

Schedule of Oral Session

Oral Session 1: On the Edge of the Progress: Drones, AI, ML, etc (SC D2)

Date and Time : Tuesday 5th April, 12:45-14:00 (JST)

Place: Room C1

Session Chair: Victor Tan (SC D2)

Technical Expert: Hiroki Doi (SC D2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
1-1	017	Improvements to the efficiency of inspection patrols to identify nest-building on power distribution equipment, through the application of AI *Masayuki Matsuoka
1-2	048	Inspection and Anomaly Detection Technologies of Electric Power Equipment using Drones *Tsuyoshi Sugiyama, Masaru Shimizu
1-3	051	Microwave Wireless Fading Prediction Using AI Technology *Eisuke Suzuki, Motoyuki Suzuki, Yoshikazu Suzuki, Makoto Kubo, Tomoya Soma, Masanori Shiga
1-4	061	Utilization of Drones for Facility Inspection and Surveying *Shigeki Itagi, Shintaro Yoshida, Toshiiki Koga
1-5	159	Development of automatic drone navigation system for power facilities inspection *Takahiro Namba, Masaya Oirase

Schedule of Oral Session

Oral Session 2: Grid Model and Machine Learning (SC C1/C2/C6)

Date and Time : Tuesday 5th April, 12:45-14:00 (JST)

Place: Room D

Session Chair: Hideo Koseki (SC C2)

Technical Expert: Koichiro Yamaki (SC C1)

Presentation order	Paper No.	Title and Author/s(*Presenter)
2-1	068	A Novel Concept for Dynamic Network Reduction Dedicated to Real-Time Application *Ananya Kuri, Sebastian Gäbel, Ilya Burlakin, Timo Wagner, Gert Mehlmann, Matthias Luther
2-2	121	Machine Learning Applied to Capital Planning at Power Utilities *Boudewijn Neijens
2-3	189	Distribution Grid Phase Identification based on Unsupervised Learning *Katarina Knezovic, Dmitry Shchetinin, Giancarlo Dalle Ave, Marco Giuntoli, Milos Subasic, Peter Noglik, Staffan Dahlberg, William Peterson, Wenping Li

Schedule of Oral Session

Oral Session 3: Power Quality Challenges (SC C2/C4)

Date and Time : Tuesday 5th April, 12:45-14:00 (JST)

Place: Room C2

Session Chair: Zia Emin (SC C4)

Technical Expert: Masahide Hojo (SC C4)

Presentation order	Paper No.	Title and Author/s(*Presenter)
3-1	003	Challenges with harmonic emission compliance assessment of inverter-based resources - an international review *Jason David , Amir Kazemi , Sean Elphick , Duane Robinson
3-2	033	Statistical impacts of renewable energy generation on power system harmonic distortion *Jason David , Duane Robinson , Sean Elphick , Gerrard Drury
3-3	076	A Strategic Harmonic Planning and Management Framework for Transmission Systems Duane A Robinson , *Tuan Vu
3-4	095	Use of PV inverters to mitigate harmonic levels on distribution systems Atheer Habash , Grazia Todeschini , Jacob W. J. Lynch , *Zia Emin

Schedule of Oral Session

Oral Session 4: Cyber Security: A Novel Reality of Power Industry (SC D2)

Date and Time : Tuesday 5th April, 14:30-16:00 (JST)

Place: Room C1

Session Chair: Joel Nouard (SC D2)

Technical Expert: Tsuyoshi Yamanishi (SC D2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
4-1	069	Impact of Cyber-Attacks on Process Bus and Time Synchronisation Communication at Substations *Petra Raussi , Juha Pärssinen , Sami Noponen , Mikael Opas , Pia Raitio , Jarno Salonen
4-2	115	Power Control System Security Incident Response and Recovery Masaharu Nozawa , Tadashi Okabe , *Teruki Iwamoto
4-3	124	Cybersecurity Issues Posed by The Digitalization of Power Systems: Potential Solutions Modelling *Pavel Litvinov , Sergey Nesterov
4-4	142	Cyber security in the MPLS-TP networks *Antti Viro
4-5	146	Supply Chain Cyber Attack Detection for Power Grids *Jennifer Appiah-Kubi , Chen-Ching Liu , Ruoxi Zhu , Martin Otto , Jagannadh Vempati
4-6	154	The importance of synchronization availability on power grid operation: a comparison between traditional and network-clock approach to time distribution. *Eugenio Lucente , Ramon Baechli , Adolf Frei

