

Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Effectiveness of Disruption Mitigation and Toroidal Asymmetry with Two Gas Jets¹ R.S. GRANETZ, G.M. OLYNYK, M.L. REINKE, D.G. WHYTE, MIT PSFC, S. COOMBS, ORNL, M. SUGIHARA, ITER — Alcator C-Mod has done extensive disruption mitigation studies in the past using a high-pressure gas jet at a single toroidal location. Measurements with a pair of AXUV diode arrays (de facto solid-state bolometers) show that there can be a large toroidal asymmetry of the radiated power during mitigated disruptions. This is problematic for the ITER first wall, so ITER is planning to use multiple gas jets at a number of toroidal locations to reduce the asymmetric wall loading. To test the effectiveness of this concept, a 2nd gas jet is being added to Alcator C-Mod at a location around the torus from the existing jet. In addition, a toroidally distributed set of 5 AXUV diodes is being installed to provide enhanced toroidal resolution of radiated power. Experiments to measure the effect on toroidal asymmetry with the two gas jets will be performed early in the next campaign (fall 2011). Additional studies of other issues with two gas jets, such as mitigation of halo currents and thermal loads, non-synchronous timing, different gas combinations, etc are also being planned.

¹Supported by US DoE award DE-FC02-99ER54512.

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Date submitted: 13 Jul 2011

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