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Titolo Electromagnetic Metamaterials and Metasurfaces: From Theory To

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Nota di contenuto Introduction -- Theory Models of Electromagnetic Metamaterials and

Metasurfaces -- Analysis and Design Methods of Metamaterials and Metasurfaces -- Analysis and Applications of Electromagnetic Bandgap Metasurfaces -- Graphene-Based Metamaterial Absorber -- Frequency-Domain and Space-Domain Reconfigurable Metasurfaces -- Reflective and Transmission Metasurface Designs for Orbital Angular Momentum Vortex Waves Generation -- Invisible Cloak Design and Application of Metasurfaces on Microwave Absorption and RCS Reduction -- Metasurface-Based Wireless Power Transfer System -- Rectifying Metasurfaces for Wireless Energy Harvesting System -- Concept and Applications of Information Metamaterials and Metasurfaces --

Summary.

Sommario/riassunto The subject of this book is the fast-developing area of research known

as metamaterials/metasurfaces and some of their engineering

applications. This book comprehensively presents the state of the art of

metamaterials/metasurfaces from theory to applications. The theoretical side includes electrodynamics of left-handed medium,

generalized Snell's law, digital coding metamaterials/metasurfaces, group theory of metamaterials, information metamaterials and metasurfaces, etc. On the application side, a wide range of design examples are discussed, including metamaterial antennas, electromagnetic interference, frequency selective surfaces, wireless power transmission and energy harvesting, cloaking and radar cross section reduction, orbital angular momentum, wireless communication, imaging, etc. The book provides researchers, engineers, and graduate students with a variety of new discoveries, results, information, and knowledge in the field of metamaterials and metasurfaces.