

Abstract Submitted  
for the DPP13 Meeting of  
The American Physical Society

**Formation of a High Energy Density Field Reversed Configuration** I. ROMADANOV, Bauman Moscow State University, Moscow, Russian Federation — Formation of a compact toroid (CT) or field reversed configuration (FRC) [1-2] with a maximum input of energy and the capture of the magnetic field into plasma is an important scientific and technical challenge. The proposed method of formation is similar to the formation of FRC based on  $\theta$ -pinch [1], but has some differences, which will be described below. One of the main CT formation problems is the low level of the captured magnetic flux. A study of compact torus formation with a longitudinal current was done [3]. This method of formation has not been used before, and was tested for the first time. Experiments showed that this method can significantly increase the energy input into plasma.

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[2] S.V. Ryzhkov Features of Formation, “Confinement and Stability of the Field Reversed Configuration,” Problems of Atomic Science and Technology. Series: Plasma Physics. 2002. 4 (7). P. 73-75.

[4] I.V. Romadanov, “Theoretical and experimental research of Field Reversed Configuration,” Science and Education. 2 (2012).

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Date submitted: 11 Sep 2013

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