

13th Russia/CIS/Baltic/Japan Symposium on Ferroelectricity International Workshop on Relaxor Ferroelectrics 2016

19-23, June 2016, Matsue, Japan

Final Program

June19 (Sun.)			June 20 (Mon.)				June 21 (Tue.)					June 22 (We	ed.)			June 23 (Th	ıu.)
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				KIMURA			9:45				9:45				9:45	Kimmel	Bokov
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			11:00	ISHIHARA	BURTON		10:45	BARON	BANYS		10:45	KOJIMA			10:45	Fontana	Nakajii
			11:15				11:00	SHIBATA	Krylov		11:00	Shvartsman	Jaimeewong		11:00	Hoshina	Ilyin
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			12:30				12:15	STOCK	Darinskii		12:15	Mashiyama	Wada		12:15	VAKHRUSHEV	/
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20-Jun Morning Session

A-Multipurpose Hall 9:00-10:40

Opening

9:20-9:40

Special Talk

Yoshihiro ISHIBASHI

School of Engineering, Nagoya University, Japan

Memories of the first Soviet-Japan Symposium on Ferroelectricity in 1976

9:40-10:40

Plenary1

<u>Tsuyoshi KIMURA</u>¹, Hiroki UEDA¹, Kohei HARUKI¹, Koji OKUMURA¹, Takuya AOYAMA¹, Yusuke WAKABAYASHI¹, Katsuya SHIMIZU¹, and Sakyo HIROSE², Yoshikazu TANAKA³

¹Graduate School of Engineering Science, Osaka University, Japan, ²Murata Manufacturing Co., Ltd., Japan, ³RIKEN SPring-8 Center, Japan

Recent developments of the study on ferroelectricity coupled with magnetism

20 min. Break

A-Multipurpose Hall 11:00-12:30: Multiferroic, Organic Ferroelectrics

11:00-11:30

Invite1

Sumio ISHIHARA and Makoto NAKA

Department of Physics, Tohoku University, Japan

Dielectric and Magnetoelectric Effects in Organic Molecular Solid

11:30-11:45

Oral1

<u>Yukio NODA</u>, Itaru TAMURA, Tadao HAYASHIDE, Ryoji KIYANAGI, Tomoyuki MOCHIDA, and Tadashi SUGAWARA Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

Tunneling mode in antiferroelectric BrHPLN - on 80 years anniversary of KDP -

11:45-12:00

Oral2

Jaroslavas BELOVICKIS¹, <u>Maksim IVANOV</u>¹, Šarūnas SVIRSKAS¹, Juras BANYS¹, Maxim SILIBIN², A.V. SOLNYSHKIN^{2,3}, and Vladimir V. SHVARTSMAN⁴

¹Faculty of Physics, Vilnius University, Lithuania, ²National Research University of Electronic Technology, Russia, ³Tver State University, Russia, ⁴Institute for Materials Science and Center for Nanointegration Duisburg–Essen, University of Duisburg-Essen (CENIDE), Germany

Dielectric and Ferroelectric Investigation of P(VDF-TrFE)-based Composites

12:00-12:30

Invite2

Hiroyuki KIMURA

Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

Microscopic magnetism and ferroelectricity in Multiferroic RMn_2O_5 (R = Bi, Y, rare-earth) studied by a complementary use of neutron and X-ray scattering

Lunch

B-Small Hall 11:00-12:30 : Inhomogeneous structures

11:00-11:30

Invite3

Benjamin BURTON, Gunay DOGAN, Dan GOPMAN, and Eric COCKAYNE

National Institute of Standards and Technology, USA

First Principles Based Simulations of Relaxor Ferroelectrics: Domain Dynamics

11:30-11:45

Oral3

Takeshi NISHIMATSU¹, Umesh V. WAGHMARE², and Momoji KUBO¹

¹Institute for Materials Research (IMR), Tohoku University, Japan, ²Theoretical Sciences Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), India

Molecular dynamics simulations of relaxor ferroelectrics with randomness

11:45-12:00

Oral4

Yasuhiro YONEDA¹, Hiroki TANIGUCHI², Desheng FU³, and Hajime NAGATA⁴

¹Japan Atomic Energy Agency (JAEA), Japan, ²Department of Physics, Nagoya University, Japan, ³Department of Electronics and Materials Science, Shizuoka University, Japan, ⁴Department of Electrical Engineering, Tokyo University of Science, Japan

Local Structure Analysis of Relaxor Pb(Mg_{1/3}Nb_{2/3})O₃

12:00-12:30

Invite4

Jiri HLINKA

Institute of Physics, Czech Academy of Sciences, Czech Republic

Nanometer-range B-site order in PMN

Lunch

20-Jun Afternoon Session

A-Multipurpose Hall 14:00-17:30: Ferroelectrics for energy Application

14:00-14:30

Invite5

Yuji NOGUCHI¹, Ryotaro INOUE², Yuuki KITANAKA¹, and Masaru MIYAYAMA¹

¹ Dept. of Applied Chemistry, School of Engineering, The University of Tokyo, Japan, ² Division of Physics, Institute of Liberal Education, School of medicine, Nihon University, Japan

Giant Photovoltaic Effect of Ferroelectric Domain Walls in Perovskite Single Crystals

14:30-14:45

Oral5

<u>Juyoung KIM</u>¹, Yoonho KIM¹, Satoru YAMANAKA¹, Akira NAKAJIMA¹, Hirohisa TANAKA¹, Takanori KATOU¹, Tatsuo FUKUDA², Kenji YOSHII², Yasuo NISHIHATA², Masaaki BABA³, Masatoshi TAKEDA³, Noboru YAMADA³, Tadachika NAKAYAMA³, and Koichi NIIHARA³

¹Frontier Technology Dep., R & D Division, Daihatsu Motor Co., LTD., Japan, ²Japan Atomic Energy Agency(JAEA/SPring-8), Japan, ³Nagaoka University of Technology, Japan

Pyroelectric Power Generation with ferroelectrics (1-x)PMN-xPT

14:45-15:00

Oral6

Takayuki NAGAI¹, Kenji TANABE¹, Ichiro TERASAKI¹, and Hiroki TANIGUCHI^{1, 2}

¹Department of Physics, Nagoya University, Japan, ²Materials Research Center for Elemental Strategy, Tokyo Institute of Technology, Japan

Photo-dielectric effect in Zn:LaAlO₃

15:00-15:30

Invite6

<u>Igor N. FLEROV</u>, Mikhail V. GOREV, Ekaterina A. MIKHALEVA, Andrey V. KARTASHEV, and Vitaliy BONDAREV Kirensky Institute of Physics, Russia

Caloric Effects in Some Ferroelectric and Ferroelastic Fluorides, Oxyfluorides and Oxides

15:30-15:45

Oral7

Hiroshi MAIWA

Shonan Institute of Technology, Japan

Electrocaloric Properties of K(Ta,Nb)O₃ Crystals and BaTiO₃-based Ceramics

15:45-16:00

Oral8

Hiroko YOKOTA, Tomoya NOZUE, and Shunsuke JITSUKAWA

Department of Physics, Chiba Unviersity, Japan

Element-specific investigations on multiferroic hexagonal ErFEO₃ thin film

30 min. Break

16:30-17:00

Invite7

Takashi TERANISHI, Yumi YOSHIKAWA, Hidetaka HAYASHI, and Akira KISHIMOTO

Graduate School of Natural Science and Technology, Okayama University, Japan

Lithium Ion Batteries with Polarization Assisted Ultrahigh Rate Capability

17:00-17:15

Oral9

Selami PALAZ, Oral OLTULU, Amirullah M. MAMEDOV, and Ekmel OZBAY

A⁵B⁶C⁷ Ferroelectrics as Novel Materials for Phononic Crystals

17:15-17:30

Oral10

<u>Kosuke FUJIWARA</u>¹, Tomoyuki KARASUDANI², Mamoru FUKUNAGA¹, Hiroyuki KOBAYASHI¹, Norihiro OSHIME¹, Jun KANO^{1,3}, Takaya MITSUI⁴, Pierre-Eymeric JANOLIN⁵, Jean-Michel KIAT⁵, and Naoshi IKEDA¹

¹Graduate School of Natural Science and Technology, Okayama University, Japan, ²Department of Physics, Faculty of Science, Okayama University, Japan, ³Japan Science and Technology Agency, PRESTO, Japan, ⁴Japan Atomic Energy Agency, Japan, ⁵SPMS lab, UMR CNRS-CentraleSupélec, FRANCE

Dielectric properties and charge order of YbFe₂O₄ with controlled iron vacancy

17:30-17:45

Oral11

Raphaël HAUMONT^{1,2}, P. HICHER¹, R. SAINT-MARTIN¹, X. MININGER³, and P. BERTHET¹

¹Equipe Synthèse, Propriétés et Modélisation des Matériaux, ICMMO, CNRS-UMR8182, Université Paris Sud, France, ² Laboratoire Structures, Propriétés et Modélisation des Solides, CNRS-UMR8580, Ecole Centrale Paris, France, ³ Laboratoire de Génie Electrique de Paris, SUPELEC, CNRS-UMR 8507; Université Paris Sud, France

Crystal growth under high electric field: a new tool for new materials design

30 min. Break

Poster Presentations

B-Small Hall 14:00-17:30: Structure and dynamics, Inhomogeneous structures

14:00-14:30

Invite8

Jean-Michel KIAT^{1,2}, Mickael ANOUFA¹, Christine BOGICEVIC¹, and Bernard HEHLEN³

¹Ecole CentraleSupelec CNRS, France, ² Lab Leon Brillouin CEA Saclay, France, ³Universite Montpellier, France

