9° AstroUAN_Meeting

INAF – **O**sservatorio **A**stronomico di **C**apodimonte

23 novembre 2019

UNIONE ASTROFILI NAPOLETANI -Sezione di Spettroscopia

Un’arpa nelle stelle: sheliak

a cura di *elio ricciardiello*

Strumentazione utilizzata

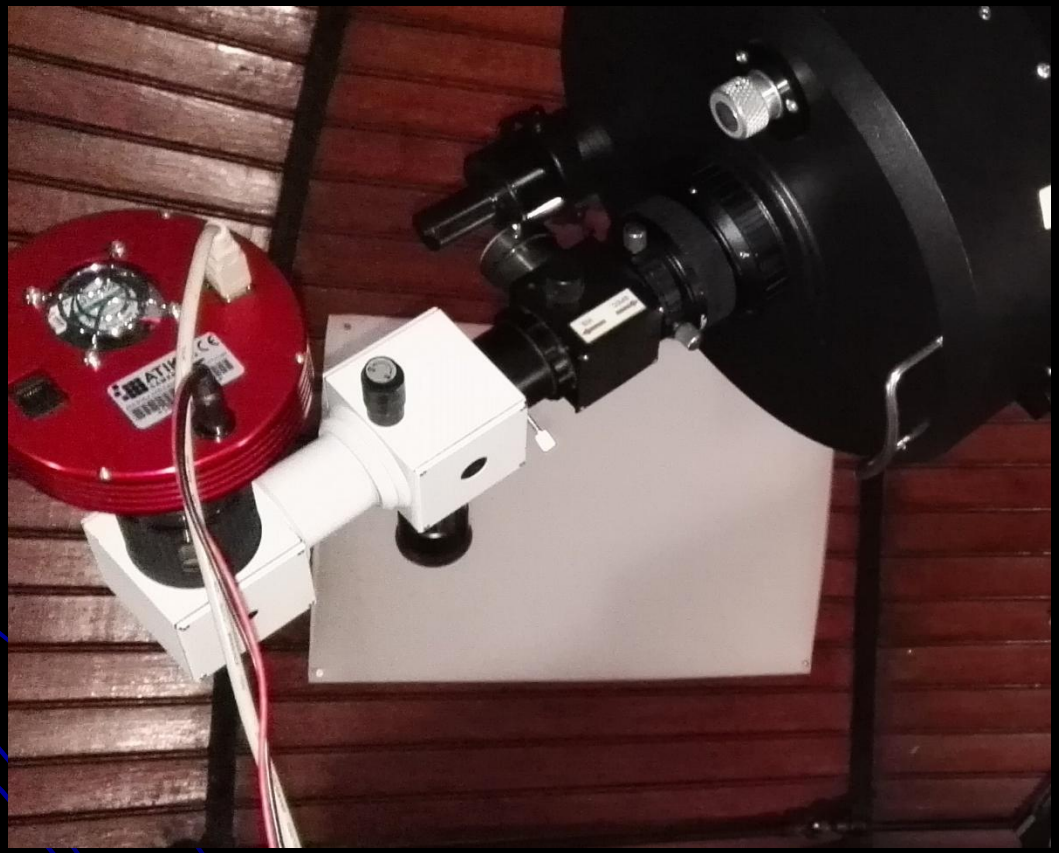
Telescopio Celestron C11 f/10 su montatura 10Micron GM2000 HPS

CCD Atik 314L+ monocromatico

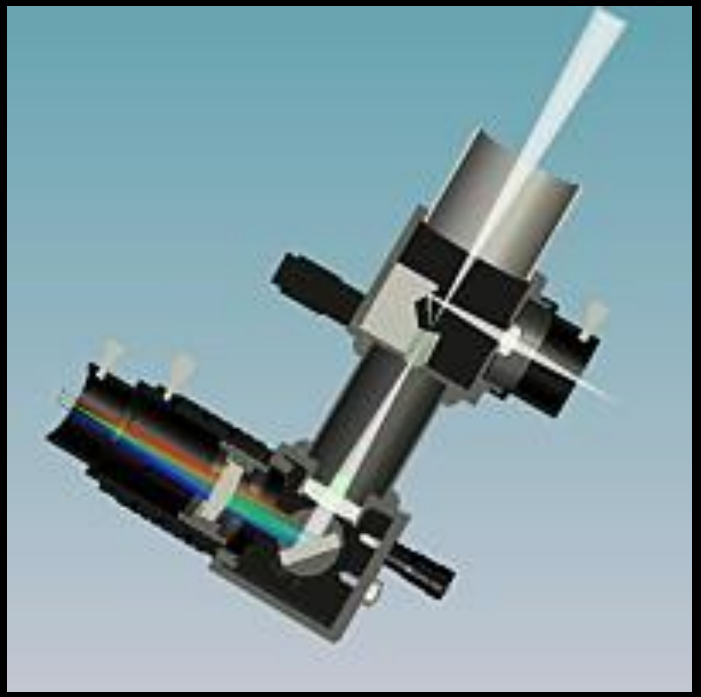
Spettrografo Baader Planetarium DADOS 1200 linee/mm

