Abstract Submitted
for the GEC12 Meeting of
The American Physical Society

Low energy (e,2e) experimental and theoretical 3-dimensional study of Neon[1] SADEK AMAMI, DON MADISON, Missouri University S&T, HARI SAHA, University of South Florida, THOMAS PFLUEGER, XUEGUANG REN, ARNE SENFTLEBEN, ALEXANDER DORN, JOACHIN ULLRICH, Max-Planck-Institute for Nuclear Physics, Heidelberg, Germany — Three-dimensional triple differential cross sections have been calculated and measured for 61eV electron-impact ionization of the 2p state of neon. Three-dimensional distributions for the ejected electron will be presented for a fixed incident projectile energy and scattered projectile angles ranging between 20 degrees and 70 degrees and ejected electron energies ranging between 2eV to 20eV. The theoretical model used for the calculations is the DWBA (distorted wave Born approximation). The importance of PCI (post collision interaction between the scattered and ejected electron) will be examined by either including or excluding this effect in the final state wavefunction. The importance of the interaction between the ejected electron and the residual atomic electrons will be examined by comparing results using distorted waves calculated in a static potential with Hartree-Fock distorted waves.

[1]Work supported by NSF under grant number PHY-1068237.

Sadek Amami
Missouri University S&T

Date submitted: 18 Jun 2012 Electronic form version 1.4