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Temperature dependence of the penetration depth in pnictides measured locally with scanning SQUIDs THOMAS LIPPMAN, CLIFFORD HICKS, LAN LUAN, Stanford Institute for Materials and Energy Sciences, SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, CA 94025, USA., MARTIN HUBER, Departments of Physics and Electrical Engineering, University of Colorado Denver, Denver, Colorado, 80217, USA., JAMES ANALYTIS, JIUN-HAW CHU, ANN ERICKSON, IAN FISHER, KATHRYN MOLER, Stanford Institute for Materials and Energy Sciences, SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, CA 94025, USA. — Using a Scanning SQUID Microscope, we locally measure changes in the ab-plane penetration depth $\Delta\lambda_{ab}(T)$ of superconducting samples. Local measurements allow us to check for electronic homogeneity, including T_c homogeneity, as well as to minimize the possibility of sample-geometry-dependent errors, including contributions from the c-axis penetration depth. We report results on lead as well as on pnictide superconductors, including $Ba(Fe_{0.95}Co_{0.05})_2As_2$ and LaFePO. In LaFePO, we find a linear-T dependence with a slope of 143±15 Å/K, suggesting well-developed line nodes in the superconducting order parameter.

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