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The 13th International Conference on Power System Technology (PowerCon2021) Program at a Glance

December 8–9, 2021 Haikou

2021/12/07 10:00–20:00

2021/12/08 09:00–17:50

09:00–12:10

Opening Ceremony

Keynote Session 1

Tianjin Hall

14:00–17:30

Keynote Session 2

Tianjin Hall

10:00–20:00

Registration

Hotel Lobby

18:00–20:00

Buffet Dinner

Riviera-Western Restaurant

2021/12/09 08:30–18:00

8:30–10:30

Panel 1

Power Electronics Dominated Urban Energy Systems Toward Low Carbon Society

California Hall

10:45–12:30

Panel 2

Energy Internet Key Technologies of the New Type of Power System

California Hall

14:00–16:00

Panel 3

New Type of Power System Constructed by Digital Grid

California Hall

08:30–10:30

Panel 4

High Voltage Direct Current (HVDC) and DC Grids

Meeting Room 3F

2021/12/09 08:30–18:00

16:10–18:10

Panel 5

Application of Artificial Intelligence in Power System and Integrated Energy Systems

California Hall

10:45–12:30

Panel 6

Energy Storage Technology and its Application

Meeting Room 3F

14:00–16:00

Panel 7

New Type of Power System

Meeting Room 3F

16:20–18:00

Panel 8

Green & Low-Carbon Power System

Meeting Room 3F

2021/12/09 08:30–18:00

08:30–10:30

Oral Session 1

Stability Analysis Technology of Power System

Florida Hall

10:45–12:30

Oral Session 2

Key Technologies of the New Type of Power System

Florida Hall

14:00–16:00

Oral Session 3

Consumption of Renewable Energy in New Type of Power System

Florida Hall

16:20–18:00

Oral Session 4

New Type of Power System with Power Electronics

Florida Hall

2021/12/09 08:30–18:00

08:30–10:30

Oral Session 5

Artificial Intelligence in New Type of Power System

Missouri Hall

10:45–12:30

Oral Session 6

Market and Economy in the New Type of Power System

Missouri Hall

14:00–16:00

Oral Session 7

Transmission and Distribution Technology in the New Type of Power System

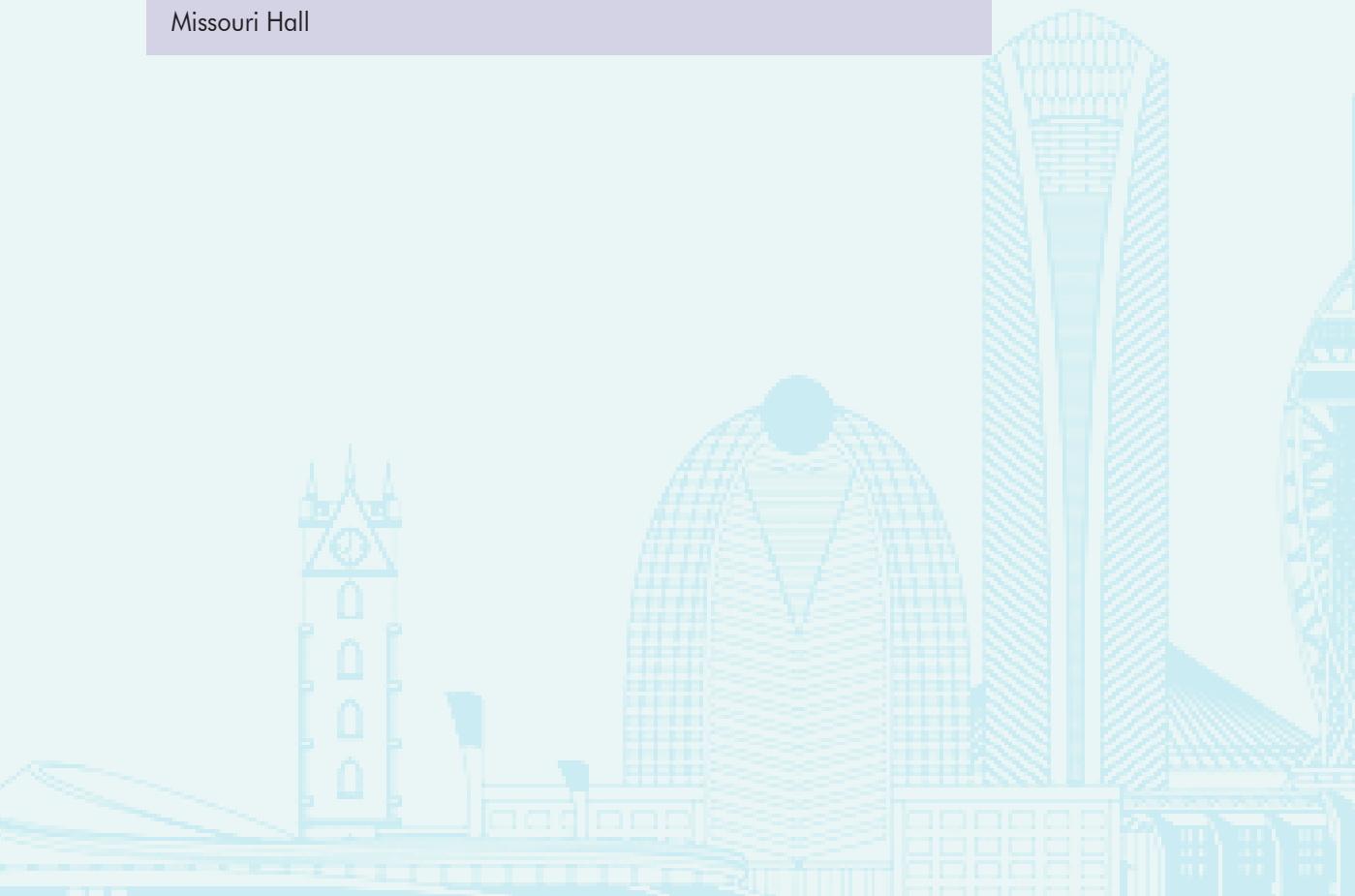
Missouri Hall

16:20–18:00

Oral Session 8

New Type of Power System and Energy Internet

Missouri Hall



2021/12/09 08:30–18:00

08:30–10:30

Poster Session 1

Operation and Key Technologies of New Type of Power System

Ballroom Foyer

10:45–12:30

Poster Session 2

New Type of Power System and Consumption of Renewable Energy

Ballroom Foyer

14:00–16:00

Poster Session 3

New Type of Power System and Energy Internet

Ballroom Foyer

16:20–18:00

Poster Session 4

Protection and Control of New Type of Power System & Resilience of New Type of Power System

Ballroom Foyer

2021/12/10 09:00–12:00

09:00–12:00

Technical Tours



1. Introduction

The 13th International Conference on Power System Technology (PowerCon2021) is scheduled to be held in Haikou, China during December 8-9, 2021. The conference is co-sponsored by the Chinese Society for Electrical Engineering (CSEE), IEEE Power and Energy Society (IEEE PES), and China Southern Power Grid Co., Ltd. It is hosted by Zhejiang University, Hainan Power Grid Co., Ltd., and Hainan University, and supported by Hainan Electrical Engineering Society and the CSEE Study Committee of Power System.

The PowerCon was initiated by the CSEE and IEEE PES in 1998. The conference had been held every two years alternately in China and other Asia-Pacific countries. Following the current rapid technological evolution in power and energy field, and the need for extensive communication among professionals, CSEE and IEEE PES decided to make the PowerCon to an annual event that takes place in the same region starting from 2020.

The theme of PowerCon2021 is "Carbon Neutrality and New Type of Power System".

2. Organization

Sponsors:	Chinese Society for Electrical Engineering (CSEE) IEEE Power & Energy Society (IEEE PES) China Southern Power Grid Co., Ltd.
Hosts:	Zhejiang University Hainan Power Grid Co., Ltd. Hainan University
Supporters:	Electric Power Research Institute of China Southern Power Grid Hainan Society for Electrical Engineering CSEE Study Committee of Power System
Media Support:	CSEE Journal of Power and Energy Systems Journal of Modern Power System and Clean Energy High Voltage Global Energy Interconnection Rural Electrification Rural Power Management China Electric Power Encyclopedia Website

Conference Website: <http://powercon2021.csee.org.cn/>

2.1 Steering Committee

Chairpersons:	Yinbiao Shu, President of Chinese Society for Electrical Engineering Jessica J. Bian, President of IEEE PES Qihong Liu, Vice President of China Southern Power Grid
Vice-Chairperson:	Mingshan Lin
Members:	Xiaoxin Zhou, Jianchao Zheng, Yusheng Xue, Yixin Yu, Liying Li, Shijie Cheng, Jianbo Guo, Yonghua Song, Saifur Rahman, Gang Wang, Jifeng Wang, Zhibo Lin, Guoqing Wu, Xinming Song, Xiong Ye, Chongqing Kang

2.2 Advisory Committee

Chairperson: Xiaoxin Zhou
Members: Qingquan Chen, Xifan Wang, Ruijin Liao, Xidong Liang, Hong Rao, Peng Li, Xiaoping Zhang, Ping Ju, Shisen Xu, Gang Mu, Chengshan Wang, Tianshu Bi, Zhaohong Bie, Yijia Cao, Chuangxin Guo, Xinzhou Dong, Furong Li, Xuzhu Dong, Deqiang Gan

2.3 Technical Committee

Chairperson: Yi Ding
Vice-Chairpersons: Chengjin Ye, Chuang Li
Members: Jinyu Wen, Zongxiang Lu, Yalou Li, Shukai Xu, Wenhan Zhang, Fangze Lin, Qing Wu, Goran Strbac, Pierluigi Siano, Sri Niwas Singh, Ning Zhang, Jun Shen, Fushuan Wen, Zhiyuan He, Haiwang Zhong, Bo Hu, Kai Hou, Weihua Xu, Huaiyuan Wang, Heng Nian, Heping Jia, Hongxun Hui, Huifang Wang, Zhenzhi Lin, Zhiyi Li, Zheren Zhang, Xin Zhang, Xin Xiang, Ronghao Zheng, Xiangrong Chen, Pengfei Hu

2.4 Organizing Committee

Chairperson: Jianjun Zhao
Vice-Chairpersons: Weimin Kan, Qing Wu, Yi Ding, Xiaoyang Zhou, Youjun Li
Members: Chengjin Ye, Xia Ouyang, Min Liu, Yunyang Wang, Ling Zhang, Qiang Yang

3. Conference Language

The official language of PowerCon2021 is English. All documents associated with PowerCon2021 should be in English.

4. Venue

Howard Johnson New Port Resort Haikou

Add.: 21 Xi Yuan Road, Xin Bu Island, Haikou, Hainan

Contact: Jiajun Chen

Tel.: 18289327010

5. Organization

5.1 Sponsors



Chinese Society for Electrical Engineering (CSEE)

The Chinese Society for Electrical Engineering (CSEE) provides a forum for knowledge sharing in the electric power industry, a network for career enrichment, and a platform for educating members of the industry and the general public, for the purpose of inspiring the electrical engineering community to develop solutions for a better world. Founded in 1934 by a small group of pioneering industrialists, CSEE has grown through the decades to include more than 140,000 members in China. CSEE serves this wide-ranging technical community through quality programs in conferences and publications, research and consulting, codes and standards, training and professional development, government relations and other forms of outreach.

CSEE hosts the Chinese National Committee of CIGRE (CIGRE CNC), Chinese National Committee of CIRED (CIGRE CNC), the Secretariat of National Electric Power Security Expert Committee and Office of China Electric Power Science and Technology Award. It was recognized as a 5A (highest level) national academic association by Ministry of Civil Affairs in 2017.



IEEE Power & Energy Society

The Power & Energy Society (PES) provides the world's largest forum for sharing the latest in technological developments in the electric power industry, for developing standards that guide the development and construction of equipment and systems, and for educating members of the industry and the general public. Members of the Power & Energy Society are leaders in this field, and they - and their employers - derive substantial benefits from involvement with this unique and outstanding association.

The Mission of PES is: To be the leading provider of scientific and engineering information on electric power and energy for the betterment of society, and the preferred professional development source for our members.

PES' Field of Interest is: The scope of the Society embraces research, development, planning, design, construction, maintenance, installation and operation of equipment, structures, materials and power systems for the safe, sustainable, economic and reliable conversion, generation, transmission, distribution, storage and usage of electric energy, including its measurement and control.



China Southern Power Grid (CSG)

China Southern Power Grid (CSG) constructs and operates power grids in 5 provinces of China: Guangdong, Guangxi, Yunnan, Guizhou and Hainan. The company serves an area of 1 million km² and a population of 254 million, or 96.7 million households. In 2020, the company sold 1106.8 TWh of electricity, had an operational income of RMB 577.5 billion (USD 88.5 billion) and a total asset of RMB 1012.5 billion (USD 155.2 billion). At present, CSG ranks 91th on the Fortune Global 500 list. Standard & Poor's, Moody's and Fitch have all honored CSG with their highest sovereign ratings. The company strives to transform itself into a digital grid operator, an energy industry value chain integrator and an energy eco-system service provider and build a modern power grid that is safe, reliable, green, highly-efficient and smart.

CSG has an east-west span of nearly 2000 km with an energy mix of hydro, coal, nuclear, pump storage, oil, gas and wind power, etc. As of the end of 2020, the total installed capacity reached 350 GW (150 GW of thermal power, 120 GW of hydro power, 1.961 GW of nuclear power, 2.618 GW of wind power and 261.8 GW of wind power, accounting for 43.4%, 33.2%, 5.6%, 7.5% and 6.4% respectively); the substation volume of 110kV-and-above stood at 1.12 TVA and the total length of transmission lines was 248,000 km. As of the end of 2020, power generated from non-fossil fuel accounted for 53.2%. CSG features long-distance, bulk-capacity and UHVDC power transmission and AC/DC hybrid operation with complicated safety and stability characteristics which are difficult to manage and advanced in technology. The company masters core technologies such as EHVDC/UHVDC power transmission, VSC-HVDC transmission, safe and stable operation and control of mass grids, economical operation, large-capacity power storage and superconductivity, etc. We invested in, completed and put into operation the world's first ± 800 kV UHVDC transmission project, which won the highest national award for technological progress and demonstrates CSG's leading role in UHVDC transmission in the world. So far, CSG's West-to-East power transmission project has formed a pattern of 8 AC and 11 DC, totalling 19 500kV-and-above channels with a transmission capacity of over 58 GW.

5.2 Hosts



Zhejiang University

Zhejiang University (ZJU) is one of China's top higher education institutions, as well as one of its oldest; its roots can be traced back to 1897 and the founding of the Qiushi Academy.

Located in Hangzhou – one of China's most picturesque cities - the University is organized across seven faculties and 37 schools. It is home to 4,191 full-time faculty members, including 52 members of the Chinese Academy of Sciences and the Chinese Academy of Engineering. ZJU has 60,739 full-time students, over 56% of whom are postgraduate students.

Laying claim to several areas of research strength, ZJU currently ranks among the top three on Chinese mainland and within the top 100 in the Times Higher Education World Reputation Rankings and QS World University Rankings. Eighteen disciplines of ZJU have been selected for China's "Double First-class" Initiative (3rd in China) and 39 disciplines graded A in the recent national assessment (1st in China).

Established in 1920, College of Electrical Engineering (CEE), with Department of Electrical Engineering as its predecessor, was one of the earliest founded departments of such kind in China.

The College, located at Yuquan campus of Zhejiang University, comprises of Dept. of Electrical Engineering, Dept. of System Science and Engineering, Dept. of Applied Electronics, and Education Center of Electrical and Electronics Technology as well. There are 3 undergraduate programs in the College, Electrical Engineering and its Automation, Automation, and Electronic Information Engineering. In respect of graduate education, two first-level disciplines are currently available, Electrical Engineering, and Control Science and Engineering. Of them, Electrical Engineering was among the first group to be enlisted as the national first-level key disciplines, and included in the national key projects such as Project 211 and Project 985. In the year of 2017, the discipline of Electrical Engineering was selected into the list of the country's construction plan of first-class disciplines.



海南电网有限责任公司

Hainan Power Grid Co., Ltd.

Hainan Power Grid Co., Ltd. (here in after referred to as “Hainan Power Grid Company”), a wholly-owned subsidiary of China Southern Power Grid Co., Ltd. listed on Fortune Global 500, is in charge of planning, construction, operation and management of Hainan power grid, and undertakes the significant responsibility and mission of ensuring reliable power supply in Hainan province, dedicated to supplying clean, low-carbon, safe and efficient power for Hainan’s economic and social development. It supplies power to 10.1 million people of 3,280,000 households across Hainan province. Hainan Power Grid Company enjoys a high corporate reputation and social prestige with a series of honorary titles such as the National “May 1st” Labor Award, National Advanced Unit for Cultural and Ethical Progress, National Advanced Unit for Disclosure and Democratic Management of Company Affairs, Home of National Model Workers, and Top Ten Most Socially Responsible Companies in Hainan.

Taking into consideration the positioning of Hainan in the new stage of development and prioritizing the construction of Hainan Free Trade Port, Hainan Power Grid Company has issued a special plan on improving the power business environment, to ensure that Hainan will reach top level domestically in the “getting electricity” indicator by 2025. To facilitate the realization of the “dual carbon” goal, it has issued a plan on carbon peak and carbon neutrality, which specifies the steps to develop a diversified clean energy supply system, fully serve the grid integration and consumption of new energy, build a safe, reliable, green, efficient, intelligent, and modernized power grid, and improve the ability to manage a new power system dominated by new energy sources. Hainan Power Grid Company is aimed at being the first to build such a new power system by 2025, to fully support Hainan’s efforts in comprehensively deepening the reform and opening up and constructing a free trade port with Chinese characteristics.



Hainan University

Hainan University is a comprehensive key university formed by a merger with the former South China University of Tropical Agriculture in August 2007. It is jointly administered by the Ministry of Education and the Hainan Provincial People's Government.

The university has made great achievements by adhering to the motto of "openness and inclusiveness" and the spirit of "self-improvement, dedication, kindness and perseverance". In December 2008, it was approved by the state as a key university under the 211 Project. In 2012, it was included in the Plan of Strengthening Higher Education in Middle and Western China and was successively supported by the National Basic Ability Construction Project of Western and Central China and the National Comprehensive Strength Enhancement Project of Western and Central China. In 2017, HNU was listed in the national plan for establishing world-class disciplines. In 2018, the Hainan provincial Party Committee and provincial government made a strategic decision to fully sponsor the development of Hainan University. Also in that year, the university came under the joint administration of the Ministry of Education and the Hainan Provincial People's Government, and was included among universities directly administered by the Ministry of Education.

Hainan University's 31 schools now host over 38,000 full-time students, including over 33,000 undergraduates, 4,300 master's students, 300 doctoral students, and 400 international students. Its full-time faculty members number more than 2,000, and include 1,200 teachers with senior professional titles and 860 teachers with doctoral degrees. HNU has been joined by high-level talents such as jointly-appointed academicians, Changjiang Scholars, outstanding youth, and leading talents of the Ten Thousand Talents Program.

5.3 Supporters



南方电网科学研究院有限责任公司



HAINAN SOCIETY FOR ELECTRICAL ENGINEERING



CSEE STUDY COMMITTEE OF POWER SYSTEM

6. Welcome Speakers



Yinbiao Shu

Academician of the Chinese Academy of Engineering
President of Chinese Society for Electrical Engineering
President of International Electrotechnical Commission
Chairman of China Huaneng Group Co., Ltd.

Dr. Shu holds a PhD in Electric Engineering and Automation from Wuhan University and is a Senior Engineer (professor level). He was elected as the 36th President of the International Electrotechnical Commission (IEC), and he is concurrently President of Chinese Society for Electrical Engineering. He has served as Chairman of China Huaneng Group Co., Ltd. since November 15th, 2018. He had successively served as Vice President, President, and Chairman of State Grid Corporation of China. Before that, he had served as President of State Power Construction Company, and as Chief Engineer of State Power Dispatching and Communication Center.

Dr. Shu is one of the most influential experts in the energy and power sector in the world. He is also Member of the Chinese National Energy Expert Advisory Committee and Member of the National 13th Five-Year Plan Energy Coordination Leading Group. Since 1982, he has been engaged in works such as power grid dispatching and operation, power grid development and planning, research and construction of ultra-high voltage power transmission and smart grid, renewable energy development, and international operation, etc., with rich theoretical knowledge and practical experiences.



Jessica J. Bian

President of IEEE PES

Dr. Jessica J. Bian is a visionary leader and architect. She has spearheaded electric industry's reliability metrics and grid risk assessment. Currently she is the Vice President of Grid Services at Grid-X Partners. Before that, she was with the Federal Energy Regulatory Commission (FERC), Washington, DC. Previously, she was the Director of Performance Analysis at North American Electric Reliability Corporation (NERC) in Atlanta, Georgia. Under her leadership, a total of 18 industry-wide reliability indicators were established to determine grid reliability, adequacy, and associated risks. She is widely recognized as a pioneer and trusted world leader in the field.

Before joining NERC, Dr. Bian was with PJM, ERCOT and Westinghouse Electric. She earned her Ph.D. in Electrical Engineering from Tulane University and published over 70 articles. She volunteers at the IEEE Power & Energy Society (PES); was the Society Secretary from 2016 to 2019. She is the PES President for 2022-2023.



Qihong Liu

Vice President of China Southern Power Grid Co., Ltd.

Qihong Liu, is a Communist Party member and owns a master’s degree and title of senior engineer. He is currently a member of Party Committee and Vice President of China Southern Power Grid. In the past, successively he has served as Vice Director and Party Committee member of Power Dispatching and Communication Center of CSG; Party Committee member of Guangdong Power Grid , Director of Foshan Power Supply Bureau and Deputy Secretary of the Party Committee; Secretary and Vice President of Guangxi Power Grid; Board member, President and Party member of Guangxi Power Grid; Director of the administrative department of China Southern Power Grid; Chairman of Guangdong Power Grid and Secretary of the Party committee.

浙江大学领导

海南大学领导

7. Keynote Speakers



Yusheng Xue

**Honorary President of State Grid Electric Power Research Institute
Academician of the Chinese Academy of Engineering**

Professor Yusheng Xue was elected an academician of the Chinese Academy of Engineering in 1995. He is now the Honorary President of State Grid Electric Power Research Institute (SGEPRI), China. He holds the positions of Adjunct Professor in many universities in China, as well as Chairman of Technical Committee of Chinese National Committee of CIGRE since 2005.

He is one of the leading experts in the area of power system stability analysis and control. The Complementary-Cluster Energy-Barrier Criterion (CCEBC) developed by him is a rigorous theory and quantitative method for general motion stability of non-conservative and non-autonomous systems. The Extended Equal-Area Criterion (EEAC) for power system stability is just such an example. The outstanding performances of EEAC have been demonstrated by on-line operation records in many EMS environments all over the world. Based on EEAC, the so-called Wide Area Monitoring Analysis Protection-control (WARMAP) system has been served in East China Power Grid since December 2006, which is the first blackout defense system in the world.



Saifur Rahman

Past President of IEEE PES

IEEE President-Elect

Joseph Loring Professor of Virginia Tech

Saifur Rahman (Life Fellow, IEEE) received the B.Sc. degree from the Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, in 1973, and the Ph.D. degree from Virginia Polytechnic Institute and State University, VA, USA, in 1978, both in electrical engineering. He is the Director of the Advanced Research Institute, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA, where he is the Joseph Loring Professor of Electrical and Computer Engineering and also directs the Center for Energy and the Global Environment. He served as the President of IEEE Power & Energy Society for 2018 and 2019. He was the Vice President of the IEEE Publications Board and as a member of the IEEE Board of Directors in 2006. He was the Founding Editor-in-Chief of the IEEE Transactions on Sustainable Energy and IEEE Electrification Magazine. He is a Distinguished Lecturer of the IEEE Power and Energy Society. From 1996 to 1999, he was a Program Director with the Engineering Directorate of the National Science Foundation. He has authored or coauthored in the areas of his research interests which include smart grid, conventional and renewable energy systems, load forecasting, uncertainty evaluation, infrastructure planning, and IoT device integration. Dr. Rahman is a Member-at-Large of the IEEE-USA Energy Policy Committee.

State Grid





Goran Strbac

Member of the Steering Committee of the European Technology Platform for Smart Grids

Director of the UK Grid-Scale Energy Storage Center

CSEE Fellow

Professor of Imperial College

Goran Strbac is a Professor of Energy Systems at Imperial College London and a Fellow of Chinese Society for Electrical Engineering. He led the development of novel advanced analysis approaches and methodologies that have been extensively used to inform industry, governments and regulatory bodies about the role and value of emerging new technologies and systems in supporting cost effective evolution to secure low carbon energy future. He is currently Leading Author in IPCC WG 3, Member of the UK Smart System Forum, Member of the European Technology and Innovation Platform for Smart Networks for the Energy Transition, and Member of the Joint EU Program in Energy Systems Integration of the European Energy Research Alliance. He co-authored 4 books and published over 200 technical papers.



Shukai Xu

Deputy President of EPRI of China Southern Power Grid

Dr. Shukai Xu, Chartered Engineer, IEEE senior member and IET Fellow, is the Deputy President of EPRI of China Southern Power Grid, Senior Expert of China Southern Power Grid, and regular member of CIGRE B4 (DC system and Power Electronics) and AG01. He has been working on Power Electronics and VSC HVDC for more than 15 years.



