Abstracts

Penalty Function Improvement of Waveguide Solution by Finite Elements

The finite element method is a well-established method for the solution of a wide range of guided wave problems. One drawback associated with the powerful vector formulation is the appearance of spurious or nonphysical solutions. A penalty function method has been introduced to the finite element formulation, to reduce or eliminate spurious solutions. It also improves the quality of the physical field solutions. The method has been applied for the solution of metallic homogeneous and inhomogeneous guides, and integrated optics guides.

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