

International Conference on Power & Energy

March 19, 2014

PE-SS1: Advanced Control and Operation in Smart Grid			
Chair: Komsan Hongesombut, Kasetsart University, Thailand			
Room: Cattleya 1-2, 15.20 - 17.20			
Time	Paper ID	Title	Authors
15:20-15:40	0063	<i>Robust Stabilization of Multimachine Power System by DFIG Wind Turbine Equipped with Power Oscillation Damper</i>	Tossaporn Surinkaew and Issarachai Ngamroo, King Mongkut's Institute of Technology Ladkrabang, Thailand
15:40-16:00	0168	<i>Control Strategy of PEVs Charging for Reducing the Impact of Power Fluctuations in Micro Grid</i>	Montree Sengnongban and Sanchai Dechanupaprittha, Kasetsart University, Thailand
16:00-16:20	0087	<i>Wide-Area Power System Control Using Thyristor Controlled Series Capacitor Based Fuzzy Logic Controller Designed by Observed Signals</i>	Sarawut Wivutbudsiri, Komsan Hongesombut, and Jantane Rungrangpitayagon, Kasetsart University, Thailand
16:20-16:40	0015	<i>A Decentralized Distribution Power System Restoration by using Multi-agent Approach</i>	Takeshi Nagata and Kazuya Okamoto, Hiroshima Institute of Technology, Japan
16:40-17:00	0082	<i>Robust Control of Combined Optimized Resistive FCL and ECS for Power System Transient Stability Improvement</i>	Naowarat Tephiruk ¹ , Komsan Hongesombut ¹ and Thongchart Kerdphol ² , ¹ Kasetsart University, Thailand, ² Kyushu Institute of Technology, Japan
17:00-17:20	0106	<i>Transient Stabilization of Power Swing by Controllable PV Farm equipped with Optimal Fuzzy Gain Scheduling of PID Controller</i>	Theerawut Chaiyatham and Issarachai Ngamroo, King Mongkut's Institute of Technology Ladkrabang, Thailand

PE-SS2: Power Electronics and Electric Vehicle Technology			
Chair: Werachet Khan-ngern, King Mongkut's Institute of Technology Ladkrabang, Thailand			
Room: Cattleya 3, 15.20-17.40			
Time	Paper ID	Title	Authors
15:20-15:40	0137	<i>Dual Low Pass Filter-Based Voltage Sag Detection for Voltage Sag Compensator under Distorted Grid Voltages</i>	Yutthachai Sillapawicharn ¹ and Yuttana Kumsuwan ² ¹ Rajamangala University of Technology Thanyaburi, Thailand, ² Chiang Mai University, Thailand
15:40-16:00	0072	<i>Design of Approximate 2DOF Digital Controller for Interleaved PFC Boost Converter</i>	Yuto Adachi ¹ , Yohei Mochizuki ¹ , Kohji Higuchi ¹ , Kamon Jirasereeamornkul ² and Kosin Chamnongthai ² , ¹ The University of Electro-Communications, Japan, ² King Mongkut's University of Technology Thonburi, Thailand
16:00-16:20	0118	<i>Power Balancing in Multilevel Inverter using Space Vector Modulation</i>	Vivek Sharma, Mukesh Kumar, Ankit Gupta and Krishna Gupta, Maulana Azad National Institute of Technology, India
16:20-16:40	0162	<i>Capacitor Voltage Balancing in Modular Multilevel Inverters</i>	Vivek Sharma ¹ , Mukesh Kumar ¹ , Ankit Gupta ¹ and Gaurav Gupta ² , ¹ Maulana Azad National Institute of Technology, India, ² Indian Institute of Technology, Varanasi India
16:40-17:00	0035	<i>Harmonic Effect on BLDC Motor Temperature Caused by Driving System</i>	Taywin Nilsakorn, King Mongkut's Institute of Technology Ladkrabang, Thailand
17:00-17:20	0038	<i>The Performance Comparison between Synchronous Single-ended primary-inductor converter (SEPIC) and Synchronous ZETA converter</i>	Kaweepoj Woranetsuttikul, King Mongkut's Institute of Technology Ladkrabang, Thailand
17:20-17:40	0070	<i>Design of Heat Management Model of 6,000 Lumen LED Worklamp using Integrated SEPIC Drivers</i>	Apicha Tuptimkaew, Chaiyant Thungod, Darinee Loakhen, Sucheep Buaban and Manrat Rattanachan, Wichiean Dynamic Industry Co.,LTD. , Thailand

