

## DIII-D Pedestal Transport Workshop (Feb 17-18, 2010)

### WORKSHOP OBJECTIVES:

Discuss and identify critical pedestal plasma transport theory and modeling issues for detailed comparisons with DIII-D experimental data over the next year. Also, identify measurements and experiments that could be made on DIII-D in the FY 2011 DIII-D Experimental Campaign to test critical physics issues in pedestal theories and models. In particular, what are the experimental signatures and/or scalings that indicate the transport mechanism(s) which could determine the pedestal height and width.

### WEDNESDAY MORNING, FEBRUARY 17:

#### *DIII-D PEDESTAL TRANSPORT STUDIES AND ISSUES:*

- 8:30a R.J. Groebner and J.D. Callen, Welcome and discussion of workshop objectives
- 8:45a R.J. Groebner, Properties of DIII-D H-mode pedestals
- 9:20a J.D. Callen, HEP BE modeling analysis of DIII-D pedestal transport
- 9:55a Discussion
- 10:15a Coffee break

#### *DIII-D DIAGNOSTIC CAPABILITIES, RESULTS:*

- 10:30a Z. Yan, Pedestal density fluctuation characteristics and dynamics in ELMing and ELM-free H-mode plasmas
- 11:00a G.R. McKee, Pedestal fluctuation characteristics during RMP ELM-suppressed H-mode plasmas
- 11:30a L. Schmitz, Reflectometry measurements of pedestal fluctuations and density profiles
- 12:00n Lunch

### WEDNESDAY AFTERNOON:

#### *FLUCTUATION-INDUCED AND NEOCLASSICAL PEDESTAL TRANSPORT:*

- 1:00p G.M. Staebler, TGYRO evaluation of DIII-D pedestal transport
- 1:20p S.E. Parker, Characteristics of edge pedestal turbulence using XGC0/GEM code coupling
- 1:40p E.A. Belli, NEO modeling of neoclassical pedestal transport
- 2:00p Discussion of possible tests of fluctuation-induced and neoclassical transport models

#### *OTHER PEDESTAL TRANSPORT MODELS:*

- 2:20p R.E. Waltz, Interpretation and implications of the empty loss cone model for edge thermal ion orbit loss
- 2:40p J.D. Callen, Neoclassical predictions and possible tests
- 3:00p P.H. Diamond, Dynamics of pedestal formation
- 3:20p Discussion of possible tests of other pedestal transport models
- 3:40p Coffee break

#### *PEDESTAL DENSITY EVOLUTION AND PROFILE:*

- 4:00p T.D. Rognlien, Dynamics of neutral fueling of the pedestal by recycled neutrals and a simple plasma pinch model
- 4:20p A. Hakim, Coupled core-edge simulations of H-Mode buildup in DIII-D using the FACETS code
- 4:40p A.Y. Pankin, Integrated predictive modeling of the H-mode pedestal structure
- 5:00p Discussion of possible tests of density evolution and profile
- 5:30p Adjourn

### THURSDAY MORNING, FEBRUARY 18:

#### *ELM LIMITS AND MODELING:*

- 8:30a P.B. Snyder, EPED pedestal model: KBM and peeling-ballooning components and tests
- 9:00a X. Xu, Nonlinear peeling-ballooning simulations using BOUT++ Code
- 9:30a Discussion of transport evolution to ELMs and possible tests thereof
- 10:00a Coffee break

#### *TESTS OF PEDESTAL TRANSPORT MODELS:*

- 10:30a J.D. Callen, Possible pedestal transport theory models and modeling tests
- 11:00a Discussion of key theory and modeling tests
- 11:20a R.J. Groebner, Possible experimental tests
- 11:45a Discussion of possible experimental tests
- 12:00n Close of meeting