

CONFERENCE PROGRAM



-照片直播-



ACEEE
2026 

2026 9th Asia Conference on
ENERGY AND ELECTRICAL ENGINEERING
第9届亚洲 **能源与电力** 工程会议

July 24-26 | 7月24-26日 Qingdao, China | 中国青岛



2026 9th Asia Conference on ENERGY AND ELECTRICAL ENGINEERING

第9届亚洲 **能源与电力** 工程会议

July 24-26 | 7月24-26日 Qingdao, China | 中国青岛

Co-sponsored by  青岛科技大学
Qingdao University of Science & Technology   IEEE

Co-hosted by  自动化与电子工程学院(机器人学院)
College of Automation and Electronic Engineering(College of Robotics)

Media Support 青岛科技大学学报 山东电力技术 电力系统保护与控制 PCMP Protection and Control of Modern Power Systems EPG 电力建设

Energy Conversion and Economics

电力自动化设备
Electric Power Automation Equipment

CPES
Cyber-Physical Energy Systems

energies
an Open Access Journal by MDPI



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GENERAL INFORMATION

A Conference Venue & Zoom Meeting ID



青岛海天金融中心酒店

Qingdao Haitian Financial Center Hotel

山东省青岛市崂山区仙霞岭路 29 号
29 Xianxialing Road, Laoshan District, Qingdao,
Shandong

请参会人员参照以下方式自行预订:

客房预订: 梁珂 Ms. Liang Ke, (0086) 17806266119

备注: 订房请告知酒店是 ACEEE 会议参会人员。

扫码预定



	Download (Click) Conference Banner (Click) Zoom Background (Click)	Zoom ID	Meeting Link
		861 2220 0868	https://us02web.zoom.us/j/86122200868

◆Name Setting

Keynote Speaker: Keynote-Name

Committee: Position-Name

Author: Paper ID-Name

Delegate: Delegate-Name

B Onsite Registration

Registration desk (Hotel Lobby) → Inform the staff of your paper ID → Sign-in → Claim your conference kit.

C Devices Provided by the Organizer

Oral Session: Laptops (with MS-Office & Adobe Reader) / Projectors & Screen / Laser Sticks

Poster Session: Double-sided poster stan

D Devices Provided by the Organizer

Oral Session: Slides (pptx or pdf version). Format 16:9 is preferred.

Poster Session: A1 (Length: 841mm, width:594mm) size poster.



GENERAL INFORMATION

E Duration of Each Presentation

Keynote Speech: 40min, including Q&A.

Invited Talk: 30min, including Q&A.

Oral Session: 15min, including Q&A.

Poster Session: 10min, including Q&A.

F Notice

※ Please wear your delegate badge (name tag) for all the conference activities. Lending your participant card to others is not allowed.

※ Please take good care of your valuables at any time during the conference. The conference organizer does not assume any responsibility for the loss of personal belongings of the participants during conference day.

※ **UTC+8, China Standard Time (CST).** Please be aware of time difference between this and your region/country.

G Contact Us

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WELCOME MESSAGE

Dear Distinguished Colleagues,

On behalf of the Organizing Committee, it is our great pleasure to welcome you to the 2026 9th Asia Conference on Energy and Electrical Engineering (ACEEE 2026), to be held in Qingdao, China, from July 24 to 26, 2026. It is co-sponsored by Qingdao University of Science and Technology, China, Beijing CAS Industrial Energy and Environment Technology Institute (BIEET) and IEEE, co-hosted by College of Automation and Electronic Engineering (Qingdao University of Science and Technology).

The scientific program for this year comprises 4 keynote addresses, to be delivered by Prof. Niancheng Zhou (Chongqing University), Prof. Zhihua Zhang (Vice Dean of the School of New Energy, China University of Petroleum (East China)), Prof. Hao Tian (Shandong University), and Yifei Guo (Shandong University). In addition, the program features 13 invited talks, followed by 4 special sessions, 6 oral session, 1 poster session, and 2 online sessions.

We are pleased to note that the conference agenda encompasses a broad spectrum of compelling topics spanning both theoretical and applied aspects of energy and electrical engineering. These include, but are not limited to, data-model dual-driven digital twin modeling and applications for power distribution networks; advanced power electronics technologies for renewable energy, storage, and grid integration; emerging challenges in modeling, control, and protection of power electronics-dominated power systems; grid-forming technologies and stable operation control of power-electronized power systems; and renewable energy power forecasting, state estimation, and optimization of energy storage systems.

All papers included in the proceedings have undergone a rigorous peer-review process, conducted by the conference committee and international reviewers, based on both topical relevance and scholarly quality. Through the keynote speeches, invited presentations, and parallel sessions, we have crafted an intellectually stimulating program that offers ample opportunities for participants to present and discuss the latest research advances and industrial developments in these dynamic fields.

On behalf of the entire Organizing Committee, we wish to extend our sincere gratitude to all delegates, keynote and invited speakers, session chairs, and every committee member who has contributed their time, expertise, and substantial efforts to the technical evaluation of the submitted manuscripts and to the overall organization of the conference.

Finally, we sincerely hope that ACEEE 2026 will prove to be a memorable and rewarding experience for each of you.

With warmest regards,

Conference Organizing Committee

ACEEE 2026

Qingdao

CONFERENCE COMMITTEE

Conference Advisory Committee/大会咨询委员会:

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Wei Zhang, Qingdao University of Science and Technology, China

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Muhammad Arshad Shehzad Hassan, The University of Faisalabad, Pakistan

AGENDA OVERVIEW (UTC+8)

Friday, July 24, 2026

Onsite Registration	10:00-17:00	1F Lobby, Qingdao Haitian Financial Center Hotel 1F 青岛海天金融中心酒店 大厅
Online Presentation Test	14:00-16:00	 Zoom A: 861 2220 0868 Link: https://us02web.zoom.us/j/86122200868

Zoom Test Timetable

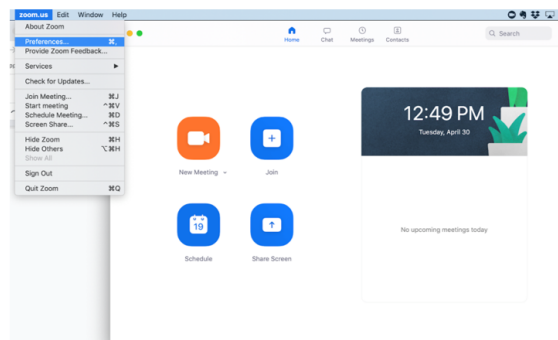
- ✧ Participants who are going to do an online presentation are required to join the rehearsal in Zoom on **Friday, July 24, 2026**. Duration: 2-3min apiece. Feel free to leave after you finish the test.
- ✧ Please get your presentation slides and computer equipment prepared beforehand.

14:00-14:30	CE6008, CE614, CE625, CE647, CE653, CE654, CE655, CE656, CE622, CE674, CE784
14:30-15:00	CE6005, CE616, CE626, CE638, CE667, CE711, CE740, CE748, CE756, CE787, CE767
15:00-16:00	Other online participants, includes but not limited to keynote speakers, invited speakers, session chairs, committee members, delegates. Participants who are unavailable during the above allocated time can also join the rehearsal at 15:00-16:00.

Zoom Guidance

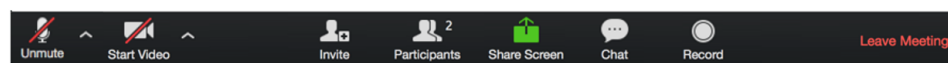
You can join the meeting without sign-in process. Just put the meeting ID and join us.

URL: <https://zoom.us/download>



Each meeting has a unique 9, 10, or 11-digit number called a **meeting ID** that will be required to join a Zoom meeting.

For any questions on the meeting day, you can text privately to "Assistant" for help.



Audio muted and video off (both indicated by a red slash).

Click to open the Participants box. This will allow you to "Raise Hand".

To share screen or contents.

Click to open the Chat box. This will allow you to chat with Hosts and Participants.

AGENDA OVERVIEW (UTC+8)

Saturday, July 25, 2026 | Plenary Meeting

3F 宴会厅 Ballroom 1

09:00~	Chairperson	Dong Wang (王栋) ACEEE 2026 General Co-Chair Associate Professor, Qingdao University of Science and Technology
09:00-09:10	Opening Remarks	Wanxiang Lv (吕万翔 青岛科技大学党委常委、副校长) Vice Principal, Qingdao University of Science and Technology
09:10-09:50	Keynote Speech I	Niancheng Zhou (周念成) Professor, Chongqing University <i>Speech Title: Fault Ride-Through Technology Based on Coordinated Control and Protection for Flexible DC Transmission in Large-Scale Renewable Energy Power Export</i>
09:50-10:30	Keynote Speech II	Zhihua Zhang (仇志华) Professor, Vice Dean of the School of New Energy, China University of Petroleum (East China) <i>Speech Title: Voltage Dimension-Upgraded Mapping Model for Distribution Network Faults and Its Localization Method</i>
10:30-11:00	Group Photo & Coffee Break 3F	
11:00-11:40	Keynote Speech III	Hao Tian (田昊) Professor, Shandong University <i>Speech Title: A Preliminary Study on Converter Design and Optimal Control of Sodium-Ion Energy Storage Converters</i>
11:40-12:20	Keynote Speech IV	Yifei Guo (郭一飞) Professor, Shandong University <i>Speech Title: Towards Optimal Dynamic Voltage Support from Inverter-Based Resources</i>
12:20-12:35	Awarding 2026	✧ Best Student Paper 最佳学生论文奖 ✧ Best paper 最佳论文奖 ✧ Best Special Session Organization Award 最佳专题组织奖
12:35-14:00	Lunch Buffet < 3F 泰山厅 Taishan Function Room >	

AGENDA OVERVIEW (UTC+8)

Saturday, July 25, 2026 | Parallel Session (Onsite)

