

(Semi-)Automatic VO-Publishing Pipelines of Czech Stellar Data

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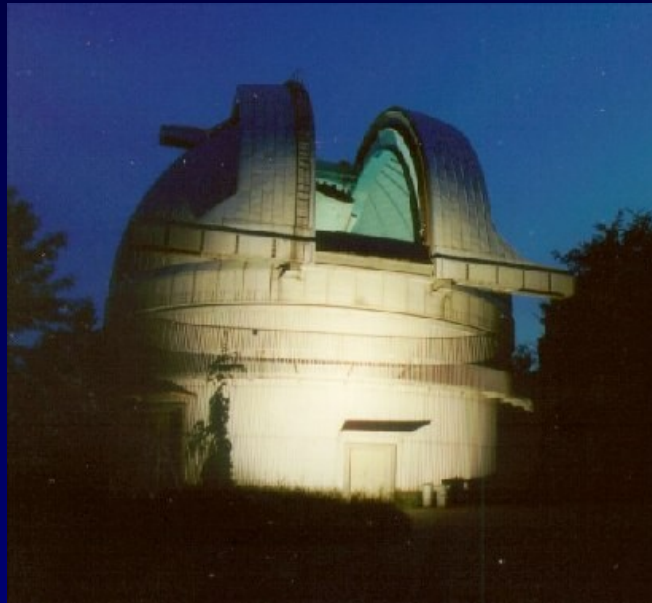
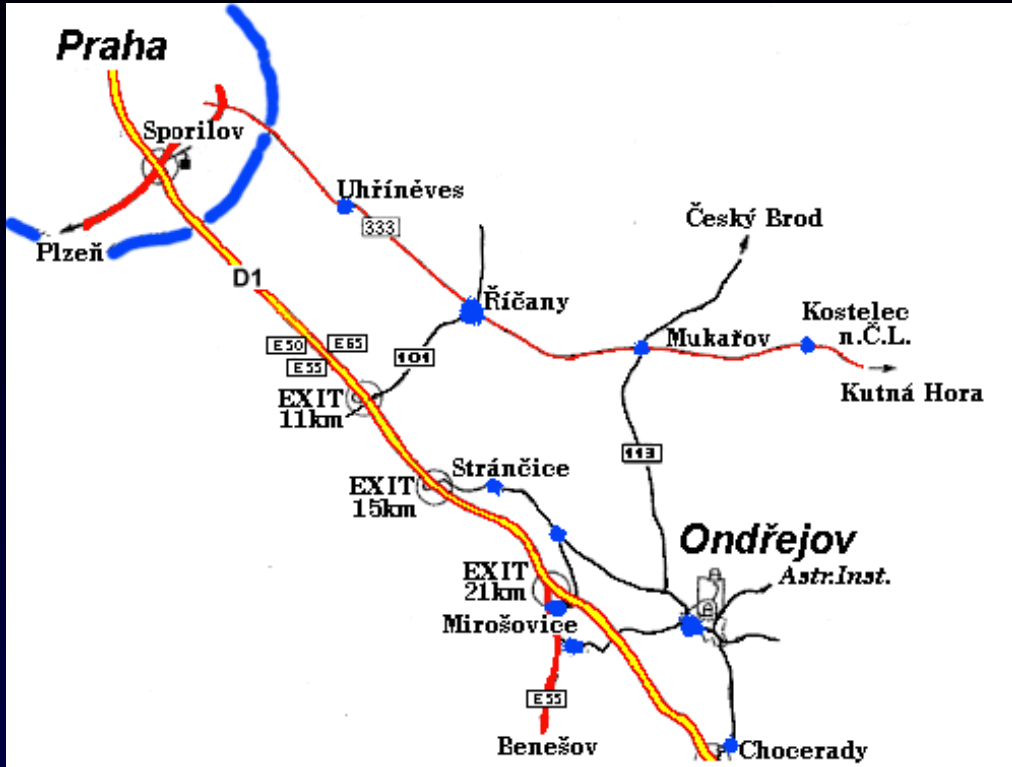
with lot of help of

Filip Hroch, Jiří Nádvorník, Miroslav Šlechta, Lenka Kotková
Markus Demleitner

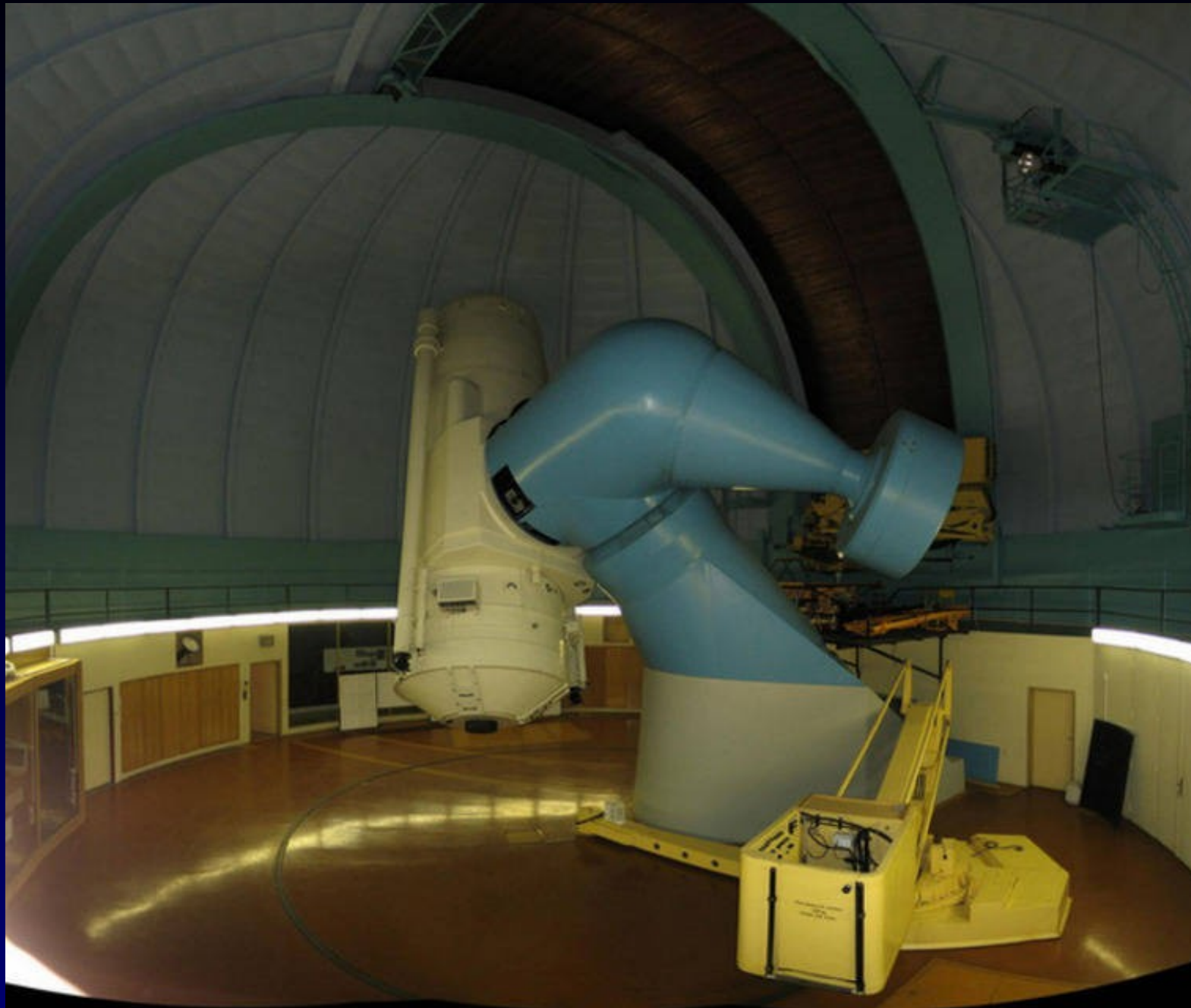
Supported by grant LD-15113 of the Czech Ministry
of Education, Youth and Sports

ASTERICS workshop
Heidelberg, Germany, 15^h June 2016

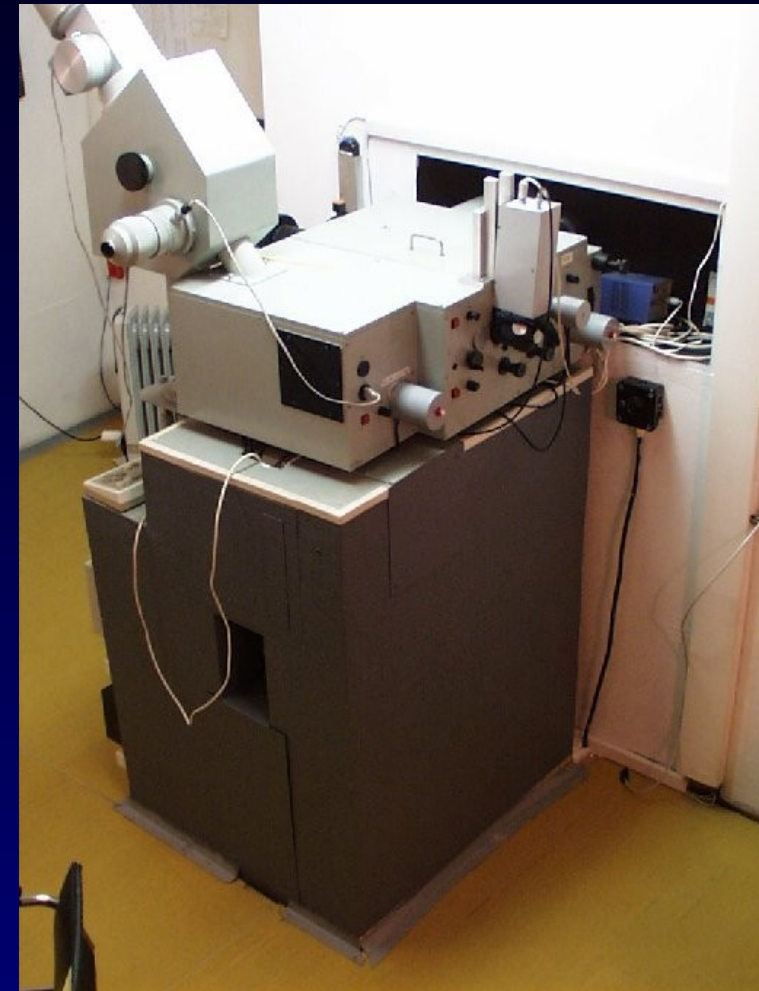
Ondřejov observatory



Perek 2m Telescope panorama



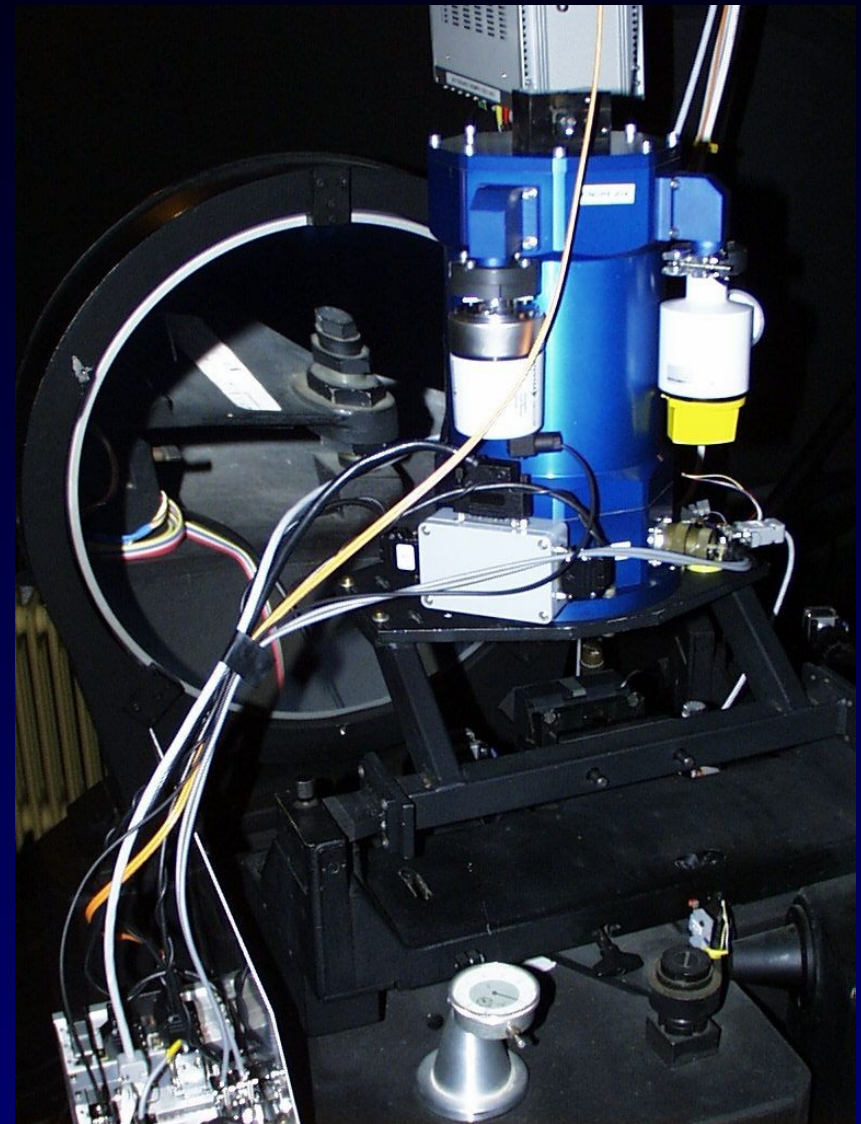
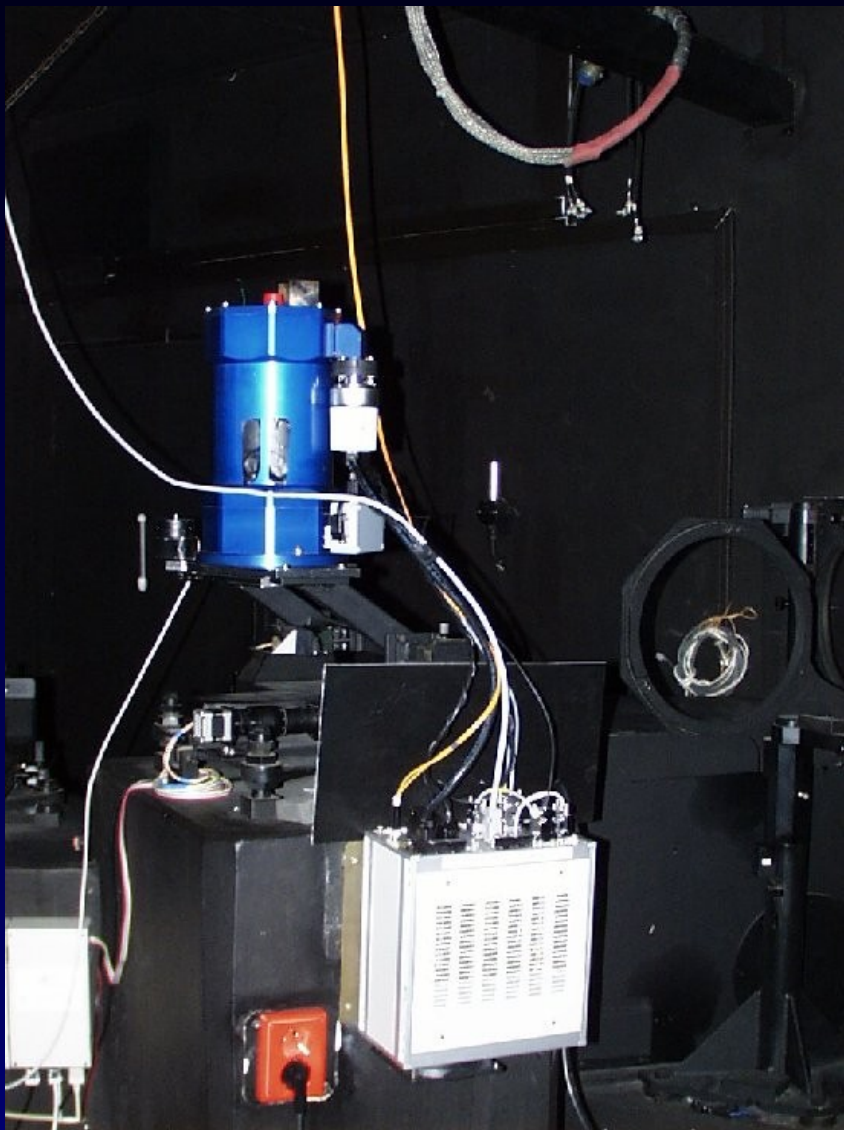
Coudé room



