



BeSS data validation

Standard, quality, advices for observers

Valérie Desnoux

Celebrating the 10 year anniversary of BeSS

23-27 Oct 2017 Meudon (France)

Ressources Be

Collaboration Pro-Am with C.Neiner (LESIA-Meudon)

Base de données BeSS v1.0

La base de données BeSS regroupe des spectres d'étoiles Be obtenus par des astronomes professionnels et amateurs. Cette base est maintenue au laboratoire GEPI de l'Observatoire de Paris-Meudon. Tout le monde peut interroger la base de données BeSS pour télécharger les spectres d'étoiles Be de son choix ou pour consulter le catalogue.

Cependant, si ces données sont utilisées pour des publications scientifiques, merci de faire figurer la mention : "Ce travail a utilisé la base BeSS, opérée au GEPI, Observatoire de Paris-Meudon, France : <http://basebe.obspm.fr>". De plus, lorsque vous utilisez beaucoup de spectres obtenus par la même personne, vous pouvez l'acquiescer comme co-auteur dans votre publication. Il est toujours de remercier dans votre publication les observateurs qui ont fourni moi de spectres.

Ceux qui le souhaitent peuvent aussi [s'inscrire comme observateur](#) pour déposer dans la base BeSS les spectres d'étoiles Be qu'ils ont collectés. Dans ce cas, les spectres déposés doivent être au format fits et leur entête doit contenir au minimum certains mots-clés ([voir l'aide](#)).

Nous vous remercions d'avance pour votre contribution !

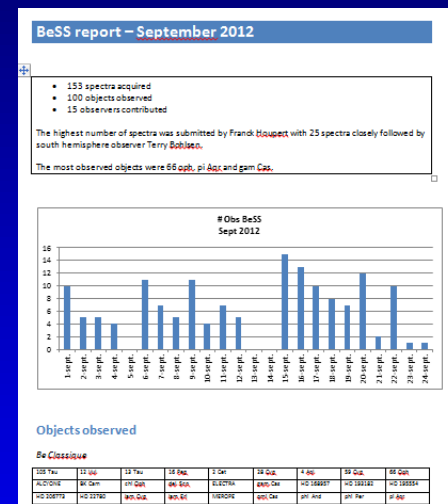
Les administrateurs de BeSS (J. Cochard, B. de Batz, C. Martayan, M. Mekkas, C. Neiner)

CRITIÈRES DE SÉLECTION DES ÉTOILES BE

Magnitude limite : -5
Déclinaison limite : -25

Liste des étoiles Be de magnitude inférieure à 5
Déclinaison limite : -25

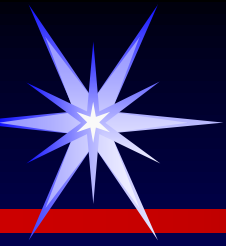
Etoile	HD	AD	DEC	Magn.	Nb. tot.	1 an	2 mois	Dernier	Période Obs
out Cas	4180	+08 44 43.5	+08 17 03.7	4.48	9	3	1	2008-10-10 21:30:17	180
gam Cas	5394	+08 56 42.5	+08 43 00.3	2.39	2723	25	8	2008-10-11 00:08:17	180
phi And	6811	+01 09 30.1	+07 14 30.5	4.25	144	5	2	2008-10-09 22:43:16	365
phi Per	10916	+01 43 39.6	+50 41 19.4	4.09	193	21	6	2008-08-27 22:31:15	90
psi Cas	11415	+01 54 23.7	+63 48 12.4	3.34	139	2	1	2008-10-10 22:32:00	365
BK Cam	20236	+01 19 58.3	+65 39 08.3	4.73	4	2	1	2008-10-09 21:46:27	365
psi Per	22192	+02 26 29.4	+08 11 32.5	4.31	1193	3	1	2008-10-10 21:37:44	365
ELECTRA	23362	+02 44 52.5	+24 06 48.0	3.71	87	3	1	2008-10-10 00:37:24	365
HERCULE	23480	+02 46 19.6	+23 56 54.1	4.16	103	3	1	2008-10-10 01:25:18	365
ALCYONE	23630	+03 47 28.1	+24 06 18.5	2.87	116	5	1	2008-10-11 01:10:17	365
HD 24479	24479	+03 57 25.4	+63 04 20.2	4.95	4	2	2	2008-10-19 22:25:22	365
psi Per	24912	+03 58 57.9	+25 47 27.7	4.04	1001	2	0	2008-02-02 21:50:24	365
48 Per	25940	+04 08 39.7	+47 42 45.0	4.00	12	3	0	2008-02-14 19:39:35	365
2 Ori	30739	+04 50 36.7	+08 54 00.6	4.35	2	0	0	2007-10-13 02:02:15	365
lam Eri	33328	+05 09 08.8	+08 45 14.7	4.25	37	1	0	2008-02-23 20:05:16	365



Database BeSS for spectrum submission

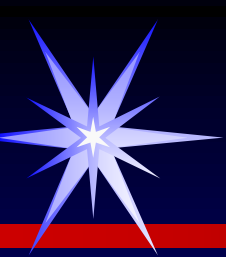
ARASBeAM is a portal to pick your target

BeSS monthly report to follow the latest events



Specific tools has been developped into Visual Spec
All are available to observer before they submit
A pdf on « how your spectra are validated » is available

Still recurrent errors are encountered...



