

May 24 (Wed.)

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| Opening Remarks | Chair: T. Shiosaki (NAIST) | 10:25--10:30 |
| Ferroelectric Materials (I) | Chair: Y. Sakabe (Murata Mfg. Co.) | 10:30--12:00 |
| (24-F-1) | Fabrication and Dielectric Properties of Lead-Free Inorganic Particles-Epoxy Resin Composites

M. Kobune, K. Takasaki, A. Mineshige and T. Yazawa (Univ. Hyogo) | |
| (24-F-2) | Relationship between Dielectric Properties and Microphonics of MLCC

Noriyuki Inoue, Kenichi Kawasaki, Harunobu Sano, Tadashi Morimoto (Murata Manufacturing. Co., Ltd) | |
| (24-F-3) | Dielectric Properties and Microstructures of Low-Temperature Sintered BaTiO ₃ Ceramics with CuBi ₂ O ₄ Sintering Aid

T. Hasegawa and T. Otagiri (Soshin Electric Co.) | |
| (24-F-4) | Coprecipitation Synthesis of Nano-sized Bi ₄ Ti ₃ O ₁₂ Particles

F. Zhang, T. Karaki and M. Adachi (Toyama Prefectural Univ.) | |
| (24-F-5) | Growth of Large-Scale Silver Lithium Niobate Single Crystals and Their Piezoelectric Properties

Satoshi Wada, Akiko Saito, Takuya Hoshina, Hirofumi Kakemoto, Takaaki Tsurumi, and Chikako Moriyoshi*, Yoshihiro Kuroiwa* (Tokyo Institute of Technology, Hiroshima University*) | |
| (24-F-6) | Defect structure and Polarization properties of Bi ₂ WO ₆ -based crystals

Yuji Noguchi*, **, Koichiro Murata***, Masaru Miyayama* (*RCAST, U-Tokyo, **JST-SORST, ***Tokai Univ.) | |
| Thin Films (I) | Chair: H. Tabata (Osaka Univ.) | 13:15--14:45 |
| (24-T-1) | Photovoltaic effect of the layered film with respect to the crystalline orientation

M. Ichiki*, H. Furue*, T. Kobayashi*, Y. Morikawa*, K. Nonaka*, R. Maeda* T. Nakada** and Z.J. Wang*** (*AIST, **Tokyo Denki Univ., ***Tohoku Univ.) | |
| (24-T-2) | Measurements of electric field-induced strain of PbZrO ₃ thin films

I. Kanno, T. Inoue, T. Suzuki, H. Kotera, and K. Wasa* (Kyoto Univ. and *Yokohama-city Univ.) | |
| (24-T-3) | Estimation of the Residual Stress in PZT Thin Film by CSD

H. Suzuki, T. Ohno, T. Matsuda (Shizuoka Univ., *Kitami Inst. Technol.) | |
| (24-T-4) | Displacement Measurement of PZT Thick Films with Twin-beam Laser Interferometer.

Takashi Iijima, Satoko Oosone, Hirotake Okino* and Takashi Yamamoto* (AIST, *National Defense Academy) | |
| (24-T-5) | Temperature Dependence of Piezoelectric and Retention Properties of Ferroelectric Thin Films