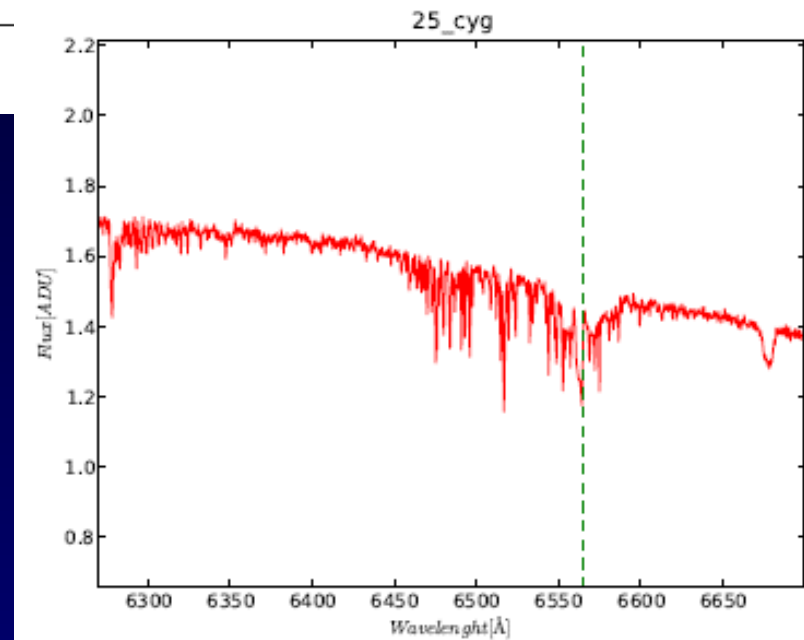
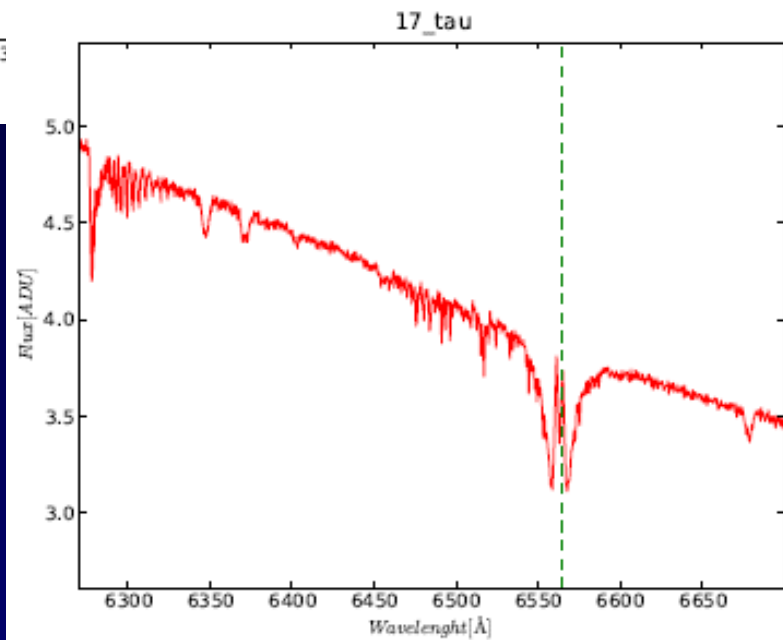
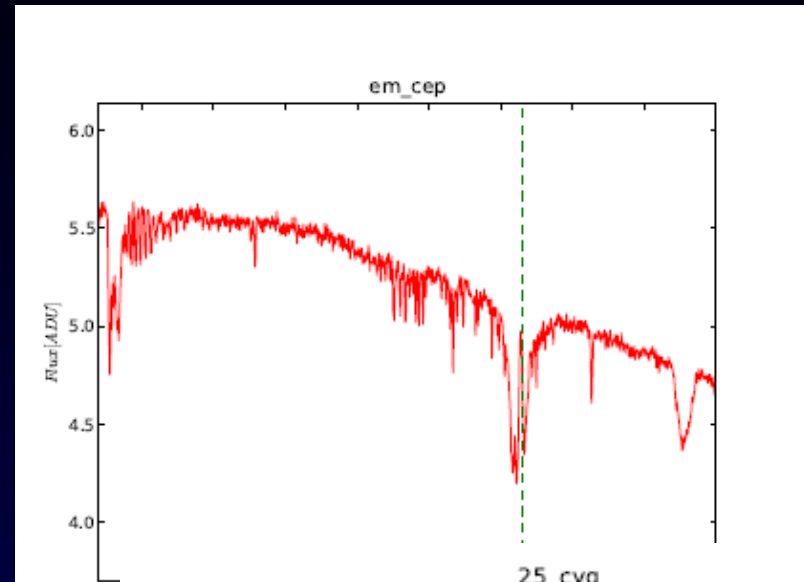
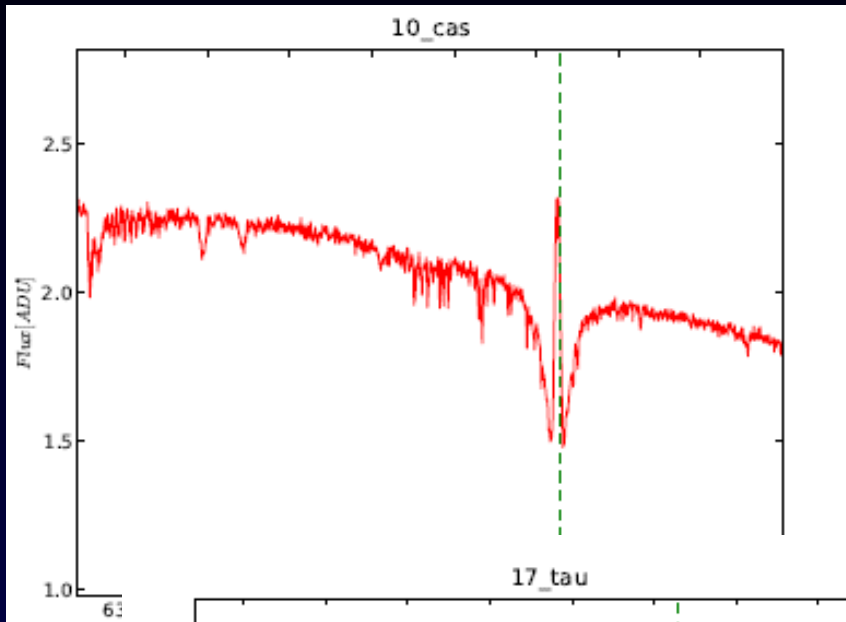
Camera 700mm

1999 SITE , 2013 Princeton Instruments (Roper) PyLON.

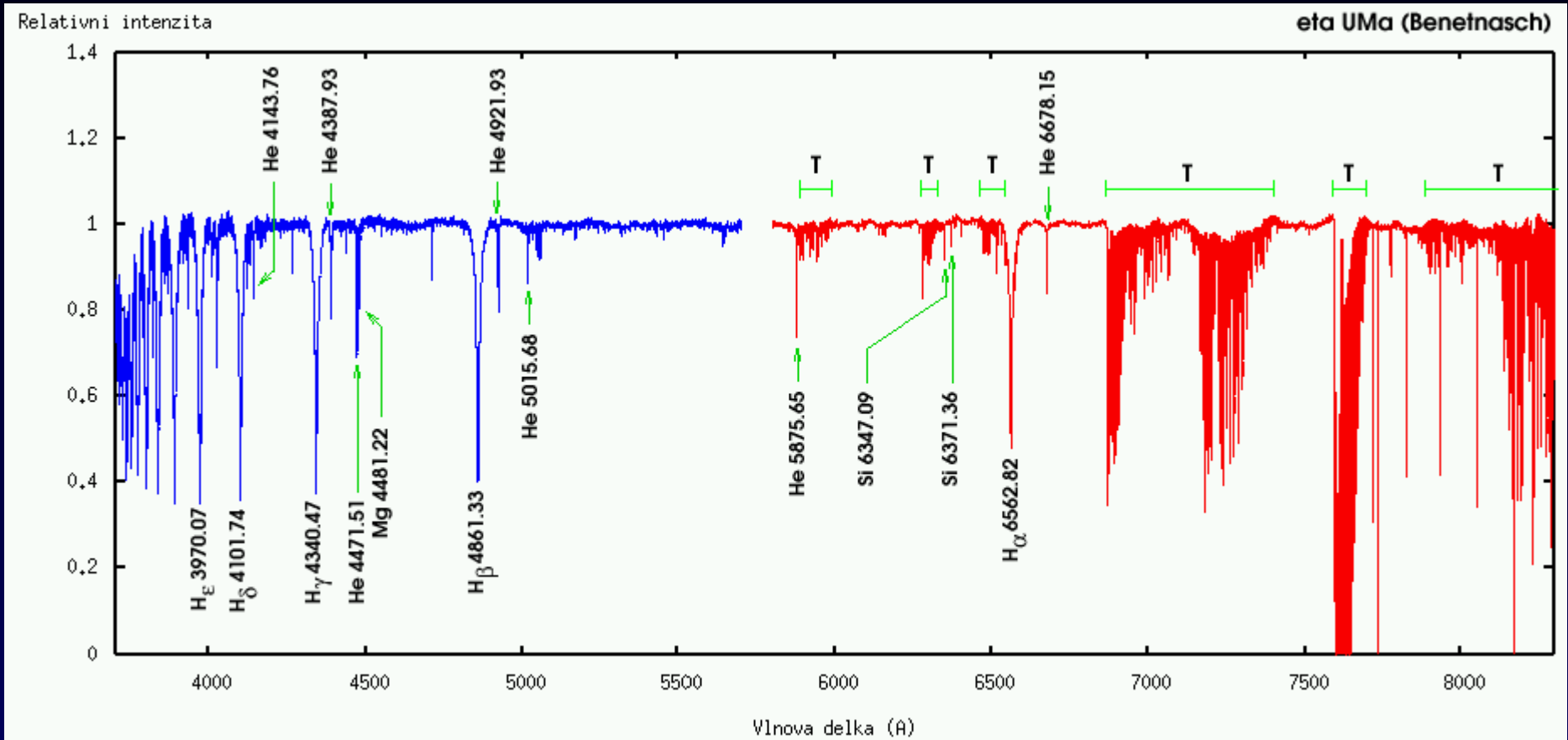
R~13000 6300-6700A, DaCHS 2012 (on-the-fly normalization) ,2014 (datalink)



Be Stars in CCD700



Typical Pipeline Output



HEROS – 2 channels (gaps), order merged, rebinned, normalized

HEROS (Summers 2000-2003)



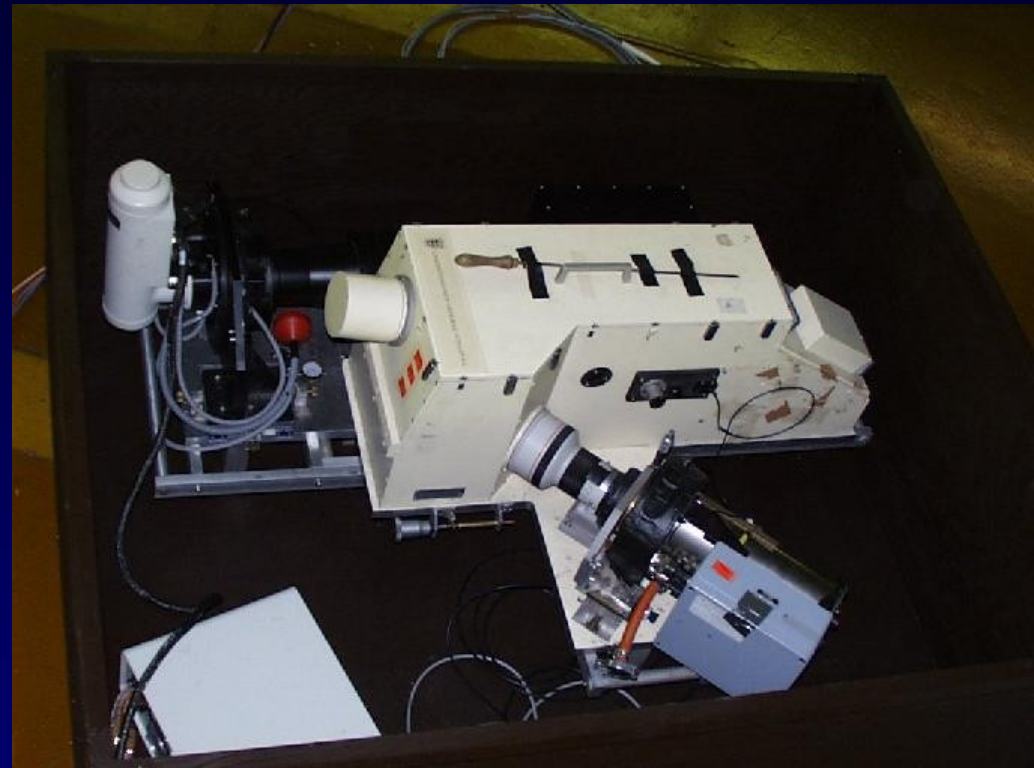
Two channels , R~50000 3700-8500 A,

Finished – reduced and archived – public since 2008 (EURO-VO DCA WP6)

SSAP Cutout prototype (Pleinpot)

FLUXCALIB=normalized (separate file)

in DaCHS – 2012 (Peterka),
2014(Nadvornik) Datalink



Observation and Reduction (CCD700)

Federal instrument (CR + SR)

Observing „duty“ - 1 astronomer + 1 tel. operator

Sharing time - „service for colleagues“

External interest – Time Allocation Committee

RAW spectra reduced in IRAF (script templates, check ThAr lines)

By one person (Šlechta) pipeline like, linearized CRVAL1, CDELTA1 + helcor
(re-reduced by PIs – private .. no will to homogenize)

Reduced spectrum (1D FITS) goes to public/CCD700

Subdirs by unique star name, spectral range

System „stars“ by L. Kotkova – verified (simbad name, coords xmatch)

Rsynced by crontab to voarchive.asu.cas.cz

Ingested in DaCHS : normalized to continuum, __norm added,
dirty tricks in DB update if file renamed, removed

Observation - planning

stars

simbad star

groups

schedules

spectral ranges

nights

incoming

insert star

edit group description | remove the group | add a star...

