

2015 IEEE International Conference on

Applied Superconductivity and Electromagnetic Devices

November 20-23, 2015

Shanghai, China

Sponsor: IEEE Beijing

Co-Sponsors: Shanghai University
Tianjin University

Organizers: Shanghai University

Shanghai Key Laboratory for High Temperature Superconductors

Shanghai Creative Superconductor Technology Co. Ltd.

Tianjin University



IEEE

ASEMD2015
Shanghai, China
Nov.20-23, 2015

2015 IEEE International Conference on Applied Superconductivity and Electromagnetic Devices

(ASEMD2015)

20-23 November 2015, Shanghai, China

<http://www.asemd.org>

Program Book



上海市高温超导重点实验室

Shanghai Key Laboratory of High Temperature Superconductors

 上海工刻超导科技有限公司



Welcome

Dear Authors and Participants:

It is a great pleasure for us to welcome all of you here in Shanghai to attend the 2015 International Conference on Applied Superconductivity and Electromagnetic Devices (ASEMD 2015). The ASEMD 2015 conference is sponsored by the IEEE through Beijing Section, with co-sponsors and principal organizers of Shanghai University, Tianjin University, and Shanghai Creative Superconductor Technologies Co. Ltd., with contributions from institutes and industrial partners involved. This innovative and unparalleled conference aims to provide a forum for both researchers and engineers in the named fields to present and share their new concepts, novel techniques, and the best existing practices, in order to address key research and technological challenges faced in practical applications. It places particular emphasis on creating a new platform for scientific and technological development in the fields of applied superconductivity and electromagnetism, especially in the practical development of novel electromagnetic device technologies. The Platform gathers University, research institute and industry together; so as to bring theory, technology and application. Eleven plenary talks are assigned to address the ASEMD 2015 representative fields.

The ASEMD 2015 committee members have worked tirelessly to maintain this platform, and to ensure that the attendees receive adequate service and substantial benefit from the conference. The committee is looking forward to seeing your active participation and involvement. On behalf of the ASEMD 2015 committee and organizers, we highly appreciate the valuable efforts of all the attendees and the rigorous journeys undertook to achieve this. During the conference, we hope that you will find intellectual stimulation and enjoyment in the planned activities, engage in exchanging scientific and technological ideas, and develop collaborative relationships. The success of this conference will depend on the involvement and contributions of all the authors and participants. For good, better and best, has been marked on the journey path of the ASEMD voyage, which is again what we are forward. We highly appreciated your supports to this conference, and looking forward to maintaining support in the upcoming ASEMD conferences as its esteemed members. A warm welcome and many thanks for your assisting in the ASEMD 2015. We hope you will enjoy your time at the conference, as well as in Shanghai, the most beautiful and modern city in China.

Conference Committee, IEEE ASEMD 2015



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General Information

01

Background

International Conference on Applied Superconductivity and Electromagnetic Devices (ASEMD2015) will be held from 20 to 23 November 2015 in Shanghai. ASEMD2015 is sponsored by IEEE Beijing Section, with co-sponsors and principal organizers of Shanghai University, Shanghai Key Laboratory for High Temperature Superconductors, Tianjin University, and Shanghai Creative Superconductor Technologies Co. Ltd.

The 1st ASEMD conference was held in Chengdu, China, on September 25-27, 2009, the 2nd was in Sydney, on December 14-16, 2011, and the 3rd was in Beijing, China, on October 25-27, 2013. The IEEE ASEMD devotes itself to providing the researchers in the field of applied superconductivity and electromagnetic devices a platform for technical discussion, exchanging information, and progress updates.

Applied superconductivity is generally categorized into material, electrical and electronic sections. Material synthesis and characterization, power applications,

rotating machines, and magnet technology are essential components comprising one principal part of the ASEMD scope.

Electromagnetic devices, the other principle part of ASEMD, covers electric, magnetic, and electronic devices, either superconducting or not. This part also includes work in electromagnetic analysis, measurement, and automation.

ASEMD2015 continues the focus and provides a forum for both academic and industrial researchers in the relevant fields to discuss and share ideas, present results, reflect on past experiences and discuss future developments.

Contributed papers to this conference will be published in its proceedings in the IEEE Xplore digital library, selected contributions will be published in a special issue of IEEE Transaction on Applied Superconductivity through the normal peer review process.



Conference Organization

Sponsors and Organizers

Sponsor - IEEE Beijing Section

Co-sponsors - Tianjin University, Shanghai Key Laboratory for High Temperature Superconductors, and Shanghai University

Organizers - Shanghai University, Shanghai Creative Superconductor Technologies Co. Ltd., and Tianjin University

Conference Chairs

Chuanbing Cai, Shanghai University

Jianxun Jin, Tianjin University

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Tim Coombs, Cambridge University, UK

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Yusheng He, Institute of Physics, CAS, China

Faz Rahman, University of New South Wales, Australia

Justin Schwartz, North Carolina State University, USA

Xuechu Shen, Shanghai Institute of Technical Physics, CAS and Shanghai University, China

Qiuliang Wang, Institute of Electrical Engineering, CAS, China

Dong Wei, Shanghai Electric Cable Research Institute

Wancheng Sheng, Shanghai University, China

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Youguang Guo, University of Technology, Sydney, Australia

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Xiaolin Wang, University of Wollongong, Australia

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Zanming Wang, Alltech Medical Systems, China

Dong Wei, Shanghai Electric Cable Research Institute, China

Xiaoming Xie, Shanghai Institute of Microsystem and Information Technology, China

Yiyuan Xie, Suzhou Advanced Materials Research Institute, China

Jincang Zhang, Shanghai University, China

Yifei Zhang, Superpower, USA

Local Organizing Committee

Huashi Xue, Guohui Hu, Changqing Gong, Jidong Sun, Hui Yuan, Yibing Zhang, Xinluo Zhao, Quanzhong Chu, Qi Lu, Xiaoyan Jin, Meng(Marvin) Yu, Yanqun Guo, Zhiyong Liu, Yuming Lu, Chuanyi Bai, Feng Fan, Hongbin Jian and Hong Zhang (Shanghai Creative Superconductor Technologies; The College of Science of Shanghai University)

Publication Board

Chairs: Jianxun Jin, Mengqi Zhou

Editors:

Chuanbing Cai, Tim Coombs, Boxue Du, Jia Du, Colin Grantham, Youguang Guo, Quan Li, Ronghai Qu, Yiyuan Xie, Ying Xin

(All names listed in each committee alphabetically)



Conference Venue and Transportation

02

Venue Information

Nanjiao Hotel (Five-star), No.8 Wang-yuan Road, Fengxian District, Shanghai, China 201400.

Website: <http://www.nanjiaohotels.com/index-en.html>

Contact person: Ms. Ting Wang, Email: wangting033@qq.com; Telephone: (+86)13761047334

Hotels

1. Nanjiao Hotel (Conference Venue) 南郊宾馆(主会场)



Superior Twin Room(with breakfast): RMB480

Superior Double Room(with breakfast) :RMB480

Add: No.8 Wangyuan Rd, Nanqiao County,

Fengxian District, Shanghai

(上海市奉贤区南桥新城望园路 8 号)

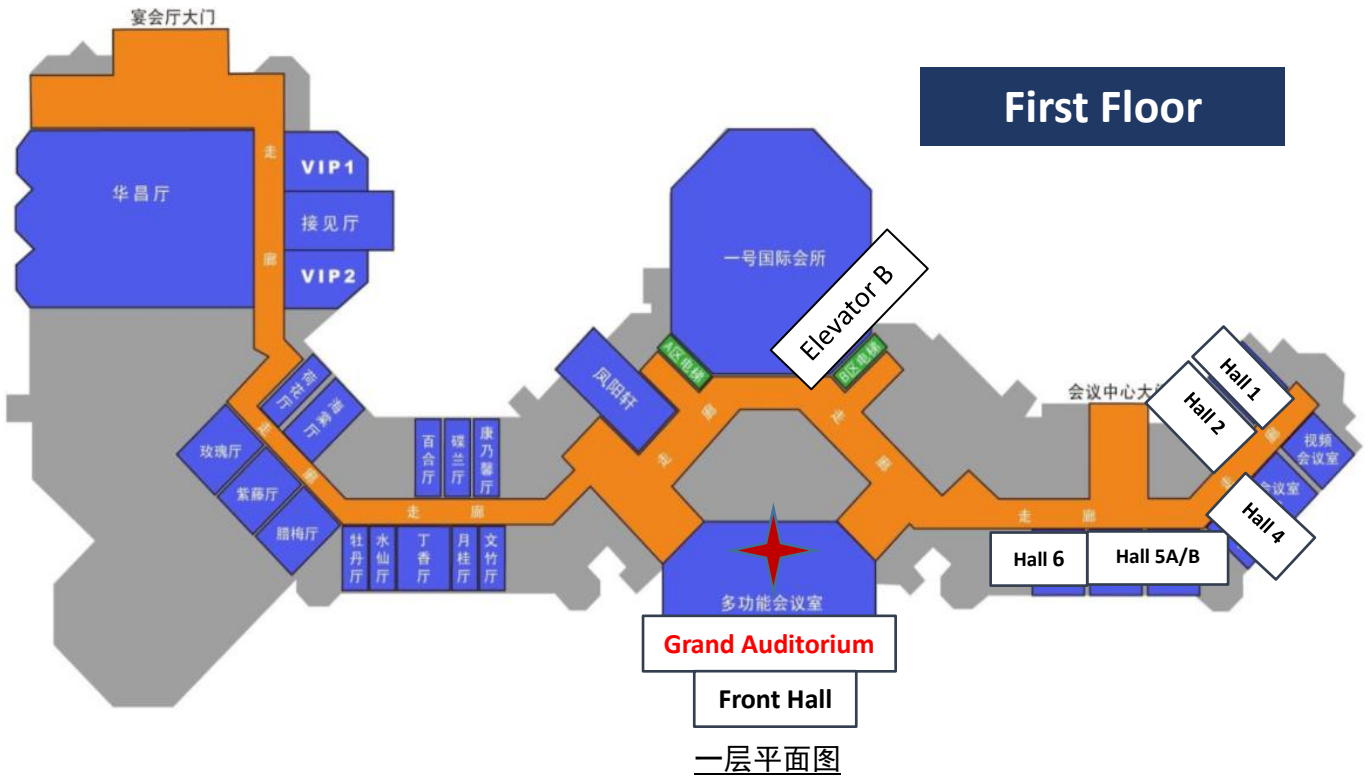
Tel: 021-67105886

<http://www.gzdhwf.cn/home/20399/>

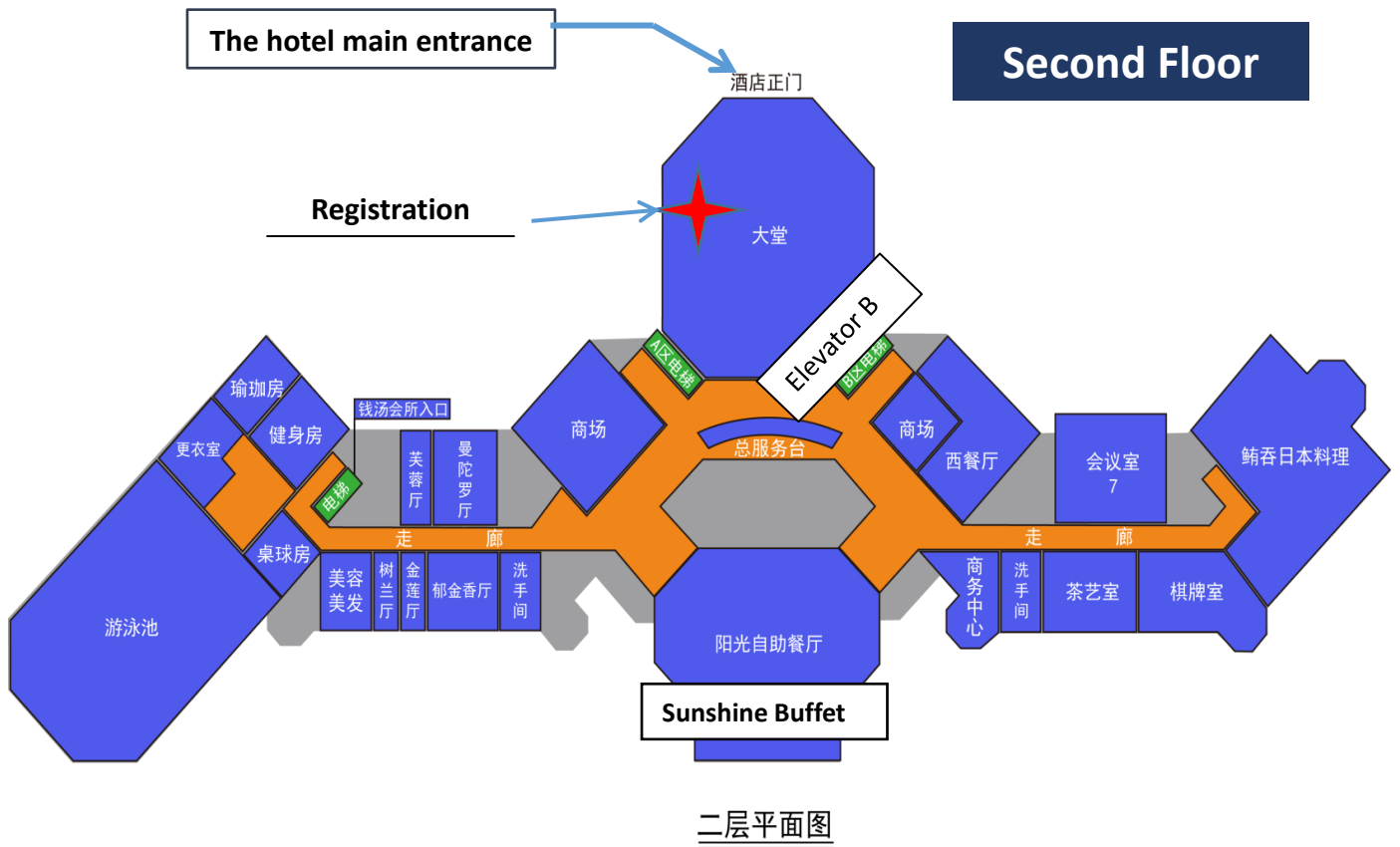


Map of Main Venue

First Floor



Second Floor





Map of New Campus, Shanghai University



Chrysanthemum Show on New Campus, Shanghai University

2. Shanghai Quan Ji Hotel

上海全季酒店南桥店

Standard Single (with breakfast for two) RMB264

Double Twin Room (with breakfast for two) RMB264

Add: No.7318 East Nan Feng Rd. Fengxian District

(上海市奉贤区南桥镇南奉公路 7318 号)

Tel: : 021-37195999 Total Rooms : 100

4. Jurun Hotel

聚润宾馆

Superior Standard Room (with breakfast for two)
RMB260

Superior Double Room (with breakfast for two)
RMB260

Add: Lane299 Defeng Rd, Nanqiao County, Fengxian District (上海市奉贤南桥新城德丰路 299 弄)

Tel: 021-37196799

<http://www.jdydb.com/hotel/home-32482>

3. Shanghai Meilia Jinn Business

Hotel 上海梅丽亚晶酒店

Standard Single (with breakfast for two) RMB168

Double Twin Room (with breakfast for two) RMB168

Add: No.8505 East Nan Feng Rd. Fengxian District

(上海市奉贤区南桥镇南奉公路 8505 号)

Tel : 021-51391888 Total Rooms : 200

5. Shanghai Crystal Island Club

上海丽州俱乐部

Standard Single (with breakfast for two) RMB268

Double Room (with breakfast for two) RMB268

Add: No.383-399 East Huancheng Rd. Fengxian District

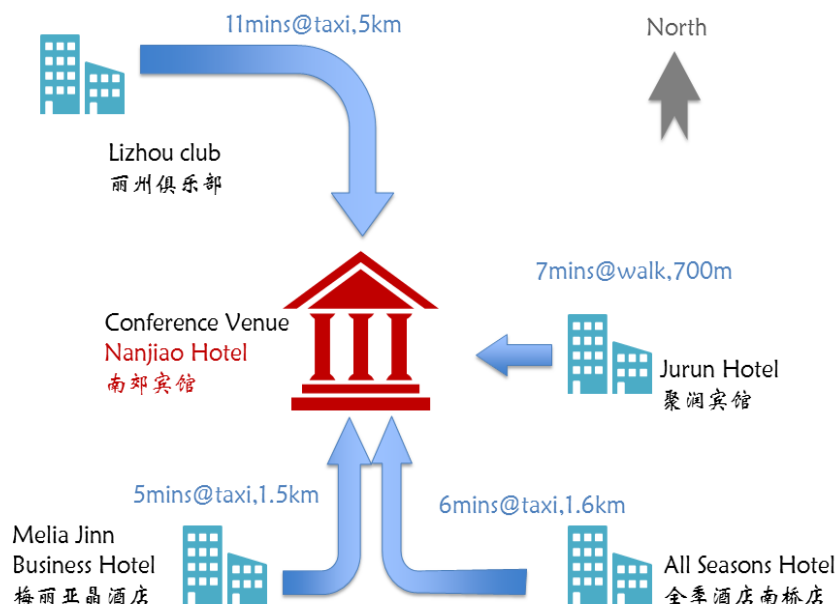
(上海市奉贤环城东路 383-399 号)

Tel: 021-67107111

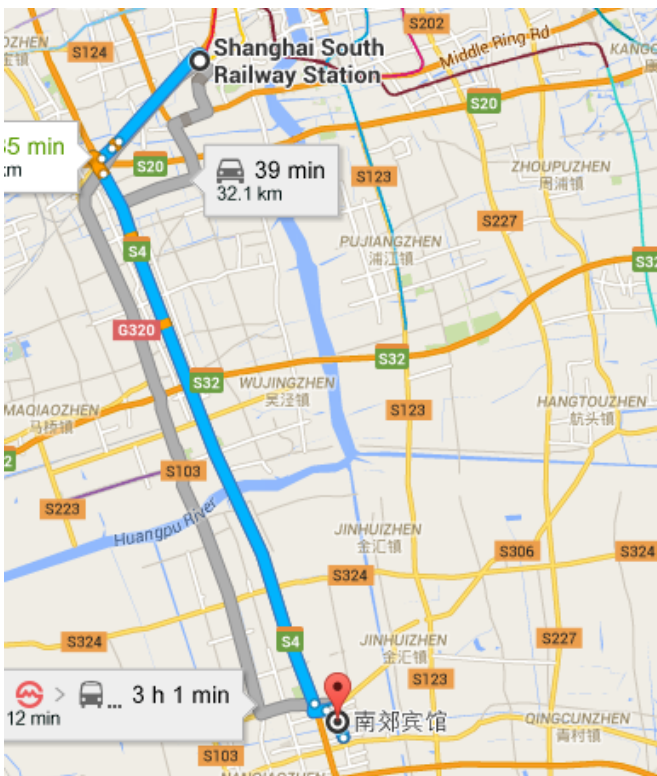
<http://www.lizhouclub.cn/>

Note:

- ASEMD shuttle bus to be available each hour on the hour to Nanjiao Hotel departing from Waihuanlu Station of Metro Line1 from 10:00 am till 10:00 pm on Nov. 20.
- All hotels listed above are close to conference venue, Nanjiao Hotel, within 5 kilometers.
- Contact ASEMD2015 people : Ting WANG : 13761047334



Transportation



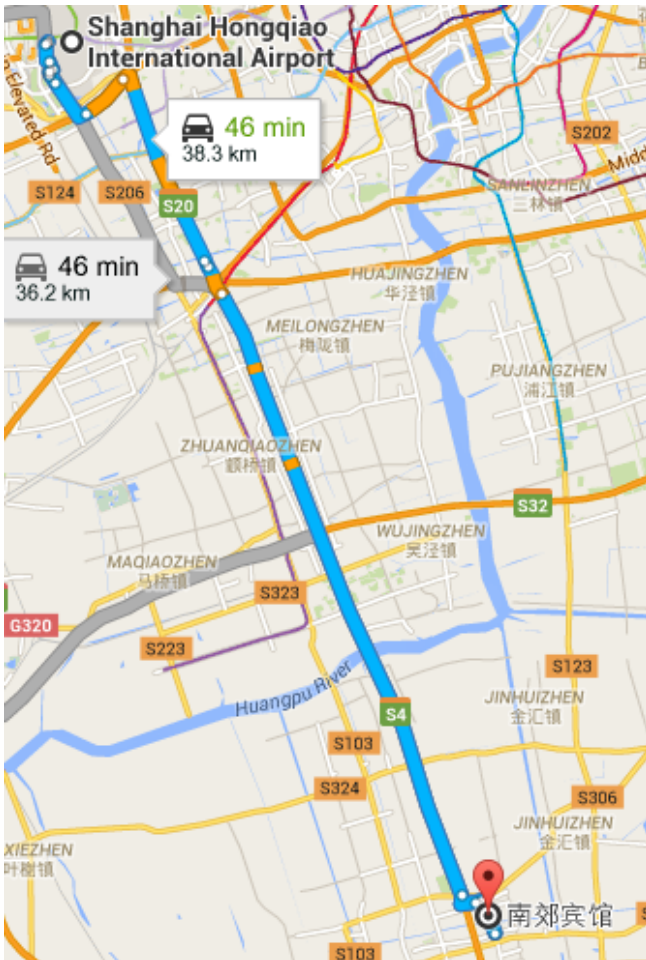
1. Depart from Hongqiao Railway Station to Nanjiao Hotel

(虹桥火车站—南郊宾馆)

- Metro Line 10 (From Hongqiao Railway Station to South Shanxi Rd.)
- Transfer to Metro Line 1 (From South Shanxi Rd. to Waihuanlu)
- Take ASEMD shuttle bus (From 10:00am to 10:00pm only, the 20th November) or take taxi to Nanjiao Hotel (around half an hour RMB50).

2. Depart from Shanghai South Railway Station to Nanjiao Hotel

- Metro Line 1 (From Shanghai South Railway Station to Waihuanlu)
- Take ASEMD shuttle bus (From 10:00am to 10:00pm only, the 20th November) or take taxi to Nanjiao Hotel (around half an hour RMB50).



3. Depart from Hongqiao International Airport to Nanjiao Hotel

- Metro Line 10 (From Hongqiao Airport Terminal 1 or Hongqiao Airport Terminal 2 to South Shanxi Rd.)
- Transfer to Metro Line 1 (From South Shanxi Rd. to Waihuanlu)
- Take ASEMD shuttle bus (From 10:00am to 10:00pm only, the 20th November) or take taxi to Nanjiao Hotel (around half an hour RMB50).

