Abstracts

An Empirical Design Method for Multisection Ridge-Guide Transducers of Large-Impedance Transformation (Correspondence)

G.H.B. Thompson. "An Empirical Design Method for Multisection Ridge-Guide Transducers of Large-Impedance Transformation (Correspondence)." 1961 Transactions on Microwave Theory and Techniques 9.3 (May 1961 [T-MTT]): 263-266.

The available analytical design procedures are inadequate for the design of broad-band ridge-guide transducers of large transformation ratio. Various authors have discussed the problem of obtaining maximum bandwidth with multisection quarter-wave transformers, and recently Young has extended the treatment to include inhomogeneous transformers where frequency dispersion varies from section to section. There is, however, no exact theory for dealing with the discontinuity susceptances which appear in practice at the junctions between sections and become important when large transformations are being attempted. Further uncertainties arise when ridge guide is used, because there does not yet seem to be agreement on a means of calculating the characteristic impedance which is applicable over the whole range of ridge sizes.

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