2018 IEEE International Conference on Applied Superconductivity and Electromagnetic Devices (ASEMD 2018)

Tianjin, China
15 – 18 April 2018
List of Paper IDs and Authors

ID8014
Theoretical Modeling and Preliminary Design of Hybrid Energy Transfer Pipeline Based on Liquefied Natural Gas and Superconducting Cable.....1
Yu Chen, Meng Yao Li, Ying Jun Feng, Xiao Feng Yu, Yang Liu, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China

ID8018
Comparison of Electromagnetic Performance of Superconducting Permanent Magnet Wind Power Generator with Different Topologies.....3
Chenxi Zhou, Xiaoyan Huang, Lijian Wu, Youtong Fang
College of Electrical Engineering
Zhejiang University
Hangzhou, China

ID8019
Application of a Resistive Type Superconducting Fault Current Limiter for a DC Microgrid System.....5
Lei Chen, Hongkun Chen, Guocheng Li
School of Electrical Engineering
Wuhan University
Wuhan, China
Ying Xu, Li Ren, Yuejin Tang
State Key Laboratory of Advanced Electromagnetic Engineering and Technology
Huazhong University of Science and Technology
Wuhan, China

ID8020
Low-Voltage Ride-Through Improvement in a DFIG-Based Wind Turbine by Integrated Use of a SFCL and DC-link Regulation of a SMES System.....7
Lei Chen, Guocheng Li, Hongkun Chen
School of Electrical Engineering
Wuhan University
Wuhan, China
Ying Xu, Li Ren, Yuejin Tang
State Key Laboratory of Advanced Electromagnetic Engineering and Technology
Huazhong University of Science and Technology
Wuhan, China

ID8021
Flux Regulation Characteristic Study of Hybrid Permanent Magnet Axial Field Flux-Switching Memory Machine Based on Quantitative Flux Regulation Pulse.....9
Gongde Yang, Mingyao Lin, Nian Li, Guangying Tan, Li Hao
School of Electrical Engineering
Southeast University
Nanjing, China

ID8023
Performance Analysis on a Flux Coupling Superconducting Fault Current Limiter (SFCL) Considering the Power Grid Integration Based on MATLAB/SIMULINK.....11
Jiahui Zhu, Yongqing Zhao, Panpan Chen, Jun Gong, Xin Zhao
China Electric Power Research Institute  
Beijing, China  
Shengqian Jiang, Shanming Wang  
Department of Electrical Engineering  
Tsinghua University  
Beijing, China

ID8028  
Study on QCM Mass Sensitivity for Different Electrode Structures.....13  
Jianguo Hu, Xianhe Huang, Hui Lin  
School of Automation Engineering  
University of Electronic Science and Technology of China  
Chengdu, China

ID8029  
Numerical Analysis on the AC loss of Air-core Inductive SFCL with Co-Winding and Separated Winding Structure during Normal Operation.....15  
M. Hu, D. Qiu, Z.Y. Li, Z. Hong, Z. Jin  
Department of Electrical Engineering  
Shanghai Jiao Tong University  
Shanghai, China  
L.H. Zhong, X.H. Duan, M. Song, L. Li  
Guangdong Power Grid Corporation  
Guangzhou, China

ID8030  
Design and Analysis of a Small-Scale HTS Magnet Used in a Linear Synchronous Motor for Future High-Speed Superconducting Maglev Applications.....17  
Fangliang Dong, Zhen Huang, Derong Qiu, Luning Hao, Wei Wu, Zhijian Jin  
Department of Electrical Engineering  
Shanghai Jiao Tong University  
Shanghai, China

ID8031  
Preparatory Research for High-Speed Superconducting Maglev-Design of a Small-Scale HTS Linear Synchronous Motor for Laboratory Test.....19  
Fangliang Dong, Zhen Huang, Derong Qiu, Luning Hao, Wei Wu, Zhijian Jin  
Department of Electrical Engineering  
Shanghai Jiao Tong University  
Shanghai, China

ID8032  
Dual Narrowband HTS Filter with Controllable Transmission Zeros and Wide Stopband by Using Mixed Electric and Magnetic Coupling.....21  
Shuangshuang Zhu, Pin Wen, Haiwen Liu  
School of Electro. and Information Engine.  
Xi’an Jiaotong University  
Xi’an, China  
Qingfeng Zhang  
Dept. of Electronics and Electrical Engine.  
Southern University of Science and Technology  
Shenzhen, China  
Yuming Fang  
School of Information Technology  
Jiangxi University of Finance and Economics  
Nanchang, Jiangxi, China
ID8033
A Novel IGBTs-Based Superconducting Solid Fault Current Limiter for Ship.....23
Jingnan Zhang, Jing Han, Nanqiu Li
Department of Electrical Engineering
Harbin Engineering University
Harbin, China

ID8034
ITER PF4 CFT 80 K Cold Test at ASIPP.....25
Chenglian Liu, Kun Lu, Chen Liu, Qingqing Du, Yujun Dong, Jun Wang, Kaizhong Ding, Xiaoshi Tang,
Xiongyi Huang, Yuntao Song
Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China

ID8035
Skew Angle Optimization Analysis of a Permanent Magnet Synchronous Motor for EVs.....27
Xiaodong Sun, Zhou Shi, Long Chen, Zebin Yang,
Automotive Engineering Research Institute
Jiangsu University
Zhenjiang, China
Gang Lei, Jian Guo Zhu, You Guang Guo
School of Electrical, Mechanical and Mechatronic Systems
University of Technology, Sydney
Sydney, Australia

ID8037
Numerical Study on AC Loss of HTS Coil with DC Transport Current under External AC Magnetic Field.....29
Luning Hao, Zhen Huang, Derong Qiu, Fangliang Dong
Department of Electrical Engineering
Shanghai Jiao Tong University
Shanghai, China

ID8038
Numerical Simulation of Levitation Force and Drag Force of Superconducting Electrodynamic Maglev Train.....32
Luning Hao, Zhen Huang, Derong Qiu, Fangliang Dong, Zhaojin Sun
Department of Electrical Engineering
Shanghai Jiao Tong University
Shanghai, China

ID8039
Drive System Design for a Four-Phase BSG Switched Reluctance Motor.....35
Haoxiang Wang, Long Chen, Xiaodong Sun, Shi Zhou
Automotive Engineering Research Institute
Jiangsu University
Zhenjiang, China

ID8041
A Sixth-order Switchable Superconducting Balanced Filter with Wide Stopband Using Asymmetric Coupled
SIRs.....37
Jiaming Tang
Institute of Electromagnetics and Acoustics
Xiamen University
Xiamen, China
Hexiu Xu
Missile Institute
Air Force Engineering University
Xi’an, China
Haiwen Liu
School of Electronic and Information Engineering
Xi’an Jiaotong University
Xi’an, China

ID8042
Compact, High-Selectivity and Wideband Superconducting Bandpass Filter with A Narrow Notched-Band for Radio Astronomy Application.....39
Yichen Xu, Tiankang Liu, Baoping Ren, Pin Wen, Xuehui Guan
School of Information Engineering
East China Jiaotong University
Nanchang, China
Zhijiao Chen
School of Electronic Engineering
Beijing University of Posts and Telecommunications
Beijing, China
Haiwen Liu
School of Electronic and Information Engineering
Xi’an Jiaotong University
Xi’an, China

ID8043
New Design of a Compact 6-pole Reconfigurable Narrowband Triplexer Based on Common Net-type Resonator.....41
Jianwei Liu, Yi Song, Pin Wen, Baoping Ren, Xuehui Guan
School of Information Engineering
East China Jiaotong University
Nanchang, China
Zhijiao Chen
School of Electronic Engineering
Beijing University of Posts and Telecommunications
Beijing, China
Haiwen Liu
School of Electronic and Information Engineering
Xi’an Jiaotong University
Xi’an, China

ID8045
An Improved Topology of Direct-Current Circuit Breaker with Superconducting Fault Current Limiter and Self-Charging Capacitor.....43
Kun Yang, Hanming Ge, XianWang, Muhammad Junaid, Siyuan Liu, Zhiyuan Liu, Yingsan Geng, Jianhua Wang
State Key Laboratory of Electrical Insulation and Power Equipment
Xi’an Jiaotong University
Xi’an, China

