

Abstract Submitted
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Current and Temperature Dependence of Resistance Fluctuations in the Striped Phase of $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$ ¹ ADAM WEIS, University of Illinois at Urbana-Champaign, ETHEL PEREZ, West Virginia University, MAREK MROCZEK, University of Illinois at Urbana-Champaign, YIZHOU XIN, Northwestern University, DALE VAN HARLINGEN, University of Illinois at Urbana-Champaign — The high-temperature superconductor $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$ is known for its unusual suppression of T_c at $x=1/8$, accompanied by the emergence of a charge stripe phase. A dynamic stripe phase with local resistance anisotropy is expected to cause measurable resistance fluctuations in samples with small dimensions. We report measurements of the transport and noise in microscopic wires patterned from thin films of $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$ grown by pulsed laser deposition. We observe a sudden change in noise power spectral density at temperatures consistent with the charge ordering temperatures observed in scattering experiments. We present the evolution of resistance noise with temperature and bias current as a characterization of the strongly correlated state near $x=1/8$ doping.

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