

FMA25 program (ver. 2008/4/8 a)

May 28 (Wed.)

Opening Remarks	T. Shiosaki (NAIST)	10:25--10:30
Fundamentals (I)	Chair: Y. Uesu (Waseda Univ.)	10:30--12:00
(28-B-1)	Brillouin Scattering Study of Dynamics of Polar Nano Regions in Pb[(In <sub>1/2</sub> Nb <sub>1/2</sub> ) <sub>0.66</sub> Ti <sub>0.34</sub> ]O <sub>3</sub> Single Crystal V. Sivasubramanian*, ** and S. Kojima* (*Univ. of Tsukuba and **Indira Gandhi Centre for Atomic Research)	
(28-B-2)	Relationship Between Structural Characteristics in Cubic Phase of Perovskite-type Ferroelectric and its Tolerance Factor Y. Kuroiwa*, ****, J. Kato*, Y. Terado*, C. Moriyoshi*, S. Wada** and M. Takata***, **** (*Hiroshima Univ., **Univ. of Yamanashi, ***RIKEN/SPring-8 and ****CREST/JST)	
(28-B-3)	Phase Diagram in Bi <sub>4-x</sub> Sm <sub>x</sub> Ti <sub>3</sub> O <sub>12</sub> M. Iwata, A. Toya, R. Aoyagi, M. Maeda and Y. Ishibashi* (Nagoya Inst. Tech. and *Aichi Shukutoku Univ.)	
(28-B-4)	Dielectric Behavior of CaCu <sub>3</sub> Ti <sub>4</sub> O <sub>12</sub> at High Temperatures S. Hiramatsu, K. Kawatani, M. Takesada and A. Onodera (Hokkaido Univ.)	
(28-B-5)	Local Structure of BiFeO <sub>3</sub> -BaTiO <sub>3</sub> Mixture Y. Yoneda, K. Yoshii, S. Kohara*, S. Kitagawa** and S. Mori** (JAEA/SPring-8, *JASRI/SPring-8 and **Osaka Pref. Univ.)	
(28-B-6)	First-principles Study of Ferroelectric and Piezoelectric Properties in SnTiO <sub>3</sub> Y. Uratani, T. Shishidou and T. Oguchi (Hiroshima Univ.)	
Ferroelectric Materials (I)	Chair: T. Shiosaki (NAIST)	13:15--14:30
(28-F-1)	Structural Stability and Electronic States of BaTiO <sub>3</sub> Ceramic Nanoclusters: Theoretical Study S. Higai, A. Honda, K. Kageyama, H. Takagi, Y. Sakabe, and H. Moriwake* (Murata Manufacturing and *JFCC)	
(28-F-2)	Domain Size Effect on Dielectric Properties of Barium Titanate Ceramics T. Hoshina, K. Takizawa, J. Li, H. Kakemoto and T. Tsurumi (Tokyo Tech.)	
(28-F-3)	Preparation of Nickel Electrodes on BaTiO <sub>3</sub> based Ceramics by Inkjet Printing Y. Sakai*, T. Futakuchi* and M. Adachi** (*Toyama Ind. Tech. Center and **Toyama Pref. Univ.)	
(28-F-4)	Preparation of High-dispersed Barium Titanate Nanoparticles from Barium Titanate Oxalate Nanoparticles and Their Dielectric Properties S. Wada, S. Kondo, C. Moriyoshi* and Y. Kuroiwa* (Univ. Yamanashi and *Hiroshima Univ.)	
(28-F-5)	Piezoelectric and Polarization Properties of Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> Single Crystals Grown at a High-oxygen Pressure M. Suzuki, K. Yamamoto, Y. Noguchi and M. Miyayama (The Univ. Tokyo)	

