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Transport noise crossovers in disordered electron nematics WAN-JU LI, BENJAMIN PHILLABAUM, ERICA CARLSON, Purdue University, KARIN DAHMEN, University of Illinois at Urbana Champaign — Recently, low-frequency transport noise in underdoped YBCO was shown to exhibit an enhancement below 250K, consistent with fluctuations associated with a symmetry-breaking collective electronic state [1]. We discuss these results in relation to crossovers associated with the development of local electronic nematic order. Using a mapping of disordered electron nematics to random anisotropic resistor networks, we predict the thermal evolution of the noise power in transport associated with the crossover to local electron nematic behavior.

[1] Caplan et al., Phys. Rev. Lett. **104**, 177001 (2010).

Wan-Ju Li
Purdue University

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