

Useful Information

Registration Desk Opening Time		
Wednesday, 23 October 2019	14:00 -- 17:00	
Thurs/Fri, 24-25 October 2019	08:00 -- 09:00	
Catering information		
Conference Lunch	13:00 -- 14:00 Buffet lunch, Ground floor	
Drink Reception (24 Oct 2019)	18:00 -- 19:30 Jingheng Ballroom	
Conference Committee Members		
Honorary Chair	Professor Junfa MAO Vice President of Shanghai Jiao Tong University	
Conference Chair	Professor Nengling TAI Vice Head of School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, China	
Conference co-chair	Professor David Infield University of Strathclyde, UK	
Organizing Committee Chair	Professor Yongqian LIU North China Electric Power University, China	
Technical Programme Committee Chair	Professor Xiaodong ZHENG Shanghai Jiao Tong University, China	
Technical Programme Committee co-chair	Professor Miao ZHU Shanghai Jiao Tong University, China	
Speakers		
24 Oct 19 Morning	Opening Address	Prof. Junfa Mao, Shanghai Jiao Tong University, China
		Mr. Ian Mercer, The Institution of Engineering and Technology (IET), UK
	Technical speech	Prof. Yilu LIU, Oak Ridge National Laboratory, CURENT Engineering Research Centre, USA
		Prof. Yunwei (Ryan) LI, University of Alberta, Canada
		Prof. Chanan Singh, Texas A&M University, USA
		Professor Liuqing YANG, Colorado State University, USA
		Professor Vassilios G. Agelidis, Technical University of Denmark, Denmark
		Dr. Yi ZHANG, RTDS Technologies Inc.
		Prof. Xiaoxin ZHOU, China Electric Power Research Institute, China

Session Chairs		
24 Oct 19 Afternoon	Session A1	Prof. Yongqian LIU, North China Electric Power University, China
	Session B1	Prof. Xiaodong ZHENG, Shanghai Jiao Tong University, China
	Session F1a	Prof. Ciwei GAO, Southeast University, China
	Session F1b	Prof. Donghan FENG, Shanghai Jiao Tong University, China
	Session G1*/G1	Prof. Jiabing HU, Huazhong University of Science and Technology, China
	Session E1*/E1	Prof. Miao ZHU, Shanghai Jiao Tong University, China
25 Oct 19 Morning	Session A2a	Prof. David Infield, University of Strathclyde, UK
	Session B2*	Prof. Mingyao MA, Hefei University of Technology, China
	Session C2*	Dr. Xiangjun LI, China Electric Power Research Institute, China
	Session F2*	Prof. Ming YANG, Shandong University, China
	Session D2*	Prof. Sidun FANG, Nanyang Technological University, Singapore
	Session G2*/G2a	Prof. Yingning QIU, Nanjing University of Science and Technology, China
	Session E2*/E2a	Prof. Xiaorong XIE, Tsinghua University, China
25 Oct 19 Afternoon	Session A2b	Prof. Meng KE, The University of New South Wales, Australia
	Session C2	Prof. Bin WANG, Tsinghua University, China
	Session D2	Prof. Bowen ZHOU, Northeastern University, China
	Session G2b	Dr. Zhibing WANG, China Electric Power Research Institute, China
	Session E2b	Prof. Hua GENG, Tsinghua University, China

Honorary Chair

Professor Junfa MAO, Vice President of Shanghai Jiao Tong University



Prof. Mao received a BSc degree from the National University of Defense Technology in July 1985, and then a MSc degree from the Shanghai Institute of Nuclear Research of the Chinese Academy of Sciences in July 1988. In July 1992, he received his Ph.D. from Shanghai Jiao Tong University (SJTU) which he joined as a faculty member immediately afterwards. He had conducted postdoctoral research at the Chinese University of Hong Kong and the University of California, Berkeley respectively for one year from the period of May 1994 to August 1996. From October 2010 to June 2018, he was Executive Vice Dean and then Dean of the School of Electronic Information and Electrical Engineering, SJTU. In June 2018, he was appointed Member of the Standing Committee of the CPC SJTU Committee and Vice President of SJTU.

His areas of research interest include high-speed circuit interconnection and RF electronic packaging, in which Prof. Mao has published over 400 papers, including 120 IEEE journal papers. He has been also granted 30 patents. Largely applied in the development of national key equipment, Prof. Mao's research findings have won him numerous prizes, including the Second Prize of the National Natural Science Award, Second Prize of the National Technology Invention Award, and Second Prize of the National Science and Technology Progress Award. He has also been awarded the Second Prize for National Teaching Achievement.

Professor Mao Junfa is IEEE Fellow, Fellow of the Chinese Institute of Electronics, and Director of its Microwave Branch. He is also Dean of the Institute of Artificial Intelligence, SJTU.

As Vice President of the university, Prof. Mao's responsibility lies in scientific research, university-industry collaboration, technology transfer, cross-disciplinary work between medicine and engineering and between medicine and sciences, collaboration with the local government and confidentiality.

Conference Chair

Professor Nengling TAI, Vice Head of School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, China



Nengling Tai, male, born in May 1972, is Ph.D., Professor, PhD supervisor, Shanghai Shuguang scholars, New Century Excellent Talents of Ministry of Education, Outstanding Young Teacher of Shanghai Universities, technical support members of naval major equipment Group, China Power Education Foundation Xuji teachers fund winner, Shanghai Jiao Tong University SMC Morningstar Scholars Program Category A winner.

Mainly engaged in power system relay protection and intelligent power transmission and distribution technology, he is the head of program, hosted research work of a number of vertical and horizontal subjects including two of the National Natural Science Foundation of China, "11th Five" National Scientific and Technical Support Plan, Sub-projects of National Major Projects, Postdoctoral Science Foundation of China, Xuji Teacher Research Foundation, Shanghai University Reserve Fund for Outstanding Young Teachers, "Smart power transmission and distribution technology", "Fast protection system for single-phase grounding in transmission line", "Expo underground substation simulation system", "Research on Zhejiang Huaneng Yuhuan power plant 1000MW generator unit", etc. As main participant, completed a number of power system control and planning subjects including two national "9th Five" major scientific and technical project of "Protection system for single-phase grounding in Three Gorges power generator stator" and "Multi-branch coil protection system for generator stator of Three Gorges power station", "Regional power control in East China Grid", "Internal faults analysis, protection configuration and related assessment for generator unit of Three Gorges power station", etc., and gained important achievements. Won the second prize of Shanghai Science and Technology Progress Prize once (rank No.1), and published more than 100 papers home and abroad, of which nearly 25 papers published abroad, including 15 on SCI source journals, and more than 60 papers on domestic EI source journals. Currently he has 13 SCI papers, more than 80 EI papers and 8 national patents.

Conference Co-chair

Professor David Infield, University of Strathclyde, UK



Professor David Infield joined the University in 2007 as Professor in Renewable Energy Technologies. Together with colleagues, a considerable wind energy research activity has been built up since then. For five years he was Manager of the Doctoral Training Centre in Wind Energy Systems, delivering four year PhDs with a considerable training element; this was extended into the Centre for Doctoral Training in Wind and Marine Energy Systems for which he played a leading managerial role before retiring and taking on the role of Research Professor. His teaching was mainly to these Doctoral students although he also supervised Undergraduate and Masters student projects across a range of renewable energy related topics.

His main responsibility outside the University is as Editor in Chief of the IET's Renewable Power Generation journal.

Organizing Committee Chair

Professor Yongqian LIU, North China Electric Power University, China



Dr. LIU received his PhD on Production Automation at Nancy 1 University in France and PhD on Hydropower Engineering at Huazhong University of Science and Technology in China in 2002 from a joint PhD program, and received his Master's Degree in 1992 and Bachelor's Degree in 1986 on Hydropower Engineering at North China Institute of Water Conservancy and Hydropower.

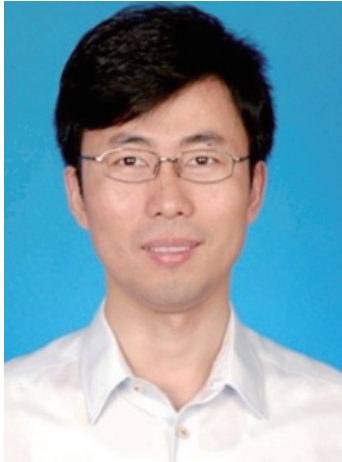
He has 31 years' professional experience on Wind Power and Hydro Power Engineering. He is one of the founders of the Bachelor's programme "Wind Energy and Power Engineering" in China, and his achievements include strong record of numerous academic and industrial R&D projects, technological consulting projects, and 132 research papers including 75 journal papers.

Currently his main teaching, research and consultation interests include the theory and technologies on Wind Power Plant Design, and Operation and Maintenance.

Academic Activities: Board Member of the Chinese Wind Energy Association (2013-); Member of the Renewable Power Committee, Chinese Society for Electrical Engineering (2007-); Member of the Meteorological Resources Application Committee, Chinese Meteorology Society (2007-); Regional Editor (Asia Pacific) of IET Journal "Renewable Power Generation" (2009-); Lead Author of IPCC (Intergovernmental Panel on Climate Change) Special Report on Renewable Energy and Climate Change Mitigation (2009-2010).

Technical Programme Committee Chair

Associate Professor Xiaodong ZHENG, Shanghai Jiao Tong University, China



Dr. Xiaodong Zheng is associate professor at Department of Electrical Engineering, Shanghai Jiao Tong University (SJTU). He received his Ph.D. degree in electrical engineering from Shanghai Jiao Tong University, China, in 2013. He worked with James Thorp from 2013 to 2015 and his postdoctoral research centres around HVDC protection scheme. He joined SJTU since 2016 as an assistant professor, then associate professor. He is currently Deputy director of research group of Smart Grid monitoring, protection and security control.

His research interests include power system protective relaying, protection for HVDC/MTDC, protection for power electronics dominated power system. He has been PI or Co-PI on \$6 million (RMB) in externally funded research sponsored by the National Science Foundation of China, Ministry of Industry and Information Technology of the People's Republic of China, Ministry of Education, Shanghai science and technology commission and State Grid Corporation of China. He has authored over 60 technical articles and one book chapter. He is currently serving as a Guest Editor for Journal of Shanghai Jiao Tong University (Science).

Technical Programme Committee co-chair

Professor Miao ZHU, Shanghai Jiao Tong University, China



Miao Zhu (S'05–M'07–SM'12) received the B.Sc. degree from Southeast University, China, in 2001 and the Ph.D. degree from Nanyang Technological University, Singapore in 2009, both in electrical engineering.

During 2001–2002, he was an Assistant Engineer at Wuxi Power Supply Company, State Grid of China. From 2008 to 2009, he was with Meiden Asia Pte Ltd, Singapore, as an R&D Engineer. After that, he had been a Scientist in the Experimental Power Grid Centre (EPGC), A*STAR, Singapore. In Jul. 2012, he joined Shanghai Jiao Tong University, China, as Associate Professor with the title of Distinguished Researcher. He is also the Director Assistant of State Energy Smart Grid R&D Centre (Shanghai).

Dr. Zhu is a regular reviewer for a number of academic journals, and has published nearly 50 papers in refereed journals and conferences proceedings. He is the recipient of 2009 IEEE Power Electronics Society Prize Letter Award. In 2010, he was awarded the World Future Foundation PhD Prize in Environmental and Sustainability Research.

