Abstracts

Complex permittivity measurements of extremely low loss dielectric materials using whispering gallery modes

J. Krupka, K. Derzakowski, A. Abramowicz, M. Tobar and R.G. Geyer. "Complex permittivity measurements of extremely low loss dielectric materials using whispering gallery modes." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1347-1350.

Whispering-gallery modes are used for very accurate complex permittivity measurements of both isotropic and uniaxially anisotropic dielectric materials. A mode-matching technique is used to find the relationship between the complex permittivity, resonant frequency, and the dimensions of a resonant structure. The total uncertainty in permittivity is smaller than 0.05 percent and is limited principally by uncertainty in sample dimensions.

❑ Return to main document.

Click on title for a complete paper.