Contents

Special Topic: Energy Harvesting Ⅱ

・Magnetic Energy Harvesting Project	Kunihisa TASHIRO	1	(1)
・Applications of Vibration Energy Harvester for MEMS Wireless Sensor Systems	Takayuki FUJITA	9	(9)
・Energy Conversion of Parametric Pendulum and its Application for Vibration Energy	Yuichi YOKOI, Tsuyoshi HIGUCH, Takashi HIKIHARA	14	(14)
・Magnetostrictive Alloys Utilized for Vibration Energy Harvesting	Shigeru SUZUKI, Shun FUJIEDA, Tsuguo FUKUDA	22	(22)

Regular Papers

・Development of lung tumor motion prediction method using the SSA and MSSA method for the real time tumor tracking radiotherapy (RTRT) system	Kazuyuki DEMACHI, Masaki KAWAI, Takashi KIUCHI, Kohichiroh SUGAHARA	28	(28)
・Bridge and Rotor Inductance of Closed Slot Induction Motor	Makoto MATSUSHITA, Sueyoshi MIZUNO, Fuminori ISHIBASHI	36	(36)
Book Review		43	(43)
2015 JSAEM Awards		44	(44)
Conference Announcements		46	(46)
Academic Calendar		48	(48)
Information for Authors		49	(49)

Special Topic: Applied Electromagnetics and Mechanics A La Carte

・Core Loss Reduction Method for Development of High Efficiency Electrical Machines	M. Enokizono	53	(1)
・Non-destructive Stress Evaluation by Measuring Barkhausen Signals on Non-oriented Electrical Steel Sheet	Y. Tsuchida, M. Enokizono	61	(9)
・Current Development Trend of Magnetic Gears	Y. Ando	67	(15)
・Set of Basic Equations of Electrically Conducting Magnetic Fluids and Nondimensional Parameters	Y. Ido	73	(21)
・Applications of Magnetostrictive Materials and the Symposium on Electromagnetics and Dynamics	H. Wakiwaka	81	(29)
・Ultrasonic Propagation Properties in Magnetic Functional fluids under Magnetic Fields	T. Sawada, T. Fukumoto, A. Isnikurniawan, M. Bramantya	86	(34)
Conference Announcement		92	(40)
Academic Calendar		95	(43)
Report of the 26th General Assembly of JSAEM		96	(44)

Information for Authors 100 (48)

Special Issue on The 24rd MAGDA Conference in Tohoku (MAGDA2015)

・Preface 105 (1)

・Simultaneous Optimization of Magnet and Flux Barrier in IPMSM by Differential Evolution — Kosuke UKITA, Kota ISHIKAWA, Wataru KITAGAWA , Takaharu TAKESHITA — 106 (2)

・Development of Magnetic Levitation Type Power Charge and Discharge Device Using a Superconductor — Jun MIYAZAKI, Daisuke OSANAI, Shuhei SASAKI — 112 (8)

・Change of Natural Frequency of Magnetic Elastomer Beam byApplying Magnetic Field — Koichi HAYASHI — 118 (14)

・Proposal of a new phase compensation method for LMS adaptive control — Sanggook LEE, Katsuhiro HIRATA , Fumiya KITAYAMA, Masashi KOBAYASHI — 124 (20)

・Basic study of power generators for the implantable energy harvesting utilizing skeletal muscle contraction — Kota TOMIOKA, Wataru HIJIKATA, Tadahiko SHINSHI — 131 (27)

・Bending Levitation Control for Flexible Steel Plate -Experimental Consideration on Levitation Stability Improvement- — Hikaru YONEZAWA, Hiroki MARUMORI, Takayoshi NARITA, Hideaki KATO — 137 (33)

・A Study on Improvement of Visual Field Stability by Using Active Seat Suspension — Masahiro MASHINO, Hideaki KATO, Takayoshi NARITA — 143 (39)

・Hybrid Magnetic Levitation System for Thin Steel Plate by Electromagnets and Permanent Magnets -Basic Study on Optimal Placement Search Considering the Interaction of the Magnetic Field- — Hirotaka ISHII, Takayoshi NARITA, Hideaki KATO — 149 (45)

・Consideration of Magnetizer for Magnetic Particle Testing of Omnidirectional Crack in 3D Shape Test Object — Katsuhiro FUKUOKA , Shota NOMA, Masaki KOBAYASHI, Tomohiro OZAKI, Yoshiro OIKAWA — 155 (51)

・Performance Evaluation of a Current Superimposition Variable Flux Machine Using Permanent Magnets — Akira KOHARA , Katsuhiro HIRATA, Noboru NIGUCHI, Yuki OHNO — 161 (57)

・Study on an EMAT Configuration for Higher-order Mode of Guided Wave — Shingo ONODERA, Kosuke KANDA, — 167 (63)

