

PROGRAM

Sep. 24/Room A

Nonreciprocal supercurrent • Superconducting diode effect

13:15 ~ 14:30

Chair: Y. Kamihara (Keio Univ.)

- 24pA-1 Nonreciprocal transport in superconducting FeSe thin film
M. Hashimoto¹, T. Kobayashi¹, T. Yokouchi¹, ^oT. Kawada¹, T. Konoike², S. Uji², A. Maeda¹, Y. Shiomi¹
(¹Univ. of Tokyo, ²NIMS)
- 24pA-2 Giant Superconducting Nonreciprocal Transport in few-layer T_d -MoTe₂
^oT. Wakamura¹, M. Hashisaka^{1,2}, S. Hoshino³, M. Bard¹, S. Okazaki⁴, T. Sasagawa⁴, T. Taniguchi⁵, K. Watanabe⁵,
K. Muraki¹, N. Kumada¹ (¹NTT, ²Univ. of Tokyo, ³Saitama Univ., ⁴Tokyo Inst. Tech., ⁵NIMS)
- 24pA-3 Zero-field superconducting diode effect induced by magnetic vortices in trigonal PtBi₂
^oN. Jiang^{1,2,3}, M. Maeda¹, Y. Yamaguchi¹, M. Watanabe¹, M. Tokuda¹, K. Takaki¹, S. Masaki¹, K. Kudo^{1,2}, Y. Niimi^{1,2,3}
(¹Dept. of Phys. Osaka Univ., ²OTRI. Osaka Univ., ³CSRN. Osaka Univ.)
- 24pA-4 Orbital effect on the intrinsic superconducting diode effect
^oK. Nakamura, A. Daido, Y. Yanase (Kyoto Univ.)
- 24pA-5 Crystal Growth and Superconducting Properties of Spatially Asymmetric NbS₂ Intercalation Compounds
^oI. Okazaki, T. Sasagawa (Tokyo Inst. Tech.)

Superconducting devices • materials

14:45 ~ 15:45

Chair: T. Wakamura (NTT)

- 24pA-6 Electric field control of the proximity effect in a superconductor-ferromagnet system via multiferroic interfaces
^oT. Kikuta, S. Komori, K. Imura, T. Taniyama (Nagoya Univ.)
- 24pA-7 Parity transition of the ground state in the quantum-dot Josephson junctions invoked by magnetic field control
^oS. Kobayashi^{1,2}, S. Matsuo^{1,3}, M. Spethmann⁴, P. Stano¹, D. Loss^{1,4}, T. Lindemann⁵, S. Gronin⁵, G. Gardner⁵, M. Manfra⁵,
S. Tarucha¹ (¹RIKEN, ²Tokyo Univ. Sci., ³Tokyo Inst. Tech., ⁴Univ. of Basel, ⁵Purdue Univ.)
- 24pA-8 Elucidation of unique magnetic resistance hysteresis in Pt(Bi_{1-x}Se_x)₂
^oY. Samukawa¹, M. Maeda¹, R. Nakamura¹, N. Jiang^{1,2,3}, K. Kudo^{1,3}, Y. Niimi^{1,2,3}
(¹Dept. of Phys. Osaka Univ., ²CSRN. Osaka Univ., ³OTRI. Osaka Univ.)
- 24pA-9 Synthesis of iron pnictide superconductor Sr₂Mg_{0.3}Ti_{0.7}FeAsO_{3-δ}
^oY. Ueno, N. Azuma, Y. Kamihara, M. Matoba (Keio Univ.)

Sep. 24/Room B

Magnetic sensor I

13:00 ~ 14:45

Chair: T. Nakatani(NIMS)

- 24pB-1 Detection of metal and magnetic material using high sensitive magnetoresistive sensor located 300 mm from excitation coil
^oA. Tanaka¹, S. B. Trisnanto¹, T. Kasajima², T. Shibuya², Y. Takemura¹ (¹Yokohama National Univ., ²TDK)
- 24pB-2 Detected magnetic field intensity and its frequency dependence in nondestructive inspection using high sensitivity magneto resistive sensors
^oY. Kono¹, S. B. Trisnanto¹, T. Kasajima², T. Shibuya², Y. Takemura¹ (¹Yokohama National Univ., ²TDK)
- 24pB-3 Pulse voltage of Wiegand wire detected by seven series detection coils
^oH. Suzuki¹, M. Naoe², Y. Takemura¹ (¹Yokohama National Univ., ²DENJIKEN)
- 24pB-4 Development of magnetic sensor nT meter with compact and high-sensitivity
^oY. Tsuzuki¹, M. Hikishima², S. Honkura², Y. Honkura² (¹Magnaire, ²Magnedesign)
- 24pB-5 Detection of micro magnetic field sources with the magnetic sensor nT meter
^oM. Hikishima, S. Honkura, Y. Honkura (Magnedesign)
- 24pB-6 Response of a long baseline gradiometer to rotation and swing motion under the earth's magnetic field
^oI. Sasada (sasada magnetics and sensors lab.)

24pB-7 Magnetic Vibration Measurement by TMR Sensor for MEMS Application of a Magnetic Film
°J. Ito, T. Nakano, M. Oogane (Tohoku Univ.)

Magnetic sensor II **15:00 ~ 16:15** Chair: H. Koizumi (Tohoku Univ.)

24pB-8 Reversible response of anomalous Hall voltage by mechanical deformation in GdFeCo ferrimagnetic alloy thin films
°Y. Fujii, Y. Kobayashi, H. Yoshikawa, Y. Kasatani, A. Tsukamoto (Nihon Univ.)

24pB-9 Noise Characterization of STT-based Magnetic Tunnel Junction Sensor
°K. Komuro¹, H. Nicolas², B. Dieny³, D. Oshima¹, T. Kato¹, R. Sousa³ (¹Nagoya Univ., ²Unistra, ³SPINTEC)

24pB-10 Tunnel magnetoresistive sensors using noncollinear interlayer exchange coupling
P. D. Kulkarni, °T. Nakatani (NIMS)

24pB-11 Study of hydrogen detection using magnetoresistive effect
°D. Oshima¹, T. Kato¹, S. Iwata² (¹Nagoya Univ., ²NISRI)

24pB-12 Magnetic Properties of Hydrogen Embrittlement of Stainless Steel
°M. Konta, A. Sato, T. Takase, K. Yakaguchi (Fukushima Univ.)

Sep. 24/Room C

Joint session of MSJ and KMS on permanent magnets and spintronics

13:00 ~ 16:20

Chair: S. Sugimoto (Tohoku Univ.)

24pC-1 Microstructure and magnetic properties of 2:17 type Sm-Co permanent magnets according to heat treatment conditions
S. Park¹, S. Kim¹, K. H. Bae², °T. H. Kim¹ (¹Chonnam Nat. Univ., ²R&D Center of Star Group)

24pC-2 Development of Sm-Fe-N sintered magnet through low oxygen powder metallurgy process
°Y. Hirayama (AIST)

24pC-3 Extracting the phase information about demagnetization field within thin-foiled Nd-Fe-B magnets using electron holography
°S. Lee^{1,2}, A. Sato², T. Tamaoka², K. Yubuta², M. Auchi², T. Sasaki³, T. Ohkubo³, Y. Murakami²
(¹KIMS, ²Kyushu Univ., ³NIMS)

24pC-4 Magnetic properties and Microstructure of TbCu₇-type Sm-Fe-Co-Nb-B alloy
°M. Matsuura¹, Y. Hinata¹, N. Kurokawa¹, S. Sakurada², N. Tezuka¹, S. Sugimoto¹ (¹Tohoku Univ., ²Toshiba)

24pC-5 A novel guide to development of grain boundary diffusion process for high-performance Nd-Fe-B permanent magnets
°T. H. Kim (KIMS)

Chair: M. Mizuguchi (Nagoya Univ.)

24pC-6 Engineering β -W Alloys for Highly Efficient Spin-Orbit Torque Switching
°Y. K. Kim¹, J. Lee¹, Q. T. Nguyen², S. H. Rhim² (¹Korea Univ., ²Univ. of Ulsan)

24pC-7 Spin and orbit torques in artificial alloy thin films and heterostructures
°Z. Wen, T. Ohkubo, H. Sukegawa, S. Mitani (NIMS)

24pC-8 Electrically Induced Phase Transition of Interlayer Magnetic Coupling in the Fe_{5-x}GeTe₂ with Current In-Plane Geometry
°S. Kim (Univ. of Ulsan)

24pC-9 Superconducting proximity effect in a NbSe₂/graphene van der Waals junction
°R. Moriya, T. Machida (Univ. of Tokyo)

Sep. 24/Room D

Soft magnetic materials I

13:00 ~ 14:45

Chair: M. Ohtake (Yokohama National Univ.)

24pD-1 FMR measurements on Co₂FeAl_xSi_{1-x} Heusler alloy thin films
°T. Hojo¹, H. Hamasaki¹, M. Tsunoda¹, M. Oogane¹, O. Chumak², A. Nabiałek², L. T. Baczewski²
(¹Tohoku Univ., ²Polish Academy of Sciences)

24pD-2 Fabrication of Buffer Layers for Highly Sensitive TMR Sensors with Co-based Heusler alloy electrodes
°H. Hamasaki, T. Hojo, M. Tsunoda, M. Oogane (Tohoku Univ.)

24pD-3 Microstructure and Magnetic Properties of Fe-6.5Si Flaky Particle with Crystallographic Texture
°S. Motozuka¹, G. M. T. Nguyen², M. Takezawa¹ (¹Kyushu Inst. Tech., ²Shimane Univ.)

- 24pD-4 Magnetic and electric properties of Fe-B-Si amorphous alloys with high Si concentration
 °T. Bitoh¹, H. Hirotada¹, K. Sugimura², J. Kotani² (¹Akita Pref. Univ., ²Panasonic Industry)
- 24pD-5 Dependence of magnetic properties and structure on the annealing temperature for Fe-3 wt.%Si ribbons
 °T. Takasu¹, X. Ma¹, R. Umetsu¹, S. Mikami², T. Hiraki², S. Muroga¹, Y. Endo¹ (¹Tohoku Univ., ²Toho Zinc)
- 24pD-6 Electromagnetic properties of annealed in-plane uniaxial nanogranular films having ultra-high resistivity
 °M. Naoe¹, M. Sonehara², K. Miyaji², T. Sato², S. Muroga³, Y. Endo³, N. Kobayashi¹
 (¹DENJIKEN, ²Shinshu Univ., ³Tohoku Univ.)
- 24pD-7 Design and evaluation of novel metal ferrimagnetic materials using the rare earth element Gd
 °M. Okada, T. Yamazaki, T. Kawasaki, T. Nozaki, Y. Shima, S. Hayakawa, A. Lira Foggianto, M. Kotsugi (Tokyo Univ. Sci.)

Soft magnetic materials II

15:00 ~ 16:45

Chair: M. Kotsugi (Tokyo Univ. Sci.)

- 24pD-8 Magnetic Relaxation in Fe-Al-N(001) Single-Crystal Films with Different Magnetostrictive Coefficients Characterized by Time-Resolved Magneto-Optical Kerr Effect
 °K. Imamura¹, S. Isogami², N. H. Oono¹, M. Ohtake¹ (¹Yokohama National Univ., ²NIMS)
- 24pD-9 Effect of Annealing on the Chemical Bonding State and the Magnetostriction of Amorphous Fe-B-N Alloy Film
 °N. Isogai, T. Sato, K. Imamura, T. Kawai, M. Ohtake (Yokohama National Univ.)
- 24pD-10 Dependence of Magnetostrictive Properties on Ga Composition in Fe-Ga Nanocrystalline Materials
 °K. Sano¹, T. Yamazaki², C. Oka¹, J. Sakurai¹, S. Hata¹ (¹Nagoya Univ., ²Tokyo Univ. Sci.)
- 24pD-11 Analysis of domain wall dynamics in amorphous and nanocrystalline soft magnetic materials by means of magnetic Barkhausen noise (MBN) measurements
 °S. Tamaru¹, T. Yamazaki² (¹AIST, ²Tokyo Univ. Sci.)
- 24pD-12 Magnetic properties and structure of Fe-Zr-P nanocrystalline alloys
 °H. Sakuma¹, Y. Nakamura², T. Saito², H. Watanabe¹ (¹Tohsei, ²Chiba Inst. Tech.)
- 24pD-13 Influence of annealing temperature on magnetic properties in submicron sized Fe-B particles
 °C. Masumoto, T. Miyazaki, S. Ajia, S. Muroga, Y. Endo (Tohoku Univ.)
- 24pD-14 Magnetic properties of submicron Fe-Ni-B particles with different compositions
 °K. Wakabayashi¹, S. Muroga¹, T. Miyazaki¹, T. Koda², Y. Endo¹ (¹Tohoku Univ., ²Oshima Nat. Coll. Tech)

Sep. 24/Poster Room

Poster session I

16:00 ~ 18:00

Chair: T. Hajiri (Murata)

- 24pPS-1 Anisotropic Nd-Fe-B film magnets prepared at various deposition rates
 °M. Yamamoto, A. Yamashita, T. Yanai, H. Fukunaga, M. Nakano (Nagasaki Univ.)
- 24pPS-2 Magnetic properties of three-layered magnet thin sheets prepared by PLD method
 °K. Okamura, A. Yamashita, T. Yanai, H. Fukunaga, M. Nakano (Nagasaki Univ.)
- 24pPS-3 Structure and magnetic properties of Sm(Fe-Co-Ni)₁₂-B thin films with simultaneous Ni and Co substitution
 °Y. Mori, S. Nakatsuka, M. Doi, T. Shima (Tohoku Gakuin Univ.)
- 24pPS-4 Study of magnetic moments and magnetocrystalline anisotropy constants (Ce, Zn)-substituted M-type Sr ferrite using first-principles calculations
 °R. Namiki, T. Yayama, F. Akagi (Kogakuin Univ.)
- 24pPS-5 Magnetic domain dynamics and anomalous eddy current analysis of amorphous alloy by multiscale magnetic simulation
 °Y. Shima¹, T. Yamazaki¹, S. Tamaru², A. Lira Foggianto¹, C. Mitsumata¹, M. Kotsugi¹ (¹Tokyo Univ. Sci., ²AIST)
- 24pPS-6 N composition dependence of magnetic properties of Fe-Ga-N film
 °T. Hino¹, K. Suzuki¹, M. Jimbo¹, M. Naoe², N. Kobayashi², D. Oshima³, T. Kato³, Y. Fujiwara¹
 (¹Mie Univ., ²DENJIKEN, ³Nagoya Univ.)
- 24pPS-7 Attempt to detect small vibrations using inverse magnetostriction effect of FeSiBNb thin film
 °K. Maeno¹, M. Yanagida¹, Y. Fujiwara¹, M. Jimbo¹, D. Oshima², T. Kato² (¹Mie Univ., ²Nagoya Univ.)
- 24pPS-8 Energy loss analysis in high-frequency magnetization reversal process using Extended Landau Free Energy Model
 °K. Nishioka¹, R. Nagaoka¹, M. Taniwaki¹, A. Lira Foggianto¹, C. Mitsumata¹, T. Yamazaki¹, S. Okamoto², I. Obayashi³, Y. Hiraoka⁴, M. Kotsugi¹ (¹Tokyo Univ. Sci., ²Tohoku Univ., ³Okayama Univ., ⁴Kyoto Univ.)