Stars in the group Be binaries

(observation tips for spring/summer2015,)

Sorting

RA

Dec

magnitude

altitude

UT =

night time = 19:55 - 2:7

| s | Star Name | RA | Dec | V | Spec. | Ph. | HA | Alt. | Obs. (Halp) | D. |
|---|---|-------|--------|------|--------|--------|-------|-------|-------------|----------------|
| 0 | <input checked="" type="checkbox"/> V780 Cas | 02:02 | 59:41 | 8.11 | B1:... | | 0.26 | 80.0 | 8/8 (6) | X |
| 1 | <input checked="" type="checkbox"/> SAO 349 | 02:12 | 83:02 | 9.75 | A0 | 0.09 | 0.10 | 56.9 | 20/20 (15) | X per. 9.9 d |
| 1 | <input checked="" type="checkbox"/> V415 Aur | 05:12 | 41:12 | 7.82 | B2:... | 0.13 | 21.10 | 58.8 | 26/26 (19) | X per. 61.4... |
| 1 | <input checked="" type="checkbox"/> 12 Aur | 05:16 | 46:24 | 6.95 | B2 | 0.14 | 21.03 | 60.5 | 68/68 (41) | X per. 10.8... |
| 0 | <input checked="" type="checkbox"/> HD 44996 | 06:24 | -12:57 | 6.12 | B4V | 0.26 | 19.90 | 7.3 | 10/10 (9) | X |
| 1 | <input checked="" type="checkbox"/> KS CMa | 06:49 | -12:40 | 7.26 | B5:... | 0.33 | 19.48 | 4.0 | 26/27 (13) | X |
| 2 | <input checked="" type="checkbox"/> FF Cam | 07:46 | 81:40 | 7.90 | B9 | (0.05) | 18.52 | 50.3 | 40/39 (28) | X per. 7.8 d |
| 1 | <input checked="" type="checkbox"/> HD 76868 | 08:58 | 3:39 | 8.04 | B5 | 0.97 | 17.32 | -3.7 | 24/24 (15) | X |
| 1 | <input checked="" type="checkbox"/> V4409 Sgr | 19:04 | -18:42 | 8.66 | B8Vnne | 0.13 | 7.22 | -25.9 | 26/26 (17) | X per. 13.7 d |

[add a star...](#)

Notes:
 Mostly newly discovered Be binaries. Values of periods are mostly based on 2m observations. To be published in Acta Astron. or elsewhere. Auriga out of visibility in June.

[print overview](#)

Observation - target setting

[star](#) | [observations](#) | [observers](#) | [edit](#) | [back](#)

ψ Per

(3.608161, 48.192633)

type

psi Per

UT =

night time = 19:55 - 2:7

[nearby stars](#)

RA: 3h 36m 29.38s

Dec: 48° 11' 33.48''

V mag: 4.31

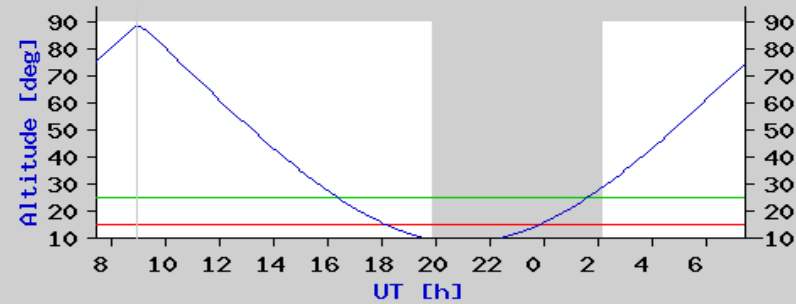
Spectral type: B5V2

Current position:

hour angle: 22.36 h

altitude: 73.9°

air mass: 1.04



Comments:

Supervisors:

Kubat

Groups:

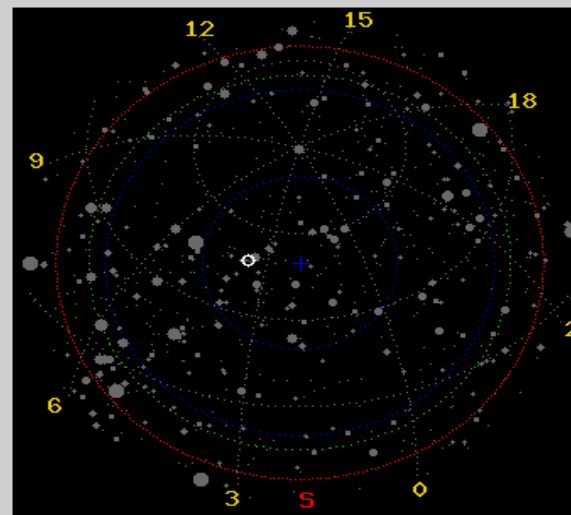
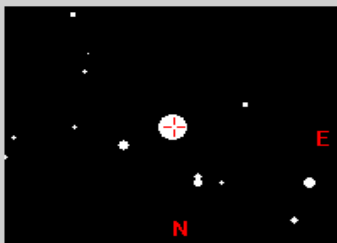
Kraus

Reduced data - public: [psiper](#)

Hipparcos lightcurve: [16826](#)

[SIMBAD identifier query](#)

[SIMBAD update](#)



Observing night review

simbad
star

groups

schedules

spectral
ranges

nights

incoming

insert star

[/data2m/CCD700.RAW/ 2016/20160316 \(all images\)](#)

Observers: **Slechta, Rezba**

logbook

export

display objects only

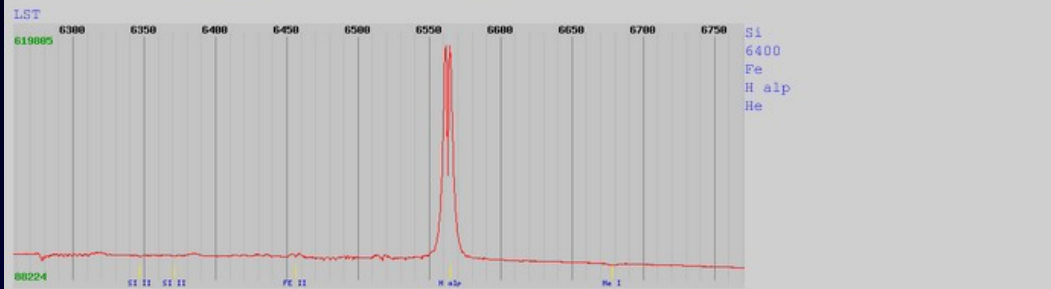
| UT | File | Config. | Exp. | Header | Object | DB Object | Mag | Expval | Alt. | AM | Coordinates | Notes (public) |
|--------------|---------------|-----------|------|----------------|----------------|-----------|-------|--------|-------|-----------|--------------|--------------------------------|
| Z 17:59:09 | a201603160001 | 30:15 2/1 | 1 | zero | | | | | 32-32 | 1.87-1.87 | 00:36:26.420 | +44:50:56.90 |
| Z 17:59:30 | a201603160002 | 30:15 2/1 | 1 | zero | | | | | 32-32 | 1.86-1.86 | 00:36:47.753 | +44:50:57.00 |
| Z 17:59:51 | a201603160003 | 30:15 2/1 | 2 | zero | | | | | 32-32 | 1.86-1.86 | 00:37:09.093 | +44:50:57.10 |
| Z 18:00:12 | a201603160004 | 30:15 2/1 | 2 | zero | | | | | 32-32 | 1.87-1.87 | 00:37:30.440 | +44:50:57.20 |
| Z 18:00:34 | a201603160005 | 30:15 2/1 | 1 | zero | | | | | 32-32 | 1.86-1.86 | 00:37:51.793 | +44:50:57.30 |
| F 18:02:40 | a201603160006 | 30:15 2/1 | 11 | flat | | | | | 32-32 | 1.86-1.86 | 00:39:58.313 | +44:50:57.80 |
| F 18:03:10 | a201603160007 | 30:15 2/1 | 11 | flat | | | | | 43-43 | 1.47-1.47 | 00:43:21.093 | +62:47:49.30 |
| F 18:03:40 | a201603160008 | 30:15 2/1 | 11 | flat | | | | | 47-47 | 1.36-1.36 | 15:36:02.100 | +86:07:09.50 |
| F 18:04:10 | a201603160009 | 30:15 2/1 | 11 | flat | | | | | 46-46 | 1.39-1.39 | 18:21:50.253 | +85:50:59.40 |
| C 18:05:38 | a201603160010 | 30:15 2/1 | 71 | comp | | | | | 45-45 | 1.41-1.41 | 18:48:33.873 | +85:17:56.10 |
| R 0 18:09:39 | a201603160011 | 30:15 2/1 | 3179 | HD 44996 | HD 44996 | | 6.1V | 2.00 | 27-25 | 2.20-2.37 | 06:24:20.580 | -12:57:42.90 (hd44996) |
| C 19:03:14 | a201603160012 | 30:15 2/1 | 71 | comp | | | | | 25-25 | 2.37-2.38 | 06:24:21.400 | -12:57:42.50 |
| R 0 19:06:17 | a201603160013 | 30:15 2/1 | 880 | eps Aur | eps Aur | | 3.0V | 15.03 | 62-59 | 1.14-1.16 | 05:01:58.127 | +43:49:23.90 (epsaur) |
| C 19:21:33 | a201603160014 | 30:15 2/1 | 71 | comp | | | | | 59-59 | 1.16-1.17 | 05:01:58.127 | +43:49:23.90 |
| R 0 19:23:40 | a201603160015 | 30:15 2/1 | 607 | del Ori | del Ori | | 2.2V | 15.03 | 30-29 | 1.98-2.05 | 05:32:00.400 | -00:17:56.70 (delori) |
| C 19:34:36 | a201603160016 | 36:10 2/5 | 251 | comp | | | | | 29-29 | 2.05-2.09 | 05:32:00.400 | -00:17:56.70 |
| R 0 19:39:29 | a201603160017 | 36:10 2/5 | 6102 | del Ori | del Ori | | 2.2V | 111.31 | 28-14 | 2.09-4.02 | 05:32:00.400 | -00:17:56.70 (delori) |
| C 21:21:42 | a201603160018 | 36:10 2/5 | 251 | comp | | | | | 14-13 | 4.03-4.21 | 05:32:00.400 | -00:17:56.70 |
| C 21:28:06 | a201603160019 | 30:15 2/1 | 71 | comp | | | | | 33-33 | 1.81-1.82 | 06:27:15.780 | +14:53:21.20 |
| R 0 21:31:08 | a201603160020 | 30:15 2/1 | 2395 | PZ Gem | PZ Gem | | 6.6V | 1.30 | 33-27 | 1.83-2.22 | 06:27:15.780 | +14:53:21.20 /* svetlo v pozad |
| C 22:11:39 | a201603160021 | 30:15 2/1 | 71 | comp | | | | | 27-26 | 2.22-2.23 | 06:27:15.780 | +14:53:21.20 |
| R 0 22:21:57 | a201603160022 | 30:15 2/1 | 5001 | TYC 2505-672-1 | TYC 2505-672-1 | | 10.7V | 0.09 | 70-58 | 1.07-1.18 | 09:53:10.000 | +33:53:52.70 (tyc2505-672-1) |
| C 23:46:05 | a201603160023 | 30:15 2/1 | 71 | comp | | | | | 58-58 | 1.18-1.19 | 09:53:10.000 | +33:53:52.70 |
| R 0 23:53:49 | a201603160024 | 30:15 2/1 | 569 | bet Lyr | bet Lyr | | 3.5V | 7.02 | 23-24 | 2.59-2.45 | 18:50:04.787 | +33:21:45.60 (betlyr) |
| R 0 00:06:34 | a201603160025 | 30:15 2/1 | 7201 | bet Lyr B | bet Lyr B | | 7.1V | 4.07 | 24-43 | 2.40-1.46 | 18:50:06.707 | +33:21:06.60 (betlyrB) |
| C 02:07:15 | a201603160026 | 30:15 2/1 | 71 | comp | | | | | 43-44 | 1.46-1.45 | 18:50:08.367 | +33:21:06.60 |
| R 0 02:10:34 | a201603160027 | 30:15 2/1 | 222 | del Sco | del Sco | | 2.3V | 3.02 | 16-16 | 3.60-3.57 | 16:00:20.007 | -22:37:18.10 (delsco) |
| C 02:15:02 | a201603160028 | 30:15 2/1 | 71 | comp | | | | | 16-16 | 3.56-3.55 | 16:00:20.007 | -22:37:18.10 |
| R 0 02:24:00 | a201603160029 | 30:15 2/1 | 4353 | V2162 Cyg | V2162 Cyg | | 7.6V | 2.17 | 29-39 | 2.05-1.58 | 21:29:14.847 | +44:20:17.20 (v2162cyg) |
| C 03:37:07 | a201603160030 | 30:15 2/1 | 71 | comp | | | | | 37-37 | 1.67-1.66 | 20:44:01.307 | +29:05:44.40 |
| R 0 03:40:32 | a201603160031 | 30:15 2/1 | 1615 | V1294 Aql | V1294 Aql | | 7.0V | 1.14 | 29-32 | 2.07-1.87 | 19:33:36.920 | +03:45:40.70 (v1294aql) |
| C 04:08:02 | a201603160032 | 30:15 2/1 | 71 | comp | | | | | 32-33 | 1.86-1.85 | 19:33:36.920 | +03:45:40.70 |
| F 04:10:01 | a201603160033 | 36:10 2/5 | 251 | flat | | | | | 33-32 | 1.84-1.87 | 10:52:57.147 | +44:46:09.60 |
| F 04:14:31 | a201603160034 | 36:10 2/5 | 251 | flat | | | | | 32-32 | 1.86-1.89 | 10:53:24.907 | +45:01:38.50 |
| F 04:19:01 | a201603160035 | 36:10 2/5 | 251 | flat | | | | | 32-32 | 1.86-1.89 | 10:57:56.353 | +45:01:40.40 |

11 usable object spectra

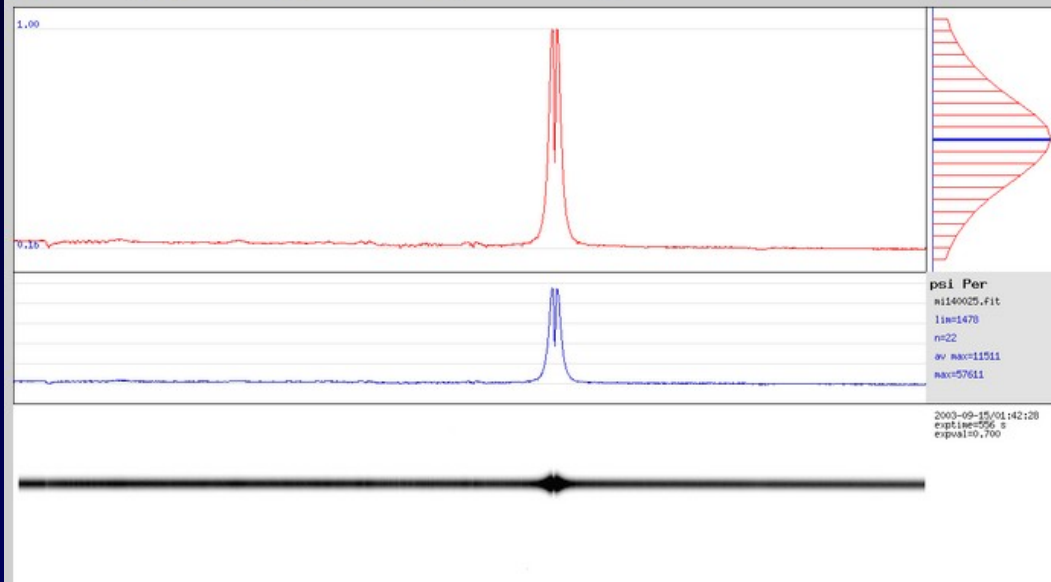
Spectra archive - raw + reduced

| File | Date | Time | Filter | Slit | Exp | Wavelength | Intensity | Observer |
|---------|------------------|---------------|--------|-----------|------|------------|-----------|----------------------|
| H alpha | 2008-09-15/21:17 | t1100001 | a | 30:15 2/1 | 750 | 15.008 | 37.59 | [Kraus, Fuchs] |
| H alpha | 2010-07-19/01:43 | ts180048 | a | 30:15 2/1 | 150 | 4.388 | 42.43 | [Kraus, Kotkova] |
| gaia | 2010-09-04/20:17 | t1040007 | a | 35:47 2/3 | 300 | 2.780 | 25.25 | [Kraus, Kotkova] |
| H alpha | 2010-09-04/20:44 | t1040012 | a | 30:15 2/1 | 200 | 3.755 | 28.28 | [Kraus, Kotkova] |
| gaia | 2011-03-15/18:49 | us150011 | a | 35:47 2/3 | 900 | 16.881 | 54.52 | [Kraus, Sloup, Aret] |
| Ca II | 2011-03-15/19:08 | us150013 | a | 32:8 2/3 | 1800 | 32.073 | 51.47 | [Kraus, Sloup, Aret] |
| H alpha | 2011-12-07/20:21 | u1070006 | a | 30:15 2/1 | 800 | 9.562 | 79.81 | [Kraus, Kotkova] |
| IR | 2011-12-07/20:54 | u1070023 | a | 36:0 2/3 | 1132 | 11.906 | 84.87 | [Kraus, Kotkova] |
| H alpha | 2012-01-30/17:13 | va300019 | a | 30:15 2/1 | 130 | 2.622 | 82.83 | [Koubsky, Fuchs] |
| H alpha | 2014-08-15/09:14 | a201408140051 | a | 30:15 2/1 | 1201 | 15.420 | 45.48 | [Kraus, Tlamicha] |
| H alpha | 2014-08-15/09:36 | a201408140053 | a | 30:15 2/1 | 901 | 11.149 | 48.50 | [Kraus, Tlamicha] |
| gaia | 2014-08-15/09:54 | a201408140055 | a | 35:47 2/3 | 1801 | 19.944 | 51.55 | [Kraus, Tlamicha] |

