

Modeling and Simulation

Enhancements in Power Transformer Arc-Resistant Specifications

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Electromagnetic Transient Simulation and Arc Pressure Development Law of On-load Tap-Changer Interstage Short-circuit Fault

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Comparison of empty and oil-filled transformer tank mode shapes using experimental and FEM modal analysis

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Consideration of Non-Standard Overvoltages Compared with Standard Overvoltages in Power Transformers

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Investigation of Zig-zag 88 kV Transformer Failures Connected to a GIS in Brazilian Power System

Angelica C Oliveira Rocha, Gustavo Costa Oliveira, Felipe Melo Rodrigues

Thermal Performance Analysis of Liquid-Filled Large Distribution Transformers by Enhancing Thermal Hydraulic Modelling with CFD

Ali Al-Abadi, Wei Wu, Jayram Yadava

A Contribution to the Concept of Dynamic Thermal Model of Liquid-Immersed Power Transformers based on detailed Thermal-Hydraulic Network Model

Zoran Radaković, Marko Novkovic, Patrick Picher, Mathieu Kirouac, Federico Torriano

Dynamic thermal modelling of power transformer with variable cooling stages

Tim Gradnik, Xiang Zhang, Remi Desquiens, Irina Lupandina

A Digital Twin for a Dynamic Prediction of Maximal Permissible Transformer Overloads

Johannes Raith, Jakob Gaugl, Fredi Belavić

Neural Ordinary Differential Equations for Thermal Hybrid-modelling of Power Transformers

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Integration Design Pattern for the Development of a Power Transformer Digital Twin

Agostinho Martins Matos, Helena Sofia Lopes, Helder Fernando Mendes

Metrics for benchmarking and evaluation of dynamic transformer thermal models

Tim Gradnik, Xiang Zhang, Irina Lupandina, Remi Desquiens, Tor Laneyrid

Dynamic thermal modelling of power transformer with variable tap position

Federico Portillo, Alvaro Portillo, Tim Gradnik, Remi Desquiens, Irina Lupandina, Patrick Picher

Numerical calculation and direct measurement of local hot spot temperatures in transformer clamping plates

Dino Kovačević, Mladen Marković, Damir Blažina

Cooling of Winding with Radial Cooling Ducts without Washers in Liquid-Immersed Power Transformers with Natural Liquid Flow

Anastasija Popovic, Uros Radoman, Zoran Radakovic

Electromagnetic-Thermal Numerical Coupling Approach for High Voltage Class Dry-Type Transformers

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New Concepts on Dynamic Thermal Behavior of Ester Liquid-Filled Transformers: Application on a Case Study Simulated in a Cold Climate Condition

Ali Al-Abadi, Ahmed Gamil, Pawel Klys, Robert Daszkiewicz

Computational Fluid Dynamics and Thermal Hydraulic Modelling Approaches for Calculation of Thermal Performance of Oil-Filled Distribution Transformers with Corrugated Walls
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A Generalized Model for Calculating the Load Sound Level of Liquid-Filled Power Transformers
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The importance of internal oil flow distribution in OF cooled power transformers
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Influence of Cooling Management to Transformer Efficiency and Ageing
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Design criteria research for complex insulation systems using optimization algorithms and statistical techniques
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Hybrid Analytical-FEM Approach for Power Transformer Transient Analysis
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Simulation and Testing of Ferroresonance Inception Possibility in Instrument Transformers
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Multi-Step Approach for Fast Calculation of Magnetic Field in Transformer Tank Shields
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Electromagnetic properties analysis of autotransformers with low reduction factor and their influence on the design
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Clamping Pressure Behavior of Pressboard under Thermal Cycling: Experimental and Numerical results
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Simulations of Resin Impregnated Paper transformer bushings: from design to diagnostics
Christos Athanasopoulos, Anders Eriksson

Statistical Regularity in Reactance in Split-Winding Transformers During Non-Symmetrical Load
Leonardo Štrac, Kosjenka Capuder Bikić, Goran Plišić

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Transformer digital twin – concept and future perspectives

Patrick Picher, Alexander Alber, Sicheng Zhao, Zhongdong Wang, Sruti Chakraborty, Stephan Voss, Mohamed Ryadi, Tony McGrail, Nima Sadr Momtazi

