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Search for complex order parameter symmetry in Sr_2RuO_4 by Josephson interferometry experiments¹ FRANCOISE KIDWINGIRA, DALE VAN HARLINGEN, University of Illinois at Urbana-Champaign, YOSHITERU MAENO, Kyoto University — We present the results of Josephson interferometry measurements on single crystals of the unconventional superconductor Sr_2RuO_4 designed to determine the order parameter symmetry by mapping out the phase anisotropy. A number of experiments suggest that this material has odd pairing symmetry and may exhibit an in-plane complex order parameter of the form $p_x + ip_y$. To test this, we have carried out measurements of the critical current vs. magnetic field in single junctions and dc SQUIDS fabricated between a conventional superconductor and single edge faces or corners of the Sr_2RuO_4 crystal.

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