- Thin Films (I) Chair: H. Funakubo (Tokyo Inst. of Tech.) 14:45--16:00
- (28-T-1) Multiferroic Properties of Garnet-type Ferrite Thin Films  
H. Yamahara, T. Koide, R. Morihara, M. Seki and H. Tabata (Univ. of Tokyo)
- (28-T-2) Self-assembled Growth of BaTiO<sub>3</sub>-CeO<sub>2</sub> Oriented Nano-composite Films and Their Tunable Properties  
T. Yamada, C. Sandu, M. Gureev, V. O. Sherman, A. Noeth, A. K. Tagantsev, N. Setter (EPFL)
- (28-T-3) Microwave Tunable Devices Composed of Coplanar Waveguide Line With (Ba<sub>0.6</sub>,Sr<sub>0.4</sub>)TiO<sub>3</sub>/Au/Cr/(Ba<sub>0.6</sub>,Sr<sub>0.4</sub>)TiO<sub>3</sub> Structure  
S. Watanabe\*, T. Kanashima\*, M. Okuyama\*, K. Seki\*\* and M. Noda\*,\*\* (\*Osaka Univ. and \*\*Kyoto Inst. Tech.)
- (28-T-4) Preparation of NaNbO<sub>3</sub>-BaTiO<sub>3</sub> Thin Films by Pulsed Laser Deposition  
S.Oda and T.Wada (Ryukoku Univ.)
- (28-T-5) Development of Pt(100)/MgO Buffer Layers for (001) Oriented BST Films  
K. Tamai, T. Matsumoto, Y. Murashima\*, K. Komaki\* and S. Nakagawa (Tokyo Inst. of Tech. and \*Panasonic)
- Piezoelectrics (I) Chair: T. Tsurumi (Tokyo Inst. of Tech.) 16:15--17:45
- (28-P-1) High Power Characteristics of (Bi<sub>1/2</sub>Na<sub>1/2</sub>)TiO<sub>3</sub>-based Lead-free Ferroelectric Ceramics  
Y. Hiruma, T. Watanabe, H. Nagata and T. Takenaka (Tokyo Univ. of Sci.)
- (28-P-2) Effect of Poling Field on Phase Transition Temperature of (Li,Na)NbO<sub>3</sub>-based Lead-free Piezoelectric Ceramics  
R. Aoyagi, A. Takeda, M. Iwata, M. Maeda, T. Nishida\* and T. Shiosaki\* (Nitech and \*NAIST)
- (28-P-3) Dielectric and Piezoelectric Properties of BaTiO<sub>3</sub>-(Bi<sub>0.5</sub>Na<sub>0.5</sub>)TiO<sub>3</sub> Ceramics  
K. Kusumoto (NIMS)
- (28-P-4) Investigation of Pb-Free (Sr,Ca)<sub>2</sub>NaNb<sub>5</sub>O<sub>15</sub> Oriented Multilayer Piezoelectric Ceramics Fabricated Using High Magnetic Field  
H. Shimizu, Y. Doshida, S. Tanaka\* and K. Uematsu\* (Taiyo Yuden Co., Ltd. and \*Nagaoka Univ. of Tech.)
- (28-P-5) Piezoelectric Properties in Bismuth-Layer-Structured Ferroelectric Ceramics with c-axis Orientation Fabricated by Rolling-Extended Method  
K. Ishii and S. Tashiro (The National Defense Academy)
- (28-P-6) Optimized Temperature for Enhanced Piezoelectric Properties of Textured Bi<sub>0.5</sub>(Na<sub>0.75</sub>K<sub>0.25</sub>)<sub>0.5</sub>TiO<sub>3</sub> Lead-free Ceramics  
C.-W. Ahn, E.-D. Jeong, A. Hussian\*, J.-S. Lee\*, H.-J. Lee\* and I.-W. Kim\* (Korea Basic Science Institute and \*Univ. of Ulsan)

May 29 (Thu.)

Ferroelectric Materials (II) Chair: M. Yamashita (Tokyo Univ. of Sci.) 9:00--10:15

- (29-F-6) Observations of QPM Adhered Ridge Waveguide in LiNbO<sub>3</sub> Using Reflective SHG Interference Microscope  
Y. Mashita\*, K. Okumura\*, S. Kurimura\*,\*\*, H. Nakajima\* and Y. Uesu\* (\*Waseda Univ. and \*\*NIMS)
- (29-F-7) Effective Dielectric Permittivity of Microwave Variable Phase Shifter of Coplanar Waveguide Using Ferroelectric Liquid Crystal  
H. Moritake, R. Ozaki, T. Kamei and Y. Utsumi (National Defense Academy)
- (29-F-8) Characteristics of Vertical Alignment Polymer-stabilized FLCD with In-Plane Switching Mode  
G. Tomonaga, H. Chiba, S. Saito and T. Takahashi (Kogakuin Univ.)
- (29-F-9) Helical Structure in Antiferroelectric Liquid Crystals  
H. Furue, H. Kuramochi and D. Kakinuma (TUS)
- (29-F-10) Characteristic Pressure Dependence of the Spontaneous Polarization in Ferroelectric Liquid Crystal  
H. Uehara (Aichi Gakuin Univ.)

