

IPST '97 TECHNICAL PROGRAM

1 Solution Methods

A predictor-corrector scheme for solving a nonlinear circuit
T. Noda, K. Yamamoto, N. Nagaoka, A. Ametani (Japan)

A new method to determine frequency characteristics of a power system including nonlinear effects
G.T. Wrate, B.A. Mork, K.K. Mustaphi (USA)

The efficient simulation of multiple time scale systems
M. Piller, M. Schmieg (Germany)

Modeling of power electronic apparatus: Additional interpolation issues
A.M. Gole, I.T. Fernando, G.D. Irwin, O.B. Nayak (Canada)

A new concept in power electronics simulation
D. Nelles, C. Tuttas (Germany)

Computation of power systems transients by using sets of algebraic and of state space equations
B.R. Oswald (Germany)

The time constant method in power system dynamics simulation
D. Nelles, C. Tuttas (Germany)

2 Transmission Lines

Modelling of lossy ground parameters in the EMTP for very -fast transient analysis
M. D'Amore, M.S. Sarto (Italy)

On the image approximation of the Sommerfeld integrals for study of fast transients on overhead lines
P. Pettersson (Sweden)

Quasi-modes multiphase transmission line model
M.C. Tavares, J. Pissolato, C.M. Portela (Brazil)

Idempotent line model: Case studies
F.J. Marcano, J.R. MartR (Canada)

A new method of modal analysis applied to the modelling of power transmission lines
D.J. Wilcox, M. Condon (Ireland)

Transmission lines: Fitting technique optimization
A.B. Fernandes, W.L.A. Neves (Brazil)

3 Transformers

Analysis of core type transformer models based on the principle of duality in electromagnetic transients studies

C. SaldaZa, G. Calzolari (Uruguay)

An electromagnetic transients model of multi-limb transformers using normalized core concept
W. Enright (New Zealand), O.B. Nayak, G.D. Irwin (Canada), J. Arrillaga (New Zealand)

PSPICE modeling and experimental results of the magnetic behaviour of a primary side phase controlled transformer

S. Cundeva (Macedonia), M.H.J. Bollen (Sweden)

A frequency-dependent transformer model for transfer voltage study

T. Ueda, T. Sugimoto, T. Funabashi, N. Takeuchi, T. Sato, W. Miura (Japan)

Different methods for modelling the transient behaviour of three-phase high voltage power transformers and deviations in the results

A.M. Miri (Germany)

Air-core transformer: A theoretical analysis and digital simulation

M.R. Aghaeibrahimi, R.W. Menzies (Canada)

4 Network Equivalents

Computation of switching transients using low-order, multi-port network equivalents

M. Kizilcay (Germany)

Dynamic equivalents for electromagnetic transient analysis including frequency-dependent transmission line parameters

L.T.G. Lima, N. Martins, S. Carneiro (Brazil)

Rational functions as frequency dependent equivalents for transient studies

S. Todd, A.R. Wood, P.S. Bodger, B.C. Smith (New Zealand)

5 Simulation Tools

Towards open systems: A PSCAD/EMTDC to MATLAB interface

A.M. Gole, A. Daneshpooy (Canada)

An integrated simulation and control implementation environment

G. Wild, H. Messner, A. Moosburger (Germany), M.H. Xie, A.M. Gole, D.P. Brandt (Canada)

Simulation tool for distribution-system modeling, analysis and algorithm testing

K. Vu, K. Timko, D. Novosel (USA), T. Hakola (Finland)

6 New Tools, New Techniques

Case-based approach for transient analysis modeling using EMTP
A. Ibrahim, T. Niimura, J.R. Marti, H.W. Dommel (Canada)

The analysis of transient phenomena using the wavelet theory
F.A.C. Pires, N.S.D. Brito (Brazil)

Comparison measures for benchmarking time domain simulations
B.A. Mork (USA)

The dual time base method for recording of overvoltages and surges in power systems and HV electrical equipment
M. Gavric (Yugoslavia), M. Kotlica (Canada)

7 Ferroresonance, Inrush Transients

Potential transformer failure due to ferroresonance
S.R. SagardRa, A. Morched (Canada)

Investigation of transformer sympathetic inrush
J.M. Prousalidis, A.G. Georgopoulos, N.D. Hatziargyriou, B.C. Papadias (Greece)

Transformer interaction caused by inrush current
H.S. Bronzeado (Brazil), R. Yacamini (United Kingdom)

8 Rotating Machines

Dynamic simulation of transients in synchronous machines
T. Busch, J. Law, B. Johnson, T. Brown, D. Angell (USA)

Fast bus transfer of induction motor load
X. Wang, M.R. Iravani (Canada)

Modelling the electrical drive system for oil exploitation
A.C.S. de Lima, R. Stephan, J. Mourente (Brazil)

9 Subsynchronous Resonance

HVDC generated SSR oscillations and SSR damping controllers in HVDC
H. Knudsen, S. Strvring-Hallsson (Denmark)

SSR studies in Argentina for the BahRa Blanca generating plant
J.A. Nizovoy, J.L. Alonso, A.C. Alvarez, L.M. Bouyssede (Argentina)

10 Circuit Breakers, Switching Transients

The new EMTP breaker arc model

J. Mahseredjian, M. Landry, B. Khodabakhchian (Canada)

Impact of circuit breaker pre-strike on transmission line energization transients

D.A. Woodford, L.M. Wedepohl (Canada)

EMTP model for controlled switching simulation by means of a TACS routine

R. Rocha, J.L. Tavora (Brazil)

A fault clearing overvoltage in a vacuum circuit-breaker with special reference to circuit parameter uncertainty