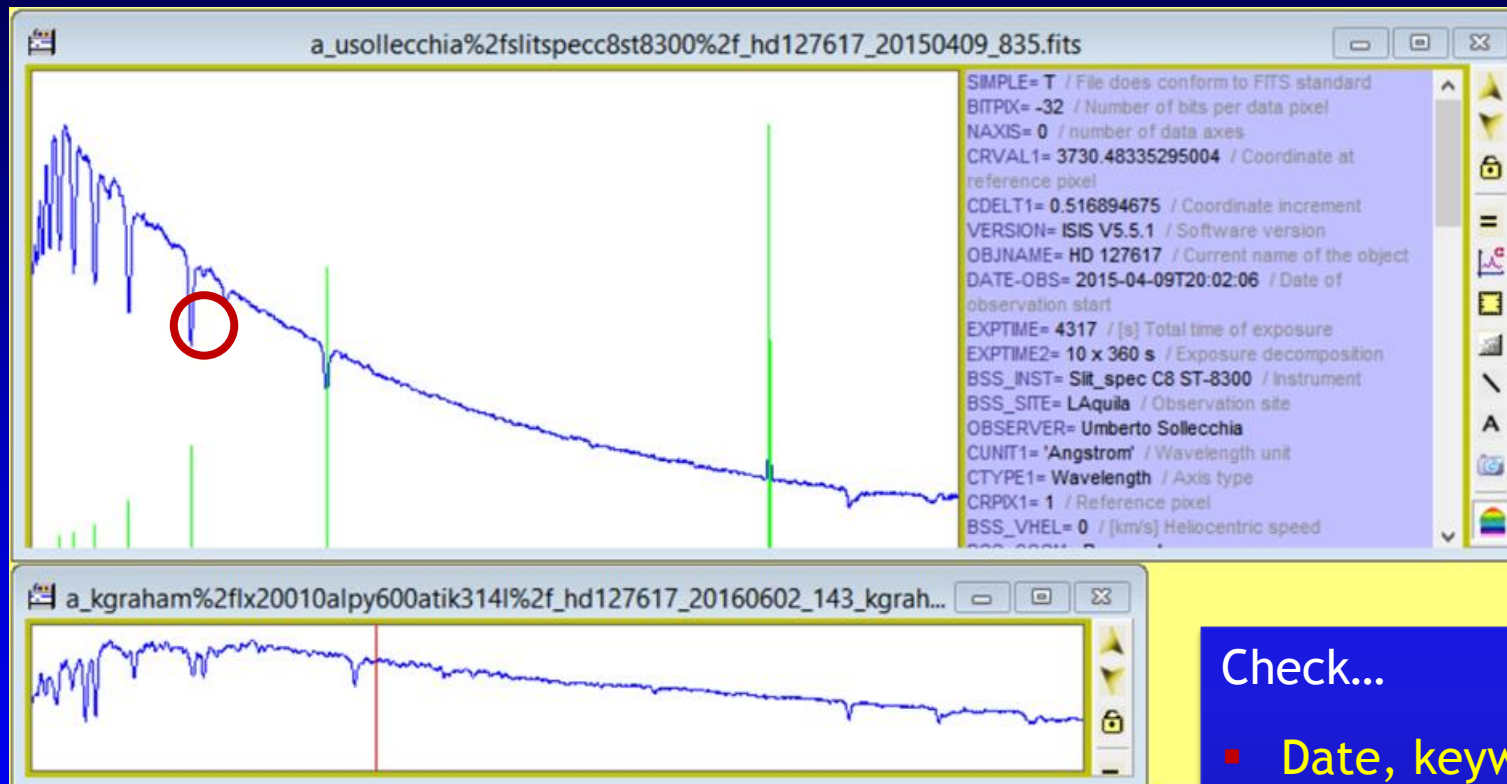
Lhires, lx 200...



Check...

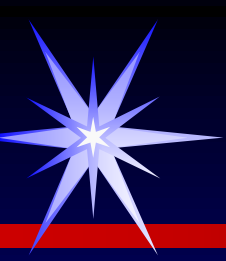
- Date & time
- Telluric lines position
- Last 2 BeSS spectra
- Fits keywords on processing applied
- Exptime, SNR, Instrument

R<5000... Alpy, Lisa...



Check...

