



Eruptive stars spectroscopy

Cataclysmics, Symbiotics, Novae, Supernovae



ARAS Eruptive Stars
Information letter n° 1 - 07-03-2014

News

Transient in Orion

05-03-2014

PNV J06000985+1426152

Mag 12.8

Dwarf nova outburst

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Nova Cen 2013 (V1369 Cen) New spectra from Terry Bohlsen

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Nova Sgr 2014

Symbiotics

D-type symbiotic V407 Cyg at mag 12

Active state of TX Cvn

Supernovae

Ungoing campaign SN2014 J (declining at mag 11.8)

Cataclysmics

Identification of transient in Orion as a dwarf nova outburst by Paolo Berardi

Aknowledgements : V band light curves from AAVSO photometric data base

ARAS Spectroscopy

ARAS Web page

<http://www.astrosurf.com/aras/>

ARAS Forum

<http://www.spectro-aras.com/forum/>

ARAS list

<https://groups.yahoo.com/neo/groups/spectro-l/info>

ARAS preliminary data base

http://www.astrosurf.com/aras/Aras_DataBase/DataBase.htm

ARAS BeAM

<http://arasbeam.free.fr/?lang=en>

Please :

- respect the procedure

- check your spectra BEFORE sending them

Resolution should be at least $R = 500$

For new transients, supernovae and poorly observed objects, SA spectra at $R = 100$ are welcomed

1/ reduce your data into BeSS file format

2/ name your file with: `_novadel2013_yyyymmdd_hhh_Observer`

novadel2013: name of the nova, fixed for this object

yyyy: year

mm: month

dd: day

hhh: fraction of the day, beginning of the observation

Observer: your pseudo/name

Exemple: `_chcyg_20130802_886_toto.fit`

3/ send you spectra to

Novae Symbiotics : François Teyssier

Supernovae : Christian Buil

to be included in the ARAS database

[Submit your spectra](#)

Nova Cen 2013 = V1369 Cen

Luminosity**Mag V = 11.8 (06-03-2014)**

Luminosity essentially produced by emission lines

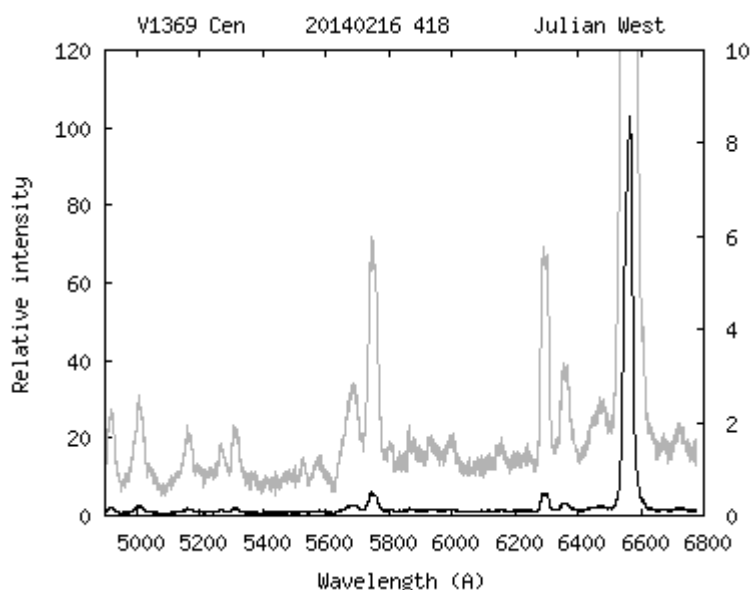
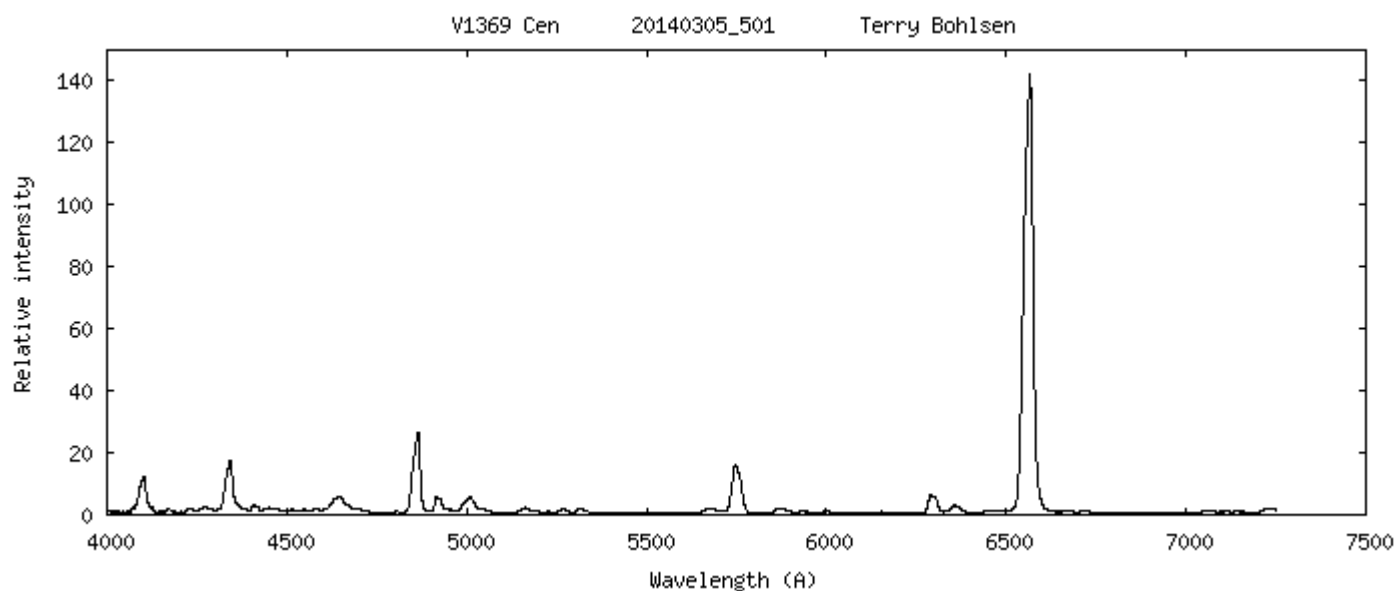
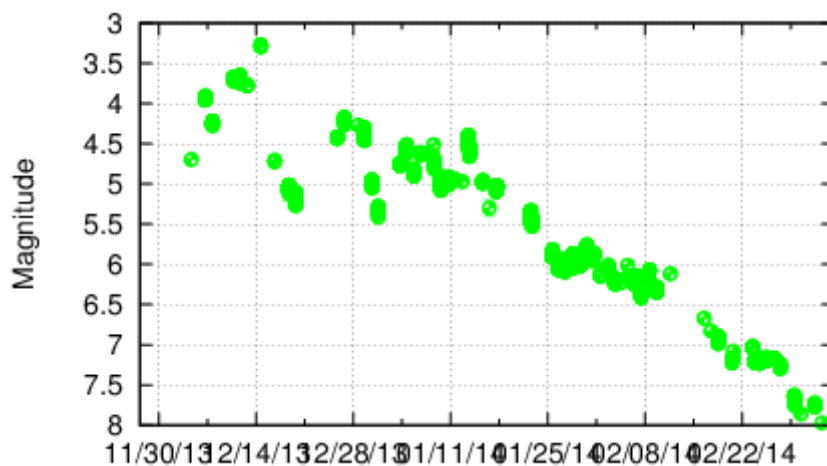
Slow decline in the long plateau phase