Flip Mirror modificato

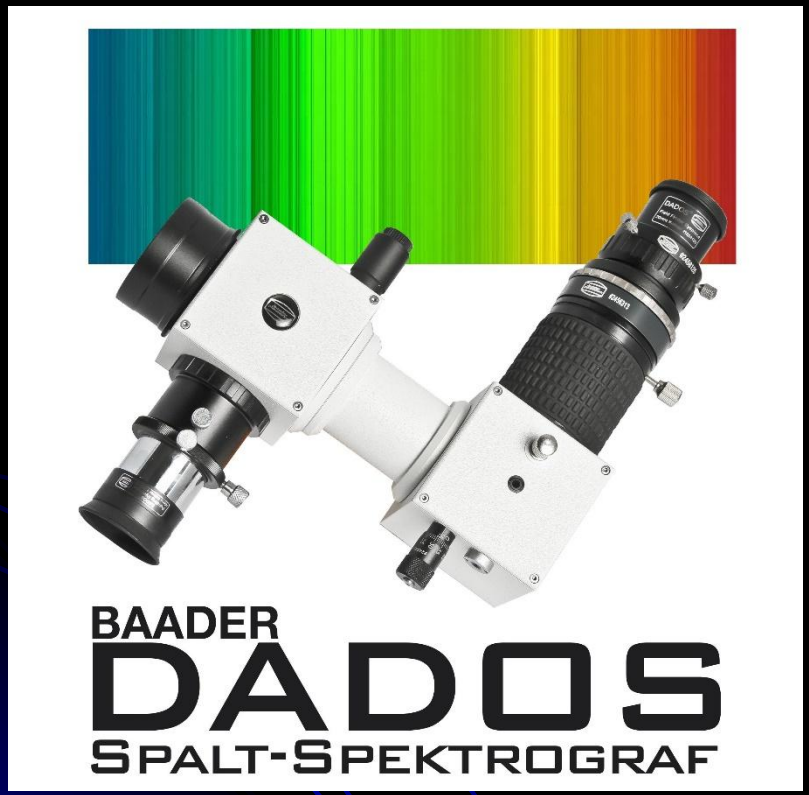
Strumentazione utilizzata



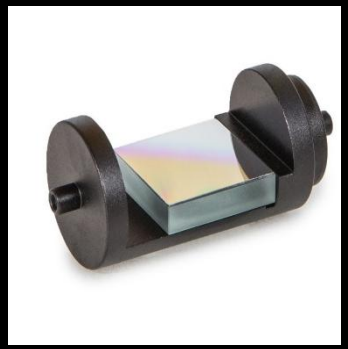
Dados by Baader Planetarium



Spettroscopio Dados



200 l/mm



900 l/mm

1200 l/mm

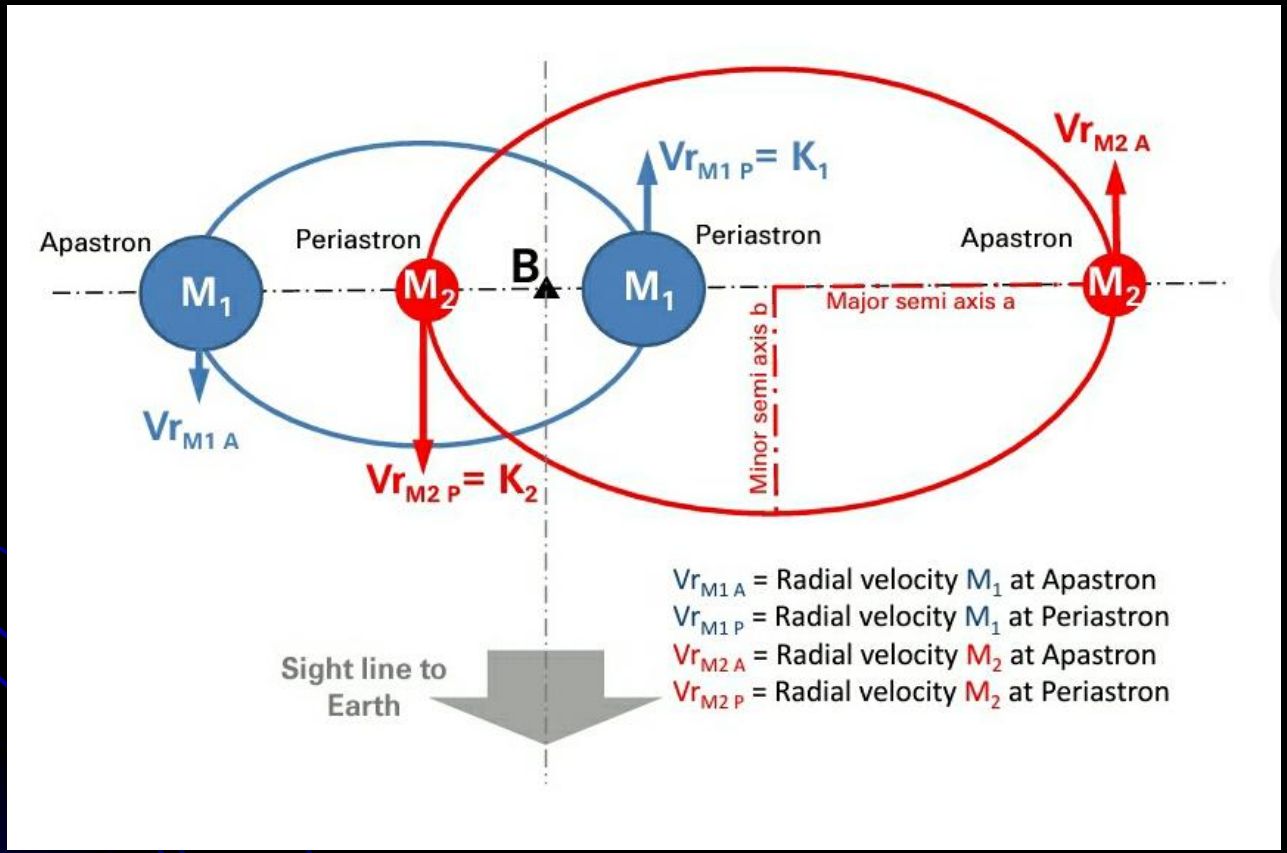
Software

Artemis per l'acquisizione dei frame scientifici, delle flat, dei bias e dei dark

AstroArt di F. Cavicchi e M. Nicolini, per le operazioni di pre-riduzione

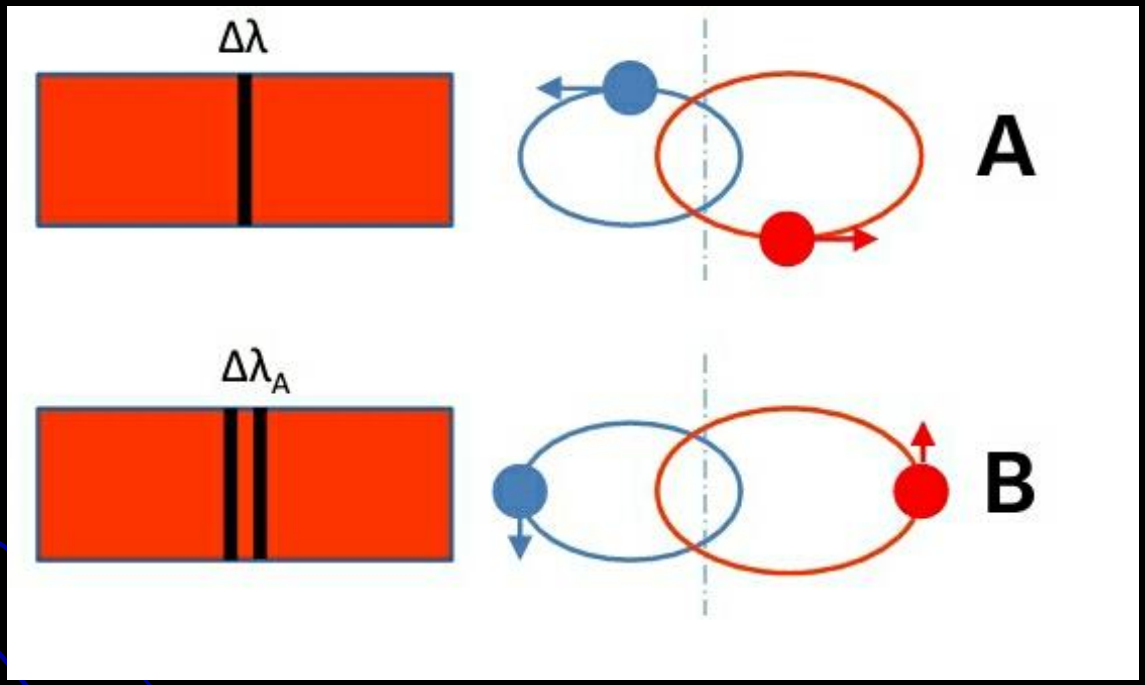
VisualSpec di V. Desnoux, per la calibrazione dei profili

Binaria spettroscopica



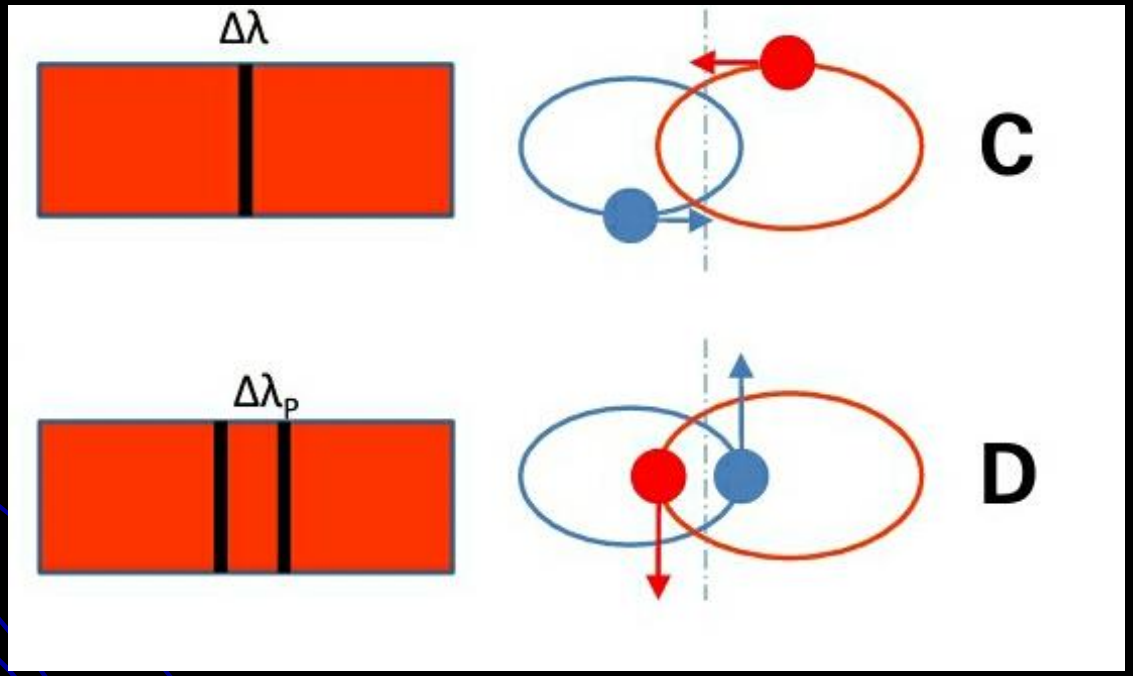
da Walker Richard - Analysis-and-interpretation-of-astronomical-spectroscopy

