

Abstract Submitted
for the DAMOP08 Meeting of
The American Physical Society

Electron Impact K-shell Ionization of Atomic Targets¹ BIDHAN SAHA, Department of Physics, Florida A&M University, ARUN K. BASAK, M. ALFAZ UDDIN, Department of Physics, University of Rajshahi, Rajshahi, Bangladesh, A.A.R. PATOARY, Department of Physics, University of Rajshahi, Bangladesh — In spite of considerable progress -both theoretically and experimentally- recently in evaluating accurate K-shell ionization cross sections that play a decisive role for quantitative analyses using (i) electron probe microanalysis, (ii) Auger electron spectroscopy and (iii) electron energy loss spectra, attempts are still continuing to search for a model that can easily generate reliable cross sections for a wide range of energies and for various targets needed for plasma modeling code We report few modifications of the widely used binary encounter approximation (BEA) [1,2] and have tested by evaluating the electron impact K-shell ionization of few neutral targets at various projectile energies. Details will be presented at the meeting. [1] M. Gryzinski, *Phys. Rev. A* **138**, 336 (1965); [2] L. Vriens, *Proc. Phys. Soc. (London)* **89**, 13, (1966). [3] M. A. Uddin, A. K. F. Haque, M. M. Billah, A. K. Basak, K. R. Karim and B. C. Saha, *Phys. Rev. A* **71**, 032715 (2005); [4] M. A. Uddin, A. K. Basak, and B. C. Saha, *Int. J. Quan. Chem* **100**, 184 (2004).]

¹One of us (BCS) is thankful to NSF for support.

Bidhan Saha
Department of Physics, Florida A&M University

Date submitted: 04 Feb 2008

Electronic form version 1.4