

1. Record Nr.	UNINA9910349501703321
Autore	Djordjevic Ivan B
Titolo	Physical-Layer Security and Quantum Key Distribution // by Ivan B. Djordjevic
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-27565-5
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XV, 472 p. 221 illus., 190 illus. in color.)
Disciplina	005.8
Soggetti	Spintronics Telecommunication Engineering mathematics Engineering - Data processing Computer networks Communications Engineering, Networks Mathematical and Computational Engineering Applications Microwaves, RF Engineering and Optical Communications Computer Communication Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Information theory fundamentals -- Conventional cryptography fundamentals -- Physical-layer security (PLS) -- Quantum information theory and quantum information processing fundamentals -- Quantum key distribution -- Discrete-variable (DV) QKD -- Continuous-variable (CV) QKD -- Measurement-device-independent (MDI) -- Covert/stealth/low-probability of detection classical and quantum communications -- Cyber security, PLS, and QKD relationship -- Conclusion.
Sommario/riassunto	This textbook integrates the most advanced topics of physical-layer security, cryptography, covert/stealth communications, quantum key distribution (QKD), and cyber security to tackle complex security issues. After introducing the reader to various concepts and practices, the author addresses how these can work together to target problems, rather than treating them as separate disciplines. This book offers

students an in-depth exposition on: cryptography, information-theoretic approach to cryptography, physical-layer security, covert/stealth/low-probability of detection communications, quantum information theory, QKD, and cyber security; to mention few. The goal is to provide a unified description of the most advanced topics related to: (i) modern cryptography, (ii) physical-layer security, (iii) QKD, (iv) covert communications, and (v) cyber security. Each chapter is followed by a set of problems. Also, for readers to better understand the book, an appendix covers all needed background. Homework problems and lecture notes are available online. The book does not require any prior knowledge or prerequisite material. Integrates modern cryptography, physical-layer security, QKD, covert communication, and cyber security technologies and shows students how they can work together to solve issues. Does not require prior knowledge in corresponding fields or prerequisite material except basic concepts on vector algebra at undergraduate level. Can be used in multiple courses, such as modern cryptography, physical-layer security, QKD, or a combination of these.

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