Binaria spettroscopica



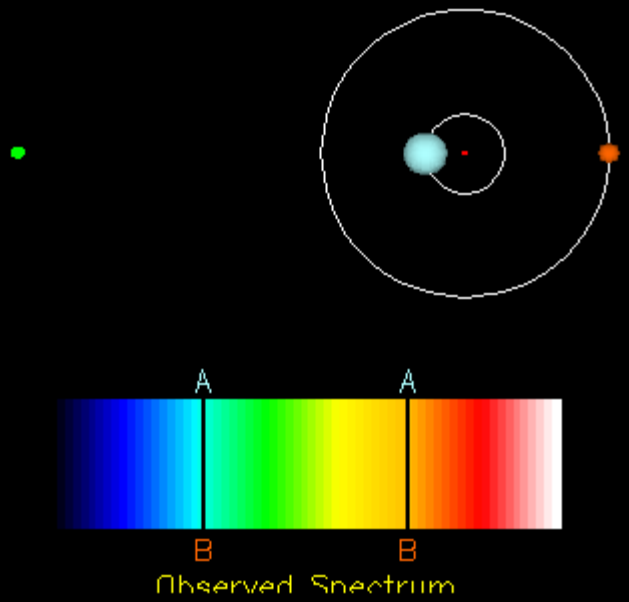
da Walker Richard - Analysis-and-interpretation-of-astronomical-spectroscopy