- Date, keywords
- Match with H lines
- Continuum, bumps

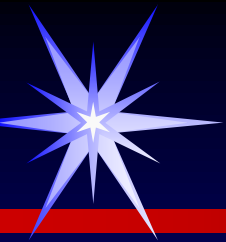


Echelle spectra



Same controls on the h-alpha order than for the Lhires one

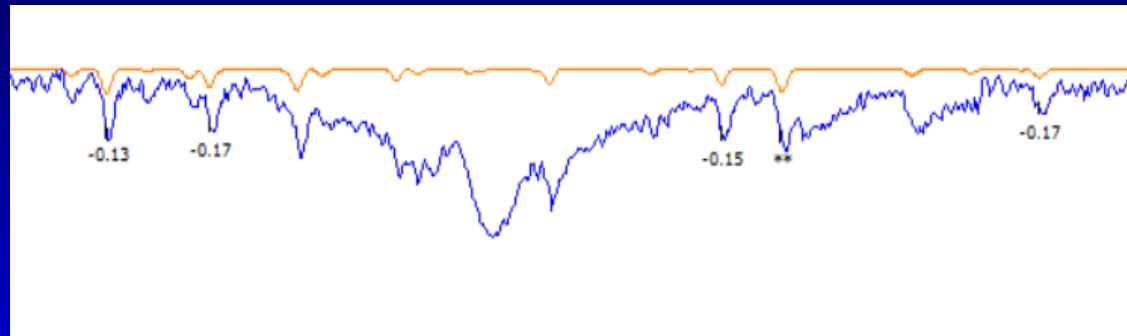
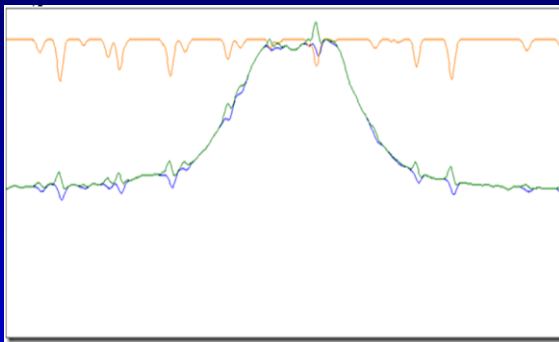
On the BeSS screen... display few other orders, and specifically the order which contain h-beta to catch any calibration or order extraction issues, unusual ripples



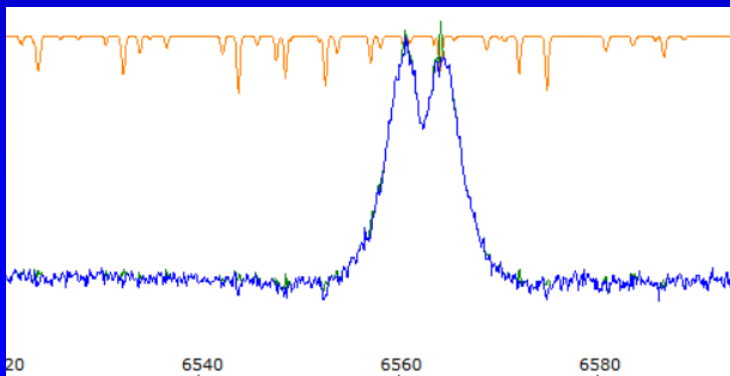
Classical errors



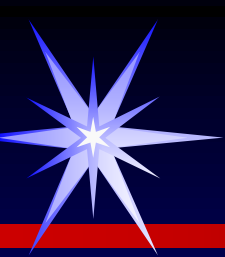
Wavelength calibration



Sometimes hard to detect



Very often !
0.1 or 0.2 ang



Less recurrent



- Date and time

DATE-OBS= '2011-08-02T 00:00:00' / Date of observation start

- Time collision

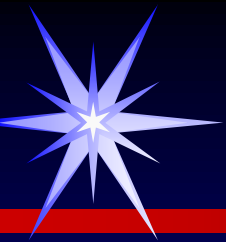
Automatically detected by Bess once validated

- Site lat and long

Check on google map, error on longitude sign

- Observation site

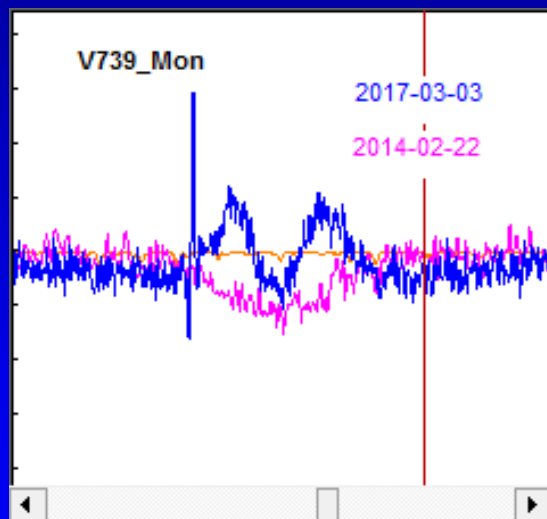
... after OHP, caught observations from OHP after the end of the meeting

