

Abstract Submitted  
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**Quantum Anomalous Hall Effect with Higher Plateaus**<sup>1</sup> JING WANG, BIAO LIAN, HAIJUN ZHANG, YONG XU, SHOU-CHENG ZHANG, Department of Physics, Stanford University, CA 94305-4045, USA — The quantum anomalous Hall (QAH) effect in magnetic topological insulators is driven by the combination of spontaneous magnetic moments and spin-orbit coupling. Its recent experimental discovery raises the question if higher plateaus can also be realized. Here, we present a general theory for a QAH effect with higher Chern numbers and show by first-principles calculations that a thin film magnetic topological insulator of Cr-doped Bi<sub>2</sub>(Se,Te)<sub>3</sub> is a candidate for the C= 2 QAH insulator. Remarkably, whereas a higher magnetic field leads to lower Hall conductance plateaus in the integer quantum Hall effect, a higher magnetic moment leads to higher Hall conductance plateaus in the QAH effect.

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