- 24pPS-9 Fabrication and characterization of synthetic altermagnets
 °Y. Suzuki, T. Hattori, S. Iihama, T. Moriyama (Nagoya Univ.)
- 24pPS-10 Domain wall detection using a laser induced thermo-magnetic electromotive force
 °S. Sumi, M. Mohammad, K. Tanabe, H. Awano (Toyota Tech. Inst.)
- 24pPS-11 Thermoelectric effect of orbital ferrimagnetic CoMnO₃ thin film
 °T. Onuma, H. Yanagihara (Univ. of Tsukuba)
- 24pPS-12 Maximizing sensitivity of anomalous Nernst-type heat flux sensors in Ge-doped GdCo films
 °T. Koizumi, M. Odagiri, H. Imaeda, H. Awano, K. Tanabe (Toyota Tech. Inst.)
- 24pPS-13 Magnetic coupling and magnetization process in artificial spin ice
 °H. Kubota¹, S. Tsunegi¹, K. Yakushiji¹, T. Taniguchi¹, S. Tamaru¹, T. Yamamoto¹, A. Sugihara¹, R. Matsuura², H. Nomura^{2,3},
⁴, T. Isokawa⁵, Y. Suzuki^{1,2,3} (¹AIST, ²Osaka Univ., ³CSRN-Osaka, ⁴Tohoku Univ. SRIS, ⁵Univ. Hyogo)
- 24pPS-14 Influence of free layer shape on vortex dynamics in vortex spin torque oscillator
 °K. Horizumi¹, T. Chiba², T. Komine¹ (¹Ibaraki Univ., ²Tohoku Univ.)
- 24pPS-15 Stabilization of recording operation in magnetic nanowire memory with step structures
 °D. Kato, K. Ogura, N. Kinoshita, Y. Miyamoto (NHK)
- 24pPS-16 Dependence of magnetic properties on morphology of Mn-Zn ferrite nanoparticles
 °E. Bekhbaatar, S. Kobayashi, H. Li (Iwate Univ.)
- 24pPS-17 Perpendicular magnetic anisotropy in metastable bcc Co-Mn-Fe alloy thin films
 °M. Ishibashi¹, D. Kumar¹, S. Kubota², H. Kajihara^{1,3}, T. Roy⁴, M. Tsujikawa², M. Shirai^{2,4}, S. Mizukami^{1,4}
 (¹AIMR, Tohoku Univ., ²RIEC, Tohoku Univ., ³Faculty of Eng., Tohoku Univ., ⁴CSIS, Tohoku Univ.)
- 24pPS-18 Change in magnetic properties of spinel ferrite thin films by oxidation annealing
 °K. Takeo, H. Yanagihara (Univ. of Tsukuba)
- 24pPS-19 Electric field dependence of magnetic damping constants in Fe₇₀Co₃₀/PMN-PT(011) multiferroic heterostructures
 °H. Sumida, T. Kanno, S. Komori, K. Imura, T. Taniyama (Nagoya Univ.)
- 24pPS-20 Magnetic and stress interactions of nanowires with interfacial antiferromagnetic coupling
 °H. Harayama, X. Liu (Shinshu Univ.)
- 24pPS-21 Giant coercive force induced by composition gradient in Gd-Fe thin films
 °J. Mizuno, H. Awano, K. Tanabe (Toyota Tech. Inst.)
- 24pPS-22 Magnetic and spin transport properties created with interstitial elements of B, C, and N
 T. Nitipriya¹, M. Shrawan¹, Y. Miura², Y. Kota³, H. Yasufuku², K. Oyoshi², H. Sakaguchi⁴, M. Niimi⁴, T. Ishibashi⁴, °
 S. Isogami² (¹IIT (BHU), ²NIMS, ³NIT, Fukushima Coll., ⁴Nagaoka Univ. Tech.)
- 24pPS-23 Electric field effect on magnetic damping in LSMO/PMN-PT artificial multiferroic heterostructures
 °Y. Ohashi, S. Komori, K. Imura, T. Taniyama (Nagoya Univ.)
- 24pPS-24 Influence of a buffer layer on GdFe films with perpendicular magnetic anisotropy on plastic substrate
 °Y. Ikawa, Y. Yasuda, H. Awano, K. Tanabe (Toyota Tech. Inst.)
- 24pPS-25 Structural Analysis of Epitaxial Co-N Thin Films Formed on MgO(001) Substrates
 °K. Abe¹, K. Imamura¹, S. Isogami², M. Ohtake¹ (¹Yokohama National Univ., ²NIMS)
- 24pPS-26 Synthesis of iron nitride magnetic powder with oxide film by gas-solid reaction and its pressure forming into powder core
 °A. Nishikura, H. Nakashinden, Y. Kato, M. Miyazawa, M. Tobise, S. Saito (Tohoku Univ.)
- 24pPS-27 Suppression of In-plane (001) Texture Component in FePt-oxide Granular Films by Introducing a Carbon Buffer Layer
 °K. Tham¹, R. Kushibiki¹, S. Saito² (¹TANAKA, ²Tohoku Univ.)
- 24pPS-28 Accurate evaluation of degree of order in *c*-plane-oriented L1₀-FePt thin films using low angle fundamental line by In-plane XRD
 °D. Isurugi, T. Kishi, T. Ogawa, S. Saito (Tohoku Univ.)

Sep. 25/Room A

Growth method • Electrodeposition

9:15 ~ 10:30

Chair: E. Kita (Tsukuba Univ.)

- 25aA-1 Structure and magnetic properties of electrodeposited CoPt-alloy thin films
 °D. Araki¹, Y. Sonobe², Y. Takahashi^{1,3}, S. Honda⁴, T. Ono⁵, T. Homma^{1,2}
 (¹Waseda Univ., ²Waseda Res. Org. for Nano & Life Innovation, ³NIMS, ⁴Kansai Univ., ⁵Kyoto Univ.)

- 25aA-2 Fabrication and magnetic property analysis of Co-Pt alloy nanowires with multilayer structure prepared by electrodeposition in dual bath
 °R. Kawana¹, N. Ohguchi¹, M. Saito², T. Homma^{2,3}, T. Kato⁴, T. Ono⁵, M. Shima¹, K. Yamada¹ (¹Gifu Univ., ²Res. Org. for Nano and Life Innov. Waseda Univ., ³Dept. of Appl. Chem. Waseda Univ., ⁴Nagoya Univ., ⁵ICR Kyoto Univ.)
- 25aA-3 Formation of 3d Ferromagnetic Transition Metal Alloy Thick Films by Electroplating for Application to Beam Material of Perpendicular Magnetic Field Assisted and Inverse Magnetostrictive Electromagnetic Vibration Powered Generators
 °Y. Nakamura¹, S. Aketa¹, H. Kamogawa^{1,2}, M. Ohtake¹ (¹Yokohama National Univ., ²Kanto Kasei Co., Ltd.)
- 25aA-4 Perpendicular Magnetic Field Assisted and Inverse Magnetostrictive Electromagnetic Vibration Powered Generators Using Beam Materials Plated with 3d Ferromagnetic Transition Metal Alloy Thick Films
 °Y. Nakamura¹, S. Aketa¹, H. Kamogawa^{1,2}, M. Ohtake¹ (¹Yokohama National Univ., ²Kanto Kasei Co., Ltd.)
- 25aA-5 Mechanism of high-speed RF sputtering of MgO thin films by heat-assisted hot cathode method
 °K. Yamada¹, D. Miyazaki¹, A. Kato², H. Suzuki³, T. Ohizumi³, I. Tagawa², T. Ogawa¹, S. Saito¹ (¹Tohoku Univ., ²Tohoku Inst. Tech., ³Arios)

Surface • Interface • Nano

10:45 ~ 12:30

Chair: T. Moriyama (Nagoya Univ.)

- 25aA-6 Investigating the origin of enhanced perpendicular magnetic anisotropy in C₇₀-Co nano-islands/organic-inorganic hybrid interface by STM
 °K. Yoshida¹, H. Ono¹, Q. Shi¹, K. Fujimoto¹, Y. Umeda¹, K. Tsutsui¹, N. Miura¹, K. Yamamoto³, O. Ishiyama³, E. Nakamura³, Y. Matsuo¹, T. Yokoyama³, M. Mizuguchi^{1,2}, T. Miyamachi^{1,2} (¹Nagoya Univ., ²IMaSS, ³IMS)
- 25aA-7 STM/STS study of MnTe epitaxial growth on Fe(001) surface
 °H. Seki¹, K. Nawa^{2,3}, T. Yamada¹ (¹Chiba Univ., ²Mie Univ., ³NIMS)
- 25aA-8 AC magnetic properties of Fe-based magnetic nanoparticles in aggregated and isolated states.
 °S. Yanagita^{1,2}, Y. Yamaguchi¹, N. Kosaka¹, Y. Sotome¹, C. E. McNamee³, S. Yamamoto², S. Saito¹, T. Ogawa¹ (¹Tohoku Univ., ²Sankei Giken Kogyo, ³Kyoto Univ.)
- 25aA-9 Dependence of complex magnetic susceptibility on alignment of easy axis in multicore-structured magnetic nanoparticles
 °M. Li¹, S. B. Trisnanto¹, S. Ota², Y. Takemura¹ (¹Yokohama National Univ., ²Shizuoka Univ.)
- 25aA-10 High-frequency complex permittivity of bulky nanogranular materials
 °K. Suzuki, T. Iwasa, K. Ikeda, M. Naoe, N. Kobayashi (DENJIKEN)
- 25aA-11 Magnetic relaxation of Superparamagnetic Iron Oxide nanoparticles studied by Mössbauer spectroscopy
 °E. Kita¹, C. Kodaka¹, R. Onodera², H. Mamiya³, T. Ogawa⁴, T. Sekido¹, H. Yanagihara¹ (¹Univ. of Tsukuba, ²NIT, Ibaraki Coll., ³NIMS, ⁴Tohoku Univ.)
- 25aA-12 Magnetic field strength dependence in porous resin manufacturing using magnetic-nanoparticle chains
 °A. Kobayashi, J. Sakurai, S. Hata, C. Oka (Nagoya Univ.)

Sep. 25/Room B

Magnetic imaging (Magnetic force/ Optical microscope) 9:00 ~ 11:15

Chair: D. Oshima (Nagoya Univ.)

- 25aB-1 Magneto-optical imaging of nominal SmFeAsO_{0.77}H_{0.12}
 °H. Namita¹, T. Suemura¹, R. Sakagami³, T. Tamegai³, Y. Kamihara^{1,2} (¹Keio Univ., ²CSRN, Keio Univ., ³Univ. of Tokyo)
- 25aB-2 Development of a compact and highly stable 16 bit polarization camera for magnetic domain observation
 °S. Meguro¹, S. Saito² (¹NEOARK, ²Tohoku Univ.)
- 25aB-3 Development of MO recording technique for MO diffractive devices
 °T. Homma¹, H. Sakaguchi¹, H. Nonaka², S. Sumi³, H. Awano³, F. Z. Chafi¹, T. Ishibashi¹ (¹Nagaoka Univ. Tech., ²Aichi Inst. of Tech., ³Toyota Tech. Inst.)
- 25aB-4 Development of online learning technique on magneto-optical diffractive deep neural network
 °H. Sakaguchi¹, T. Honma¹, Z. Jian¹, S. Sumi², H. Awano², H. Nonaka³, C. Z. Fatima¹, T. Ishibashi¹ (¹Nagaoka Univ. Tech., ²Toyota Tech. Inst., ³Aichi Inst. Tech.)
- 25aB-5 Simulation of optimization and image processing for magneto-optical diffractive deep neural network device
 °T. Ishibashi¹, R. Akagawa¹, J. Ikeda¹, H. Sakaguchi¹, F. Z. Chafi¹, H. Nonaka², S. Sumi³, H. Awano³ (¹Nagaoka Univ. Tech., ²Aichi Inst. Tech., ³Toyota Tech. Inst.)

- 25aB-6 Development of alternating magnetic force microscopy for DC magnetic field imaging: Calibration method of DC magnetic field
 °B. Chin, R. Abe, M. Makarova, H. Sonobe, T. Matsumura, H. Saito (Akita Univ.)
- 25aB-7 Development of alternating magnetic force microscopy for DC magnetic field imaging: Quantitative imaging of DC magnetic field
 °R. Abe, B. Chin, M. Makarova, H. Sonobe, T. Matsumura, H. Saito (Akita Univ.)
- 25aB-8 Sensitive detection of ferromagnetic resonance frequency of permalloy thin film by frequency modulated microwave absorption measurement
 °K. Hayashi, M. Makarova, H. Sonobe, T. Matsumura, H. Saito (Akita Univ.)
- 25aB-9 Microwave imaging by alternating magnetic force microscopy
 °M. V. Makarova, K. Hayashi, H. Sonobe, T. Matsumura, H. Saito (Akita Univ.)

