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Evaluation of the Fast-Electron Source Function for Two-Plasmon Decay from Temporal Hard X-Ray Emission J.A. DELETTREZ, R.K. FOLLETT, J.F. MYATT, C. STOECKL, Laboratory for Laser Energetics, U. of Rochester — The modeling of the fast-electron transport in the 1-D hydrodynamic code *LILAC* requires the description of the source electrons as a function of time. The particle-in-cell code *OSIRIS* and the interaction code *FPSE* provide some guidance but have not provided an algorithm for the energy fraction from the laser pulse as the coronal parameters change with time. The original algorithm, based on the measured hard x-ray (HXR) emission as a function of laser intensity, depended exponentially on the two-plasmon–decay threshold parameter up to about 0.9 and saturates above it. This algorithm along with *FPSE* simulations produced HXR emissions much earlier than observed. Analysis of the measured HXR emissions from implosions with near-constant threshold parameter values show that the rise time of the emission can be described with an exponential curve with roughly a rise time of 200 ps. Trial and error set the start of the rise at the threshold value of 0.75. Causes for this rise time will be discussed. Comparison between measured and computed HXR emissions for different implosion scenarios will be presented, including those for cryogenic targets. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

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