Abstracts

The Displaced Rectangular Waveguide Junction and Its Use as an Adjustable Reference Reflection

J.D. Hunter. "The Displaced Rectangular Waveguide Junction and Its Use as an Adjustable Reference Reflection." 1984 Transactions on Microwave Theory and Techniques 32.4 (Apr. 1984 [T-MTT]): 387-394.

The reflection from a displaced junction in rectangular waveguide and the equivalent circuit parameters are calculated using modal analysis. The use of weighted Gegenbauer polynomials to describe the field in the plane of displacement is shown to significantly improve the rate of convergence of the solution in comparison to waveguide-type mode functions. Approximate formulas are given for displacements of up to 25 percent of the waveguide dimensions. An E-plane displaced junction is suggested for use as an adjustable reference reflection.

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