

Abstract Submitted
for the DAMOP09 Meeting of
The American Physical Society

Determining the spectral width of an ultrashort light pulse with a diffraction grating-based spectrometer J. BRUCE JOHNSON, Arkansas State University — A method is presented to determine the corrected linewidth of a pulse of light measured with a diffraction grating-based spectrometer. The correction is only necessary when working near the limit of resolution of the spectrometer. The analysis presented in this work includes the evaluation of the corrected linewidth for various pulse widths, numbers of grooves in the grating, and widths of the entrance slit. Although the method of correction is demonstrated with pulses possessing a Gaussian profile, the calculations are easily repeated for any profile of interest.

J. Bruce Johnson
Arkansas State University

Date submitted: 23 Jan 2009

Electronic form version 1.4