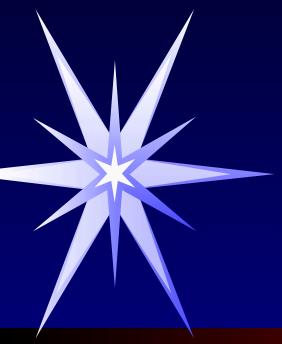
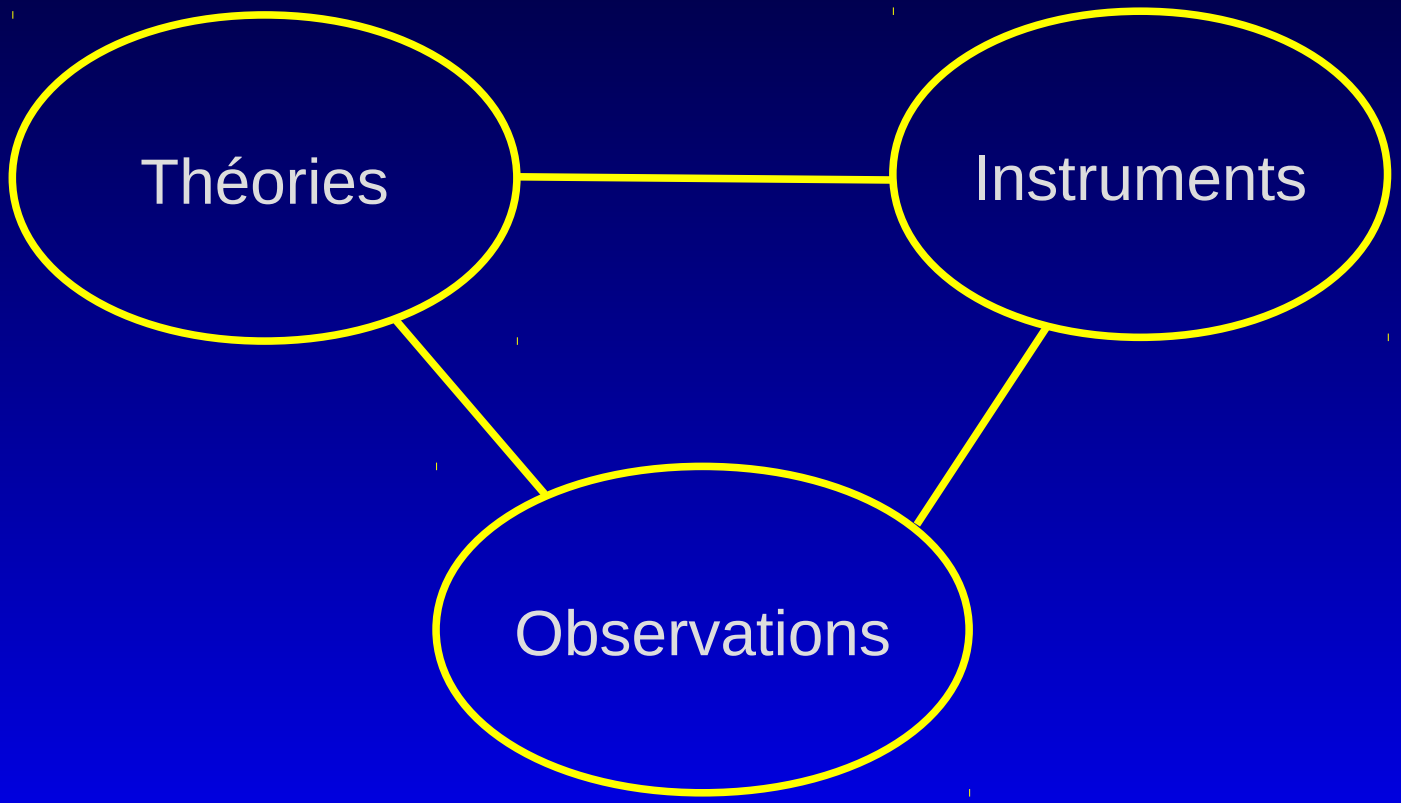


