

The space structure analysis of the large scale $m/n=1/1$ plasma oscillations by ECE method under ECH in T-10 tokamak*

V. I. Poznyak¹, V. V. Ptersky¹, G. N. Ploskirev¹, E. G. Ploskirev¹, O. Valensia²

¹*Russian Research Centre "Kurchatov Institute," Nuclear Fusion Institute, Moscow, Russia*

²*People Friendship University, Moscow, Russia*

In presented experiments the slightly modulated central ECH was applied for amplification and "marking" of the large scale $m/n=1/1$ plasma oscillations. X-mode of ECE (two antennae through 90° along torus and two antennae through 60° on poloidal angle in third section) was used for investigation of the oscillations space structure. It was found that oscillations make the full rotation along the poloidal magnetic field. The observed toroidal movement changes the direction dependently on the amplitude of oscillations. Such observation can be explained by the continuous drift of plasma on the contrary toroidal plasma current and the pulsation of the plasma velocity along the magnetic force lines. ECE measurements simultaneously in X- and O-mode from the common area of plasma with the high optical density showed that the velocity anisotropy of the main electron "body" varies periodically very strong. Rhythmical "compression" of electron distribution in the longitudinal direction must form the plasma current pulsations. The loss of the longitudinal momentum creates the slowing-down phenomenon in the movement of electron "body" along the magnetic force lines. The kinetic nature of process is discussed.

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