Magnetic Recording

11:30 ~ 12:30

Chair: I. Suzuki (WD)

- 25aB-10 Magnetic interactions in microwave assisted switching
 °N. Kikuchi¹, M. Hatayama², T. Shimatsu², S. Okamoto² (¹Akita Univ., ²Tohoku Univ.)
- 25aB-11 Crystal Orientation Transformation of $L1_0$ -FePt Continuous Thin Films by Controlling Temperature Decrease Rate in Pt/Fe Multilayer Annealing
 °K. Daike, H. Yoshikawa, A. Tsukamoto (Nihon Univ.)
- 25aB-12 Simulation Analysis of Recording Characteristics of Sputtered Media for Magnetic Tape
 °A. Okubo¹, I. Tagawa¹, J. Tachibana², T. Aizawa², M. Yamaga² (¹Tohoku Inst. Tech., ²Sony)
- 25aB-13 Consideration of AMR sensor output profile by using micromagnetics simulation.
 °T. Ibusuki, R. Ito, Y. Takahashi, T. Hasegawa (muRata)

Sep. 25/Room C

Magnonics and magnetic dynamics I

9:00 ~ 10:45

Chair: Y. Nozaki (Keio Univ.)

- 25aC-1 Study on magnetization dynamics for Fe-Ge thin films with various thicknesses
 °Y. Jiang, S. Muroga, T. Miyazaki, S. Ajia, Y. Endo (Tohoku Univ.)
- 25aC-2 Coherent Microwave Generation of Ultrastrongly Coupled Magnon-Polaritons
 °T. Chiba, R. Suzuki, H. Matsueda (Tohoku Univ.)
- 25aC-3 Observation of ultrastrongly-coupled non-reciprocal magnon-polaritons in magnetochiral metamolecules
 °S. Tomita¹, K. Mita¹, T. Kodama¹, T. Ueda², T. Nakanishi³, K. Sawada⁴, T. Chiba¹
 (¹Tohoku Univ., ²Kyoto Inst. of Tech., ³Kyoto Univ., ⁴RIKEN)
- 25aC-4 Handedness detection and manipulation of propagating antiferromagnetic magnons
 °Y. Shiota^{1,2}, T. Taniguchi³, D. Hayashi¹, H. Narita¹, S. Karube^{1,2}, R. Hisatomi^{1,2}, T. Moriyama⁴, T. Ono^{1,2}
 (¹Kyoto Univ., ²CSRN, Kyoto Univ., ³AIST, ⁴Nagoya Univ.)
- 25aC-5 Influences of lattice distortion and electron correlation on antiferromagnetic resonance in Li-doped NiO
 °K. Nawa^{1,2}, K. Nakamura¹ (¹Mie Univ., ²NIMS)
- 25aC-6 Predicted Multiple Walker Breakdowns for Current-Driven Domain-Wall Motion in Antiferromagnets
 °M. Lee¹, R. M. Otxoa^{2,3}, M. Mochizuki¹
 (¹Waseda Univ., ²Hitachi Cambridge Laboratory, ³Donostia International Physics Center)
- 25aC-7 Electromagnetic wave absorption power generation in ferromagnetic FePt thin films
 °T. Hirata, B. Qiang, T. Miyamachi, M. Mizuguchi (Nagoya Univ.)

Magnonics and magnetic dynamics II

11:00 ~ 12:45

Chair: T. Chiba (Tohoku Univ.)

- 25aC-8 Detection of localized spin-wave modes in single-crystal iron wires
 °K. Kagawa¹, S. Nezu¹, T. Scheike², H. Sukegawa², K. Sekiguchi¹ (¹Yokohama National Univ., ²NIMS)
- 25aC-9 Performance evaluation of spin-wave reservoir for multi-level inputs
 °R. Yoshida, S. Nagase, S. Nezu, K. Sekiguchi (Yokohama National Univ.)
- 25aC-10 Performance Evaluation of Spin Wave Reservoir Devices Utilizing Irregular Lattice Waveguides
 °T. Hada, S. Nagase, K. Sekiguchi (Yokohama National Univ.)

- 25aC-11 Formation of high-density surface spin-wave soliton train
°T. Iwata, K. Sekiguchi (Yokohama National Univ.)
- 25aC-12 Magnon dynamics of 3-magnon scattering revealed by magnonic noise measurement
°Y. Nishiwaki, S. Nezu, K. Sekiguchi (Yokohama National Univ.)
- 25aC-13 Temperature dependence of the gyro magnetic effect using surface acoustic wave
°K. Yamanoi, R. Toba, Y. Nozaki (Keio Univ.)
- 25aC-14 Quantitative evaluation of the magnetoelastic coupling constants between surface acoustic waves and spin waves
°H. Komiyama, K. Taga, H. Matsumoto, R. Hisatomi, Y. Shiota, T. Ono (Kyoto Univ.)

Sep. 25/Room D

Physics of magnetic materials

9:00 ~ 11:00

Chair: H. Mamiya (NIMS)

- 25aD-1 A Data-driven Extended Landau Model for the Coercivity Analysis of Magnetic Materials
°C. Mitsumata¹, A. Lira Foggiatto², M. Kotsugi² (¹Univ. of Tsukuba, ²Tokyo Univ. Sci.)
- 25aD-2 Applying neural network potentials for magnetic compounds and verification of their precision
°Y. Tatetsu¹, K. Matsumoto², R. Sato², T. Teranishi² (¹Meio Univ., ²Kyoto Univ.)
- 25aD-3 Resonance Frequency Change by the Stacking Structure of NiFeCuMo/Cu Multilayers
°A. Kikitsu, S. Shiotori (Toshiba)
- 25aD-4 Time-varying Permeability Metamaterials towards Microwave Frequency Conversion
°T. Kodama¹, N. Kikuchi², S. Okamoto¹, S. Ohno¹, S. Tomita¹ (¹Tohoku Univ., ²Akita Univ.)
- 25aD-5 *In-situ* observation of Particles deposition process on magnetic wires during High Gradient Magnetic Separation
°N. Hirota¹, T. Ito², T. Ando² (¹NIMS, ²Nihon Univ.)
- 25aD-6 Microscopic origin of magnetostriction in Fe₃Ga studied by operando XMCD and Mössbauer spectroscopy
°J. Okabayashi¹, T. Usami², S. Sakai³, K. Fujiwara³, Y. Kobayashi⁴, T. Mitsui³, K. Hamaya²
(¹Univ. of Tokyo, ²Osaka Univ., ³QST, ⁴Kyoto Univ.)
- 25aD-7 Effect of quenching on magnetostrictive properties of Cu_xCo_{1-x}Fe₂O₄
°M. Hisamatsu¹, S. Kosugi¹, S. Fujieda^{2,3}, S. Seino^{1,2}, T. Nakagawa^{1,2}
(¹Graduate School of Engineering, Osaka Univ., ²OTRI-SPIN, Osaka Univ., ³IAMR&D, Shimane Univ.)
- 25aD-8 Effect of N Addition on the Magnetostrictive Properties of Fe Single-Crystal Films with bcc and fcc Lattices
°T. Sato, K. Imamura, M. Ohtake (Yokohama National Univ.)

Sep. 25/Room E

Biomedical Application I

9:00 ~ 10:15

Chair: S. Ota (Shizuoka Univ.)

- 25aE-1 Investigation of non-invasive temperature measurement method during magnetic heating using concentrated magnetic nanoparticles.
°A. Yamazaki, R. Shinohara, S. Yabukami, L. Tonthat, T. Ogawa, A. Kuwahata (Tohoku Univ.)
- 25aE-2 Wireless temperature measurement of magnetic nanoparticle Resovist during magnetic heating
°R. Shinohara, A. Yamazaki, A. Kuwahata, S. Yabukami, L. Tonthat (Tohoku Univ.)
- 25aE-3 Improvement of Magnetic Heating Efficiency via Magnetic Anisotropy Formation *In Vivo*
°Y. Kamijima, A. Kuwahata, T. Shimano, S. Ariunbuyan, L. Tonthat, T. Kodama, S. Yabukami (Tohoku Univ.)
- 25aE-4 Improvement for the adsorption strength of magnetic attachments using stainless magnets
T. Mitsunaga, E. Kikuchi, °Y. Honkura (Magnedesign)
- 25aE-5 Development of thin-type magnetic attachments
T. Mitsunaga, E. Kikuchi, °Y. Honkura (Magnedesign)

Biomedical Application II

10:30 ~ 11:30

Chair: T. Sasayama (Kyushu Univ.)

- 25aE-6 Measurements of magnetic field strength dependence of magnetic relaxation time of magnetic nanoparticles by applying the pulsed magnetic field
°S. Hayashi¹, H. Goto¹, M. Futagawa¹, Y. Takemura², S. Ota¹ (¹Shizuoka Univ., ²Yokohama National Univ.)
- 25aE-7 Development of Coagulation Measurement System Using Frequency Characteristics of Magnetic Nanoparticles
°K. Naito, K. Yamashita, R. Korenaga, J. Wang, T. Kiwa (Okayama Univ.)

- 25aE-8 Observation of aggregate of magnetic nanoparticles with protein
 °K. Kaneko¹, T. Murayama¹, L. Tonthat¹, K. Okita², A. Ban¹, M. Tanaka¹, Y. Tanaka¹, S. Yabukami^{1,2}
 (1Tohoku Univ., 2Tohoku-TMIT, Ltd.)
- 25aE-9 An Ultra-Broadband Magnetic Susceptivity Evaluation of magnetic nanoparticle and protein
 °R. Masui¹, J. Honda¹, T. Murayama¹, L. Tonthat¹, K. Okita², A. Kuwahata¹, S. Yabukami^{1,2}
 (1Tohoku Univ., 2Tohoku-TMIT, Ltd.)

Sep. 25/Poster Room

Poster session II

11:30 ~ 13:30

Chair: K. Yamanoi (Keio)

- 25aPS-1 Evaluation of vibration power generation properties of negative inverse magnetostrictive materials for application to high-performance U-shaped bimorph devices.
 °R. Tsunoda¹, T. Sugiyama¹, T. Okada¹, S. Fujieda^{2,3}, S. Seino^{1,2}, T. Nakagawa^{1,2}
 (1Osaka Univ., 2HandaiOTRI-SPIN, 3Shimane Univ)
- 25aPS-2 DMI Energy Density Analysis in the Formation Process of Skyrmions by Extended Landau Free Energy Model
 °Y. Machida¹, M. Taniwaki¹, A. Lira Foggiatto¹, C. Mitsumata¹, I. Obayashi², Y. Hiraoka³, K. Ihizaka⁴, M. Kotsugi¹
 (1Tokyo Univ. Sci., 2Okayama Univ., 3Kyoto Univ., 4Univ. of Tokyo)
- 25aPS-3 Physical interpretation of spin texture using machine learning
 °N. Shimizu, R. Nagaoka, Y. Machida, A. Lira Foggiatto, M. Kotsugi (Tokyo Univ. Sci.)
- 25aPS-4 Morphological characterization of ferromagnetic nanodomains for Pt₃Fe antiferromagnet by polarized small-angle neutron scattering
 °S. Mikami¹, S. Kobayashi¹, K. Hiroi², T. Kumada², R. Motokawa² (1Iwate Univ., 2JAEA)
- 25aPS-5 Influence of Rectangular Beam Shape on the Magnetic Flux Distribution in Soft Magnetic Beam of Perpendicular Magnetic Field Assisted Electromagnetic Vibration Powered Generator
 °Y. Nakamura, S. Kamiya, M. Ohtake (Yokohama National Univ.)
- 25aPS-6 Pt thickness dependence of superconductivity in Pt/Fe/Pt-inserted Nb/V/Ta superlattices
 °F. Tokoro, H. Narita, R. Kawarazaki, R. Iijima, R. Hisatomi, S. Karube, Y. Shiota, T. Ono (Kyoto Univ.)
- 25aPS-7 Faraday rotation of garnet single crystals
 °S. Iwamoto¹, T. Sato², X. Liu¹ (1Shinshu Univ., 2Silicon Technology Cooperation)
- 25aPS-8 Observation of magnetization reversal induced by ultra-short laser pulse in ferrimagnetic multilayer films
 °S. Li¹, R. Takahashi², H. Wadati², Y. Du¹, S. Sakai¹ (1QST, 2Univ. Hyogo)
- 25aPS-9 Correlation between Gd doping and magnetic properties in TbFeCo magnetic thin films
 °T. Takeshima¹, H. Yamane², Y. Yasukawa¹ (1Chiba Inst. Tech., 2Akita Ind. Tech. Center)
- 25aPS-10 Development of an X-ray detected ferromagnetic resonance spectrometer at the Photon Factory, KEK
 °T. Ueno¹, Y. Takeichi², M. Mizuguchi³, H. Iwasawa¹, Y. Ohtsubo¹, K. Ono², H. Okazaki¹, S. Li¹, S. Sakai¹, T. Yamaki¹,
 T. Watanuki¹, Y. Katayama¹ (1QST, 2Osaka Univ., 3Nagoya Univ.)
- 25aPS-11 Characterization of Ga substituted single crystal Yttrium iron garnet
 °Y. Miyazaki¹, T. Satoh², X. Liu¹ (1Shinshu Univ., 2Silicon Technology Corporation)
- 25aPS-12 Investigation of isotropy of strain sensitivity of resistance in antiferromagnetic Cr
 °Y. Kota¹, M. Naoe², E. Niwa² (1NIT, Fukushima Coll., 2DENJIKEN)
- 25aPS-13 Development of Cyanide-bridged CoFe Complexes Exhibiting Flexible Spin States
 °Y. Sekine, R. Nakao, S. Hayami (Kumamoto Univ.)
- 25aPS-14 A study on improving performance of internal combustion engines using linear actuators (Fundamental consideration on magnet arrangement to improve thrust)
 °R. Ono¹, K. Kimura¹, J. Kuroda¹, I. Kobayashi¹, D. Uchino², K. Ogawa³, K. Ikeda⁴, T. Kato⁵, A. Endo⁶, H. Kato¹, T. Narita¹
 (1Tokai Univ., 2NIT, Numazu Coll., 3AUT, 4Hokkaido Univ. Sci., 5Tokyo Univ. Tech., 6FIT)
- 25aPS-15 Eddy Current Loss Reduction in Flux-Modulated-type Magnetic Gears by Splitting Magnets
 °E. Asahina, K. Nakamura (Tohoku Univ.)
- 25aPS-16 Variable characteristics of leakage flux type variable flux motors using magnetic composite materials
 °R. Washioka¹, R. Takagi¹, K. Takazawa¹, T. Mizuno¹, M. Sato¹, M. Nirei² (1Shinshu Univ., 2NIT, Nagano Coll.)

