

New unconditionally stable algorithms to solve the time-dependent Maxwell equations.

Kole JS, Figge MT, and De Raedt H (2002) New unconditionally stable algorithms to solve the time-dependent Maxwell equations. *Springer Verlag Lecture Notes in Computer Science (LNCS)* 2329, 803.

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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 illustrated by computing the density of states and by simulating the propagation of light in a two-dimensional photonic material.

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