Abstracts

Exceeding the Courant Condition with the FDTD Method

D.M. Sullivan. "Exceeding the Courant Condition with the FDTD Method." 1996 Microwave and Guided Wave Letters 6.8 (Aug. 1996 [MGWL]): 289-291.

The finite-difference time-domain (FDTD) method is a time-domain implementation of Maxwell's equations that has found a broad range of applications in electromagnetic simulation. A fundamental stability consideration is the Courant condition, which dictates that the time steps used must be long enough to alllow the electromagnetic (EM) field to propagate across a cell at the speed of light. A method is described that, under certain circumstances, allows the Courant condition to be exceeded, resulting in a substantially faster computation.

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