

Abstracts

Cylindrical TE/sub 011//TM/sub 111/ Mode Control by Cavity Shaping (Dec. 1979 [T-MTT])

H.L. Thal, Jr.. "Cylindrical TE/sub 011//TM/sub 111/ Mode Control by Cavity Shaping (Dec. 1979 [T-MTT])." 1979 Transactions on Microwave Theory and Techniques 27.12 (Dec. 1979 [T-MTT] (1979 Symposium Issue)): 982-986.

An appropriate modification of the shape of a cylindrical filter cavity has been used to separate the degenerate TM/sub 111/ (doublet) modes while at the same time providing a slight increase in the already high unloaded Q of the desired TE/sub 011/ mode. Experimental results of mode frequencies and unloaded Q's are tabulated for a family of shaped cavities. Two low-loss filters utilizing these cavities are discussed. The general correspondence between modes of spherical, cylindrical and rectangular cavities and waveguides is described in order to place the performance of intermediate shapes in perspective.

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