

IEEE TRANSACTIONS ON MAGNETICS

A PUBLICATION OF THE IEEE MAGNETICS SOCIETY

NOVEMBER 2014 VOLUME 50 NUMBER 11 IEMGAQ (ISSN 0018-9464)



SELECTED PAPERS FROM THE 2014 IEEE INTERNATIONAL MAGNETICS (INTERMAG) CONFERENCE
Dresden, Germany, May 4–8, 2014

IEEE TRANSACTIONS ON MAGNETICS

A PUBLICATION OF THE IEEE MAGNETICS SOCIETY

NOVEMBER 2014

VOLUME 50

NUMBER 11

IEMGAQ

(ISSN 0018-9464)

SELECTED PAPERS FROM THE 2014 IEEE INTERNATIONAL MAGNETICS (INTERMAG) CONFERENCE

Dresden, Germany, May 4-8, 2014

- 0301801 **General Chairs' Foreword**
L. Schultz and M. E. McHenry
- 0301901 **Publication Chair's Preface**
O. Gutfleisch
- 0302004 **2014 Intermag Program Committee**
-

PAPERS

Fundamental Properties, Including Cooperative Phenomena

- 1001804 **Photo-Induced Electric Responses in Heterostructure of Indium Tin Oxide/(Bi_{1-x}Ca_x)FeO_{3-δ}/Au**
C.-M. Hung, C.-S. Tu, Z.-R. Xu, V. H. Schmidt, and R. R. Chien
- 1001904 **Substitution Effects of Cr or Fe on the Curie Temperature for Mn-Based Layered Compounds MnAlGe and MnGaGe With Cu₂Sb-Type Structure**
R. Y. Umetsu, Y. Mitsui, I. Yuito, T. Takeuchi, and H. Kawarada
- 1002004 **Complex Magnetic Behavior of the Heusler Alloy—Cu₂Mn_{0.75}Fe_{0.25}Al**
B. Venkateswarlu, P. D. Babu, and N. H. Kumar
- 1002103 **Ferromagnetic Resonance Study of Magnetic Anisotropy in Epitaxial Fe₃O₄ Thin Film**
M. Y. Song, J. G. Lin, M. G. Samant, and S. S. P. Parkin
- 1002204 **Thermodynamics of the 2-D Ising Model From a Random Path Sampling Method**
J. S. Amaral, J. N. Gonçalves, and V. S. Amaral

Low Dimensional Systems

- 1100204 **Magnetism and Magnetocrystalline Anisotropy in Low-Dimensional Rh and Ir**
P. Kumar, R. Skomski, and A. Kashyap
- 1100304 **Bandgaps and Demagnetizing Effects in a Py/Co Magnonic Crystal**
R. Zivieri
- 1100404 **Domain Walls in Nanostripes of Cubic-Anisotropy Ferromagnetic Materials**
A. Janutka and P. Gawroński

Critical Phenomena and Frustrated Magnetism

- 1200104 **Influence of Cr Doping on the Critical Behavior of Amorphous Alloy Ribbons Fe_{78-x}Cr_xSi₄Nb₅B₁₂Cu₁**
T. L. Phan, P. Q. Thanh, N. Chau, C. X. Huu, D.-T. Ngo, T. A. Ho, T. D. Thanh, and S. C. Yu
-

1200204 **Large Magnetocaloric Effect Around Room Temperature in Double-Exchange Ferromagnets $\text{Pr}_{1-x}\text{Sr}_x\text{MnO}_3$ With Short-Range Interactions**
T. D. Thanh, T. A. Ho, T. V. Manh, T. L. Phan, and S.-C. Yu

1200305 **Spin Dynamics of the Low-Temperature Magnetic Relaxation in Disordered Fe_{35}**
D. A. Venero, L. F. Barquín, J. A. D. Toro, and J. M. Riveiro

Theory and Computation: Spin Phenomena, Dynamics, Interactions

1300604 **Persistent Spin Helix Spin Polarizer**
Z. B. Siu, M. B. A. Jalil, and C.-R. Chang

1300704 **Non-Collinear Magnetic Configurations at Finite Temperature in Thin Films**
L. Rózsa, L. Szunyogh, and L. Udvardi

1300804 **Averaging Technique for Random Magnetization Dynamics Driven by a Jump Noise Process**
A. Lee, G. Bertotti, C. Serpico, and I. D. Mayergoyz

1300904 **On Random Switching of Magnetization**
A. Lee, G. Bertotti, C. Serpico, and I. D. Mayergoyz

1301004 **Micromagnetic Modeling of Dzyaloshinskii–Moriya Interaction in Spin Hall Effect Switching**
N. Perez, L. Torres, and E. Martínez-Vecino

1301104 **Magnetovolume Effects in Heusler Compounds via First-Principles Calculations**
J. N. Gonçalves, J. S. Amaral, and V. S. Amaral

Spin Torque and Spin Injection

1401704 **Field- and Current-Induced Domain Wall Motion in Tb/Co Multilayers in the Presence of Spin-Orbit Coupling-Induced Torques**
B. Do and H. Awano

1401804 **Micromagnetic Study of Electrical-Field-Assisted Magnetization Switching in MTJ Devices**
M. Carpentieri, R. Tomasello, M. Ricci, P. Burrascano, and G. Finocchio

1401904 **Material Stack Design With High Tolerance to Process-Induced Damage in Domain Wall Motion Device**
H. Honjo, S. Fukami, K. Ishihara, K. Kinoshita, Y. Tsuji, A. Morioka, R. Nebashi, K. Tokutome, N. Sakimura, M. Murahata, S. Miura, T. Sugibayashi, N. Kasai, and H. Ohno

1402004 **Micromagnetic Study of Dipole-Field-Mediated Synchronization Between Domain Wall Spin Torque Nano-Oscillators**
K. Dziatkowski and A. Twardowski

1402104 **Dependence of Sub-Volume Excitation on Structural and Material Parameters in Precessional Regime of Spin Transfer Torque Magnetization Reversal**
K. Ito, S. Ohuchida, and T. Endoh

1402204 **Nanowire Spin-Torque Oscillator With Non-Uniform Polarizer: A Micromagnetic Study**
A. Giordano, M. Carpentieri, R. Zivieri, G. Siracusano, B. Azzerboni, and G. Finocchio

1402305 **Chirp Spectroscopy Applied to the Characterization of Ferromagnetic Resonance in Magnetic Tunnel Junctions**
M. Ricci, P. Burrascano, M. Carpentieri, R. Tomasello, and G. Finocchio

Spin Structures and Skyrmions

1500404 **Manganese Deficiency in MnSi Single Crystal and Skyrmion Pinning**
T. Y. Ou-Yang, G. J. Shu, C. D. Hu, and F. C. Chou

1500504 **Phase Diagram of a Single Skyrmion in Magnetic Nanowires**
J.-W. Yoo, S.-J. Lee, J.-H. Moon, and K.-J. Lee

Electronic Structure and Itinerant Magnetism

1700103 **Antiferromagnetism in Potassium-Doped Polycyclic Aromatic Hydrocarbons**
G. Zhong, Z. Huang, and H. Lin

1700204 **Formation of Co Moment in the Paramagnetic Phase of RCO_2**
C. M. Bonilla, D. Paudyal, J. Herrero-Albillos, V. K. Pecharsky, K. A. Gschneidner, Jr., L. M. García, and F. Bartolomé

Soft Magnetic Materials, Alloys and Films

- 2005604 **Effect of Number of Bilayers on the Anomalous Hall Effect in [Si/Fe]_N Multilayers**
S. S. Das and M. S. Kumar
- 2005704 **Domain Wall Propagation in Co-Based Glass-Coated Microwires: Effect of Stress Annealing and Tensile Applied Stresses**
A. Talaat, J. M. Blanco, M. Ipatov, V. Zhukova, and A. P. Zhukov
- 2005804 **Effect of Chemical Reaction Temperature on Magnetic Properties of NiCuZn Ferrites**
N. S. Shinde, S. S. Khot, N. Basavaiah, S. C. Watawe, and M. M. Vaidya
- 2005903 **Manipulation of Magnetic Domain Structures With Helical Magnetization in Magnetic Microwires**
A. Chizhik, A. Stupakiewicz, A. P. Zhukov, A. Maziewski, J. Gonzalez, and V. Zablotskii
- 2006004 **Effect of Halloysite Clay on Magnetic Carbonyl Iron-Based Magnetorheological Fluid**
C. H. Hong and H. J. Choi
- 2006104 **Effects of SnO₂ on DC-Bias-Superposition Characteristic of the Low-Temperature-Fired NiCuZn Ferrites**
L. Huan, X. Tang, H. Su, H. Zhang, Y. Jing, and B. Liu
- 2006204 **Optimal Design of High-Frequency Magnetic Links for Power Converters Used in Grid-Connected Renewable Energy Systems**
M. R. Islam, G. Lei, Y. Guo, and J. Zhu
- 2006303 **Magnetic Properties of Glass-Coated Amorphous and Nanocrystalline FeMoBCu Microwires**
P. Klein, R. Varga, I. Škorvánek, R. El Kammouni, and M. Vazquez
- 2006404 **An Embedded Inductor Using Sendust Powder Composite Films for Step-Up DC–DC Converter**
G. Cao, H.-J. Kim, S.-T. Lim, and Gyung-Seok, Han
- 2006504 **Effect of Annealing on Off-Diagonal GMI Effect of Co-Rich Amorphous Microwires**
A. Zhukov, M. Ipatov, A. Talaat, J. M. Blanco, and V. Zhukova
- 2006604 **Studies of the Defects Influence on Magnetic Properties of Glass-Coated Microwires**
A. Zhukov, E. Shuvaeva, S. Kaloshkin, M. Churyukanova, E. Kostitcyna, A. Talaat, M. Ipatov, J. Gonzalez, and V. Zhukova
- 2006704 **Crystal Structure and Magnetic Properties of Mn-Doped Zn-Ferrite Nanoparticles**
G. Thirupathi and R. Singh
- 2006804 **Fe-Rich Fe–Si–B–P–Cu Powder Cores for High-Frequency Power Electronic Applications**
Y. Zhang, P. Sharma, and A. Makino
- 2006904 **Magnetostatic and Magnetoelastic Interactions in Glass-Coated Magnetostrictive Nanowires**
T.-A. Óvári, N. Lupu, S. Corodeanu, and H. Chiriac
- 2007004 **Quantitative Analysis of 90° Closure Domains Occurring by Compressive Stress in Fe₃%Si(110) Steels**
K. Iwata, K. Ishiyama, M. Suzuki, M. Hashimoto, M. Ueda, Y. Matuoka, T. Yasue, T. Koshikawa, M. Kotsugi, T. Ohkochi, T. Kinoshita, and Y. Watanabe
- 2007104 **Rotational Magnetic Losses in Nonoriented Fe–Si and Fe–Co Laminations Up to the kilohertz Range**
C. Appino, O. de la Barrière, C. Beatrice, F. Fiorillo, and C. Ragusa
- 2007204 **Effect of In Situ Glass Removal on the Magnetic Switching in Amorphous Microwires**
S. Corodeanu, T.-A. Óvári, and H. Chiriac
- 2007304 **Magnetization Reversal in Zero-Magnetostrictive Rapidly Solidified Amorphous Nanowires**
T.-A. Óvári, S. Corodeanu, C. Rotuareanu, and H. Chiriac
- 2007404 **The Influence of the Capping Layer on the Perpendicular Magnetic Anisotropy in Permalloy Thin Films**
M. S. Gabor, C. Tiusan, T. Petrisor, Jr., and T. Petrisor
- 2007504 **Nanogranular (FeCoTiO/SiO₂)_n Multilayered Films for Noise Suppressor**
Y. Wang, H. Zhang, L. Wang, Z. Zhong, and F. Bai
- 2007603 **Study of Stress-Induced Anisotropy in METGLAS 2714**
P. Sarkar, M. Janosek, V. Petrucha, J. Vcelak, and P. Ripka
-

-
- 2007704 **Large Magnetoelectric Effect in FeCuNbSiB/FeGa/PZT Multilayer Composite at Low Optimum Bias**
C. Yang, P. Li, Y. Wen, C. Lu, A. Yang, D. Wang, J. Zhang, and F. Zhang
- 2007804 **3-D Branching of Magnetic Domains on Compressed Si-Fe Steel With Goss Texture**
O. Perevertov, R. Schaefer, and O. Stupakov
- 2007904 **Magnetic Properties of Fe@FeSiAl Oxide Nanoparticles and Magneto-Dielectric Properties of Their Composite Sheets**
D. Choi, M. Choi, and J. Kim
- 2008004 **Magnetostrictive Behavior of Fe-Si Single-Crystal Films with Different Orientations under Rotating Magnetic Fields**
T. Kawai, T. Aida, M. Ohtake, and M. Futamoto
- 2008104 **An Approach to Analyzing Magnetically Shielded Room Comprising Discontinuous Layers Considering Permeability in Low Magnetic Field**
L. Liyi, S. Zhiyin, P. Donghua, L. Jiayi, and Y. Feng
- 2008204 **On the Question of Thermal Stability and Magnetic Properties of Mn_{0.6}**
S. Mallesh, S. Kavita, R. Gopalan, and V. Srinivas
- 2008304 **A New Electrical Steel Sheet Developed by Vector Magnetic Characteristic Control**
T. Kajiwara, K. Ooka, and M. Enokizono
- 2008404 **Electroplated Fe-Ni Films Prepared From Deep Eutectic Solvents**
T. Yanai, K. Shiraishi, Y. Watanabe, M. Nakano, T. Ohgai, K. Suzuki, and H. Fukunaga
- 2008504 **Relationship Between Magnetostriction and Magnetic Domain Structure in Fe-Based Alloy Single-Crystal Films With bcc(001) Orientation**
T. Aida, T. Kawai, M. Ohtake, M. Futamoto, and N. Inaba
- 2008604 **AC Magnetic Properties and Core Loss Behavior of Fe-P Soft Magnetic Sheets**
S. K. Manna, D. B. Prabhu, R. Gopalan, and V. Srinivas
- 2008704 **Strong Perpendicular Uniaxial Magnetic Anisotropy in Tetragonal Fe_{0.5}Co_{0.5} Films of Artificially Ordered B2 State**
B. Lao, J. W. Jung, and M. Sahashi

