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Electrostatic turbulence in the low-density plasma column DARIA
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sociation, Via R. Cozzi 53, 20125-Milano, Italy — Electron plasma density fluctu-
ations are observed in plasma when a radial pressure gradient excites drift waves.
The linear machine GyM ($R=0.125$ m, $L= 2.11$ m, $B<0.1$ T), operating at IFP-CNR
since 2008, has started experiments aimed at characterizing drift waves excited in
its non-uniform magnetized plasma. Two different plasma sources (magnetron 2.45
GHz or hot filament) have been used to sustain plasma with adjustable sections
($1.5\text{ cm}<r<10\text{ cm}$). The diagnostic system is composed by different sets of movable
electrostatic probes and by optical emission spectroscopy, dedicated to the electron
temperature measurement. Fluctuations in plasma density have been observed and
characterized as a function of the injected RF power. The dynamic (frequency and
amplitude) of such fluctuations has been related to the spontaneous radial electric
field consequence of different electron density profiles. The results from the new
probe array, recently implemented in GyM to provide a deeper study of the spatial
distribution of turbulence, are shown.

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