

Abstract Submitted
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Rotating Helical Ohmic Configuration in a Low-Aspect-Ratio Reversed Field Pinch¹ KENSUKE OKI², RYUYA IKEZOE, TAKUMI ONCHI³, SHIN-ICHI FUJITA, AKIO SANPEI, HARUHIKO HIMURA, SADA0 MASAMUNE, Kyoto Institute of Technology, ROBERTO PACCAGNELLA, Consorzio RFX — Recent theoretical studies have shown that a low-aspect-ratio Reversed Field Pinch (RFP) may have several advantages. In a low-aspect-ratio RFP machine “RELAX”, inner magnetic field profiles have been measured by a radial array of magnetic probes inserted to the magnetic axis. In a type of plasma, the profiles largely oscillate and are in good agreement with rotating “helical Ohmic equilibrium” (helical RFP configuration with a helical magnetic axis). The helical structure indicated by edge magnetic fields at various places corresponds to a helical instability mode having a singular surface in the core region. Thus, the helical deformation may be caused by growth of the single helical mode at the singular surface. It appears that this growth is enhanced by increase in separation of major singular surfaces due to low-aspect-ratio.

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