Abstracts

Analysis of a slot-coupled T-junction between circular-to-rectangular waveguide

S.B. Sharma, S.B. Chakrabarty and B.N. Das. "Analysis of a slot-coupled T-junction between circular-to-rectangular waveguide." 1998 Transactions on Microwave Theory and Techniques 46.8 (Aug. 1998 [T-MTT]): 1173-1176.

This paper presents a rigorous analysis of a slot-coupled T-junction between a primary circular cylindrical waveguide and rectangular waveguide, forming the coupled T-arm. The analysis is based on moment-method formulation using full-wave basis functions and Galerkin's technique for testing. Expression for the coupling and reflection coefficients are found, taking into account the effect of finite wall thickness of the circular waveguide in which the coupling slot is milled. A comparison between the theoretical and experimental results on coupling and return loss are presented.

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