Technical Programme Committee (name in alphabetical order)

Navid BAYATI	Aalborg University, Denmark
Antonio BRACALE	University of Napoli Parthenope, Italy
B. Chitti BABU	The University of Nottingham (U.K), Malaysia Campus
Ying CHEN	Tsinghua University, China
Sijie CHEN	Shanghai Jiao Tong University, China
Hui CAI	State Grid Jiangsu Economic Research Institute, China
Ningyi DAI	University of Macau, China
ZY (Joe) DONG	The University of Sydney, Australia
Fujin DENG	Southeast University, China
Youssef ERRAMI	University Chouaib Doukkali, Eljadida, Morocco
Ana ESTANQUEIRO	LNEG, Portugal
Donghan FENG	Shanghai Jiao Tong University, China
Maria Carmen FALVO	University of Rome Sapienza, Italy
Sidan FANG	Nanyang Technological University, Singapore
Shuanglei FENG	China Electric Power Research Institute (CEPRI), China
Qiang GAO	Shanghai Jiao Tong University, China
Hua GENG	Tsinghua University, China
Samuele GRILLO	Polytechnic of Milan, Italy
Wentao HUANG	Shanghai Jiao Tong University, China
Yuhui HUANG	Shanghai Jiao Tong University, China
Ce SHANG	Shanghai Jiao Tong University, China
Meng HUANG	Wuhan University, China
Zhiyong HONG	Shanghai Jiao Tong University, China
Wentao HUANG	Shanghai Jiao Tong University, China
Jiabing HU	Huazhong University of Science and Technology, China
Yunhe HOU	University of Hong Kong , China
Dong JIANG	Huazhong University of Science and Technology, China
Chuanwen JIANG	Shanghai Jiao Tong University, China
Ke JIA	North China Electric Power University, China
Ali Pourmousavi KANI	The University of Adelaide, Australia
Lu LIU	Shanghai Jiao Tong University, China
Xiang LUO	Shanghai Jiao Tong University, China
Xuezhi LIU	Shanghai Jiao Tong University, China
Yadong LIU	Shanghai Jiao Tong University, China
Yu Liu	ShanghaiTech University
Jing LV	Shanghai Jiao Tong University, China
Quan LI	University of Edinburgh, UK
Xiangjun LI	China Electric Power Research Institute, China
Nian LIU	Shanghai Jiao Tong University, China
Liang LIANG	Harbin Institute of Technology, Shenzhen
Shunbo LEI	University of Michigan, USA
Ke MA	Shanghai Jiao Tong University, China
Jin MA	The University of Sydney, Australia
Mingyao MA	Hefei University of Technology, China

Ke MENG	The University of New South Wales, Australia
Amjad Anvari-MOGHADDAM	Aalborg University, Denmark
K.Mohanasundaram	Vel tech Multitech, Engineering college, Chennai, India.
Sanjeevikumar PADMANABAN	University of Johannesburg, Auckland Park, South Africa
Zhijun QIN	Guangxi University, China
Yingning QIU	Nanjing University of Science and Technology, China
Angela RUSSO	Polytechnic of Torino, Italy
Li RUI	Shanghai Jiao Tong University, China
Ce SHANG	Shanghai Jiao Tong University, China
Filipe Faria da SILVA	Aalborg University
Guobing SONG	Xi'an Jiao Tong University, China
Gang SHI	Shanghai Jiao Tong University, China
Dewu SHU	Shanghai Jiao Tong University, China
Wei SUN	University of Central Florida, USA
Alfredo VACCARO	Università degli Studi del Sannio, Italy
Gregor VERBIC	The university of Sydney
Jiandong WU	Shanghai Jiao Tong University, China
Qiuwei WU	Technical University of Denmark, Denmark
Zhibing WANG	China Electric Power Research Institute, China
Shouxiang WANG	Shanghai Jiao Tong University, China
Jiacheng (Jason) WANG	Simon Fraser University, Canada
Xu WANG	Shanghai Jiao Tong University, China
Bin Wang	Tsinghua University, China
Keyou WANG	Shanghai Jiao Tong University, China
Jianjiao WANG	NCEPU, China
Xiaoyuan XU	Shanghai Jiao Tong University, China
Lie XU	University of Strathclyde-
Xiaorong XIE	Tsinghua University, China
Haijun XING	Shanghai University of Electric Power, China
Yin XU	Beijing Jiao Tong University, China
Jianqiao YU	University of Science and Technology, Shenzhen, China
Miao YU	Zhejiang University, China
Gangui YAN	Northeast Electric Power University, China
Wei YAO	Huazhong University of Science and Technology, China
Xiaodong ZHENG	Shanghai Jiao Tong University, China
Taiying ZHENG	Zhejiang University, China
Xuemei ZHENG	Harbin Institute of Technology, China
Pinjia ZHANG	Tsinghua University, China
Shenxi ZHANG	Shanghai Jiao Tong University, China
Jianwen ZHANG	Shanghai Jiao Tong University, China
Xiao-Ping ZHANG	University of Birmingham, UK
Hengxu ZHANG	Shandong University, China
Bowen ZHOU	Northeastern University, China
jinquan ZHAO	Hohai University, China
Jiebei ZHU	Tianjin University, China
Miao ZHU	Shanghai Jiao Tong University, China

Keynote Speaker

Prof. Yilu LIU, Oak Ridge National Laboratory, CURENT Engineering Research Centre, USA

Speech Title: Grid Edge Time Synchronous Measurement & Applications



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

Yilu Liu is an electrical engineer specializing in smart-grid technologies in electrical power production and distribution. Liu's work focuses on developing new and better ways to monitor and understand the flow of electrical energy through the nation's power grid.

She led the effort to create the North American power grid Frequency Monitoring Network FNET/GridEye. Dr. Liu is an expert in large grid dynamic modelling and simulations. Liu holds a joint appointment with Oak Ridge National Laboratory, and serves as deputy director of CURENT (Centre for Ultra-Wide-Area-Resilient Electric Energy Transmission Networks) Engineering Research Centre. Dr. Liu is a member of National Academy of Engineering, a member of the National Academy of inventors, a fellow of IEEE.

Keynote Speaker

Prof. Yunwei (Ryan) LI, University of Alberta, Canada

Speech Title: More Renewable Electric Grids Enabled by Power Electronics Technologies



Professor Li received the Bachelor of Science in Engineering degree from Tianjin University, China, in 2002, and the Ph.D. degree from the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore, in 2006.

In 2005, He was a Visiting Scholar with the Institute of Energy Technology, Aalborg University, Denmark, where he worked on the medium voltage dynamic voltage restorer (DVR) system. From 2006 to 2007, he was a Postdoctoral Research Fellow in the Department of Electrical and Computer Engineering, Ryerson University, Canada, working on the high power converter and electric drives. In 2007, He also worked at Rockwell Automation Canada as a R&D Engineer and was responsible for the development of power factor compensation strategies for current source fed motor drives. Since 2007, he has been with the Department of Electrical and Computer Engineering, University of Alberta, Canada.

Research interests are

- Power converter topologies, PWM and control
- Integration of renewable energy and distributed generation
- Microgrid and active distribution systems
- High power converters and electric drives
- Custom power devices

Keynote Speaker

Prof. Chanan Singh, Texas A&M University, USA

Speech Title: Integrating Renewables and Maintaining Grid Reliability



Chanan Singh is a Regents Professor and Irma Runyon Chair Professor in the Department of Electrical and Computer Engineering, Texas A&M University, College Station, Texas, USA. He served as the Department Head of Electrical and Computer Engineering Texas A&M from 1997 to 2005 and then as an Interim Head from 2012 to 2015. He also served as Program Director at the National Science Foundation of USA and a Guest Professor at Tsinghua University, Beijing, China.

His research and consulting interests are in the foundational developments and applications of probabilistic methods for planning and operation of electric power grid. He has authored/co-authored more than 400 technical papers and four books and has contributed to several books. He has consulted with many major corporations and given short courses nationally and internationally.

Dr. Singh was elected a Fellow of the IEEE for “Contributions to Theory and Applications of Quantitative Reliability Methods in Electric Power Systems” in 1991. He is the recipient of the 1998 Outstanding Power Engineering Educator Award given by the IEEE Power Engineering Society. For his research contributions, he was awarded a D.Sc. degree by the University of Saskatchewan, Saskatoon, SK, Canada, in 1997. In 2008, he was recognized with the Merit Award by the PMAPS International Society for life long achievements. In 2010, he was the inaugural recipient of the IEEE-PES Roy Billinton Power System Reliability Award. He was elected to the National Academy of Engineering for “advancement of theory, practice, and education in electric power system reliability”.

Keynote Speaker

Professor Vassilios G. Agelidis, Ph.D., Fellow of IEEE, Fellow of IET, Technical University of Denmark, Denmark

Speech title: Utility power electronics: from energy converters to utility sensors



Vassilios G. Agelidis was born in Serres, Greece. He received the B.Eng. degree in electrical engineering from the Democritus University of Thrace, Thrace, Greece, in 1988, the M.S. degree in applied science from Concordia University, Montreal, QC, Canada, in 1992, and the Ph.D. degree in electrical engineering from Curtin University, Perth, Western Australia, in 1997. He also holds a graduate diploma on business administration from the Curtin Graduate School of Business, Australia.

He has worked at Curtin University, (1993–1999), University of Glasgow, U.K. (2000–2004 as Senior Lecturer and Research Manager for the Glasgow-Strathclyde Centre for Economic Renewable Power Delivery), Murdoch University, Perth, Australia (2005–2006 as Chair of Power Engineering Professor), the University of Sydney, Australia (2007–2010, where he held the industry funded EnergyAustralia Chair in Power Engineering), and the University of New South Wales (UNSW), Sydney, Australia (2010-2016 as the Director of the Australian Energy Research Institute). In 2015, he was with the ABB Corporate Research Centre, Västerås, Sweden, for a sabbatical. Since October 2016, he is a professor at the Centre for Electrical Power and Energy, Department of Electrical Engineering, Technical University of Denmark. He has also been a visiting professor at Beijing Jiao Tong University, China, 2011-2017 under the Chinese Government's High-End Experts Program. He is currently a visiting research professor at UNITEN, a private university in Kuala Lumpur, Malaysia, owned by Tenaga Nasional Berhad (Electricity utility). He acted as a member of the International Advisory Board of Beijing Jiao tong University (2012-2017) and is a member of UNITEN's International Advisory Council (2017-2020). Professor Agelidis has been evaluating research proposals for the Australian Research Council (ARC), the European Research Council and for research funding bodies of many countries including New Zealand, Singapore, Canada, Hong Kong, Chile, Belgium, United Kingdom, Holland, Norway, and Kazakhstan for many years.

Dr Agelidis received the most prestigious research fellowship for young researchers in the United Kingdom, namely, the Advanced Research Fellowship from the U.K.'s Engineering and Physical Sciences Research Council in 2004. He was the Vice-President Operations within the IEEE Power Electronics Society (PELS) from 2006 to 2007. He was the Technical Chair of the 39th IEEE Power Electronics Specialists Conference, Rhodes, Greece, 2008. He is a Fellow of the IEEE and the IET (UK). He is also a Distinguished Lecturer for the IEEE PELS 2017-2020.

Keynote speaker

Dr. Xiaoxin Zhou, China Electric Power Research Institute, China

Speech title: Next Generation of Power System and Energy Internet



Zhou Xiaoxin, IEEE Fellow, Academician of the Chinese Academy of Sciences, professor-level senior engineer and doctoral tutor, is currently Honorary President of China Electric Power Research Institute, Standing Council Member of China Electrical Engineering Society and Chairman of its academic work committee, Standing Council Member of China Electrotechnical Society. He has been engaged in power system analysis methods for a long time. In the 1970s, he began to research mathematical models and calculation methods for modern power system analysis. He hosted the development of China's first set of "power system analysis integrated program" software. In the first 330kV EHV transmission line project and the first ± 500 kV high-voltage transmission line project in China, a new simulation calculation analysis model, calculation method and key technology are proposed and adopted. He is responsible for the research of key projects such as controllable series compensation of EHV transmission systems and devoted to the research of power electronics technology and modern control theory applied to power systems. He was awarded the National Science and Technology Progress Award, the Science and Technology Progress Award, and the He Liang Heli Fund Science and Technology Progress Award.