Structural properties induced in nanocomposites and core-shell ferroelectric ceramics

14:30-15:00

Invite9

Chikako MORIYOSHI

Department of Physical Science, Graduate School of Science, Hiroshima University, Japan

Crystal Structure Analysis of Piezoelectric Materials under Electric Field: Time-resolved Single Crystal X-ray Diffraction Study

15:00-15:30

Invite10

Dhananjai PANDEY

School of Materials Science and Technology, Indian Institute of Technology, (Banaras Hindu University), India

Spin Glass and Relaxor Ferroelectric Transitions in BiFeO₃ and its Solid Solutions

15:30-15:45

Oral12

Victor KRAYZMAN and Igor LEVIN

Materials Measurement Science Division, National Institute of Standards and Technology, USA

Reentrant Dipole Glass $0.6BaTiO_3$ - $0.4BiScO_3$: Local Atomic Structure Revealed by Reverse Monte Carlo and Its Relation to Dielectric Properties

15:45-16:00

Oral13

<u>Andris ANSPOKS</u>¹, Annette BUSSMANN-HOLDER², Mitsuru ITOH³, Carlo MARINI⁴, Takafumi MIYANAGA⁵, Juris PURANS¹, Janis TIMOSHENKO¹, and Francesco ROCCA⁶

¹Institute of Solid State Physics, University of Latvia, Latvia, ²Max Planck Institute for Solid State Research, Germany, ³Tokyo Institute of Technology, Japan, ⁴ALBA Synchrotron, Spain, ⁵Hirosaki University, Japan, ⁶IFN-CNR, Institute for Photonics and Nanotechnologies, Italy

Local structure of SrTiO₃ and EuTiO₃ studied by X-ray absorption spectroscopy

30 min. Break

16:30-17:00

Invite11

Masato MATSUURA¹, Tae-Hwan KIM², and Young-Soo HAN²

¹Comprehensive Research Organization for Science and Society, Research Center for Neutron Science and Technology (CROSS), Japan, ²Small Angle Neutron Beam Line, Hanaro Reactor, Korea Atomic Research Institute, Korea

Temperature and composition dependence of the neutron small angle scattering in the relaxor $(1-x)Pb(Mg_{1/3}Nb_{2/3})O_3-xPbTiO_3$ (x=0.30 and 0.37)

17:00-17:30

Invite12

Roman G. BURKOVSKY

Peter the Great St. Petersburg Polytechnic University, Russia

Formation of incommensurate phases in lead-based antiferroelectric perovskites at high pressure

17:30-17:45

Oral14

<u>Daria ANDRONIKOVA</u>^{1,2}, Yurii BRONWALD^{1,2}, Roman BURKOVSKY², Nikolai LEONTIEV³, Igor LEONTIEV⁴, Alexei BOSAK⁵, Alfred Q. R. BARON⁶, Alexei FILIMONOV², and Sergey VAKHRUSHEV^{1,2}

¹Ioffe Institute, Russia, ²Peter the Great St.Petersburg Polytechnic University, Russia, ³Azov-Black Sea Engineering Institute, Russia, ⁴Southern Federal University, Russia, ⁵European Synchrotron Radiation Facility (ESRF), France, ⁶RIKEN SPring-8 Center, Japan

Lattice Dynamics in The Lead-Zirconate Titanate with 0.7% of Ti Studied by Inelastic Scattering of Synchrotron Radiation

30 min. Break

Poster Presentations

21-Jun Morning Session

A-Multipurpose Hall 9:00-10:00

9:00-10:00

Plenary2

Andrew M. RAPPE, Ilya GRINBERG, Hiroyuki TAKENAKA, and Shi LIU

Makineni Theoretical Laboratories, Department of Chemistry, University of Pennsylvania, USA

Bending Materials To Our Will: The Materials Design Of Ferroelectrics Through Coordinated Theory And Experimentation

30 min. Break

A-Multipurpose Hall 10:30-12:30: Inhomogeneous structures-Probing techniques

10:30-11:00

Invite13

Alfred Q. R. BARON

Materials Dynamics Laboratory, RIKEN SPring-8 Center, Japan

Opportunities for Investigating Phonons in Ferroelectrics via Inelastic X-ray Scattering at SPring-8

11:00-11:30

Invite14

Naoya SHIBATA

Institute of Engineering Innovation, The University of Tokyo, Japan

Electromagnetic field imaging of materials by scanning transmission electron microscopy

11:30-12:00

Invite15

Kenji TSUDA and Michiyoshi TANAKA

Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

Direct Observation of Symmetry Breaking in the Nanoscale Local Structure of the cubic phase of BaTiO₃ using STEM-CBED

12:00-12:30

Invite16

Chris STOCK

School of Physics and Astronomy, University of Edinburgh, UK

Columns, waterfalls, and the breakdown of phonon excitations in PbMg_{1/3}Nb_{2/3}O₃

Lunch

B-Small Hall 10:30-12:30 : Multiferroic

10:30-11:00

Invite17

<u>Juras BANYS</u>¹, A. SAKANAS¹, C.E. CIOMAGA², L. CURECHERIU², V. BUSCAGLIA³, M.M. Vijatović PETROVIĆ⁴, R. GRIGALAITIS¹, M. IVANOV¹, S. SVIRSKAS¹, D. JABLONSKAS¹, L. MITOSERIU², J.D. BOBIĆ⁴, B. D. STOJANOVIĆ⁴, and S. KAMBA⁵

¹Faculty of Physics, Vilnius University, Lithuania, ²Faculty of Physics, University "Al. I. Cuza", Romania, ³Institute of Energetics & Interphases IENI-CNR, Genoa, Italy, ⁴Institute for Multidisciplinary Research, Belgrade University, Serbia, ⁵Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic

Multiferroic Composites

11:00-11:15

Oral15

Alexander KRYLOV, Evgeniya MOSHKINA, Svetlana SOFRONOVA, Irina GUDIM, Vladislav TEMEROV, and

Alexander VTYURIN

L.V. Kirensky Institute of Physics SB RAS, Russia

Investigation of structural and magnetic phase transitions in multiferroic rare-earth tetraborate crystals with huntite structure by Raman spectroscopy

11:15-11:30

Oral16

<u>Boris Kh. KHANNANOV</u>, Victoria A. SANINA, Evgeny I. GOLOVENCHITS, and Mikhail P. SCHEGLOV A.F. Ioffe Physical Technical Institute, Russia.

Room-temperature Electric Polarization Induced by Phase Separation in Multiferroic GdMn₂O₅

11:30-12:00

Invite18

Takuya SATOH

Department of Physics, Kyushu University, Japan,

Writing and reading of an optical polarization state in hexagonal YMnO₃

12:00-12:15

Oral17

<u>Valentyn V. LAGUTA</u>^{1,3}, Anna N. MOROZOVSKA², Eugene A. ELISEEV³, Igor P. RAEVSKI⁴, Svetlana I. RAEVSKAYA⁴, Eugene I. SITALO⁴, Sergey A. PROSANDEEV^{4,5}, and Laurent BELLAICHE⁵

¹Institute of Physics AS CR, Czech Republic, ²Institute of Physics, National Academy of Sciences of Ukraine, Ukraine, ³Institute for Problems of Materials Science, National Academy of Sciences of Ukraine, Ukraine, ⁴Research Institute of Physics and Physical Faculty, Southern Federal University, Russia, ⁵Physics Department and Institute for Nanoscience and Engineering, University of Arkansas, USA

Anomalous Paramagnetoelectric Effect In Magnetoelectric Multiferroics $Pb(Fe_{1/2}Nb_{1/2})O_3$ And Its Solid Solution With $PbTiO_3$

12:15-12:30

Oral18

Boris M. DARINSKII, Aleksandr P. LAZAREV, and Aleksandr S. SIGOV

Voronezh State University, Russia

Thermodynamic Description of Magnetoelectric Effect and Phase Transitions in Antiferromagnetic Crystals

Lunch

21-Jun Afternoon Session

A-Multipurpose Hall 14:00-17:30 : Films

14:00-14:30

Invite19

Alexander SIGOV, Yury PODGORNY, Konstantin VOROTILOV, and Pavel LAVROV

Moscow Technological University (MIREA), Russia

"True" leakage current in ferroelectric films

14:30-14:45

Oral19

<u>Takanori MIMURA</u>¹, Kiriha KATAYAMA¹, Takao SHIMIZU², Hiroshi UCHIDA³, Takanori KIGUCHI⁴, Akihiro AKAMA⁴, Toyohiko J. KONNO⁴, Osami SAKATA⁵, and Hiroshi FUNAKUBO^{1,2}

¹Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Japan, ²Materials Research Center for Element Strategy, Tokyo Institute of Technology, Japan, ³Department of Materials and Life Sciences, Sophia University, Japan, ⁴Institute for Materials Research, Tohoku University, Japan, ⁵Synchrotron X-ray Station at SPring-8 and Synchrotron X-ray Group, National Institute for Materials Science, Japan

Growth of orientation-controlled ferroelectric HfO_2 thin films by solid phase crystallization and their characterization

14:45-15:00

Oral20

Olga MALYSHKINA, Olga KALUGINA, Gleb SHISHKOV, and Mamikon GAVALYAN

Tver State University, Russia

Characterization of laminated structures by thermal square wave method at single frequency

15:00-15:30

Invite20

Minoru OSADA

International Center of Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science (NIMS) and Department of Nanoscience and Engineering, Waseda University, Japan

Engineering of Dielectric/Ferroelectric Responses in Layered Perovskites: From 3D Bulks to 2D Nanosheets

