Spectroscopic Record Sheet

Details on acquisitions

Object	YY Hya Shell - StDr Objet 20
Coordinates (J2000)	09:26:20.58 -22:23:39.13
Type	Nova Shell Candidate

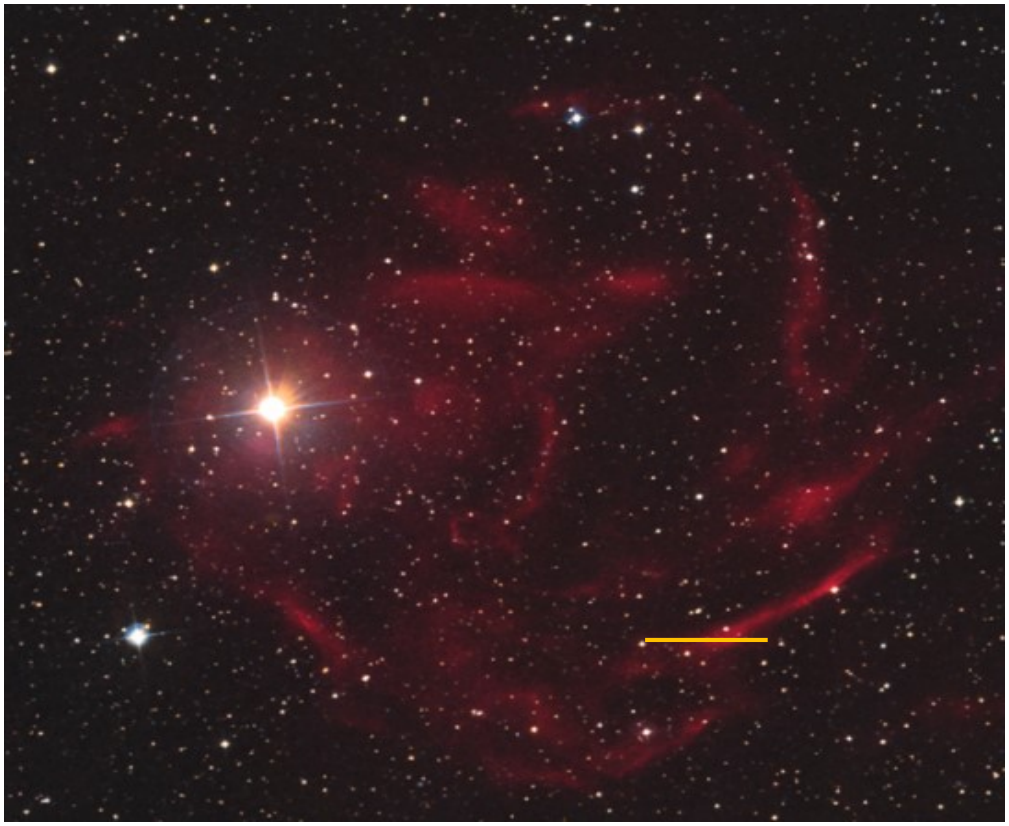
Observation date	5.292/02/2022 (d/m/y)
Meteorological conditions	10°C
Observer	2SPOT
Location	Deep Sky Chile (CL)

Mount	10 Micron GM3000 HPS
Telescope	Ritchey-Chrétien RC12
Spectrograph	Alpy 600 - 23 µm slit
Resolution (bin 1x1)	~1 Å at λ656 nm
Science camera	ATIK 414 EX
Dispersion (bin 1x1)	~0,3 nm/pixel at λ656 nm
Cam Temperature	-10 °C
Binning	2x2
Guiding camera	Atik 314L+
Data acquisition Soft	Prism v10.4.18.922
Data processing Soft	ISIS V6.1.1

