



Spectroscopic Record Sheet



Details on acquisitions

Object	StDr objet 31
Coordinates (J2000)	04:52:32.41 +07:40:31.64
Type	PN candidate

Observation date	11.912/01/2021 (d/m/y)
Meteorological conditions	0°C
Observer	L.Mulato
Location	Cornillon France

Mount	NEQ6
Telescope	Newton Skywatcher 200 mm F/5
Spectrograph	Alpy 600 - 23 μm slit
Resolution (bin 1x1)	$\sim 1 \text{ \AA}$ at $\lambda 656 \text{ nm}$
Science camera	ATIK 414 EX
Dispersion (bin 1x1)	$\sim 0,3 \text{ nm/pixel}$ at $\lambda 656 \text{ nm}$
Cam Temperature	-10 °C
Binning	2x2
Guiding camera	ASI290 MM non cooled
Data acquisition Soft	PRISM V10
Data processing Soft	Isis V5.9.3

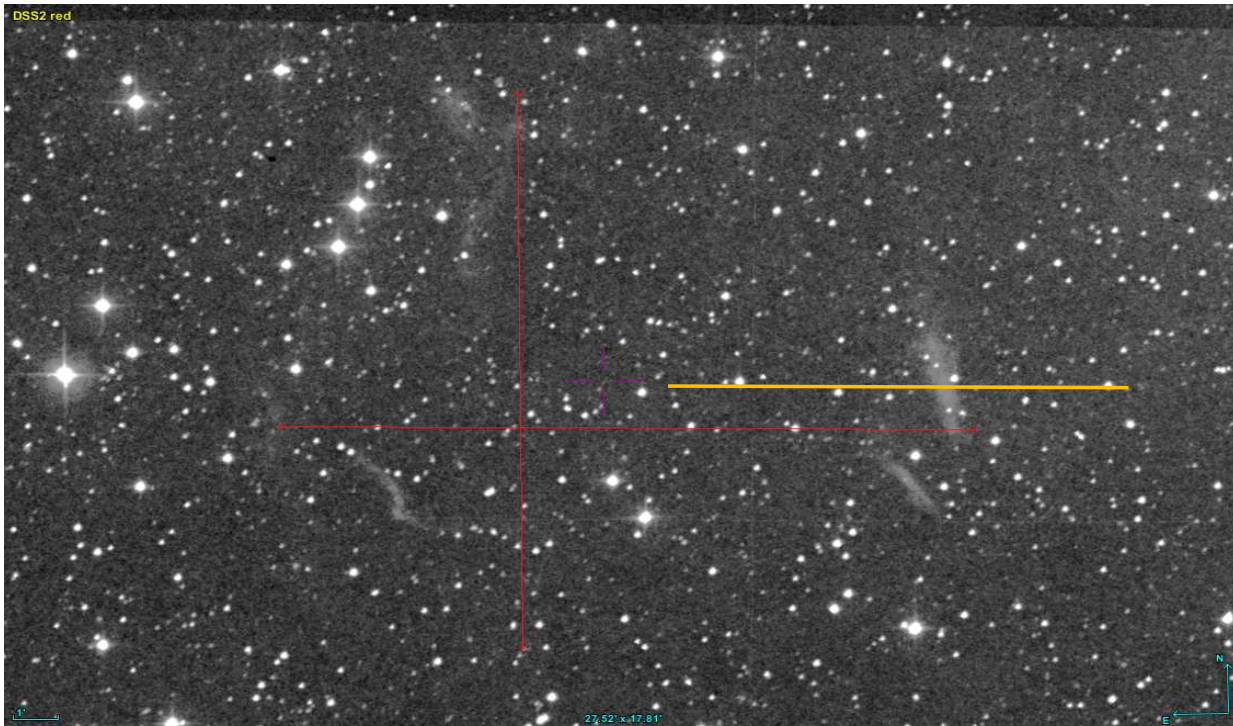
Exposure on object	6	x	1200	s
Master Dark date	27/09/2020		(d/m/y)	
Dark Exposure	3	x	1200	s
Dark Temperature	-10		°C	
Master Offset date	27/09/2020		(d/m/y)	
Master Flat date	28/04/2021		(d/m/y)	
Neon-Argon calib. date	01/12/2021		(d/m/y)	
Reference star calib.	HD31283_A3V			
Exposure on ref star	15	x	12	s
Ref Star Sp. date	11.962/01/2021			



