Abstracts

Measurement of the Dielectric Constant and Loss Tangent of Liquids by the Transmitted-Reflected Wave Method in the Millimeter-Wave Range (Correspondence)

H. Yamamoto and S. Ohkawa. "Measurement of the Dielectric Constant and Loss Tangent of Liquids by the Transmitted-Reflected Wave Method in the Millimeter-Wave Range (Correspondence)." 1971 Transactions on Microwave Theory and Techniques 19.10 (Oct. 1971 [T-MTT]): 827-829.

A new technique for measuring the dielectric constant and loss tangent of materials in the millimeter-wave range is described. The measurement apparatus and the analysis is considerably simpler than that using conventional techniques. The new technique is based upon a simple geometrical optics approximation, in which a plane reflector is rotated so as to maximize the transmitted-reflected wave power through the material. Only one microwave horn is used in the measurement.

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