Simulations of Decaying Kinetic Alfvén Wave Turbulence: Intermittent and Coherent Structures KURT SMITH, PAUL TERRY, UW-Madison, CMSO — We simulate decaying kinetic Alfvén wave turbulence in a strong guide field, appropriate for modeling interstellar turbulence at scales $\lesssim 10\rho_s$. Ion flow decouples from the system at these scales, while electron density ($n_e$) fluctuations equipartition with the magnetic field. Stable circularly symmetric structures form in $J$, $B$ and $n_e$ fields after a few Alfvén times; nonlinear magnetic shear prevents turbulence from mixing the structures into the background and allow the structures to persist for many Alfvén times. $J$ filaments are large in amplitude and spatially localized, and their associated $B$ and $n_e$ structures are less localized, consistent with the Biot-Savart law and KAW equipartitioning. Ensemble-averaged pdfs indicate $n_e$ and $\nabla n_e$ deviate strongly from Gaussian statistics following the onset of structure formation. The non-Gaussian $\nabla n_e$ statistics are especially of interest as a possible explanation of $\tau \propto D^4$ scaling of pulsar signal widths $\tau$ with distance-to-source $D$.—Work supported by NSF.