Abstract Submitted
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Imaging Diagnostics for MHD Studies in Low-Aspect-Ratio Machine RELAX[1] T. ONCHI, R. IKEZOE, K. OKI, Y. KONISHI, M. SUGIHARA, S. FUJITA, A. SANPEI, H. HIMURA, S. MASAMUNE, Kyoto Institute of Technology, N. NISHINO, Hiroshima University, RELAX TEAM — Visible-light and soft-X ray imaging diagnostics have been applied to a low-aspect-ratio RFP machine RELAX for the study of MHD dynamics. The visible-light images with a high-speed (80,000fps) camera from a tangential port of RELAX have revealed time evolution of the simple helical structure for the first time in the RFP. The visible-light helical structure agrees well with magnetic structure of the helically deformed RFP (Helical Ohmic RFP), rotating toroidally in the same direction as the magnetic fluctuation. The simple helical structure is one of the results of low-A nature of RELAX. A soft-X ray (SXR) imaging diagnostic technique has also been developed for MHD studies in RELAX. In this diagnostic, a 3-D magnetic structure in the low-A RFP plasma is reconstructed from simultaneously measured tangential and vertical SXR images. Initial results from tangential SXR imaging will be reported, in comparison with the visible-light images of the simple helical structure.

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