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**Observation of Short Wavelength Fluctuations in the DIII-D Tokamak**<sup>1</sup> K.L. WONG, Princeton Plasma Physics Laboratory, C.L. RETTIG, University of California, Los Angeles, C.C. PETTY, General Atomics, AND THE DIII-D GROUP — Short wavelength fluctuations with  $k \sim \omega_{pe}/c$ ,  $k\rho_i \sim 6$  were detected by a far-infrared (FIR) scattering system on the DIII-D tokamak. They appeared in bursts synchronized with the switching time of two neutral beam sources which were turned on and off alternately with the same beam power but different injection angle. This was observed in ELMing H-mode plasmas with negative central magnetic shear. The plasma parameters were:  $B_t = 2.0$  T,  $I_p = 1.6$  MA,  $T_i(0) = 7$  keV,  $T_e(0) = 4.5$  keV,  $n_e(0) = 3 \times 10^{13}$  cm<sup>-3</sup>,  $P_b = 4.7$  MW,  $P_{ECH} = 1.3$  MW,  $P_{ICH} < 1$  MW. These fluctuations were observed in the frequency band at 500 kHz  $\pm 20\%$  propagating in the electron diamagnetic drift direction in the laboratory frame of reference. With the radial electric field  $E_r$  determined by the motional Stark effect, the Doppler shift correction yielded a frequency comparable to the ion diamagnetic drift frequency in the plasma frame of reference with  $E_r = 0$ .

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Prefer Oral Session  
 Prefer Poster Session

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Special instructions: DIII-D Poster Session I (transport, turbulence, & stability), immediately following Rhodes

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