Binaria spettroscopica

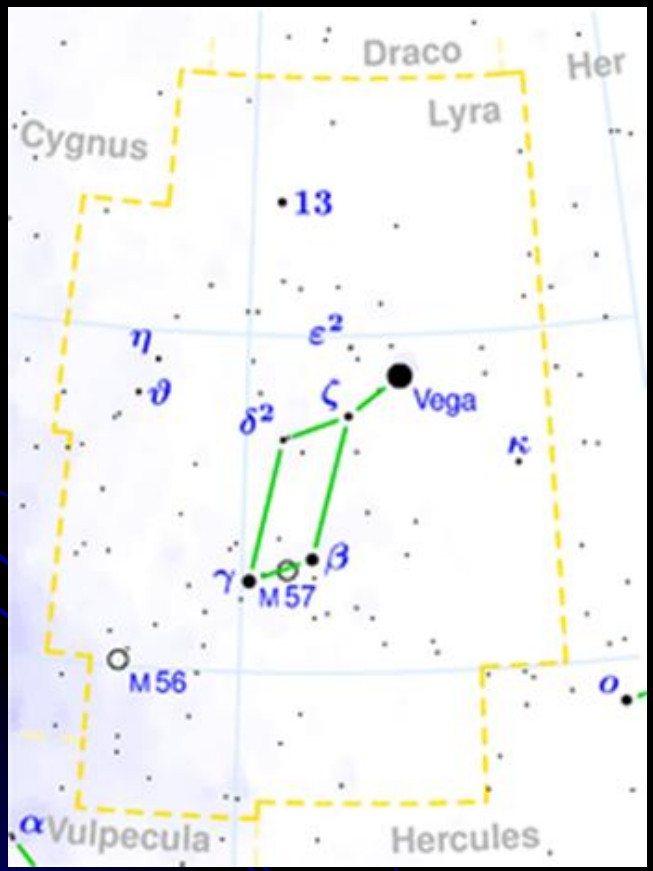


da Walker Richard - Analysis-and-interpretation-of-astronomical-spectroscopy

Estrinseca ad eclissi β Lyr



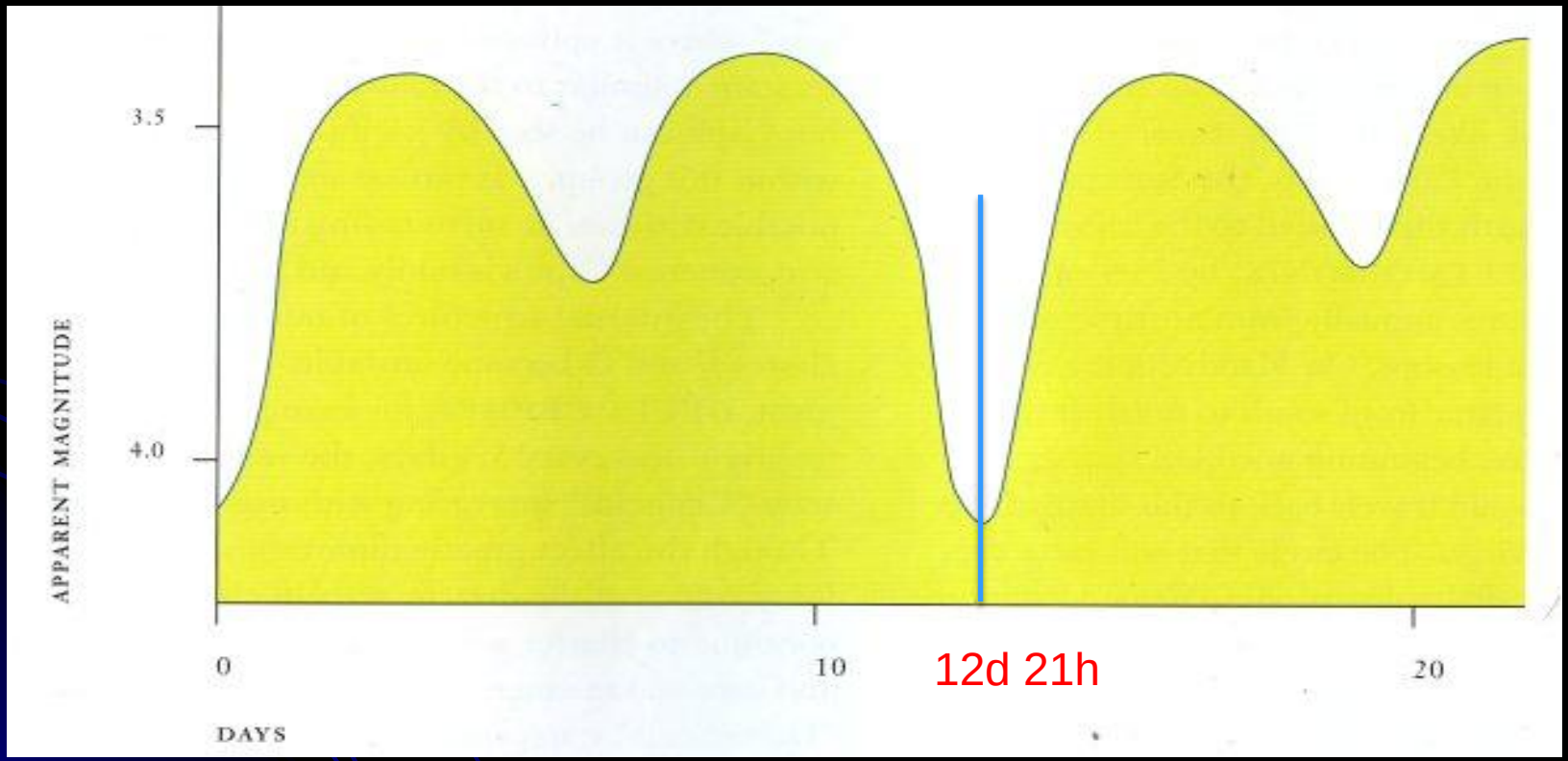
Sheliak



da Wikipedia

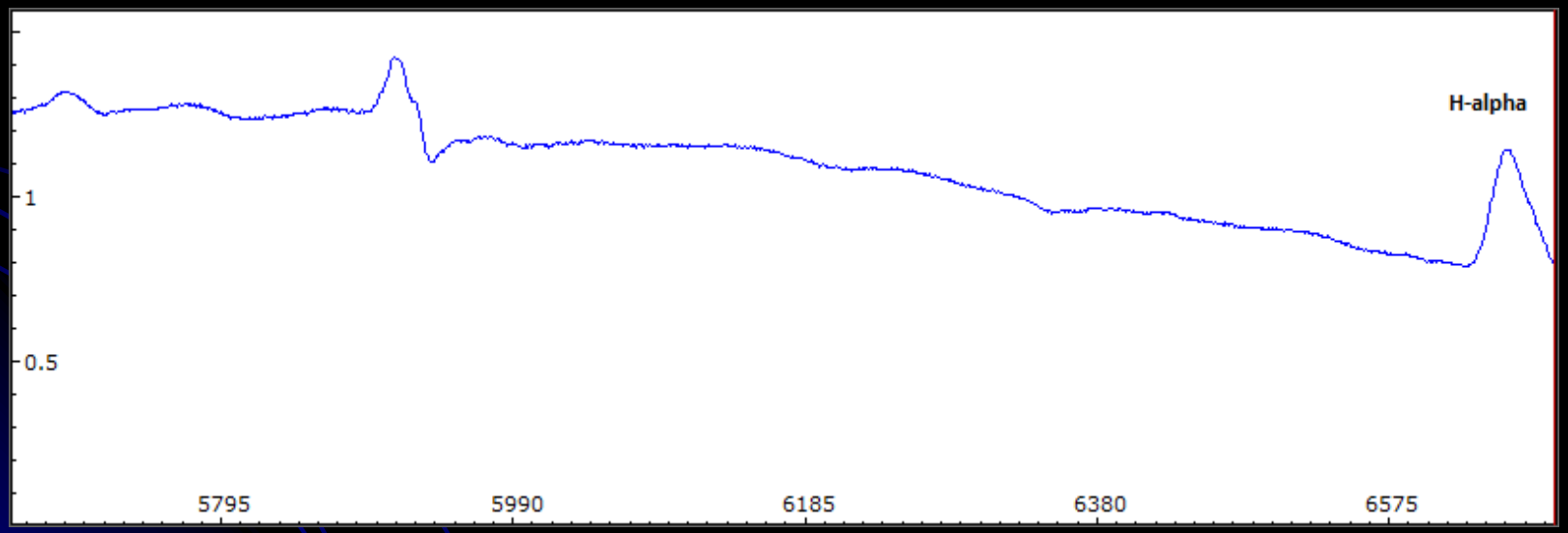
Beta Lyr A / B	
Classificazione	Binaria a eclisse
Classe spettrale	B7Ve / B[1]
Tipo di variabile	Variabile Beta Lyrae
Distanza dal Sole	870 anni luce
Costellazione	Lira
Coordinate	
(all'epoca J2000.0)	
Ascensione retta	$18^h\ 50^m\ 04{,}8^s$
Declinazione	+33° 21′ 45,61″
Dati fisici	
Raggio medio	15 / 7,5?[1] $R_\odot$
Massa	2,83 / 12,76[2] $M_\odot$
Temperatura superficiale	13.000 / 30.000 K (media)
Luminosità	6000 / 25.000 $L_\odot$
Dati osservativi	
Magnitudine app.	3,4 - 4,6 (var.)

Sheliak



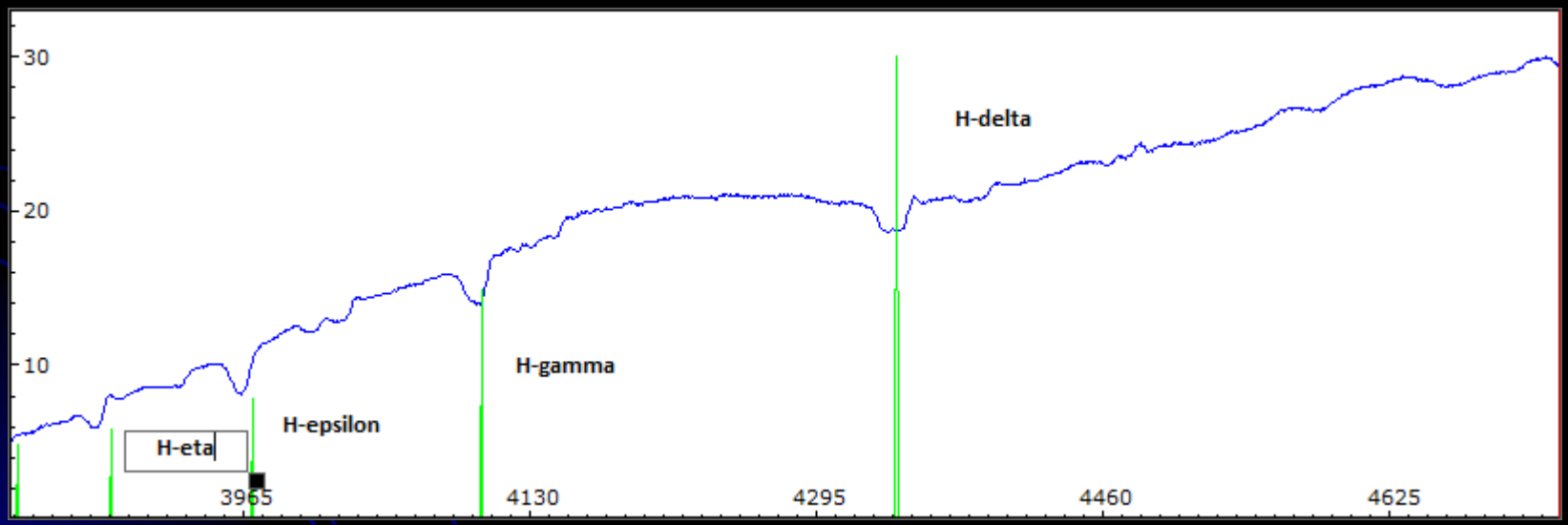
Sheliak

Spettro ripreso il 24/09/2019 (7 frame di 180 s)



