

# BeSS report – May 2018

*Data compiled by Valérie Desnoux – H-alpha monitoring*  
*New article published with Be amateurs [here](#)*

- 73 stars were observed
- 12 Observers contributed this month
- 95 Spectra

## Observers...

Observateur	Nb spec
HOUPERT	35
bertrand	16
Sawicki	11
GARDE	9
Buil	7
Lecocq	4
James	4
Berardi	3
Desnoux	3
Bohlsen	1
Dejean	1
Fosanelli	1
<b>Total général</b>	<b>95</b>

## Events of the month...

EE: Emission Event, ME: Moderate Events, DE: Decreasing Event

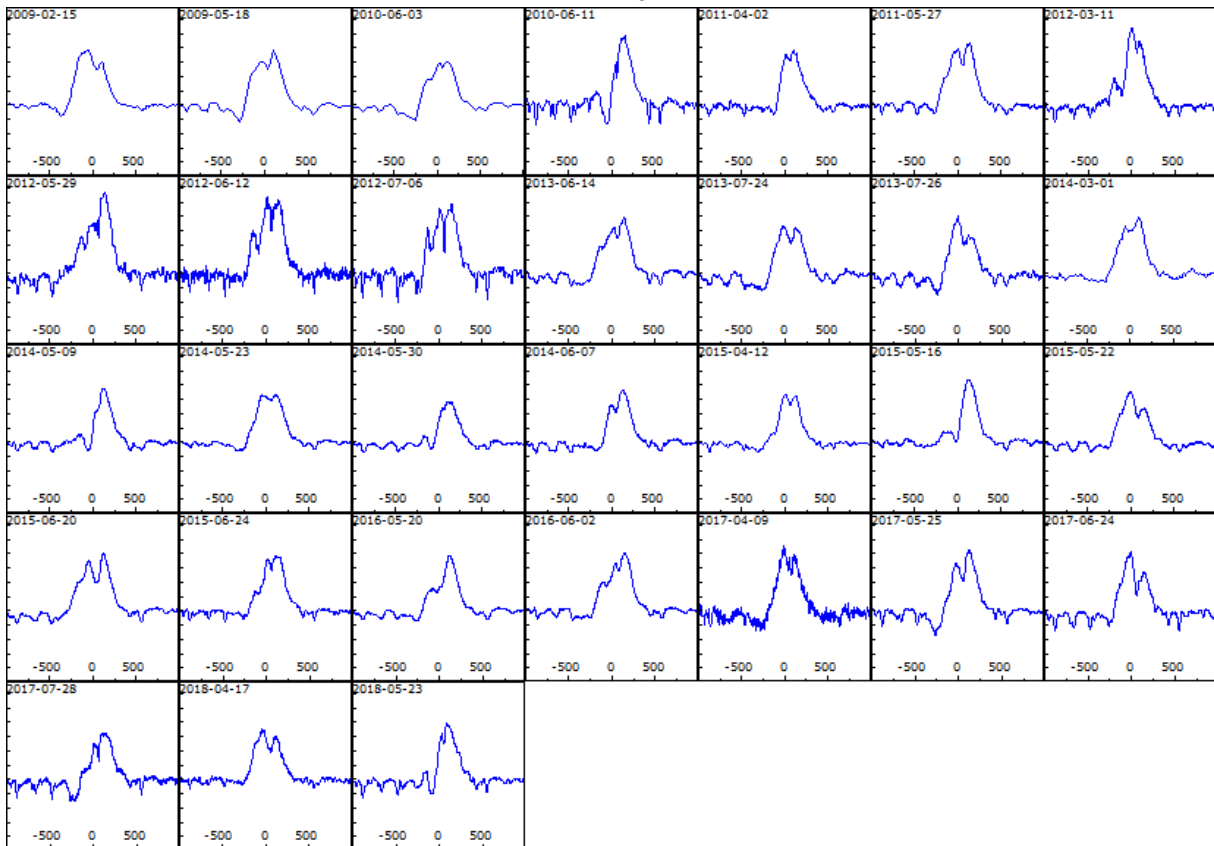
EE	ME	DE	EE	ME	DE
HL Lib	kap Dra	OT Gem	B9IVe	B6IIIpe	B2Ve
CX Dra	QR Vul	V974 Her	B2.5Ve	B3Ve	B8Vne
HD 177648	4 Her	V923 Aql	B2Ve	B9pe	B6she
HD194057	59 Cyg	V341 Sge	B7Vne	B1.5Vnne	B2.5Ve
V801 cas	bet Cyg B	V417 Cep	B1Ve	B8Ve	B1Ve
V2148 Cyg	NW Ser		B4IVpe	B2.5IIIe	
HD 206773	11 Cyg			B8Vne	
EM Cep	eps Cas			B3IIIe	
HD228256	60 Cyg			B1Ve	
	V421 Cep			B2IIIe	

## Objects observed

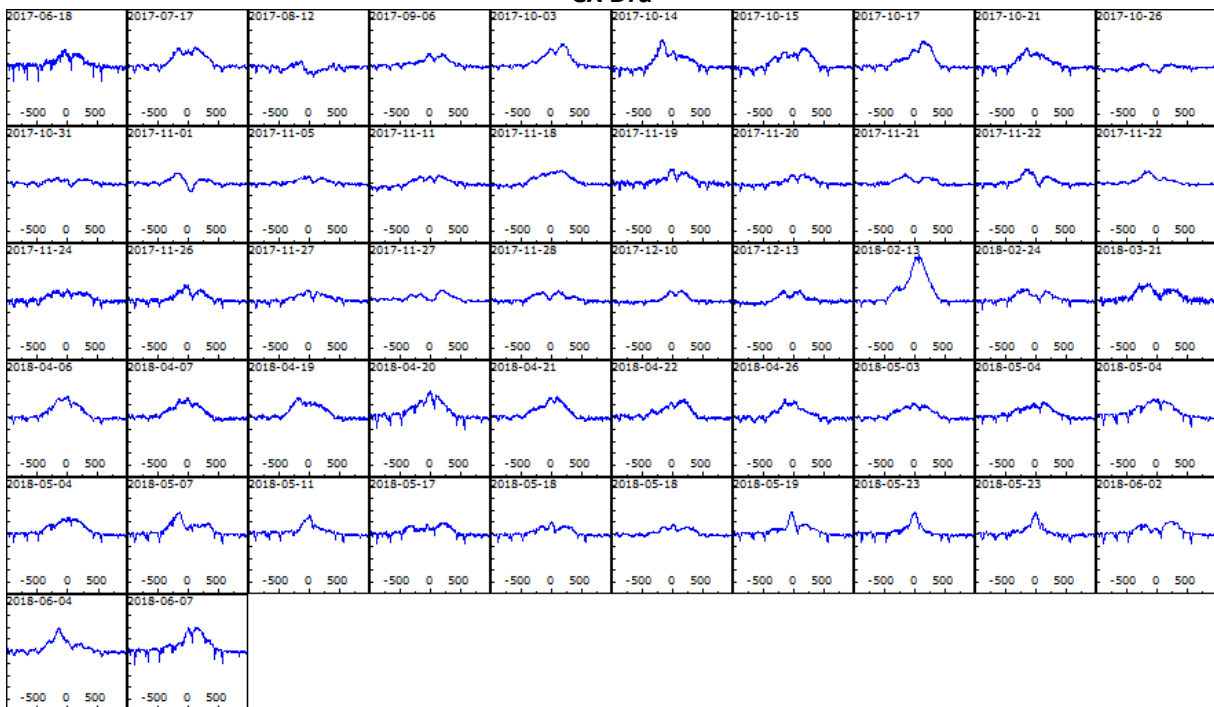
Classique						
gam Cas	BT CMi	53 Boo	HD 171780	HD 194779	10 Cas	6 Cep
OT Gem	HD 76868	4 Her	HD 177648	lam Cyg	60 Cyg	HD 89884
5 Cnc	del Sco	BD+23 3183	59 Cyg	ALFIRK	25 Cyg	HD 203374
tet CrB	QR Vul	zet Oph	V923 Aql	11 Cyg	V421 Cep	HD 228256
bet CMi	SHEIAK	V2119 Cyg	25 Vul	nu Cyg	HD 195554	V417 Cep
PHECDA	HL Lib	HD 162428	28 Cyg	HD 171219	HD 201836	HD 197434
zet Crv	chi Oph	HD 168957	HD 166256	V558 Lyr	V2148 Cyg	HD 204185
19 Mon	48 Lib	V974 Her	7 Vul	eps Cas	V341 Sge	EM Cep
kap Dra	omi Her	CX Dra	bet Cyg B	HD 193182	HD 199218	BK Cam
17 Sex	V986 Oph	HD 50658	NW Ser	V801 Cas	HD 206773	HD 194057
phi Leo	V532 Lyr	HD 91120				

