

Abstract Submitted
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Parallel shear and turbulence TIFFANY HAYES, MARK GILMORE, CHRISTOPHER WATTS, SHUANGWEI XIE, LINCAN YAN, UNM — Instabilities may be caused in plasma due to (shear) flow. These flows can be transverse or parallel to the magnetic field. Past work has generally focussed on controlling and understanding the processes that occur from (shear) flow transverse to the magnetic field. At UNM experimental work is being performed in the the HelCat device (Helicon Cathode) to control the parallel flow in order to study and understand the processes that arise from this situation. It is also our aim to be able to control the transverse flow simulatneously, but independently of the parallel flow. By inserting a system of biased rings and grids into the plasma we are able to modify the flows, and hence the turbulence. Flows are measured using a seven-tip Mach probe. Results of our ability to control the flows independently are presented.

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