Abstract Submitted for the DPP99 Meeting of The American Physical Society

Sorting Category: (Experimental)

Impurity Seeding in L-, H-, and VH-mode DIII-D **Discharges**¹ G.L. JACKSON, General Atomics, M. MURAKAMI, M.R. WADE, Oak Ridge National Laboratory, G.R. MCKEE, University of Wisconsin-Madison, B.W. RICE, Lawrence Livermore National Laboratory, AND THE DIII-D TEAM — During the 1999 DIII-D campaign impurity seeding, using Ne, Ar, and Kr, has been used to produce a radiating mantle and/or reduce edge pressure gradients in a variety of discharge configurations in DIII–D with either an H–mode or an L–mode edge. In L-mode discharges, clear increases in confinement have been observed $(H \leq 2)$ which are directly correlated with impurity injection. Interestingly, the impurity seeded phase also exhibits an increase in the neutron rate by a factor of 2. Nearly circular limited discharges have also been obtained with characteristics similar to the TEXTOR RI-mode ($\tau_{\rm E}$ increases with $n_{\rm e}$ in L-mode with NBI co-injection). In addition to the observations described above, we will present an overall summary of the 1999 impurity injection experiments including the first observations of confinement improvement with neon puffing and counter neutral beam injection. The reduction of edge pressure gradients with krypton injection into VH-mode discharges will also be presented.

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Prefer Oral Session Prefer Poster Session G.L. Jackson jackson@gav.gat.com General Atomics

Special instructions: DIII-D Contributed Oral Session, immediately following KL Wong

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