

Abstract Submitted
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Formation of high temperature field reversed configurations in Tri Alpha Energy's C-2 System EUSEBIO GARATE, MICHAEL ANDERSON, JON DOUGLASS, HIROSHI GOTA, HOUYANG GUO, RAIMON POUSA-HIJOS, MICHEL TUSZEWSKI, Tri Alpha Energy, TAE TEAM — Tri Alpha Energy's C-2 experimental system is a linear device consisting of two separate multi-coil theta-pinch formation sections and a central confinement vessel. Two high-beta compact toroids (CT's) are formed by sequential firing of the main reversal coils in the formation sections. This 'dynamic' formation technique results in CT's with Mach numbers greater than 1. Collision and thermalization of the CT kinetic energy, predominantly into the ion channel with ion temperature of 400 – 500 eV, results in high temperature field reversed configurations (FRC's) in the confinement vessel. Strong flux amplification may also occur during the merging process. A discussion of the formation section, dynamic formation parameters and the resultant merged CT and FRC characteristics will be presented.

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