

ULF TURBULENCE AND RECONNECTION

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The talk will deal with the ULF turbulence that is observed in the magnetosheath and close to the magnetopause. Some recent Cluster results will be presented and the potential role of this turbulence for the question of particle penetration from the solar wind into the magnetosphere discussed. The generality of this question, with regard to other astrophysical contexts will first be recalled. Cluster and the k-filtering technique, which allowed the main experimental progresses in this field, will be then briefly presented and I will stress the importance of the results obtained for the general theory of turbulence in magnetized plasmas. I will finally show how ULF turbulence can be responsible for the small scale phenomena that allow magnetopause reconnection and how it can directly control the reconnection rate.