Pierluigi Siano

Professor of University of Salerno

Pierluigi Siano is a Professor and Scientific Director of the Smart Grids and Smart Cities Laboratory with the Department of Management & Innovation Systems, University of Salerno. His research activities are centered on demand response, on the integration of distributed energy resources in smart grids and on planning and management of power systems. He has co-authored more than 450 papers including more than 200 international journal papers that received more than 7600 citations with an H-index equal to 44. He received the award as 2019 Highly cited Researcher by ISI Web of Science Group, and has been the Chair of the IES TC on Smart Grids.

He is Editor for the Power & Energy Society Section of IEEE Access, IEEE Transactions on Industrial Informatics, IEEE Transactions on Industrial Electronics, Open Journal of the IEEE IES and of IET Renewable Power Generation.



Chongqing Kang

Director of Electrical Engineering Tsinghua University

President of Tsinghua University Energy Internet Research Institute

President of Sichuan Energy Internet Research Institute Tsinghua University

Chongqing Kang (Fellow, IEEE) is now Professor and Dean of Department of Electrical Engineering in Tsinghua University, President of Tsinghua University Energy Internet Research Institute, and President of Tsinghua Sichuan Energy Internet Research Institute. He is IEEE Fellow and IET Fellow. He currently serves as Editor-in-Chief of International Transactions on Electrical Energy Systems, Electric Power Systems Research, International Journal of Electric Power & Energy Systems and some other international journals. He also serves as Strategic Advisory Group Member of Cigre SC C1, Convenor of Working Group of Cigre SC C1.39, Chairman of the State Special Committee of China of Cigre SC C1, Long-Range Planning Committee Member of IEEE PES, and Fellows Nomination Resource Committee Member of IEEE PES. He has published more than 400 papers, among which over 100 have been indexed by SCI (including over 100 papers of IEEE Transactions). He was listed in Elsevier's Chinese Most Cited Researchers in 2017-2019.



Sri Niwas Singh

Professor of Indian Institute of Technology Kanpur

Sri Niwas Singh is Professor (HAG) of Department of Electrical Engineering, Indian Institute of Technology Kanpur, India. He became first Asian to receive 2013 IEEE Educational Activity Board Meritorious Achievement Award in Continuing Education. He is also recipients of INAE Outstanding Teacher Award 2016 and IEEE R10 region (Asia-Pacific) Outstanding Volunteer Award 2016. Dr Singh is appointed as IEEE Distinguish Lecturer of Power & Energy Society from 2019 and Industry application Society for 2019-2021. He is also recipient of NPSC 2020 Academic Excellence Award and 2021 IEEE Industry Application Society (IAS) Outstanding Educator/Mentor Award.

His research interests include power system restructuring, FACTS, power system optimization & control, security analysis, wind power, etc. Prof Singh has published more than 500 papers (h-index=53, Citation=11k+) in International/national journals/conferences and supervised 33 PhD (11 PhD under progress). He has also written 29 book chapters, 8 Edited books and 2 text-books one on Electric Power Generation, Transmission and Distribution and second is Basic Electrical Engineering.



Deqiang Gan

Professor of Zhejiang University

Professor Deqiang Gan has been with the faculty of Zhejiang University since 2002. He visited the University of Hong Kong in 2004, 2005 and 2006. He worked for ISO New England, Inc. from 1998 to 2002. He held research positions in Ibaraki University, University of Central Florida, and Cornell University from 1994 to 1998. He served as an editor of European Transactions on Electric Power (2007-2014). His research interests are power system stability and market operations.



Zhaoyang Dong

Professor of the University of New South Wales

IEEE Fellow

Prof Z.Y. Dong received the Ph.D. degree in electrical engineering from The University of Sydney, Australia. He is currently a SHARP Professor in Energy Systems and the Director of UNSW Digital Grid Futures Institute, The University of New South Wales (UNSW), Sydney, NSW, Australia. His previous roles include Professor and the Head of School of Electrical and Information Engineering, The University of Sydney, and Ausgrid Chair and the Director of the Ausgrid Centre for Intelligent Electricity Networks providing R&D support for the Smart Grid, Smart City national demonstration project in Australia. He is a Web of Science Highly Cited Researcher and Fellow of IEEE with expertise in smart grid, smart cities, power system planning and dynamics, and electricity market. He has been serving as editor/associate editor for a number of IEEE Transactions and IET journals.

8. Chairmen of the Opening Ceremony and Keynote Sessions



Mingshan Lin

Deputy President of CSEE

Mr. Mingshan Lin, professorial senior engineer, is the Deputy President of Chinese Society for Electrical Engineering. Prior to his current position, he served as the Chairman of State Grid Xinyuan Holding Co., Ltd. Mr. Lin Mingshan was involved in power production, infrastructure and operation management.

He led and participated in the formulation of 2 national standards, "Guide for Pumped Storage Power Plant Identification System (KKS)" and "Basic Terminology of Pumped Storage Power Station". He received First Prize of China Electric Power Science and Technology Progress Award, First Prize of China Machinery Industry Science and Technology Award, and Grand Prize of State Grid Corporation Science and Technology Progress Award.



Chongqing Kang

Director of Electrical Engineering Tsinghua University

President of Tsinghua University Energy Internet Research Institute

President of Sichuan Energy Internet Research Institute Tsinghua University

Chongqing Kang (Fellow, IEEE) is now Professor and Dean of Department of Electrical Engineering in Tsinghua University, President of Tsinghua University Energy Internet Research Institute, and President of Tsinghua Sichuan Energy Internet Research Institute. He is IEEE Fellow and IET Fellow. He currently serves as Editor-in-Chief of International Transactions on Electrical Energy Systems, Electric Power Systems Research, International Journal of Electric Power & Energy Systems and some other international journals. He also serves as Strategic Advisory Group Member of Cigre SC C1, Convenor of Working Group of Cigre SC C1.39, Chairman of the State Special Committee of China of Cigre SC C1, Long-Range Planning Committee Member of IEEE PES, and Fellows Nomination Resource Committee Member of IEEE PES. He has published more than 400 papers, among which over 100 have been indexed by SCI (including over 100 papers of IEEE Transactions). He was listed in Elsevier's Chinese Most Cited Researchers in 2017-2019.



Kuang Sheng

Professor of Zhejiang University

Dean of the College of Electrical Engineering, Zhejiang University

Prof Kuang Sheng, PhD supervisor and Qishi Distinguished Professor, currently is dean of the College of Electrical Engineering at Zhejiang University. His main research interests are in power electronics devices and integrated circuits. Prof Sheng once held tenured faculty position at Rutgers University in USA. He is the Changjiang Distinguished Professor and first recipient of NSFC for Distinguished Young Scholars in power electronics. He received the honor of being scientific and technological innovation leader in National High-level Personnel of Special Support Program (The Ten-Thousand Talents Program). He served as the convenor of power electronics technology expert group in National High-Tech R&D Program of China (863 Program) , a chief expert in 863 Program, and has managed national key research projects.

9. Technical Program

9.1 Registration and Sign-in (Tuesday, December 7)

Time	Schedule	Venue
10:00-20:00	Registration and Sign-in	Hotel Lobby
18:00-20:00	Buffet Dinner	Riviera-Western Restaurant

9.2 Technical Sessions (Wednesday, December 8)

Open Ceremony

Chair: Mingshan Lin, Deputy President of CSEE

Venue: Tianjin Hall

Time: 09:00-09:30, Wednesday, December 8

Welcome Speakers

Opening Address	Yinbiao Shu Academician of the Chinese Academy of Engineering President of Chinese Society for Electrical Engineering President of International Electrotechnical Commission Chairman of China Huaneng Group Co., Ltd.
Address	Jessica J. Bian President of IEEE PES
Address	Qihong Liu Vice President of China Southern Power Grid
Address	TBD Zhejiang University
Address	TBD Hainan University

Keynote Session 1

Chair: Chongqing Kang, Professor of Tsinghua University

Venue: Tianjin Hall

Time: 09:40-12:10, Wednesday, December 8

09:40-10:10	KS-01	TBD	Yusheng Xue Academician of China Engineering Academy Honorary President of State Grid Electric Power Research Institute
10:10-10:40	KS-02	Global Electric Power Sector: Engaging with Environmental Issues	Saifur Rahman Joseph Loring Professor of Virginia Tech IEEE President-Elect
10:40-11:10	KS-03	TBD	State Grid
11:10-11:40	KS-04	TBD	Goran Strbac Professor of Imperial College
11:40-12:10	KS-05	TBD	Shukai Xu Deputy President of EPRI of China Southern Power Grid

Keynote Session 2

Chair: Kuang Sheng, Professor of Zhejiang University

Venue: Tianjin Hall

Time: 14:00-17:30, Wednesday, December 8

14:00-14:30	KS-06	TBD	Pierluigi Siano Professor of University of Salerno
14:30-15:00	KS-07	TBD	Chongqing Kang Professor of Tsinghua University IET Fellow IEEE Fellow
15:00-15:30	KS-08	Smart Multi-Terminal DC μ -Grid Operation and Control	Sri Niwas Singh Professor of Indian Institute of Technology Kanpur
15:30-16:30		Coffee Break	
16:30-17:00	KS-09	Power System Stability Issues in the New Era	Deqiang Gan Professor of Zhejiang University
17:00-17:30	KS-10	Promoting Green Hydrogen Towards Carbon Neutral Future	Zhaoyang Dong Professor of the University of New South Wales IEEE Fellow

9.3 Technical Sessions (Thursday, December 9)

Panel 1: Power Electronics Dominated Urban Energy Systems Toward Low Carbon Society

Chairs: Chongqing Kang, Professor of Tsinghua University
Ning Zhang, Associate Professor of Tsinghua University

Venue: California Hall

Time: 08:30-10:30, Thursday, December 9

08:30-08:50	PN1-01	Advanced Design & Control in Power Electronic Converters for Urban Multi-Energy Systems	Chushan Li Research Professor of Zhejiang University
08:50-09:10	PN1-02	Anomaly Analysis and Fault Classification of PV Station Based on Spatial-Temporal Data	Mingyao Ma Professor of Hefei University of Technology
09:10-09:30	PN1-03	Resilience Enhancement for Urban Distribution Networks through Interlinking Converters of Microgrid Clusters	Kai Sun Associate Professor of Tsinghua University
09:30-09:50	PN1-04	Mobile Energy Storage Systems with Electricity and Hydrogen	Guannan He Researcher of Peking University
09:50-10:10	PN1-05	Resilience Oriented Planning of Urban Multi-Energy Systems	Ning Zhang Associate Professor of Tsinghua University
10:10-10:30	PN1-06	Device Access Optimization for Virtual Power Plants in Heterogeneous Networks	Yi Wang Assistant Professor of The University of Hong Kong

Panel 2: Energy Internet

Chair: Jun Shen, Researcher of Technical Institute of Physics and Chemistry, Chinese Academy of Sciences

Venue: California Hall

Time: 10:45-12:30, Thursday, December 9

10:45-11:05	PN2-01	Overview of the Energy Internet	Jun Shen Researcher of Technical Institute of Physics and Chemistry Chinese Academy of Sciences
11:05-11:25	PN2-02	Practice of New Power System in Jiangsu	Zhiwei Wang Deputy General Manager of State Grid Jiangsu Electric Power Co., Ltd.
11:25-11:45	PN2-03	Low Carbon Management and Practice in High Energy Consuming Enterprises	Li Li Researcher-Level Senior Engineer of Nari-Relays
11:50-12:10	PN2-04	Blockchain in the Energy Sector: Research and Challenges	Yong Yan Chief Scientist of Blockchain State Grid Zhejiang Electric Power Research Institute
12:10-12:30	PN2-05	Application of Artificial Intelligence in the Energy Internet	Haochen Hua Associate Professor of Hohai University

Panel 3: New Type of Power System Constructed by Digital Grid

Chair: Shukai Xu, Deputy President of Electric Power Research Institute, China Southern Power Grid

Venue: California Hall

Time: 14:00-16:00, Thursday, December 9

14:00-14:20	PN3-01	TBD	Zhen Dai Expert of CSG Digital Power Grid Research Institute Co., Ltd.
14:25-14:45	PN3-02	Research on Standardization of Interactive Technology and Operation Mode of "One Network" EV Charging Facilities in Hainan Province	Songling Pang Director of Smart Grid Department Electric Power Research Institute of Hainan Power Grid Co., Ltd.
14:50-15:10	PN3-03	The Needs for Automatizing and Intelligentizing System Study on Large-Scale Power System in The New Era of Renewables	Shiyang Li Researcher of Electric Power Research Institute China Southern Power Grid
15:15-15:35	PN3-04	TBD	Expert
15:40-16:00	PN3-05	TBD	Zhiqiang Huang SIEMENS

Panel 4: High Voltage Direct Current (HVDC) and DC Grids

Chair: Zhiyuan He, Global Energy Interconnection Research Institute Co., Ltd.

Venue: Meeting Room 3F

Time: 08:30-10:30, Thursday, December 9

08:30–08:50	PN4-01	Technology of Controllable Line-Commutated Converters	Zhiyuan He Global Energy Interconnection Research Institute Co., Ltd.
08:55–09:15	PN4-02	Consideration and Verification of Hybrid Multi-Terminal UHVDC System	Hong Rao Chairman of the Board Electric Power Research Institute of China Southern Power Grid
09:20–09:40	PN4-03	Key Equipment of ZhangBei HVDC Grid Project	Kunpeng Zha General Manager of China-EPRI Electrical Engineering Co., Ltd.
09:45–10:05	PN4-04	Offshore Wind and HVDC VSC Systems: A Powerful Combination	Kees Koreman Engineering Manager of TenneT
10:10–10:30	PN4-05	What are the Potential Opportunities and Challenges for DC Grid?	Jinjun Liu Professor of Xi'an Jiaotong University

Panel 5: Application of Artificial Intelligence in Power System and Integrated Energy Systems

Chairs: Fushuan Wen, Professor of Zhejiang University
Chengjin Ye, Research Professor of Zhejiang University

Venue: California Hall

Time: 16:10-18:10, Thursday, December 9

16:10–16:30	PN5-01	Framework for Smart Grids Considering Flexible Demand Resources	Yi Ding Professor of Zhejiang University
16:30–16:50	PN5-02	State-Aware Tracker for Real-Time Video Object Segmentation	Donglian Qi Professor of Zhejiang University
16:50–17:10	PN5-03	Two-Step Electricity Theft Detection Strategy Considering Economic Return Based on Artificial Intelligence Algorithm	Zhenzhi Lin Professor of Zhejiang University
17:10–17:30	PN5-04	Parallel Cyber-Physical-Social Systems Based Smart Energy Robotic Dispatcher: Concepts, Architectures and Challenges	Tao Yu Professor of South China University of Technology
17:30–17:50	PN5-05	Cyber-Physical-Social System for Supporting Low-Carbon Energy Transition	Junhua Zhao Associate Professor of The Chinese University of Hong Kong, Shenzhen
17:50–18:10	PN5-06	Energy Security Through Digital Technologies	Sri Niwas Singh Professor of Indian Institute of Technology Kanpur

Panel 6: Energy Storage Technology and Its Application

Chairs: Jinyu Wen, Dean of School of Electrical and Electronic Engineering, Huazhong University of Science and Technology
Xia Chen, Associate Professor of Huazhong University of Science and Technology

Venue: Meeting Room 3F

Time: 10:45-12:30, Thursday, December 9

10:45-11:05	PN6-01	Toward Transportation and Energy System Integration: Re2H Technology Jianxiao Wang Associate Professor of North China Electric Power University
11:05-11:25	PN6-02	Privacy-Preserving Coordinated Dispatch of Distributed Energy Storage in Networked Microgrids Zhiyi Li Research Professor of Zhejiang University
11:25-11:45	PN6-03	Discussion on the Application of Energy Storage in the Frequency Security Defense System of China's Power Grid Zhaowei Li Senior Engineer of NARI Group Corporation
11:50-12:10	PN6-04	Distributed Optimal Control of Energy Storages in a DC Microgrid with Communication Delay Xia Chen Associate Professor of Huazhong University of Science and Technology
12:10-12:30	PN6-05	Energy Storage Planning Technology for the New Power Electrical System Shiwu Liao Executive Director of Nanjing Tude Technology Co., Ltd.

Panel 7: New Type of Power System

Chairs: Yalou Li, Professorial Senior Engineer of China Electric Power Research Institute
Zongxiang Lu, Professor of Tsinghua University

Venue: Meeting Room 3F

Time: 14:00-16:00, Thursday, December 9

14:00-14:20	PN7-01	Leap to a Better Grid Through Power Electronics	Zhenyu Huang Pacific Northwest National Laboratory, USA
14:20-14:40	PN7-02	Operation and Control of New Power System	Jingbo He Director of National Electric Power Dispatching and Control Center
14:40-15:00	PN7-03	Modeling and Simulation of New Power System	Yalou Li Professorial Senior Engineer of China Electric Power Research Institute
15:00-15:20	PN7-04	Challenges of Modern Power Systems Dominated by Power Electronics and Renewable Generation	Oriol Gomis Professor of Polytechnic University of Catalonia
15:20-15:40	PN7-05	Long Term Planning of Renewable Energy Dominated Power System Considering Flexibility	Zongxiang Lu Professor of Tsinghua University
15:40-16:00	PN7-06	Practice Explorations and Thoughts on New Power System in Xinjiang	Xiqiang Chang Deputy Director of Science and Technology Internet Department State Grid Xinjiang Electric Power Co., Ltd.

Panel 8: Green & Low-Carbon Power System

Chair: Hong Chen, Director of International Cooperation Department, Xi'an Thermal Power Research Institute Co., Ltd.

Venue: Meeting Room 3F

Time: 16:20-18:00, Thursday, December 9

16:20-16:40	PN8-01	Energy Technology Roadmap Under the Carbon Neutral Goal Shisen Xu Director of Science and Technology Department China Huaneng Group Co., Ltd.
16:40-17:00	PN8-02	A New Generation of Smart Interconnected Power Generation Technology Deliang Zeng Professor of North China Electric Power University
17:00-17:20	PN8-03	Advanced Technology of Supercritical CO ₂ Cycle Solar Thermal Power Generation Yueming Wang President of Xi'an Thermal Power Research Institute Co., Ltd.
17:20-17:40	PN8-04	New Technology of High-magnification Concentrated Photovoltaic Peter Schöttl Fraunhofer-Gesellschaft
17:40-18:00	PN8-05	Key Technologies for Hydrogen Production and Utilization Qing Wang Professor of National University of Singapore

10. Paper Sessions

10.1 Oral Sessions

Authors are requested to bring their presentation files copied onto USB memory stick beforehand, hand the USB memory stick to the volunteer of each presentation room at least 30 minutes prior to the start of the scheduled session and meet the session chairperson. Each author is also asked to hand their short autobiography to the chairperson who will later announce how to proceed the session.

Time Slot

An approximate of 8 minutes will be allocated to the presentation of each paper in PowerCon2021. Session Chairperson will be in charge of keeping speakers to the time allowed.

Requirements

1. Please use the official template to prepare your presentations.
2. Please keep punctual by arriving at the presentation room 30minutes before the session starts, to make sure you have sufficient time to confirm and check your presentation file.
3. Please do not to bring in your own notebook PC for the presentation, particularly to avoid possible compatibility problem with the projector.

Oral Session 1: Stability Analysis Technology of Power System

Chair: Pengfei Hu, Research Professor of Zhejiang University

Venue: Florida Hall

Time: 08:30-10:30

PowerCon 2021 CP0023	Small-Signal Stability Analysis of Weak-Grid-Connected DFIG-based WT during Asymmetric Faults Lei Guan, Jun Yao Chongqing University leeguan1992@163.com
PowerCon 2021 CP0081	Current-Induced Strength Evaluation Method for Power Systems with Renewable Energy Sources Tiankai Lan, Shiyun Xu, Deyang Guo, Yiran Jing China Electric Power Research Institute lantiank@foxmail.com
PowerCon 2021 CP0086	Converter-Driven Low-Frequency Stability Analysis and Compensation in Weak-Grid-Tied VSCs Guanglu Wu, Shanshan Wang, Bing Zhao, Hong Hu, Jianhua Li, Lu Cao, Haoyin Ding, Lin Yu, Quan Ma China Electric Power Research Institute, East China Branch of State Grid Corporation of China wuguanglu1989@126.com

PowerCon 2021 CP0089	The Research on controlled transmission of power AC lines based on the series connection of voltage and current sources Changhong He, Hanqing He, Wenqiang Dang, Kang Yu, Yuanbin Zhai, Chunmei He State Grid Shaanxi Electric Power Corporation 15102992718@163.com
PowerCon 2021 CP0135	Harmonic Stability Analysis and Damping Strategy for DC system of MMC-HVDC Across Wide Frequency Range Longze Kou, Yixuan Peng, Ke Ji, Lin Zhu, Feng Ji, Dong Liu Global Energy Interconnection Research Institute koulongze@126.com
PowerCon 2021 CP0186	Stability Optimization of Low-voltage DC Flexible Interconnected Power Station in AC Distribution Network Based on Impedance Analysis Gaole Yu, Jianyuan Xu, Zheng Yan, Weidong Chen, Dong Zhao, Zeli Zhang Shenyang University of Technology gaoleyusut@126.com
PowerCon 2021 CP0204	Current Saturation Analysis of Droop Controlled Voltage Source Converter Kehao Zhuang, Hui Liu, Xuekun Cheng, Shiyao Qin, Pengfei Hu, Huanhai Xin Zhejiang University, State Grid Jibei Electric Power Research Institute, China Electric Power Research Institute zhuangkh@zju.edu.cn
PowerCon 2021 CP0209	Assessing Frequency Nadir of Power Systems under Power Ramp Disturbances Yunyue Hua, Chen Wu, Wei Huang, Huisheng Gao, Huanhai Xin Zhejiang University, Yunnan Electric Power 22010069@zju.edu.cn
PowerCon 2021 CP0307	Subsynchronous Oscillation Events in an MTDC-connected Renewable Energy System Haozhi Li, Xiaorong Xie, Wei Chai, Qirong Jiang Tsinghua University, Shanghai Electric Power Research Institute of Shanghai Municipal Electric Power Compa xiexr@tsinghua.edu.cn
PowerCon 2021 CP0480	Renewable Integrated Transient Voltage Stability Mechanism Analysis using Hopf Bifurcation and Discrete Wavelet Transform Yawei Wei, Xiaoxin Zhou, Yalou Li, Ying Lv, Bing Wang, Jing Ma China Electric Power Research Institute yaweipower@163.com

Oral Session 2: Key Technologies of the New Type of Power System

Chair: Pengfei Hu, Research Professor of Zhejiang University

Venue: Florida Hall

Time: 10:45-12:30

PowerCon 2021 CP0170	Study on multi-source coupled fault frequency defense method for new power system Chao Wang, Weidong Chen, Jianyuan Xu, Xinwei Li, Xiaohen Zhang, Yuan Tian Electric Power Research Institute of State Grid Liaoning Electric Power Co., Ltd., Shenyang University of Technology 2990540050@qq.com
PowerCon 2021 CP0180	Research and Engineering Field-test of a Renewable Energy Stations Rapid Power Control Technology for Improving Power Grid Stability Chunhui Qu, Xiangwen Zhang, Shuwu Hu, Jie Lan, Yang Li, Fengyi Huang China Electric Power Research Institute, Harbin Electric Corporation Wind Power Co Ltd., DongFang Electric Wind Power Co Ltd., Shenzhen Hopewind Electric Co., Ltd. 11367043@qq.com
PowerCon 2021 CP0213	Research on New Power System Planning Considering Electrochemical Energy Storage Zhihua Gao, Junlei Liu, Xinmiao Liu, Kecheng Wu, Xun Lu, Tianbo Han Guangdong Power Grid Co., Ltd. 18802000394@163.com
PowerCon 2021 CP0281	Passive radiative cooling for crystalline silicon solar cells Yiteng Tu, Xinyu Tan, Xiongbo Yang, Guiguang Qi, Jialin Geng, Shumin Yao College of Electrical Engineering & New Energy, China Three Gorges University; College of Materials and Chemical Engineering, China Three Gorges University; College of Science, China Three Gorges University 201908080011005@ctgu.edu.cn
PowerCon 2021 CP0333	Research on the Improved Calculation Method of the Influence of VSC-HVDC on AC Short-Circuit Current Shuxin Luo, Qiang Zhou, Meng Li, Zuohong Li, Donghui Zhang, Zhengmin Zuo Grid Planning & Research Center of Guangdong Power Grid Co., Ltd. Guangzhou, China; Sichuan Energy Internet Research Institute, Tsinghua University Chengdu, China xioozhoo@foxmail.com
PowerCon 2021 CP0341	Residential Electricity Consumption Behavior Analysis and Intelligent Demand Response Strategy Zhiwei Xia, Hui Hou, Yue Chen Wuhan University of Technology Xzw17@whut.edu.cn
PowerCon 2021 FP0414	Optimal Control Strategies for Loss Minimization of Wind Turbine Driven DFIG sonam gupta, Anup Shukla Indian Institute of Technology jammu 2019ree0025@iitjammu.ac.in

