



ET4 Summary

David Gates

(Co-led by R. Raman, D. Gates)

2001 NSTX research Forum

1/16/01

Participants



- T. Jarboe, M. Schaffer, B. Nelson, H. Ji, R. Maqueda, G. Wurden, L. Zakharov, K. Jain, A. Redd, R. Raman, D. Gates
- Presentations from Y. Ono, (U. Tokyo) , M. Nagata, (Himeiji Inst. Of Technology)

Prioritized research goals



- Absorber arc suppression (D. Gates)
 - PF1au to create absorber null
 - Higher poloidal field in absorber
 - Study options for additional field null control coils
 - Redesign absorber insulator region
 - Insulator on high field side

Demonstration of closed flux (R. Raman)



- Plasma shape control, absorber arc control, TF scan, gas puff scan, OH induction
- Peaked Thomson profiles + EFIT
 - Modify EFIT to include private flux current
 - Measure poloidal (halo) current in injector region to constrain EFIT

Begin feedback control development (B. Nelson)



- Absorber null control
 - Real-time null reconstruction technique
- Plasma current control
- Boundary control

- Note: CHI control requires conceptual development - not well formulated as with Ohmic plasma control

Add CHI to inductive plasma (D. Mueller)



- Can be run independent of arc problem
- Study CHI current drive and impact on transport
- Add auxiliary heating

Add Ohmic to CHI



- FY '02 milestone
- No proposals made
- Possible now

New proposals



- FRC (Y. Ono, similar to F. Perkins proposal)
 - Merging Spheromaks ($TF=0$, top and bottom injectors)
- Ion Doppler Spectroscopy (M. Nagata)
 - High spectral resolution to measure T_i and v_ϕ
- Fluctuation Probe (H. Ji)
 - Coordinating with UCSD group
- Fast Camera edge fluctuations (R. Maqueda)
 - Piggy-back with no new equipment

Other presentations



- T. Jarboe (U. Washington)
 - CHI recommendations discussion
- M. Schaffer (GA)
 - CHI at low toroidal field
- K. Jain (U. Washington)
 - Edge probing of HIT