Solving the time-dependent Maxwell equations by unconditionally stable algorithms.

Kole JS, Figge MT, De Raedt H (2003) Solving the time-dependent Maxwell equations by unconditionally stable algorithms. In: Computer simulation studies in condensed-matter physics XV pp. 205-210.Springer-Verlag Berlin Heidelberg.

Details

Abstract

We present a family of unconditionally stable algorithms, based on the Suzuki product-formula approach, that solve the time-dependent Maxwell equations in systems with spatially varying permittivity and permeability. Salient features of these algorithms are discussed. As an illustration we compute, as a function of cluster size, the spectrum of electromagnetic modes in a cluster of photonic bandgap material.

Beteiligte Forschungseinheiten

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Details

Identifier

doi: 10.1007/978-3-642-55522-0_25