PowerCon 2021 CP0450	Short-term Load Forecasting Based on Multi-model Fusion of CNN-LSTM-LGBM Wei Qian, Chunlei Gu, Chongxi Zhu, Zilv Jiang, Baohui Han, Miao Yu State Grid Zhejiang Tongxiang Power Supply Company, Zhejiang University zjuyumiao@zju.edu.cn
PowerCon 2021 CP0528	A Sky Image-Based Hybrid Deep Learning Model for Nonparametric Probabilistic Forecasting of Solar Irradiance Mingjun Xiang, Wenkang Cui, Can Wan, Changfei Zhao Zhejiang University mingjunxiang@zju.edu.cn
PowerCon 2021 CP0534	Controlled strategy research for low voltage ride-through of DFIG Jiandong Duan, Yang Zhang, Tong Gao, Zhenghao Qi Xi'an University of Technology 2956999066@qq.com

Oral Session 3: Consumption of Renewable Energy in New Type of Power System

Chair: Pengfei Hu, Research Professor of Zhejiang University

Venue: Florida Hall

Time: 14:00-16:00

PowerCon 2021 CP0142	Calculation of power grid wind power acceptance capacity based on different dispatching methods Feng Sun, Xianzhong Zhang, Jianyuan Xu, Junjie Sun, Hui Zeng, Qi Jia Electric Power Research Institute of State Grid Liaoning Electric Power Co., Ltd., Shenyang University of Technology 1446705457@qq.com
PowerCon 2021 CP0240	Generic Fault Cell Model and Cell-based Characteristic Fault Topologies of PV Array Jianmin Zhang, Yukuan Wang, Chao Gong, Yongzhen Li, Yi Cui, Tianli Jiao School of Automation, Hangzhou Dianzi University, State Grid Anji Elect. Power Supply Company zhangjmhzcn@hdu.edu.cn
PowerCon 2021 FP0262	Enhancing grid flexibility under scenarios of a renewable-dominant power system in China Jiang Lin, Nikit Abhyankar, Gang He, Xu Liu, Shengfei Yin Lawrence Berkeley National Laboratory, Stony Brook University, Peking University j_lin@lbl.gov
PowerCon 2021 CP0297	Theoretical Mismatch Degree Calculation of PV Array by Traversal Cell-based Short-circuit Characteristic Fault Topologies Jianmin Zhang, Yongzhen Li, Bo Li, Qingtai Chen, Jishan Zhang, Tianli Jiao School of Automation, Hangzhou Dianzi University, Zhejiang Huayun Information Technology Co., Ltd. zhangjmhzcn@hdu.edu.cn

PowerCon 2021 CP0299	Research on Comprehensive Complementary Characteristics Evaluation Technology of Wind-solar-hydro Combined Power Generation System Wei Hu, Yajun Wang, Yunchao Sun, Qiang Nie, Renshan Ding, Xinyue Zhang Tsinghua University, Yalong River Hydropower Development Co.,Ltd. 18233566646@163.com
PowerCon 2021 CP0335	Anticipatory Control of Flexible Loads for System Resilience Enhancement Facing Accidental Outages Hongxun Hui, Qifan Yang, Ningyi Dai, Hongcai Zhang, Yi Ding, Yonghua Song University of Macau, Zhejiang University hongxunhui@um.edu.mo
PowerCon 2021 CP0404	Deep Reinforcement Learning Based Coordinated Voltage Control in Smart Distribution Network Daner Hu, Yonggang Peng, Jinxiang Yang, Qingtang Deng, Tiantian Cai College of Electrical Engineering, Zhejiang University pengyg@zju.edu.cn
PowerCon 2021 CP0468	Review on Voltage Regulation Techniques Via Flexible Resources in Power Distribution Systems Qiangqiang Xie, Yongzhu Hua, Linglei Xu Hangzhou Dianzi University xqq@hdu.edu.cn
PowerCon 2021 FP0496	A Sizing Method for Hybrid Energy Storage Microgrid with Hydrogen-Electricity System Zichen Li, Yanghong Xia, Wei Wei College of electrical engineering, Zhejiang University lzc_21b@163.com

Oral Session 4: New Type of Power System with Power Electronics

Chair: Pengfei Hu, Research Professor of Zhejiang University

Venue: Florida Hall

Time: 16:20-18:00

PowerCon 2021 CP0057	Fault assessment method of Integrated Electricity and Natural Gas Network Considering Interdependent Characteristics Jieying Su, Yongjun Zhang, Yuzheng An, Liehao Hu South China University of Technology 1004918817@qq.com
PowerCon 2021 CP0095	Load Characteristics and Stability Analysis of Variable Frequency AC Power System Linke He, Zixiao Xu, Donghua Wu, Ming Yan, Weilin Li Northwestern Polytechnical University, AVIC SHAANXI AERO ELECTRIC CO., Ltd. h13008133927@163.com

PowerCon 2021 FP0099	Cause Identification of Single-line-to-ground Fault in Distribution System Kun Liu, Xuan Ren, Bin Wang Power Dispatch Control Center of Guangdong Power Grid, Department of Electric Engineering in Tsinghua University tjulk@126.com
PowerCon 2021 CP0106	Analysis of Stability Margin and Control System Interaction for LCC-HVDC System Under Weak AC Grid Using SISO Modeling Jiaqing Zhang, Chunyi Guo, Shuo Yang North China Electric Power University zhangjiaqing1219@126.com
PowerCon 2021 CP0118	Deviation Reduction of On-line and Off-line Computational Results of Short Circuit Ratio for Multiple Renewable Power Sources Xiao Chen, Yazhou Luo, Lei Zhang, Weitao Zhang, Shujun Wang, Shitong Li North China Branch of State Grid of China soleilchen@126.com
PowerCon 2021 CP0261	Intrusion Detection Method Based on the Legality of Action Messages in Process Layer of Smart Substation Hang Mu, Jianmin Zhang, Caiming Yang, Kangyi Li, Naizheng Jin, Ji Xu School of Automation, Hangzhou Dianzi University, State Grid Shaoxing Elect. Power Supply Company zhangjmhzcn@hdu.edu.cn
PowerCon 2021 CP0399	The Construction of Energy Ecosystem to Achieve Carbon Neutrality Ye Zeng, Heping Jia, Dunnan Liu, Jinshan Han, Wei Wang, Tao Yu North China Electric Power University, State Grid Shanghai Municipal Electric Power Company zengye213@163.com
PowerCon 2021 CP0443	Current Regulation of Grid-Following Converters with Low Carrier Ratio Lulu Huang, Bo Gao, Wenhe Li State Grid Shanghai Energy Interconnection Research Institute hl15661@163.com
PowerCon 2021 CP0492	A Characteristic Loci Method for Power Systems Small-signal Stability Analysis Wei Huang, Qingbo Zhang, Hao Xu, Simin Wu, Deqiang Gan Yunnan Electric Power Dispatching and Control Center, Zhejiang University dgan@zju.edu.cn
PowerCon 2021 CP0500	Cyber Security Risk Analysis of Physical Protection Systems of Nuclear Power Plants and Research on the Cyber Security Test Platform Using Digital Twin Technology Yun Guo, Aijun Yan, Junjie Wang Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd., Xi'an Thermal Power Research Institute guoyun_2018@163.com

Oral Session 5: Artificial Intelligence in New Type of Power System

Chair: Zheren Zhang, Associate Research Professor

Venue: Missouri Hall

Time: 08:30-10:30

PowerCon 2021 FP0054	On-line Estimation of Power System Inertia Using Short-time Synchronous Phasor Measurements Under High Generator Damping Yukai Wang, Akihiko Yokoyama The University of Tokyo, The University of Tokyo wangyukai@syl.t.u-tokyo.ac.jp
PowerCon 2021 CP0117	LSTM-CNN-Based Transient Stability Assessment Xiaoyan Han, Zhen Chen, Yucui Wang, Xinyi Lai, Lijie Ding, Fushuan Wen State Grid Sichuan Electric Power Company, Zhejiang University xinyi_lai@outlook.com
PowerCon 2021 CP0232	Dynamic Economic Dispatch Considering Demand Response Based on Reinforcement Learning Zekuan Yu, Guanglun Zhang, Tong Xiao, Xinyue Wang, Haiwang Zhong Department of Electrical Engineering, Tsinghua University yuzk18@mails.tsinghua.edu.cn
PowerCon 2021 CP0264	Research on Dynamic Power Equipment Identification System Based on Block Chain Technology Aijun Yan, Lei Zhu, Yue Qiao, Guoyou Liu, Yuwei Zhang, Chenlong Zhou Xi'an Thermal Power Research Institute, Huaneng Mianchi Power Generation Co., Ltd. yanaijun@vip.163.com
PowerCon 2021 CP0372	Learn From Raw Data or Statistical Features? A Comparison Between Two Deep Learning Patterns in Power System Stability Analysis Zhongtuo Shi, Wei Yao, Yanhao Huang, Yong Tang, Jinyu Wen Huazhong University of Science and Technology, China Electric Power Research Institute zt_shi@hust.edu.cn
PowerCon 2021 CP0401	Design and Application of Power Grid Security Risk Assessment and Hierarchical Control System in Natural Disasters Kang Chang, Chen Yu, Shaofeng Liu, Yan Huang, Wei Li State Grid Electric Power Research Institute changkang@sgepri.sgcc.com.cn
PowerCon 2021 CP0433	Fine Tune or not? Evaluation of Transfer Methods for Power System Transient Stability Analysis Zhouping Li, Wei Yao, Yanhao Huang, Zhongtuo Shi, Yong Tang, Jinyu Wen Huazhong University of Science and Technology, China Electric Power Research Institute lizp_hust@163.com

PowerCon 2021 CP0469	Short-term load interval prediction based on ALO-ML-ELM Linjun Zeng, Jiazhu Xu, Zhihong Liang, Jie Zeng, Yun Li, Jiayu Wang Hunan University, Hunan University, the State Grid Hunan Electric Power Corporation Limited Loudi Power Supply Company xjz_academic@163.com
PowerCon 2021 CP0489	A Review of Deep Reinforcement Learning Applications in Power System Parameter Estimation Yishen Wang, Bo Chai, Weijiang Lu, Xiaokun Zheng Global Energy Interconnection Research Institute Co., Ltd. wangyishen07@163.com
PowerCon 2021 CP0507	A historical distribution network state estimator using smart distribution transformer meters Lin Ye, Zhenjie Wu, Pei Liao, Chengda Li, Ying Yang, Suirong Li Dispatch and control center State Grid Zhejiang Electric Power Company, Dispatch and control center State Grid Hangzhou Municipal Electric Power Company 411011167@qq.com
PowerCon 2021 CP0537	Power system dynamic security region algorithm based on LightGBM and improved SVM Tao Chen, Ke Zhao, Chenggang Shi, Zhaohui Wan, Zhenyu Jiang, Wei Hu, Kun Ma State Grid Chongqing Electric Power Company, Dept of Electrical Engineering Tsinghua University 980815353@qq.com

Oral Session 6: Market and Economy in the New Type of Power System

Chair: Zheren Zhang, Associate Research Professor

Venue: Missouri Hall

Time: 10:45-12:30

PowerCon 2021 CP0003	Evaluating the Dual-Track System in China's Electricity Markets: A Case Study of Yunnan Shuangquan Liu, Yang Wu, Han Zhou, Ruiqin Duan, Qizhuan Shao, Yan Jiang, Binbin Zhou, Youxiang Wang, Congtong Zhang Yunnan Power Grid Co., Ltd. 4385118@qq.com
PowerCon 2021 CP0128	Fault Diagnosis for Photovoltaic Inverter based on Attention Recurrent Neural Network Junren Fang, Fanyong Cheng, Xianmeng Meng Anhui Polytechnic University 2190220107@stu.ahpu.edu.cn
PowerCon 2021 CP0140	Research on Multi-Objective Reactive Power Optimal Control Strategy of Multi-energy New Power System Qiang Zhang, Enming Bai, Jianyuan Xu, Peng Yuan, Chao Wang, Wansong Liu Electric Power Research Institute of State Grid Liaoning Electric Power Co., Ltd. bemsut@163.com

PowerCon 2021 CP0175	Industry Electricity Behavior Analysis Based on Electricity Index with Seasonal Adjustment Guoquan Huang, Runting Cheng, Chongying Jiang, Yongjun Zhang School of Electrical Power, South China University of Technology 907918377@qq.com
PowerCon 2021 CP0203	Research on Variable Speed Pumped Storage to Improve the Stable Operation Capability of Combined System Junjie Sun, Shichuan Feng, Jianyuan Xu, Xinwei Li, Peng Yuan, Xiaoheng Zhang Electric Power Research Institute of State Grid Liaoning Electric Power Co., Ltd., Shenyang University of Technology 786706985@qq.com
PowerCon 2021 CP0258	Structural Health Monitoring of UHV GIL Shield Cross-River Electric Power pipe Gallery Tao Huang, Xintong Mao, Yuezhong Yu, Hongping Xie, Changqing Du, Yuhua Qian State Grid Jiangsu Electric Power Engineering Consulting Co., Ltd., Jiangsu Electric Power Transmission&Transformation Construction Co., Ltd. whuhtao@163.com
PowerCon 2021 CP0321	An Ancillary Trading Mode of Power Market Based on Commitment Generation Quota Han Tianbo, Gao Zhihua Guangdong Power Grid Co., Ltd. 458948526@qq.com
PowerCon 2021 CP0363	Multi-objective Optimization Scheduling Method of Combined Pumped Storage and VSC-HVDC Grid to Improve Transmission Capacity of Renewable Energy in Multi-region Feng Zhao, Maohai Wang, Peng Zi, Qian Dai North China Branch of State Grid Dispatch Center, China Electric Power Research Institute zhaofeng730@126.com
PowerCon 2021 CP0390	Single Phase Grounding Fault Location Method Based on Ratio and Correlation Coefficient of Phase Current Sudden Change Yizhao Wang, Wanying Yan, Zequan Hou, Xiaotong Du, Bin Liu State Grid Shaanxi Electric Power Company, Xi'an University of Technology 1012612887@qq.com
PowerCon 2021 CP0470	Peak shaving market mechanism of captive power plants considering energy consumption characteristics of enterprises Hanghang Liu, Daning You, Yanbin Cai, Guoqiang Zhang, Hao Wang, Li Zhang Dongying Power Supply Company, State Grid Shandong Electric Power Company 3031423426@qq.com
PowerCon 2021 CP0504	An Overview of New Round Power Reform in China: Practice and Performance Jingqiu HU, Jin GUO, Xinye Zheng CSG Beijing Company, National Development and Reform Commission, Applied Economic School Renmin University of China jingqiu.hu@qq.com

Oral Session 7: Transmission and Distribution Technology in the New Type of Power System

Chair: Zhiyi Li, Research Professor of Zhejiang University

Venue: Missouri Hall

Time: 14:00-16:00

PowerCon 2021 CP0006	Optimal Power Flow Algorithm for Large-scale Integrated Transmission and Distribution Networks Xiang Ma, Zhenhua Li, Jianye Cui, Leiyan Lv, Yifeng Chen State Grid Jinhua Power Supply Company, College of Electrical Engineering Zhejiang University cyf97@zju.edu.cn
PowerCon 2021 CP0027	Control Strategy for Smooth Switching of Substation Level Microgrid Operation Mode under Weak Grid Chen Wang, Guangfu Xu, Chen Chen, Wei Hou, Jun Chen, Haobin Zhu NR Electric Corporation wangchen2@nrec.com
PowerCon 2021 CP0181	Robust learning model of wind turbine power curve based on operational data Zhang Yao, Li Yingjun, Zang Pengcheng, Bai Geping, Yan Han, Yan Jie Ulanqab Electric Power Bureau Ulanqab, China 2750317681@qq.com
PowerCon 2021 CP0230	Research on the Two-tier Transaction Mechanism of Renewable Energy Excess Consumption Zihua Gao, Kecheng Wu, Shujie Liu, Quan Chen, Runquan He, Min Xie Guangdong Power Grid Co., Ltd. xqhrq@100steps.net
PowerCon 2021 CP0231	Research on An Incorrect Operation of Grounding Transformer Protection and Its Improving Measures Binbin Luo, Kun Liu, Xulin Chen, Changxiang Wang, Qiong Xiao Zhongshan Power Supply Bureau China Southern Power Grid, Power Dispatching Control Center of Guangdong Power Grid, Fujian Electric Power Engineering Co.,Ltd., Electric Power Research Institute China Southern Power Grid luo520tddq@163.com
PowerCon 2021 CP0256	Integrated Phase-Shift Modulation Scheme with Wide Voltage Range Adaptability for Modular Multilevel Resonant DC-DC Converter Cong Chen, Jing Sheng, Shiyuan Fan, Xin Xiang, Wuhua Li, Xiangning He, Rongxiang Zhao Zhejiang University 22010153@zju.edu.cn
PowerCon 2021 CP0259	Evaluation indices for quantifying the efficacy of carbon-constrained power system development Peng Yang, Ke Sun, Hao Zhang, Dan Yu, Jun Wu, Linjuehao Mei Zhejiang Huayun Electric Power Engineering Design Consultation Co, Zhejiang University 22010126@zju.edu.cn

PowerCon 2021 CP0326	ADMM-Based Energy-Reserve Joint Dispatch Considering Cross-Zone Reserve Dispatchability Shutong Pu, Xinfei Yan, Mengjun Shen, Haiwang Zhong Tsinghua University, State Grid Corporation of China pst18@mails.tsinghua.edu.cn
PowerCon 2021 CP0378	Automatic power flow optimization dispatching method for multi-terminal flexible AC/DC hybrid distribution network based on improved particle swarm algorithm Chengtao Du, Deshu Gan, Haixiong Wu, Zhuhu Hua Zhuhai Power Supply Bureau, China Southern Power Grid, Zhuhai Power Supply Bureau huazhuhu@whu.edu.cn
PowerCon 2021 CP0402	Study on Carbon Emission and Impact Factor based on LMDI method: the Case of Jiangsu Sheng Wang, Jian Tan, Yahui Ma, Haiyan Jiang, Aikang Chen, Fenghua Zou State Grid (Suzhou) City & Energy Research Institute Co., State Grid Jiangsu Economic Research Institute wangsheng_zju@zju.edu.cn
PowerCon 2021 CP0485	Identification of the Oscillation Source in Multiple Grid-connected Converters Systems Xinze Xi, Chao Xing, Shengnan Li, Ailixier Yaermaimaiti, Risheng Qin, Peng He Electric Power Research Institute Yunnan Power Grid Company Limited, Zhejiang University 22010124@zju.edu.cn

Oral Session 8: New Type of Power System and Energy Internet

Chair: Zhiyi Li, Research Professor of Zhejiang University

Venue: Missouri Hall

Time: 16:20-18:00

PowerCon 2021 CP0022	A hybrid HVDC converter based on MMC and diode rectifier for offshore wind farm integration Yue Wu, Lei Zhang, Yuebin Zhou, Zongqiu Hu, Xiaobin Zhao, Qinghan Zhuang Electric Power Research Institute China Southern Power Grid, China Three Gorges Corporation, China Three Gorges Construction Engineering wuyue@csg.cn
PowerCon 2021 FP0062	Cyber Security Requirements For Smart Grids Aditya D, Anagha MH, Revanth Mouli C L RNS institute of technology, RNS institute of technology, WVCE mhanagha1642001@gmail.com
PowerCon 2021 CP0194	Study on Maintenance Methods of Local Communication in Low-voltage Electric Data Acquisition System Sijian Zhang, Sun Ying, Peng Wang, Guichuan Zhong, Zheng Zeng Intelligent terminal BU China Southern Power Grid Technology Co., Ltd., Guangzhou Power Supply Bureau of Guangdong Grid Co., Ltd. zszejz@foxmail.com

PowerCon 2021 CP0273	Study on the Detection Method of Leakage in TN-C Area of Low-voltage Distribution Network Mingming Zhang, Ping Qin, Yongjin Chen, Hengjie Jia, Zhaojian Wang, Wenyang Deng Shaoguan Power Supply Bureau of Guangdong Power Grid Co., Ltd. 775931271@qq.com
PowerCon 2021 CP0300	Optimal Sizing of City Photovoltaic-Storage-Charging System Based on Coalitional Game Theory Miao Cheng, Shaowei Huang, Boda Li, Zhao Yang Department of Electrical Engineering, Tsinghua University huangsw@tsinghua.edu.cn
PowerCon 2021 CP0319	The Preliminary Conception of Access Protection for Distributed Generation Based on the Internet Communication Technology Ji Xu, Jianmin Zhang, Naizheng Jin, Kangyi Li, Caiming Yang, Hang Mu Hangzhou Dianzi University, State Grid Shaoxing Elect. Power Supply Company dlpuxj@sina.com
PowerCon 2021 CP0374	Design of Electric Vehicle Charging Station Based on PROFINET Bus Technology Considering Safety Issues Yang Han, Wang wenyu, Song Bin Wuhan University 1553145869@qq.com
PowerCon 2021 CP0419	Multi-agent deep reinforcement learning-based approach for optimization in microgrid clusters with renewable energy Xinying Wang, Sheng Chen, Dong Yan, Jing Wei, Zimin Yang China Electric Power Research Institute wangxinying@epri.sgcc.com.cn
PowerCon 2021 CP0472	Optimal P2G configuration of Park Integrated Energy System Considering Multiple Uncertainties Min Wu, Jiazhu Xu, Linjun Zeng, Yuxing Liu College of Electrical and Information Engineering, Hunan University xjz_academic@163.com
PowerCon 2021 CP0505	Machine Learning-Based Method for Power System Operation Rules Generation Lijie Ding, Xiaoyan Han, Qingfang Chen, Xinyi Lai, Zhen Chen, Fushuan Wen State Grid Sichuan Electric Power Company, Zhejiang University xinyi_lai@outlook.com
PowerCon 2021 CP0539	A Power Portfolio Method using DR- CVaR in Renewable Power Systems Xiaoyan Hu, Wanchun Qi, Chengjie Ni, Yiqing Xu, Quanquan Wang State Grid Jiangsu Electric Power Co., Ltd., East China Electric Power Design Institute Co., Ltd. 1559813748@qq.com

10.2 Poster Sessions

General Information

Poster panels with specified paper numbers and its session codes on the top, and necessities for posting the paper on the panel, such as sticky tapes, knives, scissors, will be provided by the organizer.

Authors should be prepared to answer questions from the audiences.

Format

1. All posters should be prepared in size A0.
2. The layout, design and fonts of the poster should be in line with the Poster Template which can be downloaded on the conference website.
3. The poster text should include the paper title, and authors' names. The illustrations in the poster may consist of equations, graphs, photographs and short text bullets, and the headings like Background of the work, Scope of the work, Work methodology, Results and Achievements, Benefits derived and Conclusion, are suggested in place.
4. The conference secretariat provides free poster printing service. Authors should send the poster files in PDF or PPT format to the secretariat before October 27.

