

Abstract Submitted
for the DPP16 Meeting of
The American Physical Society

Engineering design point for a 1MW fusion neutron source¹ PAUL SIECK, PAUL MELNIK, SIMON WOODRUFF, JAMES STUBER, Woodruff Scientific Inc, CARLOS ROMERO-TALAMAS, JOHN O'BRYAN, University of Maryland Baltimore County, RONALD MILLER, Decysive Systems Inc — Compact fusion neutron sources are currently serving important roles in medical isotope production, and could be used for waste transmutation if sufficient fluence can be attained. The engineering design point for a compact neutron source with target rate of 10^{17} n/s based on the adiabatic compression of a spheromak is presented. The compression coils and passive structure are designed to maintain stability during compression. The power supplies consist of 4 separate banks of \sim MJ each; Pspice simulations and power requirement calculations will be shown. We outline the diagnostic set that will be required for an experimental campaign to address issues relating to both formation efficiency and energy confinement scaling during compression.

¹Work supported in part by DARPA grant N66001-14-1-4044 and IAEA CRP on compact fusion neutron sources

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Date submitted: 15 Jul 2016

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