DIMENSIONLESS $\rho_e$ SCALING OF PARTICLE TRANSPORT IN DIII–D L–MODE DISCHARGES

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ABSTRACT: The scaling of the transport rate of particles with normalized gyroradius has been measured for low confinement mode (L–mode) discharges in the DIII–D tokamak. Both the helium diffusivity and the effective electron particle diffusivity were measured. In these L–mode discharges, the particle diffusivities tend to scale like the ion thermal diffusivity which scales between Bohm-like and Goldston-like. Non-zero inward pinch velocities are measured. Like the diffusivities, the pinch velocities increase with gyroradius.

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