Abstracts

High-Power Microwave Filters

J.H. Vogelman. "High-Power Microwave Filters." 1958 Transactions on Microwave Theory and Techniques 6.4 (Oct. 1958 [T-MTT]): 429-439.

In order to obtain filters capable of handling very high power, the use of radial lines and uniform line discontinuities was investigated as the most promising approach. In this connection, it was necessary to consider the equivalent circuit and interaction for H-type radial line mated at each end to uniform TE/sub 10/ waveguide for taper angles of 45°. It was found that the equivalent circuit was valid for taper angles of 45°, and that for engineering design purposes the interaction could be neglected. The author utilized the 45° tapers and the uniform lines to design a high-power microwave filter capable of handling 700 kw at 10 pounds pressure in 0.900 by 0.400 ID waveguide. The design procedure for a multielement filter is described utilizing a partly graphical approach.

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