List of files – main metadata



Reduced spectrum (if exists)



Raw spectrum – maximum in COP

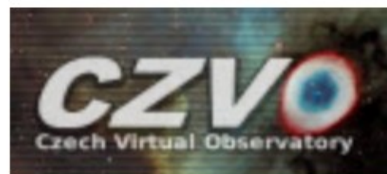
Raw spectrum – averaged all COP

Raw spectrum – inverse image

Object: 'psi Per '
File: n1140025
Date start: '2003-09-15'
UT start: '01:42:28'
Telescope coordinates: '3:36:08.8' '48:12:14.3'
Object coordinates: '3:36:29 48:11:33'
Observers: 'Stefl + Tlamicha'
MJD: 2452897.5760
Spectrograph configuration: CCD700 30:15 1/1 (10889)
Detector: 'SiTe 2000x800'
Spectral range [Å]: 6258 - 6771
Exposure [s]: 556
Expval: 0.700
Integ: 7184
Wheiso [km/s]: 24.78
checked - OK
Observers: Stefl, Tlamicha

All metadata about frame

VO access to spectra - Browser



AIASCR VO Services

Welcome to ASU CAS Data Center.

In addition to the services listed below, on this site you probably can access [numerous tables](#) using [TAP](#) or [form-based ADQL](#).

Please check out our [site help](#).

This project was supported by grant 13-08195S of Czech Science Foundation.

Services Available

By Title

By Subject

By Author

- ▶ [CCD700 Spectra Web Interface](#) [i](#) [Q](#)
- ▶ [HEROS Public Spectra Web Interface](#) [i](#) [Q](#)
- ▶ [LAMOST DR1 Spectra Web Interface](#) [i](#) [Q](#)

Spectra query - web browser

CZVO
Czech Virtual Observatory

CCD700 Spectra Web Interface

CCD700 public web interface.

Object standard name No selection matches all, multiple values legal.
phicas
phiper
piaqr
psi09aur
psiper
pugem
pzgem
qqgem
qrnul
rsant

Somewhat cleaned name of the target object as given in the file. The names should either be SIMBAD-resolvable or give a reference that is appreciated.

Location
Coordinates (as h m s, d m s or decimal degrees), or SIMBAD-resolvable object

Search radius for Location [arcmin]
Search radius in arcminutes

Date Obs. [\[?date expr.\]](#)
Midpoint of exposure

Type
 image/fits
 application/x-votable+xml
MIME type of the file served

Table Sort by Limit to items.

Output format

accsize -- Size of the data in bytes
 detector -- Detector used to capture spectrum
 embargo -- Date the data will become/became public
 expval -- Photon counts (Mcount)
 grat_angle -- Grating tilt
 instrument -- Instrument used to capture spectrum
 mime -- MIME type of the file served
 obj_name -- Unique identifier of 1 object.
 owner -- Owner of the data
 spg_setup -- Spectrograph setup (Dichroic mirror/Spectral filter)

Help

Service info

Related
[CCD700 SSAP](#)

Metadata

Identifier
ivo://asu.cas.cz/ccd700/q/

Description
CCD700 public web interface

Keywords
Optical spectroscopy

Creator
[Logo]

Created
2014-05-09T10:57:00

Data updated
2016-06-14

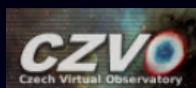
Reference URL
[Service info](#)

[Try ADQL](#) to query our data.

Please report errors and problems to the [site operators](#). Thanks.

[Privacy](#) | [Disclaimer](#)
[Log in](#)

Spectra - query output and previews



CCD700 Spectra Web Interface

Help

Service info

Related

[CCD700 SSAP](#)

Metadata

Identifier

[ivo://asu.cas.cz/ccd700/q/](#)

Description

CCD700 public web interface

Keywords

Optical spectroscopy

Creator

[Logo]

Created

2014-05-09T10:57:00

Data updated

2016-06-14

Reference URL

[Service info](#)

Try ADQL to query our data.

Please report errors and problems to the [site operators](#). Thanks.

[Privacy](#) | [Disclaimer](#)

[Log in](#)

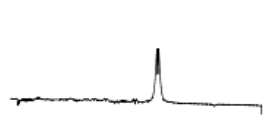
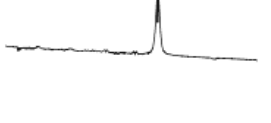
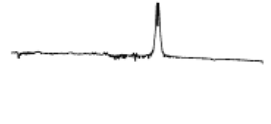
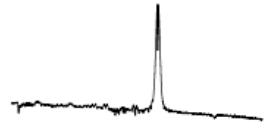
Parameters

- Object standard name: [psiper]


Result

Matched: 44

[Send via SAMP](#) [Quick Plot](#)

| Product key | Object | Raj2000 | Dej2000 | Band start [Angstrom] | Band end [Angstrom] | Date Obs. | Observer | Exp. Time [s] | MHJD | |
|---|------------------------------|--------------|--------------|-----------------------|---------------------|----------------------|----------------------|-------------------|---------------|---------------|
| tg180048.fit | psi Per | 03:36:29.380 | +48:11:33.40 | 6261.00 | 6773.40 | 2010-07-19T01:43:36Z | | 150.0 | 55396.0696765 | |
|  | oc220022.fit | psi Per | 3:37:01.1 | 48:12:17.1 | 6262.34 | 6774.66 | 2005-03-22T21:16:04Z | Kubat, Sarounova | 899.564 | 53451.8889388 |
|  | ul070006.fit | Psi Per | 03:36:29.380 | +48:11:33.40 | 6252.67 | 6764.96 | 2011-12-07T20:21:43Z | Kraus, Kotkova | 800.0 | 55902.8579726 |
| va300019.fit | psi Per | 03:36:29.380 | +48:11:33.40 | 6252.09 | 6764.42 | 2012-01-30T17:13:10Z | | 130.0 | 55956.7202446 | |
| mi180074.fit | psi Per | 3:37:03.2 | 48:10:44.2 | 6259.63 | 6772.03 | 2003-09-19T02:34:39Z | | 60.0 | 52901.1096669 | |
| ng290040.fit | Psi Per | 3:36:46.8 | 48:11:39.4 | 6261.83 | 6774.26 | 2004-07-30T00:40:28Z | Kubat, Kalas | 600.0 | 53216.0292701 | |
|  | nh100015.fit | psi Per | 3:36:42.4 | 48:13:02.0 | 6264.34 | 6776.77 | 2004-08-11T01:02:47Z | Steff + Rezna | 218.373 | 53228.0435205 |
|  | nh310030.fit | Psi Per | 3:36:46.3 | 48:13:02.4 | 6264.01 | 6776.40 | 2004-09-01T00:22:31Z | Libich, Sarounova | 60.0 | 53249.016454 |

Spectra - results of ADQL query



Czech Virtual Observatory

ADQL Query

[Help](#) | [Service info](#)

Parameters

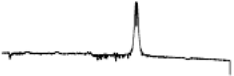
- ADQL query: select top 5 * from ccd700.data where mime like '%vot%' and ssa_targname like '%psi%'

Result

Matched: 5

[Send via SAMP](#) | [Quick Plot](#)

Query result probably incomplete due to the match limit kicking in. Add a TOP clause to your query and/or increase MAXREC to retrieve more data.

| Product key | Owner | Embargo ends | Type | File size [byte] | Title | C. DID | P. DID | Proc. Date | Pub. Date | Bandpass | C. Version | Object | Obs |
|---|---------|---------------------|---------------------------|------------------|---|--------|---------------------------------------|---------------------|----------------------------|----------|------------|---------|-----|
|  tg180048.vot | beusers | 2011-07-19 00:00:00 | application/x-votable+xml | 19.7kiB | ccd700/data/psiper/6255-6767/tg180048.fit | N/A | ivo://asu.cas.cz/stel/ccd700/tg180048 | 2010-07-19T09:17:26 | 2015-02-13T12:13:45.032098 | Optical | N/A | psi Per | sta |
| oc220022.vot | beusers | 2006-03-22 00:00:00 | application/x-votable+xml | 19.7kiB | ccd700/data/psiper/6255-6767/oc220022.fit | N/A | ivo://asu.cas.cz/stel/ccd700/oc220022 | 2005-04-09T04:22:52 | 2015-02-13T12:13:45.066792 | Optical | N/A | psi Per | sta |
| va300019.vot | beusers | 2013-01-29 00:00:00 | application/x-votable+xml | 19.7kiB | ccd700/data/psiper/6255-6767/va300019.fit | N/A | ivo://asu.cas.cz/stel/ccd700/va300019 | 2012-02-13T01:03:10 | 2015-02-13T12:13:45.136067 | Optical | N/A | psi Per | sta |
| mi180074.vot | beusers | 2004-09-18 00:00:00 | application/x-votable+xml | 19.7kiB | ccd700/data/psiper/6255-6767/mi180074.fit | N/A | ivo://asu.cas.cz/stel/ccd700/mi180074 | 2003-11-06T18:09:35 | 2015-02-13T12:13:45.170775 | Optical | N/A | psi Per | sta |
| nh100015.vot | beusers | 2005-08-11 00:00:00 | application/x-votable+xml | 19.7kiB | ccd700/data/psiper/6255-6767/nh100015.fit | N/A | ivo://asu.cas.cz/stel/ccd700/nh100015 | 2004-08-11T20:48:36 | 2015-02-13T12:13:45.240079 | Optical | N/A | psi Per | sta |

Related: [Tables available for ADQL](#)

Metadata: Identifier: ivo://asu.cas.cz/_system

Description: An endpoint for submitting.

Keywords: Virtual observatory

Creator: [Logo]

Created: 2008-09-20T12:00:00Z

Data updated: 2015-06-19

Reference URL: [Service info](#)

Try ADQL to query our data.

Please report errors and problems to the [site operators](#). Thanks.
[Privacy](#) | [Disclaimer](#) | [Log in](#)

Spectra in SPLAT-VO - query

Starlink SPLAT-VO: Query VO for Spectra

File Options Resolver Interop Help

Service selection options
Data Source
 Observed data Theoretical data

Wave Band
 Radio Millimeter Infrared
 Optical UV EUV
 X-ray Gamma-ray ALL

Tags

Search parameters:
Simple Query
 Object:
 RA: Dec:
 Radius: MAXREC:
 Band:
 Time:

Optional Parameters

| Use | Name | Value | UCD |
|--------------------------|-------------|-------|------------------------|
| <input type="checkbox"/> | REDSHIFT | | src.redshift |
| <input type="checkbox"/> | TARGETCLASS | | src.class |
| <input type="checkbox"/> | MTIME | | |
| <input type="checkbox"/> | SPECRP | | spect.resolution;em.wl |
| <input type="checkbox"/> | SPATRES | | pos.angResolution |
| <input type="checkbox"/> | PUBDID | | |
| <input type="checkbox"/> | CREATORIDID | | meta.id |

Query Format:
 Wavelength calibration:
 Flux calibration:

Query: <SERVER>?REQUEST=queryData&POS=54.1224166666666666,48.1926333333333333&FORMAT=votable&SIZE=0.1666666666666666&BAND=6530e-10/6580e-10

