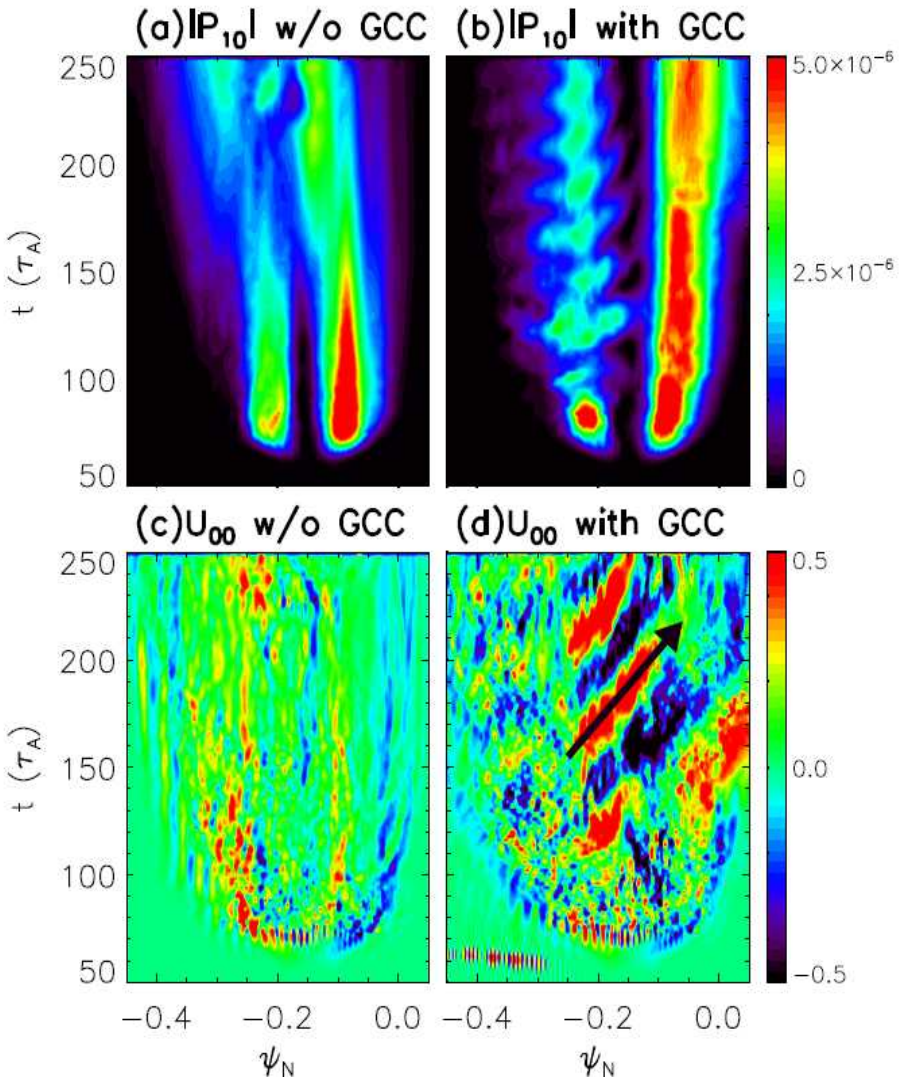
Excitation of zonal flows and their impact on dynamics of edge pedestal collapse (H Jhang et. al.)



- Nonlinear reduced MHD simulations of edge pedestal collapse show a strong excitation of geodesic acoustic modes (GAM) via nonlinear coupling between unstable ballooning modes.
- An ELM crash dynamics may be decomposed into two stages:
  - A main crash for a short time due to the destabilization of ideal MHD
  - A smaller crashes (after stabilization of ideal MHD) due to ZF-driven mesoscale instability

  → Resemblance with "compound ELM" phenomena
- ELM dynamics must retain ZF evolution and transport physics self-consistently!