Abstracts

Computations of Frequencies and Intrinsic Q Factors of TE/sub 0nm/ Modes of Dielectric Resonators (Short Papers)

J. Krupka. "Computations of Frequencies and Intrinsic Q Factors of TE/sub 0nm/ Modes of Dielectric Resonators (Short Papers)." 1985 Transactions on Microwave Theory and Techniques 33.3 (Mar. 1985 [T-MTT]): 274-277.

The Rayleigh-Ritz method is described, which is used to calculate the resonant frequencies and intrinsic Q factors due to dielectric losses of quasi TE/sub onm/ modes of dielectric resonators. Electromagnetic fields of an auxiliary post dielectric resonator are taken as an electrodynamics basis for approximate solutions of this problem. The method provides upper bounds for true resonant frequencies. Numerical results are compared with previously published complementary calculations. The influence of a dielectic substrate on resonant frequencies and intrinsic Q values is demonstrated.

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