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Title:	Switchable quantum anomalous hall state in a strongly frustrated lattice magnet
Authors:	Kumar, Sanjeev (/jspui/browse?type=author&value=Kumar%2C+Sanjeev)
Keywords:	Applied magnetic fields Dirac fermions Edge currents
Issue Date:	2012
Publisher:	American Physical Society.
Citation:	Physical Review Letters, 109 (16), art. no. 166405,
Abstract:	We establish that the interplay of itinerant fermions with localized magnetic moments on a checkerboard lattice leads to magnetic flux phases. For weak itineracy the flux phase is coplanar and the electronic dispersion takes the shape of graphenelike Dirac fermions. Stronger itineracy drives the formation of a noncoplanar, chiral flux phase, in which the Dirac fermions acquire a topological mass that is proportional to a ferromagnetic spin polarization. Consequently the system self-organizes into a ferromagnetic quantum anomalous Hall state in which the direction of its dissipationless edge currents can be switched by an applied magnetic field.
Description:	Only IISERM authors are available in the record.
URI:	https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.109.166405 (https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.109.166405) http://prl.aps.org/abstract/PRL/v109/i16/e166405 (http://prl.aps.org/abstract/PRL/v109/i16/e166405)
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