

Abstract Submitted
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Effect of Magnetic Shear on Magneto-Rayleigh-Taylor Instability¹ PENG ZHANG, Y.Y. LAU,

I.M. RITTERSDORF, M.R. WEIS, R.M. GILGENBACH, University of Michigan, Ann Arbor, S.A. SLUTZ, D.B. SINARS, M.C. HERRMANN, M.E. CUNEO, Sandia National Laboratories — Because of diffusion of the azimuthal magnetic field into a cylindrical liner which encloses a plasma that is embedded in an axial magnetic field [1], the magnetic field within the liner may exhibit a strong magnetic shear, offering the interesting possibility of shear stabilization of the magneto-Rayleigh-Taylor instability (MRT). Here, we use the ideal MHD model to study this effect of magnetic shear in a finite slab. It is found that magnetic shear reduces the MRT growth rate in general. However, the feedthrough factor is virtually independent of magnetic shear. The limiting cases of zero magnetic shear and infinite magnetic shear are consistent with the generalized analytic model [2].

[1] S. A. Slutz *et al.*, *Phys. Plasmas* **17**, 056303 (2010).

[2] Y. Y. Lau *et al.*, *Phys. Rev. E* **83**, 066405 (2011); M. R. Weis *et al.*, in this conference.

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