



# THE 6TH IEEE CONFERENCE ON ENERGY INTERNET AND ENERGY SYSTEM INTEGRATION

CHENGDU, CHINA  NOVEMBER 11-13, 2022

Organizers  
主办单位





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## Welcome to IEEE EI<sup>2</sup> 2022

The 6th IEEE Conference on Energy Internet and Energy System Integration focuses on innovative technologies and practical applications regarding “Energy Internet and New-type Power System” IEEE EI<sup>2</sup> integrates multiple energy systems, e.g., electricity, gas, heating, cooling and transportation and so on, to shape a green, low-carbon, efficient, low-cost and environmental-friendly energy ecosystem. To promote the interconnection, openness, sharing and coordination of various energy resources, IEEE EI<sup>2</sup> 2022 involves energy storage and ICT technologies, including cloud computation, big data analysis, internet of things (IoT), mobile internet, artificial intelligence (AI), block-chain and applications of 5G communication.

The 6th IEEE Conference on Energy Internet and Energy System Integration (IEEE EI<sup>2</sup> 2022) will be held in Chengdu, China from Nov. 11th to 13th, 2022. This conference is co-sponsored by IEEE Power & Energy Society, University of Electronic Science and Technology of China, Tsinghua University-Dept. of Electrical Engineering, Chengdu University of Technology, Chinese Society for Electrical Engineering, Tsinghua University-Energy Internet Research Institute and Tsinghua University Shenzhen International Graduate School.

The conference will set various awards, such as the Best Paper Award and the Energy Internet Best Practice Award. The conference papers will be included by IEEE Xplore and EI, and high-quality papers will be recommended to Journal of Modern Power Systems and Clean Energy (MPCE), Chinese Society for Electrical Engineering Journal of Power and Energy Systems (CSEE JPES) and Applied Energy etc.



## CONFERENCE COMMITTEES

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**Yinbiao Shu**

Academician of Chinese Academy of Engineering  
President of Chinese Society for Electrical Engineering  
President of International Electrotechnical Commission

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Southwest University of Science and Technology, China

### CO-CHAIRS



**Hongbin Sun**

Taiyuan University of  
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**Mingshan Lin**

Deputy President of Chinese Society for Electrical  
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## CONFERENCE COMMITTEES

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Jinquan Zhao	Hohai University	China
Feng Gao	Energy Internet Research Institute, Tsinghua University	China
Dan Wang	Tianjin University	China
Junbo Zhao	Mississippi State University	China
Chengjin Ye	Zhejiang University	China
Jing Ma	North China Electric Power University	China
Yong Li	Hunan University, China	China
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Guannan He	Peking University	China
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Xinwei Shen	Tsinghua Shenzhen International Graduate School	China
Yuan Zeng	Tianjin University	China
Hengxu Zhang	Shandong University	China
Shiyao Qin	China Electric Power Research Institute Co., Ltd	China



Jinjun Liu	Xi 'An Jiaotong University	China
Shaotao Dai	Beijing Jiaotong University	China
Weisheng Wang	China Electric Power Research Institute Co., Ltd	China
Hongqiang Xu	National Electric Power Dispatching Control Center	China
Wei Xi	China Southern Power Grid Digital Power Grid Research Institute Co., Ltd	China
Tianjiao Pu	China Electric Power Research Institute Co., Ltd	China
Gengfeng Li	Xi 'An Jiaotong University	China
Yubo Yuan	Electric Power Research Institute of State Grid Jiangsu Electric Power Company	China
Xiuli Wang	Xi 'An Jiaotong University	China
Lijie Ding	Electric Power Research Institute of State Grid Sichuan Electric Power Company	China
Xiaoyan Han	State Grid Sichuan Electric Power Company	China
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Haoyong Chen	South China University of Technology	China
Jianlin Li	China Electric Power Research Institute	China
Jinquan Zhao	Hohai University	China
Meng Li	Beijing Jiaotong University	China
Ming Ni	NARI Technology Inc.	China
Pei Zhang	Beijing Jiaotong University	China



Qi Wang	Southeast University	China
Qinglai Guo	Tsinghua University	China
Shaoyan Li	North China Electric Power University	China
Shouxiang Wang	Tianjin University	China
Weihao Hu	University of Electronic Science and Technology of China	China
Xing He	Shanghai Jiaotong University	China
Xuan Liu	Hunan University	China
Yan Li	China Electric Power Research Institute	China
Yanli Liu	Tianjin University	China
Ying Chen	Tsinghua University	China
Yuehui Huang	China Electric Power Research Institute	China



## CONFERENCE VENUE

### FOR ONSITE PRESENTATION

#### Conference Venue

- Crowne Plaza 成都温江皇冠假日酒店
- Address: No.619A North Phoenix Street, Wenjiang District, Chengdu, Sichuan, China  
四川省成都市温江区凤凰北大街 619A 号

#### Sign-in

**SPOT** Lobby 酒店大厅

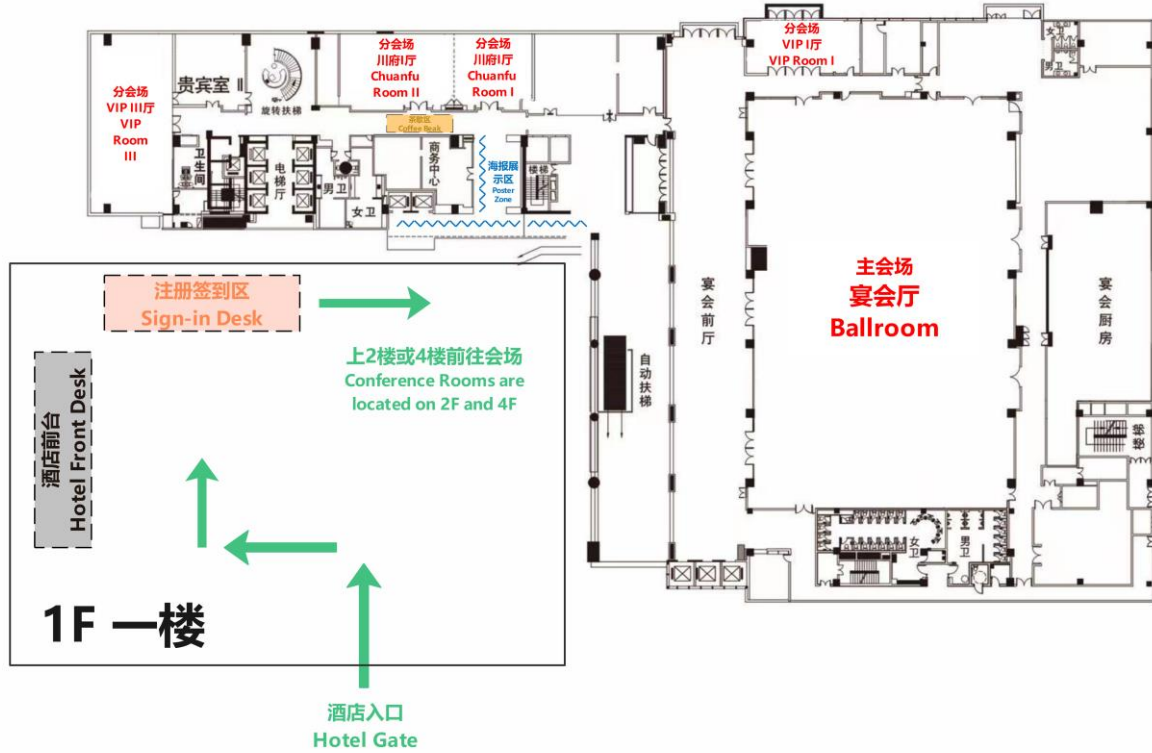
**TIME** 09:00-18:00 | November 10, 2022

#### Conference Rooms

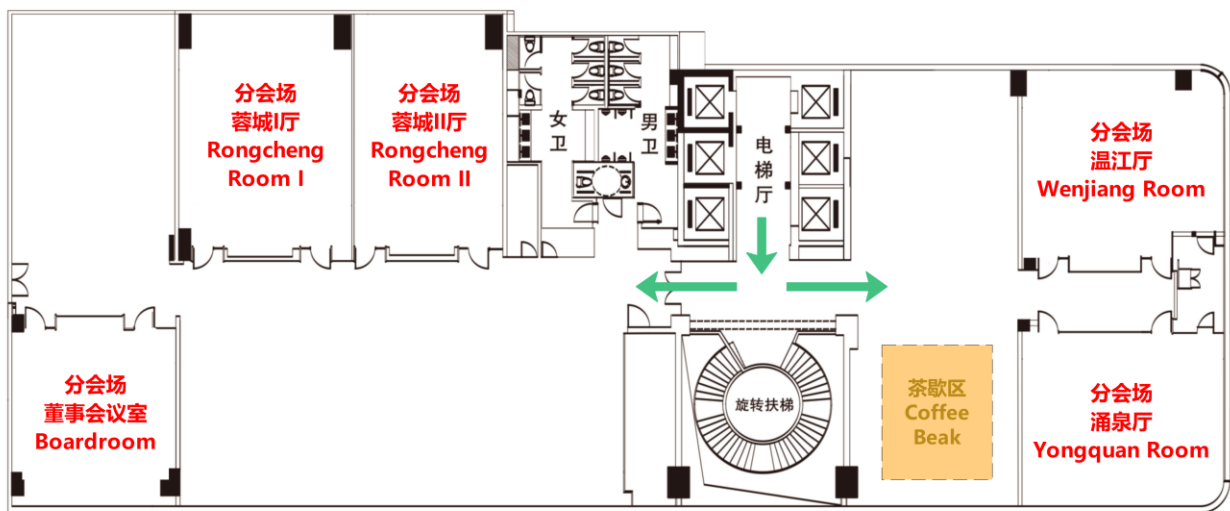
Level	Meeting Room (EN)	Meeting Room (CH)	Nov. 11	Nov. 12	Nov. 13
2F	Ballroom	宴会厅		★	
2F	Chuanfu Room I	川府 I 厅	•	•	•
2F	Chuanfu Room II	川府 II 厅	•	•	•
4F	Rongcheng I	蓉城 I 厅	•	•	•
4F	Rongcheng II	蓉城 II 厅	•	•	•
4F	Wenjiang Room	温江厅	•	•	•
4F	Yongquan Room	涌泉厅	•	•	•
2F	VIP Room I	VIP I 厅		•	•
2F	VIP Room III	VIP III 厅		•	•
4F	Boardroom	董事会议室		•	•



### 2F 二楼



### 4F 四楼





## GUIDELINES

### FOR ONSITE PRESENTATION

#### Oral Presentation

- The duration of a presentation slot is 15 minutes. Please target your lecture for a duration of about 10 minutes for the presentation plus about 5 minutes for questions from the audience.
- Your punctual arrival and active involvement in each session will be highly appreciated.
- Get your presentation PPT or PDF files prepared and backed up.
- Laptops, projector & screen, laser sticks will be provided by the conference organizer.

#### Poster Presentation

- It's expected that at least one author stands by the poster for (most of the time of) the duration of the poster session. This is essential both to present your work to anyone interest in it and to make sure that your presence is verified by committee.

#### Security

- Please ensure that you take your belongings with you at all times when leaving a room. Do not leave bags or laptops unattended.

#### Name Badge

- For security purposes, delegates, speakers, exhibitors and staff are required to wear their name badge to all sessions and social functions. Entrance into sessions is restricted to registered delegates only. If you misplace your name badge, please replace at the registration counter.

#### Safety & Well-being

- You are required to wear face masks in public areas.
- Good hand hygiene is one of the most important steps individuals can take to protect themselves.
- Attendees are suggested to have a body temperature check prior to arriving at the venue.
- Signs of COVID-19 and/or with a fever of 37.3° or greater should be reported immediately.
- You are requested to present your health code before entering the conference venue.
- Scan the QR code (on the right) to obtain your health code.
- Ucleic Acid Test 现场核酸时间

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November 11	November 12	November 13
<b>15:00-17:00</b>	<b>14:00-16:00</b>	<b>09:00-11:00</b>



## GUIDELINES

### FOR VIRTUAL ONLINE PRESENTATION

#### Oral Presentation

- The duration of a presentation slot is 15 minutes. Please target your lecture for a duration of about 10 minutes for the presentation plus about 5 minutes for questions from the audience.

#### Poster Presentation

- 5 minutes introduction of your research work, which will be presented orally. You can use PPT or poster file to support your presentation.

#### Platform

- VooV (Tencent) Meeting | 线上会议平台: 腾讯会议
- For Users from mainland China please download: <https://meeting.tencent.com/download/>
- For Other Users please download: <https://voovmeeting.com/download-center.html?from=1001>
- Help Center: <https://intl.cloud.tencent.com/document/product/1054?lang=en&pg=>

#### Sign-in & Join

**STEP 1** Install the VooV (Tencent) Meeting and sign up for an account

**STEP 2** Open the VooV (Tencent) Meeting PC client and sign in.

**STEP 3** Join the meeting using Meeting ID or through the link provided in the conference program

**STEP 4** After entering the meeting, connect to PC Audio and make sure you can hear and be heard.

**STEP 5** Get familiar with the following: mute/unmute, rename, chat, raise hands, and screen share, etc.

#### Time Zone

1. China Standard Time (CST) UTC/GMT+08:00
2. Please make sure that the clock and the time zone on your computer are set to the correct China Time

#### Environment

1. Quiet Environment & Proper lighting
2. Stable Internet Connection

#### Voice Control

1. Please keep muted when you are listening to the talks.
2. Speakers can unmute microphone when it is his or her turn for presentation.



## GUIDELINES

### FOR VIRTUAL ONLINE PRESENTATION

#### Device

- A computer with an internet connection (wired connection recommended)
- USB plug-in headset with a microphone (recommended for optimal audio quality)
- Webcam (optional): built-in or USB plug-in

#### Conference Recording

- The whole conference will be recorded. We appreciate your proper behavior and appearance.
- The recording will be used for the conference reports among the committee, which won't be distributed to or shared with anyone else, and it shall not be used for commercial or illegal purpose. It will only be recorded by the staff; the presenters are not allowed to record.

#### Naming Manner

Role	Format	Example
Session Chair	Session Number-SC-Name	TE01-SC-Abby
Presenter	Session Number-Paper ID-Name	TE01-EI1001-Alex
Listener	Listener-Name	Listener-Aron

#### Tencent Online Room

Tencent Online Room	Meeting ID	Link
Main Room	461-8043-2755	<a href="https://meeting.tencent.com/dm/4JG1D9YEVTSL">https://meeting.tencent.com/dm/4JG1D9YEVTSL</a>
OL Room 1	754-4374-4884	<a href="https://meeting.tencent.com/dm/KDslxNDAO5ST">https://meeting.tencent.com/dm/KDslxNDAO5ST</a>
OL Room 2	980-7513-8115	<a href="https://meeting.tencent.com/dm/dFfxkJ9h9iF5">https://meeting.tencent.com/dm/dFfxkJ9h9iF5</a>
OL Room 3	800-3465-7292	<a href="https://meeting.tencent.com/dm/vAy1T38gIxlE">https://meeting.tencent.com/dm/vAy1T38gIxlE</a>
OL Room 4	735-4184-9317	<a href="https://meeting.tencent.com/dm/tnXLgmJ0e2AZ">https://meeting.tencent.com/dm/tnXLgmJ0e2AZ</a>
OL Room 5	967-5309-3713	<a href="https://meeting.tencent.com/dm/WVNCM13uftBN">https://meeting.tencent.com/dm/WVNCM13uftBN</a>
OL Room 6	827-1555-1985	<a href="https://meeting.tencent.com/dm/z2b22RlyPLNe">https://meeting.tencent.com/dm/z2b22RlyPLNe</a>
OL Room 7	707-2574-6050	<a href="https://meeting.tencent.com/dm/E6b1kwS5a27q">https://meeting.tencent.com/dm/E6b1kwS5a27q</a>
OL Room 8	409-8456-6823	<a href="https://meeting.tencent.com/dm/beLZ5hYja8qG">https://meeting.tencent.com/dm/beLZ5hYja8qG</a>
OL Room 9	309-4416-1271	<a href="https://meeting.tencent.com/dm/qFNBNqHLV8Xw">https://meeting.tencent.com/dm/qFNBNqHLV8Xw</a>
OL Room 10	738-6131-3138	<a href="https://meeting.tencent.com/dm/3joN6GEQEe68">https://meeting.tencent.com/dm/3joN6GEQEe68</a>



**FOR VIRTUAL ONLINE PRESENTATION****Online Testing**

Time   Nov.10	Tencent Online Room
10:00-12:00	The Online Room you will make presentation in.
14:00-17:00	The Online Room you will make presentation in.

**Online & Onsite Connection**

Level	Meeting Room (EN)	Meeting Room (CH)	Online Room
2F	Ballroom	宴会厅	Main Room
2F	Chuanfu Room I	川府 I 厅	OL Room 1
2F	Chuanfu Room II	川府 II 厅	OL Room 2
4F	Rongcheng I	蓉城 I 厅	OL Room 3
4F	Rongcheng II	蓉城 II 厅	OL Room 4
4F	Wenjiang Room	温江厅	OL Room 5
4F	Yongquan Room	涌泉厅	OL Room 6
2F	VIP Room I	VIP I 厅	OL Room 7
2F	VIP Room III	VIP III 厅	OL Room 8
4F	Boardroom	董事会议室	OL Room 9

**Online Only**

Online Room
OL Room 10

**Live Streaming**

- The opening ceremony and plenary speeches can also be watched via Live Streaming.
- Link: <https://live.bilibili.com/22310573>



## AGENDA OVERVIEW

### Day 1 | November 10, 2022

Time	Activity	Venue	
09:00-18:00	Sign-in and Conference Kit Collection	1F	Lobby
10:00-17:00	Online Test	The Online Room you will make presentation in	

### Day 2 | November 11, 2022

Time	Activity		Venue	Online
09:00-11:00	Panel	P1 高可靠的变电站二次系统 Highly Reliable Substation Secondary System	Online Only	OL Room 4 ID: 735-4184-9317
		P2 配电网业务资源协同及互操作关键技术 Key Technologies of Operation Resources Coordination and Interoperation for Power Distribution Systems	Online Only	OL Room 5 ID: 967-5309-3713
		P3 规模化灵活资源虚拟电厂聚合互动调控 Aggregation and Interactive Control of Virtual Power Plants with Large-Scale Flexible Resources	4F Yongquan Room 涌泉厅	OL Room 6 ID: 827-1555-1985
11:00-13:00	Lunch			
13:00-15:00	Forum	F1 区块链技术在综合能源系统中的研究与应用 Research and Application of Blockchain Technology in Integrated Energy System	2F Chuanfu Room I 川府 I 厅	OL Room 1 ID: 754-4374-4884
		F2 CSEE JPES 论坛: 能源互联网技术装备的先进运行和控制技术 CSEE JPES Forum: Advanced Operation and Control Technologies of Energy Internet Equipments	2F Chuanfu Room II 川府 II 厅	OL Room 2 ID: 980-7513-8115
		F3 面向“碳达峰 碳中和”的能源互联网建设 Energy Internet Project Construction from the Perspective of Low Carbon Neutrality Emission Peak	4F Rongcheng I 蓉城 I 厅	OL Room 3 ID: 800-3465-7292
	Panel	P4 多馈入高压直流输电系统换相失败防御技术 Commutation Failure Defense Technology of Multi-feed HVDC Transmission System	Online Only	OL Room 6 ID: 827-1555-1985
		P5 面向新型城镇的能源互联网关键技术及应用 Key Technology and Application of Energy Internet Oriented to New-Type Towns	4F Wenjiang Room 温江厅	OL Room 5 ID: 967-5309-3713
18:00-20:00	Dinner			



## Day 3 | November 12, 2022

Time	Activity		Venue	Online	
08:30-09:00	Opening Ceremony	<b>Yinbiao Shu</b> Academician of Chinese Academy of Engineering President of Chinese Society for Electrical Engineering President of International Electrotechnical Commission	2F	Ballroom 宴会厅	Main Room ID: 461-8043-2755
		<b>Jessica J. Bian</b> PES President			
		<b>Qi Huang</b> IEEE Fellow, President of Southwest University of Science and Technology			
		<b>Guorui Liu</b> IEEE President, University of Maryland			
		<b>Yunhui Chen</b> Deputy General Manager of State Grid Sichuan Electric Power Company			
09:10-09:40	Plenary Session	Maintaining the Electricity Grid Resilience in Decarbonization Era <b>Mohammad Shahidehpour</b> IEEE Fellow, Illinois Institute of Technology	2F	Ballroom 宴会厅	Main Room ID: 461-8043-2755
09:40-10:10		Grid Monitoring and Control <b>Yilu Liu</b> IEEE Fellow, The University of Tennessee			
10:10-10:40		Deterministic Network Promotes Enterprise Digitization of Transformation <b>Yunjie Liu (刘韵洁)</b> Academician of Chinese Academy of Engineering			
10:40-11:10		Determination of Instantaneous Powers from a Novel Time-Domain Parameter Identification Method of Non-Linear Single-Phase Circuits <b>Francisco De Leon</b> IEEE Fellow, New York University			
11:10-11:30	Coffee Break				
11:30-12:00	Plenary Session	Causal Science and Its Application in Power Systems <b>Gang Mu (穆钢)</b> Northeast Electric Power University	2F	Ballroom 宴会厅	Main Room ID: 461-8043-2755
12:00-12:30		Low-carbon Smart Body Grid: Concept, Architecture and Outlook <b>Hongbin Sun (孙宏斌)</b> Executive Vice President of Taiyuan University of Technology			
12:30-13:30	Lunch				
13:30-14:00	Poster	Onsite Poster Display   SPD01	2F	Poster Zone 海报展示区	Online Poster Room ID: 927-2709-4052
14:30-15:00		Onsite Poster Display   SPD02			
13:30-17:00		Online Poster Display   LPD01			


**Day 3 | November 12, 2022**

Time	Activity			Venue		Online
15:00-17:00	Technical Session	TE01	Renewable Energy Grid Interconnection-A	2F	Chuanfu Room I 川府 I 厅	OL Room 1 ID: 754-4374-4884
		TE02	Renewable Energy Grid Interconnection-B	2F	Chuanfu Room II 川府 II 厅	OL Room 2 ID: 980-7513-8115
		TE03	Smart Grid Security-A	4F	Rongcheng I 蓉城 I 厅	OL Room 3 ID: 800-3465-7292
		TE04	ICT Application in Energy Internet-A	4F	Rongcheng II 蓉城 II 厅	OL Room 4 ID: 735-4184-9317
		TE05	Market Mechanism and Policy Supporting Energy Internet-A	4F	Wenjiang Room 温江厅	OL Room 5 ID: 967-5309-3713
		TE06	Key Equipment of Energy Internet-A	4F	Yongquan Room 涌泉厅	OL Room 6 ID: 827-1555-1985
		TE07	Business Model of Energy Internet-A	2F	VIP Room I VIP I 厅	OL Room 7 ID: 707-2574-6050
		TE08	New-type Power System-A	2F	VIP Room III VIP III 厅	OL Room 8 ID: 409-8456-6823
		TE09	Renewable Energy Grid Interconnection-C	4F	Boardroom 董事会议室	OL Room 9 ID: 309-4416-1271
		Panel	P6	数字电网关键技术 Key Technologies of Digital Power Grid	Online Only	
18:00-20:00	Welcome Banquet & Awards Ceremony					

09:00-12:00	Posters	Online Poster Display   LPD02	Online Poster Room ID: 927-2709-4052
13:30-17:00		Online Poster Display   LPD03	



## Day 4 | November 13, 2022 | Onsite &amp; Online Connection

Time	Activity			Venue		Online
08:30-10:00	Technical Session	TE10	Renewable Energy Grid Interconnection-D	2F	Chuanfu Room I 川府 I 厅	OL Room 1 ID: 754-4374-4884
		TE11	Renewable Energy Grid Interconnection-E	2F	Chuanfu Room II 川府 II 厅	OL Room 2 ID: 980-7513-8115
		TE12	Renewable Energy Grid Interconnection-F	4F	Rongcheng I 蓉城 I 厅	OL Room 3 ID: 800-3465-7292
		TE13	Smart Grid Security-B	4F	Rongcheng II 蓉城 II 厅	OL Room 4 ID: 735-4184-9317
		TE14	New-type Power System-B	4F	Wenjiang Room 温江厅	OL Room 5 ID: 967-5309-3713
		TE15	New-type Power System-C	4F	Yongquan Room 涌泉厅	OL Room 6 ID: 827-1555-1985
		TE16	Market Mechanism and Policy Supporting Energy Internet-B	2F	VIP Room I VIP I 厅	OL Room 7 ID: 707-2574-6050
		TE17	Key Equipment of Energy Internet-B	2F	VIP Room III VIP III 厅	OL Room 8 ID: 409-8456-6823
		TE18	Demonstration of Energy Internet-A	4F	Boardroom 董事会议室	OL Room 9 ID: 309-4416-1271
10:00-10:15	Coffee Break					
10:15-11:45	Technical Session	TE19	Renewable Energy Grid Interconnection-G	2F	Chuanfu Room I 川府 I 厅	OL Room 1 ID: 754-4374-4884
		TE20	Renewable Energy Grid Interconnection-H	2F	Chuanfu Room II 川府 II 厅	OL Room 2 ID: 980-7513-8115
		TE21	Renewable Energy Grid Interconnection-I	4F	Rongcheng I 蓉城 I 厅	OL Room 3 ID: 800-3465-7292
		TE22	Smart Grid Security-C	4F	Rongcheng II 蓉城 II 厅	OL Room 4 ID: 735-4184-9317
		TE23	New-type Power System-D	4F	Wenjiang Room 温江厅	OL Room 5 ID: 967-5309-3713
		TE24	ICT Application in Energy Internet-B	4F	Yongquan Room 涌泉厅	OL Room 6 ID: 827-1555-1985
		TE25	Market Mechanism and Policy Supporting Energy Internet-C	2F	VIP Room I VIP I 厅	OL Room 7 ID: 707-2574-6050
		TE26	Key Equipment of Energy Internet-C	2F	VIP Room III VIP III 厅	OL Room 8 ID: 409-8456-6823
		TE27	Resilience Enhancement Strategies for The New-type Power System Under Natural and Man-made Disasters-A	4F	Boardroom 董事会议室	OL Room 9 ID: 309-4416-1271
12:00-13:30	Lunch					


**Day 4 | November 13, 2022**

Time	Activity			Venue		
13:30-15:30	Technical Session	TE28	Renewable Energy Grid Interconnection-J	2F	Chuanfu Room I 川府 I 厅	OL Room 1 ID: 754-4374-4884
		TE29	Smart Grid Security-D	2F	Chuanfu Room II 川府 II 厅	OL Room 2 ID: 980-7513-8115
		TE30	New-type Power System-E	4F	Rongcheng I 蓉城 I 厅	OL Room 3 ID: 800-3465-7292
		TE31	ICT Application in Energy Internet-C	4F	Rongcheng II 蓉城 II 厅	OL Room 4 ID: 735-4184-9317
		TE32	Market Mechanism and Policy Supporting Energy Internet-D	4F	Wenjiang Room 温江厅	OL Room 5 ID: 967-5309-3713
15:30-15:45	Coffee Break					
15:45-17:45	Technical Session	TE33	Renewable Energy Grid Interconnection-K	2F	Chuanfu Room I 川府 I 厅	OL Room 1 ID: 754-4374-4884
		TE34	Smart Grid Security-E	2F	Chuanfu Room II 川府 II 厅	OL Room 2 ID: 980-7513-8115
		TE35	New-type Power System-F	4F	Rongcheng I 蓉城 I 厅	OL Room 3 ID: 800-3465-7292
		TE36	New-type Power System-G	4F	Rongcheng II 蓉城 II 厅	OL Room 4 ID: 735-4184-9317
14:00-16:30	Panel	P7	梯次利用动力电池规模化工程 应用关键技术 Key Technologies of Large Scale Engineering Practice of Reusing Retired EV Batteries	Online Only		OL Room 8 ID: 409-8456-6823
18:00-20:00	Dinner					

**PLENARY SPEAKER**

Chair: Weihao Hu, University of Electronic Science and Technology of China

Beijing Time 09:10-09:40 | 2022.11.12

Onsite Room 2F / Ballroom 宴会厅

Tencent ID Main Room ID: 461-8043-2755

Tencent Link <https://meeting.tencent.com/dm/4JG1D9YEVtsL>**Mohammad Shahidehpour**

IEEE Fellow

Illinois Institute of Technology

Speech Title: Maintaining the Electricity Grid Resilience in Decarbonization Era

**BIO**

Dr. Mohammad Shahidehpour is a University Distinguished Professor, Bodine Chair Professor of Electrical and Computer Engineering, and Director of the Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology (IIT). He has over 40 years of experience with power system operation, planning, and control and has completed several major projects for the electric energy sector. His project on Perfect Power Systems has converted the entire IIT Campus to an islandable microgrid. Dr. Shahidehpour was the recipient of several technical awards including of the IEEE Burke Hayes Award for his research on hydrokinetics, IEEE/PES Outstanding Power Engineering Educator Award, IEEE/PES Ramakumar Family Renewable Energy Excellence Award, IEEE/PES Douglas M. Staszkesy Distribution Automation Award, and the Edison Electric Institute's Power Engineering Educator Award. He has co-authored 6 books and over 800 technical papers on electric power system operation and planning, and served as the founding Editor-in-Chief of the IEEE Transactions on Smart Grid. Dr. Shahidehpour is the recipient of the 2009 honorary doctorate from the Polytechnic University of Bucharest. He is a Fellow of IEEE, Fellow of the American Association for the Advancement of Science (AAAS), Fellow of the National Academy of Inventors (NAI), and an elected member of the US National Academy of Engineering (NAE). He is also listed as a highly cited researcher on the Web of Science (ranked in the top 1% by citations demonstrating significant influence among his peers).



## PLENARY SPEAKER

Chair: Weihao Hu, University of Electronic Science and Technology of China

Beijing Time 09:40-10:10 | 2022.11.12

Onsite Room 2F / Ballroom 宴会厅

Tencent ID Main Room ID: 461-8043-2755

Tencent Link <https://meeting.tencent.com/dm/4JG1D9YEVtsL>



## Yilu Liu

IEEE Fellow  
University of Tennessee

Speech Title: Grid Monitoring and Control

### BIO

Yilu Liu received her M.S. and Ph.D. degrees from the Ohio State University, Columbus, in 1986 and 1989. She received the B.S. degree from Xian Jiaotong University, China.