H. Maiwa, S-H. Kim* (Shonan I. T., *Inostek) | |

- (24-T-6) Fabrication of metal nanodots by self-assembly and their applications to ferroelectric nanocapacitors
Yuko Morimoto, Hironori Fujisawa, Masaru Shimizu (Univ. of Hyogo)
- Thin Films (II) Chair: N. Fujimura (Osaka Pref. Univ.) 15:00--16:00
- (24-T-7) Reliability of thin-film capacitors consisting of Mn-doped PZT annealed at low temperature
T. Mori (NEC Jisso and Production Technologies Research Labs.)
- (24-T-8) Thickness Dependence of PZT capacitor prepared by MOCVD
Y. Nishioka, T. Masuda, M. Kajinuma, I. Kimura, S. Kikuchi, T. Yasuda, M. Ueda, M. Endo, Y. Kokaze and K. Suu (ULVAC)
- (24-T-9) Fabrication of Ir-based electrodes by MOCVD using liquid precursors
H. Fujisawa*, N. Iwamoto*, S. Watari*, M. Shimizu*, K. Furukawa**,*** K. Kawano**,*** and N. Oshima**,*** (*Univ. of Hyogo, **Tosoh Corp, ***Sagami Chem. Res. Center)
- (24-T-10) Control of crystalline orientation of sol-gel-derived PZT films using LaNiO-3 layer
Zhan Jie WANG*, Toshihide KUMAGAI*, Hiroyuki KOKAWA* and Ryutaro MAEDA** (*Tohoku Univ. **AIST)
- Piezoelectric Materials (I) Chair: T. Yamamoto (Defence Academy) 16:15--17:45
- (24-P-1) Anisotropic Polarization and Piezoelectricity of $\text{KBa}_2\text{Nb}_5\text{O}_{15}$ Ceramics Derived from Pressure-less Sintering
K. Kakimoto, T. Yoshifuji and H. Ohsato (Nagoya Inst. Tech.)
- (24-P-2) Crystal-oriented La substituted $\text{Sr}_2\text{NaNb}_5\text{O}_{15}$ Ceramics Using High-Magnetic-Field Method
Y. Doshida, H. Kishi, A. Makiya*, S. Tanaka*, K. Uematsu*, and T. Kimura** (Taiyo Yuden, Nagaoka Univ. of Tech.*, Tokyo Metro. Univ.**)
- (24-P-3) High-Power Characteristics of $\text{SrBi}_2\text{Nb}_2\text{O}_9$ Textured Ceramics
Shinichiro Kawada, Hirozumi Ogawa, Masahiko Kimura and Kosuke Shiratsuyu (Murata Manufacturing Co., Ltd.)
- (24-P-4) Relationship of Electrical Properties and Phase Transition Temperatures for $(\text{Bi}_{1-x}\text{Na}_x)_2\text{TiO}_3$ - $(\text{Bi}_{1-x}\text{K}_x)_2\text{TiO}_3$ - BaTiO_3 Ferroelectric Ceramics
Yuji Hiruma, Hajime Nagata and Tadashi Takenaka (Tokyo University of Science)
- (24-P-5) Property of BaTiO_3 Ceramics with High Performance Using Microwave Sintering Method
H. Takahashi, Y. Numamoto, J. Tani* and S. Tsurekawa** (Fuji Ceramics Co., *NICHe, Tohoku Univ. and **Tohoku Univ.)
- (24-P-6) Improved Piezoelectric Properties in LiTaO_3 Family Solid Solution Ceramics by Modulated Composition
Noriko Bamba, Junpei Takaoka, Takashi Chino and Tatsuo Fukami (Shinshu Univ.)

May 25 (Thu.)

Thin Films (III) Chair: K. Kato (NIMS) 9:00--10:15

(25-T-11) Preparation of BiFeO₃ thin film by PLD and improvement of Ferroelectricity by annealing.
Hyun-young Go, Naoki Wakiya*, Hiroshi Funakubo**, Keisuke Satoh, Masao Kondo, Jeffrey S. Cross, Kenji Maruyama***, Nobuyasu Mizutani****, Kazuo Shinozaki* (Tokyo Tech.*, Tokyo Tech.**, Fujitsu Laboratories Ltd.***, ACE-RSC of Tokyo Tech.****)

(25-T-12) Structural Characterization of BiFeO₃ Thin Films
K.Saito, T.Kurosawa*, S.Ueki* and H.Funakubo** (Bruker AXS*, Tokyo Tech**)

(25-T-13) Fabrication and Properties of BiFeO₃-PbTiO₃ Thin Films through Chemical Solution Deposition Process
W. Sakamoto, H. Yamazaki, A. Iwata, T. Shimura, T. Yogo (ESI, Nagoya Univ.)

(25-T-14) Crystal structure and ferroelectric property of BiFeO₃-BiScO₃ thin films
Shintaro Yasui*, **, Hiroshi Uchida*, Hiroshi Nakaki**, Hiroshi Funakubo** and Seiichiro Koda* (Sophia University*, Tokyo Institute of Technology**)

(25-T-15) Preparation of Ferroelectric Ferromagnetic YbMnO₃ Thin Film
T. Takahashi, T. Yoshimura, N. Fujimura (Osaka Pref. Univ.)

