

Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

New Valve for Massive Gas Injection in DIII-D¹ T.C. JERNIGAN, L.R. BAYLOR, S.K. COMBS, C.R. FOUST, Oak Ridge National Laboratory, E.M. HOLLMANN, University of California-San Diego, D.A. HUMPHREYS, P.B. PARKS, J.C. WESLEY, General Atomics — Previous experiments on DIII-D have demonstrated the efficacy of using massive gas injection for disruption mitigation. The new valve has an orifice diameter of 22.3 mm vs 5 mm for the previous valve used from 1998 through 2005. Flows in argon greater than 2×10^6 Torr-l/s were measured on a mockup of the injection line. The original valve produced flow of $\sim 1 \times 10^5$ Torr-l/s when mounted on DIII-D. The new valve is intended to increase the effective risetime of particles delivered to the plasma rather than the total number of particle delivered. It is now on DIII-D undergoing testing under actual tokamak operating conditions to check the opening time in the presence of a magnetic field. Initial experiments of injection into the DIII-D plasma are scheduled for the summer of 2006.

¹Work supported by U.S. DOE under DE-AC05-00OR22725, DE-FG02-04ER54758, DE-FC02-04ER54698, and DE-FG03-95ER54309.

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Date submitted: 25 Jul 2006

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