ID8048
Optimizing Design of Multi-Coil Solenoid HTS Magnet by PSO Algorithm.....45
Wen Huang, Jun Quan Chen
National Key Laboratory of Science and Technology on Vessel Integrated Power System
Naval University of Engineering
Wuhan, China

ID8049
Numerical Study on AC Loss of Soldered-Stacked-Square(3S) HTS Wire with 1 mm Width.....47
ID8050
Combinational Scheme for LVRT Performance Enhancement of DFIG-Based Wind Turbine Using SSFCL and RSDR
Zhi Ce Zou1, Yu Rong Zhang2, Ju Cheng Liao3, Yang Li4, Hua Xing Yu5
State Grid Chongqing Jiangbei Power Supply Company
Chongqing, China
ID8051
Simulation and Test of a Single-Pancake Coil Wound by ReBCO Tapes
Qin Huang, Meng Yao Li, Meng Ling Yang, Xiao Feng Yu, Qiang Xu, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China
ID8052
A DC-Type Dynamic Voltage Restorer Based on Hybrid Energy Storage
Tao Li, Lei Zeng, Qin Huang, Xiao Dong Liu, Yang Liu, Qi Xie, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China
ID8053
3D FEM Simulations of a Sliding-Type Superconducting Wireless Power Transfer System
Meng Yao Li, Qin Huang, Meng Ling Yang, Xiao Feng Yu, Juan Feng, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China
ID8054
Circuit Modeling and Performance Evaluation of Superconducting Wireless Power Transfer Systems
Qin Huang, Meng Yao Li, Meng Ling Yang, Xiao Feng Yu, Mian Gang Tang, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China
ID8055
Temperature Field Simulation of a Solenoidal Magnet Wound by ReBCO Tapes
Lei Zeng, Ying Jun Feng, Xiao Dong Liu, Qi Xie, Guo Hui Li, Juan Feng, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China
ID8056
Structural Design and Test of a Solenoidal SMES Magnet
Ying Jun Feng, Lei Zeng, Yu Chen, Xiao Dong Liu, Yang Liu, Qi Xie, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China

ID8057
Conceptual Models of Levitated HTS Linear Drive....64
Lu Hai Zheng, Xin Qiang Li
Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd.
Shanghai, China
Jian Xun Jin
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8062
Calculation and Analysis of Short-circuit Performance of a Split-Winding Transformer with Stabilizing Windings....66
Longnv Li
Tianjin Key Laboratory of Advanced Electrical Engineering and Energy Technology
Tianjin Polytechnic University
Tianjin, China
Xiaoming Liu
Tianjin Key Laboratory of Advanced Electrical Engineering and Energy Technology
Tianjin Polytechnic University
Tianjin, China

ID8065
Analytical Analysis and Cooling System Design of a High-Speed Permanent Magnet Motor Utilizing an Amorphous Metal Core....68
Gaojia Zhu, Wei Liu, Xiaoming Liu, Longnv Li
Tianjin Key Laboratory of Advanced Electrical Engineering and Energy Technology
Tianjin Polytechnic University
Tianjin, China
Wenming Tong, Xueyan Han
National Engineering Research Center for Rare-earth Permanent Magnet Machines
Shenyang University of Technology
Shenyang, China

ID8066
Discussion on the Arrangement Modes of Inductive Pulsed Power Supply Based on Two HTSPPTs.....70
Fa Long Lu, Yu Wang, Zhong Ming Yan
School of Electrical Engineering
Southwest Jiaotong University
Chengdu, China
Yu Wang
Key Laboratory of Magnetic Suspension Technology and Maglev Vehicle, Ministry of Education
Southwest Jiaotong University
Chengdu, China

ID8067
Study on the Asynchronous Discharge of Eight Superconducting Pulsed Power Supply Modules.....72
Fa Long Lu, Yu Wang, Zhong Ming Yan
School of Electrical Engineering
Southwest Jiaotong University
Chengdu, China
Yu Wang
Key Laboratory of Magnetic Suspension Technology and Maglev Vehicle, Ministry of Education
Southwest Jiaotong University
Chengdu, China

ID8068
Effects of Epoxy Resin/MMT on Surface Breakdown Characteristics in Liquid Nitrogen Environment....74
Penghui Li, Heng Du
State Grid Huludao Electric Power Supply Company
State Grid Liaoning Electric Power Supply Co., Ltd
Huludao, China
Yang Yu
Electric Power Research Institute
State Grid Tianjin Electric Power Company
Tianjin, China

ID8069
Preliminary Experiment of a SFCL Based on Air-Core Superconducting Transformer and Inductor- Capacitor Series Resonant Limiter....76
Le Liang, Yu Wang, Xinyi Nie, Yanwen Hu, Kun Luo, Zhongming Yan
School of Electrical Engineering,
Southwest Jiaotong University
Chengdu, China
Yu Wang
Key Laboratory of Magnetic Suspension Technology and Maglev Vehicle, Ministry of Education
Southwest Jiaotong University
Chengdu, China

ID8072
Secondary Design and Optimization of a SLIM for a HTS Levitation Driving System.....78
Guannan Bai, Jianxun Jin, Jianhui Liang
School of Electrical and Information Engineering
Tianjin University
Luhai Zheng
Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd.
Shanghai, China

ID8073
Modelling and Theoretical Analysis of Air-Core Transformers with Strong Coupled Schemes.....80
Guannan Bai, Jianxun Jin, Jianhui Liang
School of Electrical and Information Engineering
Tianjin University
Tianjin, China
Xiaoyuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China
Chen Gu
Department of Physics
Tsinghua University
Beijing, China

ID8076
Design of 3T Actively Shielded MRI Superconducting Magnet....82
Zhenguang Liang
School of Electrical Engineering
Shandong University
Jinan, China

ID8077
Comparative Study of the Linear Superconductivity Machine with the Different Stator and Winding Configurations.....84
Shaopeng Wang, Chengcheng Liu, Youhua Wang
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Hebei University of Technology
Tianjin, China
Gang Lei, Jianguo Zhu, Youguang Guo
School of Electrical, Mechanical and Mechatronic Systems
University of Technology
Sydney, Australia

ID8078
Superconducting Line Trap Based on HTS Coil and HTS Electrode Capacitor.....86
Ying Da He, Yu Wang, Le Liang, Zhong Ming Yan
School of Electrical Engineering
Southwest Jiaotong University
Chengdu, China

ID8079
The 5 K Heat Load Test of GA Feeder for ITER CS Magnet Test Application.....88
Qingqing Du, Kaizhong Ding, Chenglian Liu, Kun Lu, Tingzhi Zhou, Sikui Yu, Bo Li, Ke Zhang, Kaiming Jing, Yuntao Song
Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China
Piec, Zbigniew, Schaubel Kurt
General Atomics
USA

ID8081
Effects of Combined AC-DC Voltages on Breakdown Characteristics in Epoxy Resin Considering High Temperature Superconducting Insulation.....90
Penghui Li, Heng Du
State Grid Huludao Electric Power Supply Company
State Grid Liaoning Electric Power Supply Co., Ltd.
Huludao, China

ID8082
Numerical Evaluation of AC Loss in NbTi/YBCO Composite Slab under Parallel Field.....92
Ying Min Cui, Yin Shun Wang, Gang Lv, Wei Pi
State Key Laboratory for Alternate Electrical Power System with Renewable Source
Department of Mathematics and Physics
North China Electric Power University
Beijing & Baoding, China

ID8083
Simulation Analysis of Current-sharing Temperature of Nb3Sn/Cu Wire.....94
Ying Min Cui, Gang Lv, Yin Shun Wang, Wei Pi
State Key Laboratory for Alternate Electrical Power System with Renewable Source
Department of Mathematics and Physics
North China Electric Power University
Beijing and Baoding, China

ID8084
Charging and Discharging Characteristics of the No-insulation HTS Coil Impregnated Using Solder.....96
Y. Q. Li, D. Y. Hu, Z. Y. Li, Z.J. Jin
Department of Electrical Engineering
Shanghai Jiao Tong University  
Shanghai, China  
Zhiyong Hong  
Jiangxi Lianchuang Opto-Electronic Science and Technology Co., Ltd  
Nanchang, China  
L. H. Zhong, X. H. Duan, M. Song, L. Li  
Guangdong Power Grid Corporation  
Guangzhou, China  

