

Web-based Observation Supporting Archive of 2m Ondřejov Telescope

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Abstract

We present a PHAS-based database of stellar spectra obtained with coude spectrographs of Ondřejov observatory 2m telescope. It is an integrated system serving as a observation preparation tool, quick-look pipeline, pre-reduction quality checker and the interactive archive for finally reduced and calibrated spectra.

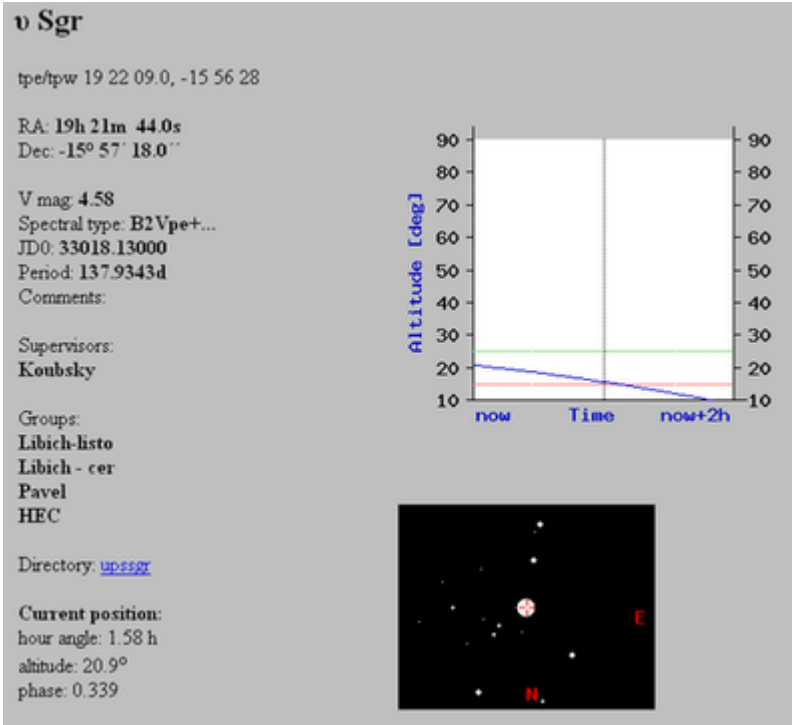
Introduction

Ondřejov 2m telescope team consists of astronomers with various professional aims, collaborating on long-term observations of a wide range of targets (mostly Be and B[e] stars) mostly accomplished in service mode on behalf of other team members and world-wide collaborators.