15:30-15:45

Oral21

 $\underline{\text{Natalia E. SHERSTYUK}}^1$, Kirill A. GRISHUNIN 1 , Nikita A. ILYIN 1 , Maksim S. IVANOV 1,2 , Vladimir M. MUKHORTOV 3 , and Elena D. MISHINA 1

¹Moscow Technological University – MIREA, Russia, ²CICECO - Materials Institute of Aveiro & Physics Department, University Aveiro, Portugal, ³Southern Scientific Center of Russian Academy of Sciences, Russia

Local Experimental Studies of Electric Field Distribution in Perforated Ferroelectric Films

30 min. Break

16:15-16:45

Invite21

Zuo-Guang YE^{1,2}, Jian ZHUANG^{2,1}, Alexei A. BOKOV¹, and Wei REN²

¹Department of Chemistry and 4D LABS, Simon Fraser University, Canada, ²Electronic Materials Research Laboratory, Key Laboratory of the Ministry of Education & International Centre for Dielectric Research, Xi'an Jiaotong University, China

Ferroelectric-to-Relaxor Crossover in Lead-free Perovskite Solid Solutions

16:45-17:00

Oral22

Antoni KANIA, Adrian NIEWIADOMSKI, Seweryn MIGA, Godefroy KUGEL, Mustapha HAFID, and Jan DEC Institute of Physics, University of Silesia, Poland

Raman Scattering and Dielectric Studies, and Phase Transitions of Ag_{1,r}Li_rNbO₃ Ceramics

17:00-17:15

Oral23

<u>Ekaterina D. POLITOVA</u>¹, Galina M. KALEVA¹, Natalia V. GOLUBKO¹, Aleksandr V. MOSUNOV¹, Elena A. FORTALNOVA^{1,2}, and Sergey Yu. STEFANOVICH^{1,3}

¹L.Ya. Karpov Institute of Physical Chemistry, Russia, ²Peoples' Friendship University of Russia, Russia, ³Lomonosov Moscow State University, Russia

Phase Formation and Ferroelectric Properties of Lead-Free Ceramics

17:15-17:30

Oral24

<u>Alexander O. VATULYAN</u>, Vladimir V. DUDAREV, Rostislav D. NEDIN, Ivan V. BOGACHEV, and Sergey A. NESTEROV

Southern Federal University, Russia

On modeling of functionally graded piezo materials

30 min. Break

Poster Presentations

B-Small Hall 14:00-17:30 : Domains, Raman spectroscopy

14:00-14:30

Invite22

Alexander TAGANTSEV

Ioffe Physical Technical Institute, St. Petersburg 194021, Russia, Swiss Federal Institute of Technology (EPFL), Switzerland

Properties of Charged Domain Walls: Predicted, Documented, Understood and not Understood

14:30-14:45

Oral25

Yusuke TOMITA

Shibaura Institute of Technology, Japan

Dynamics of Domain Boundaries of One-Dimensional Spin System with Long-Range Interactions

14:45-15:00

Invite23

Vladimir Ya. SHUR

Institute of Natural Sciences, Ural Federal University, Russia

Self-Organized Domain Structures and Self-Maintained Domain Growth in Ferroelectrics

15:00-15:15

Oral26

<u>Dmitry CHEZGANOV</u>^{1,2}, Evgenii VLASOV¹, Andrey AKHMATKHANOV^{1,2}, Lubov GIMADEEVA¹, Maria CHUVAKOVA¹, Denis ALIKIN¹, Artur UDALOV¹, Yuri PETROV³, and Vladimir Ya. SHUR^{1,2}

¹Institute of Natural Sciences, Ural Federal University, Russia, ²Labfer Ltd., 620014, Russia, ³Research park, IRC Nanotechnology, St. Petersburg State University, Russia

Domain Formation by Focused Ion Beam in Lithium Niobate Single Crystals

15:15-15:30

Oral27

Yoshiaki UESU, Hirotoshi SHIBATA, and Yamato SHINDOH

Waseda University, Japan

Direct Observations of Domain Reversal Process in LiNbO₃ Crystal Using the Phase-Sensitive SHG Microscope

30 min. Break

16:15-16:45

Invite24

Andrey ELSHIN¹, Kirill GRISHUNIN¹, Elena MISHINA¹, Alexander SIGOV¹, and Igor PRONIN²

¹Moscow Technological University – MIREA, Russia, ²Ioffe institute RAS, Russia

Crystallization of Ferroelectric Nanostructures by Multipulse Femtosecond Laser

16:45-17:00

Oral28

Toshio OGAWA and Taiki IKEGAYA

Department of Electrical and Electronic Engineering, Shizuoka Institute of Science and Technology, Japan

Elastic Constants in Piezoelectric Single Crystals and Ceramics Evaluated by Sound Velocities

17:00-17:15

Oral29

<u>Alexander VTYURIN</u>, Alexander KRYLOV, Vladimir VORONOV, Sergey GORYAINOV, Alexander ORESHONKOV, and Svetlana KRYLOVA

L.V.Kirensky Institute of physics SB RAS, Russia

Raman Scattering and Phase Transitions in Fluorides With Elpasolite Structure

17:15-17:30

Oral30

<u>Yasuhiro FUJII</u>¹, Daisuke KATAYAMA¹, Mitsuyoshi MORITA¹, Akitoshi KOREEDA¹, Hiroki TANIGUCHI², and Ichiro TERASAKI²

¹ Department of Physical Sciences, Ritsumeikan University, Japan, ²Department of Physics, Nagoya University, Japan Broadband Micro Light Scattering Investigation on Ferroelectric Phase Transition of NaVO₃ with Pyroxene Type One Dimensional Oxygen-tetrahedral chain structure

30 min. Break

Poster Presentations

22-Jun Morning Session

A-Multipurpose Hall 9:00-10:00

9:00-10:00

Plenary3

Peter M. GEHRING

National Institute of Standards and Technology, USA

Neutron Studies of Excitations in Relaxors: Current Understanding and Future Directions

30 min. Break

A-Multipurpose Hall 10:30-12:30: Inhomogeneous structures

10:30-11:00

Invite25

<u>Seiji KOJIMA</u>¹, Md. Mijanur RAHAMAN¹, Tadayuki IMAI², Tadashi SAKAMOTO², and Shinya TSUKADA³

¹Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan, ²NTT Corporation Device Innovation Center, Nippon Telegraph and Telephone Corporation, Japan, ³Faculty of Education, Shimane University, Japan

Relaxor ferroelectric phase transitions of K(Ta_{1-x}Nb_x)O₃ crystals :Inelastic Light Scattering Study

11:00-11:15

Oral31

<u>Vladimir V. SHVARTSMAN</u>¹, Jan DEC², Wolfgang KLEEMANN³, Sergei V. KALININ⁴, and Doru C. LUPASCU¹

¹Institute for Materials Science, University Duisburg-Essen, Germany, ²Institute of Materials Science, University of Silesia, Poland, ³Faculty of Physics, University Duisburg-Essen, Germany, ⁴Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, USA

Spatially Resolved Studies of Polarization Dynamics in Uniaxial Relaxors Sr_xBa_{1-x}Nb₂O₆

11:15-11:30

Oral32

Elena BUIXADERAS¹, Martin KEMPA¹, Christelle KADLEC¹, Petr ONDREJKOVIC¹, Jiri HLINKA¹, and Jan DEC²

¹Institute of Physics, Czech Academy of Sciences, Czech Republic, ²University of Silesia, Institute of Materials Sciences, Poland

Compositional dielectric behaviour and phonon dynamics in tetragonal tungsten-bronze Sr_xBa_{1-x}Nb₂O₆

11:30-11:45

Oral33

Alexei BOSAK¹ and Dmitry CHERNYSHOV²

¹European Synchrotron Radiation Facility, France, ²Swiss–Norwegian Beam Lines at ESRF, France

Disorder(s) in Sr_{0.6}Ba_{0.4}Nb₂O₆ as Seen in Diffuse Scattering

11:45-12:15

Invite26

Annette BUSSMANN-HOLDER

Max-Planck-Institute for Solid State Research, Germany

Relaxor ferroelectrics and intrinsic inhomogeneity

12:15-12:30

Oral34

Hiroyuki MASHIYAMA¹ and Hirotake SHIGEMATSU²

¹Yamaguchi University, Japan, ²Faculty of Education, Yamaguchi University, Japan

Phase Transitions and the quantum effect in A2BX4-type Ferroelectric Crystals

B-Small Hall 10:30-12:30: Sample preparation & techniques

10:30-11:00

Invite27

Marija DUNCE¹, Eriks BIRKS¹, Reinis IGNATANS¹, <u>Andris STERNBERG</u>¹, Heinz KABELKA², Armin FUITH²,

Jani PERÄNTIE³, Juha HAGBERG³, Maris KUNDZINSH¹, and Edgars NITISS¹

¹Institute of Solid State Physics, University of Latvia, Latvia, ²Institute of Experimental Physics of University of Vienna, Austria, ³Microelectronics and Materials Physics Laboratories, University of Oulu, Finland

Phase Transitions in (1-x)Na_{0.5}Bi_{0.5}TiO₃-xCaTiO₃ Solid Solutions

11:00-11:15

Oral35

<u>Piyaporn JAIMEEWONG</u>¹, Paitoon BOONSONG¹, Sukanda JIANSIRISOMBOON³, and Anucha WATCHARAPASORN^{1,2}

¹Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand, ²Materials Science Research Center, Faculty of Science, Chiang Mai University, Thailand, ³School of Ceramic Engineering, Suranaree University of Technology, Thailand

Enhanced Sinterability and Electrical Properties of Bi₂O₃-added Ba_{0.85}Ca_{0.15}Zr_{0.1}Ti_{0.9}O₃ Ceramics

