Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Low frequency waves behavior in presence of strongly emissive cathodes in the VKP experiment VICTOR DESANGLES, Univ Lyon, Ens de Lyon, Univ Claude Bernard, CNRS, Laboratoire de Physique, F-69342 Lyon, France, ELISA DE GIORGIO, Universita della Calabria, Arcavacata di Rende, Italy, GUILLAUME BOUSSELIN, ALEXANDRE POYE, NICOLAS PLIHON, Univ Lyon, Ens de Lyon, Univ Claude Bernard, CNRS, Laboratoire de Physique, F-69342 Lyon, France — Low frequency plasma parameters fluctuations are known to be the cause of strong perpendicular transport in hot plasma devices. These instabilities also appear in smaller linear devices where their excitation and mitigation have been studied using different setups such as polarized cold grids, electro-magnetic drive or concentric annular cold electrodes. We study the behavior of these fluctuations in the Von-Kàrmàn Plasma experiment (VKP) and its modification under the injection of electrons from strongly emissive cathodes and the induced shaping of the plasma potential. VKP is a cylindrical, low pressure, high density plasma experiment with an axial confinement field. The rotation profile of the plasma is controlled using hot emissive cathodes biased relatively to the experiment wall or to cold anodes. Current emission from biased cathodes dramatically changes the radial gradients of plasma density and plasma potential, which therefore modifies the plasma rotation. We report on the influence of this controlled rotation and plasma parameters shaping over the dynamics of low frequency fluctuations in the plasma.

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Date submitted: 24 Aug 2017 Electronic form version 1.4