Fundamentals (I) Chair: M. Iwata (Nagoya Inst. of Tech.) 10:30--12:00

(25-B-1) Ferroelectricity and Phase Transition in Bi-Layered Perovskite with m=5
A. Onodera, S. Mouri, M. Fukunaga, S. Hiramatsu, M. Takesada and H. Yamashita* (Hokkaido Univ and *Hokkai-Gakuen Univ)

(25-B-2) RE Cation (La, Pr, Sm) Substitution for BaBi₂Nb₂O₉ Ceramics
T. Shigyo, K. Kudo, J. Kishimoto*, J. Takahashi*, and H. Itoh** (Hokkaido IRI, *Hokkaido Univ., and **Kitami IT)

(25-B-3) Synthesis and Sintering Properties of BaTiO₃ Nano-Particle by Aerosol Plasma Pyrolysis Process
T. Kodera, T. Ogihara, N. Ogata, K. Nakane*, S. Omura and M. Uede** (*Univ. of Fukui and **Chugai Ro Co Ltd)

(25-B-4) Theoretical Analysis of Relaxor Properties and Phase Boundary in Ferroelectrics
Eiko Matsushita, K. Ozawa (Gifu Univ.)

(25-B-5) PDF analysis of bismuth titanate
Y. Yoneda, J. Mizuki, and S. Kohara* (JAEA, JASRI*)

(25-B-6) Long Term Retention Characteristics of Small Inverted Domains on Congruent Single-Crystal LiTaO₃
N.Odagawa and Y.Cho (R.I.E.C., Tohoku Univ.)

Fundamentals (II) and Polymer Chair: Y. Kuroiwa (Okayama Univ.) 13:15--14:45

(25-B-7) Inelastic Scattering Study of Stoichiometric Lithium Tantalate Crystals
S. Kojima, A. Hushur*, S. Lushnikov*, S. Gvasaliya** and B. Roessli** (Univ. of Tsukuba, *IPTI, **PSI)

(25-B-8) Low temperature growth of potassium niobate single crystal
Kenji Toda, Akihiro Iida, Kazuyoshi Uematsu, Mineo Sato, Yoichi Kizaki*, Yuji Noguchi*, Masaru Miyayama* (Niigata Univ. and *The Univ. of Tokyo)

(25-B-9) Three-dimensional analysis and measurement of SAW on a quartz ball
Satoshi Kai*, Kazunori Ohte*, Toshihiro Tsuji*, Tsuyoshi Mihara*, Tsuneo Ohgi**,
Noritaka Nakaso**, Ichitaro Satoh***, Takeshi Fukiura***, Hidekazu Tanaka*** and
Kazushi Yamanaka* (*1 Tohoku University ** Toppan Printing Co. Ltd. *** Yamatake
Corp.)

(25-B-10) Polymer Stabilization of Helical Structure in Ferroelectric Liquid Crystals
H. Furue, D. Hamano and J. Hatano (TUS)

(25-B-11) Spontaneous Polarization Influence of V-shaped Ferroelectric Liquid Crystals on Pulse Driving
Using Active Switch
H. Moritake, K. Toda, F.V. Podgornov*, E.P. Pozhidaev* and W. Haase* (National
Defense Academy, *Darmstadt Univ. of Tech.)

(25-B-12) The Measurement of Light Modulation Properties in Piezoelectric Polymer Film
M. Tsukiji, H. Kowa, K. Mmuraki and Y. Tajitsu* (Uniopt Co., Ltd , *Grad. School of
Eng., Kansai University)

Thin Films (IV) Chair: H. Funakubo (Tokyo Inst. of Tech.) 15:00--16:00

(25-T-16) Structural and Ferroelectric Properties of Sr_{0.5}Ba_{0.5}Nb₂O₆ Thin Films on La_{0.05}Sr_{0.95}TiO₃
Substrates
Y. Ebina, T. Higuchi, T. Hattori, T. Tsukamoto (Tokyo University of Science)

(25-T-17) Preparation and Characterization of the Multilayer Capacitor with (Ba_xSr_{1-x})TiO₃ Thin Films
by Aerosol Chemical Vapor Deposition
S. Wang, A. Kawase and H. Ogawa (NODA SCREEN CO., LTD.)

