PROGRAM

Sep. 27/Room A

Symposium "Multiscale Analysis of Magnetic Materials: Numerical Electromagnetic Field Analysis of Materials, Magnetic Devices, Motors, and Power Electronics" Chief Organizer: Y. Takamura (Tokyo Inst. Tech.)

10:00 〜12:00 Chair: Y. Takamura (Tokyo Inst. Tech.)

27aA-1 Market Research on Electrical Motor and Power Electronics Technology and Magnetic Material Multi-Scale Analysis
°K. Fujisaki[1], T. Hosotani[2], T. Urakabe[3], Y. Takamura[3], Y. Matsumoto[4]
([1]Toyota Tech. Inst., [2]muRata, [3]Tokyo Inst. Tech., [4]Fuji Electric)

27aA-2 Withdrawn

27aA-3 Investigation of iron-rich FeSi alloys by first-principles phase field and special quasirandom structure methods
°K. Ohno[1, 3], R. Kuwahara[2], R. Sahara[3], Y. Kawazoe[4], K. Fujisaki[5]
([1]Yokohama National Univ., [2]Dassault Systemes, [3]NIMS, [4]Tohoku Univ., [5]Toyota Tech. Inst.)

27aA-4 A trial to evaluate the magnetic parameters in the LLG equation from the first principles
°A. Sakuma (Tohoku Univ.)

27aA-5 Magnetic moment and magnetocrystalline anisotropy energy of Fe, Ni, and Co using first-principles calculations
°F. Akagi, R. Namiki, T. Yayama (Kogakuin Univ.)

13:00 〜14:30 Chair: K. Fujisaki (Toyota Tech. Inst.)

27pA-1 Magnetoelastic Interaction Modeling of Polycrystalline Magnetic Materials
°T. Matsuo (Kyoto Univ.)

27pA-2 Analytical modeling of Litz wire copper loss for high-frequency high-efficiency power magnetic device design
°K. Umetani, S. Kawahara, M. Ishihara, E. Hiraki (Okayama Univ.)

27pA-3 Quasi-static electromagnetic eddy current analysis based on Darwin model considering both inductance and capacitance effects
°H. Kaimori (SSIL)

Electromagnetic levitation・Actuater **14:45 〜16:30** Chair: K. Nakamura (Tohoku Univ.)

27pA-4 Linear Actuator for High-Speed Reciprocating Motion (Fundamental Consideration of Thrust on Ratio of Permanent Magnet Size)
°J. Kuroda[1], K. Kimura[1], M. Tanaka[1], D. Uchino[1], K. Ogawa[2], T. Kato[3], K. Ikeda[4], A. Endo[5], T. Narita[1], H. Kato[1]
([1]Tokai Univ., [2]AUT, [3]Tokyo Univ. Tech, [4]Hokkaido Univ. Sci, [5]FIT)

27pA-5 Linear Actuator for High-Speed Reciprocating Motion Using Dual-Halbach Array (Fundamental Consideration on Shape Permanent Magnet Array in Stator)
°M. Tanaka[1], K. Kimura[1], J. Kuroda[1], D. Uchino[1], K. Ogawa[2], T. Kato[3], K. Ikeda[4], A. Endo[5], H. Kato[1], T. Narita[1]
([1]Tokai Univ., [2]Aichi Univ. Tech., [3]Tokyo Univ. Tech., [4]Hokkaido Univ. Sci., [5]FIT)

27pA-6 A Study on Linear Actuator for Intake and Exthost Valve Drive (Fundamental Consideration of Permanent Magnet Arrangement in Actuator)
°K. Kimura[1], J. Kuroda[1], M. Tanaka[1], D. Uchino[1], K. Ogawa[2], T. Kato[3], K. Ikeda[4], A. Endo[5], T. Narita[1], H. Kato[1]
([1]Tokai Univ., [2]Aichi Univ. of Tech, [3]Tokyo Univ. of Tech, [4]Hokkaido Univ. of Sci, [5]FIT)

27pA-7 Development of Non-Contact Actuator Using Cylindrical Linear Induction Motor (Fundamental Consideration on Effect of Tether Diameter)
°H. Nosaka[1], J. Kuroda[1], D. Uchino[1], K. Ogawa[2], K. Ikeda[3], T. Kato[4], A. Endo[5], T. Narita[1], H. Kato[1]
([1]Tokai Univ., [2]AUT, [3]Hokkaido Uni. Sci., [4]Tokyo Uni. Tech., [5]FIT)

27pA-8 Electromagnetic levitation and transportation system for bent ultra-thin steel plate(Fundamental Consideration on Shape of Levitated Steel Plate with Change of Place Applying Tension)

°T. Nagayoshi[1], Y. Ichikawa[1], S. Kawamura[1], J. Kuroda[1], D. Uchino[1], K. Ogawa[2], A. Endo[3], K. Ikeda[4], T. Kato[5], T. Narita[1], H. Kato[1] ([1]Tokai Univ., [2]AUT, [3]FIT, [4]Hokkaido Univ. Sci., [5]Tokyo Univ. Tech.)

27pA-9 Electromagnetic Levitation System for Excited Bending Flexible Steel Plate(Fundamental Consideration on Vibration Characteristics of Levitated Steel Plate)

°Y. Uchida[1], K. Ogawa[2], I. Kobayashi[1], J. Kuroda[1], D. Uchino[1], K. Ikeda[3], T. Kato[4], A. Endo[5], T. Narita[1], H. Kato[1] ([1]Tokai Univ., [2]Aichi Univ of Tech., [3]Hokkaido Univ of Sci, [4]Tokyo Univ of Tech, [5]FIT)

27pA-10 Electromagnetic Levitation System for Thin Steel Plate Using Electromagnets and Permanent Magnets (Fundamental Consideration of Optimized Arrangement of Permanent Magnets on Applying Position of Tension)

°Y. Ichikawa[1], T. Nagayoshi[1], S. Kawamura[1], K. Ogawa[2], J. Kuroda[1], D. Uchino[1], K. Ikeda[3], T. Kato[4], A. Endo[5], T. Narita[1], H. Kato[1] ([1]Tokai Univ., [2]AUT, [3]Hokkaido Univ. Sci, [4]Tokyo Univ. Tech, [5]FIT)

Sep. 27/Room B

Highly spin-polarized materials, semiconductor **9:00 〜10:15** Chair: S. Yamada (Osaka Univ.)

27aB-1 Sputter growth and anisotropic magnetoresistance effect in epitaxial thin films of Mn-based Heusler alloys: Mn_2VGa and Mn_2VAl

°H. Suto[1], V. Barwal[1], Z. Li[1], K. Masuda[1], T. Sasaki[1], S. Kokado[2], Y. Sakuraba[1] ([1]NIMS, [2]Shizuoka Univ.)

27aB-2 Electronic Structures of Fe_4N Thin Films Revealed by Spin-ARPES

°K. Nakanishi[1], K. Ohwada[1], K. Kuroda[1], K. Sumida[2], K. Miyamoto[1], T. Okuda[1], H. Sato[1], S. Isogami[3], K. Masuda[3], Y. Sakuraba[3], A. Kimura[1] ([1]Hiroshima Univ., [2]JAEA, [3]NIMS)

27aB-3 Bulk-sensitive spin-resolved electronic structures of Co_2MnSi

°S. Ueda, Y. Miura, Y. Fujita, Y. Sakuraba (NIMS)

27aB-4 Estimation of valley splitting energy in strained $Si_{0.1}Ge_{0.9}$ by lateral spin transport measurements and effect of impurity scattering at low temperatures

°T. Okada[1], K. Kawashima[1], M. Yamada[1], T. Naito[1], Y. Wagatsuma[2], K. Sawano[2], K. Hamaya[1] ([1]Osaka Univ., [2]Tokyo City Univ.)

27aB-5 Conductive Nanocarbon Ohmic Electrode and Evaluation of Spin Injection into Spin Valve Devices Utilizing Single Crystal Diamond

°A. Watatani[1], K. Maki[1], S. M. Valappil[1], K. Sakai[2], S. Oomagari[3], T. Yoshitake[1] ([1]Kyushu Univ., [2]Nit, Kurume College., [3]AIST)

Spin wave **10:30 〜12:00** Chair: K. Yamanoi (Keio Univ.)

27aB-6 External magnetic field dependence of formation of magnetostatic surface spin-wave soliton

°T. Iwata, K. Sekiguchi (Yokohama National Univ.)

27aB-7 Scaling of memory capacity for high-performance spin-wave reservoir computing

°S. Iihama, Y. Koike, S. Mizukami, N. Yoshinaga (Tohoku Univ.)

27aB-8 Threshold power of parametrically excited spin waves in cubic anisotropic materials

°S. Nezu[1], T. Scheike[2], H. Sukegawa[2], K. Sekiguchi[1] ([1]Yokohama National Univ., [2]NIMS)

27aB-9 Development of nano-scaled spin-wave amplifier using feedback structure

°M. Iwaba, K. Sekiguchi (Yokohama National Univ.)

27aB-10 Time-domain electrical detection of spin waves in Y-shaped microstructures

°R. Hayashi, S. Nezu, K. Sekiguchi (Yokohama National Univ.)

27aB-11 Physical reservoir devices using excitation and observation of spin-wave via antenna method

°S. Nagase, S. Nezu, K. Sekiguchi (Yokohama National Univ.)

Spin dynamics Ⅰ **13:00 〜14:15** Chair: M. Goto (Fukui Univ.)

27pB-1 All-optical investigation of sub-THz magnetization dynamics in Cu_2Sb-type (Mn-Cr)AlGe ultrathin film

°Y. Sasaki[1], R. Hiramatsu[2], Y. Kota[3], T. Kubota[2], Y. Sonobe[1], A. Sakuma[2], K. Takanashi[2,4], S. Kasai[1], Y. K. Takahashi[1] ([1]NIMS, [2]Tohoku Univ., [3]NIT, Fukushima Coll., [4]JAEA)

27pB-2 Broadband polarization-selective magnetic resonance spectroscopy using circularly-polarized microwave field in perpendicularly-magnetized synthetic antiferromagnets

°Y. Shiota[1], T. Arakawa[2], R. Hisatomi[1], T. Moriyama[1], T. Ono[1] ([1]Kyoto Univ., [2]AIST)

27pB-3 by Electrical detection of antiferromagnetic dynamics in thin filmsusing gyrotron

S. Funada[1], Y. Ishikawa[2], M. Kimata[3], Y. Yamaguchi[2], K. Hayashi[2], T. Sano[2], Y. Fujii[2], S. Mitsudo[2], Y. Shiota[1], T. Ono[1], °T. Moriyama[4] ([1]ICR, [2]FIR, [3]IMR, [4]eng.)

