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High-frequency Electron Temperature Fluctuations in MST E. PARKE, D.J. DEN HARTOG, University of Wisconsin-Madison — High-frequency electrostatic fluctuations are known to contribute to transport in tokamaks. As confinement improves in RFPs, there is increased motivation to measure electron temperature fluctuations at frequencies above the tearing mode frequencies to determine the importance of electrostatic transport. Because the RFP plasma is overdense, Te cannot be measured using electron cyclotron emission. Instead, on MST we have developed a Thomson scattering diagnostic capable of measurements at high effective frequencies. A large ensemble of two-time-point Te measurements has been collected from many MST discharges. Time separations of the measurements vary from 1.25 to 5 microseconds. This should enable resolution of Te fluctuations over a wide range of frequencies. Analysis of the fluctuation spectrum is underway. This work is supported by the U. S. DOE and NSF.

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