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Graphene's Dynamic Conductivity in THz Regime SUFEI SHI, UC Berkeley and Lawrence Berkeley National Laboratory, TSUNG-TA TANG, BO ZENG, LONG JU, UC Berkeley, FENG WANG, UC Berkeley and Lawrence Berkeley National Laboratory — Graphene, a single layer of carbon atoms arranged in honeycomb structure, has linear dispersion relation. The conductivity of graphene in the THz regime is highly tunable due to its gapless dispersion relation, which makes graphene a promising candidate for THz application. Using optical excitation as the pump, we probe graphene with a THz beam and study the THz conductivity in the time domain. This study sheds light on the carrier relaxation in graphene after intense optical excitation and provides information for designing future graphene-based opto-electronic device.

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