

Real-time Simulation and Hardware-in-the-Loop Testing using Typhoon HIL

Call for Chapter Proposals

Scope of the Book:

Typhoon HIL has recently emerged as a powerful tool in the rapidly growing field of ultra-high-fidelity controller-hardware-in-the-loop (C-HIL) simulations for power electronics, micro-grids, and distribution networks. Considering the increasing interest of academia and industry in "Typhoon HIL" meant for a sophisticated testing solution for model-based systems engineering, this book aims to integrate the coverage of underlying theory and acclaimed methodological approaches as well as high-value applications of the real-time simulation and hardware-in-the-loop testing—all from the perspectives of eminent researchers around the globe those are utilizing "Typhoon HIL".

You are invited to submit the proposals of original and high-quality chapters for the abovementioned book. On acceptance of the proposal, it will be necessary to submit the full chapter along with all the supplementary files like model and code etc.

Specific topics of interest (but not limited to):

- Typhoon HIL Device Architecture, Technology and Applications
- Typhoon HIL Control Centre and Virtual HIL Device
- Multi-HIL Configuration, Testing and Applications
- Power Electronic Converters: Simulation using Virtual HIL Device
- Control of Grid-connected Converters
- Multi-level Converter and Control
- PV Panel Design and Testing using Typhoon HIL Waveform Generator
- Grid-connected Wind / Solar PV Systems
- Fault Diagnosis for Switching Power Converters
- Selective Harmonic Compensation in Active Power Filters
- Real-time Simulation of a Phasor Measurement Unit
- Electric Vehicles with Charging Station for V2G and G2V Applications
- Vector-controlled AC Motor Drives
- Sensorless Control of Electric Motor Drives
- Multi-functional Three-phase Converter and Control
- Maximum Power Point Tracking in Wind / Solar PV Systems
- Modelling and HIL Testing of Renewable Energy Systems / Micro-grid
- Multi-modular Converter for HVDC
- Modelling and Real-time Simulation of Power Systems
- Power System Protection Coordination and Relay-in-the-Loop Simulation
- **Case Studies on relevant topics of interest:** Power system control applications; Advanced balancing services in power systems; Impact of electrical vehicle charging on the distribution network; Energy management; Co-simulation etc.

Important Dates:

Deadline for Chapter Proposals:
December 05, 2021

Decision from Editors:
December 20, 2021

Full Chapter Submission Deadline:
January 20, 2022

Feedback of Reviewers:
February 28, 2022

Submission of Revised Chapters:
March 20, 2022

Final Decision Notifications:
April 20, 2022

Final Manuscript Submission
April 30, 2022

Manuscript Submission to the Press:
June 15, 2022

Editors



Dr. Saurabh Mani Tripathi
Kamla Nehru Institute of Technology
Sultanpur, (U.P.), India



Prof. F. Gonzalez-Longatt
University of South-Eastern Norway,
Porsgrunn, Norway

Please submit your CHAPTER PROPOSAL online:
<https://forms.gle/oKBgBhhEFCpbCg2V8>

For queries feel free to contact:
thil.editor@gmail.com