Transport & Turbulence Breakout Session Summary

FY02 NSTX Research Forum

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T & T Session Statistics

- 16 speakers
- **23** XP ideas/research subjects
- Areas covered:
  - Global & local transport
  - Anomalous T_i/T_e
  - Microinstabilities/turbulence levels
  - Transport modification
  - Fast ions

Global & local transport

Bourdelle	ITG & ETG dependence on β'	D
Bourdelle	ITG & ETG dependence on T_i/T_e	D
Bourdelle	ITG & ETG dependence on A	D
Bush	H-mode threshold vs P_{NB} & B	D
Bush	H-mode scaling with A,…	D
Kaye	τ_E vs A	D
Kaye	Global confinement scaling (XP 19)	D
Maingi	Density limit mechanisms	D
Stutman	Perturbative transport w/ USXR	D

Anomalous ion heating

Bitter	Diagnostic cross-calibration	D
Gates	T_i vs B_T, V_{NB}	D
Frederickson	Power balance with & without CAEs	D

Microinstabilities/Turbulence levels

Kubota	H-mode edge ne profiles & fluctuations	P
Zweben	Turbulence characterization	P
Peebles	Long-λ turbulence measurement	D
Boedo	Edge probe turbulence measurement	D

Transport modification

Kaye	Counter-injection for large E_r	D
Zweben	100 V bias on SOL with CHI system	D

Fast ions

Medley	Codes for NPA interpretation	P
Redi	NBI loss vs B_T, β, & B_{err}	P
Darrow	Comparison of NBI loss w/ model	P

Priorities in T & T

- Cross-calibration of T_e diagnostics
- Effects of β on transport (DoE milestone)
- Mechanisms causing $T_i > T_e$ during NBI (& OH)

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Issues in T & T

- Need more detailed plan to study effect of β on transport
- Very limited experimental time available ⇒ much piggy-backing needed
  - 9 days total for T & T
  - 2–3 days for β study
  - 1–2 days for $T_i > T_e$

  ⇒ 4–6 days remaining to cover all remaining transport topics!

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T & T plans

- T & T ET group meetings & inter-group meetings to discuss priorities and hear XPs will commence the week of December 10