

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Temperature Dependence of the Penetration Depth of LaFePO from Scanning SQUID Susceptometry CLIFFIRD HICKS, THOMAS LIPP-MAN, Geballe Laboratory for Advanced Materials, Stanford University, MARTIN HUBER, Departments of Physics and Electrical Engineering, University of Colorado at Boulder, JAMES ANALYTIS, JIUN-HAW CHU, IAN FISHER, KATHRYN MOLER, Geballe Laboratory for Advanced Materials, Stanford University — We use a scanning SQUID susceptometer to measure locally the temperature dependence of the penetration depth of the superconductor LaFePO. We observe a linear temperature dependence down to 850 mK, with a slope that varies with position on the sample. This is in contrast to recent measurements on the related iron arsenide family of superconductors, which indicate fully-gapped superconductivity. We also report on our ability to measure T_c locally, and observe local regions with weak superconductivity at temperatures well above the dominant T_c .

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Date submitted: 17 Dec 2008

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