Abstracts

Mutual Coupling Between Waveguide Apertures Mounted on a Common Conducting Surface Using a Time- and Fourier-Gated Pulsed FDTD Method

J.C. Olivier. "Mutual Coupling Between Waveguide Apertures Mounted on a Common Conducting Surface Using a Time- and Fourier-Gated Pulsed FDTD Method." 1993 Microwave and Guided Wave Letters 3.6 (Jun. 1993 [MGWL]): 177-179.

A time and Fourier gated pulsed finite difference time domain (FDTD) algorithm for computing mutual coupling between waveguide apertures is formulated. The method uses an incident pulse of short time duration (wide bandwidth) and a wide band ABC for lossless waveguides. It is capable of the computation of scattered or mutually coupled fields even if the intensity of the required fields is lower than the inherent reflection levels of the free space artificial truncation planes. The method is illustrated by computing the mutual coupling between two rectangular waveguides mounted on a common groundplane and bounded by a parallel plate waveguide.

❑ Return to main document.