

Study of High T_c Superconducting Microstrip Antenna

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Abstract: Resonant characteristics of microstrip antennas with superconducting films is presented. The analysis is based on a full electromagnetic wave model with London's equations and the two-fluid model. It is shown that the full-wave analysis presented here gives numerical results which are in excellent agreement with the measured data available in the literature. Results showing the effect of the temperature on the resonant frequency and half-power bandwidth of superconducting microstrip antenna are given. Variations of the resonant frequency with the high T_c superconducting film thickness are also presented.

Keywords : Electromagnetic waves, microstrip antennas, Superconducting films, Full wave analysis, High-T, Numerical results, Resonant characteristics, Superconducting microstrip antennas, Two fluid model