Abstracts

Application of the Solutions of Certain Boundary Value Problems to the Symmetrical Four-Port Junction and Specially Truncated Bends in Parallel-Plate Waveguides and Balanced Strip-Transmission Lines

J.J. Campbell. "Application of the Solutions of Certain Boundary Value Problems to the Symmetrical Four-Port Junction and Specially Truncated Bends in Parallel-Plate Waveguides and Balanced Strip-Transmission Lines." 1968 Transactions on Microwave Theory and Techniques 16.3 (Mar. 1968 [T-MTT]): 165-176.

Three boundary value problems involving parallel-plate waveguides terminated in various combinations of electric and magnetic walls are investigated. The analysis leads to infinite sets of linear algebraic equations, which are appropriately truncated and solved on an electronic computer. The results are applied to several problems: to the scattering matrix of the symmetrical four-port junction of parallel-plate or rectangular waveguides; to the symmetrical four-port junction of center strips of a balanced strip-transmission line; to a specially truncated right-angle bend in parallel-plate and rectangular waveguides; and to mitred bends in strip-transmission lines.

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