Abstract Submitted
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Anomalous hydrodynamics of Weyl materials[1] GUSTAVO MONTEIRO, University of Campinas, ALEXANDER ABANOV, Stony Brook University — Kinetic theory is a useful tool to study transport in Weyl materials when the band-touching points are hidden inside a Fermi surface. It accounts, for example, for the negative magnetoresistance caused by the chiral magnetic effect and quantum oscillations (SdH effect) in the magnetoresistance together within the same framework [1]. As an alternative approach to kinetic theory we also consider the regime of strong interactions where hydrodynamics can be applicable. A variational principle of these hydrodynamic equations can be found in [2] and provide a natural framework to study hydrodynamic surface modes which correspond to the strongly-interacting physics signature of Fermi arcs. [1] G. Monteiro, A. Abanov and D. Kharzeev, Phys. Rev. B 92, 165109 (2015) [2] G. Monteiro, A. G. Abanov and V. P. Nair, Phys. Rev. D 91, 125033 (2015)

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