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Electron Temperature Fluctuation Measurements in DIII–D,[1] W.A. PEEBLES, C.L. RETTIG, University of California, Los Angeles, J. LOHR, K.H. BURRELL, General Atomics — Several techniques for determining the level and characteristics of electron temperature fluctuations via measurements and analysis of electron cyclotron emission (ECE) have recently been proposed and demonstrated.[2,3] A technique relying on the correlation of ECE in proximal frequency bins but lying within the broadening of the local emission spectrum is being pursued at DIII–D. Special concerns include the effect of large rotation in the discharge which may alter the correlation spectrum while simultaneously changing the fluctuation characteristics. The method will be outlined and data will be shown and compared with observations from other fluctuation diagnostics. Investigations of the fluctuation characteristics during enhanced confinement regimes such as negative central shear (NCS) will be presented. Also, designs for possible future systems will be outlined.

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[2]Sattler, S., and H.J. Hartfuss, Plas. Phys. and Cont. Fus., **35**, 1285 (1993).
[3]Cima, G., T.D. Rempel, R.V. Bravenec, R.F. Gandy, M. Kwon, C. Watts, and A.J. Wootton, Phys. Plasmas (1994).

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