14:00-16:00 (2h)		16:30-18:00 (1h30min)	
Invited Session 1-1 Operation, Control and Protection Technologies for the New-Type Power System <i>Chair: Dong Wang</i> <u>Speakers:</u> Yongliang Liang, Juan Li, Dengke Gao, Zongshuai Jin		Invited Session 1-2 Operation, Control and Protection Technologies for the New-Type Power System <i>Chair: Dong Wang</i> <u>Speakers:</u> Dong Wang, Jiakai Huang, Dachuan Yu	
			2F 会议室 5 Meeting Room 5
Invited Session 2-1 Topology, Control and Coordinated Optimization of Power Electronic Converters <i>Chair: Decun Niu</i> <u>Speakers:</u> Xuefeng Ge, Lei Zhang, Tao Xu, Xiangmin Xie		Invited Session 2-2 Topology, Control and Coordinated Optimization of Power Electronic Converters <i>Chair: Decun Niu</i> <u>Speakers:</u> Futian Qin, Decun Niu	
			2F 会议室 6 Meeting Room 6
Poster Session 1-1 Intelligent Operation and Multi Energy Complementary Collaborative Scheduling Technology for New Power Systems <i>Chair: TBA</i> CE6011, CE6012, CE635, CE658, CE718, CE741, CE754, CE662, CE642, CE632, CE663, CE618, CE630, CE640, CE646, CE703		Poster Session 1-2 Intelligent Operation and Multi Energy Complementary Collaborative Scheduling Technology for New Power Systems <i>Chair: TBA</i> CE719, CE742, CE757, CE758, CE760, CE615, CE611, CE753, CE716, CE727, CE778, CE779, CE728, CE609, CE661	
			2F 会议室 3 Meeting Room 3
16:00-16:30	Coffee Break		
18:00-20:30	Dinner Buffet < 4F 海风自助餐厅 Cafeteria >		

AGENDA OVERVIEW (UTC+8)

Sunday, July 26, 2026 | Parallel Session (Onsite)

09:00-11:45 (2h45min)	13:00-15:00 (2h)	15:20-16:50 (1h30min)	
Special Session 1 Data-Model Dual-Driven Digital Twin Modeling and Application for Power Distribution Networks <i>Chair: Xiangmin Xie</i> CE698, CE6010, CE768, CE603, CE604, CE634, CE649, CE744, CE746	Oral Session 1 Topology Optimization and Adaptive Robust Control Strategies for Power Electronic Converters/Inverters <i>Chair:</i> CE6006, CE631, CE694, CE707, CE783	Oral Session 4 Multi-Modal Data-Driven Optimization for Low-Carbon Power System Operation and Electricity-Carbon coordinated Dispatch <i>Chair: Dong Han</i> CE720, CE725, CE731, CE736, CE781, CE782	3F 会议室 2 Meeting Room 2
Special Session 2 Advanced Power Electronics Technologies for Renewable Energy, Storage, and Grid Integration <i>Chair: Tao Zhao</i> CE612, CE633, CE673, CE697, CE726, CE732, CE735, CE755, CE777	Oral Session 2 Modeling, Advanced Packaging, and Thermal Management Technologies for Wide-bandgap Semiconductor Devices <i>Chair:</i> CE619, CE620, CE733, CE690, CE691	Oral Session 5 Renewable Energy Power Forecasting and State Estimation and Optimization of Energy Storage Systems <i>Chair:</i> CE765, CE688, CE6009, CE645, CE780	2F 会议室 3 Meeting Room 3
Special Session 3-1 Emerging Challenges in Modeling, Control, and Protection of Power Electronics-Dominated Power Systems <i>Chair: Dachuan Yu, Dong Wang</i> CE623, CE636, CE664, CE668, CE669, CE675, CE682, CE683, CE684, CE689	Special Session 3-2 Emerging Challenges in Modeling, Control, and Protection of Power Electronics-Dominated Power Systems <i>Chair: Dachuan Yu, Dong Wang</i> CE693, CE695, CE705, CE706, CE708, CE712	Special Session 3-3 Emerging Challenges in Modeling, Control, and Protection of Power Electronics-Dominated Power Systems <i>Chair: Dachuan Yu, Dong Wang</i> CE762, CE764, CE766, CE791	2F 会议室 5 Meeting Room 5
Special Session 4 Grid-Forming Technologies and Stable Operation Control of Power-Electronized Power Systems <i>Chair: Decun Niu, Lei zhang</i> CE672, CE685, CE686, CE699, CE700, CE709, CE714, CE717, CE724, CE773, CE790	Oral Session 3 High-voltage Power Transmission Engineering and Performance Assessment of Insulation Materials <i>Chair:</i> CE696, CE713, CE721, CE723-A, CE729-A, CE730-A, CE751, CE769	Oral Session 6 Fault Diagnosis and Online Condition Monitoring of Electrical Equipment Based on Machine Vision and Deep Learning <i>Chair: Jun Dai</i> CE776, CE774, CE679, CE747, CE789	2F 会议室 6 Meeting Room 6
11:45-13:00	Lunch Buffet < 3F 宴会厅 Ballroom 1 >		
15:00-15:30	Coffee Break 2F		



AGENDA OVERVIEW (UTC+8)

Sunday, July 26, 2026 | Parallel Session (Online)



Zoom A: 861 2220 0868

09:00-12:30	Online Session 1: Intelligent Control, Operational Status Analysis, and Health Management of Power Electronic Systems <i>Chair:</i> CE6008, CE614, CE625, CE647, CE653, CE654, CE655, CE656, CE622, CE674, CE784, CE738, CE737, CE704
12:30-13:30	Break Time
13:30-16:45	Online Session 2: Intelligent Fault Diagnosis, Adaptive Protection, and Grid Integration Applications for Renewable Energy <i>Chair:</i> CE6005, CE616, CE626, CE638, CE667, CE711, CE740, CE748, CE756, CE787, CE767, CE761, CE701

Note:

We will take a group photo at the end of each online session, please stay in the meeting room till your session is finished.

INTRODUCTION OF KEYNOTE SPEAKER

09:10-09:50 Saturday, July 25, 2026 (UTC+8h)

3F 宴会厅 Ballroom 1



Niancheng Zhou 周念成

Professor, Chongqing University, Chongqing, China

Speech Title: Fault Ride-Through Technology Based on Coordinated Control and Protection for Flexible DC Transmission in Large-Scale Renewable Energy Power Export

Abstract: This report focuses on the safe and stable operation of flexible DC transmission systems for large-scale renewable energy power export. It addresses key challenges in rapid DC fault clearance and fault ride-through, and presents coordinated control and protection technologies for flexible DC transmission. Although flexible DC transmission offers high controllability, flexible power regulation, and strong suitability for renewable energy integration and long-distance power delivery, DC faults may cause rapidly rising fault currents, lack of natural current zero-crossing, and wide fault propagation. These characteristics pose significant challenges to converter safety, DC line protection, fault isolation, and system recovery. The report analyzes the topology, control modes, and transient fault characteristics of multi-terminal flexible DC systems, explains the mechanisms of fault current formation and propagation, and discusses active current limiting through converter control, passive current limiting using reactors and fault current limiters, and their coordination with DC circuit breakers and protection devices. It also explores voltage support, power redistribution, fast protection criteria, and coordinated control-protection strategies to enhance fault ride-through capability, fault handling efficiency, and the reliability of renewable energy power export.

Bio: Niancheng Zhou (Senior Member, IEEE) received the Ph.D. degree in electrical engineering from Chongqing University, Chongqing, China, in 1997. From 2010 to 2011, he was a Research Fellow at Nanyang Technological University, Singapore. He is currently a Professor of the School of Electrical Engineering, Chongqing University. His research interests include power system protection and control, operation and optimization of renewable energy and power quality. Prof. Zhou serves as a standing director of IEEE PES DC Distribution Network Technical Subcommittee.

INTRODUCTION OF KEYNOTE SPEAKER

09:50-10:40 Saturday, July 25, 2026 (UTC+8h)

3F 宴会厅 Ballroom 1



Zhihua Zhang 仇志华

Professor, Vice Dean of the School of New Energy, China
University of Petroleum (East China), China

Speech Title: Voltage Dimension-Upgraded Mapping Model for Distribution Network Faults and Its Localization Method

Abstract: With the continuous advancement of digital and intelligent distribution networks, low-voltage monitoring technologies have been increasingly perfected, yet the depth of data utilization remains limited. Against this backdrop, a mapping model between the low-voltage side voltage magnitudes and medium-voltage side voltage phasors under various distribution network faults is established, alongside its lightweight solving algorithm to realize dimension-upgraded mapping of fault voltages. Combined with network topology and relevant parameters, the distribution characteristics of fault currents are analyzed, thereby achieving fault section localization and precise fault distance measurement. Relying on existing hardware of integrated terminals in low-voltage transformer districts and master station platforms, the proposed method features low implementation cost and high localization accuracy. It provides effective support for improving the operational reliability of new-type distribution networks and advancing high-quality power grid development.

Bio: Zhang Zhihua, Professor and Doctoral Supervisor, serves as Vice Dean of the School of New Energy, China University of Petroleum (East China). He was a Visiting Scholar at the University of Manchester, UK. His research and teaching mainly focus on protection and control of AC/DC hybrid distribution systems, optimal regulation of multi-energy complementary integrated energy systems, as well as monitoring, analysis and optimal governance of power quality. He has presided over more than 40 research projects including National Natural Science Foundation of China, National High-tech R&D Program (863 Program), National Major Science and Technology Projects, and National Key R&D Program of China. He has published over 70 academic papers, more than 40 of which are indexed by SCI/EI. He has filed more than 20 international and domestic invention patents, 17 of which have been granted. He participated in the revision of the Distribution and Electricity Consumption Volume of China Electric Power Encyclopedia, and took part in formulating 7 group standards for China Power Supply Society. He has received numerous provincial, ministerial, municipal and bureau-level scientific and technological awards.

INTRODUCTION OF KEYNOTE SPEAKER

11:00-11:40 Saturday, July 25, 2026 (UTC+8h)

3F 宴会厅 Ballroom 1



Hao Tian 田昊

Professor, Shandong University, China

Speech Title: A Preliminary Study on Converter Design and Optimal Control of Sodium-Ion Energy Storage Converters

Abstract: Sodium-ion batteries, owing to their abundant resources, low cost, and excellent low-temperature performance, are considered a promising direction for next-generation large-scale energy storage. However, their application is constrained by key challenges including a wide voltage range, ambiguous safety boundaries under high-rate operation, and poor cell consistency. From a battery-converter collaborative perspective, this report presents a preliminary exploration of topology design and optimal control. The research encompasses: adopting a partial power conversion architecture to reduce conversion losses across a wide voltage range; designing a novel multi-DC-port multilevel topology to enable flexible access and independent regulation of multiple battery strings; introducing data-driven methods for battery state estimation to improve the accuracy of state-of-charge and state-of-health prediction under poor consistency conditions; and identifying safety boundaries through thermal runaway experimental data, while exploring the coordination mechanism between safety boundaries and converter control strategies.