March 20, 2014

PE1: Intelligence Computation in Power Systems			
Chair: Takeshi Nagata, Hiroshima Institute of Technology, Japan			
Room: Cattleya 1-2, 8.40 - 10.40			
Time	Paper ID	Title	Authors
8:40-9:00	PE-INV007	<i>Power flow computation considering nonlinear characteristic of composite load model</i>	Pichai Aree, Thammasat University, Thailand
9:00-9:20	PE-INV008	<i>Probabilistic optimal power flow: an alternative solution for emerging high uncertain power systems</i>	Keerati Chayakulkheeree, Sripatum University, Thailand
9:20-9:40	PE-INV009	<i>On Robust State Estimation for Power System with Uncertain Network Parameters</i>	Sermsak Uatrongjit, Chiang Mai University, Thailand
9:40-10:00	PE-INV010	<i>Asset Management of Power Transformer: Optimization of Operation and Maintenance Costs</i>	Thanapong Suwanasri, King Mongkut's University of Technology North Bangkok, Thailand
10:00-10:20	PE-INV011	<i>WLAV Based State Estimation of Power System Using Pseudo-Voltage Measurements</i>	Chawasak Rakpenthai, The University of Phayao, Thailand
10:20-10:40	PE-INV012	<i>Predictive Voltage Control for a Distribution Network with Renewable Energy Sources</i>	Worawat Nakawiro, King Mongkut's Institute of Technology Ladkrabang, Thailand

PE2: Thailand Smart Grid**Chair: Issarachai Ngamroo, King Mongkut's Institute of Technology Ladkrabang, Thailand****Room: Cattleya 1-2, 13.30 - 14.50**

Time	Paper ID	Title	Authors
13:30-13:50	PE-INV003	<i>Smart Grid Roadmap Development for Electricity Generating Authority of Thailand</i>	Naebboon Hoonchareon, Chulalongkorn University, Thailand
13:50-14:10	PE-INV004	<i>Anticipated Plug-in Electric Vehicle Future Aspects – Risks and Rewards for Thailand Smart Grid</i>	Sanchai Dechanupaprittha, Kasetsart University, Thailand
14:10-14:30	PE-INV005	<i>Key Issues for Integration of Renewable Energy and Distributed Generation into Thailand Power Grid</i>	Surachai Chaitusaney, Chulalongkorn University, Thailand
14:30-14:50	PE-INV006	<i>Energy-efficient Coordinated Multipoint Reception for Thailand Smart Grid</i>	Kampol Woradit, Srinakharinwirot University, Thailand

PE3: Modern High Voltage Engineering			
Chair: Thanapong Suwanasri, King Mongkut's University of Technology North Bangkok, Thailand			
Room : Cattleya 3, 13.30 - 15.10			
Time	Paper ID	Title	Authors
13:30-13:50	0028	<i>Economic Assessment of Lightning Performance Improvement of 69 kV Subtransmission Line in MEA's Power Distribution System</i>	Att Phayomhom ¹ , Somporn Sirisumrannukul ² , Tirapong Kasirawat ³ and Arwut Puttarach ⁴ , ¹ Metropolitan Electricity Authority, Thailand, ² King Mongkut's University of Technology North Bangkok, Thailand, ³ Provincial Electricity Authority, Thailand, ⁴ Rajamangala University of Technology Lanna, Thailand
13:50-14:10	0029	<i>Safety Analysis for Grounding System of Two Neighbouring Substations in MEA's Power Distribution System</i>	Att Phayomhom ¹ and Somporn Sirisumrannukul ² , ¹ Metropolitan Electricity Authority, ² King Mongkut's University of Technology North Bangkok, Thailand
14:10-14:30	0067	<i>Analysis of Failure Data to Determine the Failure Pattern of HV Circuit Breaker Components</i>	Cattareeya Suwanasri, Thanapong Suwanasri and Warunee Srisongkram, King Mongkut's University of Technology North Bangkok, Thailand
14:30-14:50	PE-INV013	<i>Electromechanics of Particle in Dielectric Systems</i>	Boonchai Techaumnat, Chulalongkorn University, Thailand
14:50-15:10	PE-INV014	<i>Transient characteristics of grounding systems</i>	Peerawut Yutthagowith, King Mongkut's Institute of Technology Ladkrabang, Thailand