Antony, le 10 janvier 2014

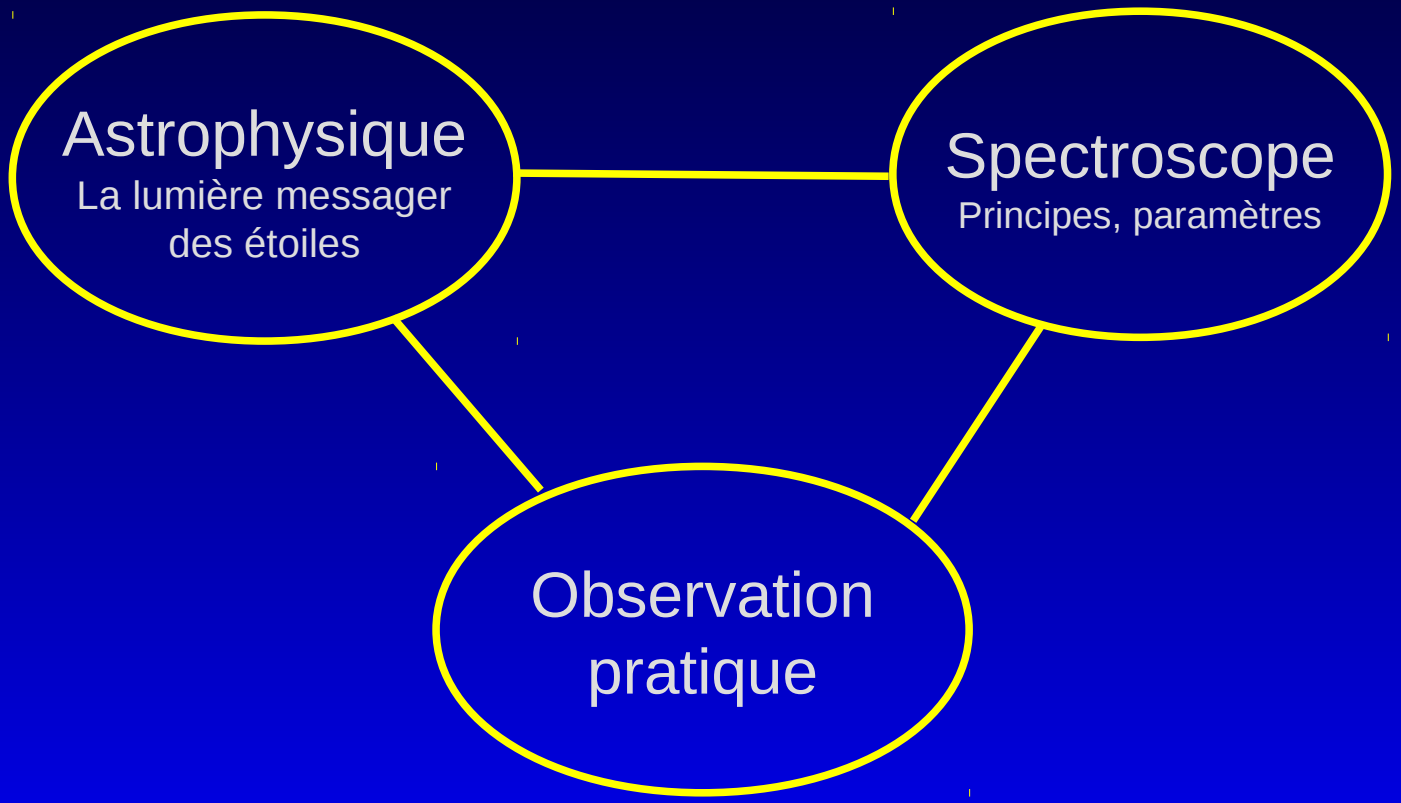
- Aborder la spectro
- Alpy vs Lhires III

