



2022 IEEE
5th International Electrical and Energy Conference
(CIEEC 2022)

Nanjing, China May 27–29, 2022

PROGRAM

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Welcome Message

General Chairs of CIEEC2022



Prof. **Qingxin Yang**



Prof. **Jianfeng Zhao**



Prof. **Z.Q. Zhu**

We sincerely invite you to participate in the 2022 IEEE 5th International Electrical and Energy Conference (CIEEC2022), which will provide a technical exchange platform for the academic and engineering communities in the field of electricity and energy. The conference, jointly sponsored by IEEE Beijing Section, China Electrotechnical Society and Southeast University, will be held in Nanjing, China, from May 27 to 29, 2022.

With the vigorous development of renewable energy, scientific research and development in the field of electrical engineering and energy are facing new challenges and opportunities. In order to promote close communications between university



research institutes and enterprise engineers in the field of electricity and energy, well-known experts in the field of electricity and energy at home and abroad will be invited to discuss and analyze the future development trends of technology and equipment, and carry out high-level exchanges to showcase the latest products. CIEEC2022 received more than 1,100 technical papers and eventually accepted more than 891 papers. The conference will discuss a number of technical topics related to electricity and energy to promote the integration of industry, university and research.

Located at the eastern part of China, Nanjing is the capital of Jiangsu Province which is developed in economy in China and an important central city on the middle and lower reaches of the Yangzi River. Nanjing is one of the most famous ancient Chinese cities as well as a historical-important one. Flowing Yangzi River not only cradles Yangzi civilization but also contributes to the formation of Nanjing, a city lies in the south region of Yangzi River.

On behalf of the organizing committee, I sincerely invite you to participate in this conference and give a keynote speech. We are looking forward to meeting you in Nanjing, a historical city in China, from May 27 to 29, 2022.



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Conference Information



Nanjing, China
May27 – 29, 2022

※ **Official Language**

The Official Language of the conference is English, which will be used for all presentations and printed materials.

Keynote Speakers



Prof. **Licheng Li**

*Academician of Chinese Academy of Engineering
Senior engineer of CSG
Professor of South China University of Technology*

Title: The Theory and Practice of Transparent Electric Network

Prof. Li Licheng, Academician of CAE, specializes in power technology. He is now honorary chairman of expert committee of CSG, honorary dean of School of Electric Power Engineering of SCUT. He participated in and organized the construction of the first 330kV AC transmission project, the first 500kV AC transmission project, the first 500kV DC transmission project in China. Moreover, He presided over the theoretical research, key technology development and engineering construction of the world's first ± 800 kV UHVDC transmission project. Li Licheng advocated VSC-HVDC transmission technology, presided over the theoretical research of VSC-HVDC and ultra high voltage multi terminal VSC-HVDC. In addition, he proposes the concept and technical theoretical system of transparent electric network, and integrate modern sensing technology, information technology, digital technology and intelligent technology into the power system, which makes power grid fully visible, knowable and controllable.

Li Licheng won the special prize of The State Scientific and Technological Progress Award in 2017 as the first contributor. He also won the first and the second prize of The State Scientific and Technological Progress Award. In addition, other awards and honors he has received are as follows: Guanhua Engineering Science and Technology Prize (2016), Ho Leung Ho Lee Foundation Scientific and Technological Progress Award (2018), Outstanding Contribution Prize of Guangdong Scientific and Technological Progress Award (2018), the fifth National Outstanding Scientific and Technological Workers (2012).

Abstract:

Li Licheng publicly proposed the concept of transparent electric network in 2017. Transparent electric network integrates into power system, the digital, information and intelligent technologies such as the information technology, computing technology, communication technology, sensing technology, control technology, artificial intelligence, cloud computing, and Internet-of-things. It realizes the deep transparency of power source information, power grid information, power load information, power equipment status and system operation status, which makes the power grid fully observable, knowable and controllable. Transparent electric network is the ultimate embodiment of smart grid technology. Starting from the proposal of transparent electric network, the presentation will elaborate the theoretic framework of transparent electric network and the results of the corresponding applications in recent years. Last but not the least, it will analyze the future development of transparent electric network.

**Prof. Weijiang Chen**

*Academician of Chinese Academy of Sciences
State Grid Corporation*

Title: Flexible Low-Frequency AC Transmission Technology

Weijiang Chen was born in Zibo, Shandong province, China. He is an academician of the Chinese Academy of Sciences, expertise in high voltage and insulation technology, a senior consultant for the State Grid Corporation, an executive director of the Chinese Society of Electrical Engineering (CSEE) and China Electrotechnical Society (CES).

He received the B.E. degree in electrical engineering from Hefei University of Technology, Hefei, China, in 1982. He received the M.E. degree from China Electric Power Research Institute, Beijing, China, in 1985. His research interests focus on electromagnetic transient analysis methods and protection technologies for power systems. He was in charge of the fundamental research on electromagnetic and insulation characteristics of AC and DC UHV transmission systems, which supported the development of UHV transmission technology and engineering construction. His research area also includes the fundamental of lightning attachment process to power transmission lines and lightning protection techniques of overhead distribution lines. He proposed the damage risk assessment-based lightning protection method which is widely used in power system and high-speed rail traction power supply system.

He has obtained more than 30 national invention patents and published more than 140 papers which are indexed by SCI and EI . In 2008, he won the second prize of National Technological Invention (ranking first). He won the National Science and Technology Progress Award Special Award in 2012 (ranking second). He was awarded the second prize of National Science and Technology Progress Award in 2015 (ranking first). He won the China Electric Power Outstanding Contribution Award in 2013. He is currently the chief scientific promoting expert of the China Association for Science and Technology.

**Prof. Dianguo Xu***Harbin Institute of Technology***Title: Development and Trend of AC Motor Drives in Extreme-Speed Region**

Dianguo Xu received the MS and PhD degrees in Electrical Engineering from Harbin Institute of Technology (HIT), Harbin, China, in 1984 and 1989, respectively. In 1984, he joined the Department of Electrical Engineering, HIT as an assistant professor. Since 1994, he has been a professor in the Department of Electrical Engineering, HIT. His research interests include renewable energy and smart grid technologies, power converters and control, sensorless vector controlled motor drives, high performance servo system. Dr. Xu is a fellow of IEEE, an Associate Editor of the IEEE Transactions on Industrial Electronics, the IEEE Journal of Emerging and Selected Topics in Power Electronics, and Co-EIC of the IEEE Transactions on Power Electronics, and. He serves as Chairman of IEEE Harbin Section. He has received 21 IEEE Prize Paper Awards including First Place Prize Paper Award for 2018 and Second Place Prize Paper Award for 2017 in the IEEE Transactions on Power Electronics. He is the recipient of the IEEE Industry Applications Society Outstanding Achievement Award in 2018.

Abstract:

The high-performance AC motor drives have been developed for over 30 years. Many key technologies have been proposed, such as vector control, direct torque control, and wide-speed range sensorless drive etc. However, it is still challenging to achieve high-performance control in extreme-speed region. This closely related to the high-end industry applications, such as intelligent manufacturing, high-speed locomotive, and all-electric aircraft etc. This keynote presentation will introduce the state-of-art of AC motor drives in extreme-speed region, and present the control strategies for industry applications. Both induction motor (IM) and permanent magnet synchronous motor (PMSM) drives will be presented for extreme-low and extreme-high speed region.



Prof. Jinjun Liu

Xi'an Jiaotong University

Title: Power Electronics: Driving Humankind to A New Era of Energy Harnessing

Jinjun Liu received the B.S. and Ph.D. degrees in electrical engineering from Xi'an Jiaotong University (XJTU), Xi'an, China, in 1992 and 1997, respectively.

He then joined the XJTU Electrical Engineering School as a faculty. From late 1999 to early 2002, he was with the Center for Power Electronics Systems, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA, as a Visiting Scholar. In late 2002, he was promoted to a Full Professor and then the Head of the Power Electronics and Renewable Energy Center at XJTU. From 2005 to early 2010, he served as an Associate Dean of Electrical Engineering School at XJTU, and from 2009 to early 2015, the Dean for Undergraduate Education of XJTU. He is currently a XJTU Distinguished Professor of Power Electronics. He coauthored 3 books (including one textbook), published over 500 technical papers in peer-reviewed journals and conference proceedings, holds 70 invention patents (China/US/EU), and delivered for many times plenary keynote speeches and tutorials at IEEE conferences or China national conferences. His research interests include modeling, control, and design methods for power converters and electrified power systems, power quality control and utility applications of power electronics, and micro-grids for sustainable energy and distributed generation.

Dr. Liu received for many times governmental awards at national level or provincial/ministerial level for scientific research/teaching achievements. He also received the 2006 Delta Scholar Award, the 2014 Chang Jiang Scholar Award, the 2014 Outstanding Sci-Tech Worker of the Nation Award, the 2016 State Council Special Subsidy Award, the IEEE Transactions on Power Electronics 2016 and 2021 Prize Paper Awards, and the Nomination Award for the Grand Prize of 2020 Bao Steel Outstanding Teacher Award. He served as the IEEE Power Electronics Society Region 10 Liaison and then China Liaison for 10 years, an Associate Editor for the IEEE TRANSACTIONS ON POWER ELECTRONICS since 2006, 2015-2019 Executive Vice President and 2020-2021 Vice President of IEEE PELS, and was elevated IEEE Fellow in 2018. He was on the Board of China Electrotechnical Society 2012-2020 and was elected the Vice President in

2013 and the Secretary General in 2018 of the CES Power Electronics Society. He was the Vice President for International Affairs, China Power Supply Society (CPSS) from 2013 to 2021, and since 2016, the inaugural Editor-in-Chief of CPSS Transactions on Power Electronics and Applications. He was elected the President of CPSS in Nov. 2021. Since 2013, he has been serving as the Vice Chair of the Chinese National Steering Committee for College Electric Power Engineering Programs.

Abstract:

Electric energy is currently the most convenient form of energy in terms of transmission and utilization for human kind. Human's harnessing of electric energy has been experiencing quite some significant changes in recent years, such as becoming more digitalized, more DC, more mobile, more electronic, and with more distributed and renewable generations, among which being more electronic means more and more electric energy will be processed by some kind of power electronic converter before it's finally used and is the most prominent developing trend. Power electronics is actually driving human kind to a new era of energy harnessing if civilization is scaled with regards to the fineness of energy control. In this coming era, power electronics is facing quite a lot of opportunities as well as challenges, which will be both illustrated and discussed in a bit more details in the presentation. The critical challenges that have been emerging include: seeking of plug-and-play grid-forming framework for the future electric energy system with fundamentally power-converter-based distributed generations, continuous innovations in functions and structures of new concept equipment, methodologies incorporating both circuit and field approaches to pursue better performance components, interconnections and packaging, and break-throughs in terms of more scientific and systematic methods in the multi-physics analysis and parameter design of power electronic equipment ensuring expected safety and reliability.

**Prof. Z.Y. Dong***Nanyang Technological University***Title: Intelligent Electric Vehicle Management and Planning in a Smart City**

Prof. Dong is a Professor at Nanyang Technological University, Singapore. His previous roles include SHARP professor and Director of UNSW Digital Grid Futures Institute at the University of New South Wales, and Director of Australian Research Council Research Hub for Integrated Energy Storage Solutions. He also worked as Ausgrid Chair Professor and Director of the Ausgrid Centre for Intelligent Electricity Networks providing R&D support for the AUD500m Smart Grid, Smart City national demonstration project of Australia. His research interests include power system planning and stability, smart grid and smart cities, renewable energy systems, electricity market, and computational methods for power engineering applications. He has served/is serving as an editor for a number of IEEE Transactions and IET journals.

Abstract:

Electric vehicles (EVs) are experiencing rapid growth internationally as one of the key technologies to achieve the de-carbonization objectives in the transportation sector. While massive growth of EV loads are creating challenges to the power grids, they also serve as potential mobile energy storage resources with proper planning and charging strategies to maximise the potential benefits in the energy market. This presentation will cover the planning of EV charging infrastructure in a smart city, together with a new market participation model following the sharing economic model for EV and EV charging services. Both theoretical advances and experience through practical trial projects will be shared in this presentation.



Dr. Chengyin Yuan

National New Energy Vehicle Technology Innovation Center

Title: Opportunities & challenges in China's automotive chip industry

Director and general manager of national new energy vehicle technology innovation center, Secretary General of China Automotive chip industry innovation strategic alliance. Bachelor and master of Tsinghua University, doctor of mechanical engineering, University of Illinois at Urbana Champaign . From 2005 to 2010, senior researcher in global R & D center of general motors, technical director of advanced vehicle battery manufacturing direction . In 2010, he was the vice president of the Engineering Institute of BAIC BJEV. responsible for the power battery assembly related affairs of new energy vehicles . In the same year, he was selected as the third batch of "Haiju project" in Beijing. He was the deputy general manager of BAIC BJEV, responsible for the company's strategic planning, global cooperation and advanced battery technology development.

Abstract:

Automotive chips will be the incremental driver of the global semiconductor market in the future. The import of chips used in China's automobile products accounts for 90%, and the key system chips are all monopolized by foreign countries. Chip shortages could result in global production cuts of 1 million vehicles. China Association of Automobile Manufacturers stated that from January to February 2021, the chip shortage caused a 5%-8% reduction in domestic vehicle production enterprises. This presentation will present an overview of automotive chip industry development, including the global and China's automotive chip market performance.

This presentation will give ideas and practice of innovative ecological construction in automotive chip industry, to accelerate the formation of automotive chip industry cluster with global influence, and realize the domestic replacement and international development of automotive chips. Five main tasks are raised: product development, platform construction and common service, universal platform and technical quality. At the end, the progress of China's automotive chip industry innovation strategic alliance. As the first China Auto Chip Application Innovation Rally, "3+3+1" structure will be presented, including Resource platform, visit and docking, Talent cultivation, Technology road map, Group standards and Evaluation system.



Prof. Xiaoping Zhang

University of Birmingham

**Title: Energy Quality of Renewable Energy Integration:
The Fundamental Challenge and Solution**

Professor Zhang is currently Chair in Electrical Power Systems, Director of Smart Grid, Birmingham Energy Institute at the University of Birmingham, UK. He co-authored books including the monograph “Flexible AC Transmission Systems: Modelling and Control” by Springer and “Restructured Electric Power Systems: Analysis of Electricity Markets with Equilibrium Models” by IEEE Press/Wiley.

Prof Zhang is an IEEE PES Distinguished Lecturer on HVDC, FACTS and Wave Energy Generation. Professor Zhang is Chair of the IEEE WG on Test Systems for Economic Analysis. He is advisor to the IEEE PES UK & Ireland Chapter. Professor Zhang has been made an IEEE Fellow for his contributions to “modeling and control of high-voltage DC and AC transmission systems.” He is also a Fellow of IET and Chinese Society for Electrical Engineering.

Professor Zhang has been appointed to the Expert Advisory Group of UK Government’s Offshore Transmission Network Review since 2020.

Abstract:

Variations and distortions, and interruptions of voltages (or voltage waveforms) and currents (or current wave forms) have been considered in the framework of power quality (or voltage quality). With the massive penetration of renewable energy into power systems, variations including fluctuations and intermittences of output powers of these renewable sources are of great concerns. It is evidenced that with the high penetration of renewable energy, variations of renewable energy have increased the costs of UK's balancing markets very significantly. Therefore, there are needs to introduce a technical framework, namely, 'energy quality' to (a) define the quality of power wave forms; (b) propose measures/indices to characterize the variations (fluctuations and intermittences) of powers and power flows; (c) present methods to improve energy quality. Finally, examples will be given to show how the renewable energy variations can be mitigated via effective power aggregation/system interconnections.



Prof. Ronghai Qu

Huazhong University of Science & Technology

Title: A General Machine Airgap Topology Construction Principle Based on Field Modulation

Ronghai Qu, Fellow IEEE, received his B.E. and M.S. degrees from Tsinghua University, Beijing, China, in 1993 and 1996, respectively, and the Ph.D. degree in electrical engineering from University of Wisconsin-Madison in 2002. He had been with the General Electric (GE) Global Research Center, Niskayuna, NY as a Senior Electrical Engineer with the Electrical Machines and Drives Laboratory from 2003 to 2010. He was the recipient of more than 11 GE GRC awards including EPST Technical Achievement Award, Outstanding Teamwork and Management Award. In 2010 he joined Huazhong University of Science & Technology, Wuhan, China as a titled professor. He is currently the member of academic degrees committee, director of State and Province Joint Engineering Research Center of Novel Electrical Machines, director of Center for Advanced Electrical Machines and Drives (CAEMD), and deputy director of State Key Laboratory of Advanced Electromagnetic Engineering and Technology. From 2012 to 2016, he served as deputy dean of school of Electrical & Electronic Engineering. He is currently a member of ICEM NPO AdCom and the chair of IEEE Industry Application Society (IAS) Wuhan Chapter. His research interests include Design and Drive of Electrical Machines. He has published over 400 technical papers including 12 IEEE award papers and holds over 170 patents. Dr. Qu is the IAS Distinguished Lecturer for 2019-2021, and one of the winners of IAS Outstanding Member Awards in 2019. Dr. Qu is also a winner of several other awards including 2020 Science and Technology Invention Award (1st prize) from China Electrotechnical Society, the 7th Nagamori Awards from Nagamori Foundation, Japan, 2021, and 2 gold Medals from the 47th Exhibition of Inventions of Geneva, 2019.

Abstract:

Maximizing the torque density of electrical machines is always desired to save cost, volume and mass. Benefited from the Field Modulation principle, the machine torque density now can be much improved by using two or more working airgap flux harmonics. One of examples is the permanent magnet vernier machines (PMVM), which can deliver up to 50% more torque than regular PM machines under natural cooling condition. And the torque density improvement is still going on as new topologies is discovered. What is the maximum torque density a machine could offer without knowing the machine topologies first? Or, how to design a machine to achieve the maximum torque density before knowing the winding topology? This presentation will try to look for an answer to that question.

This presentation will explore the upper limit of torque capability of a PM machine using a general air gap flux design method named Air gap Flux Editing. With the specific PM rotor structure and major machine structure parameters, this method analyzes the working permeance harmonics at each position circumferentially along the airgap, and establishes the relationship between the working permeance harmonics and torque. After the optimal permeance value for the maximum torque is obtained at each point, the desired permeance values are combined point by point to form the optimized overall permeance distribution which leads to the desired stator structure. This presentation will firstly give a review of PMVMs which contains field modulation principle, topology evolution and can also illustrate the bottlenecks of torque production. Airgap Flux Editing will then be introduced, the process of constructing optimal airgap permeance distribution based on Discrete Permeance Harmonic model to achieve maximal torque. At the end, several machine examples designed using the proposed method will be analyzed and presented.

**Prof. Wei Hua***Southeast University***Title: Static Sealed High-Temperature Superconducting Generator for Offshore Wind Power with Stator-Excitation**

Wei Hua, received his B.E. and Ph. D degrees from Southeast University, China, in 2001 and 2007, respectively. From 2004.9 to 2005.8, he was with the Department of Electronics and Electrical Engineering, The University of Sheffield, U.K., as a Joint-Supervised Ph.D. Student. Since 2007, he has been with Southeast University, China, where he is currently a Chief Professor of Southeast University and a Distinguished Professor of Jiangsu Province, China. From 2018.10 to 2018.11, he was a senior visiting scholar at University of Technology Sydney, Australia. Since 2011, he acts as an Executive Director with the Yancheng Institute of New Energy Automobile, Southeast University, China. Since 2015, he is the Executive Deputy Director with Laboratory of Electric Motor and Drive System for New Energy Automobile of Jiangsu Province, China. Also, he serves as the Director with Academic Committee of Council of Young Scientists and Technicians Association of Jiangsu Province, China.

He is the holder of National Science Fund of China for Distinguished Young Scholars (2018) and Excellent Young Scholars (2013). In 2021, he is also the principle investigator of National Key Technologies Research and Development Program and the Key Project of National Science Fund of China. He has co-authored over 160 journal papers, and awarded 60 patents as well as several books, such as DC Machine included in Encyclopedia of Automotive Engineering, Flux-switching Machines included in Encyclopedia of Electrical and Electronics Engineering, and Electric Vehicle Machines and Drives: Design, Analysis and Application. His teaching and research interests include design, analysis, and control of electrical machines, especially for permanent magnet brushless machines and switched reluctance machines.

Dr. Hua is the Chair of IEEE IAS Nanjing Chapter. He also serves as the Associate Editor of IEEE Electrification Magazine, Electronics, Chinese Journal of Electrical Engineering (CJEE), and China Electrotechnical Society Transactions on Electrical Machines and Systems (CES-TEMS), as well as a Guest Editor of Energies. He is the Technical Committee Member of International Conference on Electrical Machines and Systems, and Editorial Board Member of Electronics. He is also an international reviewer of doctoral dissertation of Nanyang Polytechnic University, Singapore, Stellenbosch University, South Africa, and Hongkong University, Hongkong.

Dr. Hua was the recipient of IEEE PES Chapter Outstanding Engineer Award in 2010, the Chang Jiang Scholars Programme Award from the Ministry of Education of China in 2017. He was selected as Youth Science and Technology Innovation Leader by Ministry of Science and Technology of China in 2018, and Leading Talent of Science and Technology Innovation by Organization Department of the Central Committee of the CPC in 2019.

Abstract:

Offshore wind power is an important field of clean energy with rapid development. In order to reduce the costs of investment and maintenance, the capacity of single wind power generator is getting larger and larger, and the newly released permanent magnet direct-drive generator (PM-DDG) has reached 15MW. However, the size and weight of large-capacity PM-DDGs are so huge, resulting in the challenges including manufacturing, installation, transportation and maintenance, which restrict the development of wind turbines to larger capacity. Under this circumstance, the high-temperature superconducting direct-drive generator (HTS-DDG) exhibits obvious advantages over the PM-DDG with lower size and weight, and it can meet the major needs of single large-capacity offshore wind turbines. Currently, the HTS-DDGs have two main types: dynamic sealed one with rotor field excitation and static sealed one with stator field excitation. Since the static sealed stator-excitation HTS-DDG can overcome the key shortcomings of dynamic sealed rotor-excitation one, it provides a new technical pathway to develop the next-generation DDG with a higher capacity, a higher efficiency, a larger reliability, and a lighter weight.

This presentation will focus on the static sealed stator excitation HTS-DDG, highlighting the latest research status and developments of HTS-DDG technology, including the key scientific and technical issues. Firstly, the history of offshore wind generation and HTS-DDG will be briefly reviewed, and the current key technical bottlenecks of the HTS-DDG are summarized. Then, the innovative ideas of the static sealed stator-excitation HTS-DDG are put forward based on conventional stator-excited brushless machines. Thereafter, two laboratorial prototypes with a power rating of 5kW and 10kW are introduced respectively to validate the concept, including the topology design, armature magnetic field shielding method, mathematical model and experimental results. Furthermore, a conceptual 10MW static sealed stator-excitation HTS-DDG is designed and compared with a PM-DDG with the same power. The results indicate that the significant advantages of the stator-excitation HTS-DDG lie in both size and weight. Finally, key scientific and technical issues of the stator-excitation HTS-DDG in terms of general design principle and reliable operation are introduced, and its broad application prospects.



Prof. Z.Q. Zhu

*Fellow of the Royal Academy of Engineering
University of Sheffield*

Title: Novel Stator Wound Field Synchronous Machines and Drives -- their relationships with switched reluctance machines and drives

Professor Z.Q. Zhu is a Fellow of the Royal Academy of Engineering, a Fellow of IEEE, and a Fellow of IET. He received B.Eng. and M.Sc. degrees from Zhejiang University, China, in 1982 and 1984 respectively, and a Ph.D. degree from The University of Sheffield, UK, in 1991.

He has been working at The University of Sheffield since 1988 where he became a professor in 1997. Since 2014 he has been a Royal Academy of Engineering/Siemens Research Chair and since 2008 he has been Head of the Electrical Machines and Drives Research Group, which also hosts 10 government and industry funded research centres including the Rolls-Royce University Technology Centre in Advanced Electrical Machines, the Sheffield Siemens Games a Renewable Energy Research Centre, the EPSRC Prosperity Partnership on Offshore Wind, and the EPSRC Future Electrical Machines Manufacturing Hub.

Professor Zhu has been a founding Academic Director of Sheffield Siemens Games a Renewable Energy Research Centre since 2009; a founding Director of Sheffield CRRC Electric Drives Technology Research Centre since 2014; a founding Director of Midea Electrical Machines and Control Systems since 2010; a founding Director of Sheffield NEVC Electric Power train Technology Centre since 2022. He was a panel member of Royal Academy of Engineering, Panel 7 - Electrical & Electronic; EPSRC Engineering Panel member; NSFC Overseas Panel member; IEEE Medal in Power Engineering Committee member, IEEE IAS Outstanding Achievement Award Committee Member.

His research interests include design, modelling, control and application of permanent magnet machines and drive systems for a wide range of applications, including electric vehicles, wind power generators and domestic appliances, on which he has published >1300 journal and conference papers, including >500 IEEE Transactions and IET Proceedings papers. He is a recipient of the 2021 IEEE Nicola Tesla Award and the 2019 IEEE Industry Application Society Outstanding Achievement Award. He has also received 35 IEEE/IET society/journal/conference Best Paper Awards.

Abstract:

Permanent magnet (PM) machines have been widely employed for many applications due to high torque density and high efficiency. Most successful commercial examples for EV application include PM machines used in Toyota Prius hybrid and Nissan Leaf electric vehicles. However, relatively high cost and potential supply issue of rare-earth magnets are major concerns. Rare-earth magnet-free machines are being seriously considered and investigated. Conventional electrical machines, such as induction, switched reluctance, synchronous reluctance and wound field synchronous machines, are being re-examined. New and novel electrical machines, such as stator wound field synchronous machines which have no rare-earth magnets, eliminate the requirement of slip-rings/brushes in rotor wound field synchronous machines and overcome the noise and vibration issues in switched reluctance machines, are being developed, as will be over viewed in this presentation. This presentation will systematically overview various novel stator wound field synchronous machines without rare-earth magnets for potential application to electric vehicles. It will describe new operation principles, novel machine topologies, and advanced drive and control strategies of stator wound field synchronous machines and drives, and compare relative merits and demerits, as well as electromagnetic performance including torque capability and efficiency, with particular reference to their relationships with switched reluctance machines and drives.

Tutorials

Tutorial 1:

Emerging Permanent Magnet Synchronous Motor Drives

Date & Time: May 27, Friday

Room ID: 504 312 780

Speakers:



Guoqiang Zhang

Guoqiang Zhang (Senior Member, IEEE) received the B.S. degree in Electrical Engineering from Harbin Engineering University, in 2011, and the M.S. and Ph.D. degrees in Electrical Engineering from Harbin Institute of Technology, in 2013 and 2017, respectively. Since 2017, he has been in the School of Electrical Engineering and Automation, Harbin Institute of Technology, where he is currently an Associate Professor. His current research interests include control of electrical drives, and parameter identification technique, with main focus on sensorless field-oriented control of synchronous motor drives. Dr. Zhang has won 3 provincial and ministerial level scientific and technological awards, including 1st Prize Award for Natural Sciences of Heilongjiang Province, 1st Prize Award for Technology Progress of Heilongjiang Province, and 2nd Prize Award for Technology Progress of MOE. He has won the Best Paper Award of Association for Science and Technology, China and several Best Paper Awards of international conferences. Dr. Zhang was selected as the fellowship of China National Postdoctoral Program for Innovative Talents and the fellowship of Postdoctoral Program for Youth Talents in Heilongjiang. Dr. Zhang actively participates in academic activities of the IEEE. He serves as an Associate Editor for Journal of Power Electronics, the technical committee member of IEEE International PCIM Asia Conference, Special Session Chair of ICEMS 2021. He also participated in holding ICEMS2019 and ITEC Asia-Pacific 2017. Dr. Zhang gave an invited seminar at CPSSC'2017, Shanghai and a tutorial at EACS'2021, Hefei. He has authored 3 books and more than 40 papers published on IEEE Transactions.



Dawei Ding

Dawei Ding (IEEE Member) received the B.S and M.S degrees in Electrical Engineering from Hefei University of Technology, in 2014 and 2017, respectively, and the Ph.D degree in Electrical Engineering from Harbin Institute of Technology (HIT), in 2021. Currently, he is an Assistant Professor in School of Electrical Engineering and Automation, HIT. From 2020 to 2021, he was a visiting Ph.D in Technical University of Denmark. He has authored more than 10 journal papers in IEEE

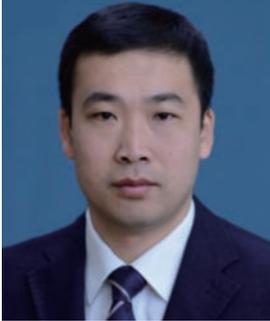
Transactions and held 9 authorized Chinese invention patents. His current research interests include advanced control of permanent magnet synchronous motor drives and electrolytic capacitorless AC motor drives. Dr. Ding is a member of IEEE, and serves as Special Session Chair of ICEMS 2022. He has given oral presentations in the 10th International Conference on Power Electronics 2019 -ECCE Asia, 2019 CPSSC, and 2019 National Doctoral Forum on Electrical Engineering. He has been awarded the National Scholarship for Postgraduates, the INOVANCE Outstanding Scholarship, and the Outstanding Graduate in HIT.



Qiwei Wang

Qiwei Wang (IEEE Member) received the B.S., M.S. and Ph.D. degrees in Electrical Engineering from Harbin Institute of Technology, in 2015, 2017 and 2022, respectively. He received the Mechanical Engineer degree in Troyes University of Technology, Troyes, France, in 2018. He is currently working toward the Postdoc in power electronics and electrical drives in the School of Electrical Engineering and Automation, Harbin Institute of Technology. He has authored more than

10 journal papers in IEEE Transactions and applied for more than 10 Chinese invention patents. His current major research interests include permanent magnet synchronous motor drives, position sensorless control of AC motors, parameter identification technique. Dr. Wang is a member of IEEE, and serves as Special Session Co-Chair of ICEMS 2022. He has been awarded the Outstanding Graduate in HIT.



Gaolin Wang

Gaolin Wang (Senior Member, IEEE) received the B.S., M.S., and Ph.D. degrees in electrical engineering from the Harbin Institute of Technology, in 2002, 2004, and 2008, respectively. In 2009, he joined the School of Electrical Engineering and Automation, Harbin Institute of Technology as a Lecturer, where he has been a Full Professor of electrical engineering since 2014. From 2009 to 2012, he was a Postdoctoral Fellow in Shanghai Step Electric Corporation, where he was involved in the traction machine control for direct-drive elevators.

His current major research interests include permanent magnet synchronous motor drives, high performance direct-drive for traction system, position sensorless control of AC motors, efficiency optimization control of PMSM, and digital control of power converters. Prof. Wang has been awarded The National Science Fund for Distinguished Young Scholars, Newton Advanced Fellowship, and Delta Young Scholar Award. He has won 4 provincial and ministerial level scientific and technological achievements, and more than 10 Best Paper Awards. Prof. Wang serves as a Guest Associate Editor of IEEE Transactions on Industrial Electronics, an Associate Editor of IEEE Transactions on Transportation Electrification, IET Electric Power Applications. He has given keynote speeches, tutorials, and invited seminars at EPE, ITEC-AP and other international conferences. Prof. Wang has authored more than 100 technical papers published in journals and conference proceedings. He is the holder of 30 Chinese patents.

He served as Co-Chair of National Steering Committee of IPEMC2020-ECCE Asia, Co-Chair of Tutorial & Special Session Committee of ITEC Asia-Pacific 2017, Publicity Co-Chair of IEEE SDEMPED 2021, Organizing Committee Member of IEEE PRECEDE 2021, Track Chair of IEEE IECON 2016, TPC Committee Member, IEEE SLED 2023, CIEEC2022, ICEMS 2022, CIEEC2021, ICEMS 2021, PEDG 2019, ICEMS 2019, IPEMC 2016-ECCE Asia, and IEEE IPEC-Hiroshima 2014.

Tutorial 2:**Topology and Control of Modular multilevel DC Transformer****Date & Time:** May 27, Friday**Room ID:** 635 219 019**Speakers:****Wu Chen**

Wu Chen was born in Jiangsu, China, in 1981. He received the B.S., M.S., and Ph.D. degrees in electrical engineering from the Nanjing University of Aeronautics and Astronautics (NUAA), Nanjing, China, in 2003, 2006, and 2009, respectively.

From 2009 to 2010, he was a Senior Research Assistant in the Department of Electronic Engineering, City University of Hong Kong, Kowloon, Hong Kong. In 2010–2011, he was a Postdoctoral Researcher in Future Electric Energy Delivery and Management Systems Center, North Carolina State University, Raleigh. Since September 2011, he has been an Associate Research Fellow with the School of Electrical Engineering, Southeast University, Nanjing, China, where he has been a Professor since 2016. His main research interests include soft-switching converters, power delivery, and power electronic system integration. Dr. Chen serves as an Associate Editor for the IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, Journal of Power Electronics, and CPSS Transactions on Power Electronics and Applications.



Shuai Shao

Shuai Shao (IEEE Member) received the B.S. degree from Zhejiang University, China, in 2010, and the Ph.D. degree in electrical and electronic engineering from the University of Nottingham, U.K., in 2015. In 2015, he joined the College of Electrical Engineering, Zhejiang University, as a lecturer. In Jan. 2020, he was promoted as an associate professor. His research interests include DC solid-state transformers, bidirectional dc-dc converters, and fault detection in power converters. He has published more than 50 IEEE journal and conference papers, which have been cited more than 1000 times. He served as a Guest Associate Editor for IEEE Journal of Emerging and Selected Topics in Power Electronics and CES Transactions on Electrical Machines and Systems.