11:15-11:30

Oral36

Boris M. DARINSKII and Alexandr S. SIDORKIN

Voronezh State University, Russia

Influence of Internal Electric and Elastic Fields on Characteristics of Ferroelectric Materials

11:30-11:45

Oral37

Krailas MATHRMOOL¹ and Theerachai BONGKARN¹,2,3

¹Department of Physics, Faculty of Science, Naresuan University, Thailand, ²Research Center for Academic Excellence in Applied Physics, Faculty of Science, Naresuan University, Thailand, ³Research Center for Academic Excellence in Petroleum, Petrochemicals and Advanced Materials, Faculty of Science, Naresuan University, Thailand

Effect of fuel content on properties of KNLNTS Ceramics Prepared by the Solid State Combustion Technique

11:45-12:00

Oral38

<u>Elena A. FORTALNOVA</u>^{1,2}, Ivan SMAGIN¹, Anna MITROFANOVA¹, Ekaterina D. POLITOVA², Marina G. SAFRONENKO¹, and Vladimir V. KURILKIN²

¹Peoples' Friendship University of Russia, Russia, ²L. Ya. Karpov Institute of Physical Chemistry, Russia

Synthesis and Investigation of RE(III) Cation Substituted SBN and SBT Ceramics

12:00-12:30

Invite28

Satoshi WADA, Kazuki FUKASAWA, Yuichi ENDO, Miki WATANABE, Shintaro UENO, Kouichi NAKASHIMA, and Nobuhiro KUMADA

Material Science and Technology, Interdisciplinary Graduate School of Medical and Engineering, University of Yamanashi, Japan

Preparation of New Barium Titanate-based Nano-complex Ceramics with High-density Heteroepitaxial Interfaces by Solvothermal Solidification Method and Their Dielectric and Piezoelectric Enhancement

22-Jun Afternoon Excursion & Banquet

23-Jun Morning Session

A-Multipurpose Hall 9:00-11:30: Local structure and dynamics

9:00-9:30

Invite29

Oleg E. KVYATKOVSKII and Sergey LUSHNIKOV

Ioffe Institute, Russia

Lattice Dynamics of Disordered Perovskites: Results of Experiments and Ab Initio Calculations

9:30-9:45

Oral39

Akira SAKAI¹, Genki ANZOU¹, Atsushi KIKUCHI², and Osami SERI²

¹Department of Information and Electronic Engineering, Muroran Institute of Technology, Japan, ²Department of Mechanical, Aerospace, and Materials Engineering, Muroran Institute of Technology, Japan

Raman Scattering Study of Microcrystals of Perovskite Titanate

9:45-10:00

Oral40

Alex BOGDANOV^{1, 2}, Andrew MYSOVSKY^{1, 2}, and Anna V. KIMMEL^{3, 4}

¹Irkutsk State Technical University, Russia, ²Vinogradov Institute of Geochemistry SB RAS, Russia, ³National Physical Laboratory, UK, ⁴Department of Physics and Astronomy, University College London, UK

Modelling of structure of Pb(Zr_{0.6}Ti_{0.4})O₃ using multiphase approach

10:00-10:30

Invite30

Shinya TSUKADA¹, Yasuhiro FUJII², Seiji KOJIMA³, and Yukikuni AKISHIGE¹

¹Faculty of Education, University of Shimane, Japan, ²College of Science and Engineering, Ritsumeikan University, Japan, ³Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan

Inhomogeneity in Perovskite Ferroelectrics Probed by Angle-Resolved Polarized Raman Scattering

10:30-10:45

Oral41

A. M. PUGACHEV, I. V. ZAYTSEVA, V. I. KOVALEVSKII, V.K.MALINOVSKY, N.V. SUROVTSEV, and Yu. M. BORZDOV

Institute of Automation and Electrometry RAS, Russia

Interrelation between residual stress and ferroelectric phase transition in pressure-treated BaTiO₃ powder probed by nonlinear and inelastic light scattering

10:45-11:00

Oral42

Marc D. FONTANA¹, Inès BEJAOUI^{1, 2}, Thomas KAUFFMANN¹, David CHAPRON¹, and Hassen AROUI²

¹Laboratoire Matériaux Optiques, Photonique et Systèmes, Université de Lorraine and CentraleSupélec, France, ² Laboratoire de Dynamique Moléculaire et Matériaux Photoniques, Ecole Nationale Supérieure des Ingénieurs de Tunis, Université de Tunis, Tunisia

Vibrational Structure of Ca-Doped Ferroelectric BaTiO₃ Crystals

11:00-11:15

Oral43

<u>Takuya HOSHINA</u>, Akira SAHASHI, Yuka MORIMOTO, Kazuki KANEHARA, Hiroaki TAKEDA, and Takaaki TSURUMI

Nano-Phononics Laboratory, Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan

Dielectric Property of Strontium Titanium Oxynitride Crystal

30 min. Break

B-Small Hall 9:00-11:30: Inhomogeneous structures & Phosphorous Chalcogenides

9:00-9:30

Invite31

Wolfgang KLEEMANN¹, Jan DEC², and Seweryn MIGA²

¹Angewandte Physik, Universität Duisburg-Essen, Germany, ²Institute of Materials Science, University of Silesia, Poland, **Superdipolar Glass Ground State of Relaxors**

9:30-9:45

Oral44

Jan DEC¹, Wolfgang KLEEMANN², and Seweryn MIGA¹

¹Institute of Materials Sciences, University of Silesia, Poland, ²Angewandte Physik, Universität Duisburg-Essen, Germany

 ${\bf Aging\ Effect\ in\ the\ PMN\ Canonical\ Relaxor\ System}$

9:45-10:00

Oral45

Alexei A. BOKOV¹, Dawei WANG², Zuo-Guang YE^{1,2}, Jiri HLINKA³, and Laurent BELLAICHE⁴

¹Department of Chemistry and 4D LABS, Simon Fraser University, Canada, ²Electronic Materials Research Laboratory and International Center for Dielectric Research, Xi'an Jiaotong University, China, ³Institute of Physics, Academy of Sciences of the Czech Rep., Czech Republic, ⁴Physics Department and Institute for Nanoscience and Engineering, University of Arkansas, USA

Dielectric Relaxation of Relaxor Ferroelectrics Derived from First Principles

10:00-10:30

Invite32

Makoto IWATA¹, Ryo NAGAHASHI¹, and Yoshihiro ISHIBASHI²

¹Department of Physical Science and Engineering, Nagoya Institute of Technology, Japan, ²Department of Applied Physics, Nagoya University, Japan

Linear and Nonlinear Permittivities in Pb(Zn_{1/3}Nb_{2/3})O₃-PbTiO₃

10:30-10:45

Oral46

Michail V. TALANOV and Larisa A. REZNICHENKO

Research Institute of Physics, Southern Federal University, Russia

The critical points on the E-T and x-T phase diagrams of multicomponent solid solutions based on relaxor ferroelectrics

10:45-11:00

Oral47

Nobuo NAKAJIMA, Cong LU, Chisato TEMBA, and Shuhei KAWAKAMI

Graduate School of Science, Hiroshima University, Japan

X-Ray Spectroscopic Study of the Electric Dipole Moment in Paraelectric SrTiO₃

11:00-11:15

Oral48

<u>Nikita A. ILYIN</u>¹, Kirill.A. GRISHUNIN¹, Kirill A. BREKHOV¹, Natalia E. SHERSTYUK¹, Elena D. MISHINA¹, Alexander S. SIGOV¹ and Alexey V. KIMEL^{1,2}

¹Moscow Technological University – MIREA, Russia, ²Radboud University Nijmegen, The Netherlands

Photoinduced dynamics and femtosecond excitation of phonon modes in ferroelectric semiconductor Sn₂P₂S₆

30 min. Break

A-Multipurpose Hall 12:00-13:30

11:45-12:45

Plenary4

Sergey VAKHRUSHEV

Ioffe Institute, Russia, Peter the Great St. Petersburg Polytechnical University, Russia,

Crystalline structure and diffuse scattering in cubic perovskite-like ferroelectrics and antiferroelectrics

Closing

20-Jun POSTER SESSION 1

Exhibition Hall 18:00-19:30

P-1. <u>Jan SUCHANICZ</u>¹, Dorota SITKO², Ewa NOGAS-ĆWIKIEL³, Bartosz HANDKE⁴, Piotr JELEN⁴, Piotr KLIMCZYK⁵, and Halina CZTERNASTEK²

¹Institute of Technology, Pedagogical University, Poland, ²Institute of Physics, Pedagogical University, Poland, ³Faculty of Computer Science and Materials Science, University of Silesia, Poland, Faculty of Materials Science and Ceramics, AGH-University of Science & Technology, Poland, ⁵Institute of Advanced Manufacturing Technology, Poland

Raman, Dielectric and Ferroelectric Properties of 0.975BaTiO₃-0.025Pb(Zn_{1/3}Nb_{2/3})O₃ Ceramic

P-2. Maria B.ZAPART¹, Wlodzimierz ZAPART¹, Radoslaw KOWALCZYK¹, and Miroslaw MACZKA²

¹Institute of Physics, Technical University of Czestochowa, Poland, Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Poland

Domain Structure and Birefringence in KSc(WO₄)₂

P-3. Narumon LERTCUMFU¹, Kamonpan PENGPAT^{1,2}, Sukum EITSSAYEAM^{1,2}, Tawee TUNKASIRI^{1,2}, and Gobwute RUJINAKUL^{1,2}

¹Department of Physics and Materials science, Faculty of Science, Chiang Mai University, Thailand, ²Materials Science Research Center, Faculty of Science, Chiang Mai University, Thailand