François Cochard – Aras / Shelyak Instruments

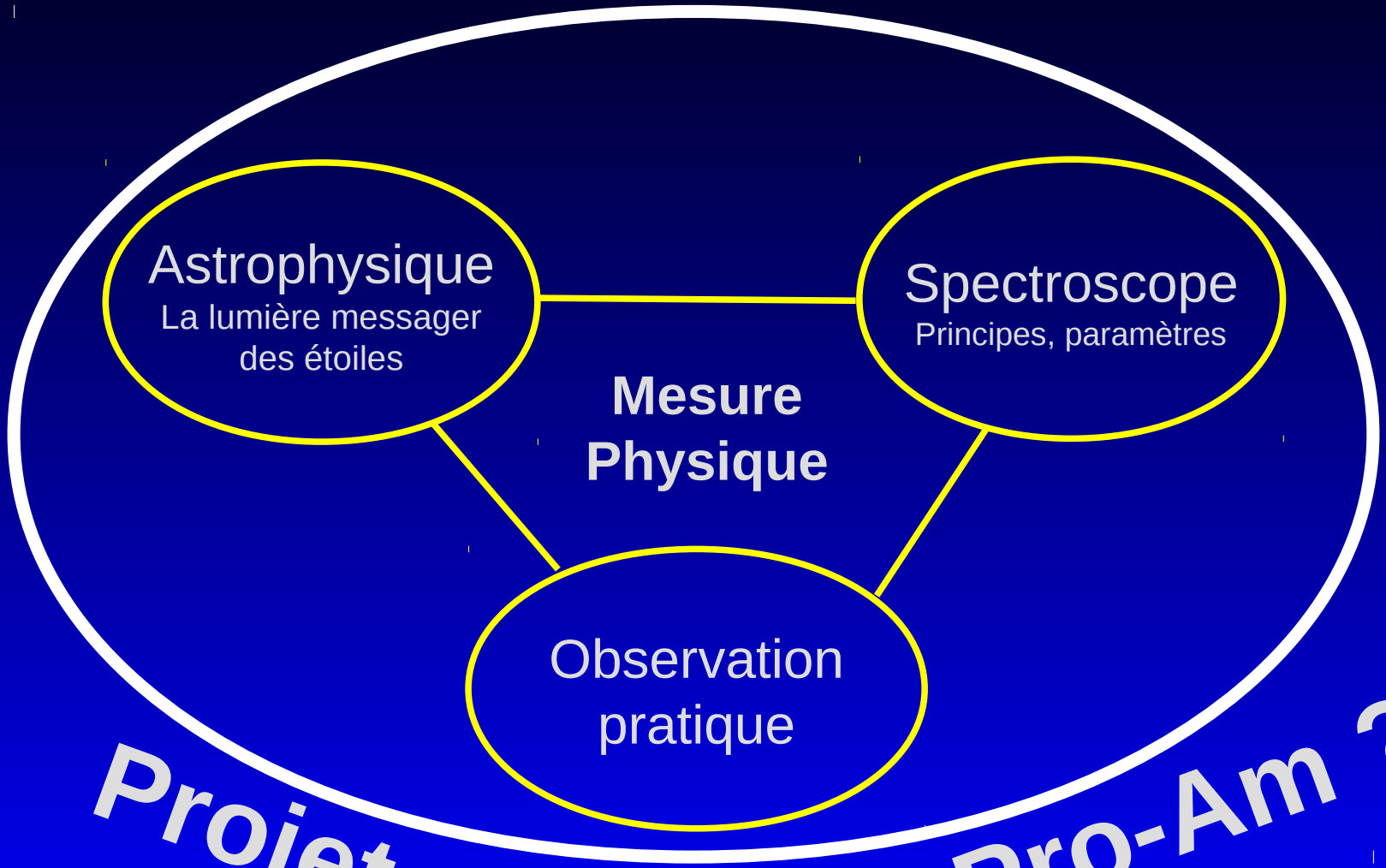
Triptyque Recherche



Triptyque spectro



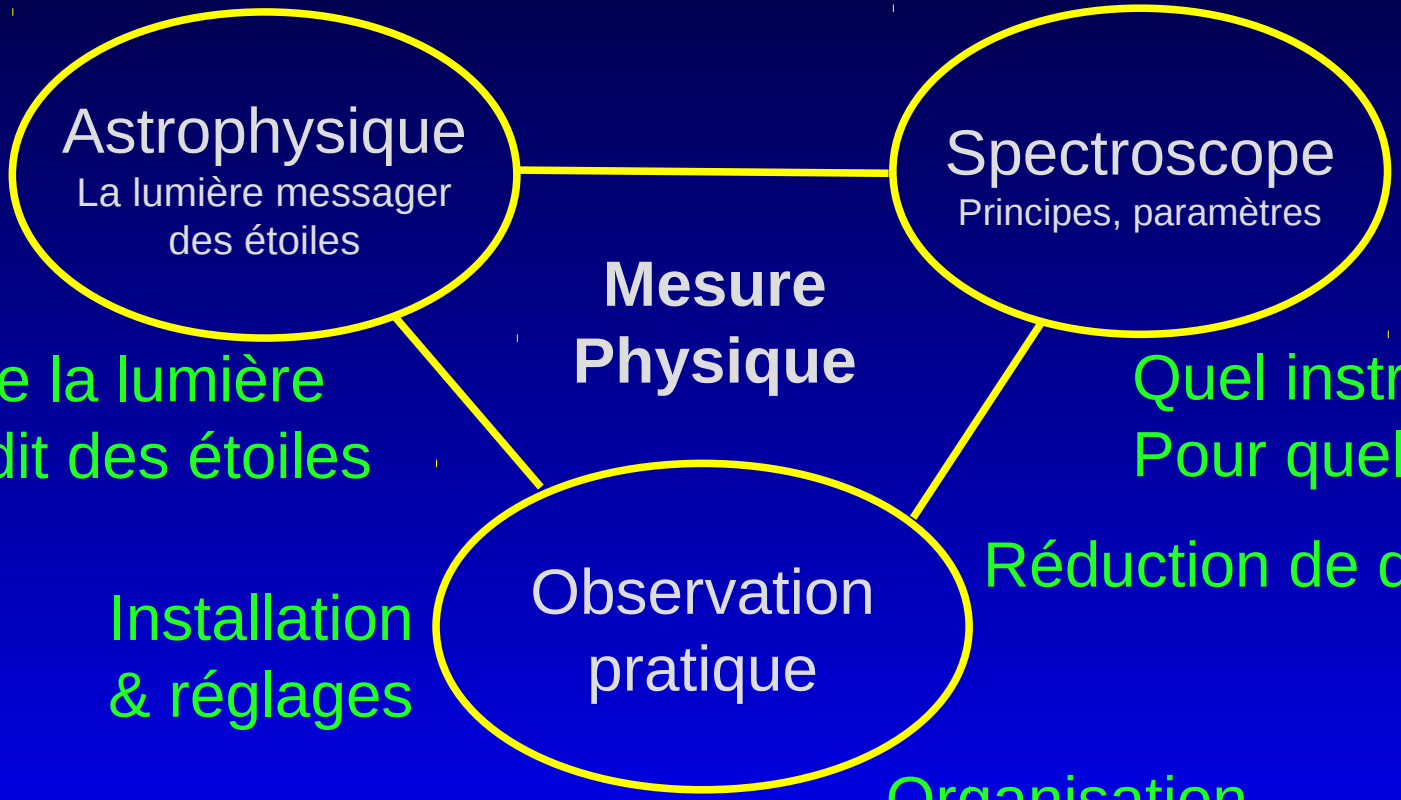
Triptyque spectro



