VIRGO Science Proposal B1
LOI optimal filters for p modes

Main Investigator

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Co-Investigators

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Objectives

To compute optimal filter for p modes for allowing the extraction of the mode parameters.

Work plan

The computation of optimal filters was started a few years ago. The optimal filters are (or will be) computed including the following effects:

- limb darkening at 500 nm.
- P and B angle effects.
- Data reduction technique (Tenerife or other)
- Include effect of degree up to l=15
- LOI flight detector layout
- Apparent solar radius
- Opacity and other effects

At the time of writing all these effects but the last one are included. In addition, 2 groups have been able to agree on the outputs of the filters for all the effect but the last three. The last effect is the most critical. It will considerably influence the intensity perturbations, and then the filters.

Using the LOI Tenerife data, it should be possible to assess how the crosstalk change when this effect is included. The LOI Tenerife data allowed to check our mistake and to refine the calculations fo the filters. The effects of a wrong orientation of the detector with respect to the Sun is understood (See LOI article in the Monterey woekshop).

Outstanding problems

To obtain the intensity pertubations for degree up to l=15.

Responsabilities and Management

T.Appourchaux will be responsible for the overall management. He will also be responsible for generating the optimal filters. M.C.Rabello-Soares will be responsible for independently generating the filters. T.Toutain will produce the intensity pertubations for degree up to l=15.