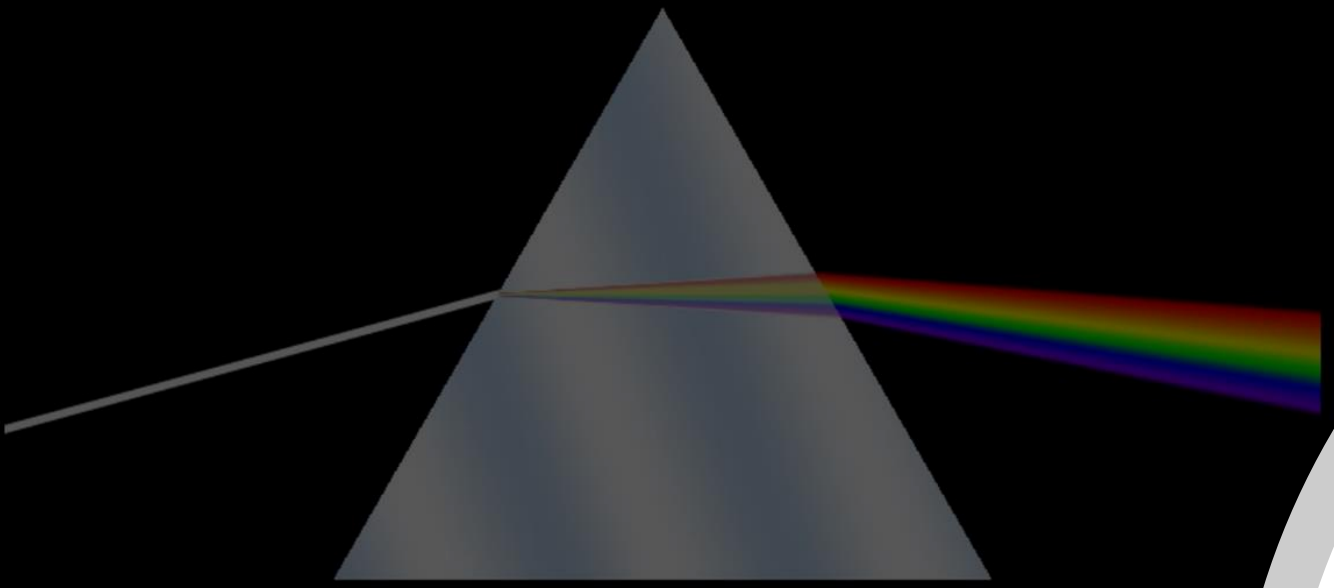
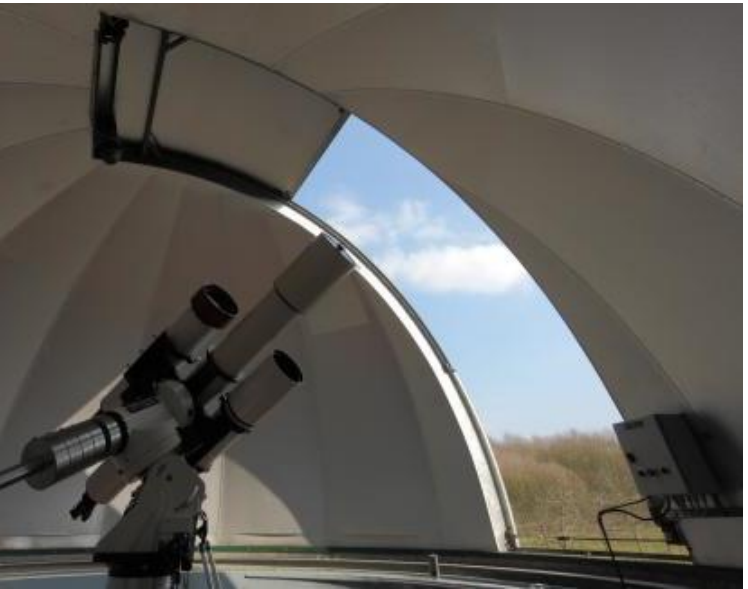


SpectroLAB

Werkgroep spectrografie

Mario Clemmens

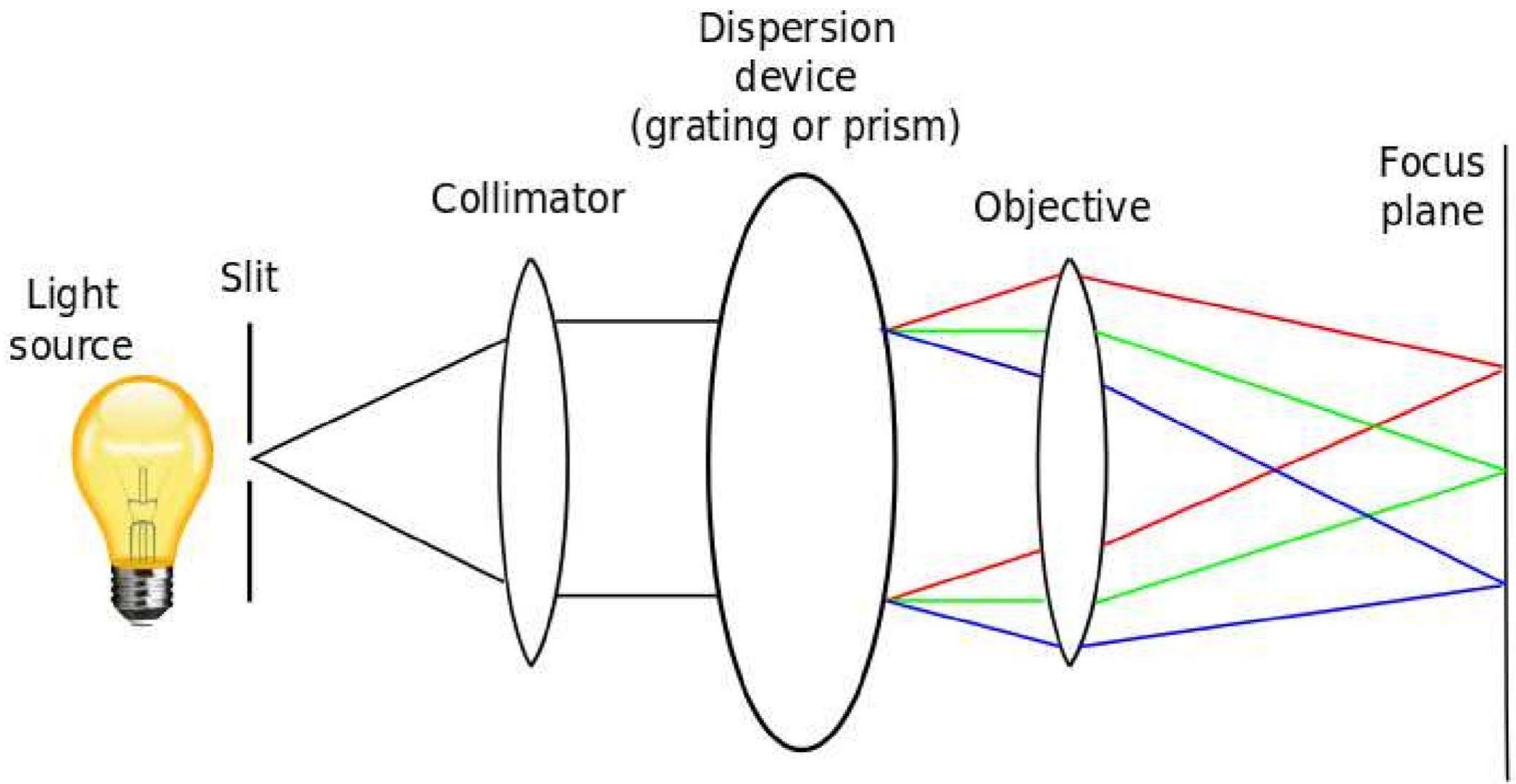
Tivoli, 16 November 2019



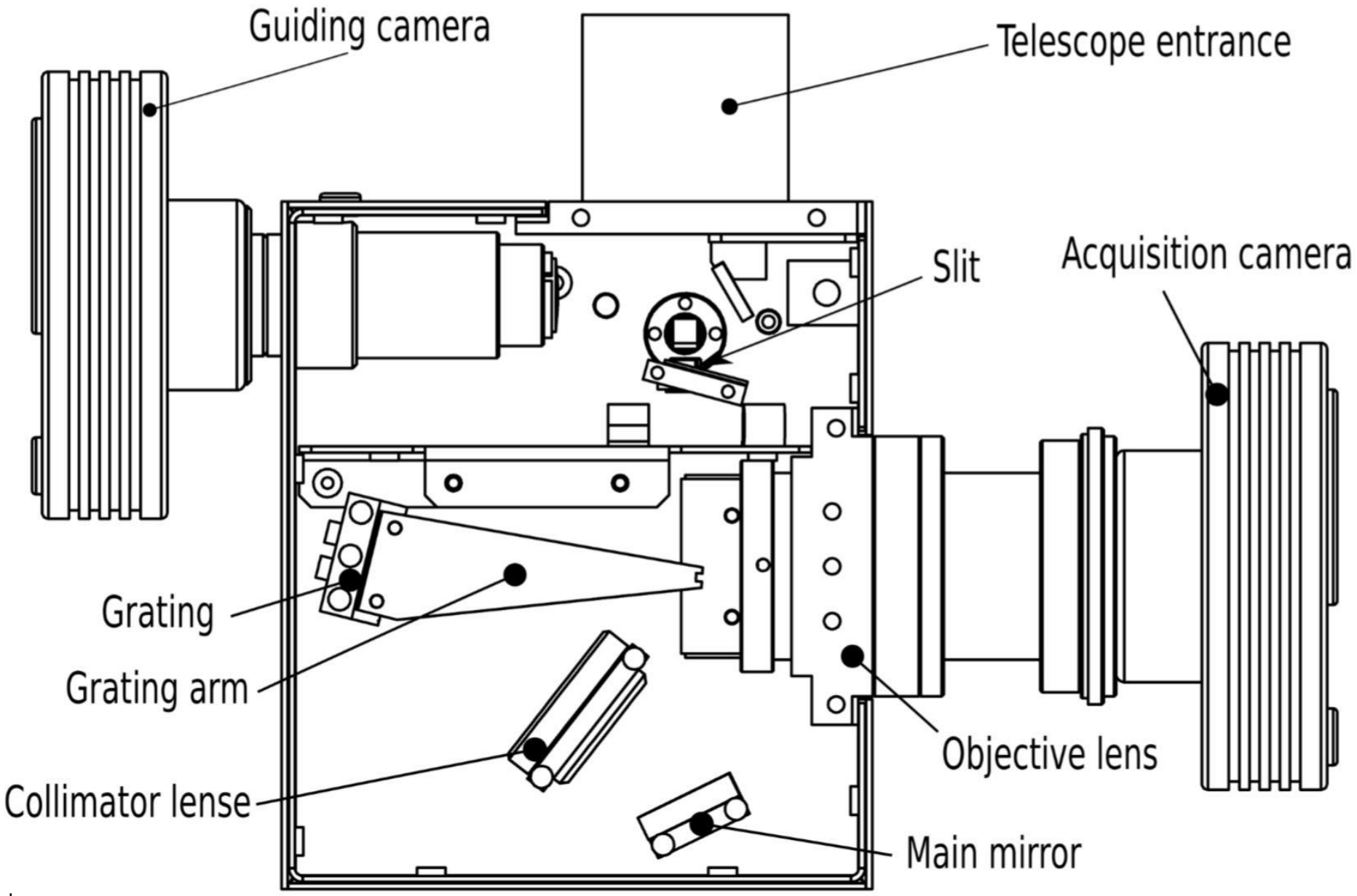
AstroLAB
IRIS

Nederland
Den Haag
Utrecht
Arnhem
Rotterdam
Eindhoven
Antwerpen
Brugge
Gent
Calais
Duinkerke
Astronomische
Contactgroep vzw
Brussel
Aken
Rijsel
Luik
België
Charleroi
Arras
Amiens