Schedule of Oral Session

Oral Session 5: Lightning #1 (SC C4)

Date and Time : Tuesday 5th April, 14:30-16:00 (JST)

Place: Room D

Session Chair: Hideki Motoyama (SC C4)

Technical Expert: Akiyoshi Tatematsu (SC C4)

Presentation order	Paper No.	Title and Author/s(*Presenter)
5-1	001	Reconstruction of Waveforms of Lightning Return-Stroke Channel-Base Current From Electromagnetic Field Waveforms Degraded by Propagation Effects *Shunsuke Koike , Masahiro Fukuyama , Yoshihiro Baba , Toshihiro Tsuboi , Vladimir A. Rakov
5-2	002	FDTD Electromagnetic and Thermal Analysis of a ZnO Element of Transmission-Line Surge Arrester for Lightning Impulse Currents Ryohei Tosa , *Yoshiki Nishimura , Yoshihiro Baba , Tokuya Tanaka , Kazuo Shinjo
5-3	037	Performance Evaluation of Transmission Line Surge Arrester in North Eastern Region (NER) Grid of India *BIMAL SWARGIARY , NABARUN ROY , SAMAR CHANDRA DE , CHITRA BAHADUR THAPA , SUBHASH KUMAR , ISHA DAS
5-4	078	Case Studies of Lightning Parameters Observed by The Newly Designed Lightning Location System Named LENTRA *Ami Kudo , Mikihisa Saito , Toru Miki , Megumu Miki
5-5	091	Study on Lightning Overvoltage Analysis for EHV Transformer Considering Operating Conditions *Toshihiro Tsuboi , Takashi Yamamoto , Wataru Ishikawa , Masaaki Nakahata
5-6	145	Features of the operation of an extra-high voltage overhead power transmission line during ice formation on its lightning protection ropes Sergey Sergey Shovkopyas , *Grigoriy Anatoly Karpov

Schedule of Oral Session

Oral Session 6: Aggregating and integrating DERs (SC C1/C6)

Date and Time : Tuesday 5th April, 14:30-16:00 (JST)

Place: Room C2

Session Chair: Hiroshi Asano (SC C6)

Technical Expert: Alexandre Oudalov (SC C6)

Presentation order	Paper No.	Title and Author/s(*Presenter)
6-1	026	Net Load Estimation of Distribution Grid Including Photovoltaic Systems *Yoko Sakauchi, Yoshiki Murakami, Tooru Tsukada, Yuichiro Kabasawa, Yohei Hanabusa
6-2	036	Methodology Of Building A Water Heater Aggregated Model For Evaluating Energy Flexibility For Domestic Hot Water *Mai Quynh Nguyen, Xavier Le Pivert, Gilles Guerassimoff
6-3	064	Hydro Energy Optimization Using Mixed Integer Linear Programming *Manash Protim Nath, Sangita Das, Bastov Saikia, Abishek Rajesh Subramanian, Nabarun Roy, Samar Chandra De, Kaushik Sharma, Abrar Ahmad
6-4	119	The Future Role of Active Distribution Load in Enhancing Reliability, Resilience and Security of the Electricity Grids *Mladen Kezunovic, Mohammad KHOSHJAHAN, Milad Soleimani
6-5	153	Experience with DER Integration in Australia *Ray Brown, Pierluigi Mancarella
6-6	183	Distribution Management System Coordination for the Optimal Operation of Medium and Low Voltage Distribution Networks *Giuditta Pisano, Simona Ruggeri, Fabrizio Pilo

Schedule of Oral Session

Oral Session 7: Lightning #2 (SC C4)

Date and Time : Wednesday 6th April, 13:00-14:30 (JST)

Place: Room C1

Session Chair: Yoshihiro Baba (SC C4)

Technical Expert: Kazuyuki Ishimoto (SC C4)