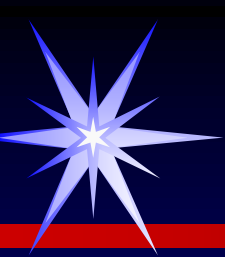


Hot spots

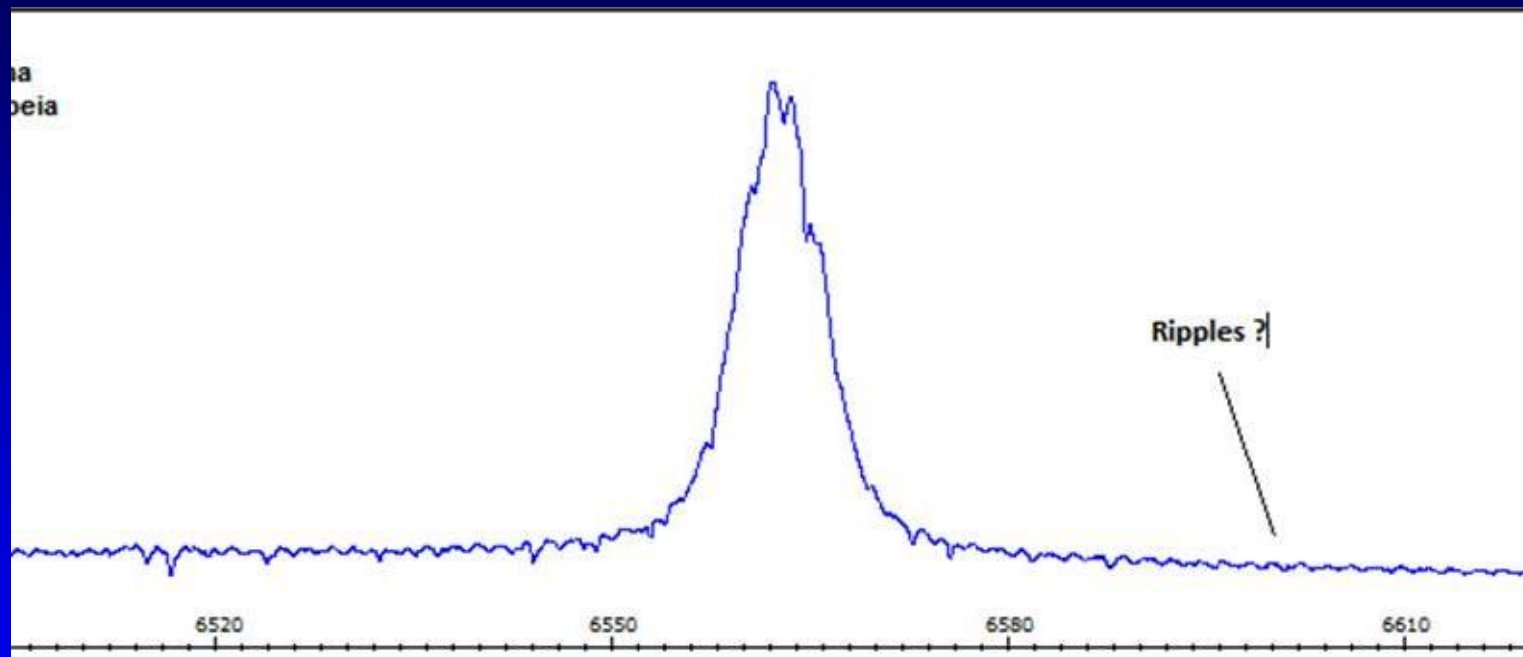


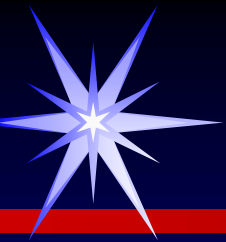
They all exhibit some “hot spots”. You can either go afterwards and do some interpolation on the profile itself (in Vpsec go in edit menu then pixel and you can edit manually the intensity of pixels, or through operations menu, interpolate zone after selecting the few bad pixels area) but much better as you have several spectra and more than one pixel concerned in some of them I recommend you go after the root cause: have a look at the images, including dark, see if you regenerate your cosmic file, or change the cosmic spots detection and correction thresholds. Thanks and you found a great Emission Event





Ripple





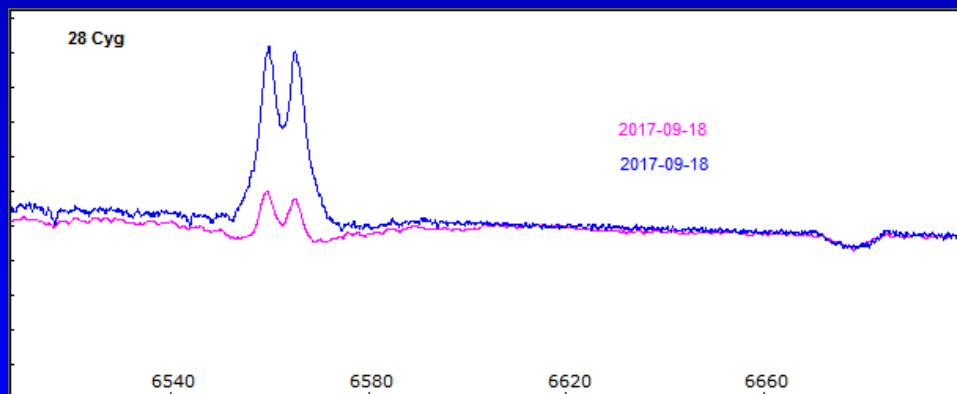
Signal level

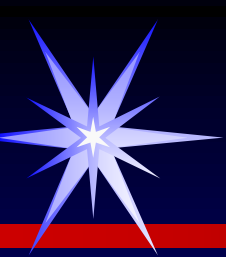


Hi

I compared your spectrum with one observed the same day by Olivier Thizy and I found the profile quite different. I check on past spectra of 28 Cyg, and such change was never recorded. I was wondering if something in the processing like dark sky subtraction or even wrong object selection was happening there. Can you check ?