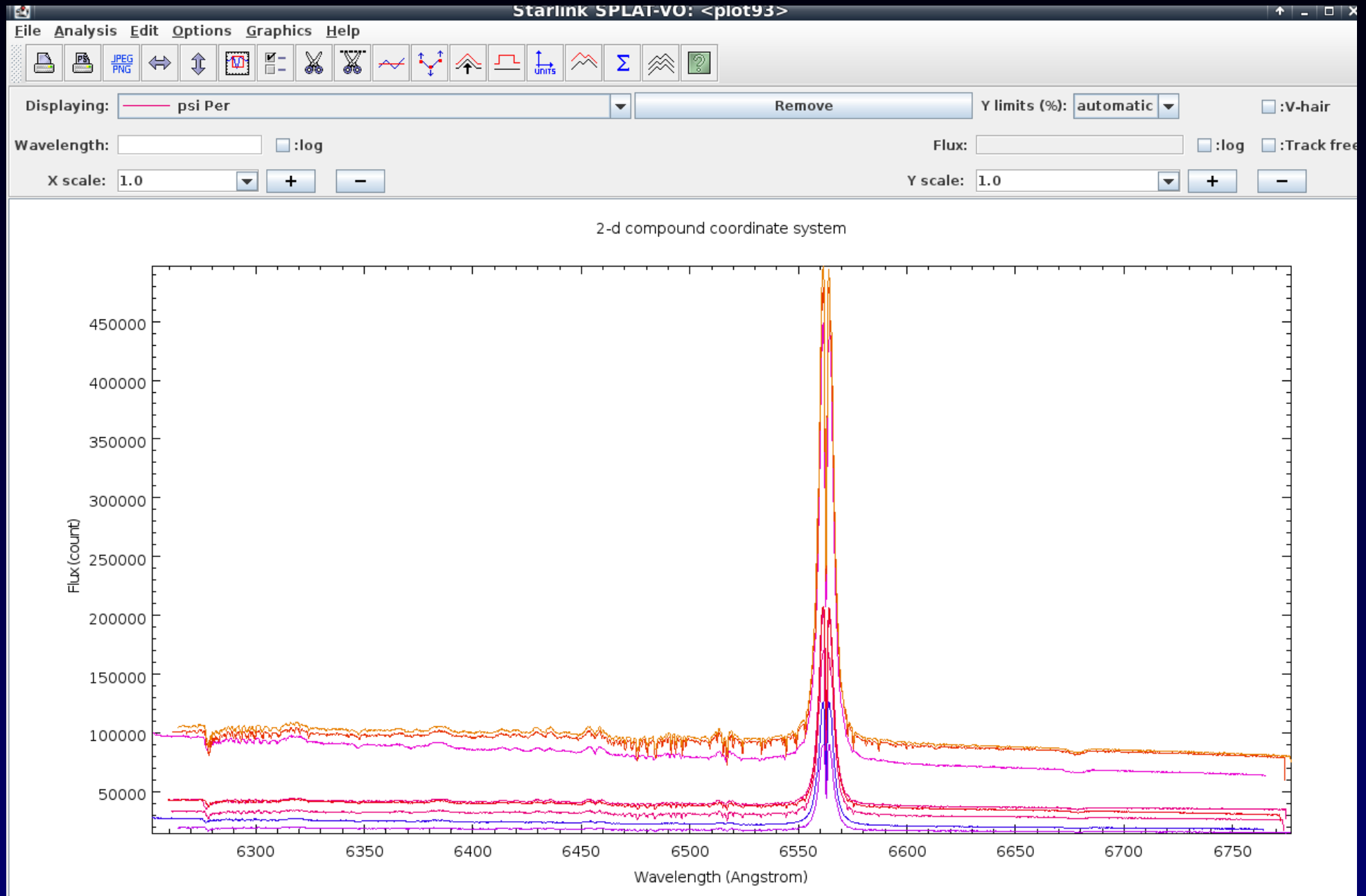
Query results:
 CCD700-voarchive

| l... | ssa_specstart | ssa_specend | ssa_dstitle | ssa_targname | ssa_dateObs | ssa_timeExt | ssa_snr | ssa_length | accref | |
|------|---------------|-------------|--------------------------------|--------------|-------------|-------------|---------|------------|-----------------------------------|-------|
| 12 | 6.26183E-7 | 6.77426E-7 | ccd700/data/psiper/6255-676... | Psi Per | 53216.0049 | 1800. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 27 | 6.24978E-7 | 6.76217E-7 | ccd700/data/psiper/6255-676... | psi Per | 54701.97209 | 1333.19 | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 13 | 6.25854E-7 | 6.77081E-7 | ccd700/data/psiper/6255-676... | psi Per | 52982.77964 | 1300. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 31 | 6.26359E-7 | 6.73614E-7 | ccd700/data/psiper/6260-673... | psi Per | 56884.01015 | 1201. | | 2047 | http://voarchive.asu.cas.cz/ge... | appli |
| 30 | 6.26359E-7 | 6.73614E-7 | ccd700/data/psiper/6260-673... | psi Per | 56884.02565 | 901. | | 2047 | http://voarchive.asu.cas.cz/ge... | appli |
| 2 | 6.26234E-7 | 6.77466E-7 | ccd700/data/psiper/6255-676... | psi Per | 53451.88616 | 899.564 | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 28 | 6.26587E-7 | 6.77822E-7 | ccd700/data/psiper/6255-676... | psi Per | 54209.80019 | 899.214 | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 3 | 6.25267E-7 | 6.76496E-7 | ccd700/data/psiper/6255-676... | Psi Per | 55902.84843 | 800. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 10 | 6.25163E-7 | 6.76402E-7 | ccd700/data/psiper/6255-676... | psi Per | 54757.88729 | 730. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 6 | 6.26183E-7 | 6.77426E-7 | ccd700/data/psiper/6255-676... | Psi Per | 53216.02811 | 600. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 14 | 6.24978E-7 | 6.76217E-7 | ccd700/data/psiper/6255-676... | psi Per | 54701.96266 | 600. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 9 | 6.25809E-7 | 6.77051E-7 | ccd700/data/psiper/6255-676... | psi Per | 52897.07116 | 556.599 | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 18 | 6.26587E-7 | 6.77822E-7 | ccd700/data/psiper/6255-676... | psi Per | 54209.81274 | 450. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 20 | 6.25854E-7 | 6.77081E-7 | ccd700/data/psiper/6255-676... | psi Per | 52982.79788 | 350. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 16 | 6.26235E-7 | 6.77492E-7 | ccd700/data/psiper/6255-676... | psi Per | 53475.85182 | 300.043 | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 19 | 6.26401E-7 | 6.77640E-7 | ccd700/data/psiper/6255-676... | Psi Per | 53249.01697 | 300. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 23 | 6.25161E-7 | 6.76378E-7 | ccd700/data/psiper/6255-676... | psi Per | 54519.80405 | 300. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 24 | 6.25161E-7 | 6.76378E-7 | ccd700/data/psiper/6255-676... | psi Per | 54519.7984 | 300. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 7 | 6.26434E-7 | 6.77677E-7 | ccd700/data/psiper/6255-676... | psi Per | 53228.0436 | 218.373 | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 11 | 6.25641E-7 | 6.76875E-7 | ccd700/data/psiper/6255-676... | psi Per | 55443.86444 | 200. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 22 | 6.25161E-7 | 6.76378E-7 | ccd700/data/psiper/6255-676... | psi Per | 54519.81162 | 200. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 25 | 6.25908E-7 | 6.77147E-7 | ccd700/data/psiper/6255-676... | psi Per | 52901.91749 | 194.574 | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 15 | 6.25937E-7 | 6.77178E-7 | ccd700/data/psiper/6255-676... | psi Per | 52904.03609 | 180. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 1 | 6.26100E-7 | 6.77340E-7 | ccd700/data/psiper/6255-676... | psi Per | 55396.07196 | 150. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |
| 4 | 6.25905E-7 | 6.76445E-7 | ccd700/data/psiper/6255-676... | psi Per | 55956.73749 | 130. | | 1997 | http://voarchive.asu.cas.cz/ge... | appli |

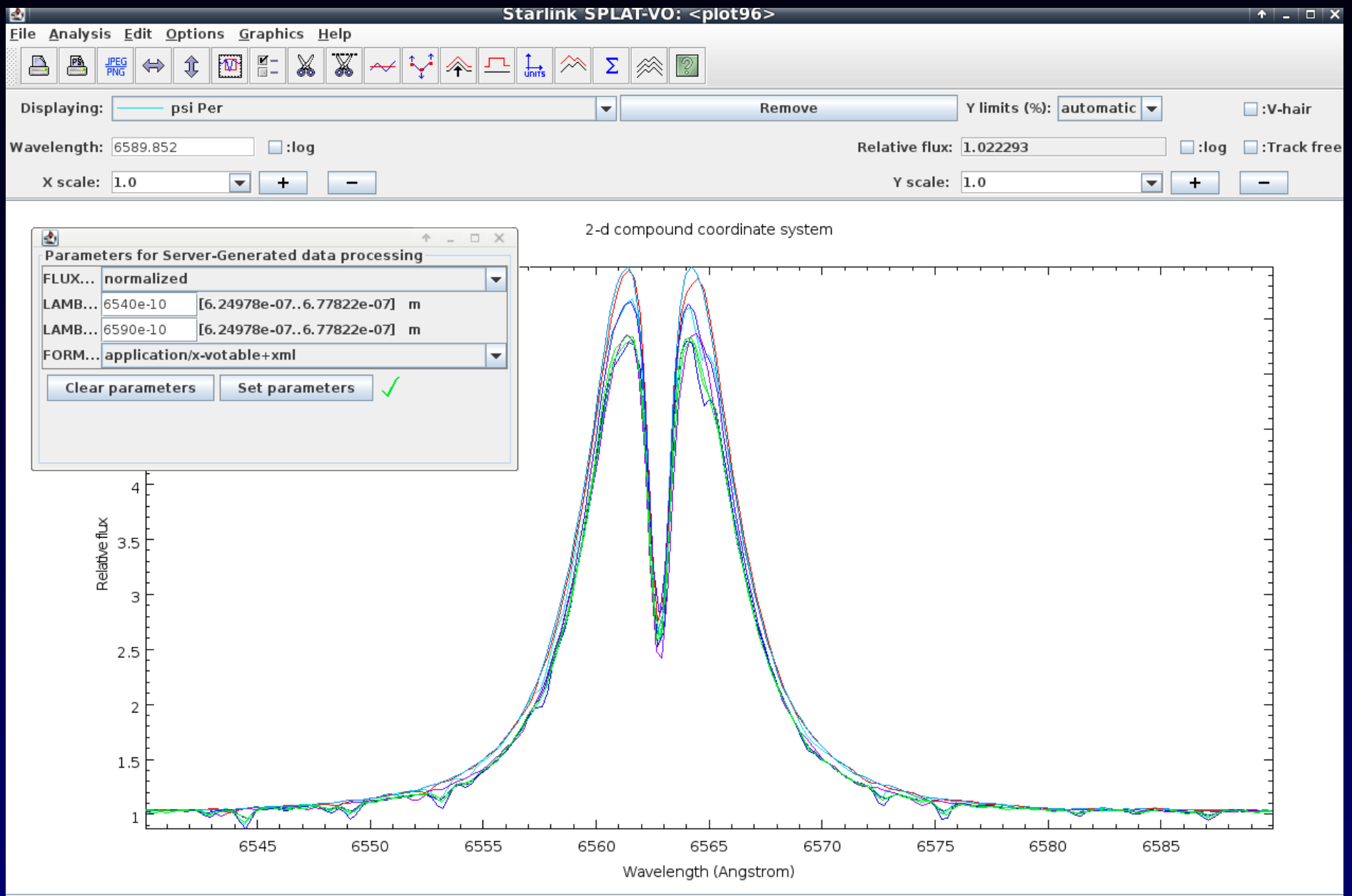
SSAP Servers

| short name | title |
|-------------------|--------------------------|
| BeSS | Be Stars Spectra |
| califa ssa | CALIFA DR2 |
| castor | Espadons/Narval leg... |
| castor+ | Espadons/NARVAL le... |
| CCD700-voarchive | ccd700 OND |
| ccd700-vos2 | |
| CDFS SSAP | Optical Spectroscop... |
| CENCOS-VVDS_DEEP | CENCOS-VVDS_DEEP... |
| CENCOS-VVDS_DEEP+ | CENCOS-VVDS_DEEP... |
| Cfa Hectospec | Cfa Hectospec Spec... |
| dk154 | |
| dk154-extr15 | |
| dk154-extr15jan | dk154 |
| dk154-extr16jan | dk154 |
| DK154-SSA | DK154 SSA |
| ELODIE | ELODIE archive |
| ELODIEinterp | Spectrum interpolat... |
| ESO SAF SSA | ESO Science Archive... |
| EUVE | Extreme Ultraviolet ... |
| extract_jul16 | DK154 |
| F/H Orders SSAP | Flash/Heros Split-Or... |
| FEROS SSAP | FEROS Public Spectra |
| Flash/Heros SSAP | Flash/Heros SSAP |
| FUSE | Far Ultraviolet Spect... |
| GALEX | Galaxy Evolution Exp... |
| GIRAFFE | GIRAFFE archive of r... |
| H.E.S.S. | High Energy Stereos... |
| HEAVENS @ ISDC | Mining the HEAVENS... |
| HEROS OND | HEROS archive of On... |
| HEROS OND CUTOUT | cutout server of HE... |

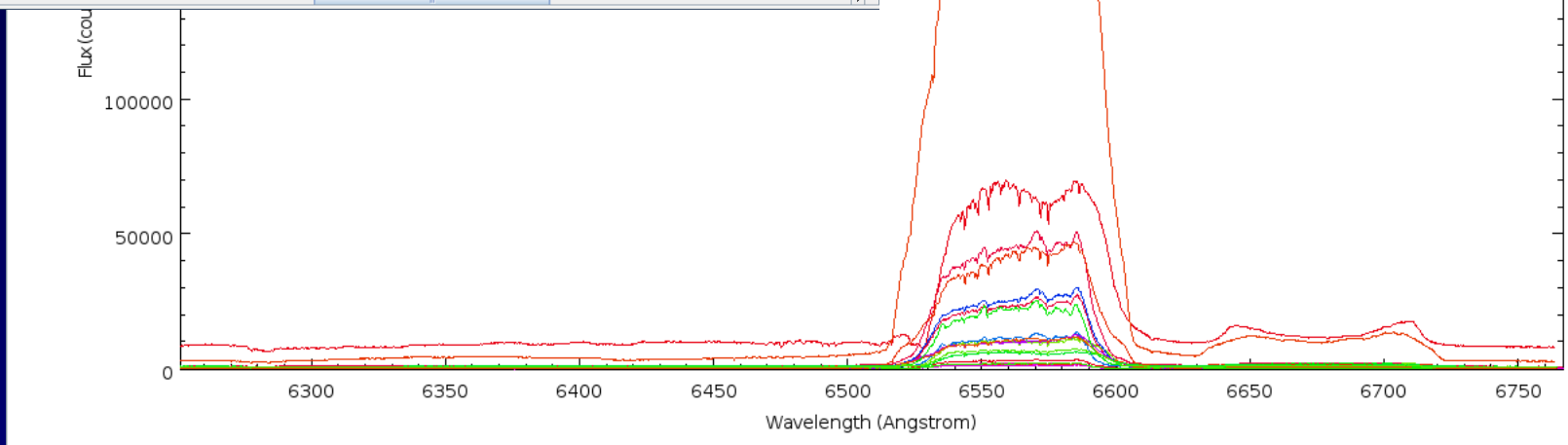
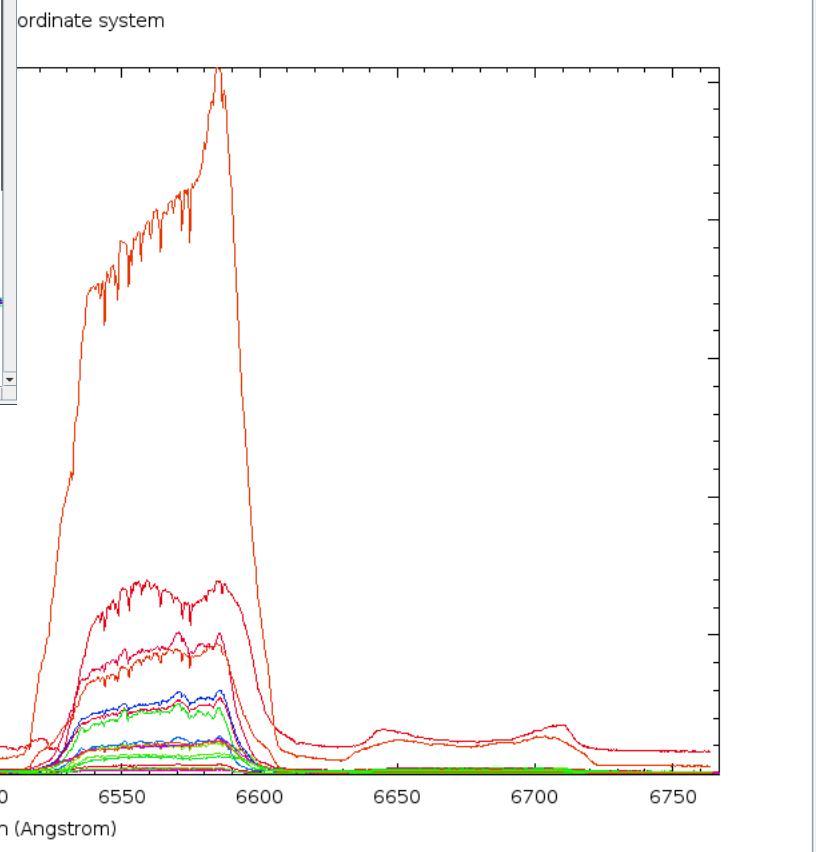
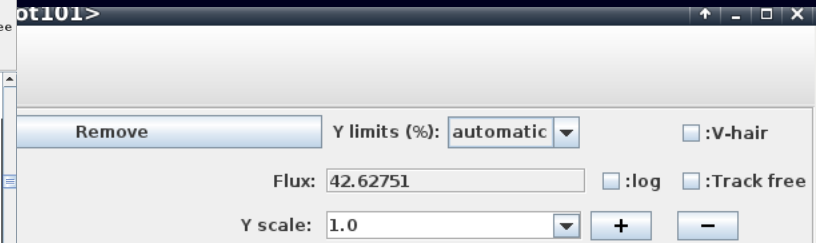
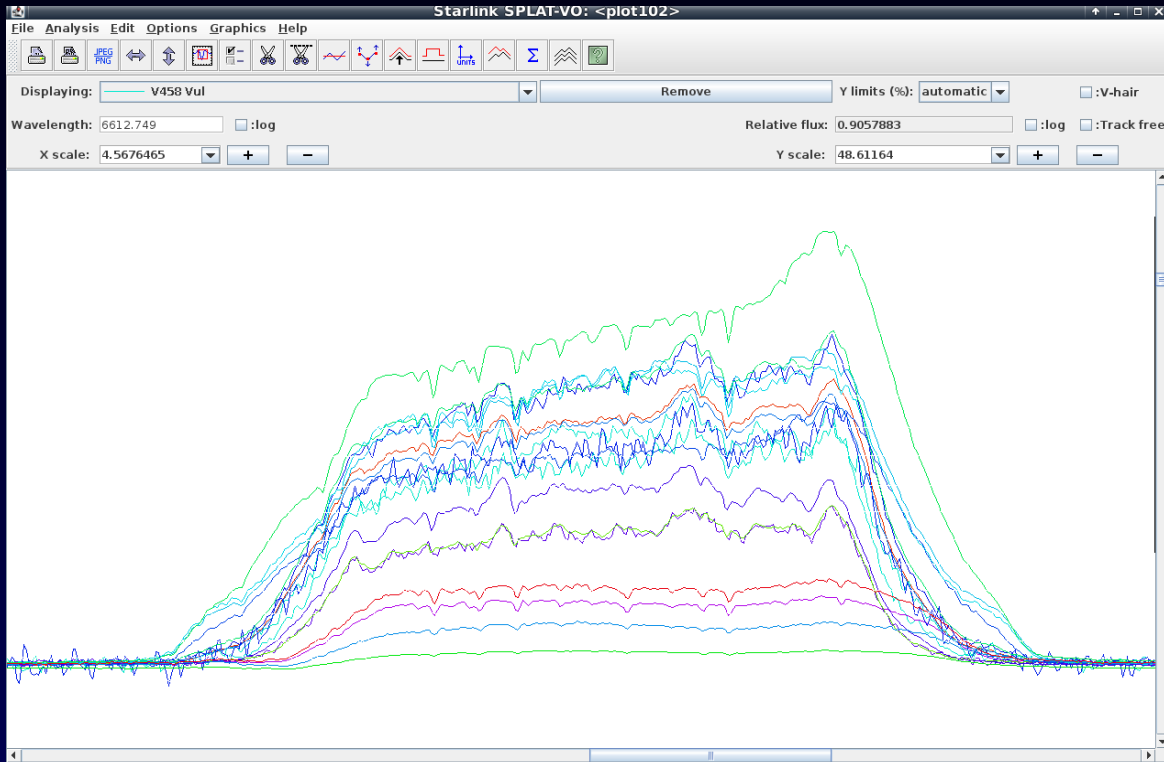
Spectra in VO - direct access plot



