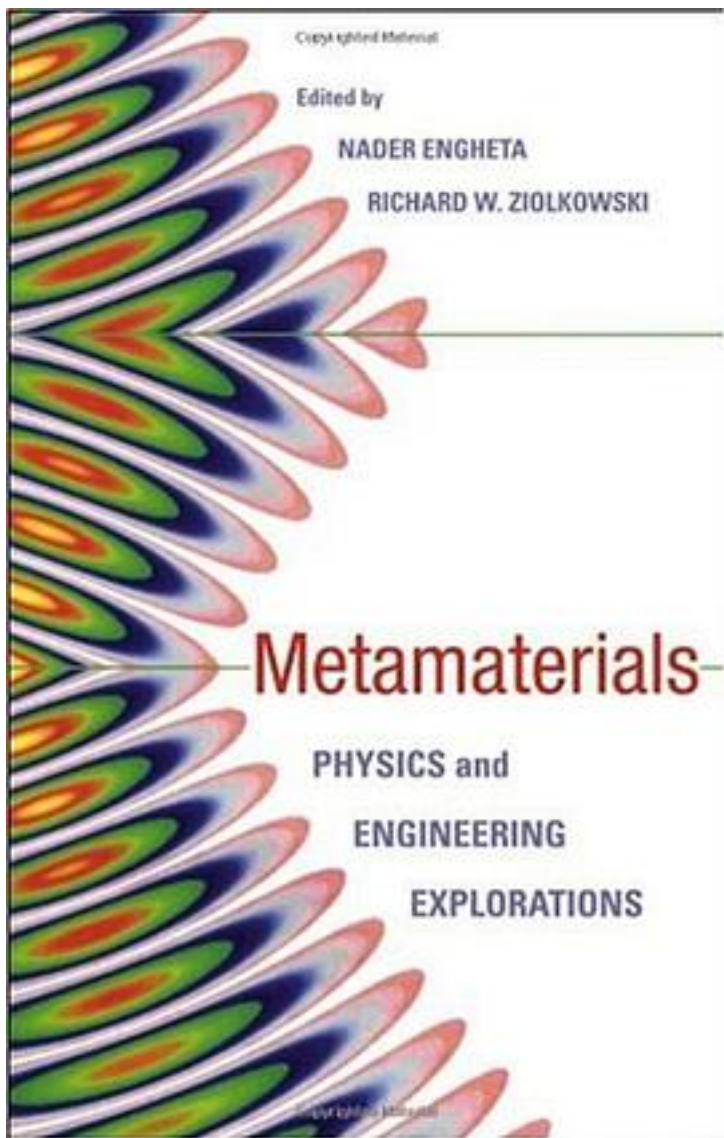


Metamaterials: Physics and Engineering Explorations



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著者:Nader Engheta

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Product Description

Leading experts explore the exotic properties and exciting applications of electromagnetic metamaterials

Metamaterials: Physics and Engineering Explorations gives readers a clearly written, richly illustrated introduction to the most recent research developments in the area of electromagnetic metamaterials. It explores the fundamental physics, the designs, and the engineering aspects, and points to a myriad of exciting potential applications. The editors, acknowledged leaders in the field of metamaterials, have invited a group of leading researchers to present both their own findings and the full array of state-of-the-art applications for antennas, waveguides, devices, and components.

Following a brief overview of the history of artificial materials, the publication divides its coverage into two major classes of metamaterials. The first half of the publication examines effective media with single (SNG) and double negative (DNG) properties; the second half examines electromagnetic band gap (EBG) structures. The book further divides each of these classes into their three-dimensional (3D volumetric) and two-dimensional (2D planar or surface) realizations. Examples of each type of metamaterial are presented, and their known and anticipated properties are reviewed.

Collectively, Metamaterials: Physics and Engineering Explorations presents a review of recent research advances associated with a highly diverse set of electromagnetic metamaterials. Its multifaceted approach offers readers a combination of theoretical, numerical, and experimental perspectives for a better understanding of their behaviors and their potential applications in components, devices, and systems. Extensive reference lists provide opportunities to explore individual topics and classes of metamaterials in greater depth.

With full-color illustrations throughout to clarify concepts and help visualize actual results, this book provides a dynamic, user-friendly resource for students, engineers, physicists, and other researchers in the areas of electromagnetic materials, microwaves, millimeter waves, and optics. It equips newcomers with a basic understanding of metamaterials and their potential applications. Advanced researchers will benefit from thought-provoking perspectives that will deepen their knowledge and lead them to new areas of investigation.

From the Back Cover

Leading experts explore the exotic properties and exciting applications of electromagnetic metamaterials

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评论

讲了一些新型人工电磁材料。其中EBG结构种类概括的很全，连FSS based这种很勉强的都算进来了（正对我的脾气。。。），353页第二行的magnetic properties我觉得不对，当短路、反射系数为-1的时候，应该体现出电壁的特性。

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书评

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