PE4: Advanced Power Electronics and Drives**Chair: Kohji Higuchi, The University of Electro-Communications, Japan****Room: Cattleya 1-2, 15.30 - 17.10**

Time	Paper ID	Title	Authors
15:30-15:50	PE-INV001	<i>Active Power-factor Correction: a Role in Electrical Energy Efficiency and Power Quality</i>	Viboon Chunkag, King Mongkut's University of Technology North Bangkok, Thailand
15:50-16:10	PE-INV002	<i>The Challenge of Electric Vehicle Technologies to Push the Car in Paradigmshift</i>	Werachet Khan-ngern, King Mongkut's Institute of Technology Ladkrabang, Thailand
16:10-16:30	PE-INV017	<i>Power Electronics Roles in Thailand Smart grid</i>	Surin Khomfoi, King Mongkut's Institute of Technology Ladkrabang, Thailand
16:30-16:50	PE-INV018	<i>Power Electronics-based Energy Storages : A Key Component for Smart Grid Technology</i>	Siroj Sirisukprasert, Kasetsart University, Thailand
16:50-17:10	PE-INV019	<i>A Position-Sensorless Vector Control of Doubly-Fed Induction Machines using Adaptive Reduced-Order Observers</i>	Surapong Suwankawin, Chulalongkorn University, Thailand

PE5: Power System Analysis**Chair: Naebboon Hoonchareon, Chulalongkorn University, Thailand****Room: Cattleya 3, 15.30-17.30**

Time	Paper ID	Title	Authors
15:30-15:50	0037	<i>Impacts of Small and Large Induction Motors on Active and Reactive Power Requirement and System Loadability</i>	Pichai Aree, Thammasat University, Thailand
15:50-16:10	0025	<i>Optimum Compression Ratio on Ground Grid Design in MEA's Power Distribution Substation</i>	Att Phayomhom ¹ , Somporn Sirisumrannukul ² , Tirapong Kasirawat ³ and Arwut Puttarach ⁴ , ¹ Metropolitan Electricity Authority, Thailand, ² King Mongkut's University of Technology North Bangkok, Thailand, ³ Provincial Electricity Authority, Thailand, ⁴ Rajamangala University of Technology Lanna, Thailand
16:10-16:30	0119	<i>Load Factor Improvement in Industrial Sector Using Load Duration Curves</i>	Jutatip Surai and Vichai Surapatana, Kasetsart University, Thailand
16:30-16:50	0040	<i>Optimal Maintenance of Substation Equipment by Considering Equipment Deterioration</i>	Navapol Sudket and Surachi Chaitusaney, Chulalongkorn University, Thailand
16:50-17:10	0042	<i>Peak Load Forecasting of Electricity Generating Authority of Thailand by Gaussian Process</i>	Tuchsanai Ploysuwan ¹ , Pramukpong Atsawathawichok ² and Prasit Teekaput ² ¹ Siam University, Thailand, ² Chulalongkorn University, Thailand