Keynote Speaker

Dr. Liuqing YANG, Colorado State University, USA

Speech title: IoT for Smart Grid Energy Management

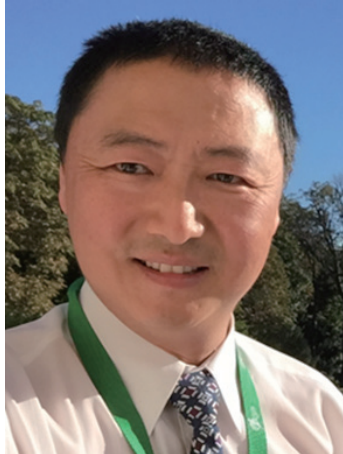


Dr. Liuqing Yang (IEEE Fellow) received her Ph.D. degree in Electrical and Computer Engineering from the University of Minnesota, Minneapolis, in 2004. She is presently a Professor with Colorado State University. Her general interests are in signal processing and data analytics with applications to communications, networking and power systems – subjects on which she has published more than 310 journal and conference papers, 4 book chapters and 5 books. Dr. Yang became an IEEE Fellow in 2015. She was the recipient of the ONR Young Investigator Program (YIP) award in 2007, and the NSF Faculty Early Career Development (CAREER) award in 2009, the Best Paper Award at the IEEE ICUWB'06, ICC'13, ITSC'14, Globecom'14, ICC'16, and WCSP'16, Globecom'18, ICCS'18 and ICC'19. She is the editor in chief for IET Communications, and has served as associate/senior editor for IEEE Transactions on Communications, IEEE Transactions on Wireless Communications, IEEE Transactions on Signal Processing, IEEE Transactions on Intelligent Transportation Systems, IEEE Intelligent Systems, and PHYCOM: Physical Communication, as the Editor in Chief for IET Communications, and as program chair, track/symposium or TPC chair for many conferences.

Keynote Speaker

Dr. Yi Zhang, Chief Technology Officer & Vice President of Research and Development, RTDS Technologies Inc.

Speech title: Looking towards Future Real Time Digital Simulation Technology



Yi Zhang joined RTDS Technologies Inc. in 2000, where he now serves as Vice-President R&D and Chief Technology Officer (CTO). He has over 28 years of experiences working in the area of power system simulation and analysis. His expertise includes the Real Time EMT Simulation, Voltage Stability and HVDC, etc. As a principle member of the RTDS development team, He developed a number of power system models on RTDS Real Time Simulator in the past over 19+ years. At present, he leads the research and development activities in RTDS Technologies. Dr. Zhang obtained Ph.D. degree from Shanghai Jiao Tong University in 1998. He is a registered professional engineer in the province of Manitoba, and is a member of multiple B4 (HVDC) Working Groups in CIGRE. Dr. Zhang also serves as an adjunct professor in the University of Manitoba, and an editor of IEEE Transactions on Power Delivery.

RPG 2019 Overview Programme

Wednesday, 23 October 2019	
14:00 – 17:00	Pre-event registration
Thursday, 24 October 2019	
08:00 -- 09:00	Registration
Plenary Session (ALL DELEGATES) Jing Heng Conference Hall	
Session Host: Prof. Nengling TAI	
09:00 -- 09:15	Chair's welcome speech & introduction Prof. Nengling TAI, RPG 2019 Conference Chair , Vice Head of School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, China
09:15 – 09:30	Opening address from the Vice President of Shanghai Jiao Tong University Prof. Junfa Mao, Shanghai Jiao Tong University, China
09:30 – 09:45	Opening address from the Head of International Operations at IET Mr. Ian Mercer, The Institution of Engineering and Technology (IET), UK
09:45 -- 09:55	Group Photo
Session Host: Prof. Xiaodong ZHENG & Prof. Miao ZHU	
09:55 -- 10:20	Keynote speech from Prof. Yilu LIU, Oak Ridge National Laboratory, CURENT Engineering Research Centre, USA <i>Title of speech: Grid Edge Time Synchronous Measurement & Applications</i>
10:20 -- 10:40	Keynote speech from Prof. Yunwei (Ryan) LI, University of Alberta, Canada <i>Title of speech: More Renewable Electric Grids Enabled by Power Electronics Technologies</i>
10:40 – 11:00	Refreshment and poster session
11:00 --11:20	Keynote speech from Prof. Chanan Singh, Texas A&M University, USA <i>Speech Title: Integrating Renewables and Maintaining Grid Reliability</i>
11:20 -- 11:40	Keynote speech from Professor Liuqing YANG, Colorado State University, USA <i>Speech title: IoT for Smart Grid Energy Management</i>
11:40 --12:00	Keynote speech from Professor Vassilios G. Agelidis, Technical University of Denmark, Denmark <i>Speech title: Utility power electronics: from energy converters to utility sensors</i>
12:00 – 12:20	Keynote Speech from Dr. Yi ZHANG, Chief Technology Officer & Vice President of Research and Development, RTDS Technologies Inc. <i>Speech title: Looking towards Future Real Time Digital Simulation Technology</i>
12:20 – 12:40	Keynote speech from Xiaoxin Zhou, China Electric Power Research Institute, China <i>Speech title: Next Generation of Power System and Energy Internet</i>
12:40 --13:30	Lunch & Poster Session (Day 1 poster please refer to Poster programme)

Oral Presentation Sessions

Location Time	Room 1	Room 2	Room 3	Room 4	Room 5
13:30--15:00	<p>Session A1: Wind Technology</p> <p>Session chair: Prof. Yongqian LIU North China Electric Power University, China</p>	<p>Session B1: PV system technology</p> <p>Session chair: Prof. Xiaodong ZHENG, Shanghai Jiao Tong University, China</p>	<p>Session F1a: Planning, policy and marketing options</p> <p>Session chair: Prof. Ciwei GAO, Southeast University, China</p>	<p>Session G1*: System Operation and protection -- <i>Fault Analysis and Protection Methods of Power Electronized Power Systems</i></p> <p>Session chair: Prof. Jiabing HU, Huazhong University of Science and Technology, China</p>	<p>Session E1*: Grid Integration -- DC Generation and DC Integration of New Energy</p> <p>Session chair: Prof. Miao ZHU, Shanghai Jiao Tong University, China</p>
15:00--15:30	Poster Session and Refreshments (Day 1 poster please refer to Poster Programme)				
15:30--17:00	<p>Session A1 Wind Technology</p> <p>Session chair: Prof. Yongqian LIU North China Electric Power University, China</p>	<p>Session B1: PV system technology</p> <p>Session chair: Prof. Xiaodong ZHENG, Shanghai Jiao Tong University, China</p>	<p>Session F1b: Planning, policy and marketing options</p> <p>Session chair: Prof. Donghan FENG, Shanghai Jiao Tong University, China</p>	<p>Session G1: System Operation and protection</p> <p>Session chair: Prof. Jiabing HU, Huazhong University of Science and Technology, China</p>	<p>Session E1: Grid Integration</p> <p>Session chair: Prof. Miao ZHU, Shanghai Jiao Tong University, China</p>
17:00 – 18:00	Poster Presentation (Day 1 poster please refer to Poster Programme)				
<p>Drink Reception (ALL DELEGATES) Jingheng Conference Hall 18:00 – 19:30</p>					
<p>Host: tbc</p> <ul style="list-style-type: none"> • Welcome speeches • Award ceremony • Networking 					

Friday, 25 October 2019

08:00--09:00	Registration				
Location Time	Room 1	Room 2	Room 3	Room 4	Room 5
09:00--10:30	<p>Session A2a: Wind Technology</p> <p>Session chair: Prof. David INFIELD, University of Strathclyde, UK</p>	<p>Session B2*: PV system technology -- Reliability, Monitoring and Fault Diagnostics of PV Generation System</p> <p>Session chair: Prof. MingyaoMa, Hefei University of Technology, China</p>	<p>Session F2*: Planning, policy and marketing options -- electricity markets facilitating renewable energy integration</p> <p>Session chair: Prof. Ming YANG, Shandong University, China</p>	<p>Session G2*: System Operation and protection -- Sensing, Fault diagnosis and Fault tolerance for Renewable Energy System</p> <p>Session chair: Prof. Yingning QIU, Nanjing University of Science and Technology, China</p>	<p>Session E2*: Grid Integration -- Sub- and Super- synchronous Control Interactions in RPG- integrated Power Systems</p> <p>Session chair: Prof. Xiaorong XIE, Tsinghua University, China</p>
10:30--11:00	Poster Session and Refreshments (Day 2 poster please refer to Appendix II)				
11:00--12:30	<p>Session A2a: Wind Technology</p> <p>Session chair: Prof. David INFIELD, University of Strathclyde, UK</p>	<p>Session C2*: Other Renewable Energy Sources -- Integration and Application Innovation of Energy Storage Systems</p> <p>Session chair: Dr. Xiangjun LI, China Electric Power Research Institute, China</p>	<p>Session D2*: EnergyInternet and SmartCity -- Harbor & off-shore renewable energy integration and green maritime transportation</p> <p>Session Chair: Prof. Sidun FANG, Nanyang Technological University, Singapore</p>	<p>Session G2a: System Operation and protection</p> <p>Session chair: Prof. Yingning QIU, Nanjing University of Science and Technology, China</p>	<p>Session E2a: Grid Integration</p> <p>Session chair: Prof. Xiaorong XIE, singhua University, China</p>
12:30--13:30	Poster Session and Lunch (Day 2 poster please refer to Appendix II)				
13:30--15:00	<p>Session A2b: Wind Technology</p> <p>Session chair: Prof. Meng KE, The University of New South Wales, Australia</p>	<p>Session C2: Other Renewable Energy Sources</p> <p>Session chair: Prof. Bin WANG, Tsinghua University, China</p>	<p>Session D2: Energy Internet and Smart City</p> <p>Session chair: Prof. Bowen ZHOU, Northeastern University, China</p>	<p>Session G2b: System Operation and protection</p> <p>Session chair: Dr. Zhibing WANG, China Electric Power Research Institute (CEPRI), China</p>	<p>Session E2b: Grid Integration</p> <p>Session chair: Prof. Hua GENG, Tsinghua University, China</p>

15:00--15:30	Poster Session and Refreshments (Day 2 poster please refer to Appendix II)				
15:30--17:00	Session A2b: Wind Technology Session chair: Prof. Meng KE, The University of New South Wales, Australia	Session C2: Other Renewable Energy Sources Session chair: Prof. Bin WANG, Tsinghua University, China	Session D2: Energy Internet and Smart City Session chair: Prof. Bowen ZHOU, Northeastern University, China	Session G2b: System Operation and protection Session chair: Dr. Zhibing WANG, China Electric Power Research Institute (CEPRI), China	Session E2b: Grid Integration Session chair: Prof. Hua GENG, Tsinghua University, China
Saturday, 26 October 2019					
Technical Visit					
<ol style="list-style-type: none"> 1. 国家电网国网上海市电力公司（控制大厅） 上海浦东新区源深路 1122 号 2. 国网上海电科院漕溪基地（大数据中心） 上海市徐汇区华石路 34 号 3. 1000KV 特高压练塘站 上海市青浦区练塘镇松蒸公路 3205 号 1000 					

Oral Presentation

13:30 – 19:30 | 24 October 2019

Session A1 Wind Technology

13:30 – 17:00 Session A1 Chair: Prof. Yongqian LIU, North China Electric Power University, China

13:30 --- 15:00 **A1.1 (0002)**

Coordinated voltage and reactive power control scheme of the HVAC meshed offshore grid of the offshore wind power plant at Kriegers Flak
Qiuwei Wu, Tibor Takarics, Vladislav Akhmatov

A1.2 (0018)

Analysis of Interaction Between Wind Turbines in Wind Farm Based on Small Signal Model of Doubly-Fed Wind Turbine
Yan Li

A1.3 (0066)

