Abstract Submitted
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Zeeman Field-"Rotated" Transitions for Surface Chern Insulators E.J. MELE, FAN ZHANG, Department of Physics and Astronomy, University of Pennsylvania, XIAO LI, Department of Physics, The University of Texas at Austin, JI FENG, International Center for Quantum Materials, Peking University, C.L. KANE, Department of Physics and Astronomy, University of Pennsylvania — Mirror symmetric surfaces of a topological crystalline insulator (e.g. SnTe) host even number of Dirac surface states. A surface Zeeman field generically gaps these states leading to a quantized anomalous Hall effect. Varying the direction of Zeeman field induces transitions between different surface insulating states with any two Chern numbers between -4 and 4. In the crystal frame the phase boundaries occur for field orientations which are great circles with (111)-like normals on a sphere. [arXiv:1309.7682]

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