(25-T-18) Preparation of BaTiO₃ Thick Films by Inkjet Printing on Oxygen Plasma Modified Substrates
Y. Sakai, T. Futakuchi and M. Adachi* (Toyama Industrial Technology Center, Toyama
Prefectural Univ.)

(25-T-19) Low temperature preparation and investigating of (Pb,Ba)TiO₃ thin film by sol-gel-hydrothermal
treatment
Akihiro Inoue, Takuji Naoyama, Kohei Takei, Minoru Noda and Masanori Okuyama
(Graduate School of Engineering Science, Osaka Univ.)

Invited Lecture Chair: M. Okuyama (Osaka Univ.) 16:15--16:45

(25-I-1) Lead-free Multiferroic Ferroelectrics : A New Generation of Correlated Complex Oxides
R. Ramesh (Univ. of California, Berkeley)

Special Lecture Chair: T. Shiosaki (NAIST) 16:45--17:45

(25-S-1) Special Lecture
Y. Ishibashi (Aichi Shukutoku Univ.)

May 26 (Fri.) Parallel session (Room 202)

Piezoelectric Materials (II) Chair: Y. Yamashita (Toshiba) 9:00--10:15

(26-P-7) Chemical Composition Dependence of Giant Piezoelectricity on k₃₁ Mode in
Pb(Mg_{1-x}Nb_{2-x/3})O₃-PbTiO₃ Single Crystals
R. Kato, T. Ogawa, D. Sugiyama and K. Kayukawa (Shizuoka Institute of Science and
Technology)

(26-P-8) Effect of Pressure on Piezoelectric Properties of Pb(Mg_{1/3}Nb_{2/3})O₃-PbTiO₃ Binary System Single Crystal near a Morphotropic Phase Boundary
Naohiko Yasuda, Kazuhiko Fujita, Hidehiro Ohwa, Mituyoshi Matsushita, Yohachi Yamashita, Makoto Iwata, Yoshihiro Ishibashi (Gifu University, Gifu Technical College, Kawatetu Mining, Co.,Ltd., Toshiba Corporation, Nagoya Institute of Technology, Aichishukutoku University)

(26-P-9) Development of Dry Etching Processes for PZT Piezoelectric Cells
Y. Kokaze, M. Endo, M. Ueda, I. Kimura, and K. Suu (ULVAC)

(26-P-10) Evaluation of PZT Diaphragm-Type Film Actuator Prepared by Sputtering and Dry Etching Processes
I. Kimura, Y. Nishioka, S. Kikuchi, Y. Kokaze, M. Endo, M. Ueda, Y. Morikawa, T. Koidesawa and K. Suu (ULVAC)

(26-P-11) Piezoelectric properties of lead-free piezoelectric materials
J. Kim*, I. R. Hwang*, J. H. Lee*, S. H. Hong*, and B. H. Park* C. W. Ahn**, and S. Nahm** (*Konkuk Univ. and **Korea Univ.)

Piezoelectric Materials (III) Chair: T. Tsurumi (Tokyo Inst. of Tech.) 10:30--12:00

(26-P-12) Fabrication of lead-free piezoelectric KNbO₃ ceramics using modified solid state reaction method
Takahiro Wada, Suzuki Akito, Takehisa Saito (Department of Materials Chemistry, Ryukoku University)

(26-P-13) Dielectric and Piezoelectric Properties of KNbO₃-NaNbO₃-LiNbO₃-SrTiO₃ Ceramics
K. Kusumoto (AIST)

(26-P-14) Fabrication of (Sr_xK_{0.5-x}Na_{0.5-x})NbO₃ Piezoelectric Ceramics and Effects of MnO addition on Their Piezoelectric Properties
S. Tashiro and K. Ishii (Materials Science and Eng., The National Defence Academy)

(26-P-15) Fabrication and Evaluation of LF4 thick film deposited by Aerosol Deposition Method
Se-Woong Oh, Jun Akedo, Jae-Hyuk Park, Yoshihiro Kawakami* (AIST, *NEC Tokin Co.)

