

Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Atomic transition probabilities of Ce I from Fourier transform spectra¹ D.E. NITZ, St. Olaf College, J.E. LAWLER, University of Wisconsin, J. CHISHOLM, Boston College, M.P. WOOD, University of Wisconsin, J. SOBECK, University of Chicago, E.A. DEN HARTOG, University of Wisconsin — We report transition probabilities for 2874 lines of CeI in the wavelength range 360 – 1500 nm. These are derived from new branching fraction measurements on Fourier transform spectra normalized with recently-reported radiative lifetimes (Den Hartog et al., J. Phys. B 42, 085006 (2009)). We have analyzed the decay branches for 153 upper levels in 14 different spectra recorded under a variety of discharge lamp conditions. Comparison of results with previous less extensive investigations shows good agreement for lines studied in common. Accurate Ce I transition probabilities are needed for applications in astrophysics and in lighting research, particularly for the development of improved metal halide high-intensity discharge lamps.

¹Work supported through grants to collaborator institutions from NSF and DOE and undergraduate research support from NSF and DoD.

D.E. Nitz
St. Olaf College

Date submitted: 22 Jan 2010

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