

Oral Presentation

14:00 – 20:30, 19th October 2017

Session A1 Wind Technology

Session chair: Prof. Jun Zhang, University of Denver, USA

14:00 --- 15:30

A1.1 (0006)

Effects of atmospheric stability on wind resource characteristic parameters
Ma Xiaomei, Li Tao, Liu Yongqian, Han Shuang

A1.2 (0020)

Study on Application Status of XLPE Insulated Submarine Cable Used in Offshore Wind Farm of China
Hongliang ZHANG, Jianmin ZHANG, Lewis DUAN, Shuhong XIE, Jianlin XUE

A1.5 (0096)

Numerical Stability Analysis of PMSG-based Wind Energy Conversion System: A Simple Example of Drive System
Hua Ye, Yanan Tang

A1.6 (0143)

Analytical model to composite inertia control for wind turbine generators participating in frequency regulation
Shenghu Li, Guowei Zhu, Jiejie Huang, Yun Tan, Chen Chen

A1.7 (0146)

Modified Modulation Strategy of MMC for Wind Farm Integration
Tiezhu Wang, Lei Wan, Junxian Hou, Yifeng Dong, Yi Wang, Shanshan Wang

A1.8 (0193)

Solution of Wind Turbine Blade Doppler and Its Characteristic Analysis
Bo Tang, Fang Zou, Ziang Sun, Hansheng Huang, Li Ye

15:30 --- 16:00

Poster Session and Refreshments

16:00 --- 17:45

A1.9 (0247)

Multi-machine equivalent model parameter identification method for DFIG-based wind power plant based on measurement data
K Luo, W H Shi, J X Qu

A1.10 (0309)

Virtual Resistor Circuit-based Control Strategy of STATCOM during Network Unbalance
Qiongfeng Zhu, Qing Li, Jinping Zhang, Peng Cheng

A1.11 (0377)

SSCI Detection and Protection in Doubly-Fed Generator Based on DTFT
Zhenxing Zhang, Shiming Liu, Guofang Zhu, Zhaonan Lu

A1.12 (0405)

A deep-learning-based scenario generation strategy considering the correlation between multiple wind farms
 Xu Yuan, Shi Libao, Ni Yixin

A1.13 (0416)

Optimal Layout of Wind Farm for Lightning Protection Based on Lightning Leader Development Model
 Wenfang Zhang, Li Zhang, Jingxian Cui, Guozheng Wang, Tong Zhao, Liang Zou, Xinghua Wang

18:30 --- 20:30 **Drink Reception & RPG 2017 Best Conference Paper Award (Grand Ballroom)**

Session D1a Power Systems Integration Issues

Session chair: Prof. Jiabing Hu, Huazhong University of Science and Technology, China

14:00 --- 15:30 **D1a.1 (0003)**

Research on Evaluation Method for Operation Economy and Technology of Regional Smart Energy Grid
 YUAN Wenguang, WEI Linjun, LI Yong, CHI Yongning

D1a.2 (0017)

The Frequency Emergency Control Characteristic analysis for UHV AC/DC large receiving end power grid
 Hucheng Li, Yubo YUAN, Xiaoyi ZHANG, Chenbo Su

D1a.3 (0021)

An Efficient Approach for Commutation Failure Immunity Level Assessment in Hybrid Multi-Infeed HVDC Systems
 H Xiao, Y Li, X Duan

D1a.4 (0088)

A new scheme of UHVDC transmission line protection based on Chebyshev window filter
 Zhengxing Li, Hong Tan

D1a.5 (0089)

An Improved BP Neural Network Algorithm to Wind Power Forecast
 Zheng Wang, Bo Wang, Chun Liu, Weisheng Wang

D1a.6 (0090)

A method to determine the maximum generation capacity of distribution generation in low voltage distribution feeders
 Shixiong Fan, Chen Li, Zechen Wei, Tianjiao Pu, Xingwei Liu

15:30 --- 16:00 Poster Session and Refreshments

16:00 --- 17:45 **D1a.7 (0092)**

Research and Implementation of Outage Plan System for Reliability and Clean Energy Consumptive Power Constraint
 Li Peijun, Zheng Xiaoyu, Zhang Jiali, Liu Lihua, Zhang Xiaotian, Li Min

D1a.8 (0140)