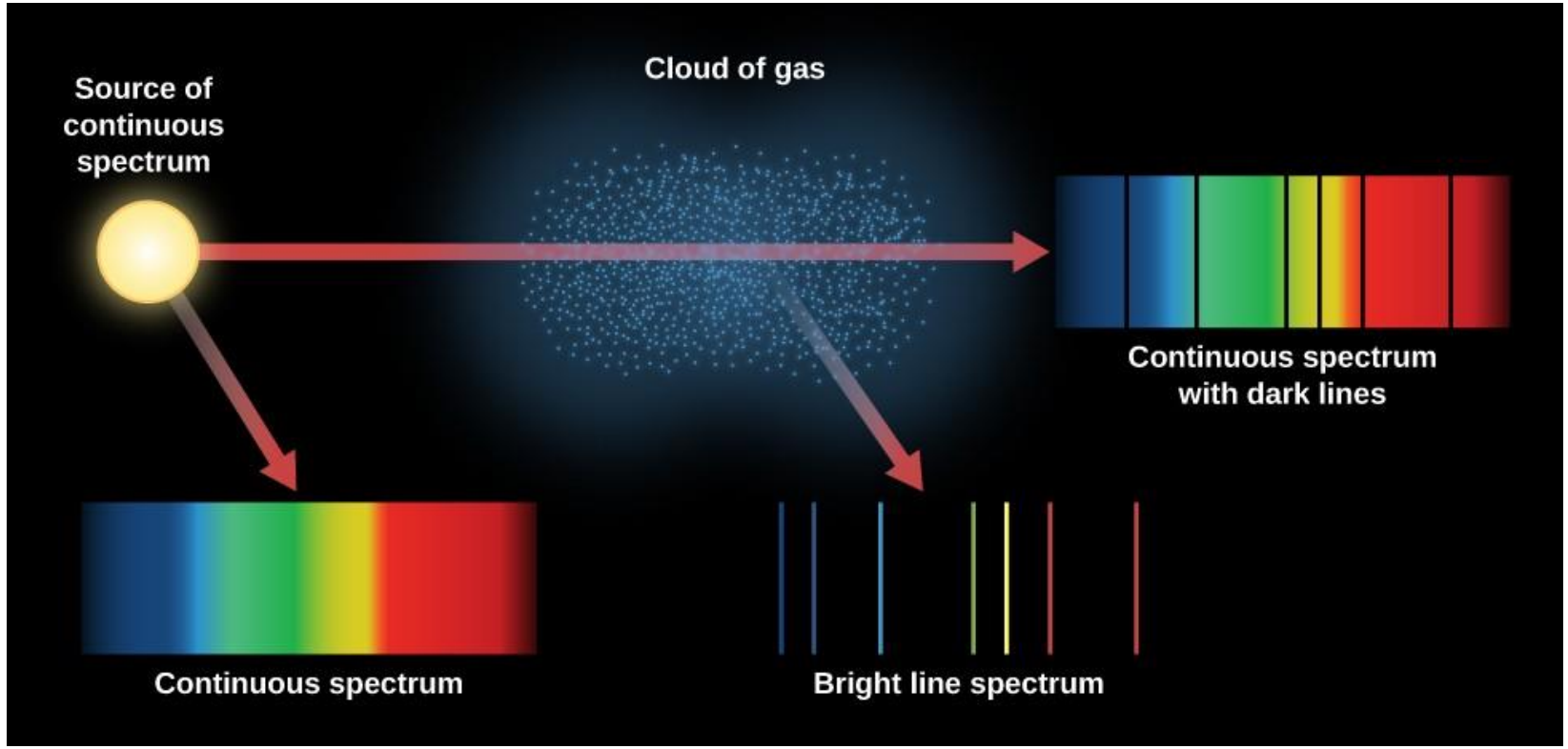
Referentiepunt 2
LISA spectrograaf



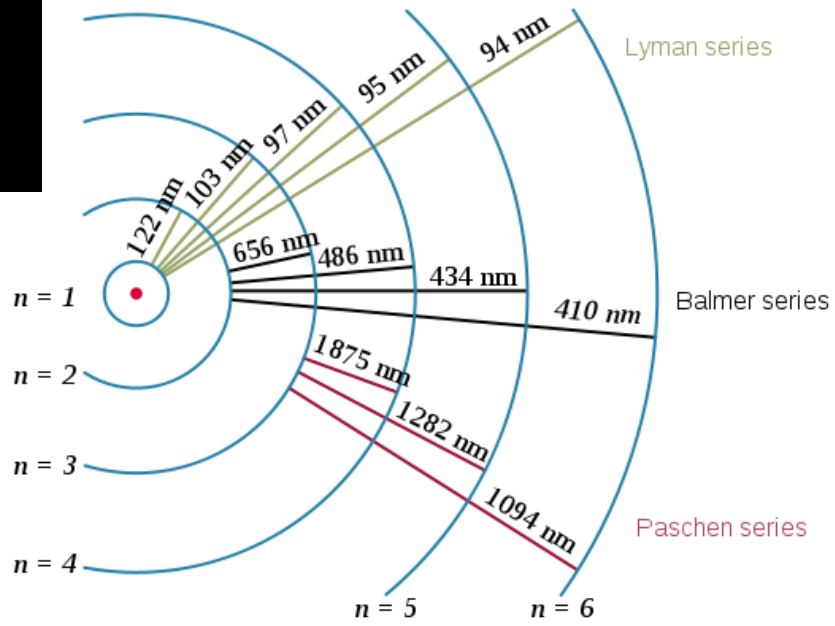
Bron: LISA manual



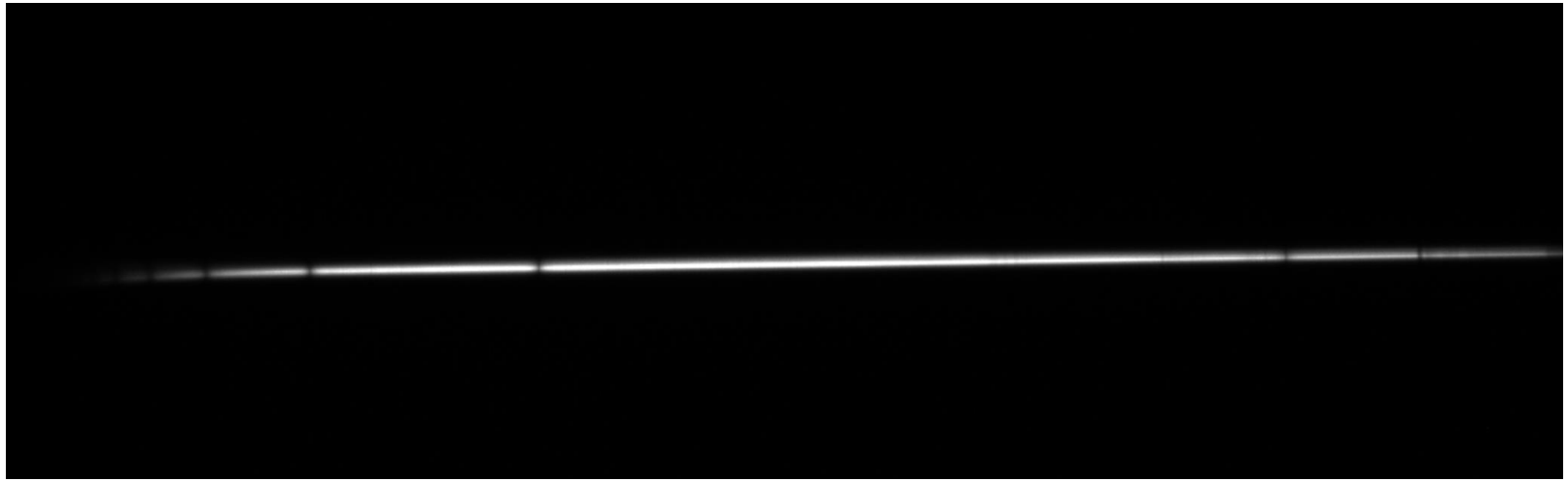
Bron: LISA manual

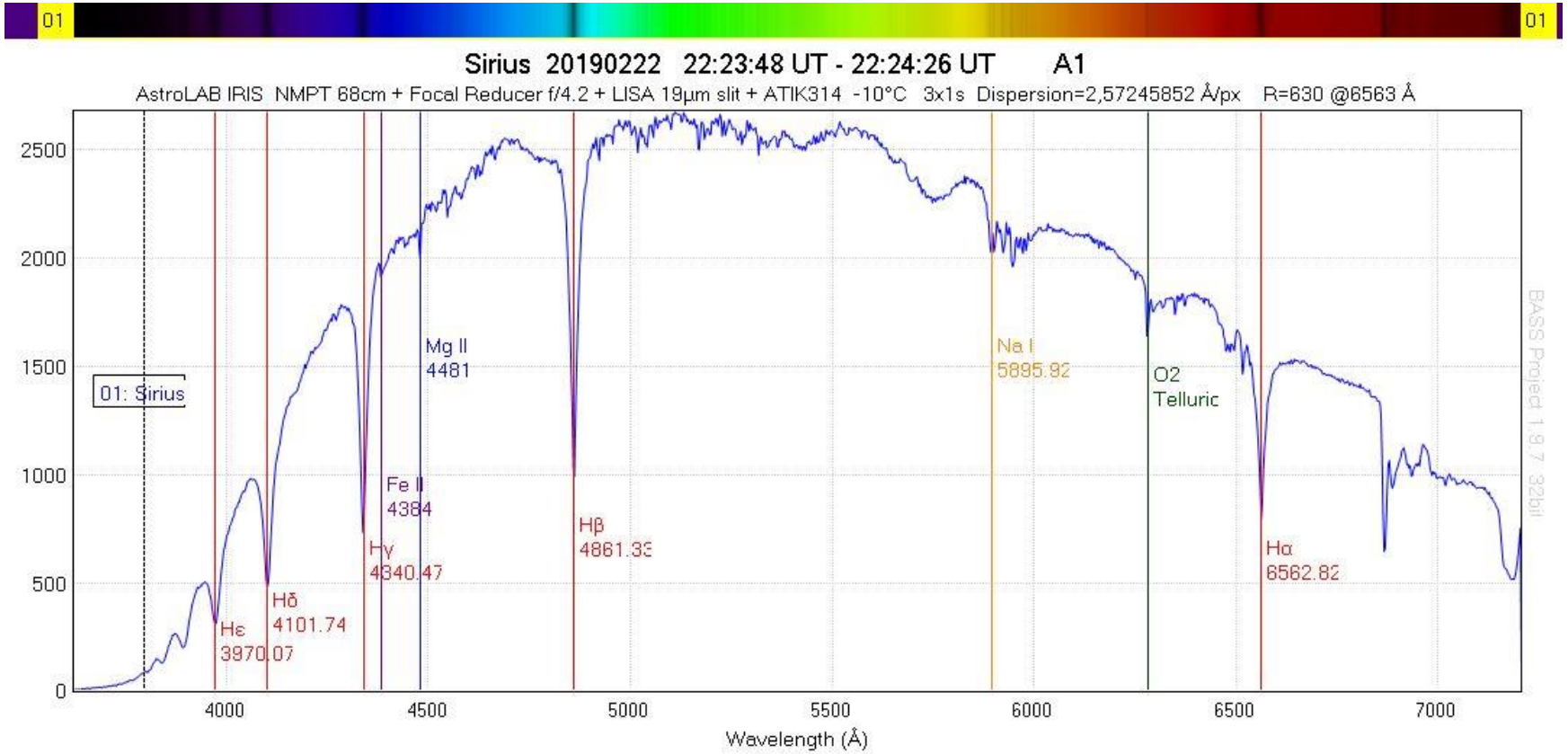


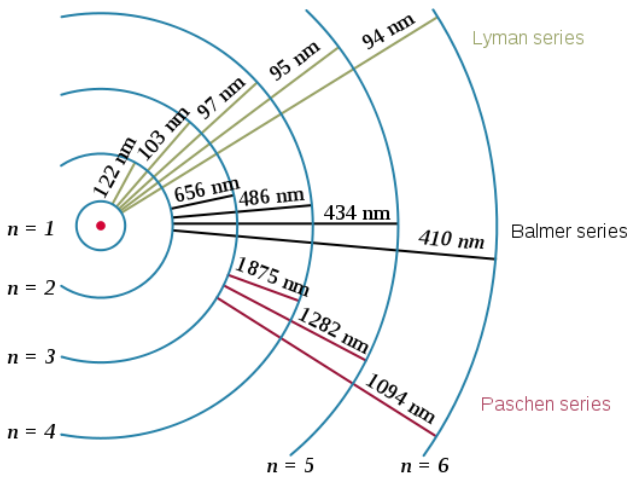
https://courses.lumenlearning.com/astronomy/chapter/formation-of-spectral-lines/

