

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Development of a Pulsed ~ 100 MW Rotating Magnetic Field Ionization System for C-2W ERIK TRASK, ANDREY KOREPANOV, SHANNON KRAUSE, JOSH LEUENBERGER, ROGER SMITH, TRAVIS VALENTINE, WILL WAGGONER, Tri Alpha Energy, Inc., TAE TEAM TEAM — The Rotating Magnetic Field (RMF) ionization system on the C-2W experiment at Tri Alpha Energy has been substantially upgraded from the previous system on the C-2U facility[1]. This system is used for ionizing gas prior to forming and accelerating Field-Reversed Configurations in the formation sections. Through the use of enhanced power units with increased stored energy, and an improved antenna design for better power coupling, a fully ionized plasma can now be produced in less than 100 μ s, in a background axial magnetic field in excess of 0.1 T, while at gas pressures in the ~ 1 mTorr range. The system design, characterization, and experimental ionization parameters will be discussed. [1]M.W. Binderbauer *et al.*, AIP Conf. Proc. 1721, 030003 (2016)

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Date submitted: 24 Aug 2017

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