

IPST '99 TECHNICAL PROGRAM

1 NEW TOOLS, NEW TECHNIQUES

NETOMAC - Calculating, Analyzing and Optimizing the Dynamic of Electrical Systems in Time and Frequency Domain

99 IPST 062-A1 B. Kulicke, E. Lerch, O. Ruhle, W. Winter (Germany)

ATPDraw - Graphical Preprocessor to ATP - Windows Version

99 IPST 065-A2 Hans Kr. Høidalen, L. Prikler, J.L. Hall (Norway)

A Comparison Between Three Tools for Electrical Transient Computations

99 IPST 013-A3 P.H. Schavemaker, A. de Lange, L. van der Sluis (The Netherlands)

Preprocessor for EMTP Power Transformer Models

99 IPST 113-6.1 Juan A Martinez-Velasco, F. Gonsales-Molina, Bruce A. Mork (Spain)

Database of Power System Parameters for Data Validation in EMTP Studies: Overhead Transmission Line Application

99 IPST 087-6.2 M.B. Selak, J.R. Martí, H.W. Dommel (Canada)

Proposal of Circuit Description Language

99 IPST 023-6.3 Taku Noda (Japan)

2 TRANSMISSION LINES

Z-Domain Frequency-Dependent Network Equivalent for Electromagnetic Transient Studies

99 IPST 067-1.1 N. R. Watson, A.M. Gole, G. D. Irwin, O. Nayak (New Zealand)

Frequency-Dependent Low Order Approximation of Transmission Line Parameters

99 IPST 054-1.2 Alécio B. Fernandes, Washington L.A. Neves (Brazil)

Quasi-Modes Three-Phase Transmission Line Model - Comparison with Existing Frequency Dependent Models

99 IPST 103-1.3 M.C. Tavares, J. Pissolato, C.M. Portela (Brazil)

An Examination of a Phase Domain Modeling of Untransposed Transmission Lines

99 IPST 079-1.4 Tomoatsu Ino, Masahiro Sekita, Junji Sawada (Japan)

Transmission Line Models for the Simulation of Interaction Phenomena Between Parallel AC and DC Overhead Lines

99 IPST 002-1.5 B. Gustavsen, G. Irwin, R. Mangelrød, D. Brandt, K. Kent (Norway)

3 SOLUTION METHODS

Computational Methods for EMTP Steady-State Initialization

99 IPST 129-2.1 J.A. Martinez-Velasco (Spain)

Combined Iteration Algorithm for Nonlinear Elements in Electromagnetic Transient Simulation

99 IPST 038-2.2 K. Yamamoto, G. Irwin, O. Nayak, A. Ametani (Canada)

Modeling Power Systems with General Difference Equations - A Systematic Formulation

99 IPST 060-2.3 B.R. Oswald, M.A. Pöller (Germany)

Augmented State-Space Formulation for the Study of Electric Networks Including Distributed-Parameter Transmission Line Models

99 IPST 073-2.4 Leonardo T.G. Lima, Nelson Martins, Sandoval Carneiro Jr. (Brazil)

Representation of Electrical Signals by a Series of Exponential Terms

99 IPST 068-2.5 M. Alaoui Ismaili, A. Xémard (France)

4 SWITCHING SURGES

Theoretical Formulation of a Transient Recovery Voltage when Clearing a Transformer Secondary Fault

99 IPST 005-3.1 A. Ametani, N. Kuroda, T. Tanimizu, H. Hasegawa, H. Inaba (Japan)

Transient Recovery Voltages When Clearing a Fault in Presence of Series Limitation Reactors

99 IPST 089-3.2 D. Santos, G. Cabriel (France)

Assessing Distribution System Transient Overvoltages due to Capacitor Switching

99 IPST 029-3.3 D. Daniel Sabin, Thomas E. Grebe, Ashok Sundaram (USA)

Vacuum Breaker Induced Overvoltages in Induction Motor Circuits

99 IPST 075-3.4 Y.S. Yuen, L.A. Snider, D.F. Peelo (P.R.O.C.)

Simulation of Commutation Spikes and Measurement of the Voltage Distribution and Interturn Voltages in a Synchronous Generator Due to Rectifier Loads

