

PARAMETRIC ION CYCLOTRON
AND ION-SOUND TURBULENCE

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The results of analytic investigations and computer simulations using the macroparticle technique of two parametric instabilities of plasma, i.e., parametric ion cyclotron instability in the electric pump field of fast magnetosonic wave with the frequency of order of the ion cyclotron one and the kinetic ion-sound instability in the electric field of helicon, are presented. The experiments in which these instabilities may play an important role, namely the experiments on RF heating and plasma transport studying on the URAGAN-3M torsatron made by E.D.Volkov et al. in KhIPT and the experiments on plasma production in helicon sources made by F.F.Chen et al. in UCLA, USA, are discussed.