

## FICHE D'OBSERVATION SPECTROSCOPIQUE

Details of acquisitions
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Object	LiKaMa 1
Coordinates (J2000)	05 :25 :44.38 +41 :42 :36.38
Type	PN Candidates

Observation date	2023-12-14 at 23:01 UTC
Wheater conditions	10°C – medium wind - seeing 5'' - Humidity 60% - sky clear
Observer	Emmanuel Soubrouillard
Location	Pierrefeu du Var France

Mont	AP 900
Telescope	Newton Skywatcher 300 F/4
Spectrograph	Alpy 600 – 23 um slit
Resolution (bin 1x1)	574 at $\lambda$ 569,2 nm
Science camera	ZWO 533 mm Pro
Dispersion (bin 1x1)	2.00 A/Pix
Camera Temp	-15°C
Binning	1x1
Guiding camera	ZWO 174 mm no cooled
Data acquisition soft	Demetra V3.7.8 Prism V11
Data processing soft	ISIS V6.1.1

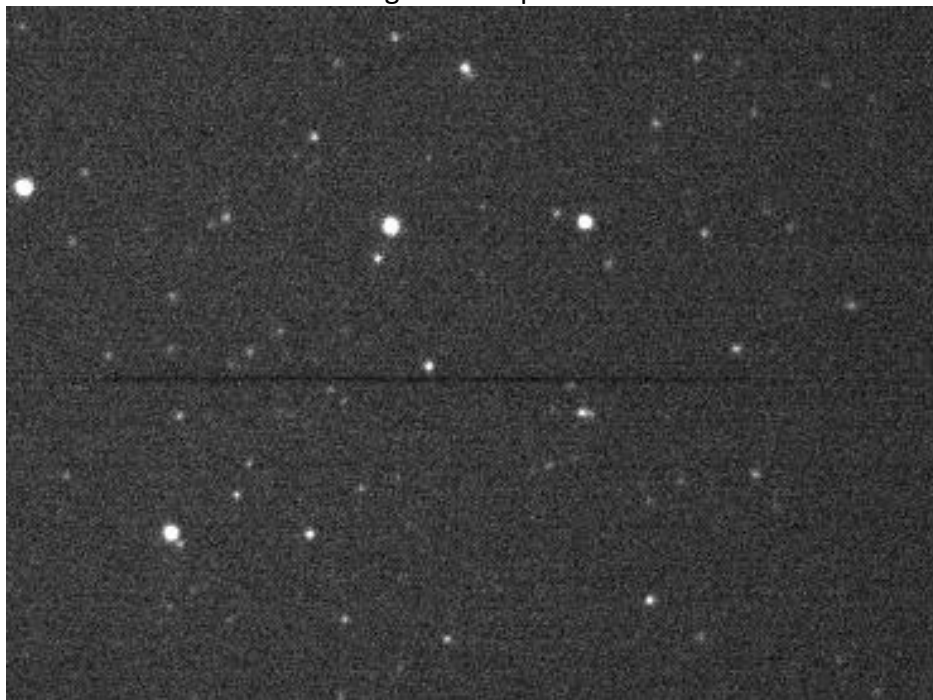
Exposer object	4*1800s
Master Dark Date	2023/10/23
Dark exposure	7*1800s
Dark temperature	-15°C
Master offset date	2023/11/08
Master flat date	2023/11/07
Neon-Argon calib. date	2023/12/14
Ref Star calibration	HD 34759
Exposure on ref star	5*20s
Ref star Sp. Date	2023/12/15 at 00:11 UTC

