

Abstract Submitted
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Using High Speed Rotating Gas to Study Angular Momentum in Accretion Disks WILLIAM BERRIOS, Cañada College, SAMUEL GREESS, Carnegie Mellon University, ENRIQUE MERINO, HANTAO JI, Princeton Plasma Physics Laboratory — Accretion disks are a sheet of gas and dust which surrounds black holes and quasars. The angular momentum in accretion disks is one of the biggest mysteries in astrophysics. A machine was recently built to create accretion disks in a closed chamber. In order to study this, there are several important instruments that are used: a fog machine to see the accretion disks form within the chamber, a high speed camera to observe and record the formation of the accretion disks, and Particle Image Velocimetry (PIV) to analyze velocity profile of the rotating gas and better understand this phenomenon. By collecting relevant data and subsequent computational analysis, results from a previous experiment are reproduced, expanded and the new properties observed with this experiment are characterized. A discussion of any modifications done to the machine, technical challenges and preliminary results will be presented.

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