Dr. Liu is currently the UT-ORNL Governor's Chair at the University of Tennessee and Oak Ridge National Laboratory. She is also the deputy director of the DOE/NSF engineering research center CURENT ([curent.utk.edu](http://curent.utk.edu)). She led the effort to create the North American power grid Frequency Monitoring Network FNET/GridEye ([fnetpublic.utk.edu](http://fnetpublic.utk.edu), [powerit.utk.edu](http://powerit.utk.edu)). Dr. Liu is an expert in large grid dynamic modeling, simulations, and monitoring.

Dr. Liu is a member of National Academy of Engineering, a member of the National Academy of inventors, a fellow of IEEE.





## PLENARY SPEAKER

Chair: Weihao Hu, University of Electronic Science and Technology of China

Beijing Time 10:10-10:40 | 2022.11.12

Onsite Room 2F / Ballroom 宴会厅

Tencent ID Main Room ID: 461-8043-2755

Tencent Link <https://meeting.tencent.com/dm/4JG1D9YEVtSL>



## Yunjie Liu (刘韵洁)

中国工程院院士

报告题目：确定性网络助力企业数字化转型

### BIO

刘韵洁，中国工程院院士，现任网络通信与安全紫金山实验室主任，江苏省未来网络创新研究院院长，北京邮电大学教授。现担任国家未来网络试验设施重大科技基础设施（CENI）项目负责人。曾主持设计、建设和运营管理我国第一个公用数据网络体系，开拓了我国公用数据通信新领域；主持中国联通多业务统一网络平台的设计、建设和运营工作，创造性地通过软件路由器和虚拟化技术，在全球率先实现在一个网络平台上同时提供语音、数据和视频等多种业务。曾获得国家科技进步一等奖 1 项，部级科技进步一等奖 2 项，从事网络技术工作近 40 年，在数据网、互联网以及网络融合等方面做出了开拓性工作。目前主要研究方向为未来网络、网络融合与演进，组织攻克了网络操作系统、确定性网络、异构多云交换等核心技术。



## PLENARY SPEAKER

Chair: Weihao Hu, University of Electronic Science and Technology of China

Beijing Time 10:40-11:10 | 2022.11.12

Onsite Room 2F / Ballroom 宴会厅

Tencent ID Main Room ID: 461-8043-2755

Tencent Link <https://meeting.tencent.com/dm/4JG1D9YEVtSL>



## Francisco De Leon

IEEE Fellow  
New York University

Speech Title: Determination of Instantaneous Powers from a Novel Time-Domain Parameter Identification Method of Non-Linear Single-Phase Circuits

### BIO

I received the B.Sc. degree and the M.Sc. degree (summa cum laude) in electrical engineering from the National Polytechnic Institute (IPN), Mexico, in 1983 and 1986, respectively. In 1992 I have obtained the Ph.D. degree also in electrical engineering from the University of Toronto, Canada. From 1992 to 1997 I was with the Graduate Division of the School of Electrical and Mechanical Engineering of the IPN, Mexico. From September 1997 to August 1998 I was on sabbatical leave at McGill University in Montreal, and from September 1998 to April 1999 I was a post-doctoral researcher at the University of Toronto.

From 1999 to 2007 I held several academic positions in Mexico and worked for the Canadian electric industry in the research and development of standard and special motors and transformers. From 2004 to 2007 I was the Director of R&D at CYME International T&D in St. Bruno (Quebec) developing professional-grade software for the analysis of power and distribution systems and cable ampacity. I have joined the Department of Electrical and Computer Engineering of Polytechnic University (previously Brooklyn Poly and now the NYU Tandon School of Engineering) as Associate Professor in September 2007. Obtained tenure in 2013 and was promoted to (full) Professor in 2019. I was elevated to IEEE Fellow in 2015.

I have over 100 publications including 114 journal papers, 5 book chapters, 14 discussions in the IEEE Transactions, 53 conference papers, and over 10 patents. My papers have been cited close to 2,000 times in journals contained in the Science Citation Index and almost 5,000 times in Google Scholar. I have graduated 26 PhD, 27 MSc students and supervised 16 postdoctoral fellows and 7 visiting PhD students from other universities.

My areas of greater interest include the transient and steady-state analyses of power systems, the analysis of power definitions under nonsinusoidal conditions, the dynamic thermal rating of cables and transformers, and the calculation of electromagnetic and thermal fields applied to machine design and modeling.

Currently, I am the Editor-in-Chief of the IEEE Transactions on Power Delivery.

**PLENARY SPEAKER**

Chair: Zhenyuan Zhang, University of Electronic Science and Technology of China

Beijing Time 11:30-12:00 | 2022.11.12

Onsite Room 2F / Ballroom 宴会厅

Tencent ID Main Room ID: 461-8043-2755

Tencent Link <https://meeting.tencent.com/dm/4JG1D9YEVtSL>**Gang Mu (穆钢)**

IET Fellow

东北电力大学教授

报告题目：因果科学简介及其在电力系统运行分析中应用初探

**BIO**

长期从事电力系统稳定分析、大规模风电联网规划与运行分析、大数据和人工智能在电力系统中应用等领域研究。作为第一完成人获国家科技进步二等奖 2 项、省部级科技进步奖 6 项。获国家级教学成果二等奖 2 项，领衔的团队分别入选教育部创新团队、全国高校黄大年式教师团队和国家级教学团队，主持国家级精品课和精品资源共享课。发表学术论文 200 余篇，获授权发明专利 33 件、软件著作权 6 项。获全国杰出专业技术人才、国家级有突出贡献的中青年专家、新世纪百千万人才工程国家级人选、国家万人计划领军人才、全国优秀科技工作者、国家教学名师等称号。

现任中国电工技术学会人工智能与电气应用专委会主任委员，中国电机工程学会理事、会士、学术工作委员会委员、电力系统专委会委员，《中国电机工程学报》副主编，中国人工智能学会智慧能源专委会副主任委员，中国能源研究会人工智能技术专委会名誉主任委员，IET Fellow。



## PLENARY SPEAKER

Chair: Zhenyuan Zhang, University of Electronic Science and Technology of China

Beijing Time 12:00-12:30 | 2022.11.12

Onsite Room 2F / Ballroom 宴会厅

Tencent ID Main Room ID: 461-8043-2755

Tencent Link <https://meeting.tencent.com/dm/4JG1D9YEVTSL>**Hongbin Sun (孙宏斌)**

IEEE Fellow, IET Fellow

太原理工大学党委副书记、副校长（主持行政工作）

报告题目：低碳智能人体电网：概念、架构和展望

## BIO

孙宏斌，男，汉族，1969年10月出生，浙江天台人，中共党员，教授，博士生导师；国家级教学名师，教育部长江学者特聘教授，国务院特殊津贴专家，国家精品课负责人，国家教学团队负责人。1988年12月加入中国共产党，1997年1月参加工作，曾任清华大学教务处副处长、清华大学创新创业教育协调委员会召集人、中国高校创新创业教育联盟秘书长、中国高校创新创业教育研究中心执行主任，太原理工大学党委常委、副校长等职，现任太原理工大学党委副书记、副校长（主持行政工作），清华大学能源互联网能量管理与调控研究中心主任、教育部创新创业教育指导委员会副主任、清华大学学术委员会委员、电机系学术委员会主任。

主要从事智能电网、能源互联网等领域的研究工作，2008年获国家技术发明二等奖（排名2），2018年获国家科技进步一等奖（排名1）。先后入选中组部万人计划科技创新领军人才、国家百千万人才工程、国家有突出贡献中青年专家、IEEE Fellow、IET Fellow，曾获国家自然科学基金杰出青年基金，入选“北京高校创先争优活动先进事迹宣讲团”，入选教育部“全国教书育人楷模先进事迹报告团”，曾两次获国家级教学成果一等奖（排名1和3）。

**PANEL**

Beijing Time 09:00-11:00 | 2022.11.11

Tencent ID OL Room 4: 735-4184-9317

Tencent Link <https://meeting.tencent.com/dm/tnXLgmJ0e2AZ>**P1. 高可靠的变电站二次系统**

Highly Reliable Substation Secondary System

**论坛介绍**

Panel Introduction

变电站二次系统的可靠性对保障电网安全至关重要，本研讨会主要探讨二次系统的技术发展趋势、可靠性评估技术、设备的状态监测技术、统一建模技术、保护系统全环节可靠性提升技术和变电站一体化监控技术。

The reliability of substation secondary system is very important to ensure the safety of power grid. This seminar mainly discusses the technical development trend of secondary system, reliability evaluation technology, equipment condition monitoring technology, unified modeling technology, whole link reliability improvement technology of protection system and substation integrated monitoring technology.

**论坛主席**

Chair

Name / 名字	Affiliation / 单位
李明节	国家电网有限公司

**论坛讲者**

Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
李明节	国家电网有限公司	变电站二次系统的技术发展趋势
舒治淮	国家电网有限公司	计及芯片的变电站二次设备可靠性预计技术
周华良	南瑞集团有限公司	设备级多层状态监测及故障容错技术
郑涛	华北电力大学	变电站二次系统统一建模技术
周泽昕	中国电力科学研究院有限公司	变电站继电保护全环节可靠性提升方案
秦红霞	北京四方继保工程技术有限公司	基于开放平台的变电站一体化监控技术



## PANEL

Beijing Time 09:00-11:00 | 2022.11.11

Tencent ID OL Room 5: 967-5309-3713

Tencent Link <https://meeting.tencent.com/dm/WVNCM13uftBN>

### P2. 配电网业务资源协同及互操作关键技术

Key Technologies of Operation Resources Coordination and Interoperation  
for Power Distribution Systems

#### 论坛介绍

Panel Introduction

针对海量、不确定性的分布式电源、充电桩等接入配电网带来的管控难题，重点研讨“数据互操作、设备灵活接入、业务高效协同”关键技术，建立结构开放、即插即用、数据共享、资源协同的新型配电系统。

Aiming at the operation management and control problems caused by the interconnection of large-scale, stochastic distributed generation and charging piles to the power distribution networks, the panel mainly discusses the key technologies of “data interoperability, equipment access flexibility, and service collaboration efficiency”, for establishing future distribution systems with open structure, plug-and-play, data sharing, and resource coordination capabilities.

#### 论坛主席

Chair

Name / 名字	Affiliation / 单位
盛万兴	中国电力科学研究院有限公司

#### 论坛讲者

Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
盛万兴	中国电力科学研究院有限公司	配电网业务资源协同及互操作关键技术
徐颂华	西安交通大学	数据驱动的互操作
王波	武汉大学	配用电跨域数据模型的统一性构建
赵景涛	国电南瑞科技股份有限公司	配电网智能设备的通用性即插即用关键技术
尚宇炜	中国电力科学研究院有限公司	智能终端操作系统的自主化内核设计
李立生	国网山东省电力公司	面向配电网多业务异质资源的云边端协同技术

**PANEL**

Beijing Time 09:00-11:00 | 2022.11.11

Onsite Room 4F / Yongquan Room 涌泉厅

Tencent ID OL Room 6: 827-1555-1985

Tencent Link <https://meeting.tencent.com/dm/z2b22RlyPLNe>**P3. 规模化灵活资源虚拟电厂聚合互动调控**

Aggregation and Interactive Control of Virtual Power Plants with Large-Scale Flexible Resources

**论坛介绍**

## Panel Introduction

在“双碳”目标和构建以新能源为主体的新型电力系统背景下，对规模化灵活资源进行有效聚合调配，可以从根本上解决电力系统灵活性调节能力不足的问题。但当前规模化灵活资源互动调控面临着诸多技术难题，导致大规模分布式灵活资源潜力未被充分挖掘利用，亟需开展研究，唤醒海量分布式资源参与互动。

Under the background of the "dual carbon" goal and the construction of a new power system with new energy as the main body, the effective aggregation and allocation of large-scale flexible resources can fundamentally solve the problem of insufficient flexibility adjustment ability of the power system. However, the interactive control of large-scale flexible resources is faced with many technical difficulties, resulting in the potential of large-scale distributed flexible resources has not been fully tapped and utilized, and it is urgent to carry out research to arouse massive distributed resources to participate in the interaction.

**论坛主席**

## Chair

Name / 名字	Affiliation / 单位
艾 芊	上海交通大学

**论坛讲者**

## Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
高赐威	东南大学	基于分布式交易的虚拟电厂构建
艾 芊	上海交通大学	适用于虚拟电厂的可信交易
陈启鑫	清华大学	虚拟电厂的动态构建与可信量化：物理-信息-社会视角
左 娟	国网上海能源互联网研究院有限公司	虚拟电厂标准体系构建研究及其建设实践
王文悦	国网上海能源互联网研究院有限公司	虚拟电厂可调空间建模及优化调度技术研究





## PANEL

Beijing Time 13:00-15:00 | 2022.11.11

Tencent ID OL Room 6: 827-1555-1985

Tencent Link <https://meeting.tencent.com/dm/z2b22RlyPLNe>

### P4. 多馈入高压直流输电系统换相失败防御技术

Commutation Failure Defense Technology of Multi-feed HVDC Transmission System

#### 论坛介绍

Panel Introduction

研讨会主要针对新型电力系统的多馈入直流系统换相失败防御难题，研究多馈入直流换相失败的综合防御技术。目标是提出抵御换相失败的多层级综合防治方法，降低换相失败对系统功率冲击的幅度和持续时间，提升高比例新能源受端电网的安全稳定水平。

The seminar mainly focused on the problem of commutation failure defense of multi-feed DC systems in new power systems, and studied defense techniques for multi-feed DC commutation failure. The goal is to propose a multi-level prevention and control method to resist commutation failure, reduce the magnitude and duration of the impact of commutation failure on the system power, and improve the security and stability of the power grid at the receiving end of a high proportion of new energy.

#### 论坛主席

Chair

Name / 名字	Affiliation / 单位
贺之渊	国网智能电网研究院有限公司

#### 论坛讲者

Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
薛峰 彭慧敏	国电南瑞科技股份有限公司	基于轨迹动力学的多馈入交直流安全稳定快速量化评估和协调优化
贺之渊 高冲	国网智能电网研究院有限公司	可控换相换流器 (CLCC) 技术
辛业春 王拓	东北电力大学	晶闸管精细化建模与仿真方法
郭春义	华北电力大学	多馈入直流输电系统换相失败风险区域的快速识别方法
刘智杰	山东大学	基于自适应风险因子的多馈入直流系统换相失败快速预测技术



**PANEL**

Beijing Time 13:00-15:00 | 2022.11.11

Onsite Room 4F / Wenjiang Room 温江厅

Tencent ID OL Room 5: 967-5309-3713

Tencent Link <https://meeting.tencent.com/dm/WVNCM13uftBN>**P5. 面向新型城镇的能源互联网关键技术及应用**

Key Technology and Application of Energy Internet Oriented to New-Type Towns

**论坛介绍**

## Panel Introduction

我国城镇能源结构正处于持续优化调整的关键时期，可再生能源占城镇一次能源消费的比重不断提升。本论坛重点交流城镇能源互联网的规划、预测、运行、交易等关键技术，支撑我国新型城镇化发展与能源结构清洁化转型。

Urban energy structure in China is now in a critical period of continuous optimization and adjustment, and the proportion of renewable energy in urban primary energy consumption continues to increase. This forum focuses on the exchange of key technologies such as planning, forecasting, operation, and trading of the urban energy Internet to support the development of new urbanization and the clean transformation of energy structure in China.

**论坛主席**

## Chair

Name / 名字	Affiliation / 单位
杜 炜	国电南瑞科技股份有限公司

**论坛讲者**

## Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
万 灿	浙江大学	新型电力系统不确定性预测、分析与控制
郑 舒	国电南瑞科技股份有限公司	大规模分布式电源接入的新型配电系统技术探索与应用
王 丹	天津大学	面向能源转型的高焓综合能源系统理论与应用
窦 迅	南京工业大学	电力现货市场环境下的虚拟电厂运行技术
张沈习	上海交通大学	双碳目标下低碳综合能源系统规划关键技术及挑战
夏 天	清华大学	新型电力系统平台构建与电碳协同关键技术



## PANEL

Beijing Time 15:00-17:00 | 2022.11.12

Tencent ID OL Room 10: 738-6131-3138

Tencent Link <https://meeting.tencent.com/dm/3joN6GEQEe68>

### P6. 数字电网关键技术

#### Key Technologies of Digital Power Grid

#### 论坛介绍

##### Panel Introduction

报告将探索数字电网边缘计算芯片及物联网控制芯片技术；介绍配电网边缘计算的问题和挑战以及研究成果；汇报融合 5G 的数字电网高安全高可靠通信技术研究情况、5G 电力虚拟专网实验室及现网安全测评情况；阐述所见即所得的中台建设及运营过程中相应的工具及技术支撑；总结了新一代人工智能技术在变电设备智慧运维中的应用场景，并对未来发展进行展望。

The presentation will research on edge computing chip technology of digital grid and exploration of IoT control chip technology. Focus on the challenges of edge computing of distribution networks, and further introduce the research progresses of the project on this topic. Report on the research of high security and reliability communication technology of 5G integrated digital power grid. Explain the corresponding tools and technical support in the construction and operation of the digital grid middle platform. Summarize the application scenarios of the new generation of artificial intelligence technology in the intelligent operation and maintenance of substation equipment, and prospect the future development.

#### 论坛主席

##### Chair

Name / 名字	Affiliation / 单位
习 伟	南方电网数字电网研究院有限公司

#### 论坛讲者

##### Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
陈军健	南方电网数字电网研究院有限公司	数字电网边缘计算芯片技术研究及物联网控制芯片技术探索
李 鹏	天津大学	配电网边缘计算技术挑战与进展
曹 杨	南方电网	数字电网 5G 安全及测评
杨 漾	南方电网数字电网研究院有限公司	所见即所得的中台建设及运营
谢 庆	华北电力大学	新一代人工智能技术在变电设备智慧运维中的应用

**PANEL**

Beijing Time 14:00-16:30 | 2022.11.13

Tencent ID OL Room 8: 409-8456-6823

Tencent Link <https://meeting.tencent.com/dm/beLZ5hYja8qG>**P7. 梯次利用动力电池规模化工程应用关键技术**

Key Technologies of Large Scale Engineering Practice of Reusing Retired EV Batteries

**论坛介绍**

Panel Introduction

针对我国大量动力电池退役的形势，将通过电芯和模块的健康状态评估和残值评估技术、动力电池快速分选和重组技术、动力电池电、热和安全管理技术、电池应用场景分析、再利用寿命评估和经济性评估、示范应用及电池再退役标准，促进探索退役动力电池高效安全利用的路径、方法和场景。

In view of the situation that a large number of power batteries are retired in China, it will promote the exploration of paths, methods and scenarios for efficient and safe utilization of retired power batteries through health state assessment and residual value assessment technologies of electric cells and modules, rapid sorting and reorganization technologies of power batteries, electric, thermal and safety management technologies of power batteries, battery application scenario analysis, reuse life assessment and economic evaluation, demonstration applications and battery re-retirement standards.

**论坛主席**

Chair

Name / 名字	Affiliation / 单位
袁智勇	南方电网科学研究院有限责任公司

**论坛讲者**

Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
郑耀东	中国南方电网有限责任公司	开场致辞
袁智勇	南方电网科学研究院有限责任公司	“十三五”国家重点研发计划项目“梯次利用动力电池规模化工程应用关键技术”介绍
曹文灵	中国科学院广州能源研究所	梯次利用储能系统电热安全管理关键技术研究
李海涛	新能源汽车回收利数字用专业委员会	新能源汽车大数据平台助力电池回收利用
高振宇	广汽埃安新能源汽车股份有限公司	从主机厂角度看电池梯次利用
徐威	青岛特来电新能源有限公司	退役动力电池梯次利用探索
李剑铎	杭州煦达新能源科技有限公司	梯次储能最新实践与分析



## FORUM

Beijing Time 13:00-15:00 | 2022.11.11

Onsite Room 2F / Chuanfu Room I 川府 I 厅

Tencent ID OL Room 1: 754-4374-4884

Tencent Link <https://meeting.tencent.com/dm/KDsIxNDAO5ST>

### F1. 区块链技术在综合能源系统中的研究与应用

Research and Application of Blockchain Technology in Integrated Energy System

#### 论坛介绍

Forum Introduction

区块链技术的发展，为电力系统和综合能源系统的创新提供了新的契机，论坛以“区块链技术在综合能源系统中的研究与应用”为主题，聚焦能源区块链技术，基于区块链技术的去中心化、去信任化、透明性、公平性和分布式决策的特点，分享区块链技术在综合能源系统中的应用，以期推动区块链技术在综合能源系统中应用及发展。The development of blockchain technology provides a new opportunity for the innovation of power system and integrated energy system. The forum focuses on energy blockchain technology with the theme of "research and application of blockchain technology in integrated energy system". Based on the characteristics of decentralized, trusted, transparent, fair and distributed decision-making of blockchain technology, it shares the application of blockchain technology in integrated energy system, Promote the application and development of blockchain technology in integrated energy systems.

#### 论坛主席

Chair

Name / 名字	Affiliation / 单位
王永利	华北电力大学

#### 论坛讲者

Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
王永利	华北电力大学	基于区块链技术的综合能源系统多主体交易研究
张 硕	华北电力大学	市场行为驱动的新型电力系统演化过程仿真研究
曾 博	华北电力大学	电力系统中基于区块链技术的数据中心置信容量评估
张华栋	国网山东省电力公司	基于区块链技术的能源业务可信度量应用创新与实践
王雨晴	华北电力大学	区块链在综合需求响应中的应用

**FORUM**

Beijing Time 13:00-15:00 | 2022.11.11

Onsite Room 2F / Chuanfu Room II 川府 II 厅

Tencent ID OL Room 2: 980-7513-8115

Tencent Link <https://meeting.tencent.com/dm/dFfxkJ9h9iF5>**F2. CSEE JPES 论坛：能源互联网技术装备的先进运行和控制技术**

CSEE JPES Forum: Advanced Operation and Control Technologies of Energy Internet Equipments

**论坛介绍**

Forum Introduction

能源互联网的技术和设备是能源互联网规划、建设、运营和政策/商业模式制定的物质基础。也是能源互联网示范和商业运营的前提。这个论坛的重点是一些能源互联网技术装备的先进运行和控制技术。

The technologies and equipments of Energy Internet are the physical basis of energy Internet planning, construction, operation and policy / business model formulation. They are also the precondition of demonstration and business operation of Energy Internet. The focus of this panel is some advanced operation and control technologies of Energy Internet equipments.

**论坛主席**

Chair

Name / 名字	Affiliation / 单位
林 涛	中国武汉大学 (线上)
廖 凯	中国西南交通大学 (线下)

**论坛讲者**

Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
廖 凯	中国西南交通大学	能源和交通系统集成的趋势与挑战 (线下)
许海平 原增泉	中国科学院电工研究所	电动汽车充放电系统技术发展 (线上)
陈 刚	国网四川电科院	水光蓄互补联合发电技术及其应用实践 (线下)
周亦洲	中国河海大学	综合能源系统的鲁棒韧性运行 (线上)
梁晓斌	国网西南分部	高水电占比电网频率振荡抑制技术工程实践 (线下)
林 涛 杜 蕙	中国武汉大学	电力-天然气互联系统的最优校正控制方法 (线上)



## FORUM

Beijing Time 13:00-15:00 | 2022.11.11

Onsite Room 4F / Rongcheng | 蓉城 I 厅

Tencent ID OL Room 3: 800-3465-7292

Tencent Link <https://meeting.tencent.com/dm/vAy1T38glxle>

### F3. 面向“碳达峰 碳中和”的能源互联网建设

Energy Internet Project Construction from the Perspective of  
Low Carbon Neutrality Emission Peak

#### 论坛介绍

Forum Introduction

建设中国能源互联网为推进“两个替代”，实现碳达峰、碳中和目标提供了高效可行的系统解决方案。论坛聚焦能源转型，探究“碳达峰，碳中和”内涵和“能源互联网”发展的内在联系，为能源互联网项目建设搭建共享交流平台，推广能源互联网建设经验。

The construction of China's energy Internet provides an efficient and feasible system solution for promoting the "two alternatives" and achieving carbon peaking and carbon neutrality. The forum focuses on energy transformation, explores the connotation of "carbon peak, carbon neutrality" and the internal connection of the development of "Energy Internet", builds a sharing and exchange platform for the construction of energy Internet projects, and promotes the experience of energy Internet construction.

#### 论坛主席

Chair

Name / 名字	Affiliation / 单位
Fengquan Zhou	许继集团有限公司
李瑞生	许继集团有限公司

#### 论坛讲者

Speakers

Name / 名字	Affiliation / 单位	Speech Title / 报告题目
王 坤	许继集团研发中心	新型电力系统源网荷储协同控制技术研究与实践
任雪涛	成都交大许继电气 有限责任公司	牵引供电新技术在中老铁路工程应用
宋炎侃	清华四川能源互联网研究院	新型电力系统背景下仿真工具的未来

**Technical Session on November 12****TE01 / Renewable Energy Grid Interconnection-A**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 2F / Chuanfu Room I 川府 I 厅

Tencent ID OL Room 1: 754-4374-4884

Tencent Link <https://meeting.tencent.com/dm/KDslxNDAO5ST>**Time Table****Chair: Hailian Jing, Chengdu University of Technology**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10659	Yuanchao Tao	Zhejiang University
15:15-15:30	EI10324	Jiahao Chen	Tianjin University
15:30-15:45	EI10425	Zhaoyuan Chai	Tsinghua University
15:45-16:00	EI1095	Xinyi Zhao	Hohai University
16:00-16:15	EI10398	Yiling Li	Shanghai University of Electric Power
16:15-16:30	EI10239	Siyu Ma	Guangxi University
16:30-16:45	EI10448	Yuxuan Zheng	University of Electronic Science and Technology of China
16:45-17:00	EI10166	Zituo Liu	Xi'an Jiaotong University

**Paper Detail**

Paper ID	Title & Authors
EI10659	<b>Combined Heat and Power Dispatch under Different Control Modes Based on Probabilistic Prediction of Wind Power</b> Qiaofeng Wu, De He, Yuanchao Tao, Hongji Yang and Yikai Sun
EI10324	<b>An Island Partition Method with Energy Storage Based on Genetic Algorithm</b> Jiahao Chen, Bing Sun, Yuan Zeng, Ruipeng Jing, Gang Liang, Bibin Huang
EI10425	<b>Impacts of DGs in Active Distribution Network Considering Bi-Directional Power Flow and Carbon Emission Flow Theory</b> Zhaoyuan Chai, Xinwei Shen, Hongbin Sun



Paper ID	Title & Authors
EI1095	<b>A Multi-time Scale Rolling Coordinated Scheduling Model for the Wind-Photovoltaic-Hydro Generation System With Cascade Hydropower</b> Xinyi Zhao, Jun Xie, Qiuyan Zhang, Mingtao Liu, Cuiyu Zhou and Yongtian Jin
EI10398	<b>A Coordinated Regulation Approach for Virtual Power Plants with Variable Granularity on Multi- time Scale Considering Carbon Trading</b> Lingyu Guo, Yang Du, Zhongguang Yang, Xingang Yang, Xianghong Xiong, Yang Fu, Xiaolin Ge, Yiling Li and Xudan Cao
EI10239	<b>Deep Reinforcement Learning for an Incentive-based Demand Response Model</b> Siyu Ma, Hui Liu, Ni Wang, Haimin Xie, Lidong Huang, Hongyi Li
EI10448	<b>Construction of Uncertainty Models for Renewable Energy Systems on Multiple Time Scales</b> Yuxuan Zheng, Shihua Luo, Weihao Hu, Zhenyuan Zhang, Qi Huang and Zhe Chen
EI10166	<b>A Combined Clustering Scenario Reduction Method Base on Potential Decision Results for Generation Expansion Planning</b> Zituo Liu, Jianchen Wang, Qingtao Li and Haicheng Liu



**Technical Session on November 12****TE02 / Renewable Energy Grid Interconnection-B**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 2F / Chuanfu Room II 川府 II 厅

Tencent ID OL Room 2: 980-7513-8115

Tencent Link <https://meeting.tencent.com/dm/dFfxkJ9h9IF5>**Time Table****Chair: Bai Hong, China Electric Power Research Institute**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10403	Baijie Yang	Tianjin University
15:15-15:30	EI10508	Xudong Li	Wuhan University
15:30-15:45	EI10342	Bonian Shi	Beijing Sifang Automation Co. Ltd.
15:45-16:00	EI10251	Lidong Huang	Guangxi University
16:00-16:15	EI10230	Haimin Xie	Guangxi University
16:15-16:30	EI1089	Yifan Chang	Hohai University
16:30-16:45	EI10322	Yuqian Zhang	Tsinghua University
16:45-17:00	EI10116	Zhang Yu	North China University of Technology

**Paper Detail**

Paper ID	Title & Authors
EI10403	<b>An Economy and Reliability Co-optimization Planning Method for Regional Integrated Energy Systems</b> Baijie Yang, Xin Huang, Saiyi Wang, Shaoyun Ge
EI10508	<b>Low-Carbon Economic Dispatch of VRE/Hydro/Thermal Hybrid Energy System Considering Uncertainty of VRE Based on a Novel Multi-Objective Algorithm</b> Xudong Li, Weijia Yang, Zhigao Zhao, Yiwen Liao, Xiuxing Yin
EI10342	<b>Online Identification of Inertia and Primary Frequency Control for Wind Farms with Virtual Inertia Control</b> Wulin Wang, Xiaoyu Zhang, Yaokun Jia, Jiao Li, Wei Li, Bonian Shi



Paper ID	Title & Authors
EI10251	<b>Co-configuration of Hydrogen Equipment for Multienergy System Considering Time Coupling of Carbon Dioxide and Hydrogen</b> Lidong Huang, Hui Liu, Ni Wang, Siyu Ma, Haimin Xie, Teyang Zhao
EI10230	<b>Optimal Operation of an Energy Hub with Multiple CCHPs for High Efficiency and Low Emissions</b> Haimin Xie, Hui Liu, Ni Wang, Siyu Ma, Lidong Huang, Yi Su
EI1089	<b>A Disposal Strategy for Tight Power Balance Considering Electric Vehicle Charging Station Providing Flexible Ramping Capacity</b> Yifan Chang, Jun Xie, Shanxi Xing, Zhicheng Xu, Cuiyu Zhou, Yongtian Jin
EI10322	<b>Voltage Profile Enhancement of High Renewable-Penetrated Distribution Systems Using Converter-Interfaced Load</b> Yuqian Zhang, Qinglai Guo, Hongbin Sun
EI10116	<b>Electric Vehicle Charging Path Planning Based on Real-Time Traffic Information</b> Wan Qing Zhu, Zhang Yu, Yuan Xingfu, Li Zhixuan

