, Burkard²; MUNGIGUERRA, Stefano³; SAVINO, Raffaele³

1. Institute of Science and Technology for Ceramics (ISTEC), National Research Council (CNR), Italy

2. German Aerospace Centre (DLR), Germany

3. University of Naples "Federico II", Industrial Engineering Department, Aerospace Section Napoli, Italy

14:30

(30-B1A-S03-11) High hardness and strength (Ti,Ta)B₂-(Ta,Ti)C ceramic composites prepared by reactive hot-pressing

HUO, Sijia^{*1,2}; CHEN, Qianqian^{1,2}; WANG, Yujin^{1,2}; CHEN, Lei^{1,2}; YAO, Mianyi^{1,2}; ZHOU, Yu^{1,2}

1. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150080, China

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. Key Laboratory of Advanced Structure-Function Integrated Materials and Green Manufacturing Technology (Ministry of Industry and Information Technology), Harbin Institute of Technology, Harbin 150001, China

14:45

(30-B1A-S03-12) Scalable preparation of graphene reinforced Zirconium diboride composites with strong dynamic response

ZHANG, Baoxi^{*1}

1. Northwestern Polytechnical University

15:00

(30-B1A-S03-13) Low Temperature Molten Salt Synthesis of Boride- and Carbide-based Materials for Extreme Environments (Invited)

ZHANG, Shaowei^{*1}; LIU, Cheng¹; ZHANG, Haijun²; YEPREM, Aygul³

1. College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, UK

2. The State Key Laboratory of Refractories and Metallurgy, Wuhan University of Science and Technology, Wuhan, China

3. Department of Metallurgical and Materials Engineering, Yildiz Technical University, Istanbul, Turkey

(15:30) Break

Novel processing methods

Session Chairs: SCITI, Diletta, National Research Council of Italy (CNR)-Institute of Science and Technology for Ceramics (ISTEC)

15:45

(30-B1A-S03-14) Microstructure and mechanical properties of boron carbide/graphene nanoplatelets composites fabricated by hot pressing

WANG, Aiyang^{*1}; HE, Qianglong¹; LIU, Chun¹; WANG, Weimin¹; FU, Zhengyi¹

1. Wuhan university of technology

16:00

(30-B1A-S03-15) Thermal shock resistance of laminated ZrB₂-SiC ceramic investigated by indentation technique

ZHOU, Peng^{*1,2}; ZHANG, Liang¹; WANG, Wenbin¹; SONG, Zhendong¹; CHEN, Wei¹; YAN, Ming²; HAN, Wenbo³

1. Institute of Intelligent Manufacturing Technology, Shenzhen Polytechnic, Shenzhen, China

2. Department of Materials Science and Engineering, Southern University of Science and Technology, Shenzhen, China

3. Center for Composite Materials, Harbin Institute of Technology, Harbin, China

16:15

(30-B1A-S03-16) Beyond a solid-solution effect: processing and properties of high-entropy ceramics (Invited)

DEMIRSKYI, Dmytro^{*1,2,3}; BORODIANSKA, Hanna²; SUZUKI, Tohru S.²; NISHIMURA, Toshiyuki²; SAKKA, Yoshio²; VASYLKIV, Oleg²; YOSHIMI, Kyosuke³

1. WPI-Advanced Institute for Materials Research (WPI-AIMR), Tohoku University, Sendai 980-8577, Japan

2. National Institute for Materials Science, Tsukuba, 305-0047, Japan

3. Department of Materials Science and Engineering, Tohoku University, Sendai 980-8579, Japan

16:45

(30-B1A-S03-17) Partially Sintered ZrB₂ For Transpiration Cooling

HEDGEcock, Rowan John^{*1}; VANDEPERRE, Luc¹

1. Centre for Advanced Structural Ceramics, Department of Materials, Imperial College London,

17:00

(30-B1A-S03-18) In-situ Reaction/Partial Sintering: A Novel Method for Preparing Porous Ultrahigh Temperature Ceramics (UHTCs) (Invited)

ZHOU, Yanchun^{*1}; CHEN, Heng²; XIANG, Huimin¹; DAI, Fu-zhi¹

1. Aerospace Research Institute of Materials & Processing Technology, Beijing 100076, China

2. Tianjin University, Tianjin 300072, China

17:30

(30-B1A-S03-19) High-Temperature Oxidation of amorphous Si₂BC₃N monoliths sintered by high pressure

LIANG, Bin^{*1}; YANG, Zhihua²; JIA, Dechang³; ZHOU, Yu⁴

1. Division of Energy and Environment, Graduate School at Shenzhen, Tsinghua University, Shenzhen 518055, P.R. China; Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology (HIT), Harbin 150080, P.R. China; Key Laboratory of Advanced Structure-Function Integrated Materials and Green Manufacturing Technology (Ministry of Industry and Information Technology), HIT, Harbin 150001, P.R. China

2. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology (HIT), Harbin 150080, P.R. China; Key Laboratory of Advanced Structure-Function Integrated Materials and Green Manufacturing Technology (Ministry of Industry and Information Technology), HIT, Harbin 150001, P.R. China

3. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology (HIT), Harbin 150080, P.R. China; Key Laboratory of Advanced Structure-Function Integrated Materials and Green Manufacturing Technology (Ministry of Industry and Information Technology), HIT, Harbin 150001, P.R. China

4. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology (HIT), Harbin 150080, P.R. China; Key Laboratory of Advanced Structure-Function Integrated Materials and Green Manufacturing Technology (Ministry of Industry and Information Technology), HIT, Harbin 150001, P.R. China

17:45

(30-B1A-S03-20) Microstructural development and mechanical properties of pressureless sintered TiB₂-TiC composites

YAO, Mianyi^{*1,2}; CHEN, Lei^{1,2}; HUO, Sijia^{1,2}; WANG, Yujin^{1,2}; OUYANG, Jia-hu^{1,2}; GU, Hui³; ZHOU, Yu^{1,2}

1. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150080, China

2. Key Laboratory of Advanced Structure-Function Integrated Materials and Green Manufacturing Technology (Ministry of Industry and

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

Information Technology), Harbin Institute of Technology, Harbin 150001, China

3. Materials Genome Institute, School of Materials Science and Engineering, Shanghai University, Shanghai 200444, China

■ ■ October 30 (Wed) (Room B5) ■ ■

04: Symposium on Multiferroic Materials

Session Chairs: YU, Pu, Tsinghua University

13:30

(30-B5-S04-24) Polar magnetic oxides for magnetoelectric multiferroicity (Invited)

ATHINARAYANAN, Sundaresan^{*1}; GHARA, Somnath¹; PN, Ravishankar¹

1. Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur P.O., Bangalore 560064 India

14:00

(30-B5-S04-25) Enhanced composite multiferroics through epitaxial stabilization (Invited)

HERON, John T.^{*1}

1. Department of Materials Science and Engineering, University of Michigan, Ann Arbor, Michigan 48109, USA

14:30

(30-B5-S04-26) Nanosized Magnetic Textures in Multiferroic Hexaferrites (Invited)

MORI, S.^{*1}

1. Department of Materials Science, Osaka Prefecture University

14:45

(30-B5-S04-27) Design and observation of ferroelectric topological structures (Invited)

KAI DU, Kai¹; ZHANG, Meng²; ZHOU, ZhengNan¹; XIE, Yan Wu²; REN, Zhao Hui³; TIAN, He^{*1}; ZHANG, Ze¹

1. Center of Electron Microscopy, School of Materials Science and Engineering, Zhejiang University, Hangzhou, 310027, China

2. School of Physics, Zhejiang University, Hangzhou, 310027, China

3. State Key Laboratory of Silicon Materials, School of Materials Science and Engineering, Zhejiang University, Hangzhou, 310027, China

15:00

(30-B5-S04-28) Oxygen Vacancies Induced Effects in Lead Based Single Phase Multiferroics (Invited)

EIRAS, Joseph Antony^{*1}

1. São Carlos Federal University / São Carlos / SP - BRAZIL

15:30

(30-B5-S04-29) Magnetoelectric coupling of the composite thin film with discrete string of in-situ-packed-NZFO-particles in the matrix BTO (Invited)

TANG, Yu¹; WANG, Zongrong¹; MA, Ning¹; DU, PiYi^{*1}

1. Zhejiang University

16:00

(30-B5-S04-30) Absence of ferroelectricity in double-perovskite Y₂CoMnO₆ single crystals

WANG, Shumin¹; ZHENG, Shuhan¹; LIN, Lin^{*1}; TANG, Yongsen¹; ZHANG, Junhu¹; CHEN, Rui²; WANG, Junfeng²; LU, Chengliang²; YAN, Zhibo¹; JIANG, Xiangping³; LIU, Junming¹

1. Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China

2. Wuhan National High Magnetic Field Center and School of Physics, Huazhong University of Science and Technology, Wuhan 430074, China

3. School of Materials Sciences, Jingdezhen Ceramic Institute, Jingdezhen 333403, China

16:15

(30-B5-S04-31) Diversity of structural phases and resulting control of properties in brownmillerite oxides

TIAN, Hao^{*1,2,3}; BELLAICHE, Laurent³; YANG, Yurong^{1,2,3}

1. National Laboratory of Solid State Microstructures and Collaborative Innovation Center of Advanced Microstructures, Department of Materials Science and Engineering, Nanjing University, Nanjing 210093, China

2. Jiangsu Key Laboratory of Artificial Functional Materials, Nanjing University, Nanjing 210093, China

3. Physics Department and Institute for Nanoscience and Engineering, University of Arkansas, Fayetteville, Arkansas 72701, USA

■ ■ October 30 (Wed) (Room B7) ■ ■

05: Polymer Derived Ceramics (PDCs) and Composites

Precursors, Processing, Characterization and Applications I

Session Chairs: COLOMBO, Paolo, University of Padova, Italy

8:30

(30-B7-S05-01) Chemistry as a Decisive Tool to Design Tailored Silazane Precursors for Various Applications (Keynote)

MOTZ, Guenter^{*1}; KEMPE, Rhett²

1. University of Bayreuth, Ceramic Materials Engineering

2. University of Bayreuth, Inorganic Chemistry II

9:00

(30-B7-S05-02) Putting metals into polymer derived ceramics: What happens? (Invited)

YU, Zhaoju^{*1}

1. College of Materials, Xiamen University

9:30

(30-B7-S05-03) Preparation of Ceramic and Inorganic-organic Hybrid Materials by Chemical Routes Using

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Polymers and/or Polymerization Processes (Invited)SUGAHARA, Yoshiyuki^{*1,2}

1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University, Tokyo 169-8555, Japan

2. Kagami Memorial Research Institute for Science and Technology, Waseda University, Tokyo 169-0051, Japan

10:00**(30-B7-S05-04) Laser and furnace pyrolyzed organosilazane-based glass/ZrO₂ composite coating systems - a comparison**HORCHER, Alexander^{*1}; TANGERMANN-GERK, Katja²; KRENKEL, Walter¹; MOTZ, Guenter¹

1. Department of Ceramic Materials Engineering, University of Bayreuth, Bayreuth 95444, Germany

2. Bayerisches Laserzentrum Erlangen, Erlangen 91052, Germany

(10:15) Break**Precursors, Processing, Characterization and Applications II**

Session Chairs: IWAMOTO, Yuji, Nagoya Tech, Japan

10:30**(30-B7-S05-05) Tailoring molecular sieving property and thermal stability of organic inorganic hybrid membranes for gas separation (Invited)**KANEZASHI, Masakoto^{*1}

1. Hiroshima University

11:00**(30-B7-S05-06) Viscoelastic response and insulating property of organic-inorganic hybrids (Invited)**DAIKO, Yusuke^{*1}; HONDA, Sawao¹; ODA, Yuki¹; KAKUTANI, Yusuke¹; IWAMOTO, Yuji¹

1. Nagoya Institute of Technology

11:30**(30-B7-S05-07) Thermal and Thermomechanical Properties of Silicon Oxycarbides**IONESCU, Emanuel^{*1}

1. TU Darmstadt, Institute for Materials Science

Precursors, Processing, Characterization and Applications III

Session Chairs: SORARU', Gian Domenico, University of Trento, Italy

13:30**(30-B7-S05-09) Sol-Gel Transfer Technique for Fabricating Crystalline Oxide Thin Films on Plastics (Invited)**KOZUKA, Hiromitsu^{*1}; NINUMA, Kota¹; TAKAHASHI, Mitsuru¹; YAMADA, Takehito¹

1. Department of Chemistry of Materials Engineering, Kansai University

14:00**(30-B7-S05-10) Polymer Derived Ceramics as Cathode Support Materials for Lithium Sulphur Batteries (Invited)**VRANKOVIC, Dragoljub^{*1}; KROL, Monika¹; MAGDALENA GRACZYK ZAJAC, Magdalena¹; RIEDEL, Ralf¹

1. Disperse Feststoffe, Technische Universität Darmstadt, 64289 Darmstadt, Germany

14:30**(30-B7-S05-11) Colossal dielectric permittivity in precursor derived ceramics: challenges in material design (Invited)**KUMAR, Ravi^{*1}; BABU T, Ganesh¹

1. Indian Institute of Technology Madras (IIT Madras)

15:00**(30-B7-S05-12) Mechanical and Thermal Properties of Si-O-C Ceramics Free from Excess Carbon Obtained by Spark Plasma Sintering**NARISAWA, Masaki^{*1}; HANATANI, Rintaro¹; SEGAWA, Hiroyo²; NISHIMURA, Toshiyuki²; INOUE, Hirohumi¹

1. Osaka Prefecture University

2. National Institute for Materials Science

(15:15) Break**Precursors, Processing, Characterization and Applications IV**

Session Chairs: MOTZ, Guenter, University of Bayreuth, Germany

15:30**(30-B7-S05-13) Innovative Processing of Preceramic Polymer to Low Density Si-O-C-N Foams and Si₃N₄ Nano-Felts with Ultra-Low Thermal Conductivity (Invited)**SORARU', Gian Domenico^{*1}; TOMASI, Michele¹; ZERA, Emanuele¹; BIESUZ, Mattia¹

1. Department of Industrial Engineering, University of Trento, Via Sommarive 9, 38123 Trento

16:00**(30-B7-S05-14) Mechanics of Processing and Performance of Polymer Derived Ceramic Coatings (Invited)**BORDIA, Rajendra^{*1}; WANG, Kaishi²; ZHANG, Fangzhou³; BRUSH, Lucien⁴

1. Materials Science and Engineering, Clemson University, Clemson 29634, USA

2. Aerospace Research Institute of Materials & Processing Technology, Beijing 100076, China

3. Institute for Sustainable Energy, College of Sciences, Shanghai University, Shanghai 200072, China

4. Materials Science and Engineering, University of Washington, Seattle 98115, USA

17:00**(30-B7-S05-16) Polymer-derived amorphous SiAlCN with unique hydrogen storage property**TADA, Shotaro¹; MIZUTAINI, Koji¹; ANDO, Shiori¹; BERNARD, Samuel²; RIEDEL, Ralf²; DAIKO, Yusuke¹; HONDA, Sawao¹; IWAMOTO,

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

Yuji*¹

1. Department of Life Science and Applied Chemistry, Graduate School of Engineering, Nagoya Institute of Technology

2. Institute de Recherche sur les Céramiques (IRCER), UMR CNRS 7315, Faculté des Sciences, Université de Limoges

3. Technische Universität Darmstadt

■■October 30 (Wed) (Room A2) ■■

06:Environmental Functional Materials

Invited

Session Chairs: SASAI, Ryo, Shimane University

13:30

(30-A2-S06-01) Nanospace Materials for the Collection and the Decomposition of Target Species in Water (Invited)

OGAWA, Makoto*¹

1. Vidyasirimedhi Institute of Science and Technology

14:00

(30-A2-S06-02) Mineralization of phosphate and fluoride in waste water by using calcium phosphate nano-hybrid (Invited)

TAFU, Masamoto*¹; TAKAMATSU, Saori¹; TOSHIMA, Takeshi¹

1. National Institute of Technology, Toyama College

Session Chairs: YE, Jinhua, National Institute for Materials Science (NIMS)

14:30

(30-A2-S06-03) Solar Fuel Production: Opportunities for Nanostructures (Invited)

ZOU, Zhigang*¹

1. Eco-materials and Renewable Energy Research Center, Nanjing University, School of Physics, Nanjing University, Nanjing 210093, China

(15:00) Break

Session Chairs: YE, Jinhua, National Institute for Materials Science (NIMS)

15:15

(30-A2-S06-04) Carbon Nitride Polymers for Photoredox Reaction (Invited)

WANG, Xinchun*¹; FANG, Yuanxing¹

1. State Key Laboratory of Photocatalysis on Energy and Environment, College of Chemistry, Fuzhou University, Fuzhou 350116, P. R. China.

Session Chairs: NAKAJIMA, Akira, Tokyo Institute of Technology

15:45

(30-A2-S06-05) Controlling Selectivity and Activity of Nanostructured Photocatalysts (Invited)

INUMARU, Kei*¹

1. Department of Applied Chemistry, Hiroshima University

Session Chairs: INUMARU, Kei, Hiroshima University

16:15

(30-A2-S06-06) Semiconductor Nanoheterostructures for Photoconversion Applications (Invited)

CHIU, Yi-Hsuan¹; KUO, Ming-Yu¹; HSU, Yung-Jung*¹

1. Department of Materials Science and Engineering, National Chiao Tung University

Photocatalyst, energy

Session Chairs: KATSUMATA, Ken-ichi, Tokyo University of Science

16:45

(30-A2-S06-07) Cocatalyst Modification for Enhancement of Red Light-Sensitive Overall Water-Splitting Heterojunction Photocatalyst

IRIE, Hiroshi*^{1,2}; YODA, Masaomi²; OSAKI, Junya²; TAKASHIMA, Toshihiro^{1,2}

1. Clean Energy Research Center, University of Yamanashi

2. Integrated Graduate School of Medicine, Engineering and Agricultural Sciences, University of Yamanashi

17:00

(30-A2-S06-08) Novel Photocatalyst Based on Zirconium-Tin Oxide for Hydrogen Production

SHIRAI, Hiroaki*¹; AKIYAMA, Naoya¹; NUNOTANI, Naoyoshi¹; IMANAKA, Nobuhito¹

1. Osaka University

17:15

(30-A2-S06-09) Active sites decorated Te nanosheet as an effective cocatalyst for enhanced photocatalytic H₂ evolution

SHI, Li*¹; YE, Jinhua¹

1. International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science (NIMS)

17:30

(30-A2-S06-10) Ultrathin cobalt-manganese nanosheets: an efficient platform for enhanced photoelectrochemical water oxidation with electron-donating effect

YANG, Gaoliang*^{1,2}; LI, Yunxiang^{1,2}; PANG, Hong²; CHANG, Kun³; YE, Jinhua^{1,2}

1. Graduate School of Chemical Science and Engineering, Hokkaido University, Sapporo 060-0814, Japan

2. International Center for Materials Nanoarchitectonics (WPI-MANA), National Institutes for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan

3. College of Material Science and Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, 210016, P. R. China

“*” asterisk Indicates an oral presenter

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17:45

(30-A2-S06-11) Polymeric carbon nitride for photoelectrochemical water splittingFANG, Yuanxing^{*1}

1. State Key Laboratory of Photocatalysis on Energy and Environment, College of Chemistry, Fuzhou University, Fuzhou 350116, P. R. China.

■ ■ October 30 (Wed) (Room A1) ■ ■**07: Dielectric, Piezoelectric, and Ferroelectric Materials: Advances for Emerging Applications****Devices and Materials**

Session Chairs: FUJII, Ichiro, University of Yamanashi

8:30

(30-A1-S07-17) Piezoelectric Thin Films for Adjustable X-ray Optics (Keynote)BISHOP, Nathan¹; WALKER, Julian¹; LIU, Tianning¹; TENDULKAR, Mohit¹; DEROO, Casey²; COTRONEO, Vincenzo³; REID, Paul B.³; JACKSON, Thomas N.¹; TROLIER-MCKINSTRY, Susan^{*1}

1. The Pennsylvania State University
2. Iowa State University
3. Smithsonian Astrophysical Observatory

Session Chairs: WATANABE, Takayuki, Canon Inc.

9:15

(30-A1-S07-18) Perspective on Ferroelectric Thin Films for Novel Device Applications (Keynote)FUJIMURA, Norifumi^{*1}; KIRIYA, Daisuke¹; YOSHIMURA, Takeshi¹

1. Osaka Prefecture University

10:00

(30-A1-S07-19) Piezoelectric materials as active biomedical implants (Invited)GLAUM, Julia^{*1}; POON, Kara Kamen¹; ZHUK, Mikalai¹; SKAAR FEDJE, Karianne¹; KARKUSZOVA, Karin²; ROTAN, Magnus¹; WURM, Matthias³; LUTZ, Rainer³; EINARSRUD, Mari-Ann¹

1. Department of Materials Science and Engineering, Norwegian University of Science and Technology, Trondheim, Norway
2. Institute of Materials Science and Engineering, Brno University of Technology, Czech Republic
3. Department of Oral and Maxillofacial Surgery, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

(10:30) Break**Advanced Characterization Methods**

Session Chairs: MORI, Shigeo, Osaka Prefecture University

10:45

(30-A1-S07-20) Nanoscale Structure Analysis Using High Energy X-ray Diffraction (Invited)YONEDA, Yasuhiro^{*1}; TANIGUCHI, Hiroki²; WADA, Satoshi³

1. Materials Science Research Center, Japan Atomic Energy Agency
2. Department of Physics, Nagoya University
3. Graduate School, Department of Interdisciplinary, University of Yamanashi

11:15

(30-A1-S07-21) Nanoscale Discharging Phenomena for Dielectric/Piezoelectric MultilayersMORAN, Thomas^{*1}; MARTIN, Michael¹; SONG, Jingfeng¹; SUZUKI, Keigo²; HOSOKURA, Tadasu²; MURAYAMA, Koji²; HUEY, Bryan¹

1. University of Connecticut
2. Murata Manufacturing Co., Ltd

Session Chairs: FUJIMURA, Norifumi, Osaka Prefecture University

11:30

(30-A1-S07-22) Enhanced transient negative capacitance during inhomogeneous ferroelectric switchingXU, Bin^{*1,2}; PROSANDEEV, Sergey^{2,3}; PAILLARD, Charles^{2,4}; BELLAICHE, Laurent²

1. School of Physical Science and Technology, Soochow University, Suzhou 215006, China
2. Physics Department and Institute for Nanoscience and Engineering, University of Arkansas, Fayetteville, Arkansas 72701, USA
3. Institute of Physics and Physics Department of Southern Federal University, Rostov-na-Donu 344090, Russia
4. Laboratoire Structures, Propriétés et Modélisation des Solides, CentraleSupélec, CNRS UMR 8580, Université Paris-Saclay, 91190 Gif-sur-Yvette, France

11:45

(30-A1-S07-23) Investigation of Metals/SrTiO₃ Schottky Junctions by Photoemission SpectroscopyOHSAWA, Takeo^{*1}; HOSAKA, Takumi^{1,2}; UEDA, Shigenori³; ISHIGAKI, Takamasa²; OHASHI, Naoki¹

1. National Institute for Materials Science (NIMS)
2. Graduate School of Science and Engineering, Hosei University
3. Synchrotron X-ray Station at SPring-8, NIMS

PZT I Domain and PNR

Session Chairs: TROLIER-MCKINSTRY, Susan, The Pennsylvania State University

13:30

(30-A1-S07-24) Abundant domain defects in single crystal PZT nanodots and a deterministic electrical controlDING, Lili^{*1,2}; JI, Ye^{1,2}; CHEN, Weijin^{1,2,3}; ZHENG, Yue^{1,2}

1. State Key Laboratory of Optoelectronic Materials and Technologies, School of Physics, Sun Yat-sen University, Guangzhou 510275, China
2. Micro&Nano Physics and Mechanics Research Laboratory, School of Physics, Sun Yat-sen University, Guangzhou 510275, China
3. School of Materials, Sun Yat-sen University, Guangzhou 510275, China

“*” asterisk Indicates an oral presenter

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13:45

(30-A1-S07-25) Complex morphotropic domain structure and ferroelectric properties in high- T_c perovskite single crystals

LUO, Zeng^{*1}; ZHANG, Nan¹; LIU, Zenghui¹; REN, Wei¹; YE, Zuo-Guang^{2,1}

1. Electronic Materials Research Laboratory, Key Laboratory of the Ministry of Education & International Center for Dielectric Research, Faculty of Electronic and Information Engineering, Xi'an Jiaotong University, Xi'an 710049, China

2. Department of Chemistry and 4D LABS, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada

14:00

(30-A1-S07-26) Effect of elastic field on domain structure of PZT thin films in MPB composition

SHIMIZU, Takumi^{*1}; KIGUCHI, Takanori²; SHIRAIISHI, Takahisa²; KONNO, Toyohiko²

1. Department of Material Science and Engineering, Tohoku University, Sendai 980-8579, Japan

2. Institute for Materials Research, Tohoku University, Sendai, 980-8577, Japan

Session Chairs: GLAUM, Julia, Norwegian University of Science and Technology

14:15

(30-A1-S07-27) Soft phonon driven local ferroelectric transition in lead-based relaxors

KAMBA, Stanislav^{*1}; NUZHNYI, Dmitry¹; PETZELT, Jan¹; HLINKA, Jiri¹

1. Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic

14:30

(30-A1-S07-28) Development of pulsed electric fields poling method

KAWAMURA, Yuta^{*1}; KAKIMOTO, Kenichi²; YOSHIMURA, Takeshi³; NAKAYAMA, Tadachika¹; SUEMATSU, Hisayuki¹; SUZUKI, Tsuneo¹; JIANG, Weihua¹; NIIHARA, Koichi¹

1. Extreme Energy-Density Research Institute, Nagaoka University of Technology

2. Department of Life Science and Applied Chemistry, Nagoya Institute of Technology

3. Department of Physics and Electronics, Osaka Prefecture University

PZT II Thin films

Session Chairs: SHIMIZU, Takao, Tokyo Institute of Technology

14:45

(30-A1-S07-29) Giant piezoelectricity and temperature characteristics of free-standing sputter-epitaxial PbTiO₃ plates.

MAZDA, Yuka^{*1}; YANAGITANI, Takahiko^{1,2}

1. Graduate School of Advanced Science and Engineering, Waseda University

2. JST-PRESTO

15:00

(30-A1-S07-30) Electromechanical Characteristics of Piezo_MEMS

AKIYAMA, Yoshikazu^{*1}

1. Innovation/R&D Division, RICOH COMPANY, LTD.

15:15

(30-A1-S07-31) AC field dependence of electro-optic property in epitaxial Pb(Zr, Ti)O₃ thin films

KONDO, Shinya^{*1}; YAMADA, Tomoaki¹; YOSHINO, Masahito¹; NAGASAKI, Takanori¹

1. Department of Energy Engineering, Nagoya University

(15:30) Break

Lead-Free I Unique structure materials

Session Chairs: WATANABE, Takayuki, Canon Inc.

15:45

(30-A1-S07-32) Artificially Induced Quasi-Relaxor behavior in KNN-LN thick films by Aerosol-Deposition (Invited)

PEDDIGARI, Mahesh¹; RYU, Jungho^{*2}

1. Functional Ceramics Group, Korea Institute of Materials Science (KIMS)

2. School of Materials Science and Engineering, Yeungnam University

16:15

(30-A1-S07-33) Textured and Epitaxial BiFeO₃ Thin Films by Chemical Solution Deposition on Silicon Substrates

LIU, Lisha^{*1}; LI, Jing-Feng¹

1. Tsinghua University

16:30

(30-A1-S07-34) Negative Thermal Expansion in BiCoO₃-Based Lead-Free Ferroelectrics

PAN, Zhao^{*1}; AZUMA, Masaki¹

1. Tokyo Institute of Technology

Advanced Characterization Methods

Session Chairs: TANIGUCHI, Hiroki, Nagoya University

16:45

(30-A1-S07-35) Angle-Resolved Polarized Raman Spectroscopy to Study Ferroelectric Phase Transitions of Ba-Ti-O System (Invited)

TSUKADA, Shinya^{*1}; FUJII, Yasuhiro²; AKISHIGE, Yukikuni³

1. Institute of Education, Shimane University, Matsue, Shimane 690-8504, Japan

2. College of Science and Engineering, Ritsumeikan University, Kusatsu, Shiga 525-8577, Japan

3. Office of the Vice President for Research, Shimane University, Matsue, Shimane 690-8504, Japan

“*” asterisk Indicates an oral presenter

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17:15

(30-A1-S07-36) Dynamics of Ferroelectric Nano Ordering in Perovskite-Type Nanocrystals Studied by High Resolution Broadband Light Scattering (Invited)

TAKESADA, Masaki^{*1}; SUGAWARA, Yuki¹; SHIMIZU, Kazuki¹; SUE, Kiwamu²; TAKASHIMA, Hiroshi²; SATO, Yukio³; ITOH, Mitsuru⁴; HAKUTA, Yukiya⁵

1. Hokkaido University
2. National Institute of Advanced Industrial Science and Technology
3. Kyushu University
4. Tokyo Institute of Technology
5. Advanced Operando-measurement Technology OIL, AIST

■■October 30 (Wed) (Room B3) ■■

09: Science and Applications of Amorphous Materials

Structure I

Session Chairs: MASAI, Hirokazu, AIST

11:00

(30-B3-S09-01) The Alkali Coordination in Silicate Glasses: What can we learn from Crystal Structures? (Keynote)

HANNON, Alex^{*1}

1. ISIS Facility, Rutherford Appleton Lab, Chilton, Didcot, Oxon OX11 0QX, UK

11:30

(30-B3-S09-02) Structure of amorphous alumina revealed by high-energy X-ray and neutron diffraction

KOHARA, Shinji^{*1,2,3}; ONODERA, Yohei^{4,1}; TAHARA, Shuta^{5,1}; SAKATA, Osami¹; HASHIMOTO, Hideki⁶; ASOH, Hidetaka⁶

1. National Institute for Materials Science
2. Japan Synchrotron Radiation Research Institute
3. JST, PRESTO
4. Kyoto University
5. University of the Ryukyus
6. Kogakuin University

Session Chairs: HEO, Jong, Pohang University of Science and Technology

11:45

(30-B3-S09-03) Structural evolution of high zirconia aluminosilicate glasses

CORMIER, Laurent^{*1}; FICHEUX, Maxime^{1,2}; BUROV, Ekaterina²

1. IMPMC, Sorbonne Université, CNRS, MNHN, IRD, Paris, France
2. SVI, Joint CNTS/Saint Gobain, Aubervilliers, France

12:00

(30-B3-S09-04) Microscopic ordering in amorphous poly(*n*-alkylsilsesquioxane) liquids and solids synthesized by a cosolvent-free hydrolytic polycondensation via aging

KAJIHARA, Koichi^{*1}; SETO, Ryosuke¹; KANAMURA, Kiyoshi¹; ONODERA, Yohei^{2,3}; KOHARA, Shinji^{3,4}

1. Department of Applied Chemistry for Environment, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University
2. Institute for Integrated Radiation and Nuclear Science, Kyoto University
3. Center for Materials research by Information Integration (CM²), Research and Services Division of Materials Data and Integrated System (MaDIS), National Institute for Materials Science
4. Synchrotron X-ray Group, Light/Quantum Beam Field, Research Center for Advanced Measurement and Characterization, National Institute for Materials Science

Laser & Glass

Session Chairs: HONMA, Tsuyoshi, Nagaoka University of Technology

13:30

(30-B3-S09-05) What happened during fs laser irradiation in glass? (Keynote)

QIU, Jianrong^{*1}

1. Zhejiang University, China

14:00

(30-B3-S09-06) UV-curable Dual Beam Optical Tweezers System for Assembling Functional Structure of Glass Microspheres

TANG, Hengjie^{*1}; KISHI, Tetsuo¹; YANO, Tetsuji¹

1. Tokyo Institute of Technology

14:15

(30-B3-S09-07) Spatial control of glass-phase in Na₂O-B₂O₃-SiO₂ glass by CW laser scanning for planar chemical reactor

TOMITA, Kana^{*1}; KISHI, Tetsuo¹; YANO, Tetsuji¹

1. Department of Materials Science & Engineering, Tokyo Institute of Technology

Session Chairs: QIU, Jianrong, Zhejiang University

14:30

(30-B3-S09-08) High refractive index with low wavelength dispersion of La₂O₃-rich La₂O₃-B₂O₃-Nb₂O₅ glasses prepared by a levitation technique

MASUNO, Atsunobu^{*1,2,3}; YANABA, Yutaka²; SASAKI, Shunta¹; INOUE, Hiroyuki²

1. Hirosaki University

^{*} asterisk Indicates an oral presenter

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2. The University of Tokyo
3. National Institute of Materials Science

14:45

(30-B3-S09-09) Mechanical properties of $\text{Al}_2\text{O}_3\text{-Ta}_2\text{O}_5\text{-}M_x\text{O}_y$ ($M_x\text{O}_y = \text{Nb}_2\text{O}_5$, Ga_2O_3 , or Y_2O_3) glasses prepared by a levitation technique

MIKAMI, Yuki^{*1}; MASUNO, Atsunobu^{1,2,3}; YANABA, Yutaka²; INOUE, Hiroyuki²

1. Hirosaki University
2. The University of Tokyo
3. National Institute for Materials Science

15:00

(30-B3-S09-10) Thermal Stability, Optical Transmittance, Refractive Index and Vicker microhardness of $\text{CaO-Al}_2\text{O}_3\text{-Ta}_2\text{O}_5$ Glass

RUAN, Jian^{*1,2}; CHEN, Yifan¹; TIAN, Chen¹; HAN, Jianjun^{1,2}; ZHAO, Xiujian^{1,2}

1. State Key Laboratory of Silicate Materials for Architectures (Wuhan University of Technology), 122 Luoshi Road, Wuhan 430070, PR China
2. Specialty Glass Engineering Technology Research Center of Hubei Province, 122 Luoshi Road, Wuhan 430070, PR China

(15:15) Break

Crystallization

Session Chairs: HANNON, Alex, ISIS Facility

15:30

(30-B3-S09-11) Relationship between Composition and Crystallization in $\text{Gd}_2\text{O}_3\text{-MoO}_3\text{-B}_2\text{O}_3$ Glasses

KOMATSU, Takayuki^{*1}; HONMA, Tsuyoshi¹

1. Nagaoka University of Technology, Nagaoka 940-2188, Japan

15:45

(30-B3-S09-12) Improvement of Pockels coefficients by crystallization-process control in perfectly surface crystallized glass-ceramics

OTSUKI, Tomoki^{*1}; TERAOKADO, Nobuaki¹; TAKAHASHI, Yoshihiro¹; FUJIWARA, Takumi¹

1. Department of Applied Physics, Graduate School of Engineering, Tohoku University, Japan

16:00

(30-B3-S09-13) Structural Analysis on Crystallization Process of $\text{Li}_2\text{B}_4\text{O}_7$ Melt by Polarized Raman Spectroscopy and Molecular Dynamics Simulation

UCHIDA, Hikaru^{*1}; YANO, Tetsuji¹; KISHI, Testuo¹; NORITAKE, Fumiya²

1. Tokyo Institute of Technology
2. University of Yamanashi

Session Chairs: KOMATSU, Takayuki, Nagaoka University of Technology

16:15

(30-B3-S09-14) Direct Evidence of Compositional Distribution of $\text{CdSe/Cd}_{1-x}\text{Zn}_x\text{Se}$ Graded Shell QDs in Silicate Glasses Fabricated Using Continuous Wave Laser

HEO, Jong^{*1}; LEE, Hojeong¹; PARK, Won Ji¹

1. Pohang University of Science and Technology

16:30

(30-B3-S09-15) The Formation Mechanism of Cd-S-Se Quantum Dots within the Silicate Glasses

HAN, Karam^{*1}; HEO, Jong²; CHUNG, Woon Jin¹

1. Institute for Rare Metals and Div. of Advanced Materials Eng., Kongju National Univ.
2. Dept. of Materials Sci. and Eng., Pohang Univ. of Sci. and Tech.

Session Chairs: MASUNO, Atsunobu, Hirosaki University

17:00

(30-B3-S09-17) Glass-Ceramics with $\text{Eu}^{2+}/\text{Eu}^{3+}$ Selective Distribution in Oxide/Fluoride Crystalline Phases for UV-Pumped Warm White Light-Emitting Diodes

GAO, Yuan^{*1}; MURAI, Shunsuke¹; SHINOZAKI, Kenji²; TANAKA, Katsuhisa¹

1. Department of Material Chemistry, Graduate School of Engineering, Kyoto University, Katsura, Nishikyo-ku, Kyoto 615-8510, Japan
2. National Institute of Advanced Industrial Science and Technology (AIST), Ikeda, Osaka 563-8577, Japan

17:15

(30-B3-S09-18) 3D structural characterization of $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$ crystallized glass by using FIB-SEM

IWASAKI, Kenichiro^{*1}; INAGE, Keisuke¹; NAKANISHI, Takayuki¹; YASUMORI, Atsuo¹; MAEDA, Kei²

1. Tokyo University of Science
2. AGC Inc.

17:30

(30-B3-S09-19) The Structural Origin of High Density of $\text{Gd}_2\text{O}_3\text{-MoO}_3\text{-B}_2\text{O}_3$ Glass and Low Density of $\text{b}'\text{-Gd}_2(\text{MoO}_4)_3$ Crystal Investigated by High-Energy X-ray Diffraction at High Temperature

SHINOZAKI, Kenji^{*1}; TSUCHIYA, Hiroki²; HONMA, Tsuyoshi²; OHARA, Koji³; MASAI, Hirokazu²; INA, Toshiaki³; KOMATSU, Takayuki²

1. National Institute of Advanced Industrial Science and Technology (AIST)
2. Nagaoka University of Technology
3. Japan Synchrotron Radiation Research Institute (JASRI)

17:45

(30-B3-S09-20) Crystallization behavior of Na_2MSiO_4 ($M=\text{Mn, Fe}$) glass

HONMA, Tsuyoshi^{*1}; TERASAWA, Miyuri¹; FURUKAWA, Tatsuto¹; KOMATSU, Takayuki¹

1. Nagaoka University of Technology

“*” asterisk Indicates an oral presenter

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■ ■ October 30 (Wed) (Room T1) ■ ■

10: Bioceramics and Bioinspired Materials

Apatite formation

Session Chairs: NARAYAN, Roger, North Carolina State University

10:15

(30-T1-S10-01) Bioinspired Processing of Hydroxyapatite Coating Using Acellular Solutions Mimicking Human Blood Plasma

OHTSUKI, Chikara^{*1}; NAKAMURA, Jin¹; SUGAWARA-NARUTAKI, Ayae¹

1. Graduate School of Engineering, Nagoya University

10:30

(30-T1-S10-02) Bioinspired bone nanostructure composite simulation

HUANG, Ying^{*1}; ZOU, Zhaoyong¹; XIE, Hao²; FU, Zhengyi¹

1. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, 430070, China.

2. School of Chemistry, Chemical Engineering and Life Science, Wuhan University of Technology, Wuhan, 430070, China.

10:45

(30-T1-S10-03) Development of Novel Artificial Bone Material by Imparting Bioactivity to Carbon Nanotube-PEEK Composite

ISHIZAKI, Chihiro^{*1}; YABUTSUKA, Takeshi¹; TAKAI, Sigeomi¹

1. Graduate School of Energy Science, Kyoto University

Session Chairs: NONOYAMA, Takayuki, Hokkaido University

11:00

(30-T1-S10-04) Assessment of kinetic performance for early stage of immersion in SB fluid for silicon nitride based ceramic

GALUSKOVA, Dagmar^{*1}; KANKOVA, Hana¹; HNATKO, Miroslav²; GALUSEK, Dusan¹; SAJGALIK, Pavol²

1. Centre for Functional and Surface Functionalized Glass, TnU AD

2. Institute of Inorganic Chemistry, Slovak Academy of Science

11:15

(30-T1-S10-05) The Application of Pulse Electrolysis to the Sol-Gel Deposition of Bioactive Gel Films

YOSHIOKA, Tomohiko^{*1}; HAYASHI, Takuya²; HAYAKAWA, Satoshi¹

1. Graduate School of Interdisciplinary Science and Engineering in Health Systems, Okayama University

2. Faculty of Engineering, Okayama University

Session Chairs: OHTSUKI, Chikara, Nagoya University

11:30

(30-T1-S10-06) New Insight into the Role of Bioactivity in Osteoinduction (Keynote)

DOEBELIN, Nicola^{*1}; MAAZOUZ, Yassine¹; BOHNER, Marc¹

1. RMS Foundation, Bischmattstrasse 12, 2544 Bettlach, Switzerland

Session Chairs: HASHIMOTO, Masami, Japan Fine Ceramics Center

13:30

(30-T1-S10-07) Apatite-Forming Ability of Doped-Ceria Coatings for Orthopedic Implants

KHOSRAVANIHAIGHI, Ayda^{*1}; KOSHY, Pramod¹; WALSH, Bill²; LOVRIC, Vedran²; SORRELL, Charles Christopher¹

1. University of New South Wales

2. Prince of Wales Hospital

13:45

(30-T1-S10-08) Enhanced apatite formation of grit-blasted/acid-etched dental Ti implant by heat treatment

OGURA, Ayano^{*1,3}; YAMAGUCHI, Seiji²; IMAGAWA, Naoko¹; MATSUMOTO, Keisuke¹; OCHI, Ayako¹; INOUE, Kazuya¹; NAKAJIMA, Yoichirou¹; NAKANO, Hiroyuki¹; UENO, Takaaki¹; MORI, Yoshihide³

1. Department of Dentistry and Oral Surgery, Osaka Medical College

2. Department of Biomedical Sciences, Chubu University

3. Department of Oral and Maxillofacial Surgery, Kyushu University

14:00

(30-T1-S10-09) Comparison of the Apatite Deposition on Titania Powder with Different Structure

IMANAKA, Satoshi^{*1}; MIYAZAKI, Toshiki¹

1. Kyushu Institute of Technology

Antibacterial property

Session Chairs: NAKAMURA, Maki, AIST

14:15

(30-T1-S10-10) Apatite formation and antibacterial activity of Ti and Ti-6Al-4V alloy incorporated with Ca, Sr and Ag ions

IWATSUKI, Rina^{*1}; YAMAGUCHI, Seiji¹; SHINTANI, Seine, A.¹; TAKADAMA, Hiroaki¹

1. 1200 Matsumotocho, Kasugai, Aichi, Department of Biomedical Sciences, Chubu University, Japan

14:30

(30-T1-S10-11) Preparation of antibacterial drug-loaded organic-inorganic composite thin films

KUMAMOTO, Kazutaka^{*1}; MAEDA, Toshinari¹; MUSTAPHA, Nurul Asyifah Binti¹; HAYAKAWA, Satoshi²; SHIROSAKI, Yuki¹

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Kyushu Institute of Technology
2. Okayama University

14:45

(30-T1-S10-12) Anti-microbial cotton-like bone-filling materials using silver-containing calcium compounds: preparation, anti-bacterial ability and cytotoxicity

UEDA, Mayu^{*1}; YOKOTA, Tomohiro²; HONDA, Michiyo¹; OSAKA, Naoya³; MAKITA, Masashi³; NISHIKAWA, Yasushi³; KASUGA, Toshihiro⁴; AIZAWA, Mamoru¹

1. Department of Applied Chemistry, School of Science and Technology, Meiji University
2. Organization for the Strategic Coordination of Research and Intellectual Property, Meiji University
3. ORTHOREBIRTH Co. Ltd.
4. Division of Advanced Ceramics, Department of Life Science and Applied Chemistry, Nagoya Institute of Technology

15:00

(30-T1-S10-13) Controlled Release of Antibiotics from Zirconium Phosphate Modified with Phenyl Group

ITO, Ryoya^{*1}; NAKAMURA, Jin¹; NARUTAKI, Ayae Sugawara¹; OHTSUKI, Chikara¹

1. Graduate School of Engineering, Nagoya University

(15:15) Break

Session Chairs: SHIROSAKI, Yuki, Kyushu Institute of Technology

15:30

(30-T1-S10-14) Current international standardization movement for bioceramics in ISO/TC150 (Invited)

TSUTSUMI, Sadami^{*1}

1. Kyoto University
2. Kanazawa Institute of Technology

Cell response

Session Chairs: IKOMA, Toshiyuki, Tokyo Institute of Technology

16:00

(30-T1-S10-15) The nerve cell responses to Si(IV) units structure released from chitosan-siloxane hybrids

SHIROSAKI, Yuki^{*1}; FREGNAN, Federica²; MURATORI, Luisa²; RAIMONDO, Stefania²; GEUNA, Stefano²

1. Kyushu Institute of Technology
2. University of Torino

16:15

(30-T1-S10-16) Combinatorial Effects of Inorganic Ions on Adhesion and Proliferation of Osteoblast-like Cells

OBATA, Akiko^{*1}; OGASAWARA, Toru¹; KASUGA, Toshihiro¹

1. Division of Advanced Ceramics, Nagoya Institute of Technology

16:30

(30-T1-S10-17) Biological Adhesion of Different Biomaterials Designed by Periodontal Ligament Cells

OKUBO, Naoto¹; YOKOZEKI, Kenji²; AKAZAWA, Toshiyuki^{*3}; MURATA, Masaru²; MINAMIDA, Yasuhito²; KABIR, Arafat²; ITO, Manabu⁴; NAKAJIMA, Takehiko⁵

1. Faculty of Pharmaceutical Sciences, Hokkaido University
2. Health Sciences University of Hokkaido
3. Industrial Research Institute, Hokkaido Research Organization
4. National Hospital Organization Hokkaido Medical Center
5. HOYA Technosurgical Corporation

Composite

Session Chairs: YOKOI, Taishi, Japan Fine Ceramics Center

16:45

(30-T1-S10-18) Effect of octacalcium phosphate chemical nature in bone formation from ovariectomized rat long bone defect

SUZUKI, Osamu^{*1}; BABA, Kazuyoshi^{1,2}; SHIWAKU, Yukari^{1,3}; HAMAI, Ryo¹; ANADA, Takahisa^{1,4}; MORI, Yu²; TSUCHIYA, Kaori¹; ITOI, Eiji²

1. Division of Craniofacial Function Engineering, Tohoku University Graduate School of Dentistry
2. Department of Orthopedic Surgery, Tohoku University Graduate School of Medicine
3. Liaison Center for Innovative Dentistry, Tohoku University Graduate School of Dentistry
4. Soft Materials Chemistry, Institute for Materials, Kyushu University

17:00

(30-T1-S10-19) Reinforcement of Polypeptide Hydrogel with Hydroxyapatite Nanoparticles

UCHIDA, Kanki^{*1}; SUGAWARA-NARUTAKI, Ayae¹; NAKAMURA, Jin¹; OHTSUKI, Chikara¹; MIYAJIMA, Tatsuya²; NAGATA, Fukue²

1. Nagoya University
2. National Institute of Advanced Industrial Science and Technology (AIST)

17:15

(30-T1-S10-20) Mineralization of Anisotropic Hydroxyapatite on Stretched High-Toughness Hydrogel

FUKAO, Kazuki^{*1}; NONOYAMA, Takayuki^{2,3}; KIYAMA, Ryuji¹; FURUSAWA, Kazuya^{2,3}; KAWAI, Takahiko⁵; KUROKAWA, Takayuki^{2,3}; NAKAJIMA, Tasuku^{2,3,4}; GONG, Jian Ping^{2,3,4}

1. Graduate School of Life Science, Hokkaido University, Sapporo, 060-0810, Japan
2. Faculty of Advanced Life Science, Hokkaido University, Sapporo, 060-0810, Japan
3. Global Station for Soft Matter, Global Institution for Collaborative Research and Education (GI-CoRE), Hokkaido University, Sapporo, 001-0021, Japan
4. Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University, Sapporo, 001-0021, Japan
5. Graduate School of Engineering, Gunma University, Ota, 373-0057, Japan

Session Chairs: OBATA, Akiko, Nagoya Institute of Technology

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

17:30

(30-T1-S10-21) In situ fabrication of amorphous calcium phosphate nanoparticles within 3D collagen sponges for bone tissue engineering

SANTHAKUMAR, Syama^{*1}; OYANE, Ayako¹; NAKAMURA, Maki¹; KOGA, Kenji¹; MIYATA, Saori²; MURATSUBAKI, Ko²; MIYAJI, Hirofumi²

1. Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki 305-8565, Japan
2. Faculty of Dental Medicine, Hokkaido University, Hokkaido 060-8586, Japan

17:45

(30-T1-S10-22) Intrafibrillar Mineralization of Inorganic Materials with Organized Structure via Periodic Growth

FANG, Weijian^{*1}; PING, Hang¹; FU, Zhengyi¹

1. Wuhan University of Technology

(8:30) Break

12:Novel Nanocrystal Technologies for Advanced Ceramic Materials & Devices

Crystal growth

Session Chairs: UENO, S., University of Yamanashi

8:45

(30-T1-S12-30) Synthesis of A-site substituted BaTiO₃ single-crystalline nanocubes

MIMURA, Ken-ichi^{*1}; ITASAKA, Hiroki¹; LIU, Zheng¹; KATO, Kazumi²

1. Inorganic Functional Materials Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)
2. National Institute of Advanced Industrial Science and Technology (AIST)

Application of nanocrystals

Session Chairs: UENO, S., University of Yamanashi

9:00

(30-T1-S12-31) Enhancement of thermoelectric performance of polycrystalline SnSe₂ by synergistic modulation of carrier concentration and suppression of lattice thermal conductivity (Invited)

MIAO, Lei^{*1}; WU, Shaohai¹; LIU, Chengyan¹; GAO, Jie¹; WU, Junliang¹

1. Guilin University of Electronic Technology

Session Chairs: MIMURA, K., AIST

9:30

(30-T1-S12-32) Advanced Porous Materials for Uranium Extraction from Seawater (Invited)

WANG, Ning^{*1}; YUAN, Yihui¹; MA, Chunxin¹; WANG, Dong¹; SHI, Se¹

1. State Key Laboratory of Marine Resource Utilization in South China Sea, Hainan University, Haikou 570228, China

■ ■ October 30 (Wed) (Room B1C) ■ ■

13:Engineering Ceramics: Processing and Characterization

Microstructure control

Session Chairs: TATAMI, Junichi, Yokohama National University

8:30

(30-B1C-S13-01) Structural and Functional Properties of Silicon Oxycarbide-Based (Invited)

RIEDEL, Ralf¹

1. TU Darmstadt

9:00

(30-B1C-S13-02) Factors Affecting Electrical Conductivity of Liquid-Phase Sintered Silicon Carbide Ceramics (Invited)

KIM, Young-Wook^{*1}

1. Department of Materials Science and Engineering, University of Seoul, Seoul 02504, Republic of Korea

9:30

(30-B1C-S13-03) Growth of tantalum oxynitride nanowires under high pressure and temperature

GAIDA, Nico Alexander^{*1,2}; SASAKI, Takuya¹; LIU, Zheng³; NIWA, Ken¹; HIROZAWA, Masaki¹; OHSUNA, Tetsu¹; HASEGAWA, Masashi¹

1. Department of Materials Physics, Nagoya University, Japan

2. Venture Business Laboratory, Nagoya University, Japan

3. National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:45

(30-B1C-S13-04) Preparation and properties of negative thermal expansion of partially substituted Zr₂SP₂O₁₂

UEHARA, Ryosuke^{*1}; MATSUSHITA, Sachiko¹; NAKAJIMA, Akira¹; ISOBE, Toshihiro¹

1. Tokyo Institute of Technology

(10:00) Break

Session Chairs: KIM, Young Wook, University of Seoul

10:15

(30-B1C-S13-05) Development of New Ceramic Materials for Cutting Tools (Invited)

KATSU, Yusuke^{*1}

1. NGK SPARK PLUG CO., LTD.

10:45

(30-B1C-S13-06) Development of Si₃N₄ Ceramic Tool for Friction Stir Welding (Invited)

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

FUNAKI, Kai^{*1,2}; KATO, Masahiro¹; FUKASAWA, Takayuki¹; ABE, Yutaka¹; FUJII, Hidetoshi²; MORISADA, Yoshiaki²

1. Toshiba Material Co., Ltd., Kanagawa, 235-8522, Japan

2. Joining and Welding Research Institute, Osaka University, 567-0047, Japan

11:15

(30-B1C-S13-07) Non-destructive 3D visualization of voids, cracks and fibers in materials (Invited)

SUZUKI, Kazuhiro^{*1}; TSUTSUMI, Masayoshi¹; NISHIKAWA, Norio¹; NAGATSUKA, Takehiro¹; TERUI, Yuji²

1. Semiconductor Evaluation Laboratory, Toshiba Nanoanalysis Corp.

2. Engineering and Operation Division, Toshiba Nanoanalysis Corp.

11:45

(30-B1C-S13-08) Processing-induced defects formed during sintering of alumina observed by multiscale 3D X-ray tomography

OKUMA, Gaku^{*1}; WATANABE, Shuhei¹; SHINOBE, Kan¹; NISHIYAMA, Norimasa¹; WAKAI, Fumihiko¹; TAKEUCHI, Akihisa²; UESUGI, Kentaro²; TANAKA, Satoshi³

1. Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, 226-8503, JAPAN

2. Japan Synchrotron Radiation Research Institute, JASRI/SPRING-8, Hyogo, 679-5198, JAPAN

3. Department of Materials Science and Technology, Nagaoka University of Technology, Nagaoka, 94-2188, JAPAN

Session Chairs: KLEMM, Haigen, Fraunhofer IKTS

13:30

(30-B1C-S13-09) Engineering Processing and Microstructure Design of Silicon Nitride Bearing Balls (Invited)

LIN, Hua-Tay^{*1}; WU, Jun-Jie¹; GUO, Wei-Ming¹

1. School of Electromechanical Engineering, Guangdong University of Technology

14:00

(30-B1C-S13-10) Effect of Carbon on Microstructure and Properties of Silicon Nitride (Invited)

KIM, Hai-Doo^{*1}

1. KICET Icheon Branch

Session Chairs: LIN, Hua Tay, Guangdong University of Technology

14:30

(30-B1C-S13-11) Influence of sintering additives on matrix properties of non-oxide ceramic matrix composites (Invited)

KLEMM, Hagen^{*1}; SCHOENFELD, Katrin¹; STEINBORN, Clemens¹

1. Fraunhofer IKTS Dresden, Germany

15:00

(30-B1C-S13-12) The potential of wet nonwovens for the manufacturing of ceramic matrix composites (CMC)

KESSEL, Fiona^{*1}; KLOPSCH, Linda¹; JEHLE, Volker²

1. German Aerospace Center

2. Reutlingen University

15:15

(30-B1C-S13-13) Processing and Properties of Textured Boron Carbide Ceramic with Alumina Additive Fabricated Under Rotating High Magnetic Field

FAJAR, Muhammad^{*1}; GUBAREVICH, Anna¹; SUZUKI, Tohru S²; YANO, Toyohiko¹; YOSHIDA, Katsumi¹

1. Tokyo Institute of Technology

2. National Institute for Materials Science

(15:30) Break

Sintering

Session Chairs: SUZUKI, Tohru, NIMS

15:45

(30-B1C-S13-14) Effect of Mechanical Activation on the Densification Behavior of MgAl₂O₄ Spinel

OBRADOVIC, Nina¹; FAHRENHOLTZ, William^{*2}; FILIPOVIC, Suzana¹; DORDEVIC, Pavle¹; ROGAN, Jelena³; PAVLOVIC, Vladimir¹

1. Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, 11000 Belgrade, Serbia

2. Materials Science and Engineering, Missouri University of Science and Technology, Rolla, MO, United States

3. Department of General and Inorganic Chemistry, Faculty of Technology and Metallurgy, University of Belgrade, 11120 Belgrade, Serbia

16:00

(30-B1C-S13-15) Sintering mechanisms and dielectric properties of cold sintered (1-x) SiO₂ - x PTFE composites

NDAYISHIMIYE, Arnaud^{*1,2}; TSUJI, Kosuke^{1,2}; WANG, Ke¹; BANG, Sun-Hwi^{1,2}; RANDALL, Clive A.^{1,2}

1. Materials Research Institute, The Pennsylvania State University, University Park, PA, United States

2. Department of Materials Science and Engineering, The Pennsylvania State University, University Park, PA, United States

16:15

(30-B1C-S13-16) Mechanics of Sintering in Formation and Disappearance of a Closed Pore

WAKAI, Fumihiko^{*1}; OKUMA, Gaku¹; NISHIYAMA, Norimasa¹; GUILLON, Olivier²

1. Tokyo Institute of Technology

2. Forschungszentrum Jülich

16:30

(30-B1C-S13-17) Sintering of Silicon Carbide Ceramics with Al₂O₃-TiO₂ Additives by Hot-Pressing and Its Properties

YOSHIDA, Katsumi^{*1}; NAKANE, Tatsuya²; GUBAREVICH, Anna¹; SHINODA, Yutaka³; SUZUKI, Yoshikazu⁴

1. Laboratory for Advanced Nuclear Energy, Institute of Innovative Research, Tokyo Institute of Technology

2. Department of Materials Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology

****** asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

3. Department of Mechanical Engineering, National Institute of Technology, Ube College
 4. Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

Session Chairs: OKUMA, Gaku, Tokyo Institute of Technology

16:45

(30-B1C-S13-18) Sintering behavior of polycrystalline Al_2O_3 with Ti and Y dopants

NGUYEN, Huu Hien^{*1}; SHIRAI, Takashi¹; XIN, Yunzi¹; NANKO, Makoto²

1. Advanced Ceramics Research Center, Nagoya Institute of Technology, Nagoya 466-8555, Japan
 2. Department of Mechanical Engineering, Nagaoka University of Technology, Nagaoka 940-2188, Japan

17:00

(30-B1C-S13-19) Non-Uniform Densification and Grain Growth during Spark Plasma Sintering of Y_2O_3

KIM, Byung-Nam^{*1}; LEE, Jihwoan²; MORITA, Koji¹; SUZUKI, Tohru S.¹; JANG, Byung-Koog²

1. National Institute for Materials Science
 2. Kyushu University

17:15

(30-B1C-S13-20) Is sintering technology suitable for the densification of ultra-high temperature ceramic matrix composites?