Study on Stability Mechanism of the Sending-Side Three-Machine-Group System after Multiple HVDC Commutation Failure

Jingzhe Tu, Yan Pan, Jian Zhang, Junchuan Jia, Xiaohui Qin, Jun Yi

D1a.10 (0197)

Inbred GA for optimal DR allocation in distribution systems

N Kanwar, N Gupta, K R Niazi, A Swarnkar

D1a.11 (0208)

An Adaptive Protection Scheme for Distributed Systems with Distributed Generation

XH Song, Y Zhang, S Zhang, SZ Song, J Ma, WB Zhang

18:30 --- 20:30 **Drink Reception & RPG 2017 Best Conference Paper Award (Grand Ballroom)**

Session D1b: Power Systems Integration Issues

Session chair: Prof. Jian XU Wuhan University, China

14:00 --- 15:30 **D1b.2 (0234)**

Probabilistic Forecast for Aggregated Wind Power Outputs Based on Regional NWP Data

Zhao Wang, Weisheng Wang, Bo Wang, Shuanglei Feng

D1b.3 (0257)

Stochastic expansion planning of interconnected distribution networks with renewable sources considering uncertainties and power transfer capability

J Liu, H Z Cheng, Q Xu, Z Lan, P L Zeng, L Z Yao

D1b.4 (0264)

Design of Micro Automatic Weather Station for Modern Power Grid Based on STM32

Hao Li, Ochani Manesh Kumar, Hengxu Zhang, Lei Zhang

D1b.5 (0292)

A coordinated charging strategy of PEVs for maximizing the distributed energy based on time and location

Zhihui Wang, Shixiong Fan, Baozhu Liu, Xingwei Liu, Zechen Wei

IV1.14 (0658)

Study on resonant control of grid-side converter in wind power system under voltage distortion

xuemei Zheng, He Li

15:30 --- 16:00 Poster Session and Refreshments

16:00 --- 17:45 **D1b.7 (0349)**

A Very Short-term Prediction Model for Photovoltaic Power Based on Improving the Total Sky Cloud Image Recognition

Zhu Xiang, Wu Ji, Zhou Hai, Ding Jie, Cui Fang, Zhao Xin

D1b.8 (0360)

An Improved Power Flow Algorithm for Hybrid AC/DC Grid With Reactive Power

Control
Qian ZHOU, Ningyu Zhang, Xinyao Zhu, Jingbo ZHAO, Zhe Chen

D1b.9 (0372)

Framework Planning of Active Distribution Network Considering Active Management
P Gao, H K Chen, X Zheng, B Wu

D1b.10 (0374)

Analysis of the HVDC Grid's Influence on Short-circuit Current Level of AC system
Yingbiao Li, Shanshan Wang, Guangquan Bu, Yanchen Yang, Bing Zhao, Tiezhu Wang

D1b.11 (0401)

Method for Diagnosis of On-load Tap Changer Based on Wavelet Theory and Support Vector Machine
X Duan, T Zhao, T Li, J Liu, L Zou, L Zhang

IV1.11 (0769)

Short-term Photovoltaic Power Probability Forecasting Based on OLPP-GPR and Modified Clearness Index
Fen LI, Chunyang LI, Yong YANG, Quanquan YAN, Jinbin ZHAO, Lijuan WANG

18:30 --- 20:30 **Drink Reception & RPG 2017 Best Conference Paper Award (Grand Ballroom)**

Session B: PV Systems Technology

Session Chair: Dr. Qi Li, National Grid, UK

14:00 --- 15:30

B1.2 (0063)

Global MPPT Algorithm with Coordinated Control of PSO and INC for Rooftop PV Array
Jinhua Liu, Junyin Li, Jianan Wu, Wenhui Zhou

B1.3 (0069)

Study on Electromechanical Transient/Electromagnetic Transient Hybrid Simulation of Photovoltaic Grid-connected System
Hang Meng, Wenzhuo Liu, Mingyu Yang, Xiaohui Ye, Xinli Song, Tao Liu

B1.4 (0249)

Identification of the Photovoltaic Model parameters using the Crow Search algorithm
A S Omar, H M Hasanien, M A ELgeny, M AL Badr

B1.5 (0277)

An Improved Maximum Power Point Tracking Algorithm with Cuk Converter for PV Systems
S Zongchang, Y Zhoujun

