Abstract Submitted for the DAMOP12 Meeting of The American Physical Society

Electron Impact Ionization of He atom using screening potential

HARI P. SAHA, University of Central Florida, Orlando, FL 32816 — We will report the results of our investigation on electron impact ionization of helium atom using our extended MCHF method [1] for electron impact ionization of atoms. The initial state wave function will be calculated with both HF and MCHF approximations and the electron correlation between the two final state continuum electrons will be obtained using the screening potential [2-4]. Calculations will be made for triple differential cross sections for 4 eV excess energy sharing equally by the two final state continuum electrons. The results will be presented for all scattering angles and all kinematics. Comparison will be made with available experimental and theoretical data.

- [1] Hari P. Saha, Phys. Rev. A82, 042703 (2010); J.Phys. B44, 065202 (2011).
- [2] M.R.H. Rudge and M.J. Seaton, Proc. Roy. Soc. A293. 262 (1965).
- [3] M.R.H. Rudge, Rev. Mod. Phys. 40, 564 (1968).
- [4] C.Pan and A.F Starace, Phys. Rev. Lett. 67, 185 (1991); Phys. Rev. A45, 4588 (1992).

Hari P. Saha University of Central Florida, Orlando, FL 32816

Date submitted: 23 Jan 2012 Electronic form version 1.4