Content:

- (1) Review of DC Transformer (DCT)
- (2) Topology of modular multilevel DCT (MMDC)
 - Topology evolution of MMDC: MMC + DC/DC
 - Modulation of MMDC
 - Operating principle MMDC
 - Comparison between MMDC and ISOP
- (3) Voltage balancing control of MMDC
 - Difference between voltage balancing control of MMC and MMDC
 - Key ideas to balance the SM capacitor voltages
 - Three voltage balancing methods and their performance comparison
- (4) Wide voltage regulation range control
 - Operating principle
 - Control block diagram and key parameter design
 - Application and experimental results
- (5) DCT based on series-connected power devices
 - Evolution from series-connection SMs to series-connected power devices
 - Balancing control DCT based on series-connected power devices
 - High power density DCT design
 - Experimental results

Tutorial 3:

Nanosecond Pulsed Discharges and their Applications

Date & Time: May 27, Friday

Room ID: 451 383 208

Speakers:



Tao Shao

Tao Shao (M'10 – SM'12) was born in Hubei, China, in 1977. He received the B.Sc. degree from the Wuhan University of Hydraulic and Electrical Engineering, Wuhan, China, in 2000, the M.Sc. degree in electrical engineering from Wuhan University, Wuhan, in 2003, and the Ph.D. degree in electrical engineering from the Graduate University, Chinese Academy of Sciences (CAS), Beijing, China, in 2006. He joined the Institute of Electrical Engineering, CAS, after graduation, where he has been a Professor since Oct 2013. He was a Visiting Scholar with the ECE Department in the University of New Mexico, Albuquerque, NM, USA, from 2011 to 2012, and was a Senior Visiting Scholar in the Queensland University of Technology, Brisbane, QLD, Australia, in Jan- March, 2020. He worked as a Principal Investigator supported by the National Science Fund for Excellent Young Scholars in 2012 and by the National Science Fund for Distinguished Young Scholars in 2019, and was awarded a Royal Society-Newton Advanced Fellowship, UK in 2015. He was the William Dunbar Award recipient of IEEE IPMHVC2018. Dr. Shao has published over 200 papers, which consist of 100+ international refereed journal papers (50 IEEE Transactions, etc.) and 100+ domestic journal papers, and 40+ IEEE international conference papers/abstracts. He is a Depute Editor-in-Chief of the High Voltage, Academic Editor of the Laser and Particle Beams, an Editorial Board Member of the Plasma Processes and Polymers, the Plasma Science and Technology, the Plasma Research Express, and some domestic journals.

Dr. Shao is a Fellow of the Institution of Engineering and Technology (IET) and an active member of both IEEE and NPSS since 2010. He serves as an Associate Editor of the IEEE Transactions on Dielectrics and Electrical Insulation (TDEI) since 2018, and a Co-Guest Editor of the IEEE TDEI of the Special Issue on Power Modulators and Repetitive Pulsed Power in 2015 and 2019. He served as a Co-Guest Editor of the IEEE Transactions on Plasma Science (TPS) of the Special Issue on Invited and Plenary Speakers of the ICOPS 2015, and as a Chief-Guest Editor of the IEEE TPS of



the Special Issue on Atmospheric Pressure Plasmas and Their Applications in 2016, and as a Co-Guest Editor of the IEEE TPS of the Special Issue on Pulsed Power Science and Technology related to the PPC2021. He was the Technical Area Chair for Area 7: Pulsed Power and Other Plasma Applications of ICOPS 2017, VISA Chair, Technical Program Committee Member of IPMHVC 2016, IPMHVC 2018, and IPMHVC 2022, and the International Committee Member of ICOPS 2016 and ICOPS 2021. He will be the General Chair of the ICOPS (IEEE International Conference on Plasma Science) 2024 in Beijing.

Title: Nanosecond Pulsed Discharge and their Applications: Characteristic and Mechanism

Speaker:



Cheng Zhang

Cheng Zhang (M'13–SM'16) was born in Wuxi, Jiangsu, China, in 1982. He received the Ph.D. degree in electrical engineering from the Graduate University, Chinese Academy of Sciences, Beijing, China, in 2011. Since 2011, he has been with the Institute of Electrical Engineering, Chinese Academy of Sciences, where he became a Professor in 2022. From 2015 to 2016, he was a Visiting Scholar with the NonEquilibrium Thermodynamics Laboratory, Department of Mechanical and Aerospace Engineering, Ohio State University, Columbus, OH, USA. His current research interests include gas discharge and nonthermal applications. Dr. Zhang has published 100 peer-review journal publications, and authorized more than 20 Chinese patents. He has delivered 12 plenary/invited presentations in international conferences. He is IET Fellow, IEEE Senior Member, a member of the IEEE Nuclear and Plasma Sciences Society and the Dielectrics and Electrical Insulation Society of IEEE. He also serves as broad member and associate editor for 7 journals.

Title: Nanosecond Pulsed Discharge and their Applications: Preparation of Functionally Graded Material

Speaker:



Fei Kong

Fei Kong (IEEE Member) received the M.S. degree in Electrical Engineering from Beijing Jiaotong University in 2011, and the Ph.D. degree in Electrical Engineering from Nagoya University (Japanese MEXT scholarship) in 2016. Since 2017, he has been in Institute of Electrical Engineering, Chinese Academy of Sciences, where he is an Associate Professor currently.

His research interests include high voltage technology, discharge plasma application and functionally graded materials. He has authored more than 30 journal papers and applied for more than 10 Chinese invention patents. He is in charge of more than 10 research grants from government and enterprise. Dr. Kong was selected as the fellowship of Postdoctoral International Exchange Program (Youth Talent Program) in 2017. He won 1st Prize Award for Natural Sciences of Hebei Province in 2021. He won the best paper in Annual Conference of High voltage Committee for Chinese Society of Electrical Engineering in 2019.

Dr. Kong actively participates in academic activities of the IEEE. He serves as a Scientific Advisory Board in 29th International Symposium on Discharges and Electrical Insulation in Vacuum (ISDEIV2020). He contributed as a keynote speaker at PBII&D 2019. Dr. Kong is member of Youth Committee for China Electrotechnical Society and IEEJ.

Title: Nanosecond Pulsed Discharge and their Applications: Power Sources and Advanced Diagnostics

Speaker:



Bangdou Huang

Bangdou Huang received B.S. degree in Engineering Physics from Tsinghua University, in 2013, and Ph.D. degrees in Nuclear Science and Technology from Tsinghua University, in 2018. Since 2018, he has been in Pulsed Power and Discharge Plasma Laboratory, Institute of Electrical Engineering, Chinese Academy of Sciences, where he is currently an Associate Researcher.

His current research interests include pulsed power source with flexible parameters, plasma diagnostic with advanced optical/laser strategies, and reaction kinetics modelling. Dr. Huang has been supported by Young Elite Scientists Sponsorship Program of China Association for Science and Technology (2021). He has won Outstanding Graduate Student of IET High Voltage (2019) and Outstanding Bachelor Thesis Award of Tsinghua University (2013). His research has been selected into Highly Cited Paper of Essential Science Indicators (2022.03), 2021 IOP Publishing China Top Cited Paper Award (2021), and Journal of Physics D: Applied Physics Highlights (2018).

Dr. Huang actively participates in academic activities. He serves as Electrical Testing Committee of China Electrotechnical Society (2022-2026) and Youth Expert of China Electric Power Research Institute Journals Center (2022-2024). Dr. Huang also serves as Guest Editor of MDPI Processes and Frontiers in Physics (2021-2022) and Reviewer of more than 10 journals. He has published more than 20 papers as the first/corresponding author and given plenary/invited talks on 4 important international conferences.

Title: Nanosecond Pulsed Discharge and their Applications: Catalysts Design for Plasma Catalysis

Speaker:



Liguang Dou

Liguang Dou received the B.S. degree in Applied Chemistry from Beijing University of Chemical Technology, in 2011, and the Ph.D. degrees in Chemical Engineering and Technology from Beijing University of Chemical Technology, in 2017. Since 2017, he has been in Institute of Electrical Engineering, Chinese Academy of Sciences, where he is currently an Associate Professor. His current research interests include plasma-enabled C1 conversion and utilization, with focus on CO₂/CH₄ reforming, CO₂ hydrogenation and related renewable energy utilization technology for plasma-catalysis. Dr. Dou has given oral presentations in the 48th IEEE International Conference on Plasma Science (ICOPS-2021) and Dr. Dou also gave invited lectures at International Symposium on Plasma and Energy Conversion (ISPEC) in 2020, Beijing and ISPEC-2021 in Wuhan, Hubei. He has authored more than 20 SCI/EI papers and held 5 authorized Chinese invention patents.

Title: Nanosecond Pulsed Discharge and their Applications: Plasma Enabled C1 Conversion

Speaker:



Yuan Gao

Yuan Gao received the B.S. degree in chemical engineering and technology from Wuhan Institute of Technology, in 2014, and M.S. degree in Chemical technology from Wuhan Institute of Technology in 2017. Since 2017, he has been in the Institute of Electrical Engineering, Chinese Academy of Science, where he is currently an Assistant Researcher. He has authored more than 10 papers in the international SCI journals and held 6 authorized Chinese invention patents. He won the best poster prize in 3rd International Symposium on Plasmas for Catalysis and Energy Materials (ISPCEM) in 2016 and gave invited lectures at 2nd International Symposium on Plasma and Energy Conversion (ISPEC) in 2020. His current research interests include plasma energy conversion and plasma-catalysis synergy, with focus on the low-temperature activation and valorization of C1 molecules.

Tutorial 4:

New Energy Vehicle Powertrain Technology

Date & Time: May 27, Friday

Room ID: 837 475 858

Chair:



Chaohui Liu

Dr Chaohui Liu currently serves NEVC as the Head Of Powertrain, Principle Engineer, Joint-Director of Sheffield NEVC Electric Powertrain Technology Research Centre.

Speakers:



Yiqing Yuan

Dr. Yiqing Yuan currently serves NEVC as the e-powertrain chief expert. From 2014 to 2019, he worked as a professor at the Clean Energy Automotive Engineering Center of Tongji University. He was the deputy general manage of the Electric Vehicle R&D Center of Chinese Academy of Sciences (CAS) from 2009 to 2013 after 9 years of work for DaimlerChrysler and Chrysler. A member of SAE, ASME, STLE, ASTM, and IEEE, he holds titles of the foreign academician of Russian Academy of Engineering, distinguished expert of Thousand Talents Program and Hundreds Talents Program of CAS. The author of a book and over 30 technical papers, he has nearly 20 granted patents at home and abroad. He received his bachelor degree from Tsinghus University and his doctoral degree from Virginia Tech.



William CAI

Prof. Dr. William CAI received his Ph.D. from Clarkson University, USA. He is the “Touyan” Professor at Harbin University of Science & Technology, the guest professors at several universities, including Southeast University etc. He was a director and chief designer at Remy International Inc., USA, and invented the rectangular conductor "hairpin windings" at the beginning of the 21st century, which then helped Remy's IPO in Nasdaq. He is a founder of Jing-Jin Electric (stock code 688280), a leading company for vehicular e-motors and e-drive systems globally. He led a group of experts and completed e-Drive safety guide of China state «Electric Vehicle Safety Guide», and e-Drive system roadmap of 2020-2035 «Energy Saving and New Energy Vehicle Technical Roadmap 2.0». He has won over 10 domestic and international awards, including the 1st Prize for Scientific & Technology Progress of China's Automotive Industry, SAE Forest R. Mcfarland Award etc.



Wenping Cao

Wenping Cao received the B.Eng. in electrical engineering from Beijing Jiaotong University, Beijing, China, in 1991, and Ph.D. degree in electrical machines and drives from the University of Nottingham, Nottingham, in 2004.

Prof. Cao is Distinguished Professor of Electrical Engineering with Anhui University, Hefei City, China. He received a “Royal Society Wolfson Research Merit Award” in 2016, the “Dragon's Den Competition Award” from Queen's University Belfast in 2014, the “Innovator of the Year Award” from Newcastle University, UK, in 2013. He has published over 280 articles with H-index of 66. He has secured research funding of around £10m from the UK, EU and industry. He is IEEE Senior Member, IET Fellow, Royal Society Wolfson Fellow and Marie Curie Fellow. He has been an Editor for IEEE Transactions on Power Electronics, IEEE Transactions on Industry Application, IET Power Electronics, and several international journals. His research interests include power loss and fault analysis of electrical machines and drives.



Xuhui Wen

Dr. Xuhui Wen received PhD degree from Tsinghua University in 1993, since then she joined Institute of Electrical Engineering, Chinese Academy of Sciences. Now she is the full professor, doctoral adviser, vice supervisor of academic degree commission of IEE CAS, Chairman of Electric Vehicle Committee of China Electrotechnical Society, senior member of IEEE.

Professor Wen's main research includes high power density e-motor drive and power electronic technology such as PM motor control, power electronics integration and power module packing etc., with the main application areas of electrical vehicle. Hitherto, Professor Wen authored and co-authored more than 300 papers and more than ten patents issued, won several national and industrial scientific and technological awards.



Haihui Luo

Dr Haihui Luo has been engaged in research & industrialization of IGBT and SiC technology for a long time, successfully built up full voltage IGBT technology & product platform and provided power semiconductor device solutions for applications ranging from Railway, New energy, Power Transmission to EV and Industrial sectors.

Dr Luo has led numerous large research programme, obtained 1 "National Invention Award", and 5 "Ministry-level Technology Awards", 6 major technological achievements approved by Provincial evaluation committee . He has filed over 100 patents, of which 54 granted, and more than 40 papers published in major conferences and core journals.



Jenny Zhuang

Jenny Zhuang is the Marketing Product Manager at ITECH Electronics. She has more than 10 years of professional experiences in the power electronics test industry and unique insight into market trends and industry development.

Schedule at a Glance



Scan and Enter the Live

Time		Place															
		Online:https://www.aconf.org/conf_181211/live.html															
May 27 Friday	14:00-17:00	Tutorial 1	Tutorial 2	Tutorial 3	Tutorial 4												
	9:00-9:20	Opening Ceremony															
May 28 Saturday	9:20-12:00	Keynote Speeches															
	12:00-13:30	Lunch															
	13:30-17:30	Keynote Speeches															
May 29 Sunday	8:30-10:10	Session 1	Session 2	Session3	Session4	Session5	Session6	Session7	Session8	Session9	Session10	Session11	Session12	Session13	Session14	Industry Forum	
	10:10-10:20	Break															
	10:20-12:00	Session15	Session16	Session17	Session18	Session19	Session20	Session21	Session22	Session23	Session24	Session25	Session26	Session27	Session28	Industry Forum	
	12:00-13:00	Lunch															
	13:00-14:40	Session29	Session30	Session31	Session32	Session33	Session34	Session35	Session36	Session37	Session38	Session39	Session40	Session41	Session42	Student Forum	
	14:40-14:50	Break															
	14:50-16:30	Session43	Session44	Session45	Session46	Session47	Session48	Session49	Session50	Session51	Session52	Session53	Session54	Session55	Session56	Student Forum	
	16:30-16:40	Break															
	16:40-18:20	Session57	Session58	Session59	Session60	Session61	Session62	Session63	Session64	Session65	Session66	Session67	Session68	Session69	Session70		
18:20-19:00																Excellent Paper Awards and Closing Ceremony	

Advanced Electrical Machine System	Emerging interdiscipline with Electrical Engineering	Energy Internet	High Voltage and Insulation Technology	High-efficiency Power	High-Reliability and Intelligent Power Electronics Technology	Integrated Energy System	Internet of Things (IoT) and Energy system
Machine Drives and Controls	New Energy Infrastructure, Smart Operation and Maintenance	New Energy Power System	Power Electronics Devices, Packaging, and System Integration	Plasma Science Technology and Applications	Power Market and Demand Response	Power System Planning and Operation	Smart Energy Electrical Equipment
Superconducting Technology and Application	Transportation Electrification	Wireless Power Transmission					

Agenda



Scan and Enter the Live

May 27, Friday	
Online: https://www.aconf.org/conf_181211/live.html	
14:00-17:00	<p>Tencent Meeting Room ID: 504 312 780</p> <p>Tutorial 1: Emerging Permanent Magnet Synchronous Motor Drives</p> <p>Instructors :</p> <p><i>Associate Prof. Guoqiang Zhang, Harbin Institute of Technology</i></p> <p><i>Dr. Dawei Ding, Harbin Institute of Technology</i></p> <p><i>Dr. Qiwei Wang, Harbin Institute of Technology</i></p> <p><i>Prof. Gaolin Wang, Harbin Institute of Technology</i></p>
14:00-17:00	<p>Tencent Meeting Room ID: 635 219 019</p> <p>Tutorial 2: Topology and Control of Modular multilevel DC Transformer</p> <p>Instructors :</p> <p><i>Prof. Wu Chen, Southeast University</i></p> <p><i>Associate Prof. Shuai Shao, Zhejiang University</i></p>



<p>14:00-17:00</p>	<p>Tencent Meeting Room ID: 451 383 208</p> <p>Tutorial 3: Nanosecond Pulsed Discharge and their Applications</p> <p>Instructors :</p> <p><i>Dr.Tao Shao, Institute of Electrical Engineering, CAS</i></p> <p><i>Dr.ChengZhang, Institute of Electrical Engineering, CAS</i></p> <p><i>Dr.Fei Kong, Institute of Electrical Engineering, CAS</i></p> <p><i>Dr.Bangdou Huang, Institute of Electrical Engineering, CAS</i></p> <p><i>Dr.Liguang Dou, Institute of Electrical Engineering, CAS</i></p> <p><i>Dr.Yuan Gao, Institute of Electrical Engineering, CAS</i></p>
<p>14:00-17:00</p>	<p>Tencent Meeting Room ID: 837 475 858</p> <p>Technical 4: New Energy Vehicle Powertrain Technology</p> <p>Chair:</p> <p><i>Dr. Chaohui Liu, National New Energy Vehicle Technology Innovation Center (NEVC)</i></p> <p>Instructors :</p> <p><i>Prof. Yiqing Yuan, National New Energy Vehicle Technology Innovation Center</i></p> <p><i>Prof. Wei Cai, Harbin University of Science and Technology</i></p> <p><i>Dr. Wenping Cao, Anhui University</i></p> <p><i>Prof. Xuhui Wen, Institute of Electrical Engineering, CAS</i></p> <p><i>Dr. Haihui Luo, Zhuzhou CRRC Times Semiconductor Co., LTD</i></p> <p><i>Jenny Zhuang, Marketing product manager of ITECH Electronics</i></p>
<p>14:00-17:00</p>	<p>Wiley-IET Forum: Future Energy & Electrical Systems</p> <p>Live Streaming Link:</p> <p>https://gcb.h5.xeknow.com/sl/2Kj3g7</p>

	<p>Wiley-IET Forum: <i>Future Energy & Electrical Systems</i></p> <p>Chair:</p> <p><i>Prof. Fushuan Wen, Zhejiang University</i></p> <p>Instructors:</p> <p><i>Kruna Vukmirovic, Institution of Engineering and Technology (IET)</i></p> <p><i>Dr. Shaoying Cui, Wiley Editorial</i></p> <p><i>Prof. Vanja Ambrožič, University of Ljubljana</i></p> <p><i>Dr. Tao Xu, Tianjin University</i></p> <p><i>Dr. Yue Chen, The Chinese University of Hong Kong</i></p> <p><i>Dr. Panayiotis Moutis, Carnegie Mellon University</i></p> <p><i>Dr. Zheng Xiao, High Voltage Editorial</i></p>
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May 28, Saturday	
Online: https://www.aconf.org/conf_181211/live.html	
Opening Ceremony	
<i>Chair: Prof. Jianfeng Zhao</i> <i>Southeast University</i>	
9:00-9:20	<p>Welcome Speech</p> <p><i>Prof. Qingxin Yang</i> <i>President of China Electrotechnical Society</i></p> <p><i>Mengqi Zhou</i> <i>IEEE China Council, Executive Vice Chair</i> <i>IEEE Beijing Section, Vice Chair</i></p> <p><i>Prof. Wei Zuo</i> <i>Secretary of the Party Committee of Southeast University</i></p>



Keynote Speeches	
<i>Chair: Prof. Wei Gu Southeast University</i>	
9:20-10:00	<p>The Theory and Practice of Transparent Electric Network</p> <p><i>Prof. Licheng Li</i> Academician of Chinese Academy of Engineering (CAE) Senior engineer of CSG Professor of South China University of Technology (SCUT)</p>
10:00-10:40	<p>Flexible Low-Frequency AC Transmission Technology</p> <p><i>Prof. Weijiang Chen</i> Academician of Chinese Academy of Sciences Technical Advisor of State Grid Corporation of China</p>
10:40-10:50	Break
<i>Chair: Prof. Wu Chen Southeast University</i>	
10:50-11:20	<p>Development and Trend of AC Motor Drives in Extreme-Speed Region</p> <p><i>Prof. Dianguo Xu</i> IEEE Fellow, CES Fellow Harbin Institute of Technology, China</p>
11:20-11:50	<p>Power Electronics: Driving Humankind to A New Era of Energy Harnessing</p> <p><i>Prof. Jinjun Liu</i> IEEE Fellow Xi'an Jiaotong University, China</p>
12:00-13:30	Lunch
<i>Chair: Prof. Qingshan Xu Southeast University</i>	

13:30-14:00	<p>Intelligent Electric Vehicle Management and Planning in a Smart City</p> <p><i>Prof. Z.Y. Dong</i> IEEE Fellow Nanyang Technological University, Singapore</p>
14:00-14:30	<p>Opportunities& challenges in China's automotive chip industry</p> <p><i>Dr. Chengyin Yuan</i> Director of National New Energy Vehicle Technology Innovation Center, China</p>
14:30-15:00	<p>Energy Quality of Renewable Energy Integration: The Fundamental Challenge and Solution</p> <p><i>Prof. Xiaoping Zhang</i> IEEE Fellow, IET Fellow, CSEE Fellow Electrical Power Systems, University of Birmingham</p>
15:00-15:10	Break
<p><i>Chair: Dr. Hui Yang</i> Southeast University</p>	
15:10-15:40	<p>A General Machine Airgap Topology Construction Principle Based on Field Modulation</p> <p><i>Prof. Ronghai Qu</i> IEEE Fellow, CES Fellow Huazhong University of Science and Technology, China</p>
15:40-16:10	<p>Static Sealed High-Temperature Superconducting Generator for Offshore Wind Power with Stator-Excitation</p> <p><i>Prof. Wei Hua</i> Southeast University, China</p>
16:10-16:40	<p>Novel Stator Wound Field Synchronous Machines and Drives - their relationships with switched reluctance machines and drives</p> <p><i>Prof. Z.Q. Zhu</i> Fellow of Royal Academy of Engineering University of Sheffield, UK</p>



May 29, Sunday		
Online: https://www.aconf.org/conf_181211/live.html		
Time	Oral Presentation	Tencent Meeting ID
8:30-10:10	Session 1: Advanced Electrical Machine System	626 520 863
	Session 2: Emerging Interdiscipline with Electrical Engineering	902 378 681
	Session 3: High Voltage and Insulation Technology	836 501 902
	Session 4: High Voltage and Insulation Technology	756 445 189
	Session 5: High Voltage and Insulation Technology	785 381 623
	Session 6: High-Reliability and Intelligent Power Electronics Technology	227 163 956
	Session 7: High-Reliability and Intelligent Power Electronics Technology	509 295 064
	Session 8: New Energy Infrastructure, Smart Operation and Maintenance	492 932 840
	Session 9: New Energy Power System	879 250 208
	Session 10: Power Electronics Devices, Packaging, and System Integration	512 499 048
	Session 11: Plasma Science Technology and Applications	584 636 526
	Session 12: Power Market and Demand Response	470 584 725
	Session 13: Power System Planning and Operation	946 562 367
	Session 14: Superconducting Technology and Application	610 814 306
	Industry Forum	365 786 753

10:10-10:20	Break	
10:20-12:00	Session 15: Advanced Electrical Machine System	626 520 863
	Session16: Emerging interdiscipline with Electrical Engineering	902 378 681
	Session17: High Voltage and Insulation Technology	836 501 902
	Session 18: High Voltage and Insulation Technology	756 445 189
	Session 19: High Voltage and Insulation Technology	785 381 623
	Session 20: Integrated Energy System	227 163 956
	Session 21: Machine Drives and Controls	509 295 064
	Session 22: New Energy Infrastructure, Smart Operation and Maintenance	492 932 840
	Session 23: New Energy Power System	879 250 208
	Session 24: Power Electronics Devices, Packaging, and System Integration	512 499 048
	Session 25: Plasma Science Technology and Applications	584 636 526
	Session 26: Power Market and Demand Response	470 584 725
	Session 27: Power System Planning and Operation	946 562 367
	Session28: Transportation Electrification	610 814 306
Industry Forum	365 786 753	
12:00-13:00	Lunch	



May 29, Sunday		
Online: https://www.aconf.org/conf_181211/live.html		
Time	Oral Presentation	Tencent Meeting ID
13:00-14:40	Session 29: Advanced Electrical Machine System	626 520 863
	Session 30: Emerging interdiscipline with Electrical Engineering	902 378 681
	Session 31: High Voltage and Insulation Technology	836 501 902
	Session 32: High Voltage and Insulation Technology	756 445 189
	Session 33: High Voltage and Insulation Technology	785 381 623
	Session 34: Integrated Energy System	227 163 956
	Session 35: Machine Drives and Controls	509 295 064
	Session 36: New Energy Power System	492 932 840
	Session 37: New Energy Power System	879 250 208
	Session 38: Power Electronics Devices, Packaging, and System Integration	512 499 048
	Session 39: Plasma Science Technology and Applications	584 636 526
	Session 40: Power System Planning and Operation	470 584 725
	Session 41: Power System Planning and Operation	946 562 367
	Session 42: Transportation Electrification	610 814 306
Student Forum	365 786 753	

14:40-14:50	Break	
14:50-16:30	Session 43: Advanced Electrical Machine System	626 520 863
	Session 44: Emerging interdiscipline with Electrical Engineering	902 378 681
	Session 45: High Voltage and Insulation Technology	836 501 902
	Session 46: High Voltage and Insulation Technology	756 445 189
	Session 47: High-efficiency Power	785 381 623
	Session 48: Integrated Energy System	227 163 956
	Session 49: Machine Drives and Controls	509 295 064
	Session 50: New Energy Power System	492 932 840
	Session 51: New Energy Power System	879 250 208
	Session 52: Power Electronics Devices, Packaging, and System Integration	512 499 048
	Session 53: Plasma Science Technology and Applications	584 636 526
	Session 54: Power System Planning and Operation	470 584 725
	Session 55: Power System Planning and Operation	946 562 367
	Session 56: Wireless Power Transmission	610 814 306
Student Forum	365 786 753	
16:30-16:40	Break	
16:40-18:20	Session 57: Advanced Electrical Machine System	626 520 863
	Session 58: Internet of Things (IoT) and Energy system	902 378 681
	Session 59: High Voltage and Insulation Technology	836 501 902



16:40-18:20	Session 60: High Voltage and Insulation Technology	756 445 189
	Session 61: High-efficiency Power	785 381 623
	Session 62: Integrated Energy System	227 163 956
	Session 63: Machine Drives and Controls	509 295 064
	Session 64: New Energy Power System	492 932 840
	Session 65: New Energy Power System	879 250 208
	Session 66: Smart Energy Electrical Equipment	512 499 048
	Session 67: Plasma Science Technology and Applications	584 636 526
	Session 68: Power System Planning and Operation	470 584 725
	Session 69: Power System Planning and Operation	946 562 367
Session 70: Wireless Power Transmission	610 814 306	

May 29, Sunday		
Online: https://www.aconf.org/conf_181211/live.html		
<i>Chair: Prof. Zaijun Wu Southeast University</i>		
Time	Content	Tencent Meeting ID
18:20-19:00	Excellent Paper Awards and Closing Ceremony	641 408 670

Oral Presentations

Session 1: Advanced Electrical Machine System

Tencent Meeting ID: 626 520 863

Chairs: *Associate Prof. Haiwei Cai, Southeast University*

Associate Prof. Wubin Kong, Huazhong University of Science and Technology

	Time	Invited/ID	Title
May 29	8:30-8:55	Invited	Title: Motor Power Density Improvement from the Perspective of "Parameter Identification" <i>Associate Professor, Wubin Kong</i> Affiliate: <i>School of Electrical and Electronic Engineering, Huazhong University of Science and Technology</i>
	8:55-9:10	1005	Title: Research on Innovative Design of Stator Tooth Structure for Permanent Magnet Synchronous Motor for Anisotropic Silicon Steel Authors: <i>Anrui Hu, Lei Wang, Xiangjian Zhang, Hang Zhang, Ruilin Pei</i>
	9:10-9:25	117	Title: Open-Circuit Magnetic Field and Cogging Torque of Spoke-Type Permanent-Magnet Machine with Different Pole Shape Authors: <i>Yu Zhou, Ke Liu, Xiaobao Yang, Hong miao, Chengbi Zeng</i>



Time		Invited/ID	Title
May 29	9:25-9:40	617	Title: Research on Response Surface Modeling Method of Permanent Magnet Synchronous Motor Based on Sequential Experimental Design Authors: <i>Peijuan Cui, Qingbo Guo, Hongxing Wu, Qianfan Zhang, Luman He</i>
	9:40-9:55	919	Title: AC Copper Loss Analytic Model Considering for Multiple Hairpin Winding Configurations Authors: <i>Lei Chen, Weishi Cai, Tanci Chen, Feng Chai</i>
	9:55-10:10	Invited	Title: Comprehensive Study on Five Triple 3-phase PM Machine Drive with Different Windings <i>Associate Prof. Bo Wang</i> Affiliate: <i>School of Electrical Engineering, Southeast University</i>

Session 2: Emerging Interdiscipline with Electrical Engineering

Tencent Meeting ID: 902 378 681

Chair: *Prof. Quan Hao, Nanjing University of Science and Technology*

Associate Prof. Long Huan, Southeast University

Time		Invited/ID	Title
May 29	8:30-8:55	Invited	Title: Artificial Intelligence-Based Uncertainty Quantification and Applications in Smart Grids <i>Prof. Quan Hao</i> Affiliate: <i>Nanjing University of Science and Technology</i>

	Time	Invited/ID	Title
May 29	8:55-9:10	783	Title:Extended Load Flexibility of Industrial P2H Plants: A Process Constraint-Aware Scheduling Approach Authors: <i>Yiwei Qiu, Buxiang Zhou, Tianlei Zang, Yi Zhou, Ruomei Qi, Jin Lin</i>
	9:10-9:25	826	Title:Load Restoration Strategy for Transmission Systems Considering the Time-dependent Cold Load Pickup Authors: <i>Jiang Ding, Lei Sun, Ming Ding, Lu Liu</i>
	9:25-9:40	1118	Title:SAC-based Multi-agent Framework for Continuous Volt-Var Control in Distribution Network with High Penetration of PVs Authors: <i>Tao Zhu, Guojun Lu, Yong Duan, Di Hai, Shengchao Zhou, Ruiying Zhang, Jing Wei</i>
	9:40-9:55	230	Title:Data Valuation in Electricity Transactions with Uncertainty Considering Risk Authors: <i>Bohong Wang, Tian Xia, Qinglai Guo, Luo Xu, Hongbin Sun</i>
	9:55-10:10	475	Title:Nonintrusive load Disaggregation method based on graph signal processing Authors: <i>Yu Liu, Jing Wang, Lihui Wang</i>

Session 3: High Voltage and Insulation Technology

Tencent Meeting ID: 836 501 902

Chair: *Dr. Jiahong He, Southeast University*



	Time	Invited/ID	Title
May 29	8:30-8:55	Invited	Title:A test flight of an airplane propelled by corona discharges <i>Associate Prof. She Chen, Hunan University</i>
	8:55-9:10	73	Title:Finite Element Study on Electric Field Distortion and Maxwell Stress Distribution Characteristics of XLPE Insulation Considering Water tree under Different Conditions Authors: <i>Jiaming Liang, Shiyong Hou, Fan Yang</i>
	9:10-9:25	80	Title:Operation characteristics and thermal stability of conductor splice tube under overheatoperationFatigue damage simulation analysis Authors: <i>Guanqun Li, Jinfu Zhu, Hanliang Liao</i>
	9:25-9:40	90	Title:Research on power frequency electric field of 750 kV Four-Circuit on the same tower Authors: <i>Zhongju Yang, Hao Yang, Liugang Li, Fan Yang</i>
	9:40-9:55	271	Title:Research on feature extraction and fault diagnosis of mechanical vibration and sound signal of Disconnecter Authors: <i>Zhenming Zhang, Houdi Xia, Shi Cao, Chenlei Liu</i>

Session 4: High Voltage and Insulation Technology

Tencent Meeting ID: 756 445 189

Chair: *Associate Prof. Jun Jiang* Nanjing University of Aeronautics and Astronautics

Time		Invited/ID	Title
May 29	8:30-8:55	Invited	Safe Digital - Condition Monitoring and Diagnosis solution of Medium-voltage Gas Insulated Switchgear from ABB <i>Zhixiang Wang,</i> <i>Product Specialist of Beijing ABB Switchgear Limited</i>
	8:55-9:10	268	Title:Optimal Arrangement of the Acoustic Monitoring Measurement Points for Transformer Winding Conditions Authors: <i>Wenjian Yu, Longqi Cong, Chi Xiao, Weidong Zhang, Jun Hou, Hong Wang, Chenlei Liu</i>
	9:10-9:25	199	Title:Influence of Oxygen Content, Gas Flow Rate and Temperature on Detection of Dissolved H ₂ in Oil Using Semiconductor Resistance Sensor Authors: <i>Kang Li, Shuai Yuan, Guangzhen Wang, Dehui Fu, Zongjia Qiu, Tunan Chen</i>
	9:25-9:40	527	Title:Winding Condition Monitoring of Power Transformers Based on the Optimized TQWT Authors: <i>Shan Wang, Guochao Qian, Weiju Dai, Zhihu Hong, Fenghua Wang, Deliang Cheng</i>
	9:40-9:55	231	Title:A Novel Hybrid Transfer Learning Approach for Small-Sample High-Voltage Circuit Breaker Fault Diagnosis On-site Authors: <i>Yanxin Wang, Jing Yan, Jianhua Wang, Yingsan Geng</i>
	9:55-10:10	510	Title:Fault Cause Analysis of Elbow Cable Joint of 10kV Pole-Type Transformer caused by Grounding Non-standard Authors: <i>Ruoxi Liu, Yue Wang, Tian Chen, Yukun Niu</i>