4. Depart from Shanghai Railway Station to Nanjiao Hotel

- Metro Line 1 (From Shanghai Railway Station to Waihuanlu)
- Take ASEMD shuttle bus (From 10:00am to 10:00pm only, the 20th November) or take taxi to Nanjiao Hotel (around half an hour RMB50).



5. Depart from Pudong International Airport to Nanjiao Hotel

- Metro Line 2 (From Pudong International Airport to People's Square)
- Transfer to Metro Line 1 (From People's Square to Waihuanlu)
- Take ASEMD shuttle bus (From 10:00am to 10:00pm only, the 20th November) or take taxi to Nanjiao Hotel (around half an hour RMB50).

Note : Direct Taxi suggested strongly



Registration and Key Reminders

03

Registration and Payment

I. Registration Time:

Registration on site from 13:00 to 22:00 pm on November 20, and each Morning, November 21-22, 2015.

II. Registration Fee:

The registration fee rates are as followings: Early bird rate before Oct. 15, 2015; Full conference attendee: US\$625; Student (Post-doctoral position excluded): US\$425; Standard rate (after Oct. 15, 2015); Full conference attendee: US\$695; Student (Post-doctoral position excluded): US\$495; Accompanying person registration rate: US\$200; Additional page or paper charges: Charge for an additional page (the third page): US\$100; Charge for an additional paper (up to 3 pages): US\$300; Exhibitors rate: US\$5000/booth, including two attendees conference fees.

III. Payment Way

Please be advised that an early bank transfer is required strongly, while on-site payment will be acceptable for few case, but cash only.

Note: Registration covers : Access to all technical (oral and poster) sessions , Access to the exhibition; Admission to the banquet and coffee breaks; Conference organized tours , Up to two manuscript submissions to IEEE Xplore and one to IEEE Transaction on Applied Superconductivity, USB chips with the conference proceedings.

Accompanying person registration fees include:

Admission to receptions and the banquet conference organized tours.

IV. Bank Accounts

Registration fees can be paid by direct bank transfer into the following ASEMD bank accounts:

单位名称：上海大学

银行账号：033270-00801210489

开户银行：中国农业银行上海市宝山区大场支行

银行行号：103290005138

单位名称：天津大学

银行帐号：1036 0120 1090 008441

开户行名称：天津银行兴科支行

联行号：313110040364

Bank Name: Australia and New Zealand Banking Group Limited (ANZ)

Account Name: Science Platform Corporation

BSB No: 012-003

Account No: 493962696

SWIFT Code: ANZBAU3M

(Bank address / Branch name: 115 Pitt St, Sydney, NSW 2000, Australia)

Information for Presenters

I. Conference dinner

- 1) The conference has 5 meal vouchers.
- 2) One meal voucher per person per meal. Because the restaurant reception capacity is close to saturation, in order to maintain good order, please sequentially enter the restaurant, A staff will charge the meal voucher at the entrance.
- 3) The entourage, family members et al., of the participants who do not pay the registration fee but want to eat at the restaurant, please purchase the meal vouchers from the staff at the report site. The meal vouchers are not returned after sold.

II. Arranged venues

The conference has one Main Conference Hall (multi-function hall) and four Sub Conference Halls (namely Grand Auditorium、Hall 1、Hall 2、Hall 4、Hall 5A/5B、Hall 6), which are all located on the 1st floor of Nanjiao Hotel.

III. Plenary and oral talk

Please representatives of plenary talk copy PPT to the specified computer (at least one session in advance), and confirmed it can work instantly.

IV. Poster exhibition

- 1) The size of poster is 80 cm X 180 cm, please make it according to the size.
- 2) Please indicate authors' name, poster number (seeking in program), and telephone on the top left corner of poster.

Information for Best Student Paper Award

The conference committee decides to award **FIVE Prizes** to postgraduate students for outstanding work presented in person by poster or oral during the ASEMD2015 conference. Each prize-winner receives a **printed certificate and cash of RMB 1000 yuan**.

The main criteria for the award of the five prizes are the work originality and the general quality of the poster or oral presentation, judged by three reviewers (Prof. Yanfan Bi, Prof. Shuhong Wang, and Prof. Yinshun Wang).



Guidelines for Oral Presentation

04

1. The guidelines are applicable for all plenary, invited and oral presentations.
2. Presentation durations
 - Plenary: 30 minutes (25 minutes with 5 minutes for questions).
 - Invited: 20 minutes (18 minutes with 2 minutes for questions).
 - Contributed: 15 minutes (13 minutes with 2 minutes for questions).The time limitations must be strictly observed.
3. Presenters are asked to arrive a few minutes before the session and introduce themselves to the session chair before the start of the session.
4. Presentations will exclusively use the computers provided by ASEMD2015. The presenters are not allowed to use their personal computer. Using removable media (USB drives) is prohibited on the computers in oral session rooms.
5. A Speaker Preparation Room is available at the conference venue (located at Hall 1). Presenters should submit an electronic version of their talk at least one day prior to their presentation to the Speaker Preparation Room (for example, for those on November 22, should submit it after registration). Files should be reviewed at the same time by the presenter. Changes to submitted files will not be allowed.
6. Presentations must be submitted in Microsoft Power Point format. Acceptable media include CD and USB flash drive. Macintosh computers will not be available in any of the session rooms. Authors using a Macintosh must ensure their presentations operate correctly using Microsoft Office or Adobe Acrobat in the Windows environment.
7. Files transferred to the session computers cannot be copied by anyone and will be deleted after the session. Anyone wishing to receive a copy of the slides should contact the presenter, not ASEMD2015.

Instructions for Session Chairs

05

Instructions for chairs of plenary talks

As plenary session chair, you are expected to reach the Grand Auditorium at least 5 minutes before the start of your plenary session. First verify the presence of the scheduled speakers of the session. For each presentation, you are expected to introduce the speakers by name, organization, brief vita and the title of talk. Each plenary talk is permitted 30 minutes, 1 for introduction, 25-27 for presentation, 2-4 for questions. You can allow people from the audience to ask one or more questions, depending on the time that is available. It is required that the total time limit of 30 minutes for each plenary presentation should be strictly observed! After finishing your session, you need to fill out and sign the Session Report sheet. Assistant worker will collect the sheet in each meeting room after each session.

Instructions for oral session chairs

As oral session chair, you are expected to reach meeting room at least 5 minutes before the start of your session. First verify the presence of the scheduled speakers of the session. You are expected to introduce the speakers by name, organization and title of their talk. Each invited oral is permitted 20 minutes, 15-17 for presentation, 3-5 for questions. Each contributed oral is permitted 15 minutes, 12-13 for presentation, 2-3 for questions. You can allow people from the audience to ask one or more questions, depending on the time that is available. It is required that the total time limit for each presentation should be strictly observed! After finishing your session, you need to fill out and sign the Session Report sheet. Assistant worker will collect the sheet in each meeting room after each session.

Instructions for poster session chairs

As poster session chair, you are expected to present all the time during the 2 poster sessions of the conference. You are expected to cruise the poster areas and check out the authors' attendance. After finishing the poster sessions, you need to fill out and sign the Session Report sheet. Assistant worker will collect the sheet after the poster sessions.



Conference Program

06

Overview of All Programs

Date	Morning	Noon	Afternoon	Evening
Nov.20 Friday	Registration desk hours: 13:00-22:00 pm ASEMD bus from Metro Line 1 to Nanjiao from 10:00am to 10:00pm. Committee Members Meeting			Buffet 18:30-20:00
Nov.21 Saturday	Opening 09:00-09:30 Plenary I 9:45-12:15	Lunch 12:15-13:30	Oral Session 13:30-15:25 Oral Session 15:40-17:35 Poster Session 17:35-18:30	Banquet 18:45-20:00
Nov. 22 Sunday	Plenary II 08:00-09:30 Oral Session 9:45-12:10	Lunch 12:10-13:30	Oral Session 13:30-15:30 Poster Session 15:45-16:30 Plenary III + Awarding 16:30-18:30	Buffet 18:45-20:00
Nov. 23 Monday	Technical Tour to: SCSC and SECRI* 08:00-11:30	Lunch and Check in SHU Lehu Hotel 11:30-13:00	HTS Application Workshop 14:00-16:30 Technical Tour to: HTS Lab	Fast Food & Chrysanthemum show on Campus 16:30-18:00

***Note:**

SCSC--Shanghai Creative Superconductor Co. Ltd,
SECRI--Shanghai Electric Cable Research Institute,
SHU--Shanghai University

November 21, 2015 (Saturday, 9:00-18:30)

Time	Activities	Places
09:00-09:20	Opening & Official Speeches	Grand Auditorium
09:20-09:30	Group Photo	Hotel Entrance
09:45-12:15	Plenary Session I	Grand Auditorium
12:15-13:30	Lunch	Dining Hall (2nd Floor)
13:30-15:25	Oral Session A1、D1、F1、H1	Hall 2、Hall 4、Hall 6、and Grand Auditorium
15:25-15:40	Tea Break	
15:40-17:35	Oral Session A2、D2、F2、H2	Hall 2、Hall 4、Hall 6、and Grand Auditorium
17:35-18:30	Poster Session	Hall 5A-5B + Front Hall
18:45-20:00	Banquet	Dining Hall (1st Floor)

Session **A**: Materials

Session **C**: Electrical Power Systems

Session **E**: Magnets

Session **G**: Cryogenics & Thermal/Electrical Insulation

Session **B**: Superconducting Electric Power Devices

Session **D**: Electrical Machines

Session **F**: Electronics

Session **H**: Modeling, Analysis and Design

November 22, 2015 (Sunday 8:00-18:30)

Time	Activities	Places
08:00-09:30	Plenary Session II	Grand Auditorium
09:30-09:45	Tea Break	
09:45-12:10	Oral Session B1、C、E1、G	Hall 2、Hall 4、Hall 6、and Grand Auditorium
12:10-13:30	Lunch	Dining Hall (2nd Floor)
13:30-15:30	Oral Session B2、D3、E2、H3	Hall 2、Hall 4、Hall 6、and Grand Auditorium
15:30-15:45	Tea Break	
15:45-16:30	Poster Session	Hall 5A-5B + Front Hall
16:30-18:30	Plenary Session III Awards for Best Student Papers	Grand Auditorium
18:45-20:00	Dinner	Dining Hall (2nd Floor)

November 23, 2015

(Monday 8:00-18:00)

Time	Activities	Places
Group I 8:00-09:00 Group II 8:30-9:30	Check out from Nanjiao Hotel, and Technical Tour to: Shanghai Creative Superconductor. Co. Ltd.	2066 Wangyuan Road, Fengxian District, Shanghai
Group I: 9:00-10:30 Group II: 9:30-11:00	ASEMD bus to: Shanghai Electric Cable Research Institute(SECRI)	1000 Jungong Road, Yangpu District, Shanghai
Group I: 10:30-11:30	Technical Tour@ SECRI	1000 Jungong Road, Yangpu District, Shanghai
Group I: 11:30-12:30	Check in and Lunch @ Lehu Hotel, Shanghai University	New Campus, Shanghai University (SHU)
Group II: 11:00-12:00	Technical Tour@ SECRI	1000 Jungong Road, Yangpu District, Shanghai
Group II: 12:00-13:00	Lunch@ SECRI; Check in SHU Lehu Hotel	New Campus, SHU
14:00-16:30	HTS Application Workshop Plenary Talks	Lecture Hall, 2nd Floor, SHU Lehu Hotel
16:30-17:00	Technical Tour to Shanghai Key Laboratory for High-Tc Superconductors	New Campus, SHU
17:00-18:00	Fast Dinner and Free Tour	SHU Lehu Hotel

Plenary and Selected Invited Speeches

-Brief Biographies

Title of Presentation

Advances in Bi2Sr2CaCu2Ox Superconducting Wires and Related Technologies for High Field Superconducting Magnets



Prof. Justin Schwartz

Professor
North Carolina State University
USA

Justin Schwartz received a B.S. from the University of Illinois at Urbana-Champaign in 1985 and a Ph.D. from the Massachusetts Institute of Technology, Cambridge, in 1990. After serving as one of the first Science and Technology Agency of Japan Fellows at the National Research Institute for Metals, Japan, he joined the University of Illinois at Urbana-Champaign as an Assistant Professor. In 1993, he joined the newly-formed National High Magnetic Field Laboratory and the Department of Mechanical Engineering at Florida State University, where he served as the Leader of the HTS Magnets and Materials Group. In 2003, his research group, in collaboration with Oxford Instruments, established the world record for magnetic field generation by a superconducting material. In 2009, Professor Schwartz joined North Carolina State University as the Head of the Department of Materials Science and Engineering and Kobe Steel Distinguished Professor. His research interests include superconducting materials, multiferroic materials, and other functional oxides, with emphases on performance-limiting mechanisms, manufacturing-relevant processing techniques and failure mechanisms, which he studies through experimental and microstructurally-driven computational research. Prof. Schwartz was the Editor-in-Chief of the IEEE Transactions on Applied Superconductivity from 2005-2012 and is a Fellow of the IEEE.

Title of Presentation

Progress in Nanostructured Coated Conductor Research and Development



Prof. Xavier Obradors

Director, ICMA B – CSIC
Editor, Physica C
Spain

Xavier Obradors received a Degree of Physics at the University of Barcelona (Spain) in 1978, a PhD in Materials Science at the University of Grenoble (France) in 1983 and a PhD in Physics at the University of Barcelona in 1982. After serving as Associate Professor at University of Barcelona during six years he joined the Institute of Materials Science of Barcelona (ICMAB), National High Research Council (CSIC) in 1988 and in 1992 he became Research Professor at ICMAB. Prof. Xavier Obradors is the director of ICMAB – CSIC since 2008. His scientific interests include materials preparation with controlled microstructures and the comprehension of the physical mechanisms underlying the superconducting, magnetic and electronic properties of nanostructured materials. He has received numerous awards for his contributions to Materials Science, Superconductivity and Clean Energy developments (Fellow of Institute of Physics of UK; Doctor Honoris Causa University of Pitesti, Romania; ENDESA Novare Award; National Materials Science Award, Spain; Member of Academy of Sciences and Arts of Barcelona; Narcis Monturiol medal of the Catalan Government; Academic Palm of French Government). He served in the Editorial Board of Superconductor Science and Technology (1996-2001) and at present he is editor of Physica C since 2008. He also has served as President of European Society of Applied Superconductivity (2006-2011). He has published more than 490 articles having received more than 8200 citations ($h=42$); he has filed more than 12 patents and he was one of the creators of the spin-off company OXOLUTIA. At present he coordinates EUROTAPES, a large academic and industrial consortium devoted to the development of coated conductors in Europe.

Title of Presentation

Superconducting Nanowire Single Photon Detection (SNSPD): Principle, Progress and Applications



Dr. Lixing You

Senior researcher, Shanghai Institute of Microsystem and Information Technology (SIMIT)
Senior visiting fellow, University of California
China

Lixing YOU received the B.S., M.S. and Ph.D. degrees in radio physics from Nanjing University, China, in 1997, 2001 and 2003 respectively. From Apr. 2000 to Mar. 2001, he was a research student in RIEC, Tohoku University, Japan. From Nov. 2003 to Oct. 2005, he was a Post-Doctoral Researcher with MC2, Chalmers University of Technology, Sweden. From Nov. 2005 to Jun. 2006, he was a Post-Doctoral Researcher in University of Twente, the Netherlands. From Sept. 2006 to Aug. 2007, he was a Guest Researcher in NIST@Boulder, USA. Since Sept. 2007, he has been a senior researcher in Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, Shanghai, China. Currently (Sept. 2015 – Feb. 2016) he is a senior visiting fellow in University of California, Berkeley. His research interests are superconductive electronics including micro/nano superconducting devices and high frequency applications. His current research is related to superconducting nanowire single photon detection (SNSPD) and its applications. In SIMIT, he is the group leader in charge of the research on SNSPD. He has published over 80 papers in peer-reviewed academic journals and owns 10 patents. He is a member of WG14 in IEC-TC90, advisory board member for academic journal “Superconductor Science and Technology” and international committee member of International Workshop of Superconducting Sensors and Detectors.

Title of Presentation

PM and Superconducting Technology Applications at GE



Dr. Manoj Shah

GE's Global Research Center
USA

Dr. Manoj Shah received his B. Tech. (Honors) from Indian Institute of technology, Kharagpur, India, and his MSEE and Ph.D. from Virginia Tech. He worked for Westinghouse Electric (Now Siemens) and later joined GE after a short stint at Rensselaer Polytechnic Institute (RPI) in 1981. His career has spanned Aviation and Naval Electrical Systems, Electromagnetic Launchers, Large Turbine-Generators, and so on. His current tenure at GE's Global Research Center in upstate New York has been centered on developing advanced electrical machines and devices employing novel topologies in concert with the use of latest materials (magnetic, non-magnetic, metals, non-metals, composites, HTS, etc.) and cooling technologies for various GE businesses ranging from Aviation to Power Generation to Geothermal to Oil & Gas to Transportation. He has over 60 US and many foreign patents along with over 45 publications, with a few of them receiving Prize paper awards. He was made an IEEE Fellow in 2003 and received the 2012 IEEE Nikola Tesla award for "Advancements in Electromagnetic Design and Analysis of Electrical Machines." In early 2013, he received the 2012 Coolidge Fellowship Award, the highest research award in GE. Recently, he received the 2015 IEEE – Industry Applications Society's Industrial Power Conversion Systems Department's Gerald Kliman Innovator Award that recognizes meritorious contributions to the advancement of power conversion technologies through innovations and their application to Industry.

Title of Presentation

Recent Progress and Trends in Coted Conductor Development in U.S.



Dr. Vyacheslav Solovyov

Brookhaven Technology Group Inc.
Brookhaven National Laboratory
USA

Dr. Vyacheslav Solovyov received his M.S. from Moscow Institute for Physics and Technology in 1989 and Ph.D. from Kiev Institute for Metal Physics in 1995. In 1997 he joined Brookhaven National Laboratory as a Research Associate. His work at Brookhaven concentrated on scaling production of Coated Conductors using the ex-situ process. In 2007 his group achieved the highest absolute current in thick YBCO layers. His scientific interests include physics and materials science of flux pinning, applications of oxide coating. He is a member of Editorial Board of Scientific Reports, Nature Publishing Group.



Prof. Jianhua Wang

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University
China

Jianhua Wang received the M.S. and Ph.D. degrees in Electrical Engineering in 1981 and 1985, respectively, from Xi'an Jiaotong University, China. Currently, he is a Professor with the State Key Laboratory of Electrical Insulation and Power Equipment, Department of Electrical Engineering, XJTU.

His research interests include theory and application of intelligent electrical apparatus systems, high voltage vacuum switchgear, as well as computer-aided design/computer-aided engineering in electrical engineering.

He is the Chairman of the professional branch committee on intelligent electrical systems and its applications of the China Electrotechnical Society (CES), and the honorary Chairman of CES. From 2003 he was the Director of the State Key Laboratory of Electrical Insulation and Power Equipment.

He was the Chairman of the 19th and 23th International Symposium on Electrical Discharge and Insulation in Vacuum in 2000 and 2008 respectively. He was also the Chairman of the 1st International Conference on Electrical Power Equipment—Switching Technology, Xi'an, 2011.

He was awarded the Honorary Professor title from Polytechnic University of Torino, Italy, in 2009. He was awarded the Honorary Doctor of Law title from University of Liverpool, UK, in 2009.

From 2003 to 2014 he was the Chairman of the University Council of Xi'an Jiaotong University.



Prof. Pascal Tixador

Full professor, Grenoble-INP
France

Pascal Tixador received the Engineer degree in electrical Engineering and the PhD degree from the National Polytechnic Institute of Grenoble in 1984 and 1987 respectively. He was engaged at CERN, and in 1989 he has been employed by the CNRS (French National Scientific Research Centre) at the LEG (now G2Elab (Grenoble Electrical Engineering Laboratory)) and CRTBT (now Institut Néel), two Grenoble laboratories. Since September 2007, he is full professor at Grenoble-INP. His current interests are superconducting large-scale applications from design to model construction, but also simulation activities

most of the time in collaboration with industry and laboratories through the world. He has authorised more than 120 research publications and has supervised 26 PhD students. He was ESAS (European Society of Applied Superconductivity) secretary from 2005 to 2011 and is the Chairman for EUCAS (European Conference on Applied Superconductivity) in Lyon in 2015.

Title of Presentation

Advance in HTS Power Applications with Recent Activities in Germany



Prof. Bernhard Holzapfel

Full professor, Karlsruhe Institute of Technology (KIT)
Germany

Prof. Bernhard Holzapfel received both his Diploma (1990) and Ph.D. (1995) in Physics from the University of Erlangen-Nürnberg, Germany. From 1990 to 1993, he was a Research Associate at the Siemens AG, Erlangen. In 1993 he moved as PostDoc to the Leibniz-Institute for Solid State and Materials Research Dresden (IFW Dresden). From May 1999 to June 2000, he was a Guest scientist at the Oak Ridge National Laboratory, USA. In 2000, he was promoted to lead the superconducting materials group of the Institute for Metallic Materials at the IFW Dresden. In 2008, he was honored as the adjunction professor of Shanghai University, and addressed lectures in Shanghai for two months. In 2013, he joined Karlsruhe Institute of Technology (KIT) as a full professor for Superconducting Materials and co-director of the Institute for Technical Physics. Due to a lot of excellent research works, he obtained high reputation in the field of superconducting materials not only in the Europe, but also in the world. He is actually one of the leading scientists of HTS materials research in Germany as well as in Europe. In 2006, he was awarded the prize of Donors Association for German Science. This is one of the highest award for scientist in Germany. In the past years, he has given more than 40 invitation talks or lectures around the world. He has also organized several important workshops and big research programs in the European Union, such as the NESPA project, which was one of the biggest superconductor research and training networks in Europe with 16 research units involved from different EU countries.

Title of Presentation

Hydrostatic Pressure Induced Significant Enhancement of Critical Current Density by Orders of Magnitude in Iron Pnictide Superconducting Tapes, Granular Bulks and Single Crystals



Professor Xiao-Lin Wang

Institute for Superconducting and Electronic Materials,
Faculty of Engineering, Australian Institute for Innovative Materials,
University of Wollongong
Australia

Professor Xiao-Lin Wang received his PhD in 2000 from the University of Wollongong, Australia. He is currently the Associate Director of the Institute for Superconducting and Electronic Materials, Australian Institute for Innovative Materials at the University of Wollongong. He is also the group leader of the Spintronic and Electronic Materials team at the Institute. He currently holds an ARC Future Fellowship (Step 3). Prof. Wang's research interests include innovative design of new class of materials, solid state physics and materials science, superconductors, spintronics, topological insulators/materials, ferroelectrics, magnetism, multiferroics, superconductors, thermoelectricity, etc. He proposed a concept for a new class of materials, spin gapless semiconductors, which has been widely verified both theoretically and experimentally by many groups worldwide. He has published over 300 papers in many prestigious journals including "Nature Materials", "Physical Review Letters", "Advanced Materials", "Angewandte Chemie", "Nano Letters", "Advanced Functional Materials", etc. Prof. Wang has attracted more than 5000 citation and has h-index of 34. He has supervised more than 20 PhD students to completion and currently supervisor of 10 PhD students. Professor Wang is an elected Fellow of Australian Institute of Physics and previously held an ARC QEII Fellowship.

