

Abstract Submitted  
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**Drift wave and its stability analysis in ECR produced plasma of MaPLE device at Saha Institute of Nuclear Physics**<sup>1</sup> SUBIR BISWAS, RABINDRANATH PAL, NIKHIL CHAKRABARTI, Saha Institute of Nuclear Physics — Cross-field transport due to the low frequency drift modes destroys the plasma confinement [W. Horton, Rev. Mod. Phys. 71, 735(1999)] and is one of the main barriers to achieve thermonuclear power in nuclear fusion. In the present experiment with the MaPLE (Magnetized Plasma Linear Experimental) device [R. Pal, S. Biswas et. al., Rev. Sci. Instrum. 81, 73507(2011)] where plasma is produced by Electron Cyclotron Resonance (ECR) method using 2.45 GHz microwave, modulation of density at 300 Hz excites the drift wave in its second harmonic. Measurement of poloidal propagation and density gradient scale length confirms it to be a drift wave with mode number  $m = 2$ . Stability analysis shows that parallel electron flow excites this mode. Growth rate also depends on magnetic field value. At a critical magnetic field value, the growth rate is maximum. Parametric couple of this mode with 300 Hz mode also excites 900 Hz mode. Details results will be presented.

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