Abstracts

Design of Microwave Dielectric Resonators

J.C. Sethares and S.J. Naumann. "Design of Microwave Dielectric Resonators." 1966 Transactions on Microwave Theory and Techniques 14.1 (Jan. 1966 [T-MTT]): 2-7.

The resonant frequencies for the fundamental modes in circular cylindrical and rectangular parallelopiped high dielectric resonators have been calculated by computer for a range of values of physical dimensions and relative dielectric constant. The frequency range extends from zero to 50 kMc/s, the relative dielectric constant from 50 to 1800, and physical dimensions from zero to 500 mils. Results are presented in graphical form with frequency plotted vs. resonator length for parametric values of relative dielectric constant and cross-sectional dimensions. A brief review of earlier work with high dielectric resonators is included. Expressions for the resonant frequency and fundamental mode field configurations are given.

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