Abstracts

Improving the Characteristics of Rectangular Waveguide Branchings by Cylindrical Obstacles

R. Gesche and S. Russenschuck. "Improving the Characteristics of Rectangular Waveguide Branchings by Cylindrical Obstacles." 1989 Transactions on Microwave Theory and Techniques 37.10 (Oct. 1989 [T-MTT]): 1597-1602.

The scattering matrix of a transition between parallel rectangular waveguides and a larger rectangular waveguide contains two metallic or dielectric cylinders is investigated by orthogonal expansion method. Mathematical programming order to improve the characteristics. Reflection of a rectangular discontinuity can be reduced by 30 dB using metallic or dielectric obstacles. Using Teflon cylinders, coupling of a transition can be dB without debasing reflection. Physical interpretations are help of field patterns.

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