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[← Back to programme \(/programme\)](#)

Magnetic field spectral analysis in the Heliosheath from Voyagers data

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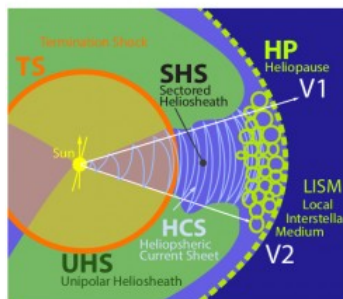
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In 2004 and 2007 the two Voyagers crossed the termination shock entering the heliosheath, where the solar wind is slowed down and interacts with the interstellar medium. Many observations are not fully understood, one of these is the difference in the profiles of energetic ions and electrons fluxes recorded by V1 and V2. The high fluctuations of particles fluxes at V2 led researchers suppose the existence of two regions with distinct magnetic field features inside the HS: the sectored heliosheath, at low latitudes, and the unipolar heliosheath. These regions should have different transport properties, and the presence of turbulence may play a key role. In this work we analyze the spectral behaviour of magnetic field from V1 and V2 data in both the SHS and the UHS after 2009. The power spectra at V1 show a higher anisotropy level and slope than V2 in the intermediate range. A spectral bump at $f = 5e4$ Hz is observed before 2010.5 and awaits a consistent physical interpretation.

Keywords: Magnetohydrodynamics



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Figure 1: Qualitative representation of the heliosphere and the trajectory of the Voyager 1 and 2 spacecrafts.

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