

## Call for Papers

### IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES

#### Special Issue on

### Metamaterial Structures, Phenomena and Applications

Recent research and development in metamaterials have drawn significant attention to them in various areas of physics and electromagnetics, at both optical and microwave frequencies. The term "metamaterial" is not strictly defined, but it usually implies an artificially fabricated structure or medium that exhibits unique properties not found in nature. Although several unusual characteristics have already been envisioned and even demonstrated, the microwave community has recently shown particularly strong interest in the so-called negative-refractive-index structures (also referred to as left-handed, backward-wave or double-negative). They have the unusual property that the phase velocity and the group velocity are anti-parallel so that the phase and energy travel in the opposite directions. This property and related ones are already showing great promise for the development of new classes of novel microwave components.

A number of aspects relating to metamaterials have been studied extensively in recent years, including the electromagnetic characteristics of these materials, and their potential applications. Several recent international conferences, including the International Microwave Symposium in 2003, demonstrated significant interest in both research and applications by scientists and engineers in academic, governmental and industrial environments. Interest in and effort on the research and development in this and related subjects are expected to increase substantially over the next several years.

The Special Issue on Metamaterial Structures, Phenomena and Applications is intended to stimulate interest within the microwave community and to provide a venue for the dissemination of the latest results of research and development on this subject. This issue intends to cover the following subject areas:

- Physical understanding of the metamaterial structures
- Analytical and numerical simulations and modeling
- Fabrication techniques and demonstration of the materials
- Novel physical phenomena
- Novel microwave applications

This special issue encourages the submission of papers concerned primarily with the so-called left-handed or negative-refractive-index media or structures. Papers on other types of metamaterial structures will also be considered, however.

Manuscripts for review should be submitted in pdf format (limited to 1 MB in size) as an email attachment sent to [tmmt\\_meta@mtt.org](mailto:tmmt_meta@mtt.org). We will respond as quickly as possible to your submission by replying with an acknowledgement that your manuscript has been received and is under review. Related publications must be cited in the manuscript and conference publication(s) attached with any submission. Authors must read: [http://www.mtt.org/publications/For\\_Authors/for\\_authors.htm#Publication Policy](http://www.mtt.org/publications/For_Authors/for_authors.htm#Publication_Policy)

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