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Reduced turbulence and H-mode confinement in L-mode negative triangularity discharges on DIII-D[1] A. MARINONI, MIT, M.E. AUSTIN, U. Texas, M.L. WALKER, A.W. HYATT, C.C. PETTY, K.H. THOME, GA, M. PORKOLAB, J.C. ROST, E.M. DAVIS, MIT, G.R. MCKEE, UWM, T.L. RHODES, C. SUNG, UCLA, O. SAUTER, EPFL, DIII-D TEAM, MIT-PSFC COLLABORATION — DIII-D has produced inner-wall limited plasmas with an L-mode edge at negative triangularity characterized by confinement and fluctuation levels comparable to those in H-mode plasmas at positive triangularity. On TCV, similar plasmas at low collisionality and with pure electron heating showedimproved energy confinement, as compared to matched discharges at positive triangularity, due to modifications to the toroidal precession drift of trapped electrons. The recent DIII-D experiment used both ECH and NBI heating, thus exploring a more reactor relevant regime where Te˜Ti. Compared to matched positive triangularity discharges, the intensity of density and temperaturefluctuations is reduced at negative triangularity both in ECH and in NBI dominated phases. Preliminary TGLF runs indicate the discharges are dominated by TEM modes. More detailed analysis will explore the role of the toroidal precession drift in this new regime.

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