

Abstract Submitted
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Multi-Point Thomson Scattering Upgrade for HBT-EP¹ C. STOAFER, P. BYRNE, B. DEBONO, J. LEVESQUE, B. LI, M. MAUEL, D. MAURER, G. NAVRATIL, Q. PENG, N. RATH, D. SHIRAKI, Columbia University, H. MCLEAN, Lawrence Livermore National Laboratory — A recent acquisition of the Thomson Scattering (TS) system from SSPX has allowed for significant upgrades to the TS system at HBT-EP. The equipment allows for ten spatial point measurements, an improvement over the previous single point system. The new source laser is a Continuum Nd:YAG with a 1064 nm wavelength and 2 J per 10 ns pulse. The installation of this new instrumentation will be described along with the necessary adjustments to the existing Thomson system. The multipoint system will enhance our equilibrium reconstruction and improve stability analysis of HBT-EP discharges. To illustrate the use of multipoint measurements in future experiments, we present the results of a sensitivity study where equilibria are reconstructed with and without the use of the Thomson scattering measurements. We show the additional pressure profile information will allow for a more accurate equilibrium reconstruction of the HBT-EP plasmas for further understanding of the plasma characteristics during resistive wall mode (RWM) activity, and active control experiments.

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