Thin Films (II)

Chair: M. Noda (Kyoto Inst. of Tech.)

10:30--12:00

- (29-T-6) In-plane Lattice Strain Evaluation in Piezoelectric Microcantilever by XRD<sup>2</sup>  
H. Morioka\*,\*\*, K. Saito\*, T. Kobayashi\*\*\*, T. Kurosawa\*, and H. Funakubo\*\* (\*Bruker AXS, \*\*Tokyo Tech. and \*\*\*AIST)
- (29-T-7) Estimation of the Residual Stress in Ferroelectric Thin Film by Raman and XRD analysis  
T. Ohno\*,\*\*\*, B. Malic\*, M. Kosec\*, H. Fukazawa\*\*, N. Wakiya\*\*, H. Suzuki\*\* and T. Matsuda\*\*\* (\*Jozef Stefan Inst., \*\*Shizuoka Univ. and \*\*\*Kitami Inst. Technol.)
- (29-T-8) Evaluation of Defects in PbTiO<sub>3</sub> Thin Film with Hydrogen Annealing by Raman Spectroscopy  
K. Nishida\*, H. Takeuchi\*\*, I. Yosiaki\*\*, J. Sakai\*\*\*, N. Ito\*\*\*\*, R. Ikariyama\*\*\*\*\*, T. Kamo\*\*\*\*\*, T. Fujisawa\*\*\*\*\*, H. Funakubo\*\*\*\*\*, T. Katoda\*\* and T. Yamamoto\* (Nat. Def. Acad.\*, Kochi Univ. of Tech\*\*, CNRS/Univ. F. Rabelais\*\*\*, JAIST\*\*\*\* and Tokyo Inst. of Tech. \*\*\*\*\*)
- (29-T-9) Ferroelectric Properties of PbTiO<sub>3</sub> Nano-islands and Thin Films Grown on Single-crystalline Pt Films  
H. Fujisawa, M. Kume, Y. Seioh and M. Shimizu (Univ. Hyogo)
- (29-T-10) Transfer of the Dielectric Film and its Application Using Nanoimprint Technology  
M. Ichiki\*,\*\*, H. Furue\*, M. Takahashi\* and R. Maeda\* (\*AIST and \*\*JST-CREST)
- (29-T-11) Electro-Optic Effect of Epitaxial PLZT Film Fabricated by Modified Sol-Gel process on -Al<sub>2</sub>O<sub>3</sub>(012)  
M. Echizen, T. Fujii, T. Nishida, H. Takeda, K. Uchiyama and T. Shiosaki (NAIST)

Piezoelectrics (II)

Chair: T. Takenaka (Tokyo Univ. of Sci.)

13:15--14:30

- (29-P-7) Hydrothermal Synthesis of (K<sub>0.5</sub>Na<sub>0.5</sub>)NbO<sub>3</sub> Powders  
F. Zhang, L. Han, S. Bai, T. Karaki\* and M. Adachi\* (Shenyang Inst. of Chem. Tech., and \*Toyama Pref. Univ.)

- (29-P-8) Synthesis of  $\text{KNbO}_3$  using Ultrasonic Assisted Hydrothermal Method  
M. Ishikawa, Y. Kadota, N. Takiguchi, H. Hosaka and T. Morita (The Univ. of Tokyo)
- (29-P-9) Synthesis of  $\text{KNbO}_3$  Piezoelectric Ceramics using Citrate Precursors  
K. Kakimoto, T. Ito and H. Ohsato (Nagoya Inst. Tech.)
- (29-P-10) A Shear-mode Ultrasonic Motor Utilizing Lead-free Ceramic  
E. Li, H. Kakimoto and T. Tsurumi (Tokyo Inst. of Tech.)
- (29-P-11) Piezoelectric and Dielectric Properties of  
 $0.95(\text{K}_{0.5}\text{Na}_{0.5})\text{NbO}_3-0.05\text{Li}(\text{Sb}_{1-x}\text{Nb}_x)\text{O}_3$  Ceramics as a Function of Nb  
D. Kim, I. Lee, Y. Lee, S. Lee and J. Yoo (Semyung Univ.)

