

Slot-Coupled T-junction of TE/sub 11/ Coaxial to TE/sub 10/ Rectangular Waveguide

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A solution is presented to the problem of a slot-coupled T-junction of a TE/sub 11/ -mode coaxial to a TE/sub 10/ -mode rectangular waveguide. A variational technique is employed which combines the reaction concept with the field representation of a waveguide slot and leads to a closed-form solution for the junction scattering matrix. Numerical examples illustrate the characteristics of such a junction in practical applications. Good agreement between theory and experiment is obtained. Design criteria and examples are presented and discussed.

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