ID8085  
An Experimental Study on Linearity of a Magneto-optic Crystal Sensor using YIG in Magnetic Field Measurement.....99  
L. B. Wang, J. J. Jiang, Z. Y. Li, Z. Hong, Z. J Jin  
Department of Electrical Engineering  
Shanghai Jiao Tong University  
Shanghai, China  
Lianhong Zhong, Xinhui Duan, Meng Song, and Li Li  
Guangdong Power Grid Corporation  
Guangzhou, China  

ID8086  
Design and Analysis of a Bearingless Fixed-pole Rotor Induction Motor.....101  
Xiaoting Ye, Zebin Yang  
School of Electrical and Information Engineering  
Jiangsu University  
Zhenjiang, China  
Jianguo Zhu, and Youguang Guo  
School of Electrical, Mechanical and Mechatronic Systems  
University of Technology Sydney  
Sydney, Australia  

ID8087  
Design and Development of Novel Types of Left-handed Materials Based on”工”Shaped Structure with Wide Band, Small Size and Low Loss.....103  
Zhengrui He, Jie Jin  
School of Electrical Engineering and Automation  
Tianjin University  
Tianjin, China  

ID8088  
Quench Propagation of YBCO Tapes of DC Superconducting Fault Current Limiter.....106  
Bin Xiang, Muhammad Junaid, Lei Gao, Zhiyuan Liu, Yingsan Geng, Jianhua Wang, Satoru Yanabu  
State Key Laboratory of Electrical Insulation and Power Equipment  
Xi’an Jiaotong University  
Xi’an, China  

ID8089  
Effects of Short-circuit Fault Current on Temperature Distribution of YBCO Tapes for DC SFCL.....108  
Bin Xiang, Muhammad Junaid, Lei Gao, Zhiyuan Liu, Yingsan Geng, Jianhua Wang, Satoru Yanabu  
State Key Laboratory of Electrical Insulation and Power Equipment  
Xi’an Jiaotong University  
Xi’an, China  

ID8090  
Analysis of a Novel Flux Switching Transverse Flux Permanent Magnet Linear Motor.....110  
Yao Wei1 Mei Zhao1,2, Hongyong Yang1, Guanlong Deng1, Fujun Han1, Mingming Xu1, Jibin Zou2  
1Department of Information and Electrical Engineering
ID8091
The Thrust Characteristics of a Novel Transverse Flux Permanent Magnet Linear Motor with the Concentrated Flux Mover.....112
Mei Zhao1,2, Yao Wei1, Hongyong Yang1, Ningjun Feng1, Mingming Xu1, Dianli Hou1, Jibin Zou2
1Department of Information and Electrical Engineering
Ludong University
Yantai, China
2 Department of Electrical Engineering
Harbin Institute of Technology
Harbin, China

ID8093
Experiment Investigation on Wireless Power Transfer using Superconducting Metamaterials.....114
Xiufang Wang, Yu Wang, Yanwen Hu, Yingda He, Zhongming Yan
School of Electrical Engineering
Southwest Jiaotong University
Chengdu, China
Xiufang Wang
School of Physical Science and Technology
Southwest Jiaotong University
Chengdu, China

ID8094
Magnetic stability of JSP coil after thermal quenching.....116
Yunhao Pan, Wei Wu, Zhiyong Hong, Zhijian Jin
Department of Electrical Engineering
Shanghai Jiao Tong University
Shanghai, China
Shuiliang Zhen and Minhui Chen
Department of Quality Controlling
Shanghai Superconductor Technology Company
Shanghai, China

ID8095
The General Model and Overview of Persistent Current Switch for Closed HTS Coils.....118
Yunhao Pan, Wei Wu, Zhiyong Hong, Zhijian Jin
Department of Electrical Engineering
Shanghai Jiao Tong University
Shanghai, China
Shuiliang Zhen, Minhui Chen
Department of Quality Controlling
Shanghai Superconductor Technology Company
Shanghai, China

ID8096
Experimental Evaluation of the Inner NbTi Joint for CFETR Central Solenoid Model Coil.....120
Hong-jun Ma, Hua-jun Liu, Guang-hui Ma, Fang Liu, Yi Shi, Lei Lei
Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China
Hongjin Ma, Guanghui Ma
University of Science and Technology of China
Hefei, China

ID8097
Heat Leakage Analysis on Peltier Current Leads with Constant and Varying Cross Sections.....122
Ming Chuang Liu, Yin Shun Wang
State Key Lab. of New Energy Renewable Power System
North China Electric Power University
Beijing, China
Shao Tao Dai
Applied Superconductivity Technology Research Center
Beijing Jiaotong University
Beijing, China

ID8098
Insulation Characteristics of Cold Dielectric High Temperature Superconducting Cable.....124
Wei Pi
State Key Lab. of New Energy Renewable Power System
North China Electric Power University
Beijing, China
Quan Yang
Beijing Key Lab. of HV and EMC
North China Electric Power University
Beijing, China

ID8099
Simulation of ICRH in Particle Acceleration System.....126
Meng Han Wang, Yin Shun Wang
State Key Lab. of New Energy Renewable Power System
North China Electric Power University
Beijing, China
Qiu Liang Wang, Xin Ning Hu
Institute of Electrical Engineering
Chinese Academy of Science
Beijing, China

ID8100
A Comprehensive Evaluation Index System of Virtual Power Plant Participating in Power Coordination and
Optimal Dispatching.....128
Jia Min Xu, Yingyun Sun
School of Electric Engineering
North China Electric Power University
Beijing, China
Qian Sun, Jian Wei Ma
HAEPC Electric Power Research Institute
Zhengzhou, China

ID8102
Gradiometer Module for Fetal Magnetocardiography Detection in a Thin Magnetically Shielded Room.....130
Jialei Wang1,2,3, Kang Yang1,2,3, Ruihu Yang1,2,3, Xiangyan Kong1,2,3, Wei Chen1,2
1State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem and
Information Technology
Chinese Academy of Sciences
Shanghai, China
2 CAS Center for Excellence in Superconducting Electronics
Shanghai, China
3 University of Chinese Academy of Sciences
ID8103
Research on the coordination between the Active SI-SFCL and DC Circuit Breaker in DC systems.....133
Fangjie Jing
Xuji Group Corporation
State Grid Corporation of China
Xuchang, China
Botong Li, Wenjie Hong, Bin Li, Weijie Wen
School of Electrical And Information Engineering
Tianjin University
Tianjin, China

ID8104
Effect of Niobium Cylinder on Output of the 3D SQUID Gradiometer.....135
Ruihu Yang1,2,3, Kang Yang1,2,3, Jialei Wang1,2,3, Xiangyan Kong1,2,3, Weichen1,2, Tiantian Liang1,2,3
1State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem and Information Technology
Chinese Academy of Sciences
Shanghai, China
2CAS Center for Excellence in Superconducting Electronics
Chinese Academy of Sciences
Shanghai, China
3University of Chinese Academy of Sciences
Beijing, China

ID8106
Quench Mode of Rutherford Cable-in-Channel.....137
Yongliang Zhang, Yu Wu, Chao Dai, Yi Shi, Qiangwang Hao, Kaihong Wu
Institute of Plasma Physics
Chinese Academy of Science
Hefei, China
Yongliang Zhang, Chao Dai, Kaihong Wu
University of Science and Technology of China
Hefei, China

ID8107
Influence of External Magnetic Field on the Critical Current of a Novel HTS Square Wire.....139
Dongmin Xi, Jiachen Liu, Wenyi Li
College of Electric Power
Inner Mongolia University of Technology
Hohhot, China
Zhuyong Li, Zhijian Jin, Anfeng Zhao
Department of Electrical Engineering
Shanghai Jiao Tong University
Shanghai, China
Yunsong Luo, Meng Song, Li Li
Institute of Superconducting Technology
Electric Power Research Institute of Guangdong Power Grid Co., Ltd.
Guangzhou, China

