

Abstract Submitted
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Improvements in Target Fabrication for Laboratory Astrophysics Experiments at the University of Michigan D.C. MARION, R.P. DRAKE, C.C. KURANZ, A.J. VISCO, F.W. DOSS, M.J. GROSSKOPF, R.S. GILLESPIE, University of Michigan — Laboratory astrophysics seeks to study astrophysical phenomenon by modeling them in a micro-scale experiment, called a “target”, which mimics the conditions and behavior of stellar phenomenon. Once built, the targets are transported to the Omega Laser Facility and placed in the laser chamber, where 5kJ of energy is fired onto a pinhead-sized area in order to create the necessary pressure required to launch the experiment. Collected data is then used to better understand the physics behind these various space phenomenon. Due to their extremely small size, targets must be built with a high degree of accuracy; therefore, continuously improving the process of target fabrication is crucial to experimental success. Some advancements in the target build process include more fully utilizing our machining capabilities, which allows for consistently cleaner, more accurately built targets. Another improvement is consolidating multiple functions into a single piece. This reduces the number of additional components, which reduces opportunities for error, as well as the overall build time. These changes have already been shown to improve our ability to collect successful data. *This research was sponsored by the NNSA through DOE Research Grants DE-FG52-07NA28058, DE-FG52-04NA00064, and other grants and contracts.

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