ZOLI, Luca^{*1}; VINCI, Antonio¹; GALIZIA, Pietro¹; GUITERREZ-GONZALEZ, Carlos F.²; RIVERA, Sergio²; SCITI, Diletta¹

1. CNR-ISTEC, Institute of Science and Technology for Ceramics, Via Granarolo 64, I-48018 Faenza, Italy
 2. Nanoker Research S.L., Poligono de Olloniego, 33660 Oviedo, Principado de Asturias (Spain)

17:30

(30-B1C-S13-21) Multifunctional nanocomposites ceramics with tunable electrical and thermal conductivity obtained in one step sintering

KENFAUI, Driss²; GUILLEMET-FRITSCH, Sophie^{*1}; DUFOUR, Pascal¹; TENAILLEAU, Christophe¹; LOCATELLI, Marie Laure²; BLEY, Vincent²; LAUDEBAT, Lionel²; VALDEZ-NAVA, Zare²

1. CIRIMAT Université de Toulouse CNRS INP UPS 31062 Toulouse Cedex 9 France
 2. LAPLACE Université de Toulouse CNRS INP UPS 31062 Toulouse Cedex 9 France

■■October 30 (Wed) (Room B4)■■

14:Advanced Structure Analysis and Characterization of Ceramic Materials

X-ray diffractometry

Session Chairs: MISTRE, Scott, Alfred University

8:30

(30-B4-S14-06) Powder Diffraction Method with Laboratory & Synchrotron Sources of X-ray (Invited)

IDA, Takashi^{*1,2}

1. Nagoya Institute of Technology
 2. Aichi Synchrotron Radiation Center

Dielectrics

Session Chairs: MISTRE, Scott, Alfred University

9:00

(30-B4-S14-07) Characterization of atomic structure in Pb-free relaxor ferroelectrics using quantum beams (Invited)

PRAMANICK, Abhijit^{*1}; NAYAK, Sanjib¹; VENKATESHWARLU, Sarangi¹; BUDISUHARTO, Anthony B.¹; DMOWSKI, Wojciech^{2,3}; EGAMI, Takeshi^{2,3}; MARLTON, Frederick P.⁴; JORGENSEN, Mads RV^{4,5}; CHRISTIANSON, Andrew D⁶; ABERNATHY, Douglas L⁷; BORKIEWICZ, Olaf⁸; BEYER, Kevin A⁸

1. Department of Materials Science and Engineering, City University of Hong Kong, Kowloon, Hong Kong SAR
 2. Shull Wollan Center, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA
 3. Department of Materials Science and Engineering, University of Tennessee, Oak Ridge, TN 37831, USA
 4. Department of Chemistry and iNANO, Aarhus University, 8000 Aarhus C, Denmark
 5. Max IV Laboratory, Lund University, SE-221 00 Lund, Sweden
 6. Neutron Scattering Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA
 7. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA
 8. Advanced Photon Source, Argonne National Laboratory, Argonne, IL60439, USA

Session Chairs: PRAMANICK, Abhijit, City University of Hong Kong

9:30

(30-B4-S14-08) Study on local conductive path growth in degraded multi-layered ceramic capacitor

IZAWA, Kazuyoshi^{*1}; KAWAGUCHI, Masaya¹; SADA, Takao¹; UTSUNOMIYA, Masashi¹; NISHIMURA, Michiaki¹; MATSUBARA, Kiyoshi¹; YASUKAWA, Katsumasa¹

1. KYOCERA Corporation

9:45

(30-B4-S14-09) Study of local structure for PMN-28PT at low temperature

WANG, Zhen^{*1}; ZHANG, Nan¹

1. Electronic Materials Research Laboratory, Key Laboratory of the Ministry of Education & International Center for Dielectric Research, Xi'an Jiaotong University, Xi'an 710049, People's Republic of China

10:00

(30-B4-S14-10) Negative thermal expansion in ferroelectric-palaelectric transition driven by intermetallic charge transfer in $\text{BiNi}_{1-x}\text{Fe}_x\text{O}_3$

NISHIKUBO, Takumi^{*1}; SAKAI, Yuki^{1,2}; OKA, Kengo³; MACHIDA, Akihiko⁴; WATANUKI, Tetsu⁴; MIZUMAKI, Masaichiro⁵; HOJO,

“*” asterisk Indicates an oral presenter

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Hajime⁶; MIZOKAWA, Takashi⁷; AZUMA, Masaki^{1,2}

1. Laboratory for Materials and Structures, Tokyo Institute of Technology
2. Kanagawa Institute of Industrial Science and Technology,
3. Department of Applied Chemistry, Chuo University
4. Synchrotron Radiation Research Center, National Institutes for Quantum and Radiological Science and Technology
5. Japan Synchrotron Radiation Research Institute, SPring-8
6. Department of Energy and Material Science, Kyushu University
7. Department of Applied Physics, Waseda University

Glass

Session Chairs: IDA, Takashi, Nagoya Institute of Technology

10:15

(30-B4-S14-11) Glass network variations probed by IR and Raman spectroscopy (Invited)

MONCKE, Doris^{*1}

1. Alfred University, Inamori School of Engineering, NYSC of Ceramics

10:45

(30-B4-S14-12) Nanoscale Investigation on Crack-resistant Aluminosilicate Glasses with STEM EELS

LIAO, Kun-Yen^{*1}; MASUNO, Atsunobu²; INOUE, Hiroyuki¹; MIZOGUCHI, Teruyasu¹

1. Institute of Industrial Science, The University of Tokyo, Tokyo, 153-8505, Japan
2. Graduate School of Science and Technology, Hirosaki University, 3 Bunkyo-cho, Hirosaki, Aomori 036-8561, Japan

Optical method

Session Chairs: MONCKE, Doris, Alfred University

11:00

(30-B4-S14-13) Optical detection and structural analysis of creep behavior during sintering of ceramic parts using the versatile Thermo-Optical-Measurement technique TOM

DIEGELER, Andreas^{*1}; STAAB, T.E.M²

1. Fraunhofer Institute for Silicate Research, Neunerplatz 2, D-97082 Würzburg, Germany
2. University Würzburg, Dep. of Chemistry - LCTM, Röntgenring 11, D-97070 Würzburg

Optical material

Session Chairs: MONCKE, Doris, Alfred University

11:15

(30-B4-S14-14) The mechanism of solid-state single crystal growth method for planar waveguide laser materials

ZHANG, Ge^{*1,2}; JIANG, Benxue¹; ZHANG, Long^{1,2,3}

1. Key Laboratory of Materials for High-Power Laser, Shanghai Institute of Optics and Fine Mechanics
2. University of Chinese Academy of Sciences
3. Collaborative Innovation Center of IFSA (CICIFSA)

11:30

(30-B4-S14-15) Structure Polarity and Luminescence Properties Evolution on the Na_{2-2x}Mg_{1-x}Si_{1+x}O₄ (0 ≤ x ≤ 1/3) System

FERNANDEZ CARRION, Alberto Jose^{*1}; YANG, Xiaoyan¹; BECERRO, Ana Isabel²; OCANA, Manuel²; ALLIX, Mathieu³; KUANG, Xiaojun¹

1. MOE Key Laboratory of New Processing Technology for Nonferrous Metals and Materials, Guangxi Universities Key Laboratory of Non-ferrous Metal Oxide Electronic Functional Materials and Devices, College of Materials Science and Engineering, Guilin University of Technology, Guilin 541004, P. R. China
2. Instituto de Ciencia de Materiales de Sevilla (CSIC-Universidad de Sevilla). c/ Américo Vespucio, 49. 41092 Sevilla (Spain).
3. CNRS, UPR3079 CEMHTI, 1D avenue de la Recherche Scientifique, 45071 Orléans cedex2, France.

Oxide-ion conductors

Session Chairs: CHEN, Xiaolong, Institute of Physics, Chinese Academy of Sciences

13:30

(30-B4-S14-16) Defect structures in oxide ion conductors containing the tetrahedral moieties (Invited)

KUANG, Xiaojun^{*1}

1. Guilin University of Technology

14:00

(30-B4-S14-17) Structure science of oxide-ion conductors - exploration of new oxide-ion conductors and investigation of oxide-ion conduction mechanisms - (Invited)

FUJII, Kotaro^{*1}; YASHIMA, Masatomo¹

1. Tokyo Institute of Technology

(14:30) Break

Superconductors and new materials

Session Chairs: KUANG, Xiaojun, Guilin University of Technology

14:45

(30-B4-S14-18) Discovery of novel CuAs-based superconductors (Invited)

CHEN, Xiaolong^{*1,2,3}; GUO, Jian-gang^{1,2,3}

1. Institute of Physics, Chinese Academy of Sciences
2. School of Physical Sciences, University of Chinese Academy of Sciences, Beijing 100049, China
3. Songshan Lake Materials Laboratory, Dongguan, Guangdong 523808, China

15:15

(30-B4-S14-19) High Pressure Synthesis of a Novel Titanium Hydride: BaCa₂Ti₂H₁₄

YAJIMA, Takeshi^{*1}; NAKAJIMA, Hotaka¹; HONDA, Takashi²; HIROI, Zenji¹

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Univ. of Tokyo
2. KEK

15:30

(30-B4-S14-20) Superconductivity in Li-intercalated 1T-SnSe₂ driven by electric field gatingGUO, Jian-gang^{*1,3}; CHEN, Xiaolong^{1,2,3}

1. Institute of Physics, Chinese Academy of Sciences
2. School of Physical Sciences, University of Chinese Academy of Sciences, Beijing 100049, China
3. Songshan Lake Materials Laboratory, Dongguan, Guangdong 523808, China

■ ■ October 30 (Wed) (Room A2) ■ ■

17: Green Processing and Green Energy Materials for Sustainable Society

Session Chairs: OHNO, Tomoya, Kitami Institute of Technology

8:45

(30-A2-S17-34) Why Soft (Green) Processing (= Low-Energy Production) of Advanced Materials is Difficult but Necessary for Sustainable Society?YOSHIMURA, Masahiro^{*1,2}

1. Department of Material Science and Engineering, National Cheng Kung University
2. Tokyo Institute of Technology

9:00

(30-A2-S17-35) Effect of Orientation of Substrate on Spontaneous Superlattice Formation and Electrical Properties of Sr-Ti-O Thin Film deposited by Dynamic Aurora PLDWAKIYA, Naoki^{*1}; HIRAIWA, Takuma¹; KAWAGUCHI, Takahiko¹; SAKAMOTO, Naonori¹; SHINOZAKI, Kazuo²; SUZUKI, Hisao¹

1. Shizuoka U.
2. Tokyo Tech.

9:15

(30-A2-S17-36) Fabrication of multi layered photocathodes by roll press methodITO, Mizuki^{*1}; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

Session Chairs: MATSUSHITA, Nobuhiro, Tokyo Institute of Technology

9:30

(30-A2-S17-37) Effect of UV and VIS light irradiation on CeO₂ nanoparticles prepared by low temperature solution processUEKAWA, Naofumi^{*1}; KOBAYASHI, Minoru¹; INAGAKI, Yugo¹; KOJIMA, Takashi¹

1. Chiba University

9:45

(30-A2-S17-38) Mixed-Anion Photocatalysts for Energy Conversion and Environmental Remediation (Invited)HOJAMBERDIEV, Mirabbos^{*1}

1. Nagoya University

(10:15) Break

Session Chairs: SEKINO, Tohru, Osaka Univ.

10:30

(30-A2-S17-39) Design of metal halide perovskite film using time-resolved laser spectroscopy for solar cell application (Invited)TACHIBANA, Yasuhiro^{*1,2}

1. School of Engineering, RMIT University
2. Project Research Center for Fundamental Sciences, Faculty of Science, Osaka University

11:00

(30-A2-S17-40) Stress Induced High-Piezoelectricity of Lead-Free Barium Zirconate Titanate Thin Films on SUS substrateSUZUKI, Hisao^{*1}; KATAYAMA, Takaaki²; OHNO, Tomoya³; KAWAGUCHI, Takahiko²; SAKAMOTO, Naonori¹; WAKIYA, Naoki¹

1. Research Institute of Electronics, Shizuoka University
2. Graduate School of Integrated Science and Technology, Shizuoka University
3. Department of Materials Science, Kitami Institute of Technology

11:15

(30-A2-S17-41) Precursor-Structure of Low-Temperature Crystallized Cubic Li₇La₂Zr_{1.75}Ta_{0.25}O₁₂ for All Ceramic Li-ion BatterySUZUKI, Hisao^{*1}; YAMAZAKI, Tatsuya²; OHNO, Tomoya³; HIRAI, Shigeto³; KAWAGUCHI, Takahiko²; SAKAMOTO, Naonori¹; WAKIYA, Naoki¹

1. Research Institute of Electronics, Shizuoka University
2. Graduate School of Integrated Science and Technology, Shizuoka University
3. Department of Materials Science, Kitami Institute of Technology

Session Chairs: SUZUKI, Hisao, Shizuoka Univ.

11:30

(30-A2-S17-42) Preparation of CuCrO₂ hollow nanofibers from an electrospun Al₂O₃ template (Keynote)WU, Shin-Rong¹; WANG, Sheng-Siang¹; SAKTHINATHAN, Subramanian¹; CHIU, Te-Wei^{*1}; LI, Shao-Sian^{1,2}

1. Department of Materials and Mineral Resources Engineering, National Taipei University of Technology, Taipei 10608, Taiwan

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. Graduate Institute of Biomedical Optomechatronics, College of Biomedical Engineering, Taipei Medical University, No. 250, Wuxing Street, Taipei 11031, Taiwan

■ ■ October 30 (Wed) (Room B3) ■ ■

18: Additive Manufacturing and 3d Printing Technologies

Emerging Technologies

Session Chairs: CHEN, Zhangwei, Shenzhen University

8:30

(30-B3-S18-07) Selective Laser Sintering of Advanced Ceramics, Challenges and Issues (Invited)

KONDO, Naoki^{*1}; OHJI, Tatsuki¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

9:00

(30-B3-S18-08) Boron Nitride/Silicon Nitride Aqueous Suspensions Rheological Characteristics of Direct Ink Writing

YANG, Yitian^{*1}; YANG, Zhihua¹; JIA, Dechang¹; ZHOU, Yu¹

1. Institute for Advanced Ceramics, Harbin Institute of Technology, Harbin, China

Session Chairs: KONDO, Naoki, AIST

9:15

(30-B3-S18-09) 3D Printing of Porous Ceramics for Advanced Applications (Invited)

CHEN, Zhangwei^{*1}; LIU, Changyong¹; FU, Yuelong¹; LAO, Changshi¹

1. Additive Manufacturing Institute, Shenzhen University

9:45

(30-B3-S18-10) Robocasting of Conformable Ceramics

ELIZAROVA, Iuliia^{*1}; SAIZ, Eduardo¹; VANDEPERRE, Luc¹; GIULIANI, Finn¹

1. Imperial College London

10:00

(30-B3-S18-11) Fabrication of Functionally Graded Al₂O₃-ZrO₂ 3-Dimensional Structures

KIM, Jeehwan^{*1,2}; PARK, Honghyun¹; CHOI, Yeong-Jin¹; YOON, Seok Young²; YUN, Hui-suk¹

1. Advanced Biomaterials Research Group, Korea Institute of Materials Science, Changwon, 51508, Korea

2. Department of Materials Science and Engineering, Pusan National University, Busan, 46288, Korea

■ ■ October 30 (Wed) (Room Theater) ■ ■

20: Ceramics for Rechargeable Energy Storage

Solid-state battery

Session Chairs: AKIMOTO, Junji, AIST

8:30

(30-Theater-S20-01) Fabrication of garnet-type solid electrolyte using precursor material

HAMAO, Naoki^{*1}; YAMAGUCHI, Yuki¹; HAMAMOTO, Koichi¹

1. National Institute of Advanced Industrial Science and Technology

8:45

(30-Theater-S20-02) Synthesis and electrochemical characterization of Mg, Sr doped Li₇La₃Zr₂O₁₂ as Li ion conducting solid electrolyte

TAKEUCHI, Yuki^{*1}; HIKOSAKA, Hideaki¹; SHISHIHARA, Daisuke¹; MIZUTANI, Hidetoshi¹

1. NGK SPARK PLUG CO., LTD.

9:00

(30-Theater-S20-03) Synthesis, Phase relation, Sinterability and Ionic conductivity of Ga and Sr-substituted Li₇La₃Zr₂O₁₂ Garnet-type oxides (Invited)

MORI, Daisuke^{*1}; MATSUDA, Yasuaki²; TAMINATO, Sou¹; IMANISHI, Nobuyuki¹

1. Mie University

2. Osaka Institute of Technology

Session Chairs: MORI, Daisuke, Mie University

9:30

(30-Theater-S20-04) Low-Temperature Sintering Process of Garnet-type Solid Electrolytes (Invited)

YAMADA, Hiroto^{*1}

1. Nagasaki University

(10:00) Break

Session Chairs: MORI, Daisuke, Mie University

10:15

(30-Theater-S20-05) Technical Barriers for Adoption of Ceramic Electrolytes for Li⁺ Batteries (Invited)

RAJ, Rishi^{*1}

1. University of Colorado Boulder, Boulder CO 80302 US

10:45

(30-Theater-S20-06) Fabrication of Li—solid electrolyte interface by ultrasonic-assisted thermal fusion

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bonding processKITAURA, Hirokazu^{*1}; HOSONO, Eiji¹; ZHOU, Haoshen¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

Session Chairs: IRIYAMA, Yasutoshi, Nagoya University

11:00**(30-Theater-S20-07) Li Dendrite Suppression in Solid State Electrolyte Batteries (Invited)**WANG, Chunsheng^{*1}

1. Department of Chemical and Biomolecular Engineering, Department of Chemistry and biochemistry, University of Maryland, College Park, Maryland, 20740

11:30**(30-Theater-S20-08) Stabilizing Li anodes using LLZO membrane technology (Invited)**SAKAMOTO, Jeff^{*1,2,3}

1. Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI, USA

2. Department of Material Science and Engineering, University of Michigan, Ann Arbor, MI, USA

3. Department of Macromolecular Science and Engineering, University of Michigan, Ann Arbor, MI, USA

Session Chairs: YAMADA, Hiroto, Nagasaki University

13:30**(30-Theater-S20-09) Development of all-solid-state rechargeable batteries with ductile amorphous materials (Invited)**HAYASHI, Akitoshi^{*1}; SAKUDA, Atsushi¹; TATSUMISAGO, Masahiro¹

1. Osaka Prefecture University

14:00**(30-Theater-S20-10) Research and development of garnet type single-crystal solid electrolyte by melt growth**KATAOKA, Kunimitsu^{*1}; NAGATA, Hiroshi¹; AKIMOTO, Junji¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

14:15**(30-Theater-S20-11) Cold sintering process for development of solid-state electrolytes and fabrication of all-solid-state Li batteries**SEO, Joo-Hwan^{*1}; LEE, Wonho²; FAIR, Ryan¹; LENG, Yongjun³; GOMEZ, Enrique D.²; WANG, Chao-Yang³; RAJAGOPALAN, Ramakrishnan⁴; MALLOUK, Thomas E.⁵; NAKAYA, Hiroto⁶; IWASAKI, Masato⁶; YAMAMOTO, Hiroshi⁶; RANDALL, Clive A.⁷

1. Department of Materials Science and Engineering, Pennsylvania State University, University Park, PA 16801, USA

2. Department of Chemical Engineering, Pennsylvania State University, University Park, PA 16801, USA

3. Department of Mechanical and Nuclear Engineering, Pennsylvania State University, University Park, PA 16802, USA

4. Department of Engineering, Pennsylvania State University, Dubois, PA 15801, USA

5. Department of Chemistry, Pennsylvania State University, University Park, PA 16801, USA

6. Engineering R&D Group, NGK Spark Plug Co., Ltd. Aichi, 485-8510, Japan

7. Materials Research Institute, Pennsylvania State University, University Park, PA 16801, USA

Session Chairs: SAKAMOTO, Jeff, University of Michigan

14:30**(30-Theater-S20-12) Oxide-based All-Solid-State Rechargeable Lithium Batteries using Aerosol Deposition (Invited)**IRIYAMA, Yasutoshi^{*1,2}; SAKAKURA, Miyuki^{1,2}; YAMAMOTO, Takayuki^{1,2}; MOTOYAMA, Munekazu^{1,2}

1. Nagoya University

2. JST ALCA-SPRING

(15:00) Break

Session Chairs: SAKAMOTO, Jeff, University of Michigan

15:15**(30-Theater-S20-13) Cathode design for rechargeable lithium-metal batteries with $\text{Li}_{6.25}\text{Al}_{0.25}\text{La}_3\text{Zr}_2\text{O}_{12}$ solid electrolyte (Invited)**MUNAKATA, Hirokazu^{*1}; WAKASUGI, Jungo¹; KOZUKA, Kyoko¹; HONMOU, Katsuya¹; SHOJI, Mao¹; KIMURA, Takeshi¹; KANAMURA, Kiyoshi¹

1. Tokyo Metropolitan University

Session Chairs: KITAURA, Hirokazu, AIST

15:45**(30-Theater-S20-14) Toward large-scale all-solid-state lithium-ion batteries: Fabrication of sheet-type electrodes and electrolytes (Invited)**JUNG, Yoon Seok^{*1}

1. Department of Energy Engineering, Hanyang University

16:15**(30-Theater-S20-15) Effect of heat treatment on electrochemical properties of interface between LiCoO_2 - Li_3BO_3 composite and ceramic type solid electrolyte formed by aerosol deposition method.**PARK, Jae-sang^{*1}; YOSUKE, Kushida¹; KYOSHI, Kanamura¹

1. Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University, Minami-Osawa Hachioji, Tokyo

16:30**(30-Theater-S20-16) Ceramic-based Flexible Composite Sheet Electrolyte for Li-metal Batteries**CHENG, Eric Jianfeng^{*1}; KIMURA, Takeshi¹; MUNAKATA, Hirokazu¹; KANAMURA, Kiyoshi¹

1. Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University

Session Chairs: MUNAKATA, Hirokazu, Tokyo Metropolitan University

“*” asterisk Indicates an oral presenter

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16:45

(30-Theater-S20-17) Operando soft X-ray analysis for active materials in all-solid-state Li-ion batteryHOSONO, Eiji^{*1,2}; ASAKURA, Daisuke^{1,2}; KITAURA, Hirokazu¹; SUDAYAMA, Takaaki¹; AKADA, Keishi^{1,3}; NAGAMURA, Naoka^{4,5}; HORIBA, Koji⁶; OSHIMA, Masaharu⁷; MIYAWAKI, Jun⁷; HARADA, Yoshihisa^{2,3,7}

1. Research Institute for Energy Conservation, National Institute of Advanced Industrial Science and Technology

2. AIST-UTokyo Advanced Operando Measurement Technology Open Innovation Laboratory, AIST

3. Institute for Solid State Physics, The University of Tokyo

4. Research Center for Advanced Measurement and Characterization, National Institute for Materials Science

5. Japan Science and Technology Agency, PRESTO

6. Photon Factory, Institute of Materials Structure Science, High Energy Accelerator Research Organization

7. Synchrotron Radiation Research Organization

17:00

(30-Theater-S20-18) Molten salt assisted cold sintering applied to solid state sodium ion battery materialsGRADY, Zane^{*1}; NDAYISHIMIYE, Arnaud¹; TSUJI, Kosuke¹; SEO, Joo-Hwan¹; RANDALL, Clive¹

1. Department of Materials Science and Engineering, the Pennsylvania State University, State College 16801, USA

17:15

(30-Theater-S20-19) Crystalline Na₃V₂(PO₄)₃ Cathode Material Prepared by Glass-Ceramic ProcessNIU, Sai^{*1}; AKAMATSU, Hirofumi¹; AKIYAMA, Yuto¹; HASEGAWA, George¹; HAYASHI, Katsuro¹

1. Department of Applied Chemistry, Kyushu University, Japan

17:30

(30-Theater-S20-20) Fabrication of NASICON-type All-Solid-State Sodium-Ion BatteriesSASAKI, Naoya^{*1}; HASEGAWA, George¹; AKAMATSU, Hirofumi¹; HAYASHI, Katsuro¹

1. Department of Applied Chemistry, Graduate School of Engineering, Kyushu University

■■October 30 (Wed) (Room C2) ■■

21: Specific Reaction Field and Material Fabrication Design**Pioneering process (II)**

Session Chairs: YIN, Shu, Tohoku University

8:30

(30-C2-S21-08) Preparation and properties of reaction bonded silicon carbide (RB-SiC) ceramics with high SiC percentage by two-step sintering using compound carbon sources (Invited)ZHANG, Nan-long¹; YANG, Jian-Feng^{*1}; DENG, Yu-Chen¹; WANG, Bo¹; YIN, Ping¹

1. State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, 710049, China

Session Chairs: ENOMOTO, Naoya, National Institute of Technology, Ariake College

9:00

(30-C2-S21-09) Oxidative Catalytic Activities of Hydroxyapatite Materials Synthesized via Different ApproachesNAKAGAWA, Sohei^{*1,2}; XIN, Yunzi¹; INOMATA, Yoshihiko²; OYAMA, Ryo²; NAMIKAWA, Toshihiro²; YAMADA, Masami²; SHIRAI, Takashi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology

2. R&D Department, Taihei Chemical Industrial Co., Ltd.

9:15

(30-C2-S21-10) High Oxygen Storage Performance of YBaCo₄O_{7+δ} with a Novel Synthesis ProcessCHEN, Tingru^{*1}; ASAKURA, Yusuke¹; YIN, Shu¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

9:30

(30-C2-S21-11) A Novel and Facile Synthesis of Silicon Nanocrystals Using Disproportion of SiO through the Mechanochemical TreatmentXU, Yuping^{*1}; XIN, Yunzi²; LEE, Jeongbin¹; SHIRAI, Takashi^{1,2}

1. Department of Life Science and Applied Chemistry, Graduate School of Engineering, Nagoya Institute of Technology

2. Advanced Ceramics Research Center, Nagoya Institute of Technology

Laser process

Session Chairs: HAYASHI, Yamato, Tohoku University

9:45

(30-C2-S21-12) Rapid Sintering of Ceramics using Nd:YAG Laser (Invited)KIMURA, Teiichi^{*1}; SUEHIRO, Satoshi¹

1. Japan Fine Ceramics Center

Session Chairs: NAKAMURA, Takahiro, Tohoku University

10:15

(30-C2-S21-13) Direct writing of Cu-based micropatterns using femtosecond laser reduction of copper oxide nanoparticles (Invited)MIZOSHIRI, Mizue^{*1}

1. Nagaoka University of Technology

(10:45) Break

Session Chairs: SHIRAI, Takashi, Nagoya Institute of Technology

“*” asterisk Indicates an oral presenter

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11:00

(30-C2-S21-14) Development of SiC ceramics using direct laser heatingSUEHIRO, Satoshi^{*1}; KIMURA, Teiichi¹

1. Japan Fine Ceramics Center

11:15

(30-C2-S21-15) Fabrication of BaSnO₃ thin films on SiO₂ glass substrates using excimer laser-assisted metal organic decompositionMATSUBAYASHI, Yasuhito^{*1}; NOMOTO, Junichi¹; YAMAGUCHI, Iwao¹; NISHIO-HAMANE, Daisuke²; TSUCHIYA, Tetsuo¹

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology

2. Institute for Solid State Physics, University of Tokyo

Material fabrication

Session Chairs: NAKAMURA, Takahiro, Tohoku University

11:30

(30-C2-S21-16) Preparation of Self-standing Hydrogels based on Biomass Nanofibers by Hydrothermal Gelation (Invited)OSADA, Mitsumasa^{*1}

1. Shinshu University

13:30

(30-C2-S21-17) Synthesis of Li₂CoTi₃O₈ nanoparticles via a citric acid method toward electrochemical capacitor applicationsNAKAMURA, Yuya^{*1}; SUZUKI, Yoshikazu²

1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Ibaraki 305-8573, Japan

2. Faculty of Pure and Applied Sciences, University of Tsukuba, Ibaraki 305-8573, Japan

Session Chairs: NAKAMURA, Takahiro, Tohoku University

13:45

(30-C2-S21-18) Synthesis of Continuous Carbon Nanotube Fibers and Sheets and their propertiesMOON, Sook Young^{*1}; KANG, In Ji¹

1. Korea Institute of Science and Technology

Nonequilibrium reaction field(II)

Session Chairs: KIMURA, Teiichi, Japan Fine Ceramics Center

14:00

(30-C2-S21-19) One-step Synthesis of Structurally Well-Controlled TiO₂ Photocatalyst in Specific Reaction Filed Induced by Single-Mode Magnetic MicrowaveKATO, Kunihiko^{*1}; XIN, Yunzi²; SHIRAI, Takashi^{1,2}

1. Department of Life Science and Applied Chemistry, Graduate School of Engineering, Nagoya Institute of Technology

2. Advanced Ceramics Research Center, Nagoya Institute of Technology

14:15

(30-C2-S21-20) High Pressure Synthesis and Characterization of NbSn₂ with the CrSi₂-type StructureISHIHARA, Hiroki^{*1}; FUKUSHIMA, Jun¹; HAYASHI, Yamato¹; TAKIZAWA, Hirotugu¹

1. Department of Applied Chemistry, Graduate School of Engineering, Tohoku University

Pioneering process (III)

Session Chairs: KIMURA, Teiichi, Japan Fine Ceramics Center

14:30

(30-C2-S21-21) Influence of thermal decomposition process of organic solvent on reduction process of ceramic materialsSUEHARA, Kentaro^{*1}; ISHIKAWA, Yoshie²; KOSHIZAKI, Naoto¹; OMURA, Kazunobu³; NAGATA, Harunori³; YAMAUCHI, Yuji¹

1. Division of Quantum Science and Engineering, Hokkaido University, Sapporo 060-8628, Japan

2. Nanomaterials Research Institute, AIST, Tsukuba 305-8565, Japan

3. Division of Mechanical and Space Engineering, Hokkaido University, Sapporo 060-8628, Japan

14:45

(30-C2-S21-22) Improved Electrical Property of Alumina/Carbon Composite via Iodine ImpregnationTAKEUCHI, Yuya^{*1}; XIN, Yunzi²; NGUYEN, Huu Hien²; SHIRAI, Takashi^{1,2}

1. Department of Life Science and Applied Chemistry, Nagoya Institute of Technology

2. Advanced Ceramics Research Center, Nagoya Institute of Technology

■■October 30 (Wed) (Room A3) ■■**23:Geopolymer, Building Materials and Low Environmental Loading Construction Materials**

Session Chairs: SAGAWA, Takahiro, Maebashi Institute of Technology

15:30

(30-A3-S23-01) The Influence of Storage Conditions on Quality of CementNAKAGAWA, Yuta^{*1}; KUROKAWA, Daisuke¹; UCHIDA, Shunichiro¹; HIRAO, Hiroshi¹

1. Central Research Laboratory, Taiheiyō cement Co.

15:45

(30-A3-S23-02) Study on the application of EBSD to the estimation of burning process of cement clinker

“*” asterisk Indicates an oral presenter

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BABA, Tomoya^{*1}; NOZAWA, Risako¹; HIKIDA, Tomoyuki¹; HOSOKAWA, Yoshifumi¹

1. Taiheiyo Cement Corporation

16:00

(30-A3-S23-03) Reaction of $3\text{CaO}\cdot\text{Al}_2\text{O}_3\cdot\text{CaSO}_4\cdot 12\text{H}_2\text{O}$ and CaCrO_4 under highly alkaline conditions

OHYA, Junichi^{*1}; SANGO, Hiroyuki¹

1. Nihon University

16:15

(30-A3-S23-04) Analysis of early hydration of Fly ash cement with alkanolamine

SONG, Hyeonjin^{*1}; ATARASHI, Daiki²; HOSOKAWA, Yoshifumi³; MIYAKAWA, Miho⁴

1. Graduate School of Science and Engineering, Shimane University

2. Science of Environmental Systems, Graduate School of Natural Science and Technology, Shimane University

3. Central Research Laboratory, TAIHEIYO CEMENT CORPORATION

4. R&D Engineer, GCP Chemicals K.K.

16:30

(30-A3-S23-05) Properties of Fly Ash/Slag-based Geopolymer Exposed to High Temperature and Sulfuric Acid

SALUDUNG, Apriany^{*1}; AZEYANAGI, Takumu¹; OGAWA, Yuko¹; KAWAI, Kenji¹

1. Department of Civil and Environmental Engineering, Hiroshima University

Session Chairs: ATARASHI, Daiki, Shimane University

16:45

(30-A3-S23-06) Effect of chemical composition of slag on autogenous shrinkage of Portland cement-blast furnace slag system

SAGAWA, Takahiro^{*1}

1. Maebashi Institute of Technology

17:00

(30-A3-S23-07) Development of Industrially-Viable Geopolymer Compositions

FISHBURN, Benjamin David^{*1,2}; KOSHY, Pramod²; NUMATA, Takafumi¹; RAWAL, Aditya²

1. Brickworks Ltd, Horsley Park, Sydney 2175, Australia

2. School of Materials Science and Engineering, UNSW Sydney, Sydney 2052, Australia

17:15

(30-A3-S23-08) Preparation of ceramic tiles from granulated blast furnace slag and CRT panel glass

TAKEDA, Miyako^{*1}; SAWAGUCHI, Naoya¹; INANO, Hiroyuki²; NOMURA, Takafumi²

1. Muroan Institute of Technology

2. Hokkaido Research Organization

17:30

(30-A3-S23-09) Fabrication of neutron shielding carbide ceramics using geopolymer

NAGATA, Yohei^{*1}; HASHIMOTO, Shinobu¹; ANDO, Kotaro¹; HONDA, Sawao¹; DAIKO, Yusuke¹; IWAMOTO, Yuji¹

1. Nagoya Institute of Technology

17:45

(30-A3-S23-10) Fabrication of thermal protection system materials using a hand-layup method with geopolymer binder

IMAI, Haruo^{*1}; HASHIMOTO, Shinobu¹; ANDO, Kotaro¹

1. Nagoya Institute of Technology

■■October 30 (Wed) (Room B6) ■■

25:Direct Thermal-to-Electrical Energy Conversion Materials and Thermal Energy Harnessing Challenges

Low-D/Interfaces

Session Chairs: MORI, Takao (1) ; CAILLAT, Thierry (2), (1)NIMS, (2)California Institute of Technology

9:00

(30-B6-S25-06) Thermoelectric Transport in 2D structures (Keynote)

ZEBARJADI, Mona^{*1,2}; LIU, Naiming²; ROSUL, Golam¹; ZHU, Tianhui¹

1. Department of Electrical and Computer Engineering, University of Virginia

2. Department of Electrical and Computer Engineering, University of Virginia

9:45

(30-B6-S25-07) The Thermoelectric Properties of SnSe Continue to Surprise: Extraordinary Electron and Phonon Transport (Invited)

ZHAO, Li-Dong^{*1}

1. Beihang University

10:15

(30-B6-S25-08) Transport Properties of Silicon Clathrate System with Nano Scale Interface Calculated by Density Functional Theory and Non-Equilibrium Green's Function Method

ANNO, Hiroaki^{*1}; OKAMOTO, Kazuya¹

1. Department of Electrical Engineering, Sanyo-Onoda City University

(10:30) Break

Selenides

"*" asterisk Indicates an oral presenter

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Session Chairs: ZEBARJADI, Mona (1), ZHAO, Li-Dong (2), (1)University of Virginia, (2)Beihang University

10:45

(30-B6-S25-09) Ultra-high Thermoelectric Figure-of-merit in Nano-inclusion Engineered Cu₂Se (Invited)

WANG, Xiaolin^{*1,2}

1. ARC Centre of Excellence in Future Low-Energy Electronics Technologies (FLEET), University of Wollongong

2. Institute for Superconducting and Electronic Materials (ISEM), Australian Institute for Innovative Materials (AIIM), University of Wollongong

11:15

(30-B6-S25-10) Liquid-like Thermoelectric Materials (Invited)

SHI, Xun^{*1}; QIU, Pengfei¹; CHEN, Lidong¹

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences

11:45

(30-B6-S25-11) Significantly Enhanced Near-Room-Temperature Thermoelectric Figure of Merit in α -Cu₂Se through Excess Cu Addition

TAK, Jang-Yeul^{*1,2}; NAM, Woo Hyun¹; LEE, Changhoon^{3,4}; KIM, Sujee⁴; LIM, Young Soo⁵; KO, Kyungmoon⁶; LEE, Soonil⁷; SHIN, Weon Ho¹; CHO, Jung Young¹; SEO, Won-Seon¹; CHO, Hyung Koun²; SHIM, Ji-Hoon^{3,4}; PARK, Cheol-Hee⁶

1. Energy and Environment Division, Korea Institute of Ceramic Engineering and Technology, Jinju 52851, Korea.

2. School of Advanced Materials Science and Engineering, Sungkyunkwan University, Suwon 16419, Korea.

3. Department of Chemistry, Pohang University of Science and Technology, Pohang 37673, Korea.

4. Division of Advanced Nuclear Engineering, Pohang University of Science and Technology, Pohang 37673, Korea.

5. Department of Materials System Engineering, Pukyong National University, Busan 48547, Korea.

6. LG Chem./LG Science Park, 30, Magokjungang 10-ro, Gangseo-gu, Seoul, 07796, Republic of Korea.

7. School of Materials Science and Engineering, Changwon National University, Korea.

Sulfides/Rattling

Session Chairs: WANG, Xiaolin (1) ; SHI, Xun (2), (1)FLEET-University of Wollongong-ISEM-AIIM, (2)Shanghai Institute of Ceramics-Chinese Academy of Sciences

13:30

(30-B6-S25-12) Mineral-Inspired Thermoelectric Sulphides (Invited)

POWELL, Anthony^{*1}; VAQUEIRO, Paz¹; LONG, Sebastian¹; MANGELIS, Panagiotis¹

1. University of Reading

14:00

(30-B6-S25-13) Recent advances in ternary and quaternary bulk thermoelectric sulfides (Invited)

GUILMEAU, Emmanuel^{*1}

1. CRISMAT, CNRS, Normandie Univ, ENSICAEN, UNICAEN, 14000 Caen, France

14:30

(30-B6-S25-14) Strong phonon scattering in thermoelectric colusites and tetrahedrites (Invited)

SUEKUNI, Koichiro^{*1,2}; OHTA, Michihiro³; LEE, Chul-Ho³; NISHIBORI, Eiji⁴; TADANO, Terumasa⁵; UMEO, Kazunori⁶; TAKABATAKE, Toshiro⁶; GUILMEAU, Emmanuel⁷; OHTAKI, Michitaka^{1,2}

1. Department of Applied Science for Electronics and Materials, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

2. Transdisciplinary Research and Education Center for Green Technologies, Kyushu University

3. Research Institute for Energy Conservation, National Institute of Advanced Industrial Science and Technology (AIST)

4. Division of Physics, Faculty of Pure and Applied Sciences, Tsukuba Research Center for Energy Materials Science (TREMS), University of Tsukuba

5. Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science (NIMS)

6. Department of Quantum Matter, Graduate School of Advanced Sciences of Matter, Hiroshima University

7. Normandie Univ, ENSICAEN, UNICAEN, CNRS, CRISMAT,

15:00

(30-B6-S25-15) Thermoelectric Zintl phases containing Na atoms disordered in tunnel frameworks

YAMADA, Takahiro^{*1,2}; KANNO, Masahiro^{1,3}; YAMANE, Hisanori¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

2. PRESTO, Japan Science and Technology Agency

3. Graduate School of Engineering, Tohoku University

(15:15) Break

Chalcogenides

Session Chairs: POWELL, Anthony (1) ; SUEKUNI, Koichiro (2), (1)University of Reading, (2)Kyushu University

15:30

(30-B6-S25-16) Study on the Structures-Function Relationship on thermoelectric materials (Invited)

ZHOU, Xiaoyuan^{*1,2}; ZHANG, Bin²; LU, Xu¹; WANG, Guoyu^{3,4}

1. Chongqing Key Laboratory of Soft Condensed Matter Physics and Smart Materials, College of Physics, Chongqing University, Chongqing 401331, P. R. China

2. Analytical and Testing Center, Chongqing University, Chongqing 401331, P. R. China

3. Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing 400714, P. R. China

4. University of Chinese Academy of Sciences, Beijing 100004, P. R. China

16:00

(30-B6-S25-17) Thallium Silver Chalcogenides: from a *pnp* Conduction Switching Material to an Incommensurate Composite Structure with High Thermoelectric Performance (Invited)

SHI, Yixuan¹; KLEINKE, Holger^{*1}

1. University of Waterloo

16:30

(30-B6-S25-18) Understanding of the Van der Waals Gaps Enhanced Performance in GeTe based

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

Thermoelectric Materials (Invited)

XIE, Lin¹; WU, Di^{1,2}; HE, Jiaqing^{*1}

1. Department of Physics, Southern University of Science and Technology, Shenzhen 518055, China

2. School of Materials Science and Engineering, Shaanxi Normal University, Xi'an 710119, China

17:00

(30-B6-S25-19) Chiral materials and their thermoelectric properties (Invited)

LI, Qiang^{*1}

1. Brookhaven National Laboratory

17:30

(30-B6-S25-20) High Thermoelectric Performance in Ge-Sb-Te via Vacancy Control (Invited)

WONG, D.P.^{1,2}; BAYIKADI, K.S.³; WU, C.T.⁴; CHEN, L.C.²; RAMAN, S.³; CHEN, Kuei-Hsien^{*1,2}

1. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan

2. Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan

3. Institute of Physics, Academia Sinica, Taipei, Taiwan

4. Taiwan Semiconductor Research Institute, Hsinchu Science Park, Hsinchu 300, Taiwan

■■October 30 (Wed) (Room B2) ■■

28:Photo-functional Inorganic Materials

Session Chairs: TODA, Kenji, Niigata University

13:30

(30-B2-S28-01) Development of Long-Term Stable Halide Perovskite Quantum Dots for Wide Color Gamut Display (Keynote)

YOON, Dae Ho^{*1,2}

1. School of Advanced Materials Science & Engineering, Sungkyunkwan University, Korea

2. SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University (SKKU), Korea

14:00

(30-B2-S28-02) Evidence and modeling of mechanoluminescence in a transparent glass particulate composite (Invited)

ROUXEL, Tanguy^{*1}; DUBERNET, Marion¹; GUEGUEN, Yann¹; HOUZOT, Patrick¹; CELARIE, Fabrice¹; BRUYER, Emilie¹;

ROCQUEFELTE, Xavier¹

1. University of Rennes 1, France

Session Chairs: HAYAKAWA, Tomokatsu, Nagoya Institute of Technology

14:30

(30-B2-S28-03) Novel material-search method for transparent optical materials with high melting point using electric arc

KURASHIMA, Yutaro^{*1}; KUROSAWA, Shunsuke²; MURAKAMI, Rikito³; YAMAJI, Akihiro¹; KAMADA, Kei^{2,3}; YOSHINO, Masao¹;

TOYODA, Satoshi²; SATO, Hiroki²; YOKOTA, Yuui²; OHASHI, Yuji²; YOSHIKAWA, Akira^{1,2,3}

1. Institute for Materials Research, Tohoku University

2. New Industry Creation Hatchery Center, Tohoku University

3. C&A Corporation

14:45

(30-B2-S28-04) Deep Red Luminescence based on 3d Transition Metals in Lithium Aluminates

MATSUSHIMA, Yuta^{*1}; TAMURA, Hideto¹; KOBAYASHI, Riho¹; KAMADA, Yuki¹; ICHIKAWA, Joichiro¹; SATO, Chika¹; KOMINAMI,

Hiroko²; HARA, Kazuhiko³; KAKIHANA, Masato⁴

1. Department of Chemistry and Chemical Engineering, Yamagata University

2. Department of Electronics and Materials Science, Shizuoka University

3. Research Institute of Electronics, Shizuoka University

4. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

15:00

(30-B2-S28-05) Stabilization of light emitting silver-clusters and efficient energy transfer to rare-earth ions in glasses and faujasite zeolites

YE, Song^{*1}; WANG, Deping¹; LIN, Jian¹; YAO, Aihua¹

1. School of Materials Science and Engineering, Tongji University, Shanghai 201804, China

15:15

(30-B2-S28-06) Luminescence of Mn⁴⁺ phosphor with octahedral Si site

ITO, Sayaka^{*1}; UEMATSU, Kazuyoshi²; YAMANASHI, Ryota³; OKURA, Hiroshi³; DERTINGER, Stephan⁴; TODA, Kenji¹; SATO, Mineo¹

1. Graduate School of science and Technology, Niigata University, Japan

2. Department of Chemistry and Chemical Engineering, Niigata University, Japan

3. Merck Ltd. Japan

4. Merck KGaA

(15:30) Break

Session Chairs: TODA, Kenji, Niigata University

15:45

(30-B2-S28-07) Controlling Eu²⁺/Eu³⁺ Luminescence of the Na_{2.74}Sc₂(PO₄)_{3-x}:0.13Eu Phosphors via Phosphate Group (Invited)

HUANG, Yu Shu¹; SU, Chaochin¹; LIN, Chun Che^{*1}

1. Institute of Organic and Polymeric Materials, National Taipei University of Technology

“*” asterisk Indicates an oral presenter

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Session Chairs: MATSUSHIMA, Yuta, Yamagata University

16:15

(30-B2-S28-08) Tunable Photoluminescence, Afterglow and Thermoluminescence Properties of Eu²⁺ and Eu³⁺ Co-activated Ba_{1-x}(Zr,Ti)Si₃O₉:xEu

ZHOU, Zhenzhen^{*1,3}; XU, Xiaoke^{1,3}; ZHANG, Ying^{1,3}; WANG, Caiyan^{1,2,3}; DENG, Mingxue^{1,2,3}; ZHANG, Xiang^{1,2,3}; LIU, Qian^{1,3}

1. State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China
2. Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China
3. Shanghai Institute of Materials Genome, Shanghai 200444, China

16:30

(30-B2-S28-09) Phase-Pure Synthesis, Structural and Photoluminescence Properties of New Yellow-Emitting Eu²⁺-Doped Sr-containing Phosphor Powders, Sr_{1+x}Si_{28-2x}Al_{2+2x}N₄₀ (x = 2)

ESTILI, Mehdi^{*1}; TAKAHASHI, Kohsei¹; XIE, Rong-Jun²; SUZUKI, Tooru¹; HIROSAKI, Naoto¹

1. National Institute for Materials Science (NIMS), Japan
2. Xiamen University, China

16:45

(30-B2-S28-10) Temperature dependence of the emission spectra shape in Zn deficient ZnGa₂O₄:Mn film

DAZAI, Takuro^{*1}; YASUI, Shintaro¹; TANIYAMA, Tomoyasu^{1,2}; ITOH, Mitsuru¹

1. Materials and Structures Laboratory, Tokyo Institute of Technology
2. Department of Physics, Nagoya University

Session Chairs: TODA, Kenji, Niigata University

17:00

(30-B2-S28-11) Recent Advancement in Ultra long Persistent Phosphors with Long Wavelength (Invited)

WANG, YUHUA^{*1}; GUO, HAIJIE¹; FENG, PENG¹; LIU, DONGWEI¹; YE, QIANGFEI¹

1. National & Local Joint Engineering Laboratory for Optical Conversion Materials and Technology, Lanzhou University

17:30

(30-B2-S28-12) Alcohol-assistant Growth of Narrow-Band Red-Emitting Fluoride phosphors for White-Light-Emitting Diodes (Invited)

ZHOU, Wenli^{*1,2}; WANG, Ren-Hong^{1,3}; LIU, Ru-Shi¹

1. National Taiwan University
2. Hunan Normal University
3. National Taipei University of Technology

■■October 30 (Wed) (Room C1) ■■

29:Liquid-mediated Structuring of Ceramics and Organic-inorganic Hybrid Materials

Functional Materials

Session Chairs: NAKANISHI, Kazuki, Nagoya University

8:30

(30-C1-S29-06) Solution-based Green Processing of Hybrid Perovskites for Solar Cell Applications (Invited)

MATHUR, Sanjay^{*2}; FISCHER, Thomas¹; UENULUE, Feray¹; KULKARNI, Ashish²; MIYASAKA, Tsutomu²

1. University of Cologne, Germany
2. Toin University of Yokohama, Japan

9:00

(30-C1-S29-07) Hot-Electron Effect and the Applications of Superblack Materials (Invited)

DU, Ai^{*1,2}; WANG, Hongqiang^{1,2}; SUN, Wei^{1,2}; XIE, Peitao³; JI, Xiuji^{1,2}; HE, Xinru^{1,2}; WU, Guangming^{1,2}; ZHOU, Bin^{1,2}; FAN, Runhua⁴; SHEN, Jun^{1,2}

1. Shanghai Key Laboratory of Special Artificial Microstructure Materials and Technology, Tongji University, Shanghai, 200092, P. R. China
2. School of Physics Science and Engineering, Tongji University, Shanghai, 200092, P. R. China
3. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University, Jinan 250061, China
4. College of Ocean Science and Engineering, Shanghai Maritime University, Shanghai 201306, China

9:30

(30-C1-S29-08) Polymer precursors to ion conducting glasses (i.e. LiPON) for thin films, adhesives, binders, and sintering aids. Towards all solid-state Li-S batteries. (Invited)

LAINE, Richard M.^{*1}; TEMECHE, Eleni¹; ZHANG, Xinyu¹

1. University of Michigan

(10:00) Break

Porous Materials

Session Chairs: INNOCENZI, Plinio, University of Sassari

10:15

(30-C1-S29-09) Macroporous Monoliths with Modified Compositions and Structures (Invited)

NAKANISHI, Kazuki^{*1,2}; KANAMORI, Kazuyoshi¹; LU, Xuanming¹; HARA, Yosuke¹

1. Department of Chemistry, Graduate School of Science, Kyoto University
2. Institute of Materials and Systems for Sustainability, Nagoya University

10:45

(30-C1-S29-10) Synthetic strategies toward ordered macroporous metal-organic frameworks monoliths

HARA, Yosuke^{*1}; KANAMORI, Kazuyoshi¹; NAKANISHI, Kazuki²

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Kyoto University
2. Nagoya University

11:00

(30-C1-S29-11) Directing pores in framework compounds via heteroepitaxial approach (Invited)

TAKAHASHI, Masahide*¹

1. Osaka Prefecture University

11:30

(30-C1-S29-12) Oriented Covalent-organic framework (COF) films grown on metal-hydroxides

IKIGAKI, Ken*¹; OKADA, Kenji¹; TOKUDOME, Yasuaki¹; FALCARO, Paolo²; TARZIA, Andrew³; COLEMAN, Christopher³; DOONAN, Christian³; TAKAHASHI, Masahide¹

1. Department of Materials Science, Osaka Prefecture University, Osaka 599-8531, Japan
2. Institute of Physical and Theoretical Chemistry, Graz University of Technology, Graz 8010, Austria
3. Department of Chemistry, The University of Adelaide, South Australia 5005, Australia

11:45

(30-C1-S29-13) Preparation of hierarchically porous low valence transition metal (Mn, Co, Cu) based monoliths with 3D interconnected structures

LU, Xuanming*¹; KANAMORI, Kazuyoshi¹; NAKANISHI, Kazuki²

1. Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto, Kyoto 606-8502, Japan
2. Institute of Materials and Systems for Sustainability, Nagoya Univsertiy, Nagoya, Aichi 464-8601, Japan

Session Chairs: TAKAHASHI, Masahide, Osaka Prefecture University

13:30

(30-C1-S29-14) 2D-materials and dots embedded in hybrid matrices for sensing and optical applications (Invited)

INNOCENZI, Plinio*¹

1. LMNT- Department of Chemistry and Pharmacy, University of Sassari, 07100 Sassari, Italy

14:00

(30-C1-S29-15) Soft Chemical Approaches for Preparation of Silica-Based Porous Materials (Invited)

KURODA, Kazuyuki*¹

1. Waseda University

14:30

(30-C1-S29-16) Preparation of amino-functionalized flexible polysiloxane porous materials from organoalkoxysilane having urea bond and their characterizations

SHIGETAKE, Rikuo*¹; NAKANISHI, Kazuki²; KANAMORI, Kazuyoshi¹

1. Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto 606-8502, Japan
2. Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya 464-8601, Japan

14:45

(30-C1-S29-17) Preparation of Mesoporous Crystalline Silica with Large Crystallite Domains

MATSUNO, Takamichi*¹; NAKAYA, Takamichi¹; KURODA, Yoshiyuki²; WADA, Hiroaki¹; SHIMOJIMA, Atsushi^{1,3}; KURODA, Kazuyuki^{1,3}

1. Department of Applied Chemistry, Waseda University, Tokyo 169-8555, Japan
2. Green Hydrogen Research Center, Graduate School of Engineering, Yokohama National University, Yokohama 240-8501, Japan
3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo 160-0051, Japan

15:00

(30-C1-S29-18) Crystallization behavior of zeolite beta from dried gel precursor prepared from metal-organic compounds with organic structure-directing agents.

HONDA, Sawao*¹; MATSUDA, Yuma¹; DAIKO, Yusuke¹; IWAMOTO, Yuji¹

1. Nagoya Institute of Technology

(15:15) Break

Silxoane-based Materials

Session Chairs: LAINE, Richard M., University of Michigan

15:30

(30-C1-S29-19) Preparation, Structural Analyses, and Properties of Multi-Chain Polysiloxanes (Invited)

KANEKO, Yoshiro*¹; NOBAYASHI, Misaki¹

1. Kagoshima University

16:00

(30-C1-S29-20) Revisiting Organic-Inorganic Hybrid Aerogels toward Advanced Transparency and Mechanical Flexibility

KANAMORI, Kazuyoshi*¹; UEOKA, Ryota¹; NAKANISHI, Kazuki²

1. Department of Chemistry, Graduate School of Science, Kyoto University
2. Institute of Materials and Systems for Sustainability, Nagoya University

16:15

(30-C1-S29-21) Photomechanical crystals consisting of diarylethenes modified with cage-type silsesquioxanes

KAJIYA, Ryota*¹; SAKAKIBARA, Seiya²; IKAWA, Hanako¹; HIGASHIGUCHI, Kenji²; MATSUDA, Kenji²; WADA, Hiroaki¹; KURODA, Kazuyuki^{1,3}; SHIMOJIMA, Atsushi^{1,3}

1. Department of Applied Chemistry, Waseda University, Tokyo 169-8555, Japan
2. Department of Synthetic Chemistry and Biological Chemistry, Kyoto University, Kyoto 615-8510, Japan
3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo 169-0051, Japan

Novel Synthesis

Session Chairs: MATHUR, Sanjay, Toin University of Yokohama

“*” asterisk Indicates an oral presenter

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16:30

(30-C1-S29-22) Tailoring porosity in freeze-casted ceria based materials (Invited)KUMAR, Ravi^{*1}; SHARMA MVSS, Raghunath¹; PAKKOLLU, Kousik¹; GHOSH, Ritam²

1. Indian Institute of Technology - Madras (IIT Madras)

2. VNIT Nagpur

17:00

(30-C1-S29-23) Preparation of Porous Indium Tin Oxides with Large Crystallite Sizes by Using Silica Colloidal Crystals as a TemplateSAITO, Yumi^{*1}; MATSUNO, Takamichi¹; SHIMOJIMA, Atsushi^{1,2}; WADA, Hiroaki¹; KURODA, Kazuyuki^{1,2}

1. Department of Applied Chemistry, Waseda University, Tokyo 169-8555, Japan

2. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo 160-0051, Japan

17:15

(30-C1-S29-24) Chemie Douce Approach to the Synthesis of Template-Free Porous Ceramics (Invited)RIEDEL, Ralf^{*1}

1. TU Darmstadt

17:45

(30-C1-S29-25) Robust Structurally Colored Coating Films Prepared via the Electrophoretic Deposition MethodKATAGIRI, Kiyofumi^{*1}; UESUGI, Ryo¹; UEMURA, Kensuke¹; INUMARU, Kei¹; UCHIKOSHI, Tetsuo²; TAKEOKA, Yukikazu³

1. Department of Applied Chemistry, Hiroshima University

2. National Institute for Materials Science

3. Department of Molecular and Macromolecular Chemistry, Nagoya University

■ ■ October 30 (Wed) (Room C2) ■ ■**30:Advanced Materials and Processing for Power Electronics Application****Highly heat-resistant resistor**

Session Chairs: TSUCHIYA, T., AIST

15:15

(30-C2-S30-01) Conduction mechanisms and degradation behavior in RuO₂-based heat-resistant resistors (Invited)MIYAYAMA, Masaru^{*1}; NAKAMURA, Yoshinobu¹; KITANAKA, Yuuki¹

1. The University of Tokyo

15:45

(30-C2-S30-02) Optical Observation of the Thermal Degradation of a RuO₂ Resistor Designed for Power Module ApplicationNAKAMURA, Yoshinobu^{*1}; KITANAKA, Yuuki¹; ITO, Takeshi²; NAGATA, Hisakazu²; MASTUI, Takahiro²; NAKAJIMA, Tomohiko³;TSUCHIYA, Tetsuo³; MIYAYAMA, Masaru¹

1. The University of Tokyo

2. KOA

3. AIST

Session Chairs: NAKAMURA, Y., The University of Tokyo

16:00

(30-C2-S30-03) A Strategy for Making High Temperature Tolerant Ceramic Chip Resistors Based on Durability Control of Multi-layered Metal ElectrodesNAKAJIMA, Tomohiko^{*1}; NAGATA, Hisakazu²; ITO, Takeshi²; NAKAMURA, Yoshinobu³; MATSUI, Takahiro²; KITANAKA, Yuki³;MIYAYAMA, Masaru³; TSUCHIYA, Tetsuo¹

1. National Institute of Advanced Industrial Science and Technology

2. KOA Corporation

3. The University of Tokyo

16:15

(30-C2-S30-04) Development of flexible RuO₂ Thin Films for SiC power module by Photo Assisted Metal Organic Deposition (ELAMOD)TSUCHIYA, Tetsuo^{*1}; UZAWA, Yoko¹; NAKAJIMA, Tomohiko¹; YAMAGUCHI, Iwao¹; NOMOTO, Juichi¹; CHRISSEY, Douglas. B.²

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

2. Department of Physics and Engineering Physics, Tulane University

(16:30) Break**Power Electronics Application**

Session Chairs: NAKAMURA, Y., The University of Tokyo

16:45

(30-C2-S30-05) Development of SiC Power Module for Next Generation Power Electronics (Invited)YAMAGUCHI, Hiroshi^{*1}

1. National Institute of Advanced Industrial Science and Technology

17:15

(30-C2-S30-06) Corundum-structured oxides for power device applications fabricated by Mist CVD technique (Invited)KANEKO, Kentaro^{*1,2,3}; SHINOHE, Takashi⁴; FUJITA, Shizuo^{2,3}

“*” asterisk Indicates an oral presenter

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1. Engineering Education Research Center, Kyoto University
2. Department of Electronic Science and Engineering, Kyoto University
3. Photonics and Electronics Science and Engineering Center, Kyoto University
4. FLOSFA Inc.

