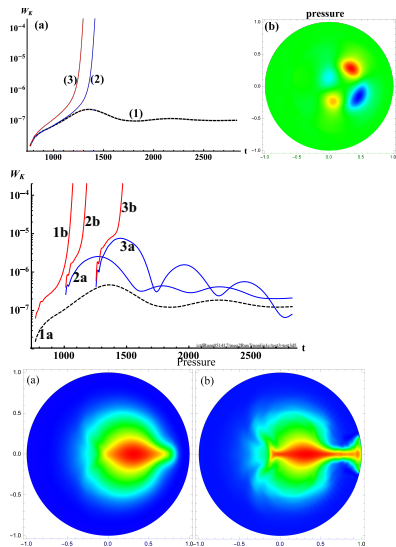


# TH/P1-17: Characteristics of an $n = 1$ explosive instability and its role in high- $\beta$ disruptions



- A pressure-driven ideal  $n = 1$  mode with a dominant  $m/n = 2/1$  component shows a bifurcation in its nonlinear evolution depending on assumed dissipation levels.
- One of the bifurcated states is a benign long-lived  $2/1$  mode that causes little confinement degradation.
- The other is an explosive regime that, through a rapidly propagating ballooning finger, leads to a high- $\beta$  disruption, reminiscent of some observations in JET and TFTR.
- The long-lived mode itself is metastable; perturbations above a threshold can push it into the explosive regime and cause a disruption.