27pB-4 Observation of dispersion relation for hybridized magnons in synthetic antiferromagnets

°D. Hayashi, Y. Shiota, M. Ishibashi, R. Hisatomi, T. Moriyama, T. Ono (Kyoto Univ.)

27pB-5 Laser-induced terahertz emission in Fe_4N/Pt bilayers with negative spin polarization

°S. Isogami, Y. Sasaki, Y. Takahashi (NIMS)

Spin dynamics Ⅱ **14:30 〜16:00** Chair: Y. Shiota (Kyoto Univ.)

27pB-6 Amplified transport of low-energy magnons in Bi-doped YIG by local heating

°R. Kohno[1], K. An[1, 2], V. Naletov[1], J. Ben Youssef[3], D. Gouere[4], V. Cros[4], A. Anane[4], G. De Leubens[4], L. Vila[1], O. Klein[1] ([1]Univ. Grenoble Alpes, [2]KRISS, [3]Univ. Bretagne Occidentale, [4]Univ. Paris-Saclay)

27pB-7 Strong-coupled magnetic resonance in topological-insulator/magnetic-insulator bilayers

°T. Chiba[1], T. Komine[2], T. Aono[2] ([1]FRIS Tohoku Univ., [2]Ibaraki Univ.)

27pB-8 Dependence of structure and magnetic properties on the Si compositions for Fe-Si thin films

°Y. Jiang, S. Muroga, T. Miyazaki, Y. Endo (Tohoku Univ.)

27pB-9 Inverse magneto-optical effect in Co-Pt disordered alloy films

°K. Nukui, S. Iihama, S. Mizukami (Tohoku Univ.)

27pB-10 Phonon-magnon conversion probed by acoustoelectric current

°H. Matsumoto[1, 2], Y. Todaka[2], I. Yasuda[2], T. Kawada[2, 3], M. Kawaguchi[2], M. Hayashi[2] ([1]Kyoto Univ., [2]Univ. of Tokyo, [3]Osaka Univ.)

27pB-11 Spiking neuron model using coupled spin-torque-oscillators

°T. Ise, S. J. Greaves, Y. Tanaka (Tohoku Univ.)

Domain Wall, Skyrmion **16:15 〜17:15** Chair: K. Ueda (Osaka Univ.)

27pB-12 The connected-skyrmions stabilized in a nanowire

°T. Nishitani[1], S. Honda[1, 2], H. Itoh[1, 2] ([1]Kansai Univ., [2]Osaka Univ.)

27pB-13 Relationship between the strength of inter-grain exchange coupling and the thermal stability of the skyrmion magnetization configuration in magnetic thin film patterns

°S. Onaka[1], X. Ya[2], T. Tanaka[1] ([1]Kyushu Univ., [2]Chongqing College of Electronic Engineering)

27pB-14 Polarity dependence of the chiral rotation in the Brownian motion of a single magnetic skyrmion

°S. Miki[1, 2, 3], A. Shimmura[1], M. Goto[1, 2, 3], E. Tamura[1, 2, 3], Y. Shiota[4, 5], M. Oogane[6], J. Cho[7], C. You[7], R. Ishikawa[8], H. Nomura[1, 2, 3], Y. Suzuki[1, 2, 3]

([1]Osaka Univ., [2]OTRI-Osaka, [3]CSRN-Osaka, [4]Kyoto Univ., [5]CSRN-Kyoto, [6]Tohoku Univ., [7]DGIST, [8]ULVAC)

27pB-15 Magneto-optical observation of recorded domain shift in magnetic nanowire memory with step trap-sites

°D. Kato, K. Ogura, M. Takahashi, Y. Iguchi, Y. Miyamoto (NHK)

Voltage control of magnetic anisotropy **17:30 〜18:15** Chair: T. Koyama (Osaka Univ.)

27pB-16 Voltage-controlled magnetic anisotropy in Fe/Ir/Co/MgO/ZrO_2 structures

°H. Onoda, T. Nozaki, T. Nozaki, S. Yuasa (AIST)

27pB-17 Underlayer effect on the voltage-controlled magnetic anisotropy in interface engineered Co/MgO junctions with heavy metals

°H. Nakayama, T. Nozaki, T. Nozaki, S. Yuasa (AIST)

27pB-18 Optimization of efficiency in voltage-controlled magnetic anisotropy effect using an ultrathin CoFeB layer deposited at low temperature

°T. Nozaki[1], T. Ichinose[1], T. Yamamoto[1], J. Uzuhashi[2], M. Konoto[1], K. Yakushiji[1], T. Ohkubo[2], S. Yuasa[1] ([1]AIST, [2]NIMS)

Sep. 27/Room C

Alloy thin films **9:00 〜10:30** Chair: K. K. Tham (TANAKA)

27aC-1 Spontaneous magnetization and short- and long-range order in single crystalline $Fe_{0.6}Al_{0.4}$ film
°K. Toyoki, D. Kitaguchi, Y. Shiratsuchi, R. Nakatani (Osaka Univ.)

27aC-2 Magnetic coupling in artificial spin ice
°H. Kubota[1], S. Tsunegi[1], K. Yakushiji[1], T. Taniguchi[1], S. Tamaru[1], T. Yamamoto[1], A. Sugihara[1], R. Matsuura[2], H. Nomura[2, 3, 4], Y. Suzuki[1, 2, 3] ([1]AIST, [2]Osaka Univ., [3]CSRN Osaka, [4]Tohoku Univ. SRIS)

27aC-3 Investigation of structural and magnetic properties of electrodeposited CoPt alloy nanowires for 3D magnetic memory application
°M. Hasan[1], T. Huang[2], M. Saito[1], Y. Takamura[2], T. Homma[1, 3]
([1]Research Organization for Nano and Life Innovation, Waseda University, [2]Dept. of Electrical and Electronic Eng., Tokyo Institute of Technology, [3]Dept. of Applied Chemistry, Waseda University)

27aC-4 Elucidation of correlation between structure and magnetic properties in $CoxPt_{1-x}$ alloy nanowires in nanoporous template fabricated by electrodeposition
°N. Oguchi[1], M. Saito[2], T. Homma[2], T. Ono[3], M. Shima[1], K. Yamada[1] ([1]Gifu Univ., [2]Waseda Univ., [3]Kyoto Univ.)

27aC-5 Improvement of magneto-optical properties of $Nd_{0.5}Bi_{2.5}Fe_5O_{12}$ thin films by adding $Bi_3Fe_5O_{12}$ underlayer
°J. Zhang[1], F. Z. Chafi[1], M. Nishikawa[1], M. Kawahara[2], T. Ishibashi[1] ([1]Nagaoka Univ. Tech., [2]Kojundo)

27aC-6 Development of heater-assisted hot cathode for RF high-speed sputtering of MgO thin films
°K. Yamada[1], D. Miyazaki[1], A. Kato[2], Y. Hirokawa[1], S. Jeon[1], A. Shimizu[1], H. Suzuki[3], T. Ohizumi[3], I. Tagawa[2], S. Hinata[1], T. Ogawa[1], S. Saito[1] ([1]Tohoku Univ., [2]Tohoku Inst. Tech., [3]Arios)

Multiferroic, antiferromagnetic, electic field effect **10:45 〜12:15** Chair: K. Hamaya (Osaka Univ.)

27aC-7 Development of $BiFeO_3$ based multiferroic thin film materials with large saturation magnetization and perpendicular magnetic anisotropy —Effect of Co and/or Ni substitution against Fe on magnetic properties—
°Y. Suzuki, T. Ozeki, G. Egawa, S. Yoshimura (Akita Univ.)

27aC-8 Optimizing the Reactive Ion Etching Conditions with Minimal Damage for High Functional Magnetic Nano Device Application in $BiFeO_3$-based Multiferroic Thin Films
S. Ratha, G. Egawa, °S. Yoshimura (Akita Univ.)

27aC-9 Fabrication and characterization of $Pr_2Ir_2O_7$ thin film by reactive MBE and solid phase epitaxy
°S. Oishi[1], S. Yokokura[1], T. Shimada[1], T. Nagahama[2] ([1]Hokkaido Univ., [2]Yamaguchi Univ.)

27aC-10 Finite size effect and dimensional crossover in antiferromagnetic epitaxial Cr_2O_3 thin films
°H. Sameshima[1], K. Ujimoto[1], R. Tsutsumi[1], K. Toyoki[1, 2, 3], R. Nakatani[1, 2, 3], Y. Shiratsuchi[1, 2, 3]
([1]Osaka Univ., [2]OTRI, Osaka Univ., [3]CSRN, Osaka Univ.)

27aC-11 Electric-field modulation of antiferromagnetic spin reversal field in $Pt/Cr_2O_3/Ir$ trilayer
°K. Ujimoto[1], H. Sameshima[1], K. Toyoki[1, 2, 3], R. Nakatani[1, 2, 3], Y. Shiratsuchi[1, 2, 3]
([1]Osaka Univ., [2]OTRI, Osaka Univ., [3]CSRN, Osaka Univ.)

27aC-12 Electric field effects on single crystal Co/Ru/Co synthetic antiferromagnets/PMN-PT
°Y. Hisada[1], S. Komori[1], K. Imura[2], T. Taniyama[1] ([1]Dept. Phys., Nagoya Univ., [2]ILAS, Nagoya Univ.)

Growth & magnetism of thin-films Ⅰ **13:15 〜14:45** Chair: Y. Shiratsuchi (Osaka Univ.)

27pC-1 Epitaxial Growth of Mn-N and Cr-N Thin Films on $SrTiO_3$(100) Single-Crystal Substrates
°R. Kuwayama[1], K. Imamura[1], M. Ohtake[1], M. Futamoto[1], S. Isogami[2] ([1]Yokohama National Univ., [2]NIMS)

27pC-2 Phase Formation and Transformation in Fe-N Epitaxial Thin Films Formed on MgO(001) Substrates
°K. Imamura[1], Y. Maeda[1], M. Ohtake[1], M. Futamoto[1], S. Isogami[2] ([1]Yokohama National Univ., [2]NIMS)

27pC-3 Epitaxial Growth of Co-N Thin Films on MgO(001) Single-Crystal Substrates
°K. Abe[1], K. Imamura[1], M. Ohtake[1], M. Futamoto[1], S. Isogami[2] ([1]Yokohama National Univ., [2]NIMS)

27pC-4 Reduction in Magnetostriction of Fe-Al(001) Single-Crystal Thin Film by N Atom Addition
°T. Sato[1], K. Imamura[1], M. Ohtake[1], T. Kawai[1], M. Futamoto[1], N. Inaba[2] ([1]Yokohama National Univ., [2]Yamagata Univ.)