Hard Magnetic Materials, Alloys and Films

- 2102704 **Effect of Reaction Temperature on the Shape of FePt Nanoparticles**
B. R. Bian, J. Du, W. X. Xia, J. Zhang, J. P. Liu, W. Li, Z. H. Guo, and A. R. Yan
- 2102803 **Nanocomposite Nd-Fe-B/ α -Fe Thick-Film Magnets Prepared by Vacuum Arc Deposition**
M. Nakano, T. Tsutsumi, T. Yanai, and H. Fukunaga
- 2102904 **In-Plane Uniaxial Anisotropy of Cobalt Ferrite Films Epitaxially Grown on MgAl₂O₄ (110)**
H. Yanagihara, M. Oka, Y. Utsumi, T. Niizeki, K. Z. Suzuki, J.-I. Inoue, and E. Kita
- 2103004 **The Understanding of Reversed Domain Nucleation and Pinning Mechanism in Hot Deformed Nd₂Fe₁₄B Magnets**
X. Tang, R. Chen, Z. Wang, C. Jin, M. Li, W. Yin, D. Lee, and A. Yan
- 2103104 **Magnetization Reversal Process in Pr-Cu Infiltrated Nd-Fe-B Nanocrystalline Magnet Investigated by Small-Angle Neutron Scattering**
T. Ueno, K. Saito, M. Yano, M. Harada, T. Shoji, N. Sakuma, A. Manabe, A. Kato, U. Keiderling, and K. Ono
- 2103204 **Mechanical Properties Study of Hot-Pressed and Hot-Deformed Nd-Fe-B Magnets**
C. Jin, R. Chen, W. Yin, X. Tang, Z. Wang, D. Lee, and A. Yan
- 2103303 **Effect of CaF₂ on the Microstructure, Magnetic, and Electrical Properties of Nd-Fe-B Magnets**
W. Li, L. Zheng, M. Zhu, H. Xin, and D. Zheng
- 2103404 **Microstructure, Magnetic Properties, and Electrical Resistivity of Nd-Fe-B/NdF₃ Composite Magnets**
L. Zheng, D. Zheng, H. Xin, W. Li, M. Zhu, H. Feng, and W. Sun
- 2103507 **High-Throughput Methods for Searching New Permanent Magnet Materials**
D. Goll, R. Loeffler, J. Herbst, R. Karimi, U. Pflanz, R. Stein, and G. Schneider
-

-
- 2103603 **Coercivity Enhancement of HDDR Hot-Pressed Magnets by NdCu Diffusion Treatment**
L. Cai, S. Guo, C. Yan, X. Zhang, R. Chen, L. Liu, D. Lee, and A. Yan
- 2103704 **Structure and Magnetic Properties of Boron Doped $\text{Fe}_{50+x}\text{Cu}_{25-x}\text{M}_{25}$ (M=Al, Ga) and $\text{Fe}_{50+x}\text{Co}_{25-x}\text{Ga}_{25}$ Heusler Alloys**
C. Sarafidis, M. Gjoka, C. Wang, G. Hadjipanayis, O. Kalogirou, and D. G. Niarchos
- 2103804 **Synthesis and Magnetic Properties of MnBi(LTP) Magnets With High-Energy Product**
K. W. Moon, K.-W. Jeon, M. Kang, M.-K. Kang, Y. Byun, J. B. Kim, H. Kim, and J. Kim
- 2103904 **Effect of Fe and Annealing Treatment on Hydrogenation Behavior of $\text{Sm}(\text{Co}_{0.93}\text{Fe}_{0.07})_{7.33}$ ($x=0.237, 0.251, 0.265$) Alloys**
M. Li, Z. Liu, L. Liu, H. W. Zhang, R. J. Chen, X. C. Liu, D. Lee, and A. Yan
- 2104004 **Effect of Composition on the Ordered Phase Formation in Co-Pt Thin Film Deposited on MgO(111) Single-Crystal Substrate**
M. Ohtake, D. Suzuki, M. Futamoto, F. Kirino, and N. Inaba
- 2104103 **Enhanced Electric Resistivity of Die-Upset Magnets By Segmented NdF_3 Addition**
Z. Wang, R. Chen, W. Yin, C. Yan, X. Tang, C. Jin, D. Lee, and A. Yan
- 2104204 **Control of c -Axis Orientation of L_{10} Ordered FePt, CoPt, and FePd Alloy Thin Films Deposited on MgO(001) Substrates**
M. Ohtake, A. Itabashi, M. Futamoto, F. Kirino, and N. Inaba
- 2104304 **Memory Erasure and Write Field Requirements in HAMR Using L_{10} -FePt Nanoparticles**
A. Lyberatos, D. Weller, and G. J. Parker
- 2104403 **High Coercivity in Annealed Melt-Spun Mn–Ga Ribbons**
A. A. El-Gendy and G. Hadjipanayis
- 2104504 **Magnetic Properties of $(\text{Fe},\text{Co})_2\text{B}$ Alloys With Easy-Axis Anisotropy**
H. Jian, K. P. Skokov, M. D. Kuz'min, I. Radulov, and O. Gutfleisch
- 2104604 **Enhanced Magnetic Properties of Sintered Ce–Fe–B-Based Magnets by Optimizing the Microstructure of Strip-Casting Alloys**
C. Yan, S. Guo, R. Chen, D. Lee, and A. Yan
- 2104704 **Detection of the Magnetocrystalline Anisotropy in X-Ray Magnetic Linear Dichroism Reflection Spectra Across the Fe 3p and 2p Edges**
H.-C. Mertins, D. Legut, M. Tesch, C. Jansing, M. Gilbert, A. Gaupp, P. M. Oppeneer, D. E. Bürgler, C. M. Schneider, and U. Berges
- 2104804 **Experimental Proof of Microwave Sintering of Nd–Fe–B Powders Toward Fabrication of Permanent Magnets**
G. Margarit, D. Neil, G. Hadjipanayis, and D. G. Niarchos
- 2104904 **Development of Hysteresis in Ball-Milled $\text{LaCo}_{5-x}\text{Fe}_x$ and $\text{La}_2\text{Co}_{7-x}\text{Fe}_x$**
P. Tozman, M. Venkatesan, and J. M. D. Coey
- 2105004 **First-Principles Calculations of Crystal Field Parameters of Nd Ions Near Surfaces and Interfaces in Nd-Fe-B Magnets**
H. Tsuchiura, T. Yoshioka, and P. Novák
- 2105104 **High-Field Magnetization Behavior of Mn-Al-C Alloys**
A. Pasko, F. Mazaleyrat, L. K. Varga, P. S. Stamenov, and J. M. D. Coey
- 2105204 **Model Specific Characterization of Soft Magnetic Materials for Core Loss Prediction in Electrical Machines**
L. K. Rodrigues and G. W. Jewell
- 2105303 **Development of Compound for Anisotropic Bonded Nd Magnets Using d-HDDR Magnet Powder**
H. Mitarai, K. Noguchi, C. Mishima, H. Matsuoka, M. Yamazaki, and Y. Kawasugi

Magnetoactive Oxides Including Microwave Materials

- 2201704 **Magnetic Analysis of Polar and Nonpolar Oxide Substrates**
M. Venkatesan, P. Kavle, S. B. Porter, K. Ackland, and J. M. D. Coey
-

Nanostructured and Patterned Materials

- 2301904 **Study of Electrolyte pH in Production of Cu–Co–Ni Ternary Alloys and Its Effect on Microstructural and Magnetic Properties**
A. Karpuz, H. Kockar, and M. Alper
- 2302004 **Nanoscale Composition Control Applied on $L1_0$ FePtRh Film for Dot Patterning Using Magnetic Phase Change**
T. Hasegawa, Y. Kondo, K. Uebayashi, A. Arakawa, and S. Ishio
- 2302104 **Effect of α -Particle Irradiation on the Magnetic Properties of Ni Nanowires**
A. K. Singh, B. Das, P. Sen, S. K. Bandopadhyay, and K. Mandal
- 2302204 **Magnetic Properties and Magnetic Entropy Change in Gd/Ti Multilayers**
A. V. Svalov, V. V. Vas'kovskiy, K. G. Balymov, J. Alonso, M. L. Fdez-Gubieda, and G. V. Kurlyandskaya
- 2302304 **Domain Wall Pinning by Antiferromagnets in Magnetic Nanowires**
S. J. Greaves
- 2302404 **Magnetically Separable Photocatalyst $\text{Fe}_3\text{O}_4/\text{SiO}_2/\text{N-TiO}_2$ Hybrid Nanostructures**
S. Larumbe, M. Monge, and C. Gómez-Polo
- 2302504 **Control of Grain Shape and Size in FePt– TiO_2 Nanocomposite Thin Films via Artificial Nucleation Layers**
T. Zhou, K. Cher, J. F. Hu, and Z. Yuan
- 2302604 **An Effective Route to Control the Magnetic-Phase Transition and Magnetocaloric Effect of $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ Nanoparticles**
T. L. Phan, T. D. Thanh, T. A. Ho, T. V. Manh, Q. T. Tran, P. Lampen, M. H. Phan, and S. C. Yu
- 2302704 **Cu-Containing [Pt/Co] Multilayers With Low Saturation Magnetization Suitable for the Pinned Structure**
D. S. Son, T. Y. Lee, S. H. Lim, and S.-R. Lee
- 2302804 **Magnetic Properties of Co/Cu/Py Antidot Films With Different Pore Diameters**
J. C. Denardin, E. Burgos, R. Lavín, S. Vojkovic, J. Briones, and M. Flores
- 2302904 **Angular Dependence of the Coercivity in Electrodeposited Co–Pt Nanostructures With a Tube–Wire Morphology**
M. S. Arshad, D. Pečko, S. Šturm, J. Escrig, M. Komelj, P. J. McGuinness, S. Kobe, and K. Ž. Rožman
- 2303004 **Co/Pt Multilayers on Self-Organized Hexagonal Patterned Nanodots**
D. W. Shi, P. K. Greene, P. Liu, K. Javed, K. Liu, and X. F. Han
- 2303104 **Magnetic Properties of Electroless Deposited Ni–Cu–B Nanotube Arrays**
D. Richardson and F. M. F. Rhen
- 2303203 **Study of the Magnetic Interactions Between Metal Nanodeposits in Porous Silicon**
K. Rumpf, P. Granitzer, N. Koshida, P. Poelt, and M. Reissner
- 2303304 **Dynamics in Superspin Glass Systems**
D. Peddis, M. Vasilakaki, K. N. Trohidou, and D. Fiorani
- 2303404 **Cation Vacancy-Induced Ferromagnetism in Nanocrystalline CaTiO_3 Plate**
L. Sun, Y. Zhang, L. Ju, C. Shi, H. Qin, and J. Hu
- 2303507 **Deterministic and Stochastic Trajectories of Magnetic Particles: Mapping Energy Landscapes for Technology And Biology**
M. L. Howdysheill, M. Prikockis, S. Lauback, G. B. Vieira, K. Mahajan, J. Winter, and R. Sooryakumar
- 2303604 **Magnetic Silicon Nanoparticles**
P. Manchanda, P. Kumar, B. Balasubramanian, P. Mukherjee, A. Kashyap, D. J. Sellmyer, and R. Skomski
- 2303704 **Magnetic Fluctuations in Individual Superparamagnetic Particles**
S. K. Piotrowski, M. F. Matty, and S. A. Majetich
- 2303804 **Domain-Wall-Assisted Switching of Chains of Coupled Nanomagnets**
E. Varga, G. Csaba, G. H. Bernstein, and W. Porod
- 2303904 **Magnetic and Electrical Properties of Epitaxial NiFe_2O_4 (001) Films Fabricated by Reactive Sputtering**
J. Morishita, T. Niizeki, K. Z. Suzuki, H. Yanagihara, and E. Kita
- 2304004 **Details of the Magnetization Reversal in Patterned Exchange-Biased and Unbiased Thin Films**
R. D. Shull, Y. P. Kabanov, P. J. Chen, C. L. Dennis, V. S. Gornakov, and V. I. Nikitenko
- 2304103 **Magnonic Bandgaps in Metalized 1-D YIG Magnonic Crystals**
M. Mruczkiewicz, E. S. Pavlov, S. L. Vysotskii, M. Krawczyk, Y. A. Filimonov, and S. A. Nikitov
-

Magnetic Semiconductors

- 2401304 **Ferromagnetic GaMnP Prepared by Ion Implantation and Pulsed Laser Annealing**
Y. Yuan, Y. Wang, M. Khalid, K. Gao, S. Prucnal, O. D. Gordan, G. Salvan, D. R. T. Zahn, W. Skorupa, M. Helm, and S. Zhou
- 2401404 **Annealing Effect on the Structural and Magnetic Properties of Mn-Implanted 6H-SiC**
M. A. Azri, K. Bouziane, M. Elzain, S. M. Chérif, A. Declémy, L. Thomé, and M. Viret
- 2401504 **Data-Dependent Noise-Predictive Filter Calibration in Low SNR Region for the Magnetic Recording Channel**
J. Huang, L. Sun, S. Jeong H. Xia, and W. Tan
- 2401604 **Probing of Spin Wave Resonances in (Ga,Mn)As by Time-Resolved Magneto-Optical Technique**
E. Schmoranzarová, N. Tesavrová, T. Janda, D. Butkovířcová, F. Trojánek, P. Malý, V. Novák, K. Olejník, T. Jungwirth, and P. Nvémec

Functional Materials Including Magnetocaloric, Magnetoelectric, Magnetoelastic, Magneto-Optic Materials, Metamaterials

- 2503604 **Magnetism and Magnetocaloric Effect in EuAuZn**
L. Li, O. Niehaus, B. Gerke, and R. Pöttgen
- 2503704 **Magnetic and Structural Characterization of NiFe/Fe₃₀Co₇₀ Bilayers**
N. A. Morley, A. C. Finkel, W. Yang, and N. Reeves-McLaren
- 2503804 **Single Cation Contributions to the Polarization in GaFeO₃ (Mars 2014)**
D. Stoeffler
- 2503904 **Spontaneous Polarization Reversal in Multiferroic Mn_{0.85}Co_{0.15}WO₄ Induced by an External Magnetic Field**
N. Poudel, B. Lorenz, K.-C. Liang, Y.-Q. Wang, Y. Y. Sun, F. Ye, J. A. Fernandez-Baca, and C.-W. Chu
- 2504004 **The Magnetocaloric Performance of (Pr,Ca) Manganites Estimated by Magnetic Transition Entropies**
J. Tikkanen, H. Huhtinen, and P. Paturi
- 2504104 **Low-Loss Composite NiCuZnCo–BaTiO₃ With Matched Permeability and Permittivity in High Frequency Range**
T. Zhang, H. Su, X. Tang, H. Zhang, Y. Jing, and B. Liu
- 2504204 **Large Self-Biased Converse Magnetoelectric Effects in FeSiB/Terfenol-D/Pb(Mg_{1/3}Nb_{2/3})-PbTiO₃ Composites**
J. Zhang, P. Li, Y. Wen, W. He, A. Yang, C. Lu, and C. Yang
- 2504304 **A Comparative Study of Magnetocaloric Properties Between Ni-rich and Mn-rich Ni–Mn–Sn Alloys**
A. Ghosh and K. Mandal
- 2504404 **Spin Waves and Electromagnetic Waves in Photonic-Magnonic Crystals**
J. W. Klos, M. Krawczyk, Y. S. Dadoenkova, N. N. Dadoenkova, and I. L. Lyubchanskii
- 2504504 **Features of Magnetic and Magnetoelectric Properties in Rare-Earth Aluminum Borates RAl₃(BO₃)₄**
N. V. Kostyuchenko, V. Y. Ivanov, A. A. Mukhin, A. I. Popov, and A. K. Zvezdin
- 2504604 **Multifunctional Phenomena in Rare-Earth Intermetallic Compounds With a Laves Phase Structure: Giant Magnetostriction and Magnetocaloric Effect**
I. Tereshina, J. Ćwik, E. Tereshina, G. Politova, G. Burkhanov, V. Chzhan, A. Ilyushin, M. Miller, A. Zaleski, K. Nenkov, and L. Schultz
- 2504704 **A Low Background Magneto-Optic Probe for High Sensitivity SQUID Susceptometer**
S. Li, D. Hurt, M. Toth, B. McElfresh, A. Amann, and S. Spagna
- 2504804 **Strain and Stress in Magnetoelastic Co–Pt Multilayers**
P. Manchanda, U. Singh, S. Adenwalla, A. Kashyap, and R. Skomski
- 2504904 **Magnetic Phase Transition and Magnetocaloric Effect in Co-Doped Mn-Ni-Ge Melt-Spun Ribbons**
X. Zhao, M. Tong, C. W. Shih, W. C. Chang, W. Liu, and Z. Zhang
-

