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Titolo	Real-Time Simulation and Hardware-in-the-Loop Testing Using Typhoon HIL / / edited by Saurabh Mani Tripathi, Francisco M. Gonzalez-Longatt
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Soggetti	Computers, Special purpose Computer engineering Computer networks Electronic circuits Electronic digital computers—Evaluation Microprocessors Computer architecture Special Purpose and Application-Based Systems Computer Engineering and Networks Electronic Circuits and Systems System Performance and Evaluation Processor Architectures
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Nota di contenuto	Introduction to Typhoon HIL -- Typhoon HIL Control Centre and Virtual HIL Device -- Control of Grid-tied Converter: Real-time Validation -- Real-time Control Validation for Multilevel Converter -- Design and Analysis of Cascaded H-Bridge Eleven-Level Inverter -- Grid-connected converter employing optimized modulation strategy coordinated with the virtual synchronous machine concept -- Development of MMC based HVDC and model for SSR analysis in Typhoon HIL -- Selective Harmonic Compensation in Active Power Filter -- RHigh Impedance Fault Modelling and Tests for Real Time Applications -- Cyber Security

	in Smart Grid -- Sensorless Control of Electric Motor Drives -- Validation of Relaying Techniques on HIL Platform -- Power System Protection Co-ordination and Relay-in-the-Loop -- Testing Distance Element of SEL411-L using Power Hardware-in-the-Loop -- Testing IEC61850 Sampled Values using Typhoon HIL 604.
Sommario/riassunto	This book is an edited collection that explores the fundamental concepts of real-time simulation/hardware-in-the-loop testing using ‘Typhoon HIL’ for complex electrical systems. 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, microgrids, and distribution networks. The book integrates the coverage of underlying theory and acclaimed methodological approaches and high-value applications of real-time simulation and hardware-in-the-loop testing—all from the perspectives of eminent researchers around the globe utilizing Typhoon HIL. This book serves as a valuable resource for engineers, academicians, researchers, experienced professionals, and research scholars engaged in /becoming familiarized with the real-time simulation of complex electrical systems using Typhoon HIL with a specific focus on hardware-in-the-loop testing.