15:30 --- 16:00 Poster Session and Refreshments

16:00 --- 17:45

B1.7 (0495)

An Ultra-short term PV power forecasting based on ELM segmentation model
Bo Jing, Zheng Qian, Yan Pei, Jingyi Wang

B1.8 (0594)

Research on Power Loss of Distribution Network with Photovoltaic Access
 Rundong Han, Qi Wang, Tianzheng Wang, Yaxuan Zheng, Shaoping Guan

B1.10 (0837)

Study on charge and discharge control strategy of super-capacitor in photovoltaic system
 Wei Yongqing, Zhang Xiaofeng, Yu Fei, Zhu Peng

18:30 --- 20:30 **Drink Reception & RPG 2017 Best Conference Paper Award**

Invited Session 4

Session chair: Yunhe Hou, University of Hong Kong

14:00 --- 15:30

SESSION 4**IV2.1 (0301)**

Effective restoration strategies of interdependent power system and communication network
 Prabin Baidya, Wei Sun

IV2.2 (0303)

Improving wind power utilization under stormy weather conditions by risk-limiting unit commitment
 Ximing Cai, Zhijun Qin, Yunhe Hou

IV2.3 (0857)

Frequency control framework of power system with high wind penetration considering demand response and energy storage
 Hanyu Li, Jian Wang, Zhaobin Du, Fang Zhao, Huabin Liang, Baorong Zhou

IV2.4 (0861)

Optimal strategy for distribution system with PV based on voltage violation regulation
 Shanhong Jin, Weiguo He, Jingwei Zhang, Xiang Zhu, Haoming Liu

15:30 --- 16:00 Poster Session and Refreshments

Invited Session 6/12

Prof. Miao ZHU Shanghai Jiao Tong University, China

16:00 --- 17:45

SESSION 6**IV2.5 (0791)**

Harmonic Control Optimization Model Considering Power Generation of Microgrid
 Ning Wang, Kai Wei, Jie Yuan, Qingquan Jia

IV2.7 (0817)

A PCC Voltage Power Quality Restoring Strategy Based on the Droop Controlled Grid-connecting Microgrid
 Wei Feng, Kai Sun, Yajuan Guan, Josep M. Guerrero, Xi Xiao

Session 12

IV2.27 (0481)

Operation and coordination control of a DC micro-grid incorporating all-DC wind farm
L B Shi, T Y Shi, Y Zhao, Y X Ni

IV2.28 (0903)

Improved Active and Reactive Power Control for Symmetrical Bipolar MMC-HVDC Systems During DC side Pole-to-Ground Fault
Kai Hu, Lei Lin, Zhen He, Chen Xu

IV2.29 (0950)

Cost Comparison of AC and DC Collector Grid for Integration of Large Scale PV Power Plants
weilin li, kun he, yaqiang wang

IV2.30 (1001)

BEST PATHS Simulation Toolbox for the Grid Connection of Offshore Wind Farms Using HVDC Networks
Sheng Wang, Jun Liang

18:30 --- 20:30 **Drink Reception & RPG 2017 Best Conference Paper Award**

Oral Presentation

09:30 – 13:00 & 14:00 – 17:30, 20th October 2017

Session A2: Wind Technology

Morning session chair: Dr. Yongqing Liu, NCEPU, China

Afternoon session chair: Dr. David Infield, University of Strathclyde, UK

09:30 --- 11:00

A2.1 (0422)

Dynamic Striking Distance and Electrical Geometrical Model of Wind Turbine Blades Based on Lightning Physics
Y Zhang, L Zhang, K Zhang, G Wang, T Zhao, L Zou

A2.2 (0476)

A review on the model validation and parameter estimation approaches of wind power generators
Yi-Liang Hu, Yuan-Kang Wu

A2.3 (0479)

Research on Capacity Configuration Method of Concentrated Reactive Power Compensator for Wind Farm LVRT Capability
J He, Q Li, J Ma, WB Zhang, Y Zhao

A2.4 (0537)

Maximum Energy Yield Oriented Turbine Control in PMSG based Wind Farm
J Tian, D Zhou, C Su, F Blaabjerg, Z Chen

A2.5 (0576)

Design and operation of DSTATCOM for power quality improvement in distribution systems

Manish Kumar, Anil Swarnkar, Nikhil Gupta, K. R. Niazi

IV1.7 (0577)