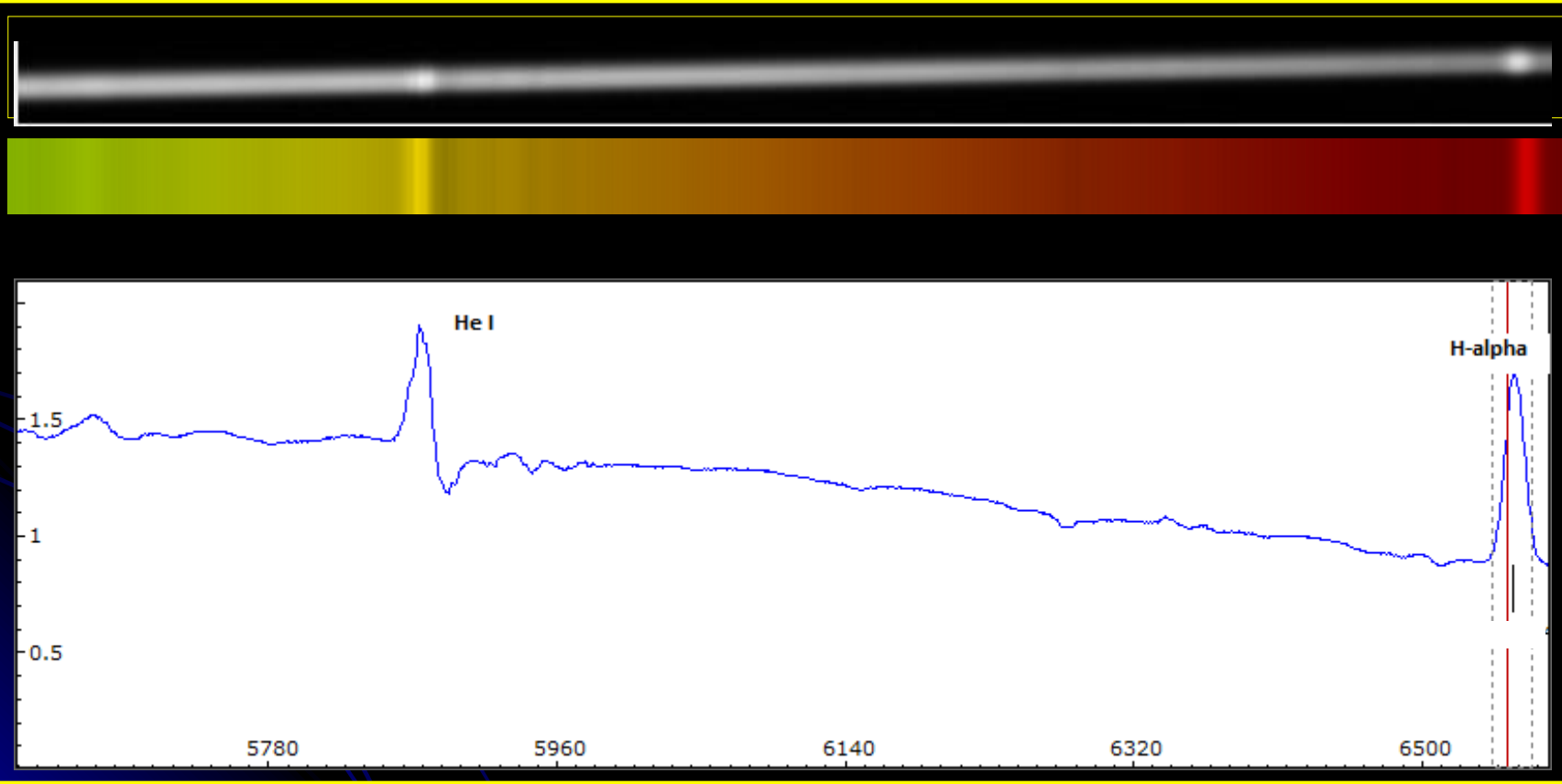
Sheliak

Spettro ripreso il 24/09/2019 (3 frame di 180 s)



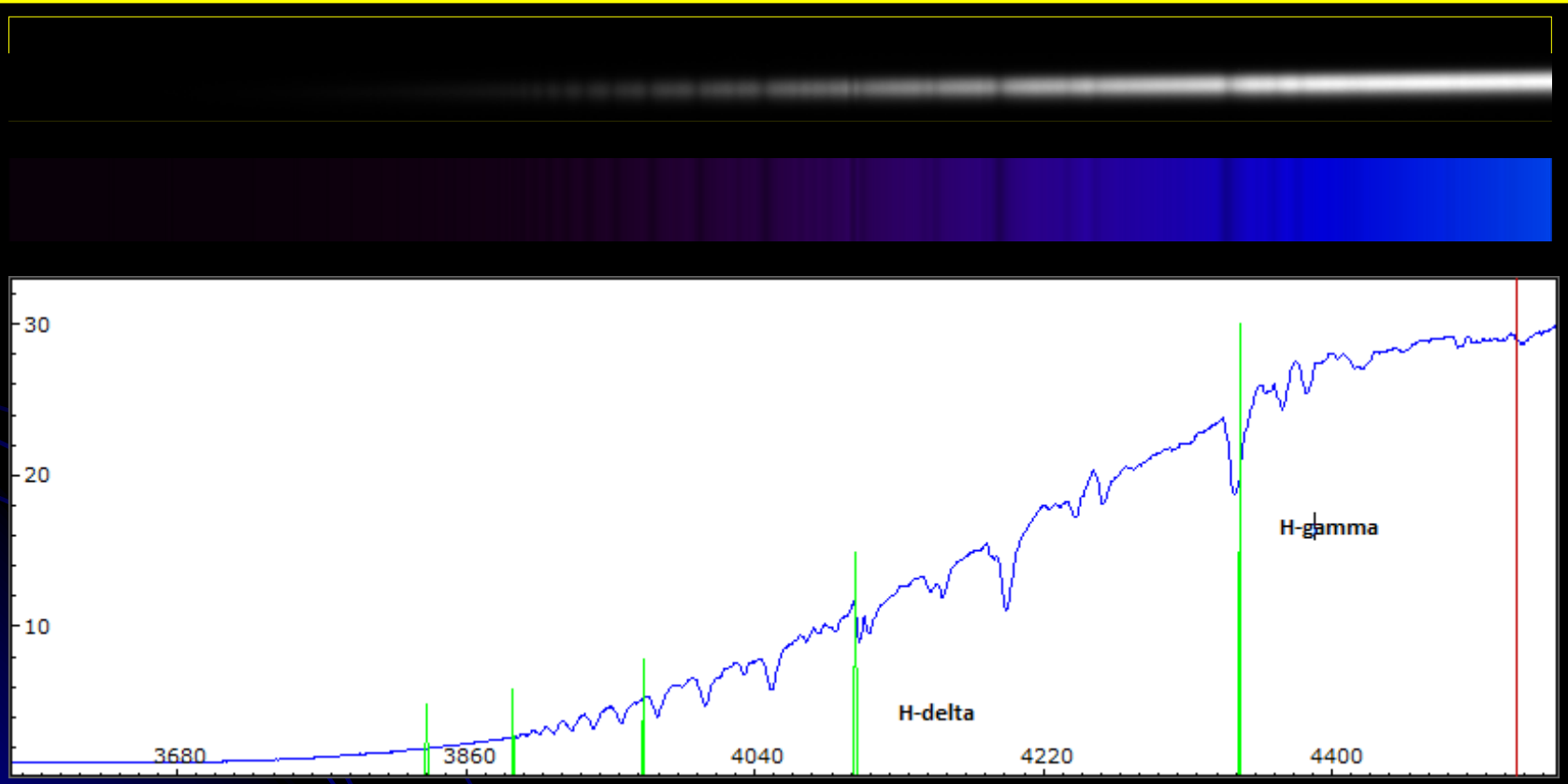
Sheliak

Spettro ripreso il 01/10/2019 (5 frame di 180 s)



Sheliak

Spettro ripreso il 01/10/2019 (7 frame di 180 s)



