



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: Intermittent Convective Transport in DIII-D

Abstract: Plasma structures featuring higher beta than the surrounding plasma are observed in the scrape off layer and edge of DIII-D. The structures, produced at a rate of $10^4/s$, are positively charged and also polarized, featuring poloidal fields of up to 4000 V/m which are consistent with ExB radial velocities of 1000 m/s. The GradB drift is most probably responsible for the structure polarization since the sign of the poloidal field reverses upon reversal of Bt. Conditional averaging reveals that the structures slow down from ~2000 m/s near the LCFS to ~250 m/s near the wall as they shrink in radial size from 3 cm at the LCFS to 0.5 cm near the wall. These intermittent structures are responsible for nearly 40% of the ExB transport at the LCFS under the conditions studied, namely high density ($4 \times 10^{19} \text{ m}^{-3}$) Low (L) confinement discharges with double null and high triangularity, plasma current I_p of 1 MA and toroidal field B_t of 2.1 T. The structures are highly reduced in amplitude and frequency during many other DIII-D discharge conditions, including H-mode.

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
- 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
- TG4: Transport & Turbulence
- TG5: Energetic Particle Physics
- X_TG6: Multiphase Interface (Boundary Physics)

Fluctuations Measurement (esynakowski@pppl.gov)

(Please submit by January 10, 2001)

- Fluctuations Measurement proposals

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 (in person or with remote access)

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

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.