

Abstract Submitted  
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**Reordering Fractional Chern Insulators into Stripes of Fractional Charges Using Long-Range Interactions**<sup>1</sup> MENGSIU CHEN, VITO SCAROLA, Virginia Tech — Long-range interactions contribute to the rich phenomenology of quasiparticle collective states in the fractional quantum Hall regime. We test for analogues in models of fractional Chern insulators derived from a screened Coulomb interaction. We project the interaction to the lowest band and numerically diagonalize it. We find that the uniform fractional Chern liquid is surprisingly robust to long-range interactions but gives way to a unidirectional charge density wave of fractionally charged quasiparticles with increased screening length. Our results show that fractional Chern insulators offer a robust and important platform for studying quasiparticles collective states.

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