-
- 2505004 **Electromagnetic Waves Reflectance of Graphene—Magnetic Semiconductor Superlattice in Magnetic Field**
D. A. Kuzmin, I. V. Bychkov, and V. G. Shavrov
- 2505104 **Critical Behavior and Magnetocaloric Effect of $\text{Pr}_{1-x}\text{Sr}_x\text{CoO}_3$**
T. A. Ho, T. D. Thanh, T. O. Ho, Q. T. Tran, T. L. Phan, and S. C. Yu
- 2505204 **Growth of Fe-Ga Alloy Single Crystals by the Czochralski Method and Their Application to Vibration Power Generator**
S. Fujieda, S. Suzuki, A. Minato, T. Fukuda, and T. Ueno
- 2505304 **Giant 2-D Magnetoelectric Effects in a Unique Magnetostrictive/Piezoelectric Heterostructure Without Interface Bonding**
C. Lu, P. Li, Y. Wen, A. Yang, C. Yang, D. Wang, W. He, and J. Zhang
- 2505404 **Enhancement of Spin Correlation in Cr_2O_3 Film Above Néel Temperature Induced by Forming a Junction With Fe_2O_3 Layer: First-Principles and Monte-Carlo Study**
Y. Kota, H. Imamura, and M. Sasaki
- 2505504 **Magnetic Properties of Heusler-Type Microwires and Thin Films**
V. Zhukova, V. Rodionova, L. Fetisov, A. Grunin, A. Goikhman, A. Torcunov, A. Aronin, G. Abrosimova, A. Kiselev, N. Perov, A. Granovsky, T. Ryba, S. Michalik, R. Varga, and A. Zhukov
- 2505603 **Crystal Orientation and Magnetic Anisotropy of Mn–Sb Alloy Induced by High Magnetic Field During Treatment in Semisolid State**
T. Liu, Q. Wang, P. Gao, K. Wang, T. Zhang, and J. He
- 2505704 **Magnetocaloric Effect of $\text{La}_{0.85}\text{Ag}_{0.15}\text{MnO}_3$ Under Pressure**
M. Antonak, M. Mihalik, M. Mihalik, M. Zentkova, and G. Gritzner
- 2505807 **Understanding Motion of Twin Boundary—A Key to Magnetic Shape Memory Effect**
O. Heczko
- 2505903 **Size Effect on Multiferroic HoMn_2O_5 Nanorods**
C.-C. Yang, T.-W. Hsu, S.-S. You, J.-J. Ding, W.-J. Shih, Y.-Y. Chen, and M.-K. Wu
- 2506004 **Optimizing the Magnetocaloric Effect in Ni–Mn–Sn by Substitution: A First-Principles Study**
A. Grünebohm, D. Comtesse, A. Hucht, M. E. Gruner, A. Maslovskaya, and P. Entel
- 2506104 **Spin-Phonon Coupling in PrMn_2O_5 Nanorods**
T.-W. Hsu, C.-C. Yang, H.-Y. Chen, H.-S. Hsia, and K.-S. Lin
- 2506204 **Wide-Range Structural and Chemical Stability of the Magnetic Oxide NiFe_2O_4 Grown by O_2 -Assisted Pulsed Laser Deposition**
M. Hoppe, M. Gorgoi, C. M. Schneider, and M. Müller
- 2506304 **Compensation of Magnetostrictive Hysteresis by Arduino: Floating Versus Fixed-Point Performances**
D. Davino, A. Giustiniani, and C. Visone
- 2506404 **Magnetic and Magnetocaloric Properties of Dy-Substituted $(\text{La}_{1-x}\text{Dy}_x)_{0.7}\text{Ba}_{0.3}\text{MnO}_3$ Perovskites**
G. Tonozis and G. Litsardakis
- 2506504 **Investigation of the Interaction of Magnetic Field With the Auxetic Behavior of Galfenol**
G. Raghunath and A. B. Flatau
- 2506603 **Magnetocaloric Effect of Amorphous $\text{Gd}_{65}\text{Fe}_{10}\text{Co}_{10}\text{Al}_{10}\text{X}_5$ ($\text{X} = \text{Al}, \text{Si}, \text{B}$) Alloys**
N. Pierunek, Z. Śniadecki, J. Marcin, I. Škorvánek, and B. Idzikowski

Half Metallic Materials

- 2600104 **Interfacial and Magnetic Properties of $\text{Pt}/\text{Co}_2\text{FeAl}_{0.5}\text{Si}_{0.5}/\text{MgO}$ Multilayers With Perpendicular Magnetic Anisotropy**
H. Yu, Y. Wu, L. Li, X. Xu, J. Miao, and Y. Jiang
- 2600204 **Comparison of Spin Signals Between 3T Hanle and 4T Non-Local Methods for $\text{Co}_2\text{Fe}(\text{Al},\text{Si})/\text{n-GaAs}$ Junctions**
N. Tezuka, T. Saito, M. Matsuura, and S. Sugimoto
- 2600304 **Perpendicular Magnetic Anisotropy of $\text{Co}_2\text{Fe}_x\text{Mn}_{1-x}\text{Si}$ Heusler Alloy Ultra-Thin Films**
T. Kamada, T. Kubota, S. Takahashi, Y. Sonobe, and K. Takanashi
-

-
- 2600404 **Preparation and Properties of Ferromagnetic Antiperovskite Co_3FeN Thin Films**
H. Sakakibara, H. Ando, T. Miyawaki, K. Ueda, and H. Asano
- 2600504 **New Bandgap Measurement Technique for a Half-Metallic Ferromagnet**
T. F. Alhuwaymel, R. M. Abdullah, O. Whear, T. Huminiuc, R. Carpenter, M. El-Gomati, and A. Hirohata

Molecular Magnetism

- 2700404 **Direct Measurement of Spin Polarization in Ferromagnetic- C_{60} Interfaces Using Point-Contact Andreev Reflection**
F. Al Ma'Mari, M. Wheeler, E. Kendric, G. Burnell, B. J. Hickey, T. Moorsom, and O. Cespedes

Magnetic Materials for High Frequency Applications

- 2801204 **Electromagnetic Properties of $\text{Co}/\text{Co}_3\text{O}_4$ /Reduced Graphene Oxide Nanocomposite**
M. Zeng, J. Liu, R. Yu, and M. Zhu
- 2801304 **Size Influence to the High-Frequency Properties of Granular Magnetite Nanoparticles**
J. Liu, M. Zeng, R. Yu, X. Liu, and M. Zhu
- 2801404 **Magnetization Dynamics and Reversal Mechanisms in Ni Nanowire and Nanotube Arrays**
M. Sharma, B. K. Kuanr, V. Veerakumar, A. Basu, and Z. J. Celinski
- 2801504 **E-Field Tuned Rotation of Magnetic Anisotropy and Enhanced Microwave Performance in $\text{FeCoAlO}/\text{PZN-PT}$ Multiferroic Composite Prepared by Composition Gradient Sputtering**
S. Li, J. Xu, S. Xie, H. Du, Q. Xue, X. Gao, C. Chen, M. Liu, F. Xu, Z. Hu, and N. X. Sun
- 2801604 **Tunable Transmission Line With Nanopatterned Thin Films for Smart RF Applications**
B. M. F. Rahman, R. Divan, L. Stan, D. Rosenmann, L. E. Ocola, and G. Wang
- 2801704 **Performance of Crossed Anisotropy Multilayered CoZrNb Films as IC Chip Level Electromagnetic Noise Suppressor**
Y. Shimada, J. Ma, T. Ito, K. Yanagi, Y. Endo, S. Muroga, and M. Yamaguchi
- 2801804 **Large In-Plane Uniaxial Magnetic Anisotropy in the Ferromagnetic/Ferroelectric Heterostructures**
D. Wen, H. Zhang, X. Hui, Y. Wang, Z. Zhong, and F. Bai
- 2801904 **Nanocrystalline Block Cores for High-Frequency Chokes**
M. Soinski, J. Leszczynski, C. Swieboda, and M. Kwiecien
- 2802003 **RF Power Absorption Enhancement by Optimization of the Conductive Grid in a Magnetic Composite**
B. Nam, J. Kim, J. Lee, and K. H. Kim
- 2802104 **Dynamic Magnetic Properties of Electrospun NiZn Spinel Ferrite Nanofibers**
P. Chen, R. Wu, and J. Q. Xiao
- 2802204 **Magneto-Optical Properties of a Ferronematic Colloid**
E. C. Economou, Y. Garbovskiy, A. Glushchenko, S. Adireddy, J. B. Wiley, L. M. Malkinski, and Z. Celinski

Novel Materials

- 2900304 **Core-Shell Fine Structure of FeNi Magnetic Nanoparticles Produced by Electrical Explosion of Wire**
G. V. Kurllyandskaya, I. Madinabeitia, A. M. Murzakaev, M. B. Sanchez-Illarduya, V. Beketov, A. I. Medvedev, A. Larrañaga, A. P. Safronov, and N. N. Schegoleva
- 2900404 **Analysis of Architecture Effect on Hysteretic Behavior of 3-D Spin Crossover Nanostructures**
D. Chiruta, C. M. Jureschi, J. Linares, A. Graur, M. Dimian, and A. Rotaru

Recording Physics and Modeling

- 3001104 **Jitter Analysis and Cross-Track Correlation Length Extraction Through Nonlinear Noise Scaling With Reader Width**
N.-H. Yeh, X. Wu, and T. Roscamp
- 3001204 **Shingled Thermally Assisted Magnetic Recording for 8 Tbit/in²**
S. J. Greaves, Y. Kanai, and H. Muraoka
-

-
- 3001304 **Shuffled Multi-Track Detection for Shingled Magnetic Recording Channels With an Array of Read Heads**
G. Han, Y. L. Guan, and L. Kong
- 3001404 **Model Analysis of Magnetic Write Head for Shingled Thermally Assisted Magnetic Recording**
Y. Kanai, H. Tamura, K. Yamakawa, K. Yoshida, S. J. Greaves, H. Muraoka
- 3001504 **Skew Effect-Induced Track Erasure of Shingled Magnetic Recording System**
G. Yu and J. Chen
- 3001604 **Additional Reader Noise in TDMR Reader for ITI Cancellation**
C. L. Ong, S. Ang, Z. Liu, and Z. Yuan
- 3001707 **Heat Assisted Magnetic Recording With Laser Pulsing**
H. J. Richter, G. Parker, M. Staffaroni, M. Grobis, and B. C. Stipe
- 3001804 **Relationship Between Equalized SNR and Jitter—Theory and Application to PMR and HAMR**
B. F. Valcu, H. Gee, M. Alex, and E. Champion
- 3001904 **Model Analysis of Tilted Spin-Torque Oscillator With Magnetic Write Head for Shingled Microwave-Assisted Magnetic Recording**
T. Katayama, Y. Kanai, K. Yoshida, S. J. Greaves, and H. Muraoka
- 3002004 **Micromagnetic Simulations of Exchange-Coupled Core-Shell Particulate Media**
P.-O. Jubert
- 3002104 **Evaluation of Multiple Reader Location for TDMR R/W Channel**
Y. Nakamura, N. Fujimoto, Y. Okamoto, H. Osawa, and H. Muraoka
- 3002204 **Thermal Layers Effect on Recording Performance in HAMR**
B. Valcu, T. Seki, A. Chernyshov, F. Zong, and A. Ajan
- 3002304 **Spin Stand Study of the Longitudinal Field Effect on Servo PES**
Y.-S. Tang and G. Herbst
- 3002405 **Study of Two-Dimensional Magnetic Recording System Including Micromagnetic Writer**
Y. Wang, M. F. Erden, and R. H. Victora
- 3002504 **High-Areal Density Recording Simulation of Three-Layered ECC Bit-Patterned Media With a Shielded Planar Head**
N. Honda and K. Yamakawa
- 3002604 **Two-Dimensional Magnetic Recording Using a Rotated Head Array and LDPC Code Decoding**
Y. Wang, B. Yuan, K. K. Parhi, and R. H. Victora
- 3002704 **Performance Evaluation of Array-Reader-Based Magnetic Recording with a Drive-Tap Measurement Platform**
E. Hwang, N. Azevedo, C. Rabbitt, K. Hall, J. Park, G. Mathew, S. Tedja, R. Rauschmayer, and B. Wilson
- 3002804 **Influence of Data Patterns on Reader Performance at Off-Track Reading**
Z. Liu, Z. Yuan, C.-L. Ong, and S. Ang
- Recording Mechanisms and Technologies**
- 3101204 **A Rate-8/9 2-D Modulation Code for Bit-Patterned Media Recording**
P. Kovintavewat, A. Arrayangkool, and C. Warisarn
- 3101304 **Improved Min-Sum Decoding for 2-D Intersymbol Interference Channels**
L. Kong, Y. Jiang, G. Han, F. C. M. Lau, and Y. L. Guan
- 3101404 **Investigations of Stacking Faults in Stacked Granular Perpendicular Recording Media With a High-Anisotropy CoPt Layer**
Y. Yang, B. Varghese, H. K. Tan, S. K. Wong, and S. N. Piramanayagam
- 3101504 **Analysis of Heat-Assisted Magnetic Recording to Density of 4 Tb/in²**
B. Xu, H. Wang, Z. Cen, Z. Liu, J. Li, Y. T. Toh, K. Ye, J. Zhang, and H. Yang
- 3101604 **Numerical and Experimental Study on Disk Flutter Reduction Using Disk-Spacer Dampers in Hard Disk Drives**
S. Koganezawa, T. Yamamoto, H. Tani, and N. Tagawa
- 3101704 **Improved 2-D Graph-Based Detectors for 2-D Interference Channels**
T. Sopon, P. Supnithi, and K. Vichienchom
-

-
- 3101804 **Development of a Permanent Magnet as Magnetizer for Linear Magnetic Pattern Manufacturing**
H.-S. Hsiao, Z.-H. Xu, T.-S. Chin, C.-K. Sung, S.-C. Wang, and J.-Y. Chang
 - 3101904 **EXIT Chart Analysis of Nonbinary Protograph LDPC Codes for Partial Response Channels**
W. Phakphisut, P. Supnithi, and N. Puttarak
 - 3102004 **Microwave-Assisted Magnetization Reversal for Granular Media by a Resonant Cavity Method**
S. Hinata, S. Saito, M. Takahashi, and M. Sahashi
 - 3102104 **Position Error Signal Generation From User Data Track With a Multiple Reader Array in Shingled Magnetic Recording**
M. R. Elidrissi, K. S. Chan, and Z. Yuan
 - 3102204 **Cross-Track Resolution of Readers With Shield Tabs**
A. Tuggle, S. Gider, D. Mauri, and H. Xi
 - 3102304 **Precoding Mapping Optimization for Magnetic Recording Channels**
A. Bhatia, S. Yang, and P. H. Siegel
 - 3102404 **Future Hard Disk Drive Front End Challenges**
W. D. Huber, M. E. Roen, and N. Sajid

