

Abstract Submitted  
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**A THz spectroscopy investigation of the heavy fermion state in  $\text{CeCu}_2\text{Ge}_2$** <sup>1</sup> GRACE BOSSE, L. BILBRO, R. VALDES AUGILAR, JHU Dept. of Physics and Astronomy, Y. LI, J. ECKSTEIN, Dept. of Physics, University of Illinois, N.P. ARMITAGE, JHU Dept. of Physics and Astronomy — We present time-domain THz spectroscopy data of a thin film of the heavy fermion compound  $\text{CeCu}_2\text{Ge}_2$ . Measurements to obtain the frequency dependent complex conductivity were taken as a function of temperature down to temperatures well below the onset of magnetic order. At low temperatures a narrow Drude-like peak forms, which is likely associated with the heavy fermion or spin density wave state. Using this data in conjunction with DC resistivity measurements, we obtain the frequency dependence of the scattering rate and the mass renormalization through an extended Drude model analysis.

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