27pC-5 Influences of B and N Compositions on the Structure and Magnetic Properties of Fe-B-N Alloy Film

°N. Isogai[1], T. Sato[1], K. Imamura[1], M. Ohtake[1], T. Kawai[1], M. Futamoto[1], N. Inaba[2]
([1]Yokohama National Univ., [2]Yamagata Univ.)

27pC-6 Study on structure and magnetic properties of Fe-Ga-La thin films with various La contents

°R. Nishina, S. Muroga, T. Miyazaki, Y. Endo (Tohoku Univ.)

Growth & magnetism of thin-films Ⅱ **15:00 〜16:30** Chair: S. Isogami (NIMS)

27pC-7 Soft magnetic properties of In-substituted Ni ferrite thin films prepared by metal organic decomposition

°K. Kashima, K. Kamishima, K. Kakizaki (Saitama Univ.)

27pC-8 Influences of Annealing on the Crystallization and the Surface Morphology of $Y_3Fe_5O_{12}$ Thin Film Formed on $Gd_3Ga_5O_{12}$(111) Single-Crystal Substrate

°R. Yokoyama, K. Imamura, R. Hayashi, T. Matsui, K. Sekiguchi, M. Ohtake (Yokohama National Univ.)

27pC-9 Effect of Substrate Material on the Formation of $Y_3Fe_5O_{12}$(111) Single-Crystal Thin Film

°K. Imamura, R. Hayashi, R. Yokoyama, T. Matsui, K. Sekiguchi, M. Ohtake (Yokohama National Univ.)

27pC-10 Formation of $Sm(Fe,Co)_{12}$ Alloy Thin Film by Molecular Beam Epitaxy

°T. Yoshida[1], Y. Nakamura[1], K. Imamura[1], M. Ohtake[1], M. Futamoto[1], N. Inaba[2]
([1]Yokohama National Univ., [2]Yamagata Univ.)

27pC-11 Low-temperature growth (~100 ℃) of magnetic Weyl semimetal Co_2MnGa thin films by molecular beam epitaxy

°S. Nagata, S. Yamada, T. Usami, K. Yamauchi, T. Oguchi, K. Hamaya (Osaka Univ.)

27pC-12 Magnetic toroidal quadrupole and anomalous Hall effect in $NiCo_2O_4$ thin film

°H. Koizumi[1, 2], Y. Yamasaki[3], H. Yanagihara[2] ([1]Tohoku Univ., [2]Univ. of Tsukuba, [3]NIMS)

Magnetic anisotropy thin-films **16:45 〜18:00** Chair: M. Ohtake (Yokohama Nat. Univ.)

27pC-13 Perpendicular magnetic anisotropy of W-Cr/Fe/MgO trilayer films grown on MgO(001)

°Y. Yoshida[1], D. Oshima[1], H. Yoshikawa[2], A. Tsukamoto[2], T. Kato[1] ([1]Nagoya Univ., [2]Nihon Univ.)

27pC-14 Appearance of perpendicular magnetic anisotropy in Fe-Al/Cr-Al/Fe-Al multilayer

°T. Minami, K. Toyoki, Y. Shiratsuchi, R. Nakatani (Osaka Univ.)

27pC-15 Fabrication of CoPt/Pt multilayered films with perpendicular magnetic anisotropy and high squareness ratio by electrodeposition

°D. Araki[1], J. Okabayashi[2], Y. Takahashi[1, 3], T. Homma[1], Y. Sonobe[1] ([1]Waseda Univ., [2]Univ. of Tokyo, [3]NIMS)

27pC-16 Substrate heating temperature dependence of in-plane uniaxial magnetic anisotropy of Co thin films deposited on 128° Y-cut $LiNbO_3$ substrates

°S. Shikano[1], S. Ono[2], A. Yamaguchi[3], M. Shima[1], K. Yamada[1] ([1]Gifu Univ., [2]Tohoku Univ., [3]Univ. Hyogo)

27pC-17 Investigation of local distortion effect on magnetocrystalline anisotropy in α''-$Fe_{16}N_2$

°Y. Kota[1], A. Sakuma[2] ([1]NIT, Fukushima Coll., [2]Tohoku Univ.)

Sep. 27/Room D

Magnetic force microscopy **9:00 〜10:15** Chair: T. Yamada (Chiba Univ.)

27aD-1 Direct measurement of magnetic domain wall width in permanent magnets by DPC STEM

°Y. O. Murakami[1], T. Seki[1, 2], Y. Ikuhara[1, 3], N. Shibata[1, 3] ([1]Univ. of Tokyo, [2]JST-PREST, [3]JFCC)

27aD-2 Development of DC magnetic field measurement and alternating magnetic force microscopy: Independent detection of magnetic field and magnetic field gradient using double air-core coils

°R. Ehara, T. Matsumura, H. Sonobe, H. Saito (Akita Univ.)

27aD-3 Domain wall displacement imaging of soft magnetic film by alternating magnetic force microscopy: Fabrication of composited air core coils for controlling magnetic field direction

°K. Suzuki, M. V. Makarova, H. Sonobe, T. Matsumura, H. Saito (Akita Univ.)

27aD-4 Detection method of ferromagnetic resonance by using traveling-wave waveguide antenna for alternating magnetic force microscopy for high-frequency magnetic field imaging

°N. Umeda, K. Hayashi, M. Marina, H. Sonobe, T. Matsumura, H. Saito (Akita Univ.)

27aD-5 Development of 12-40 GHz traveling-wave waveguide antennas for alternating magnetic force microscopy for high-frequency magnetic field imaging
°K. Hayashi, N. Umeda, M. Makarova, H. Sonobe, T. Matsumura, H. Saito (Akita Univ.)

Measurement of high-frequency magnetic field **10:30 〜12:00** Chair: H. Saito (Akita Uinv.)

27aD-6 Selective detection of high frequency magnetic field by using a fundamental mode orthogonal fluxgate
°I. Sasada (Kyushu Univ.)

27aD-7 Evaluation of high frequency response for magnetic garnet film
°S. Hashi[1], K. Yoshihara[1], Y. Saito[2], K. Ishiyama[3] ([1]Tohoku Gakuin Univ., [2]Lancaster Univ., [3]Tohoku Univ.)

27aD-8 Higher-frequency permeability measurement using shielded loop coil method
T. Nakamura[1], Y. Sato[1], A. Itagaki[1], Y. Miyazawa[2], °M. Yamaguchi[2] ([1]Ryowa Elec., [2]Tohoku Univ.)

27aD-9 Compensation compositions for magnetization and angular momentum in Bi, Ga-substituted Eu garnets
°W. Asano[1], M. Md Abdullah Al[1], T. Nishi[2], D. Oshima[3], T. Kato[3], K. Lee[4], M. Kawahara[5], F. Z. Chafi[1], M. Nishikawa[1], T. Ishibashi[1] ([1]Nagaoka Univ. Tech., [2]Kobe City Coll. Tech., [3]Nagoya Univ., [4]Sogang Univ., [5]Kojundo)

27aD-10 Measurement of magnetization process in several MHz range
°H. Tanaka, T. Mannen, T. Isobe, E. Kita, H. Yanagihara (Univ. of Tsukuba)

27aD-11 Observation of Crosstalk by Near Magnetic Field Measurement Including Phase Information
°Y. Sugawara, T. Goto, K. Ishiyama (Tohoku Univ.)

Symposium "Optical control and time-resolved measurement of magnetic dynamics"
Chief Organizer: T. Ishibashi (Nagaoka Univ. Tech.), K. Tanabe (Toyota Tech. Inst.)

13:00 〜14:30 Chair: T. Ishibashi (Nagaoka Univ. Tech.)

27pD-1 Ultrafast optical control of magnetization dynamics in ferrimagnet with antiferromagnet-like spin order
°A. Tsukamoto (Nihon Univ.)

27pD-2 Magnetization switching in Pt/Co/Pt multilayers by circularly polarized ultrashort optical pulses
°K. T. Yamada (Tokyo Inst. Tech.)

27pD-3 Spin dynamics in ferromagnetic and antiferromagnetic thin films studied by ultrafast lasers
°H. Wadati (Univ. Hyogo)

14:45 〜16:15 Chair: K. Tanabe (Toyota Tech. Inst.)

27pD-4 Nonlinear and linear X-ray magnetic spectroscopy by ultrashort pulse X-ray lasers
°I. Matsuda (Univ. of Tokyo)

27pD-5 High throughput magneto-optical imaging and unconventional spin-wave dynamics
°T. Hioki (Univ. of Tokyo)

27pD-6 Observation of exchange bias switching using time-resolved magneto-optical Kerr microscopy
°T. Taniguchi[1], Y. Wang[2], P. Lin[3], D. Zicchino[4], A. Nickl[4], J. Sahliger[4], C. Lai[3], C. Song[2], H. Wu[2], Q. Dai[2], C. Back[4]
([1]Tohoku Univ., [2]Tsinghua Univ., [3]Nat. Tsing Hua Univ., [4]TU Muenchen)

Sep. 27/Room E

Magnetic beads, biosensing **12:30 〜14:15** Chair: T. Yoshida (Kyushu Univ.)

27pE-1 Simulation Study of Magnetic Promotion for Rapid Immunoassay Utilizing Magnetic Nanoparticles
°T. Tanaka (Aichi Univ. of Tech.)

27pE-2 Evaluation of magnetic relaxation of magnetic nanoparticles in living tumor
°H. Kosaka[1], K. Honda[1], M. Futagawa[1], K. Shimizu[2], Y. Takemura[3], S. Ota[1]
([1]Shizuoka Univ., [2]Hamamatsu Univ. School of Medicine, [3]Yokohama National Univ.)

27pE-3 Measurements of magnetic relaxation of magnetic nanoparticles by applying the pulsed magnetic field
°H. Goto[1], M. Futagawa[1], Y. Takemura[2], S. Ota[1] ([1]Shizuoka Univ., [2]Yokohama National Univ.)

27pE-4 Evaluation of magnetic properties of magnetic nanoparticles in living adherent cells
°M. Nishida[1], Y. Kurashina[2], M. Futagawa[1], Y. Takemura[3], S. Ota[1] ([1]Shizuoka Univ., [2]TUAT, [3]Yokohama National Univ.)

27pE-5 Magnetic linear birefringence of magneto-liposome suspension under ac field
°M. Suwa, M. Higuchi, Y. Okamoto, S. Tsukahara (Osaka Univ.)

