

Session Title	[PD-A7] Mathematical Modelling and Formulations 2 / Software Methodology
Date and Time	June 22 (Thursday) / 14:10-16:00
Place	Rm. 103-104 (1F)
Session Chair	Raffaele Martone (Universita' degli Studi della Campania "L. Vanvitelli", Italy)

PD-A7-1 **Digest ID: 282**
A Two Dimensional Nonlinear Ambipolar Diffusion Equation Model of an IGBT and its Numerical Solution Methodology

Chen, Jiajia (1); Yang, Shiyu (1); Ho, S. L. (2)
 1: Zhejiang University, China, People's Republic of; 2: The Hong Kong Polytechnic University, Hong Kong

PD-A7-2 **Digest ID: 304**
Solution of 2D Electromagnetic Scattering Using IIEFG-UPML Method

Lopes, Leonardo Bruno; Resende, Ursula do Carmo; Gonçalves, Sandro Trindade
 CEFET-MG, Brazil

PD-A7-3 **Digest ID: 352**
The Planar Layered Two-Phase System Model of Frequency Response of Insulation System for Estimating Moisture in IOCT

BAI, Baodong; WANG, Qingpeng; CHEN, Dezhi; HE, Xiaoyu
 Shenyang University of Technology, China, People's Republic of

PD-A7-4 **Digest ID: 365**
Influence of Magnetic Measurement Modeling on the Solution of Magnetostatic Inverse Problems Applied to Current Distribution Reconstruction in Switching Air Arcs

Dong, Jinlong; Zhang, Guogang; Geng, Yingsan; Wang, Jianhua
 Xi'an Jiaotong University, China, People's Republic of

PD-A7-5 **Digest ID: 371**
A 3-D Electromagnetic Force Analytical Model for Air-core Halbach Permanent Magnet Linear Synchronous Motor

Duan, Jiaheng (1,2); Zhang, Kunlun (1,2); Zhang, Wenlong (1,2); Xiao, Song (1,2)
 1: Key Laboratory of Magnetic Suspension Technology and Maglev Vehicle, Ministry of Education, P.R.C; 2: School of Electrical Engineering, Southwest Jiaotong University, Chengdu

PD-A7-6 **Digest ID: 379**
A Piecewise Linear Hysteresis Model for NdFeB Considering Temperature Effects

Chen, Junquan (1,2); Wang, Dong (1); Cheng, Siwei (1); Chen, Zhihua (1); Jiang, Yapeng (1); Shen, Yang (1); Birnkammer, Florian (2); Gerling, Dieter (2)
 1: Naval University of Engineering, People's Republic of China; 2: University of Federal Defense Munich, Germany

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Digest ID: 124

Design and Performance Analysis of a Novel Rotary Transformer for Brushless Application

Zhong, Hui; Wu, Chao; Yang, Yubo
Shandong University, People's Republic of China

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Digest ID: 114

An Exact Magnetic Equivalent Circuit Model for Analysis of Surface Mounted Permanent Magnet Motors

Faiz, Jawad; Rezaee-Alam, Farhad
University of Tehran, Iran, Islamic Republic of

PD-A7-9

Digest ID: 393

Analysis of the UPML Design Parameters in the Solution of Electromagnetic Scattering

Valvassoura, Giovanni; Afonso, Márcio Matias; Gonçalves, Sandro Trindade Mordente
Federal Center of Technological Education of Minas Gerais, Brazil

PD-A7-10

Digest ID: 406

Efficient NVH-Modeling of a Disc Rotor Axial-Flux Synchronous Motor as Integrated Motor Generator in Hybrid Applications

Kotter, Philipp (1); Morisco, David Philipp (1); Boesing, Matthias (1); Zirn, Oliver (2); Wegener, Konrad (2)
1: Robert Bosch GmbH, Germany; 2: ETH Zürich, Switzerland

PD-A7-11

Digest ID: 434

A research on the Demagnetization and Demagnetizing Factors for Normal Shape of Magnetic Materials

Im, Sang Hyeon; Park, Gwan Soo
School of Electrical and Computer Engineering, Pusan National University, Busan 46241, Korea, Republic of (South Korea)

PD-A7-12

Digest ID: 468

3D Equivalent Model to Compute the Electro-Magnetic Behaviour of Twisted Multi-filamentary Superconductors Wires

MAKONG, LUDOVIC (1,2); KAMENI, ABELIN (1); BOUILLAULT, FREDERIC (1); MASSON, PHILIPPE (2)
1: GeePs - Group of electrical engineering - Paris; 2: University of Houston, Houston

PD-A7-13

Digest ID: 492

Distributed Implicit Discontinuous Galerkin MHD Solver

Korous, Lukas (1); Karban, Pavel (1); Skála, Jan (2)
1: University of West Bohemia, Czech Republic; 2: Astronomical Institute of Czech Academy of Sciences

PD-A7-14

Digest ID: 499

Theoretical Energy Dissipation and Numerical Calculation of Passive Magnetic Fluid Damper

Yang, Xiaorui (1); Yang, Qingxin (1,2); Chen, Lifei (1); Guo, Bing (1); Yang, Wenrong (1)
1: Hebei University of Technology, China, People's Republic of; 2: Tianjin Polytechnic University, China, People's Republic of

PD-A7-15

Digest ID: 536

PWM Core-loss Analysis of Permanent Magnet Motor Using Current-Waveform

Lee, Jeong-Jong; Lee, Ki-Doek; Rhyu, Se-Hyun
Korea Electronics Technology Institute, Korea, Republic of (South Korea)

PD-A7-16

Digest ID: 543

A Fully GPU Solution Using Meshless Petrov Galerkin Local

Amorim, Lucas Pantuza; Mesquita, Renato Cardoso
Federal University of de Minas Gerais, Brazil

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Withdrawn

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Digest ID: 617

Development of a Reluctance Mesh Generator

Arjona, Marco A; Hernandez, Coni; Maldonado, Daniel
Instituto Tecnológico de La Laguna, Mexico

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Digest ID: 672

Efficient Perturbation Method for Computing Two-Port Parameter Changes due to Foreign Objects for WPT Systems

Pavo, Jozsef (1); Badics, Zsolt (2); Bilicz, Sandor (1); Gyimothy, Szabolcs (1)
1: Budapest University of Technology and Economics, Hungary; 2: Tensor Research, LLC, Andover, MA, USA

PD-A7-20

Digest ID: 532

An Electrothermal Lumped Modeling Approach for Thin Bond Wires in Microelectronic Chip Packages

Casper, Thorben (1,2); Römer, Ulrich (1,2); Schöps, Sebastian (1,2)
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