Title of Presentation

Design and Development of Magnets for HL-2M Tokamak



Prof. Qiang Li

Southwestern Institute of Physics
China

Li Qiang graduated from Chongqing University in 1990 with a BA degree, and from Southwestern Institute (SWIP) of Physics in 2006 with a Ph. D degree. He joined SWIP in 1990 and has been working there so far for magnetic confined fusion plasma research. He became an electrical engineering in 1995, a senior engineer in 1999 and a research professor in 2005. He worked at electromagnetic measurement from 1990 to 1997, experimental study of reversed-field pinch plasmas from 1994 to 1997, electrostatic probe measurement for edge plasma of HL-1M tokamak from 1997 to 1999, z-pinch plasma from 1997 to 2000. He then worked on HL-2A tokamak from 1999 for plasma control, plasma boundary identification, and experimental data management. He is now working at HL-2M for component design and HL-2M construction.

Title of Presentation

Progress in the Development of Superconducting Machines



Dr. Tim Coombs

Senior Lecturer, Cambridge University
Guest Professor, Tsinghua University
UK

Dr. Tim Coombs is a Senior Lecturer in the Electrical Engineering Department at Cambridge University and A Guest Professor at Tshinghua University. Dr. Tim Coombs heads the EPEC Superconductivity group at Cambridge University. He gained both his undergraduate and graduate degrees from Cambridge University. His research interest is Applications of Superconductivity and he holds more than 20 years' experience in superconducting engineering, covering both experimental and theoretical aspects. Dr. Coombs leads one of the strongest superconducting groups in the world with an extensive portfolio of experimental techniques, mathematical analysis tools and machine designs. He has an internationally leading publication record which extends to more than 100 papers released in high impact scientific journals. He has worked on novel solutions to the Critical State, developing one of the first algorithms capable of calculating the critical state in two dimensions. He also pioneered the (now standard) use of the H-formulation. His group constructed the world's first all superconducting motor and he has achieved global recognition for his novel ideas on the magnetisation of superconductors which will provide a field strength an order of magnitude stronger than conventional magnetic materials, enabling smaller, lighter, more efficient motors and generators. Dr. Coombs has authored more than ten patents and has a particular specialisation in Magnetism.

Title of Presentation

HTS for Renewable Energy



Dr. Quan Li

Centre for Superconductor and Energy Technology University of
Edinburgh
UK

Dr. Quan Li received both Bachelor (2003) and Master (2006) in Engineering from Tsinghua University China, and PhD (2011) from the University of Cambridge UK. In 2011, he was awarded “Young Scientist Research Fellowship” by the Japan Society for the Promotion of Science (JSPS) and was working on HTS power applications at Kyoto University Japan from 2011 to 2013. Now he is an Assistant Professor (Lecturer) at the University of Edinburgh, leading a group working on Superconductor and Energy Technology, including power cables, power generators, medical accelerators and novel HTS renewable energy applications. He is also a Guest Professor at Tianjin University, a Guest Lecturer at KTH Royal Institute of Technology, and a Fellow of Higher Education Academy (FHEA). He was awarded “Lundgren Research Award” in UK 2009, “Researcher of the Year” in Japan 2013, “Principal’s Excellence Award” in UK 2014. He acts as External PhD Examiner at the University of Cambridge, Conference Chairman of International Conference on Energy Challenges, Vice-President of Scotland Sustainable Energy Society, Programme Committee Member of IEEE/IET international conferences. He has been invited to over 15 international conferences and has given more than 20 invited talks and lectures in the past years.

Title of Presentation

Cryogenic Electrical Insulation - Common Techniques for Superconducting Power Application



Prof. Naoki HAYAKAWA

Department of Electrical Engineering and Computer Science,
Nagoya University
Japan

Naoki Hayakawa received the B.S., M.S. and Ph.D. degrees in electrical engineering from Nagoya University in 1985, 1987 and 1991, respectively. Since 1990, he has been at Nagoya University and presently he is a Professor of Nagoya University at the Department of Electrical Engineering and Computer Science. From 2001 to 2002, he was a guest scientist at the Forschungszentrum Karlsruhe/Germany. His research interests include high voltage engineering and electrical insulation techniques for electric power apparatus including superconducting power apparatus. He has published over 170 papers in peer-reviewed academic journals. Prof. Hayakawa is a member of IEEE, IEE of Japan and CIGRE, and the secretary of CIGRE WG D1.38 “Emerging Test Techniques Common to High Temperature Superconducting (HTS) Power Applications”.

Title of Presentation

The Production of High-quality 2G HTS Wire and its Integration into Devices from a Russian Perspective



Dr. S. Samoilenkov

SuperOx, 20/2 Nauchnyi proezd
Russia

Dr. Sergey Samoilenkov was a student of Chemistry Department, Moscow State University during 1991-1996, and then a postgraduate student of Chemistry Department, Moscow State University, with the Diploma in the field of $\text{LuBa}_2\text{Cu}_3\text{O}_{7-x}$ thin films at Moscow State University in 1996, and PhD Thesis of “Thin epitaxial $\text{RBa}_2\text{Cu}_3\text{O}_{7-x}$ films: metalorganic chemical vapor deposition, structure and properties”, Moscow State University in 1999, respectively. During 2000-2005, he was a research fellow at Institute of Surface Technics (Institut fuer Oberflaechentechnik, IOT), Braunschweig Technical Univeristy, Germany. From December 2005 to the present time, he has been a senior scientific researcher at the Institute of High Temperature RAS, Moscow. During November 2006 – February 2013, he was the Chief Technical Officer of SuperOx, and from February 2013 to the date, he has been the Chief Executive Officer of SuperOx. His professional interests cover the Materials science, Electroenergetics, Thin films and coatings, High temperature superconductors (HTS). Moreover, his received a number of awards, including the 1996 Young Scientist Award of European Materials Research Society, Strasbourg, France, 2006 Laureate of scientific work contest in energetics “New generation” (RAS and RAO EES), Moscow, and 2008 Laureate of the contest “Energy of youth”, “Global Energy” foundation, Moscow.



Prof. Wei Dai

Key laboratory of Cryogenics
Chinese Academy of Sciences
China

Dr. Wei Dai received a Bachelor degree from Shanghai Jiao Tong University in 1994 and a Ph.D. from Shanghai Jiaotong University in 2000. After spending two years as Post-doc in Nihon University of Japan, he joined Technical Institute of Physics and Chemistry of Chinese Academy of Sciences. His research interests include cryocoolers, Stirling engines, thermoacoustics and flow visualization technologies. He has published over 30 international journal papers on cryocoolers and thermoacoustics.



Dr. Rene Fuger

Guina Energy Group
Australia

Dr. Rene Fuger completed the diploma program in Technical Physics, Vienna University of Technology, Austria, in April 2005, with the thesis: "Magnetic and superconducting phase transitions in HoNi₂B₂C single crystals", and then a doctoral program in Technical Science, Vienna University of Technology, Austria, in October 2008, with the thesis: "Analysis of high temperature superconductors for applications in fusion magnets". After that, he was employed as a Postdoctoral Researcher at Kyushu University from November 2008 to February 2011, conducting the experimental verification of high temperature superconductor wire performance with different techniques and equipments. Then he joined the Guina Energy Group, Australia, focusing on the reviewing, developing, testing and analyzing of new technologies for high performance electric motors and generators, as well as working with multi-physics software to analyze electromagnetic and thermal designs, and coordinating and supervision of projects from design to final manufacturing state and experimental verification of proof-of-concept models.



ASEMD2015 Technical Program

Overview for All Technical Program

Session	Subjects	Classification	Time	Room
P	Plenary Talks	PL-I	09:45-12:15 AM, Nov. 21	Grand Auditorium
		PL-II	08:00-09:30 AM, Nov. 22	Grand Auditorium
		PL-III	16:30-18:30 PM, Nov. 22	Grand Auditorium
A	Materials	A1-Oral	13:30-15:25 PM, Nov. 21	Hall 2
		A2-Oral	15:40-17:35 PM, Nov. 21	Hall 2
		AP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
B	Superconducting Electric Power Devices	B1-Oral	09:45-12:10 AM, Nov. 22	Grand Auditorium
		B2-Oral	13:30-15:30 PM, Nov. 22	Hall 2
		BP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
C	Electrical Power Systems	C-Oral	09:45-12:10 AM, Nov. 22	Hall 2
		CP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
D	Electrical Machines	D1-Oral	13:30-15:25 PM, Nov. 21	Grand Auditorium
		D2-Oral	15:40-17:35 PM, Nov. 21	Grand Auditorium
		D3-Oral	13:30-15:30 PM, Nov. 22	Grand Auditorium
		DP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
E	Magnets	E1-Oral	09:45-12:10 AM, Nov. 22	Hall 4
		E2-Oral	13:30-15:30 PM, Nov. 22	Hall 4
		EP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
F	Electronics	F1-Oral	13:30-15:25 PM, Nov. 21	Hall 4
		F2-Oral	15:40-17:35 PM, Nov. 21	Hall 4
		FP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
G	Cryogenics and Thermal/Electrical Insulation	G-Oral	09:45-12:10 AM, Nov. 22	Hall 6
		GP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
H	Modeling, Analysis and Design	H1-Oral	13:30-15:25 PM, Nov. 21	Hall 6
		H2-Oral	15:40-17:35 PM, Nov. 21	Hall 6
		H3-Oral	13:30-15:30 PM, Nov. 22	Hall 6
		HP-Poster	17:35-18:30 PM, Nov. 21 15:45-16:30 PM, Nov. 22	Hall 5A-5B& Front Hall
W	HTS Application Workshop	WS	14:00-16:00 PM, Nov. 23	Lecture Hall@SHU Lehu Hotel



Plenary Sessions

Plenary I

9:45 AM to 12:15 PM, Saturday, November 21, 2015, Grand Auditorium

Chairs: Jianquo Zhu and Pascal Tixador

9:45 AM 1PL-01

Advances in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_x$ Superconducting Wires and Related Technologies for High Field Superconducting Magnets

Justin Schwartz

North Carolina State University, USA

10:15 AM 1PL-02

Progress in Nanostructured Coated Conductor Research and Development

X. Obradors¹, T. Puig¹, C. Pop¹, S. Ricart¹, M. Coll¹, J. Gázquez¹, A. Palau¹, C. F. Sánchez¹, X. Granados¹, P. Cayado¹, B. Villarejo¹, L. Soler¹, B. Mundet¹, F. Vallés¹, A. Stangl¹, Z. Li¹, V. R. Vlad², A. Calleja², M. Vilardell², A. Garzon³, N. Chamorro², J. Ros³, P. Roura⁴, J. Farjas⁴, E. Bartolomé⁵, A. Usoskin⁶

¹Institut de Ciència de Materials de Barcelona, ICMAB-CSIC

Campus de la UAB, 08193 Bellaterra, Catalonia, Spain

²OXOLUTIA SL, Edifici Eureka, Parc de Recerca de la UAB, Campus de la UAB, 08193, Bellaterra, Catalonia, Spain

³ Departament de Química, Universitat Autònoma de Barcelona, Campus UAB, Cerdanyola, Catalonia, Spain

⁴ Departament de Física, Universitat de Girona, Girona, Catalonia, Spain

⁵ Escola Univ. Salesiana de Sarrià (EUSS), 08017 Barcelona, Catalonia, Spain

⁶ Bruker HTS GmbH, Siemensstrasse, 88, 63755, Alzenau, Germany, Germany

10:45 AM 1PL-03

Superconducting Nanowire Single Photon Detection (SNSPD): Principle, Progress and Applications

Lixing You

¹ Division of Superconductivity, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences (SIMIT, CAS)

² Department of Physics, University of California, Berkeley

11:15 AM 1PL-04

PM and Superconducting Technology Applications at GE

Manoj Shah

GE's Global Research Center, USA

11:45 AM 1PL-05

Superconducting Metal Enclosed Liquid Nitrogen Insulated Switchgear

Jianhua Wang

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University

Plenary II

8:00 AM to 9:30 AM, Sunday, November 22, 2015, Grand Auditorium

Chairs: Xavier Obradors and Justin Schwartz

8:00 AM 2PL-01

Advance in HTS Power Applications with Recent Activities in Germany

Bernhard Holzapfel

Karlsruhe Institute of Technology (KIT), Germany

8:30 AM 2PL-02

Design and Development of Magnets for HL-2M Tokamak

Yuntao Song

Southwestern Institute of Physics, Chengdu

9:00 AM 2PL-03

Progress in the Development of Superconducting Machines

T. A. Coombs^{1,2}, L. Fu¹, J. Geng¹, M. Bagdhadi¹, K. Matsuda²

¹Cambridge University

²Magnifye Ltd, 66 Maids Causeway, Cambridge, UK

Plenary III

16:30 PM to 18:00 PM, Sunday, November 22, 2015, Grand Auditorium

Chair: Ying Xin and Tim Coombs

16:30 PM 3PL-01

SMES for Pulsed Applications

P. Tixador, A. Badel, J. Cicéron

Grenoble-INP, France

17:00 PM 3PL-02

HTS for Renewable Energy

Quan Li

Centre for Superconductor and Energy Technology, University of Edinburgh

17:30 PM 3PL-03

Recent Progress and Trends in Coted Conductor Development in U.S.

Vyacheslav Solovyov

¹Brookhaven Technology Group Inc., Stony Brook, NY

²Brookhaven National Laboratory, Upton, NY

Oral Sessions

Session A1 Materials I

13:30 PM to 15:25 PM, Saturday, November 21, 2015, Lecture Hall 2

Chairs: Xiaolin Wang and Bernhard Holzapfel

13:30 PM A1-1 (Invited)

The Production of High-quality 2G HTS Wire and its Integration into Devices from a Russian perspective

¹**S. Samoilenkov**, ¹A. Molodyk, ²S. Lee, ²V. Petrykin, ¹A. Mankevich, ¹V. Kalitka, ¹A. Blednov, ¹M.

Moysykh, ¹A. Markelov, ¹I. Martynova, ¹A. Adamenkov, ¹V. Chepikov, ¹V. Amelichev, ¹A. Kamenev,

¹A. Makarevich, ¹D. Gorbunova, ¹A. Kaul

¹SuperOx, 20/2 Nauchnyiproezd, Moscow, Russia

²SuperOx Japan LLC, SIC-3, 1880-2 Kamimizo, Sagamihara, Kanagawa, Japan

13:50 PM A1-2 (Invited)

Twiting Characterization of 2G HTS Tapes

Jiawei Li, Yinshun Wang

North China Electric Power University

14:10 PM A1-3

Surface Plasmon Polariton Propagation Modeling for Graphene Parallel Pair Sheets Using FDTD

¹M. MasudRana, ¹M. Biplob Hossain, ¹M. Rabiul Islam, ²Youguang Guo

¹Department of Electrical and Electronic Engineering, Rajshahi University of Engineering and Technology, Bangladesh

²Faculty of Engineering and Information Technology, University of Technology Sydney (UTS), Sydney, Australia

14:25 PM A1-4

The Influence of the YBCO Tape Arrangement and Gap between the Two Tapes on AC Losses

¹Z.S.Wu, ¹Y.R.Xue, ¹J.Fang, ¹Y.J.Huo, ¹D.X.Chen, ²L.Yin

¹School of Electrical Engineering, Beijing Jiaotong University

²Beijing Electric Power Economic Research Institute

14:40 PM A1-5

Experimental Research and Analysis of AC Critical Current in YBCO Tapes

Liu Erwei, Jin Fang, Chen Xiaoyu

School of Electrical Engineering, Beijing Jiaotong University

14:55 PM A1-6

Rebalance of Superconducting Tapes in Parallel Connection

Kun Yang, Bin Xiang, Yaxiong Tan, Zhiyuan Liu, YingsanGeng, Jianhua Wang, Satoru Yanabu
State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University

15:10 PM A1-7

Effects of Atmospheric Pressure on Tracking Failure of Epoxy/SiO₂ Nanocomposite

¹J. W. Zhang, ¹Q. Q. li, ¹Ang Ren, ²M. L Yin, ²Feng He, ²Bin Li

¹Shandong Provincial Key Laboratory of UHV Transmission Technology and Equipment, School of Electrical Engineering, Shandong University

²Jinan Power-supply Company

Session D1 Electrical Machines I

13:30 PM to 15:25 PM, Saturday, November 21, 2015, Grand Auditorium

Chairs: Fengge Zhang and Ronghai Qu

13:30 PM D1-1 (Invited)

A Novel Triple-Rotor Axial-Flux Vernier Permanent Magnet Machine

Rui Zhang, Jian Li, Dawei Li

State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical & Electronic Engineering, Huazhong University of Science and Technology, Wuhan

13:50 PM D1-2 (Invited)

Magnetic Field Modulation Analysis and Experimental Research of Brushless Doubly FedGenerator with Hybrid Rotor

Fengge Zhang, Siyang Yu, Xiuping Wang

School of Electrical Engineering, Shenyang University of Technology

14:10 PM D1-3

Influence of Different Stator Cores on Electromagnetic Performance of Axial Field Flux-Switching Permanent Magnet Machines

¹**Wei Zhang**, ²Wei Zhang, ²Mingyao Lin, ²Da Xu, ²Yong Kong

¹School of Electrical Engineering, Nantong University

²School of Electrical Engineering, Southeast University

14:25 PM D1-4

Design and Optimization of High Speed Permanent Magnet Synchronous Motor for Pulsed Power system

Yuan Wan, Shumei Cui, Shaopeng Wu

School of Electrical Engineering and Automation, Harbin Institute of Technology

14:40 PM D1-5

An Optimal Flux-Switching Permanent Magnet Machine for Hybrid Electric Vehicles

¹**Gang Lei**, ¹Youguang Guo, ¹Jianguo Zhu, ²Wei Xu

¹School of Electrical, Mechanical and Mechatronic Systems, University of Technology, Sydney, Australia

²School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

14:55 PM D1-6

Design and Analysis of a Permanent Magnet Slotted Limited-Angle Torque Motor with Special Tooth-Tip Structure for Torque Performance Improvement

Jibin Zou, Guodong Yu, Yongxiang Xu, Junlong Li, Qian Wang

Department of Electrical Engineering, Harbin Institute of Technology

15:10 PM D1-7

Design and Analysis of a Hybrid Axial Field Flux-Switching Permanent Magnet Machine

Da Xu, Mingyao Lin, Xinghe Fu, Li Hao, Wei Zhang, Jilong Zhao

School of Electrical Engineering, Southeast University

Session F1 Electronics

13:30 PM to 15:25 PM, Saturday, November 21, 2015, Lecture Hall 4

Chairs: Shiping Zhao and Biaobing Jin

13:30 PM F1-1 (Invited)

Quantum Phase Transition in Mesoscopic Superconductors

^{1,2}**Shiping Zhou**, ¹Wan Lee, ^{1,2}Guo-Qiao Zha,

¹Department of Physics, Shanghai University

²Shanghai Key Laboratory of High Temperature Superconductors, Shanghai

13:50 PM F1-2 (Invited)

Determination of Level Populations in Superconducting Phase Qutrits

Shi Ping Zhao

Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, China

14:10 PM F1-3 (Invited)

An Efficient and Polarization Sensitive SNSPD with Coupled Asymmetric SRR-loaded Cavity

Biaobing Jin, Mengmeng Yang, Fan Zheng, Guanghao Zhu,

Research Institute of Superconductive Electronics, School of Electronic Science and Engineering, Nanjing University

14:30 PM F1-4 (Invited)

Experimental Study of Ultra-low Field Nuclear Magnetic Resonance and Imaging with HTS SQUID Detector

Dongning Zheng

Institute of Physics, Chinese Academy of Sciences, Beijing, China

14:50 PM F1-5

The Application of Magnetic Random Access Memory in Remote Sensing Camera

Xu Zhang, Tao Liu, Dapeng Zhang, Hua Wang, Shourong Zhang

Beijing Institute of Space Mechanics & Electricity

15:05 PM F1-6

Fabrication and Measurements of DC SQUID based on Nb/Al-AIOx/Nb Tunnel Junctions

Liliang Ying, ^{1,2}Wei Xiong, ^{1,3}Hai Wang, ¹Guofeng Zhang, ^{1,2,3}Zhen Wang

¹Shanghai Institute of Microsystem and Information Technology, CAS

²Shanghai Tech University

³University of Chinese Academy of Sciences

Session H1 Modeling, Analysis and Design I

13:30 PM to 15:25 PM, Saturday, November 21, 2015, Lecture Hall 6

Chairs: Shuhong Wang and Zhizhen Liu

13:30 PM H1-1 (Invited)

AC Losses Calculation of High Temperature Superconductor Axial Flux Electric-dynamic Levitation Motor

Shuo Li, ²Yu Fan, ²Jin Fang, ³Duxing Chen

¹College of information science and engineering, Northeastern University

²School of electrical engineering, Beijing Jiaotong University

³Barcelona autonomous university, Barcelona, Spain

13:50 PM H1-2 (Invited)

Six-Sigma Robust Topology and Shape Optimization for Flux Switching Permanent Magnet Machines

Gang Lei, ¹Youguang Guo, ¹Jianguo Zhu, ²Wei Xu,

¹School of Electrical, Mechanical and Mechatronic Systems, University of Technology, Sydney, Australia

²School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

14:10 PM H1-3

Rotational Magnetic Properties of Silicon Steel Laminations By 3-D Magnetic Properties Measurement

Yongjian Li, ¹Lei Cao, ¹Changgeng Zhang, ²Qingxin Yang

¹Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology

²Tianjin Key Laboratory of AEEET, Tianjin Polytechnic University

14:25 PM H1-4

Magnetic Levitation Characteristics of 3-DOF Deflection Type PM Motor

Zheng Li, ²Qunjing Wang

¹School of Electrical Engineering, Hebei University of Science and Technology

²Collaborative Innovation Center of Industrial Energy Saving and Power Quality Control, Anhui University

14:40 PM H1-5

An Efficient Conformal Mapping Method for Air-gap Magnetic Field Analytical Calculation in An Eccentric Magnetic Harmonic Gear

Ronghui Liu, Zhang Yuejin

School of Mechatronics Engineering and Automation, Shanghai University

14:55 PM [H1-6](#)