Electrical Properties of Sodium Potassium Niobate / Mullite Ceramic Composites

P-4. Norihiro OSHIME¹, Jun KANO^{1,2}, Naoshi IKEDA¹, Koji OSAKI¹, Takashi TERANISHI¹, Tasuku YOSHIDA¹, Tatsuo FUJII¹, Takeji UEDA¹, and Tomoko OHKUBO¹

¹Graduate School of Natural Science and Technology, Okayama University, Japan, ²Japan Science and Technology Agency, PRESTO, Japan

Defect and Substitution Effect on the Band Structure of BaTiO₃ Particles

P-5. <u>Yulian VYSOCHANSKII</u>¹, Ruslan YEVYCH¹, Vasyl HABORETS¹, Mykola MEDULYCH¹, Alexandr MOLNAR¹, Anton KOHUTYCH¹, Andrius DZIAUGYS², and Juras BANYS²

¹Uzhhorod National University, Ukraine, ²Vilnius University, Lithuania

Electronic Correlations And Ferroelectricity In Phosphorous Chalcogenides

P-6. Vasyl SHVALYA^{1,2}, <u>Alberto OLEAGA</u>¹, Agustin SALAZAR¹, Anton A. KOHUTYCH², and Yulian M. VYSOCHANSKII²

¹Departamento de Física Aplicada I, Escuela Técnica Superior de Ingeniería, Universidad del País Vasco, Spain, ²Institute for Solid State Physics and Chemistry, Uzhgorod University, Ukraine

Thermal Characterization and Critical Behavior Study of $(PbxSn_{1-x})_2P_2Se_6$

P-7. Vasyl SHVALYA^{1,2}, <u>Alberto OLEAGA</u>¹, Agustin SALAZAR¹, Anton A. KOHUTYCH², and Yulian M. VYSOCHANSKII²

¹Departamento de Física Aplicada I, Escuela Técnica Superior de Ingeniería, Universidad del País Vasco, Spain, ²Institute for Solid State Physics and Chemistry, Uzhgorod University, Ukraine

Doping Effects on the Thermal Properties of Sn₂P₂S₆ Ferroelectrics

P-8. Victor SOPRUNYUK¹, Marius REINECKER¹, <u>Wlodzimierz ZAPART</u>², Maria B. ZAPART², and Wilfried SCHRANZ¹

¹University of Vienna, Faculty of Physics, Austria, ²Institute of Physics, Technical University of Częstochowa, Poland **Low-Frequency Elastic Properties of KSc(MoO₄)**₂

P-9. Alexander ESIN^{1,2}, Andrei AKHMATKHANOV^{1,2}, Vladimir SHUR^{1,2}, and Ivan BATURIN^{1,2}

¹Ural Federal University, Russia, ²Labfer Ltd. Russia

The Giant Conduction Current along the Charged Domain Walls during Polarization Reversal in Lithium

P-10. <u>Alexander SIGOV</u>, Yury PODGORNY, Konstantin VOROTILOV, and Pavel LAVROV Moscow Technological University (MIREA), Russia

Leakage Currents in Porous PZT Films

P-11. Hoai T. NGUYEN, <u>Alexandr S. SIDORKIN</u>, Svetlana D. MILOVIDOVA, and Olga V. ROGAZINSKAYA Voronezh State University, Universitysq., Russia

Electrophysical Properties of Matrix Composites Nanocrystalline Cellulose - Triglycine Sulfate

P-12. <u>Alexandra IVANOVA</u>¹, Olga MALYSHKINA¹, Maksim SHASHKOV¹, and Jan DEC²

Tver State University, Russia, ²University of Silesia, Institute of Materials Science, Poland

Effect of Ca, Sr and Ba distribution on the relaxor properties of CSBN single crystals

P-13. <u>Andrei AKHMATKHANOV</u>¹, Ekaterina VASKINA¹, Elena PELEGOVA¹, Maria CHUVAKOVA¹, Maxim BUNTOV¹, Vladimir SHUR¹, and Oksana KIZKO²

¹Institute of Natural Sciences, Ural Federal University, Russia, ²Crystals of Siberia Ltd., Russia

Domain Structure Evolution in KTP Crystals

P-14. <u>Andrius DZIAUGYS</u>¹, Marius CHYASNAVICHYUS², Feng YE³, Bryan CHAKOUMAKOS³, Juras BANYS¹, Yulian VYSOCHANSKII⁴, and Petro MAKSYMOVYCH²

¹Faculty of Physics, Vilnius University, Lithuania, ²The Institute for Functional Imaging of Materials and the Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, United States, ³Neutron Scattering Science Division, Oak Ridge National Laboratory, USA, ⁴Institute of Solid State Physics and Chemistry, Uzhgorod University, Ukraine

Ferrielectric ordering and domain structure in CuInP₂Se₆ layered crystal

P-15. <u>Anton TURYGIN</u>, Denis ALIKIN, Yuri ALIKIN, and Vladimir SHUR Institute of Natural Sciences, Ural Federal University, Russia

Switching by the Grounded Tip and Local Charge Injection on the Non-polar Cuts of Lithium Niobate Crystal

P-16. Anton TURYGIN¹, Denis ALIKIN¹, Dmitriy ZAYATS¹, Jitka HREŠČAK², Julian WALKER³, Andrea BENCAN², Barbara MALIC², Vladimir SHUR¹, and Andrei KHOLKIN^{1,4}

¹Institute of Natural Sciences, Ural Federal University, Russia, ²Electronic Ceramics Department, Jožef Stefan Institute, Slovenia, ³Materials Research Institute, Pennsylvania State University, United States, ⁴Physics Department & CICECO – Materials Institute of Aveiro, Portugal

Analysis of Domain Structure and Local Polarization Reversal Properties of Sr-doped $K_{0.5}Na_{0.5}NbO_3$ Lead-free Piezoelectric Ceramics

P-17. <u>Dmitry CHEZGANOV</u>^{1,2}, Lubov GIMADEEVA¹, Evgenii VLASOV¹, Vsevolod KVASHNIN¹, Elizaveta KOLCHINA¹, Maxim NERADOVSKIY^{1,3}, Andrey AKHMATKHANOV^{1,2}, Maria CHUVAKOVA¹, Denis ALIKIN¹, Herve TRONCHE³, Florent DOUTRE³, Pascal BALDI³, Marc De MICHELI³, and Vladimir Ya. SHUR^{1,2}

¹Institute of Natural Sciences, Ural Federal University, Russia, ²Labfer Ltd., Russia, ³Laboratoire de Physique de la Matière Condensée UMR, University of Nice Sophia Antipolis, France

Investigation of Second Harmonic Generation Process of SPE Waveguides on Periodical Domains Written by Electron Beam in Lithium Niobate Single Crystals

P-18. <u>Ekaterina A. MIKHALEVA</u>¹, Igor N. FLEROV¹, Andrey V. KARTASHEV¹, Mikhail V. GOREV¹, Evgeniy V. BOGDANOV¹, Vitaly S. BONDAREV¹, Leonid N. KOROTKOV², I.I. DOTSENKO², and Ewa RYSIAKIEWICZ-PASEK³

¹Kirensky Institute of Physics, Siberian Department of RAS, Russia, ²Voronezh State Technical University, Russia, ³Institute of Physics, Wroclaw University of Technology, Poland

Effect of a restricted geometry on thermal and dielectric properties of NH₄HSO₄ ferroelectric

P-19. Ghulam SHABBIR

PINSTECH, Pakistan

Field-induced ac-response of (111), (110) and (001) plane 0.67Pb(Mg_{1/3}Nb_{2/3})O₃-0.33PbTiO₃ crystals

P-20. Md Al HELAL and Seiji KOJIMA

Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan

Brillouin Scattering and Elastic Constants of Relaxor Ferroelectric $0.44Pb(Mg_{1/3}Nb_{2/3})O_3$ - $0.56PbTiO_3$ Single Crystals

P-21. Hiroki TANIGUCHI^{1,2}, Chikako MORIYOSHI³, Yoshihiro KUROIWA³, Akihide KUWABARA⁴, Masaichiro

MIZUMAKI⁵, Kiyofumi NITTA⁵, and Ichiro TERASAKI¹

¹Department of Physics, Nagoya University, Japan, ²Materials Research Center for Elemental Strategy, Tokyo Institute of Technology, Japan, ³Department of Physical Science, Hiroshima University, Japan, ⁴Nanostructures Research Laboratory, Japan Fine Ceramics Center, Japan, ⁵Japan Synchrotron Radiation Research Institute, SPring-8, Japan

Effects of Heterovalent Pb-Substitution on Ferroelectric Bismuth Silicate Bi₂SiO₅

P-22. <u>Maria CHUVAKOVA</u>, Andrei AKHMATKHANOV, Ekaterina VASKINA, Ivan BATURIN, and Vladimir SHUR Institute of Natural Sciences, Ural Federal University, Russia

Polarization Reversal Process in Single Crystals of Lithium Tantalate with Intermediate Composition

P-23. <u>Maxim NERADOVSKIY</u>^{1,2}, Dmitri KUZNETSOV¹, Lubov GIMADEEVA¹, Denis ALIKIN¹, Vladimir Ya. SHUR^{1,2}, Herve TRONCHE², Pascal BALDI², and Marc P. De MICHELI²

¹Institute of Natural Sciences, Ural Federal University, Russia, ²Laboratoire de Physique de la Matière Condensée, University of Nice-Sophia Antipolis, France

Nanodomains Formation during the Fabrication of Waveguides by Different PE Methods

