

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

DC Magnetization and Growth of Heavy-Fermion Superconductor CeCoIn₅ and CeIn₃ Crystal¹ TESHAYE GEBRE, National High Magnetic Field Laboratory, ERIC PALM, STANLEY TOZER, TIM MURPHEY, JU-HYUN PARK, NHMFL, JASON COOLEY, Los Alamos National Laboratory — The superconducting and magnetic state in heavy-fermion intermetallic compounds provides a promising realm of materials to study quantum critical behavior. Single crystals of the heavy-fermion superconductors CeCoIn₅ and CeIn₃ were synthesized from the pure element using an excess of Indium. The material crystallizes in the body tetragonal space group P4/mmm structure of HoCoGa₅ and has alternating layers of CeIn₃ and CoIn₂. The details of the flux growth technique used to grow CeCoIn₅ and CeIn₃, and the result of DC magnetization and transport measurements performed in the temperature range 1.9K to 100K will be reported.

¹Work was supported by DOE DE-FG52-06NA26193, NSF Cooperative Agreement No. DMR-0084173, and the State of Florida

Tesfaye Gebre
National High Magnetic Field Laboratory

Date submitted: 27 Nov 2007

Electronic form version 1.4