

Structural Properties of Magnetic Field Fluctuations Observed within CME's

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Solar wind can be divided into two types of flow, quasi-stationary and transient (CME). The acceleration mechanisms that produce these flows are believed to be different, and, to obtain information about the acceleration, many studies have been made of the properties that distinguish quasi-stationary and transient flows. Some of these studies have been addressed to finding attributes that can be used to distinguish the two types of wind as observed in space. These attributes include for example, the relative abundance of helium, bi-directional electron streaming and large scale rotations of the magnetic field. Because of these studies, transient solar winds can now be identified with considerable confidence. This permits studies to be made of other properties that may differ between the two types of wind. For example, it has been previously reported that at 1 AU MHD waves in the quasi-static wind are predominately outward propagating. However, it has also been reported that waves within CMEs are sometimes observed to be predominantly propagating toward the Sun. This has been interpreted in terms of closed magnetic field structures. However, the spectra of the waves within CMEs has not been studied extensively and compared with spectra in the quasi-stationary wind. We here report on the second-order spectra, intermittency and other structural characteristics of magnetic field fluctuations within CMEs as seen by ISDE 3 at the libration point.

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