MHD Experimental Task Group Meeting

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MHD ETG meeting – 12/17/2003

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Run Plan and Machine Capability Guidance CY 2004

- Run time constraints
  - Original guidance of 18 run weeks now increased to 21 weeks
  - Original MHD ET allocation of 11 run days should increase to 13
  - The 13 run days does *not* include our contingency allotment
    - estimated 3 - 4 contingency run days for MHD ET
- Machine capability
  - OH plasma ops: Jan 19th; NBI ops Jan 26th
  - Possible counter-injection campaign (~ 3 weeks)
    - ET group members will be polled to determine support
  - Maximum allowed toroidal field increases in time
    - Day 1: 4.5 kG
    - Original guidance: week 12: 5.5 kG
      - High field operation scheduling may be affected by possible counter-injection campaign

MHD XP Prioritization – NSTX Forum 11/10/2003

- MHD XP Presentations requesting run time — Reviewing today
  - Troyon scaling at high normalized current (Gates) — 1.5 MHD days (1.5 contingency)
    - Could run early in the run (lower B_t) – highly desire CHERS
  - Aspect ratio effects near the high β_p equilibrium limit (Sabbagh) — 1.0 days
    - Could run early in the run (lower B_t) – highly desire CHERS
  - Beta scan in sawtoothing plasmas (NTM) (Fredrickson) — 1.0 days
  - Collective fast ion loss scaling (day 1) (Fredrickson) — 1.0 days
  - Passive stabilization physics of the RWM: XP313 (Sabbagh) — 1.0 days
  - Rotation damping physics in high β_N ST plasmas: XP314 (Zhu) — 1.0 days
  - DIII-D/NSTX RWM physics similarity XP (Sontag) — 1.5 days
  - Dissipation physics of the RWM (Sontag) — 1.5 days
  - Collective fast ion loss scaling (day 2) (Fredrickson) — 1.0 days
    - To run at high toroidal field (run at end of run)
  - Suppression of chirping in beam-driven instabilities (Heidbrink) — 1.0 days
    - To run at high toroidal field (run at end of run)
  - Effect of boundary shape on plasma stability (Kaye) — 1.0 days
    - Requires PF4 coil (end of run)

- Active RWM control physics (Sabbagh) — 1.5 days
- External kink and control of RWM (Okabayashi) — 1 day
- Error field amplification joint experiment (Strait) — 1 day

active coil

Run days: 12.5 (without active coil); 16 (with active coil)

XPs to be reviewed 12/17/03

- XP421: Troyon scaling at high normalized current (Gates)
- XP415 (completion): Locked mode data – internal vs. external sensor coil comparison (Menard)
- XP414: Aspect ratio effects near the high β_p equilibrium limit (Sabbagh)