Multiferroics (I) Chair: Y. Shimakawa (Kyoto Univ.) 14:45--16:00

- (29-L-1) Magnetic and Dielectric Properties of  $\text{HoFe}_2\text{O}_4$  and  $\text{R}_1-x\text{R}'_x\text{Fe}_2\text{O}_4$  (R, R': rare earths)  
K. Yoshii, Y. Yoneda, D. Maeda\*, T. Michiuchi\*, T. Komatsu\*, N. Ikeda\*, Y. Matsuo\*\* and S. Mori\*\* (JAEA, \*Okayama Univ. and \*\*Osaka Pref. Univ.)
- (29-L-2) The Oxygen-annealing Effect on Triangular Lattice System Dielectric Material  $\text{LuFeCuO}_4$   
Y. Matsuo, M. Suzuki\*, Y. Noguchi\*, T. Yoshimura, N. Fujimura, K. Yoshii\*\*, N. Ikeda\*\*\* and S. Mori (Osaka Pref. Univ., \*RCAST, Tokyo Univ., \*\*Japan Atomic Energy Agency, \*\*\*Okayama Univ.)
- (29-L-3) Charge-ordered Structure and Phase Transition in  $\text{YFe}_2\text{O}_4$ -  
S. Shinohara, Y. Matsuo, K. Yoshii\*, N. Ikeda\*\* and S. Mori (Osaka Pref. Univ., \*JAEA/SPring-8 and \*\*Okayama Univ.)
- (29-L-4) MOCVD Growth of Epitaxial  $\text{BiFeO}_3$ - $\text{BiCoO}_3$  Films and Thickness Dependence of the Crystal Structure  
S. Yasui, H. Naganuma\*, S. Okamura\*, K. Nishida\*\*, T. Yamamoto\*\*, T. Iijima\*\*\*, M. Azuma\*\*\*\*, H. Morioka\*, \*\*\*\*, K. Saito\*\*\*\*\* and H. Funakubo (Tokyo Tech., \*Tokyo Univ. of Science, \*\*Nat. Def. Acad., \*\*\*AIST, \*\*\*\*Kyoto Univ. \*\*\*\*\*Bruker AXS)
- (29-L-5) Modification of Ferroelectric Properties of  $\text{BaTiO}_3$ - $\text{CoFe}_2\text{O}_4$  Multiferroic Hybrid Thin Film by Application of Magnetic Field  
S. Sawamura, N. Wakiya, N. Sakamoto, K. Shinozaki\*, H. Suzuki (Shizuoka Univ. and \*Tokyo Tech.)

Invited Lecture Chair: M. Shimizu (Univ. of Hyogo) 16:15--17:00

- (29-I-1) Nanoscale Ferroelectrics : Thin Films and Superlattices  
J.-M. Triscone (Univ. of Geneva)

Special Lecture Chair: T. Shiosaki (NAIST) 17:00--18:00

- (29-S-1) Special Lecture  
N. Ichinose (Waseda Univ.)

## May 30 (Fri.) Parallel session (Room 201)

Microwave Materials (I) Chair: H. Tamura (Murata) 9:00--10:15

(30-M-1) Quality Factor of Forsterite for Ultra High Frequency Depending on the Synthesis Process

M. Ando, H. Ohsato, I. Kagomiya and T. Tsunooka (NIT)

(30-M-2) Microwave Dielectric Properties of  $\text{Ca}(\text{Ta}_{2-x}\text{Nb}_x)\text{O}_6$  Ceramics

A.Kan and H. Ogawa (Meijo Univ.)

(30-M-3) Phonon Mode Behavior and Dielectric Properties of  $\text{TiO}_2$  (rutil) in Terahertz Region

N. Matsumoto, K. Kageyama, H. Takagi and Y. Sakabe (Murata)

(30-M-4) Performance Evaluation for Co-Planar Waveguide with Thick PZT Film

K. Shibata, T. Iijima\* and Y. Masuda (Hachinohe I. T and \*AIST)

(30-M-5) Characterization of Embedded Capacitors in the Multilayer Printed Circuit Board

H.-W. You, S.-H. Kim and J.-H. Koh (Kwangwoon Univ.)

Multiferroics (II)

Chair: H. Ohsato (Nagoya Inst. of Tech.)