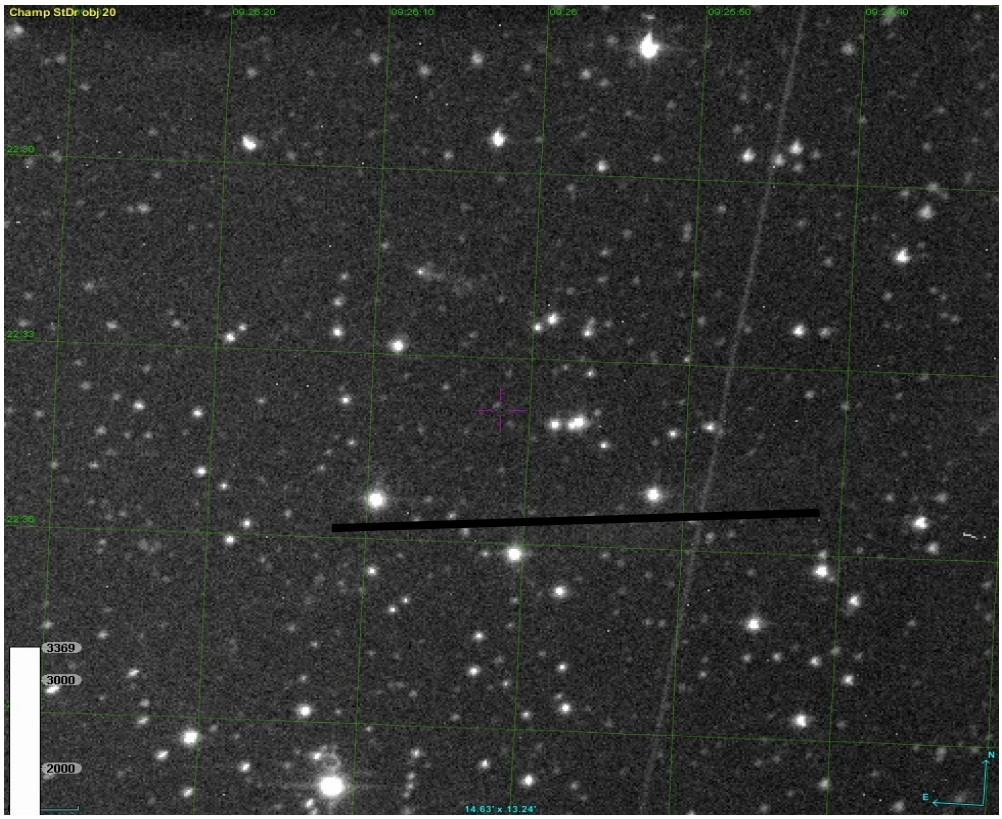
Exposure on object	6 x 1200 s
Master Dark	Corrected
Master Offset date	Corrected
Master Flat	Corrected
Neon-Argon calibration	Corrected
Reference star calib.	HD73495_A0V
Exposure on ref star	15 x 2 s
Ref Star Sp. date	5.206/02/2022

Images and slit position

Image Maicon Germiniani Orange line : position of the slit

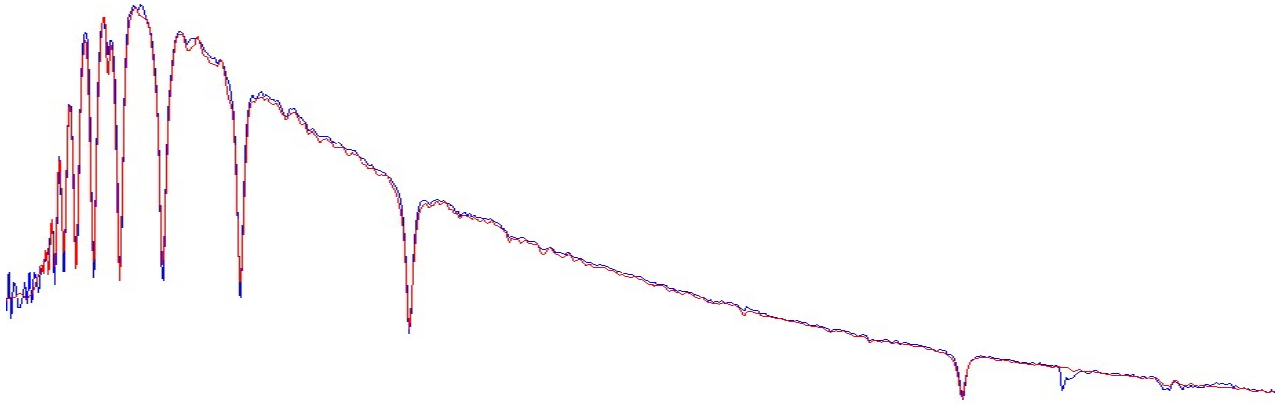


Autoguider image on DSS2 red, center of the slit at : **09:25:54.95 -22:35:31.46**