Bio: Hao Tian is a full professor with the School of Control Science and Engineering, Shandong University. He has long been engaged in research on the optimal design and control of power converters under grid and microgrid conditions, covering topics such as derivation of novel topologies, universal carrier modulation methods, enhancement of converter control performance, and fault ride-through. In recent years, his research has expanded to include sodium-ion battery energy storage management and integration technology, as well as high-efficiency DC conversion. He has led one key project under the Joint Fund of the National Natural Science Foundation of China, and has participated in multiple national key projects, including the National Key R&D Program, the Canada First Research Excellence Fund, and the National 863 Program. He has published over 30 SCI Q1 papers and one English academic monograph. He has been consecutively listed in Elsevier's World's Top 2% Scientists for several years.

INTRODUCTION OF KEYNOTE SPEAKER

11:40-12:20 Saturday, July 25, 2026 (UTC+8h)

3F 宴会厅 Ballroom 1



Yifei Guo 郭一飞

Professor, Shandong University, China

Speech Title: Towards Optimal Dynamic Voltage Support from Inverter-Based Resources

Abstract: With the increasing penetration of Inverter-Based Resources (IBRs), the legacy practice of disconnecting units during large voltage disturbances poses a severe risk to grid resilience. While IBRs are now required to provide dynamic voltage support (DVS), defining and achieving "optimal" support remains a challenge. This talk addresses three critical questions through the lens of optimization: 1) the optimality analysis and model-free implementation for a single IBR to achieve maximum DVS and 2) the underlying interactions between multiple IBRs.

Bio: Yifei Guo received the B.E. and Ph.D. degrees in Electrical Engineering from Shandong University, Jinan, China, in 2014 and 2019, respectively. He is currently a Professor with the Key Laboratory of Power System Intelligent Dispatch and Control, Ministry of Education, Shandong University, Jinan, China. From 2022 to 2024, he was a Lecturer with the School of Engineering, University of Aberdeen, Aberdeen, U.K. Earlier, he worked as a Postdoctoral Research Associate at Imperial College London, U.K., and Iowa State University, USA, from 2019 to 2022. His research interests include power system modeling, control, and optimization. Dr. Guo serves as an Assistant Editor for International Journal of Electrical Power & Energy Systems and an Associate Editor for Modern Power Systems and Clean Energy.

INTRODUCTION OF INVITED SPEAKER



Yongliang Liang 梁永亮

Associate Researcher and Doctoral Supervisor

Shandong University, China

Speech Title: Intelligent Diagnosis for Complex Early Grounding Faults in Distribution Networks

Abstract:

Further development of incipient earth faults in distribution networks may lead to serious accidents such as electrical fires. Incipient earth faults feature weak signals and difficult feature extraction, making them hard to detect. This paper conducts research on incipient earth faults in overhead lines and cable lines from the perspectives of fault equivalent modeling, feature extraction, and intelligent identification. It provides a feasible technical approach for the accurate identification of various types of complex incipient earth faults.

Bio:

Liang Yongliang, PhD in Engineering, is an Associate Researcher and Doctoral Supervisor at the School of Information Science and Engineering, Shandong University. His main research focuses on fault diagnosis of novel power distribution systems and optimal operation of multi-energy systems. He has undertaken 2 sub-projects of the National Major Science and Technology Program for Smart Grids and 2 projects funded by the Shandong Provincial Natural Science Foundation, as well as more than 20 commissioned research projects for State Grid Corporation of China, China Southern Power Grid, and power generation enterprises. He has published over 50 SCI/EI indexed papers and won 2 Second Prizes of the Shandong Provincial Science and Technology Progress Award.



Juan Li 李娟

Electrical Engineer

State Grid Jiangsu Electric Power Co. Ltd., Research Institute, Nanjing, China

Speech Title: Application Practice and Exploration of DDistribution Network Fault Disposal Capability

Abstract:

The paper introduces the fault disposal schemes for short-circuit, earth-grounded and open-phase faults in Jiangsu distribution networks, and analyzes the impacts of large-scale new energy integration on distribution network protection in the context of distributed photovoltaic access.

Bio:

Juan Li received the Ph.D. degree in electrical engineering from Shandong University, Jinan, China, in 2016. She is currently an electrical engineer in State Grid Jiangsu Electric Power Co. Ltd., Research Institute, Nanjing, China. Her current research interest is protection of Distributed network.

**Dengke Gao** 郜登科

PhD, Researcher

Shanghai Kelian Information Technology Co., Ltd., China

Speech Title: Oscillation Prediction and Suppression of New-Type Power Systems Based on Frequency-Domain Analysis of Impedance Networks

Abstract:

The dual-high characteristics of new-type power systems have led to increasingly prominent oscillation issues across different frequency bands, which seriously threaten the safe and stable operation of power grids as well as the reliable integration of renewable energy. Based on an analysis of the limitations of existing methods, this report introduces the system-level impedance network frequency-domain analysis method, as well as corresponding solutions for oscillation prediction and suppression. The overall workflow for oscillation prediction and suppression is demonstrated through cross-verification examples combining frequency-domain modelling analysis (for single devices and the overall system) and time-domain simulation. From three hierarchical levels: power stations, energy clusters and the entire grid system, this report presents innovative practices of the new power system modelling and simulation software SimuNPS in addressing oscillation problems via frequency-domain analysis.

Bio:

Gao Dengke, PhD, Shanghai Kelian Information Technology Co., Ltd. His main research focuses on frequency-domain analysis, simulation and modelling of new-type power systems. He was awarded the Special Prize for Scientific and Technological Progress by the China Society of Naval Architects and Marine Engineers and the Second Prize for Scientific and Technological Progress by the China Electrotechnical Society. He currently serves as a member of the Technical Committee on Information Power Supply Systems of the China Power Supply Society. He has presided over the formulation of 3 standards, participated in the development of 4 standards, published more than 20 academic papers, and obtained 8 authorized invention patents.

**Zongshuai Jin** 靳宗帅

Associate Research Fellow, Deputy Director

Power System Institute, Shandong University, China

Speech Title: Lightweight Ultra-Wideband Measurement Method for Extremely Limited Computational Resources

Abstract:

Aiming at the application challenges of high-precision wideband dynamic measurement methods in embedded measurement devices with limited computing resources and lacking native support for complex-valued operations for new energy grids, the real-valued fast measurement method for ultra-wideband dynamic signals is proposed and applied in the embedded system. There is no need for special real-valued processing of complex-valued programs according to the specific type of embedded system, resulting in low computational complexity and minimal memory overhead. Through the measurement analysis of field wideband oscillation recorded signals and practical tests on domestic embedded systems, the engineering applicability of the proposed method is verified.

Bio:

Zongshuai Jin, Associate Research Fellow, Deputy Director of Power System Institute, Shandong University. He is IEEE Member, Senior Member of CSEE, Member of Working Group SAC/TC82. His main research focuses on theories, methodologies and applications of deep wide-band situational awareness for power systems. He presides over one National Natural Science Foundation of China project, one sub-project of the National Science and Technology Major Project for Smart Grid, two Shandong Provincial Natural Science Foundation projects, and multiple industrial horizontal research projects. He has been awarded two First Prizes of Science and Technology Progress Award by China Electrotechnical Society, one Second Prize of Beijing Science and Technology Progress Award, and one Second Prize of State Grid Corporation of China Science and Technology Progress Award.

**Dong Wang** 王栋

Associate Professor

Qingdao University of Science and Technology, China

Speech Title: Travelling Wave Fault Location Algorithm of Submarine Cable Integrated with Offshore Wind Farm

Abstract:

In high-voltage alternating-current transmission systems, traveling wave fault location principle is widely applied for submarine cable integrated with offshore wind farm. However, the conventional fault location approaches seldom consider the salient frequency dependent characteristics in terms of cable's multi-conductor structure, which is the key to obtaining higher fault distance accuracy. Meanwhile, considering the special undersea environment, the attenuation characteristic of travelling wave signal propagating along cables is not well analysed. Therefore, for purpose of enhancing the performance of fault location approach, a novel fault location approach for submarine cable integrated with offshore wind farm based on frequency modification algorithm is proposed: Firstly, the cable model derived from the theory of wave propagation in multi-conductor systems is presented, which reflects the frequency-varying characteristics of the electrical parameters. Secondly, a complete travelling wave instantaneous frequency modification algorithm is proposed to recover the initial frequency spectrum information from highly attenuated travelling wave signal. Eventually, a novel fault location algorithm is given, followed by comprehensive PSCAD case studies to prove the robustness against fault location, fault resistance and fault inception angle issues accordingly.

Bio:

Dong Wang was born in Shandong Province, China, in 1992. He received the B.E. degree and the Ph.D. degree in electrical engineering from Shandong University, Jinan, China, in 2013 and 2018, respectively. Currently, he is an associate professor with Qingdao University of Science & Technology, Qingdao, China. His research interests include HVDC transmission, travelling wave protection, travelling wave fault location and electronic transformers. He is the principal investigator of 1 project funded by the National Natural Science Foundation of China, 2 projects funded by the Shandong Provincial Natural Science Foundation, and 1 Shandong Provincial Youth Innovation Team project.

**Jiakai Huang** 黄家凯

Senior Engineer

Power Grid Technology Institute, Electric Power Research Institute, State Grid Tianjin Electric Power Company, China

Speech Title: Analysis of the Impact of New Energy Integration on Relay Protection of Urban Power Grids and Research on New Technologies**Abstract:**

After large-scale centralized and distributed new energy sources are integrated into urban power grids, fundamental changes have taken place in the characteristics of fault voltage and current, including their amplitude, frequency and spatial distribution. This results in degraded fault detection performance of relay protection and increased complexity of operation and management. Combined with the actual new energy integration scenario in Tianjin, this paper analyzes the operating characteristics and maloperation/rejection mechanisms of distance protection devices for extra-high voltage (EHV) transmission lines, investigates the performance of current protection in medium and low-voltage distribution networks as well as corresponding improvement schemes, and presents the evaluation technologies and research findings regarding the applicable boundary of relay protection for urban power grids.

Bio:

Huang Jiakai, PhD, Senior Engineer. He currently serves as a Relay Protection Technical Specialist at the Power Grid Technology Institute, Electric Power Research Institute, State Grid Tianjin Electric Power Company. His main research areas include relay protection technologies for new-type power systems, artificial intelligence-based power dispatch technologies, as well as technical supervision for power plants and new energy power stations. He has participated in 11 research projects including national key R&D programs and State Grid Corporation headquarters projects, published 21 papers in SCI/EI journals and Chinese core journals, obtained 13 authorized patents, and won 4 industry-level and provincial/ministerial-level scientific and technological progress awards.

