



## **Vortex like structures at the ion inertial scale downstream of quasi-perpendicular bow-shocks**

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The presence of space-localized coherent magnetic structures was observationally established in the magnetosheath plasma behind quasi-perpendicular bow-shocks. They appear in a spectral analysis of the magnetic field fluctuations as a broad local maximum around the proton cyclotron frequency. These structures are axi-symmetrical filaments similar to Alfvén vortices, with cross-sections of the order of  $c/\omega_{pi}$ . This kind of structures are not observed in other turbulent regions like the solar wind.

We discuss some possible mechanisms for the generation of such a filament: interaction between the solar wind turbulence and the bow-shock for quasi-perpendicular geometry, or alternatively, the filamentation of Alfvén waves excited by the proton anisotropy behind the bow-shock. The presence of the filaments can be very important in the relaxation of the temperature anisotropy in the downstream region.