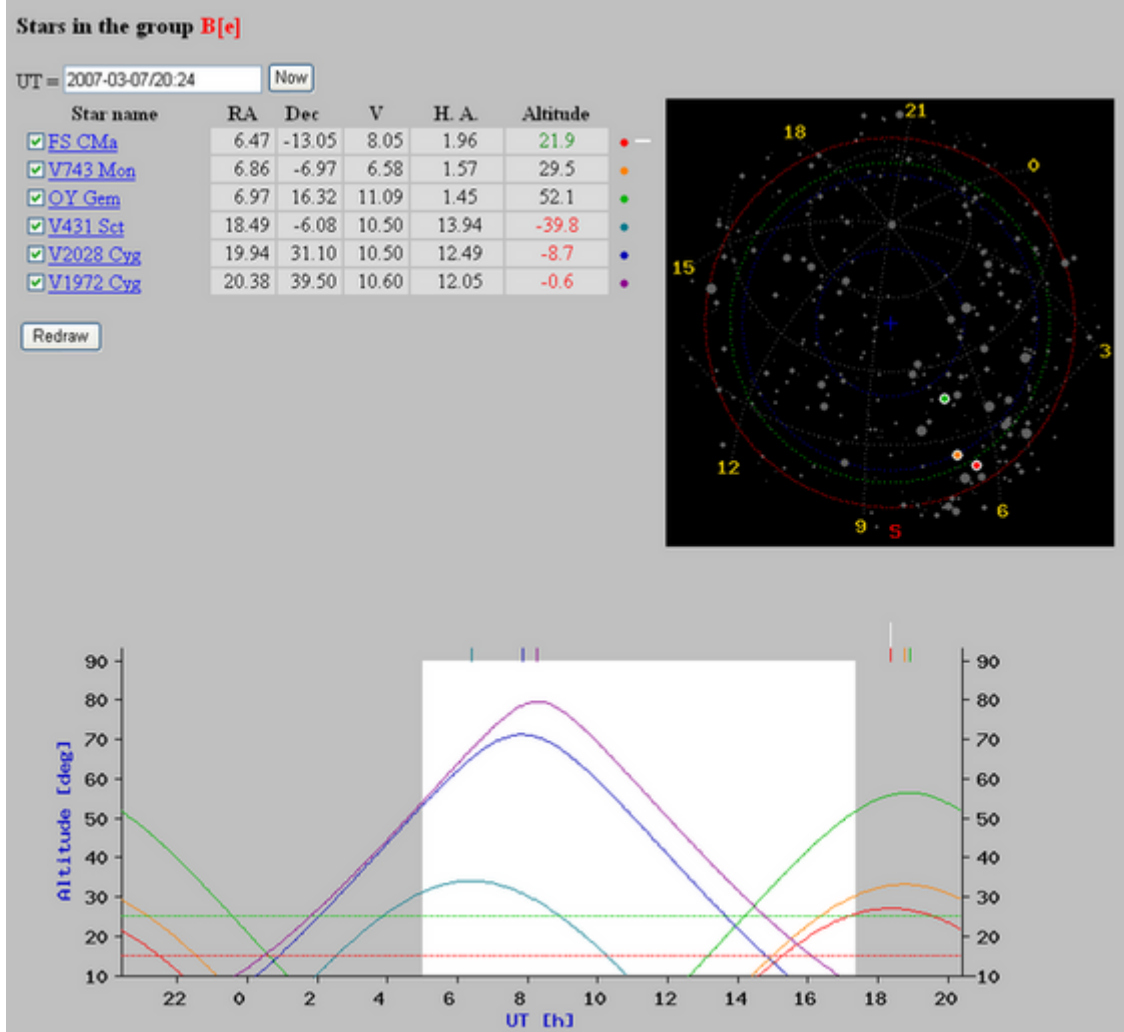
In 2003 simple web-based database of this targets has been developed to provide observers with an overview of objects suitable for current observation. Later reduced spectra from this telescope have been linked with the stars to show what was actually observed. Finally, also raw data viewer and scanned pages of observation logbook have been included into this system. Web database links relations among all coherent information, offers variety of searches and tests.

Web-based archives with similar features have been developed at the Astronomical Institute also for observations of variable star light curves and fireball observations. All systems are running on Linux servers, use Mysql database controlled by PHP scripts, PNG images are generated by GD libraries.

Stellar position on sky



Coordinates of an object enable to draw the field of view of camera finder (GSC stars) and altitude diagram.

