

Abstract Submitted
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Dirac and Normal Fermions in Graphite and Graphene: Implications to the Quantum Hall Effect IGOR LUK'YANCHUK, University of Picardy, YAKOV KOPELEVICH, Instituto de Fisica Gleb Wataghin, Universidade Estadual de Campinas, — Spectral analysis of Shubnikov de Haas (SdH) oscillations of magnetoresistance and of Quantum Hall Effect (QHE) measured in quasi-2D highly oriented pyrolytic graphite (HOPG) reveals two types of carriers: normal (massive) electrons with Berry phase 0 and Dirac-like (massless) holes with Berry phase π . We demonstrate that recently reported integer- and semi-integer QHE for bi-layer and single-layer graphenes take place simultaneously in HOPG samples.

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