Session Chairs: TSUCHIYA, T., AIST

17:45

(30-C2-S30-07) Direct Observation of Interstitial-divacancy Complexes in beta-Ga₂O₃ Using Atomic Scale Scanning Transmission Electron Microscopy

JOHNSON, Jared¹; VARLEY, Joel²; JACKSON, Christine³; AREHART, Aaron³; RINGEL, Steven³; VAN DE WALLE, Chris⁴; HWANG, Jinwoo^{*1}

1. Department of Materials Science and Engineering, The Ohio State University, Columbus, Ohio, 43212, USA
2. Lawrence Livermore National Laboratory, Livermore, California 94550, USA
3. Department of Electrical and Computer Engineering, The Ohio State University, Columbus, Ohio 43210, USA
4. Materials Department, University of California, Santa Barbara, California 93106, USA

■ ■ October 30 (Wed) (Room B1A) ■ ■

31: Porous Ceramics: From Innovative Processing to Advanced Applications and Functionalities

High SSA ceramics II

Session Chairs: LU, Yanxia Ann, Corning, Inc

8:30

(30-B1A-S31-26) Water adsorption on micro- and mesoporous materials (Invited)

ENDO, Akira^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST)

9:00

(30-B1A-S31-27) Ultrafast Synthesis of Zeolites: Breakthrough, Progress and Perspective (Invited)

WAKIHARA, Toru^{*1}

1. The University of Tokyo

9:30

(30-B1A-S31-28) Metal Oxide Nanowires and Nanotubes for Environmental Applications (Invited)

LOCKMAN, Zainovia^{*1}; ALIAS, Nurhaswani²; ROSLI, Siti Azlina³; RAHMAT, Subagja Toto⁴; TAN, Wai Kian⁵; KAWAMURA, Go⁶; NBELAYIM, Pascal⁷; MATSUDA, Atsunori⁸

1. Universiti Sains Malaysia
2. Universiti Sains Malaysia
3. Universiti Sains Malaysia
4. Universiti Sains Malaysia
5. Toyohashy University of Technology
6. Toyohashy University of Technology
7. Toyohashy University of Technology
8. Toyohashy University of Technology

10:00

(30-B1A-S31-29) Improvement of Hydrothermal Stability of Zeolites

IYOKI, Kenta^{*1}; KIKUMASA, Kakeru¹; ONISHI, Takako¹; YONEZAWA, Yasuo¹; CHOKKALINGAM, Anand¹; OKUBO, Tatsuya¹; WAKIHARA, Toru¹

1. The University of Tokyo

10:15

(30-B1A-S31-30) Particle Stabilized Foams and Emulsions as Pastes for 3D Printing Multiscale Porous Ceramics

FRANKS, George^{*1}; CHAN, Shareen¹; SESSO, Mitchell^{1,2}

1. University of Melbourne
2. LaTrobe University

■ ■ October 30 (Wed) (Room B2) ■ ■

32: Crystalline Materials for Electrical, Optical and Medical Applications

Scintillator II

Session Chairs: ZHURAVLEVA, Mariya, University of Tennessee

8:30

(30-B2-S32-26) Characterization of Sm-doped alkaline-earth halide single crystalline scintillators

NAKAUCHI, Daisuke^{*1}; OKADA, Go²; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology
2. Kanazawa Institute of Technology

8:45

(30-B2-S32-27) Inverse proportional relationship of scintillators and dosimeter materials based on energy conservation law (Invited)

YANAGIDA, Takayuki^{*1}; KAWAGUCHI, Noriaki¹

1. Nara Institute of Science and Technology

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

9:15

(30-B2-S32-28) Development of Non-hygroscopic Inorganic Scintillators for Neutron Detection (Invited)KAWAGUCHI, Noriaki^{*1}; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

9:45

(30-B2-S32-29) Analysis of Energy Transfer and Relaxation in Fluoride Scintillators Using Transient Absorption Spectroscopy (Invited)KOSHIMIZU, Masanori^{*1}; MUROYA, Yusa²; YAMASHITA, Shinichi³; YAMAMOTO, Hiroki⁴; YANAGIDA, Takayuki⁵; FUJIMOTO, Yutaka¹; ASAI, Keisuke¹

1. Tohoku University

2. Osaka University

3. The University of Tokyo

4. National Institutes for Quantum and Radiological Science and Technology

5. Nara Institute of Science and Technology

(10:15) Break

Session Chairs: TAO, Xutang, Shandong University

10:30

(30-B2-S32-30) Optically stimulated luminescence properties of Tl-doped RbBr transparent ceramics with different Tl concentrationsKIMURA, Hiromi^{*1}; KATO, Takumi¹; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

10:45

(30-B2-S32-31) Radiation induced luminescence in Sn-doped BaO-Gd₂O₃-Al₂O₃-SiO₂ glassesSHIRATORI, Daiki^{*1}; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

11:00

(30-B2-S32-32) Evaluation of optical and scintillation properties of Ti-doped CaHfO₃ crystal synthesized by the floating zone methodFUKUSHIMA, Hiroyuki^{*1}; NAKAUCHI, Daisuke¹; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

11:15

(30-B2-S32-33) Scintillation properties of Nd-doped Gd(Ga_xAl_{1-x})O₃ crystals synthesized by the Floating Zone methodAKATSUKA, Masaki^{*1}; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

11:30

(30-B2-S32-34) The research and application progress of GGAG:Ce ceramic scintillatorsLUO, Zhaohua^{*1}; JIANG, Haochuan¹

1. Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences

11:45

(30-B2-S32-35) Non-doped CaF₂ ceramics as a new radio-photoluminescence (RPL) materialKATO, Takumi^{*1}; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

■■October 30 (Wed) (Room B1B) ■■**33:Multifunctional Coatings for Structural, Energy and Environmental Applications
JFCA/ADCAL and Cross-sectoral Research cooperation of Ceramic Coating support
Symposia****Novel Coating Processes in Engineering Ceramics**

Session Chairs: SHINODA, Kentaro, AIST

8:30

(30-B1B-S33-32) Thermal Spray Processes to Achieve Nano-Structured Coatings for Extreme Environments (Invited)BERNDT, Christopher C.^{*1}; ANG, Andrew¹

1. Mechanical and Production Design Engineering, Surface Engineering for Advanced Materials, "SEAM", Swinburne University of Technology

9:00

(30-B1B-S33-33) Evaluation for microstructure and material properties of Zirconia coatings by AD method (Invited)TAKIZAWA, Ryoto^{*1}; ASHIZAWA, Hiroaki¹; KIYOHARA, Masakatsu¹

1. TOTO LTD.

9:30

(30-B1B-S33-34) Coatings of zirconium carbide and its composites by laser chemical vapor deposition using metal organic precursorsKATSUI, Hirokazu^{*1}; HARADA, Katsuyoshi²; HOTTA, Mikinori¹

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. National Institute of Advanced Industrial Science and Technology (AIST)
2. Institute of Materials and Systems for Sustainability (IMaSS), Nagoya University

9:45

(30-B1B-S33-35) Functional Coatings using SiO₂ Nanoparticle

SUGIYAMA, Naota^{*1}; IHARA, Taiki¹

1. 3M Japan Limited

10:00

(30-B1B-S33-36) Plasma Spraying of Fine Ceramic Particles

SUZUKI, Masato^{*1}; SHAHIEN, Mohammed¹

1. National Institute of Advanced Industrial Science and Technology, AIST

(10:15) Break

Smart and Functional Coatings

Session Chairs: SUZUKI, Masato, AIST

10:45

(30-B1B-S33-37) Energy-efficient Strategy of VO₂-based Smart Coatings (Invited)

CAO, Xun^{*1}; LUO, Hongjie²; SUN, Guangyao¹; JIN, Ping^{1,3}

1. State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Dingxi 1295, Changning, Shanghai, 200050, China.
2. School of Materials Science and Engineering, Shanghai University, 99 Shangda Road, Baoshan, Shanghai 200444, China
3. National Institute of Advanced Industrial Science and Technology (AIST), Moriyama, Nagoya 463-8560, Japan

11:15

(30-B1B-S33-38) Reactive arc-plasma coating to achieve on demand oxide films exhibiting tailored functions for wide applications (Invited)

YAMAMOTO, Tetsuya¹; FURUBAYASHI, Yutaka^{*1}

1. Kochi University of Technology

11:45

(30-B1B-S33-39) Mo₂N-Graphite Composite Supercapacitor Electrodes Deposited by Solution Precursor Plasma Spray (Invited)

CAOQUETTE-FRITSCH, Hugo^{1,2}; COYLE, Thomas William^{*1,2}

1. Centre for Advanced Coating Technologies, University of Toronto
2. Department of Materials Science and Engineering, University of Toronto

35:Virtual Materials Design and Ceramic Genome

Novel materials and structures

Session Chairs: CHING, Wai-Yim, University of Missouri, USA

13:30

(30-B1B-S35-01) From Computing Grain Boundary Diagrams to Understanding Interfacial Superstructures (Keynote)

LUO, Jian^{*1}; HU, Chongze¹; YU, Zhiyang²

1. University of California, San Diego
2. Fuzhou University

14:00

(30-B1B-S35-02) Density Functional Theory Calculations of Oxygen Vacancy Formation in Metal Oxides

HINUMA, Yoyo^{*1,2}; TOYAO, Takashi^{3,4}; KAMACHI, Takashi^{4,5}; MAENO, Zen³; TAKAKUSAGI, Satoru³; FURUKAWA, Shinya^{3,4}; TAKIGAWA, Ichigaku^{6,7}; SHIMIZU, Ken-ichi^{3,4}

1. Center for Frontier Science, Chiba University, Chiba 263-8522, Japan
2. Center for Materials Research by Information Integration, Research and Services Division of Materials Data and Integrated System, National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan
3. Institute for Catalysis, Hokkaido University, Sapporo, Hokkaido 001-0021, Japan
4. Elements Strategy Initiative for Catalysts and Batteries, Kyoto University, Kyoto 615-8520, Japan
5. Department of Life, Environment and Materials Science, Fukuoka Institute of Technology, Fukuoka 811-0295, Japan
6. RIKEN Center for Advanced Intelligence Project
7. Institute for Chemical Reaction Design and Discovery, Hokkaido University

14:15

(30-B1B-S35-03) Novel nitride and oxide thin-film materials for thermoelectrics studied by experiments and theory (Invited)

EKLUND, Per¹

1. Energy Materials Unit, Thin Film Physics Division, Dept. of Physics, Chemistry and Biology (IFM), Linköping University, SE-58183 Linköping, Sweden

14:45

(30-B1B-S35-04) Structural vacancies in CALPHAD modelling of zirconium carbide

DAVEY, Theresa^{*1}; CHEN, Ying¹

1. School of Engineering, Tohoku University

(15:00) Break

Session Chairs: EKLUND, Per, Linköping University, Sweden

15:15

(30-B1B-S35-05) Origin of the existence of inter-granular glassy films in β -Si₃N₄ (Keynote)

CHING, Wai-Yim^{*1}

1. University of Missouri-Kansas City

"*" asterisk Indicates an oral presenter

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15:45

(30-B1B-S35-06) Discovery of Novel Materials through Stability Prediction with Machine Learning (Invited)KOYAMA, Yukinori^{*1}; SEKO, Atsuto^{1,2}; TANAKA, Isao^{1,2}; FUNAHASHI, Shiro³; HIROSAKI, Naoto³

1. Research and Services Division of Materials Data and Integrated System, National Institute for Materials Science
2. Department of Materials Science and Engineering, Kyoto University
3. Research Center for Functional Materials, National Institute for Materials Science

16:15

(30-B1B-S35-07) Ternary-layered borides MAB phases: a class of damage-tolerant ceramics (Invited)BAI, Yuelei^{*1}; QI, Xinxin¹; LI, Ning¹; SUN, Dongdong¹; HE, Xiaodong¹; ZHENG, Yongting¹; WANG, Rongguo¹

1. National Key Laboratory of Science and Technology on Advanced Composites in Special Environments, Harbin Institute of Technology, Harbin 150080, P. R. China

16:45

(30-B1B-S35-08) Synthesis and characteristics of new germanate system oxide ion conductors found by materials informaticsTAJIMA, Shin¹; OHBA, Nobuko¹; SUZUMURA, Akitoshi¹; MASUOKA, Yumi¹; KAJITA, Seiji¹; ASAHI, Ryoji¹

1. Toyota Central R&D Labs., Inc.

17:00

(30-B1B-S35-09) Application of high-throughput structure screening in the design of new polar metals (Invited)FANG, Yuewen^{1,2}; CHEN, Hanghui^{*2,3}

1. Kyoto University
2. New York University Shanghai
3. New York University

■■October 30 (Wed) (Room A3) ■■

36:Second Young Professional Forum (YPF) in PACRIM**On the Design and Development of Novel Ferroelectrics and Perovskites**

Session Chairs: MATSUNAGA, Chika, AIST

8:30

(30-A3-S36-17) Microstructure and Properties of K_{Sr2}Nb₅O₁₅ Lead-free Ferroelectric Ceramics (Invited)CHEN, Qian¹; CAO, Shuyao¹; WANG, Min¹; LIU, Liangliang¹; GAO, Feng^{*1}

1. State Key Laboratory of Solidification Processing, School of Materials Science and Engineering, Northwestern Polytechnical University

9:00

(30-A3-S36-18) Hybrid Organic-Inorganic Perovskite Optoelectronic Conversion Devices (Invited)LI, Liang^{*1}

1. Soochow University, P. R. China

9:30

(30-A3-S36-19) New positive τ f compensators for typical low-permittivity microwave dielectric ceramics and their applications (Invited)LEI, Wen^{*1,2}; DU, Kang^{1,2}; SONG, Xiao-Qiang^{1,2}; ZOU, Zheng-Yu^{1,2}; ZHANG, Hai-Bo³; LU, Wen-Zhong^{1,2}

1. School of Optical and Electronic Information, Huazhong University of Science and Technology, Wuhan 430074, P. R. China
2. Key Lab of Functional Materials for Electronic Information (B), Ministry of Education, Wuhan 430074, P. R. China
3. School of Optical and Electronic Information, Huazhong University of Science and Technology, Wuhan 430074, P. R. China

10:00

(30-A3-S36-20) Colossal negative thermal expansion in Bi- and Pb-3d transition metal perovskites (Invited)SAKAI, Yuki^{*1,2}; AZUMA, Masaki^{1,2}

1. Kanagawa Institute of Industrial Science and Technology
2. Laboratory for Materials and Structures, Tokyo Institute of Technology

■■October 31 (Thu) (Room B1A) ■■

03:Advanced Structural Ceramics for Extreme Environments**Fiber reinforced CMCs**

Session Chairs: COSTA, Gustavo, NASA Glenn Research Center

9:00

(31-B1A-S03-21) Mechanical Performance of TiC-Reinforced Mo-Si-B-Based Ultrahigh Temperature Materials (Keynote)YOSHIMI, Kyosuke^{*1}

1. Tohoku University, Department of Materials Science, Sendai 980-8579, Japan

9:30

(31-B1A-S03-22) Short fiber reinforced CMCs: A cost-efficient approach for net-shaped components (Keynote)KRENKEL, Walter^{*1}; PUCHAS, Georg¹; WINKELBAUER, Jonas¹; LIENSDORF, Tom¹

1. University of Bayreuth, Department of Ceramic Materials Engineering, Universitätsstraße 30, 95447 Bayreuth, Germany

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

10:00

(31-B1A-S03-23) New generation ceramic brake discs based on circular knitted fabricsKLOPSCH, Linda^{*1}; CEPLI, Daniel¹; SHI, Yuan¹; JEMMALI, Raouf¹; LANGHOF, Nico²; BALZER, Thorsten²

1. Department of Ceramic Composites and Structures; German Aerospace Center

2. Ceramic Materials Engineering; University of Bayreuth

(10:15) Break**Polymer derived ceramics**

Session Chairs: KRENKEL, Walter, University of Bayreuth

10:30

(31-B1A-S03-24) Orientation grain growth and texture formation in h-BN matrix composite ceramicsDUAN, Xiaoming^{*1,2,3}; YANG, Zhihua^{1,2,3}; JIA, Dechang^{1,2,3}; ZHOU, Yu^{1,2}

1. Key Laboratory of Advanced Structural-Functional Integration Materials & Green Manufacturing Technology, Harbin Institute of Technology, Harbin, 150001, China

2. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology, Harbin, 150001, China

3. State Key Laboratory of Advanced Welding and Joining, Harbin Institute of Technology, Harbin Institute of Technology, Harbin, 150001, China

10:45

(31-B1A-S03-25) The effect of glycerol on the prepreg-based manufacturing of oxide fiber composites (OFC)PUCHAS, Georg^{*1}; KRENKEL, Walter¹

1. University of Bayreuth, Department of Ceramic Materials Engineering, Universitätsstraße 30, 95447 Bayreuth, Germany

11:00

(31-B1A-S03-26) Polymer-Derived Ceramic Nanocomposites for Applications at High Temperatures and in Harsh Environments (Invited)IONESCU, Emanuel^{*1}

1. TU Darmstadt, Institute for Materials Science

11:30

(31-B1A-S03-27) Mechanical and ablation properties of hot-pressed Si-B-C-N-Zr monolithsZHU, Qishuai^{*1,2}; YANG, Zhihua^{1,2,3}; JIA, Dechang^{1,2,3}; ZHOU, Yu^{1,2}

1. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology

2. Key Laboratory of Advanced Structural-Functional Integration Materials & Green Manufacturing Technology, Harbin Institute of Technology

3. State Key Laboratory of Advanced Welding and Joining, Harbin Institute of Technology

Oxide, carbide, boride, and nitride based ceramics and composites

Session Chairs: IONESCU, Emanuel, TU Darmstadt

13:30

(31-B1A-S03-29) Thermochemistry of Protective Coatings and Molten Silicate Debris (Invited)COSTA, Gustavo^{*1}; HARDER, Bryan¹; KOWALSKI, Benjamin¹; BANSAL, Narottam¹; STOKES, James^{1,2}; USHAKOV, Sergey³;NAVROTSKY, Alexandra³

1. NASA Glenn Research Center, 21000 Brookpark Road, Cleveland, OH, 44135, USA

2. Department of Materials Science and Engineering, The Pennsylvania State University, University Park, PA 16801, USA

3. Peter A. Rock Thermochemistry Laboratory and NEAT ORU, University of California Davis, Davis, CA 95616, USA

14:00

(31-B1A-S03-30) The Thermal Stability of the Mechanically Alloyed 2SiB3CN CeramicZHANG, Pengfei^{*1}; HE, Huanju¹; YU, Renhong¹; XU, Panpan¹; JIA, Dechang²; YANG, Zhihua²

1. Henan University of Science and Technology

2. Harbin Institute of Technology

14:15

(31-B1A-S03-31) Phase and microstructure evolution in the SiC materials with sintering additives of Yb₂O₃ and Al₂O₃ during high-temperature oxidation in airHUANG, Bo^{*1}; KAWASAKI, Kanjiro¹; SHINODA, Fujio¹; HINOKI, Tatsuya¹

1. Institute of Advanced Energy, Kyoto University, Uji 611-0011, Japan

14:30

(31-B1A-S03-32) Surface modification of B₄C - SiC composite ceramics and the effects on sliding propertiesKITA, Hideki^{*1}; ZHANG, Wei¹; YAMASHITA, Seiji¹; NORIMATSU, Wataru¹; KUMAZAWA, Takeshi²; OZEKI, Fumihito²; HYUGA, Hideki³

1. Nagoya University

2. Mino Ceramic CO., LTD

3. Advanced Industrial Science and Technology

14:45

(31-B1A-S03-33) Y₃Al₅O₁₂- α -Al₂O₃ composites with eutectic composition and fine-grained microstructurePRNOVA, Anna^{1,2}; VALUCHOVA, Jana^{1,2}; PARCHOVANSKY, Milan²; WISNIEWSKI, Wolfgang¹; SVANCAREK, Peter^{1,2}; KLEMENT, Robert²; HRIC, Lubomir³; GALUSEK, Dusan^{*1,2}

1. Joint Glass Centre of the IIC SAS, TnUAD and FChPT STU, Trencin, Slovakia

2. Centre for Functional and Surface Functionalised Glass, Alexander Dubcek University of Trencin, Trencin, Slovakia

3. RHP-Technology GmbH, Forschungs-und Technologiezentrum, 2444 Seibersdorf, Austria

15:00

(31-B1A-S03-34) A two-steps self-healing process and mechanical properties of Y₂Ti₂O₇-Y₂TiO₅/TiC systemOKAWA, Ayahisa^{*1}; NGUYEN, Thanh Son²; WIFF, Juan Paulo³; IWASAWA, Hirokazu¹; NAKAYAMA, Tadachika¹; DUNG, Do Thi Mai¹;SUEMATSU, Hisayuki¹; SUZUKI, Tsuneo¹; GOTO, Takashi³; NIIHARA, Koichi¹

1. Extreme Energy-Density Research Institute, Nagaoka University of Technology

“*” asterisk Indicates an oral presenter

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2. Department of Creative Engineering, Kushiro National College of Technology
3. Department of Science of Technology Innovation, Nagaoka University of Technology

15:15

(31-B1A-S03-35) Enhancing toughness and strength of SiC ceramics with reduced graphene oxide by HP sintering

HUANG, Yihua^{*1}

1. Shanghai Institute of Ceramics, CAS

15:30

(31-B1A-S03-36) Synthesis of conductive nano-sized Magnéli-phase Ti₄O₇ with a core@shell structure

TAKIMOTO, Daisuke^{*1}; TODA, Yosuke²; TOMINAKA, Satoshi³; MOCHIZUKI, Dai²; SUGIMOTO, Wataru^{1,2}

1. Research Initiative for Supra-Materials (RISM), Shinshu University
2. Faculty of Textile Science and Technology, Shinshu University
3. International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS)

■■October 31 (Thu) (Room Theater) ■■

06:Environmental Functional Materials

Photocatalyst, energy

Session Chairs: IRIE, Hiroshi, University of Yamanashi

8:30

(31-Theater-S06-12) Anaerobic alcohol conversion to carbonyl compounds over doped SrTiO₃ under visible light

ZHAO, Guixia^{*1}; MUHLER, Martin¹

1. Laboratory of Industrial Chemistry, Faculty of Chemistry and Biochemistry, Ruhr-Universität Bochum

8:45

(31-Theater-S06-13) Synthesis of (B/A)-TiO₂ polymorphic structure and their heterostructures with carbon dots for enhanced photocatalytic activities

KHAN, Sovann^{*1}; SUZUKI, Norihiro¹; NAKATA, Kazuya²; TERASHIMA, Chiaki¹; FUJISHIMA, Akira¹; KATSUMATA, Ken-ichi¹

1. Photocatalysis International Research Center, Tokyo University of Science, 2641 Yamazaki, Noda-shi, Chiba 278-8510, JAPAN
2. Graduate School of Bio-Applications and Systems Engineering, Tokyo University of Agriculture and Technology, 2-24-16 Nakacho, Koganei, Tokyo 184-0012, JAPAN

9:00

(31-Theater-S06-14) Mechanism of photocatalytic dry reforming of methane on Rh/SrTiO₃

SHOJI, Shusaku^{*1}; XIAOBO, Peng²; YAMAGUCHI, Akira¹; WATANABE, Ryo³; FUKUHARA, Choji³; CHO, Yohei¹; YAMAMOTO, Tomokazu⁴; MATSUMURA, Syo⁴; ISHII, Satoshi²; FUJITA, Takeshi⁵; ABE, Hideki²; MIYAUCHI, Masahiro¹

1. Tokyo Institute of Technology
2. National Institute for Materials Science
3. Shizuoka University
4. Kyushu University
5. Kochi University of Technology

9:15

(31-Theater-S06-15) Visible-light-driven Dry Reforming of Methane Using Semiconductor Supported Catalyst

CHO, Yohei^{*1}; SHOJI, Shusaku¹; YAMAGUCHI, Akira¹; HOSHINA, Takuya¹; FUJITA, Takeshi²; ABE, Hideki³; MIYAUCHI, Masahiro¹

1. Tokyo Institute of Technology
2. Kochi University of Technology
3. National Institute for Materials Science

Photocatalyst, general

Session Chairs: NISHIMOTO, Shunsuke, Okayama University

9:30

(31-Theater-S06-16) Photocatalytic Reduction of Cr(VI) using Au core-Cu₂O shell particle loaded TiO₂ (Rutile)

YANAGIDA, Sayaka^{*1}; YAJIMA, Takumi¹; TAKEI, Takahiro¹; KUMADA, Nobuhiro¹

1. Center for Crystal Science and Technology, University of Yamanashi

9:45

(31-Theater-S06-17) Post-illumination Activity from Photocatalytic “Memory” Effect for Environmental Applications

LI, Qi^{*1,2}

1. College of Materials Science and Engineering, Southwest Jiaotong University
2. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences

10:00

(31-Theater-S06-18) Preparation and decomposition activity of MnO_x-modified (Ce_{0.73}, Bi_{0.27})O_{2-δ} on 2-naphthol in water in the dark or under visible light

OTSUKA, Nobutomo^{*1}; ISOBE, Toshihiro¹; MATSUSHITA, Sachiko¹; NAKAJIMA, Akira¹

1. Department of Materials Science and Engineering, Tokyo Institute of Technology

(10:15) Break

Session Chairs: NISHIMOTO, Shunsuke, Okayama University

“*” asterisk Indicates an oral presenter

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10:30

(31-Theater-S06-19) The role of the WO_x cluster on the photocatalytic activity of Ti-HApISHISONE, Kana^{*1}; ISOBE, Toshihiro¹; MATSUSHITA, Sachiko¹; WAKAMURA, Masato²; OSHIKIRI, Mitsutake³; NAKAJIMA, Akira¹

1. Department of Materials Science and Engineering, Tokyo Institute of Technology

2. Market Exploration Group, Fujitsu Laboratories Ltd.

3. International Center for Materials Nanoarchitectonics, National Institute of Materials Science

Session Chairs: YANAGIDA, Sayaka, University of Yamanashi

10:45

(31-Theater-S06-20) Synthesis, characterization and photocatalytic activities of visible-light driven Dy-doped ZnO photocatalyst by tartaric acid-assisted combustion methodSA-NGUANPRANG, Surisa^{*1}; PHURUANGRAT, Anukorn¹

1. Department of Materials Science and Technology, Faculty of Science, Prince of Songkla University, Hat Yai, Songkhla 90112, Thailand

11:00

(31-Theater-S06-21) Effect on photocatalytic activity of applying transition metal addition and chemical treatment to titania nanotubesKONDO, Yoshifumi^{*1,2}; GOTO, Tomoyo²; CHO, Sung Hun²; NISHIDA, Hisataka²; SEKINO, Tohru²

1. Graduate School of Engineering, Osaka University

2. The Institute of Scientific and Industrial Research, Osaka University

11:15

(31-Theater-S06-22) Microplastic pollution remediation: photocatalytic degradation of LDPE and HDPE microplastics using N-TiO₂LLORENTE GARCIA, Brenda Estefania^{*1}; HERNANDEZ LOPEZ, Juan Manuel¹; RUIZ VALDES, Juan Jacobo¹; SILIGARDI, Cristina²; CEDILLO GONZALEZ, Erika Iveth¹

1. Universidad Autónoma de Nuevo León

2. Univesità degli Studi di Modena e Reggio Emilia

Invited

Session Chairs: YANAGIDA, Sayaka, University of Yamanashi

11:30

(31-Theater-S06-23) Coprecipitation process of hydroxides preparation for efficient removal of toxic elements from wastewater (Invited)TOKORO, Chiharu^{*1}

1. Waseda University

Catalyst

Session Chairs: MIYAUCHI, Masahiro, Tokyo Institute of Technology

13:30

(31-Theater-S06-24) Bifunctional CoFe₂O₄/CNT nanohybrid electrocatalyst for oxygen reduction and oxygen evolution reactionJEON, Jae Eun^{*1,2}; PARK, Kyoung Ryeol^{1,2}; LEE, Jaewoong²; OH, Nuri¹; BANG, Junghwan²; MHIN, Sungwook²

1. Department of Materials Science and Engineering, Hanyang University, Seoul 04763, Republic of Korea

2. Korea Institute of Industrial Technology, Gaetbeol-ro 156, Yeosu-gu, Incheon 21999, Republic of Korea

13:45

(31-Theater-S06-25) Synthesis of rod-type cobalt-manganese oxide nanostructures as efficient electrocatalysts for oxygen evolution reactionPARK, Kyoung Ryeol^{*1,2}; JEON, Jae Eun^{1,2}; LEE, Jaewoong²; OH, Nuri¹; MHIN, Sungwook²

1. Hanyang University

2. Korea Institute of Industrial Technology

14:00

(31-Theater-S06-26) The effect of Cation Mixing on Activity and Durability toward Oxygen Evolution Reaction in LiNiO₂YAMAGUCHI, Ryusei^{*1}; UCHIYAMA, Tomoki¹; YAMAMOTO, Kentaro¹; MATSUNAGA, Toshiyuki¹; NAKANISHI, Koji^{1,2}; UCHIMOTO, Yoshiharu¹

1. Kyoto University

2. University of Hyogo

14:15

(31-Theater-S06-27) High-Temperature NO Decomposition over Ceramics Catalysts - Alkaline Earth Containing Yttrium Oxide Based Composite Oxide Catalysts -TAKENAKA, Keita^{*1}; HAYASHI, Yuji¹; HANEDA, Masaaki¹

1. Nagoya Institute of Technology

Membrane

Session Chairs: FUJIMURA, Takuya, Shimane University

14:30

(31-Theater-S06-28) Preparation of micro-porous carbon membranes by glucose hydrothermal methodNAKAMURA, Yosuke^{*1}; SANO, Shoya¹; SHIMAMURA, Yuta¹; MATSUSHITA, Sachiko¹; NAKAJIMA, Akira¹; ISOBE, Toshihiro¹

1. Tokyo Institute of Technology

Antibacterial

Session Chairs: FUJIMURA, Takuya, Shimane University

“*” asterisk Indicates an oral presenter

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14:45

(31-Theater-S06-29) Preparation of hydrophobic $\text{La}_2\text{Mo}_2\text{O}_9$ ceramics with antibacterial and antiviral properties

MATSUMOTO, Takumi^{*1}; NAGAI, Takeshi²; SUNADA, Kayano²; ISOBE, Toshihiro¹; MATSUSHITA, Sachiko¹; ISHIGURO, Hitoshi²; NAKAJIMA, Akira¹

1. Department of Materials Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology
2. Antibacterial and Antiviral Research Group, Kanagawa Institute of Industrial Science and Technology

(15:00) Break

Sensor

Session Chairs: OGAWA, Makoto, Vidyasirimedhi Institute of Science and Technology

15:15

(31-Theater-S06-30) CdO-activated Sn on the sensing properties of ZnO nanoparticles for ethanol

JINXIAO, Wang¹; JUN, Yang¹; JIANFENG, Yang^{*1}

1. State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an 710049, P. R.
2. School of Metallurgical Engineering, Xi'an University of Architecture and Technology, Xi'an 710055, P. R. China

15:30

(31-Theater-S06-31) Highly Water Durable Ammonia Gas Sensor Based on Aluminum Ion Conducting Solid Electrolyte with Ammonium Rare Earth Niobate

TAMURA, Shinji^{*1}; YAMASHITA, Ryo¹; SHIBATA, Makiko²; IMANAKA, Nobuhito¹

1. Osaka University
2. Yazaki Energy System Corporation

15:45

(31-Theater-S06-32) CO sensing properties of lanthanum-doped magnesium ferrite nanopowder

OBATA, Kenji^{*1}; MATSUSHIMA, Shigenori¹

1. National Institute of Technology (KOSEN), Kitakyushu College

Recycle

Session Chairs: NAKAJIMA, Akira, Tokyo Institute of Technology

16:00

(31-Theater-S06-33) Study of Sugarcane Bagasse Ash (SCBA) as Source Of SiO_2 for the Synthesis of Vitreous Materials

PEREZ-CASAS, Jesus A.¹; ZALDIVAR-CADENA, Antonio A.²; RUIZ-VALDES, Juan J.^{1,3}; LOPEZ-PEREZ, David C.⁴; SANCHEZ-VAZQUEZ, Astrid I.^{*1}

1. Universidad Autónoma de Nuevo León, Facultad de Ciencias Químicas, Laboratorio de Materiales III, Guerrero y Progreso, S/N, Col. Treviño 64570, Monterrey, NL, México.
2. Universidad Autónoma de Nuevo León, Facultad de Ingeniería Civil, Laboratorio del CA Materiales Alternativos, Ave Universidad S/N, Cd. Universitaria, San Nicolás de los Garza, N.L., México, C.P. 66455
3. Universidad Autónoma de Nuevo León, Facultad de Ciencias Químicas, Laboratorio de Pruebas e Investigación en Cerámica, Guerrero y Progreso, S/N, Col. Treviño 64570, Monterrey, NL, México.
4. Universidad Autónoma de Nuevo León, Facultad de Ingeniería Civil, Departamento de Hidráulica, Ave Universidad S/N, Cd. Universitaria, San Nicolás de los Garza, N.L., México, C.P. 66455

Process

Session Chairs: NAKAJIMA, Akira, Tokyo Institute of Technology

16:15

(31-Theater-S06-34) Structural Investigation of 1T and 2H Phase of Bulk MoS_2 Prepared Using Hydrothermal Method

PAN, Zhigang^{*1}; YAN, Weitao¹; SHAN, Songting¹; TAO, Yaqiu¹; SHEN, Xiaodong¹

1. College of Materials Science and Engineering, Nanjing Tech University, Nanjing, P. R. China.

16:30

(31-Theater-S06-35) Application of extractive fermentation on the recuperation of exopolysaccharide from *Rhodotorula mucilaginosa* UANL-001L

MEDINA-RAMIREZ, Carlo Franco^{1,2}; MORONES-RAMIREZ, Jose Ruben^{1,2}; GOMEZ-LOREDO, Alma^{*1,2}

1. Universidad Autónoma de Nuevo León, Facultad de Ciencias Químicas, Pedro de Alba, S/N, San Nicolas de los Garza, Nuevo León, Mexico
2. Centro de Investigación en Biotecnología y Nanotoxicología, Facultad de Ciencias Químicas, Universidad Autónoma de Nuevo León. Parque de Investigación e Innovación Tecnológica, Km. 10 autopista al Aeropuerto Internacional Mariano Escobedo, Apodaca, Nuevo León, 66629, Mexico

■■October 31 (Thu) (Room A1)■■

07: Dielectric, Piezoelectric, and Ferroelectric Materials: Advances for Emerging Applications

Lead-Free II Tungsten bronze

Session Chairs: AOYAGI, Rintaro, AIST

8:30

(31-A1-S07-37) Crossover from Normal Ferroelectric to Relaxor in Filled Tungsten Bronze Ceramics (Invited)

CHEN, Xiang Ming^{*1}; ZHU, Xiao Li¹; FENG, Wen Bin¹; YANG, Zi Jin¹; LIU, Xiao Qiang¹

1. School of Materials Science and Engineering, Zhejiang University

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

9:00

(31-A1-S07-38) Electronic structure and optical properties of La-doped K₂Sr₂Nb₅O₁₅: A first-principles investigationCHEN, Qian^{*1}; XU, Jie¹; CAO, Shuyao¹; GUO, Yiting¹; GAO, Feng¹; CHENG, Guanghua²

1. State Key Laboratory of Solidification Processing, MIT Key Laboratory of Radiation Detection Materials and Devices, USI Institute of Intelligence Materials and Structure, NPU-QMUL Joint Research Institute of Advanced Materials and Structure, School of Materials Science and Engineering, Northwestern Polytechnical University

2. State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences

Lead-Free III Single crystals and composite

Session Chairs: TERANISHI, Takashi, Okayama University

9:30

(31-A1-S07-40) Fabrication of dense (K_{0.5}Na_{0.5})NbO₃ single crystals by solid-state crystal growth methodFUJII, Ichiro^{*1}; UENO, Shintaro¹; WADA, Satoshi¹

1. University of Yamanashi

9:45

(31-A1-S07-41) Enhanced Piezoelectric and Dielectric Responses of Mesocrystalline BaTiO₃/Bi_{0.5}K_{0.5}TiO₃ NanocompositesZHAO, Weixiong^{*1,2}; ZHANG, Wenxiong¹; YU, Han¹; YAO, Fangyi¹; LI, Sen¹; FENG, Qi¹

1. Department of Advanced Materials Science, Faculty of Engineering and Design, Kagawa University

2. Faculty of Chemistry and Chemical Engineering, Baoji University of Arts and Science

10:00

(31-A1-S07-42) Electronic Structure of Ferroelectric BaTiO₃/Bi_{0.5}Na_{0.5}TiO₃ Nanocomposite by Soft X-ray Absorption SpectroscopyZHANG, Wenxiong^{*1}; FENG, Qi²; HOSONO, Eiji^{3,4}; ASAKURA, Daisuke^{3,4}; MIYAWAKI, Jun¹; HARADA, Yoshihisa^{1,4}

1. Institute for Solid State Physics, The University of Tokyo, Koto, Sayo, Hyogo 679-5148, Japan

2. Department of Advanced Materials Science, Kagawa University, Takamatsu, Kagawa 761-0396, Japan.

3. Research Institute for Energy Conservation, National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki 305-8568, Japan

4. AIST-UTokyo Advanced Operando-Measurement Technology Open Innovation Laboratory (OPERANDO-OIL), National Institute of Advanced Industrial Science and Technology (AIST), Kashiwa, Chiba 277-8565, Japan.

(10:15) Break**Lead-Free III Titanate piezo-ceramics**

Session Chairs: KAKIMOTO, Ken-ichi, Nagoya Institute of Technology

10:30

(31-A1-S07-43) Structural Studies of Lead-Free Piezoelectric (1-x)Ba(Zr_{0.2}Ti_{0.8})O₃-x(Ba_{0.7}Ca_{0.3})TiO₃ Using Total Scattering and Diffraction to Understand the Mechanisms of Electromechanical Strain (Invited)MANJON-SANZ, Alicia^{1,2}; CULBERTSON, Charles¹; HOU, Dong^{3,4}; JONES, Jacob⁴; DOLGOS, Michelle^{*1,5}

1. Department of Chemistry, Oregon State University, Corvallis, OR, 97331, USA

2. CELLS-ALBA Synchrotron Light Facility, Cerdanyola del Valles, 08290, Barcelona, Spain

3. Department of Materials Science and Engineering, North Carolina State University, Raleigh, NC, 27695, USA

4. Department of Materials Science and Engineering, Faculty of Natural Sciences, Norwegian University of Science and Technology, 7491 Trondheim, Norway

5. Department of Chemistry, University of Calgary, Calgary, AB, T2N 1N4, Canada

11:00

(31-A1-S07-44) Fabrication of Lead-Free Nb-Doped BaTiO₃-(Bi_{1/2}K_{1/2})TiO₃ PTCR Ceramics for High TemperatureTAKEUCHI, Nobuyuki^{*1}; MIYAGAWA, Takayuki¹

1. Kyoto Institute of Technology

Session Chairs: TSUKADA, Shinya, Shimane University

11:15

(31-A1-S07-45) Doping Effects and Aging Behavior of Piezoelectric Properties of Ba(Zr,Ti)O₃-(Ba,Ca)TiO₃-based Lead-free Piezoelectric CeramicsNAGATA, Hajime^{*1}; TOMINAGA, Takuo¹; TAKAGI, Yuka¹; TAKENAKA, Tadashi¹

1. Tokyo University of Science

11:30

(31-A1-S07-46) Giant Electrostrictive Effect In Lead-Free Barium Titanate-Based Ceramics Via A-Site Ion-Pairs EngineeringHUANG, Yanli^{*1}; ZHAO, Chunlin¹; YIN, Jie¹; LV, Xiang¹; WU, Jiagang¹

1. Sichuan University

11:45

(31-A1-S07-47) (Bi_{1/2}K_{1/2})TiO₃-SrTiO₃ Solid Solutions for High-Temperature Capacitor ApplicationsHAGIWARA, Manabu^{*1}; SHIGA, Minami¹; FUJIHARA, Shinobu¹

1. Keio University

Nitride Piezoelectrics

Session Chairs: DOLGOS, Michelle, Oregon State University

13:30

(31-A1-S07-48) Search and development of piezoelectric nitride materials (Invited)

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

YAMADA, Hiroshi*¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

14:00

(31-A1-S07-49) Polarization inverted ScAlN films and new high k_t^2 YbAlN films for BAW device applications (Invited)

YANAGITANI, Takahiko*^{1,2,3}

1. Waseda University

2. ZAIKEN

3. JST PRESTO

Session Chairs: YAMADA, Hiroshi, AIST

14:30

(31-A1-S07-50) Improvement of crystalline orientation and k_t^2 of ScAlN thin films by suppression of negative ions generation from sputtering target

KIHARA, Rui*^{1,2}; TAKAYANAGI, Shinji⁴; YANAGITANI, Takahiko^{1,2,3}

1. Department of Electrical Engineering and Bioscience, Waseda University, Tokyo 169-8555, Japan

2. ZAIKEN, Waseda University, Tokyo 169-0051, Japan

3. JST-PRESTO, Japan Science and Technology Agency, 332-0012, Japan

4. Doshisha University, Kyoto 610-0321, Japan

14:45

(31-A1-S07-51) Measurement of lattice strain change in ScAlN piezoelectric films by XRD for k_t^2 estimation without removing substrate

SOTOME, Takumi*^{1,2}; YANAGITANI, Takahiko^{1,2,3}

1. Graduate School of Advanced Science and Engineering, Waseda University, Tokyo 169-8555, Japan

2. ZAIKEN, Tokyo 169-0051, Japan

3. JST-PRESTO, Saitama 332-0012, Japan

15:00

(31-A1-S07-52) BAW type transformer with ScAlN multilayer for rectifying antenna

KINOSHITA, Sarina*^{1,2}; YANAGITANI, Takahiko^{1,2,3}

1. Waseda University

2. ZAIKEN, Waseda University

3. JST-PRESTO

(15:15) Break

Lead-Free IV Niobate piezo-ceramics

Session Chairs: NAGATA, Hajime, Tokyo University of Science

15:30

(31-A1-S07-53) Characterization of Fatigued Alkali Niobate Piezoceramics (Invited)

KAKIMOTO, Ken-ichi*^{1,2}; MAEDA, Shinsaku¹; ITO, Yuichiro¹

1. Department of Life Science and Applied Chemistry, Nagoya Institute of Technology

2. Frontier Research Institute for Materials Science, Nagoya Institute of Technology

16:00

(31-A1-S07-54) Comprehensive investigation of structural and electrical properties of KNNS-xBC-BKZ-Fe₂O₃ ceramics

XIE, Lixu*¹; XING, Jie¹; TAN, Zhi¹; CHENG, Yuan¹; CHEN, Qiang¹; WU, Jiagang¹; ZHANG, Wen¹; XIAO, Dingquan¹; ZHU, Jianguo¹

1. Sichuan University

Session Chairs: FUJII, Ichiro, University of Yamanashi

16:15

(31-A1-S07-55) Eco-friendly Highly Sensitive Transducers Based on KNN-based Piezoelectric Ceramics with High Piezoelectric Properties

JIANG, Laiming¹; XING, Jie¹; WU, Jiagang¹; ZHOU, Qifa²; ZHU, Jianguo*¹

1. College of Materials Science and Engineering, Sichuan University, Chengdu, China

2. Roski Eye Institute, Keck School of Medicine, University of Southern California, Los Angeles, USA

16:30

(31-A1-S07-56) BiFe_{0.9}Co_{0.1}O₃ doped KNN-based lead-free ceramics with good electrical performances and temperature stability

XING, Jie*¹; TAN, Zhi¹; WU, Bo²; JIANG, Laiming¹; XIE, Lixu¹; CHENG, Yuan¹; WU, Jiagang¹; XIAO, Dingquan¹; ZHU, Jianguo¹

1. Sichuan University

2. Chengdu University of Information Technology

16:45

(31-A1-S07-57) Grain Size Dependent Physical Properties in Lead-Free NBT-based and KNN-based Piezoceramics

ZHAI, Jiwei*¹; LIU, Xing¹; LI, Peng¹; SHEN, Bo¹

1. Functional Materials Research Laboratory, School of Materials Science & Engineering, Tongji University, 4800 Caoan Road, Shanghai 201804, China

■■October 31 (Thu) (Room B3) ■■

09:Science and Applications of Amorphous Materials

Mechanical properties

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

Session Chairs: KITAMURA, Naoyuki, AIST

9:00

(31-B3-S09-21) The Fracture Toughness of Inorganic Glasses: Experimental methods and composition dependence (Invited)

ROUXEL, Tanguy^{*1}; CELARIE, Fabrice¹; TO, Theany¹; LACONDEMINE, Tanguy¹; GUEGUEN, Yann¹; HOUZOT, Patrick¹

1. University of Rennes 1

9:30

(31-B3-S09-22) Point stress evaluation and structural investigation in chemically strengthened glass by micro-Raman spectroscopy

TERAKADO, Nobuaki^{*1}; SASAKI, Ryusei¹; EBUKURO, Shingo¹; TAKAHASHI, Yoshihiro¹; FUJIWARA, Takumi¹; ORIHARA, Shuji²; ORIHARA, Yoshio²

1. Tohoku University

2. Orihara Industrial Co., Ltd.

Session Chairs: BENINO, Yasuhiko, Okayama University

9:45

(31-B3-S09-23) Variation of Structural and Chemical Strengthening Properties of Sodium Aluminosilicate Glasses by P₂O₅ and B₂O₃ Addition

PARK, Kyeong Dae^{*1}; HAN, Karam¹; CHOI, Yong Gyu²; CHUNG, Woon Jin¹

1. Institute for Rare Metals and Div. of Advanced Materials Eng., Kongju National Univ, Cheonan 330-717, Republic of Korea

2. Dept. of Materials Sci. and Eng., Korea Aerospace Univ., Goyang 412-791, Republic of Korea

10:00

(31-B3-S09-24) Analysis of fracture mechanism in a drop event for smartphone

KANEHARA, Kazuki^{*1}; IMAKITA, Kenji¹; KOBAYASHI, Yusuke¹; KOIKE, Akio¹

1. AGC Co. Ltd.

10:15

(31-B3-S09-25) High technology of in-line continuous Heat Soak Test to avoid spontaneous breakage

SAKAI, Chihiro^{*1}

1. Research and Development, NIPPON SHEET GLASS CO., LTD.

(10:30) Break

Session Chairs: KISHI, Tetsuo, Tokyo Institute of Technology

10:45

(31-B3-S09-26) Stress Mapping Glass-to-Metal Seals using Photoluminescence Spectroscopy

STRONG, Kevin Thomas^{*1}; MESEROLE, Steve²; DIEBOLD, Thomas¹; PARIHAR, Shailendra¹; DAI, Steve¹

1. Material Mechanics and Tribology Group, Sandia National Laboratories, Albuquerque, NM 87123, USA

2. Applied Optical/Plasma Science Group, Sandia National Laboratories, Albuquerque, NM 87123, USA

11:00

(31-B3-S09-27) Determination of Interfacial Properties in Glass to Metal seals using Pin Push-out Test

PARIHAR, Shailendra^{*1}; STRONG, Kevin¹; DIEBOLD, Thomas¹

1. Sandia National Laboratories

11:15

(31-B3-S09-28) Estimating the effects of glass composition on the stress-relaxation of ion-exchanged, soda-lime glass below the glass transition temperature

SUN, Huan^{*1}; DUGNANI, Roberto¹

1. University of Michigan - Shanghai Jiao Tong University Joint Institute

Session Chairs: MATSUOKA, Jun, The University of Shiga Prefecture

11:30

(31-B3-S09-29) Molecular dynamics simulation of stress relaxation around glass transition temperature

TANIGUCHI, Takatoshi^{*1}; KATO, Yasumasa²

1. Innovative Technology Research Center, AGC Inc.

2. Production Technology Division, AGC Inc.

11:45

(31-B3-S09-30) Viscoelastic study of alkali and alkaline earth aluminophosphate glasses

KITAMURA, Naoyuki^{*1}; HAYASHIDO, Takahiko²; MATSUSHITA, Nana²; FUKUMI, Kohei¹; UCHIYAMA, Hiroaki²; KOZUKA, Hiromitsu²

1. National Institute of Advanced Industrial Science and Technology

2. Kansai University

Structure II

Session Chairs: ROUXEL, Tanguy, University of Rennes 1

13:30

(31-B3-S09-31) Local Structure and Infrared Transmission of Mixed-Chalcogen Ge-Sb-S-Se Glasses (Keynote)

SHIN, Sang Yeol¹; LEE, Jun Ho¹; MASAI, Hirokazu²; INA, Toshiaki³; CHOI, Yong Gyu^{*1}

1. Korea Aerospace University

2. AIST

3. Japan Synchrotron Radiation Research Institute

14:00

(31-B3-S09-32) Characterization of diffusion space and polarizability of Li₂S-P₂S₅ solid state electrolytes

OHKUBO, Takahiro^{*1}; TSUCHIDA, Eiji²

1. Graduate School of Engineering, Chiba University,

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. Research Center for Computational Design of Advanced Functional Materials, National Institute of Advanced Industrial Science and Technology

14:15

(31-B3-S09-33) Topological and Energetical Aspects of Ternary Ge-Sb-Se Glasses Screened for Use as Molded Infrared-Transmitting Lenses

KIM, Hyun^{*1}; LEE, Jun Ho¹; LEE, Woo Hyung¹; SHIN, Sang Yeol¹; LEE, Ji In¹; KO, Se Young¹; CHOI, Yong Gyu¹

1. Department of Materials Science and Engineering, Korea Aerospace University, Goyang 10540, South of Korea

Session Chairs: CHOI, Yong Gyu, Korea Aerospace University

14:30

(31-B3-S09-34) Improved Thermal Stability of TiN Nanocylinder Arrays by Dielectric Protection Layers

GOYA, Shinya^{*1}; MURAI, Shunsuke¹; TANAKA, Katsuhisa¹

1. Department of Material Chemistry, Graduate School of Engineering, Kyoto University

14:45

(31-B3-S09-35) Thermal Conduction of Phosphate and Other Oxide Glasses in Relation to their Network Structure

MATSUOKA, Jun^{*1}; TANAKA, Maki¹; YAMADA, Akihiro¹; YOSHIDA, Satoshi¹

1. The University of Shiga Prefecture

15:00

(31-B3-S09-36) Precise Determination of Medium Range Atomic Ordering in Glasses Using 4-Dimensional Scanning Transmission Electron Microscopy

IM, Soohyun¹; CALDERON, Gabriel¹; ABBASI, Mehrdad¹; HWANG, Jinwoo^{*1}

1. Department of Materials Science and Engineering, The Ohio State University, Columbus, Ohio, 43212, USA

(15:15) Break

Session Chairs: MASAI, Hirokazu, AIST

15:30

(31-B3-S09-37) Influence of atomic structure on thermal and chemical properties in vanadate glass (Invited)

AOYAGI, Takuya^{*1,2}; KOHARA, Shinji^{3,4,5,6}; NAITO, Takashi¹; ONODERA, Yohei^{7,4}; KODAMA, Motomune¹; ONODERA, Taigo¹; TAKAMATSU, Daiko¹; TAHARA, Shuta^{4,8}; SAKATA, Osami³; MIYAKE, Tatsuya¹; SUZUYA, Kentaro⁹; OHARA, Koji⁶; USUKI, Takeshi¹⁰; HAYASHI, Yamato²; TAKIZAWA, Hirotsugu²

1. Hitachi Research Laboratory, Hitachi Ltd.

2. Tohoku University

3. Light/Quantum Beam Field, Research Center for Advanced Measurement and Characterization, National Institute for Material Science (NIMS)

4. Center for Materials Research by Information Integration (CMi2) Research and Services Division of Materials Data and Integrated System (MaDIS), NIMS

5. PRESTO, Japan Science and Technology Agency

6. Research and Utilization Division, Japan Synchrotron Radiation Research Institute/SPring-8

7. Institute for Integrated Radiation and Nuclear Science, Kyoto University

8. University of the Ryukyus

9. Japan Atomic Energy Agency/J-PARC

10. Yamagata University

16:00

(31-B3-S09-38) Coloration and Antibacterial Activity by Silver Species Ion-Exchanged via Position-Selective Non-Dipping Process in Sodium-Containing Silicate Glasses

LEE, Ji In^{*1}; KIM, Hyun¹; LEE, Woo Hyung¹; KO, Se Young¹; CHOI, Yong Gyu¹

1. Department of Materials Science and Engineering, Korea Aerospace University, Goyang 10540, South of Korea

Session Chairs: AOYAGI, Takuya, Hitachi Research Laboratory

16:15

(31-B3-S09-39) Effect of bond valence sum constraints on the structural modeling of lead borate glass

NAGAO, Masaaki^{*1}; SAKIDA, Shinichi¹; BENINO, Yasuhiko¹; NANBA, Tokuro¹; MUKUNOKI, Atsushi²; CHIBA, Tamotsu²; KIKUCHI, Takahiro²; SAKURAGI, Tomofumi³

1. Okayama University

2. JGC Corporation

3. Radioactive Waste Management Funding and Research Center

16:30

(31-B3-S09-40) Structure of silicate glass revisited: Reconciling the mixed alkali effect

ONODERA, Yohei^{*1,2}; TAKIMOTO, Yasuyuki³; HJIYA, Hiroyuki⁴; TANIGUCHI, Taketoshi³; URATA, Shingo³; INABA, Seiji⁴; FUJITA, Sanae⁴; OBAYASHI, Ippei^{5,6}; HIRAOA, Yasuaki^{7,5,6,2}; KOHARA, Shinji^{8,2,9,10}

1. Institute for Integrated Radiation and Nuclear Science, Kyoto University

2. Center for Materials research by Information Integration (CMi2), Research and Services Division of Materials Data and Integrated System (MaDIS), National Institute for Materials Science (NIMS)

3. Innovative Technology Research Center, AGC Inc.

4. New Product R & D Center, AGC Inc.

5. Center for Advanced Intelligence Project, RIKEN

6. CREST, Japan Science and Technology Agency

7. Kyoto University Institute for Advanced Study, WPI-ASHBi, Kyoto University

8. Research Center for Advanced Measurement and Characterization, NIMS

9. PREST, Japan Science and Technology Agency

10. Research & Utilization Division, Japan Synchrotron Radiation Research Institute (JASRI, SPring-8)

16:45

(31-B3-S09-41) Examination of Phosphate Glasses by Combination of Different Analysis Methods

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

MASAI, Hirokazu^{*1}; KOHARA, Shinji²; ONODERA, Yohei³; KOREEDA, Akitoshi⁴; OHKUBO, Takahiro⁵

1. National Institute of Advanced Industrial Science and Technology

2. National Institute for Materials Science

3. Kyoto University

4. Ritsumeikan University

5. Chiba University

■■October 31 (Thu) (Room T1) ■■

10:Bioceramics and Bioinspired Materials

Calcium phosphate

Session Chairs: YAMADA, Shinya, Olympus Terumo Biomaterials Corp

8:30

(31-T1-S10-23) Hydroxyapatite mesocrystal formation by hydrothermal treatment of octacalcium phosphate with incorporated dicarboxylate ions

YOKOI, Taishi^{*1}; GOTO, Tomoyo²; NAKAMURA, Jin³; OHTSUKI, Chikara³; KATO, Takeharu⁴; TAKAHASHI, Seiji¹

1. Materials Research and Development Laboratory, Japan Fine Ceramics Center

2. The Institute of Scientific and Industrial Research, Osaka University

3. Graduate School of Engineering, Nagoya University

4. Nanostructures Research Laboratory, Japan Fine Ceramics Center

8:45

(31-T1-S10-24) Local Environment of Zn²⁺ on Surface of Hydroxyapatite

MURATA, Hidenobu^{*1}; NAKAHIRA, Atsushi¹

1. Department of Materials Science, Osaka Prefecture University

Session Chairs: CHEN, Min-Hua, Chung Yuan Christian University

9:00

(31-T1-S10-25) Nano-bio ceramic composite prepared by low-temperature sintering

HASSAN, Muhmood ul^{*1}; RAZA, Ahmad¹; CHAN, Yoo Sung²; RYU, Ho Jin^{1,2}

1. Dept. of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology, Daejeon, S. Korea

2. Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, S. Korea

9:15

(31-T1-S10-26) Porous Carbonate Apatite Bone Substitute

ISHIKAWA, Kunio^{*1}; HAYASHI, Koichiro¹; TSUCHIYA, Akira¹; KISHIDA, Ryo¹

1. Kyushu University

Session Chairs: ISHIKAWA, Kunio, Kyushu University

9:30

(31-T1-S10-27) Formation Processes of Carbonated Hydroxyapatite in Aqueous Solution Systems

HAGIWARA, Yuki^{*1}; TAKASAKI, Mihiro¹; OAKI, Yuya¹; IMAI, Hiroaki¹

1. Keio University, Kanagawa 223-8522, Japan

9:45

(31-T1-S10-28) Fabrication of boron-containing apatite ceramics with well-controlled chemical composition by reaction sintering method and their cellular response to immunocytes

NAKAGAWA, Daiki^{*1}; KAGAMI, Sanae¹; NAGAI, Shigenori²; AIZAWA, Mamoru¹

1. Meiji University

2. Tokyo Medical and Dental University

10:00

(31-T1-S10-29) Additive Manufacturing of Bisphosphonate Loaded Calcium Phosphate Scaffolds for Bone Tissue Engineering

RAJA, Naren^{*1}; CHOI, Yeong-jin¹; PARK, Honghyun¹; YUN, Hui-suk^{1,2}

1. Korea Institute of Materials Science (KIMS)

2. Korea University of Science and Technology (UST)

Session Chairs: YOSHIOKA, Tomohiko, Okayama University

10:15

(31-T1-S10-30) Preparation of Bismuth Oxide-based Composite Powders and Their Application as Dental Filling and Radiopacifying Materials (Invited)

CHEN, May-Show^{1,2,3}; CHANG, Pei-Jung³; CHEN, Chin-Yi⁴; LIN, Chung-Kwei^{*3,5}

1. Department of Dentistry, Taipei Medical University Hospital

2. School of Dentistry, College of Oral Medicine, Taipei Medical University

3. Research Center of Digital Oral Science and Technology, College of Oral Medicine, Taipei Medical University

4. Department of Materials Science and Engineering, Feng Chia University

5. School of Dental Technology, College of Oral Medicine, Taipei Medical University

(10:45) Break

Particle

Session Chairs: RAJA, Naren, Korea Institute of Materials Science

11:00

(31-T1-S10-31) Micro-sized bio-ceramic microsphere as functional bone substitute

PARK, Honghyun^{*1}; BYUN, Kyubin^{1,2}; YUN, Hui-suk^{1,2}

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Department of Advanced Biomaterials Research, Korea Institute of Materials Science, Changwon 51508, South Korea
2. Advanced Materials Engineering, University of Science & Technology (UST), Daejeon 34113, South Korea

11:15

(31-T1-S10-32) Structural analysis of magnetic calcium phosphate-based submicrospheres fabricated by laser-assisted one-pot process

