

Abstract Submitted
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**Error Budget Analysis for Tantalum
Rayleigh-Taylor Experiment**¹ STEPHEN POLLAINÉ, BRUCE REMINGTON,
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National Laboratory — We analyze the expected experimental errors in a 5 Mbar
peak pressure, Rayleigh-Taylor (RT) strength measurement in solid-state Ta to be
performed on the National Ignition Facility in FY 2011. We also analyze the exper-
imental errors for experiments on 1 Mbar Ta strength already being carried out at
the Omega-EP laser facility. The strength is inferred by measuring its strong sta-
bilizing effect on the RT instability growth rate of solid-state Ta samples. We will
show a detailed design and a thorough error analysis, based on a suite of 2D simu-
lations, used to optimize the experiment and minimize the predicted uncertainty in
the deduced Ta material strength from these solid-state RT experiments.

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