**Technical Session on November 12****TE03 / Smart Grid Security-A**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 4F / Rongcheng | 蓉城 | 厅

Tencent ID OL Room 3: 800-3465-7292

Tencent Link <https://meeting.tencent.com/dm/vAy1T38glxle>**Time Table****Chair: Jiaqi Ruan, The Chinese University of Hong Kong, Shenzhen**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10129	Lu Zhao	Southwest Jiaotong University
15:15-15:30	EI10479	Zhe Ren	Shandong University
15:30-15:45	EI10570	Yumin Peng	University of Electronic Science and Technology of China
15:45-16:00	EI10133	Hao Wu	Zhejiang University
16:00-16:15	EI10507	Yiwen Liao	Wuhan University
16:15-16:30	EI10272	Yuxi Wang	Shandong University
16:30-16:45	EI10496	Zetian Zheng	Tsinghua University
16:45-17:00	EI10481	Tianhao Yu	State Grid Electric Power Research Institute

**Paper Detail**

Paper ID	Title & Authors
EI10129	<b>State Evaluation of 500 kV Transformer in DC Bias Based on Information Fusion</b> Long Chen, Kaimin Huang, Wei Wang, Lu Zhao, Sheng Lin
EI10479	<b>Research on Distance Preservation Ability of Fault Location features for Data-driven Dynamic Security Assessment</b> Zhe Ren, Hang Qi, Changgang Li, Hanbing Qu, Junjun Yang, Wei Xu
EI10570	<b>Study on Inter-turn Short Circuit Fault of Dry-type Air-core Shunt Reactor Under Low Voltage with Low Frequency</b> Yumin Peng, Man Zhang, Ying Liu, Shi Jing, Qi Huang



Paper ID	Title & Authors
EI10133	<b>Polynomial Approximation of Transient Voltage Stability Region Boundary in the Parameter Space Based on Collocation Method</b> Lu Cao, Xiaobo Wu, Huixing Li, Hao Chen, Yanqiang Shi and Hao Wu
EI10507	<b>Modeling and Active Power Control of a Hydropower-dominant Hybrid Energy System</b> Yiwen Liao, Weijia Yang, Yifan Huang, Xudong Li
EI10272	<b>Analysis on Adjustable Potential of Air-Conditioning in Aggregated Load</b> Bo Liang, Lei Xie, Haijing Zhang, Chenhao Ying, Xiaohui Liu, Yang Yang, Hanqi Li and Yuxi Wang
EI10496	<b>Effectiveness Evaluation on Generator Tripping Strategy for Self-sustained Oscillation Induced by Hard Limit of Grid Following PMSG Wind Farms</b> Zetian Zheng, Chen Shen
EI10481	<b>Research on Interactive Communication Information Security between Residents and Power Grid</b> Jinyu Xu, Tianhao Yu, Xuesong Shao, Qi Li, Kun Shi

**Technical Session on November 12****TE04 / ICT Application in Energy Internet-A**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 4F / Rongcheng II 蓉城 II 厅

Tencent ID OL Room 4: 735-4184-9317

Tencent Link <https://meeting.tencent.com/dm/tnXLgmJ0e2AZ>**Time Table****Chair: Laiyun Qing, University of Chinese Academy of Sciences**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10165	Ma Chao	China Electric Power Research Institute
15:15-15:30	EI10218	Linxing Xie	Southwest Petroleum University
15:30-15:45	EI10254	Rui Zai	Tsinghua University
15:45-16:00	EI10538	Jie Yu	Southeast University
16:00-16:15	EI10128	Yongtian Jin	Hohai University
16:15-16:30	EI10355	Lingfang Yang	Zhejiang University
16:30-16:45	EI10412	Zheng Liang	Tsinghua-Berkeley Shenzhen Institute, Tsinghua University
16:45-17:00	EI10182	Hengheng Xing	Hefei University of Technology
17:00-17:15	EI10161	Tianyun Xu	Southeast University

**Paper Detail**

Paper ID	Title & Authors
EI10165	<b>How to Combine Standardization Digital Transformation Technology with Power Business Scenarios: Demand Analysis, Technical Route and Application Practice</b> Ma Chao, Deng Tao, Su Yuanyuan, Ding Peng, Guo Huiting, Lu Ting
EI10218	<b>Remaining Useful Life Prediction of Lithium Batteries Based on CNN-GRU Model</b> Linxing Xie, Anan Zhang, Wei Yang, Liang Zhang and Qian Li
EI10254	<b>Knowledge Assisted Deep Reinforcement Learning for Electric Vehicle Charging Control</b> Rui Zai, Ye Guo, Qiong Liu, Hongbin Sun, Qiuwei Wu and Li Xiao



Paper ID	Title & Authors
EI10538	<b>An Evaluation Method of Load Adjustable Potential Based on Two-dimensional Chain Cloud Model Optimization</b> Weixi Ji, Jie Yu
EI10128	<b>Distribution Network Distributed Resources Application Framework and Key Technologies Based on Cloud-Edge-Device Collaboration</b> Changyu Bao, Jinshuai Zhang, Mingming Xu, Yongtian Jin, Cuiyu Zhou, Jun Xie
EI10355	<b>Energy-aware Virtual Machine Integration based Task Scheduling for Green Data Centers</b> Lingfang Yang, Xianqing Chen, Qiang Yang, Feng Mei, Wenzheng Zhang, Xinghang Zheng
EI10412	<b>A Data Augmentation Method for Multi-Energy Parks Considering Different Scenario Factors</b> Peng Liao, Zheng Liang, Jiajia Huan, Baihao Qiao, Xuan Zhang and Xinwei Shen
EI10182	<b>P2P Electricity Trading Method in Community Microgrid and Blockchain Environment</b> Kaile Zhou, Hengheng Xing, Zenghui Zhang
EI10161	<b>Intelligent Energy Management Strategy with Internal Pricing Sensitivity for Residential Customers based on Reinforcement Learning and Internet-of-Things</b> Tianyun Xu, Tao Chen and Ciwei Gao

**Technical Session on November 12****TE05 / Market Mechanism and Policy Supporting Energy Internet-A**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 4F / Wenjiang Room 温江厅

Tencent ID OL Room 5: 967-5309-3713

Tencent Link <https://meeting.tencent.com/dm/WVNCM13uftBN>**Time Table****Chair: Lirong Deng, Shanghai University of Electric Power**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10395	Qianya He	South China University of Technology
15:15-15:30	EI10357	Jiasheng Zhang	Tsinghua University
15:30-15:45	EI10354	Xinyi Yi	Tsinghua university
15:45-16:00	EI10452	Xiaofan Lin	Power Economic Research Institute of State Grid Fujian Electric Power Company
16:00-16:15	EI10384	Jie Yu	Southeast University
16:15-16:30	EI10616	Qi Lei	Shanghai Jiaotong University

**Paper Detail**

Paper ID	Title & Authors
EI10395	<b>A Review and Outlook on the Participation of High Percentage of Renewable Energy in the Electricity Market</b> Qianya He, Haoyong Chen, Xinyun Dai and Zhenjia Lin
EI10357	<b>Virtual Bidding in a Two-Settlement Electricity Market with Asymmetric Information</b> Yuxin Lu, Chenye Wu, Jiasheng Zhang
EI10354	<b>Energy-Grade Double Pricing Mechanism for a Combined Heat and Power System Using the Asynchronous Dispatch Method</b> Xinyi Yi, Ye Guo, Hongbin Sun, Qiuwei Wu and Li Xiao
EI10452	<b>Multi-agent optimization Model of Power Spot Market under Renewable Portfolio Standard</b> Xiaofan Lin, Jinchun Chen, Simin Chen, Wanqing Chen, Han Chen and Yuanfei Li



Paper ID	Title & Authors
EI10384	<b>Frequency Regulation Potential Evaluation of Temperature-controlled Load Aggregators Considering Demand Response Willingness</b> Jie Yu, Jiaqi Yang, Qia Ding, Mengfu Tu, Weixi Ji
EI10616	<b>Improved Hybrid Consensus Mechanism Based on Virtual Power Plant Dispatching</b> Qi Yu, Ying Cai, Lei Qi, Qian Ai and Di Wang



**Technical Session on November 12****TE06 / Key Equipment of Energy Internet-A**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 4F / Yongquan Room 涌泉厅

Tencent ID OL Room 6: 827-1555-1985

Tencent Link <https://meeting.tencent.com/dm/z2b22RlyPLNe>**Time Table****Chair: Tao Yu, South China University of Technology**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI1036	Peiyao Zhao	Shandong University
15:15-15:30	EI1099	Ying Liu	State Grid Smart Grid Research Institute Co., Ltd
15:30-15:45	EI10504	Yifan Huang	Wuhan university
15:45-16:00	EI10360	Jinyu Xu	State Grid Electric Power Research Institute
16:00-16:15	EI10488	Binhui Pei	Beijing Jiaotong University
16:15-16:30	EI10207	Jiajie Li	Southwest Petroleum University School of Electrical Engineer and Information
16:30-16:45	EI10249	Jiahao Xu	Zhejiang University
16:45-17:00	EI10208	Shan Zeng	Southwest Petroleum University

**Paper Detail**

Paper ID	Title & Authors
EI1036	<b>A Comparative Analysis of Methods for Solving Partial Differential Equation of Gas Pipelines</b> Peiyao Zhao, Zhengshuo Li
EI1099	<b>Research on Regulation Strategy of Energy-saving Aggregation Control Device in Virtual Power Plant</b> YingLiu, Chuan Liu, Lei Chen, Jianli Zhao, Xianjiong Yao, Jiani Xiang
EI10504	<b>Refined Modeling and Simulation of Dynamic Response of Variable-speed Pumped-storage Plant</b> Yifan Huang, Weijia Yang, Zhigao Zhao, Jiandong Yang



Paper ID	Title & Authors
EI10360	<b>A Review on Interactive Technology between Residential Users and Power Grid</b> Jian Xiong, Xianliang Teng, Jinyu Xu, Chao Zhou, Qi Li
EI10488	<b>Multi-Scenario Applications of Wind Farms with Double Battery Energy Storage System</b> Mingchao Xia, Binhui Pei, Qifang Chen, Yiming Xian, Liu Yang and Kaidong Li,
EI10207	<b>Reserch on State Prediction of Gas Insulated Switchgear Based on CNN-GRU Combinatorial Neural Network</b> Jiajie Li, Anan Zhang, Wei Yang
EI10249	<b>Thermodynamic Calculation and Optimal Design of Steam Carnot Battery</b> Jiahao Xu, Peng Sun, Xiaojie Lin*
EI10208	<b>Research on Transformer Fault Identification Based on Multiphysics Coupling Simulation</b> Shan Zeng, Anan Zhang, Liang Zhang, Wei Yang, Qian Li, Zhihui Zhao

**Technical Session on November 12****TE07 / Business Model of Energy Internet-A**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 2F / VIP Room I VIP I厅

Tencent ID OL Room 7: 707-2574-6050

Tencent Link <https://meeting.tencent.com/dm/E6b1kwS5a27q>**Time Table****Chair: Rui Jing, Xiamen University**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10154	Xinyi Jing	Southeast University
15:15-15:30	EI10231	Yan Ma	Southwest Petroleum University
15:30-15:45	EI10550	Yuwen Liao	Hohai University
15:45-16:00	EI10547	Wanqing Chen	Economic and Technology Research Institute Fujian Electric Power Company
16:00-16:15	EI10186	Yujian Ye	Southeast university
16:15-16:30	EI10331	Li Chen	Hohai University
16:30-16:45	EI10668	Shichao Wang	State Grid Hubei Electric Power Research Institute
16:45-17:00	EI10671	Guoxin Shi	University of Electronic Science and Technology of China

**Paper Detail**

Paper ID	Title & Authors
EI10154	<b>A Decision-Making Approach and Updating Strategy for Prosumer Participations in Transactive Energy Markets</b> Xinyi Jing, Meng Song, Ciwei Gao
EI10231	<b>Carbon Flow Tracking based Carbon Emission Accounting of Low-Carbon Industrial Parks</b> Yan Ma, Yumin Chen, Yang Wei, Qian Li, Xueyuan Liu, Anan Zhang
EI10550	<b>Visual Analysis of the Green Power Trading Research Based on the CiteSpace and VOSviewer</b> Xiaorong Sun, Yuwen Liao, Chenhao Jin, Chunyu Han, Xueping Pan and Danxu Zhang



Paper ID	Title & Authors
EI10547	<b>A Low-Carbon Economic Scheduling Model of Integrated Energy System Considering Ladder-Type Carbon Trading</b> Wanqing Chen, Han Chen, Jinchun Chen, Simin Chen, Xiaofan Lin, Yinan Li
EI10186	<b>Optimal Energy Management of a Virtual Power Plant Considering Its Participation in Electricity and Carbon Allowance Trading</b> Huacheng Zhang, Hui Chen, Jiaming Yin, Huiyu Wang, Yujian Yequan Yuan,
EI10331	<b>Optimal Allocation and Economic Analysis of Energy Storage Capacity of New Energy Power Stations Considering the Full Life Cycle of Energy Storage</b> Yaozhongyuan, Wukai, Zhangyu, Yanqihui, Shijunjiao, Shunjie, Huhao, Libin, Yejilei
EI10668	<b>Electromagnetic Transient Modeling of Large-Capacity Offshore Full-Converter Wind Turbines</b> Shichao Wang, Yahao Chen, Haohan Cui, Guangda Wu and Xiaoming Jin
EI10671	<b>Prediction of Original Reliability Parameters in Power Systems based on Improved Discrete Grey Model</b> Zhiwei Han, Guoxin Shi, Shujuan Gan and Xiang Li

**Technical Session on November 12****TE08 / New-type Power System-A**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 2F / VIP Room III

Tencent ID OL Room 8: 409-8456-6823

Tencent Link <https://meeting.tencent.com/dm/beLZ5hYja8qG>**Time Table****Chair: Tianyu Wang, State Grid Zhejiang Electric Power Research Institute**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10390	Jinxian Zhang	University of Connecticut
15:15-15:30	EI10465	Chenye Wu	The Chinese University of Hong Kong, Shenzhen
15:30-15:45	EI10253	Yuchen Zhao	State Grid Economic and Technological Research Institute Co., Ltd
15:45-16:00	EI10279	Kai Yuan	State Grid Economic and Technological Research Institute Co. Ltd.
16:00-16:15	EI1068	Xi Zhang	State Grid Smart Grid Research Institute Co., Ltd
16:15-16:30	EI10349	Ruizhe Wang	Zhejiang University
16:30-16:45	EI10603	Jingjing Cao	Xi'an Jiaotong University
16:45-17:00	EI10632	Kang Pang	University of Shanghai for Science and Technology

**Paper Detail**

Paper ID	Title & Authors
EI10390	<b>Multi-fidelity Gaussian Process for Distribution System Voltage Probabilistic Estimation with PVs Track 8: New-type Power System</b> Jinxian Zhang, Junbo Zhao, Ketian Ye and Fei Ding
EI10465	<b>A Two-stage Emission Mismatch Penalty Game to Facilitate Carbon and Electricity Market Interaction</b> Gaoyuan Xu, Jian Shi, Wenqian Jiang, Chenye Wu, Dan Wang, Zhu Han
EI10253	<b>Study on Frequency Optimal Control of Receiving-End Grid Based on Pumped Storage Particle Swarm Algorithm</b> Yuchen Zhao, Zhihui Liu, Xuechen Bai, Jianxiong Jia, Boyu Zhou and Kai Yuan



Paper ID	Title & Authors
EI10279	<b>Day-Ahead Optimal Scheduling Method for Integrated Energy System Considering Thermal Dynamic Characteristics of Heat Pipe Network</b> Yuchen Zhao, Zhihui Liu, Boyu Zhou, Tong Xu, Xinlei Wang
EI1068	<b>A Coordinative Strategy for Numerous Electric Vehicles in a Resilient Urban Energy System</b> Xi Zhang, Heng Hu, Zihang Dong, Fenyu Huangfu, Ying Liu, Goran Strbac
EI10349	<b>Modeling Dynamic Carbon Emissions in Power System Based on Nodal Carbon Intensity Clustering</b> Ruizhe Wang, Gang Sun, Qingjuan Wang, Qiang Yang
EI10603	<b>Low-Carbon Planning of Integrated Energy System Considering a Reward and Punishment Ladder-type Carbon Trading Mechanism</b> Jingjing Cao, Xiong Wu, Yanhong Hu, Ziyu Zhang, Penglei Wangyunyi Wu
EI10632	<b>Economic and Environmental Benefits of Vehicle-to-grid in the Power System: A National Study of China's 2030 and 2060 Dual-carbon Goal</b> Yifan Wei, Kang Pang, Xuebing Han, Languang Lu, Yalun Li, Yudi Qin, Yuejiu Zheng and Minggao Ouyang

**Technical Session on November 12****TE09 / Renewable Energy Grid Interconnection-C**

Beijing Time 15:00-17:00 | 2022.11.12

Onsite Room 4F / Boardroom 董事会议室

Tencent ID OL Room 9: 309-4416-1271

Tencent Link <https://meeting.tencent.com/dm/qFNBNqHLV8Xw>**Time Table****Chair: Hongyu Zhu, School of Electrical Engineering, Guangxi University**

Time	Paper ID	Presenter	Affiliation
15:00-15:15	EI10237	Yiping Zhang	Changsha University of Science and Technology
15:15-15:30	EI10299	Shibo Zhou	North China Electric Power University
15:30-15:45	EI10662	Yincheng Zhao	University of Electronic Science and Technology of China
15:45-16:00	EI10192	Jianchen Wang	Xi'an Jiaotong University
16:00-16:15	EI1054	Yujie Shi	Tsinghua University
16:15-16:30	EI10542	Chang Zhang	Huaneng Clean Energy Research Institute
16:30-16:45	EI10314	Chenjian Zhang	Zhejiang University
16:45-17:00	EI10191	Yuanyuan Feng	State Grid Dongying Power Supply Company

**Paper Detail**

Paper ID	Title & Authors
EI10237	<b>VSG-Based Extended State Observer and Feedback Damping Control for Low Frequency Oscillations</b> Yiping Zhang, Weiyu Wang, Yijia Cao
EI10299	<b>Flexibility Balance Mechanism and Flexibility Requirement Quantification of Power System with High Share of Uncertainty Power</b> Jiayu Xu, Ning Su, Zeliang Zhao, Shibo Zhou, Hengyu Zhou, Shiyi Zhang, Ming Zhou, Senior Member, IEEE, Gengyin Li, Member, IEEE
EI10662	<b>A Wind Power/Photovoltaic/Hydropower/Pumped Storage Power Station System Sizing Strategy</b> Yincheng Zhao, Weihao Hu, Shihua Luo, Qi Huang, Zhe Chen,



Paper ID	Title & Authors
EI10192	<b>Distributionally Robust Scheduling of Multi-energy Park Considering Thermal Inertia of Differentiated Buildings</b> Jianchen Wang, Zituo Liu, Fangshi Li
EI1054	<b>Robust Day-ahead Economic Dispatch of Integrated Energy System Considering Load Uncertainties and Power Reserve Revenue</b> Yujie Shi, Xinwei Shen, Hongbin Sun
EI10542	<b>Analysis of Wind-Hydrogen Coupling with Coal-to-Methanol System for Green Low-Carbon Methanol Synthesis</b> Haijiao Guo, Qing Xu, Chang Zhang, Jinyi Wang, Zhan Wu and Rong Liu
EI10314	<b>Two-stage Robust Economic and Carbon Emission Optimal Scheduling of Integrated Energy System</b> Chenjian Zhang, Chenbin Lu, Zhejing Bao
EI10191	<b>Low-Carbon Economic Dispatch Of Integrated Energy System Based On IGDT Robust Model</b> Yuanyuan Feng, Xiaojiao Liang, Ruichun Zhang, Dong Han, Jie Qu and Hao Ding



**Technical Session on November 13****TE10 / Renewable Energy Grid Interconnection-D**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 2F / Chuanfu Room I 川府 I 厅

Tencent ID OL Room 1: 754-4374-4884

Tencent Link <https://meeting.tencent.com/dm/KDsIxNDAO5ST>**Time Table****Chair: Bonian Shi, Beijing Sifang Automation Co. Ltd.**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10613	Rui Xu	Tiangong University
08:45-09:00	EI10509	Kaidong Li	Beijing Jiaotong University
09:00-09:15	EI10477	Guanhui Li	Shandong University
09:15-09:30	EI10643	Ning Li	Wuhan University of Technology
09:30-09:45	EI10647	Wenbin Su	Wuhan University of Technology
09:45-10:00	EI10175	Weihong Liu	Xi'an Jiaotong University

**Paper Detail**

Paper ID	Title & Authors
EI10613	<b>Coordinative Low-Voltage-Ride-Through Control for Wind Energy Conversion System with Supercapacitor Energy Storage System</b> Zhaoxia Xiao, Rui Xu, Jiangwei Jia, Zhiliang Chang, Jianing Cao, Shirong Zhang
EI10509	<b>Voltage Optimization Method for PV Accessed Distribution Network Based on Local Control</b> Qifang Chen, Kaidong Li, Yuan Ma, Mingchao Xia, Minghui Bai and Lu Sitong
EI10477	<b>Optimal Scheduling of Integrated Energy System Considering the Dynamic Characteristics of Heating and Gas Networks</b> Guanhui Li, Tingting Zhang, Feng Li, Xichao Zhao, Yuxin Xie, Wen Zhang
EI10643	<b>Fuzzy Control Strategy for Load Power Distribution of Multi Stack Fuel Cell System Based on Cuckoo Algorithm</b> Weibo Li, Ning Li, Jianbao Liu, Ji Luo



Paper ID	Title & Authors
EI10647	<b>Prediction of Preventive Maintenance Cycle of Smart Meter Based on Weibull Distribution to Reduce Maintenance Cost</b> Weibo Li, Wenbin Su, Chenghu Xu, Hualiang Fang
EI10175	<b>A Two-Stage Planning Model to Optimize Flexible Resources from Demand Side</b> Jie Chen, Yao Wang, Weihong Liu, Zituo Liu, Yan Liang and Ai Wang

**Technical Session on November 13****TE11 / Renewable Energy Grid Interconnection-E**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 2F / Chuanfu Room II 川府 II 厅

Tencent ID OL Room 2: 980-7513-8115

Tencent Link <https://meeting.tencent.com/dm/dFfxkJ9h9iF5>**Time Table****Chair: Baijie Yang, Tianjin University**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10548	Tiankai Yang	Dalian Maritime University
08:45-09:00	EI1093	Dongge Liu	North China Electric Power University
09:00-09:15	EI1014	Yujie Gu	University of Electronic Science and Technology of China
09:15-09:30	EI10204	Jinhe Liu	Southwest Petroleum University
09:30-09:45	EI10100	Lanxin Shao	Zhejiang University
09:45-10:00	EI10394	Zexiang Guan	Chengdu University of Technology

**Paper Detail**

Paper ID	Title & Authors
EI10548	<b>A Novel Economic Dispatch Method in Active Distribution Grids with Correlated Uncertain Power Injections</b> Tiankai Yang, Xu Ji, Jixiang Wang
EI1093	<b>Research on the Regional New Energy and Its Complementary Characteristics</b> Dongge Liu, Yingyun Sun, Xiaonan Han, Kexin Zhang, Wei Lin, Yi Lin
EI1014	<b>Improved Virtual Synchronous Generator Control Strategy for Synchronous Frequency Resonance</b> Yujie Gu, Binbin Dong, Jianbo Yi, Zhenyuan Zhang
EI10204	<b>Power Generation Characteristic Analysis from Natural Gas Pressure Reducing Stations</b> Wei Yan, Jinhe Liu, Anan Zhang, Siyu Lin



Paper ID	Title & Authors
EI10100	<b>Optimal Dispatch of Energy Storage Units Considering Wind Power and Line Failure Uncertainty</b> Hong Li, Chengyao Gong, Tao Feng, Fang Sheng, Jianpeng Zhao, Lanxin Shao,
EI10394	<b>A Hierarchical Optimization-Based Model for Microgrids With Energy Storage Considering Operation Cost and Net Load Mean Square Error</b> Zexiang Guan, Dongsheng Cai, Olusola Bamisile, Jian Li, Zhenyuan Zhang, Qi Huang

**Technical Session on November 13****TE12 / Renewable Energy Grid Interconnection-F**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 4F / Rongcheng | 蓉城 | 厅

Tencent ID OL Room 3: 800-3465-7292

Tencent Link <https://meeting.tencent.com/dm/vAy1T38glxle>**Time Table****Chair: Sen Zhang, University of Electronic Science and Technology of China**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10427	Huan Yang	Chengdu University of Technology
08:45-09:00	EI10512	Ce Shang	Shanghai Jiao Tong University
09:00-09:15	EI10222	Yihui Mao	Zhejiang University
09:15-09:30	EI10225	Xin Peng	Southwest Petroleum University School of Electrical Engineering and Information
09:30-09:45	EI10639	Xinglei Liu	Xi'an Jiaotong University
09:45-10:00	EI10567	Zhang Jing	China Electric Power Research Institute Co., Ltd.

**Paper Detail**

Paper ID	Title & Authors
EI10427	<b>Optimization of Low-Carbon Dispatching for Microgrid Based on Improved Particle Swarm Optimization</b> Zexiang Guan, Dongsheng Cai, Olusola Bamisile, Jian Li, Zhenyuan Zhang, Qi Huang
EI10512	<b>A Tempo-Spatially Clustered Unit Commitment with Long-Cycle Storage Dispatch</b> Jingbo Wang, Ce Shang
EI10222	<b>Quantification of Uncertainty in District Heating System with Renewable Energy Access</b> Zaihua Wang, Yihui Mao, Xiaojie Lin.
EI10225	<b>Economic Dispatch of Offshore Oil and Gas Platform Group Based on Electricity-Gas Shared Energy Storage</b> Xin Peng, Hao Hu, Anan Zhang, Jianhua Li, Siyang Hu, Haitao Huang



Paper ID	Title & Authors
EI10639	<b>Capacity Planning of Microgrid-Level Regional Integrated Energy System Based on Cooperative Game Theory</b> Xinglei Liu, Jun Liu, Jinchun Chen, Yong Yao, Shizhu Li
EI10567	<b>Carbon Emission Optimization of Park Integrated Energy System based on Operation Simulation</b> Jing Zhang, Wen Li, Fanpeng Bu, Hao Li, Peng Zhang

**Technical Session on November 13****TE13 / Smart Grid Security-B**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 4F / Rongcheng II 蓉城 II 厅

Tencent ID OL Room 4: 735-4184-9317

Tencent Link <https://meeting.tencent.com/dm/tnXLgmJ0e2AZ>**Time Table****Chair: Lipeng Qian, Huazhong University of Science and Technology**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10348	Yi Su	Guangxi University
08:45-09:00	EI1047	Qiwen Peng	Southwest Jiaotong University
09:00-09:15	EI10480	Chuantao Yao	EHV Power Transmission Company Tianshengqiao Bureau, CSG
09:15-09:30	EI1024	Jiaqi Ruan	The Chinese University of Hong Kong, Shenzhen
09:30-09:45	EI10611	Xiangjing Su	Shanghai University of Electric Power
09:45-10:00	EI1084	Feng Hong	North China Electric Power University

**Paper Detail**

Paper ID	Title & Authors
EI10348	<b>Bi-level Optimal Scheduling Strategy for Electric Vehicles with Small-Signal Stability Constraints</b> Yi Su, Hui Liu, Ni Wang, Zhiqiang Luo, Yebiao Su, Haimin Xie
EI1047	<b>Study on the Potential Distribution Characteristics of Substation Grounding Grid Considering Stray Current</b> Long Chen, Kaimin Huang, Kunxuan Wei, Demin Gao, Qiwen Peng and Sheng Lin
EI10480	<b>Rectification and Optimization on Single Component Defect in HVDC Project</b> Yao Chuantao, Xie Huifan, Liu Hongtao, Zheng Feng, Chen Qiupeng, Wang Jianglei
EI1024	<b>A Generalized Data Recovery Model Against False Data Injection Attack in Smart Grid</b> Yifan Zhu, Jiaqi Ruan, Gang Fan, Shuyi Wang, Gaoqi Liang, Junhua Zhao



Paper ID	Title & Authors
EI10611	<b>Deep Neural Network Based Efficient Data Fusion Model for False Data Detection in Power System</b> Xiangjing Su, Zheng Zhu, Shiqu Xiao, Yang Fu and Yi Wu
EI1084	<b>Analysis and Assessment of Frequency Regulation Capability of Coal-Fired Power Generating Units under Deep Peak Shaving</b> Feng Hong, Lu Liang, Jie Song, Weiming Ji, Yalei Pang, Xinyi Jia



**Technical Session on November 13****TE14 / New-type Power System-B**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 4F / Wenjiang Room 温江厅

Tencent ID OL Room 5: 967-5309-3713

Tencent Link <https://meeting.tencent.com/dm/WVNCM13uftBN>**Time Table****Chair: Yifan Wei, Tsinghua University**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10473	Wanglin Cao	Tianjin University
08:45-09:00	EI10315	Zhiqiang Luo	Guangxi University
09:00-09:15	EI10155	Xiangdi Ge	Wuhan University of Technology
09:15-09:30	EI10205	Yuanyu Ge	Hohai University
09:30-09:45	EI10523	Xiaolun Fang	Zhejiang University
09:45-10:00	EI10555	Qinxuan Huang	Tsinghua-Berkeley Shenzhen Institute, Tsinghua University

**Paper Detail**

Paper ID	Title & Authors
EI10473	<b>The Connotation, Characteristics and Development of Digitized Distribution Network:A Review</b> Yuchun Huang, Jingyi Liu, Yanyu Zhang, Bin Zhang and Wei Jia
EI10315	<b>The Research on High Proportion Wind Power Integration in China's Power System</b> Zhiqiang Luo, Hui Liu, Ni Wang, Yi Su and Teyang Zhao
EI10155	<b>Flexible Recovery Strategy of Distribution Network after Wind Disaster with Distributed Generation</b> Haifeng Xu, Hui Hou, Xiangdi Ge, Ruizeng Wei, Huan He
EI10205	<b>Distributed Energy Storage Optimal Scheduling in Distribution Network Based on the K-means++ Algorithm</b> Qiuyan Zhang, Mingming Xu, Bowen Shang, Yuanyu Ge, Denghui Fu and Jun Xie



Paper ID	Title & Authors
EI10523	<b>Coordinated Management for Off-grid Photovoltaic-Electrolyzer Systems with Battery Storage Facilities</b> Xiaolun Fang, Qiang Yang
EI10555	<b>Location Decision of Battery Swapping Stations Combined with Battery Swapping Warehouses</b> Qinxuan Huang, Xuan Zhang*

