



## **Soho-Sun-Ulysses quadrature studies**

**F. Landini**(1), G. Poletto(2), S.t. Suess(3)

(1) Dept. of Astronomy and Space Science, University of Florence, Italy, (2) INAF - Arcetri Astrophysical Observatory, Florence, Italy, (3) NASA Marshall Space Flight Center, Huntsville, AL 35812

SOHO-Sun-Ulysses quadratures occur when the included angle is 90 degrees. This geometrical configuration offers the opportunity to analyze a plasma parcel remotely, with SOHO instrumentation, and, later on, at interplanetary distances, with Ulysses "in situ" experiments. Quadratures occur twice a year: because the change in the included angle is on the order of 1 degree per day the SOHO-Sun-Ulysses angle keeps being close to 90 degrees for a few days. However, in 2007 and 2008 we had unusually long quadratures, lasting for months.

In this talk, after briefly reviewing the geometry of quadratures, we will describe the most relevant results obtained from past quadrature studies. During IHY, special campaigns have been organized, at the time of the long quadratures, which have been preceded by test campaigns. The IHY campaigns focussed on two main issues: a) construct a profile of the solar wind speed vs. heliocentric distance, using SOHO coronal data and the terminal wind speed measured by Ulysses, b) check for the presence of a 1/f noise spectrum at coronal altitudes from SOHO data and compare it with the spectrum of density/magnetic field fluctuations measured "in situ" by Ulysses. The IHY campaigns will be illustrated and first results shown.