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Stagnation morphology in Magnetized Liner Inertial Fusion experiments M. R. GOMEZ, E. C. HARDING, D. J. AMPLEFORD, C. A. JENNINGS, T. J. AWE, G. A. CHANDLER, M. E. GLINSKY, K. D. HAHN, S. B. HANSEN, B. JONES, P. F. KNAPP, M. R. MARTIN, K. J. PETERSON, G. A. ROCHAU, C. L. RUIZ, P. F. SCHMIT, D. B. SINARS, S. A. SLUTZ, M. R. WEIS, E. P. YU, Sandia National Laboratories — In Magnetized Liner Inertial Fusion (MagLIF) experiments on the Z facility, an axial current of 15-20 MA is driven through a thick metal cylinder containing axially-magnetized, laser-heated deuterium fuel. The cylinder implodes, further heating the fuel and amplifying the axial B-field. Instabilities, such as magneto-Rayleigh-Taylor, develop on the exterior of the liner and may feed through to the inner surface during the implosion. Monochromatic x-ray emission at stagnation shows the stagnation column is quasi-helical with axial variations in intensity. Recent experiments demonstrated that the stagnation emission structure changed with modifications to the target wall thickness. Additionally, applying a thick dielectric coating to the exterior of the target modified the stagnation column. A new version of the x-ray self-emission diagnostic has been developed to investigate stagnation with higher resolution. Sandia National Laboratories is a multi-mission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525

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