Session Title	**[PA-A5] Numerical Techniques 1**
Date and Time	**June 19 (Monday) / 14:10-16:00**
Place	**Rm. 102 (1F)**
Session Chair	**Stéphane Clenet (Arts et Métiers ParisTech., France)**

PA-A5-1 **Digest ID: 16**

Non-Intrusive Uncertainty Quantification with Polynomial Chaos Approximations for a Stochastic Stern-Gerlach Magnet Model

Loukrezis, Dimitrios (1,2); Polonskij, Ilja (1); Römer, Ulrich (1,2); De Gersem, Herbert (1,2)
1: Institut für Theorie Elektromagnetischer Felder, TU Darmstadt, Germany; 2: Graduate School Computational Engineering, TU Darmstadt, Germany

PA-A5-2 **Digest ID: 26**

3-D Parallel Finite Element Method with Prismatic Edge Elements for Electromagnetic Field Analysis of IPM Motor

Kawase, Yoshihiro; Yamaguchi, Tadashi; Osada, Shunichi
Gifu University, Japan

PA-A5-3 **Digest ID: 398**

A New Divide and Conquer Method For Three-Dimensional Electrical Impedance Tomography

Martin, Sébastien; Choi, Charles
National Chiao Tung University, Taiwan

PA-A5-4 **Digest ID: 39**

A new and robust hysteresis modeling based on simple equations

Bastos, João Pedro Assumpção (1); Hoffmann, Kleyton (1,2); Leite, Jean Vianei (1); Sadowski, Nelson (1)
1: Universidade Federal de Santa Catarina, Brazil; 2: Universidade do Oeste de Santa Catarina, Brazil

PA-A5-5 **Digest ID: 43**

Strong Coupling Method between Magnetic Field Equations and Hysteresis Model for Accurate Prediction of Core Loss in Inductive Components

Shimizu, Koichi (1); Furuya, Atsushi (1); Uehara, Yuji (1); Fujisaki, Jun (1); Ataka, Tadashi (1); Tanaka, Tomohiro (1); Oshima, Hirotaka (2)
1: Fujitsu Limited; 2: Fujitsu Laboratories Limited

PA-A5-6 **Digest ID: 451**

An Adaptive FEM Based on Magnetic Field Conservation Applying to Ferromagnetic Problems

Noguchi, So (1,2,3); Matsutomo, Shinya (4); Cingoski, Vlatko (5)
1: Hokkaido University, Japan; 2: National High Magnetic Field Laboratory; 3: Florida State University; 4: National Institute of Technology, Niihama College; 5: University “Goce Delcev” – Stip

PA-A5-7 **Digest ID: 63**

A Fast Tree Algorithm for the Calculation of Electrical Field in 1.5D Streamer Discharge Simulations

Zhuang, Chijie (1); Zhang, Yong (2); Zeng, Rong (1)
1: Tsinghua University, China, People's Republic of; 2: Courant Institute of Mathematical Sciences, New York University

PA-A5-8 **Digest ID: 71**

Time Decomposition Method for the General Transient Simulation of Low-Frequency Electromagnetics

He, Bo; Zhou, Ping; Lu, Chuan; Chen, Ningning; Lin, Dingsheng; Rosu, Marius
Ansys, United States of America

PA-A5-9 **Withdrawn**

PA-A5-10 **Digest ID: 129**

Computation of Hysteresis Torque and losses in a Bearingless Synchronous Reluctance Machine

Belahcen, Anouar (1,2); Mukhrejee, Victor (1); Martin, Floran (1); Rasilo, Paavo (1,3)
1: Aalto University, Dept. of Electrical Engineering and Automation, Finland; 2: Tallinn University of Technology, Dept. of Electrical Engineering, Estonia; 3: Tampere University of Technology, Dept. of Electrical Engineering, Finland

PA-A5-11 **Digest ID: 146**

Efficient Parallel Numerical Analysis of Rotating Bodies based on Hierarchical Domain Decomposition Method

SUGIMOTO, Shin-ichiro (1); OGINO, Masao (2); KANAYAMA, Hiroshi (3); TAKEI, Amane (4)
1: Tokyo University Science, SUWA, Japan; 2: Nagoya University, Japan; 3: Japan Women's University, Japan; 4: University of Miyazaki, Japan

PA-A5-12 **Digest ID: 185**

SCSM for Calculation of Motion-Induced Eddy Currents in Isotropic and Anisotropic Conductive Objects

Ziolkowski, Marek (1,2); Schmidt, Reinhard (1); Petkovic, Bojana (1); Gorges, Stephan (1); Weise, Konstantin (1); Brauer, Hartmut (1)
1: Technische Universität Ilmenau, Germany; 2: West Pomeranian University of Technology Szczecin, Poland

PA-A5-13 **Digest ID: 230**

Parametric Design Study of Electric Motor Using Multipolar Moment Matching Method Based on Model Order Reduction

Paul, Sarbajit; Chang, Junghwan
Dong-A University, Korea, Republic of (South Korea)

PA-A5-14 **Digest ID: 316**

Reduced Basis Finite-element Method for Electromagnetic Field Computation of Geometric Deformation Problems

Liu, Xiaoyu; Fu, Weinong
The Hong Kong Polytecnique University, Hong Kong S.A.R. (China)

PA-A5-15 **Digest ID: 735**

A Mixed Multiscale Finite Element Method with *A* and *J* for Eddy Currents in Iron Laminates

Hollaus, Karl
Technische Universität Wien, Austria