Analysis and Calculation of Eddy Current Braking Force for An Ironless Linear Synchronous Motor with Cooling System

Lu Zhang, Baoquan Kou, Yusheng Chen

Department of Electrical Engineering, Harbin Institute of Technology

15:10 PM [H1-7](#)

The Prediction of Energy-saving Electromagnetic Flowmeter based on Kalman Filtering Method

Xiaoguang Huang, Shihong Yue, Hao Zhang, Benyuan Sun

School of Electrical Engineering and Automation, Tianjin University

Session A2 Materials II

15:40 PM to 17:35 PM, Saturday, November 21, 2015, Lecture Hall 2

Chairs: Yiyuan Xie and Surgey Samoilenkov

15:40 PM [A2-1](#) (Invited)

Hydrostatic Pressure Induced Significant Enhancement of Critical Current Density by Orders of Magnitude in Iron Pnictide Superconducting Tapes, Granular Bulks and Single Crystals

Xiaolin Wang

Institute for Superconducting and Electronic Materials, Faculty of Engineering, Australian Institute for Innovative Materials, University of Wollongong, North Wollongong, Australia

16:00 PM [A2-2](#) (Invited)

Evolution of Morphology and Residual Stress of GdBa₂Cu₃O_{7-δ}/EuBa₂Cu₃O_{7-δ} Quasimultilayers

Jianxin Lin, Xuming Liu, Yanqun Guo, Feng Fan, Yuming Lu, Chuanyi Bai, Zhiyong Liu, Chuanbing Cai
Shanghai Key Laboratory of High Temperature Superconductors, Department of physics, Shanghai University

16:20 PM [A2-3](#)

Influence of Interface Reactions on the YBCO Films Grown by Fluorine-free Solution Route

^{1,2}**Yue Zhao**, ²Xiao Tang, ¹Wu Wei, ²Jean-Claude Grivel

¹Department of Electrical Engineering, Shanghai Jiaotong University

²Department of Energy Conversion and Storage, Technical University of Denmark, Denmark

16:35 PM [A2-4](#)

Study on Quantitative Pulse Magnetization of NdFeB

Zhihua Chen, Junquan Chen

National Key Laboratory of Science and Technology on Vessel Integrated Power System
Naval University of Engineering, Wuhan

16:50 PM [A2-5](#)

Fabrication and Properties of TI-2212 Films on CeO₂-Buffered Sapphire Substrates

¹**Qinglian Xie**, ²Shaolin Yan, ³Hongwei Yue, ²Lu Ji, ¹Guohua Huang, ¹Yuqing Fang, ²Xinjie Zhao, ²Lan Fang

¹College of Physics and Electronic Engineering, Guangxi Teachers Education University, Nanning

²Department of Electronics, Nankai University, Tianjin

³School of Information and Communication, Guilin University of Electronic Technology, Guilin

17:05 PM [A2-6](#)

Anomalous Thermal Expansion of PrBCO Compounds Revisited at Low Temperatures

¹**Mahieddine Lahoubi**, ²Shengli Pu, ²Delong Su

¹Department of Physics, Laboratory L.P.S. Faculty of Science, Badji Mokhtar Annaba University, Annaba, Algeria

²College of Science University of Shanghai for Science and Technology, Shanghai

17:20 PM A2-7

Quantity Analysis On The Thermal Stability of LTS/HTS Composite Superconducting Wire

Yingmin Cui, Yin Shun Wang, Gang Lu

North China Electric Power Univeristy

Session D2 Electrical Machines

15:40 PM to 17:35 PM, Saturday, November 21, 2015, Grand Auditorium

Chairs: Quan Li and Daohan Wang

15:40 PM D2-1 (Invited)

Development of Electric Motors with Soft Magnetic Composite Materials

¹Youguang Guo, ¹Jianguo Zhu, ²Jianxun Jin

¹Faculty of Engineering and Information Technology, University of Technology Sydney, Sydney, Australia

²School of Electrical Engineering and Automation, Tianjin University, Tianjin

16:00 PM D2-2 (Invited Talk)

Interior Permanent Magnet Motor Parameter Analysis and Flux-weaken Drive for EV Traction

Yue Zhang, Wenping Cao, John Morrow

School of Electronics, Electrical Engineering and Computer Science, Queens University, Belfast, Belfast, UK

16:20 PM D2-3

MPPT Control of a Novel Axial flux Permanent Magnet Machine for Wind Power Generation

¹Xiang Luo, ²Shuangxia Niu

¹School of Naval Architecture, Ocean & Civil Engineering, Shanghai Jiao Tong University, Shanghai

²Department of Electrical Engineering, The Hong Kong Polytechnic University, Hongkong, China

16:35 PM D2-4

Torque Ripple Reduction for Interior Permanent Magnet Machines Using Overlapped windings with Fractional Slot Per Pole Pair

Jing Rao, Ronghai Qu, Dawei Li, Yuting Gao

State Key Laboratory of Advanced Electromagnetic Engineering and Technology,

College of Electrical & Electronic Engineering, Huazhong University of Science and Technology, Wuhan

16:50 PM D2-5

A Novel Structure of Rotating PM Vernier Permanent Magnet Machine

Yunchong Wang, W. N. Fu, Shuangxia Niu, S. L. Ho

The Hong Kong Polytechnic University, Hong Kong

17:05 PM D2-6

A Novel Variable-Flux Pole-Changing Permanent Magnet Memory Machine

Dong Wang, Heyun Lin, Hui Yang, Yang Zhang, Kaikai Guo, Yunkai Huang

Engineering Research Center for Motion Control of Ministry of Education
Southeast University

17:20 PM D2-7

Analyze of Permanent Magnet Loss of High Speed Permanent Magnet Synchronous Motor for Flywheel Energy Storage System

Gengji Wang, Ping Wang, Xiaoyuan Wang

School of Electrical Engineering and Automation, Tianjin University, Tianjin

15:40 PM to 17:35 PM, Saturday, November 21, 2015, Lecture Hall 4

Chairs: Haiwen Liu and Bin Wei

15:40 PM F2-1 (Invited)

Design of Dual-Band Superconducting Bandpass Filter Using Dual-Mode Hairpin Ring Resonator
Haiwen Liu

Department of Information Engineering, East China Jiaotong University, Nanchang

16:00 PM F2-2 (Invited)

The Progress of Thallium HTS Filters in China
Lu Ji

Department of Electronics, Nankai University, Tianjin

16:20 PM F2-3 (Invited)

Development of Superconducting Filters and Applications in Wireless Communication Systems
Bin Wei, Bisong Cao, Xubo Guo, Xiaoping Zhang

Department of Physics, Tsinghua University, Beijing

16:40 PM F2-4 (Invited)

Developments of Ultra-narrowband High Temperature Superconducting Bandpass Filters

Liang Sun, Chunguang Li, Tao Yu, Lu Gao, Yun Wu, Jia Wang, Yongbo Bian, Xueqiang Zhang, Hong Li, and Yusheng He

Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing

17:00 PM F2-5

Design and Implementation of Low-Phase-Noise Temperature-Compensated Crystal Oscillator
Junjie Jiao, Xianhe Huang, Wei Fu

School of Automation Engineering, University of Electronic Science and Technology of China, Chengdu

17:15 PM F2-6

Design and Analysis of a Novel Axial Field Flux-Switching Memory Machine Suitable for Variable Speed Operation

Mingyao Lin, Nian Li, Da Xu, Lei Xu, Wei Zhang

School of Electrical Engineering, Southeast University, Nanjing

Session H2 Modeling, Analysis and Design II

15:40 PM to 17:35 PM, Saturday, November 21, 2015, Lecture Hall 6

Chairs: Yonqian Li and Jin Fang

15:40 PM H2-1 (Invited)

Extended Finite Element Method for Electromagnetic Fields

¹Na Na Duan, ^{1,2}Wei Jie Xu, ¹Shu Hong Wang, ²Jian Guo Zhu, ²You Guang Guo

¹State Key Laboratory of Electrical Insulation and Power Equipment, School of Electrical Engineering, Xi'an Jiaotong University, Xi'an

²School of Electrical, Mechanical and Mechatronic Systems, University of Technology, Sydney, Australia

16:00 PM H2-2 (Invited)

Numerical Modeling of Pinning and Skin Effects in Silicon Steel Plate Using Finite Element Method

¹Haiyang Kong, ¹Fuxin Fang, ¹Weimin Guan, ²Yanhui Gao, ²Kazuhiro Muramatsu

¹School of Electrical Engineering, Wuhan University, Wuhan

²Department of Electrical and Electronic Engineering, Saga University, Saga Japan

16:20 PM H2-3

A Novel Method for Fault-tolerant NoC with FPGA

¹**Zhi Lu**, ¹Shuyan Jiang, ¹Chao Wu, ¹Guoming Song, ²Gang Luo, ²Qi Li

¹School of Automation Engineering, University of Electronic Science and Technology of China, Chengdu

²Chengdu Technological University, Chengdu

16:35 PM H2-4

The MTPA Control Based on Gradient Torque Limit of the IPMSM Vector Control System

Qunzhang Tu, Jiakun Lin, Xia Feng, Kejun Duan

College of Field Engineering, PLA Univ. of Sci. & Tech, Nanjing

16:50 PM H2-5

New Model Predictive Current Control Strategy Based Rotor Flux for Linear Induction Machines

Wei Xu, Jianqiao Zou

School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

17:05 PM H2-6

Performance Simulation of Flux Modulation Permanent Magnet Machines With Three Topologies

¹**Huijuan Liu**, ¹Yue Hao, ²Shuangxia Niu, ¹Jingxiong Zhang

¹School of Electrical Engineering, Beijing Jiaotong University, Beijing

²Dept. of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong

17:20 PM H2-7

Permanent Magnet Reduction of IPMSM on Efficiency Map Simulation

Jing juan Du, Xiaoyuan Wang, Haiying Lu

School of Electrical Engineering and Automation, Tianjin University, Tianjin

Session B1 Superconducting Electric Power Devices I

9:45 AM to 12:10 PM, Sunday, November 22, 2015, Grand Auditorium

Chairs: Rene Fuger and Shaotao Dai

9:45 AM B1-1 (Invited)

Development of 35kV/1kA Three-phase HTS Power Cable

Nobuhiro Midou

SWCC SHOWA HOLDINGS CO., LTD., Japan

10:05 AM B1-2 (Invited)

Development of 35kV 2000A CD HTS cable demonstration project

Xihua Zong, Dong Wei, Yunwu Han, Tao Tang, Zhiyong Zhang, Zhiguang Yu

Shanghai Electric Cable Research Institute

Superconducting Project Technologies Research Centre, Shanghai

10:25 AM B1-3

Inductance Evaluation of a 22.9 kV/50 MVA HTS Cable with Shield by Electrical Method

¹**Z.Y. Li**, ¹D. Hu, ¹Z. Yao, ¹Y. Wang, ¹Z. Hong, ²K. Ryu, ³Y.H. Ma, ⁴H.S. Yang

¹Department of Electrical Engineering, Shanghai Jiao Tong University Shanghai

²Department of Electrical Engineering, Chonnam National University, Gwangju, Korea

³Division of Electronics and Communication Engineering, Yanbian University, Yanji

⁴Korea Electric Power Research Institute Daejeon, Korea.

10:40 AM B1-4

Current Imbalance and AC Losses of Long Distance DC HTS Cable

¹**Yury V. Ivanov**, ¹Vladimir S. Vyatkin, ¹Hirofumi Watanabe, ¹Noriko Chikumoto, ¹Makoto Hamabe,
¹Jian Sun, ¹Hirohisa Takano, ¹Satarou Yamaguchi, ²Edmund S. Otabe
¹Center of Appl. Supercond. & Sustainable Energy Research, Chubu University, Kasugai Japan
²Dept. of Computer Science and Electronics, Kyushu Institute of Technology, Iizuka Japan

10:55 AM B1-5

Influences of Terminal Current on Critical Current of DC HTS Cable with Large Current Capacity

¹**Han Zhang**, ²Yinshun Wang

¹Key Laboratory of HV and EMC Beijing, University of North China Electric Power, Beijing

²State Key Laboratory for Alternate Electrical Power System with Renewable Energy Source, University of North China Electric Power, Beijing

11:10 AM B1-6

Electromagnetic Design of A High Temperature Superconductivity Controllable-Reactor

S. Shen, Y. Tang, L. Ren, H. Dong, X. Zhao, Z. Wang

State Key Laboratory of Advanced Electromagnetic Engineering and Technology Huazhong University of Science and Technology, Wuhan

11:25 AM B1-7

Heat Generation and Temperature Rise in a Resistive Type Superconducting Fault Current Limiter

Yaxiong Tan, Kun Yang, Bin Xiang,

Jing Yan, Zhiyuan Liu, Yingsan Geng, Jianhua Wang, Satoru Yanabu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an

11:40 AM B1-8

Optimized Design of the Saturated Iron Core Superconducting Fault Current limiter

Ziqiang Wei, Ying Xin, Jianxun Jin

Tianjin University, Tianjin

11:55 AM B1-9

Improved Discretization-based Decoupled Feedback Control for Series Connected Converter of SCC

Jing Shi, Kang Gong, Yang Liu, Xiao Zhou, Yuejin Tang, Li Ren, Jingdong Li

State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology

Session C Electrical Power Systems

9:45 AM to 12:10 PM, Sunday, November 22, 2015, Lecture Hall 2

Chairs: Bin Li and Lei Chen

9:45 AM C-1 (Invited)

The application of Superconductive Fault Current Limiter in VSC-HVDC System

Botong Li, Jia Jian Fei, Li Bin, Zhang Yun Ke

Key Laboratory of Power System Simulation and Control of Ministry of Education, Tianjin University, Tianjin

10:05 AM C-2 (Invited)

Low-Voltage Ride-Through Capability Enhancement of DFIG-Based Wind Turbine With a Resistive-Type SFCL Connected in Series With Rotor Winding

¹**Zhi-Ce Zou**, ¹Xian-Yong Xiao, ¹Ran Ou, ²Yi Zhang, ¹Chang-Song Li

¹College of Electrical Engineering and Information Technology Sichuan University, Chengdu

²State Grid Fujian Electric Power research Institute, State Grid Corporation of China, Fuzhou

10:25 AM C-3

Analysis and Design of a Novel Linear Generator for Harvesting Oceanic Wave Energy

¹**Omar Farrok**, ¹M. Rafiqul Islam Sheikh, ¹M. Rabiul Islam, ²Wei Xu, ³Youguang Guo, ³Jianguo Zhu

¹Department of Electrical and Electronic Engineering, Rajshahi University of Engineering and Technology Rajshahi-6204, Bangladesh

²HUST, Wuhan

³UTS, NSW 2007, Australia

10:40 AM C-4

Cumulative Deformation Analysis of Transformer Winding under Short-Circuit Fault Using 3-D FEM

¹**Hai Jun Zhang**, ²Shu Hong Wang

¹Faculty of Electrical Engineering, Xi'an Jiaotong University

²Faculty of Hydroelectric Power, Hebei University of Engineering

10:55 AM C-5

Superconducting Magnetic Energy Storage Based Power System Control Using Adaptive Dynamic Programming

¹**Yufei Tang**, ¹Haibo He, ²Chaoxu Mu

¹Department of Electrical and Computer Engineering, University of Rhode Island, Kingston, RI, USA

²School of Electrical and Automation Engineering, Tianjin University, Tianjin

11:10 AM C-6

Microgrid Stabilization by SMES with SOC Control

¹**Issarachai Ngamroo**, ²Sitthidet Vachirasricirikul

¹Department of Electrical Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand

²School of Engineering, University of Phayao, Phayao, Thailand

11:25 AM C-7

Comparative Study of Inductive and Resistive SFCL to Mitigate the DC Fault Current in a VSC-HVDC System Integrated with Wind Power Farms

Lei Chen, Fei Tang, Li Ren

School of Electrical Engineering, Wuhan University, Wuhan

11:40 AM C-8

Design and Loss Analysis of the High Frequency PFC Converter

Qiang Li, Huaiyou Zhao, Kai Yao

Nanjing University of Science and Technology

11:55 AM C-9

A Novel Control Technology Based on Virtual Synchronous Generator Applied in Microgrid

¹**Haishi Zhang**, ²Xiao Yuan Chen

¹Department of Electrical Engineering, Southwest Jiaotong University

²Sichuan Normal University, Chengdu

Session E1 Magnets I

9:45 AM to 12:10 PM, Sunday, November 22, 2015, Lecture Hall 4

Chairs: Qiang Li and Li Ren

9:45 AM E1-1 (Invited)

Development of High Magnetic Field Magnet Technologies for the Magnetic Resonance Medical Imaging

Qiuliang Wang, Wenhui Yang, Feng Liu, Ling Xia, Yi Li, Zhipeng Ni, Luguang Yan, Jianyi Xu, Junsheng Cheng, Hui Wang

Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing

10:05 AM E1-2 (Invited)

The Design and Progress of the Superconducting Magnet System for CFETR

Qiang Li

Institute of Plasma Physics, Chinese Academy of Sciences, Hefei

10:25 AM E1-3

Study on HTS/LTS Hybrid Superconducting Central Solenoid for Fusion Device

¹Jinxing Zheng, ¹Yuntao Song, ²Rui Kang, ²Lei Wang

¹Institute of Plasma Physics, Chinese Academy of Sciences

²School of Nuclear Science and Technology, University of Science and Technology of China

10:40 AM E1-4

Optimal Design of Magnetic Gears with A General Pattern of Permanent Magnet Arrangement

W. N. Fu, Longnu Li

Department of Electrical Engineering, The Hong Kong Polytechnic University

10:55 AM E1-5

Development of an LTS/HTS Hybrid Superconducting Magnet

Wei Pi, Yingmin Cui, Yinshun Wang, Jin Dong

North China Electric Power University, Beijing

11:10 AM E1-6

Development of YBCO Insert for a 25 T Superconducting Magnet

Jianhua Liu, Shouseng Song, Chenchen Gou, Jianbo Zhou, Lei Wang, Yi Li, Yinming Dai

Institute of Electrical Engineering, Chinese Academy of Science, Beijing

11:25 AM E1-7

Experimental Study on Temperature and of Peltier Current Leads Heatleakage

¹Guixin Chen, ¹Yinshun Wang, ²Wei Pi

¹State Key Laboratory of New Energy Renewable Power System, North China Electric Power University, Beijing

²Beijing Key Laboratory of High Voltage and Electromagnetic Compatibility, North China Electric Power University, Beijing

11:40 AM E1-8

Identification and Mixed-Sensitivity H_∞ Control of Permanent Magnet Biased Axial Magnetic Bearing with Multiple Air Gaps

¹Zhenzhong Su, ¹Dong Wang, ²Kang Wang, ¹Leitao Wu, ¹Xianbiao Zhang

¹National Key Laboratory of Science and Technology on Vessel IPS, Naval University of Engineering

²Engineering Research Center for Motion Control of Ministry of Education, Southeast University

11:55 AM E1-9

Mechanical Properties of HTS Magnet for a 5MJ SMES Using Coated Conductor on Round Core

¹Guolei Ma, ¹Yinshun Wang, ²Zhu Jiahui, ²Li Zhenming, ²Liu Wei, ²Qiu Ming

¹State Key Laboratory of New Energy Renewable Power System, North China Electric Power University, Beijing

²Electrical Engineering and New Material Department, China Electric Power Research Institute, Beijing

Session G Cryogenics and Thermal/Electrical Insulation

9:45 AM to 12:10 PM, Sunday, November 22, 2015, Lecture Hall 6

Chairs: Naoki Hayakawa and Boxue Du

9:45 AM G-1 (Invited)

Recent Development of Small-scale Stirling Cycle based Cryocoolers

Wei Dai

Key laboratory of Cryogenics, Chinese Academy of Sciences, Beijing

10:05 AM G-2 (Invited)

Cryogenic Electrical Insulation - Common Techniques for Superconducting Power Application
Naoki Hayakawa

Department of Electrical Engineering and Computer Science, Nagoya University, Japan

10:25 AM G-3

Effects of Low Temperature on Dielectric Properties of Ethylene-propylene-diene Terpolymer Filled with Carbon Black Nanoparticles

J. Li, B. X. Du, Y. Q. Xing, J. X. Jin

School of Electrical Engineering and Automation, Tianjin University, Tianjin

10:40 AM G-4

Helium Boil-off Experiments for a Superconducting Magnet Cryostat with Pulse Tube Cryocoolers
Kun Chang, Bao Zhi Zhao, Shun Zhong Chen

Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing

10:55 AM G-5

Effect of Epoxy Insulation on Strain Distribution in Superconducting Coil

Guang Zhu, Junsheng Cheng, Lankai Li, Jianhua Liu, Jianbo Zhou, Yinmin Dai

Division of Superconducting Magnet Science and Technology, Institute of Electrical Engineering, CAS

11:10 AM G-6

Developing Process of Partial Discharge in Oil-Paper Insulation Under Needle-Plate Defects

¹**Yanjie Cui**, ¹Lingyu Zhu, ¹Shengchang Ji, ²Xiaobo Ou, ²Dan Zhou, ²Chunyao Lin

¹State Key Laboratory of Electrical Insulation and Power, Xi'an Jiaotong University, Xi'an

²High Voltage Technology Research Department, Guangdong Electric Power Research Institute
Guangzhou

11:25 AM G-7

Comparison Between KAPTON Polyimide Insulation Layers and Nylon Plates in Superconducting Tapes Winding

Kun Yang, Yaxiong Tan, Bin Xiang, Zhiyuan Liu, Yingsan Geng, Jianhua Wang, Satoru Yanabu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University

11:40 AM G-8

Effect of Low Temperature on Tree Characteristics in Silicone Rubber under Repetitive Pulse Voltage

¹**T. Han**, ¹B. X. Du, X. ²X. Cheng, ²Y. Zhang

¹School of Electrical Engineering and Automation, Tianjin University

²State Grid Tianjin Electric Power Company

11:55 AM G-9

Effect of Direct Fluorination on Surface Potential Behavior of Polyimide Film under Low Temperature

¹**B. X. Du**, ¹Y. Q. Xing, ¹J. X. Jin, ²J. W. Zhang, ²M. Xiao

¹School of Electrical Engineering and Automation, Tianjin University, Tianjin

²Jinan Power-supply Company

Session B2 Superconducting Electric Power Devices II

13:30 PM to 15:30 PM, Sunday, November 22, 2015, Lecture Hall 2

Chairs: Yinshun Wang and Guangtong Ma

13:30 PM B2-1 (Invited)

Progress of HTC Superconducting Power Technology at IEE

Dai Shaotao

Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing

13:50 PM B2-2 (Invited)