**Technical Session on November 13****TE15 / New-type Power System-C**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 4F / Yongquan Room 涌泉厅

Tencent ID OL Room 6: 827-1555-1985

Tencent Link <https://meeting.tencent.com/dm/z2b22RlyPLNe>**Time Table****Chair: Ming Pei, China Agricultural University**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10530	Peijie Wei	Huazhong University of Science and Technology
08:45-09:00	EI10506	Liu Yang	Beijing Jiaotong University
09:00-09:15	EI10642	Shuangquan Liu	Yunnan Power Grid Co., Ltd
09:15-09:30	EI10536	Hao Chen	Institute of Economics and Technology State Grid Fujian Electric Power Co.
09:30-09:45	EI10366	Mengfei Xu	NanJing University of Posts and Telecommunications
09:45-10:00	EI10396	Zikai Feng	China Agricultural University

**Paper Detail**

Paper ID	Title & Authors
EI10530	<b>Short-Term Wind Power Probabilistic Prediction for Newly Built Wind Farms Scenarios Based on W-GAN and CNN-LSTM</b> Wei Peijie, Wang Xiaohai, Xiong Yuhan, Peng Xiaosheng, Yang Zimin, Guo Shuxiang, Hao Feng
EI10506	<b>Optimal Configuration of Electricity-Hydrogen Dominated Highway Service Station Integrated Energy System</b> Mingchao Xia, Liu Yang, Hao Hu, Qifang Chen, Binhui Pei and Yu Jin
EI10642	<b>Policy Recommendations to Further Decarbonize the Yunnan Power System with Rising New Energy</b> Shuangquan Liu, Jie Zhang, Xiangyong Li, Binbin Zhou, Contgong Zhang, Yang Wu
EI10536	<b>Adaptability Analysis of Distribution Network to Distributed Generation considering Hosting Capacity and Absorption Capability</b> Hao Chen, Guilian Wu, Yi Lin and Tingting Lin



Paper ID	Title & Authors
EI10366	<b>Sliding-Time-window and Event-Trigger Based Data Collection Strategy for Non-intrusive Load Monitoring</b> Jian Yang, Wenjia Hua, Mengfei Xu, Zhiyou Ouyang and Han Zhang
EI10396	<b>Design and Development of Household Solar-Heat-Storage Coordination Control Software Module</b> Zikai Feng, Tianjun Jing, Wei Guo, Chunguang He

**Technical Session on November 13****TE16 / Market Mechanism and Policy Supporting Energy Internet-B**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 2F / VIP Room | VIP I 厅

Tencent ID OL Room 7: 707-2574-6050

Tencent Link <https://meeting.tencent.com/dm/E6b1kwS5a27q>**Time Table****Chair: Xun Dou, Nanjing Tech University**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10138	Longyan Li	Shanghai Jiao Tong University
08:45-09:00	EI10591	Yifeng Wu	State Grid Zhejiang Electric Power Co. Ltd.
09:00-09:15	EI10226	Zhe Dai	Zhejiang University
09:15-09:30	EI10577	Xiaobin Wu	South China University of Technology
09:30-09:45	EI10438	Zeming Jiang	Unicompay Co.,Ltd (Subsidiary of China Unicom)
09:45-10:00	EI10456	Zhihong Huang	Tsinghua University

**Paper Detail**

Paper ID	Title & Authors
EI10138	<b>Integrated Power and Hydrogen Trading in Multi-microgrid Coupled with Offsite Hydrogen Refueling Stations</b> Longyan Li, Chao Ning
EI10591	<b>Attack-and-defend Game Simulation Considering Strategic Bidding and Market Power Regulation</b> Yang Xiaolei, Wu Yifeng, Jin Lixiang, Lu Chunliang
EI10226	<b>Time-of-Use Steam Price Optimization Study Based on User Response Characteristics</b> Zaihua Wang, Zhe Dai, Xiaojie Lin, Guanchang Pan and Wei Zhong,
EI10577	<b>A Novel peer-to-peer Trading Mechanism for Community Microgrid Considering with Market Share Pricing</b> Xiaobin Wu, Yuxiang Huang, Haoyong Chen, Weijun Cai, Yushen Wang, Dongliang Xiao



Paper ID	Title & Authors
EI10438	<b>Roadmap to Carbon Neutrality - Financial Practices for Chinese Telecom Giants</b> Weibing Li, Zeming Jiang, Zhiqiang Wang, He Liu, Kexin Xiao
EI10456	<b>A Multiple Market Trading Mechanism for Electricity, Renewable Energy Certificate and Carbon Emission Right of Virtual Power Plants</b> Zhihong Huang, Ye Guo, Qiuwei Wu, Li Xiao and Hongbin Sun

**Technical Session on November 13****TE17 / Key Equipment of Energy Internet-B**

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 2F / VIP Room III VIP III 厅

Tencent ID OL Room 8: 409-8456-6823

Tencent Link <https://meeting.tencent.com/dm/beLZ5hYja8qG>**Time Table****Chair: Kang Xiong, University of Electronic Science and Technology of China**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10211	Jiaying Li	Southwest Petroleum University
08:45-09:00	EI10449	Ming Liu	University of Electronic Science and Technology of China
09:00-09:15	EI10528	Chen Hao	Liaoning Dongke Electric Power Co., Ltd
09:15-09:30	EI10624	Deshun Wang	Southeast University; Jiangsu Engineering Technology Research Center for Energy Storage Conversion and Application, China Electric Power Research

**Paper Detail**

Paper ID	Title & Authors
EI10211	<b>Prediction Model of Submarine Cable Burial Depth Trend Based on CNN-LSTM</b> Jiaying Li, Anan Zhang, Qian Li, Bo Huang
EI10449	<b>Modeling and Optimization of Magnetic Energy Harvesters with Field Shaping Capacitors for Energy Ethernet Applications</b> Yan Ma, Min Sun, Ming Liu, Guanhong Chen, Man Zhang, Jian Li and Qi Huang
EI10528	<b>Oil-Immersed Current Transformer Based on Accurate Oil Pressure Collection Method Development of Internal Abnormal Judgment Device</b> Chen Hao, Li Xianwei, Liu Hengyu, Zhong Yuanchen, Jiang Yiming, Zhang Zimeng, Zhang Linlin, Xu Beibei
EI10624	<b>Development of Environmentally Friendly and Efficient New Energy Rail Locomotives for Industrial and Mining Enterprises</b> Fubao Wu, Bo Yang, Kaiyi Wang, Haoyuan Li, Haikun Wei



## Technical Session on November 13

### TE18 / Demonstration of Energy Internet-A

Beijing Time 08:30-10:00 | 2022.11.13

Onsite Room 4F / Boardroom 董事会议室

Tencent ID OL Room 9: 309-4416-1271

Tencent Link <https://meeting.tencent.com/dm/qFNBNqHLV8Xw>

#### Time Table

**Chair: Zhenjie Cui, University of Electronic Science and Technology of China**

Time	Paper ID	Presenter	Affiliation
08:30-08:45	EI10233	Bingxu Hou	State Grid Corporation of China
08:45-09:00	EI10455	Hao Liu	North China Electric Power University
09:00-09:15	EI10552	Jinchun Chen	Power Economic Research Institute of State Grid Fujian Electric Power Company
09:15-09:30	EI1015	Jiaxin Ma	North China Electric Power University

#### Paper Detail

Paper ID	Title & Authors
EI10233	<b>Interprovincial Lead-Lag Analysis on Secondary and Tertiary Industrial Electricity Consumption</b> Zhiyuan Chen, Bingxu Hou, Xuan Yang, Lu Gao, Hanghai Hu, Jiayi Shang
EI10455	<b>Study on Multi-Objective Planning Optimization of Regional Integrated Energy System based on Genetic Algorithm</b> Li Dexin, Lv Xiangyu, Liu Hao, Wang Zhiwei, Li Yibo, Wang Yongli, Dong Pengxu
EI10552	<b>Medium and Long Term Carbon Emissions and Carbon Neutrality Scenarios Forecast of Fujian Province</b> Jinchun Chen, Xiaofan Lin, Han Chen, Nan Zheng, Yuanfei Li, Simin Chen, Wanqing Chen, Kangli Xiang
EI1015	<b>Research on Energy Demand Forecasting Method Considering City Maturity under Energy Internet</b> Ma Jiaxin, Li Ying, Zeng Ming



**Technical Session on November 13****TE19 / Renewable Energy Grid Interconnection-G**

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 2F / Chuanfu Room I 川府 I 厅

Tencent ID OL Room 1: 754-4374-4884

Tencent Link <https://meeting.tencent.com/dm/KDsIxNDAO5ST>**Time Table****Chair: Chenye Wu, The Chinese University of Hong Kong, Shenzhen**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10334	Wenjia Ji	Hohai University
10:30-10:45	EI10245	Haitao Huang	Southwest Petroleum University
10:45-11:00	EI1052	Bowen Zheng	China Electric Power Research Institute
11:00-11:15	EI10494	Hao Li	North China Electric Power University
11:15-11:30	EI10651	Pengyu Wei	Chengdu University of Technology
11:30-11:45	EI10386	Zhu Yuan	State Grid Hunan Electric Power Corporation Limited Disaster Prevention & Reduction Center

**Paper Detail**

Paper ID	Title & Authors
EI10334	<b>A Hydro-Thermodynamic Dynamic Coupling Model and Its Fast Calculation Method in Integrated Energy System</b> Wenjia Ji, Su Guo, Yi He, Kun Zheng, Jiale Wang, Tianze Song
EI10245	<b>Low Carbon Optimal Operation of Integrated Energy System of Offshore Oil and Gas Platform</b> Qian Li, Haitao Huang, Yunxia Wu, Jianhua Li, Tianzhi Li, Xin Peng
EI1052	<b>Ferroalloy Submerged Arc Furnace Control Strategies for Wind Power Consumption</b> Bowen Zheng, Ke Chen, Songsong Chen, Taorong Gong, Feixiang Gong and Ying Zhou
EI10494	<b>Research on Transmission Scheme of Large-scale Renewable Energy Transmitted Through Series Hybrid DC system</b> Yunchao Song, Shuangmian Yang, Hao Li



Paper ID	Title & Authors
EI10651	<b>Multi-Objective Optimization of A CCHP System Model Integrated with P2G for Decarbonization</b> Pengyu Wei, Olusola Bamisile, Dongsheng Cai, Jian Li, Humphrey Adun, Qi Huang
EI10386	<b>Study on Ice Melting Characteristics of Wind Power Transmission Line under High Wind Speed</b> Huang Qingjun, Zhu Yuan, Zhou Xiudong, Mao Xinguo, Sun Shiyi and Zhu Siguo

**Technical Session on November 13****TE20 / Renewable Energy Grid Interconnection-H**

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 2F / Chuanfu Room II 川府 II 厅

Tencent ID OL Room 2: 980-7513-8115

Tencent Link <https://meeting.tencent.com/dm/dFfxkJ9h9iF5>**Time Table****Chair: Tiankai Yang, Dalian Maritime University**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10422	Asif Raza	University of Electronic, Science & Technology of China.
10:30-10:45	EI1049	Tao Yu	South China University of Technology
10:45-11:00	EI10499	Keren Chen	Power Economic Research Institute of State Grid Fujian Electric Power Company
11:00-11:15	EI10176	Li Ying	China Electric Power Research Institute
11:15-11:30	EI1078	Zhanwen Tang	Chongqing University
11:30-11:45	EI10630	Fulin Zhang	Fujian University of Technology

**Paper Detail**

Paper ID	Title & Authors
EI10422	<b>Hierarchical Control Scheme for VSC-MTDC System with Multiple Renewable Energy Sites Based on Optimal Power Flow and Droop Scheme</b> Asif Raza, Qi Huang, Jian Li, Olusola Bamisile, Cai Dongsheng, Ghalib Raza
EI1049	<b>Optimal Planning of Distributed Generation based on African Vultures Optimization Algorithm</b> Mintong Zhao, Jiajia Huan, Xin Huang, Tao Yu and Qiaoyi Ding
EI10499	<b>Integrated Energy System Operation Optimization Considering Supply-side Flexibility</b> Keren Chen
EI10176	<b>Influence of LCU and Governor Combined Control of Hydro Power Unit on Power System Frequency Stability</b> Li Ying, Wang Guanhon, Chen Gang



Paper ID	Title & Authors
EI1078	<b>Reliability Evaluation of Hybrid Energy Storage System Considering Flexible Resources of Source, Network and Load</b> Dajun Si, Zhanwen Tang, Lingfang Li, Yiming Yao, Peng Sun, Bo Hu, Kaigui Xie
EI10630	<b>Improved Droop Control of Independent Optical Storage DC Microgrid</b> Renwu Yan, Fulin Zhang, Xueer Jiang, Yang Zheng, Yihan Lin

**Technical Session on November 13****TE21 / Renewable Energy Grid Interconnection-I**

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 4F / Rongcheng I 蓉城 I 厅

Tencent ID OL Room 3: 800-3465-7292

Tencent Link <https://meeting.tencent.com/dm/vAy1T38glxle>**Time Table****Chair: Feng Hong, North China Electric Power University**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10194	Xiaojiao Liang	State Grid Dongying Power Supply Company
10:30-10:45	EI10247	Hongqiang Zhang	State Grid Hunan Electric Power Co., Ltd. Research Institute
10:45-11:00	EI1025	Jinwen Hao	State Grid Jibei Electric Power Research Institute
11:00-11:15	EI10581	Zuan Fu	University of Jinan
11:15-11:30	EI10189	Chufan Wei	Beijing Jiaotong University
11:30-11:45	EI10672	Bingkun Li	Shandong University

**Paper Detail**

Paper ID	Title & Authors
EI10194	<b>Low-Carbon Economic Dispatch of Integrated Energy System with Carbon Capture Storage Considering Integrated Demand Response</b> Xiaojiao Liang, Yuanyuan Feng, Fengdi Zhang, Yongjian Xu, Haowen Geng and Yulong Zhang
EI10247	<b>Research on Optimal Operation of Cascade Small Hydropower Based on Runoff Simulation</b> Hongqiang Zhang, Xingrong Song, Haiping Tian, Yike Wang, Yuannan Long and Xinyi Song
EI1025	<b>Influence of Grid-following Power Electronic Equipment using Phase-locked Loop on Frequency of Wind Turbine Terminal</b> Longxiang Chen, Yamin Sun, Xiao Wang, Siqi Yu, Dawei Sun, Jinwen Hao
EI10581	<b>Photovoltaic Power Prediction Based on Gray-scale Satellite Cloud Image and Optimized LSTM</b> Zuan Fu, Jie Shi, Xingong Cheng, Xiaochen Wang, Yan Ma



Paper ID	Title & Authors
EI10189	<b>Control of Inverters for Grid-connected Operation Based on Phase Angle Droop</b> Chufan Wei, Sijia Wang, Xiangyu Wu, Yigang Zhao, Xiaohong Zhang
EI10672	<b>Study of Commutation Failure Prediction for Line Commutated Converter</b> Bingkun Li, Zhijie Liu, Zhonglin Guo, Jing Feng, Jiachen Li, Kejun Li

**Technical Session on November 13****TE22 / Smart Grid Security-C**

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 4F / Rongcheng II 蓉城 II 厅

Tencent ID OL Room 4: 735-4184-9317

Tencent Link <https://meeting.tencent.com/dm/tnXLgmJ0e2AZ>**Time Table****Chair: Xiangjing Su, Shanghai University of Electric Power**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10139	Jieming Huang	Tsinghua University
10:30-10:45	EI10167	Ning Peng	Hefei University of Technology
10:45-11:00	EI10582	Wei Ma	Power Supply Company State Grid Anhui Electric Power
11:00-11:15	EI10561	Lipeng Qian	Huazhong University of Science and Technology
11:15-11:30	EI10464	Jiawei Hu	North China Electric Power University
11:30-11:45	EI10424	Ruipeng Liang	Chengdu University of Technology Chengdu

**Paper Detail**

Paper ID	Title & Authors
EI10139	<b>A Simplification Method for Robust Optimization of Power System Based on LMP</b> Jieming Huang, Ye Guo, Hongbin Sun, Qiuwei Wu, Li Xiao
EI10167	<b>Ensemble Clustering Model for Load Pattern Identification under Energy Internet Environment</b> Kaile Zhou, Ning Peng, Dingding Hu
EI10582	<b>Wide Frequency Interharmonic Detection Considering New Energy Access</b> Wei Ma, Junjun Tang, Jian Wang, Hao Chen, Bingbing Luo and Yu Zhang
EI10561	<b>A Data Fusion Approach for Searching Fault Chains in Power Grid over Datasets from Multiple Systems</b> Lipeng Qian, Qiong Zuo, Haiguang Liu, Rusi Chen, Dahu Li, Zewei Wang, Qizi Zheng



Paper ID	Title & Authors
EI10464	<b>Collaborative Emergency Control Strategy Providing Transient Stability After HVDC-link Blocking</b> Jiawei Hu, Hans-Peter Nee, Tong Wang, Zengping Wang
EI10424	<b>Calculation and Simulation Analysis of Current Carrying Capacity and Thermal Effect of 500kV Tunnel Cable</b> Ruipeng Liang, Qi Huang, Olusola Bamisile, Jian Li, Dongsheng Cai, Zhenyuan Zhang,



**Technical Session on November 13****TE23 / New-type Power System-D**

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 4F / Wenjiang Room 温江厅

Tencent ID OL Room 5: 967-5309-3713

Tencent Link <https://meeting.tencent.com/dm/WVNCM13uftBN>**Time Table****Chair: Ce Shang, Shanghai Jiao Tong University**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10283	Wei Lin	State Grid Fujian Economic Research Institute
10:30-10:45	EI10364	Qi Li	Electric Power Research Institute State Grid Jibei Electric Power Company Limited
10:45-11:00	EI10374	Keran Huang	Henan University of Technology
11:00-11:15	EI10261	Hongyu Zhu	School of Electrical Engineering, Guangxi University
11:15-11:30	EI10661	Meng Cheng	Hitachi Energy China
11:30-11:45	EI10221	Nan Zhang	Zhejiang University

**Paper Detail**

Paper ID	Title & Authors
EI10283	<b>Analysis on the Reactive Power Compensation Optimization under High Integration of Renewable Energy Sources</b> Wei Lin, Wei Wu, Rui Zhu, Dongge Liu
EI10364	<b>Study on the Demand-Side Response Characteristics of the Flexibility Adjustment Ability of the Grid Side</b> Zesen Wang, Qi Li, Yu Li, Kai Bai, Miao Liu and Tianxiao Huang
EI10374	<b>Adaptive Carbon-Electricity Dual Pricing Mechanism for EVs Orderly Charging</b> Jun Wang, Keran Huang, Lan Wu, Xiao Xu.
EI10261	<b>Low-Carbon Optimal Scheduling of Integrated Energy System Considering Flexible Demand Response of Multiple Loads</b> Jinrui Shen, Hongyu Zhu, Dongdong Zhang, Xiang Li, Tianhao Liu and Thomas Wu



Paper ID	Title & Authors
EI10661	<b>Optimized Scheduling of the AC/DC Hybrid Distribution Network Considering the Operating State of Flexible Energy Resources</b> Yin Wu, Jian Tan, Chen Chen, Meng Cheng, Yizhe Jiang
EI10221	<b>A Study On Integrated Energy System Long-term Planning Optimization Considering Complementarity And Economy</b> Nan Zhang, Xiaojie Lin, Wei Zhong, Fanqi Kong



## Technical Session on November 13

### TE24 / ICT Application in Energy Internet-B

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 4F / Yongquan Room 涌泉厅

Tencent ID OL Room 6: 827-1555-1985

Tencent Link <https://meeting.tencent.com/dm/z2b22RlyPLNe>

#### Time Table

Chair: Xiaoying Tang, The Chinese University of Hong Kong, Shenzhen

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10658	Anto Leoba Jonathan	Chengdu University of Technology
10:30-10:45	EI10108	Peipei Yu	University of Macau
10:45-11:00	EI10531	Jinjie Liu	The Chinese University of Hong Kong, Shenzhen
11:00-11:15	EI10278	Fangliao Yang	Information and Communication Branch of State Grid Hunan Electric Power Company Limited

#### Paper Detail

Paper ID	Title & Authors
EI10658	<b>Intra-Graph-Based Few-Shot Link Prediction in Knowledge Graph</b> Anto Leoba Jonathan, Olusola Bamisile, Dongsheng Cai, Chukwuebuka Joseph Ejiyi, Joseph Junior Nkou Nkou and Qi Huang
EI10108	<b>Smoothing Tie-line Power for Microgrids by Controlling District Cooling System based on Soft Actor-Critic Reinforcement Learning</b> Peipei Yu, Hongcai Zhang, Yonghua Song
EI10531	<b>Short-Term Load Forecasting with Frequency Enhanced Decomposed Transformer</b> Jinjie Liu, Guolong Liu, Jiaqi Ruan, Keen Wen, Chao Yang, Junhua Zhao
EI10278	<b>A Novel Architecture Design of Power Internet of Things Based on Huawei Internet of Things Platform</b> Fangliao Yang, Shi Zhu, Haozhi Li, Xin Huang, Yizhen Sun and Jianwei Tian



## Technical Session on November 13

### TE25 / Market Mechanism and Policy Supporting Energy Internet-C

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 2F / VIP Room I VIP I 厅

Tencent ID OL Room 7: 707-2574-6050

 Tencent Link <https://meeting.tencent.com/dm/E6b1kwS5a27q>

#### Time Table

**Chair: Tao Chen, Southeast University**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10371	Wenli Wu	Tsinghua University
10:30-10:45	EI10346	Rui Jing	Xiamen University
10:45-11:00	EI10203	Song Zhou	Southwest Petroleum University
11:00-11:15	EI10474	Zhun Chen	China Electric Power Research Institute
11:15-11:30	EI10280	Bo Dong	1.School of Automation, Southeast University 2.State Grid Jiaying Power Supply Company 3.China Electric Power Research Institute
11:30-11:45	EI10282	Xuanqi Gao	Tsinghua Sichuan Energy Internet Research Institute

#### Paper Detail

Paper ID	Title & Authors
EI10371	<b>Pricing Resources in Renewable Portfolio Standard-Constrained Spot Markets</b> Wenli Wu, Ye Guo, Jiantao Shi, Qiuwei Wu, Hongbin Sun
EI10346	<b>Onsite Survey unlocks Commercial Buildings' Air-conditioning Demand Response Potential</b> Guoshu Lai, Nvgui Lin, Qiang Ye, Wuxiao Chen, Han Lin, Yingru Zhao
EI10203	<b>Research on the Sichuan-Chongqing Gas-hydro Bundled Delivery Model Considering the Willingness of Receiving End to Consume</b> Song Zhou, Wei Yang, Runmin He, Fuping Wang, Qi Mei, Qian Li
EI10474	<b>Auxiliary Decision-Making Method of Intra Day Unit Startup and Shutdown Considering Prediction Error</b> Zhun Chen, Dan Xu, Jinghua Yan



Paper ID	Title & Authors
EI10280	<b>Unit Commitment with Nonconvex Cost Model in Deep Peak Regulation</b> Bo Dong, Wei Xu, Jianhu Lv, Ying Wang and Kaifeng Zhang
EI10282	<b>A Capacity Pricing Methodology for Pumped Storage Considering the Apportion of Electricity Benefits</b> Yu Lu, Yuanmei Zhang, Xuhui Xiao, Jing Wang, Yi Lei, Haibo Li and Xuanqi Gao



## Technical Session on November 13

### TE26 / Key Equipment of Energy Internet-C

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 2F / VIP Room III VIP III 厅

Tencent ID OL Room 8: 409-8456-6823

 Tencent Link <https://meeting.tencent.com/dm/beLZ5hYja8qG>

#### Time Table

**Chair: Yubo Han, University of Electronic Science and Technology of China**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI1022	Shuyi Zhuang	Jiangsu Electric Power Research Institute
10:30-10:45	EI10276	Hai Huang	Gathering and Transmission Engineering Technology Research Institute
10:45-11:00	EI10432	Jiaxin Liu	State Grid Liaoning Electric Power Research Institute
11:00-11:15	EI10485	Chen Wei	State Grid Shanghai Energy Internet Research Institute
11:15-11:30	EI10681	Zhifan Liu	Economic & Research Institute State Grid Shandong Electric Power Company

#### Paper Detail

Paper ID	Title & Authors
EI1022	<b>A Resonance-based Switching-Loss-Free Boost Topology and its Control Method for Photovoltaics</b> Shuyi Zhuang, Tiankui Sun, Zhekai Liu, Xiaolong Xiao and Wei Su
EI10276	<b>Prospect and Economic Analysis of Photovoltaic Hydrogen Production + HCNG Power Storage</b> Haihuang, Huacheng, Pingtang
EI10432	<b>Research on X-ray Detection Robot System for Gas Insulated Switchgear or Transmission Line</b> Jiaxin Liu, Zhong Wang, Yexing Lang, Xuchen Lu
EI10485	<b>Research and Development of AC/DC Power Electronics Energy Router with Multi-scenarios and Multi-modes</b> Chen Wei, Zhihui Zhang, Yunting Ma, Haitao Liu, Lijing Sun, Yu Ji
EI10681	<b>Strategic Large Scale Residential Demand Management for Provision of Frequency Regulation under Spot Market Environment</b> Zhifan Liu, Yan Li, Qiushuang Li, Chenhui Li, Yin Bai, Xin Zhao and Ying Mu

**Technical Session on November 13****TE27 / Resilience Enhancement Strategies for The New-type Power System Under Natural and Man-made Disasters-A**

Beijing Time 10:15-11:45 | 2022.11.13

Onsite Room 4F / Boardroom 董事会议室

Tencent ID OL Room 9: 309-4416-1271

Tencent Link <https://meeting.tencent.com/dm/qFNBNqHLV8Xw>**Time Table****Chair: Lingling Zhao, University of Electronic Science and Technology of China**

Time	Paper ID	Presenter	Affiliation
10:15-10:30	EI10498	Shu Liu	Shanghai University of Electric Power
10:30-10:45	EI10505	Hang Shuai	The University of Tennessee
10:45-11:00	EI10482	Lingming Kong	University of Macau
11:00-11:15	EI10677	Yiping Zhang	State Grid Heilongjiang Electric Power Company Limited Harbin, China
11:15-11:30	EI10678	Ziyuan Song	China Electric Power Research Institute

**Paper Detail**

Paper ID	Title & Authors
EI10498	<b>Optimal Configuration of <math>\mu</math>PMU Considering Measurement Channels and Topology Reconfiguration of Distribution Network</b> Shu Liu, Bin Zou, Shangkun Yao, Shuxin Tian, Yang Fu, Xiangjing Su
EI10505	<b>Statistical Correlation Study of Temperature Humidity Index (THI) and Load in the ERCOT System</b> Justin C. Li, Hang Shuai, Hector Pulgar-Painemal
EI10482	<b>Spatial-temporal Scheduling of Commercial EVs for System Restoration of a Damaged Power-transportation Coupled Network</b> Lingming Kong, Hongcai Zhang and Ningyi Dai
EI10677	<b>Unified Modeling and Verification of Renewable Energy Generators</b> Yiping Zhang, Xiaoqiang Wei, Haohan Cui, Feng Qi, Wenbin Wu and Dongyang Hao
EI10678	<b>Constructing Method of Multi-regional Photovoltaic Power Output Scenarios Based on Conditional Generative Adversarial Network</b> Ziyuan Song, Yuehui Huang, Xiaofei Li and Chi Li



## Technical Session on November 13

### TE28 / Renewable Energy Grid Interconnection-J

Beijing Time 13:30-15:30 | 2022.11.13

Onsite Room 2F / Chuanfu Room I 川府 I 厅

Tencent ID OL Room 1: 754-4374-4884

 Tencent Link <https://meeting.tencent.com/dm/KDsIxNDAO5ST>

#### Time Table

**Chair: Meng Cheng, Hitachi Energy China**

Time	Paper ID	Presenter	Affiliation
13:30-13:45	EI1088	Xu Zhou	State Grid Jiangsu Nanjing Electric Power Supply Company
13:45-14:00	EI10125	Xing Sun	Xi'an Jiaotong University
14:00-14:15	EI10147	Zirui Huang	Southeast University
14:15-14:30	EI10151	Wenwen Ma	China Electric Power Research Institute
14:30-14:45	EI10631	Wei Zeng	State Grid Jiangxi Electric Power Research Institute
14:45-15:00	EI10637	Hailei He	China Electric Power Research Institute
15:00-15:15	EI10304	Xiangli Deng	Shanghai University of Electric Power
15:15-15:30	EI10209	Lu Xu	Southwest Petroleum University

#### Paper Detail

Paper ID	Title & Authors
EI1088	<b>Detection of Inverter Leakage Current Based on Harmonic Extraction</b> Zihu Wang, Yuanhong Liu, Hongqing Qu, Rui Li, Xu Zhou
EI10125	<b>Siting and Sizing Planning of Static Var Compensator to Suppress Harmonic Resonance</b> Yongqing Liu, Xing Sun, Xiaohong Liang, Qiang Zhou, Haisong Lan, Lei Li
EI10147	<b>Frequency Regulation Market Performance Considering the Complementarity of Wind Park Cluster</b> Zirui Huang Jiangfeng Zhang Xianliang Teng Kaifeng Zhang





Paper ID	Title & Authors
EI10151	<b>Short-Term Wind Power Forecasting Based on Meteorological Forecast Data of Multiple Isobaric Surfaces</b> Hai Zhou, Ma Wenwen, Ji Wu, Xu Cheng and Xiao Chang
EI10631	<b>Active Frequency Support Control Method Based on Cooperative Regulation of New Energy Stations</b> Wei Zeng, Xiaobo Dou, Junjie Xiong, Weizhe Zhao, Jia Li, Hao He
EI10637	<b>Research on the construction mode of conventional DC island transmission new energy</b> Hailei He Jian Zhang Xiaohui Qin Shanshan Zhao Guo Qiang Yantao Zhang
EI10304	<b>A Study on Adaptive Protection System of Distribution Network Based on Passive Protection Terminal of Ring Network Cabinet</b> Ping Zeng, Zhaoxin Du, Desheng Zhou, Xiaofeng Zou, Qian Feng, Jing Wen, Xiangli Deng and Yuelin Liao'
EI10209	<b>Comprehensive Assessment of Natural Gas Pressure Energy Utilization Based on AHP-Anti-Entropy Weight Method</b> Lu Xu, Qian Li, An'An Zhang, Wei Yang



