Abstract Submitted for the 56th Annual Meeting
Division of Plasma Physics
October 27–31, 2014
New Orleans, Louisiana

Category Number and Subject:

[ ] Theory [X] Experiment

Role of plasma response in determining density pump-out with Resonant Magnetic Perturbations (RMPs) in DIII-D,[*] S. Mordijck W&M; S. Smith, *GA* — We are studying the effect of RMPs on the density pump-out threshold in order to determine whether the transport changes are the result of change in turbulence or rotation. Applying RMPs strongly reduces the core rotation and increases the edge rotation, which reduces the ExB shear thus increasing turbulent transport. The toroidal rotation measurements made at two different toroidal location show no phase lag during rotating n=2 RMP experiment, which is an indication that there is a strong n=0 response. This n=0 response could be the result of MHD effects, or due to changes in turbulence characteristics. New low ν^* experiments at lower RMP strength allow us to test, whether this change in the toroidal rotation is the main drive behind the increase in particle transport in low collisionality H-mode plasmas on DIII-D as well as examine what is causing the n=0 response to the toroidal rotation.

*Work supported in part by the US DOE under DE-SC0007880 and DE-FC02-04ER54698.