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The Wheaton Impulsive Reconnection Experiment D. CRAIG, E. BRAUN, A. ENGSBERG, A. HAMRE, J. SCHROEDER, D. STAPLETON, R. STEGINK, J. WHITMORE, Wheaton College, Wheaton, IL — A new experiment is beginning operation at Wheaton College for the study of impulsive magnetic reconnection in three dimensions. The experiment is composed of two parallel electrodes, linked by a magnetic arcade that is generated by a coil surrounding the electrodes. Current is driven along the arcade from one electrode to another, causing the arcade to inflate and become sheared. During the subsequent nonlinear evolution, the arcade may become unstable with strong driving and/or break off into a separated plasmoid. Fast imaging diagnostics and magnetic probe arrays will be used to follow the evolution of the arcade and identify sites where reconnection is taking place. The experimental components have been constructed and assembled. Power supply and fueling tests are underway with first plasmas anticipated early this summer. Work supported by U.S.D.O.E. grant DE-FG02-08ER55002.

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