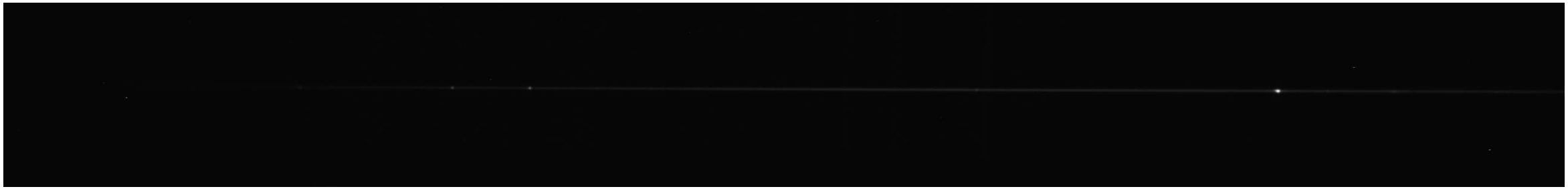


Bron: wikipedia

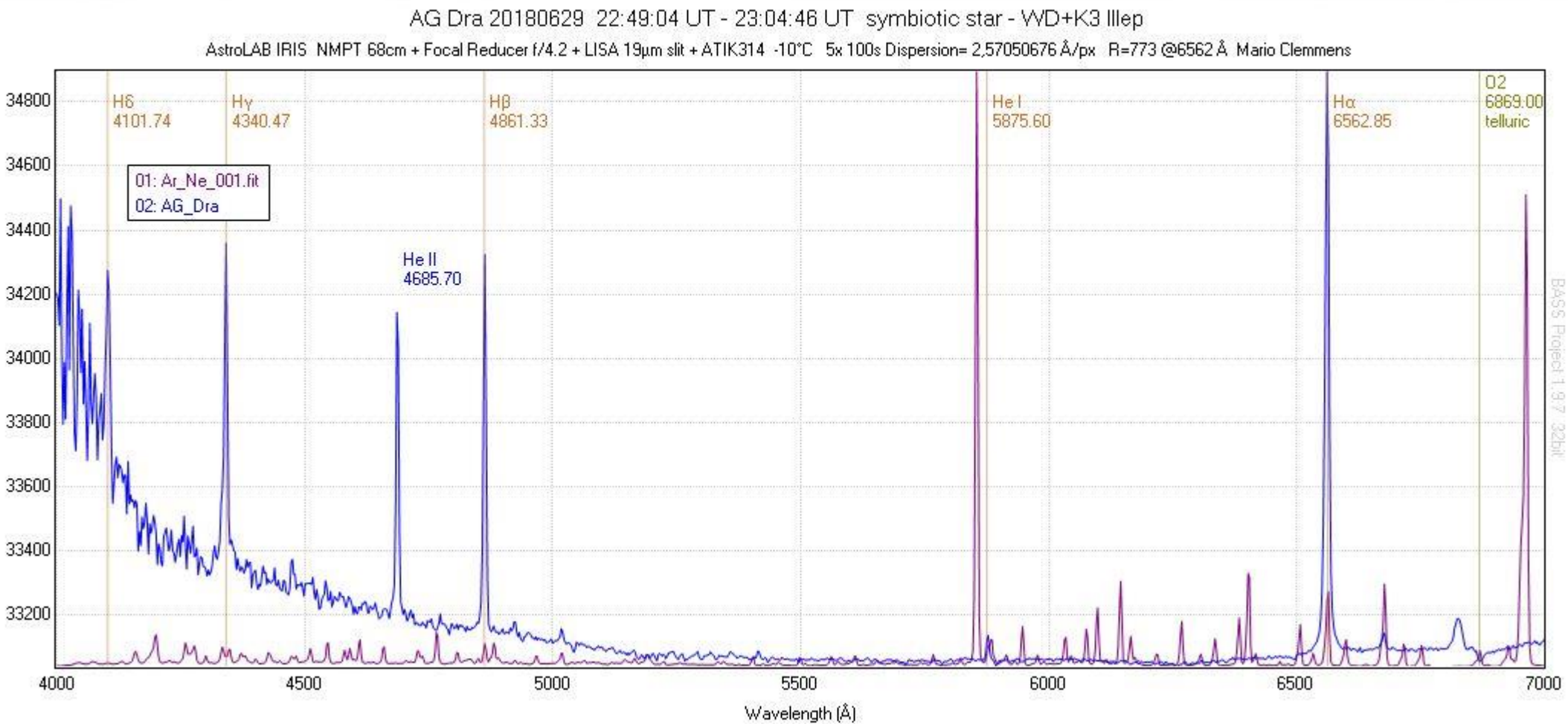


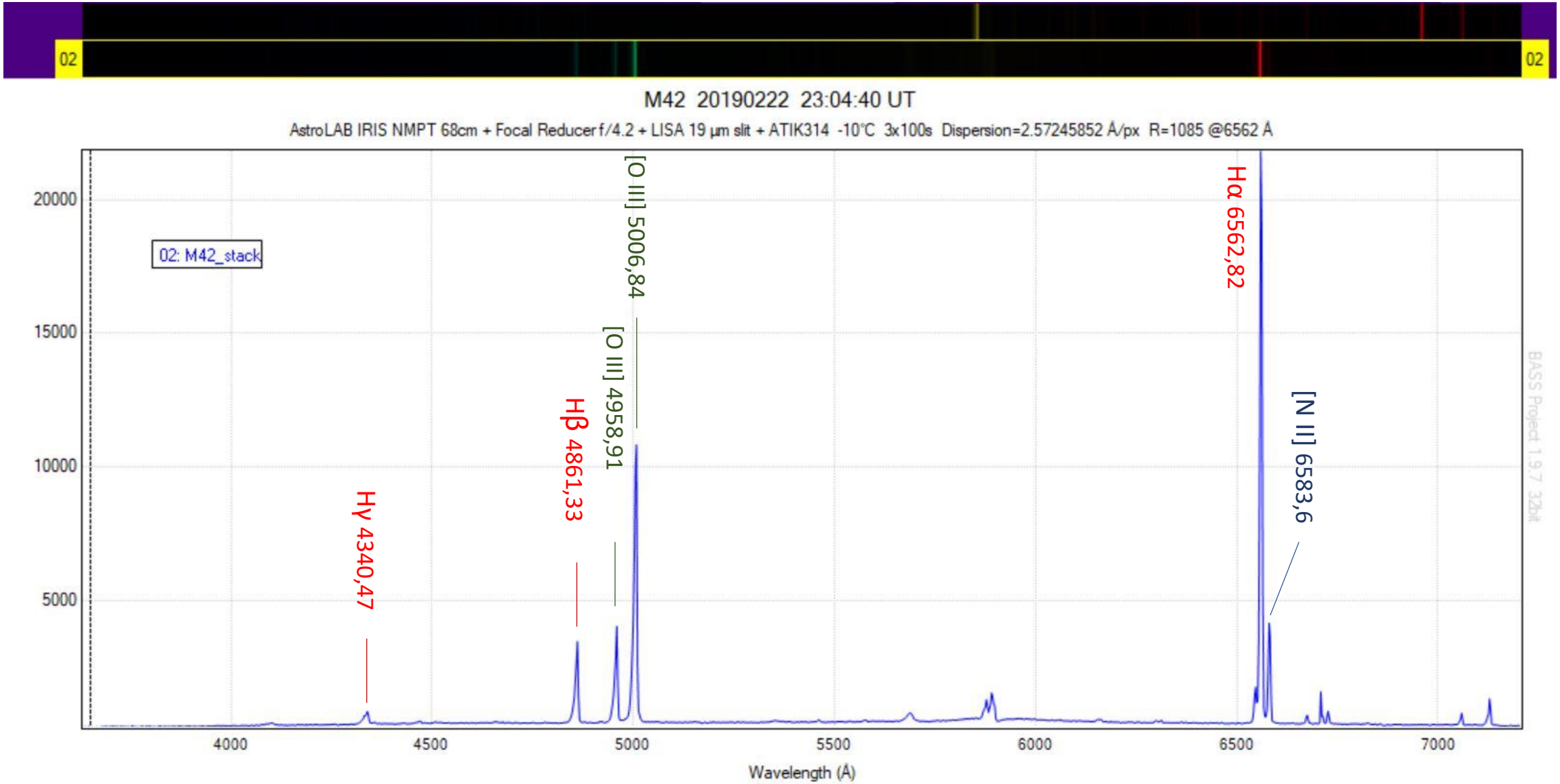

01
01
Sirius 20190222 22:23:48 UT - 22:24:26 UT A1
AstroLAB IRIS NMPT 68cm + Focal Reducer f/4.2 + LISA 19µm slit + ATIK314 -10°C 3x1s Dispersion=2,57245852 Å/px R=630 @6563 Å
01: Sirius
Hε
3970.07
Hδ
4101.74
Hγ
4340.47
Fe II
4384
Mg II
4481
Hβ
4861.33
Na I
5895.92
O2
Telluric
Hα
6562.82
BASS Project 1.9.7 32bit
2500
2000
1500
1000
500
0
4000
4500
5000
5500
6000
6500
7000
Wavelength (Å)

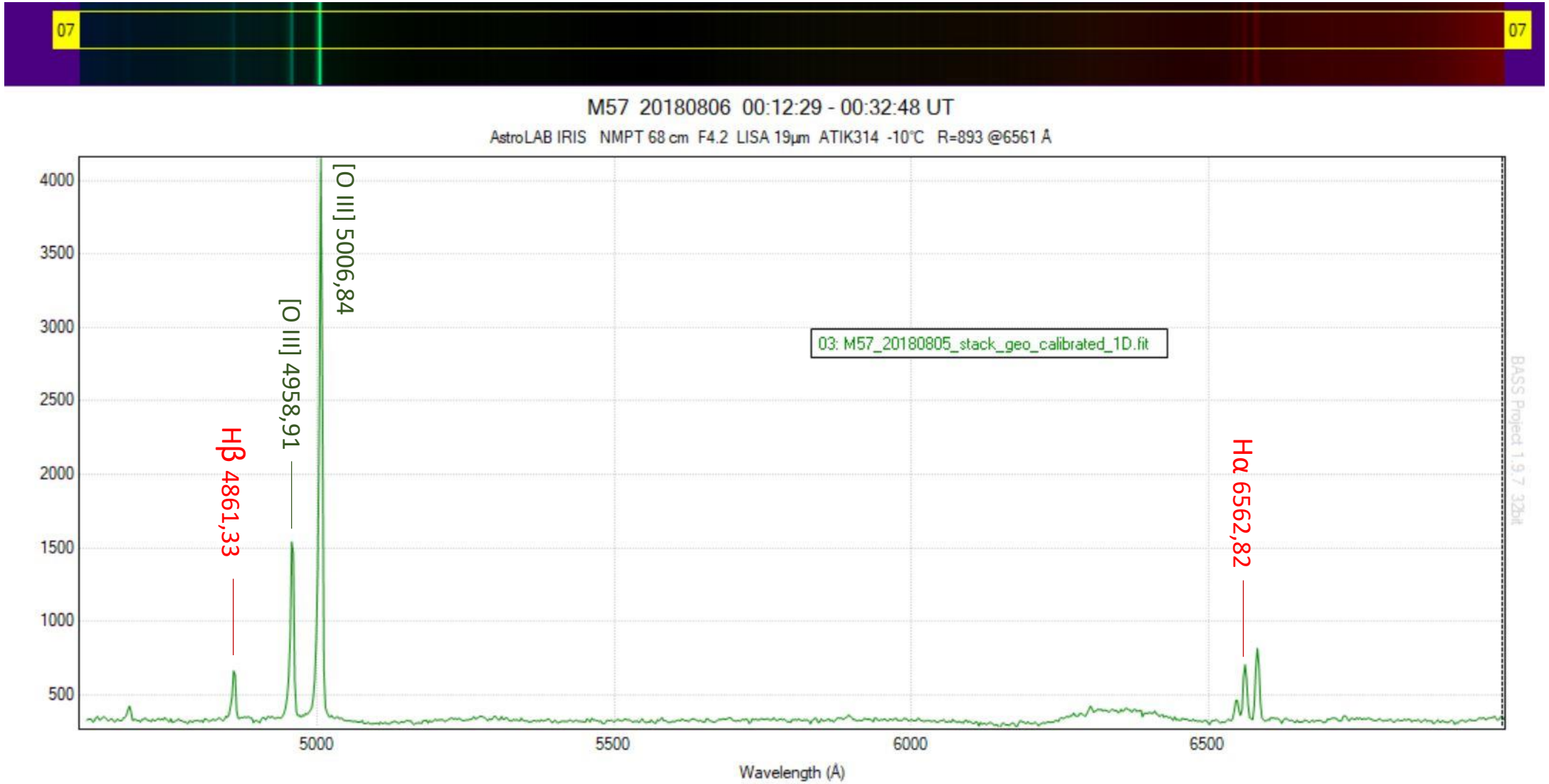

Lyman series
Balmer series
Paschen series
122 nm
103 nm
97 nm
95 nm
94 nm
656 nm
486 nm
434 nm
410 nm
1875 nm
1282 nm
1094 nm
n = 1
n = 2
n = 3
n = 4
n = 5
n = 6



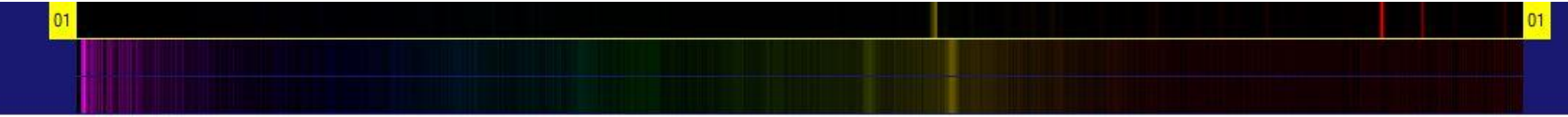
01
01


