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Nodal Quasiparticles at a Nematic Quantum Critical Point PAUL ORETO, EUN-AH KIM, STEVEN KIVELSON, Department of Physics, Stanford University, EDUARDO FRADKIN, Department of Physics, University of Illinois at Urbana-Champaign — The nodal quasiparticles in the high-Tc superconductors are robust consequences of the d-wave symmetry. Under most circumstances, the properties of these Dirac-like particles are generally simple, since most interactions involving them are "irrelevant." However, they are strongly scattered by the symmetry breaking fluctuations near an electronic nematic quantum critical point. In the quantum critical regime, an anomalous damping and enhancement of the dispersion anisotropy of the quasi-particles results. Possible relevance of this to the so-called "Fermi arc" seen in the underdoped cuprates is discussed.

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