XP – Investigate core energy transport via HHFW

- Core (ρ < ~ 0.4) energy transport anomalous in NBI plasmas
- Two mechanisms proposed, both involving CAEs/GAEs:
  (1) enhanced χ_e from stochastization of resonant e^- orbits
  (2) energy channeling from beam ions to edge kAWs
- Experiment: Characterize energy transport in aftermath of core HHFW heating of NBI plasma
  - Expect rapid Te relaxation for stochastization but not coupling to KAWs
  - Monitor core turbulence: important to not excite ∇T_e turbulence
  - Monitor fast-ions: need to understand heating source post-HHFW
  - 1/2 day (1/4 day minimum)
  - Scan BT & n ($V_{Alfvén}$), beam sources if time permits
- Advances understanding of anomalous core energy transport, supporting:
  - R(15-1): Assess H-mode energy confinement .,. with higher BT, Ip & NBI
  - R(16-1): Assess τ_E … at low ν^* w/full confinement & diagnostic capabilities