

Abstract Submitted
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Difference Frequency Generation Measurements of Phase Transitions in Gallium MICHAEL FURLANETTO, Los Alamos National Laboratory — We recently measured the vibrational excitation spectra of solid and liquid gallium with ultrafast terahertz difference frequency generation (DFG) spectroscopy. The two phases had clearly different DFG spectra, with a 250 cm^{-1} phonon feature visible in the solid phase and a 50 cm^{-1} excitation feature seen in the liquid phase. Prospects for using this technique to measure phase transitions of shocked systems *in situ* will be discussed.

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