Abstracts

An iterative FEM for scattering by a 3-D cavity-backed aperture

Jongkuk Park, Jungwon Lee, Heeduck Chae and Sangwook Nam. "An iterative FEM for scattering by a 3-D cavity-backed aperture." 2001 Transactions on Microwave Theory and Techniques 49.11 (Nov. 2001 [T-MTT] (Special Issue on the 2000 Asia-Pacific Microwave Conference)): 2147-2151.

A finite-element method (FEM)-based hybrid method (or iterative FEM) is successfully applied to a three-dimensional (3-D) scattering problem without the effect of internal resonance. With only a small number of meshes around a 3-D scatterer, this FEM is shown to give an accurate result through several iterative updates of the boundary conditions. To confirm the efficiency of this method, scattering from a 3-D cavity-backed aperture is analyzed and the results obtained are compared with the same obtained by another conventional method.

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