

Program at a Glance

Monday 26 October 2020

Time	Online Event		
07:30-09:00	Registration		
08:15-09:00	Opening Ceremony		
09.00-12.20	Keynote speaker Komson Petcharak : Session Chair		
09:00-09:45	Prof. Boonchai Techaumnat “Electromechanics of Particles in Dielectric Systems”		
09:45-10:30	Prof. Shengtao Li “Aging Effect on Oil-Paper Interface and Dissolved Gas Evolution in Power Transformers”		
10:30-10:50	Morning Tea		
10:50-11:35	Prof. Zhongdong Wang “Testing the Mechanical Integrity of Transformer Windings through Frequency Response Analysis”		
11:35-12:20	Prof. Andrea Cavallini “Electrical Insulation Challenges for the More Electrical Aircraft”		
12:20-13:30	Lunch		
Room	1	2	3
Session Title	CMD-01	CMD-02	CMD-03
Session Chairs	Ahmed Abu-Siada	Boonyang Plangklang	Chanarong Banmongkol
	Track 6-1	Track 1-1	Track 2-1
13:30-15:10	009	022	050
	010	027	092
	403	044	494
	171	257	532
	172	454	429
15:10-15:30	Afternoon Tea		
Session Title	CMD-04	CMD-05	CMD-06
Session Chairs	Ernst Pagger	Sompob Polmai	Toan Phung
	Track 6-2	Track 1-2	Track 2-2
15:30-17:10	158	226	500
	173	081	097
	174	459	276
	437	084	110
	469	071	493

Tuesday 27 October 2020

Time	Online Event		
08:00-09:00	Registration		
	Parallel Session		
Room	1	2	3
Session Title	CMD-07	CMD-08	CMD-09
Session Chairs	Suwarno Harjo	Thanapong Suwanasri	Worawat Nakhaviro
	Track 1-3	Track 3-1	Track 2-3
09:00-10:20	038	487	015
	485	512	017
	262	064	509
	299	136	123
10:20-10:30	Morning Tea		
Session Title	CMD-10	CMD-11	CMD-12
Session Chairs	Steve Chan	Ronachart Gatechompol	Toshihiro Takahashi
	Track 4-1	Track 1-4	Track 5-1
10:30-12:10	473	504	515
	096	478	070
	431	460	181
	135	458	301
	-	152	-
12:10-13:00	Lunch		
	Parallel Session		
Session Title	CMD-13	CMD-14	CMD-15
Session Chairs	Chai Chompoo-Inwai	Jeong-Tae Kim	Att Payomhom
	Track 4-2	Track 1-5	Track 7-1
13:00-14:40	438	510	140
	441	222	134
	230	554	432
	049	150	197
	166	151	
14:40-14:50	Afternoon Tea		
Session Title	CMD-16	CMD-17	CMD-18
Session Chairs	Surin Kittitornkun	Prakob Kitchaiya	Matthieu Zinck
	Track 4-3	Track 1-6	Track 1-7
14:50-16:30	243	476	039
	533	149	021
	088	233	450
	143	505	254
	511	102	436
15:00-17:30	Room 4	Steering committee meeting	

Wednesday 28 October 2020

Time	Online Event		
08:00-09:00	Registration		
	Parallel Session		
Room	1	2	
Session Title	CMD-19	CMD-20	
Session Chairs	Somyot Tantipattarakul	Supakit Chotigo	
	Track 8-1	Track 1-8	
09:00-10:20	079	496	
	530	255	
	148	256	
	484	137	
10:20-10:30	Morning Tea		
Session Title	CMD-21	CMD-22	
Session Chairs	Shengtao Li	June-Ho Lee	
	Track 8-2	Track 1-9	
10:30-12:10	118	457	
	132	502	
	051	223	
	534	507	
	138	026	
12:10-13:00	Closing session and Best paper award of CMD-2020 and Lunch		

Room 1, Opening ceremony, Keynote speaker and Closing session

<https://us02web.zoom.us/j/9851698084?pwd=NGdxN3F0UjFkN2Z0Smcwa0RiOWN1UT09>

Meeting ID: 985 169 8084

Passcode: cmd2020

Room 2

<https://us02web.zoom.us/j/7328975531?pwd=ZDNPRFVFQ1hHRkVuK2d2V09HY31Rdz09>

Meeting ID: 732 897 5531

Passcode: cmd2020

Room 3

<https://us02web.zoom.us/j/4057835109?pwd=MkRMZWFWQaUcwQnZmdUk0U096SmVpZz09>

Meeting ID: 405 783 5109

Passcode: cmd2020

Technical Program

Monday 26 October 2020

07:30-09:00	Registration
08:15-09:00	Opening Ceremony
09:00-12:20	Keynote Speaker 1 – 4
12:20-13:30	Lunch
13:30-15:10	Parallel session
15:10-15:30	Afternoon Tea
15:30-17:10	Parallel session

