Poster

Splinter HiRes

Model Based Calibrations of Microlensed Hyperspectral Imager

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A prototype of Microlensed Hyperspectral imager (MiHi) was installed and tested at the Swedish Solar telescope, La Palma. MiHi can simultaneously record spatial and spectral information onto a 2D detector without compromising on either resolutions. In order to reformat the data and flat field the frames from the instrument, a model based calibration technique is being developed. The two step calibration technique uses the physical model of the instrument to map the spatial and spectral elements from object plane onto the detector. The first step is the developement of a physcial model based on the optical principles of the instrument. Telluric lines' positions in the flat frame from the the instrument are used to match the physical model to the actual instrument by optimizing selected open parameters in the model. The second step involves modelling the psf of the instrument. Using earlier discussed physcial model of the instrument and initial guess of psf, the expected image from the instrument can be simulated. This simulation is matched to the actual data by optimizing the psf of the instrument. Such an optimized model is then ready to do a predictive calibration of the data. In this poster we will present the development and performance of model based calibration technique of MiHi.