Superconducting Motor Developments at Guina Energy Technologies

Rene Fuger, Ante Guina, David Sercombe, John Kells, Arkadiy Matsekh, Kurt Labes, Tony Lissington, Cesimiro Fabian, Grace Chu

Guina Energy Technologies PTY LTD, Surfers Paradise, Australia

14:05 PM B2-3

Dynamic longitudinal edge effect of high-temperature superconducting linear induction motor

Liu Bin, Xiaoyue Zhang, Jin Fang

School of Electrical Engineering Beijing Jiaotong University, Beijing

14:20 PM B2-4

Multilevel Robust Optimization of a Superconducting Magnetic Energy Storage Based on Design for Six-Sigma

¹Gang Lei, ¹Youguang Guo, ¹Jianguo Zhu, ²Wei Xu

¹School of Electrical, Mechanical and Mechatronic Systems, University of Technology, Sydney, Australia

²School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan

14:35 PM B2-5

Structural Effect of the Permanent Magnet Guideway on the Dynamic Behavior of a Levitated High Temperature Superconductor

Kun Liu, Chang-Qing Ye, Guang-Tong Ma, Han Zhang, Xing-Tian Li, Chen Yang, Peng-Bo Zhou, Zhi-Tao Wang, Tian-Yong Gong, J. S. Wang

Southwest Jiaotong University, Chengdu

14:50 PM B2-6

Magnetic - Thermal Coupling Analysis of Air-Core Reactor in EAST Fast Control Power Supply

Yunpeng Hu, Xiaohua Bao, Cheng Zhang, Yuanyang Chen

School of the Electrical Engineering and Automation, Hefei University of Technology, Hefei

15:05 PM B2-7

Arcing Time in A Superconducting Current-Limiting Type DC Circuit Breaker

Bin Xiang, Licai Zhang, Yaxiong Tan, Kun Yang, Zhiyuan Liu, Yingsan Geng, Jianhua Wang, S. Yanabu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an

15:20 PM B2-8

Analysis of Driving Torque Generated by Superconducting Motor Based on the Meissner Effect

Chunyan Cui, Lankai Li, Xinning Hu, Hui Wang, Qiuliang Wang

The Institute of Electrical Engineering of Chinese Academy of Sciences

Session D3 Electrical Machines III

13:30 PM to 15:30 PM, Sunday, November 22, 2015, Grand Auditorium

Chairs: Dawei Li and Wei Zhang

13:30 PM D3-1

The Analysis and Compensation Control of the Detent Force for Slot-less Tubular Permanent Magnet Linear Synchronous Motor

Qinglong Wang, Xuzhen Huang, Bo Zhou, Qiang Tan, Jing Li

Nanjing University of Aeronautics and Astronautics, Nanjing

13:45 PM D3-2

A Novel Active Boost Power Converter with Application to Torque Ripple Reduction Control for Switched Reluctance Motor

Chao Zhang, Shu Hui Zhang, Kun Wang

College of Electrical and Information Engineering, Jiangsu University, Zhenjiang

14:00 PM D3-3

Drive System Design and Experiment Validation of 3-DOF Deflection Type PM Motor

¹Zheng Li, ²Qunjing WANG

¹School of Electrical Engineering, Hebei University of Science and Technology, Shijiazhuang

²Collaborative Innovation Center of Industrial Energy Saving and Power Quality Control, Anhui University, Hefei

14:15 PM D3-4

An Upgraded Soft Winding Machines based on Advanced Yarn Tension Modelling

¹Mohamed Hassan Ali, ¹H.E.A. Ibrahim, ¹Noha H. El-Amary, ²Raafat Ibrahim Mashaly

¹Electrical and Control Engineering Department, Arab Academy for Science Technology and Maritime Transport, El Moshir Ismail Street - behind Sheraton Building, Cairo, Egypt

²Textile Engineering Department, Alexandria University, Lotfy El-Sied Street off Gamal Abd El-Naser, Alexandria, Egypt

14:30 PM D3-5

Harmonic Impact on Rotor Losses in Fault-Tolerant Interior Permanent-Magnet Machines

Junqiang Zheng, Wenxiang Zhao, Jinghua Ji

School of Electrical and Information Engineering Jiangsu University, Zhenjiang

14:45 PM D3-6

Topology Analysis and Performance Evaluation of a High Thrust Force Density Linear Switched Reluctance Machine

Daohan Wang, Xiuhe Wang, Chenghui Zhang

Shandong University, Jinan

15:00 PM D3-7

Analysis and Design of An Ironless Linear Synchronous Motor with Double-side Halbach Permanent Magnet Array

Lu Zhang, Baoquan Kou

Department of Electrical Engineering, Harbin Institute of Technology, Harbin

15:15 PM D3-8

Calculation and Measurement of Electromagnetic Parameter for High Speed Slotless PM Motors

Peng Gao, Xiaoyuan Wang

School of Electrical Engineering and Automation, Tianjin University, Tianjin

Session E2 Magnets II

13:30 PM to 15:30 PM, Sunday, November 22, 2015, Lecture Hall 4

Chairs: Qiuliang Wang and W. N. Fu

13:30 PM E2-1 (Invited)

Cost Reduction of Vernier Permanent-Magnet Machine With Ferrite Magnets

Ming Chen, Guohai Liu, Wenxiang Zhao, Qian Chen, Wanxiang Zhao

School of Electrical and Information Engineering, Jiangsu University, Zhenjiang

13:50 PM E2-2

Comprehensive Magnetic Properties Measurement of the Silicon Steel Considering the Laminated Direction

¹Yong Jian Li, ¹Qing Xin Yang, ¹Chang Geng zhang, ²Jian Guo Zhu, ²You Guang Guo

¹Province-Ministry Joint Key Laboratory of Electromagnetic Field and Electrical Apparatus Reliability, Hebei University of Technology

²School of Electrical, Mechanical and Mechatronic Systems, University of Technology Sydney, Sydney, NSW 2007, Australia

14:05 PM [E2-3](#)

A Flux-Concentrating External-Rotor Switched Flux Hybrid Magnet Memory Machine for Direct-Drive Automotive Applications

¹**Hui Yang**, ¹Heyun Lin, ¹Dong Wang, ¹Kaikai Guo, ¹Shuhua Fang, ¹Yunkai Huang, ²Hui Yang, ²Z. Q. Zhu

¹Engineering Research Center for Motion Control of MOE, Southeast University, Nanjing

²Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield S1 3JD, U.K

14:20 PM [E2-4](#)

A Novel Passive Shimming Method for 0.7T Biplanar Superconducting MRI

Xuchen Zhu, Houshen Wang, Hui Wang, Yi Li

Key Laboratory of Applied Superconductivity, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing

14:35 PM [E2-5](#)

Preliminary AC loss analysis for the CFETR Central Solenoid Model Coil

¹**W. Zhou**, ¹J. Fang, ²A. Nijhuis

¹School of Electrical Engineering, Beijing Jiaotong University, Beijing

²Energy, Materials and Systems Group University of Twente Enschede, The Netherlands

14:50 PM [E2-6](#)

IBEM Applied to the Design of Gradient Coils for Superconducting MRI

Yang Hu, Xinning Hu, Luguang Yan, Feng Liu

Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing

15:05 PM [E2-7](#)

Effect of LTS Background Coil Size on The Ac Loss Generated in the REBCO HTS Insert Magnet

Lei Wang, Jianhua Liu, Hui Wang, Chenchen Gou, Jianbo Zhou

Key Laboratory of Applied Superconductivity, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing

15:20 PM [E2-8](#)

Numerical Computation of Static Magnetic Field Considering 2D Property of Silicon Steel

Youxing Xiong, Junquan Chen

National Key Laboratory of Science and Technology on Vessel Integrated Power System, Naval University of Engineering, Wuhan

Session H3 Modeling, Analysis and Design III

13:30 PM to 15:30 PM, Sunday, November 22, 2015, Lecture Hall 6

Chairs: Youquang Guo and Wei Xu

13:30 PM [H3-1](#)

Maximum Power Point Tracking Strategy for Photovoltaic System Based on Probability

¹**Wei Xu**, ²Lei Tang, ³Chaoxu Mu

¹School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan

²School of Electrical Engineering, Xi'an Jiaotong University, Xi'an

³School of Electrical and Automation Engineering, Tianjin University, Tianjin

13:45 PM [H3-2](#)

Two-Dimensional Elemental Operator for Modeling the Vectorial Hysteresis of Soft Magnetic Composite Material

¹**Wei Jie Xu**, ¹Na Na Duan, ¹Shu Hong Wang, ²You Guang Guo, ²Jian Guo Zhu

¹State Key Laboratory of Electrical Insulation and Power Equipment, School of Electrical Engineering, Xi'an Jiaotong University, Xi'an

²School of Electrical, Mechanical and Mechatronic Systems, University of Technology, Sydney, Australia

14:00 PM H3-3

Transient Thermal Analysis of the Conical Rotor Motor using LPTN with Accurate Heat Transfer Coefficients

Baocheng Guo, Yunkai Huang, Jianning Dong

School of Electrical Engineering, Southeast University, Nanjing

14:15PM H3-4

Core Dynamic Hysteresis Model Establishment under DC Flux

Yang Wang, Zhizhen Liu

School of Electrical Engineering Energy, Shandong University, Jinan

14:30PM H3-5

Electromagnetic Design and Research of 2.935MW Permanent Magnet Synchronous Generator for Wind Turbine

Jiabin Wen, Jinze Li

College of Electrical and Electronic Engineering, Harbin University of Science and Technology

14:45 PM H3-6

Simulation on the Apparatus of Underwater Active Electrolocation

Jun Wu, Jiegang Peng

School of Automation, University of Electronic Science and Technology of China, Chengdu

15:00 PM H3-7

Performance Analysis of a High Power Density Tubular Linear Switch Reluctance Generator for Direct Drive Marine Wave Energy Conversion

Daohan Wang, Xiuhe Wang, Chenghui Zhang

Shandong University, Jinan

15:15 PM H3-8

Analytical Calculation of PMSG Optimization for Compact ER-EVs Application

¹**Lu Haiying**, ¹Wang Xiaoyuan, ¹Du Jingjuan, ²Zhu Lihui

¹Tianjin University, China

²Citen Communication Tech. Co.LTD

Posters

17:35 PM to 18:20 PM, Saturday, November 21, 2015 and 15:45 PM to 16:30 PM, Sunday, November 22, 2015, Lecture Hall 5A-5B

Chairs: Yanfang Bi and Yusheng He

Session A Materials

ID: 5081 AP-1

Vortex Properties of Nanosized Superconducting Strips with One Central Weak Link under An Applied Current Drive

¹**Lin Peng**, ² Chuanbing Cai

¹ Department of Physics, Shanghai University of Electric Power, Shanghai

² Shanghai Key Laboratory of High Temperature Superconductors, Department of Physics, Shanghai University

ID: 5097 [AP-2](#)

Thick Y(Dy)Ba₂Cu₃O_{7-d} Films Fabricated at Low Pressure by Super-Low-Fluorine MOD Method

Chuanwei Cui, Xuming Liu, Chuanbing Cai

Research Center for Superconductors and Applied Technologies, Physics Department, Shanghai University

ID: 5099 [AP-3](#)

Influence of Magnet Materials on Performances of Fault-Tolerant Permanent-Magnet Vernier Machines

Xun Fan, Guohai Liu, Liang Xu, Wenxiang Zhao

School of Electrical and Information Engineering, Jiangsu University

ID: 5145 [AP-4](#)

Thermal Stability of a Quasi-isotropic Strand Made from Coated Conductors

Tingting Li, Yinshun Wang

State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University

ID: 5154 [AP-5](#)

Analysis of Critical Current of the HTS Strand

Chenjie Shi, Yinshun Wang, Jiawei Li, Tingting Li, Guixin Chen

State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University

ID: 5156 [AP-6](#)

Current Distribution Characteristics of LTS/HTS Hybrid Superconductor

Wei Pi, Yinshun Wang

State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University

ID: 5174 [AP-7](#)

Bending Characterization of an HTS Strand with Geometrical Symmetric Structure

Yinshun Wang, Jinya Miao

State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University

ID: 5175 [AP-8](#)

Critical Current of a Quasi-isotropic HTS Strand with Symmetric Configuration

Yinshun Wang, Yang Li

State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University

ID: 5185 [AP-9](#)

The Thermal Stability of LTS/HTS Composite Round Wire

Ying min Cui, Yin Shun Wang, Gang Lu

State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, North China Electric Power University

ID: 5238 [AP-10](#)

Characterization Analysis on Performance of YBaCuO Coils Induced by Steady-state Current

Konghui Liu, Wentao Li, Chuanyi Bai, Haoyu Song, Changxin Chi, Chuanbing Cai

Shanghai Key Laboratory of High Temperature Superconductors, Department of physics, Shanghai University

ID: 5240 [AP-11](#)

Study on PEG assisted TFA-MOD Method for Rapid Fabrication of YBa₂Cu₃O_{7-δ} Thin Films: Influence of PEG Additive Amount in Precursor Solution

¹W. Wu, ¹Y. Zhao, ¹Z. Hong, ²Z. Jin, ³F. Feng

¹Department of Electrical Engineering, Shanghai Jiaotong University

²Division of Advanced Manufacturing, Graduate School at Shenzhen, Tsinghua University

³Applied Superconductivity Research Center, Tsinghua University

ID: 5270 [AP-12](#)

Development of Electric Motors with Soft Magnetic Composite Materials

¹*Youguang Guo*, ¹Jianguo Zhu, ²Jianxun Jin

¹Faculty of Engineering and Information Technology, University of Technology Sydney, Sydney, Australia

²School of Electrical Engineering and Automation, Tianjin University

ID: 5299 [AP-13](#)

Chemical Solution Derived YBa₂Cu_{3.3}O_{7-d}/Y(Cu) Multilayers on Oxide Buffered Metallic Tapes

^{1,2}*Chuanwei Cui*, ^{1,2}Zhiyong Liu, ^{1,2}Chuanyi Bai, ¹Xuming Liu, ²Zhiying ^{1,2}Zhang, ^{1,2}Yuming Lu,

^{1,2}Yanqun Guo, ^{1,2}Feng Fan, ^{1,2}Chuanbing Cai

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ID: 5301 [AP-14](#)

Twisting Characteristics of a Quasi-isotropic Strands Fabricated by 2G HTS Tapes

¹*Jiawei Li*, ¹Yinshun Wang, ²Ming Li

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²Zhongtian Technology Group Co. Ltd.

ID: 5304 [AP-15](#)

Numerical Analysis on RHEED Patterns Based on Gray Level: A Case Study of IBAD-MgO Film

¹*Xiaoliang Shi*, ^{1,2}Feng Fan, ^{1,2}Yanqun Guo, ^{1,2}Chuanyi Bai, ^{1,2}Yuming Lu, ^{1,2}Zhiyong Liu, ^{1,2}Chuanbing Cai

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ID: 5317 [AP-16](#)

Critical Current of HTS Strand with Geometrical Symmetric Configuration in Magnetic Field

¹*Chenjie Shi*, ²Yinshun Wang

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ID: 5320 [AP-17](#)

Phase Transition During Sintering Process Before Nucleation of TFA-MOD YBa₂Cu₃O_{7-δ} Films

Wenzhi Dou, Zhiyong Liu, Jie Yu, Fan Yang, Chuanyi Bai, Yuming Lu, Yanqun Guo, Chuanbing Cai

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ID: 5322 [AP-18](#)

Pyrolysis Induced Surface Morphology Evolution of YBa₂Cu₃O_{7-δ} Films Prepared by Low-Fluorine Metal-organic Deposition

Jie Yu, Zhiyong Liu, Suchuan Zhao, Zhaohui Gu, Chuanbing Cai, Chuanyi Bai, Yuming Lu, Yanqun Guo

Shanghai Key Laboratory of High Temperature Superconductors, Department of physics, Shanghai University

ID: 5328 [AP-19](#)

Influence of Annealing Time on 5-layer YBa₂Cu₃O_{7-δ} Thick Films by Low-Fluorine Metal-organic Deposition

Fan Yang, Zhiyong Liu, Chuanyi Bai, Yuming Lu, Yanqun Guo, Chuanbing Cai

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ID: 5390 [AP-20](#)

Quantum Phase Transition in Mesoscopic Superconductors

¹*Wan Lee*, ^{1,2}Guo-Qiao Zha, ^{1,2}Shi-Ping Zhou

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ID: 5391 AP-21

Deep Insight into Surface Flatness Based on AFM Images Illustrated by Ni-based Alloy

^{1,2}Yanqun Guo, ¹Changxin Chi, ¹Xiaoliang Shi, ¹Heng Ren, ¹Zhiyong Liu, ^{1,2}Yuming Lu, ^{1,2}Chuanbing Cai

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²Shanghai Creative Superconductor Technologies Co. Ltd. Shanghai

Session B Superconducting Electric Power Devices

ID: 5078 BP-1

Magnetic Field analysis of a self-shielding DC HTS Cable with Large Current Capacity

¹**Han Zhang**, ²Yinshun Wang

¹Key Laboratory of HV and EMC Beijing, University of North China Electric Power

²State Key Laboratory for Alternate Electrical Power System with Renewable Energy Source, University of North China Electric Power

ID: 5092 BP-2

Multiobjective Design Optimization for High - Temperature Superconducting Linear Synchronous Motors with Different Primary Topologies

¹**Gang Lei**, ¹Youguang Guo, ¹Jianguo Zhu, ²Wei Xu, ³Jianxun Jin

¹School of Electrical, Mechanical and Mechatronic Systems, University of Technology, Sydney, Australia

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³School of Electrical Engineering and Automation, Tianjin University

ID: 5106 BP-3

Electromagnetic Performance Analysis of Fully Stator-HTS Fault-Tolerant Motors

Yu Zeng, Guohai Liu, Wenxiang Zhao, Qian Chen

School of Electrical and Information Engineering, Jiangsu University

ID: 5109 BP-4

Temperature and Current Distribution of High Temperature Superconducting Cable Itself Under Large Fault Current

Zhenming Li, Wei Liu, Jiahui Zhu, Ming Qiu, Xiaodong Zheng, Jin Fang

¹Electrical Engineering and New Material Department China Electric Power Research Institute

²Electrical Engineering Department Beijing Jiao Tong University

ID: 5111 BP-5

Improving FRT Capability and Alleviating Output Power of DFIG Wind Turbine by SMES-FCL
Issarachai Ngamroo

Department of Electrical Engineering, Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand

ID: 5113 BP-6

Integrated Superconducting Coil into PV Generator for Power Smoothing and Voltage Regulation
Worapong Kreeumporn, Issarachai Ngamroo

Electrical Engineering Department, Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand

ID: 5140 BP-7

Conceptual Design of the Field Winding for a 12MW offshore Superconducting Wind Generator
Xiaoyu Li, Hailin Wang, Jiayi Li, Li Ren, Yuejin Tang

State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology

ID: 5155 BP-8

Design and Analysis a New Primary HTS Linear Motor for Transportation System

Ruiwu Cao, Yi Jin, Yanze Zhang

Department of Electrical Engineering, Nanjing University of Aeronautics and Astronautics

ID: 5165 [BP-9](#)

Comparison of Stator HTS Vernier Machines Having Different Stator and Rotor Pole Numbers

Liang Xu, Guohai Liu, Wenxiang Zhao, Jinghua Ji

School of Electrical and Information Engineering, Jiangsu University

ID: 5184 [BP-10](#)

Analysis of High Temperature Superconducting Cable under Fault Current

¹**Lu Yin**, ¹Xuefeng Ma, ¹Xuenan Li, ²Xiaodong Zheng, ²Jin Fang, ³Jiahui Zhu, ³Ming Qiu

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²School of Electrical Engineering, Beijing Jiaotong University

³China Electric Power Research Institute

ID: 5197 [BP-11](#)

AC Copper Losses Calculation of the Ironless BLDCM used in a Flywheel Energy Storage System

Kai Liu, Xinhe Fu, Mingyao Lin

School of Electrical Engineering, Southeast University

ID: 5198 [BP-12](#)

Analysis of a Superconducting Induction Magnetic Levitation device for Hydraulic Turbo-Generator

¹**Jing Liu**, ¹Hongzhong Ma, ²Lei Huang

¹College of Energy and Electrical Engineering, Hohai University

²School of Electrical Engineering, Southeast University

ID: 5201 [BP-13](#)

Superconducting Liquid Nitrogen Insulated Metal Enclosed Switchgear

Jianhua Wang, Yaxiong Tan, Yingsan Geng, Zhiyuan Liu, Shuhong Wang

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University

ID: 5205 [BP-14](#)

Resistive Type Superconducting Fault Current Limiter and Current Flowing Time

Yaxiong Tan, Kun Yang, Bin Xiang, Jing Yan, Yingsan Geng, Zhiyuan Liu, S. Yanabu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University

ID: 5215 [BP-15](#)

Current Limiting Ratio and Current Distribution Ratio in a DC Resistive Superconducting Fault Current Limiter

Bin Xiang, Kun Yang, Yaxiong Tan, Zhiyuan Liu, Yingsan Geng, Jianhua Wang, S. Yanabu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University

ID: 5216 [BP-16](#)

Voltage Distribution Characteristics of a Resistive Superconducting Fault Current Limiter in DC systems

Bin Xiang, Zhiyuan Liu, Yingsan Geng, Jianhua Wang, S. Yanabu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University

ID: 5015 [BP-17](#)

Feasibility Study of Low-Frequency Superconducting Inductive Coupled Power Transfer System

Xiao Yuan Chen, Long Chen, Ruo-Cheng Huang, Xiao-Yun Jiang, Cheng Gou, Jiang Su, Jie Mao

School of Engineering, Sichuan Normal University

ID: 5234 [BP-18](#)

Design and Analysis of Switched Reluctance Motor with High Temperature Superconducting Windings

Kaihe Zhang, Youtong Fang, Xiaoyan Huang

College of Electrical Engineering, Zhejiang University

ID: 5244 [BP-19](#)

Electromagnetic Analysis of High Current Carrying Superconducting Cable Consisted of YBCO Coated Conductor

¹*Jiahui Zhu*, ¹Ming Qiu, ¹Shanshan Fu, ²Huiming Zhang, ²Weijia Yuan, ²Min Zhang

¹Department of Electrical Engineering and Novel Material, China Electric Power Research Institute

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ID: 5292 [BP-20](#)

Analysis of the Output Torque of a Superconducting Torquer for Drift Test

Hao Wang, Xinning Hu, Chunyan Cui, Hui Wang, Jingwen Xu, Chenchen Gou, Jianbo Zhou

The Institute of Electrical Engineering of Chinese Academy of Sciences

ID: 5306 [BP-21](#)

Design and Analysis of a Novel Vernier Reluctance Fully Superconducting Synchronous Generator with LTS Windings for Wind Power Generation