Observing

New spectra from Terry Bohlsen

In order to improve the SNR of the continuum, Terry acquire two sets of spectra, one of them with H α saturated. This method can be used also for faint lines of NP when [OIII] is intense

Julian West joined the campaign with a home-made spectroscop(600 l/mm) which give good results

**Observers**

Terry Bohlsen
 Malcom Locke
 Jonathan Powles
 Ken Harrison
 Jilian West
 Tasso Napoleao
 Rogerio Marcon

Nova Del 2013 = V339 Del

Luminosity**Mag V = 11.8 (06-03-2014)**

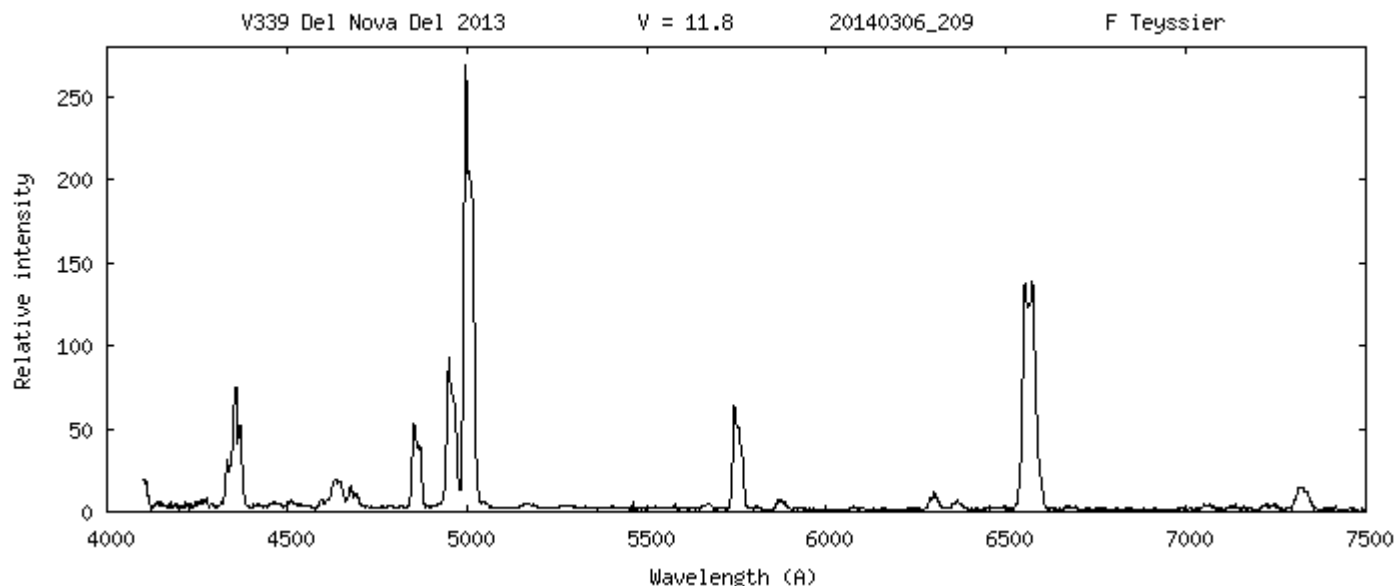
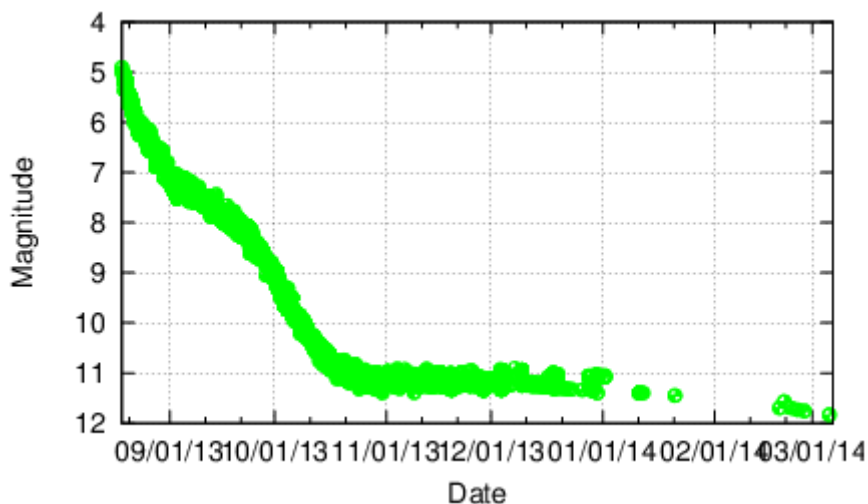
Luminosity essentially produced by emission lines

