Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Microwave Conductivity Spectra in High Landau Levels under Tilted Magnetic Fields G. SAMBANDAMURTHY[1,2], R. M. LEWIS[1,2], Z. WANG[3,1], Y. CHEN[2,1], L. W. ENGEL[1], D. C. TSUI[2], L. N. PFEIFFER[4], K. W. WEST[4], [1]NHMFL, Tallahassee, FL 32306, [2]EE Dept., Princeton Univ., [3]Phys. Dept., Princeton Univ., Princeton, NJ 08544,[4] Bell Labs, NJ 07974 — We present the results of a systematic study of the microwave conductivity in high Landau levels (LLs) of very clean two- dimensional electron systems (2DES), in the 20 MHz to 6 GHz range. When magnetic field (B) is applied perpendicular to the 2DES, a resonance that appears between LL fillings (ν) of 4.2 and 4.4 is interpreted as due to the pinning mode of bubble phase of electrons [1]. We observe that the frequency of this resonance increases as a function of *in-plane* B ($B_{||}$). A resonance associated with a Wigner crystal composed of top LL electrons or holes [2] in the ranges $1.85< \nu <1.95$ and $2.05< \nu <2.15$ similarly increases with $B_{||}$. However, the peak frequency increases asymmetrically with $B_{||}$ on either side of ν=2.
[1] R.M. Lewis *et al.*, PRL **89**, 136804 (2002)
[2] Y. Chen *et al.*, PRL **91**, 016801 (2003)

Sambandamurthy Ganapathy
NHMFL

Date submitted: 05 Jan 2005 Electronic form version 1.4