Abstract Submitted
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An upgraded PCI diagnostic to detect and localize high-k waves and fluctuations in Alcator C-Mod* L. LIN, M. PORKOLAB, N.P. BASSE, E.M. EDLUND, D.R. ERNST, Y. LIN, S.J. WUKITCH, MIT PSFC — Phase Contrast Imaging (PCI) diagnostic has been used previously to study mode conversion of ICRF waves[1] and plasma fluctuations in the ITG/TEM regime[2]. Recent modifications to the imaging optics have increased the maximum k_R from 8 cm^{-1} to 25 cm^{-1}. New digitizers extend the frequency response to 5MHz (sampling rate of 10MHz). This makes it possible to study microscale turbulence in the ETG regime ($k_\perp \rho_e \sim 0.1$, f$\leq$5MHz). Furthermore, mode converted waves in the ICRF regime will be studied where $k_\perp \sim$10-25 cm^{-1} correspond to ICW/IBW waves[1]. A system consisting of a partially masked phase plate on a rotatable stage has been installed, which provides localized measurements for large $k_\perp$ fluctuations along the vertical 32 channel viewing chords[3]. Initial results of high-k and vertical localization measurements will be presented.

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