Abstracts

Multiple Frequency Surface Resistance Measurement Technique Using a Multimode TE/sub 01n/ Cylindrical Cavity on a TiBaCaCuO Superconducting Film

J.S. Derov, A.J. Drehman, M.J. Suscavage, R.J. Andrews, E. Cohen, N. Ianno and D. Thompson. "Multiple Frequency Surface Resistance Measurement Technique Using a Multimode TE/sub 01n/ Cylindrical Cavity on a TiBaCaCuO Superconducting Film." 1992 Microwave and Guided Wave Letters 2.11 (Nov. 1992 [MGWL]): 452-453.

A multiple frequency surface resistance measurement technique for high-temperature superconductors has been developed using a modified multimode cylindrical cavity made of niobium operating in the superconducting state. The surface resistance vs. frequency relationship of TIBaCaCuO high-temperature superconducting thin films was determined over the frequency range of 50-100 GHz with an extrapolation down to 1 GHz. The TE/sub 01n/ (n = 1, 2, and 3) modes of the cylindrical niobium waveguide cavity had resonances at 52, 71, and 95 GHz and the measured surface resistances at these frequencies were 5.1, 8.5, and 21.1 milli-ohms, respectively.

❑ Return to main document.