

Abstract Submitted
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Progress in Low-Aspect-Ratio RFP Research in RELAX¹ S. MASAMUNE, A. SANPEI, R. IKEZOE, T. ONCHI, K. OKI, M. SUGIHARA, Y. KONISHI, S. FUJITA, M. NAKAMURA, A. FUJII, H. MOTOI, H. HIMURA, Kyoto Institute of Technology, R. PACCAGNELLA, Consorzio RFX, A. EJIRI, Univ. Tokyo, D. DENHARTOG, Univ. Wisconsin — RELAX is a low-aspect-ratio RFP experiment with $R=0.51\text{m}/a=0.25\text{m}$ ($A=2$). Initial results have shown the advantages of low- A RFP configuration with I_p of up to 100kA and V_l of down to $\sim 30\text{V}$; the configuration tends to relax to a quasi-single helicity (QSH) state. A high-speed camera diagnostic has revealed simple helix structure. In the extreme case, rotating Helical Ohmic equilibrium state has been realized. The pressure driven bootstrap current fraction is shown to be less than 5% of the total current in the present RELAX plasmas. Recent progress includes a test of field error compensation; the control system will also be used in feedback control of RWM. The electron density measurements with a 104 GHz microwave interferometer show that the density lies in the range from $\sim 5 \times 10^{18}\text{m}^{-3}$ to $\sim 10^{19}\text{m}^{-3}$. Design study of Thomson scattering system is also in progress.

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