VIRGO Science Proposal B2
LOI optimal filters for g modes

Main Investigator

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Co-Investigators

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Objectives

To compute optimal filter for g modes for easing the mode detection.

Work plan

The computation of optimal filters for g modes is similar to that of the p modes (Proposal B1). They are needed by the proposals A1, F2 and F3, and to some extent, for any proposal wanting to detect g modes (F type). 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 the first four have been included but for a perfect LOI detector, and for and old and probably wrong version of the intensity pertyrbation.

The Nice group need to come with a set of intensity perturbations that can be used for computing the filters. The dicrepancy between the Eulerian and Lagrangian approach will soon be (or is already) resolved.

The ESTEC and Tenerife group will then compute the optimal filters.

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. G.Berthomieu, P.Gouttebroze, J.Provost and T.Toutain will produce the intensity pertubations for degree up to l=15.