AG Dra 20180629 22:49:04 UT - 23:04:46 UT symbiotic star - WD+K3 IIIep
AstroLAB IRIS NMPT 68cm + Focal Reducer f/4.2 + LISA 19µm slit + ATIK314 -10°C 5x 100s Dispersion= 2,57050676 Å/px R=773 @6562 Å Mario Clemmens
Hδ 4101.74
Hγ 4340.47
Hβ 4861.33
He I 5875.60
Hα 6562.85
O2 6869.00 telluric
01: Ar_Ne_001.fit
02: AG_Dra
He II 4685.70
34800
34600
34400
34200
34000
33800
33600
33400
33200
4000
4500
5000
5500
6000
6500
7000
Wavelength (Å)
BASS Project 1.9.7 32bit


02
02
M42 20190222 23:04:40 UT
AstroLAB IRIS NMPT 68cm + Focal Reducer f/4.2 + LISA 19 µm slit + ATIK314 -10°C 3x100s Dispersion=2.57245852 Å/px R=1085 @6562 Å
02: M42_stack
Hγ 4340,47
Hβ 4861,33
[O III] 4958,91
[O III] 5006,84
Hα 6562,82
[N II] 6583,6
20000
15000
10000
5000
4000
4500
5000
5500
6000
6500
7000
Wavelength (Å)
BASS Project 1.9.7 32bit

