Abstracts

Boundary Integral Equation Approach to Multi-Mode Y-Matrix Characterization of Multi-Ridged Sections in Circular Waveguide

W. Schroeder and M. Guglielmi. "Boundary Integral Equation Approach to Multi-Mode Y-Matrix Characterization of Multi-Ridged Sections in Circular Waveguide." 1996 MTT-S International Microwave Symposium Digest 96.3 (1996 Vol. III [MWSYM]): 1849-1852.

Aiming at an accurate and effective CAD procedure for Circular Waveguide (CW) dual-mode filters without tuning screws, the Boundary Integral Equation Method (BIEM) is applied to TM/TE mode analysis of Multi-Ridge Circular Waveguide (MRCW) and evaluation of CW-MRCW mode coupling coefficients to obtain the Multi-Mode Network (Y-Matrix) Representation (MMNR) of CW-MRCW transitions. A novel Multiple Eigenvalue Search Algorithm assures completeness of the modal spectrum up to large mode indices (> 100) in the presence of accidental degeneracies and clusters of eigenvalues.

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