

Nucleation of Instability of the Meissner State of 3-Dimensional Superconductors

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We study a nonlinear degenerate elliptic system involving the operator curl^2 and which arises as a simplified model of the Meissner state of a superconducting material. We show that, as the penetration length is small, a boundary layer forms. If the applied magnetic field is homogeneous we show that instability of the Meissner state occurs on the boundary of the domain at points where the magnetic field is tangent to the boundary.

The talk will be in Vincent Hall 570 at 3:35 pm