Media Including Advanced, Heat-Assisted, Microwave-Assisted and Perpendicular

- 3202304 **Thermal Switching Distribution of FePt Grains Through Atomistic Simulation**
S. Wang, M. Mallery, and R. H. Victora
- 3202404 **Microstructure and Magnetic Properties of FePt–Cr₂O₃ Films**
T. Shiroyama, B. S. D. C. S. Varaprasad, Y. K. Takahashi, and K. Hono
- 3202504 **Influences of Magnetic Interactions Between the Spin-Torque Oscillator, SPT Writer, and Recording Medium on Recording Performance in MAMR**
K. Yoshida
- 3202604 **Magnetic Switching Behavior of Granular Perpendicular Magnetic Media With Different Lateral and Vertical Exchange Coupling**
G. Choe and Y. Ikeda
- 3202704 **A Study of Fabrication Process for L_{10} FePt-Based HAMR Media**
J. F. Hu, K. M. Cher, Y. Yang, L. G. Ng, H. Y. Y. Ko, J. Z. Shi, and T. J. Zhou
- 3202806 **Exploratory Experiments in Recording on Sputtered Magnetic Tape at an Areal Density of 148 Gb/in²**
J. Tachibana, T. Endo, R. Hiratsuka, S. Inoue, D. Berman, P.-O. Jubert, T. Topuria, C. Poon, and W. Imaino
- 3202904 **The Development of Perpendicular Magnetic Recording Tape By Roll-to-Roll In-Line Sputtering**
N. Sekiguchi, T. Aizawa, H. Terui, T. Ozaki, H. Murakami, T. Endo, J. Tachibana, R. Hiratsuka, and S. Inoue
- 3203004 **Analysis of Effective Field Gradient in Microwave-Assisted Magnetic Recording**
N. Narita, K. Yamada, T. Taguchi, T. Matsumoto, K. Koi, and A. Takeo
- 3203104 **Low-Temperature Deposition of Co/Pt Film with High-Perpendicular Magnetic Anisotropy by Layer Stacking Sputtering**
N. Honda, T. Tsuchiya, S. Saito, H. Uchida, and K. Yamakawa
- 3203204 **High K_u and Low Intergranular Exchange Coupling of Postannealed CoPt-WO₃ Granular Film**
K. K. Tham, S. Hinata, S. Saito, and M. Takahashi
- 3203304 **Approaching the Grain-Size Limit for Jitter Using FeRh/FePt in Heat-Assisted Magnetic Recording**
P.-W. Huang and R. H. Victora

Heads, Head-Disk Interfaces, Lubes and Tribology

- 3302204 **TPC Heater-Slit Design to Reduce Crosstalk Effects on Flying Height Control**
H. Li, S. Shen, J. Huang, F. Cui, J. Hu, and S. Wu
 - 3302304 **Comparison of Corrosion and Tribological Properties of Ultrathin (<2 nm) Carbon Films on Hard-Disk Media by DC Sputtering and FCVA Processes**
N. Dwivedi, P. S. Goohpattader, R. J. Yeo, N. Satyanarayana, E. Rismani, and C. S. Bhatia
-

-
- 3302404 **Degradation of Carbon Overcoat Subjected to Laser Heating in an Inert Gas Environment in Thermally Assisted Magnetic Recording**
N. Tagawa, H. Tani, and S. Koganezawa
- 3302504 **New Ionic Lubricants for Magnetic Thin-Film Media**
H. Kondo, K. Hatsuda, N. Tano, M. Ito, K. Yun, and M. Watanabe
- 3302604 **External Electric Field Assisted Ultraviolet Irradiation for Bonding of Lubricant Film on Magnetic Disks**
H. Tani, Y. Sakane, S. Koganezawa, and N. Tagawa
- 3302704 **Development of a Ball-Suspension Assembly for Measuring Speed-Dependent Friction Characteristics of Thin Lubricant Films Coated on Magnetic Disks**
Y. Mitsuya, H. Zhang, K. Namba, K. Fukuzawa, and S. Itoh
- 3302805 **Experimental and Simulation Study of Thermal Protrusion-Induced Head-Disk Contact Instabilities in Hard Disk Drives**
Y.-K. Chen, J.-P. Peng, and D. B. Bogy
- 3302904 **Molecular Dynamics Simulation of Lubricant Transfer at the Head-Disk Interface**
Y. W. Seo, D. Pan, A. Ovcharenko, M. Yang, and F. E. Talke
- 3303004 **Investigations of Light Contact and Lube-Surfing State With Electrical Current**
Y. Man, B. Liu, K. K. Ng, S. Yu, S. K. Sinha, and S. C. Lim
- 3303104 **Investigations of Thermal Asperity Sensors in Thermal Flying-Height Control Sliders**
C. Zhang, A. Ovcharenko, M. Yang, N. Knutson, and F. E. Talke
- 3303204 **Static Flying Characteristics of Heat-Assisted Magnetic Recording Heads in He-Enclosed HDDs**
S. Fukui, R. Wakabayashi, and H. Matsuoka
- 3303304 **The Effects of Parking Time, Temperature, and Slider Position on Lubricant Migration in Hard Disk Drives**
Y. Fu, R. Brunner, J.-P. Peng, J. Apte, J. McFadyen, and F. E. Talke
- 3303404 **Head-Disk Proximity Sensing Using Contact Sensors in Hard Disk Drives**
L. M. Matthes, B. Knigge, and F. E. Talke
- 3303504 **Thermal Management in Heat-Assisted Magnetic Recording**
S. H. Vemuri, H. M. Kim, S. Park, Y. Liu, P. S. Chung, and M. S. Jhon
- 3303604 **Tunnel Valve Sensors in Contact Recording**
R. G. Biskeborn, R. E. Fontana, D. Berman, W. I. Imaino, and G. M. Decad
- 3303705 **Metallic 10 nm Diameter Magnetic Sensors and Large-Scale Ordered Arrays**
S.-Y. Sung, M. M. Maqableh, X. Huang, K. S. M. Reddy, R. H. Victora, and B. J. H. Stadler

Magnetic Random Access Memory and Magnetic Logic Devices

- 3400704 **Magnetic Field Dependence of Energy Barrier of Perpendicular Nanomagnet**
K. Song, S. C. Lee, and K.-J. Lee
- 3400804 **Switching Current Dispersion in Magnetic Memory Bits Due to Inhomogeneity of Perpendicular Anisotropy**
Y. Wang, L. Xu, Z. Ma, and D. Wei
- 3400904 **Variation-Tolerant High-Reliability Sensing Scheme for Deep Submicrometer STT-MRAM**
W. Kang, Z. Li, Z. Wang, E. Deng, J.-O. Klein, Y. Zhang, C. Chappert, D. Ravelosona, and W. Zhao
- 3401006 **Domain Wall Motion Device for Nonvolatile Memory and Logic — Size Dependence of Device Properties**
S. Fukami, M. Yamanouchi, S. Ikeda, and H. Ohno
- 3401105 **Low-Current High-Speed Spin-Transfer Switching in a Perpendicular Magnetic Tunnel Junction for Cache Memory in Mobile Processors**
D. Saida, N. Shimomura, E. Kitagawa, C. Kamata, M. Yakabe, Y. Osawa, S. Fujita, and J. Ito
- 3401205 **Asymmetric Composite Free Layers With Compensated Magnetization for Ultrahigh Density Integration of STT-MRAM**
J. Shen, M. Shi, T. Tanaka, and K. Matsuyama
- 3401303 **Successive Logic-in-Memory Operation in Spin Wave-Based Devices With Domain Wall Data Coding Scheme**
Y. Urazuka, K. Imamura, S. Oyabu, T. Tanaka, and K. Matsuyama
-

-
- 3401404 **A Novel Self-Reference Technique for STT-RAM Read and Write Reliability Enhancement**
E. Eken, Y. Zhang, W. Wen, R. Joshi, H. Li, and Y. Chen
 - 3401504 **Effects of the Heating Current Polarity on the Writing of Thermally Assisted Switching-MRAM**
A. Chavent, J. Alvarez-Herault, C. Portemont, C. Creuzet, J. Pereira, J. Vidal, K. Mackay, R. C. Sousa, I. L. Prejbeanu, and B. Dieny
 - 3401604 **Nanomagnet Logic Gate With Programmable-Electrical Input**
M. A. J. Siddiq, K. Butler, H. Dey, F. A. Shah, P. Li, E. Varga, A. Orlov, G. Csaba, M. Niemier, W. Porod, and G. H. Bernstein
 - 3401704 **Effect of Ta Insertion in Reference Layers of MTJs With Perpendicular Anisotropy**
A. L. Goff, K. Garcia, N. Vernier, T. Tahmasebi, S. Cornelissen, T. Min, and T. Devolder
 - 3401804 **Reduction of Offset Field in Top-Pinned MTJ With Synthetic Antiferromagnetic Free Layer**
C. Yoshida, T. Takenaga, Y. Yamazaki, H. Uehara, H. Noshiro, K. Tsunoda, Y. Iba, A. Hatada, M. Nakabayashi, A. Takahashi, M. Aoki, and T. Sugii
 - 3401903 **A Self-Aligned Two-Step Reactive Ion Etching Process for Nanopatterning Magnetic Tunnel Junctions on 300 mm Wafers**
L. Xue, L. Nistor, J. Ahn, J. Germain, C. Ching, M. Balseanu, C. Trinh, H. Chen, S. Hassan, and M. Pakala
 - 3402004 **Extracting Physically Unclonable Function From Spin Transfer Switching Characteristics in Magnetic Tunnel Junctions**
T. Marukame, T. Tanamoto, and Y. Mitani
 - 3402104 **Cost-Efficient Self-Terminated Write Driver for Spin-Transfer-Torque RAM and Logic**
D. Suzuki, M. Natsui, A. Mochizuki, and T. Hanyu
 - 3402204 **Cross Junction Spin Wave Logic Architecture**
K. Nanayakkara, A. Anferov, A. P. Jacob, S. J. Allen, and A. Kozhanov

Magnetic Sensors and Devices, Including Magneto-Optic, Microwave, Millimeter and Terahertz Frequency Devices

- 4005004 **Tunable Ultrawideband Phase Shifters With Magnetodielectric Disturber Controlled by a Piezoelectric Transducer**
G.-M. Yang and N. X. Sun
 - 4005103 **Metglas-Enhanced Tube-Topology Magnetoelectric Magnetic Field Sensor**
S. M. Gillette, Y. Chen, T. Fitchorov, O. Obi, L. Jiang, H. Hao, and V. G. Harris
 - 4005204 **Toward a Novel Remote Pressure Sensor: Influence of Static Magnetic Fields on the Resonance Frequency of Magnetostrictive Microcantilevers**
M. Löffler, S. J. Rupitsch, A. Sutor, and R. Lerch
 - 4005304 **Examination of Wireless Power Transfer Combined With the Utilization of Distance Detection**
Y. Bu, M. Nishiyama, T. Ueda, Y. Tashima, and T. Mizuno
 - 4005404 **Highly Sensitive CMOS Magnetoimpedance Sensor Using Miniature Multi-Core Head Based on Amorphous Wire**
T. Uchiyama, N. Hamada, and C. Cai
 - 4005504 **High-Resolution Magneto-Impedance Sensor With TAD for Low Noise Signal Processing**
S. Tajima, Y. Okuda, T. Watanabe, H. Aoyama, M. Yamamoto, and T. Uchiyama
 - 4005603 **Observation of the Magnetic Properties According to Changes in the Shape of Thin-Film Giant Magnetoimpedance Sensor**
J. Shin, Y. Miwa, S. H. Kim, S. Hashi, and K. Ishiyama
 - 4005704 **A New Compact Fluxgate Current Sensor for AC and DC Application**
X. Yang, Y. Li, W. Guo, W. Zheng, C. Xie, and H. Yu
 - 4005804 **Relationship Between Output of a Fluxgate Sensor and Magnetization Process of Its Core**
H. Miyata, R. Yamamoto, Y. Morimoto, and M. Takezawa
 - 4005904 **Reduction of Low-Frequency Noise in Tunneling-Magnetoresistance Sensors With a Modulated Magnetic Shielding**
V.-S. Luong, C.-H. Chang, J.-T. Jeng, C.-C. Lu, J.-H. Hsu, and C.-R. Chang
 - 4006004 **Magnetoelectric Composite Metglas/PZT-Based Current Sensor**
C. Lu, P. Li, Y. Wen, A. Yang, C. Yang, D. Wang, W. He, and J. Zhang
-

-
- 4006104 **Thick Double-Biased IrMn/NiFe/IrMn Planar Hall Effect Bridge Sensors**
F. Qejvanaj, M. Zubair, A. Persson, S. M. Mohseni, V. Fallahi, S. R. Sani, S. Chung, T. Le, F. Magnusson, and J. Åkerman
- 4006204 **Self-Generation of Parametric Soliton-Like Pulses in a Magnonic Quasi-Crystal Active Ring Resonator**
S. V. Grishin, E. N. Beginin, M. A. Morozova, Y. P. Sharaevskii, and S. A. Nikitov
- 4006304 **Spatial and Temporal Dynamics of Dissipative Parametric Solitons in a Ferromagnetic Film Active Ring Resonator**
D. V. Romanenko, S. Grishin, A. Sadovnikov, Y. Sharaevskii, and S. Nikitov
- 4006404 **Modeling the Frequency Dependence of Packaged Linear Magnetoresistive Sensors Based on MTJ**
Y. Ouyang, J. Hu, J. He, G. Zhao, F. Xue, Z. Wang, S. X. Wang, Z. Yuan, and Z. Ding
- 4006504 **Influence of Magnetostriction of NiFe Electroplated Film on the Noise of Fluxgate**
M. Butta, M. Janosek, P. Ripka, L. Kraus, and R. E. Kammouni
- 4006604 **Galfenol-Based Devices for Magnetic Field Sensing in Harsh Environments**
M. Caponero, C. Cianfarani, D. Davino, A. Grosso, V. Piergotti, A. Polimadei, G. Rocchi, O. Tudisco, and C. Visone
- 4006704 **Enhanced Multipeak Magnetoelectric Effects in Ferromagnetic/Ferroelectric Composite With H-Shaped Elastic Substrate**
C. Yang, P. Li, Y. Wen, C. Lu, A. Yang, D. Wang, J. Zhang, and F. Zhang
- 4006804 **Fluxgate Offset Study**
P. Ripka, M. Pribil, and M. Butta
- 4006903 **Measurements of Magnetic Field Distributions With an Optically Pumped K-Rb Hybrid Atomic Magnetometer**
Y. Ito, D. Sato, K. Kamada, and T. Kobayashi
- 4007004 **A Calibration Method of Three-Axis Magnetometer With Noise Suppression**
S. Zhongguo, Z. Jinsheng, Z. Xuehui, and X. Xiaoli
- 4007104 **Magnetostrictive Alfenol Whisker Sensor Performance and Sensitivity to Whisker Thickness**
S.-M. Na, M. Rice, G. Raghunath, V. Klimchenko, and A. B. Flatau
- 4007204 **Magnonic Bandgap Control in Coupled Magnonic Crystals**
M. A. Morozova, S. V. Grishin, A. V. Sadovnikov, Y. P. Sharaevskii, and S. A. Nikitov
- 4007304 **Colorization of Magnetic Hologram Images With Optical Space Division Method**
K. Nakamura, K. Kudo, T. Goto, H. Takagi, P. B. Lim, and M. Inoue
- 4007404 **Fundamental Mode Orthogonal Fluxgate Gradiometer**
I. Sasada and S. Harada
- 4007504 **Structure, Magnetic Properties, and Magnetoimpedance of the $\text{Fe}_{73.5-x}\text{Cr}_x\text{Si}_{13.5}\text{B}_9\text{Nb}_3\text{Cu}_1$ ($x = 0$ to 5) Alloys**
S. O. Volchkov, V. A. Lukshina, A. A. Zakharova, A. P. Potapov, and E. G. Volkova
- 4007604 **Highly Sensitive Coplanar Line Thin-Film Sensor Using SrTiO Film**
H. Uetake, T. Kawakami, S. Yabukami, T. Ozawa, N. Kobayashi, and K. I. Arai

