

Abstract Submitted  
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**Observation of very low frequency drift wave in ECR produced plasma in the MaPLE device**<sup>1</sup> SUBIR BISWAS, RABINDRANATH PAL, Saha Institute of Nuclear Physics — Plasma is produced by Electron Cyclotron Resonance(ECR) method using  $2.45GHz$  microwave in the MaPLE device [R. Pal, S. Biswas et. al., Rev. Sci. Instrum. 81, 73507(2011)] Density fluctuation of the order of 40% is created by modulating the microwave power at a frequency of  $300Hz$ . Floating potential measurement shows the presence of  $300Hz$  frequency along with  $600Hz$  and  $900Hz$  frequencies. Amplitudes of the fluctuations are maximum at radial position  $R = 6cm$ . Density gradient scale length gives the drift wave frequency close to  $600Hz$ . Measurement of poloidal propagation confirms it to be a drift wave with mode no  $m = 2$  and wavelength  $\lambda_{\perp} \approx 20cm$ . Measured phase velocity in the poloidal direction is  $1.3 \times 10^4 cm/s$  which is about the electron diamagnetic drift velocity. This  $600Hz$  drift wave probably parametrically couples with  $300Hz$  pump wave and excite  $300Hz$  and  $900Hz$  frequencies. In the region between  $R = 8cm$  and  $R = 10cm$ , there is a high radial electric field which suppress both  $300Hz$  and  $600Hz$  fluctuations by  $\mathbf{E} \times \mathbf{B}$  flow. Poloidal flow measurement with mach probe also confirms about the presence of  $\mathbf{E} \times \mathbf{B}$  flow.

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