

P4.1057 Observation of poloidally asymmetric transport during sawtooth crash on J-TEXT tokamak

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See full abstract here

<http://ocs.ciemat.es/EPS2019ABS/pdf/P4.1057.pdf>

Combining with the data of the three-wave Polaris-interferometer system (Polaris), the Soft Xray array system (SXR) and the electron cyclotron emission system (ECE), it is observed that the radial transport in the region between reversed radius and mixing radius is asymmetrical, which is related to the phase of the precursor oscillation when sawtooth crash happened. The precursor oscillation is thought to be a 1/1 mode whose structure consists a hot-bubble and a cold-crescent.[1],[2] And both the electron temperature and density in hot-bubble are higher than in cold-crescent. During the sawtooth crash, the particle would be transported to the region closed to the cold-crescent side and between reversed radius and mixing radius. After about 80s, the region between reversed radius and mixing radius would be symmetrical. More details about the poloidally asymmetric transport during the period of sawtooth crash will be reported in the meeting.

References [1] S. Von Goeler et.al 1974 Phys. Rev. Lett. 33 1201. [2] B. B. Kadomtsev 1975 Sov. J. Plasma Phys. 15

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