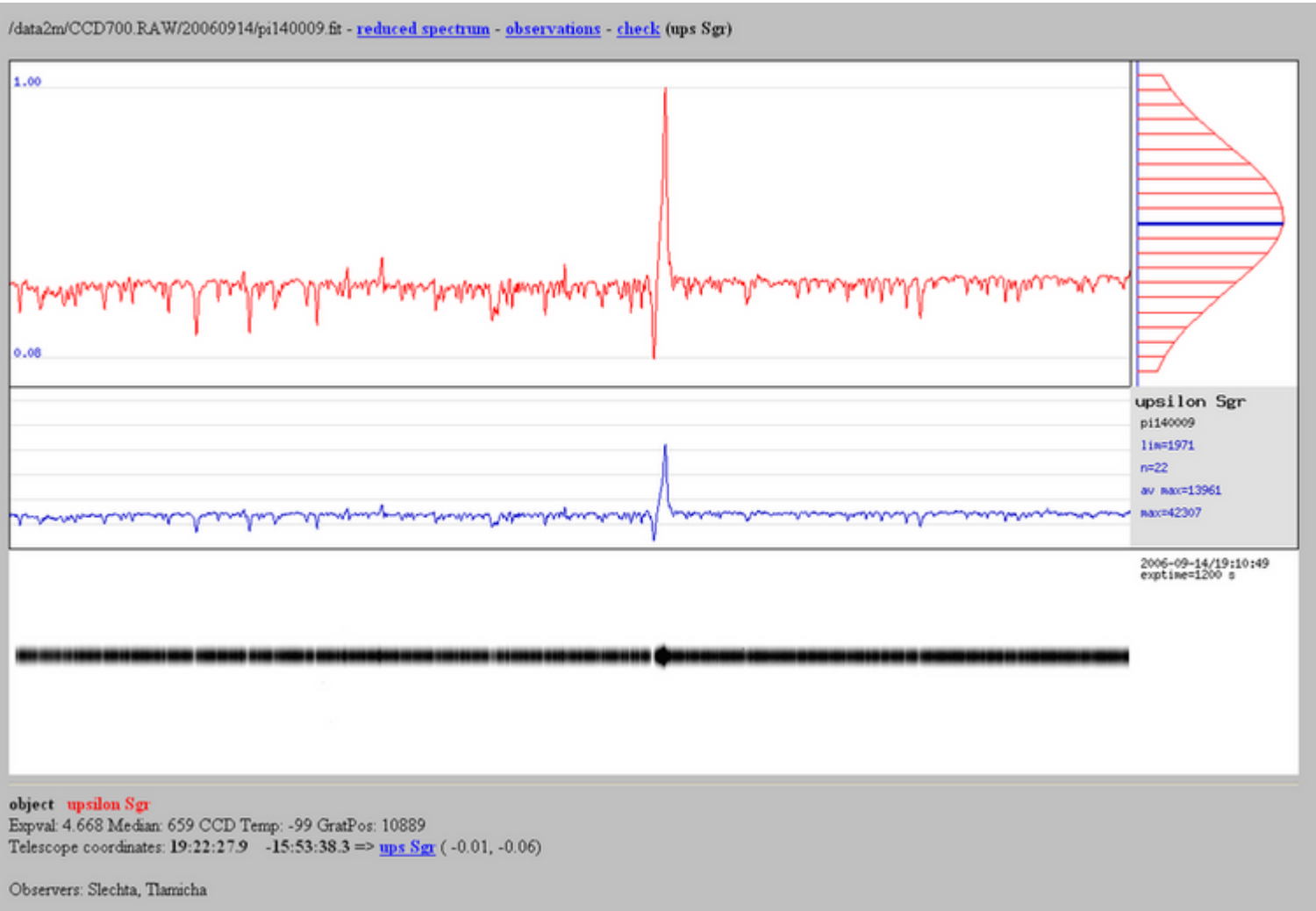


Individual stars of interest can be gathered to groups by observers to create observational schedule. Altitude overview is provided for all the stars together.

