

Abstract Submitted
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Numerical method of the quasiclassical theory for mesoscopic superconductors YUKI NAGAI, CCSE, Japan Atomic Energy Agency, K. TANAKA, Department of Physics and Engineering Physics, University of Saskatchewan, NOBUHIKO HAYASHI, N2RC, Osaka Prefecture University — We propose a numerical method for describing mesoscopic superconductors in terms of the quasiclassical theory of superconductivity. Our method releases us from the problems as to how to determine initial values in a system that does not have a bulk solution. To examine the efficiency of our method, we calculate the local density of states of a circular d -wave island sustaining a single vortex. We find that the vortex shadow effect strongly depends on the quasiparticle energy in the circular mesoscopic island.

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