- 25aPS-17 Ride Comfort Improvement of Ultra-Compact Vehicles Using Voice Coil Motors (Experimental Study on Ride Comfort Evaluation Based on Biometric Information)
 °M. Ochiai¹, R. Katsumata¹, S. Kasamatsu¹, I. Kobayashi¹, J. Kuroda¹, D. Uchino², A. Endo³, K. Ikeda⁴, T. Kato⁵, K. Ogawa⁶, T. Narita¹, H. Kato¹ (¹Tokai Univ., ²NIT, Numazu Coll., ³FIT, ⁴Hokkaido Univ. Sci., ⁵Tokyo Univ. Tech., ⁶AUT)
- 25aPS-18 Active Seat Suspension for Ultra-Compact Mobility (Fundamental Research on Ride Comfort Improvement Using Masking Techniques)
 °R. Katsumata¹, M. Ochiai¹, S. Kasamatsu¹, I. Kobayashi¹, J. Kuroda¹, D. Uchino², A. Endo³, K. Ikeda⁴, T. Kato⁵, K. Ogawa⁶, T. Narita¹, H. Kato¹ (¹Tokai Univ., ²NIT, Numazu Coll., ³FIT, ⁴Hokkaido Univ. Sci., ⁵Tokyo Univ. Tech., ⁶Aichi Univ. Tech.)
- 25aPS-19 Development of levitation system for thin steel plates using electromagnets and permanent magnets (Fundamental study on the effect of the position of tension action on the optimum arrangement of permanent magnets)
 °Y. Ichikawa¹, T. Nagayoshi¹, K. Ogawa², I. Kobayashi¹, J. Kuroda¹, D. Uchino³, K. Ikeda⁴, T. Kato⁵, A. Endo⁶, T. Narita¹, H. Kato¹ (¹Tokai Univ., ²AUT, ³NIT, Numazu Coll., ⁴Hokkaido Univ. Sci., ⁵Tokyo Univ. Tech., ⁶FIT)
- 25aPS-20 Fundamental study on the change in magnetic properties of Fe-Co-V alloys associated with application of internal stress
 °A. Nishikura¹, N. Watanabe¹, S. Saito², A. Nakayama¹ (¹Kanagawa Univ., ²Tohoku Univ.)
- 25aPS-21 Controlling magnetoimpedance properties of micromachined thin film element
 °Z. Wang, H. Kikuchi (Iwate Univ.)
- 25aPS-22 Possibility of Detection by MFLT for Small Sized Defect in Steel
 °S. Onodera, H. Kikuchi (Iwate Univ.)
- 25aPS-23 Estimating parameters from magnetic domain images with different imaging scales using machine learning
 °S. Hashimoto¹, A. Watanabe¹, Y. Nakatani², H. Awano¹, K. Tanabe¹ (¹Toyota Tech. Inst., ²UEC)
- 25aPS-24 Effect of sample curvature on Barkhausen noise measurements
 °H. Chiba¹, H. Kikuchi¹, K. Matsumura² (¹Iwate Univ., ²INFITECHM)
- 25aPS-25 Identify of the magnetic properties of a tip suitable for high-sensitivity domain observation of various BiFeO₃-based multiferroic thin films: Creating a quick reference map for optimal tip properties
 °K. Hatakeyama, R. Hosoya, G. Egawa, S. Yoshimura (Akita Univ.)
- 25aPS-26 Synthesis of Iron Oxide Nanoparticles for Magnetic Particle Imaging via Thermal Decomposition Method
 °H. Takimoto, S. Yamashita, S. Seino, T. Nakagawa (Osaka Univ.)
- 25aPS-27 Study on power saving of magnetic particle imaging system
 °Y. Fujii, M. Iiduka, S. Seino, T. Nakagawa (Osaka Univ.)
- 25aPS-28 Magnetization analysis of hollow Fe₃O₄ particles by polarized small-angle neutron scattering
 °R. Yamada¹, S. Kobayashi¹, K. Hiroi², Y. Kawamura³, S. Takada², R. Motokawa², T. Kumada² (¹Iwate Univ., ²JAEA, ³CROSS)

Sep. 25/Fellow lecture (60th Anniversary Memorial Hall)

- Fellow lecture** **14:00 ~ 14:30** Chair: M. Mizuguchi (Nagoya Univ.)
- 25FL-1 Manganese magnetic alloys—magnetization dynamics and spintronics application—
 °S. Mizukami (Tohoku Univ.)

Sep. 26/Room A

- High frequency magnetometry I** **9:00 ~ 10:30** Chair: H. Yanagihara (Tsukuba Univ.)
- 26aA-1 Simultaneous Measurement of Permeability and Permittivity Using a Microstrip Line-Type Probe
 °Y. Imai¹, K. Okita², S. Yabukami^{1,2} (¹Tohoku Univ., ²Tohoku-TMIT)
- 26aA-2 Parallel line type permeameter for thick magnetic material to reduce the error of demagnetizing field
 °A. Mashiko¹, S. Yabukami¹, K. Okita² (¹Tohoku Univ., ²Tohoku-TMIT, Ltd)
- 26aA-3 Sensitivity of Coplanar Line Type Thin Film Magnetic Field Sensor with Slit
 °R. Suzuki, J. Honda, L. Tonthat, S. Yabukami (Tohoku Univ.)
- 26aA-4 Permeability estimation of magnetic film placed on MSL using equivalent magnetic and electric circuit
 °T. Mikami¹, S. Muroga², M. Tanaka³, J. Chakarothai¹, S. Ajia², Y. Endo², K. Fujii¹ (¹NICT, ²Tohoku Univ., ³Akita Univ.)
- 26aA-5 Effects of Joule heating on thin-film magneto-impedance element with meander and parallel
 °Y. Tanaka, H. Kikuchi (Iwate Univ.)
- 26aA-6 Study of Applied Current Waveform in Pulse Excitation MI Sensor
 °S. Idachi, T. Uchiyama (Nagoya Univ.)

- High frequency magnetometry II** 10:45 ~ 12:15 Chair: H. Aoki (Tohoku Univ.)
- 26aA-7 Improvement of Precision and Accuracy Evaluation for Radiofrequency Magnetization Measurement
°R. Onodera¹, E. Kita², H. Yanagihara² (¹NIT, Ibaraki Coll., ²Univ. of Tsukuba)
- 26aA-8 Measurement of iron loss at high frequency and high magnetic field
°H. Tanaka, T. Mannen, T. Isobe, E. Kita, H. Yanagihara (Univ. of Tsukuba)
- 26aA-9 A loss estimation based on lasso regression for toroidal cores composed of electrolytic iron powders with different shapes
°S. Matsumoto, S. Muroga, Y. Kodama, S. Ajia, Y. Endo (Tohoku Univ.)
- 26aA-10 Evaluation of Eddy Current Loss in Bonded Magnets Under High Frequency Magnetic Field
°M. Abe¹, S. Tada¹, M. Yamamoto¹, H. Hirazawa² (¹NICHIA, ²NIT, Niihama Coll.)
- 26aA-11 Fundamental study of twin head type optical probe current sensor with magnetic yoke
°S. Kaneko¹, M. Sonehara¹, D. Hirai¹, S. Sue^{1,2}, M. Miyamoto², T. Sato¹, T. Kubo²
(¹Shinshu Univ., ²CITIZEN FINEDEVICE)
- 26aA-12 Estimation of magnetic field sources on printed circuit boards using object detection by machine learning of magnetic near-field information
°Y. Sato¹, S. Muroga², H. Kamoza¹, M. Tanaka¹ (¹Akita Univ., ²Tohoku Univ.)
- Motor I** 12:45 ~ 14:15 Chair: S. Motozuka (Kyushu Inst.Tech.)
- 26pA-1 Practical Design Method for Large-Scale Flux-Modulated-type Magnetic Gears
°T. Sumi¹, K. Nakamura¹, K. Takeda² (¹Tohoku Univ., ²TDK)
- 26pA-2 Frequency Response Analysis of Magnetic Gears for Input Torque
°K. Iwaki, K. Nakamura (Tohoku Univ.)
- 26pA-3 Iron Loss Calculation of Orthogonal-Core-type Variable Inductor with Permanent Magnets based on RNA
°H. Hatakeyama¹, K. Nakamura¹, T. Ohinata², K. Arimatsu² (¹Tohoku Univ., ²Tohoku Electric Power)
- 26pA-4 Basic Examination of Simulation Model Considering Magnetic Interaction of Axial-Flux SR Motor for Compact EV
°S. Nagasawa, K. Nakamura (Tohoku Univ.)
- 26pA-5 Maximization of weight-torque density of axial flux type switched reluctance motor using Quasi-3D analysis
°H. Abe, H. Goto (Utsunomiya Univ.)
- 26pA-6 Calculation of Dynamic Characteristics of Variable Flux Memory Motors based on RNA
°T. Fukata¹, Y. Hane², K. Nakamura¹ (¹Tohoku Univ., ²Toyo Univ.)
- Motor II** 14:30 ~ 16:00 Chair: M. Naoe (DENJIKEN)
- 26pA-7 Optimum Design of Axial-Flux-type PM Motors by using 2D Linear Model
°K. Yaginuma¹, K. Nakamura¹, Y. Ueda², Y. Kimura², T. Hara² (¹Tohoku Univ., ²Yanmar)
- 26pA-8 Optimum Rotor Pole Width of Flux Reversal Motors
°S. Tsunoda, K. Nakamura (Tohoku Univ.)
- 26pA-9 Characteristics of PMSM with Sm₂Fe₁₇N₃/Fe₁₆N₂ Hybrid Bonded Magnet
°I. Cirozlar¹, S. Murakami¹, K. Nakamura¹, T. Ogawa^{1,2}, S. Yamamoto^{2,3}, N. Kobayaashi², H. Yamamoto²
(¹Tohoku Univ., ²Future Materialz Co. Ltd., ³Sankei Giken Kogyo Co. Ltd.)
- 26pA-10 Reduction of Torque Ripple for Outer-Rotor-type Segment PM motor with Ferrite Magnet
°S. Sakurai (Akita Univ.)
- 26pA-11 Examination of the number of poles for higher power in Wound field Flux Switching Motor with Segmental Rotors
°Y. Koishi, H. Goto (Utsunomiya Univ.)
- 26pA-12 Development of Injection Molded IPMSM with Sm-Fe-N Bonded Magnets
°R. Yoshida¹, Y. Yoshida², T. Uwano², M. Yamamoto¹, K. Tajima² (¹NICHIA, ²Akita Univ.)
- Electromagnetic energy** 16:15 ~ 17:45 Chair: K. Nakamura (Tohoku Univ.)
- 26pA-13 Distribution Relationship between Stress and Magnetic Flux Change in Cantilever of Inverse Magnetostrictive Electromagnetic Vibration Powered Generator
°Y. Nakamura, E. Ishikawa, M. Ohtake (Yokohama National Univ.)

- 26pA-14 Influence of Local Magnetic Field Applied by Permanent Magnets on the Magnetic Flux Distribution in Soft Magnetic Beam of Perpendicular Magnetic Field Assisted Electromagnetic Impact Powered Generator
 °S. Kamiya, Y. Nakamura, M. Ohtake (Yokohama National Univ.)
- 26pA-15 Fundamental Principle of Horizontal and Oblique Magnetic Field Assisted Electromagnetic Vibration Powered Generators
 °K. Imamura, Y. Nakamura, S. Kamiya, M. Ohtake (Yokohama National Univ.)
- 26pA-16 High-output vibrating electromagnetic power generator with beam resonance
 °H. Aoki, H. Masumoto (Tohoku Univ.)
- 26pA-17 Electromagnetic levitation system for excited bending flexible steel plate (Experimental consideration on steady state response under disturbance input)
 °Y. Uchida¹, K. Ogawa², I. Kobayashi¹, J. Kuroda¹, D. Uchino³, K. Ikeda⁴, T. Kato⁵, A. Endo⁶, T. Narita¹, H. Kato¹
 (¹Tokai Univ., ²Aichi Univ. Tech., ³NIT, Numazu Coll., ⁴Hokkaido Univ. Sci., ⁵Tokyo Univ. Tech., ⁶FIT)
- 26pA-18 Optimization of magnet angles for magnetic motion control
 °H. Sakuma, S. Sawada (Utsunomiya Univ.)

