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Low temperature scanning tunneling microscopy and spectroscopy investigation of $FeSe_{1-\delta}$ and $FeSe_{1-x}S_x$ single crystals[1] S. A. MOORE, Department of Physics, Temple University, Philadelphia, PA 19122, J. CURTIS, Department of Physics, Temple University, Philadelphia, PA 19122 ; Department of Physics, Drexel University, Philadelphia, PA 19104, M. ABDELHAFIEZ, Center for High Pressure Science and Technology Advanced Research, Shanghai, 201203, China, O. S. VOLKOVA, A. N. VASILIEV, Low Temperature Physics and Superconductivity Department, Physics Faculty, M.V. Lomonosov Moscow State University, Moscow 119991, Russia, D. A. CHAREEV, Institute of Experimental Mineralogy, Russian Academy of Sciences, 142432 Chernogolovka, Moscow District, Russia, G. KARAPETROV, Department of Physics, Drexel University, Philadelphia, PA 19104, M. IAVARONE, Department of Physics, Temple University, Philadelphia, PA 19122 — Due to its relatively simple crystallographic structure, investigations into $FeSe_{1-\delta}$ have held the promise to provide an avenue towards a better understanding of the mechanism of superconductivity in the iron-pnictides/chalcogenides and the relationship between nematicity and superconducting state. Here, we present low-temperature scanning tunneling microscopy and spectroscopy investigations of high purity $FeSe_{1-\delta}$ and sulfur substituted $FeSe_{1-x}S_x$ single crystals. Vortex core anisotropy and vortex matter in these systems will be discussed.

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