

Abstract Submitted
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MagLIF Pre-Heat Optimization on the PECOS Surrogacy Platform¹ MATTHIAS GEISSEL, A.J. HARVEY-THOMPSON, D. AMPLE-FORD, T.J. AWE, D.E. BLISS, M.E. GLINSKY, M.R. GOMEZ, E. HARDING, S.B. HANSEN, C. JENNINGS, M.W. KIMMEL, P.F. KNAPP, S.M. LEWIS, K. PETERSON, G.A. ROCHAU, M. SCHOLLMEIER, J. SCHWARZ, J.E. SHORES, S.A. SLUTZ, D.B. SINARS, I.C. SMITH, C.S. SPEAS, R.A. VESEY, M.R. WEIS, J.L. PORTER, Sandia Natl Labs — Sandia's MagLIF Program is using the PECOS target area as a platform to optimize the coupling of laser energy into the fuel. After developing laser pulse shapes that reduced SBS and improved energy deposition (presented last year), we will report on the effect on integrated experiments with Z. Despite encouraging results, questions remained about the equivalency of He, (PECOS studies), versus D2 (Z). Furthermore, simulations imply that the goal of at least 1 kJ in the fuel will require higher pressures, requiring a re-design of the gas delivery system. We will present recent results for backscatter measurements and energy deposition profiles in 60 psi and 90 psi deuterium fills and compare them to previously studied helium fills.

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