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Early Computed Hard X-Ray Emissions from Two-Plasmon–Decay Fast Electrons Not Observed in Experiments Point to Discrepancies in the Two-Plasmon–Decay Source Model J.A. DELETTREZ, R.K. FOLLETT, C. STOECKL, W. SEKA, Laboratory for Laser Energetics, U. of Rochester, J.P. MATTE, INRS — The temporal source of two-plasmon–decay (TPD) fast-electron transport in the 1-D hydrodynamic code *LILAC*, based on the measured, integrated hard x-ray (HXR) emission as a function of laser intensity, depends exponentially on the TPD threshold parameter up to about 0.9 and saturates above it. This model, along with *LPSE* simulations, produces HXR emissions much earlier than observed for certain shots. The amount of early emission depends on the rise time of the drive pulse and varies from a small shoulder to an early peak much larger than measured as the rise time decreases. The cause of this discrepancy could be that faster rise times limit the population of the thermal electron distribution near 10 keV, from which electrons are accelerated by the TPD plasma waves. Electron kinetic simulations will be performed with the Vlasov–Fokker–Planck code *FPI* to address the issue of the rise time of the 10-keV electron population as a function of the intensity rise time. Another cause could be an ∼20% overestimate of the threshold parameter from the hydrodynamic conditions that would disappear over time. 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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