Abstracts

On the Solution and Field Pattern of Cylindrical Dielectric Resonators (Correspondence)

K.K. Chow. "On the Solution and Field Pattern of Cylindrical Dielectric Resonators (Correspondence)." 1966 Transactions on Microwave Theory and Techniques 14.9 (Sep. 1966 [T-MTT]): 439-439.

Recent publications on dielectric resonators have shown the importance and applications of these devices. The usual method of analytic solution has been to approximate the cylindrical wall with a perfect open circuit boundary (magnetic wall) and to allow decaying fields outside the flat ends. These approximations have given good agreement between the calculated and measured frequencies for the mode having a fraction of a half cycle variation along the resonator Iength. In connection with our work on the coupling of ferromagnetic and dielectric resonances, we have occasion to investigate higher order modes in the resonator. The approach taken is different and gives interesting and more accurate results as will be discussed below.

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