**Dachuan Yu** 于大川

Associate Professor

Qingdao University of Science and Technology, China

Speech Title: Research on Fault Characteristic Analysis and Protection Principles of Hybrid Multi-Terminal DC Grids**Abstract:**

Focusing on the safe and stable operation requirements of flexible DC transmission systems in the scenario of large-scale new energy outward transmission, this report addresses the key challenge of rapid DC fault disposal and presents the core technologies for coordinated control and protection of flexible DC transmission systems. Flexible DC transmission features flexible power regulation, high controllability, and strong adaptability to new energy integration and long-distance power delivery. However, under DC short-circuit faults, grounding faults, and AC-DC coupling disturbances, fault currents rise rapidly with no natural zero-crossing and spread over a wide range, imposing stricter requirements for the safe operation of converters, DC line protection, fault isolation, and system restoration. This report analyzes the topological structure, operation and control modes, and DC fault transient characteristics of multi-terminal flexible DC transmission systems, and clarifies the formation mechanism and propagation law of fault currents. It emphatically

introduces key current-limiting technologies, including active current limiting based on converter control and passive current limiting relying on current-limiting reactors and fault current limiters.

Furthermore, targeting the problems of DC voltage drop, power imbalance, control strategy switching during faults, and rapid post-fault system recovery, this paper discusses the construction of fast electrical protection criteria and the coordinated protection-control method. The research outcomes provide technical references for improving the fault ride-through capability and fault disposal efficiency of flexible DC transmission systems, as well as enhancing the reliability of new energy outward transmission.

Bio:

Yu Dachuan (1992–), PhD, Associate Professor, Master's Supervisor, Director of the Transmission Line Protection Subcommittee, IEEE PES Power System Protection and Control Technical Committee (China). He received his Master of Engineering degree from Shandong University in 2019 and his Doctor of Engineering degree from Chongqing University in 2024. He joined the College of Automation and Electronic Engineering, Qingdao University of Science and Technology as a faculty member in the same year. His main research interests include relay protection and fault location for multi-terminal DC transmission systems, operation and control of novel DC transmission systems, relay protection and fault location for conventional and flexible DC transmission systems, as well as optimal operation of microgrids.



Xuefeng Ge 葛雪峰

Senior Engineer

State Grid Jiangsu Electric Power Co., Ltd. Electric Power Research Institute, China

Speech Title: Theory and Method of Common Mode Component Suppression in Non-isolated Flexible Interconnected Distribution Networks

Abstract:

Large-scale integration of distributed new energies requires high-efficiency non-isolated flexible interconnection devices for distribution networks. However, removing isolation transformers brings multi-frequency common-mode components, resulting in leakage protection maloperation and equipment overheating. A multi-source coupling common-mode mathematical model and differential-common-mode decoupling analysis method are established for multi-ground low-impedance systems. High-frequency suppression schemes based on topological shunting and coordinated modulation, as well as low-frequency blocking strategies with power interrupters and coordinated arc suppression are proposed. A collaborative suppression system of "blocking-shunting-control" is constructed to reduce common-mode leakage current and circulation. Multi-converter multi-frequency coupling resonance is proposed as future research direction.

Bio:

Ge Xuefeng, Ph.D., Senior Engineer, has long been engaged in work and research on AC/DC hybrid distribution networks and power electronic power conversion. As a key team member, he has been responsible for the theoretical research, commissioning, and operation of the AC/DC hybrid distribution network in Tongli and the county-wide photovoltaic project in Yangzhong city. He has received titles such as "Outstanding Individual" from the Jiangsu Province Electrical Engineering Society. He has won five provincial and ministerial-level scientific and technological awards, including the China Machinery Award. He has published over 20 core journal papers, and obtained more than 20 authorized invention patents as the first inventor. As a major contributor, he has published five standards including IEC standards and has co-authored five monographs.

**Lei Zhang** 张磊

Associate Researcher

Institute of Electrical Engineering, Chinese Academy of Sciences (IEE-CAS), China

Speech Title: Modeling and Control of Isolated Modular Multilevel Converters: From Operating Principles to Optimal Design**Abstract:**

Modular multilevel converter (MMC)-based isolated dc-dc converters have emerged as a promising solution for medium-voltage solid-state transformers (SSTs) because of their modularity, scalability, and superior voltage waveform quality. However, unlike conventional grid-frequency MMCs, isolated MMCs operate at medium-frequency with distinct modulation schemes and capacitor voltage balancing mechanisms, introducing new challenges in capacitor dynamics, low-frequency ripple, and system optimization. These challenges limit the efficiency, power density, and reliability of MMC-based SSTs. This presentation provides a systematic overview of the modeling, control, and optimal design of isolated modular multilevel converters. First, the operating principles and mathematical models are introduced to reveal the relationships among modulation methods, capacitor charging characteristics, and arm current dynamics. Based on these models, the mechanisms responsible for capacitor voltage ripple and low-frequency arm-current oscillations are analyzed, leading to the development of improved voltage-balancing strategies with reduced ripple and switching actions. Furthermore, a computational design methodology is presented to evaluate the impacts of operating frequency, modulation schemes, ac-link voltage waveforms, and submodule numbers on converter efficiency, volume, and power density, providing practical guidelines for optimal converter design. Finally, recent advances in mitigating low-frequency ripple and improving capacitor voltage balancing are discussed together with experimental validations. The presented work establishes a unified framework linking converter operating principles, mathematical modeling, voltage-balancing control, and hardware-oriented optimal design, providing valuable insights for the development of next-generation high-efficiency and high-power-density solid-state transformers.

Bio:

Dr. Lei Zhang is an Associate Researcher at the Institute of Electrical Engineering, Chinese Academy of Sciences (IEE-CAS). He received his Ph.D. degree in Electrical Engineering from Arizona State University, USA, and subsequently worked as a Research Fellow at Nanyang Technological University, Singapore. His research interests include modular multilevel converters (MMCs), energy storage systems, solid-state transformers (SSTs), and hybrid AC/DC microgrids. Dr. Zhang has made significant contributions to the development of MMC-based battery energy storage systems (BESSs) and hybrid energy storage systems (HESSs). He has led or participated in several major research projects, including projects under the National Science and Technology Major Project of China and the IEE-CAS Talent Program. To date, he has published 51 SCI/EI-indexed papers, including 19 papers in top SCI journals in the field of electrical engineering. He has also contributed to the book "Recent Advancements and Emerging Technologies in Multi-level Inverters". He received the Best Paper Award at the 8th IEEE Energy Conversion Congress and Exposition-Asia (ECCE Asia).

Dr. Zhang serves as an inaugural Young Editorial Board Member of "Electric Power Engineering Technology". He has been invited to serve as a project reviewer in the field of energy storage for the Chilean National Science and Technology Commission and delivered a special session presentation at the 2025 IEEE International Conference on DC Microgrids, Energy Systems, and Applications (IDEAS). He also serves as a reviewer for several leading international journals, including IEEE Transactions on Power Electronics (TPEL), IEEE Transactions on Industrial Electronics (TIE), IEEE Transactions on Industry Applications (TIA), and CSEE Journal of Power and Energy Systems (CSEE JPES).



Tao Xu 许涛

Associate Professor
Shandong University, China

Speech Title: High-frequency Coordinated Control of Grid-connected Converter Clusters

Abstract:

Control and modulation together constitute the core algorithm framework of grid-connected converters, directly determining their performance. At the high-frequency pulse-width modulation (PWM) level, existing research mostly focuses on single-converter performance optimization, lacking a systematic investigation into multi-converter cooperative operation mechanisms, which has become a key bottleneck restricting the performance enhancement of converter clusters. From the perspective of software algorithm improvement, this study conducts theoretical and technological research on high-frequency coordinated control of grid-connected converter clusters. It proposes a precise and orderly control infrastructure that resolves the "disorder" issue of PWM, laying the foundation for high-frequency coordination. Furthermore, it constructs a multi-objective collaborative optimization framework that fully exploits the optimization potential brought by "orderly" PWM, thereby achieving simultaneous multi-objective optimization and precise regulation of multiple parameters.

Bio:

Tao Xu is an Associate Professor and Master's Supervisor at Shandong University. His research focuses on grid-connected renewable energy generation. He has authored one Springer monograph and published over 60 SCI/EI-indexed papers. He holds more than 20 granted invention patents in both China and the United States, and has led or contributed to 3 group standards and international standards. He has served as Principal Investigator for projects including the General Program and Youth Program of the National Natural Science Foundation of China, the Young Taishan Scholars Program of Shandong Province, the Shandong Provincial Natural Science Foundation, and the China Postdoctoral Science Foundation. His awards include the First Prize of Technological Invention from the China Power Supply Society, the Third Prize of Science and Technology Progress from the Chinese Society for Electrical Engineering, the Second Prize Paper Award of the IEEE Journal of Emerging and Selected Topics in Power Electronics, and the IEEE Power Electronics Society Ph.D. Thesis Award (P3-Talk).



Xiangmin Xie 谢香敏

Associate Professor
Qingdao University, China

Speech Title: Data-driven Modeling, Evaluation and Prediction of New Distribution Power Systems

Abstract:

With the large-scale integration of distributed energy resources and power electronics devices into new power distribution systems, harmonic pollution has become a critical issue affecting system stability and power quality. This study focuses on harmonic modeling, evaluation, and prediction for new power distribution systems. First, a refined harmonic model is established to characterize the nonlinear characteristics of key components accurately. Then, a comprehensive evaluation index system is constructed to assess harmonic impacts on equipment safety and power supply reliability. Finally, a hybrid prediction model, integrating machine learning and time-series analysis, is proposed to forecast harmonic levels dynamically. The research

provides effective technical support for harmonic mitigation and the safe, efficient operation of new power distribution systems.

Bio:

Xie Xiangmin, Ph.D., Associate Professor. He was selected for the Provincial High-Level Innovation and Entrepreneurship Talent Program and the Class A Program of Shandong Young Scientific and Technological Talents Support Project. He is a member of the Power Quality Special Committee of China Power Supply Society, and a youth editorial board member of the core journals Distribution & Utilization, Electrical Measurement & Instrumentation and Shandong Electric Power Technology. Over the past five years, he has published over 30 papers as the first or corresponding author, all indexed by SCI and EI, including two papers listed as global ESI Highly Cited Papers. He has presided over one National Natural Science Foundation of China project and four other provincial and ministerial-level research projects. He was honored with the title of Most Beautiful Teacher of Qingdao University in 2025.