NAKAMURA, Maki^{*1}; OYANE, Ayako¹

1. Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)

11:30

(31-T1-S10-33) Synthesis, characterization and antibacterial activity of Ag-Zn co-doped beta-tricalcium phosphate prepared by spray pyrolysis

CHOU, Yu-Jen^{*1}; NINGSIHA, Henni Setia²; SHIH, Shao-Ju²

1. Department of Mechanical Engineering, National Taiwan University of Science and Technology
2. Department of Materials Science and Engineering, National Taiwan University of Science and Technology

Session Chairs: OYANE, Ayako, AIST

11:45

(31-T1-S10-34) Ceramic-based nanoparticles for use as radiosensitizers in cancer treatment

CHEN, Min-Hua^{*1}; LIN, Feng-Huei²

1. Department of Biomedical Engineering, Chung Yuan Christian University, Taoyuan City 32023, Taiwan
2. Department of Biomedical Engineering, National Taiwan University, Taipei City 10617, Taiwan

13:30

(31-T1-S10-35) Rapid Bone Formation Assisted by High-Purity Calcite Granules - Effect of Porosity -

UNUMA, Hidero^{*1,2}; FURUSAWA, Toshitake^{1,2}; UMEMOTO, Shota³

1. Yamagata University
2. Tohoku Oral Implant Association
3. Shiraishi Central Laboratories Co., Ltd.

13:45

(31-T1-S10-36) Fabrication of cell laden organic/inorganic hybrid bead with phytoestrogen for osteoporotic bone tissue regeneration

KIM, Jueun^{*1,2}; PARK, Honghyun²; CHOI, Yeong-Jin²; YUN, Hui-suk^{1,2}

1. Korea University of Science and Technology (UST), Daejeon, south Korea
2. Korea Institute of Materials Science, Changwon, South Korea

Session Chairs: UNUMA, Hidero, Yamagata University

14:00

(31-T1-S10-37) Biomimetic Self-assembly Synthesis of Highly Regulated Single-nm Thick Layered Oxides and their Physicochemical Properties (Invited)

OHTAKI, Michitaka^{*1,2}

1. Interdisciplinary Graduate School of Engineering Sciences, Kyushu University
2. Transdisciplinary Research and Education Center for Green Technologies, Kyushu University

(14:30) Break

Titanium implant

Session Chairs: TAKADAMA, Hiroaki, Chubu University

14:45

(31-T1-S10-38) Introduction of Inorganic Ion to Titanium Substrate Decorated with Layered Phosphate Compound

NAKAMURA, Jin^{*1}; ENDO, Kanta¹; KANAOKA, Hiroaki¹; SUGAWARA-NARUTAKI, Ayae¹; OHTSUKI, Chikara¹

1. Graduate School of Engineering, Nagoya University

15:00

(31-T1-S10-39) Highly anti-thrombogenic surface preparation by formation of titania nanotubes followed by polarization

MURALIDAHAR, Jyorthana^{1,2}; SAKTHIVEL, Kabilan^{1,2}; SRIDHARAN, Madanagurusamy²; NAGAI, Akiko³; YAMASHITA, Kimihiro³; KIKUCHI, Masanori^{*1}

1. National Institute for Materials Science
2. SASTRA University
3. Tokyo Medical and Dental University

15:15

(31-T1-S10-40) Cell culture tests of hydroxyapatite/collagen bone-like nanocomposite coated on Ti by modified electrophoretic deposition method

IWANAMI-KADOWAKI, Kaori^{*1,2}; UCHIKOSHI, Tetsuo³; UEZONO, Masayoshi¹; KIKUCHI, Masanori²; MORIYAMA, Keiji¹

1. Department of Maxillofacial Orthognathics, Graduate School of Tokyo Medical and Dental University
2. Bioceramics Group, National Institute for Materials Science
3. Materials Processing Unit, National Institute for Materials Science

Glass

Session Chairs: CHOU, Yu-Jen, National Taiwan University of Science and Technology

15:30

(31-T1-S10-41) Preparation of bioactive glass/poly(lactic acid) composite fibermats for controlling bone quantity and quality

LEE, Sungho^{*1,2}; NAGATA, Fukue¹; KASUGA, Toshihiro³; NAKANO, Takayoshi²

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. National Institute of Advanced Industrial Science and Technology, Nagoya 463-8560, Japan
2. Division of Materials and Manufacturing Science, Osaka University, Suita 565-0871, Japan
3. Division of Advanced Ceramics, Nagoya Institute of Technology, Nagoya 466-8555, Japan

15:45

(31-T1-S10-42) Bioactive Silicon Oxycarbide Glasses with Highly Connected Networks

IONESCU, Emanuel^{*1}

1. TU Darmstadt, Institute for Materials Science

Nanopattern

Session Chairs: NAKAMURA, Jin, Nagoya University

16:00

(31-T1-S10-43) Additive Patterning of Fibronectin-Immobilized Apatite Micro-Chips by Laser-Induced Forward Transfer

NARAZAKI, Aiko^{*1}; OYANE, Ayako²; KUROSAKI, Ryozo¹; KAMEYAMA, Tomoko¹; SAKAMAKI, Ikuko²; ARAKI, Hiroko²; MIYAJI, Hirofumi³

1. Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology
2. Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology
3. Faculty of Dental Medicine, Hokkaido University

16:15

(31-T1-S10-44) Nanostructured Diamond for Medical Applications

NARAYAN, Roger^{*1}

1. North Carolina State University

Therapeutics

Session Chairs: LEE, Sungho, AIST

16:30

(31-T1-S10-45) Laser-assisted pseudo-biomineralization on human dentin for tooth surface coating

OYANE, Ayako^{*1}; SAKAMAKI, Ikuko¹; NAKAMURA, Maki¹; KOGA, Kenji¹; SHITOMI, Kanako²; MAYUMI, Kayoko²; MIYAJI, Hirofumi²

1. Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)
2. Faculty of Dental Medicine, Hokkaido University

■ ■ October 31 (Thu) (Room B1C) ■ ■

13:Engineering Ceramics: Processing and Characterization

Fracture and deformation

Session Chairs: WAKAI, Fumihiko, Tokyo Institute of Technology

8:30

(31-B1C-S13-22) Dynamics of Dislocation, Fracture and Twin Formation in Alumina (Invited)

IKUHARA, Yuichi^{*1,2,3}

1. Institute of Engineering Innovation, The University of Tokyo
2. Nanostructures Research Laboratory, Japan Fine Ceramics Center
3. Advanced Institute for Materials Research, Tohoku University

9:00

(31-B1C-S13-23) Mechanical behavior of multiscale textured alumina obtained by Direct Ink Writing

M'BARKI, Amin¹; LACONDEMINE, Tanguy^{*1}; STEVENSON, Adam¹; RICHAUD, Stephane¹; MAIRE, Eric²; ADRIEN, Jerome²; FRANCHIN, Giorgia³; COLOMBO, Paolo³

1. LSFC Laboratoire de Synthèse et de Fonctionnalisation des Céramiques, UMR 3080 CNRS/Saint-Gobain CREE, Saint-Gobain Research Provence, 550 Avenue Alphonse Jauffret, 84306 Cavaillon, France
2. MATEIS Matériaux : Ingénierie et Science, INSA Lyon, UMR CNRS 5510, 7 avenue Jean Capelle, 69621 Villeurbanne, France
3. CMBM Centre for Mechanics of Biological Materials, University of Padova, Via Marzolo 9, 35131 Padova, Italia

9:15

(31-B1C-S13-24) Development of the BOF tap hole sleeve and improvement of BOF operational ratio

SATO, Takafumi^{*1}; MATSUI, Shunsuke¹; TSUTSUI, Yasushi¹; TANI, Kohei²; TOMITA, Daisuke²; ITO, Hirotaka²

1. Nippon Steel Corporation
2. Krosaki Harima Corporation

9:30

(31-B1C-S13-25) Exploring the influence of talc on the water absorption and pyroplastic deformation of alumina strengthened porcelain

HAO, Dong^{*1}; AKATSU, Takashi^{1,2}; KAMOCHI, Nobuaki³

1. Ceramic Research Center, Saga University
2. Faculty of Art and Regional Design, Saga University
3. Saga Ceramics Research Laboratory

Session Chairs: YOSHIDA, Katsumi, Tokyo Institute of Technology

9:45

(31-B1C-S13-26) Mechanical properties of single crystal, bicrystal and amorphous SiC measured using microcantilever beam specimens

TATAMI, Junichi^{*1,2}; IMOTO, Yumi¹; YAMAGUCHI, Hiroshi¹; NAKANO, Hiromi³; YAHAGI, Tsukaho²; TAKAHASHI, Takuma²; IJIMA, Motoyuki^{1,2}

1. Yokohama National University

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. Kanagawa Institute of Industrial Science and Technology
3. Toyohashi University of Technology

10:00

(31-B1C-S13-27) Preparation of HfO₂ Thick Films Using Chemical Vapor Deposition and Their Mechanical Properties Measured with Microcantilever Beam

MATSUMOTO, Shogen^{*1}; TATAMI, Junichi^{1,2}; ITO, Akihiko¹

1. Yokohama National University
2. Kanagawa Institute of Industrial Science and Technology

10:15

(31-B1C-S13-28) Plasma Corrosion Behavior of Yttrium Oxide Coating prepared by Aerosol Deposition Method (Invited)

ASHIZAWA, Hiroaki^{*1,2}; KIYOHARA, Masakatsu¹; YOSHIDA, Katsumi²

1. TOTO Ltd.
2. Tokyo Institute of Technology

10:45

(31-B1C-S13-29) Investigation of the degradation mechanism in intermittent condition

HAN, Jimin^{*1,2}; KIM, Jongwon¹; PARK, Chusik¹; JEONG, Seonguk¹; JUNG, Kwangjin¹; KIM, Youngho²; KANG, Kyoungsoo¹

1. Hydrogen Laboratory, New and Renewable Energy Institute, Korea Institute of Energy Research (KIER), Daejeon 34129, Republic of Korea
2. Department of Chemical Engineering and Applied Chemistry, Chungnam National University (CNU), Daejeon 34134, Republic of Korea

Characterization

Session Chairs: ASHIZAWA, Hiroshi, TOTO Ltd.

11:00

(31-B1C-S13-30) Band Gaps of (Ca_{1-x}□_x)₂MnO₄

YAMASHITA, Toru^{*1}; HOSHI, Fumiya²

1. National Institute of Technology, Tomakomai College
2. JSR Co.

11:15

(31-B1C-S13-31) Color variation of oxygen defective monoclinic-ZrO_{2-x} film formed by oxidation of Zr metal

HIMENO, Yuta^{*1}; MATSUDA, Mitsuhiro²; SHIDA, Kenji³; MATSUDA, Motohide²

1. Department of Materials Science and Engineering, Graduate School of Science and Technology Kumamoto University, Kumamoto 860-8555, Japan
2. Division of Materials Science and Chemistry, Faculty of Advanced Science and Technology Kumamoto University, Kumamoto 860-8555, Japan
3. Technical Division, Faculty of Engineering, Kumamoto University, Kumamoto 860-8555, Japan

11:30

(31-B1C-S13-32) FIB-SEM Microstructural Characterization of Sintered Refractories

BEAUGNON, Florian^{*1}; LAUTE, Clement²; HARA, Yuka¹; CETIN, Deniz³; BOLORE, Damien³; LEPLAY, Paul⁴; HARA, Toru¹; LECHEVALIER, David⁵; OHASHI, Naoki¹

1. National Institute for Materials Science, Ibaraki 305-0047, Japan
2. Université de Limoges, France
3. Saint-Gobain Research North America, U.S.A.
4. Saint-Gobain Research Provence, France
5. Saint-Gobain K.K, Tokyo 102-0083, Japan

11:45

(31-B1C-S13-33) Hydrogen storage kinetics of a compacted metal hydride with graphite addition

LEE, Pyoungjong^{*1,2}; KIM, Jongwon¹; JEONG, Seonguk¹; KANG, Kyoungsoo¹; JUNG, Kwangjin¹; KIM, Youngho²; PARK, Chusik¹

1. Hydrogen Laboratory, New and Renewable Energy Institute, Korea Institute of Energy Research (KIER), Daejeon 34129, Republic of Korea
2. Department of Chemical Engineering and Applied Chemistry, Chungnam National University (CNU), Daejeon 34134, Republic of Korea

■■October 31 (Thu) (Room A2) ■■

20: Ceramics for Rechargeable Energy Storage

Mg-ion battery

Session Chairs: ISHIDA, Naoya, Tokyo University of Science

8:30

(31-A2-S20-21) Synthesis of Porous Spinel-Type MgMn₂O₄ as a Positive Electrode Material for Magnesium Rechargeable Batteries

FUKUMI, Yu^{*1}; SONE, Kazuki¹; ISE, Ryuta¹; ISHII, Kanji¹; OAKI, Yuya¹; MANDAI, Toshihiko²; YAGI, Shunsuke³; IMAI, Hiroaki¹

1. Keio University, Kanagawa 223-8522, Japan
2. National Institute for Materials Science (NIMS), Ibaraki 305-0044, Japan
3. The University of Tokyo, Tokyo 153-8505, Japan

Li-O₂ battery

Session Chairs: ISHIDA, Naoya, Tokyo University of Science

8:45

(31-A2-S20-22) Copper/cobalt-doped LaMnO₃ Perovskite Oxide as Bifunctional Catalyst for Rechargeable Li-O₂ Batteries

HU, Xiulan^{*1,2,3}; LV, Yue¹; YU, Yawei¹; SHEN, Xiaodong^{1,2,3}

1. College of Materials Science and Engineering, Nanjing Tech University, Nanjing, 211816, China

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. The Synergetic Innovation Center for Advanced Materials, Nanjing, 211816, China

3. Jiangsu Collaborative Innovation Center for Advanced Inorganic Function Composites, Nanjing Tech University, Nanjing, 211816, China

Li-S battery

Session Chairs: ISHIDA, Naoya, Tokyo University of Science

9:00

(31-A2-S20-23) Sulfur-Copolymer Chemistry Based Lithium-ion Sulfur Batteries (Invited)

NGUYEN, Dan Thien¹; HOEFLING, Alexander²; YEE, Minh¹; NGUYEN, Giang Thi Huong¹; THEATO, Patrick^{2,3}; LEE, Young Joo²; SONG, Seung-Wan^{*1}

1. Chungnam National University

2. University of Hamburg

3. Karlsruhe Institute of Technology

Ag-ion battery

Session Chairs: HOSONO, Eiji, AIST

9:30

(31-A2-S20-24) Operando X-ray Absorption Imaging Analysis of Ag-ion All-solid-state Rechargeable Battery

ORIKASA, Yuki^{*1}; KANODORI, Koji¹

1. Ritsumeikan University

Al-ion conductor

Session Chairs: HOSONO, Eiji, AIST

9:45

(31-A2-S20-25) Al³⁺ ion Conducting Aluminum Tungstate Crystals Oriented by Strong Magnetic Field

OZBILGIN, Cem Eren^{*1,2}; TAMURA, Shinji³; IMANAKA, Nobuhito³; SUZUKI, Tohru S.²

1. Department of Nanoscience and Nanoengineering, Waseda University, Tokyo 169-8555, Japan

2. Ceramic Processing Group, National Institute for Materials Science, Ibaraki 305-0047, Japan

3. Department of Applied Chemistry, Osaka University, Suita, Osaka 565-0871, Japan

(10:00) Break

Na-ion battery

Session Chairs: HOSONO, Eiji, AIST

10:15

(31-A2-S20-26) Structural analysis and DFT calculation for Na diffusive mechanism of high Na⁺ ion conductive Na₂V₃O₇ electrode

TANIBATA, Naoto^{*1,2}; MAEDA, Masaki¹; CHOTARD, Jean-Noel³; TAKEDA, Hayami^{1,2}; NAKAYAMA, Masanobu^{1,2,4}; MASQUELIER, Christian³

1. Department of Advanced Ceramics, Nagoya Institute of Technology

2. Elements Strategy Initiative for Catalysts and Batteries (ESICB), Kyoto University

3. Laboratoire de Réactivité et Chimie des Solides, Université de Picardie Jules Verne

4. Global Research Center for Environment and Energy based on Nanomaterials Science (GREEN), National Institute for Materials Science (NIMS)

Session Chairs: HAYASHI, Akitoshi, Osaka Prefecture University

10:30

(31-A2-S20-27) Ti-based Layered Oxides for Sodium Storage Applications (Invited)

NAOAKI, Yabuuchi^{*1}

1. Yokohama National University

11:00

(31-A2-S20-28) Rational Design of Manganese Based Layered Oxides for Sodium Ion Batteries (Invited)

KANG, Yong-Mook^{*1}

1. Dongguk University

Session Chairs: YABUUCHI, Naoaki, Yokohama National University

11:30

(31-A2-S20-29) Reversible oxygen-redox chemistry for large-capacity sodium-ion battery cathodes (Invited)

OKUBO, Masashi^{*1}

1. The University of Tokyo

Li-ion battery

Session Chairs: YABUUCHI, Naoaki, Yokohama National University

13:30

(31-A2-S20-30) Developing electrode materials for Li-ion batteries: High Rate capability in polyanion materials (Invited)

KIM, Minkyu¹; KIM, Minkyung²; KANG, Byoungwoo^{*3}

1. Department of Materials Science and Engineering, POSTECH

2. Department of Materials Science and Engineering, POSTECH

3. Department of Materials Science and Engineering, POSTECH

Session Chairs: KANG, Byoungwoo, POSTECH

14:00

(31-A2-S20-31) Synthesis and electrochemical properties of LiMn_{1-x}Fe_xPO₄/C secondary particles

YAMASHITA, Hiroki^{*1}; Ikegami, Jun¹; HIRAYAMA, Yoko¹; OGAMI, Takaaki¹; YAMADA, Yuto²; KANAMURA, Kiyoshi²

1. Taiheiyo Cement Corporation

2. Tokyo Metropolitan University

“*” asterisk Indicates an oral presenter

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14:15

(31-A2-S20-32) Investigation of process-structure-property-relationships of hierarchically structured $\text{LiFe}_{0.2}\text{Mn}_{0.8}\text{PO}_4/\text{C}$ -composites: influence of primary particle size and carbon coatingWAGNER, Amalia Christina^{*1}; BOHN, Nicole¹; THAUER, Elisa²; KLINGELER, Ruediger²; BINDER, Joachim Rudolf¹

1. Institute for Applied Materials (IAM-ESS), Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen 76344, Germany

2. Kirchhoff Institute of Physics, Heidelberg University, Germany

14:30

(31-A2-S20-33) Understanding Interfacial Reaction of LiCoO_2 Positive Electrode in Aqueous Lithium-Ion Batteries (Invited)OH, Hyunjung^{1,2}; YAMAGISHI, Hirona³; YAMANAKA, Keisuke³; OHTA, Toshiaki³; BYON, Hye Ryung^{*1,2}

1. Korea Advanced Institute of Science and Technology (KAIST), South Korea

2. Advanced Battery Center, NanoCentury, KAIST Institute, South Korea

3. Synchrotron Radiation Center, Ritsumeikan University, Japan

(15:00) Break

Session Chairs: OKUBO, Masashi, The University of Tokyo

15:15

(31-A2-S20-34) Average and Local Structure and Chemical Analysis of $\text{LiMn}_{1-x}(\text{Ni,Ti})_x\text{O}_2$ Prepared by Na/Li Ion Exchange (Invited)ISHIDA, Naoya^{*1}; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹; AKIMOTO, Junji²

1. Tokyo University of Science

2. National Institute of Advanced Industrial Science and Technology

15:45

(31-A2-S20-35) Effect of Surface Oxy-sulfidation on $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ Single Crystals Shapes and Their Electrochemical CharacterizationZETTSU, Nobuyuki^{*1,2}; KIM, Dae-wook¹; SHIIBA, Hiromasa²; TESHIMA, Katsuya^{1,2}

1. Department of Materials Chemistry, Faculty of Engineering, Shinshu University

2. Research Initiative for Supra-Materials (RISM)

16:00

(31-A2-S20-36) Benefits of Porous Nano-Structured NCM Cathodes for Li-Ion BatteriesMUELLER, Marcus^{*1}; BOHN, Nicole¹; BINDER, Joachim¹; BAUER, Werner¹

1. Karlsruhe Institute of Technology, Institute for Applied Materials

Session Chairs: ZETTSU, Nobuyuki, Shinshu University

16:15

(31-A2-S20-37) Enhanced electrochemical performance of the lithium ion secondary battery using solid electrolyte LICGTMKATOH, Takashi^{*1}; SATOH, Ryouhei¹; TERAMOTO, Jun¹; NAKAJIMA, Kousuke¹

1. OHARA Inc.

16:30

(31-A2-S20-38) Core-shelled $\text{Ni-MnCO}_3@ \text{Mn-NiCO}_3/\text{RGO}$ composite: one-step Synthesis and Excellent Performance for Lithium-Ion BatteriesHUANG, Xiaoxiao^{*1}; ZHANG, Rui¹; WEN, Guangwu²

1. School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150001, China.

2. School of Materials Science and Engineering, Shandong University of Technology, Zibo 255000, China.

16:45

(31-A2-S20-39) Applied SiO nano-layer for the negative electrode of Li-ion batteryMAMIYA, Mikito^{*1}; AKIMOTO, Junji¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

■■October 31 (Thu) (Room B1C) ■■**24:Advanced Wear Resistant Materials: Tribology, Coatings and Reliability****Advanced Wear Resistant Coating I**

Session Chairs: MOON, Kyoung Il, KITECH

14:00

(31-B1C-S24-01) Advanced Hard Nanocoatings Deposited By Magnetron Sputtering: Present State And Trends (Keynote)MUSIL, Jindrich^{*1,2}

1. Department of Physics and NTIS - European Centre of Excellence, University of West Bohemia, Univerzitni 22, CZ - 306 14 Plzen, Czech Republic

2. Institute of Physics v.v.i., Academy of Sciences of the Czech Republic, Na Slovance 2, Praha 8, CZ - 18221, Czech Republic

14:30

(31-B1C-S24-02) Tribo-mechanical durability of SiC and SiCN coatings - effect of composition and thermal treatment (Invited)CTVRTLIK, Radim^{*1,2}; TOMASTIK, Jan^{1,2}; VACLAVEK, Lukas¹

1. Institute of Physics of the Czech Academy of Sciences, Joint Laboratory of Optics of Palacky University and Institute of Physics AS CR, Olomouc 772 07, Czech Republic

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. Regional Centre of Advanced Technologies and Materials, Joint Laboratory of Optics of Palacky University and Institute of Physics AS CR, Faculty of Science, Palacky University, Olomouc 772 07, Czech Republic

15:00

(31-B1C-S24-03) The mechanical properties of Zr-Cu-Si-N coatings deposited by magnetron sputtering process with single alloying target

LEE, Han Chan^{*1}; YOON, Hae Won¹; KIM, Soo Bin¹; JUNG, Hun¹; OH, Se Pil¹; MOON, Kyoung-Il¹

1. Heat treatment R&D group, Korea Institute of Industrial Technology, South Korea

15:15

(31-B1C-S24-04) Microstructural characteristics and mechanical properties of Zr-Cu-Si-N nanocomposite coatings

YOON, Hae Won^{*1,2}; LEE, Han Chan¹; KIM, Soo Bin¹; MOON, Kyoung-Il¹

1. Korea Institute of Industrial Technology

2. Pusan National University

Advanced Wear Resistant Coating II

Session Chairs: BYUNG-KOOG, Jang, Kyushu University

15:30

(31-B1C-S24-05) Air-based Sputtering Deposition of Transition Metal Oxynitride Thin Films (Keynote)

LU, Fu-Hsing^{*1}; LIOU, Yu-Chen¹; CHAN, Mu-Hsuan¹

1. National Chung Hsing University

16:00

(31-B1C-S24-06) Molecular simulation on adsorption behavior of polymethacrylate (PMA) on metal surface (Invited)

HIRAMOTO, Takuya^{*1}; MANABE, Yoshitaka²; ONUMATA, Yasushi²; TAKABA, Hiromitsu¹

1. Department of Environmental and Energy Chemistry, Kogakuin University

2. JXTG Nippon Oil & Energy Corporation

16:30

(31-B1C-S24-07) Evaluation of Hamaker constant of hematite particles in water

SAYANO, Akio^{*1}; SHINOZAKI, Kazuo¹; YASUDA, Kouichi¹

1. Department of Materials Science and Engineering, Tokyo Institute of Technology

16:45

(31-B1C-S24-08) Damage and Wear Resistance of CNTs, SiC Reinforced Al₂O₃ Composites

JANG, Byung-Koog^{*1}; LEE, Kee Sung²

1. Interdisciplinary Graduate School of Engineering Science, Kyushu University

2. School of Mechanical Engineering, Kookmin University

■ ■ October 31 (Thu) (Room B6) ■ ■

25:Direct Thermal-to-Electrical Energy Conversion Materials and Thermal Energy Harnessing Challenges

Oxides

Session Chairs: LEE, Soonil (1) ; GUILMEAU, Emmanuel (2), (1)Changwon National University, (2)CRISMAT

9:00

(31-B6-S25-21) Recent advances in thermoelectric thin films (Invited)

MELE, Paolo^{*1}

1. Shibaura Institute of Technology

9:30

(31-B6-S25-22) Microstructure and thermoelectric properties of [001]c grain-aligned Ca₃Co₄O₉ ceramics prepared by template grain growth

SHI, Zongmo^{*1,3}; XU, Jie^{1,3}; QIN, Mengjie^{1,3}; ZHANG, Yi^{1,3}; TONG, Gao^{2,3}; ZHU, Jihong^{2,3}; GAO, Feng^{1,3}

1. State Key Laboratory of Solidification Processing, MIIT Key Laboratory of Radiation Detection Materials and Devices, School of Material Science and Engineering, Northwestern Polytechnical University, Xi'an, 710072, P.R. China

2. State IJR Center of Aerospace Design and Additive Manufacturing, MIIT Lab of Metal Additive Manufacturing and Innovative Design, Northwestern Polytechnical University, Xi'an, 710072, P. R. China

3. NPU-QMUL Joint Research Institute of Advanced Materials and Structure, Northwestern Polytechnical University, Xi'an, 710072, P. R. China

9:45

(31-B6-S25-23) Microstructure and thermoelectric properties of Sr_{0.9}La_{0.1}TiO₃ ceramics with nano-sized metal particles as additive

QIN, Mengjie^{*1,2}; GAO, Feng^{1,2}; XU, Jie^{1,2}; SHI, Zongmo^{1,2}; ZHANG, Yi^{1,2}; REECE, Mike^{2,3}; YAN, Haixue^{2,3}

1. State Key Laboratory of Solidification Processing, MIIT Key Laboratory of Radiation Detection Materials and Devices, USI Institute of Intelligence Materials and Structure, School of Materials Science and Engineering, Northwestern Polytechnical University, Xi'an, 710072, China

2. NPU-QMUL Joint Research Institute of Advanced Materials and Structure, Northwestern Polytechnical University, Xi'an, 710072, China

3. School of Engineering and Materials Science, Queen Mary University of London, London, E1 4NS, United Kingdom

10:00

(31-B6-S25-24) Thermoelectric Performance of Porous Nb- and Ni-doped SrTiO₃ Containing Ni Nanoparticles Exsolved by Reducing Post-treatment

OHTAKI, Michitaka^{*1,2}; HIRATA, Shinji¹; SUEKUNI, Koichiro^{1,2}

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Interdisciplinary Graduate School of Engineering Sciences, Kyushu University
2. Transdisciplinary Research and Education Center for Green Technologies, Kyushu University

(10:15) Break**High-temperature Materials**

Session Chairs: MELE, Paolo (1) ; CHEN, Kuei-Hsien (2), (1)Shibaura Institute of Technology, (2)Institute of Atomic and Molecular Sciences-Academia Sinica-National Taiwan University

10:30**(31-B6-S25-25) Charge and Phonon Transport Engineering in Oxide Thermoelectrics (Invited)**

RAHMAN, Jamil Ur¹; LIM, Chang-Hyun¹; NAM, Woo Hyun¹; SHIN, Weon Ho¹; CHO, Jung Young¹; SEO, Won-Seon¹; LEE, Soonil²

1. Korea Institute of Ceramic Engineering and Technology
2. Changwon National University

11:00**(31-B6-S25-26) Investigation of transition metals-based chalcogenide and silicide thermoelectric materials (Invited)**

BERTHEBAUD, David¹

1. CNRS-Saint Gobain-NIMS, UMI 3629, Laboratory for Innovative Key Materials and Structures (LINK), National Institute for Materials Science, Tsukuba 305-0044, Japan

11:30**(31-B6-S25-27) Features of Electrical Resistivity and Thermal Conductivity in Modulation Doped Si₇₅Ge₂₅**

KHOVAYLO, Vladimir¹; SERGIENKO, Ilia¹; IVANOVA, Alexandra¹; MORI, Takao²

1. National University of Science and Technology "MISIS", Moscow 119049, Russia
2. International Center for Materials Nanoarchitectonics, National Institute for Materials Science, Tsukuba 305-0044, Japan

11:45**(31-B6-S25-28) Ultra-high temperature thermoelectric ceramic materials and possible applications**

MORI, Takao^{1,2}

1. National Institute for Materials Science (NIMS)
2. University of Tsukuba

■■October 31 (Thu) (Room B4) ■■

26: Ceramic Materials for Nuclear Energy**Ceramics for Nuclear Energy**

Session Chairs: FOX, Kevin, Savannah River National Laboratory

8:30**(31-B4-S26-01) Fuel Behavior Analysis Code FEMAXI-ATF Development for SiC Cladding Analysis for LWRs (Invited)**

YAMASHITA, Shinichiro¹; SHIRASU, Noriko¹; SAITO, Hiroaki¹

1. Japan Atomic Energy Agency

9:00**(31-B4-S26-02) Mastering the development of oxide fuel microstructure (Invited)**

VAUDEZ, Stephane¹; LEHELLE, Jacques²

1. CEA, DEN, MAR, DMRC, SFMA, LFC, F-30207 Bagnols-sur-Cèze Cedex, France
2. CEA, DEN, CAD, DEC, SESC, LM2C, F-13108 Saint-Paul-les-Durance Cedex, France

9:30**(31-B4-S26-03) Innovative processes for MOX fuel fabrication**

LA LUMIA, Florian¹; MOUGARD-CAMACHO, Pierre-Francois¹; RAMOND, Laure¹; BERNARD-GRANGER, Guillaume¹; PAGNOUX, Cecile²; DOREAU, Franck¹; VALETTE, Rudy³; LEMONT, Florent¹

1. CEA, DEN, DMRC, SFMA, LFC, F30207 Bagnols sur Cèze Cedex, France
2. Institute of Research for Ceramics (IRCER), 12 rue Atlantis, F87068 Limoges, France
3. MINES ParisTech, CEMEF, CNRS UMR 7635, F06904 Sophia Antipolis Cedex, France

9:45**(31-B4-S26-04) Effects of heating conditions on the particle characteristics of uranium oxide powders synthesized from uranyl nitrate solutions via microwave heating**

SEGAWA, Tomoo¹; KAWAGUCHI, Koichi¹; ISHII, Katsunori¹; FUKASAWA, Tomonori²; FUKUI, Kunihiro²

1. Japan Atomic Energy Agency
2. Department of Chemical Engineering, Graduate School of Engineering, Hiroshima University

10:00**(31-B4-S26-05) Direct synthesis of morphology-controlled UO_{2+x} through hydrothermal conversion of uranium (IV) carboxylates**

MANAUD, Jeremie¹; TRILLAUD, Victor¹; MAYNADIE, Jerome¹; MESBAH, Adel¹; DACHEUX, Nicolas¹; PODOR, Renaud¹; CLAVIER, Nicolas¹

1. ICSM, CEA, CNRS, ENSCM, Univ. Montpellier, Site de Marcoule, BP 17171, 30207 Bagnols/Cèze, France

(10:15) Break**Ceramics and Glass for Nuclear Waste Management**

Session Chairs: CLAVIER, Nicolas, ICSM, CEA, CNRS, ENSCM, Univ. Montpellier, Site de Marcoule

10:45**(31-B4-S26-06) Transmutation target of Am-Zr hydride to reduce nuclear wastes by fast reactor (Invited)**

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

KONASHI, Kenji^{*1}; HIRAI, Mutsumi²; MUTA, Hiroaki³; HIBI, Koki⁴; IKEDA, Kazuo⁵

1. Institute for Materials Research, Tohoku University, Oarai, Ibaraki-ken, 311-1313 Japan

2. Nippon Nuclear Fuel Development Co. Ltd., Oarai, Ibaraki-ken, 311-1313, Japan

3. Division of Sustainable Energy and Environmental Engineering, Graduate School of Engineering, Osaka University, Suita, Osaka-fu, 565-0871, Japan

4. Mitsubishi FBR Systems, Inc., Shibuya, Tokyo, 150-0001, Japan

5. Nuclear Development Corporation, Tokai-mura, Ibaraki-ken, 319-1111 Japan

11:15

(31-B4-S26-07) Phosphate based matrices for the specific conditioning of actinides (Invited)

MESBAH, Adel^{*1}; QIN, Danwen¹; RAFIUDDIN, Mohamed Ruwaid¹; CLAVIER, Nicolas¹; SZENKNECT, Stephanie¹; DESCHANELS, Xavier¹; DACHEUX, Nicolas¹

1. ICSM, CEA, CNRS, ENSCM, Univ Montpellier, Site de Marcoule, Bat 426, 30207 Bagnols Sur Ceze, France

11:45

(31-B4-S26-08) Coupling Damage and Transport in Complex Oxides

KRELLER, Cortney R¹; VALDEZ, James A²; PILANIA, Ghanshyam²; PERRIOT, Romain³; JANISH, Matthew T²; UBERUAGA, Blas P^{*2}

1. Materials Physics and Applications Division, Los Alamos National Laboratory, Los Alamos, NM 87545

2. Materials Science and Technology Division, Los Alamos National Laboratory, Los Alamos, NM 87545

3. Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM 87545

Session Chairs: FOX, Kevin, Savannah River National Laboratory

13:30

(31-B4-S26-09) Hot Isostatic Pressing and Chemical Alteration of Zirconolite Ceramics for the Immobilisation of Surplus Plutonium

BLACKBURN, Lewis Robert^{*1}; HYATT, Neil¹; STENNETT, Martin¹; CRAWFORD, Rachel¹; CORKHILL, Claire¹; SUN, Shikuan¹; GARDNER, Laura¹; WALLING, Samuel¹

1. Immobilisation Science Laboratory, Department of Materials Science and Engineering, Mappin Street, University of Sheffield, S13JD

13:45

(31-B4-S26-10) Solidification of concrete wastes from decommissioning of nuclear power plants with magnesium phosphate cements

PYO, Jae-Young^{*1}; HEO, Jong¹

1. Division of Advanced Nuclear Engineering, Pohang University of Science and Technology (POSTECH), Pohang 37673, Republic of Korea

14:00

(31-B4-S26-11) Development of inorganic composite (SiO₂-Al₂O₃-P₂O₅) to treat radioactive salt waste generated from pyroprocess

KIRAK, Lee^{*1}; HWAN-SEO, Park¹; JUNG-HOON, Choi¹; HYUN WOO, Kang¹

1. KOREA ATOMIC ENERGY RESEARCH INSTITUTE (KAERI)

14:15

(31-B4-S26-12) Synthesis, Characterization and Corrosion of Simulant Chernobyl and Fukushima Nuclear Fuel Debris (Invited)

GAUSSE, Clemence¹; STENNETT, Martin¹; BAILEY, Daniel¹; BARLOW, Sean¹; DING, Hao¹; HYATT, Neil¹; KRASNOV, Viktor²; SAYENKO, Sergey³; WASHIYA, Tadahiro⁴; UESAKA, Mitsuru⁵; SHIBA, Tomooki⁴; CORKHILL, Claire^{*1}

1. NucleUS Immobilisation Science Laboratory, University of Sheffield, Sheffield, UK

2. Institute for Safety Problems of Nuclear Power Plants, National Academy of Sciences of Ukraine, Kyiv, Ukraine.

3. National Science Center Kharkov Institute of Physics and Technology, Kharkov, Ukraine.

4. Collaborative Laboratories for Advanced Decommissioning Science (CLADS), Iwaki-shi, Fukushima, Japan

5. Department of Bioengineering, The University of Tokyo, Tokyo, Japan

14:45

(31-B4-S26-13) Radioactive Waste Management by Novel Ceramic Cold-sintering (Invited)

UL HASSAN, Muhmood¹; RYU, Ho Jin^{*1}

1. Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology

15:15

(31-B4-S26-14) Valence state of noble metal Pd in nuclear waste borosilicate glass aged around Tg

YANO, Tetsuji^{*1}; MIDORIKAWA, Mio¹; MATSUSHITA, Nobuhiro¹; KISHI, Tetsuo¹

1. Department of Materials Science and Engineering, Tokyo Institute of Technology, Tokyo 152-8550, Japan

(15:30) Break

Session Chairs: CLAVIER, Nicolas, ICSM, CEA, CNRS, ENSCM, Univ. Montpellier, Site de Marcoule

16:00

(31-B4-S26-15) Modelling radiation damage in glasses: increasing disorder

DICKS, Oliver^{*1}; DIVER, Aaron¹; TRACHENKO, Kostya¹

1. Queen Mary University of London

16:15

(31-B4-S26-16) Tellurite Glasses for Immobilization of Highly Volatile Radioactive Nuclides

HEO, Jong^{*1}; LEE, Cheong Won¹; PYO, Jae-Young¹

1. Pohang University of Science and Technology

16:30

(31-B4-S26-17) Improved Melter Technologies and Glass Formulations for HLW Vitrification

SAKAI, Akira^{*1}

1. Japan Nuclear Fuel Limited

****** asterisk Indicates an oral presenter

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16:45

(31-B4-S26-18) Observations of Crystal Settling in a Full-Scale Nuclear Waste Glass Melter Test SystemFOX, Kevin M.^{*1}; FOWLEY, Mark D.¹; KRUGER, Albert A.²

1. Savannah River National Laboratory, Aiken, SC 29803, USA

2. U.S. Department of Energy Office of River Protection, Richland, WA99354, USA

■■October 31 (Thu) (Room B2) ■■**28:Photo-functional Inorganic Materials**

Session Chairs: HASEGAWA, Takuya, Kochi University

8:30

(31-B2-S28-13) Tunable trap depth in rare earth doped Zn₃Ga₂Si₂O₁₀ persistent luminescence materials for information storage applicationsZHANG, Ying^{*1,2}; DENG, Mingxue¹; WANG, Caiyan¹; ZHENG, Zhehan¹; ZHANG, Xiang¹; ZHOU, Zhenzhen¹; XU, Xiaoke¹; LIU, Qian¹; SONG, Zhitang²

1. The Key Laboratory of Inorganic Functional Materials and Devices, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China

2. State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Micro-system and Information Technology, Chinese Academy of Sciences, Shanghai 200050, China

8:45

(31-B2-S28-14) Synthesis and Luminescence Properties of Ba₂LiSi_{7-x}Al_{1+x}N_{12-x}O_x:Eu PhosphorTAKEDA, Takashi^{*1}; KATO, Kousuke²; KIYONO, Hajime²; HIROSAKI, Naoto¹

1. National Institute for Materials Science

2. Shibaura Institute of Technology

Session Chairs: TODA, Kenji, Niigata University

9:00

(31-B2-S28-15) Modeling of Emission Properties of Structural Distortion Induced Substituted Halide Perovskites (Invited)TAKABA, Hiromitsu^{*1}; KIMURA, Shou¹; OONO, Takaya¹

1. Department of Environmental Chemistry and Chemical Engineering, School of Advanced Engineering, Kogakuin University

9:30

(31-B2-S28-16) Study on Red-Emission Scintillation Materials ~Crystals & powders~ (Invited)KUROSAWA, Shunsuke^{*1}; KURASHIMA, Yutaro¹; YAMAJI, Akihiro¹; KODAMA, Shohei¹; TOYODA, Satoshi¹; YOSHINO, Masao¹; SATO, Hiroki¹; KAMADA, Kei¹; YOKOTA, Yuui¹; OHASHI, Yuji¹; YOSHIKAWA, Akira¹

1. Tohoku Univ.

Session Chairs: TODA, Kenji, Niigata University

10:15

(31-B2-S28-17) Photocatalyst materials for artificial photosynthesis (Invited)KUDO, Akihiko^{*1}

1. Tokyo University of Science

Session Chairs: IDA, Shintaro, Kumamoto University

10:45

(31-B2-S28-18) Thermal Treatment Effect on Peroxo-lepidocrocite Titanate Nanotube and its Photocatalytic ActivityPARK, Hyunsu^{*1}; GOTO, Tomoyo¹; CHO, Sunghun¹; SEKINO, Tohru¹

1. Department of Advanced Hard Materials, The Institute of Scientific and Industrial Research (ISIR), Osaka University, Osaka, Japan

11:00

(31-B2-S28-19) Construction of a hierarchical Z-scheme photocatalyst composed of zinc rhodium oxide and bismuth vanadate for overall water splittingTAKASHIMA, Toshihiro^{*1}; MORIYAMA, Narumi²; FUJISHIRO, Yukitaka²; OHTANI, Bunsho³; IRIE, Hiroshi¹

1. Clean Energy Research Center, University of Yamanashi

2. Department of Applied Chemistry, Faculty of Engineering, University of Yamanashi, Yamanashi

3. Institute for Catalysis, Hokkaido University, Hokkaido

11:15

(31-B2-S28-20) Formation mechanism of hexagonal platelet delafossite CuGaO₂ by hydrothermal synthesisHAYASHI, Naoki^{*1,2}; CHOI, Min Uk^{1,2}; HAYAKAWA, Tomokatsu^{1,2}

1. Field of Advanced Ceramics, Department of Life Science and Applied Chemistry, Nagoya Institute of Technology

2. Frontier Research Institute of Materials Science (FRIMS), Nagoya Institute of Technology

Session Chairs: TODA, Kenji, Niigata University

11:30

(31-B2-S28-21) Two-dimensional Nanomaterials for Artificial Photosynthesis: Turning CO₂ into a Valuable Resource (Invited)CHEN, Li-Chyong^{*1,2}; SHOWN, Indrajit³; DU, He-Yun^{1,2}; LIEN, Hsiang-Ting^{1,2}; CHANG, Yu-Chung¹; CHEN, Kuei-Hsien^{1,3}

1. Center for Condensed Matter Sciences, National Taiwan University, Taipei 106, Taiwan

2. Center of Atomic Initiative for New Materials, National Taiwan University, Taipei 106, Taiwan

3. Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei 106, Taiwan

Session Chairs: MASUI, Toshiyuki, Tottori University

“*” asterisk Indicates an oral presenter

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13:30

(31-B2-S28-22) Hydrothermal synthesis of CuGaO₂ and CuGaO₂/ZnO hybrids and their photocatalytic propertiesCHOI, Minuk^{*1,2}; YAGI, Sota³; OHTA, Yasuhiro³; KIDO, Kenji³; HAYAKAWA, Tomokatsu^{1,2}

1. Field of Advanced Ceramics, Department of Life Science and Applied Chemistry, Nagoya Institute of Technology

2. Frontier Research Institute of Materials Science (FRIMS), Nagoya Institute of Technology

3. KAWAI LIME INDUSTRY Co. Ltd.

13:45

(31-B2-S28-23) Preparation and Photocatalytic Activity of Calcium Tantalum Oxynitride Nanosheets (Invited)IDA, Shintaro^{*1}; IDETA, Takumi¹; AWAYA, Keisuke¹; KOINUMA, Michio¹

1. Faculty of Advanced Science and Technology, Kumamoto University

14:15

(31-B2-S28-24) 1.3 nm-thick Ti_{0.91}O₂/Ni(OH)_{1.76} Nanosheet Bilayer pn JunctionAWAYA, Keisuke^{*1}; KOINUMA, Michio¹; IDA, Shintaro¹

1. Graduate School of Science and Technology, Kumamoto University

Session Chairs: KUROKI, Yuichiro, Salesian Polytechnic

14:30

(31-B2-S28-25) Nanoscale 3-D Performance of Thin Film PhotovoltaicsSONG, Jingfeng¹; MARTIN, Michael¹; ATAMANUK, Katherine¹; HUEY, Bryan^{*1}

1. University of Connecticut, Dept. of Materials Science and Engineering

14:45

(31-B2-S28-26) Bismuth chalcogenide iodides of Bi₁₃S₁₈I₂: Solvothermal Synthesis, Photoelectronic Behavior, and Photovoltaic PerformanceLI, Sen^{*1}; XU, Linfeng¹; QI, Feng¹

1. Kagawa University

Session Chairs: HAMAGAMI, Junichi, Kanto Gakuin University

15:00

(31-B2-S28-27) Novel Inorganic Black Pigments Based on Ca₂MnO₄ for High Near-Infrared (NIR) ReflectanceOKA, Ryohei^{*1}; IWASAKI, Senri²; MASUI, Toshiyuki^{2,3}

1. Graduate School of Engineering, Tottori University

2. Faculty of Engineering, Tottori University

3. Center for Research on Green Sustainable Chemistry, Tottori University

15:15

(31-B2-S28-28) Development of Ba₂(Si_{1-x}Mn_x)O₄ as novel blue pigmentsHANADA, Ryu^{*1}; UEMATSU, Kazuyoshi²; TODA, Kenji¹; SATO, Mineo¹; MASUI, Toshiyuki³

1. Graduate School of science and Technology, Niigata University, Niigata 950-2181, Japan

2. Department of Chemistry and Chemical Engineering, Niigata University, Niigata 950-2181, Japan

3. Department of Chemistry and Biotechnology, Graduate School of Engineering, Tottori University, 4-101, Koyama-cho Minami, Tottori 680-8552, Japan

15:30

(31-B2-S28-29) Soft Chemical Synthesis of Non-Oxide Phosphors Using Novel Water-Assisted Solid-State Reaction methodTODA, KENJI^{*1}; YOON, DAE HO^{2,3}

1. Niigata Univ.

2. School of Advanced Materials Science & Engineering, Sungkyunkwan Univ.

3. SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan Univ.

■■October 31 (Thu) (Room C1) ■■**29:Liquid-mediated Structuring of Ceramics and Organic-inorganic Hybrid Materials****Novel Synthesis**

Session Chairs: SUGAHARA, Yoshiyuki, Waseda University

8:45

(31-C1-S29-26) Nitrides via precursor chemistry and processing (Invited)BERNARD, Samuel^{*1}

1. Univ. Limoges, CNRS, IRCER, UMR 7315, F-87000, Limoges, France

9:15

(31-C1-S29-27) Additive Manufacturing of Ceramics from Preceramic Polymers (Invited)COLOMBO, Paolo^{*1}; SCHMIDT, Johanna^{1,2}; FRANCHIN, Giorgia¹; ELSAYED, Hamada¹; HUANG, Kai¹

1. University of Padova

2. Schunk Group

9:45

(31-C1-S29-28) Sol-gel like chemistry in supercritical fluids for advanced nanostructured ceramics and organic-inorganic hybrid materials (Invited)AYMONIER, Cyril^{*1}; AUXEMERY, Aimery¹; PHILIPPOT, Gilles¹; ELISSALDE, Catherine¹; MAGLIONE, Mario¹

1. CNRS, Univ. Bordeaux, Bordeaux INP, ICMCB, UMR 5026, F-33600 Pessac

(10:15) Break

“*” asterisk Indicates an oral presenter

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Nanomaterials

Session Chairs: BERNARD, Samuel, CNRS

10:30

(31-C1-S29-29) Nano-hybridization of Titania Nanotubes using Facile In-situ Solution-based Process and Their Structures and Functions (Invited)

TSUKATANI, Kota¹; EOM, Sunghun¹; TSUKUDA, Satoshi²; GOTO, Tomoyo¹; CHO, Sung Hun¹; SEKINO, Tohru^{*1}

1. The Institute of Scientific and Industrial Research (ISIR), Osaka University, Japan

2. Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University, Japan

11:00

(31-C1-S29-30) Microwave-assisted metal-induced crystallization in solution of mesostructured TiO₂ microspheres (Invited)

DRISKO, Glenna L.^{*1}; DANTY, Paul M. P.¹; CORMARY, Benoît¹; MAZEL, Antoine¹; DE MARCO, Maria L.¹; ALLOUCHE, Joachim²; FLAHAUT, Delphine²; DELVILLE, Marie-Helene¹

1. CNRS, Université de Bordeaux, Bordeaux INP, ICMCB, UMR 5026, 33600 Pessac (France)

2. CNRS, Univ. Pau & Pays Adour, E2S UPPA, Institut des Sciences Analytiques et de Physicochimie pour l'Environnement et les Matériaux, UMR 5254, 64000 Pau (France)

11:30

(31-C1-S29-31) Preparation of Titania Hollow Spheres with Thin Shell Using Peroxotitanium Complex and Silica Template

SASAKI, Moe^{*1}; YAMAMOTO, Eisuke²; MATSUNO, Takamichi¹; WADA, Hiroaki¹; SIMOJIMA, Atsushi^{1,3}; KURODA, Kazuyuki^{1,3}

1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University, Tokyo 169-8555, Japan

2. Institute of Materials and Systems for Sustainability, Nagoya University, Aichi 464-8601, Japan

3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo 169-0051, Japan

11:45

(31-C1-S29-32) Reactivity of Vinyl Group on the Surface of TiO₂ Nanoparticles Modified with Vinylphosphonic Acid

MIKI, Anri^{*1}; IDOTA, Naokazu²; GUEGAN, Régis³; SUGAHARA, Yoshiyuki^{1,4}

1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University

2. Department of Chemical Science and Technology, Faculty of Bioscience and Applied Chemistry, Hosei University

3. Global Center for Science and Engineering, Waseda University

4. Kagami Memorial Institute for Materials Science and Technology, Waseda University

Session Chairs: AYMONIER, Cyril, CNRS

13:30

(31-C1-S29-33) Solution-phase Syntheses of Multinary Semiconductor Nanocrystals Composed of Less-toxic Elements and Their Photochemical Properties (Invited)

TORIMOTO, Tsukasa^{*1}; KAMEYAMA, Tatsuya¹; KUWABATA, Susumu²

1. Graduate School of Engineering, Nagoya University

2. Graduate School of Engineering, Osaka University

14:00

(31-C1-S29-34) Synthesis, Morphology and Crystallography of Cobalt Thiolates Nanoparticles

MATSUKAWA, Yuko^{*1}; HASEGAWA, George¹; AKAMATSU, Hirofumi¹; HAYASHI, Katsuro¹

1. Department of Applied Chemistry, Kyushu University

14:15

(31-C1-S29-35) Preparation of Fe₃O₄ nanoparticles modified with *n*-dodecylphosphonic acid *via* a one-pot nonaqueous process using an oxidation of tetrachloroferrate (III) anions

KAMURA, Atsuo^{*1}; IDOTA, Naokazu²; SUGAHARA, Yoshiyuki^{1,3}

1. Kagami Memorial Res. Inst. Mater. Sci. Tech., Waseda University

2. Faculty of Bioscience and Applied chemistry, Hosei University

3. Department of Applied chemistry, Waseda University

Session Chairs: SEKINO, Tohru, Osaka University

14:30

(31-C1-S29-36) Hydrothermal Synthesis of layered Niobium Phosphates and delaminated

YOSHIDA, Yuichiro^{*1}; HASEGAWA, George¹; AKAMATSU, Hirofumi¹; HAYASHI, Katsuro¹

1. Kyushu University

14:45

(31-C1-S29-37) Preparation of water dispersible Janus nanosheets using layered hexanaibate and their interfacial behavior

NAGAI, Tomoki^{*1}; SUZUKI, Ryoko²; GUEGAN, Régis³; NISHIMI, Taisei⁴; ONITSUKA, Emika⁵; KUNITAKE, Masashi⁵; SUGAHARA, Yoshiyuki^{1,2}

1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University

2. Kagami Memorial Institute for Materials Science and Technology, Waseda University

3. Global Center for Science and Engineering, Waseda University

4. Japan Technological Research Association of Artificial Photosynthetic Chemical Process (ARPCChem)

5. Graduate School of Science and Technology, Kumamoto University

15:00

(31-C1-S29-38) Interlayer Grafting of Kaolinite with Trimethylphosphate

MACHIDA, Shingo^{*1}; IDOTA, Naokazu²; SUGAHARA, Yoshiyuki^{1,3}

1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University

"*" asterisk Indicates an oral presenter

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2. Department of Chemical Science and Technology, Faculty of Bioscience and Applied Chemistry, Hosei University
3. Kagami Memorial Institute for Materials Science and Technology, Waseda University

■■October 31 (Thu) (Room C2) ■■

30:Advanced Materials and Processing for Power Electronics Application

Highly-heat-resistant capacitors

Session Chairs: TAKEDA, Hiroaki, Tokyo Institute of Technology

9:00

(31-C2-S30-08) Development of Ceramic Film Capacitors for High-Temperature Power Electronics (Keynote)

BALACHANDRAN, U (Balu)^{*1}; MA, Beihai¹; LEE, Tae¹; DORRIS, Stephen¹

1. Argonne National Laboratory

Session Chairs: BALACHANDRAN, U (Balu), Argonne National Laboratory

9:45

(31-C2-S30-09) Development of Dielectric Materials for Heat Resistant Capacitor (Invited)

TSURUMI, Takaaki^{*1}; TAKEDA, Hiroaki¹; HOSHINA, Takuya¹

1. Tokyo Institute of Technology

(10:15) Break

Highly-heat-resistant capacitors

Session Chairs: BALACHANDRAN, U (Balu), Argonne National Laboratory

10:30

(31-C2-S30-10) Bi-containing complex perovskite ceramic dielectrics for high-temperature/high-energy capacitor applications (Invited)

KWON, Do-Kyun^{*1}; GOH, Yumin¹; SONG, Taeyoung¹

1. Department of Materials Engineering, Korea Aerospace University, KOREA

Session Chairs: KWON, Do-Kyun, Korea Aerospace University

11:00

(31-C2-S30-11) Structure and Piezoelectric Property of Ba₃TaGa₃Si₂O₁₄ Single Crystals Grown by Czochralski Method

TAKEDA, Hiroaki^{*1}; USUI, Haruki¹; HOSHINA, Takuya¹; TSURUMI, Takaaki¹

1. Tokyo Institute of Technology

11:15

(31-C2-S30-12) High temperature analysis by Nyquist diagrams for CaZrO₃ based dielectric capacitors

SUZUKI, Muneyasu^{*1,2}; USHIJIMA, Hiroshi¹; TSUCHIYA, Tetsuo²; SAITO, Kenji³; NAKADA, Yosuke³; MIZUNO, Youichi³

1. Human Augmentation Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

2. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

3. R&D Center, TAIYO YUDEN Co., LTD.

Electronic packaging for power device

Session Chairs: SUGAWARA, T., Osaka University

13:15

(31-C2-S30-13) Packaging Material Technology for Wide Band Gap Power Devices and Its Performance/Reliability Evaluation (Invited)

SUGANUMA, Katsuki^{*1}; CHEN, Chuantong¹; SUGAHARA, Toru¹; NAGAO, Shijo¹; SATO, Naoki¹; SUETAKE, Atsushi¹; CHOE, Chanyan¹;

KIM, Donjin¹; TAKATA, Shuhei¹

1. Osaka University

13:45

(31-C2-S30-14) Structural strategy for low temperature sintering of copper (Invited)

YONEZAWA, Tetsu^{*1}

1. Hokkaido University

14:15

(31-C2-S30-15) Ag and Si particles sintering technology for SiC power device (Invited)

UESHIMA, Minoru^{*1}; MOTOTSUJI, Tomoaki²; ISONO, Yusuke²; HAGA, Motoharu¹

1. Daicel Corporation

2. Osaka University, Graduate School of Engineering

14:45

(31-C2-S30-16) Influence of Temperature on Welding Process of CLCC-3 Package Components Using AuSn20 Solder

ZHAO, Zhihuan^{*1,2,3}; GONG, Guanghao¹; LIU, Weili²; CHEN, Chuanzhong¹; PAN, Yingyue²; WANG, Feng²; ZHANG, Li³; LIU, Lili³

1. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Department of Materials Science and Engineering, Shandong University

2. School of Mechanical and Electronic Engineering, Shandong Agricultural and Engineering University

3. Jinan Semiconductor Research Institute

(15:00) Break

Ceramic circuit boards

Session Chairs: HIRAO, K., AIST

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

15:15

(31-C2-S30-17) Development of High-Thermal-Conductivity Silicon Nitride Substrates (Invited)ZHOU, You^{*1}; HYUGA, Hideki¹; MIYAZAKI, Hiroyuki¹; HIRAO, Kiyoshi¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

15:45

(31-C2-S30-18) Ceramics and metal-based substrate for power electronics application (Invited)HIROTUSU, Hideki^{*1}; TANIGUCHI, Yoshitaka²; IWAKIRI, Shoji²

1. Denka

2. Denka

Session Chairs: NAKAJIMA, Tomohiko, AIST

16:15

(31-C2-S30-19) Characterization of epoxy resin composites loaded with combustion synthesized silicon nitrideSHIMAMURA, Akihiro^{*1}; HYUGA, Hideki¹; HOTTA, Yuji¹; HOTTA, Mikinori¹; HIRAO, Kiyoshi¹

1. National Institute of Advanced Industrial Science and Technology

16:30

(31-C2-S30-20) Investigation of aluminum and ceramic substrates joined samples with thermal stress relieving layersKITA, Ken'ichiro^{*1}; KONDO, Naoki¹; HOTTA, Mikinori¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

16:45

(31-C2-S30-21) Assessment of thermal fatigue during high temperature cycling for active metal brazing ceramic substratesHIRAO, Kiyoshi^{*1}; MIYAZAKI, Hiroyuki¹; ZHOU, You¹; HYUGA, Hideki¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

■■October 31 (Thu) (Room A3) ■■

34:Analysis of Cultural Heritage: Discoveries and Understanding**Analysis of Cultural Heritage**

Session Chairs: GATES, Glenn, Walters Art Museum

9:00

(31-A3-S34-01) Micro-Raman spectroscopy and complementary techniques (OM, SEM-EDS and FTIR) applied to the study of a Mahamayuri Vidyarajni SutraLIU, Liu^{*1,2}; GONG, Decai²

1. Institute of Culture and Heritage, Northwestern Polytechnical University

2. Basic Research Center of Conservation Science, Department of History of Science and Scientific Archaeology, University of Science and Technology of China

9:15

(31-A3-S34-02) Studies on the Pigments in Ancient Thai ManuscriptsBUNTEM, Radchada^{*1,2}; RUEANGYODJANTANA, Jutamas²

1. Department of Chemistry, Faculty of Science, Silpakorn University, Nakorn Pathom 73000, Thailand

2. Center of Excellence in Design Materials, Faculty of Science, Silpakorn University

9:30

(31-A3-S34-03) Discrimination between Soot-Based Inks Using Raman SpectroscopyGIACCAI, Jennifer^{*1,2}; MILLER, J. Houston²

1. Freer/Sackler Galleries, Smithsonian Institution, Washington DC, USA

2. Department of Chemistry, George Washington University, Washington DC, USA

10:00

(31-A3-S34-05) Nanostructured materials for the preservation and conservation of artefacts of artistic and archeological interest (Invited)SALADINO, MARIA LUISA^{*1}

1. Dipartimento Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche - STEBICEF and INSTM UdR - Palermo, Università di Palermo, Viale delle Scienze pad.17, Palermo I-90128, Italy

10:30

(31-A3-S34-06) Origin of colors in glazes from the "Manufacture of Sèvres"CORMIER, Laurent^{*1}; VERGER, Louisiane^{1,2}; NOIROT, Cecile¹; DARGAUD, Olivier²

1. IMPMC, Sorbonne Université, CNRS, MNHN, IRD, Paris, France

2. Cité de la Céramique, Sèvres et Limoges, France

(10:45) Break

Session Chairs: MCCARTHY, Blythe, Freer Sackler, Smithsonian Institution

11:15

(31-A3-S34-07) Far from the Mainland: The History and Conservation of Okinawan Ceramics (Keynote)DANI, Anya Ruth^{*1}

1. Okinawa Institute of Science & Technology

11:45

(31-A3-S34-08) Technical Spectral Imaging of a 13th Century Japanese Handscroll

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

CLARKE, Matthew L.¹; ROWBERG, Kathryn L.²; GABRIELI, Francesca^{3,4}; HARE, Andrew¹; MCCARTHY, Blythe^{*1}; DELANEY, John K.³
 1. Department of Conservation and Scientific Research, Freer Gallery of Art and Arthur M. Sackler Gallery, Washington, DC 20013-7012, USA
 2. Department of Chemistry & Physics, Purdue University Northwest, Hammond, IN 46323, USA
 3. Scientific Research Department, National Gallery of Art, Washington, DC 20001, USA
 4. Scientific Department, Rijksmuseum, Amsterdam XX 1071, Netherlands

12:00

(31-A3-S34-09) Scanning Electron Microscopy Atlas of the Effects of Treatments Used in Metals Conservation: End User Research.