99 IPST 009-3.5 A. Kunakorn, J. Hiley, K.S. Smith (UK)

Transient Phenomena at Energization and Deenergization of Capacitor Banks

99 IPST 025-3.6 P. Vukelja, J. Mrvić, M. Senčanić, D. Hrvić, D. Radulović (Yugoslavia)

A Real Case of Current Chopping Overvoltage

99 IPST 117-16.1 J.C. Oliveira, O.C.N. Souto, A.L.A. Vilaca (Brazil)

Switching Overvoltages on 400 and 750 kV Romanian Transmission Lines

99 IPST 039-16.2 Liliana Oprea, Corneliu Velicescu (Romania)

The Energy Absorption Capacity of Metal Oxide Surge Arresters - An Approach for Switching Surges

99 IPST 104-16.3 Manual L.B. Martinez, Luiz Cera Zanetta Jr. (Brazil)

Overvoltages Limitation in the 400 kV Nord Transilvania Network

99 IPST 115-16.4 Liana Cipcigan, K. S. Smith, J. Hiley (Romania)

Energization of 380-kV Partial Networks for the Purpose of Fast Blackstart after System Collapse

99 IPST 107-20.1 Mustafa Kizilcay, Stefan Groninger, Martin Losing (Germany)

Digital Simulation of the Fault Transient Phenomena on EHV Transmission Lines under Non-Linear High Impedance Arcing Faults

99 IPST 001-20.2 C.H. Kim, R.K. Aggarwal, A.T. Johns (UK)

Electromagnetic Transient Components Induced by Faults in Different Coupled Transmission Line

99 IPST 100-20.3 M. Kielbon, P. Sowa (Poland)

The Simulation of High Speed Grounding Switches for the Rapid Secondary Arc Extinction on 765 kV Transmission Lines

99 IPST 017-20.4 C.H. Kim, S.P. Ahn (Korea)

Overvoltages During Switching of 400 kV, 220 kV and 110 kV Circuit-Breakers in High Voltage Networks

99 IPST 022-20.5 Z. Zdravković, P. Vukelja, R. Naumov, M. Vučinić (Yugoslavia)

Generator Dynamics Influence on Currents Distribution in Fault Condition

99 IPST 082-20.6 D. P. Stojanovic, J. Nahman, M. Veselinovic (Yugoslavia)

5 NEW PROTECTION TECHNIQUES

New SIMULINK Libraries for Modeling Digital Protective Relays and Evaluating Their Performance Under Fault Transients

99 IPST 033-D2 Bogdan Kasztenny, Mladen Kezunovic (USA)

Modeling Fault Conditions for Parallel Series-Compensated Lines

99 IPST 021-11.1 M.M. Saha, E. Rosolowski, J. Izykowski, B. Kasztenny (Sweden)

Design and Evaluation of an EMTDC Digital Current Transformer Model

99 IPST 116–11.2 C. Wang, P.A. Crossley, H. Li, A.D. Parker (UK)

An ANN Based Electromagnetic Transients Identification Technique for Power Transformer Systems

99 IPST 122–11.3 P.L. Mao, R.K. Aggarwal, Z.Q. Bo (UK)

Modelling of Distance Relays in EMTP

99 IPST 111–11.4 Trin Saengsuwan (Thailand)

Distribution Network Simulation for Systematic Relay Testing

99 IPST 041–11.5 Rui Dias Jorge, J. L. Pinto de Sá (Portugal)

A GSP Based Fault Location Scheme for Distribution Line Using Wavelet Transform Technique