Magnetodynamics Including Ultrafast, Domain Wall and Vortex Dynamics

- 4300204 **Quantitative Magnetic Characterization of Synthetic Ferrimagnets for Predictive Spin-Dynamic Behavior**
B. C. Koop, Y. I. Dzhezherya, and V. Korenivski
- 4300304 **Phase-Flow Interpretation of Magnetization Relaxation in Nanomagnets**
G. Bertotti, I. D. Mayergoyz, M. d'Aquino, S. Perna, and C. Serpico
- 4300404 **Micromagnetic Study of Spin-Transfer-Driven Vortex Dipole and Vortex Quadrupole Dynamics**
A. Giordano, V. Puliafito, L. Torres, M. Carpentieri, B. Azzerboni, and G. Finocchio
- 4300504 **Nonlinear Dynamics in Spin Vortex Pairs With Strong Core-Core Coupling**
B. C. Koop, B. A. Ivanov, and V. Korenivski
- 4300604 **Magnetic Vortices Induced by a Monopole Tip**
M. P. Magiera and S. Schulz
-

Giant Magnetoresistance, Tunneling Magnetoresistance and Magnetic Tunnel Junctions

- 4400504 **Role of Magnetic Field in Self-Oscillation of Nanomagnet Excited by Spin Torque**
T. Taniguchi, S. Tamaru, H. Arai, S. Tsunegi, H. Kubota, and H. Imamura
- 4400604 **Magnetization Switching and Hall Effect in Co/Pd-Based Pseudospin-Valves With Perpendicular Magnetic Anisotropy**
J.-Y. Chen, N. Thiyagarajah, K. Rode, T. V. Ashworth, and J. M. D. Coey
- 4400703 **An All-Epitaxial Fe₃Si/FeSi/Co₂FeSi Trilayer Grown by Room-Temperature Molecular Beam Epitaxy**
J. Hirayama, K. Tanikawa, M. Kawano, S. Yamada, M. Miyao, and K. Hamaya
- 4400804 **Influence of Domain Replication on Magnetoresistance of Co/Au/Co Film With Perpendicular Anisotropy and Antiferromagnetic Coupling**
M. Matczak, P. Kuświk, M. Urbaniak, B. Szymański, and F. Stobiecki
- 4400904 **Effect of Ultrathin Inserted Ag Layer on Perpendicular Magnetic Anisotropy of CoFeB Thin Film**
T. Huang, X. Cheng, X. Guan, and X. Miao
- 4401004 **Transport Properties in Sputtered CoFeB/MgAl₂O₄/CoFeB Magnetic Tunnel Junctions**
B. Tao, D. Li, H. Liu, H. Wei, J.-F. Feng, S. Wang, and X. Han
- 4401104 **Decimal Tunneling Magnetoresistance States in Fe/GaAlAs/GaMnAs Magnetic Tunnel Junction**
T. Yoo, S. Lee, X. Liu, J. K. Furdyna, D. U. Lee, and E. K. Kim
- 4401203 **Embedded Fe Nanoparticles in the MgO Layer of CoFeB/MgO/CoFeB Perpendicular Magnetic Tunnel Junctions**
L.-X. Ye, C.-M. Lee, C.-X. Chiou, Y.-H. Chang, W.-J. Chen, and T.-H. Wu
- 4401304 **Microfluidics for the Rapid Detection of Pathogens Using Giant Magnetoresistance Sensors**
G. Kokkinis, S. F. Cardoso, F. A. Cardoso, and I. Giouroudi
- 4401404 **Field Dependence of Spin-Transfer Torque Switching Current in Perpendicular Magnetic Tunnel Junctions**
L. Cuchet, R. C. Sousa, L. Vila, S. Auffret, B. Rodmacq, and B. Dieny
- 4410508 **Nanoscale Magnetic Tunnel Junction Sensing Devices With Soft Pinned Sensing Layer and Low Aspect Ratio**
D. C. Leitao, E. Paz, A. V. Silva, A. Moskaltsova, S. Knudde, F. L. Deepak, R. Ferreira, S. Cardoso, and P. P. Freitas
- 4401604 **Spin Valve Devices With Synthetic-Ferrimagnet Free-Layer Displaying Enhanced Sensitivity for Nanometric Sensors**
P. Coelho, D. C. Leitao, J. Antunes, S. Cardoso, and P. P. Freitas
- 4401704 **Seed Layer Effect on the Magnetic Properties of Ultrathin Co/Pt Multilayers With Perpendicular Magnetic Anisotropy**
J. Chatterjee, T. Tahmasebi, S. Mertens, G. S. Kar, T. Min, and J. D. Boeck

Magnetic Fluids and Applications

- 4600304 **The Magnetoviscous Effect of a Biocompatible Ferrofluid at High Shear Rates**
J. Nowak, E. Dohmen, and S. Odenbach
- 4600404 **A Proposal of Control Method for an Elevator Emergency Stop Device With a Magnetic Rheological Fluid Damper**
T. Uchida, S. Sato, and T. Nakagawa
- 4600504 **Laser Target Evaporation Fe₂O₃ Nanoparticles for Water-Based Ferrofluids for Biomedical Applications**
J. P. Novoselova, A. P. Safronov, O. M. Samatov, I. V. Beketov, H. Khurshid, Z. Nemati, H. Srikanth, T. P. Denisova, R. Andrade, and G. V. Kurlyandskaya
- 4600604 **Mason Number Analysis of a Magnetorheological Fluid-Based Rotary Energy Absorber**
A. C. Beemel, W. Hu, and N. M. Wereley
- 4600704 **Effects of Surface Modification on the Stability of Suspension and Thermal Conductivity Enhancement of Composite Fe Nanofluids**
H. Cheng, P. Zhang, Q. Zhang, J. Wu, Y. Dai, W. Hu, and N. M. Wereley
- 4600804 **Magnetic Separation of Paramagnetic Ions From Initially Homogeneous Solutions**
X. Yang, K. Tschulik, M. Uhlemann, S. Odenbach, and K. Eckert
-

4600904 **Positioning of Superparamagnetic Particles by Superimposing Homogeneous Fields and Field Gradients**
B. Riedmüller, B. Sarma, N. Hibst, and U. Herr

4601004 **Power-Saving Magnetizing Device for Magnetorheological Fluid Control Using Permanent Magnet**
Y. Sato

MEMS for Magnetic Devices

4700202 **Functionalization of Magnetotactic Bacteria for Microrobotic Applications**
T. Takamura, T. Tashiro, A. Arakaki, and A. Sandhu

Exchange Bias, Hybrid Effects

4800305 **Magnetization Measurements and XMCD Studies on Ion Irradiated Iron Oxide and Core-Shell Iron/Iron-Oxide Nanomaterials**
M. Kaur, Y. Qiang, W. Jiang, C. Pearce, and J. S. McCloy

4800404 **Observation of Large Exchange Bias Effect in Bulk $\text{Mn}_{50}\text{Ni}_{41}\text{Sn}_9$ Heusler Alloy**
J. Sharma and K. G. Suresh

4800504 **Influence of Interlayer Interfaces on Exchange Coupling Efficiency in Multilayer Magnetoresistive Films With $\text{Fe}_{50}\text{Mn}_{50}$ Layers**
V. O. Vas'kovskiy, V. N. Lepalovskij, A. N. Gorkovenko, P. A. Savin, N. A. Kulesh, and N. N. Shchegoleva

Biomagnetism

5000804 **Conscious Perception of Color in Pseudo-“Blindsight”**
H. Nakagawa and S. Ueno

5000904 **Pseudo-“Blindsight” Induced by Extremely Low Frequency Electromagnetic Stimulations**
H. Nakagawa and S. Ueno

5001003 **Wide Dynamic Range Analog Flux-Locked Loop System Using Low- T_c SQUID for MCG Measurements Without MSR**
K. Kobayashi, M. Yoshizawa, D. Oyama, and Y. Uchikawa

5001104 **Brain Responses Evoked by Different-Frequency Magnetic Stimulation at an Acupuncture Point**
H. Yu, G. Xu, Y. Geng, and S. Yang

5001204 **A Method for Quantitative Determination of the Number of Magnetosomes in Magnetotactic Bacteria by a Spectrophotometer**
T. Song, L. Zhao, and L.-F. Wu

5001304 **Calibration for a Multichannel Magnetic Sensor Array of a Magnetospinography System**
Y. Adachi, M. Higuchi, D. Oyama, Y. Haruta, S. Kawabata, and G. Uehara

5001404 **FDTD Analysis of Light Control by Magnetically Oriented Guanine Crystal Plates**
Y. Miyashita and M. Iwasaka

5001504 **Magnetically Controlled Biogenic Crystals as Photo-Bioreactors for Algae**
C. Y. Miyashita, Y. Mizukawa, H. Endo, and M. Iwasaka

5001604 **Characterization of the Magnetism of Lycopodium Spores**
K. Ackland, M. Venkatesan, and J. M. D. Coey

5001704 **Extremely Low-Frequency Electromagnetic Control of Bloodstream on Imitative Blood-Circulation System**
H. Nakagawa, M. Ohuchi, H. Kawase, M. Kotani, M. Tsunoda, Y. Sakamoto, K. Hoshi, and A. Tsutsumi

5001804 **Synchrotron Microscopic Fourier Transform Infrared Spectroscopy Analyses of Biogenic Guanine Crystals Along Axes of Easy Magnetization**
Y. Mizukawa, Y. Ikemoto, T. Moriwaki, T. Kinoshita, F. Kimura, T. Kimura, and M. Iwasaka

5001904 **Magnetic Manipulation of Nucleic Acid Base Microcrystals for DNA Sensing**
Y. Mizukawa, K. Suzuki, S. Yamamura, Y. Sugawara, T. Sugawara, and M. Iwasaka

Biomedical Diagnostics and Imaging

5101004 **Programmable Pulsed Magnetic Field System for Biological Applications**
V. Novickij, A. Grainys, J. Novickij, and A. Lucinskis

-
- 5101104 **Change of Cognition Effects by Impact of the Transcranial Magnetic Stimulation**
T. Torii, A. Sato, M. Iwahashi, and K. Iramina
- 5101204 **Liquid-Phase Detection of Biological Targets Using Magnetoresistive Sensor and Magnetic Markers**
K. Enpuku, T. Sakakibara, and T. Yoshida
- 5101304 **Magnetic Particle Imaging Utilizing Orthogonal Gradient Field and Third-Harmonic Signal Detection**
S. Bai, A. Hirokawa, K. Tanabe, T. Yoshida, and K. Enpuku
- 5101404 **Application of Minimum Variance Beamformer for Estimation of Tip Position of a Nasogastric Tube**
T. Sasayama, Y. Gotoh, and K. Enpuku
- 5101504 **Experimental Validation of MRI Dosimetric Simulations in Phantoms Including Metallic Objects**
D. Giordano, L. Zilberti, M. Borsero, M. Chiampi, and O. Bottauscio
- 5101604 **Magnetic Marker Localization System Using a Super-Low-Frequency Signal**
D. Oyama, Y. Adachi, M. Higuchi, and G. Uehara
- 5101704 **Collateral Thermal Effect of MRI-LINAC Gradient Coils on Metallic Hip Prostheses**
L. Zilberti, O. Bottauscio, M. Chiampi, J. Hand, H. S. Lopez, and S. Crozier
- 5101804 **Dynamic Magnetic Properties of Optimized Magnetic Nanoparticles for Magnetic Particle Imaging**
F. Ludwig, C. Kuhlmann, T. Wawrzik, J. Dieckhoff, A. Lak, A. P. Kandhar, R. M. Ferguson, S. J. Kemp, and K. M. Krishnan
- 5101904 **Customized Design of Magnetic Beads for Dynamic Magnetoresistive Cytometry**
A. Vila, V. C. Martins, A. Chfcharo, C. Rodriguez-Abreu, A. C. Fernandes, F. A. Cardoso, S. Cardoso, J. Rivas, and P. Freitas
- 5102004 **Performance Analysis of Spread Spectrum Through Wall Radar**
X. Zhang, X. Xi, Z. Song, S. Wang, M. Wan, and D. Wu
- 5102104 **Immunochromatographic Assay of Hepatitis B Surface Antigen Using Magnetic Nanoparticles as Signal Materials**
K. Oh, Y. S. Choi, H. Y. Yoon, N. Park, J. Kim, and Y. K. Kim
- 5102204 **Dynamical Detection of Magnetic Nanoparticles in Paper Microfluidics With Spin Valve Sensors for Point-of-Care Applications**
A. Chfcharo, F. Cardoso, S. Cardoso, and P. P. Freitas
- 5102304 **Effect of Anatomical Brain Development on Induced Electric Fields During Transcranial Magnetic Stimulation**
L. J. Crowther, R. L. Hadimani, and D. C. Jiles

Magnetic Materials in Biological Applications

- 5200404 **Surface Modification of α -Fe₂O₃ Nanoparticles to Develop as Intrinsic Photoluminescent Probe and Unprecedented Photocatalyst**
M. Pal, R. Rakshit, M. Mandal, and K. Mandal
- 5200504 **Heating Efficiency of Iron Oxide Nanoparticles in Hyperthermia: Effect of Preparation Conditions**
H. G. Parmar, I. S. Smolkova, N. E. Kazantseva, V. Babayan, M. Pastorek, and N. Pizurova
- 5200604 **Photocatalytic Activity of Magnetically Retrievable Bi₂WO₆/ZnFe₂O₄ Adsorbent for Rhodamine B**
M. Zeng, J. Liu, R. Yu, and M. Zhu
- 5200704 **Comparison Study on Photodynamic Anticancer Activity of Multifunctional Magnetic Particles by Formation of Cations**
K.-H. Choi, E.-W. Choi, J. Min, H. Son, H. S. Uhm, E. HaChoi, B. J. Park, and J.-S. Jung
- 5200804 **Investigations on the Separation of Platinum Nanoparticles With Magnetic Beads**
C. Ruffert, N. C. Bigall, A. Feldhoff, and L. Rissing
- 5200904 **Study on the Thermal Characteristics of Fe₃O₄ Nanoparticles and Gelatin Compound for Magnetic Fluid Hyperthermia in Radiofrequency Magnetic Field**
J. Li, Z. Liang, X. Zhong, Z. Zhao, and J. Li
-

