Abstract Submitted
for the DPP96 Meeting of
The American Physical Society

Sorting Category: 5.1.1.2 (experimental)

Transport in High Density Pellet Fueled DIII-D Discharges[1] L.R. BAYLOR, T.C. JERNIGAN, M.R. WADE, *Oak Ridge National Laboratory*, R. MAINGI, *Oak Ridge Affiliated Universities*, R.J. GROEBNER, M.A. MAHDAVI, *General Atomics* — Pellet fueled NBI H–mode discharges have been produced on DIII–D with line-average density 20%-40% above the Greenwald density limit for long periods and with global energy confinement near JET-DIII–D ELM-free H–mode scaling. Transiently, line-average density 50% higher than the Greenwald limit has been obtained with normalized confinement times of up to 0.9, relative to JET-DIII–D scaling. Densities as high as three times the Greenwald limit are obtained, but cause a transition to L–mode. The particle and energy transport do not appear to be significantly increased at densities above the Greenwald limit in DIII–D. In some cases, strong gradients in the density and pressure profiles suggesting an interior transport barrier and reduced core transport are observed near the $q = 2$ surface. Analysis of the power balance and particle and energy transport in these discharges with the TRANSP code will be presented.

[1]Supported by U.S. DOE Subcontract SC-L134501 and Contract DE-AC03-89ER51114.

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☐ Prefer Oral Session
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Special instructions: P-1-20

Date submitted: February 20, 1997 Electronic form version 1.1