

Summary

Plasma Configurations

- Getting a handle on external kink!
- Adopt QA3_C10 as the baseline.
- However, further improvements are needed...
 - Neo. transport [(n,T), pseudo-symmetry, higher ι (?)]. Do codes agree with each other, and with experiment?
- Keep looking for “better” configurations (e.g., coils)
- Develop “next-best” alternatives (for comparison)

Coil Design

- Good progress in tools (AVAC, SVD, resonances, PIES), understanding, and team formation.
 - Do we have a handle on reconstruction? Jury still out. Will find out soon.
 - Topology scan for QA3_C10- saddles, helicals, modulars, combinations. For design and insight.
 - Need practical knob for kink physics studies.
- ⇒ **Near-term project priority (effort, meetings)**

Requirements

- Draft PVR issued; big step forward. Needs feedback and continued visibility.
- Requirements for beam ion confinement getting quantified. higher β or B or α , co-tangential injection needed.
- Vacuum and wall conditioning requirements getting clearer
 - there are alternatives to low-conductance liner.
 - Carbon must be baked to 350 C, but inventory can be limited Day 1 (e.g. a few limiters); increase coverage later as needed.
- Field error requirements need definition
- Plan for startup scenario, flexibility, reactor-issues analyses.

Engineering

- Good progress in tools, team formation, requirements definition, concept development.
- Plausible-looking staged liner concept, assembly approach. D-site power supplies look like a win.
- Coils: looking crowded, even at 1 T; current density critical. But physics interest in higher field. What is possible within existing envelopes? What would 2 T require?
 Ready to move to up-to-date design.
- Field error control a potential cost driver: use compensation coils to relax accuracy requirements?
Measurement plan.