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Titolo	Managing the Complexity of Critical Infrastructures [[electronic resource] ] : A Modelling and Simulation Approach // edited by Roberto Setola, Vittorio Rosato, Elias Kyriakides, Erich Rome
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Descrizione fisica	1 online resource (VIII, 299 p. 136 illus., 117 illus. in color.)
Collana	Studies in Systems, Decision and Control, , 2198-4182 ; ; 90
Disciplina	620
Soggetti	Computational complexity Computer simulation Quality control Reliability Industrial safety Electrical engineering Complexity Simulation and Modeling Quality Control, Reliability, Safety and Risk Communications Engineering, Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Critical Infrastructures -- Modelling dependencies between critical infrastructures -- Critical Infrastructures disruption scenario analyses via simulation -- Physical simulators of critical infrastructures -- Phenomenological simulators of critical infrastructures -- Federated simulations -- Cyber and physical threats modelling -- Verification and validation -- Design of DSS for supporting preparedness to and management of anomalous situations in complex scenarios -- The use of What-if analysis to improve the management of critical situations -- Model coupling with OpenMI introduction of basic concepts.
Sommario/riassunto	This book is open access under a CC BY 4.0 license. This book summarizes work being pursued in the context of the CIPRNet (Critical

Infrastructure Preparedness and Resilience Research Network) research project, co-funded by the European Union under the Seventh Framework Programme (FP7). The project is intended to provide concrete and on-going support to the Critical Infrastructure Protection (CIP) research communities, enhancing their preparedness for CI-related emergencies, while also providing expertise and technologies for other stakeholders to promote their understanding and mitigation of the consequences of CI disruptions, leading to enhanced resilience. The book collects the tutorial material developed by the authors for several courses on the modelling, simulation and analysis of CIs, representing extensive and integrated CIP expertise. It will help CI stakeholders, CI operators and civil protection authorities understand the complex system of CIs, and help them adapt to these changes and threats in order to be as prepared as possible for mitigating emergencies and crises affecting or arising from CIs.

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