

Abstract Submitted
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Effects of ICRF waves on the axial transport of mirror confined ions in GAMMA 10/PDX¹ SEOWON JANG, MAKOTO ICHIMURA, MAFUMI HIRATA, University of Tsukuba, RYUYA IKEZOE, Kyushu University, NAOMICHI EZUMI, YUSHI KUBOTA, RYO SEKINE, HIROKI KAYANO, KAIRI SUGATA, TAKUMI AIZAWA, DAICHI NOGUCHI, MIZUKI SAKAMOTO, University of Tsukuba — In the GAMMA 10/PDX tandem mirror, end-loss ions are used in the studies on divertor physics. Plasmas are produced with Ion Cyclotron Range of Frequency (ICRF) waves at the central cell, which has a simple mirror configuration. The peaked profiles near the loss-cone boundary in the pitch angle distribution of the end-loss ions are clearly observed. This implies the main source of the end-loss ions is the pitch angle diffusion due to ion-ion collisions in the mirror confined region. In order to control the temperature of the end-loss ions, additional ICRF waves are applied in the central cell and the other cells. When the ICRF waves, which have resonance layers in the central cell are applied, the end-loss ions with pitch angle near the 0 degree are increased. This will indicate that the ions are dropped into the loss-cone by the large pitch angle scattering due to wave-particle interactions. In addition, the interaction with Alfvén-Ion-Cyclotron (AIC) waves, which are excited spontaneously due to strong anisotropy of ion temperature is observed.

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