Poster Session 1 : Operation and Key Technologies of New Type of Power System

Venue: Ballroom Foyer

Time: 08:30-10:30

PowerCon 2021 CP0002	Fault diagnosis of motor spindle based on SSA-SVM Anhao Li, Yi Luo, Yu Liang, Zhe Cheng, Haotian Xu, Hao Yin Guilin University of Electronic Science and technology, Qitaihe Power Supply Bureau 1034727949@qq.com
PowerCon 2021 CP0009	Analysis and Application of Relay Protection and Safety Automation Equipment Based on Big Data Platform Jingjing Wang, Miao Liu, Wei Pang, Yingxin Ma, Bo Zhuang, Zhisong Jin Electric Power Research Institute of State Grid Jibei Electric Power Co., Ltd. jingjing@vip.163.com
PowerCon 2021 CP0014	Economic Comparison of AC and DC Distribution Network Based on Power Supply Capability Shen Ye, Si Liu Marketing Service Center of State Grid Zhejiang Electric Power Co.,Ltd. candylys@zju.edu.cn

PowerCon 2021 CP0015	Study on the Adaptability of Power System Stabilizer Parameters under Deep Peak Regulation Condition Guangtao Zhang, Hao Liang, Huan Xie, Chuan Qin, Yang Shi, Yan Zhao, Wei Jiang, Yi'an Yan, Yubao Yuan State Grid Jibei Electric Power Research Institute, State Grid Fujian Electric Power Research Institute, Xi'an Branch of North China Electric Power Research Institute 295627439@qq.com
PowerCon 2021 CP0018	Overview of The Structure and Fault Detection on High-Temperature Superconducting Cables Ting Jiao, Bengang Wei, Wei Xie, Honglei Li State Grid Shanghai Municipal Electric Power Company 11351747@qq.com
PowerCon 2021 CP0020	Coordinated Control Strategy for Photovoltaic Power Plant with Battery Energy Storage System Xiaopeng Li, Houjing Guo, Xiaolei Cheng, Wenbin Cai, Yuan Wang, Shuran Liu Inner Mongolia Power Economic and Technological Research Institute, Hitachi ABB Power Grids SHURAN.LIU@HITACHIABB-POWERGRIDS.COM
PowerCon 2021 CP0039	Analysis of Commercial Model of Park-level Integrated Energy System Participating in Carbon Trading Considering Electric Vehicles Lei Huang, Xiaoyan Zhang, Shenghan Wang, Chuangxin Guo Department of Business Management Straits Institute of Minjiang University, College of Electrical Engineering of Zhejiang University 673107293@qq.com
PowerCon 2021 FP0047	Current status and research progress of bipolar plates for proton exchange membrane fuel cells Pengxiang Song, Geng Qiao, Xiao Hu, Xiaojian Xia, Guizhi Xu, Zhanfeng Deng Global Energy Interconnection Research Institute Europe GmbH, Global Energy Interconnection Research Institute Ltd., Electric Power Research Institute of State Grid Fujian Electric Power Company songpengxiang@aliyun.com
PowerCon 2021 CP0049	Development and application of three-dimensional visualization system for substation construction control based on blockchain technology Xiqun Luo, Hua Mao, Feng Wang, Yongfu Li, Hangwei Ji, Hailong Meng State Grid Tianjin Electric Power Company, China Energy Engineering Group Jiangsu Power Design Institute Co., Ltd., Beijing Guodiantong Network Technology Co. jihangwei@jspdi.com.cn
PowerCon 2021 CP0060	The Intelligent quality evaluation system of switchgear based on defect association rules Kuang Yin, Jian Fang, Hongbing Wang, Wenxiong Mo, Yu Tan, Jiaxing He Guangdong Power Grid Co., Ltd. 1142600875@qq.com

PowerCon 2021 CP0067	110kV and 220kV transformer neutral point gap and arrester standardization and relay protection configuration Rui Han, Mingzhong Liu, Yong Liu, Zuoheng Zhu, Yongkang Zheng, Yonghao Huang, Zihong Zhao State Grid Sichuan Electric Power Research Institute, State Grid Aba Power Supply Company 328123730@qq.com
PowerCon 2021 CP0068	Breakdown characteristics and gap distance standardization of neutral point gap in 110kV and 220kV transformers Mingzhong Liu, Rui Han, Yongkang Zheng, Zhe Yin, Jie Wu, Hao Wang, Jianjun Tian State Grid Sichuan Electric Power Research Institute, Beijing Zhongqing Intelligence Technology Co., Ltd. 328123730@qq.com
PowerCon 2021 CP0073	Application of intelligent flexible technology in neutral point protection of 110kV and 220kV transformers Rui Han, Mingzhong Liu, Hua Zhang, Yongkang Zheng, Jie Wu, Shilong Li, Rongsen Luo State Grid Sichuan Electric Power Research Institute 328123730@qq.com
PowerCon 2021 CP0074	Electric Power Monitor tracking algorithm based on Improved SiamFC Yuefeng Yang, Huisan Wang, Xiuping Shi, Wei Cai, Tianqi Li, Nan Cao, Wei Wang, Haitao Qu EPRI Electric Power Engineering Co., Ltd., State Grid Jibei Electric Power Co., Ltd. Research Institute wanghuisan@sgepri.sgcc.com.cn
PowerCon 2021 CP0079	Research on Payment, Clearing and Settlement System Based on Electric Vehicle Intelligent Networking Platform Guohui Shen, Hao Yuan, Yu Zhao, Aiguo Geng, Jimin Liu, Yanxi Li, Haiping Zhao Beijing Ke Dong company NARI Group Corporation zhaoyu_kd@163.com
PowerCon 2021 CP0098	Peak Shaving Auxiliary Service Market Model With Multi-type Power Participation Yue Shi, Cong Li, Lizhu Song, Chuanpu Zhu, Yanlan Fu, Yongqi He Hainan Power Grid Corporation 546804807@qq.com
PowerCon 2021 CP0101	Research on Vibration Characteristics of Converter Transformer Under the Influence of Harmonic Voltage and Harmonic Current Zhicheng Pan, Jinzhuang Lv, Jun Deng, Zhicheng Xie, Haibin Zhou Maintenance Test Center of EHV Power Transmission Company, China Southern Power Grid Co., Ltd., EHV Power Transmission Company 827432969@qq.com
PowerCon 2021 CP0102	Fault Causes Identification of Transmission Lines Based on Weighted Naive Bayes Classification Algorithm Combined with Complex Algorithm Sen He, An Chang, Hourong Zhang, Yunhai Song, Jianing Shang, Gang Zhao, Weiming Li Maintenance and Test Center of EHV Company of China Southern Power 990997166@qq.com

PowerCon 2021 CP0105	An optical fiber composite power cable panoramic state monitoring system for typical scene application Lidong Lu, Xiande Bu, QingShan Wang, Lidong Lv, Xiande Bu, Qingshan Wang Anhui University of Technology, Global Energy Interconnection Research Institute, Xuji Group Co. lvlidong@ahut.edu.cn
PowerCon 2021 CP0109	Distributed Cooperative Clearing Model of Peak Regulation Ancillary Service Market Under Ubiquitous Power Internet of Things Peikai Li, Jiayi Yang Guangxi Electric Power Dispatching Control Center 1011897855@qq.com
PowerCon 2021 CP0129	Comparative Analysis of Ferroresonance and Arc High Impedance Grounding Fault in High Voltage Transmission Line Hai Zhang, Jiwen Wang, Zongjie Liu, Jianwei Han, Jinying Liu, Haipeng Zhu Shandong Jining Power Supply Company of State Grid hunter_zhh@163.com
PowerCon 2021 CP0134	CSP-PV Joint Power Output Modeling Method based on Non-Parametric Kernel Density Estimation and Copula Theory Zhen Yang, Zhicheng Ma, Wei Chen, Xiaoying Zhang, Qiang Zhou Lanzhou University of Technology, Electric Power Research Institute of State Grid Gansu Electric Power Company 936109618@qq.com
PowerCon 2021 CP0139	Based on Blockchain to Construct Distributed Energy Trading Yu Shaoyuan, Geng Jian, Chen Aililn, Yang Shengchun, Li Yaping China Electric Power Research Institute Co., Ltd. yu950831@163.com
PowerCon 2021 FP0146	Study on Aging Mechanism of Membrane Electrode Assembly in Stationary Power Generation Fuel Cell with Variable Load Condition Pengxiang Song, Geng Qiao, Jie Song, Qing Ye, Guizhi Xu, Zhanfeng Deng Global Energy Interconnection Research Institute Europe GmbH, Global Energy Interconnection Research Institute Ltd. songpengxiang@aliyun.com
PowerCon 2021 CP0163	Research on peak shaving auxiliary service market considering the participation of pumping and storage power station Quan Zhou, Rui Mao, Xu Wen, Baosong Luo, Dong Fang, Lei He Southwest Subsection of State Grid, Beijing Ke Dong Electric Power Control System Co. bt0504@126.com
PowerCon 2021 CP0164	Degree of Polymerization Evaluation of power transformer with Near infrared spectroscopy using Back Propagation Neural Networks Xiaotao Fu, Xiaolin Chen, Yuan Li, Lincong Chen, Xinran Li, Ruien Zhang Electric Power Research Institute of Hainan Power Grid Co., Ltd, Xi'an Jiaotong University fuxiaotao123abc@163.com

PowerCon 2021 CP0166	Wavelet time-frequency diagram and convolutional neural network-based fault diagnosis of commutation failure in HVDC transmission system Kai Liu, Bide Zhang, Zhao Chen, Chengjian Li, Ping Peng, Jing Feng Xihua University, Southwest Branch of State Grid Corporation, State Grid Sichuan Electric Maintenance Company 384983644@qq.com
PowerCon 2021 FP0171	Research on Partial Discharge Recognition Method Based on S-transform Juzhuo Wu, Shuyuan Chen, Zijian Gao, Yiyang Huang, Guanghui Zeng, Chenchen Zhang Zhuhai Power Supply Bureau 793145171@qq.com
PowerCon 2021 CP0201	Total Transfer Capacity Calculation with Large Scale Wind Power Considering Power Curtailment Xiaoze Song, Fushou Sun, Peisheng Gao, Xin Liu, Xiaojing Li, Jiaqi Li State Grid Jilin Electric Power Company Limited, State Grid Changchun Power Supply Company, Department of Electrical Engineering Northeast Electric Power University songxzjl@163.com
PowerCon 2021 CP0202	Comparative Study on The Effectiveness of Partial Discharge Detection of Distribution Cables under Damped Oscillatory Wave Voltage and Ultra-low Frequency Voltage Xu Lu, Ge Wang, Yuli Wang, Jie Tian, Jinqiao Du, Zongxi Liu Shenzhen Power Supply Co., Ltd., China Electric Power Research Institute Co., Ltd., China Electric Power Research Institute Co., Ltd. 1144279028@qq.com
PowerCon 2021 CP0211	Design of Multi-source Message Big Data Platform for Power Grid Dispatching Based on Improved Ontology Aggregation Bingquan Zhu, Huahua Wu, Zhenhua Li, Xiang Ma, Cunzhi Dong, Leiyan Lv, Chuangxin Guo State Grid Zhejiang Electric Power Co., Ltd., State Grid Jinhua Electric Power Company Ltd., Zhejiang University chuangxin_lab@163.com
PowerCon 2021 CP0214	Application of Blockchain Technology in North China Power Dispatching and Auxiliary Services Jun Guo, Zhengfeng Cao, Lei Guo, Xiaotian Liu, Peiran Shi, Min Li NorthChina Branch of State Grid Corporation of China, NARI NanJing Control System Co.,Ltd., Beijing PowerChain Technology Co.,Ltd. guo.lei@nc.sgcc.com.cn
PowerCon 2021 CP0216	Fault detection and diagnosis of wind turbine gearbox based on acoustic analysis Zhenze Jiang, Yuan Cao, Qiang Yang Zhejiang University zhenzejiang@zju.edu.cn
PowerCon 2021 CP0220	Methods for Gas Turbine's Compressor General Characteristic Curve Prediction Rui Wu, Chao Liu, Dongxiang Jiang Department of Energy and Power Engineering wurui18@mails.tsinghua.edu.cn

PowerCon 2021 CP0225	Cloud- Edge Integrated State Identification Framework and Algorithm Zhidong Gu, Song Guo, Haijun Shen, Yi Sun, Wei Hu, Qiyuan He, Shuai Fan Hainan Digital Grid Research Institute, China Southern Power Grid, Hainan Electric Power School, Energy Security Department of Logistics Support Center, Shanghai Jiao Tong University, Laboratory of Control of Power Transmission and Conversion fanshuai@sjtu.edu.cn
PowerCon 2021 CP0235	Power Equipment Defect Text Mining Based on New Word Discovery and Feature Fusion Lintao Sun, Changbiao Liu, Wenyan Li, Xuanzhe Zhang, Yunfei Ai, Chuangxin Guo maintenance company of state grid zhejiang electric power company,Ltd. chuangxin_lab@126.com
PowerCon 2021 CP0241	Research on Lean Management Strategy of Power Grid Production Projects Based on Multi-platform Data Fusion and Project Big Data Mingde Cui, Kun Yu, Li Shen, Rui Mao, Mengyou Xu State Grid Tianfu New Area Electric Power Company, State Grid Sichuan Electric Power Company saiyimingde@163.com
PowerCon 2021 CP0244	Wide-area Monitoring and Analysis of Wide-band Oscillation in New Power Systems Ningning Ma, Xiaorong Xie, Yiqian Sun, Yanjun Zhang, Yongguang Li, Pengyin Liu Tsinghua University, Xinjiang Uygur Autonomous Region xiexr@tsinghua.edu.cn
PowerCon 2021 FP0247	Traveling Wave Fault Location Method for DC Line Based on Wavelet Reconstruction Algorithm Zonghan Li, Maohai Wang, Peng Zi, Huan Xie, Tianxiao Huang, Wenqing Lu North China electric power research institute, North China branch of State Grid Corporation of China m13263330129@163.com
PowerCon 2021 CP0251	Integrated Model of DFIG and SFR for Frequency Regulation Control Research of Wind Turbine Generator Xiaojun Huang, Yuqing Jin, Peng Yan, Junchao Ma, Chenxu Wang, Ping Ju College of Energy and Electrical Engineering Hohai University, Electric Power Research Institute State Grid Zhejiang Electric Power Corporation 932212443@qq.com
PowerCon 2021 CP0254	Realization of data-driven virtual sensors for gas turbine air filter pressure difference Tao Song, Chao Liu, Dongxiang Jiang Tsinghua University taosong1999@outlook.com
PowerCon 2021 CP0255	A Non-intrusive Industrial Load Monitoring Method Based on Motor Mechanical Transient Feature Extraction Zhaowen Liang, Yongqiang Liu, Jiajie Huang, Zhiquan Lu School of Electric Power South China University of Technology Guangzhou, China epzhaowen_liang@mail.scut.edu.cn

PowerCon 2021 FP0265	Determine the aging status of silicone rubber insulators base on smartphone hyperspectral cameras Lincong Chen, Xiaolin Chen, Xinran Li, Xiaotao Fu, Ruien Zhang, Tianci Wang Electric Power Research Institute of Hainan Power Grid Co.Ltd, Hainan University 13907640264@163.com
PowerCon 2021 CP0267	Fault traveling wave detection method based on VMD-MPE Yongxue Wang, Xiaoxin Liu, Shang Gao Yunnan University, China Southern Power Grid wangyongxue@mail.yun.edu.cn
PowerCon 2021 CP0269	Research on control strategy of battery energy storage participating in peak load shifting in Hainan Lige Huang, Linwei Li, Lipeng He, Liang Huang, Mingfan Chen Hainan Power Grid Co., Ltd. 739691717@qq.com
PowerCon 2021 CP0274	Dynamic security region algorithm considering sample imbalance and misclassification cost Zhengdong Ren, Wei Hu, Kun Ma State Grid Corporation of China, Tsinghua University 13944225711@163.com
PowerCon 2021 CP0286	Design and Analysis of AC&DC Power Distribution System for Low-Voltage Management at the End of Power Grid Li Jin, Ertao Lei, Kai Ma Electric Power Research Institute of Guangdong Power Grid Co.,Ltd., Electric Power Research Institute of Guangdong Power Grid Co. dkyjlinli@163.com
PowerCon 2021 CP0291	Optimization Algorithm and Application of Electrification Level Considering the Development of Energy Storage KangLi Xiang, Wenyue Cai, Siying Zhang, Jinchun Chen Power Economic Research Institute of State Grid Fujian Electric Power Co., Ltd., State Grid Xiamen Power Supply Company., State Grid Fujian Quanzhou Electric Power Supply Company xiangkangli@163.com
PowerCon 2021 CP0296	Distributed Storage System for Dispatch Information Supported by Blockchain Technology Huahua Wu, Xiang Ma, Bingquan Zhu, Cunzhi Tong, Zhenhua Li, Chuangxin Guo State Grid Zhejiang Electric Power Co., Ltd., State Grid Jinhua Electric Power Company Ltd., Zhejiang University chuangxin_lab@126.com
PowerCon 2021 CP0302	Research on Speech Recognition of Power Grid Dispatching Based on Big Data and Deep Learning Hong Zhang, Lin Xiao, Peng Yan, Qianhong Xiao Guizhou Power Grid Co ., Ltd ., Tongren Power Supply Bureau 1329179243@qq.com

PowerCon 2021 CP0303	Online Alarm Recognition of Power Grid Dispatching Based on PRADO Lei Huang, Xi Fang, Zhongqiang Zhou, Jiaying Mei, Shi Wang Guizhou Power Grid Co., Ltd., Tongren Power Supply Bureau 2428831427@qq.com
PowerCon 2021 CP0309	Modeling and topology analysis of S-SCDN supply area based on graph database Yanning Tian, Jianmin Zhang, Qiang Shen, Gang Li, Lei Chen, Huanlei Yu, Ting Li School of Automation Hangzhou Dianzi University, State Grid Shaoxing Electric Supply Company, State Grid Zhejiang Electric Power Company 3245019878@qq.com
PowerCon 2021 CP0317	Equivalent Modeling of Wind Farms considering Wake Effects and Analysis of Probability of Subsynchronous Oscillations Weihua Xiang, Peipeng Zhou, Liangeng Ban, Ming Zhang, Zutao Xiang, Ruanming Huang China Electric Power Research Institute, xiangweihua96@163.com
PowerCon 2021 CP0320	Design of Intelligent Dispatching System Based on Human Voice Adaptive Speech Recognition Wei Gu, Zhongming Xiang, Jianye Cui, Cunzhi Dong, Xiao Qian, Zhenhua Li, Chuangxin Guo State Grid Zhejiang Electric Power Co., Ltd., State Grid Jinhua Electric Power Company Ltd., Zhejiang University chuangxin_lab@126.com
PowerCon 2021 CP0337	Research on Synchronization Method of Differential Protection Based on 5G Wireless Communication Bixiang Dai Nanjing SAC Power Grid Automation Co. 75872878@qq.com
PowerCon 2021 CP0339	Joint Operation Method for Distributed Photovoltaics and Energy Storage System in Distributed Network Hai Huang, Lu Yin, Yongshu Zhang, Wei Wang, Wei Ye, Weijun Zhang State Grid Fujian Electric Power Company, Ltd., Sichuan Energy Internet Research Institute, Tsinghua University yinlu183@163.com
PowerCon 2021 CP0342	Research on new energy absorption capacity in the dual-carbon background Guodong Wu, Dian-gang Hu, Xiaohu Li, Dingmei Wang, Lijuan Liu Gansu Electric Power Corporation Electric Power Company, Lanzhou University of Techno, Electric Power Research Institute, Gansu Electric Power Company jujospace@163.com
PowerCon 2021 CP0343	Study on Load Aggregate Commercial Energy Storage Configuration Strategy for Planning and User Demand Response Uncertainty Wenxi Zhen, Xiping Ma, Chenyun Wang, Weicheng Shen Electric Power Research Institute, Gansu Electric Power Company jujospace@163.com

PowerCon 2021 CP0347	Standard Analysis on Environmental Test for Electric Robots in the tropics Song-Ling Pang, Hai-Long Zhao, Zhi Li, Chen Zhu, Jun Wang Electric Power Research Institute of Hainan Power Grid Co., Ltd., China National Electric Apparatus Research Institute Co. 99608314@qq.com
PowerCon 2021 CP0348	Grounding Fault Line Selection Data Model for Distribution Network Based on Random Forest Algorithm Heping Peng, Le Luan, Yong Wang, Wenxiong Mo, Zhong Xu Guangzhou Power Supply Bureau of Guangdong Power Grid Co., Ltd. hekaiyuany@126.com
PowerCon 2021 CP0358	Power skill training knowledge base construction based on knowledge map and improved FP-Growth Jiabing Han, Yukai Li, Quan Wang, Meng Yang, Jun Zhao, Jinhui Zhao Beijing Kedong Electric Power Control System Co., Ltd. cynthiajij@126.com
PowerCon 2021 CP0362	Research on Data Service Directory Construction Technology for Power Grid Enterprise Data Middle Platform Lei Xu, Peng Wu Jiangsu Electric Power Information Technology Co., Ltd. 13813080280@163.com
PowerCon 2021 FP0367	Fast Shapelet Learning for Power System Dominant Instability Mode Identification Runfeng Zhang, Zhongtuo Shi, Wei Yao, Yanhao Huang, Yong Tang, Jinyu Wen Huazhong University of Science and Technology, China Electric Power Research Institute runfeng_zhang@hust.edu.cn
PowerCon 2021 CP0369	Verification method of topological relationship of low voltage distribution equipment based on KNN and Pearson correlation coefficient Qiangwei Gao, Bin Han, Xu Huang, Pan Zhang, Jiaheng Liu, Leijiao Ge Chengdong Power Supply Branch State Grid Tianjin Electric Power Company, School of Electrical and Information Engineering Tianjin University 2020234047@tju.edu.cn
PowerCon 2021 CP0382	Locational marginal pricing-oriented transmission network expansion planning with consideration of line capacity sensitivity Yang Liu, Fang Liu, Jing Gou, Bo Pang, Yuqi Han, Fuyang Wang, Youbo Liu State Grid Sichuan Economic Research Institute, College of Electrical Engineering Sichuan University 951664834@qq.com
PowerCon 2021 CP0383	A Grey Wolf Algorithm Optimized SVM Method for Voltage Sag Identification in Distribution Systems Wenxiong Mo, Heping Peng, Yong Wang, Le Luan, Zhong Xu CSG wujiekang@163.com
PowerCon 2021 CP0384	A Local Density Clustering Based Method for Disturbance Source Identification of Power quality in Distribution Systems Yong Wang, Heping Peng, Wenxiong Mo, Le Luan, Zhong Xu CSG wujiekang@163.com

PowerCon 2021 CP0385	Location Method for Three Phase Unbalance Sources in Distribution Network Based on CSO Optimized Deep Belief Network Le Luan, Heping Peng, Wenxiong Mo, Yong Wang, Zhong Xu CSG wujiekang@163.com
PowerCon 2021 CP0387	A PSO Optimized Support Vector Machine Method for User Identification of Distribution System with Electric Vehicles Zhong Xu, Heping Peng, Wenxiong Mo, Yong Wang, Le Luan CSG wujiekang@163.com
PowerCon 2021 CP0397	Collaborative optimization of multi-park integrated energy system containing hydrogen storage Yuan Chao NJUPT. College of Automation & College of Artificial Intelligence 2521543656@qq.com
PowerCon 2021 CP0403	Research on Internal Temperature Field and Hydrogen Diffusion Characteristics of Inverted Oil-Immersed Current Transformer Peng Wu, Xiaohan Li, Yiming Wu, Jiansheng Li, Yong Ma State Grid Jiangsu Electric Power Co., Ltd., Research Institute, State Grid Jiangsu Electric Power Co.,Ltd. 1095893473@qq.com
PowerCon 2021 CP0415	Research on Collaborative Optimal Configuration Method of Charging Pile and Energy Storage in Active Distribution Network Based on Double Layers and Multi-Scenarios Jinjian Cai, Zhiping Wang, Xigen Feng, Xiaohua Chen, Hongye Zhang Dongguan University of Technology, Jiangmen Electric Power Engineering Transmission and Transformation Co., Ltd. 690989023@qq.com
PowerCon 2021 CP0418	A protection scheme for MMC-MVDC Grid based on the characteristics of voltage traveling waves Yiming Chen, Haotian Chen, Lang Jiang, Wei Chen, Yuhan Cao, Luo Bing Huazhong University of science and technology yimier@foxmail.com
PowerCon 2021 CP0421	Research on intelligent terminal fusion scheme based on blockchain Technology Chao Ma, Feng Zhai, Xia-qiang Yan, Wei Zhang China Electric Power Research, Beijing Huayuan Cryptology & Blockchain Technology Co., Ltd. mc18804609207@163.com
PowerCon 2021 CP0422	Research on Virtual Inertia of Static Optical Storage Element Xiaodong Zhang, Taikun Tao, Xiaodong Zhang, Yuling Ma, Yijia Shang Beijing Jiaotong University, Cangzhou Jiaotong College 19121493@bjtu.edu.cn

PowerCon 2021 CP0423	Graph Neural Network Based Transient Stability Assessment Considering Topology Changes Ji Qiao, Xiaohui Wang, Jiawei Ni, Mengjie Shi, Hantao Ren, Ersong Chen China Electric Power Research Institute, State Grid Hebei Electric Power Co., Ltd. qiaoji@epri.sgcc.com.cn
PowerCon 2021 CP0430	Optimal Procurement of VPP Voltage Regulation Ancillary Service in Distribution Networks with High Penetration of PV Jinquan Zhao, Chufan Hu, Zemei Dai, Tianhua Chen Hohai University, NARI Group Corporation Engineering 191924121@qq.com
PowerCon 2021 CP0437	Single-phase short-circuit voltage sag source location method based on wavelet transform and traveling wave ranging Xiaohua Chen, Zhiping Wang, Jiaying Li, Xigen Feng, Shengyu Chen, Jinjian Cai Dongguan University of Technology, Guangdong University of Technology, Guangdong Polytechnic Normal University, Jiangmen Electric Power Engineering 2553645495@qq.com
PowerCon 2021 CP0438	A Method Of Active Power Random Allocation For Power Grid Stability Analysis Zhaohui Qie, Zhaowei Li, Wei Li, Jian Gao, Qu Shi NARI Group Corporation (State Grid Electric Power Research Institute) Nanjing, China qiezhaohui@sgepri.sgcc.com.cn
PowerCon 2021 CP0440	Research on the Evaluation Index System of the Rational Utilization Rate of Gansu New Energy under the Background of Double-carbon Bolin Zhang, Ruha Hao, Chong Shao, Haoming Niu, Xujun Zhang, Wenfu Liu Electric Power Research Institute, Gansu Electric Power Company jujospace@163.com
PowerCon 2021 CP0445	Improving the accommodation of renewable resources by distributed energy management in a grid-connected system considering multiple demand responses Peng Wang, Ershun Du, Jingyi Zhang, Danyang Yao, Pan Gu, Ning Zhang Tsinghua University, State Power Economic Research Institute ningzhang@tsinghua.edu.cn
PowerCon 2021 CP0446	Module Research of Blockchain-based Power Equipment Inspection and Data Asset Sharing Yuwei Zhang, Aijun Yan, Chenlong Zhou Xi'an Thermal Power Research Institute zhangyuwei@tpri.com.cn
PowerCon 2021 CP0451	Research on The Collection Technology of The Internet of Things Evolution of The Automatic Metering System Ying Sun, Qiong Wu, Xiaoqiang Wu, Jinyang Du, Haitong Gu, Enzhen Hou, Shangda Liang Guangzhou Power Supply Bureau of Guangdong Grid Co, China Energy Engineering Group Guangdong Electric Power Design Institute Co.,Ltd. 410050938@qq.com