Presentation order	Paper No.	Title and Author/s(*Presenter)
7-1	007	Improvements of FDTD-based electromagnetic transient simulations on the basis of the hybrid technique with transmission line theory and its application to simulations of electric power facilities *Akiyoshi Tatemastu
7-2	019	EMT Analysis of Externally Gapped Line Arresters for Reducing Lightning Faults in 77 kV Transmission Lines *Akifumi Yamanaka, Naoto Nagaoka, Yoshihiro Baba
7-3	020	Measurement Results of Flashover Voltage on Medium-voltage Insulators to Develop Flashover Model *Shozo SEKIOKA
7-4	027	Assessment of Influence of Electromagnetic Pulse on Direct Lightning Overvoltage on a Medium Voltage Distribution Line Using the FDTD Method *Kazuyuki Ishimoto, Ryota Mori, Akiyoshi Tatematsu
7-5	063	Estimated peak currents of negative subsequent return strokes grouped into flashes with multiple ground contacts *Michihiro Matsui, Koji Michishita, Shigeru Yokoyama
7-6	079	Study on the Continuous Condition of Fault Arc Following Multi-Phase Flashover due to Lightning in Medium-Voltage Distribution Lines *Ryota Mori, Kazuyuki Ishimoto, Tomo Tadokoro

Schedule of Oral Session

Oral Session 8: Substations (SC B3)

Date and Time : Wednesday 6th April, 13:00-14:30 (JST)

Place: Room D

Session Chair: Koji KAWAKITA (SC B3)

Technical Expert: Keita ITO (SC B3)

Presentation order	Paper No.	Title and Author/s(*Presenter)
8-1	030	Development of Automatic Measurement System for Gas Leak Rate of Gas Insulated Transformer and Gas Insulated Reactor Shigeyuki Tsukao, Kiyotaka Baba, *Naoki Noguchi, Kei Takano, Tooru Washiyama, Toshiyuki Saida
8-2	041	Resilience reinforcement of substations against flooding by preparation of mobile substations (77/33 kV) *Hiroki Kato, Takanori Nishioka
8-3	090	Advanced Condition Based Maintenance of The Internal Open Inspection by Systematization of Cumulative Breaking Current Management in GCB Koichi Taketa, Yasuhito Hashiba, *Shinya Kawano
8-4	106	Development of advanced AI technologies for condition diagnosis of high voltage switchgear in substations *Akihiro Yamaguchi, Ken Ueno, Kazunori Uchida, Eiji Matsumoto, Toshiyuki Saida
8-5	130	Replacement of 500 kV Power Transformers to Extend the Lifetime of Substations and Improve Reliability and Maintainability *Mieko Nakano, Kenji Sasamori, Keita Ito, Koichi Taketa, Yasuhito Hashiba, Shinya Kawano
8-6	172	Smart Digital Substation: empowering the transmission and distribution network turning data into insights *Peter Thomas Kreutzer, Alessandro Pedretti
8-7	175	Concepts and experiences in retrofitting substations with digital technologies *Stefan Meier, Yuji Kimura

Schedule of Oral Session

Oral Session 9: Voltage control in distribution systems (SC C6)

Date and Time : Wednesday 6th April, 13:00-14:30 (JST)

Place: Room C2

Session Chair: Christine Schwaegerl (SC C6)

Technical Expert: Marta Marmioli (SC C6)

Presentation order	Paper No.	Title and Author/s(*Presenter)
9-1	008	A Study of the Centralized Voltage Control System for Distribution Power Networks with High Photovoltaic Penetration <i>*Akihiro Oi, Toru Jintsugawa, Tsurugi Matsueda, Yasuhisa Kanazawa</i>
9-2	070	Construction of Middle and Low Voltage Distribution Network Models as Platforms for Quantitative Evaluation on Performance of Voltage Control Methods <i>*Akihisa Kaneko, Shinya Yoshizawa, Hideo Ishii, Yasuhiro Hayashi, Ohsei Ikeda, Kazuki Takahashi, Naoki Nishida, Jun Yoshinaga, Takahiro Matsuura, Hiromu Hamada, Kenjiro Mori</i>
9-3	105	Abstract of Voltage Unbalance and Countermeasure in Distribution System due to Rapid PV Penetration <i>*Daisuke Nagae, Hironobu Ishii, Katsuki Kawahara, Tsuyoshi Harimoto</i>
9-4	126	Field Demonstration and Development of Centralized Voltage Control System <i>*Ohsei Ikeda, Takaki Yasui, Kenjiro Mori</i>
9-5	149	Voltage Sag Mitigation in Distribution Network by placing Renewable sources with optimized capacity and location <i>*MAMATA DEBBARMA, Bala Krishna Pydi , Asha Rani M. A.</i>
9-6	166	Voltage support of low-voltage distribution networks using STATCOMs <i>*Michael Wishart, Ray Brown, Mihai Ciobotaru</i>

