Abstracts

Peak Current and Magnetic Flux Density Variations with Strip Width in Superconducting Microstrip Lines

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A computer model based on London's equations and Maxwell equations is used to investigate the characteristics high T/sub c/ superconducting microstrip lines. Distributions of superconducting current densities inside the strip, the magnetic flux density, and the quality factor variations with the strip width and operating frequency are presented. The obtained results are very useful for CAD. It is observed that an empirical relation between the strip width and the peak current density on strip can be deduced. The structure can be optimized to produce the highest quality factor or the largest current carrying capacity according to the application.

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