Images and slit position

Image PanSTARRS\_DR1

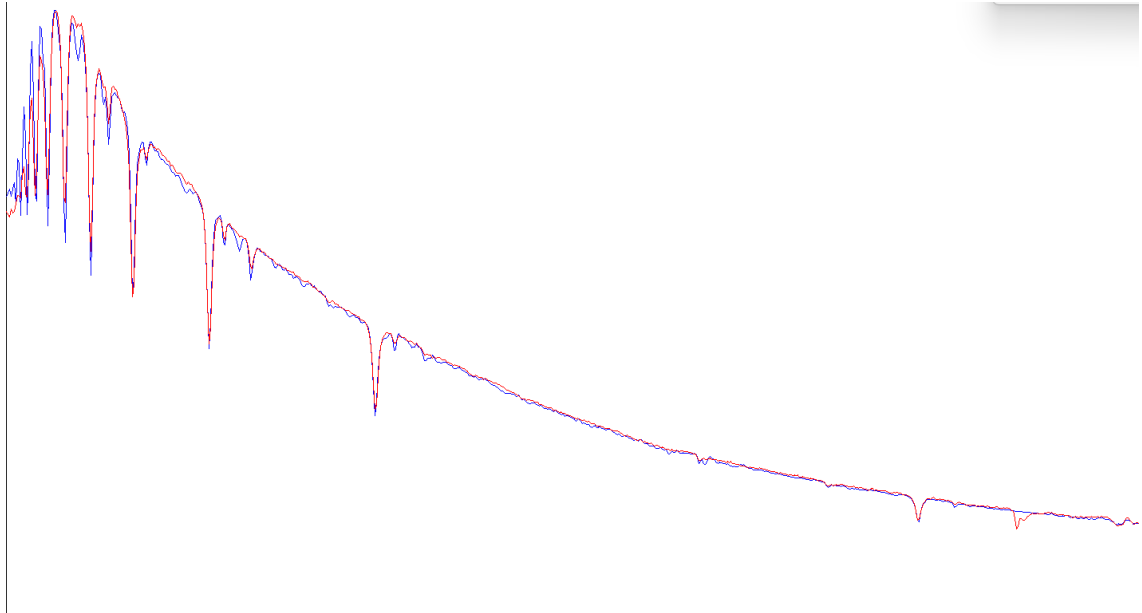


StDr 99  
Autoguider slit position

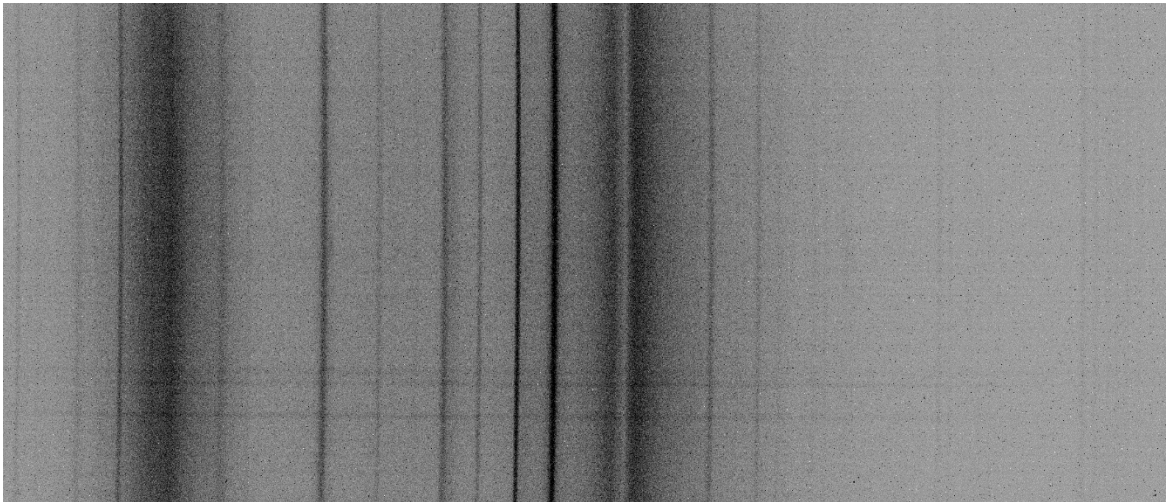


## Instrumental Response and 2D Spectrum

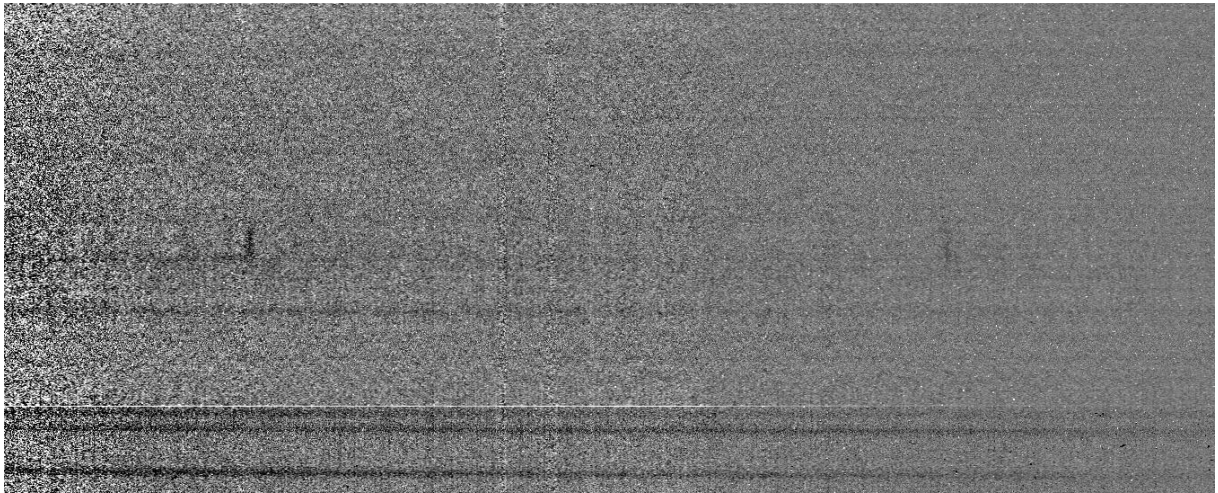
Instrumental response  