Schedule of Oral Session

Oral Session 10: Dynamic Stability (SC C4)

Date and Time : Wednesday 6th April, 15:00-16:30 (JST)

Place: Room C1

Session Chair: Marta Val Escudero (SC C4)

Technical Expert: Ryuya Tanabe (SC C4)

Presentation order	Paper No.	Title and Author/s(*Presenter)
10-1	016	Transient stability assessment application using post-disturbance voltage fluctuations *Koichiro Shimizu , Tomochika Maekawa
10-2	029	Development of basic technology for estimating system inertia in real time Kazuhiro Yoshiyama , *Naoki Hosaka , Takashi Ohara , Kazuhiro Sasaki , Shingo Sakaeda , Takumi Matsubara , Masamoto Tatematsu , Wataru Yamazaki , Atsushi Izena , Susumu Morisue , Takeshi Ohkuma , Masayuki Watanabe , Yasunori Mitani , Masahide Hojo
10-3	057	An Estimation Method of Rate of Change of Frequency by Wide-Area Phasor Measurements Based on Histogram of Its Candidates Hiroki Taketomi , *Masahide Hojo , Masayuki Watanabe , Yasunori Mitani
10-4	109	Possibility of Introducing Grid-Forming Inverter into Distribution Systems and Its Effect on the Power System Stability *Naoto Yorino , Yoshifumi Zoka , Yutaka Sasaki , Shinya Sekizaki , Ahmed Bedawy , Hiromu Inami , Jumpei Koishi
10-5	157	Current Performance and Issue of Protection IEDs from the Perspective of Emergency Frequency Control *Hayato Satoh , Noriyuki Ueda , Muneki Masuda , Hiroyuki Amano
10-6	182	Practical Experience of Performing Grid Forming Test using Battery Energy Storage System - RINGO Black-start Test Viktor Rudan , *Hani SAAD , Francois Pezet , Laurent Gagneur , Yannick Vernay , Stephane Subrin , Julien Dargot , Hafed Tourmihine , Mathilde Duchaux , Manuel Aguado , Phuong Nguyen , Gianluca Postiglione

Schedule of Oral Session

Oral Session 11: Innovative planning of distribution systems (SC C6)

Date and Time : Wednesday 6th April, 15:00-16:30 (JST)

Place: Room D

Session Chair: Kurt Dedekind (SC C6)

Technical Expert: Hisao Taoka (SC C6)

Presentation order	Paper No.	Title and Author/s(*Presenter)
11-1	022	Development of Future DER Profile Scenarios Using Generative Adversarial Network for Stochastic Distribution Grid Planning *Hiroki Ichinomiya, Kenichi Kawabe
11-2	094	How Small PV Plants can Participate in the Balancing Energy Market *Christoph Kondzialka, Manuela McCulloch, Rouven Taubmann, Jonas Dierenbach, Daniel Weidenauer, Kay Wiedemann, Falko Ebe, Dietmar Graeber, Gerd Heilscher
11-3	103	Effectiveness of applying flow battery system with synthetic inertia control to microgrid *Shohei Fukumoto, Masao Moriguchi, Toshikazu Shibata, Takashi Yano, François Henry
11-4	110	Microgrid System to Reduce Carbon Emissions in Maldives *Daisuke Takeda, Kenji Mitsumoto, Kota Hirato
11-5	151	A Practical Method for Control of PV Generation in Microgrids David Stephens, *Ray Brown, Sean Elphick
11-6	185	Risk-based Distribution Planning tool for a fair comparison among conventional planning solutions and flexibility exploitation *Gianni Celli, Fabrizio Pilo, Simona Ruggeri, Gian Giuseppe Soma, Marco Galici, Giuditta Pisano
11-7	187	Determination of voltages across switch contacts during the off-switching in different load and generation situations *Tobias Lechner, Georg Kerber, Michael Finkel, Kristian Ermeler, Pascal Gartmann, Martin Schellschmidt, Martin Uhrig