Session 1: CMD – 01	Degradation and Operational Life Assessment of Power Equipment, Renewable Energy Conversion Systems and Energy Storage
Session chair:	Ahmed Abu-Siada
Room: 1	
13:30 – 13:50	Paper ID 009: Partial Discharge Measurement and Condition Monitoring in Power-electronics Controlled Rotating Machines: Issues and Solutions in Advanced Electrified Transport and Aerospace Applications <i>R. Ghosh, G.C. Montanari, P. Seri</i>
13:50 – 14:10	Paper ID 010: An Approach to Noise Rejection and Partial Discharge Separation in DC Cable Testing, During Steady State and Voltage Polarity Inversion Transients <i>P.Seri, H. Naderiallaf, R.Ghosh, G.C. Montanari</i>
14:10 – 14:30	Paper ID 403: A Method for Cable Failure Analysis Based on Ageing Model and with Consideration of Daily Temperatures <i>Huajie Yi, Andrew Mcdiarmid, Ralph Eyre-Walker, Chengke Zhou, Ian Hancock, Dong Chen</i>
14:30 – 14:50	Paper ID 171: Dissolved Gas Behavior in Natural Eater under Corona, Surface, and Internal Discharges <i>Korraya Jongvilaikasem, Norasage Pattanadech</i>
14:50 – 15:10	Paper ID 172: Dissolved Gas Analysis of Palm Oil Compared with Mineral Oil from Different Types of Breakdown Voltage <i>Suthat Suksagoolpanya, Korraya Jongvilaikasem, Kitipod Jariyanurat, Thanpilin Banthoengjai, Siwakorn Jeenmuang, Norasage Pattanadech</i>

Session 2: CMD – 02	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Boonyang Plangklang
Room: 2	
13:30 – 13:50	Paper ID 022: Partial Discharge Classification from Highly Noise-contaminated Data Using Cascaded Two Neural Networks <i>Tenta Sasaya, Takashi Watanabe, Toshiyuki Ono, Takashi Ida, Yusuke Nakamura, Yuuki Fujii, Kozo Banno, Toshiya Takano</i>
13:50 – 14:10	Paper ID 027: Investigation on the AMDT Core Model Vibration by Harmonic Response Analysis and Validation of the Resonance Characteristics by Testing <i>Daosheng Liu, Changwan Cai, Bokai Wei, Muqiu Yan</i>
14:10 – 14:30	Paper ID 044: Evolution of Intrinsic Defects Concentration of ZnO Varistor Ceramics Doped with Ni ₂ O ₃ during Sintering <i>Qirui Guo, Lei Zhang, Fanyi Kong, Bingchen Song, Shengtao Li, Wenfeng Liu</i>
14:30 – 14:50	Paper ID 257: The Effect of Electrical and Moisture Degradation of Metal Oxide Varistor with Insulation Diagnosis <i>Chaitawat Chuayin, Matthieu Zinck, Anantawat Kunakorn, Norasage Pattanadech</i>
14:50 – 15:10	Paper ID 454: Experimental Verification of Good Spatial Resolution of Fault Location in a Cable by Frequency Domain Reflectometry <i>Yoshimichi Ohki, Naoshi Hirai</i>

Session 3: CMD – 03	Advanced Sensors and Diagnosis Techniques for Smart Grid
Session chair:	Chanarong Banmongkol
Room: 3	
13:30 – 13:50	Paper ID 050: The Challenges of Clamp-on Sensors for High-resolution Phasor Measurement Unit Applications <i>S. Chan, P. Noppawan</i>
13:50 – 14:10	Paper ID 092: The Brittleness of a Non-reconfigurable Distribution Network Topology Approach <i>S. Chan, P. Noppawan</i>
14:10 – 14:30	Paper ID 494: A Pressure-balanced Extrinsic Fiber-optic Fabry-Perot Acoustic Sensor Based on a Porous Nickel Diaphragm for High-sensitivity Detection of Partial Discharges Occurring in Transformer Oil <i>Shuchao Wang, Quan Zhou, Weigen Chen, Xinyuan Wang, Lai Xing, Yong Li</i>
14:30 – 14:50	Paper ID 532: Mechanical State Detection of GIS Circuit Breaker Based on Vibration Characteristics <i>Jinfei Zhao, Qing Xiong, Chen Zhang, Ziqing Guo, Lingyu Zhu, Zhaojie Liang, Jie Tian, Shuo Chen</i>
14:50 – 15:10	Paper ID 429: Identification Method of Abnormal Contact Defect on GIS Conductor Base and Disconnecter Contact Based on Ensemble Empirical Mode Decomposition <i>Y. Zhong, R. L. Gong, S.S. Su, J. Hao, Q. Wang, X.P. Jiang</i>