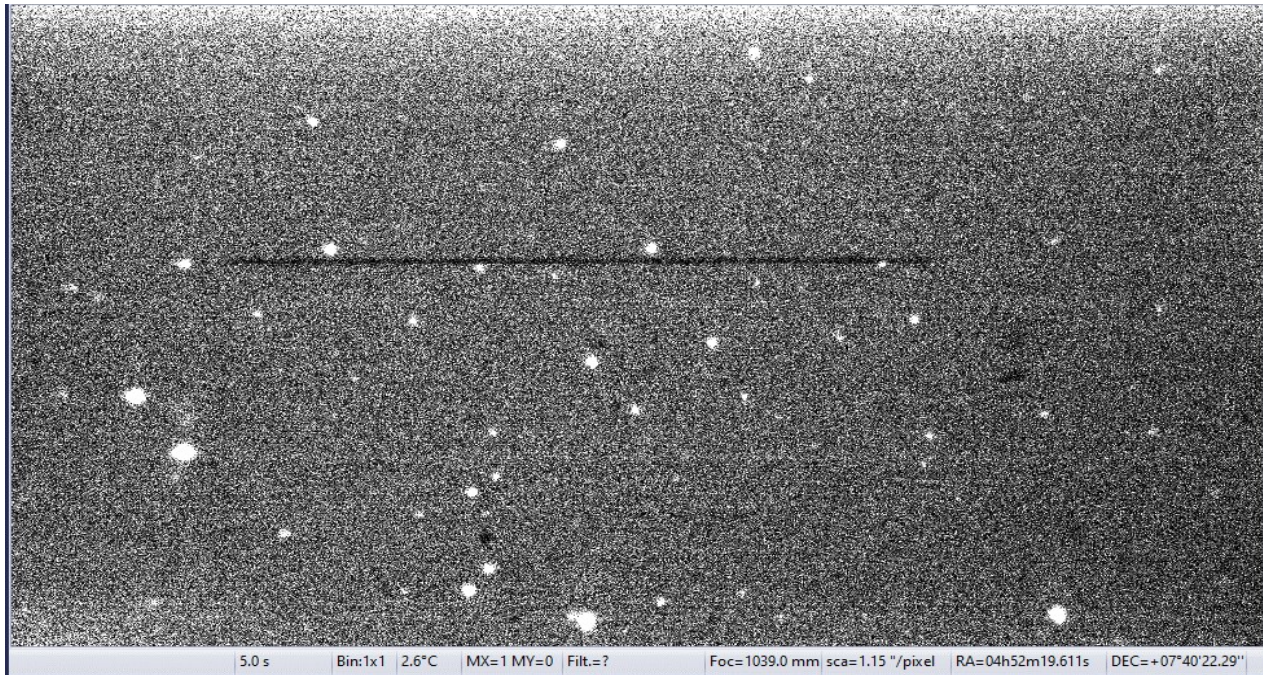
Images and slit position

Image DSS2 Red

Orange line : position of the slit



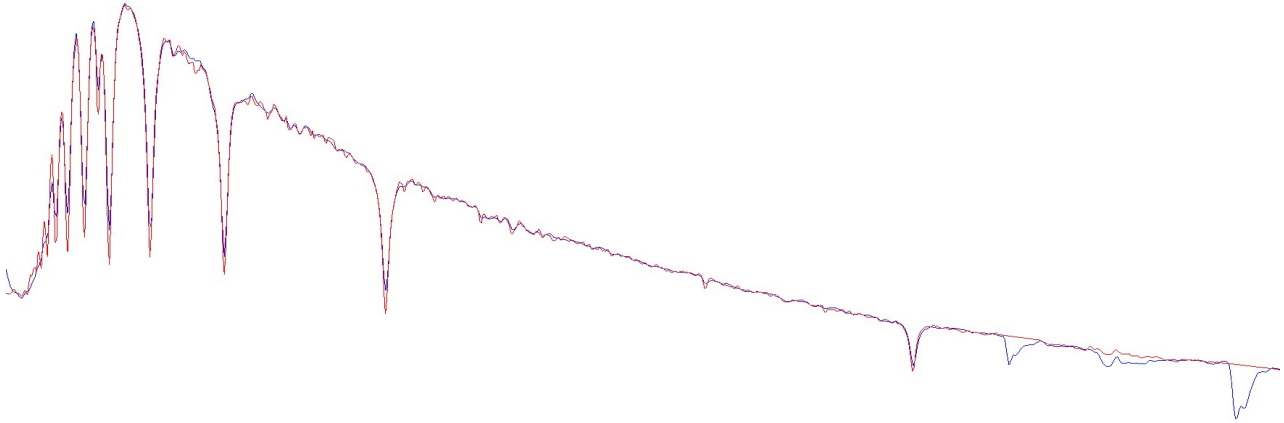
Autoguider image with slit position :



