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High Magnetic Field Specific Heat in Cuprate Superconductors SCOTT RIGGS, Stanford University, OSKAR VAFEK, JON BETTS, FEDOR BALAKIREV, ALBERT MIGLIORI, National High Magnetic Field Lab, DOUG BONN, WALTER HARDY, RUIXING LIANG, UBC, GREG BOEBINGER, National High Magnetic Field Lab — We present new high magnetic field specific heat results for both underdoped YBCO 6.51 and overdoped LSCO. With these measurements we show that across different families of cuprates and across the superconducting-doping phase diagram, 45T does very little to suppress the d-wave superconducting gap. We discuss possible interpretations of the specific heat data through the use of bandstructure, previous high field magnetization measurements, and proposed Fermi surface reconstruction scenarios.

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