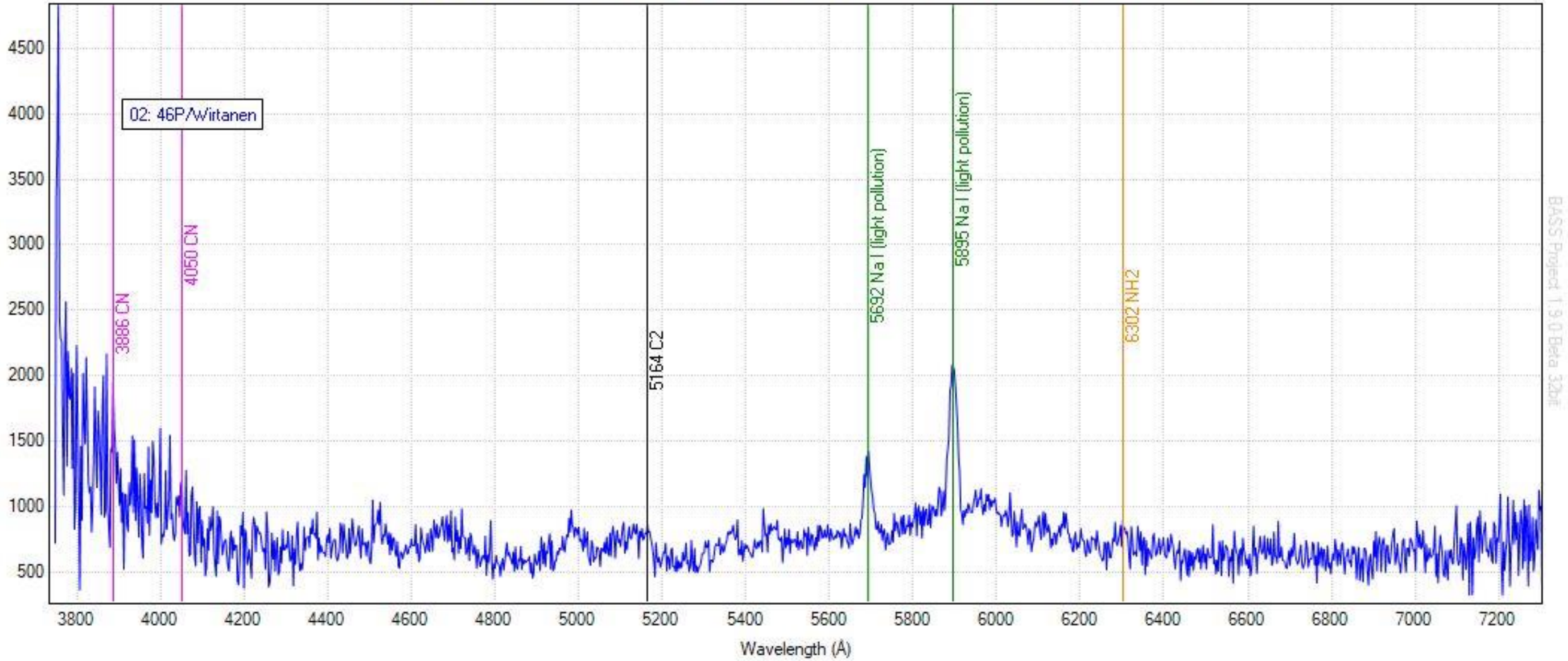

07
07
M57 20180806 00:12:29 - 00:32:48 UT
AstroLAB IRIS NMPT 68 cm F4.2 LISA 19µm ATIK314 -10°C R=893 @6561 Å
[O III] 5006,84
[O III] 4958,91
Hβ 4861,33
Hα 6562,82
03: M57_20180805_stack_geo_calibrated_1D.fit
BASS Project 1.9.7 32bit
4000
3500
3000
2500
2000
1500
1000
500
5000
5500
6000
6500
Wavelength (Å)

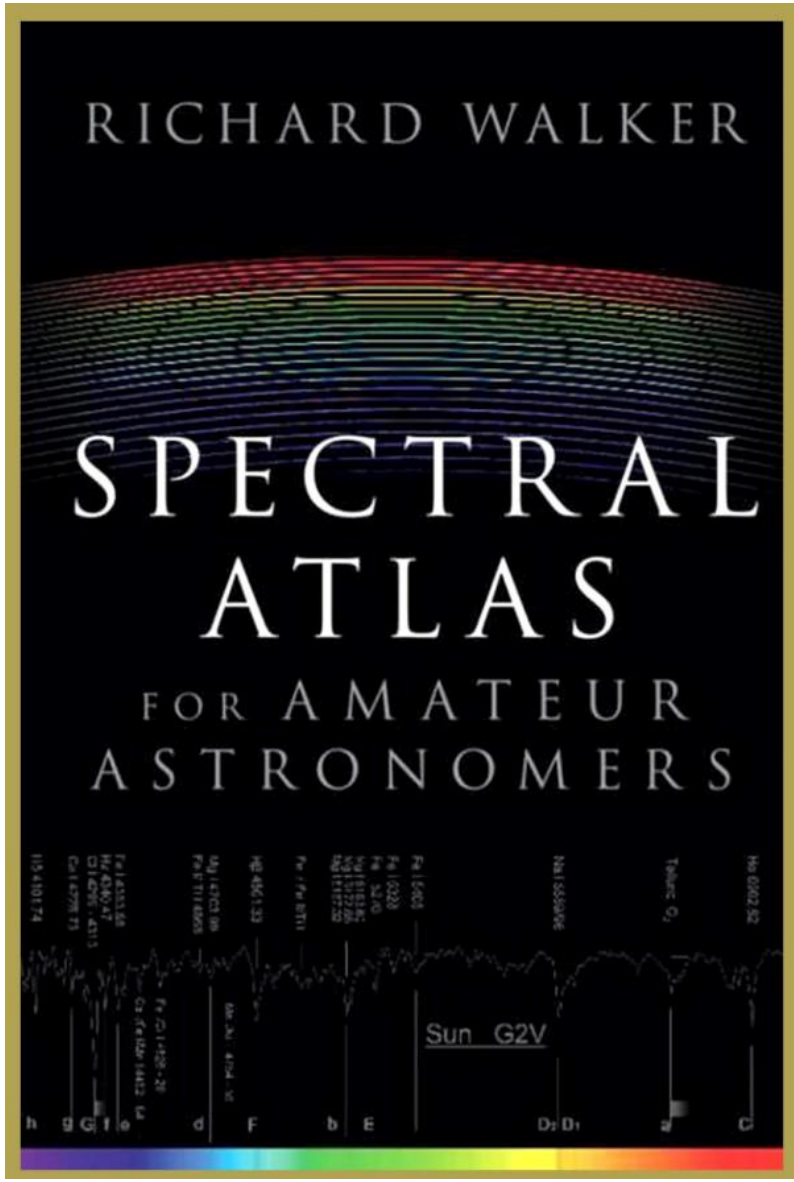
Sander Clemmens
M57 Ringnevel
22/06/2019 01:27 lokale tijd
CanonEOS750D
TMB 175 f/8 apo AstroLAB
30s ISO 1600
Zillebeke, België

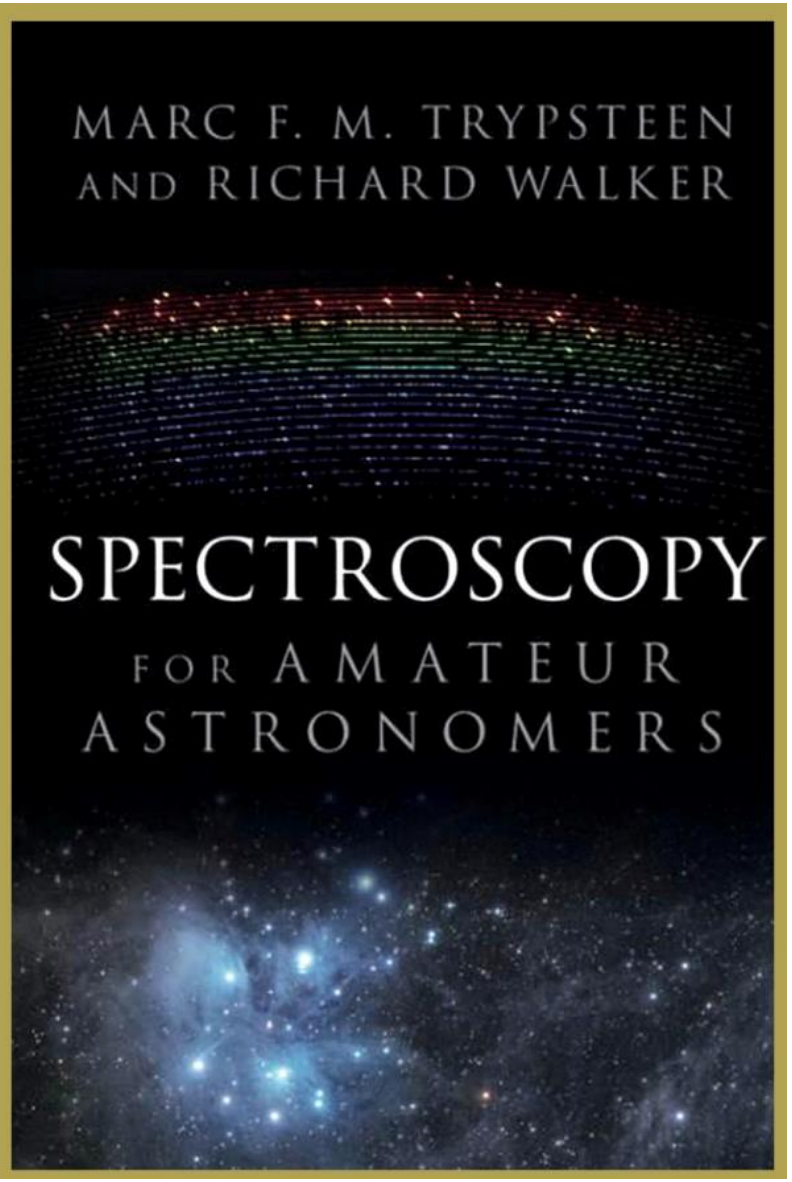


46P/Wirtanen 20181207 22:55:37 UT - 23:03:02 UT Comet

AstroLAB IRIS NMPT 68cm + Focal Reducer f/4.2 + LISA 19 µm slit + ATIK314 -10°C 3x 100s Dispersion=2.5665 Å/px







IRIS AstroLAB

ASTROFOTOGRAFIE

UGENT VOLKSSTERRENWACHT ARMAND PIEN

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Guide to Processing Spectra Using the BASS Software

