

Abstract Submitted  
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**Multi-Point Thomson Scattering Diagnostic**<sup>1</sup> MICHAEL LOPEZ, ROYCE JAMES, CARTER SCHLANK, STEPHEN NOLAN, NICHOLAS THAYER, JUSTIN SHERMAN, United States Coast Guard Academy — The obtainment and implementation of Thomson Scattering (TS) equipment from Lawrence Livermore National Laboratory will allow for the upgrade of the TS system at HBT-EP from a single spatial-point to a multiple spatial-point system. The additional spatial-points allows for a more developed profile of electron temperature and density via an equilibrium reconstruction process. This allows for multi-mode feedback control and stability calculations over a larger spatial region. Subsequently the multipoint reconstruction should enable the separation of  $\beta_p$ , the ratio between plasma pressure and poloidal magnetic field pressure, and  $l_i$ , the plasma's internal induction, which cannot otherwise be separated on HBT-EP. Over the summer, work on the installation and alignment of the TS system was performed during a 5-week internship. Progress made over that time window will be reported.

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Michael Lopez  
United States Coast Guard Academy

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