ID8108
Insulation Characteristics of PPLP for HTS Power Cable at Liquid Nitrogen.....141
Chang Peng, Yin Shun Wang
State Key Lab. of New Energy Renewable Power System
North China Electric Power University
ID8109
Experimental Study on the Twist Characteristics of Novel HTS Square Wire with Different Structures.....143
Yunsong Luo, Meng Song, and Li Li
Institute of superconducting technology
Electric Power Research Institute of Guangdong Power Grid Co., Ltd
Guangzhou, China
Chao Guo, Dongmin Xi, and Wenyi Li
College of Electric Power
Inner Mongolia University of Technology
Hohhot, China
Zhuyong Li, Zhijian Jin, and Daoyu Hu
Department of Electrical Engineering
Shanghai Jiao Tong University
Shanghai, China
Bo Zhang
Rizhao Port Co., Ltd.
RiZhao, China

ID8110
A New Testing Device for Bending Strain Effect on Superconducting Wires.....145
Zhehua Mao, Fang Liu, Huan Jin, Jinggang Qin, Chao Dai, Huajun Liu, Yu Wu
Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China
Zhehua Mao, Chao Dai
University of Science and Technology of China
Hefei, China

ID8111
Effects of ZnO Contents on Trap Distribution of Epoxy Composites at Cryogenic Temperature.....147
Jin Li, Cheng Zhang, Mingyang Wang, Boxue Du, Hucheng Liang, Zehua Wang, ZhaoYu Ran
School of Electrical and Information Engineering
Tianjin University
Tianjin, China
Zikun Zhao, Guan Wang, Shuju Wang, Pengxian Song Yulong Cai, Shuang Dong
State Grid Tianjin Electric Power Company
Tianjin, China

ID8112
Effects of Temperature Variation on Dielectric Properties of EPDM/SiC Composites for HTS Power Leading Insulation.....149
Jin Li, Xiaoxiao Kong, Boxue Du, Hucheng Liang, Jingang Su
School of Electrical and Information Engineering
Tianjin University
Tianjin, China
Pengxian Song, Qinhua Tang, Haoming Wang, Zhengzheng Meng, Yang Yu
State Grid Tianjin Electric Power Research Institute
Tianjin, China

ID8113
Simulation of Electromagnetic Launch System Driven by a Repetitive Inductive Pulsed Power Supply.....151
Tao Zhang, Haitao Li, Yi Chen, Zhenmei Li, Can Jiao, Yu Gao  
School of Electrical and Electronic Engineering  
Shandong University of Technology  
Zibo, China

ID8114  
A Study on Bending Characteristics of Soldered-Stacked-Square (3S) HTS Wires.....154  
Fei Gu, Zhuyong Li, Zhiyong Hong, and Zhijian Jin  
Department of Electrical Engineering  
Shanghai Jiao Tong University  
Shanghai, China  
Lianhong Zhong, Xinhui Duan, Meng Song, Li Li  
Guangdong Power Grid Corporation  
Guangzhou, China

ID8116  
Numerical Analysis on Distributions of the Magnetic Field and Critical Current Density in the Bitter-like HTS Magnet.....157  
Xi Yuan, Yinshun Wang  
State Key Lab. of New Energy Renewable Power System  
North China Electric Power University  
Beijing, China

ID8117  
Experimental Investigation on Current Distribution in NbTi/BSCCO Composite Conductor.....159  
Wei Pi, Quan Yang and Raweh Ezzaldden  
Key Lab HV & EMC Beijing  
North China Electric Power University  
Beijing, China  
Yinshun Wang, Yingmin Cui  
State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources  
North China Electric Power University  
Beijing, China

ID8118  
Design Aspects for Permanent Magnet Superconducting Wind Power Generators.....161  
Kaihe Zhang, Xiaoyan Huang, Chenxi Zhou, Lijian Wu, Youtong Fang  
College of Electrical Engineering  
Zhejiang University  
Hangzhou, China

ID8119  
Optimization and Performance Improvement of Multi-Excitation Double-Stator Flux-Switching Machine.....163  
Yunyun Chen, Yu Ding, Zhuang Jiahong  
School of Hydraulic, Energy and Power Engineer  
Yangzhou University  
Yangzhou, China  
Li Xijing, Liu Fangjie  
School of Electrical and Information Engineering  
Jiangsu University  
Zhenjiang, China

ID8120  
Design Optimization with Outer Rotor Interior Permanent Magnet Synchronous Motor with Hybrid Permanent Magnet.....165  
Dong Yu, Xiaoyan Huang, Youtong Fang  
College of Electrical Engineering
Zhejiang University
Hangzhou, China
Xiaochen Zhang
Department of Electrical and Electronic Engineering
The University of Nottingham
Nottingham, U.K

ID8121
Optimization of a Five-Phase E-Core Bearingless Flux-Switching Permanent Magnet Motor for Flywheel Batteries.....167
Zhijia Jin, Xiaodong Sun, Long Chen, Zebin Yang
Automotive Engineering Research Institute
Jiangsu University
Zhenjiang, China
JianGuo Zhu, YouGuang Guo, Gang Lei
School of Electrical, Mechanical and Mechatronic Systems
University of Technology
Sydney, Australia

ID8122
Lumped-Parameter Thermal Model for a Double-Rotor Flux-Switching Permanent-Magnet Machine.....169
Lihong Mo, Tao Zhang, Xinfeng Liu, Xi Zhang, Yukai Tao
Faculty of Automation
Huaiyin Institute of Technology
Huai’an, China

ID8125
Investigation of a Double-Rotor Flux-Switching Permanent-Magnet Machine for HEV Applications.....171
Lihong Mo, Tao Zhang, Xinfeng Liu, Xi Zhang, Yukai Tao
Faculty of Automation
Huaiyin Institute of Technology
Huai’an, China

ID8126
Design and Analysis of a Flux-Concentrating Permanent-Magnet Brushless Machine for Direct Driving Application.....173
Lihong Mo, Tao Zhang, Xinfeng Liu, Xi Zhang, Yukai Tao
Faculty of Automation
Huaiyin Institute of Technology
Huai’an, China

ID8127
Analysis on the Distribution of Critical Current Density in a Single ReBCO Annular Plates.....175
Yidan Hu, Yinshun Wang
State Key Lab. of New Energy Renewable Power System
North China Electric Power University
Beijing, China

ID8128
Critical Current Degradation Behavior of SSTC YBCO Tapes Under Uniaxial Strain.....177
Xin-tao Zhang, Hua-jun Liu, Yi Shi, Fang Liu, Lei Lei
Institute of Plasma Physics
Chinese Academy of Science
Hefei, China
Xin-tao Zhang
University of Science and Technology of China
Hefei, China
ID8129
A Novel Hybrid Magnet Dual-Stator Vernier Machine with Flux-Reversal Magnet Arrangement.....179
Haitao Wang, Shuhua Fang, Hui Yang, Heyun Lin
School of Electrical Engineering
Southeast University
Nanjing, China

ID8131
Investigation of Reverse Saliency Characteristic in Flux-Intensifying Hybrid Permanent Magnet Motor
Considering Various Operation Conditions.....181
Fangjie Liu, Li Quan, Xiaoyong Zhu, Zixuan Xiang, Wenye Wu
School of Electrical and Information Engineering
Jiangsu University
Zhenjiang, China

ID8133
Fluctuating High-Frequency Voltage Drive System of SPM Motor.....183
Degang Lv, Song Li, Zeyuan Du
Harbin University of Science and Technology
Harbin, China

ID8134
Brushless Directed Current Motor Sensorless Control System Based on Periodic Load.....186
Degang Lv, Wenyue Bian, Zeyuan Du
School of electrical and electronic engineering
Harbin University of Science and Technology
Harbin, China

ID8135
A Numerical Algorithm of the Magnetic Field of a Quasi-Isotropic Strand.....189
Hao Chen, Yin Shun Wang
State Key Lab. of New Energy Renewable Power System
North China Electric Power University
Beijing, China

ID8137
AC Loss Characteristic Analyses of Bifilar Stack Composed of Coated Conductors.....191
Wenjuan Song, Jin Fang, Yanchao Liu, Wei Zhou
School of Electrical Engineering
Beijing Jiaotong University
Beijing, China
Ming Qiu
China Electric Power Research Institute State Grid
Beijing, China

ID8138
Calculation of Flux Leakage Coefficient of PMSM with Interior V-Type Magnets and FSCW.....193
Gu Yuxi, Gao Peng, Wang Xiaoyuan
School of Electrical and Information Engineering,
Tianjin University
Tianjin, China