99 IPST 019–22.1 F. Jiang, Z.Q. Bo, G. Weller, Philip S.M. Chin, M.A.Redfern (Singapore)

Travelling Wave Fault Location for Radial MV Distribution Systems, Theoretical Approach and EMTP Simulations

99 IPST 042–22.2 A. Valenti, G. Huard, P. Johannet, F. Brouaye, P. Bastard (France)

ANN Based Relay Algorithm for the Detection of High Impedence Faults

99 IPST 076–22.3 L.A. Snider, Y.S. Yuen (P.R.O.C.)

A Wavelet Transform Based New Directional Relay Using Transient Current Signals

99 IPST 026–22.4 F. Jiang, Z.Q. Bo, Philip S.M. Chin, G. Weller, M.A. Redfern (Singapore)

6 GENERATORS, MACHINES

The Application of User-Defined Induction Machine Models in EMTP

99 IPST 097–5.1 J. Esztergalyos, D. Kosterev, L. Dubé (USA)

Induction Generator Models in Dynamic Simulation Tools

99 IPST 049–5.2 Hans Knudsen, Vladislav Akhmatov (Denmark)

Description of Electrical Machines with Non-Linear Equivalent-Circuits

99 IPST 121–5.3 Dirk Flockermann (Germany)

ABCdq Model of a 3-Phase Induction Motor for Bus Transfer and Drives

99 IPST 004–5.4 E. Akpınar, E. Ungan (Turkey)

Comparative Analysis of Field and Simulation Experiments on an Asynchronous Motor

99 IPST 110–12.1 K. Wilkosz, M. Sobierajski, W.T. Kwasnicki, M. Reformat (Poland)

Sudden Short Circuits in a Doubly Fed Synchronous Machine (DFSM) with a Cyclo-Converter Feeding the Rotor

99 IPST 031–12.2 K. Rechberger, H. Köfler (Austria)

Investigation of the Transient Behaviour of Three Parallel Connected Synchronous Generators with Large Load Changes and Control of Active and Reactive Power Using EMTP

99 IPST 008–12.3 A.M. Miri, S. Ziegler, M. Merkle (Germany)

Dynamic Modelling of Windmills

99 IPST 048–12.4 Vladislav Akhmatov, Hans Knudsen (Denmark)

The Investigation of a Shaft-Torsional Phenomenon Objecting CGS

99 IPST 034–12.5 Hiroyuki Iki, Masaru Isozaki (Japan)

Analysis of Torsional Torques of Big Turbine-Generator Shafts

99 IPST 058–12.6 D. Stojanovic, D. Petrovic, N. Mitrovic (Yugoslavia)

Transient Behaviour of Two Parallel Connected Flywheel Generators During Pulsed Power Operation

99 IPST 078–14.1 A.M. Miri, V. Landenberger, C. Sihler, B. Streibl (Germany)

Adjustable Speed Hydro Machine Applied for Improved Utilisation of Power Networks

99 IPST 071-14.2 Ronald Sporild, Jan Ove Gjerde, Terje Gjengedal (Norway)

Analysis of Self-Excitation in the Palmar Hydroelectric Power Plant

99 IPST 070-14.3 Claudio Saldaña, Graciela Calzolari (Uruguay)

Transient Analysis of Electrical Machines by Differential Taylor Transform

99 IPST 081-14.4 M.S. Mamis, T. Abbasov, S. Herdem, M. Koksai (Turkey)

7 SHIELDING AND GROUNDING

Mitigation of EMI in High Voltage Substation Environment by use of Wiring Cables with Improved Screening Effectiveness

99 IPST 127-7.1 Gy. Varjú, F. Szilágyi, J. Németh (Hungary)

Calculation of Frequency-Dependent Parameters of Power Cable Arrangements Using Pixel-Shaped Conductor Subdivisions

