Abstracts

An Improved Dielectric Resonator Method for Surface Impedance Measurement of High-Tc Superconductors

Y. Kobayashi and H. Kayano. "An Improved Dielectric Resonator Method for Surface Impedance Measurement of High-Tc Superconductors." 1992 MTT-S International Microwave Symposium Digest 92.2 (1992 Vol. II [MWSYM]): 1031-1034.

An improved dielectric resonator method is proposed to measure temperature characteristics of surface impedance Z/sub s/ of superconductors automatically with high resolution and with good reproducibility. Perturbation formula for this resonator is derived to determine Z/sub s/ from measured values of resonant frequency and unloaded Q. Some measured results verify the usefulness of this method. A consideration of the effect of surface roughness enables one to compare measured temperature dependence of the complex conductivity with the BCS and three-fluid models.

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