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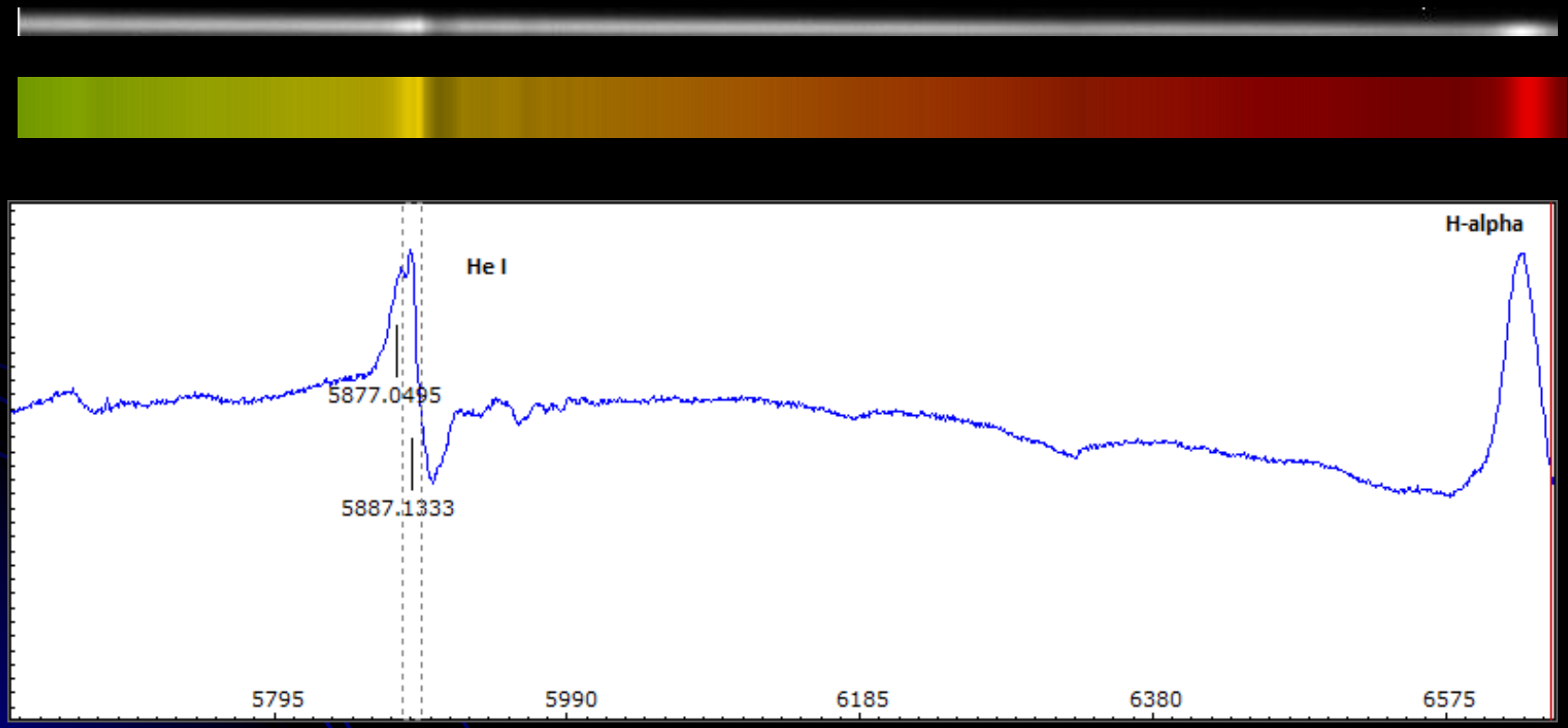
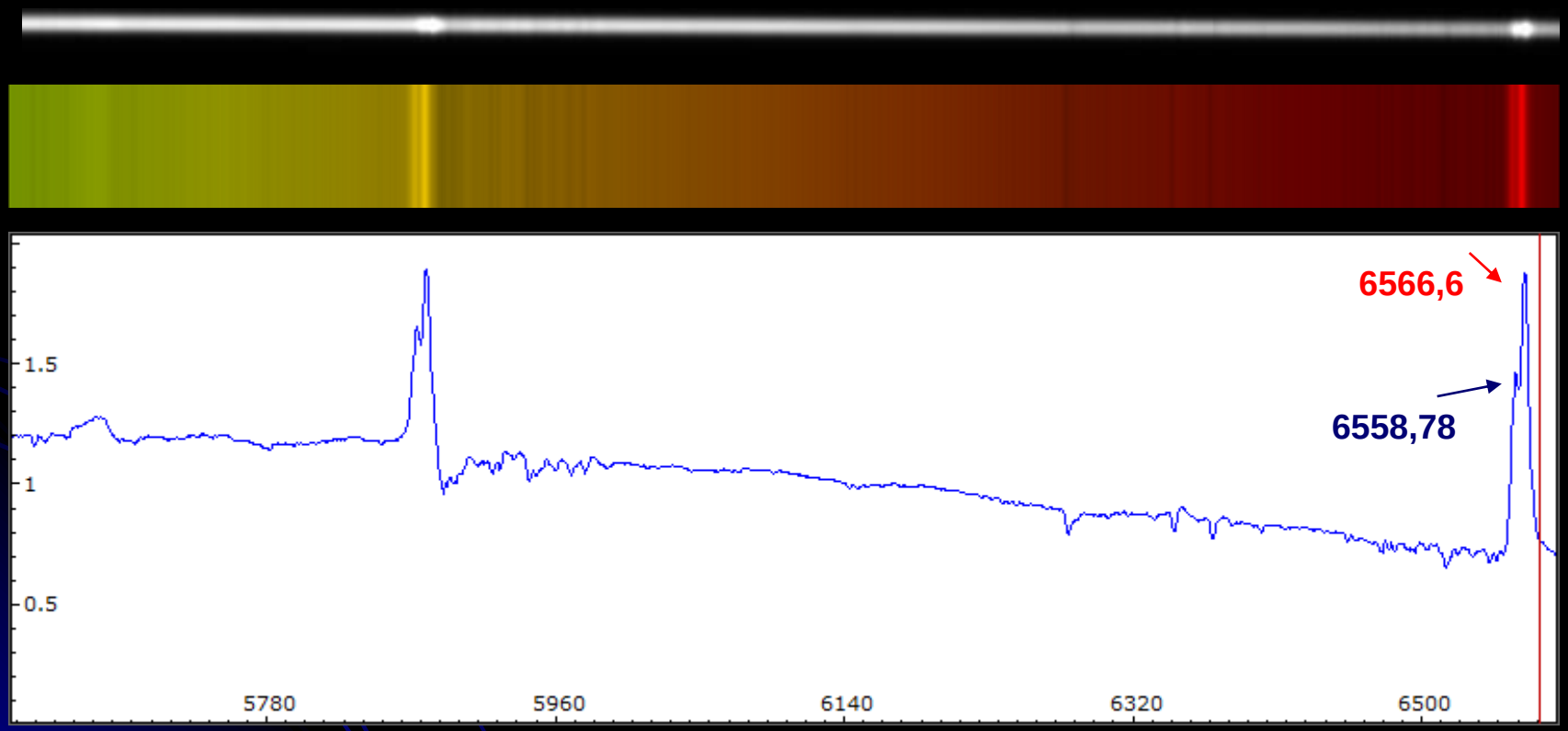
Spettro ripreso il 29/10/2019 (8 frame di 180 s)



Sheliak

Spettro ripreso il 09/10/2019 (7 frame di 180 s)



