

Abstracts

Microwave Measurement of Surface Impedance of High-T_c Superconductor

Y. Kobayashi, T. Imai and H. Kayano. "Microwave Measurement of Surface Impedance of High-T_c Superconductor." 1990 MTT-S International Microwave Symposium Digest 90.1 (1990 Vol. I [MWSYM]): 281-284.

Perturbation formulas for a TE₀₁₁ mode dielectric resonator and for a TE₀₁₁ mode circular cavity are derived to determine surface impedance $Z_{\text{sub } S}/(=R_{\text{sub } S}+jX_{\text{sub } S})$ of superconductors from measured values of resonant frequency and unloaded Q. The $Z_{\text{sub } S}/$ values for a YBCO plate with a diameter of 30 mm were measured at 8.7, 10.4, and 23.7 GHz using these formulas. The measured results are presented as functions of temperature.

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