

Abstract Submitted
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A Simulation of the NIF Ignition Campaign¹ S.V. WEBER,
Lawrence Livermore National Laboratory, NATIONAL IGNITION TEAM — The
National Ignition Campaign comprises a series of experiments to tune the laser pulse
shape, implosion symmetry, and target parameters to achieve conditions required
for ignition. We have performed a simulated campaign to test the NIC strategy
and build infrastructure. A blue team carried out the campaign, including specify-
ing targets, laser pulses and diagnostic configuration, analyzing simulated data and
making tuning choices. The actual NIF shot setup protocol was employed. A red
team, representing nature, generated mock data for the NIF diagnostic suite using
a computer code employing a hidden physics model. Anticipated noise and uncer-
tainties were incorporated. Examples of data are Dante scope voltage traces and
gated microchannel plate x-ray images. The campaign included energetics, symme-
try, and shock timing shots. Following the tuning process, several ignition shots
were attempted. This exercise has led to improvements in the NIC tuning strategy.

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