Abstract Submitted for the APR14 Meeting of The American Physical Society

Inner shell ionization of H isoelectronic series by electron impact BIDHAN SAHA, Department of Physics, Florida A&M University, Tallahassee, FL-32307, A.K. BASAK, M.A. UDDIN, A.K.F. HAQUE, Department of Physics, The University of Rajshahi, Rajshahi, Bangladesh — An empirical model based on a recent calculation [1] on inelastic interactions of electrons in a medium with approximate expressions for evaluating the differential scattering due to distance and close interactions is reported. It is shown that for inner-shell ionization [2] the two — distance and close— interactions produce almost identical results and thus the total effect can be taken approximately twice the contribution from the distance interactions. Including both the ionic and relativistic corrections this model is applied to evaluate the K-shell ionization cross sections of both neutral and ionic targets over wide ranges of incident energies with considerable success. Detail of our findings will be presented at the conference.

- [1] A. Cengiz, Rad. Phys. Chem. 65 (2002) 33.
- [2] AKF Haque, MI Hossain, TI Talukder, M Hasan, A A Uddin, A k Basak, BC Saha and F B Malik, Radiation Physics and Chemistry, 91, 50-59 (2013).

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