Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Microwave polarization angle study of the radiation-induced magnetoresistance oscillations in the GaAs/AlGaAs 2D electron system under dc current bias[1] MUHAMMAD-ZAHIR IQBAL, HAN-CHUN LIU, Georgia State University, Atlanta, GA 30303, MARTIN S. HEIMBECK, Army Aviation Missile RDE Center, Redstone Arsenal, Huntsville, AL 35898, HENRY O. EVERITT, Army Aviation Missile RDE Center, Redstone Arsenal, Huntsville, AL 35898 and Dept. of Physics, Duke University, Durham, NC 27708, WERNER WEGSCHEIDER, ETH-Zurich, 8093 Zurich, Switzerland, RAMESH G. MANI, Georgia State University, Atlanta, GA 30303 — Microwave-induced magnetoresistance oscillations followed by the vanishing resistance states are a prime representation of non-equilibrium transport phenomena in two-dimensional electron systems (2DES). The effect of a dc current bias on the nonlinear response of 2DES with microwave polarization angle under magnetic field is a subject of interest. Here, we have studied the effect of various dc current bias on microwave radiation-induced magnetoresistance oscillations in a high mobility 2DES. Further, we systematically investigate the effect of the microwave polarization angle on the magneto-resistance oscillations at two different frequencies 152.78 GHz and 185.76 GHz. This study aims to better understand the effects of both dc current and microwave polarization angle in the GaAs/AlGaAs system, both of which modify the observed magneto-transport properties

[1]DOE-BES, Mat'l. Sci. Eng. Div., DE-SC0001762; ARO W911NF-14-2-0076; ARO W911NF-15-1-0433

Ramesh Mani
Georgia State University, Atlanta, GA 30303

Date submitted: 06 Nov 2015 Electronic form version 1.4