Abstracts

Finite-difference analysis of nonlinear HTS microwave structures using the London equations

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A new finite-difference time-domain method which makes use of the London equations is proposed for simulating wave propagation in nonlinear HTS microwave devices. Nonlinearity is accounted for by allowing the London penetration depth to vary with the magnetic field. The method yields significant saving in computational time over the traditional approach based on the Ginzburg-Landau equations, and the simulated results are in excellent agreement with those obtained from the latter method.

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