

Abstracts

On the Theory and Application of the Dielectric Post Resonator (Short Papers)

M.W. Pospieszalski. "On the Theory and Application of the Dielectric Post Resonator (Short Papers)." 1977 Transactions on Microwave Theory and Techniques 25.3 (Mar. 1977 [T-MTT]): 228-231.

This short paper deals with the modes of the dielectric post resonator when ϵ_r is large. The normalized frequency $F_0 = (\pi D / \lambda_0) / \sqrt{\epsilon_r}$ as a function of D/L is discussed. The simple approximate expressions for the resonant frequencies of the lower order modes are given. The properties of the TE_{011} mode are discussed in detail from the point of view of its application to the measurement of the complex permittivity of microwave dielectrics. Curves and expressions for fast and simple determination of the maximum measurement errors are given.

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