

Abstract Submitted
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Quantum Hall Stripes in Graphene JIANHUI WANG, ANDREW IYENGAR, HERBERT FERTIG, Indiana University, LUIS BREY, CSIC-Madrid — We study unmodulated stripes in graphene with a high, half integer filling factor. The ground-state energy and stripe density are calculated in the Hartree-Fock approximation to determine the effect of the differing Landau indices on the two sublattices in the single-particle wavefunctions. For appropriate filling factors, the stripes should support a spontaneous polarization of the valley degree of freedom in the limit where electron-electron interactions may be treated as SU(2) symmetric. The implications of the groundstate structure for collective modes and stability of the stripe state will be considered.

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