CALL FOR PAPERS

Special Session on Geographically Distributed Real-Time Simulation and Lab-based Testing of Power Systems

IECON 2018 - The 44th Annual Conference of the IEEE Industrial Electronics Society
October 21-23, 2018, Washington D.C, USA

TOPIC OF THE SPECIAL SESSION

The integration of distributed energy resources, new generation approaches and other novel technologies such as smart grid demand for powerful simulation methods to investigate both component behavior and system level interactions. Real-time simulation technology offers such platform where digital hardware and software is used to produce system response. The analysis of transmission networks data and has shown that those networks exhibit too many nodes to be simulated monolithically on commercially available real time simulators if the detailed dynamics are considered. To tackle this challenge geo-graphically distributed real-time simulation platforms are developed. That have to solve the inherent communication latencies and integrates the heterogeneous simulators into a coherent simulation en-vironment. In addition, also the distributed validation and testing on laboratory scale is important. Prior to installation, the operation of new concepts and technologies should be simulated in order to ensure safe operation and reduce the cost of field testing. To accomplish that, advanced modeling and simulation technologies as well as testing procedures are required for individual components as well as for whole energy systems.

Topics of the Session

➢ Theory and application of real-time simulation of electrical system

➢ Real-time modelling and simulation of distributed energy resource

➢ PHIL power interfacing algorithms (CPU/FPGA computation)

➢ Interoperability and Interchangeability of protocols and device for laboratory based testing

➢ Distributed real-time simulations (platforms, solvers, modelling, communication and latencies modelling)

➢ Design of validation and testing approaches for smart grid systems

IEEE IES Technical Committee Sponsoring the Special Session:

➢ IES TC on Smart Grids (TC-SG)

➢ IES TC on Industrial Cyber-Physical Systems

➢ IEEE IES TC on Standards

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Author's schedule:

➢ Deadline for submission of special session papers
Date 1 (use from http://www.iecon2018.org)

➢ Notification of acceptance
Date 2 (use from http://www.iecon2018.org)

➢ Deadline for submission of final manuscripts
Date 3 (use from http://www.iecon2018.org)

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