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Characteristics of Low Frequency Electrostatic Fluctuations in a Magnetized Toroidal Plasma R. KAUR, Institute for Plasma Research, Bhat, Gandhinagar-382428, India, A.K. SINGH, Physics Department, Utah State University, Logan 84322, UT, R. SINGH, A. SARADA SREE, S.K. MATTOO, Institute for Plasma Research, Bhat, Gandhinagar-382428, India — This paper deals with the experimental investigation of fluctuations in a simple magnetized toroidal device BETA at the Institute for Plasma Research, Bhat, Gandhinagar, India. The BETA plasma shows territorially different characteristics tagged by varying signatures of fluctuations. The presence of limiter and differing sign of density gradient with respect to the magnetic field curvature determine these signatures in different region. As a result the simple magnetized tori are not very simple devices. This paper presents an experimental investigation of turbulence in the device. It is argued that pure Rayleigh-Taylor mode can not explain all features of the instabilities observed experimentally. A sheared poloidal plasma flow has been measured and the effect of this on plasma instabilities will be presented in the paper.

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