

Abstracts

Comparison Method of Measurement Q of Microwave Resonators (Short Papers)

I. Kneppo. "Comparison Method of Measurement Q of Microwave Resonators (Short Papers)." 1977 Transactions on Microwave Theory and Techniques 25.5 (May 1977 [T-MTT]): 423-426.

A method for the measurement of the quality factor of microwave resonators is given. It is based on the comparison of the transmitted power of the measured resonator with that of a reference resonator. The characteristics obtained by simultaneous display of the transmitted powers of the two resonators in Cartesian coordinates are analyzed. The relationship between the shape of the resulting curve and the parameters of the reference and measured resonators is discussed. The principal scheme of the X-band measuring microwave set and the measurement procedure are described. Some verification of the measurement results are presented. The method described is especially convenient for measuring small relative changes in the quality factor. It can be utilized for measuring the microwave loss tangent of materials by perturbation resonator methods.

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