1. Record Nr. UNINA9911019563303321 Autore Yao Jianping Titolo Microwave Photonics Pubbl/distr/stampa Newark:,: John Wiley & Sons, Incorporated,, 2024 ©2024 **ISBN** 9781394205318 1394205317 9781394205295 1394205295 Edizione [1st ed.] Descrizione fisica 1 online resource (499 pages) Altri autori (Persone) CapmanyJosé LiMing Disciplina 621.3813 Soggetti Microwave optics **Photonics** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Cover -- Title Page -- Copyright Page -- Contents -- About the Nota di contenuto Authors -- About the Companion Website -- Chapter 1 Introduction to Microwave Photonics -- 1.1 Photonic Generation of Microwave Signals -- 1.2 Photonic Microwave Signal Processing -- 1.3 Photonic Distribution of Microwave Signals -- 1.4 Photonic Generation of Ultrawideband Signals -- 1.5 Photonic Generation of Microwave Arbitrary Waveforms -- 1.6 Microwave Photonic Beamforming Networks for Phased Array Antennas -- 1.7 Photonic-Assisted Instantaneous Microwave Frequency Measurements -- 1.8 Microwave Photonic Sensors -- 1.9 Photonic Analog-to-Digital Conversion -- 1.10 Novel Optoelectronic Oscillators -- 1.11 Quantum Microwave Photonics --1.12 Integrated Microwave Photonics -- 1.13 Applications of Microwave Photonics -- Chapter 2 Optical Devices for Microwave Photonics -- 2.1 Introduction -- 2.2 Optical Fibers and Planar Waveguides -- 2.2.1 Structure and Geometry of Optical Fibers and Planar Waveguides -- 2.2.2 Basic Electromagnetic Theory for Optical

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Sommario/riassunto

This book, 'Microwave Photonics', provides an in-depth exploration of the integration of photonics and microwave technologies. It covers a range of topics including the photonic generation of microwave signals, signal processing, distribution, and applications in beamforming networks for phased array antennas. The book also delves into the technical aspects of optical devices used in microwave photonics, such as optical fibers, modulators, and sensors. It is aimed at professionals and researchers in the field of electrical and electronics engineering, offering insights into advanced concepts such as quantum microwave photonics and integrated microwave photonics. Authored by experts in the field, it serves as a comprehensive resource for understanding the latest advancements and applications in microwave photonics.