PowerCon 2021 CP0453	Study on Daily Line Loss Calculation Based on Operation Data and Resistance Characteristics of Low Voltage Distribution Transformer Area Wei Wang, Weiheng Wang, Shuhong Song, Wei Hu, Qiuting Guo State Grid Shenyang Electric Power Supply Company qt_guo3721@126.com
PowerCon 2021 CP0454	A bi-level optimal configuration model of isolated microgrid considering energy storage lifetime Lihong Ma, Kai Sui, Yafeng Liang, Jianhong Qiu, Xi Cheng, Lei Shang, Xuzhu Dong Hainan Power Grid Co., Ltd., China Southern Power Grid shanglei@whu.edu.cn
PowerCon 2021 FP0474	Analysis of Commutation Failure in LCC-HVDC During Unbalanced Conditions Using Sequence Components Ahmed Omer Salih Shandong University aosm19@hotmail.com
PowerCon 2021 CP0477	Utilization of Electrochemical Energy Storage System with External Characteristics of Voltage Source for Independent Voltage Support in Power Systems Shang Zhang, Xiaohui Qin, Jian Zhang, Chunmeng Chen China Electric Power Research Institute, State Grid Qinghai Electric Power Company zhangshang@epri.sgcc.com.cn
PowerCon 2021 CP0482	Research on operation strategy of concentrating solar power considering grid voltage stability and clean energy consumption Yazhou Lv, Qiang Zhou, Zhaohui Qie, Pengfei Gao, Zhaowei Li, Ningbo Wang NARI Group Corporation(State Grid Electric Power Research Institute), Electric Power Research Institute of State Grid Gansu Electric Power Company lyzwnx@126.com
PowerCon 2021 CP0488	Resilience Assessment of Integrated Energy Distribution Networks Considering Distributed Energy Resources Zhiyun Liu, Haifeng Qiu, Liguang Weng, Man Luo, Linfeng Han, Jing Li Hangzhou Power Supply Company, State Grid Zhejiang Electric Power Corporation, Zhejiang Zhongxin Electric Power Engineering Construction Corporation Linyang_Han@163.com
PowerCon 2021 CP0498	The Sequence of Regulation Clearing Comparing to Energy and Zhejiang Practice Lei Liu, Feng Gao, Mei Liu Beijing TsingSoft Inc liuleijulia@outlook.com
PowerCon 2021 CP0499	Operation characteristics of virtual power plant and function design of operation management platform under emerging power system Yunlei Zhang, Weiwei Pan, Xingdan Lou, Jing Yu, Jiaqi Wang State Grid Zhejiang Electric Power Co., Ltd., Zhejiang Huayun Information Technology Co. 11710014@zju.edu.cn

Poster Session 2: New Type of Power System and Consumption of Renewable Energy

Venue: Ballroom Foyer

Time: 10:45-12:30

PowerCon 2021 CP0005	Annual maintenance and generation optimal scheduling considering flexibility performance of renewable energy dominated system Yisha Lin, Zongxiang Lu, Ying Qiao, Jian Zhang, Junling Wu Tsinghua University, China Electric Power Research Institute lys_ncepu@126.com
PowerCon 2021 CP0007	Voltage Feed Forward Shunt Active Power Filter Based On Double Loop Control Yi Zhang, Zhengyuan Dai, Yong Fang Kunming Power Supply Bureau Yunnan Power Grid Co., Ltd. 13529321650@163.com
PowerCon 2021 CP0025	Analysis on Dynamic Voltage of Renewable Energy Generators During Post-Fault Recovery Based on Monotone Control Theory Qian Zhang, Minquan Chen, Wenqing Hao, Zhenyao Li, Deqiang Gan Zhejiang University zhangqianleo@zju.edu.cn
PowerCon 2021 CP0029	Rotor Design of HTS homopolar inductor alternator based on multi-physics field Shaopeng Wang, Wenjiang Yang, Aimei Tian, Dongbin Song, Mingliang Bai Beihang University yangwjbuaa@buaa.edu.cn
PowerCon 2021 CP0031	A Supplementary Damping Controller of TCPST on Subsynchronous Oscillation Qianyun Shi, Shan Gao, Xin Zhao, Ningyu Zhang, Yan Wang, Qian Zhen, Longfei Yang, Congxiao Liu Southeast University, Southeast University, State Grid Jiangsu Electric Power Co., Ltd. Research Institute 443617500@qq.com
PowerCon 2021 CP0035	The Research and Application of Intelligent Distributed Feeder Automation in Overhead Line Juzhuo Wu, Shuyuan Chen, Zijian Gao, Yiyang Huang, Guanghui Zeng, Chenchen Zhang Zhuhai Power Supply Bureau 793145171@qq.com
PowerCon 2021 CP0041	An Event-Driven Scenario Modeling and Replay Method for Operational Safety Audits in NPPs Jun Yang, Jieheng Liang, Qiang Chen, Yuerui Deng, Wanqing Chen, Ming Yang School of Electric Power Engineering South China University of Technology Guangzhou, China Electronic Product Reliability and Environmental Testing Research Institute youngjun51@hotmail.com

PowerCon 2021 CP0043	<p>Research on Dynamic Virtual Synchronous Machine Control System of Energy Storage Converter</p> <p>Jian Wu, Wenchao Qiu, Ling Xu, Peng Huang, Jun Zou, Peihao Yang, Qi Chai Huaneng Taicang Power Generation Co., Ltd. 44960280@qq.com</p>
PowerCon 2021 CP0065	<p>Initialization of DFIG Wind Turbine for Electromagnetic Transients Simulation</p> <p>Shixia Mu, Hongfu Wang, Tao Liu, Xia Li, Hanyang Dai, Xiong Xiao China Electric Power Research Institute mushixia@163.com</p>
PowerCon 2021 CP0071	<p>Simulation analysis of thermomechanical characteristics of power cable under the ducts laying</p> <p>Yun Cong, Gencheng Wang, Xunping Yan, Zhenpeng Zhang, Xiaobing Li, Xindong Zhao State Grid Zhejiang Electric Power Co., Ltd. 13971276891@163.com</p>
PowerCon 2021 CP0076	<p>Cascading Failure Analysis With Load Uncertainty in Cyber-Physical Power Systems</p> <p>Xingle Gao, Minfang Peng, Runfu Zhou, Yong Deng Hunan University xingle_gao@163.com</p>
PowerCon 2021 CP0077	<p>Modeling and Small-Signal Stability Analysis for Time-Delayed AC Networked-Microgrid Systems in Islanded Mode</p> <p>Dalin Qin, Linglin Xue South China University of Technology qindalin641@gmail.com</p>
PowerCon 2021 CP0078	<p>Identification of Photovoltaic System using a Frequency-domain Approach</p> <p>Jiawei Qian, Zhenyao Li, Deqiang Gan, Zhihao Tian, Shibin Bai, Hailiang Zhong, Gang Liu Zhejiang University, Ningxia Electric Power Dispatch Center qianjw_chandler@zju.edu.cn</p>
PowerCon 2021 CP0080	<p>Study on the Impact of Excitation System on Forced Power Oscillation of Francis Hydro-generator across Vibration Zone</p> <p>Dahai Yu, Ming Nian, Chengxiang Huo, Chao Xia, Wenfeng Li, Yingcheng Huang, Huadong Pu China electric power research institute, Capital Engineering & Research Incorporation Ltd., State Grid Sichuan Comprehensive Energy Service Co., YaLong River HydroPower Development Company merlin_yu@126.com;yudahai@epri.sgcc.com.cn</p>
PowerCon 2021 CP0082	<p>An Excitation Mode Analysis Method for Multi-Machine Systems Based on Minimum Characteristic Loci</p> <p>Wei Huang, Hao Xu, Qingbo Zhang, Simin Wu, Deqiang Gan Yunnan Electric Power Dispatching and Control Center, Zhejiang University xuhao0729@qq.com</p>

PowerCon 2021 CP0094	Analysis of the Influence of Wind Farms in Full Operating Conditions on the Torsional Vibration of The Shaft System of Synchronous Generators Qi Jia, Wenchao Zhai, Qiang Zhang, Mohan Shen State Grid Liaoning Electric Power Research Institute, Northeast Electric Power University 15948692960@163.com
PowerCon 2021 CP0097	Simplified Modeling of the Power-electronized Load Based on Sensitivity Analysis Shiqiu Xia, Yuqing Jin, Lu Cao, Jianhua Li, Ping Ju College of Energy and Electrical Engineering Hohai University, East China Branch of State Grid Corporation of China 1650474421@qq.com
PowerCon 2021 CP0100	The effects of TCPST on power frequency overvoltage in EHV line Zuohong Li, Feng Li, Mengze Yu, Ruoping Liu, Shan Yu, Chengjun Xia, Zhaobin Du Guangdong Power Grid Co., Ltd., South China University of Technology 1518939017@qq.com
PowerCon 2021 CP0104	Analysis of the Allocation Approaches of Carbon Emission Allowances Yueyong Yang, Hongliang Wu, Junqi Xie, Weiyong Lin, Tianyao Ji Energy Development Research Institute CSG, School of Electric Engineering SCUT 946858165@qq.com
PowerCon 2021 CP0110	Research on Generation Expansion Planning Model with Comprehensive Weight Based on Improved AHP zhoumaowen Yunnan Electric Power Design Institute Co., Ltd. 609048407@qq.com
PowerCon 2021 CP0112	Power-to-Hydrogen: Process Modeling and Thermodynamic Analysis of High Temperature Solid Oxide Electrolysis Dandan Wang, Yalou Li, Yuze Dai, Fang Li China Electric Power Research Institute wangdandan_iet@163.com
PowerCon 2021 CP0116	Selection Methods of Main Circuit Parameters for Modular Multilevel Matrix Converters Xiaojun Ni, Peng Qiu, Jindian Lin, Yi Lu, Yuqi Jin, Hua Xu State Grid Zhejiang Electric Power Co., Ltd. Research Institute nixiaojun99@163.com
PowerCon 2021 CP0126	Control Strategy for Low Frequency AC Transmission Under Single-Phase Outage Condition Jintian Lin, Yuqi Jin, Wen Hua, Xiaoming Huang State Grid Zhejiang Electric Power Co., Ltd. Research Institute, State Grid Zhejiang Electric Power Co., Ltd. linjintian_ljt@163.com

PowerCon 2021 CP0127	Optimal Transmission Frequency of Low Frequency AC System for Offshore Wind Farm Integration Peng Qiu, Xiaojun Ni, Feng Xu, Chengyu Lu, Kaijun Wang, Wulue Pan State Grid Zhejiang Electric Power Co.,Ltd. Research Institute qipeng41@163.com
PowerCon 2021 CP0131	Research and Practice of Clean Energy Transaction Mechanism in the New Power System Xiangrui Liu, Na Zhou, Dianning Wu, Minghui Yan, Yuhui Xing Kunming Power Exchange Center Co., Ltd. 835584145@qq.com
PowerCon 2021 CP0133	Research on Multi-person Bargaining Strategies of Green Certificate Bilateral Transaction Zhang Yuzhuo, Wu Peng, Shan Baoguo, Tan Xiandong, Huo Molin State Grid Energy Research Institute hdzyz1102@126.com
PowerCon 2021 CP0144	Short-term Wind Power Forecast based on Teleconnected NWP Information Jiaming Li, Ying Qiao, Zhifeng Liang, Zongxiang Lu Tsinghua University, State Grid Corporation of China lijiaminggood@163.com
PowerCon 2021 CP0151	Strengthening Methods of Power Grid Fed with Large-Scale Offshore Wind Power Jinmin Cheng, Hui Cai, Junli Zhang, Zheng Xu, Zhuyi Peng, Sixuan Xu State Grid Jiangsu Electric Power Co., Ltd., State Grid Jiangsu Electric Power Co., Ltd. Economic Research Institute, College of Electrical Engineering, Zhejiang University 11910064@zju.edu.cn
PowerCon 2021 CP0153	Research on the Smart Tower of Transmission Line Based on the Architecture of Distributed Regional Autonomous System Xiaohua Zhang, Jingzhe Yu, Yi Lu, Wenxiang Xue, Shuyuan Wang, Hui Wang, Yuan Chen, Xu Zhang, Yanfeng Gao, Bin Su, Min Liu, Shuochao Fan State Grid Jibei Electric Power Co., Ltd., Electric Power Research Institute 497094889@qq.com
PowerCon 2021 CP0154	Testing of Ethernet Function of Domestically-made FPGA Chip and Acquisition Board for the Application of Protective Relaying Bin Wang, Xiaocai He, Yingjie Jiang, Xinquan Lv, Zhimei Zhou, Chen Feng, Xinzhou Dong Department of Electric Engineering in Tsinghua University, State Grid Shandong Electric Power Company, Beijing Smartchip Microelectronics Technology Co. Ltd. 603270640@qq.com
PowerCon 2021 CP0155	Measurement of LVRT and HVRT characteristics of SVG and parameter identification of electromechanical simulation model Guoqiang Lu, Xiangyu Tao, Dahai Yu, Ming Nian, Chunmeng Chen, Jiatian Gan Electric Power Research Institute of State Grid Qinghai Electric Power Company, China electric power research institute, Capital Engineering & Research Incorporation Ltd., State Grid Qinghai Electric Power Company merlin_yu@126.com;yudahai@epri.sgcc.com.cn

PowerCon 2021 CP0167	Hardware-in-Loop Real-Time Simulation for Battery Energy Power Conversion System Based on RT-LAB Yongqi Li, Youjie Shi, Zhenkai Hu, Bo Lei, Wenming Gong, Yue Wu China Southern Power Grid Power Generation Co., Ltd., Electric Power Research Institute China Southern Power Grid 1026003013@qq.com
PowerCon 2021 CP0172	Joint Location Planning of Distribution Network and Sensitive users Considering the Influence Of Voltage Sag Peng Zhang, Ling Pan, Bing Shen, Yingjie Tian State Grid Shanghai Electric Power Research Institute 932241522@qq.com
PowerCon 2021 CP0174	Modified Short-term Wind Power Forecasting Method for Improvement of Accuracy and Algorithmic Stability Wei Ma, Ying Qiao, ZongXiang Lu, ZhiFeng Liang, YongHui Yang Tsinghua University, State Grid Corporation of China 2437331975@qq.com
PowerCon 2021 CP0177	Method of Cyber-Physical System Based on Self-Approaching Optimization Theory for Smart Microgrid Zhun Zhong, Weifeng Liu, Song Guo, Zhiyong Li, Huan Zhou, Peng Ji Hainan Electric Power School of Hainan Power Grid, Shanghai Jiao Tong University liuweifeng@sjtu.edu.cn
PowerCon 2021 CP0178	Self-Healing Capability Evaluation for Microgrid in Disaster Scenario Weifeng Liu, Shaolun Xu, Huan Zhou, Yan Meng, Yihan Wei, Guangyu He Shanghai Jiao Tong University liuweifeng@sjtu.edu.cn
PowerCon 2021 CP0182	Probability Analysis for Multiple-time Renewable Energy Forecast Error Using Conditional D-Vine Qiang Li, Junyi Yang, Han Wu, Yue Yuan, Yuhan Hou Electric Power Research Institute of State Grid Jiangsu Electric Power Co.Ltd., State Grid Jiangsu Electric Power Co., Ltd. and Hohai University, Nanjing Institute of Technology wuhanichina@vip.qq.com
PowerCon 2021 CP0183	Overview of Frequency Regulation Technology of Power System with High Wind Power Penetration Wenbo Li, Xinyao Zhu, Hongyu Zhou, Wei Yao, Jinyu Wen State Grid Jiangsu Electric Power CO., Ltd. Research Institute, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology ee.henry_zhou@foxmail.com
PowerCon 2021 CP0187	Short-Term Wind Power Prediction of Regions Based on Deep Long Short-Term Memory Network and Gaussian Process Regression Xiaoyun Qu, Yu Ji, Ying Zhang, Wen Yue Wang State Grid Shanghai Energy Interconnection Research Institute Co., Ltd. xiaoyun_Qu@126.com

PowerCon 2021 CP0190	Modeling of High Voltage DC Power Supply System for More Electric Aircraft Based on Co-simulation of Saber-Simulink Wentao Zhu, Yufeng Wang, Weilin Li Northwestern Polytechnical University, Qingdao Research Institute of Northwestern Polytechnical University zwt1071526053@163.com
PowerCon 2021 CP0192	Heterogeneous Resources Self-organizing Demand Response Model Based on Federal Thought and Influence Model Haoyuan Cheng, Qian Ai, Yun Chen, Jiayu Wang, Xingde Huang, Yufan Zhang Shanghai Jiao Tong University, State Grid Pudong Power Supply Company, State Grid Pudong Power Supply Company chenghaoyuan@sjtu.edu.cn
PowerCon 2021 CP0193	The Basic Idea and Preliminary Exploration of Electromagnetic Transient Simulation of Large-scale Power Electronic Power System Yifeng Dong, Jianbo Guo, Shihong Miao, Junxian Hou, Shicong Ma, Tiezhu Wang Huazhong University of Science and Technology, China Electric Power Research Institute, Zhejiang WanLiYang Energy Technology Limited Company yifengdong@163.com
PowerCon 2021 CP0206	Practical Model of Wind Generator with Auxiliary Frequency Controller on PSS/E Hui Cai, Wenjia Zhang, Sixuan Xu, Zhuyi Peng, Zheyang Yu, Zheng Xu Economic Research Institute of State Grid Jiangsu Electric Power Co., Ltd., Department of Electrical Engineering of Zhejiang University 906267954@qq.com
PowerCon 2021 CP0208	Expansion Planning of Active Distribution Network Considering the Impact of Extreme Weather Liangyi Zhang, Kunpeng Zhou, Defu Cai, Yuze Rao, Rusi Chen, Haiguang Liu State Grid Hubei Electric Power Research Institute 317758179@qq.com
PowerCon 2021 CP0227	Optimization of Maintenance Time Window Scheduling Suitable for Active Distribution Network Yicheng Wei, Qi Zhao, Zemei Dai, Yang Lyu, Jiang Tian, Qiuxia Feng NARI Group Corporation(State Grid Electric Power Research Institute), State Grid Suzhou Power Supply Company wycheng1227@163.com
PowerCon 2021 CP0233	Ultra-short-term Distributed Photovoltaic Power Forecasting Based on Cloud Image Feature Extraction Zhihua Wang, Dihan Pan, Feng Gao, Huan Zhou, Lianxin Dong, Guangyu He Electric Power Dispatching and Communication Center, Laboratory of Control of Power Transmission and Conversion, Ministry of Education(Shanghai Jiao Tong University) pandihan@sjtu.edu.cn

PowerCon 2021 CP0238	<p>Verification method of SCD file in smart substation based on improved k-nearest neighbor algorithm</p> <p>Peng Xu, Xiaobin Ding, Ye Peng, Xu Chen, Guangjia Zhang, Jin Li Power Dispatching and Control Center of China Southern Power Grid, CYG SUNRI Co., Ltd. jimlee0808@163.com</p>
PowerCon 2021 CP0242	<p>Analysis the Effect of Complex Soil Structure on Potential Distribution Caused by Metro Stray Current</p> <p>Yuhang Tang, Yanru Ni, Kun Yu, Xiangjun Zeng, Chao Zhuo, Wei Han Changsha University of Science and Technology, State Grid Taiyuan Power Supply Company 843368522@qq.com</p>
PowerCon 2021 CP0246	<p>Matching and Generation Method of Virtual Terminals in Smart Substation Based on Reinforcement Learning and Semantic Analysis</p> <p>Peng Xu, Xiaobin Ding, Ye Peng, Xu Chen, Hongjun Liu, Jin Li Power Dispatching and Control Center of China Southern Power Grid, CYG SUNRI Co., Ltd. yd_333613@163.com</p>
PowerCon 2021 CP0263	<p>Research on the Control Strategy of Hybrid Energy Storage Cooperative Operation Based on VSG Control</p> <p>Jingsen Yu, Jianhui Meng, Kairang Wang, Hui Liu, Di Liu North China Electric Power University(Baoding), North China Electric Power Research Institute Warrzy@163.com</p>
PowerCon 2021 CP0277	<p>Research and Analysis of an Intelligent Alarm Portable Safety Belt for Preventing Personal Accidents</p> <p>Hong Li, Mingli Fang, Hang Cheng, Yuyi Wang, Xiang Wang, Linfeng Yang Guizhou Power Grid Co., Ltd. Liupanshui Power Supply Bureau 2809780802@qq.com</p>
PowerCon 2021 CP0280	<p>The Source-Load-Storage Coordinated Planning Model Considering Flexibility Constraints</p> <p>Si Zhang, Yaoliang Yan, Sunben Lin, Yiyan Tu, Ziyang Liang, Chao Guo State Grid Zhejiang Electric Power Corporation, Jiaying Power Supply Company State Grid Zhejiang Electric Power Corporation, Maintenance Company State Grid Zhejiang Electric Power, School of Electrical Engineering Zhejiang University gdyjtlzy@gmail.com</p>
PowerCon 2021 CP0285	<p>Container-Based Microservice Modeling and Computing Resource Scheduling Method for Distribution Network Protection</p> <p>Kun Yang, Zhen Xiang, Shan Huang, Zhongqi Cai, Chao Liu Zhuhai Power Supply Bureau Guangdong Power Grid Co., Ltd. yangkundeyx@163.com</p>

PowerCon 2021 CP0292	Model Predictive Control of Direct Drive Wave Energy Generation Chuan Qin, Pengfei Ding, Mohan Jin, Wei Ding, Anni Jiang College of Energy and Electrical Engineering Hohai University, Tianchang Power Supply Company State Grid Anhui Electric Power Company 1209451912@qq.com
PowerCon 2021 CP0294	Analysis of Grid inertia and Frequency Characteristics under the Condition of Coupling Thermal Power Units with Photovoltaic Power Generation Jingliang Zhong, Tongtian Deng, Xiaolong Gou, Xiankui Wen, Zhilin Li Electric Power Research Institute of Guizhou Power Grid Co.,Ltd., Chongqing University 13985469075@139.com
PowerCon 2021 CP0301	Frequency-Coupled Impedance Modeling and Stability Analysis of Multiple Grid-Connected Voltage-Source Converters Peipeng Zhou, JianFeng Yan, Ruihua Song, Yalou Li, Tao Liu, Weihua Xiang State Key Laboratory of Power Grid Safety and Energy Conservation (China Electric Power Research Institute) zhoupeipeng@163.com
PowerCon 2021 CP0304	Control Performances of CSP Generator's Excitation System and Speed Governor Based on Measured Data Liang Zhao, Qiang Zhou, Dawei Zhao, Ningbo Wang, Fubao Wu, Xitian Wang China Electric Power Research Institute, State Grid Gansu Electric Power Company, Shanghai JiaoTong University zdw99992133@126.com
PowerCon 2021 CP0306	Research on Electric Power Data Governance System and Its Application Peng Chen, Bing Cai State Grid Ningxia Electric Power Co., Ltd. 745409549@qq.com
PowerCon 2021 CP0328	A Harmonic Current Compensation Strategy Based on Improved Generalized Integral Control Qunwei Xu, Huafeng Luo, Zhiquan Ma, Pei Li, Feibai Zhu, Chengyu Lu State Grid Zhejiang Electric Power Co., Ltd. Research Institute qunwei_xu@163.com
PowerCon 2021 CP0329	Research on the Mechanism And Control Methods of Repeated Voltage Fluctuations in Large-scale Wind Power Integration System Man Xu, Linlin Wu, Haitao Liu, Yanchen Yang, Yunhong Li Research Institute State Grid Jibei Electric Power Co., Ltd., Dispatching Center State Grid Jibei Electric Power Co., Ltd. 512284754@qq.com
PowerCon 2021 CP0353	Frequency measurement method of small hydroelectric microgrid based on Kalman algorithm Xian Wang, Peipei Liu, Ronghai Zhang Guangdong Power Grid Co., Ltd. 1664475237@qq.com

PowerCon 2021 CP0354	<p>Research on Stability of Smallhydropower and Wind Power Microgridwith Different Load Access Points</p> <p>Zhifeng Li, Xiaodie Zhang, Dengmin Mai, Jiaqi Li, Zhidong Wang, Jinyang Wang, Yihua Luo</p> <p>Guangzhou City University of Technology, Guangdong Power Grid Co. 1664475237@qq.com</p>
PowerCon 2021 CP0364	<p>Integrated Planning of Data Center and Distributed Renewable Energy in Distribution Systems</p> <p>Yuying Zhang, Xu Hao</p> <p>CHN Energy New Energy Technology Research Institute Co., Ltd., North China Electric Power University zhyuying@126.com</p>
PowerCon 2021 CP0371	<p>Generation-network-storage Collaborative Planning of Jiangsu Power Grid Towards Carbon Neutrality</p> <p>Xiaoyan Hu, Yi Ge, Jing Shi, Bingjie Li, Ziyang Zhang, Jiabin Wang, Peng Wang, Ershun Du</p> <p>State Grid Jiangsu Economic Research Institute, Department of Electrical Engineering, Tsinghua University zy-zhang19@mails.tsinghua.edu.cn</p>
PowerCon 2021 CP0375	<p>Analysis on Supporting Potential of Flexible Loads to Power Grid Operation from Perspective of Distribution Network Planning</p> <p>Wenlong Li, Minghui Guo, Jiaqi Li, Shaoting Feng, Fengzhang Luo, Xiaoxiao Wang</p> <p>State Grid Jibei Chengde Electric Power Supply Company, Key Laboratory of Smart Grid of Ministry of Education fengshaoting@tju.edu.cn</p>
PowerCon 2021 CP0379	<p>Reactive Power Load Forecasting based on K-means Clustering and Random Forest Algorithm</p> <p>Xueting Cheng, Tan Wang, Yegong Li, Jun Pi, Mengzan Li, Bowen Liu</p> <p>State Grid Shaanxi Electric Power Company Electric Power Science Research Institute, North China Electric Power University 1534848271@qq.com</p>
PowerCon 2021 CP0392	<p>Model of Resonance Predictive in Pitch System of Wind Turbine Based on Vector Fitting</p> <p>Rui Li, Qiling Huang</p> <p>Haikou Power Supply Bureau of Hainan Power Grid Co., Hainan, China orisonlee@163.com</p>
PowerCon 2021 CP0394	<p>Identification of Human Operation Deviation Using a Conformance Checking Technique</p> <p>Jieheng Liang, Ming Yang, Jun Yang, Yuerui Deng</p> <p>South China University of Technology, Shenzhen University 17758539475@163.com</p>

