

Abstract Submitted  
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**VUV Spectra observed in C-2 FRC plasma** DMITRY OSIN, JON DOUGLASS, MICHEL TUSZEWSKI, Tri Alpha Energy, TAE TEAM — A grazing incidence flat-field spectrometer was installed for observation of vuv-spectra in C-2 FRC experiment. Wavelength calibration was done by observing spectra of six different gases produced by a hollow-cathode discharge lamp . In addition, in-situ calibration and alignment were performed utilizing neutral-beam heated gases. Wavelength regions between 16 nm and 170 nm was investigated with accuracy of about 0.02 nm. VUV-spectral lines of the most abundant impurity ions were identified both for Plasma Gun and C-2 plasmas. In addition to D spectrum, strong lines of O III-VI, N IV-V, C II-III, and Fe II ions were observed during the plasma lifetime. VUV radiative power losses within energy range from 7.3 eV to 81 eV were estimated based on the calculated FRC dimensions.

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