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Electronic nematicity in Iron Pnictide superconductors probed via STM

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The microscopic origin of electronic nematicity and its relationship to superconductivity in the iron pnictides remains poorly understood. I will present recent scanning tunneling microscopy (STM) and spectroscopy (STS) measurements that directly visualize the nematicity in the electronic states of the pnictide superconductor Na(Fe,Co)As. The spatial and energy dependence of features seen in the spectroscopic images sheds light on the nature of the important interactions responsible for nematicity in this material, and measurements taken above and below the superconducting transition temperature reveal the interaction between the nematic electronic structure and superconductivity. I will describe measurements across the entire temperature-doping phase diagram and present a simple, unified picture for understanding nematicity as visualized by STM in the pnictides.