

Abstract Submitted
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Equilibrium profiles and correlation with instabilities in the C-2 FRC experiment BIHE DENG, Tri Alpha Energy, Inc., HIROSHI GOTA, JOHN KINLEY, XUAN SUN, MATT THOMPSON, MICHEL TUSZEWSKI, TAE TEAM — Plasma equilibrium profiles and fluctuations in the C-2 field reversed configuration (FRC) experiment [1] are measured by an array of diagnostic systems, including interferometers, bolometer arrays, Thomson scattering, internal electrostatic and magnetic probes. Plasma electron density and temperature profiles and evolutions under various operation conditions will be presented. The profile dependence of the dominant $n=2$ instability (frequency, growth rate, threshold, etc.) will be explored. The effects of the instability on the profile changes will also be examined.

[1] M. W. Binderbauer *et al*, Phys.Rev.Lett. **105**, 045003 (2010).

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