Abstract Submitted
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Angular Momentum Transport Studies in the Princeton MRI Experiment AUSTIN ROACH, MARK NORNBERG, HANTAO JI, CMSO, PPPL, JEREMY GOODMAN, Princeton University — The Princeton MRI experiment seeks to understand the effect of the magnetorotational instability on angular momentum transport in rotating MHD systems. This poster will discuss progress in numerical and experimental work to better understand angular momentum transport in the device. A global stability code is being developed to numerically investigate nonaxisymmetric modes of nonideal MHD, which have been observed in the experiment. Experimentally, development of an ultrasound doppler velocimetry system is being pursued in order to measure azimuthal velocity profiles and velocity fluctuation levels. Results from a trial of an ultrasound system in a liquid gallium channel flow will be presented. Finally, the results of an effort to seek consistency between experiments and numerical simulations of the effect of boundary layer perturbations on bulk velocity profiles and angular momentum transport in water experiments will be discussed. Supported by DOE, NASA, and NSF.

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