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PE6: Voltage Control and Analysis in Smart Grid			
Chair: Surin Khomfoi, King Mongkut's Institute of Technology Ladkrabang, Thailand			
Room: Cattleya 1, 8.40-10.40			
Time	Paper ID	Title	Authors
8.40-9.00	0097	<i>Coordinated Voltage Control between Wind Power Plant and Shunt Capacitors in Weak Distribution Networks</i>	Piyadanai Pachanapan and Suttichai Premrudeepreechacharn, Chiang Mai University, Thailand
9:00-9:20	0167	<i>Behavior of Unbalance Electric Vehicle Home Charging in Distribution System</i>	Pichai Kongthong and Sanchai Dechanupaprittha, Kasetsart University, Thailand
9:20-9:40	0121	<i>Development of Optimization Parameter System for AVC in Tianjin Low Voltage Grid</i>	Zhiyong Gan and Peiyu Chen, Tianjin Electric Power Research Institute, China
9:40-10:00	0088	<i>Analysis of Voltage Unbalance Due to Rooftop PV in Low Voltage Residential Distribution System</i>	Churit Pansakul, Kasetsart University, Thailand
10:00-10:20	0171	<i>Impact of Fast Charging Station to Voltage Profile in Distribution System</i>	Bundit Pea-da and Sanchai Dechanupaprittha, Kasetsart University, Thailand
10:20-10:40	0110	<i>Voltage Unbalance Impact Analysis of EVs Charging on a LV Distribution System</i>	Thongchai Klayklung and Sanchai Dechanupaprittha, Kasetsart University, Thailand

PE-SS3: Power Converter in Photovoltaic Systems**Chair: Yuttana Kumsuwan, Chiang Mai University, Thailand****Room: Cattleya 2, 8.20-10.40**

Time	Paper ID	Title	Authors
8.20-8.40	0005	<i>Comparison of Using Carrier-Based Pulse Width Modulation Techniques for Cascaded H-Bridge Inverters Application in PV Energy Systems</i>	Chaiyant Boonmee and Napat Watjanatepin, Rajamangala University of Technology Suvarnabhumi, Thailand
8.40-9.00	0006	<i>Improve the Transient Response of DC/DC Converter</i>	Yutthana Kanthaphayao, Chiang Mai University, Thailand
9:00-9:20	0010	<i>Analysis of a Wide Load Variation of ZVZCS Phase-Shifted PWM Full-Bridge DC-DC Converter</i>	Anuwat Jangwanitlert, King Mongkut's Institute of Technology Ladkrabang, Thailand
9:20-9:40	0039	<i>Improved Particle Swarm Optimization Algorithm using Average Model on MPPT for Partial Shading in PV Array</i>	Nattawat Jumpasri, King Mongkut's University of Technology North Bangkok, Thailand
9:40-10:00	0048	<i>MATLAB/Simulink Modeling of Stator Current Control of PMSG for Grid-Connected Systems</i>	Yuttana Kumsuwan and Kitsanu Bunjongjit, Chiang Mai University, Thailand
10:00-10:20	0156	<i>Comparison of Distributed and Centralized control for Partial Shading in PV Parallel Based on Particle Swarm Optimization Algorithm</i>	Nattawat Jumpasri, King Mongkut's University of Technology North Bangkok, Thailand
10:20-10:40	0158	<i>Transformerless Dynamic Voltage Restorer using Diode-Clamped Three-level Converter</i>	Krischonme Bhumkittipich, Rajamangala University of Technology Thanyaburi, Thailand

PE7: Renewable Energy Technologies and Its Impact**Chair: Chawasak Rakpenthai, The University of Phayao, Thailand****Room: Cattleya 3, 8.40-10.20**

Time	Paper ID	Title	Authors
8:40-9:00	0104	<i>Design of Real Time Management Unit for Power Battery in PV-Hybrid Power Supply by Application of Coulomb Counting Method</i>	Apiwat Aussawamaykin and Boonyang Plangklang, Rajamangala University of Technology Thanyaburi, Thailand
9:00-9:20	0089	<i>Sugeno Fuzzy Logic Control-based Smart PV Generators for Frequency Control in Loop Interconnected Power Systems</i>	Nattapol Sa-ngawong and Issarachai Ngamroo, King Mongkut's Institute of Technology Ladkrabang, Thailand
9:20-9:40	0051	<i>Model Predictive Control-based Wind Turbine Blade Pitch Angle Control for Alleviation of Frequency Fluctuation in a Smart Grid</i>	Jonglak Pahasa ¹ and Issarachai Ngamroo ² , ¹ The University of Phayao, Thailand, ² King Mongkut's Institute of Technology Ladkrabang, Thailand
9:40-10:00	PE-INV015	<i>Control of a Fresnel collector field-type solar cooling system</i>	Kritchai Witthephanich, Srinakharinwirot University, Thailand
10:00-10:20	PE-INV016	<i>Reliability Impact of Intermittent Renewable Energy Source Integration into Power System</i>	Wijarn Wangdee, King Mongkut's University of Technology North Bangkok, Thailand

