

Abstract for an Invited Paper  
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**Quiet periods, zonal flows, and blob formation in the edge turbulence of NSTX<sup>1</sup>**

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This talk will present recent observations of “quiet periods” in the edge turbulence of NSTX which are correlated with 3 kHz reversals in the direction of local poloidal flow. The turbulence measurements were made using the gas puff imaging (GPI) diagnostic, which can make 2D movies of the edge turbulence at  $\leq 400,000$  frames/sec. During quiet periods the strong edge turbulence in L-mode plasmas becomes transiently similar to the quiescent edge seen in H-mode plasmas. These quiet periods recur at about 3 kHz, which is near the frequency calculated for GAMs by the NLET code [1] and for zonal flows by the SOLT code [2]. The poloidal flows near the separatrix are correlated with blob formation and transport into the SOL, similarly to the models described in [2-4]. The local turbulence flow shear was also modulated by the quiet periods, but was not unusually large preceding the L-H transition. These results will be compared with previous experiments on edge zonal flows [5] and blob formation [6]. In general, they support the idea that edge zonal flows or GAMs could be regulating blob formation and SOL transport.

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