Session 5: High Voltage and Insulation Technology

Tencent Meeting ID: 785 381 623

Chair: *Dr. Shuangshuang Tian*, Hubei University of Technology

	Time	Invited/ID	Title
May 29	8:30-8:55	Invited	Online Monitoring and Diagnosis of Vital Components in Converter Transformer <i>Longfei Cui,</i> <i>R&D Engineer of NR. Electric. Co., Ltd.</i>
	8:55-9:10	694	Title:Analysis of Transformer Oil Paper Insulation Discharge Signal Characteristics Authors: <i>Xinchao Zhang, Liang Zou, Xu Chen, Lingjun Dai</i>
	9:10-9:25	726	Title:Detection of SF6 characteristic decomposition component H2S by cavity ring-down spectroscopy Authors: <i>Xue Lin, Heng Ma, Fangfang Wu, Shengyi Xie, Anhao Jiang, Chaohai Zhang</i>
	9:25-9:40	727	Title:Analysis of magnetization process of nanocrystalline alloy under different external conditions Authors: <i>KaiHang Guo, Liang Zou, LingJun Dai, Li Zhang</i>
	9:40-9:55	758	Title:Research on Pixel-Level Identification of Composite Insulator Defects Based on Threshold Segmentation Authors: <i>Youmin Li, Rui Huang, Qian Lin, Wendi Ding, Xiaokun Man, Yongji Ma, Lijun Jin</i>

Session 6: High-Reliability and Intelligent Power Electronics Technology

Tencent Meeting ID: 227 163 956

Chair: Associate Professor, Chu Sun, Beihang University

Time	Invited/ID	Title
May 29	8:30-8:55	Invited <i>Associate Professor, Chu Sun, Beihang University</i>
	8:55-9:10	414 Title:Real-time Grid Impedance Identification for Synchronization Stability Control in Grid-following Converter Authors: <i>Liang Cheng,Hua Ye,Ting Wang,Xin Dong,Yanran Li</i>
	9:10-9:25	440 Title:An Optimal Control Scheme to Suppress the Current Zero-Crossing Distortion in Critical Mode Single-Phase Inverter Authors: <i>Kunqi Han,Zhongshu Zheng,Li Zhang</i>
	9:25-9:40	471 Title:Research on Active Damping of Grid-side Inductor Voltage Feedback with Bandpass Filter and Lead Correction Authors: <i>Wei Wang,Zheng Wei,Mingming Li,Huafeng Xiao</i>
	9:40-9:55	773 Title:Control and Stability Analysis of Multi-Parallel Single-Phase Electric Springs Authors: <i>Mengjiao Cao,Qingsong Wang,Fujin Deng,Ming Cheng,Giuseppe Buja</i>
	9:55-10:10	739 Title:Torque Optimization of One High Specific Power Three-Phase FTPMM Based on FEM Authors: <i>Peijuan Cui,Xiaqing Pei,Zaiping Zheng,Qianfan Zhang,Luman He</i>



Session 7: High-Reliability and Intelligent Power Electronics Technology

Tencent Meeting ID: 509 295 064

Chair: Associate Professor, Yiqi Liu, Northeast Forestry University

Time		Invited/ID	Title
May 29	8:30-8:55	Invited	Title: Research on Novel MMC Topology and DC Side Fault Control for Flexible HVDC System of Offshore Wind Power Associate Professor, Yiqi Liu, Northeast Forestry University
	8:55-9:10	1165	Title: Design of DSOGI-PLL for Power Converters Tied to Fractional Frequency Transmission System Authors: Wulue Pan, Xiaodan Wu
	9:10-9:25	45	Title: Design-Oriented Transient Stability Analysis of Virtual Synchronous Generators Under Mode-Switching FRT Control Authors: Chao Shen, Wei Gu, Wei Liu
	9:25-9:40	659	Title: Neural Network-based Medium Frequency Transformer Electric Field Modeling and Sensitivity Analysis Authors: Xuan Guo, Zedong Zheng, Chi Li, Yongdong Li, Fei Zhao
	9:40-9:55	253	Title: AC Side Impedance Modeling Method of Multi-level Converter Considering Complete Control Structure Authors: Qunqiao Wang, Chongru Liu, Hanxing Lin
	9:55-10:10	808	Title: Development of Multi-Domain Design Tool for Medium Voltage High Frequency Power Transformers Authors: Tianshu Liu, Chushan Li, Rui Lu

Session 8: New Energy Infrastructure, Smart Operation and Maintenance

Tencent Meeting ID: 492 932 840

Chairs: *Prof. Bingtuan Gao, Southeast University*

Associate Prof. Yingjun Wu, Hohai University

	Time	Invited/ID	Title
May 29	8:30-8:55	Invited	Topic: Distribution Grid Emergency Response Framework for Extreme Weather Threats <i>Associate Prof. Yingjun Wu, Associate Professor of Hohai University</i>
	8:55-9:10	28	Title: Small Amounts of Transformer Oil Leakage Fluorescence Detection Using Image Processing Authors: <i>Xuxu Li, Wenhai Zhang, Xiaojiang Liu, Xiaomei Yang, Xiaomin Ma</i>
	9:10-9:25	275	Title: Implementation Scheme and Feasibility Analysis of Intensification of Maintenance and Inspection for Offshore Wind Power in Guangdong Province Authors: <i>Yong Yao, Jinchao Li, Zhichao Wu, Xiang Tang, Shizhu Li, Zhen Zhang</i>
	9:25-9:40	496	Title: Electricity Meter Detection and Recognition Algorithm Based on Mixed Feature Perception Neural Network and Classification Fitting Pointer Authors: <i>Tao Zhang, Zhewen Tian, Yilin Wang</i>
	9:40-9:55	655	Title: Module-Level Fault Diagnosis of Photovoltaic Array based on Wireless Sensor Networks and Inverter Activated I-V Scanning Authors: <i>Jinwei Zhang, Changqing Ai, Zijun Zheng, Kun Ding, Xihui Chen, Yongjie Liu, Ling Chen</i>



Time		Invited/ID	Title
May 29	9:55-10:10	901	Title: An Integrated Distribution Grid Protection System Using 5G URLLC Authors: <i>Arshad Iqbal, Wei Chen</i>

Session 9: New Energy Power System

Tencent Meeting ID: 879 250 208

Chair: *Dr. Peishuai Li, Nanjing University of Science & Technology*

Time		Invited/ID	Title
May 29	8:30-8:55	Invited	Distributed Real-time Optimal Voltage/Var Control for New Energy High Penetrated Distribution Network <i>Dr. Peishuai Li, Nanjing University of Science & Technology</i>
	8:55-9:10	788	Subsynchronous Oscillation Research of LCC-HVDC Receiving End System with Large-scale Renewable Power Generation Authors: <i>Buyang Du, Jianhang Zhu, Jiabing Hu, Zeren Guo, Dejun Shao, Youping Xu, Mengxuan Shi</i>
	9:10-9:25	750	Electric vehicle charging load clustering and load forecasting based on long short term memory neural network Authors: <i>Haowei Wang, Xueliang Huang, Shan Gao, Zexin Yang, Tian Gao, Qi Zhao, Hongen Ding</i>

Time		Invited/ID	Title
May 29	9:25-9:40	746	Reliability evaluation of wind-storage power generation system considering fatigue failure of wind turbine gearbox Authors: <i>Yingqi Yang, Dingkang Liang, Fuqiang Zhao, Yibo Li, Shuo Yin, Meng Yang</i>
	9:40-9:55	735	Impact of Fault Ride-through Characteristics of Large-scale Distributed Photovoltaic Integration on Voltage in Receiving-end Grid Authors: <i>Hong Dai, Chen Hui Yan, Yi Chao Wu</i>
	9:55-10:10	733	Calculation of Renewable Energy Grid-Connected Potential Authors: <i>Hua Xie, Depeng Kong, Le Yang</i>

Session 10: Power Electronics Devices, Packaging, and System Integration

Tencent Meeting ID: 512 499 048

Chairs: *Associate Prof. Jinming Xu, Nanjing University of Aeronautics and Astronautics*

Dr. Xiangjun Quan, Southeast University



Time		Invited/ID	Title
May 29	8:30-8:55	Invited	Title:Stability Analysis and Control of Grid-Connected Inverters under Grid Voltage Sags <i>Associate Prof. Jinming Xu, Nanjing University of Aeronautics and Astronautics</i>
	8:55-9:10	952	Title:Robustness Investigation of Grid-Connected Inverter in Weak Grid and Optimization Based on an Improved Grid Voltage Feedforward Path Authors:s <i>Huili Zhang, Tianzhi Fang</i>
	9:10-9:25	980	Title:A New Start-up Method for Dual Active Bridge Power Converters Authors: <i>Xiaozhe Liu, Minghao Han, Donglei Liu, Zhen Li, Zheng Dong, Zhenbin Zhang</i>
	9:25-9:40	105	Title:Asymmetric Feedforward Compensation for 3-Phase Coupled Buck-Boost Converter Authors: <i>Han Fu, Shanxu Duan, Tao Cai, Junyang Bao, Xiaokui Liu</i>
	9:40-9:55	666	Title:A Virtual-Rectifier AC/AC Converter-Based Dynamic Voltage Restorer Authors: <i>Zhenyu Yang, Qiang Qian</i>
	9:55-10:10	286	Title:Proportional Resonance Control and Optimization of Photovoltaic Grid-connected Inverters under Unbalanced Power Loads Authors: <i>Zhi-Xin Yang, Hao Chen, Zeyu Luo, Jiaming Li, Xian-Bo Wang</i>

Session 11: Plasma Science Technology and Applications

Tencent Meeting ID: 584 636 526

Chair: [Prof. Xuekai Pei](#), Wuhan University

Time	Invited/ID	Title
May 29	8:30-8:55	Invited (1105) Title: Plasma-catalytic CH ₄ reforming with CO ₂ over catalysts prepared by different methods <i>Associate Prof. Danhua Mei, Nanjing Tech University</i>
	8:55-9:10	321 Title: Studies on the Non-Equilibrium Features of an Argon Arc Plasma with an Argon Gas Injection from the Anode Side Authors: <i>Chuan Fang, Ziming Zhang, Yaoting Wang, Lanyue Luo, Jing Li, Heping Li</i>
	9:10-9:25	761 Title: Combination of NO _x mode and O ₃ mode air discharges for water activation to produce a potent disinfectant Authors: <i>Zifeng Wang, Linbo Liu, Dingxin Liu</i>
	9:25-9:40	110 Title: Effect of Pulse Polarity and Dielectric Configuration on the Spatio-Temporal Evolution Characteristics of Methane Pulsed Dielectric Barrier Discharge Plasma Authors: <i>Lijun Zong, Xiaoxiao Chen, Tong Chen, Peng Liu, Jun Du, Jie Pan, Shaohua Qin</i>
	9:40-9:55	1079 Title: Effect of plasma modification on the dispersion of high thermal conductive nano-filler Authors: <i>Wei Yang, Kun Wang, Yun Chen, Jingyi Yan, Chuansheng Zhang, Fei Kong, Tao Shao</i>



Session 12: Power Market and Demand Response

Tencent Meeting ID: 470 584 725

Chair: *Associate Prof. Yuting Mou, Southeast University*

Prof. Xingyu Yan, Southeast University

	Time	Invited/ID	Title
May 29	8:30-8:55	Invited (332)	Title:Dynamic Risk Reserve Quantification and Economic Analysis of Its Cooperative Dispatching Among Multi-DETs in a VPP <i>Prof. Xingyu Yan, Southeast University</i>
	8:55-9:10	1030	Title:An Economic study of Power Secondary Frequency Regulation with Different Energy Storage Systems Authors: <i>Guiyuan Xue, Chen Wu, Zekai Xu, Zhao Liu</i>
	9:10-9:25	1067	Title:Robust Optimal Dispatch for Virtual Power Plant Considering Green Certificate Trading Authors: <i>Hongyi Zhou, Kangning Yao, Jin-jing Bai</i>
	9:25-9:40	82	Title:Cloud and Electricity Portfolio Optimization for Internet Data Centers under Uncertainties <i>Yanxu Zhang, Caishan Guo, Chunchao Hu, Yu Cai</i>
	9:40-9:55	755	Title:Conditional-Robust-Profit-Based Decision Model for Flexible Contract between Electricity Retailer and Customer Authors: <i>Dou Fan, Shaohua Zhang</i>
	9:55-10:10	606	Title:Economical Configuration of Shared Energy Storage for Industrial Consumers and Profit Allocation Based on Cooperative Game Authors: <i>Yihan Liu, Qingshan Xu, Yuheng Liu, Honghua Xu</i>

Session 13: Power System Planning and Operation

Tencent Meeting ID: 946 562 367

Chair: *Associate Prof. Jing Lyu, Shanghai Jiao Tong University*

	Time	Invited/ID	Title
May 29	8:30-8:55	Invited	Title:Wideband Oscillations in Flexible HVDC Connected Renewable Energy <i>Associate Prof. Jing Lyu, Shanghai Jiao Tong University</i>
	8:55-9:10	173	Title:A Co-Configuration Operation Scheme of Photovoltaic and Energy Storage in expressway Energy Consumption Scenario Authors: <i>Zhenwei Yu, Kongyuan Li, Boyuan Cheng</i>
	9:10-9:25	233	Adaptive restart strategy of flexible DC grid suitable for double-terminal MMC Authors: <i>Lin Su, Ke Jiang, Zhao Zhang, Changsheng Pei, Bingtian Zhang, Jun Mei</i>
	9:25-9:40	297	Research on Self-adaptive Network Partitioning Algorithm for Electromagnetic Transient Parallel Simulation of Power System Authors: <i>Luwei Shi, Zhi Rui, Hongchao Liu, Zheng Yan, Jie Dang, Ying Wang</i>
	9:40-9:55	331	A Distributed Load Curtailment Model for Extreme Event-Affected Transmission and Distribution System Authors: <i>Lizhou Jiang Ju Ma Tao Long Yaojing Tang Zhaohong Bie Zili Guo Lieqian Gong Yang Zheng</i>



Session 14: Superconducting Technology and Application

Tencent Meeting ID: 610 814 306

Chair: Associate Researcher , Boyang Shen, University of Cambridge

	Time	Invited/ID	Title
May 29	8:30-8:55	Invited	Opportunities and challenges for high voltage technology in the new power systems <i>Prof. Yongxia Han, South China University of Technology</i>
	8:55-9:10	536	Title:Angular Dependence of Critical Currents for HTS Tapes in Wide Temperature Range and Large Magnetic Fields <i>Authors: jianfa wu, Yaxiong Tan, xin li, shushan luo, mengyang zhang, Yindun Hei</i>
	9:10-9:25	167	Title:Design and Analysis of Rotating Cold Mass Support of Superconducting Wind Turbine Generator <i>Authors: Qi Xiong, Bin Zhang, Sisi Peng</i>
	9:25-9:40	176	Title:Electromagnetic Design of a 50 Mvar Superconducting Synchronous Condenser by Using of MgB2 Wire <i>Authors: Yan LI, Darui He, Xiao Han, Qiong Wang</i>
	9:40-9:55	467	Title:Tested Critical Current Carrying Performance of Commercial REBCO Tapes Under Magnetic Field <i>Authors: Guanyu Xiao, Chao Zhou, Jinggang Qin, Huan Jin</i>
	9:55-10:10	989	Title:Larger Levitation Force Design of Magnetic Levitation Rail based on Topology Optimization of Halbach Array <i>Authors: Hang Zhang, Jianwei Li, Mufeng Wang Wang, Ruilin Pei</i>

Time		Invited/ID	Title
May 29	10:10-10:25	1169	<p>Title: Research on Power Cable Life-Cycle Management and Control System Based on Function-Enhanced Location-Measurement Temperature-Sensed Chip</p> <p>Authors: <i>Guang Chen, Chenggang Li, Wei Liu, Miao Li, Jianhua Zhen, Kun Dong, Jianfeng Zhao</i></p>

Session 15: Advanced Electrical Machine System

Tencent Meeting ID: 626 520 863

Chairs: *Associate Prof. Gan Zhang, Southeast University*

Associate Prof. Wei Zhang, Nantong University

Time		Invited/ID	Title
May 29	10:20-10:45	Invited	<p>Title: Dual Permanent Magnet Excited Machines for Electric Vehicles</p> <p><i>Associate Prof. Liang Xu</i></p> <p>Affiliate: <i>School of Electrical and Information Engineering, Jiangsu University</i></p>
	10:45-11:00	1050	<p>Title: Windage Loss and Torque Ripple Reduction in Stator-permanent Magnet Flux-switching Machines</p> <p>Authors: <i>Zhiheng Zhang, Wei Hua, Wenfei Yu, Peixin Wang, Mingjin Hu, Gan Zhang</i></p>



	Time	Invited/ID	Title
May 29	11:00-11:15	364	Title:Comparison and Investigation of Outer-Rotor Flux-Modulated Permanent Magnet Motor With Different Pole Ratios and Rotor Poles Authors: <i>Wei Shen, Zixuan Xiang, Xiaoyong Zhu, Li Quan, Tengguang Wang, Yun Pu</i>
	11:15-11:30	153	Title:Analytical Calculation of Electromagnetic Performance in Dual-winding Bearingless Flux-Switching Permanent Magnet Machines Considering Rotor Eccentricity Authors: <i>Zhengshan Cui, Yangzhong Zhou, Xin Wu, Jing Zhang</i>
	11:30-11:45	1124	Title:Investigation of Torque Contributions of Main-order Working Harmonics in Consequent-pole PM Vernier Machines Authors: <i>Ya Li, Qinglin Zhou, Jun Hang, Wei Li, Shichuan Ding</i>
	11:45-12:00	1135	Title:A Novel Heteropolar Hybrid-Magnetic-Circuit Memory Machine Authors: <i>Hui Yang, Yixian Wang, Wei Liu, Heyun Lin, Z. Q. Zhu, Hanlin Zhan, Wenjie Chen, Di Wu, Minghu Yu</i>
	12:00-12:25	Invited	Title:Comparative Study on Two DC Excited Multitooth Flux-Switching Machines <i>Dr. Guishu Zhao, College of Automation Engineering, Nanjing University of Aeronautics and Astronautics</i>

Session 16: Emerging Interdiscipline with Electrical Engineering

Tencent Meeting ID: 902 378 681

Chair: *Associate Prof., YingjunWu*, Hohai University

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	Title:Data-Driven Outlier Cleaning Method for Grid-connected Photovoltaic Plants Using Vine Copula Construction <i>Associate Prof. Huang Yu, Nanjing University of Posts and Telecommunications</i>
	10:45-11:00	787	Title:A novel support vector machine multi-classification strategy for power Authors: <i>Zehua Chen, Lucheng Hong, Yuan Gu, Minghe Wu, Ziheng Yan</i>
	11:00-11:15	98	Title:Fault Location Method of Distribution Network Based on Improved Adaptive Authors: <i>Rui Liu, Jun Xia, Mingmei He, Gang Wang, Yu Peng, Jun Ren, Yao Long, Siyu Qiu, Dongfeng Yu</i>
	11:15-11:30	859	Title:Fault Modeling and Traceability of Power Grid Dispatching Control System based on Data-driven method Authors: <i>Hang Zhou, Xiaotong Hu, Hongqin Zhu</i>
	11:30-11:45	1026	Title:Transient Voltage Stability Assessment Based on an Improved TCN-BiLSTM Framework Authors: <i>Yucheng Chen, Haipeng Xie</i>
	11:45-12:00	849	Title:Research on fault detection and location method of avionic data bus Authors: <i>Weijia Chen, Li Wang, Shanshui Yang, Hongzhen Chen</i>



Session 17: High Voltage and Insulation Technology

Tencent Meeting ID: 836 501 902

Chair: [Associate Prof. Linlin Zhong](#), Southeast University

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	<p>Partial discharge characteristics of HFO-1336mzz(E) /CO₂: a new eco-friendly gas insulating medium</p> <p><i>Associate Prof. Song Xiao, Wuhan Universit</i></p>
	10:45-11:00	878	<p>Title:Partial Discharge Decomposition Characteristics of C₄F₇N/CO₂ Gas Mixture at Different Reaction Temperature</p> <p>Authors:<i>Dianjie Tong, Qiulin Zhao, Shaoli Zhang, Cong Wang, Renjie Cao, Youping Tu, Zhong Zheng</i></p>
	11:00-11:15	473	<p>Title:Influence of O₂ on partial discharge decomposition properties of C₅F₁₀O/N₂/O₂ gas mixture</p> <p>Authors:<i>Long Li, Qiang Yao, Ying Zhang, Shiling Zhang, Huaxia Yang, Pu Han, Song Xiao, Qing Yang</i></p>
	11:15-11:30	498	<p>Title:Production of condensed species in two-temperature non-LTE plasmas of various SF₆ replacements</p> <p>Authors:<i>Qi Gu, Linlin Zhong</i></p>
	11:30-11:45	379	<p>Title:Development of a Portable SF₆/N₂ Mixed Gas Charging Device for On-site Modification of Gas Insulated Current Transformer</p> <p>Authors:<i>Yanan Wang, Zihao Yang, Linyuan Ren, Zichen Deng, Weidong Ding, Dingge Yang, Yanhua Han, Jingfeng Wu</i></p>

Time		Invited/ID	Title
May 29	11:45-12:00	273	Title:Compatibility study of eco-friendly insulation medium C5-PFK/CO2 gas mixture with silver material Authors: <i>Qiang Yao, Long Li, Baojia Deng, Ying Zhang, Ke Li, Yalong Li, Song Xiao, Qing Yang</i>

Session 18: High Voltage and Insulation Technology

Tencent Meeting ID: 756 445 189

Chair: *Associate Prof. She Chen, Hunan University*

Time		Invited/ID	Title
May 29	10:20-10:45	Invited	Title:Degradation of epoxy resin under simulated loss of coolant accident condition in nuclear power plants <i>Associate Prof. Yu Gao, Tianjing Technology</i>
	10:45-11:00	591	Title:Variation of Surface roughness and Corona Characteristics of Transmission Lines in Shandong Power Grid Authors: <i>Yuze Jiang, Mengqi Zhang, Ruobing Zhang</i>
	11:00-11:15	672	Title:Flashover strength improvement in vacuum using surface microstructure of printed metal wires Authors: <i>Yi-Tong Yao, Hai-Bao Mu, Shu Zhang, Yan-Lin Cheng Fa-Lun Song, Guan-Jun Zhang</i>



	Time	Invited/ID	Title
May 29	11:15-11:30	673	Title:Magnetic-Structural Coupled Simulation of Power Transformer Winding Cumulative Effect Authors: <i>Xiaoqing Lin, Jun Liu, Feng Wang, Wenhao Ai, Zhongxiang Li, She Chen</i>
	11:30-11:45	684	Title:Fault Diagnosis of Contaminated Insulators Based on Heterologous Entropy Feature Fusion Authors: <i>Kai Gao, Tianyi Wu, Zhengyong Hu, Jinyi Deng, Danrui Ma, Lijun Jin</i>
	11:45-12:00	1123	Title:Numerical simulation of the current pulses of positive corona discharge in SF6 Authors: <i>Qingqing Gao, Jiawei Zhang, Xiaohua Wang, Aijun Yang, Dingxin Liu, Chunping Niu</i>

Session 19: High Voltage and Insulation Technology

Tencent Meeting ID: 785 381 623

Chair: *Associate Prof. Meng Li, Beijing Jiaotong University*

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	Title:Insulation composites with graded permittivity by electric-field-assisted assembly stereolithographic multi-material 3D printing <i>Associate Prof. Lipeng Zhong, Hunan University</i>
	10:45-11:00	671	Title:Research on Separation Method of Partial Discharge Mixed Signal in Switchgear Authors: <i>Zhuo Wang, Xiang Zheng, Renfeng Wang</i>
	11:00-11:15	675	Title:Research on fiber optic temperature measurement and simulation of lightning arrester on the roof of a moving train Authors: <i>Qi Ou, Huaqi Liu, Shenghui Wang</i>
	11:15-11:30	677	Title:Study on Microcapsules for Self-healing System of Silicone Rubber Insulating Material Authors: <i>Mingzhe Li, Ruiqi Shang, Yuhao Liu, Bin Cao, Liming Wang</i>
	11:30-11:45	737	Title:Influence of hybrid reactive power compensation on interrupting characteristics of three-phase grounding fault Authors: <i>Jingjing Yang, Qingquan Li, Hongshun Liu</i>
	11:45-12:00	765	Title:Effects of Electric Field and Temperature on Interfacial Properties of Nano-SiO ₂ Doped Silicone Rubber Composites: A Molecular-Dynamics Study Authors: <i>Guangzhi Guo, Juning Zhang, Junbo Deng, Guanjun Zhang</i>



Session 20: Integrated Energy System

Tencent Meeting ID: 227 163 956

Chairs: *Associate Prof. Zhi Wu, Southeast University*
Dr. Mingyu Yan, Imperial College London

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	Title:A low-carbon planning method for multi-energy system <i>Dr. Mingyu Yan, Imperial College London</i>
	10:45-11:05	Invited	Title:Non-Convex Optimization in Integrated Energy Systems <i>Zhi Wu , Southeast University</i>
	11:05-11:20	210	Title:Carbon-aware Integrated Energy System Operation with Demand Response Authors: <i>Linwei Sang, Yinliang Xu, Wai Kin Victor Chan, Zixuan Wei.</i>
	11:20-11:35	1144	Title:Comprehensive energy consumption assessment based on industry energy consumption structure Part II: Assessment and forecasting of energy consumption in key industries at Zhejiang Authors: <i>Yujia Zhang, Siyu Zheng, Suyang Zhou, Juan Zuo.</i>
	11:35-11:50	257	Title:Market Clearing of Integrated Electricity and Heat Systems Considering Uncertainty Authors: <i>Xinmin Jia, Feng Xing, Yonggang Pang, Yanfei Zhang, Kangping Xu, Nan Jia, Cheng Wang.</i>

	Time	Invited/ID	Title
May 29	11:50-12:05	524	Title:Dynamic Modeling of Model Route for PV in Power System with Integrated Energy Authors: <i>Fu Shen, Shiwei Li, Bing Xia, Jing Yang, Jieshan Shan, Zilong Cai, Zhiwen Yang, Guangbing Yang.</i>
	12:05-12:20	1143	Title:Comprehensive energy consumption assessment based on industry energy consumption structure Part I: Analysis of Energy Consumption in Key Industries Authors: <i>Siyu Zheng, Yujia Zhang, Suyang Zhou, Qiang Ni, Juan Zuo.</i>

Session 21: Machine Drives and Controls

Tencent Meeting ID: 509 295 064

Chair: *Associate Prof. Feifei Pu, Nanjing University of Aeronautics and Astronautics*

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	A Current Sensor and Open-Circuited Faults Diagnosis Method in Multiphase PMSM Drives Based on Stator Current Analysis <i>Associate Prof. Xiaoqin Zheng, Qingdao University</i>
	10:45-11:00	244	Title:Model Predictive Control for SPMSM Control System with Parameter Robustness Improvement Authors: <i>Xiaoguang Zhang, Ziwei Wang</i>



	Time	Invited/ID	Title
May 29	11:00-11:15	285	Title:Analysis of Self-excited Voltage Building of High-low Voltage Dual Stator-winding Induction Generator Considering Mutual Leakage Inductance Authors: <i>Kun Wang, Xinzhen Wu</i>
	11:15-11:30	322	Title:Robust Control of U-shape Single-phase Permanent Magnet Synchronous Motor Authors: <i>Jundong Wang, Fei Peng, Yunkai Huang, Sheng Wang</i>
	11:30-11:45	757	Title:A Triple-Voltage-Vector Model-Free Predictive Current Control Method for Voltage Source Inverters Authors: <i>Zheng Yin, Cungang Hu, Tao Rui, Zhuangzhuang Feng</i>
	11:45-12:00	811	Title:Investigation on the Timing of Demagnetization for Variable Flux Memory Motor Authors: <i>Yan Jia, Ziqiang Zhu, Jianghua Feng, Shuying Guo, Yifeng Li, Liang Hu, Hui Yang</i>
	12:00-12:25	Invited	Enhanced Position Sensorless Control Using Adaptive Filter for Interior Permanent Magnet Synchronous Motor <i>Associate Prof. Xuan Wu, Hunan University</i>

Session 22: New Energy Infrastructure, Smart Operation and Maintenance

Tencent Meeting ID: 492 932 840

Chair: *Associate Prof. Junpeng Zhu, Hohai University*

Associate Prof. Yujian Ye, Associate Professor of Southeast University

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	Topic: Model-Free Real-Time Autonomous Control for A Residential Multi-Energy System Using Deep Reinforcement Learning <i>Associate Prof. Yujian Ye, Associate Professor of Southeast University</i>
	10:45-11:10	Invited	Topic: Stochastic Optimal Control Frame of Power System including High Proportion Renewable Energy <i>Associate Prof. Lixia Sun, Associate Professor of Hohai University</i>
	11:10-11:25	7	Title: Cost Effective Distributed Load Frequency Control with Imperfect Measurements Authors: <i>Zhiliang Liu, Dong Chen, Chen Zhao, Ran Zhang</i>
	11:25-11:40	134	Title: Solar cell parameter identification based on opposition-based chaotic whale optimization algorithm Authors: <i>Xingyu Shi, Zhendong Yin, Li Wang, Heqi Liang, Zimo Wang</i>
	11:40-11:55	515	Title: Fuzzy Comprehensive Evaluation of the Health of Electric Vehicle Charging Equipment Based on Combination Weighting of Game Theory Authors: <i>Chunjie Shi, Liangliang Chen, Zhenya Ji</i>



	Time	Invited/ID	Title
May 29	11:55-12:10	912	Title: Data Driven Assessment Algorithm of Wind Farm AGC System Authors: <i>Yangfan Zhang, Weixin Yang, Yu Wang, Jiaming Li, Zongxiang Lu, Ying Qiao</i>
	12:10-12:25	1068	Title: A Hydrogen Refueling System for Fuel Cell Electric Vehicles: Towards Low Carbon Oriented Power and Transportation Systems Authors: <i>Fang Yu, Junshi Chen, Tianyou Xie, Zhitao Zhang, Ying Yao, Yuechuan Tao</i>

Session 23: New Energy Power System

Tencent Meeting ID: 879 250 208

Chair: *Associate Prof. Yizhen Wang, Tianjin University*

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	DC Voltage Control and Power Sharing for VSC-MTDC System <i>Associate Prof. Yizhen Wang</i>
	10:45-11:00	679	Auxiliary Decision-making Method for Reactive Power Compensation Configuration of AC Grid-connected Offshore Wind Farm <i>Yonggao Guan, Yi Tang</i>
	11:00-11:15	662	Optimization of thermal storage capacity of solar tower power considering peak regulation <i>Xiangyan Wang, Ning Chen, Weizhou Wang, Bangjie Hu, Pei Wang</i>

	Time	Invited/ID	Title
May 29	11:15-11:30	632	Energy storage system participates in frequency modulation control and capacity balance strategy of power system <i>Zhenyang Wang, Wenchao Zhai, Gangui Yan, Yue Zhao, Youshi Cui, Xihao Jia</i>
	11:30-11:45	624	Short-Term Wind Power Interval Prediction Based on GD-LSTM and Bootstrap Techniques <i>Wei Zhang, Hao Quan, Wenjie Zhang, Zixiong Li</i>
	11:45-12:00	621	Comprehensive Evaluation of Power Quality Based on Improved TOPSIS Method and Combination Weights <i>Yuheng Liu, Qingshan Xu, Yihan Liu, Bin Yang</i>

Session 24: Power Electronics Devices, Packaging, and System Integration

Tencent Meeting ID: 512 499 048

Chair: *Associate Prof. Yichao Sun, Nanjing Normal University*

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	Title: General Pulse Distribution Method of MMC under Phase-leg Based PD-PWM Modulation <i>Associate Prof. Yichao Sun, Nanjing Normal University</i>



	Time	Invited/ID	Title
May 29	10:45-11:00	1136	Title:A Feedforward Current Control for Two-Stage AC/DC converters with Good Dynamic Performance Authors, <i>Yuanzhi Liu, Li Zhang, Chennan Huang, Minghao Lu, Junyang Shi</i>
	11:00-11:15	407	Title:A Bidirectional Solid-State Power Controller for 270V HVDC Aviation Power Supply System Authors: <i>Yuqing Fei, Fan Pu, Yao Li, Yuyang Liu, Yufei Tao, Weilin Li</i>
	11:15-11:30	905	Title:A Unified Direct Control Strategy for MMC Based on Multi-terminal Flexible Interconnection System Authors: <i>Yuanyuan Wang, Chuyang Wang, Zhenyu Yang</i>
	11:30-11:45	921	Title:Impact of Control Mode on Small-Signal Stability of Hybrid Cascaded UHVDC System Authors: <i>Yonejie He, Wang Xiang, Jinyu Wen, Jiapei Zhou, Chang Lin, Jingbo Zhao</i>
	11:45-12:00	150	Title:An Integrated Direct-Drive Wave Power Generation System with Hybrid Battery/Supercapacitor Energy Storage Based on Nine-Switch Converter Authors: <i>Ruiyang Ma, Lei Huang, Lai Wei, Xiaoyu Zhang, Peiwen Tan</i>

Session 25: Plasma Science Technology and Applications

Tencent Meeting ID: 584 636 526

Chair: *Associate Prof. Ruoyu Han, Beijing Institute of Technology*

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited (222)	Title: Instability mechanisms in high-frequency pulse-periodic streamer discharge <i>Dr. Zheng Zhao, Xi'an Jiaotong University</i>
	10:45-11:00	214	Title: Study on Corona Discharge Characteristics of Soil under Pulse High Voltage Authors: <i>Xiaoqian Pi, Chi Li, Maoping Ran, Chuan Li, Yong Yang</i>
	11:00-11:15	501	Title: Design and Application of an Argon-fed 1 A-class Plasma Bridge Neutralizer Authors: <i>Linyuan Ren, Yanan Wang, Zihao Yang, Weidong Ding</i>
	11:15-11:30	891	Title: A platform for investigating pulsed vacuum arc in micro-cathodic arc thruster Authors: <i>Zhi Wang, Ruoyu Han, Jinyue Geng</i>
	11:30-11:45	1134	Title: Repetitive Operation and Insulation Recovery Characteristics of a Sealed-off Double-gap Pseudospark Switch Authors: <i>Jiaqi Yan, Saikang Shen, Guoxiang Sun, Weidong Ding, Weizong Wang</i>



