

Abstract Submitted  
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**Experimental study of Zonal flows in low pressure linear magnetized plasma** NEERAJ WAKDE, ROSH ROY, Institute for Plasma Research, HBNI, Gujarat, India 382428, SAYAK BOSE, Princeton Plasma Physics Laboratory, Princeton, NJ 08542, PRABAL K CHATTOPADHYAY, Institute for Plasma Research, HBNI, Gujarat, India 382428, RAMESWAR SINGH, Center for Space Sciences and Astrophysics, University of California, San Diego, La Jolla, California, USA 92093-0424 — Low frequency (0.2-0.3kHz) coherent mode is observed in Inverse Mirror Plasma Experimental Device (IMPED). Measurement of radial ( $k_r$ ), poloidal ( $k_\theta$ ) and axial ( $k_{||}$ ) wavenumber shows that  $k_\theta$  and  $k_{||}$  are approximately zero while  $k_r$  is finite and radial variation in polarity. The potential fluctuations are much stronger than the density fluctuations. Initial analysis shows that this mode is zonal flow in nature. The fluctuations due to zonal flow are strongest at the minimum of the electron temperature gradient scale length( $L_{T_e}$ ). On changing the radial location of minimum of  $L_{T_e}$ , the strongest zonal flow fluctuation is found to follow it. Further, the strength of zonal flow is found to increase on increasing the ratio of hot to cold electron population. The experimental results are presented and discussed.

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