

Abstract Submitted  
for the DPP06 Meeting of  
The American Physical Society

**Modification of turbulent particle transport and intermittency by biased rotation in LAPD** J. DOVE, U. Paris-Sud, Orsay, T.A. CARTER, J.E. MAGGS, Dept. Physics and Astronomy, UCLA — The edge plasma in LAPD is rotated through the application of a bias voltage between the plasma source cathode and the vacuum vessel wall. As the bias voltage is applied and increased past a threshold value, the measured density profile steepens dramatically (from  $L_n > 10\rho_s$  to  $L_n \sim 2\rho_s$ ) at a radius near the peak of the flow shear. Turbulent transport flux measurements in this region show that the flux is reduced and then suppressed completely as the threshold is approached. The amplitude of the density and azimuthal electric field fluctuations is observed to decrease during biased rotation, the product of the amplitudes decreasing by a factor of 5. However the dominant change appears in the cross-phase, which is altered dramatically, leading to the observed suppression and reversal of the turbulent flux. Detailed two-dimensional turbulent correlation measurements have been performed. During biased rotation, a dramatic increase in the azimuthal correlation is observed, however there is little change in the radial correlation length. An investigation of the modification of intermittent (or “blobby”) transport due to the shear flow is underway and initial results will be presented.

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Date submitted: 21 Jul 2006

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