Abstracts

Resonant Modes in Shielded Uniaxial-Anisotropic Dielectric Rod Resonators

Y. Kobayashi and T. Senju. "Resonant Modes in Shielded Uniaxial-Anisotropic Dielectric Rod Resonators." 1993 Transactions on Microwave Theory and Techniques 41.11 (Dec. 1993 [T-MTT] (1993 Symposium Issue)): 2198-2205.

Rigorous field analyses by the mode matching method are presented for two types of dielectric rod resonators, including such uniaxial-anisotropic dielectrics as sapphire, which are placed between two parallel conducting plates (parallel plates type) and in a conducting cavity (cavity-open type). For the parallel-plates-type resonator, the cutoff conditions of resonant modes are discussed. Resonant frequencies of some lowest order modes for these resonators are calculated, and mode charts are presented to design the resonators. The theory is verified by experiments.

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