

Abstract Submitted
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Transport Study of Superconductivity and Magnetism in High Quality UCoGe Single Crystals FILIP RONNING, P.H. TOBASH, E.D. BAUER, K. GOFRYK, J.C. COOLEY, N. HARRISON, J.D. THOMPSON, LANL — We have synthesized by Czochralski method single crystals of UCoGe, a heavy fermion ferromagnetic superconductor. We report on our attempts to purify our crystals through a combination of zone refining, electromigration, and high temperature annealing procedures. Our best crystals possess a RRR of 35. Using these crystals we performed transport measurements to investigate the interplay between superconductivity and magnetism at ambient pressure in magnetic fields up to 85 T, as well as zero field studies under applied pressure whereby one can access the ferromagnetic quantum critical regime.

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