## Technical Session on November 13

### TE29 / Smart Grid Security-D

Beijing Time 13:30-15:30 | 2022.11.13

Onsite Room 2F / Chuanfu Room II 川府 II 厅

Tencent ID OL Room 2: 980-7513-8115

Tencent Link <https://meeting.tencent.com/dm/dFfxkJ9h9iF5>

#### Time Table

**Chair: Huan Pan, Ningxia University**

Time	Paper ID	Presenter	Affiliation
13:30-13:45	EI10217	Jingyi Lin	China Electric Power Research Institute Co., Ltd.
13:45-14:00	EI10118	Zhaohui Qie	NARI Group Corporation (State Grid Electric Power Research Institute)
14:00-14:15	EI10510	Yixin Jiang	SEPRI, CSG
14:15-14:30	EI10377	Chen Chen	Zhejiang University
14:30-14:45	EI10597	Ahmed Ali	Univeristy of Johannesburg
14:45-15:00	EI10462	Lu Sui	Key Lab of Power Electronics for Energy Conservation and Motor Drive of Hebei Province
15:00-15:15	EI10313	Youxin Sang	Taiyuan University of Technology

#### Paper Detail

Paper ID	Title & Authors
EI10217	<b>Research on the Impact of Extreme Weather on Freshwater Fishery Power Grid Based on Resilience Analysis</b> Jingyi Lin, Hao Li, Chang Liu, Min Li, Zhanbo Wang and Yaohong Tang
EI10118	<b>Influence of New Energy Penetration on Frequency Correction Control of Power Grid</b> Qie Zhaohui, Liu Fusuo, Li Wei, Zhao Kang, Li Zhaohui, Lv Yazhou
EI10510	<b>A Multi-Agent Based Wide-Area Protection Scheme for Distributed Cyber Energy System</b> Yixin Jiang, Xuzhu Dong, Aidong Xu, Yunan Zhang, Xiaoyun Kuang, Shiyong Dai, Jinhua Huang



Paper ID	Title & Authors
EI10377	<b>A RISC-V System-on-Chip Based on Dual-core Isolation for Smart Grid Security</b> Chenchen, Qiming Yuan, Xiaowen Jiang, Kaihuang, Pengli, Weixi
EI10597	<b>Modern Maintenance Strategies Prescriptive Approach Using Machine Learning</b> John Chimundu and Ahmed Ali
EI10462	<b>Reliability Evaluation and Analysis of Coupled Urban Power Distribution and Transportation Networks</b> Zhigang Lu, Yang Dong, Liangce He, Yao Cai, Lu Sui
EI10313	<b>Stability Analysis of Grid Connected System under the Influence of Grid Impedance</b> Youxin Sang, Dingkang Liang



## Technical Session on November 13

### TE30 / New-type Power System-E

Beijing Time 13:30-15:30 | 2022.11.13

Onsite Room 4F / Rongcheng I 蓉城 I 厅

Tencent ID OL Room 3: 800-3465-7292

 Tencent Link <https://meeting.tencent.com/dm/vAy1T38glxle>

#### Time Table

**Chair: Xi Zhang, State Grid Smart Grid Research Institute Co., Ltd**

Time	Paper ID	Presenter	Affiliation
13:30-13:45	EI10148	Bin Tai	Guangdong Power Grid Co., Ltd. Electric Power Research Institute
13:45-14:00	EI10292	Yan Liu	School of Information Engineering Nanchang University
14:00-14:15	EI10416	Bangjie Li	School of Electrical and Electronic Engineering North China Electric Power University
14:15-14:30	EI10463	Yuhan Guo	Wuhan University
14:30-14:45	EI10640	Wei Zeng	State Grid Jiangxi Electric Power Research Institute
14:45-15:00	EI10347	Jiahao Wang	North China Electric Power University
15:00-15:15	EI10433	Yukun Zhu	State Key Laboratory of HVDC, Electric Power Research Institute, China Southern Power Grid
15:15-15:30	EI10557	Yumeng Zhen	Hunan University

#### Paper Detail

Paper ID	Title & Authors
EI10148	<b>Risk Assessment of Node Voltage Sag under the Scenario of DG Connected to Grid</b> Bin Tai, Hong Lv, Li Wang, Yuanzhe Zhu
EI10292	<b>Convolutional Neural Networks and Bidirectional Gated Recurrent Unit Model Based Photovoltaic Power Prediction</b> Jiangpeng Li, Yan Liu, Guilin Huang, Yuangen Zhou, Yonghong Xia, Yongkang Xiong
EI10416	<b>Research on Inter-converter Harmonic Interaction of Multi-feed DC System Filter Switching Condition</b> Guowei Zhou, Xin Chen, Jie Yang, Hui Zou, Jialei Xing, Lintao Sun, Bangjie Li



Paper ID	Title & Authors
EI10463	<b>Small-Signal Stability Modeling and Analysis of Power System with Integrated Photovoltaic Energy Storage</b> Yuhan Guo, Fei Tang, Xiaoqing Wei, Jiarui Xie, Junfeng Qi and Zhuo Liu
EI10640	<b>Low-Carbon Dispatching of Regional Power Grid Considering the Constraints of Carbon Quota</b> Wei Zeng, Caimao Xu, Junjie Xiong
EI10347	<b>Multi-time Scale Coordinative Strategy of Reactive Power and Voltage Control for Frequent Power Flow Fluctuation in New Power System</b> Jiahao Wang, Peng Li, Miao Wen, Lei Jiang, Youpeng Pan and Linyuan Li
EI10433	<b>Optimization Study on the Control Strategy of DC Line Fault Recovery for Yongren-Funing HVDC</b> Yukun Zhu, Libin Huang, Shuyong Li, Yihua Zhu, Yantao Song, Ren Liu
EI10557	<b>Reserve Demand Assessment Based on Dynamic Percentage of Renewable Generation and Load Forecasts</b> Yuqi Han, Jing Gou, Ting Li, Fang Liu, Ze Wang and Yumeng Zhen



## Technical Session on November 13

### TE31 / ICT Application in Energy Internet-C

Beijing Time 13:30-15:30 | 2022.11.13

Onsite Room 4F / Rongcheng II 蓉城 II 厅

Tencent ID OL Room 4: 735-4184-9317

Tencent Link <https://meeting.tencent.com/dm/tnXLgmJ0e2AZ>

#### Time Table

**Chair: Chao Ma, China Electric Power Research Institute**

Time	Paper ID	Presenter	Affiliation
13:30-13:45	EI10641	Harriet Agobah	Chengdu University of Technology
13:45-14:00	EI10634	Chenxi Sun	The Chinese University of Hong Kong, Shenzhen
14:00-14:15	EI1010	Bowen Zheng	China Electric Power Research Institute
14:15-14:30	EI10212	Jingyi Lin	China Electric Power Research Institute Co., Ltd.
14:30-14:45	EI10106	Zhenyi Wang	University of Macau
14:45-15:00	EI10475	Yang Li	Tongji University
15:00-15:15	EI10201	Shi Zhu	State Grid Hunan Electric Power Information and Communication Corporation
15:15-15:30	EI10415	Yan Liu	China Electric Power Research Institute

#### Paper Detail

Paper ID	Title & Authors
EI10641	<b>Deep Facial Expression Recognition Using Transfer Learning and Fine-Tuning Techniques</b> Harriet Agobah, Delanyo Kwame Bensah Kulevome, Olusola Bamisile, Benjamin Darkwa Nimo, Dongsheng Cai, Qi Huang
EI10634	<b>Predicting the Availability of Supply Equipment at EV Charging Stations</b> Chenxi Sun, Haochen Sun, Youwei Jia and Xiaoying Tang
EI1010	<b>Short Term Electric Load Forecasting Model for Process Industrial Enterprises based on Hybrid RNN-LSTM Algorithm:A Case Study of Textile Enterprises</b> Taorong Gong, Feixiang Gong, Songsong Chen, Shiming Tian, Zhaoxiang Li



Paper ID	Title & Authors
EI10212	<b>Anomaly Detection System of Power Consumption Data Based on Social Information Verification</b> Jingyi Lin, Jing Zhang, Fan Gao, Sirui Zhang and Chao Zhou
EI10106	<b>Consumer Baseline Load Estimation in Demand Response: A Generative Adversarial Networks Approach</b> Zhenyi Wang, Hongcai Zhang
EI10475	<b>Application-Driven Data Management Framework for Wind Farms by Cloud-Edge-End Collaboration</b> Yang Li, Xiaojun Shen, Yu Wang, Yangfan Zhang
EI10201	<b>An Active Secondary Check Method for Online or Offline Devices of IoT Management Platform</b> Shi Zhu, Jianhui Wang, Fangliao Yang, Gang Yang, Yuxiang Zhang,
EI10415	<b>Smart Meter Clock Management Method Supporting to Time-Of-Use (TOU) Tariff Mechanism</b> Yan Liu, Enguo Zhu, Kuixi Chen, Guoquan Zheng



## Technical Session on November 13

### TE32 / Market Mechanism and Policy Supporting Energy Internet-D

Beijing Time 13:30-15:30 | 2022.11.13

Onsite Room 4F / Wenjiang Room 温江厅

Tencent ID OL Room 5: 967-5309-3713

Tencent Link <https://meeting.tencent.com/dm/WVNCM13uftBN>

#### Time Table

**Chair: Zeming Jiang, Unicompay Co.,Ltd (subsidiary of China Unicom)**

Time	Paper ID	Presenter	Affiliation
13:30-13:45	EI10198	Hong-Juan Zheng	NARI Technology Co., Ltd.
13:45-14:00	EI10544	Ruimeng Liu	Chongqing University
14:00-14:15	EI10676	Zhong Zhang	Dalian University of Technology
14:15-14:30	EI10680	Biao Li	Zhejiang University

#### Paper Detail

Paper ID	Title & Authors
EI10198	<b>Research on Trading Strategy of Distributed Generation and User Power Based on Blockchain Platform</b> Hongjuan Zheng, Hu Liu, Qing Zhu, Chaoliang Wang and Lei Li,
EI10544	<b>Day-Ahead Scheduling of Natural Gas System Considering Hierarchical Station-Network Scheduling Characteristics</b> Ruimeng Liu, Rong Dai, Yu Liang, Xia Zhao
EI10676	<b>A Flexibility Assessment Method of Thermal Storage Electric Heating Load Clusters</b> Dongmei Yang, Baoju Li, Gang Liu, Yong Sun, Yong Sun, Chang Liu
EI10680	<b>Maximum Capacity Boundary of Distributed Energy Resources in Distribution Networks Considering N-1 Security</b> Biao Li, Can Wan and Peng Yu



**Technical Session on November 13****TE33 / Renewable Energy Grid Interconnection-K**

Beijing Time 15:45-17:45 | 2022.11.13

Onsite Room 2F / Chuanfu Room I 川府 I 厅

Tencent ID OL Room 1: 754-4374-4884

Tencent Link <https://meeting.tencent.com/dm/KDsIxNDAO5ST>**Time Table****Chair: Shuangquan Liu, Yunnan Power Grid Co., Ltd**

Time	Paper ID	Presenter	Affiliation
15:45-16:00	EI10420	Feng Li	China Electric Power Research Institute
16:00-16:15	EI10256	Yusheng Gong	Electric Power Research Institute State Grid Hunan Electric Power Company
16:15-16:30	EI10669	Ying Xu	Harbin Institute of Technology
16:30-16:45	EI10670	Bingkun Li	Shandong University
16:45-17:00	EI10446	He Wang	Northeast Electric Power University
17:00-17:15	EI10461	Yunchao Gao	Wuhan University
17:15-17:30	EI10674	Jie Qiao	University of Electronic Science and Technology of China

**Paper Detail**

Paper ID	Title & Authors
EI10420	<b>The Review and Prospect of Key Technologies for Distributed PV Grid-connection and Consumption under the County-wide Promotion Mode</b> Li Feng, Wang Xiaotian, Zhao Moxuan, Hua Guanghui, Liao Jiaqi and Cao Xiao
EI10256	<b>Research on Optimal Inverter Parameter Configuration for Renewable Energy Generation System</b> Shangfeng Xiong, Yusheng Gong*, Jinbo Wu, Xiaoyun Guo, Qingyan Li, Tao Lin
EI10669	<b>A Day-Ahead Dispatch Strategy of High-Penetration PV Grids with Virtual Power Plants</b> Jun Guo, Yongfeng Wu, Ruizhe Yang, Ying Xu, Faguo Zhu



Paper ID	Title & Authors
EI10670	<b>A High-accurate Commutation Failure Identification Method for LCC-HVDC System</b> Jing Fing, Zhijie Liu, Liangzi Li, Bingkun Li, Jiachen Li and Kejun Li
EI10446	<b>Research on Control Strategy and Energy Storage Capacity Allocation of Multi-Source Joint Frequency Modulation</b> Di Yao, Zeyi Wang, Dawei Liu, Kexue Zhang, He Wang, Shiqiang Li
EI10461	<b>Research on Distributed Control Strategy Optimization of Energy Storage System Based on Wind-Storage Combined Frequency Regulation</b> Yunchao Gao, Xiaotao Peng, Xing Li, Junmi Tan, Lingjie Jia, Zitu She
EI10674	<b>Demand Response Strategy for Electric Vehicles Based on Virtual Power Plant Technology</b> Jie Qiao, Zhenyuan Zhang, Chao Wang, Qi Huang and Weihao Hu

**Technical Session on November 13****TE34 / Smart Grid Security-E**

Beijing Time 15:45-17:45 | 2022.11.13

Onsite Room 2F / Chuanfu Room II 川府 II 厅

Tencent ID OL Room 2: 980-7513-8115

Tencent Link <https://meeting.tencent.com/dm/dFfxkJ9h9iF5>**Time Table****Chair: Hao Wu, Zhejiang University**

Time	Paper ID	Presenter	Affiliation
15:45-16:00	EI10511	Yixin Jiang	SEPRI, CSG
16:00-16:15	EI10598	Ahmed Ali	Univeristy of Johannesburg
16:15-16:30	EI10484	Caijun Zhang	Customer Service Center of State Grid Company Limited
16:30-16:45	EI10665	Rawda Ramadan Abdelaty Elghazaly	University of Electronic Science and Technology of China
16:45-17:00	EI10380	Yuting Li	Xi'an Jiaotong University
17:00-17:15	EI10259	Feiyang Dai	China Electric Power Research Institute

**Paper Detail**

Paper ID	Title & Authors
EI10511	<b>A Real-time Intrusion Detection Method for Industrial Control Network Based on Heterogeneous Feature Extractor</b> Yixin Jiang, Yunan Zhang, Xiaoyun Kuang, Aidong Xu, Xuzhu Dong, Shiyong Dai, Jinhua Huang
EI10598	<b>A Hybrid Model of Ensemble RUSBoosted Tree Optimized by Linear Programming for Photovoltaic System Efficiency Improvement Under Sudden Change of Environmental Conditions</b> Mpho Sam Nkambule, Ali N. Hasan, Ahmed Ali
EI10484	<b>Research on Blockchain Privacy Protection Method Based on Improved Schnorr Ring Signature</b> Zhangcaijun, Wangjinzhi, Yujinhe
EI10665	<b>Non-intrusive Load Monitoring for Household Energy Disaggregation: A State-of-the-Art'</b> R. Ramadan, Qi Huang, Olusola Bamisile



Paper ID	Title & Authors
EI10380	<b>Ensemble Learning Model of Power System Transient Stability Assessment Based on Bayesian Model Averaging Method</b> Chao Wang, Xinwei Li, Junjie Sun, Xiaoheng Zhang, Yuting Li, Xin Peng, Jun Liu* and Zaibin Jiao
EI10259	<b>A Composite Line Protection Scheme for Flexible HVDC Transmission Systems with Outward-Shifted Current Limiting Reactors</b> Dai Feiyang, Zhou Zexin, Wang Xingguo, Guo Yarong, Liu Jiaqi, Wang Shuyang

**Technical Session on November 13****TE35 / New-type Power System-F**

Beijing Time 15:45-17:45 | 2022.11.13

Onsite Room 4F / Rongcheng I 蓉城 I 厅

Tencent ID OL Room 3: 800-3465-7292

Tencent Link <https://meeting.tencent.com/dm/vAy1T38glxle>**Time Table****Chair: Xue Kong, North China Electric Power University**

Time	Paper ID	Presenter	Affiliation
15:45-16:00	EI10269	Hongfei Zhao	Zhejiang University
16:00-16:15	EI10343	Rui Jing	Xiamen University
16:15-16:30	EI10430	Tao Jin	Fuzhou University
16:30-16:45	EI10298	Ye Zhou	Huarui (Jiangsu) Gas Turbine Service Company
16:45-17:00	EI10101	Yongtao Chen	The State Grid Chongqing Electric Power Co., Ltd
17:00-17:15	EI10546	Xue Kong	North China Electric Power University
17:30-17:45	EI10458	Dongpeng Xu	North China University of Electric Power

**Paper Detail**

Paper ID	Title & Authors
EI10269	<b>Design of Chemical Enterprise Carbon Reduction Scheme Based on Carbon Handprint Method</b> Hongfei Zhao, Wei Zhong, Xiangqian Wang, Xiaojie Lin, Jinliang Wang
EI10343	<b>Status Quo Demand Response Mechanisms at Provincial Level of China</b> Guoshu Lai, Nvgui Lin, Qiang Ye, Wuxiao Chen, Weilang Song, Yingru Zhao
EI10430	<b>Research on Loss Analysis Method Based on Charging Pile Circuit</b> Xiaoying Wei, Guoshu Lai, Qiang Ye, Qinyu Huang, Haibin Li, Tao Jin



Paper ID	Title & Authors
EI10298	<b>Optimize Design and Manufacture of 130MW Gas Turbine First Stage Blade</b> Ye Zhou, Fan Xie, Lifeng Cheng, Hui Xu, Xuyang Wang, Daqian Yu
EI10101	<b>Harmonic Source Modeling Method Based on Random Forest Algorithm</b> Xing Ma, Yuxiang Liao, and Yongtao Chen
EI10546	<b>Wind Speed Forecasting Method Based on Nondominated Sorting Genetic Algorithm and Machine Learning</b> Xiaoyu Shen, Xue Kong, Leyi Yu, Yinghui Han, Feng Gao, Xiaokun Wu, Yagang Zhang
EI10458	<b>Calculation Method of Thermally Stable and Safe Power Supply Interval for Regional Power Grids Taking into Account the Influence of Source-grid-Load Interaction</b> Chang Liu, Xiangyu Lv, Pengxu Dong, Dexin Li, Wenqiang Miao, Xichang Chen, Yibo Li and Hao Liu

**Technical Session on November 13****TE36 / New-type Power System-G**

Beijing Time 15:45-17:45 | 2022.11.13

Onsite Room 4F / Rongcheng II 蓉城 II 厅

Tencent ID OL Room 4: 735-4184-9317

Tencent Link <https://meeting.tencent.com/dm/tnXLgmJ0e2AZ>**Time Table****Chair: Lei Chen, Tsinghua University**

Time	Paper ID	Presenter	Affiliation
15:45-16:00	EI10443	Changtao Cui	North China Electric Power University
16:00-16:15	EI10556	Simin Chen	Power Economic Research Institute of State Grid Fujian Electric Power Company
16:15-16:30	EI10545	Xia Peng	State Grid Energy Research Institute Co., Ltd.
16:30-16:45	EI10635	Zihao Song	State Grid Jiangsu Electric Power Co., Ltd. Lianyungang Power Supply Branch
16:45-17:00	EI10157	Xinyi Zhao	Hohai University
17:00-17:15	EI10321	Zhang Ran	National University of Defense Technology
17:15-17:30	EI10673	Ning Chen	China Electric Power Research Institute Nanjing
17:30-17:45	EI10675	Chenhui Li	Economic and Technology Research, State Grid Shandong Electric Power Company

**Paper Detail**

Paper ID	Title & Authors
EI10443	<b>Research on Economic Operation of Distribution Network Considering Energy Storage and Electric Vehicle Charging Station</b> Xiangyu Lv, Xuefei Chang, Jiarui Wang, Dexin Li, Xiangdong Meng, Changtao Cui and Kaijun Zhang
EI10556	<b>Low-Carbon Technology Development in Energy and Transportation Based on a Review of a Practical Study in Southeastern China</b> Simin Chen, Han Chen, Xiaofan Lin, Yanan Li, Jinchun Chen, Wanqing Chen, Keren Chen and Nan Zheng
EI10545	<b>Research on Power Dual-carbon Path Optimization Model with Coal-fired Power Function Reconstruction Being Considered</b> Peng Xia, Bo Yuan, Cong Wu, Jinfang Zhang, Yichun Gong and Mengxuan Lv



Paper ID	Title & Authors
EI10635	<p><b>Precise Voltage Regulation Technology on Load Side of Distribution Network Based on TCSC</b></p> <p>Zihao Song, Ningning Chen, Fu Yang, Jun Luo, Wenbo Wu, Shan Li</p>
EI10157	<p><b>An Optimal Charging Strategy of Electric Vehicle Charging Station Based on Differential Evolution Algorithm</b></p> <p>Mingtao Liu, Mingming Xu, Jinshuai Zhang, Yifan Chang, Xinyi Zhao, Jun Xie</p>
EI10321	<p><b>State of Health Estimation for Lithium-Ion Battery During Fast-Charging Scenario Based on Convolutional Neural Network</b></p> <p>Zhang Ran, Zhou Xing, Jin Guang</p>
EI10673	<p><b>An Energy Storage Capacity Configuration Method for New Energy Power Stations to Improve Power Grid Stability</b></p> <p>Ning Chen, Guiping Zhou, Yanjun Zhang and Kai Guo</p>
EI10675	<p><b>Integrated Bi-Directional Energy Management Scheme for Electric Vehicle Cluster: A Carbon and Electricity Nexus Perspective</b></p> <p>Chenhui Li, Bo Chen, Ying Mu, Xiaoying Li and Yan Li</p>





## Posters

Onsite Poster Display | SPD01: 13:30-14:00, November 12

Paper ID	Title & Authors	Presenter & Affiliation
EI1053	<b>A Novel Fault Diagnosis Method Based on Differential Current Principle for Power System</b> Yudun Li, Naiyong Li, Congcong Li and Dongliang Nan	<b>Yudun Li</b> SGCC
EI1092	<b>State Monitoring of High Proportion Distributed New Energy in Distribution Network Based on Power Flow Optimization Control</b> Xianzhuo Liu, Kai Cheng, Haohuai Wang, Changcheng Zhou, Yansen Chen and Yue Zhou	<b>Kai Cheng</b> Digital Grid Research Institute, China Southern Power Grid.
EI10102	<b>Multi-User Load Elasticity Assessment Method Considering Load Statistical Characteristics</b> Chen Liu, Weimin Chen, Junsheng Zhang, Yanjun Xu, Jialing Bai and He Huang,	<b>He Huang</b> Sichuan University
EI10136	<b>Intelligent Building Optimal Scheduling Considering the Coordinated Control of Electric Vehicles and Thermostatically Controlled Load</b> Lei Li, Chaoliang Wang and Songsong Chen	<b>Songsong Chen</b> Southeast University
EI10137	<b>Aggregated Load Assessment of Air-conditioning Clusters Considering the Heterogeneity of User Identity and Travel Behavior</b> Lei Li, Chaoliang Wang and Songsong Chen	<b>Tao Chen</b> Southeast University
EI10146	<b>Prediction Method of Line Loss Data Based on Hidden Markov Model</b> Jianquan Fang, Lisi Xue, Zhong Li, Junsheng Zhang, Zhi Xie, Chunmin Li	<b>Jianquan Fang</b> State Key Laboratory of Advanced Electromagnetic Engineering and Technology
EI10163	<b>A Dispatch Model of Annual Generation Plan Considering Seasonal Pumped Storage</b> Ziqiang Wang, Luyao Ye, Qian Ma, Jinbing Liang, Wei Wang and Lizhang Cong	<b>Luyao Ye</b> Xi'an Jiaotong University
EI10174	<b>Joint Optimization of Energy Storage and Energy-intensive Load at Renewable Energy Transmission End</b> Xinyue Yun, Haohui Ding, Yaodong Wu, Pengfei Song, Pengpeng Kang and Yingwei Jiang	<b>Xinyue Yun</b> Southeast University



Paper ID	Title & Authors	Presenter & Affiliation
EI10180	<b>Research on Low Power Technology of Power Wireless Private Network Based on Computational Offloading</b> Xianlei Bu, Qiusheng Shi, Xianhong Bu, Xianjie Shi, Shouyong Li, Xiande Bu	<b>Xiande Bu</b> State Grid Smart Grid Research Institute Co., LTD
EI10181	<b>A Multi Time-Scale Robust Aggregation Model for Virtual Power Plant Based on Rolling Correction</b> Haotian Zhao, Xuanyuan Wang, Bin Wang, Bo Ning, Hongbin Sun, Zhen Liu and Zhaoguang Pan	<b>Haotian Zhao</b> Tsinghua University
EI10184	<b>An Event-based Judgment Method for Distribution Network Faults Based on Deep Learning</b> Yiwen Gao, Xueneng Su, Shilong Li, Zihan Wang, Hongjun Gao	<b>Zihan Wang</b> Sichuan University
EI10187	<b>A Highly Fault-Tolerant Distribution Network Fault Diagnosis Method Based on KMP Algorithm and Rough Set</b> Yiwen Gao, Cheng Long, Hua Zhang, Siyuan Jiang, Hongjun Gao	<b>Siyuan Jiang</b> Sichuan University
EI10199	<b>A Short-term Peak Shaving Model of Hybrid Pumped-Storage Hydropower Plant</b> Bin Luo, Shumin Miao, Yongcan Chen, Zhaowei Liu, Pengzhu Shan, Xinyu Liu	<b>Bin Luo</b> State Key Laboratory of Hydroscience and Engineering, Tsinghua University
EI10202	<b>Short Circuit Fault Location Method of Distribution Network Based on Fuzzy Matching</b> Yiwen Gao, Hua Zhang, Shilong Li, Cheng Shi, Hongjun Gao	<b>Cheng Shi</b> Sichuan University
EI10215	<b>Short-term Operation Optimization Considering Demand Response and Energy Storage Flexibility</b> Qian Ma, Jinbing Liang, Quan Yuan, Luyao Ye, Jianshe Li, Lizhang Cong	<b>Jinbing Liang</b> Xi'an Jiaotong University
EI10223	<b>Dynamic Phasor Measurement Algorithm Based on Variable Window Length</b> Xu Luo, Ying Wang, Xianyong Xiao	<b>Xu Luo</b> Sichuan University
EI10232	<b>Electrothermal Simulation and Insulation Condition Evaluation of Converter Transformer Valve Side Bushing</b> Guowei Zhou, Xin Chen, Jie Yang, Hui Zou, Jialei Xing, Lintao Sun, Yuefan Guo	<b>Yuefan Guo</b> School of Electrical and Electronic Engineering North China Electric Power University
EI10235	<b>Economic Analysis of Grid-Interactive Efficient Buildings: A Case Study in South China</b> Zhang Liu, Qian Ma, Yang Luo, Li Cheng, Yuan Yuan, He Qi, Zhonghua Zhang, Tao Lu	<b>Zhang Liu</b> Tsinghua University; China Construction Science & Technology Group CO., LTD



Paper ID	Title & Authors	Presenter & Affiliation
EI10236	<b>Analysis of Hybrid Multi-Infeed HVDC Transmission Technology and Power Coordinated Control Strategy of Near Area Power Grid</b> Longen Zhang, Kun Chen, Shuai Zhu, Xingyang Hu, Hongling Han	<b>Longen Zhang</b> State Grid Hubei Electric Power Research Institute
EI10252	<b>An Industrial Park Load Shedding Scheme Based on Smart Contract</b> Xin Zhou, Liaoyi Ning, Bin Wang, Chao Yang, Hongbin Sun, Yu Liu	<b>Xin Zhou</b> Tsinghua University
EI10277	<b>Optimal Network Reconfiguration Model of Distribution Network for Improving Reliability</b> Jian Gao, Xiaolei Yang, Xiaojun Niu, Jian Xu and Yaqi Sun	<b>Yaqi Sun</b> Tsinghua University
EI10296	<b>Multivariate Uncertainty Set based Robust Operation of Integrated Electricity and Heating Systems with Variable Mass Flow</b> Lirong Deng, Zhenkun Li, Zhiquan Zhang, Tong Xu and Yang Fu	<b>Lirong Deng</b> Shanghai University of Electric Power
EI10297	<b>Data-Driven ShortTerm Voltage Security Constrained Reactive Power Optimization Method</b> Libo Yang, Yinhong Lin, Yajun Wang, Bin Ma, Long Yuan, Yafei Jia and Zongjie Zhang	<b>Yinhong Lin</b> Tsinghua University
EI10300	<b>Using Energy Storage Systems in Fast Frequency Regulation: Case Study of Xinjiang Power Grid</b> Heng Wang, Yiqian Sun, Ke Ding, Xinyan Zhang, Xiaolong Guo, Jianfeng Guo	<b>Ke Ding</b> Zhejiang University
EI10303	<b>Comparison and Analysis of the Current Situation of Port Shore Power Construction and Operation</b> Bo Qu, Chang Liu, Yuhua Xiao, Ping Yang, Yaozong Yu, Sijie Li	<b>Sijie Li</b> Southwest Jiaotong University
EI10318	<b>Tie-Line Scheduling Based on Equivalents of Regional Power Grids</b> Wei Wang, Chunxiao Liu, Yinsheng Su, Qian Ma, Shuwei Xu, Wenchuan Wu	<b>Shuwei Xu</b> Tsinghua university
EI10323	<b>Quantitative Analysis of Oscillation Stability Based on Virtual Inertia and Damping Control with Application of Energy Storage System</b> Wei Zhao, Peng Xu, Yan Pan	<b>Pan Yan</b> Development Planning Department North China Branch of State Grid Corporation of China
EI10327	<b>Retailer Profit under Renewable Energy and Demand Response Access Considering CVaR</b> Chi Wu, Di Huang, Zhe Chen	<b>Di Huang</b> State Grid Jiangsu EHV Company



