Electron impact excitation cross sections into $(4p)^5s$ and $(5p)^6s$ levels from the $(4p)^5s$ and $(5p)^6s$ metastable levels of Kr and Xe respectively by the Kim B-E-f Scaling method

M.A. ALI, P.M. STONE, NIST, Gaithersburg, MD — We present results for electron impact excitation cross sections from the $(4p)^5s$, 1$s_5$ and 1$s_3$ metastable levels of Kr to the $(4p)^5p$, 2$p_1$ to 2$p_{10}$ levels, which are dipole allowed. We use the B-E-f Scaling procedure of Kim [1] with the experimental excitation energy and accurate f values from experiment and other advanced theoretical calculations. We compare our results with apparent excitation cross sections recently reported by Jung et al. We study the importance of cascade contributions by comparing our results with experiment and relativistic distorted wave results of Srivastava et al. Corresponding metastable level excitation cross sections in Xe are reported and compared with experiment and the recent relativistic distorted wave results of Jiang et al. [1] Y-K. Kim Phys. Rev. A 64 032713 (2001).

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