P-24. Md AFTABUZZAMAN, and Seiji KOJIMA

Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan

 $\label{eq:memory} \begin{tabular}{lll} Memory & Effects & of & Relaxor & Ferroelectric & 0.70Pb(Mg_{1/3}Nb_{2/3})O_3-0.30PbTiO_3 & Single & Crystals & Studied & by Dielectric & Spectroscopy & Spectro$

P-25. <u>Pavel ZELENOVSKIY</u>, Daria VASILEVA, Semen VASILEV, Alla NURAEVA, Vladimir Ya. SHUR, and Andrei L. KHOLKIN

Institute of Natural Sciences, Ural Federal University, Russia

Neutral and Charged Domain Walls in Organic Ferroelectric β-Glycine Microcrystals

P-26. <u>Victoria PRYAKHINA</u>, Denis ALIKIN, Ilya PALITSIN, Stanislav NEGASHEV, and Vladimir SHUR Institute of Natural Sciences, Ural Federal University, Russia

Polarization Reversal in the Interior of LiNbO₃ and LiTaO₃ Crystals with Modified Conductivity

P-27. Sergey Vasil'evich PAVLOV

Moscow State University, Russia

Classification of phenomenological models of phase transitions using the equivariant catastrophe theory (two-component order parameter)

P-28. Yuuki KITANAKA, Yuji NOGUCHI, and Masaru MIYAYAMA

The University of Tokyo, Japan

Theoretical Calculations of Structural Coupling between Polarization and Octahedral Tilting in $(Bi_{1/2}Na_{1/2})TiO_3$ -Based Ferrielectrics

P-29. Ekaterina BARABANOVA, Olga V. MALYSHKINA, and Galina M. AKBAEVA

Tver State University, Russia

Structural features of ceramics based on PZT

P-30. <u>Hirofumi TSUKASAKI</u>¹, Eri TANAKA¹, Kosuke KURUSHIMA², Shogo KAWAGUCHI³, Yui ISHII¹, and Shigeo MORI¹

¹Department of Materials Science, Osaka Prefecture University, Japan, ²Toray Research Center, Japan, ³Japan Synchrotron Radiation Research Institute, Japan

Microstructures in the ferroelectric phase of SrAl₂O₄

P-31. <u>Hirotake SHIGEMATSU</u>¹, Shinya KANEYASU¹, Atsuko UCHIDA², Hitoshi KAWAJI², Hironobu KASANO³, and Hiroyuki MASHIYAMA⁴

¹Faculty of Education, Yamaguchi University, Japan, ²Materials and Structures Laboratory, Tokyo Institute of Technology, Japan, ³Department of Physics, Faculty of Science, Yamaguchi University, Japan, ⁴Yamaguchi University, Japan

Heat Capacity, X-Ray Scattering and Neutron Scattering Studies in Rb₂MoO₄ and Successive Phase Transition in A₂BO₄-type Crystals

P-32. <u>Iurii A. BRONWALD</u>, Daria ANDRONIKOVA, Roman G.BURKOVSKY, Dmitry CHERNYSHOV, Sergey B. VAKHRUSHEV

Ioffe Phys.- Tech. Institute, Russia

Anisotropy of Diffuse Scattering in PZT54 Single crystal

P-33. Akira ONODERA and Masaki TAKESADA

Department of Physics, Faculty of Science, Hokkaido University, Japan

Structural Aspects in A-site Ordered Perovskite CaCu₃Ti₄O₁₂: Colossal Dielectric Behavior and Ca/Cu Disordering

P-34. Keita IKUJI¹, Yong Jie TENG², and Tadashi KURIHAMA¹

¹Department of Electrical and Electronic Engineering, Graduate School of Engineering, Chubu University, Japan, ²TakasagoElectric, Inc., Japan

Thermal Analysis and X-Ray Structural Studies on Phase Transitions in (NH₄)₃Na(SO₄)₂

P-35. Masahiro MATSUI¹, Yong Jie TENG², and Tadashi KURIHAMA¹

¹Department of Electrical and Electronic Engineering, Graduate School of Engineering, Chubu University, Japan, ²TakasagoElectric, Inc., Japan

DSC and Single-Crystal X-Ray Structural Studies on Phase Transitions in RbNaSO₄

P-36. Rattiphorn SUMANG¹, Pinit KIDKHUNTHOD², Rattikorn YIMNIRUN³, and Theerachai BONGKARN^{4,5}

¹Program of Physics, Faculty of Science and Technology, Pibulsongkram Rajabhat University, Thailand, ²Synchrotron Light Research Institute (Public Organization), Thailand, ³School of Physics, Institute of Science, Suranaree University of Technology, and Synchrotron Light Research Institute, Thailand, ⁴Department of Physics, Faculty of Science, Naresuan University, Thailand, ⁵Research Center for Academic Excellence in Applied Physics, Faculty of Science, Naresuan University, Thailand

Structure refinement and optical properties of microcrystalline [Ba_{1-x}Y_{2x/3}](Zr_{0.20}Ti_{0.80})O₃ perovskite

P-37. <u>Shoichi TAKEDA</u>¹, Chikako MORIYOSHI¹, Yoshihiro KUROIWA¹, Atsushi HONDA², Noriyuki INOUE², Shin'ichi HIGAI², and Akira ANDO²

¹Department of Physical Science, Hiroshima University, Japan, ²Murata Manufacturing Co., Ltd., Japan

Off-centered Rare-earth Ion at A-site in BaTiO₃-based Electroceramics

P-38. Yong Jie TENG¹, Tsukasa MIZUTANI², Eiko MATSUSHITA³, and <u>Tadashi KURIHAMA</u>²

¹Takasago Electric, Inc., Japan, ²Department of Electrical and Electronic Engineering, Graduate School of Engineering, Chubu University, Japan, ³College of Engineering, Gifu University, Japan

Phase Transitions in NH₄LiSO₄ and (NH₄)₃Li(SO₄)₂

P-39. Yuki NAKAHIRA¹, Chikako MORIYOSHI¹, Yoshihiro KUROIWA¹, Yui ISHII², and Shigeo MORI²

Department of Physical Science, Graduate School of Science, Hiroshima University, Japan, ²Department of MaterialsScience, Osaka PrefectureUniversity, Japan

Structural Fluctuation and Ferroelectric Phase Transition in Stuffed Tridymite-type Oxide BaAl₂O₄

P-40. <u>Hiroki MORIWAKE</u>¹, Ayako KONISHI¹, Takafumi OGAWA¹, Craig A. J. FISHER¹, Akihide KUWABARA¹, and Desheng FU²

¹Nanostructures Research Laboratory, Japan Fine Ceramics Center, Japan, ²Department of Electronics & Materials Sciences, Shizuoka University, Japan

The origin of weak Ferroelectricity in room temperature phase AgNbO₃

P-41. <u>Akitoshi KOREEDA</u>¹, Tomohiro OGAWA¹, Daisuke KATAYAMA¹, Yasuhiro FUJII¹, and Makoto TACHIBANA²

¹Ritsumeikan University, Japan, ²National Institute for Materials Science (NIMS), Japan

Broadband Light-scattering Study on Fractal and Non-Fractal Relaxors

P-42. Ruta MACKEVICIUTE¹, Sarunas BAGDZEVICIUS¹, Robertas GRIGALAITIS¹, Juras BANYS¹, Muhammad BOOTA², Anirban GHOSH², and Guus RIJNDERS²

¹Vilnius University, Faculty of Physics, Lithuania, ²University of Twente, Faculty of Science & Technology, The Netherlands

Electrical properties of PMN-33PT thin film at MPB

P-43. <u>Seiji KOJIMA</u> 1 , Junta ZUSHI 1 , Takuma ARIIZUMI 1 , Ryu OHTA 1 , Shinya TSUKADA 2 , and Yukikuni AKISHIGE 2

¹Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan, ²Faculty of Education, Shimane University, Japan

Inelastic Light Scattering of Sr₂(Nb_{1-x}Ta_x)₂O₇ Crystals at High Temperatures

P-44. Shunsuke SUZUKI¹, Toru MOGAMI¹ <u>Yuhji TSUJIMI</u>¹, Makoto IWATA²

¹R.I.E.S. Hokkaido University, Japan, ²Nagoya Institute of Technology, Japan **Soft-mode Behavior in Lanthanide-modified Bismuth Titanates**

P-45. Sota ONO¹, Akihiko SANO¹, Nobuo NAKAJIMA¹, Jun-ichi ADACHI², Yasuhiro NIWA², and Shintaro YASUI³

Grad. Sch. of Sci., Hiroshima Univ., Japan ²KEK-PF, Japan ³MSL, Tokyo Tech., Japan

Floatric Field Begnenge of Berlin, Film studied by Time Begelved V. Bey Absorption Spectroscopy

 $Electric\ Field\ Response\ of\ BaTiO_3\ Film\ studied\ by\ Time-Resolved\ X-Ray\ Absorption\ Spectroscopy$

P-46. <u>Kenji OHWADA</u>¹, Daisuke SHIMIZU², Jun'ichiro MIZUKI², Kazumichi NAMIKAWA³

¹Japan Atomic Energy Agency, Japan, ²Kwansei Gakuin University, Japan, ³Tokyo Gakugei University, Japan **Domain/heterophase fluctuations in the relaxor ferroelectrics studied by coherent x-ray diffraction**

21-Jun POSTER SESSION 2

Exhibition Hall 18:00-19:30

P-47. <u>Hiroshi TAKASHIMA</u>¹, and Mitsuru ITOH²

¹National Institute of Advanced Industrial Science and Technology, Japan, ²Tokyo Institute of Technology, Japan Thin film perovskite electroluminescence with BaTiO₃ films as insulating layers