Thanks

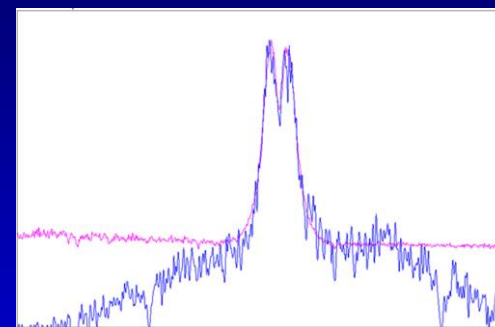
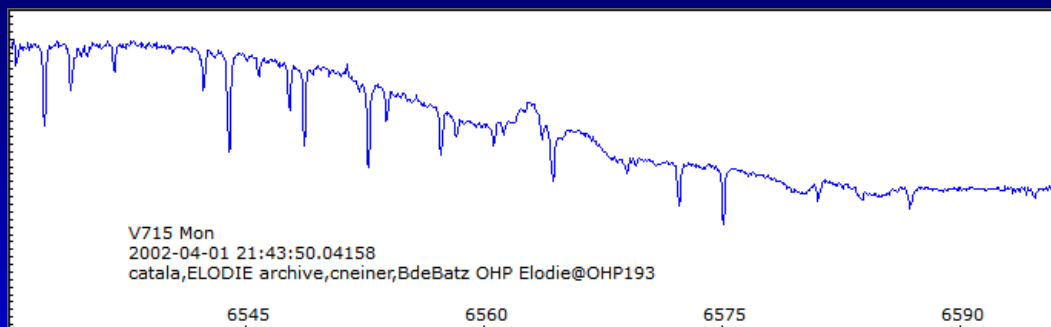




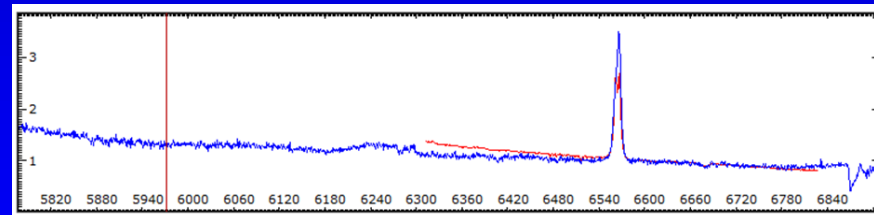
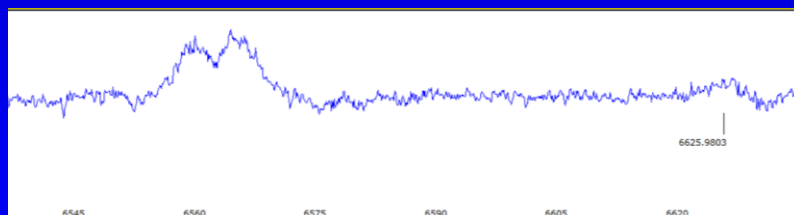
Some unusual cases

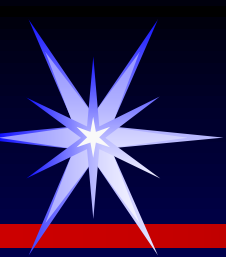


Continuum



Also found unexpected bumps, due to bad flat, mis registration



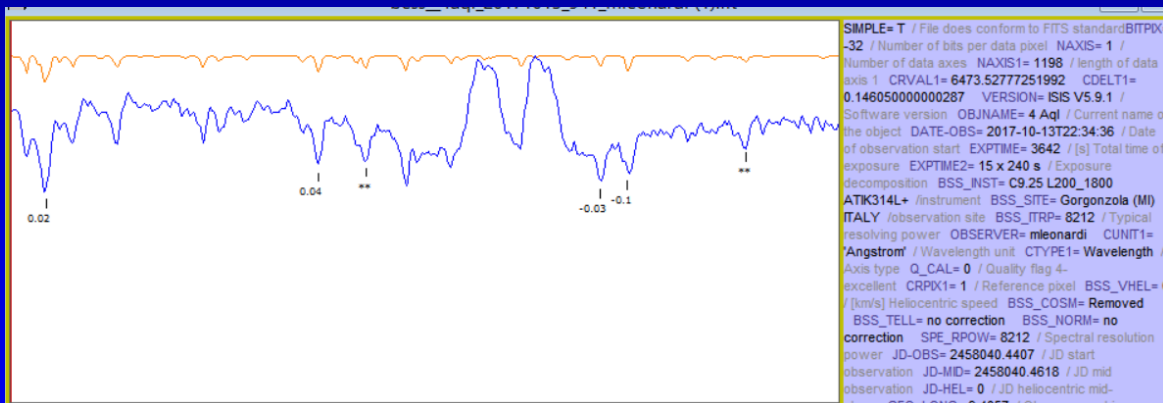


Observability



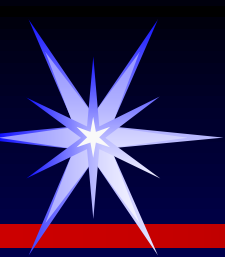
Just happened this week...

Validation de A_mleonardi/c92512001800atik314l/_4aql_20171013_941_mleonardi.fit
L'objet de coordonnées , n'était pas observable le 2017-10-13 22:34:1857.



