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   Titolo   Cyber Resilience System Engineering Empowered by Endogenous Security and Safety / / by Jiangxing Wu

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   Descrizione fisica   1 online resource (533 pages)

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   Soggetti   Computer networks - Security measures
   Computer security
   Cryptography
   Data encryption (Computer science)
   Mobile and Network Security
   Principles and Models of Security
   Cryptology

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di bibliografia   Includes bibliographical references.

   Nota di contenuto   Chapter 1. Cyberspace Endogenous Security and Safety Problems -- Chapter 2. Cyberspace Endogenous Security and Safety Defense Vision -- Chapter 3. The Principle and Structure of Cyberspace Endogenous Security and Safety -- Chapter 4. Introduction to Functional Safety and Cyber Resilience -- Chapter 5. The Framework of Cyber Resilience Engineering Empowered by Endogenous Security and Safety -- Chapter 6. Metrics and Assessment of ESS-Empowered Cyber Resilience -- Chapter 7. Engineering Applications in Typical Fields of ESS Empowerment -- Chapter 8. Exploration of Emerging Fields Empowered by Endogenous Security and Safety -- Appendix.

   Sommario/riassunto   This book reveals the essence of endogenous or internal contradictions in cyberspace security issues, systematically expounds the principle of cyberspace endogenous security and safety, introduces the author-invented dynamic heterogeneous redundant (DHR) architecture with endogenous security and safety features, and theoretically answers why DHR endogenous security and safety architecture can enable network

resilience engineering; the enabling role of DHR architecture solves the problem that network resilience cannot cope with unknown damage, lacks structural gain, and cannot quantify design measures. This book analyses the systematic security gains that DHR architecture enabling network resilience engineering can bring in the four purpose dimensions of prevention, defense, recovery and adaptation; gives an application example of DHR endogenous security and safety architecture enabling network resilience engineering; introduces the research and exploration of endogenous security and safety theory in wireless communication security, artificial intelligence security and other derivative application fields; and uses rich application examples. It shows that the endogenous security and safety architecture enabling network resilience engineering not only is very necessary but also has universal application significance. This book is suitable for postgraduate teaching materials or reference books of related disciplines, such as cybersecurity, network resilience engineering, confidential computing/trusted computing, information physical systems/industrial control, etc.