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Abstract:We report on a giant Faraday effect in an electron plasma in n- InSb probed via polarization-resolved terahertz (THz) time-domain spectroscopy. Polarization rotation angles and ellipticities reach as large as π/2 and 1respectivelyover a wide frequency range (0.3-2.5 THz) at magnetic fields of a few Tesla. The experimental results together with theoretical simulations show its promising ability to construct broadband and tunable THz polarization opticssuch as a circular polarizerhalf-wave plateand polarization modulators. © 2012 Optical Society of America.
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