MAR08-2007-020065

Abstract for an Invited Paper for the MAR08 Meeting of the American Physical Society

**Ballistic Transport in Graphene.**<sup>1</sup> MIKHAIL TITOV, Heriot-Watt University, Edinburgh

Charge transport in ballistic graphene-based microstructures is described within the scattering formalism, which takes into account evanescent modes induced by metallic contacts. We discuss in detail new theoretical predictions for the charge transport and shot noise in the models which include local potential inhomogeneities, next to the nearest neighbor coupling, or ripples in the graphene plane.

<sup>1</sup>Support from the School of Engineering and Physical Sciences at Heriot-Watt University is gratefully acknowledged