

Abstract Submitted
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Graphene Plasmonic Terahertz Filters and Polarizers FENG-
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DON AVOURIS, IBM T. J. Watson Research Center — Graphene has remarkably
strong interaction with light, especially in the terahertz frequency range. Free car-
riers in graphene exhibit Drude behavior and the Drude weight can be tuned by
electrostatic or chemical doping. Graphene can support surface plasmons. In this
paper, we'll show that with multiple stacked CVD graphene layers, terahertz filters
and polarizers can be realized by patterning them into micro-disks and ribbons. The
influence of dipole-dipole interaction on the extinction spectra will be discussed.

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