



Proposal and Attendance Form for NSTX Research Forum 2001

First Name and Initial(s)	Paul T.
Last Name	Bonoli
Email address	Bonoli@psfc.mit.edu
Mailing address	NW17-121, MIT, Cambridge, MA 02139
Phone number	(617) 253-0992
Institution	Massachusetts Institute of Technology
Co-authors	C.K. Phillips (PPPL), J. Spaleta (PPPL), R. Majeski, (PPPL), J.R. Wilson (PPPL), J. Menard (PPPL)

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

Title: Mid- to Long-Term Modelling Plans for HHFW Heating in NSTX using TORIC & TRANSP

Abstract: The full-wave ICRF electromagnetic field solver TORIC has been modified to use numerical MHD equilibria computed by the EFIT code. Exact MHD equilibrium solutions provide a more realistic geometry than is typically available from an analytic moments representation, especially for highly shaped, low aspect ratio configurations such as NSTX. As part of this work the stand-alone version of TORIC was modified to handle up-down asymmetric equilibrium configurations which are provided by EFIT and relevant to NSTX. In FY2001 we plan to implement the up-down asymmetric version of TORIC in the Fokker Planck module of the transport and analysis code TRANSP. This module consists of a bounce averaged Fokker Planck code coupled to an ICRF solver, where TORIC can be selected as one of the ICRF wave package options. Prior to this we also plan to exercise the present version of TORIC that is available in TRANSP to analyze HHFW electron heating data from NSTX. We also plan over the longer term to modify TORIC so that high harmonic ion damping on a Maxwellian or non-Maxwellian species can be computed. This will be especially useful for calculating the potential parasitic damping of HH fast waves on a hydrogen "impurity" component or an energetic beam - ion component. Plans for these research activities will be discussed.

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

2000 Results (s)

& 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
- X TG2: Heating, Current Drive & Fueling
- TG3: Macroscopic Stability
- TG4: Transport & Turbulence
- TG5: Energetic Particle Physics
- 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:

- 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.