Abstracts

An Analytic Series Solution for E-Plane T-Junction in Parallel-Plate Waveguide (Short Papers)

K.H. Park, H.J. Eom and Y. Yamaguchi. "An Analytic Series Solution for E-Plane T-Junction in Parallel-Plate Waveguide (Short Papers)." 1994 Transactions on Microwave Theory and Techniques 42.2 (Feb. 1994 [T-MTT]): 356-358.

A solution for the E-plane T-junction in the parallel-plate waveguide is obtained in analytic series form. A Fourier-transform technique is used 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. The series solutions for the reflection and transmission coefficients are fast convergent and accurate in numerical computations.

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