Paper ID	Title & Authors	Presenter & Affiliation
EI10353	<b>Security Risk Analysis for the Control System of Low-voltage Distributed Generation with Single and Multi-Terminal Device Modelling</b> Chen Zhou, Zhouhao Ji, Yuxi Tu, Hongmei Lu, Xinjian Chen, Kaikai Pan	<b>Zhouhao Ji</b> Zhejiang University
EI10358	<b>A Novel EMI Attack Exploiting the Control Vulnerability of Photovoltaic Inverters</b> Zihao Dan, Fengchen Yang, Kaikai Pan, Chen Yan, Xiaoyu Ji and Wenyuan Xu	<b>Zihao Dan</b> Zhejiang University
EI10381	<b>Progressive Multi-time-scale Voltage Stability Critical Fault Screening Method</b> Xuetao Yang, Dunwen Song, Kaixin Liu, Pengfei Xu, Yong Chen	<b>Xuetao Yang</b> China Electric Power Research Institute
EI10399	<b>Research on Flexible Coordinated Control Strategy of Energy Storage for Distributed Photovoltaic Consumption Scenes</b> Xingyang Hu, Kun Chen, Kanjun Zhang, Pangqi Ye, Ting Wang, Lognen Zhang	<b>Xingyang Hu</b> State Grid Hubei Electric Power Research Institute
EI10405	<b>Improved Droop Control Strategy of Battery Energy Storage Participating in Hydropower Primary Frequency Regulation</b> Pengzhu Shan, Wanfang You, Yajun Wang, Qiang Nie, Renshan Ding, Deping Jian, Guochun He and Hao Zou	<b>Shanpeng Zhu</b> NARI Technology Co., Ltd.
EI10409	<b>Research and Application on Coordinated Optimal Control Strategy of Cascade Hydro-PV-Pumped Storage Integrated System</b> Pengzhu Shan, Jiyun Zhong, Bingquan Yang, Yulin Xue, Yanlin Lu	<b>Shanpeng Zhu</b> NARI Technology Co., Ltd.
EI10410	<b>A Study on the Generating Set Capacity of Pumped Storage Units in a Cascade Water-Light Storage Complementary Co-generation System</b> Jun Jiang, Sheng Wang, Bingquan Yang, Shu Yang, Xueren Wang, Bangjie Meng	<b>Jun Jiang</b> Power China Hydropower Development Group Co., Ltd
EI10413	<b>Research and Practice of Automatic Data Backup of Cascade Basin Power Monitoring System</b> Jiyun Zhong, Tangjiong, Bingquan Yang, Yulin Xue	<b>Jiyun Zhong</b> Power China HydroPower Development Group Co.LTD Chengdu, China
EI10431	<b>Live Line Repair of Ground Wire for UHV-EHV Transmission Line Based on Helicopter Winch Hanging Chair Method</b> Jun Wang /Lei Li /Shuai Li /Hao Wang/Jie Meng /Yong Peng	<b>Yong Peng</b> High Voltage Research Institute, China Electric Power Reserch Institute
EI10434	<b>Coordinated Planning of Active Distribution Network and V2G Charging Stations Considering the Load Characteristics of V2G Stations</b> Guowei Liu, Yongheng Wang, Xinwei Shen	<b>Yongheng Wang</b> Tsinghua University



Paper ID	Title & Authors	Presenter & Affiliation
EI10447	<b>A Dynamic Combination Model Based Load Forecasting Framework</b> Chaoyue Wu, Yadong Xu, Yu Long, Xinyi Chen	<b>Chaoyue Wu</b> Southeast University
EI10466	<b>A Review of The Impact of Long-term Climate Change on Renewable Energy</b> Yi Ge, Yiwei Xu, Jing Shi, Bingjie Li, Zesen Li, Xiaoyan Hu	<b>Yiwei Xu</b> Southeast University

Onsite Poster Display | SPD02: 14:30-15:00, November 12

Paper ID	Title & Authors	Presenter & Affiliation
EI10483	<b>Short-Term Power Prediction Based on Improved NWP Data Considering Wind Speed Distribution Inner Wind Farm</b> Ma Wei, Qiao Ying, Lu Zongxiang, Liang Zhifeng, Li Jiaming, Hao Yuchen	<b>Ma Wei</b> Tsinghua university
EI10490	<b>Low-carbon Economic Optimization Based on Demand Response Considering Locational Marginal Carbon Price</b> Zhangbiao Diao, Yu Long, Panhao Qin, Jingwen Ye	<b>Zhangbiao Diao</b> Southeast University
EI10522	<b>Two-Stage Robust Model of Day-Ahead Dispatch Considering Carbon Trading and Life Cycle Theory</b> Wanchang Qu, Chenbin Lu, Shilin Lv, Hanbo Zhu, Zhejing Bao and Miao Yu	<b>Chenbin Lu</b> Zhejiang university
EI10525	<b>Forecasting of Adjustable Loads Participating in the Regulation Market Based on VMD-AdaBoost-SVM Method</b> Wenjuan Zhai, Yehang Deng, Jing Zhou, Si Zhang, Hanyu Yang, Xun Dou	<b>Xun Dou</b> Nanjing Tech University
EI10529	<b>A Market Clearing Method Considering Carbon-Electricity Coordination</b> Huahua Wu, Wei Gu, Wenduo Sun, Xiansi Lou, Yixin Wan, Xiaocong Sun	<b>Wan Yixin</b> Zhejiang University
EI10535	<b>Study on Stability Margin Trend of Power System Using GHNet</b> Dongyu Shi, Bing Wang, Fang Tian, Guangming Lu, Xiaoxin Zhou, Zili Xu, Zhi Li, Zigan Wang, Xueting Cheng, Xiaorui Cui	<b>Dongyu Shi</b> China Electric Power Research Institute
EI10540	<b>Cost Calculation and Analysis of the Impact of Peak-To-Valley Price Difference of Different Types of Electrochemical Energy Storage over the Whole Life Cycle</b> Jia Ning Feng, Jia Cheng Li, Li Zhong Xu, Ke Sun, Xu Zhang and Xun Dou	<b>Jianing Feng</b> Nanjing Tech University



Paper ID	Title & Authors	Presenter & Affiliation
EI10551	<b>Optimal Scheduling of Integrated Power and Gas Energy Systems Considering Demand Response</b> Guiyuan Xue, Chen Wu, Wenjuan Niu, Xun Dou, Shizhen Wang, Yadie Fu	<b>Xun Dou</b> Nanjing Tech University
EI10579	<b>Study on Business Model of Energy Efficiency Public Service</b> Huilong Su, Yongfeng Huo, Zhongdong Wang, Qiang Zuo, Bin Yang, Hongyin Chen, Yi Guo, Siyang Liao, Shanquan Pi	<b>Shanquan Pi</b> Wuhan University
EI10602	<b>Generalized Benders Decomposition Algorithm Incorporating Mathheuristics to Solve Large-scale Power Facility Location Problems</b> Kang Yang, Wei Liu, Jinyuan Mo, Wenhua Li, Tao Zhang, Rui Wang	<b>Kang Yang</b> National University of Defense Technology
EI10606	<b>Research on Modeling and Simulation Analysis of Hybrid Electric-Heat Complementary Heating System</b> Yanling Wu, Jianxun Li, Junwei Zhang, Xiaojie Lin, Haoran Zhang	<b>Junwei Zhang</b> Zhejiang University
EI10627	<b>Transmission Expansion Planning Based on Light Robust Optimization Modelling Considering Microgrid Capacity Expansion</b> Weikang Ni, Zhen Wang, Fan Li, Yikai Sun, Shuyi Shen	<b>Weikang Ni</b> Zhejiang University
EI10653	<b>The Electricity Curve Decomposition of Priority Power Generation Plan Considering Generation-Demand Characteristics</b> Haihua Cheng, Yanqiu Hou, Yding Jin, Chenxing Yang	<b>Yanqiu Hou</b> Zhejiang University
EI1092	<b>State Monitoring of High Proportion Distributed New Energy in Distribution Network Based on Power Flow Optimization Control</b> Xianzhuo Liu, Kai Cheng, Haohuai Wang, Changcheng Zhou, Yansen Chen and Yue Zhou	<b>Kai Cheng</b> Digital Grid Research Institute, China Southern Power Grid.



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EI1002	<b>Analysis of Safety Index in Substation Considering the Damage of External Ground Network</b> Wang Xuming, Lv Ning, Zhao Qiaoyun, Li Hang, Zhang Feng, He Shengnan, Cai Menglu	<b>Menglu Cai</b> North China Electric Power University
EI1003	<b>A Fault Diagnosis Method for Photovoltaic Arrays Based on Dropout Optimized Stack Autoencoders</b> Wei Chen, Zhuanping Jiang, Tingting Pei	<b>Zhuanping Jiang</b> Lanzhou University of Technology
EI1005	<b>ValuE-at-Risk Optimization Model for Inter-Provincial Transaction of New Energy Considering Uncertainty</b> Linya Qin, Xiaolong Lu, Mengjie Zhang	<b>Xiaolong Lu</b> North China Electric Power University
EI1006	<b>Study on the Compatibility of Typical Materials in GIT with C4F7N/CO2 Gas Mixture</b> Long Li, Qiang Yao, Peng Wu, Baojia Deng, Yin Zhang, Shiling Zhang, Yongxu Yan and Qing Yang,	<b>Long Li</b> State Grid Chongqing Electric Power Research Institute
EI1007	<b>User Adjustable Load Demand Response Optimization Strategy Considering Multi-Level Dynamic Regulation</b> Yan Liang, Xiaojun Song, Zhong Wu, Zhe Ji, Chi Zhang	<b>Chi Zhang</b> North China Electric Power University
EI1008	<b>Calculation and Emission Reduction Effect Evaluation Model of Wind Power Lifetime Carbon Emission under Carbon Neutralization Target</b> Yao Wang, Zhong Wu, Xiaojun Song, Hui Duan, Haisheng Tan	<b>Haisheng Tan</b> North China Electric Power University
EI1009	<b>Low Carbon Planning Optimization Model of Active Distribution Network Considering Flexible Load</b> Huiting Qiao, Liangzheng Wu, Shangyong We, Yan Huang, Mengke Xue	<b>Mengke Xue</b> North China Electric Power University
EI1011	<b>An Investment Sequence Optimization Model for Power Grid Companies Considering Investment Constraints and Effect Feedback</b> Yihan Zhang, Xiaopeng Yu, Peng Li, Chunzheng Tian, Huixuan Li, Chi Zhang	<b>Chi Zhang</b> North China Electric Power University
EI1012	<b>Research on New Energy Generation Market Transaction Based on Sales Risk Control Strategy</b> Xiaopeng Yu, Peng Li, Yihan Zhang, Huixuan Li, Meng Yang, Yongle Zheng, Mengke Xue	<b>Mengke Xue</b> North China Electric Power University





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EI1018	<b>Mechanism for PJM Ancillary Service Market to Promote Flexible Resources</b> Yang Tingting, Li Xiaogang, Zou Bin	<b>Tingting Yang</b> Shanghai University
EI1019	<b>Study on Combined Classification of Typical Day Load and Solar Radiation Intensity</b> Guo Ying, Li Xiaogang, Zou Bin	<b>Guo Ying</b> Shanghai University
EI1021	<b>Influence Analysis of Aerodynamic Damping on Transmission Line System's Wind-induced Vibration</b> Yang Zhu, Yue Li and Qiang Xie	<b>Yue Li</b> Tongji University
EI1023	<b>Risk Assessment and Early Warning of WiDe-frequency Oscillation Based on WiDe-frequency Measurement Data</b> Chen Fan, Haidong Zhang, Guoqing Zhao, Yanjun Zh, Yiqian Sunang, Yongguang Li,	<b>Fan Chen</b> China Electric Power Research Institute
EI1028	<b>Power Transmission Model Based on Power Flow Tracking Technology and Analysis of New Energy Transfer Ratio</b> Yingying Hu, Peng Wang, Kaikai Wang, Xiaoming Zheng, Hongli Liu, Jia Li, Nan Wei	<b>Nan Wei</b> Taiyuan University of Technology
EI1029	<b>Frequency Constrained Source-Grid-Load-Storage Coordination Dispatch</b> Guannan Wang, Yukang Shen, Wenchuan Wu, Jun Zhang, Bin Wang, Haitao Liu	<b>Yukang Shen</b> Tsinghua University
EI1030	<b>Calculation for Minimum Inertia of Power System Based on Improved GWO Algorithm</b> Yixuan Chen, Shuaishuai Feng, Guangzeng You, Lingfang Li, Deping Ke, Weiyang Zhao	<b>Shuaishuai Feng</b> Wuhan University
EI1031	<b>Deployment of Independent Energy Storage in Urban Area Based on Double -Layer Optimization Methodology</b> Zixuan Guo, Ping Liu, Daqian Gong, Weide Gu, Yun Qin, Yu Huang	<b>Zi Xuan</b> CSG Energy Development Research Institute
EI1032	<b>Online Prediction Method of RUL of Lithium Battery Based on CEEMDAN-ILSTM</b> Lingzhi Yi, Bo Liu, Yahui Wang, Xinkun Cai, Jiang Zhu	<b>Bo Liu</b> Xiangtan University
EI1037	<b>Optimal Photovoltaic Array Reconfiguration for Alleviating the Partial Shading Influence based on Particle Warm Optimization</b> Xuan Zhang, Mengyuan Wang	<b>Xuan Zhang</b> Shanghai Jiao Tong University
EI1038	<b>Formal Verification Method Considering Electric Vehicles and Data Centers Participating in Distribution Network Planning</b> Qiang Wu, Jun Han, Chao Cai, He Huang, Song Gao, Lei Zhu, Haoyu Liu	<b>Haoyu Liu</b> Southeast University





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EI1039	<b>A New Criterion For Fault Component Current Differential Protection</b> Wang Shuyang, Wang Xingguo, Yu Su, Liu Jiaqi, Cheng Qi, Zeng Ping	<b>Wang Shuyang</b> China Electric Power Research Institute
EI1040	<b>Economic Evaluation of Data Center Power Supply System based on Electric Energy Router</b> Yusheng Ding, Jinghong Zheng, Zhuang Liu, Yiyun Gou	<b>Yusheng Ding</b> Tsinghua University
EI1041	<b>An Enhanced Adversarial Attacks Method on Power System Based on Model Extraction Algorithm</b> Yucheng Ma, Qi Wang	<b>Yucheng Ma</b> Southeast University
EI1042	<b>Influence Analysis and Control of Pmsg Wind Farm on Subsynchronous Oscillation of Synchronous Generator</b> Qi Jia, Xueying Wang, Qiang Zhang, Jiajue Li, Hongyan Zhao, Luyu Yang	<b>Qi Jia</b> State Grid Liaoning Electric Power Research Institute
EI1043	<b>Broadband Oscillation Monitoring Scheme for Coastal Wind Farm in East China Power Grid</b> Jianhua Li, Yanqiang Shi, Lu Cao, Guang Xu, Ling Zhu and Zhaowei Li	<b>Guang Xu</b> NARI Technology Co., Ltd.
EI1045	<b>New Energy Inter-provincial Trading Optimization Method Considering Uncertainty</b> Tao Xin, Qianqian Fang, Nan Li, Haisheng Tan	<b>Haisheng Tan</b> North China Electric Power University
EI1046	<b>Improving HVRT of Offshore Wind Farms by Bunding with Thermal Power Plants</b> Linyong, Tianshuxin, Yuhao, Wangpanpan, Chenhonglin, Chenrunbo	<b>Panpan Wang</b> Taiyuan University of Technology
EI1048	<b>Wind Power Investment Decision-Making Optimization Model Based on Real Option Method</b> Li Nan, Li Fang, Zhang Guihong, Ma Xue, Sun Jie	<b>Sun Jie</b> School of Economics and Management, North China Electric Power University
EI1050	<b>Cycle Iteration Strategy of Integrated Energy System Business Model Based on Cycle Iteration Theory</b> Yongjie Ren, Xiaoke Fan, Jialin Lin, Ming Zeng, Gang Qian, Gang Luo and Feng Zhu	<b>Xiaoke Fan</b> North China Electric Power University
EI1055	<b>Intelligent Mining Method of Distribution Line Trip Filling Text</b> Duan Hui, Zhang Zhi, Li Chunhui, Wang Jingjing, Tian Liang	<b>Zhang Zhi</b> Chongqing university
EI1058	<b>Comparative Analysis of Game-based Defense Strategies against False Data Injection Attacks under Complete and Incomplete Information Conditions</b> Huan Pan, Ruijia Cao, Xuelian Feng, Hang Yang	<b>Huan Pan</b> Ningxia University



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EI1059	<b>The Simulation Validation of Control Characteristics and Parameters Analysis for Voltage Controlled PV Virtual Synchronous Generator</b> Li Zhi, Zhang Yangfan, Liu Mingbo, Gong Yu, Liu Hui, Xiao Fei and Lin Feng	<b>Li Zhi</b> State Grid Jibei Electric Power Co.Ltd.Research Institute, North China Electric Power Research Institute Co. Ltd.
EI1060	<b>Research on Fuzzy Location Method of Power Communication Network Fault Using Digital Twin Model Based on Weight Coefficient</b> Sheng-Chao Yan, Yu-Jian Chao, Yuan-Dong Ma	<b>Sheng-Chao Yan</b> NARI Group Corporation / State Grid Electric Power Research Institute
EI1061	<b>Research on Fault Analysis Method of Power Communication Digital Twin Network Based on Rules and Cases</b> Sheng-Chao Yan, Yu-Jian Chao, De-Sheng Wu	<b>Sheng-Chao Yan</b> NARI Group Corporation / State Grid Electric Power Research Institute
EI1062	<b>Performance Evaluation of Grid-Connected Operation of Multi-Energy Complementary System</b> Shaojie Zhu/Anping Hu/Yibin Tao/Deshun Wang/Chunlai Li/Libin Yang	<b>Shaojie Zhu</b> China Electric Power Research Institute Co. Ltd.
EI1063	<b>Probabilistic Inference of Cascading Commutation Failures of Multi-HVDCs Based on Bayesian Theory</b> Yuhao, Zouxiaobing, Liuruikuan, Chenrunbo, Pengsui, Duanyao	<b>Xiaobing Zou</b> Taiyuan University of Technology
EI1064	<b>Research on Weight Allocation Method of Renewable Energy Consumption Responsibility Based on Subjective and Objective Comprehensive Decision-making</b> Meng Na, Wang Xiaorong, Li Baoju, Sun Yong, Zhang Jinping	<b>Meng Na</b> China Electric Power Research Institute
EI1065	<b>Optimal Energy Management for Multi-Energy Microgrid Considering Demand Response</b> Pengyu Di, Zhuo Su, Qiuyu Lu, Jianing Liu, Keng Xu and Gangfeng Yan	<b>Keng Xu</b> Zhejiang University
EI1066	<b>Constraints and Sensitivity Factors of Large-scale New Energy Grid-connected Grids to New Energy Utilization Impact Study</b> Liwei Zhang, Ruijie Yuan, Qinqin Liang, Xiying Fan, Zheng Wang, Dongsheng Xie, Xiaoxue Su, Hongli Liu, Yu Li	<b>Yu Li</b> Tai Yuan Normal University
EI1069	<b>Research on Cost-Benefit Analysis and Arbitrage Strategy of Energy Storage for Industrial Users</b> Chao Wang, Zeyuan Shen, Haibo Zhao, Yao Wang, Zhong Wu,, Yan Liang, Zhi Zhang, Jingyu Zhang	<b>Chao Wang</b> State Grid Shanxi Economic Research Institute
EI1070	<b>Coordinated Scheduling of Distribution Network and Virtual Power Plants Considering Controllable Thermal Loads and Distributed Photovoltaics</b> Qi Wang, Baoju Li, Bin Wang, Chang Liu, Wenchuan Wu	<b>Qi Wang</b> Tsinghua University



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	and Dexin Li	
EI1072	<b>Coordinated Optimization of Power Rating and Capacity of Battery Storage Energy System with Large-Scale Renewable Energy</b> Peidong Han, Pai Li, Xiaodi Xie, Jinping Zhang	<b>Peidong Han</b> China Electric Power Research Institute
EI1073	<b>Renewable Energy Accommodation Ability Evaluation of Power System with Large-scale Cascaded Hydro Power Plants</b> Pai Li, Na Meng, Siyang Liu, Peidong Han, Jinping Zhang,	<b>Pai Li</b> China Electric Power Research Institute
EI1075	<b>Research on Communication Schemes for Digital-Physical Hybrid Simulation of the SSCS</b> Qitao Liu, Jianbing Xu, Haibo Xu, Zhao Ding, Manli Li, Jinhua Ren, Zhaoyang Yin	<b>Qitao Liu</b> NARI Group Corporation (State Grid Electric Power Research Institute)
EI1076	<b>A New Method to Solve Relative Dielectric Constant of 10kV ThreE-core Cables Based on Two-Terminal Zero Sequence Voltage</b> Dai Xiaofeng, Yuan Zhiyong, He Jingru, Bai Hao, Huo Jianbin, Li Wei	<b>Bai Hao</b> Electric Power Research Institute, China Southern Power Grid
EI1077	<b>Combination Faults Protection Method Based on Negative Sequence Impedance Angle in Resonant Grounding Distribution System</b> Lin Guocheng, Li Wei, Li Dang, Bai Hao, Huo Jianbin, Pan Shuhui	<b>Bai Hao</b> Electric Power Research Institute, China Southern Power Grid
EI1079	<b>High-Impedance Fault Pilot Protection Method Based on Zero Sequence Current Comparison in Low-Resistance Grounding Distribution System</b> Zhou Qilin, Li Wei, Tong Rui, Bai Hao, Dai Xiaofeng, Pan Shuhui	<b>Bai Hao</b> Electric Power Research Institute, China Southern Power Grid
EI1080	<b>Optimal Power Consumption Strategy for Residential Users Based on Time Series Analysis of Electricity Load</b> Shuang Ma, Jinhe Liu and Yajing Zhang	<b>Shuang Ma</b> Beijing Information Science and Technology University
EI1083	<b>Harmonic Power Flow Algorithm Considering Electrified Railway</b> Han Jinlong, Dai Yaohui, Jiang Han, Yang Rui, Yuan Xiaotian and Du Zhengchun	<b>Jinlong Han</b> Xi'an Jiaotong University
EI1085	<b>A Method for Power System Stability Assessment Using Simulation Results</b> Yixuan Peng, Chang Lin, Guying Zhuo, Xiaomeng Li, Dechao Xu and Chenghao Li	<b>Yixuan Peng</b> State Grid Smart Grid Research Institute Co., Ltd.



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EI1090	<b>Data Augmentation of Insulator Aerial Images for Intelligent Inspection of Electric Transmission Systems</b> Kaidi Qiu, Yuan Cao, Di Jiang, Qiang Yang, Qiumao Li, Luoyun Xu	<b>Kaidi Qiu</b> Zhejiang University
EI1098	<b>Vickrey-Clark-Groves based Settlement Mechanism in Spot Market Considering Deficit Allocation between Load and Renewable Energy</b> Wen Lu, Qi Liu, Chang Li, Xinhua Yan, Rongzhang Cao, Luyao Ye	<b>Qi Liu</b> Xi'an Jiaotong University
EI10104	<b>Hybrid Ultracapacitor-based Short-term High-frequency Energy Storage System for New-type Power System</b> Geng Niu, Lijing Sun, Nan Zheng, Yue Zhu, Wei Sun, Ming Wu	<b>Geng Niu</b> State Grid Shanghai Energy Interconnection Research Institute
EI10109	<b>Game Iterative Robust Optimization Strategy for AC / DC Distribution Systems Considering Source Load Uncertainty</b> Qi Li, Ronghao Zhang, Shuting Li, Haibo Zhao, Ehui Duanzhi Zhang, Yu Li, Nde Hu, Liang Tian,	<b>Yu Li</b> Taiyuan Normal University
EI10110	<b>Research on Key Technologies of Multi-Objective Coordinated Optimal Operation of Source, Network and Load of New Power Distribution System</b> Qi Li, Shuting Li, Xiaojun Song, Zeyuan Shen, Chao Xue, Yahong Xing, Xiangyu Zhang, Yu Li, Ronghao Zhang	<b>Yu Li</b> Taiyuan Normal University
EI10111	<b>Impact Analysis of Distributed Photovoltaic Access to Active Distribution Network with Different Permeability</b> Shuting Li, Qi Li, Huiqing Liu, Yaqin Zhao, Liang Tian, Shixuan He, Chen Yang, Yu Li	<b>Yu Li</b> Taiyuan Normal University
EI10112	<b>Research on Demand Side Response Strategy of Active Distribution Network Considering User Satisfaction</b> Shuting Li, Qi Li, Huiqing Liu, Yaqin Zhao, Liang Tian, Liyin Liang, Yu Li, Tao Sun	<b>Yu Li</b> Taiyuan Normal University
EI10113	<b>Trajectory Sensitivity Based Key Parameters Analysis for Low Voltage Ride Through of Photovoltaic Power Station</b> Xian Xu, Hualing Han, Haifeng Li, Wenjun Zhou, Jie Li, Ning Chen	<b>Ning Chen</b> China Electric Power Research Institute
EI10115	<b>Research on Rapid Self-healing Technology of Smart Distribution Network with DG</b> Duan Hui, Zhang Zhi, Li Chunhui, Wang Jingjing, Tian Liang	<b>Zhang Zhi</b> Chongqing university
EI10117	<b>Optimal Planning of Cloud Energy Storage System Serving Multiple High Proportion Renewable Energy Microgrids</b> Shixu Zhang, Yaowang Li, Weisheng Liu, Shumin Sun, Peng Yu, Ning Zhang	<b>Shixu Zhang</b> Institute of Low-Carbon Urban Energy System, Sichuan Energy Internet Research Institute, Tsinghua University



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EI10119	<b>Wide-band Harmonic Coupling Characteristic Analysis of Thyristor Rectifier</b> Li Jin, Ming Ma, Deshuo Yu, Ertao Lei, Kai Ma and Hao Yi	<b>Jin Li</b> Electric Power Research Institute of Guangdong Power Grid Co.,Ltd
EI10120	<b>Research on Market-Oriented Arrangement Method of Generation Unit Maintenance for Power System Based on Generation Quotation</b> Dingyao Xiao, Shijun Tang, Jingyu Chen, Qingqiu Fang, Yunliang Wu	<b>Dingyao Xiao</b> ZheJiang WANLIYANG Energy Technology Co., Ltd
EI10121	<b>Performance Optimization and Analysis of Combined Cooling, Heating and Power System Based on Multiobjective Sailfish Optimization Algorithm</b> Yuanhong Liu, Pengli Li, Hui Hui, Wei Zhang, Shupin Liu, Yang Zhao	<b>Yuanhong Liu</b> China Electric Power Research Institute
EI10122	<b>Enhanced Random Crop with Data Augmentation for Insulator Detection in Complex Backgrounds</b> Qiumao Li, Yuan Cao, Di Jiang, Kaidi Qiu, Chao Su and Qiang Yang	<b>Qiumao Li</b> Zhejiang University
EI10123	<b>MCES: Multi_x005F_x0002_classifier Ensemble System for Malware Detection and Identification</b> Jinming Wang, Tao Yang, Bingjing Yan, Pengchao Yao, Wenhai Wang, Qiang Yang	<b>Jinming Wang</b> Zhejiang University
EI10124	<b>Intel SGX-Based Trust Framework Designed for Secure Machine Learning</b> Chun Liu, Linghao Zhang, Yuhan Dai, Fei Chen, Hong Chen, Pingsi Zhong	<b>Pingsi Zhong</b> Southwest Petroleum University
EI10126	<b>Low Carbon Economy Optimal Dispatch of Renewable Energy Power System Considering Carbon Rights Trading and Power Generation Rights Trading</b> Hongmin Yao, Wenping Qin, Xiang Jing, Zhilong Zhu, Xiaoqing Han, Yanbing Jia	<b>Hongmin Yao</b> Taiyuan University of Technology
EI10127	<b>Dual Similarity-based method for Proactive Fault Detection in Power Distribution Networks</b> Yixian Liu, Yubin Wang, Yuanyi Chen, Qiang Yang, Haisheng Hong and Weichao Wang	<b>Yixian Liu</b> Zhejiang University
EI10130	<b>Optimization of Thermal Coal Multimodal Transportation Considering Externalities</b> Deng Tao, Zhang Zhi, Li Nannan, Fan Xiyong, Wen Wei	<b>Sui Yi</b> State Grid Shanxi Electric Power Company Economic and Technical Research Institute



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EI10132	<b>Optimization Method of Steady Reactive Power for Converter Station Synchronous Condenser</b> Yunchao Gao, Xiaotao Peng, Wanyu Lv, Lingjie Jia, Zitu She, Bo Chen	<b>Yunchao Gao</b> Wuhan University
EI10135	<b>Integrated Energy System Based on Optimal Scheduling of Flexible Load Economics of Energy Storage</b> Zhu Rong, Ren Yaru, Xu Ruijie, Wang Liren	<b>Ruijie Xu</b> Inner Mongolia University of Technology
EI10140	<b>Multi-Energy Flow Optimization Regulation Method of Provincial Energy Internet Based on Energy Balance</b> Zhong Yongjie, Ji Ling, Li Jingxia	<b>Yongjie Zhong</b> Guodian Nanjing Automation Co.,Ltd.
EI10143	<b>Development Ideas and Overall Infrastructure of Energy Internet</b> Zhong Yongjie	<b>Yongjie Zhong</b> Nanjing SAC Power Grid Automation Co., Ltd.
EI10144	<b>The Development Status and Trend of Permanent Magnet Synchronous Motor in the Electric Vehicle Industry</b> Wang Guiyong	<b>Guiyong Wang</b> Northwest A&F University
EI10145	<b>Research on the Evaluation Method of Peak Shaving and Valley Filling Potential of Power Demand Side Response Based on Typical Large Industrial Users</b> Hongli Liu, Ruijie Yuan, Jia Li, Xuxia Li, Xin Zang, Guomei Yu, Kaikai Wang, Liang Tian, Yu Li	<b>Yu Li</b> Tai Yuan Normal University
EI10149	<b>A Review of Key Technologies for Converting Thermal Power Units to Condensers in New Power Systems</b> Gang Han, Guanqun Sun, Defu Cai, Tao Wang, Rusi Chen, Erxi Wang.	<b>Guanqun Sun</b> State Grid Hubei Electric Power Company Electric Power Research Institute
EI10152	<b>A Method to Simplify the Markov Model of Protective Systems</b> Yongxin Chen, Minghao Wen	<b>Xingzhu Wang</b> Huazhong University of Science and Technology
EI10153	<b>Multi-Objective Operation Optimization of Electric-Gas-Thermal Integrated Energy System for Improving Wind Power Accommodation Capacity</b> Ling Cheng, Xinghua Zhang, Fanpeng Bu	<b>Ling Cheng</b> China Electric Power Research Institute
EI10156	<b>A Method Used for Calculation of Basic Daily Electricity Consumption</b> Zeyang Tang, Yibo Cui, Jie Xing, Jie Huang, Jing Jin, Yumeng Tang	<b>Zeyang Tang</b> Electric Power Research Institute State Grid Hubei Electric Power Co., Ltd





