



Influence of ULF turbulence on transfers through the magnetopause

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ULF turbulence is one of the possible causes for transfers through the magnetopause, via the creation of small scales at the boundary. We investigate this question using multipoint measurements from Cluster and Double-Star. Correlated studies will be first presented, giving a good indication that this turbulence should be produced, not by local instabilities at the magnetopause, but rather by an external source in the solar wind, via propagation through the magnetosheath. We will therefore present some key elements about the magnetosheath turbulence, which we could establish thanks to the Cluster 4-point measurements and the k-filtering technique, in spite of the frequency mixing due to Doppler shift: injection of energy at large scale by the instability of a linear mode (mirror), and transfer toward small scales by a strongly anisotropic turbulent cascade (quasi-1D). We will finally discuss the possibility that these small scales, and possibly the interaction of this turbulence with the magnetopause gradient, can cause magnetic reconnection and penetration of the solar wind particles into the magnetosphere.