Abstract Submitted
for the SES08 Meeting of
The American Physical Society

Electron Impact K-shell Ionization Cross Sections at high energies[1] A.K.F. HAQUE, Department of Physics, University of Rajshahi, Rajshahi-6205, Bangladesh, M.S.I. SARKER, Department of Physics, University of Rajshahi-6205, Bangladesh, M.A.R. PATOARY, Department of Physics, University of Rajshahi, Rajshahi-6205, Bangladesh, M. SHAHJAHAN, Department of Physics, University of Rajshahi, Rajshahi-6250, Bangladesh, M. ISMAIL HOSSAIN, Department of Physics, University of Rajshahi, Rajshah-6205, Bangladesh, M. ALFAZ UDDIN, Department of Physics, University of Rajshahi, Rajshahi-6205, Bangladesh, A.K. BASAK, BIDHAN SAHA, Department of Physics, Florida A&M University, Tallahassee, Florida-32307 — A simple modification of the empirical model of Deutsh *et. al.* [1] by incorporating both the ionic [2] and relativistic corrections [3] is proposed for evaluating the electron impact K -shell ionization cross sections of neutral atomic targets. Present results for 30 atomic targets with atomic number Z=1 – 92 for incident energies up to E=2 GeV, agree well with available experimental cross sections. Comparisons with other theoretical findings will also be presented at the conference. [1] H. Deutsh, K. Becker, T. D. Mark, Int. J. Mass Spect. **177**, 47 (1998). [2] M. A. Uddin, A. K. F. Haque, M. M. Billah, A. K. Basak, K. R. Karim, B. C. Saha, Phys. Rev. A **71**, 032715 (2005).; Phys. Rev. A **73**, 012708 (2006). [3] M. Gryzinski, Phys. Rev **138**, 336 (1965).

[1]BCS would like to thank NSF-CREST for Support.

Bidhan Saha
Department of Physics, Florida A&M University

Date submitted: 15 Aug 2008 Electronic form version 1.4