

Abstract Submitted
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Probing the Superconducting Order Parameter of Co-doped BaFe₂As₂ by Josephson Interferometry¹ JUAN ATKINSON, DALE VAN HARLINGEN, University of Illinois at Urbana-Champaign, PAUL CANFIELD, Ames Laboratory and Iowa State University — We probe the superconducting order parameter in Co-doped BaFe₂As₂ (Ba122) single crystals via measurements of the critical current of Josephson junctions fabricated on polished faces orthogonal to the c-axis. The modulation of the critical current as a function of magnetic flux applied along the c-axis is different for junctions fabricated on different points on a circularly polished face of the Ba122 crystal since each junction probes an effective order parameter of the crystal through an angle in k-space. These modulations map the phase anisotropy and test for the proposed s± mode pairing symmetry. We will present preliminary results of these studies and compare to existing theoretical models.

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