27pE-6 Measurement of bacteria using magnetic beads by switching magnetic field
°K. Kaneko, T. Murayama, J. Honda, L. Tonthat, K. Okita, S. Yabukami (Tohoku Univ.)

27pE-7 Development of magnetic nanoparticle dispersion method using femtosecond laser
°S. Asayama, S. Kako, T. Yamamoto, K. Yamashita, J. Wang, T. Kiwa (Okayama Univ.)

Medical applications, magnetic particle imaging **14:30 〜16:30** Chair: S. Ota (Shizuoka Univ.)

27pE-8 Narrowband frequency-modulated magnetization signal measurement using magnetoresistive sensor for long-range magnetic nanoparticle detection under low excitation field
°S. Trisnanto[1], T. Kasajima[2], T. Shibuya[2], Y. Takemura[1] ([1]Yokohama National Univ., [2]TDK)

27pE-9 Remote detection of magnetic nanoparticles by using flux transformer and magnetoresistive sensor
°S. Nabeta[1], S. Noguchi[1], S. B. Trisnanto[1], T. Kasajima[2], T. Shibuya[2], Y. Takemura[1] ([1]Yokohama National Univ., [2]TDK)

27pE-10 Feasibility of active magnetic shield with flat panel shape
°S. Odawara, M. Sakakibara (OHTAMA)

27pE-11 Construction of a water-cooling system in magnetic nanoparticle tomography
°M. Fujimoto, N. Futagawa, T. Sasayama, T. Yoshida (Kyushu Univ.)

27pE-12 Investigation of reducing the acquisition time of the system matrix in magnetic nanoparticle tomography
°N. Futagawa, M. Fujimoto, T. Sasayama, T. Yoshida (Kyushu Univ.)

27pE-13 Development of magnetic particle imaging scanner using superconducting gradient magnetic field coils
°Y. Kamei[1], T. Nagano[1], H. Sasa[1], T. Sasayama[1], Y. Takemura[2], T. Yoshida[1] ([1]Kyushu Univ., [2]Yokohama National Univ.)

27pE-14 Quantitative evaluation of viscous effects on the relaxation time of magnetic nanoparticles
°M. Washino[1], K. Nomura[1], T. Matsuda[1], S. Seino[2], T. Nakagawa[2], T. Kiwa[3], A. Tanaka[4], T. Sakane[4]
([1]MITSUBISHI, [2]Osaka Univ., [3]Okayama Univ., [4]Kobe Pharmaceutical Univ.)

27pE-15 Development of in vitro magnetic particle imaging method using relaxation time difference
°K. Nomura[1], M. Washino[1], T. Matsuda[1], S. Seino[2], T. Nakagawa[2], T. Kiwa[3] ([1]MITSUBISHI, [2]Osaka Univ., [3]Okayama Univ.)

Sep. 27/Poster Room

Poster session Ⅰ (Physics of Magnetism, Utilization of High Magnetic Fields, Hard and Soft Magnetic Materials, Power Magnetics, Measurement Technique, High frequency Devices, Magnetic Imaging, Biomagnetism and Medical Application, Magnetic Recording)

15:45 〜18:00 Chair: K. Yamanoi (Keio Univ.)

27pPS-1 Temperature dependence of magnetostrictive properties of $Cu_xCo_{1-x}Fe_2O_4$
°S. Kosugi, M. Hisamatsu, S. Fujieda, Y. Ohishi, H. Muta, S. Seino, T. Nakagawa (Osaka Univ.)

27pPS-2 Development of real-time and high-speed magnetic domain measurement system for iron loss analysis and Application of machine learning
°R. Nagaoka[1], K. Masuzawa[1], A. L. Foggiatto[1], C. Mitsumata[1], T. Yamazaki[1], I. Obayashi[2], Y. Hiraoka[3], M. Kotsugi[1]
([1]Tokyo Univ. Sci., [2]Okayama Univ., [3]Kyoto Univ.)

27pPS-3 Magneto refractive effect in nano-imprinted GeFeCo nano-wires
°S. Sumi, K. Tanabe, H. Awano (Toyota Tech. Inst.)

27pPS-4 Magnetization reversal with circularly polarized light in dot patterned FePt thin films
°T. Homma[1], H. Sakaguchi[1], S. Nakazawa[1], Y. Sasaki[2], S. Isogami[2], Y. K. Takahashi[2], T. Ishibashi[1]
([1]Nagaoka Univ. Tech., [2]NIMS)

27pPS-5 Enhancement of coercivity for grain boundary diffused $Sm(Fe\text{-}Co)_{12}$-B thin films by the introduction of Sm seed layer
°Y. Mori, S. Nakatsuka, S. Hatanaka, M. Doi, T. Shima (Tohoku Gakuin Univ.)

27pPS-6 Synthesis conditions and magnetic properties of $SrNi_xZn_{2-x}$-W-type hexaferrites
°K. Ishino, S. Fujieda, S. Seino, T. Nakagawa (Osaka Univ.)

27pPS-7 N_2 partial pressure dependence of magnetic properties Fe-Ga-N thin film
°K. Suzuki[1], T. Hino[1], Y. Fujiwara[1], M. Jimbo[1], D. Oshima[2], T. Kato[2] ([1]Mie Univ., [2]Nagoya Univ.)

27pPS-8 Strain sensor application of FeSiBNb film showing large Barkhausen jump
°K. Maeno[1], Y. Kutsuna[1], M. Yanagida[1], Y. Fujiwara[1], M. Jimbo[1], D. Oshima[2], T. Kato[2] ([1]Mie Univ., [2]Nagoya Univ.)

27pPS-9 Magnetic properties and mechanical characteristic of Fe-Pt thin-sheets prepared by exfoliation behavior
°Y. Miyahara[1], A. Yamashita[1], T. Yanai[1], H. Fukunaga[1], M. Nakano[1], C. Qi[2], T. Shinshi[2] ([1]Nagasaki Univ., [2]Tokyo Inst. Tech.)

27pPS-10 Electromagnetic levitation for flexible steel plate using magnetic field from horizontal direction (Experimental investigation on control system considering two-degree-of freedom model)
°S. Onitsuka[1], A. Endo[1], J. Kuroda[2], D. Uchino[2], K. Ogawa[3], K. Ikeda[4], T. Kato[5], T. Narita[2], H. Kato[2]
([1]FIT, [2]Tokai Univ., [3]AUT, [4]Hokkaido Univ. Sci., [5]TUT)

27pPS-11 Development of Electromagnetic Guideway System for Seamless Ultra-Thin Steel Plate (Fundamental Consideration on Control Model in Edge and Out-of-Plane Direction)
°T. Okubo[1], R. Kano[1], J. Kuroda[1], D. Uchino[1], K. Ogawa[2], K. Ikeda[3], T. Kato[4], A. Endo[5], T. Narita[1], H. Kato[1]
([1]Tokai Univ., [2]AUT, [3]Hokkaido Univ. Sci., [4]Tokyo Univ. Tech., [5]FIT)

27pPS-12 Non-contact Guidance of Continuous Steel Plates Using Electromagnets (Experimental Consideration on Effect of Vibration Suppression with Electromagnet Position)
°R. Kano[1], T. Okubo[1], J. Kuroda[1], D. Uchino[1], K. Ogawa[2], K. Ikeda[3], T. Kato[4], A. Endo[5], H. Kato[1], T. Narita[1]
([1]Tokai Univ., [2]Aichi Univ. Tech, [3]Hokkaido Univ. Sci, [4]Tokyo Univ. Tech, [5]FIT)

27pPS-13 Ultra-compact mobility with driver comfort in mind Active seat suspension (Experimental investigation of occupant's biometric information when vibration is input)
°S. Kasamatsu[1], M. Ochiai[1], I. Kobayashi[1], D. Uchino[1], J. Kuroda[1], A. Endo[2], K. Ikeda[3], T. Kato[4], K. Ogawa[5], T. Narita[1], H. Kato[1] ([1]Tokai Univ., [2]FIT, [3]Hokkaido Univ. of Sci, [4]Tokyo Univ. of Tech, [5]AUT)

27pPS-14 Anomalous Nernst effects in TbCo and GdCo alloys for heat flux sensing
°M. Odagiri, H. Imaeda, S. Sumi, H. Awano, K. Tanabe (Toyota Tech. Inst.)

27pPS-15 Impedance change ratio of thin-film MI element at GHz range
°Y. Tanaka, M. Tanii, H. Kikuti (Iwate Univ.)

27pPS-16 Analysis of the origin of magnetic moments in $(Fe_{75}Co_{25})_x$-Ir_{1-x} composition gradient alloy with high saturation magnetization using magnetic circular dichroism (MCD)
°T. Kawasaki[1], T. Yamazaki[1], A. L. Foggiatto[1], K. Fuku[1], R. Toyama[2], K. K. Varun[2], Y. Sakuraba[2], Y. Iwasaki[2], Y. Kotani[3], T. Ohkochi[3], K. Higashi[3], N. Kawamura[3], M. Kotsugi[1] ([1]Tokyo Univ. Sci., [2]NIMS, [3]JASRI/SPring-8)

27pPS-17 Investigation of drying technique for PEGylated iron oxide nanoparticles using the Micro Powder Dry method.
°N. Kota[1], S. Seino[1], M. Tanabe[1], T. Konoo[1], S. Uematsu[1, 2], T. Nakagawa[1] ([1]Osaka Univ., [2]ULVAC)

27pPS-18 Synthesis of oleic acid-stabilized iron oxide nanoparticles by thermal decomposition
°S. Yamashita, R. Miura, H. Takimoto, S. Seino, T. Nakagawa (Osaka Univ.)

27pPS-19 Exploration of silane coupling treatment conditions for oleic acid-stabilized iron oxide nanoparticles
°H. Takimoto, R. Miura, S. Yamashita, S. Seino, T. Nakagawa (Osaka Univ.)

27pPS-20 Study on Signal Processing of Magnetic Particle Imaging System with Parallel DC AC Magnetic Field
°M. Iizuka, A. Furukawa, S. Seino, T. Nakagawa (Osaka Univ.)

27pPS-21 Effect of Carbon Substitution into Oxide Grain Boundaries on Magnetic Properties and Microstructure of FePt Granular Thin Films
°K. Tham[1], R. Kushibiki[1], S. Saito[2] ([1]TANAKA, [2]Tohoku Univ.)

