Abstracts

Resonant Frequency and Q of an Open-Ended Rectangular Cavity

D.M. Pozar. "Resonant Frequency and Q of an Open-Ended Rectangular Cavity." 1977 Transactions on Microwave Theory and Techniques 25.7 (Jul. 1977 [T-MTT]): 589-593.

A field analysis of the TE /sub 10m/ resonant mode in an open-ended rectangular cavity is presented. The cavity geometry consists of rectangular waveguide with thick H-plane bifurcations for the terminations at each end. The bifurcation problem is solved by the method of modal analysis and a resonance criterion is established. Expressions for the cavity fields are written and used to compute stored energy, power lost, and Q. Calculated values for resonant frequency and Q are given and compared with experimental data.

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