Session 4: CMD – 04	Degradation and Operational Life Assessment of Power Equipment, Renewable Energy Conversion Systems and Energy Storage
Session chair:	Ernst Pagger
Room: 1	
15:30 – 15:50	Paper ID 158: How Water Affects the Properties of Insulating Liquids <i>Ernst Pagger, Michael Muhr, Norasage Pattanadech, Peeraphong Kongdang, Michael Tieber, Kevin Rapp, Sakda Maneerot</i>
15:50 – 16:10	Paper ID 173: AC Breakdown and Resistivity of Natural Ester Based Nanofluids <i>Noppadol Maneerat, Kawee Makmork, Yannaphol Kittikhuntharadol, Nattapat Suksai, Thanapat Chusang, Norasage Pattanadech</i>
16:10 – 16:30	Paper ID 174: The Polarization and Depolarization Current Characteristics of Natural Ester Stressed by Partial Discharge <i>Noppadol Maneerat, Kawee Makmork, Yannaphol Kittikhuntharadol, Nattapat Suksai, Thanapat Chusang, Norasage Pattanadech</i>
16:30 – 16:50	Paper ID 437: MHD Simulation of Tree-line Arc in 10kV Distribution Network <i>Zihan Cong, Yadong Liu, Yingjie Yan, Jian Fang, Xiuchen Jiang</i>
16:50 – 17:10	Paper ID 469: Dielectric Properties of Natural Ester Mixed with Nanoparticles under Thermal Stress <i>Yannaphol Kittikhuntharadol, Wanwilai Vittayakorn, Norasage Pattanadech</i>

Session 5: CMD – 05	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Sompob Polmai
Room: 2	
15:30 – 15:50	Paper ID 226: DC Series Arc Fault Detection Using Machine Learning in Photovoltaic Systems: Recent Developments and Challenges <i>Shibo Lu, Animesh Sahoo, Rui Ma, B. T. Phung</i>
15:50 – 16:10	Paper ID 081: Research on Detection Methods of Arc Fault in Photovoltaic DC Systems <i>Zhengqian Han, Liwen Luo, Wei Yao, Shaowen Yin, Wei Chen, Yinghui Wang</i>
16:10 – 16:30	Paper ID 459: DC Series Arc Fault Characteristic Comparison of a Fast Fourier Transform Result <i>Chan-Gi Cho, Jae-Beom Ahn, Jin-Han Lee, Hong-Jae Ryoo, Ki-Duk Lee, Yong-Joo Kim</i>
16:30 – 16:50	Paper ID 084: Effect of Microscale and Nanoscale Hybrid Boron Nitride Fillers on Arc Ablation Performance of PTFE <i>Zhaozi Zhang, Bingchen Song, Yongjie Nie, Daomin Min, Chuanchuan Wang, Tao Zhao, Qirui Guo, Shengtao Li</i>
16:50 – 17:10	Paper ID 071: A New Scheme for Residual CF ₄ Detection in Gas-insulated Switchgear Using Plasma-induced CF ₄ Decomposition into CO ₂ <i>Nisarut Phansiri, Daichi Maenosono, Masafumi Inaba, Michihiko Nakano, Junya Suehiro, Hidefumi Sato</i>