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EI10162	<b>Analysis on the Correlation Characteristics of Electricity Trading Price Based on Multifractal Theory</b> Jia Li, Yong Li, Hong-Li Liu, Xu-Xia Li, Guo-Mei Yu, Rui-Jie Yuan, Yu Li, Ying-Ying Hu, Xiao-Ming Zheng	<b>Yu Li</b> Taiyuan Normal University
EI10164	<b>Optimal Frequency Control Parameters Design of Wind Farm Considering Wind Turbine Grouping</b> Jing He, Yubo Zhang, Songhao Yang, Chunyan Li, Zhiguo Hao	<b>Yubo Zhang</b> Xi'an Jiaotong University
EI10168	<b>Research on Structure Optimization of Cold Dielectric High-Temperature Superconducting Cables</b> Hanshan Zhu, Jinhua Zhu, Enzhe Wang, Yiwen Shi and Xiangrong Chen,	<b>Yiwen Shi</b> Zhejiang University
EI10169	<b>Hydrogen Production by Renewable Energy and Future Trend in China</b> Hong Bai, He Chen, Wenhui Shi	<b>Bai Hong</b> China Electric Power Research Institute
EI10170	<b>Comparison of the Current Carrying Capacity Between 110 kV Corrugated and Smooth Aluminum Sheathed Cables Based on Thermal Analysis</b> Guangyuan Yao, Jun Lv, Xiaodong Hong, Xu Wang, Chen Jiang, Pingyuan Sun, Yiwen Shi, Hanshan Zhu and Xiangrong Chen	<b>Yiwen Shi</b> Zhejiang University
EI10171	<b>Online Identification of Boiler Heat Storage Coefficient for Accurate Analysis of Primary Frequency Regulation of Steam Unit</b> Runkai Zhang, Yue Guo, Lei Chen, Fei Xu, Kaiyuan Hou, Yi Shen	<b>Lei Chen</b> Tsinghua University
EI10173	<b>Coupled Thermal-Electrical Analysis of 110 kV Corrugated Aluminum Sheathed and Smooth Aluminum Sheath Cables Based on Finite Element Simulation Method</b> Ming Zhao, Yong Zhang, Yuntu Jiang, Junfeng Chi, Yufeng Lou, Dan Zhao, Fuping Li, Yiwen Shi*, Xiangrong Chen	<b>Yiwen Shi</b> Zhejiang University
EI10177	<b>On the Use of Spatial-temporal Feature Graph Convolutional Network for Ultra-Short Term Prediction of Wind Power Generation</b> Wanbing Zhao, Yuanyi Chen, Chuanhong Ru, Weijie Qian, Changli Shi, Qiang Yang	<b>Wanbing Zhao</b> Zhejiang University
EI10178	<b>Control of 6-DOF Manipulator Based on ROS</b> Jiangjiang Xu, Chunyan Ma, Yinke Dou, Yuchen Wang	<b>Jiangjiang Xu</b> Taiyuan University of Technology
EI10179	<b>Distributed Response Characteristics of PV cells in String Photovoltaic Power Station During LVRT</b> Yiyun Gou, Jinghong Zheng, Zhuang Liu, Yusheng Ding	<b>Yiyun Gou</b> Tsinghua University



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EI10183	<b>Model Predictive Control of Battery Energy Storage System for Secondary Frequency Regulation</b> Shiyu Wu, Zhenshan Zhu and Manwei Li	<b>Shiyu Wu</b> Fuzhou University
EI10185	<b>Creative Model of Community Public Health Service Based on Power Big Data</b> Zeyang Tang, Yibo Cui, Jie Xing, Jie Huang, Jing Jin, Yumeng Tang	<b>Zeyang Tang</b> Electric Power Research Institute State Grid Hubei Electric Power Co., Ltd
EI10193	<b>Transient Performance Optimization of Grid Forming Converter</b> Sichao Wang, Chunpeng Li, Yuexi Yang, Congda Han, Hanbin Zhang and Junwei Huang	<b>Sichao Wang</b> State Grid Smart Grid Research Institute Co., Ltd.
EI10195	<b>DOUBLE-differentiated Capacity Compensation Mechanism for the New Power System</b> Haowen Ouyang, Shengnan Wei and Yanling Wang	<b>Haowen Ouyang</b> North China Electric Power University
EI10196	<b>Optimization of Source-grid-load-storage Coordinated Energy System for Low-Carbon Community</b> Bu Fanpeng, Wang Yanfang, Zhang Sirui, Chen Sian	<b>Fanpeng Bu</b> China Electric Power Research Institute

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EI10197	<b>A Multi-Type Energy Storage Control Strategy for Promoting Renewable Energy Consumption and Active-Support Ability</b> Huimeng Ma, Rongyu Wu, Xiangjun Li	<b>Huimeng Ma</b> China Electric Power Research Institute
EI10210	<b>Agent Simulation-Based Market Clearing Model for Reactive Auxiliary Services</b> Le Qi, Mingyuan Chen, Jifeng Song, Minyu Zhang, Wenbin Zheng and Qinghua Shang	<b>Qinghua Shang</b> Guangxi University
EI10213	<b>Collaborative Optimization Scheduling of Coupled Power-Traffic System in Mining Areas Considering Time-of-use Price</b> Haotian Yang, Yixun Xue, Zhe Zhou, Huaichang Ge, Zhaoguang Pan, Hongbin Sun	<b>Haotian Yang</b> Taiyuan University of Technology
EI10214	<b>Analysis of Subsynchronous Oscillation in MMC-HVDC System with Interactions of Multitype Wind Turbines</b> Sun, Linlin Wu, Xiao Wang, Yina Ren, Tianyu Su, Xiaoyang Deng	<b>Yamin Sun</b> State Grid Jibei Electric Power Co, Ltd Research Institute





Paper ID	Title & Authors	Presenter & Affiliation
EI10220	<b>Multi-Objective Joint Planning Method of Distributed Photovoltaic and Battery Energy Storage System based on NSGA-III Algorithm</b> Yuqi Chi, Mengqin Yang, Ruizhe Zhang, Xin Peng	<b>Yuqi Chi</b> Shaanxi Key Laboratory of Smart Grid, Xi'an Jiaotong University
EI10224	<b>Robust Black Start Strategy with a High Share of Renewable Energy Generation</b> Xuemei Fan, Hongtao Wang and Yong Li	<b>Xuemei Fan</b> Shandong University
EI10228	<b>Smooth Transition of Modular Multilevel Matrix Converter to Hexverter During Single-Arm Failure</b> Juntao Jiang, Shoudong Hu, Shenquan Liu, Zhaolong Lu and Haoming Huang	<b>Juntao Jiang</b> South China University of Technology
EI10238	<b>Low-Carbon Optimal Scheduling for Microgrid Considering the Multi-Energy Cloud Energy Storage</b> Dengzheng Wang, Yuliang Liu, Binghui Li, Yaowang Li, Zhiqiang Dai, Ning Zhang	<b>Yuliang Liu</b> Tsinghua Sichuan Energy Internet Research Institute
EI10240	<b>Research on Evaluation Model of Distribution Network Energy Saving Reconstruction</b> Yaosong Guo, Xiaochuan Song, Rui Wang, Fanjun Guan, Manfei Gao, Yiping Gao and Jinghu Zhao	<b>Yaosong Guo</b> NARI Technology Co., Ltd.
EI10241	<b>Comparison of Different Phase-locked Loops in Grid-connected VSC System</b> Naixun Li, Zhengchun Du	<b>Naixun Li</b> Xi'an Jiao Tong University
EI10242	<b>A Two-Level Game Optimal Dispatching Model for Integrated Energy System Based on Carbon Trading Mechanism</b> Yongsheng Zhu, Zhipeng Shi, Junlin Yang, Xiaofeng Xie, Geng Wang and Hui Wang	<b>Zhipeng Shi</b> Zhongyuan University of Technology
EI10243	<b>Exploration on Market Mechanism and Certification Technology of Zero Carbon Building Groups Participating in Clean Energy Consumption</b> Fangneng Huang, Wenmeng Zhao, Yong Mei, Dongqi Huang, Aoyu Lei, Wenfeng Yao, Baoye Tian, Yisheng Li	<b>Yisheng Li</b> China Southern Power Grid Electric Power Research Institute
EI10244	<b>Study on Mutual Recognition Technology and Coordination Mechanism between Green Electricity Market and Carbon Market in Case of Building-Grid Friendly Interaction</b> Fangneng Huang, Wenmeng Zhao, Yong Mei, Dongqi Huang, Aoyu Lei, Wenfeng Yao, Baoye Tian, Ying Huang	<b>Ying Huang</b> China Southern Power Grid Electric Power Research Institute
EI10246	<b>An Analytical Method for Reliability Evaluation of Distribution System Considering Uncertainty of Renewable Energy Generation and Load</b> Dingmao Zhang, Ju Ma, Gengfeng Li, Zili Guo, Zhaohong Bie and Yaojing Tang	<b>Dingmao Zhang</b> Xi'an Jiaotong University



Paper ID	Title & Authors	Presenter & Affiliation
EI10248	<b>Presentation and Performance Analysis of a Direct-drive Traction system for Rail Trains Incorporating a Disc PM Motor</b> Ze Bao, Hailian Jing, Yumin Zhang, Jinsong Hou, Heng Zhou, Yefei Zhang	<b>Ze Bao</b> Chengdu University of Technology
EI10250	<b>Fast Frequency Response Control Strategy of High-Proportion Distributed Photovoltaic Power</b> Huixing Li, Jianhua Li, Minhui Qian, Ning Chen, Bingjie Tang, Peipei Peng	<b>Minhui Qian</b> China Electric Power Research Institute
EI10258	<b>Interaction Analysis of Two PMSG-based Wind Turbines Connected in Parallel to a Weak AC System</b> Xueying Wang, Qi Jia, Hongyan Zhao	<b>Xueying Wang</b> State Grid Liaoning Electric Power Research Institute
EI10264	<b>A New Voltage Fluctuation Detection Algorithm Based on Improved Hilbert Transform</b> Yiming Ding, Keke Liu, Sheng Jin, Shupe Han, Dezhen Kong, Jing Ma	<b>Dezhen Kong</b> School of Electrical and Electronic Engineering, North China Electric Power University
EI10265	<b>Research on Non - intrusive Load Monitoring Based on Seq2point Model</b> Hua Zhang, Shilong Li, Jing Wang, Lijie Ding, Yiwon Gao, Cheng Long, Xueneng Su	<b>Jing Wang</b> Sichuan Energy Internet Research Institute Tsinghua University
EI10266	<b>Cross-Provincial Electricity Spot Trading Model for Optimizing Resource Allocation</b> Runpeng Ma, Yanling Wang and Xu Lin	<b>Runpeng Ma</b> North China Electric Power University
EI10267	<b>Improved SHGM Robust State Estimation for Power System Considering Complementary Non-smooth Constraints</b> Shilong Li, Hua Zhang, Jing Wang, Lijie Ding, Ao Li, Chang Liu and Yufan Chen	<b>Jing Wang</b> Sichuan Energy Internet Research Institute Tsinghua University
EI10268	<b>Frequency Support Demand Analysis of High Non-synchronous Resource Penetration Receiving-End Power Grid Based on System Frequency Response Model</b> Bingjie Tang, Minhui Qian, Ning Chen, Jianhua Li, Huixing Li, Yanqiang Shi	<b>Bingjie Tang</b> China Electric Power Research Institute
EI10270	<b>Research on the Technology Framework of Integrated Energy System and Recent Progress</b> Yajun Zou, Wei Wang, Dawei Wang, Yanbo Wang, Xiaojun Wang, Weitao Chen	<b>Yajun Zou</b> Global Energy Interconnection Development and Cooperation Organization
EI10271	<b>Data-driven Method and Interpretability Analysis for Transient Power Angle Stability Assessment</b> Yuxiang Wu, Zhewen Niu, Boyang Yan	<b>Yuxiang Wu</b> Taiyuan University of Technology



Paper ID	Title & Authors	Presenter & Affiliation
EI10274	<b>Research on prediction of dynamic current carrying capacity of 110kV oil immersed transformer</b> Aogang Hou, Xuzhu Dong, Jiangjun Ruan, Yongqing Deng, Chen Zhang, Qiaofeng Chen	<b>Hou Aogang</b> School of Electrical Engineering and Automation, Wuhan University, Wuchang District, Wuhan City, Hubei Province
EI10281	<b>Research on a Novel Reactive Power Emergency Control Strategy for HVDC Receiving System</b> Longze Kou, Huaiguang Gu, Yang Gao, Tao Lin, Xiyue Fu, Hui Du, Qingyan Li	<b>Li Qingyan</b> Wuhan University
EI10284	<b>Research on Frequency Stability Emergency Control Strategy Based on Deep Reinforcement Learning</b> Xiyue Fu, Tao Lin, Qingyan Li, Hui Du, Xialing Xu	<b>Fu Xiyue</b> Wuhan University
EI10285	<b>Comparison of K-Means and Hierarchical Clustering Used in Power Consumption Analysis</b> Zeyang Tang, Yibo Cui, Jie Xing, Jie Huang, Jing Jin, Yumeng Tang	<b>Zeyang Tang</b> Electric Power Research Institute State Grid Hubei Electric Power Co., Ltd
EI10286	<b>Battery Energy Storage Application: Regulation and Peak Shaving For A Photovoltaic-equipped Community</b> Zihang Qiu, Yuchun Luo, Yi Wang, Yujing Mao, Chaojie Li	<b>Zihang Qiu</b> NARI Technology Co., Ltd.
EI10287	<b>Optimal Dispatching Strategy of Microgrid Based on Interval Stackelberg Game</b> Linru Jiang <sup>1</sup> , Taoyong Li, Chun Xiao, Junwei Zhang, Junfeng Yao	<b>Taoyong Li</b> China Electric Power Research Institute
EI10288	<b>Optimal Scheduling of Electric Vehicle Clusters Considering Uncertainty of User Demand Response</b> Linru Jiang, Yuanxing Zhang, Chun Xiao, Junwei Zhang, Junwu Li	<b>Linru Jiang</b> China Electric Power Research Institute
EI10290	<b>An Adaptive LQR-based Defense Strategy against False Data Injection Attack in Smart Grids</b> Xiaoyuan Luo, Ruiyang Gao, Xinyu Wang and Xiangjie Wang	<b>Xiaoyuan Luo</b> Yanshan University
EI10293	<b>Multi-scale Guided Fusion for Thermal Fault Diagnosis of Power Equipment</b> Huangzhihong, Huangwei, Longyanbo	<b>Huangzhihong</b> State Grid Hunan Electric Power Corporation Limited Research Institute
EI10294	<b>Comprehensive Evaluation of Park-Level Integrated Energy System with Multiple Energy Chambers based on Fuzzy-AHP</b> Zhenlan Dou, Miao Wen, Chunyan Zhang, Peng Li, Xichao Zhou, Xingang Yang, Yaru Zhao	<b>Miao Wen</b> North China Electric Power University



Paper ID	Title & Authors	Presenter & Affiliation
EI10301	<b>Optimal Scheduling of Thermoelectricity in Integrated Energy System Based on Waste Heat Recovery from Power to Gas and Flexible Thermoelectricity Ratio</b> Dongmei Yang, Yu Gao, Qi Wang, Yan Chen, Yuchen Guo, Meng Wang	<b>Dongmei Yang</b> The State Key Laboratory of Smart Grid Protection and Operation Control, NARI Technology Co., Ltd
EI10302	<b>Black Hole of Sound: Constructing an Anti-eavesdropping Area Using Ultrasound</b> Haijun Gui, Chen Yan, Yushi Cheng, Xiaoyu Ji, Wenyan Xu	<b>Haijun Gui</b> Zhejiang University
EI10305	<b>Online Activity Detection with Predicting and Classifying Transformers</b> Longchuan Yan, Jun Liu, Ruixin Li, Linfeng Zhang, Li Su, Laiyun Qing	<b>Laiyun Qing</b> University of Chinese Academy of Sciences
EI10306	<b>Evaluation of Look-ahead Economic Dispatch Using Reinforcement Learning</b> Zekuan Yu, Guangchun Ruan, Xinyue Wang, Guanglun Zhang, Yiliu He, Haiwang Zhong	<b>Zekuan Yu</b> Tsinghua University
EI10307	<b>Research on Coordination Strategy of Emergency and Correction Control under High Proportion of New Energy Connected to Power Grid</b> Fusuo Liu, Hui Huang, Haijun Chang, Xuelian Wu, Chao Wang	<b>Hui Huang</b> State Grid Electric Power Research Institute
EI10308	<b>Comprehensive Evaluation Technology of Photovoltaic Power Station Power Generation Performance Based on Minimum Deviation Combined Weighting Method</b> Jian Zhang, Lianghui Xu, Lie Xia, Qingbin Yang, Zhilei Chen, Wei Dong	<b>Jian Zhang</b> China Electric Power Research Institute
EI10309	<b>Multi-Objective Optimization Method for Low-Carbon Development of Wind-Light-Biogas-Storage Integrated Energy Microgrids in Remote Areas</b> Zeyuan Shen, Zhibin Song, Haibo Zhao, Chao Wang, Chunhui Li, Ende Hu, Zhong Wu and Zhi Zhang	<b>Zeyuan Shen</b> State Grid Shanxi Economic Research Institute
EI10310	<b>Study on Optimal Operation of Multi-integrated Station with New Energy Resources Based on QPSO</b> Huahua Wu, Xiansi Lou, Wenzhe Yin, Qihang Huang, Xianyun Zou, Xiaoling Yuan	<b>Xiaoling Yuan</b> Hohai University
EI10311	<b>Research on Cooperative Control Strategy of Islanding Microgrid Based on the SOC of Energy Storage</b> Weijie Qiu, Qihong Shi, Qiang Yang, Xin Ma, Xiaobing Xiao, Bin Tan, Hujun Shi, Yuanliang Zhao and Xiaolei Zhao	<b>Xiaolei Zhao</b> Wuhan University
EI10312	<b>Research on Inertia Allocation Scheme for Improving Frequency Safety and Stability Characteristics of Power Grid</b> Xian Xu, Xuelian Wu, Zhaowei Li, Hui Huang	<b>Zhaowei Li</b> NARI Technology Co., Ltd.



Paper ID	Title & Authors	Presenter & Affiliation
EI10317	<b>Optimal Scheduling of Park-Level Integrated Electric and Heating System Considering Carbon Trading</b> Yang Wang, Xiao Cui, Peng Liu, Hui Cheng, Shengqi Zhou, Zhen Wei	<b>Yang Wang</b> State Grid Shandong Electric Power Company Qingdao Power Supply Company
EI10319	<b>Intentional Electromagnetic Interference Attack Against Infrared Thermal Imaging Sensor</b> Haoxiang Zhang, Qinhong Jiang, Yushi Cheng, Xiaoyu Ji, Wenyan Xu	<b>Haoxiang Zhang</b> Zhejiang University
EI10320	<b>The Research on Digital Twin Network Architecture for Power Grid Telecommunication System</b> Ziyan Zhao, Shengchao Yan, Dequan Gao, Songping Xue and Ping Meng	<b>Shengchao Yan</b> NARI Group Corporation / State Grid Electric Power Research Institute
EI10325	<b>Plant Control Parameter Identification of Renewable Energy Station Based on Improved Least Square Method</b> Yuexin Ma, Tianyue Zheng, Jing He, Fenglin Miao, Peng Wang and Haoran Zhao	<b>Yuexin Ma</b> Shandong University
EI10326	<b>Spatial-temporal Power Balance Method for Active Distribution Systems based on Time Series Operation Simulation with Source-Load-Storage Coordination</b> Zhe Wang, Shitian Zhu, Tao Luo, Xuan Wu, Shaoting Feng and Fengzhang Luo	<b>Xuan Wu</b> Key Laboratory of Smart Grid of Ministry of Education Tianjin University
EI10329	<b>Software Phase Locked Loop Based on SOGI Transform</b> Qian Weijie, Zhang Zhongfeng, Li Jiapeng, Guo Yiyun, Wang Jianhua	<b>Yiyun Guo</b> Southeast University
EI10330	<b>Flexible Control Strategy of Micro Gas Turbine Generation System under Multiple Operation Modes</b> Zhongkang Liu, Xitian Wang, Jiecheng Zhu, Da Xie and Chenhan Zhao	<b>Zhongkang Liu</b> Shanghai Jiao Tong University
EI10332	<b>Voltage Stability Analysis considering the Impact of Distributed Photovoltaic Generation</b> Rundong Liu, Xinran Zhang, Xiaobo Ling and Zheng Ye	<b>Rundong Liu</b> Beihang University
EI10333	<b>Data-driven Forecasting Method of Multiple Day-type Load Curves for Active Distribution Networks</b> Fangdi Shi, Jianfeng Xu, Xiaoyu Qiu, Fengzhang Luo, Shaoting Feng, Xuan Wu	<b>Xiaoyu Qiu</b> Key Laboratory of Smart Grid of Ministry of Education, Tianjin University
EI10335	<b>Air-cooled PEMFC Temperature Cooperative Control and Low Temperature Operation</b> Pang Jian, Ma Chunyan, Wang Jin, Dou Yinke	<b>Pang Jian</b> Taiyuan University of Technology



Paper ID	Title & Authors	Presenter & Affiliation
EI10336	<b>A Linearization based Model Equivalent Method for Distributed Photovoltaic Generation Clusters</b> Haonan Fang, Xinran Zhang, Xiaobo Ling, Chao Lu, Zheng Ye	<b>Haonan Fang</b> Tsinghua University
EI10340	<b>Coordinated Control for Multi-level Reactive Power and Voltage</b> Xiaoming Wu, Liuzhu Zhu, Haoqing Wang, Hui Zhang, Ran Xu, Qing Duan and Ning Liu	<b>Haoqing Wang</b> China Electric Power Research Institute
EI10341	<b>Research on Staged Relay Protection of DC Distribution System</b> Liuzhu Zhu, Hui Zhang, Haoqing Wang, Xiaoming Wu, Yuming Shen, Ning Liu and Qing Duan	<b>Haoqing Wang</b> China Electric Power Research Institute
EI10344	<b>Data-driven Preventive Control of Transient Voltage Safety</b> Bin Ma, Jinhe Zhang, Guanghui Sun, Xin He, Yajun Wang, Shaokang Zhang, Liyuan Jiang and Bin Wang	<b>Jinhe Zhang</b> Tsinghua University
EI10345	<b>Generalized Modeling of Energy Hub under Variant Operating Conditions</b> Yurui Xu, Xiangwei Guo, Jiarui Zhang, Hairun Li, Yanqiang Di, Chen Zhao	<b>Yurui Xu</b> Tianjin university
EI10356	<b>Series-connected SiC MOSFETs Module with A Single Gate Driver</b> Yuxuan Zhang, Rui Li, Runquan Meng, Yuhan Ren, Juan Chen, Yue Ma	<b>Yuxuan Zhang</b> Taiyuan University of Technology
EI10361	<b>Minimum Load Shedding Method across Electricity and Gas Systems Based on the Sensitivity Method</b> Xiangwei Guo, Zhibin Liu, Yurui Xu, Wenjun Ruan, Yuqi Zhou, Yixuan Huang,	<b>Xiangwei Guo</b> Tianjin University
EI10363	<b>Automatic Transient Stability Simulation and Assessment Scheme based on RTDS</b> Haiyang Wang, Siqi Zhang, Miao Liu, Huan Xie, Songhao Yang and Zhiguo Hao	<b>Haiyang Wang</b> Xi'an Jiaotong University
EI10368	<b>Propagation and Blocking of Gas-Electric Cascading Failure</b> Fengshuo Yu, Wei Wang, Hongbin Sun, Qinglai Guo, Zhaoguang Pan, Zheng Qiao, Cheng Gong	<b>Fengshuo Yu</b> Tsinghua University
EI10370	<b>Application and Prospect of Reinforcement Learning in Power Prediction on Source and Load Sides</b> Ming Pei, Lin Ye, Jiazheng Lu, Xunjian Xu, Shiji Pan, Zhenrong Wu, Haohan Liao	<b>Ming Pei</b> China Agricultural University
EI10372	<b>Design Methodology for Online Accuracy Evaluation of Metering Current Transformer in Distribution System</b> Yuan Chi, Dapeng Duan, Cheng Zhao, Liu Jian, Chao Yan, Liyong Wang	<b>Chi Yuan</b> State Grid Beijing Electric Power Company





Paper ID	Title & Authors	Presenter & Affiliation
EI10375	<b>Research on Key Test Technology of UHVDC Transmission Control and Protection Based on Autonomous Controllable Chips</b> Ye Xia, Wei Li, Huiping Wang, Tianqi Hang, Xiaoli Zhang and Xuecheng Dong	<b>Ye Xia</b> China Electric Power Research Institute
EI10376	<b>Wind Power Loss Forecasting and Early Warning Based on Transfer Learning Under Extreme Weather</b> Ye Lin, Li Yilin, Zhao Yuan, Ye Boyuan	<b>Yilin Li</b> China Agricultural University
EI10378	<b>Research on Cascading Failure Search Method of High Proportion New Energy Power System Based on Branch Influence Factor</b> Zhengwei Shen, Huadong Sun, Wuzhi Zhong, Ansi Wang, Xin Wang	<b>Zhengwei Shen</b> China Electric Power Research Institute
EI10388	<b>Analysis of an Overhead Line Coincidence Failure Event in HVDC Network and Strategy Optimization</b> Guangming Xin, Rui Chen, Tianxiao Huang, Xiaofei Wang, Xiang Ren	<b>Guangming Xin</b> State Grid Jibei Electric Power Co. Ltd. Research Institute
EI10391	<b>A Method for Forest Fire Monitoring Based on GA-BP</b> Qilin Li, Junyi Cai, Ping Yan, Chuanjun Huang	<b>Qilin Li</b> State Grid Sichuan Electric Power Company Chengdu
EI10393	<b>Evaluation of the Machine Learning Schemes for Information Security of Demand Response</b> Kun Shi, Songsong Chen, Dezhi Li, Meiling Feng, Qiuyu Zhou	<b>Kun Shi</b> China Electric Power Research Institute Co., Ltd.
EI10400	<b>Research on F-type Tower of 500kV AC Transmission Line in Heavily Polluted Area</b> Xiaojian Zhang, Jiwu Liu, Xin Zhang, Weiyang Yan, Kai Han, Hongfei Jin, Liang Tian, Jiang Zhang, Bin Li	<b>Bin Li</b> Taiyuan University of Technology
EI10401	<b>Efficiency Optimization Design of Three-Level Active Neutral Point Clamped Inverter Based on Deep Reinforcement Learning</b> Jianing Wang, Renhai Yang, Zhanghao Yao	<b>Renhai Yang</b> Hefei University of Technology
EI10402	<b>Calculation and Analysis of the Exergy Flow of an Integrated Energy System with Distributed Renewable Energy</b> Tianshuo Zhou, Dan Wang, Jiayi Li, Hongjie Jia, Yizhe Li	<b>Tianshuo Zhou</b> Tianjin University
EI10406	<b>Analysis of Industrial Load Demand Response Potential Considering Incentive Intensity</b> Yuting Xu, Songsong Chen, Shiming Tian	<b>Yuting Xu</b> China Electric Power Research Institute



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EI10407	<b>Analyzing the Influence of Tower Wind-induced Vibration Coefficient Calculated by Lumped-mass Method on 66kV or Under Transmission Tower</b> Jiwu Liu, Kai Han, Zhuopeng Shi, Yachen Wang, Weiyang Yan, Xiaojian Zhang, Xin Zhang, Bin Li and Jiang Zhang	<b>Bin Li</b> Taiyuan University of Technology
EI10408	<b>Calculation Method of System Reserve Capacity Considering New Energy Uncertainty in Source-Grid-Load-Storage Scheduling Mode</b> Xiaorui Guo, Jing Zhou, Liwen Wang, Si Zhang, Jian Geng	<b>Xiaorui Guo</b> China Electric Power Research Institute Co., Ltd
EI10411	<b>Closed-loop Simulation Method of Stability Control System Based on Virtual Component Technology</b> Qinfeng Ma, Yihua Zhu, Mingshun Liu, Dongxu Chang, Qingxin Pu, Chengxiang Li	<b>Chengxiang Li</b> CSG Key Laboratory for Power System Simulation, Electric Power Research Institute, China Southern Power Grid
EI10417	<b>Study on Measures to Improve the Short-Circuit Thermal Stability of OPGW</b> Wei Pang, Zhi Zhang	<b>Zhi Zhang</b> Economic and Technological Research Institute of Shanxi Provincial Electric Power Company of State Grid Corporation of China
EI10418	<b>Trend Analysis of User Power Consumption Behavior Based on Time Series</b> Shuang Ma, Yi Wang, Yajing Zhang	<b>Shuang Ma</b> Beijing Information Science and Technology University
EI10419	<b>Design and Application of Smart Transformer Service Area Based on TTU and SCB</b> Weiming Chen, Jinyu Chen, Yuanliang Fan, Zewen Li, Han Wu, Xinghua Huang	<b>Weiming Chen</b> State Grid Fujian Electric Power Research Institute
EI10423	<b>Empirical Mode Decomposition-Based DC Measurement for Photovoltaic Power Generation System</b> Ye Lv, Hao Liu, Tianshu Bi	<b>Ye Lv</b> North China Electric Power University
EI10426	<b>Economic Dispatch Method of Power System Considering Carbon Capture Units and Renewable Portfolio Standard</b> Chaoliang Wang, Lei Li and Songsong Chen	<b>Songsong Chen</b> Southeast University
EI10428	<b>The Coordinated Droop Control Strategy for Interline Power Flow Controller</b> Bing Xie, Zheng Li, Yunhai An and Jingbo Zhao	<b>Bing Xie</b> State Grid Jiangsu Electric Power Co., Ltd. Research Institute





Paper ID	Title & Authors	Presenter & Affiliation
EI10429	<b>The Active Power Support Strategy of UPFC for Hybrid HVDC</b> Dajiang Wang, Ke Xu, Jingbo Zhao, Yuqiao Jia	<b>Dajiang Wang</b> State Grid Jiangsu Electric Power Co., Ltd. Research Institute
EI10435	<b>An Electric Vehicle Charging load Prediction Method based on Travel Trajectory Characteristics</b> Xin Qian, Wei Wang, Zhoubing Lu, Shuang Si, Jianjian Chen, Ning Wang	<b>Xin Qian</b> Suqian Wanda Electric Power Industry Co., Ltd
EI10436	<b>Optimal Scheduling of Active Distribution Network with 5G Communication Base Station Participating in Demand Response Considering Carbon Benefit</b> Feixiang Gong, Songsong Chen, Liye Zhao, Guofeng Yao, Shiming Tian and Junjie Shao	<b>Feixiang Gong</b> China Electric Power Research Institute
EI10437	<b>Low-Carbon Demand Response Framework with Participations of Flexible Loads</b> Shiming Tian, Yihao Zou, Feixiang Gong, Guofeng Yao, Jindou Yuan, Taorong Gong	<b>Yihao Zou</b> China Electric Power Research Institute
EI10439	<b>A Joint Optimization Approach Considering Demand Response Trading and Carbon Capture Plant Scheduling Based on Carbon Trading</b> Songsong Chen, Feixiang Gong, Liye Zhao, Guofeng Yao, Shiming Tian, Jinjuzheng Chen	<b>Jinjuzheng Chen</b> China Electric Power Research Institute
EI10442	<b>Design of Power Generation Parameter Monitoring System for Abandoned Wave Energy Buoy</b> Jintao Qin, Yinke Dou, Guangyu Zuo, Miaoyuan Yu, Qingyang Mao	<b>Jintao Qin</b> Taiyuan University of Technology
EI10444	<b>Research on Demand Side Resource Regulation and Optimization Strategy under Hierarchical and Partition Architecture</b> Taorong Gong, Ying Zhou, Songsong Chen, Kun Shi, Bo Li and Shihai Yang	<b>Songsong Chen</b> China Electric Power Research Institute Co., Ltd.
EI10445	<b>HVDC Recovery Dynamics Based Short-Term Voltage Stability Optimization of Receiving-End Grid</b> Zhe Lv, Bin Wang, Qinglai Guo, Hongbin Sun	<b>Zhe Lv</b> Tsinghua University
EI10450	<b>Study of Secondary Market Trading on Customer Side with Participation of Multiple Types of Load Resources</b> Beibei Sun, Yiming Xue, Lixia Zhou and Jie Wang	<b>Jie Wang</b> State Grid Jibei Electric Power Company Limited
EI10451	<b>Research on Interactive Mode and Strategy of Adjustable Load Demand Response Blockchain</b> Songsong Chen, Taorong Gong, Feixiang Gong, Haiqin Gan and Kun Chen	<b>Songsong Chen</b> China Electric Power Research Institute Co., Ltd.