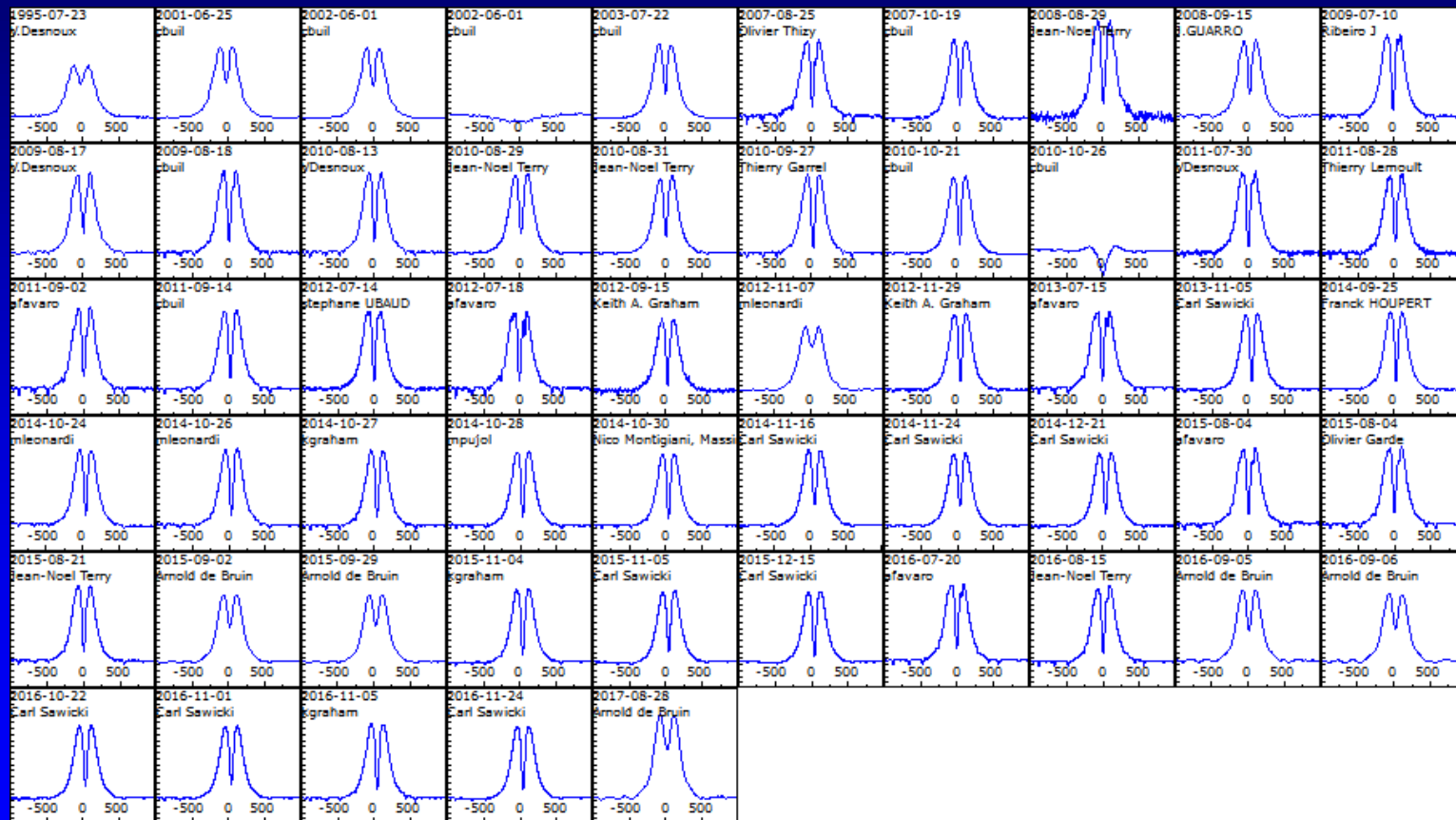
4 Aql
Italy site
22:34 UT

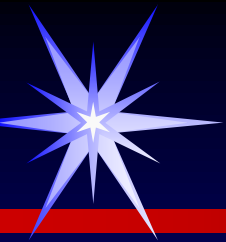
Thanks BeSS !



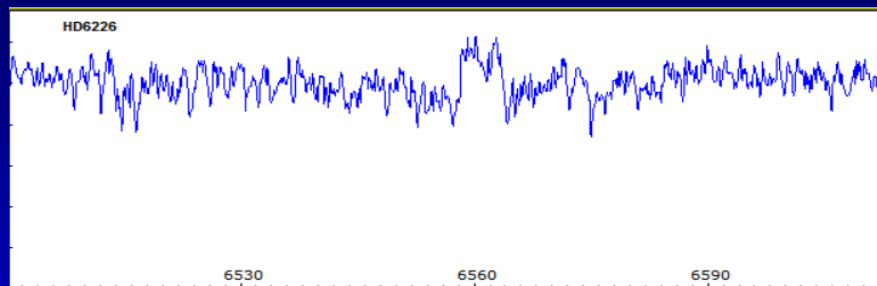
Object error

Very hard to detect... is it real or mistake ?

