Abstract Submitted
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Measuring superconducting delta-doped strontium titanate bilayers using the scanning SQUID technique HILARY NOAD, KATJA C. NOWACK, HISASHI INOUE, CHRISTOPHER BELL, YASUYUKI HIKITA, HAROLD Y. HWANG[1], KATHRYN A. MOLER[2], Stanford Institute for Materials and Energy Science, Stanford University, SLAC National Accelerator Laboratory, Menlo Park, CA 94025, USA — Delta-doped strontium titanate is a highly tunable system well-suited for studying two-dimensional superconductivity. Bilayer structures, in particular, offer the possibility of modifying interlayer coupling between sheets of superconducting electrons. We can locally probe superconductivity and magnetism as a function of temperature using scanning SQUID susceptometry. We will discuss prospects for using the scanning SQUID technique to measure unusual effects, such as multi-component superconductivity, that may arise in delta-doped strontium titanate bilayers.

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