Abstracts

An Analytic Series Solution for H-Plane Waveguide T-Junction

A solution for the H-plane waveguide T-junction is obtained in analytic series form. A Fourier-Transform technique is employed to express the scattered field in the spectral domain in terms of parallel-plate waveguide modes. The boundary conditions are enforced to obtain simultaneous equations for the transmitted field. The simultaneous equations are solved to obtain the transmission and reflection coefficients in simple series forms. Comparisons between our solution and other existing results show excellent agreements.

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