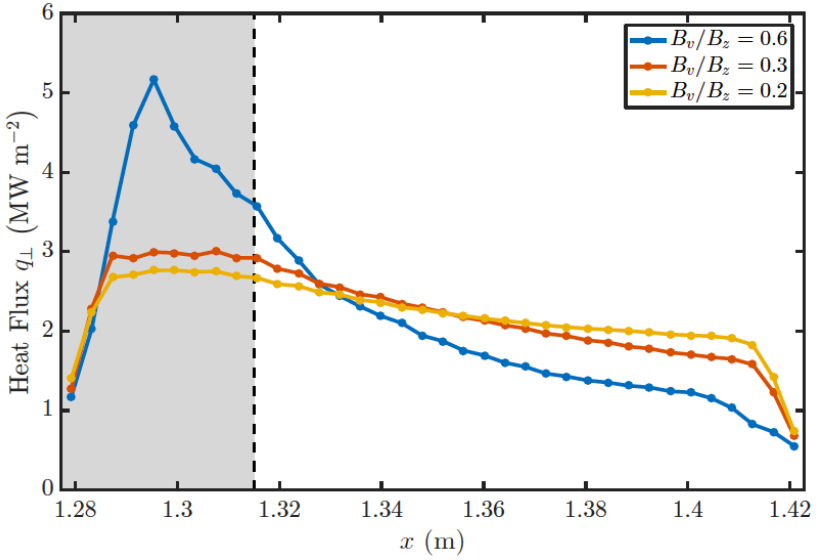
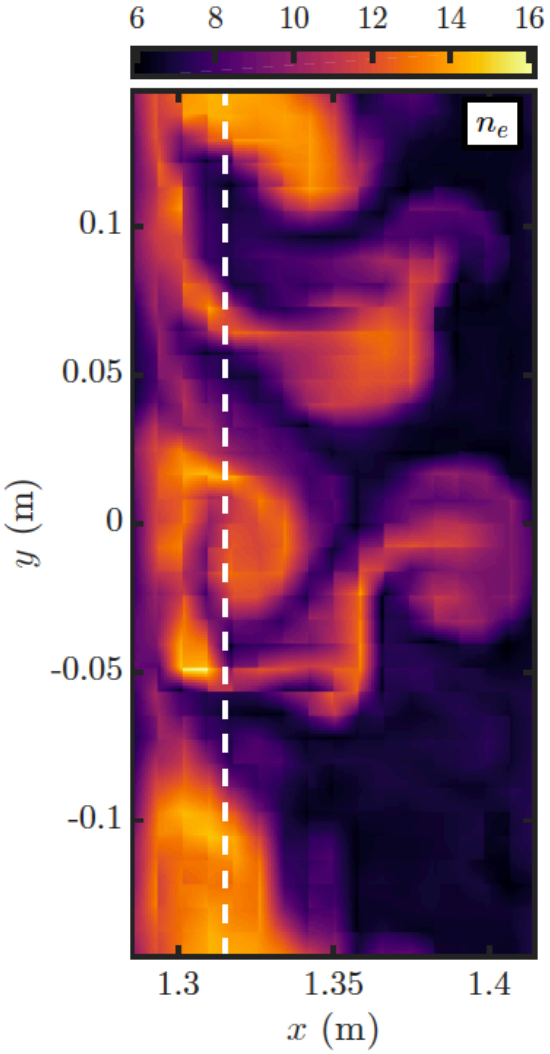
CONTINUUM GYROKINETIC SIMULATIONS OF NSTX SOL TURBULENCE WITH SHEATH-LIMITED MODEL GEOMETRIES

A. Hakim, E. L. Shi et. al., PPPL, et al.

- Gkeyll is a continuum gyrokinetic code for plasma turbulence in tokamak edge region, including SOL
- Uses a high-order energy conserving discontinuous Galerkin algorithm
- Sheath boundary conditions allow currents to wall
- Applied to NSTX SOL turbulence, Texas Helimak and straight field LAPD machine (also w/ GENE group)



Heat-flux to divertor plate profile. Width narrows at highest poloidal field.



Density fluctuations near midplane in NSTX SOL