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Wobble Motion on Field-Reversed Configuration Plasmas YOSHINORI HASEGAWA, HIROSHI GOTA, KAYOKO FUJIMOTO, TOSHIYUKI FUJINO, TOMOHIKO ASAI, TSUTOMU TAKAHASHI, YASUYUKI NOGI, College of Science and Technology, Nihon University, Tokyo, Japan — A wobble motion on a field-reversed configuration (FRC) plasma is investigated in detail. It is found from magnetic and optical measurements of the wobble motion that a few magnetic islands appear inside a separatrix at the formation phase and merge with each other at the axial contraction phase. Due to the radial and azimuthal asymmetries of the merging plasmas, the wobble motion is triggered. Sometimes, FRCs that are large amplitude of the wobble motion and very short lifetime of the configuration are observed. When conducting or resistive rings are installed near the ends of the theta-pinch coil, the symmetrical formation of the plasma is assisted and the amplitude of the wobble motion is reduced. Especially, the resistive rings are expected to control effectively the wobble motion by freezing open field lines into them. From these experiments, it is discussed that the wobble motion originates in the formation phase.

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