Proposal Submission for NSTX Research Forum 2001

Title	Impurity Reduction by Gas Puff in Divertor Region and/or Center Stack
First Name and Initial(s)	Nobuhiro
Last Name	Nishino
Email address	nishino@mec.hiroshima-u.ac.jp
Mailing address	1-4-1 Kagamiyama, Higashi-Hiroshima, 739-8527, JAPAN
Phone number	+81-824-24-7565
Institution	Faculty of Engineering, Hiroshima University
Co-authors	R. Kaita, C. Skinner
Choose only one topical session by inserting X (Please use separate forms for individual proposals)	**2001 Research Program** (mbell@pppl.gov) __ET1: Macroscopic Stability __ET2: Transport & Turbulence __ET3: High Harmonic Fast Wave & Electron Bernstein Wave __ET4: Coaxial Helicity Injection **X** ET5: Boundary Physics **2002-2005 Research Opportunities** (mpeng@pppl.gov) __TG1: Noninductive Startup __TG2: Heating, Current Drive & Fueling __TG3: Macroscopic Stability __TG4: Transport & Turbulence __TG5: Energetic Particle Physics __TG6: Multiphase Interface __TG7: Plasma Science User Research **Fluctuations Measurement** (esynakowski@pppl.gov) __Fluctuations Measurement proposals

Select a presentation option by inserting X:

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

Not applicable.

Please write a one-page description of your presentation:

Summary for Investigation of Impurity Reduction by Gas Puff in Divertor Region and/or Center Stack

The first aim is to get information on divertor physics (impurity reduction, gas in the divertor, etc.) using a two-dimensional spectroscopic imaging system with a fast camera. The fast camera will be brought from Japan for the proposed period of the exchange (May 10, 2001 – July 8, 2001).

Fiber optics for fiberscopes and filters will also be brought from Japan. Ideally, the filters, and possibly the fiberscope lenses, would be remotely changeable. These capabilities may not be possible, however, with due to limitations of space, funding, and schedule.

Options for the fiberscopes are as follows. Plastic fiber optics (3m, 6000 pixels) and quartz fiber optics (image guide, 15m, 30000 pixels) will be available. For the quartz fiber optics, there will be a changeable lens with a wide angle view from 45 to 70 degrees. The maximum outer diameter is less than 12mm. The bending radius of fiber optic bundle is below 300mm.

The NSTX project is expected to provide a re-entrant window with a shutter for a view of the divertor region. This will be attached to a horizontal dome port, and it is understood that internal obstructions will be removed during the machine opening in the early part of CY01.

The exchange will also include participation in the overall NSTX experimental program. If the fast camera will not be usable during this period, existing spectrometers and Langmuir probes and/or new fiberscopes will be used for divertor plasma studies instead.

Please return this document via e-mail attachment to jrobinson@pppl.gov and jsavino@pppl.gov.

Please e-mail questions or comments to the organizers listed above.