

Abstract Submitted
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Turbulent SOL Transport in Limited Versus Diverted L mode Discharges in DIII-D¹ D.L. RUDAKOV, J.A. BOEDO, R.A. MOYER, UCSD, R. PITTS, ITER, A.W. LEONARD, P.C. STANGEBY, UTIAS, J.G. WATKINS, SNL — Turbulent scrape-off layer (SOL) transport is measured near the outboard midplane of inner-wall limited (IWL) and lower single null (LSN) discharges on DIII-D using a reciprocating probe array. Scans of the plasma current (q_{95}), density, and heating power have been performed in both configurations. E-folding lengths for the SOL temperature and density in IWL configuration are on average larger than those in LSN configuration by a factor of 2.1-2.5 [1]. Overall turbulent cross-field transport is comparable near the separatrix of both configurations at similar discharge parameters but falls off much faster with radius in LSN configuration. The intermittent component of the transport associated with the radial motion of plasma blobs is up to an order of magnitude larger in the far SOL of IWL configuration compared to LSN. Blob radial velocity tends to increase with decreasing plasma current (increasing connection length).

[1] D.L. Rudakov, et al., J. Nucl. Mater., in press.

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