(SG1) Multi-phase and Atomic/Molecular physics group report

Apr. 16, 2024 (M. Kobayashi)

Date: Apr. 12, 2024
Time: 10:30 -13:45
Shot#: 189462 – 189518 (57 shots)

Prior wall conditioning: No
Divertor pump: Off
Gas puff: H2 IPD: No
LID: No
NBI#(1, 2, 3, 4, 5)=gas(H, H, H, H, H)=P(4.6, 4.2, 4.4, 4.1, 3.6) MW
ECH(77GHz)=ant(5.5-U, 2-OUR)=P(698, 380)kW
ECH(154GHz)=ant(2-OLL, 2-OUL, 2O-LR)=P(705, 889, 982) kW
ECH(116GHz)=ant(2O-LR)=P(-)kW
ECH(56GHz)=ant(1.5-U)=P(-)kW
ICH(3.5U, 3.5L, 4.5U, 4.5L) = P(-, -, -, -) MW

Topics

1. Tomographic analysis of helium atom emission line intensity (M. Goto)

Tomographic analysis of helium atom emission line intensity

M. Goto

Experimental conditions:

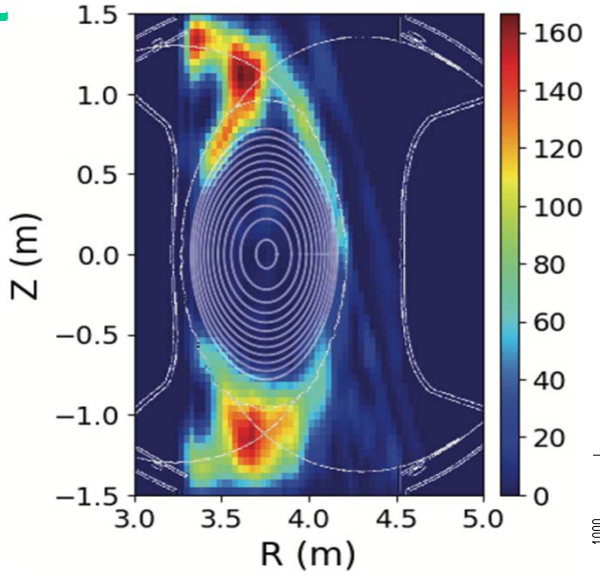
(R_{ax}, Polarity, B_t, γ, B_q) = (3.9 m, CCW, 2.538 T, 1.2538, 100%),
(3.75 m, CCW, 2.64 T, 1.2538, 100%),
(3.6 m, CCW, 2.64 T, 1.2538, 100%)

Motivation and method:

- Two-dimensional distribution of helium line intensity on a poloidal cross section has been obtained with the help of Zeeman effect.
- The same analysis will be made for different magnetic configurations and plasma conditions.

Results:

- Spectra were taken for 587.6nm, 667.8nm, and 706.5nm with good signal-to-noise ratio.
- Zeeman profile patterns look to vary when R_{ax} is changed.
- These results suggest that the line intensity distribution largely depends on the magnetic field configuration.



Hara, PFR (2024)