Metamaterials with Negative Parameters: Theory, Design, and Microwave Applications
Ricardo Marqués, Ferran Martín, Mario Sorolla

DESCRIPTION

The first general textbook to offer a complete overview of metamaterial theory and its microwave applications

Metamaterials with Negative Parameters represents the only unified treatment of metamaterials available in one convenient book. Devoted mainly to metamaterials that can be characterized by a negative effective permittivity and/or permeability, the book includes a wide overview of the most important topics, scientific fundamentals, and technical applications of metamaterials.

Chapter coverage includes: the electrodynamics of left-handed media, synthesis of bulk metamaterials, synthesis of metamaterials in planar technology, microwave applications of metamaterial concepts, and advanced and related topics, including SRR- and CSRR-based admittance surfaces, magneto- and electro-inductive waves, and sub-diffraction imaging devices. A list of problems and references is included at the end of each chapter, and a bibliography offers a complete, up-to-date representation of the current state of the art in metamaterials.

Geared toward students and professionals alike, Metamaterials with Negative Parameters is an ideal textbook for postgraduate courses and also serves as a valuable introductory reference for scientists and RF/microwave engineers.
ABOUT THE AUTHOR

**Ricardo Marqués** is a Professor in the Departamento de Electrónica y Electromagnetismo at the Universidad de Sevilla in Spain.

**Ferran Martín** is a Professor in the Departament d'Enginyeria Electrònica at the Universitat Autònoma de Barcelona in Spain.

**Mario Sorolla** is a Professor in the Departamento de Ingeniería Eléctrica y Electrónica at the Universidad Pública de Navarra in Spain.

Professors Marqués, Martín, and Sorolla have coauthored more than fifty research works in the field of metamaterials, published in relevant journals and conference proceedings, and have been responsible for various domestic and international projects. They hold several patents related to metamaterial applications.

SERIES

Wiley Series in Microwave and Optical Engineering

To purchase this product, please visit [https://www.wiley.com/en-us/9780471745822](https://www.wiley.com/en-us/9780471745822)