

Magneto-transport phenomena in Weyl metals

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Materials with nontrivial topological properties have attracted considerable interest after the discovery of topological insulators. One type of such materials is the so-called Weyl semimetals, characterized by the presence of points of band touching (Dirac points). I will discuss the metallic counterparts of these materials—the Weyl metals, where Dirac points are hidden inside a Fermi surface. Fermi surfaces in these systems possess nonzero fluxes of the Berry curvature. These materials may exhibit large classical negative magnetoresistance with unusual anisotropy, new type of plasma waves and magnetic field induced anomalies in sound absorption. These phenomena are consequences of chiral anomaly in electron transport theory.

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