Session 26: Power Market and Demand Response

Tencent Meeting ID: 470 584 725

Chairs: *Associate Prof. Haiwang Zhong, Tsinghua University*

Associate Prof. Hao Ming, Southeast University

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	Title: New-type Power System Evolution: A carbon perspective <i>Assistant Researcher, Yujian Fang, Tsinghua University</i>
	10:45-11:00	5	Title: Bidding Behavior Analysis in Joint Electricity and Carbon Market by Hybrid Experimental Learning Authors: <i>Wenxuan Liu</i>
	11:00-11:15	1000	Title: Effective Carbon Tax Learning via Cap and Trade Authors: <i>Chenye Wu</i>
	11:15-11:30	159	Title: Bidding Strategy of Electricity Retailers Based on Joint Optimization of Energy Market and Ancillary Services Market Authors: <i>Xinyi Xie</i>
	11:30-11:45	36	Title: Optimal Aggressive Level-based Offering Method for Hybrid PV Plants Authors: <i>Xiaoge Huang</i>

Session 27: Power System Planning and Operation

Tencent Meeting ID: 946 562 367

Chair: [Prof. Tao Jiang](#), Northeast Electric Power University

	Time	Invited/ID	Title
May 29	10:20-10:45	Invited	Title:Data-Driven Forced Oscillation Source Location Authors: Tao Jiang , Northeast Electric Power University
	10:45-11:00	383	Real-time Simulation Hardware-in-the-loop Test Platform for DC Integrated Power System Containing a Large Number of Switches Authors: Xiaoliang , Hao Lijun , Fu Fan Ma , Chun Li
	11:00-11:15	483	Fast Computation Methods for Constructing Data-Driven Linear Power Flow Model Authors: yitong liu zhengshuo li
	11:15-11:30	509	Source-load Coordinated Optimal Scheduling in Stochastic Unit Commitment Considered Electrolytic Aluminum Load and Wind Power Uncertainty Authors: Jialing Liu , Ke Wang , Zhuo Su , Yuang Feng , Chenglong Wang , Xiaomeng Ai
	11:30-11:45	516	Research on Key Technologies of Digital Twins System in Distribution Networks Authors: Ling Zhou , Chang Kun Yang , Tiancheng Liu , Cong Li
	11:45-12:00	670	Optimal Substation Planning Considering Demand Response and Energy Storage System Based on Mesh Distribution Networks Planning Framework Authors: Ke Fei , Yunchen Sha , Chao Xu , Hao Guo , Yanhong Wang , Shida Zhang , Guocheng Hou , Hantong Cheng



Session 28: Transportation Electrification

Tencent Meeting ID: 610 814 306

Chair: *Dr. Li Yu, Nanjing University of Aeronautics and Astronautics*

Dr. Hengliang Zhang, Southeast University

	Time	Invited/ID	Title
May 29	10:30-10:55	Invited	Title: Bearingless Doubly Salient Starter/Generator with DC Bias Winding for Potential Application in More Electric Aircraft <i>Dr. Li Yu, Nanjing University of Aeronautics and Astronautics</i>
	10:55-11:10	1021	Title: Predictive Control Strategy of Power Electronic Traction Transformer for Fault Tolerance Condition Authors: <i>Nan Zhao, Zedong Zheng, Yongdong Li</i>
	11:10-11:25	924	Title: Whole-system Potential and Benefit of Energy Storage by Vehicle-to-grid (V2G) under Carbon Neutrality Target in China Authors: <i>Yifan Wei, Kang Pang, Yudi Qin, Haiyan Huang, Xuebing Han, Languang Lu, Minggao Ouyang</i>
	11:25-11:40	910	Title: An Isolated Three-Port Bidirectional DC-DC Converter with Current Doubler Authors: <i>Jiajing Li, Haoqing Cai, Yunpeng Yao, Min Chen, Changsheng Hu, Wenxing Zhong, Dehong Xu</i>
	11:40-11:55	1016	Title: A linearized battery degradation model based on NN for V2G coordination programming Authors: <i>Haoming Gao, Yirong Guo, Yifan Wei, Chaojie Xu, Languang Lu, Minggao Ouyang, Xuebing Han</i>

Session 29: Advanced Electrical Machine System

Tencent Meeting ID: 626 520 863

Chairs: *Associate Prof. Lei Huang, Southeast University*

Associate Prof. Jingsong Li, Dalian University of Technology

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title:Research on long primary permanent magnet linear synchronous motor <i>Dr. Qiang Tan, College of Automation Engineering, Nanjing University of Aeronautics and Astronautics</i>
	13:25-13:40	464	Title:Parameter Calculation Method of Large Thrust Short Primary Linear Induction Motor Authors: <i>Huang Chuibing, Li Wei, Sun Zhaolong, Xu Jin, Mao Yinhao, Jia Guangyong, Zeng Rongtao, Ding Anmin</i>
	13:40-13:55	1115	Title:Analysis and Modeling of a Magnetically Levitated Synchronous Permanent Magnet Planar Motor with Concentric Structure Winding Authors: <i>Lu Zhang, Baoquan Kou</i>
	13:40-14:10	969	Title:Design and analysis of a Tubular Flux-Switching Permanent Magnet Linear Motor for aviation actuator Authors: <i>Qixuan Shu, Lihua Zhou, Ruiwu Cao</i>
	14:10-14:25	1112	Title:Performance Analysis of Modular Linear Variable Flux Reluctance Machines with DC-Biased Sinusoidal Armature Current Authors: <i>Yiming Shen, Yanxin Li, Qinfen Lu</i>



Time		Invited/ID	Title
May 29	14:25-14:40	479	Title:Design and Analysis of a Large-Thrust and Small-Deformation Double-Sided Linear Switched Reluctance Motor Authors: <i>Hong Jia Liang, Su Dan Huang, Guang Zhong Cao, Tao Liang</i>
	14:40-15:05	Invited	Title:Analysis of Transformer Audible Noise Based on Redundant Convolutional Encoder Decoder <i>Dr. Jingsong Li, School of Electrical Engineering, Dalian University of Technology</i>

Session 30: Emerging Interdiscipline with Electrical Engineering

Tencent Meeting ID: 902 378 681

Chair: *Dr. Jiahong He, Southeast University*

Time		Invited/ID	Title
May 29	13:00-13:25	Invited (390)	Title:Physical Design of a Compact High-energy Electron Source Applied to On-site Non-destructive Testing <i>Associate Prof. Tongning Hu, Huazhong University of Science and Technology</i>

Time		Invited/ID	Title
May 29	13:25-13:40	973	Title:Study on Stator Iron Loss of Motor Iron Core with High Silicon Steel Considering Temperature and Compressive Stress Factors Authors: <i>Deji Ma, Jianwei Li, Baozhi Tian, Hang Zhang, Ruilin Pe</i>
	13:40-13:55	234	Title:Research on calculation of ship magnetic field based on recursive iterative algorithm Authors: <i>Junji Gao, Xuelian Zhu, Pengzhong Wang</i>
	13:40-14:10	786	Title:Online Dynamic Parameter Estimation of an Alkaline Electrolysis System Based on Bayesian Inference Authors: <i>Xiaoyan Qiu, Hang Zhang, Yiwei Qiu, Buxiang Zhou, Tianlei Zang, Ruomei Qi, Jin Lin, Jiepeng Wang</i>
	14:10-14:25	596	Title:Interpretable Generator Coherency Identification Based on Spatial-Temporal Auto-Encoder and Probabilistic Clustering Authors: <i>Fengrui Liu, Baitong Li</i>
	14:25-14:40	442	Title:Study on Dielectric Model for Capacitance-Based Nondestructive Testing of Water Content in Concrete Authors: <i>Ziang Duanmu, Zhanlong Zhang, Yang Song, Jun Deng</i>



Session 31: High Voltage and Insulation Technology

Tencent Meeting ID: 836 501 902

Chairs: *Dr. Kejie Li*, Hefei University of Technology

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title:Research on the fault diagnosis of power equipment based on machine olfaction technique <i>Prof. Aijun Yang, Xi'an Jiaotong University</i>
	13:25-13:40	120	Title:Thermal Conductivity and Dielectric Properties of Epoxy Composites Co-doped with BN with Different Morphology Authors: <i>Xubin Wang, Jiaxue Wu, Tiandong Zhang, Qingguo Chi</i>
	13:40-13:55	72	Title:Influence of different metal materials on the gas production characteristics of insulating oil Authors: <i>Xiaoyu Zhao, Yilin Wang, Huanchao Cheng, Qing Xu, Chenyu Gao, Jian Hao</i>
	13:40-14:10	262	Title:Study of Dissociation Characteristic of SF6/N2 Mixture Under Corona Discharge with Pin-to-Plate Electrode Authors: <i>Zihao Yang, Linyuan Ren, Zichen Deng, Yanan Wang, Dingge Yang, Yanhua Han, Jingfeng Wu</i>
	14:10-14:25	341	Title:The Partial Discharge Characteristics of PI Film Modified by Nano-Al2O3 in LN Authors: <i>Daosheng Liu, Liang Zhang, Guangkang Wang</i>
	14:25-14:40	405	Title:Research on the impact of graphite fiber attached insulator Authors: <i>Pei Cao, Yiping Ji, Min Ding, Leiyu Ni, Yongji Ma, Lijun Jin</i>

Session 32: High Voltage and Insulation Technology

Tencent Meeting ID: 756 445 189

Chairs: [Associate Prof. Yu Gao](#), Tianjin University

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title:Important Properties and Fundamental Issues of the Crosslinked Polyethylene Insulating Materials Used in High-voltage Cable <i>Associate Prof. Shihang Wang, Xi'an Jiaotong University</i>
	13:25-13:40	691	Title:Electrical Tree Performance of Epoxy Resin Used in Power Electronic Transformer under Bipolar Square Wave Voltage Authors: <i>xiaopeng zha, kun wang, jianying li</i>
	13:40-13:55	807	Title:Development of polarization and depolarization current testing device for crosslinked polyethylene cables Authors: <i>Yuhui Yu, Liuxia Li, Fuchang Lin</i>
	13:40-14:10	818	Title:The correlation between current pulses and dark streamer in vegetable insulating oil under lightning impulse voltage Authors: <i>Xiangrong Li, Jian Li, Feipeng Wang, Zhengyong Huang, Qiang Wang</i>
	14:10-14:25	819	Title:Study on Space charge Transport and accumulation characteristics of XLPE Cable during DC Operation Authors: <i>Yan Zhao, Shusheng Zheng, Dongchen Liu, Xiaohu Yan</i>
	14:25-14:40	833	Title:Study on Partial Discharge Information Entropy Characteristics in Oil-paper Insulation Authors: <i>Shuqi Li, Jingjing Yang, Qingquan Li, Ping Ju</i>



Session 33: High Voltage and Insulation Technology

Tencent Meeting ID: 785 381 623

Chair: *Associate Prof. Peng Li, China Three Gorges University*

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title:DC Grid Fault Analysis and Protection Technologies <i>Associate Prof. Meng Li, Beijing Jiaotong University</i>
	13:25-13:40	930	Title:Study of the Interfacial Electrical Tree Growth Characteristics under AC and DC Voltages Authors: <i>Yani Wang, Shuai Zhang, Pinshun Ren, Xingwu Yang, Chun Liu</i>
	13:40-13:55	993	Title:Wideband Circuit Modeling of a Adjustable VFTO Simulator Considering Frequency-Dependent Characteristics Authors: <i>Kejie Li, Jun Zhao</i>
	13:40-14:10	1001	Title:Comparative Analysis of PIV-Based and Model-Based Methods in Calculating Electrical Force Produced by a Blade-Plane Actuator Authors: <i>Zelu Yan, Christophe Louste, Philippe Traoré, Jian-an Fang, Weizong Wu, Jinlin Lin</i>
	14:10-14:25	1034	Title:Optimization Analysis of 220kV Substation grounding Network based on CDEGS Authors: <i>Caiquan Wen, Jiexiong Quan, Xianning Li, Hanliang Lin, Hongshun Liu, Zhiyuan Zhang, Xiaohui Zhu</i>

Session 34: Integrated Energy System

Tencent Meeting ID: 227 163 956

Chairs: *Associate Prof. Mingfei Ban, Northeast Forestry University*

Dr. Shuai Lu, Southeast University

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title: Integrated Generation Scheduling for Managing Ambient Air Quality and Human Health Conditions <i>Associate Prof. Mingfei Ban, Northeast Forestry University</i>
	13:25-13:50	Invited	Title: Aggregate Thermal Inertia Model for Integrated Energy Systems: From Physically Based to Hybrid Physical and Data-Driven Approaches <i>Dr. Shuai Lu, Southeast University</i>
	13:50-14:05	551	Title: Online Learning Enabled Hierarchical Distributionally Robust Model Predictive Control of Green-Hydrogen Microgrids under Uncertainties Authors: <i>Chao Ning, Longyan Li</i>
	14:05-14:20	780	Title: Security Analysis of Integrated Energy System under Complex Network Authors: <i>Bingyan Xu, Lucheng Hong, Danyan Gu</i>
	14:20-14:35	140	Title: Low-carbon Economic Dispatch of Integrated Energy System Considering P2G and Carbon Trading Mechanism Authors: <i>Yun Li, Jiazhu Xu, Min Wu, Linjun Zeng, Nihan Tong</i>



	Time	Invited/ID	Title
May 29	14:35-14:50	170	Title:A Distributed Method to Evaluate Total Energy Supply Capability of Integrated Power Distribution and Natural Gas System Authors: <i>Qirun Sun, Zhi Wu, Wei Gu, Yuping Lu, Xuan Yang</i>
	14:50-15:05	336	Title:Dynamic State Estimation for The Low-Carbon Integrated Electricity-Heat-Gas System Authors: <i>Yuan Yao, Yinliang Xu, Wai Kin(Victor) Chan, Yu Zeng</i>

Session 35: Machine Drives and Controls

Tencent Meeting ID: 509 295 064

Chairs: *Dr. Fei Peng, Southeast University*

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Efficiency Optimized Control and Active Overload Management for Interior Permanent Magnet Synchronous Motors <i>Associate Prof. Tianfu Sun, Shenzhen Institutes of Advanced Technology Chinese Academy of Sciences</i>
	13:25-13:40	240	Title:Research on fault diagnosis and fault tolerant control of PMSM current sensor Authors: <i>Xiaobing Niu, Shangbo Li, Xin Zhou</i>

	Time	Invited/ID	Title
May 29	13:40-13:55	317	Title:Parameter Adaptive Adjustment Super Twisting Sliding Mode Observer Based on Complex Coefficient Filter for PMSM Sensorless Drive Authors: <i>Yifei Zheng, Kai Yang</i>
	13:40-14:10	745	Title:YASA axial flux machine with non-uniform arrangement of stator segmented modules for reducing harmonics of back EMF Authors: <i>Xiaoguang Wang, Xiaofeng Li, Cheng Liu, Guoguang Zhang, Wei Xu</i>
	14:10-14:25	922	Title:Roubust H_∞ position servo control for PMSM Authors: <i>Zlyue Zhang, Zheng Wang</i>
	14:25-14:40	939	Title:An coupling vibration suppression method based SDDC for PMSM traction drive system Authors: <i>Shuaishuai Wang, Yun Zuo, Huimin Wang, Xinglai Ge</i>



Session 36: New Energy Power System

Tencent Meeting ID: 492 932 840

Chairs: [Associate Prof. Weiji Han](#) , Shanghai Jiaotong University

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title:Evaluation and control of the charge balance in battery energy storage systems <i>Associate Prof. Weiji Han, Shanghai Jiaotong University</i>
	13:25-13:40	145	Title:Mitigation Strategy of Sub/Supersynchronous Oscillation of PMSG Based on Additional Active Disturbance Rejection Controller Authors: <i>Siwen Jiang, Chongru Liu, Jianze Li</i>
	13:40-13:55	256	Title:Wind Power Smoothing Based on Time-Frequency Analysis of Wind Power Fluctuations Authors: <i>Xianjun Qi, Fuhua Zhang, Peng Wang, Yuting Hua, Xiwei Zheng</i>
	13:40-14:10	293	Title:Microgrid Pre-dispatch Considering Battery Low-temperature Characteristics Authors: <i>Jiayun Ding, Zaijun Wu, Qinran Hu</i>
	14:10-14:25	294	Title:Fuzzy Adaptive Power Control of Frequency Regulation of PV and Energy Storage System Authors: <i>Zhongwen Li , Long Wu, Zhiping Cheng, Dongqiang Jia</i>
	14:25-14:40	280	Title:Harmonic Suppression Strategies and Seamless Transfer Control between Grid-Connected and Islanding Modes in Renewable Energy System for Hydrogen Production Authors: <i>Tao Sun, Ziwei Yu, Dan Sun, Heng Nian, Tianqi Xia</i>

Session 37: New Energy Power System

Tencent Meeting ID: 879 250 208

Chairs: *Associate Prof. Da Xu, China University of Geosciences (Wuhan)*

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title:Optimal Utilization of Geothermal Energy for Multi-Carrier Energy Supplies <i>Associate Prof. Da Xu</i>
	13:25-13:40	62	Title:Stability Analysis based on Parameter Sensitivity for Large-Scale Renewable Energy Bases Considering Frequency Coupling Characteristic Authors: <i>Yongcan Wang, Xi Wang, Haipan Li, Heng Nian, Zhen Chen, Gang Chen</i>
	13:40-13:55	535	Title:A Deep Reinforcement Learning Voltage Control Method for Distribution Network Authors: <i>Peishuai Li, Jiawei Shen, Minghui Yin, Zaijun Wu, Yong Zhang</i>
	13:40-14:10	470	Title:LCC/MMC Coordinated Control Strategy Applied to DC Distribution Network Authors: <i>Mingming Shi, Ruihuang Liu, Chenyu Zhang, Yubin Pang, Xiaohui Qu, Wu Chen</i>
	14:10-14:25	46	Title:Impedance-Based Stability Analysis of LCC-HVDC Connected to Weak Grid Considering Frequency Coupling Characteristic Authors: <i>Xi Wang, Peng Shi, Yiming Liu, Heng Nian, Zhen Chen, Gang Chen</i>
	14:25-14:40	438	Title:Passivity-Based Harmonic Suppression Method of LCL-Type Inverter Output Current in Weak Grid Authors: <i>Te Peng, Qiqi Li, Qinshu Lu, Shanxu Duan</i>



Session 38: Power Electronics Devices, Packaging, and System Integration

Tencent Meeting ID: 512 499 048

Chairs: Associate Prof. Zhan Shen, Southeast University

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title:Parasitic impedance modeling of high frequency magnetics <i>Associate Prof. Zhan Shen, Southeast University</i>
	13:25-13:40	986	Title:Influence of Gate Resistance on Crosstalk of SiC MOSFETs Authors: <i>Hao Xu, Yumeng Cai, Peng Sun, Zhibin Zhao</i>
	13:40-13:55	1107	Title:Effect of power module layer thickness on reliability Authors: <i>yao zhao, Zheng liu, Zhiqiang Wang, Guofeng Li, Bing Ji</i>
	13:40-14:10	903	Title:Investigation on SiC MOSFET's Avalanche and Short-Circuit Failure Mechanism Authors: <i>Xianlong Zhao, Yifan Wu, Chi Li, Zedong Zheng, Tao Li, Xiaobin Liang</i>
	14:10-14:25	929	Title:Fault Diagnosis for Transformer Rectifier Unit on More-Electric Aircraft Authors: <i>Yi Xiang, Fei Liu, Zhaodi Li</i>
	14:25-14:40	456	Title:Analysis and adjust of temperature drift in current measurement based on hall sensor Authors: <i>Dejie Wei, Jianwen Wu, Kunyu Wang, Ruang Chen</i>

Session 39: Plasma Science Technology and Applications

Tencent Meeting ID: 584 636 526

Chair: Associate Prof. Yifei Zhu, Xi'an Jiaotong University

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited (1113)	Title: Study on the effects of floating particles on microplasma properties <i>Associate Prof. Yangyang Fu, Tsinghua University</i>
	13:25-13:40	626	Title: An Analysis of Sheath Development of Cathode during the Instability Stage of Vacuum Arc Authors: <i>JingJing Ye, Zhao Yuan, Kaijian Wu, Qilin Shi, LiMing Liu, Shan Liu, Yuan Pan</i>
	13:40-13:55	791	Title: 1D Simulation Research of Discharge Characteristics and Products on Low Pressure CO ₂ RF Capacitively Coupled Discharge Authors: <i>Yu Fei Wang, Qiang Fu, Zheng Shi Chang</i>
	13:40-14:10	1101	Title: Similarity Laws in Dual-frequency Capacitively Coupled RF Plasmas with Electrical Asymmetry Effect Authors: <i>Dong Yang, Xiaobing Zou, Yangyang Fu</i>
	14:10-14:25	518	Title: NAS-based Machine Learning Method for Solving Partial Differential Equations in Plasma Modelling Authors: <i>Yifan Wang, Linlin Zhong</i>
	14:25-14:40	965	Title: A particular solution of cylindrical rarefied plasma systems Authors: <i>Ming Lam, Zhibo Yuan</i>



Session 40: Power System Planning and Operation

Tencent Meeting ID: 470 584 725

Chair: *Associate Prof. sheng chen, Hohai University*

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title: Market-oriented Operation of Natural-Gas and Power Systems <i>Associate Prof. Sheng Chen, Hohai University</i>
	13:25-13:50	719	Title:Towards a More Resilient Restoration Process: PMRM Based Transmission Network Reconfiguration Strategy Authors: <i>Shaoyan Li,Hanguang Zhao, Youhao Zhang,Xueping Gu</i>
	13:50-14:05	400	Title:Linearized Frequency Deviation Based Frequency-Constrained Unit Commitment with Support from Wind Farm Authors: <i>Kun Li, Dong Liu,Pan Gu, Weidong Qiu, Jiakun Fang, Xiaomeng Ai</i>
	14:05-14:20	996	Title:Research on a new type of grid reactive power control strategy based on multi-station integration Authors: <i>Jianxiang Huang, Jinyun yu, Tuteng Chen, Feng Xu</i>
	14:20-14:35	880	Title:Two-stage Stochastic Unit Commitment for Systems With Renewable Energy Considering Demand-Side Resources and Carbon Emission Permits Authors: <i>Taishan Xu, Mengfu Tu, Yantao Zhang, Chang Ju,Ming Qu, Tao Ding</i>

Time		Invited/ID	Title
May 29	14:35-14:50	682	Title:Load recovery strategy based on mobile energy storage flexibility and distribution network reconfiguration Authors: <i>Chen Li, Yunli Wang, Rui Wang, Haiyang Liu, Xiaoli Tao, Hua Zhong, Peng Wang, Shiwei Xia</i>

Session 41: Power System Planning and Operation

Tencent Meeting ID: 946 562 367

Chairs: *Research Fellow, Yang Wang, Sichuan University*

Time		Invited/ID	Title
May 29	13:00-13:25	Invited	Title:Identifying Sources of Wide-band Oscillations in High Renewable Penetrated Power System <i>Research Fellow, Yang Wang, Sichuan University</i>
	13:25-13:40	707	Title:A Cluster-based power supply unit optimal division method with adjustable resolution Authors: <i>Yu Long, Jing Xu, Yiming Liu, Yan Li</i>
	13:40-13:55	713	Title:System Inertia Identification Based on PMU Authors: <i>Ling Zhou, Cong Li, Tiancheng Liu, Changkun Yang</i>



Time		Invited/ID	Title
May 29	13:55-14:10	724	<p>Title:A Robust Measurement-Based Error Signal based on Model Predictive Control for AGC system</p> <p>Authors:<i>Rui Chen, Deping Ke, Yuanzhang Sun, Jian Xu, Siyang Liao, Bo Wang, Zhe Zhang, Yuhui Wu</i></p>
	14:10-14:25	725	<p>Title:Static Voltage Stability Margin Evaluation Considering Stochastic Power Injection Based on Deep Reinforcement Learning Theory</p> <p>Authors:<i>Yi Yun, Tian Jun, Yi Zhang, Wen Zhe, Huang Ceng, Lin Ruan, Yi Chao, Wu Li, Xia Sun</i></p>
	14:25-14:40	744	<p>Title:Transformer Fault Diagnosis Based on Dissolved Gas Analysis in Oil and Ensemble Learning</p> <p>Authors:<i>Feng Ru, Lina Zhang, Xiaoqian Yang, Haoquan Zou, Yong Lu, Xianfeng Xu</i></p>

Session 42: Transportation Electrification

Tencent Meeting ID: 610 814 306

Chairs: *Associate Prof. Jinlin Gong, Shandong University*

Associate Prof. Wei Wang, Southeast University

	Time	Invited/ID	Title
May 29	13:00-13:25	Invited	Title: Design considerations of five-phase machine with double p/3p polarity <i>Jinlin Gong, Shandong University</i>
	13:50-14:05	272	Title: The Torque Elimination Control Strategy for Integrated Charging System of Electric Vehicle with Dual-Battery Authors: <i>Yiwei Wang, Jiadan Wei, Lei Guo</i>
	14:05-14:20	404	Title: Data-driven Energy Consumption Prediction of Electric Bus on a Given Route Authors: <i>Jinhui Li, Zhihan Li, Yudi Qin, Weichao Zhuang, Zhangcheng He, Jiachen Fu</i>
	14:20-14:35	452	Title: Electrothermally-Aware Multi-objective Modular Design: A Case Study on Series-Parallel Plug-in Hybrid Electric Vehicles Authors: <i>Kailong Liu, Ji Li, Chong Zhu, Tao Chen, Kang Li, Quan Zhou, Hongming Xu</i>
	14:35-14:50	1106	Title: Harmonic Analysis of V2G System Based on Integrated Filter Inductor Authors: <i>Haiwei Cai, Zhipeng Jiang, Ru Huang, Honghua Xu, Shaojun Liu, Jingzhou Xu</i>
	14:25-14:40	66	Title: Line-Side Converter for DC Voltage Matching Based on Multiplexing of Transformer Windings in Multisystem Locomotives Authors: <i>Lingshuai Kong, Jiazhu Xu, Jinwen Xiang, Nihan Tong</i>



Session 43: Advanced Electrical Machine System

Tencent Meeting ID: 626 520 863

Chairs: *Dr. Bo Wang, Southeast University*

Prof. Chun Gan, Huazhong University of Science and Technology

	Time	Invited/ID	Title
May 29	15:05-15:30	Invited	Title: Design and Control for High-Performance Reluctance Machine Drives <i>Prof. Chun Gan</i> Affiliate: <i>School of Electrical and Electronic Engineering, Huazhong University of Science and Technology</i>
	15:30-15:45	798	Title: Comparison of 2-Pole Slotted High-speed Motors with Toroidal and Tooth-coil Windings Authors: <i>Fan Xu, Tianran He, Ziqiang Zhu, Hong Bin, Di Wu, Liming Gong, Jintao Chen</i>
	15:45-16:00	239	Title: Comparative Study on the Performance of High-Speed IPM Motor with Single-layer PM for Electric Spindle Authors: <i>Shaoren Dai, Jiangtao Yang, Hongjun Liu, Hang Chen, Yaojing Feng, Shoudao Huang</i>
	16:00-16:15	469	Title: A new preliminary design method of switched reluctance motor to ensure the acceleration time of high-speed and large-inertia flywheel rotor Authors: <i>Ning Tao, Kexun Yu, Yukang Ding, Jiasong Wang, Xianfei Xie</i>
	16:15-16:30	856	Title: Comparative Study of Performance of High-Speed PM Machine with Different Materials Authors: <i>Hongli Xu, Yuntao Hua, Chen Wang, Zhuoran Zhang</i>

	Time	Invited/ID	Title
May 29	16:30-16:45	586	Title: Design of Ultra-High Speed Flux Switching Permanent Magnet Machine with Amorphous Alloy Core Authors: <i>Jiayue Zhou, Jiantao Wang, Mingrui Tang, Xi Xiao</i>
	16:45-17:00	Invited	Title: Influence of manufacturing errors on the design of ultra-high speed PM machines <i>Dr. Haiyang Fang</i> Affiliate: <i>Huazhong University of Science and Technology</i>

Session 44: Emerging Interdiscipline with Electrical Engineering

Tencent Meeting ID: 902 378 681

Chairs: *Associate Prof. Wang Long, University of Science and Technology Beijing*

Associate Prof. Long Huan, Southeast University

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: UAV-assisted Wind Turbine Counting with an Image-level Supervised Deep Learning Approach <i>Associate Prof. Wang Long, University of Science and Technology Beijing</i>
	15:15-15:30	752	Title: Research on Pantograph Condition Monitoring Based on Video Image Authors: <i>Wendi Ding, Jiangang Liu, Enlin Lv, Yongji Ma, Yongle Lin, Lijun Jin</i>



Time		Invited/ID	Title
May 29	15:30-15:45	553	Title: Object detection of UAV power line inspection images based on federated Authors: Keyu Liu , Linlin Zhong
	15:45-16:00	392	Title: Design and Application of Self-adaptive Withstand Voltage Test Electrode for Insulation Blanket based on Machine Vision Authors: Lin Nie , Rou Chen , Ying Xu , Yuqing Wang , Fei Liu
	16:00-16:15	730	Title: Infrared Image Segmentation Method of Current Transformer Based on DeepLabv3+ Network Authors: Tiancheng Zhao , Ying Yang , Jinhai Sang , Zhihao Xu , Jia Li
	16:15-16:30	1078	Title: Identification Method of Photovoltaic Roofs Based on High Resolution Images Authors: Peng Zhu , Xuan Yang , Kai Shen , Xia Wu , Huiliang Fan , Xin Tian

Session 45: High Voltage and Insulation Technology

Tencent Meeting ID: 836 501 902

Chairs: *Associate Prof. Xiaoyue Chen, Wuhan University*

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Failure analysis and countermeasure for abnormal heating of composite insulators <i>Associate Prof. Li Cheng, Chongqing University</i>
	15:15-15:30	393	Title: Experimental Study on Electrical Characteristics of Iced Glass Suspension Ground Wire Insulator Authors: <i>Lingzi Zhou, Zhenpeng Tang, Chengzhi Ma, Hai Zheng, Fangzheng Cheng, Zichen Liu, Fanghui Yin, Liming Wang</i>
	15:30-15:45	476	Title: Pollution flashover prediction of insulators based on combined probability density of infrared image temperature and leakage current Authors: <i>Kai Gao, Haoyang Tian, Maoxin Ren, Jianming He, Haifeng Jin, Lijun Jin</i>
	15:45-16:00	485	Title: Anti-icing performance and mechanism of hydrophobic cycloaliphatic epoxy resin modified by polysiloxane Authors: <i>Yuhao Liu, Li Yin, Min Xie, Liming Wang</i>
	16:00-16:15	529	Title: Experimental analysis of internal damp of gapless zinc oxide arrester Authors: <i>Shenghui Wang, Shuaitao Mao, Qi Ou, Qizhe Zhang</i>
	16:15-16:30	323	Title: Cable insulation defect diagnosis based on harmonic characteristic label Authors: <i>Qingzhu Wan, Xuejun Jin, Xingfu Yuan</i>



Session 46: High Voltage and Insulation Technology

Tencent Meeting ID: 756 445 189

Chairs: *Associate Prof. Yanan Wang, Xi'an Jiaotong University*

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Reliability Assessment based on Time Waveform Characteristics in Metric Space by Few-Shot Learnings <i>Dr. Kejie Li, Hefei University of Technology</i>
	15:15-15:30	860	Title: Effect of Silicone Grease Coating on Space Charge Characteristics of XLPE/SIR Interface Authors: <i>Dianjie Tong, Qiulin Zhao, Shaoli Zhang, Cong Wang, Renjie Cao, Youping Tu, Zhong Zheng</i>
	15:30-15:45	898	Title: The Pulsed Discharge within Bubbles in Dynamic PEF Treatment Chamber under Repetitive Pulses Authors: <i>Zhipeng Zhu, Guiquan Peng, Ruobing Zhang</i>
	15:45-16:00	913	Title: Multi-field Coupling Analysis of Core Vibration of Anode Saturated Reactor Authors: <i>Xuzhe Li, Jiaxin Yuan, Yuqing Ji</i>
	16:00-16:15	935	Title: Study on impulse aging characteristics of ZnO var-istor based on equivalent repeated charge transfer capability Authors: <i>Jie Zhang, Yongxia Han, Licheng Li, Junwen Deng, Gang Liu</i>
	16:15-16:30	946	Title: Comparative Study of Silicone Rubber and Fluorosilicone Rubber in Extremely Cold Environment Authors: <i>Shenghui Wang, Ximing Wang, Wenwen Zhang</i>

Session 47: High-efficiency Power

Tencent Meeting ID: 785 381 623

Chairs: *Dr. Guangfu Ning, Central South University*

Dr. Zhen Huang, Nanchang University

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Review of Dual Inverter Topologies for Motor Drive Applications <i>Dr. Zhen Huang, Nanchang University</i>
	15:15-15:30	415	Title: Performance Quantization and Comparative Assessment of Three Differential Power Processing Converters Authors: <i>Xue Wang, Huiqing Wen, Yinxiao Zhu</i>
	15:30-15:45	598	Title: Analysis and Comparison of Inductor Current Characteristics for Non-Inverting Buck-Boost Converter With Four-Mode Modulation Authors: <i>Yuning Bai, Zhengbin Zhu, Zhi Yang, Sideng Hu</i>
	15:45-16:00	914	Title: Digital Control Method of Synchronous Rectification for Bidirectional CLLC Converter Authors: <i>Lijun Hang, Zhimin Dan, Yuanbin He, Jingfei Gao</i>
	16:00-16:15	979	Title: Investigation on the Dual-frequency Fluctuation Suppression of Inductor Current in a Single-phase Single-stage Current-Source Inverter Authors: <i>Xuezhi Wu, Jingjing Qi, Wenzheng Xu, Liya Xiao, Xin Fang</i>
	16:15-16:30	387	Title: Transient DC Bias Elimination of Dual Active Bridge Based on Minimum RMS Current Authors: <i>Ziwei Liu, Zhaolong Sun, Baolong Liu</i>