## Emission increase since last observations

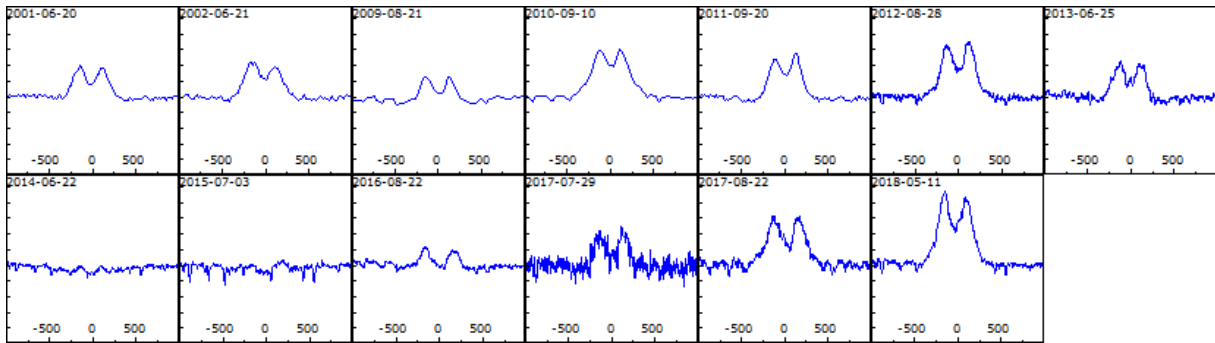
HL Lib



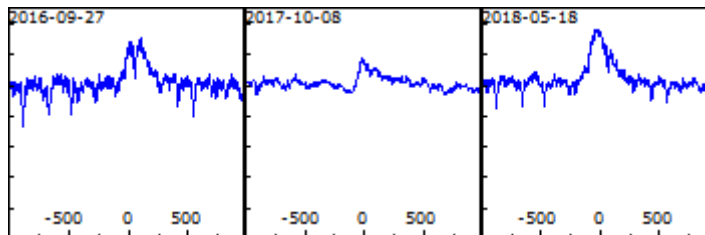
## CX Dra



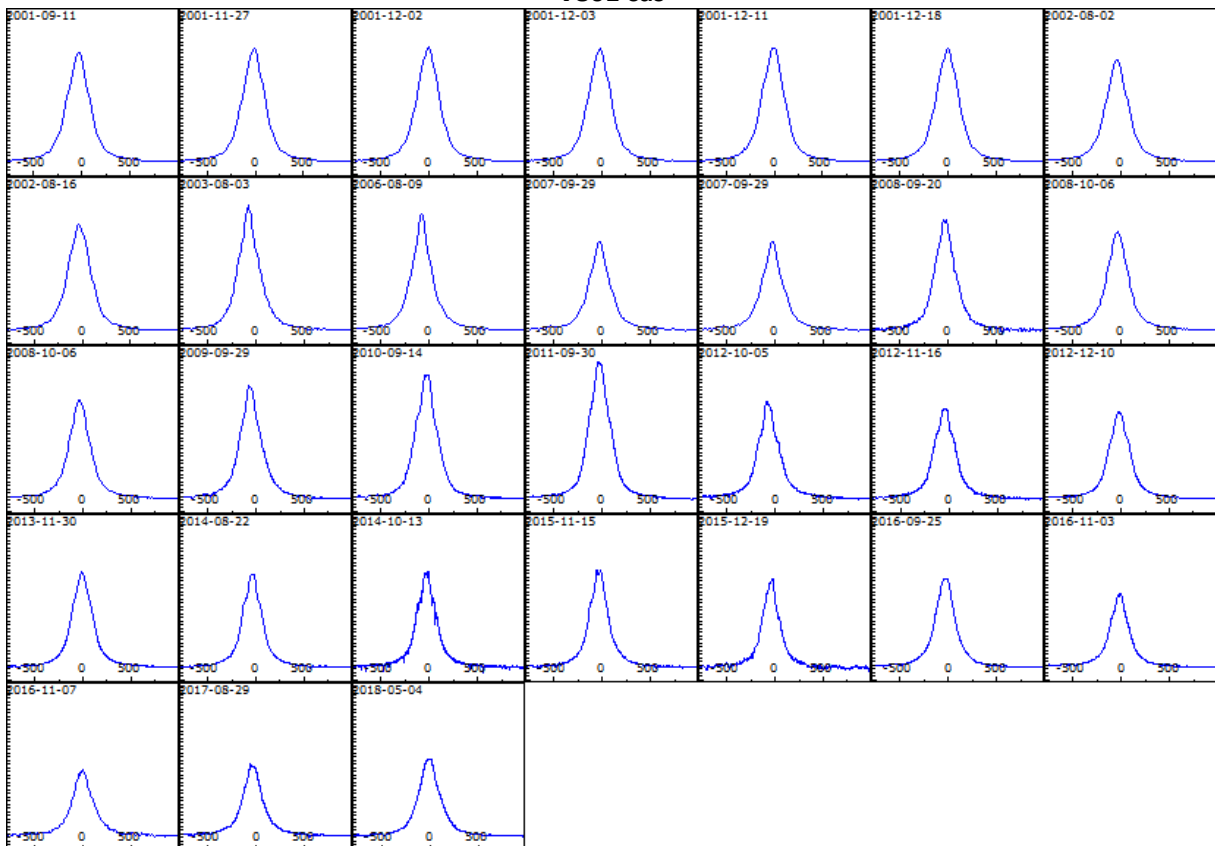
### HD 177648



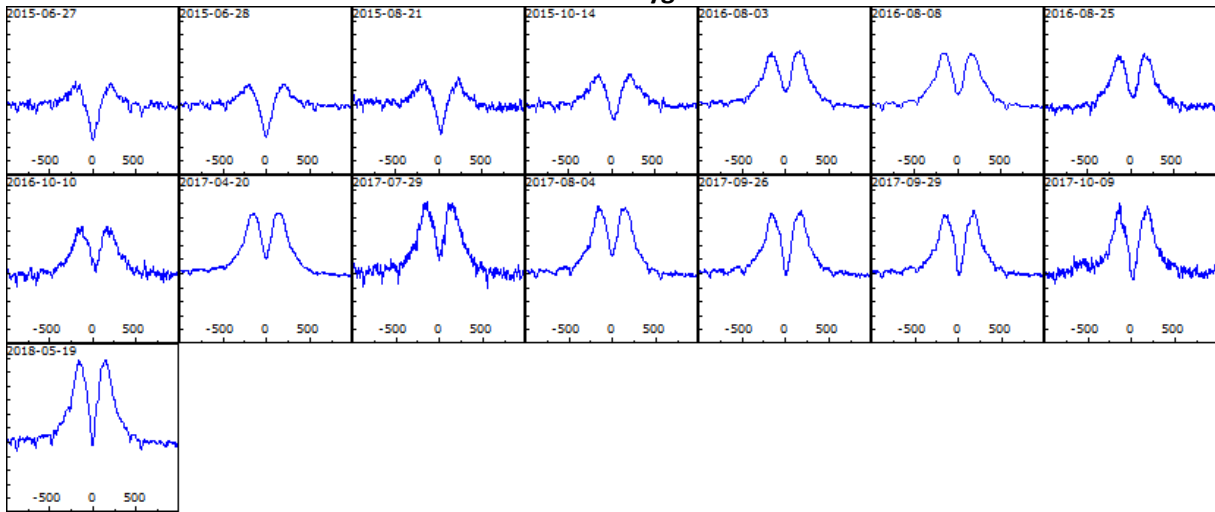
### HD194057



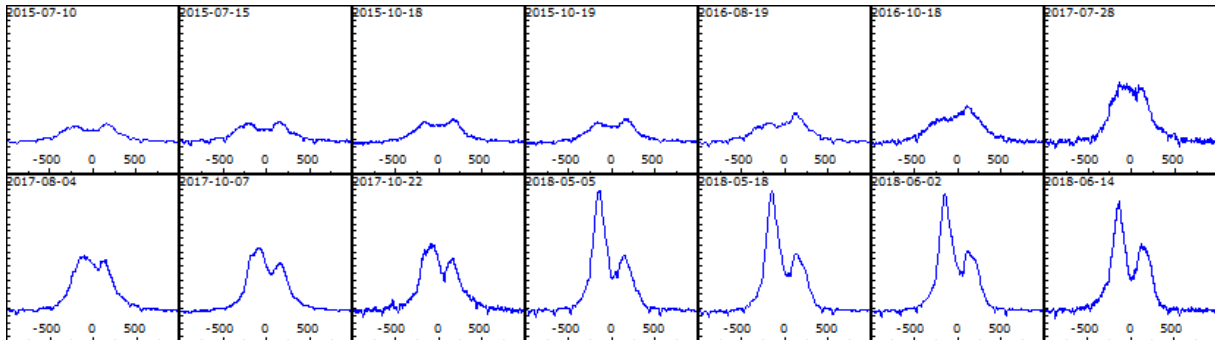
### V801 cas



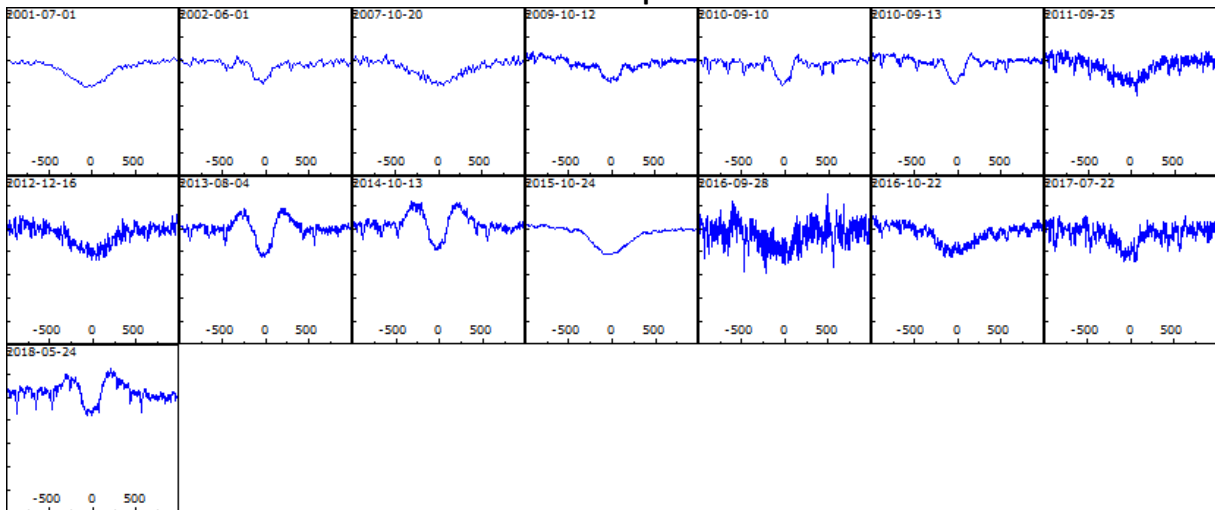
### V2148 Cyg



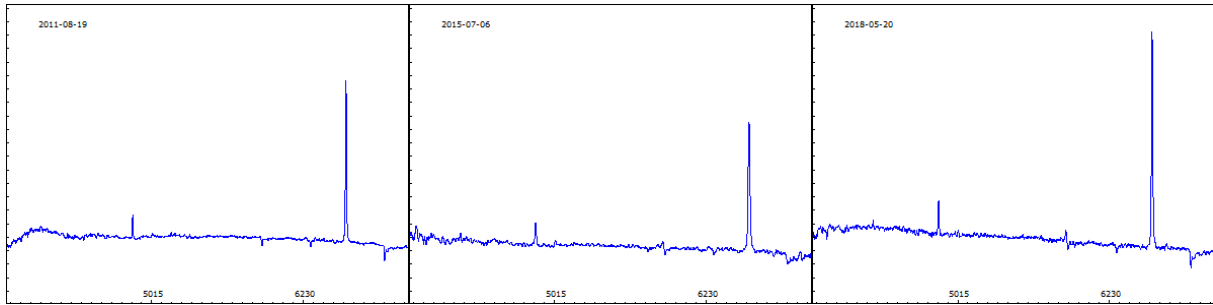
### HD 206773



### EM Cep

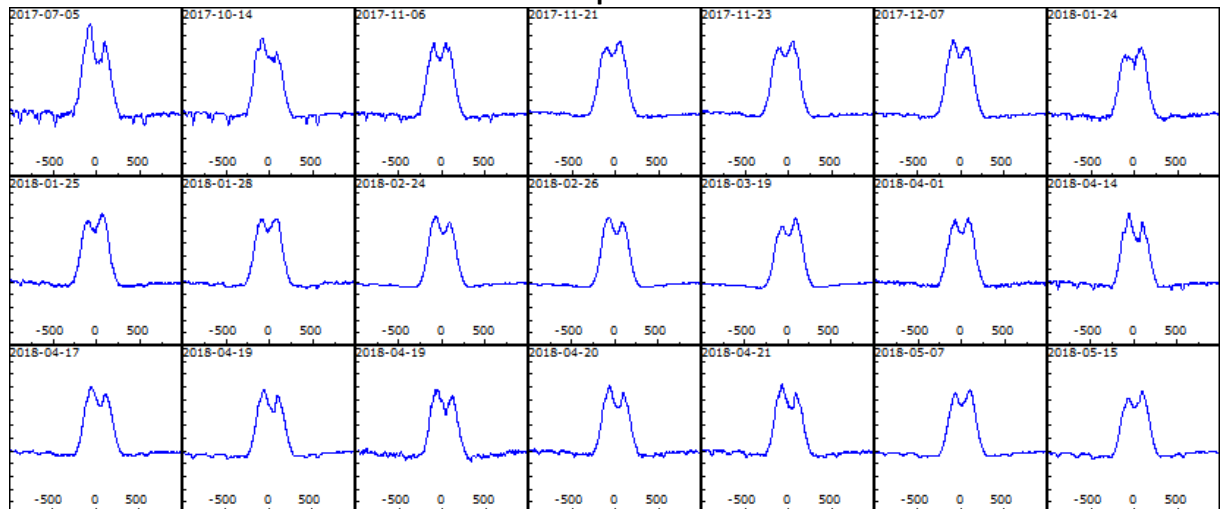


## HD228256

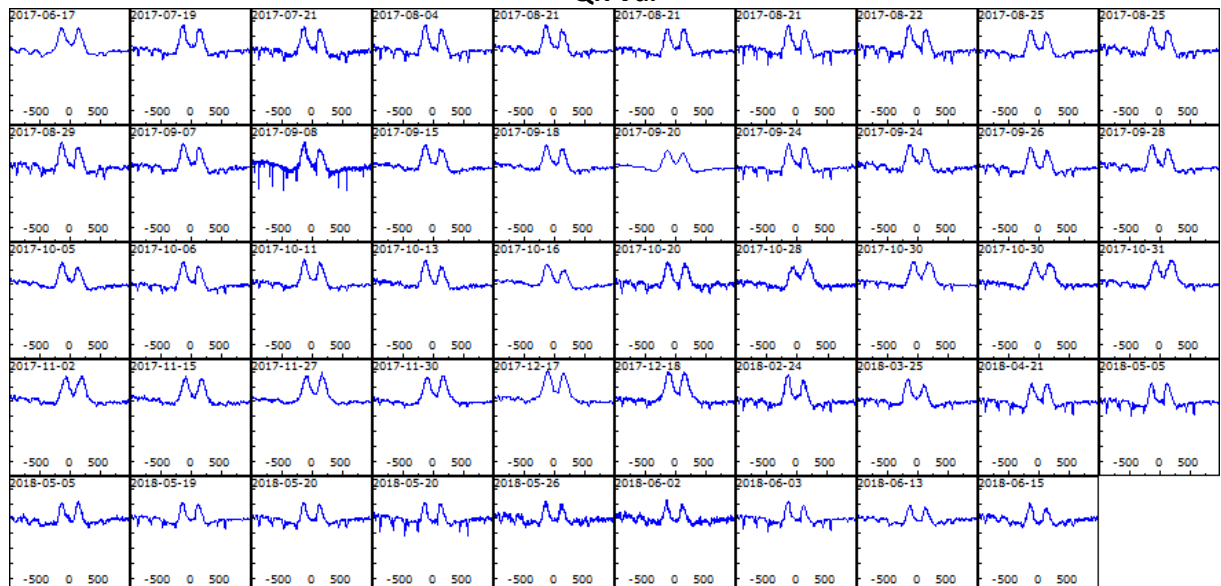


## Moderate evolutions of H-alpha line

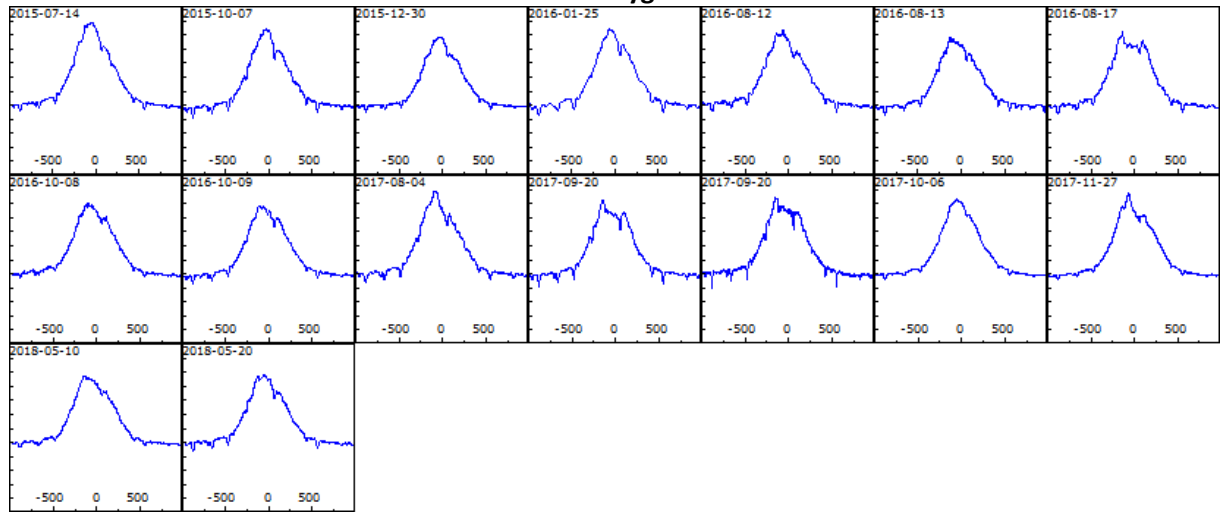
### kap Dra



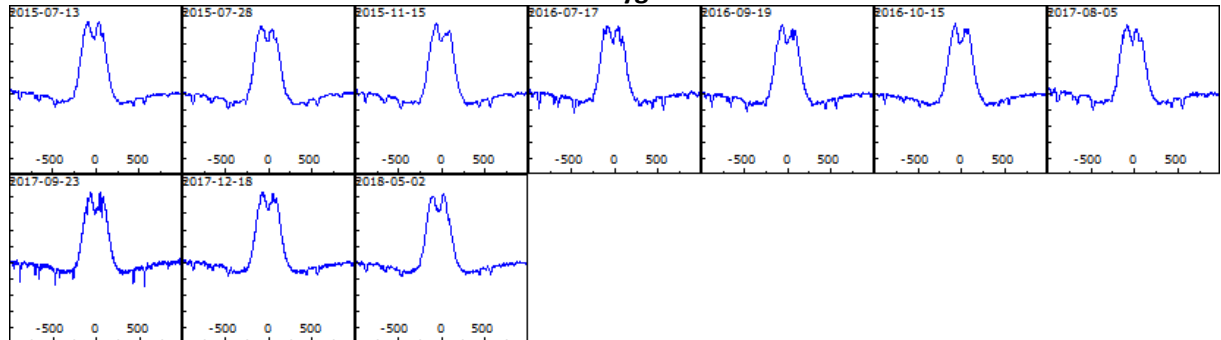
### QR Vul



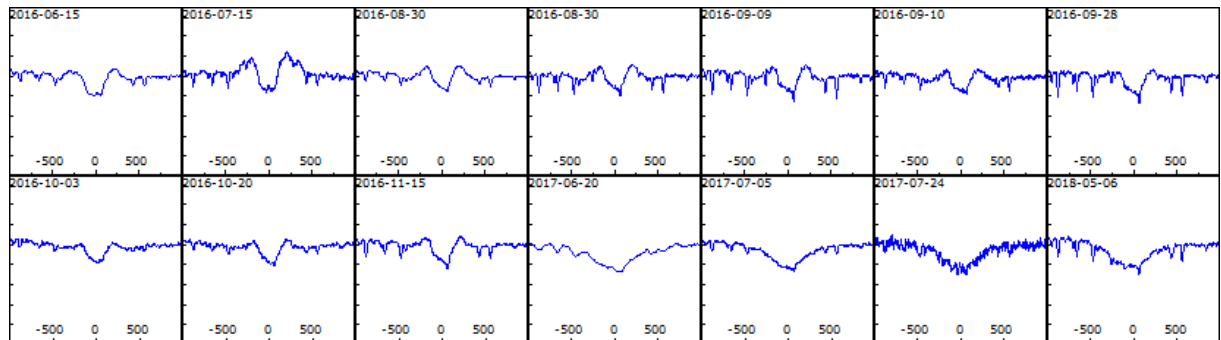
