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**Visualization of electronic nematicity in the iron pnictides**

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The nematic state from which superconductivity emerges in the iron pnictides continues to confound. We use scanning tunneling microscopy (STM) and spectroscopy (STS) to image both long-range nematic order and nematic fluctuations across the doping phase diagram in Co-doped NaFeAs. We associate twinning domains with long-range order and directly visualize the temperature and doping dependence of these features. Anisotropic electronic structure is found to persist outside of the ordered nematic phase . With the aid of a novel experimental setup which combines simultaneous STS and variable, uniaxial strain, we determine the relationship between strain and nematic fluctuations which gives rise to the anisotropy.