

# (SG3) Instability & Anisotropy (IA) Session Report



April. 11, 2024 (N. Kenmochi)

Date: April 11, 2024

Time: 10:30 - 12:40

Shot#: #189336 – #189379 (44 shots)

Prior wall conditioning: NO

Divertor pump: ON

Gas puff: H2

IPD: OFF

NBI#(1, 2, 3, 4, 5)=gas(H, H, H, H, H)=P(4.8, 4.3, 4.3, 3.7, 6.0)MW

ECH(77GHz)=ant(5.5-Uout (or 1.5U), 2-OUR)=P(698, 380)kW

ECH(154GHz)=ant(2-OLL, 2-OUL, 2-OLR)=P(705, 889, 982)kW

ECH(56GHz)=ant(1.5U)=P(-)kW

ICH(3.5U, 3.5L, 4.5U, 4.5L)=P(0.0, 0.0, 0.0, 0.0)MW

## Topics

1. Observation of the fast-ion confinement degradation depending on the neutral beam power (S. Kamio(TAE), K. Nagaoka)

# Observation of the fast-ion confinement degradation depending on the neutral beam power

S. Kamio

Shot #:189338-189379

**Experimental conditions:** ( $R_{ax}$ , Polarity,  $B_t$ ,  $\gamma$ ,  $B_q$ ) = (3.6, CW, 2.75, 1.2538, 100), NBI#(1, 2, 3, 4, 5) = gas(H, H, H, H, H) = P(4.6, 4.4, 4.3, 3.6, 6.0) MW

## Background and motivation:

- In order to find the specific reason for the fast-ion confinement degradation by increasing the injection beam power, we tried to see the dependencies on the carbon impurity density. By observing the fast-ion profile by FIDA and electric field by HIBP, the impurity effect for the fast-ion confinement will be studied.

## Results:

- There were very few failed shots and very good experiments.
- The density was well controlled and the plasma was successfully measured by FIDA and HIBP.
- All planned NB power and impurity pellet size scans have been completed and will be analyzed in detail.

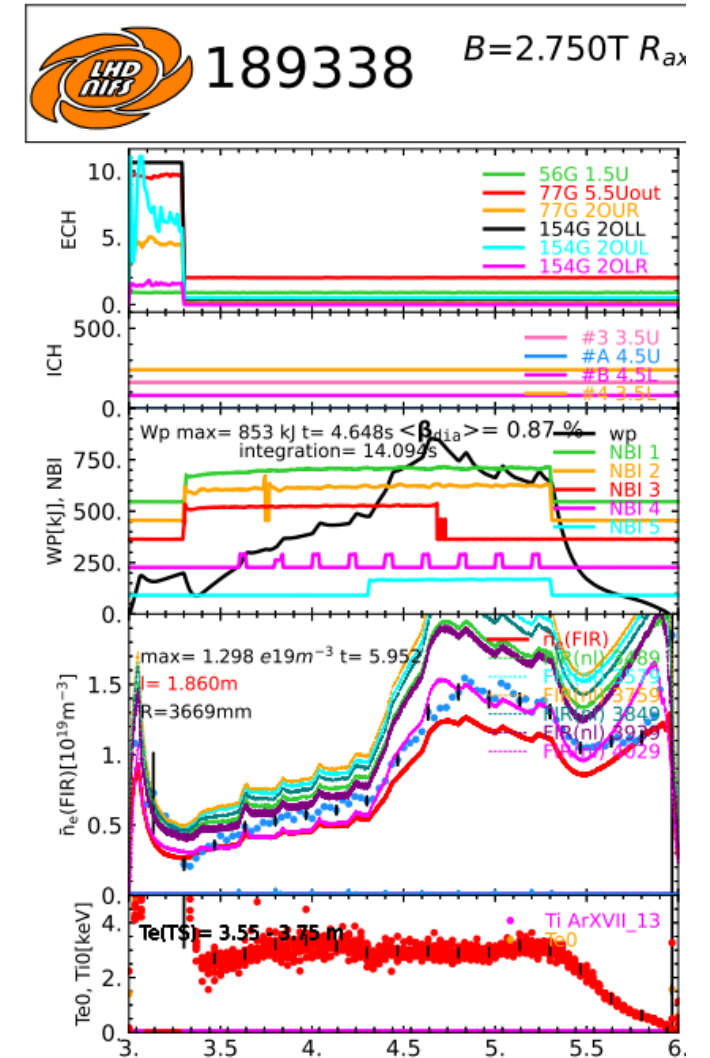


Fig.1 Shot summary for a typical shot in the experiment.