Abstracts

Microwave Measurement of Dielectric Constant of Liquids and Solids Using Partially Loaded Slotted Waveguide (Short Papers)

I.J. Bahl and H.M. Gupta. "Microwave Measurement of Dielectric Constant of Liquids and Solids Using Partially Loaded Slotted Waveguide (Short Papers)." 1974 Transactions on Microwave Theory and Techniques 22.1 (Jan. 1974 [T-MTT]): 52-54.

An accurate method is described for the measurement of the dielectric constant of liquids and solids. The dielectric material partially loads a slotted rectangular waveguide and the guide wavelength is measured for two different thicknesses of the dielectric. The guide wavelengths are related to the dielectric constant of the material through a characteristic equation which can be solved graphically or numerically. Some experimental results are obtained and found to be in close agreement with the values of the dielectric constant available in the literature.

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