-
- 5201004 **Influence of Surfactant Variation on Effective Anisotropy and Magnetic Properties of Mechanically Milled Magnetite Nanoparticles and Their Biocompatibility**
A. R. Devi, J. A. Chelvane, P. K. Prabhakar, B. Venkateswarlu, M. Doble, and B. S. Murty
- 5201104 **High-Frequency Specific Absorption Rate of $\text{Co}_x\text{Fe}_{1-x}\text{Fe}_2\text{O}_4$ Ferrite Nanoparticles for Hyperthermia Applications**
D. Durneata, R. Hempelmann, O. Caltun, and I. Dumitru

Magnetic Materials in Biomedical Diagnostics and Imaging

- 5300204 **Magnetic, Structural, and Particle Size Analysis of Single- and Multi-Core Magnetic Nanoparticles**
F. Ludwig, O. Kazakova, L. F. Barquín, A. Fornara, L. Trahms, U. Steinhoff, P. Svedlindh, E. Wetterskog, Q. A. Pankhurst, P. Southern, P. Morales, M. F. Hansen, C. Frandsen, E. Olsson, S. Gustafsson, N. Gehrke, K. Lüdtke-Buzug, C. Grüttner, C. Jonasson, and C. Johansson

Magnetic Materials in Therapeutics and Medicine

- 5400204 **High-Current Magnetic Field Generator for Transcranial Magnetic Stimulation Applications**
N. R. Bouda, M. Mina, and R. J. Weber
- 5400305 **Effects of Pulsed Magnetic Field on Acupoint Yongquan (KI1) Using Electroencephalogram Analysis**
H. Son, S. Kim, D. G. Hwang, and H. S. Lee
- 5400403 **Electroforming of Magnetic Microtubes for Microrobotic Applications**
G. Chatzipirpiridis, E. Avilla, O. Ergeneman, B. J. Nelson, and S. Pané
- 5400507 **Hyperthermia Induced in Magnetic Scaffolds for Bone Tissue Engineering**
M. Bañobre-López, Y. Piñeiro-Redondo, M. Sandri, A. Tampieri, R. D. Santis, V. A. Dediu, and J. Rivas

Measurement of Magnetic Properties – Static

- 6000404 **Magnetostriction Measurement of a Ferromagnetic Thin Film Using Digital Holographic Microscope**
S.-U. Jen, C.-C. Liu, and S.-T. Chen
- 6000504 **Experimental Study on Effect of Load on Iron Loss of an Electrical Steel Sheet Under PWM Inverter Excitation**
T. Sasayama, M. Morita, and M. Nakano
- 6000604 **Magnetization Reversal and Domain Replication in Co–Au–Co Film with Perpendicular Anisotropy**
M. Matczak, L. Frąckowiak, P. Kuświk, M. Urbaniak, B. Szymański, and F. Stobiecki
- 6000704 **Inversion of Geo-Magnetic SQUID Gradiometer Prospection Data Using Polyhedral Model Interpretation of Elongated Anomalies**
M. Schneider, S. Linzen, M. Schiffler, E. Pohl, B. Ahrens, S. Dunkel, R. Stolz, J. Bemann, H.-G. Meyer, and D. Baumgarten
- 6000804 **A Comparative Study of the Effect of Different Converter Topologies on the Iron Loss of Nonoriented Electrical Steel**
A. Salem, A. A.-E. Abdallh, F. De Belie, L. Dupré, and J. Melkebeek
- 6000904 **Magnetization Reversal and Magnetic Domain Structures in Gd–Yb–BiG Crystals**
S. Parchenko, M. Tekielak, I. Yoshimine, T. Satoh, A. Maziewski, and A. Stupakiewicz
- 6001004 **Electric Vehicle Positioning for Inductive Charging Purposes Using Magnetic Field Distortion Elimination in High-Permeability Environments**
D. Martinovic, M. Grimm, and H.-C. Reuss

Measurement of Magnetic Properties – Dynamic

- 6100804 **Magnetoresistance and Resistance Relaxation of Nanostructured La–Ca–MnO Films in Pulsed Magnetic Fields**
N. Žurauskienė, S. Balevičius, D. Pavilonis, V. Stankevič, V. Plauškaitienė, S. Zherlitsyn, T. Herrmannsdörfer, J. M. Law, and J. Wosnitza
-

-
- 6100903 **The Effects of Nano-Sized Defects on the Magnetic Properties in Thermal Aged Fe–Cu Alloys (Revised May 2014)**
D.-G. Park, M. B. Kishore, K.-H. Kim, N. H. Lee, D. H. Lee, S. Kobayashi, and D. Son
- 6101004 **Heat-Assisted Magnetization Dynamics in GdFeCo Using Field-Induced TR-MOKE**
T. Y. Cheng, L. Atkinson, J. Wu, R. W. Chantrell, J. Sizeland, Y. M. Lu, J. W. Cai, and Y. B. Xu
- 6101104 **Measurements on Real and Imaginary Parts of Transverse Susceptibility of Particulate System**
I. Dumitru, D. Cimpoesu, and A. Stancu
- 6101204 **Magnetic Rotation of Monosodium Urate and Urinary Tract Stones for Clinical Treatment Applications**
Y. Takeuchi, Y. Sugawara, T. Sugawara, and M. Iwasaka
- 6101304 **Magnetization Reversal of Disorder-Induced Ferromagnetic Regions in Fe₆₀Al₄₀ Thin Films**
N. Tahir, R. Gieniusz, A. Maziewski, R. Bali, M. P. Kostylev, S. Wintz, H. Schultheiss, S. Facsko, K. Potzger, J. Lindner, and J. Fassbender
- 6101404 **Composition and Annealing Temperature Dependence of Magnetic Properties in MgO/Co–Fe–B/Ta/Co–Fe–B/MgO Films**
M. P. R. Sabino, S. T. Lim, and M. Tran
- 6101504 **Structural and Magnetic Properties of $x\text{Fe}_2\text{TiO}_4 \cdot (1-x)\text{Fe}_3\text{O}_4$ ($0.75 \leq x \leq 1$)**
X. Liu, M. Sorescu, J. Wang, W. Schoenthal, Z. Dong, R. V. Ramanujan, D. E. Laughlin, and M. E. McHenry

Nondestructive Evaluation Including Magnetics and Eddy Currents

- 6201004 **Evaluation of Electromagnetic Inspection of Outer Side Defect on Small Diameter and Thick Steel Tube With Steel Support Using 3-D Nonlinear FEM**
Y. Gotoh and Y. Ishida
- 6201104 **Magnetic Leakage Testing Using Linearly Integrated Hall and GMR Sensor Arrays to Inspect Inclusions in Cold-Rolled Strips**
C. S. Angani, J. Kim, M. Le, and J. Lee
- 6201204 **Separation of the Effects of Notch and Macroresidual Stress on the MFL Signal Characteristics**
Z. Usarek, B. Augustyniak, and M. Augustyniak
- 6201304 **Improved Magnetic Tunnel Junctions Design for the Detection of Superficial Defects by Eddy Currents Testing**
F. A. Cardoso, L. S. Rosado, F. Franco, R. Ferreira, E. Paz, S. F. Cardoso, P. M. Ramos, M. Piedade, and P. J. P. Freitas

Power Losses and Eddy Currents

- 6301004 **Core Loss Computation in a Permanent Magnet Transverse Flux Motor With Rotating Fluxes**
Y. Guo, J. Zhu, H. Lu, Y. Li, and J. Jin
- 6301104 **Calculation of AC Resistance for Stranded Single-Core Power Cable Conductors**
D. Dai, X. Zhang, and J. Wang
- 6301204 **High-Frequency Harmonic Effects on Low-Frequency Iron Losses**
L. Petrea, C. Demian, J. F. Brudny, and T. Belgrand
- 6301304 **Power Loss Calculation Using the Parametric Magneto-Dynamic Model of Soft Magnetic Steel Sheets**
M. Petrun, V. Podlogar, S. Steentjes, K. Hameyer, and D. Dolinar
- 6301404 **3-D Steady-State Eddy-Current Damping and Stiffness Terms for a Finite Thickness Conductive Plate**
S. Paul, J. Wright, and J. Z. Bird

Magnetic Imaging Including Microscopy, Measurements, Instrumentation

- 6500504 **Direct Magnetic Domain Observation of Magnetization Reversal With Pre-Existing Nucleation Sites in Co/Pt Multilayer**
D.-T. Quach and D.-H. Kim
-

-
- 6500604 **GHz Range Magnetic Field Measurement of a Coplanar Waveguide with a Magnetic Force Microscope Tip by Exploiting a Beat Signal Between the Coplanar Waveguide and an Exciting Coil**
Y. Endo, M. Onishi, S. Muroga, K. Arai, K. Yanagi, Y. Shimada, and M. Yamaguchi
- 6500704 **Design and Optimization for a Novel Field Free Line Generation Magnet for Human Target Clinical MPI—A Preliminary Study**
X. Lyu, Z. Wang, S. Wei, L. Deng, and W. Yang
- 6500804 **Influence of Magnetostriction on Cross-Sectional Magnetic Properties in Bilayered Ribbons**
A. Titov, O. Životský, Y. Jirásková, A. Hendrych, J. Buršík, and P. Švec
- 6500905 **Testing the Homogeneity of Magnets for Rotary Position Sensors**
M. Blagojevic, N. Markovic, and R. S. Popovic

Computational Magnetics

- 7027504 **Dependence of Magnetic Anisotropy Energy on c/a Ratio of $X_2Fe_{14}B$ ($X = Y, Pr, Dy$)**
A. Asali, P. Toson, P. Blaha, and J. Fidler
- 7027604 **Computation of Demagnetization Tensors by Utilizing Fourier Properties**
O. Khan, C. Ragusa, and F. Khan
- 7027704 **Mutual Inductance and Interaction Calculation Between Conductor or Coil of Rectangular Cross Section and Parallelepiped Permanent Magnet**
M. Aissaoui, H. Allag, and J.-P. Yonnet
- 7027804 **An Application-Oriented Approach for Consideration of Material Degradation Effects Due to Cutting on Iron Losses and Magnetizability**
S. Steentjes, G. von Pfingsten, and K. Hameyer

Micromagnetic Methods and Applications

- 7100504 **Analysis of Reliable Ultrafast Precessional Switching in the Presence of Transverse Applied Magnetic Fields**
M. d'Aquino, S. Perna, C. Serpico, G. Bertotti, and I. D. Mayergoyz
- 7100604 **Micromagnetic Modeling on Current-Induced Multiple Domain-Wall Motion in Permalloy Nanotubes**
F.-S. Wu, L. Horng, Y.-M. Kao, and J.-C. Wu
- 7100704 **Micromagnetic Simulations of Magnetization Reversal in Misaligned Multigrain Magnets With Various Grain Boundary Properties Using Large-Scale Parallel Computing**
J. Fujisaki, A. Furuya, Y. Uehara, K. Shimizu, H. Oshima, T. Ohkubo, S. Hirokawa, and K. Hono
- 7100804 **Investigation on the Effect of an In-Plane Auxiliary Field on the SNR of HAMR Recording Systems**
H. Wang, C. K. Sann, Z. Yuan, and S. A. Pantelis
- 7100904 **Magnetization Reversal in Exchange Spring Bilayer System Under Circularly Polarized Microwave Field**
R. Tayade, A. Pasko, C. Serpico, F. Mazaleyrat, and M. LoBue
- 7101004 **Tailoring of Domain Wall Devices for Sensing Applications**
H. Corte-León, P. Krzysteczko, H. W. Schumacher, A. Manzin, V. Antonov
- 7101104 **Micromagnetic and Plane Wave Analysis of an Antidot Magnonic Crystal with a Ring Defect**
G. Venkat, N. Kumar, and A. Prabhakar

Numerical Methods

- 7200604 **Designing Loudspeaker by Ensemble of Composite Differential Evolution Ingredients**
X. Zhang, X. Zhang, S. L. Ho, and W. N. Fu
- 7200704 **Fast Algorithm to Obtain the Torque Characteristics With Respect to Load Angle of Synchronous Machines Using Finite Element Method**
X. Zhang, S. L. Ho, and W. N. Fu
- 7200804 **From Galilean Covariance to Maxwell Equations: Back to the Quasi-Static Regimes**
V. G. Mazauric, N. Addar, L. Rondot, P. F. Wendling, and M. R. Barrault
- 7200904 **A Novel Fast Remesh-Free Mesh Deformation Method and Its Application to Optimal Design of Electromagnetic Devices**
Y. Zhao, S. L. Ho, and W. N. Fu
-

-
- 7201004 **Proposing a Numerical Method for Evaluating the Effects of Both Magnetic Properties and Power Semiconductor Properties Under Inverter Excitation**
S. Odawara, K. Fujisaki, and F. Ikeda
- 7201104 **Model Reduction Methods for Magnetic Fields Based on Modal Analysis**
M. Kirschneck, D. Rixen, and H. Polinder
- 7201204 **Design Optimizations of Electromagnetic Devices Using Sensitivity Analysis and Tabu Algorithm**
L. Yang, S. L. Ho, and W. N. Fu
- 7201304 **Discretization-Induced Stiffness in Micromagnetic Simulations**
D. Shepherd, J. Miles, M. Heil, and M. Mihajlović

Hysteresis Modeling

- 7300504 **Dynamic Coercivity and Energy Absorption in Ensembles of Superparamagnetic Particles**
I. S. Poperechny and Y. L. Raikher
- 7300604 **Micromagnetic Hysteresis Model Dealing With Magnetization Flip Motion for Grain-Oriented Silicon Steel**
A. Furuya, J. Fujisaki, Y. Uehara, K. Shimizu, H. Oshima, and T. Matsuo
- 7300704 **Hysteresis Modeling in Li-Ion Batteries**
F. Baronti, N. Femia, R. Saletti, C. Visone, and W. Zamboni
- 7300804 **Sensitivity Analysis and Modeling of Symmetric Minor Hysteresis Loops Using the GRUCAD Description**
S. Steentjes, K. Chwastek, M. Petrun, D. Dolinar, and K. Hameyer
- 7300904 **An Inverted Preisach Model With Analytical Weight Function and Its Numerical Discrete Formulation**
S. Bi, F. Wolf, R. Lerch, and A. Sutor
- 7301004 **Analysis of Barkhausen Noise Emissions and Magnetic Hysteresis in Multi-Phase Magnetic Materials**
N. P. Gaunkar, O. Kypris, I. C. Nlebedim, and D. C. Jiles

