

Abstracts

Resonant Frequencies of Higher-Order Modes in Radial Resonators

D.C. Stinson. "Resonant Frequencies of Higher-Order Modes in Radial Resonators." 1955 Transactions on Microwave Theory and Techniques 3.4 (Jul. 1955 [T-MTT]): 18-23.

A summary of the relevant work on radial line discontinuities and radial line resonators is presented. A step-type discontinuity is analyzed using an integral equation formulation and the results are applied to the calculation of the resonant frequencies of a radial resonator. This method is verified by experiment and compared with the foreshortened-line approximation and with the methods of Marcuvitz and Goddard, whose work is satisfactory for the order TM mode. However, the present method is the only one which is equally applicable to the calculation of the resonant frequencies of TM modes possessing higher-order radial variations.

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