Session 48: Integrated Energy System

Tencent Meeting ID: 227 163 956

Chairs: *Associate Prof. Chong Wang, Hohai University*

Associate Prof. Guangsheng Pan, Southeast University

	Time	Invited/ID	Title
May 29	15:05-15:30	Invited	Title: Power System Resilience:Proactive Response <i>Associate Prof. Chong Wang, Hohai University</i>
	15:30-15:55	Invited	Title: Application prospect analysis of hydrogen-related technology in the future energy system <i>Guangsheng Pan, Southeast University</i>
	15:55-16:10	358	Title: Techno-economic comparison of vortex-type and chimney-type solar updraft <i>power</i> -desalination integrated systems Authors: <i>Lu Zuo, Tian Zhou, Ling Ding, Bo Qu, Chang Xu, Yunting Ge.</i>
	16:10-16:25	430	Title: Study on the Influence of Windproof Cylinder on the Performance of Solar Vortex Power-desalination Integrated System Authors: <i>Lu Zuo, Ziyang Yan, Tian Zhou, Siheng Liu, Yuan Zheng, Yunting Ge.</i>
	16:25-16:40	508	Title: Frequency Regulation Strategies of BESS and Doubly-fed Variable Speed Pumped Storage Unit Under Multiple Operating Conditions Authors: <i>Bin Sun, Feng Wu, Keman Lin, Yang Li, Zizhao Wang, Hanchen Liu.</i>

Time		Invited/ID	Title
May 29	16:40-16:55	627	Title: Low Carbon Economic Dispatch of an Integrated Electricity-Heat-Gas Interconnected Energy System with Improved Stepped Carbon Trading Authors: <i>Guiyang Cui, Yonghui Sun, Xinye Du, Yi He, Pengpeng Wu, Wei Zhou.</i>
	16:55-17:10	751	Title: Flexibility Evaluation for Integrated Gas, Steam, and Electricity Systems of Steel Plants Authors: <i>Qiulin Wang, Xiandong Xu, Hongjie Jia.</i>



Session 49: Machine Drives and Controls

Tencent Meeting ID: 509 295 064

Chair: [Associate Prof. Jianyu Pan](#), Chongqing University

Time		Invited/ID	Title
May 29	14:50-15:15	Invited	Electrolytic capacitorless PMSM drives for home appliances application <i>Associate Prof. Hanlin Zhan, Harbin Institute of Technology (Shenzhen)</i>
	15:15-15:30	115	Title: Segmental PWM Variable Duty Cycle Control of Switched Reluctance Motor Based on Current Chopping Authors: <i>Wu Yuliang, Huang Chaozhi, Cao Wensheng, LixiangDai Lixiang</i>
	15:30-15:45	236	Title: Electrical Topology and Control of Four-wheel Hub Motor Pure Electric Vehicle Authors: <i>Bo Guo, Hui Wang, Tao Zhang, Yifei Wang</i>
	15:45-16:00	327	Title: A Neutral Point Voltage Control Strategy for NPC Three-level Converter Based on Reference Voltage Decomposition Method Authors: <i>Lianglong Peng, Lei Wang, Zhen Xie, Biyun Wang</i>
	16:00-16:15	604	Title: Design and Analysis of High Reliability Fault Tolerant Permanent Magnet Steering Motor Authors: <i>Xuefeng Jiang, Hongbo Liu, Siyuan Wang, Zixian Zhang, Kai Ma</i>
	16:15-16:30	706	Title: Low Computational Estimated Position Error Compensation and Phase-locked Loop Normalization for PMSM Sensorless Control Authors: <i>Ruijia Zhang, Qinfeng Hu</i>

Session 50: New Energy Power System

Tencent Meeting ID: 492 932 840

Chairs: [Associate Prof. Qiushi Cui](#) , Chongqing University

[Associate Prof. Zhao Yuan](#) , University of Iceland

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Distribution Grid Fault Detection at Its Infancy Stage: From Reactive to Proactive Associate Prof. Qiushi Cui , Chongqing University
	15:15-15:40	Invited	Title: Real-Time Control of Battery Energy Storage Systems to Provide Ancillary Services Considering Voltage-Dependent Capability of DC-AC Converters Associate Prof. Zhao Yuan , University of Iceland
	15:40-15:55	281	MPC Active and Reactive Coordinated Voltage Control Considering Adjustment Cost Chen Luo , Ziran Jin , ongbin Wu
	15:55-16:10	344	Cooperation-based DMPC Controller for Two-area Interconnected Power Grid with BESS Baocheng Fan , Shilin Liu , Chuanting Zhao
	16:10-16:25	224	Improved VSG Control Strategy for Wind Turbines Connected to Non-Synchronized Grid Under Commutation Failure Xiao Jin , Heng Nian , Chen Zhao , Zhuan Zhou
	16:25-16:40	481	A Fault Detection and Location Technique for Inverter-Dominated Islanding Microgrids Fangyuan Chang , Hongbo Sun , Shunsuke Kawano , Daniel Nikovski , Shoichi Kitamura , Wencong Su



Session 51: New Energy Power System

Tencent Meeting ID: 879 250 208

Chair: [Prof. Pengfei Zhao](#), Institute of Automation, Chinese Academy of Sciences

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Volt-VAR-Pressure Optimization for Multi-Energy Systems <i>Prof. Pengfei Zhao, Institute of Automation, Chinese Academy of Sciences</i>
	15:15-15:30	354	A Synchronization Stability Enhancement Control Method for 100% Converter-based System Based on An Improved Kuramoto Model <i>Yan Zou, Zhen Wang, Zhicheng Li, Jiali Xiong, Chaoping Deng, Qiang Cai</i>
	15:30-15:45	349	A Primary Frequency Control Strategy for the Hybrid PV-CSP System <i>Zhaoheng Wang, Keman Lin, Mingyao Lin, Canmin Wang, Xinrui Wang</i>
	15:45-16:00	29	Research on Multi-Objective Planning Method of New Energy Field Station Convergence Network Based on Co-evolution Algorithm <i>Jiheng Jiang, Zongxiang Lu, Jingyi Zhang, Danyang Yao, Shuai Wang, Haibo Li, Keteng Jiang, Qi Liu</i>
	16:00-16:15	184	Transient Voltage Stability Assessment of High Proportion Wind Power Transmission End Power Grid <i>Wang Changjiang, Li Shuguang, Zhong Shicheng, Fan Wei, Duan Fangwei</i>

Session 52: Power Electronics Devices, Packaging, and System Integration

Tencent Meeting ID: 512 499 048

Chairs: *Dr. Ke Ma*, Shanghai Jiaotong University

Dr. Zhixiang Zou, Southeast University

	Time	Invited/ID	Title
May 29	14:50-15:05	196	Title: A Multi-parameter Condition Monitoring Method for IGBT Bond Wire Authors: <i>Yangbo Li, Haodong Fu, Qi Li, Chunming Tu, Biao Xiao, Fan Xiao, Ping Liu, Bing Gao, Jiwu Lu</i>
	15:05-15:20	200	Title: Failure Mechanism Analysis of Bond Wire of High Power IGBT under Different Load Current Authors: <i>Haodong Fu, Yangbo Li, Qi Li, Chunming Tu, Biao Xiao, Fan Xiao, Ping Liu, Bing Gao, Jiwu Lu</i>
	15:20-15:35	797	Title: Design of a Nonintrusive Current Sensor with Large Dynamic Range Based on Tunneling Magnetoresistive Devices Authors: <i>Sen Qian, Hui Deng, Chuan Chen, Hui Huang, Yun Liang, Jinghong Guo, Zhengyong Hu, Wenrong Si, Hongkang Wang, Yunjia Li</i>
	15:35-15:50	926	Title: Study on the immersion oil cooling method of power module Authors: <i>Fengtao Yang, Chaohui Liu, Tianyu Wu, Guidong Xiu, Jinliang Shen, Liman Xiong</i>
	15:50-16:05	1073	Title: Modeling and Fault Characteristics of Grid-Interfaced Converters in Active Distribution Networks Authors: <i>Zhiren Liu, Jian Dai, Kai Chen, Xinrong Zhu, Jinghua Xie, Tianyu Fang</i>



Time		Invited/ID	Title
May 29	16:05-16:00	1085	Title: Differential Protection of Active Distribution Networks Based on 5G Communication Technology Authors: <i>Zhiren Liu, Limin Yu, Jinfeng Hu, Zhen Zhu, Jinghua Xie</i>

Session 53: Plasma Science Technology and Applications

Tencent Meeting ID: 584 636 526

Chairs: *Associate Prof. Shuqun Wu, Nanjing University of Aeronautics and Astronautics*

Time		Invited/ID	Title
May 29	14:50-15:15	Invited (119)	Title: Chemical Warfare Agents Decontamination via Microplasma Excited by a Triboelectric Nanogenerator <i>Prof. Ruixue Wang, Beijing University of Chemical Technology</i>
	15:15-15:30	189	Title: Cold plasma for post-surgical tumor treatment Authors: <i>Zhitong Chen</i>
	15:30-15:45	446	Title: Measurement of NO ₂ - penetration concentration in surface microdischarge treated model tissue, based on image processing technology Authors: <i>Bingkai Wang, Yuqi Wang, Zilan Xiong</i>

	Time	Invited/ID	Title
May 29	15:45-16:00	1049	Title: Surface modification of nitrile membranes by DBD plasma and their antibacterial properties Authors: <i>Lichen Rui, Juan Zhou, Hong Wang, Liangliang Lin</i>
	16:00-16:15	779	Title: Investigation for the degradation mechanism of avermectins exposed to non-thermal atmospheric plasma Authors: <i>Dong Naizhou, Zou Liang, Wang Xiaolong, Sun Ying</i>

Session 54: Power System Planning and Operation

Tencent Meeting ID: 470 584 725

Chair: *Prof. Quanrui Hao, Shandong University*

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Title: Small-signal models and control of MMC and MMC-based flexible HVDC grid under unbalanced grid conditions <i>Prof. Quanrui Hao, Shandong University</i>
	15:15-15:40	1162	Title: Simulation of indoor temperature and humidity control in intelligent greenhouse Authors: <i>YaShan Hu, Qun Zhang, Qiu Wang, Yan Li, DeCheng Wang</i>



Time		Invited/ID	Title
May 29	15:40-15:55	646	Title: A bi-level multi-objective planning method for microgrid with offshore wind power Authors: <i>Xinye Du, Yonghui Sun, Jianxi Wang, Yi He, Pengpeng Wu, Guiyang Cui</i>
	15:55-16:10	644	Title: Carbon Emissions Forecasting Based on Stacking Ensemble Learning Authors: <i>Qianmao Zhang, Ying Wang, Dongliang Qin, Kailin Zhao, Wanying Xie, Sheng Li, Lishen Wei, Xiaomeng Ai</i>
	16:10-16:25	1098	Title: A Novel Stochastic Optimal Scheduling Strategy for Wind-Solar-Pumped Storage Power System Considering Scenario Clustering Authors: <i>Zeyin Hou, Xiuyan Jing, Liantao Ji, Pu Wang, Huan Xie, Qi Qin</i>
	16:25-16:40	742	Title: Research on the Evaluation Framework of Renewable Energy Accommodation in Electricity Market Authors: <i>Chen Wu, Kaihui Nan, Jian Tan, Longpeng Ma, Wenjuan Niu, Guiyuan Xue, Chen Chen, Yixuan Lou</i>

Session 55: Power System Planning and Operation

Tencent Meeting ID: 946 562 367

Chair: *Dr. Yuanshi Zhang, Southeast University*

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Control and optimization of the MTDC grid <i>Dr. Yuanshi Zhang, Southeast University</i>
	15:15-15:40	748	Multi-agent active real-time voltage control at the edge of distribution network considering prediction uncertainty Authors: <i>Yu Jing, Gao Qiu, Youbo Liu</i>
	15:40-15:55	814	Applicability analysis of multi-infeed short circuit ratio in the small-signal stability analysis Authors: <i>Linan Qu, Yuhan Zhou, Hongying Zhang, Yi Hao, Huanhai Xin</i>
	15:55-16:10	815	A BEGS-SQP method to optimize the droop controller parameters in island microgrid Authors: <i>Daiyu Xie, Xin Wei, Yuyang Hu, Xinling Chen, Binbin Chen</i>
	16:10-16:25	968	Dispatch Potential Evaluation of Generalized Electric Vehicle Charging Stations Based on Traffic Flow Authors: <i>Zhao Liu, Xiaojun Wang, Chun Xiao, Yuqing Liu, Xihao Wang, Yao Li, Qingwen Han</i>
	16:25-16:40	992	State estimation of AC/DC distribution network based on pseudo measurement modeling of load distribution coefficient Authors: <i>Yuliang Cao, Oyunbaatar Bayartsog, Guoqiang Sun</i>

Session 56: Wireless Power Transmission

Tencent Meeting ID: 610 814 306

Chairs: *Dr. Jianghu Lu, Wuhan University of Science and Technology*

Prof. Xiaohui Qu, Southeast University

	Time	Invited/ID	Title
May 29	14:50-15:15	Invited	Title: Voltage and Current Transfer Characteristics of Wireless Power Transfer Systems <i>Jianghua Lu, Wuhan University of Science and Technology</i>
	15:15-15:30	432	Title: Analysis and Design of Wireless Power Transfer System for Robot Joints Authors: <i>Xiaotong Li, Wenjing Yue, Guorong Zhu, Jianghua Lu, Muye Pang, Kui Xiang</i>
	15:30-15:45	941	Title: Analysis and Design of Wireless Power and Information Synchronous Transmission System with Shared Coupling Channel Authors: <i>Yali Yang, Kai Ji, Bangyin Liu</i>
	15:45-16:00	776	Title: Comparison and analysis of pickup of new monorail-based wireless power transfer system Authors: <i>Yongping Yin, Beibei Song, Chunbo Zhu, Yifan Gao, Shuai Dong</i>
	16:00-16:15	799	Title: A Multiple Load CPT System with Independent-Load Output Voltage for Railway Applications Authors: <i>Zhulin Wang, Bo Luo, Yiming Zhang, Ruikun Mai</i>

Time		Invited/ID	Title
May 29	16:15-16:30	911	Title: Comparison of EMF Exposure Limits and Assessment for Electric Vehicle Wireless Power Transfer Authors: <i>Ni Li, Yanzhao Wang, Jiangong Zhang, Zheyuan Gan</i>

Session 57: Energy Internet

Tencent Meeting ID: 626 520 863

Chairs: Associate Prof. Lucheng Hong, Southeast University

Dr. Yifei Wang, Beijing Jiaotong University

Time		Invited/ID	Title
May 29	17:00-17:25	Invited	Resilience enhancement considering infrastructure interdependencies in Energy Internet <i>Dr. Ying Wang, Beijing Jiaotong University</i>
	17:25-17:40	888	Title: Research on Location Planning of Integrated Service Station of Integrated Energy System Authors: <i>Yongsheng He, Qian Zhou, Haoyu Wang, Yongchao Liu, Haibo Li, Keteng Jiang, Junhao Hou</i>
	17:40-17:55	892	Title: Research on Voltage Coordinated Control Strategy of Multi-port Energy Router Authors: <i>Pingkang Zheng, Tao Cai, Caihong Zhao, Qing Duan</i>



Time		Invited/ID	Title
May 29	17:55-18:10	163	Title:Fault-isolation method for smart DC distribution networks with multiple types of converters Authors: <i>Zhihui Dai, Shanshan Liu, Jian Zhao, Tong Wu, Xueyan Liu</i>
	18:10-18:25	633	Title:A Grouping Strategy and Day-ahead Scheduling Method of Electric Vehicles for Peak Shaving Authors: <i>Tian Gao, Xueliang Huang, Zexin Yang, Haowei Wang, Xin Wen, Qi Zhao, Hongen Ding</i>
	18:25-18:40	1086	Title:Optimization Strategy of STATCOM Control Parameters Based on Digital Twin Authors: <i>Xinyuan Shi, Han Liu, Wei Liu</i>

Session 58: Internet of Things (IoT) and Energy system

Tencent Meeting ID: 902 378 681

Chair: *Lihui Wang*

	Time	Invited/ID	Title
May 29	16:40-17:05	Invited	Title:TSO-DSO Coordination for Renewable Energy Integration into Power Systems <i>Prof. Rufeng Zhang, Northeast Electric Power University</i>
	17:05-17:20	338	Online DGA Sensor Calibration Using GANN and Data Augmentation <i>Hongcai Chen, Yang Zhang, Min Chen</i>
	17:20-17:35	1075	Title:Risk Assessment of Cyber Physical Power System considering Attack Model Authors: <i>Manli Li, Haibo Xu, Jianbing Xu, Zhao Ding, Qitao Liu, Zhaoyang Yin</i>
	17:35-17:50	458	Non-Intrusive Load Decomposition Based on Graph Convolutional Network <i>Jie Yuan, Ya Juan Qiu, Li hui Wang</i>
	17:50-18:05	1157	Edge-Based NILM System with MDMR Filter-Based Feature Selection <i>Qingshan Xu, Yan Liu, Kaining Luan</i>
	18:05-18:20	391	IoT Terminal Recognition Method Based on Linear Discriminant Spectral Analysis <i>Weihua Cheng, Chao Xu, Mingyuan Zhang, Shen Ji</i>



Session 59: High Voltage and Insulation Technology

Tencent Meeting ID: 836 501 902

Chair: *Associate Prof. Huan Yuan, Xi'an Jiaotong University*

	Time	Invited/ID	Title
May 29	16:40-17:05	Invited	Title:Optical sensing of moisture in oil for high voltage power transformers <i>Associate Prof. Jun Jiang, Nanjing University of Aeronautics and Astronautics</i>
	17:05-17:20	198	Title:Research on Approximate Fault Current Expression in Hybrid Multi-terminal HVDC Network During DC-Side Fault Authors: <i>Tao LI, Yongli LI</i>
	17:20-17:35	477	Title:Investigation Into Fault Acetylene in 1000 kV High Voltage Shunt Reactor Authors: <i>Hong Cai Chen, Yang Zhang, Min Chen</i>
	17:35-17:50	218	Title:Optimizing Method of Measuring Point Position of Transformer Core Vibration Sensor Authors: <i>Yuesong Liu, Xingguang Ma, Ping Ju, Zhaoyang Kang, Ran Zhu, Qingquan Li</i>
	17:50-18:05	312	Title:A New Technique for Detecting Partial Discharge of Micro Electrical Tree Defect Authors: <i>Zongheng Zhang, Shusheng Zheng, Ju Kong, Xiaohu Yan, Yan Zhao, Shiyu Wu</i>
	18:05-18:20	462	Title:Research on the Statistical Characteristics of the Discharge Inception Electric Field Strength of Gap Defect in Insulation pressboard Based on Three-parameter Weibull Model Authors: <i>Yijia Li, Chengyu Zhang, Xinru Yu, Junping Zhao</i>

Session 60: High Voltage and Insulation Technology

Tencent Meeting ID: 756 445 189

Chair: [Associate Prof. Lipeng Zhong](#), Hunan University

Time		Invited/ID	Title
May 29	16:40-17:05	Invited	High Voltage Metrology and High Voltage Proportional Standard Devices <i>Professoriate Senior Engineer , Feng Zhou, China Electric Power Research Institute</i>
	17:05-17:20	871	Title:Study on Electrical Treeing Characteristics of ERIP under High Temperature with Combined AC-Positive DC Voltage Authors: <i>Gaoyi Shang, Yuhang Shao, Ming Chen, Xuandong Liu</i>
	17:20-17:35	964	Title:Diffusion Motion Analysis of gas Molecules in Oil - paper Insulation System Based on Molecular Dynamics Simulation Authors: <i>Zhongyu Zhao, Guan Wang, Zihao Li, Hang Geng</i>
	17:35-17:50	1046	Title:Insulation repair of flashover damaged polymer using plasma spraying Authors: <i>Penghao Zhang, Yilong Mao, Liang Yu, Feiyu Wu, Shoulong Dong, Chenguo Yao</i>
	17:50-18:05	1059	Title:Analysis of the Influence of Transformer Harmonics Caused by DC Bias on Reactive Power Compensation Capacitor Banks Authors: <i>Ganlin Wang, Guoxin Zhang, Hongshun Liu, Dayang Yu, Qilin Wang, Long Chen</i>



Time		Invited/ID	Title
May 29	18:05-18:20	595	Title:PD characteristics and defect type recognition of "rapidly-developing" fault in oil-pressboard insulation Authors: <i>Yunjian Wu, Dalin Ding, Fujin Cai, Rui Fang, Peng Gao, Xiaoxing Zhang</i>

Session 61: High-efficiency Power

Tencent Meeting ID: 785 381 623

Chairs: Dr. Guangfu Ning, Central South University, Changsha, China

Prof. Zhen Huang, Nanchang University

Time		Invited/ID	Title
May 29	16:40-17:05	Invited	Title:Single-Stage Current-Fed ZCS Boost Module for MVDC Collection Converters <i>Dr. Guangfu Ning, Central South University, Changsha, China</i>
	17:05-17:20	1051	Title:Design of Optimized Gate Driver of SiC MOSFET for High-Frequency High-Power-Density CSI Authors: <i>Yinzhen Shen,Zheng Wang,Yang Xu</i> <i>Southeast University</i>

Time		Invited/ID	Title
May 29	17:20-17:35	251	Title:An Improved GWO Technique Integrated with P&O Algorithm for Photovoltaic System Considering Different Conditions in the Irradiance Authors: <i>Manliang Wang,Bingtuan Gao</i> <i>Southeast University</i>
	17:35-17:50	298	Title:Improved Current-type LC Parallel Resonant Converter Based on Energy Storage Application and Frequency Regulation Characteristics Authors: <i>Fu Li,Guoju Zhang,Wei Pei,Xu Liu,Mengchao Yang,Yunyi Wu</i> <i>Institute of Electrical Engineering, Chinese Academy of Sciences</i>
	17:50-18:05	388	Title:Research on LC series resonant high voltage capacitor charging power supply Authors: <i>He Zhao,Xuehua Wang,Yue Zheng,Hongfa Ding,Chuan Yao</i> <i>Huazhong University of Science and Technology</i>



Session 62: Integrated Energy System

Tencent Meeting ID: 227 163 956

Chairs: *Associate Prof. Suyang Zhou, Southeast University*

Associate Prof. Yang Li, Hohai University

	Time	Invited/ID	Title
May 29	17:10-17:25	Invited	Title: Dynamic Simulation for Integrated Energy System <i>Associate Prof. Suyang Zhou, Southeast University</i>
	17:25-17:40	Invited	Title: Coordinated day-ahead scheduling of combined wind-photovoltaic-hydropower multi-energy complementary systems <i>Associate Prof. Yang Li, Hohai University</i>
	17:40-17:55	772	Title: Optimal Capacity Configuration Method for CHP Island Microgrid Considering Carbon Emission Authors: <i>Lei Yang, Lihang Zhao, Xinqi Chen, Zhebo Zhang, Linbo Xu, Huimian Zhao, Ying Yu, Mengfei Xiu, Yuhe Fu</i>
	17:55-18:05	842	Title: Research on Topology Design and Configuration Optimization of Hybrid Energy Storage System Authors: <i>Zhicheng Wu, Junjie Zhu, Xingfa Sun, Yi Han, Jin Xu, Jingxin Yuan</i>
	18:05-18:20	853	Title: Stochastic Dynamic Programming based Energy Management of a Residential Cogeneration System Authors: <i>Xianlian Wang, Li Sun, Yisong Zhang</i>

Time		Invited/ID	Title
May 29	18:20-18:35	1146	Title:A Novel Calibration Method for Integrated Energy System Operation Optimization based on Hardware-in-Loop System Authors: <i>Chuanbao Liu, Suyang Zhou, Zhong Liu, Hengmen Liu, Xing Zhan</i>
	18:35-18:50	1150	Title:Portfolio of Wind-Photovoltaic-Loads Toward Green Hydrogen Development Authors: <i>Zhongfan Gu, Guangsheng Pan, Wei Gu</i>

Session 63: Machine Drives and Controls

Tencent Meeting ID: 509 295 064

Chairs: *Associate Prof. Jiyao Wang, Southeast University*

Time		Invited/ID	Title
May 29	16:40-17:05	Invited	Intelligent Multi-phase Motor Design and its Control <i>Senior Researcher, Wei Xie, Northwestern Polytechnical, University, Bundeswehr University Munich/ HaiXi Institutes, Chinese Academy of Sciences</i>
	17:05-17:20	260	Title:Self-optimizing Control Strategy of Conduction Angle for Doubly Salient Electromagnetic Generator to Minimize Excitation Current Authors: <i>Yang Xu, Bo Zhou, Kaimiao Wang, Lei Xiong</i>



Time		Invited/ID	Title
May 29	17:20-17:35	315	Title:Sensorless Control Strategy of Nine-phase PMSM Based on Piecewise Combination of Open-loop and Sliding Mode Observer Authors: <i>Zhenyu Wang, Xinzhen Wu, Haifeng Wang</i>
	17:35-17:50	614	Title:An Instantaneous Torque Model and the Practical Calculation Method for Permanent Magnet Synchronous Machines Authors: <i>Yu Zou, Jianyun Chai, Haifeng Lu, Xudong Sun</i>
	17:50-18:05	1142	Title:Electromagnetic Noise Analysis of the PMSM motor caused by Carrier Frequency of the Inverter Authors: <i>Peng Li, Dan Shi, Guangming Xie, Zhongqing Wu, Yunchong Wang</i>
	18:05-18:20	1163	Title:Design and Optimization of a 12Slot/11Pole-Pairs Linear Permanent Magnet Vernier Motor Authors: <i>Yi Shao, He Zhang, Baoquan Kou, Qingwen Ge</i>

Session 64: New Energy Power System

Tencent Meeting ID: 492 932 840

Chairs: [Associate Prof. Kaishun Xiahou](#), South China University of Technolog

	Time	Invited/ID	Title
May 29	16:40-17:05	Invited	Detection and mitigation of malicious cyber-physical attacks on power systems <i>Associate Prof. Kaishun Xiahou, South China University of Technology, School of Electric Power Engineering</i>
	17:05-17:20	960	Optimal Stepwise Inertial Control of Wind Turbine Based on Fuzzy Control and Deep Neural Network <i>Tao Zhou, Yalun Wang, Yan Xu</i>
	17:20-17:35	933	Delayed Complementation Control for Wind Turbines Participating in Primary Frequency Regulation <i>Yang Li, Zaiyu Chen, Qun Li, Minghui Yin, Yun Zou</i>
	17:35-17:50	889	A Three-Step Power Distribution Strategy for Microgrid Hybrid Energy Storage System Based on High-Order Sliding Mode Control <i>Jiangcheng Li, Hang Li, Feifei Bu</i>
	17:50-18:05	858	Losses Calculation in distribution networks considering the influence of power quality <i>Jiandong Duan, Fei Wang, Wenqiang Song, Shuai Fang</i>
	18:05-18:20	835	The impact of series compensation capacitor on the LCC-HVDC system stability <i>Shuying Yang, Xiong Du, Bo Zhang</i>



Session 65: New Energy Power System

Tencent Meeting ID: 879 250 208

Chair: *Dr. Xiaohe Yan*, North China Electric Power University

	Time	Invited/ID	Title
May 29	16:40-17:05	Invited	Title:Network Pricing with Investment Waiting Cost based on Real Options under Uncertainties <i>Dr. Xiaohe Yan</i> , North China Electric Power University
	17:05-17:20	168	An improved BP neural network method for Wind Power Prediction <i>Zhonghao Li, Ping Ma, Xin Wang, Jieyu Xu, Xiaodong Wan</i>
	17:20-17:35	1160	Adaptive-restarting EKF-Based Method for Online Identification of Sub-Synchronous Oscillation <i>Xi Chen, Xi Wu, Qingfeng Li, Qiang Li, Bixing Ren, Ke Xu</i>
	17:35-17:50	1097	Small-Sample Interval Prediction Model based on Transfer Learning for Solar Power Prediction <i>Runhao Geng, Huan Long, Wei Gu</i>
	17:50-18:05	1064	Reliability Analysis of Diamond-shaped Distribution Network under Large-scale Distribution generation integration Access <i>Ao Li, Zhi Wu, Mingze Zhang</i>
	18:05-18:20	1054	Impact of the VSG on SSR of Turbine Generator <i>Yang Yang, Zaijun Wu</i>
	18:20-18:35	1032	Introducing Fractional-order Controller to Load Frequency Control with Battery Energy Storage Considering Frequency Regulation Cost <i>Jiansheng Wu, Leijun Xiang, Liaoyuan Lin</i>

Session 66: Smart Energy Electrical Equipment

Tencent Meeting ID: 512 499 048

Chairs: *Associate Prof. Yueshi Guan, Harbin Institute of Technology, China*

Associate Prof. Yanbo Wang, Aalborg University, Denmark

	Time	Invited/ID	Title
May 29	16:40-17:05	Invited	Title:Insulator Embedded Energy Transfer System Based on Multiple Repeaters <i>Yueshi Guan, Harbin Institute of Technology</i>
	17:05-17:30	Invited	Title:Development of wind energy conversion system for offshore wind power generation <i>Yanbo Wang, Aalborg University</i>
	17:30-17:45	897	Title:Feature Extraction and State Identification of Transformer DC Bias Vibration Based on HHT-SVM Authors: <i>Linyu Li, Jingsong Li, Zhenzong Liang, Yushuai Qi, Guofeng Li, Nianfeng Zheng, Zhongqing Wang</i>
	17:45-18:00	428	Title:Research and design of 363kV circuit breaker at valve side Authors: <i>Yingying Liu, gang Xu, senran Li</i>
	18:00-18:15	884	Title:Analysis of Transformer Audible Noise Based on Redundant Convolutional Encoder Decoder Authors: <i>Zhenzong Liang, Jingsong Li, Yushuai Qi, Linyu Li, Guofeng Li, Nianfeng Zheng, Zhongqing Wang</i>
	18:15-18:30	961	Title:An adaptive electric power management system for the transmission line intelligent gateway Authors: <i>Chong Wang, Xinhui Zhong, Ziqi Zhou, Zengyang Liu, Yudi Zhou</i>



Time		Invited/ID	Title
May 29	18:30-18:45	1027	Title:A TMR based Current Measurement Sensor for HVDC Transmission System Authors: <i>Fan Yang, Chong Xu, Bangda Wei, Bangyan Wang, Youwen Zhang</i>

Session 67: Plasma Science Technology and Applications

Tencent Meeting ID: 584 636 526

Chairs: *Dr. Qingqing Gao, Xi'an University of Technology*

Time		Invited/ID	Title
May 29	16:40-17:05	Invited	Title:Accelerate Plasma Simulation by Combining Deep Neural Networks and Runge-Kutta Formalism <i>Associate Prof. Linlin Zhong, Southeast University</i>
	17:05-17:20	792	Title:Synthesis of Carbon Quantum Dots by Gas-liquid Plasma Using Ethanol as Precursor Authors: <i>Jing Gao, Yaxuan Shi, Jiaye Wen, Aizhao Pan, Yuan Li, Guanjun Zhang</i>
	17:20-17:35	686	Title:Research on the method of enhancing the hydrophobicity of planar and cylindrical-curved ceramic by atmospheric pressure plasma jet Authors: <i>Zhenbo Xu, Xinglei Cui, Yangyang Zhou, Zhi Fang</i>

Time		Invited/ID	Title
May 29	17:35-17:50	1007	Title:Rapid Treatment with Pulsed Gliding Arc Plasma in Ambient Air to Increase the Hydrophobicity of Silicone Rubber for Electrical Insulators Authors: <i>Bangdou Huang, Jianben Liu, Yan Liu, Jiachuan Yu, Cheng Zhang, Tao Shao</i>
	17:50-18:05	700	Title:Suspended Particle Purification by Negative Corona Discharges of Multi-needle Electrode Authors: <i>Huifen Huang, Yuesheng Zheng, Tongtong He</i>

Session 68: Power System Planning and Operation

Tencent Meeting ID: 470 584 725

Chairs: *Dr. Tao Zhou*, Nanjing University of Science and Technology

Time		Invited/ID	Title
May 29	16:40-17:05	Invited	Title:Inertial Resource Analysis and Support Ability Estimation of New Power Systems <i>Dr. Tao Zhou, Nanjing University of Science and Technology</i>
	17:05-17:30	1089	Title:Hierarchical Aggregation and Scheduling Potential Analysis for Residential Flexible Loads Authors: <i>Junjun Xu,Xiang Zhang,Haijiao Liu,Tengfei Zhang</i>



Time		Invited/ID	Title
May 29	17:30-17:45	638	Title:An Importance Ranking Method of Distribution System Component based on Triangular Fuzzy Number Authors: <i>Dingmao Zhang, Ju Ma, Gengfeng Li, Yaojing Tang, Zhaohong Bie, Zili Guo, Lieqian Gong, Yang Zheng</i>
	17:45-18:00	1132	Title:Distributed Secondary Control for Dynamic Microgrids for Seamless Topology Switching Authors: <i>Yanchun Mao, Zhe Chen, Zhihao Li</i>
	18:00-18:15	1109	Title:Simulation Study on Dynamic Reactive Power Demand Characteristics after Commutation Failures of an HVDC Transmission System Authors: <i>Jiale Hong, Liang Qin</i>
	18:15-18:30	48	Title:An online decision-making method for the overload preventive control of transmission equipment based on the control objects relaxation Authors: <i>Ye Wang, Wei Xu, Chunming Wang, Xiaotong Xu, Tianran Li</i>

Session 69: Power System Planning and Operation

Tencent Meeting ID: 946 562 367

Chair: *Associate Prof. Junjun Xu, Nanjing University of Posts and Telecommunications*

	Time	Invited/ID	Title
May 29	16:40-17:05	Invited	Title: Robust Self-healing control framework for Urban distribution networks <i>Associate Prof. Junjun Xu, Nanjing University of Posts and Telecommunications</i>
	17:05-17:30	Invited	Title: Situational awareness for distribution systems with high renewable energy penetration <i>Associate Prof. Manyun Huang, Hohai University</i>
	17:30-17:45	450	Title: A method for detecting a novel stealthy profit-oriented cyber attack Authors: <i>Ruotong Wang, Yongfeng Mao, Chunyu Chen, Mingjian Cui, Kaifeng Zhang</i>
	17:45-18:00	84	Title: A Cooperative Scheduling Strategy of Renewable Energy and Electric Vehicle Considering Reactive Power Response Authors: <i>Jun Li, Yuanyuan Li, Yuqi Wang, Ziyu Zhang, Xiaosheng Zhang, Tao Ding</i>
	18:00-18:15	967	Title: Optimal configuration for battery energy storage system assisting thermal unit in primary frequency regulation: A practical application Authors: <i>Hengjie Li, Yongjun Feng, Yang Du, Xingwang Chen, Zhongguang Yang, Yipu Li, Donghan Feng, Yun Zhou</i>



