Abstracts

High Order Modes in a Spherical Fabry-Perot Resonator

C.W. Erickson. "High Order Modes in a Spherical Fabry-Perot Resonator." 1975 Transactions on Microwave Theory and Techniques 23.2 (Feb. 1975 [T-MTT]): 218-223.

The accuracy of the approximate solution to the wave equation in the "large aperture" case was investigated. The measured distribution of energy in the various transverse modes corresponded to the Laguerre-Gaussian solutions; resonant frequencies, however, deviated from those predicted by the approximate theory by as much as 2 percent for high radial mode numbers. Two first order perturbation calculations, including a neglected term in the wave equation and the nonsphericity of constant phase surfaces, yielded resonant frequencies in agreement with experiment.

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