Linear Demagnetizing Strategy of DFIG-based Wind Turbines for Improving LVRT Responses

Yuanzhu Chang, Xiangping Kong

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

11:30 --- 13:00

A2.8 (0676)

A Combined Active and Reactive Power Control Strategy to Improve Power System Frequency Stability with DFIGs

Congwei Tu, Jun Cao, Lei He, Ye Fang

A2.9 (0679)

Phase Error Correction Method of Wind Field Modeling Over Complex Terrain

Z P Song, S L Jin, W L Jiang, S L Feng, B Wang

A2.11 (0730)

A Robust Optimal Shunt Dispatch Method in Wind Farm Integration Area

Fengda Xu, Qinglai Guo, Hongbin Sun, Boming Zhang, Lin Jia

A2.14 (0797)

Voltage stability enhancement by the coordinated operation of OLTCs in the presence of wind turbines using Taguchi method

Saurabh Ratra, Rajive Tiwari, K R Niazi

A2.15 (0805)

The Study on Optimal Site Selection of a Met Mast in Interconnected Wind Farm

X M Zhang, Y Liu, K Bai, P Song, J B Liu, Y Cui, S X Zhou

13:00 --- 14:00 Poster Session and Lunch

14:00 --- 15:30

A2.16 (0854)

An Advanced Control Strategy and Its Controllable Area for Doubly Fed Wind Farm Integrated into Power Systems with VSC-HVDC Transmission under Grid Fault

J Ouyang, T Tang, D Zheng, R Yu, X Zhang, X Xiong

A2.17 (0855)

A new heuristic algorithm for the problem of vessel routing optimization for offshore wind farms

Rafael Dawid, David McMillan, Matthew Revie

A2.19 (0877)

Ultra-short-term wind speed forecasting method based on spatial and temporal correlation models

Zhou Haiqiang, Xue Yusheng, Guo Jizu, Chen Jiehui

A2.20 (0878)

RENEWABLE ENERGY INTEGRATION CAPACITY ASSESSMENT IN REGIONAL POWER GRID
BASED ON AN ENHANCED SEQUENTIAL PRODUCTION SIMULATION

Yan ZHANG, Xianzhong DAI, Xinyang HAN

A2.21 (0898)

Inertial Response Analysis of PMSG-based WECS with VSG control

Jiangbei Xi, Hua Geng, Geng Yang, Shaokang Ma

A2.22 (0902)

The investigation of the mechanism of SSI caused by the inter-harmonics in DFIG

Tao Wen, Yao Huang, Dawei Zhao, Lingzhi Zhu, Xitian Wang

15:30 --- 16:00 Poster Session and Refreshments

16:00 --- 17:30

A2.23 (0906)

Voltage and Reactive Power Optimization of Offshore Wind Farms Based on Terminal
Voltage Control mode of Double-Fed Induction Generator

Baichao Chen, Xuanyao Luo, Xin Yan, Jiabin Yuan, Cuihua Tian

A2.24 (0920)

Voltage Balance Optimization among Subsystems of Wind-PV-ES Hybrid Generating
System

H Wu, Y Li, Z Lu, H Tang

A2.25 (0926)

Inertial and primary frequency response model of variable-speed wind turbines

M Krpan, I Kuzle

A2.26 (0940)

Control and operation of a hybrid HVDC integrating wind farm based on SB-MMC and
LCC

Shida Sun, Wang Xiang, Liangzhong Yao, Yan Li, Jinyu Wen

A2.27 (0964)

Study on the Dynamic Reactive Power Characteristics of MMC-MTDC for Wind Farm
Integration

Mang Jiang, Qinglai Guo, Hongbin Sun, Boming Zhang, Lin Cheng, Shuanbao Niu

Session D2a: Power Systems Integration Issues

Morning session chair: Dr. Wei Yao, HUST, China

Afternoon session chair: Dr. Xiongfei Wang, Aalborg University, Denmark

09:30 --- 11:00

IV2.16 (0123)

Suppression of Synchronous Resonance for Virtual Synchronous Generators

D Yang, H Wu, X Wang, F Blaabjerg

D2a.1 (0402)

Distribution system planning incorporating distributed generation and cyber system
vulnerability

H H Wang, L B Shi, Y X Ni

D2a.2 (0406)