Spectra in SPLAT-VO - DataLink



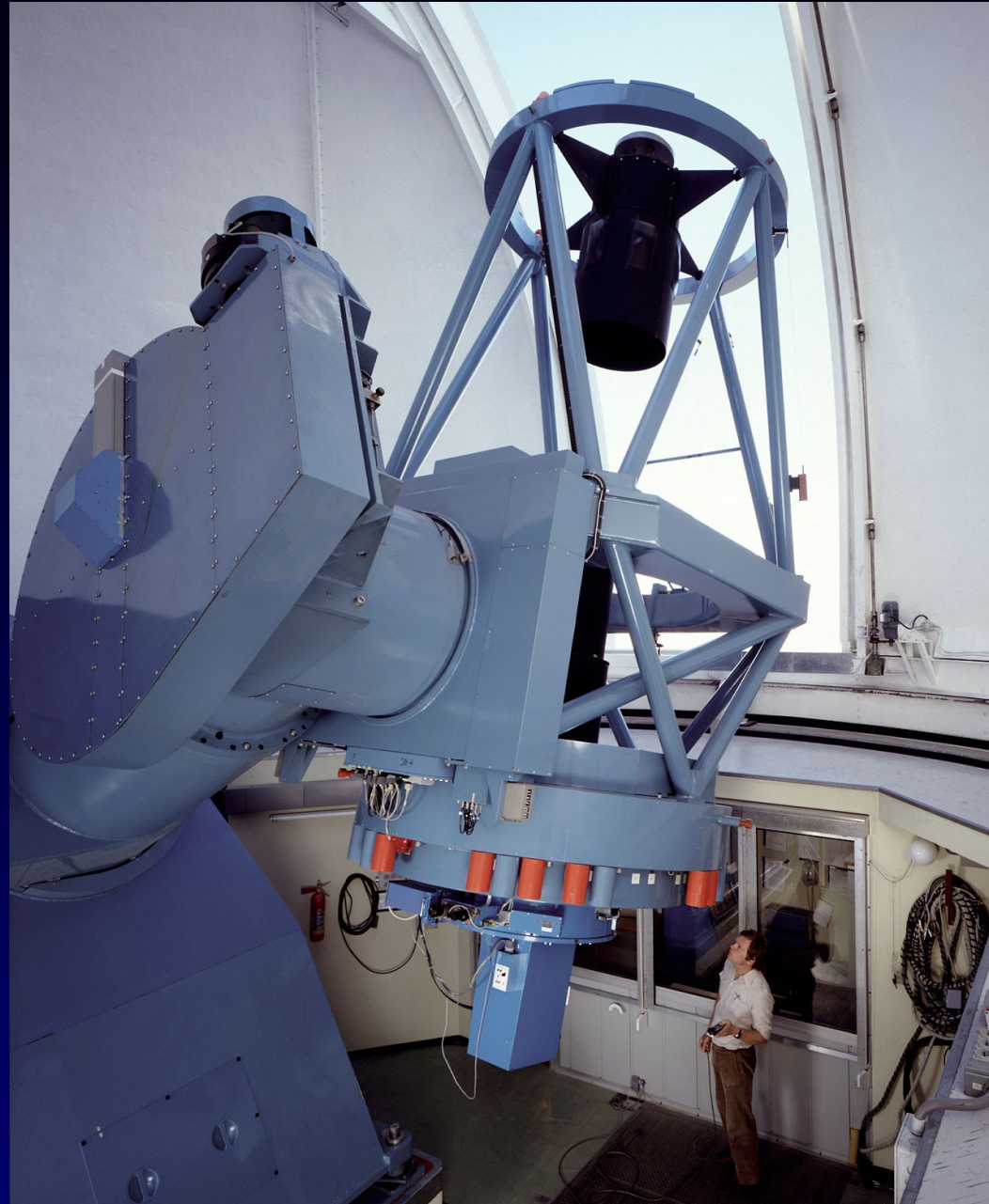
Nova V458 Vul - direct plot and on-the-fly processing with DataLink



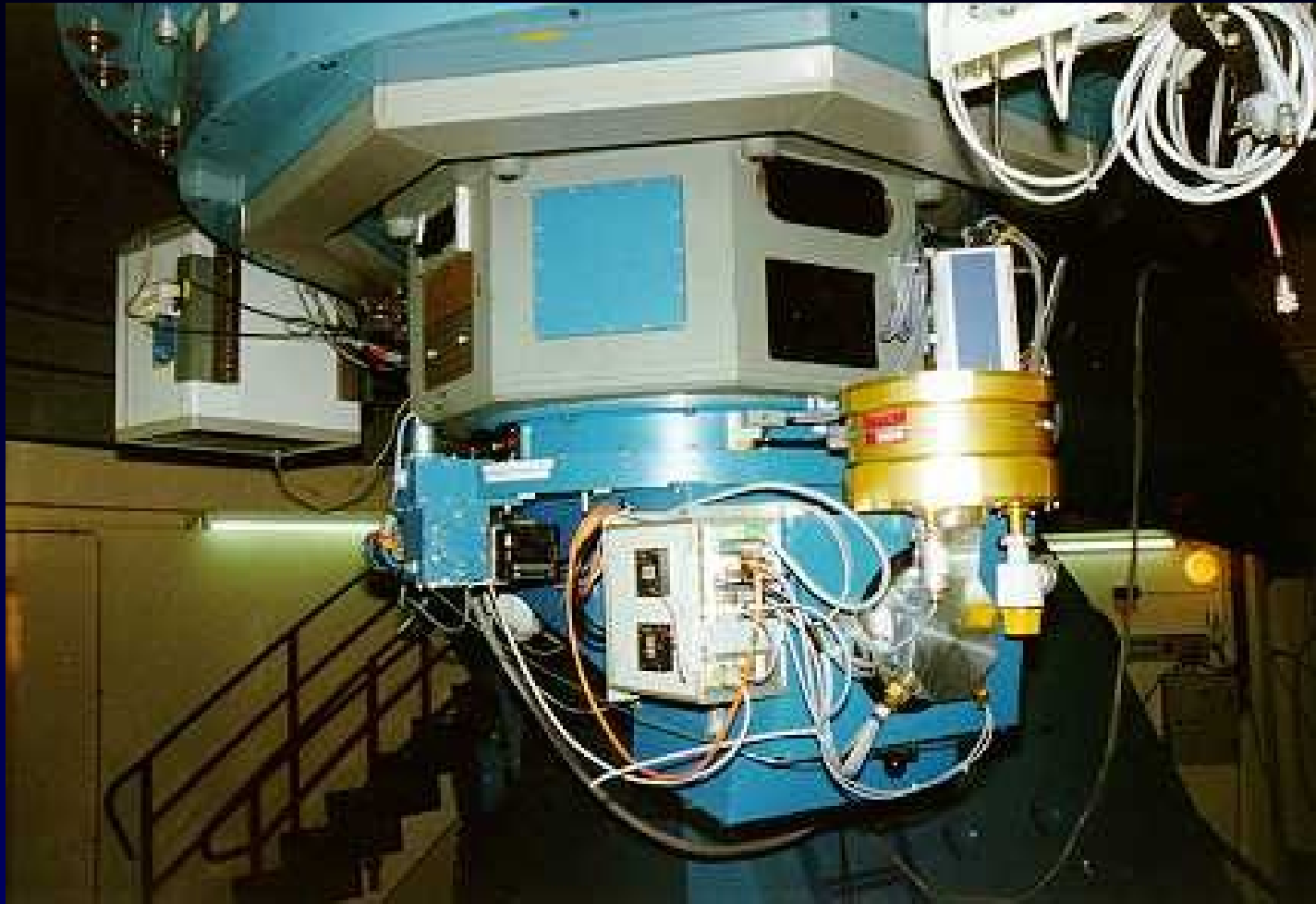
Danish 1.54m at La Silla robotized in Summer 2012



Danish 1.54m Telescope



DFOSC at 1.54m



Camera CCD

2048x2048 (cut 4k)

13.5x13.5 arcmin

filters U,B,V,R,I
Halpha, Hbeta ...

3 groups of Czech
astronomers

October-April time

Remote observing

OSPS (Ondrejov Southern Photometry Survey) – use unused part (99%) of data
- images, photometry measurements, light curves: pipeline (Hroch) VO-Munipack ,

OSPS Technology - Processing

RAW frames + calibration

approx. pointing - RA,DEC by TCS = rough WCS

filter name

image type (LIGHT, skyFLAT, BIAS)

FITS image 2048x2048x32 bit (20bit) .fz

CALIBRATED frames (in VO-Munipack)

PHDU – flatfielded + bias subtracted image (Float)

metadata – dateobs, HJD, filter, precise WCS

→ transformations (filter profile), conversions →

BINTABLE extension – source catalogue

RA,Dec,flux, mag, magerr, fluxerr...

OSPS Technology Calibration, Ingestion+X-matching

DaCHS ingestion – several tables (+obscore)

Images (raw, calibrated) – metadata + accref

conversion to degraded PNG + WCS

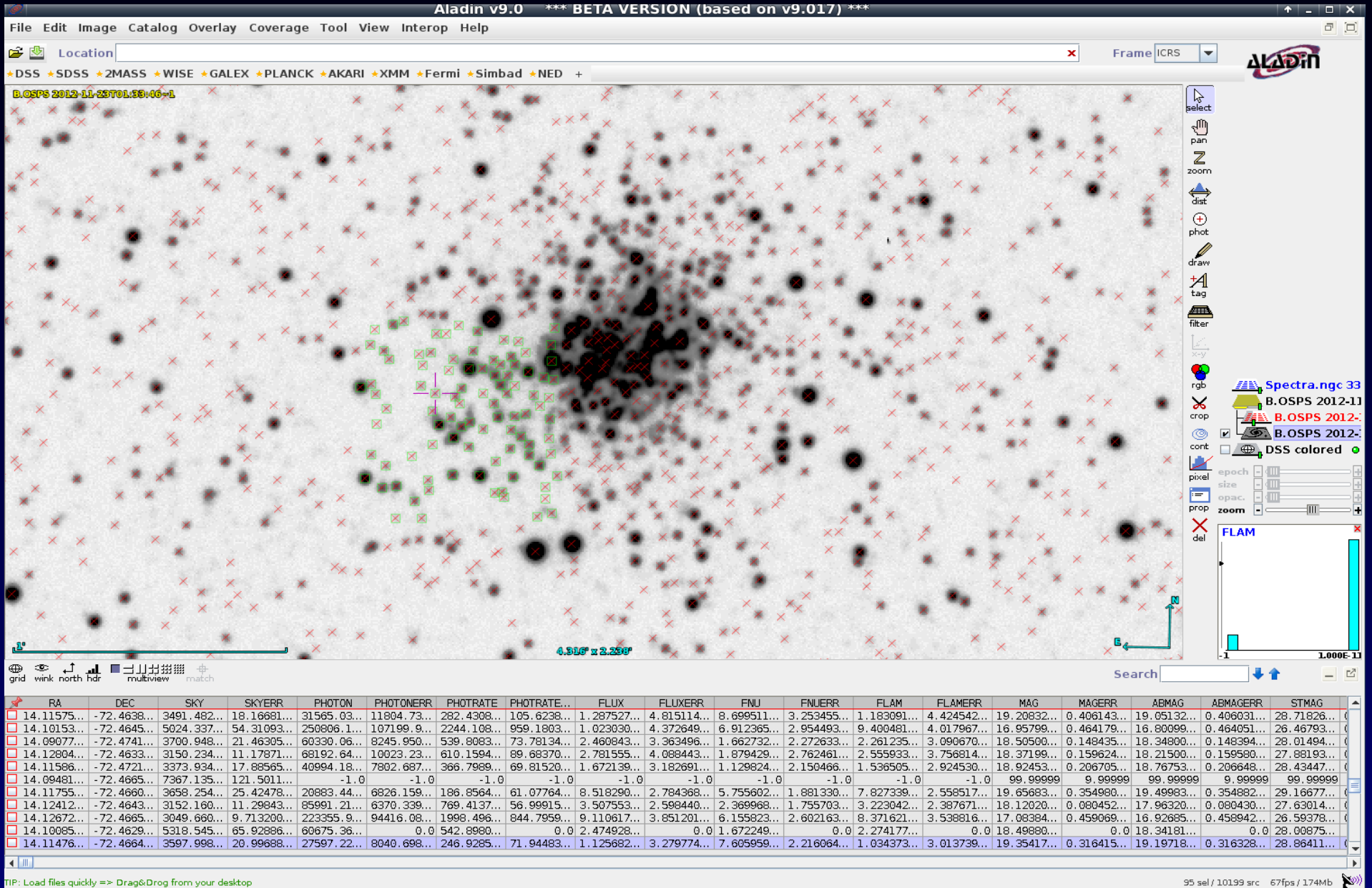
Small preview thumbnails

photometric points – coords (small spread), filter, HJD

Clustering coords (method by Nádvorník)

→ ObjectID

Reduced OSPS image + bintable photometry in 2nd extension



TIP: Load files quickly => Drag&Drop from your desktop

95 sel / 10199 src 67fps / 174Mb

OSPS Technology - Publishing

RAW frames in SIAP

(authentication for FITS, free PNG)

CALIBRATED IMAGE in SIAP

(FITS contains the bintable extension with source cat)

BINTABLE extension

SCS(+query by filter,time)

TAP (advanced query in ADQL)

LIGHTCURVE (constructed on the fly by objID)

Was SSAP based, now Sparse Data Cube

OSPS Technology - Consuming

Aladin (SIAP, SCS) Image+catalogue in 1file

TOPCAT (TAP, SCS SSAP activation)

SPLAT-VO (direct name resolution)

web form

SAMP (Ic in TOPCAT, plot, sorting, filtering)

SAMP to Period04 - Power spectrum, aliases

VO is used in whole survey as integral part of SW

VO Services - Experimental



AIASCR VO Services

Welcome to ASU CAS Data Center.

