

(TC) Transport and Confinement Report



April. 11, 2024 (M. Nishiura)

Date: April 10, 2024

Time: 10:25 - 12:45

Shot#: 189234 – 189265 (32 shots)

Prior wall conditioning: He GD

Divertor pump: OFF

Gas puff: H₂

Pellet: YES

NBI#(1, 2, 3, 4, 5)=gas(H, H, H, H, H)=P(4.8, 2.5, 4.0, 1.7, 2.2)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(-, -, -, -)MW

Topics

1. Characteristics of the radial mode structure of resistive interchange mode and its parameter dependence (J. Varela, Y. Takemura and K. Watanabe)

Characteristics of the radial mode structure of resistive interchange mode and its parameter dependence

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Experimental conditions: (R_{ax} , Polarity, B_t , γ , B_q) = (3.75 m, CCW, 0.75 - 1.375 - 2.62 T, 1.254, 100 %)

Motivation and objective: analysis of the 1/1 resistive interchange mode structure

Results:

- Scan of RIC stability with respect to the thermal plasma density, magnetic field intensity and heating pattern (tangential NBI).
- The shear flows measured using CXS.
- Destabilization of the 1/1 RIC, particularly in 0.75 T and half field configurations.
- RIC structure measured by the fast Thomson scattering diagnostic and Correlation Electron Cyclotron Emission (CECE) at $t = 4$ s.
- Simulation of the linear and nonlinear 1/1 RIC stability will be performed using the FAR3d code.

