Optical Study of the Heavy Fermion Superconductor CeCoIn$_5$

T. GEBRE, T. TOKUMOTO, J. CHERIAN, T. MURPHY, S. TOSZER, E. PALM, C. WIEBE, S. MCGILL, National High Magnetic Field Laboratory — We have performed dc magnetization and optical spectroscopy on flux-grown crystals of the heavy fermion superconductor, CeCoIn$_5$. We will discuss the growth technique and report results of low-temperature and high magnetic field measurements for different orientations of field and crystal axis. CeCoIn$_5$ is a strongly correlated system exhibiting superconductivity below 2.3 K and is believed to show a variety of magnetic field-induced phases near or below the critical temperature.

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