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Quantum Oscillations in FeAs in the Spin Density Wave State DANIEL CAMPBELL, University of Maryland, DAVID PARKER, Oak Ridge National Laboratory, CHRIS ECKBERG, KEFENG WANG, University of Maryland, DAVE GRAF, National High Magnetic Field Laboratory, JOHNPIERRE PAGLIONE, University of Maryland — Binary FeAs orders in a spin density wave (SDW) state at temperatures below TN = 70 K, much like the iron pnictides and isostructural pressure-induced superconductors CrAs and MnP, making it an ideal system with which to study the relationship between spin-density wave magnetism and superconductivity. We will present a new single-crystal flux growth technique that produces the highest quality specimens to date and allows for the observation of quantum oscillations in high-field torque measurements. Analyzing the dependence of oscillation frequency and amplitude on temperatures and field angles, we will review the effective electron and hole carrier masses and Fermi surface geometry in the SDW state and compare to theoretical calculations.

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