

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

NMR Probing Spin Excitations in the Ring-Like Structure of a Two-Subband System XINCHANG ZHANG, GAVIN SCOTT, HONGWEN JIANG, Department of Physics and Astronomy, University of California at Los Angeles — Resistively detected nuclear magnetic resonance (NMR) is observed inside the ring-like structure, with a quantized Hall conductance of $6e^2/h$, in the phase diagram of a two subband electron system. The NMR signal persists up to 400 mK and is absent in other states with the same quantized Hall conductance. The nuclear spin-lattice relaxation time, T_1 , is found to decrease rapidly towards the ring center. These observations are consistent with the assertion of the ring-like region being a ferromagnetic state that is accompanied by collective spin excitations.

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Date submitted: 30 Oct 2006

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