

**Abstract Submitted for the 51st Annual Meeting  
Division of Plasma Physics  
November 2–6, 2009, Atlanta, Georgia**

**Generalized Diffusion Theory Calculations of the Edge Pedestal Density Profile,\*** J.-P. Floyd, W.M. Stacey, *Georgia Tech*

— It has been shown [1] that momentum balance requires a pinch-diffusion form of the radial particle flux in the edge plasma. Combined with the particle conservation requirement, this implies that the particle density satisfies a generalized diffusion equation with a convective term. This equation will be solved numerically and compared with the measured density profile in a DIII-D H-mode shot.

[1] W.M. Stacey, *Contrib. Plasma Phys.* **48**, 94 (2008).

\*Work supported in part by the US DOE under DE-FC02-04ER54698.