

Abstract Submitted
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Terahertz imaging of inhomogeneous electrodynamics in single-layer graphene embedded in dielectrics ZACHARY THOMPSON, MICHAEL PAUL, JOESEPH TOMAINO, Oregon State University, JOSHUA KEVEK, Cornell University, TRISTAN DEBORDE, ETHAN MINOT, YUN-SHIK LEE, Oregon State University, OREGON STATE UINVERSITY TEAM, CORNELL UNIVERSITY COLLABORATION — We investigate electron transport properties in large-area, single-layer graphene embedded in dielectric media, using free-space terahertz (THz) imaging and time-domain spectroscopy. Sandwiched between a thin polymethyl methacrylate (PMMA) layer and a Si substrate, graphene layers of different growth recipes exhibit distinctive spatial inhomogeneity of sheet conductivity. The non-contacting, non-destructive THz probe reveals that the PMMA layer induces a small, yet noticeable reduction in conductivity.

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