ANALYSIS AND CONTROL STRATEGY OF UNBALANCED POWER IN MMC-HVDC GRID

Yang Yanchen, Ma Shicong, Li Yingbiao

D2a.3 (0407)

Evaluation of solar irradiance on inclined surfaces models in the short-term photovoltaic power forecasting

Wei Liaoliao, Cui Chenggang, Yang Ning, Chen Hui

D2a.4 (0421)

A solution of voltage stability assessment for complicated power system incorporating wind power

Hao Chen, L B Shi, Y X Ni

D2a.5 (0465)

Coordinated Economic Dispatch and Cost Allocation of Cooperative Multi-Microgrids

Hao Xiao, Yan Du, Wei Pei, Li Kong

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

11:30 --- 13:00

D2a.6 (0480)

Research of Active Load Regulation Method for Distribution Network Considering Distributed Photovoltaic and Electric Vehicles

Y Q FANG, R LI, L N WANG, B SONG, E W Li, Q S ZHANG

D2a.7 (0482)

Risk Assessment of Distribution Network Operation Considering Time Dependent Relativity

Tianying XIAO, Wei PEI, Hua YE, Geng NIU, Zhiping QI

D2a.9 (0499)

Study of shell circulating current and transient ground potential rise in 220KV Gis

Taiyu Chen, Hongshun Liu, Dongyang Hu, Xinghua Liu, Tianxi Xu, Liang Ji, Xiaoshuai Yang

D2a.10 (0518)

Modelling and Control of a VSC MVDC Distribution Network with DFIG Wind Farm

P Simiyu, A Xin, G T Bitew, K Wang

D2a.11 (0539)

Modeling and control system design of hybrid distribution transformer

Y B Liu, D L Liang, Q S Wang, Q X Chen, Z Liang

13:00 --- 14:00 Poster Session and Lunch

14:00 --- 15:30

D2a.12 (0573)

Distribution voltage control utilising the reactive power capabilities of wind generators

D Danzerl, S Gill, O A Lara

D2a.13 (0585)

Analytical Model of Hybrid MMC for Dynamic and Steady Studies
Xiaojun Lu, Wang Xiang, Weixing Lin, Jinyu Wen

D2a.14 (0590)

Research on Maximum Allowable Capacity of Distributed Generation in Distributed Network under Global Energy Internet Considering Static Voltage Stability
Lijuan HU, Ke-yan LIU, Wanxing SHENG, Yinglong DIAO, Dongli JIA

D2a.15 (0597)

Optimal Scheduling Strategy of Active Distribution System Using Brain Storm Optimization Algorithm
Jiandong Duan, Lupeng Chen, Qian Sun, Jing Wang, Teng Mu, Fuping Yan

D2a.18 (0667)

A Hybrid Transient Simulation Platform for Interconnected Transmission and Distribution System Based on PowerFactory and PSASP
Haiyun Wang, Yankan Song, Shaowei Huang, Ying Chen, Dongsheng Jiao, Yeniu Qian

D2a.19 (0722)

A modified R-L model based Protection for VSC-DC Distribution Lines
Ke JIA, Meng LI, Tianshu BI, Bohan LIU, Wei LI, Qixun YANG

15:30 --- 16:00 Poster Session and Refreshments

16:00 --- 17:30 End of the session

Session D2b: Power Systems Integration Issues

Session chair: Dr. Xia Chen, Huazhong University of Science and Technology, China

09:30 --- 11:00

D2b.1 (0731)

Analysis and Modelling of Secondary and Tertiary Control for Frequency Regulation in Power Systems with Renewable Energy Sources Based on Balancing Market
B Jie, T Tsuji, K Uchida

D2b.2 (0740)

A New Reliability Evaluation Method for Distribution Network
N B Liu, T T Wu, T Xu, Y Ma

D2b.3 (0745)

The Influence of Regional Load on Subsynchronous Resonance of Wind Farm-Series compensated Power Transmission System
X W Chen, Y H Li, H Liu, W Song

D2b.4 (0766)

The implementation and value of power hardware in the Loop testing bed for wind turbines integrated into grid
K Luo, W H Shi, H Y Tang

D2b.5 (0806)

Mixed Inter Second Order Cone Programming Taking Appropriate Approximation for the Unit Commitment in Hybrid AC-DC Grid
B Zhou, X M Ai, J K Fang, J Y Wen, J H Yang