	Time	Invited/ID	Title
May 29	18:15-18:30	875	Title:A Stochastic Security-Constrained Unit Commitment Model Considering Uncertain Dynamic Capacity-Increase of Transmission Lines Authors: <i>Taishan Xu, Mengfu Tu, Yantao Zhang, Hongji Zhang, Ouzhu Han, Tao Ding</i>
	18:30-18:45	1152	Title:Mechanism Analysis of the Stator Inter-turn Short Circuit Fault of New Synchronous Condenser Authors: <i>Xiaohu Wang, Chuan Sun, Yajie Jing, Xiyang Li, Chengbo Li, Ming Cheng</i>

Session 70: Wireless Power Transmission

Tencent Meeting ID: 610 814 306

Chairs: *Prof. Yi ming Zhang, Fuzhou University*

Associate Prof. Chenwen Cheng, Southeast University

	Time	Invited/ID	Title
May 29	16:40-17:05	Invited	Title:Free Positioning Wireless Charging for Consumer Electronics based on Antiparallel Windings <i>Yiming Zhang, Fuzhou University</i>
	17:05-17:20	204	Title:Multi-level Staircase Signal Based Quadrature Phase Detection for Fundamental Power Angle Acquisition of BIPT Systems Authors: <i>Shuran Jia, Shanxu Duan</i>

	Time	Invited/ID	Title
May 29	17:20-17:35	705	Title:Power Control Method for LCC-LCC Wireless Power Transmission Without Communication Authors: <i>Wanjing Li, Kai Ji, Zimin Shao, Bangyin Liu</i>
	17:35-17:50	887	Title:A parametric modeling method for planar coil design in wireless power transfer Authors: <i>Jing xiao, Liqun Yin, Haonan Xie, Renhao Huang, Dongdong Zhang, Thomas Wu</i>
	17:50-18:05	255	Title:Suppressing Secondary Magnetic Field Radiation for IPT System Using Dual Detuned Receiving Loops Authors: <i>Ying Luo, Yi Song, Chenyan Zhu, Ruikun Mai</i>
	18:05-18:20	278	Title:Two-Dimensional Free Positioning Wireless Charging System Based on Tilted Long-Track Transmitting Coil Array Authors: <i>Yiming Zhang, Yuanchao Wu, Wenbin Pan, Hui Wang, Zhiwei Shen, Xin Li</i>



Industry Forum

Meeting Room ID: 365 786 753

Chairs: Associate Prof. Lucheng Hong, Southeast University

Time		Invited/ID	Title
May 29	9:00-9:30	Invited	Realtime Simulation Based on FPFA <i>Prof. Chongru Liu</i> North China Electric Power University
	9:30-10:00	Invited	Large-scale EMT Simulation Technology of New Power System <i>Xing Zhang</i> China Electric Power Research Institute
	10:00-10:30	Invited	Real-time Simulation Technology and Application for Key Control and Protection System in AC/DC Hybrid Power System <i>Qi Guo</i> Electrical Power Research Institute of CSG
	10:30-11:00	Invited	Discrete State Event-driven Modelling and Simulation Approach for Power Electronics System <i>Bochen Shi</i> Tsinghua University
	11:00-11:30	Invited	Modular Power Electronics Research Platform Based on Model Design <i>Weigang Gu</i> Nanjing Rtunit Information Technology Co., LTD
	11:30-12:00	Invited	Simulation Route of New Energy Industry Based on Carbon Neutrality and Emission Peak <i>Deju Wang</i> Ansys China

Student Forum

Tencent Meeting ID: 365 786 753

Chairs: *Fei Zhang, Southeast University*

Xiangjun Quan, Southeast University

	Time	Invited/ID	Title
May 29	14:00-14:15	Invited 73	Title: Finite Element Study on Electric Field Distortion and Maxwell Stress Distribution Characteristics of XLPE Insulation Considering Water tree under Different Conditions Authors: <i>Jiaming Liang, Shiyong Hou, Fan Yang</i>
	14:15-14:30	Invited 210	Title: Carbon-aware Integrated Energy System Operation with Demand Response Authors: <i>Linwei Sang, Yinliang Xu, Wai Kin Victor Chan, Zixuan Wei</i>
	14:30-14:45	Invited 450	Title: A Method for Detecting a Novel Stealthy Profit-Oriented Cyber Attack Authors: <i>RuotongWang, Yongfeng Mao, Chunyu Chen, Mingjian Cui, Kaifeng Zhang</i>
	14:45-15:00	Invited 536	Title: Angular Dependence of Critical Currents for HTS Tapes in Wide Temperature Range and Large Magnetic Fields Authors: <i>Jianfa wu, Yaxiong Tan, xin li, shushan luo, Yindun Hei</i>
	15:00-15:15	Invited 673	Title: Magnetic-Structural Coupled Simulation of Power Transformer Winding Cumulative Effect Authors: <i>Xiaoqing Lin, Jun Liu, Feng Wang, Wenhao Ai, Zhongxiang Li, She Chen</i>



Time		Invited/ID	Title
May 29	15:15-15:30	Invited 679	Title: Auxiliary Decision-making Method for Reactive Power Compensation Configuration of AC Grid-connected Offshore Wind Farm Authors: <i>Yonggao Guan, Yi Tang</i>
	15:30-15:45	Invited 792	Title: Synthesis of Carbon Quantum Dots by Gas-liquid Plasma Using Ethanol as Precursor Authors: <i>Jing Gao, Yaxuan Shi, Jiaye Wen, Aizhao Pan, Yuan Li, Guanjun Zhang</i>
	15:45-16:00	Invited 835	Title: The Impact of Series Compensation Capacitor on the LCC-HVDC System Stability Authors: <i>Shuying Yang, Xiong Du, Bo Zhang</i>
	16:00-16:15	Invited 1050	Title: Windage Loss and Torque Ripple Reduction in Stator-permanent Magnet Flux-switching Machines Authors: <i>Zhiheng Zhang, Wei Hua, Wenfei Yu, Peixin Wang, Mingjin Hu, Gan Zhang</i>
	16:15-16:30	Invited 1144	Title: Comprehensive Energy Consumption Assessment Based on Industry Energy Consumption Structure Part II: Assessment and Forecasting of Energy Consumption in Key Industries at Zhejiang Authors: <i>Yujia Zhang, Siyu Zheng, Suyang Zhou</i>

Poster Presentations

Advanced Electrical Machine System

Chairs: *Associate Prof. He Zhang, Harbin Institute of Technology*

Prof. Guanghui Du, Xi'an University of Science and Technology

ID	Title & Authors
175	Title: Influence of Waterway Blockage Fault on Temperature Distribution of Stator Transposition Winding Authors: <i>Xu Bian, Shijie Bao</i>
195	Title: Cogging Torque Reduction in A Transverse-flux Flux-reversal Permanent Magnet Motor Authors: <i>Xiaobao Yang, Bo Luo, Yu Zhou, Baoquan Kou, Hong Miao</i>
866	Title: A Novel Dual-layer Variable Flux Memory Machine with Asymmetric-PM Design Authors: <i>Wei Liu, Hui Yang, Heyun Lin</i>
1161	Title: Characteristics analysis for Axial-flux Permanent Magnet Eddy Current Brake with Slotted Disc Authors: <i>Mengyao Wang, Baoquan Kou, Lu Zhang, Jian Xu</i>
722	Title: A double-magnetic-bridge based brushless hybrid excitation synchronous machine for ship propulsion Authors: <i>Jinya Chen, Kan Liu, Wei Hu, Yanghua Qu, Yangce Geng</i>
1151	Title: Equivalent analysis of Stator Inter-Turn Fault in Different Winding Topologies of Synchronous Condenser Authors: <i>Chuan Sun, Songmei Xu, Bing Gu, Yu Zhang, Weijie Tian, Ming Cheng, Chao Wei</i>



ID	Title & Authors
51	Title: A new on-line location method of inter-turn short-circuit fault in hydro-generator rotor winding based on the harmonic phase of unbalanced current Authors: <i>Tiandao He, Liangliang Hao, Jianlin Chen</i>
172	Title: Study on Electromagnetic Force Characteristics of Asymmetric 8-Figure Coils in EDS System Authors: <i>Yukang Gao, Rong Wei, Jin Wang, Qiongquan Ge, Yanxi Zheng</i>
306	Title: Three-Voltage Vector Model Predictive Torque Control Strategy for Open-Winding PMSM Under Variable DC Bus Voltage Condition Authors: <i>Jiayang Xu, Jiadan Wei, Wenjie Tao</i>
355	Title: Design and Optimization Analysis of Double-Stator Bearingless Flux Switching Permanent Magnet Motor Authors: <i>Liang Tongwei, Zhou Yangzhong</i>
721	Title: Optimization and Evaluation of A Reverse-salient Permanent Magnet Synchronous Motor Authors: <i>Xiaokun Zhao, Baoquan Kou, Changchuang Huang</i>
756	Title: Iron Loss Calculation Based on Loss Surface Hysteresis Model and Its Verification Authors: <i>Wei Li, Xing Fan, Yongle Sun, Lixun Zhu</i>
800	Title: Optimal Design of Hybrid Stator Pole Type Bearingless Switched Reluctance Motor with Simulated Annealing Particle Swarm Optimization Algorithm Authors: <i>Zhenyao Xu, Qingguo Yu, Yue Zhang, Huijun Wang, Tiehang Yi</i>
812	Title: Implementation of an On-line Diagnosis Algorithm of PMSM Inter-turn Short Circuit Based on Search Coil and FPGA Authors: <i>Yuan Cheng, Yousu Sun, Bochao Du, Shumei Cui</i>
868	Title: Study on the Influence of Rotor Eccentricity on the Characteristics of Hybrid Stator Pole Bearingless Switched Reluctance Motor Authors: <i>Zhenyao Xu, Zhuhua Zhou, Hao Wang, Huijun Wang, Tiehang Yi, Zhihua Zhang</i>
879	Title: Study on Influence of Magnetic Properties of Ultrathin Unoriented Silicon Steel Sheet in Service Authors: <i>Ye Rong, Baozhi Liu, Guanglong Wang, Qingyi Kong, Zhendong Sun, Yanxia Li</i>

ID	Title & Authors
60	Title: A Stator Design of Traveling-Wave Ultrasonic Micromotor Authors: <i>Jinxuan Xie, Tong Zhou, Haojiang Tang, Yan Su, Yan Zhou, Hao Wang</i>
67	Title: Research on parameter identification method of asynchronous motor considering load characteristics Authors: <i>Yisen Sun, Zhongjian Kang, Jiakuan Liu</i>
295	Title: Short-term Load Forecast Using Improved Long-short Term Memory Network Authors: <i>Xiaoquan Chu, Yunpeng Gao, Yu Qiu, Mingxuan Li, Hang Fan, Mengjie Shi, Chaoliang Wang, Ruoyun Hu</i>
345	Title: Analytical Optimization of Surface-Inset Machines With Eccentric Three-Piece Halbach Magnets Authors: <i>Youyuan Ni, Kang Chen, Zhiwei Qiu</i>
417	Title: Research on the Influence of Slot-Pole Combination on the Performance of Quadruped Robot Joint Motor Authors: <i>Yuke Cao, Guorong Zhu, Xingting Ren, Jianghua Lu, Muye Pang, Kui Xiang</i>
504	Title: Full-Speed Sensorless Control Strategy for Permanent Magnet Synchronous Motor Authors: <i>Le Zhang, Jiadan Wei, Yiwei Wang</i>
549	Title: Design and analysis of a novel flux-intensifying flux-controlled permanent magnet motor Authors: <i>Wenrui Wang, Xiping Liu, Dabin Liu, Siting Zhu</i>
695	Title: Hybrid Modeling Method for Thermal Analysis of Hairpin Winding Permanent Magnet Machine Authors: <i>Ling Ding, Yuan Cheng, Xiaowei Ju, Shumei Cui</i>
717	Title: Comparative Analysis of Coreless Multidisc Axial Flux Permanent Magnet Motors for Electric Propulsion System Authors: <i>Changchuang Huang, Baoquan Kou, Xiaokun Zhao</i>
784	Title: Modeling and Simulation of a New Hybrid Transformer for Metro Traction Power Supply System Authors: <i>Congzhuang Wang, Yunkai Huang, Feng Hou, Kunpeng Li</i>



ID	Title & Authors
916	Title: Thermal Field Study of Induction Rotary Transformer Based on Electric-thermal Coupling Theory Authors: <i>Hui Zhong, Yuheng Zuo</i>
656	Title: Study on the effect of changing stator structure on wind permanent magnet eddy current heating device Authors: <i>Jiixin Yuan, Nuochun Liu, Weizhe Zhang</i>
732	Title: Heavy Rare Earth Doped Nd-Fe-B Permanent Magnetic Material Performance Enhancement Methods and Their Motor Applications Research Authors: <i>Xiaoyue Luo, Qingquan Qiu, Dong Zhang, Liwei Jing, Pu Huang, Shiqi Jia</i>
1147	Title: Operation Analysis and Torque Performance Optimization of a Novel Self-aligning Limited-Angle Vibration Torque Machine Authors: <i>Hanlin Zhan, Yiyang Xu, Huajie He, Di Wu, Wenjie Chen, Dianguo Xu</i>
190	Title: A Permanent Magnet Synchronous Linear Motor ADRC Position Control Algorithm Research Authors: <i>Rongtao Zeng, Jinghong Zhao, Chuibing Huang, Anming Ding</i>
217	Title: Design and Development of High-Speed and High-Power Drive Motor for Heavy Commercial Vehicle Authors: <i>Weifeng Kong, Wenchao Wu, Shengtao Huang</i>
246	Title: Analysis on Levitation Force Characteristics of Axial-Flux Hybrid-Excitation Generator for Offshore Vertical Axis Maglev Wind Turbine Authors: <i>Jiming Chen, Qiang Zhang, Jing Liu, Yong Li, Chongwang Xu, Jingnan Zhu</i>
538	Title: Dual-Redundancy Permanent Magnet Synchronous Motors Phase-to-Phase Short Circuit Fault Diagnosis Authors: <i>Jingyi Pan, Qixun Zhou, Pei Wang, Pingan Ma, Fan Liu</i>
578	Title: Mathematical Model of 12/14 Hybrid Stator Pole Type Bearingless Switched Reluctance Motor Based on Maxwell Stress Tensor Method Authors: <i>Zhenyao Xu, Cheng Huang, Siyang Yu, Huijun Wang, Tiehang Yi, Zhihua Zhang</i>
824	Title: Optimization of Switched Reluctance Motor Integrated Power Converter with Multiple Operating Modes Authors: <i>Huiqin Sun, Wanqing Zhang, Sifei Wang</i>

ID	Title & Authors
942	Title: Real-time simulation of PMSG based on FPGA Authors: <i>Yibo Shi, Chongru Liu</i>
955	Title: Analysis of Excitation Magnetic Field of Air-cored Superconducting Linear Synchronous Motor for EDS Train Authors: <i>Baoqun Kou, Qingwen Ge, Lu Zhang, Yanqing Zhang, Zhihua Zhang, Xiufang Du</i>
1014	Title: Electromagnetic Performance Analysis of a Flux Reversal Permanent Magnet Linear Machine Authors: <i>Jilong Zhao, Qingfeng Han, Zhuolin Lu, Lixuan Wang, Lei Wang</i>
1042	Title: Analytical Optimization of Surface-Inserted Machines With Double-Layer Halbach Magnets Authors: <i>Youyuan Ni, Junxia Du, Liang Zhang</i>
971	Title: Optimization Design of the Fourth-Generation Prius' Model Based on Different High-strength Silicon Steel Authors: <i>Yulin Li, Anqi Wang, Hang Zhang, Ruilin Pei</i>

Machine Drives and Controls

Chair: [Associate Prof. Le Sun](#), Nanjing University of Science and Technology

ID	Title & Authors
42	Title: An Improved Control Strategy Based On Sliding Mode Observer for Sensorless PMSM Drives Authors: Jun Sun , Mingxing Gu , Menxi Xie , Yong Yang , Mingdi Fan
99	Title: A Remedial Method Based on Field-Oriented Control for Five-Phase PMSM Under Single-Phase Open-Circuit Fault Authors: Jianhua Li , Bochao Du , Tianxu Zhao , Yuan Cheng , Shumei Cui
116	Title: Adaptive Torque Sharing Function Control Strategy of Switched Reluctance Motor Based On Neural Network Authors: Cao Wensheng , Huang Chaozhi , Wu Yuliang , Xie Wei
121	Title: Research on Predictive Control Method of an Induction Machine Fed by a Matrix Converter Authors: Ling Mao , Ken Chen , Haihua Li , XiaoLing Chen
133	Title: Repetitive Control-Based Torque Ripple Reduction Method for SRM Drive Authors: Yiyi Wu , Shuanghong Wang , Longchun Li , Miao He , Cheng Zhong
158	Title: Robust Model Predictive Current Control for SPMSM Drives Authors: Xiaoguang Zhang , Ziwei Wang
164	Title: Research on SVM-DTC Control Strategy of PMSM Based on Super-Twisting Sliding Mode Active Disturbance Rejection Control Authors: Zhihong Hu , Han Gao , Haiming Du , Mingjie Fan
182	Title: A Switching Control Method Based on Three-vector MPC Authors: Xiaoguang Zhang , Ji Li
183	Title: Model Predictive Control for Open Winding PMSM with Variable Dead-Zone Time Authors: Xiaoguang Zhang , Chenguang Zhang

ID	Title & Authors
188	Title: Four-segment Deadbeat Control for PMSM Drive with Dead-time Compensation Authors: <i>Xiaoguang Zhang, Xu Gao</i>
193	Title: Establishment of nonlinear kinematics model and parameter identification of macro-micro composite actuator Authors: <i>Caofeng Yu, Yu Wang, Zhihao Xiao, Gan Wu, Yongyong Duan, Zhuo Chen</i>
201	Title: Switch Duty Cycle Based Model Predictive Control for Hybrid-Inverter Driven Open-Winding PMSM System Authors: <i>Weihuang Ke, Chen Zhao, Dan Sun</i>
208	Title: Robust Model Predictive Current Control for PMSM Control System Authors: <i>Xiaoguang Zhang, Zheng Liu</i>
243	Title: Highly Efficient Three Level Sparse NPC Inverter for Ultra-High-Speed PMSM Authors: <i>Aleksandr Sheianov, Xi Xiao</i>
301	Title: Control of Permanent-Magnet Synchronous Motor Based on Linear Hall Device Authors: <i>Xiangdong Liu, Lufan Deng, Yuan He, Jing Zhao</i>
316	Title: Analytical Calculation and Experimental Measurement of Dq Inductance of Permanent Magnet Synchronous Motor Authors: <i>Menglin Zhang, Xinzhen Wu</i>
380	Title: Active Current-Limiting Control Based DC Fault Ride-Through of Full-Bridge MMC Authors: <i>Ye Zhang, Lei Huang, Jian Qiu, Wenfeng Yao, Wei Liu, Dongyang Cai</i>
389	Title: Torque Estimation Base on Quasi-Direct Drive Actuators Authors: <i>Hao Xiang, Kui Xiang, Yun Fang, Muye Pang, Biwei Tang, Jing Luo, Guorong Zhu</i>
401	Title: Switch State Optimization of Doubly Salient Electromagnetic Motor Based on Torque Closed-loop Control Authors: <i>Jingcheng Huang, Bo Zhou, Lei Xiong</i>



ID	Title & Authors
403	Title: Research on Position Sensorless Control of Doubly Salient Electromagnetic Generator Based on Phase Flux Authors: <i>Minghui Zhang, Bo Zhou, Xiaodong Yu</i>
433	Title: An Improved Position and Speed Estimation Scheme for Permanent Magnet Synchronous Motor with Low-cost Hall Sensors Authors: <i>Hanbing Dan, Suicheng Zeng, Yonglu Liu, Yao Sun, Mei Su</i>
437	Title: A Sinusoidal Current Control Method for SPMSM Considering Uneven Demagnetization Fault Authors: <i>Zekai Lyu, Lijian Wu, Haolan Zhan, Yidong Du</i>
441	Title: Sensorless Control of Segmented Long Stator PMLSM Based on Inductance Disturbance Compensation Authors: <i>Shijiong Zhou, Yaohua Li, Liming Shi</i>
455	Title: Deadbeat Active Disturbance Rejection Controller for the Current Control of Electric Drives in the Presence of Two-step Delay Authors: <i>Benxiang Zhang, Yuefei Zuo, Li Quan, Xiaoyong Zhu</i>
457	Title: Rotor Position Estimation of Three-stage Synchronous Machine Based on Quadrature Signal Authors: <i>Junhao Yu, Jiadan Wei, Junjie Wang</i>
468	Title: Six-phase cylindrical linear induction motor with high-frequency vibration suppression and experimental study Authors: <i>Ding Anmin, Huang Chuibing, Sun Zhaolong, Xu Jin, Zeng Rongtao, Mao Yinhao, Jia Guangyong, Luo Heng</i>
484	Title: A Weighted Deep Learning Model with Sampling Strategy for Unbalanced Bearing Condition Assessment Authors: <i>yilin Chen, xudong Song</i>
503	Title: A Weighting Factor Semi-Online Tuning Method based on Correlation Look-up Table for Model Predictive Torque Control on PMSM of EV Authors: <i>Yao Wei, Dongliang Ke, Hanhong Qi, Fengxiang Wang</i>
531	Title: Model Predictive Control of Current-Source-Inverter-Fed PMSM Drives with Field-Weakening Ability Authors: <i>Yongjiang Li, Donglei Liu, Zhen Li, Zhenbin Zhang</i>

ID	Title & Authors
544	Title: Comparative Study of Four-Phase Flux Modulated Doubly-Salient Reluctance Motors With Different Winding Polarity Configurations Authors: <i>Zhiyue Yu, Chun Gan, Kai Ni, Ronghai Qu</i>
579	Title: An Open-circuit Fault Diagnosis based on Virtual Current Coefficients for Power Converter of Doubly Salient Electro-Magnetic Motor Authors: <i>Weiqian Chen, Bo Zhou, Yijun Zhang</i>
584	Title: Terminal Sliding-Mode Observer for PMSM with Resistance Identification Authors: <i>Minghao Zhou, Dong Wang, William Cai, Wei Xu, Yong Feng, Ying Chi</i>
628	Title: Fault-Tolerance Capability Comparison of Different Connection Types for Dual-Three Phase Motors Authors: <i>Jiuqing Cai, Rui Li, Peng Li, Song Shi</i>
636	Title: Model Predictive Current Control for PMSM Drives With Calculation Delay Compensation Authors: <i>Yujia Zhuang, Quankai Du, Wenjie Huang, Zhixin Wang, Rongkun Wang</i>
639	Title: Complex Feedforward Compensation for Current Control of Ultra-High-Speed PMSM Authors: <i>Aleksandr Sheianov, Xi Xiao</i>
642	Title: The Vector Control Strategy And The Copper Loss Optimization Under Unity Power Factor Control of Sinusoidal Doubly Salient Electro-magnetic Machine Authors: <i>Huaidong Peng, Bo Zhou, Xiaodong Yu</i>
651	Title: Backlash Compensation using Backstepping Adaptive Control in Servo Transmission System Authors: <i>Hairong Ye, Bo Wang, Kai Liu, Wei Hua, Xin Wang</i>
660	Title: Sensorless Control of Permanent Magnet Synchronous Motor Based on Finite-Position-Set-Phase-Locked Loop Authors: <i>Yuelel Zheng, Yu Chang, Dan Liu, Huimin Wang, Yun Zuo, Xinglai Ge</i>
715	Title: Backstepping Sliding Mode Control for Turntable Friction Compensation Using Stribeck Model and Extended State Observer Authors: <i>Xin Wang, Bo Wang, Hairong Ye, Kai Liu, Wei Hua</i>

ID	Title & Authors
801	Title: Research on Levitation Control of Stepped Rotor Type 12/14 Bearingless SRM Authors: <i>Zhenyao Xu, Jinyang Fu, Huijun Wang, Tiehang Yi, Zhihua Zhang</i>
852	Title: Research on Efficiency Optimization for the Induction Motor by Pole Changing Techniques Authors: <i>Xianzhen Sun, Tao Lei, Rongkang Zhao, Zicheng Liu</i>
864	Title: Influence of Phase Angle for Low-order Harmonics on Vibration of an Induction Traction Motor Authors: <i>Yangbo Kou, Fei Xiong</i>
918	Title: Research on Bus Voltage of Dual PWM Frequency Conversion System Based on Model Predictive Control Authors: <i>Shuo Han, Yongjun Zhang, Xiong Xiao, Haocheng Wang, Guoming Sung</i>
931	Title: Optimal-Parameters-Based Model Predictive Position Control of Planar Switched Reluctance Motors Authors: <i>Kang Qi, Su-Dan Huang, Guang-Zhong Cao, Chao Wu</i>
1045	Title: Torque Ripple Suppression-Based Fault-Tolerant Model Predictive Current Control of Five-Phase PMSM Drives with Open-Circuit Faults Authors: <i>Jiachen Du, Liyan Luo, Wentao Huang</i>
1069	Title: Research on Fault-Tolerant Control of Axial Field Flux-Switching Permanent Magnet Motor under Open-Circuit Fault Authors: <i>Huayang Jin, Wei Zhang, Xiyu Liu</i>
1126	Title: Multi-parameter Online Identification of Permanent Magnet Synchronous Motor Based on Dynamic Forgetting Factor Recursive Least Squares Authors: <i>Zhao Ma, Wei Zhang, Jianbiao He, Huayang Jin</i>

Transportation Electrification

Chair: *Dr. Xiaofeng Zhu, Nanjing Normal University*

ID	Title & Authors
953	Title: Adhesion Control of Bogie-Controlled Inner-city Trains Authors: <i>Song Wang, Zhen Shen, Jingchun Huang</i>
925	Title: Passivity-Based Instability Analysis and Suppression Method for Traction Network-Electric Train Interaction System Authors: <i>Dan Liu, Xinglai Ge, Chunxu Lin, Yuelei Zheng, Huiming Wang, Kexin Wang</i>
963	Title: Urban Rail Transit Stray Current On 500KV Transformers Along The Line Test Analysis Of Dc Magnetic Bias Effect Authors: <i>Hua Huang, Lu Chen, Tianyi Wu, Chenzhao Fu</i>
932	Title: Inductor Multiplexing Equalization Circuit with Fuzzy Controller for Lithium Battery Equalization Authors: <i>Aote Yuan, Tao Cai, Jia Xie</i>
974	Title: State Estimation of CRH2-High-Speed-Train Traction Motor and its Implementation on Hardware Platform Authors: <i>Song Wang, Hanchen Zhou, Jingchun Huang</i>
68	Title: Coordination Control Strategy of Co-Phase Traction Power Supply System Integrated With Hybrid Energy Storage Systems Authors: <i>Peng Liu, Junhong Lai, Tianshu Chen, Xinhai Zeng, Yilin Chen</i>
558	Title: Common-mode Voltage Suppression and Synchronous Modulation Strategy for Double Dual-three-phase Induction Motor Authors: <i>Yafei Ma, Dong Jiang, Zhenjun Lin, Yongjiang Liu</i>
825	Title: A Fuzzy Feedforward Current Compensation Strategy for Permanent Magnet Linear Synchronous Motors Authors: <i>Peng Zhang, Ruihua Zhang, Hang Zhang, Jinquan Zhu</i>
716	Title: A Unified Constant Power Control Method for DC/DC Boost Converter Authors: <i>Wenquan Liu, Peng Cheng, Lujia Zhou, Limin Jia</i>



ID	Title & Authors
731	Title: Analysis On a Novel Eddy Current - Magnet Track Composite Brake For High-Speed Train Authors: <i>Benzhen Guo, Desheng Li, Bin Wang</i>
762	Title: Multiple-Consecutive-Samples Based Approach of Frequency Estimation in Three-Phase Grid Under DC-offsets Authors: <i>Rui Fu, Linyuan Guo, Yunzhe Chen, Xu Wang, Long Zhao, Mingdi Fan, Yong Yang</i>
408	Title: Research on Modeling and Simulation of Medium Voltage Shipboard Power System Authors: <i>Zixiao Xu, Hongwei Zhao, Linke He, Weilin Li</i>

High-efficiency Power Conversion

Chairs: *Dr. Qiang Tan, Nanjing University of Aeronautics and Astronautics*
Dr. Xingwei Zhou, Hohai University

ID	Title & Authors
1110	Title: A Hybrid Modular Multilevel DC-DC Converter with Minimized Circulating Current Authors: <i>Zongzhe Tian, Fei Zhang</i> <i>Southeast University</i>
445	Hybrid Modulation Strategy Of Deep Low Carrier Ratio In Full Wind Speed For Direct-Drive Permanent Magnet Wind Power Generation System <i>Yang Zhang, Mai Xu, Wenjing Yi, Sicheng Li, Bing Luo, Tingting Wang</i>
373	Title: Research On High Voltage And High Power Density Power Supply Technology For Space Authors: <i>Wei Xu, Haijun Fu, Gaofeng Shi, Hongyan Li</i> <i>Jiangsu University</i>
1033	Title: Effects Of Armature Material And Armature-Coil Distance on The Performance Of Electromagnetic Reconnection Launcher Authors: <i>Jun Qiu, Shengyi Song, Minfu Liao, Rufan Wang, Dequan Wang, Xingjian Zhou</i> <i>School Of Electrical Engineering In Dalian University Of Technology</i>
661	Title: A Five-Level Space Vector Modulation for Interleaved Vienna Rectifier With Reduced Harmonic Distortion and Line Current Ripple Authors: <i>Xiaokui Liu, Shanxu Duan, Xuan Song, Han Fu</i> <i>Huazhong University of Science and Technology</i>
192	Title: Analysis of Minimum Switching Current for Zero Voltage Switching of DAB Converters Applied in Energy Storage System Authors: <i>Jinzhe Bai, Fei Xu, Zheng Dong, Zhen Li, Zhenbin Zhang</i> <i>School of Electrical Engineering, Shandong University</i>
923	Title: A Switched Tank Converter Integrated Buck-boost Converter with Partial Energy Transfer for Data Center Applications Authors: <i>Wei Li, Minglong Wang, Shangzhi Pan, Xiaoming Zha</i> <i>Wuhan University</i>



ID	Title & Authors
325	Title: Fast Reactive Power Control Technology Of Photovoltaic Inverter Authors: <i>Yang LI, JianHua Bi, Yue Zhang, Rui LI, ZhiWei Wu</i> <i>State Key Laboratory of Control and Operation of Renewable Energy and Storage Systems, China Electric Power Research Institute</i>
427	Title: A Load Share Circuit without Current Sensing Authors: <i>Xuhao Zhu, Renjie Hu</i> <i>School of Electrical Engineering, Southeast University</i>
165	Title: A Novel Input-Parallel Output-Series High Gain DC-DC Boost Converter with Voltage-doubler Cell Authors: <i>Qiao Zhang, Xuefeng Hu, Han Xu, Zhenhai Yu</i> <i>the masses</i>
522	Title: Dual Coupled-inductors based Bidirectional DC-DC Converter Authors: <i>Chong Zhang, Donghu Li, Yushun Zhao, Xiaogang Ding, Dongsheng Yu</i> <i>School of Electrical Engineering, China University of Mining and Technology</i>
803	Title: A High-Efficiency Bidirectional LLC Resonant Converter Based on Current-Doubler Rectification Circuit Authors: <i>Mingyang Dong, Changsong Chen, Zhiwen Xu, Haowen Chen, Dongtong Han, Jingyue Zhang</i> <i>School of Electrical and Electronic Engineering, Huazhong University of Science and Technology</i>
806	Title: A Bi-directional Multi-Path Push-Pull Converter Authors: <i>Fangyi Wei, Yan Li, Ye Tian, Bowu Cao, Junhao Zhang</i> <i>Beijing Jiaotong University</i>

High-Reliability and Intelligent Power Electronics Technology

Chair: *Associate Prof. Fei Zhang*, Southeast University

ID	Title & Authors
841	Title: A Modulation Scheme to Suppress Common-Mode Voltage of Four-Level Dual Inverter Authors: <i>Chuanhao Liu, Jiaying Lei, Wei Hua, Hongyu Zhang, Yanna Xi, Shu Wang</i>
857	Title: A DC Leakage Current Detection Method Based on Proportional-Integral-Multimode Resonance Control Authors: <i>Mingming Shi, Huiyu Mui, Juntao Fei, Xuefeng Ge, Xiaolong Xiao, Fan Wu, Yi Pan</i>
771	Title: Switch Fault Diagnosis And Location Of NPC Three-Level Inverter Based On Line Voltage Deviation Authors: <i>Baoshun Yang, Quan Chen, Jun Tao, Shule Hou, Lingling Zhao</i>
376	Title: An IGBT driver protection method applied to NPC three-level topology Authors: <i>Kailong Chen, Fuguang Wen</i>
928	Title: Z-Source Resonant Single-Switch Two-Channel Current Balancing LED Driver Authors: <i>Jie Zhang, Chen Zou</i>
620	Title: Bidirectional Half-Bridge Three-Level LLC Resonant Converter Authors: <i>Zhimin Wu, Ting Lou, Hengliang Zhao, Chen Wei, Huajian Wu, Jiajie Lou</i>
127	Title: A New Three-Phase L-Type Double Active Bridge Buck-Boost Converter Authors: <i>Fang Liu, Ziqun Wu, Haodong Wang, Hao Li, Yang Zhao, Chunyang Ling</i>

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563	Title: Voltage Control of Single-Phase Inverter Based on Compound SRFPI and LADRC Authors: <i>Haoda LI, Kai Zhu, Liaoyuan Lin</i>
607	Title: A Load-side Multi-type Disturbance Generation Device Authors: <i>Huaidong Min, Wei Hu, Fan Yang, Zhichun Yang, Yang Lei, Shi Luo</i>
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618	Title: Control Strategy of Three-phase T-type Three-level Converter with Reactive Power Compensation Function Authors: <i>Wei Zhong, Huajian Wu, Zhimin Wu, Chen Wei, Ting Lou, Hengliang Zhao</i>
37	Title: Operation Region Determination Method for MMC-HVDC System Authors: <i>Wei Lin, Yi Lin</i>



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637	Title: Variable Duty cycle Phase-shifting Control of Three-phase AC-DC Converter Based on Quasi Proportional Resonance without Electrolytic Capacitance Authors: <i>Xinyu Chen, Chunjie Li</i>
505	Title: Bidirectional DC-DC Resonant Converter With Wide Input and Output Voltage Range Authors: <i>Shanshou Li, Jun Chu, Wei Ye, Qiansheng Fang</i>

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Dr. Qunfang Wu, Nanjing University of Aeronautics and Astronautics

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712	Titel: Research on Power Flow Optimization Control Strategy Of AC-DC Hybrid Microgrid Based on Power Electronic Transformer Author: <i>Ling Zhou,Tiancheng Liu,Cong Li,Changkun Yang</i>
816	Titel: Research and Optimization of Block Schemes of Backup Power Switch-in equipment Using Bus-bar Differential Protection in 110kV Substations Author: <i>Jing Li,Dongjie Sun,Junyi Ma,Tao Da,Chang Liu,Tongtong Sui,Dahai Tang</i>
834	Titel: Analysis On The Potential Supply and Demand Of Flexible Resources in a Certain Regional System in China Under the Dual-Carbon Target Author: <i>Fubo Cui,Jing Zhang,Yuou Hu,Linyan Wang</i>
848	Titel: Research on Influencing Factors And Changes of Dc Current After Commutation Failure Author: <i>Yue Wang,Tian Chen,Jun Wen</i>
886	Titel: Single Line-to-Ground Fault Section Location Method Based on the Phase Angle Difference of Measurement Admittances Author: <i>Xuhui Wen,Guibin Zou,Chenghan Zhou,Lindong Zang,Qian Lin,Zitao Xu</i>
958	Titel: Construction Of Distribution Network Topology Identification Model Based on Voltage Correlation Coefficient Author: <i>Yushan Zhou,Yuan Gu,Xiao Zhang,Ye Lu,Hailong Gao,Lucheng Hong</i>

Integrated Energy System

Chair: [Dr. Yang Li](#), Hohai University

ID	Title & Authors
77	Title: State Estimation Of Electric-gas Network Authors: Fujue Wang , Zhi Wu , Suyang Zhou , Xiaogang Chen .
92	Title: Coordinated Operation Strategy of Multi-energy Flow System with 5G Base Station Participating in Comprehensive Demand Response Authors: Meng Yang , Xinyu Feng , Hujun Li , Zhenli Deng , Fangzhao Deng , Lijuan Chen .
149	Title: Modeling and Simulation of “Portugal-Spain” Cross-border Electricity-Gas Coupling System Authors: Dandan Wang , Yalou Li , Fei Zhao , Fang Li .
185	Title: Life Cycle Assessment-based Carbon Emission Analysis for the Integrated Energy Station Authors: Decheng Wang , Yan Li , Qun Zhang , Xueping Pan , Qijie Xu , Xiaorong Sun .
411	Title: Research Progress of Integrated Solar Chimney Power Plant System coupled with Low-Temperature Heat Source Authors: Lu Zuo , Ziyang Yan , Bo Qu , Chang Xu , Yuan Zheng , Yunting Ge .
429	Title: The Influence of Pre-swirling Parameters on the Performance of Solar Vortex Power-desalination Integrated System Authors: Lu Zuo , Ziyang Yan , Pengzhan Dai , Yu Chen , Shi Chen , Yunting Ge .
594	Title: Research on the Security Analysis of Integrated Electricity and Gas Systems based on the Vulnerability Index Authors: Xingtao Tian , Yaowen Zhang , Xiaojie Lin , Wei Zhong , Yi Zhou , Feiyun Cong .
599	Title: A Multi-Objective Optimization Method for Multi-Energy Flow Coupling System Considering Environmental Protection Authors: Xuanjun Zong , Yue Yuan , Junbin Ling , Hongwei Zhou , Sheng Zou , Han Wu .



