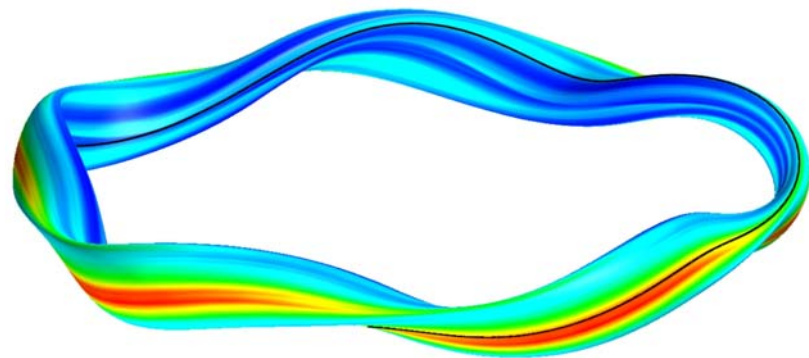


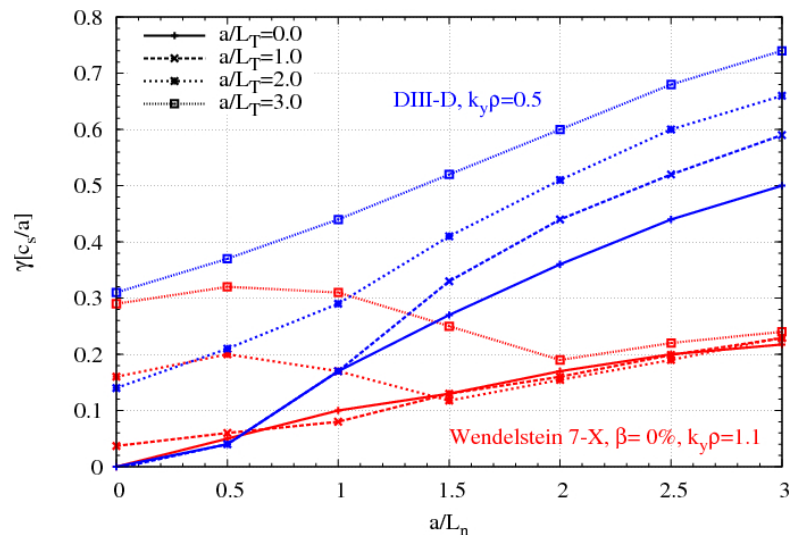
Advances in stellarator gyrokinetics

P Helander, T Bird, F Jenko, R Kleiber, G Plunk, J. Proll, J. Riemann and P Xanthopoulos, IPP

- New results from analytical theory and simulations with two codes:
 - EUTERPE (full-volume but here linear)
 - GENE (full flux-surface, but radially local and nonlinear)
- ITG turbulence (Boltzmann electrons):
 - distribution of fluctuations very different from tokamaks
 - transport is comparable (so far), but more sensitive to ρ^*
- Trapped-electron modes
 - more stable in stellarators where trapping regions have good magnetic curvature (maximum-J configurations)
 - expected to result in less turbulence and transport when the density gradient is large



Nonlinear potential fluctuations in ITG turbulence in W7-X (GENE)



Growth rates of fastest growing modes vs density and temperature gradient in W7-X and DIII-D (GENE)