

Abstracts

An Accurate Solution of the Cylindrical Dielectric Resonator Problem

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A cylindrical sample of low-loss high-epsilon/_r, dielectric placed between two parallel conducting plates perpendicular to the sample axis forms a microwave resonator. A new method of determining the field distribution and resonant frequency of this resonator is presented. By this method the solution is obtained in a form of successive approximations converging to the exact solution. The analysis is outlined in detail for the TE/₀₁ mode and compared with previously published approximate calculations and experimental data.

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