Abstracts

Application of Barium Titanate Compositions to Parametric Amplification (Correspondence)

S.N. Das. "Application of Barium Titanate Compositions to Parametric Amplification (Correspondence)." 1965 Transactions on Microwave Theory and Techniques 13.2 (Mar. 1965 [T-MTT]): 245-247.

This correspondence reports results of investigations of some of the problems associated with the application of ferroelectrics to microwave parametric amplification. The design of such an amplifier requires a knowledge of the variation of the permittivity of the material as a function of the electric field at microwave frequencies. Some information on the high frequency properties can be obtained by small signal incremental permittivity measurements at microwave frequencies. The material was used in the form of a cylindrical rod as this was convenient for preparation. The relative permittivity of a ferroelectric rod, placed in the center of a rectangular waveguide, and its variation with the applied dc field can be calculated from the measured values of the normalized reactance of the rod, the formulas for which are given by Marcuvitz.

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