WILLEY, Jo^{*1}; SCHULZE, Henning²; COLSTON, Belinda³
 1. Conservation Department, National Gallery of Australia, Parkes ACT 2600, Australia
 2. School of History and Heritage, College of Arts, University of Lincoln, Lincoln LN6 7TS, UK
 3. School of Chemistry, College of Science, University of Lincoln, Lincoln LN6 7TS, UK

12:15

(31-A3-S34-10) Accurate Identification of the Liquor Contained in Excavated Plum Vase

ZHU, Zhanyun^{*1}; YU, Chunlei²
 1. Institute of Culture and Heritage, Northwestern Polytechnical University, Xi'an 710072, China
 2. Shaanxi Provincial Institute of Archaeology, Xi'an 710000, China

12:30

(31-A3-S34-11) Vitrified Hillforts: Ancient Buildings of Glass from Stone

MCCLOY, John^{*1,2,3}; MARCIAL, Jose^{2,3}; AHMADZADEH, Mostafa²; PEARCE, Carolyn³; SCHWEIGER, Mike³; WEAVER, Jamie⁴; VICENZI, Edward⁵; OGENHALL, Erik⁶; SJOBLÖM, Rolf⁷; KRUGER, Albert⁸
 1. Washington State University
 2. University of Sheffield
 3. Pacific Northwest National Laboratory
 4. National Institute of Standards and Technology
 5. Museum Conservation Institute, Smithsonian Institution
 6. Arkeologerna, Geoarchaeological Laboratory, National Historical Museums
 7. Luleå University of Technology
 8. US Department of Energy

■■October 31 (Thu) (Room B1B) ■■

35:Virtual Materials Design and Ceramic Genome

Modeling of performances

Session Chairs: UBERUAGA, Blas, Los Alamos National Laboratory, USA

8:30

(31-B1B-S35-10) Computer Simulation of Radiation Effects of GaAs/AlAs Superlattice (Invited)

XIAO, Haiyan^{*1}; JIANG, Ming¹; ZU, Xiaotao¹
 1. School of Physics, University of Electronic Science and Technology of China, Chengdu, 610054, China

9:00

(31-B1B-S35-11) Modeling Radiation Damage in Ceramics (Keynote)

WEBER, William^{*1,2}; ZARKADOULA, Eva²; ZHANG, Yanwen^{2,1}
 1. Department of Materials Science and Engineering, University of Tennessee, Knoxville, TN 37996, USA
 2. Materials Science & Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA

9:30

(31-B1B-S35-12) Mechanical modeling of SiC/SiC composites via damage mechanics, difficulties and solutions. (Invited)

BARANGER, Emmanuel^{*1}
 1. LMT, ENS Paris-Saclay, CNRS, Université Paris-Saclay

10:00

(31-B1B-S35-13) Multiscale modelling approach to explain size effect in UHTCMCs

JAIN, Neraj^{*1}; HYSA, Ilda¹; GALIZIA, Pietro²; VINCI, Antonio²; KOCH, Dietmar¹; SCITI, Diletta²
 1. Department of Ceramic Composites and Structures, German Aerospace Centre, 70569 Stuttgart, Germany
 2. National Research Council of Italy-Institute of Science and Technology for Ceramics, 48018 Faenza, Italy

(10:15) Break

Genome, informatics and machine learning

Session Chairs: WEBER, William, University of Tennessee, USA

10:30

(31-B1B-S35-14) Yet Another Way to Control Thermal Expansion to Elongate Lifetime of Environmental Barrier Coatings for CMC-based Jet Engine Turbine Blades (Invited)

YOSHIYA, Masato^{*1,2}; YAMAMOTO, Shotaro¹; SUMI, Yusuke¹; FUJII, Susumu^{1,2}
 1. Department of Adaptive Machine Systems, Osaka University, Japan
 2. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Japan

11:00

(31-B1B-S35-15) Phonon Engineering in multifunctional thermal and environmental barrier coating materials (Invited)

WANG, Jingyang^{*1}
 1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, China

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

11:30**(31-B1B-S35-16) Defect Dynamics in Perovskite Oxide Superlattices (Invited)**XU, Haixuan^{*1}

1. Department of Materials Science and Engineering, The University of Tennessee, Knoxville, TN, USA

Session Chairs: TOYOURA, Kazuaki, Kyoto University, Japan

13:30**(31-B1B-S35-17) Dislocations in Inorganic Crystals as Ceramic Genome (Keynote)**MATSUNAGA, Katsuyuki^{*1,2}

1. Nagoya University

2. Japan Fine Ceramics Center

14:00**(31-B1B-S35-18) Materials that Glow: discovering and designing new scintillators with machine learning (Invited)**PILANIA, Ghanshyam¹; TALAPATRA, Anjana¹; STANEK, Christopher R¹; MCCLELLAN, Kenneth J¹; BARTA, Jan¹; WIGGINS, Brenden W¹; HAINES, Todd J²; UBERUAGA, Blas P^{*1}

1. Materials Science and Technology Division, Los Alamos National Laboratory, Los Alamos, NM 87545

2. Physics Division, Los Alamos National Laboratory, Los Alamos, NM 87545

14:30**(31-B1B-S35-19) Accelerated materials development enabled by collaborative materials informatics**MARTIN, Nicolas^{*1}; ZHAO, Wen¹; DI STEFANO, Davide¹

1. Granta Design Ltd, Ansys inc.

14:45**(31-B1B-S35-20) Accelerated discovery of superionic conductors by practical combinatorial chemistry assisted with materials informatics**MATSUBARA, Masato^{*1}; SUZUMURA, Akitoshi¹; OHBA, Nobuko¹; ASAH, Ryoji¹

1. Toyota Central R&D Labs., Inc.

(15:00) Break

Session Chairs: BARANGER, Emmanuel, CNRS, France

15:15**(31-B1B-S35-21) Potential energy surface mapping by machine learning for characterizing atomic diffusion in crystals (Invited)**TOYOURA, Kazuaki^{*1,2}

1. Department of Materials Science and Engineering, Kyoto University

2. RIKEN Center for Advanced Intelligence Project

15:45**(31-B1B-S35-22) Thermodynamic materials genome: The ab initio Materials Project CALPHAD database aiMP**TO BABEN, Moritz¹; PETERSEN, Stephan^{*1}; TANG, Florian¹; ARAS, Caglayan¹; HACK, Klaus¹

1. GTT-Technologies, Herzogenrath, 52134, Germany

16:00**(31-B1B-S35-23) Computational design strategy for disordered complex oxides (Invited)**COOPER, Valentino R.^{*1}; PITIKE, Krishna Pitike¹; BRIDGES, Craig A.²

1. Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37380, USA

2. Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN 37380, USA

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

■ ■ October 28 (Mon) (Room P(Exhibition Hall)) ■ ■
18:10-20:10

Poster presentation core time

18: 10-19: 10 (Last 2 digits of presentation number are odd numbers)

19: 10-20: 10 (Last 2 digits of presentation number are even numbers)

01:Crystalline and Amorphous Transparent Optical Materials and Photonic Technologies

(28-P-S01-01) SPS conditions for fabrication of transparent alumina and effect of crystallographic orientation on mechanical properties

MATSUI, Kazuto^{*1,2}; KIYONO, Hajime¹; BYUNG-NAM, Kim³; SUZUKI, Tohru S.²

1. Dept. of Applied Chemistry, Shibaura Institute of Technology

2. Ceramics Processing Group, National Institute for Materials Science

3. Field-Assisted Sintering Group, National Institute for Materials Science

18:10

(28-P-S01-02) Manufacture and Properties of Transparent ALON Ceramics

MAO, Xiaojian^{*1,2}; WANG, Shiwei^{1,2}

1. Key Laboratory of Transparent Opto-functional Inorganic Materials, Shanghai Institute of Ceramics, Chinese Academy of Sciences

2. State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences

(28-P-S01-03) Study of ultraviolet penetration depth of oxide phosphor film: Pr-doped Ca_{0.6}Sr_{0.4}TiO₃

OSHIME, Norihiro^{*1}; TAKASHIMA, Hiroshi¹

1. National Institute of Advanced Industrial Science and Technology

(28-P-S01-04) Modifying thermometric parameters by means of band gap engineering

SOJKA, Malgorzata^{*1}; RAMALHO, Joao F. C. B.²; BRITES, Carlos D. S.²; CARLOS, Luis D.²; ZYCH, Eugeniusz¹

1. Faculty of Chemistry, University of Wroclaw, 14 F. Joliot-Curie, 50-383 Wroclaw, Poland

2. Physics Department and CICECO, Universidade de Aveiro, 3810-193 Aveiro, Portugal

(28-P-S01-05) Evaluation of thermal structural change of soda-lime-silicate glasses by ratiometric photoluminescence measurement using Eu³⁺ ion

SEINO, Jumpei^{*1}; IWASAKI, Kenichiro¹; NAKANISHI, Takayuki¹; YASUMORI, Atsuo¹

1. Tokyo University of Science

(28-P-S01-06) Mechanical properties of transparent ceramic MgAl₂O₄ spinel under different strain rates

ZHANG, Bo¹; LIU, Ying^{*1}; YU, Haoyu¹

1. Department of Material Research, AVIC Manufacturing Technology Institute

(28-P-S01-07) Phase transformations of the narrow gap oxide semiconductor Cu₂ZnGeO₄ with wurtzite-derived structure in Ar atmosphere

KITA, Masao^{*1}; SUZUKI, Issei²; WADA, Noriyuki³; OMATA, Takahisa²

1. Department of Mechanical Engineering, National Institute of Technology, Toyama College

2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

3. Department of Materials Science and Engineering, National Institute of Technology, Suzuka College

03:Advanced Structural Ceramics for Extreme Environments

(28-P-S03-01) Study of suspensions made of liquefied gas and oxide powders: application to a cryo-milling process for nuclear fuel

VAUDEZ, Stephane^{*1}; ROBISSON, Anne Charlotte²; BROTHIER, Meryl³

1. CEA, DEN, MAR, DMRC, SFMA, LFC

2. CEA, DEN, CAD, DEC, SA3E, LCU

3. CEA, DEN, CAD, C2A

(28-P-S03-02) Joining of SiC ceramic by Si-C reaction bonding using organic resin as carbon precursor

ZHU, Yunzhou^{*1}; WU, Xishi^{1,2}; HUANG, Zhengren¹

1. State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics

2. University of Chinese Academy of Sciences

(28-P-S03-03) Effects of substrate temperature on morphology of erbia films deposited by flame spraying using metal-ethylenediaminetetraacetic acid complex

KOMATSU, Keiji^{*1}; IKEDA, Yutaka¹; COSTA, Takashi¹; NAKAMURA, Atsushi^{2,1}; SAITOH, Hidetoshi¹

1. Nagaoka University of Technology

2. Chubu Chelest

(28-P-S03-04) Grain Growth and Microstructural Evolution of Spark Plasma Sintered Bulk Mullite

HATTA, Tomoyuki^{*1}; IDA, Shuntaro²; SEKIDO, Nobuaki²; YOSHIMI, Kyosuke²

1. Graduate Student, Department of Materials Science, Tohoku University, Sendai 980-8579, Japan

2. Department of Materials Science, Tohoku University, Sendai 980-8579, Japan

(28-P-S03-05) Microstructure and Oxidation Resistance of Spark Plasma Sintered Compact of Gas-Atomized MoSiB₂TiC Powder

ARAI, Hayato^{*1}; HATAKEYAMA, Tomotaka¹; IDA, Shuntaro²; SEKIDO, Nobuaki²; YOSHIMI, Kyosuke²

"*" asterisk Indicates an oral presenter

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1. Graduate Student, Department of Materials Science, Tohoku University
2. Department of Materials Science, Tohoku University

(28-P-S03-06) Research on the dense bulk preparation of $\text{Ta}_{0.8}\text{Hf}_{0.2}\text{C}$ solid solution and its mechanical properties

JING, Jing^{*1}; GUO, Hongbo^{1,2}

1. School of Materials Science and Engineering, Beihang University (BUAA), Beijing 100191, China
2. Key Laboratory of High-temperature Structural Materials & Coatings Technology (Ministry of Industry and Information Technology), Beihang University (BUAA), Beijing 100191, China

(28-P-S03-07) High Precision Measurement of Ultrahigh-Temperature Tensile Creep of 1st Generation MoSiBTiC Alloy

YANAGIYA, Ryuta^{*1}; KAMATA, Shiho Yamamoto¹; IDA, Shuntaro²; SEKIDO, Nobuaki²; YOSHIMI, Kyosuke²

1. Graduate Student, Department of Materials Science and Engineering, Tohoku University, Sendai 980-8579, Japan
2. Department of Materials Science and Engineering, Tohoku University, Sendai 980-8579, Japan

(28-P-S03-08) Microstructure Evolution and Elemental Diffusion Behavior of Hybrid Interface between Cr_2AlC and DD5 Single-Crystal Superalloy

LI, Jimeng^{*1}; HE, Jian^{1,2,3}; GUO, Hongbo^{1,3}

1. School of Materials Science and Engineering, Beihang University (BUAA), Beijing 100191, PR China
2. Research Institute of Frontier Science, Beihang University (BUAA), Beijing 100191, China
3. Key Laboratory of High-temperature Structural Materials & Coatings Technology (Ministry of Industry and Information Technology), Beihang University (BUAA), Beijing 100191, China

(28-P-S03-09) Low Temperature Synthesis of Single Phase Y- and Yb-Silicate

HIRAOKA, Kaoru^{*1}; SHOBU, Kazuhisa²; INADA, Miki³

1. Department of molecular and Material Sciences, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University
2. Research Institute of Computational Thermodynamics, Inc.
3. Center of Advanced Instrumental Analysis, Kyushu University

04: Symposium on Multiferroic Materials

(28-P-S04-01) h-($\text{Lu}_{0.5}\text{In}_{0.5}$) FeO_3 Room Temperature Multiferroic Ceramics with Large Polarization and Strong ME Coupling

CHEN, Xiang Ming^{*1}; LIU, Mei Ying¹; GAO, Ting Ting¹; ZHU, Xiao Li¹

1. School of Materials Science and Engineering, Zhejiang University

(28-P-S04-02) Direct observation of multiferroic structure in hexagonal LuFeO_3 thin film grown by PLD

IRIMOTO, Takeshi^{*1}; TOKUDA, Yoshinori¹; TOKUNAGA, Tomoharu¹; YAMAMOTO, Takahisa^{1,2}

1. Nagoya University
2. Japan Fine Ceramics Center

(28-P-S04-03) Linear magnetoelectric effect in the honeycomb magnet $\text{Mn}_4\text{Nb}_2\text{O}_9$

ZHENG, Shuhan^{*1}; TANG, Yongsan¹; ZHANG, Junhu¹; YAN, Zhibo¹; LIN, Lin¹; LIU, Junming¹

1. Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China

(28-P-S04-04) Collinear magnetic structure and multiferroicity in polar magnet $\text{Co}_2\text{Mo}_3\text{O}_8$

TANG, Yongsan^{*1}; WANG, Shumin¹; LIN, Lin¹; LI, Cheng^{2,3}; ZHENG, Shuhan¹; LI, ChuanFu¹; ZHANG, Junhu¹; YAN, Zhibo¹; JIANG, Xiangping⁴; LIU, Junming¹

1. Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China
2. Forschungszentrum Jülich GmbH, Jülich Centre for Neutron Science Outstation at SNS, Germany
3. Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA
4. School of Materials Science and Engineering, Jingdezhen Ceramic Institute, Jingdezhen 333403, China

(28-P-S04-05) Huge enhancement of upconversion luminescence in In^{3+} doped

$\text{Ba}_{0.85}\text{Ca}_{0.15}\text{TiO}_3:0.75\%\text{Er}^{3+}/x\text{In}^{3+}$ lead-free ferroelectric ceramics

GUO, Lei^{*1,2}; CHEN, Ting-Wei^{2,3}; ZHANG, Yuan-Yuan⁴; LUO, Lai-Hui⁴; DONG, Shuai¹; ZHENG, Ren-Kui^{2,3}

1. School of physics, Southeast University, Nanjing 211189, China
2. State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China
3. School of Materials Science and Engineering, Nanchang University, Nanchang 330031, China
4. Department of Microelectronic Science and Engineering, Ningbo University, Ningbo 315211, China

(28-P-S04-06) Chemical State Analysis of $\text{Sr}_3\text{Co}_{2-x}\text{Zn}_x\text{Fe}_2\text{O}_{41}$ by Auger Electron Spectroscopy

KIKUCHI, Takeyuki^{*1}; KOBUNE, Masafumi¹; NAKANISHI, Makoto²; FUJII, Tatsuo²

1. University of Hyogo
2. Okayama University

(28-P-S04-07) Interface structure in multiferroic YMnO_3 -type ScFeO_3 film on perovskite electrode

HAMASAKI, Yosuke^{*1}; YASUI, Shintaro²; SHIRAISHI, Takamasa³; AKAMA, Akihiro³; KIGUCHI, Takenori³; TANIYAMA, Tomoyasu²; ITOH, Mitsuru²

1. National Defense Academy
2. Tokyo Institute of Technology
3. Tohoku University

(28-P-S04-08) Electric and magnetic properties in $\text{Ni}_{78}\text{Fe}_{22}/\text{Mq}_3(\text{M}=\text{Al}, \text{Er})/\text{Ni}_{78}\text{Fe}_{22}$ nanoscale junction devices utilizing magnetic thin-film edges

SASAKI, Yuma^{*1}; MSISKA, Robin^{1,2}; MISAWA, Takahiro¹; MORI, Sumito¹; KOMINE, Takashi³; HOSHINO, Norihisa⁴; AKUTAGAWA, Tomoyuki⁴; FUJIOKA, Masaya¹; NISHII, Junji¹; KAIJU, Hideo^{2,5}

1. Research Institute for Electronic Science, Hokkaido University, Sapporo, Hokkaido, Japan
2. Faculty of Science and Technology, Keio University, Yokohama, Kanagawa, Japan
3. Graduate School of Science and Engineering, Ibaraki University, Hitachi, Ibaraki, Japan

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

4. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Miyagi, Japan
 5. Center for Spintronics Research Network, Keio University, Yokohama, Kanagawa, Japan

05: Polymer Derived Ceramics (PDCs) and Composites

(28-P-S05-01) Electrochemical behavior of polymer-derived ceramic functionalized transition metal dichalcogenides

SOARES, Davi¹; SINGH, Gurpreet^{*1}

1. Mechanical and Nuclear Engineering Department, Kansas State University, Manhattan, Kansas, 66502, USA

07: Dielectric, Piezoelectric, and Ferroelectric Materials: Advances for Emerging Applications

(28-P-S07-01) Piezoelectric response of Mg,Nb-codoped AlN and its origin from first-principles ~ effect of Mg/Nb ratio on piezoelectric constant ~

MORI, Yuto^{*1}; HIRATA, Kenji²; ANGGRINI, Sri Ayu²; AKIYAMA, Morito²; UEHARA, Masato^{1,2}; YAMADA, Hiroshi^{1,2}

1. Kyushu University

2. National Institute of Advanced Industrial Science and Technology

(28-P-S07-02) Preparation of Yb-doped AlN Piezoelectric Thin Films

AMANO, Yuki¹; UEHARA, Masato^{1,2}; ANGGRINI, Sri Ayu²; HIRATA, Kenji²; YAMADA, Hiroshi^{1,2}; AKIYAMA, Morito²

1. Kyushu University

2. National Institute of Advanced Industrial Science and Technology

(28-P-S07-03) Ab-initio calculation of piezoelectric constant in Mg+Me (Me=Cr, Mo, W) codoped AlN

HIRATA, Kenji^{*1}; YAMADA, Hiroshi¹; UEHARA, Masato¹; ANGGRINI, Sri Ayu¹; AKIYAMA, Morito¹

1. National Institute of Advanced Industrial Science and Technology

(28-P-S07-04) Piezoelectric property characterization of nTi-codoped-AlN thin films (n = Mg or Zn)

ANGGRINI, Sri Ayu^{*1}; UEHARA, Masato¹; HIRATA, Kenji¹; YAMADA, Hiroshi¹; AKIYAMA, Morito¹

1. National Institute of Advanced Industrial Science and Technology

(28-P-S07-05) Spectroscopic Characterization of Polar Structures in ZnO/Ag junctions

HOSAKA, Takumi^{1,2}; OHSAWA, Takeo¹; MONTIGAUD, Herve³; ISHIGAKI, Takamasa²; OHASHI, Naoki¹

1. National Institute for Materials Science

2. Graduate School of Science and Engineering, Hosei University

3. Saint-Gobain CNRS NIMS International Collaboration Center

(28-P-S07-06) Surface Barrier Layer Capacitor Model in In/Nb Co-doped TiO₂ Thin Films

YASUI, Shintaro^{*1}; FUJITA, Toshiaki¹; TANIYAMA, Tomoyasu²; ITOH, Mitsuru¹

1. Tokyo Institute of Technology

2. Nagoya University

(28-P-S07-07) Barium Titanate Nanocrystals Solid-Solutionized with Barium Zirconate and Calcium Titanate

MATSUO, Naoki^{*1}; KIBA, Kazumasa¹; KUDOH, Junki¹; SAITO, Jun-ichi²; THO, Shoichi¹; TAKESUE, Naohisa¹

1. Fukuoka University

2. Japan Atomic Energy Agency

(28-P-S07-08) Barium Titanate Nanocrystals Solid-Solutionized

KUDOH, Junki^{*1}; KIBA, Kazumasa¹; MATSUO, Naoki¹; SAITO, Jun-ichi²; THO, Shoichi¹; TAKESUE, Naohisa¹

1. Fukuoka University

2. Japan Atomic Energy Agency

(28-P-S07-09) Integration of Barium Titanate Nanocrystals with Stirring in Soft media

KIBA, Kazumasa^{*1}; KUDOH, Junki¹; MATSUO, Naoki¹; SAITO, Jun-ichi²; THO, Shoichi¹; TAKESUE, Naohisa¹

1. Fukuoka university

2. Japan Atomic Energy Agency

(28-P-S07-10) Size dependence of piezoelectric response in (111)-oriented tetragonal Pb(Zr,Ti)O₃ nanorods

OKAMOTO, Kazuki^{*1}; YAMADA, Tomoaki^{1,2}; SAKATA, Osami³; YOSHINO, Masahito¹; NAGASAKI, Takanori¹

1. Department of Energy Engineering, Nagoya University

2. PRESTO, Japan Science and Technology Agency

3. Synchrotron X-ray Group and Synchrotron X-ray Station at SPring-8, National Institute for Materials Science

(28-P-S07-11) Low-temperature deposition of potassium niobate films by microwave-assisted hydrothermal process

OKURA, Masaki^{*1}; SHIRAIISHI, Takahisa²; ITO, Yoshiharu³; KIGUCHI, Takanori²; KUROSAWA, Minoru⁴; KONNO, Toyohiko²;

FUNAKUBO, Hiroshi³; UCHIDA, Hiroshi¹

1. Department of Materials and Life Sciences, Sophia University

2. Institute for Materials Research, Tohoku University

3. Department of Materials Science and Engineering, Tokyo Institute of Technology

4. Department of Electrical and Electronic Engineering, Tokyo Institute of Technology

(28-P-S07-12) Fabrication of stacked metal oxide layers by chemical solution deposition for artificial leaf

ANZAI, Daiki^{*1}; UCHIDA, Hiroshi¹

1. Sophia University

(28-P-S07-13) Chemical Solution-derived Lead-free (K, Na)NbO₃ (KNN) Thin Films for Piezoelectric MEMS Device Applications

KAWAHARA, Masami^{*1}; WON, Sung-Sik²; KINGON, Angus I.²; KIM, Seung-hyun²

1. Kojundo Chemical Lab., Co. Ltd.

2. School of Engineering, Brown University

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S07-14) Dielectric properties of Ba(Zr,Ti)O₃ films prepared by CSD for microwave devicesSHIMA, Hiromi^{*1}; UCHIDA, Hiroshi²

1. National Defense Academy
2. Sophia University

(28-P-S07-15) Low cost PZT film forming process for MEMSDOI, Toshihiro^{*1}; SOYAMA, Nobuyuki¹

1. Mitubishi Materials Corporation

(28-P-S07-16) Reactive sintering behavior of SiO₂ doped (Bi_{0.5}Na_{0.5})TiO₃-BaTiO₃ piezoelectric ceramicsSUGANUMA, Kai^{*1}; SUZUKI, Yoshikazu²

1. College of Engineering Sciences, University of Tsukuba, Ibaraki 305-8573, Japan
2. Faculty of Pure and Applied Sciences, University of Tsukuba, Ibaraki 305-8573, Japan

(28-P-S07-17) Electrical Properties of Undoped BaTiO₃ Ceramics Fired under Various ConditionsMORI, Keita^{*1}; TAKEUCHI, Nobuyuki¹

1. Kyoto Institute of Technology

(28-P-S07-18) Fabrication and characterization of composite ceramics using Core-Shell particles by spark plasma sinteringSAEGUSA, Yuya^{*1}; FUJII, Ichiro¹; UENO, Shintaro¹; WADA, Satoshi¹

1. University of Yamaguchi

(28-P-S07-19) Fabrication and anisotropic electric properties for oriented bulk ceramic of Li-Ta-Nb-Ti-O solid solutionSAKAMOTO, Toshiki^{*1}; NAKANO, Hiromi¹; SUZUKI, Tooru S.²; KAN, Akinori³

1. Toyohashi University of Technology
2. National Institute for Materials Science
3. Meiji University

(28-P-S07-20) Investigation of Alternating Current Poling Conditions for <110> Grain-oriented 0.85(Bi_{0.5}Na_{0.5})TiO₃-0.15BaTiO₃ CeramicsKAWACHI, Kosuke^{*1}; FUJII, Ichiro¹; UENO, Shintaro¹; WADA, Satoshi¹

1. University of Yamaguchi

(28-P-S07-21) Self-assembly Material Texture of BaTiO₃ / Piezo-Polymer Composites (1) —Composite Material Texture and Dielectric Property—TAKEDA, Mariko^{*1}; NAKATA, Yuki¹; YAMAZAKI, Haruna¹; YOSHINO, Kentaro¹; MIZUKAMI, Yuka²; SATO, Yoshihiro²; ITO, Akira³; ABE, Satoko⁴; BAO, Yue²; TANIMURA, Makoto⁴; INOUE, Yasuhide⁵; KOYAMA, Yasumasa⁵; MUNAKATA, Fumio¹

1. Faculty of Engineering, Tokyo City University
2. Faculty of Knowledge Engineering, Tokyo City University
3. Mitsubishi Gas Chemical Co., Inc.
4. Yokohama National University
5. Waseda University

(28-P-S07-22) Self-assembly Material Texture of BaTiO₃ / Piezo-Polymer Composites (2) —Multifractal Analysis of Material Texture—TAKEDA, Mariko^{*1}; NAKATA, Yuki¹; YAMAZAKI, Haruna¹; YOSHINO, Kentaro¹; MIZUKAMI, Yuka²; SATO, Yoshihiro²; ITO, Akira³; ABE, Satoko⁴; BAO, Yue²; TANIMURA, Makoto⁴; INOUE, Yasuhide⁵; KOYAMA, Yasumasa⁵; MUNAKATA, Fumio¹

1. Faculty of Engineering, Tokyo City University
2. Faculty of Knowledge Engineering, Tokyo City University
3. Mitsubishi Gas Chemical Co., Inc.
4. Yokohama National University
5. Waseda University

(28-P-S07-23) Effects of Element Substitution on Improper Ferroelectric Ca₈[AlO₂]₁₂(MoO₄)₂MARUYAMA, Koji^{*1}; NAKANO, Akitoshi¹; TERASAKI, Ichiro¹; TANIGUCHI, Hiroki¹

1. Department of Physics, Nagoya University

(28-P-S07-24) The Photo-Dielectric Effect in Ba[(Al_{0.95}Ga_{0.05})_{0.97}Zn_{0.03}]₂O₄MURAKAMI, Daiki^{*1}; NAKANO, Akitoshi¹; TERASAKI, Ichiro¹; TANIGUCHI, Hiroki¹

1. Department of Physics, Nagoya University

(28-P-S07-25) Dielectric Properties of Titanite-type CaTi(Si_{1-x}Ge_x)O₅ : Towards Novel Functional DielectricsSATO, Daiki^{*1}; NAKANO, Akitoshi¹; TERASAKI, Ichiro¹; TANIGUCHI, Hiroki¹

1. Department of Physics, Nagoya University

(28-P-S07-26) Resistive Switching in AlFeO₃ and GaFeO₃ based Thin Film HeterostructuresRAO, Badari Narayana Aroor^{*1}; HAN, Yefei¹; YASUI, Shintaro¹; KATAYAMA, Tsukasa²; ITOH, Mitsuru¹

1. Laboratory for Materials and Structures, Tokyo Institute of Technology, 4259 Nagatsuta, Midori, Yokohama 226-8503, Japan
2. Department of Chemistry, The University of Tokyo, Bunkyo-ku, Tokyo 112-0033, Japan

(28-P-S07-27) Effect of substitution on ferroelectric characteristics, crystal and electronic structure of 0.4Bi_{0.5}K_{0.5}TiO₃-0.6BiFeO₃-based ferroelectric ceramicsMAIE, Junichiro^{*1}; ISHIDA, Naoya¹; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(28-P-S07-28) Poling Condition Dependence of KNN-based Piezoelectric CeramicsAOYAGI, Rintaro^{*1}

1. National Institute of Advanced Industrial Science and Technology

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S07-29) Phase Evolution and Piezoelectric Properties in BiFeO₃-BaTiO₃ Ceramics near Phase BoundaryGO, Su Hwan^{*1}; KIM, Jeong Seog¹; CHEON, Chae Il¹

1. Department of Materials Science & Engineering, Hoseo University, Asan, Chungnam, Korea

(28-P-S07-30) Direct and Indirect measurements of Electro-caloric Effect in BNT-based CeramicsKIM, Bit Chan^{*1}; KIM, Jeong Seog¹; CHEON, Chae Il¹

1. Department of Materials Science & Engineering, Hoseo University, Asan, Chungnam, Korea

(28-P-S07-31) Structural phase transitions in A-site deficient perovskite oxidesTAKASE, Shogo^{*1}; MIYAKE, Jinsuke¹; YOSHIDA, Suguru¹; TANAKA, Katsuhisa¹; FUJITA, Koji¹

1. Department of Material Chemistry, Kyoto University, Kyoto 615-8510, Japan

(28-P-S07-32) In-situ Research on Environmental Effects on BaTiO₃ Polarization DynamicsHE, Dongyu^{1,2}; BAI, Yang^{1,2}; QIAO, Lijie^{*1,2}

1. Beijing Advanced Innovation Center for Materials Genome Engineering, University of Science and Technology Beijing, Beijing 100083, China

2. Institute for Advanced Materials and Technology, University of Science and Technology Beijing, Beijing 100083, China

(28-P-S07-33) Machine-learning investigation on piezoelectric constants of LiNbO₃-type compoundsNAKAMURA, Kaoru^{*1}; OHNUMA, Toshiharu¹

1. Central Research Institute of Electric Power Industry

(28-P-S07-34) Terahertz dielectric property of fine grained BaTiO₃ ceramicsLIAO, YuHsun^{*1}; TAKEZAWA, Shuhei¹; TAKEDA, Hiroaki¹; TSURUMI, Takaaki¹; HOSHINA, Takuya¹

1. Tokyo Institute of Technology

(28-P-S07-35) Relationship between A-site element and piezoelectric constant in Langasite-type single crystalsUSUI, Haruki^{*1}; HOSHINA, Takuya¹; TSURUMI, Takaaki¹; TAKEDA, Hiroaki¹

1. Tokyo Institute of Technology

(28-P-S07-36) Fabrication and Evaluation of Ferroelectric Property of K(Ta, Nb)Si₂O₇ Single CrystalsONUMA, Miho^{*1}; TAKEDA, Hiroaki¹; TSURUMI, Takaaki¹; HOSHINA, Takuya¹

1. Tokyo Institute of Technology

(28-P-S07-37) High energy density all solid capacitor with Lithium-ion conductive glassIKUTA, Yusuke^{*1}; HOSHINA, Takuya¹; TAKEDA, Hiroaki¹; TSURUMI, Takaaki¹

1. Tokyo Institute of Technology

11:Advanced Powder Processing and Manufacturing Technologies**(28-P-S11-01) Observation of Internal Structure of Al₂O₃ Slurry under Shear by Optical Coherence****Tomography**TAKABA, Hiroki^{*1}; TATAMI, Junichi^{1,2}; IJIMA, Motoyuki^{1,2}; TAKAHASHI, Takuma²

1. Yokohama National University

2. Kanagawa Institute of Industrial Science and Technology

(28-P-S11-02) A novel sol-gel route to synthesize (Sr_{0.5}Ba_{0.5})Nb₂O₆ ceramics with enhanced electrocaloric effectCHEN, Ting¹; WU, Shuya^{*1}; LIU, Xiaoqiang¹; CHEN, Xiangming¹

1. Zhejiang University

(28-P-S11-03) Crystalline-Oriented Lanthanum Silicate Oxyapatite Ceramics Fabricated by Electrophoretic Deposition Under a Strong Magnetic FieldTAKANO, Saori^{*1}; KOBAYASHI, Kiyoshi²; UCHIKOSHI, Tetsuo²; AKASHI, Takaya¹; SUZUKI, Tohru²

1. Hosei University

2. National Institute for Materials Science

(28-P-S11-04) Non-firing ceramics: Effect of adsorbed water on surface activation of silica powder via ball milling treatmentNOJIRI, Ryohei^{*1}; NAKASHIMA, Yuki¹; RAZAVI, Hadi¹; TAKAI, Chika²; TANAKA, Nao¹; FUJI, Masayoshi¹

1. Nagoya Institute of technology, Advanced ceramics research center

2. Gifu University

(28-P-S11-05) synthesis and characterization of low dielectric constant hollow silica nanoparticlesWEN, Quanyue^{*1}; RAZAVI KHOSROSHAHI, Hadi¹; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology

(28-P-S11-06) Fabrication of dense ceramics and their total conductivity of yttrium-stabilized lanthanum germanate oxyapatite by slip casting in a strong magnetic fieldTERAI, Takaya^{*1}; KOBAYASHI, Kiyoshi^{1,2}; HIGUCHI, Tohru¹; SUZUKI, Tohru S.²

1. Tokyo University of Science

2. National Institute for Materials Science

(28-P-S11-07) Reduction of SiO₂ via mechanochemically co-milling with polyolefinsLONG, Hui^{*1}; SENNA, Mamoru²; TAKAI, Chika³; KHOSROSHAHI, Hadi Razavi¹; SHIRAI, Takashi¹; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology

2. Faculty of Science and Technology, Keio University

3. Gifu University

(28-P-S11-08) Influence of Eluted Metal Ions on the Density of Green Body for Slip CastingNAKAMURA, Kosuke^{*1}; MORI, Takamasa^{2,3}; ISHIDA, Naoyuki⁴

1. Graduate School of Science and Engineering, Hosei University, Tokyo 184-8584, Japan

2. Department of Chemical Science and Technology, Faculty of Bioscience and Applied Chemistry, Hosei University, Tokyo 184-8584, Japan

3. Hosei University Research Institute for Slurry Engineering, Tokyo 184-8584, Japan

4. Department of Applied Chemistry and Biotechnology, Okayama University, Okayama 700-8530, Japan

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S11-09) Evaluation of rotation behavior of multilayer graphene coated glass fibers in magnetic field via in situ three-dimensional dynamic observationAIHARA, Ibuki^{*1}; TAKAHASHI, Takuma²; TATAMI, Junichi^{1,2}; IJIMA, Motoyuki^{1,2}

1. Yokohama National University

2. Kanagawa Institute of Industrial Science and Technology

(28-P-S11-10) Dense Ceramic Fabrication and Conductivity Measurement of Strontium doped Lanthanum Yttrium PerovskiteTSUNODA, Yuichi^{*1}; KOBAYASHI, Kiyoshi²; HIGUCHI, Tohru¹; SUZUKI, Tohru²

1. Dept. of Applied Physics, Tokyo University of Science, Tokyo 125-8585, Japan

2. Ceramics Processing Group, National Institute for Materials Science, Ibaraki 305-0047, Japan

(28-P-S11-11) Influence of the PAA concentration on PAA/NH₃ emulsion template method for synthesizing hollow silica nanoparticlesKATO, Takanori^{*1}; NAKASHIMA, Yuki¹; TAKAI, Chika²; RAZAVI-KHOSROSHAHI, Hadi¹; ISHIHARA, Masahiro¹; NOJIRI, Ryohei¹; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology, Tajimi city, Gifu, Japan

2. Gifu University, Gifu 501-1193, Japan

(28-P-S11-12) Effect of silane modification on CNTs_silica composites fabricated by a non-firing process to enhance interfacial property and dispersibilityYAKUBO, Reina^{*1}; PENG, Bo¹; TAKAI, Chika²; RAZAVI-KHOSROSHAHI, Hadi¹; NAKAYAMA, Ichiro¹; ISHIHARA, Masahiro¹; HORI, Masahiro¹; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology, Gifu 507-0033, Japan

2. Gifu University, Gifu 501-1193, Japan

(28-P-S11-13) SiO₂/TiO₂ double-shell hollow particles: Fabrication and UV-Vis spectrum characterizationTANAKA, Nao^{*1}; CHEN, Wanghui¹; TAKAI, Chika²; RAZAVI KHOSROSHAHI, Hadi¹; ISHIHARA, Masahiro¹; NAKAYAMA, Ichiro¹;YAKUBO, Reina¹; FUJI, Masayoshi¹; SHIRAI, Takashi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology

2. Gifu University

(28-P-S11-14) Influence of CaCO₃ pore-forming agent on porosity and thermal conductivity of cellulose acetate materials prepared by non-solvent induced phase separationMAEHARA, Masumi^{*1}; SUTHABANDITPONG, Walaiporn¹; TAKAI, Chika²; KHOSROSHAHI, Hadi.Razavi¹; NAKAYAMA, Ichiro¹;OKADA, Yuuki¹; EL DIN EL SALMAWY, Montaser Sabbah³; ISHIHARA, Masahiro¹; MASUDA, Keita¹; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology, Nagoya, Japan

2. Gifu University, Gifu 501-1193, Japan

3. Faculty of Petroleum and Mining Engineering, Suez University, Suez, Egypt

(28-P-S11-15) Preparation and Crystallographic Orientation of the Multiple Oxide Thin Films on the Reactive SubstratesARAKAWA, Shuichi^{*1}

1. Toyota Technological Institute

(28-P-S11-16) Non-firing ceramics: Surface activity improvement of silica powder to realize high density solidified bodyMASUDA, Keita^{*1}; NAKASHIMA, Yuki¹; TAKAI, Chika²; NAKAYAMA, Ichiro¹; HADI, Razavi-Khosroshahi¹; ISHIHARA, Masahiro¹;MAEHARA, Masumi¹; FUJI, Masayoshi¹

1. Advanced Ceramic Research Center, Nagoya Institute of Technology

2. Gifu University

(28-P-S11-17) Room-Temperature Copper Metallization by Aerosol Deposition Process for RF/Microwave DevicesKIM, Ik-Soo^{*1}; CHO, Myung-Yeon¹; LEE, Dong-Won²; OH, Jong-Min¹

1. Kwangwoon University, Seoul, Republic of Korea

2. Korea Testing Laboratory, Seoul, Republic of Korea

(28-P-S11-18) Orientation control of rod-like BaTiO₃ particles prepared by hydrothermal synthesisOZAWA, Hiroto^{*1,2}; KIYONO, Hajime¹; INADA, Miki³; SUZUKI, Tohru²

1. Shibaura Institute of Technology

2. National Institute for Material Science

3. Kyushu University

(28-P-S11-19) One-pot synthesis of hollow silica nanoparticles using the prepared calcium carbonate by CO₂ bubblingHORI, Masahiro^{*1}; TAKAI, Chika²; FUJIMOTO, Kyoichi¹; RAZAVI-KHOSROSHAHI, Hadi¹; ISHIHARA, Masahiro¹; ASO, Masashi¹; FUJI, Masayoshi¹

1. Nagoya Institute of Technology

2. Gifu University

(28-P-S11-20) Fabrication and Characteristics of Metal/Ceramic Hybrid Composite Film via Aerosol Deposition ProcessLEE, Dong-Won^{*1}; LEE, Yeon-Sook¹; CHO, Myung-Yeon²; KIM, Ik-Soo²; OH, Jong-Min²

1. Material Technology Center, Korea Testing Laboratory, Seoul 152-718, Republic of Korea

2. Department of Electronic Materials Engineering, Kwangwoon University, Seoul 139-701, Republic of Korea

(28-P-S11-21) Fabrication of α -Al₂O₃ Particles by Hydrothermal Method and Characterization of an Al₂O₃-coated PE separator for Lithium-ion BatteriesLEE, Yeon-Sook^{*1}; KIM, Yong-Nam¹; CHO, Myung-Yeon²; KIM, Ik-Soo²; OH, Jong-Min²; LEE, Dong-Won¹

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Material Technology Center, Korea Testing Laboratory, Seoul 152-718, Republic of Korea
2. Department of Electronic Materials Engineering, Kwangju University, Seoul 139-701, Republic of Korea

(28-P-S11-22) Strength evaluation of solid bridge in silica - silica particles

ASO, Masashi^{*1}; KATO, Takanori¹; NAKAYAMA, Ichirou¹; TAKAI, Chika²; RAZAVI-KHOSROSHAHI, Hadi¹; FUJI, Masayoshi¹

1. Advanced Ceramic Research Center, Nagoya Institute of Technology
2. Gifu University, Gifu

(28-P-S11-23) Fabrication of Oxygen Separation Membrane Based on Mixed Ionic-Electronic Conductor and Its Air Separation Property

ISHII, Kento^{*1,2}; STEVENSON, Adam J.³; TARDIVAT, Caroline³; UCHIKOSHI, Tetsuo^{1,2}

1. National Institute for Materials Science
2. Hokkaido University
3. Saint-Gobain Research Provence

(28-P-S11-24) Fabrication of Aluminum Nitride Slurry Using UV Curable Resin for Stereo-Lithography

OBATA, Seizo^{*1}; TATEISHI, Kenji¹; SAITO, Shohei¹; KONDO, Makoto²; YOSHIDA, Michiyuki²; SAKURADA, Osamu²

1. Gifu Prefectural Ceramics Research Institute
2. Gifu University

(28-P-S11-25) Hydrothermal synthesis of BiVO₄/BiOX photocatalyst and its photocatalytic properties

MOHAMMADZADEH, Sara^{*1}; RAZAVI-KHOSROSHAHI, Hadi¹; KITANO, Sho²; YAMAUCHI, Miho^{2,3}; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology
2. Department of Chemistry, Kyushu University
3. International Institute for Carbon-Neutral Energy Research, Kyushu University

(28-P-S11-26) Technical enhancement on large scale production of high quality BN “nano”-slurry

YAMADA, Itsuhiko^{*1}; SHIMODA, Kazuya²; YOSHIHARA, Hiromi²; KATO, Hiroyasu¹

1. MARUKA Corporation, LTD.,
2. National Institute for Materials Science

(28-P-S11-27) Fabrication of Porous Alumina Granules by Spray Drying and Spray Freeze Drying

KONDO, Naoki^{*1}; SHIMAMURA, Akihiro¹; HOTTA, Mikinori¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

(28-P-S11-28) Fabrication of alumina ceramics using granules prepared by freeze granulation

KAWAGUCHI, Shinya^{*1}; KATO, Hayato¹; TATAMI, Junichi²; KONDO, Naoki³

1. PRECI Co., Ltd.
2. Yokohama National University
3. National Institute of Advanced Industrial Science and Technology

12:Novel Nanocrystal Technologies for Advanced Ceramic Materials & Devices**(28-P-S12-01) The Preparing of BaTiO₃@SrTiO₃ Heterogeneous Ceramics and Investigation of the Ferroelectric and High-Frequency Dielectric Properties**

BIAO, He^{*1}; FENG, Dang²

1. The key Laboratory for Liquid-Solid Structure Evolution and Processing of Materials (Ministry of Education), Shandong University
2. The key Laboratory for Liquid-Solid Structure Evolution and Processing of Materials (Ministry of Education), Shandong University

(28-P-S12-02) Nanowires embedded porous TiO₂@C nanocomposite anodes for enhanced stable lithium and sodium ion battery performance

WANG, Yu^{*1}; LI, Na¹; HOU, Chuanxin²; DANG, Feng¹; WANG, Jun¹

1. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University, 17923 Jingshi Road, Jinan 250061, China.
2. Integrated Composites Laboratory (ICL), Department of Chemical & Biomolecular Engineering, University of Tennessee, Knoxville, TN 37996, USA

(28-P-S12-03) Preparation and Properties of Barium Titanate Nanoparticles with Heterostructures

DANG, Congcong^{*1}

1. The key Laboratory for Liquid-Solid Structure Evolution and Processing of Materials (Ministry of Education)

(28-P-S12-04) Preparation of nanostructured WO₃ photoanode films via aqueous solution process

NAGAYASU, Yuki^{*1}; UCHIYAMA, Hiroaki²

1. Graduate School of Science and Engineering, Kansai University
2. Department of Chemistry and Materials Engineering, Kansai University

(28-P-S12-05) Preparation of (Fe, Ni)₃(PO₄)₂·8H₂O particles via an aqueous solution process

KOMATSU, Fumito^{*1}; UCHIYAMA, Hiroaki²

1. Graduate School of Science and Engineering, Kansai University
2. Department of Chemistry, Materials and Bioengineering, Kansai University

(28-P-S12-06) Preparation of ZrO₂ Nanocomposite Film using Minimal Surface as Template

TAKAI, Rikuto^{*1}; TAKAMI, Seiichi¹

1. Nagoya University

(28-P-S12-07) Hydrothermal Synthesis of Hafnium Dioxide Nanocrystals Using Continuous Flow Reactor

YAMAMOTO, Naotake^{*1}; TAKAMI, Seiichi¹

1. Nagoya University

(28-P-S12-08) Hydrothermal Synthesis of Zinc Oxide Microrods in the Presence of Adipic Acid

NOHARA, Yumi^{*1}; TAKAMI, Seiichi¹

1. Nagoya University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S12-09) Design of Surface Modifier to Realize Dispersion of ZrO₂ Nanoparticles in Various SolventsKUREISHI, Keisuke^{*1}; TAKAMI, Seiichi¹

1. Nagoya University

(28-P-S12-10) Evaluate the performance of lithium-manganese oxide spinel cathodes through the high-throughput calculationsZHANG, Weibin^{*1}; LI, Dajian²; CHANG, KeKe³; DU, Yong⁴; SEIFERT, Hans²

1. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University, Jinan 250061, China

2. Institute for Applied Materials-Applied Materials Physics (IAM-AWP), Karlsruhe Institute of Technology (KIT), Hermann-von-Helmholtz-Platz 1, 76344, Eggenstein-Leopoldshafen, Germany

3. Engineering Laboratory of Nuclear Energy Materials, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, 1219 Zhongguan West Road, 315201, Ningbo, Zhejiang, China

4. State Key Laboratory of Powder Metallurgy, Central South University, 410083, Changsha, Hunan, China

(28-P-S12-11) Enlargement of Titanate Nanosheets Utilizing the Complexation Ability of Fluoride IonHAMAJIMA, Ami^{*1}; AKAO, Naoya¹; TAKAI, Chika¹; OHYA, Yutaka¹; BAN, Takayuki¹

1. Department of Chemistry and Biomolecular Science Gifu University

(28-P-S12-12) Preparation of solvothermally-synthesized barium-titanate-nanocube assemblies by liquid-liquid phase separation method for dielectric applicationsHATAKEYAMA, Sakuya^{*1}; UENO, Shintaro¹; FUJII, Ichiro¹; WADA, Satoshi¹

1. University of Yamanashi

(28-P-S12-13) Detailed observation of Pt co-catalyst morphology and dispersion on SrTiO₃ photocatalystYAMAZAKI, Reina^{*1}; KOBAYASHI, Yoshio¹; KAKIHANA, Masato²; HIGASHI, Masanobu³; ABE, Ryu⁴; NAKASHIMA, Kouichi¹

1. Graduate School of Science and Engineering, Ibaraki University, Ibaraki, Japan

2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Miyagi, Japan

3. Advanced Research Institute for Natural Science and Technology, Osaka City University, Osaka, Japan

4. Graduate school of engineering Kyoto University, Kyoto, Japan

(28-P-S12-14) Origin of extended UV stability of 2D atomic layer titania-based perovskite solar cells unveiled by ultrafast spectroscopyLI, Shao-Sian^{*1}; ANUSHA, Puliparambil Thilakan²; LI, Jia-Xing²; CHEN, Tzu-Pei³; CHEN, Chun-Wei³; OSADA, Minoru⁴; TSUKAGOSHI, Kazuhito⁵; SASAKI, Takayoshi⁵; YABUSHITA, Atsushi²; WU, Kaung-Hsiung²; LUO, Chih-Wei²

1. Department of Materials and Mineral Resources Engineering, National Taipei University of Technology, Taipei 10608, Taiwan

2. Department of Electrophysics, National Chiao Tung University, Hsinchu 30010, Taiwan

3. Department of Materials Science and Engineering, National Taiwan University, Taipei 10617, Taiwan

4. Institute of Materials and Systems for Sustainability (iMaSS), Department of Materials Chemistry, Nagoya University, Nagoya 464-8603, Japan

5. The International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science, Tsukuba 305-0044, Japan

(28-P-S12-15) Synthesis of supersaturation controlled lead sulfide quantum dots and SWIR photodiodesLEE, JAE WOONG^{*1}

1. Korea Institute of Industrial Technology, Gaetbeol-ro 156, Yeonsu-gu, Incheon 21999, Republic of Korea

(28-P-S12-16) Preparation and Ferroelectric Properties of 0.7Ba_{1-x}Bi_xTiO₃@0.3SrTiO₃ Core-shell NanocompositeHUANG, Qishun^{*1}; DANG, Feng²

1. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University

2. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University

(28-P-S12-17) Investigation of Charge Storage Mechanism of Ruthenium Oxide Nanosheets using a model electrode with electrochemical impedance spectroscopyTAJI, Ryoko^{*1}; MARUYAMA, Takahiro¹; SAIDA, Takahiro¹

1. Meijo University

(28-P-S12-18) The Ti/Ru ratio-activity relationship of TiRuO_x/CB electrocatalysts for oxygen reduction reactionNIWA, Etsuko^{*1}; MARUYAMA, Takahiro¹; SAIDA, Takahiro¹

1. Meijo University

17:Green Processing and Green Energy Materials for Sustainable Society**(28-P-S17-01) Evaluation on the stabilization of Zn/Ni/Cu in spinel forms: Low-cost red mud as an effective precursor**SU, Minhua^{*1,2}; TANG, Jinfeng^{2,3}; ZHANG, Hongguo^{2,3}

1. Guangdong Provincial Key Laboratory of Radionuclides Pollution Control and Resources, School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China

2. Key Laboratory for Water Quality and Conservation of Pearl River Delta, Ministry of Education, School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China

3. Linköping University - Guangzhou University Research Center on Urban Sustainable Development, Guangzhou University, Guangzhou 510006, China.

(28-P-S17-02) High Frequency Permeability and Permittivity of Fe₃O₄ Hollow ParticlesWAKAMIYA, Shisei^{*1}; OTA, Toshitaka¹; ADACHI, Nobuyasu¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology

(28-P-S17-03) Preparation of Fe complexes/mesoporous zeolite for oxidation of benzene with hydrogen peroxideYAMAGUCHI, Syuhei^{*1}; KOGA, Hitomu¹; SASAKI, Makoto¹; YAHIRO, Hidenori¹

1. Ehime University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S17-04) Correlation of acidity and solid-liquid ratio in ion-exchange process for layered rock-salt type $\text{LiMn}_{1/3}\text{Ni}_{1/3}\text{Co}_{1/3}\text{O}_2$ YASUMOTO, Koyo^{*1}; AIMI, Akihisa¹; SHIMONISHI, Yuta²; YOSHIDA, Shuhei²; FUJIMOTO, Kenjiro¹

1. Tokyo University of Science

2. DENSO CORPORATION

(28-P-S17-05) Synthesis and Material Characteristic of $\text{Li}_{1.3}\text{Al}_{0.3}\text{Ti}_{1.7}(\text{PO}_4)_3$ Solid Electrolyte for Lithium-ion Battery by Sol-Gel ProcessLIAO, Jie-Yu¹; I-MING, I-MING^{*1,2}

1. Department of Chemical Engineering and Materials Science, Yuan Ze University, Taoyuan, Taiwan

2. Hierarchical Green-Energy Materials Research Center, National Cheng Kung University, Tainan, Taiwan

(28-P-S17-06) Ion Selective Reduction Characteristics of Prussian Blue Nanoparticles with Controlled Particle SizeYAMADA, Jun^{*1}; TSUBOI, Natsuka¹; KOJIMA, Takashi¹; UEKAWA, Naofumi¹

1. Chiba University

(28-P-S17-07) Synthesis of high-swelling Na-type bentonite from Ca-type bentonite by soft solution chemical processKITANO, Yuta^{*1}; MAKINOSE, Yuki¹; MIYAZAKI, Hidetoshi¹

1. Graduate School of Natural Science and Technology, Shimane University

(28-P-S17-08) Microstructure and Ferroelectric Properties of Barium Titanate Prepared by Liquid Phase MethodKAKO, Chisato^{*1}; HASHIMOTO, Hideki¹; GOTO, Tomoyo¹; CHO, Sunghun¹; SEKINO, Tohru¹

1. Osaka University

(28-P-S17-09) Improvement of photoelectric activity of Ta_3N_5 /Ti photoanode by electrical oxidation and reduction treatmentOKADA, Yuki^{*1}; ITO, Mizuki¹; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

(28-P-S17-10) Evaluation of NaTaO_3 photocatalyst synthesized from various route by time-resolved absorption and emission spectroscopyLU, Yao^{*1}; YAMAKATA, Akira²; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University, Kawasaki-city, Kanagawa, 214-8571, Japan

2. Graduate School of Engineering, Toyota Technological Institute, Tempaku-ku, Nagoya, 468-8511, Japan

(28-P-S17-11) Fabrication and evaluation of novel Z scheme $\text{LaTiO}_2\text{N}/\text{Ag}$, Au/HEP compositesSETA, Dai^{*1}; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

(28-P-S17-12) Evaluation of the effectiveness of Cd stabilization by a low-temperature sintering process with kaolinite/mullite additionTANG, Jinfeng^{*1,3,4}; SU, Minhua^{1,2}; ZHANG, Hongguo^{1,3}

1. Key Laboratory for Water Quality and Conservation of Pearl River Delta, Ministry of Education, School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China.

2. Guangdong Provincial Key Laboratory of Radionuclides Pollution Control and Resources, School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China.

3. Linköping University - Guangzhou University Research Center on Urban Sustainable Development, Guangzhou University, Guangzhou 510006, China.

4. Nuclear Chemistry and Industrial Material Recycling, Department of Chemistry and Chemical Engineering, Chalmers University of Technology, 412 96, Gothenburg, Sweden

(28-P-S17-13) Electrical and Microstructure Analysis of Cobalt-Free $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{Nb}_x\text{Fe}_{1-x}\text{O}_{3-\delta}$ Cathode MaterialsWU, Yu-Chuan^{*1}; LIAN, Wei-Cheng¹; LEI, Chien-Ming²

1. Institute of Materials Science and Engineering, National Taipei University of Technology, Taipei 10608, Taiwan

2. Department of Chemical and Materials Engineering, Chinese Culture University, Taipei 11114, Taiwan

(28-P-S17-14) Cyanosilylation of benzaldehyde with TMSCN over LaMO_3 (Al, Mn, Fe, and Co) perovskite-type oxide catalystGOUDA, Rikito^{*1}; YAMAGUCHI, Syuhei¹; YAHIRO, Hidenori¹

1. Department of Materials Science and Biotechnology, Graduate School of Science and Engineering, Ehime University

(28-P-S17-15) Development of Porous Electrode in Solid Oxide Fuel Cells by the Flame SpraySUN, Pai-Kai¹; YANG, Yung-Chin^{*1}

1. Institute of Materials Science and Engineering, National Taipei University of Technology, Taipei, Taiwan

(28-P-S17-17) Enhancement of Fluorescence Properties by Coexisting Lithium Ion for Ag-exchanged LTA ZeoliteYAHARA, Keisuke^{*1}; JOHAN, Erni¹; ITAGAKI, Yoshiteru¹; AONO, Hiromichi¹

1. Ehime University

(28-P-S17-18) SiO_2 coated ZnO Nanoparticle as an Inorganic UV AbsorberIHARA, Taiki^{*1}; SUGIYAMA, Naota¹

1. Corporate Research Materials Laboratory, 3M Japan Limited

(28-P-S17-19) Synthesis of Sb-doped SnO_2 gel and sol from ethylene glycol solution of metal chloridesUCHIDA, Yusuke^{*1}; KOJIMA, Takashi¹; UEKAWA, Naofumi¹

1. Chiba University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S17-20) Electrochemical Detection of Biomolecules with High Selectivity using Fluorine-doped Tin Oxide (FTO) ElectrodesKATAYANAGI, Yuta^{*1}; HASHIMOTO, Rina²; KUBOTA, Yuta²; MATSUSHITA, Nobuhiro²

1. Department of Technology Education, Faculty of Education, Gunma University, Gunma 371-8510, Japan

2. Department of Materials Science and Engineering, Tokyo Institute of Technology, Tokyo 152-8550, Japan

(28-P-S17-21) Stabilizing cadmium into aluminate and ferrite structures: Effectiveness and leaching behavior
SU, Minhua^{1,2}; ZHANG, Hongguo^{*1,3}

1. Key Laboratory for Water Quality and Conservation of Pearl River Delta, Ministry of Education, School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China.