Slow decline in the long plateau phase

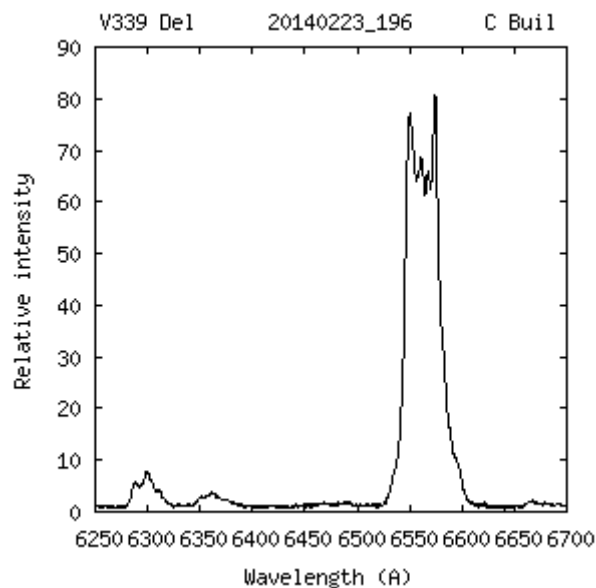
Observing

First spectra in the morning light from C. Buil and F. Teyssier

If it's still at $V \sim 11.5$ it should be possible to continue lower resolution spectroscopy and we'll be continuing observations with the Nordic Optical Telescope and, I hope, Ondrejov so if you are willing to keep up the cadence will not be the frantic scramble we had for the first months. Steve Shore -10-02-2014



Intense [OIII] lines
 He II well detached
 [Fe VII] 6087 obvious
 C. Buil's spectrum at R = 2000 shows the components of H α lines
 See also the difference with profiles of [OI] 6300, 6363