(Blue = theoretical ref star spectrum ; red = acquired ref star spectrum with instrumental response correction applied)



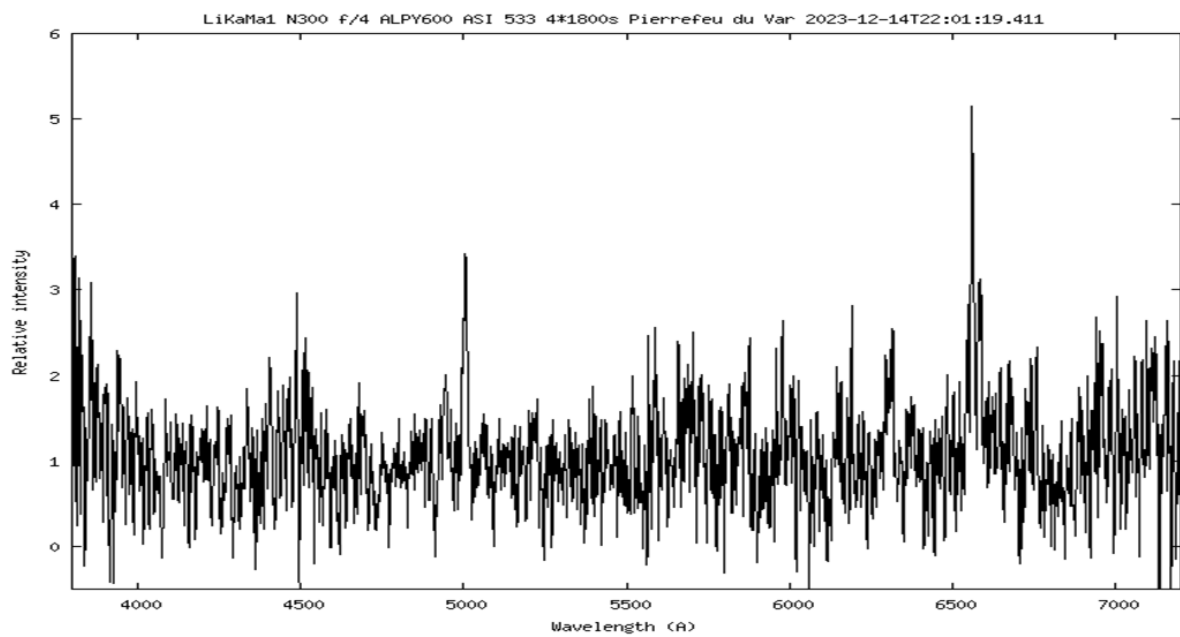
2D Raw spectrum



## Processed 2D spectrum



## Results



Comments :

OIII line detected

Ha line detected

NII (6583A) probably detected

LiKaMa 1 is probably a true PN