ID8139
Effect of Pulse Voltage Polarity on Electrical Tree under Combined DC-pulse Voltage in LN2.....195
Boxue Du, Meng Tian, Jingang Su, Lewei Zhu, Mingyang Wang, Wenbo Zhu
School of Electrical and Information Engineering

2018 IEEE International Conference on Applied Superconductivity and Electromagnetic Devices
-- 15-18 April 2018, Tianjin, China --
Partial Discharge Behaviors of Low Dielectric Loss PTFE/PP Composite Insulation in LN2
Boxue Du, Mingyang Wang, Jin Li, Wenbo Zhu, Jinpeng Jiang, and Xiaoxiao Kong
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Study on the Application and Control Strategy of Superconducting Magnetic Energy Storage System in EMU
Cao Jiangang, Feng Jian
School of Information Science & Engineering
Northeastern University
Shenyang, China

Improving Electric Field Distribution in HTS DC Cable Terminals by Nonlinear Conductive Epoxy/ZnO Composites
Zhonglei Li, Wenbo Zhu, Zhuoran Yang, Jingang Su, Xiaoxiao Kong, Boxue Du
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Temperature Dependent Carrier Mobility of Epoxy/BN/Graphene Composites for HTS Cable Joint
Cheng Zhang, Boxue Du, Jin Li, Hucheng Liang, Meng Xiao, Zhaoyu Ran, Zehua Wang
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Study of An Axial-Flux Modulated Superconducting Magnetic Gear
Kun Dong, Haitao Yu, and Minqiang Hu
School of Electrical Engineering
Southeast University
Nanjing, China

Flashover Voltage of Epoxy/Al2O3/ZnO Composites in Liquid Nitrogen
Zehua Wang, Boxue Du, Jin Li, Jianxun Jin, Mingyang Wang, Hucheng Liang, Zhonglei Li
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Surface Charge Behaviors of Epoxy/AlN Nanocomposites under DC and Pulse Voltage
Shuo Wang, Yunqi Xing
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Coordinated Control Scheme for Superconducting Magnetic Energy Storage Unit to Boost Transient Stability of Wind Farm Connected Power System

Huilan Jiang, Chi Zhang
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Trap Distribution of Electron Beam Irradiated Epoxy Resin for Superconducting Magnet Insulation

Shuo Wang, Yunqi Xing
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Hebei University of Technology
Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability of Hebei Province
Hebei University of Technology
Tianjin, China
Jiwei Zhang
State Grid Jinan Power Supply Company
State Grid Shandong Electric Power Company
Jinan, China

Choquet Integral-Based ERT Imaging Fusion for Various Exciting Patterns

Jia Li, Shihong Yue, Mingliang Ding, Huaxiang Wang
Electrical and Information Engineering
Tianjin University
Tianjin, China

Simulation and Prototype Experiment Research of a Four Stroke Free Piston Engine

Nianpeng Liu, Zhaoping Xu, Liang Liu, Ru Hua, Dong Liu
School of Mechanical Engineering
Nanjing University of Science and Technology
Nanjing, China

Breakdown Characteristics of Direct-Fluorinated Polyimide Film in LN2 under Combined DC-Pulse Voltage

Yunqi Xing and Shuo Wang
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability of Hebei Province
Hebei University of Technology
Tianjin, China
Boxue Du and Mingyang Wang
School of Electrical Engineering and Automation
Tianjin University
Tianjin, China
Trap Distribution and Insulation Characteristics of Epoxy/AlN Nanocomposites for Current Lead Insulation of DC-SFCL
Yunqi Xing and Shuo Wang
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability of Hebei Province
Tianjin University
Tianjin, China
Chao Liu
Tianjin Chengdong Electric Power Supply Company State Grid
Tianjin, China

ID8156
Influence of Antioxidants on Electrical Tree Properties in EPDM under Liquid Nitrogen
Boxue Du, Jingang Su, Meng Tian, Wenbo Zhu, Xiaoxiao Kong, Lewei Zhu and Zhonglei Li
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8158
An Analysis of AC loss of Bi-2212 CICC
Yuxiang He, Jinggang Qin, Fang Liu
Institute of Plasma Physic
Chinese Academy of Sciences
Hefei, China
Yuxiang He
University of Science and Technology of China
Hefei, China

ID8160
Design and Analysis of Flux Reversal Linear Rotary Permanent Magnet Actuator
Kaikai Guo, Jingzhao Li
School of Electrical and Information Engineering
Anhui University of Science and Technology
Huainan, China
Shuhua Fang
School of Electrical Engineering
Southeast University
Nanjing, China

ID8162
Optimal Design of an Asymmetrical-Rotor Hybrid Permanent Magnet Motor for Approaching Maximum Output Torque
Zeng Xianxian, Zhu Xiaoyong, Xiang Zixuan, Wu Wenye
School of Electrical and Information Engineering
Jiangsu University
Zhenjiang, China

ID8163
Single-Slot Type Electrical Excitation Flux-Switching Motor and Its Maximum Torque/Copper Loss Control
Jiayi Yuan, Dawei Meng
College of Electrical and Electronic Engineering
Harbin University of Science and Technology
Harbin, China
Guangkun Lian, Huitao Li, Fei Ban
Institute of Electrical Engineering
Chinese Academy of Sciences
Beijing, China
ID8164
Study on the Wireless Online Monitoring System of High Temperature Superconducting Machine.....234
Guangkun Lian¹, Biao Chen¹, Zhe Hou¹
Institute of Electrical Engineering
Chinese Academy of Sciences
Beijing, China
Huitao Li¹,², Fei Ban¹,²
University of Chinese Academy of Sciences
Beijing, China

ID8165
Trap Distribution and Partial Discharge Behaviors of Polypropylene Considering HTS Insulation.....236
Boxue Du, Ximao Pan, Mingyang Wang, Wenbo Zhu
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8166
Numerical Analysis of Electromagnetic Characteristic of Several Parallel Coils for High Current Transformer.....238
Haoming Wang, Qingxin Yang, Yongjian Li
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Hebei University of Technology
Tianjin, China
Jianmin Wang, Dongdong Yuan, Mingfang Hu
Institute of Power Transformation Technology
Baoding Tianwei Baobian Electric Co., Ltd.
Baoding, China

ID8167
Preliminary Design of a Bi-2212 Insert Coil in a 7 T Superconducting Magnet.....240
Huang Chen, Hua-jun Liu, Yi Shi, Fang Liu
Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China
Huang Chen
University of Science and Technology of China
Hefei, China

ID8168
Model Design and Calculation Validation for Leakage Magnetic Field and Temperature Rise of Transformer Core Tie-Plate.....242
Haoming Wang, Qingxin Yang, Yongjian Li
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Hebei University of Technology
Tianjin, China
Jianmin Wang, Yinhan Zhao
Institute of Power Transformation Technology
Baoding Tianwei Baobian Electric Co., Ltd.
Baoding, China

ID8169
Simulation of Current Lead Temperature Distribution on High-Tc Superconducting Cable Terminal under Fault Current.....244
Partial Discharge Behaviors of Surface Modified Polyimide Films in Liquid Nitrogen ..... 246
Chen Li1, Feng Zhang1, Kai Liu2, Sang Luo1, Ning Chen2, Jiwei Zhang1, Xiaoyan Liu1, Fujun Zhang1, Jing Li2, Xuefei Zhao1, Zhuo Gong1, Yuanxiang Wu1, Xiaoqing Wang1 and Bingqiang Wang1
1. State Grid Tibet Electric Power Company Limited
Tibet, China
2. State Grid Shandong Electric Power Company
Shandong, China
Meng Xiao, Boxue Du, Xiaoxiao Kong, Wenbo Zhu, Jinfeng Jiang and X. M. Pan
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Study on Electrical Treeing of Polypropylene under Combined DC-Pulse Voltages in LN2 ..... 248
Lewei Zhu, Boxue Du, Jingang Su, Wenbo Zhu, Jinfeng Jiang and Xiaoxiao Kong
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Temperature Rise of High-Power-Density Induction Motor in the Starting Process ..... 250
Yunyan Xia, Yongming Xu, Mengmeng Ai, Jinhui Liu
College of Electrical and Electronic Engineering
Harbin University of Science and Technology
Harbin, China

Torque Ripple Suppression of Arc Permanent Magnet Synchronous Machine Based on Winding Cross Connection Method ..... 252
Zhenbao Pan, Shuhua Fang, Heyun Lin, Hui Yang
School of Electrical Engineering
Southeast University
Nanjing, China