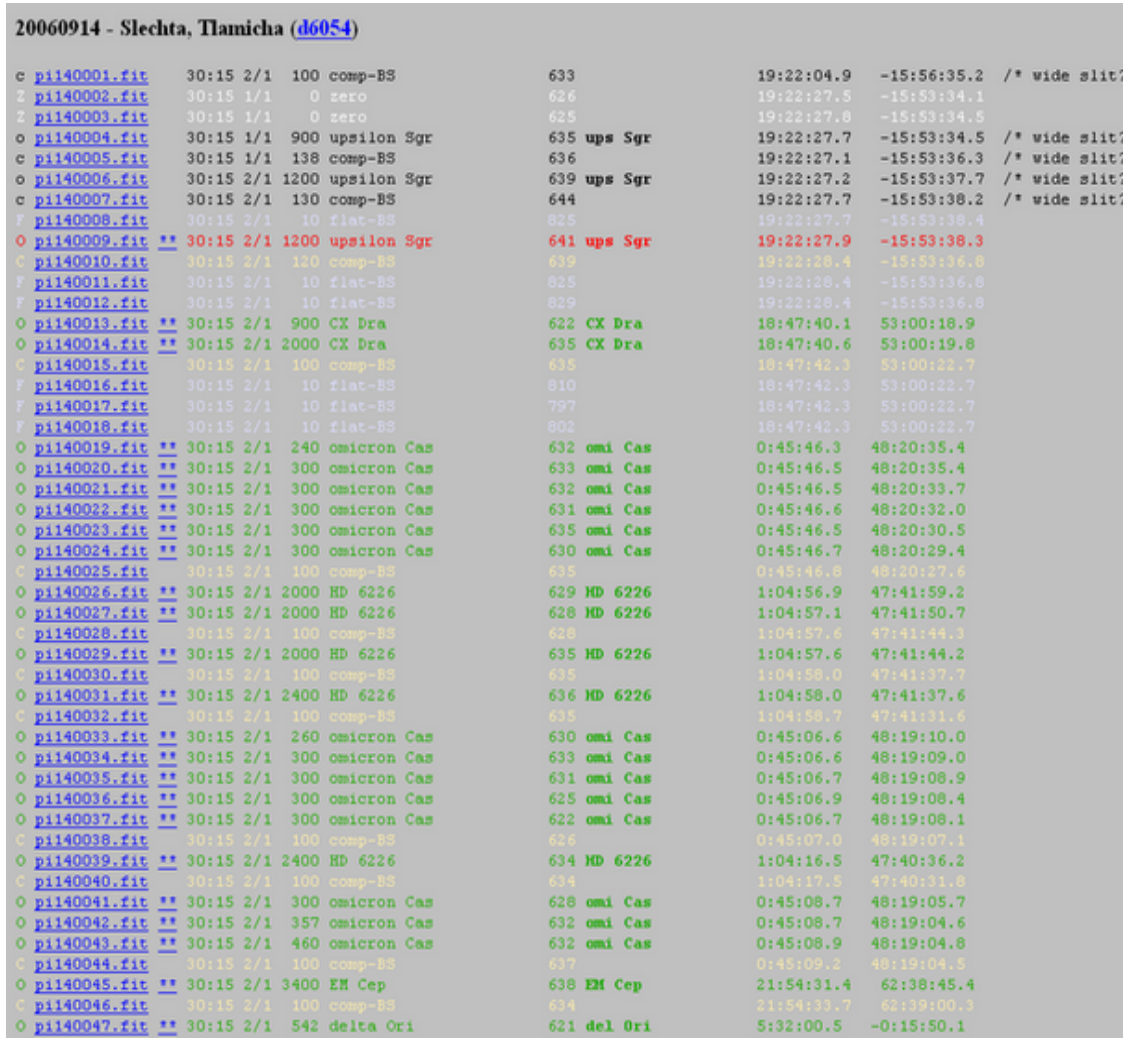
Raw data



Newly saved raw images can be displayed by the web interface in a few tens of seconds. List of all images shows brief file description.

