

Abstract Submitted
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Density Fluctuations Measured by FIR Interferometer System in C2W FRC C. DENG, M. BEALL, E. PARKE, R. SMITH, K. ZHAI, AND THE TAE TEAM, TAE Technologies, Inc., Foothill Ranch, CA 92610, M KAUR, University of California, Irvine, CA 92697 — In the TAE Technologies current experimental device, C-2W (also called “Norman”) [1], record breaking, advanced beam-driven field reversed configuration (FRC) plasmas are produced and sustained in steady state utilizing variable energy neutral beams, advanced divertors, end bias electrodes, and an active plasma control system. The density profile measurements and characterization of fluctuations such as low frequency $n=1$ and $n=2$ rotational modes are made using the powerful 14 chords FIR interferometer system. A new investigation into higher frequency density fluctuations measured by far-forward scattering methods will be presented in this effort. These data will be analyzed for a variety of plasma parameters and machine settings such as biasing voltages, looking towards correlations between density fluctuations and plasma confinement variations. [1] H. Gota et al., Nucl. Fusion 59, 112009 (2019).

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