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Observation of linear-polarization-sensitivity in the microwave-radiation-induced magneto-resistance oscillations¹ RAMESH MANI, ARUNA RAMANAYAKA, Georgia State University, WERNER WEGSCHEIDER, ETH Zurich — In the quasi two-dimensional GaAs/AlGaAs system, we investigate the effect of rotating *in-situ* the electric field of linearly polarized microwaves relative to the current, on the microwave-radiation-induced magneto-resistance oscillations. We find that the frequency and the phase of the photo-excited magneto-resistance oscillations are insensitive to the polarization. On the other hand, the amplitude of the resistance oscillations are remarkably responsive to the relative orientation between the microwave antenna and the current-axis in the specimen. The results suggest a striking linear polarization sensitivity in the radiation-induced magnetoresistance oscillations.

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