Futian Qin 秦福田

Researcher

Shandong University, China

Speech Title: A Modular Multilevel Series/Parallel Converter With Ability of Parallelization Across Submodules

Abstract:

Recently, modular multilevel series/parallel converters (MMSPCs) have witnessed an upward trend, where the submodules (SMs) are allowed to be connected not only in series but also in parallel. The parallel operation of SMs offers significant advantages, including sensorless capacitor voltage balancing, arm current sharing, SM capacitance reduction, and system efficiency improvement. However, in the conventional MMSPC, parallel connection is typically limited to adjacent SMs. To achieve higher voltage and more output levels of MMSPC with a limited number of SMs, the SM capacitor voltages need to be configured differently, similar to those in an asymmetric cascaded H-bridge (CHB) converter. This configuration means that parallel connection is not allowed between adjacent SMs but across one or more SMs. Therefore, this article proposes a novel MMSPC with the ability of parallelization across SMs, allowing each SM to be designedly connected in parallel with any other SM. Besides, the tailored modulation strategy is developed to arrange the connection sequence and state among SMs, which is crucial to the normal operation of the proposed MMSPC.

Bio:

Futian Qin, Male, born in 1992, Ph.D. He received his B.Eng. degree in Electrical Engineering and Automation from Shandong Agricultural University in July 2015, and his Ph.D. degree in Electrical Engineering from Shandong University in June 2021. From December 2019 to June 2020, he was a joint training student at the Energy Research Institute, Nanyang Technological University, Singapore. From August 2021 to December 2025, he worked at the School of Information and Automation, Qilu University of Technology (Shandong Academy of Sciences). Since December 2025, he has been working at the School of Electrical Engineering, Shandong University. He serves as a reviewer for international journals such as IEEE TIE, TPE, and IJEPES. In recent years, he has published over 15 papers as the first/corresponding author in international journals and conferences, all indexed by SCI/EI. He has presided over one Youth and General Project of the Shandong Provincial Natural Science Foundation, one university (academy) talent project, and two corporate horizontal projects. He has also participated in one General Project of the National Natural Science Foundation of China, and has been granted/applied for 7 national invention patents. His research interests mainly focus on modular multilevel converters, flexible HVDC transmission, offshore wind power transmission, and grid-forming control.

**Decun Niu** 牛得存

Associate Professor

Qingdao University of Science and Technology, China

Speech Title: Topology and Control of Modular Multilevel DC-link T-type Converter**Abstract:**

The cascaded H-bridge multilevel converter (CHB) is a classic topology for high-voltage high-power applications such as 10 kV/35 kV STATCOM, battery energy storage systems (BESS), and power electronic transformers (PET). However, it suffers from a large number of power devices and high capacitance requirements, resulting in increased volume and cost. Furthermore, its three-phase independent structure necessitates the injection of zero-sequence voltage or negative-sequence current under unbalanced grid conditions, which complicates the control strategy and compromises system adaptability. To address these issues, we propose a novel multilevel topology—the modular multilevel DC-link T-type converter (MMDTC). Its DC-link consists of cascaded half-bridge submodules, while the T-type structure employs high-voltage IGCT devices. The submodules operate with high-frequency PWM, whereas the T-type structure switches at a low frequency of 150 Hz. This coordinated modulation strategy introduces triple-frequency ripple in the submodule capacitor voltages, significantly reducing the required capacitance. Meanwhile, the three-phase shared DC-link inherently provides immunity against grid voltage imbalance, eliminating the need for zero-sequence or negative-sequence injection, thereby simplifying control and enhancing robustness. Finally, taking STATCOM, BESS, and PET as three typical application scenarios, the differences between CHB and MMDTC are compared in terms of submodule count, device selection, capacitor design, and power losses, demonstrating the engineering application potential of the proposed topology.

Bio:

Decun Niu, Male, Ph.D., Associate Professor, Master's Supervisor, and a Tier-5 Talent Introduced by Qingdao University of Science and Technology. He received his Master's degree from Shandong University in 2014. From 2014 to 2018, he worked at Shandong Electric Power Engineering Consulting Institute Co., Ltd., under the State Power Investment Corporation. He then pursued his Ph.D. at Shandong University from 2018 to 2022. He has published over 20 academic papers, including 6 as first/corresponding author in IEEE Transactions on Industrial Electronics and IEEE Transactions on Power Electronics (both SCI Q1 top-tier journals). He has filed more than 10 national invention patents. As the principal investigator, he has led 3 industry-funded projects. He has been honored as a provincial outstanding master's thesis advisor and won the first prize at the 2025 university-level young faculty teaching.

INVITED SESSION 1

Time	14:00-18:00 July 25, 2026 (Sat.)
Venue	2F 会议室 Meeting Room 5
Topic	Operation, Control and Protection Technologies for the New-Type Power System
Chair	Assoc. Prof. Dong Wang, Qingdao University of Science & Technology, China

Time	Activity	Speech Details
14:00-14:30	Invited Talk 1	Yongliang Liang 梁永亮 Associate Researcher and Doctoral Supervisor Shandong University, China Speech Title: Intelligent Diagnosis for Complex Early Grounding Faults in Distribution Networks
14:30-15:00	Invited Talk 2	Juan Li 李娟 Electrical Engineer State Grid Jiangsu Electric Power Co. Ltd., Research Institute, Nanjing, China Speech Title: Application Practice and Exploration of DDistribution Network Fault Disposal Capability
15:00-15:30	Invited Talk 3	Dengke Gao 郜登科 PhD, Researcher Shanghai Keliang Information Technology Co., Ltd., China Speech Title: Oscillation Prediction and Suppression of New-Type Power Systems Based on Frequency-Domain Analysis of Impedance Networks
15:30-16:00	Invited Talk 4	Zongshuai Jin 靳宗帅 Associate Research Fellow, Deputy Director Power System Institute, Shandong University, China Speech Title: Lightweight Ultra-Wideband Measurement Method for Extremely Limited Computational Resources
Coffee Break // till ~16:30		
16:30-17:00	Invited Talk 5	Dong Wang 王栋 Associate Professor Qingdao University of Science and Technology, China Speech Title: Travelling Wave Fault Location Algorithm of Submarine Cable Integrated with Offshore Wind Farm

17:00-17:30	Invited Talk 6	Jiakai Huang 黄家凯 Senior Engineer Power Grid Technology Institute, Electric Power Research Institute, State Grid Tianjin Electric Power Company, China Speech Title: Analysis of the Impact of New Energy Integration on Relay Protection of Urban Power Grids and Research on New Technologies
17:30-18:00	Invited Talk 7	Dachuan Yu 于大川 Associate Professor Qingdao University of Science and Technology, China Speech Title: Research on Fault Characteristic Analysis and Protection Principles of Hybrid Multi-Terminal DC Grids

INVITED SESSION 2

Time	14:00-17:30 July 25, 2026 (Sat.)
Venue	2F 会议室 Meeting Room 6
Topic	Topology, Control and Coordinated Optimization of Power Electronic Converters
Chair	Assoc. Prof. Decun Niu, Qingdao University of Science & Technology, China

Time	Activity	Speech Details
14:00-14:30	Invited Talk 1	Xuefeng Ge 葛雪峰 Senior Engineer State Grid Jiangsu Electric Power Co., Ltd. Electric Power Research Institute, China Speech Title: Theory and Method of Common Mode Component Suppression in Non-isolated Flexible Interconnected Distribution Networks
14:30-15:00	Invited Talk 2	Lei Zhang 张磊 Associate Researcher Institute of Electrical Engineering, Chinese Academy of Sciences (IEE-CAS), China Speech Title: Modeling and Control of Isolated Modular Multilevel Converters: From Operating Principles to Optimal Design
15:00-15:30	Invited Talk 3	Tao Xu 许涛 Associate Professor Shandong University, China Speech Title: High-frequency Coordinated Control of Grid-connected Converter Clusters
15:30-16:00	Invited Talk 4	Xiangmin Xie 谢香敏 Associate Professor Qingdao University, China Speech Title: Data-driven Modeling, Evaluation and Prediction of New Distribution Power Systems
Coffee Break // till ~16:30		

16:30-17:00	Invited Talk 5	Futian Qin 秦福田 Researcher Shandong University, China Speech Title: A Modular Multilevel Series/Parallel Converter With Ability of Parallelization Across Submodules
17:00-17:30	Invited Talk 6	Decun Niu 牛得存 Associate Professor Qingdao University of Science and Technology, China Speech Title: Topology and Control of Modular Multilevel DC-link T-<i>type</i> Converter

POSTER SESSION 1

Time	14:00-18:00 July 25, 2026 (Sat.)
Venue	2F 会议室 Meeting Room 3
Topic	Intelligent Operation and Multi Energy Complementary Collaborative Scheduling Technology for New Power Systems
Chair	

Poster Stan no.	Paper ID	Paper Detail
14:00-16:00 Poster Session 1-1		
01	CE6011	Research on the Optimization Aggregation Model of Electric-Hydrogen-Heat Prosumer in Chemical Industrial Parks for Enhancing DR Potential <i>Xinhe Zhang, China Electric Power Research Institute, China</i>
02	CE6012	Two-Stage Optimal Operation Strategy for Hydrogen Energy Systems Considering Operational Smoothness <i>Yingfang Liu, Tongji University, China</i>
03	CE635	A P2G-CCS Integrated Low-carbon Dispatch Scheme for Distribution Networks with High Penetration of Renewable Energy <i>Shanchi Zhang, Xi'an Jiaotong University, China</i>
04	CE658	Bi-Objective Optimal Configuration of Source-Grid-Load-Storage in an Energy-Intensive Industrial Park Considering Grid Stability <i>Yuchen Zhao, Xi'an Jiaotong University, China</i>
05	CE718	Research on fault recovery strategy of flexible interconnected distribution network based on electricity-carbon coordination <i>Qian Wang, Wuhan University of Technology, China</i>
06	CE741	Capacity Configuration of Multi-Energy System Incorporating Hydrogen Energy and Demand Response <i>Haodong Dang, Yanshan University, China</i>
07	CE754	Wind Power Forecasting under Transitional Weather Based on Hybrid Neural Networks <i>Zhongxing Liu, State Key Laboratory of Power Transmission Equipment Technology (School of Electrical Engineering), China</i>
08	CE662	Comprehensive Power Quality Governance and Harmonic Suppression Control for Photovoltaic Power Generation Systems <i>Fangwei Zhao, China Huaneng Clean Energy Research Institute, China</i>

