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Analysis of Neutral Recycling Fueling of the DIII-D Edge Pedestal,* Z.W. Friis, W.M. Stacey, *Georgia Tech*; A.W. Leonard, *GA*; M.E. Rensink, *LLNL* — A detailed analysis of neutral atom recycling and pedestal fueling in a DIII-D high-confinement mode discharge is presented. Experimental data and 2D edge plasma fluid code (UEDGE) calculations are employed to provide ion wall recycling and recombination neutral sources and background edge plasma parameters for a 2D edge neutral code (GTNEUT) calculation of detailed neutral density, ionization and charge-exchange distributions throughout the edge pedestal, scrape-off layer and surrounding halo region, divertor, and private flux regions. The relative effectiveness of the different neutral sources recycling from the divertor and baffles for fueling the confined plasma is evaluated.

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