Abstract Submitted
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Far infrared spectroscopy of graphene JASON HORNG, CHI-FAN CHEN, BAISONG GENG, YUANBO ZHANG, CAGLAR GIRIT, Dept of Physics, University of California at Berkeley, ZHAO HAO, HANS BECHTEL, Advanced Light Source Division, Lawrence Berkeley National Laboratory, ALEX ZETTL, MICHAEL CROMMIE, FENG WANG, Dept of Physics, University of California at Berkeley — The electronic properties of graphene are described by massless Dirac electrons, and their DC conductivity and Hall conductivity have attracted great attention. However, the high frequency conductivity (AC conductivity) of graphene is little known. Here we perform far-infrared spectroscopy on large area graphene sample to probe its AC conductivity response. The response can be largely described by the Drude model, which yields direct information on the electron density and scattering rate in the graphene samples. We will discuss the comparison of our experimental results to theoretical predictions.

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