Divertor Bolomter XP

Overview of Experiment

The primary goal of this experiment is to measure the power deposited in the divertor region during NBI heated NSTX discharges. We will also measure the core radiated power and the particle losses so as to refine the energy accountability of NSTX discharges. We will also measure if the power deposited in the divertor is affected by the shape (e.g. higher in double-null than lower single-null), and by the working gas (e.g. higher in helium than in deuterium).

Experimental Run Plan (1 day)

I. Establish conditions (3 - 5 discharges)

A. Start with 1 hr. of HeGDC in morning

B. Reproduce NBI fiducial 700 kA plasma with 5 MW, 100ms beam pulse width

C. Create $\overline{n_e}$ =1.5e13, B_t=0.3 T, deuterium, lower-single null divertor configuration.

D. Create a well-diverted LSN (if not already there)

II. Adjust P_{in} by adjusting beam voltage from 60- 80 kV

III. Repeat with DND and Inner Wall Limited configurations

IV. Repeat in Helium discharges