Session 6: CMD – 06	Advanced Sensors and Diagnosis Techniques for Smart Grid
Session chair:	Toan Phung
Room: 3	
15:30 – 15:50	Paper ID 500: On-line PD System and PD Locator for XLPE Cables <i>Tatsuya Sakoda, Yuhei Yamasaki, Soichiro Nakanose, Noriyuki Hayashi, Takuma Miyake, Koji Miyagawa, Wataru Kawano</i>
15:50 – 16:10	Paper ID 097: Predicting of Partial Discharge in Medium-voltage Cables Using Recurrent Neural Network with Long Short-term Memory Cells after Wavelet Denoising <i>J. Yeo, H. Jin, C. Yuen, C. S. Ng</i>
16:10 – 16:30	Paper ID 276: Investigation of Very Low Frequency Dissipation Factor of the Contaminated Underground Cable Joints <i>Dusit Suksawat, Tassana Hengcharoensuk, Thanapon Nupinit, Kittidech Chusang, Tanachot Ravangvong, Norasage Pattanadech</i>
16:30 – 16:50	Paper ID 110: An External UHF Miniaturized Compound Spiral Slot Antenna for Partial Discharge Detection in GIS <i>Zijing Zeng, Yue Hu, Weidong Zhang</i>
16:50 – 17:10	Paper ID 493: Characteristic Analysis of Point Discharge Current Pulse Using Numerical Simulation Based on Fluid Dynamics Model <i>Jiayuan Zhang, Yue Hu, Feng Xue</i>

Tuesday 27 October 2020

08:00-09:00	Registration
09:00-10:20	Parallel session
10:20-10:30	Morning Tea
10:30-12:10	Parallel session
12:10-13:00	Lunch
13:00-14:40	Parallel session
14:40-14:50	Afternoon Tea
14:50-16:30	Parallel session
15:00-17:30	Steering committee meeting

Session 7: CMD – 07	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Suwarno Harjo
Room: 1	
09:00 – 09:20	Paper ID 038: A Multiple Expert Consensus Model for Transformer Assessment Index Weighting Factor Determination <i>Rahman Azis Prasajo, Suwarno, Nur Ulfa Maulidevi, Bambang Anggoro Soedjarno</i>
09:20 – 09:40	Paper ID 485: Effect of Thermal Conduction on Transformer Radiator CFD Modelling <i>S.C. Zhao, X. Zhang, Q. Liu, M. Wilkinson, M. Nergo, M. Daghrah</i>
09:40 – 10:00	Paper ID 262: Furan Analysis of Oil Impregnated Paper Aged by Chemical Stress <i>Dusit Suksawat, Kittiphot Atthaphotpong, Kriangsak Takboontam, Kanin Satirapattanakit, Chiranuwat Raphephat, Norasage Pattanadech</i>
10:00 – 10:20	Paper ID 299: The Comparative Study of Physical and Chemical Properties of Palm Oil and Mineral Oil Used in a Distribution Transformer <i>Sakda Maneerot, Norasage Pattanadech</i>

Session 8: CMD – 08	Strategy Planning and Asset Management for Power Equipment
Session chair:	Thanapong Suwanasri
Room: 2	
09:00 – 09:20	Paper ID 487: Research on Intelligent Detection Method of Composite Insulator Hydrophobicity Based on Water Spraying of Drone <i>Liu Yunpeng, Ma Ziru, Pei shaotong</i>
09:20 – 09:40	Paper ID 512: An Improved Stereo Vision Technology for Spatial Localization of Invasive Hazards in Large Scene Surrounding UHV Transmission Lines <i>Renjie Zheng, Wenbin Zhao, Wu Lu</i>
09:40 – 10:00	Paper ID 064: Partial Discharge Prevention Diagnosis System for Power Cable in Manhole <i>KIM Daehoon, Choi Won, Lee Jeonseon</i>
10:00 – 10:20	Paper ID 136: Investigation of Failure and Fault Diagnosis of 120 MVA Transformers for Electrical Arc Furnace Systems and Data Mining Surveillance Techniques <i>C. Boonseng, R. Boonseng, K. Kularbphetpong</i>

Session 9: CMD – 09	Advanced Sensors and Diagnosis Techniques for Smart Grid
Session chair:	Worawat Nakhaviro
Room: 3	
09:00 – 09:20	Paper ID 015: Multi-resolution/High-resolution Telemetry Data Sensors for Interharmonic and Oscillation Detection within a Smart Grid Implementation <i>S. Chan, P. Noppawan</i>
09:20 – 09:40	Paper ID 017: Single Node-based Power Oscillation Detection and Classification <i>S. Chan, P. Noppawan</i>
09:40 – 10:00	Paper ID 509: The Application of Microfiber Coupler Sensor for Partial Discharge Detection in Transformer Oil <i>Yiying Liu, Yang Zhou, Penghao Yu, Chengcheng Wang, Xuhong Wang, Pengzhao Wang</i>
10:00 – 10:20	Paper ID 123: A Frequency Mixing Processing Method for PD Signals Acquired by Multiple Different Type of Sensors <i>Yandong Li, Yue Hu, Feng Xue</i>