(26-P-16) Piezoelectric and Dielectric Properties of (LiNaK)(NbTaSb)O₃ Ceramics with the variation of Poling Temperature
K. Lee, K. Chung, S. Lee, J. Yoo, S. Ryu* and J. Lee* (Semyung Univ., * Chungju National Univ.)

(26-P-17) Sintering Behaviors Based on Control of Volatile Mass of Potassium and Sodium in KNN Ceramics
Y. H. Lee, J. H. Cho, B. I. Kim, D. K. Choi* (KICET, *Hanyang Univ.)

Piezoelectric Applications Chair: Y. Cho (Tohoku Univ.) 13:15--14:45

(26-A-1) Elastic Control of piezoelectric PZT Ceramics using Negative Capacitance Circuit (II)
K. Imoto, M. Date*, E. Fukada*, H. Ueda**, Y. Morimoto** and Y. Tajitsu** (Imoto Mech. Eng., *Kobayashi Inst. of Phys. & Chem., **Grad. Sch. of Eng., Kansai University.)

(26-A-2) Varifocal Mirror using Piezoelectric Actuator
K. Tanaka, Y. Tsuchiya, A. Ishii, S. Sugiyama* F. Tanaka, S. Maeda, K. Nagashima** (*Ritsumeikan University and **Funai Electric Co., Ltd.)

- (26-A-3) Rotating Symmetrical Piezoelectric Microactuators for Magnetic Head Drives
K.Kurihara, M.Hida, S.Umemiya, M.Kondo, S.Koganezawa* (Fujitsu Laboratories Ltd., Fujitsu Limited*)
- (26-A-4) Development of Thin Disc Piezoelectric Transformers Using Piezoelectric Buzzers
K.-T. Chang, and C.-W. Lee (National United Univ.)
- (26-A-5) Novel Multioutput Ring-Shaped Piezoelectric Transformer Based on Piezoceramic Ring
K.-T. Chang, and K.-S. Lyu (National United Univ.)
- (26-A-6) The Influence of the Surface Roughness of the Bragg Reflectors on the Resonance Characteristics of Solidly Mounted Resonators
C.-J. Chung, C.-C. Cheng*, C.-L. Wei, Y.-C. Chen, K.-S. Kao** and C.-M. Wang*** (National Sun Yat-Sen Univ., *De Lin Inst. of Tech., **Tung-Fang Inst. of Tech and ***Cheng-Shiu Univ.)

Thin Films (V) Chair: W. Sakamoto (Nagoya Univ.) 15:00--16:00

- (26-T-20) Fabrication of BIT Thin Films by Ink-Jet Printing Method
Masaki Yamaguchi* and Yoichiro Masuda (*Shibaura Inst. of Tech. and **Hachinohe Inst. of Tech.)
- (26-T-21) Low leakage current of (001)-oriented Bi_{3.25}La_{0.75}Ti₃O₁₂ ferroelectric thin film
N. Zhong and T. Shiosaki (NAIST)
- (26-T-22) Influences of Storage Conditions on Imprint Characteristics in SrBi₂Ta₂O₉ Capacitors
K. Ashikaga, K. Takaya, T. Kanehara, Y. Nagataomo and I. Koiwa* (Oki, *Kanto Gakuin Univ.)
- (26-T-23) Development of Embedded Capacitor with Bismuth-Zinc-Niobate Thin Films for PCB Applications
J.-H. Park, W.-S. Lee, N.-J. Seong, S.-G. Yoon*, S.-H. Son, H.-M. Chung, J.-S. Moon, H.-J. Jin, S.-E. Lee, J.-W. Lee, H.-D. Kang, Y.-K. Chung and Y.-S. Oh** (*Chungnam National Univ. and **Samsung Electro-Mechanics)

