

Contents

1	Load Flow Calculation and Its Application	1
	Muhammad Raza	
2	Modelling of Transmission Systems Under Unsymmetrical Conditions and Contingency Analysis Using DIgSILENT PowerFactory	27
	J.M. Roldan-Fernandez, Francisco M. Gonzalez-Longatt, José Luis Rueda and H. Verdejo	
3	Probabilistic Power Flow Module for PowerFactory DIgSILENT	61
	Saeed Teimourzadeh and Behnam Mohammadi-Ivatloo	
4	Unbalanced Power Flow Analysis in Distribution Systems Using TRX Matrix: Implementation Using DIgSILENT Programming Language	85
	Paulo M. De Oliveira-De Jesus, Andres A. Rojas Q and Francisco M. Gonzalez-Longatt	
5	DC Optimal Power Flow Formulation Using the Power Transmission Distribution Factors—A DIgSILENT Programming Language Application	111
	Víctor Hinojosa-Mateus, Leonardo Pérez-Andrades and Jovan Ilić	
6	Assessing the Renewable Energy Sources Integration Through a Series of Technical Performance Indices Using DIgSILENT PowerFactory DPL	135
	A.I. Nikolaidis, Francisco M. Gonzalez-Longatt and C.A. Charalambous	

7	Modeling of Automatic Generation Control in Power Systems . . .	157
	V. Pavlovsky and A. Steliuk	
8	Gas Turbine Modelling for Power System Dynamic Simulation Studies	175
	Lasantha Meegahapola and Damian Flynn	
9	Implementation of Simplified Models of DFIG-Based Wind Turbines for RMS-Type Simulation in DIgSILENT PowerFactory	197
	José Luis Rueda, Abdul W. Korai, Jaime C. Cepeda, István Erlich and Francisco M. Gonzalez-Longatt	
10	Parameterized Modal Analysis Using DIgSILENT Programming Language	221
	Sergio Pizarro-Gálvez, Héctor Pulgar-Painemal and Víctor Hinojosa-Mateus	
11	Probabilistic Approach for Risk Evaluation of Oscillatory Stability in Power Systems	249
	José Luis Rueda, Jaime C. Cepeda, István Erlich, Abdul W. Korai and Francisco M. Gonzalez-Longatt	
12	Mean–Variance Mapping Optimization Algorithm for Power System Applications in DIgSILENT PowerFactory	267
	Jaime C. Cepeda, José Luis Rueda, István Erlich, Abdul W. Korai and Francisco M. Gonzalez-Longatt	
13	Application and Requirement of DIgSILENT PowerFactory to MATLAB/Simulink Interface	297
	Shadi Khaleghi Kerahrودي, Mohsen M. Alamuti, F. Li, G.A. Taylor and M.E. Bradley	
14	Advanced Applications of DPL: Simulation Automation and Management of Results	323
	Matthias Stifter, Serdar Kadam and Benoît Bletterie	
15	Interfacing PowerFactory: Co-simulation, Real-Time Simulation and Controller Hardware-in-the-Loop Applications	343
	Matthias Stifter, Filip Andrén, Roman Schwalbe and Werner Tremmel	

16	PowerFactory as a Software Stand-in for Hardware in Hardware-In-Loop Testing	367
	Radhakrishnan Srinivasan	
17	Programming of Simplified Models of Flexible Alternating Current Transmission System (FACTS) Devices Using DIgSILENT Simulation Language	391
	Jaime C. Cepeda, Esteban D. Agüero and Delia G. Colomé	
18	Active and Reactive Power Control of Wind Farm Based on Integrated Platform of PowerFactory and MATLAB.	421
	Min-hui Qian, Da-wei Zhao, Da-jun Jiang, Ling-zhi Zhu and Jin Ma	
19	Implementation of Simplified Models of Local Controller for Multi-terminal HVDC Systems in DIgSILENT PowerFactory.	447
	Francisco M. Gonzalez-Longatt, J.M. Roldan, José Luis Rueda, C.A. Charalambous and B.S. Rajpurohit	
20	Estimation of Equivalent Model for Cluster of Induction Generator Based on PMU Measurements.	473
	Francisco M. Gonzalez-Longatt, José Luis Rueda, C.A. Charalambous and P. De Oliveira	

PowerFactory Applications for Power System Analysis

Gonzalez-Longatt, F.; Luis Rueda, J. (Eds.)

2014, XIII, 489 p. 262 illus., 185 illus. in color.,

Hardcover

ISBN: 978-3-319-12957-0