

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Near-Real-Time 3-D Reconstructions of FRC Plasmas JON DOUGLASS, Tri Alpha Energy, Inc. and the TAE Team — Results from the C-2 experiment at Tri Alpha Energy, Inc. have demonstrated that the plasmas found in merging FRC experiments are not always nicely behaved, thus making simplistic analysis techniques inappropriate. A new method has been developed that treats the reconstruction process as the optimization of a parametric model. In our case C-2 plasmas are approximated by a 14-parameter model; the Genetic Algorithm (GA) is used to perform optimizations of this model constrained primarily by bolometer data, and typically converges in just a few seconds, i.e. near-real-time 3-D reconstructions. The specific details of this novel approach to the realistic analysis of FRC plasmas will be the primary focus of this presentation along with a few results from its application to the C-2 experiment.

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Date submitted: 19 Jul 2010

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