Abstracts

Mode Coupling by a Longitudinal Slot for a Class of Planar Waveguiding Structures: Part I--Theory

P.F. Wilson and D.C. Chang. "Mode Coupling by a Longitudinal Slot for a Class of Planar Waveguiding Structures: Part I--Theory." 1985 Transactions on Microwave Theory and Techniques 33.10 (Oct. 1985 [T-MTT] (Special Issue on Numerical Methods)): 981-987.

Coupling between two parallel-plate waveguides is investigated. Mutual excitation is due to a Iongitudinal slot in a common plate. The introduction of reflecting boundaries parallel to the slot allows one to model a number of planar waveguiding structures featuring a common coupling mechanism. Part I of this paper details the analysis of the basic slot scattering problem based on the singular integral equation method. If one assumes that the slot is small, then closed-form algebraic modal equations follow. These modal equations are well-adapted to numerical parametic studies.

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