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Time-Resolved Pump-Probe Spectroscopy of Bulk GaAs at 25 T
NICHOLAS NOLAN, JEREMY CURTIS, TAKAHISA TOKUMOTO, University of Alabama at Birmingham, JUDY CHERIAN, STEPHEN MCGILL, National High Magnetic Field Laboratory, DAVID HILTON, University of Alabama at Birmingham — We have performed time-resolved pump-probe spectroscopy on bulk GaAs in fields as high as 25 T. The results show oscillations in the differential reflection from coherent acoustic phonons (CAP) with frequencies that are proportional to B. A magnetic field dependent shift to the CAP frequency is attributed to Zeeman splitting of the conduction and valence subbands.

Nicholas Nolan
University of Alabama at Birmingham

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