GREEDY STRATEGY AND SELF-ADAPTIVE CROSSOVER OPERATOR BASED MONARCH BUTTERFLY OPTIMIZATION FOR SIMULTANEOUS INTEGRATION OF RENEWABLES AND BATTERY ENERGY STORAGE IN DISTRIBUTION SYSTEMS
Pushpendra Singh, Balvinder Singh, S.K. Bishnoi, N.K. Meena, Jin Yang

A1.4 (0073)

STUDY ON PLL PARAMETER SECURITY REGION BASED ON GERSCHGORIN DISC THEOREM AND IMPEDANCE METHOD
Y Ren, L Chen, X Wang, Y Min, G Li, L Wang, Y Zhang, L Yin

A1.5 (0080)

Power Control Performance Evaluation of Wind Turbine Based on a Hardware-in-the-loop Simulation Platform
Fenglin Miao, Qing Li, Jing He, Jinping Zhang

15:00 --- 15:30 Poster Session and Refreshments

15:30 --- 17:00 **A1.6 (0134)**

Wind Turbine Mechanical Load Estimation Based on Adaptive Network-based Fuzzy Inference System
R Bi, S Qin, X Ma, D Fu, W Wang

A1.7 (0136)

A Control Strategy for Battery Energy Storage Smoothing Short-term Wind Power Fluctuation Based on ANN
Zhan Shu, Xiaotao Peng, Yong Zhao, Siyu Huang, Zheng Zhang, Huaqu Li

A1.8 (0142)

INTEROPERABILITY ASSESSMENT OF MMC AND DRU CONNECTED OFFSHORE WINDFARMS IN MESHED MULTI-TERMINAL DC GRIDS
Lei Shi, Grain Adam, Rui Li, Lie Xu

A1.9 (0166)

Nonlinearity Assessment and Model Reduction Based on Gap Metric for Wind Turbine Predictive Control
H Meng, X Yang, D Liu, Z Qiu, B Zhou, G Lv

A1.10 (0182)

Design and Application of RTDS & GH Bladed Co-simulation Research Platform for DFIG Wind Turbine
Haoshu Shao, Xu Cai, Gang Shi, Xiang Gao, Yao Qin, Yunfeng Cao, Jianwen Zhang, Fangquan Rao

A1.11 (0195)

Study on fault process division of wind turbine electrical model validation
Jianfang Tang, Qing Li, Ziyu Chen, Jing He

18:00 --- 19:30 Drink Reception & RPG 2019 Best Conference Paper Award (Jingheng Ballroom)**Session B1 PV System Technology**

13:30 – 17:00 Session B1 chair: Prof. Xiaodong ZHENG, Shanghai Jiao Tong University, China

13:30 --- 15:00 B1.1 (0023)

Model of long-term yield evaluation for PV station
Yinghua Dong, Hongtao Li, Junjun Zhang, Fubao Wu, Mingchang Ding

B1.2 (0044)

Short-term Photovoltaic Power Forecasting Method Based on K-means Algorithm and Spiking Neural Networks
Biyun Chen, Hongbin Li, Kunlun Han

B1.3 (0492)

A Method for Mitigating Subsynchronous Oscillation Risk Based on a Novel Control Strategy of VSC
Wei He, Ao Li, Xiaoming Yuan, Jianqin Liu

B1.4 (0502)

Emergency Control Strategy of PV for Suppressing Transient Overvoltage Peak in LCC-HVDC Infeed Power System
Boliang Lou, Longfei Wang, Rui Zhang, Wen Hua, Jiabing Hu

B1.5 (0532)

Arc Fault Detection and Localization in Photovoltaic Systems Based on Arc Signatures in Low Impedance Paths and Its Path Topology
X M Jiang, J Y Li, Y S Li, Y Li, R B An, Y Hao

B1.6 (0555)

Amplitude-phase Admittance Modelling and Analysis for a Grid-Connected Converter System
L Xu, M Sun, X Song, C Wang, H Xin

15:00 --- 15:30 Poster Session and Refreshments**15:30 --- 17:00 B1.7 (0622)**

A SPWM Algorithm with Symmetrical Shoot-Through States for Z/Quasi-Z Source Inverters
Xiang-lin Wei, Miao Zhu, Han Wang, Xiu-yi Li, Wei Chen, Su-rong Huang

B1.8 (0666)

Sequence Impedance Modeling of Droop-controlled Inverter
You Hu, Jiajun Wang, Bin Liu, Zhen Li, Xiangdong Liu

B1.9 (0684)

An Improved BOOST Dual-Loop Control for Improving the MPPT Efficiency in Photovoltaic Systems
Guangchen Li, Rende Zhao, Jinkui He, Hailiang Xu, QingZeng Yan

B1.10 (0735)

Application of Bayesian Regression method in performance assessment of PV modules
Jing-Yi Wang, Zheng Qian, Jing-Yue Wang

B1.11 (0789)

Fuzzy Control Based Power Flow Control Strategy of EV DC Fast Charging Station Including Distributed PV Generation and Hybrid Energy Storage Systems
Y Liu, Q Wang, F Wang, J X Deng, S N Yan, C Liu

B1.12 (0857)

Multi-objective optimization of DC-link capacitor bank for PV system considering parasitic parameters of individual capacitor
Guorong Zhu, Haoran Wang, Cunzhong Li, Zhangliang Li, Huai Wang

18:00 --- 19:30 Drink Reception & RPG 2019 Best Conference Paper Award (Jingheng Ballroom)**Session F1a/F1b: Planning, policy and marketing options**

13:30 – 15:00 Session F1a chair: Prof. Ciwei GAO, Southeast University

15:30 – 17:00 Session F1b chair: Prof. Donghan FENG, Shanghai Jiao Tong University, China

13:30 --- 15:00 F1a.1(0074)

Multi-objective Distribution Network Reconfiguration with DG Integration Using Improved Fireworks Algorithm
Zhihang Zhou, Libao Shi, Xiangyu Xu, Yixin Ni

F1a.2 (0102)

Factors affecting for consumer attractiveness towards net metered solar PV technology in Sri Lanka.
M A S Kumara, Indra Mahakalanda

F1a.3 (0111)

Design of Renewable Energy Certificates market mechanism under the framework of China's Renewable Portfolio Standards
XF Lin, DH Feng, JN Zeng, Y Zhou, C Fang

F1a.4 (0114)

Modelling and Operation Optimization of Electricity-Gas-Heat Integrated Energy System Considering Demand Response and Wind Penetration
X Zhao, Y Zhou, J Yun, P Zhang, Z Yan, D Feng

F1a.5 (0275)

Research on HVAC's Operation Strategy for Frequency Regulation under Integrated Coordination Control
J L Yang, S S Ma, M X Guo, H Q Wang, T Yu, C Xiong

F1a.6 (0294)

Confidence Interval Based Distributionally Robust Real-Time Dispatch Considering Wind Power Uncertainty
Peng Li, Ming Yang, Jiajun Yang, Pingjing Du, Fangqing Yan, Yi Zhu

F1a.7 (0298)

A REAL-TIME SPINNING RESERVE ALLOCATION METHOD CONSIDERING FORECAST ERRORS AND CONTINGENCIES
F Wu, D H Feng, Y Zhou, C Fang

15:00 --- 15:30 Poster Session and Refreshments**15:30 --- 17:00 F1b.1 (0339)**

A comprehensive decision-making method for coordinated transmission and distribution network planning
Q W Zheng, J Liu, D J Yang, X Z Xue, J K Fang, W Yao, X M Ai

F1b. 2(0459)

Optimal Decision Making Model of Battery Energy Storage-Assisted Electric Vehicle Charging Station Considering Incentive Demand Response
B Upadhaya, D Feng, Y Zhou, Q Gui, X Zhao, D Wu

F1b.3 (0564)

Stackelberg game based fast charging service fee price model in consideration of electric vehicles' promotion
Y W Shi, D H Zhang, Y Zhou, D H Feng, Y T Chen, D Wu

F1b.4 (0707)

Influence of Dead Band of Turbine Governors on Ultra-Low-Frequency Oscillation in Hydro-Dominant Power System
Ruopu Yang, Yiping Chen, Chongtao Li, Yong Zhang, Zhuoyao Tang, Jiyu Huang, Haoran Diao

F1b.5 (0709)

Research on HVDC Frequency Limit Control to Improve Frequency Restoration in Multi-HVDC Asynchronous System
Jiyu Huang, Yiping Chen, Qin Gao, Yong Zhang, Ruopu Yang, Rongzhao Yang, Haoran Diao

F1b.6 (0741)

Renewable energy resources and technologies applicable to Sri Lanka.
W Fernando, N Gupta, O Suheyl, G Kamyab

F1b.7 (0807)

Forced Clearing and its Pricing in Renewable Energy Markets
D Karki, JN Zeng, XF Lin, C Liu, DH Feng

18:00 --- 19:30 Drink Reception & RPG 2019 Best Conference Paper Award (Jingheng Ballroom)**Session G1*/G1 System Operation and protection -- Fault Analysis and Protection Methods of Power Electronized Power Systems**

13:30 – 17:00 Session G1*/G1 Chair: Prof. Jiabing HU, Huazhong University of Science and Technology

13:30 --- 15:00 G1*.1 (0065)

ANALYSIS OF TRAVELING WAVE FRONT AND ITS APPLICATION IN FAULT LOCATION
Chenhao Zhang, Guobing Song, Ting Wang

G1*.2 (0071)

Voltage-frequency Coupled Transient Instability Analysis of The Weak Grid-Connected DFIG-based Wind Plant during LVRT
J X Pei, J Yao, P Sun, Y Liu

G1*.3 (0315)

Overview of Adaptive Reclosing Technique and the Challenge Faced in AC/DC Hybrid Power Grid.
X Jia, B Wang, B Yu, M Xie, C.C Dai, X.P Cheng, D Wang, X.Z Dong

G1*.4 (0365)

CCF Early Warning Method of LCC-HVDC based on XGBoost Algorithm
Zhizhong Li, Bin Wang, Haigang Wang, Bin Yu, Min Xie, Shi Chen, Xinzhou Dong

G1*.5 (0474)

Impact of DFIG-based Wind Turbine's Fault Current on Distance Relay during Symmetrical Faults
Yuanzhu Chang, Jiabing Hu, Xing Liu, Guobing Song

G1*.6 (0680)

General Model and Parameter Tuning of Doubly-fed Wind Turbines under Asymmetric Fault of Power Grid
H Y Tang, X W Xu, Y D Jin, J Z Hu, Y Li

15:00 --- 15:30 Poster Session and Refreshments**15:30 --- 17:00 G1.1 (0009)**

Research on On-line Monitoring Fault Diagnosis System of GIS UHF Partial Discharge
Yifa Wag, Jinlong Gong, Qihua Song, Zhaoqiang Wang

G1.2 (0037)

Angle of Current Waveform Based Protection for DC Distribution System
Congbo Wang, Yi Qiang, Ke Jia, Tao Feng, Wei Li, Bohan Liu

G1.3 (0052)

State evaluation method and correction of oil-immersed transformer in the renewable power grid based on big data analysis
Jian Guo, Hongshun Liu, Xinghua Liu, peng Gao, Kecun Han, xuebin Lv, Chao yang, tongping Xie, Yang Yu, Peng Sun

G1.4 (0059)

Frequency enhancement of grid-forming inverters under low-SCR weak grid.
Y Li, K Meng, Z Y Dong

G1.5 (0103)

Interharmonics Current Mitigation using DC-APF for High Power Extremely Low Frequency Transmission System
Qing LIU, Ming ZHA, Zhiqing LUO, Hao MENG, Bingyang LUO, Xiangtian Deng, Guorong ZHU

G1.6 (0119)

High Impedance Fault Detection in Distribution Network Using Convolutional Neural Network based on Distribution-level PMU Data
Y Zhang, X Wang, Y Luo, J He, B Hua, Q Xu

18:00 --- 19:30 Drink Reception & RPG 2019 Best Conference Paper Award (Jingheng Ballroom)**Session E1*/E1 Grid Integration -- DC Generation and DC Integration of New Energy**

