

## Non-abelian Properties of Charge Carriers in a Quasirelativistic Graphene Model

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*Received June 23, 2020*

*Revised July 23, 2020*

*Accepted for publication July 27, 2020*

Charge carrier transport peculiarities stipulated by non-trivial topology of a quasi-relativistic graphene model are investigated. It has been demonstrated that the model predicts additional topological contributions such as Majorana-like mass-term correction to ordinary Ohmic component of current, spin-orbital-coupling and „Zitterbewegung“-effect corrections to conductivity in space and time dispersion regime. Phenomena of negative differential conductivity for graphene have been interpreted based on the proposed approach.

**Keywords:** graphene, quasirelativistic model.

Full text of the paper will appear in journal SEMICONDUCTORS.