D2b.6 (0834)

DC-DC AUTOTRANSFORMER WITH UN-INTERRUPTED OPERATING CAPABILITY DURING DC FAULT
Mengbo Li, Wang Xiang, Wenping Zuo, Liangzhong Yao, Weixing Lin, Jinyu Wen

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

11:30 --- 13:00 **D2b.7 (0844)**

A sub/super-synchronous harmonics measurement method based on PMUs
Sudi Xu, Tianshu Bi, Hao Liu, Chuang Cao

D2b.8 (0869)

The Research and Simulation of Control Strategy for Multi-terminal Flexible High Voltage DC Transmission System with Renewable Energy Access
Siliang Jian, Linong Wang, Bin Song, Tianzhu Chen, Xiaochun Li, Yaqi Fang

D2b.9 (0872)

Optimized Recovery Strategy for Microgrid with Distributed Generations
H Q Zhou, J H Chen, D Y Sun, J Z Guo

D2b.11 (0938)

Research on fault protection of DC grid based on hybrid MMC
Junjie Zhang, Wang Xiang, Weixing Lin, Jinyu Wen

D2b.12 (0957)

Dynamic Characteristic and Interaction Analysis of Synchronous Generator Based on Phase-Amplitude Motion Equation
Luhan Huang, Xiaoming Yuan

13:00 --- 14:00 Poster Session and Lunch

Session D2b continue & Session F & Invited session 9/10

Session Chair: Prof. Qiuwei Wu, Wuhan University, China
Prof. Huanhai XIN Zhejiang University, China

14:00 --- 15:30 **Session D2b continue**

D2b.13 (0958)

Wind Farm Aggregation Method Based on Motion Equation Concept: A Case Study
Zhichao Cui, Xiaoming Yuan, Meiqing Zhang

D2b.14 (0959)

A Multiband Filter: Estimator of Different Frequency Components of Grid Voltage
Chenhui Huang, Xiaoming Yuan, Sheng Li

D2b.15 (1002)

Impact of large-scale photovoltaic generation integration structure on static voltage stability in China's Qinghai Province network

Ding Wang, Xiaoming Yuan, Mingquan Zhao, Yunzhe Qian

Session F**F2 (0205)**

Analysis on the Peak Load Adjustment Adaptability of the existing 300MW Cogeneration Unit manufactured by STC

Haisheng Yang, Shengyang Lu, Wenying Wang

F4 (0762)

A Method to Evaluate Comprehensive Economic Benefits of Hybrid Wind Power-Pumped Storage System integration Considering the Carbon Emission Trade.

Y Liu, C Ma, Y Wang

15:30 --- 16:00 Poster Session and Lunch

16:00 --- 17:30

Invited session 9**IV1.8 (0367)**

Impact of Series Compensation on Operation Performance of Large-scale PV Plants
G.F Lu, M Miao, X YU, C Liu, Y LI, W.H Chen

IV1.9 (0471)

Study on Active Power Steady-State Security Region Considering TCSC

B P CHEN, T LIN, R S CHEN, X L XU

IV1.10 (0525)

Large Disturbance Stability Evaluation of Interconnected Multi-Inverter Power Grids with Virtual Synchronous Generator Model

Keyou Wang, Chen Qi, Xin Huang, Guojie Li

Session 10**IV1.12 (0347)**

Analysis of the Influence of Renewable Energy Generation on Market Power
Nan Shang, Li Guo, Yi Ding, You Lin, Lei Liu, Changzheng Shao, Yonghua Song

IV1.13 (0474)

Optimal dispatch model considering the bidding uncertainty of wind power in deregulated power system

Xiang Xia, You Lin, Jianliang Fang, Wei Jiang, Yingjing He, Nan Shang, Yi Ding

Session C: Energy storage for renewable sources

Session chair: Prof. Jiabing Hu, Huazhong University of Science and Technology, China

09:30 --- 11:00

Session C**C1 (0110)**

PHASOR MODEL SIMULATION OF GRID INTEGRATED VARIABLE SPEED PUMPED STORAGE SYSTEM

B Girmaw Teshager, H Minxiao, M Zhaojun, S Xiaofang, X Jianbing, P Simiyu

C2 (0187)

