

IEEE TRANSACTIONS on DIELECTRICS and Electrical Insulation

December 2007

Volume 14

Number 6

ITDEIS

(ISSN 1070-9878)

FLASHOVER of ICE- or SNOW-COVERED INSULATORS

EDITORIAL

 Flashover of Ice- and Snow-Covered Insulators *M. Farzaneh and W. A. Chisholm* 1333

LABORATORY AND ON-SITE INVESTIGATIONS ON FULL-SCALE ICE- OR SNOW-COVERED INSULATORS

 Flashover Performance of HVDC Iced Insulator Strings *P. Li, J. Fan, W. Li, Z. Su and J. Zhou* 1334-1338

 Investigation of Flashover Performance of Snow-covered Breakers *H. Wieck, I. Gutman and T. Ohnstad* 1339-1346

 Flashover Performance of Pre-contaminated and Ice-covered Composite Insulators to be Used in 1000 kV UHV AC Transmission Lines *J. Hu, C. Sun, X. Jiang, Z. Zhang and L. Shu* 1347-1356

 Laboratory Investigations of the Electrical Performance of Ice-covered Insulators and a Metal Oxide Surge Arrester *K. Kannus and K. Lahti* 1357-1372

MONITORING AND PROCESSING OF INSULATOR CURRENTS TO ESTABLISH PRE-CONTAMINATION LEVELS, ICE OR SNOW ACCRETION AND/OR IMPENDING FLASHOVER

 Laboratory Tests and Web Based Surveillance to Determine the Ice- and Snow Performance of Insulators *S. M. Bertijn, I. Gutman, K. Å. Halsan, M. Eilertsen and I. Y. H. Gu* 1373-1380

 Temporal and Frequency Analysis of the Leakage Current of a Station Post Insulator during Ice Accretion *F. Meghnefi, C. Volat and M. Farzaneh* 1381-1389

STATIC AND DYNAMIC MODELING METHODS FOR THE FLASHOVER ARC

 Modeling of the AC Arc Discharge on Snow-covered Insulators *H. Hemmatjou, M. Farzaneh and I. Fofana* 1390-1400

 A Multi-Arc Model for Predicting AC Critical Flashover Voltage of Ice-covered Insulators *M. Farzaneh and J. Zhang* 1401-1409

 Application of Dynamic Model to Flashover of Ice-covered Insulators *I. Fofana and M. Farzaneh* 1410-1417

ELECTRIC FIELD CALCULATIONS

 Modeling of DC Flashover on Ice-Covered HV Insulators Based on Dynamic Electric Field Analysis *Q. Yang, W. Sima, C. Sun, L. Shu and Q. Hu* 1418-1426

PROCESSES AND MECHANISMS OF DISCHARGE INITIATION AND ARC DEVELOPMENT

 Effects of Space Charge on the Discharge Process in an Icicle/Iced-Plate Electrode System under Positive DC Voltage *D. Yu, M. Farzaneh, J. Zhang, L. Shu, W. Sima and C. Sun* 1427-1435

 Study of the Development of Positive Streamers Along an Ice Surface *I. Ndiaye, M. Farzaneh and I. Fofana* 1436-1445

METHODS OF PERFORMANCE EVALUATION AND SELECTION OF INSULATORS

 Reducing Ice Accumulation on Insulators by Applying Semiconducting RTV Silicone Coating *W. Liao, Z. Jia, Z. Guan, L. Wang, J. Yang, J. Fan, Z. Su and J. Zhou* 1446-1454

 Insulator Leakage Distance Dimensioning in Areas of Winter Contamination using Cold-fog Test Results *W. A. Chisholm* 1455-1461

 Insulator Icing Test Methods, Selection Criteria and Mitigation Alternatives *M. Farzaneh and W. A. Chisholm* 1462-1473

REGULAR PAPERS

DIELECTRIC LETTERS

 Comparison of Partial Discharge Resistance among Several Biodegradable Polymers *K. Miyata, S. Fujita, Y. Ohki and T. Tanaka* 1474-1476

GASEOUS DIELECTRICS

 Examination of Electromagnetic Mode Propagation Characteristics in Straight and L-Section GIS Model Using FD-TD Analysis *M. Hikita, S. Ohtsuka, T. Teshima, S. Okabe and S. Kaneko* 1477-1483

 Effect of Spacer's Defects and Conducting Particles on the Electric Field Distribution along Their Surfaces in GIS *R. M. Radwan and A. M. Abou-Elyazied* 1484-1491

 Breakdown Characteristics of N₂O Gas Mixtures for Quasi-uniform Electric Field under Lightning Impulse Voltage *H. Kojima, O. Kinoshita, N. Hayakawa, F. Endo, H. Okubo, M. Yoshida and T. Ogawa* 1492-1497

 Impulse Breakdown Voltages of Air Gaps: a New Approach to Atmospheric Correction Factors Applicable to International Standards *P. Ortéga, R. T. Waters, A. Haddad, R. Hameed and A. J. Davies* 1498-1508