PE8: Power Quality**Chair: Viboon Chunkag, King Mongkut's University of Technology North Bangkok, Thailand****Room: Cattleya 1, 11.00-12.20**

Time	Paper ID	Title	Authors
11:00-11:20	0092	<i>Investigation of Active Power Measurements in Harmonic Conditions</i>	Tanya Kochawat, National Institute of Metrology, Thailand
11:20-11:40	0012	<i>Design and Application of Test System for Solid State Transfer Switch</i>	Yeniu Qian, State Grid Beijing Electric Power Research Institute, China
11:40-12:00	0138	<i>Hybrid Reactive Power Compensations for Power Factor Correction in Distribution Networks with DG</i>	Piyadanai Pachanapan, Naresuan University, Thailand
12:00-12:20	0066	<i>Voltage Sag Signal Generator Program for Testing Electrical Equipment</i>	Wichan Jantee ¹ , Suttichai Premrudeepreechacharn ¹ , Kosol Oranpirojv ² and Worrajak Muangjai ² , ¹ Chiang Mai University, Thailand, ² Rajamangala University of Technology Lanna, Thailand

PE9: Smart Grid Stability and Control**Chair: Sanchai Dechanupaprittha, Kasetsart University, Thailand****Room: Cattleya 2, 11.00-12.20**

Time	Paper ID	Title	Authors
11:00-11:20	0080	<i>A Combined Operation of Superconducting Fault Current Limiter and Static Var Compensator for Power System Transient Stability Improvement</i>	Komsan Hongesombut and Siwapon Srisonphan, Kasetsart University, Thailand
11:20-11:40	0081	<i>Improved H₂/H_∞ Control-based Robust PI Controller Design of SMES for Suppression of Power Fluctuation in Microgrid</i>	Sitthidet Vachirasricirikul ¹ and Issarachai Ngamroo ² , ¹ The University of Phayao, Thailand, ² King Mongkut's Institute of Technology Ladkrabang, Thailand
11:40-12:00	0083	<i>Wide-Area Power System Control Using Fuzzy Logic Based Static Synchronous Series Compensator</i>	Chatchai Laopromsukon, Komsan Hongesombut and Jantanee Rungrangpitayagon, Kasetsart University, Thailand
12:00-12:20	0140	<i>Research on the Effect of Induced Voltages in Transient Stability for Multi Circuit Modeling on 500 kV EHV Parallel Transmission Lines Using a Modified Genetic Algorithm</i>	Artiwat Naksuriyavong and Chamni Jaipradidtham, Kasem Bundit University, Thailand

PE10: Smart Protection in Distribution System**Chair: Keerati Chayakulkheeree, Sripatum University, Thailand****Room: Cattleya 3, 11.00-12.20**

Time	Paper ID	Title	Authors
11:00-11:20	0153	<i>Review on Protection Issues with Penetration of Distributed Generation in Distribution System</i>	Ashutosh Kumar Tiwari, Soumya Ranjan Mohanty and Ravindra Kumar Singh, MNNIT Allahabad, India
11:20-11:40	0027	<i>Effect of Dimension on Ground Grid Design in MEA's Power Distribution Substation</i>	Att Phayomhom ¹ , Somporn Sirisumrannukul ² , Tirapong Kasirawat ³ and Arwut Puttarach ⁴ , ¹ Metropolitan Electricity Authority, Thailand, ² King Mongkut's University of Technology North Bangkok, Thailand, ³ Provincial Electricity Authority, Thailand, ⁴ Rajamangala University of Technology Lanna, Thailand
11:40-12:00	0155	<i>Solid State Circuit Breaker Using Insulated Gate Bipolar Transistor for Smart Home</i>	Wanida Pusorn, Rajamangala University of Technology Suvarnabhumi, Thailand
12:00-12:20	0154	<i>A Review on Microgrid Protection</i>	Niraj Kumar Choudhary, Soumya Ranjan Mohanty and Ravindra Kumar Singh, MNNIT Allahabad, India