

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Quantum Anomalous Hall Insulator of Composite Fermions YIN-HAN ZHANG, Carnegie Mellon University, JUNREN SHI, Peking University — We show that a weak hexagonal periodic potential can transform a two-dimensional electron gas with an even-denominator magnetic filling factor into a quantum anomalous hall insulator of composite fermions, giving rise to the fractionally quantized Hall effect. The system provides a realization of the Haldane honeycomb-net model, albeit in a composite fermion system. We further propose a trial wave function for the state, and numerically evaluate its relative stability against the competing Hofstadter state. Possible sets of experimental parameters are proposed.

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Date submitted: 10 Nov 2016

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