PowerCon 2021 CP0406	Optimization Design on Grading Rings of Composite Insulator for 500 kV Four-circuit Transmission Lines Zhiwei Ye, Gang Song, Chuang Liu, Haoyu Zhang, Peng Liu, Zongren Peng Xi'an Jiaotong University yzw19980902@stu.xjtu.edu.cn
PowerCon 2021 CP0409	Research and Design of Modular Energy-fed AC/DC Virtual Load Zaixun Ling, Muchao Xiang, Manjia Liu, Chen Jin, Haozhe Xiong State Grid Hubei Electric Power Research Institute 543762801@qq.com
PowerCon 2021 CP0410	Analysis of Influencing Factors of Power Grid Reliability Based on System Dynamics Yuanfei Li, Jun Zhang, Wanqing Chen, Qiyuan Cai, Changyong Lin, Kangli Xiang Economic and Technology Research Institute State Grid Fujian Electric Power Company, Fuzhou Power Supply Company State Grid Fujian Electric Power Company, Changyong Lin Economic and Technology Research Institute State Grid Fujian Electric Power Company yuanfeilee@foxmail.com
PowerCon 2021 CP0412	Dynamic resource allocation of network function virtualization for Space-Air-Ground Integrated Energy Internet Delong Yang, Zihui Wang, Huixia Ding, Sicheng Zhu, Sachula Meng, Junbao Duan Information & Communication Dept China Electric Power Research Institute LXRhebut123@163.com
PowerCon 2021 CP0420	Harmonic Analysis of a DC/AC Hybrid Grid Using Resonance Modal Analysis Cheng Kun Zhejiang University 21910145@zju.edu.cn
PowerCon 2021 CP0424	Power Flow Optimization for Inter-regional Transmission under Low-carbon Economy with Large-scale Wind Integration Siyu Lu, Baorong Zhou Electric Power Research Institute of China Southern Power Grid lusy@csg.cn
PowerCon 2021 CP0426	Research on a Power Electronic Device with Wide Frequency and Wide Voltage Output Capability Feng Xu, Peng Qiu, Yi Lu, Chengyu Lu, Xiaoming Huang, Xiaojun Ni State Grid Zhejiang Electric Power Research Institute xuf_1988@163.com
PowerCon 2021 CP0427	Application Status of Ethanolamine in Secondary Circuit System of Nuclear Power Plants in China Songyan Cao, Aijun Yan, Jun Shen, Hongchi Du, Yue Qiao, Jun Yang Xi'an Thermal Power Research Institute Co., Ltd., CNNP Nuclear Power Operations Management Co., Ltd. caosongyan@tpri.com.cn

PowerCon 2021 CP0435	<p>A Method for Evaluating and Optimizing Regional Power System Based on Uncertain Risk Calculation</p> <p>Yihui Chen, Jun Wu, Wenxin Huang, Rui Han, Zihui Guo, Rui Qiu, Zichen Liu, Lingqi Liu</p> <p>School of Electrical Engineering and Automation, Wuhan University, State Grid Shandong Electric Power Company Jinan</p> <p>cyh70008@whu.edu.cn</p>
PowerCon 2021 CP0439	<p>Improved Three-Vector-Based Model Predictive Current Control for Energy Storage Converter</p> <p>Shiyu Ji, Yi Sun, Zexing Chen, Sheng Huang, Wu Liao</p> <p>POWERCHINA HUADONG Engineering Corporation Limited, Hunan University</p> <p>charlieczx@hnu.edu.cn</p>
PowerCon 2021 CP0441	<p>Review of Typical Incentive Policies and Market Mechanisms for Renewable Energy Accommodation</p> <p>Jun Liu, Hejun Wu, Xiaoyu Wang, Siying Li, Libang Guo, Changjiang Wang</p> <p>Economic Research Institute of State Grid Zhejiang Electric Power Co., Ltd., Zhejiang University</p> <p>siying.li@zju.edu.cn</p>
PowerCon 2021 CP0442	<p>A Multi-interface Hardware-in-the-Loop Simulation Platform for System Protection in Cyber-physical Power System</p> <p>Lili Zhao, Feng Xue, Heqin Tong, Manli Li, Xiaodan Cui</p> <p>State Grid Electric Power Research Institute Co.</p> <p>zhaolili@sgepri.sgcc.com.cn</p>
PowerCon 2021 CP0448	<p>Research on time series data of renewable energy output based on ga-lstm model of multi-source data fusion</p> <p>Jiong Ma, Yanzhang Liu, Ning Chen, Lei Zhang, Bo Sun</p> <p>China Electric Power Research Institute</p> <p>majiong123123@163.com</p>
PowerCon 2021 CP0456	<p>Research on Smart Metering Infrastructure Technology Based on New Generation Multi-core Module Electric Energy Meter and Comprehensive Demonstration Application</p> <p>Zheng Zeng, Zihang Huo, Guoying Lin, Peng Wang, Sijian Zhang, Xiaoping Zhang, Xiaoqiao Chen</p> <p>China Southern Power Grid Technology Co., Ltd.</p> <p>zengzheng0701@qq.com</p>
PowerCon 2021 CP0458	<p>Enhanced Nonlinear Passivity Based Control for Power Conversion System</p> <p>Bin Yu, Ting Zhou, Bowen Huang, Hui Li, Haifeng Liu, Jinmu Lai</p> <p>State Grid Hunan Electric Power Company Limited Research Institute, State Grid Hunan Comprehensive Energy Service Company Limited, School of Electrical Engineering Zhengzhou University</p> <p>laijinmu@zzu.edu.cn</p>

PowerCon 2021 CP0460	Research on Active Distribution Network Scheduling Considering Source-Storage-Load Interaction Zhiyun Liu, Meijin Gao, Bin Yu, Jun Wu, Yonggang Peng, Chaoting Zhu State Grid Zhejiang Hangzhou Xiaoshan Power Supply Co., Ltd., State Grid Zhejiang Electric Power Economic & Technology Research Institute, Zhejiang University, Wuhan University 450774569@qq.com
PowerCon 2021 CP0462	Flexible transformation cost analysis of Thermal power in Jiangxi Province for depth peak-shaving Huiyuan Chen State Grid Jiangxi Electric Power Co. 3466511637@qq.com
PowerCon 2021 CP0464	Economic Evaluation of Solar Powered Hydrogen Production using Convex Programming Zetao Ma, Zhiming Wang, Caijun Jiang, Jie Shu, Qiong Cui, Tian Tian Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences, China Nuclear Power Design Co., Ltd.(Shenzhen) mazt@ms.giec.ac.cn
PowerCon 2021 CP0467	Plug and Play Method of Intelligent Terminal in Power Distribution Internet of Things Considering Network Priority He Xiaolang, Liu Keheng State Grid Chongqing Electric Power Company Party school Science and information technology department h18728520@163.com
PowerCon 2021 CP0473	Integrated Parameter Estimation Method for Brushless Doubly-fed Induction Generator Based On Simplified d-q Model Jingyuan Su, Xiong Du, Lianhang Fang Chongqing University, Hainan Power Grid Co. sujingyuan@cqu.edu.cn
PowerCon 2021 CP0475	Position Deviation Analysis and Correction Method of Tunnelling Magnetoresistance Sensor used in Transformer Core Earthing Current Monitoring Lanruo Wang, Fei Jiao, Shuhua Zhang, Dang Li China Electric Power Research Institute lanruoable@qq.com
PowerCon 2021 CP0479	Digital-Analog Hybrid Simulation of Southwest Planning Power Grid with Multi-HVDC Concentrated Delivery Weiwei Wang, Xiaoli Zhang, Yueting Li, Guangheng Pang, Jingfang Wang, Yiyang Zhu, Chong Liu State Key Laboratory of Power Grid Safety and Energy Conservation(China Electric Power Research Institute) wangweiwei@epri.sgcc.com.cn

PowerCon 2021 CP0481	Review on the Regulation Capability of Multiple Generation Resources and Suggestions for Generation-side Flexibility Improvement Si Zhang, Yufeng Tao, Yang Li, Shijie Sun, Xunhu Yin, Hongxin Chen State Grid Zhejiang Electric Power Co., Ltd., State Grid Zhejiang Electric Power Co., Ltd. Lishui Power Supply Company, College of Electrical Engineering, Zhejiang University deepssj@163.com
PowerCon 2021 CP0486	Hierarchically Distributed Energy Management for a Smart Energy Multi-community System with Multi-dimensional Energy Characteristics Based on CP Lei Luo, Jianwei Li, Hongwen He School of mechanical engineering Beijing Institute of Technology (BIT) Beijing luolei2023@gmail.com
PowerCon 2021 CP0494	Clearing of Power-Gas Joint Market considering Gas Nomination constraints of Gas-Fired Units Ziyang Liang, Minglei Bao, Ruimao Yu, Yi Ding, Yanqiu Hou, Hongxin Chen Zhejiang University, Jinan Jingwei Power Engineering Consulting Co. liangziyang@zju.edu.cn
PowerCon 2021 CP0502	Optimal Selection of Electrical Access Nodes for EV Charging Facilities Based on Fuzzy Comprehensive Evaluation Method Le Luan, Lingming Kong, Wenxiong Mo, Yong Wang, Heping Peng Guangzhou Power Supply Bureau of Guangdong Power Grid Co.,Ltd. liuzhan22238@qq.com
PowerCon 2021 CP0519	A multi-objective scheduling strategy of CH-PV-Wind-PS based on an improved hybrid intelligent algorithm Zhao Yuming, Wang Jun, Huang Xing, Sun Zhang School of Energy and Power Engineering Xihua University, School of Electrical Engineering and Electronic Information Xihua University 2250825350@qq.com

Poster Session 3: New Type of Power System and Energy Internet

Venue: Ballroom Foyer

Time: 14:00-16:00

PowerCon 2021 CP0001	Dynamic Environmental Economic and Collaborative Flexibility Dispatch of Integrated Power, Heating and Natural Gas Energy System Yongjie Zhong, Yuping Li, Wei Zhang, Bing Hu, Dong Chen, Yinian Qi Guodian Nanjing Automation Co., Ltd., Nanjing SAC Power Grid Automation Co., Ltd. ZhongYongJieEmail@163.com
PowerCon 2021 CP0013	Demand Potential Analysis of Charging Stations Considering Reliability Based on Multi-Attribute Decision-Making Guang Shen, Si Liu, Jindi Hu, Chengjin Ye Zhejiang Power Exchange Center Co., Ltd., The Marketing Service Center of State Grid Zhejiang Electric Power Co., Ltd. candylys@zju.edu.cn

PowerCon 2021 CP0016	An Optimal Charging Strategy for Electric Vehicles Considering Traffic Satisfaction Junli Huang, Hui Hou, Junyi Tang, Yubao Zhang, Zhiwei Xia, Yifan Wang Wuhan University of Technology 1105038526@qq.com
PowerCon 2021 CP0024	Review of the Reform and Development Process of the Incremental Power Distribution Business in Guizhou Province Sibin Lu, Kai Feng, Jianfeng Yang, Jingxin Luo, Qiang Song, Na Rong Guizhou Power Grid Co., Ltd. ciscobutin@163.com
PowerCon 2021 CP0030	Market Clearing Strategy With Integrated Demand Response Considering Flexible Capacity of Multiple Virtual Power Plants Yi Ren, Zun Guo, Xiaoqian Zhang State Grid Electric Power Company Haidian Power Supply Company, State Grid Economic and Technological Research Institute, Beijing Haidian Power Supply Industry Development Co., Ltd. zunguo93ee@163.com
PowerCon 2021 CP0040	Overvoltage Under the Valve-side Single-phase-to-ground Fault in Bipolar MMC-HVDC Systems Jingqiu Yu, Zheng Xu, Haoyuan Li, Guoliang Zhou, Gang Wang Zhejiang University, Central Southern China Electric Power Design Institute yujingqiu@zju.edu.cn
PowerCon 2021 CP0045	Locating and Sizing Optimization Algorithm of Distributed Generation in Distribution Networks for Low-carbon Operation Xu Zhong Guangzhou Power Supply Bureau of Guangdong Power Grid Co. 631913616@qq.com
PowerCon 2021 CP0053	Differential Protection Configuration for Phase Shifting Transformer Qingrui Tu, Wei Liu, Yijie Luo, Xiaohua Li, Zhensheng Chen, Shaolin Jiao, Feng Wang System Operation and Control Center of Guangdong Power Grid, School of Electric Power Engineering of South China University of Technology yijieluo1997@outlook.com
PowerCon 2021 CP0058	Short-circuit Current Calculation Model for Symmetrical Two-core Phase-shifting Transformer Wei Liu, Qingrui Tu, Zhensheng Chen, Xiaohua Li, Yijie Luo, Shaolin Jiao, Feng Wang System Operation and Control Center of Guangdong Power Grid, School of Electric Power Engineering of South China University of Technology zhenshengchen2021@163.com
PowerCon 2021 CP0069	Optimal Discharging Strategy in Electric Vehicle Charging Stations with Particle Swarm Optimization Zhipeng Liu Hainan Power Grid Co. lmzxp@163.com

PowerCon 2021 CP0070	Research on ULFS Strategies with DGs in Isolated Distribution Systems Zhipeng Liu Hainan Power Grid Co. zhipeng.liu09@gmail.com
PowerCon 2021 CP0072	Evaluation of Uncertainty in the Measurement of Sound Power Levels of UHV Main Transformer by Sound Pressure Method Yuan Ni, Bing Zhou, Hao Wan, Hu Jing Zhu, Yan Zhan Wang, Zhang Jian Gong China Electric Power Research Institute 67911072@qq.com
PowerCon 2021 CP0085	Microservice Placement Method of SCADA Service in Collaborative Cloud-Edge Computing System Lin Jiang, Wenhui Li, Bo Fu, Jinfeng Wang Zhuhai Power Supply Bureau Guangdong Power Grid Co., Ltd. jjianglinpc@163.com
PowerCon 2021 CP0087	Calibration Analysis of Field Mills in the Space Charge Modified Field above Ground Based on Convection-diffusion Equation Baoquan Wan, Zheyuan Gan, Huichun Xie, Peng Qi, Jilai Xu China Electric Power Research Institute ganzheyuan@epri.sgcc.com.cn
PowerCon 2021 CP0091	Lifetime Estimation of Semiconductor Devices in Wind Turbine Converter Under Fractional Frequency Transmission System Xingning Han, Zhuyi Peng, Yongan Chen, Shenquan Liu, Lu Wan, Wenjia Zhang State Grid Jiangsu Economic Research Institute, South China University of Technology 821665596@qq.com
PowerCon 2021 CP0092	Calculation of Mixed Electric Field on the Body Surface of Live Workers on UHV AC/DC Transmission Lines in the Same Corridor Aiqing Ma, Yongxiang Bi, Xintao Chen, Jie Wang Shanghai University of Electric Power aqmab@126.com
PowerCon 2021 CP0096	EdgeCloudSim-based Modelling on Power Distribution Internet of Things and Task Offloading Strategy Junwei Zhao, Lide Zhou, Rui Zhang, Yipeng He, Jingzhu Deng Dongguan Power Supply Bureau Guangdong Power Grid Co., Ltd. lunwenbeiyong01@126.com
PowerCon 2021 CP0107	Analysis of Electricity Market Equilibrium Considering Carbon Emission Mechanism Shengzhi Duan, Haoyong Chen, Dongliang Xiao, Jianping Huang, Xiaodong Zheng, Shengsheng Deng South China University of Technology 1175291880@qq.com
PowerCon 2021 CP0114	Energy-Circuit-Based Sensitivity Analysis for Integrated Energy Systems Binbin Chen, Xichao Zhou, Wenchuan Wu, Yi Du, Hongbin Sun Tsinghua University, State Grid Integrated Energy Service Group Co., Ltd., Economic and Technological Research Institute of State Grid Fujian Electric Power Co. cbb18@mails.tsinghua.edu.cn

PowerCon 2021 CP0119	Study on Bending Properties of CTCs in Hot State Shuqi Zhang, Zuoxian Wang, Zhengyu Xu China Electric Powe Research Institute jokerfire@126.com
PowerCon 2021 CP0125	Modeling and Coordinated Control of Island DC Hybrid System of Wind/PV/ Electrolyzer and BESS Xiaowen Xing, Sihan Wang, Sunxun, Yujian Fan, Wenqiang Yang National Institute of Clean-and-low-Carbon Energy xingxiaowen136@126.com
PowerCon 2021 CP0132	Research on the Evolution Game of Tripartite Stakeholders of Electric Energy Alternative PPP Project: a Case Study of China's New Energy Vehicles Peng Wu, Yuzhuo Zhang, Baoguo Shan, Xiandong Tan, Molin Huo Sate Grid Energy Research Institution hdzy1102@126.com
PowerCon 2021 CP0136	Study on Time Domain Simulation Model for Lossy Frequency-Dependent Single Transmission Line Gang Liu, Xiaofang Wen, Bingtao Wei, Feng Ji, Chang Lin, Lu Gao Department of Electrical Engineering North China Electric Power University, State Key Lab of Advanced Power Transmission Technology Global Energy Interconnection Research Institute liugang_em@163.com
PowerCon 2021 CP0137	Modeling and Application of Magnetic Induction Wireless Power Transmission in Sea Water Zhongda Wang, Guanlin Li, Xin Jin, Hongwen Li Dalian University of Technology 1169973503@qq.com
PowerCon 2021 CP0138	Distribution Network Reconfiguration Digital Twin Model Based on Bi-level Dynamical Time Division Yinan Zhao, Yi Zhou, Shunxin Li, Min Zhao, Yi Zheng, Changyi Fu State Grid Jibei Electronic Economic Research Institute, Shanghai Jiao Tong University Yi.Zheng@sjtu.edu.cn
PowerCon 2021 CP0147	Optimal Planning of the Offshore Wind-hydrogen System Considering the Efficiency Characteristics of Electrolyzers Ziqiu Li, Ying Qiao, Zongxiang Lu Tsinghua University li-zq20@mails.tsinghua.edu.cn
PowerCon 2021 CP0150	Research on Effect and Prioritization of the Reformation from LCC-HVDC to VSC- HVDC Junli Zhang, Guoteng Wang, Zheng Xu, Ying Wang, Youbin Zhou, Kunpeng Zhou College of Electrical Engineering, Zhejiang University 11910064@zju.edu.cn

PowerCon 2021 CP0152	<p>Transient Performance of Loss Reduction Strategy for Cable Lines Installed Underneath a Bridge</p> <p>Zhendong Du, Lifeng Qiu, Wenjun Zhou, Xing Xu, Fanbo Meng, Xiangrong Chen</p> <p>Zhejiang Huayun Electric Power Engineering Design & Consultation Company, Zhejiang University</p> <p>xuxingabcd@qq.com</p>
PowerCon 2021 CP0156	<p>Research and Application of Medium to Low Voltage Cable Tunnel Monitoring System Based on NB-IoT</p> <p>Miao Chen, Hailing Lu, Bo Sun, Chengji Xu</p> <p>State Grid Shanghai Pudong Electric Power Supply Company</p> <p>shelior@163.com</p>
PowerCon 2021 CP0161	<p>Multi-objective Capacity Optimal Allocation of Photovoltaic Microgrid Energy Storage System Based on Time-sharing Energy Complementarity</p> <p>Cong Li, Chuanpu Zhu, Kuan Wu, Lizhu Song, Qingyu Wu, Wenhai Zhou</p> <p>Hainan Power Grid Corporation</p> <p>546804807@qq.com</p>
PowerCon 2021 CP0165	<p>Research on Peak-valley Time Division Method of TOU Electricity Price Based on Density Clustering</p> <p>Huiting Qiao, Bing Zeng, Liangzheng Wu, Shangyong Wen</p> <p>Energy Development Research Institute China Southern Power Grid, Department of Civil and Environmental Engineering University of Illinois Urbana-Cham</p> <p>362346371@qq.com</p>
PowerCon 2021 CP0168	<p>Effect Comparison of Rectified and Inverter-fed Power Control Converters on Sub-synchronous Torsional Stability in Practical &plusmn; 500kV Lu-Gao-Zhao Three-Terminal DC Project</p> <p>Hao Yuan, Chao Hong, Youjie Shi, Fan Zhang</p> <p>Electric Power Research Institute China Southern Power Grid, Power Dispatching and Control Center China Southern Power Grid Co., Ltd.</p> <p>786859336@qq.com</p>
PowerCon 2021 CP0179	<p>A Cable Distance Measuring Device</p> <p>Yuyi Wu, Chendong Wang, Luliang Wang</p> <p>Electric Power Research Institute of Hainan Power Grid Co., Ltd.</p> <p>2584170656@qq.com</p>
PowerCon 2021 CP0184	<p>Parameters Optimization of MMC-MTDC Piecewise Variable Rate VDCOL for Power Grid Transient Stability Improvement</p> <p>Xifang Huang, Zheng Yuan, Yu Wang, Peng Zi, Ling Zhu, Fusuo Liu</p> <p>NARI Group Corporation/State Grid Electric Power Research Institute, North China Branch of State Grid Corporation of China</p> <p>huang_xifang@163.com</p>
PowerCon 2021 CP0188	<p>Economic Benefit Evaluation of Transmission Planning in Power Market Considering Impact of Carbon Market</p> <p>Wenhai Nie, Hao Yue, Jianmin Ding, Yunli Yue, Dan Chen, Shu Wang, Xiaorui Hu, Jun Shu</p> <p>Economic Research Institute of State Grid Jibei Electric Power Corporation Limited, Tianjin HDYD Technology Company Ltd., North China Electric Power University</p> <p>18989308808@163.com</p>

PowerCon 2021 CP0189	Unbalanced Reactive Power Dynamic Allocation Considering Multiple Wind Farms Voltage Regulation Diversity Jiaqing Guo, Ruifang Zhang, Ying Qiao, Zongxiang Lu Tsinghua University, State Grid Jibei Electric Power Co., Ltd. Research Institute gj19@mails.tsinghua.edu.cn
PowerCon 2021 CP0200	Optimization Strategy Design of Distribution Network Based on Orderly Charging Control of Electric Vehicles Xin Yuan, Jing Li, Yu Wang, Hongda Cai, Yi Liu, Hongnan Ren Zhejiang University City College, Zhejiang University 1306660245@qq.com
PowerCon 2021 CP0207	Coordinated Charging and Discharging of Electric Vehicles for Power Imbalance Mitigation Ting Yan, Ziwei He, Nan Zhao, Zhijun Zhang, Tingjun Zhang Nanjing University of Posts and Telecommunications yanting_97@163.com
PowerCon 2021 CP0210	The State of Art of Energy Consumption Devices for Offshore Wind Power System Bin Xu, Xiuhuan Wang, Gaoyong Wang, Zhiyan Ning, Jingbo Li, Junchuan Zhou Global Energy Interconnection Research Institute Co., Ltd. 784424537@qq.com
PowerCon 2021 CP0212	Research on Generation Capacity Cost Recovery Mechanism of the New Power System Xiangrui Liu, Minghui Yan, Dianning Wu, Na Zhou, Peiheng Duan Kunming Power Exchange Center Co., Ltd. 835584145@qq.com
PowerCon 2021 CP0215	Design and Implementation of Intelligent Perception and Management System Oriented to Demand Response of Virtual Power Plant Yan Lu, Chao Xiong, Kangyuan Wang, Yuzhuang Liu, Kun Li, Qinhuangdao Power Supply Co., State Grid Jibei Electric Power Co., Ltd. 511496595@qq.com
PowerCon 2021 CP0217	Flexibility Improvement Optimization Method of Distribution Network with High DG Penetration Jianfeng Gong, Zongchuan Zhou, Panlong Jin, Bin Zhang, Yiming Han, Xue Feng Institute of Economics and Technology in State Grid Ningxia Electric Power Corporation zhanghong1802@163.com
PowerCon 2021 CP0218	Autonomous Cooperative Method of Distributed Energy Resources for Integrating Renewable Energy Jixing Zhou, Haijun Shen, Zhun Zhong, Jianwei Feng, Lianhang Fang, Fen Wang Hainan Digital Grid Research Institute of China Southern Power Grid, Energy Security Department of Logistics Support Center of Shanghai Jiao Tong University, Hainan Electric Power School of Hainan Power Grid Co., Ltd. of China Southern Power Grid, Hainan Power Grid Co. 18180659963@163.com

