

Abstract Submitted
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Effect of short-pulse laser prepulse on electron conversion in planar geometry¹ LAURENT DIVOL, ANDREAS KEMP, SEBASTIEN LEPAPE, LLNL — Low energy (50 mJ) long (nanoseconds) prepulses are commonly observed on petawatt-class short pulse laser facilities such as Titan (LLNL) just before the main pulse. We will present 2d/3d hydrodynamics simulations performed with the code HYDRA of the impact of a prepulse on the formation of a low density plasma blow-off in front of a planar target and the resulting disturbance of the high density interface where the conversion of the high power impulsion into electrons occurs. 2D PIC simulations of the main pulse interaction, using these hydrodynamics profiles as an initial condition, will be presented. These simulations will be compared with recent experimental measurements obtained at Titan.

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