

Nov. 11, 2021 (T. Tokuzawa)

Date: Nov. 10, 2021 Time: 9:38- 13:14, 16:55- 18:45 Shot#: 172160 – 172228 (69 shots), 172276 – 172310 (35 shots) Prior wall conditioning: NO Divertor pump: ON Gas puff: D2, H2, Ar Pellet: None NBI#(1, 2, 3, 4, 5)=gas(H, D, D, D, D)=P(4.5, 2.5, 2.8, 4.2, 5.2)MW ECH(77GHz)=ant(5.5-Uout (or 1.5U), 2-OUR)=P(703, 792)kW ECH(154GHz)=ant(2-OLL, 2-OUL, 2-OLR)=P(979, 930, 986)kW ECH(56GHz) = ant(1.5U) = P(-)kWICH(3.5U, 3.5L, 4.5U, 4.5L)=P(-, -, -, -)MW Neutron yield integrated over the experiment = 2.7×10^{15} , 2.7×10^{15}

Topics

- 1. 2D profile of EGAM and its influence on the turbulence and radial transport of bulk plasmas (A. Shimizu)
- 2. Investigating ECH beam broadening by density fluctuations (R. Yanai)

2D profile of EGAM and its influence on the turbulence and radial transport of bulk plasmas

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- We performed measurement of 2D profile of potential fluctuation associated with EGAM by HIBP.
- Main purpose of 2D measurement is to measure the asymmetry of density fluctuation profile, and the detail will be analyzed.
- As previous experiments, beam energy of HIBP was changed shot to shot. Total of 10 cases of beam energy was scanned, and 2D profile was obtained.
- FNA and neutron profile data will be analyzed to investigate fast ion transport by the EGAM.





Investigating ECH beam broadening by density fluctuations R. Yanai

Experimental conditions: (R_{ax} , B_{t} , γ , B_{q}) = (3.6 m, 2.85 T, 1.2538, 100.0%)

Objective: Investigating the EC beam scattering caused by density fluctuations.

Method: Using the ECH power modulation of the 2-O perpendicular injection to reduce the refraction effect and evaluating the power deposition profile from the change of the T_e profile in different density conditions.



Experimental data of different density fluctuations were obtained by changing the plasma density ranging from $1.5 \times 10^{19} \text{ m}^{-3}$ to $5 \times 10^{19} \text{ m}^{-3}$. The profiles of δT_e seems to become broader than the raytracing calculation with large density fluctuations. Scattering wave beam profile data were also acquired by using the CTS received Detailed analyses are needed to clarify the influence of density fluctuations on the beam broadening.