09	CE642	A Faulty Feeder Selection Method for Single-Phase Grounding Faults in Distribution Networks Based on Modified Chamfer Distance <i>Yusong Zhang, Anhui University, China</i>
10	CE632	Adaptive Safe Isolation Scheme of Distribution Network Small-Current Grounding Faults Based on Improved AHP <i>Xiaoyi Zong, Shandong University, China</i>
11	CE663	Early Warning Technology for Secondary Faults in Distribution Networks Based on FAHP-CRITIC <i>Xiaoyi Zong, Shandong University, China</i>
12	CE618	Location Method for Latent Cable Faults in Low-Resistance Systems Based on Multidimensional Information <i>Xiaoyi Zong, Shandong University, China</i>
13	CE630	Electrothermal Characteristics of Elastic Press Pack IGBT Devices Based on Al/Diamond Material <i>Dongqiang Jia, Chongqing University, China</i>
14	CE640	A Practical Fault Ride-Through Strategy for a Grid-Forming VSG With abc-Frame Control <i>Baiqin Feng, Xi'an Jiaotong University, China</i>
15	CE646	An Improved PLL-ADRC With Tracking Differentiator and Phase Compensation for Output-Voltage Control of Dual Active Bridge Converters <i>Liang Xu, Hefei University of Technology, China</i>
16	CE703	Vacuum Circuit Breaker Electrical Test Robot for 10 kV High-Voltage Switchgear: Design and Autonomous Operation Method <i>Zhuo Wei, China Electric Power Research Institute Co., Ltd, China</i>

Coffee Break // till ~ 16:30

16:30-18:00 Poster Session 1-2

17	CE719	Research on the characteristics of distribution network with multi-type heterogeneous resources <i>Qian Wang, Wuhan University of Technology, China</i>
18	CE742	Stability Region Assessment Method for Photovoltaic Generation Units in Receiving-End Power Grid <i>Xiaolin Zhang, China Electric Power Research Institute, China</i>
19	CE757	An Equivalent Modeling Approach for High-Frequency Transformers in Solid-State Transformers <i>Zhiyuan Weng, West Anhui University, China</i>

20	CE758	Impact of High-Penetration Distributed Photovoltaics on Transient Stability of Provincial Power Grids <i>Mingyang Liu, State Grid Henan Electric Power Research Institute, China</i>
21	CE760	Wind-rain coupled safety assessment of distribution pole-line systems considering rainfall-induced degradation of foundation overturning resistance <i>Yafei Luo, State Grid Chizhou Electric Power Supply Company, China</i>
22	CE615	Bi-Level Optimal Energy Management Method for Traction Hybrid Energy Storage System in Railways <i>Wenli Deng, Southwest Petroleum University, China</i>
23	CE611	Research on a Live-Line De-Icing Strategy for Residential Loads in Low-Voltage Distribution Networks Based on Emergency Power Vehicles <i>Mingyue Liu, State Grid Shanghai Energy Interconnection Research Institute Co., Ltd. Nanjing, China</i>
24	CE753	Reactive Power and Voltage Coordinated Control of Renewable Energy Stations Based on Active Power Disturbance Feedforward Compensation <i>Yu Zhang, Chongqing University, China</i>
25	CE716	An Equivalent Parasitic Inductance Extraction Method for Complex Parasitic Networks in Multi-Chip Parallel Half-Bridge Power Modules <i>Yiming Bei, Hefei University of Technology, China</i>
26	CE727	Comparative Analysis of Electrical Characteristics and Power Cycling Failure Mechanisms of GaN HEMTs at 77 K and Room Temperature <i>Yiming Bei, Hefei University of Technology, China</i>
27	CE778	Key Drivers and Capacity Demand of Hydrogen-Based Long-Duration Energy Storage under Carbon Constraints <i>Lichen Liu, North China Electric Power University, China</i>
28	CE779	Sensitivity-Based Assessment of Hydrogen-Based Long-Duration Energy Storage Value under Carbon-Constrained Provincial Power System Planning <i>Lichen Liu, North China Electric Power University, China</i>
29	CE728	Impact of Ultra-Fast Charging Load With Energy Storage on Distribution Network Voltage and Operation Optimization <i>Feitong Liu, Chongqing University, China</i>
30	CE609	Transient Current Limiting Control of Inner-Loop-Free Grid-Forming Cascaded H-Bridge Converters Under Unbalanced Faults <i>Jinlei Tong, Qingdao University, China</i>
31	CE661	Distributed Control Strategy for Cascaded H-Bridge Converters with Low-Data-Rate Communication <i>Linchong Xu, Hefei University of Technology, China</i>

SPECIAL SESSION 1

Time	09:00-11:15 July 26, 2026 (Sun.)
Venue	3F 会议室 Meeting Room 2
Topic	Data-Model Dual-Driven Digital Twin Modeling and Application for Power Distribution Networks
Chair	Assoc. Prof. Xiangmin Xie, Qingdao University, China

Time	Paper ID	Paper Detail
09:00-09:15	CE698	Study on Configuration of Self-Owned Wind - Solar - Storage Systems for Large Industrials Under Reverse Transmission with Penalty Price <i>Jiangning HUANG, State Grid Hangzhou Power Supply Company, China</i>
09:15-09:30	CE6010	Reliability Evaluation of Distribution Networks Containing Tower Solar Thermal Power Generation <i>Yao Ji, Qingdao University of Science and Technology, China</i>
09:30-09:45	CE768	A Review of the Current Research on Spot Price Curve and Reflections for Power System Planning <i>Peiyu YOU, State Grid Economic and Technological Research Institute Co., Ltd., China</i>
09:45-10:00	CE603	Electric vehicle-dominated virtual power plant for primary frequency regulation based on virtual synchronous generator control in power systems <i>Zining Wu, Chongqing University, China</i>
10:00-10:15	CE604	A Hybrid Ultra-Short-Term Wind Power Forecasting Method Combining Physical Baseline and Data-Driven Modeling <i>Yiheng Sun, Shandong University, China</i>
10:15-10:30	CE634	A Novel Evaluation Index for Dynamic Reactive Power Support Capability of Renewable Energy Based on Equivalent Reactance <i>Yang Shi, Shandong University, China</i>
10:30-10:45	CE649	Grid-Forming Capability Adequacy Evaluation Method for Green Electricity - Green Hydrogen Microgrids <i>Yiheng Sun, Shandong University, China</i>
10:45-11:00	CE744	DBSCAN-Based Composite Fault Diagnosis for Photovoltaic Arrays <i>Xing Feng, Qingdao University, China</i>
11:00-11:15	CE746	Variable parameter modeling and parameter estimation of iron-zinc flow battery <i>Rui Tao, Qingdao University, China</i>



SPECIAL SESSION 2

Time	09:00-11:15 July 26, 2026 (Sun.)
Venue	2F 会议室 Meeting Room 3
Topic	Advanced Power Electronics Technologies for Renewable Energy, Storage, and Grid Integration
Chair	Assoc. Prof. Tao Zhao, Qingdao University, China

Time	Paper ID	Paper Detail
09:00-09:15	CE612	Primary Frequency Regulation Control of Grid-Forming Energy Storage Converters Based on Adaptive Parameter Design <i>Yingnan Guo, Qingdao University, China</i>
09:15-09:30	CE633	Two-Stage LSBoost Load Forecasting for EV Charging Stations Under Small-Sample Conditions with a Similar-Day Prior <i>LongHeng Dong, Qingdao University of Science and Technology, China</i>
09:30-09:45	CE673	MSAPSO-Based Fuzzy PID Control for PEMFC Thermal Management <i>Xinru Wang, Qingdao University of Science and Technology, China</i>
09:45-10:00	CE697	Two-level Optimization Scheduling of Distribution Networks with Harmonic Mitigation and Photovoltaic-Storage Power Stations <i>Wenle Ding, Hohai University, China</i>
10:00-10:15	CE726	Research on Zero-Crossing Distortion Suppression Method for Three-Phase Line-Voltage Cascaded Boost High Power Factor Rectifier <i>Xia Liu, Yibin University, China</i>
10:15-10:30	CE732	A Data-driven Model Free Adaptive Control Strategy for DC/AC Inverter Control Systems <i>Zhentao Zu, Qingdao University of Science and Technology, China</i>
10:30-10:45	CE735	A Novel Unscented Kalman Filter-Based Model-Free Adaptive Frequency Control for Interconnected Power Systems <i>Fengqing Sun, Qingdao University of Science and Technology, China</i>
10:45-11:00	CE755	Model Predictive Current Control with Feedforward Compensation for Three-Level ANPC Grid-Connected Converters <i>Weijie Zhu, Hunan University, China</i>
11:00-11:15	CE777	Dual-Mode Fixed/Variable Frequency Modulation Strategy for Single-Stage Dual-Active-Bridge AC-DC Converter <i>Chenglong Deng, Zhengzhou University, China</i>

SPECIAL SESSION 3

Time	09:00-16:20 July 26, 2026 (Sun.)
Venue	2F 会议室 Meeting Room 5
Topic	Emerging Challenges in Modeling, Control, and Protection of Power Electronics-Dominated Power Systems
Chair	Assoc. Prof. Dachuan Yu, Qingdao University of Science & Technology, China; Assoc. Prof. Dong Wang, Qingdao University of Science & Technology, China

Time	Paper ID	Paper Detail
09:00-09:15	CE623	A loss calculate method for MMC considering additional switching actions of submodules <i>Yonghui Song, China Electric Power Research Institute, China</i>
09:15-09:30	CE636	Electromagnetic Transient Modeling and Testing of Grid-forming Electrochemistry Energy Storage for Large-scale Power Grid Simulation Analysis <i>Limin Yang, China Electric Power Research Institute Beijing, China</i>
09:30-09:45	CE664	Methods for Enhancing the Adaptability of Multi-level Protection in Distribution Networks with High-Penetration Distributed Photovoltaics <i>Mingjie Wei, China Electric Power Research Institute Co., Ltd, China</i>
09:45-10:00	CE668	Numerical Study on Ampacity of High-Altitude Directly Buried Cables Based on Magneto-Thermal Coupling Using COMSOL <i>Jiashen Lin, Qingdao University of Science & Technology, China</i>
10:00-10:15	CE669	Analysis of the Impact of Distributed Power Sources on Protection <i>Xudong Song, Guangdong Power Grid Electric Power Research Institute, China</i>
10:15-10:30	CE675	Controllable Output Modeling and Grid-Connection Verification of a CSP Generation Unit for Microgrid-Level EMS Dispatch <i>Xinyi Zhang, Qingdao University of Science and Technology, China</i>
10:30-10:45	CE682	Setting of Three-stage Current Protection with Distributed Generation <i>Yunbo Li, Qingdao University of Science and Technology, China</i>
10:45-11:00	CE683	Research on Motor Bearing Fault Diagnosis Based on ISABO-VMD and Neural Networks <i>Huayang Bu, Qingdao University of Science & Technology, China</i>

