

Abstract Submitted
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Fractional Chern Insulators from the n th Root of Bandstructure¹ BRIAN SWINGLE, Harvard University, KY-ANH TRAN, JOHN MCGREEVY, MIT — I will describe some recent theoretical results pertaining to fractional Chern insulators. These are interacting lattice models of partially filled Chern bands which have been numerically shown to realize some universal aspects of fractional quantum Hall physics. We use parton/slave-particle techniques to provide model wavefunctions for these phases. We also provide a strong coupling expansion that gives new insights into the foundations of the parton approach. I will conclude by describing some of the practical uses of our results, including suggesting candidate models to realize non-Abelian fractional Chern insulators.

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