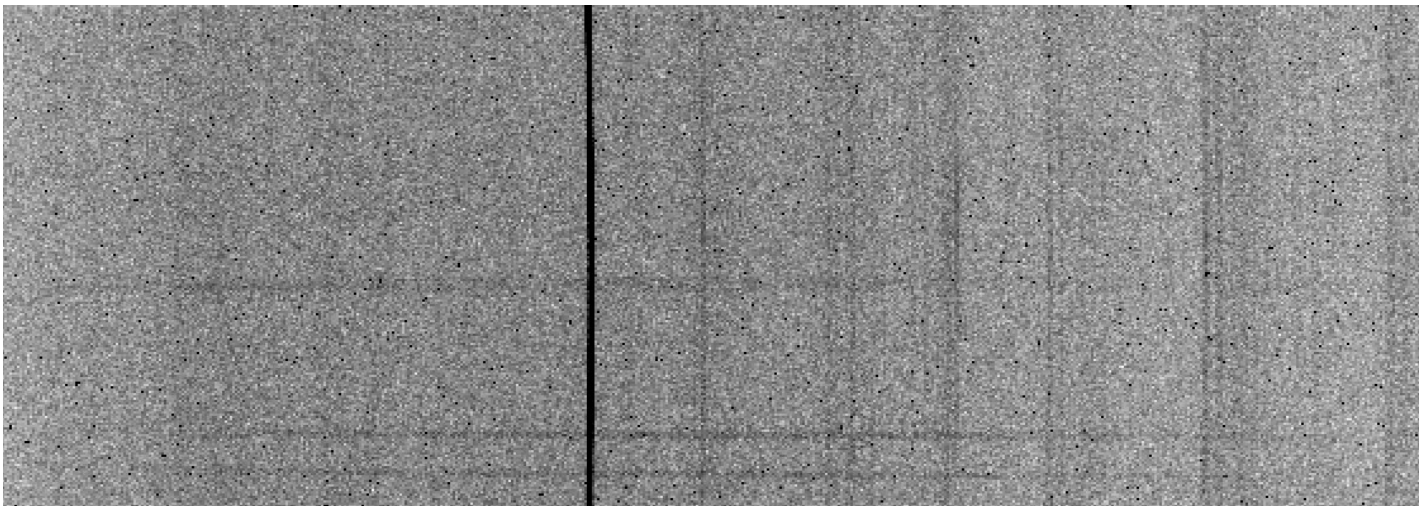


Instrumental Response and 2D Spectrum

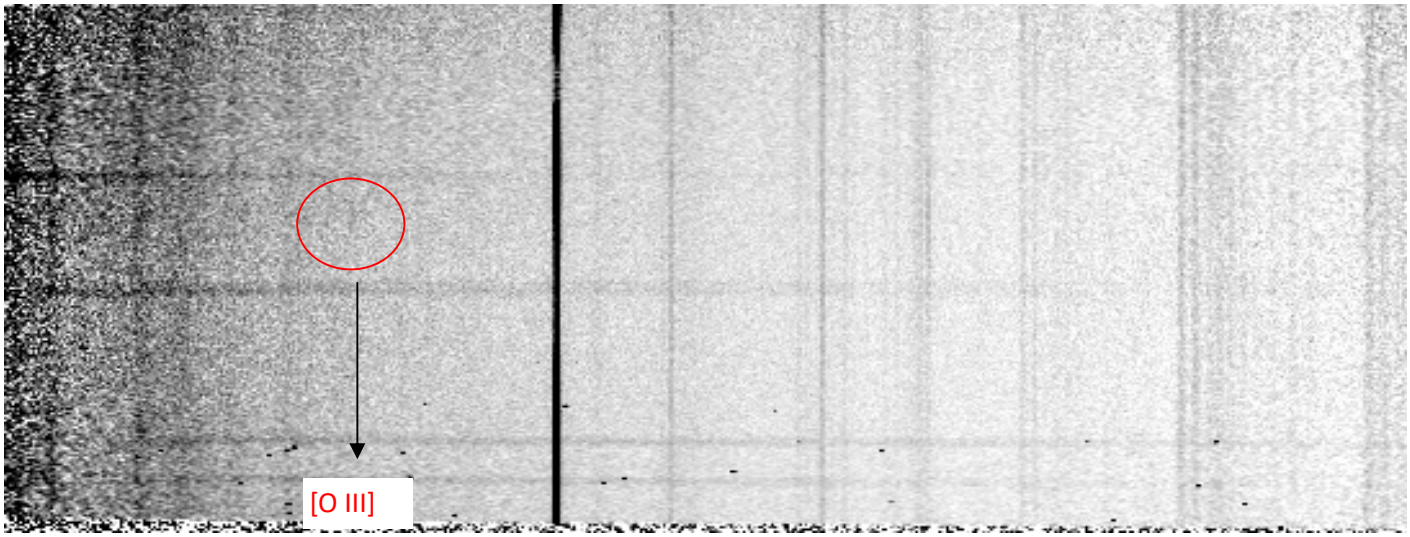
Instrumental response (red = theoritical ref star spectrum ; blue = acquired ref star spectrum with instrumental response correction applied)



