

Abstract Submitted  
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**Flow and Shear Behavior in the Edge and SOL in NSTX L-mode Plasmas**<sup>1</sup> Y. SECHREST, T. MUNSAT, CU-Boulder, S. ZWEBEN, R. MAQUEDA, PPPL, D. D'IPPOLITO, J. MYRA, D. RUSSELL, Lodestar Research Corp. — We describe the behavior of fluctuations in the edge and scrape-off layer (SOL) of NSTX L-mode plasmas, as observed by the gas puff imaging (GPI) diagnostic. Calculation of local, time resolved velocity maps using the HOP-V code enables analysis of turbulent flow and shear behavior. We observe periodic reversals in the direction of the poloidal flow near the separatrix. Also, we find that poloidal velocities and their radial shearing rate are well correlated with turbulent bursts indicated by an increase in  $D_\alpha$  light in the SOL. The Reynolds shear stresses are found to exhibit significant negative skewness several centimeters inside the separatrix, which may be indicative of mean poloidal flow generation. Finally, a feature near 3 kHz is seen in the spectra of GPI intensity and poloidal velocity, which correlates with turbulent bursts. Furthermore, this mode exhibits some characteristics that are consistent with GAM-like behavior. Comparisons with SOLT turbulence simulations will be discussed.

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Yancey Sechrest  
University of Colorado at Boulder

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