



Spectroscopic Record Sheet



Details on acquisitions

Object	PaE1 4
Coordinates (J2000)	18:04:58.53 00:09:04.00
Type	Likely PN

Observation date	20.012/07/2026
Weather conditions	/
Observer	P. Le Dû
Location	Kermerrien Observatory (Porspoder, FR)

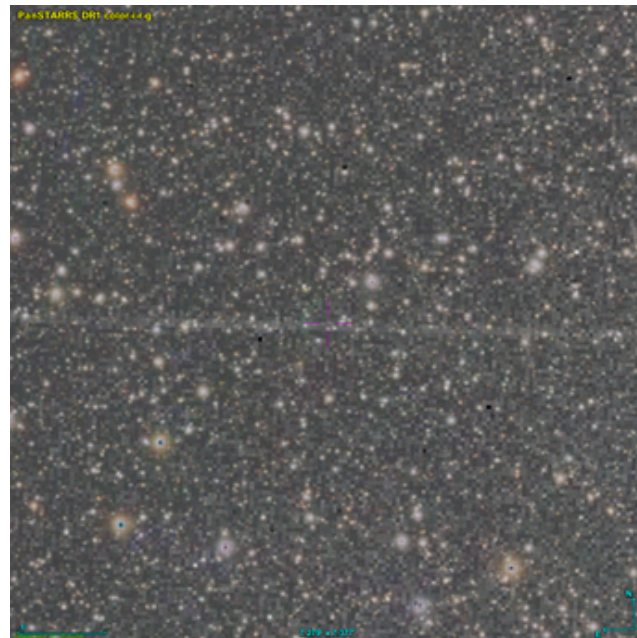
Mount	Losmandy G11
Telescope	Newton 200mm F/5
Spectroscope	Alpy 600 (23um slit)
Resolution (bin 1x1)	~1nm at 656 nm
Principal camera	Atik 414 EX
Dispersion (bin 1x1)	~0,3 nm/pixel at 656 nm
Cam temperature	-10°C
Binning	2x2
Guiding camera	Atik 314L+
Data acquisition Soft	Prism v11
Data processing soft	ISIS V6.1.1

Exposure on object	6 x 1200 s
Master Dark	Corrected
Master Flat	Corrected
Master Offset	Corrected
Neon-Argon calibration	Corrected
Reference star calib.	HD175638_A5V
Exposure on ref star	14 x 6 s
Ref star Sp. date	20.063/07/2026