Session 10: CMD – 10	Application of Big Data and IoT on Condition Monitoring and Diagnosis
Session chair:	Steve Chan
Room: 1	
10:30 – 10:50	Paper ID 473: Data Expansion Method of Transformer Oil Chromatogram Based on Generative Adversarial Net Model <i>Yaxin Li, Huijuan Hou, Gehao Sheng</i>
10:50 – 11:10	Paper ID 096: A Fault Detection Method of High Speed Train Pantograph Based on Deep Learning <i>Wentao L., Ge P., Maoyou W., Yongle L., Lijun J.</i>
11:10 – 11:30	Paper ID 431: Artificial Intelligence-based Power Oscillation Source Location Detection for Power System Stability <i>S. Chan, P. Noppawan, I. Oktavianti</i>
11:30 – 11:50	Paper ID 135: Failure Investigation in Molded Case Circuit Breaker (MCCB) and Data Mining Support for Condition-based Maintenance <i>C. Boonseng, R. Boonseng, K. Kularbphettong</i>

Session 11: CMD – 11	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Ronachart Gatechompol
Room: 2	
10:30 – 10:50	Paper ID 504: Partial Discharge Properties in XLPE Block Sample with Electric Tree Defect and Difference in Charge of PD Properties Observed between IEC60270 and the UHF Method <i>Hiroki Furuie, Tatsuhiro Yamauchi, Shinya Ohtsuka</i>
10:50 – 11:10	Paper ID 478: Water Tree Diagnosis Method of XLPE Cable Based on Reflection Coefficient Spectrum <i>Xinyuan Wang, Quan Zhou, Shuchao Wang, Lai Xing</i>
11:10 – 11:30	Paper ID 460: Dielectrophoresis Phenomenon on Stress Relief Cone Deposit for XLPE Cable Termination <i>Primadika Wiweko Banyuaji, Takafumi Mashimo, Toshihiro Takahashi, Suwarno</i>
11:30 – 11:50	Paper ID 458: Long-term Online Partial Discharge Trend Monitoring for Cast Resin Transformers in Switchboard <i>Yasutomo Kakimoto, Tatsuki Jogo, Masahiro Kozako, Masayuki Hikita, Masaharu Sato, Hiroyuki Abe, Mitsuharu Hirokawa, Hideaki Sato</i>
11:50 – 12:10	Paper ID 152: A Limitation of On-line Partial Discharge Measurement in a Petrochemical Plant <i>Pattamon Lekmanee, Pitipon Wesanontaweck, Pawin Lothong</i>

Session 12: CMD – 12	New Trends in Insulation Structure and Design
Session chair:	Toshihiro Takahashi
Room: 3	
10:30 – 10:50	Paper ID 515: Study on the Insulation Property of Fiber Reinforced Plastics under Nanosecond Voltage Pulses <i>Chengcheng Wang, Zhiqiang Chen, Yiying Liu, Wei Jia, Fan Guo, Wei Wu, Yang Zhou, Pengzhao Wang, Xuhong Wang</i>
10:50 – 11:10	Paper ID 070: The Effect of the Non-uniformity in Dielectric Material on Spatial Distributions of Electric Field in a Parallel Plain Electrodes with Oil-pressboard Composite Insulation under DC Voltage <i>Chunjia Gao, Bo Qi, Chengrong Li</i>
11:10 – 11:30	Paper ID 181: Verification of Barrierboard Over-pressure Withstand Capability and Transformer Operational Risk Mitigation by an Explosion Experiment <i>Lie Xiao, Christoph Krause, Balz Schlittler, Ivica Cukor</i>
11:30 – 11:50	Paper ID 301: Effect of ZnO and BaTiO ₃ Nanoparticle on Partial Discharge Characteristics of Palm Oil Based Nanofluids <i>Sakda Maneerot, Wanwilai Vittayakorn, Norasage Pattanadech, Nichaya Soubol, Noppol Yodrayub</i>

