Abstracts

Analysis of Waveguide Aperture Coupling Using the Finite-Difference Time-Domain Method

P. Alinikula and K.S. Kunz. "Analysis of Waveguide Aperture Coupling Using the Finite-Difference Time-Domain Method." 1991 Microwave and Guided Wave Letters 1.8 (Aug. 1991 [MGWL]): 189-191.

The finite-difference time-domain method has been applied to a variety of scattering and coupling electromagnetic problems. It has not until now been applied to an interior propagation and coupling problem, given here in the form of aperture coupled waveguides. This problem demonstrates the method's ability to model a rather complex problem where energy not only propagates in a waveguide but couples to and then propagates within a second waveguide. The coupling consists of a single and a double aperture, The first case establishes modeling requirements and the second case is compared to experiment. Agreement is typically within experimental error thereby validating the method for this application,

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