13:30 – 17:00 Session E1*/E1 chair: Prof. Miao ZHU, Shanghai Jiao Tong University, China

13:30 --- 15:00 E1*.1 (0540)

Decentralized Unified Control Strategy for Medium and Low Voltage DC Distribution Power System
P P Pan, W Chen, H Mu

E1*.2 (0543)

A Stability Criterion for DC Distribution Power System with Multi-Voltage Levels
P P Pan, W Chen, H Mu, L C Shu

E1*.3 (0734)

Application of MMC Based on State Observer in DC Integration of Renewable Energy
WJ Wang, LJ Hang, J Qiu, H Lu, PL Zeng

E1*.4 (0758)

Comparison analysis of Local Stability Criteria for the DC Distribution Power System based on Impedance and Admittance
Q Huang, Y Liu, Y B Yuan, X Y Si, P P Pan

E1*.5 (0779)

Coordinated Start-up Strategy of the Converters in Multi-stage DC PV Power Collection System with Unidirectional Power Flow Characteristic
Hao Hu, Miao Zhu, Xiuyi Li, Xu Cai

E1*.6 (0834)

Modular Modelling Method for DC Transformer with Multiple Inputs and Multiple Outputs
Xiuting Rong, Xufeng Li, Hui Zhang, Jianhua Wang, Liuzhu Zhu, Jing Ma

E1*.7 (0861)

Design of Control and Protection System for Medium-low Voltage Flexible DC Distribution Network
Yuning Lu, Lin Su, Dong Yuan, Anxin Yan, Ke Jiang

15:00 --- 15:30 Poster Session and Refreshments**15:30 --- 17:00 E1.8 (0035)**

Optimal Allocation of SOPs in Distribution Networks Based on Candidate Location Selection Strategy
Pengwei Cong, Zechun Hu, Wei Tang, Chengwei Lou

E1.9 (0072)

Single-Phase-to-Ground Fault Diagnosis Method based on Waveform Features and Association Rule Algorithm
Linlin Zhang, Kai Xu, Yunbo Wang, Fang Shi, Shuozheng Liu

E1.10 (0076)

A Multi-criteria Dynamic Reactive Power Optimal Allocation Method Based on the Characteristics of Weak Sending-end System
Zimo Xiang, Gengyin Li, Xu Zhu, Ming Zhou, Haiqiong Yi, Zengqiang Zhang, Chaoshan Xin

E1.11 (0168)

Analysis and Simulation of New DC Power Grids for Large-scale Clean Energy Integration and Transmission
R H Jiao, J Ding, J W Ren, J N Lv, X P Chen

E1.12 (0242)

Robust Load Frequency Control and Integration of Electric Vehicles and Renewable Energy in the Grid.
MUSA KHAN, Haishun Sun, Yingmeng Xiang, Di Shi, Yuling Wang

E1.13 (0281)

Harmonic state space impedance model of MMC considering internal impedance of AC and DC Grid
S Zhang, B Li, Z Xu, D Xu

18:00 --- 19:30 Drink Reception & RPG 2019 Best Conference Paper Award (Jingheng Ballroom)

Oral Presentation

09:00 – 12:30 | 25 October 2019

Session A2: Wind Technology

09:00 – 12:30 Session A2a chair: Prof. David INFIELD, University of Strathclyde, UK

13:30 – 17:00 Session A2b chair: Prof. Meng KE, The University of New South Wales, Australia

09:00 --- 10:30 **A2a.1 (0197)**

Study on the impact of communication network on reactive power control in wind farm
Chunyan Li, Qing Li, Jinping Zhang, Fenglin Miao

A2a.2 (0201)

Sub-synchronous oscillation(SSO) analysis of direct-driven permanent magnet synchronous generators(D-PMSG)considering influence of phase-locked loop(PLL)
Zhang xiaoyu, Li yan, Tang Haiyan

A2a.3 (0205)

Modeling and Simulation of Virtual Synchronous Generator for DFIG wind turbine generator
Q F Zhu, Z Y Chen, S H Feng, Y F Wang, B W Zhang, W L Li

A2a.4 (0236)

Multi-objective LPV Control of Wind Energy Conversion System under Wide-scale Operating Conditions
Chenzhi Qu, Zhongwei Lin, Zhen Xie, Yilin Li, Shangang Zhang, Xiongwei Li, Zhenqing Duan

A2a.5 (0252)

Optimization of active power control strategy for wind farm
Yi Fan, Jinping Zhang, Qing Li, Mei Zhang, Shunlai Wang

A2a.6 (0269)

Wind Turbine Wake Simulation Based on Improved Actuator Disk Considering Nacelle and Tower
Ning Li, Yongqian Liu, Hao Zhao, Ling Yuan, Li Li, Shuang Han, Hang Meng

A2a.7 (0284)

Analysis of Low Harmonic Windings for High Speed Permanent Magnet Machines
Shuaijun Chu, Deliang Liang, Shaofeng Jia, Yibin Liu, Yang Liang

10:30 --- 11:00 **Poster Session and Refreshment**

11:00 --- 12:30 **A2a.8 (0287)**

Study on Krogstad wind tunnel experiment by using actuator line model considering nacelle effect
Li Li, Hang Meng, Shuang Han, Ling Yuan, Yunjia Yang, Yongqian Liu

A2a.9 (0297)

Evaluation Model of Power Generation Performance for Wind Turbine Based on Entropy Weight Method and Contingency Theory
Yongqian Liu, Hongjun Wang, Zixin Chen, Shuang Han, Li Li, Jie Yan

A2a.10 (0308)

Simulation Research of Wind Turbine Frequency Modulation Based on Different Wind Power Penetration Levels
X W Xu, L Sun, N An, F Li, L N Su, X H Qin

A2a.11 (0322)

Impacts of DFIG-Based Wind Turbines on Damping of Power System Oscillations Considering Turbine Control
Xiaojie Zhang, Wei He, Jiabing Hu, Longfei Wang

A2a.12 (0356)

The Evaluation of Wind Power Time Series Multi-scale Modeling Methods
Y J Zhuo, L Guan, X S Zhan, B R Zhou, Y J Yan

A2a.13 (0391)

A Novel Two-stage Model Predictive Control for Wind Power Smoothing Based on HESS
T T Guo, Y B Liu, Y Xiang, J Y Liu

12:30 --- 13:30 Poster Session and Lunch**13:30 --- 15:00 A2b.1 (0463)**

Combination Forecasting Method of Short-term Power for Dispersed Wind Farm
S Yan, L F Yan, Z T Zhao, Z H Jiang, J Y Zhou

A2b.2 (0508)

An Adjustable Robust Optimal Dispatch Method for Microgrids Considering Uncertainty Distribution of Wind Power
Zhanpeng Chen, Wentao Huang, Zhengyu Chen, Nengling Tai, Yan Hu, Wenjun Ruan

A2b.3 (0528)

Research on collaborative frequency regulation control strategy of wind farm based on decentralized exit
Y H Ren, P Song, X S Wang, R F Shi

A2b.4 (0642)

New Generic Model of Wind Turbine Voltage Ride-Through for Large-Scale Power System Studies
X W Xu, N An, F Li, L Sun, H Y Tang, X L Chen

A2b. 5 (0647)

Fault warning of pitch system of wind turbine based on kernel density estimation
X L Yang, M Yang, X J Zeng, Y Zhu, Y Zhou

A2b.6 (0667)

Robust approximation models for predictive control of variable pitch wind power drivetrain
N Kayedpour, A E Samani, J D M De Kooning, L Vandeveld, G Crevecoeur

15:00 --- 15:30 Poster Session and Refreshments**15:30 --- 17:00 A2b.7 (0681)**

An LSTM-Attention Wind Power Prediction Method Considering Multiple Factors
Xin Wang, Zheng Li, Jianwen Zhang, Haichun Liu, Caiming Qiu, Xu Cai

A2b.8 (0720)

Model Predictive Power Control of Brushless Doubly Fed Twin Stator Induction Generator for Grid Synchronization and Power Generation
Xinchi Wei, Chen Fang, Jinsong Liu, Shu Liu, Ming Cheng

A2b. 9 (0732)

Double-Sided Ring Topology for Offshore Wind Farm Collector System Layout: A Multi-Cable Application
T J Zuo, Y Zhang, K Meng

A2b.10 (0823)

Wind Turbine Failure Detection Based on SCADA Data and Data Mining Method
Siyu Tao, Zheng Qian, Yan Pei, Anqi Wang, Fanghong Zhang

A2b.11 (0840)

A Low-Cost Power-taking Scheme for Self-starting of Unidirectional Diode-Rectified DC Wind Turbines with Medium-Voltage Direct Current Transmission
Yu Zhang, Shijun Liu, Jing Lyu, Zhiqian Yang, Zhanlong Li, Xu Cai

A2b.12 (0867)

DOUBLE INTEGRAL SLIDING SURFACE BASED INTELLIGENT PROPORTIONAL INTEGRAL CONTROL FOR STANDALONE WIND ENERGY CONVERSION SYSTEM
Anjana Jain, R Saravanakumar

Session B2* PV System Technology

-- Reliability, Monitoring and Fault Diagnostics of PV Generation System

09:00 – 10:30 Session B2* chair: Prof. Mingyao Ma, Hefei University of Technology, China

09:00 --- 10:30 **B2*.1 (0124)**

Monitoring Bond Wire Fatigue Based on Modelling of IGBT Module On-State Voltage Drop
Yu Luo, Fei Wang, Xinyi Shu, Lijun Zhang, Xiaoqing Quan

B2*.2 (0226)

Risk Assessment of Cascading Failure in Power Grid Based on Brittleness Theory of Complex System and Entropy Theory under Geomagnetic Storm Conditions
xiaoning kang, yagang zhang, xinyue zhang, yini xu, xiaoyu li, yanlei yuan

B2*.3 (0413)

Design of General Framework for Multi-fault Diagnosis Based on Photovoltaic Grid-Connected Inverter System
F Ling, M Y Ma, Y R Sun, H Y Long, F Li

B2*.4 (0665)

A Health Diagnosis Method for PV Module Based on Neural Network
Siyuan Lu, Fei Wang, Lintao Ren, Wenhao Zhu

B2*.5 (0698)

Whole Stability Margin of Phase Lead Filter Design in Repetitive Control for Voltage Harmonic Mitigation of Current Source Inverter
Liu Tong, Chen alian, Liu Xi

10:30 --- 11:00 Poster Session and Refreshment**Session C2* Other Renewable Energy Sources**

-- Integration and Application Innovation of Energy Storage Systems

11:00 – 12:30 Session C2* chair: Dr. Xiangjun LI, China Electric Power Research Institute, China

11:00 --- 12:30 **C2*.1 (0199)**

Reinforcement learning driven self-optimizing operation for distributed electrical storage system
Mingming Shao, Youbo Liu, Kunyu Zuo, Xiaodi Wang, Jingting Chen, Junyong Liu

C2*.2 (0204)

Comparison of Modulation and Power Control between Modular Multilevel Converter based Large Scale Battery Energy Storage System and MMC-HVDC
Salman Ali, Kai Tian, Zhong Huang, Zhibin Ling

C2*. 3 (0225)

MODELING AND ANALYSIS OF OPERATION BOUNDARY FOR CASCADED H-BRIDGE ENERGY STORAGE SYSTEM WITH INNER PHASE RAPID STATE OF CHARGE BALANCING

Yunjun Ling, Kai Tian, Lin Zhu, Xuguang Li

C2*.4 (0346)

Analysis and Comparison of Power Quality and Interphase Circulation for One-stage and Two-stage Modular Battery Energy Storage System

Z Huang, K Tian, S Ali, Z.B Ling

C2*.5 (0455)

Study on Reactive Voltage Regulation and Optimal Control Strategy of Photovoltaic Power Station Considering Energy Storage System

chunhui qu, wenwen sun, yanxia sun, wannian qi, guoqing he, jiatian gan

C2*.6 (0598)