27pPS-22 Evaluation of blocking phenomenon for $L1_0$ typed FePt granular films by using temperature hysteresis
°D. Isurugi[1], T. Saito[1], S. Kaneko[1], K. Tham[2], T. Ogawa[1], S. Saito[1] ([1]Tohoku Univ., [2]TANAKA)

Sep. 28/Room A

Symposium "Advanced local probe techniques in nanoscaled magnetism"

Chief Organizer: N. Kikuchi (Tohoku Univ.), J. Okabayashi (Univ. of Tokyo)

9:00 〜10:30 Chair: N. Kikuchi (Tohoku Univ.)

28aA-1 Nanoscaled magnetism probed by synchrotron-radiation spectromicroscopy
°T. Ueno (QST)

28aA-2 Atomic-scale surface and interface magnetism based on ferromagnetic monatomic layer iron nitride
°T. Miyamachi (Nagoya Univ.)

28aA-3 Automated interpretation of magnetic domain structure using feature extended Landau free energy model
°M. Kotsugi (Tokyo Univ. Sci.)

10:45 〜12:15 Chair: J. Okabayashi (Univ. of Tokyo)

28aA-4 Interfacial Imaging on Magnetic Junctions by Electron Microscopy
°A. Hirohata[1, 2], K. Elphick[1], D. C. Lloyd[1], S. Mizukami[2] ([1]Univ. of York, [2]Tohoku Univ.)

28aA-5 Nanostructure characterization of magnetic materials by SEM/TEM/APT
°T. Sasaki, J. Uzuhashi, T. Ohkubo (NIMS)

28aA-6 Voltage-control of magnetization dynamics by using topological insulators
°T. Komine[1], T. Chiba[2] ([1]Ibaraki Univ., [2]Tohoku Univ.)

Sep. 28/Room B

Anomalous Nernst effect Ⅰ **9:00 〜9:45** Chair: Y. Sakuraba (NIMS)

28aB-1 Anomalous Nernst effect of SnSe thin films doped with magnetic elements
°K. Wada, T. Miyamachi, M. Mizuguchi (Nagoya Univ.)

28aB-2 Electric field control of anomalous Nernst effect in FePt thin films
°S. Yoshida, T. Miyamachi, M. Mizuguchi (Nagoya Univ.)

28aB-3 Figure of merit for transverse thermoelectric conversion in Fe/Pt metallic superlattices
°T. Yamazaki[1], T. Hirai[2], T. Yagi[3], K. Uchida[1, 2], T. Seki[1, 2], K. Takanashi[1, 4] ([1]Tohoku Univ., [2]NIMS, [3]AIST, [4]JAEA)

Anomalous Nernst effect Ⅱ **10:00 〜11:00** Chair: T. Hirai (NIMS)

28aB-4 Composition dependence of thermoelectric tensor in amorphous TbFeCo magnetic thin films
°T. Komine[1], R. Ando[2] ([1]Ibaraki Univ., [2]NIT, Ibaraki Coll.)

28aB-5 Anomalous Nernst voltage in GdFeCo ferrimagnetic multilayer thin film
°Y. Kobayashi, F. Kitazawa, Y. Kasatani, H. Yoshikawa, A. Tsukamoto (Nihon Univ.)

28aB-6 Unraveling spin-polarized band dispersions of Fe_3Ga thin films exhibiting a giant anomalous Nernst effect
K. Ohwada[1], K. Nakanishi[1], K. Kuroda[1], K. Miyamoto[1], T. Okuda[1], W. Zhou[2], S. Isogami[2], K. Masuda[2], Y. Sakuraba[2], °A. Kimura[1] ([1]Hiroshima Univ., [2]NIMS)

28aB-7 Anomalous Nernst effect in Ge-doped Co thin films
°T. Tsujimoto[1], T. Fujita[2], T. Miyamachi[1], S. Ueda[3], M. Mizuguchi[1] ([1]Nagoya Univ., [2]Kochi Univ. Tech., [3]NIMS)

Sep. 28/Room C

Magnetic recording **10:45 〜12:00** Chair: I. Suzuki(WD)

28aC-1 Printing characteristics of burst signals by using double magnet mater media
°T. Komine (Ibaraki Univ.)

28aC-2 Magnetization state of FePt fine particles formed from micro Pt / Fe thin films
°Y. Shimizu, H. Yoshikawa, A. Tsukamoto (Nihon Univ.)

28aC-3 Energy barrier height for microwave assisted switching
S. Mizutani, °N. Kikuchi, M. Hatayama, T. Shimatsu, S. Okamoto (Tohoku Univ.)

28aC-4 Design direction of oxide in CoPt granular thin film for perpendicular recording media
°M. Saito, H. Ohashi, A. Hashimoto (Resonac)

28aC-5 Mitigation method of mode hopping effect on NFT protrusion measurement
°A. Sakoguchi, M. Furukawa, S. Nishida, R. Nishikura, K. Tasaka (Western Digital Technologies GK)

Sep. 28/Room D

Surface magnetism and interface magnetism **9:00 〜10:45** Chair: K. Toyoki (Osaka Univ.)

28aD-1 Stripe structures in Mn films on Fe(110)
°T. Yamada[1], E. Inami[2], P. Krueger[1] ([1]Chiba Univ., [2]Kochi Univ. Tech.)

28aD-2 Demonstration of magnetic compensation of Cu-doped Mn_4N thin films at room temperature by composition modulation
°A. Hatate[1], K. Amemiya[2], K. Toko[1], T. Suemasu[1] ([1]Univ. of Tsukuba, [2]KEK)

28aD-3 Antiferomagnetic domain formation and spin frustration in ultrathin Cr(001) film
°T. Kawagoe[1], S. Suga[2] ([1]Osaka Kyoiku Univ., [2]Osaka Univ.)

28aD-4 Co substitution effect on the amount of magnetization near the magnetic interface in GdFe-based ferrimagnetic thin films
°F. Kitazawa, Y. Sou, H. Yoshikawa, A. Tsukamoto (Nihon Univ.)

28aD-5 Film thickness dependence of anomalous Hall resistance and longitudinal resistance of GdFe thin films at different temperatures
°Y. Sou, F. Kitazawa, Y. Kobayashi, Y. Kasatani, H. Yoshikawa, A. Tsukamoto (Nihon Univ.)

28aD-6 Correlation between roughness and magnetic coupling at CoPc/γ'-Fe_4N organic-inorganic hybrid interface
°H. Ono[1], Y. Umeda[1], K. Yoshida[1], K. Tsutsui[1], K. Yamamoto[2], O. Ishiyama[2], T. Yokoyama[2], M. Mizuguchi[1], T. Miyamachi[1] ([1]Nagoya Univ., [2]IMS)

28aD-7 Interfacial magnetic coupling in C_{70}-based organic-inorganic hybrid thin films
°K. Yoshida[1], H. Ono[1], Y. Umeda[1], K. Tsutsui[1], K. Yamamoto[3], O. Ishiyama[3], Y. Matsuo[1], T. Yokoyama[3], M. Mizuguchi[1, 2], T. Miyamachi[1, 2] ([1]Nagoya Univ., [2]IMaSS, [3]IMS)

Sep. 28/Room E

Motor **9:00 〜10:30** Chair: K. Ishiyama (Tohoku Univ.)

28aE-1 Experimental Verification of Loss Dependence on Torque and Speed in Flux-modulated-type Magnetic Gear
°E. Asahina, K. Nakamura (Tohoku Univ.)

28aE-2 Basic Examination of Instantaneous Torque Control for High-speed SR Motor
°A. Okada, K. Nakamura (Tohoku Univ.)

28aE-3 Flux Barrier Shape for Reluctance Torque Improvement of Distributed-Winding Interior Permanent Magnet Motor
°K. Tamura[1], K. Nakamura[1], K. Naruse[2], M. Kayano[2] ([1]Tohoku Univ., [2]Aichi Steel)

28aE-4 Magnet Arrangement of Concentrated-Winding Interior Permanent Magnet Motor with Nd-Fe-B and Ferrite Magnets
°T. Obana, K. Nakamura (Tohoku Univ.)

28aE-5 Drive Range Expansion of In-Wheel Axial-Flux SR Motor for Compact EV
°Y. Nishigai, K. Nakazawa, K. Nakamura (Tohoku Univ.)

28aE-6 Examination of Air Gap Flux Density Waveforms of Flux-Modulated-type Magnetic Gear
°A. Okazaki[1], T. Sumi[1], K. Nakamura[1], T. Shinji[2], K. Takeda[2] ([1]Tohoku Univ., [2]TDK)

Inductor・Converter・Modeling **10:45 〜11:45** Chair: K. Fujisaki (Toyota Tech. Inst.)

28aE-7 Calculation for Output Characteristic of Motor Structure with Boost Reactor Function Based on RNA
°L. Zhang, Y. Yoshida, S. Sakurai, N. Handa, K. Tajima (Akita Univ.)

28aE-8 A Study on High Torque IPMSM Using Sm-Fe-N Bonded Magnet
°K. Takeda[1], Y. Yoshida[1], R. Yoshida[2], M. Abe[2], S. Tada[2], M. Yamamoto[2], K. Tajima[1] ([1]Akita Univ., [2]NICHIA)

28aE-9 Design and Analysis of 3 kVA Orthogonal-Core-type Variable Inductor with Permanent Magnets
°S. Aizu[1], K. Nakamura[1], T. Ohinata[2], K. Arimatsu[2] ([1]Tohoku Univ., [2]Tohoku Electric Power)

28aE-10 Fabrication of LLC-L resonant DC-DC converter using Fe-based composite magnetic core leakage transformer
°R. Miyata, K. Yoda, T. Minamisawa, M. Sonehara, T. Sato (Shinshu Univ.)

Sep. 28/Poster Room

Poster session Ⅱ (Spintronics, Thin Films, Fine Particles, Multilayers, and Superlattices)

10:15 〜12:30 Chair: T. Hajiri(muRata)

28aPS-1 MgO barrier layer thickness dependence of electrical 1/f noise in magnetic tunnel junctions
°Y. Wang[1], M. Al-Mahdawi[2], Z. Jin[3], M. Oogane[1, 2] ([1]Tohoku Univ., [2]CSIS, [3]CAS)

28aPS-2 Non-local spin transport measurement in ferrimagnetic GdCo thin films
°T. Ito[1], S. Funada[1], K. Kuwano[1], I. Sugiura[1], Y. Shiota[1], T. Moriyama[2], T. Ono[1] ([1]Kyoto Univ., [2]Nagoya Univ.)

28aPS-3 Structural analysis and magnetic properties of $Co_2FeAl_{0.5}Si_{0.5}$/GeSn junction deposited by sputtering method
°Y. Kawaharabayashi[1], M. Kuniyoshi[2], M. Takeuchi[2], R. Ishikawa[2] ([1]Yamato Univ., [2]ULVAC)

28aPS-4 Characterization of anomalous Hall effect and anomalous Nernst effect in $Co_2Mn(Al,Ga)$ thin films
°K. Sugawara, M. Yamanouchi, T. Uemura (Hokkaido Univ.)

