Abstracts

Rigorous Formulation for Fields and Currents in Superconducting Microwave Transmission Lines

S.M. El-Ghazaly. "Rigorous Formulation for Fields and Currents in Superconducting Microwave Transmission Lines." 1991 Microwave and Guided Wave Letters 1.9 (Sep. 1991 [MGWL]): 252-254.

A direct approach is described for obtaining current distributions, power handling capabilities, and propagation characteristics of high T/sub c/ superconductor microwave lines. A rigorous formulation based on coupling a full-wave electromagnetic model with London's equations and the two fluid model for superconducting materials is suggested. The finite-difference scheme is employed to obtain a simplified solution. Calculated results showing current distributions and quality factor of a superconducting microstrip line are presented.

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