N. Kuroda, T. Tanimizu, H. Hasegawa, H. Inaba, A. Ametani (Japan)

11 Cables, GIS

Field measurement and calculation of electromagnetic transients due to faults in a cross-bonded 400 kV cable system

M. Ermel, J. Pannicke, M. Henschel (Germany)

Time domain cable modeling with frequency dependent parameters

M.L.R. Chaves, J.C. Oliveira, J.W. Resende, A.M. Lopes (Brazil)

Tucurui's generator step-up transformer failures due to very fast transients in GIS

J.F. de Lima, C. Machado, W.S. Pinto, J.C. Mendes, R.A. Marcondes (Brazil)

Switching overvoltages on a pipe in a gas-insulated substation

A. Ametani, N. Nagaoka, N. Mori, K. Shimizu (Japan)

12 Lightning, Arresters

Flashover modeling of arcing horns using the MODELS simulation language

T. Funabashi, T. Hagiwara, N. Takeuchi, H. Watanabe, T. Sato, T. Ueda (Japan), L. Dube (USA)

Considerations on using the discharge current charge to the evaluation of switching surge performance of metal oxide surge arresters

M.L.B. Martinez, L. Cera Zanetta (Brazil)

Improvement of the lightning performance evaluation of lines with arresters

L. Cera Zanetta, F.A. Moreira (Brazil)

Evaluation of lightning performance of a new 420 kV and an existing 300 kV parallel circuit in a mountainous area

G.G. LrvDs, T.M. Ohnstad, V. Larsen, L. Hofstad (Norway)

Lightning performance of compact transmission lines

M.O.B.C. Melo, L.C.A. Fonseca, E. Fontana, S.R. Naidu (Brazil)

Substations lightning overvoltages: A software allowing a statistical approach

P. Bergin, B. de Metz Noblat (France)

MTBF due to lightning in 400 kV substations without arresters
D. Alvira, J. Bachiller, F. Soto, E. Caverio (Spain)

Lightning induced voltages in low-voltage systems with emphasis on lossy ground effects
H.K. Hridalen (Norway)

13 Power Electronics, FACTS

Investigation of the TCSC as a fault current limiter
A.R.M. Ten\rio (Brazil), N. Jenkins (United Kingdom)

Teaching shunt FACTS devices with the EMTP
P.G. Barbosa, A.C.S. de Lima, E.H. Watanabe, S. Carneiro (Brazil)

Modelling of a control system of static VAR compensator type "Thyristors Controlled Reactors with Fixed Capacitors" for simulation in the MICROTRAN
H.R.P.M. de Oliveira, J.R. Cogo (Brazil)

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A time domain model for flicker analysis
A.P. Sakis Meliopoulos, G.J. Cokkinides (USA)

Transient behaviour of a fast micro superconducting magnetic energy storage (SMES)
A.M. Miri, H. Salbert, C. Sihler, K.P. Juengst, O. Simon (Germany)

Negative sequence voltage relay misoperations due to cable and transformer energization transients
M.B. Marz, V. Skendzic (USA)

15 Protection

Modelling fault conditions for protection of series compensated lines
M.M. Saha (Sweden), J. Izykowski, B. Kasztenny, E. Rosolowski (Poland)

Distance relaying in environment of advanced series compensation devices
B. Kasztenny (Poland), C. Hatziadoniu (USA)

EMTP as a protection planning tool for the series compensated lines between Finland and Sweden
L. Pottonen (Finland)

Transient based protection - A new concept in power system protection
Z.Q. Bo, A.T. Johns (United Kingdom)

Distinguishing between lightning strokes and earth faults on transmission line using artificial neural network
Z.Q. Bo, W.B. Su, R.H. Hewett, R.K. Aggarwal, A.T. Johns, P.J. Moore, M.A. Redfern (United Kingdom)

Using fault induced transients and neural network for TL ultra high speed fault detection and classification

W.M. Al-hasawi, N.H. Abbasy, M.M. Mansour (Kuwait)

A novel generator protection scheme utilising fault transients

Z.Q. Bo, M.A. Redfern, R.K. Aggarwal, A.T. Johns (United Kingdom)

A new directional comparison technique for line protection based on the measurement of fault current transients

Z.Q. Bo, R.K. Aggarwal, M.A. Redfern, A.T. Johns (United Kingdom)

Automated generation of fault case sets for the functional test of numerical distance protection relays

R. Huwer, D. Nelles, M. Igel (Germany)

Time domain simulation for fault locator design using MODELS

T. Funabashi, Y. Mizuma, H. Otoguro (Japan), L. Dube (USA)

An implementation of Fourier transforms based on distance relaying algorithm using EMTP MODELS

C.H. Kim, M.H. Lee, Y.C. Shin, J.B. Chae, S.W. Park, S.H. Byun (Korea)

ATP modeling of electromechanical distance relays

J.A. Martinez-Velasco (Spain), L. Kojovic (USA)

16 Real Time Systems

Accurate solution of HVDC converters in real time transients simulation

J.R. MartR, S. Acevedo, L.R. Linares, H.W. Dommeil (Canada), Y. Fujimoto (Japan)

Frequency-dependent transmission line modelling for a real-time digital simulator

J. Sousa, M.T. Correia de Barros (Portugal), O. Huet (France)

Incorporating PSCAD/EMTDC into a real time playback test set

P. McLaren, J.Song, B. Xiao, E. Dirks, L. Arendt, R. Wachal, P. Wilson (Canada)

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