Column density effect in photoionization and photoabsorption spectra\textsuperscript{1} T.N. CHANG, USC, Los Angeles, CA and NCTS, Hsinchu, Taiwan, J.L. LUO, T.S. YIH, Nat. Central U., Taiwan, YUXIANG LUO, USC — In our effort to measure both the absorption and ionization spectra in a single experimental set-up, we have demonstrated that the column density not only affects strongly the structure profiles of an atomic resonance but also alternates significantly the background cross sections in the ionization measurement. Together with the peak cross sections estimated from the convoluted theoretical spectra for the lowest resonance of the He (1,0)\textsubscript{0} series, we present a procedure that could be applied effectively to determine the energy resolution and the detailed characteristics of the monochromater (i.e., slit) function of a given light source.

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