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**STM studies of vortices in FeSe single crystals**

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In spite of its simple crystal structure, the electronic properties of the iron-based superconductor FeSe ( $T_c \sim 9$  K) are rich and attractive. Superconductivity in FeSe takes place in a so-called nematic phase that is associated with orbital ordering. Another interesting aspect is that Fermi wave length is as long as the coherence length. This places FeSe most likely in the BCS-BEC crossover regime. These features should result in non-trivial electronic states around the local defects such as vortices and impurities. We have performed low temperature STM/STS experiments on FeSe to investigate its electronic properties. Vortex matter in this system will be discussed and connected to the multiband superconductivity nature of this material.