Sep. 26/Room B

Spintronic material **9:00 ~ 10:15** Chair: S. Li (QST)

- 26aB-1 Negative Spin Polarization in Mn₂VAl Heusler Alloy Thin Films: Effect of Composition on Atomic Order and Electronic Structure
 °H. Suto¹, V. Barwal¹, K. Masuda¹, K. Simalaotao¹, T. Sasaki¹, Y. Miura¹, H. Tajiri², L. S. R. Kumara², T. Koganezawa², Y. Sakuraba¹ (¹NIMS, ²JASRI/SPring-8)
- 26aB-2 XMCD Analysis of Mn-Rich High Spin-Polarized Co₂MnGe Heusler Alloy
 °T. Yamazaki¹, A. Lira Foggiatto¹, R. Toyama², K. Fuku¹, K. Yamagami³, H. Ohsawa³, T. Ohkochi^{3,4}, Y. Iwasaki², Y. Sakuraba², M. Kotsugi¹ (¹Tokyo Univ. Sci., ²NIMS, ³JASRI/SPring-8, ⁴Univ. Hyogo)
- 26aB-3 Structural and Magnetic Properties of Mn₄N(111) Epitaxial Thin Films Formed on MgO(111) Single-Crystal Substrates
 °R. Kuwayama¹, K. Imamura¹, S. Isogami², M. Ohtake¹ (¹Yokohama National Univ., ²NIMS)
- 26aB-4 Characterization of four-terminal nonlocal signals in lateral spin valves consisting of perpendicularly magnetized Mn/Co/n-GaAs junctions
 °M. Ogawa, K. Nara, M. Yamanouchi, T. Uemura (Hokkaido Univ.)
- 26aB-5 Influence of Sputtering Condition on the Structural and Magnetic Properties of Single-Crystal Y₃Fe₅O₁₂ Thin Film Formed on Gd₃Ga₅O₁₂(111) Substrate
 °R. Yokoyama, K. Imamura, K. Sekiguchi, M. Ohtake (Yokohama National Univ.)

Spintronic device and process **10:30 ~ 12:00** Chair: M. Shirai (Tohoku Univ.)

- 26aB-6 Micromagnetic modelling of stochastic magnetic tunnel junctions
 °S. Endo, S. J. Greaves (Tohoku Univ.)
- 26aB-7 Simulation of antiskyrmion XOR circuit for logic devices
 °Y. Chikugo¹, K. Yamada², A. Hirohata³, Y. Nakatani¹ (¹UEC, ²Gifu Univ., ³Tohoku Univ.)
- 26aB-8 Simulation of Duplication of Skyrmion with Chirality
 °S. Yamada¹, K. Yamada², A. Hirohata³, Y. Nakatani¹ (¹UEC, ²Gifu Univ., ³Tohoku Univ.)
- 26aB-9 Control of magnetic properties using hydrogen in ferromagnetic thin films
 °T. Koyama^{1,2,3,4}, N. Seki¹, D. Chiba^{1,2,3,5}
 (¹SANKEN, Osaka Univ., ²CSRN, Osaka Univ., ³OTRI, Osaka Univ., ⁴JST-PREST, ⁵SRIS, Tohoku Univ.)
- 26aB-10 Modification of magnetic properties by resist mask with graded thickness and uniform ion irradiation
 °D. Oshima, T. Kato (Nagoya Univ.)
- 26aB-11 Analysis of deposition process of electrodeposited CoPt films for three dimensional magnetic memory
 °Y. Takamura¹, T. Huang¹, M. Hasan², Y. Tanaka¹, M. Saito², S. Nakagawa¹ (¹Tokyo Inst. Tech., ²Waseda Univ.)

Spin torque and dynamics I **13:00 ~ 14:30** Chair: S. Iihama (Nagoya Univ.)

- 26pB-1 Intrinsic inverse spin Hall effect in topological superconductors
 °T. Mizushima¹, J. Ogihara¹, T. Matsushita² (¹Osaka Univ., ²Kyoto Univ.)

- 26pB-2 Spin Injection into a Noncentrosymmetric Ta/V/Nb Superconducting Artificial Lattice
 °R. Kawarazaki¹, R. Iijima¹, F. Tokoro¹, H. Narita¹, R. Hisatomi^{1,2}, S. Karube^{1,2}, Y. Shiota^{1,2}, T. Ono^{1,2}
 (¹Kyoto Univ., ²CSRN, Kyoto Univ.)
- 26pB-3 Simulation of magnetization switching by SOT with tilted perpendicular anisotropy thin film
 °K. Harada¹, K. Yamada², Y. Nakatani¹ (¹UEC, ²Gifu Univ.)
- 26pB-4 Simulation of magnetization switching by SOT in elliptical magnetic film with DMI
 °R. Tsunoda¹, K. Yamada², Y. Nakatani¹ (¹UEC, ²Gifu Univ.)
- 26pB-5 Simulation of magnetization switching in thin film by SST
 °T. Watanabe¹, K. Yamada², Y. Nakatani¹ (¹UEC, ²Gifu Univ.)
- 26pB-6 Low damping in $L1_0$ FePt by controlling the number of misfit dislocations
 °P. D. Bentley^{1,2}, Y. Sasaki¹, S. Isogami¹, I. Suzuki¹, Y. K. Takahashi¹, H. Suto¹ (¹NIMS, ²QST)

Spin torque and dynamics II

14:45 ~ 16:15

Chair: Y. Kurokawa (Kyushu Univ.)

- 26pB-7 All-optical time-resolved magneto-optical Kerr effect measurement for perpendicularly magnetized CoFeB thin films at relatively low magnetic fields
 °Y. Sasaki, S. Sugimoto, S. Kasai, Z. Wen, S. Mitani, Y. K. Takahashi (NIMS)
- 26pB-8 Circularly-polarized-light induced torque in Co-Pd alloy films
 °K. Nukui¹, S. Iihama², K. Ishibashi¹, S. Mizukami¹ (¹Tohoku Univ., ²Nagoya Univ.)
- 26pB-9 Circularly-polarized laser pulse-induced terahertz emission in Pt thin film
 °K. Ishibashi^{1,2}, S. Iihama³, K. Nukui^{1,2}, S. Mizukami^{2,4}
 (¹Dept. of Appl. Phys., Tohoku Univ., ²AIMR, Tohoku Univ., ³Dept. of Mater. Phys., Nagoya Univ., ⁴CSIS, Tohoku Univ.)
- 26pB-10 The magnetic domain switching by single shot ultrafast laser pulse on GdFeCo/Fe thin film
 °H. Yoshikawa, Y. Kasatani, A. Tsukamoto (Nihon Univ.)
- 26pB-11 Current-induced switching of magnetic thin films with perpendicular magnetic anisotropy
 °S. Takagi¹, T. Horaguchi², K. Yamanoi¹, Y. Nozaki¹ (¹Keio Univ., ²Fukuoka Univ.)
- 26pB-12 Composition ratio dependence of spin torque efficiency derived from alloy films using Si and Al
 °H. Nakayama¹, T. Horaguchi², K. Yamanoi¹, Y. Nozaki¹ (¹Keio Univ., ²Fukuoka Univ.)

Tunnel magnetoresistance

16:30 ~ 17:30

Chair: T. Nozaki (AIST)

- 26pB-13 Theoretical study for the TMR oscillation as a function of the barrier thickness
 °K. Masuda¹, T. Scheike¹, H. Sukegawa¹, Y. Kozuka¹, S. Mitani¹, Y. Miura^{1,2} (¹NIMS, ²Kyoto Inst. of Tech)
- 26pB-14 Nano-crystal domains and their impact on magnetoresistance in epitaxial fcc-CoFe/MgO/CoFe(111) based magnetic tunnel junctions
 C. He¹, K. Masuda¹, J. Song^{1,2}, T. Scheike¹, Z. Wen¹, Y. Miura¹, T. Ohkubo¹, K. Hono¹, S. Mitani^{1,2}, °H. Sukegawa¹
 (¹NIMS, ²Univ. of Tsukuba)
- 26pB-15 Enhancement of tunnel magnetoresistance by interface modification of MgGa₂O₄-based magnetic tunnel junctions
 R. Sihombing^{1,2}, T. Scheike¹, Z. Wen¹, J. Uzuhashi¹, T. Ohkubo¹, S. Mitani^{1,2}, °H. Sukegawa¹ (¹NIMS, ²Univ. of Tsukuba)
- 26pB-16 The effect of tetragonal distortion on magnetocrystalline anisotropy in *bcc* CoFeMn alloys: an *ab initio* study
 °T. Roy, S. Kubota, M. Tsujikawa, M. Shirai (Tohoku Univ.)

Sep. 26/Room C

International session on MRAM developments and applications

9:00 ~ 11:40

Chair: C.Y. You (DGIST)

- 26aC-1 Recent progresses in STT/SOT-MRAMs for low power AI/IoT Processors
 °T. Endoh (Tohoku Univ.)
- 26aC-2 Long-Range Interlayer Chiral Exchange—Known and Unknown
 °C. Pai (Taiwan Univ.)
- 26aC-3 Advanced MTJ technology for high-density cross-point STT-MRAM
 °M. Nakayama, R. Takashima, C. Kamata, M. Toko, S. Itai, T. Koike, H. Sugiyama, H. Kanaya, Y. Lee, M. Saitoh (Kioxia)

- Chair: T. Ono (Kyoto Univ.)
- 26aC-4 Spin-Orbit Torque Based Domain Wall Motion Logic: Spin Torque Majority Gate
D. Kim, S. An, E. Baek, J. Kim, S. Lee, J. Kim, °C. You (DGIST)
- 26aC-5 Trends of Embedded MRAM IP Development for MCUs
°T. Saito (Renesas Electronics)
- 26aC-6 Spintronic security devices based on magnetic random-access memory
°S. Lee¹, J. Kang², B. Park² (¹Gachon Univ., ²KAIST)
- 26aC-7 MRAM growing into 3 terminal device
°T. Sasaki (TDK)

Symposium "Novel thermoelectric materials and functions with magnetics"

Chief Organizer: T. Katase (Tokyo Inst. Tech.)

- 13:15 ~ 17:15**
- Chair: T. Katase (Tokyo Inst. Tech.)
- 26pC-1 Development of high performance thermoelectric materials by utilizing magnetism
°T. Mori (NIMS)
- 26pC-2 Recent Progress in Thermoelectric Effects in Magnetic States Focusing on Magnon Drag Effect
°H. Matsuura (Univ. of Tokyo)
- Chair: S. Demura (Nihon Univ.)
- 26pC-3 Thermoelectric properties of ternary transition-metal tellurides with low-dimensional crystal structure
°Y. Okamoto (Univ. of Tokyo)
- 26pC-4 Magneto-thermoelectric properties of a pseudo one-dimensional semimetal Ta₂PdSe₆
°A. Nakano (Nagoya Univ.)
- 26pC-5 Exploration of thermoelectric materials involving spin and crystal degrees of freedom
°H. Takahashi (Osaka Univ.)
- Chair: A. Chikamatsu (Ochanomizu Univ.)
- 26pC-6 Development of goniopolar materials for transverse thermoelectrics and the effect of magnetic element substitution
°Y. Goto (AIST)
- 26pC-7 Electric field control of magnetic, electric, thermoelectric properties in transition metal compounds
°S. Shimizu¹, K. Miwa², S. Ono² (¹Toyama Pref. Univ., ²CRIEPI)

Sep. 26/Room D

- Ferrite magnets** **9:15 ~ 10:30** Chair: M. Nakano (Nagasaki Univ.)
- 26aD-1 Refinement of the lattice misfit between a Cu₂O seed layer and a Co ferrite thin film
°R. Sasaki, K. Kamishima, K. Kakizaki (Saitama Univ.)
- 26aD-2 Magnetic properties of M-type strontium hexaferrite thin films prepared by metal organic decomposition
°M. Kawaguchi, K. Kamishima, K. Kakizaki (Saitama Univ.)
- 26aD-3 Exploring the synthesis conditions of Li-based QS-type hexaferrite
°T. Yoshijima, K. Kakizaki, K. Kamishima (Saitama Univ.)
- 26aD-4 Investigation of QS-type ferrite containing divalent iron cations
°H. Ochiai, K. Kakizaki, K. Kamishima (Saitama Univ.)
- 26aD-5 Coercivity of W-type Sr ferrite single-domain particles
°S. Nakai, T. Waki, Y. Tabata, H. Nakamura (Kyoto Univ.)

- Permanent magnets • Rare earth magnets** **10:45 ~ 11:45** Chair: K. Kamishima (Saitama Univ.)
- 26aD-6 Compositions of Eu magnetic iron oxide by RF sputtering
°A. Sawamoto, X. Liu (Shinshu Univ.)
- 26aD-7 Development of Stainless Steel Magnets for MAGnetic Dental Attachments
°C. Mishima¹, T. Mizuno², A. N. Nwodo², E. Kikuchi², Y. Honkura² (¹Mishima Lab., ²Magnedesign)

- 26aD-8 Improving the magnetic properties of Nd-Fe-B isotropic bulk magnets
^oH. Komura, A. Yamane, K. Hanashima, T. Suzuki, Y. Okawara (MinebeaMitumi)
- 26aD-9 Properties of magnetic films prepared by LIFT technique
^oM. Nakano, K. Higashi, G. Tahara, A. Yamashita, T. Yanai, H. Fukunaga (Nagasaki Univ.)

Symposium "Advanced magnetic recording and storage technologies"

Chief Organizer: J. Okabayashi (Univ. of Tokyo), Y. Shimizu (WD)

13:00 ~ 17:15

Chair: Y. Shimizu (WD)

- 26pD-1 HAMR emulation and life estimation based on chemical structure analysis of overcoat and lubricant film using plasmonic sensor
^oM. Yanagisawa, M. Kunimoto, T. Homma (Waseda Univ.)
- 26pD-2 HAMR Read/Write System Prospects and Challenges
^oM. Mochizuki, N. Ito, M. Matsubara, M. Minematsu, Y. Shimizu, M. Shimokoshi, M. Ikeda (WD)
- 26pD-3 Micromagnetic analysis of STO with multiple FGLs for MAMR
^oY. Kanai¹, K. Tatsuno¹, S. J. Greaves² (¹Niigata Inst. Tech., ²Tohoku Univ.)
- 26pD-4 Development of Microwave-Assisted Magnetic Recording Technologies
^oN. Narita, M. Takagishi, Y. Nakagawa, T. Maeda (Toshiba)
- Chair: A. Kikitsu (Toshiba)
- 26pD-5 Development Status of Next-Generation Perpendicular Magnetic Recording Media
^oH. Ohashi (Resonac)
- 26pD-6 Materials Development for 3D-HAMR
^oY. K. Takahashi (NIMS)
- 26pD-7 Prospects for Three-Dimensional Magnetic Recording
^oS. Greaves (Tohoku Univ.)
- 26pD-8 A study of signal processing in double layered magnetic recording
^oY. Nakamura, M. Nishikawa, Y. Okamoto (Ehime Univ.)

