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Precision measurements on the photoionization of neutral atomic species.

WAYNE STOLTE, National Security Technologies, LLC

In contrast to studies on rare gas atoms, experimental studies of open-shell atoms offers very challenging problems, such as creation of the atom, low signal, purity and stability. Because of this, studies of inner-shell excitations for open shell atoms are limited. In this talk I will discuss precision experimental measurements for photoionization of atomic oxygen, nitrogen, and chlorine over the last two decades on various beamlines at Lawrence Berkeley National Laboratories, Advanced Light Source. -/ References: W.C. Stolte, V. Jonauskas, D.W. Lindle, M.M. Sant'Anna, and D.W. Savin,, 2016, ApJ, accepted for publication. B.M. McLaughlin et al. 2013 ApJL, 771, L8 W.C. Stolte et al. 2013, PRA, 88, 53425 M.M. Sant'Anna, et al. 2011 PRL, 107, 33001 W.C. Stolte et al. 1997 JPB, 30, 4489 J.A.R. Samson et al. 1996 Can. J. Phys, 74, 722