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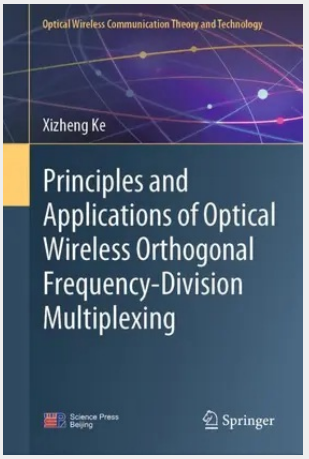
Principles and Applications of Optical Wireless Orthogonal Frequency-Division Multiplexing



This book explains the principles and various applications of Optical Wireless Communication Orthogonal Frequency Division Multiplexing (OWC-OFDM) and validates the relevant theories through numerical analysis and communication experiments. The book consists of 10 chapters, first providing a systematic and in-depth analysis of the research progress of optical wireless communication and clarifying the importance and advantages of optical wireless OFDM transmission. Then the source coding is discussed, the optical OFDM system is clarified, and the characteristics of optical wireless OFDM are explained by numerical simulation. Theoretical analysis and numerical simulation of peak ratio, time synchronization, channel estimation, and channel allocation of wireless OFDM are carried out. Numerical simulation and communication experiments in the book verify the performance of optical wireless OFDM systems and the feasibility of related algorithms.

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171,19 €
159,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9789819779727
Medium: Buch
ISBN: 978-981-97-7972-7
Verlag: Springer
Erscheinungstermin: 18.02.2025
Sprache(n): Englisch
Auflage: 2025
Serie: Optical Wireless Communication Theory and Technology
Produktform: Gebunden
Gewicht: 1015 g
Seiten: 523
Format (B x H): 160 x 241 mm