



Alfvénicity in the solar wind: high- and low-speed streams

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Recent studies support evidence that the classification of solar wind according to its speed in fast and slow solar wind must be revised. For example one of the main features characterizing the fast solar wind, i.e. Alfvénicity, is shared also by a kind of slow wind which is a peculiarity found especially during maximum of solar cycle 23. The amplitude of the fluctuations of these two kinds of solar wind are comparable as well as their charge state but this result still lacks a clear explanation. It has been suggested that the two kinds of Alfvénic solar wind have a similar coronal origin with a major role in the origin of the (Alfvénic) slow solar wind played by the super-radial expansion. However, further study is needed for a thorough understanding of the mechanism of origin. The results of this study are relevant for Parker Solar Probe and for the upcoming Solar Orbiter, and more generally for solar wind measurements close to the Sun, since one of the main objectives of these two missions is to investigate the solar sources of the slow solar wind. We show further insight drawing attention on both protons and alpha particles.