

Abstracts

Electrical Characteristics of Thin-Film Ba_{1-x}Cu_xO₇ Superconducting Ring Resonators

P.A. Polakos, C.E. Rice, M.V. Schneider and R. Trambarulo. "Electrical Characteristics of Thin-Film Ba_{1-x}Cu_xO₇ Superconducting Ring Resonators." 1991 Microwave and Guided Wave Letters 1.3 (Mar. 1991 [MGWL]): 54-56.

The development of high-temperature superconducting thin films has opened up new opportunities for microstrip applications to exploit the low-loss properties of these films. It is reported that the microwave performance of superconducting microstrip ring resonators between 2 and 22 GHz for which both microstrip and ground plane were fabricated from Ba_{1-x}Cu_xO₇ films deposited on both sides of the same LaAlO₃ substrate. At 9.5 GHz, resonances were observed with intrinsic Q's of ~7500 at 75 K and ~20,000 at 25 K. The 75 K value represents an improvement of a factor 20 over Au.

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