

Abstract Submitted
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Topological Thouless pumping in graphene and 2D Dirac materials¹ DAVID ABERGEL, ANNA PERTSOVA, Nordita — We present a comprehensive analysis of strain-induced topological Thouless pumping of charge and valley currents in graphene and 2D Dirac materials. We analyze the role of strain deformations with all possible symmetries and classify the charge and valley currents that are adiabatically pumped in response. These manifest as transport without an applied bias. The production of valley currents implies that strained Dirac materials are a candidate platform for valleytronic applications.

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