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Tuning experiments for the first 2 ns of the NIF ignition pulse¹ J. MILOVICH, E. DEWALD, C. THOMAS, H. ROBEY, O. LANDEN, Lawrence Livermore National Laboratory — To achieve ignition it is necessary that the capsule fuel remain in a low adiabat during compression. The fuel entropy at ignition time is mainly determined by the level of the first shock and the amount of early-time hot electron preheat. Drive asymmetry over the first 2 ns of the laser pulse leads to asymmetry in velocity and timing of the first shock, giving rise to additional source of entropy above the ideal case. The re-emit technique currently underway, is designed to tune the first 2 ns of the NIF laser pulse and to give a first assessment of preheat caused by hot electrons produced during window burn-through. We have performed several 3D rad-hydro simulations in support of upcoming experiments. Simulations are used to explore the use of various diagnostics and their implications for our tuning plan. Simulations have also been used to establish the strategy for adjusting the symmetry cone-fraction as the level of the first picket is varied. We will present the tuning procedure and compare with experimental results.

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J. Milovich Lawrence Livermore National Laboratory

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