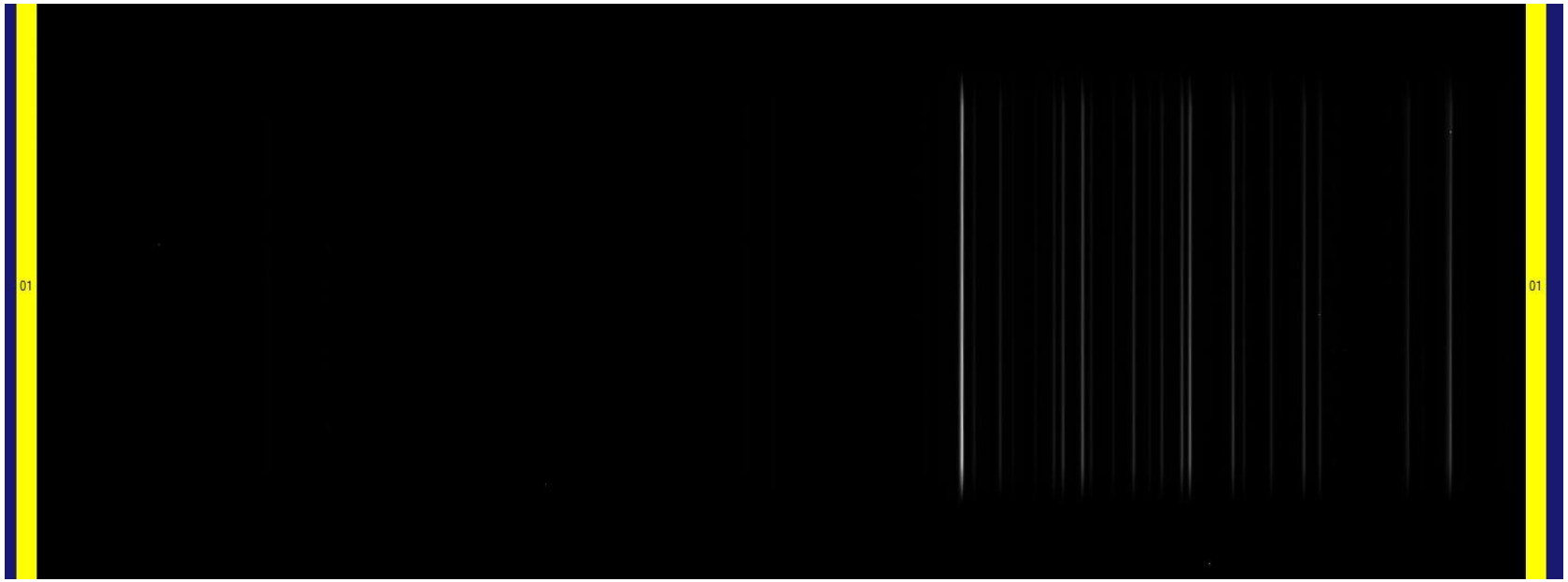
Andrew Wilson

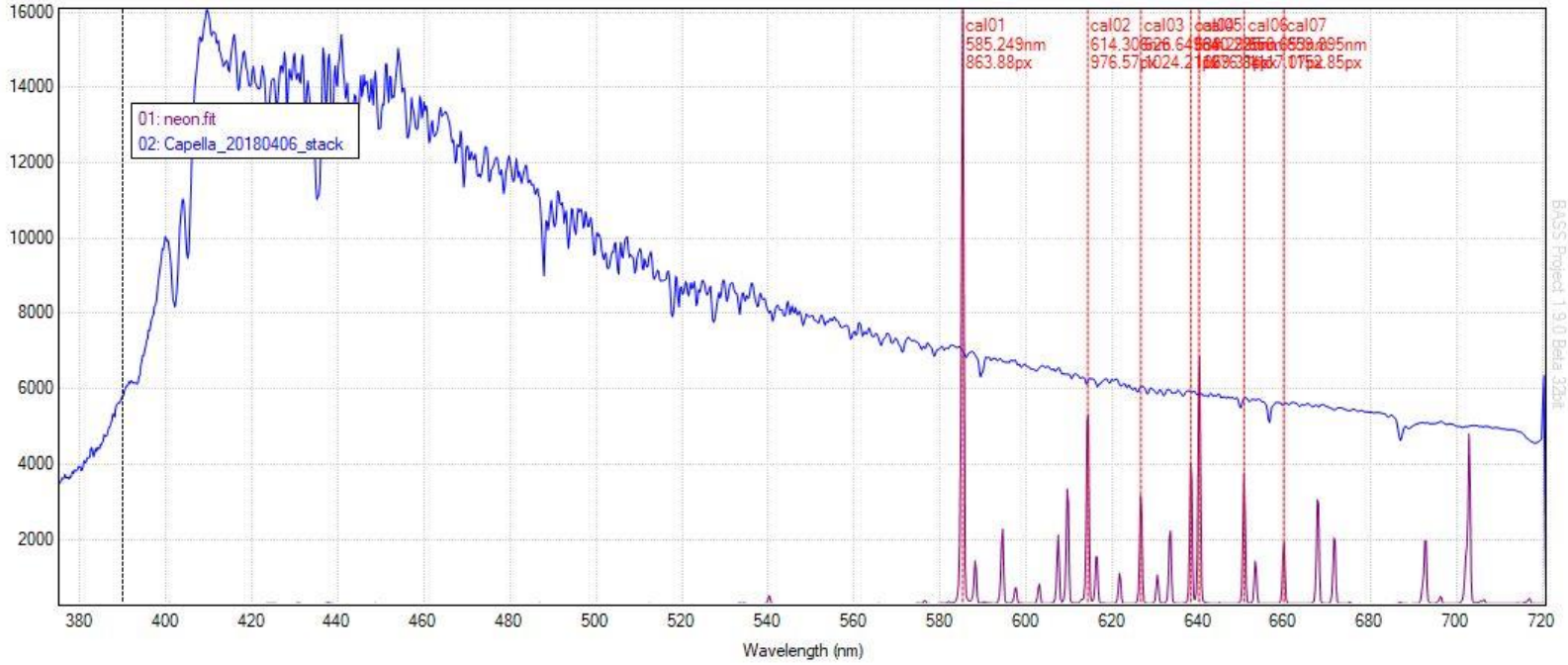
04 June 2017

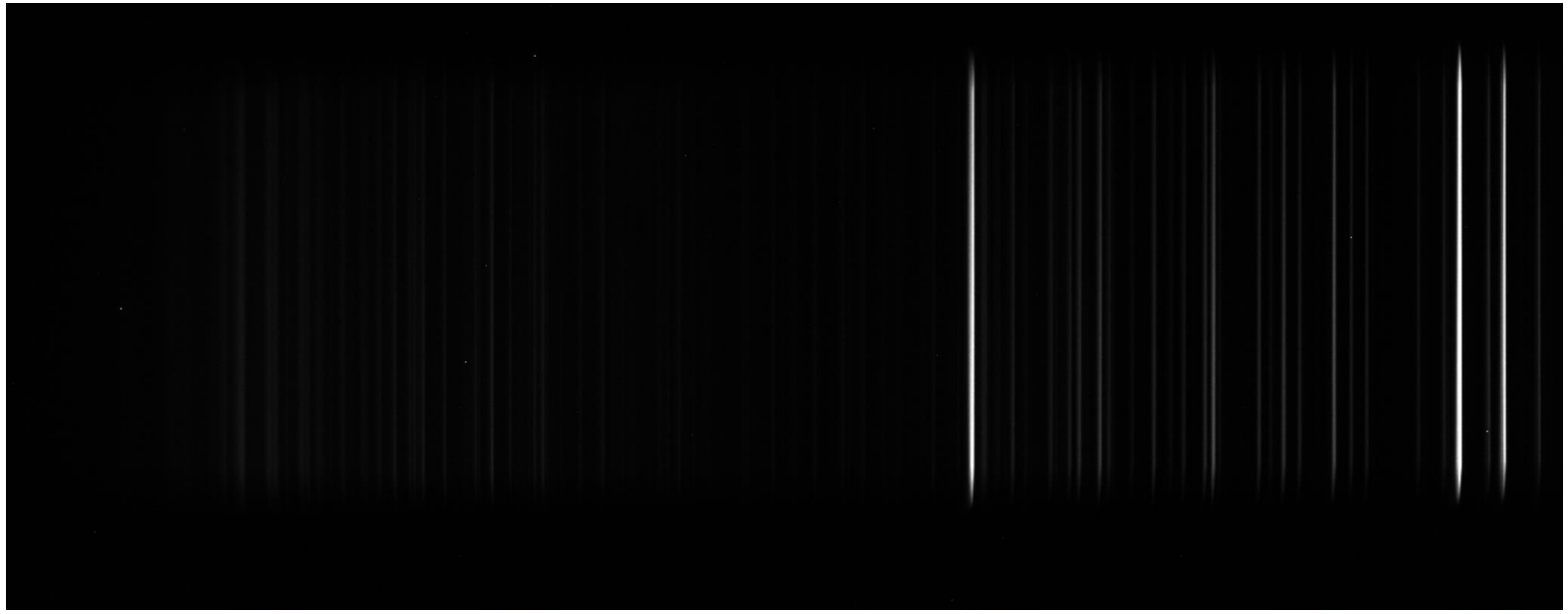
Applicable to BASS Project Version 1.9.7 by John Paraskeva

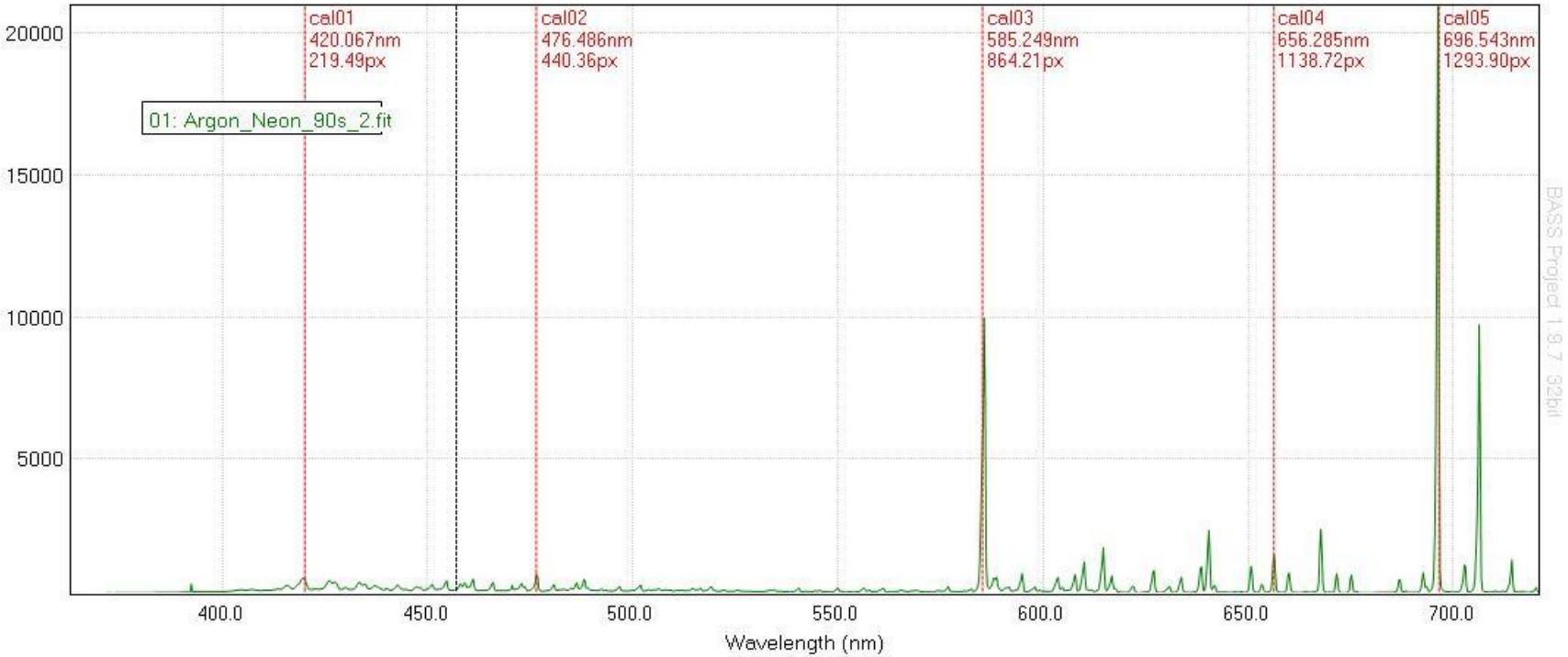
Available for free download from the links area of the Astrobodger Yahoo Group

https://britastro.org/sites/default/files/BAA_BASS_Tutorial_0.pdf


01
01


01: neon.fit
02: Capella_20180406_stack
cal01
585.249nm
863.88px
cal02
cal03
cal05
cal06
cal07
16000
14000
12000
10000
8000
6000
4000
2000
380
400
420
440
460
480
500
520
540
560
580
600
620
640
660
680
700
720
Wavelength (nm)
BASS Project 1.9.0 Beta 32bit