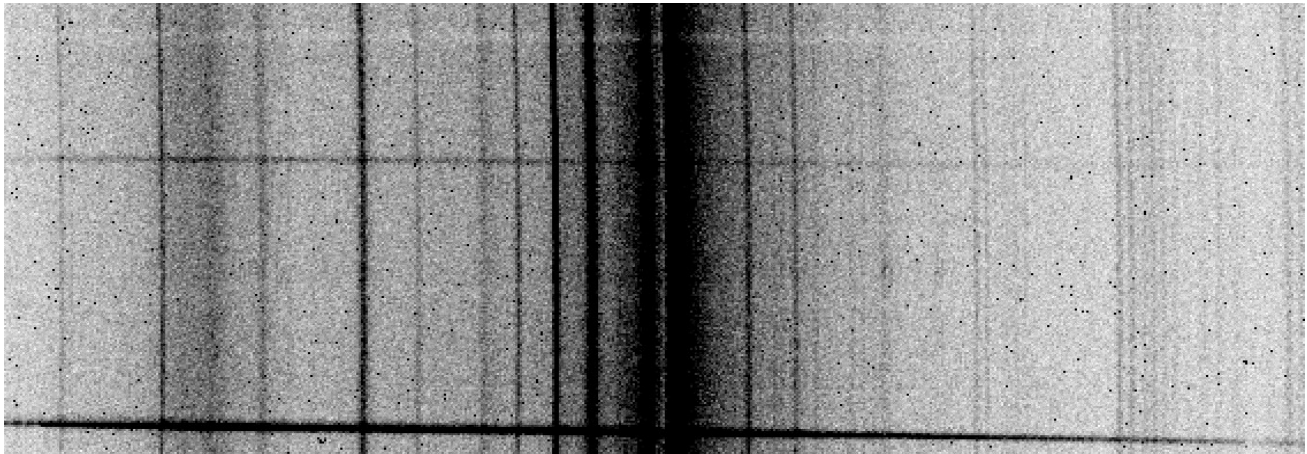


Instrumental Response and 2D Spectrum

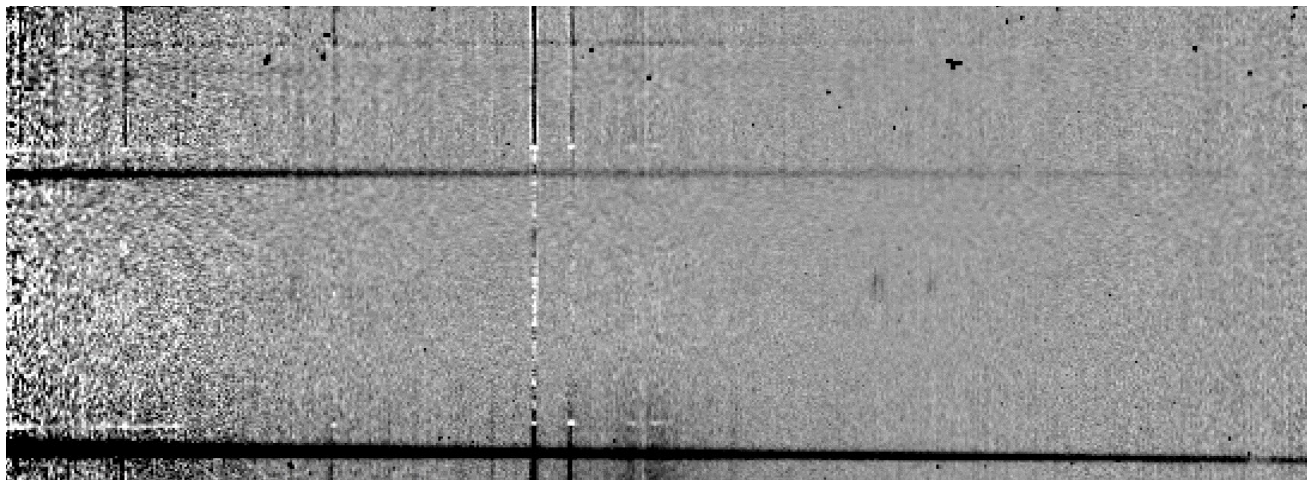
Instrumental response (red = theoretical ref star spectrum ; blue = acquired ref star spectrum with instrumental response correction applied)