10:30--11:30

(30-L-6) Nb and La Co-doped Multiferroic Bismuth Ferrite Thin Films on  $\text{LaNiO}_3/\text{Si}$  and  $\text{IrO}_2/\text{Si}$  Substrates

Z. X. Cheng, X. L. Wang, H. Kimura\* and K. Ozawa\* (Univ. of Wollongong and \*NIMS)

(30-L-7) Effect of Mn Substitution for  $\text{BiFeO}_3$  Probed by High-Resolution Soft-X-Ray Spectroscopy

T. Higuchi\*,\*\* T. Hattori\*\*, W. Sakamoto\*\*\*, N. Itoh\*\*\*, T. Shimura\*\*\*, T. Yogo\*\*\*, Y.S. Liu\*, P.-A. Glans\* and J.-H. Guo\* (\*U.C.Berkeley, \*\*Tokyo Univ. Sci. and \*\*\*Nagoya Univ.)

(30-L-8) Appearance of Spontaneous Magnetization and Reduction of Electric Coercive Field in Co Added  $\text{BiFeO}_3$  Films

H. Naganuma, J. Miura, S. Okamura, S. Yasui\*, H. Funakubo\*, K. Nishida\*\*, T. Iijima\*\*\*, M. Azuma\*\*\*\*, K. Kamishima\*\*\*\*\*, K. Kakizaki\*\*\*\*\*, N. Hiratsuka\*\*\*\*\* (TUS, \*TIT, \*\*NDA, \*\*\*AIST, \*\*\*\*Kyoto Univ. and \*\*\*\*\*Saitama Univ.)

(30-L-9) Suppression of Leakage Current in BFO Film Capacitor by Nd and Mn Co-substitution and Their Ferroelectric Properties

T. Kawae, H. Tsuda, M. Kumeda, A. Morimoto and S. Yamada\* (Kanazawa Univ. and \*Ishikawa National College of Tech)

Guest Session

Chair: H. Ohsato (Nagoya Inst. of Tech.)

11:30--12:00

(30-G-1) An In-Situ Study of the Structure and Electrical Properties of  $\text{BiFeO}_3$  at High Pressure

M. Thrall, R. Freer, R. J. Cernik, R.L.Jones\*, J. Griffiths, M.Morlidge\* and D. Taylor\*, (University of Manchester and \*CCLRC Daresbury Laboratory)

Ferroelectric Materials (III)

Chair: S. Kojima (Tukuba Univ.)

13:15--14:30

(30-F-11) Synthesis and Dielectric-Magnetic Properties of RE(La,Nd,Sm)-modified  $\text{Bi}_4\text{Ti}_3\text{O}_{12}$

H. Kiyono, J. Nakano, T. Shigyo, H. Itoh\* and J. Takahashi (Hokkaido Univ. and \*KIT)

(30-F-12) Preparation and Characterization of  $\text{PbZr}_{0.5}\text{Ti}_{0.5}\text{O}_3$  Thick Films by the Slurry Method

T. Takeda, T. Mizutani, M. Takahashi, S. Sato, M. Kato and K. Wakita (Chubu Univ.)

- (30-F-13) Relaxor Behavior of  $\text{Sr}_{1-x}\text{Ba}_x\text{Bi}_2\text{Nb}_2\text{O}_9$  Ceramics  
C. Feng and S. Huang (Shanghai Institute of Ceramics)
- (30-F-14) Fabrication of  $(\text{Ba}_{0.6}\text{Sr}_{0.4})\text{TiO}_3$  Thick Films by Aerosol Deposition Method for Applications to Embedded Multi-layered Capacitor Structures  
D. Popovici, H. Tsuda and J. Akedo (AIST)
- (30-F-15) Low-temperature Crystallization of  $\text{PbZr}_{0.3}\text{Ti}_{0.7}\text{O}_3$  Films Induced by High Oxygen-pressure Annealing  
X. D. Zhang\*, \*\*, X. J. Meng\*, J. L. Sun\*, T. Lin\*, J. H. Ma\*, J. H. Chu\* and J. Dho\*\* (\*Chinese Acad. of Sci. and \*\*Kyungpook Nat'l Univ.)

