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摘要: We report the development of new terahertz (THz) techniques for rapidly measuring the complex Faraday angle in systems with broken time-reversal symmetry. Using the cyclotron resonance of a GaAs two-dimensional electron gas in a magnetic field, we have tested the performance of the techniques. We have made polarization modulation, high sensitivity (< 1 mrad) narrowband rotation measurements with a cw optically pumped molecular gas laser, and, by combining the distinct advantages of THz time domain spectroscopy and polarization modulation techniques, we have demonstrated rapid broadband rotation measurements to < 5 mrad precision.

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