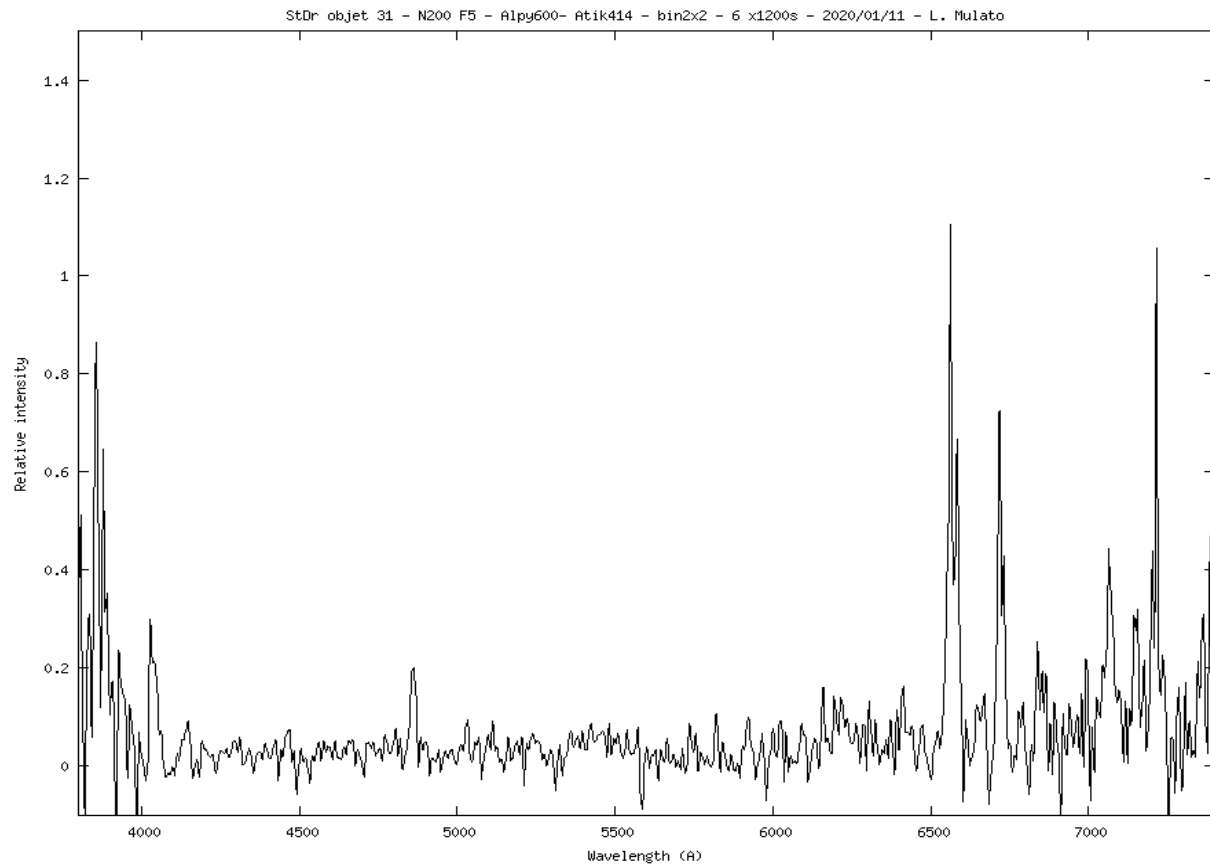


2D Raw spectrum



Processed 2D spectrum





Detected lines : H α , [N II] 6584, [S II] 6716 > 6731 low electron density ; only H- β in blue

Slit was placed on the brightest filament.

15' circular shape visible on DSS2 red.

Filaments clearly visible on Galex NUV.

StDr obj 31 may be a SNR.