

Critical Infrastructure Security:
Assessment, Prevention, Detection, Response
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Hints for reading and classroom use

This book is divided into five parts:

Part I - Fundamentals of Security Risk and Vulnerability Assessment

Part II - Modelling and Simulation Tools for Critical Infrastructures

Part III - Cyber security in Information and SCADA Systems

Part IV - Monitoring and Surveillance Technologies

Part V - Security Systems Integration and Alarm Management

While it would be certainly advisable to read all the parts sequentially, it is also possible to concentrate on a subset of them and/or to change the order in which they are read or studied, according to the needs of the reader or to the syllabus of the course in which the book is adopted.

Part I is essential since it provides the basic concepts of threat, vulnerability and risk in homeland security. It could be skipped only if the reader is already familiar with the topics addressed. I suggest reading it as an introduction to any of the remaining parts of the book.

Part II is the most theoretical one since it provides advanced techniques for skilled modellers. I believe it is essential for researchers as well as for adoption in graduate or post-graduate courses specifically addressing methods and tools for the risk analysis of complex systems.

Part III extensively covers the issues related to network security in critical information infrastructures. As such, it is self-contained and can be also adopted in any courses about computer dependability.

Part IV focuses on the state-of-the-art in smart-sensing technologies. It is very interesting to read for any experts working in the field of physical security, like security engineering professionals, who will likely choose to combine parts I, IV and – possibly – V of the book.

Part V describes the latest advances in the design of large integrated security systems and presents the challenges related to effective information fusion, emergency response and crisis management; its also covers the most relevant aspects related to human-machine interaction and human factors.

The Editor