



Influence of turbulence on the thermodynamics of transition regions between solar wind and planetary magnetospheres

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The value of effective polytropic indices in turbulent anisotropic magnetised plasmas is numerically calculated within double-adiabatic magnetohydrodynamic theory. There it is suggested that in the plasma different magnetosonic waves and temperature-anisotropy driven waves are excited. In comparison to former works, the plasma anisotropy is taken into account also - or more exactly - in the wave dispersion relations. As result, the dependence of the polytropic indices on plasma density, temperature, magnetic field intensity, and propagation direction of the excited waves is obtained. Applications are presented for the transition regions between the solar wind and the magnetospheres of the Earth and Jupiter.