Finite Element Modeling

- 7400804 **Reduction in Flux Loss of an Nd-Fe-B Bonded Ring Magnet for an SPM Motor**
T. Yanai, S. Horita, M. Nakano, S. Tsutsumi, and H. Fukunaga
- 7400904 **Use of the Fe–Cr–Nb–B Systems With Low Curie Temperature as Mediators in Magnetic Hyperthermia**
I. Astefanoaei, I. Dumitru, H. Chiriac, and A. Stancu

Electromagnetic Devices – Not Electrical Machines

- 8001004 **Experimental Study of an Electromagnetic Actuator for a Control Element Drive Mechanism**
J. Lee, H. Jun, and Y. Youn
- 8001104 **Demonstration of Magneto-optic Latching Router for All-Optical Networking Applications**
J. W. Pritchard, M. Mina, and P. Dulal
- 8001205 **Modeling and Analysis of Force Characteristics for Hybrid Excitation Linear Eddy Current Brake**
B. Kou, Y. Jin, H. Zhang, L. Zhang, and H. Zhang
- 8001304 **Research on a Low Stiffness Passive Magnetic Levitation Gravity Compensation System with Opposite Stiffness Cancellation**
H. Zhang, B. Kou, Y. Jin, H. Zhang, and L. Zhang
- 8001404 **Optimal Magnetic Field Path Designs for Enhanced Depositions of DC Magnetron Sputter**
C.-T. Liu, C.-C. Hwang, and C.-W. Chang
- 8001504 **Proposal of Electromagnetic Clutch Structure to Suppress Surge Voltage**
J. Muramatsu, T. Kojima, H. Tanaka, Y. Hattori, H. Okada, H. Keino, T. Nakanishi, and K. Fujisaki
- 8001604 **Research on Dynamic Characteristics Optimization via Analytical Modeling for Typical Rotational Electromagnetic System**
W. Yang, P. Liu, Y. Wang, R. Li, and G. Zhai
-

-
- 8001704 **A Novel High Torque-Density Triple-Permanent-Magnet-Excited Magnetic Gear**
S. Peng, W. N. Fu, and S. L. Ho
- 8001804 **A Novel Magnetic Gear With Intersecting Axes**
Y. Liu, S. L. Ho, and W. N. Fu
- 8001904 **Study on the Optimal Design of a Novel Slotless Resolver by FEM**
S.-I. Park and K.-C. Kim
- 8002004 **Analytical Modeling of Permanent Magnet Biased Axial Magnetic Bearing With Multiple Air Gaps**
K. Wang, D. Wang, H. Lin, Y. Shen, X. Zhang, and H. Yang
- 8002104 **A Study on Energy Harvesting by Amorphous Strips**
M. Zucca, O. Bottauscio, C. Beatrice, A. Hadadian, F. Fiorillo, and L. Martino
- 8002204 **Analysis and Modeling of a Small Electrical Generator Based on Nanocrystalline Ribbons**
M. Ţibu, C. Rotărescu, T. A. Óvári, N. Lupu, and H. Chiriac
- 8002304 **Magnetoelectric Coupling in BaTiO₃-CoFe₂O₄ Nanocomposites Studied by Impedance Spectroscopy Under Magnetic Field**
R. L. Noda, U. A. Salas, T. Gaudisson, F. C. Piñar, S. Ammar, and R. Valenzuela
- 8002404 **Effect of Eddy Currents on Method for Evaluating Shielding Performance of Magnetically Shielded Rooms Using Exciting Coil**
K. Muramatsu, Y. Gao, Y. Yoneyama, A. Sakai, S. Yuuki, K. Kazami, K. Yamazaki, T. Shinnoh, T. Yamaguchi, and M. Shimada
- 8002504 **Equivalent Circuit of a Piezomagnetic Unimorph Incorporating Single-Crystal Galferol**
U. Marschner, S. Datta, E. Starke, W.-J. Fischer, and A. B. Flatau

Electrical Machines

- 8102304 **Deformation and Noise Mitigation for the Linear Switched Reluctance Motor With Skewed Teeth Structure**
Y. Zou, K.-W. E. Cheng, N. C. Cheung, and J. Pan
- 8102405 **Analysis and Experimental Validation of a Half-Teeth-Wound Switched Reluctance Machine**
W. Hua, H. Hua, X. Xu, G. Zhao, and M. Cheng
- 8102504 **Iron Loss Calculation in Permanent Magnet Machines Under Unconventional Operations**
W. Q. Chu, Z. Zhu, X. Liu, D. A. Stone, and M. P. Foster
- 8102604 **A Yokeless Linear Permanent Magnet Machine**
J. Wang and W. Wang
- 8102704 **Design Optimization of a Double-Sided Hybrid Excited Linear Flux Switching PM Motor With Low Force Ripple**
C.-T. Liu, C.-C. Hwang, P.-L. Li, S.-S. Hung, and P. Wendling
- 8102804 **Modeling and Analyzing of Surface-Mounted Permanent-Magnet Synchronous Machines With Optimized Magnetic Pole Shape**
Z. Chen, C. Xia, Q. Geng, and Y. Yan
- 8102904 **Cost Reduction of a New Fault-Tolerant Halbach Permanent Magnet Machine Using Ferrite Magnet**
G. Liu, M. Shao, W. Zhao, Q. Chen, and L. Mo
- 8103004 **Analysis of Linear Flux-Switching Permanent Magnet Motor Using Response Surface Methodology**
B. Zhang, M. Cheng, R. Cao, Y. Du, and G. Zhang
- 8103104 **Measurement and Calculation of Unbalanced Magnetic Pull in Wound Rotor Induction Machine**
D. G. Dorrell and O. Kayani
- 8103204 **Design and Analysis of a Regenerative Electromagnetic Brake**
J.-N. Bae, Y.-E. Kim, Y.-W. Son, H.-S. Moon, C.-H. Yoo, T.-C. Jung, J. Lee, K. Huh, and C.-S. Jin
- 8103304 **Mechanical Offset for Torque Ripple Reduction for Magnetless Double-Stator Doubly Salient Machine**
C. H. T. Lee, K. T. Chau, C. Liu, T. W. Ching, and F. Li
- 8103404 **A New Dual-Stator Bidirectional-Modulated PM Machine and Its Optimization**
S. L. Ho, S. Niu, and W. N. Fu
-

-
- 8103504 **3-D Analytical Magnetic Field Analysis of Axial Flux Permanent-Magnet Machine**
P. Jin, Y. Yuan, J. Minyi, F. Shuhua, L. Heyun, H. Yang, and S. L. Ho
- 8103604 **A Generic Approach to Reduction of Magnetomotive Force Harmonics in Permanent-Magnet Machines With Concentrated Multiple Three-Phase Windings**
X. Chen, J. Wang, and V. I. Patel
- 8103704 **Influence of Stator and Rotor Pole Arcs on Electromagnetic Torque of Variable Flux Reluctance Machines**
J. T. Shi, X. Liu, D. Wu, and Z. Q. Zhu
- 8103804 **Imbalanced Force in Permanent Magnet Brushless Motors With Magnetic and/or Electric Asymmetries**
C. Yu, S. Niu, S. L. Ho, and W. N. Fu
- 8103904 **Flux-Regulatable Characteristics Analysis of a Novel Switched-Flux Surface-Mounted PM Memory Machine**
H. Yang, H. Lin, S. Fang, Z. Q. Zhu, and Y. Huang
- 8104004 **Electromagnetic and Thermal Analysis of Open-Circuit Air Cooled High-Speed Permanent Magnet Machines With Gramme Ring Windings**
J. Dong, Y. Huang, L. Jin, B. Guo, H. Lin, J. Dong, M. Cheng, and H. Yang
- 8104104 **A New Hybrid-Excited Electric Continuous Variable Transmission System**
Y. Liu, S. Niu, S. L. Ho, and W. N. Fu
- 8104204 **Magnetic Equivalent Circuit Modeling of Yokeless Axial Flux Permanent Magnet Machine With Segmented Armature**
Y. Huang, T. Zhou, J. Dong, H. Lin, H. Yang, and M. Cheng
- 8104304 **A Novel Dual-Stator Axial-Flux Spoke-Type Permanent Magnet Vernier Machine for Direct-Drive Applications**
F. Zhao, T. A. Lipo, and B.-I. Kwon
- 8104404 **Comparative Study on Novel Dual Stator Radial Flux and Axial Flux Permanent Magnet Motors With Ferrite Magnets for Traction Application**
W. Zhao, T. A. Lipo, and B.-I. Kwon
- 8104504 **Optimal Design of a Novel V-Type Interior Permanent Magnet Motor with Assisted Barriers for the Improvement of Torque Characteristics**
W. Zhao, F. Zhao, T. A. Lipo, and B.-I. Kwon
- 8104604 **A Quantitative Comparison Analysis of Radial-Flux, Transverse-Flux, and Axial-Flux Magnetic Gears**
Y. Chen, W. N. Fu, S. L. Ho, and H. Liu
- 8104704 **Magnetic Gears for High Torque Applications**
A. Penzkofer and K. Atallah
- 8104804 **Identification of Demagnetization Faults in Axial Flux Permanent Magnet Synchronous Machines Using an Inverse Problem Coupled With an Analytical Model**
J. D. Bisschop, A. Abdallah, P. Sergeant, and L. Dupré
- 8104904 **A Novel Triple-Permanent-Magnet-Excited Hybrid-Flux Magnetic Gear and Its Design Method Using 3-D Finite Element Method**
S. Peng, W. N. Fu, and S. L. Ho
- 8105004 **Energy Conversion in DC Excited Flux-Switching Machines**
Y. Tang, J. J. H. Paulides, and E. A. Lomonova
- 8105104 **Design and Analysis of a Magnetless Double-Rotor Flux Switching Motor for Low Cost Application**
C. Yu, S. Niu, S. L. Ho, and W. N. Fu
- 8105204 **Magnetic Vibration Analysis of a New DC-Excited Multitoothed Switched Reluctance Machine**
C. Liu, K. T. Chau, C. H. T. Lee, F. Lin, F. Li, and T. W. Ching
- 8105304 **Performance of Novel Permanent Magnet Synchronous Machines Made of Soft Magnetic Composite Core**
T. Ishikawa, Y. Sato, and N. Kurita
-

-
- 8105404 **Effect of Multilayer Windings on Rotor Losses of Interior Permanent Magnet Generator With Fractional-Slot Concentrated-Windings**
A. Sun, J. Li, R. Qu, and D. Li
- 8105504 **Research on the Torque Ripple and Scanning Range of an Arc-Structure PMSM Used for Scanning System**
H. Hu, J. Zhao, X. Liu, Z. Chen, Z. Gu, and Y. Sui
- 8105604 **The Use of Electrical Steels in Single-Phase Induction Machines and the Modified Iron Loss Test Method**
Z. Ling, L. Zhou, H. Li, W. Zhu, S. Guo, and J. Wang
- 8105704 **Accurate d-q Axis Modeling of Synchronous Machines With Skew Accounting for Saturation**
P. Lazari, B. Sen, J. Wang, and X. Chen
- 8105804 **Switched-Reluctance Position Sensor**
J. Cai and Z. Deng

Motors, Generators and Actuators

- 8202004 **Topology Exploration of Static-Excited Cylindrical Machines Using a General Analytical Magnetic Field Solution**
B. Gaussens, E. Hoang, J. Saint-Michel, P. Manfe, M. Lécivain, and M. Gabsi
- 8202104 **Efficiency Improvement of Switched Flux PM Memory Machine Over Interior PM Machine for EV/HEV Applications**
X. Liu, D. Wu, Z. Q. Zhu, A. Pride, R. P. Deodhar, and T. Sasaki
- 8202204 **Design and Analysis of a New Linear Hybrid Excited Flux Reversal Motor With Inset Permanent Magnets**
L. Xu, W. Zhao, J. Ji, G. Liu, Y. Du, Z. Fang, and L. Mo
- 8202304 **Dynamic Characteristic Analysis of Interior Permanent Magnet Synchronous Motor Considering Varied Parameters by Outer Disturbance Based on Electromagnetic Field Analysis**
Y.-S. Park, M.-M. Koo, S.-M. Jang, J.-Y. Choi, and D.-J. You
- 8202405 **A High-Torque Magnetless Axial-Flux Doubly Salient Machine for In-Wheel Direct Drive Applications**
C. H. T. Lee, K. T. Chau, C. Liu, T. W. Ching, and F. Li
- 8202504 **Cableless In-piping Magnetic Actuator System Capable of Inspection Over Long Distances**
H. Yaguchi and T. Izumikawa
- 8202604 **Comparison of Linear Primary Permanent Magnet Vernier Machine and Linear Vernier Hybrid Machine**
Y. Du, M. Cheng, K. Chau, X. Liu, F. Xiao, W. Zhao, K. Shi, and L. Mo
- 8202704 **Optimal Design for High Output Power of Transverse-Flux-Type Cylindrical Linear Synchronous Generator**
R. Watanabe, J.-S. Shin, T. Koseki, and H.-J. Kim
- 8202804 **A Novel Flux-Modulated Type Dual-Axis Motor for Hybrid Electric Vehicles**
M. Fukuoka, K. Nakamura, H. Kato, and O. Ichinokura
- 8202904 **Estimation of Suppressed Iron Loss by Stress-Relief Annealing in an Actual Induction Motor Stator Core by Using the Excitation Inner Core Method**
M. Oka, T. Ogasawara, N. Kawano, and M. Enokizono
- 8203004 **Development of a Novel Brushless Power Split Transmission System for Wind Power Generation Application**
S. Niu, Y. Liu, S. L. Ho, and W. N. Fu
- 8203104 **A Dual Notched Design of Radial-Flux Permanent Magnet Motors with Low Cogging Torque and Rare Earth Material**
H.-C. Yu, B.-S. Yu, J. Yu, and C.-K. Lin
- 8203204 **Adaptive Fuzzy Logic Proportional-Integral-Derivative Control for a Miniature Autofocus Voice Coil Motor Actuator With Retaining Force**
H.-C. Yu, T.-C. Chen, and C.-S. Liu
-