Thin Films (VI) Chair: M. Shimizu (Univ. of Hyogo) 16:15--17:15

- (26-T-24) Effects of Kinds of Substrates and Film Compositions on Dielectric Properties of MOCVD-Bi-Zn-Nb-O Films.
Shingo Okaura*, Hiroshi Uchida**, Seiichiro Kouda**, Minoru Osada*** and Hiroshi Funakubo* (*Tokyo Tech., **Sophia Univ. and ***NIMS)
- (26-T-25) La-Content Dependence of Electrooptic Effects in (Pb,La)(Zr_{0.65}Ti_{0.35})O₃ Thick Films
H.Shima and S.Okamura (Tokyo University of Science)
- (26-T-26) Prototype of Rotating Disk Type SNDM Ferroelectric Probe Memory
Y. Hiranaga and Y. Cho (R.I.E.C., Tohoku Univ.)
- (26-T-27) Preparation and characterization of Ti:Er:LiNbO₃ epitaxial films by the sol-gel method
M. Takahashi*, T. Yoshiga*, N. Kajitani*, S. Sato*, N. Ohnishi*, K. Wakita*, R. Otowa**, and M. Kurachi*** (*Chubu Univ., **Santec Co. Ltd, ***Yamaju Ceramics Co. Ltd.)

May 26 (Fri.) Parallel session (Room 201)

Ferroelectric Materials (II) Chair: M. Adachi (Toyama Pref. Univ.) 9:00--10:15

- (26-F-7) Ferroelectric Studies on BaMgF₄ Single Crystal Grown under CF₄ Atmosphere
C.V.Kannan, K.Shimamura, H.Zeng, E.G.Villora, S.Takekawa, K.Kitamura (NIMS)
- (26-F-8) Dielectric Properties of SrBi_{2-x}Pr_xNb₂O₉ Ceramics
C. Feng and S. Huang (Chinese Academy of Sci.)
- (26-F-9) Structure, Dielectric and Ferroelectric Properties in the Crystalline (Ca_xSr_{1-x})Bi₂Ta₂O₉
C.-J. Chen*, J.-B. Shi, H.-C. Shih, Y.-T. Lin, H.-D. Tseng, C.-C. Lin, S.-Y. Wei, C.-W. Lee (Feng-Chia Univ.)
- (26-F-10) Crystal structure and LTCC Property of Wolframite (Li, Re)W₂O₈ BaWO₄ Ceramics (Re = Y, Yb)
J. S. Kim, J. C. Lee, C. I. Cheon, and H.-J. Kang* (Hoseo Univ., *Samcheok National Univ.)
- (26-F-11) Determination of Elastic, Piezoelectric and Dielectric Constants of 0.67Pb(Mg_{1/3}Nb_{2/3})O₃-0.33PbTiO₃ Single Crystal by Brillouin Scattering
Z.K. Xu, Y.L. Liu* and G.G. Siu (City Univ. of Hong Kong and *Chinese Academy of Sci.)
- Fundamentals (III) Chair: Y. Uesu (Waseda Univ.) 10:30--12:00
- (26-B-13) Dielectric/magnetic properties and structural phase transition in (1-x)BiFeO₃-xBaTiO₃
Y.Horibe, . Kitagawa, Y.Hosokoshi, S.Mori (Department of Physics, Osaka Prefecture University)
- (26-B-14) Disorder of Pb atom in the Cubic Phase of PZN-PT
Y. Terado*, S. J. Kim*, C. Moriyoshi*, Y. Kuroiwa*,*** and M. Iwata** (*Hiroshima Univ., **Nagoya Inst. of Tec. and ***CREST/JST)
- (26-B-15) Dielectric Anisotropy near MPB in Pb(Zn_{1/3}Nb_{2/3})O₃-xPbTiO₃
M. Iwata, K. Sakakibara, K. Katsuraya, R. Aoyagi, M. Maeda, I. Suzuki and Y. Ishibashi* (NIT, *Aichi Syukutoku Univ.)
- (26-B-16) Correlation between phase coexistence/fluctuation and relaxor behaviors in Pb-free B-site homovalence relaxor ferroelectrics of Ba(Zr_xTi_{1-x})O₃, Ba(Hf_xTi_{1-x})O₃
A. Doi, H. Tabata, S.-J. Kim* and Y. Kuroiwa* (Osaka Univ. and *Hiroshima Univ.)
- (26-B-17) Synthesis of platelet SrTiO₃ particles by TMC (Topochemical Micro-crystal Conversion) method and fabrication of grain-oriented ceramics
Yasuyoshi Saito and Hisaaki Takao (TOYOTA CENTRAL R&D LABS., INC.)
- (26-B-18) Effects of Site Selectivity on Polarization Property of Dy-substituted PZT Film
Ken Nishida*, Minoru Osada**, Hiroshi Uchida***, Hiroshi Nakaki****, Seiichiro Koda***, Hiroshi Funakubo**** and Takashi Katoda* (Kochi Univ. of Tech.*, NIMS**, Sophia Univ.***, Tokyo Inst. of Tech.****)
- Optical Applications Chair: S. Kojima (Tsukuba Univ.) 13:15--14:45
- (26-O-1) Electrooptic Effect of PZT film on Silicon Substrate
M. Kondo, K. Sato, M. Ishii*, N. Wakiya, K. Shinozaki** and K. Kurihara* (Fujitsu Laboratories Ltd.* and Tokyo Tech.)
- (26-O-2) Optical property of (PbLa)(ZrTi)O₃ fabricated by Sol-Gel Method
M. Echizen, Y. masuda*, A. Takashima** (H.I.T.*, Ya-man Ltd.**)

