

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Anomalous Beating Pattern in Wurtzite $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ Heterostructures¹ WAN-TSANG WANG, Dept. of Physics, NSYSU, Kaohsiung, Taiwan and Research Center for Applied Sciences Academia Sinica, Taipei, Taiwan, IKAI LO, MING-HONG GAU, YEN-LIANG CHEN, JIH-CHEN CHIANG, Department of Physics, Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University, Kaohsiung, Taiwan, Republic of China — We have confirmed the k -dependent spin splitting in wurtzite $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ heterostructures. Anomalous beating pattern in Shubnikov-de Haas measurements arises from the interference of Rashba and Dresselhaus spin-orbit interactions. The dominant mechanism for the k -dependent spin splitting at high value k is attributed to Dresselhaus term which is enhanced by the $\Delta_{C1} - \Delta_{C3}$ coupling of wurtzite band folding effect.

¹Research supported by National Science Council, Core Facilities Laboratory in Kaohsiung-Pingtung area, Taiwan (ROC).

T. -H. Lu

Date submitted: 20 Nov 2006

Electronic form version 1.4