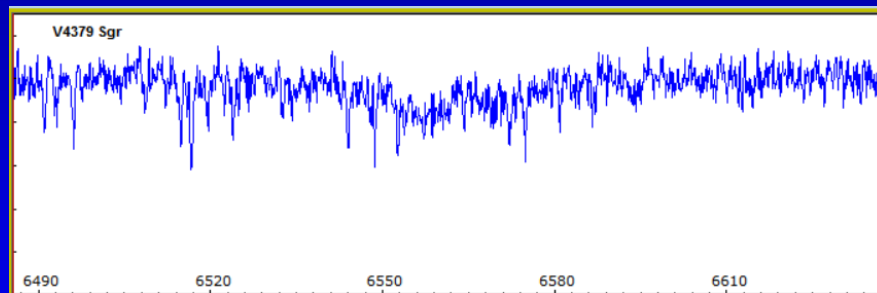




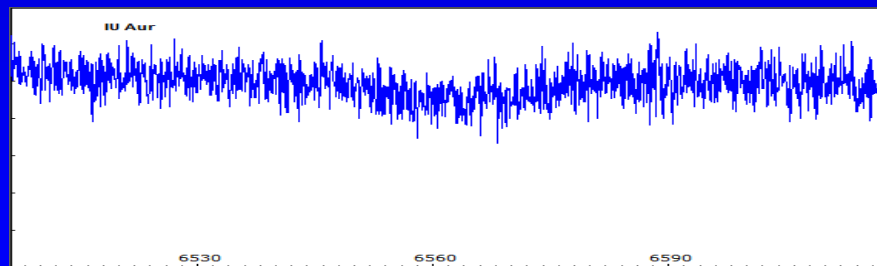
Signal to noise

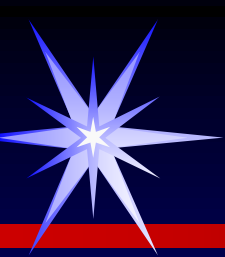


Very rarely not accepted, but it happened 2-3 times



Trigger advices for checking guiding, processing, Spectro efficiency...





Pain points...

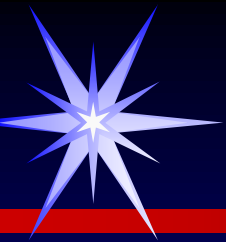


Wavelength calibration... shall encourage people to check
before submission

Continuum... high res, low res... lack of consistency

Object error... shall we have a tag in the database

Date & time... if BeSS is not detecting issues, need to trust



Communication



BeSS validation guide

How your BeSS spectra are validated

By V. Desnoux – BeSS admin team

This guide is targeted for observers who are eager to learn how their spectra are validated when submitted to BeSS. It will explain the different point controlled and will provide some examples.

Who is validating

We are 4 to 5 amateurs, not professionals. To be "certified" there is a period of "test" during which the admin team doubles check the spectra, confirms if there is an issue and a professional is available for all questions. So the admin team is amateurs plus a professional who explains the key points to check and is the referee in case of any doubt.

The rules for BeSS are set in accordance to the database objectives: collect Be stars spectra to sustain an outburst statistical study.

What does a « validator »

Vspec has a specific tool to help for the validation. The function is not private and any observer can use Vspec to check the spectrum before submitting, as any validator would do. The spectrum is load in Vspec. On the right side of the profile window there is a button with Bess logo. That's here. Click and see...

Depending of the spectrum resolution the script will be slightly different

Lhires

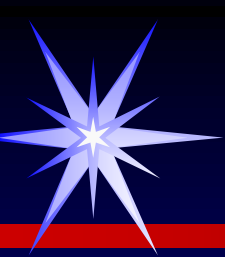
On click, the spectrum will be zoomed on the H-alpha region and the telluric lines synthetic spectrum will be overlaid. Few telluric lines will be detected and the shift with theoretical value will be displayed. If the detection failed a "*" will be displayed. In parallel, on the right side of the profile the fits header will be displayed.

In the meantime, if the computed is connected to internet, Vspec will connect to BeSS and download and display the two latest spectra of the object found in the database.

