PROPERTIES OF HYDROMAGNETIC WAVES IN THE 1'01 .AR CAPS: ULYSSES

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An important result of the Ulysses mission is the discovery that Alfvén waves arc a persistent feature of fast solar wind flow in the Sun's polar caps. The waves arc large amplitude, cover a period range from minutes to hours and strongly disorder the high latitude magnetic field. The Ulysses observations promote the identification and study of waves at high latitudes. One reason is the relative absence of solar wind structure which consists of occasional micro-stream and pressure balance structures. Another reason is the long uninterrupted data record. Both provide an opportunity to identify waves other than the dominant Alfvén waves, specifically, the two magnetosonic modes. Magnetosonic waves are of interest because they are expected to evolve rapid] y as a result of physical processes such as damping and mode conversion. The search for these waves and the determination of their properties and power relative to the Al fvén waves will be described, Recent results from the continuing analysis of the Alfvén waves will also be presented.

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