

Abstract Submitted
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Spin Reconstruction in Quantum Hall Strips YAFIS BARLAS, National High Magnetic Field Lab, Tallahassee, FL, GILAD BARAK, Harvard University, YOGESH JOGLEKAR, Indiana University- Purdue University Indianapolis, KUN YANG, National High Magnetic Field, Tallahassee, FL, AMIR YACOBY, BERTRAND HALPERIN, Harvard University — We study the effect of electron-electron interactions on the ground state of a Quantum Hall Strip with triangular confinement in the Hartree-Fock Approximation. We find that for infinitesimal Zeeman splitting the soft-edge undergoes a spontaneous transition from a spin-unpolarized to spin-polarized ground state as a function of the magnetic field perpendicular to the strip. This spin-polarization shows up as an eye-structure in the dispersion and has a spatial separation of the order of a magnetic length. This transition is due to the interplay of strong edge confinement and electron-electron interaction and is independent on the Zeeman energy.

Yafis Barlas
National High Magnetic Field Lab, Tallahassee FL

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