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**Investigating the two-dimensional conductivity of CVD graphene using surface acoustic waves** JUSTIN R. LANE, MAZIN A. KHASAWNEH, ANNA TURNBULL, JOHANNES POLLANEN, Michigan State University — Surface acoustic waves (SAW) propagating on a piezoelectric substrate can be a sensitive probe of the dynamical conductivity of a nearby two-dimensional electron system (2DES). Enhanced absorption of acoustic energy can occur when the wavelength, or frequency, of the SAW become comparable to some other length, or time, scale within the 2DES. We implement SAW measurements of the frequency and wavevector dependent conductivity of graphene grown via chemical vapor deposition (CVD). We measure the conductivity at low temperatures and high magnetic fields utilizing a flip-chip SAW device, with access to multiple frequencies by employing higher SAW harmonics. Finally, we report on progress to extend these measurements to higher mobility graphene devices.

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