11:00-11:15	CE684	Research on Motor Fault Diagnosis Based on a Wide Convolutional Network Integrating Variational Mode Decomposition and Global Self-Attention <i>Sen Wang, Qingdao University of Science & Technology, China</i>
11:15-11:30	CE689	Modal Decoupling Analysis of Interleaved Parallel FSBB Converter with Coupled Inductors <i>Feng Xiao, Harbin Institute of Technology, China</i>
Lunch Break // till ~13:00		
13:00-13:15	CE693	Experimental Study on Short-Circuit Failure of Submodule for IGCT-based MMC HVDC Converter <i>Xiaogang Tu, Xi'an XD Power Systems Co., LTD, China</i>
13:15-13:30	CE695	Research on Online Compensation and Parameter Correction for Current Sampling Gain Errors in Dual Three-Phase PMSMs <i>Xinyuan Wang, Harbin Institute of Technology, China</i>
13:30-13:45	CE705	Dual-Ratio Restrained Current Differential Protection Scheme for Distribution Networks with T-Connected Inverter-Interfaced Distributed Generations <i>Jiaxin Gu, Qingdao University of Science and Technology, China</i>
13:45-14:00	CE706	Arm-Internal SOC Balancing Control and Disturbance Coordination Strategy for a Grid- Forming MMC Hybrid Energy Storage System <i>Zihan Zhang, Qingdao University of Science and Technology, China</i>
14:00-14:15	CE708	A Simplified Hybrid Interface Algorithm Based on Virtual Impedance for Power Hardware-in-the-Loop Simulation <i>Yiming Yang, Harbin Institute of Technology, China</i>
14:15-14:30	CE712	Research on Power Coordination Control Strategy of Photovoltaic-Storage Converter Based on Multi-Voltage Loop Competition <i>Shuailin Lv, Harbin Institute of Technology, China</i>
Coffee Break // till ~15:20		
15:20-15:35	CE762	A Smooth Recovery Strategy for Flexible HVDC Grid Based on Active Voltage Modulation from Unified Power Flow Controller <i>Haoran Li, Qingdao University of Science and Technology, China</i>
15:35-15:50	CE764	Wideband Differential-Mode Wave Impedance Modeling of Submarine Cables in MMC-HVDC Systems via Rational Function Fitting <i>Zijing Xu, Qingdao University of Science and Technology, China</i>

15:50-16:05	CE766	Composite Control Strategy of PMSM Based on LADRC and Double-Vector MPC <i>Duzheng Ma, Qingdao University of Science and Technology, China</i>
16:05-16:20	CE791	A Calculation Method for Global Fault States of MMCs in Flexible HVDC Systems <i>Nengqiao Wei, Nan An, Qiaoling Chen, 1Southwest University, China;23 Chongqing University, China</i>

SPECIAL SESSION 4

Time	09:00-11:45 July 26, 2026 (Sun.)
Venue	2F 会议室 Meeting Room 6
Topic	Grid-Forming Technologies and Stable Operation Control of Power-Electronized Power Systems
Chair	Assoc. Prof. Decun Niu, Qingdao University of Science & Technology, China; Assoc. Prof. Lei zhang, Institute of Electrical Engineering, Chinese Academy of Sciences, China

Time	Paper ID	Paper Detail
09:00-09:15	CE672	Rolling Bearing Fault Diagnosis Algorithm Based On AO-VMD and GSSVM Algorithms <i>Wenhuan Niu, Weifang Vocational College, China</i>
09:15-09:30	CE685	PSO-Based MRAS Parameter Identification for Sensorless Speed Estimation of Permanent Magnet Synchronous Motors <i>Enkun Tian, Qingdao University of Science and Technology, China</i>
09:30-09:45	CE686	Spatio-Temporal Optimal Power Flow for Islanded Microgrids Integrating Linear Fresnel Reflector and Molten Salt Thermal Energy Storage <i>Yanbo Li, Qingdao University of Science and Technology, China</i>
09:45-10:00	CE699	Photovoltaic Power Anomaly Detection Method Based on Spatial Consistency Characteristics of Multiple Power Stations <i>Yiyao Zhang, Shandong University of Science and Technology, China</i>
10:00-10:15	CE700	Research on Multi-Objective Control Strategy for PV-Storage Converter under Asymmetrical Grid Fault <i>Yu Sun, Harbin Institute of Technology, China</i>
10:15-10:30	CE709	A Two-Stage Robust Optimization Configuration Method for a Lunar Nuclear-Photovoltaic-Storage Microgrid <i>Baoni Sun, Harbin Institute of Technology, China</i>
10:30-10:45	CE714	Adaptive Control of Virtual Inertia and Damping for Battery – Supercapacitor Hybrid Energy Storage Cascaded H-Bridge Converter Considering SOC Constraints <i>Pengju Gao, Qingdao University of Science and Technology, China</i>

10:45-11:00	CE717	Comparative Stability and Switching Harmonic Suppression of LCL vs. LLCL Filters in a Single-Voltage-Loop Grid-Forming Converter <i>Ziyang Wang, Qingdao University of Science and Technology, China</i>
11:00-11:15	CE724	Decomposition of Power Outer Loops and Comparison of Steady-State Performance for Grid-Forming Converters <i>Peiyao Li, Beijing Jiaotong University, China</i>
11:15-11:30	CE773	Optimal Power Dispatch for Soft Open Points Considering Transformer and Converter Efficiency Curves <i>Hai Zhang, Shandong Jining Power Supply Company of State Grid, China</i>
11:30-11:45	CE790	High-Power Distribution Method and System for Charging Modules Based on Overloading Multiplexing <i>Hai Zhang, Shandong Jining Power Supply Company of State Grid, China</i>

ORAL SESSION 1

Time	13:00-14:15 July 26, 2026 (Sun.)
Venue	3F 会议室 Meeting Room 2
Topic	Topology Optimization and Adaptive Robust Control Strategies for Power Electronic Converters/Inverters
Chair	

Time	Paper ID	Paper Detail
13:00-13:15	CE6006	Analysis of the Complementary Relationship of AC- and DC-side harmonic Spectra of PWM Inverters <i>Fayou Yan, Electric Power Science Research Institute of Guizhou Power Grid Co., Ltd., China</i>
13:15-13:30	CE631	A Hybrid LCL/LCC-S Topology for Self-Switching CC-CV Wireless Power Transfer <i>Ranran Liu, Qingdao University of Technology, China</i>
13:30-13:45	CE694	Analysis of Phase-Shift Modulation Strategy for Three-Level LLC Resonant Converter <i>Ying Xu, Shanghai Institute of Space Power-Sources, China</i>
13:45-14:00	CE707	A Control Method for LLC Resonant Converters Based on Improved LADRC <i>Tonghua Wang, Hefei University of Technology, China</i>
14:00-14:15	CE783	An Intraday Rolling Dispatch Optimization Method for Power Systems Based on Nodal Carbon Potential <i>Tiansheng Zhu, Hefei University of Technology, China</i>

ORAL SESSION 2

Time	13:00-14:15 July 26, 2026 (Sun.)
Venue	2F 会议室 Meeting Room 3
Topic	Modeling, Advanced Packaging, and Thermal Management Technologies for Wide-bandgap Semiconductor Devices
Chair	

Time	Paper ID	Paper Detail
13:00-13:15	CE619	Design of a Fuzzy Temperature Control System for Semiconductor Lasers in TDLAS Applications <i>Hui Su, Qingdao University of Science and Technology, China</i>
13:15-13:30	CE620	Design of a High-Precision Semiconductor Laser Temperature Control System for TDLAS <i>Jindian Yan, Qingdao University of Science and Technology, China</i>
13:30-13:45	CE733	Simulation Study on Electromagnetic-Structural Coupled Vibration Characteristics of High-Voltage Shunt Reactors <i>Xiaowei Zhang, Xi'an Jiaotong University, China</i>
13:45-14:00	CE690	A 2-15.6 GHz Broadband Low-Noise Amplifier with Enhanced Gain Flatness <i>Kaifan Liang, Qingdao University of Science and Technology, China</i>
14:00-14:15	CE691	Design of a High-Efficiency and High-Linearity GaN Doherty Power Amplifier for 5G Millimeter-Wave Applications <i>Changhao Shao, Qingdao University of Science and Technology, China</i>

ORAL SESSION 3

Time	13:00-15:00 July 26, 2026 (Sun.)
Venue	2F 会议室 Meeting Room 6
Topic	High-voltage Power Transmission Engineering and Performance Assessment of Insulation Materials
Chair	

Time	Paper ID	Paper Detail
13:00-13:15	CE696	Cross-Device Joint Discriminative Domain Adaptation Network for Fault Diagnosis <i>Pingwen Sun, Qingdao University of Science and Technology, China</i>
13:15-13:30	CE713	Study on Temperature Response Characteristics of Natural De-Icing of Conductors under Different Ice Thicknesses and Illumination Conditions <i>Yuehong Liu, Southwest University, China</i>
13:30-13:45	CE721	Analytical Calculation and Simulation Study of the Grounding Resistance of Vertical Grounding Electrode Considering Soil Ionization Effect <i>Jialuo Ding, Xi'an Jiaotong University, China</i>
13:45-14:00	CE723-A	Flash annealing induces tilted boron nitride orientation for simultaneous in-/through-plane thermal conductivity enhancement in epoxy <i>Weiming Yang, Nanjing Tech University, China</i>
14:00-14:15	CE729-A	Rotary Coaxial DBD Plasma Functionalization of Nanofillers for High Thermally Conductive and Electrically Insulating Epoxy Composites <i>Wenbo Zhou, Nanjing Tech University, China</i>
14:15-14:30	CE730-A	Field-Coupled Rotating DBD Plasma for Surface Hydroxylation of Boron Nitride Powders and Enhancement of Epoxy Composite Performance <i>Juanjuan Ji, Nanjing Tech University, China</i>
14:30-14:45	CE751	Vibration Characteristics Analysis of High-Voltage Equipment Enclosures and Optimization of TENG Placement <i>Wen Chen, Runfeng Zhang, Zhengzhou University, China</i>
14:45-15:00	CE769	Reactive Power Optimization of Active Distribution Networks Considering OLTC Operation Counts via Hybrid-Encoding NSGA-II <i>Jiaqi Wang, Xi'an University of Technology, China</i>

ORAL SESSION 4

Time	15:20-16:50 July 26, 2026 (Sun.)
Venue	3F 会议室 Meeting Room 2
Topic	Multi-Modal Data-Driven Optimization for Low-Carbon Power System Operation and Electricity-Carbon coordinated Dispatch
Chair	Assoc. Prof. Dong Han, University of Shanghai for Science and Technology, China