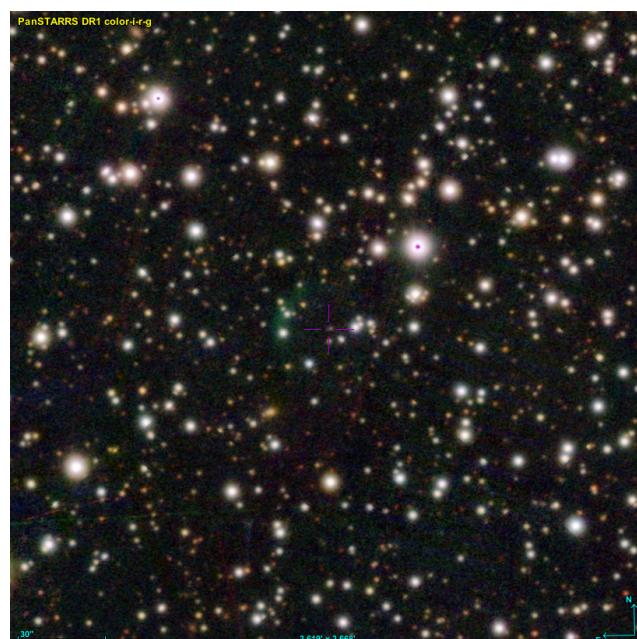


Slit position and images

Slit position



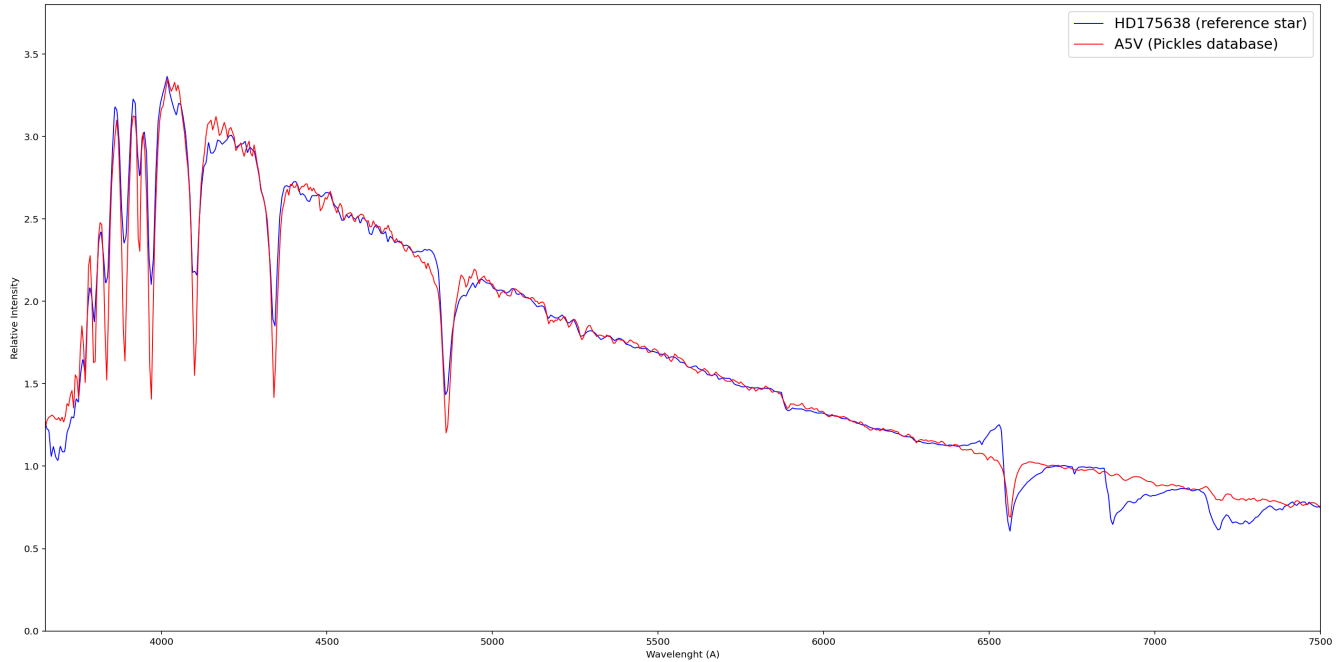
Object picture(s)