ID	Title & Authors
653	Title: A Dynamic Aggregation Method for Virtual Energy Plants Considering Real-time Contribution Authors: <i>Xun Dou, Donglou Fan, Chen Wu, Guiyuan Xue.</i>
962	Title: Research on Energy Management Method and Simulation of Hybrid Propulsion VTOL UAV Authors: <i>Rongchao Ren, Jingbo Wei, Haoze Wang, Kun Liu, Zijie Qin, Mingzhi Cao.</i>
11	Authors: Exergy Efficiency Evaluation Method for Integrated Energy System Considering Primary Energy Permeability Authors: <i>Yongjie Zhong.</i>
31	Title: Summary of Hydrogen Industry Development and Application Prospect: The Case of China Authors: <i>Yongjie Zhong.</i>
155	Title: Energy Flow and Carbon Emission Flow Analysis for the Integrated Energy Station Authors: <i>Yan Li, Decheng Wang, Qun Zhang, Xueping Pan, Yi Xu, Xiaorong Sun.</i>
333	Title: Hierarchical And Distributed Optimal Scheduling of Virtual Power Plant Based on Alternating Direction Multiplier Method Authors: <i>Xiaorui Guo.</i>
566	Title: Self-Adaptive Balance Control Strategy of Cascaded H-Bridge Multilevel Power Conversion System of Battery Energy Storage Authors: <i>Xiaowei Zhang, Shoubin Sun, Jinghua Zhou, Yinan Hong, Tianyu Wang.</i>
690	Title: Day Ahead Unit Commitment of Integrated Gas and Electric System Considering Pipeline Climbing Authors: <i>Qiao Wang, Jiakun Fang, Shengshi Wang.</i>
734	Title: Optimal Dispatching Strategy for Integrated Energy System with Electricity-Heat-Cold -Hydrogen Authors: <i>Hua Xie, Zhihong Xu, Wei Wang.</i>
782	Title: Optimal Day-Ahead Scheduling for Distributed Cleaning Heating System With Minimal Carbon Emissions Authors: <i>Junhong Hao, Qun Chen, Shunjiang Wang, Kai Gao.</i>

ID	Title & Authors
843	Title: MPPT and Energy Storage Control of a Hybrid PV Array and Heat Pump System: An Experimental Research Authors: <i>Haifeng Chen, Minghua Xue, Chunmei Ai</i>
865	Title: Adaptive Step-Size Relaxed Alternating Direction Method of Multipliers for Coordination Combined Cooling, Heating and Power Systems Authors: <i>Chang Yang, Zhengshuo Li.</i>
1145	Title: Hardware-in-loop based Digital Twin Technology for Integrated Energy System: A Case Study of Guangyang Island in Chongqing Authors: <i>Yongtao Chen, Qian Chen, Jin Gao, Zhe Li, Xiao Chen.</i>
949	Title: Research on Multi-objective Configuration of Wind and Solar Storage Based on Cascade Utilization of Retired Batteries Authors: <i>Chenhong Zheng, Mengzhe Liu, Minquan Ye, Shiming Zhang,</i>
39	Title: Synergic Optimizing Energy-Water System in Hot Spring Resort Based on General Flow Analysis Authors: <i>Zishuo Huang, Junjie Xiong.</i>
113	Title: Optimal Operation Strategy of Low-Carbon Integrated Energy System Considering Power to Gas and Carbon Capture Technology Authors: <i>Chen Fu, Mingxing Guo, Panpan Liu, Ruanqing Mo, Lifang Yu, Haoming Liu.</i>
125	Title: Neutral point voltage drift suppression method of large hydro generator based on active compensation Authors: <i>Long Zhou, Shuye Ding, Ling Liu.</i>
836	Title: Demand Side Optimization of Integrated Energy System Based on Two-level Energy Station Authors: <i>Yang Yan, Dexin Meng, Kang Qian, Dongsheng Zhu, Jian Yuan.</i>
850	Title: Game Analysis of Multi-energy Market considering Integrated Energy Suppliers with Wind Power Authors: <i>Bingnan Wu, Xian Wang, Shaohua Zhang.</i>
1125	Title: Comparative analysis of energy efficiency of AC and DC power supply systems in different regions and buildings Authors: <i>Keteng Jiang, Haibo Li, Yi Lei, Jingrong Liu, Junzhe Zhang, Han Yang</i>



ID	Title & Authors
641	Title: A Study on Model-Based Optimization of Multiple Energy Carriers in Integrated Energy Systems Authors: <i>Zhongbo Li, Nan Zhang, Haihong Wang, Jinfeng Xu, Chuansong Mei, Xiaojie Lin, Andrii Kravchenko.</i>
1063	Title: Research on the impact of coupling photovoltaic power and gas power on power system operation Authors: <i>Enbo Luo, Hai Lu, Hao Zhang, Ao Li.</i>
1122	Title: Photovoltaic optimal configuration of net zero energy building based on whole-process energy efficiency Authors: <i>Keteng Jiang, Haibo Li, Yi Lei, Jing Kang, Chao Yang, Junzhe Zhang, Han Yang</i>
40	Title: Farm Energy System Optimization Considering Cost Variation In Demand and Production Side Authors: <i>Haijing Liu, Junjie Xiong.</i>
267	Title: Control Strategy of Three-port DC Converter based on Energy Balance Authors: <i>Yongtao Liang, Dong Jiang, Wei Sun, Hui Liu.</i>

Power Market and Demand Response

Chairs: *Associate Prof. Hao Ming, Southeast University*

Assistant Prof. Yuting Mou, Southeast University

ID	Title & Authors
830	Equivalent Ratio of Primary Frequency Regulation Resources Considering Multi-aspects of Frequency Profile <i>Hanxiang Wang, Ying Wang, Kaifeng Zhang</i>
381	The Spot Market Clearing Simulation Research of Guangdong Power Grid Incorporating Demand Response Resource <i>Chong Tang, Baorong Zhou, Jiangnan Li, Wenmeng Zhao, Lanfen Cheng</i>
582	Short-term load forecasting for industrial users based on Transformer-LSTM hybrid model. <i>Yuhao Chen, Yuanyuan Wang, Xiaohan Liu, Jingjie Huang</i>
728	Game-theoretic Model of Day-ahead Electricity Market Considering Penalties for Retailers' Bid Deviations <i>Xun Xie, Shaohua Zhang</i>
1043	Learning the Marginal Fuel Type for Effective Carbon Reduction <i>Songpeng Cao, Chenye Wu</i>
1095	Review of Typical Energy Storage Resources from the Perspective of Generalized Energy Storage System <i>Zitao Zhang, Meng Song, Haoming Liu, Chaoliang Wang, Lei Li, Wei Liu</i>
1100	Virtual power plant integration with smart grids: a Review <i>Weishi Zhang, Chuan He, Hanhan Qian, Zhemin Lin, Yongbo Li, Xueting Zhao, Wei zhang, Congzhong Shu</i>
83	Orderly Charging Control Strategy of Electric Vehicles Based on Optimal Power Allocation <i>Lei Guo, Shenshen Zhuo, Ying Zhang, Wanli Zhai, Jieshi Shen, Changchun Cai</i>
252	Load Scheduling and Flexibility Quantification of Residential Users <i>Lin Lin, Feng Yan, Xuecen Zhang, Xinyu Hu, Jianan Wang, Jingjuan Pan, Xinnan Cao</i>



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934	A Forecasting Method for EV Charging Demand Considering Refined Division of Functional Areas <i>Li Cui, Hongquan Qu, Peiyuan Ju, Le Ge, Mingshen Wang</i>
938	An Electric Vehicle Cluster Model Considering Multiple Uncertainties and Response Costs <i>Mingshen Wang, Xiaodong Yuan, Wenfei Yi, Lei Gao, Zheng Zhang, Li Cui</i>
944	Coordinated Frequency Control of Interconnected Two-Area Power System With Electric Vehicle Aggregator <i>Mingshen Wang, Yi Yang, Fei Luo, Chenqing Wang, Haibin Wang, Li Cui</i>
161	Research on Collaborative Innovation of Energy Storage Industry Based on the Tripartite Evolutionary Game <i>Guiqi Zhu, Liming Ying, Shusheng Tian, Xinyi Xie</i>
228	Hybrid Scheduling Strategy Based on New Energy Consumption And Optimal Operation Cost <i>Qingsong Zhao, Junbo Yao, Hailiang Wang, Chuyuan Yang, Liping Fan, Anquan Yang, Hui Ma</i>
229	Research on Load Control Strategy of Aggregate Water Heater Based on Artificial Immune Algorithm <i>Yingchun Peng, Ning Zhang, Xiaoan Feng, Bing Qi</i>
692	Research on Revenue Risk of Electricity Retailers Considering Demand Response <i>Qingli Hao, Sining Wang, Jian Zheng, Xiaomin Zhong, Junfang Zhang, Chun Xiao, Chao Zhang</i>
723	Insurance Premium Setting Based On Power System Reliability Analysis <i>Fuqiang Zhao, Dingkang Liang, Yingqi Yang, Youxin Sang, Dawei Song, Xingwu Guo</i>
904	Bus load forecasting method based on DWT-SSA-Bi-LSTM neural network <i>Yicong Chen, Dahai Zhang, Yiru Shi, Kai Sun</i>
1080	Virtual Energy Storage Model of District Cooling System Based on Minimum Energy Consumption <i>Lan Qin, Di Bai, Meng Song</i>

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1083	Analysis of The Decision-Making Process Of Prosumers In The Transactive Energy Market <i>Jing Xinyi, Meng Song, Ciwei Gao, Chaoliang Wang, Lei Li, Wei Liu</i>
421	Performance Score and Equivalent Ratio of Reserve Resources <i>Jing Zhou, Xiaorui Guo, Ziling Zou, Huahua Wu, Ying Wang</i>
581	A Distributed Photovoltaic Power Transaction Mode Based on Blockchain Technology <i>Hanyu Zhao, Dong Zhao, Hui Feng, Xuesong Zhou, YuJie Wu</i>
63	HVAC scheduling for demand response in a distributed CCHP system considering latent load <i>Junguang Lin, Yamin Zhou, Shenyi Zhao, Fan Wu, Ganghua Qin, Zitao Yu, Menglian Zheng</i>
513	A Comparing Study on Assessment Mechanism for Renewable Energy Bidding Deviation in Spot Trading <i>Hao Wang, Li Zhang, Yixin Guo</i>
171	A Two-Tier Demand Response Scheduling Strategy Based on Users' Equipment Level <i>Songsong Chen, Taorong Gong, Lei Li, Chaoliang Wang</i>
490	Analysis Of Multiple Influencing Factors of Low-Carbon Energy Consumption of Urban Users Based on DEMATEL <i>Li Yin, Junjie Sheng, Yanan Ji, Danbo Li</i>
1087	Research on Shared Energy Storage Trading Mechanism Based on Distributed Trading <i>Ciwei Gao, Meng Song, Yunfeng Cai, Chaoliang Wang, Lei Li, Wei Liu</i>
982	Economic Analysis of Energy Storage Peak Shaving Considering Full Life Cycle Cost <i>Junhui Li, Chenyu An, Jingxiang Zhang, Cuiping Li, Haiji Zhao, Jun Yu, Xuezhu Jin, Kaiyuan Hou, Fei Xu</i>

New Energy Infrastructure, Smart Operation and Maintenance

Chairs: *Assistant Prof. Xiaofeng Liu*, Nanjing Normal University

Assistant Prof. Chuande Liu, Nanjing University of Information Science & Technology

ID	Title & Authors
18	Title: A Refined Economic And Environmental Benefits Evaluation Methodology For Distributed Rooftop Photovoltaic Stations Authors: <i>Shengran Chen, Xuheng Luo, Li Zhao, Yi Lei, Haibo Li, Ruizhe Wang</i>
24	Title: A Method for Remaining Useful Life Prediction of Transformer Based on The Long Short-Term Memory Networks Authors: <i>Xuntao Shi, Ran Hu, Mingyu Ou, Lei Yu, Qingpai Ke, Weiwei Wu, Kairan Li</i>
114	Title: Sliding Mode Control Strategy of Grid_x0002_Connected Inverter under Unbalanced Grid Voltage Authors: <i>Yuanyuan Wu, Guangchen Liu, Guowei Chen, Qiang Yao, Jianwei Zhang, Guizhen Tian</i>
122	Title: A Test Methodology to Verify Reactive Power Support Ability of Wind Turbines Authors: <i>Haibo Li, Yi Lei, Yinding Geng, Haitao He, Qingjun Niu, Ke Wang, Yansheng Wu</i>
124	Title: Research on Interactive Operation And Maintenance Service Mode of Electric Vehicles Authors: <i>Binbin Zang, Hui Gao</i>
232	Title: Research on Green Construction Evaluation of Power Grid Construction Under The Background of Dual Carbon Authors: <i>Qingxiang Huang, Ping Chen, Li Zhou, Hongyan Zhang, Jing Chen, Yingchun Zhang</i>

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303	Title: Day-Ahead Optimal Dispatch of Regional Power Grid Based on Electric Vehicle Participation In Peak Shaving Pricing Strategy Authors: <i>Hongli Liu, Xuxia Li, Kaikai Wang, Jingyu Zhang, Qiang Li</i>
304	Title: Motor Bearing Remaining Life Prediction Based on Unsupervised Learning Authors: <i>Haowen Wang, Wei Sun</i>
305	Title: Digital Transformation of Hydropower Stations: Technical Route, Maturity Evaluation and Content Planning Authors: <i>Juguang Ren, Li Zhang, Li Jin, Jinyu He, Yang Gao</i>
384	Title: Research on Project Duration Prediction Based on Multiple Linear Regression Authors: <i>Yong Pan, Songtao Chen, Tian Ma, Jun Gao, Cheng Wang, Xiaofan Liu, Peng He</i>
385	Title: Research on Project Duration Prediction Based on Artificial Neural Network Authors: <i>Wei Wu, Lei Fang, Tian Ma, Yongqian Yang, Weiguo Zhao, Peng Yu, Chengyu Wang</i>
419	Title: Research on Data Mining Modeling Technology of Charging Fault Characteristics Based on BP Neural Network Authors: <i>Xiangyu Bao, Hui Gao</i>
615	Title: Research on Temperature Response of Secondary Loop of district Heating System with XGBoost Authors: <i>Zhongbo Li, Jinfeng Xu, Chuansong Mei, Qing Zhao, Xiaojie Lin, Encheng Feng</i>
714	Title: An Optimal Configuration Method of Voltage Sag Monitoring Points Considering Monitoring Redundancy Authors: <i>Yun Wang, Xiaochuan Wei, Ran Chen</i>
754	Title: A Single-Phase Ground Fault Location Method Based on Transient Resistance Estimation Authors: <i>Yun Wang, Xiaochuan Wei, Ran Chen</i>



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840	Title: Few-shot Electric Equipment Classification via Mutual Learning of Transfer-learning Model Authors: <i>Bojun Zhou, Xinsong Zhang, Jiahao Zhao, Fengshen Zhao, Chunkai Yan, Yiming Xu, Juping Gu</i>
863	Title: Offshore Wind Turbine Condition Assessment Method Based on GRU And Improved Fuzzy Comprehensive Evaluation Authors: <i>Zhixin Fu, Junpeng Zhu, Ziha Zhou, Yue Yuan</i>
966	Title: Electromagnetic Interference of Shared Tower 5G Base Station Antennas on Micro-Meteorological Online Monitoring Equipment Authors: <i>Daokun Qi, Chanyuan Liu, Xingfa Liu, Bo Tang</i>
1133	Title: An Improved Line Differential Protection Based on Average Compensation For Synchronous Sampling In Power Systems Authors: <i>Yalong Chen, Yanchun Mao</i>
1140	Title: Digital Simulation and Automatic Test of Source Network Load Storage Cooperative Control Authors: <i>Peng Xu, Jinshan Chen, Feng Li, Wenbo Mao, Jun Liu</i>

Power Electronics Devices, Packaging, and System Integration

Chair: *Dr. Xiangjun Quan, Southeast University*

ID	Title & Authors
1164	Title: Zero Trust Security of Energy Resource Control System Authors: <i>Yan Chen, Jian Zhu, Hongbin Ji, Xingchen Zhou</i>
1114	Title: A Pre-Synchronization Strategy for Grid-Forming Loop-Closing Device in Distribution Network Authors: <i>Wenjie Gao, Fei Ding, Mingming Shi, Xuefeng Ge, Jiaying Lei, Renzhi Huang</i>
1128	Title: Control Control Design for 1500V Battery Three-Phase Inverter Considering Black Start Authors: <i>Zhanqi Zhang</i>
1058	Title: Discrete-Time Zero-Dynamic Control for 1500V Battery Three-Phase Inverter Authors: <i>Bainian Chen, Xiangjun Quan, Qinran Hu, Kai Hou, Fei Song, Junhui Wang, Tiankui Sun</i>
366	Title: Research on Discontinuous Pulse-Width Modulation Switching Of Three-Level Converter Authors: <i>Shuai Yuan, Long Jing, Jingdou Liu, Ruidong Sun</i>
1044	Title: Measurement Methods and the First Experimental Observation of Negative Capacitance Behaviors in Inductors Authors: <i>Hongbo Zhao, Shaokang Luan, Yang Yang, Rui Wang, Zhan Shen, Yicheng Liao, Wu Chen, Stig Munk-Nielsen</i>
1084	Title: Research on Performance And Application Efficiency of Gan Sic Cascode Devices Authors: <i>Yuming Zhou, Jiahui Zhou, Jinkun Chu</i>
238	Title: Chaos Analysis And Control of Sepic Converter with The Memristor Load Authors: <i>Zhen Li, Dongqing Wang</i>



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1108	Title: Analysis of Influence of Virtual Inertia of Grid-Forming Inverter on Transient Stability Characteristics Authors: <i>Xifang Huang, Ling Zhu, Wei Li, Mingfei Li, Xiangjun Quan, Zaijun Wu</i>
426	Title: Modeling And Reduction of Conducted Common Mode EMI In a-Single-Switch Forward Converter Authors: <i>Changchuan Peng, Wei Chen</i>
1037	Title: Study on Thermal Characteristics And Influence Factors of IGBT Modules In Space Environment Authors: <i>Chuyu Tian, Yaxiong Tan</i>
1074	Title: Research and Application of Hybrid ANPC Control Strategy Authors: <i>Yuming Zhou, Yu Zhang, Pingping Du, Hua Yang</i>
81	Title: Research on 220kV Spare Power Automatic Switching Equipment Standardized Application of Local functions Based on Real-Time Simulation Authors: <i>Zhida Huang, Wencong Wu, Haiqing Cai, Yihua Zhu, Libin Huang, Dongxu Chang</i>
822	Title: Modelling on 2DEG Density and Threshold Voltage of AlGaIn/InGaIn/GaN High Electron Mobility Transistors Authors: <i>Yuan An, Kailin Ren, Zhuang Wu, Luqiao Yin, Jianhua Zhang</i>
1102	Title: Influencing Factors and Suppressing Methods of Current Imbalance for Parallel-Connected SiC MOSFETs : A Review Authors: <i>Jianshen Qiao, Bin Zhao, Peng Sun, Yumeng Cai, Zhibin Zhao</i>
112	Title: Research on phase change cooling technology of vehicle traction converter module Authors: <i>Wei Hao, Biao Chen, Huitao Li, Guangkun Lian, Jiayi Yuan</i>
147	Title: A Switched Capacitor DC-DC Boost Converter With High Voltage Gain Authors: <i>Jie Xu, XiaoSan Ma</i>
104	Title: Mechanism Analysis of Subsequent Commutation Failure Considering PLL Dynamics in LCC-HVDC Systems Authors: <i>Minghui Ban, Meng Zhan</i>

ID	Title & Authors
585	Title: Design and Control Method for a Novel One-Control-Three Type of TSC for Power Distribution Network with Distributed PV system Authors: <i>Feng Xiao, Xinchao Liu, Weixin Zhu, Guangyi Li, Huanhong Yang, Wei Jiao</i>
657	Title: Equivalent Modeling Of Hybrid Modular Multilevel Converter Considering The Full Bridge Capacitor Voltage Authors: <i>Yixuan Wang, Dan Liu, Xiaoguang Wei, Lei Qi, Xinyin Wang, Zhiguang Lin</i>
708	Title: A New Type of Current Transformer Shielding Structure Design Based on Quantum Measurement Authors: <i>Chen Tang, Xianlin Zhou, Haitao Yang</i>
53	Title: Research on MMC Improved Sub-Module Topology With Capacitor Voltage Self-Balancing Authors: <i>Yiqi Liu, Zhaoyu Duan, Mingfei Ban, Zhenjie Li</i>
129	Title: A New Method of Active Power Filter Using Dead Beat Control And Repeated Control Authors: <i>Jing Lin, Minjie Yang</i>
681	Title: Design of Low Power Transmission Tower Assembly Monitoring System Authors: <i>Longbin Zhang, Bo Tang, Yue Wang, Zhiyu Shang</i>
759	Title: High-precision Digital Phase Discriminator Based on Adaptive Sampling Authors: <i>Hangchuan Lou, Shuang Song, Si Cheng, Hengyang Liu, Xianglong Wu, Wubin Kong</i>
804	Title: Analysis of The Temperature Reference Range For The Verification of Smart Energy Meter Authors: <i>Jingfen Bai, Jing Meng, Xitong Xu, Yiqin Jiang, Yubo Yang</i>
881	Title: An Energy Storage Test Power Supply Based on Fuzzy Quasi Proportional Resonance Control Authors: <i>Zhen Hao, Guangwei Liu, Xinsheng Ma, Dangguo Xu, Wenzhe Zhang, Chengyang Yan, Lijun Wang</i>



Smart Energy Electrical Equipment

Chairs: *Associate Prof. Zhan Shen, Southeast University*
Associate Prof. Qian Xiao, Tianjin University

ID	Title & Authors
883	Title: Research on Power Smoothing Control Method of Impulse Load Authors: <i>Xiangqian Tong, Jun Yin, Ru Liang, Ye Cheng</i>
296	Title: Research on Multi-Modal Integrated Access of Intelligent Switch Authors: <i>Xiuru Wang, Xin Qian, Hanwen Wang, Yingtao Ru</i>
6	Title: A Response Potential Evaluation Method of Inverter Air Conditioner Clusters Considering User Willingness Authors: <i>Chaoliang Wang, Xiong Li, Songsong Chen, Ciwei Gao, Tao Chen</i>
283	Title: Parameter Robustness Analysis And optimization Design of Cllc High Frequency Isolation Circuit Applied To Power Electronic Transformer Authors: <i>Sida Liu Yunfei Xu Guoliang Zhao, Yunbo Long</i>
844	Title: Solution And Analysis Of The Electromagnetic Scattering Field of The Substation Under The Radiation Of The 5G Base Station Antenna Authors: <i>Daokun Qi, Can Zhang, Xingfa Liu, Bo Tang</i>
894	Title: Measurement And Frequency Characteristics Analysis Of 500 Kv Transformer Surface Vibration Signals Authors: <i>Yushuai Qi, Jingsong Li, Zhenzong Liang, Linyu Li, Guofeng Li, Nianfeng Zheng, Zhongqing Wang</i>
288	Title: Research On The Integrated Fault Detection Method Of Primary And Secondary Fusion Intelligent Switchgear Authors: <i>Xiuru Wang, Xin Qian, Hanwen Wang, Wangqing Mao, Xuan Ge, Zhiwei Lin</i>
565	Title: Simulation Of Interpolated Heat Dissipation Structures Using Fins And Water-Cooling For Solid Medium Frequency Transformer Authors: <i>Diqin Ma, Weiwang Wang, Jiefeng He, Shengtao Li</i>

Wireless Power Transmission

Chair: *Assistant Prof. Zhengchao Yan, Xi'an Jiaotong University*

ID	Title & Authors
279	Title: Misalignment-Tolerant Electric Vehicle Wireless Charging System Employing Reconfigurable Topologies Authors: <i>Yiming Zhang, Wenbin Pan, Hui Wang, Zhiwei Shen, Yuanchao Wu</i>
492	Title: Design Of 6.78 Mhz Magnetic Resonant Coupling Omnidirectional Wireless Power Transfer Based On Class E2 Conversion Authors: <i>Pengyang Zhao, Junping He, Sheng Lian, Lingling Cao</i>
703	Title: A 90~150 kHz Dual-side Tuning Encrypted Wireless Power Transfer System Based on Steplessly Variable Switch-controlled Capacitor Authors: <i>Chen Qi, Han Miao, Xiyou Chen</i>
774	Title: Design of Dynamic Wireless Power Supply System for Mine Monorail Crane Authors: <i>Yongping Yin, Chunbo Zhu, Beibei Song, Yifan Gao</i>
1121	Title: Modeling Of The DD Planner Coil With Ferrite For The Wireless Power Transfer System Authors: <i>Min Wu, Hongchang Cui, Chenxu Zhao, Xipei Yu, Xu Yang, Wenjie Chen, Laili Wang</i>
126	Title: Accurate Calculation Method of Rectifier Load and Time-Domain Analysis in PS/S Current-Fed WPT System Authors: <i>Feng Fan, Qingbin Chen, Jinshuai Wang, Wei Chen</i>
422	Title: Research on Efficiency Optimization of Wireless Power Transfer System Using a Quasi-Z-source Converter Authors: <i>Bolong WEI, Shuai Dong, Yuebo Chen, Baichuan Zhang, Hongwei Ma, Chunbo Zhu</i>
434	Title: Independent Voltage Regulation Method of Multi-frequency Multiple-Receiver WPT Systems Authors: <i>Chen Qi, Sheng Huang, Haomin Lv, Xiyou Chen</i>
493	Title: Microwave reflection characteristics of flake-shaped Fe50 Ni50 /paraffine composites with various volume concentration Authors: <i>Boping Su, Jianqiang Wei</i>



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587	Title: An unmanned aerial vehicle wireless charging system using a novel coupling structure Authors: <i>Haiyu Liu, Xiyou Chen</i>
629	Title: An optimal Variable-Frequency Asymmetrical-Phase-Shift Strategy for Wireless Power Transfer System Authors: <i>Haowen Chen, Changsong Chen, Shuran Jia, Mingyang Dong, Dongtong Han, Zhiwen Xu</i>
654	Title: Topologies Differences of Series and Double-Sided LC of Interdigital Electrode Coupler for Capacitive Power Transfer Authors: <i>Renjie Zhang, Cang Liang, Huan Yuan, Aijun Yang, Xiaohua Wang, Mingzhe Rong</i>
1031	Title: A WPT Study of Mixed Resonance Stabilized Output Power Authors: <i>Han Xu, Yunhu Yang, Dazhaung Liang, Ruofei Hong, Xuefeng Hu</i>
1127	Title: Analysis Methodology for Multiple Resonators in Wireless Power Transfer Systems Authors: <i>Zuoting Zhang, Hui Yang</i>
1024	Title: Design of fast charging magnetic circuit structure for AGV wireless charging Authors: <i>Yang Lu, Chen yang Xia, Ang cheng Li</i>
444	Title: Research on GSSA Model of Wireless Power Transfer System Using a quasi Z-source Converter Authors: <i>Yuebo Chen, Shuai Dong, Bolong Wei, Baichuan Zhang, Hongwei Ma, Chunbo Zhu</i>
454	Title: High Gain Inductive Power Transfer System Design Based on the S/SP Topology Authors: <i>Jinhao Chen, Jiantao Zhang, Yong Li, Chunbo Zhu</i>

Plasma Science Technology and Applications

Chairs: *Associate Prof. Quanzhi Zhang, Dalian University of Technology*

Associate Prof. Yuan Li, Xi 'an Jiaotong University

ID	Title & Authors
741	Title: Effect of Electrode Structure on The Packing Material Surface Discharge Characteristics In Dielectric Barrier Discharge Authors: <i>Shengyi Xie, Xinhua Cai, Fangfang Wu, Xue Lin, Shengyu Hu, Min Zhu, Chaohai Zhang</i>
556	Title: Increasing X-Ray K-Shell Yield Using Composite Z Pinch Plasma Load And Opacity Effect Authors: <i>Linying Cheng, Hailiang Yang, Mo Li, Weibo Yao, Liangping Wang, Fengju Sun, Hao Wei, Aici Qiu</i>
623	Title: Study on The Dynamic Characteristics of Plasma In The Post-Arc Process of Vacuum Arc Interrupting Authors: <i>Liming Liu, Zhao Yuan, Lixue Chen, Shan Liu</i>
827	Title: The Collision Efficiency Between The Charging Droplets And Charging Aerosol Particles Considering The Image Force Authors: <i>Yuxin Lu, Haoqin Zhang, Yong Yang, Chuan Li</i>
851	Title: Application Of DC Discharge Plasma In Initiating Energetic Materials Authors: <i>Lexing Xue, Wen Pan, Bo Feng, Xiaojun Feng</i>
895	Title: Ablation of Aluminum Foil By Strong Pulsed Optical Radiation of Metallic Plasma Jet Authors: <i>Yuchen Cao, Ruoyu Han, Wei Yuan, Chen Li, Weibo Yao, Yongmin Zhang</i>
970	Title: Study on Temperature Parameter Characteristics of Needle-Plate Air Discharge Plasma Authors: <i>Shuai Yang, Ziheng Yu, Huan Chen, Chuan Li, Yong Yang</i>
1104	Title: Toulene Conversion By Gliding Arc Discharge In The Simulated Gasified Product Gas Authors: <i>Yaqin Shi, Shiyun Liu, Liang Ding, Danhua Mei, Zhi Fang</i>