In addition to the services listed below, on this site you probably can access [numerous tables](#) using [TAP](#) or [form-based ADQL](#).

Please check out our [site help](#).

This project was supported by grant 13-08195S of Czech Science Foundation.

Services Available

By Title

By Subject

By Author

- ▶ [CCD700 Spectra Web Interface](#) [i](#) [Q](#)
- ▶ [DK154 Lightcurves Web Interface](#) [i](#) [Q](#)
- ▶ [DK154 Ondrejov RAW observations SIAP](#) [i](#) [Q](#)
- ▶ [DK154 Ondrejov REDUCED observations SIAP](#) [i](#) [Q](#)
- ▶ [DK154 SCS for observed objects](#) [i](#) [Q](#)
- ▶ [HEROS Public Spectra Web Interface](#) [i](#) [Q](#)
- ▶ [LAMOST DR1 Spectra Web Interface](#) [i](#) [Q](#)
- ▶ [LAMOST DR3 Spectra Web Interface](#) [i](#) [Q](#)
- ▶ [LAMOST PILOT Spectra Web Interface](#) [i](#) [Q](#)

SIAP - Raw images query



DK154 Ondrejov RAW observations SIAP

Observations captured by ASU CAS facility by DK154 telescope

[Help](#)

[Service info](#)

Metadata

Identifier
ivo://asu.cas.cz/dk154_raw

Description
Observations captured by .

Keywords
DK154

Creator
[Logo]

Created
2012-04-27T00:00:00

Data updated
2016-03-12

Reference URL
[Service info](#)

[Try ADQL](#) to query our data.

Please report errors and problems to the [site operators](#). Thanks.

[Privacy](#) | [Disclaimer](#)

[Log in](#)

Position [deg]
ICRS Position, RA,DEC, or Simbad object (e.g., 234.234,-32.45)

Field size [deg]
Size in decimal degrees (e.g., 0.2 or 1,0.1)

Intersection type

- Image overlaps Rol
- Image covers Rol
- Rol covers image
- The given position is shown on image

Relation of image and specified Region of Interest.

File format

- ANY
- image/png
- image/fits

Requested format of the image data

Img_type Type of observation (SCIENCE, FLAT, or BIAS)

Band [m] Wavelength (range) of interest (or symbolic bandpass names)

Minimum Date / / (day/month/year)
Minimum date (If empty, returns everything until Maximum date)

Maximum Date / / (day/month/year)
Minimum date (If empty, returns everything until Maximum date)

Table Sort by
Limit to items.

Output format

Raw images results

DK154 Ondrejov RAW observations SIAP

Parameters

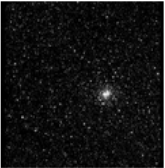
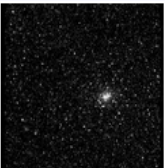
- Band: ALL
- Field size: 0.05
- File format: image/png
- Img_type: ALL
- Position: ngc 330

Result


Matched: 100

[Send via SFTP](#) [Quick Plot](#)

The query limit was reached. Increase it to retrieve more matches. Note that unsorted truncated queries are not reproducible (i.e., might return a different result set at a later time).

| Accref | Owner | Embargo ends | Type | File size [byte] | Ctr. RA [deg] | Ctr. Dec [deg] | Title | Instrument | Obs. date | #axes | Axes Lengths [pix] | Scales [deg/pix] | Ref. Frame | Equinox [yr] | Proj. | Ref. pixel [pix] | Ref. values [deg] | CD matrix [deg/pix] | Bandpass | Bandpass unit | Band Ref. [m] | Band upper [m] | Band lower [m] | P. Flags | Coverage [deg] | Exp. time [s] | Telescope | Img_type |
|--|---------|---------------------|-----------|------------------|---------------|----------------|---|------------|----------------------|-------|--------------------|----------------------------|------------|--------------|-------|------------------|---------------------------------|---|----------|---------------|---------------|----------------|----------------|----------|--|---------------|-----------|----------|
|  | beusers | 2010-12-31 00:00:00 | image/png | 247.6kiB | 14.19 | -72.45 | OSPS 2012-10-08T03:32:47.212 V ngc330field1 | DFOSC_FASU | 2012-10-08T03:32:46Z | 2 | [2148, 2048] | [0.000109996, 0.000109996] | ICRS | 2000.0 | TAN | [1074.0, 1024.0] | [14.193875, -72.45333333333333] | [[-0.000109996, -9.82956e-07, -9.82956e-07, 0.000109996]] | V | m | 5.4e-07 | 6.7e-07 | 4.85e-07 | N/A | Polygon ICRS 14.5844654144 -72.5665328579 14.5862737491 -72.3413642854 13.807794488 -72.3392662543 13.7962514963 -72.564408589 | 120.0 | DK-1.54 | LIGHT |
| ngc330field1_000003.png | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ngc330field1_000002.png | beusers | 2010-12-31 00:00:00 | image/png | 234.7kiB | 14.19 | -72.45 | OSPS 2012-10-08T03:29:15.728 B ngc330field1 | DFOSC_FASU | 2012-10-08T03:29:15Z | 2 | [2148, 2048] | [0.000109996, 0.000109996] | ICRS | 2000.0 | TAN | [1074.0, 1024.0] | [14.193875, -72.45333333333333] | [[-0.000109996, -9.82956e-07, -9.82956e-07, 0.000109996]] | B | m | 4.4e-07 | 5.6e-07 | 3.6e-07 | N/A | Polygon ICRS 14.5844654144 -72.5665328579 14.5862737491 -72.3413642854 13.807794488 -72.3392662543 13.7962514963 -72.564408589 | 180.0 | DK-1.54 | LIGHT |
| ngc330field1_000005.png | beusers | 2010-12-31 00:00:00 | image/png | 266.2kiB | 14.19 | -72.45 | OSPS 2012-10-08T03:37:43.924 R ngc330field1 | DFOSC_FASU | 2012-10-08T03:37:42Z | 2 | [2148, 2048] | [0.000109996, 0.000109996] | ICRS | 2000.0 | TAN | [1074.0, 1024.0] | [14.193875, -72.45333333333333] | [[-0.000109996, -9.82956e-07, -9.82956e-07, 0.000109996]] | R | m | 6.2e-07 | 8.5e-07 | 5.8e-07 | N/A | Polygon ICRS 14.5844654144 -72.5665328579 14.5862737491 -72.3413642854 13.807794488 -72.3392662543 13.7962514963 -72.564408589 | 120.0 | DK-1.54 | LIGHT |
| ngc330field1_000004.png | beusers | 2010-12-31 00:00:00 | image/png | 246.5kiB | 14.19 | -72.45 | OSPS 2012-10-08T03:35:12.456 V ngc330field1 | DFOSC_FASU | 2012-10-08T03:35:12Z | 2 | [2148, 2048] | [0.000109996, 0.000109996] | ICRS | 2000.0 | TAN | [1074.0, 1024.0] | [14.193875, -72.45333333333333] | [[-0.000109996, -9.82956e-07, -9.82956e-07, 0.000109996]] | V | m | 5.4e-07 | 6.7e-07 | 4.85e-07 | N/A | Polygon ICRS 14.5844654144 -72.5665328579 14.5862737491 -72.3413642854 13.807794488 -72.3392662543 13.7962514963 -72.564408589 | 120.0 | DK-1.54 | LIGHT |
|  | beusers | 2010-12-31 00:00:00 | image/png | 260.8kiB | 14.19 | -72.45 | OSPS 2012-10-08T03:40:09.216 R ngc330field1 | DFOSC_FASU | 2012-10-08T03:40:09Z | 2 | [2148, 2048] | [0.000109996, 0.000109996] | ICRS | 2000.0 | TAN | [1074.0, 1024.0] | [14.193875, -72.45333333333333] | [[-0.000109996, -9.82956e-07, -9.82956e-07, 0.000109996]] | R | m | 6.2e-07 | 8.5e-07 | 5.8e-07 | N/A | Polygon ICRS 14.5844654144 -72.5665328579 14.5862737491 -72.3413642854 13.807794488 -72.3392662543 13.7962514963 -72.564408589 | 120.0 | DK-1.54 | LIGHT |
| ngc330field1_000006.png | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ngc330field1_000001.png | beusers | 2010-12-31 00:00:00 | image/png | 235.3kiB | 14.19 | -72.45 | OSPS 2012-10-08T03:25:50.480 B ngc330field1 | DFOSC_FASU | 2012-10-08T03:25:50Z | 2 | [2148, 2048] | [0.000109996, 0.000109996] | ICRS | 2000.0 | TAN | [1074.0, 1024.0] | [14.193875, -72.45333333333333] | [[-0.000109996, -9.82956e-07, -9.82956e-07, 0.000109996]] | B | m | 4.4e-07 | 5.6e-07 | 3.6e-07 | N/A | Polygon ICRS 14.5844654144 -72.5665328579 14.5862737491 -72.3413642854 13.807794488 -72.3392662543 13.7962514963 -72.564408589 | 180.0 | DK-1.54 | LIGHT |

Reduced images query



DK154 Ondrejov REDUCED observations SIAP

Observations captured by ASU CAS facility by DK154 telescope

[Help](#)

[Service info](#)

Metadata

Identifier
ivo://asu.cas.cz/dk154_rec

Description
Observations captured by

Keywords
DK154

Creator
[Logo]

Created
2012-04-27T00:00:00

Data updated
2016-03-12

Reference URL
[Service info](#)

Try [ADQL](#) to query our data.

Please report errors and problems to the [site operators](#). Thanks.
[Privacy](#) | [Disclaimer](#)
[Log in](#)

Position [deg]
ICRS Position, RA,DEC, or Simbad object (e.g., 234.234,-32.45)

Field size [deg]
Size in decimal degrees (e.g., 0.2 or 1,0.1)

Intersection type
 Image overlaps Rol
 Image covers Rol
 Rol covers image
 The given position is shown on image
Relation of image and specified Region of Interest.

File format
 ANY
 image/png
 image/fits
Requested format of the image data

Img_type
Type of observation (SCIENCE, FLAT, or BIAS)

Band [m]
Wavelength (range) of interest (or symbolic bandpass names)

Minimum Date / / (day/month/year)
Minimum date (If empty, returns everything until Maximum date)

Maximum Date / / (day/month/year)
Maximum date (If empty, returns everything until Maximum date)

Table
Sort by
Limit to items.

Output format

OSPS SIAP in Aladin (DSS in back)

Server selector

Others

Image servers

- Aladin images
- SkyView
- UKIDSS
- Sloan
- DSS...
- DK154
- VLA...
- Archives...
- Others...

Target (ICRS, name)

Radius

Filter

Format

Obs min date

Obs max date

Catalog servers

- All
- VizieR
- Surveys
- Missions
- Simbad
- NED
- MOC
- SkyBot
- Others...

| Filter | Date | Time | Field | Size |
|-------------------------------------|------|-------------------------|-------------------------------|------|
| <input type="checkbox"/> | OSPS | 2012-10-29T05:54:22.420 | B smcfield2 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-29T01:48:48.252 | B ngc330field2 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-29T03:52:26.692 | B ngc330field4 14.2' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2012-10-29T00:10:45.812 | B ngc330field1 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-29T04:57:03.448 | B smcfield1 14.3' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2012-10-29T00:12:11.064 | B ngc330field1 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-29T04:55:38.396 | B smcfield1 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-29T03:53:52.364 | B ngc330field4 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-29T05:55:47.688 | B smcfield2 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-29T01:47:23.004 | B ngc330field2 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2013-01-27T01:46:31.516 | B NGC330field04 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2013-01-27T01:27:22.060 | B NGC330field03 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2013-01-27T01:29:47.312 | B NGC330field03 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2013-01-27T01:48:56.764 | B NGC330field04 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2014-10-15T00:14:47.359 | B test 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T03:42:40.032 | B smcfield1 14.3' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2012-11-23T01:33:46.772 | B ngc330field1 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T03:14:26.516 | B ngc330field4 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T02:11:34.656 | B ngc330field2 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T02:44:49.640 | B ngc330field3 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T02:46:14.732 | B ngc330field3 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T02:10:09.404 | B ngc330field2 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T03:15:51.820 | B ngc330field4 14.2' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2012-11-23T01:35:12.024 | B ngc330field1 14.2' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-11-23T03:40:14.609 | B smcfield1 14.2' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2014-12-10T02:44:19.504 | B ngc330field01 14.3' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2014-12-10T02:29:49.452 | B ngc330field01 14.2' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2014-12-10T02:37:04.284 | B ngc330field01 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2013-01-26T02:18:14.056 | B ngc330field02 14.3' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2013-01-26T01:45:40.160 | B ngc330field01 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2013-01-26T02:15:48.812 | B ngc330field02 14.3' x 13.6' | |
| <input checked="" type="checkbox"/> | OSPS | 2013-01-26T01:48:04.964 | B ngc330field01 14.3' x 13.6' | |
| <input type="checkbox"/> | OSPS | 2012-10-08T06:05:59.800 | B smcfield1 14.2' x 13.6' | |

Aladin v9.0 * BETA VERSION (based on v9.017) *****

ay Coverage Tool View Interop Help

Frame

ALEX * PLANCK * AKARI * XMM * Fermi * Simbad * NED +

select
pan
zoom
dist
phot
draw
tag
filter
x-y
rgb
crop
cont
pixel
prop
del
Spectra.ngc 33
B.OSPS 2012-11
B.OSPS 2012-
B.OSPS 2012-
DSS colored

epoch
size
opac.
zoom

Search

54.84 x 43.2
14.2' x 13.54'

der GNU GPL v3 0 sel / 10199 src 26fps / 403Mb

OSPS Image coverage (footprints)

Target (ICRS, name) 05 15 53 -69 25 57

Radius 10 deg

Filter R - Filter R

Format image/png

Obs min date

Obs max date

| Filter | Date | Time | RA | Dec | Filter | RA | Dec |
|--------|------------|---------------|-------|-------|--------|------|------|
| R | 2013-02-25 | 04:55:50.713 | 14.2 | 13.6 | R | 14.2 | 13.6 |
| R | 2013-02-25 | 03:23:04.800 | 14.2 | 13.6 | R | 14.2 | 13.6 |
| OSPS | 2015-01-05 | T01:09:44.372 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T01:58:30.980 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T08:16:30.888 | LMC52 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T06:46:14.164 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T04:26:44.012 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T08:50:50.510 | LMC52 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T02:37:13.832 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T00:47:50.584 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T00:49:50.776 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T05:37:36.244 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T07:31:12.104 | LMC52 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T03:32:56.160 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T05:31:36.388 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T04:52:58.112 | LMC52 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T04:59:18.207 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T07:55:26.440 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T05:01:19.872 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T01:56:30.956 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T03:42:57.456 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T06:16:03.988 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T06:14:03.732 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T06:10:03.804 | LMC52 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T04:20:44.316 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T03:20:55.868 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T02:51:37.240 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T02:33:15.952 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T02:41:13.124 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T08:44:45.780 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T08:54:55.836 | LMC52 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T00:43:50.628 | LMC03 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T02:45:36.976 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T07:14:51.916 | LMC52 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T06:00:06.644 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T02:02:31.648 | LMC01 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T04:30:43.492 | LMC33 | 14.2 | x | 13.6 | |
| OSPS | 2015-01-05 | T08:05:31.448 | R | LMC52 | 14.2 | x | 13.6 |
| OSPS | 2015-01-05 | T06:06:05.956 | R | LMC52 | 14.2 | x | 13.6 |

Stack controls:

- select
- pan
- zoom
- dist
- phot
- draw
- tag
- filter
- rgb
- crop
- cont
- pixel
- prop
- del

Frame: ICRS

Search: 05:13:33.99 -69:22:41.7
4.882" x 4.644"

INFO on this ...

