

Abstracts

The Resonant Frequency and Tuning Characteristics of a Narrow-Gap Reentrant Cylindrical Cavity

A.G. Williamson. "The Resonant Frequency and Tuning Characteristics of a Narrow-Gap Reentrant Cylindrical Cavity." 1976 *Transactions on Microwave Theory and Techniques* 24.4 (Apr. 1976 [T-MTT]): 182-187.

The literature concerning the reentrant cylindrical cavity is reviewed and the relative advantages and disadvantages of the various formulations of the problem are discussed. In addition, a new formulation is proposed which accurately predicts the resonant frequency of narrow-gap cavities such as those currently finding application in the construction of solid-state oscillators. This new formulation is mathematically simpler and numerically more efficient than many other formulations which are not as accurate. The paper concludes with an investigation of the tuning characteristics of the cavity.

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