VIRGO Science Proposal C1
LOI focal length calibration

Main Investigator

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Co-Investigators

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Objectives

To calibrate in flight the focal length of the instrument using the known size of the pixels, and the limb darkening at 500 nm. This value is of prime importance because it will be used for computing the optimal filters, and will be used by MDI for the LOI proxy.

Work plan

The first month of data will provide an ideal data base for calibrating the focal length of the LOI. The idea is to measure the ratio of the pixels flux which provides a diagnostic on the real size of the Sun imaged onto the detector. The calibration will be done using computed pixel ratios, the configuration of the detector and the limb- darkening at 500 nm. All the software for doing this is already in place, and preliminary results are avaliable.

A good limb darkening has now been found in a recent publication in Solar Physics (1995). The LOI pixels shape will be validated using this limb darkening and the LOI Tenerife data set (16 month worth of data). This data set will be used to derive the appropriate code for the flight model.

Outstanding problems

The work on the Tenerife data set remains to be done.

Responsabilities and Management

T.Appourchaux will be the main responsible. M.C.Rabello-Soares will perform similar computation for cross-checking.