28aPS-5 Sensitivity improvement of a heat flux sensor based on anomalous Nernst effect by uneven structure
°H. Imaeda, M. Odagiri, M. Sakamoto, S. Sumi, H. Awano, K. Tanabe (Toyota Tech. Inst.)

28aPS-6 Phase transition of skyrmion by applying voltage
°M. Kasagawa[1], S. Miki[1], K. Hashimoto[1], R. Ishikawa[2], M. Goto[1], H. Nomura[1], Y. Suzuki[1] ([1]Osaka Univ., [2]ULVAC)

28aPS-7 Numerical study on skyrmion transport with small size and high speed
°R. Satone, Y. Kurokawa, H. Yuasa (Kyushu Univ.)

28aPS-8 Evaluation of information current between skyrmions
°K. Emoto[1], H. Mori[1], R. Ishikawa[2], S. Miki[1, 3, 4], M. Goto[1, 3, 4], H. Nomura[1, 3, 4], E. Tamura[1, 3, 4], Y. Suzuki[1, 3, 4]
([1]Osaka Univ., [2]ULVAC, [3]OTRI-Osaka, [4]CSRN-Osaka)

28aPS-9 Proposal of Merge and Fork circuits using the Brownian motion of magnetic skyrmions by micromagnetic simulation
°H. Imanishi[1], S. Miki[1, 2, 3], M. Goto[1, 2, 3], E. Tamura[1, 2, 3], H. Nomura[1, 2, 3], Y. Suzuki[1, 2, 3]
([1]Osaka Univ., [2]Osaka Univ. OTRI, [3]Osaka Univ. CSRN)

28aPS-10 Fabrication of information input device by skyrmion
°R. Ishikawa[1], M. Goto[2], H. Nomura[2], Y. Suzuki[2] ([1]ULVAC, [2]Osaka Univ.)

28aPS-11 Fabrication of epitaxial $Cr_2O_3(0001)$ thin film on $LiNbO_3(0001)$
°Y. Nakamura[1], K. Toyoki[1, 2, 3], R. Nakatani[1, 2, 3], Y. Shiratsuchi[1, 2, 3] ([1]Osaka Univ., [2]OTRI, Osaka Univ., [3]CSRN, Osaka Univ.)

28aPS-12 Growth of layered magnet prepared on ultrathin Mn(001) films
°H. Seki, T. Kashiwagi, T. Yamada (Chiba Univ.)

28aPS-13 Magnetic first-order reversal curves for concave Fe_3O_4 nanoparticles
°H. Li, S. Matsuo, S. Kobayashi, R. Kawamura (Iwate Univ.)

28aPS-14 Magnetic properties and surface effects of hcp and fcc-CoO nanoparticles
°T. Tachibana, Y. Hotta, K. Takahashi, C. Noda, S. Kobayashi (Iwate Univ.)

28aPS-15 Magnetic heating properties of hollow Fe_3O_4 particles with magnetic vortex structure
°H. Akiyama[1], L. Tonthat[1], A. Kuwahata[1], S. Yabukami[1], S. Kobayashi[2] ([1]Tohoku Univ., [2]Iwate Univ.)

28aPS-16 Characterization of GdFe thin films with a concentration gradient in the perpendicular direction
°J. Mizuno, S. Sumi, H. Awano, K. Tanabe (Toyota Tech. Inst.)

28aPS-17 Fabrication of ferromagnetic high-entropy alloys thin films and evaluation of magneto-transport properties
°K. Suzuki[1, 2], K. Takanashi[1, 2] ([1]JAEA, [2]Tohoku Univ.)

28aPS-18 Fabrication of epitaxial $MgAl_2O_4/L1_0$-FePt(001) stacks for perpendicular magnetic tunnel junctions
°T. Kanazawa[1, 2], T. Scheike[1], J. Uzuhashi[1], T. Ohkubo[1], H. Sukegawa[1], S. Mitani[1, 2], H. Yanagihara[2]
([1]NIMS, [2]Univ. of Tsukuba)

28aPS-19 Anomalous ferromagnetic damping in [Co/Ni] multilayer/Pt/Fe heterostructures
°T. Izumi[1], Y. Hisada[1], S. Komori[1], K. Imura[2], T. Taniyama[1] ([1]Dept. Phys., Nagoya Univ., [2]ILAS, Nagoya Univ.)

28aPS-20 Node-state detection method for magnetic nanowire reservoir
°T. Maeda[1], K. Hon[1], H. Kubota[2], M. Goto[1, 3, 4], Y. Suzuki[1, 3, 4], H. Nomura[1, 3, 4, 5]
([1]Osaka Univ, [2]AIST, [3]CSRN Osaka, [4]OTRI -Osaka, [5]Tohoku Univ)

28aPS-21 Real-Time detection of 500 m/s high-speed Domain Wall Motion using Laser
°N. Suzuki, K. Wainai, K. Nomura, M. Mohammadi, S. Sumi, K. Tanabe, H. Awano (Toyota Tech. Inst.)

28aPS-22 Preparation of magnetic films by LIFT technique
°I. Fukuda, K. Higashi, G. Tahara, A. Yamashita, T. Yanai, H. Fukunaga, M. Nakano (Nagasaki Univ.)

28aPS-23 Estimation of magnetic anisotropy from a magnetic domain image in TbCo alloy films using machine learning
°A. Watanabe, S. Kuno, H. Awano, K. Tanabe (Toyota Tech. Inst.)

Sep. 28/Fellow Lecture Room (Osaka University Hall)

Fellow lecture **13:00 〜 14:30** Chair: M. Mizuguchi (Nagoya Univ.)

28FL-1 Nanostructure and Magnetic Materials
°K. Hono (NIMS)

28FL-2 Pioneering of spintronic functions of non-metallic materials and its control by external fields
°M. Shiraishi (Kyoto Univ.)

28FL-3 Development of new-functional spintronic devices and its application to innovative information processing
°S. Fukami (Tohoku Univ., InaRIS)

Sep. 29/Room A

Symposium "Fusion of mechanics and spintronics" Chief Organizer: H. Tanigawa (SCK)

9:00 〜10:30 Chair: K. Yamada (Gifu Univ.)

29aA-1 Spintronics applications of gyromagnetic effect
°Y. Nozaki (Keio Univ., Keio CSRN)

29aA-2 Theory of acoustic gyromagnetic effect
°M. Matsuo (Univ. Chinese)

10:45 〜12:15 Chair: K. Yamada (Gifu Univ.)

29aA-3 Acoustic phonon induced spin dynamics
°M. Hayashi (Univ. of Tokyo)

29aA-4 Hydrodynamic Generation mediated by Spin Current
°R. Takahashi (Ochanomizu Univ.)

13:15 〜15:30 Chair: H. Tanigawa (SCK)

29pA-1 Magneto-mechanical micro devices
°T. Ono (Tohoku Univ.)

29pA-2 Spin Elastronics ―Mechanical sensing using spintronics devices―
°D. Chiba (Osaka Univ., Tohoku Univ.)

29pA-3 Active and selective temperature control using mechanical strain
°T. Hirai (NIMS)

Sep. 29/Room B

Granular films and nano particles **9:00 〜10:30** Chair: H. Yanagihara (Tsukuba Univ.)

29aB-1 Effect of Fe content on FeCo-MgF_2 granular films prepared by co-evaporation.
°M. Miyamoto[1], T. Kubo[1], S. Sue[1, 2], M. Sonehara[2], T. Sato[2] ([1]CITIZEN FINEDEVICE, [2]Shinshu Univ.)

29aB-2 Fabrication of nanogranular bulky materials and their electromagnetic properties
°N. Kobayashi, T. Iwasa, K. Ikeda, M. Naoe, K. Arai (DENJIKEN)

29aB-3 Magneto-optical effect in Co-BaF/BaF multilayer nanogranular films
°K. Ikeda, N. Kobayashi, K. Arai (DENJIKEN)

29aB-4 Fabrication of Fe-Fe_3O_4 co-aggregated nanoparticles assembly and their AC magnetic property
°S. Yanagita[1, 2], Y. Yamaguchi[1], N. Kosaka[1], Y. Sotome[1], C. Mcnamee[3], S. Yamamoto[2], S. Saito[1], T. Ogawa[1]
([1]Tohoku Univ., [2]Sankei Giken Kogyo Co., Ltd., [3]Shinshu Univ.)

29aB-5 Synthesis of Co-Pt nanoparticles in isolated spherical shell protein PfV
°K. Tagata[1], R. Tominaga[1], A. Higashiura[2], R. Nakatani[1], A. Nakagawa[1], Y. Shiratsuchi[1] ([1]Osaka Univ., [2]Hiroshima Univ.)

29aB-6 Preparation of epoxy-coated Fe-B /Epoxy composite film by LbL method assisted composite plating
°C. Masumoto[1], T. Nishii[2], S. Higashi[2], H. Muto[3], Y. Endo[1], N. Fujita[2]
([1]Tohoku Univ., [2]NIT, Nara Coll., [3]Toyohashi Univ. Tech.)

Spin orbit torque **10:45 〜12:30** Chair: S. Karube (Kyoto Univ.)

29aB-7 Self-induced spin-orbit torque induced by the spin Hall effect in ferromagnets
°M. Aoki[1, 2], E. Shigematsu[1], R. Ohshima[1, 2], S. Teruya[1, 2], M. Shiraishi[1, 2], Y. Ando[1, 2, 3]
([1]Kyoto Univ., [2]CSRN Kyoto Univ., [3]PRESTO, JST)

29aB-8 Spin Orbit Torque Magnetization Switching of Tb/Gd/FeCo Multilayers deposited on Ta layer
°Y. Fujita[1], D. Oshima[1], S. Takahashi[2], Y. Hirayama[2], T. Kato[1] ([1]Nagoya Univ., [2]Samsung Research Inst. Jpn.)

29aB-9 A modulation of spin pumping due to ferromagnetic to antiferromagnetic phase transition in single crystalline Dy film
°K. Yamanoi, Y. Nozaki (Keio Univ.)

29aB-10 Effect of an ultrathin Fe interlayer on the growth of MnGa and spin-orbit-torque induced magnetization switching
°M. Ogawa, T. Hara, S. Hasebe, M. Yamanouchi, T. Uemura (Hokkaido Univ.)