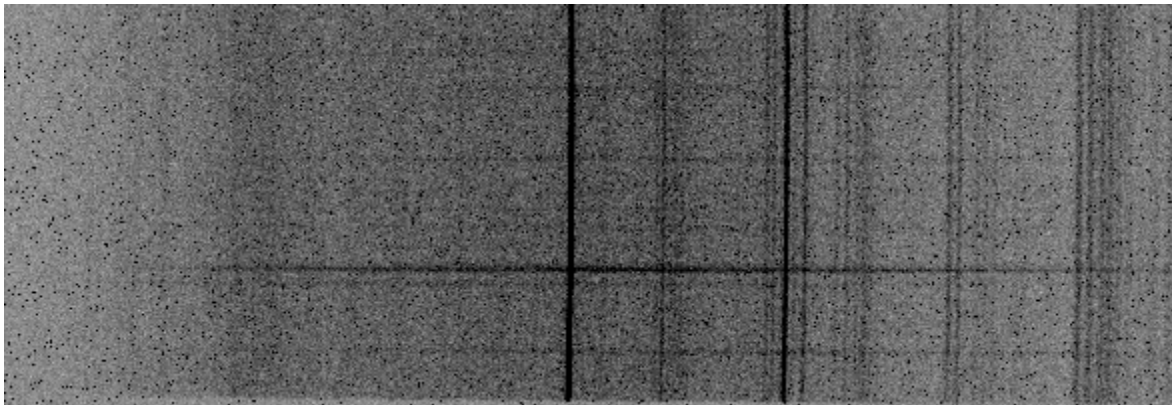


Instrumental Response and 2D Spectra

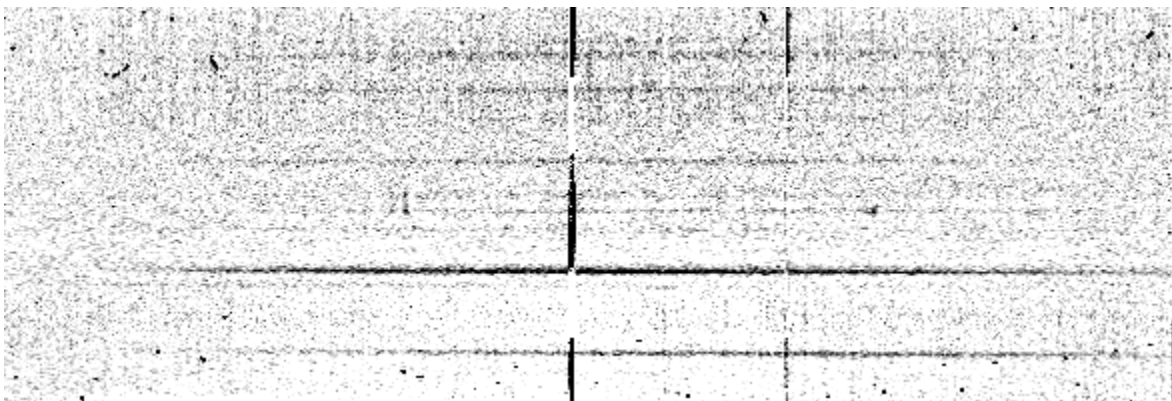
Instrumental response (red = theoretical ref star spectrum ; blue = acquired ref star spectrum with instrumental response correction applied)

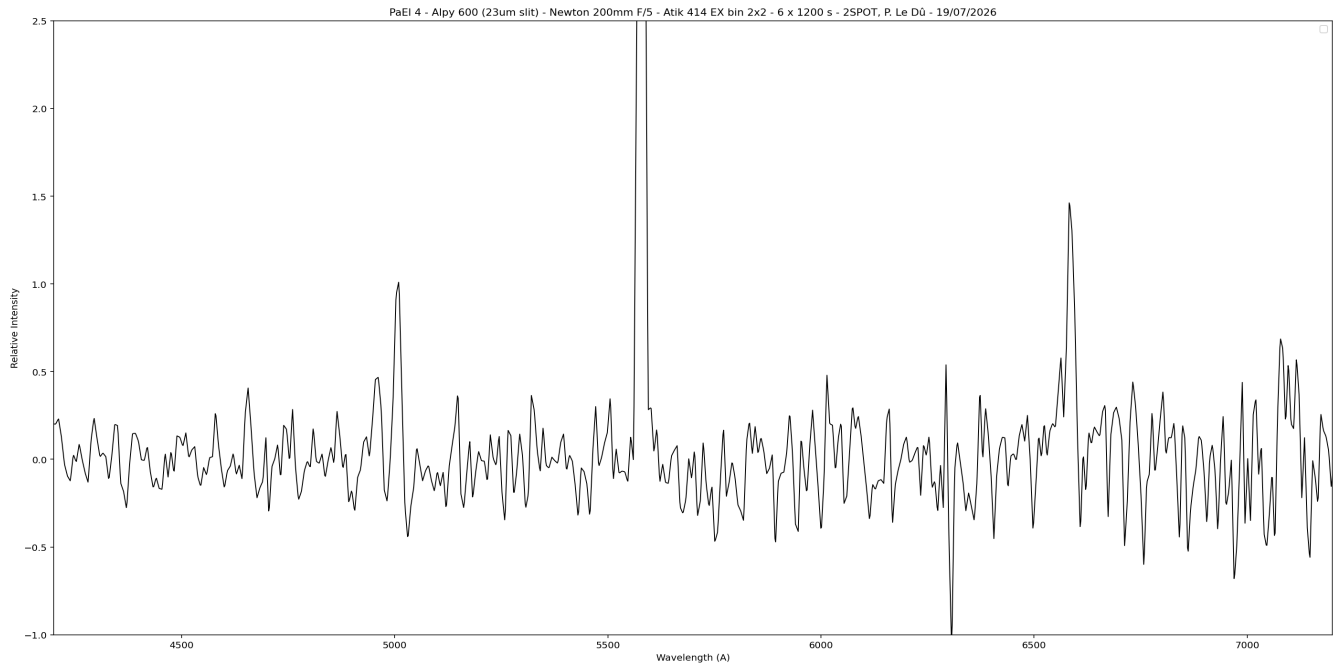


2D Raw spectrum



2D Processed spectrum





Comments

[OIII], Halpha and strong [NII] lines detected.
PaE1 4 is certainly a true planetary nebula.