

Abstract Submitted
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Intrinsic Hall effect in a multiband chiral superconductor¹ EDWARD TAYLOR, CATHERINE KALLIN, McMaster University — We identify an intrinsic, dissipationless Hall effect in multiband chiral superconductors in the absence of a magnetic field (i.e., an *anomalous* quantum Hall effect). Similarly to its analog in ferromagnets, this effect arises from inter-band transitions when time-reversal symmetry is spontaneously broken. We discuss the implications of this effect for the putative chiral *p*-wave superconductor, Sr₂RuO₄, and show that it can be of the right order of magnitude to contribute significantly to the polar Kerr rotation observed in experiments, depending on the structure of the order parameter across the bands.

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