PowerCon 2021 CP0224	<p>Energy Consumption Information Census Mode and tool Design Based on Data Acquisition Network</p> <p>Chao Xiong, Beibei Sun, Yan Lu, Minxuan Shen</p> <p>State Grid JIBEI Electric Power Company, State Grid Qinhuangdao Electric Power Supply Company, State Key Laboratory of Advanced Power Transmission Technology</p> <p>Global Energy Interconnection Research Institute Co., Ltd.</p> <p>xiongc@163.com</p>
PowerCon 2021 CP0226	<p>Optimal Scheduling Strategy for Virtual Power Plant Considering Voltage Control</p> <p>Wenyue Wang, Haitao Liu, Yu Ji, Xiaoyun Qu</p> <p>State Grid Shanghai Energy Interconnection&Research Institute Co., Ltd.</p> <p>wenyue_wang123@163.com</p>
PowerCon 2021 CP0243	<p>Bidirectional Charging Strategy of Electric Vehicle based on Predictive Control Method</p> <p>Xuyang Yan, Bo Guan, Xiong Du</p> <p>Chongqing University</p> <p>guanbo1989@cqu.edu.cn</p>
PowerCon 2021 CP0248	<p>An Optimized Operation Strategy of Electric Vehicle Charging Station with Energy Storage</p> <p>Yining Yang, Runan Song, Yang Xue</p> <p>China Electric Power Research Institute</p> <p>yangdechang@cau.edu.cn</p>
PowerCon 2021 CP0257	<p>Numerical Algorithm Based on BP Neural Network for Electric Field Calculation</p> <p>Yi Yang, Qihui Cui, Wenjie Zheng, Fengda Zhang</p> <p>State Grid Shandong Electric Power Research Institute, State Grid Shandong Electric Power Company</p> <p>2671600195@qq.com</p>
PowerCon 2021 CP0260	<p>Multi-objective Collaborative Control Scheduling Optimization Considering Wind Power Grid-connected Energy Storage Access</p> <p>Di Huang, Meifang Wei, Lei Qin, Hongyan Zeng, Xin Yang</p> <p>Changsha Electric Power Technical College, State Grid Hunan Electric Power Co.</p> <p>2307021454@qq.com</p>
PowerCon 2021 CP0268	<p>A Practical Method for Submodule Capacitance Quantification of M3C in Fractional Frequency Transmission System</p> <p>Shenquan Liu, Yongan Chen, Xingning Han, Zhuyi Peng, Lu Wan, Xiuli Wang</p> <p>South China University of Technology, State Grid Jiangsu Economic Research Institute, Xi'an Jiaotong University</p> <p>sqliu@scut.edu.cn</p>
PowerCon 2021 CP0279	<p>Research on Key Issues of Incremental Distribution Network Participating in Power Market Transaction Settlement</p> <p>Peiheng Duan, Minghui Yan, Dianning Wu</p> <p>Kunming Power Exchange Center Co., Ltd.</p> <p>794176455@qq.com</p>

PowerCon 2021 CP0282	Double Layer Optimization for Orderly Charge and Discharge Strategy of V2G Electric Vehicles Shengyong Ye, Jun Wei, Wentao Zhang, Yuqi Han, Qin Sun, Mao Zhou State Grid Sichuan Economic Research Institute, Sichuan Nanchong Electric Power Design Co., Ltd. 2687205446@qq.com
PowerCon 2021 CP0283	A Virtual Capacitor Control Method for Depression DC Voltage Fluctuation in MMC-HVDC System Linlin Yu, Yang Wang, Wuqi Zhang, Xintong Yan, Ruihua Si, Yunfeng Wen Henan Electric Power Economic Research Institute, State Grid, College of Electrical and Information Engineering, Hunan University wuqi_zhang@126.com
PowerCon 2021 CP0289	Research on Digital Twin Construction Technology and Application of Large Capacity Utility Boiler Kaixuan Yang, Yong Wang, Zhicheng Deng, Meng Sun, Gang Ding, Letian Li Shanghai power generation equipment design and Research Co., Ltd. yangkaixuan@speri.com.cn
PowerCon 2021 CP0290	Optimal Dispatch of Integrated Energy System Considering Dynamic Characteristics and Integrated Demand Response Ankang Miao, Zhenjie Li, Han Wu, Wenqian Luo, Yuhan Hou, Yue Yuan Hohai University, China Electric Power Planning & Engineering Institute, Nanjing Institute of Technology miaoankang@hhu.edu.cn
PowerCon 2021 CP0298	Research on Short-time Current Test Method of DC Circuit Breaker Used in DC Grid Xiuhuan Wang, Junchuan Zhou, Ersong Chen Global Energy Interconnection Research Institute Co., Ltd. 13810701276@163.com
PowerCon 2021 CP0305	Study on Partial Discharge Characteristics During Electrical Tree Growth at XLPE-SIR Interface Qingsheng Li, Yu Zhang, Xueyong Tang, Zhen Li Power Grid Planning and Research Center 727771458@qq.com
PowerCon 2021 CP0313	Energy Management Strategy of Standalone Hydro-photovoltaic-storage Microgrid Chenyu Shao, Zhenjie Li, Han Wu, Yue Yuan, Qing Yang College of Energy and Electrical Engineering Hohai University, China Electric Power Planning & Engineering Institute, Smart Grid Research Institute Nanjing Institute of Technology scy908973551@163.com
PowerCon 2021 CP0314	A Bidding Model for Virtual Power Plants To Participate in Demand Response in the New Power Market Environment Meng Yang, Yong Wang, Sheng Gao, Qiang Zhang, Zhi Li, Di Wang Shanghai Power Equipment Research Institute Co., Ltd. 605802406@qq.com

PowerCon 2021 CP0318	PV, Battery and Diesel Powered Microgrid Solution for Power Supply in Remote Oil Field Scenario Geng Niu, Lingfeng Kou, Zhihui Zhang, Wenbo Wang, Baodi Ding, Ming Wu China Electric Power Research Institute niu_geng@126.com
PowerCon 2021 CP0323	Mechanical Characteristics of Ice-melting and Ice-shedding under Conductor Galloping Ruihai Li, Weizhuo Chen, Weiwen Huang, Chuying Shen, Xiu Yan, Fanghui Yin Electric Power Research Institute China Southern Power Grid Co., Haikou Power Supply Bureau Hainan Power Grid Co., Tsinghua Shenzhen International Graduate School 18588851924@163.com
PowerCon 2021 CP0325	Optimized Economic Dispatching Approach for PEM Electrolyzer Cell Combined with Coal-fired Power Units to Participate in Frequency Regulation Service Pengfei Zhang, Shunchao Wang, Xiaosong Fang, Zhao He, Ruiqing Zhang, Tuo Zhou, Hua Ye, Ning Zhang Electric Power Planning & Engineering Institute; Department of Energy and Power Engineering, Tsinghua University dezhouzhangpengfei@126.com
PowerCon 2021 CP0331	Research on Capacity Allocation Method of Virtual Power Plant with Communication Base Station Energy Storage Ran Iyu, Bo Huang, Ciwei Gao, Mingxing Guo, Gujing Lin, Su Wang, Xiaohui Wang State Grid Shanghai Municipal Electric Power Company, Southeast University 614836273@qq.com
PowerCon 2021 CP0332	Dynamic Economic Dispatch with Electric Vehicles Considering Battery Wear Cost Using a Particle Swarm Optimization Algorithm Baihao Qiao, Jing Liu Xidian University bhqiao@stu.xidian.edu.cn
PowerCon 2021 CP0336	Influence of Adjacent AC Lines Capacitive Coupling Current on UHV AC Lines Chen Zhou, Luyao Zhou, Shaohua Wang State Grid Zhejiang Taizhou Power Supply Company, State Grid Zhejiang Electric Power Research Institute 314146873@qq.com
PowerCon 2021 CP0345	Influence of Generator Model Considering Complex Nonlinear Factors on Transmission Capacity of Power Grid Teng Mu, Huadong Xing, Shichuan Liu, Guorui Xu, Huiqiang Liu Inner Mongolia Electric Power Research Institute, North China Electric Power University 1296536697@qq.com
PowerCon 2021 CP0346	Research on Integrated Energy Management System Based on Microservice Architecture Xinying Wang, Ye Li, Chunfei Wang, Hao lin, Mengting Li China Electric Power Research Institute, North China Electric Power University wangxinying@epri.sgcc.com.cn

PowerCon 2021 CP0350	Optimal Generation Bidding Strategy for CHP Units in Deep Peak Regulation Ancillary Service Market Based on Two-stage Programming Jinming Chen, Xuanbin Huo, Bin Ye, Ying Le, Wenbin Zhu, Kangxuan Xu, Chao Guo, Xiaocong Sun China Huadian Corporation Ltd. Fujian Company, Huadian Electric Power Research Institute Co.,Ltd., Zhejiang University 3169286236@qq.com
PowerCon 2021 CP0352	Voltage Distribution of Small Hydropower Connected to Main Grid Zhifeng Chen, Dengmin Mai, Can Wu, Yongsen Wen, Zifan Zhang, Yihua Luo Guangzhou City University of Technology, Guangdong Power Grid Co. 1664475237@qq.com
PowerCon 2021 CP0359	Performance Study of ZigBee Wireless Sensor Network for 500kV UHV Transmission Tower Zhenhua Wang, Huikun Pei, Honghu Chen, Chenghao Wang, Zhiwen Fang, Te Zhou Shenzhen Power Supply Co., Ltd., Sichuan Energy Internet Research Institute, Tsinghua University zhoutezone@vip.qq.com
PowerCon 2021 CP0360	PV System Output Modeling and Influence Factor Analysis of Metallic Bipolar Short-Circuit Fault for DC Microgrids Zihua Zhang, Kun Wang, Yilong Zhao, Hao Wang College of New Energy , China University of Petroleum (East China), Weifang District Power Supply Company, State Grid Corporation of China zzh-upc@163.com
PowerCon 2021 CP0365	Research on Orderly Charging Strategy of Electric Vehicles Based on Intelligent Fusion Terminal Yang Zhichun, Shen Yu, Yang Fan, Hu Wei, Lei Yang, Su Lei State Grid Hubei Electric Power Research Institute yangzhichun3600@163.com
PowerCon 2021 CP0368	Review of Game Theories Applied to Virtual Power Plants Yang Hu, Dunnan Liu, Heping Jia, Wei Wang, Tao Yu, Jiangyan Liu North China Electric Power University, Shanghai Power Exchange Center Co., Ltd. huyang_ncepu2137@163.com
PowerCon 2021 CP0370	Energy Trading of Multiple Virtual Power Plants Using Deep Reinforcement Learning Jiangnan Li, M. Asim Amin, Jun Shi, Lanfen Cheng, Feifan Lu, Bo Geng, Ao Liu, Shangchou Zhou Southern Power Grid Shenzhen Power Supply Bureau, Tsinghua-Berkeley Shenzhen Institute, Tsinghua University, Southern Power Grid Research Institute Co. asim20@mails.tsinghua.edu.cn
PowerCon 2021 CP0376	An Improved Droop Control Method for Power Distribution of More Electric Aircraft Xue Jiang, Linke He, Yu Wu, Weilin Li Northwestern Polytechnical University School xuejiang094@gmail.com

PowerCon 2021 CP0389	Influence of Circulating Current Control on the Performance of Modular Multilevel Converter Jing Zhang, Yan Yi, Xiaonuo Zhang, Lei Fang State Grid Zhejiang Training Center zhang830jing@163.com
PowerCon 2021 CP0395	The Propagation and Identification of Partial Discharge Signals in Transformer Bushing Under the Framework of Digital Twins Lu Zhang, Yanan Wu, Haibao Mu, Bowen Zhang, Yanhua Han, Guanjun Zhang State Grid Shanxi Electric Power Research Institute, Xi'an Jiaotong University haibaomu@mail.xjtu.edu.cn
PowerCon 2021 CP0398	Research on SOC Estimation of Lithium Battery for Electric Vehicle Based on EKF Algorithm Longzhou Luo, Gang Chen Xi'an Jiaotong University 2721502971@qq.com
PowerCon 2021 CP0411	Research on the Planning Model of Microgrid Energy Unit in Intelligent District Containing Electric Vehicle Songtao Huang, Siyuan Li Tongliao Power Supply Company State Grid East Inner Mongolia Electric Power Company Co. yuanbrothernb@163.com
PowerCon 2021 CP0417	Voltage Harmonic Analysis of the 12-phase Synchronous Generator under Grid Connected Operation Zhaohong Wang, Ying Liu, Haotian Cheng, Jiangming Shen, Xiaodong Zheng, Zhengguang Xiao Marine Design & Research Institute of China, Shanghai Jiao Tong University zhengguangxiao@sjtu.edu.cn
PowerCon 2021 CP0425	Research on the Influence of Electric Vehicle Charging on Residential Distribution Network in Southern China Lei Chen, Siyu Lu Guangdong Electric Power Design Institute Co., Ltd. of China Energy Engineering Group lusy@csg.cn
PowerCon 2021 CP0434	Study on AC Harmonic Characteristics of Netherland ±525kV/2GW MMC-HVDC System for Offshore Wind Farms Integration Junhui Ren, Wanjie Li, Shunan Zhang Xi'an XD Power Systems Co. tingyuanwutong@126.com
PowerCon 2021 CP0483	A Method for Evaluating the Accommodation Capacity of Distributed Energy Resource Zhijie Zheng, Yi Sun, Xianglong Yang, Donglei Sun, Si Yang Shandong Electric Power Company 17865192927@163.com

PowerCon 2021 CP0484	<p>Study on the the Impact of Dynamic Adjustment of System Topology on Transient Characteristics of Short Circuit Current</p> <p>Bin Han, Yuqi Jin, Qiulong Ni, Zutao Xiang, Jinghao Zhou, Qing Wang, Yinshu Yu China Electric Power Research Institute, State Grid Zhejiang Electric Power Co., Ltd., Ningbo Power Supply Company of State Grid Zhejiang Electric Power Co., Ltd. hanbin@epri.sgcc.com.cn</p>
PowerCon 2021 CP0490	<p>Distributed Dispatch for Local Energy Communities Based on Alternating Direction Method of Multipliers</p> <p>Zhesheng Hu, Pan Dai, Pan Liu, Chao Zhu, Lei Wang, Ke Sun State Grid Zhejiang Electric Power Co., Ltd., Zhejiang University of Technology 2112003195@zjut.edu.cn</p>
PowerCon 2021 CP0491	<p>Near Real time System Short-circuit Current Online Monitoring Platform and its Application</p> <p>Yuan Zhou Electric Power Research Institute of Guangdong Power Grid Corporation gddkzy@126.com</p>
PowerCon 2021 CP0497	<p>Analysis of the Operational Benefits of energy Storage Plants Participating in the Ancillary Services Market</p> <p>Xinying He, Qibo Yan, Hua Li, Tao Yu, Ming Zeng, Xiaochun Zhang North China Electric Power University jzhexinying@163.com</p>
PowerCon 2021 CP0501	<p>Joint Optimal Scheduling of Heat and Power Considering Multiple Flexible Resources of a Virtual Power Plant</p> <p>Kangxuan Xu, Chao Guo, Minglei Bao, Yi Ding, Kexin Wang Zhejiang University, Economic Research Institute of State Grid Shandong Electric Power Co., Ltd. 3169286236@qq.com</p>
PowerCon 2021 CP0521	<p>Comparison of Neutral-Point Balancing Mechanism in Parallel-Operated T-Type Three-Level PWM AC/DC Interface Converters</p> <p>Chen Pohan, Sun Kai State Key Lab of Power Systems, Department of Electrical Engineering, Tsinghua University cbh20@mails.tsinghua.edu.cn</p>
PowerCon 2021 CP0526	<p>Defect Analysis Of An Switch Cabinet With Mixed Type Partial Discharge</p> <p>Lu Zhixin, Zhou Fan, Zou Jing, Fang Yong, Duan Yongsheng, Wang Qingbo Kunming Power Supply Bureau, Yunnan Power Grid LLC 1064245859@qq.com</p>
PowerCon 2021 CP0530	<p>Integrated Dispatch Optimization for Building Energy System</p> <p>Mengqi Shang, Hongjun Gao, Jianglin Zhang, Shuaijia He, Wenqin Wang, Qianzhen Chen Sichuan University, Chengdu University of Information Technology, Sichuan University 444246180@qq.com</p>

PowerCon 2021
CP0533

Research on Plug and Play Method of Distribution Transformer Station Intelligent Fusion Terminal
Zhichun Yang, Yu Shen, Wei Hu, Fan Yang, Lei Su, Yang Lei
State Grid Hubei Electric Power Research Institute
yangzhichun3600@163.com

PowerCon 2021
CP0535

Optimization Design and Experimental Analysis of High-voltage High-frequency Transformer with completely Resin Casting R1
Yanjiao Jin, Guangyao Qiao, Zhanfeng Deng, Guoliang Zhao, Haijun Liu, Zhe Cheng
Global Energy Interconnection Research Institute
beyondjyj@163.com

Poster Session 4: Protection and Control of New Type of Power System & Resilience New Type of Power System

Venue: Ballroom Foyer

Time: 16:20-18:00

PowerCon 2021
CP0010

Capacity-Credit Evaluation of Renewable Energy Power in Jiaying City based on Monte-Carlo Simulation
Keping Zhu, Yingjing He, Yujing Li, Pengfei Hu
State Grid Zhejiang Electric Power Company Limited Economic & Technical Research Inst, Zhejiang University
hpf@zju.edu.cn

PowerCon 2021
CP0028

Transient Stability Analysis and Controller Optimization of Grid-Connected Converter Under Input Power Variation
Xiaoshun Guo, Xinchun Lin, Guangzhou Huang, Xuli Quan, Songbai Chen
Huazhong University of Science and Technology
guoxiaoshun163@163.com

PowerCon 2021
CP0037

Influence of Control and Protection Characteristics on Insulation Coordination of MMC-HVDC System
Haoliang Ye, Jingqiu Yu, Zheng Xu
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PowerCon 2021
CP0038

Analysis of Power Abandon Characteristics in Offshore Wind Farms with DC Series–Parallel Architectures
Yang Liu, Lingling Huang, Jingtao Yan, Qiguo Wang, Yuzhi Miao
Shanghai University of Electric Power
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PowerCon 2021
CP0044

Experimental Study on Voltage Sag Tolerance of Adjustable Speed Drive with AC Contactor
Zhipeng Wu, Tianchu Li, Kede Li
Electric Power Research Institute of Hainan Power Grid Co., Ltd.
wuzhipenghn@163.com

PowerCon 2021 CP0048	Voltage Stability in Converter-interfaced Power System: a Monotone Systems Approach Zhenyao Li, Mingquan Chen, Deqiang Gan, Guoqing He Zhejiang University, Electric Power Research Institute 21860368@zju.edu.cn
PowerCon 2021 CP0050	Oscillatory Stability Analysis for Power Systems with High Penetration of Photovoltaic Generation: the Minimum Characteristic-Locus Method Simin Wu, Qingbo Zhang, Hao Xu, Deqiang Gan, Guoqing He Zhejiang University, Electric Power Research Institute wusimin@zju.edu.cn
PowerCon 2021 CP0055	An automatic defects detection system for PV plants with data augmentation Chen Haitao, Lei Caijia, Wu Xin, Song Qiang Guangzhou Power Supply Bureau of Guangdong Power Grid Co., Ltd. 623388127@qq.com
PowerCon 2021 FP0056	Using Data Mining Technology to Detect Unknown Network Security Threats in Power System Digital Transformation Xi Chen Digital Department of Hainan Power Grid 23231427@qq.com
PowerCon 2021 CP0061	Stability Analysis of Transition Process Based VSC Connected to Weak Grid During LVRT Guangzhou Huang, Xinchun Lin, Xiaoshun Guo, Yong Kang Huazhong University of Science and Technology 1286444313@qq.com
PowerCon 2021 CP0064	Coordination Logic Optimization of Xindong DC Line Fault Restart Qiupeng Chen, Huifan Xie, Xinyu Chen, Shiyang Li, Yang Song CSG EHV Power Transmission Company Guiyang Bureau, Power Dispatch and Control Center of China Southern Power Grid, Institute of Electric Power South China University of Technology, CSG EHV Power Transmission Company Liuzhou Bureau cgycqp@163.com
PowerCon 2021 CP0066	A Network Restoration Model for Active Distribution Network with Coordinated Active and Reactive Power Yuhan Hou, Han Wu, Ankang Miao, Zhenjie Li, Yue Yuan Hohai University, Nanjing Institute of Technology, China Electric Power Planning & Engineering Institute yuhan9766@gmail.com
PowerCon 2021 CP0075	Correction of Oscillation Center Location by $\cos\phi$; and Wide Area Out-of-step Splitting Control Chao Zheng, Huiling Li, Haichao Yang, Xuguang Li China Electric Power Research Institute, Thermal Power Research Institute, Science and Technology Research Institute Co. huilinglee@126.com

PowerCon 2021 CP0083	Trading Mechanism Design for Demand Response Resources Participating in Electricity Spot Market Zeyu Du, Yunhao Li, Qianhao Sun, Chenggang Zhang, Bin Guo, Yao Zhang Xi'an Jiaotong University, State Grid Shaanxi Electric Power Company Limited d19980619@stu.xjtu.edu.cn
PowerCon 2021 CP0088	Construction of Digital Physical Hybrid Experimental Platform for UHVdc with Fault Protection Equipment Haitao Liu, Liangliang Pan, Jian Niu, Qingwen Ji, Lili Jia State Grid Ningxia Electric Power Corporation Research Institute, State Grid Ningxia Electric Power Co.,Ltd., Shanghai Jiuzhou Information Technology Co. NXEP_WJY@outlook.com
PowerCon 2021 CP0113	Research on the Real-Time Closed-Loop Testing of AGC in AC/DC Asynchronous Power Grid Kaijian Ou, Junzhen Peng, Wencong Wu, Qi Guo, Yaping Hu State Key Laboratory of HVDC, Electric Power Research Institute oukaijian@foxmail.com
PowerCon 2021 CP0120	Security check method of Regional Power Grid in Market Environment Puxin Shi, Peiran Shi, Zhixu Chen, Fanlin Meng, Yimin Liu, Changming Jiang Dispatching and Control Center North China Branch of State Grid Corporation of China shipuxin@126.com
PowerCon 2021 CP0124	Resonance Stability Analysis of Hangzhou Flexible Low Frequency AC System Chengyu Lu, Kaijun Wang, Peng Qiu, Wen Hua, Wulue Pan State Grid Zhejiang Electric Power Co., Ltd. Research Institute, State Grid Zhejiang Electric Power Co., Ltd. luchengyu2021@163.com
PowerCon 2021 CP0145	Metallic Short Circuit Fault Location Algorithm Considering Capacitance Current based on Differential Equation Huirong Liu, Yaping Zheng, Tonghua Wu, Feng Hong, Wei Dai, Xindong Li NARI Group Corporation zhengyuping@sgepri.sgcc.com.cn
PowerCon 2021 CP0149	Comparison of DC Models and Analysis of Influence on Transient Stability Characteristics of AC/DC combined systems Yinglin Liu North China Electric Power Research Institute 17126021@bjtu.edu.cn
PowerCon 2021 CP0157	Research and Application of New Redundancy Method of Black Module in H-bridge Cascaded SVG Device Fangling Li, Qingtao Wang, Haozhong Zheng, Jiafei Li, Baoqiang Ben, Wang Liu C-EPRI Electric Power Engineering Co., Ltd. wqt128@126.com

PowerCon 2021 CP0158	Network-Based Spectral Analysis of Power Systems with Renewable Energy Penetration Wenqing Hao, Qian Zhang, Xueyi Wang, Deqiang Gan Zhejiang University haowq@163.com
PowerCon 2021 CP0159	Topology Optimization of Offshore DC Transmission System Based on Small Signal Stability Qiguo Wang, Ling-ling Huang, Feixiang Ying, Yuzhi Miao, Jingtao Yan, Yang Liu Shanghai University of Electric Power 396688703@qq.com
PowerCon 2021 CP0197	Adaptability Study on Out-of-Step Separation Devices of Complex Multi-infeed AC/DC Power Systems Yong Chen, Dongxu Chang, Yihua Zhu, Yukun Zhu, Hengdao Guo, Shengnan Li Electric Power Research Institute, Yunnan, SEPRI, CSG changdx@csg.cn
PowerCon 2021 CP0219	Strategy of the Intraday Dynamic Capacity Increase Considering the Failure Rate of the Transformer Jianjun Wang, Changbiao Liu, Lintao Sun, Chenguang Peng, Wenyan Li, Chuangxin Guo maintenance company of state grid zhejiang electric power company,Ltd. chuangxin_lab@163.com
PowerCon 2021 CP0222	Real Time Health Evaluation Method of Transformer Based on Improved Grey Correlation Analysis Hui Yao, Xiaogang Chen, Lintao Sun, Changbiao Liu, Xuanzhe Zhang, Chuangxin Guo maintenance company of state grid zhejiang electric power company, Ltd., state grid zheJiang electric power company,Ltd. chuangxin_lab@163.com
PowerCon 2021 CP0223	Adversarial Malware Examples for Terminal Cyberspace Attack Analysis in Cyber-Physical Power Systems Jinming Wang, Tao Yang, Pengchao Yao, Beijing Yan, Weijie Hao, Qiang Yang Zhejiang University 22010137@zju.edu.com
PowerCon 2021 CP0229	A Hybrid Phase-Locked Loop for the Transient Stability Enhancement of Voltage Source Converters Zijun Wang, Kehao Zhuang, Hui Liu, Xuekun Cheng, Shiyao Qin, Huanhai Xin Polytechnic Institute, College of Electrical Engineering, State Grid Jibei Electric Power Research Institute, China Electric Power Research Institute wangzj16@zju.edu.cn
PowerCon 2021 CP0237	A Negative Parallel Virtual RLC Damper for LC-filtered Constant Power Load in DC Microgrid Rujing Zhang, Jintao Lei, Xin Xiang, Wuhua Li, Xiangning He, Rongxiang Zhao Zhejiang University rujing_zhang@zju.edu.cn