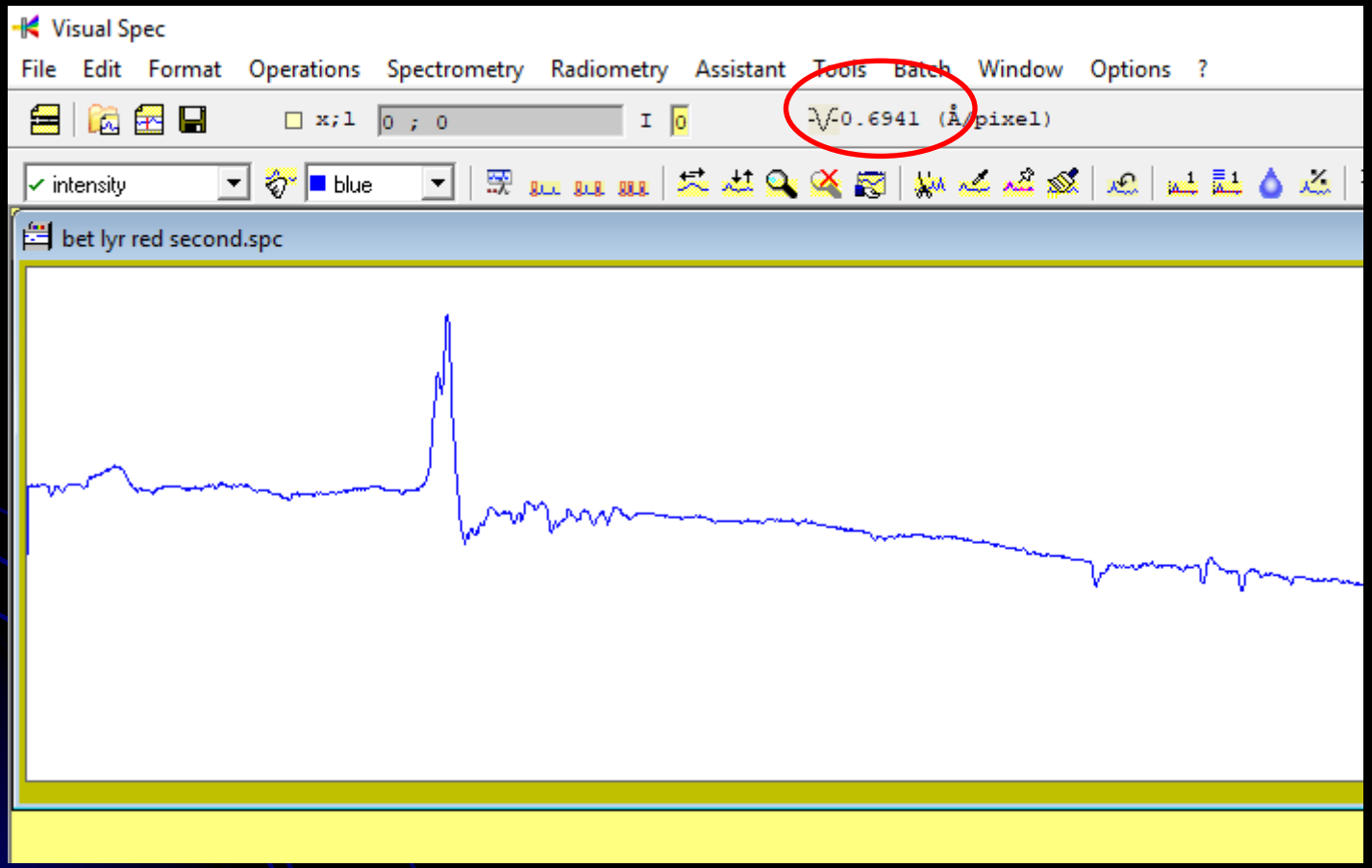
Calcolo delle velocità

$$v = \frac{\Delta\lambda}{\lambda} * c$$

$$v1 = \frac{6566{,}6 - 6562{,}8}{6562{,}8} * 300.000 = 173{,}7 \text{ Km/s}$$

$$v2 = \frac{6558{,}7 - 6562{,}8}{6562{,}8} * 300.000 = -187{,}5 \text{ Km/s}$$

Calcolo delle velocità

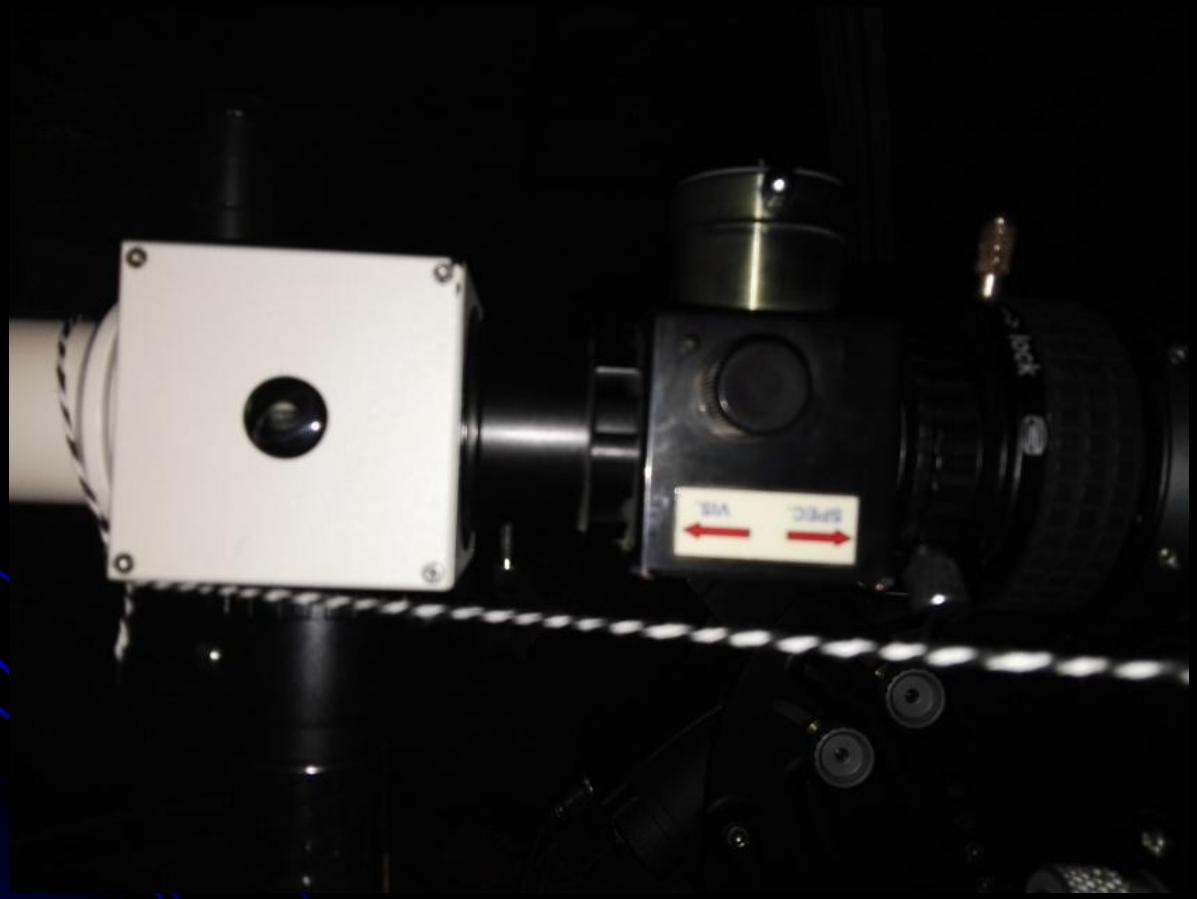


Calcolo delle velocità

$$v1 \pm \partial v1 = \left[\frac{3.8}{6562.8} \pm \frac{3.8}{6562.8} * \left(\frac{0.69}{3.8} + \frac{0.69}{6562.8}\right)\right] * c = 173.7 \pm 31.6$$

$$v2 \pm \partial v2 = \left[-\frac{4.1}{6562.8} \pm \frac{4.1}{6562.8} * \left(\frac{0.69}{4.1} + \frac{0.69}{6562.8}\right)\right] * c = -187.5 \pm 31.6$$