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631	Title: Research on An Opposed-Electrode Gaas Photoconductive Semiconductor Switch At 8 μ j Excitation Authors: <i>Chun Liu, Ming Xu, Xinyang Si, Rongrong Gao, Chengjie Wang, Jiahao Chang, Wenhao Wang, Wei Luo</i>
263	Title: Construction of a Pv-Driven Plasma Nitrogen Fixation Test Platform And Its Application Prospect In Agricultural Production Authors: <i>Qiyu Zheng, Peng Huo, Qinglong Bao, Liying Li, Yilin Miao, Weina Zhu, Lidi Wang</i>
663	Title: The Installation of The Island Divertor Coils on The J–TEXT Tokamak Authors: <i>Haojie Chen, Bo Rao, Song Zhou, Yunfeng Liang, Yangbo Li, Zhengkang Ren, Feiyue Mao, Chuanxu Zhao</i>
669	Title: Plasma Preparation of Graphene Nanosheets For Energy Storage Authors: <i>Xiaofei Yuan, Rui Zhong, Ruoyu Hong, Ning Liu, Jian Chen</i>
805	Title: Research On The Characteristics of Corona Discharge Ionic Wind of Needle-To-Plate Electrode Authors: <i>Huan Chen, Shuai Yang, Chuan Li, Yong Yang</i>
831	Title: Experimental Investigation on Lean Ignition Limit Of Gliding Arc Plasma Igniter Driven By Pressure Difference Authors: <i>Xinyao Cheng, Huimin Song, Yinxiang Zang, Jiulun Sun</i>
936	Title: Charged Droplet Population Concentration Calculated By Equivalent Surface Tension Authors: <i>Ruohan Wu, Haoqin Zhang, Yong Yang, Chuan Li</i>
44	Title: Degradation of Pesticide Residues In Apples By Dielectric Barrier Discharge Plasma Device Authors: <i>Jie Yu, Xingquan Wang, Linsen Yuan</i>
247	Title: Study of The Three-Electrode Gas Switch Trigger Gap Conduction Process Authors: <i>Haoruo Sun, Xiaofeng Jiang, Cheng Lou, Aici Qiu</i>

ID	Title & Authors
753	Title: Numerical Simulation of Output Short-Circuit Capacitor Discharge of Intrinsically Safe Switching Transistor Converter Authors: <i>Dangshu Wang, Jiaan Yi, Zhuo Qiang, Yulong Guo, Jiatong Zhao, Yingying Shen, Siqin Liu</i>
956	Title: Research on Plasma Biomass Straw Liquefaction Plant And Its Application Authors: <i>Jinmao Li, Chunlian Song, Dandan Lu, Yike Zhang</i>
300	Title: Effects of Rod Radius and Voltage on Streamer Discharge in Short Air Gap Authors: <i>Yuwei fu, mengsha he, chi chen, chuang wang, zaiqin zhang, yue bu</i>

High Voltage and Insulation Technology

Chairs: *Associate Prof. Jiahong He, Southeast University*

Associate Prof. Linlin Zhong, Southeast University

ID	Title & Authors
57	Title: Analysis of Multipoint Grounding Abnormality of Main Transformer Authors: <i>Xiu Zhou, Qing ping Zhang, Fei yue Ma, Tian Tian, Yan Luo, Xiu guang Li, Ning hui He</i>
141	Title: Characteristics of Circulating Current in Main Feeding Cable armor of Common Ground Electrode Authors: <i>Maoheng Jing, Shangmao Hu, Wenhao Lu, Gang Liu, Lei Jia, Yi Zhang, Xiaoxing Wei, Hansheng Cai</i>
148	Title: Study on Auxiliary Colorant for Laser Cleaning RTV Coating Authors: <i>Yujia Gong, Qianqian Li, Tian Yuan, Gang Wu, Guotai Yang, Hu Zhang</i>
215	Title: Simulation Analysis of Pantograph Catenary Arc Motion Characteristics During High-speed Train Running Authors: <i>Han Zeng, Xuwei Chen, Fangming Deng</i>
329	Title: Quantitative Assessment Turn-to-turn Insulation State of Generator Rotor Winding Based on Repetitive Surge Oscillograph Authors: <i>Xiaojian Wang, Chengfan Gu, Chen Liang</i>
386	Title: Study on the Electric Water Shock Effects in the Bursting Energy Tests on the Capacitor Case Authors: <i>Qianglin Zuo, Qiaoshu Lei, Shuhong Wang</i>
396	Title: Influence of Fiber Particles on DC Breakdown Characteristics of Transformer Oil Authors: <i>Guozhi Zhang, Weiyang Yan, Xiaoxing Zhang</i>
416	Title: Investigation and Design of Fast Front Marx Generator Trigger Authors: <i>Yifan Wang, Wei Jia, Zhiqiang Chen, Fan Guo, Ling Shi, Hongshun Liu</i>
491	Title: Operating Overvoltage Analysis for Ring-type Flexible DC Distribution System Considering DC Circuit Breakers Authors: <i>Shuhan Liu, Ru Wang, Jiangtao Li</i>

ID	Title & Authors
500	Title: Study on Breakdown Characteristics of Transformer Oil under Negative Oscillation Lightning Impulse Voltage Authors: <i>Zhiqin Ma, Linglong Cai, Yuhui Jin, Jiangnan Liu, Xian Yang</i>
506	Title: Experimental on Corona performance of Double Pendulum Damper for UHV Transmission Line Authors: <i>Shanshan Quan, Lei Peng, Jiejie Deng, Zhiwei Zhou, Ling Jiang, Guangyu Yuan</i>
108	Title: Research progress of ionic liquids for CO ₂ capture Authors: <i>Lei Peng, Qiang Fu, musong Lin, Zaikun Wu, Zhihua Xu, Tianrong Zhu</i>
284	Title: Comparative Analysis of Vibration Signal of Converter Transformer and AC Power Transformer Authors: <i>Zhicheng Pan, Jun Deng</i>
512	Title: Study on the Power Loss of Ground Wire in Parallel Transmission Lines Under Different Phase Sequence Authors: <i>Taoning Jiang, Longzhi Xie, Peng Sun, Lijing Li, Yuhang Li</i>
100	Title: Simulation and Measurement of Vibration Characteristics of Magnetic-valve Controllable Reactor Authors: <i>Jiajun Lin, Yiming Zheng, Chen Li, Zhi Yang, Xueliang Fan</i>
101	Title: Core Modal Analysis and Noise Suppression Method of Magnetic-valve Controllable Reactor Authors: <i>Jiajun Lin, Yiming Zheng, Xianjun Shao, Lingfeng Jin, Shaohe Wang, Xiaoxin Chen, Shaoan Wang</i>
111	Title: Full Scale Test Study on Sag Characteristics of Augmented Capacity Conductors for Transmission Line Authors: <i>Bin Li, Lei Liu, Tang Li, Guoli Wang, Tianwei LI, Enwen LI</i>
216	Title: Study on flashover characteristics of vehicle train roof insulator under off-line overvoltage of bow mesh based on HANKE model Authors: <i>Han Zeng, Yupeng Gong, Yanjin Zhu</i>
250	Title: Analysis and Test of Insulation Terminal Defects in Electrical Strength Test of Model Cable Authors: <i>Xiao Han, Xiongjun Liu, Hongjie Di, Junguo Gao, Tingliang Li</i>



ID	Title & Authors
258	Title: Abnormal Signal Analysis of GIS Voltage Transformer Based on Ultrasonic Detection Authors: <i>Zhicheng Lei, Chao Yuan, Xuancheng Huang, Haijun Chu, Quan Liu, Pengzhi Yan, Mumu Wu</i>
261	Title: Influence of Antenna on Radio Interference Test on Power Transmission Engineering Authors: <i>Bin Li, Lei Liu, Huan Huang, Guoli Wang, Tianwei LI, Enwen LI</i>
302	Title: Life Evaluation of F-grade Insulation of Stator Bar in Turbine Generator Authors: <i>Weixin Yu, Xiaojian Wang, Ertao Zhong</i>
314	Title: XGBoost-based Evaluation of the Dosing State of the Converter Valve Cooling System Authors: <i>Maohui He, Xuan Feng, Zhihe Wang, Haoran Jiang, Kai Deng</i>
406	Title: The Deterioration Mechanism of Underground Grounding Body under Impulse Current Authors: <i>Xiaofei Xia, Bo Feng, Yi Su, Xiajin Rao, Yufeng Lu</i>
424	Title: Research on the Influencing Factors of Guano Flashover of TYPE I Composite Insulator on Overhead Transmission Line Authors: <i>Hong Wu, Bo Niu, Jin Peng Hao, Kai Yang</i>
436	Title: Study on the Quantitative Analysis Method of Polydimethylsiloxane of High Temperature Vulcanized Silicone Rubber Authors: <i>Wenting Liu, Yonghao Fang, Yu Fan, Xiaolu Lv, Chuyan Zhang, Yu Deng</i>
136	Title: Current and Light Emission Characteristics of Unstable Leader under Positive Voltage in Long Air Gap Authors: <i>Yuyang Zhang, Juyuan Su, Xiaoqing Wang, Wenrong Li, Hao Chen, Lu Qu</i>
137	Title: Simulation Study on Evolution Characteristics of Discharge Channel after Air Gap Breakdown Authors: <i>Yangliang Zheng, Junyuan Su, Yuyang Zhang, Yuqin Liao, Yueguang Yang, Lu Qu</i>
220	Title: Transformer Mechanical Condition Assessment Method Based on Improved Grey Similarity Correlation Authors: <i>Ping Ju, Hongru Zhang, Yuesong Liu, Qingquan Li</i>

ID	Title & Authors
351	Title: Reactor Combination Optimization Method In Submarine Cable Withstand Voltage Test Authors: <i>YANG Yuxin, Liu yucheng</i>
489	Title: Checking and Preventing Measures of Short-Circuit Current Breaking Level of 220kV Circuit Breaker Authors: <i>Xin Li, Ning Xiao, Peilong Chen, Zhu Chen, Shijian Zhu</i>
543	Title: Comparison Of Installation Process And Electric Field Distribution Of Prefabricated And Molded 35kv Polypropylene Cable Joint Authors: <i>Jun Chen, Shuai Hou, Yunpeng Zhan, Mingli Fu, Xiaolin Li, Chang Liu, Kexin Chen</i>
89	Title: Analysis On Abnormality Of 220kV Metal Oxide Lightning Arrester Authors: <i>Yanan Wang, Lian Geng, Dehan Jiang, Yiling Ma</i>
186	Title: Comparative Analysis Of Aging State Of Composite Insulator By Nuclear Magnetic Resonance And Infrared Spectroscopy Author: <i>Yi Zhang</i>
266	Title: Feasibility Analysis of Applying Carbon Fiber Composite Conductor in Medium and Heavy Icing Area Authors: <i>Shuangyan Shu, Weizhuo Chen, Lianhang Fang, Ruihai Li, Yongli Liao, Bo Gong</i>
420	Title: Breakdown Properties of Solid-Solid Interface between Epoxy Resin and Silicone Rubber under Vertical Stress Authors: <i>Zhaoliang Xing, Shaowei Guo, Huize Cui, Fei Li, lingyu yang, Pengxin Li, Daomin Min</i>
537	Title: Research on identification of occasional UHF PD in UHV GIS based on K-Means Authors: <i>Yuan Xu, Yanpeng Gong, Fei Du, Shuai Yuan, Jinpeng Jiang, Ning Yang, Mingxin Shao</i>
569	Title: Fracture Toughness Measurement of GIS/GIL Epoxy Composites Based on Ultrasonic Testing Technology Authors: <i>Congwei Yao, Zhuoyi Liang, Xiaofeng Pang, Yanpeng Hao, Lin Liu, Yingying Zhang, Yao Zheng, Shuai Sun, Xingwang Li, Xian Yang</i>

ID	Title & Authors
838	Title: Influence of Water Blocking Tape Parameters on the Electric Field Distribution of the High Voltage Cable Buffer Layer Authors: <i>Wenbo Zhu, Yanting Cheng, Jiasheng Huang, Baojun Hui, Shuai Hou, Bin Feng</i>
847	Title: Simultaneous Detection of H ₂ S And CO Based On Cantilever Enhanced Photoacoustic Spectroscopy Authors: <i>Jianping Liao, Meng Gao, Xiang Peng, Jinyu Pu, Zhifeng Liu, Chuanhui Cheng</i>
872	Title: Cantilever Enhanced Pa Spectroscopy Detection For CO Decomposition In Sf ₆ Equipment Authors: <i>Dibo Wang, Jianpin Liao, Ran Zhuo, Zhifeng Liu, Zhifeng Liu, Yongye Xu</i>
985	Title: Research on Measuring Method of Power Frequency Superimposed Impulse Voltage Authors: <i>Kangmin Hu, Zhaozhi Long, Wenting Li, Jiawei Fan, Kunxiong Liu, Shaobo Liu, Feng Zhou</i>
1004	Title: High-Current Arc Test And Characteristic Research In Converter Transformer Authors: <i>Jun Deng, Zhicheng Xie, Zhicheng Pan</i>
1011	Title: Research on Lightning Protection of VMIP ±350kV Transmission Line Authors: <i>Liuchun Zhang, Yu Yin, Weidong Shi, Tiantian Lu, Peng Kang</i>
1047	Title: The Study of SF ₆ Decomposition Detection by Photoacoustic Spectroscopy Authors: <i>Liming Wang, Xin Zi</i>
702	Title: Development of Precision Impulse Current Measuring Device Authors: <i>Zhaozhi Long, Wenting Li, Shaobo Liu, Feng Zhou, Jiawei Fan, Kangmin Hu, Wenxin Peng</i>
736	Title: A New Method for Cable AC Voltage Test of Insulation Based on Replacing Test Reactor Combination by Shunt Reactor Authors: <i>Can Guo, Hao Wu, Yanhua Han, Yong Sheng, Jing Wang, Jingfeng Wu, Tao Lin, Zhen Tan, Yongliang dang</i>

ID	Title & Authors
839	Title: Impedance Analysis of Buffer Layer of High Voltage XLPE Cables Authors: <i>Baojun Hui, Peng Zhao, Jiasheng Huang, Wenbo Zhu, Shuai Hou, Yifan Zhang</i>
1039	Title: Radiation Emission Characteristics of Alternating Current Arc Discharges with Live Working Robot Authors: <i>xingfa liu, yifeng li</i>
740	Title: A high voltage pulse power supply based on piezoelectric transformer Authors: <i>Zixin Zhao, Li Zhuang, Ruobing Zhang</i>
769	Title: Research the Influences of the Thickness of Air Gap and Iron Core on the Vibration of the Shunt Reactor Authors: <i>Yanzhao Wang, Bing Zhou, Jingzhu Hu, Baoquan Wan, Lanrong Liu, Qili Lin</i>
823	Title: Simulation Research on Mechanical Performance of Converter Transformer On-Load Tap-Changer Based On Transient Dynamic Analysis Authors: <i>Jun Deng, zhicheng xie, zhicheng pan</i>
832	Title: Influence Factors of Acoustic Fingerprint Detection of M-Type On-Load Tap Changer Authors: <i>Jiangang Bi, Yuan Xu, Yufeng Chen, Jinpeng Jiang, Jiabin Zhou, Fei Du, Jinchao Du</i>
975	Title: Effect Of Functional Group Introduction on The Trap Energy Level Distribution Of SiR Authors: <i>Yani Wang, Pinshun Ren, Shuai Zhang, Xingwu Yang, Chun Liu, Yalin Wang</i>
1018	Title: A Simple Calculation Method for Lightning Stroke Flashover Rate of 10 kV Distribution Overhead Lines Authors: <i>Ting Lei, Haibin Shen, Xia Zhao, Tiantian Lu</i>
1020	Title: Key Technologies of Structrue Design of 385m Super-high Long-span Transmission Tower Authors: <i>Buhui Li, Zuomin Wang, Qingsong Tao, Liang Yu, Haibo Long</i>
1130	Title: Moisture Assessment of the ERIP Insulation bushing Based on Self-Adaptive Particle Swarm Optimization Algorithm Authors: <i>Taiwei Liu , Xiongjie Xie, Wei Hu, Xiaoqing Luo, Qiming Ye, Pengbo Yin</i>

ID	Title & Authors
1158	Title: Lightning Protection for the Transmission Line of $\pm 800\text{kV}$ UHVDC Single Circuit and 500kV EHVAC Double Circuit Erected on the Same Tower Authors: Liuchun Zhang , Yu Yin , Weidong Shi , Ziming He , Tiantian Lu , Peng Kang
704	Title: Optimal design of metal particle trap in DC GIL Authors: Huaqi Liu , Shenghui Wang , Qi Ou , Qiang Wang
837	Title: Anti-Interference Method For Measuring Radiated Electromagnetic Waves Of Circuit Breaker Authors: Yanfei Su , Wei Wang , Xin Liu , Bobo Zhan
991	Title: The Deterioration Mechanism of The Mechanical And Electrical Properties of Insulating Cardboard Under Mechanical Force Authors: Zihao Li , Guan Wang , Zhongyu Zhao , Xu Jiang
998	Title: Analysis of The Influence of Transformer Harmonics Caused By DC Bias on Reactive Power Compensation Capacitor Banks Authors: Wang Ganlin , Zhang Guoxin , Liu Hongshun , Yu Dayang , Wang Qilin , Chen Long
1012	Title: Analysis of The Method of Reducing The Induced Voltage And Current of Ground Wire Authors: Lingzi Zhou , Zhenpeng Tang , Xiaojin Liu , Weiling Ye , Yupu Sun , Fanghui Yin , Liming Wang
590	Title: Corona Discharge of Pratical Operated Transmission AC Lines Authors: Yuze Jiang , Mengqi Zhang , Ruobing Zhang
687	Title: Research on Testing And Simulation Analysis Of Overvoltage Waveform on The Roof of a Moving Train Authors: Shenghui Wang , Qi Ou , Shuaitao Mao , Qizhe Zhang
678	Title: Micromagnetic Simulation of Improved Nanocrystalline Alloy Model Under Khz Magnetization Authors: Lingjun Dai , Liang Zou , Kaihang Guo , Li Zhang
541	Title: Electric Field Simulation Analysis of Typical Defects of 220kV Molded Joints of Polypropylene Cable Authors: Yunpeng Zhan , Shuai Hou , Mingli Fu , Xiaolin Li , Kexin Chen , Chang Liu , Jun Chen

Superconducting Technology and Application

Chair: [Dr. Jiahong He](#), Southeast University

ID	Title & Authors
177	Title: Thermal Stability Analysis of 2G High Temperature Superconducting (HTS) Tapes under DC Shock Authors: Darui He , Yan LI , Qiu Wang , Jiaqi Zheng , Fangyuan Tian , Yifei Fan , Chengjie Cao
178	Title: Electromagnetic Design of Excitation Winding of 10MW Superconducting Wind Generator Authors: Yan Li , Darui He , Xiao Han , Qiong Wang
213	Title: Electromagnetic-Thermal Coupling Model of 500kj HTS Energy Storage Magnet Authors: Jinhui Xie , Sisi Peng , Xiaojun Niu , Hong Xu , Jun Zheng
1070	Title: Field-Circuit Coupled Modelling of Superconducting Cable for Positive And Zero Sequence Impedance Analysis Authors: Huiming Zhang , Hongjie Zhang , Jianping Yang , Jian Zheng , Yongqing Zhao , Ting Jiao

Internet of Things (IoT) and Energy System

Chair: *Associate Prof. Qi Wang, Southeast University*

ID	Title & Authors
1169	Title: Research on Power Cable Life-Cycle Management and Control System Based on Function-Enhanced Location-Measurement Temperature-Sensed Chip Authors: <i>Guang Chen, Chenggang Li, Wei Liu, Miao Li, Jianhua Zhen, Kun Dong, Jianfeng Zhao</i>
451	Multi-Model Aggregation Method for Non-Intrusive Load Monitoring Based on Stacking
449	WAPI Network for Novel Intelligent Services of Substations in Smart Grid Application: Analysis and Overview <i>Li Wang, Liming Chen, Siliang Suo, Weizhi Ren</i>
423	Spectrum Sensing Based on WaveNet for Cognitive Radio with Multiple Parallel Signal Sequences Analysis <i>Lu Wang, Yuting Li, Hao Jia, Bowen Hong, Yaping Deng</i>
494	Stability Analysis of Load Frequency Control Based on Age-of-Information <i>Dan Jiao, Chengrong Lin, Kaigui Xie, Bo Hu, Changzheng Shao, Shengpu Gao</i>
829	Wire/Cable Connection Method for ECSO Design Introduction and Estimation and Verification Software for Estimating Introduction Benefit <i>Daigo Yonetsu, Takeshi Yano, Kazuhisa Kameyama, Yoshifumi Higashikawa, Kazuhiko Masuo</i>
174	A Low Cost Real-Time Power Quality Measurement Method and Its Implementation <i>Congcong Li, Xuezhong Fan, Hongxia Zhu, Li Cao, Pingxin Wang, Chao Yu, Xiang Zhang</i>
274	Intelligent Video Analysis Platform Based on Edge Artificial Intelligence Technology in Power Industry <i>Da Fu, Xiaoran Zhao, Pengfei Yu</i>

ID	Title & Authors
478	Application Analysis of LoRa Technology in Substations <i>Yulei Jiang , Liang Wang, Yueying Hao, Xin Xu, Mingzhi Geng</i>
21	A DDQN-based Energy-Efficient Resource Allocation Scheme for Low-Latency V2V communication <i>Juanjuan Miao, Xinyue Chai, Xiaoqin Song, Tiechen Song</i>
38	Safety Management in Substation Project Construction Based on Advanced Internet of Things and Smart Sensors Technologies <i>LvQuan Chen, Jingrui Tang, Xiaotian Lu</i>
135	Dynamic Access Control Architecture of Distribution Master Station Based on Extended Trust Evaluation <i>Chao-qun Kang, Er-xia Li, Yu-ling Li, Li Wang, Yun-shan Liu, Zi-long Han</i>
20	Optimal Allocation of Real Time Measurement In Distribution Network Considering Network Observability <i>Zhensheng Wu, Deling Fan, Kemeng Li, Zhongli Zhang</i>
25	Design And Development of Smart Terminal Self-Sensing Module <i>Qigui Yao, Xiangqun Wang, Xiaojian Zhang, Zhuo Lv, Mingyan Li, Zheng Zhang</i>
211	Application Scenarios and Analysis of NB-IoT Communication in Substation and Power Internet of Things <i>Junyi Yin, Zihan Gan, Yuan Gao, Guodong Meng, Yonghong Cheng</i>
335	SF6 Leak Alarm Monitoring Technology for LoRa-based Gas Insulated Switchgear <i>Ying Zhang, Hao Mu, Chujie Feng, Mingwei Wang</i>

Emerging Interdiscipline with Electrical Engineering

Chair: [Dr. Lizi Luo](#), Nanjing University of Science and Technology

ID	Title & Authors
197	Title: Experimental Study of Plasma Anti-Icing over An Airfoil Based on Two Different Electrode Layouts Authors: Like Xie , Mei Lin , Huimin Song
794	Title: Numerical Analysis of Water Hammer Effect In Electromagnetic Hydraulic Tank Authors: Xuze Yu , Yanpu Zhao
1088	Title: A Defects Detection System for Substation Based on YOLOX Authors: Yao Cui , Junjie Ye , Xin Huang , Xin Zhang , Linlin Zhong
1117	Title: Knowledge Graph Construction for Electric Substation Based on Multiple-source Data Authors: Zheng Jiang , Huan Long
1141	Title: Multi-Time Granularity Line Loss Prediction for Distribution Network Based on MIC and Deep Learning Authors: Yangchao Xu , Jun Fang , Guang Ling , Tianheng Chen , Junjie Chen , Jie Wang
770	Title: Research on the Knowledge Graph Construction Technology and its Power Grid Applications Authors: Yuan Gu , Lucheng Hong , Zehua Chen , Yuchen Zhang , Minghe Wu , Ziheng Yan
954	Title: Design And Simulation of Distributed Fuel Cell Cogeneration System Under Different Conditions Authors: Shuozhi Niu , Kaicheng Liu , Guixiong He , Lei Chen
27	Title: A Self-healing Power Cable Sheathing Material Authors: Lei Peng , Musong Lin , Qiang Fu

ID	Title & Authors
212	Title: Research On Lightning Protection And Grounding Safety Evaluation of Base Station Shared Power Tower Authors: <i>Huan Huang, Yan Hong Xiao, Bin Li, Lei Liu, Siwu Yu, Xianyin Mao, Chi Peng, Hao Du</i>
1138	Title: Fault Waveform Construction Method for Detecting the Intelligent Switch based on GAN and CNN Authors: <i>Xiuru Wang, Rui Liang, Shaohua Han, Wangqing Mao, Xuan Ge, Peng Zhang</i>
191	Title: Analysis of Power Quality Disturbance Based on Improved HHT and BPSO-SVM Authors: <i>Jiakai Wang, Lei Yu, Hongwei Liu</i>
319	Title: A Voltage Level Shifter with Fast Level Translation Speed Authors: <i>Dongyan Zhao, Yubo Wang, Yanning Chen, Zhen Fu, Luo Wang, Yali Shao, Kelu Hua, Hanling Li, Jing Zhou</i>
374	Title: Comparison And Improvement of Key Feature Selection Methods For Intelligent Assessment of Transient Power Angle Stability Authors: <i>Yin Zhang, Taishan Xu, Xiancheng Ren, Yanhong Bao, Feng Wu, Jinlong Zhang</i>
465	Title: A Preliminary Study on Automatic Detection Technology of Stability Control System Driven by Knowledge Graph Authors: <i>Bo Wen, Hengxuan Li, Junhao Zhang</i>
542	Title: A Brief Review of Digital Twin in Electric Power Industry Authors: <i>Yunfang Fu, Yunkai Huang, Feng Hou, Kunpeng Li</i>
907	Title: Study On The Change of Magnetic Properties of Silicon Steel Under Multi-Physical Coupling Field Authors: <i>Anqi Wang, Baozhi Tian, Hang Zhang, Shibo Xu, Ruilin Pei</i>
1010	Title: Fabrication and Performance Analysis of TiN/W Superlattice Electrodes for Low-power Phase Change Memory Authors: <i>Xinyuan Xu, Jie Liu, Pu Tang, Jing Xiao, Ming Tao</i>



ID	Title & Authors
33	Title: Power Grid Engineering Data Knowledge Retrieval And Graph Construction Technology Authors: <i>Jia Zhou, Longfang Li, Yang Bai</i>
225	Title: Nonlinear dynamic analysis of the PCC buck converter with MR parallel load Authors: <i>Zhen Kuang, Qihua Fan, Wenlei Li, Dongqing Wang</i>
227	Title: Genetic algorithms based LSSVM for EEG fatigue multi-classification Authors: <i>Yuxiang Li, Dongqing Wang, Meng Jiao</i>
235	Title: Research on the Relationship between Building Energy-saving Performance and Building Spacing in Regions with Hot Summer and Cold Winter Authors: <i>Xiaoman Cui, Zhi Wu, Fujue Wang</i>
318	Title: A High-precision Oscillator with Fast Start-up Authors: <i>Dongyan Zhao, Yubo Wang, Jin Shao, Zhen Fu, Luo Wang, Yali Shao, Kelu Hua, Hanling Li, Jing Zhou</i>
320	Title: CMTI Improvement Circuit for Digital Isolator Authors: <i>Dongyan Zhao, Yubo Wang, Yanning Chen, Shao Jin, Luo Wang, Yali Shao, Kelu Hua, Hanling Li, Jing Zhou</i>
375	Title: Research On Intelligent Evaluation Model of Transient Stability Based on K-Means Grouping Authors: <i>Xiancheng Ren, Yin Zhang, Feng Wu, Huling Yuan, Jinlong Zhang, Haijun Chang</i>
648	Title: Regulation of pulse DC power on the Long lived reactive species concentration of AC excited plasma in liquid phase Authors: <i>Bucheng Peng, Zhiyu Li, Lanlan Nie, Xinpei Lu</i>
676	Title: Discussion on 5G Business Model in Power Industry Authors: <i>Song Wang, Jiansong Qin, Xuanwei Qi, Zhikun Yan, Ming He, Yuting Liu</i>

ID	Title & Authors
720	Title: Electrical Metrology Based on Quantum Technology : a Review of Current Progress Authors: <i>Siyun Wang, Meimei Duan, Qing Xu, Zigang Lu, Guofang Xia, Dan Gong, Yongxian Yi, Jin Bao</i>
763	Title: Prediction of Conducted Disturbance In Drive System of Permanent Magnet Synchronous Motor Authors: <i>Qibin Zhou, Yabin Liu, Xiaoyan Bian, Ting Cao</i>
893	Title: Reconstruction of Model And Analysis of Electrical Machine Based on High-Strength Steel At Burst-Speed Authors: <i>Yulin Li, Anqi Wang, Hang Zhang, Ruilin Pei</i>
1028	Title: Analysis of Stator Bending Stress Iron Loss Based on Ultra-Thin Non-Oriented Electrical Steel High-Speed Axial Flux Motor Authors: <i>Jianwei Li, Deji Ma, Hang Zhang, Baozhi Tian, Ruilin Pei</i>



Appendix



Scan and Enter the Live

Online Meeting Guidelines of CIEEC2022

Distinguished guests and delegates,

2022 IEEE 5th International Electrical and Energy Conference (CIEEC2022) on May 27-29, 2022 **will be held on line**. The general arrangement of the conference is as follows: special training will be held on the afternoon of May 27, opening ceremony and keynote speeches will be held on May 28, and special session will be held on May 29.

Thank you for your strong support to CIEEC2022!

Online Conference System link: https://www.aconf.org/conf_181211.html

Important Information



The online meeting will use **Tencent meeting**, please download and install it in advance. Thank you for your cooperation. If it has been installed, please ignore it.

→ For tutorial on **May 27**, please refer to the click:

https://www.aconf.org/conf_181211/live.html

→ For opening ceremony and keynote speeches on **May 28**, please refer to the click:

https://www.aconf.org/conf_181211/live.html

For Oral Presentation

◆ Preparing Your Oral Presentation

1. Presentation for oral sessions requires a maximum 12 minutes long PPT presentation and 3 minutes Questions & Answers. We recommend 16:9 PPT format for better screen showing.
2. Each speaker is required to meet his/her Session Chair online 10 minutes before the session starts.
3. Click https://www.aconf.org/conf_181211.html and then find“Program”and your paper.

For Poster Presentation

◆ Preparing Your Poster Presentation

1. Upload your poster materials

Presentation for poster sessions requires one-page-poster and a maximum five-minute Poster video (make a 5-minute explanation video for your poster, which can be explained directly according to the poster).

Please upload the Poster in PDF format at <http://www.cieec-conf.org/>.

Please upload the maximum five-minute Poster Explanation video in MP4 format at <http://www.cieec-conf.org/>.

The author can also log in to his account on the official website to upload his own poster and other materials.

Deadline for uploading of paper presentations: 2022.05.22

Tips:

- a. The name of the poster for uploading MUST be the Paper ID, “xxxxxx.pdf”, The video should also be named as paper ID, “xxxxxx.mp4”, etc.
- b. It is possible to upload the improved version with the same name. The old version will be replaced.

2. Others

Note that accepted paper without presentation will be considered as no show in the conference, and the paper will be removed from the conference proceedings without refund.



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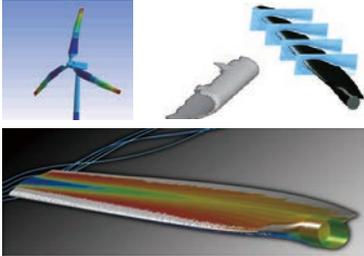




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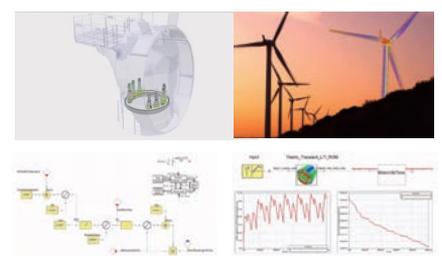
转子动力学和气动噪声



结构与制造: 桨叶、机舱与风塔

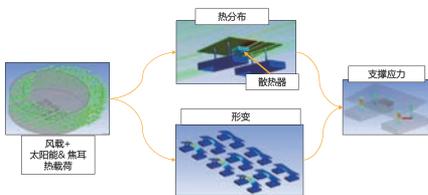


预测性维护和数字孪生

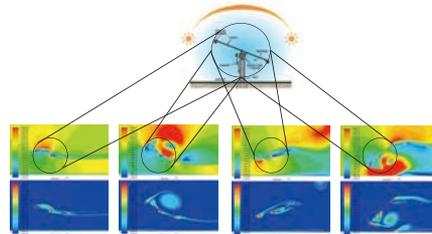


光伏典型应用

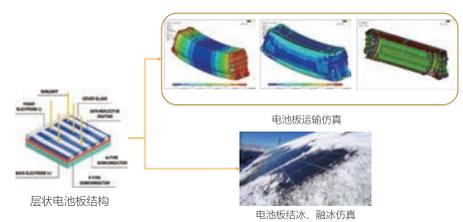
支撑结构可靠性分析



支撑结构可靠性分析

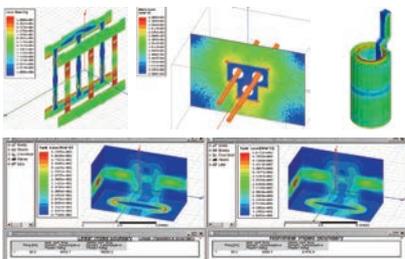


面板可靠性分析

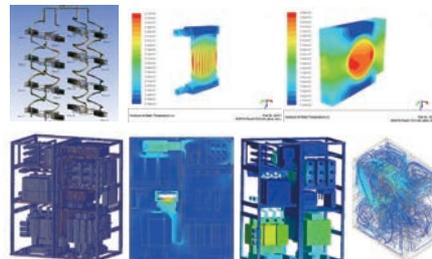


输配电典型应用

变压器杂散损耗和线圈损耗计算



电气柜和换流阀散热系统分析



基于仿真的数字孪生





你的测试解决方案，
需要ITECH这一步！

测试仪器

- 交/直流电源
- 交/直流电子负载
- 功率分析仪
- 电池内阻测试仪
- 电网模拟器

测试系统

- 电源自动化测试系统
- 电池&燃料电池测试/模拟系统
- 太阳能阵列测试/模拟系统
- 车载充电机/DC-DC测试系统
- 交直流充电桩测试/模拟系统
- 便携式交流充电装置测试系统
- 老化测试系统

解决方案与应用

- 电源/电池测试解决方案
- 半导体/工业电子/LED 测试解决方案
- 光伏/智能电网测试解决方案
- 新能源/汽车电子测试解决方案
- 5G通讯/IOT/医疗电子测试解决方案
- 教育/军工/航空航天测试解决方案

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