1. **Record Nr.**   UNINA9910744501803321

   Autore   Luo Jun <1963->

   Titolo   Metamaterial-Based Optical and Radio Frequency Sensing / / by Jun Luo, Dong Wei, Xinyu Zhang

   Pubbl/distr/stampa   Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023

   ISBN   981-9929-65-2

   Edizione   [1st ed. 2023.]

   Descrizione fisica   1 online resource (244 pages)

   Collana   Advances in Optics and Optoelectronics, , 2731-6017

   Disciplina   780

   Soggetti   Optoelectronic devices
                      Metamaterials
                      Submillimeter waves
                      Optical materials
                      Optoelectronic Devices
                      Terahertz Optics
                      Optical Materials

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di bibliografia   Includes bibliographical references.

   Nota di contenuto   Ideas of Optical Frequency-RF Signal Detection -- Fundamentals of Terahertz Detectors -- Metamaterial Detection Methods -- Numerical Simulation of Metamaterials -- 5 Design and Fabrication of Metamaterial Devices -- Modeling of Infrared Long-Wave Detection for Metamaterials -- Metamaterial Signal Sensing Based on Continuous Terahertz Waves -- Signal Sensing of Electrically Controlled Metamaterials Based on Terahertz Time-Domain Spectra (THz-TDS) -- Induction and Detection of Optical Frequency Infrared -- Induction and Detection of RF Millimeter Wave Signals -- Subwavelength Stealth Technology of Metamaterials -- Optical Frequency-RF Integrated Detection Architecture Based on Metamaterials -- References.

   Sommario/riassunto   This book highlights the fundamentals and practical methods of metamaterials-based optical and radio frequency sensing. Combined with engineering practices, the book illustrates in detail wide frequency electromagnetic signal cloaking and the detection behavior of metasurfaces, including the structure of metasurfaces, electric-controlled behaviors, layout design and fabrication methods, and

related experiment results. This book is expected to inspire the research and development of new optical and radio frequency detectors. It is suitable for researchers and engineers working on semiconductor devices, applied optics, and wide frequency signal detection. It is also a good reference for students in these areas.