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4P49 - Target machining using datum point tooling for Precision High Energy-Density Liner Implosion Experiment (PHELIX) magnetic implosion system

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Target machining using datum point tooling for

Precision High Energy-Density Liner Implosion Experiment (PHELIX) magnetic implosion system Franklin Fierro, Patrick M. Donovan, John C. Lamar, Jeff Griego, Randall B. Randolph, Christopher L. Rousculp

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Cylindrical driven shock experiments examining damaged surface hydrodynamics and Richtmyer-Meshkov instabilities require targets and assemblies to have precision-machined surfaces and made to exacting tolerances. The objective is to ensure that the impactor shocks the target wall cylindrically and not asymmetrically requires a well thought out design and precision placement of the targets. Our solution was the use of palletized datum point tooling which helped us achieve the work piece precision with a high degree of repeatability and flexibility throughout several machining and inspection processes. I will explain how this tooling was key to success in a series of three different fielded experiments for the Phelix pulsed power program. Method of Presentation: Poster

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