Wind power fluctuation mitigation based low frequency oscillation
sun yushu, ye hua, sun xiaozhe, miao fufeng

C3 (0210)

A Battery Management System for Li-ion Battery
FF Zhu, GA Liu, KL Wang, K Jiang

C5 (0388)

Cost-benefit analysis of pumped hydro storage using improved probabilistic
production simulation method
Baorong Zhou, Shuhua Liu, Siyu Lu, Xiaoyu Cao, Wenmeng Zhao

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

11:30 --- 13:00

C6 (0390)

Control Method of a Single-Phase AC-DC Converter with Integrated Active Filter
H Z Sun, H Wang, G Q Han, J H Gan

C7 (0643)

Analysis of Controllable Capacity for Electric Vehicle Battery Swapping Stations
P P Xie, J Z Zhu, P Z Xuan

C8 (0688)

Siting and Sizing of Energy Storage System of Microgrid Based on Power Flow
Sensitivity Analysis
Haifeng Wang, Qing Lv, Geng Yang, Hua Geng

C9 (0725)

Comparison of Centralized and Distributed Energy Storage Configuration for AC/DC
Hybrid Microgrid
ZHU Yongqiang, WANG Tianjing

13:00 --- 14:00 Poster Session and Lunch

Session E: Other Renewable Energy Sources

Session chair: Prof. Weilin Li, Northwestern Polytechnical University, China

14:00 --- 15:30

Session E**E1 (0039)**

Techno-economic analysis of a PV-wind-battery-diesel standalone power system in a
remote area
T Adefarati, Ramesh Bansal, J Justo

E2 (0083)

The influence of cogging force on Solar Thermo Acoustic Generation systems
D WANG, Y SHI, T MENG, Y YUAN, C LIU

E3 (0296)

Joint maintenance scheduling of the Municipal Solid Waste Incineration Power Plant

and Connected Power System Devices
Yangyang Liu, Zhongqi Shen, Xiaowei Tang, Hongbo Lian, Jiarui Li

E5 (0457)

Pumped-storage power generation system based on wave energy
Shao-qian Zhang, Yong-qiang Zhu

E6 (0555)

A Strategy to Stabilize Power Fluctuation of Distributed Renewable Energy in a
Combined Heat and Power Microgrid
Jinxiao Shi, Wentao Huang, Nengling Tai

15:30 --- 16:00 Poster Session and Refreshments

16:00 --- 17:30

E7 (0649)

Application of Multi-criteria Decision Analysis tool for design of a Sustainable Micro-
grid for a remote village in the Himalayas
Abhishek Kumar, Bikash Sah, Deng Yan, He Xiangning, Praveen Kumar, R.C. Bansal

E8 (0798)

Economic Operation Analysis of natural Gas-Power Multi-energy Flow System
Zhilong Wang, Zesen Wang, Jun Cao, Liping Wang

E9 (0927)

Optimisation Procedure for Designing a Magnetic Gear
Ben McGilton, Richard Crozier

E10 (0929)

Energy Management System controller for a Rural Microgrid
Abhishek Kumar, Deng Yan, He Xiangning, Praveen Kumar, R.C. Bansal

Invited sessions 3

Session chair: Prof. Hua Geng, Tsinghua University, China

09:30 --- 11:00

Session 3

IV1.1 (0047)

Wind Turbine Model Validation Based on State Interval and Error Calculation
Q Li, J He, S Y Qin, X N Shi

IV1.2 (0186)

Modelling of PV module and its Application for Partial Shading Analysis—Part I:
Macro-model and Parameter Estimation of PV module
Mao Zhang, Weiping Zhang, Peng Mao, Shunan Zhong, Yanlong Sun

IV1.3 (0188)

Modelling of PV module and its Application for Partial Shading Analysis—Part II :
Partial Shading Analysis and Simulation Approach of Large Scale PV Array
Mao Zhang, Weiping Zhang, Peng Mao, Shunan Zhong, Yanlong Sun

IV1.4 (0735)

Average Value Model of Grid Side Converter in PMSG for System-Level Studies

Yankan Song, Ying Chen, Shaowei Huang, Zhitong Yu, Yuan Qiao

IV1.5 (0772)

Modeling and validating solar power inverter model for power system stability analysis

J Ma, D W Zhao, M H Qian, L Z Zhu, H Geng

IV1.6 (0862)