Session 13: CMD – 13	Application of Big Data and IoT on Condition Monitoring and Diagnosis
Session chair:	Chai Chompoo-Inwai
Room: 1	
13:00 –13:20	Paper ID 438: Variational Autoencoder Based Fault Detection and Location Method for Power Distribution Network <i>Xuhong Wang, Ping Cui, Ying Du, Yupu Yang</i>
13:20 – 13:40	Paper ID 441: Denoising Auto-encoder Based State Estimation of Distribution Systems under Natural Disaster <i>Ying Du, Yadong Liu, Xuhong Wang, Yingjie Yan, Jian Fang, Hang Zhang, Xiuchen Jiang</i>
13:40 – 14:00	Paper ID 230: The Study and Analysis of Oil-immersed Power Transformer by Using Artificial Neural Network for Designing Program Apply in the Industry of Testing Oil-immersed Transformers <i>Nutthaphan Boonsaner, Phop Chancharoensook, Chisanucha Bunnag, Achirawit Suwantaweasuk, Kiattisak Vongphanich</i>
14:00 –14:20	Paper ID 049: Artificial Intelligence-based Approach for Forced Oscillation Source Detection and Classification <i>S. Chan, P. Noppawan</i>
14:20 – 14:40	Paper ID 166: The Monitoring of Factory Electrical System in Collapse Using Neural Network Prediction Method <i>Chongrag Boonseng, Nannam Nilnimitr, Kunyanuth Kularbphetong</i>

Session 14: CMD – 14	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Jeong-Tae Kim
Room: 2	
13:00 – 13:20	Paper ID 510: Panoramic Visualization of Transformer Oil-tank Vibration Based on Data Mapping Technology <i>Hui Liu, Wenbin Zhao, Wu Lu, Yuan Gao, Xianzhe Wei, Sheng Lu</i>
13:20 – 13:40	Paper ID 222: Research on Image Representation Algorithm of Partial Discharge Pulse Signal Based on Time-frequency Analysis <i>Maoyuan He, Yue Hu</i>
13:40 – 14:00	Paper ID 554: Test Chamber Designed with Temperature Control for Partial Discharge and Polarization and Depolarization Current Testing <i>Nutthaphan Boonsaner, Nitouch Panoon, Phop Chanchaoensook, Norasage Pattanadech</i>
14:00 – 14:20	Paper ID 150: Polarization and Depolarization Current Characteristics of Thermally Stressed Stator Coils <i>Kittisak Thungsook, Natnaree Phumipunepon, Tehneht Worthong, Winai Methavithit, Wanwilai Vittayakorn, Norasage Pattanadech</i>
14:20 – 14:40	Paper ID 151: Experience with Polarization and Depolarization Current Measurements on Contaminated Motor <i>Natnaree Phumipunepon, Norasage Pattanadech</i>

Session 15: CMD – 15	Low Voltage Insulation Design, Testing, Monitoring, and Diagnosis
Session chair:	Att Payomhom
Room: 3	
13:00 – 13:20	Paper ID 140: Monitoring and Diagnosing Voltage for Filter Reactor in PPFs to Verify Electrical Insulation Conditions and Maintenance <i>C. Boonseng, R. Boonseng, K. Kularbphettong</i>
13:20 – 13:40	Paper ID 134: Investigation and Diagnosis of Lightning Strikes Affects Solar Cell Damage in Solar Farm <i>C. Boonseng, R. Boonseng, K. Kularbphettong</i>
13:40 – 14:00	Paper ID 432: Wind Tunnel Model for Natural Wind Velocity <i>Suriya Taecharoenwiriyaakun, Natchanon Suppaadirek, Sirichai Tammaruckwattana</i>
14:00 – 14:20	Paper ID 197: PMU Time Series Module Adapted for Reduction of Dark Data and the Ensuing Enhanced Analytics for Higher Quality Yields of Ethanol Fuel Production <i>S. Chan, I. Oktavianti, P. Nopphawan</i>

Session 16: CMD –16	Application of Big Data and IoT on Condition Monitoring and Diagnosis
Session chair:	Surin Kittitornkun
Room: 1	
14:50-15:10	Paper ID 243: Feature Extraction for Machine Learning Algorithms to Classify Partial Discharge under DC Voltage <i>Bernhard Schober, Uwe Schichler</i>
15:10-15:30	Paper ID 533: On-line Monitoring and Data Analysis Based on Vibro-acoustic Signals of High-voltage Shunt Reactor <i>Shuguo Gao, Yukun Zhang, Yongliang Dang, Lingming Meng, Hongliang Liu</i>
15:30-15:50	Paper ID 088: Customizable Asymmetric Loss Functions for Machine Learning-based Predictive Maintenance <i>Lukas Ehrig, Daniel Atzberger, Benjamin Hagedorn, Jan Klimke, Jürgen Döllner</i>
15:50-16:10	Paper ID 143: Detection of Currents and Unbalanced Current in Double Star Circuits to Diagnose Deterioration of HV Capacitors Filter Using Data Mining Applications <i>C. Boonseng, R. Boonseng, K. Kularbphettong</i>
16:10-16:30	Paper ID 511: Effects of Structural Parameters on the Performance of Low Wind-pressure Conductors Assembled on 110 kV Transmission Lines in Strong Gale Cases <i>Yuan Yao, Yuan GAO, Wu Lu, Wenbin Zhao, Jianhua Wei</i>

