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*Macroscopic electrodynamics of hard superconductors*

The coarse-grained electrodynamics in a long cylindrical hard superconductor can be described by the Bean’s critical state model. The equations describing the evolution of the magnetic field $H$ and of the electric field $E$ inside the superconductor are solved using a quasistatic approximation based on a variational approach proposed by Badia and Lopez. I shall show that $H$ and $E$ admit an explicit representation in terms of geometric quantities related to the cross-section of the superconductor. Our technique can also be applied in the case of an anisotropic behavior of the sample.