

Abstract Submitted
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Studies of Jet Outflow from Advanced Beam-Driven FRC Plasma on C-2U DANIEL SHEFTMAN, DEEPAK GUPTA, Tri Alpha Energy, FRANCESCO GIAMMANCO, FABIO CONTI, PAOLO MARSILI, University of Pisa — Experiments demonstrating sustainment of field-reversed configuration (FRC) plasma via neutral beam injection have been carried out on C-2U [1]. Knowledge and control of the axial outflow of plasma particles and energy through open-magnetic-field lines are of crucial importance to the stability and longevity of the advanced beam-driven FRC plasma. Passive Doppler spectroscopy and microwave interferometry measurements provide an initial view of the behavior of the open-field-line plasmas on the C-2U device. These measurements and estimations of plasma density, flow velocity, excluded-magnetic flux, and ion temperature of the jet outflow plasmas are discussed. In addition, possible contributions from fast-ion losses from the advanced beam-driven FRC plasma to the jet will be explored and presented.

[1] M. W. Binderbauer *et al.*, Phys. Plasmas **22**, 056110 (2015)

Daniel Sheftman
Tri Alpha Energy

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