

Abstract Submitted
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Target size and boundary condition effects in PIC simulations of fast ignition¹ RUI YAN, G. LI, C. REN, University of Rochester, W.B. MORI, J. TONGE, UCLA — Due to the amount of computation involved the current PIC simulations on fast ignition have to be performed with reduced sizes and dimensions. The relevant physics could be significantly affected by the size and boundary conditions used in these reduced simulations. Compared to other particle boundary conditions such as the periodic one the thermal boundary condition which reemits particles with their initial temperatures can maintain a relatively small hot electron population even under constant laser irradiation, a situation closer to that in the actual laser-plasma interface region where hot electrons leave and cold background electrons flow in. We will present a study on effects of different boundary conditions on electron distributions and current filament and merge process.

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