Design and Performance Investigation of Double-Side Hybrid Excitation Flux-Switching Machine ..... 254
Ding Yu, Chen Yunyun, Zhuang Jiahong
School of Hydraulic, Energy and Power Engineer
Yangzhou University
Yangzhou, China
Xijing Li, Fangjie Liu
School of Electrical and Information Engineering
Jiangsu University
Zhenjiang, China
ID8179
Research of the Safe Distance between Gaoqing HVDC Ground Electrode and Buried Pipelines....256
Zebang Yu, Lianguang Liu
State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources
North China Electric Power University
Beijing, China

ID8181
Electromagnetic Performance Analysis on a Novel Bearingless Permanent Magnet Slice Motor with Double
Air-Gaps....258
Tao Zhang, Xinfeng Liu, Lihong Mo, Xiaoting Ye
Faculty of Automation
Huaiyin Institute of Technology
Huaian, China
Hongyun Jia
Jiangsu CICAEET
University of Information Science and Technology
Nanjing, China

ID8182
Comparative Analysis of Torque and Flux Ripples for Several Direct Torque Control Strategies of PMSM....260
Fei Ban1,2, Guangkun Lian1, Huitao Li1,2
1 Institute of Electrical Engineering
Chinese Academy of Sciences
Beijing, China
Biao Chen1, Guobiao Gu1
2 University of Chinese Academy of Sciences
Beijing, China

ID8184
Modeling and Electromagnetic Performance Analysis on a Novel Bearingless Permanent Magnet Slice Motor....262
Tao Zhang, Xinfeng Liu, Lihong Mo, Xiaoting Ye
Faculty of Automation
Huaiyin Institute of Technology
Huaian, China
Hongyun Jia
Jiangsu CICAEET
University of Information Science and Technology
Nanjing, China

ID8186
Modeling and Performance Analysis on Slice Five Degrees of Freedom Hybrid Magnetic Bearing....264
Tao Zhang, Lihong Mo, Xiaoting Ye, Xinfeng Liu, Bei Liu
Faculty of Automation
Huaiyin Institute of Technology
Huaian, China
Hongyun Jia
Jiangsu CICAEET
University of Information Science and Technology
Nanjing, China

ID8187
Modeling and Performance Analysis on Slice Hybrid Magnetic Bearing with Two Radial Air-gaps.....266
Tao Zhang, Lihong Mo, Xinfeng Liu, Bei Liu
Faculty of Automation
Huaiyin Institute of Technology
High Power Density Permanent Magnet Synchronous Motor with Lightweight Structure and High-Performance Soft Magnetic Alloy Core

Shuhua Fang, Huan Liu, Haitao Wang, Hui Yang, and Heyun Lin
School of Electrical Engineering
Southeast University
Nanjing, China

Analysis on AC loss of DC HTS SFCL Coils due to AC Ripple Current in MMC-based DC System

Zhe Jiang, Yinshun Wang
State Key Lab of New Energy Renewable Power System
North China Electric Power University
Beijing, China
Shaotao Dai
School of Electrical Engineering
Beijing Jiaotong University
Beijing, China

Improving LVRT capability and Transient Stability of MW-Class PMSG With an Inserted R-SFCL Under Grid Fault

Chun Jun Huang, Xian Yong Xiao, Zi Xuan Zheng, Chang Song Li
College of Electrical Engineering and Information Technology
Sichuan University
Chengdu, China

Integrated DFIG-Based Wind Farm Protection with Rotor-Side SMES and Advanced Control Under Grid Faults

Ruo Huan Yang, Xian Yong Xiao, Zi Xuan Zheng, Chang Song Li
College of Electrical Engineering and Information Technology
Sichuan University
Chengdu, China

Guidance Performance of YBCO Bulks Under a Low-Pressure Environment

Lei Wan, Yong Zhang, Botian Zheng, Jun Zheng, Zigang Deng
Applied Superconductivity Laboratory, State Key Laboratory of Traction Power
Southwest Jiaotong University
Chengdu, China

Electrical Tree Structure in SiR under Temperature Gradient from 253 to 100 K

Tao Han, Lewei Zhu, Xiao Liang, Boxue Du
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

Optimization Design of Cogging Torque and Back EMF Waveform for PMSM
Guangkun Lian¹, Huitao Li¹ ²
¹ Institute of Electrical Engineering
Chinese Academy of Sciences
Beijing, China
Fei Ban¹ ², Biao Chen¹
² University of Chinese Academy of Sciences
Beijing, China

ID8196
Tree Characteristics under Combined Electromagnetic Field in Silicone Rubber.....282
Lidan Hu
Zhonghuan Information College
Tianjin University of Technology
Tianjin, China
Tao Han
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

A Photovoltaic Generator with Superconducting Coil for Subsynchronous Resonance Damping.....284
Issarachai Ngamroo
Department of Electrical Engineering, Faculty of Engineering
King Mongkut’s Institute of Technology Ladkrabang,
Bangkok, Thailand

Detection and Fault Diagnosis of HTS Amorphous Alloy Cores by Magnetostriction-Induced Vibration.....N/A
Daosheng Liu, Shihui Wang, Jiachen Li
School of Electrical Engineering and Automation
Jiangxi University of Science and Technology
Ganzhou, China

Integrated Superconducting Coil into HVDC-Wind Farm for Fault Current Limiting.....286
Issarachai Ngamroo
Department of Electrical Engineering, Faculty of Engineering
King Mongkut’s Institute of Technology Ladkrabang
Bangkok, Thailand

Effect of Steep Temperature Gradient on Electrical Tree in XLPE.....288
Shengchen Fang¹ ², Tao Han¹
¹ School of Electrical and Information Engineering
Tianjin University
Tianjin, China
Xiaohui Zhu²
² State Grid Tianjin Electric Power Research Institute
Tianjin, China

Electromagnetic Analysis and Equivalent Circuit of Saturated Iron Core High Temperature Superconducting Current Limiter.....290
Xin Zhao, Jin Fang, Lu Tan, Wei Zhou, Yuming Sun, Guoli Geng, Shu Hang, Zhen Chen, Shuang Wu
School of Electrical Engineering
Beijing Jiao tong University
Beijing, China

2018 IEEE International Conference on Applied Superconductivity and Electromagnetic Devices
-- 15-18 April 2018, Tianjin, China --
ID8202
Recent Activities of HTS Maglev in ASCLab....292
Zigang Deng, Jun Zheng, Ruixue Sun, Hengpei Liao, Xinxin Zheng, Jianghua Zhang
Applied Superconductivity Laboratory, State Key Laboratory of Traction Power
Southwest Jiaotong University
Chengdu, China

ID8203
AC Loss Analysis on HTS CrossConductor (CroCo) Cables for Power Transmission....294
Boyang Shen, Tim Coombs
Department of Engineering
University of Cambridge
Cambridge, UK
Francesco Grilli
Institute for Technical Physics
Karlsruhe Institute of Technology
Karlsruhe, Germany

ID8204
Investigation of Critical Current on Magnetic and Non-Magnetic HTS Tape....296
Jie Chen, Jin Fang, Haiyang Wang
The School of Electrical Engineering
Beijing Jiaotong University
Beijing, China
Boyang Shen, T.A. Coombs
Electrical Engineering Division, Department of Engineering
University of Cambridge
Cambridge, United Kingdom

ID8205
Enhancing Low Voltage Ride Through Capability of DFIG-Based Wind Turbine Generators with a RSFCL and RSC Control....298
Zi Xuan Zheng, Chun Jun Huang, Xian Yong Xiao, Chang Song Li
College of Electrical Engineering & Information Technology
Sichuan University
Chengdu, China

ID8206
Performance Evaluation of a MW-Class SMES-Based DVR and SFCL for Enhancing Transient Voltage Quality....300
Zi Xuan Zheng, Xian Yong Xiao, Chun Jun Huang
College of Electrical Engineering and Information Technology
Sichuan University
Chengdu, China

ID8207
Volume Energy Density Improvement for HTS Coil Using Structure Optimization and Step Current Supply....302
Shuhua Fang, Gai Chao, Jianchen Ma, Heyun Lin
School of Electrical Engineering
Southeast University
Nanjing, China