Resilient active power and virtual inertia coordinated control for multiple distributed energy storage units

W Wei, L Tang, T W Zheng, C Liu, L B Jiang, S W Mei

12:30 --- 13:30 Poster Session and Lunch**Session C2: Other Renewable Energy Sources**

13:30 -- 17:00 Session C2 chair: Prof. Bin WANG, Tsinghua University, China

13:30 --- 15:00 C2.1 (0021)

Influence of Circuit Breaker Features on Switching Overvoltage of 35kV Shunt Reactor on No-load Busbar——II. Onsite Testing and Comparison

Yiming ZHENG, Chen LI, Mianzhi WU, Zemin WEI, Chunyan GONG, Xiang SUN

C2.2 (0041)

Research on Information Interaction Mechanism of Plug-and-Play of Battery Energy Storage System

Jing Xie, Yu Lu, Qi Ye, Jianting Zhang, Wentao Huang

C2.3 (0126)

On-line diagnosis method for transformer winding deformation based on running voltage and current correlation mining

Yiming ZHENG, Wenhao WANG, Chunyan GONG, Chen LI, Xiang SUN, Wei DU, Zhongsheng HUA

C2.4 (0233)

Circuit Theory-based Method for Power Loss Estimation in Distribution Systems with Distributed Generator

Juntai Cui, Li Zhang, Boyi Zhang, Keqiang Li

C2.5 (0250)

Improvement of Frequency Stability in Microgrids Integrated with Electric Vehicles Based Virtual Inertia Control

Hossam Ali, Gaber Magdy, Binbin Li, Dianguo Xu

C2.6 (0311)

A Novel Variable Speed Constant Frequency Generation System for Steam Turbine and Boiler Feed Pump

Jieyuan Tan, Jianwen Zhang, Gang Shi, Zhenkun Xiao, Jian Xu

15:00 --- 15:30 Poster Session and Refreshments

- 15:30 --- 17:00 **C2.7 (0330)**
Coordinated Reactive-load Compensation Method for Distributed Network
Qi Liu, Lei Su, Weipeng Liang, Pei Sun, Jingning Yang
- C2.8 (0482)**
A Fault-Tolerant Control Strategy for Six-Phase PMLG In Direct-drive Wave Energy Conversion System
Lei Huang, Minshuo Chen, Ghulam Ahmad
- C2.9 (0513)**
Electrical Vehicle Ordered Charging Control Based on Electrical Price Guiding Strategy
Changchun Cai, Mengrui Xi, Lei Guo, Shuqin Wang, Saifeng Zhu
- C2.10 (0640)**
Development of High Frequency Resistance Test Bench for High Power Fuel Cell Stack
Tiancai Ma, Weikang Lin, Yanbo Yang, Kai Wang, Wenya Jia
- C2.11 (0752)**
Voltage Fluctuation Suppression Method for DC1500V Traction System Based on Flywheel Energy Storage System
Dan Zhang, Jianguo Jiang, Liang Zhang, Zhongzheng Zhou, Yunlong Liu, Sifeng Zhao
- C2.12 (0842)**
Markov Chain Monte Carlo Sampling Based Bayesian Multivariate Linear Spline Load Forecasting Agent for Microgrid Energy Management System
Sujil A, Rajesh Kumar, Ramesh C Bansal

Session F2*: Planning, policy and marketing options

-- electricity markets facilitating renewable energy integration

09:00 – 10:30 Session F2* chair: Prof. Ming YANG, Shandong University, China

- 09:00 --- 10:30 **F2*.1 (0062)**
Distributed Equilibrium Interactive Strategy of Integrated Energy System Based on Demand Response Using Dual Decomposition Method
Yimin Zheng, Jun Xie, Xingying Chen
- F2*.2 (0085)**
Design of the Renewable Portfolio Standards Based Renewable Energy Certificate Trading Mechanism in China
CX Wang, ZQ Li, XN Ye, QH Li, XJ Lei, W Yuan, ZY Shi
- F2*.3 (0176)**
An Energy Trading Strategy Considering The Priority Of Renewable Energy and Electric Vehicles
H Yuan, H Zhang, Y Hu, D Fan, C Wang, Y Wang
- F2*.4 (0415)**
Investigate the Influence of Renewable Energy Penetration on the Electricity Market Equilibrium
C C Li, Z F Yang, J Yu, P Zou, Y C Zhang
- F2*.5 (0468)**
Study on the Impact of Renewable Portfolio Standard on Ningxia Renewable Energy Consumption Based on System Dynamics
N Mi, H L Zhang, H J Tian, Y T Yao, C W Gao

F2*.6 (0526)

Equilibrium model of electricity market considering green certificate transaction under renewable portfolio standard

Y C Li, S N Zhao, H Chen, Y Jin, Y Ding, B B Wang

F2*.7 (0674)

Analysis of Generation Rights Transaction Mechanism Based on Inter-provincial Renewable Energy Consumption

Hua Chang, Bo Zhou, Kewei Fan, Gaohong Song, Pengzheng Zhang, Jinhui Guo, Weiyi Duan

10:30 --- 11: 00 **Poster Session and Refreshment**

Session D2*: Energy Internet and Smart City

-- Harbor & off-shore renewable energy integration and green maritime transportation

11:00 – 12:30 Session D2* chair: Prof. Sidun FANG, Nanyang Technological University, Singapore

11:00 --- 12:30 **D2*.1 (0091)**

Robust Co-planning of Transmission and Energy Storage Considering Uncertainty Correlation

Chengming Zhang, Haozhong Cheng, Heng Zhang, Zheng Wang, Jianzhong Lu, Xiaohu Zhang

D2*.2 (0131)

A Decision Making Method for Berthed Electric-Ships based on Generalized Nash Game

Sidun Fang, Hongdong Wang, Ce Shang, Tianyang Zhao, Jiawei Lv

D2*.3 (0280)

Security-Constrained Transmission Expansion Planning Considering High Proportion of Wind Power and Natural Disasters

Jing Zhou, Dundun Liu, Haozhong Cheng, Heng Zhang, Shenxi Zhang, Xiaohu Zhang, Jianping Zhang

D2*.4 (0327)

Day-ahead optimal scheduling of district-level integrated energy system considering data centre

Jiawei Lv, Shenxi Zhang, Yi Song, Kai Yuan, Haozhong Cheng, Sidun Fang, Heng Zhang, Chengming Zhang

D2*.5 (0358)

Joint Generation and Energy Storage Systems Expansion Planning in Interconnected Power Systems with High Penetration of Wind Power

Heng Zhang, Haozhong Cheng, Shenxi Zhang, Jianping Zhang, Jianzhong Lu, Cong Li

D2*.6 (0359)

Coordinated Scheduling and Optimal Control of All-Electric Ship Energy System based on Mixed Logical Dynamic Method

Guanhong Chen, Dong Liu, Lixia Yan

D2*.7 (0394)

Optimal Quasi-Synchronous Condenser and Generator Dispatch for Voltage Stability and Peak-Shaving

Z C Ma, H Z Cheng, H Zhang, C X Feng, S D Fang, J P Zhang

D2*.8 (0546)

Optimal coordinated generation and demand scheduling for ship hybrid energy system

Qimin Xu, Bo Yang, Cailian Chen, Yazhou Yuan, Feilong Lin

12:30 --- 13:30 Poster Session and Lunch

Session D2: Energy Internet and Smart City

13:30 – 17:00 Session D2 chair: Prof. Bowen ZHOU, Northeastern University, China

13:30 --- 15:00 **D2.1 (0048)**

Business Model and Economic Analysis of User-side BESS in Industrial Parks in China
Changcheng Zhou, Yang Hu, Peng Li, Xiyuan Ma, Jinyong Lei, Zhiyong Yuan,
Zuanhong Yan

D2.2 (0160)

Parameters Identification of Synchronous Condenser Based on Sensitivity Analysis of
Parameters and Particle Swarm Algorithm
Jihao Wang, Andong Wang, Zhiwei Cao, Wenbing Zhu, Chao Gu, Fuchun Sun,
Shanhua Sun

D2.3 (0209)

Multi-objective optimal scheduling method for Regional Photovoltaic-Storage-Charging
Integrated system Participating in Demand Response
Tiantian Jiang

D2.4 (0253)

Forecast of power quality disturbance events in urban distribution networks
incorporating weather conditions
Fei Xiao, Wen Xiong, Qian Ai, Yufan Zhang, Mingli Wu

D2.5 (0499)

Energy Internet Optimization Scheduling for Wind Energy Consumption Considering
High-energy Load and Electricity-to-Gas
Weichun Ge, Tao Wang, Jing Gao, Yihe Wang, Shunjiang Wang, Yi Liang, Dewei Zhao,
Jiayuan Wang, Bonan Huang

15:00 --- 15:30 Poster Session and Lunch

15:30 --- 17:00 **D2.6 (0586)**

Clean energy on wheels: model, optimisation and P2P energy trading for active
distribution networks in smart cities
Nand Meena, Jin Yang

D2.7 (0697)

A Survey on Social Media to Enhance the Cyber-Physical-Social Resilience of Smart
Grid
Wei Sun, Prabin M. Baidya, Austin Perkins

D2.8 (0708)

Research on zero-sequence control strategy of flexible multi-state switch based on
transformerless VSC-MVDC
Feng Xu, Yi Lu, Li Li, Chaoliang Wang, Chao Ding, Mei Zheng

D2.9 (0722)

Application of Improved SVM Algorithm and Variational Mode Decomposition in Power
Quality Disturbances Recognition
J Liu, H Song, H Zhao, J Liu, Z Wu

D2.10 (0792)

Investment Decision Model of Smart City Multi-energy System based on Supply and
Demand Characteristics Analysis
Kuihua WU, Jian WANG, Fei WANG, Wei SUN, Yanshuo WANG, Zhipeng LU, Peng DU

Session G2*/G2a: System Operation and protection

-- Sensing, Fault diagnosis and Fault tolerance for Renewable Energy System

09:00 – 12:30 Session G2*/G2a chair: Prof. Yingning QIU, Nanjing University of Science and Technology

09:00 --- 10:30 **G2*.1 (0412)**

VIBRATION SIGNATURE OF DIRECT-DRIVE WIND TURBINE UNDER CONVERTER OPEN-SWITCH FAULT

Ming Ren, Yingning Qiu, Yanhui Feng, Guangyuan Huang, Chen Xu

G2*.2 (0414)

Improved Vector Current Control for Grid Side Converter in PMSG Wind Turbine with Fault Tolerance Capability

Muhammad Waseem, Yanhui Feng, Yingning Qiu, Chao Sun, Hadeed Ahmed Sher

G2*.3 (0597)

Research on BMS of Large Scale Battery Energy Storage Power Station

guoning xu

G2*.4 (0718)

A Statistical Learning Framework for the Intelligent Imputation of Offshore Wind Farm Missing SCADA Data

X Liu, Z Zheng, Z Zhang, Z Cao

G2*.5 (0833)

Stator Inter-Turn Fault Diagnosis of Induction Motor Based on Wavelet Packet Decomposition and Random Forest

Liling Sun, Kuankuo Zhang, Xiangdong Lu

G2a.6 (0128)

High impedance fault analysis and location of single-phase-to-ground fault in feeder with multiple DGs connections

Xuan Ren, Bin Wang, Xinzhou Dong

10:30 --- 11:00 Poster Session and Refreshment

11:00 --- 12:30 **G2a.7 (0145)**

Transient energy analysis and dissipation of a bipolar MTDC wind power integrating system during MMC outage

S Cao, W Xiang, X J Lu, W X Lin, J Y Wen

G2a.8 (0150)

Current Control Scheme Under Capacitor Aging In Modular Multilevel Converter

Qian Heng, Fujin Deng, Chengkai Liu, Qingsong Wang, Jianfei Chen

G2a.9 (0169)

The Impedance Modelling of MMC for Oscillation Analysis Considering Control Dynamics and Delays

