

Abstract Submitted
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Application of OEDGE to Transport Coefficient Extraction in DIII-D Joule Milestone Discharges¹ J.D. ELDER, P.C. STANGEBY, U. Toronto, C.J. LASNIER, M.A. MAKOWSKI, LLNL, J.A. BOEDO, UCSD, N.H. BROOKS, A.W. LEONARD, General Atomics, J.G. WATKINS, SNL — The OEDGE modeling code is used to extract estimates of radial transport coefficients from a series of DIII-D experiments designed to assess the divertor heat flux dependence on operational parameters. OEDGE is being used to analyse five ELMy H-mode discharges in which the plasma current was varied from 0.5 MA to 1.48 MA while other parameters were held constant. Estimates of the effective experimental χ_{\perp} and D_{\perp} in the outer SOL for these discharges are determined. This process requires using experimental diagnostic data and onion-skin models (OSM) to reconstruct a plasma solution. Langmuir probe measurements of n_e and T_e and infrared measurements of target heat flux were used to determine input profiles of n_e , T_e and T_i to be used in the plasma reconstruction. At the 5 mm outer midplane surface, typical extracted D_{\perp} values are 0.05 m²/s while χ_{\perp} is 0.15 m²/s. All discharges showed an increase of extracted χ_{\perp} with radius.

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J.D. Elder
U. Toronto

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