ID8215
Stability of Magnetic Properties on HTS Fe-Based Amorphous Metal Alloy....304
Daosheng Liu, Jiacheng Li, Shihui Wang  
School of Electrical Engineering and Automation  
Jiangxi University of Science and Technology  
Ganzhou, China  
Yan Lin, Zhihai Qi  
Sanbian Science and Technology Ltd. Co.  
Taizhou, China

ID8218  
Magnetic Stimulation at Acupoint Could Improve Insomnia: an Experimental Study.....306  
Hongli Yu1,2, Wei Zheng1,2, Weiguo Ding3, Lei Guo1,2, Guizhi Xu1,2  
1State Key Lab of Reliability and Intelligence of Electrical Equipment  
Tianjin, China  
2Hebei University of Technology  
Tianjin, China  
3Tianjin Beichen District Chinese Medicine Hospital  
Tianjin, China

ID8219  
3-D Finite Element Analysis of Electromagnetic Characteristics of Composite HTS Conductor.....308  
Guoli Geng, Yue Wu, Zheng Chen, Jin Fang  
School of Electrical Engineering  
Beijing Jiaotong University  
Beijing, China

ID8220  
Cooperative Operation of Online Current Limitation Strategy and SFCL in PV-STATCOM Application Scenario Under Asymmetrical Faults.....310  
Rui Lin Gao, Xian Yong Xiao, Zi Xuan Zheng, Chang Song Li  
College of Electrical Engineering and Information Technology  
Sichuan University  
Chengdu, China

ID8221  
Study of Fuzzy PID Control of Outer-rotor Brushless DC Motor Used in Electric Vehicle.....312  
De-gang Lv, Zheng-yang Zhang, Wen-yue Bian  
School of electrical and electronic engineering  
Harbin University of Science and Technology  
Harbin, China

ID8222  
A Novel Outer-Rotor-Permanent-Magnet Flux-Switching Machine for Electric Vehicle Applications.....314  
Lihong Mo, Tao Zhang, Xinfeng Liu, Xi Zhang, Yukai Tao  
Faculty of Automation  
Huaiyin Institute of Technology  
Huai’an, China

ID8223  
A Novel Renewable Intermittency Smoothing Technique with Magnesium Di-Boride Superconductor Energy Storage.....316  
Viet Thang Tran, Md. Rabiul Islam, Danny Sutanto, Kashem M. Muttaki  
School of Electrical, Computer and Telecommunications Engineering  
University of Wollongong  
Wollongong, Australia

ID8224  
Advance Switching Technique for Single Phase Voltage Source Inverters.....318
A. M. Mahfuz-Ur-Rahman, Md. Rabiul Islam, Kashem M. Muttaqi, Danny Sutanto
School of Electrical, Computer and Telecommunications Engineering
University of Wollongong
Wollongong, Australia

ID8225
Stability Analysis of Inner Windings in Transformers Based on Electromagnetic-Thermal-Structural Coupling Method.....320
Bo Zhang, Ning Yan
School of Electrical Engineering
Shenyang University of Technology
Shen Yang, China

ID8226
Analysis and Study of Superconducting Energy Storage Technology in Restraining the Harmonic of Train Grid Side Current.....322
Feng Jian¹, Cao Jiangang²
School of Information Science and Engineering
Northeastern University
Shenyang, China
Jin Jianxun¹
School of Electrical Engineering and Automation
Tianjin University
Tianjin, China

ID8228
Dynamic Strength Calculation of Power Transformer Windings under Multiple Impact Conditions.....324
Ning Yan, Bo Zhang
School of Electrical Engineering
Shenyang University of Technology
Shen Yang, China

ID8229
Effects of Wire Number on Critical Current of Quasi-isotropic Strand Assembled from 2G Wires.....N/A
Changtao Kan
Beijing Key Laboratory of High Voltage and Electromagnetic Compatibility
North China Electric Power University
Beijing, China
Yinshun Wang
State Key Laboratory of New Energy Renewable Power System
North China Electric Power University
Beijing, China

ID8231
Research on Distributed Energy Planning Method of Active Distribution Network Based on Load Forecasting.....326
Ning Yan, Bo Zhang, Shaohua Ma
School of Electrical Engineering
Shenyang University of Technology
Shenyang, China

ID8232
Research on Economic Dispatching Method of Active Distribution Network Based on Multi-Microgrids.....328
Bo Zhang, Ning Yan
School of Electrical Engineering
Shenyang University of Technology
Shen Yang, China
ID8233
AC Loss Simulation of High Temperature Superconducting Current Leads with Non-Sinusoidal Current Waveform.....330
Shaotao Dai, Wei Zhou, Teng Zhang, Yanchao Liu, Xufeng Yan, Yuan Wang, Jin Fang
School of Electrical Engineering
Beijing Jiaotong University
Beijing, China
Boyang Shen
Electrical Engineering Division, Department of Engineering
University of Cambridge
Cambridge, United Kingdom

ID8234
Mechanism Study on High-Frequency Power Transmission Cable Based on Vector Fitting.....332
Qiang Sun, Shancan Fu
College of Engineering and Technology
Tianjin Agricultural University
Tianjin, China
Haiying Lv, Shuang Gao, Kexin Wei
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8235
Study on Bidirectional PWM Converter Considering Robustness of PR Controller for V2G Application.....334
Qiang Sun, Shancan Fu
College of Engineering and Technology
Tianjin Agricultural University
Tianjin, China
Haiying Lv, Shuang Gao, Kexin Wei
School of Electrical Engineering and Automation
Tianjin University
Tianjin, China

ID8236
Design and Magnetic Field Simulation of 3.0T MRI Superconducting Magnet.....336
Zengkai Yue
School of Electrical Engineering, Shandong University
Jinan, China
Zhizhou Sun
Shandong Luneng Intelligence Technology Co., Ltd.
Jinan, China

ID8237
Feasibility Analysis of Helical Superconducting MHD Propulsor for Vessel Propulsion.....338
Junquan Chen, Dong Wang, Wen Huang, Shuangbao Jin, Hao Zhu
National Key Laboratory of Science and Technology on Vessel Integrated Power System
Naval University of Engineering
Wuhan, China

ID8238
AC Loss Analysis for EAST PF Coils.....340
Yuan. Wang, Jin. Fang, Wei. Zhou
School of Electrical Engineering
Beijing Jiaotong University
Beijing, China
Wei. Bin. Xi, Wei. Wei. Xu
ID8239
Electrical Tests of Superconducting Busbar Insulation of ITER FEEDER PF4 CFT.....342
Chen Liu, Kun Lu, Xiaoshi Tang, Xiongyi Huang, Guoliang Li, Linlin Fang, Jun Wang, Xinjie Wen
Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China

ID8240
Hardware Design and Test of a Cryogenic Boost Chopper under 77K.....344
Ying Jun Feng, Lei Zeng, Yu Chen, Xiao Dong Liu, Tao Li, Qi Xie, Xiao Yuan Chen
School of Engineering
Sichuan Normal University
Chengdu, China

ID8241
Iron Loss Reduction of Three-phase Reactor Considering Anisotropic Magnetic Characteristics.....346
Mohendo Kumar Ghosh, Yanhui Gao, Narihiro Takeda, Hiroshi Dozono, Kazuhiro Muramatsu
Department of Electrical and Electronic Engineering
Saga University
Saga, Japan
Weimin Guan
School of Electrical Engineering
Wuhan University
Wuhan, China

ID8242
Radar Echo Signal Simulation of Wind Turbine Blades.....348
Bo Tang, Bin Hao, Li Huang, Jiawei Yang
Electric Engineering and Renewable Energy School
China Three Gorges University
Yichang, China

ID8244
Protecting Distance of Electromagnetic Interference of UHV Power Lines to Radar Stations.....351
Bo Tang, Jiawei Yang, Li Huang, Bin Hao
College of Electrical Engineering and New Energy
Three Gorges University
Yichang, China

ID8246
A Double Stator Axial Field Flux Switching Memory Machine with Series Permanent Magnet and DC Field Winding .....353
Nian Li, Mingyao Lin, Gongde Yang, Yong Kong, Li Hao
School of Electrical Engineering
Southeast University
Nanjing, China
Jianguo Zhu
School of Electrical and Data Engineering
University of Technology Sydney
Sydney, Australia

