

Abstract Submitted
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Sorting Category: 5.1.1.2 (Experimental)

H-Mode Discharges with High Energy Confinement Above the Greenwald Density on DIII-D¹ T.H. OSBORNE, M.A. MAHDAVI, A.W. LEONARD, T.W. PETRIE, General Atomics, E.J. DOYLE, C.L. RETTIG, University of California, Los Angeles, M.E. FENSTERMACHER, Lawrence Livermore National Laboratory, G.R. MCKEE, University of Wisconsin, M.R. WADE, Oak Ridge National Laboratory — In experiments on DIII-D densities as high as $n/n_{\text{Greenwald}} = 1.4$ with $H_{\text{ITER89P}} = 1.9$ were obtained with gas puffing combined with pumping of the divertor private flux region. Obtaining good confinement at high density required the H-mode pedestal pressure, p_{PED} , be maintained during gas puffing. This not only maintains the pedestal energy, but also allows the central pressure to be maintained even for a rigid temperature profile if the density profile is similarly peaked at low and high density. At low triangularity, δ , p_{PED} was maintained with gas puffing and H was recovered as the density profile gradually peaked. At high δ , H was initially higher as a result of a higher ELM critical pressure gradient at high δ , however p'_{EDGE} , and hence p_{PED} , were strongly reduced with gas puffing, and H did not recover even with significant density profile peaking.

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- Prefer Oral Session
 Prefer Poster Session

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Special instructions: DIII-D Contributed Oral Session, immediately following KH Burrell

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