

Abstract Submitted
for the DAMOP12 Meeting of
The American Physical Society

Optical heterodyne analysis of picosecond laser pulses¹ STEVEN HOKE, JEFFREY JOHNSON, Arkansas State University — We present an optical heterodyne method to analyze laser pulses of picosecond duration using a frequency stabilized nanosecond laser. Optical heterodyning requires the linewidth of the nanosecond laser to be much smaller than the linewidth of the picosecond pulse being analyzed. This condition is easily achieved for seeded single-longitudinal-mode nanosecond lasers and seeded nanosecond OPOs. The timing of the two collinear lasers is adjusted such that the picosecond laser pulse arrives near the center of the nanosecond pulse, which fills the role normally performed by a CW laser. The beat pattern between the laser pulses is measured on a streak camera and analyzed through Fourier analysis.

¹We gratefully acknowledge financial support from the United States Army Night Vision and Electronic Sensors Directorate under contract number W909MY-09-C-0001.

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Date submitted: 27 Jan 2012

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