Time	Paper ID	Paper Detail
15:20-15:35	CE720	A Traffic-Flow-Informed Short-Term Response Potential Assessment for Commercial-District EV Charging Stations <i>Zhifei Xu, Hohai University, China</i>
15:35-15:50	CE725	Multi-Driver Interval Modeling of Demand Response under Energy Conservation Constraints <i>Wei Wang, Hohai University, China</i>
15:50-16:05	CE731	Optimization of Carbon Neutrality Pathways for Anhui's Electricity Industry under Differentiated Carbon Peaking Targets <i>Dong Han, University of Shanghai for Science and Technology, China</i>
16:05-16:20	CE736	A Study on the Optimization of Orderly Charging Strategies for Electric Vehicles Considering Variations in User Responses <i>Lihao Chen, North China Electric Power University, China</i>
16:20-16:35	CE781	A Novel Non-Cooperative Games-based Dispatch Strategy in Multiple Virtual Power Plants Based on Wasserstein Distance and Variational Equilibrium <i>Lei Cheng, Wuhan Jinyi Relay Protection Power Technology Co., Ltd., Wuhan, China</i>
16:35-16:50	CE782	Spot Market Clearing Optimization Considering Real-Time Market Strategies of New Entities under Electricity-Carbon Coupling <i>Fazeng Wei, Hefei University of Technology, China</i>

ORAL SESSION 5

Time	15:20-16:35 July 26, 2026 (Sun.)
Venue	2F 会议室 Meeting Room 3
Topic	Renewable Energy Power Forecasting and State Estimation and Optimization of Energy Storage Systems
Chair	

Time	Paper ID	Paper Detail
15:20-15:35	CE765	Research on Microgrid Aggregator Optimization Operation Strategy Based on Multi-Time-Scale Coordination <i>Yan Shi, Qingdao University, China</i>
15:35-15:50	CE688	A Low-Tech Model Predictive Control Strategy for a Building PV - Heat Pump - Battery System <i>Mengyao Chen, Qingdao University of Science and Technology, China</i>
15:50-16:05	CE6009	Coordinated Control and Grid-Connected Operation Analysis of a Tower Solar Molten-Salt Cogeneration System <i>Zhengyi Yin, Qingdao University of Science and Technology, China</i>
16:05-16:20	CE645	Remaining Useful Life Prediction of PEMFC under Missing-Data Conditions <i>Jingmin Mu, Qingdao University of Science and Technology, China</i>
16:20-16:35	CE780	An Improved CNN-BiLSTM-Attention Model Based on Wavelet-SG Denoising Method for Ultra-Short-Term Wind Power Prediction <i>Jiahui Qiu, Xi'an University of Technology, China</i>

ORAL SESSION 6

Time	15:20-16:35 July 26, 2026 (Sun.)
Venue	2F 会议室 Meeting Room 6
Topic	Fault Diagnosis and Online Condition Monitoring of Electrical Equipment Based on Machine Vision and Deep Learning
Chair	Dr. Jun Dai, Hualong nuclear Power Technology Co. Ltd, China

Time	Paper ID	Paper Detail
15:20-15:35	CE776	Parameter Identification of Synchronous Generators Based on Improved Tuna Swarm Optimization Algorithm <i>Zheng Zhang, Xi'an University of Technology, China</i>
15:35-15:50	CE774	Electromagnetic Transient Modeling and Control Logic Verification for an ADPSS-Based Stability Control Device <i>Chaoqun Dong, Xi'an University of Technology, China</i>
15:50-16:05	CE679	A Visual SLAM Method for UAV Inspection of Power Transmission Lines <i>Zhiheng Feng, Qingdao University of Science and Technology, China</i>
16:05-16:20	CE747	3D-Model-Based Particle-flow Simulation of NPP Accident Condition <i>Jun Dai, Hualong nuclear Power Technology Co., Ltd, China</i>
16:20-16:35	CE789	A Novel Hybrid TCN-minGRU Framework for Transformer Inter-Turn Short-Circuit Fault Prognosis <i>Haowei Jie, Hefei University of Technology, China</i>

ONLINE SESSION 1

Time	09:00-12:30 July 26, 2026 (Sun.)
Venue	Zoom A: 861 2220 0868 Link: https://us02web.zoom.us/j/86122200868
Topic	Intelligent Control, Operational Status Analysis, and Health Management of Power Electronic Systems
Chair	

Time	Paper ID	Paper Detail
09:00-09:15	CE6008	Analysis and Design of DC-Link Support Capacitors for High-Power Converters <i>Xiaopeng Zheng, University of Science and Technology of China, China</i>
09:15-09:30	CE614	A Wide-Input Ultra-Low Ripple DC-DC Converter Using the Dual-Branch Complementary Structure <i>Ming Zuo, Sichuan University, China</i>
09:30-09:45	CE625	Fuzzy-Adaptive Linear Active Disturbance Rejection Control for Bidirectional LLC Resonant Converters <i>Dongxu Chen, Bohai University, China</i>
09:45-10:00	CE647	Frequency-Weighted Model Predictive Control Method for Hybrid Energy Storage Converters in DC Microgrid <i>Wanlin Guan, State Grid Heilongjiang Electric Power Company Limited, China</i>
10:00-10:15	CE653	A Study on an Automatic Fault-Tolerant TPMSLM with In-Phase Coil Compensation for Inter-turn Short-Circuit Faults <i>Yuqing Xue, Taiyuan University of Technology, China</i>
10:15-10:30	CE654	A Magnetic Flux-Tracking Low-Voltage Ride-Through Method for Grid-Forming Brushless Doubly-Fed Induction Generators <i>Jiang Li, Taiyuan University of Technology, China</i>
10:30-10:45	CE655	Pole-Changing Field-Weakening Speed Expansion of AFPM Using 1/3 Subharmonic <i>Wei Wang, Taiyuan University of Technology, China</i>
10:45-11:00	CE656	Research on a Transverse Flux Compensation Type Automatic Fault-Tolerant Permanent Magnet Synchronous Flat Linear Motor for Inter-Turn Short-Circuit Faults <i>Linyu Gao, Taiyuan University of Technology, China</i>
11:00-11:15	CE622	An accurate Location Method for High Impedance Faults in Power Cables Based on Self-Generated Wavelet Transform <i>Junbai Chen, Xi'an Jiaotong University, China</i>

11:15-11:30	CE674	Protection Coordination of a 14 MW Data Center in Singapore Using a Genetic Algorithm-Based Approach <i>Lloyd Raneil Salvador Paray, Mapua University, Philippines</i>
11:30-11:45	CE784	Impedance Modeling for a NPC Three-Level Power Converter <i>Wanlin Guan, Electric Power Research Institute, State Grid Heilongjiang Electric Power Company Limited, Harbin, China</i>
11:45-12:00	CE738	Research on Grid-Forming Droop Control Strategy for a Current-Source Inverter with CLC Filter <i>Hao Zhou, Shandong University of Science and Technology, China</i>
12:00-12:15	CE737	DQN-Based Model-Free Predictive Control Method for Grid-Connected Current Source Inverters <i>Huan Xu, Shandong University of Science and Technology, China</i>
12:15-12:30	CE704	Anomaly Identification Strategy for Inductor and Bridge-Arm Devices in a Single-Phase Current Source Inverter <i>Hongzheng Chen, Shandong University of Science and Technology, China</i>

ONLINE SESSION 2

Time	13:30-16:45 July 26, 2026 (Sun.)
Venue	Zoom A: 861 2220 0868 Link: https://us02web.zoom.us/j/86122200868
Topic	Intelligent Fault Diagnosis, Adaptive Protection, and Grid Integration Applications for Renewable Energy
Chair	

Time	Paper ID	Paper Detail
13:30-13:45	CE6005	Research on the Design of a Digital Mobile Platform for Electric Power Marketing Based on Enterprise Mid-Platform <i>Mingzhu Zhang, Beijing China-power Information Technology Co., Ltd., Beijing, China</i>
13:45-14:00	CE616	Concepts, Modeling, and Application of Available Wind Power in the Wind Power Sector <i>Yi Zheng, Harbin Institute of Technology (Weihai), China</i>
14:00-14:15	CE626	Finite-Time Power Tracking Control for Wind Turbines: A Global Fast Terminal Sliding Mode Approach <i>Ao Li, North China Electric Power University, China</i>
14:15-14:30	CE638	Optimization on Thermodynamic Performance and Economic Analysis of Multi-Mode Thermoelectric Decoupling Schemes for Heating Units <i>Menghan Wang, North China Electric Power University, China</i>
14:30-14:45	CE667	Arc Flash Assessment of Medium, Low Voltage and DC Networks in a 6MW Data Center Facility in Indonesia using Electrical Transient Analyzer Program (ETAP) <i>Aeron Jordan D.V. De Leon, Mapua University, Philippines</i>
14:45-15:00	CE711	Design of Passive Filters for Photovoltaic (PV) Induced Harmonics in Existing 7.5 MVA High-Rise Building in Dubai <i>Anton Francis Vigil, Mapua University, Philippines</i>
15:00-15:15	CE740	Research on Busbar Polarized Current Protection Algorithms Applicable to Different Busbar Connection Modes <i>Yarong Guo, China Electric Power Research Institute, China</i>

15:15-15:30	CE748	Regional Meteorology-Correlated Wind Power Prediction Model Based on Digital Twin <i>Jiakun Dai, State Grid Sichuan Electric Power Company Technical Training Center, China</i>
15:30-15:45	CE756	Economic Feasibility Analysis of Battery Swapping – Storage Integrated Stations Considering Battery Degradation and Capacity Configuration <i>Shuhui Li, Henan University of Science and Technology, China</i>
15:45-16:00	CE787	Active Site Engineering of Catalysts for Plasma-Catalytic Ammonia Decomposition <i>Bin Li, Hefei University of Technology, China</i>
16:00-16:15	CE767	Intelligent Objective Evaluation Technology for Nuclear Power Full Scope Simulator Training <i>Ni Xiaoshuai, China Nuclear Power Operation Technology Corporation, Ltd., China</i>
16:15-16:30	CE761	Projected Climate Change Impacts on Transformer Thermal Aging and Loading Limits in Zambia <i>Sifuniso Sililo, University of Zambia, Zambia</i>
16:30-16:45	CE701	A Stochastic Programming Method for Green Power Direct Connection Systems Considering Carbon – Electricity Synergy <i>Zhiren Zhang, State Grid Chongqing Electric Power Company Electric Power Research Institute, China</i>

LIST OF DELEGATES

NAME	AFFILIATION
Chencong Zhao	Xi'an University, China
Huan Guo	Jinan University, China
Yingzhe Ma	IET Engineering and Technology Consultancy (Beijing) Company Limited, China

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