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Klein tunneling and magnetoresistance of p - n junctions in Weyl semimetals¹ SONGCI LI, ANTON ANDREEV, BORIS SPIVAK, University of Washington — We study the zero temperature conductance and magnetoconductance of ballistic p - n junctions in Weyl semimetals. Electron transport is mediated by Klein tunneling between n - and p - regions. The chiral anomaly that is realized in Weyl semimetals plays a crucial role in the magnetoconductance of the junction. With the exception of field orientations where the angle between \mathbf{B} and the junction plane is small, magnetoconductance is positive and linear in B at both weak and strong magnetic fields. In contrast, magnetoconductance in conventional p - n junctions is always negative.

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