

Abstract Submitted
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Configurational study on confinement improvement of CHS plasmas KEISUKE MATSUOKA, MITSUTAKA ISOBE, YASUO YOSHIMURA, TAKASHI MINAMI, KENICHI GAGAOKA, SHOICHI OKAMURA, SHIN NISHIMURA, TSUYOSHI AKIYAMA, CHIHIRO SUZUKI, AKIHIDE FUJISAWA, AKIHIRO SHIMIZU, KATSUMI IDA, CHIHIRO TAKAHASHI, National Institute for Fusion Science, CHS TEAM — Magnetic well, magnetic shear, symmetries, etc. are key parameters that play important roles in the confinement improvement of helical plasmas. The configuration with both of magnetic well and stellarator shear is regarded as a favorable one, because micro-instabilities could be suppressed due to the magnetic well and the drift reversal. The vacuum magnetic configuration of CHS has the stellarator shear, having a magnetic hill for the inward shifted magnetic-axis-position where the orbit confinement is best in CHS. Fortunately, the magnetic hill in the core region can be converted to the well with the finite-beta plasma. NBI heated plasmas have shown the improved confinement of electrons in the core region. The improved confinement will be discussed in terms of the magnetic field configuration with the stellarator shear and the magnetic well. EBW heating is scheduled to investigate the electron heat transport in such configurations.

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