

# IEEE TRANSACTIONS on DIELECTRICS and Electrical Insulation

June 2013

Volume 20

Number 3

ITDEIS

(ISSN 1070-9878)

## OUTDOOR INSULATION

- Effect of Shed Configuration on DC Flashover Performance of Ice-covered 110 kV Composite Insulators.....X. Jiang, B. Dong, Z. Zhang, F. Yin and L. Shu 699-705
- Different Performance of UV Laser Induced Surface Flashover.....L. Xu, J. Deng and M. Wang 706-710
- Lifetime Prediction of HV Silicone Rubber Insulators based on Mechanical Tests after Thermal Ageing  
.....M. K. Moghadam, J. Morshedani, M. Ehsani, M. Bahrami and H. Sadadi 711-716
- Pollution Flashover Performance of Full-scale  $\pm 800$  kV Converter Station Post Insulators at High Altitude Area .....C. Zhang, L. Wang, Z. Guan and F. Zhang 717-726
- Local Thermodynamic Equilibrium of an Arc over an Ice Surface .....A. Nekahi and M. Farzaneh 727-730
- Pollution Accumulation on Rail Insulator in High-speed Aerosol.....J. Sun, G. Gao, L. Zhou and G. Wu 731-738
- Lightning Surge Characteristics on Inclined Incoming Line to Substation based on Reduced-scale Model Experiment  
.....J. Takami, T. Tsuboi, K. Yamamoto, S. Okabe and Y. Baba 739-746
- Effect of Electrical Test Methods on DC Flashover Performance of Ice-covered Ceramic Insulators.....X. Jiang, B. Dong, Z. Zhang, J. Hu, Q. Hu, L. Shu and F. H. Yin 747-753

## PARTIAL DISCHARGES

- Application of K-Means Method to Pattern Recognition in On-line Cable Partial Discharge Monitoring .....X. Peng, C. Zhou, D. M. Hepburn, M. Judd and W. H. Siew 754-761
- The Influence of the Rotor on Surge PD Testing of Low Voltage AC Motor Stator Windings .....T. Kang, J. Hong, S. B. Lee, Y.-W. Yoon, D.-H. Hwang and D. Kang 762-769
- Partial Discharge Modeling: An Improved Capacitive Model and Associated Transients along Medium Voltage Distribution Cables  
.....Z. Achillides, E. Kyriakides and G. E. Georgiou 770-781
- Analysis of Intrinsic Characteristics of the Partial Discharge Induced by Typical Defects in GIS .....W. Gao, D. Ding, W. Liu and X. Huang 782-790
- Advanced Signal Processing and Modeling for Partial Discharge Diagnosis on Mixed Power Cable Systems.....C. Herold and T. Leibfried 791-800
- The Effect of Aromatic and Sulfur Compounds on Partial Discharge Characteristics of Hexadecane.....D. Bolliger, G. Pilania and S. Boggs 801-813
- The Use of Power Frequency Current Transformers as Partial Discharge Sensors for Underground Cables  
.....F. P. Mohamed, W. H. Siew, J. J. Soraghan, S. M. Strachan and J. McWilliam 814-824
- Optimal Features Selected by NSGA-II for Partial Discharge Pulses Separation Based on Time-frequency Representation and Matrix Decomposition  
.....K. Wang, R. Liao, L. Yang, J. Li, S. Grzybowski and J. Hao 825-838

## GASEOUS DIELECTRICS

- Switching Impulse Breakdown Characteristics of Large Sphere-plane Air Gaps Compared with Rod-plane Air Gap .....S. Chen, R. Zeng, C. Zhuang, Z. Yu and J. He 839-844
- Parameter Dependence of Gaseous Insulation in SF<sub>6</sub>.....M. Bujotzek and M. Seeger 845-855
- Predictors for Gases of High Electrical Strength.....M. Rabie, D. A. Dahl, S. M. A. Donald, M. Reiher and C. M. Franck 856-863
- Correlation Analysis Between Formation Process of SF<sub>6</sub> Decomposed Components and Partial Discharge Qualities  
.....J. Tang, F. Zeng, J. Pan, X. Zhang, Q. Yao, J. He and X. Hou 864-875

## LIQUID DIELECTRICS

- Influence of Impurities and Additives on Negative Streamers in Paraffinic Model Oil.....N. V. Dung, H. K. Høidalen, D. Linhjell, L. E. Lundgaard and M. Unge 876-886
- Performance of Coconut Oil as an Alternative Transformer Liquid Insulation  
.....B. S. H. M. S. Y. Mathrage, M. A. R. M. Fernando, M. A. A. P. Bandara, G. A. Jayantha and C. S. Kalpage 887-898
- Enhancing the Critical Characteristics of Natural Esters with Antioxidants for Power Transformer Applications  
.....A. Raymon, P. S. Pakianathan, M. P. E. Rajamani and R. Karthik 899-912

## SOLID DIELECTRICS

- Enhanced Accuracy in Dielectric Response Material Characterization by Air Reference Method.....X. Xu, T. Bengtsson, J. Blennow and S. M. Gubanski 913-921
- Particle Swarm Optimization Based Selection of Optimal Polymeric Blend .....R. Deepalaxmi, M. Balaji and V. Rajini 922-931
- Microwave Measurements of Dielectric Constants for High Dielectric Constant Ceramic Materials by Mixture Equations .....J. Sheen and Y.-L. Wang 932-936
- New Approach to Evaluate Area-dependent Breakdown Characteristics of Dielectric Polymer Films .....J. Rytöluoto and K. Lahti 937-946

## SPACE AND SURFACE CHARGES

- Dynamic Behavior of Surface Charge on Direct-fluorinated Polyimide Films .....B. X. Du, J. Li and W. Du 947-954
- A Comparison of Numerical Methods for Charge Transport Simulation in Insulating Materials .....D. Min and S. Li 955-964

## TRANSFORMERS

- Application of Fuzzy Support Vector Machine for Determining the Health Index of the Insulation System of In-service Power Transformers  
.....A. D. Ashkezari, H. Ma, T. K. Saha and C. Ekanayake 965-973
- Dissolved Gas Analysis of Mineral Oil for Power Transformer Fault Diagnosis Using Fuzzy Logic .....Y.-C. Huang and H.-C. Sun 974-981
- Moisture in Cellulose Insulation of Power Transformers—Statistics  
.....J. Gielniak, A. Graczkowski, H. Moranda, P. Przybyłek, K. Walczak, Z. Nadolny, H. Moscicka-Grzesiak, K. Feser and S. M. Gubanski 982-987

## NANODIELECTRICS

- Insulating Properties of Allyl Modified CNT on UPR Nano-Composites at Low Concentrations  
.....S. Patil, R. A. Sharma, L. Chaudhari, S. Bhattacharya, S. Swain and D. D'Melo 988-994

## MEASUREMENT TECHNIQUES

- Multivariate Analysis of the Dielectric Response of Materials Modeled using Networks of Resistors and Capacitors  
.....R. K. H. Galvão, K. H. Kienitz, S. Hadjiloucas, G. C. Walker, J. W. Bowen, S. F. C. Soares and M. C. U. Araújo 995-1008

## ERRATUM

- Erratum to "Effect of Surface Conditions on the Electric Field in Air Cavities" [February 2013 71-81].....M. Lévesque 1009