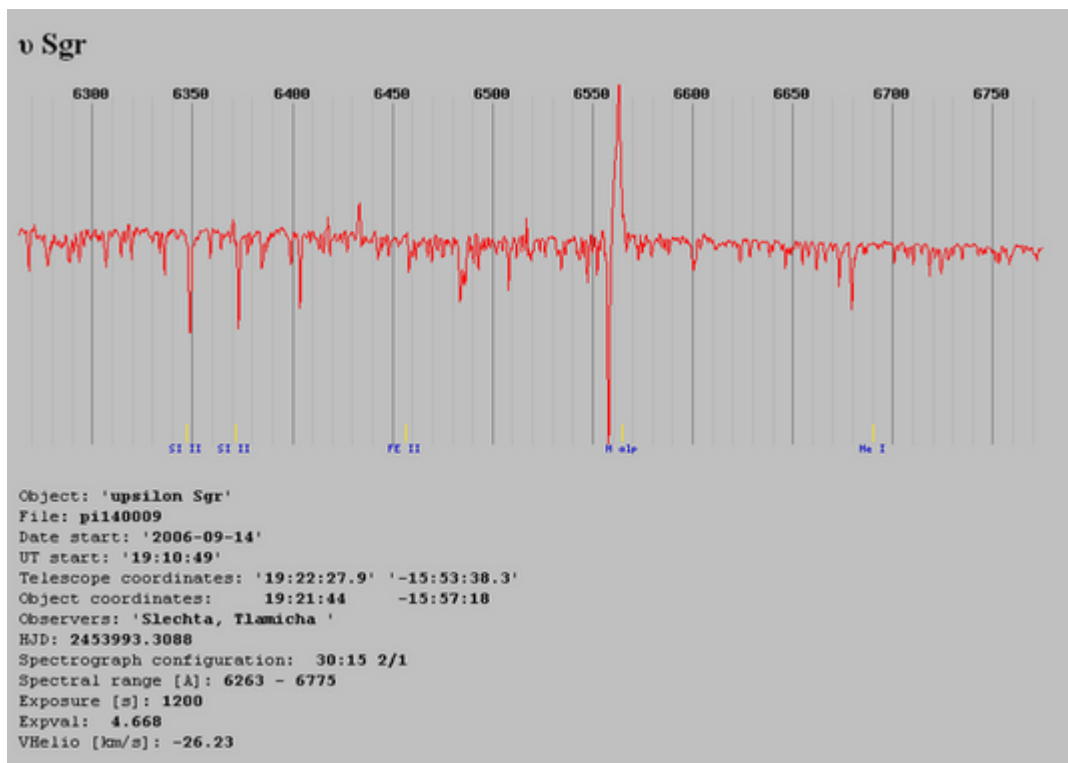


Simple viewer shows spatial profile of the spectrum, average spectrum computed from automatically selected lines, spectrum image and short description.