Shaofeng Jia, Ronghai Qu, Jian Li, Haiyang Fang, Dawei Li, Jingxuan Hu

State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

ID: 5334 [BP-22](#)

Topologies for Fully Superconducting Machines

Feng Lin, Ronghai Qu, Dawei Li

The State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

ID: 5354 [BP-23](#)

A Study of a SMES in Smart Grid with Electric Vehicle

Shan C. Wang, Jian X. Jin, Ying L. Wang

Center of applied superconductivity and electrical engineering, school of automation engineering, University of electronic science and technology of China

ID: 5360 [BP-24](#)

Operating Parameters Optimization of SMES Considering Transient Thermal Stability

Kang Gong, Jing Shi, Yang Liu, Lihui Zhang, Li Ren, Xiao Zhou, Aobo Zhou

State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology, Wuhan

ID: 5376 [BP-25](#)

Experimental and Numerical Study on An HTS Air Core Transformer With Pancake Structure

D. Hu, J. Sheng, Z. Y. Li, Z. Hong, Z. Jin

Department of Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China

ID: 5382 [BP-26](#)

Research of the Loss of the Corrugated Stainless Steel Pipe in HTS Cable

Xize Zhang, Yunwu Han

Shanghai Electric Cable Research Institute, Superconducting Project Technologies Research Centre, Shanghai, China

ID: 5384 [BP-27](#)

HTS Calbe Control System and Running Situation

Dayi Zhang, Dong Wei

Shanghai Electric Cable Research Institute, Superconducting Project Technologies Research Centre, Shanghai, China

Session C Electrical Power Systems

ID: 5029 [CP-1](#)

Design of Photovoltaic Fan Drive Based on MPPT

Yuping Zhang, Yuhua Wei, Zhongxiao Yang, Tao Liu, Yi Mou, Dong Chen

Pattern recognition and intelligent control laboratory University of Electronic Science and Technology of China

ID: 5038_CP-2

Two-Three Combined Vectors Direct Power Control Algorithm based Three-Phase Pulse Width Modulation Rectifier

Wei Xu, Likun Liu

School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

ID: 5056_CP-3

New Damping Model and Control for Low Frequency Oscillation by Interaction between TCSC and PSS

¹**Wei Xu**, ¹Anqing Chen, ²Chaoxu Mu

¹State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

²School of Electrical and Automation Engineering, Tianjin University

ID: 5069_CP-4

Novel Negative Sequence Current Detection and Control Strategy for H-Bridge Three-Level Active Power Filter

¹**Wei Xu**, ¹Renjun Dian, ²Chaoxu Mu

¹School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

²School of Electrical and Automation Engineering, Tianjin University

ID: 5381_CP-5

Design and Operation of Cryogenic System for 35kV/2000A HTS Power Cables

Tao Tang, Xi Hua Zong, Zhi Guang Yu, Xiao Hong Lu, Yun Wu Han

Superconducting Project Technologies Research Centre, Shanghai Electric Cable Research Institute

ID: 5098_CP-6

Research on the Improvement of the Quickness and its Simulation for Magnetic-valve Controllable Reactor

Pengtai Shi, Mingxing Tian

School of Automation and Electrical Engineering, Lanzhou Jiaotong University

ID: 5101_CP-7

Research on Radial Stability of Large Transformer Windings under Multiple Short-circuit Conditions

Zhang Bo, Li Yan

Research Institution of Special Electrical Machines, Shenyang University of Technology

ID: 5102_CP-8

Dispatch Analysis of Power System with Energy Storage System When Wind Power Added

Zuoxia Xing, Ning Yan

School of Electrical Engineering, Shenyang University of Technology

ID: 5118_CP-9

Determination of the Number of Turns and Voltage of Control Winding of Controllable Reactor of Transformer Type

Mingxing Tian, Yina Guo

School of Automation and Electrical Engineering, Lanzhou Jiaotong University

ID: 5120_CP-10

Risk Assessment of Power Systems Integrated with Wind Farm and SMES

Zhen Chen, Xian Yong Xiao, Chang Song Li

College of Electrical Engineering and Information Technology, Sichuan University

ID: 5135_CP-11

Computing the Radar Cross Section of Electromagnetic Scattering from Wind Turbine

Rui Sun, Bo Tang, Ye Li, Zou Fang

China Three Gorges University

ID: 5137_CP-12

Application of Generalized Resonance Theory in Reradiation Interference from UHV Power Lines

Haotian Jiang, Bo Tang, Hongying Cao, Youxian Peng, Ren Liu

China Three Gorges University

ID: 5138_CP-13

Dynamic Performance Analysis of SMES for Sensitive Load Voltage Sag Compensation

Zixuan Zheng, Xian-yong Xiao, Yang Liu, Changsong Li

College of Electrical Engineering & Information Technology, Sichuan University

ID: 5157_CP-14

Effect of Backfill Soil Impurity on Electric Field Characteristics of HVDC Grounding-electrode

Tao Zhang, Xiaorui Tan, Yaqin Liu

College of Electrical Engineering and New Energy, China Three Gorges University

ID: 5162_CP-15

Analysis of Restrike Overvoltage of Circuit Breakers in Wind Farms

¹**Qibin Zhou**, ²Yu Cheng, ²Xiaoyan Bian, ²Feifan Liu

¹Shanghai Lightning Protection Center

²Shanghai University of Electric Power

ID: 5168_CP-16

Application of SFCL to Improve the Transient Voltage Stability of Grid-Connected Wind Farm With DFIG During Grid Faults

¹**Ran Ou**, ¹Xianyong Xiao, ¹Zhice Zou, ¹Changsong Li, ²Danyue Wu

¹College of Electrical Engineering and Information Technology, Sichuan University

²State Grid Fujian Electric Power Research Institute, State Grid Corporation of China

ID: 5176_CP-17

Investigation on Phase Angle Mismatch of Seires Connected Air-Core Pulsed Alternators

Xiyuan Li

Department of Electrical Engineering, Harbin Institute of Technology

ID: 5202_CP-18

A Linear Magnetic-Geared Wave Energy Generator

Ningjun Feng, Haitao Yu, Minqiang Hu, Lei Huang, Zhenchuan Shi, Weibo Zhong

School of Electrical Engineering, Southeast University

ID: 5210_CP-19

Study on the Self-Excitation Condition of a Two-Phase Air-Core Pulsed Alternator

Xiyuan Li

Department of Electrical Engineering, Harbin Institute of Technology

ID: 5227_CP-20

The Research on Derivational Topologies and Control of Switched-Capacitor Converter

¹**Hai Shi Zhang**, ²Xiao Yuan Chen

¹Department of Electrical Engineering, Southwest Jiaotong University

²Sichuan Normal University

ID: 5241_CP-21

Analysis of Energy Storage Technology in Microgrid

¹**Xianxu Huo**, ¹Guodong Li, ¹Dong Zhang, ²Shaoyun Ge

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²Key Laboratory of Smart Grid Ministry of Education, Tianjin University

ID: 5243_CP-22

Energy Efficiency Diagnosis of Smart Grid Park Based on Multi-level Energy Transfer Model

¹**Xianxu Huo**, ¹Xudong Wang, ¹Xiaohui Zhu, ²Shaoyun Ge

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ID: 5253_CP-23

Study on Engineering Design and Simulation method of Phase-shifting Reactor

Dongsheng Yuan, Shuhong Wang, Hailin Li, Haijun Zhang, Xi Tao

State Key Laboratory of Electrical Insulation and Power Equipment, Faculty of Electrical Engineering, Xi'an Jiaotong University

ID: 5257_CP-24

Commutation Impacts on Energy Reclaim Control of an Air-Core Pulsed Alternator

Xiyuan Li

Department of Electrical Engineering Harbin Institute of Technology

ID: 5263_CP-25

Adaptive Frequency Regulation Strategy based Integral Sliding Mode Control for Smart Grid with Renewable Energy Sources

¹**Chaoxu Mu**, ²Wei Xu, ¹Jianxun Jin

¹School of Electrical and Automation Engineering, Tianjin University

²School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

ID: 5265_CP-26

Neural Network Composite Control for Frequency Stability with Inversion Compensation

¹**Chaoxu Mu**, ²Wei Xu, ¹Jianxun Jin

¹School of Electrical and Automation Engineering, Tianjin University

²School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

ID: 5267_CP-27

Double-loop SVPWM Control Strategy for multi-level inverter based on LC Filter

Chengtian Wu, Luyang Wang

Shanghai University of Electric Power

ID: 5287_CP-28

Research on a New Method to Measure Unbalance of Multiple-circuit Transmission Lines on the Same Tower Considering the Impact of Ground Wire

Yufei Wang, Xu Xing, Xue Hua, Sun Lu

School of Electrical Engineering, Shanghai University of Electric Power

ID: 5338_CP-29

Study on Transient Overvoltages Switching Small Inductive Load in the Transformer Circuit with VCBs

Guangqing Zhang

College of Electrical Engineering, Shanghai University of Electric Power

ID: 5357_CP-30

Investigation on Power and Loss Densities of Scaled-down Laminated Cores

¹**Fuxin Fang**, ¹Haiyang Kong, ¹Weimin Guan, ²Yanhui Gao, ²Kazuhiro Muramatsu

¹School of Electrical Engineering Wuhan University

²Department of Electrical and Electronic Engineering Saga University, Saga, Japan

ID: 5362_CP-31

Studies on the Influences of SFCL on the Transient Recovery Voltage of Circuit Breaker

Bin Li, Yizhe Ou

Key Laboratory of Smart Grid, Ministry of Education, Tianjin University

ID: 5363_CP-32

Studies on the Effect of SFCL on the Transient Stability of Power System

Bin Li, Yizhe Ou

Key Laboratory of Smart Grid, Ministry of Education, Tianjin University

ID: 5370_CP-33

Study on the Axial Vibration of Power Transformer Windings

¹**Wenhua Lu**, ¹Chao Fang, ¹Qianwen Zhou, ²Mingmin Wang, ³Fan Zhang, ³Yanjie Cui, ⁴Yeye Zhu

¹State Grid Electric Power Research Institute Wuhan, China

²State Grid Jiangsu Electric Company Nanjing China

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⁴Suzhou Electric Power Company

ID: 5374_CP-34

An Improved active islanding detection method applying to multi-inverter power system

Yuhua Cheng, Kai Chen, Chun Yin, Jie Zhang, Libing Bai

School of Automation Engineering, University of Electronic Science and Technology of China

ID: 5375 CP-35

Grid-Connected Photovoltaic System Using Compound Current Control of The Novel Repetitive and PI

Jie Zhang, Yuhua Cheng, Chun Yin, Kai Chen, Libing Bai

School of Automation Engineering, University of Electronic Science and Technology of China

Session D Electrical Machines

ID: 5025 DP-1

Analyzing and Calculating of the Cogging Torque of Halbach Array Permanent Magnet Motor

¹Lin Liu, ¹Libing Jing

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²Hubei Collaborative Innovation Centre for Micro-grid of New Energy

ID: 5028 DP-2

Exact Analytical Method for Air-Gap Main Magnetic Field Computation and Cogging Torque of Surface-Mounted Permanent-Magnet Motors

Libing Jing, Qixing Gao, Lin Liu

College of Electrical Engineering & New Energy, China Three Gorges University

ID: 5037 DP-3

Novel Synchronous Machine with Permanent Magnet in Stator Yoke

Wei Xu, Mingjie He

School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

ID: 5039 DP-4

Novel Efficiency Optimization Control Algorithm for Single-sided Linear Induction Motor

Wei Xu, Dong Hu

State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

ID: 5040 DP-5

New Approach for Thrust Ripple Reduction on Permanent Magnet Flux-Switching Linear Motor

¹Wei Xu, ²Chaoxu Mu

¹State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology

²School of Electrical and Automation Engineering, Tianjin University

ID: 5055 DP-6

Study on Deformations of the two-stage Impellers of Contra-Rotating Fan driven by pole-changing motors

Dawei Meng, Yunyan Xia, Zeqi Zhang

College of Electrical and Electronic Engineering, Harbin University of Science and Technology

ID: 5068 DP-7

Conducted Common-mode Equivalent Circuit of Induction Motor for EMI Analysis

Xiao Fang, Ge Baojun, Ning Zhaoyang, Wang Zhe

College of Electrical and Electronic Engineering, Harbin University of Science and Technology

ID: 5085 DP-8

Coupling Characteristics Research on the Subsections of Submersible Motor

Yongming Xu, Mengmeng Ai, Zhiguo Jiang

Electrical and Electronic Engineering College, Harbin University of Science and Technology

ID: 5090 DP-9

Improvement in Dynamic Stability of Self-Excited Induction Generator with Short-Shunt Capacitors

Xinzhen Wu, Yang Zhang, Kai Wang

Department of Electrical Engineering, Qingdao University

ID: 5091 DP-10

Steady-State Analysis of Islanded Three-phase Induction Generator in Single-phase Operation with Combined Equivalent Circuit

Xinzhen Wu, Yang Zhang

Department of Electrical Engineering, Qingdao University

ID: 5100 DP-11

Normal Force and Vibration Investigation of Linear Permanent-Magnet Vernier Machine

Yanxin Mao, Guohai Liu, Wenxiang Zhao, Jinghua Ji

School of Electrical and Information Engineering, Jiangsu University

ID: 5105 DP-12

Hybrid Stepping Motor with Permanent Magnets in Stator-Presentation, Parameter Calculation and Design

Binglin Lu, Yanliang Xu

School of Electrical Engineering, Shandong University

ID: 5110 DP-13

Armature Reaction of A New Four-phase Doubly Salient Electro-magnetic Generator

Liwei Shi, Bo Zhou

School of Automation, Nanjing University of Aeronautics and Astronautics

ID: 5119 DP-14

Analysis of the Eddy Current Loss in the Secondary of Tubular Flux-switching Permanent Magnet Linear Motor (TFSPMLM)

Qiang Tan, Xuzhen Huang, Bo Zhou, Liu Yang

Nanjing University of Aeronautics and Astronautics

ID: 5127 DP-15

A Novel Transverse-Flux PM Linear Machine with Double Ω -hoop Stator

Zhou Jia, Weifeng Chen, Qingshan Liu, Li Yu, Hongyun Jia

School of Information and Control, Nanjing University of Information Science and Technology

ID: 5131 DP-16

Pole Ratio Effect on Performances of Linear Permanent Magnet Vernier Motor

Shiyuan Wang, Wenxiang Zhao, Jinghua Ji

School of Electrical and Information Engineering, Jiangsu University

ID: 5141 DP-17

Inductance Identification of Permanent Magnet Synchronous Machine at Standstill

Guangqiang Lu, Yaocheng Yan, Junjie Ni

Department of Automation, Nanjing University of Science & Technology

ID: 5144 DP-18

Characteristics Analysis of PM Linear Synchronous Motor with Non-uniform Air-gap

Xiaozhuo Xu, Haichao Feng, Xudong Wang, Baoyu Du

School of Electrical Engineering and Automation, Henan Polytechnic University

ID: 5160 DP-19

Analysis and Minimization of Cogging Force in Tubular Transverse Flux Linear Machines for Direct Drive Applications

Qian Wang, Jibin Zou, Yongxiang Xu, Yong Li

Dept. of Electrical Engineering, Harbin Institute of Technology

ID: 5161 DP-20

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Comparison of Doubly Salient Permanent Magnet Machines with E-shaped and Π -shaped Stator Iron Core Segments

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Core Loss Analysis of Transverse Flux Tubular Motor in Variable-Speed Reciprocating Periodic Motion Mode

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Influence for Electromagnetic Properties and Iron Loss of Induction Motors under Rotor Eccentricity Fault

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Daohan Wang, Xiuhe Wang, Chenghui Zhang

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Prediction of the Overall Characteristics for High Power Permanent Magnet Synchronous Motor with Multi Phase Units

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Analysis and Experimental Study of Brushless Electrically-Excited Synchronous Generator with Hybrid Rotor

Fengge Zhang, Guanglong Jia, Yang Zheng, Tao Guan

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Haitao Wang, Shuhua Fang, Baocheng Guo

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Modeling and Flux Leakage Analysis for Long-stator PM Linear Motor Including Longitudinal End Effects

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A Hybrid-Excited Flux-Controllable Brushless Motor for Electric Vehicle

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Design and Analysis of a Novel Flux-modulated Permanent Magnet Linear Generator with Sandwiched Armature Stator

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Modeling and Finite Element Analysis of Suspension Force for a Bearingless Permanent Magnet Synchronous Motor

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Multi-layer Windings Effect on Performance of Flux-Switching Permanent Magnet Machines

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IBEM Applied to the Design of Open Bipolar Shim Coils for Superconducting MRI System

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Sizhuang Liang, Youtong Fang, Xiaoyan Huang

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Cheng Zhang, Xiaohua Bao, Yunpeng Hu, Yuanyang Chen

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Kaikai Guo, Shuhua Fang, Heyun Lin, Yang Zhang, Hui Yang
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Shuhua Fang, Kaikai Guo, Heyun Lin, Dong Wang, Hui Yang
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Design of Superconducting Shim Coils for an Open Bipolar MRI System Using IBEM

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Jingwen Xu, Xinning Hu, Hui Wang, Chenchen Gou, Jianbo Zhou, Hao Wang
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Design and test of displacement transducer for an Electrode-insulated Electrostatically Suspended Gyroscope

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Preparation and Magnetic Properties of Nickel Nanowires by Magnetic Field-induction

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Model Predictive Direct Torque Control of Permanent Magnet Synchronous Machine with Reduced Torque Ripple

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Optimal Design of Permanent-Magnet Machines Using RSM Based Aploex Method

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Research on Energy Management System of Electric Vehicle Based on Aluminum Air Fuel Cell

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Dongjie Bi, Yongle Xie, Lan Ma, Xuan Xie, Pan Niu

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Haiwen Liu, Fan Liu, Feng Qin, Baoping Ren, Pin Wen, Xuehui Guan, Yang Peng, Jianwei Liu

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Jibin Zou, Guodong Yu, Yongxiang Xu, Qian Wang, Yanyu Wei, Junlong Li

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Novel Composite Sliding Mode Control for PMSM System Based on Disturbance Observer

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A Discontinuous Coordinated Charging Strategy for Electric Vehicle

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Lei Xu, Mingyao Lin, Xinghe Fu, Nan Li

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Calculation and Analysis of IGBT Power Loss in Drive System for EV

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Haiwen Liu, Shuangshuang Zhu, Pin Wen, Xuehui Guan

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Design and Sensorless Control of a Novel Axial Flux Permanent Magnet Machine for In-Wheel Applications

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Jiabin Chen, Bin Wei, Bisong Cao, Xubo Guo, Linan Jiang, Chenjie Luo

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Effect of Magnetic Field on Tree Characteristics in Silicone Rubber

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Developing Process of Partial Discharge in Oil-Paper Insulation Under Needle-Plate Defects

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Equivalent Magnetic Circuit Model of Novel Disk Transverse-flux segment-stator Permanent Magnet Brushless Machine

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Yongming Xu, Fei Liu

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Jun Di, Yu Fan, Yajing Liu

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Investigation of the Heat Characteristic Based on the Thermal Network Method for High Power Density Motor

Yongming Xu, Mengmeng Ai, Xue Yang

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Design of Differential Mode Filter for Suppressing Common Mode Voltage of Motor

Xiaojun Liu, Guangming Zhang, Lei Mei, Deming Wang

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Nonlinear Flux Linkage Modeling of a Bearingless Permanent Magnet Synchronous Motor Based on AW-LSSVM Regression Algorithm

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Bo Tang, Youxian Peng, Hongying Cao, Rui Sun, Zhuo Wu

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Improved Finite-Control-Set Model Predictive Control Algorithm for Disc Coreless Permanent Magnet Synchronous Motor based Three-Level NPC Inverter

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Parameter Calculation of Solid Wires in Transformer Windings

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Determination of JA Core Hysteresis Model Parameters Based on Fuzzy- Shuffled Frog Leaping Algorithm

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Electromagnetic-thermal Simulation of Cold Crucible Considering Surface-to-Surface Heat Radiation

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Optimal Design of Rectifier Transformer

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Modeling the Stress Dependence of Magnetic Hysteresis Based on Stoner-Wohlfarth Theory

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Numerical Analysis of Three-Phase CSR of TCT Type

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A 3-D Magnetic Equivalent Circuit of an Axial-Flux MEMS Micromotor

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Torque Improvement of Variable Speed Multiphase Induction Motor Injecting Third-Order Harmonic

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Design and Analysis of a Linear Slotless Generator with Improved Halbach PM Arrays for Wave Energy Conversion

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Performance Simulation of Flux Modulation Permanent Magnet Machines With Three Topologies

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Performance Analysis of a PM Brushless Roter Claw Pole Motor Using 3D FEM

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Estimation of Measurement Uncertainty for Devices with Extreme Fisher Information

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A Novel Artificial Bee Colony Algorithm for Brushless DC Wheel Design

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2D FEM Transient Analysis of Permanent Magnet Motor Considering Skin Effect of Stator Winding

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Theoretical Analysis and Design of an Extremely Low Frequency Magnetic Field Stimulation System for Tumor suppression

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ID: 5356 HP-35

EMC Prediction Method of High Voltage Multi-Circuit Transmission on the Same Tower Based on Improved Least Squares Method

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ID: 5373 HP-36

Stainless Steel Weld Defect Detection Using Eddy Current Pulsed Thermography

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HTS Application Workshop (in Chinese)

14:00 PM to 16:30 PM, Monday, November 23, 2015, Lecture Hall of Lehu Hotel, Shanghai University

Chairs: Jincang Zhang

14:00 PM W-1 (Invited)

Research and Applications for Superconducting Microwave Devices and Systems

Yusheng He

Institute of Physics, Chinese Academy of Sciences, Beijing, China

14:30 PM W-2 (Invited)

Expectations and Problems of Applying SMES to Electric Power System

Yuejin Tang

Huazhong University of Science and Technology, Wuhan, China

15:00 PM W-3 (Invited)

Supconducting Fault Current Limiter

Ying Xin

Tianjin University, Tianjin, China

15:30 PM W-4 (Invited)