Sep. 26/Room E

Magnetic Particle Imaging I

13:15 ~ 14:45

Chair: S. Seino (Osaka Univ.)

- 26pE-1 Basic Study of Magnetic Particle Imaging Using Optically Pumped Magnetometer
^oT. Sasayama¹, S. Tuae², T. Yoshida¹ (¹Kyushu Univ., ²Kochi Univ. of Technology)
- 26pE-2 Detection of magnetic particles excited by AC magnetic field of 1-10 μ T
^oH. Ahn¹, S. Trisnanto¹, T. Kasajima², T. Shibuya², Y. Takemura¹ (¹Yokohama National Univ., ²TDK)
- 26pE-3 Improved detection of magnetic nanoparticles by using magnetoresistive sensor
^oK. Suzaki¹, S. Nabeta¹, S. Trisnanto¹, T. Kasajima², T. Sibuya², Y. Takemura¹ (¹Yokohama National Univ., ²TDK)
- 26pE-4 Signal acquisition of human head MPI scanner using magnetoresistive sensor-based flux transformer
^oS. Trisnanto¹, K. Nomura², M. Washino², Y. Takemura¹ (¹Yokohama National Univ., ²MITSUBISHI)
- 26pE-5 Phase-sensitive detection of magnetization signal using MR sensor-coupled asymmetric gradiometer toward multi-harmonic image reconstruction in magnetic particle imaging
^oS. Trisnanto¹, T. Kasajima², T. Shibuya², Y. Takemura¹ (¹Yokohama National Univ., ²TDK)
- 26pE-6 Detection of magnetic nanoparticles dispersed in small area.
^oN. Nishino¹, S. B. Trisnanto¹, S. Ota², Y. Takemura¹ (¹Yokohama National Univ., ²Shizuoka Univ.)

Magnetic Particle Imaging II

15:00 ~ 16:15

Chair: A. Kuwahata (Tohoku Univ.)

- 26pE-7 Characterization of living tumor by measurement of magnetic relaxation in magnetic nanoparticles
^oH. Kosaka¹, K. Honda¹, M. Futagawa¹, Y. Takemura², K. Shimizu³, S. Ota¹
(¹Shizuoka Univ., ²Yokohama National Univ., ³Hamamatsu Univ School of Medicine)
- 26pE-8 High-precision identification of magnetic nanoparticles using harmonic magnetizations
^oM. Todo, I. Matsuzaki, T. Yoshida (Kyushu Univ.)

- 26pE-9 Design and Performance Verification of a Three-Dimensional MPI Scanner
 °H. Wang, Y. Sun, H. Zhang, T. Yoshida (Kyushu Univ.)
- 26pE-10 Development of a 1/5-scale human-sized magnetic particle imaging device using HTS coil
 °T. Nagano¹, T. Sasayama¹, H. Sasa¹, Y. Takemura², T. Yoshida¹ (¹Kyushu Univ., ²Yokohama National Univ.)
- 26pE-11 Development of Large-Bore Magnetic Particle Imaging System for Human brain imaging
 °K. Nomura¹, M. Washino¹, T. Matsuda¹, S. Seino², T. Nakagawa², T. Kiwa³ (¹MITSUBISHI, ²Osaka Univ., ³Okayama Univ.)

Sep. 27/Room A

- Magneto-optics** 10:00 ~ 11:45 Chair: J. Okabayashi (Univ. of Tokyo)
- 27aA-1 Faraday rotation angle of flexible magneto-optical thin films with magnetic garnet fine particles
 °T. Shimada¹, T. Tamamura¹, T. Takano¹, T. Goto², R. Hashimoto¹ (¹NIT, Suzuka Coll., ²Tohoku Univ.)
- 27aA-2 Magneto-optical effect in FeCo-BaF/ITO multilayer films
 °K. Ikeda¹, T. Liu², Y. Ota³, S. Iwamoto⁴, N. Kobayashi¹ (¹DENJIKEN, ²CIOMP, ³Keio Univ., ⁴Univ. of Tokyo)
- 27aA-3 Wavelength Dependence of Magnetic Circular Dichroism and Duality Sign in GdFeCo Thin Films with Various Optical Interference Layer Thickness
 °T. Wakabayashi, H. Yoshikawa, A. Tsukamoto (Nihon Univ.)
- 27aA-4 Planar Hall effect and X-ray magnetic linear dichroism by Yafet-Kittel Structure
 °H. Koizumi¹, Y. Yamasaki², H. Yanagihara³ (¹Tohoku Univ., ²NIMS, ³Univ. of Tsukuba)
- 27aA-5 Nanostructures Exhibiting Magneto-optical and Chiroptical Responses Prepared by Circularly Polarized Light
 °T. Ishida, N. Sawada, T. Ito, S. Lee, T. Tatsuma (Univ. of Tokyo)
- 27aA-6 Magneto-optical properties of magneto-optical cavities incorporating magnetic nanostructures
 °J. Liu¹, Y. Yasukawa¹, T. Hasegawa², H. Yamane³ (¹Chiba Inst. Tech., ²Akita Univ., ³Akita Ind. Tech. Center)
- 27aA-7 Observation of magnetic domains in the diffraction-limited region using focused surface plasmon
 °D. Matsubayashi¹, H. Yamane², H. Kano¹ (¹Muroran IT, ²AIT)

- Magnetic compounds** 13:15 ~ 15:15 Chair: C. Mitsumata (Tsukuba Univ.)
- 27pA-1 Simple synthesis method using organic nitrogen sources and magnetic properties of magnetic metal nitrides
 °T. Muto¹, T. Kida², M. Hagiwara², Z. Honda¹ (¹Saitama Univ., ²Osaka Univ.)
- 27pA-2 On-surface growth of two-dimensional honeycomb lattice magnet
 °T. Yamada, H. Ishii (Chiba Univ.)
- 27pA-3 Spin Crossover System with Multifunction
 Y. Nakashima, Y. Sekine, Z. Zhang, H. Zenno, °S. Hayami (Kumamoto Univ.)
- 27pA-4 S=1/2 system magnetic relaxation properties of Cu(II) complexes
 °M. Wakizaka¹, M. Yamashita² (¹CIST, ²Tohoku Univ.)
- 27pA-5 Construction of nitroxyl radical self-assemblies using hydrogen bond and their low-dimensional magnetism
 °N. Yoshioka, Y. Hisatomi, H. Memida, Y. Miura (Keio Univ.)
- 27pA-6 Construction of Magnetic Switching Molecules Exhibiting Metal-to-Metal Electron Transfers
 °Y. Sekine, R. Fukushima, S. Hayami (Kumamoto Univ.)
- 27pA-7 Magnetostrictive properties of Cu-Co ferrite single crystals
 °S. Kosugi¹, M. Hisamatsu¹, S. Fujieda^{2,3}, T. Terai¹, Y. Ohishi¹, H. Muta¹, S. Seino^{1,2}, T. Nakagawa^{1,2}
 (¹Osaka Univ., ²OTRI, Osaka Univ., ³Shimane Univ.)
- 27pA-8 Magnetic properties and optical transmission spectra of γ -Fe₂O₃ containing porous silica glass
 °A. Sato¹, Z. Honda¹, T. Kida², M. Hagiwara² (¹Saitama Univ., ²Osaka Univ.)

Sep. 27/Room B

- Spin caloritronics I** 9:00 ~ 10:30 Chair: B. Qiang (Nagoya Univ.)
- 27aB-1 Spin caloritronics of spin-triplet superconductors
 °T. Matsushita¹, T. Mizushima², J. Ando², Y. Masaki³, S. Fujimoto², I. Vekhter⁴
 (¹Kyoto Univ., ²Osaka Univ., ³Tohoku Univ., ⁴Louisiana State University)
- 27aB-2 All-in-one evaluation method for transverse thermoelectric properties of a magnetic thin film
 °T. Yamazaki¹, N. L. Okamoto¹, T. Ichitsubo¹, T. Seki^{1,2} (¹IMR, Tohoku Univ., ²CSIS, Tohoku Univ.)

- 27aB-3 Magnetic imaging by local heat injection
 °H. Isshiki¹, N. Budai¹, Z. Zhu¹, A. Kobayashi¹, R. Uesugi¹, T. Higo^{1,2}, S. Nakatsuji^{1,2}, Y. Otani^{1,3}
 (°ISSP, °Univ. of Tokyo, °RIKEN)
- 27aB-4 Load resistance dependence of thermoelectric generation in GdFeCo ferrimagnetic thin film
 °Y. Kobayashi¹, Y. Kasatani², H. Yoshikawa², A. Tsukamoto² (°GST, Nihon Univ., °CST, Nihon Univ.)
- 27aB-5 Huge changes in thermal conductivity by magneto-thermal resistance effect in CoFe/Cu multilayer
 °F. Makino^{1,2,4}, T. Hirai², T. Shiga³, H. Suto², H. Fujihisa³, K. Oyanagi⁴, S. Kobayashi⁴, T. Sasaki², T. Yagi³, K. Uchida^{1,2,5},
 Y. Sakuraba^{1,2} (°Univ. of Tsukuba, °NIMS, °AIST, °Iwate Univ., °Univ. of Tokyo)
- 27aB-6 Numerical study on the magnon drag effect in magnetic multilayers
 °T. Shoji¹, M. Mizuguchi², J. Ohe¹ (°Toho Univ., °Nagoya Univ.)

Spin caloritronics II

10:45 ~ 12:30

Chair: A. Tsukamoto (Nihon Univ.)

- 27aB-7 Analysis of Origin of Anomalous Hall Effect in Single Crystal and Polycrystalline of Fe-Ga Disordered Alloys Thin Films
 °A. Nakagawa¹, R. Toyama², K. Simalaotao^{2,3}, K. Masuda², Y. Miura^{2,4}, H. Suto², Y. Sakuraba^{2,3}, T. Koda¹
 (°Oshima Nat. Coll. Tech, °NIMS, °Univ. of Tsukuba, °Kyoto Inst. of Tech)
- 27aB-8 Extrinsic contribution to the anomalous Hall effect and Nernst effect in Fe₃Co single-crystal thin films by Ir doping
 °R. Toyama, W. Zhou, Y. Sakuraba (NIMS)
- 27aB-9 Nernst effect in ferromagnetic Fe_{2-x}Pd_xMo₃N thin films in skyrmions
 °K. Yamamoto¹, B. Qiang¹, H. Asano², T. Miyamachi¹, M. Mizuguchi¹ (°Nagoya Univ., °NISRI)
- 27aB-10 Large anomalous Nernst conductivity of L1₀-ordered CoPt in CoPt composition-spread thin films
 °R. Toyama¹, K. Masuda¹, K. Simalaotao^{1,2}, W. Zhou¹, V. K. Kushwaha¹, N. Suwannaharn¹, T. T. Sasaki¹, Y. Sakuraba^{1,2}
 (°NIMS, °Univ. of Tsukuba)
- 27aB-11 Anomalous Nernst effect in Fe₄N films substituted by heavy metal elements
 °K. Ito, T. Seki (Tohoku Univ.)
- 27aB-12 Anomalous Nernst effect in Co porous thin films
 °T. Tsujimoto, T. Miyamachi, M. Mizuguchi (Nagoya Univ.)
- 27aB-13 Anomalous Nernst effect of Fe-doped SnSe thin films
 °K. Wada¹, T. Fujita², T. Miyamachi¹, M. Mizuguchi¹ (°Nagoya Univ., °Kochi Univ. Tech.)

Control of spin by electric current and field

13:30 ~ 15:00

Chair: T. Seki (Tohoku Univ.)

- 27pB-1 Simulation study on the effect of shape anisotropy on switching voltage of voltage-controlled MRAM
 °S. Miyazaki^{1,2}, H. Arai², H. Imamura^{1,2}, Y. Yasukawa¹ (°Chiba Inst. Tech., °AIST)
- 27pB-2 Improvement of efficiency in voltage-controlled magnetic anisotropy effect by an introduction of an ultrathin Ir capping layer
 °T. Nozaki, T. Ichinose, T. Yamamoto, K. Yakushiji, S. Yuasa (AIST)
- 27pB-3 High efficiency modulation and bipolar switching of antiferromagnetic spin in Pt/Cr₂O₃/V₂O₃/Pt epitaxial films
 °N. Murayama¹, H. Sameshima¹, K. Ujimoto¹, K. Toyoki^{1,2,3}, R. Nakatani^{1,2,3}, Y. Shiratsuchi^{1,2,3}
 (°Osaka Univ., °OTRI, Osaka Univ., °CSRN, Osaka Univ.)
- 27pB-4 E-field modulation of AFM spin reversal field and bipolar switching in Pt/Cr₂O₃/Ir epitaxial thin film
 °H. Sameshima¹, N. Murayama¹, K. Ujimoto¹, K. Toyoki^{1,2,3}, R. Nakatani^{1,2,3}, Y. Shiratsuchi^{1,2,3}
 (°Osaka Univ., °OTRI, Osaka Univ., °CSRN, Osaka Univ.)
- 27pB-5 Improvement of dumping-like torque by inserting Gd-CoFeB alloy at the W/CoFeB interface
 °K. Tokunaga, Y. Kurokawa, H. Yuasa (Kyushu Univ.)
- 27pB-6 Analysis of current induced domain wall motion in perpendicularly magnetized W/CoFeB/MgO systems
 °N. Umetsu, M. A. Quinsat, S. Hashimoto, T. Kondo, M. Kado (Kioxia)

Sep. 27/Room C

Symposium "Magnetic sensing technologies under the sea and in space"

Chief Organizer: Y. Ando (Tohoku Univ.)

