Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Details and Results from the FIReTIP Electronics Upgrade on NSTX[1] C.W. DOMIER, W.-C. TSAI, K.C. LEE, N.C. LUHMANN, JR., University of California, R. KAITA, Princeton Plasma Physics Laboratory — The IF electronics system of the Multichannel Far Infrared Tangential Interferometer/Polarimeter (FIReTIP) system on the National Spherical Torus Experiment (NSTX) was upgraded in July 2009 to greatly extend its ability to monitor high frequency density fluctuations. The measurements are essential in understanding transport physics issues in NSTX as well as for future devices such as ITER in which fundamental understanding of microturbulence MHD issues is essential. The electronics, which were previously limited to ∼250 kHz, have now been upgraded to > 3 MHz when operating as an interferometry-only configuration, and to ∼400 kHz when operated as a simultaneous interferometer/polarimeter system. New electronics are also being tested to monitor 30 MHz density fluctuations induced by high harmonic fast wave heating. Experimental details and test results of the new electronics will be presented.

[1]Work supported by the U. S. DoE grants DE-FG02-99ER54518 and DE-AC02-09CH11466.

N.C. Luhmann, Jr.
University of California, Davis

Date submitted: 02 Sep 2009 Electronic form version 1.4