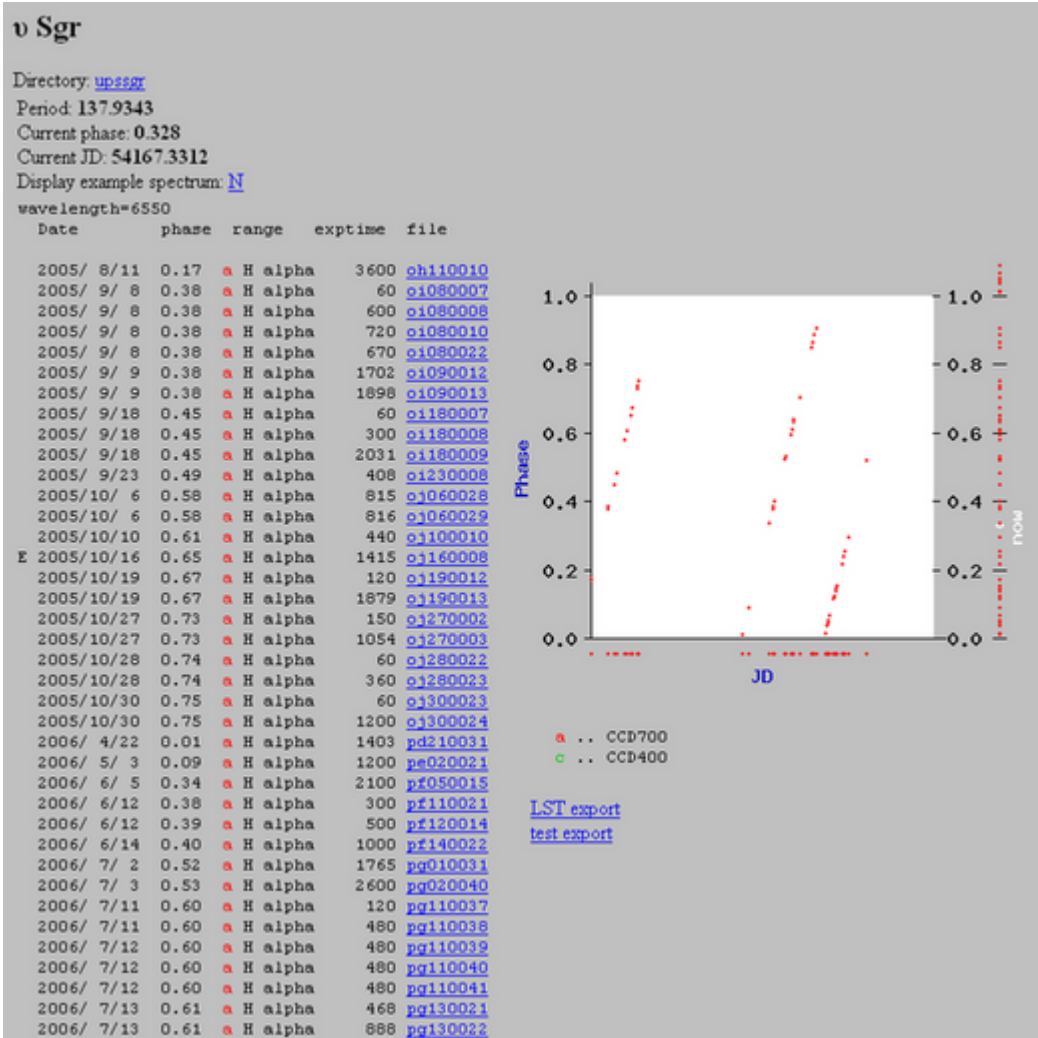


After thorough check of each (both calibration and object) image raw data are sorted into observational night directories, object files are linked with stars in database.

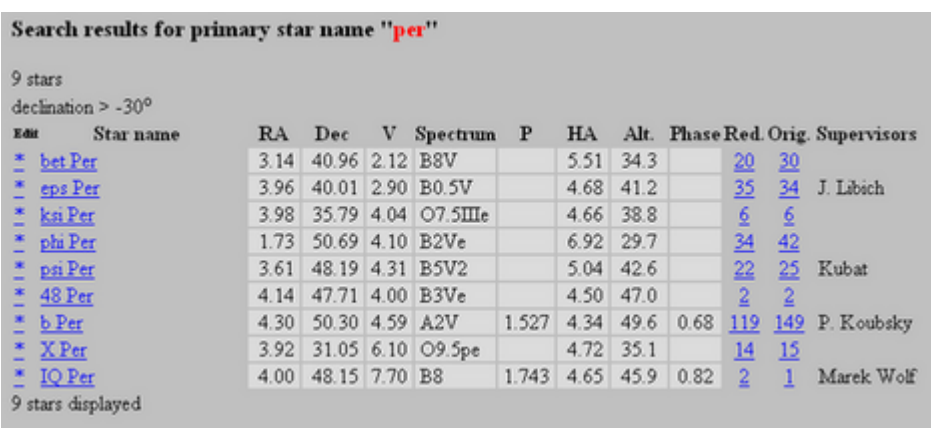
Reduced data



Reduced spectra (without normalization) have relation to raw object image and object in the database. Telescope coordinates (from the image header) can be compared with those of database object.



List of observed spectra is supplied with the phase diagram, if periodicity is given.



Searches by object name or spectrograph configuration are possible for both raw images (including calibration images) and reduced spectra.

Search

Object name:

Grat. angle (deg/min):

Dichroic mirror / spectral filter:

☒ object

☒ flat

☐ comp

☐ zero

Conclusions

This complex tool helps observers at 2m telescope in Ondřejov to decide effectively on targets most suitable for the current exposure, taking into account both observing conditions (seeing, elevation, extinction) and physical parameters (e.g. interesting orbital phase, strength of emission, period coverage). It allows the pre-reduction checks of quality of raw frames of both calibrations and target (e.g. SNR, contamination by cosmics or strength of skylines) and after final reduction of data it serves as a full-fledged archive of spectra. Besides its primary goal the system is also foreseen as the testbase for the future development of VO compliant spectra archive.

Acknowledgments

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