### 59 Cyg



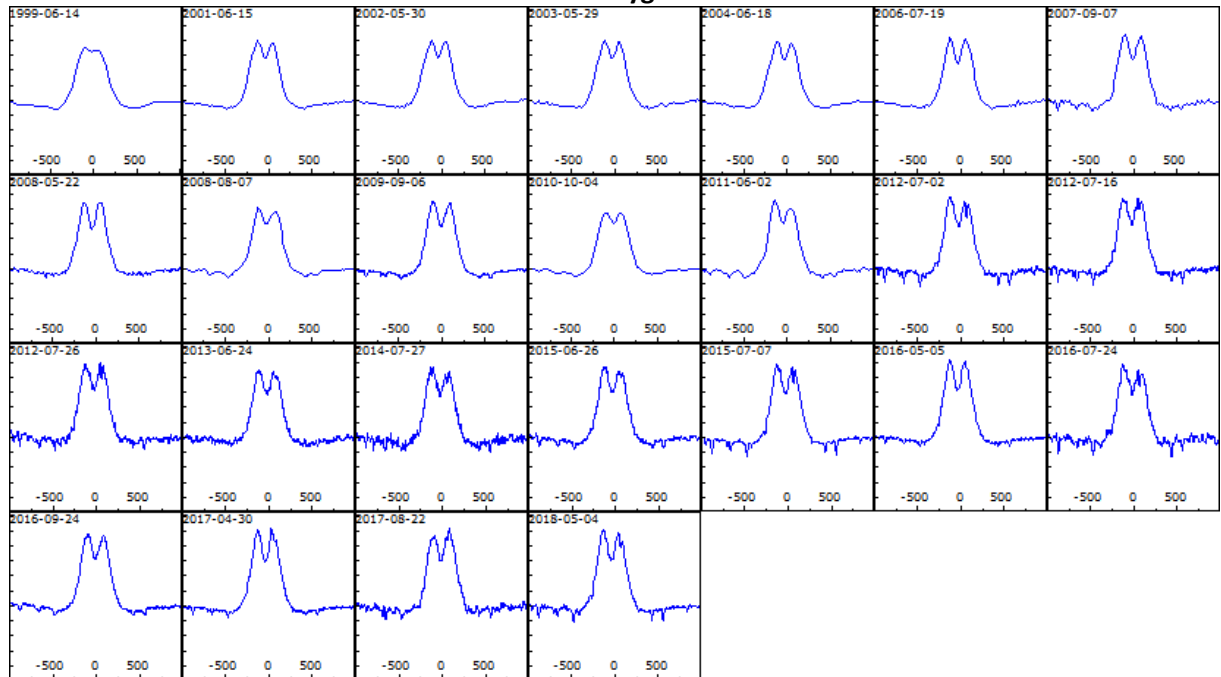
### bet Cyg B



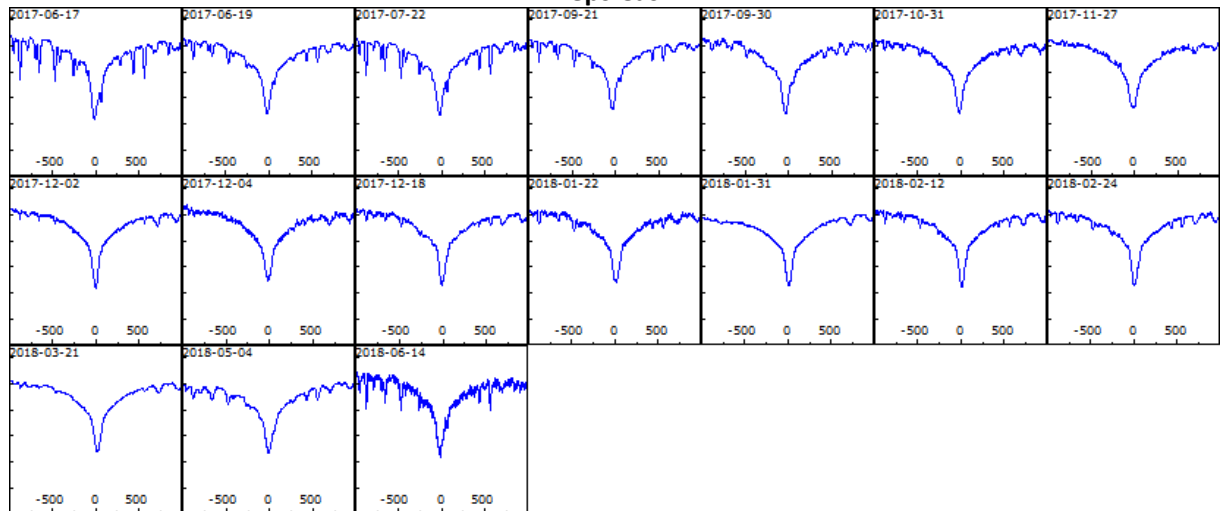
### NW Ser



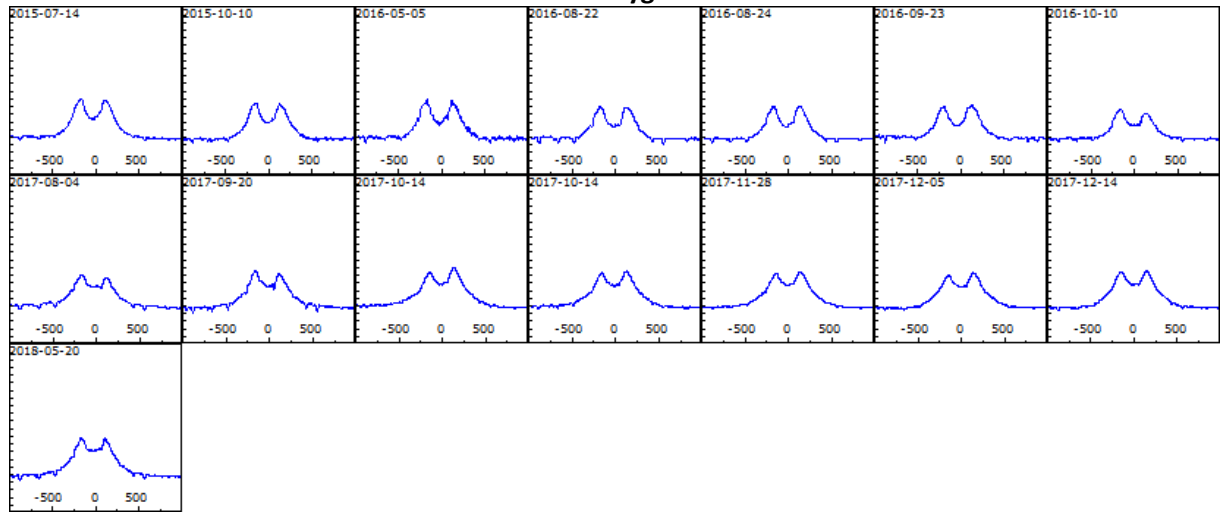
### 11 Cyg



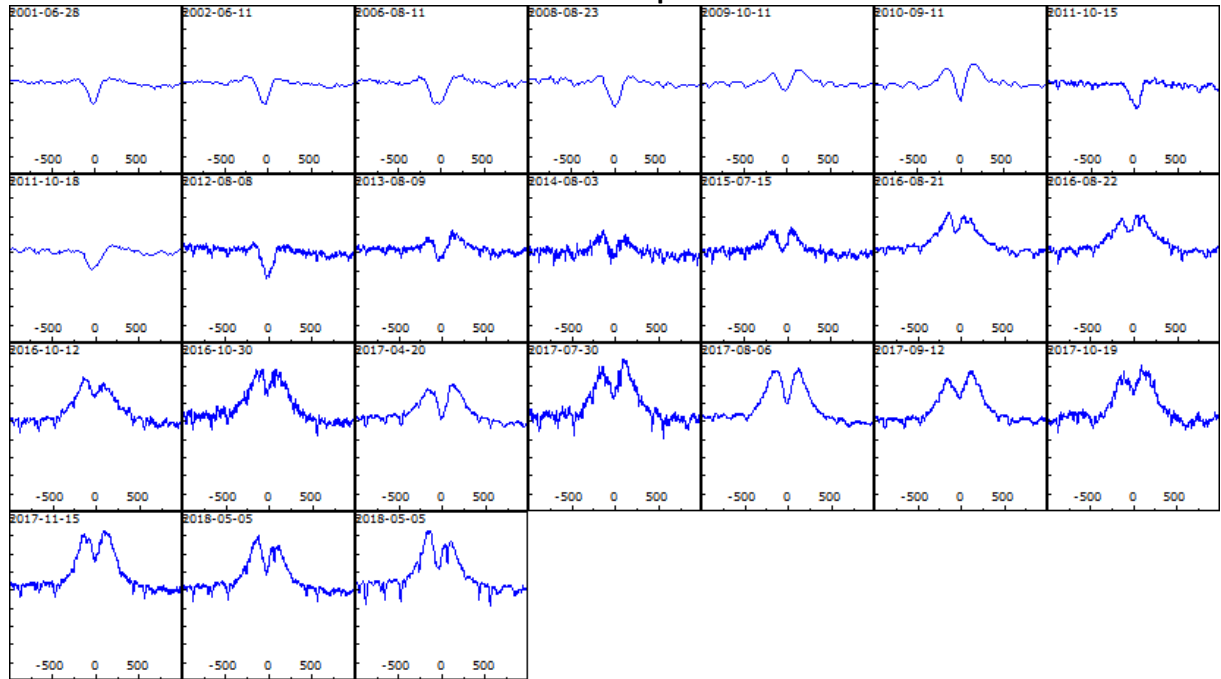
### eps Cas



### 60 Cyg



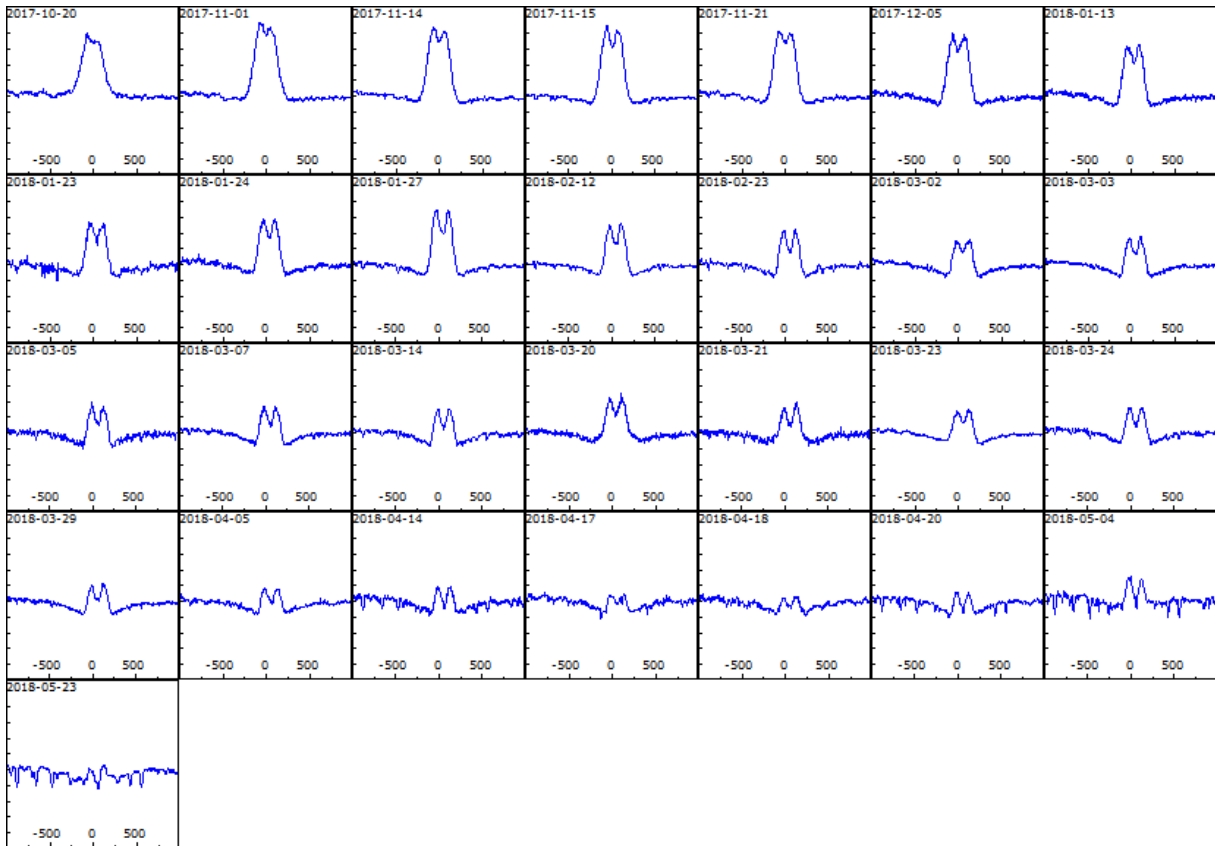
### V421 Cep



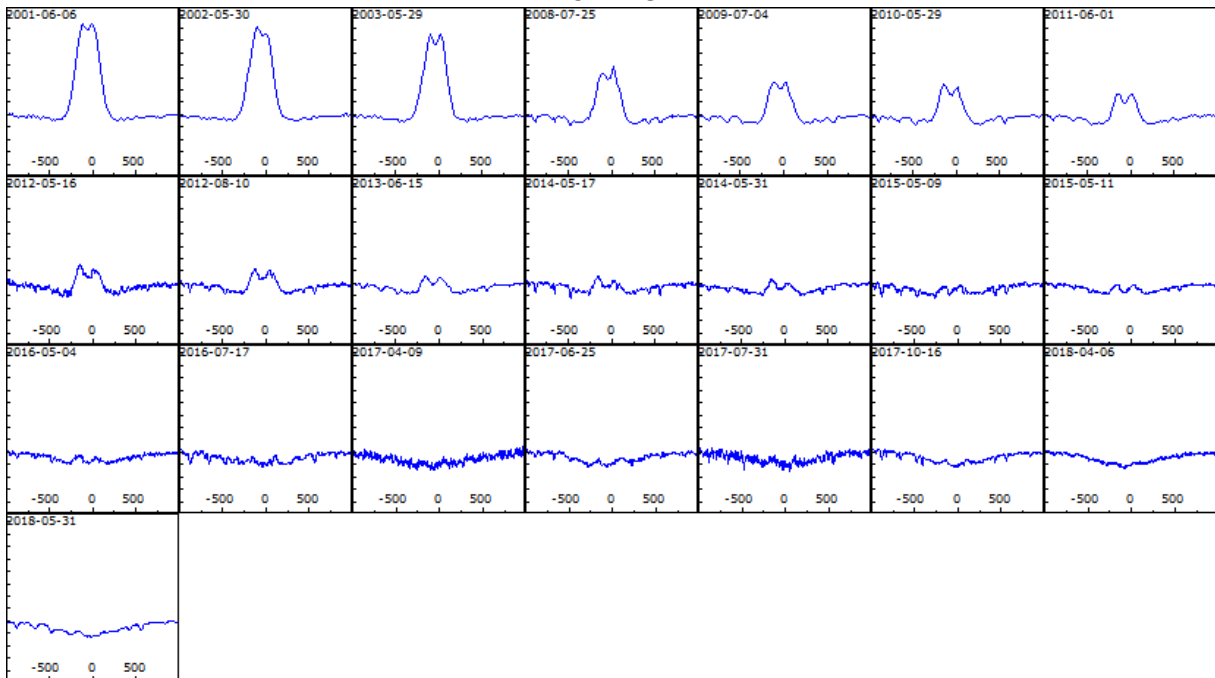


## Emission decrease of H-alpha line

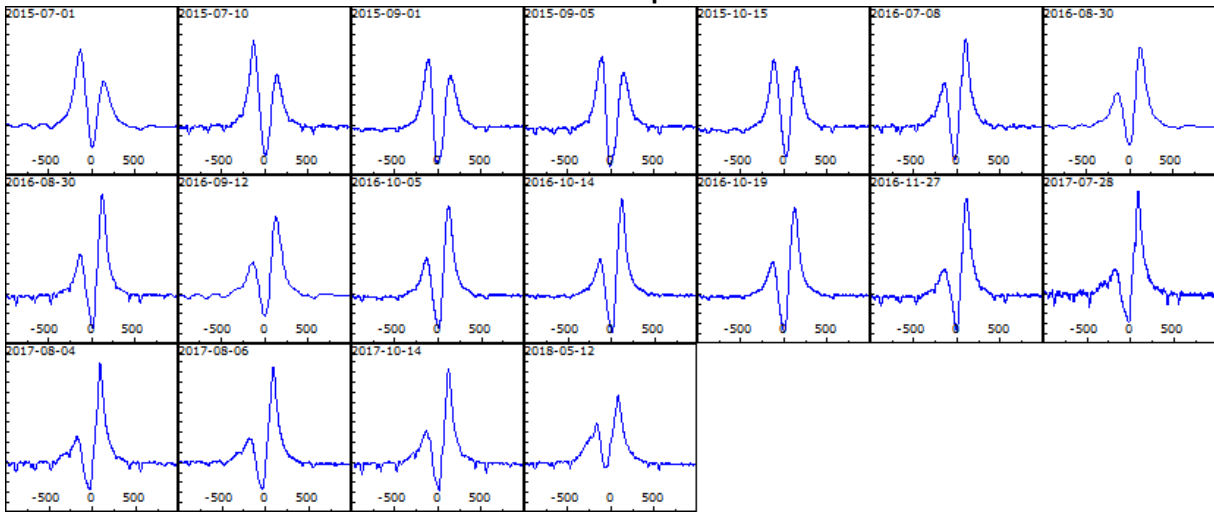
OT Gem



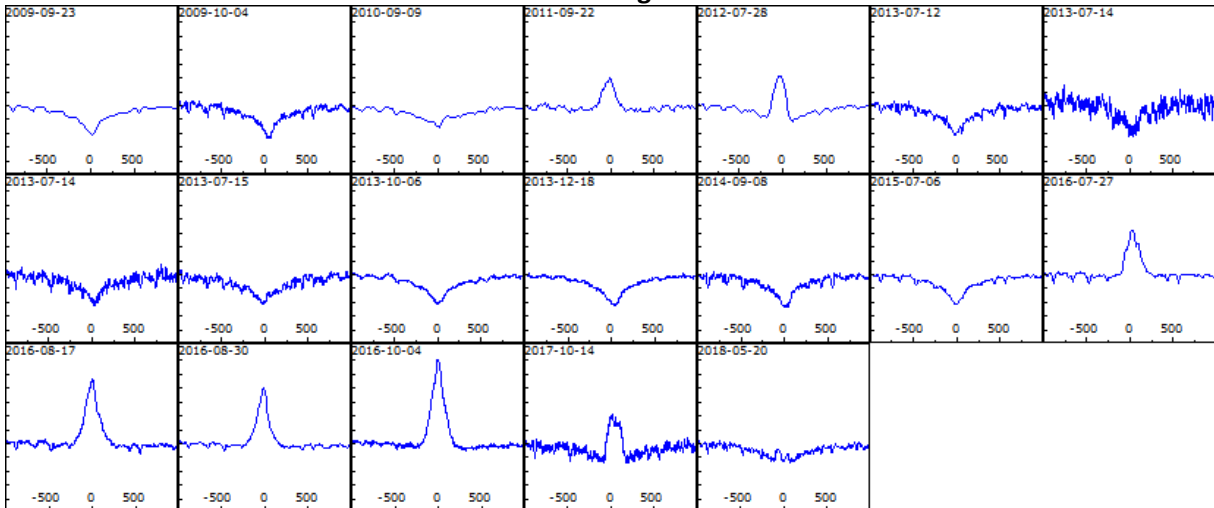
V974 Her



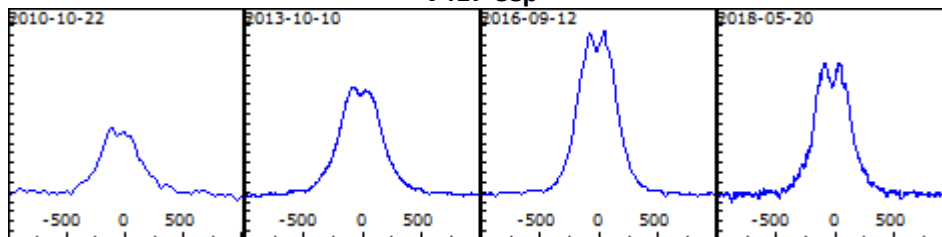
### V923 Aql



### V341 Sge



### V417 Cep



## Articles

# An investigation of the photometric variability of confirmed and candidate Galactic Be stars using ASAS-3 data

[Klaus Bernhard](#) (1 and 2), [Sebastián