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Magnetotransport in Dirac semimetals: Chiral magnetic effect and quantum oscillations GUSTAVO MONTEIRO, ALEXANDER ABANOV, DMITRI KHARZEEV, Stony Brook University — Dirac semimetals are characterized by the linear dispersion of fermionic quasiparticles, with the Dirac point hidden inside a Fermi surface. We study the magnetotransport in these materials using chiral kinetic theory to describe within the same framework both the negative magnetoresistance caused by the chiral magnetic effect and quantum oscillations in the magnetoresistance due to the existence of the Fermi surface [1]. We also consider the role of Fermi Arcs and their contribution for the SdH modes. We discuss the relevance of obtained results to recent measurements on Cd_3As_2.
[1] G. Monteiro, A. Abanov and D. Kharzeev, Phys. Rev. **B** 92, 165109 (2015).

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