Fan Zhang, Congqi Yin, Xiongping Yang, Yongjun Liu, Chao Hong, Xiaorong Xie

G2a.10 (0187)

Resilience-oriented Operation Scheme For AC/DC Distribution Network Integrated with Distributed Energy Storage System

Hang Yin, Youbo Liu, Qiang Li, Hongjun Gao, Yue Xiang, Junyong Liu

G2a.11 (0243)

An evaluation method of feeder automation for distribution network considering distributed generation

Xiuru Wang, Gang Liu, Dong Qiu, Yong Lai, Wanshui Ling

G2a.12 (0257)

Analysis and Research on Network Security Vulnerabilities of Renewable Energy Field Stations

PENG WANG, JUNFEI HAN, CHAOYU YU

12:30 --- 13:30 Poster Session and Lunch**Session G2b: System Operation and protection**

13:30 – 17:00 Session G2b Chair: Dr. Zhibing WANG, China Electric Power Research Institute (CEPRI), China

13:30 --- 15:00 G2b.1 (0263)

A test method for UHVDC protection based on wide area information synchronization
Chenqing Wang, Xiangping Kong, Peng Li, Lei Gao

G2b.2 (0304)

Resiliency-Oriented Multi-Energy Complementary Microgrid Robust Optimal Operation Strategy Considering the Uncertainty

J Wang, X D Zheng, N L Tai, Z L Yang, J Wang, W Wei, L F Li

G2b.3 (0329)

Stability-constrained Offshore Transmission Planning for Large-scale Remote Wind Farms

Y SUN, K MENG, W ZHANG, J HUANG, L YUAN, J DONG

G2b.4 (0406)

Stability analysis of grid-connected VSC based on impedance modelling

L Yuan, K Meng, J Huang, Y Sun, Z Y Dong

G2b.5 (0428)

Control Function Research and Performance Test of Wujiang STATCOM Project
Jinjiao Lin, Peng Li, Shi Chen

G2b.6 (0465)

Technical Challenges of Integrating High Proportion Distributed Photovoltaic Power into Medium DC Grid

Wei Chunxia, Wang Zhibing, Li Qing, Liu Hongzhi, Liu Chao

G2b.7 (0533)

Users' Electricity Consumption Behaviour Analysis in Distribution Network Based on High Dimensional Random Matrix

Qizhen Sun, Fangzhou Hao, Chao Shen, Guolong Ma, Yong Huang, Yuzhao Wu

15:00 --- 15:30 Poster Session and Refreshments**15:30 --- 17:00 G2b.8 (0542)**

Coordinated Multiple HVDC Modulation Emergency Control for Enhancing Power System Transient Stability

Congcong Li, Tong Wang, Zengping Wang, Tie Li, Junci Tang, Anlong Su, Kai Gao, Feng Jiang, Di Jiang, Yushi Zhang, Xiaopeng Xu

G2b.9 (0626)

A new suppression strategy for switching frequency circulating current in parallel inverters

Song Chi, Lan Cheng, Xue Li, Mingxuan Hou

G2b.10 (0819)

An improved benchmark level evaluation method for power quality

Shen Minxuan, Liu Yingying, Feng Dandan, Tongxun Wang

G2b.11 (0832)

Stability Analysis of Compensated Modulation Based MMC-HVDC for Wind Farm Integration

J Lyu, T Xue, J Dai, J Jing, C Zhang, X Cai

G2b.12 (0855)

MTDC Topological Analysis and Evaluation for High Penetration of Renewable Energy

Y Zhao, W T Huang, N L Tai, X Z Xi

G2b.13 (0875)

Machine learning based impedance estimation in power system

Kamyab Givaki, Saleh Seyedzadeh, Kamyar Givaki

Session E2*/E2a: Grid Integration

-- Sub- and Super-synchronous Control Interactions in RPG-integrated Power Systems

09:00 – 12:30 Session E2*/E2a chair: Prof. Xiaorong XIE, Tsinghua University, China

09:00 --- 10:30 **E2*.1 (0112)**

SupSO modes and oscillation suppression strategy for large scale renewable source generation connected power grids

Shuitian Li, Tao Lin, Yibiao Sheng, Xialing Xu

E2*.2 (0207)

Research on SSO suppression method based on reduced order model and variable structure control

D C Zang, X Zhao

E2*.3 (0215)

An Extended Kalman Filtering based Time-Varying Fundamental and Subsynchronous Frequency Tracker

Jan Shair, Wei Huang, Xiaorong Xie, Chen Wu, Min Cheng

E2*.4 (0293)

Mitigation of Subsynchronous Oscillation in the Large-scale Wind Energy Transmission System with HVDC Link Based on the Local Gain-varying Control

Yang Na, Wang Xitian, Yang Bingdeng, Xie Da

E2*.5 (0407)

Investigating the transient torque of turbo-generators in a power system integrating wind farms

BW Yang, GG Yan, XR Xie, YH Wang, J Tang

E2*.6 (0643)

Optimization of control parameters for PMSG-based wind farm and SVG considering subsynchronous interaction

Y. Liu, B. Huang, H. Sun, Y. Zhang, Y. Han, Y. Yu

E2*.7 (0776)

Analysis of Prefilter Phase-Locked Loop under Interharmonic Perturbation

C Hou,

M Zhu, Y Chen, X Cai

10:30 --- 11:00 **Poster Session and Refreshments**11:00 --- 12:30 **E2*.8 (0777)**

The Influence of Phase-Locked Loop on the Impedance of Single-Phase Voltage Source Converter

Z Li, M Zhu, C Hou, X Cai

E2a.1 (0313)

Improved Stochastic Power Flow Algorithm Based on Discrete-normal Stacking of Cumulants

Yanshuo WANG, Kuihua WU, Liang FENG, Rong LIANG, Long ZHAO, Lei SONG, Tianyi WANG

E2a.2 (0354)

A Method for Multi-VSC Interaction Analysis Based on Current Excitation and Voltage Response in Current Control Timescale

S Li, X Yuan, M Zhang

E2a.3 (0396)

Design of an energy management scheme for residential demand response in a microgrid system

T Adefarati, R Bansal, R Naidoo

E2a.4 (0397)

Start-up Strategy for Modular Multilevel Converters with Modified Nearest Level Modulation Method

W Liu, G Li, C E Ugalde-Loo, J Liang

E2a.5 (0457)

Analysis of High Voltage DC Transmission network for the Future Energy needs of Pakistan

Muhammad Haroon Nadeem, Xiaodong Zheng, Nengling Tai, Muhammad Farrukh Tabassum, Mehr Gul, Zhengguang Xiao

12:30 --- 13:30 **Poster Session and Lunch**

Session E2b: Grid Integration

13:30 – 17:00 Session E2b chair: Prof. Hua GENG, Tsinghua University, China

13:30 --- 15:00 **E2b.1 (0472)**

Sub-synchronous Torsional Interaction with LCC-HVDC in DC Current Control Timescale

Xin Wei, Jiabing Hu

E2b.2 (0505)

Evaluation of EV Battery Degradation under Different Charging Strategies and V2G Schemes

JINGLI Guo, JIN YANG, WENPING CAO, CLARA SERRANO

E2b.3 (0545)

Grid balancing with a large-scale electrolyser providing primary reserve

A E Samani, A D'Amicis, J D M De Kooning, P Silva, L Vandeveld

E2b.4 (0616)

State-varying Inertia and Time-decaying Damping Emulation Control Scheme for VSC-HVDC Transmission System

Zhipeng Shen, Jiebei Zhu, Grain Adam, Xialin Li

E2b.5 (0629)

Coupling analysis of multi-heterogeneous energy systems considering wind-photovoltaic power

L Ye, X Qu, Y Yao, H Li, J Liu

E2b.6 (0661)

A restructure method for the traditional distribution network with multi-port power electronic transformer

Xinxing Xu, Yan Hu, Nengling Tai, Ning Xie, Qing Chen, Qi Geng

15:00 --- 15:30 Poster Session and Refreshment

E2b.7 (0672)

Chance-Constrained Optimization for Multi-energy Hub system with Dynamic Thermal Rating

Yuanbin Zhu, Da Huo, Chenghong Gu

E2b.8 (0730)

Application and Design of VSC-HVDC Distribution Networks for Connection of Renewable Energy Sources

Liu Yao, Wen An, Yang Kun, Liu Renliang, Chen Yong, Chen Bing, Guo Fang, Gang Yi, Wu Ming

E2b.9 (0737)

Virtual Synchronous Generator Controlled Matrix Converter for Grid Integration in Distributed Generation and Microgrid

Jianwei Zhang, Haichen Chang, Tingting He, Na Zhang, Guangchen Liu

E2b.10 (0801)

Economic Technical Analysis of Low Frequency Transmission System under Scene of Renewable Energy Integration into Grid

Jingwen Han, LianHui Ning, Ziqiang Zhou

E2b.11 (0831)

General modelling method for impedance of voltage source converter

Wang Zhibing, Liu Hongzhi, Li Qing, Wei Chunxia

E2b.12 (1000)

DISASTER RECOVERY STRATEGY OF RESILIENT DISTRIBUTION NETWORK
BASED ON SCHEDULING COEFFICIENT

Jun Wang¹, Xiaodong Zheng^{1*}, Nengling Tai¹, Yu Liu³

Poster Presentation Day One

09:00 – 17:00 | 24th Oct 2019 | 2nd & 3rd floor Foyer

Poster ID	Paper ID	Title	Author(s)
PO001	0004	Influence of Circuit Breaker Features on Switching Overvoltage of 35kV Shunt Reactor on No-load Busbar—I. Theoretical and Simulating Analysis	Haojun LIU, Yiming Zheng, Wenjing LIU, Chen Li, Chaoao WEI, Zhi YANG, Xiang SUN, Lin ZHAO
PO002	0007	Research on Power Balance Problem of High Renewable Energy Penetration Ratio System	Chi Li, Yuehui Huang, Chun Liu, Yuefeng Wang, Ming Zhou
PO003	0012	Study on Reliability Improvement of Current-transferring Type HVDC Circuit Breaker	F Xu, Y Lu, J H Li, Q Chen, P Qiu, D Z Jiang
PO004	0020	Development of GIS real defect simulator used in SF6 gas insulated substation and intelligent fault recognition	Shiling zhang
PO005	0024	The Preemptive Virtual Impedance based Fault Current Limiting Control for MMC-HVDC	Jun Yan, Chengyong Zhao, Fan Zhang, Jianzhong Xu
PO006	0029	Power System Fault Chain Simulation Model Considering the Effect of Geomagnetic Storm	Xiaoning Kang, Yini Xu, Yagang Zhang
PO007	0034	Pilot Protection Scheme for Pole-to-ground Fault in DC Distribution Network	S Jiang, C Fan, N Huang
PO008	0036	Study on Equivalence of Modular Multilevel Converter Modeling under Multi-dq Frames and Harmonic State Space	Zigao Xu, Binbin Li, Shiguang Zhang, Linjie Han, Junlin Hu, Dianguo Xu
PO009	0038	A High Frequency Hybrid Active Filter Based on SiC MOSFET	Ke Zhou, Xiaoyin Qiu, Qingren Jin, Min Guo, Ge Zhang, Hao Qiu
PO010	0039	Influence of virtual inertia in wind turbines on large-scale power grid frequency characteristics	Dawei Sun, Feng Zhao, Hui Liu, Yaohan Wang, Peng Song, Xiaosheng Wang
PO011	0042	Operation Area Calculation and Parameter Analysis of Virtual Synchronous Machine	J J Li, J J Zhou, Y Shan
PO012	0043	Minimisation of distribution feeder loss using ant colony optimisation applied to network reconfiguration and distributed generations placement	Boyi Zhang, Linghan Zhao, Fei Wang, Kuihua Wu, Rong Liang, Liang Feng, Peter Crossley
PO013	0046	Faulty Line Selection based on Active-Intervention-Type Arc Suppression Device via Additional Neutral Resistance	Kai Xu, Peng Wang, Fang Shi, Chunyan Bian

