Abstracts

Finite Element Analysis Applied to Gyroelectrically Loaded Waveguiding Structures

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A finite element formulation has been used to obtain the dispersion relation for a single dielectric-semiconductor interface bounded by two perfectly conducting planes. This system represents a suitable canonical problem for the design of non-reciprocal devices such as circulators, isolators, and phase shifters. The finite element solution for the dispersive behavior was compared against the exact solution for the lowest real branches, and excellent agreement was found between the two.

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