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**Z-effective from Bremsstrahlung Emission in the C-2* FRC** EUSEBIO GARATE, NATHAN BOLTE, DEEPAK GUPTA, HIROSHI GOTA, IAN ALLFREY, JOHN KINLEY, KURT KNAPP, Tri Alpha Energy, Inc., AND THE TAE TEAM — An absolutely-calibrated 12-chord Bremsstrahlung array has been implemented on C-2 and is being used to infer Z-effective profiles and line-averaged values. Electron-ion Bremsstrahlung light at a given wavelength is a function of electron temperature, electron density, and the average ionic charge, Z-effective. Electron density is measured with interferometry and electron temperature is measured directly with Thompson scattering or is inferred by pressure balance. Custom band-pass filters at 523.4 nm were chosen to avoid line-radiation. Z-effective radial profiles show a peak near the separatrix and line-averaged values show an increase in time. For shots where density and temperature profiles were available, Z-effective inside the separatrix was found to be 1.28 for the first ms. These data suggest that C-2 FRC's do not suffer from high levels of edge-light contamination, which allows Z-effective monitoring with a single chord. * M. W. Binderbauer, High Performance Field Reversed Configurations (APS DPP 2014 Invited Talk)

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