99 IPST 088-7.2 R.A.Rivas, J.R. Martí (Canada)

Electromagnetic Transients in Large and Complex Grounding Systems

99 IPST 124-7.3 Leonid Grcev, Vesna Arnautovski (Republic of Macedonia)

Modelling of Long Grounding Conductors Using EMTP

99 IPST 093-7.4 M.I. Lorentzou, N.D. Hatziaargyriou (Greece)

8 LIGHTNING SURGES, OVERVOLTAGES

Sensitivity Analysis of Induced Overvoltage by Lightning Stroke Near Distribution System Using ATP-EMTP

99 IPST 024-B1 R. Montano, A. Cordero, J. Ramírez, M. M. Lozano (Venezuela)

Lightning Induced Overvoltages on Multiconductor Overhead Lines

99 IPST 126-B2 M.T. Correia de Barros, J. Festas, M.E. Almeida (Portugal)

Calculation of Lightning-Induced Overvoltages using MODELS

99 IPST 064-B3 Hans Kr. Høidalen (Norway)

Probability Density Function of the Lightning Crest Current at Ground Level - Estimation of the Lightning Strike Incidence on Transmission Line

99 IPST 055-B4 R. Lambert, A. Xémard, G. Fleury, E. Tarasiewicz, A. Morched (France)

Lightning Overvoltages: Statistical Study of a 550-kV Substation

99 IPST 099-10.1 P. Bergin, J.C. Poirot, C. Delaporte, C. Andrieu (France)

Incoming Lightning Surge Analysis Considering Return Stroke Parameters

99 IPST 035-10.2 S.Sekioka, T.Ueda, I.Matsubara, S.Kojima (Japan)

Numerical Evaluation of Lightning Stress on High Voltage Substations

99 IPST 052-10.3 S Pack, Y. Wamser (Austria)

Calculations of Overvoltages in the Generator Electrical Circuit of a Power Station

99 IPST 074-10.4 Ivo Uglešić, Zlatko Maljković, Lj. Kuterovac (Croatia)

Lightning Protection of Transformers Supplied by Underground Cables

99 IPST 128-10.5 D.O. C. Brasil, P.A. Brunheroto, E.L. Ferrari, J.J.S. Oliveira, C.M.V. Tahan (Brazil)

Computation of Lightning Overvoltages Using Nonuniform, Single-Phase Line Model

99 IPST 095-13.1 M.S. Mamis, M. Koksai (Turkey)

Induced Overvoltage Analysis by Lightning Stroke Near Distribution System TACS-EMTP

99 IPST 020-13.2 R. Montano, A. Hernández, A.J. Urdaneta, J. Rodríguez, M. Martínez (Venezuela)

Transients in Transformer Windings

99 IPST 090-13.3 Tomas Hasman (Czech Republic)

Development and Application of Surge Measuring System for 550kV Substations

99 IPST 056-13.4 T. Yamada, T. Shioda, T. Narita, T. Chiba, N. Harigaya, Y.Sato, (Japan)

High Voltage Impulse Generator Transient Studies - An Alternative to the Standard Calibration Procedure

99 IPST 108-13.5 E.E. De Castro, M.R. de Moraes, M.L.B. Martinez (Brazil)

Corona on Multiconductor Overhead Lines Illuminated by LEMP

99 IPST 109-17.1 M.T. Correia de Barros, C.A. Nucci, F. Rachidi (Portugal)

A Study of Phase-Wire Voltage due to Corona Wave-Deformation

99 IPST 006-17.2 A. Ametani, K. Yoshida, S. Sekioka, T. Higuchi, Y. Kato (Japan)

Q-V Characteristics Simulation Through Artificial Neural Networks

99 IPST 112-17.3 A.F. Gomes, H.M. de Barros, S. Carneiro Jr., L.P. Caloba (Brazil)

9 TRANSFORMERS, INRUSH, FERRORESONANCE

Analysis of AVR Transients Induced by Transformer Inrush Currents

99 IPST 011-9.1 K.S. Smith, L. Ran, J. Docherty (UK)

Modeling Ferroresonance in a 230 kV Transformer-Terminated Double-Circuit Transmission Line

