

Abstracts

The Field Displacement Filter - A New Family of Dissipative Waveguide Filters

N. Eberhardt. "The Field Displacement Filter - A New Family of Dissipative Waveguide Filters." 1966 G-MTT International Microwave Symposium Digest 66.1 (1966 [MWSYM]): 90-93.

Rectangular waveguides with a full-height dielectric slab, as pictured in Figure 1, are frequently used in isolators and phase shifters. Numerical solutions to the fields have been obtained for the slab centrally located. It is found that with increasing frequency the power flow is more and more confined to the dielectric slab. The electric field distribution is plotted in Figure 1 with frequency as a parameter. According to a suggestion by H. Seidel this effect can be used to separate frequencies. Coupling apertures in the empty part of the guide will couple only at low frequencies; however, a sharp cutoff cannot be expected.

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