

Abstract Submitted
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Electron Impact Inner-shell Ionization of Ions¹ A.K.F. HAQUE, M.A.R. PATOARY, M.A. UDDIN, A.K. BASAK, Department of Physics, University of Rajshahi, Rajshahi-6205, Bangladesh, B.C. SAHA, Department of Physics, Florida A&M University, Tallahassee, FL-32307. — Electron impact ionization cross-sections (EIICS) for H to Sc isoelectronic series over incident energies ranging from threshold to 10 keV have been reported. Recently we have proposed various [1-3] easy-to-use models for total EIICS of ions. The selection of the range of atomic number Z for different isoelectronic series was guided by the availability of the experimental and the quantum calculated EIICS. These models agree well with the experimental results.

[1] A. K. F. Haque, M. A. Uddin, M. Shahjahan, M. R Talukder, A. K. Basak and B. C. Saha, “Electron impact inner-shell ionization of atoms,” in *Advances in Quantum Chemistry*, **61**, 309-373 (2011).

[2] A.K.F. Haque, M.Ismail Hossain, T.I.Talukder, Mahmudul Hasan, M.Alfaz Uddin, A.K.Basak, B.C.Saha, F.B.Malik. “Electron impact ionization of K -shell and H - to Be - isoelectronic series: an empirical model,” *Radiation Physics and Chemistry*, 91, 50-59 (2013).

[3] A. K. F. Haque, M. Shahjahan, M. A. Uddin, M. A. R. Patoary, A. K. Basak, B. C. Saha, and F. B. Malik “Generalized Kolbenstvedt model for electron impact ionization of the K -, L - and M -shell ions,” *Physica Scripta*, **81**, 045301 (2010).

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