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摘要: We present a review of our recent nonlinear spectroscopy experiments on bulk semiconductors performed using a novel source of ultra-intense multi-THz transients. The field-induced interband optical absorption in InP is studied on subcycle timescales. Our simulations corroborate the Franz-Keldysh effect as the main reason for the observed optical anomalies. The time-resolved four-wave mixing signals generated in InSb demonstrate clear signatures of a non-perturbative excitation regime and can be qualitatively reproduced by a simplified model of a two-level system driven far from the resonance.
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