

Abstract Submitted  
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**A THz spectroscopy study of the field-induced quantum phase transition in the heavy fermion antiferromagnet  $\text{CeCu}_2\text{Ge}_2$** <sup>1</sup> 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  $\text{CeCu}_2\text{Ge}_2$  in the presence of a magnetic field. It has been shown that it is possible to tune the antiferromagnetic long-range order of  $\text{CeCu}_2\text{Ge}_2$  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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