A THz spectroscopy study of the field-induced quantum phase transition in the heavy fermion antiferromagnet CeCu$_2$Ge$_2$\textsuperscript{1} GRACE BOSSE, C.M. MORRIS, Johns Hopkins University, Y. LI, J. ECKSTEIN, University of Illinois at Urbana-Champaign, N.P. ARMITAGE, Johns Hopkins University — We report time domain THz spectroscopy data of a thin film of the heavy fermion compound CeCu$_2$Ge$_2$ in the presence of a magnetic field. It has been shown that it is possible to tune the antiferromagnetic long-range order of CeCu$_2$Ge$_2$ towards a quantum critical point using magnetic field as a tuning parameter. Measurements to obtain the frequency dependent complex conductivity as a function of temperature and field were taken down to temperatures below the onset of magnetic order and fields as high as 7 T. The effects of the quantum critical fluctuations on the frequency dependent scattering rate and mass renormalization, which are obtained using an extended Drude model analysis, will be discussed.

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