

Peer Review

Review of: "Distinguishing Features of Longitudinal Magnetoconductivity for a Rarita-Schwinger-Weyl Node"

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The author has studied fluctuations in magnetoconductivity and plotted them as a function of the external magnetic field with and without inter-band interactions and when contributions from the orbital magnetic moment (OMM) are included (or when they are not) for a pseudospin-3/2 RSW model using Boltzmann transport equations. The focus was to include momentum-dependent relaxation times and angle-dependent spinor overlaps in the collision integrals. The main results obtained here indicate that the parabolas change their curvature as OMM is included. The manuscript is well-written and easy to read. However, the results, while they look correct and intuitive and contain some useful derivations, are, according to me, too minimal for Qeios. Most of the results are known in related contexts (such as WSMs), and hence the novelty of the results comes under scrutiny. Is there any reason that the author is restricted to discussing only one node? For example, with two nodes, tilting between them can be considered as a parameter that can influence the magnetoconductance. I suggest that some extension of the results that have physical significance will enhance the purpose of the work.

Declarations

Potential competing interests: No potential competing interests to declare.