**Observers (2014)**

C. Buil
 F. Teyssier

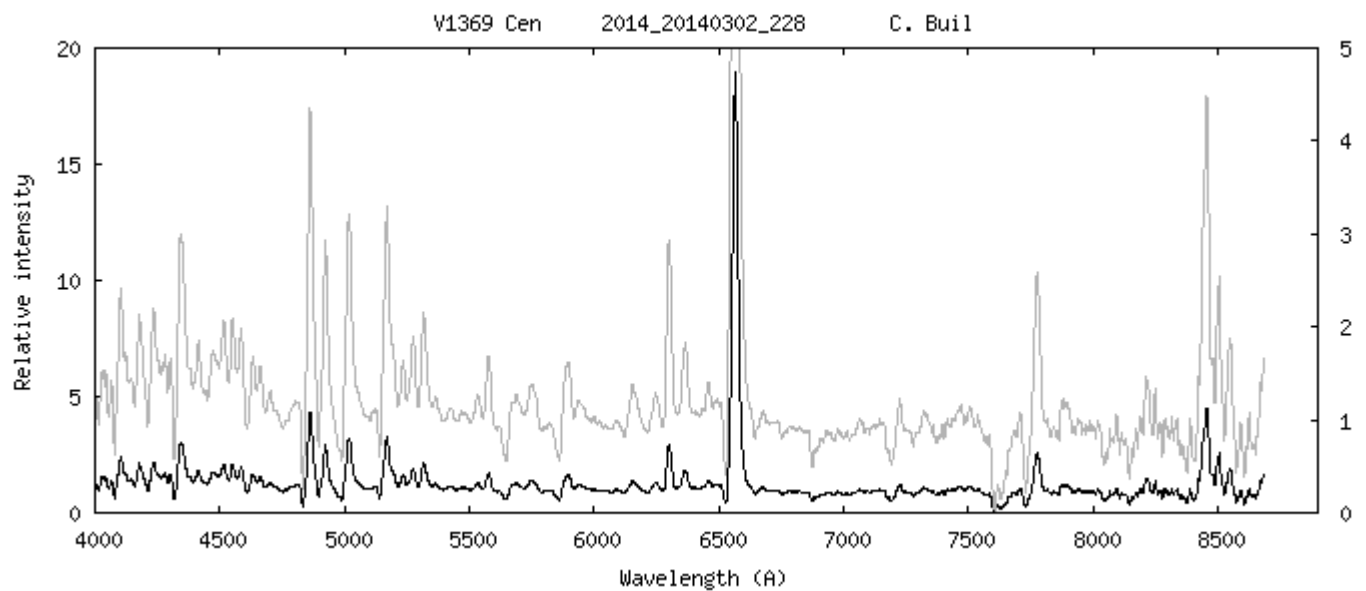
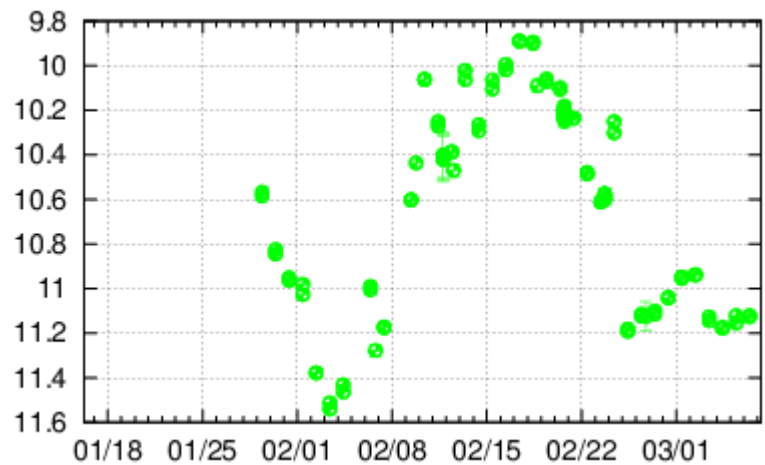
Luminosity

Mag V = 11.3 (06-03-2014)

Strong oscillations

Observing

Spectrum from C. Buil



Classical Fe type spectrum near maximum

Observer

C. Buil

V407 Cyg

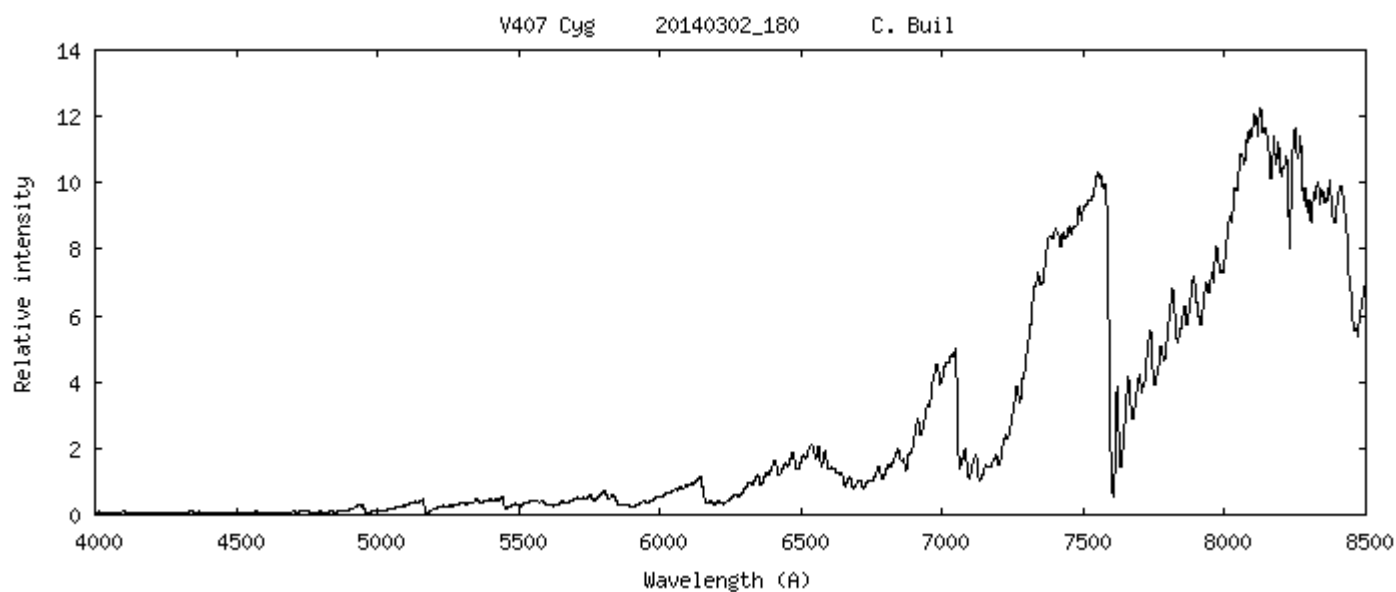
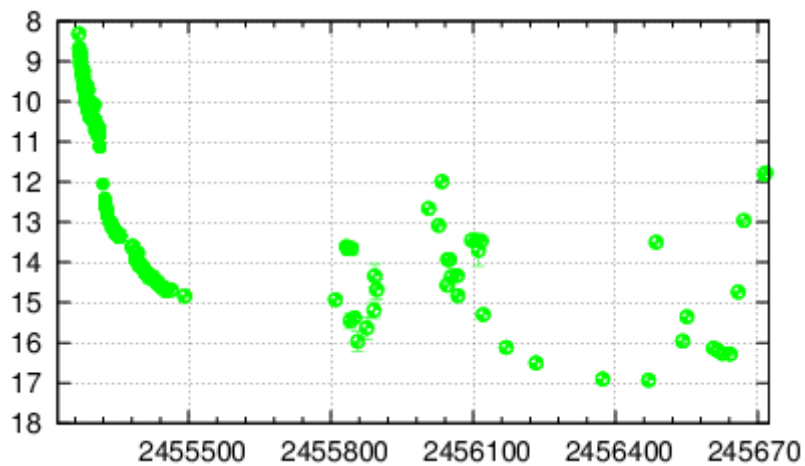
Luminosity