99 IPST 059-9.2 D.A.N. Jacobson, L. Martí, R.W. Menzies (Canada)

The Influence of Tap Position on the Magnitude of Transformer Inrush Current

99 IPST 069-9.3 H.S. Bronzeado, J.C. de Oliveira (Brazil)

Three-phase Five-Limb Unified Magnetic Equivalent Circuit Transformer Models for PSCAD V3

99 IPST 028-18.1 W.G. Enright, O. Nayak, N.R. Watson (New Zealand)

A Frequency-Dependent Model for a MV/LV Transformer

99 IPST 098-18.2 Christophe Andrieu, Emmanuel Dauphant, Denis Boss (France)

Tuning of Resonant Modal Transformer Models

99 IPST 015-18.3 M. Condon, D.J. Wilcox (Ireland)

A Transformer Model for Transformer Transfer Voltage Simulations

99 IPST 014-18.4 T. Ueda, T. Funabashi, T. Sugimoto, L. Dube (Japan)

A Novel Approach to Evaluation of Magnetizing Circuit Parameters in Transformers by Using PSPICE

99 IPST 085-18.5 S. Cundeve, L. Petkovska, M. Cundev (Republic of Macedonia)

10 CIRCUIT BREAKER AND ARC MODELS

An Improved Circuit-Breaker Model in MODELS Language for ATP-EMTP Code

99 IPST 053-21.1 Guido Ala, M. Inzerillo (Italy)

A Circuit Breaker Model for Small Inductive Current Interruption

99 IPST 057-21.2 J.M. Prousalidis, N.D. Hatziaargyriou, B.C. Papadias (Greece)

Method to Determine the Parameters of the Electric ARC from Test Data

99 IPST 003-21.3 Walter F. Giménez, Orlando P. Hevia (Argentina)

Dynamic Phasors in Modeling of Arcing Faults on Overhead Lines

99 IPST 063-21.4 Alex M. Stankoviæ (USA)

11 POWER ELECTRONICS, FACTS, SVC, HVDC

Enhanced Modeling of the Fortaleza SVC Incorporating a PLL-based Firing System Validated Against Laboratory Tests

99 IPST 018-C1 A.R.M. Tenório, J.S. Monteiro, A.N. Vasconcelos (Brazil)

EMTP Simulation of Interface Magnetics and Controls in Multi-Pulse High Power Static Var Compensators

99 IPST 119-C2 G. Joos, A.R. Bakhshai (Canada)

Dynamic Analysis of UPFC Using Transient Simulation

99 IPST 118–C3 R. Caldon, P. Mattavelli, B.M. Han (Italy)

ATP Simulation of Switching Transients in ASD Systems Including Cable Modeling and Algorithm for Damping Overvoltage Problem

99 IPST 046–15.1 Eduardo Cano Plata, Oscar Trad, Guisepe Ratta (Argentina)

Determination of Location of FACTS Devices using Fuzzy Decision Making

99 IPST 094–15.2 Mustafa Bagriyanik, Hasan Dag (Turkey)

Controller Modelling in Electromagnetic Transient Simulations

99 IPST 105–15.3 N.R. Watson, G.D. Irwin, O. Nayak (New Zealand)

HVDC Ring Modelling and Simulation - A New State Equation Development Algorithm for Modelling

99 IPST 123–15.4 R. Mienski, T. Siewierski (Poland)

Transient Behavior of Harmonics Filter Operation in a Railway Network

99 IPST 077–19.1 M. Barbieri, S. Achilles, R. Bianchi Lastra, J. Barbero (Argentina)

Transient Studies of the Static VAR Compensator of San Lorenzo - Paraguay

99 IPST 102–19.2 Alfredo J. M. Szostak, Andrés Ramirez, Manuel L. B. Martinez (Brazil)

Modelling Static Watt-Var Compensators using ATP

99 IPST 047–19.3 M. Ceraolo (Italy)

Performance of Static VAR Compensators in Degradated Transmission System Conditions: Dynamic Studies Versus Electromagnetic Transient Studies

