

Abstract Submitted  
for the DAMOP12 Meeting of  
The American Physical Society

**Double Photoionization of Helium Atom using effective Charges**

HARI P. SAHA, University of Central Florida, Orlando, FL 32816 — We will report the results of our investigation on double photoionization of helium atom using the recently extended MCHF method [1] for double photoionization of atoms. Calculation will be performed using wave functions for the initial and the final states with and without the electron correlation. The initial state wave function will be calculated using both the HF and MCHF methods. The final state wave functions will be obtained using the asymptotic effective charge [2,3] to represent the electron correlation between the two final state continuum electrons. Using these wave functions, the triple differential cross sections will be calculated for 30 eV excess photon energy. The single and total integral cross sections will be obtained for photon energies from threshold to 300 eV. The results will be compared with the available experimental and the theoretical data.

[1] Hari P. Saha, J.Phys. B (submitted)

[2] M.R.H. Rudge, Rev. Mod. Phys. 40, 564 (1968)

[3] C.Pan and A.F Starace, Phys. Rev. Lett. 67, 185 (1991); Phys. Rev. A45, 4588 (1992)

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Date submitted: 23 Jan 2012

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