

Abstract Submitted
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Energy Scales of the Reentrant Integer Quantum Hall States in High Landau Levels NIANPEI DENG, JOHN WATSON, MICHAEL MANFRA, GABOR CSATHY, Purdue University — The reentrant integer quantum Hall states (RIQHS) have been identified with the electronic bubble phases. These bubble phases are exotic electronic solids similar to the Wigner crystal, but have more than one electron per lattice site. Recently we reported the presence of a peak in the temperature dependent magnetoresistance of the RIQHSs and we have associated this peak with the onset of the RIQHSs. We found that, contrary to the predictions of the bubble theory, the onset temperatures of the RIQHSs in the third Landau level are much higher than those in the second Landau level. We have extended such measurements of the onset temperatures to several high Landau levels. In this talk we will discuss the orbital dependence of the onset temperatures of RIQHSs and we will compare these quantitative results to the predictions of the bubble theory. This work was supported by the DOE BES contract no. DE-SC0006671.

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