



Polarization properties of the resonant ULF pulsations in the Earth magnetosphere

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The eigenmode spectrum of the ULF waves in the Earth magnetosphere is discrete and consists of Alfvén and slow magnetosonic modes. Their interaction depends on ionospheric conductivity and the magnetic field curvature. We present the physical conditions of resonant ULF waves realization obtained for different wave polarization type. The poloidal ULF waves strongly couple with slow MHD waves. The magnetic field pressure and plasma pressure anticorrelation oscillation with partial pressure compensation is obtained for such coupled wave. The critical influence of the magnetic sheer for the poloidal modes is shown. The toroidal resonant ULF waves have not the magnetic pressure and plasma pressure perturbation component. The verification of obtained conditions with parameters of waves collected in the Earth magnetosphere ULF is carried out. The good agreement is obtained.