

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Transport in quantum spin Hall systems in parallel magnetic fields** MICHAEL WIMMER, RAFAL SKOLASINSKI, TU Delft, Netherlands, DMITRY PIKULIN, University of British Columbia, Canada, JASON ALICEA, Caltech, US — Edge states in quantum spin Hall (QSH) systems are protected by time-reversal symmetry, resulting in a quantized conductance. A magnetic field breaks that protection, and should lead to a deviation from perfect quantization. We will discuss generic features of semiconductor-based QSH systems (such as HgTe/CdTe and InAs/GaSb) that affect the magnetic field dependence of edge state conductance, focusing on the effect of an in-plane field.

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Date submitted: 06 Nov 2015

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