- (26-O-3) Development of PLZT electro-optic thin film for high-speed spatial light modulator
Tsuyoshi Fujii, Tatsuya Suzuki, Yoshikazu Fujimori, Takashi Nakamura, Masato Moriwake, Hidemi Takasu (ROHM CO., LTD.)
- (26-O-4) Generation of four self-pumped phase-conjugated waves
M.Wakui*, T.Takeda*, K.Miyakawa** and M.Yamashita* (*Tokyo University of Science and **Topcon Corporation)
- (26-O-5) Surface plasmon resonance in novel nanocomposite Gold/PZT films prepared by aerosol deposition method
Jae-Hyuk Park, Jun Akedo, Masafumi Nakada* (National Institute of Advanced Industrial Science and Technology, AIST and *Fundamental and Environmental Research Labs., NEC Corp.)
- (26-O-6) Second Harmonic Generation Imaging of LiIO₃/Laponite nanocomposite waveguides
Y. Lambert*, R. L. Dantec*, Y. Mugnier*, C. Galez*, J. Bouillot*, J.-C. Plenet**, H. Hayakawa***, Y. Uesu*** (*Univ. de Savoie, **Univ. Claude Bernard Lyon and ***Waseda Univ.)

Microwave Materials (I) Chair: H. Tamura (Murata Mfg. Co.) 15:00--16:00

- (26-M-1) Synthesis of disordered Ba(Zn_{1-x}Ta_{2-x})O₃ by Spark Plasma Sintering and its microwave Q factor
Eiichi Koga*, Hiroki Moriwake**, Ken-ichi Kakimoto*** and Hitoshi Ohsato*** (*Panasonic Electronic Devices Hokkaido Co.,Ltd, **Panasonic Electronic Devices Co.,LTD, ***Nagoya Institute of Technology)
- (26-M-2) Microwave Dielectric Properties of Perovskite Like-Structured Ba₈Ta₆(Ni_{1-x}M_x)O₂₄ (M=Co and Zn) Solid Solutions
A. Kan, H. Ogawa, A. Yokoi and H. Ohsato* (Meijo Univ. and *NIT)
- (26-M-3) Broadband Frequency Converter Based On BST Films
G. Bhakdisongkham, Y. Yamashita, T. Kohno, T. Nishida, K. Uchiyama and T. Shiosaki (NAIST)
- (26-M-4) Band-pass filter for terahertz region using TiO₂/Al₂O₃ multilayer ceramics
Naoki Matsumoto, Takuji Nakagawa, Keisuke Kageyama, Nobuyuki Wada and Yukio Sakabe (Murata Manufacturing. Co., Ltd.)