9:00 ~ 11:45

Chair: M. Oogane (Tohoku Univ.)

- 27aC-1 Measurement of the magnetic fields at the planets and in the space by the spacecraft
°A. Matsuoka¹, M. Shinohara², Y. Tanaka³, A. Fujimoto⁴, M. Teramoto⁴, R. Nomura⁵, N. Murata⁵
(¹Kyoto Univ., ²Kagoshima Nat. Inst. Tech., ³NiPR, ⁴Kyushu Inst. Tech., ⁵JAXA)
- 27aC-2 Geomagnetic Field Measurements with Magneto-Impedance (MI) Sensor
°M. Nosé (NCU)
- 27aC-3 Magnetic sensing technologies in Earth Sciences: Current status and future prospects on explorations in air, on sea-surface and under-water, and microanalyses of geological samples
°H. Oda (AIST)
- 27aC-4 Use of magnetic sensors in the ocean and future prospects
Chair: T. Nakano (Tohoku Univ.)
- 27aC-5 Sensing using RF signals under the sea
°N. Nishimura (Shimadzu)
°M. Takahashi (Chiba Univ.)

Symposium "Recent progress of wireless power transfer techniques, and requirements for magnetics"

Chief Organizer: T. Takura (Tohoku Inst. Tech.)

13:00 ~ 15:45

Chair: T. Takura (Tohoku Inst. Tech.)

- 27pC-1 Wireless Electric Power Transmission Technology and Magnetics in EV Society
°K. Fujisaki (Toyota Tech. Inst.)
- 27pC-2 New insights through old experiences: sustainable future of WPT
°H. Matsuki¹, F. Sato² (¹Tohoku Univ., ²Tohoku Gakuin Univ.)
- 27pC-3 Magnetic field resonance wireless power transfer using advanced magnetic applications for innovation
Chair: Y. Asano (Daikin)
°T. Hosotani (Murata Manufacturing, Nagoya Univ.)
- 27pC-4 Introduction to the Challenges and Feasibility of Dynamic Wireless Power Transfer
°T. Imura (Tokyo Univ. Sci.)
- 27pC-5 Design example of coupling coils for WPT at MHz band
°H. Sekiya (Chiba Univ.)

Sep. 27/Room D

Symposium "What properties of soft magnetic materials are required for next-generation power electronics?"

Chief Organizer: S. Okamoto (Tohoku Univ.)

9:30 ~ 15:45

Chair: S. Okamoto (Tohoku Univ.)

- 27aD-1 Current Status of Wide-bandgap Semiconductor Power Devices and Expectation of New Magnetic devices
°J. Suda (Nagoya Univ.)
- 27aD-2 Introduction to MEXT INNOPEL Project and Passive Components Roadmap Activities
°M. Yamaguchi (Tohoku Univ.)
- 27aD-3 Development trends and practical bottlenecks of Fe-based amorphous and nanocrystalline alloy ribbons
°M. Ohta (Proterial, Shimane Univ.)
- 27aD-4 Iron loss analysis by extended Landau free energy model
°M. Kotsugi (Tokyo Univ. Sci.)

- 27aD-5 Dynamic magnetization reversal and dynamic loss analyses for single domain model by means of LLG/Maxwell pseudo-coupled simulation
 °K. Oishi, K. Saito, T. Sato, M. Sonehara, T. Minamisawa (Shinshu Univ.)
 Chair: T. Sato (Shinshu Univ.)
- 27pD-1 Effect of nanostructure on the core loss of soft magnetic materials
 °H. Sepehri-Amin¹, R. Gautam¹, S. Hiramoto², A. Bolyachkin¹, N. Kulesh¹, H. Mamiya¹, S. Okamoto², T. Ohkubo¹
 (°NIMS, °Tohoku University)
- 27pD-2 Origin of excess losses in soft magnetic materials
 °H. Tsukahara^{1,3}, H. Huang², K. Suzuki², K. Ono³, S. Okamoto¹ (°Tohoku Univ., °Monash Univ., °Osaka Univ.)
- 27pD-3 Magnetic core loss measurements of toroidal cores under sinusoidal and triangle waveform
 °Y. Uehara¹, S. Okamoto², Y. Sato³, T. Taniguchi² (°Magnetic Device Lab., °Tohoku Univ., °Aoyama-Gakuin Univ.)
- 27pD-4 Operating conditions for minimized loss design of AC filter inductors used in PWM inverters
 °T. Yamaguchi, H. Matsumori (Nagoya Inst. Tech.)
 Chair: Y. Endo (Tohoku Univ.)
- 27pD-5 Frequency dependence of impedance permeability in magnetic metal core
 °Y. Tomita, H. Takabayashi, T. Iriyama (Daido Steel)
- 27pD-6 Evaluation of Magnetic properties of Co-Pd Substituted FINEMET Composition Ribbon
 °T. Hashimoto, E. Teranishi, A. Osoda, T. Minamisawa, M. Sonehara, T. Sato (Shinshu Univ.)
- 27pD-7 Characteristic Changes Due to Pressing Method in FINEMET Plate-shape Powder Cores
 °Y. Fujita, R. Ota, A. Ogawa, M. Sonehara, T. Sato (Shinshu Univ.)
- 27pD-8 Relationship between iron loss analysis based on magnetization processes and statistic model
 °N. Ono¹, Y. Uehara², T. Onuma¹, T. Taniguchi¹, S. Okamoto^{1,3,4}
 (°IMRAM, Tohoku Univ., °Magnetic Device Laboratory, °CSIS, Tohoku Univ., °NIMS)
- 27pD-9 Mechanism of wide-band iron loss using Sinc pulse measurement
 °T. Taniguchi¹, Y. Uehara², Y. Sato³, H. Tsukahara¹, S. Okamoto^{1,4}
 (°Tohoku Univ., °Magnetic Device Laboratory, °Aoyama-Gakuin Univ., °NIMS)
- 27pD-10 Correlation between DC bias characteristics and *B-H* curve shape of various magnetic cores
 °T. Onuma¹, N. Ono¹, S. Okamoto^{1,2} (°IMRAM, Tohoku Univ., °CSIS, Tohoku Univ.)

Sep. 27/Room E

- Thin films • Magnetism modulation** 9:45 ~ 11:45 Chair: T. Miyamachi (Nagoya Univ.)
- 27aE-1 Composition dependence of magneto-crystalline anisotropy constant K_1 in FeCoNi-alloy epitaxial thin films
 °T. Ueno, T. Nakano, M. Tsunoda, M. Oogane (Tohoku Univ.)
- 27aE-2 Evaluation of in-plane uniaxial magnetic anisotropy in Co thin films sputtered on LiNbO₃ single crystal substrates with various cut planes
 °S. Shikano¹, T. Abe¹, S. Ono², K. Shimamura³, A. Yamaguchi⁴, M. Shima¹, K. Yamada¹
 (°Gifu Univ., °Muroran Inst. Tech., °Kanazawa Univ., °Toyo Univ.)
- 27aE-3 Structural and Magnetic Properties of Single-Crystal ϵ -Fe_{2,3}N Thin Films Epitaxially Grown on MgO(111) Substrates
 °K. Imamura, M. Ohtake (Yokohama National Univ.)
- 27aE-4 Influence of Yttrium addition on structural and magnetic properties of (Fe₇₁Ga₂₉)_{1-x}Y_x thin film
 °S. Ajaia¹, R. Nishina¹, T. Miyazaki², S. Muroga¹, Y. Endo^{1,3}
 (°Grad. Sch. Eng. Tohoku Univ., °Sch. Eng. Tohoku Univ., °CSIS, Tohoku Univ.)
- 27aE-5 Preparation of bismuth oxyfluoride single crystal thin films and their room temperature multiferroic properties
 °A. Chikamatsu¹, A. Kamigaito¹, M. Sano¹, K. Shigematsu², S. Demura³, T. Katayama⁴, Y. Hirose⁵
 (°Ochanomizu Univ., °Tokyo Inst. Tech., °Nihon Univ., °Hokkaido Univ., °Tokyo Metropolitan Univ.)
- 27aE-6 Preparation of perpendicularly magnetized barium ferrite films on Pt layers for spin-filtering junctions
 °M. Tanaka¹, R. Adachi¹, H. Komiyama², T. Ono², T. Hihara¹, K. Mibu¹ (°Nagoya Inst. Tech., °Kyoto Univ.)
- 27aE-7 Unusual ferromagnetic phase induced by structural phase transition of substrate in epitaxial La_{0.5}Sr_{0.5}MnO₃ thin films
 °R. Arakawa, T. Onogi, S. Komori, T. Taniyama (Nagoya Univ.)

27aE-8 Electric-field modulation of magnetization process in Co/Ru/Co/PMN-PT heterostructures
°Y. Hisada¹, S. Komori¹, K. Imura², T. Taniyama¹ (¹Dept. Phys., Nagoya Univ., ²ILAS, Nagoya Univ.)

Iron cobalt

13:00 ~ 14:30

Chair: M. Tanaka (Nagoya Inst. Tech.)

- 27pE-1 Interfacial stability in FeCo ordered alloy thin films fabricated by nitrogen surfactant epitaxy
°T. Miyamachi¹, Y. Umeda¹, H. Ono¹, K. Yamamoto², O. Ishiyama², H. Iwayama², E. Nakamura², T. Yokoyama²,
M. Mizuguchi¹ (¹Nagoya Univ., ²IMS)
- 27pE-2 Role of tetragonal distortion and N addition on Fe-Co-V-N films with high uniaxial magnetic anisotropy.
°C. Murakami, T. Hasegawa (Akita Univ.)
- 27pE-3 bct structure and uniaxial magnetic anisotropy of Fe-Co-X-N films
°T. Sato, T. Hasegawa (Akita Univ.)
- 27pE-4 Tetragonal crystal structure and uniaxial magnetic anisotropy on Fe-Co-V-O films
°T. Takemura, T. Hasegawa (Akita Univ.)
- 27pE-5 Effect of V-Al-N addition to bct Fe-Co films deposited at different substrate temperatures
°K. Sayama, T. Hasegawa (Akita Univ.)
- 27pE-6 Coercivity of microfabricated bct Fe-Co-Al films with ordered structure
°R. Ondera, T. Hasegawa (Akita Univ.)

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3T(30kG)
対応

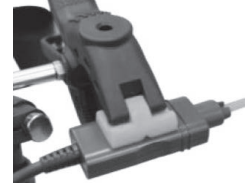
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バックライト



プローブ固定例



リアル値

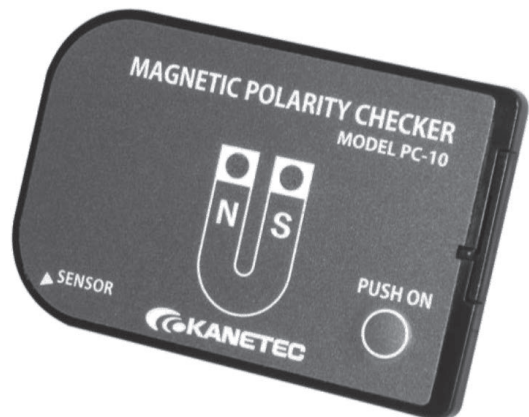
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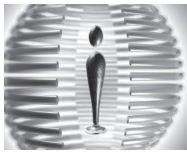
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Technology Communication

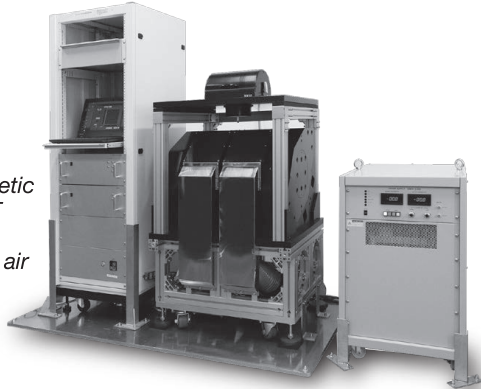
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Vibrating Sample Magnetometer

Model for higher magnetic field and higher sensitivity measurements, ideal for measuring ultra-thin films in the nm range.

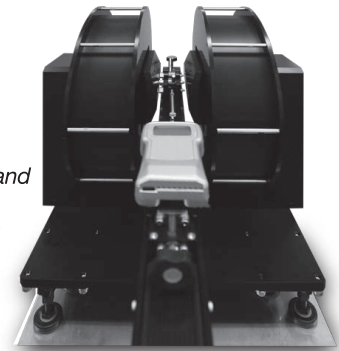
Features
Maximum magnetic field strength:3T
Coil cooling method: Forced air cooling



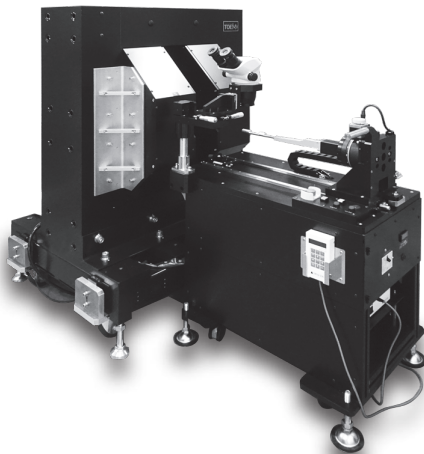
The magnetostriction measuring equipment

Under Development!
The magnetostriction measuring equipment for thin magnetic strips under 60um thickness.

Features
Provide higher accuracy and resolution than the conventional strain gauge method equipment.



