

Abstract Submitted
for the DPP98 Meeting of
The American Physical Society

Sorting Category: 5.1.1.2 (theoretical)

Analysis of DIII-D Impurity Enriched Radiative Discharges¹ J. MANDREKAS, W.M. STACEY, Georgia Institute of Technology, M.R. WADE, M. MURAKAMI, Oak Ridge National Laboratory, G.L. JACKSON, General Atomics — A series of transport simulations are being performed to analyze recent DIII-D discharges with high radiation fractions from the divertor, SOL, and mantle regions that result from injection of Ne and Ar impurities. The discharges analyzed include shots from the “puff and pump,”² radiative mantle, and RI-mode DIII-D experiments. These experiments are important because they support tokamak operation with enhanced radiation losses combined with low core dilution and good core confinement.

The simulations are performed with the 1-1/2D transport code GTWHIST which has been recently used to analyze radiative edge operating scenarios for ITER.³ The code includes multi-charge state impurity transport and a SOL/divertor plasma and neutrals model⁴ adapted to the DIII-D geometry.

¹Work supported by U.S. DOE Contracts DE-AC05-96OR22464 and DE-AC03-89ER51114.

²M.R. Wade *et al.*, J. Nucl. Mater. (to be published).

³J. Mandrekas *et al.*, Nucl. Fusion **37** (1997) 1015.

⁴W.M. Stacey *et al.*, Contrib. Plasma Phys. **38** (1998) 26.

Prefer Oral Session
 Prefer Poster Session

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Special instructions: DIII-D Poster Session II (divertor physics, disruptions, RF, & diagnostics), immediately following Jackson

Date submitted: July 21, 1998

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