Schedule of Oral Session

Oral Session 12: New Operation: Power System (SC C2)

Date and Time : Wednesday 6th April, 15:00-16:30 (JST)

Place: Room C2

Session Chair: JAYME MACÊDO (SC C2)

Technical Expert: S.C. Verma (SC C2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
12-1	092	Machine Learning Assisted Optimization for Unit Commitment *Jan Poland, Iiro Harjunkoski, Susanne Schmitt, Marco Giuntoli, Xiaoming Feng
12-2	107	A new operation-oriented business model for the Italian power system for managing the energy transition *Cosimo Pisani, Giorgio Giannuzzi, Enrico Maria Carlini, Francesco Del Pizzo
12-3	125	Operation results of “Keystone Japanese Coordinating system for energy balancing” *Arata Fukuzawa, Masashi Tatsuno, Yoshihide Takeyama, Masayuki Karitani, Michio Iwami
12-4	138	A Dynamic Adjustment Method of Voltage Reference Value and Dead Band Width for Advanced Voltage Control in Power Systems *Hideo Koseki, Takao Tsuji
12-5	143	Agile Methodologies with Continuous Delivery in SCADA/EMS Modification Management *Rafael Franco Cordeiro, Fábio Augusto Antunes
12-6	165	Insights from operation of Security Constrained Economic Dispatch in India *Saif Rehman, Phanisankar Chilukuri, Rishabh Pandey, S.K. Soonee, R.K. Porwal, Anupam Kumar, G. Chakraborty, S.C. Saxena, Debasis De, S.R. Narasimhan, K.V.S. Baba
12-7	170	Infrastructure and setup for Automatic Generation Control in Indian Power System *Phanisankar Chilukuri, Anmol Sharma, Mohneesh Rastogi, Harish Mongam, Rohit Shukla, Sudhakar G, Anamika S, N Nallarasana, R K Porwal, S R Narasimhan, H Rathour, Ashok Kumar, Debasis De, S K Soonee, K V S Baba

Schedule of Oral Session

Oral Session 13: Planning (SC C1)

Date and Time : Wednesday 6th April, 17:00-18:30 (JST)

Place: Room C1

Session Chair: ANTONIO ILCETO (SC C1)

Technical Expert: Koichiro Yamaki (SC C1)

Presentation order	Paper No.	Title and Author/s(*Presenter)
13-1	010	Global interconnections for a sustainable electricity system *Gerald Sanchis, Nicolas Chamollet, Antonio Iliceto
13-2	011	Flexibility Benefits for Power System Resilience *Emil Hillberg, Irina Oleinikova, Antonio Iliceto
13-3	050	Status of Renewable Energy Utilization in Hokkaido and Approaches to Expansion of Renewable Energy Utilization in Hokkaido *RYOSUKE NAKAMOTO, KAZUKI YOSHIOKA, HIROYUKI OTSUKI, ATSUSHI SAKAHARA
13-4	073	Estimation of Japanese Grid in Carbon Neutral Era and Social-scale Challenges *Tomomichi Ito, Manabu Onoda, Akihiko Yokoyama, Ryoichi Komiyama, Yumiko Iwafune, Kazuhiko Ogimoto
13-5	089	Approach to the introduction of wide-area procurement and operation of power reserve *Yoshihisa Nakashima, Yoshio Ogama, Tsutomu Yamada
13-6	127	An Outlook on a Holistic Modelling Approach of the African Power System *Robert Gaugl, Sonja Wogrin, Udo Bachhiesl

Schedule of Oral Session

Oral Session 14: Smart Technologies for DER integration (SC C2/C6)

Date and Time : Wednesday 6th April, 17:00-18:30 (JST)

Place: Room D

Session Chair: Kurt Dedekind (SC C6)

