

Abstract Submitted  
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**Study of the phase-shift in the linear-polarization-angle-dependence of the microwave radiation-induced magnetoresistance oscillations in the GaAs/AlGaAs system**<sup>1</sup> HAN-CHUN LIU, TIANYU YE, R.G. MANI, Georgia State Univ, W. WEGSCHEIGER, ETH-Zurich, GEORGIA STATE UNIVERSITY COLLABORATION, ETH-ZURICH COLLABORATION — Transport studies of microwave- and terahertz-induced magneto-resistance oscillations (MTIMRO) identified novel photo-excited zero-resistance states in the GaAs/AlGaAs two-dimensional electron system system. Some theories based on the premise of linear-polarization-insensitivity have been developed for the MRIMRO. Some studies have shown, however, a strong linear polarization sensitivity of MTIMRO [1,2] using new experimental methods. In addition, Ramanayaka *et al.* [2] has observed that using fitting formula,  $R_{xx}(\theta) = A \pm C \cos^2(\theta - \theta_0)$ , to sinusoidal variation of diagonal resistance,  $R_{xx}$ , with polarization angle  $\theta$ , the extracted phase shift,  $\theta_0$ , depends on radiation frequency, magnetic field  $B$ , sign of  $B$  [2]. Here, in addition to those mentioned factors, we investigate the dependence of the phase shift  $\theta_0$  in the linear-polarization-angle-dependence upon sample geometry.

[1] R. G. Mani *et al.*, Phys. Rev. B 84, 085308 (2011).

[2] A. N. Ramanayaka *et al.*, Phys. Rev. B 85, 205315 (2012).

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