P-48. Selami PALAZ, Sevket SIMSEK, <u>Amirullah M. MAMEDOV</u>, and Ekmel OZBAY

International Scientific Center, Baku State University, Azerbaijan, Nanotechnology Research Center, Bilkent University, Turkey

Fibonacci Sequences Quasiperiodic A⁵B⁶C⁷ Ferroelectric Based Photonic Crystals: FDTD analysis

P-49. Husni KOC, Selami PALAZ, Amirullah M. MAMEDOV, and Ekmel OZBAY

Nanotechnology Research Center (NANOTAM), Bilkent University, Turkey, International Scientific Center, Baku State University, Azerbaijan

Optical, Electronic and Elastic Properties of Some $A^5B^6C^7$ Ferroelectrics (A=Sb, Bi; B=S, Se; C=I, Br, Cl): first principle calculation

P-50. <u>Arkadiy N. SOLOVYEV</u>, Alexander S. SKALIUKH, Pavel A. OGANESYAN, Le Van DUONG, and Evgenia KIRILLOVA

Don State Technical University, Russia

Non-Homogeneously Polarized Piezo Device Performance Analysis Using Applied Theory and ACELAN Package

P-51. <u>Marija DUNCE</u>¹, Eriks BIRKS¹, Reinis IGNATANS¹, Maija ANTONOVA¹, Andris STERNBERG¹, Jani PERÄNTIE², and Juha HAGBERG²

¹Institute of Solid State Physics, University of Latvia, Latvia, ²Microelectronics and Materials Physics Laboratories, University of Oulu, Finland

Nature of Dielectric Polarization and Electrocaloric Effect in Poled and Depoled Na_{0.5}Bi_{0.5}TiO₃

P-52. <u>Tasuku YOSHIDA</u>¹, Jun KANO^{1,2}, Norihiro OSHIME¹, Satoshi HINOKUMA^{2,3}, Yusuke TAMENORI⁴, Kazuo KATO⁴, Kiyofumi NITTA⁴, Masaichiro MIZUMAKI⁴, Naoshi IKEDA¹, Tatsuo FUJII¹, Tomoko OKUBO¹, and Takeji UEDA¹

¹Graduate School of Natural Science and Technology, Okayama University, Japan, ²Japan Science and Technology Agency, PRESTO, Japan, ³Graduate School of Science and Technology, Kumamoto University, Japan, ⁴Japan Synchrotron Radiation Research Institute, Japan

Valence Anomaly of Palladium Oxide Particles on BaTiO₃

P-53. Zhonghua DAI

¹College of Mechanics and Materials, Hohai University, China, ²National Institute for Materials Science, Ferroic physics Group, Japan

Electrical properties of zirconium-modified BiScO₃- PbTiO₃ piezoelectric ceramics

P-54. Chatchai KRUEA-IN¹, Pharatree JAITA^{2,3}, and Gobwute RUJIJANAJUL²

¹Faculty of Science and Technology, Chiang Mai Rajabhat University, Thailand, ² Department of Physics, Faculty of Science, Chiang Mai University, Thailand, ³Science and Technology Research Institute, Chiang Mai University, Thailand

Structure and Electrical Properties of Alumina Nanoparticles Modified-PZT Based Ceramics

P-55. <u>Chun WANG</u>¹, Keisuke OSHIMA¹, Takaaki INABA¹, Huaping SONG¹, Yuta WATABE¹, Qi ZHANG¹, Tomoko NAGATA¹, Takuya HASHIMOTO², Kouichi TAKASE¹, Hiroshi YAMAMOTO¹, and Nobuyuki IWATA¹

¹College of Science and Technology, Nihon University, Japan, ²College of Humanities and Sciences, Nihon University, Japan

Preparation and Evaluation of BiFeO₃ Thin Films using Bi excess $Bi_{1+\delta}FeO_x$ Target Synthesized by Pechini Method

P-56. <u>Takao SHIMIZU</u>¹, Kiliha KATAYAMA², Takanori KIGUCHI³, Akihiro AKAMA³, Toyohiko J. KONNO³, Osami SAKATA⁴, and Hiroshi FUNAKUBO^{1,2}

¹Materials Research Center for Element Strategy, Tokyo Institute of Technology, Japan, ²Department of Innovative and

Engineered Materials, Tokyo Institute of Technology, Japan, ³Institute for Materials Research, Tohoku University, Japan, ⁴Synchrotron X-ray Station at SPring-8 and Synchrotron X-ray Group, National Institute for Materials Science, Japan

Preparation of fluorite-structured ferroelectric thin films and their characterization

P-57. <u>Ekaterina A. STRIKINA</u>, Alexander N. VTYURIN, Aleksander S. KRYLOV, and Aleksander S. ORESHONKOV Kirensky Institute of Physics, Russia

Determination of Gruneisen Parameters in δ-BiB₃O₆ crystal

P-58. Fumihito SHIKANAI, Shinya TSUKADA, and Yukikuni AKISHIGE

Faculty of Education, Shimane University, Japan

Single-Crystal Growth of β -Tb₂(MoO₄)₃ and its Evaluation

P-59. <u>Hiroyuki KOBAYASHI</u>^{1,2}, Kosuke FUJIWARA¹, Tomoyuki KARASUDANI³, Masahiro SAKAI⁴, Naoya KOBAYASHI², Naoshi IKEDA^{1, 2}, and Osami SERI⁴

¹Graduate school of Natural Science and Technology, Okayama University, Japan, ²Green Ferrite Technology Research Association, Japan, ³Faculty of Science, Okayama University, Japan, ⁴Department of Mechanical Systems Engineering, Muroran Institute of Technology, Japan

Ferroelectric and Magnetic properties for nano particles of multiferroic YbFe₂O₄

P-60. Hiroyuki SAITOH¹, Daisuke MORI², and Yoshiyuki INAGUMA²

¹Quantum Beam Science Directorate, Japan Atomic Energy Agency, Japan, ²Department of Chemistry, Faculty of Science, Gakushuin University, Japan

High-pressure Synthesis of Novel Ferroelectrics with the Aid of In-situ Synchrotron Radiation X-ray Diffraction Measurement

P-61. Lalita TAWEE¹, <u>Ratabongkot SANJOOM</u>¹, Pharatree JAITA^{1,2}, Kamonpan PENGPAT^{1,3}, Sukun EITSSAYEAM^{1,3}, Tawee TUNKASIRI^{1,2,3}, and Gobwute RUJIJANAJUL¹

¹Department of Physics, Faculty of Science, Chiang Mai University, Thailand, ²Science and Technology Research Institute, Chiang Mai University, Thailand, ³Materials Science Research Center, Faculty of Science, Chiang Mai University, Thailand

Dielectric Properties of Ba_{1-x}Sr_x(Fe_{0.5}Ta_{0.5})O₃ Giant Dielectric Ceramics

P-62. Lalita TAWEE¹, <u>Ratabongkot SANJOOM</u>¹, Pharatree JAITA^{1,2}, Gobwute RUJIJANAGUL^{1,2}, and Steven J. MILE³

¹Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand, ²Science and Technology Research Institute, Chiang Mai University, Thailand, ³Institute for Materials Research, University of Leeds, United Kingdom

High Dielectric Constants Observed in BZT-SFN Ceramics

P-63. Manlika KAMNOY¹, Piewpan PARJANSRI², Uraiwan INTATHA³, and Sukum EITSSAYEAM¹

¹Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand

²Physics Division, Faculty of Science and Technology Rajamangala University of Technology, Thailand, ³School of Science, Mae Fah Luang University, Thailand

Effects of BaTiO₃ Doped on Structural and Dielectric Properties of Bi_{0.5}(Na_{0.80}K_{0.20})_{0.5}TiO₃ Ceramic

P-64. Maxim V. SILIBIN, Dmitry V. KARPINSKY, and Igor O. TROYANCHUK

National Research University of Electronic Technology "MIET", Russia

Evolution of crystal structure and physical properties of $Bi_{1-x}Pr_xFeO_3$ ceramics across the rhombohedral-orthorhombic phase boundary

P-65. <u>Pichitchai BUTNOI</u>¹, Supalak MANOTHAM¹, Pharatree JAITA^{1,2}, Kamonpan PENGPAT^{1,3}, and Gobwute RUJIJANAGUL^{1,3}

¹Department of Physics, Faculty of Science, Chiang Mai University, Thailand, ²Science and Technology Research Institute, Chiang Mai University, Thailand, ³Materials science research center Faculty of Science, Chiang Mai University, Thailand

Effects of processing parameter on Phase transition and electrical properties of lead-free $(Bi_{0.5}Na_{0.80}K_{0.20})_{0.5}TiO_3$ piezoelectric ceramics

P-66. Piewpan PARJANSRI^{1,2} and Sukum EITSSAYEAM²

¹Physics Division, Faculty of Science and Technology, Rajamangala University of Technology Krungthep, Thailand, ²Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand

Electrical Properties of Ba_{0.85}Ca_{0.15}Zr_{0.10}Ti_{0.90}O₃ Ceramics Prepared by Seed-Induced Method

P-67. Pratthana INTAWIN¹, Kamonpan PENGPAT¹, and Wilaiwan LEENAKUL²

¹Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand, ²Divisions of Industrial Materials Science, Faculty of Science and Technology, Rajamangala University of Technology Phra Nakorn, Thailand

Fabrication and properties of Transparent barium titanate glass ceramic nanocomposites

P-68. <u>Ratabongkot SANJOOM</u>¹, Pharatree JAITA^{1,2}, Tawee TUNKASIRI^{1,2}, Denis SWEATMAN^{1,2}, and Gobwute RUJIJANAGUL^{1,2}