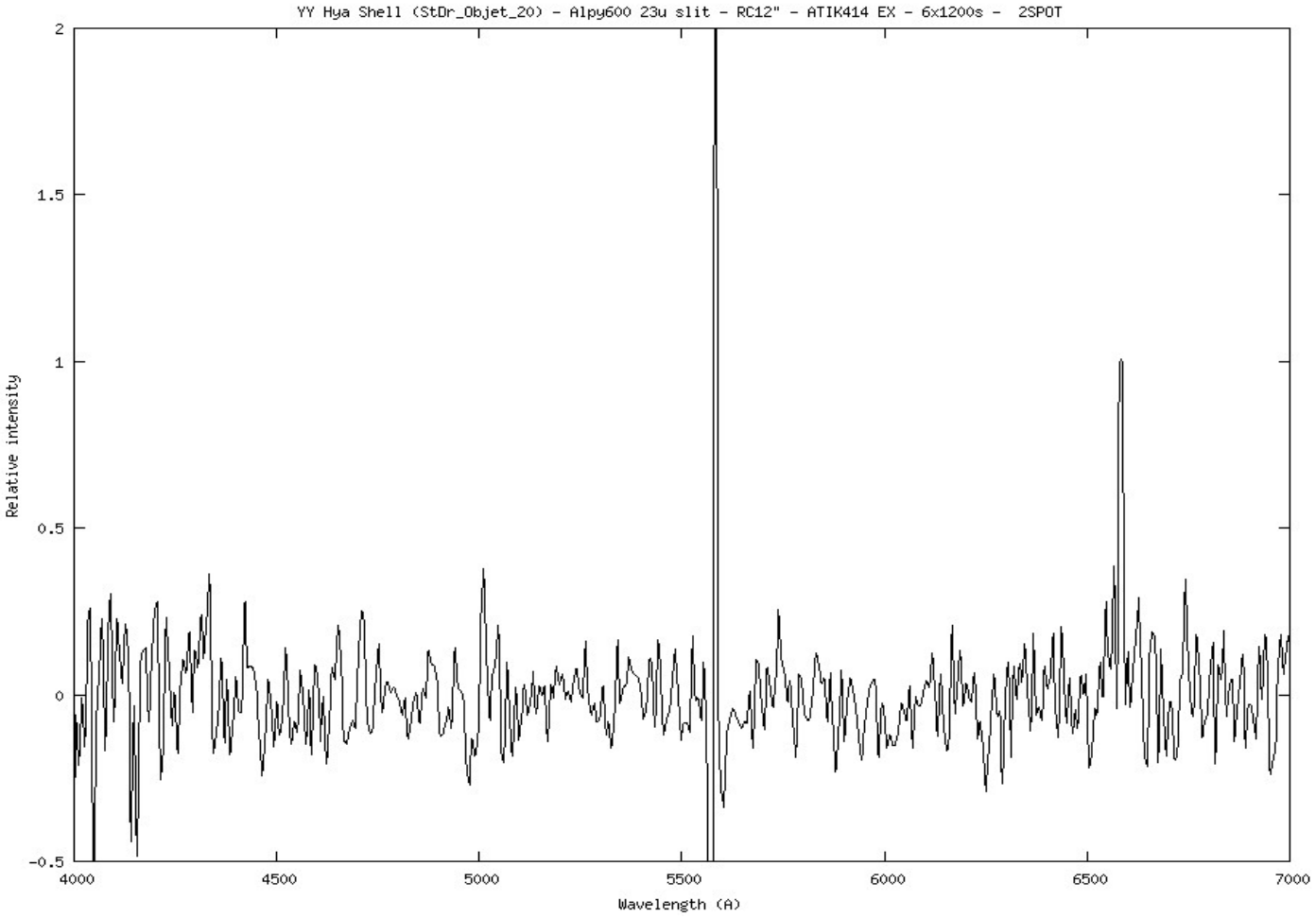
2D Raw spectrum



Processed 2D spectrum without atmospheric lines removal



Results



Detected lines : [N II] > H-alpha and weak [O III]

The spectrum given on the next page is processsed without removal of atmospheric lines, in order to better show the [OIII] emission.

Also see "YY Hya and its interstellar environment"
https://www.aanda.org/articles/aa/abs/2021/12/aa39787-20/aa39787-20.html

Authors said :
"YY Hya is a compact binary system containing a K dwarf star that is strongly irradiated by a hot white dwarf companion" & "We also briefly speculate that it might be related to the 1065 BP “guest-star” reported in ancient Chinese records."

2SPOT
Southern Spectroscopic Project Observatory Team