Modal Analysis of a Grid-Connected DFIG-based WT Considering Multi-Timescale Control Interactions

Minhui Wan, Jiabing Hu

11:00 --- 11:30 Poster Session and Refreshments

Invited Session 5/7

Session chair: Prof. Jing Ma, NCEPU, China

Session co-chair: Prof. Guobing Song, Xi'an Jiaotong University, China

11:30 --- 13:00

SESSION 5

IV2.9 (0238)

Frequency Control Capability of Wind Turbine under Different Operation Status

Chen Zhu, Tianshu Bi, Guoyi Xu, Libin Yang, Chunlai Li, Jun Yang

IV2.10 (0490)

The Dynamic Characteristics of DFIG Frequency Oscillation of Wind Turbines with Virtual Inertia Control

J Ma, YQ Shen, YX Zhang

IV2.11 (0821)

Comparative Study on Primary Frequency Control Schemes for Variable-Speed Wind Turbines

Siyang Wang, Jiabing Hu, Shuo Wang, Haiyan Tang, Yongning Chi

IV2.12 (0887)

Study on the adaptation virtual Inertia Control Strategy of DFIG and Assessment of equivalent virtual inertia time constant of connected power system

Xinshou Tian, Weisheng Wang, Yongning Chi, Yan Li, Chao Liu

SESSION 7

IV2.13 (0357)

Adaptability Analysis of Starting Element for Transmission Line to Wind Farm Integration

J Luo, G B Song, S P Gao, C Q Wang

IV2.14 (0826)

Directional pilot protection based on fault current for distribution network with DG

Wenli Li, Jinghan He, Dahai Zhang, Qiufang Zhang

IV2.15 (0868)

Short-circuit Current Analysis of Grid-connected LCL VSC by Operational Inductance

Jingyi Liu, Jiabing Hu, Yuanzhu Chang, Wangqianyun Tang, Haiyan Tang

13:00 --- 14:00 Poster Session and Lunch

Invited Session 8

Session chair: Prof. Xiaorong Xie, Tsinghua University, China

14:00 --- 15:30

IV2.17 (0180)

Reactive Power Control Strategy of DFIG-Based Wind Farm to Mitigate SSO
X Wu, Y J Guan, W Ning

IV2.18 (0189)

SSO Damping in DFIG Based Wind Farm Integrated by Hybrid Series Compensator
Xinyao Zhu, Qian Zhou, Jiankun Liu, Yubo Yuan, Meng Jin

IV2.19 (0269)

The Mechanism and Characteristic Analyses of Subsynchronous Oscillations Caused by the Interactions between Direct-drive Wind Turbines and Weak AC Power Systems
Wei Liu, Xiaorong Xie, Huakun Liu, Jingbo He

IV2.20 (0275)

A review of emerging SSR/SSO issues and their classifications
L WANG, X XIE, J HE, H LIU, C WANG, Y ZHAN

IV2.21 (0362)

Small Signal Stability Analysis of Parralled-inverters for Multiple Photovoltaic Generation Units Connected to Weak Grid
Q Jia, G Yan, C Cai, Y Li

15:30 --- 16:00

Poster Session and Refreshment

16:00 --- 17:30

IV2.22 (0396)

A Method to Suppress Sub-Synchronous Oscillation of DFIG-Based Wind Farms Based on Virtual Impedance
W Ning, X Wu, Y J Guan, F Chen

IV2.23 (0632)

Sub-synchronous Torsional Interaction with VSC-HVDC affected by Feed-Forward Compensations in Current Controllers
Huafeng Zhou, Jiale Chen, Qixing Liu, Yaping Hu, Jianhang Zhu

IV2.24 (0646)

PLL Effect on Sub-synchronous Torsional Interaction with VSC-HVDC
Rong Hu, Jianhang Zhu, Hongtao Liu, Huafeng Zhou, Jiale Chen

IV2.25 (0712)

Damping Characteristics of Sub-synchronous Torsional Interaction of DFIG-Based Wind Farm Connected to HVDC System
H Y Yu, G L Zhao, Y T Hu, B F Gao, X W Zhang, R X Zhang

IV2.26 (0802)

Analysis of Impedance Characteristics Pertaining to Thermal Power Unit Based on State Space
S Q Zhao, R Li, B F Gao, N Wang

