

Abstract Submitted  
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**Laboratory Measurement of 3D Magnetic Reconnection of Arched Flux Tubes** MAGNUS HAW, PAUL M. BELLAN, Caltech — An experiment has been constructed to collide two arched magnetic flux tubes at different angles with fully 3D, non-symmetric geometry. The configuration is designed to mimic sheared solar arcades and evaluate the importance of magnetic reconnection in such systems. Time resolved (1MHz) 3D magnetic measurements are taken with a multi-channel 3D magnetic probe. Preliminary analysis shows good agreement between calculated current density and external current diagnostics. Additional simultaneous diagnostics include voltage probes, fast camera imaging, and a 12-channel spectrometer. The spectrometer measures temperature, density, velocity, while the camera provides a view of global plasma behavior. Fast camera images indicate that the topology of the flux tubes evolves such that two equally sized, overlapping loops reconnect to form a small underlying loop and a large overarching loop.

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