Session 17: CMD –17	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Prakob Kitchaiya
Room: 2	
14:50-15:10	Paper ID 476: Evaluation of The Corrosion Potential of Mineral Insulating Oil Through ASTM D 1275 and Gas Chromatography with ECD Based on IEC TR 62697-3 before and after Proposed Oil Treatment Process <i>Leticia Marques da Silva, Milton Marques da Silva Júnior, Claudio Aparecido Galdeano</i>
15:10-15:30	Paper ID 149: Determination of Water in Transformer by Water Solubility and Percent Moisture by Dry Weight in Comparison with ppm Water Value for Justification Transformer Maintenance <i>E. Wannapring, T. Sirisithichote, N. Pattanadech, M. Leelajindakrairerk</i>
15:30-15:50	Paper ID 233: A Physical Model for the Improvement of DGA-based Condition Assessment of Power Transformers <i>Christof Riedmann, Uwe Schichler</i>
15:50-16:10	Paper ID 505: Measuring Low Molecular Weight Acids in Mineral and Ester Transformer Liquids <i>Z. W. Yan, T. Kihampa, S. Y. Matharage, Q. Liu, Z.D. Wang</i>
16:10-16:30	Paper ID 102: Relation between DC PDIV and DC BDV of Mass Impregnated Polypropylene Laminated Paper Considering the Thermal Aging Characteristics <i>Ho-Seung Kim, Dong-Hun Oh, Yong-Rok Kim, Bang-Wook Lee</i>

Session 18: CMD –18	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Matthieu Zinck
Room: 3	
14:50-15:10	Paper ID 039: SFRA Characteristics of Power Transformer Internal Winding Considering the Resonant Effect <i>Sriyono, Suwarno, Umar Khayam,</i>
15:10-15:30	Paper ID 021: Optimal Accelerometer Placement for Online Vibro-acoustic Measurement Based Transformer Winding Condition Monitoring <i>Jakob Pallot, Chandima Ekanayake, Hui Ma, Lakshitha Naranpanawe</i>
15:30-15:50	Paper ID 450: Detection of Axial Displacement of Transformer Winding by Frequency Response Analysis without Past Measured Reference Data <i>Satoru Miyazaki</i>
15:50-16:10	Paper ID 254: Automatic UAV-based Inspection of Overhead Lines and Substations: Beyond Visible Spectrum <i>Gernot Komar, Oliver Pischler, Uwe Schichler, Radu-Laurențiu Vieriu, Josef Alois Birchbauer</i>
16:10 – 16:30	Paper ID 436: The Investigating of Winding Failure on 50 MVA Power Transformers by Performing SFRA Combined with Traditional Measurement <i>Pongpon Singkhawat, Norasage Pattanadech</i>

Wednesday 28 October 2020

08:00-09:00 Registration
 09:00-10:20 Parallel session
 10:20-10:30 Morning Tea
 10:30-12:10 Parallel session
 12:10-13:00 Closing session and Best paper award of CMD 2020 and Lunch

Session 19: CMD – 19	Related paper
Session chair:	Somyot Tantipattarakul
Room: 1	
09:00 – 09:20	Paper ID 079: Non-destructive Inspection Method for Defects in Epoxy Resin by Using THz Wave <i>Rieko Mizuuchi, Yuji Hisazato, Hiroaki Cho, Yusuke Nakamura, Yuichi Sumimoto, Kunihiko Wada</i>
09:20 – 09:40	Paper ID 530: Effect of Micron-scale and Nanoscale Hybrid Boron Nitride Fillers on AC Breakdown Performances of Polytetrafluoroethylene <i>Bingchen Song, Zhaozi Zhang, Yongjie Nie, Daomin Min, Liangxian Zhang, Qirui Guo, Chuanchuan Wang, Tao Zhao, Shengtao Li</i>
09:40 – 10:00	Paper ID 148: The Degradation Analysis of PVC Insulation Tape in 220 kV Oil-filled Cable Terminal <i>Shihu Yu, Xin Yu, Yaohong Zhao, Qing Wang, Xian Yang, Hong Lv, Shihang Wang</i>
10:00 – 10:20	Paper ID 484: Experimental and Numerical Study on the Charge Decay on Solid Insulator Surface <i>Kamonporn Malathip, Boonchai Techaumnat, Ryo Sasamoto, Kiyoto Nishijima</i>

