

Abstract Submitted  
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**Magnetotransport of  $\text{La}_{(2-x)}\text{Sr}_x\text{CuO}_4$  with Nearly Continuous Doping** ZACHARY STEGEN, JIE WU, JONATHON KEMPER, GREG BOEBINGER, Florida State University, SCOTT RIGGS, Stanford University, FEDOR BALAKIREV, ALBERT MIGLIORI, Los Alamos National Laboratory, IVAN BOZOVIC, Brookhaven National Laboratory — Hall resistivity and longitudinal magnetoresistance were measured in fields up to 35 T. The samples were grown using Combinatorial Molecular Beam Epitaxy (COMBE) where the strontium doping changes continuously across the sample. Thirty simultaneous transport measurements were taken on a sample from a single growth, which allows for unprecedented resolution in doping ( $\Delta p \approx 0.0002$ ). A series of these measurements were performed with the goal of examining the phase diagram of the hole-doped cuprates, particularly an increase in the Hall number around optimum doping.

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