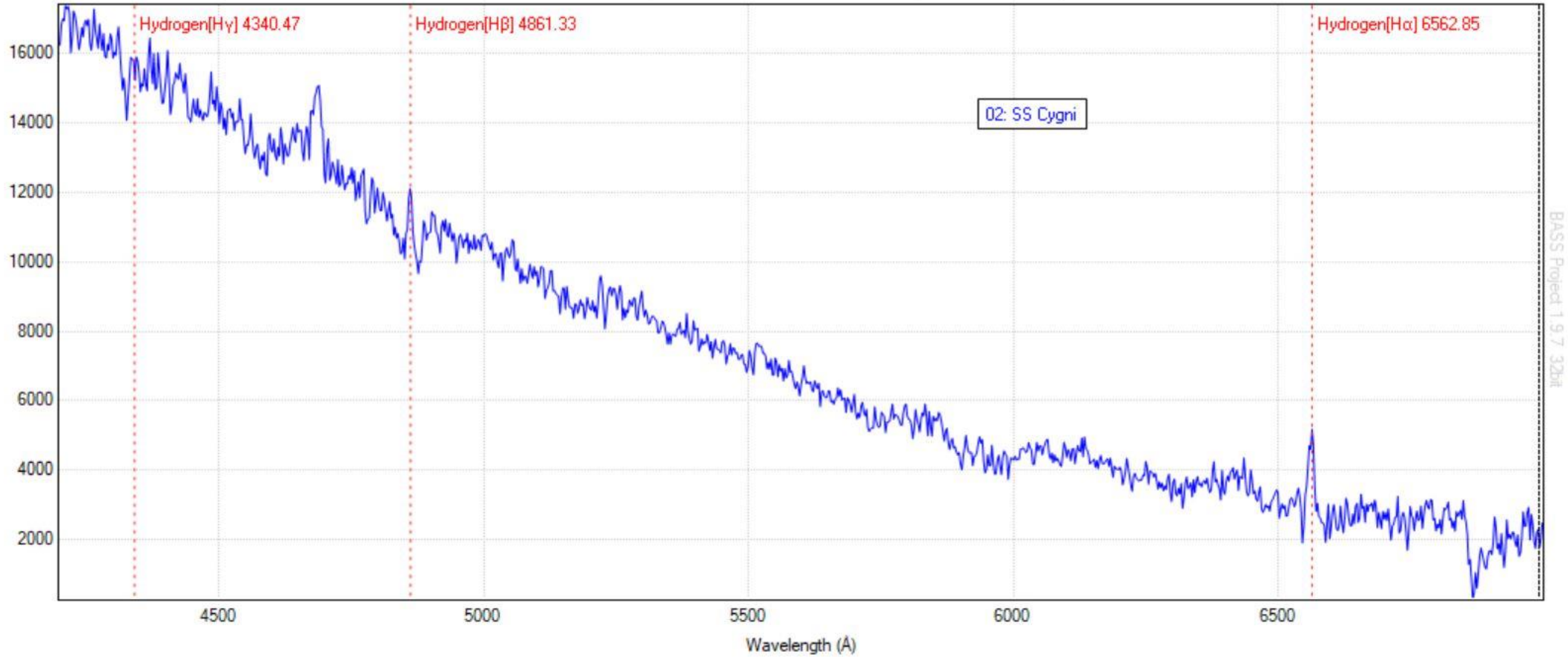



cal01
420.067nm
219.49px
cal02
476.486nm
440.36px
cal03
585.249nm
864.21px
cal04
656.285nm
1138.72px
cal05
696.543nm
1293.90px
01: Argon_Neon_90s_2.fit
20000
15000
10000
5000
400.0
450.0
500.0
550.0
600.0
650.0
700.0
Wavelength (nm)
BASS Project 1.9.7 32bit

Volg CCD →→

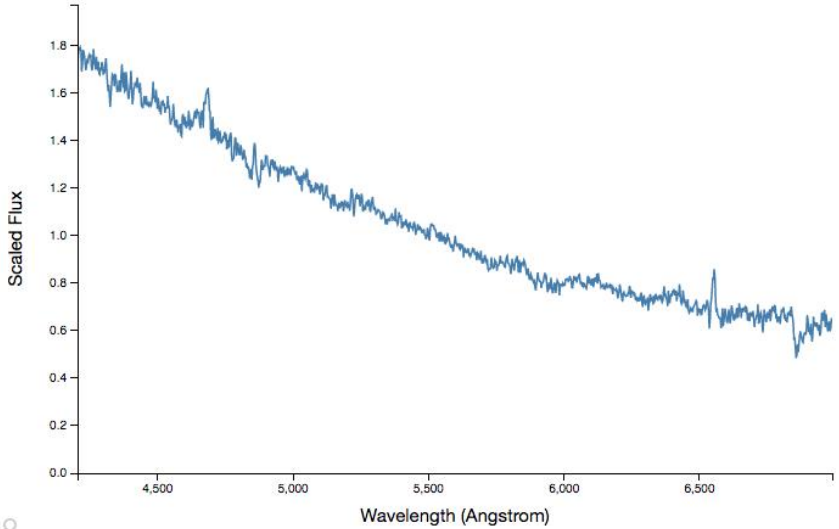
SS Cygni 20190824 22:04:43 UT - 22:07:21 UT

AstroLAB IRIS NMPT68 cm + focal reducer f/4.2 + LISA 19µm slit + ATIK314L -10°C 2x60s Dispersion= 2,57168 Å/px R=689 @6563 Å Mario Clemmens



SS Cyg -- 2019-08-24

Download



For visualization purposes only, this spectrum has been normalized such that the value of the central wavelength data point is one. For unnormalized flux, please refer to the observation file which can be downloaded above.

Record ID:	000-BCP-220_CMAK_2458720.42086
Uploaded:	2019-10-25 16:28:35
Observer:	CMAK
Date Observed:	2019-08-24 (2458720.42086)
Equipment:	NMPT
Site:	AstroLAB IRIS

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SS Cyg -- 2019-09-20

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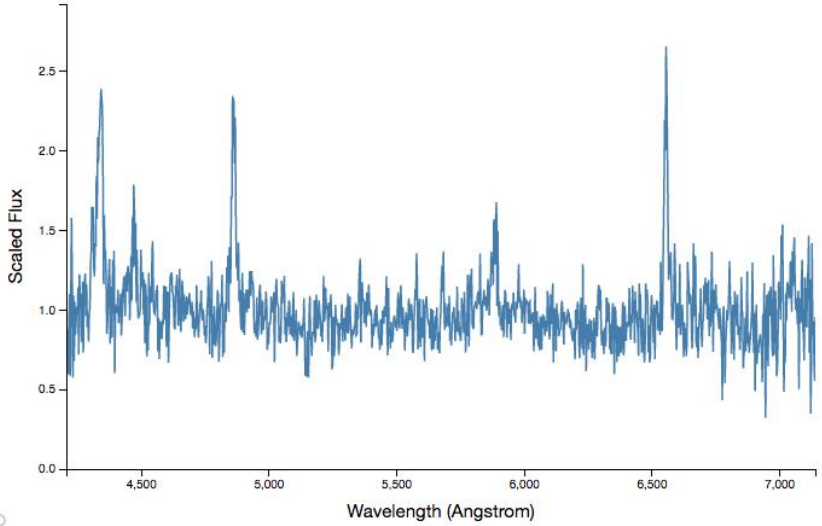
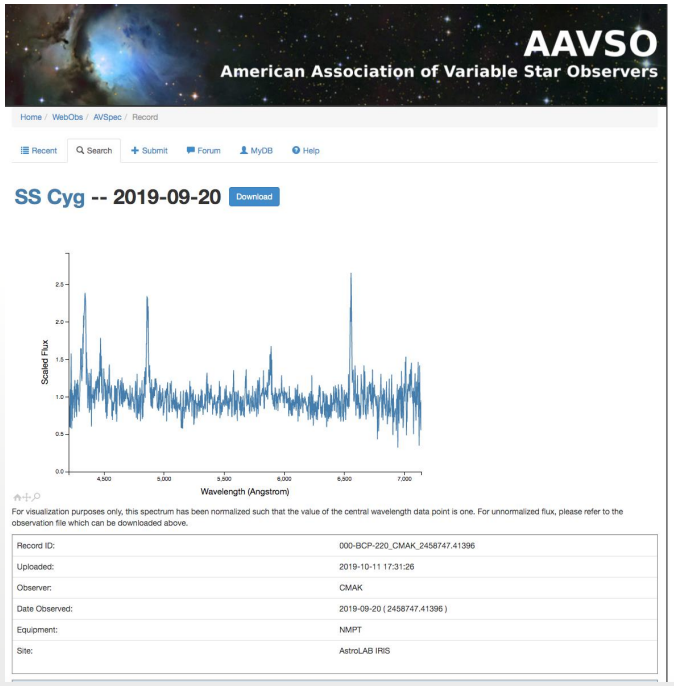


For visualization purposes only, this spectrum has been normalized such that the value of the central wavelength data point is one. For unnormalized flux, please refer to the observation file which can be downloaded above.

