

Abstract Submitted  
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**A study of runaway electrons on a university scale generator\*** NICHOLAS OUART, JOHN GIULIANI, ARATI DASGUPTA, GEORGE PETROV, Naval Research Laboratory, DAVID AMPLEFORD, STEPHANIE HANSEN, Sandia National Laboratories, ALLA SAFRONOVA, VICTOR KANTSYREV, ISHOR SHRESTHA, University of Nevada, Reno — Wire array implosions have produced characteristic K-shell emission. These K-alpha and K-beta photons are a result of high energy electrons removing an  $n=1$  bound electron from lower ionization stages (e.g. Ne-like). The motivation for studying this emission is the possibility of producing an alternative plasma radiation source with photon energies above 10 keV. However, the mechanism producing these fast runaway electrons still remains elusive. We show results from following electrons in uniform cylindrical plasma with an axial electric field and an azimuthal magnetic field. Elastic and inelastic collisions are included via Monte Carlo techniques. Comparison with experimental Zebra data previously reported [1] will be discussed. \*Work supported by DOE/NNSA. This work is partially funded by Sandia LDRD project 165733. Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

[1] N.D. Ouart, J.L. Giuliani, A. Dagupta et al. Phys. Plasmas 21, 031207 (2014)

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