Abstracts

Perturbations of the Critical Parameters of Quarter-Wave Directional Couplers (Correspondence)

H.E. Brenner. "Perturbations of the Critical Parameters of Quarter-Wave Directional Couplers (Correspondence)." 1967 Transactions on Microwave Theory and Techniques 15.6 (Jun. 1967 [T-MTT]): 384-385.

The theory of coupled transmission lines was discussed by Jones and Bolljahn on the assumption that the phase velocities for even and odd modes v/sub e/ and v/sub o/ were equal to each other. However, when the coupled lines are constructed in the microstrip geometry or on a hard substrate suspended between two ground planes, the phase velocities are in general unequal. As a result, the even- and odd-mode characteristic impedances Z/sup 0e/, and Z/sub 0o/, as well as the phase velocities, must be adjusted to prescribed values. However, little is known how critical these adjustments are in order to get desired coupler performance.

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