

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Thermo-Plasma Polariton within Scaling Theory of Single-Layer Graphene OSKAR VAFEK, Florida State U. - NHMFL — Electrodynamics of single-layer graphene is studied in the scaling regime. At any finite temperature, there is a weakly damped collective thermo-plasma polariton mode whose dispersion and wavelength dependent damping is determined analytically. The electric and magnetic fields associated with this mode decay exponentially in the direction perpendicular to the graphene layer, but unlike the surface plasma polariton modes of metals, the decay length and the mode frequency are strongly temperature dependent. This may lead to new ways of generation and manipulation of these modes.

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Date submitted: 16 Nov 2006

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