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Title:Terahertz generation and detection using low temperature grown InGaAs-InAlAs photoconductive antennas at 1.55 μ pulse excitation
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Abstract:Photoconductive antennas fabricated on novel low temperature (LT) beryllium (Be) doped InGaAs-InAlAs multi-quantum-well structures have been evaluated as THz emitters and detectors in a time-domain spectroscopy (TDS) system. We present system responses with THz pulses having spectral range up to 3 THz and power to noise ratio of 60 dB, making them competitive with LT-GaAs excited at 800 nm and among the highest reported to date for this material system. © 2011-2012 IEEE.
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Controlled terms:Beryllium - Microwave antennas - Reflectometers - Temperature - Terahertz waves
Uncontrolled terms:Low temperatures - Low-temperature grown - LT-GaAs - Material systems - Multi-quantum well structures - Noise ratio - Photoconductive antennas - Pulse excitation - Spectral range - System response - Terahertz generation - THz emitters - THz pulse - Time domain spectroscopy
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