

Abstract Submitted  
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**Momentum dependence of the superconducting gap in NdFeAsO<sub>1-x</sub>F<sub>x</sub> single crystals measured by angle resolved photoemission spectroscopy** TAKESHI KONDO, A.F. SANTANDER-SYRO, O. COPIE, CHANG LIU, M.E. TILLMAN, J. SCHMALIAN, S.L. BUD'KO, P.C. CANFIELD, A.D. KAMINSKI, Ames Lab. and Dept. of Physics and Astronomy, Iowa State University — We use angle resolved photoemission spectroscopy (ARPES) to study the momentum dependence of the superconducting gap in NdFeAsO<sub>1-x</sub>F<sub>x</sub> single crystals. We find that the  $\Gamma$  hole pocket is fully gapped below the superconducting transition temperature. The value of the superconducting gap is  $15 \pm 3$  meV and its anisotropy around the hole pocket is smaller than 20% of this value. This is consistent with an isotropic or anisotropic s-wave symmetry of the order parameter or exotic d-wave symmetry with nodes located off the Fermi surface sheets. This is a significant departure from the situation in the cuprates, pointing to possibility that the superconductivity in the iron arsenic based system arises from a different mechanism.

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