	Fumiko AOKI, Toshihiko SUGIURA		
・Investigation of Necessary Maximum Delay Time for High-speed Positioning on Linear DC Motor	Ryousuke KAWAI, Yinggang BU, Tsutomu MIZUNO, Toshiki MARUYAMA, Tomoki TERASHIMA	172	(68)
・Numerical Analysis of a MRE Soft Actuator Behavior in the Varying Magnetic Field	Shunta MURAO, Katsuhiro HIRATA, Fumikazu MIYASAKA	178	(74)
・Study on Magnetomotive Force Control of Superconducting Maglev Vehicle with Onboard REBCO HTS Magnets	Takenori YONEZU, Ken WATANABE, Erimitsu SUZUKI	184	(80)
・Design of Magnetic Circuit for Weighing Cell Based on Electromagnetic Force Restoration	Taiga MURAI, Tomohiko NAGAYA, Koji FUJIWARA, Yasuhito TAKAHASHI Kazufumi NAITO, Kozo TERUNUMA, Masaru IKESHIMA	190	(86)
・Estimating equation of the radial type self-bearing motor's the passive stability	Hiroyuki ONUMA, Toru MASUZAWA, Michiko MURAKAMI	196	(92)
・Deformation response of a magnetic type tactile sensor with a two-layered surface made of a non-magnetic and a magnetorheological elastomer	Takumi KAWASETSU, Takato HORII, Hisashi ISHIHARA, Minoru ASADA	204	(100)
・Improvement of loss and vibration noise characteristics depending on excitation waveform of a brushless DC motor	Shunsuke NOGUCHI, Kenji SUZUKI, Hideo DOHMEKI	210	(106)
・Levitation Stability of Passive Stability Axes of Heart Beat Synchronous Maglev Blood Pump	Takumi SHIMOHORI, Toru MASUZAWA, Takashi NISHIMURA, Shunei KYO	216	(112)
・Examination of Turnover Judgment Indicators for Turnover Prevention Device of Walker	Yuichi KAMIFUKUMOTO, Masaya WATADA, Mutuo YAMADA Ichirou WATANABE, Tetsuya TSUBAKIHARA, Hirotaka SATO	222	(118)
・Consideration on the Magnetic Flux Density Distribution of the Halbach Array Constructed by Cylinder Shape Permanent Magnets	Haruhiko SUZUKI, Shogo TOKUNAGA, Masatoshi KANAMARU, Shuichiro KAINUMA,	228	(124)

	Atsushi Ito		
・Capacitive coupling energy transmission system for an implantable medical device: measurement of received voltage considering the polarity of received electrode	Kenji SHIBA	234	(130)
・Improvement of slot antennas for microwave plasma source through electromagnetic analysis	Yuki TAKABE, Takahiko YAMAMOTO, Kohji KOSHIJI, Noboru KATAYAMA, Sumio KOGOSHI	240	(136)
・Drive Characteristics of High Efficiency Hybrid Excitation Motor for Automobiles	Takashi KOSAKA, Akira OZEKI, Nobuyuki MATSUI	246	(142)
・The evaluation for characteristic of ferrofluid under a magnetic field with numerical simulation	Kenta MITSUFUJI, Shuhei MATSUZAWA, Katsuhiro HIRATA, Fumikazu MIYASAKA	252	(148)
・Development of IE5-class efficiency standard amorphous motor	Yuji ENOMOTO, Hiroki TOKOI, Takao IMAGAWA, Toshifumi SUZUKI, Takeshi OBATA, Kenichi SOUMA	258	(154)
Regular Papers			
・Design and Fabrication of an Enlarged Wind Tunnel System for Spinning Body Using Magnetic Suspension	ShahajadaMahmudul HASAN, Takeshi MIZUNO, Masaya TAKASAKI, Yuji ISHINO, Masayuki HARA, Daisuke YAMAGUCHI	264	(160)
Conference Report		271	(167)
Conference Announcements		272	(168)
Academic Calendar		275	(171)
Information for Authors		276	(172)
Preparation of Papers for the Journal of the Japan Society of Applied Electromagnetics and Mechanics		277	(173)
Special Topic:Accumulation of Electricity and Peripheral Technology Thereof			
・Development of Large Scale Batteries for Renewable Energy Storage Systems	Yosuke ISHII, Shinji KAWASAKI	281	(1)
・Overview and Application of Lithium Ion Battery	Hidesato SARUWATARI, Yoshiaki ASAMI,	287	(7)

	Shun EGUSA		
・The Superconducting Flywheel Energy Storage Systems using the Superconducting Magnetic Bearing	Tomohisa YAMASHITA, Masafumi OGATA, Ken MAGASHIMA	293	(13)
・Development of new Adiabatic Compressed Air Energy Storage System ”CAB®”	Masatake TOSHIMA, Masaki MATSUKUMA	299	(19)
・Electric Double Layer Capacitor as an Energy Storage Device for Automotive Applications	Shin WATANABE	305	(25)
・High Power Wireless Power Transmission Technologies to Railway Vehicles	Keiichiro KONDO	310	(31)
・Efficiency and Magnetic Flux in Magnetic Resonant Coupling	Takehiro IMURA	317	(37)
Regular Papers			
・Technical Development of Concentrated Flux IPM Motor	Tuyoshi NONAKA, Akihito TOYOTA, Motomichi OHTO	323	(43)
・Optimum Design of an Rectangular Antenna Element used in Microwave Irradiation of Liquid Objects	Masanori MURAI, Shuji MATSUOKA, Kyoji YAMANAKA, Takashi HIRANO, Yoshinari YAMANAKA, Tetsuya UCHIMOTO, Toshiyuki TAKAGI	331	(51)
・ Heat Treatment and cold-rolled Effect on Magnetic ・ Magnetostrictive Properties in Rapidly Co-Fe Alloy ribbon	Natsuko KIMURA, Takeshi KUBOTA, Yasubumi FURUYA	340	(60)
Book Review		346	(66)
Conference Announcement		347	(67)
Academic Calendar		349	(69)
Information for Authors		350	(70)
Preparation of Papers for the Journal of the Japan Society of Applied Electromagnetics and Mechanics		351	(71)
Acknowledgement to Reviewers		354	(74)
Vol.24 (2016) Contents		355	(75)