Combining High Non-Inductive Fraction Discharges with Advanced Divertors

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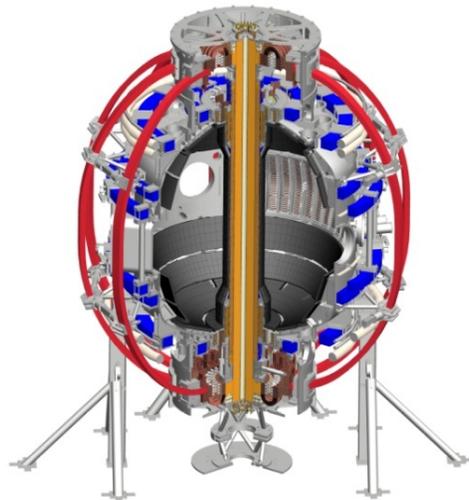
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Outline of Idea…Pretty Obvious…

- We will (I hope!) have run time dedicated to developing 100% non-inductive scenarios.
  - Probably DN, high-κ.

- We will (I imagine) have run time dedicated to divertors:
  - SFD control in ASC?
  - Radiative divertors in ASC?
  - The entire Div-SOL TSG!!!

- These efforts will be largely separate at first, but can/should we combine them at the end of the run campaign?

Elements of Idea

- Start with best high f_{NI} scenarios.
- If to be combined with SFD:
  - Add in either the feed-forward or feed-back SFD programming.
- If to be combined with radiative divertors:
  - Add in either the feed-forward or feed-back impurity gas programming.
- Assess impact:
  - Pedestal degradation and reduction in confinement
  - l_i excursions and reduction of the vertical control margin.
  - Interaction of SF control oscillations with vertical control dynamics.
  - Assess if ELMs change, and if so, how they impact the pedestal height, global stability triggering.
  - Modifications to the global profiles resulting in current or pressure driven global MHD.