Realization of a Thin Film High-\(T_c\) n-SQUID

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The predominantly \(d_{xy}\) symmetry of the order parameter in most high-\(T_c\) superconductors provides the opportunity to construct novel Josephson junction circuits, in which part of the junctions are biased with a phase-difference of \(\pi\). We present fabrication and measurements of an all high-\(T_c\) dc n superconducting quantum interference device (dc n-SQUID), realized in thin film technology on a tetracrystalline substrate \([1]\). This device contains a standard junction and a junction with a \(\pi\)-phase shift. The characteristics of the n-SQUID are compared with the properties of a standard high-\(T_c\) SQUID. The unique features of the n-SQUID offer important potential for applications. This work was supported by the BMBF (project number 13N6918/1).