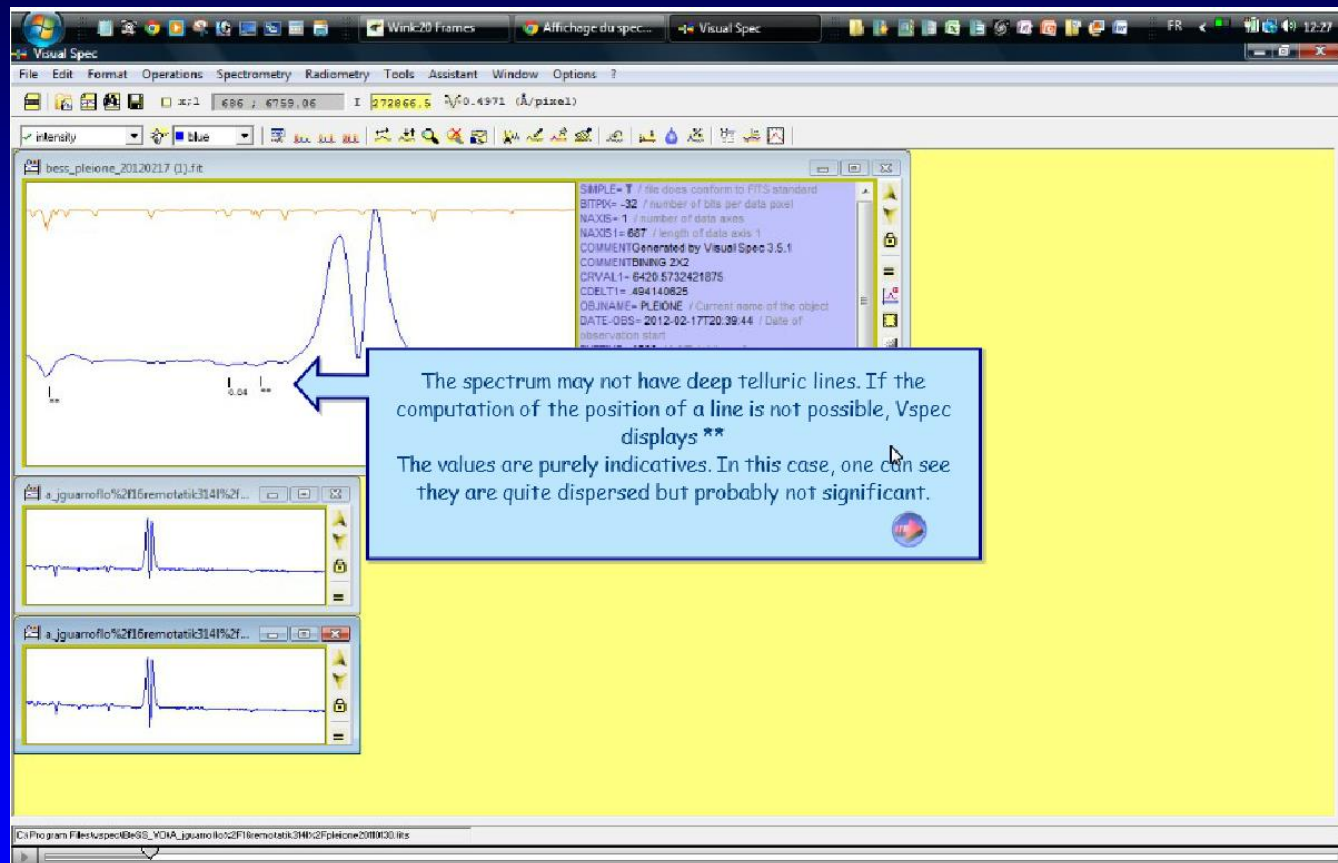
Pdf on how the spectra are validated

Explain about usage on filling cards, naming instrument or objects

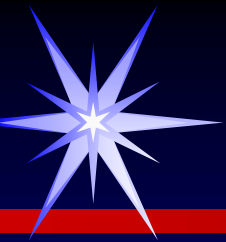
Examples of classical errors



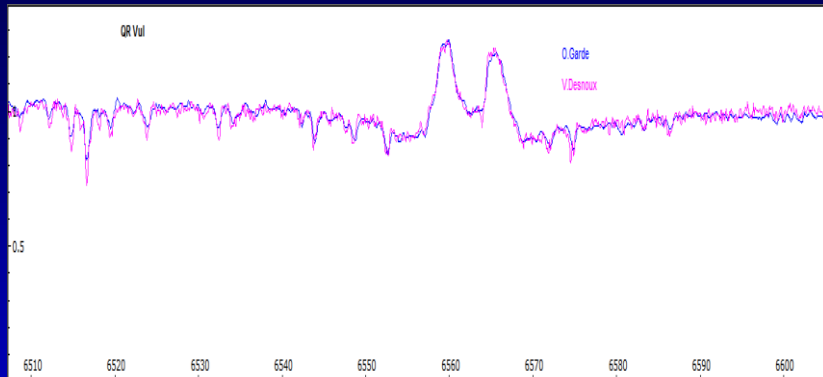
Tutorial on Visual Spec



http://www.astrosurf.com/vdesnoux/wink/Wink_BeSS_en.htm



Now the good news...



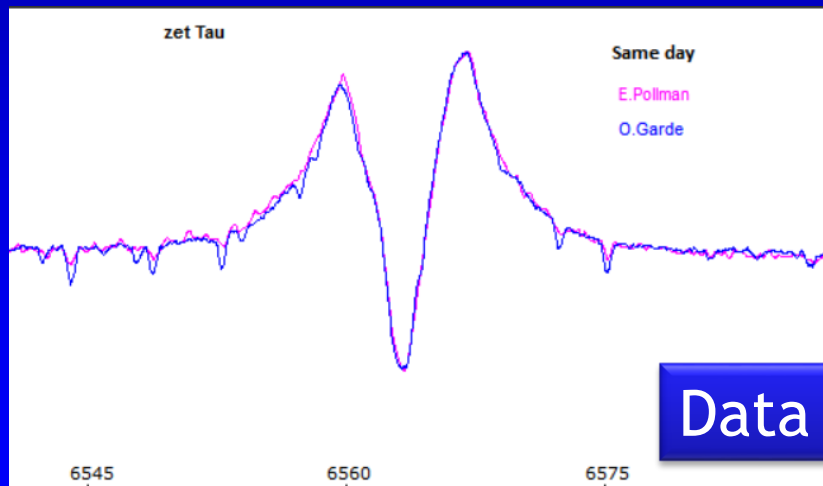
QR Vul

19-07-2017

RC400 Astrosib-Eshel-ATIK460EX 6x600s

Vs

C8 LHRES3_2400 ATIK460EX 6x300s



Zeta Tau

RC400 Astrosib-Eshel-ATIK460EX 10x75s

Vs

EP3-C14-LHRES-Grating2400-Nova402 2400s

Data consistency is achievable !