PowerCon 2021 CP0249	Mechanism Analysis on Transient Stability of the Weak Sending-end System Considering Dynamic Characteristics of HVDC Tianqi Zhao, Yinglin Liu, Huan Xie, Peng Zi, Zeshen Wang, Wenqing Lu Electric Power Research Institute of State Grid Jibei Electric Power Company Limited, North China Branch of State Grid Corporation of China zhao_tianqi@163.com
PowerCon 2021 CP0250	Research on a Kind of Adaptive Backup Power Automatic Throw-in Based on Objectification Yuan Shan, Xiaohong Zhu, Yongheng Ruan Yunnan Power Grid Co.,Ltd. Qujing Power Supply Bureau 2861233625@qq.com
PowerCon 2021 CP0252	An Overview in DC Distribution System of Intelligent Building Ying Gao, Yuqing Cen, Mingxin Huang, Jie Zeng, Rui Chen, Chi Zhang China Southern Power Grid Electrical Technology Co., Ltd., Guangdong University of Technology 1501621007@qq.com
PowerCon 2021 CP0253	Preset Performance Theory Based Station Control Strategy of Wind Farm for Frequency Stability Mengjun Wang, Jianbo Guo, Shicong Ma, Weilin Hou, Tiezhu Wang, Kui Luo China Electric Power Research Institute wmj7s7z@163.com
PowerCon 2021 CP0275	Experimental Studies on Minimum Air Clearance of UHVDC Converter-Valve External Insulation Wenzhi Zong, Weiwei Ma, Xiaoyu Bie, Gaoyong Wang, Yadi Guo Global Energy Interconnection Research Institute Co., Ltd. zongwenzhi0000@163.com
PowerCon 2021 CP0278	Analysis of Transient Stability of Photovoltaic Grid-connected System Considering Low Voltage Ride Through Zesen Wang, Tianqi Zhao, Yuguo Tian, Xue Xia, Yu Li, Tong Wang State Grid Jibei Electric Power Research Institute Power Grid Technology Center, North China Electric Power University Beijing China School of Electrical & Electronic wangzesen_008@163.com
PowerCon 2021 CP0284	The Research and Application on the Intelligent Control System of the GIS Circuit Breaker Zhengxu Qian, Xuanwei Qi, Song Wang, Wenbin Cao, Songjie Han, Feibai Zhu State Grid Zhejiang Electrical Power Research Institute, Shanghai Sieyuan Hongrui Automatic Co., Ltd. 475217701@qq.com
PowerCon 2021 CP0287	Study on Sub-synchronous Stability and Damping Characteristics of Thermal Power Unit in Wind-thermal Power Bundled Transmission System with Series Compensation Tianzhi Cao, Shuxian Yi, Xiaofei Wang, Yanbin Cui, Yingwei Li, Xing Qu North China Electric Power Research Institute, Northern United Power Corporation yissxx12@126.com

PowerCon 2021 CP0295	Commsioning of UHV SCSR Control Strategy Yanan Han, Jingqi Yang, Yue Ma, Tao Liu, Libo Zhang, Qing Wang China Electric Power Research Institute, UHV Business Division State Grid Co., Ltd. han_ya_nan@126.com
PowerCon 2021 CP0310	Constructing Algorithm of the Circulating Current in Delta Winding Based on Unbalanced Electrical Quantity Wenbin Cao, Xuanwei Qi, Song Wang, Ming Chen, Zhengxu Qian, Xianggen Yin State Grid Zhejiang Electrical Power Research Institute, Huazhong University of Science and Technology 1019097704@qq.com
PowerCon 2021 CP0311	Optimal Allocation Method of SAPFs for Harmonic Loss Reduction in Distribution Networks Based on Multi-objective Particle Swarm Optimization Qing Wang, Zebin Yang, Xiaoqing Yin, Huaying Zhang, Yan Li, Lizheng Sun Shenzhen Power Supply Co., Ltd., Xi'an Jiaotong University yangzbin@stu.xjtu.edu.cn
PowerCon 2021 CP0316	Damping Injection Control Strategy of Low Frequency Oscillation in Photovoltaic Power Plant Lihong Ma, Kai Sui, Yafeng Liang, Jianhong Qiu, Xi Cheng, Lei Shang, Xuzhu Dong Hainan Power Grid Co., Ltd. shanglei@whu.edu.cn
PowerCon 2021 CP0322	Comprehensive Evaluation and Improvement of Power Quality in Distribution Networks Based on DEA Model and Membership Function Huaying Zhang, Yan Li, Xian Wu Shenzhen Power Supply Co.Ltd. yxqing4869@163.com
PowerCon 2021 CP0324	Dynamic Stability Analysis of Active Distribution Network Based on Regional Recovery Yunting Zhang, Xinyan Fang, Xiao Zhang Shanghai Jiaotong University ptg_fxmm@sjtu.edu.cn
PowerCon 2021 CP0327	Study the Adaptability Test and Protective Measures of Relay Protection Devices in a Compound Electromagnetic Environment Ye Xia, Huihai Liu, Jun Zhao, Yifan Zhang, Xiaoli Zhang, Wei Li China Electric Power Research Institute xiaye@epri.sgcc.com.cn
PowerCon 2021 CP0338	A Spot Market Settlement Method Compatible with Dual Track Mechanism and Multiple Metering Intervals Xu Xie, Le Yu, Xi Chen, Lei Shi, Bingqi Liu North China Branch of State Grid, Beijing QU Creative Technology Co. xie.xu@nc.sgcc.com.cn
PowerCon 2021 CP0344	Analysis of Transient Frequency Voltage Coupling Characteristics for Power Systems with a high Share of Wind Power Chengli Yong, Xueping Pan, Wei Liang, Haidong Chen, Wei Li, Ling Zhu College of Energy and Electrical Engineering, Hohai University ycl8421bcd@163.com

PowerCon 2021 CP0351	<p>Operation Safety Analysis of CMOA Controllable Switch Under Lightning Intrusion Wave in UHV AC substation</p> <p>Xiujian Chen, Jing Liu, Tiantian Lu, Dengfeng Cheng, Weidong Shi, Ting Lei, Peng Kang China Electric Power Research Institute, State Grid Anhui Electric Power Co., Ltd. xjchen@epri.sgcc.com.cn</p>
PowerCon 2021 CP0355	<p>Operation Risks Analysis and Stability Control System Optimization for the Junction Area of Multiple HVDC Sending System</p> <p>Yukun Zhu, Yihua Zhu, Dongxu Chang, Jiawei Yu, Shengnan Li, Yong Chen State Key Laboratory of HVDC, Electric Power Research Institute of Yunan Power Grid zhuyk@csg.cn</p>
PowerCon 2021 CP0377	<p>Stability Analysis of VSG Based on Damping Torque Theory</p> <p>Shiyong Ma, Liwen Zheng, Changsheng Chen China Electric Power Research Institute 18713591731@163.com</p>
PowerCon 2021 CP0380	<p>Coordinated Development of Energy Ecosystem Based on Carbon Neutrality and Carbon Peak Targets</p> <p>Yingshuang Cao, Zhe Liu, Ye Zeng, Xingde Huang, Dunnan Liu, Jinshan Han State Grid Shanghai Municipal Electric Power Company, North China Electric Power University zengye213@163.com</p>
PowerCon 2021 CP0388	<p>Power Data Collection Terminal Protection Based On SM9</p> <p>Piao Liu, NuanQiang Ye, HanXian Han, JinMan Luo, ShuFeng Yang, RuiJue Feng, Mengzhen Song Dongguan Power Supply Bur. of Guangdong Power Grid Corp, School of Electrical Engineering Guangzhou City University of Technology, School of Electric Power South China University of Technology 2922437125@qq.com</p>
PowerCon 2021 CP0391	<p>Clustering Analysis and Mitigation of Sub-synchronous Oscillation of Offshore Wind Farm via the VSC-HVDC Grid-Connected System</p> <p>Ruanming Huang, Xinyu Xu, Ming Zhang, Xiaohui Wang, Fei Fei, Haoen Li, Enqi Wu, Jianxian Ou, Xiaoyan Bian State Grid Shanghai Municipal Electrical Power Company, College of Electrical Engineering Shanghai University of Electric Power bianxy@shiep.edu.cn</p>
PowerCon 2021 FP0400	<p>Analysis of AC Fault Ride-through Characteristics of the Baihetan-Jiangsu Hybrid Cascaded UHVDC System</p> <p>Zhihan Dong, Junli Zhang, Guoteng Wang, Zheng Xu, Jianhua Li, Zhiguang Huang Zhejiang University, East China Branch of State Grid Corporation of China dongzhihan@zju.edu.cn</p>
PowerCon 2021 CP0405	<p>Design and Implementation of the Technical Supporting System for Inter-district Surplus Renewable Energy Spot Transaction</p> <p>Jiang Chang, Guodong Huang, Chenxu Hu, Hui Cui, Zhiqiang Luo, Ruiwen Zhang China Electric Power Research Institute, State Grid Corporation of China revirgnol@163.com</p>

PowerCon 2021 CP0407	The Spot Market Clearing Simulation Research of Guangdong Power Grid Incorporating Demand Response Resource Chong Tang, Baorong Zhou, Wenmeng Zhao, Lanfen Cheng, Peizheng Xuan, Shangchou Zhou, Xiangrui Su Electric Power Research Institute, CSG tangchong@csg.cn
PowerCon 2021 CP0413	A Fixed-Time Control Scheme for Improving Transient Stability of Power System with Heterogeneous Dynamics Qi Geng, Xiaoxin Zhou, Huadong Sun, Xing Zhang China Electric Power Research Institute 707065428@qq.com
PowerCon 2021 CP0429	Coordinated Operation of PV and Cascaded Hydropower Considering the Power Grid Security Constraints Yongcan Wang, Peng Shi, Zhuolin Zeng, Xin Li, Bo Zhou State Grid Sichuan Electric Power Research Institute wangyc@hust.edu.cn
PowerCon 2021 CP0432	Dual-Loop PQ Control Scheme for Transient Stability Enhancement and Current Limitation of VSG Kun Sun, Wei Yao, Jinyu Wen Huazhong University of Science and Technology kunsun93@foxmail.com
PowerCon 2021 CP0444	Time-domain Characteristic Analysis of Fault Induced Traveling Wave in Flexible DC Transmission Lines Feiyang Dai, Zexin Zhou, Xingguo Wang, Yarong Guo, Dingxiang Du, Qi Cheng China Electric Power Research institute Co., Ltd. bfg10k@sina.com
PowerCon 2021 CP0449	Research on the Key Technology Framework of Collaborative Optimization Decision-making for Highly Resilient Power Grid Xiaorui Guo China Electric Power Research Institute gxr612@163.com
PowerCon 2021 CP0452	Discussion on Factors and Strategies Affecting the Operation of UHV Power Grid Hanzhi Zhang, Jing Luo, Jing Hao State Grid Jibei Electric Power Research Institute zhanghanzhi_1986@163.com
PowerCon 2021 CP0459	Reliability Evaluation of Cyber-physical System Considering Integration of Power and communication Risk Zhaoyang Wei, Caihua Liu, Zuibing Xie, Mengqiang Ji Northwest Branch of State Grid Corporation of China, NARI Technology Development Co.,Ltd. wzyzy1234@163.com
PowerCon 2021 CP0478	Research of Hybrid HVDC Circuit Breaker Protection Technology Based on Multiple Information Guangming Xin, Xiang Ren, Jian Wang, Xiao Long, Shuxian.yi North China Electric Power Research Institute Co. xinguangming1@126.com

PowerCon 2021 CP0487	<p>Identification of Vulnerable Components In Integrated systems Under the Background of Resilience</p> <p>Gaohui Chen, Bin Yu, Liguu Weng, Deqiang Lian</p> <p>Zhejiang Dayou Group Corporation, Zhejiang Zhongxin Electric Power Engineering Construction Corporation</p> <p>yqhhou@zju.edu.cn</p>
PowerCon 2021 CP0493	<p>Research on Measuring and Controllable Method of UHV AC Power Electronic CMOA by BOD Self Triggered Mode</p> <p>Xiujian Chen, Weijiang Chen, Xianshan Guo, Tiantian Lu, Weidong Shi, Ziming He</p> <p>China Electric Power Research Institute, State Grid Corporation of China (SGCC)</p> <p>xjchen@epri.sgcc.com.cn</p>
PowerCon 2021 CP0509	<p>An Open Circuit Faults Diagnosis Method Based on XG-Boost Used in MMC</p> <p>Xue Hu, Hefei Jia, Yan Deng</p> <p>College of Electrical Engineering, Zhejiang University</p> <p>18833255628@163.com</p>
PowerCon 2021 CP0514	<p>Reactive Power Optimization of Active Distribution Network Considering Mobile Energy Storage</p> <p>Qian Zhou, Yiming Xu</p> <p>Jiangsu Electric Power Research Institute, Mentor High School</p> <p>252823410@qq.com</p>
PowerCon 2021 CP0520	<p>Multi-time Scale Rolling Coordinated Optimal Scheduling of CSP-PV-W Considering the Maxi-mization of New Energy Consumption Capacity</p> <p>Lingling Jia, Zhicheng Ma, Wei Chen, Xiaoying Zhang, Qiang Zhou</p> <p>Lanzhou University of Technology, State Grid Gansu Electric Power</p> <p>493324098@qq.com</p>
PowerCon 2021 CP0532	<p>R1Wind-Storage Joint Multi-Objective Reactive Optimization Considering Ramp Events of Wind Power</p> <p>Lijuan Li, Jiehui Xu, Zeyu Li, Teshu Yao, Gangwei Ding, Hai Liu</p> <p>Xiangtan University, China Mobile Communications Group Hunan Co., Ltd.</p> <p>Shaoyang Company</p> <p>lijl@xtu.edu.cn</p>
PowerCon 2021 CP0543	<p>Data-driven Operational Reliability Assessment for Power Systems Under Hurricanes</p> <p>Xueyong Tang, Qingsheng Li, Lingyang Li, Pu Deng, Xianggang He, Ning Luo, Xiaocong Sun</p> <p>Guizhou Power Grid Co., Ltd., Zhejiang University</p> <p>12110045@zju.edu.cn</p>
PowerCon 2021 CP0516	<p>Quantitative Elasticity Assessment Method of Integrated Energy System Considering Building Virtual Energy Storage</p> <p>Zhihao Li, Chouwei Ni, Bo Zhao, Yibin Feng, Hong Liu, Xueying Cheng</p> <p>State Grid Zhejiang Electric Power Co., Ltd., Research Institute, State Grid Zhejiang Electric Power Co., Ltd.</p> <p>zgsdchengxy@163.com</p>

PowerCon 2021 CP0517	Current Status and Challenges of NLP in the Power Grid Production Domain Tong Rao, Hao Li, Hong Yu Electric Power Research Institute, Yunnan Power Grid Co., Ltd. 752515083@qq.com
PowerCon 2021 CP0518	Abnormal Data Processing of Wind Turbine Based on Combined Algorithm and Class Center Imputation Qiang Zhou, Yanhong Ma, Qingquan Lv, Ruixiao Zhang, Wei Wang, Shiyong Yang Gansu Key Laboratory of Renewable Energy Integration Operation and Control State Grid; College of Electrical Engineering, Zhejiang University d77mvp@zju.edu.cn
PowerCon 2021 CP0522	Improved Genetic Offloading Algorithm Based on Edge Terminal Server of Power Distribution Station Area Weixiang Huang, Yangjun Zhou, Bin Zhang, Li Yu, Zhicheng Guo Digital Grid Research Institute China Southern Power Grid zhangbin1@csg.cn
PowerCon 2021 FP0525	Study of Cooling Load Demand Response Potential Li Yin, Bo Yu, Yong Guo, Yong gang Pang Ulancharu Electric Power Bureau Inner Mongolia Electric Power Co., Ltd. 18811337200@163.com
PowerCon 2021 CP0529	Modeling and Structural Optimization of Acoustic Imaging Sensor Unit for Detecting Abnormal Noises of Dry-type Transformer Qian Lin, Jingjing Yang, Zitao Xu, Kezheng Xu, Huazhong Sun, Jinzhan Liu State Grid Shandong Electric Power Company Weifang Power Supply Company, School of Electrical Engineering, Chongqing University 20173412@cqu.edu.cn
PowerCon 2021 CP0536	A Data-driven Modeling Method for Power Quality Disturbance sources in Distribution Networks-10.8 Dandan Feng, Tongxun Wang, Shengjun Zhou, Yi Li, Guo-Qiang Su Global Energy Interconnection Research Institute Co., Ltd., State Grid Shandong Electric Power company nobody.fd@163.com
PowerCon 2021 CP0538	Choice of Transition Scheme for Diamond Distribution Network Considering the Combination of Reliability and Economy Minhao Xia, Jun Wang, Cheng Chou, Wanjian Zhao, Hong Liu, Haojia Wang Shanghai Power Supply Company, TianJin University wjjspc@126.com
PowerCon 2021 CP0540	Economic Evaluation of Thermoelectric Unit with Electric Boiler Considering Deep Peak Load Regulation Weicheng Yang, Fangrong Wu, Liansheng Tang, Jiekun-Lu, Baozhong Zhou, Jiguang Zhang China Huadian Corporation Ltd., Fujian Company 22160185@zju.edu.cn

PowerCon 2021 CP0541	<p>Research on the Operating Cost of Generating Units Participating in AGC Auxiliary Services Under Power Market Conditions</p> <p>Weicheng Yang, Fangrong Wu, Wei Gong, Zhiqin Li, Baozhong Zhou, Jiguang Zhang China Huadian Corporation Ltd., Fujian Company 22110056@zju.edu.cn</p>
PowerCon 2021 CP0542	<p>Bidding Strategy for Power Generation Enterprises as Price Makers in Day-ahead Energy and Regulation Markets</p> <p>Xiaofeng Yu, Chunliang Wang, Qiang Wei, Ying Le, Xiacong Sun, Yimin Bo, Lingyang Li China Huadian Corporation Ltd. Shan Dong Company, Huadian Electric Power Research Institute Co., Ltd., Zhejiang University 12010026@zju.edu.cn</p>
PowerCon 2021 CP0503	<p>Optimal Business Expanding of Distribution Network Considering Integration of Electric Vehicle Charging Station</p> <p>Zhong Xu, Tian Liu, Wenxiong Mo, Yong Wang, Heping Peng Guangzhou Power Supply Bureau of Guangdong Power Grid Co.,Ltd. hongtao.ren@zju.edu.cn</p>
PowerCon 2021 CP0524	<p>Research and Application of the Scheme of Relay Protection and Self-healing for Distribution Network Based on 5G</p> <p>Dong Chen, Bing Hu, Yuping Li, Wei Zhang, Runyi Wang, Yinian Qi Guodian Nanjing Automation Co., Ltd. ch-dong.chen@sac-china.com</p>
PowerCon 2021 CP0527	<p>A Hierarchical Data Driven Method for Spatial Electric Load Forecasting</p> <p>Chao Zhu, Zhe-sheng Hu, Xi-ran Wang, Lei Wang Economics Institute of State Grid Zhejiang Electric Power Co., Ltd. Hangzhou, China 13968170622@139.com</p>
PowerCon 2021 CP0531	<p>Research on Power Control and Prediction Strategies of New Energy Based on Cloud Platform and BP Neural Network</p> <p>Song Zhang, Guanghuai Li, Tiemin Li, Xiaofeng Han, Ying Ren, Jiuhui Kang Northeast Electric Power Design Institute zsmaster@163.com</p>
PowerCon 2021 CP0506	<p>Energy Management of Battery Energy Storage Station Considering System Operation Efficiency</p> <p>Weizhou Wang, Xubin Han, Yue Wu, Hanning Li, Xiangjun Li State Grid Gansu Electric Power Company, China Electric Power Research Institute li_xiangjun@126.com</p>
PowerCon 2021 CP0510	<p>Research on ICD Adaptive Technology of Redundant Backup Measurement and Control Device in Intelligent Substation</p> <p>Jiajun Wang, Mingjun Yuan, Xi Zhang, Hai Qin, Xiaofang liu, Ping Wang Xingyi Power Supply Bureau. Guizhou Power Grid Co.,Ltd.,CYG SUNRUI CO.,Power Grid Planning and Research Center Guizhou Power Grid Co.,Ltd.,Electric Power Engineering Institute, South China University of Technology yuanmj22@163.com</p>

PowerCon 2021
CP0512

CO₂ electrochemical reduction to C₂H₄ by anion exchange membrane electrode assemble device with high selectivity and productivity
Boyuan Tian, Zhanfeng Deng, Guizhi Xu, Gaoqun Zhang, Xiaoyun Song, Jiayao Deng
Global Energy Interconnection Research Institute Co., Ltd.
tianboyuan@geiri.sgcc.com.cn

PowerCon 2021
FP0513

Research on Operational Control Strategy of Gansu Power Grid with Grid Load Double Peaks and High Shares of Renewables and Power Electronics
Ruhai Hao, Haoming Niu, Xujun Zhang, Shibin Chen, Wentao Feng, Yandong Xing
Electric Power Research Institute, Gansu Electric Power Company
1120241660@qq.com

11. Technical Visit

Departure Time: 09:00, December 10

Place of Departure: Entrance of Howard Johnson New Port Resort Haikou

Destinations: Hainan Free Trade Port Power Business Environment Haikou Experience Center
Haikou Power Supply Bureau Lamp Museum

11.1 Hainan Free Trade Port Power Business Environment Haikou Experience Center

Hainan Free Trade Port Power Business Environment Haikou Experience Center officially opened for business on April 9, 2021. As the first center of its kind in Hainan Free Trade Port, it introduces intelligent energy services into the business hall, connecting customers to its novel, reliable, efficient and smart offerings. Not only does it function as a “next-generation” smart business hall, but the center also provides a display platform for green energy companies and institutions, and a promotion platform for new energy and new sectors. At present, the center has 7 partners, 33 basic service products and 31 value-added service products, covering the installation, consumption, management and substitution of electricity along with energy-saving transformation, comprehensive energy use, electric vehicles, charging service, insurance, smart home, etc.

11.2 Haikou Power Supply Bureau Lamp Museum

On March 21, 2018, the Haikou Power Supply Bureau Lamp Museum opened for the first time after half a year of preparation. The museum displays nearly 1,000 lamps donated by Wang Fuhe, a retired employee of the bureau.

The lamps date back to the Han, Tang, Song, Ming and Qing Dynasties, the Republic of China, the early years of the PRC, and other historical periods. They were made of jade, stone, ceramics, bronze, iron, silver, wood, cow horns and other materials. Some of them were intended to be put on a surface, others to be carried on a walk, and still others to be hung from the ceiling or on the wall.

The centerpiece of the museum is a heart-shaped lamp used for sea travel. Other treasures include Hainan’s typical frog-shaped lamp that represents the wish for new additions to the family, a precious oil lamp of the Tang-Song era, the province’s first electric lamp, and other objects with great significance.

By building this museum, Haikou Power Supply Bureau was able to explore local history, uphold traditional values, and create a cultural brand that brings together a bunch of go-getters. The museum laid the foundation for the bureau’s goal of building one of China’s best power supply companies in 2018. More importantly, it serves as a bridge between power development and civilizational progress.

12. Buffet Lunch and Coffee Break

	Time	Contents	Venue
December 7	18:00-20:00	Buffet Dinner	Riviera-Western Restaurant
December 8	12:30-14:00	Buffet Lunch	Riviera-Western Restaurant Lotus Garden-Chinese Restaurant
	10:20-10:40	Coffee Break	Ballroom Foyer
	15:20-15:40		
December 9	12:30-14:00	Buffet Lunch	Riviera-Western Restaurant Lotus Garden-Chinese Restaurant
	10:20-10:40	Coffee Break	Ballroom Foyer
	15:20-15:40		

13. Useful Information

13.1 Registration

- (1) Online registration: Delegates who have registered and paid online should sign in with their registration number at the registration desk and collect the conference package.
- (2) On-site registration: Delegates who haven't registered beforehand should go to complete registration and payment at the registration desk to get access to the conference.

13.2 Conference Activities and Social Programs

- (1) Registered delegates will have full access to the conference activities and social programs.
- (2) All delegates are kindly requested to wear name badges at all times during the conference period.
- (3) Please be reminded that meal coupons will be needed for joining buffet dinner and lunches.

13.3 Secretariat

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Floor Plan of Howard Johnson New Port Resort Haikou

Exit