2. Guangdong Provincial Key Laboratory of Radionuclides Pollution Control and Resources, School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China.

3. Linköping University - Guangzhou University Research Center on Urban Sustainable Development, Guangzhou University, Guangzhou 510006, China.

(28-P-S17-22) Mechanical properties of amorphous SiC thin films on Al₂O₃ ceramic substratesSHIOTA, Tadashi^{*1,2}; TANIYA, Daiki¹; AKIYAMA, Miho²; TAKENAKA, Yuka²; OMIYA, Yuya^{1,2}; IKOMA, Toshiyuki³; FUJII, Masahiro^{1,2}

1. Graduate School of Natural Science and Technology, Okayama University

2. Department of Mechanical and Systems Engineering, Okayama University

3. Department of Material Science and Engineering, Tokyo Institute of Technology

(28-P-S17-23) Development of method for fabricating protective layer on Ta₃N₅ photoanode by roll press methodIIJIMA, Mai^{*1}; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

(28-P-S17-24) Liquid-phase Atomic Layer Deposition of Crystalline Hematite Without Post-growth AnnealingTANIGUCHI, Asako^{*1}; SUZUKI, Yoshikazu²

1. Graduate School of Pure and Applied Sciences, University of Tsukuba

2. Faculty of Pure and Applied Sciences, University of Tsukuba

(28-P-S17-25) Improvement of tunneling magneto-dielectric effect for Co-Al₂O₃ nano-composite films by optimization of preparation conditionsKIMURA, Moe^{*1}; CAO, Yang¹; AOKI, Hanae¹; KOBAYASHI, Nobukiyo²; OHNUMA, Shigehiro^{1,2}; MASUMOTO, Hiroshi¹

1. FRIS, Tohoku University, Sendai, 980-8578, Japan

2. Research Institute for Electromagnetic Materials, Sendai, 982-0807, Japan

(28-P-S17-26) Modification of Perpendicular Magnetic Anisotropy in Nickel Ferrite Thin FilmsTAKASHIMA, Keisuke^{*1}; DEBNATH, Nipa¹; KAWAGUCHI, Takahiko¹; SAKAMOTO, Naonori¹; SHINOZAKI, Kazuo²; SUZUKI, Hisao¹; WAKIYA, Naoki¹

1. Department of Electronics and Materials Science, Shizuoka U., Hamamatsu 432-8561, Japan

2. School of Materials and Chemical Technology, Tokyo Tech., Tokyo 152-8550, Japan

(28-P-S17-27) Preparation of (K, Na) NbO₃ thin film by chemical solution deposition with chemical modificationYOSHIDA, Kazuki^{*1}; TANAKA, Sadaaki¹; HIRAI, Shigeto²; MATUDA, Takeshi²; SAKAMOTO, Naonori³; SUZUKI, Hisao³; OHNO, Tomoya²

1. Department of Materials Science, Kitami Institute of Technology

2. School of Earth, Energy and Environmental Engineering, Kitami Institute of Technology

3. Research Institute of Electronics, Shizuoka University

(28-P-S17-28) Supercritical fluid deposition of hafnium oxide thin films for dielectric applicationKAWASHIMA, Hiroaki¹; UCHIDA, Hiroshi^{*1}

1. Sophia University

(28-P-S17-29) Fabrication of GaN-Ta₃N₅ multi layered photoanode by electrochemical anodization and depositionKANASUGI, Takafumi^{*1}; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

(28-P-S17-30) Electrochromic properties of Sn-doped WO₃ films by low-speed dip-coating techniqueNAKAMURA, Yoshiki^{*1}; UCHIYAMA, Hiroaki²

1. Graduate School of Science and Engineering, Kansai University

2. Department of Chemistry, Materials and Bioengineering, Kansai University

(28-P-S17-31) Fabrication of SrTiO₃ photoelectrode from powder by using of electrophoresis and roll press methodSAKATA, Naoyuki^{*1}; ITO, Mizuki¹; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

(28-P-S17-32) Spin-spray Conditions to Fabricate Cu_{2-x}O-Fe₂O₃ composite films for Anodic Material of SupercapacitorLIN, Hwai-En¹; UEMURA, Michihiko¹; KATAYANAGI, Yuta²; KUBOTA, Yuta¹; MATSUSHITA, Nobuhiro^{*1}

1. Department of Material Science and Engineering, Tokyo Institute of Technology

2. Department of Technology Education, Faculty of Education, Gunma University

(28-P-S17-33) Synthesis and Evaluation of Sphere like CuO Films on Conductive SubstratesNISHIDA, Ryo^{*1}; WATANABE, Tomoaki¹

1. Department of Applied Chemistry, Meiji University

19:Mixed Anion Compounds for Novel Functionalities

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S19-01) Thermal decomposition and re-nitridation reaction of SrO excess perovskite-type oxynitride $\text{Sr}_{1+x}\text{TaO}_{2+x}\text{N}$ MIYAMOTO, Daiki^{*1}; MASUBUCHI, Yuji²; HIGUCHI, Mikio²

1. Graduate School of Chemical Sciences and Engineering, Hokkaido University

2. Faculty of Engineering, Hokkaido University

(28-P-S19-02) Synthesis and crystal structure of novel carbodiimide compound $(\text{Ba}_{0.9}\text{Sr}_{0.1})\text{CN}_2$ MIYAZAKI, Suzuka^{*1}; MASUBUCHI, Yuji²; HIGUCHI, Mikio²

1. Graduate School of Chemical Sciences and Engineering, Hokkaido University

2. Faculty of Engineering, Hokkaido University

(28-P-S19-03) Molten Salt Synthesis of Chalcogenide Spinel $\text{MgIn}_2\text{S}_{4-2x}\text{Se}_{2x}$ ($x=0$ and 0.5)ITO, Hiroaki^{*1}; MIURA, Akira²; ROSERO-NAVARRO, Nataly Carolina²; MIZUGUCHI, Yoshikazu³; GOTO, Yosuke³; KUROIWA, Yoshihiro⁴; MORIYOSHI, Chikako⁴; TADANAGA, Kiyoharu²

1. Graduate School of Chemical Science and Engineering, Hokkaido University

2. Faculty of Engineering, Hokkaido University

3. Department of physics, Tokyo Metropolitan University

4. Department of Physical Science, Hiroshima University

(28-P-S19-04) Preparation of new apatite-type oxynitrides $\text{Pr}_x\text{Si}_3\text{O}_{(3x-3y+12)/2}\text{N}_y$ in silica tubesKAWAHARA, Toshiki^{*1}; TEZUKA, Keitaro¹; TOKUHARA, Yoshimi¹; MURATA, Tomoharu¹; SHAN, Yue Jin¹

1. Graduate School of Engineering, Utsunomiya University

(28-P-S19-05) Synthesis of new layered iridium oxyfluorides by a topochemical reaction method and their physical propertiesKURAMOCHI, Kenta^{*1,2}; SHIMANO, Tomohito^{1,2}; NISHIO, Taichiro¹; OKABE, Hirotaka³; HORIGANE, Kazumasa⁴; AKIMITSU, Jun⁴;UCHIYAMA, Tomoki⁵; UCHIMOTO, Yosiharu⁵; OGINO, Hiraku²

1. Department of Physics, Tokyo University of Science, Tokyo 162-8601, Japan

2. Superconducting Electronics Group, AIST, Ibaraki 305-8568, Japan

3. Institute of Materials Structure Science/J-PARC Center, KEK, Ibaraki 305-0801, Japan

4. Research Institute for Interdisciplinary Science, Okayama University, Okayama 700-8530, Japan

5. Graduate School of Human and Environmental Studies, Kyoto University, Kyoto 606-8501, Japan

(28-P-S19-06) Synthesis and Electrical Properties of Fluoride Ion Conductor Using Fluoride SulfideTACHIBANA, Shintaro^{*1}; YAMAGISHI, Hirona²; ORIKASA, Yuki¹

1. Graduate School of Life Sciences, Ritsumeikan University

2. SR Center, Ritsumeikan University

(28-P-S19-07) Crystal structure and ionic conductivity of the argyrodite-type $\text{Li}_6\text{SbS}_5\text{I}$ solid electrolytesKIMURA, Takuya^{*1}; HOTEHAMA, Chie¹; SAKUDA, Atsushi¹; TATSUMISAGO, Masahiro¹; HAYASHI, Akitoshi¹

1. Osaka Prefecture University

(28-P-S19-08) Structural Stability of $\text{Ba}_{1-(1/2)x}\text{TiO}_{3-x}(\text{OH})_x$ Fabricated by Hydrothermal ProcessFURUTA, Masahiro^{*1}; UTIMULA, Keishu²; HONGO, Kenta³; MAEZONO, Ryo⁴; HAYASHI, Katsuro⁵; INADA, Miki⁶

1. Department of Molecular and Material Sciences, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

2. School of Materials Science, Japan Advanced Institute of Science and Technology

3. Research Center for Advanced Computing Infrastructure, Japan Advanced Institute of Science and Technology

4. School of Information Science, Japan Advanced Institute of Science and Technology

5. Department of Applied Chemistry, Faculty of Engineering, Kyushu University

6. Center of Advanced Instrumental Analysis, Kyushu University

(28-P-S19-09) Synthesis of oxy-hydroxides $\text{Ba}(\text{Zn}_x\text{Nb}_{1-x})\text{O}_{3-\delta-y}(\text{OH})_{2y}$ by water-vapor annealingARAI, Kenji^{*1}; SUGANAMI, Kyohei¹; SAITO, Miwa¹; INADA, Miki²; HAYASHI, Katsuro³; MOTOHASHI, Teruki¹

1. Department of Materials and Life Chemistry, Faculty of Engineering, Kanagawa University

2. Center of Advanced Instrumental Analysis, Kyushu University

3. Department of Applied Chemistry, Faculty of Engineering, Kyushu University

(28-P-S19-10) Thermal behaviors and chemical composition of $\text{La}_{0.5}\text{Sr}_{2.5}\text{FeCoO}_{7-\delta-z}(\text{OH})_{2z}\cdot w\text{H}_2\text{O}$ studied by simultaneous thermogravimetry and desorbed-gas analysisKAWAHARA, Yoshiteru^{*1}; SAITO, Miwa¹; MOTOHASHI, Teruki¹

1. Department of Materials and Life Chemistry, Faculty of Engineering, Kanagawa University

(28-P-S19-11) Metal-Hydride Reduction of Primitive Perovskites $\text{BaM}_{1-x}\text{Y}_x\text{O}_{3-x/2}$ ($M = \text{Zr}, \text{Sn}, \text{Ce}$)OGAWA, Yuya^{*1}; HASEGAWA, George¹; AKANATSU, Hirofumi¹; FUJII, Kotaro²; YASHIMA, Masatomo²; INADA, Miki³; MATSUISHI, Satoru⁴; HAYASHI, Katsuro¹

1. Department of Applied Chemistry, Kyushu University

2. Department of Chemistry, Tokyo Institute of Technology

3. Center of Advanced Instrumental Analysis, Kyushu University

4. Material Research Center for Element Strategy, Tokyo Institute of Technology

(28-P-S19-12) Crystal structure and magnetic properties of melilite-related compoundsKUREHA, Miki^{*1}; DOI, Yoshihiro²; ENDO, Takashi²; WAKESHIMA, Makoto²; HINATSU, Yukio²

1. Graduate School of Chemical Sciences and Engineering, Hokkaido University

2. Department of Chemistry, Faculty of Science, Hokkaido University

3. Faculty of Engineering, Hokkaido University

(28-P-S19-13) Synthesis, crystal structure and magnetic properties of Se-substituted melilitesUCHIDA, Yu^{*1}; ENDO, Takashi²; DOI, Yoshihiro³; WAKESHIMA, Makoto³; HINATSU, Yukio³

1. Graduate School of Chemical Sciences and Engineering, Hokkaido University, Hokkaido 060-0809, Japan

2. Faculty of Engineering, Hokkaido University, Hokkaido 060-8628, Japan

3. Department of Chemistry, Faculty of Science, Hokkaido University, Hokkaido 060-0809, Japan

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S19-14) Research on thermal decomposition reaction of $\text{Ce}_x\text{Nd}_{2-x}\text{CuO}_4$ under reductive condition, and on superconductivity of $\text{Ce}_x\text{Nd}_{2-x}\text{CuO}_{4-y}$ without thermal decompositionKUSANO, Hiroshi^{*1}; KOUNO, Hiroya¹; OKA, Kengo²; WATANABE, Mizuki¹; HIGASHIHARA, Takumi¹; OH-ISHI, Katsuyoshi¹

1. Department of Applied Chemistry, Faculty of Science and Engineering, Chuo University, 1-13-27 Kasuga Bunkyo-ku, 112-8551 Tokyo, Japan
2. Department of Applied Chemistry, Faculty of Science and Engineering, Kinki University, 3-4-1 Kowakae Higashiosaka-city 577-8502 Osaka, Japan

(28-P-S19-15) Theoretical Studies on Mixed-Anion Effect on Li^+ Migration in Spinel $\text{Li}_4\text{Ti}_5\text{O}_{12}$ FrameworkHARA, Kenjiro^{*1}; SHIIBA, Hiromasa³; ZETTSU, Nobuyuki^{2,3}; TESHIMA, Katsuya^{2,3}

1. Department of Engineering, Graduate School of Science and Technology, Shinshu University
2. Department of Materials Chemistry, Faculty of Engineering, Shinshu University
3. Research Initiative for Supra-Materials, Shinshu University

(28-P-S19-16) Flux Synthesis of Layered Perovskite Oxyhalide $\text{Bi}_4\text{NbO}_8\text{Cl}$ Photocatalyst for Efficient Water Oxidation Under Visible LightOGAWA, Kanta^{*1}; NAKADA, Akinobu²; SUZUKI, Hajime¹; TOMITA, Osamu¹; YAMAKATA, Akira³; SAEKI, Akinori⁴; KAGEYAMA, Hiroshi¹; ABE, Ryu¹

1. Department of Energy and Hydrocarbon Chemistry, Kyoto University
2. Department of Applied Chemistry, Chuo University
3. Graduate School of Engineering, Toyota Technological Institute
4. Department of Applied Chemistry, Osaka University

(28-P-S19-17) Influence of Crystallographic Orientation on the Activity of Photoelectrochemical Water Splitting with CaTaO_2N WAKASUGI, Takuto^{*1}; HIROSE, Yasushi¹; NAKAO, Shoichiro¹; KUMAGAI, Hiromu²; MAEDA, Kazuhiko²; HASEGAWA, Tetsuya¹

1. The University of Tokyo
2. Tokyo Institute of Technology

22: Layered Double Hydroxides: Science and Design of Binding Field with Charged Layers**(28-P-S22-01) Design of Water-extended Reaction Space By Use of Acetate-intercalated Layered Yttrium Hydroxide Catalyst**HARA, Takayoshi^{*1}; NAKANISHI, Hikaru¹; ICHIKUNI, Nobuyuki¹; SHIMAZU, Shogo¹

1. Department of Applied Chemistry and Biotechnology, Graduate School of Engineering, Chiba University

(28-P-S22-02) Gas barrier properties of organic-inorganic hybrid gas barrier membranes using surface modified layered double hydroxideKURAOKA, Koji^{*1,2}; MIKI, Kazumi¹

1. Graduate School of Maritime Sciences, Kobe University
2. Research Center for Membrane and Film Technology, Kobe University

(28-P-S22-03) Oxygen Reduction Reaction Activity of Ni-Fe-Mn-Based Layered Double HydroxidesIWAI, Yu¹; MIURA, Akira¹; ROSERO-NAVARRO, Nataly Carolina¹; TADANAGA, Kiyoharu^{*1}; CETINKAYA, Tugrul²; FRANCO, Alejandro A.³; APARICIO, Mario⁴

1. Hokkaido University
2. Sakarya University
3. Université de Picardie Jules Verne
4. Glass and Ceramic Institute, CSIC

(28-P-S22-04) Synthesis of a High-Entropy Layered HydroxideMIURA, Akira^{*1}; ISHIYAMA, Sho²; KUBO, Daiju²; ROSERO-NAVARRO, Nataly Carolina¹; TADANAGA, Kiyoharu¹

1. Faculty of Engineering, Hokkaido University
2. Graduate School of Chemical Sciences and Engineering, Hokkaido University

(28-P-S22-05) Crystal Nucleation and Growth of Mg-Al Layered Double Hydroxide ($\text{Mg}/\text{Al} = 2$) under Hydrothermal ConditionsSUMIYOSHI, Hidenobu^{*1}; FUJIMURA, Takuya¹; MORIYOSHI, Chikako²; SASAI, Ryo¹

1. Graduate School of Natural Science and Technology, Shimane University
2. Graduate School of Science, Hiroshima University

(28-P-S22-06) Synthesis of chiral layered metal hydroxide nanoparticles and evaluation of enantioselective adsorptionKOYAMA, Akihiro^{*1}; TOKUDOME, Yasuaki¹; OKADA, Kenji¹; MURATA, Hidenobu¹; NAKAHIRA, Atsushi¹; TAKAHASHI, Masahide¹

1. Osaka Prefecture University

(28-P-S22-07) Fabrication of aqueous ammonia fuel cell using Mg-Al layered double hydroxides as solid electrolyteISHIYAMA, Sho^{*1}; ROSERO-NAVARRO, Nataly Carolina²; MIURA, Akira²; TADANAGA, Kiyoharu²

1. Graduate School of Chemical Science and Engineering, Hokkaido University
2. Faculty of Engineering, Hokkaido University

(28-P-S22-08) Gd-complex incorporated layered double hydroxide for multimodal contrasting agentJUNG, Sang-yong^{*1}; KIM, Hyoun-Jun¹; GWAK, Gyeong-Hyeon²; KIM, Se Na³; CHOY, Young-Bin^{3,4}; LEE, Jun Young⁵; PARK, Jeong Hoon⁵; OH, Jae-Min¹

1. Department of Energy and Material Engineering, Dongguk University, Seoul, 04604, Korea
2. Beamline Research Division, Pohang Accelerator Laboratory, Pohang University of Science and Technology, Pohang Gyeongsangbukdo 37673, Republic of Korea
3. Institute of Medical & Biological Engineering, Medical Research Center, Seoul National University, Seoul 03080, Korea

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

4. Interdisciplinary Program in Bioengineering, College of Engineering, Seoul National University, Seoul 08826, Korea
 5. Radiation Instrumentation Research Division, Korea Atomic Energy Research Institute, Jeongseup-si, 56212, Korea

(28-P-S22-09) Encapsulation of Zingiber officinale extract with layered double hydroxide for preservation of antioxidant activity

LEE, Su-Bin^{*1}; KIM, Hyoung-Jun¹; OH, Jae-Min¹

1. Department of Energy and Materials Engineering, Dongguk University-Seoul, Seoul 04620, South Korea

(28-P-S22-10) Exfoliation of Fe-containing layered double hydroxide utilizing redox reaction

KIM, Nam-Ho^{*1}; GWAK, Gyeong-Hyeon²; OH, Jae-Min¹

1. Department of Energy and Materials Engineering, Dongguk University-Seoul, Seoul 04620, South Korea
 2. Beamline Research Division, Pohang Accelerator Laboratory, Pohang University of Science and Technology

(28-P-S22-11) Thermodynamic and kinetic study for anion adsorption on layered double hydroxide depending on particle size

KO, Su-Joung^{*1}; SHIN, Jinseop²; OH, Jae-Min¹

1. Department of Energy and Materials Engineering, Dongguk University-Seoul, Seoul 04620, Republic of Korea
 2. Eco laboratory, SK chemicals life Science Biz, Seongnam-si, Gyeonggi-do 13494, Korea

(28-P-S22-12) Preparation and catalytic property of NiO catalyst from layered double hydroxide (LDH) nanosheets

KAMESHIMA, Yoshikazu^{*1}; KUWAHARA, Seiji¹; NISHIMOTO, Shunsuke¹; MIYAKE, Michihiro¹

1. Okayama University

(28-P-S22-13) Effect of Humidity on Rehydration of Layered Double Hydroxides in Air

NAKAMURA, Takato^{*1}; MURATA, Hidenobu¹; TOKUDOME, Yasuaki¹; NAKAHIRA, Atsushi¹

1. Department of Materials Science, Osaka Prefecture University, Sakai 599-8531, Japan

(28-P-S22-14) CO₂ release behaviors of layered double hydroxide nanoparticles in repeated adsorption-desorption cycles

KAWASHIMO, Mio^{*1}; OKUDA, Ayaka¹; KATAGIRI, Kiyofumi¹; INUMARU, Kei¹

1. Hiroshima University

23:Geopolymer, Building Materials and Low Environmental Loading Construction Materials

(28-P-S23-01) Effect of Ca addition on preparation of inorganic cured material from waste glass

KAMESHIMA, Yoshikazu^{*1}; NAKAHIRA, Takuro¹; NISHIMOTO, Shunsuke¹; MIYAKE, Michihiro¹

1. Okayama University

26: Ceramic Materials for Nuclear Energy

(28-P-S26-01) Property measurement of CaF₂

TSUCHIMOTO, Ryota^{*1}; MATSUMOTO, Taku^{1,2}; WHITE, Joshua T.²; HIROOKA, Shun¹; MCCLELLAN, Kenneth J.²; KATO, Masato¹

1. Japan Atomic Energy Agency
 2. Los Alamos National Laboratory

(28-P-S26-02) Experimental study for cold-cap reaction in glass melter for waste vitrification

SUGAWARA, Toru^{*1}; OHIRA, Toshiaki¹; OOWAKU, Kouhei²; KANEHIRA, Norio²

1. Akita University
 2. Japan Nuclear Fuel Limited

(28-P-S26-03) Oxygen potential and defect equilibria in UO_{2±x}

WATANABE, Masashi¹; KATO, Masato^{*1}

1. Japan Atomic Energy Agency

(28-P-S26-04) Investigation of MoO₃ solubility in different types of slow-cooled high-level waste glass

OHIRA, Toshiaki^{*1}; ADACHI, Maki²; SUGAWARA, Toru¹

1. Graduate School of Engineering Science, Akita University
 2. Faculty of International Resource Science, Akita University

(28-P-S26-05) Enthalpy measurement and evaluation of heat capacity on PuO₂

MORIMOTO, Kyoichi^{*1}; OGASAWARA, Masahiro²

1. Japan Atomic Energy Agency
 2. Inspection development company Ltd.

(28-P-S26-06) Drying experiments of CeO₂ granules produced using wet granulator

ISHII, Katsunori^{*1}; SEGAWA, Tomoo¹; KAWAGUCHI, Koichi¹

1. Japan Atomic Energy Agency

(28-P-S26-07) High Rate Characteristics of LiCoO₂ Modified with BaTiO₃ Nanocube

YAMANAKA, Ryoji^{*1}; TERANISHI, Takashi¹; MIMURA, Ken-ichi²; KISHIMOTO, Akira¹; KATO, Kazumi²

1. Okayama University
 2. National Institute of Advanced Industrial Science and Technology (AIST)

(28-P-S26-08) The Effect of A-Site Cation on the Formation of Brannerite (ATi₂O₆, A = U, Th, Ce) Ceramic Phases in a Glass-Ceramic Composite System

DIXON WILKINS, Malin Christian John^{*1}; MADDRELL, Ewan²; STENNETT, Martin¹; HYATT, Neil¹

1. Immobilisation Science Laboratory, Department of Materials Science and Engineering, The University of Sheffield, Sheffield, UK
 2. National Nuclear Laboratory, Sellafield, Cumbria, UK

(28-P-S26-09) Effect of oxygen potential on sintering behavior of CeO₂

WATANABE, Masashi^{*1}; TANAKA, Kosuke¹; KATO, Masato¹

1. Japan Atomic Energy Agency

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S26-10) Preparation of self-oxidized film of metallic zirconium in water vapor atmosphereTAKEMURA, Rio^{*1}; SASAKI, Kazuya¹; NIWA, Eiki²; KONDO, Masatoshi³

1. Graduate School of Science and Technology, Hirosaki University, Aomori 036-8561, Japan

2. Graduate School of Engineering, Mie University, Mie 514-8507, Japan

3. Laboratory for Advanced Nuclear Energy, Institute of innovative research, Tokyo Institute of Technology, Tokyo 152-8550, Japan

27: Synthesis and Processing of Materials using Electric Currents and Pressures**(28-P-S27-01) Gradient ceramics sintering using Spark Plasma Sintering**B. SWEIDAN, Faris^{*1}; RYU, Ho Jin¹

1. Department of Nuclear and Quantum Engineering, KAIST, Yuseong-gu, Daejeon, Republic of Korea

(28-P-S27-02) Optimization of AC electric field for flash sintering of 3YSZKURACHI, Tsuyoshi^{*1}; TOKUNAGA, Tomoharu¹; YAMAMOTO, Takahisa^{1,2}

1. Nagoya university school of engineering

2. Japan Fine Ceramics Center

(28-P-S27-03) Fluorescence of flashed 3Y₂O₃-ZrO₂ sintered compactsYAMASHITA, Yudai^{*1}; TOKUNAGA, Tomoharu¹; YOSHIDA, Hidehiro²; YAMAMOTO, Takahisa^{1,3}

1. Nagoya University

2. Tokyo University

3. Japan Fine Ceramics Center

(28-P-S27-04) Bending Strength and Fracture Toughness of Sintered Cr₂O₃ BulksKOSUGI, Takahiro^{*1}; NANKO, Makoto¹

1. Nagaoka University of Technology

(28-P-S27-05) Microstructure and mechanical properties of binderless WC-Si₃N₄ ceramicsNINO, Akihiro^{*1}; KANEKO, Masaki¹; SEKINE, Takashi²; SUGIYAMA, Shigeaki²

1. Department of Materials Science and Engineering, Graduate School of Engineering Science, Akita University

2. Akita Industrial Technology Center

(28-P-S27-06) Densification and Thermal Conductivity of SUS316/AlN Whisker Composites Processed by Spark Plasma SinteringKOBAYASHI, Ryota^{*1}; ISHINO, Tatsuhiro¹; TAKASE, Kazuya¹; HORIBE, Takeru¹; TEJIMA, Akihito¹; HARATA, Koichi²

1. Tokyo City University

2. Tohoku University

(28-P-S27-07) Effect of Mo₂C, TaC and ZrC addition on mechanical properties of TiC-SiC ceramicsSEKINE, Takashi^{*1}; NINO, Akihiro²; SUGAWARA, Yasushi¹; SUGIYAMA, Shigeaki¹; TAIMTSU, Hitoshi²

1. Akita Industrial Technology Center

2. Department of Materials Science and Engineering, Graduate school of Engineering Science, Akita University

(28-P-S27-08) Joining of SiC ceramics by the flash-bonding technique: Reactivity and wettability of borosilicate glass with SiC ceramicsYOSHITAKE, Takuro^{*1}; KITAYAMA, Mikito¹

1. Fukuoka Institute of Technology

(28-P-S27-09) Synthesis of GdS_x (0.68 ≤ x ≤ 1.2) by Reaction Sintering in Pulse Electric Current Sintering Method and Its PropertiesNHU BIEN, TRAN^{*1}; HIRAI, Shinji²; KURODA, Aki¹; KUZUYA, Toshihiro²; NAKAMURA, Eiji²

1. Graduate School of Engineering, Muroran Institute of Technology, Muroran 050-0071, Japan

2. Research Center for Environmentally Friendly Materials Engineering, Muroran Institute of Technology, Japan

(28-P-S27-10) Facile Synthesis of MoS₂ Cathode for Water Splitting Catalyst Using Electrochemical Reduction Under Hydrothermal ConditionKOBAYASHI, Hiroaki^{*1}; KATAHIRA, Shusuke¹; NAKAYASU, Yuta²; HONMA, Itaru¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University

28: Photo-functional Inorganic Materials**(28-P-S28-01) Photoluminescence and crystal structure of new phosphor of Al, P doped Ca₂SiO₄: Eu²⁺**KAMIMOTO, Konatsu^{*1}; NAKANO, Hiromi¹

1. Toyohashi University of Technology

(28-P-S28-02) Annealing effects on phase compositions and PL properties of P-doped Ca₂SiO₄ phosphorsANDO, Shota^{*1}; KAMIMOTO, Konatsu¹; NAKANO, Hiromi¹; HIRAMATSU, Yuya²; FUKUDA, Koichiro²; MICHIE, Yuichi³; HIROSAKI, Naoto³

1. Toyohashi University of Technology

2. Nagoya Institute of Technology

3. National Institute for Materials Science

(28-P-S28-03) New Sol-gel Method for Synthesis of Dy-doped Yttrium Disilicate Phosphor not from TEOS but Sodium Silicate SolutionYAMAGATA, Chieko^{*1}; MORAIS, Vinicius Ribas¹; MELLO-CASTANHO, Sonia Regina Homem¹

1. Materials Science and Technology Center, Nuclear and Energy Research Institute, Sao Paulo, Brazil

(28-P-S28-04) Synthesis and photoluminescence of new red phosphor for Mn⁴⁺ doped Li-Ta-Ti-O solid solutionMAEDA, Masashi^{*1}; KAMIMOTO, Konatsu¹; NAKANO, Hiromi¹

1. Toyohashi University of Technology

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(28-P-S28-05) Deposition of white-light-emitting cesium metavanadate (CsVO₃) filmsMIMARU, Yu^{*1}; MIYAZAKI, Hidetoshi¹; SUZUKI, Hisao²; OTA, Toshitaka³

1. Shimane University
2. Shizuoka University
3. Nagoya Institute of Technology

(28-P-S28-06) Photoluminescence properties of sol-gel-derived transparent silica-(Tb,Ce)PO₄ glass-ceramicsIWASAKI, Rena^{*1}; KAJIHARA, Koichi¹

1. Tokyo Metropolitan University

(28-P-S28-07) Enhanced Persistent Luminescence Properties of Ba₃SiO₅:Eu Orange Phosphor by Phosphorus Co-DopingYOO, J. H.¹; HUR, M.G.²; YOON, D.H.^{*1,2}

1. School of Advanced Materials Science & Engineering, Sungkyunkwan University, Korea
2. SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University (SKKU), Korea

(28-P-S28-08) Photoluminescence of sol-gel-derived transparent silica-(Gd,Pr)PO₄ glass-ceramics under excitation with a KrCl excimer lampNAKAGAWA, Ryosui^{*1}; KAJIHARA, Koichi¹

1. Tokyo Metropolitan University

(28-P-S28-09) Luminescence Investigation of Manganese-doped Magnesium Stannate FilmsTSAI, Mu-Tsun¹; YEN, Bo-Wen^{*1}

1. National Formosa University

(28-P-S28-10) Optical Characteristics of SrAl₂O₄:Eu²⁺, Dy³⁺ Phosphors Studied by Excitation Spectra of Persistent LuminescenceMURAYAMA, Yuna^{*1}; MATSUI, Kazunori¹

1. Department of Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University, Yokohama 236-8501, Japan

(28-P-S28-11) Composite of Fluorescein-doped Silica Gel and Sr₂MgSi₂O₇:Eu²⁺ Persistent PhosphorHANDA, Shunsuke^{*1}; MURAMATSU, Mina²; MATSUI, Kazunori¹

1. Department of Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University, Yokohama 236-8501, Japan
2. College of Science and Engineering, Kanto Gakuin University, Yokohama, 236-8501, Japan

(28-P-S28-12) Novel Highly Efficient Blue-Emitting SrHfSi₂O₇:Eu²⁺ Phosphor: a Potential Color Converter for WLEDs and FEDsZHANG, Qiang^{*1}; WANG, Yuhua²

1. Key Laboratory of Special Function Materials and Structure Design, Ministry of Education, Department of Materials Science, School of Physical Science and Technology, Lanzhou University, China
2. Key Laboratory of Special Function Materials and Structure Design, Ministry of Education, Department of Materials Science, School of Physical Science and Technology, Lanzhou University, China

(28-P-S28-13) Facile synthesis of color-tunable CuInS₂ and CuInS₂/ZnS core/shell quantum dots with high quantum yields: structure, optical propertiesZHOU, Yunpeng^{*1}; WANG, Yuhua²

1. Department of Materials Science, School of Physical Science and Technology, Lanzhou University, Lanzhou, 730000, China
2. Department of Materials Science, School of Physical Science and Technology, Lanzhou University, Lanzhou, 730000, China

(28-P-S28-14) Synthesis and optical properties of red-emitting A₂MI₆ scintillators (A = K, Rb and Cs, M = Zr and Hf)KODAMA, Shohei^{*1}; KUROSAWA, Shunsuke²; OHNO, Maki¹; YAMAJI, Akihiro¹; YOSHINO, Masao¹; SATO, Hiroki²; OHASHI, Yuji²;KAMADA, Kei^{2,3}; YOKOTA, Yuui²; YOSHIKAWA, Akira^{1,2,3}

1. Institute for Materials Research, Tohoku University
2. New Industry Creation Hatchery Center, Tohoku University
3. C&A Corporation

(28-P-S28-15) Temperature Dependent Photoluminescence of Heat-treated Titanium Oxide PowdersKUROKI, Yuichiro^{*1}; SAWA, Makito¹

1. Salesian Polytechnic

(28-P-S28-16) Quantitative Determination of Effective Mn⁴⁺ Concentration and its Influence on Photoluminescence Efficiency of Deep-red emission in Li₂TiO₃:Mn⁴⁺HASEGAWA, Takuya^{*1,2}; NISHIWAKI, Yoshinori³; FUJISHIRO, Fumito⁴; KAMEI, Shinnosuke⁵; UEDA, Tadaharu^{1,2}

1. Faculty of Agriculture and Marine Science, Kochi University
2. Center for Advanced Marine Core Research, Kochi University
3. Faculty of Education, Kochi University
4. Faculty of Science and Technology, Kochi University
5. College of Industrial Technology, Nihon University

(28-P-S28-17) Effect of Boron on the Long Afterglow Characteristics of SrAl₂O₄:Eu²⁺, Dy³⁺ PhosphorOTA, Saori^{*1}; TAKEUCHI, Nobuyuki¹

1. Kyoto Institute of Technology

(28-P-S28-18) Long Afterglow Characteristics of Eu²⁺, Dy³⁺ co-doped SrAl₂O₄ Fired under Various ConditionsMIYAMOTO, Koyomi^{*1}; TAKEUCHI, Nobuyuki¹

1. Kyoto Institute of Technology

(28-P-S28-19) Characterization of Ag-doped Zeolite with Various Kinds of Frameworks for Rare-Earth Free PhosphorsMINAMI, Yuya^{*1}; MURATA, Hidenobu¹; TOKUDOME, Yasuaki¹; YOSHIDA, Kaname²; ATSUSHI, Nakahira¹

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Department of Materials Science, Osaka Prefecture University
2. Nanostructures Research Lab, Japan Fine Ceramics Center

(28-P-S28-20) Persistent luminescence properties of ZrO₂ annealed under different oxygen partial pressureSAWAMURA, Kenji^{*1}; IWASAKI, Kenichiro¹; NAKANISHI, Takayuki¹; IWAKURA, Fumitaka²; NAKAJIMA, Yasushi²; YASUMORI, Atsuo¹

1. Tokyo University of Science
2. Daiichi Kigenso Kagaku Kogyo Co.

(28-P-S28-21) Deep Red Luminescence of Cr³⁺ in Fluorine-doped Lithium AluminateKAMADA, Yuki^{*1}; KOMINAMI, Hiroko²; HARA, Kazuhiko³; KAKIHANA, Masato⁴; MATSUSHIMA, Yuta¹

1. Department of Chemistry and Chemical Engineering, Yamagata University
2. Department of Electronics and Materials Science, Shizuoka University
3. Research Institute of Electronics, Shizuoka University
4. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

(28-P-S28-22) Influence of Additional Doping of Divalent Ions on Emission Intensity of Mn-doped CaAl₁₂O₁₉SAGAYAMA, Musashi^{*1}; ZAFARI, Umar²; SUBHONI, Mekhrdod^{2,3}; BRIK, Mikhail⁴; YAMAMOTO, Tomoyuki^{1,3,5}

1. Faculty of Science and Engineering, Waseda University
2. Academy of Science of Republic of Tajikistan
3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University
4. Institute of Physics, University of Tartu
5. Institute of Condensed-Matter Science, Waseda University

(28-P-S28-23) Dependence of Excitation Wavelength on the Photoluminescence Spectra of Mn-doped Mg₂A_{1-x}B_xO₄TOGASHI, Yuki^{*1}; ZAFARI, Umar²; SUBHONI, Mekhrdod^{2,3}; BRIK, Mikhail⁴; YAMAMOTO, Tomoyuki^{1,3,5}

1. Faculty of Science and Engineering, Waseda University
2. Academy of Science of Republic of Tajikistan
3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University
4. Institute of Physics, University of Tartu
5. Institute of Condensed-Matter Science, Waseda University

(28-P-S28-24) Change in Up-Conversion Emission Intensity of Rare-Earth Doped CaZrO₃ by Additional Na DopingNISHIDA, Takuma^{*1}; BRIK, Mikhail²; YAMAMOTO, Tomoyuki^{1,3,4}

1. Faculty of Science and Engineering, Waseda University
2. Institute of Physics, University of Tartu
3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University
4. Institute of Condensed-Matter Science, Waseda University

(28-P-S28-25) Synthesis, crystal structure, and photoluminescence properties of Ce-doped garnet-type Ca₂(Y,Gd)Sn₂Al₃O₁₂SASAKI, Takuya^{*1}; IWAI, Takayoshi¹; NIWA, Ken¹; HASEGAWA, Masashi¹

1. Nagoya university

(28-P-S28-26) Fabrication and evaluation of luminescence characteristics of AlN whiskers doped with Fe, Mg, and MnOOGAWA, Mako^{*1}; ANDO, Naoki¹; KOBAYASHI, Ryota¹

1. Tokyo City University

(28-P-S28-27) Effect of intercalation on photoluminescence properties of hexagonal boron nitrideTSUJIMURA, Takuya^{*1}; UCHINO, Takashi¹

1. Kobe Univ.

(28-P-S28-28) Temperature dependence of excitonic stimulated emission from micrometer-thick MgZnO filmsFUJII, Shusuke^{*1}; ADACHI, Yutaka²; UCHINO, Takashi¹

1. Kobe University
2. National Institute for Material Science

(28-P-S28-29) Synthesis and Characterization of (Li_{1-x}Na_x)₂MnO₃ as Environmentally Friendly Red PigmentsKUSUKAMI, Kohei^{*1}; OKA, Ryohei²; MASUI, Toshiyuki^{3,4}

1. Graduate School of Sustainability Science, Tottori University
2. Graduate School of Engineering, Tottori University
3. Faculty of Engineering, Tottori University
4. Center for Research on Green Sustainable Chemistry, Tottori University

(28-P-S28-30) Novel Inorganic Orange Pigments Based on BiFeWO₆TAKEMURA, Akari^{*1}; SHOBU, Yusuke¹; OKA, Ryohei²; MASUI, Toshiyuki^{3,4}

1. Graduate School of Sustainability Science, Tottori University
2. Graduate School of Engineering, Tottori University
3. Faculty of Engineering, Tottori University
4. Center for Research on Green Sustainable Chemistry, Tottori University

(28-P-S28-31) Synthesis and Characterization of Zn_{1-x}Mg_xO Fine Particles for SunscreenKATAOKA, Nao^{*1}; YONEZAWA, Taichi¹; WATANABE, Mizuki⁴; MASUI, Toshiyuki^{2,3}

1. Graduate School of Sustainability Science, Tottori University
2. Faculty of Engineering, Tottori University
3. Center for Research on Green Sustainable Chemistry, Tottori University
4. Faculty of Science and Engineering, Chuo University

(28-P-S28-32) Synthesis and Color Evaluation of Ta⁵⁺-doped Bi₂O₃SHOBU, Yusuke^{*1}; OKA, Ryohei²; MASUI, Toshiyuki^{3,4}

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Graduate School of Sustainability Science, Tottori University
2. Graduate School of Engineering, Tottori University
3. Faculty of Engineering, Tottori University
4. Center for Research on Green Sustainable Chemistry, Tottori University

(28-P-S28-33) Fabrication of iron oxide-based UV region photochromic composite filmsYOSHIDA, Yusuke^{*1}; MIYAZAKI, Hidetoshi¹; MAKINOSE, Yuki¹; SUZUKI, Hisao²; OTA, Toshitaka³

1. Shimane University
2. Shizuoka University
3. Nagoya Institute of Technology

(28-P-S28-34) Enhanced sensitivity of photo-activated gas sensor on formaldehyde using porous SnO₂/TiO₂ core-shell structure driven by gas flow thermal evaporationCHANG, Hyeon-Kyung^{*1,2}; CHO, Deok-Hyun^{1,2}; KIM, Sungjin^{1,2}; KIM, Hyun-Jong¹; LEE, Ho-Nyun¹; PARK, Tae Joo²; PARK, Young Min¹

1. Surface Technology Group, Korea Institute of Industrial Technology (KITECH), Incheon 21999, Republic of Korea
2. Department of Materials Science and Chemical Engineering, Hanyang University, Ansan 15588, Republic of Korea

(28-P-S28-35) Preparation and Solar Cell Characterization of Au Nanoparticles-Loaded Titania Film by Electrophoretic Deposition ProcessYATAGAWA, Yuki^{*1}; HAMAGAMI, Jun-ichi¹

1. Kanto Gakuin University

(28-P-S28-36) Single crystal faraday rotators for laser machinerySHIMAMURA, Kiyoshi^{*1}; VILLORA, Encarnacion G.¹

1. National Institute for Materials Science

(28-P-S28-37) Synthesis and Structural Control of TiO₂ Hollow Particles Toward Photocatalytic Degradation of OrganicsJIANG, Xinxin^{*1}; SHAO, Wenhao¹; KHOSROSHAHI, Hadi Razavi¹; TAKAI, Chika²; FUJI, Masayoshi¹

1. Advanced Ceramics Research Center, Nagoya Institute of Technology,
2. Faculty of Engineering, Department of Chemistry and Biomolecular Science, Gifu University,

(28-P-S28-38) Sugar-assisted Noncovalent delamination of Carbon Nitride Nanosheets for Enhanced Photocatalytic PerformanceLIU, Wei^{*1}; YANASE, Takashi¹; NAGAHAMA, Taro¹; SHIMADA, Toshihiro¹

1. Division of Applied Chemistry, Faculty of Engineering, Hokkaido University

(28-P-S28-39) Preparation and Photocatalytic Activities of Solid Solutions SrFe_{12-x}Ga_xO₁₉TAMURA, Kazuya^{*1}; TEZUKA, Keitaro¹; ITO, Chihiro¹; TASAKI, Ayane¹; SHAN, Yue Jin¹

1. Graduate School of Engineering, Utsunomiya University

31: Porous Ceramics: From Innovative Processing to Advanced Applications and Functionalities**(28-P-S31-01) Effect of Basalt Fiber Addition on Properties of Foam Glass**KIM, Eun Seok^{*1}; SONG, Ohsung¹

1. UNIVERSITY OF SEOUL

(28-P-S31-02) Synthesis of mesoporous silica under high hydrostatic pressureSATO, Riku^{*1}; LIU, Zhendong¹; TAN, Che¹; YONEZAWA, Yasuo¹; IYOKI, Kenta¹; OKUBO, Tatsuya¹; WAKIHARA, Toru¹

1. The University of Tokyo

(28-P-S31-03) Lamellar Pore Structure and Mechanical Properties of Porous SiBCN Ceramics: Effects of Solid LoadingsYANG, Zhihua^{*1,2,3}; LIAO, Xingqi^{1,2}; WANG, Gaoyuan^{1,2}; JIA, Dechang^{1,2,3}; ZHOU, Yu^{1,2}

1. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150001, China
2. Key Laboratory of Advanced Structural-Functional Integration Materials & Green Manufacturing Technology, Harbin Institute of Technology, Harbin, Heilongjiang, 150001, China
3. State Key Laboratory of Advanced Welding and Joining, Harbin Institute of Technology, Harbin, Heilongjiang, 150001, China

(28-P-S31-04) Rapid synthesis of spherical porous silica nanoparticles by using tannic acidDOHSHI, Satoru^{*1}; MINE, Shinya²; HORIUCHI, Yu²; MATSUOKA, Masaya²

1. Osaka Research Institute of Industrial Science and Technology
2. Graduate School of Engineering, Osaka Prefecture University

(28-P-S31-05) Synthesis of Nanoporous Layered Titanate Nanosheets and Application to Reverse Osmosis (RO) MembraneYAO, Fangyi^{*1}; LI, Yuanju²; FENG, Qi³

1. Faculty of Engineering and Design, Kagawa University
2. Faculty of Engineering and Design, Kagawa University
3. Faculty of Engineering and Design, Kagawa University

(28-P-S31-06) Humidity dependence of liquid water condensed in Hierarchical Nano-porous layer glassTABATA, Erika^{*1}; USHIODA, Yuki¹; ITO, Takumi¹; FUJIMA, Takuya^{1,2}

1. Faculty of Engineering, Tokyo City University, Tokyo, 158-8557, Japan,
2. Advanced Research Laboratories, Tokyo City University, Tokyo, 158-8557, Japan

(28-P-S31-07) Nanotube Array-Based Multiferroic Nanocomposite Films Fabricated by Liquid Phase ProcessKAWAMURA, Go^{*1}; TAN, Wai Kian¹; MUTO, Hiroyuki¹; MATSUDA, Atsunori¹

1. Toyohashi University of Technology

(28-P-S31-08) Kinetic analysis for photodecomposition of CH₃CHO gas after saturated adsorption on mesoporous silica-titania

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

HIRATA, Shingo^{*1}; INADA, Miki²; HOJO, Junichi³

1. Department of Molecular and Material Sciences, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

2. Center of Advanced Instrumental Analysis, Kyushu University

3. Faculty of Engineering, Kyushu University

(28-P-S31-09) Formation of Fe@C core-shell nanoparticles for Fe-air battery and the effect of sulfide addition on its performance

TAN, Wai Kian^{*1}; ASAMI, Kenta²; KAWAMURA, Go²; MUTO, Hiroyuki^{1,2}; MATSUDA, Atsunori²

1. Institute of Liberal Arts & Sciences, Toyohashi University of Technology

2. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology

(28-P-S31-10) Porous SiC Ceramics with Excellent Thermal Insulation and High Mechanical Strength

MALIK, Rohit¹; KIM, Young-Wook^{*1}

1. Department of Materials Science and Engineering, University of Seoul, Seoul 02504, Republic of Korea

(28-P-S31-11) Ion-exchange property of amorphous aluminosilicates prepared by modified co-precipitation method

HIKICHI, Naomichi^{*1}; IYOKI, Kenta¹; OKUBO, Tatsuya¹; WAKIHARA, Toru¹

1. The University of Tokyo

(28-P-S31-12) Fabrication and characterization of tantalum (oxy) nitride photonic crystals with visible light photocatalytic activity

FUJISAKA, Ai^{*1}; HIRAYAMA, Natsumi¹; RICHARDO, PETER, Lewi^{1,2}; MURAL, Kei-ichiro¹; MORIGA, Toshihiro¹; WATERHOUSE, I.N., Geoffrey³

1. Tokushima University

2. National Taiwan University of science and Technology

3. University of Auckland

(28-P-S31-13) Processing and Mechanical Properties of Carbon Monolith

UKIZUKA, Akihiro^{*1}; JIN, Yoshiki¹; ARAI, Yutaro²; INOUE, Ryo³; KOGO, Yasuo²

1. Graduate student Material Science and Technology, Tokyo University of Science, Tokyo 125-8585, Japan

2. Material Science and Technology, Tokyo University of Science, Tokyo 125-8585, Japan

3. Mechanical Engineering, Tokyo University of Science, Tokyo 125-8585, Japan

(28-P-S31-14) Adsorption property and photocatalytic activity of WO₃ composite mesoporous silica

INOUE, Aya^{*1}; HIRATA, Shingo¹; INADA, Miki²; HOJO, Junichi³

1. Department of Molecular and Material Sciences, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

2. Center of Advanced Instrumental Analysis, Kyushu University

3. Faculty of Engineering, Kyushu University

**33:Multifunctional Coatings for Structural, Energy and Environmental Applications
JFCA/ADCAL and Cross-sectoral Research cooperation of Ceramic Coating support
Symposia**

(28-P-S33-01) Nano etching of SiC using fluorine gas

NAMIE, Masanari^{*1}; KIM, Jae-Ho¹; NISHIMURA, Fumihiro¹; YONEZAWA, Susumu¹

1. University of Fukui

(28-P-S33-02) Influence of Yb₂SiO₅ on mechanical properties and thermal conductivity of Ytterbium-Silicate-Mullite composites

CHEN, Wenbo^{*1,2}; XIAO, Jie^{1,2}; HE, Wenting^{1,2}; GUO, Hongbo^{1,2}; XU, Huibin^{1,2}

1. School of Materials Science and Engineering, Beihang University, China

2. Key Laboratory of High-temperature Structural Materials & Coatings Technology (Ministry of Industry and Information Technology)

(28-P-S33-03) Columnar Structured YSZ Coatings Deposited by Low-Power PS-PVD

SHI, Jia^{*1}; WEI, Liangliang¹; XU, Huibin^{1,2}; GUO, Hongbo^{1,2}

1. School of Materials Science and Engineering, Beihang University, Beijing 100191, China

2. Key Laboratory of High-Temperature Structure Materials and Protective Coatings, Ministry of Industry and Information Technology, Beihang University, Beijing 100191, China

(28-P-S33-04) Phase Stability of Yttria Stabilized Zirconia Coatings Deposited by Advanced Coating Processes

MATSUMOTO, Akihiro^{*1,2}; MATSUBAYASHI, Yasuhito²; SHAHIEN, Mohammed²; SUZUKI, Masato³; YUMOTO, Atsushi⁴; SHINODA, Kentaro²; AKEDO, Jun⁵

1. Department of Materials Science and Engineering, Graduate School of Engineering and Science, Shibaura Institute of Technology, Koto-ku, Tokyo 135-8548, Japan

2. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8564, Japan

3. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8569, Japan

4. Department of Materials Science and Engineering, College of Engineering, Shibaura Institute of Technology, Koto-ku, Tokyo 135-8548, Japan

5. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8565, Japan

(28-P-S33-05) Effect of Difference in Alumina Particle Size on the Development of Microstructure and Texture of Dense Alumina Coating for Advanced EBCs

HASHIMOTO, Soma^{*1}; KIMURA, Kyonosuke²; HASEGAWA, Makoto³; TANAKA, Makoto⁴; KITAOAKA, Satoshi⁴; KAGAWA, Yutaka⁵

1. Department of Mechanical Engineering, Materials Science, and Ocean Engineering, Graduate School of Engineering Science, Yokohama National University

2. Department of Systems Integration, Graduate School of Engineering, Yokohama National University

3. Division of Systems Research, Faculty of Engineering, Yokohama National University

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

4. Japan Fine Ceramics Center

5. Katayanagi Advanced Research Laboratories, Tokyo University of Technology

(28-P-S33-06) Statistical Evaluation of Mechanical Properties of Thermally Sprayed Ceramic Coatings by Nano-Indentation Method

SANAMI, Kosuke^{*1,2}; YUMOTO, Atsushi³; SHINODA, Kentaro²; AKEDO, Jun⁴

1. Department of Materials Science and Engineering, Graduate School of Engineering and Science, Shibaura Institute of Technology, Koto-ku, Tokyo 135-8548, Japan

2. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8564, Japan

3. Department of Materials Science and Engineering, College of Engineering, Shibaura Institute of Technology, Koto-ku, Tokyo 135-8548, Japan

4. National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8565, Japan

(28-P-S33-07) Insulating and Thermal Properties of Al₂O₃ Film by Aerosol Deposition

AOYAGI, Rintaro^{*1}; TSUDA, Hiroki¹; AKEDO, Jun¹

1. National Institute of Advanced Industrial Science and Technology

(28-P-S33-08) Selective Deposition of MoSi₂ Thin Films on Sapphire Substrate by Aerosol Deposition Method

AKAHORI, Takumi^{*1}; SATO, Yuuki¹; YOSHIKADO, Shinzo¹

1. Graduate School of Electrical and Electronic Engineering, Doshisha University

(28-P-S33-09) Fabrication and Evaluation of Oxide High Temperature Superconductors Bi₂Sr₂Ca₂Cu₃O_y Thin Films by Aerosol Deposition

WAKITA, Akihisa^{*1}; MORI, Daisuke¹; SATO, Yuuki¹; YOSHIKADO, Shinzo¹

1. Doshisha University

(28-P-S33-10) Spectroscopic Measurements of RF Plasma Flow for Hybrid Aerosol Deposition

SAITO, Hiroki^{*1}; MATSUBAYASHI, Yasuhito¹; SHINODA, Kentaro¹; AKEDO, Jun¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

(28-P-S33-11) Development of high-temperature oilless pressure sensors using TiC_xO_y piezoresistive films

KAKEHI, Yoshiharu^{*1}; YAMADA, Yoshiharu¹; KONDO, Yusuke¹; OZAKI, Tomoatsu¹; OGURI, Taizo¹; SATOH, Kazuo¹

1. Osaka Research Institute of Industrial Science and Technology

(28-P-S33-12) Nitridation of Al₂O₃-TiO₂ thin film doped with PVP by sol-gel method

WATANABE, Yutaro^{*1}; BAN, Takayuki¹; TAKAI, Chika¹; OHYA, Yutaka¹; IBARAKI, Yasuhiro²

1. Graduate School of Natural Science and Technology, Gifu University

2. Gifu Prefectural Industrial Technology Center

(28-P-S33-13) One step electrochemically reduced-deposited rGO/Pd hybrids for improved supercapacitor applications

YOUSSRY, Sally M.^{*1,3}; EL-HALLAG, Ibrahim S.¹; EL-NAHASS, Marwa N.²; ABDEL-GALEIL, Mohamed M.^{1,3}; KUMAR, Rajesh³; MATSUDA, Atsunori³

1. Analytical and Electrochemistry Research Unit, Department of Chemistry, Faculty of Science, Tanta University, 31527, Tanta, Egypt

2. Department of Chemistry, Faculty of Science, Tanta University, 31527, Tanta, Egypt

3. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, 1-1 Hibarigaoka, Tempaku-cho, Toyohashi, Aichi 441-8580, Japan

(28-P-S33-14) Synthesis of aluminum titanate from boehmite and properties of sintered bodies

HAGIWARA, Shota^{*1}; OHTA, Yasuhiro²; KIDO, Kenji²; BAN, Takayuki¹; TAKAI, Chika¹; OHYA, Yutaka¹

1. Graduate School of Natural Science and Technol, Gifu University

2. KAWAI LIME INDUSTRY Co.,Ltd

(28-P-S33-15) Fast and facile microwave-assisted synthesis of cobalt oxide-reduced graphene oxide hybrids as electrode materials for enhanced hybrid supercapacitor

KUMAR, Rajesh^{*1}; MATSUDA, Atsunori¹

1. Toyohashi University of Technology, 1-1 Hibarigaoka, Tempaku-cho, Toyohashi, Aichi 441-8580, Japan

(28-P-S33-16) High gas permeability of nano-dispersed, zirconia-crosslinked silicone membranes

SELYANCHYN, Roman^{*1}; SELYANCHYN, Olena¹; FUJIKAWA, Shigenori¹

1. International Institute for Carbon Neutral Energy Research (WPI-I2CNER), Kyushu University

(28-P-S33-17) Preparation of Amorphous α -GeS₂ Films with Low Carbon Contamination for Sulfide Based Anode in Lithium Ion Battery Application

BALOH, Pavlo^{*1}; HOLOMB, Roman^{1,2}; KONDRAT, Oleksandr¹; VOROKHTA, Mykhailo³; VELTRUSKA, Katerina³; MATOLIN, Vladimir³; SELYANCHYN, Roman⁴; MITSA, Volodymyr¹

1. Department of Solid State Electronics, Uzhhorod National University, Ukraine

2. Wigner Research Centre for Physics, Hungarian Academy of Sciences, Budapest 1121, Hungary

3. Department of Surface and Plasma Science, Faculty of Mathematics and Physics, Charles University, Czech Republic

4. International Institute for Carbon Neutral Energy Research (WPI-I2CNER), Kyushu University

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

■■October 29 (Tue) (Room P (Exhibition Hall)) ■■

18:10-20:10

Poster presentation core time

18: 10-19: 10 (Last 2 digits of presentation number are odd numbers)

19: 10-20: 10 (Last 2 digits of presentation number are even numbers)

02:Solid Oxide Fuel Cells and Hydrogen Technologies**(29-P-S02-01) Effects of substitution on average and local structures of lanthanum silicate based oxide ion conductor**UEHARA, Takuya^{*1}; KITAMURA, Naoto¹; ISHIDA, Naoya¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S02-02) Local structural change in Ce_{1-x}La_xO_{2-δ} solid electrolytesLIU, Xue^{*1}; MINATO, Ryunosuke¹; OTANI, Yasumasa¹; HATAI, Kengo¹; MURAI, Kei-ichiro¹; MORIGA, Toshihiro¹; MORI, Masashi²

1. Tokushima University

2. Central Research Institute of Electric Power Industry

(29-P-S02-03) Roles of Oxide Ion Vacancies and Covalency to Explain Chemical Expansion Difference between Yttrium doped Strontium Cerate and ZirconateFUJISAKI, Takaya^{*1}; STAYKOV, Aleksandar¹; JING, Yuhang²; LEONARD, Kwati¹; ALURU, Narayan²; MATSUMOTO, Hiroshige^{1,3}