Technical Expert: Shinya Ohara (SC C2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
14-1	144	Deployment of Smart Inverter for Frequency and Voltage Quality Maintenance under Large Penetration of Photovoltaic Generation <i>*Hinaru Iwasaki, Daisuke Iioka, Dai Orihara, Kenji Otani, Seiya Abe, Kentaro Fukushima, Shigeru Bando, Hiroshi Asano</i>
14-2	148	Scenarios and Countermeasures to Manage System Inertia under Massive Penetration of Renewable Energy in Japan <i>*Kazuhiko Ogimoto, Yumiko Iwafune, Nozomi Ando, Hiroshi Irie, Hitoshi Azuma, Akira Isonaga, Yoshitaka Kusayamagi, Kenjiro Mori</i>
14-3	168	Analysis of the Accuracy on Model Order Reduction for A Distribution System Including Smart Inverters with Frequency-Watt control <i>*Nobuaki Kawashima, Ryoichi Hara, Hiroyuki Kita, Hideo Ishii</i>
14-4	176	Implementation of Closed-loop Adaptive Power Control for VSC-HVDC in a Power System Control Center Demonstrator <i>*Alexander Raab, Tom Sennewald, Pascal Wiest, Steffen Schlegel, Chris Heyde, Gert Mehlmann, Rainer Krebs, Matthias Luther, Dirk Westermann</i>

Schedule of Oral Session

Oral Session 15: New Operation: Network (SC C2)

Date and Time : Wednesday 6th April, 17:00-18:30 (JST)

Place: Room C2

Session Chair: JAYME MACÊDO (SC C2)

Technical Expert: Masashi Kitayama (SC C2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
15-1	035	Power System Operator Training and Training Tools for Future Sustainable Grid Operation <i>*Ninel Cukalevski, Aditya Prasad Das, Jayme Darriba Macêdo</i>
15-2	040	Voltage and Reactive Power Control System in Power Transmission Systems Designed to Extend Lifetime of Voltage Regulators <i>*Keisuke Yamane, Kazuhiro Yasunami, Tomohisa Mitani, Yusuke Takaguchi</i>
15-3	098	Identifying Balancing Bids Unavailable due to Network Congestion in the Norwegian Transmission Grid <i>*Martin Haberg, Leif Warland, Amund Stromnes Overjordet, Gerard Doorman, Halvor Gronaas, Vegard Solberg, Fransis Kolsto, Daniel Hjertholm, Kristiane Sovde Oftebro</i>
15-4	178	Wide Area Monitoring and Protection System for Security and System Flexibility <i>*Cosimo Pisani, Giorgio Giannuzzi, Walter Sattinger</i>

Schedule of Oral Session

Oral Session 16: Monitoring and Control, The New Era of Communication Solution (SC D2)

Date and Time : Thursday 7th April, 9:00-10:30 (JST)

Place: Room C1

Session Chair: Victor Tan (SC D2)

Technical Expert: Yoshifumi Tada (SC D2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
16-1	005	Building an IoT platform for improved efficiency of power equipment management *Koji Nomura, Hiroki Kono, Yasuhiro Miyama
16-2	021	Constructing a new communication network infrastructure to transmit IoT information *Masahiko Fujiwara, Hisashi Edatsugi, Takahiko Nomiya, Junpei Makino
16-3	067	Methodology to Decrease Packet Loss in IEC 61850 Substation Communication over Wireless 5G Communication *Petra Raussi, Heli Kokkonen, Kimmo Ahola
16-4	112	Electrical Power-transmission Grids: Future of High-voltage Power Line Carrier *Anton G. Merkulov
16-5	123	Wireless Monitoring Network in Mountainous Areas Using LPWA *Takuma Okubo, Takuya Hanyuu, Hisashi Nakagawa, Takatoshi Kawamura
16-6	129	Digital Platform Approach to Facilitate Interaction Between EPU, Aggregators and Consumers *Fedor Nepsha, Alexey Nebera, Sergey Kovalyov, Nikolai Shubin, Konstantin Nikishin

Schedule of Oral Session

Oral Session 17: Activities and methodologies as countermeasures (SC C2/C4/C6)

Date and Time : Thursday 7th April, 9:00-10:30 (JST)

Place: Room D

Session Chair: Osamu Tomobe (SC C6)

