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Modification of stagnation conditions in Magnetized Liner Inertial Fusion via thick dielectric coating M. R. GOMEZ, E. C. HARDING, K. J. PETERSON, T. J. AWE, D. J. AMPLEFORD, S. B. HANSEN, C. A. JENNINGS, M. R. WEIS, G. A. CHANDLER, K. D. HAHN, P. F. KNAPP, M. R. MARTIN, R. D. MCBRIDE, G. A. ROCHAU, A. B. SEFKOW, D. B. SINARS, E. P. YU, Sandia National Labs — Magnetized Liner Inertial Fusion (MagLIF) experiments on the Z facility at Sandia National Laboratories use approximately 20 MA of current to implode a metal cylinder, which contains axially-magnetized, laser-heated deuterium fuel. MagLIF experiments have demonstrated primary DD neutron yields up to 3e12 with burn averaged ion temperatures of 2.5 keV. X-ray emission at stagnation, recorded with a spherically-bent crystal imager, shows a weakly-helical structure with axial variations in intensity. Previously, the application of a thick dielectric coating to the exterior of an imploding cylinder has shown improved stability of the cylinder throughout the implosion. We recently demonstrated that adding a dielectric coating to a MagLIF target produces a cylindrical, rather than helical, stagnation column with reduced axial variations in intensity. There are also indications of decreased late-time mix in the x-ray spectra. This is consistent with a more uniform, stable stagnation column. *Sandia National Laboratories is a multiprogram laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under Contract No. DE-AC04-94AL85000.

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