Abstracts

Analysis of the Transition from Rectangular Waveguide to Shielded Dielectric Image Guide Using the Finite-Difference Time-Domain Method

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The transition from a rectangular waveguide to a shielded dielectric image guide is analyzed using the finite-difference time-domain (FDTD) method. This method has not been applied to three dimensional dielectric waveguide discontinuities before. The transition problem under consideration demonstrates the ability of the FDTD technique to model rather complex structures where two different transmission media exist. The calculated return loss agrees very well with data obtained using other techniques which validates the application of the FDTD method for this problem.

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