Please place posters from first authors U. Shumlak, R.P. Golingo, E.L. Claveau, A.D. Stepanov, T.R. Weber, and E.G. Forbes together in the following order:
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Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

High resolution digital holographic interferometry on the FuZE Fusion Z-Pinch Experiment[1] T.R. WEBER, U. SHUMLAK, B.A. NELSON, E.L. CLAVEAU, E.G. FORBES, R.P. GOLINGO, A.D. STEPANOV, Y. ZHANG, University of Washington, H.S. MCLEAN, D.P. HIGGINSON, A.E. SCHMIDT, K.K. TUMMEL, Lawrence Livermore National Laboratory, UNIVERSITY OF WASHINGTON COLLABORATION, LAWRENCE LIVERMORE NATIONAL LABORATORY COLLABORATION — The recently constructed sheared flow stabilized (SFS) Z-pinch experiment, the Fusion Z-Pinch Experiment (FuZE), is operational. The experiment is investigating scaling of SFS Z-pinch plasmas towards fusion conditions. Cylindrical plasmas are compressed to small radii (< 1 cm), and high densities ($> 10^{18}/\text{cm}^3$) as plasma current is increased. Diagnosing the size, density and internal structure of these small radii cylindrical plasmas require a high spatial resolution plasma density diagnostic. Motivated by this, a holographic interferometer with 10 micron spatial resolution has recently been installed on FuZE [1]. A Nd:YAG laser is used with a digital camera to produce holograms from the plasma assembly region. Digital holograms are numerically reconstructed to obtain chord-integrated electron density of compressed plasma, with fine spatial resolution. Assuming cylindrical symmetry in the assembly region, plasma radial density profiles are reconstructed from these chord-integrated electron density data. Both chord-integrated and radial plasma density data from FuZE are presented. [1] M.P. Ross U. Shumlak, RSI 87, 103502 (2016)

[1]This work is supported by an award from US ARPA-E.

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Date submitted: 14 Jul 2017 Electronic form version 1.4