

Abstract Submitted
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3d photoionization of ions from the xenon isonuclear sequence

S. SCHIPPERS, A. MÜLLER, A. BOROVIK JR., J. HELLHUND, K. HOLSTE, D. SCHURY, Univ. Giessen, Germany, S. KLUMPP, K. MERTENS, M. MARTINS, Univ. Hamburg, Germany, R. FLESCH, G. ULRICH, E. RÜHL, FU Berlin, Germany, J. LOWER, T. JAHNKE, D. METZ, L. PH. H. SCHMIDT, M. SCHÖFFLER, J. WILLIAMS, R. DÖRNER, Univ. Frankfurt, Germany, J. VIEFHAUS, DESY, Hamburg, Germany, A. DORN, A. WOLF, MPIK, Heidelberg, Germany, J. ULLRICH, T. BUHR, PTB, Braunschweig, Germany, S. RICZ, ATOMKI, Debrecen, Hungary — The photon-ion merged-beams technique has been employed at the new Photon-Ion spectrometer at PETRA III (PIPE) for measuring multiple photoionization of Xe^{q+} ($q=1-5$) ions. Total ionization cross sections have been obtained on an absolute scale for the dominant ionization reactions of the type $h\nu + Xe^{q+} \rightarrow Xe^{r+} + (q-r)e^-$ with product charge states $q+2 \leq r \leq q+5$. Prominent ionization features have been observed in the photon-energy range 650–800 eV, which are associated with excitation or ionization of an inner-shell 3*d* electron. The well-known collapse of the 4*f* wave function causes dramatic changes in the spectra when going from low to high q .

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