Dados + Flip Mirror modificato



Flip Mirror modificato

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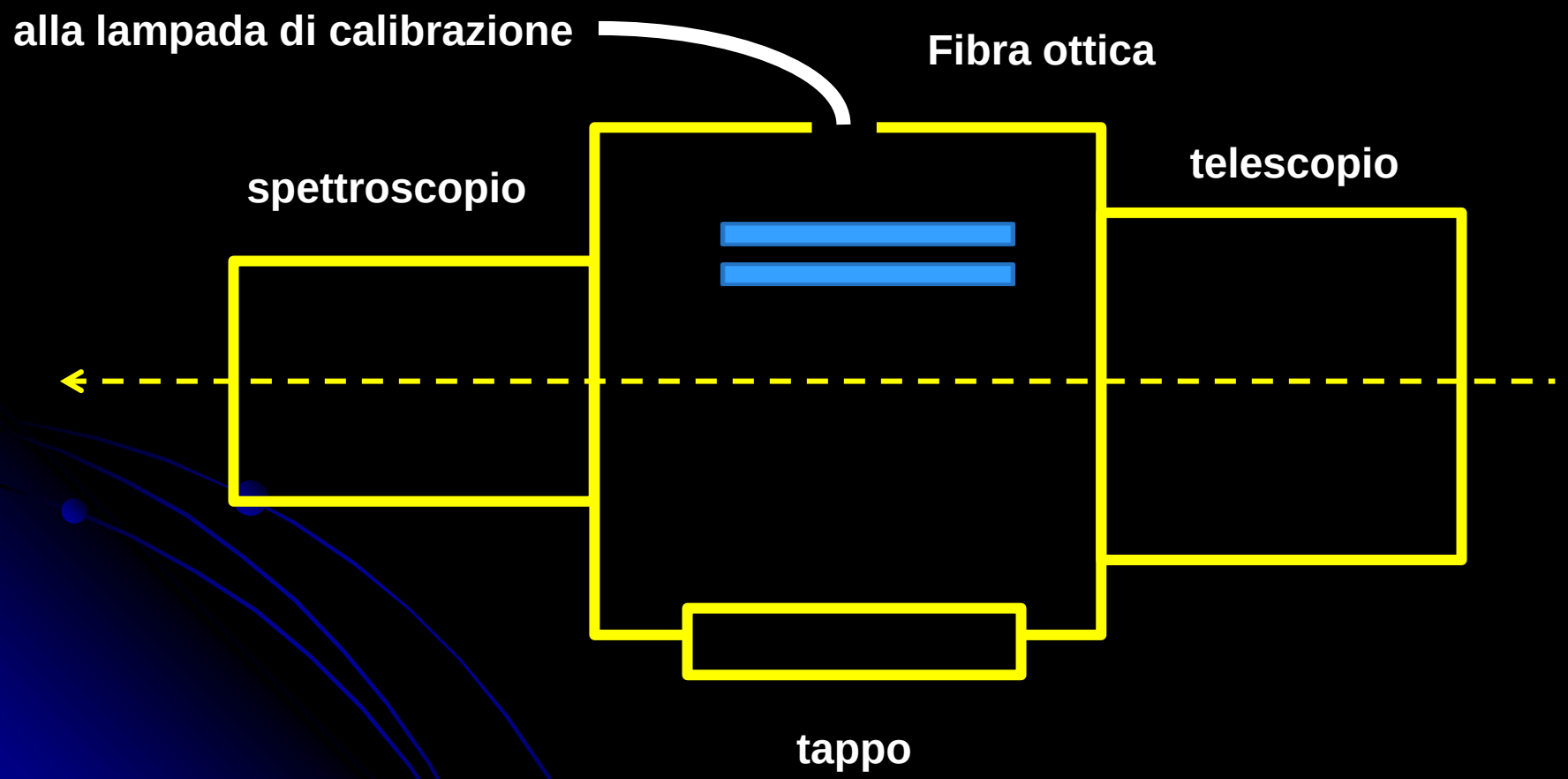
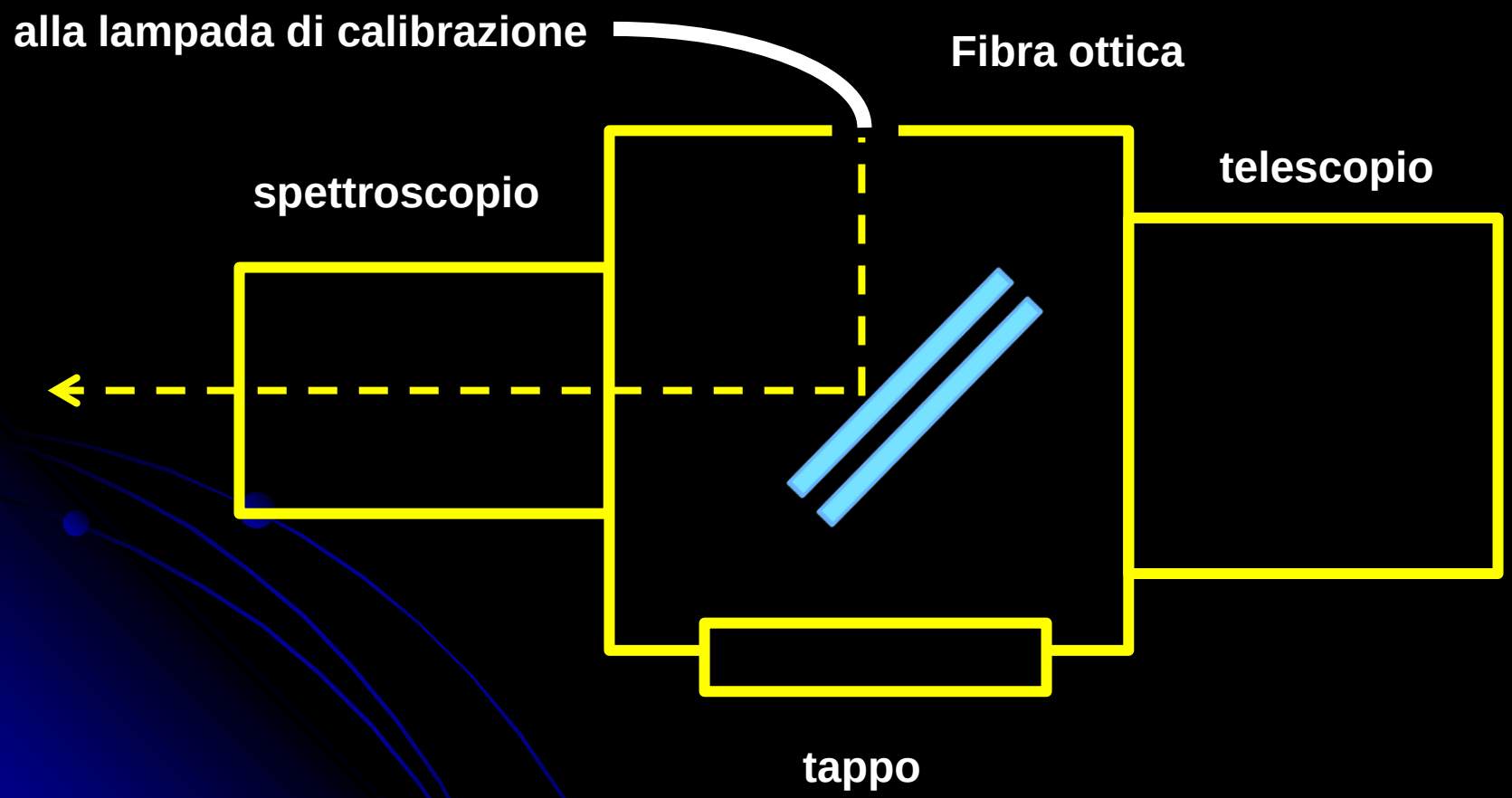


Flip Mirror modificato



Lampada di calibrazione

Riferimenti

- Richard Walker *Analysis and interpretation of astronomical spectra*, 2013 Patrick Moore's
- Richard Walker *Pratical aspect of astronomical spectroscopy*, 2014 Patrick Moore's
- Keith Robinson *Spectroscopy: The key to the stars, reading the lines in stellar spectra*, 2007 Patrick Moore's
- Ken M. Harrison, *Grating spectroscopes and how to use them*, 2012 Patick Moore's
- Baader Planetarium *Dados spectrograph User's Manual*

... grazie per l'attenzione