Reset Clear SUBMIT Close

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0 sel / 0 src 67fps / 184Mb

Simple Cone Search Query

DK154 SCS for observed objects

Identified objects on DK-154 surveys

| | | |
|---------------|--|-------------------------------|
| Position/Name | <input type="text" value="ogle lmc-dpv-056"/> | [?char expr.] |
| | <i>Coordinates (as h m s, d m s or decimal degrees), or SIMBAD-resolvable object</i> | |
| Search radius | <input type="text" value="0.005"/> | |
| | <i>Search radius in arcminutes</i> | |
| Bandpass | <input type="text" value="R"/> | [?char expr.] |
| | <i>Freeform name of the bandpass used</i> | |
| Minimum Date | <input type="text"/> / <input type="text"/> / <input type="text"/> (day/month/year) | |
| | <i>Minimum date (If empty, returns everything until Maximum date)</i> | |
| Maximum Date | <input type="text"/> / <input type="text"/> / <input type="text"/> (day/month/year) | |
| | <i>Maximum date (If empty, returns everything until Maximum date)</i> | |
| Table | Sort by <input type="text" value="Mag"/> <input type="text" value="DESC"/> | |
| | Limit to <input type="text" value="100"/> items. | |
| Output format | <input type="text" value="HTML"/> | |

Simple Cone Search results (+plot)

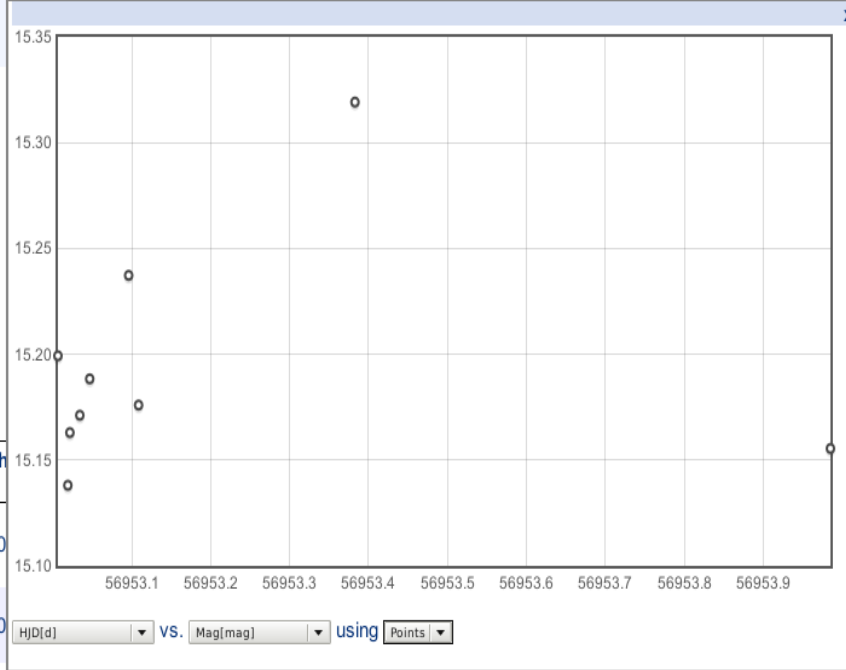
DK154 SCS for observed objects

Parameters

- Bandpass: R
- Position/Name: ogle lmc-dpv-056
- Search radius: 0.005

Result

Matched: 9



| Raj2000 [deg] | Dej2000 [deg] | Mag [mag] | Abmag [abmag] | Stmag [stmag] | Ph | Photonerr [photon] | Flxerr | Fnuerr | Flamerr | Sky | Skyerr | Obsname_id | Star |
|---------------|----------------|-----------|---------------|---------------|---------|--------------------|-------------|-------------|-------------|-----|--------|------------|------|
| 78.9717366598 | -69.4327633358 | 15.1381 | 15.1255 | 25.1279 | 10 | 37574.6 | 1.88297e-16 | 1.84605e-30 | 1.84333e-21 | N/A | N/A | 1414024001 | 74 |
| 78.9715961205 | -69.4327658198 | 15.1555 | 15.1429 | 25.1453 | 10 | 45015.4 | 1.25436e-16 | 1.22976e-30 | 1.22795e-21 | N/A | N/A | 1414107477 | 88 |
| 78.9716844657 | -69.4327594222 | 15.163 | 15.1504 | 25.1528 | 10354.0 | 204309.0 | 5.69308e-16 | 5.58145e-30 | 5.57323e-21 | N/A | N/A | 1414024226 | 71 |
| 78.9717015981 | -69.4327770616 | 15.1712 | 15.1587 | 25.161 | 10275.2 | 221291.0 | 6.16628e-16 | 6.04538e-30 | 6.03648e-21 | N/A | N/A | 1414025312 | 65 |
| 78.9717398443 | -69.432755869 | 15.176 | 15.1635 | 25.1658 | 10230.3 | 163081.0 | 4.54426e-16 | 4.45516e-30 | 4.4486e-21 | N/A | N/A | 1414031742 | 67 |
| 78.9717547234 | -69.4327797004 | 15.1884 | 15.1758 | 25.1782 | 10114.6 | 65462.8 | 1.82412e-16 | 1.78836e-30 | 1.78572e-21 | N/A | N/A | 1414026396 | 74 |
| 78.9716184134 | -69.4327511234 | 15.1993 | 15.1868 | 25.1891 | 10012.9 | 50615.4 | 1.4104e-16 | 1.38274e-30 | 1.38071e-21 | N/A | N/A | 1414022917 | 89 |
| 78.9717171078 | -69.4327624035 | 15.2373 | 15.2248 | 25.2271 | 9668.5 | 234876.0 | 6.54484e-16 | 6.41651e-30 | 6.40707e-21 | N/A | N/A | 1414030659 | 68 |
| 78.9716381451 | -69.4327718485 | 15.3192 | 15.3067 | 25.309 | 8966.03 | 253085.0 | 7.05222e-16 | 6.91394e-30 | 6.90377e-21 | N/A | N/A | 1414055431 | 319 |

OSPS Light Curves - results

DK154 Lightcurves Web Interface

Parameters

- Band: ALL
- Position/Name: ogle lmc-dpv-056
- Search radius: 0.05

Result

Matched: 5

| Product key | Type | Object | Location [deg] | Start Date Obs. | End Date Obs. |
|--------------------------------------|---------------------------|--------------------------------|---|----------------------|----------------------|
| 2329093547214535910B | application/x-votable+xml | ASU CAS 2329093547214535910 | Position ICRS 78.9717227638 -69.4327636069 | 2014-10-23T00:14:43Z | 2014-10-24T09:20:16Z |
| 2329093547214535910U | application/x-votable+xml | ASU CAS 2329093547214535910 | Position ICRS 78.9717227638 -69.4327636069 | 2014-10-23T00:21:16Z | 2014-10-23T23:50:36Z |
| 2329093547214535910R | application/x-votable+xml | ASU CAS 2329093547214535910 | Position ICRS 78.9717227638 -69.4327636069 | 2014-10-23T00:09:22Z | 2014-10-23T23:38:41Z |
| 2329093547214535910I | application/x-votable+xml | ASU CAS 2329093547214535910 | Position ICRS 78.9717227638 -69.4327636069 | 2014-10-23T00:12:31Z | 2014-10-23T23:41:50Z |
| 2329093547214535910V | application/x-votable+xml | ASU CAS 2329093547214535910 | Position ICRS 78.9717227638 -69.4327636069 | 2014-10-23T00:10:55Z | 2014-10-23T23:40:14Z |

OSPS Light curves in SPLAT-VO (old SSAP based)

Starlink SPLAT-VO: Query VO for Spectra

File Options Resolver Interop Help

Service selection options
Data Source
 Observed data Theoretical data

Wave Band
 Radio Millimeter Infrared
 Optical UV EUV
 X-ray Gamma-ray ALL

Tags
+ -

SSAP Servers

| short name ^ | title |
|------------------|-------------------------|
| 6dF Spectra | 6dF DR3 Simple Spe... |
| BEFS | Berkeley Extreme an... |
| BeSS | Be Stars Spectra |
| califa ssa | CALIFA DR2 |
| castor | Espadons/Narval leg... |
| castor+ | Espadons/NARVAL le... |
| CCD700-voarchive | ccd700 OND |
| ccd700-vos2 | |
| CDFS SSAP | Optical Spectroscop... |
| CENCOS-WDS_DEEP | CENCOS-WDS_DEEP... |
| CENCOS-WDS_DEEP+ | CENCOS-WDS_DEEP... |
| CfA Hectospec | CfA Hectospec Spec... |
| dk154 | |
| dk154-extr15 | |
| dk154-extr15jan | dk154 |
| dk154-extr16jan | dk154 |
| DK154-SSA | DK154 SSA |
| ELODIE | ELODIE archive |
| ELODIEinterp | Spectrum interpolat... |
| ESO SAF SSA | ESO Science Archive... |
| EUVE | Extreme Ultraviolet ... |
| extract-sub | DK154 |

Select all Deselect all
Query registry Add New Server

Search parameters:
Simple Query
Object: ogle lmc-dpv-056
RA: 05:15:53.21 Dec: -69:25:57.9
Radius: 0.05 MAXREC:
Band:
Time:
Query Format: votable
Wavelength calibration: None
Flux calibration: None

Optional Parameters

| Use | Name | Value | UCD |
|--------------------------|-------------|-------|------------------------|
| <input type="checkbox"/> | REDSHIFT | | src.redshift |
| <input type="checkbox"/> | TARGETCLASS | | src.class |
| <input type="checkbox"/> | MTIME | | |
| <input type="checkbox"/> | SPECPR | | spect.resolution;em.wl |
| <input type="checkbox"/> | SPATRES | | pos.angResolution |
| <input type="checkbox"/> | PUBDID | | |
| <input type="checkbox"/> | CREATORID | | meta.id |

Select all Deselect all Update

Query: <SERVER>?REQUEST=queryData&POS=78.97170833333332,-69.43275&FORMAT=votable&SIZE=8.33333333333334E-4

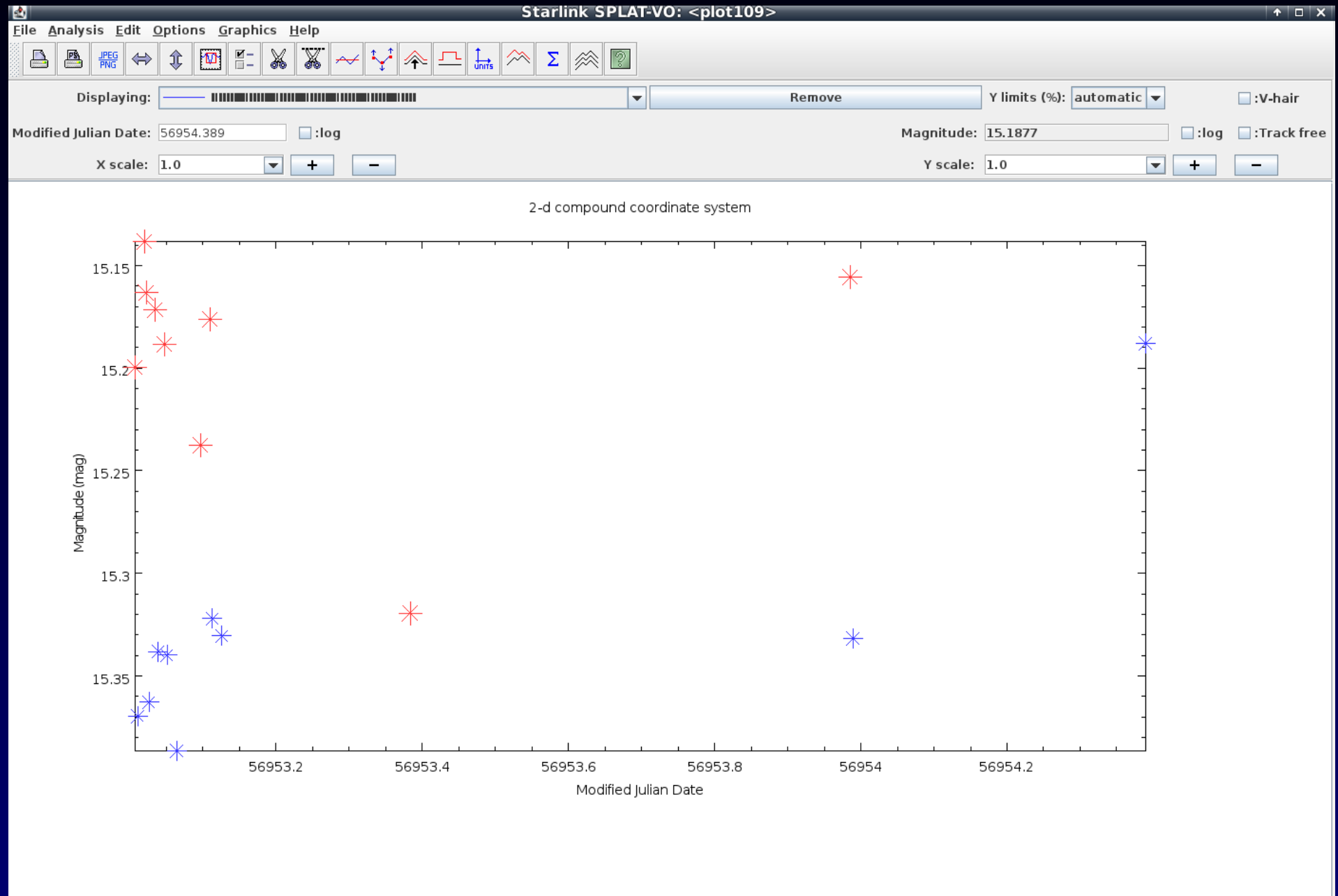
Query results:

dk154-extr16jan

| l... | ssa_targname | max_date | accref | ssa_bandpass | ssa_length | ssa_producttype | mime | location_arr |
|------|-----------------------------|-------------|----------------------------------|--------------|------------|-----------------|---------------------------|-----------------------|
| 1 | ASU CAS 2329093547214535910 | 56954.38908 | http://vos2.asu.cas.cz/getpro... | B | 9 | timeseries | application/x-votable+xml | (78.971725, -69.43276 |
| 2 | ASU CAS 2329093547214535910 | 56953.98628 | http://vos2.asu.cas.cz/getpro... | V | 8 | timeseries | application/x-votable+xml | (78.971725, -69.43276 |
| 3 | ASU CAS 2329093547214535910 | 56953.98739 | http://vos2.asu.cas.cz/getpro... | I | 8 | timeseries | application/x-votable+xml | (78.971725, -69.43276 |
| 4 | ASU CAS 2329093547214535910 | 56953.99348 | http://vos2.asu.cas.cz/getpro... | U | 8 | timeseries | application/x-votable+xml | (78.971725, -69.43276 |
| 5 | ASU CAS 2329093547214535910 | 56953.98521 | http://vos2.asu.cas.cz/getpro... | R | 9 | timeseries | application/x-votable+xml | (78.971725, -69.43276 |

Display selected Display all Download selected Download all Deselect table Deselect all DataLink Services
Save query results Restore query results Close

OSPS Light curves - plot (customized)



Summary

- VO Technology helps in discovery + query of local data (authentication)
- Obscore + TAP + TapHandle , TOPCAT
- Display (overview, removal of noisy data)
- Pre-processing and analysis (using DataLink – Big Data)
- For OSPS is VO technology an integral part of survey itself
- Web interface on VO services - helpful (works even on mobile phone, tablet)
- Previews (degraded png)
- If you use VO standards, you have a lot of options (all clients)