

(TG4) Plasma instability group report

Jan. 18, 2022 (R. Seki)

Date: Jan. 18, 2022

Time: 16:40 - 18:45

Shot#: 176624 – 176653 (30 shots)

Prior wall conditioning: H2

Divertor pump: OFF

Gas puff: H2, Pellet: No

NBI#(1, 2, 3, 4, 5)=gas(H, H, H, H, H)=P(0.0,4.1,4.0,0.0, 0.0)MW

ECH(56GHz)=ant(1.5-U)=P(0.327, 0)MW

ECH(77GHz)=ant(5.5-U, 2-OUR)=P(0.0, 0.0)MW

ECH(154GHz)=ant(2-OLL, 2-OUL, 2O-LR)=P(0, 0, 0)MW

ICH(3.5U, 3.5L, 4.5U, 4.5L) = P(0, 0, 0, 0)MW

Neutron yield integrated over experiment = (6.9E+10)

Topics

1. Study of topological bifurcation. (Y. Suzuki)

Study of topological bifurcation

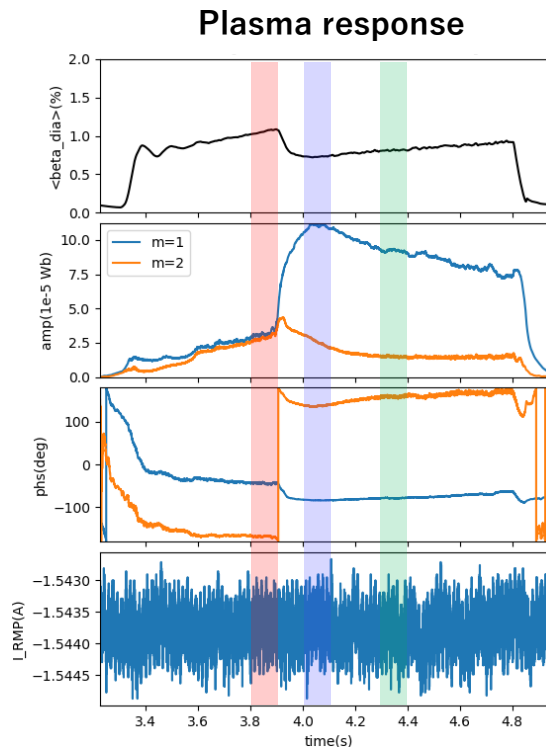
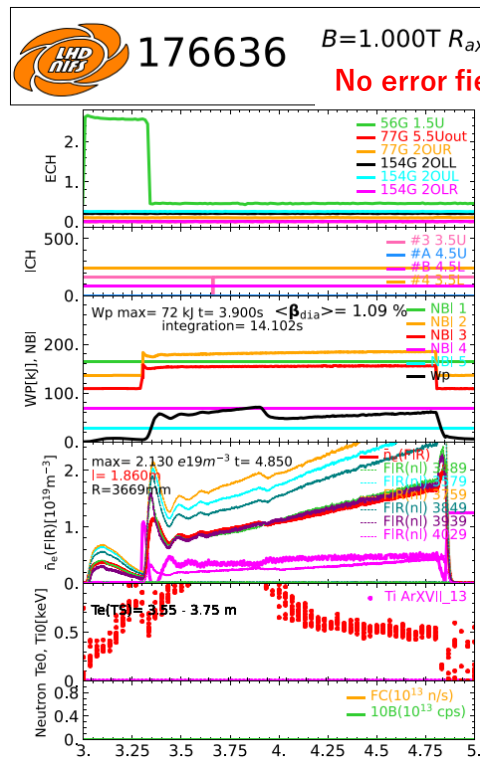
Y. Suzuki (Hiroshima Univ.) Courtesy to HIBP group

Configuration:

- $R_{ax} = 3.6$ m, $B = 1$ T (CW), $\gamma = 1.13$, H plasma

Results:

- The density scan (beta and collisionality) was conducted.
- For ramping up the density, the sharp drop of the plasma stored energy was observed. This is caused by the amplification of the error field.
- HIBP with **Cu** ion measured the potential profile.



HIBP measurement by **Cu** ion was succeeded.
Rational surface of $\iota = 1$ is $\rho = 0.5$.
Potential changed at $r_{eff} \sim 0.25$.

