

Abstract Submitted
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Experimental Study on an Intermediate Plasma in the HYPER-II Device¹ KENICHIRO TERASAKA, FUMIYA KAWAZU, KANSHI FURUTA, RIKU NAKANO, Kyushu University, SHINJI YOSHIMURA, National Institute for Fusion Science, MASAYOSHI Y. TANAKA, Kyushu University — Recently, the onset of azimuthal plasma rotation and the saturation of acceleration along the magnetic field line have been observed in an inhomogeneous magnetic field (HYPER-I). These interesting results are considered to be the unique in an intermediate plasma, which consists of magnetized electrons and unmagnetized ions, and are clearly different from that of well-known magnetized plasmas. However, the flow structure formation of intermediate plasma has not been well understood so far, since there are a few experiments. In order to study the flow structure generated in the intermediate plasma, we have started a new experiment using the HYPER-II device at Kyushu Univ, Japan. The HYPER-II device has a large volume chamber, in which an intermediate plasma in a magnetic field intensity of the order of 10 gauss is produced. We have especially interested in the effect of plasma rotation in the magnetized region on the flow structure of intermediate plasma. For this purpose, we have developed a set of coaxial electrodes to control the plasma rotation. In the poster session, we will present the characteristic feature of the HYPER-II device: performance of HYPER-II, diagnostic methods including the preliminary results.

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