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Low temperature scanning tunneling microscopy and spectroscopy investigation of $FeSe_{1-x}S_x$ single crystals[1] C. DI GIORGIO, A. PUTILOV, E. LECHNER, D. TRAINER, Physics Department, Temple University, Philadelphia (PA), USA, O.S. VOLKOVA, A.N. VASILIEV, Phys. Faculty, Moscow State University; Inst. of Phys. and Tech., Ural Federal University; National University of Science and Technology MISiS, Russia, D. CHAREEV, Phys. Faculty, Moscow State University; Inst. of Experimental Minerology, Russian Academy of Sciences, Russia, G. KARAPETROV, Physics Department, Drexel University, Philadelphia (PA), USA, J.F. ZASADZINSKI, Physics Department, Illinois Institute of Technology, Chicago (IL), USA, M. IAVARONE, Physics Department, Temple University, Philadelphia (PA), USA — FeSe has the simplest crystal structure among the Fe-based superconductors, and this very simplicity could provide the most appropriate venue of understanding the superconducting mechanism of Fe-based superconductors. Low temperature scanning tunneling microscopy and spectroscopy measurements on high quality FeSe and S substituted FeSe single crystals will be presented. Multiband superconductivity, symmetry of the order parameter, role of disorder and vortex matter in this system will be discussed.

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