

Computational Aspects of Time Dependent Electromagnetic Wave Problems in Complex Materials

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ORGANIZING COMMITTEE

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WORKSHOP DESCRIPTION

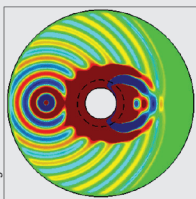


Image: Fernando Teixeira

Forward simulations of the propagation and scattering of transient electromagnetic (EM) waves in complex media are important in a variety of applications, such as radar, environmental and medical imaging, noninvasive detection of cancerous tumors, design of engineered composites such as metamaterials, communication and computation, and global climate assessment, among others. These applications involve multiple spatial and temporal scales, complex geometries, spatial and temporal heterogeneities, and stochastic effects at small scales. In recent years, there has been an upsurge in the design and development of new materials with tailored EM properties under the conceptual umbrella of metamaterials. This workshop aims to bring together different scientific communities, including mathematicians, engineers, physicists, software developers and other relevant people, to disseminate current progress in their areas and develop potential collaborations to address challenges involved in the solution of the time-domain Maxwell's equations in complex materials through computational and experimental research with the broad aim of addressing and solving real-world applications.



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