DETERMINATION OF THE POLOIDAL ROTATION VELOCITY AND ELECTRIC FIELD STRENGTH IN THE TORSATRON PLASMA VIA UHF POLOIDAL CORRELATION REFLECTOMETRY

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S u m m a r y

Poloidal propagation of density perturbations is observed by microwave reflectometry under RF plasma production in an Uragan-3M torsatron. The use of 3 poloidally shifted probing microwave beams and cross-correlation between signals of different reflectometers allowed us to measure the propagation velocity of density perturbations that are interpreted as a result of the poloidal rotation of plasma. The radial dependence of the poloidal velocity is determined by a probing frequency change. The electric field is evaluated with regard for the measured poloidal velocity and calculated magnetic field.