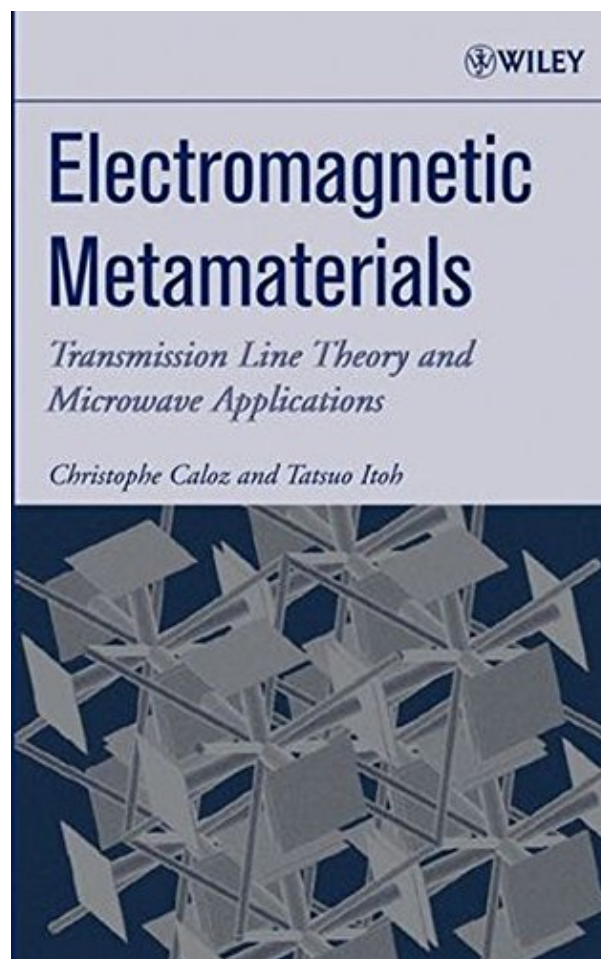


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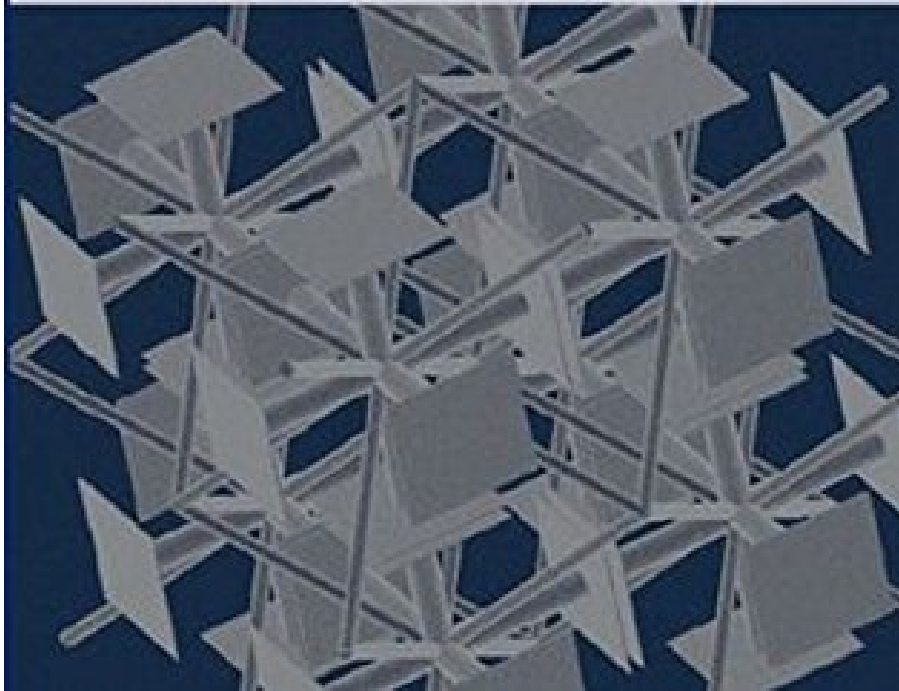


 WILEY

Electromagnetic Metamaterials

*Transmission Line Theory and
Microwave Applications*

Christophe Caloz and Tatsuo Itoh



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From the Back Cover

Electromagnetic metamaterials—from fundamental physics to advanced engineering applications

This book presents an original generalized transmission line approach associated with non-resonant structures that exhibit larger bandwidths, lower loss, and higher design flexibility. It is based on the novel concept of composite right/left-handed (CRLH) transmission line metamaterials (MMs), which has led to the development of novel guided-wave, radiated-wave, and refracted-wave devices and structures.

The authors introduced this powerful new concept and are therefore able to offer readers deep insight into the fundamental physics needed to fully grasp the technology. Moreover, they provide a host of practical engineering applications.

The book begins with an introductory chapter that places resonant type and transmission line metamaterials in historical perspective. The next six chapters give readers a solid foundation in the fundamentals and practical applications:

- **Fundamentals of LH MMs** describes the fundamental physics and exotic properties of left-handed metamaterials
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This engineering approach to metamaterials paves the way for a new generation of microwave and photonic

devices and structures. It is recommended for electrical engineers, as well as physicists and optical engineers, with an interest in practical negative refractive index structures and materials.

About the Author

CHRISTOPHE CALOZ, PhD, is a Professor at the École Polytechnique de Montréal and a member of the university's Poly-Grames Research Center. Dr. Caloz has authored or coauthored more than one hundred technical conference and journal papers, and three book chapters. He is also the holder of several patents as well as the Canada Research Chair.

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