Record ID:	000-BCP-220_CMAK_2458747.41396
Uploaded:	2019-10-11 17:31:26
Observer:	CMAK
Date Observed:	2019-09-20 (2458747.41396)
Equipment:	NMPT
Site:	AstroLAB IRIS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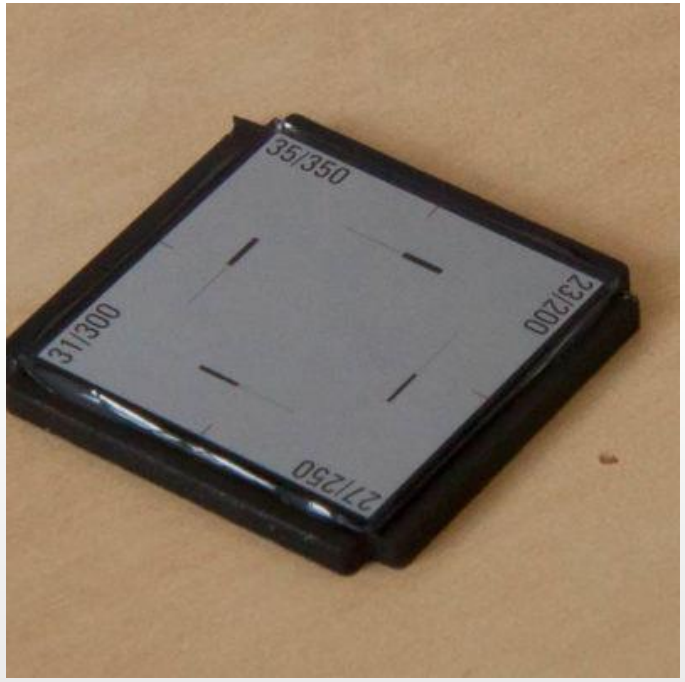
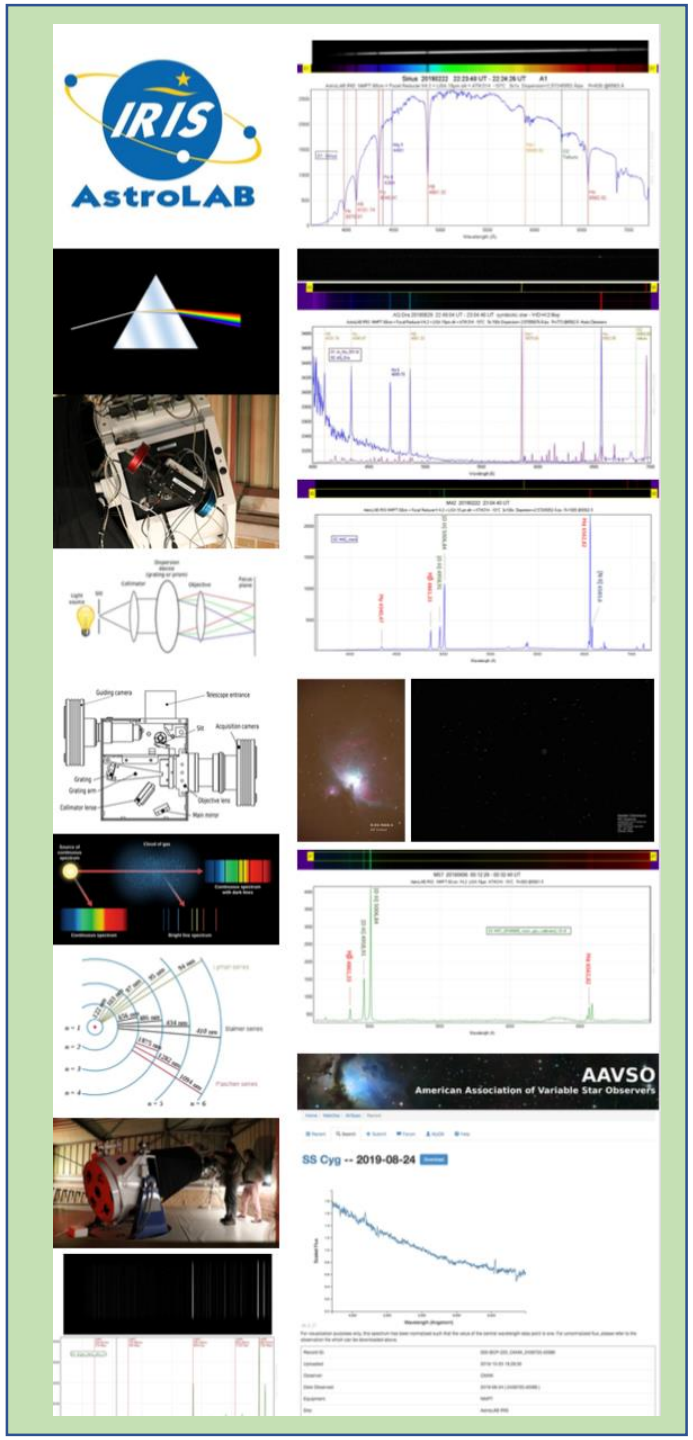
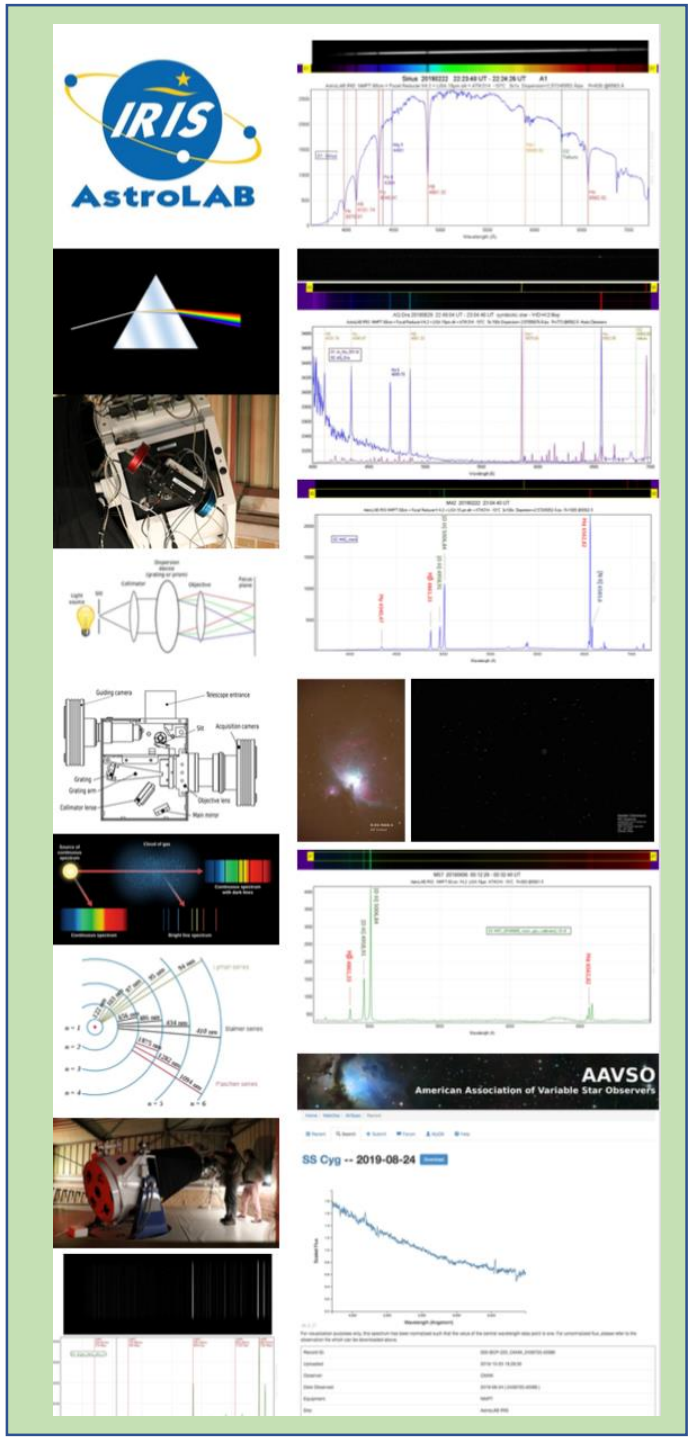
SS Cyg -- 2019-09-20
Download
Scaled Flux
Wavelength (Angstrom)
For visualization purposes only, this spectrum has been normalized such that the value of the central wavelength data point is one. For unnormalized flux, please refer to the observation file which can be downloaded above.
Record ID: 000-BCP-220_CMAK_2458747.41396
Uploaded: 2019-10-11 17:31:26
Observer: CMAK
Date Observed: 2019-09-20 (2458747.41396)
Equipment: NMPT
Site: AstroLAB IRIS


35/350
31/300
23/200
27/250

https://www.physicsexperiments.org/index.php/experiments/licht-straling/kleur/zelfbouw-spectroscoop

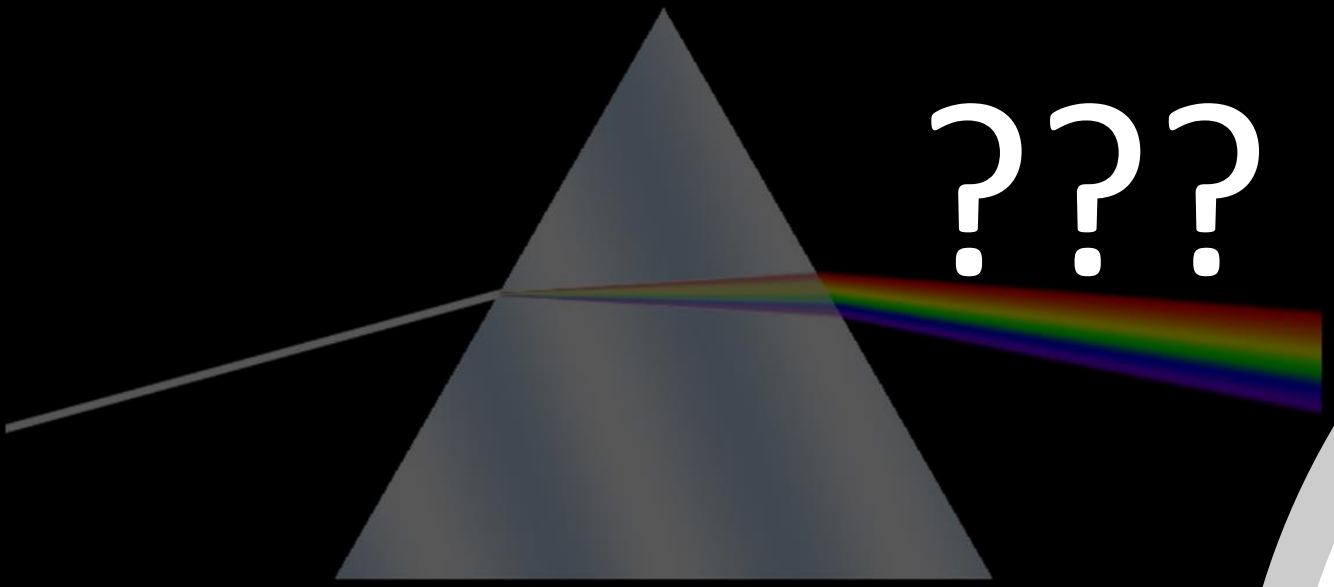

IRIS
AstroLAB
AAVSO
American Association of Variable Star Observers
SS Cyg -- 2019-08-24



Topic in de basiscursus

3 avond-workshops:

- theoretische achtergrond
- opname met de LISA
- verwerking met BASS



???

SpectroLAB

Werkgroep spectrografie

Mario Clemmens

Tivoli, 16 November 2019