VIRGO Science Proposal
Pressure modes with the LOI

Main Investigator

T.Appourchaux

Co-Investigators

T.Toutain, A.Jimenez, M.C.Rabello-Soares

Objectives

To obtain the frequencies, amplitudes, linewidths and splitting of low-degree p modes with the Luminosity Oscillations Imager. For the splitting, the a coefficient will be given, if they are meaningul.

Work plan

The data will be reduced in a manner similar as described in Appourchaux et al (1995) (*AA* **294**, L13). Everything is already in place for reducing the data. The new optimal filters using the real shape of the LOI flight detector can now be computed, for any change of the apparent solar radius, P and B angles. Two independent time series will be generated, and intercomparison of the spectra will insure that mistakes are minimized.

Outstanding problems

The main item of concern is whether a 2-year time series should be used or to truncate this time series in many smaller chunk. This is because the solar activity will influence the frequencies of the modes. The intensity flux perturbation should be updated from the finding of the Nice group to take into account the effect of opacity changes.

Responsabilities and Management

T.Appourchaux will be responsible for the overall integrity of the information provided. He will be responsible together with M.C.Rabello-Soares and A.Jimenez for the generation of the time series, using his optimal filters; for the generation of the power spectra; and for providing the crosstalk for each spectra of an l, m mode. T.Toutain will be responsible for providing the intensity flux perturbation, and for the fitting of the spectra using the crosstalk provided.