Mag V = 11.8 (28-02-2014)

Maximum Mira pulsation of this symbiotic D-type system which experimented a nova outburst in 2010

Observing

Spectrum from C. Buil (LISA R = 650)



Observers

C. Buil

Observing Targets of interest

In the evening :

- **V694 Mon** - The goal is to detect high state of this "exotic star"

See : <http://www.astronomie-amateur.fr/feuilles/Spectroscopie/SyS/V694Mon.html>

- **BX Mon**

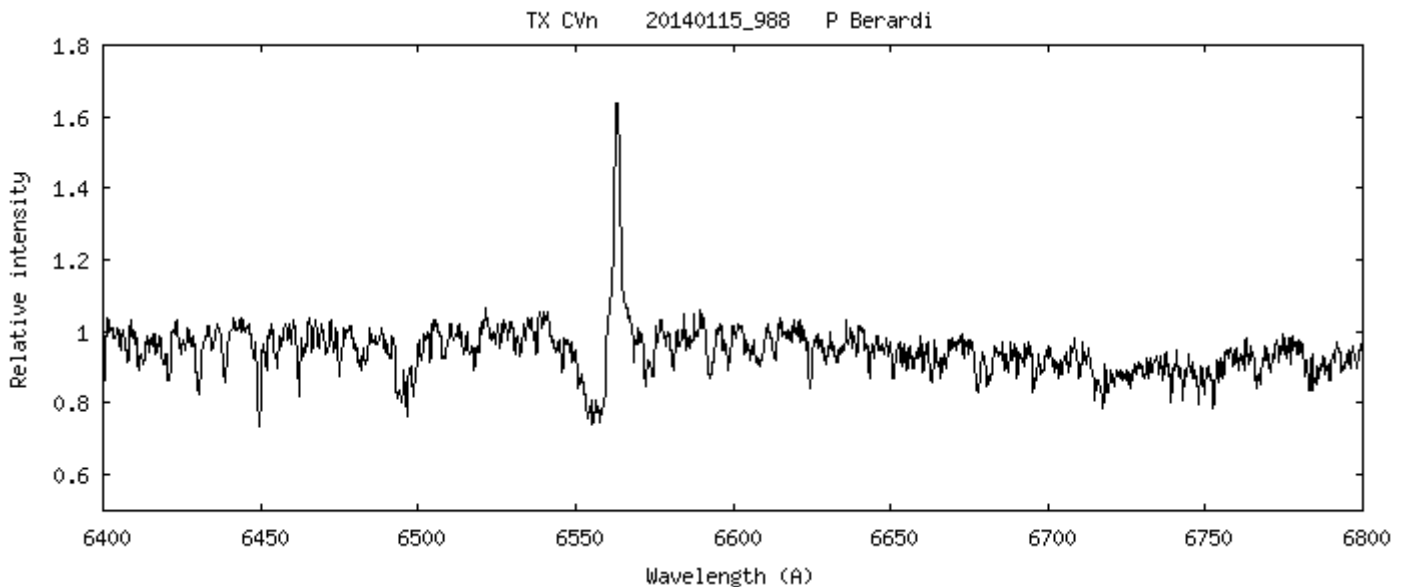
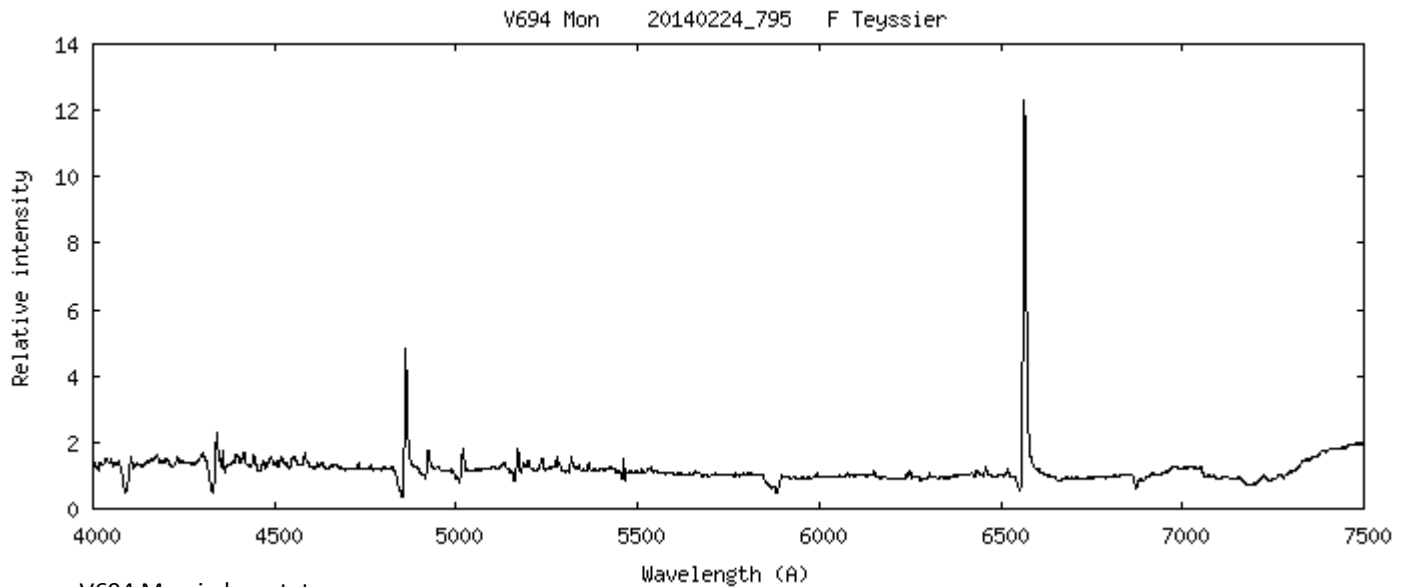
In the morning

