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**Effect of Robin Boundary Conditions on Analysis and Simulation of Turbulent Transport Using TGLF, MMM95, and GLF23**[1] H.E. ST. JOHN, A.D. TURNBULL, L.L. LAO, GA — Turbulent transport predictions using transport models show that results are often sensitive to the choice of Dirichlet boundary values used as well as the location of the plasma edge assumed for core transport simulations. However, experimental data does not support the discontinuous slope of temperature profiles at the boundary that often result from simulations using this boundary condition. Experimental profiles appear to be best reproduced when such discontinuities are absent. This suggests that a linear combination of boundary derivative and boundary value at the core simulation boundary is more appropriate. Here, we develop this general Robin condition for the coupled set of nonlinear transport equations and apply the results to a number DIII-D L- and H-mode experimental discharges including time evolved simulations with TGLF, MMM95 and GLF23 as well as rapid power balance analyses methods.

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