Microwave Materials (II) Chair: R. Freer (Univ. of Manchester) 14:45--15:45

- (30-M-6) Influence of CuO Additions and Sintering Temperature on the Microwave Dielectric Properties of  $\text{Ca}_{0.95}\text{Zn}_{0.05}\text{La}_4\text{Ti}_5\text{O}_{17}$  Ceramics  
Y.-C. Chen, J.-M. Tsai and S.-C. Wang (Lunghwa Univ. of Sci. and Tech.)
- (30-M-7) Microwave Dielectric Properties of  $\text{Ca}_{0.8}\text{Sr}_{0.2}\text{TiO}_3$ - $\text{Li}_{0.5}\text{Sm}_{0.5}\text{TiO}_3$  Ceramics  
K. Yan, T. Karaki and M. Adachi (Toyama Pref. Univ.)
- (30-M-8) Influences of the Film Thickness and Sc-doping on the Strain and Dielectric Response of Epitaxial  $(\text{Ba,Sr})\text{TiO}_3$  Thin Films for Voltage Tunable Device Applications  
J. D. Baniecki, M. Ishii, K. Kurihara, K. Yamanaka, W.-Y. Park\* and C.-S. Hwang\* (Fujitsu and \*Seoul National Univ.)
- (30-M-9) Investigation on the Properties of ZnBO Added BST Thick Film Interdigital Capacitors on the Alumina Substrates  
S.-H. Moon and J.-H. Koh (Kwangwoon Univ.)

### May 30 (Fri.) Parallel session (Room 202)

Piezoelectrics (III) Chair: Y. Cho (Tohoku Univ.) 9:00--10:15

- (30-P-12) Fabrication and Basic Properties of a Piezoelectric Micro Jet Pump  
K. Tanaka, R. Sakamoto, V. T. Dau, D. V. Dao and S. Sugiyama (Ritsumeikan Univ.)
- (30-P-13) Micro Electrostatic Sensor Using MEMS-based Piezoelectric Microcantilever  
T. Kobayashi, S. Oyama\*, M. Takahashi, R. Maeda and T. Itoh (AIST and \*HST)
- (30-P-14) Preparation of Multilayer Piezoelectric Device by Aerosol Deposition  
T. Miyoshi (FUJIFILM)
- (30-P-15) Performance Estimation of High Frequency Ultrasonic Transducer with Lead Zirconate Titanate Thick-Film Deposited by Aerosol Deposition Method  
A. Endo and J. Akedo (AIST)
- (30-P-16) Properties of Bimorph-Type Piezoelectric Element for Generation of Electric Power  
A. Eriguchi, S. Ogawa, S. Nagaoka and Y. Tomikawa\* (Tiheiyo Cement and \*Yamagata Univ.)

Piezoelectrics (IV) Chair: Y. Yamashita (Toshiba) 10:30--12:00

- (30-P-17) Analysis of Resonant Current from Piezoelectric and other Effect  
Y. Takagi and Y. Takeuchi\* (The Univ. of Electro-Communications and \*Kyorin Univ.)
- (30-P-18) Vibration Control of Piezoelectric PZT Ceramics using Negative Capacitance Circuit  
J. Takarada, K. Imoto, K. Yamamoto, M. Date\*, E. Fukada\* and Y. Tajitsu\*\* (Imoto Mech. Eng., \*Kobayashi Inst. of Phys. & Chem. and \*\*Kansai Univ.)
- (30-P-19) Piezoelectric Motion of Chiral Polymeric Fibers  
M. Honda, M. Sawano, Y. Uenaka, K. Morii and Y. Tajitsu (Kansai Univ.)
- (30-P-20) Preparation and Properties of BaTiO<sub>3</sub> Ceramics by Spark Plasma Sintering  
H. Maiwa (Shonan Inst. Tech.)
- (30-P-21) Giant  $k_{31}$  in Relaxor Single Crystal-Plates Evaluated by Measurements on P-E Loops and Displacement Characteristics  
T. Ogawa (Shizuoka Inst. of Sci. & Tech.)
- (30-P-22) Characteristics of a Thin Type Ultrasonic Motor and a Driving Method using a Microcontroller  
S. Jeong and T. Park (Changwon Nat'l Univ.)

Thin Films (III)

Chair: S. Okamura (Tokyo Univ. of Sci.)