Practical Superconducting Materials and Their Challenges for Power Applications

Chuanbing Cai

Shanghai University, Shanghai, China



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Gong, K.	5360 BP-24	Hong, Z.	5240 AP-11	Jiang, G. Z.	5114 HP-13
Gong, X.	5063 HP-8	Hong, Z.	5376 BP-25	Jiang, H. T.	5137 CP-12
Gou, C.	5015 BP-17	Hu, D.	5376 BP-25	Jiang, J. P.	5348 GP-11
Gou, C. C.	5292 BP-20	Hu, H. M.	5296 EP-19	Jiang, L. N.	5337 FP-17
Gu, Z. H.	5322 AP-18	Hu, H. M.	5297 EP-20	Jiang, S.	5222 DP-23
Guan, T.	5230 DP-26	Hu, J. X.	5306 BP-21	Jiang, S. H.	5373 HP-36
Guan, T. Y.	5222 DP-23	Hu, M. Q.	5300 HP-28	Jiang, S. Y.	5042 HP-3
Guan, W. M.	5357 CP-30	Hu, M. Q.	5210 CP-18	Jiang, X. J.	5015 BP-17
Guan, X. H.	5115 FP-4	Hu, M. Q.	5217 EP-5	Jiang, X. T.	5228 DP-25
Guan, X. H.	5116 FP-5	Hu, X. N.	5276 EP-10	Jiang, Y. J.	5179 FP-9
Guan, X. H.	5117 FP-6	Hu, X. N.	5279 EP-11	Jiang, Z. G.	5085 DP-8
Guan, X. H.	5332 FP-15	Hu, X. N.	5070 EP-2	Jin, B. B.	5347 FP-18
Guo, B. C.	5319 DP-27	Hu, X. M.	5292 BP-20	Jin, J. X.	5270 AP-12
Guo, C. C.	5285 EP-15	Hu, Y.	5276 EP-10	Jin, J. X.	5092 BP-2
Guo, C. C.	5279 EP-11	Hu, Y.	5070 EP-2	Jin, J. X.	5354 BP-23
Guo, H.	5273 HP-26	Hu, Y. P.	5221 EP-6	Jin, J. X.	5265 CP-25
Guo, K. K.	5235 EP-8	Hua, X.	5287 CP-28	Jin, J. X.	5267 CP-26
Guo, K. K.	5236 EP-9	Huang, L.	5300 HP-28	Jin, J. X.	5190 GP-6
Guo, X. B.	5337 FP-17	Huang, L.	5200 EP-4	Jin, J. X.	5211 GP-8
Guo, Y. N.	5118 CP-9	Huang, L.	5217 EP-5	Jin, Y.	5155 BP-8
Guo, Y. G.	5212 HP-19	Huang, L.	5198 BP-12	Jin, Z.	5240 AP-11
Guo, Y. G.	5114HP-13	Huang, P. H.	5190 GP-6	Jin, Z.	5376 BP-25
Guo, Y. G.	5256 HP-24	Huang, P. H.	5211 GP-8	Jing, L. B.	5025 DP-1
Guo, Y. G.	5206 GP-7	Huang, R. C.	5015 BP-17	Jing, L. B.	5028 DP-2
Guo, Y. G.	5270 AP-12	Huang, S. R.	5166 HP-17	K	
Guo, Y. G.	5358 DP-31	Huang, X. Y.	5122 EP-3	Kong, H. Y.	5357 CP-30
Guo, Y. G.	5092 BP-2	Huang, X. Y.	5234 BP-18		

Kreeumporn, W. 5113 BP-6

L

Lee, W.	5390 AP-20	Li, T.T.	5146 GP-3	Liu, G. H.	5163 FP-7
Lei, G.	5057 EP-1	Li, W. k.	5228 DP-25	Liu, G. H.	5099 AP-3
Lei, G.	5092 BP-2	Li, W. T.	5166 HP-17	Liu, G. H.	5106 BP-3
Lei, J. H.	5116 FP-5	Li, W. T.	5238 AP-10	Liu, G. L.	5273 HP-26
Li, B.	5362 CP-31	Li, X.	5283 EP-14	Liu, G. W.	5161 DP-20
Li, B.	5363 CP-32	Li, X.	5286 EP-16	Liu, H. J.	5275 HP-27
Li, C. S.	5120 CP-10	Li, X. F.	5323 HP-31	Liu, H. J.	5309 HP-29
Li, C. S.	5138 CP-13	Li, X. H.	5152HP-15	Liu, H. W.	5115 FP-4
Li, C. S.	5168 CP-16	Li, X. L.	5348 GP-11	Liu, H. W.	5116 FP-5
Li, D. W.	5306 BP-21	Li, X. L.	5348 GP-11	Liu, H. W.	5117 FP-6
Li, D. W.	5334 BP-22	Li, X. N.	5184 BP-10	Liu, H. W.	5332 FP-15
Li, G. D.	5243 CP-21	Li, X. Q.	5158 HP-16	Liu, H. X.	5183 DP-22
Li, G. H.	5165 BP-9	Li, X. Y.	5202 CP-17	Liu, H. Y.	5313 HP-30
Li, G. W.	5161 DP-20	Li, X. Y.	5210 CP-19	Liu, J.	5198 BP-12
Li, H. L.	5251 HP-22	Li, X. Y.	5263 CP-24	Liu, J. H.	5285 EP-15
Li, H. L.	5257 CP-23	Li, X. Y.	5140 BP-7	Liu, J. H.	5283 EP-14
Li, H. X.	5356 HP-35	Li, X. Y.	5176 CP-17	Liu, J. H.	5286 EP-16
Li, J.	5076 GP-2	Li, Y.	5309 HP-29	Liu, J. W.	5115 FP-4
Li, J.	5190 GP-6	Li, Y.	5160 DP-19	Liu, K.	5236 EP-9
Li, J.	5206 GP-7	Li, Y.	5228 DP-25	Liu, K.	5183 DP-22
Li, J.	5348 GP-11	Li, Y.	5175 AP-8	Liu, K.	5197 BP-11
Li, J.	5306 BP-21	Li, Y.	5101 CP-7	Liu, L.	5025 DP-1
Li, J. L.	5171 FP-8	Li, Y.	5135 CP-11	Liu, L.	5028 DP-2
Li, J. W.	5146 GP-3	Li, Z. M.	5109 BP-4	Liu, L.	5044 FP-3
Li, J. W.	5154 AP-5	Li, Z. Y.	5376 BP-25	Liu, L.	5030 FP-3
Li, J. W.	5301 AP-14	Liang, S. Z.	5122 EP-3	Liu, L. K.	5038 CP-2
Li, J. Y.	5140 BP-7	Liao, W. P.	5061 HP-7	Liu, Q. S.	5127 DP-15
Li, L.	5268 HP-25	Lin, C. Y.	5369 GP-12	Liu, R.	5137 CP-12
Li, L. K.	5290 EP-18	Lin, F.	5334 BP-22	Liu, T.	5030 FP-1
Li, L. K.	5289 EP-17	Lin, H. Y.	5236 EP-9	Liu, T.	5027 HP-1
Li, L. Y.	5333 DP-28	Lin, K. H.	5238 AP-10	Liu, T.	5029 CP-1
Li, L. Y.	5343 DP-30	Lin, M. Y.	5236 EP-9	Liu, W.	5109 BP-4
Li, M.	5301 AP-14	Lin, M. Y.	5189 FP-11	Liu, W. Y.	5347 FP-18
Li, N.	5189 FP-11	Lin, M. Y.	5231 FP-14	Liu, X. J.	5297 EP-20
Li, N.	5231 FP-14	Lin, M. Y.	5197 BP-11	Liu, X. J.	5107 HP-12
Li, Q.	5042 HP-3	Liu, C. C.	5212 HP-19	Liu, X. J.	5212 HP-19
Li, Q.	5094 C-8	Liu, D. S.	5153 GP-4	Liu, X. M.	5097 AP-2
Li, S. G.	5033 HP-2	Liu, F.	5065 HP-9	Liu, X. M.	5299 AP-13
Li, T. T.	5146 GP-3	Liu, F.	5115 FP-4	Liu, Y.	5289 EP-17
Li, T. T.	5154 AP-5	Liu, F.	5117 FP-6	Liu, Y.	5360 BP-24
Li, T. T.	5145 AP-4	Liu, F.	5066 GP-1	Liu, Y.	5138 CP-13
		Liu, F. F.	5162 CP-15	Liu, Y. J.	5072 HP-10
		Liu, G. H.	5100 DP-11	Liu, Y. L.	5335 DP-29
		Liu, G. H.	5163 FP-7	Liu, Y. Q.	5157 CP-14

Liu, Z. Y. 5299 AP-13
 Liu, Z. Y. 5304 AP-15
 Liu, Z. Y. 5320 AP-17
 Liu, Z. Y. 5322 AP-18
 Liu, Z. Y. 5328 AP-19
 Liu, Z. Y. 5391 AP-21
 Liu, Z. Y. 5201 BP-13
 Liu, Z. Y. 5205 BP-14
 Liu, Z. Y. 5215 BP-15
 Liu, Z. Y. 5216 BP-16
 Liu, Z. Z. 5061 HP-7
 Liu, Z. Z. 5223 HP-20
 Liu, Z. Z. 5182 FP-10
 Liu, Z. Z. 5182 FP-10
 Lu, B. L. 5105 DP-12
 Lu, W. H. 5370 CP-33
 Lu, Y. M. 5299 AP-13
 Lu, Y. M. 5304 AP-15
 Lu, Y. M. 5320 AP-17
 Lu, Y. M. 5322 AP-18
 Lu, Y. M. 5328 AP-19
 Lu, Y. M. 5391 AP-21
 Lu, Z. 5042 HP-3
 Lu, S. 5287 CP-28
 Luo, C. J. 5337 FP-17
 Luo, G. 5042 HP-3
 Luo, S. 5358 DP-31
 Luo, S. A. 5114 HP-13
 Luo, X. 5336 FP-16
 Lu, G. 5185 AP-9
 Lu, G. Q. 5141 DP-17

M

Ma, H. Z. 5198 BP-12
 Ma, L. 5034 FP-2
 Ma, M, N. 5343 DP-30
 Ma, M. 5333 DP-28
 Ma, X. F. 5184 BP-10
 Ma, Z. L. 5206 GP-7
 Ma, Z. L. 5206 GP-7
 Mao, J. 5015 BP-17
 Mao, Y. Y. 5042 HP-3
 Mao, Y. X. 5100 DP-11
 Mei, L. 5107 HP-12

Meng, D. 5054 HP-6
 Meng, D. W. 5055 DP-6
 Miao, J. Y. 5174 AP-7
 Mou, Y. 5030 FP-1
 Mou, Y. 5027 HP-1
 Mou, Y. 5029 CP-1
 Mu, C. X. 5046 HP-4
 Mu, C. X. 5265 CP-25
 Mu, C. X. 5040 DP-5
 Mu, C. X. 5179 FP-9
 Mu, C. X. 5056 CP-3
 Mu, C. X. 5069 CP-4
 Mu, C. X. 5267 CP-26
 Muramatsu, 5357 CP-30

N

Ngamroo, I. 5111 BP-5
 Ngamroo, I. 5113 BP-6
 Ni, J. J. 5141 DP-17
 Ning, Z. Y. 5068 DP-7
 Niu, P. 5034 FP-2
 Niu, P. 5034 FP-2
 Niu, S. X. 5309 HP-29
 Niu, S. X. 5335 DP-29
 Niu, S. X. 5336 FP-16
 Niu, S. X. 5336 FP-16

O

Ou, R. 5168 CP-16
 Ou, X. B. 5369 GP-12
 Ou, Y. Z. 5362 CP-31
 Ou, Y. Z. 5363 CP-32

P

Peng, J. G. 5044 FP-3
 Peng, L. 5081 AP-1
 Peng, Y. 5115 FP-4
 Peng, Y. 5116 FP-5
 Peng, Y. X. 5139 HP-14
 Peng, Y. X. 5137 CP-12
 Pi, W. 5146 GP-3
 Pi, W. 5156 AP-6

Q

Qi, G. Z. 5061 HP-7
 Qi, G. Z. 5182 FP-10
 Qiang, T. 5119 DP-14
 Qin, F. 5115 FP-4
 Qin, F. 5116 FP-5
 Qin, M. 5184 BP-10
 Qiu, M. 5109 BP-4
 Qiu, M. 5244 BP-19
 Qu, D. M. 5182 FP-10
 Qu, D. M. 5182 FP-10
 Qu, R. H. 5306 BP-21
 Qu, R. H. 5334 BP-22
 Qu, X. D. 5061 HP-7

R

Ren, B. P. 5117 FP-6
 Ren, B. P. 5115 FP-4
 Ren, B. P. 5116 FP-5
 Ren, H. 5391 AP-21
 Ren, L. 5360 BP-24
 Ren, L. 5140 BP-7

S

Satoru, Y. 5215 BP-15
 Satoru, Y. 5216 BP-16
 Sheng, J. 5376 BP-25
 Shi, X. L. 5304 AP-15
 Shi, C. J. 5146 GP-3
 Shi, C. J. 5154 AP-5
 Shi, C. J. 5317 AP-16
 Shi, J. 5360 BP-24
 Shi, L. W. 5110 DP-13
 Shi, P. T. 5098 CP-6
 Shi, Z. C. 5210 CP-18
 Shi, Z. C. 5217 EP-5
 Shi, X. L. 5391 AP-21
 Song, H. Y. 5238 AP-10
 Song, Y. B. 5205 BP-14
 Su, F. F. 5347 FP-18
 Su, F. F. 5347 FP-18

Su, J.	5015 BP-17	Wang, D. M.	5107 HP-12	Wang, Y. S.	5146 GP-3
Su, J. G.	5213 GP-9	Wang, H.	5279 EP-11	Wang, Y. S.	5154 AP-5
Su, J. G.	5213 GP-9	Wang, H.	5292 BP-20	Wang, Y. S.	5156 AP-6
Su, Z. Z.	5233 EP-7	Wang, H.	5282 EP-13	Wang, Y. S.	5174 AP-7
Su, Z. Z.	5346 EP-25	Wang, H.	5286 EP-16	Wang, Y. S.	5175 AP-8
Sun, R.	5139 HP-14	Wang, H. L.	5140 BP-7	Wang, Y. S.	5185 AP-9
Sun, R.	5135 CP-11	Wang, H. S.	5285 EP-15	Wang, Y. S.	5301 AP-14
Sun, W. S.	5290 EP-18	Wang, H. S.	5283 EP-14	Wang, Y. S.	5317 AP-16
Sun, W. S.	5289 EP-17	Wang, H. T.	5319 DP-27	Wang, Y. S.	5078 BP-1
Sun, X. D.	5114 HP-13	Wang, J.	5275 HP-27	Wang, Y. S.	5145 AP-4
Sun, X. D.	5358 DP-31	Wang, J. H.	5201 BP-13	Wang, Z. Y.	5057 EP-1
Sun, Y. D.	5177 DP-21	Wang, J. H.	5215 BP-15	Wei, Bi.	5337 FP-17
Sun, Y. X.	5177 DP-21	Wang, J. H.	5216 BP-16	Wei, Bi.	5337 FP-17
		Wang, K.	5090 DP-9	Wei, D.	5384 BP-27
		Wang, K.	5233 EP-7	Wei, Y. H.	5030 FP-1
		Wang, L. Y.	5170 HP-18	Wei, Y. H.	5027 HP-1
		Wang, L. Y.	5287 CP-27	Wei, Y. H.	5027 HP-1
		Wang, M, M.	5370 CP-33	Wei, Y. H.	5029 CP-1
		Wang, M. Q.	5222 DP-23	Wei, Y. H.	5030 FP-1
		Wang, Q.	5054 HP-6	Wei, Y. Y.	5171 FP-8
		Wang, Q.	5160 DP-19	Wen, P.	5115 FP-4
		Wang, Q.	5171 FP-8	Wen, P.	5116 FP-5
		Wang, Q.	5171 FP-8	Wen, P.	5332 FP-15
		Wang, Q. I.	5070 EP-2	Wu, C. T.	5287 CP-27
		Wang, S.	5251 HP-22	Wu, D. Y.	5168 CP-16
		Wang, S.	5255 HP-23	Wu, L. T.	5233 EP-7
		Wang, S. C.	5354 BP-23	Wu, W.	5240 AP-11
		Wang, S. H.	5251 HP-22	Wu, X. Z.	5090 DP-9
		Wang, S. H.	5256 HP-24	Wu, X. Z.	5091 DP-10
		Wang, S. H.	5250 HP-21	Wu, Z.	5139 HP-14
		Wang, S. H.	5351 HP-34		
		Wang, S. H.	5257 CP-23		
		Wang, S. H.	5201 BP-13		
		Wang, S. Y.	5131 DP-16	Xia, Y. Y.	5054 HP-6
		Wang, X. D.	5253 CP-22	Xia, Y. Y.	5055 DP-6
		Wang, X. G.	5152 HP-15	Xiang, B.	5205 BP-14
		Wang, X. G.	5076 GP-2	Xiao, F.	5177 DP-21
		Wang, X. H.	5170 HP-18	Xiao, M.	5239 GP-10
		Wang, X. H.	5312 EP-22	Xiao, X. Y.	5120 CP-10
		Wang, X. H.	5225 DP-24	Xiao, X. Y.	5138 CP-13
		Wang, Y.	5223 HP-20	Xiao, X. Y.	5168 CP-16
		Wang, Y. F.	5287 CP-28	Xie, X.	5323 HP-31
		Wang, Y. H.	5212 HP-19	Xie, Y. L.	5323 HP-31
		Wang, Y. L.	5354 BP-23	Xie, Y. L.	5034 FP-2
				Xing, X.	5287 CP-28

Xing, Y. Q.	5076 GP-2	Xu, Y. M.	5066 GP-1	Yu, H.T.	5210 CP-18
Xing, Y. Q.	5190 GP-6	Xu, Y. X.	5160 DP-19	Yu, J.	5320 AP-17
Xing, Y. Q.	5211 GP-8	Xu, Y. X.	5171 FP-8	Yu, J.	5322 AP-18
Xing, Y. Q.	5239 GP-10	Xu, Z. W.	5296 EP-19	Yu, L.	5127 DP-15
Xing, Y. Q.	5348 GP-11	Xue, H.	5356 HP-35	Yu, Y.	5213 GP-9
Xing, Z, X.	5102 CP-8			Yu, Z. S.	5349 HP-33
Xiong, B.	5215 BP-15			Yu, Z. S.	5350 EP-26
Xiong, B.	5216 BP-16	Yan, J.	5205 BP-14	Yuan, D. S.	5255 HP-23
Xiong, Y. X.	5350 EP-26	Yan, K.	5280 EP-12	Yuan, D. S.	5257 CP-23
Xiong, Y. X.	5346 EP-25	Yan, L. G.	5276 EP-10	Yuan, S. J.	5170 HP-18
Xu, D.	5231 FP-14	Yan, L. G.	5070 EP-2	Yuan, W. J.	5244 BP-19
Xu, H. K.	5347 FP-18	Yan, N.	5102 CP-8		
Xu, J. W.	5285 EP-15	Yan, Y. C.	5141 DP-17		
Xu, J. W.	5279 EP-11	Yang, F.	5373 HP-36	Zeng, Y.	5106 BP-3
Xu, J. W.	5292 BP-20	Yang, F.	5320 AP-17	Zha, G. Q.	5390 AP-20
Xu, K.	5061 HP-7	Yang, F.	5328 AP-19	Zhang, H.	5078 BP-1
Xu, L.	5189 FP-11	Yang, G.	5268 HP-25	Zhang, B.	5159 GP-5
Xu, L.	5231 FP-14	Yang, H.	5236 EP-9	Zhang, B.	5101 CP-7
Xu, L.	5099 AP-3	Yang, H.	5235 EP-8	Zhang, C.	5221 EP-6
Xu, L.	5165 BP-9	Yang, H. Y.	5183 DP-22	Zhang, C. H.	5312 EP-22
Xu, W.	5296 EP-19	Yang, K.	5205 BP-14	Zhang, C. H.	5225 DP-24
Xu, W.	5297 EP-20	Yang, K.	5215 BP-15	Zhang, D.	5243 CP-21
Xu, W.	5046 HP-4	Yang, L.	5119 DP-14	Zhang, D. Y.	5384 BP-27
Xu, W.	5152 HP-15	Yang, M. M.	5347 FP-18	Zhang, F.	5370 CP-33
Xu, W.	5047 H2-5	Yang, X.	5089 HP-11	Zhang, F. G.	5230 DP-26
Xu, W.	5265 CP-25	Yang, Y.	5061 HP-7	Zhang, G. G.	5161 DP-20
Xu, W.	5267 CP-26	Yang, Y.	5182 FP-10	Zhang, G. M.	5107 HP-12
Xu, W.	5037 DP-3	Yang, Y.	5193 FP-12	Zhang, G. Q.	5338 CP-29
Xu, W.	5039 DP-4	Yang, Y.	5194 FP-13	Zhang, H. J.	5257 CP-23
Xu, W.	5040 DP-5	Yang, Z. B.	5114 HP-13	Zhang, H. M.	5244 BP-19
Xu, W.	5057 EP-1	Yang, Z. B.	5358 DP-31	Zhang, H. S.	5241 CP-20
Xu, W.	5179 FP-9	Yang, Z. X.	5030 FP-1	Zhang, J.	5300 HP-28
Xu, W.	5092 BP-2	Yang, Z. X.	5027 HP-1	Zhang, J.	5374 CP-34
Xu, W.	5038 CP-2	Yang, Z. X.	5029 CP-1	Zhang, J.	5375 CP-35
Xu, W.	5056 CP-3	Yao, K.	5094 C-8	Zhang, J. G.	5153 GP-4
Xu, W.	5069 CP-4	Yi, X.Q.	5346 EP-25	Zhang, J. W.	5239 GP-10
Xu, W. J.	5256 HP-24	Yin, C.	5373 HP-36	Zhang, J. X.	5309 HP-29
Xu, X. Z.	5144 DP-18	Yin, C.	5374 CP-34	Zhang, K. H.	5234 BP-18
Xu, Y. L.	5063 HP-8	Yin, C.	5375 CP-35	Zhang, L. H.	5360 BP-24
Xu, Y. I.	5105 DP-12	Yin, L.	5184 BP-10	Zhang, M.	5244 BP-19
Xu, Y. M.	5065 HP-9	Yu, G. D.	5171 FP-8	Zhang, N. M.	5250 HP-21
Xu, Y. M.	5089 HP-11	Yu, H. T.	5300 HP-28	Zhang, N. M.	5351 HP-34
Xu, Y. M.	5085 DP-8	Yu, H. T.	5200 EP-4	Zhang, S. N.	5183 DP-22
Xu, Y. M.	5066 GP-1	Yu, H. T.	5217 EP-5	Zhang, T.	5158 HP-16