High Sensitivity VNA-FMR Spectrometer



Magnetic Field Prober

Main Model

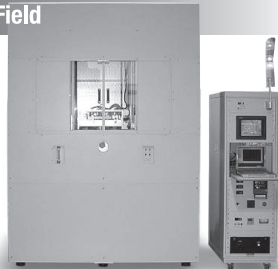
- Omni-Directional magnetic field prober
- Vertical magnetic field prober
- In-plane magnetic field prober
- Rotating magnetic field prober

Prober type

- Full-automatic
- Semi-automatic
- Manual



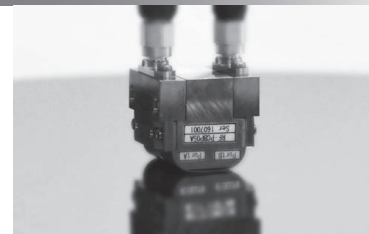
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3D Magnetic Field Profiler



Micro Strip Line Probe



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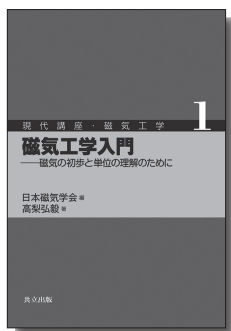
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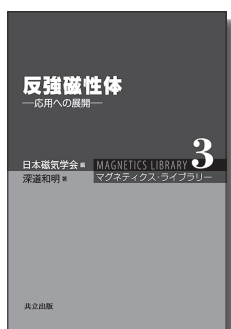
現代講座・磁気工学



学部上級生から修士・若手技術者を主対象に、新機軸の研究対象と基礎的要素を結びつける重要な基礎理論を丁寧に解説。教科書や解説書など幅広く活用できる。

- 1 磁気工学入門 –磁気の初歩と単位の理解のために–**
 日本磁気学会『平成23年度出版賞』受賞
 高梨弘毅 著……………132頁・定価3080円
- 2 磁気工学の解析法** 日本磁気学会『令和元年度出版賞』受賞
 三俣千春 著……………236頁・定価3740円
- 3 スピントロニクス –基礎編–** 日本磁気学会『平成30年度出版賞』受賞
 井上順一郎・伊藤博介 著……………294頁・定価4180円
- 4 スピントロニクス –応用編–**
 鈴木義茂・久保田 均・野崎隆行・湯浅新治・中谷友也 著…2024年10月刊行予定
- 5 パワーマグネティクスのための応用電磁気学**
 日本磁気学会『令和3年度出版賞』受賞
 早乙女英夫他 著……………352頁・定価4400円

マグネティクス・ライブラリー



磁気工学の基礎理論から最先端まで幅広い分野からテーマを集め、境界領域も含めて様々な研究分野に寄与する磁気の参考書。重要なトピクスは紙面を割き詳解。

- 1 磁気の付随現象とその応用**
 井上光輝 著……………続刊
- 2 磁性の電子論** 日本磁気学会『平成25年度出版賞』受賞
 佐久間昭正 著……………品切
- 3 反強磁性体 –応用への展開–** 日本磁気学会『平成29年度出版賞』受賞
 深道和明 著……………344頁・定価5500円

マグネティクス・イントロダクション



磁気の初学者およびその周辺領域の読者を対象に、磁気の基礎の基礎から興味深い磁気現象や最先端の研究・技術まで、第一線の研究者がやさしく正確に解説する。

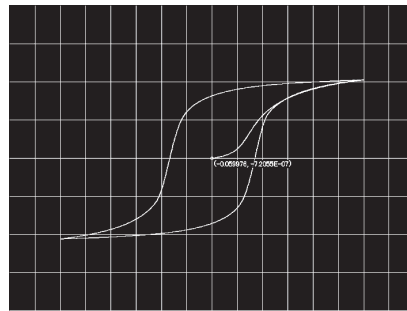
- 1 磁気工学超入門 –ようこそ、まぐねの国へ–**
 日本磁気学会『令和5年度出版賞』受賞
 佐藤勝昭 著……………166頁・定価2750円
- 2 メタマテリアルのつくりかた –光を曲げる「磁場」とベリ一位相–**
 日本磁気学会『令和2年度出版賞』受賞
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- スピントロニクスを用いたエネルギーハーベスティング**
 水口将輝・藤田麻哉 著……………近刊
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 三俣千春 著……………近刊

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測定モード

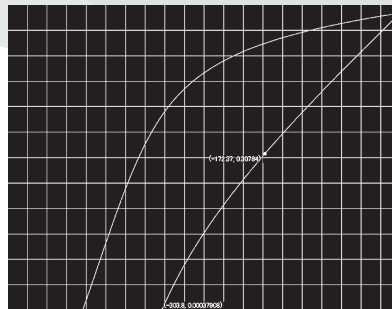
- ・ 直流磁化特性
- ・ 非履歴磁化特性
- ・ 偏磁磁化特性
- ・ 交流磁化特性



BH-1000



軟磁性材料（ソフト材）の各種磁化特性を測定。オリジナルサンプリング方式を採用し、ドリフトレスを実現。任意波形によるマイナーループなどの実環境下での測定が可能。



硬磁性材料に最適！

測定モード

- ・ 直流磁化特性
- ・ 高保磁力材料減磁特性

硬質磁性材料（ハード材）の各種磁気特性を測定。オプションで軟磁性材料測定機能も搭載可能。BH-1000と同様、ドリフトレス。減磁曲線のリコイル透磁率算出に役立つ任意波形機能も標準搭載。

BH-1000H

※カタログの仕様及び外観等は、改良の為予告なしに変更する場合がございます。

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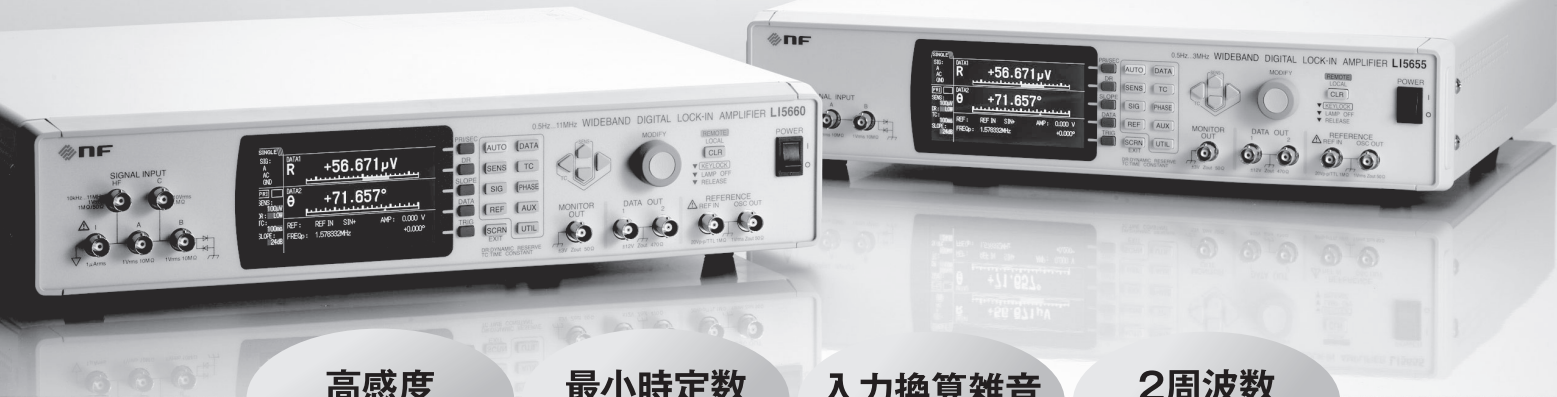
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同時測定

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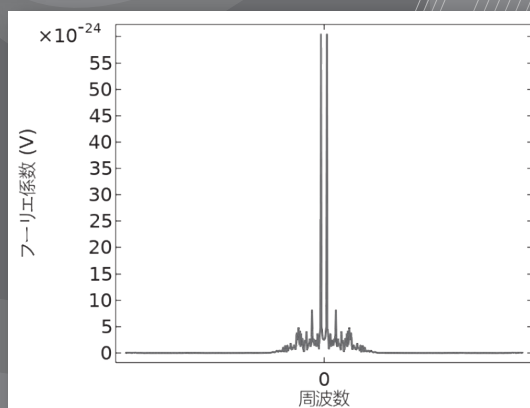
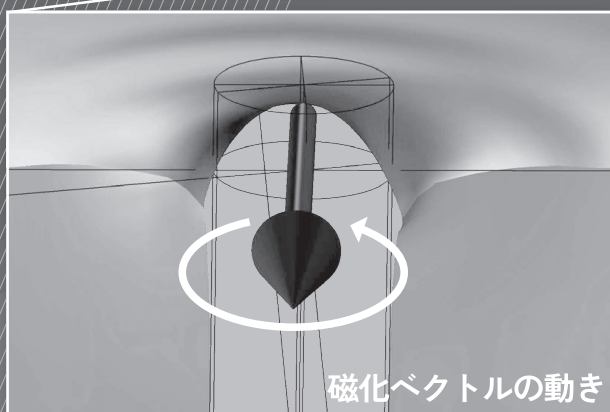
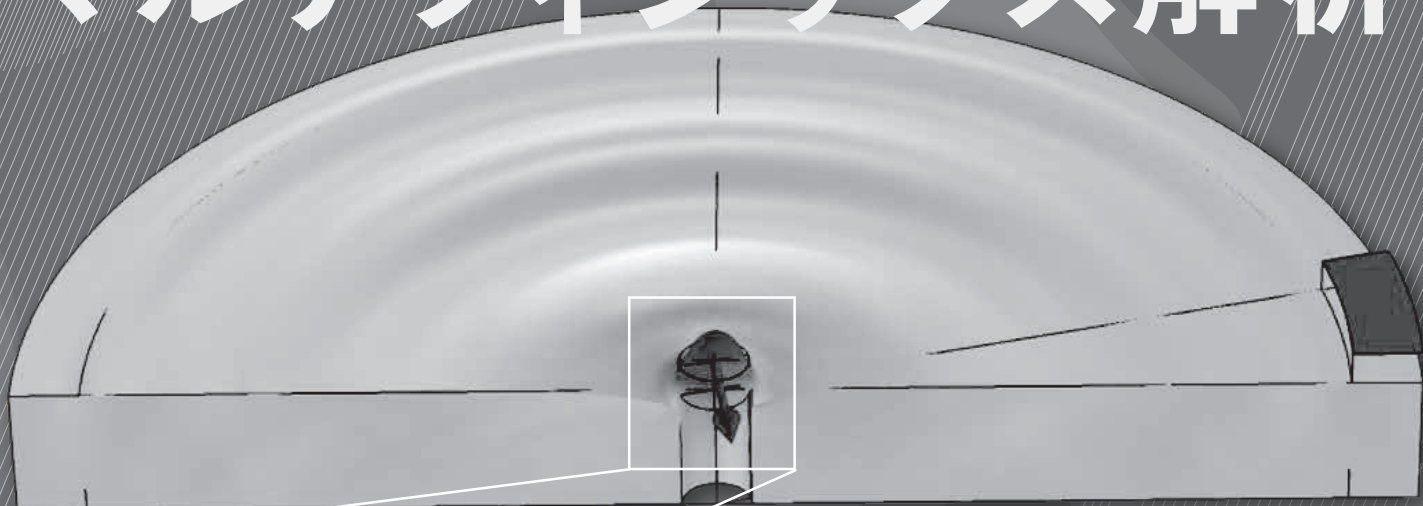
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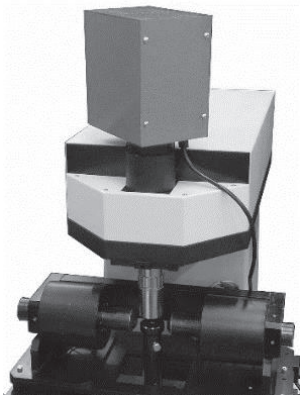
本解析では、スピン動力学と構造振動および電磁場のマルチフィジックス解析を行い、スピン波 - 弾性波結合を定量評価しました。電磁波によって励起されたスピン波と弾性振動が結合し、表面弾性波が発生します。この弾性振動はピエゾ素子を介して電気信号に変換されます。

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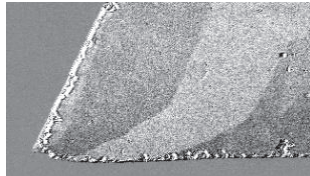


16bit偏光カメラ ～偏光角検出による磁区観察～ 開発中

弊社と東北大学 齊藤 伸 教授との共同開発において、対象を直線偏光に限定した場合、2つの偏光成分を検出するだけで偏光角を得られることを見出しました。輝度16bit分解能センサーを2個用いた16bit偏光カメラを開発し、偏光角検出による高品位磁区観察を実現しました。照明光を無駄にすることなく光源の光量変動の影響を受けない安定した磁区観察が期待できます。



消光法



偏光角検出



本学術講演会25aB-2公演予定 FeTaN薄膜の磁区像

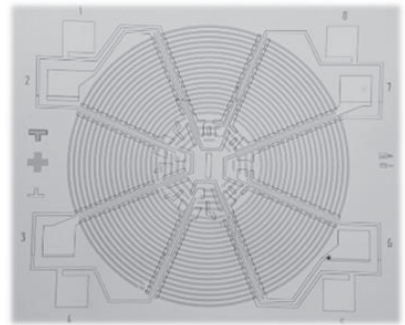
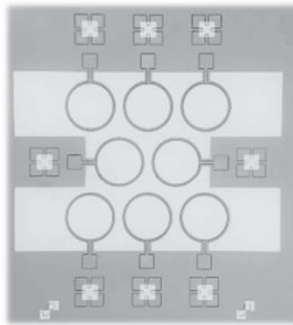
－特長－

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- 光源の光量変動の影響が小さい
- 反射率分布の影響が小さい
- 試料表面の異物の影響が小さい
- 試料位置ドリフトの影響が小さい
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－主な仕様－

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