

Abstract Submitted  
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**Electron impact ionization of metastable states of He, Ne, Ar, Kr and Xe.**<sup>1</sup> M.A. ALI, P.M. STONE, National Institute of Standards and Technology, Gaithersburg, MD — Electron impact ionization cross sections of rare gases are important quantities needed for modeling of rare gas discharges, lighting and plasma displays. We present ionization cross sections of  $(np)^5 (n+1)s^3P$  ( $J=2$  and  $0$ ) metastable states calculated within the Binar-Encounter-Bethe (BEB) model of Kim and Rudd [1]. These are compared with very scant experimental data available for He, Ne, and Ar and other theoretical data using advanced methods, where available. Our results compare favorably with results using sophisticated methods but share similar disagreement with experimental data as do results of advanced method calculations. The BEB ionization cross sections of  $J=2$  and  $0$  states for Ne, Ar, Kr and Xe are virtually identical.

[1] Y-K.Kim and M. E. Rudd, Phys. Rev. A 50 3954 (1994)

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