-
- 8203304 **A Novel Excitation Assistance Switched Reluctance Wind Power Generator**
X. Liu, K. Park, and Z. Chen
- 8203404 **Optimization Design of the Planar Switched Reluctance Motor on Electromagnetic Force Ripple Minimization**
G.-Z. Cao, J.-L. Fang, S.-D. Huang, J.-A. Duan, and J. F. Pan
- 8203504 **A Novel High-Speed Electromagnetic Oscillatory Actuator With a Dual Mover for Optical Scanner Applications**
Y. Bu, S. Yoshida, K. Oyaizu, H. Kinjo, K. Inoue, A. Nitta, T. Mizuno, and Z. Duan
- 8203604 **Harmonics in Brushless Doubly Fed Induction Generator for Torque Ripple Analysis and Modeling**
J. Chen and W. Zhang
- 8203704 **Investigation of Magnetically Isolated Multiphase Modular Permanent-Magnet Synchronous Machinery Series for Wheel-Driving Electric Vehicles**
C. Tong, F. Wu, P. Zheng, B. Yu, Y. Sui, and L. Cheng
- 8203804 **Characteristics Measurement of Electric Motors by Contactless Eddy-Current Magnetic Coupler**
M.-C. Tsai, K.-Y. Chiou, S.-H. Wang, and C.-K. Lin
- 8203904 **Effects of Annealing on Magnetic Properties of Electrical Steel and Performances of SRM After Punching**
C.-C. Chiang, A. M. Knight, M.-F. Hsieh, M.-G. Tsai, B. H. Liu, I.-G. Chen, Z.-L. Gaing, and M.-C. Tsai
- 8204004 **Multi-Objective Optimization Design of a Magnetic Planetary Geared Permanent Magnet Brushless Machine by Combined Design of Experiments and Response Surface Methods**
X. Zhu, B. Yan, L. Chen, R. Zhang, L. Quan, and L. Mo
- 8204104 **Equivalent Circuit Considering the Harmonics of Core Loss in the Squirrel-Cage Induction Motor for Electrical Power Steering Application**
S.-J. Lee, J.-M. Kim, D.-K. An, and J.-P. Hong
- 8204204 **Design and Analysis of Magnetic-Geared Motor With Field Windings**
E. Morimoto, K. Hirata, N. Niguchi, and Y. Ohno
- 8204304 **Design and Experimental Verification of a Short-Circuit Proof Six-Phase Permanent Magnet Machine for Safety Critical Applications**
F. Wu, P. Zheng, Y. Sui, B. Yu, and P. Wang
- 8204404 **Experimental Verification of Feedback Control of a 2-DOF Spherical Actuator**
Y. Sakaidani, K. Hirata, N. Niguchi, and S. Maeda
- 8204504 **Development of a Slotless Limited-Angle Torque Motor for Reaction Wheels Torque Measurement System**
Z. Jibin, Y. Guodong, X. Yongxiang, C. Xia, L. Yong, and W. Qian
- 8204604 **A Noncontact Magnetoelectric Generator for Energy Harvesting From Power Lines**
W. He, P. Li, Y. Wen, J. Zhang, A. Yang, and C. Lu
- 8204704 **3-D Numerical Surface Charge Model Including Relative Permeability: The General Theory**
D. T. E. H. van Casteren, J. J. H. Paulides, and E. A. Lomonova
- 8204804 **3-D Semianalytical Surface Charge Model Including Relative Permeability Using Polynomial Approximation**
D. T. E. H. van Casteren, J. J. H. Paulides, and E. A. Lomonova
- 8204904 **Small Cogging-Torque Transverse-Flux Motor With Magnetic Short Circuit Under Unloaded Condition**
Y. Ueda, H. Takahashi, T. Akiba, and M. Yoshida
- 8205004 **Electromagnetic Lead Screw for Potential Wave Energy Application**
K. Lu and W. Wu
- 8205104 **The Design for Cogging Force Reduction of a Double-Sided Transverse Flux Permanent Magnet Linear Synchronous Motor**
J.-S. Shin, R. Watanabe, T. Koseki, H.-J. Kim, and Y. Takada
-

-
- 8205204 **Electromagnetic Analysis and Experimental Testing of a Tubular Linear Synchronous Machine With a Double-Sided Axially Magnetized Permanent Magnet Mover and Coreless Stator Windings by Using Semianalytical Techniques**
M.-G. Park, J.-Y. Choi, H.-J. Shin, K. Lee, and K. Hong
- 8205304 **Torque Analysis and Experimental Testing of Axial Flux Permanent Magnet Couplings Using Analytical Field Calculations Based on Two Polar Coordinate Systems**
S.-A. Hong, J.-Y. Choi, S.-M. Jang, and K.-H. Jung
- 8205405 **Design Optimization of Air-Cored PMLSM With Overlapping Windings by Multiple Population Genetic Algorithm**
L. Li, Y. Tang, and D. Pan
- 8205504 **Electromagnetic Vibration Analysis and Measurements of Double-Sided Axial-Flux Permanent Magnet Generator With Slotless Stator**
H.-J. Shin, J.-Y. Choi, Y.-S. Park, M.-M. Koo, S.-M. Jang, and H. Han
- 8205604 **Improved Transverse Flux Type Permanent Magnet Reluctance Generator With Auxiliary Rotor Pole Inserted Permanent Magnet**
J.-H. Oh and B.-I. Kwon
- 8205704 **Reduction of Rotor Eddy-Current Losses for Surface PM Machines With Fractional Slot Concentrated Windings and Retaining Sleeve**
L. Wu, R. Qu, and D. Li
- 8205804 **Comparison and Analysis of Flux-Switching Permanent-Magnet Double-Rotor Machine With 4QT Used for HEV**
L. Mo, L. Quan, X. Zhu, Y. Chen, H. Qiu, and K. T. Chau
- 8205905 **Influence of Rotor Overhang Variation on Generating Performance of Axial Flux Permanent Magnet Machine Based on 3-D Analytical Method**
M.-M. Koo, J.-Y. Choi, Y.-S. Park, and S.-M. Jang
- 8206004 **Analysis of Fault Tolerant Control for a Nine-Phase Flux-Switching Permanent Magnet Machine**
F. Li, W. Hua, M. Cheng, and G. Zhang
- 8206104 **Topology Comparison of Slotless Permanent Magnet Semispherical Actuators**
B. van Nijhuijs, J. W. Jansen, B. L. J. Gysen, and E. A. Lomonova
- 8206207 **Overview of Analytical Models for the Design of Linear and Planar Motors**
J. W. Jansen, J. P. C. Smeets, T. T. Overboom, J. M. M. Rovers, and E. A. Lomonova
- 8206304 **Investigation of Temperature Rise in an Induction Motor Considering the Effect of Loading**
K.-H. Seong, J. Hwang, J. Shim, and H.-W. Cho
- 8206404 **Development of a Haptic Device Using a 2-DOF Linear Oscillatory Actuator**
M. Kato, Y. Kono, K. Hirata, and T. Yoshimoto
- 8206504 **Incipient Stator Insulation Fault Detection of Permanent Magnet Synchronous Wind Generators Based on Hilbert–Huang Transformation**
C. Wang, X. Liu, and Z. Chen
- 8206605 **An Analytical Method Combining Equivalent Circuit and Magnetic Circuit for BDFRG**
M.-F. Hsieh, I.-H. Lin, and D. G. Dorrell
- 8206704 **Structure of Concentrated-Flux-Type Interior Permanent-Magnet Synchronous Motors Using Ferrite Permanent Magnets**
H.-J. Kim, D.-Y. Kim, and J.-P. Hong
- 8206804 **Estimation of Inductance Derivative for Force Control of Linear Switched Reluctance Actuator**
J. Lin, K. W. E. Cheng, X. Xue, N. C. Cheung, and Z. Zhang
- Large Scale Electromagnetic Systems and Magnetic Levitation*
- 8300304 **Influence of the Damper Coil System on the Levitation Characteristics in the Superconducting Magnetically Levitated System in Case of SC Coil Quenching**
S. Ohashi and N. Ueda
- 8300404 **Design and Static Performance Analysis of a Novel Axial Hybrid Magnetic Bearing**
X. Liu, J. Dong, Y. Du, K. Shi, and L. Mo
-

Inductors and Transformers

- 8401204 **Improved Performance of Multilayer CPW Inductors on Flexible Substrate**
A. B. Menicanin, N. P. Ivanisevic, L. D. Zivanov, M. S. Damjanovic, A. M. Maric, and D. V. Randjelovic
- 8401304 **Embedded Planar Power Inductor in an Organic Interposer for Package-Level DC Power Grid**
Y. Yazaki, K. Ishidate, K. Hagita, Y. Kondo, S. Hattori, M. Sonehara, T. Sato, T. Watanabe, Y. Seino, and N. Matsushita
- 8401404 **Design of Magnetic Transceivers for 3-D Integrated Circuits**
V. Korenivski
- 8401504 **Inductance Calculation Nearby Conducting Material**
J. P. C. Smeets, T. T. Overboom, J. W. Jansen, and E. A. Lomonova
- 8401604 **The Impact of Off-Plane Flux on Losses and Magnetostriction of Transformer Core Steel**
G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, F. Hofbauer, I. Matkovic, and A. Kenov
- 8401704 **A Comparative Study Between Novel and Conventional Four-Resonator Coil Structures in Wireless Power Transfer**
S. Huang, Z. Li, Y. Li, X. Yuan, and S. Cheng
- 8401804 **Advances in Planar Coil Processing for Improved Microinductor Performance**
R. Anthony, N. Wang, S. Kulkarni, and C. Ó. Mathúna
- 8401904 **3-D Coupled Electromagnetic-Fluid-Thermal Analysis of Oil-Immersed Triangular Wound Core Transformer**
C. Liao, J. Ruan, C. Liu, W. Wen, and Z. Du
- 8402005 **Analysis of Voltage Distribution Characteristics in UHVDC Converter Transformer Winding Based on the Reduced-Scale Model**
Z.-H. Pu, J.-J. Ruan, Z.-Y. Du, Y.-D. Zhang, J.-L. Li, Q.-J. Xie, and D. Tan
- 8402104 **Loss Analysis of Circular Wireless EV Charging Coupler**
S. Wang and D. G. Dorrell
- 8402204 **A Compact Planar Transformer With an Improved Winding Configuration**
S. M. Djuric and G. M. Stojanovic
- 8402304 **Effects of Asymmetric Coupling on Winding AC Resistance in Medium-Frequency High-Power Transformer**
R. Wang, F. Xiao, Z. Zhao, Y. Shen, and G. Yang

Control Propulsion and Shielding

- 8500204 **Open Screens for Local Magnetic Shielding at Low Frequencies**
M. Zucca, M. Gamba, and F. Fiorillo
- 8500305 **Novel Motion Modes for 2-D Locomotion of a Microrobot**
J. Kim, M. J. Kim, J. Yoo, and S.-J. Kim
- 8500404 **Force Measurements on a Shielded Coreless Linear Permanent Magnet Motor**
K. J. W. Pluk, J. W. Jansen, and E. A. Lomonova
- 8500504 **Numerical Analysis and Optimization of Lobe-Type Magnetic Shielding in a 334 MVA Single-Phase Auto-Transformer**
L. Li, W. N. Fu, S. L. Ho, S. Niu, and Y. Li
- 8500604 **Capsule-Type Magnetic Microrobot Actuated by an External Magnetic Field for Selective Drug Delivery in Human Blood Vessels**
K. Choi, G. Jang, S. Jeon, and J. Nam
- 8500704 **Development of a Crawling Microrobot With High Steering Capability and High Stability to Navigate Through a Sharply Bent Tubular Environment**
J. Nam, G. H. Jang, S. M. Jeon, and K. Choi

Power and Control Magnetics

- 8600204 **Frequency Splitting Phenomena of Magnetic Resonant Coupling Wireless Power Transfer**
R. Huang, B. Zhang, D. Qiu, and Y. Zhang
- 8600304 **Noncontact Levitation and Conveyance Characteristics of a Very Thin Steel Plate Magnetically Levitated by a LIM-Driven Cart**
S. Matsumoto, Y. Arai, and T. Nakagawa
-

8600404	Analytical and Experimental Modeling and Simulation of a Magnetic Braking System for Pipeline Oil Applications R. F. P. Filho, A. O. Salazar, F. E. C. Souza, and P. L. B. da Silva
8600504	Quantitative Analysis of Mutual Inductance for Optimal Wireless Power Transfer via Magnetic Resonant Coupling Z. Zhang, K. T. Chau, C. Liu, F. Li, and T. W. Ching
8600604	Comparative Study of Torque Analysis for Synchronous Permanent Magnet Coupling With Parallel and Halbach Magnetized Magnets Based on Analytical Field Calculations H.-B. Kang, J.-Y. Choi, H.-W. Cho, and J.-H. Kim
8600704	Effects of Mechanical Resonance on Vibrations of Mechanical Systems With Permanent Magnet Machines H.-J. Shin, J.-Y. Choi, H.-W. Cho, and K. Hong
8600804	Characteristic Analysis and Experiment of Surface-Mounted Type Variable-Flux Machines Considering Magnetization/Demagnetization Based on Electromagnetic Transfer Relations J.-M. Kim, J.-Y. Choi, S.-H. Lee, and S.-M. Jang
8600904	Investigation of Iron Losses in Mixed Frequency Flux Density Waveforms J. Geisinger and A. M. Knight
8601004	Closed-Loop Control of a Self-Positioning and Rolling Magnetic Microrobot on 3D Thin Surfaces Using Biplane Imaging S. J. Kim, S. M. Jeon, J. K. Nam, and G. H. Jang
<i>Applications Including Wind Generators, Hybrid Electric Vehicles and Automotive</i>	
8700204	Method for Optimizing the Field Coils of Internally Illuminated Photobioreactors A. Sutor, M. Heining, C. Lindenberger, and R. Buchholz
8700305	Analysis of Two Novel Five-Phase Hybrid-Excitation Flux-Switching Machines for Electric Vehicles W. Hua, X. Yin, G. Zhang, and M. Cheng
8700404	Effect of Rotor Eccentricity in Large Synchronous Machines M. Michon, R. C. Holehouse, K. Atallah, and G. Johnstone
<i>Superconductivity in Magnetic Devices</i>	
9000504	Development of MgB₂-Based Bulk Supermagnets M. R. Koblishka, A. Wiederhold, M. Muralidhar, K. Inoue, T. Hauet, B. Douine, K. Berger, M. Murakami, and U. Hartmann
9000604	Flux Flow Loss of HT-SMES Coil During Energy Exchange J. Jin, W. Xu, X. Chen, L. Wen, and S. Wang
<i>Emerging Topics Including Coupled Functionalities, New Devices, Emergent Phenomena, etc.</i>	
9100104	Growth and Magnetotransport Characteristics of AlR₂O₃(A=Ca, Ba, Sr) Incorporated Bi₂Sr₂CaCu₂O_{8+δ} Superconducting Films J. C. D. Vero, I. Hwang, A. L. Santiago, D. Lee, J. Chang, J. Kim, R. V. Sarmago, and J. H. Song
9100204	Analysis of Electrical Resonance of a Hard Disk Drives Suspension Interconnect and Invasion Into Read Signal Path N. Nishiyama, Y. Soga, K. Nagaoka, T. Okada, J. T. Contreras, A. Wallash, and A. Kuriyama
9100304	Drug-Enhanced Unclogging Motions of a Double Helical Magnetic Micromachine for Occlusive Vascular Diseases S. M. Jeon, G. H. Jang, and W. S. Lee
9100404	Multiscale Magnetic Spiral-Type Machines for Fluid Manipulation S. H. Kim, J. W. Shin, and K. Ishiyama
9100504	Deep-Magnetic-Field Generator Using Flexible Laminated Copper for Thermotherapy Applications C.-C. Tai, C.-C. Chen, C.-C. Kuo, F.-W. Lin, C.-J. Chang, Y.-H. Chen, and W.-C. Wang
9100604	Nonvolatile Boolean Logic Block Based on Ferroelectric Tunnel Memristor Z. Wang, W. Zhao, W. Kang, Y. Zhang, J.-O. Klein, D. Ravelosona, Y. Zhang, and C. Chappert
9900810	CONFERENCE AUTHOR INDEX
