

Coupling of the Sun's internal oscillations to the solar wind

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ABSTRACT

Spectral analysis was performed on upstream solar wind data obtained from the ACE and WIND satellites in order to investigate the possible existence of periodic variations in the solar wind due to coupling from internal oscillations of the Sun. The solar wind proton density, proton temperature and velocity, and the interplanetary magnetic field (IMF) north-south component were examined. No consistent spectral peaks were found over different years or from different instruments at the same time, indicating that internal solar modes are unlikely to affect these solar wind parameters in a periodic fashion.