

Gas Puff Imaging Experiments FY '04

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New GPI capabilities:

- 300 frame PSI-5 camera at up to 250,000 frames/sec
- x10 more light with improved optics (compared to '02)
- use new tangential X-point view at bottom of machine
- new analysis tools (3-D DEGAS 2, velocity imaging...)

Goals:

- catch L-H and H-L transitions and ELMs
- look at turbulence near X-point and inner wall

⇒ make detailed comparisons with theory / simulation

Possible GPI Experiments in '04

- Catch H-mode transition by triggering H-mode with NBI
- Look for zonal flows in 300 frame data w/ vs. w/o H-mode
- Catch ELMs by post-triggering with fast D_{α} signal
- Look at X-point or inner wall (e.g. with Hiroshima camera)
- Compare limiter vs. SND vs. DND edge turbulence
- Look at edge turbulence near density limit (more blobby ?)
- Compare GPI with Langmuir probes and reflectometer
- Compare GPI with various lines e.g. D vs. He vs. Ne

... more ideas ?