Topic 6) Dynamic Stabilisation and parametric resonances in dynamic magnetic fields

A Study of Pressure Gradient Effects on the Interaction of a Rotating Magnetic Field with the Plasma in the Kinetic Approximation

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The interaction of a rotating magnetic field with an inhomogeneous cylindrical plasma is considered in the kinetic approximation. In the derivation of the the conductivity operator a specific finite Larmor radius expansion is used such that the positive definiteness of the absorbed power is guaranteed for the homogeneous Maxwellian plasma. The effects of a pressure gradient, namely an asymmetry of the power coupling from the rotating field to the plasma with respect to the poloidal phase velocity of the field are studied.