13:15--14:30

- (30-T-12) Oxygen Sensing Properties of SrTiO<sub>3</sub> Thin Films  
T. Hara, T. Ishiguro, N. Wakiya\* and K. Shinozaki\*\* (Taiyo Yuden, \*Shizuoka Univ. and \*\*Tokyo Inst. of Tech.)
- (30-T-13) Fabrication of BaTiO<sub>3</sub> Thin Films Using Modified Chemical Solutions and Sintering Method  
K. Tanaka, K. Suzuki and K. Kato (AIST)
- (30-T-14) Preparation and Electric Properties of (Ba,Sr)TiO<sub>3</sub> Thin Films on Al<sub>2</sub>O<sub>3</sub> Ceramic Substrates  
T. Nozaka\*\*, Y. Mizutani\*, G. Bhakdisongkhram\*, M. Echizen\*\*, T. Nishida\*\*, H. Takeda\*\*, K. Uchiyama\*\* and T. Shiosaki\*\* (\*Yokohama Densi Seiko Co. and \*\*NAIST)
- (30-T-15) Preparation of Low Loss (Ba<sub>0.4</sub>,Sr<sub>0.6</sub>)TiO<sub>3</sub> Thin Films by rf-Facing Target Sputtering  
Y. Murashima, K. Komaki, K. Tamai, S. Nakagawa\* (PED Co. and \*Tokyo Inst. of Tech.)
- (30-T-16) Preparation of BaTiO<sub>3</sub> Films on Si Substrate with MgO Buffer Layer by RF Magnetron Sputtering  
W.-C. Shih, Y.-S. Liang and M.-S. Wu (Tatung Univ.)

Thin Films (IV)

Chair: K. Kazumi (AIST)

14:45--16:00

- (30-T-17) Influence of Oxidation Ambient on Bismuth Titanate Thin Film Properties  
M. Yamaguchi, T. Oba and T. Kamimura (Shibaura Inst. of Tech.)
- (30-T-18) Effect of Eu/Sr Ratios on Ferroelectric and Fluorescent Properties of Sr<sub>1-x</sub>(Bi<sub>2</sub>,Eu<sub>x</sub>)Ta<sub>2</sub>O<sub>9</sub> Thin Films  
K. Aizawa and Y. Ohtani (Kanazawa Inst. of Tech.)

- (30-T-19) High-speed Read/Write Using Novel HDD-Type Ferroelectric Data Storage Devices  
Y. Hiranaga, T. Uda, Y. Kurihashi and Y. Cho (RIEC. Tohoku Univ.)
- (30-T-20) Crystallization of Sol-gel-derived PZT Thin Films by 2.45 GHz Microwave Irradiation  
Z. J. Wang, Y. Otsuka, Z. P. Cao, N. Yoshikawa, H. Kokawa and S. Taniguchi (Tohoku Univ.)
- (30-T-21) High-k Dielectric Nanofilms Fabricated from Titanoniobate Nanosheets  
M. Osada<sup>\*,\*\*</sup>, G. Takanashi<sup>\*</sup>, K. Akatsuka<sup>\*</sup>, Y. Ebina<sup>\*,\*\*</sup>, H. Funakubo<sup>\*\*\*</sup>, K. Takada<sup>\*,\*\*</sup> and T. Sasaki<sup>\*,\*\*</sup> (\*NIMS, \*\*JST-CREST and \*\*\*TIT)
- Fundamentals (II) Chair: M. Iwata (Nagoya Inst. of Tech.) 16:15--17:30
- (30-B-7) Generation of Multi Self-Pumped Phase-Conjugated Waves in Single Photorefractive Crystal by Pulsed Laser  
H.Miyao, M.Wakui and M.Yamashita (Tokyo Univ. of Sci.)
- (30-B-8) Electrooptic and Piezoelectric Properties of (Pb,La)(Zr,Ti)O<sub>3</sub> Films with Various Zr/Ti Ratios  
H. Shima, T. Iijima<sup>\*</sup>, H. Funakubo<sup>\*\*</sup>, H. Naganuma and S. Okamura (Tokyo Univ. of Sci., \*AIST and \*\*Tokyo Tech.)
- (30-B-9) Growth and UV transparency of Nano-sized Scatterers Free Lithium Tetraborate Single Crystals by the CZ Method  
R. Komatsu, Y. Shiro, Y. Fujiwara and S. Fujinoi<sup>\*</sup> (Yamaguchi Univ. and \*Kyushu Univ.)
- (30-B-10) Preparation of Barium Titanate - Potassium Niobate Solid Solution System Ceramics and Their Piezoelectric Properties  
N. Kumada, M. Nitta, D. Tanaka<sup>\*</sup>, S. Wada<sup>\*\*</sup>, C. Moriyoshi<sup>\*\*\*</sup> and Y. Kuroiwa<sup>\*\*\*</sup> (Center for Crystal Science, Univ. Yamanashi, \*TDK, \*\*Univ. Yamanashi, \*\*\*Hiroshima Univ.)
- (30-B-11) The Magnetic Properties of the Optical Quantum Transition Line Shapes and Line Widths of Electron- piezoelectric Phonon Interacting Materials under Circularly Oscillating Field  
S. H. Lee<sup>\*</sup>, J. Y. Choi<sup>\*</sup>, T. K. Kim<sup>\*</sup>, S. C. Park<sup>\*</sup>, J. Y. Sug<sup>\*</sup> and G. Sa-gong<sup>\*\*</sup> (\*Kyungpook Nat'l Univ. and \*\* Donga Univ.)
- Tutorial Chair: M. Okuyama (Osaka Univ.) 17:30--18:30
- (30-TU-1) Tutorial  
H. Tabata (Univ. of Tokyo)

