Abstracts

Full-Wave Modeling of Generalized Double Ridge Waveguide T-Junctions

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A rigorous technique for full wave modeling of the generalized double ridge waveguide T-junction has been developed. Eigen modes in each ridge waveguide region are obtained using mode-matching technique. Based on the eigen mode expansion method, combining the cascading, procedure and computation of the magnetic fields of each mode at the shorted ports, the generalized admittance matrices and scattering matrices of all three ports are obtained. The method is general and very efficient. The accuracy and versatility of the method are verified through several numerical examples. The computed dominant mode's S-parameters are compared with that by finite element method (HFSS) and shown to be in good agreement.

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