ID8249
The Frequency Dependence of AC Susceptibility at Variable Length of Bi-2223/Ag Tapes.....355
Yueming Sun, Shaotao Dai, Jin Fang, Ankun Zhang
School of Electrical Engineering
Beijing Jiaotong University
Beijing, China

ID8253
Taguchi Method for Robust Optimal Design of a HTS Linear Synchronous Motor.....N/A
Chengcheng Liu
State Key Laboratory of Reliability and Intelligence of Electrical Equipment
Hebei University of Technology
Tianjin, China
Gang Lei, Youguang Guo, Jianguo Zhu
School of Electrical and Data Engineering
University of Technology Sydney
Sydney, Australia
Dezhi Chen
School of Electrical and Electronic Engineering
Huazhong University of Science and Technology
Wuhan, China

ID8255
Arcing Time Analysis of Liquid Nitrogen in Asymmetrical Electrodes.....357
Muhammad Junaid, Bin Xiang, Hanming Ge, Kun Yang, Zhiyuan Liu, Yingsan Geng, Jianhua Wang
State Key Laboratory of Electrical Insulation and Power Equipment
School of Electrical Engineering
Xi’an Jiaotong University
Xi’an, China

ID8256
Hybrid Laminated Iron Core Models Based on Isotropic and Anisotropic Silicon Steels.....359
Weimin Guan, Di Zhang, Mu Yang
School of Electrical Engineering
Wuhan University
Wuhan, China
Yanhui Gao, Kazuhiro Muramatsu
Graduate School of Science and Engineering
Saga University
Saga, Japan

ID8257
Arc Energy Evaluation in Liquid Nitrogen.....361
Muhammad Junaid, Bin Xiang, Hanming Ge, Kun Yang, Zhiyuan Liu, Yingsan Geng, Jianhua Wang
State Key Laboratory of Electrical Insulation and Power Equipment
School of Electrical Engineering
Xi’an Jiaotong University
Xi’an, China

ID8258
Analysis of Dynamic Arc Parameters for Vacuum Circuit Breaker under Short-circuit Current Breaking.....363
Hai Chen, Xiaoming Liu, Longnv Li, Yixiong Liu, Yaqian Zhang and Yunfei Huang
Tianjin Key Laboratory of Advanced Electrical Engineering and Energy Technology
Tianjin Polytechnic University
Tianjin, China

ID8261
Research on the Design of Scanning Magnets for Proton Therapy Nozzle.....365
Pengyu Wang1,2, Jinxing Zheng1
1Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China
Wuquan Zhang1
2Science Island Branch of Graduate School
University of Science and Technology of China
Hefei, China

ID8263
Leaf Spring Design for a Large-Capacity HTS Motor.....367
Yong Zhou, Feng Xie, Sisi Peng, Jun Zheng, Xiaojun Niu
Wuhan Institute of Marine Electric Propulsion, CSIC
Wuhan, China

ID8265
Synthesis and Characterization of MnZn Ferrite Nanoparticles for Biomedical Applications.....369
Chao Qun Shen, Hai Ning Ji, Jie Wu, Nan Zhu, Jia Qi Niu, Han Dong Li, Xiao Bin Niu
School of Materials and Energy
University of Electronic Science and Technology of China
Chengdu, China

ID8271
Design of Prototype Magnet for Beamline System of SC200 Superconducting Proton Cyclotron.....371
Jin Xing Zheng, Hai Yang Liu, Yun Tao Song, Jun Sheng Zhang
Institute of Plasma Physics
Chinese Academy of Sciences
Hefei, China

ID8273
Preparation and Electrical Insulation Characteristic of Thermal Conductive Epoxy Composites for Cryogenic
Environment.....373
Teng Zhang, Shaotao Dai
School of Electrical Engineering
Beijing Jiaotong University
Beijing, China
Yuan Cai, Huijuan Chen
Jiangsu Etern Company Limited
Wujiang, China

ID8275
The Influence of HTS DC Cable Structure on Critical Current.....375
Ying Jie Yang
School of Electrical and Information Engineering
Tianjin University
Tianjin, China
Zheng Hua Chen
School of Automation Engineering
University of Electronic Science and Technology of China, Chengdu, China
Jian Xun Jin
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8276
Comparison of the Fault Current Limiting Effect of HTS DC Cable with Current Limiting Function in
HVDC Power Transmission System.....377
Zheng Hua Chen
School of Automation Engineering
University of Electronic Science and Technology of China, Chengdu, China
Jian Xun Jin
School of Electrical and Information Engineering
Tianjin University
Tianjin, China
Ying Jie Yang
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8277
Levitation Force between HTS Bulks and PMGs in Different Rail Models.....379
Jian Hui Liang
School of Electrical and Information Engineering
Tianjin University
Tianjin, China
Lie Jun Ba
School of Automation and Engineering
University of Electronic Science and Technology of China
Chengdu, China
Jian Xun Jin
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8278
Magnetic Field Distribution Characteristic Analysis of Different PMGs.....381
Lie Jun Ba
School of Automation and Engineering
University of Electronic Science and Technology of China
Chengdu, China
Jian Hui Liang, Jian Xun Jin
School of Electrical and Information Engineering
Tianjin University
Tianjin, China

ID8279
Analysis of Stray Current Monitoring Data of Donghuang Oil Pipeline due to Gaoqing HVDC Ground Electrode Interference.....383
Zebang Yu, Lianguang Liu
State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources
North China Electric Power University
Beijing, China

ID8281
QCM Mass Sensitivity Analysis of Modified Electrode Structures Using Finite Element Method.....385
Jianguo Hu, Xianhe Huang
School of Automation Engineering
University of Electronic Science and Technology of China
Chengdu, China

ID8282
An Approach to Minimize the Motor Starting Voltage Dip Using Voltage Support DG Controller.....387
Sumaiya Hasan, Kashem M. Muttaqi
School of Electrical, Computer and Telecommunications Engineering

2018 IEEE International Conference on Applied Superconductivity and Electromagnetic Devices
-- 15-18 April 2018, Tianjin, China --
ID8283
Design of a Direct Drive Linear Generator with High Flux Density Magnetic Cores for Oceanic Wave Energy Conversion.....389
Selim Molla, Omar Farrok
Department of Electrical and Electronic Engineering
Ahsanullah University of Science and Technology
Dhaka, Bangladesh
Kashem M. Muttaqi, Md. Rabiul Islam
School of Electrical, Computer and Telecommunications Engineering
University of Wollongong
NSW, Australia

ID8284
Influences of SFCLs on the Incremental Power Frequency Relay of Transmission Line.....391
Qihuan Dong, Jianzhao Geng, Heng Zhang, Xiuchang Zhang, Boyang Shen, Jun Ma, Tim Coombs
Electrical Engineering Division, Department of Engineering
University of Cambridge
Cambridge, UK
W. T. B. de Sousa
Institute for Technical Physics
Karlsruhe Institute of Technology
Eggenstein-Leopoldshafen, Germany

ID8285
Suboptimal Power Point Tracking for Frequency Response of PMSG Based Wind Turbines in Remote Area Power Supply Systems.....393
Md Nafiz Musarrat, Md. Rabiul Islam, Kashem M. Muttaqi, Danny Sutanto
School of Electrical, Computer and Telecommunications Engineering
University of Wollongong
New South Wales, Australia

ID8286
Coordinated Control of Demagnetizing Method and Inductive SFCL for DFIG Under Symmetrical Faults.....395
Kai Jian Du, Xian Yong Xiao, Zi Xuan Zheng, Chang Song Li
College of Electrical Engineering & Information Technology
Sichuan University
Chengdu, China

ID8287
A Study on Numerical Modeling and Measurement of HTS Joints.....397
Jiaxin Zuo, Pengyuan Li, Linyu Sun Chao Huan
Fusion Reactor Materials Division
Southwestern Institute of Physics
Chengdu, China

ID8288
Modeling of Mutual Inductance between Superconducting Pancake Coils Used in Wireless Power Transfer Systems.....399
Zhang Hai Shi, Zhong Cai Qiu
School of Electrical Engineering
Southwest Jiaotong University  
Chengdu, China

ID8289  
Design Considerations of Coils Used in Wireless Charger for EV.....401  
Zhang Hai Shi, Zhong Cai Qiu  
School of Electrical Engineering  
Southwest Jiaotong University  
Chengdu, China