Zhang, T.	5159 GP-5	Zhao, W. X.	5163 FP-7	Zhu, G. H	5347 FP-18
Zhang, T.	5157 CP-14	Zhao, W. X.	5099 AP-3	Zhu, H. Q.	5177 DP-21
Zhang, W.	5193 FP-12	Zhao, W. X.	5106 BP-3	Zhu, J. G.	5212 HP-19
Zhang, W.	5194 FP-13	Zhao, W. X.	5165 BP-9	Zhu, J. G.	5251 HP-22
Zhang, W.	5231 FP-14	Zhao, Y.	5152 HP-15	Zhu, J. G.	5256 HP-24
Zhang, X.	5326 HP-32	Zhao, Y.	5240 AP-11	Zhu, J. G.	5358 DP-31
Zhang, X. B.	5233 EP-7	Zheng, F.	5347 FP-18	Zhu, J. G.	5057 EP-1
Zhang, X. L.	5268 HP-25	Zheng, J. Q.	5163 FP-7	Zhu, J. G.	5092 BP-2
Zhang, X. Z.	5382 BP-26	Zheng, X. D.	5109 BP-4	Zhu, J. G.	5270 AP-12
Zhang, Y.	5090 DP-9	Zheng, X. D.	5184 BP-10	Zhu, J. H.	5109 BP-4
Zhang, Y.	5091 DP-10	Zheng, Y.	5230 DP-26	Zhu, J. H.	5184 BP-10
Zhang, Y.	5235 EP-8	Zheng, Z. X.	5138 CP-13	Zhu, J. H.	5244 BP-19
Zhang, Y.	5030 FP-1	Zhong, W. B.	5210 CP-18	Zhu, L.	5369 GP-12
Zhang, Y. P.	5027 HP-1	Zhong, W. B.	5217 EP-5	Zhu, S. S.	5332 FP-15
Zhang, Y. P.	5029 CP-1	Zhou, A. B.	5360 BP-24	Zhu, X. H.	5253 CP-22
Zhang, Y. Z.	5155 BP-8	Zhou, B.	5110 DP-13	Zhu, X. Y.	5177 DP-21
Zhang, Z. Q.	5055 DP-6	Zhou, B.	5119 DP-14	Zhu, Y. H.	5350 EP-26
Zhang, Z. Y.	5313 HP-30	Zhou, D.	5369 GP-12	Zhu, Y. Y.	5370 CP-33
Zhang, Z. Y.	5299 AP-13	Zhou, F.	5290 EP-18	Zou, J. B.	5160 DP-19
Zhao, H.	5033 HP-2	Zhou, J. B.	5279 EP-11	Zou, J. B.	5183 DP-22
Zhao, H. Y.	5094 C-8	Zhou, J. B.	5292 BP-20	Zou, J. B.	5171 FP-8
Zhao, M.	5183 DP-22	Zhou, Q. B.	5162 CP-15	Zou, J. Q.	5047 H2-5
Zhao, S. C.	5322 AP-18	Zhou, Q. W.	5370 CP-33	Zou, Q.	5158 HP-16
Zhao, S. P.	5347 FP-18	Zhou, S. P.	5390 AP-20		
Zhao, W. X.	5100 DP-11	Zhou, X.	5360 BP-24		
Zhao, W. X.	5131 DP-16	Zhou, Z. C.	5168 CP-16		

Note

Exhibitions

 上海工刻超导科技有限公司


原力超导
www.eastfs.com

 Quantum Design 中国子公司
www.qd-china.com

 力炯金属
Lijiong Metal

HENGLI
合肥恒力电子装备公司

 **MIKROUNA**

 **Samri**
Advanced Materials


ZUFA



上海上创超导科技有限公司

Shanghai Creative Superconductor Technologies Co., Ltd

The SCSC has Intellectual property rights on equipments and technologies of scaling up of 2G high temperature superconducting tapes. The SCSC, based on the previous research funded by National Science and Technology 863 and 973 projects, developed the world's leading low-cost technology and chemical route, with distinct characteristics and advantages, which is suitable for industrial production.

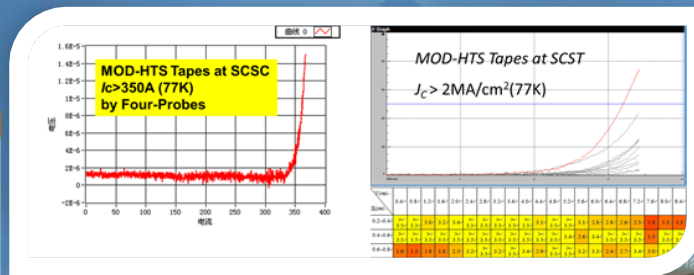
- Biaxial textured substrate: In-plane FWHM6°, RMS roughness <math><10\text{ nm}</math>, length of up to 300 m are available, Continuous preparation capacity greater than 1000 m.
- Buffer layers: Kilometer continuous preparation equipment; production rate greater than 100 m per hour.
- Superconducting layers: Kilometer continuous preparation equipment; production rate greater than 30 m per hour, $I_c>300\text{A/CM}$ (self-field).
- Cost-effective 2G tapes
- Scale-up equipment and low-cost technologie



Our equipments:

Through independent design collaboration with foreign manufacturers elected, The SCSC build world's leading Km strip production line (including km scale DC magnetron and MOD reel-to-reel system).

- The SCSC generates different specified tape with different size meeting the application of superconducting tapes in different occasions.



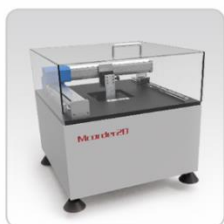
Tel:+86021-37515861 Fax:+86021-37515791
 Address:ADD:No 4, Lane 2066, Wangyuan Road, Fengxian District,
 Shanghai, China
 http: //www.china-superconductor.com





Beijing Eastforce Superconducting Technology Co., Ltd., founded in 2014, is a leading superconducting technology provider specializing in electromagnetic measurement and magnetic fields shielding equipment. Our customer services include innovative HTS devices design and construction, low-frequency electromagnetic simulation and in-depth technical consulting for material characterization and magnetic co-engineering.

Eastforce Measurement



For non-contact I_c uniformity examination of HTS tape, bulk and film



For non-contact I_c uniformity examination of long HTS tape



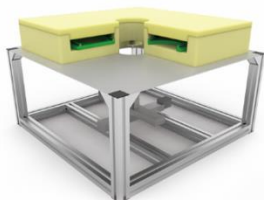
For Superconductor phase transition detection



For tape $I_c(B, \theta)$ characteristic measurement

Eastforce Superconducting Technology proudly provides the industry a series of HTS measuring equipments for both manufacturing quality control and material research.

Eastforce Shielding



Tesla-shielding Prototype



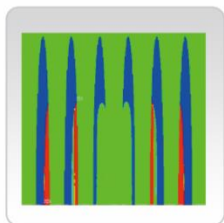
Tesla-shielding with MCG

Tesla-shielding

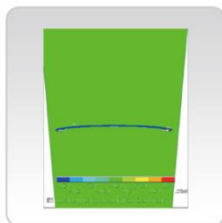
A **NEW** member of magnetic shielding:

Given birth by Eastforce in 2015, Tesla-shielding is a new member of shielding family. Tesla-shielding is an innovative technology for low-frequency shielding. It is an open system, superior at low frequency and independent to the amplitude. It can suppress the 50Hz noises down to 0.1 nT easily without shielding room.

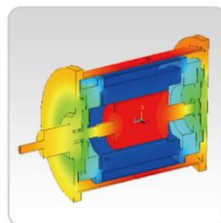
Eastforce Simulation



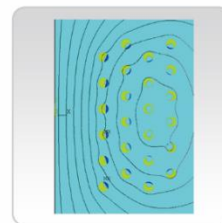
Current distribution in parallel winding and optimal design



AC loss in HTS cable and optimal design



Electromagnetic-thermal-mechanical multi-physics simulation in an HTS motor



Screen current in high uniformity MgB₂ magnet

Our unique algorithm enables our customers to deeply understand the macroscopic magnetic properties of HTS by reviewing the flux penetration process at each corner of the HTS object, which consists of thousands of turns or 3D structures.

Eastforce Superconducting Technology

<http://www.eastfs.com>

E-mail: contactus@eastfs.com

Address: Rm 116 Bldg 20, 15 Anningzhuang West Rd., Haidian, Beijing, China, 100085

Tel: +86-10-82125273

Fax: +86-10-82833850





Quantum Design

Cryogen-Free Measurement Systems

Quantum Design China – Beijing
Tel: +86-10-85120277/78/79/80
Email: info@qd-china.com
www.qd-china.com

Quantum Design China – Shanghai
Tel: +85-21-52280980/82/83/85
Email: info@qd-china.com
www.qd-china.com

Quantum Design China – Guangzhou
Tel: 85-21-89202739
Email: info@qd-china.com
www.qd-china.com

www.qd-china.com

THEVA Critical Current Measurement of HTS Tape

TAPESTAR



- Fast reel-to-reel, high-resolution, critical current measurement of superconducting tape (1G or 2G HTS tape)
- Contactless technique at liquid nitrogen temperature
- Tabletop setup with integrated Dewar
- Tape heater to avoid moisture condensation
- Tape drive with tension and speed control
- Integrated DSP – based control unit
- User interface and data acquisition via optional notebook or PC
- Data transmission via serial port
- Stand-alone control and viewer software running on Windows
- User interface: keyboard and touch screen

TAPESTAR^{XL}



- Fast reel-to-reel, high-resolution, critical current measurement of superconducting tape (1G or 2G HTS tape)
- Contactless technique at liquid nitrogen temperature
- Integrated Dewar in closed cabinet configuration
- Tape heater to avoid moisture condensation
- Industrial tape drive with tension and speed control
- PLC – based control electronics
- Integrated industrial PC
- User interface: keyboard and touch screen

Users in China

- Suzhou Advanced Materials Research Inst. China
- Shanghai Superconductors (Shanghai Jiao Tong Univ.) China
- Beijing Univ. of Technology China
- Futong Group, Tianjin China
- Shanghai Creative Superconductor Technologies Co., Ltd (Shanghai University) China

International Users

- Bruker HTS Germany
- Deutsche Nanoschicht (D-Nano) Germany
- Karlsruhe Inst. of Technology (KIT) Germany
- Showa Cable Systems Co., Ltd. (SWCC) Japan
- Fujikura Ltd. Japan
- Superox JAPAN Japan
- Toshiba Corporation Power Systems Company Japan
- ISTEC, Nagoya Japan
- Sumitomo Electric Industries, Ltd. Japan
- Superpower Inc. USA
- AMSC USA
- Superconductor Technologies Inc. (STI) USA

www.qd-china.com

Company Profile



Shanghai Li Jiong Metal Technology Co., Ltd. , based on the development of production and sales of high-temperature superconducting substrate, has independent intellectual property rights of hot strip mill, fully hydraulic multi-roll mill with high precision, vertical heat treatment furnace, and other highly specialized equipment for manufacturing narrow substrate. The company's core technical team has undertaken the Shanghai Science and Technology projects, industrial technology of metal substrate for 2G HTS(No11DZ1100303).

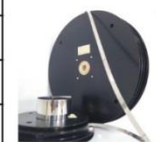
一、C276 Hastelloy with low roughness

chemical composition	C(%)	Si(%)	Mn(%)	Cr(%)	Mo(%)	Co(%)	W(%)	Fe(%)	Ni(%)
	≤0.02	≤0.05	≤1.0	14 ~ 16.5	15 ~ 17	≤2.5	3 ~ 4.5	1 ~ 4.7	remaining
thickness	0.05 ~ 0.1mm								
width	80(max)								
length	3000m(max)								
Surface roughness	5 ~ 10nm								



二、Ni—5at.%W substrate

thickness	0.05 ~ 0.1mm								
width	4 ~ 80mm								
length	1050m(max)								
texture	98.20%								
△φ	5.3°								
△ω	4.8°								
Surface roughness	5 ~ 10nm								



(Test results provided by China University of Electronic Science and Technology and Shanghai Jiaotong University)

力炯金属

Name: Shanghai Li Jiong Metal Technology Co., Ltd.
Address: 888, Jin Chang branch Road, Jinshan District of Shanghai
Zip Code: 201540

Contact Person: Yu Bo
MB:13816295111
E-mail:yb@ljmetal.sh.cn
Http// : www.ljmetal.sh.cn



Company Profile: Hengli Eletek Co., Ltd. was founded in 1992 with the mission to become a leading supplier of thermal processing solutions to the global electronics and materials markets. The company is currently headquartered in Hefei, China. Hengli conveyor belt furnaces are widely used in industries such as microelectronic packaging (including IC, SMT, HIC, MCM and MEMS manufacturing), solar cell (photovoltaic) manufacturing, as well as advanced materials processing. In addition, Hengli manufactures surface treatment lines for electronic and military markets and custom systems for specific customer applications.

With the promise of high efficiency, high performance, high reliability, and low cost, all Hengli associates serve their customers with honesty, integrity and value. Hengli products and services have been highly appreciated by customers from more than 20 countries & regions located in North America, South America, Europe, Asia, and Australia. You are sincerely invited to visit Hengli and try their innovative products.

business philosophy: integrity and win-win innovation and development focus on customer excellence Constant has always adhere to customer-centric, rapid response to customer demand, in good faith and common growth, innovation and creative thinking with technology development, and strive to achieve the electronics industry dedicated excellent equipment supplier.



Contact Us: NO.19 Hehuan Road, New & High Tech Development Zone, Anhui, China 230088;

[Tel: 0551-65846903](tel:0551-65846903) Fax: 0551-65846907

Super purified glove box Gas purification system



“Mikrouna” is a German brand created through adhering to German Business Philosophies and German law.

Mikrouna's Feature:

As a fast growing high-tech enterprise that combines R&D, manufacturing and service, Mikrouna is committed to developing innovative products and attentive customer service for clients around the globe.

In 2000, Mikrouna was the first company to start Research & Development, Sales and the manufacturing of Glove Boxes in China. Mikrouna was the third company following VAC and Mbraun to begin marketing Glove Boxes globally. This achievement set Mikrouna as the leading manufacturer in Asia.

Mikrouna becomes completely informative colligating the steps of design, purchasing, manufacturing, production schedule, marketing and logistics (developing German industry 3.0; upgrading German industry 4.0). Nowadays, we already realized standardized production.

Mikrouna currently has 60 engineers with expertise in such areas as mechanical, electronic chemical, physics, welding, instrument, vacuum technology, hydrodynamic, energetic, optical electronic and materials engineering.

Mikrouna has “State of the art” manufacturing equipment, as well as full “in house” capabilities.

Mikrouna is proud to own 55 technology patents and 2 government awards for “Transformation of Scientific and Technological Achievement”

Nowadays Mikrouna has established a research and manufacture center in Shanghai, a production factory in Hubei Province and USA, and service centers respectively in Beijing, Guangzhou, Xi'an, Fuzhou, Hangzhou, Changsha, Chengdu, Changchun to support its continued growth.

Mikrouna is popularizing Glove Box Internet of Things System through the globe, realizing functions such as remote monitoring and diagnosis.

Mikrouna offers Super Purified Glove Boxes and Gas Purified System, Special Lighting Production lines, as well as Vacuum Deposition Systems. These products have been exported to Europe, America and other countries in Asia.

Mikrouna manufacturing standard: Strictly in accordance with the German Standard.

Mikrouna is Underwriter's Laboratory (UL), CE and ISO9001 certified

Mikrouna has already provided more than 6500 Glove Box units globally. Last year Mikrouna took over 85% absolute market share in China.

Mikrouna's Mission Statement: “Achieving social goals through advancing technology.”

Shanghai Mikrouna Mech. Tech. Co., Limited

Add: 4A Factory, No. 1388 Eastern Road Kangqiao, Kangqiao Industrial district, Shanghai 201315, P.R. China
Tel: (+86)021 6818 3325 / 6 / 7
Fax: (+86)021 6818 3055
E-mail: sales@mikrouna.com (glovebox)

Beijing Mikrouna Mech. Tech. Co., Limited

Add: Rm 225, Building 8, ZGC Software Park, No. 8 Dongbeiwang West Rd., Haidian Dist. Beijing 100193 China.
Tel: (+86)010 6858 8248/7/6/5
Fax: (+86)010 6858 7629
E-mail: sales@mikrouna.com (glovebox)

Guangzhou Service Center

Add: G1-815, Huanan New Material Innovation Park, No.31, Kefeng Road, Luogang District, Guangzhou, 510663, P.R. China
Tel: (+86)020 3761 8172
Fax: (+86)020 3761 8170
E-mail: sales@mikrouna.com (glovebox)

Vacuum Technology Inc.

Add: 15 Great Republic Drive Gloucester, MA 01930
Phone: (978) 879 4302
E-mail: sam.cai@vti-glovebox.com
Website: www.vti-glovebox.com

Suzhou Advanced Materials Research Institute Incorporated

Suzhou Advanced Materials Research Institute Incorporated (SAMRI) was established in January of 2011. Its 5000-m² facility is located by the scenic Dushu Lake in Suzhou Industrial Park (SIP). The total investment so far is 500 Million CNY, jointly funded by the Etern Group of China and the China-Singapore SIP Venture Fund. SAMRI develops and manufactures the advanced km-class high-temperature superconducting (HTS) tapes with YBa₂Cu₃O_{7-δ} film as conducting layer, and the application devices as well. With a strong technical team, the company is the lead organization responsible for the completion of a national “863” high-tech project “Development of Advanced Superconducting Materials” during the 12th five-year term.

Our company has established the China’s first complete production line for the advanced HTS tapes in a 10000-class clean room. The yearly production capacity is 600km. 5 types of product with world-class performance are available now. The technical specs are listed in the following tables:

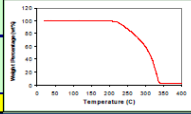
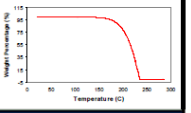
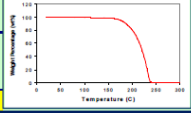
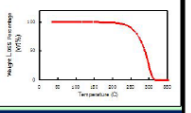
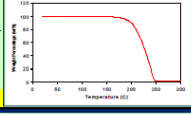
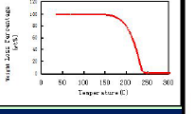
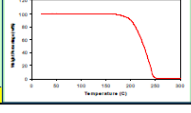
Product Type	SCCS	Premium SCCS	DCCS	SCSS	12mm w/o Cu
Minimum I _c (A)	100	150	160	250	300
Width (mm)	4.5	4.5	4.5	12	12
Total Thickness (mm)	0.18-0.20	0.18-0.20	0.23-0.25	0.2-0.3	0.105
Thickness of Stabilizer (mm)	0.1	0.1	0.1	0.1-0.25	0
Critical Tensile Stress (MPa)	400	400	400	450	550
Critical Bend Radius (mm)	25	25	30	50	10
Recommended Applications	Power Cables, Propulsion Motor, EM Launcher, Plasma Rocket, Wind/Hydraulic Generators, SMES, etc.			Resistive-Type Fault Current Limiter	

SCCS: Single-Core w/o Cu Stabilizer; DCCS: Double-Core w/o Cu Stabilizer; SCSS: Single-Core w/o S.S. Stabilizer



SAMRI also produces and sales metal-organic precursors as listed as follows:

MOCVD Precursors

<p>Bis(2,2,6,6-tetramethyl-3,5-heptanedionate)barium (1,10-phenanthroline)2</p> <p>Ba(O₂C₁₁H₁₉)₂(C₁₂H₈N₂)₂ FW 864.55</p> <p>colorless crystals 99.9% m. p. none</p> <p>sublimation: 230°C/0.05mmHg, dec.</p> <p style="background-color: yellow;">Stable in dry air over a long time</p> <p>CAS Reg.: 15632-39-0</p>		<p>Bis(2,2,6,6-tetramethyl-3,5-heptanedionate) copper(II)</p> <p>Cu(O₂C₁₁H₁₉)₂ FW 430.05</p> <p>dark blue crystals 99.9% m. p.: none</p> <p>sublimation: -89°C/0.05mmHg</p> <p>CAS Reg.: 14040-05-2</p>	
<p>Tris(2,2,6,6-tetramethyl-3,5-heptanedionate) yttrium(III)</p> <p>Y(O₂C₁₁H₁₉)₃ FW 722.86</p> <p>white powder 99.9% m. p.: 160°C</p> <p>sublimation: 180°C/0.05mmHg dec.: 290°C</p> <p>CAS Reg.: 15632-39-0</p>		<p>Tetrakis(2,2,6,6-tetramethyl-3,5-heptanedionate) zirconium(IV)</p> <p>Zr(O₂C₁₁H₁₉)₄ FW 824.31</p> <p>white powder 99.9% m. p.: 320°C</p> <p>sublimation: 180°C/0.1mmHg</p> <p>CAS Reg.: 18868-74-2</p>	
<p>Tris(2,2,6,6-tetramethyl-3,5-heptanedionate) gadolinium(III)</p> <p>Gd(O₂C₁₁H₁₉)₃ FW 707.07</p> <p>white powder 99.9% m. p.: 192°C</p> <p>sublimation: 180°C/0.05mmHg dec.: 280°C</p> <p>CAS Reg.: 14769-15-1</p>		<p>Tris(2,2,6,6-tetramethyl-3,5-heptanedionate) manganese(III)</p> <p>Mn(O₂C₁₁H₁₉)₃ FW 604.75</p> <p>b 99.9% m. p.: 160°C</p> <p>sublimation: 150°C/0.1mmHg dec.: 290°C</p> <p>CAS Reg.: 14434-47-0</p>	
<p>Tris(2,2,6,6-tetramethyl-3,5-heptanedionate) samarium(III)</p> <p>Sa(O₂C₁₁H₁₉)₃ FW 700.11</p> <p>light brown powder 99.9% m. p.: 191-193°C</p> <p>sublimation: 180°C/0.05mmHg dec.: 280°C</p> <p>CAS Reg.: 15492-50-9</p>		<p>For more information, please contact: Call: +86 0512 67900580 E-mail: patrick@samri.org.cn</p>	

WATER VAPOR FLOW CONTROL DEVICE



- Traffic is measured by a mass flow meter with high detection accuracy. The control unit uses PID regulation to control flow size using linear solenoid valve with accuracy of 0.5%.
- Temperature is measured by PT100 temperature sensor and control with dedicated PID temperature regulation. The temperature control precision reaches 0.1 °C.
- Moisture content measurement unit with humidity sensor is calculated to generate water vapor content. The control unit uses PID regulation to adjust the amount of water vapor content.
- Man-machine interface with 7-inch color LCD touch screen display intuitive and clear data on flowchart. Flow, temperature and water vapor content of the target can be set by tapping the touch screen.

Product features



Technique Data



- **FLOW**

Range: (gaseous medium: oxygen)
0-1000 mL/min,
0-20 L/min
0-100L/min
Control accuracy: 0.5%

- **ATMOSPHERE TEMPERATURE**

Range: room temperature to 60°
Control accuracy: 0.1 °C

- **Water vapor content**

Range: 0-5%

- **Intake pressure**

Range: 0.2Mpa-0.4Mpa



Acknowledgement