## May 31 (Sat.)

- Thin Films (V) Chair: Y. Fujimori (Rohm) 9:00--10:15
- (31-T-22) Effects of ECR O<sub>2</sub> Plasma Irradiation on Properties of GeN<sub>x</sub>/Ge Interface  
Y. Otani, Y. Fukuda, T. Sato<sup>\*</sup>, K. Nakagawa<sup>\*</sup>, H. Toyota<sup>\*\*</sup> and T. Ono<sup>\*\*</sup> (Tokyo Univ. of Sci., Suwa, \*Univ. of Yamanashi and \*\*Hiroaki Univ.)
- (31-T-23) Effects of Microstructure-modified HfO<sub>2</sub> Films on Structure and Properties of MFIS  
K. Suzuki, K. Tanaka and K. Kato (AIST)
- (31-T-24) Proposal of Controlled Polarization Type TFT and the Fundamental Properties  
N. Fujimura, T. Fukushima and T. Yoshimura (Univ. of Osaka Pref.)



- (31-T-25) A Nonvolatile Resistance Change Device with a ZnO/PZT Heterostructure  
H. Tanaka, Y. Kaneko and Y. Kato (Matsushita Electric Industrial Co., Ltd.)
- (31-T-26) Fabrication and Electrical Characteristics of Metal-Ferroelectric-Semiconductor Field Effect Transistor Based on PVDF  
J.-H. Kim and B.-E. Park (Univ. of Seoul)

Piezoelectrics (V) Chair: T. Yamamoto (Nat'l Defense Academy) 10:30--11:45

- (31-P-23) Effect of Pressure on Piezoelectric and Dielectric Responses for PMN-PT Ceramics Near a MPB Composition.  
N. Yasuda, K. Ozawa, Md.M. Rahaman, H. Ohwa, Y. Yamashita\*, M. Iwata\*\*, Y. Ishibashi\*\*\* (Gifu Univ., \*Toshiba Co., \*\*Nagoya Inst. Tech. and \*\*\*Aichi Shukutoku Univ.)
- (31-P-24) Determination of MPB Composition in BiCoO<sub>3</sub>-BiFeO<sub>3</sub> System  
M. Azuma, K. Oka, Y. Shimakawa and H. Funakubo\* (ICR Kyoto Univ. and \*Tokyo Tech.)
- (31-P-25) Effects of Additive CuO, Cu<sub>2</sub>O and Diffused Cu in PZT  
N. Sakamoto, K. Iezumi, J. Yamazaki and M. Nanao (TDK Co.)
- (31-P-26) Development of (1-x)(Bi<sub>1-y</sub>La<sub>y</sub>)(Zn<sub>1-z</sub>Mg<sub>z</sub>Ti<sub>0.5</sub>)O<sub>3</sub>-xPbTiO<sub>3</sub> (BLZMT-PT) Piezoelectric Ceramics with Low Environmental Load  
W. Adachi, M. Kobune, K. Kitada, A. Mineshige and T. Yazawa (Univ. Hyogo)
- (31-P-27) Influence of MnO<sub>2</sub> Additive on the Microstructure and Piezoelectric Properties of (K<sub>0.5</sub>Na<sub>0.5</sub>)NbO<sub>3</sub> Ceramics  
S.-Y. Cho, Y. P. Ok, S. I. Seok\*, W.-P. Tai\*\*, Y. H. Jeong\*\*\* and J.-S. Lee (Univ. of Ulsan, \*KRICT, \*\*Ulsan Ind. Promotion Technopark and \*\*\*Samjeon Co. Ltd.)

Closing Remarks T. Shiosaki (NAIST) 11:45--11:55