Saturn Kilometric Radiation as monitor for the solar wind ?

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Since the Voyager mission it is known that the Saturn Kilometric Radiation (SKR) is strongly influenced by external forces, i.e. the solar wind and in particular the solar wind ram pressure. Recent studies using Cassini data essentially confirmed these findings, for particular periods during the first orbit of Cassini. The data coverage of SKR by the Cassini/RPWS experiment for the period of six months prior to Saturn Orbit Insertion (July 1, 2004) is rather continuous, whereas there are gaps in the solar wind plasma data. The strong correlation of SKR with the solar wind may provide an indication on the variations of the solar wind plasma, specifically during the gap periods.

The solar wind plasma data profile, deduced from the SKR variations, is compared with the Ulysses plasma data, which have to be propagated over approx. 4 AU, applying ballistic and hydrodynamic propagation models. The level of reliability of these models is given by using Wind/SWE data propagated to the position of Ulysses and then compared with Ulysses/SWOOP data. First results will be presented.