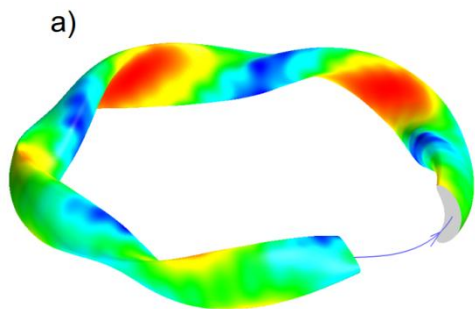
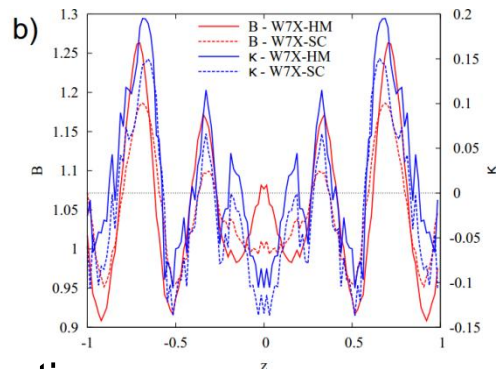


## TEM instability in W7-X

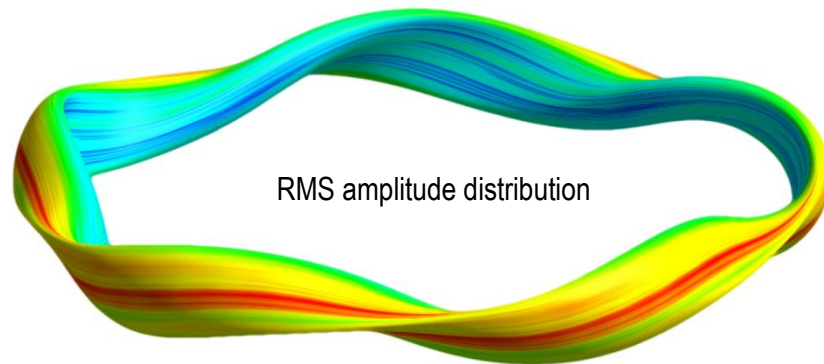
mod(B) on  $r/a=0.5$  flux surface



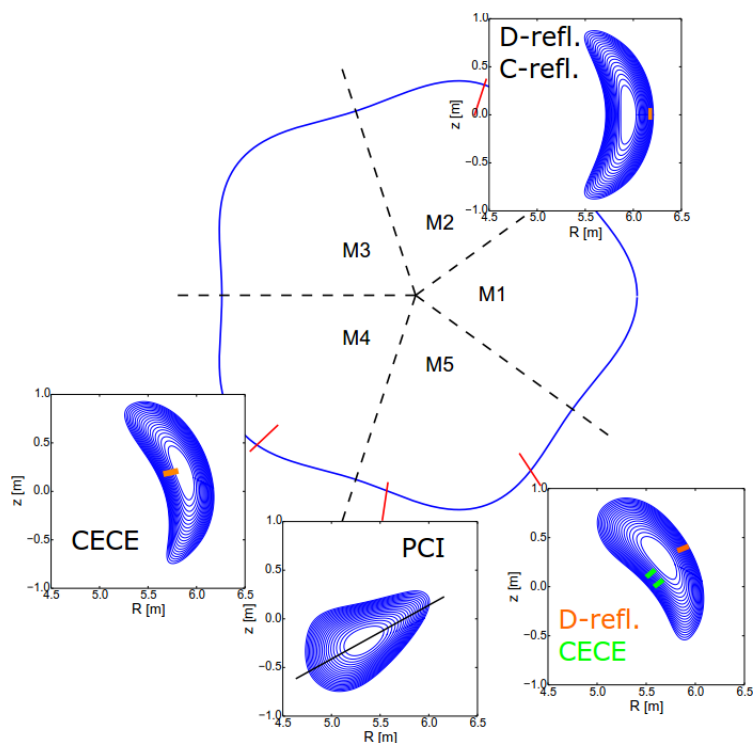
bad curvature vs. magnetic field



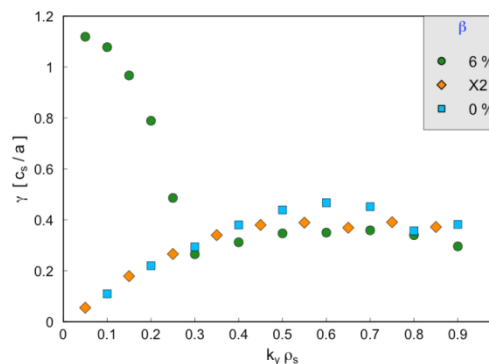
## GENE ITG simulations for W7-X



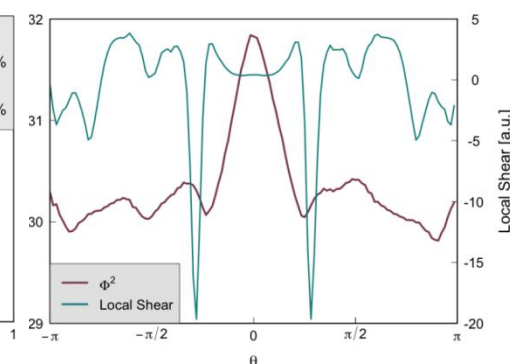
## set of fluctuation diagnostics



linear growth rates



RMS amplitude and magnetic shear



- TEM instability expected close to triangular cross section
  - ⇒ strongly dependent on magnetic field configuration
- ITG amplitude strongly structured on flux surface
  - ⇒ located in bad curvature region, quiet on inboard side
  - ⇒ ITG similar to low- $\beta$  case; no kinetic ballooning expected
  - ⇒ local magnetic shear causes toroidal fluctuation envelope
- diagnostics able to experimentally detect those key features