

# MHD Stability and Resilience to Disruptions



- High- $\beta$  a consequence of low  $R/a$
- Conducting shell essential for
  - Maximizing
  - Partial stabilization of axisymmetric mode
- Plasma rotation is important for effective wall stabilization
  - Neutral beams, “Fake” rotating shell
- Low  $R/a$  can potentially lead to reduced halo currents and associated stresses on structural components
  - Slow vertical drift + high  $q$  plasma ( $I_{pol,halo} = I_{tor,halo}/q$ )
  - Rapid isotropization of toroidal asymmetries of halo currents away from source and sink regions on center stack
    - Effective vertical resistance  $\sim$  effective toroidal resistance