

Abstract Submitted  
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**Studies on ion heating of the GAMMA 10/PDX plasma in a higher density regime toward a future divertor simulating linear device** R. IKEZOE, M. ICHIMURA, S. JANG, M. HIRATA, S. SUMIDA, J. ITAGAKI, K. IZUMI, A. TANAKA, Y. KUBOTA, R. SEKINE, M. SAKAMOTO, Y. NAKASHIMA, Univ of Tsukuba — Linear plasma devices offer flexible plasma conditions, good control and measurement accessibility, contributing to the necessary physical understanding of boundary plasma and technology development for DEMO. Among many linear devices operating in the world, one missing parameter is ion temperature. On the other hand, end-loss plasmas with ion temperature more than 100 eV are achievable in a standard discharge of GAMMA 10/PDX while the electron density significantly falls below the demand for above studies. Recently ion heating experiments in a higher density regime has been started on GAMMA 10/PDX to bridge a gap between our experiences and the knowledge required for ion heating of a future and operating divertor simulating linear plasmas. We will report on the recent trials, that were performed taking advantage of multi ICRF heating systems on GAMMA 10/PDX; (i) increase of the density of ICRF produced plasma, (ii) experimental investigation on the slow wave excitation in a higher density regime, (iii) development of ion heating methods applicable to a higher density regime.

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