Microwave Materials (II) Chair: H. Osato (Nagoya Inst. of Tech.) 16:15--17:15

- (26-M-5) Development of novel LTCC system of different materials
Takaki Murata, Satoshi Oga, and Yasutaka Sugimoto (Murata Manufacturing Co.,LTD.)
- (26-M-6) Materials Constant of Dielectric and Dielectric Composite Materials in Microwave Frequency region
Youngjoon An, Takashi Yamamoto, Hirotake Okino, Takeshi Deguchi* and Shunkichi Ueda* (National Defense Academy and Tayca Co., Osaka*)
- (26-M-7) Synthesis and Dielectric Properties of Microwave Dielectric Powders by Spray Pyrolysis
H. Yamada*,**, T. Ogihara*, N. Ogata*, T. Ookawa**, and A. Harada (*Fukui Univ and **Daiken Chemical)
- (26-M-8) Spatial resolution and measurement accuracy for dielectric measurement using microwave non-contact probe
H. Kakemoto, J. Li, T. Harigai, S-M. Nam, S. Wada and T. Tsurumi (Tokyo Institute of Technology)

Tutorial
(26-TU-1) Chair: T. Takenaka (Tokyo Univ. of Sci.) 17:30--18:30
Piezoelectric Crystals and SAW Devices
K. Nakamura (Tohoku Univ.)

May 27 (Sat.)

Thin Films (VII) Chair: M. Noda (Osaka Univ.) 9:00--10:15
(27-T-28) Characterization of MIM electrical properties of ECR-deposited Ta₂O₅
T. Ono, H. Toyota, K. Kato, Y. Fukuda*, M. Shimada**, Y. Jin** (Hirosaki Univ.,
Tokyo Univ. of Sci., Suwa, NTT-MI Lab.)

(27-T-29) Fatigue Behaviour of Pb(Zr,Ti)O₃/PbZrO₃ Multilayer Ferroelectric Thin Films
S. Alkoy, E. M. Alkoy*, K. Uchiyama* and T. Shiosaki* (Gebze Inst. of Tech and
*NAIST)

(27-T-30) Operation of a Polycrystalline Ferroelectric Gate FET Memory with an Intermediate Electrode
B. N. Q. Trinh and S. Horita (JAIST)

(27-T-31) Self Polarization in PST Relaxor Thin Films: Impact on Dielectric and Piezoelectric Response
K. Brinkman*, A. Tagantsev, P. Muralt and N. Setter (EPFL, *AIST)

(27-T-32) PZT-based Ferroelectric Thin Films for Embedded FeRAM Devices
S.-H. Kim, C. Y. Koo, J.-H. Cheon, J.-H. Yeom, S.-K. Hong*, and J. Ha (INOSTEK,
*Hynix)

Thin Films (VIII) Chair: T. Nakamura (Rohm) 10:30--11:45
(27-T-33) Effects of the crystallization condition for ferroelectric layers on the properties of the
(Y,Yb)MnO₃/HfO₂/Si structure
K. Suzuki, K. Nishizawa, T. Miki and K. Kato (AIST)

(27-T-34) Data Retention Property of Pt/SSBT/HfO₂/Si-Structured Ferroelectric-gate FET
H. Saiki and E. Tokumitsu (P&I Lab., Tokyo Tech)

(27-T-35) Preparation of germanium oxynitride by ECR plasma irradiation and its interfacial properties with
germanium
Y. Fukuda*, K. Kato**, H. Toyota**, T. Ono**, Y. Nagasato***, T. Ueno***
(*Tokyo Univ. of Science, Suwa, **Hirosaki Univ. and ***Tokyo Univ. of Agri. &
Tech.)

(27-T-36) Formation of Ferroelectric Sr₂(Ta_{1-x}Nb_x)₂O₇ (x=0.3) on IrO₂ and Pt/
Sr₂(Ta_{1-x}Nb_x)₂O₇ /IrO₂/SiO₂/Si Device with Large Memory Window
Ichirou Takahashi*, Tatsunori Isogai**, Keita Azumi*, Akinobu Teramoto*, Shigetoshi
Sugawa**, and Tadahiro Ohmi* (*NICHIC, Tohoku Univ and **Tohoku Univ.)

(27-T-37) Fabrication and Electrical Characteristics of Al/(BaZr_{0.1}Ti_{0.9})O₃/SiO₂/Si (MFIS)
Structure for Nonvolatile Memory Applications
K.-H. Chen*, Y.-C. Chen*, K.-S. Kao** and C.-C. Chan*** (*National Sun Yat-Sen
Univ., **Tung Fang Inst. of Tech., ***Kao Yuan Univ.)

Closing Remarks Chair: T. Shiosaki (NAIST) 11:45--11:50