1. International Institute for Carbon-Neutral Energy Research (WPI-I2CNER), Kyushu University

2. Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, Urbana

3. Next-Generation Fuel Cell Research Center (Next-FC), Kyushu University

(29-P-S02-04) Power generation characteristics of Solid Oxide Fuel Cell fueled by Nitrogenous CompoundMORIKAWA, Ryoichi^{*1}; SASAKI, Tatsuyoshi¹; OHYAGI, Shinsuke¹; WAKABAYASHI, Takashi¹

1. KRI, Inc.

(29-P-S02-05) Surface reaction kinetics of dry reforming of methane on Ni/Al₂O₃ catalyst at low-temperature using an in-situ stagnation-flow reactorBAE, Yonggyun^{*1}; HONG, Jongsup¹

1. School of Mechanical Engineering, Yonsei University, South Korea

(29-P-S02-06) Investigation on tolerance against thermal and redox cycling with solid oxide fuel cell using layered perovskite oxide anodeCHANG, Ikwhang¹; JU, Young-Wan^{*2}

1. Wonkwang University

2. Wonkwang University

(29-P-S02-07) Ru impregnated Ni-YSZ Anode for Ammonia Fueled Solid Oxide CellsFUTAGAMI, Hiroyuki^{*1}; ITAGAKI, Yoshiteru¹; YAHIRO, Hidenori¹

1. Department of Materials Science and Biotechnology, Graduate School of Science and Engineering, Ehime University

(29-P-S02-08) Performance Improvement of M-Doped SrFeO Symmetric Electrode for Electrolyte Supported SOFCsWOO, Sang-Kuk^{*1}; KIM, Tae Woo¹; KIM, Sun-Dong¹; KWAK, Minjoon¹; SEO, Doo-Won¹; HWANG, Hyo Jung¹; CHOI, Hyun-Jong¹

1. Korea Institute of Energy Research

(29-P-S02-09) Numerical Analysis of Planar-type SOFC Performance Based on Modified Exchange Current Density EquationMORI, Kouki^{*1}; TAKINO, Keisuke¹; TACHIKAWA, Yuya^{1,2,3}; SHIRATORI, Yusuke^{1,2,3,4}; TANIGUCHI, Shunsuke^{2,3,4}; SASAKI, Kazunari^{1,2,3,4,5}

1. Kyushu University Department of Hydrogen Energy Systems

2. Kyushu University Next-Generation Fuel Cell Research Center (NEXT-FC)

3. Kyushu University Center of Coevolutionary Research for Sustainable Communities

4. Kyushu University International Research Center for Hydrogen Energy

5. Kyushu University International Institute for Carbon-Neutral Energy Research (WPI-I2CNER)

(29-P-S02-10) Performance Analysis of SOFCs Based on the Distribution of Relaxation TimesUSHIJIMA, Rei^{*1}; IWANAGA, Yoshihiro¹; TACHIKAWA, Yuya^{1,2,3}; SHIRATORI, Yusuke^{1,2,3,4}; TANIGUCHI, Shunsuke^{2,3,4}; SASAKI, Kazunari^{1,2,3,4,5}

1. Kyushu University Department of Hydrogen Energy Systems

2. Co-Evolutionary Research for Sustainable Communities

3. Next-Generation Fuel Cell Research Center (NEXT-FC)

4. International Research Center for Hydrogen Energy

5. International Institute for Carbon-Neutral Energy Research (WPI-I2CNER)

(29-P-S02-11) Fabrication of anode supported SOFCs by selective and low-energy microwave sinteringITO, Shin^{*1}; SUDA, Seiichi¹

1. Department of Engineering, Shizuoka University, Shizuoka, Japan

(29-P-S02-12) First-principles Calculations of Conduction Mechanism of Interstitial Oxide Ions in Apatite-Type Neodymium SilicatesOGURA, Yusuke^{*1,2}; YOKOI, Tatsuya²; MATSUNAGA, Katsuyuki²; TOYOURA, Kazuaki³

1. TOHO GAS Co., Ltd

2. Nagoya University

3. Kyoto University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S02-13) Long-term Stabilities for Solid Oxide Electrolysis CellsOSADA, Norikazu^{*1}; KAMEDA, Tsuneji¹; ISHIYAMA, Tomohiro²; SAKAI, Takaaki²; YAMAJI, Katsuhiko²; KATO, Tohru²

1. Toshiba Energy Systems & Solutions Corporation

2. National Institute of Advanced Industrial Science and Technology

(29-P-S02-14) Phase Relationship in the Quasi-Ternary LaO_{1.5}-SiO₂-NiO System at 1573 KNISHIMOTO, Yuzo^{*1}; KOBAYASHI, Kiyoshi²; AKASHI, Takaya¹; SUZUKI, Tohru S.²

1. Hosei University

2. National Institute for Materials Science

(29-P-S02-15) Microwave synthesis of Ir nanocatalysts supported on Sb-doped tin oxide for oxygen evolution reactionSONG, Hyeon-Yong¹; LEE, Jeon-Ryang¹; PARK, Jae-Cheol¹; KIM, Tae-Won^{*1}

1. Korea Institute of Industrial Technology

(29-P-S02-16) Application of metal hydride for hydrogen separation and purification from ammonia-nitrogen-hydrogen mixture gasJUNG, Kwangjin^{*1}; KIM, Jong Won¹; JEONG, Seong Uk¹; KANG, Kyoung Soo¹; LEE, Pyoung Jong¹; PARK, Chu Sik¹

1. Hydrogen Laboratory, New and Renewable Energy Institute, Korea Institute of Energy Research (KIER), 152 Gajeong-ro, Yuseong-gu, Daejeon 34129, Republic of Korea

(29-P-S02-17) Measurement of longitudinal and lateral thermal conductivity of a pelletized hydrogen storage alloy-graphite compositePARK, Chu Sik^{*1}; KIM, Jong Won¹; JEONG, Seong Uk¹; KANG, Kyoung Soo¹; JUNG, Kwangjin¹; LEE, Pyoung Jong¹

1. Hydrogen Laboratory, New and Renewable Energy Institute, Korea Institute of Energy Research (KIER), 152 Gajeong-ro, Yuseong-gu, Daejeon 34129, Republic of Korea

(29-P-S02-18) Effects of milling on NH₄⁺ ion-exchange of Na-taeniolite and ionic conductivity of protonated-taenioliteKEMI, Junnosuke^{*1}; YAMAGUCHI, Tomohiro¹; OKADA, Tomohiko¹; TARUTA, Seiichi¹

1. Shinshu University

(29-P-S02-19) Dual-gate FET with thermally isolated silicon membrane as an application for hydrogen sensorsSHARMA, Bharat^{*1}

1. Incheon national university

02: Intensive Session in Symposium 2: Proton Conducting Ceramics and Applications**(29-P-S02-20) Heavy Sc doping and its impact on proton-dopant association in barium zirconate**KITABAYASHI, Koki^{*1,2}; HYODO, Junji²; OKUYAMA, Yuji^{1,2,4}; YAMAZAKI, Yoshihiro^{1,2,4}

1. Materials Science and Engineering, Kyushu University

2. INAMORI Frontier Research Center, Kyushu University

3. Department of Environmental Robotics, Faculty of Engineering, University of Miyazaki

4. Kyushu University Platform of Inter-/Transdisciplinary Energy Research (Q-PIT)

(29-P-S02-21) Fabrication of anode-supported proton-conducting solid oxide fuel cells with bilayer electrolyte membranesSAKATA, Kazuma^{*1}; MATSUO, Hiroki¹; KOJO, Gen¹; MATSUZAKI, Yoshio²; OTOMO, Junichiro¹

1. Graduate School of Frontier Sciences, The University of Tokyo

2. Tokyo Gas Co., Ltd. Fundamental Technology Dpt.

(29-P-S02-22) Electrolyte Properties of anode supported PCFC with BaZr_{0.8}Yb_{0.2}O_{3-δ}YAMAUCHI, Kosuke^{*1}; KUROHA, Tomohiro^{1,3}; TAKAGISHI, Masayuki²; GOTO, Takehito¹; TERAYAMA, Takeshi¹; MIKAMI, Yuichi¹;ASANO, Hiroshi¹; OKUDA, Kazuhiro²; TSUJI, Yoichiro¹; SHIRAISHI, Seigo¹; OKUYAMA, Yuji³

1. Technology Innovation Division, Panasonic Corporation

2. Industrial Solutions Company, Panasonic Corporation

3. Department of Environmental Robotics, Faculty of Engineering, University of Miyazaki

(29-P-S02-23) Characterizations of Ba_{1-x}Zr_{0.9}Y_{0.1}O_{3-δ} (x=0, 0.04) and improvement of sinterability by addition of ZnOOTANI, Yasumasa^{*1}; HATAI, Kengo¹; KISHIGAMI, Hiroki¹; LIU, Xue¹; MURAI, Kei-ichiro¹; MORIGA, Toshihiro¹; MORI, Masashi²

1. Tokushima University

2. Central Research Institute of Electric Power Industry

(29-P-S02-24) Crystal Structures and Phase Transition of Ba(Ce,Zr)O_{3-δ}-based Proton Conducting Materials under Cell Operating ConditionsNOMURA, Katsuhiro^{*1}; YAMAGUCHI, Yuki¹; SHIMADA, Hiroyuki¹; FUJISHIRO, Yoshinobu¹

1. AIST

(29-P-S02-25) System efficiency of a thermally self-sustaining protonic ceramic fuel cell (PCFC) system for CH₄-H₂O fuel with reforming reaction considering hole conductionOTA, Atsuhito^{*1}; LI, Kunpeng²; KAWAMURA, Toshiki³; MORI, Masashi⁴; ARAKI, Takuto⁵

1. Graduate School of Engineering Science, Yokohama National University

2. Graduate School of Engineering, Yokohama National University

3. Graduate School of Engineering Science, Yokohama National University

4. Materials Science Research Laboratory, Central Research Institute of Electric Power Industry

5. Faculty of Engineering, Yokohama National University

(29-P-S02-26) Preparation and Characteristics of SrZrO₃ electrolyte / LaMnO₃ cathodeIKEBE, Yumiko^{*1}; SASAKI, Masaya¹; BAN, Eriko¹

1. Meijo University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S02-27) Evaluation of the electrode reaction mechanism in PCFCs cathode by using patterned thin film model electrodes

NISHIDATE, Katsuya^{*1}; SHINOMIYA, Yuki¹; MIZUNO, Keita¹; KIMURA, Yuta²; NAKAMURA, Takashi²; YASHIRO, Keiji³; KAWADA, Tatsuya³; MIKAMI, Yuichi⁴; ONUMA, Shigenori⁴; KUROHA, Tomohiro⁴; TANIGUCHI, Noboru⁴; TSUJI, Yoichiro⁴; AMEZAWA, Koji²

1. Department of Engineering, Tohoku University, Miyagi 980-8579, Japan

2. IMRAM, Tohoku University, Miyagi 980-8577, Japan

3. Department of Environmental Studies, Tohoku University, Miyagi 980-8579, Japan

4. Panasonic Corporation, Osaka 570-8501, Japan

(29-P-S02-28) Prediction of proton concentration in virtual compositions by machine learning

TSUJIKAWA, Kota^{*1}; SHIGA, Motoki²; HYODO, Junji³; HOSHINO, Kenta⁴; YOSHIHIRO, Yamazaki^{3,5}; OKUYAMA, Yuji⁶

1. Graduate School of Engineering, University of Miyazaki

2. Gifu University

3. INAMORI Frontier Research Center, Kyushu University

4. Graduate School of Engineering, Kyushu University

5. Kyushu University, Platform of Inter / Transdisciplinary Energy Research (Q-PIT)

6. University of Miyazaki

(29-P-S02-29) First-principles study of Ba-doped LaYbO₃ supercell

OBUKURO, Yuki^{*1}; OKUYAMA, Yuji²; MATSUSHIMA, Shigenori³

1. National Institute of Technology, Kurume College

2. University of Miyazaki

3. National Institute of Technology, Kitakyushu College

(29-P-S02-30) Thermal Stability of Proton Conductive Phosphate Glasses

FANG, Tong^{*1}; TATEBAYASHI, Takashi¹; FUJIOKA, Masaya¹; KAIJU, Hideo²; REN, Yang³; ZHAO, Gaoyang³; NISHII, Junji¹

1. Research Institute for Electronic Science, Hokkaido University, Sapporo, Hokkaido, Japan 1

2. Faculty of Science and Technology, Keio University, Yokohama, Kanagawa, Japan 2

3. Department of Materials Physics and Chemistry, Xi'an University of Technology, Xi'an, Shaanxi, China 3

(29-P-S02-32) Efficiency evaluation of hydrogen production systems with proton/oxide-ion conducting solid oxide electrolysis cells by calculation

MORI, Masashi¹; LI, Kunpeng²; ARAKI, Takuto^{*2}

1. Central Research Institute of Electric Power Industry

2. Yokohama National University

(29-P-S02-33) Process Analysis of Biogas Refining System using Proton Conducting SOEC

TACHIKAWA, Yuya^{*1}; MATSUZAKI, Yoshio^{1,2}; KAWABATA, Yasuharu²; SATO, Koki²; IINUMA, Hiroki²; BABA, Yoshitaka²; FUKUNAGA, Eiichi¹; TANIGUCHI, Shunsuke¹; SASAKI, Kazunari¹

1. Kyushu University

2. Tokyo Gas Co. Ltd

05:Polymer Derived Ceramics (PDCs) and Composites**(29-P-S05-01) Relationship between Flexibility and Microstructure of Ceramic Thin Films Prepared on Plastic Substrates by Sol-Gel Transfer Technique**

KUBOTA, Masumi^{*1}; KOZUKA, Hiromitsu¹

1. Kansai University

(29-P-S05-02) Preparation of Oxide Thin Films with Long-Time Wettability

UEDA, Yosuke^{*1}; KOZUKA, Hiromitsu¹

1. Kansai University

(29-P-S05-03) Effect of cobalt contents on thermostability of Co@SiCN nanocomposites

ZHANG, Qian^{*1}; YANG, Zhihua²; JIA, Dechang²; DUAN, Xiaoming²; ZHOU, Yu²

1. College of Electroning Engineering, Chongqing University of Posts and Telecommunications, Chongqing, 400065, PR China

2. Institute for Advanced Ceramics, School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150001, PR China

(29-P-S05-04) Effect of CO₂ Pressure on The Conversion Process of Polydimethylsilane to Polycarbosilane

YAMADA, Koya^{*1}; NARISAWA, Masaki¹; SAKURA, Ukyo¹; INOUE, Hirofumi¹

1. Graduate School of Engineering, Osaka Prefecture University

(29-P-S05-05) Synthesis of Graphitic Nanostructure from Metal-ion Implanted Precursor Polymer

IDESAKI, Akira^{*1}; YAMAMOTO, Shunya¹; SUGIMOTO, Masaki¹; YAMAKI, Tetsuya¹

1. National Institutes for Quantum and Radiological Science and Technology (QST)

(29-P-S05-06) Preparation of Chiroptical Silica with Asymmetric Si Centre

JIN, Ren-Hua^{*1}

1. kanagawa University

06:Environmental Functional Materials**(29-P-S06-01) Pyrazoline Dye-sensitized Granular Pt/TiO₂ Photocatalyst Solar Hydrogen Generation**

JIN, Tetsuro^{*1}; SAKURAI, Hiroaki¹; KIUCHI, Masato¹; FUJII, Akira²; MAEDA, Takuya²; AOKI, Yasunori³; INOUE, Kaname³

1. National Institute of Advanced Industrial Science and Technology (AIST)

2. Industrial Technology Center of Wakayama Prefecture

3. Nippon Chemical Works Co. Ltd.

(29-P-S06-02) Effects of intermetallic compound Mg_{1-x}Al_xB₂ co-catalysts on photocatalytic water splitting.

IMADA, Yuka^{*1}; NAGATA, Yuki¹; INUMARU, Kei¹

1. Hiroshima University

(29-P-S06-03) Surface modification of metal sulfide photocatalysts with various metal cyanoferrates towards efficient H₂ evolution under visible light

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

MATSUOKA, Hikaru^{*1}; HIGASHI, Masanobu¹; NAKADA, Akinobu¹; TOMITA, Osamu¹; ABE, Ryu¹

1. Department of Energy and Hydrocarbon Chemistry, Graduate School of Engineering, Kyoto University

(29-P-S06-04) Sonochemical synthesis of Ag nanoparticles supported on ZnO flowers and their photocatalytic efficiencies

PHURUANGRAT, Anukorn^{*1}

1. Department of Materials Science and Technology, Faculty of Science, Prince of Songkla University, Hat Yai, Songkhla 90112, Thailand

(29-P-S06-05) Decomposition of 2-naphthol in water and antibacterial property by NiO and CeOx modified TiO₂ in the dark or under visible light

KATO, Chihito^{*1}; SHIOHARA, Mimori¹; SUNADA, Kayano²; ISOBE, Toshihiro¹; YAMAGUCHI, Akira¹; MATSUSHITA, Sachiko¹; ISHIGURO, Hitoshi²; MIYAUCHI, Masahiro¹; NAKAJIMA, Akira¹

1. Department of Materials Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology

2. Antibacterial and Antiviral Research Group, Kanagawa Institute of Industrial Science and Technology

(29-P-S06-06) Antibacterial and photocatalytic properties of silver niobate and silver tantalate

WITHANAGE, WITHANAGE Isuru Udakara^{*1}; KUMADA, Nobuhiro¹; YANAGIDA, Sayaka¹; TAKEI, Takahiro¹; UEDA, Mayu²; AIZAWA, Mamoru²

1. University of Yamanashi

2. Meiji University

(29-P-S06-07) Enhanced Photocatalytic Performance of Ti-based Metal-Organic Framework for Hydrogen Production: Hybridization with Low-Dimensional Nanoparticles

KIM, Tae Woo^{*1}; SOHAIL, Muhammad¹; KIM, Hyunuk¹

1. Energy Materials Laboratory, Korea Institute of Energy Research, 152 Gajeong-ro, Yuseong-gu, Daejeon 34129, Korea.

(29-P-S06-08) Self-cleaning property of Nb-based photocatalyst thin film surface

NISHIMOTO, Shunsuke^{*1}; KAGEYAMA, Kazuya¹; TAKIGUCHI, Takahiro¹; KAMESHIMA, Yoshikazu¹; MIYAKE, Michihiro¹; FUJII, Eiji²

1. Okayama University

2. Industrial Technology Center of Okayama

(29-P-S06-09) Surface morphology modification of Al₂O₃/Ti composites for adding photocatalytic activity

SHI, Shengfang^{*1}; GOTO, Tomoyo¹; CHO, Sunghun¹; SEKINO, Tooru¹

1. The Institute of Scientific and Industrial Research, Osaka University

(29-P-S06-10) Synthesis and Catalytic Activity of Porous Silica Supported Palladium Catalyst for Methane Oxidation

ITO, Yoshitaka^{*1}; HANEDA, Masaaki¹

1. Nagoya Institute of Technology

(29-P-S06-11) Chemical Degradation of 4-Chlorophenol in Aqueous Media over Alumina-supported Catalysts Modified using an Organophosphonic Acid

YONEDA, Tetsuya^{*1}; KOIZUMI, Koshiro¹

1. Nihon University

(29-P-S06-12) NO_x Storage/Reduction Behavior of Barium and Barium/Ceria Containing VWTi Catalysts

KIM, JinWoo^{1,2}; YE, Bora¹; KIM, Taewook^{*1}; LEE, Heesoo²; KIM, Hong-Dae¹

1. Green Materials and Processes Group, Korea Institute of Industrial Technology, Ulsan 44413, Republic of Korea

2. School of Material Science & Engineering, Pusan National University, Busan 46241, Republic of Korea

(29-P-S06-13) Effect of Cu addition on CO oxidation activity of Pd catalyst

SHIGENOBU, Saki^{*1}; HOJO, Hajime²; EINAGA, Hisahiro²

1. Interdisciplinary Graduate School of Engineering and Science, Kyushu University

2. Faculty of Engineering Sciences, Kyushu University

(29-P-S06-14) Anion-Exchange Reaction of Layered Double Hydroxide with Different Chemical Composition in Seawater

NAKAYASHIKI, Yuto^{*1}; FUJIMURA, Takuya¹; SASAI, Ryo¹

1. Graduate school of Natural Science and Technology, Shimane University

(29-P-S06-15) Anion exchange properties of magnesium - aluminum layered double hydroxide based on bayerite.

TEZUKA, Satoko^{*1}

1. Chiba Institute of Science

(29-P-S06-16) Separation of Hydrogen Isotopes by Ion-exchange Using Titanate Nanotubes

FUJIMOTO, Akira^{*1}; MURATA, Hidenobu¹; ITO, Norio²; TOKUDOME, Yasuaki¹; NAKAHIRA, Atsushi¹

1. Department of Materials Science, Osaka Prefecture University

2. Department of Quantum Radiation, Osaka Prefecture University

(29-P-S06-17) Evaluation of the relationship between oxygen desorption property and electronic/local structure of B site ions in perovskite SrFe_{1-x}Me_xO_{3-δ} (Me = Mn, Co)

FUJISHIRO, Fumito^{*1}; OSHIMA, Natsumi¹; SAKURAGI, Tokio²; OISHI, Masatsugu²

1. Faculty of Science and Technology, Kochi University

2. Graduate School of Technology, Industrial and Social Science, Tokushima University

(29-P-S06-18) Oxygen storage characteristics of Ca₂AlMnO_{5+δ} Synthesized under controlled oxygen pressures

ISEKI, Tomohiro^{*1}; TAMURA, Sayaka¹; SAITO, Miwa¹; MOTOHASHI, Teruki¹

1. Department of Materials and Life Chemistry, Faculty of Engineering, Kanagawa University

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S06-19) Oxygen Intake/Release capability of Melilite-type $\text{Ba}_2\text{MnGe}_2\text{O}_{7+\delta}$ OHISHI, Kosaku^{*1}; TAMURA, Sayaka¹; SAITO, Miwa¹; MOTOHASHI, Teruki¹

1. Department of Materials and Life Chemistry, Faculty of Engineering, Kanagawa University

(29-P-S06-20) Formaldehyde adsorption & diffusion performance of cement and gypsum coatings as indoor building materialsWANG, Jimei^{*1}; WANG, Xiaoyan¹; WANG, Pengqi²; TAN, Danjun²; ZHU, Min¹

1. China Building Materials Academy

2. Beijing New Building Materials Co. Ltd.

(29-P-S06-21) Determination of Extraction Efficiency of Alcohols from Silica Gel Sampling Agents in Low Concentration RegionABIKO, Hironobu^{*1}

1. Japan Organization of Occupational Health and Safety

(29-P-S06-22) Formation of iron oxide porous material and its phosphate removal performanceKAMESHIMA, Yoshikazu^{*1}; ABE, Yuya¹; KODERA, Yuta¹; NISHIMOTO, Shunsuke¹; MIYAKE, Michihiro¹

1. Okayama University

(29-P-S06-23) Nitrite-Ion Sensor Using Perovskite-Type Oxide Thick-Film ElectrodeMORIYAMA, Mikako^{*1}; SHINODA, Yasunari¹; SHIMOJI, Haruna¹; TAKASE, Satoko¹; IBRAHIM, Norahim²; SHIMIZU, Youichi¹

1. Kyushu Institute of Technology

2. Universiti Teknologi Malaysia

(29-P-S06-24) Effect of heat-treatment on the pH sensitivity of stainless-steel electrodes as pH sensorsHASHIMOTO, Tadanori^{*1}; KITABAYASHI, Hiroki¹; ITO, Kenta¹; NASU, Hiroyuki¹; ISHIHARA, Atsushi¹; NISHIO, Yuji²

1. Mie University

2. HORIBA Advanced Techno, Co., Ltd.

(29-P-S06-25) Detection of influenza A H1N1 virus proteins through the development of an electrochemical immunobiosensorMORALES-SAN CLAUDIO, Pilar^{*1}; ESPINOSA, Daniel¹

1. Universidad Autonoma de Nuevo Leon

(29-P-S06-26) Toluene Detection Ability of Luminous Transparent Film Hybridizing Pyrene with Layered Double HydroxideFUJIMURA, Takuya^{*1}; AKAGASHI, Yoshiya¹; AOYAMA, Yu-hei¹; SASAI, Ryo¹

1. Graduate School of Natural Science & Technology, Shimane University

(29-P-S06-27) A Hierarchical Porous Carbon Supported Pd@PdS Heterostructure as an Efficient Catalytic Cathode Material for Li-O₂ BatteriesHUANG, Qishun^{*1}; DANG, Feng²

1. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University

2. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Shandong University

(29-P-S06-28) The Development of Luminescent Aggregates from Wasted Glasses for Cement ApplicationLORYUENYONG, Vorrada^{*1}; KORNSAWAT, Jirawan¹; NAKHOWONG, Wannapha¹; KLINJAN, Wannipha¹; BUASRI, Achanai¹

1. Silpakorn University

(29-P-S06-29) Preparation and Microstructure of Ytterbium Silicate Coatings by Plasma Spray-Physical Vapor DepositionGUO, Qian^{*1,2}; WEI, Liangliang^{1,2}; XIAO, Jie^{1,2}; GUO, Hongbo^{1,2}

1. School of Materials Science and Engineering, Beihang University, Beijing, 100191, China

2. Key Laboratory of High-temperature Structural Materials & Coatings Technology (Ministry of Industry and Information Technology), Beijing, 100191, China

09: Science and Applications of Amorphous Materials**(29-P-S09-01) Characterization of pore structure in α -quartz by neutron irradiation**OKADA, Naoki^{*1}; OHKUBO, Takahiro¹

1. Graduate School of Engineering, Chiba University, Chiba 263-8522, Japan

(29-P-S09-02) XANES Analysis of Activators in Oxide Glasses with Different Absorption EdgesMASAI, Hirokazu^{*1}; INA, Toshiaki²; MIBU, Ko³; KOSHIMIZU, Masanori⁴

1. National Institute of Advanced Industrial Science and Technology

2. Japan Synchrotron Radiation Research Institute

3. Nagoya Institute of Technology

4. Tohoku University

(29-P-S09-03) Modeling of Oxide Glasses Based on First-Principles Calculation: Predicting Structural and Transport Properties of Silicates, Aluminosilicates and BoratesISHII, Yoshiaki^{*1}; MATUBAYASI, Nobuyuki¹; SHINOZAKI, Kenji²; SALMON, Philip³; ZEIDLER, Anita³; SALANNE, Mathieu⁴; OHTORI, Norikazu⁵

1. Graduate School of Engineering Science, Osaka University, Osaka 560-8531, Japan

2. National Institute of Advanced Industrial Science and Technology, Osaka 563-8577, Japan

3. Department of Physics, University of Bath, Bath BA2 7AY, UK

4. Sorbonne Universités, UPMC Univ Paris 06, CNRS, Paris F-75005, France

5. Faculty of Science, Niigata University, Niigata 950-8050, Japan

(29-P-S09-04) Li conduction mechanisms in borosilicate glasses: insights from ab initio molecular dynamics simulationsARIGA, Shunsuke^{*1}; OHKUBO, Takahiro²; IMAMURA, Yutaka³; TANIDA, Masamitsu⁴; TANIGUCHI, Taketoshi³; URATA, Shingo³

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Faculty of Engineering, Chiba University
2. Graduate School of Engineering, Chiba University
3. Innovative Technology Research Center, AGC Inc
4. New Product R&D Center, AGC Inc.

(29-P-S09-05) Exploration of meta-stable ionic sites in solid state electrolytes by combining Voronoi polyhedron analysis and ab initio calculations

KUROMIYA, Kazuki^{*1}; UTSUNO, Futoshi²; OHKUBO, Takahiro¹

1. Graduate School of Engineering, Chiba University, 263-8522, Japan
2. Advanced Technology Research Laboratories, Idemitsu Kosan Co., Ltd., 299-0293, Japan

(29-P-S09-06) Density of borosilicate glass melts over a wide temperature range

NISHIKAWA, Shintaro^{*1}; YAMADA, Akihiro¹; YOSHIDA, Satoshi¹; MATSUOKA, Jun¹

1. Department of Materials Science, The University of Shiga Prefecture, Shiga 522-8533, Japan

(29-P-S09-07) Preparation of oxide glass-ceramic derived all-solid-state battery by laser irradiation

HIRATSUKA, Masafumi^{*1}; HONMA, Tsuyoshi¹; KOMATSU, Takayuki¹

1. Nagaoka University of Technology

(29-P-S09-08) Color Converting Properties of Thick-Film Phosphor-in-Glases for White LEDs Depending on Their Structural Designs

NAM, Yoon Hee^{*1}; IM, Won Bin²; CHUNG, Woon Jin¹

1. Kongju National University
2. Hanyang University

(29-P-S09-09) Optical and magnetic properties of Tb₂O₃-Al₂O₃ glass and glass-ceramic microspheres prepared by In-Flight melting

KISHI, Tetsuo^{*1}; AOYAGI, Masakazu¹; NAKASHIMA, Seisuke²; MATSUSHITA, Nobuhiro¹; YANO, Tetsuji¹

1. Tokyo Institute of Technology
2. Shizuoka University

(29-P-S09-10) In-situ observation of the evolution of phase separation in Ni²⁺-doped sodium borosilicate glass melts by optical absorption spectroscopy

IDE, Kazuma^{*1}; YAMADA, Akihiro¹; YOSHIDA, Satoshi¹; MATSUOKA, Jun¹

1. The University of Shiga Prefecture

(29-P-S09-11) Non-vacuum monovalent ion emission from sharp-edged glasses for bio/medical applications

DAIKO, Yusuke^{*1}; YANAGIDA, Haruki¹; MORI, Hiroki¹; HONDA, Sawao¹; OBATA, Akiko¹; IWAMOTO, Yuji¹

1. Nagoya Institute of Technology

(29-P-S09-12) Effect of Oxide Nano Powders on the Sintering Behavior of Aluminum-Boro-Phosphate Glass Coating Layer

KIM, In Gun^{*1}; LEE, Hansol¹; KIM, Tae Ho²; KIM, Tae Hee²; CHUNG, Woon Jin¹

1. Kongju National Univ.
2. LG Electronics

(29-P-S09-13) Application of CALPHAD database to the evaluation of glass chemical durability

JIN, Kosuke^{*1}; OHIRA, Toshiaki²; SUGAWARA, Toru²

1. Graduate School of International Resource Science, Akita University
2. Graduate School of Engineering Science, Akita University

(29-P-S09-14) Revisiting Ion Exchange of Glass Using Kaolinite-Based Clay Particles

KO, Se Young^{*1}; LEE, Woo Hyung¹; KIM, Hyun¹; LEE, Ji In¹; CHOI, Yong Gyu¹

1. Korea Aerospace University, Goyang 10540, South Korea

(29-P-S09-15) Relationships between spontaneous breakage and volume expansion of Nickel Sulfide included in tempered sheet glass

SAKAI, Chihiro^{*1}

1. Research and Development, NIPPON SHEET GLASS CO., LTD

(29-P-S09-16) Silica Monolith as a Fish Spoilage Sensor

NITHIPONGWARODOM, Phimmada^{*1}; BUNTEM, Radchada^{2,3}; KUNGKAPRADIT, Warunphorn¹

1. Prapathom Wittayalai School, Nakorn Pathom 73000, Thailand
2. Department of Chemistry, Faculty of Science, Silpakorn University, Nakorn Pathom 73000, Thailand
3. Center of Excellence in Design Materials, Faculty of Science, Silpakorn University, Nakorn Pathom 73000, Thailand

(29-P-S09-17) Cosolvent-free synthesis and characterization of poly(Ph-co-R-SQ) (R = Me, Et, Pr, and Vi) glasses with low melting temperatures

SETO, Ryosuke^{*1}; KAJIHARA, Koichi¹; KANAMURA, Kiyoshi¹

1. Tokyo Metropolitan University

(29-P-S09-18) Boron Content Dependence of a Hierarchical Nanoporous Layer Formation on a Silicate Glass

ITO, Takumi^{*1}; TABATA, Erika¹; USHIODA, Yuki¹; FUJIMA, Takuya^{1,2}

1. Department of Mechanical Engineering, Tokyo City University
2. Advanced Research Laboratories, Tokyo City University

(29-P-S09-19) Formation of an anti-fouling nano-porous layer on a tile glaze

USHIODA, Yuki^{*1}; TABATA, Erika¹; ITO, Takumi¹; FUJIMA, Takuya^{1,2}

1. Department of Mechanical Engineering Tokyo City University, Tokyo 158-8557, Japan
2. Advanced Research Laboratories Tokyo City University, Tokyo 158-8557, Japan

10:Bioceramics and Bioinspired Materials

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S10-01) Effect of Sintering Temperature Condition on the Mechanical Properties of HydroxyapatiteKOBAYASHI, Satoshi^{*1}; IZAWA, Tomomi¹

1. Tokyo Metropolitan University

(29-P-S10-02) Mechanical Properties of Coprecipitation-Derived Diopside Ceramics for Medical ApplicationsIWATA, Noriyuki^{*1}; LEE, Geun-Hyoung²; KAWASHIMA, Norimichi³

1. National Institute of Technology, Kurume College

2. Dong-Eui University

3. International Pacific University

(29-P-S10-03) Functionalized mesoporous silica thin films for surface plasmon resonance: protein adsorption and cell attachmentICHIKAWA, Chieko^{*1}; IKOMA, Toshiyuki¹

1. Department of Materials Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology

(29-P-S10-04) Use of Sodium Silicate Waste Solution as Si Source to Synthesize MgO-CaO-SiO₂ System Ceramic Powder for Biomedical ApplicationYAMAGATA, Chieko^{*1}; REZENDE LEME, Daniel¹; RODAS, Andrea Cecilia Dorion²; HIGA, Olga Zazuko¹; MELLO-CASTANHO, Sonia Regina Homem¹

1. Materials Science and Technology Center, Nuclear and Energy Research Institute, Sao Paulo, Brazil

2. Biomedical Engineering, Federal University of ABC, Sao Bernardo do Campo, Brazil

(29-P-S10-05) Cytotoxicity and degradability of collagen filler containing bioactive glass and β -TCPKUO, Yu Chen^{*1}; SHIH, Hsueh Huan¹; LIN, Ying Chih²; SHIH, Shao Ju¹

1. Department of Material Science and Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan

2. Horien Biochemical Technology Co., Ltd., Taichung 40768, Taiwan

(29-P-S10-06) Antibacterial and biological activities of mesoporous bioactive glass with dopants of silver and strontiumPENG, Ching Yuan^{*1}; RICHARDO, Lewi Peter¹; SHIH, Shao Ju¹

1. Department of Materials Science and Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan

(29-P-S10-07) Fabrication of zinc-substituted gehlenite sintered bodies and its biocompatibilitySHIN, Hideo¹; TAKEDA, Hiroaki¹; IKOMA, Toshiyuki^{*1}

1. Tokyo Institute of Technology

(29-P-S10-08) Osseointegration improves with nano-alumina reinforcement in hydroxyapatite sintered at low temperaturesAKMAL, Muhammad¹; HASSAN, Muhmood ul^{*2}; AFZAL, Muhammad³; RYU, Ho Jin^{1,2}

1. Dept. of Materials Science and Engineering, KAIST

2. Dept. of Nuclear and Quantum Engineering, KAIST

3. Dept. of Mechanical Engineering

(29-P-S10-09) 3D printed alumina objects prepared by controlling ink amountsHAMANO, Ryohei^{*1}; IKOMA, Toshiyuki¹

1. Department of Materials Science and Engineering, Tokyo Institute of Technology

(29-P-S10-10) Formation of alumina layer on titanium alloy by micro-arc oxidation for bearing surface of artificial jointTAKADAMA, Hiroaki^{*1}; KHANNA, Rohit¹; SHINTANI, Seine A.¹; YAMAGUCHI, Seiji¹

1. Department of Biomedical Sciences, Chubu University

(29-P-S10-11) Enhancement of initial stage of osteoblast differentiation on a surface potential-controlled TiO₂ surfaceHASHIMOTO, Masami^{*1}; KITAOKA, Satoshi¹; FURUYA, Maiko²; KANETAKA, Hiroyasu²; HOSHIKAYA, Kazuhiko³; YAMASHITA, Hayato³; ABE, Masayuki³

1. Japan Fine Ceramics Center

2. Tohoku University

3. Osaka University

(29-P-S10-12) Optical property of Titanium Thin Films Formed on Transparent Substrates Using Magnetron SputteringWATAZU, Akira^{*1}; SONODA, Tsutomu¹; TERAOKA, Kay¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

(29-P-S10-13) Bioactive Treatment of Zirconia by Hydroxyapatite Particles Deposition using Solution Treatment.ZAMIN, Hasnat^{*1}; YABUTSUKA, Takeshi¹; TAKAI, Shigeomi¹; SAKAGUCHI, Hiroshi²

1. Graduate School of Energy Science, Kyoto University, Yoshida-honmachi, Sakyo-ku, Kyoto 606-8501, Japan

2. Institute of Advanced Energy, Kyoto University, Gokasho, Uji, Kyoto 611-0011, Japan

(29-P-S10-14) Novel Porous Zirconia as a Purification Media for Immunoglobulin G in SerumKATO, Katsuya^{*1}; KITAMURA, Masahiro¹; NAGATA, Fukue¹; KASAHARA, Shinjiro²

1. NGK SPARK PLUG-AIST Healthcare Materials Cooperative RL, AIST

2. NGK SPARK PLUG Co. Ltd.

(29-P-S10-15) Temperature-resolution in afterglow zirconia phosphor for human-body temperature sensingSATO, Aoni^{*1}; TERAOKADO, Nobuaki¹; TAKAHASHI, Yoshihiro¹; ONOUE, Noriko²; SHINOZAKI, Tsuyoshi²; FUJIWARA, Takumi²

1. Department of Applied Physics, Graduate School of Engineering, Tohoku University

2. Department of Cardiovascular Medicine, National Hospital Organization, Sendai Medical Center

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S10-16) Zirconium phosphate and its peptide composite as protein carriers: adsorption properties and catalytic performanceKOJIMA, Suzuka^{*1,2}; NAGATA, Fukue¹; KUGIMIYA, Shinichi²; KATO, Katsuya¹

1. National Institute of Advanced Industrial Science and Technology

2. Aichi Institute of Technology

(29-P-S10-17) Freestanding Membrane of Crystallized HydroxyapatiteNISHIKAWA, Hiroaki^{*1}

1. Faculty of Biology-Oriented Science and Technology, Kindai University

(29-P-S10-18) High Adsorption Capacity of Cellulose Nanofiber-Hydroxyapatite Hybrid Materials for Protein AdsorbentNAGATA, Fukue^{*1}; SUZUKI, Aoi¹; MIYAJIMA, Tatsuya¹; LEE, Sungho¹; KATO, Katsuya¹; SUGAWARA-NARUTAKI, Ayae²

1. National Institute of Advanced Industrial Science and Technology (AIST)

2. Nagoya University

(29-P-S10-19) Fabrication of biodegradable polymer-coated porous hydroxyapatite scaffold loaded with growth factor and its evaluationSHIRAI, Yuki^{*1}; AIZAWA, Mamoru¹

1. Department of Applied Chemistry, Meiji University

(29-P-S10-20) Adsorption Behavior of Protein on Cellulose-Fiber Covered with Hydroxyapatite ShellWATANABE, Shota^{*1,2}; LEE, Sungho¹; KATO, Katsuya¹; MIYAJIMA, Tatsuya¹; SAKURAI, Makoto²; NAGATA, Fukue¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

2. Chubu University

(29-P-S10-21) Bioceramics Toughening Soft & Wet MaterialsTANAKA, Kazuki¹; FUKAO, Kazuki¹; NONOYAMA, Takayuki^{*1}; KIYAMA, Ryuji¹; GONG, Jian Ping¹

1. Hokkaido University

(29-P-S10-22) Generation of Apatite on Bioactive Glass/Alginate BeadsPHOMSOMBUT, Kasamol^{*1}; BUNTEM, Radchada^{1,2}

1. Department of Chemistry, Faculty of Science, Silpakorn University, Nakorn Pathom 73000, Thailand

2. Center of Excellence in Design Materials, Faculty of Science, Silpakorn University, Nakorn Pathom 73000, Thailand

(29-P-S10-23) Fabrication of polycaprolactone(PCL)/hydroxyapatite(HA) composite scaffolds with enhanced mechanical properties and biocompatibility via binderjet-based 3D printingAHN, Jiho^{1,2}; JANG, Tae-Sik¹; LEE, Jina¹; JUNG, Hyun-Do^{*1}

1. Research Institute of Advanced Manufacturing Technology, Korea Institute of Industrial Technology

2. School of Advanced Materials Science and Engineering, Sungkyunkwan University

(29-P-S10-24) Fabrication of textured ceramics with well-controlled anisotropy by templated grain growth method using single crystal strontiumapatite fibersKOIZUMI, Haruna^{*1}; YOSHIDA, Shuhei¹; AIZAWA, Mamoru¹

1. Department of Applied Chemistry, Meiji University

(29-P-S10-25) Preparation of hydroxyapatite capsules encapsulating mesoporous silica in biomimetic solutionNAKANISHI, Kota^{*1}; YABUTSUKA, Takeshi¹; TAKAI, Shigeomi¹

1. Graduate School of Energy Science, Kyoto University

(29-P-S10-26) Specific Crystal Growth of Calcium Phosphate by Mineralization at Peptide Hydrogel InterfaceMURAI, Kazuki^{*1}; ISOBE, Hiroto²; TORIGOE, Kanjiro²; MATSUMOTO, Mutsuyoshi²; NISHIO, Keishi²

1. Shinshu University

2. Tokyo University of Science

(29-P-S10-27) Protein adsorption of Mn-containing bone-like calcium phosphate cementTODA, Kazuki^{*1}; UCHINO, Tomohiro¹

1. Graduate School of Engineering, Nihon University

(29-P-S10-28) Effect of calcium sulfate addition on material properties and bioresorbability of β -tricalcium phosphate cements hybridized with poly lactic-co-glycolic acidANDO, Akihiro^{*1}; NAGATA, Kohei¹; NAKANO, Kazuaki²; NAGAYA, Masaki²; NAGASHIMA, Hiroshi^{2,3}; AIZAWA, Mamoru^{1,2}

1. Department of Applied Chemistry, Meiji University

2. Meiji University International Institute for Bio-Resource Research, Meiji University

3. Department of Life Science, Meiji University

(29-P-S10-29) *In vivo* Performance of Cotton-wool-like Bone Void Fillers Consisting of β -TCP and Vaterite Embedded in a PLGA matrixOSADA, Naoki^{*1,2}; MAKITA, Masashi¹; NISHIKAWA, Yasutoshi¹; KASUGA, Toshihiro²

1. ORTHOREBIRTH Co. Ltd.,

2. Nagoya Institute of Technology

(29-P-S10-30) Zn controlled-release by layered calcium phosphate/gel compositeHOSHINO, Yuka^{*1}; UCHINO, Tomohiro¹

1. Graduate school of Engineering, Nihon University

(29-P-S10-31) Using Containerless Processing for Preparing Luminescent Bioactive GlassLI, Qin¹; YU, Jianding^{*2}

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai China

2. Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai China

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S10-32) Bone Induction in Adult Rat Skin by Bone-like Low Crystalline HAp/Collagen/BMP-2**Composite**MURATA, Masaru^{*1}; YOKOZEKI, Kenji¹; ZHU, Bowen¹; KABIR, Arafat^{1,2}; NAKAJIMA, Takehiko³; AKAZAWA, Toshiyuki⁴

1. Health Sciences University of Hokkaido, Hokkaido 061-0293, Japan

2. Pioneer Dental College and Hospital, Dhaka, Bangladesh

3. HOYA Technosurgical Corporation, Tokyo 196-0012, Japan

4. Industrial Research Institute, Hokkaido Research Organization, Hokkaido 060-0819, Japan

(29-P-S10-33) Development of Bioactive PMMA Cement for Hyperthermia of Metastatic Bone TumorKAWASHITA, Masakazu^{*1}; KUBOTA, Moe²; OGAWA, Tomoyuki²; SAITO, Shin²; JEYADEVAN, Balachandran³

1. Tokyo Medical and Dental University

2. Tohoku University

3. University of Shiga Prefecture

13:Engineering Ceramics: Processing and Characterization**(29-P-S13-01) Assessing the homogeneity of an alumina/zircon powder mixture at various scales by scanning electron microscopy**GIRAUD, Martin^{1,2}; VAUDEZ, Stephane^{*1}; GATUMEL, Cendrine²; BERNARD-GRANGER, Guillaume¹; BERTHIAUX, Henri²

1. CEA, DEN, MAR, DMRC, SFMA, LFC

2. Université de Toulouse, IMT Mines Albi, UMR CNRS 5302

(29-P-S13-02) Fabrication and Properties Study of High Thermal Conductivity AlN CeramicsXIE, Jianjun¹; WANG, Yu^{1,2}; WANG, Tun¹; FAN, Lincong¹; WU, Yiquan^{*3}; SHI, Ying¹

1. Department of Electronics and Information Materials, School of Materials Science and Engineering, Shanghai University, Shanghai 200444, China

2. Shanghai Yuking Chemtech Co., Ltd., 200124, Shanghai, China

3. Kazuo Inamori School of Engineering, Alfred University

(29-P-S13-03) Mechanical properties of single crystal BaTiO₃ measured using microcantilever beam specimensYAMAGUCHI, Hiroshi^{*1}; TATAMI, Junichi^{1,2}; IJIMA, Motoyuki^{1,2}

1. Yokohama National University

2. Kanagawa Institute of Industrial Science and Technology

(29-P-S13-04) Fabrication of Fibrous Boron Carbide by Carbothermal Reduction via ElectrospinningKOBAYASHI, Taiju^{*1}; KAKIAGE, Masaki²

1. Shinshu University

2. Gunma University

(29-P-S13-05) Dielectric Properties of (Ba,Ca)TiO₃ Solid-solution Films formed by Sputter-anneal MethodAKO, Miho^{*1}; KYOMEN, Toru¹; FUJISAWA, Jun-ichi¹; HANAYA, Minoru¹

1. Graduate School of Science and Technology, Gunma University

(29-P-S13-06) Formation of (Ba,Ca)ZrO₃ Solid Solutions beyond the Solubility Limit by rf Magnetron Sputtering and Successive Annealing at a Moderate Temperature ConditionAKO, Miho^{*1}; FUJISAWA, Jun-ichi¹; HANAYA, Minoru¹

1. Graduate School of Science and Technology, Gunma University

(29-P-S13-07) The design and the development of dispersants for nanoparticlesMATSUZAKI, Kenta^{*1}; HONDA, Takuya¹; YOSHIKAWA, Fumitaka¹; MATSUI, Tatsuya¹; MARUYAMA, Keiichi²

1. NOF CORPORATION OLEO & SPECIALITY CHEMICALS RESERCH LAB. 3-3 Chidori-cho, Kawasaki-ku, Kawasaki, Kanagawa, 210-0865, JAPAN

2. NOF CORPORATION OLEO & SPECIALITY CHEMICALS RESERCH LAB. 56, Ohamacho 1-chome, Amagasaki, Hyogo, JAPAN

(29-P-S13-08) Effects on Microstructure of Silicon Carbide Ceramics with Boron and Aluminum AdditivesCHUNG, Ying^{*1}; GUBAREVICH, Anna²; YOSHIDA, Katsumi²

1. Department of Materials Science and Engineering, Tokyo Institute of Technology, Japan

2. Laboratory of Advanced Nuclear Energy, Institute of Innovative Research, Tokyo Institute of Technology, Japan

(29-P-S13-09) Combustion synthesis of single-phase Al₄SiC₄ powder by induction heatingWATANABE, Tsubasa^{*1}; GUBAREVICH, Anna²; YOSHIDA, Katsumi²

1. Department of Materials Science and Engineering, Tokyo Institute of Technology

2. Institute of Innovative Research, Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology

(29-P-S13-10) Influence of rare earth oxide as a sintering aid on translucency of aluminum nitride (AlN) ceramicsAKIMOTO, Hayato^{*1}; TATAMI, Junichi^{1,2}; IJIMA, Motoyuki^{1,2}; TAKAHASHI, Takuma²; OKUDA, Tetsuya²

1. Yokohama National University

2. Kanagawa Institute of Industrial Science and Technology

(29-P-S13-11) Effect of Pb-substitution on the modulation structure for Bi2212 superconductorSHIMABUKURO, Yoshihito^{*1}; KATSUSHIKA, Shuto¹; NAMINOUE, Tomoya¹; SATO, Yusuke¹; KANNO, Shun¹; SATAKE, Nobuaki¹; KAMBE, Shiro¹

1. Department of Material and Chemistry, Graduate School of Science and Engineering, Yamagata University, 4-3-16, Johnan, Yonezawa City, Yamagata, 992-8510, Japan

(29-P-S13-12) Preparation and physical properties of (Bi, Pb)2223 phaseWATANABE, Tetsuto^{*1}; SASAKI, Dai¹; KAMBE, Shiro¹

1. Graduate school of Science and Engineering, Yamagata University

(29-P-S13-13) Effect of Heating Temperature, Holding Time, Heating Rate, and Cooling Rate on Reaction between Lead-Free Frit and HematiteTERASAWA, Akane^{*1}; INADA, Hirofumi²; TAKAISHI, Taigo²; FUJII, Tatsuo³; HASHIMOTO, Hideki⁴; ASOH, Hidetaka⁴

** asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Graduate School of Engineering, Kogakuin University
2. Kyoto Municipal Institute of Industrial Technology and Culture
3. Graduate School of Natural Science and Technology, Okayama University
4. Department of Applied Chemistry, School of Advanced Engineering, Kogakuin University

(29-P-S13-14) Preparation of nitride phosphor particle dispersed glassTORASE, Natsumi^{*1}; TATAMI, Junichi^{1,2}; IJIMA, Motoyuki^{1,2}; TAKAHASHI, Takuma²; HIROSAKI, Naoto³

1. Yokohama National University
2. Kanagawa Institute of Industrial Science and Technology
3. National Institute for Materials Science

(29-P-S13-15) Decrease in Electrical Resistivity of Al₂O₃ Ceramics by Dispersion of a Small Amount of Long SWCNTKINOSHITA, Ryota^{*1}; FUJITA, Asuka¹; SUNGHUN, Cho²; SEKINO, Tohru²; KUSUNOSE, Takafumi¹

1. Kagawa university
2. Osaka university

(29-P-S13-16) Brookite type TiO₂ and HAp complex film prepared by hydrothermal synthesis method and its optical studySAIKI, Atsushi^{*1}; SHIBATA, Atsuki²; HASHIZUME, Takashi³

1. Department of Materials Design and Engineering, University of Toyama
2. Department of Materials Science and Engineering, University of Toyama
3. Collaboration and Promotion center for Industry and Academia, University of Toyama

(29-P-S13-17) Thermal Expansion and Shrinkage during a Heating Stage of Firing of BaTiO₃ Powder Compact at Various Heating RatesHAMADA, Nami^{*1}; IWATA, Naoya¹; AKASHI, Takaya²; MORI, Takamasa²

1. Graduate School of Science and Engineering, Hosei University
2. Faculty of Bioscience and Applied Chemistry, Hosei University

(29-P-S13-18) Effect of Glass Layer Thickness on Color Tone and Crystalline Phase of Lead-free Red Overglaze EnamelsINADA, Hirofumi¹; OKAZAKI, Yuki¹; ARAKAWA, Yuya¹; TAKAISHI, Taigo¹; FUJII, Tatsuo²; TAKADA, Jun²; HASHIMOTO, Hideki^{*3}

1. Kyoto Municipal Institute of Industrial Technology and Culture
2. Okayama University
3. Kogakuin University

(29-P-S13-19) Evaluation of Highly Structured B₄C Ceramics Prepared via Strong Magnetic Field-Assisted Colloid ProcessingAZUMA, Shota^{*1}; UCHIKOSHI, Tetsuo²; YOSHIDA, Katsumi³; SUZUKI, Tohru¹

1. Ceramics Processing Group, National Institute for Materials Science
2. Fine Particles Engineering Group, National Institute for Materials Science
3. Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology

(29-P-S13-20) Evaluation of change of hydration layer formation using various solutionsFUKUZAKI, Ryo^{*1}; SUDA, Seiichi¹

1. Department of Engineering, Shizuoka University, Shizuoka, Japan

(29-P-S13-21) Fabrication of Highly Electrically Resistive Ceramics with Low Temperature Dependence of Resistivity Like MetalsSAKAMOTO, Masahiro^{*1}; FUJISAWA, Hiroaki¹; SEKINO, Tohru²; KUSUNOSE, Takafumi¹

1. Kagawa University
2. Osaka University

(29-P-S13-22) Characterization on Matter Diffusion and Microstructural Evolution of Y₂O₃ Fabricated by Spark Plasma SinteringLEE, Ji Hwoan^{*1}; KIM, Byung-Nam²; JANG, Byung-Koog¹

1. Interdisciplinary Graduate School of Engineering Science, Kyushu University
2. Research Center for Functional Materials, National Institute for Materials Science

(29-P-S13-23) High thermal shock resistance B₄C/CNT composite fabricated by hot-pressing methodMAKI, Ryosuke S. S.^{*1}; FAJAR, Muhammad¹; MALETASKIC, Jelena¹; GUBAREVICH, Anna¹; YANO, Toyohiko¹; YOSHIDA, Katsumi¹; SUZUKI, Tohru S.²; UCHIKOSHI, Tetsuo²

1. Tokyo Institute of Technology
2. National Institute for Materials Science

(29-P-S13-24) Fabrication and evaluation of AlN ceramics containing AlN whiskers consolidated by spark plasma sinteringFUKUSHI, Emiko^{*1}; OKAZAKI, Hiroya¹; KOBAYASHI, Ryota¹; HARATA, Koichi²; GOTO, Takashi²

1. Tokyo city University
2. Tohoku University

(29-P-S13-25) An evaluation of thermal expansion behavior of Al₂(1-x)Fe_{2x}TiO₅ added SiO₂ glassSUGIMOTO, Takayuki^{*1}; HAYASHI, Akari²; HINOHARA, Yo³; FUJIMORI, Hiroki²

1. Department of Bioproduction and Environment Engineering, Faculty of Regional Environment Science, Tokyo University of Agriculture
2. Department of Chemistry, College of Humanities and Sciences, Nihon University
3. Correlative Study in Physics and Chemistry, Graduate School of Integrated Basic Sciences, Nihon University

(29-P-S13-26) Substitution effects on the crystal structure and mechanical properties of Mo₂Ni_{1-x}Cr_xB₂ hard materials

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

WATANABE, Junya^{*1}; OTA, Toshiki¹; MARUYAMA, Satofumi¹

1. Tokyo City University

(29-P-S13-27) Doping effects on the sintering behavior and microstructures of boron carbides

OTA, Toshiki^{*1}; KOYAMA, Ryuichiro¹; NAKAMURA, Koga¹; WATANABE, Junya¹; MARUYAMA, Satofumi¹

1. Tokyo City University

(29-P-S13-28) Effect of Shaping Conditions on the Texture Formation in the Sintered Cordierite Ceramics

SON, Min-A^{*1}; CHAE, Ki-Woong¹; KIM, Jeong Seog¹; KIM, Shin-Han²

1. Hoseo University

2. Ceracomb Co. Ltd

14:Advanced Structure Analysis and Characterization of Ceramic Materials

(29-P-S14-01) Destabilization of giant tetragonal distortion of BiCoO₃ by means of electron doping through Ti substitution

ISHIZAKI, Hayato^{*1}; YAMAMOTO, Hajime²; SAKAI, Yuki^{1,3}; OKIMOTO, Yoichi⁴; KOSHIHARA, Shinya⁴; AZUMA, Masaki¹

1. Materials and Structures Laboratory, Tokyo Institute of Technology

2. Institute of Multidisciplinary Research for Advanced Materials

3. Kanagawa Institute of Industrial Science and Technology

4. Department of Chemistry, Tokyo Institute of Technology

(29-P-S14-02) HRCXS - The powerful bulk analysis method for the chemical state in ceramics

HONGO, Toshinobu¹; ITO, Yoshiaki²; KUROKAWA, Tomohiro¹; FUKUSHIMA, Sei^{*1}

1. Chemical Test Department, Kobe Material Testing Laboratory Co., Ltd.

2. Rigaku Corporation

(29-P-S14-03) The oxidation state analysis of Ti by XPS, XAFS and HRCXS - The difference of spectral changes between carbide and oxide -

HONGO, Toshinobu^{*1}; UEMURA, Masaharu²; SASAKI, Takanobu¹; URAMOTO, Motoko¹; KUROKAWA, Tomohiro¹; FUKUSHIMA, Sei^{1,2}

1. Chemical Test Department, Kobe Material Testing Laboratory Co., Ltd.

2. Synchrotron Analysis L.L.C.

(29-P-S14-04) ⁷¹Ga NMR shift distribution analysis on nanocrystalline h-GaN

TANSHO, Masataka^{*1}; SUEHIRO, Takayuki²; SHIMIZU, Tadashi¹

1. High Field NMR Group, Research Center for Advanced Measurement and Characterization, National Institute for Materials Science (NIMS)

2. Sialon Group, Research Center for Functional Materials, National Institute for Materials Science (NIMS)

(29-P-S14-05) Novel 3D Analytical Technique for Grain Boundaries of Ceramic Materials

ARAI, Naomi^{*1}; SASAKI, Tomokazu¹; SUGANUMA, Mina¹; MAYAMA, Norihito¹; ISHIMURA, Satoshi¹; TODA, Kazuya¹; NAKAJIMA, Satoru¹

1. Toshiba Nanoanalysis Corporation

(29-P-S14-06) Low thermal conductivity of two phase rare earth zirconates

STOPYRA, Michal^{*1}; NIEMIEC, Dawid¹; MOSKAL, Grzegorz¹

1. Silesian University of Technology

(29-P-S14-07) Chemical State Analysis of p-Block Element Fluorides by using AES

NISHIMURA, Fumihiro^{*1}; KIM, Jae-Ho²; YONEZAWA, Susumu¹

1. Headquarters for Innovative Society-Academia Cooperation(HISAC), University of Fukui

2. Materials Science and Engineering, University of Fukui

(29-P-S14-08) Crystal orientation Analysis of Pearl layer using Low Voltage Electron Backscattered Diffraction

ASANO, Natsuko^{*1}; ASAHINA, Shunsuke¹

1. JEOL Ltd.

(29-P-S14-09) XAS Studies on the Chromium Ion-Doped Silicate Glass

TIAWPISITPONG, Parima^{*1}; SAMKONGNGAM, Kamolwan²; BUNTEM, Radchada^{1,2}

1. Department of Chemistry, Faculty of Science, Silpakorn University, Nakorn Pathom 73000, Thailand

2. Center of Excellence in Design Materials, Faculty of Science, Silpakorn University, Nakorn Pathom 73000, Thailand

(29-P-S14-10) Discovery of a Rare-Earth-Free Oxide-Ion Conductor Ca₃Ga₄O₉ by Screening through the Bond-Valence Method and Experiments