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Paper ID	Title & Authors	Presenter & Affiliation
EI10453	<b>Mining Method of Power Grid Monitoring Alarm Association Rules Based on Improved FP-growth Algorithm</b> Yinbin Yang, Xin Zhan	<b>Yinbin Yang</b> Southeast University
EI10457	<b>Optimal Designation of Parameters and Control Stability Research on Current-controlled Type Energy Storage Converter</b> Zhi Li, Yangfan Zhang, Yu Gong, Binqi Li, Xudong Li, Linlin Wu, Peng Song, Mingbo Liu, Yang Liang Li	<b>Yang Li</b> Tongji University
EI10467	<b>Coordinated Crew Dispatch for Post-Disaster Power Systems and Roads Restoration</b> Hao Zhu, Jianlong Gao, Haipeng Xie, Jingxuan Su	<b>Hao Zhu</b> Xi'an Jiaotong University
EI10468	<b>Alternatives to the Declining System Inertia in the Power System: A Review</b> Xibin Wu, Jingwen Ye, Weijie Cao, Guohua Cui, Wei Qiu and Rushuai Han	<b>Jingwen Ye</b> Southeast University
EI10469	<b>Consider the Preliminary Safety Assessment of Power System under gas-electric Coupling Conditions</b> Minghao Zhang, Qinglai Guo, Fengshuo Yu, Wei Wang, Cheng Gong	<b>Minghao Zhang</b> Tsinghua University
EI10470	<b>Design of Electricity Energy Classification Bidding Market Based on Generating Resource Endowment Difference</b> Shengnan Wei, Haowen Ouyang and Yanling Wang	<b>Shengnan Wei</b> North China Electric Power University
EI10471	<b>A Detection Based on OMES and MTAD-GAT for False Data Injection Attack in Smart Grid</b> Huifeng Li, Tiecheng Li, Tianying Chen, Guangxuan Zhao, Yixiao Zhu, Xiangxing Kong	<b>Guangxuan Zhao</b> Yanshan University
EI10472	<b>Research on Electricity Selling Pricing of Electricity Retailers Considering the Independent Choice of Users</b> Wei Xia, Zining Wang, Tao Yang, Ciwei Gao and Hao Ming	<b>Tao Yang</b> Southeast University
EI10476	<b>Research on Fast Protection of DC Distribution Network and Its Converter Improvement Scheme</b> He Yang, Jiang Wang, Fang Geng, Chunhu Lan, Wei Fan, Hong Liu and Haolong Meng	<b>Haolong Meng</b> Tianjin University



Paper ID	Title & Authors	Presenter & Affiliation
EI10478	<b>A Charging and Discharging Strategy of Cloud Energy Storage with V2G Electric Vehicle Participation</b> Shuaihu Li, Pengyu Hu, Jie Chen, Xing Tong	<b>Pengyu Hu</b> Xiangtan University
EI10486	<b>Comprehensive Benefit Evaluation of Smart Grid with Pumped-Storage Units</b> Xin She, Chenjun Yang, Fengfu Ma, Keteng Jiang, Haibo Li*, Xuanqi Gao, Yu Shi, Minglei Jiang	<b>Xuanqi Gao</b> Tsinghua Sichuan Energy Internet Research Institute
EI10487	<b>Optimal Bidding Strategy for Combined-Cycle Unit in Day-ahead Energy and Reserve Markets</b> Rufeng Zhang, Haihang Sun, Linbo Fu and Kefei Yan	<b>Haihang Sun</b> Northeast Electric Power University
EI10489	<b>Evaluation of Industrial Coordinated Development in Jing-Jin-Ji Region from the Perspective of Electricity Consumption</b> Yuou Hu, Ruijie Chen, Fubo Cui, Jing Zhang, Zongxiang Lu and Ying Qiao	<b>Ruijie Chen</b> Tsinghua University
EI10491	<b>Rapid Identification of Power Supply Line Galloping in Night Vision Scene Based on YOLOv5 Model</b> Ruiling Jia, Lixing Wang, Guanghui Wang, Bo Feng, Zhuosheng Gao, Chen Zhang, Yu Zhang	<b>Yu Zhang</b> China University of Mining and Technology
EI10492	<b>Secondary Battery Energy Storage System based on Real-time Synchronous Data</b> Yi Li, Tianyu Fang, Kun Wang, Xiaofeng Zhou, Li Xin, Runyu Cai	<b>Yi Li</b> State Grid Wuxi Power Supply Company
EI10493	<b>State Estimation of Integrated Electricity-Water System Based on Darcy-Weisbach Formula</b> Cui Jingxin, Wang Luo and Zhao Xia	<b>Jingxing Cui</b> Chongqing University
EI10495	<b>Research and Application of Cloud Computing in Power User Electric Energy Data Acquisition System</b> Duan Hui, Li Chunhui, Tian Liang, Zhang Zhi	<b>Zhang Zhi</b> Chongqing university
EI10497	<b>Study on Steady State Reactive Power Optimization Method of Synchronous Generator to Improve Transient Voltage Stability</b> Pei Guo, Xiaotao Peng, Zehui Wang, Zitu She, Wanyu Lv, Bo Chen	<b>Pei Guo</b> Wuhan University
EI10500	<b>Research on Regional Energy Transition and Carbon Emission Trend- A Case Study on Fujian Province</b> Keren Chen	<b>Keren Chen</b> Power Economic Research Institute of State Grid Fujian Electric Power Company
EI10501	<b>Study on Market Clearing Mechanisms for Energy and Reserve Ancillary Services with VPPs</b> Jinquan Zhao, Qi Pan, Tianjiao Wu	<b>Jinquan Zhao</b> Shanghai University of Electric Power



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EI10502	<b>Multi-energy Microgrid Status Recognition Method Based on Grey Relation Analysis and Support Vector Machine</b> Wu Ruichun, Wang Lintong, Xu Haiba, Zhao Bo, Zhong Lei, Zhu Yizhi	<b>Wang Lintong</b> Taizhou Power Supply Company
EI10513	<b>Research on Load Forecasting of Multi-Scenario Building Air-Conditioning Based on TSO-LSTM Algorithm</b> Wenyang Xu, Zheng Chen, Yingqiu Wang, Meng Zhao, Ruosi Zhang and Jieyan Xu	<b>Wenyang Xu</b> State Grid (Beijing) Intergrated Energy Planning and D&R Institute Co.,Ltd
EI10514	<b>Multi-source Data Fusion Method in Monitoring Domain Based on Structural Similarity-text Clustering and Ontology Glossary</b> Shujie Wu, Yinbin Yang and Xiaohui Pan	<b>Yinbin Yang</b> Southeast University
EI10516	<b>Integrated Fuzzy Control Strategy for Primary Frequency Regulation of Energy Storage System</b> Yonghui Yang, Ying Qiao, Zongxiang Lu, Yu Li and Wei Ma	<b>Yonghui Yang</b> Tsinghua University
EI10517	<b>A Steady-state Security Analysis Method Considering Correlativity among Different Wind Farms</b> Xianzhuo Liu, Tong Zhu, Likun Xie, Jiajun Ding, Chunpeng Pan, Zhendong Tan	<b>Xianzhuo Liu</b> CSG Dispatching & Control Center
EI10520	<b>Research on Key Technology of Hybrid On-Load Tap-Changer for UHV Converter Transformer</b> Xiuhuan Wang, Gaoyong Wang, Rong Hu, Junchuan Zhou, Zulei Jin and Zhiyan Ning	<b>Xiuhuan Wang</b> State Grid Smart Grid Research Institute CO.,LTD
EI10521	<b>Coordinated Emergency Control of Transient Frequency and Voltage Stability in Sending HVDC system with Wind, Photovoltaic and Hydropower</b> Chao Wang, Fusuoliu, Wei Li, Xiaobin Liang, Jiayu Liu, Xia Yuan	<b>Chao Wang</b> NARI Group Corporation
EI10524	<b>An Optimal VPP Grouping Method for Deep Peak Regulation Ancillary Service of Power Grid</b> Jinquan Zhao, Yuanyuan Shao, Xiaolei Yang, Yiqun Jia	<b>Jinquan Zhao</b> Shanghai University of Electric Power
EI10526	<b>A State Estimation Solution Method for Electricity-Gas Integrated Energy System Based on AWPSO</b> Liu Kaicheng, Lin Zhengyang, Jiang Fei, Li Sen	<b>Lin Zhengyang</b> Changsha University of Science and Technology
EI10532	<b>Multi-Scenario Two-stage Optimal Configuration of Energy Hub Considering Preventive Maintenance Plans</b> Tianwen Zhang, Junsheng Wang, Hongyang Liu, Heran Kang, Lin Zhang, Jianfeng Liu	<b>Tianwen Zhang</b> Economic and Technological Research Institute State Grid Inner Mongolia Eastern Electric Power Co.,Ltd



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EI10533	<b>Defect Detection and Classification of Photovoltaic Modules Based on Image Fusion Analysis</b> Zebang Zhang, Yuan Cao, Qiang Yang	<b>Zebang Zhang</b> Zhejiang University
EI10539	<b>Research on Output Characteristics of New Energy and Peak Regulation Demand of Power Grid in Ningxia</b> Zhang Xiaoqi, Duan Naixin, Lv Jinli, Zhang Yao	<b>Pengjiang Ge</b> Northwest Branch of State Grid Corporation of China
EI10541	<b>Research on the Method of Electric User Payment Based on SOM Neural Network Clustering Analysis</b> Yangpeng Ou, Yimeng Li, Tong He	<b>Yangpeng Ou</b> State Grid Huitong Jincai (Beijing) Information Technology Co., Ltd
EI10543	<b>Positive Sequence Currents Similarity Based Active Distribution Network Protection Scheme Using One-Class Classification</b> Peng Yu, Zhengdong Liu, You Yu, Fudi Qu, Qiang Ma, Gang Wang, Mingzhe Sun, Zongbo Li,	<b>Zongbo Li</b> Northeast Electric Power University
EI10549	<b>Optimal Operation Strategy for Power-to-Hydrogen System Considering Dynamic Efficiency</b> Liangliang Zhu, Meng Yu, Kaibin Wu, Zhenlan Dou and Chunyan Zhang	<b>Liangliang Zhu</b> Nari Group Corporation/State Grid Electric Power Research Institute
EI10554	<b>Research on Cooperative Game and Benefits Allocation Strategies of Multi-Energy Complementarity with New Energy and Thermal Power</b> Chenhui Li, Peng Wang, Wanlei Xue, Xiaohu Luo, Yang Hu, Dunnan Liu	<b>Hu Yang</b> North China Electric Power University
EI10558	<b>Analysis of the Optimized KNN Algorithm for the Data Security of DR Service</b> Kun Shi, Songsong Chen, Dezhi Li, Ke Tian, Meiling Feng	<b>Kun Shi</b> China Electric Power Research Institute Co., Ltd.
EI10559	<b>Analysis and Suggestions on the Development of Low Carbon Technology in Energy and Industry A Case Study of Fujian Province in China</b> Simin Chen, Keren Chen, Nan Zheng, Qiyuan Cai, Kangli Xiang, Yuanfei Li, Jinchun Chen and Yi Du	<b>Simin Chen</b> Power Economic Research Institute of State Grid Fujian Electric Power Company
EI10560	<b>Calculation Method of Full Life Cycle Carbon Emissions of Source-grid-Load-Storage in Power System</b> Fuqiang Li, Jie Ji, Mingliang Liang, Zongxiang Lu, Haibo Li, Zongnan Jiang, Xinmiao Wang	<b>Xinmiao Wang</b> Tsinghua University
EI10563	<b>Optimal Scheduling Method for Regenerative Electric Heating System Considering the Heating Reliability and Supply Capability of Distribution Network</b> Wanqing Chen, Xin Huang, Qiyuan Cai, Yuanfei Li, Yinan Li, Kangli Xiang	<b>Wanqing Chen</b> Economic and Technology Research Institute Fujian Electric Power Company



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EI10564	<b>Collaborative Planning of Integrated Energy System in the Campus Considering the Operation Characteristics of Combined Cooling Heating and Power</b> Zhi Zhang, Xiaoyang Dong, Dongyao Liang	<b>Zhi Zhang</b> Chongqing University
EI10565	<b>Research on Carbon Emission Prediction Method of Power Systems Considering Unit Coal Consumption</b> Nan Zheng, Wanqing Chen, Simin Chen, Jinchun Chen, Han Chen, Xiaofan Lin	<b>Jinchun Chen</b> Power Economic Research Institute of State Grid Fujian Electric Power Company
EI10566	<b>Research on Power User Behavior Analysis and Prediction Based on RFM-Random Forest Algorithm</b> Cunsheng Xin, Hehe Zhao, Yongjie Li	<b>Cunsheng Xin</b> State Grid Huitong Jincal (Beijing) Information Technology Co., Ltd
EI10568	<b>Research on Security Verification for Ancillary Service based on Steady-state Security Region</b> Bao Li, Zhaoshen Huang, Chunxiao Liu, Peng Li, Qiang Zhang, Yuan Zeng, Junzhi Ren	<b>Junzhi Ren</b> Tianjin University
EI10569	<b>Optimization Strategy Verification of Integrated Energy System Operation Based on Dynamic Simulation</b> Hongyin Chen, Dezhi Li, Songcen Wang, Ming Zhong, Kaicheng Liu, Xiaoqiang Jia, Lu Jin, Xinhe Zhang	<b>Hongyin Che</b> China Electric Power Research Institute
EI10571	<b>Modeling and Simulation of External Characteristics of Vanadium Redox Flow Battery Energy Storage System</b> Zhang Zhenzhen, Lv Qingquan, Zhang Ruixiao, Gao Pengfei, Shen Weicheng, Zhang Jinping	<b>Zhenzhen Zhang</b> State Grid Gansu Electric Power Research Institute
EI10572	<b>Active Splitting Control of Rotor Angle Instability Based on the Wide Area Branches Response</b> Li Huiling, Zheng Chao, Niu Zhenbo	<b>Huiling Li</b> China Electric Power Research Institute
EI10573	<b>Grid Optimization based on Sensitivity Analysis for Limiting Short-circuit Current of Power System</b> Junbo Pi, Shixiong Qi, Huahua Wu, Xiang Ma	<b>Shixiong Qi</b> State Grid Corporation of China
EI10574	<b>Energy Storage Configuration and Operation Control Strategy in High Ratio Wind Power System</b> Tianyu Wang, Jiangfeng Zhang, Song Ke, Jun Yang, Jinpeng Shen, Mingyu Ma, Xiaotao Peng and Lina Lu	<b>Tianyu Wang</b> State Grid Zhejiang Electric Power Research Institute
EI10575	<b>Research on Dynamic Performance Optimization of Virtual Synchronous Generator with Matrix Converter Structure Based on Fuzzy Control</b> Yougui Guo, Qi Chen, Junjie Li, Yating Su	<b>Qi Chen</b> Xiangtan university





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EI10576	<b>A Methodology to Diagnose Transformer Faults Based on Principal Components Analysis and Artificial Neural Network</b> Yu Du, Zhiwu Wang, Guangming Feng, Shaowei Rao, Guoping Zou, Shiyong Yang	<b>Shaowei Rao</b> Zhejiang University
EI10578	<b>Modeling and Implementation of Real-time Power Market Based on Autonomous Controllable Optimization Solver</b> Xu Zhang, Bike Xue, Xinhong Shi, Ziheng Wang and Yuyao Feng	<b>Xu Zhang</b> China Electric Power Research Institute
EI10580	<b>Short-term Offshore Wind Speed Prediction Based on OWT-LSTM-ARIMA Combined Model</b> Shuxin Tian Yonglinag Yin Xiangjing Su Yang Fu Lujie Liu	<b>Xue Han</b> Shanghai University of Electric Power
EI10583	<b>Wireless Control and Synchronization Method for Modular Multilevel Converters</b> Tao Xiao, Hui Li, Xinyu Li, Bin Shan	<b>Tao Xiao</b> Xiangtan University
EI10586	<b>Evaluation Method and Application of Power Grid Material Suppliers Based on Entropy Weight TOPSIS Model</b> 闫亮	<b>Liang Yan</b> State Grid Zhejiang Electric Power Co.,Ltd. Huzhou Power Supply Company
EI10592	<b>Engineering Data Analysis of Sub/Super-Synchronous Oscillation between Wind Farm and MMC in Zhangbei Project</b> Shaoming Zheng, Yimin Liu, Peng Dong, Chang Lin, Feng Ji, Xiangyu Pei	<b>Xiangyu Pei</b> Changsha university of science and technology
EI10593	<b>Current and Power Quality Coordinated Control for VSC-HVDC Connected to Unbalanced Power Grid</b> Wei Pan Feixiang Wu Wenhong Wang Sai Wang	<b>Wei Pan</b> Dongguan Power Supply Bureau, Guangdong Power Grid Company Dongguan
EI10594	<b>Optimal operation of islanded microgrid based on flexibility theory</b> Feng Gao, Zhaohang Lin, Rui Huang, Chao Ma, Shuning Wu, Ziyao Wang and Xiaojun Ren	<b>Ziyao Wang</b> Sichuan University
EI10596	<b>Voltage Ripple Suppression Strategy of DC Bus in AC-DC Hybrid Microgrid Based on Bidirectional Interface Converter</b> Zhang Tao, Huo Jingchong, Meng Runquan, Li Ruishu and Liu Qiang,	<b>Zhang Tao</b> Taiyuan University of Technology
EI10599	<b>Control Strategy of Flywheel Energy Storage Converter during Grid Voltage Disturbances</b> Deqiang Yin, Liangzhong Yao, Siyang Liao, Jian Xu, Beilin Mao, Bo Xie	<b>Deqiang Yin</b> Wuhan University
EI10601	<b>Optimal Capacity Allocation of Integrated Energy System Considering Multiple Uncertainties</b> Feng Zhao, Youzhong Miao, Chao Sun, Jie Zhou, Jing Wang, Zongmin Yu, Mingyou Yang	<b>Mingyou Yang</b> Sichuan Energy Internet Research Institute Tsinghua University



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EI10604	<b>Distributed Optimal Scheduling for Aggregated Electric Vehicles and Photovoltaic Considering Dynamic Distribution Locational Marginal Price</b> Yanhong Hu, Xiong Wu, Jingjing Cao, Yunyi Wu, Penglei Wang, Xuyan Zhou	<b>Yanhong Hu</b> Xi'an Jiaotong University
EI10607	<b>A Measurement Optimization Configuration Method Based on Investment Cost Constraints for Distribution Network</b> Guilian Wu, Hao Chen, Yi Lin, Yanling Yu, Zifeng Zhang and Yan Huang	<b>Yan Huang</b> China Agricultural University
EI10608	<b>Spot Maklet Clearing Model Considering the Participation of Combined-Cycle Gas Turbines</b> Xiaojing Yang, Haoran Li, Can Sun, Changzhi Zhang, Yue Guo, Ziyue Wang	<b>Haoran Li</b> State Grid Tianjin Electric Power Company
EI10609	<b>Design and Simulation of Piezoelectric Folded Cantilever Driven Electric Field Sensor</b> Xu Yin, Jiaming Zhang, Bing Tian, Shengrong Liu, Zhenheng Xu, Yuehuan Lin, Zejie Tan, Zhong Liu, Qiancheng Lv, Bofeng Luo	<b>Xu Yin</b> Digital Grid Research Institute China Southern Power Grid
EI10610	<b>Study on Power Feedforward Control Strategy for PWM Rectifier</b> Shaozhe Jiang, Runquan Meng, Yuhan Ren, Sen Qiao	<b>Shaozhe Jiang</b> Taiyuan University of Technology
EI10614	<b>Work Assistance and Verification System based on Standardized Workflow of Power Grid Dispatching</b> Jing Wang, Miao Li, Jian Guo, Yan Gao, Chunhui Liu and Bo Wang	<b>Jing Wang</b> State Grid Jilinsheng Electric Power Supply Company
EI10615	<b>Research and Application of Simplified Service Bus in New Generation Dispatching Technical Support System and Heterogeneous System</b> Yi Qiang, Wan Shupeng, Wang Zhemin, He Weihua, Zhang Ping, Zhang Feng	<b>Yi Qiang</b> NARI Group Corporation
EI10617	<b>Miscut Angle Modulation on the Anomalous Hall Effect Based Magnetic Sensor For Better Performances</b> Yuehuan Lin, Bin Tian, Zhong Liu, Xiaopeng Fan, Zhenheng Xu, Renze Chen, Jie Wei, Zejie Tan	<b>Yuehuan Lin</b> Digital Grid Research Institute China Southern Power Grid Inc.
EI10618	<b>Flexible Magnetic Sensor Based on Fe<sub>3</sub>O<sub>4</sub>/Mica Heterostructure</b> Bing Tian, Bofeng Luo, Zhong Liu, Qiancheng Lv, Zejie Tan, Zhiming Wang, Zhenheng Xu, Renze Chen	<b>Bing Tian</b> Piezoelectric Control of Magnetic Sensor for Tunable Measure Range
EI10619	<b>Piezoelectric Control of Magnetic Sensor for Tunable Measure Range</b> Bing Tian, Bofeng Luo, Zhong Liu, Qiancheng Lv, Zejie Tan, Zhiming Wang, Zhenheng Xu, Renze Chen	<b>Bing Tian</b> Piezoelectric Control of Magnetic Sensor for Tunable Measure Range





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EI10620	<b>Analysis on Operation characteristics of Arc Suppression Device for Grounding Phase Voltage Actively Reduced Based on Phase Power Supply Feedback in Distribution Network</b> Wang Zhan, Zeng Xiangjun, Yu Kun, Li Zewen, Zhou Duyao, Zhou Zijian, Zhuo Chao, Zhu Xiaoliang	<b>Wang Zhan</b> Changsha University of Science & Technology
EI10621	<b>Research on Clearing Model of Electricity Spot Market for Cascade Hydropower with Multiple Plants in the Same Reservoir</b> Yubin He, Huijie Gu, Shuhao Sun, Guang Ma, Cheng Dong, Xiangyang Su, Sisi Li	<b>Xiangyang Su</b> Beijing Tsintergy Technology Co., Ltd
EI10622	<b>Risk Sharing Method of Robust Optimization Model Considering the Uncertainty of Renewable Energy Output in Electricity Market</b> Yongquan Nie, Yaping Hu, Wenchao Li, Danli Xu, Xiangyang Su, Cheng Dong	<b>Xiangyang Su</b> Beijing Tsintergy Technology Co., Ltd
EI10623	<b>Optimal Scheduling Method of Park Integrated Energy System Considering Carbon Transaction Cost</b> Kun Ding, Hongxia Ma, Yanhua Wu, Yang Liu, Sixian Liu, Haiying Dong	<b>Sixian Liu</b> School of New Energy and Power Engineering, Lanzhou Jiaotong University
EI10625	<b>Analysis of Reactive Power Output Increment Characteristics of the Condenser in UHVDC Converter Station</b> Yuyao Feng, Xuejun Xiong, Le Zhao, Xiaofa Zhou, Yiyun Xiong, Xitian Wang	<b>Yiyun Xiong</b> Shanghai Jiao Tong University
EI10626	<b>Design Of a Special Skill Training Apparatus That Can Imitate High Loss Transformer Power Supply District</b> Yuan Zhuang, Miao Li, Xueling Ning, Yan Geng, Cong Shang, Mingshuang Sun	<b>Yuan Zhuang</b> State Grid Jilin Province Electric Power Co., Ltd
EI10629	<b>Engineering Design and Practice of Grouped Distribution Station Areas Based on Flexible DC Interconnection</b> Weiming Chen, Shishi Deng, Maoxin Chen, Han Wu, Yuanliang Fan, Zewen Li	<b>Weiming Chen</b> State Grid Fujian Electric Power Research Institute
EI10633	<b>Discussion on Security and Stability Control Technology Adapted to New Power System</b> Xia Haifeng, Lai Yening, Yan Yunsong, Liu Qiang, Li Mingying and Jiang Zhe	<b>Haifeng Xia</b> NARI Group Corporation (State Grid Electric Power Research Institute)
EI10636	<b>Migration and Reproduction Algorithm and Its Application in Hierarchical Coordinating Economic Dispatching of Multi-microgrid System</b> Renwu Yan Yunzhang Liu	<b>Yunzhang Liu</b> Fujian University of Technology



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EI10638	<b>Two-stage Robust Planning Scheme for Simulating Renewable Energy Integration Considering Versatile Low-carbon Policies</b> Jun Li, Yuanyuan Li, Yuqi Wang, Jingjing Cao, Xiong Wu, Tao Ding	<b>Yuqi Wang</b> State Grid Shandong Electric Power Research Institute
EI10644	<b>Why GloVe Shows Negative Effects in Malware Classification</b> Bingchu Jin, Zesheng Hu, Jianhua Wang, Monong Wei, Yawei Zhao and Chao Xue	<b>Bingchu Jin</b> Economics & Technology Research Institute, State Grid Shanxi Electric Power Company
EI10645	<b>Magneto-resistance Current Inversion Algorithm based on Two-valued Function Branch Fitting</b> Qihui Feng, Changbao Xu, Mingyong Xin, Zhong Liu, Bofeng Luo, Zejie Tan and Ran Bi	<b>Ran Bi</b> Tsinghua University
EI10646	<b>Magneto-resistance Current Inversion Algorithm based on Single-valued Function Fitting</b> Jing Yang, Mingyong Xin, Changbao Xu, Bing Tian, Xiaopeng Fan, Zhenheng Xu and Ran Bi	<b>Ran Bi</b> Tsinghua University
EI10648	<b>A Non-contact Voltage Measurement Method for Ultra-High Voltage DC Transmission Tower</b> Jiaming Zhang, Bing Tian, Zhong Liu, Bofeng Luo, Zejie Tan, Zhenheng Xu, Zhiming Wang, Jie Wei, Xinting Liu and Jun Hu	<b>Xinting Liu</b> Tsinghua University
EI10649	<b>Research on Cable Accessories Voltage Measurement Based on Electric Field Inversion and Chebyshev Integral Method</b> Mingyong Xin, Changbao Xu, Yu Wang, Qiancheng Lv, Xu Yin, Yuehuan Lin and Xinting Liu	<b>Xinting Liu</b> Tsinghua University
EI10650	<b>Short Term Power Load Forecasting Based on Image Matrix</b> Bingchu Jin, Zesheng Hu, Yawei Zhao, Chao Xue, Monong Wei and Jingyu Zhang	<b>Bingchu Jin</b> Economics & Technology Research Institute, State Grid Shanxi Electric Power Company
EI10652	<b>A Novel Optimized Gauss Integral for Transmission Line Voltage Measurement</b> Jiaming Zhang, Zejie Tan, Zhenheng Xu, Zhong Liu, Bing Tian, Zhiming Wang, Qiancheng Lv, Bofeng Luo, Xinting Liu and Jun Hu	<b>Xinting Liu</b> Tsinghua University
EI10655	<b>An Advanced Control Strategy Applying Reduced Order Extended Kalman Filter Algorithm for Permanent Magnet Synchronous Motor</b> Huaizhi Chen, Bo Ruan, Yanbo Wang	<b>Huaizhi Chen</b> Guilin University of Electronic Technology
EI10656	<b>Active Voltage Support Strategy for Microgrid Cluster under Asymmetric Fault</b> Xuzheng Chai, Yang Liu, Jitao Niu and Weijun Teng	<b>Yang Liu</b> China State Grid Henan Electric Power Company Research Institute



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EI10660	<b>Impact Analysis of LVRT Control of Wind Turbine on Transient Overvoltage of Power System</b> Peng Xu, Wei Zhao, Lining Su, Junling Wu, Dan Huang, Tao Liu and Wenguang Jin	<b>Wenguang Jin</b> Shanghai Jiao Tong University
EI10663	<b>Analysis of Energy Storage Mode and Configuration Strategy of Gansu Considering Grid Peak Shaving</b> Wu Guodong, Hu Diangang, Li Xiaohu, Liu Lijuan	<b>Guodong Wu</b> Lanzhou University of Technology
EI10664	<b>Economic Assessment of Peak-shaving benefit for Pumped Storage Power Station in Gansu Province</b> Wu Guodong, Hu Diangang, Li Xiaohu, Liu Lijuan	<b>Guodong Wu</b> Lanzhou University of Technology
EI10679	<b>Novel Pre-Diagnosis Strategies for Medium-Low Voltage Arc Flash</b> Zhenyuan Zhang	<b>Zhenyuan Zhang</b> University of Electronic Science and Technology of China