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Abstract:Employing an orientation-modulated bias field, a polarization-sensitive scheme for terahertz air-biased-coherent-detection (THz-ABCD) is presented to directly measure the amplitude and polarization angle of THz field in the time domain. It can provide all characteristics of arbitrarily polarized THz wave with one single-scan measurement. Measuring convenience, broad bandwidth, and high angular resolution have been achieved. Polarization-sensitive THz time-domain spectroscopy can surely be developed based on this technology. Many other applications in the THz spectral region are also believed. © 2012 American Institute of Physics.
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