- stars of cygnus : **CI Cyg, CH Cyg, V407 Cyg**

News

TX Cvn detected in high state at Mag V = 9.9 U. Munari & al. (14-01-2014)

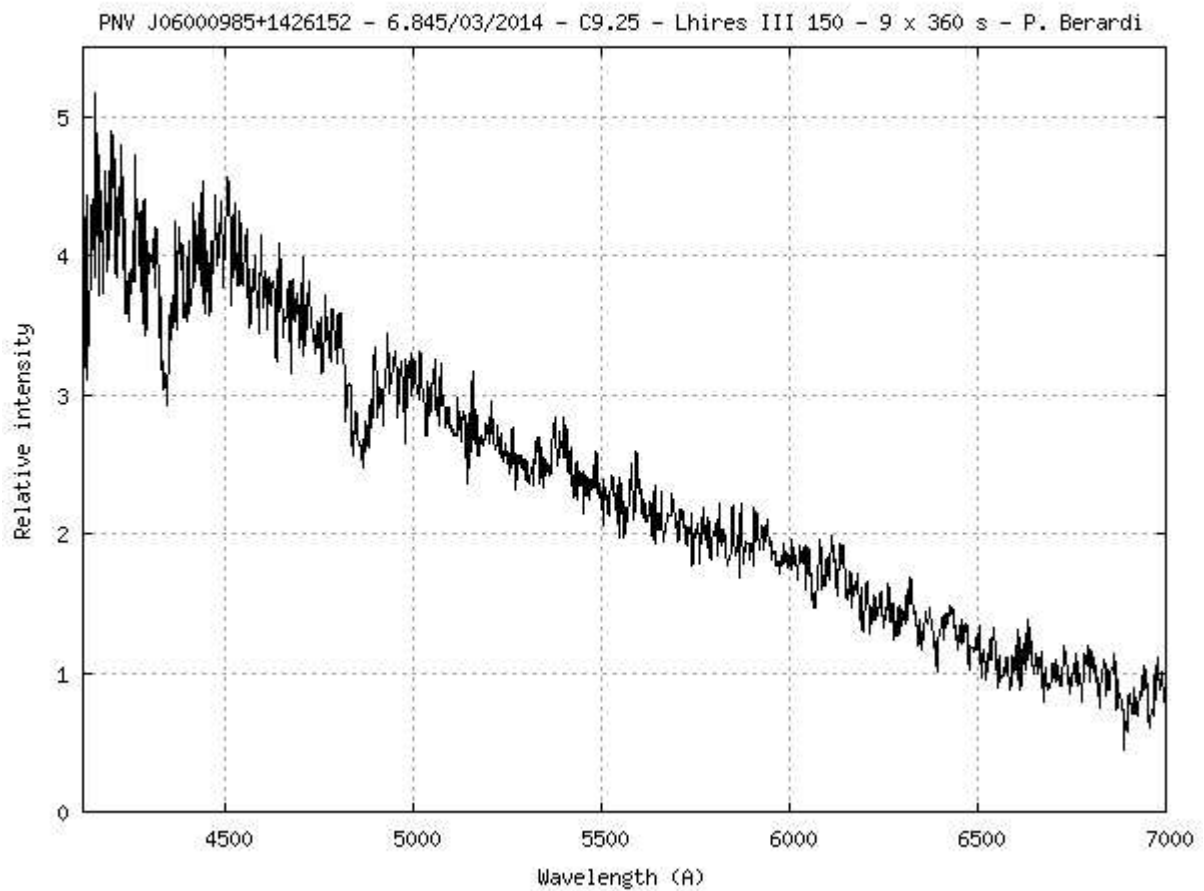
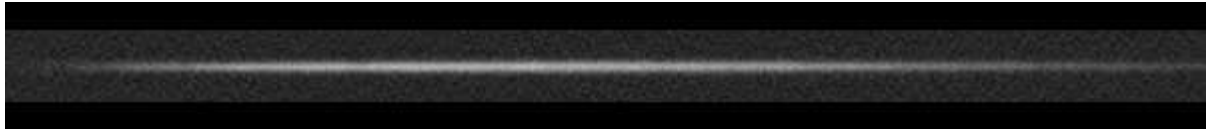
<http://www.astronomerstelegam.org/?read=5761>