Internal arc performance of instrument transformers filled with different dielectric liquids

Ivan Mihoković, Anton Rački, Igor Ziger, Eduard Plavec

Mitigation of fire due to high energy internal arc in bushing turrets

Mohamed Ryadi, Luc Paulhiac, Luis Chinchilla Delgado, Martin Stoessl, Ewald Taschler, Hannes Bachkoenig

Gas generation of vacuum OLTC

Anton Bergstrom, Niklas Gustavsson, Lars Liden

Forecasting Dissolved Gas and Moisture in Power Transformers using Residual Neural Network

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Estimation of mineral insulating liquid properties through spectroscopic measurements and machine learning

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Dielectric properties of aramid pressboard in various insulating liquids

Radosław Szewczyk, Jean-Claude Duart, Hogan Liao

Clamping pressure during step loading of power transformer with and without prior energisation

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How to optimize large power transformers for offshore applications

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Containment of High Energy Internal Arc Failures in Transformers with On-Load Tap-Changer

Martin A. Stoessl, Ewald Taschler, Moritz Bengler, Marc Foata, Sebastian Rehkopf

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Transformer diagnosis using vibration measurements to detect voltage harmonics and DC bias

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Short-circuit withstand test of 00 MVA axial split dual MV offshore transformer

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Investigation of Short Circuit Occurrence in the Windings of Distribution Transformers

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Investigation of potential benefits of using extensive hotspot monitoring in power transformers

Camilla Espedal, Nargis S. Hurzuk, Maren Istad

Experimental verification of low-frequency signal injection through inductive voltage transformers for earth-fault detection

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Jose Quintana, Wilson Smith, Mateja Cepin

Electrical Grid Protection Based on Non-Conventional Instrument Transformers and Sensors

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Test methods for validating inductive transformer performance during cable discharge: Main principles, parameters and testing procedures

Andrea Grđan, Igor Ziger, Zlatko Hanić, Imre Tennemaat, Ralf Huth, Ivan Novko

Automated measurement system of high accuracy for shunt reactors

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Effects of oil interventions on transformer solid insulation ageing markers

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Estimation of Oil Quality of Power Transformers Based on Markov Chains

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Analysis of Major Failures of Power Transformers

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Can winding ageing be modelled? A scrapping investigation of transformer with stable load

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Condition Assessment of Bushings to Prevent Unplanned Outages of 00 kV Transformers and Shunt Reactors in the Swedish National Grid

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Oil/SF6 RIP High Voltage Bushings on GIS Field Cases of Tests Onsite and Investigations

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An approach to Dissolved Gas Analysis in Power Transformers considering Thermo-Oxidative Stray Gassing

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Diagnostic tools for thermal fault analysis in transformers with aramid insulation

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Development of an AI-based Fault Diagnosis System for Transformers through Prediction of Dissolved Gas Generation and Fault Location.

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Development of 77kV Natural Ester Transformers and Consideration of Maintenance Management Criteria

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Effects of Selective Gas Sorption of Insulating Paper on the Interpretation of Dissolved Gas-in-Oil

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Partial Discharge Monitoring of Power Transformers by Calibrated UHF Measurements

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Impact of Damage Analysis on Transformers Reliability

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Improved energy efficiency and loadability of power transformer by reconsidering the tertiary shunt reactor placing strategy

Kent Olsson, Esa Virtanen, Jan Hajek

Arresting of oil leakage in different locations of Transformers/Reactor using thrifty techniques - Case study

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The Fault Activity Indicator - a new approach to online DGA monitoring

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Integration of Asset Performance Management with monitoring and mobility solutions

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Preliminary Results by a Multi-Sensor Robot for the Lifecycle Monitoring of Transformers

Jakub Waikat, Amel Jelidi, Sandro Lic, Georgios Sopidis, Olaf Kähler, Anna Maly, Jesus Pestana, Ferdinand Fuhrmann, Fredi Belavic

D Acoustic Heat-Maps for Transformer Monitoring Applications

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Development of an Online Partial Discharge Monitoring System for Power Transformers

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