Otero](#) (1), [Stefan Hümmerich](#) (1 and 2), [Nadejda Kaltcheva](#) (3), [Ernst Paunzen](#) (4), [Terry Bohlsen](#) (5) ((1) American Association of Variable Star Observers (AAVSO) (2) Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e.V. (BAV) (3) Department of Physics and Astronomy, University of Wisconsin Oshkosh (4) Department of Theoretical Physics and Astrophysics, Masaryk University (5) Mirranook Observatory)  
(Submitted on 19 May 2018 ([v1](#)), last revised 30 May 2018 (this version, v2))

We present an investigation of a large sample of confirmed ( $N=233$ ) and candidate ( $N=54$ ) Galactic classical Be stars (mean  $V$  magnitude range of 6.4 to 12.6 mag), with the main aim of characterizing their photometric variability. Our sample stars were preselected among early-type variables using light curve morphology criteria. Spectroscopic information was gleaned from the literature, and archival and newly-acquired spectra. Photometric variability was analyzed using archival ASAS-3 time series data. To enable a comparison of results, we have largely adopted the methodology of Labadie-Bartz et al. (2017), who carried out a similar investigation based on KELT data. Complex photometric variations were established in most stars: outbursts on different time-scales (in  $73\pm5\%$  of stars), long-term variations ( $36\pm6\%$ ), periodic variations on intermediate time-scales ( $1\pm1\%$ ) and short-term periodic variations ( $6\pm3\%$ ).  $24\pm6\%$  of the outbursting stars exhibit (semi)periodic outbursts. We close the apparent void of rare outbursters reported by Labadie-Bartz et al. (2017) and show that Be stars with infrequent outbursts are not rare. While we do not find a significant difference in the percentage of stars showing outbursts among early-type, mid-type and late-type Be stars, we show that early-type Be stars exhibit much more frequent outbursts. We have measured rising and falling times for well-covered and well-defined outbursts. Nearly all outburst events are characterized by falling times that exceed the rising times. No differences were found between early-, mid- and late-type stars; a single non-linear function adequately describes the ratio of falling time to rising time across all spectral subtypes, with the ratio being larger for short events.

<https://arxiv.org/abs/1805.07665>

### **BeSS report Materiel & Method**

For each star having a spectrum loaded in BeSS database for the monthly report the last six spectra in BeSS are displayed. A visual check is performed to detect any change in the H-alpha profile. Sometimes a copy/paste is needed for subtle evolutions.

For each star, which exhibits a change, the above series are generated with the following steps. Each spectrum is zoomed on the H-alpha line. Each profile is scaled on the continuum on a region around 6580 angströms. The x-axis is converted into Doppler velocity centered on H-alpha.

If too many spectra of the object are available, a shorter period of observation is displayed and thus the length period is indicated (1yr, 3yrs).

All data are processed with Visual Spec with dedicated function to automatically load BeSS spectra and automatize most of the above processing.

## **Authors**

### **Valérie Desnoux**

[Valerie.desnoux@free.fr](mailto:Valerie.desnoux@free.fr)

Aras Site at <http://www.astrosurf.com/aras/>

BeSS database at <http://basebe.obspm.fr/basebe/>

ArasBeAM portal at <http://arasbeam.free.fr/>

### **Ernst Pollmann**

[ernst-pollmann@t-online.de](mailto:ernst-pollmann@t-online.de)

International Working Group ASPA

Active Spectroscopy in Astronomy

<http://www.astrospectroscopy.de>

<http://www.astronomie.de/astronomische-fachgebiete>