

Publication

Andreev scattering in the anisotropic heavy-fermion superconductor UPt3

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Andreev reflection between a normal metal and a superconductor was employed to investigate the superconducting order parameter of the heavy-fermion superconductor UPt3. In the present work, point-contact spectra are compared with dV/dI curves calculated assuming different order-parameter symmetries, and that the electrons are injected preferentially in the forward direction with an angular spread described by a cone. Various order-parameter structures are compared for nonideal interfaces of d-wave superconductors and different directions of current flow. The analysis favors a two-dimensional order parameter with an orbital part with a, line of nodes in the basal plane and point nodes along the c axis.

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