
MHD Experimental Task Group Breakout Session

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MHD Stability ET Group Planning Session

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Run Plan and Machine Capability Guidance CY 2004

❑ Run time constraints

- ❑ 18 run weeks divided by six experimental task groups
 - allowance for contingency time and machine enabling time
- ❑ MHD ET slated to have 11 run days out of 18 run weeks
- ❑ The 11 run days do *not* include our contingency allotment
 - estimated 2 - 3 contingency run days for MHD ET
 - extra allotment for “enabling” machine proposals

❑ Machine capability

- ❑ Maximum allowed toroidal field increases in time
 - Day 1: 3.5 kG; Week 4: 4.5 kG; Week 12: 5.5 kG
- ❑ Active mode control coil available in second half of run
 - fast power supply uncertain; plan assuming it will be available
 - active feedback control unlikely in CY04

Scheduled MHD Presentations and Discussions

□ Presentations

- Troyon scaling at high normalized current (Gates)
 - Effect of boundary shape on plasma stability (Kaye)
 - RWM discrimination from ELMS, noise, etc. (Edgell)
 - Dissipation physics of the RWM (Sontag)
 - DIII-D/NSTX RWM physics similarity XP (Sontag)
 - Passive stabilization physics of the RWM: XP313 (Sabbagh)
 - Active RWM control physics (Sabbagh)
 - Collective fast ion loss scaling (Fredrickson)
 - External kink and control of RWM (Fredrickson)
 - Rotation damping physics in high β_N ST plasmas: XP314 (Zhu)
 - Hypervelocity dust beam to measure B direction profile (Wurden)
 - Aspect ratio effects near the high β_p equilibrium limit (Sabbagh)
 - Suppression of chirping in beam-driven instabilities (Heidbrink)
 - Vertical instability and control (Kessel)
 - Status and plans for USXR systems on NSTX (Tritz)
 - Faraday rotation diagnostic for J and δB Measurements (Brower)
 - Toroidal field measurement and MHD studies with FIReTIP (Lee)
- MHD XP priority discussion (our product is a prioritized run plan!)