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Edge Electron Temperature Fluctuation Measurements in DIII–D[1] R. LEHMER, R.A. MOYER, J.A. BOEDO, UC, San Diego, J.G. WATKINS, Sandia National Laboratories, K.H. BURRELL, General Atomics — Measurements of the electron temperature fluctuations in the edge of tokamaks have shown that T_e fluctuations can not be neglected when determining the cross field heat and particle transport.[2] A modified phase compensated triple probe[3] is utilized on the existing midplane reciprocating probe hardware on DIII–D to add phase correlated T_e fluctuations to the existing measurement of ion saturation current and floating potential fluctuations. With this technique, we are able to infer the cross field conductive heat transport and make better estimates of the particle and convective heat transport. The design and implementation of a high-bandwidth triple probe measurement in a high heat flux, beam-heated tokamak discharge will be discussed. Preliminary measurements from the diagnostic upgrade will be presented, along with comparisons of the convective and conductive heat flux estimates up to the separatrix in L– and H–mode plasmas.

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[2]Liewer, McChesney, Zweben, and Gould, Phys. Fluids **29** (1986) 309.
[3]Tsui, Bengtson, Li, et al., Rev. Sci. Instrum. **63** (1992) 4608.

☐ Prefer Oral Session
☒ Prefer Poster Session

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