News

Transient in Orion

PNV J06000985+1426152

[http://www.cbat.eps.harvard.edu/unconf/ ...
26152.html](http://www.cbat.eps.harvard.edu/unconf/...26152.html)

PNV J06000985+1426152 by Paolo Berardi at R = 700 with Lhires III 150 l/mm at mag 12.8

Strong blue continuum, H beta and H gamma in absorption, perhaps H alpha in emission - feature of dwarf nova in outburst

SN 2014J in M 82 Type Ia

Luminosity

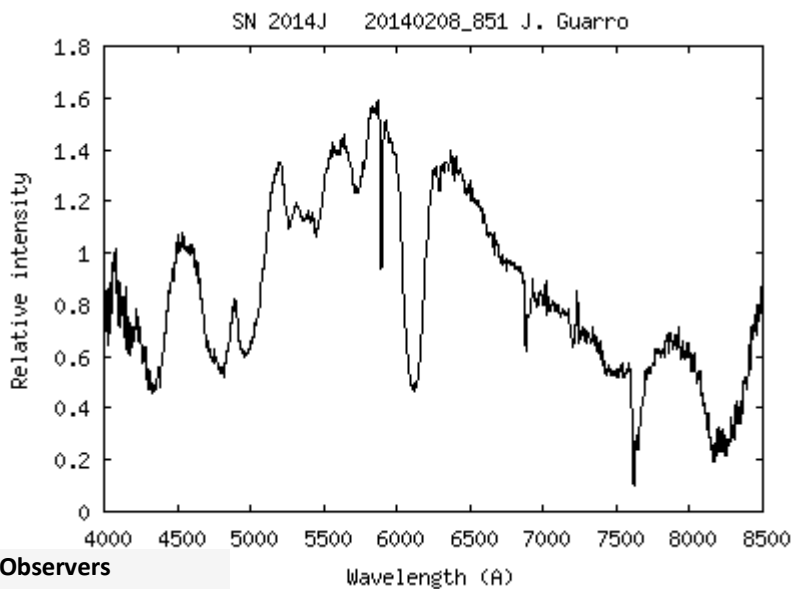
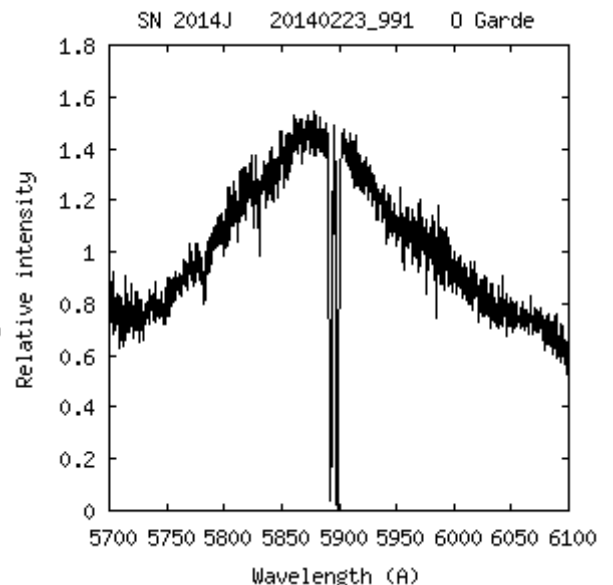
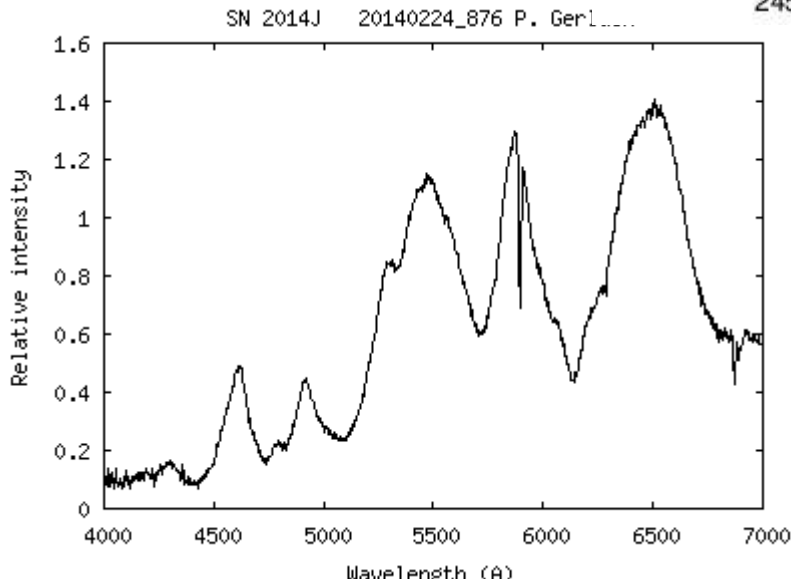
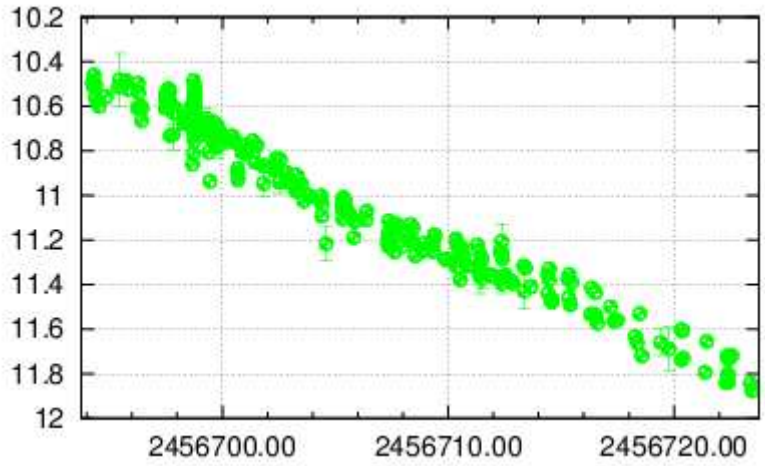
Mag V = 11.8 (06-03-2014)