99 IPST 051–19.4 M. Correia Lima, Álvaro J.P. Ramos, Francisco. J. de A. Baltar (Brazil)

A Frequency Domain Model for Evaluating Dynamic Compensator Response

99 IPST 084–19.5 Petrus H. Swart (South Africa)

Equivalent Circuits of Power Electronic Converters

99 IPST 007–23.1 D. Nelles, C. Tuttas (Germany)

An Efficient Technique for Determining the Responses of Nonlinear Circuits

99 IPST 045–23.2 S.R. Naidu, W.J. Trindade (Brazil)

Earth Leakage Current in an Isolated Power System with Power Electronic Converters

99 IPST 010–23.3 L. Ran, K.S. Smith (UK)

Comparison of Traditional and Thyristor-controlled Fault Current Limiters for Medium Voltage Application

99 IPST 125–23.4 András M. Dán, László Prikler (Hungary)

Effect Analysis of Thyristor Controlled Ground Fault Current Limiting System for Undergrounded Power Distribution Systems

99 IPST 037–23.5 S. Sugimoto, I. Kouda, H. Arita, J. Kida, Y. Matsui (Japan)

12 POWER QUALITY, HARMONICS, FLICKER

Diagnostic Tool for the Evaluation of Power Quality Events Related to Utility Capacitor Switching

99 IPST 030–4.1 Lee King, Thomas E. Grebe, Siddharth C. Bhatt (USA)

Transient Analysis of Voltage Dips in MV Distribution Networks

99 IPST 083–4.2 A. Barone Barone, A. Campoccia, V. Cataliotti, M Inzerillo (Italy)

Harmonics and Flicker Analysis in Arc Furnace Power Systems

99 IPST 072–4.3 J. Sousa, M.T. Correia de Barros, M. Covas, A. Simoes (Portugal)

Flicker Transient Phenomena Encountered with Diesel Powered Embedded Generation

99 IPST 091–4.4 M.A. Redfern, D.A. Briggs (UK)

Analysis and Control of Harmonic Overvoltages during System Restoration

99 IPST 012–8.1 D.Lindenmeyer, H.W. Dommel, A. Moshref, P. Kundur (Canada)

Studying Harmonic Problems Using a Descriptor System Approach

99 IPST 036-8.2 S.L. Varricchio, N. Martins, Leonardo T.G. Lima, Sandoval Carneiro Jr. (Brazil)

Evaluating Sources of Distortion: Applying Czarnecki's Power Definitions for Nonsinusoidal Situations as Discriminative Distortion Source Evaluators

99 IPST 096-8.3 A.P.J. Rens, M.J. Case (South Africa)

Harmonic Analysis of 110 kV Filter Facility in Power System of Eastern Croatia Using "EasyPower Spectrum" Program

99 IPST 130-8.4 S. Nikolovski, L. Józsa M. Kalea (Croatia)

Harmonic Propagation on Overhead Transmission Lines Operating in Unbalanced Power Systems

99 IPST 086-8.5 S. Ioan, S. Hurdubetiu, B. Angheluta (Romania)

13 REAL TIME SIMULATORS

Real - Time Simulator ARTEMAC for Enhanced Automated Interactive Testing of Digital Relays

99 IPST 061-D1 E. Lerch, O. Ruhle, W. Winter, B. Kulicke, H.-D. Pannhorst (Germany)

Real-Time Power System Simulator on a PC Cluster

99 IPST 043-D3 Y. Fugimoto, Y. Bin, H. Taoka, H. Tezuka, S. Sumimoto, Y. Ishikawa (Japan)

Real Time, Oscillation Free Network Digital Simulation

99 IPST 032-D4 Jacques Szczupak, Carlos A. Duque (Brazil)

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