Technical Expert: Kota Hirato (SC C2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
17-1	156	The effects of Cyclone Nivar on Transmission Loss in Southern Region of India *Hirak Roy, Kothamasu BV Ramkumar, Srinivas Tumuluru, Suresh Viswanathan, Ram Krishan
17-2	162	Grasping Power Outages in Large Disasters by Utilizing Smart Meter Data *Yuki Kawachi, Tatsuya Maenaka, Tetsuya Hirayama, Masato Shiro
17-3	167	Operating strategies and preparedness for system operational resilience *Paulo Gomes, Jens Jacobs, Antonio Guarini, Chandan Kumar, Anurag Srivastava
17-4	174	Improving Resilience of Energy Systems with Electricity-Based Energy Infrastructure *Elise Fahy, Britta Buchholz, Milos Subasic
17-5	184	Impact Chains' Analysis for Making Resilient the Distribution System *Giuditta Pisano, Gianni Celli, Gian Giuseppe Soma, Fabrizio Pilo

Schedule of Oral Session

Oral Session 18: Markets, incentives and coordination for DER (SC C5)

Date and Time : Thursday 7th April, 9:00-10:30 (JST)

Place: Room C2

Session Chair: Alex Cruickshank (SC C5)

Technical Expert: Hiroshi Asano (SC C5)

Presentation order	Paper No.	Title and Author/s(*Presenter)
18-1	043	Theoretical Design of Economic Incentive in Demand Response Programs *Hiroataka Takano , Naohiro Yoshida , Hiroshi Asano
18-2	065	Designing Distributed Transaction System of Surplus PV Output with Congestion Management using Off-chain and Penalty Token Standard Kodai Kushino , *Nobuyuki Yamaguchi
18-3	077	International Perspectives on Achieving Cost Impacts with Flexible Demand Response *Angela Chuang , Gourav Mukherjee , Lance Hoch , Anthony Giacomoni , Eduardo Ellery , Debora Queiroz , Mohammed Al-Hammad , David Showunmi
18-4	140	Simulation Research on Deep Peak Regulation with Flexible Supply and Demand Resources under Chinese Spot Market Environment *Chong Tang , Baorong Zhou , Lanfen Cheng , Peizheng Xuan , Shangchou Zhou , Xiangrui Su
18-5	169	A Privacy-Preserving Peer-to-Peer Market using Demand Response and Multi-Party Computation *Fairouz Zobiri , Mariana Gama , Svetla Nikova , Geert Deconinck
18-6	177	Multi-Party Computation Auction Mechanisms for a P2P Electricity Market with Geographical Prioritization *Mariana Gama , Fairouz Zobiri , Svetla Nikova

Schedule of Oral Session

Oral Session 19: Storage and EV in distribution systems (SC C6)

Date and Time : Thursday 7th April, 13:00-14:30 (JST)

Place: Room C1

Session Chair: Britta Buchholz (SC C6)

Technical Expert: Hideo Ishii (SC C6)

Presentation order	Paper No.	Title and Author/s(*Presenter)
19-1	024	Impact Evaluation of Electric Vehicle Users' Charging Behavior on Distribution Grid Voltage and Power Flow Using Agent Based Charging Behavior Model <i>*Shunsuke Kawachi, Yoko Sakauchi, Reiko Takahashi, Yasuhiko Yajima, Takafumi Maekawa, Takuya Oda</i>
19-2	044	Constant control during the designated time by energy storage system considering forecast errors and state of charge transition for grid code of long term fluctuation of wind power output <i>*Tatsuma Goto, Ryuto Shigenobu, Masakazu Ito, Hisao Taoka</i>
19-3	071	Comparison of voltage improvement effect by Volt-Watt control and Volt-Var control in distribution lines in rural area <i>*Yutaka Iino, Yasuhiro Kodama, Shogo Fukui, Yasuhiro Hayashi, Naoya Matsumoto, Yu Matsumoto, Shin Inagaki</i>
19-4	111	Optimal Charging Method for Batteries in Distribution System to Supply Demand in Remote Area <i>*Yuta Nakamura, Mutsumi Aoki, Kazuhisa Hikoyama, Tomoaki Nonoyama</i>
19-5	132	Potential of Electric Vehicles for the Provision of Active and Reactive Power Flexibilities for Ancillary Services at Vertical Power System Interconnections <i>*Manuel Wingenfelder, Marcel Sarstedt, Lutz Hofmann</i>
19-6	158	Operational Aspects of Battery Energy Storage Systems in Frequency Regulation Services <i>*Kenji Mitsumoto, Takahiro Kase, Takenori Kobayashi</i>

