



Proposal and Attendance Form for NSTX Research Forum 2001

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Please write in the boxes below a one-page abstract of your proposal to be presented:

Title: Investigate flux closure

Abstract:

Experiments on SPHEX and HIST indicates that flux closure (as indicated by EFIT or equivalent reconstructions) and the associated external mode activity increases as the magnitude of the toroidal field is decreased. At the highest toroidal fields in these experiments (0.15T), the $n=1$ mode activity diminishes to a very small value or entirely disappears. On HIT, and HIT-II that have the highest toroidal field capability of experiments in this class, very good $n=1$ is observed even at 0.5T. In addition, HIT-II is the only machine (other than NSTX) that has operated in a configuration that uses PF coils for equilibrium control. The plans here on NSTX are to operate at 0.15T and at 0.45T or higher to understand the flux closure issue. Flux closure may increase with increasing toroidal currents, thus these experiments will also aim at increasing the toroidal current. Preliminary tests will be conducted to see the effect of an Ohmic ramp on a representative CHI discharge.

Choose only one topical session by inserting X for each proposal
(Use separate forms for separate proposals)

2000 Results (mbell@pppl.gov)
& 2001 Research Program (esynakowski@pppl.gov)
(Please submit by January 10, 2001)

- ET1: Macroscopic Stability
- ET2: Transport & Turbulence
- ET3: High Harmonic Fast Wave & Electron Bernstein Wave
- X_ET4: Coaxial Helicity Injection
- ET5: Boundary Physics

2002-2005 Research Opportunities (mpeng@pppl.gov)
(Please submit by January 11, 2001)

- TG1: Noninductive Startup
- TG2: Heating, Current Drive & Fueling
- TG3: Macroscopic Stability

	<p><input type="checkbox"/> TG4: Transport & Turbulence <input type="checkbox"/> TG5: Energetic Particle Physics <input type="checkbox"/> TG6: Multiphase Interface (Boundary Physics) <input type="checkbox"/> TG7: Plasma Science User Research <u>Fluctuations Measurement</u> (esynakowski@pppl.gov) (Please submit by January 10, 2001) <input type="checkbox"/> Fluctuations Measurement proposals</p>
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Select a presentation option by inserting X:

- Oral presentation in person
- Remote presentation via ShowStation and speakerphone
- Ask discussion leader to include in discussion
- No need to present, but include in meeting summaries
- Attend Forum only

Special Requests for your proposal (projector type, time constraints, etc.):

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Please return this document via e-mail attachment to jrobinson@pppl.gov, jsavino@pppl.gov, and the corresponding organizer listed above. Please e-mail questions or comments to the organizers listed above.