

Static Free-Boundary Equilibrium Calculations

- Demonstrate that the PF coils are capable of supporting equilibria in Natural-Divertor(ND), Symmetric Double-Null(DN), and Single-Null(SN) configurations with

$$1.25 \leq R/a \leq 2.0, \kappa_x \leq 2.25, \delta_x \leq 0.5, \ell_i \sim 0.2 - 1.0, \text{ and } \beta_t \sim 0 - 45\%.$$

- Define in-vessel hardware constraints, such as how close the passive stabilizer plates can be placed w.r.t. the plasma such that a 5cm outboard SOL flux surface does not intersect the plates.
- Determine the flux expansion (f_{flux}) of the SOL from the midplane to the divertor plate so that the divertor heat flux for various configurations can be estimated.