29aB-11 Spin transfer torque assisted spin orbit torque switching of CPP-GMR with perpendicularly magnetized Co/Pd memory layer
°D. Pan, Z. Cao, D. Oshima, T. Kato (Nagoya Univ.)

29aB-12 Thermal spin-transfer torque assisted all-optical switching in $L1_0$-ordered FePt thin films
°J. Wang[1], Z. Wen[2], Y. Sasaki[2], Y. Takahashi[2], K. Uchida[2], K. Takagi[1], K. Ozaki[1] ([1]AIST, [2]NIMS)

29aB-13 Frequency characteristics of emergent electromagnetic response in magnetic nanostructures
°Jun'ichi Ieda[1], Y. Araki[1], Y. Yamane[2] ([1]JAEA, [2]Tohoku Univ.)

TMR, GMR, AMR Ⅰ **13:30 〜14:30** Chair: H. Sukegawa (NIMS)

29pB-1 Anisotropic magnetoresistance effect in $Fe_{4-x}Ni_xN$ films grown by molecular beam epitaxy
°W. Yin, K. Ito, T. Tanaka, R. Y. Umetsu (Tohoku Univ.)

29pB-2 Temperature dependence of anisotropic magnetoresistance effect considering crystal orientation of Co-based Heusler bulk-single crystals
°T. Tanaka[1], T. Kubota[1], S. Kokado[2], R. Y. Umetsu[1] ([1]Tohoku Univ., [2]Shizuoka Univ.)

29pB-3 Quantum-annealing approach for designing cation-disordered spinels for magnetic tunnel junctions
°K. Nawa[1, 2], T. Suzuki[3], K. Masuda[2], S. Tanaka[4, 5], Y. Miura[2, 6]
([1]Mie Univ., [2]NIMS, [3]TDK, [4]Keio Univ., [5]WPI-Bio2Q, Keio Univ., [6]CSRN, Osaka Univ.)

29pB-4 Tunnel magnetoresistance effect of magnetic tunnel junctions using perpendicularly magnetized conductive cobalt ferrite electrodes
°M. Tanaka[1], T. Ichikawa[1], D. Mashimo[1], M. Morishita[1], H. Komiyama[2], S. Honda[3], T. Ono[2], K. Mibu[1]
([1]Nagoya Inst. Tech., [2]Kyoto Univ., [3]Kansai Univ.)

TMR, GMR, AMR Ⅱ **14:45 〜15:45** Chair: K. Nawa (Mie Univ.)

29pB-5 Theoretical study for (111)-oriented magnetic tunnel junctions with $SrTiO_3$ barriers
°K. Masuda[1], H. Itoh[2], Y. Sonobe[3], H. Sukegawa[1], S. Mitani[1], Y. Miura[1] ([1]NIMS, [2]Kansai Univ., [3]Waseda Univ.)

29pB-6 Dependence of magnetic tunneling properties of Fe_3O_4-MTJs on barrier material
°K. Yoshino[1], S. Yasui[1], S. Yokokura[1], T. Shimada[1], T. Nagahama[2] ([1]Hokkaido Univ., [2]Yamaguchi Univ.)

29pB-7 CoFe/MgO/CoFe(001) magnetic tunnel junctions with giant tunnel magnetoresistance exceeding 630% at room temperature
°T. Scheike, Z. Wen, H. Sukegawa, S. Mitani (NIMS)

29pB-8 Fabrication and analyzation of magnetoresistance device with composition spread layer for optimization of interfacial electronic band matching
V. K. Kushwaha, R. Toyama, Y. Miura, Y. Iwasaki, °Y. Sakuraba (NIMS)

Sep. 29/Room C

Magnetic powder core **9:00 〜10:15** Chair: H. Nakayama (Nagano Nat. Coll. Tech.)

29aC-1 Low temperature formation of oxide film on Fe-based micron particles synthesized from magnetite by gas-solid reaction
°M. Miyazawa, T. Ogawa, M. Tobise, S. Saito (Tohoku Univ.)

29aC-2 Correlation between iron loss and features of *B-H* curves of dust cores under the application of dc bias field
°T. Onuma[1], N. Ono[1], S. Okamoto[1, 2] ([1]IMRAM, Tohoku Univ., [2]CSIS, Tohoku Univ.)

29aC-3 Study on magnetic properties of toroidal cores composed of electrolytic iron powders with different shapes
°Y. Kodama, P. Nguyen, T. Miyazaki, S. Muroga, Y. Endo (Tohoku Univ.)

29aC-4 Iron loss analyses of toroidal cores of various materials based on magnetization reversal processes
°N. Ono[1], Y. Uehara[2], Y. Endo[3, 4], S. Yoshida[1], H. Oikawa[5], N. Kikuchi[1], S. Okamoto[1, 4, 6]
([1]IMRAM, [2]Magnetic Device Laboratory, [3]Graduate School of Eng. Tohoku Univ., [4]CSIS, Tohoku Univ., [5]TOKIN, [6]NIMS)

29aC-5 Modification of transformer coupled permeameter for measuring a soft magnetic particle targeting power electronics applications
°S. Tamaru (AIST)

Amorphous・Nanocrystal **10:30 〜 11:45** Chair: S. Saito (Tohoku Univ.)

29aC-6 In-plane anisotropic CoFeNi-MgF_2 nanogranular films having low anisotropy field for high permeability at VHF band
°M. Naoe[1], M. Sonehara[2], K. Miayji[2], T. Sato[2], S. Muroga[3], Y. Endo[3], N. Kobayashi[1], K. Arai[1]
([1]DENJIKEN, [2]Shinshu Univ., [3]Tohoku Univ.)

29aC-7 The structure and magnetic properties of submicron Fe-Ni-B amorphous particles
°K. Wakabayashi, T. Miyazaki, S. Muroga, Y. Endo (Tohoku Univ.)

29aC-8 Novel FeCo based FeCoBPSiCr Amorphous Alloy Powder with High B_s of 1.61 T and High Corrosion Resistance
°Y. Kajiura, A. Hasegawa, M. Hosono, K. Yoshidome, S. Otsuka, H. Ohkubo, H. Matsumoto (TDK)

29aC-9 Development of spherical iron-based amorphous fine particles
°R. Tsushiro[1], Y. Endo[2] ([1]TODA KOGYO, [2]Tohoku Univ.)

29aC-10 Speeding up of Micromagnetic Simulation for Nanocrystalline Soft Magnetic Material by Implicit Method
°T. Tanaka, T. Ataka, M. Kazama (Fujitsu)

NdFeB・Ferrite **12:45 〜 14:30** Chair: T. Hasegawa (Akita Univ.)

29pC-1 Feature extraction of FORC diagrams of Nd-Fe-B sintered magnets with different temperatures, Dy doping, and alignment
°K. Ishigami[1], K. Nabeta[1], D. Furusawa[2], T. Maki[2], T. Nishiuchi[2], T. Nakamura[1], S. Okamoto[1, 3]
([1]Tohoku Univ., [2]Proterial, [3]NIMS)

29pC-2 Measurement of FORC diagram for Nd-Fe-B having different alignment degree and Dy compositions
°K. Nabeta[1], K. Ishigami[1], D. Furusawa[2], T. Maki[2], T. Nishiuchi[2], S. Okamoto[1, 3] ([1]Tohoku Univ., [2]Proterial, [3]NIMS)

29pC-3 Feature extraction of 3D microstructure and magnetic domain in a Tb diffused Nd-Fe-B sintered magnet
°T. Suwa[1], K. Ishigami[1], M. Suzuki[2], S. Okamoto[1] ([1]Tohoku Univ., [2]Kwansei Gakuin Univ.)

29pC-4 Site selectivity of Co in La-Co co-substituted M-type ferrites: DFT calculation study
°T. Waki[1], H. Ohta[2], H. Ikeno[3], Y. Tabata[1], H. Nakamura[1] ([1]Kyoto Univ., [2]Doshisha Univ.,, [3]Osaka Metropolitan Univ.)

29pC-5 Evaluation of magnetic properties of La-(Co, Zn) substituted M-type Sr ferrite
°S. Nakai, R. Sobajima, T. Waki, Y. Tabata, H. Nakamura (Kyoto Univ.)

29pC-6 Change of coercivity by heat treatment in La-Co co-substituted M-type Sr ferrite
°T. Wakabayashi, T. Waki, Y. Tabata, H. Nakamura (Kyoto Univ.)

29pC-7 Fabrication of La-Co-Sr ferrite particles using molten potassium bromide flux
°C. Kodaka, M. Kishimoto, E. Kita, H. Yanagihara (Univ. of Tsukuba)

New materials **14:45 〜 16:15** Chair: S. Okamoto (Tohoku Univ.)

29pC-8 bct Fe-Co-V-N foils fabricated by rolling and ammonia-nitriding method
°T. Hasegawa (Akita Univ.)

29pC-9 Lattice distortion of V element and bct Fe-Co-V films
°C. Murakami, T. Hasegawa (Akita Univ.)

29pC-10 Microfabrication and magnetic properties of tetragonally distorted Fe-Co-V films
°K. Enomoto, T. Hasegawa (Akita Univ.)

29pC-11 Granularization and magnetic properties of FeCo-based alloy films with added Ag
°K. Kunigida, T. Hasegawa (Akita Univ.)

29pC-12 High Throughput synthesis of $TbCu_7$ type Sm-Fe based thin films
°D. Angayarkanni Ramamurthy[1, 2], D. Ogawa[2], H. Sepehri Amin[1, 2], R. Modak[2], V. Kushwaha[2], Y. Sakuraba[1, 2], K. Uchida[1, 2], K. Hono[1, 2], Y. Takahashi[2] ([1]Univ. of Tsukuba, [2]NIMS)

29pC-13 An exploration of tetragonal inverse Heusler alloys with high magnetization and high magnetic anisotropy
°Z. Qiao, M. Tsujikawa, M. Shirai (Tohoku Univ.)

Sep. 29/Room D

Observation of magnetic domain and magnetic domain wall

9:00 〜 10:00 Chair: H. Mamiya (NIMS)

29aD-1 Time-resolved vector domain observation of soft magnetic ribbons
°T. Ogasawara[1], S. Tamaru[1], S. Okamoto[2] ([1]AIST, [2]Tohoku Univ.)

29aD-2 Magnetic Domain Observation by Polarization Angle Detection Using a 16-bit Polarization Camera
°S. Meguro[1], S. Saito[2] ([1]NEOARK, [2]Tohoku Univ.)