Schedule of Oral Session

Oral Session 20: New Approaches to the Exchange and Use of Energy Data (SC D2)

Date and Time : Thursday 7th April, 13:00-14:30 (JST)

Place: Room D

Session Chair: Olga Sinenko (SC D2)

Technical Expert: Naoko Mori (SC D2)

Presentation order	Paper No.	Title and Author/s(*Presenter)
20-1	009	Implementation of Automated Meter Infrastructure : Eastern Region,India *SUBHENDU MUKHERJEE
20-2	093	Advanced Utilization of Smart Meter System for Distribution System Technology *Naoyuki Igari, Tadashi Okabe
20-3	131	Introduction of a new energy data exchange framework in the Netherlands *Danny Klaar
20-4	135	CIM for information exchange between TSO, DSO and ISO in the Russian Power System Gleb Labutin, Roman Bogomolov, *Nikolay Belyaev

Schedule of Oral Session

Oral Session 21: Network planning and operation (SC C2/C5/C6/D2)

Date and Time : Thursday 7th April, 15:00-16:30 (JST)

Place: Room C1

Session Chair: Yannick Phulpin (SC C5)

Technical Expert: Hiroyuki Hatta (SC C6)

Presentation order	Paper No.	Title and Author/s(*Presenter)
21-1	080	An evaluation of the Procurement Planning with Preference Priority List(P4L) based on Integer Programming <i>*Ichiro Toyoshima, Tatsuo Tsuzuki, Noriko Nishimura, Tomohiro Ito, Takahiro Yamada</i>
21-2	097	Collaborative governance in the European transmission network investment for cross-border cooperation <i>*Diyun Huang, Geert Deconinck</i>
21-3	128	Organization of Effective Interaction Between Control Systems of EPU's, Aggregators and Consumers in the Conditions of Flexibility Market Development <i>*Fedor Nepsha, Alexey Nebera, Sergey Kovalyov, Nikolai Shubin, Konstantin Nikishin</i>
21-4	141	Embedding Sustainable Behaviours: Case of Origin Energy Australia <i>*Ahmad Taufiq Abdullah Thani, Mariya Yesseleva-Pionka</i>
21-5	171	Connect+: Data Exchange for Coordinated Redispatch Processes between TSOs, DSOs and Market Participants in Germany <i>*Jan Kellermann, Franziska Bormann, Christina Sufke, Timo Stegemann, Johannes Thies, Evgeniy Kogan</i>
21-6	188	Active and Passive Balancing Paradigms in Indian Electricity Grid <i>*Aditya Prasad Das, Vivek Pandey, Samir Chandra Saxena, Sushil Kumar Soonee, Sushanta K Chatterjee, Ravi Kadam</i>

Schedule of Oral Session

Oral Session 22: Technical solutions facilitating grid modernization (SC C1/C2/C4)

Date and Time : Thursday 7th April, 15:00-16:30 (JST)

Place: Room D

Session Chair: Masao Kikuta (SC C2)

Technical Expert: Hayato Sato (SC C4)

Presentation order	Paper No.	Title and Author/s(*Presenter)
22-1	062	Effect of Mutual Coupling on Fault Impedance Calculation by Distance Protection Relay: Case Study *ABHISHEK KALITA, JYOTI RANJAN BARUAH, BIMAL SWARGIARY, NABARUN ROY, SAMAR CHANDRA DE, CHITRA BAHADUR THAPA
22-2	086	Standardization Activities of Management of Network Assets in Power Systems in IEC *Hiroki Shigetsugu, Stewart Whyte, Paul Penserini, Boudewijn Neijens, David Neilson, Jos Wetzer
22-3	096	Advancement of voltage control method for MV distribution networks *Yasunori Iwamoto, Hideki Wada, Shigeru Kobori, Hideo Nomura, Tokuhiro Fukuda
22-4	163	Automatic Migration Of Protection And Automation Functions With IED Unification On Digital Power Station *Aleksandrina Alekseeva, Evgeniy Rogozinnikov, Stepan Shapkin