Abstracts

On the probe-fed dielectric resonator inside the parallel-plate waveguide

Kwok-Wa Leung, Zhi Ning Chen, Kwai-Man Luk and E.K.-N. Yung. "On the probe-fed dielectric resonator inside the parallel-plate waveguide." 1999 Transactions on Microwave Theory and Techniques 47.7 (Jul. 1999, Part I [T-MTT]): 1113-1117.

In this paper, the probe-fed dielectric resonator (DR) placed inside the parallel-plate waveguide is studied theoretically and experimentally. Simple formulas for predicting the trapped- and leaky-mode resonant frequencies are presented. The cylindrical-harmonics expansion method is used to find the input impedance of the configuration. The effects of the probe length, dielectric constant, and DR radius/height ratio on the input impedance are discussed. It is found that the probe can substantially change the characteristics of a mode when it exceeds a certain length.

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