YASUI, Yuta^{*1}; NIWA, Eiki¹; MATSUI, Masahiro¹; FUJII, Kotaro¹; YASHIMA, Masatomo¹

1. Department of Chemistry, School of Science, Tokyo Institute of Technology

(29-P-S14-11) Oxide-ion diffusion pathway and conductivity of the hexagonal perovskite-related oxide Ba₃MoNbO_{8.5-δ} and its related materials

SAKUDA, Yuichi^{*1}; TUJIGUCHI, Takafumi¹; FUJII, Kotaro¹; NIWA, Eiki¹; MURAKAMI, Taito¹; NISHIOKA, Shunta^{1,2}; HESTER, James R³;

MAEDA, Kazuhiko¹; YASHIMA, Masatomo¹

1. Tokyo institute of technology

2. Japan Society for the Promotion of Science

3. Australian Centre for Neutron Scattering

(29-P-S14-12) The octahedral distortion and the thermal expansion of pseudo-brookite-type compounds

SUNAGA, Mao^{*1}; AKIZUKI, Yusuke¹; KOSHIKAWA, Miduki¹; NAKAMURA, Yulia¹; NOGUCHI, Mariko²; FUJIMORI, Hiroki¹

1. Graduate School of Integrated Basis Science, Nihon University

2. College of Humanities and Sciences, Nihon University

(29-P-S14-13) Ordinary and extraordinary structural phase transitions in strontium tungstate Sr₃W₂O₉

URUSHIHARA, Daisuke^{*1}; ASAKA, Toru¹; FUKUDA, Koichiro¹; SAKURAI, Hiroya²

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Nagoya Institute of Technology
2. National Institute for Materials Science

(29-P-S14-14) Trigonal-Planar Low Spin Co 2+ in a Layered Mixed Polyhedral Network from Topotactic Reduction

ZHOU, Lijia^{*1}; HAN, YiFeng¹; LI, Guobao²; YANG, Xiaoyan¹; ALLIX, Mathieu³; HUANG, Qingzhen⁴; XIONG, Jin²; WANG, Bingwu²; YIN, Congling¹; KUANG, Xiaojun¹

1. MOE Key Laboratory of New Processing Technology for Nonferrous Metal and Materials, Guangxi Key Laboratory of Optical and Electronic Materials and Devices, College of Materials Science and Engineering, Guilin University of Technology, Guilin 541004 P. R. China
2. MOE Key Laboratory of New Processing Technology for Nonferrous Metal and Materials, Guangxi Key Laboratory of Optical and Electronic Materials and Devices, College of Materials Science and Engineering, Guilin University of Technology, Guilin 541004 P. R. China
3. UPR3079 CEMHTI, 1D Avenue de la Recherche Scientifique, Orléans CEDEX 2 45071, France and Université d'Orléans, Faculté des Sciences, Avenue du Parc Floral, Orléans CEDEX 2 45067, France
4. NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland 20899, United States

(29-P-S14-15) Water resistance of AlN whiskers depending on the shape

NAKAMURA, Akihito^{*1}; HARADA, Shunta^{1,2}; MATSUMOTO, Masaki³; WATANABE, Shota³; TAGAWA, Miho^{1,2}; UJIHARA, Toru^{1,2,3,4}

1. Department of Materials Process Engineering, Nagoya University, Aichi 464-8603, Japan
2. CIRFE, IMASS, Nagoya University, Aichi 464-8601, Japan
3. U-MaP Co., Ltd., Aichi 464-8603, Japan
4. GaN-OIL, AIST, Aichi 464-8601, Japan

(29-P-S14-16) In-situ neutron diffraction measurement of multilayer piezoelectric actuator under cyclic electric field

KAWASAKI, Takuro^{*1}; HARJO, Stefanus¹; GONG, Wu^{1,2}; AIZAWA, Kazuya¹

1. J-PARC Center, Japan Atomic Energy Agency
2. Center for Elements Strategy Initiative for Structural Materials, Kyoto University

(29-P-S14-17) CNN application for lattice parameter determination using HOLZ lines

UESUGI, Fumihiko^{*1}; MITSUISHI, Kazutaka¹; KIMOTO, Koji¹; ISHII, Masashi¹

1. NIMS

(29-P-S14-18) Crystal structure analysis of the oxide ion conductor BaNdInO₄ by high-temperature neutron diffraction

SHIGA, Hitomi^{*1}; SHIRAIWA, Masahiro¹; ZHANG, Wenrui¹; YASUI, Yuta¹; TEJIMA, Hiroaki¹; FUJII, Kotaro¹; MURAKAMI, Taito¹; HAGIHARA, Masato²; TORII, Shuki²; MIAO, Ping²; KAMIYAMA, Takashi²; YASHIMA, Masatomo¹

1. Tokyo Institute of Technology
2. High Energy Accelerator Research Organization (KEK)

(29-P-S14-19) Analytical Study on Origins of AlON (Aluminum Oxynitride) Properties

YOSHINO, Haruhiko^{*1}; OGAWA, Shuhei²; OHKOSHI, Kazuto²; MIYAKAWA, Naomichi²; YAMAMOTO, Yuichi¹

1. Innovative Technology Laboratories, AGC Inc.
2. Materials Integration Laboratories, AGC Inc.

(29-P-S14-20) Discovery of a new oxide-ion conductor BaLaZn₃GaO₇

TEJIMA, Hiroaki^{*1}; FUJII, Kotaro¹; NIWA, Eiki¹; MURAKAMI, Taito¹; YASHIMA, Masatomo¹

1. Tokyo Institute of Technology

16: Single Crystals, Thin Films and Microstructures in Rechargeable Battery Systems**(29-P-S16-01) Growth and characterization of lithium ion conductor La_{2/3-x}Li_{3x}TiO₃ single crystals by the traveling solvent floating zone method**

MARUYAMA, Yuki^{*1}; MINAMIMURE, Shiho¹; NAGAO, Masanori¹; WATAUCHI, Satoshi¹; TANAKA, Isao¹

1. University of Yamanashi

(29-P-S16-02) Effects of FEC for the High Voltage Durability on Fluoroalkylsilane Monolayer Coated LiNi_{0.5}Mn_{1.5}O₄ Electrodes

TODOKI, Hitomi^{*1}; ZETTSU, Nobuyuki^{2,3}; TESHIMA, Katsuya^{2,3}

1. Department of Engineering, Graduate School of Science and Technology, Shinshu University
2. Department of Materials Chemistry, Faculty of Engineering, Shinshu University
3. Research Initiative for Supra-Materials, Shinshu University

(29-P-S16-03) High C Rate Characteristics in Ultra-thin Solid Electrolyte Layer Coated Cathodes

NEMOTO, Kazune^{*1}; ZETTSU, Nobuyuki^{2,3}; TESHIMA, Katsuya^{2,3}

1. Department of Engineering, Graduate School of Science and Technology, Shinshu University
2. Department of Materials Chemistry, Faculty of Engineering, Shinshu University
3. Research Initiative for Supra-Materials, Shinshu University

(29-P-S16-04) The Impacts of Masonry Structured Assembly of Solid Electrolyte on The Suppression of Lithium Dendrite Growth in Lithium-ion Based Batteries

NAKANISHI, Takumi^{*1}; TESHIMA, Katsuya^{2,3}; ZETTSU, Nobuyuki^{2,3}

1. Department of Engineering, Graduate School of Science and Technology, Shinshu University
2. Department of Materials Chemistry, Faculty of Engineering, Shinshu University
3. Research Initiative for Supra-Materials, Shinshu University

(29-P-S16-05) Ion migration in spinel Li₄Ti₅O₁₂ at atomic scale under electric field

ZHANG, Qinghua^{*1}; LU, Xia²; GU, Lin¹

1. Institute of Physics, Chinese Academy of Sciences, Beijing 100190, P. R. China
2. School of Materials, Sun Yat-Sen University, Guangzhou 510275, China

(29-P-S16-06) Structural Transition Kinetics and Charge Compensation of the P2-Na_{0.78}Al_{0.05}Ni_{0.33}Mn_{0.60}O₂ Cathode for Sodium Ion Batteries revealed by STEM

YANG, Xin-An^{*1}; LU, Xia²; CAO, Dapeng²

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Institute of Physics, Chinese Academy of Sciences, Beijing 100190, P. R. China

2. Beijing University of Chemical Technology, Beijing 100029, P. R. China

(29-P-S16-07) Low dose imaging of light elements of ZSM-5 zeolite using iDPC-STEM

CHEN, Xiao^{*1}; SHEN, Boyuan¹; WEI, Fei¹

1. Beijing Key Laboratory of Green Chemical Reaction Engineering and Technology, Department of Chemical Engineering, Tsinghua University, Beijing 100084, China.

(29-P-S16-08) Electronic structure analysis of Li₂MnO₃ thin film using *operando* hard X-ray photoelectron spectroscopy

HIKIMA, Kazuhiro^{*1,2}; KIUCHI, Hisao³; SHIMIZU, Keisuke⁴; SUZUKI, Kota^{1,4}; HIRAYAMA, Masaaki^{1,4}; MATSUBARA, Eiichiro³; KANNO, Ryoji^{1,4}

1. Department of Chemical Science and Engineering, Tokyo Institute of Technology, Kanagawa 226-8502, Japan

2. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, Aichi, 441-8580, Japan

3. Office of Society-Academia Collaboration for Innovation, Kyoto University, Kyoto 611-0011, Japan

4. All-Solid-State Battery Unit, Institute of Innovative Research, Tokyo Institute of Technology, Kanagawa 226-8503, Japan

(29-P-S16-09) Global and Local Li-ion Conductivity in (La,Li)TiO₃ electrolyte

ISHIKAWA, Ryo^{*1,2}; SASANO, Shun¹; KAWAHARA, Kazuaki¹; KIMURA, Teiichi³; IKUHARA, Yumi³; SHIBATA, Naoya^{1,3}; IKUHARA, Yuichi^{1,3}

1. Institute of Engineering Innovation, Univ. Tokyo, Tokyo, Japan

2. Japan Science and Technology Agency, PRESTO, Kawaguchi, Saitama 332-0012, Japan

3. Nanostructures Research Laboratory, Japan Fine Ceramics Center, Aichi, Japan

20: Ceramics for Rechargeable Energy Storage

(29-P-S20-01) Realization of high rate performance of sheet type all-solid-state batteries by slurry coating

TAKAHASHI, Masanari^{*1,2}; KATO, Atsutaka¹; YAMAMOTO, Mari^{1,2}

1. Osaka Research Institute of Industrial Science and Technology, Morinomiya Center

2. Graduate School of Materials Science, Nara Institute of Science and Technology

(29-P-S20-02) Fabrication of silicon-composite electrodes by slurry coating for all-solid-state batteries

YAMAMOTO, Mari^{*1}; TERAUCHI, Yoshihiro¹; SAKUDA, Atsushi²; KATO, Atsutaka¹; TAKAHASHI, Masanari^{1,3}

1. Osaka Research Institute of Industrial Science and Technology

2. Osaka Prefecture University

3. Nara Institute of Science and Technology

(29-P-S20-03) Development of Self-supporting Thin-layer Solid Electrolyte Sheets for All-Solid-State Rechargeable Lithium Batteries

HASEGAWA, Yasunori^{*1}; SONOMURA, Hirosuke¹; TAMURA, Tomoko¹; MURAKAMI, Shuichi¹; SATOH, Kazuo¹; SAKURAI, Yoshiaki¹

1. Osaka Research Institute of Industrial Science and Technology

(29-P-S20-04) Activated carbon-sulfur composite positive electrode for all-solid-state sodium-sulfur batteries

ANDO, Taka^{*1}; SAKUDA, Atsushi¹; TATSUMISAGO, Masahiro¹; HAYASHI, Akitoshi¹

1. Osaka Prefecture University

(29-P-S20-05) Preparation of Oxide-Based Na Ion Battery by Tape-Casting Laminate NASICON-type Ceramics

KASHIHARA, Takehiro^{*1}; HASEGAWA, George¹; AKAMATSU, Hirufumi¹; HAYASHI, Katsuro¹

1. Department of Applied Chemistry, Graduated School of Engineering, Kyushu University

(29-P-S20-06) Na⁺ conduction properties of rare earth-free Narpsio glass-ceramics in the system Na₂O-Fe₂O₃-SiO₂

KAWADA, Koji^{*1}; YOSHIDA, Naoya¹; YAMASHITA, Kimihiro^{1,2}; OKURA, Toshinori¹

1. Kogakuin University

2. Tokyo Medical and Dental University

(29-P-S20-07) Reaction mechanism in liquid-phase synthesis using acetonitrile for Na_{3-x}PS_{4-x}Cl_x solid electrolytes

ITO, Akane^{*1}; MASUZAWA, Naoki¹; YUBUCHI, So¹; SAKUDA, Atsushi¹; TATSUMISAGO, Masahiro¹; HAYASHI, Akitoshi¹

1. Osaka Prefecture University

(29-P-S20-08) Liquid phase synthesis of Li₂S-P₂S₅ solid electrolyte using microwave

MANIWA, Riku^{*1}; ROSERO-NAVARRO, Nataly Carolina²; MIURA, Akira²; TADANAGA, Kiyoharu²

1. Graduate School of Chemical Sciences and Engineering, Hokkaido University

2. Division of Applied Chemistry, Faculty of Engineering, Hokkaido University

(29-P-S20-09) Preparation and characterization of Li₃BS₃ glassy electrolyte via mechanochemical process

INOUE, Ayane^{*1}; NAGAO, Kenji¹; SAKUDA, Atsushi¹; TATSUMISAGO, Masahiro¹; HAYASHI, Akitoshi¹

1. Department of Applied Chemistry, Graduate School of Engineering, Osaka Prefecture University

(29-P-S20-10) Preparation of Air-Stable Solid Electrolytes Li₃SbS₄-LiI by Ion Exchange Process

MATSUDA, Reiko^{*1}; NGUYEN, H.H. Phuc¹; MUTO, Hiroyuki²; MATSUDA, Atsunori¹

1. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology

2. Institute of Liberal Arts and Sciences, Toyohashi University of Technology

(29-P-S20-11) Synthesis and characterization of Li-argyrodite Li_{7-x}PS_{6-x}Cl_x electrolyte for the utilization of Li metal negative electrode

UMEDA, Tomohito^{*1}; SUYAMA, Motoshi¹; YUBUCHI, So¹; SAKUDA, Atsushi¹; TATSUMISAGO, Masahiro¹; HAYASHI, Akitoshi¹

1. Osaka Prefecture University

(29-P-S20-12) Fabrication of a solid-state lithium secondary battery using a lithium-ion-conducting Li₄B₄Al₃O₁₂Cl-based glass-ceramic

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

SAITO, Mayu^{*1}; KAJIHARA, Koichi¹; SHOJI, Mao¹; KIZUKI, Yota¹; MUNAKATA, Hirokazu¹; KANAMURA, Kiyoshi¹

1. Tokyo Metropolitan University

(29-P-S20-13) Sintering of $\text{Li}_{6.5}\text{La}_3\text{Zr}_{1.5}\text{Ta}_{0.5}\text{O}_{12}$ oxide solid electrolyte using Li_3BO_3 as sintering additive

WATAMANE, Haruna^{*1}; ROSERO-NAVARRO, Nataly Carolina²; MIURA, Akira²; TADANAGA, Kiyoharu²

1. Graduate School of Chemical Sciences and Engineering

2. Graduate School of Engineering, Hokkaido University

(29-P-S20-14) Sr-substitution Effect for Sinterability of Garnet-like Lithium Ion Conductor LLZ-Ga

OHMORI, Kenta^{*1}; SUGIMOTO, Kaoru¹; MORI, Daisuke¹; MATSUDA, Yasuaki²; TAMINATO, Sou¹; TAKEDA, Yasuo¹; IMANISHI, Nobuyuki¹

1. Department of Chemistry for Materials, Mie University

2. Department of Applied Chemistry, Osaka Institute of Technology

(29-P-S20-15) Crystal structure and lithium ion conductivity of Garnet-type $\text{Li}_{7-3x}\text{Ga}_x\text{La}_3\text{Zr}_2\text{O}_{12}$

AKIYAMA, Naoya^{*1,2}; KATAOKA, Kunimitsu¹; ISHIDA, Naoya²; IDEMOTO, Yasushi²; AKIMOTO, Junji¹

1. National Institute of Advanced Industrial Science and Technology (AIST)

2. Department of Pure and Applied Chemistry, Tokyo University of Science

(29-P-S20-16) Structure and Ionic Conductivity of Li Boracite, $\text{Li}_4\text{B}_4\text{Ga}_3\text{O}_{12}\text{Cl}$

FUSHIMI, Kazuna^{*1}; AOKI, Yuto¹; KATSUMATA, Tethuhiro¹

1. School of Science, Tokai University

(29-P-S20-17) Synthesis of monodispersed spinel oxide nanoparticles for Mg secondary battery

SAMUKAWA, Kouta^{*1}; KOBAYASHI, Hiroaki¹; HONMA, Itaru¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

(29-P-S20-18) Crystal and Electronic Structures of Phosphate-Based Positive Electrode Materials and Their Application to Mg Rechargeable Battery

KOYANAGAWA, Yudai^{*1}; KITAMURA, Naoto¹; ISHIDA, Naoya¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-19) Crystal Structure Analysis using Neutron Diffraction and Mg Rechargeable Cathode Property of Chemically Delithiated $\text{Li}_{1-x}\text{Ni}_{0.5}\text{Mn}_{0.5}\text{O}_2$

TSUKADA, Kenta^{*1}; ISHIDA, Naoya¹; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-20) Charge-Discharge Mechanism and Cathode Property of Chemically Delithiated $\text{Li}_{1.2-x}\text{Mn}_{0.54}\text{Ni}_{0.13}\text{Co}_{0.13}\text{O}_{2-\delta}$ as Mg Rechargeable Battery Cathode Material

SATAKE, Yoshihito^{*1}; ISHIDA, Naoya¹; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-21) Synthesis, Crystal Structure and Electrochemical Properties of Rock-salt Type MgMO_2 (M=Ni, Mn, Co) as Cathode Materials of Mg Secondary Battery

KAWATA, Tomoka^{*1}; ISHIDA, Naoya¹; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-22) Electrode properties average and local structures of MgM_2O_4 (M=Co, Mn) and fluorine modification

TANABE, Yuhei^{*1}; KITAMURA, Naoto¹; ISHIDA, Naoya¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-23) Synthesis, Cathode Property and Crystal, Electronic and Local Structure of $\text{Mg}_2\text{Mo}_{3-x}\text{M}_x\text{O}_8$ (M=Nb, Ti, W) as Mg Rechargeable Battery Cathode Material

NAKAMURA, Yuta^{*1}; ISHIDA, Naoya¹; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-24) Average, Electronic and Local Structure and Magnesium Battery Properties of Spinel Type Cathode Material $\text{MgCo}_{2-x}\text{Mn}_x\text{O}_4$

ICHIYAMA, Mai^{*1}; ISHIDA, Naoya¹; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-25) Evaluation of the Mg-ion conductivity and phase stability of Mg-ion conductor $\text{MgZr}_4(\text{PO}_4)_6$ by DFT method

NAKANO, Koki^{*1}; NODA, Yusuke²; TANIBATA, Naoto^{1,3}; NAKAYAMA, Masanobu^{1,2,3,4}; KAJIHARA, Koichi⁵; KANAMURA, Kiyoshi⁵

1. Department of Advanced Ceramics, Nagoya Institute of Technology, Gokiso, Showa, Nagoya, Aichi 466-8555, Japan

2. Center for Materials Research by Information Integration (CMI2), Research and Services Division of Materials Data and Integrated System (MaDIS), National Institute for Materials Science (NIMS), 1-2-1 Sengen, Tsukuba, Ibaraki 305-0047, Japan

3. Elements Strategy Initiative for Catalysts and Batteries (ESICB), Kyoto University, 1-30 Goryo-Ohara, Nishikyo, Kyoto 615-8245, Japan

4. Frontier Research Institute for Materials Science (FRIMS), Nagoya Institute of Technology, Gokiso, Showa, Nagoya, Aichi 466-8555, Japan

5. Department of Applied Chemistry for Environment, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University, 1-1 Minami-Osawa, Hachioji, Tokyo 192-0397, Japan

(29-P-S20-26) Preparation and characterization of NiMn_2O_4 particles toward supercapacitor applications

ISHITSUKA, Hikaru^{*1}; SUZUKI, Yoshikazu²

1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Ibaraki 305-8573, Japan

2. Faculty of Pure and Applied Sciences, University of Tsukuba, Ibaraki 305-8573, Japan

(29-P-S20-27) A combined theoretical-experimental investigation of energy storage behavior of reduced graphene oxide for micro-supercapacitors with ultrahigh capacitance and energy density

YOO, Jungjoon^{*1}; BYUN, Segi²; LEE, Chan-Woo³

1. Separation and Conversion Materials Laboratory, Energy Materials and Process Research Division, Korea Institute of Energy Research

^{*} asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

2. Energy Materials Laboratory, Energy Materials and Process Research Division, Korea Institute of Energy Research
3. Platform Technology Laboratory, Energy Materials and Process Research Division, Korea Institute of Energy Research

(29-P-S20-28) Preparation of Boron-Doped Na_xMnO_2 Cathode Materials for a Sodium-Ion Battery by Microwave Heating Method

SUZUKI, Ryuya^{*1}; TSUKADA, Wataru¹; KOMIYA, Kazuki¹; MATSUMAE, Yoshiharu¹; HIGUCHI, Masashi¹

1. Tokai University

(29-P-S20-29) Electrochemical Properties of Ti-based Negative Electrode Materials with PAN-based Binder for Sodium-ion Batteries

UMEZAWA, Raizo^{*1}; YABUUCHI, Naoaki¹; YAMADA, Masahide²; SUZUKI, Shigeru²

1. Yokohama National University

2. Denka Company Limited

(29-P-S20-30) Li_3PO_4 integrated LiNiO_2 as High-Capacity Positive Electrode Materials

IKEDA, Naohiro^{*1}; YABUUCHI, Naoaki¹

1. Graduate School of Engineering Science, Yokohama National University

(29-P-S20-31) Li_2TiO_3 - LiVO_2 Binary Oxides as High Capacity Positive Electrode Materials

KONUMA, Itsuki^{*1}; YABUUCHI, Naoaki¹

1. Graduate School of Engineering Science, Yokohama National University

(29-P-S20-32) Comparative Study on LiMnO_2 Polymorphs

SATO, Takahito^{*1}; WATANUKI, Ryuta²; YABUUCHI, Naoaki²

1. Department of Applied Chemistry, Tokyo Denki University, 5 Senju Asahi-cho, Adachi, Tokyo 120-8551, Japan

2. Department of Chemistry and Life Science, Yokohama National University, 79-5 Tokiwadai, Hodogaya-ku, Yokohama, Kanagawa 240-8501, Japan

(29-P-S20-33) Charge reaction mechanisms of rocksalt-type $\text{Li}_{1.2}\text{Mn}_{0.4}\text{Ti}_{0.4}\text{O}_2$ cathode oxides using first principals calculations

KONDO, Sayaka^{*1}; TANIBATA, Naoki^{1,2}; NAKAYAMA, Masanobu^{1,2,3,4}; YABUCHI, Naoaki^{4,5}

1. Department of Advanced Ceramics, Nagoya Institute of Technology

2. MaDiS/CMi2, National Institute of Materials Science (NIMS)

3. Frontier Research Institute for Materials Science (FRIMS), Nagoya Institute of Technology

4. Unit of Elements Strategy Initiative for Catalysts & Batteries (ESICB), Kyoto University

5. Department of Chemistry and Life Science, Yokohama National University

(29-P-S20-34) Operating temperature dependence of average, local and electronic structures in the charge-discharge process of $0.4\text{Li}_2\text{MnO}_3$ - $0.6\text{LiMn}_{1/3}\text{Ni}_{1/3}\text{Co}_{1/3}\text{O}_2$ using quantum beam and first principles calculation

KOITABASHI, Yuiko^{*1}; ISHIDA, Naoya¹; KITAMURA, Naoto¹; IDEMOTO, Yasushi¹

1. Tokyo University of Science

(29-P-S20-35) Phase Relation and Electrochemical Properties of $\text{Li}_2\text{Mn}_{1-x}\text{Ru}_x\text{O}_3$

OHNUMA, Ryo^{*1}; MORI, Daisuke¹; TAMINATO, Sou¹; IMANISHI, Nobuyuki¹

1. Department of Chemistry for Materials, Mie University

(29-P-S20-36) Investigation of Battery Characteristics of Fe Substituted LiMn_2O_4

MIKAWA, Shino^{*1}; HASHIZUME, Takashi²; SAIKI, Atsushi³

1. Graduate School of Science and Engineering for Education, University of Toyama

2. Collaboration and Promotion Center for Industry and Academia, University of Toyama

3. Graduate School of Science and Engineering for Research, University of Toyama

(29-P-S20-37) Synthesis of alpha- LiAlO_2 with layered NaCl-type structure by PVP-assisted sol-gel method

SHIBATA, Ayaka^{*1}; ARACHI, Yoshinori¹

1. Kansai University

(29-P-S20-38) Surface and Electrochemical Properties of Hydrogenated $\text{Li}_4\text{Ti}_5\text{O}_{12}$ Anode Materials for High-Power Li-Ion Batteries

EOM, Ji-Yong^{*1}; KIM, Seong-In¹; LEE, Da-Yeon¹; KANG, Ji-Hoon¹

1. Korea Automotive Technology Institute

(29-P-S20-39) Electrochemical Characteristics of $\text{Li}_4\text{Ti}_5\text{O}_{12}$ /Graphene/Carbon Nano Tubes for Lithium Ion Battery

NA, Byung-Ki^{*1}; KIM, Hyeon-Su¹; SEO, Jin-Seong¹

1. Department of Chemical Engineering, Chungbuk National University, Korea

(29-P-S20-40) Development of Tin Oxide-Carbon Nano Composite for Energy Applications Heated by Microwave

TAKAYAMA, Sadatsugu^{*1}; LINK, Guido²; TOKITANI, Masayuki¹; NAGATA, Daisuke¹; HAYAKAWA, Yukio³; FUKAYA, Haruhiko³;

JELONNEK, John²

1. National Institute for Fusion Science

2. IHM, Karlsruhe Institute of Technology (KIT)

3. National Institute of Advanced Industrial Science and Technology

(29-P-S20-41) Electrical Conductivity of Olivine-Type MgMgSiO_4

IKEDA, Nami^{*1}; HASEGAWA, George¹; AKAMATSU, Hirofumi¹; HAYASHI, Katsuro¹

1. Department of Engineering, Kyushu University

21: Specific Reaction Field and Material Fabrication Design

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S21-01) Synthesis of Eu³⁺-doped Hydrous Titania and Hydrothermal Conversion to Metal Titanate ParticlesHOSONO, Keita^{*1}; KOJIMA, Takashi²

1. Department of Applied Chemistry and Biotechnology, Graduate School of Engineering, Chiba University, Chiba 263-8522, Japan
2. Department of Applied Chemistry and Biotechnology, Graduate School of Engineering, Chiba University, Chiba 263-8522, Japan

(29-P-S21-02) Synthesis of Spherical Alumina and Strontium Aluminate Particles by Chemical Solution DepositionKONISHI, Yurie^{*1}; KOJIMA, Takashi¹; UEKAWA, Naofumi¹

1. Department of Applied Chemistry and Biotechnology Graduate School of Engineering Chiba University

(29-P-S21-03) Process study on the synthesis of monodisperse TiO₂ spheresMATSUO, Minami^{*1}; ENOMOTO, Naoya²

1. Advanced chemical science and engineering course, National Institute of Technology, Ariake College
2. Department of Creative Engineering, National Institute of Technology, Ariake College

(29-P-S21-04) Room-temperature synthesis of γ -Ga₂O₃ nanoparticles from gallium metal using ultrasonic irradiationTAKANO, Yuki^{*1}; HAYASHI, Yamato¹; FUKUSHIMA, Jun¹; TAKIZAWA, Hirotsugu¹

1. Tohoku University, Department of Applied Chemistry, Graduate School of Engineering

(29-P-S21-05) Hydrothermally tolerant sulfonyl group (HTS) on carbon surface and preparation of high HTS carbon in hydrothermal carbonizationGOTO, Yasuto^{*1}; WATANABE, Taiga¹; HIRAGA, Yuya²; WATANABE, Masaru²

1. Graduate school of Engineering, Tohoku University
2. Department of Chemical Engineering, Tohoku University

(29-P-S21-06) Sonochemical Synthesis of Dolomite Using De-K ion bitternKAMEI, Shinnosuke^{*1}; MATSUMOTO, Masakazu²; FURUKAWA, Shigeki¹

1. Department of Sustainable Engineering, College of Industrial Technology, Nihon University
2. Department of Liberal Arts and Basic Sciences, College of Industrial Technology, Nihon University

(29-P-S21-07) Hydrothermal Synthesis of Alkali Metal Titanate Particles and Reconversion to Titania by Acid TreatmentKIMURA, Yuki^{*1}; KOJIMA, Takashi¹; KATO, Mana¹; UEKAWA, Naofumi¹

1. Department of Applied Chemistry and Biotechnology, Graduate School of Engineering, Chiba University

(29-P-S21-08) Synthesis of Co-lean and Co-rich Li₂CoTi₃O₈-based pigmentsKIMURA, Saho^{*1}; SUZUKI, Yoshikazu²

1. Graduate School of Pure and Applied Sciences, University of Tsukuba, Ibaraki 305-8573, Japan
2. Faculty of Pure and Applied Sciences, University of Tsukuba, Ibaraki 305-8573, Japan

(29-P-S21-09) Fabrication and CO₂ absorption behavior of CO₂ absorbent layered composite Li₄SiO₄/SiO_x/Si with self-heating functionISHIZAKI, Yuki^{*1}; KUSANO, Hiroshi¹; WATANABE, Mizuki¹; OH-ISHI, Katsuyoshi¹; OKA, Kengo²; KOBAYASHI, Ryota³; MAJIMA, Yutaka⁴

1. Department of Applied Chemistry, Faculty of Science and Engineering, Chuo University, Tokyo 112-8551, Japan
2. Department of Applied Chemistry, Faculty of Science and Engineering, Kinki University, Osaka 577-8502, Japan
3. Department of Chemistry and Energy Engineering, Faculty of Science and Engineering, Tokyo City University, Tokyo 158-8557, Japan
4. Laboratory for Materials and Structures, Tokyo Institute of Technology, Yokohama 226-8503, Japan

(29-P-S21-10) Phase Transfer Protocol Behaviors of Water-Dispersed Au-Pt Alloy Nanoparticles into Toluene with 1-HexanethiolKURODA, Rikuto^{*1}; NAKAMURA, Takahiro¹; NAKAGAWA, Masaru¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

(29-P-S21-11) Synthesis and evaluation of oxygen storage capacity (OSC) of YMnO₃ nanoparticlesOTOMO, Mayu^{*1}; MIYAKE, Amiko¹; ASAKURA, Yusuke¹; YIN, Shu¹

1. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

24:Advanced Wear Resistant Materials: Tribology, Coatings and Reliability**(29-P-S24-01) A STUDY ON THE MECHANICAL PROPERTIES OF THE AlCr BASED ALLOY PRODUCED BY HOT PRESS**OH, Se Pil^{*1,2}; LEE, Han Chan¹; JUNG, Hun^{1,2}; YOON, Hae Won^{1,3}; SHIN, Paik Kyun²; MOON, Kyoung Il¹

1. Heat treatment R&D group, Korea Institute of Industrial Technology, South Korea.
2. Department of Electrical Engineering, Inha University, South Korea.
3. Department of Materials Engineering, Busan University, South Korea.

(29-P-S24-02) Influence of compound layer thickness of AISI 4140 steel by plasma nitriding treatmentKIM, BUM SOO^{*1,2}; PARK, HYUN JUN^{1,2}; KIM, SANG SUB²; MOON, KYOUNG IL¹

1. Korea Institute of Industrial Technology(KITECH). south korea
2. Inha University. south korea

(29-P-S24-03) Mechanical properties and Friction characteristics of Mo-Cu-N Coatings deposited by Single Alloy TargetKIM, Soobyn^{*1}; LEE, Han Chan¹; YOON, Hae Won¹; JUNG, Hun^{1,2}; MOON, Kyoung Il¹

1. Korea Institute of Industrial Technology
2. Inha University

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S24-04) The mechanical properties Mo-Cu-X(X=Si, Zr, V)-N coatings deposited by magnetron sputtering process with single alloying targets.JUNG, Hun^{1,2}; LEE, Han Chan¹; YOON, Hae Won^{1,3}; OH, Se Pil^{1,2}; KIM, Soo Byn^{1,4}; SHIN, Paik Kyun²; MOON, Kyung Il¹

1. Heat treatment R&D group, Korea Institute of Industrial Technology, South Korea.
2. Department of Electrical Engineering, Inha University, South Korea.
3. Department of Materials Engineering, Busan University, South Korea.
4. Department of Environment & Energy Engineering, Sungshin University, South Korea.

25:Direct Thermal-to-Electrical Energy Conversion Materials and Thermal Energy Harnessing Challenges**(29-P-S25-01) Anomalous Photo-Thermoelectric Effects of Platinum Oxide on Tungsten Trioxide, Controllability of n- and p-type Thermoelectricity**IRIE, Hiroshi^{1,2}; OMURA, Kaichi²; SHIMOYAMA, Kohei²

1. Clean Energy Research Center, University of Yamanashi
2. Integrated Graduate School of Medicine, Engineering and Agricultural Sciences, University of Yamanashi

(29-P-S25-02) Thermoelectric and photoelectric characteristics of graded films using Nb-doped SrTiO₃INOMOTO, Tatsuhiko^{*1}; MIURA, Noboru¹

1. Department of Electronics and Bioinformatics, School of Science and Technology, Meiji University

(29-P-S25-03) Thermoelectric Performance of Mo-doped bulk In₂O₃KLICH, Wojciech^{*1}; SUEKUNI, Koichiro^{1,2}; OHTAKI, Michitaka^{1,2}

1. Department of Applied Science for Electronics and Materials, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Kasuga, Fukuoka 816-8580, Japan
2. Transdisciplinary Research and Education Center for Green Technologies, Kyushu University, Kasuga, Fukuoka 816-8580, Japan

(29-P-S25-04) Anisotropic Thermoelectric Properties of W₁₈O₄₉ Prepared by SPSTRAN, Nhat QuangMinh^{*1}; SUEKUNI, Koichiro^{1,2}; OHTAKI, Michitaka^{1,2}

1. Department of Applied Science for Electronics and Materials, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University
2. Transdisciplinary Research and Education Center for Green Technologies, Kyushu University

(29-P-S25-05) Synthesis and Thermoelectric Properties of β -pyrochlore Oxide CsW_{2-x}Ru_xO₆MANEYOM, Sasikan^{*1}; SUEKUNI, Koichiro^{1,2}; OHTAKI, Michitaka^{1,2}

1. Department of Applied Science for Electronics and Materials, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University
2. Transdisciplinary Research and Education Center for Green Technologies, Kyushu University

(29-P-S25-06) Synthesis of β type Iron Silicide by Mechanical AlloyingNAGATA, Kou^{*1}; ITO, Keisuke¹; SATO, Yuuki¹; YOSHIKADO, Shinzo¹

1. Doshisha University

(29-P-S25-07) Highly Reliable High Temperature Metallization Characteristics of Ti, Mo and W for Skutterudite Thermoelectric DevicesPARK, Sang Hyun^{*1}; SONG, Jin-Seop¹; KIM, Yeong Seon¹; YOON, Hana¹; YOO, Chung-Yul¹

1. Korea Institute of Energy Research

29:Liquid-mediated Structuring of Ceramics and Organic-inorganic Hybrid Materials**(29-P-S29-01) Nanostructured Hydroxyapatite Fabricated from Amorphous Calcium Phosphate and Poly(vinyl alcohol) Aqueous Solution**KAKIAGE, Masaki^{*1}

1. Gunma University

(29-P-S29-02) Hydrogel templated mineralization for nano scale TEM observation of hydrogel networkKIYAMA, Ryuji^{*1}; NONOYAMA, Takayuki²; GONG, Jian Ping^{2,3,4}

1. Transdisciplinary Life Science Course, Graduate School of Life Science, Hokkaido University
2. Faculty of Advanced Life Science, Hokkaido University
3. Global Station for Soft Matter, Global Institution for Collaborative Research and Education, Hokkaido University
4. Institute for Chemical Reaction Design and Discovery, Hokkaido University

(29-P-S29-03) Formation of RGB flexible colored pattern film on PET using photo-acid generator and siloxane group modified acrylic resinTAKAHASHI, Karin^{*1}; OHISHI, Tomoji¹

1. Shibaura Institute of Technology

(29-P-S29-04) Preparation of gold particles / cellulose nanocomposites using wet-type jet millFURUTANI, Mitsuaki^{*1}; FUJII, Eiji¹

1. Industrial Technology Center of Okayama Prefecture

(29-P-S29-05) Preparation and Refractive Index of Titania Gel Film on Plastic Substrate by Sol-Gel MethodMATSUSHITA, Nana^{*1}; KOZUKA, Hiromitsu¹

1. Kansai University

(29-P-S29-06) Optical Properties and Thermoplastic Properties of Amorphous Materials Prepared from Titanium Alkoxide Solutions Containing Phthalic AcidTSUTSUI, Ryo^{*1}; KOZUKA, Hiromitsu¹

1. Kansai University

(29-P-S29-07) Preparation of cellulose/silica hybrid thick films by the sol-gel method and their waterproof propertiesKASASAKU, Mamoru^{*1}; KOZUKA, Hiromitsu²; TADANAGA, Kiyoharu³; YONEDA, Hirokazu⁴; SHINKAI, Seiji⁴

*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

1. Graduate School of Science and Engineering, Kansai University, Osaka 564-8680, Japan
2. Faculty of Chemistry, Materials and Bioengineering, Kansai University, Osaka 564-8680, Japan
3. Faculty of Engineering, Hokkaido University, Hokkaido 060-0808, Japan
4. Advanced Core Tech Laboratory, LIXIL, Japan

(29-P-S29-08) Formation and gas barrier characteristics of polysilazane-derived silica coatings formed by photoirradiation on organic films

ISONO, Satoki^{*1}; OHISHI, Tomoji¹
1. Shibaura Institute of Technology

(29-P-S29-09) Highly bendable and rapid response ceramic film thermistors

NAKAJIMA, Tomohiko^{*1}; TSUCHIYA, Tetsuo¹
1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology

(29-P-S29-10) Possibility of the Relaxation of Residual In-plane Stress of Sol-gel-derived Ceramic Thin Films at Room Temperature

NISHIMURA, Yuki^{*1}; KOZUKA, Hiromitsu¹
1. Kansai university

(29-P-S29-11) Synthesis of Mesoporous SrFeO_x Particles from Hydrogarnet Precursor

OTAGURO, Hikaru^{*1}; HASEGAWA, George¹; AKAMATSU, Hirofumi¹; HAYASHI, Katsuro¹
1. Kyushu University

(29-P-S29-12) Preparation of Organosiloxane-based Mesoporous Materials using Silica Colloidal Crystals as a Template

MURAMOTO, Naho^{*1}; SUGIYAMA, Tomoaki¹; MATSUNO, Takamichi¹; URATA, Chihiro²; WADA, Hiroaki¹; KURODA, Kazuyuki^{1,3}; SHIMOJIMA, Atsushi^{1,3}
1. Department of Applied Chemistry, Waseda University, Tokyo 169-8555, Japan
2. National Institute of Advanced Industrial Science and Technology (AIST), Nagoya 463-8560, Japan
3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo 169-0051, Japan

(29-P-S29-13) Enhanced Quantum Yield of Nanographenes Incorporated in Supermicroporous Silicas and the Co-Adsorption Effect of Water Molecules

FUJIMAKI, Yasuto^{*1}; WATANABE, Hiroto¹; HAYASHI, Kosei¹; IMAI, Hiroaki²
1. Tokyo Metropolitan Industrial Technology Research Institute
2. Department of Applied Chemistry, Faculty of Science and Technology, Keio University

(29-P-S29-14) Synthesis of Reactive Siloxane Networks Containing Double-Three-Ring Units

KISHI, Masafumi^{*1}; KODAMA, Satoshi¹; WADA, Hiroaki¹; KURODA, Kazuyuki^{1,2}; SHIMOJIMA, Atsushi^{1,2}
1. Department of Applied Chemistry, Waseda University, Tokyo 169-8555, Japan
2. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo 169-0051, Japan

(29-P-S29-15) Preparation of ITO nanoparticles with high water dispersibility and high Sn doping amount

SUZUKI, Ryoko^{*1}; MAKI, Sachiko²; KANIE, Kiyoshi²; MURAMATSU, Atsushi²
1. Nikon corporation
2. IMRAM, Tohoku University

(29-P-S29-16) Preparation of Colloidal Monodispersed Hollow Siloxane-based Nanoparticles with Controlled Shell Structures

WATANABE, Tenkai^{*1}; YAMAMOTO, Eisuke²; UCHIDA, Saki¹; SHIMOJIMA, Atsushi^{1,3}; WADA, Hiroaki¹; KURODA, Kazuyuki^{1,3}
1. Department of Applied Chemistry, Waseda University, Tokyo 169-8555, Japan
2. Institute of Materials and Systems for Sustainability, Nagoya University, Aichi 464-8601, Japan
3. Kagami Memorial Research Institute for Materials Science and Technology, Waseda University, Tokyo 169-0051, Japan

(29-P-S29-17) Influence of dispersing solvent on optical properties of lead halide perovskite nanocrystals

RO, Michi^{*1}; SAITO, Norio¹; KONDO, Yukishige¹
1. Department of Industrial Chemistry, Faculty of Engineering, Tokyo University of Science

(29-P-S29-18) Synthesis of TiO₂@ZrO₂ core-shell nanosheet composites using surface modification

TOGASHI, Ryo^{*1}; TAKIMOTO, Daisuke¹; HIDEHIMA, Sho^{1,2}; MOCHIZUKI, Dai^{1,3}; SUGIMOTO, Wataru^{1,2}
1. Faculty of Textile Science and Technology, Shinshu University
2. Research Initiative for Supra-Materials (RISM), Shinshu University
3. Faculty of Engineering, Tokyo Denki University

(29-P-S29-19) Preparation of Solid-Solution TiS_{2-x}Se_x Nanosheets by Liquid Phase Exfoliation

OSHIMA, Yosuke^{*1}; TEZUKA, Keitaro¹; NAKAMURA, Yuki¹; SHAN, Yue Jin¹
1. Graduate School of Engineering Utsunomiya University

(29-P-S29-20) Reaction Efficiency Control of SI-ATRP by Utilizing Interlayer of Zirconium Phosphonate

HONJO, Yutaro^{*1}; ISHIHARA, Mayu¹; GUEGAN, Regis²; SUGAHARA, Yoshiyuki^{1,3}
1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University
2. Global Center for Science and Engineering, Waseda University
3. Kagami Memorial Institute for Materials Science and Technology, Waseda University

(29-P-S29-21) Singular organic assemblies made of nonionic surfactants formed and stabilized by large nanosheets

GUEGAN, Regis^{*1}; SUGAHARA, Yoshiyuki²
1. Global Center for Science and Engineering, Waseda University, 3-4-1 Okubo, Shinjuku-ku, Tokyo 169-8555, Japan
2. Department of Applied Chemistry, School of Science and Engineering, Waseda University, 3-4-1 Okubo, Shinjuku-ku, Tokyo 169-8555, Japan

30:Advanced Materials and Processing for Power Electronics Application

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S30-01) Formation of copper wiring in air by laser irradiation of copper complex film and improvement of adhesion to glass substrateUETSUKI, Akira^{*1}; OHISHI, Tomoji²

1. Shibaura Institute of Technology, Department of Applied Chemistry

2. Shibaura Institute of Technology, Department of Applied Chemistry

(29-P-S30-02) Effect of Temperature on Chip Welding Process with AuGa0.03 Alloy SolderZHAO, Zhihuan^{*1,2,3}; GONG, Guanghao¹; PAN, Yingyue²; CHEN, Chuanzhong¹; LIU, Weili²; LIN, Lisong²; ZHANG, Li³

1. Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), Department of Materials Science and Engineering, Shandong University

2. School of Mechanical and Electronic Engineering, Shandong Agricultural and Engineering University

3. Jinan Semiconductor Research Institute

(29-P-S30-03) Fabrication of GTO/ITO transparent diode by DC magnetron sputteringECHIMORO, Atsushi^{*1}; TAZAWA, Ryutarō¹; SHIOMI, Kazuya¹; CHAIRUL, S, Imran^{1,2}; MIKAWA, Michio³; MURAI, Kei-ichiro¹; MORIGA, Toshihiro¹

1. Tokushima University

2. Universiti Teknikal Malaysia Melaka

3. National Institute of Technology Kagawa College

(29-P-S30-04) Electrical properties of SnO₂ based resistor films prepared by ELAMOD and MOD process for high temperature applicationsUZAWA, Yuko^{*1}; NAKAJIMA, Tomohiko¹; YAMAGUCHI, Iwao¹; TSUCHIYA, Tetsuo¹

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

(29-P-S30-05) Development of Bi oxide thin film resistor for SiC power electronicsKOUNO, Keiko¹; TSUBATA, Takako¹; NAKAJIMA, Tomohiko¹; TSUCHIYA, Tetsuo^{*1}

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

(29-P-S30-06) TCR control of flexible resistor thin film by using photo-reaction of hybrid solution process (PRHS)UZAWA, Yuko^{*1}; NAKAJIMA, Tomohiko¹; TSUCHIYA, Tetsuo¹

1. Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

(29-P-S30-07) High-temperature electrical conductivities of Li_{1.05}Mn_{1.8}Ga_{0.2}O_{4-δ}KAWAI, Yasuko^{*1}; ABE, Satoko¹; TANIMURA, Makoto²; INOUE, Yasuhide³; KOYAMA, Yasumasa³; MUNAKATA, Fumio¹

1. Faculty of Engineering, Tokyo City University

2. Yokohama National University

3. Waseda University

32:Crystalline Materials for Electrical, Optical and Medical Applications**(29-P-S32-01) Photoluminescence and Scintillation Properties of Ce-doped Ca(Gd,Y)Al₃O₇ Single Crystals**IGASHIRA, Kenta^{*1}; NAKAUCHI, Daisuke¹; FUJIMOTO, Yutaka²; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

2. Tohoku University

(29-P-S32-02) Scintillation properties of Pr-doped Ga₂Si₂O₇ single crystalsKANTUPTIM, Prom^{*1}; AKATSUKA, Masaki¹; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

(29-P-S32-03) Scintillation properties of Tl-doped Cs₂BaBr₄ crystalsTAKAHASHI, Kentaro^{*1}; KIMURA, Hiromi¹; NAKAUCHI, Daisuke¹; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

(29-P-S32-04) Evaluation of radiation induced fluorescence properties in Tl-doped SiO₂ glasses prepared by the SPS methodHASHIMOTO, Kosuke^{*1}; SHIRATORI, Daiki¹; KIMURA, Hiromi¹; KATO, Takumi¹; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

(29-P-S32-05) Float zone growth of GdVO₄:Eu single crystals for β-ray imagingMATSUOKA, Minori^{*1}; HIGUCHI, Mikio¹; MASUBUCHI, Yuji¹; NISHIKIDO, Fumihiko²; YAMAYA, Taiga²; KANEKO, Junichi¹

1. Hokkaido University

2. National Institute of Radiological Science

(29-P-S32-06) Neutron-induced thermoluminescence of Tb³⁺- and Dy³⁺-doped CaO-Al₂O₃-B₂O₃-based glassesKAWAMURA, Ichiro^{*1}; KAWAMOTO, Hiroki¹; FUJIMOTO, Yutaka¹; KOSHIMIZU, Masanori¹; OKADA, Go²; KOBAYASHI, Yusuke³; OGAWARA, Ryo³; SUDA, Mitsuru³; YANAGIDA, Takayuki⁴; ASAI, Keisuke¹

1. Tohoku University

2. Kanazawa Institute of Technology

3. National Institutes for Quantum and Radiological Science and Technology

4. Nara Institute of Science and Technology

(29-P-S32-07) Neutron-induced thermoluminescence of Ce³⁺-doped CaO-Al₂O₃-B₂O₃-based glassesKAWAMURA, Ichiro^{*1}; KAWAMOTO, Hiroki¹; FUJIMOTO, Yutaka¹; KOSHIMIZU, Masanori¹; OKADA, Go²; KOBAYASHI, Yusuke³; OGAWARA, Ryo³; SUDA, Mitsuru³; YANAGIDA, Takayuki⁴; ASAI, Keisuke¹

1. Tohoku University

2. Kanazawa Institute of Technology

3. National Institutes for Quantum and Radiological Science and Technology

4. Nara Institute of Science and Technology

“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S32-08) Evaluation of dosimetric properties of Tb-doped MgF₂ transparent ceramicsMATSUO, Tatsuya^{*1}; KATO, Takumi¹; KIMURA, Hiromi¹; NAKAMURA, Fumiya¹; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute Science and Technology

(29-P-S32-09) Development of crystalline (Tl_{1-x}A_x)MgCl₃ scintillatorsARAI, Miki^{*1}; FUJIMOTO, Yutaka¹; KOSHIMIZU, Masanori¹; YANAGIDA, Takayuki²; ASAI, Keisuke¹

1. Tohoku Univ.

2. NAIST

(29-P-S32-10) TlSr₂Cl₅: New self-activated crystalline scintillatorARAI, Miki^{*1}; TAKAHASHI, Keisuke¹; FUJIMOTO, Yutaka¹; KOSHIMIZU, Masanori¹; YANAGIDA, Takayuki²; ASAI, Keisuke¹

1. Tohoku Univ.

2. NAIST

(29-P-S32-11) Development of Halide-Based Scintillators Using 5d-4f Transition of Yb²⁺SEKINE, Dai¹; KOSHIMIZU, Masanori^{*1}; FUJIMOTO, Yutaka¹; YANAGIDA, Takayuki²; ASAI, Keisuke¹

1. Tohoku University

2. Nara Institute of Science and Technology

(29-P-S32-12) Development of Fast Scintillators Using CsCl-Based Crystals Exhibiting Auger-Free LuminescenceTAKAHASHI, Keisuke¹; KOSHIMIZU, Masanori^{*1}; FUJIMOTO, Yutaka¹; YANAGIDA, Takayuki²; ASAI, Keisuke¹

1. Tohoku University

2. Nara Institute of Science and Technology

(29-P-S32-13) Synthesis of Bi₂O₃ nanoparticles using various organic modifiers and application to plastic scintillators for X-ray detectionMAGI, Arisa^{*1}; KAGAMI, Kei¹; KOSHIMIZU, Masanori¹; YOKO, Akira¹; SEONG, Gimyeong¹; TOMAI, Takaaki¹; ADSCHIRI, Tadafumi¹; FUJIMOTO, Yutaka¹; KISHIMOTO, Shunji²; HARUKI, Rie²; NISHIKIDO, Fumihiko³; ASAI, Keisuke¹

1. Tohoku University

2. High Energy Accelerator Research Organization

3. National Institutes for Quantum and Radiological Science and Technology

(29-P-S32-14) Development of plastic scintillators containing 1,1,2,2-tetraphenylethene exhibiting aggregation induced fluorescence propertiesMAGI, Arisa^{*1}; KOSHIMIZU, Masanori¹; FUJIMOTO, Yutaka¹; YANAGIDA, Takayuki²; ASAI, Keisuke¹

1. Tohoku University

2. NAIST

(29-P-S32-15) Luminescence properties of Ag-exchanged zeolite after X-ray irradiationKAWAMOTO, Hiroki^{*1}; KOSHIMIZU, Masanori¹; FUJIMOTO, Yutaka¹; ASAI, Keisuke¹

1. Graduate School of Engineering, Tohoku University

(29-P-S32-16) Development of new intrinsic scintillator: Cs₂HfBr₆ and Cs₂ZrBr₆ crystalsFUJIMOTO, Yutaka^{*1}; SAEKI, Keiichiro¹; KOSHIMIZU, Masanori¹; NAKAUCHI, Daisuke²; YANAGIDA, Takayuki²; ASAI, Keisuke¹

1. Tohoku Univ.

2. NAIST

(29-P-S32-17) New yellow-emitting crystalline phosphor Te⁴⁺-activated Cs₂HfCl₆ for X-ray and gamma-ray detectionFUJIMOTO, Yutaka^{*1}; SAEKI, Keiichiro¹; NAKAUCHI, Daisuke²; FUKADA, Haruki³; YANAGIDA, Takayuki²; KAWAMOTO, Hiroki¹; KOSHIMIZU, Masanori¹; ASAI, Keisuke¹

1. Tohoku Univ.

2. NAIST

3. KIT

(29-P-S32-18) Evaluation of optically-stimulated luminescence properties of Tm-doped NaMgF₃ single crystalTAKEBUCHI, Yuma^{*1}; FUKUSHIMA, Hiroyuki¹; KAWAGUCHI, Noriaki¹; YANAGIDA, Takayuki¹

1. Nara Institute of Science and Technology

(29-P-S32-19) Preparation and luminescence properties of RE-doped Li₂O-B₂O₃ glasses (RE = Eu, Tb)ZHANG, ChuMing^{*1}; HIGUCHI, Mikio¹; MASUBUCHI, Yuji¹; KANEKO, Junichi H.¹; TAKETANI, Atsushi²; GOTO, Makoto²; TAKANASHI, Takaaki²; OTAKE, Yoshie²

1. Hokkaido University

2. RIKEN

(29-P-S32-20) Spectroscopic properties and single crystal growth of K₂NiF₄- and melilite-type Yb-doped oxidesHIGUCHI, Mikio^{*1}; CHIKAZOE, Shinya¹; MASUBUCHI, Yuji¹; OGAWA, Takayo²; WADA, Satoshi²

1. Hokkaido University

2. RIKEN

(29-P-S32-21) Glass forming region and optical properties of glasses in the TeO₂ - ZnO - MoO₃ systemZAMYATINA, Evgeniya^{*1}; NOSOV, Zahar¹; ZAMYATIN, Oleg¹

1. Lobachevsky State University of Nizhni Novgorod

(29-P-S32-22) Visualization of Stress Distribution from Outside the Biological Tissue by Near-infrared Mechanoluminescence MaterialISHII, Yoshiharu^{*1,2}; UENO, Naohiro³; XU, Chao-Nan^{1,2}

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“*” asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.

(29-P-S32-23) Single-crystal powder-plate phosphors for high-brightness lightening applicationsVILLORA, Encarnacion G.^{*1}; SHIMAMURA, Kiyoshi¹; INOMATA, Daisuke²; ITO, Akira²

1. National Institute for Materials Science
2. Tamura Corp.

(29-P-S32-24) Contrast Ratio and Color of Mica-Based Glass-Ceramics with Various Metal OxidesSRICHUMPONG, Thapanee^{*1}; HENESS, Greg¹; VERONESI, Paolo²; LEONELLI, Cristina²; SUPUTTAMONGKOL, Kallaya³; CHAYSUWAN, Duangrudee¹

1. Department of Materials Engineering, Faculty of Engineering, Kasetsart University, Bangkok, Thailand
2. Department of Engineering "Enzo Ferrari", University of Modena and Reggio Emilia, Modena, Italy
3. Department of Prosthodontics, Faculty of Dentistry, Mahidol University, Bangkok, Thailand

(29-P-S32-25) Exploration of structure and physical properties of hexanuclear molybdenum cluster compounds crystallized by counter cation exchangeNONAKA, Yoji^{*1}; SAITO, Norio¹; LEMOINE, Pierre²; CORDIER, Stephane²; WADA, Yoshiki^{3,4}; GRASSET, Fabien^{3,4}; KONDO, Yukishige¹; OHASHI, Naoki^{3,4,5}

1. Department of Industrial Chemistry, Faculty of Engineering, Tokyo University of Science
2. Institut des Sciences Chimiques de Rennes (ISCR; UMR 6226)
3. Electroceramics Group, National Institute for Materials Science (NIMS)
4. 4 Laboratory for Innovative Key Materials and Structures (LINK UMI 3629)
5. Materials Research Center for Element Strategy (MCES)

(29-P-S32-26) Gas sensing properties of Mg_xZn_{1-x}O thin filmsADACHI, Yutaka^{*1}; SAITO, Noriko¹; SAKAGUCHI, Isao¹; SUZUKI, Taku¹

1. National Institute for Materials Science

(29-P-S32-27) Performance Improvement of Multi-Piezo Material by Control of Crystal StructureHARA, Hirotaka^{*1,2}; WANG, Ruiping¹; ZHENG, Xu-Guang³; NISHIBORI, Maiko²; XU, Chao-Nan^{1,2}

1. National Institute of Advanced Industrial Science and Technology
2. Department of Molecular and Material Sciences, Kyushu University
3. Department of Physics, Saga University

(29-P-S32-28) Development of KNN-based Lead-free Piezoelectric Single CrystalsVASCHALDE, Lucile^{*1,2}; VILLORA, Encarnacion G.¹; SHIMAMURA, Kiyoshi^{1,2}

1. National Institute for Materials Science, Tsukuba 305-0044, Japan
2. Graduate School of Advanced Science and Engineering, Waseda University, Shinjuku, Tokyo 169-8555, Japan

(29-P-S32-29) Fermi Level Depinning in Metal/Germanium Junctions by Insertion of Graphene LayersKHURELBAATAR, Zagazusem^{*1,2}; TSAGAANCHULUUN, Sugir²; FUJIOKA, Masaya¹; NISHII, Junji¹

1. Research Institute for Electronic Science, Hokkaido University, Sapporo, Hokkaido 001-0020, Japan
2. School of Information and Communication Technology, Mongolian University of Science and Technology, Ulaanbaatar 14191, Mongolia

36:Second Young Professional Forum (YPF) in PACRIM**(29-P-S36-01) Strength improvement of Yb₂Si₂O₇/SiC nanocomposites by surface crack healing**ARAI, Kota^{*1}; SON, Thanh Nguyen²; HE, Lingfeng³; NAKAYAMA, Tadachika¹; SUEMATSU, Hisayuki¹; NIIHARA, Koichi¹

1. Nagaoka University of Technology
2. National Institute of Technology, Kushiro College
3. Idaho National Laboratory

"*" asterisk Indicates an oral presenter

(Explanation of presentation number) The first two digits are presentation date, the second is room, the third is symposium, and the fourth is the serial number in symposium.