



The plasma properties associated with small-scale solitary magnetic waves.

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A recently discovered phenomenon in the Ulysses magnetometer dataset has, at first glance, some of the characteristics of a bright (increase in field magnitude) magnetic soliton (a single bump in the magnetic field magnitude; an associated rotation in the field direction; a duration of ~ 30 sec). Although 33 good quality events were found in the 15 year magnetometer dataset, it has been difficult to investigate further due to the lack of plasma data at sufficient resolution onboard Ulysses. However, by examining other spacecraft datasets, which are immersed in the solar wind, we have found more examples of this phenomenon. In particular the WIND spacecraft has yielded two good examples and has plasma resolution of 3sec. Thus, for the first time we are able to present analysis of the internal plasma structure of these rare small-scale solitary waves.