In decline, about 30 days after max light of the luminous Type Ia supernova

Observing

Ungoing campaign

47 spectra in ARAS data base



The deep Na ID lines
By O. Garde with eShel (R = 11000)

Observers

- P. Berardi
- D. Boyd
- C. Buil
- P. Gerlach
- J. Guarro
- O. Garde
- A. Heidemann
- R. Leadbeater
- J. Montier
- JP Nougayrede

Inusual light curve ?

Filippenko's team was able to calculate that SN 2014J had unusual characteristics — it brightened faster than expected for a Type Ia supernova and, even more intriguing, it exhibited the same unexpected, rapid brightening as another supernova that KAIT discovered and imaged last year — SN 2013dy.

<http://newscenter.berkeley.edu/2014/02/27/closest-brightest-supernova-in-decades-is-also-a-little-weird/>

Recent publications (Jan to Feb 2014)

NOVAE

The spectroscopic evolution of the recurrent nova T Pyxidis during its 2011 outburst. III. The ultraviolet development from iron curtain through the post-X-ray turnoff

De Gennaro Aquino, I.; Shore, S. N.; Schwarz, G. J.; Mason, E.; Starrfield, S.; Sion, E. M.
Astronomy & Astrophysics, Volume 562, id.A28, 18 pp. (A&A Homepage)
2014A&A...562A..28D

Nova Aquilae 1918 (V603 Aql) Faded by 0.44 MAG Per Century from 1938 to 2013

Johnson, Christopher B.; Schaefer, Bradley E.; Kroll, Peter; Henden, Arne A.
The Astrophysical Journal Letters, Volume 780, Issue 2, article id. L25, 4 pp. (2014)

A remarkable recurrent nova in M31 - The optical observations

Darnley, M. J.; Williams, S. C.; Bode, M. F.; Henze, M.; Ness, J.-U.; Shafter, A. W.; Hornoch, K.; Votruba,
<http://arxiv.org/pdf/1401.2905.pdf>

The UBV Color Evolution of Classical nova . I. -Giant Sequence in the Color-Color Diagram

Hachisu, Izumi; Kato, Mariko
[2014arXiv1401.7113H](https://arxiv.org/abs/1401.7113)

The Detailed Photometric and Spectroscopic Study of the 2011 Outburst of the Recurrent nova T Pyxidis from 0.8 to 250 Days after Discovery

Surina, F.; Hounsell, R. A.; Bode, M. F.; Darnley, M. J.; Harman, D. J.; Walter, F. M. [2014 arXiv1402.1109S](https://arxiv.org/abs/1402.1109)

STEREO/HI and optical observations of the classical nova V5583 Sagittarii

Holdsworth, Daniel L.; Rushton, M. T.; Bewsher, D.; Walter, F. M.; Eyres, S. P. S.; Hounsell, R.; Darnley, M. J.
[2014MNRAS.438.3483H](https://arxiv.org/abs/1401.3483)

SUPERNOVAE

A review of type Ia supernova spectra

[Parrent, J.; Friesen, B.; Parthasarathy, M. arXiv1402.6337P](https://arxiv.org/abs/1402.6337)