¹Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand, ²Science and Technology Research Institute, Chiang Mai University, Thailand

Effects of heating rate on Electrical Properties of modified BNKT based ceramics

P-69. Supalak MANOTHAM¹, Pharatree JAITA^{1,2}, Tawee TUNKASIRI¹, and Gobwute RUJIJANAJUL¹

¹Department of Physics, Faculty of Science, Chiang Mai University, Thailand, ²Science and Technology Research Institute, Chiang Mai University, Thailand

Effects of B₂O₃ doped on Structure and Properties of Lead-Free (Bi_{0.5}Na_{0.5})_{0.94}Ba_{0.06}TiO₃ Ceramics

P-70. <u>Tomoyuki KARASUDANI</u>¹, Kosuke FUJIWARA², Tatsuo FUJII², Kazuhiro TODORI³, Norihiro OSHIME², Yoichi HORIBE⁴, Hiroyuki KOBAYASHI², Mamoru FUKUNAGA², Jun KANO^{2,5}, and Naoshi IKEDA²

¹Faculty of Science Okayama University, Japan, ²Graduate school of Natural Science and Technology Okayama University, Japan, ³Faculty of Engineering Okayama University, Japan, ⁴Faculty of Engineering Kyushu Institute of Technology, Japan, ⁵JST-PREST, Japan

Dielectric and magnetic properties of Mn doped YbFe₂O₄(YbFeO₃)_n, n=1 single crystal

P-71. Prattana INTWIN¹, Wilaiwan LEENAKUL², and Kamonpan PENGPAT¹

¹Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Thailand, ²Faculty of Science, Rajamangala University of Technology Phra Nakorn, Thailand

Structural and Magnetic Properties of Glass-ceramic Nanocomposites Containing Ni_{0.8}Zn_{0.2}Fe₂O₄

P-72. <u>Yuta ISHII</u>¹, Makoto MITARASHI¹, Terutoshi SAKAKURA¹, Satoru HORIO¹, Yukio NODA¹, Hiroyuki KIMURA¹, Takashi HONDA², Hironori NAKAO², and Yochi MURAKAMI²

¹IMRAM, Tohoku University, Japan, ²KEK, Japan

Resonant soft and hard X-ray scattering study of multiferroic SmMn₂O₅

P-73. Tatsuya MORI, Tomohiko SHIBATA, and Seiji KOJIMA

Division of Materials Science, University of Tsukuba, Japan

Terahertz Dynamics of Pharmaceutical Indomethacin: Boson Peak Detection Using Terahertz Time-Domain Spectroscopy

P-74. <u>Alla NURAEVA</u>¹, Semen VASILEV¹, Daria VASILEVA¹, Pavel ZELENOVSKIY¹, Alexsander ESIN¹, Dmitriy CHEZGANOV¹, Vladimir Ya. SHUR¹, and Andrey L. KHOLKIN^{1,2}

¹Institute of Natural Sciences, Ural Federal University, Russia, ²Department of Materials and Ceramic Engineering & CICECO, University of Aveiro, Portugal

Piezoelectric and Pyroelectric Properties of Diphenylalanine Microcrystals

P-75. Seonhyeop SHIN¹, Min-Seok JEONG¹, <u>Jae-Hyeon KO</u>¹, Young Ho KO², and Kwang Joo KIM²

¹Department of Physics, Hallym University, Korea, ²4-2-2, Agency for Defense Development, South Korea

Equation of State of Methanol-ethanol Mixture determined by High-Pressure Brillouin Spectroscopy

P-76. Min-Seok JEONG¹, Seonhyeop SHIN¹, <u>Jae-Hyeon KO</u>¹, Seiji KOJIMA², Alexei A. BOKOV³, Yujuan XIE³, and Zuo-Guang YE³

¹Department of Physics, Hallym University, Korea, ²Division of Materials Science, University of Tsukuba, Japan, ³Department of Chemistry and 4D LABS, Simon Fraser University, Canada

Acoustic Phonon Behaviors of PbZr_{1-x}Ti_xO₃ Single Crystals Studied by Brillouin Spectroscopy

P-77. <u>Jaroslavas BELOVICKIS</u>¹, Vytautas SAMULIONIS¹, Jūras BANYS¹, Maxim SILIBIN², Alexander SOLNYSHKIN^{2,3}, and Artem SYSA²

¹Faculty of Physics, Vilnius University, Lithuania, ²National Research University of Electronic Technology, Russia, ³Tver State University, Russia

Effect of Thermal Cycling On Ferroelectric Phase Transition Of PVDF-TrFe Based Composites As Investigated By Ultrasonic Spectroscopy

P-78. <u>Alexandr ERSHOV</u>, Aleksandr ORESHONKOV, Alexander KRYLOV, Nikolay SHESTAKOV, and Aleksandr VTYURIN

Kirensky Institute of Physics, Russia

Vibrational spectra of PrF₃ crystals

P-79. <u>Alexander S. SIGOV</u>¹, Gennady A. KOMANDIN², Oleg E. PORODINKOV², Igor E. SPEKTOR², and Dmitry S. SEREGIN¹

¹Department of Electronics, MIREA, Russia, ²Department of Submillimeter Spectroscopy, GPI RAS, Russia

Terahertz-Infrared Dielectric Response of the CaPbTiO₃ Solid Solution

P-80. <u>Alexander SIGOV</u>¹, Gennady KOMANDIN², Oleg PORODINKOV², Igor SPEKTOR², Alexander VOLKOV², Konstantin VOROTILOV¹, and Dmitry SEREGIN¹

¹Moscow Technological University (MIREA), Russia, ²Department of Submillimeter Spectroscopy, GPI RAS, Russia Terahertz-Infrared Properties of Porous PZT-Films Deposited on Platinized Silicon

P-81. Cong LU, Nobuo NAKAJIMA, Shuhei KAWAKAMI, Chisato TEMBA, Sota ONO, and Hiroshi MARUYAMA Graduate School of Science, Hiroshima University, Japan

Observation of the Flexoelectric Origin of a SrTiO₃ Single Crystal by X-ray Absorption and Resonant X-ray Emission Spectroscopies

P-82. <u>Džiugas JABLONSKAS</u>, Maksim IVANOV, Robertas GRIGALAITIS, and Jūras BANYS Vilnius University, Faculty of Physics, Lithuania

Implementation of an improved non-linear susceptometer

P-83. Rūta MACKEVIČIŪTĖ¹, <u>Robertas GRIGALAITIS</u>¹, Šarūnas BAGDZEVIČIUS¹, Maksim IVANOV¹, Barbara FRAYGOLA², Nava Setter², and Jūras BANYS¹

¹Vilnius University, Faculty of Physics, Lithuania, ²Ceramics Laboratory, Swiss Federal Institute of Technology (EPFL), Switzerland

Electrical conductivity studies in partially strained epitaxial thin Ba_{0.7}Sr_{0.3}TiO₃ films

P-84. Sarunas SVIRSKAS¹, Maksim IVANOV¹, Juras BANYS¹, Md Al HELAL², Tatsuya MORI², and Seiji KOJIMA²

¹Faculty of Physics, Vilnius University, Lithuania, ²Division of Materials Science, University of Tsukuba, Japan

Broadband Dielectric Spectroscopy of 0.83Pb(Mg_{1/3}Nb_{2/3})O₃-0.17PbTiO₃ Single Crystal

P-85. <u>Sarunas SVIRSKAS</u>¹, Juras BANYS¹, Marija DUNCE², Eriks BIRKS², and Andris STERNBERG²

¹Faculty of Physics, Vilnius University, Lithuania, ²Institute of Solid State Physics, University of Latvia, Latvia **Dielectric, Infrared and Raman Studies of Lead-Free** *x*Na_{0.5}Bi_{0.5}TiO₃-(1-*x*)Sr_{0.7}Bi_{0.2}TiO₃ Solid Solutions

P-86. <u>Ilona ZAMARAITE</u>¹, Andrius DZIAUGYS¹, Juras BANYS¹, and Yulian VYSOCHANSKII²

¹Faculty of Physics, Vilnius University, Lithuania, ²Institute of Solid State Physics and Chemistry of Uzhgorod University, Ukraine

Influence of Se and Pb on dielectric and ferroelectric properties of Sn₂P₂S₆ crystals

P-87. <u>Sergejus BALČIŪNAS</u>¹, Maksim IVANOV¹, Jūras BANYS¹, and Satoshi WADA²

¹Faculty of Physics, Vilnius University, Lithuania, ²Interdisciplinary Graduate School of Medical and Engineering, University of Yamanashi, Japan

Dielectric Properties of BaTiO₃-KNbO₃ Composites

P-88. <u>Vidmantas KALENDRA</u>¹, Florian ALLOUCHE², Victor MOUGEL², Christophe COPERET², Juras BANYS¹, and Gunnar JESCHKE³

¹Vilnius University, Faculty of Physics, Lithuania, ²ETH Zurich, Laboratory for Inorganic Chemistry, Switzerland, ³ETH Zurich, Laboratory of Physical Chemistry, Switzerland

Investigation of Titanium Surface Active Sites in Silica-Supported Catalysts using EPR and NMR Spectroscopy

P-89. <u>Yoshimi MITA</u>¹, Toshiaki SHIBATA¹, Michihiro KOBAYASHI¹, Tomoyuki MOCHIDA, and Tadashi SUGAWARA

¹Osaka University, Japan, ²Toho University, Japan, ³The University of Tokyo, Japan

Anomalous Raman Peaks of Intra-Molecular Hydrogen Bond Material 5-bromo-9-hydroxyphenalenone under Various Pressure and Temperature Conditions