

Abstracts

Measurement of Microwave Loss Tangent by Means of Microwave Resonator Bridge (Short Papers)

I. Kneppo and M. Weis. "Measurement of Microwave Loss Tangent by Means of Microwave Resonator Bridge (Short Papers)." 1977 Transactions on Microwave Theory and Techniques 25.5 (May 1977 [T-MTT]): 418-423.

A new cavity method of measurement of microwave loss tangent of a low-loss material is described. The method consists of the comparison of the reflection coefficient of the resonator filled with dielectric with the reflection coefficient of the reference resonator by means of microwave resonator bridge. Basic theoretical relations of a simplified resonator bridge are derived, a fundamental scheme of the measuring set is given, and some results of verified measurements presented. The obtained results confirm the suitability of the proposed method, especially for measuring low-loss dielectric materials, since the principle of comparison renders the method highly sensitive to small parameter differences of the resonator brought about by the measured sample.

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