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**Magneto-Rayleigh-Taylor growth and feedthrough in cylindrical liners** MATTHEW WEIS, Y.Y. LAU, RONALD GILGENBACH, University of Michigan, KYLE PETERSON, MARK HESS, Sandia National Laboratories — Cylindrical liner implosions in the MagLIF concept [1] are susceptible to the magneto-Rayleigh-Taylor instability (MRT). The linearized ideal MHD equations are solved, including the presence of an axial magnetic field and the effects of sausage and kink modes. The eigenmode solution, using appropriate equilibrium profiles, allows an assessment of the local MRT growth rate and of the instantaneous feedthrough factor during the entire implosion process. Of particular interest will be the high convergence/stagnation phase, which is difficult to image experimentally. Strong axial magnetic fields can mitigate feedthrough and MRT growth, which may be useful at the fuel/liner interface during this phase of the MagLIF implosion. For the MRT growth rate and feedthrough factors, the LLNL code, HYDRA, is used to benchmark with the analytic theory, and with experiments on the Z-machine [2]. This work was supported by DoE and NSF.

[1] S. A. Slutz, et. al, Phys. Plasmas 17, 056303 (2010).
[2] D. B. Sinars et. al, Phys. Plasmas 18, 056301 (2011).

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