Abstracts

A Two-Dimensional Finite Element Formulation of the Perfectly Matched Layer

A.C. Polycarpou, M.R. Lyons and C.A. Balanis. "A Two-Dimensional Finite Element Formulation of the Perfectly Matched Layer." 1996 Microwave and Guided Wave Letters 6.9 (Sep. 1996 [MGWL]): 338-340.

A perfectly matched layer (PML) is implemented using the finite element method (FEM) to successfully terminate the output port of a parallel-plate waveguide operating over a wide range of frequencies. ‘The PML layer is modeled as a nonphysical anisotropic lossy material backed with a perfect electric conductor (PEC). Numerical results showing the reflection coefficient as a function of frequency, for both TEM and TM/sub 1/ propagation modes, demonstrate the effectiveness and accuracy of the PML concept as applied in the context of the FEM.

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