29aD-3 Improvement of complete domain expansion ratio for spatial light modulator driven by current-induced domain wall motion
°M. Kawana, R. Higashida, K. Aoshima, N. Funabashi (NHK)

29aD-4 Magnetic domain structure of amorphous magnetic wires for GSR sensors
°S. Tuneto[1], M. Takezawa[1], Y. Honkura[2], S. Hnkura[2] ([1]Kyushu Inst. Tech., [2]Magnedesign)

Magnetooptics, Spectroscopic imaging, Magnetostriction

10:15 〜11:30 Chair: T. Ogasawara (AIST)

29aD-5 Simultaneous measurement of longitudinal and transverse Kerr images using polarization camera
°T. Ishibashi[1], I. Wakamatsu[2], T. Taniyama[2] ([1]Nagaoka Univ. Tech., [2]Nagoya Univ.)

29aD-6 Development of magneto-optical diffractive deep neural network device
°T. Ishibashi[1], H. Sakaguchi[1], T. Fujita[1], J. Zhang[1], F. Chafi[1], H. Nonaka[2], S. Sumi[3], H. Awano[3]
([1]Nagaoka Univ. Tech., [2]Aichi Inst. Tech., [3]Toyota Tech. Inst.)

29aD-7 Neutron transmission imaging on magnetic materials/devices
°H. Mamiya[1], Y. Oba[2], N. Terada[1], H. Kosuke[3], T. Shinohara[3] ([1]NIMS, [2]Toyohashi Univ. Tech., [3]JAEA)

29aD-8 Frequency response of magnetostriction in Magnetics Alloy Ribbons
°O. Mori[1], S. Sato[1], R. Utsumi[1], Y. Endo[2] ([1]Toei Scientific Industrial, [2]Tohoku Univ.)

29aD-9 Novel Magneto-optical Kerr Effect Measurement System for Perpendicular Magnetic Anisotropy Films in STT-MRAM
°K. Ozawa[1], K. Suzuki[1], S. Ueyama[1], J. Kim[2], W. Kim[2], I. Kim[2] ([1]Samsung Japan, [2]Samsung Electronics)

Magnetic sensor Ⅰ **13:00 〜14:00** Chair: T. Uchiyama (Nagoya Univ.)

29pD-1 Fundamental properties of domain wall displacement GMR sensors with closed loop operation
°K. Komuro, D. Oshima, T. Kato (Nagoya Univ.)

29pD-2 Tunnel magnetoresistive sensors exhibiting highly symmetric resistance-magnetic field response
°T. Nakatani, H. Iwasaki (NIMS)

29pD-3 MFC Gain of High-Sensitive GMR Sensor Used for a Magnetic Field Microscope
°A. Kikitsu[1], Y. Higashi[1], Y. Kurosaki[1], S. Shirotori[1], K. Suzuki[2], Y. Terui[2] ([1]Toshiba, [2]Toshiba Nanoanalysis)

29pD-4 Enhancing Leaked Magnetic Field Measurement with Thin Film Magnetic Field Sensor
°L. Tonthat[1], R. Suzuki[1], J. Honda[1], K. Okita[1], J. Chakarothai[2], K. Fujii[2], S. Yabukami[1]
([1]Tohoku Univ., [2]National Institute Of Information And Communications Technology)

Magnetic sensor Ⅱ **14:15 〜15:15** Chair: T. Kato (Nagoya Univ.)

29pD-5 Evaluating characteristics of orthogonal fluxgate strain sensor
°K. Chida, T. Goto, K. Ishiyama (Tohoku Univ.)

29pD-6 Vehicle Detection Device Using 2-Axis Magneto-Impedance Sensors for Traffic Monitoring
°R. Yao, T. Uchiyama (Nagoya Univ.)

29pD-7 Evaluation of Dynamic Range Enhancement Effects through Single-Coil Feedback
S. Idachi, °T. Uchiyama (Nagoya Univ.)

29pD-8 Pulse voltage of Wiegand wire depending on positions of excitation and detection
°H. Suzuki, Y. Takemura (Yokohama National Univ.)

Sep. 29/Room E

Magnetostrictive power generation **9:00 〜11:00** Chair: S. Fujieda (Osaka Univ.)

29aE-1 New Vibration Powered Generator: Perpendicular Magnetic Field Assisted Electromagnetic Vibration Powered Generator
°M. Ohtake, Y. Nakamura, E. Ishikawa, T. Kawai, M. Futamoto (Yokohama National Univ.)

29aE-2 Effect of Beam Shape on the Shock-Induced Output Characteristics of Perpendicular Magnetic Field Assisted and Inverse Magnetostrictive Electromagnetic Vibration Powered Generators
°S. Kamiya, E. Ishikawa, S. Aketa, Y. Nakamura, M. Ohtake, T. Kawai, M. Futamoto (Yokohama National Univ.)

29aE-3 Analysis of Magnetic Flux Variation Behavior in Magnetic Beams of Perpendicular Magnetic Field Assisted and Inverse Magnetostrictive Electromagnetic Vibration Powered Generators
°E. Ishikawa, M. Ohtake, Y. Nakamura, T. Kawai, M. Futamoto (Yokohama National Univ.)

29aE-4 Quality Factor of Power Generation Coil on the Vibration Power Generation using Magnetostriction Material
°T. Kawai, E. Ishikawa, Y. Nakamura, M. Ohtake, M. Futamoto (Yokohama National Univ.)

29aE-5 Application of Electroplated Fe-Co Alloy Thick Film to Magnetic Beam Material in Perpendicular Magnetic Field Assisted and Inverse Magnetostrictive Electromagnetic Vibration Powered Generators
°Y. Nakamura[1], S. Aketa[1], M. Ohtake[1], H. Kamogawa[2], T. Kawai[1], M. Futamoto[1]
([1]Yokohama National Univ., [2]Kanto Kasei Co., Ltd.)

29aE-6 Application of Electroplated Ni-Fe Alloy Thick Film to Magnetic Beam Material in Perpendicular Magnetic Field Assisted and Inverse Magnetostrictive Electromagnetic Vibration Powered Generators
°S. Aketa[1], Y. Nakamura[1], M. Ohtake[1], H. Kamogawa[2], T. Kawai[1], M. Futamoto[1]
([1]Yokohama National Univ., [2]Kanto Kasei Co., Ltd.)

29aE-7 Vibration energy harvesting using composite amorphous ribbon
°T. Kamikura, T. Goto, K. Ishiyama (Tohoku Univ.)

29aE-8 Study on Development of Negative Magnetostrictive Soft Magnetic Material for Bimorph Vibration Power Generation
°H. Abe[1], T. Goto[1], M. Naoe[2], K. Arai[2], K. Ishiyama[1] ([1]Tohoku Univ., [2]DENJIKEN)

Magnetostriction **11:15 〜 12:15** Chair: M. Futamoto (Yokohama Nat. Univ.)

29aE-9 Application of negative magnetostrictive materials to unimorph U-shaped device
°T. Sugiyama, T. Okada, S. Seino, T. Nakagawa, Y. Ohishi, H. Muta, S. Fujieda (Osaka Univ.)

29aE-10 Influence of partial substitution of Zn for Cu on magnetostrictive properties of $Cu_{0.5}Co_{0.5}Fe_2O_4$
°S. Fujieda, K. Fujiwara, S. Kosugi, S. Seino, T. Nakagawa (Osaka Univ.)

29aE-11 Correlation between magnetostriction and magnetic damping in magnetic nitride films
°K. Ito[1], I. Kurniawan[2], Y. Miura[2], Y. Endo[1], T. Seki[1] ([1]Tohoku Univ., [2]NIMS)

29aE-12 Comparison of magnetic flux density change due to inverse magnetostrictive effect between direct and indirect measurements
°T. Okada, S. Fujieda, S. Seino, T. Nakagawa (Osaka Univ.)

Magnetic physics **13:15 〜 15:00** Chair: H. Asano (NISRI)

29pE-1 Spin-injection Induced Permeability Control for Time-varying Metamaterials
°T. Kodama, R. Shimizu, N. Kikuchi, S. Okamoto, S. Ohno, S. Tomita (Tohoku Univ.)

29pE-2 Numerical study of magnetization structure in helical magnetic materials
°J. Kaneta[1], J. Ohe[1], M. Mito[2], M. Ohkuma[3] ([1]Toho Univ., [2]Kyushu Inst. Tech., [3]NIMS)

29pE-3 Direct observation and stochastic analysis on thermally activated nucleation of individual magnetic domain
F. Luo[1], K. Toyoki[1], C. Mitsumata[2], R. Nakatani[1], °Y. Shiratsuchi[1] ([1]Osaka Univ., [2]Tokyo Univ. Sci.)

29pE-4 Estimation of a parameter from a metastable magnetic image by machine learning
°K. Tanabe, S. Kuno, S. Deguchi, H. Awano (Toyota Tech. Inst.)

29pE-5 Thermal stability of magnetization states and reversal fields from the perspective of Landau theory
°C. Mitsumata[1], M. Kotsugi[1], S. Okamoto[2] ([1]Tokyo Univ. Sci., [2]Tohoku Univ.)

29pE-6 Study of high-performance descriptor for magnetic materials: Accurate discrimination of magnetic structure
°M. Suzuki[1], T. Nomoto[2], E. V. Morooka[3], Y. Yanagi[4], H. Kusunose[5]
([1]Tohoku Univ., [2]Univ. of Tokyo, [3]Aalto Univ., [4]Toyama Pref. Univ., [5]Meiji Univ.)

29pE-7 *In-situ* observation of particles deposition process during High Gradient Magnetic Separation
°N. Hirota[1], G. Takano[2], T. Ando[2] ([1]NIMS, [2]Nihon Univ.)

Magnetic compounds **15:15 〜 16:15** Chair: M. Kotsugi (Tokyo Univ. of Sci.)

29pE-8 *D*/*J* Control in Magntic Skyrmions Host Filled β-Mn-type Chiral magnet
°B. Qiang[1], M. Togashi[1], M. Kuwahara[1], T. Ito[1], H. Asano[1, 2] ([1]Nagoya Univ., [2]NISRI)

29pE-9 Mixed effects on spin frustration in $Mn(Nb_{1-x}Ta_x)_2O_6$ antiferromagnets
°S. Goto[1], H. Hojo[1], S. Kobayashi[1], N. Terada[2] ([1]Iwate Univ., [2]NIMS)

29pE-10 Crystalized Temperature Dependence of Magnetic Properties for Mg Ferrite Films

°N. Adachi, T. Kondo (Nagoya Inst. Tech.)

29pE-11 Magnetic properties of layered metal hydroxides incorporating cinnamate derivative organic layers

°Z. Honda[1], A. Yasuta[1], T. Kida[2], M. Hagiwara[2] ([1]Saitama Univ., [2]Osaka Univ.)