PO014	0047	Economic Feasibility Analysis of Using Battery Energy Storage to Reduce Renewable Generation Curtailment in CSG	Hu Yang, Zhou Changcheng, Yan Zuanhong, Li Peng, Ma Xiyuan, Lei Jinyong, Yuan Zhiyong
PO015	0049	EVALUATION OF TRANS-REGIONAL UHVDC TIELINE POWER OPTIMIZATION IN PROMOTING RENEWABLE ENERGY ACCOMMODATION	X F Li, Y H Huang, Y F Wang, M Zhou
PO016	0051	State of transformer based on principal component analysis and support vector machine Evaluation system research	Xinghua Liu, peng Gao, Kecun Han, xuebin Lv, chao Yang, tongping Xie, yang Yu, Peng Sun, Hongshun Liu, Jian Guo
PO017	0054	A Dynamic Defense-Attack Game Scheme with Incomplete Information for Vulnerability Analysis in a Cyber-Physical Power Infrastructure	Boyu Gao, Libao Shi, Yixin Ni
PO018	0058	Research on the Scheme of the sample synchronization scheme for optical differential protection scheme in Merge Unit	Bao-wei LI, Chuan-kun NI, Xintao Dong, Xu LI, Zheng Fang, Yaxin SU
PO019	0063	AN ALGORITHM FOR ANALYSING INFLUENCING FACTORS OF ANNUAL ELECTRICITY CONSUMPTION	Weiyuan WANG, Jinmin CHENG, Yi SUN, Jiliang XUE, Xuan YU, Ziyuan REN
PO020	0064	Research on Island Operation of Small Scale Hydro Powered Network with Back-to-Back MMC-HVDC	Z Gai, F WANG, H LI, W JIANG, Q CHEN
PO021	0067	Modeling and Forward Suppression Strategy of Circulating Current in MMC-HVDC	Hu Yinghong, Cai Wei, Long Kaihua, Zhang Jinglan, Zhao Yuan, Zhao Yankun
PO022	0068	Research and Application of Large-scale Renewable Energy Control & Monitoring System Key Technologies	Junhua Zhang, Jinjiang Lan
PO023	0070	Fuzzy Modelling of Power System Economic Dispatch Incorporating Load and Wind Generation Uncertainties	Kai Zhao, Libao Shi, Yixin Ni
PO024	0078	Adjustable Robust Optimal Power Flow Considering Random Output of Various Renewable Energy Integration in Complex Three-phase Distribution Networks	Yiqi Cao, Junwei Liu, Danping Wang
PO025	0079	Agent-Based Simulation for Electric Vehicle Aggregators' Bidding and Pricing Strategy Considering Reserve Provision	Luhua Xing, Pengfei zhang, qian ai, ning zhou, kang zhao, wenbo li
PO026	0081	The Operating Environment Substitution-Based Field Test Technology of UHVDC Protection System: Part 1 Test Scheme and Hardware Environment Substitution	Xiangping Kong, Juan Li, Wenzhe Mei, Chi Zhang

PO027	0082	The Operating Environment Substitution-Based Field Test Technology of UHVDC Protection System: Part 2 Software Environment Substitution and Field Application	Xiangping Kong, Xinyue Gong, Zhihai Shu, Chenqing Wang
PO028	0083	The Visualization Technology of the UHVDC Control and Protection System Based on Deep Learning	Xiangping Kong, Lei Gao, Peng Li
PO029	0084	Study on the method of grid planning on Space-time distribution of power system frequency	zhicheng sha, Shuang Dong, Zhunping Zhu
PO030	0089	Research on Startup Circuit Parameter Selection and Startup Control Strategy for Multi-terminal VSC HVDC System	Ying Huang, Yuke Ji, Yuxin Lu, Weihuang Huang
PO031	0092	Protection adaptability analysis in VSC-HVDC-connected offshore wind farm system	Junfei Han, Liming Zheng, Ke Jia, Yu Fang, Zhe Yang, Rui Chen
PO032	0093	Impact of the accuracy of NWP wind speed forecasts on wind power forecasting	Yimei Wang, Yongqian Liu, Peng Song, Hui Liu, Zechun Hu
PO033	0094	An Improved Cumulant-Based Probabilistic Energy Flow Computation Method for Integrated Electricity and Natural Gas Systems	X Deng, P Zhang, H Liu, J He, L Wu, X Wang, Y Wang
PO034	0097	Pilot protection principle for HVDC transmission lines based on current correlation	Bo Yuan, Zhipeng Jing, Jingmao Zhang, Lijie Zhang, Shuai Tang, Chan Peng, Zhang Zhang, Ying Wang, Hua Shao, Liangdong Qin, Zhihui Dai
PO035	0104	Two-terminal Fault Location Scheme based on Distributed Parameters of Cable-overhead Hybrid Transmission Line	Bao-wei Li, Xin-tao Dong, Li Wang, Ming-hao Wen, Ya-xin Su
PO036	0106	A novel power forecasting method for distributed PV system based on finite data	Hang Xu, Yuanpeng Zhang, Junen Li, Shuai Yuan, Xingong Cheng
PO037	0109	A Multi-pattern Coordinative Scheduling for Large Capacity Energy Storage System	Zhi Cai, Yanfeng Ge, Jiawei Huang, Songjie Shi, Dan Xu, Cuihui Yan
PO038	0115	Arm Current Balancing Control Strategy for Modular Multilevel Converters Under Grid Fault Conditions	Jinyu Wang, Yi Tang, Pengfeng Lin, Qian Xiao, Huan Qiu
PO039	0117	Regional Coordination Control of Active Distribution Network Based on Model Predictive Control	Wei Du, Dong Liu

PO040	0125	Short-term wind power prediction based on singular value decomposition and multi-position NWP	T M Liu, L J Wang, Z Wang, B Wang, Y Lin, D S Huang
PO041	0127	Sub-parts control parameter fitting method of VSC based on RTDS	peng xu, huan xie, tao wu, tianqi zhao
PO042	0129	Regional Adaptability and Economic Evaluation Based on Electric Vehicle Policy Analysis	X Y Zhou, D S Yang, B W Zhou, Z L Yang
PO043	0130	Correlation Analysis Between Load And Output of renewable energy generation Based On Time-varying Copula Theory	Zhang Mingze, Huang Yichao, Yuan Minghan, Wang Min, Sun Xinyuan
PO044	0132	Phase Angle Compensation of Virtual Impedance for Resonance Mitigation in DFIG System under Weak Grid	Zakiud Din, Jianzhong Zhang, Zheng Xu, Yaqian Zhang
PO045	0133	Virtual Inertia Online Control Strategy for DC Grid Based on Variable Droop Coefficient	X Huang, Y Hong, J Liu, P Jia
PO046	0135	Combined Heat and Power Economic Dispatch Solution Incorporating Wind Power Uncertainty	Y Song, L Shi, Y Ni
PO047	0139	Harmonic Current Assessment Method For Wind Farm Excluding Background Harmonics	Li Jianli, Li Qing, Zhao Jinshuai, Zhang Jinping
PO048	0141	Frequency Response Characteristic Analysis of SSCI for DFIG-based Wind Farms Considering Rotor Speed Control Based on Complex Torque Coefficients method	Jicheng Zhou, Xiaotao Peng, Peng Luo, Kai Liang, Zhen Zhang, Jia Tang
PO049	0143	Multi-Objective Optimization of Wind Turbine via Controllers Coordination and Sensitivity Analysis	Zhenyu Chen, Zhongwei Lin, Chuanxi Wang, Xiangyu Han, Gengda Li, Feng Hu, Zongming Si
PO050	0144	Improving Operation Feasibility of Low-voltage Distribution Network by Phase-switching Devices	Bin Liu, Ke Meng, Peter Wong, Zhao Yang Dong, Cuo Zhang, Bo Wang, Tian Ting, Qu Qi
PO051	0147	High resistance grounding fault feeder detection in a resonant grounding system based on transient current correlation coefficient comparison	Xin Cui, Bin Wang, Xinzhou Dong
PO052	0149	A Coordinated Control Strategy of Electric Spring Based Smart Load Technology	X Luo, YY Shao, YP Li, P Peng, HF Wang, J Li
PO053	0153	Exploring Demand Side Flexibility via Smart Energy Hub in Two-Stage Electricity Markets	X Wang, J Wang, Z Liu, Y Song, Y Zhang, Z Wu, T Song

PO054	0155	Power System Dynamic Economic Dispatch with Multi-type Renewable Energy	J Z Zhu, Q B Liu, Z Y Chen, S L Li, T Y Luo
PO055	0157	Virtual Synchronous Generator Control in Solid-State Transformer with DC Voltage Compensation	Zirun Li, Jin Xu, Pan Wu, Keyou Wang, Guojie Li
PO056	0163	Dynamic Economic Dispatch Solution Considering Wind Speed Dependence of Multiple Wind Farms	Yating Zhou, Libao Shi, Yixin Ni
PO057	0164	Research on Control Strategy of LCC-MMC Hybrid HVDC System	J Lv, X Ye, M Yang, R Jiao
PO058	0167	Research on System Conditions of a 500kV Novel Fault Current Limiter Based on HCSR	CY Xiang, WJ Xu, ZT Xiang
PO059	0170	A frequency division control for hybrid energy storage system considering the unbalanced current rate of change in DC micro-grid	Yuhan Zhang, Guiping Du, Yanxiong Lei, Tiansheng Zhu
PO060	0171	Evaluating and Optimizing the Evenness of Power System Load Distribution	W Q Sun, K P Tian, C Yang, D Han, W Zhang, P F Xi
PO061	0172	Generation-Grid-Storage Coordinated Planning Method with the Renewable Portfolio Standard	K P Tian, W Q Sun, C Yang, D Han, W Zhang, P F Xi
PO062	0174	Design and Implementation of a Universal Grid Computing Platform Applicable to Optimal Operation Of Power Grid	Jialun Zhao, Libao Shi, Yixin Ni
PO063	0178	Multi-objective optimal dispatch method based on source-network-load-storage interaction system for DC distribution network	Ran Quan, Guoqing Li, Guobin Jin, Zhao Liu, Qing Chen
PO064	0179	Study on voltage segment control strategy of large-scale renewable power base based on hierarchical-partitioned principle	Chao Liu, Yuanyuan Su, Xi Li, Hongzhi Liu, Yan Li, Qing Li
PO065	0181	Power Grid Frequency Regulation Participated by Photovoltaic Generation to Adapt to Different Control Modes of Grid-side AGC	Gangui Yan, Wenbo Hu, Qi Jia, Dan Wang, Guoqing Zhou
PO066	0190	Synergetic Control Based on Rotor Speed Regulation with Variable Proportional Coefficient for Doubly-fed Wind Turbines Implementing Virtual Inertia Support	K Liang, X Peng, J Zhou, R Wang, F Li
PO067	0191	Research on Short-circuit Current Improvement Algorithm of Doubly-fed Wind Farm Based on Low Voltage Low voltage ride through	WW Yang, SH Wang, F Gao, YJ Chang, G Jin

PO068	0194	Research on background harmonic evaluation of UHV DC access considering mutual impedance of external nodes of power grid	Zhenhua Lv, Mingming Shi, Weijia Tang, Shanshan Luo, Juntao Fei
PO069	0196	Individual Pitch Control Strategy for a Low Wind Speed Wind Turbine	P Jiang, Z Q Gao, Y Z Wang, Q L Li, B F Xu
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Thank our media partner NE (niudunyan.com) and thank all the delegates from both home and abroad who spent time participating in the RPG 2019 conference in Shanghai, we hope you enjoy the conference and made some useful friends and useful contacts within the power & energy sector.

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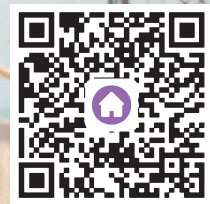
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