Session 20: CMD – 20	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	Supakit Chotigo
Room: 2	
09:00 – 09:20	Paper ID 496: Observations of Abnormal Gassing Rise After Metal Passivation in Transformers <i>T. Herath, Q. Liu, G. Wilson, S. J. Tee, Z.D. Wang</i>
09:20 – 09:40	Paper ID 255: AC and Lightning Impulse Breakdown Voltage of Natural Ester Impregnated Pressboards <i>Jompatara Siriworachanyadee, Norasage Pattanadech</i>
09:40 – 10:00	Paper ID 256: Polarization and Depolarization Current Characteristics of Natural Ester Impregnated Pressboards with Different Periods of Impregnation <i>Sakda Maneerot, Jompatara Siriworachanyadee, Wit Likhitsupin, Suwapich Likhitsupin, Chissanupong Srinangyam, Norasage Pattanadech</i>
10:00 – 10:20	Paper ID 137: Electrical Insulation Testing and DGA Analysis for the Diagnosis of Insulation Faults and Failures in 24 MVA Transformers for Distribution Systems <i>C. Boonseng, R. Boonseng, K. Kularbphettong</i>

Session 21: CMD – 21	Related Paper
Session chair:	Shengtao Li
Room: 1	
10:30 – 10:50	Paper ID 118: Novel Airborne Partial Discharge Probe for High Voltage Stator Winding <i>Ki-Duk Lee, Dong-Geon Kim, Yong-Joo Kim</i>
10:50 – 11:10	Paper ID 132: Diagnosis of Discharge Pattern in Vacuum Interrupter by Shield Potential Measurement <i>Hiroki Kojima, Taiki Donen, Toshinori Kimura, Naoki Hayakawa</i>
11:10 – 11:30	Paper ID 051: The Paradox of Electromagnetic Interference Affecting Medical Devices at International Hospitals <i>S. Chan, I. Oktavianti, P. Nopphawan</i>
11:30 – 11:50	Paper ID 534: An Online Monitoring Scheme for Partial Discharge Signal of Sub-module IGBTs Used in MMC <i>Chenshuo Liu, Zhanlei Liu, Cao Zhan, Lingyu Zhu, Ting Hou</i>
11:50 – 12:10	Paper ID 138: Analysis and Investigation of Harmonic Current Destruction Mechanism on Dry-type Reactor Insulation for Low Voltage Filter Reactor <i>C. Boonseng, R. Boonseng, K. Kularbphettong</i>

Session 22: CMD – 22	Evaluation of Failure and Degradation of Power Equipment Based on CMD
Session chair:	June-Ho Lee
Room: 2	
10:30 – 10:50	Paper ID 457: Application of Novel Online Partial Discharge Monitoring System Using Power Line Communication to Noise and PD Source Discrimination <i>Yasutomo Kakimoto, Hina Yoshikawa, Tatsuki Jogo, Toshiyuki Wakisaka, Masahiro Kozako, Masayuki Hikita, Hidefumi Sato, Masahiro Soeda, Hideki Tagashira</i>
10:50 – 11:10	Paper ID 502: Developing of Multiple-narrowband Antenna to Detect Partial Discharge-emitted Signal under Radio Communication Noise Environment <i>Tuvshinbayar Bandi, Marina Tanaka, Hiroki Furuie, Shinya Ohtsuka</i>
11:10 – 11:30	Paper ID 223: Partial Discharge Characteristics in Oil Gap between Polypropylene Films <i>Yudai Takemoto, Muneaki Kurimoto, Takeyoshi Kato, Fumitaka Komori, Yasuo Suzuoki, Yuya Sano, Shintaro Hamada, Yukio Sasatani</i>
11:30 – 11:50	Paper ID 507: Properties of Developing Tree in Silicone Gel Observed by High Speed Camera and Detection of Emitted Electromagnetic Waves <i>Yusuke Oishi, Shinya Ohtsuka</i>
11:50 – 12:10	Paper ID 026: Main Insulation Structure Optimization of OIP Capacitive Bushing Based on Temperature Gradient <i>Daosheng Liu, Ziming Zhao, Xingrong Chen</i>