

Abstract Submitted
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Numerical Calculations of Laser-Generated MeV Electrons and Characteristic X-Ray Production in Copper Foil Targets J. MYATT, J.A. DELETTREZ, W. THEOBALD, C. STOECKL, M. STORM, A.V. MAXIMOV, R.W. SHORT, Laboratory for Laser Energetics, U. of Rochester, R.P.J. TOWN, L.A. COTTRILL, LLNL — We report on the numerical modeling of laser-produced hot-electron flow within solid foil targets. Using copper targets and parameters motivated by recent RAL experiments,¹ calculations have been performed that include photon production due to collisions of hot electrons with target ions, i.e., both bremsstrahlung and characteristic x rays. The sensitivity of absolute $K\alpha$ yield to laser intensity and target geometry has been investigated. Comparison between the calculated and experimental yields over a range of laser intensities between 10^{18} and 10^{21} W/cm² are presented. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under the Cooperative Agreement No. DE-FC52-92SF19460.

¹C. Stoeckl *et al.*, Bull. Am. Phys. Soc **49**, 104 (2004).

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