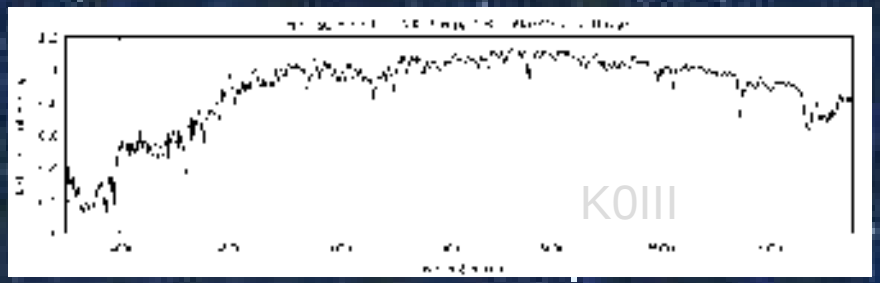
Projet...

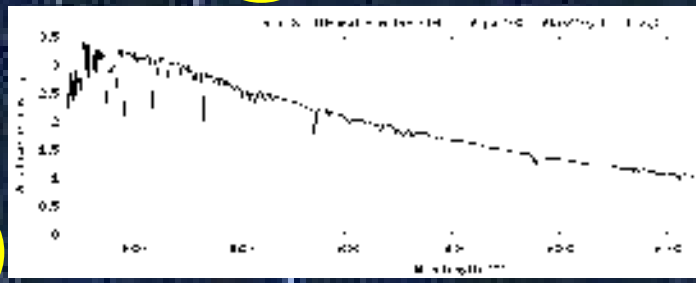
...Pro-Am ?

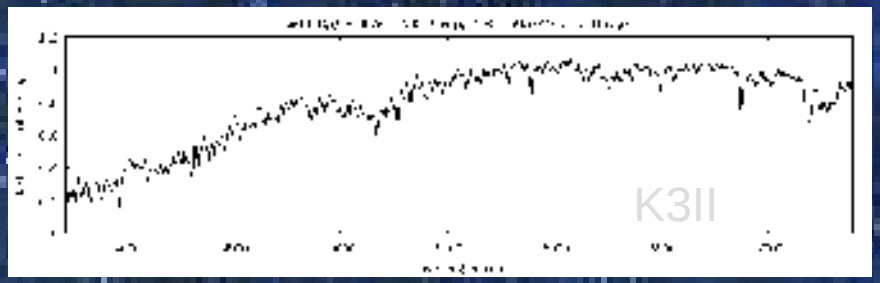
Triptyque spectro

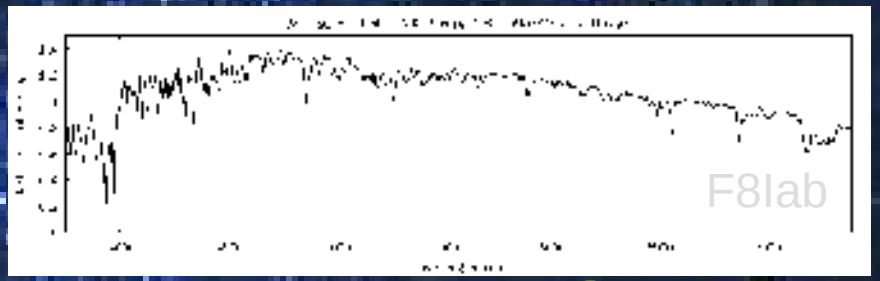


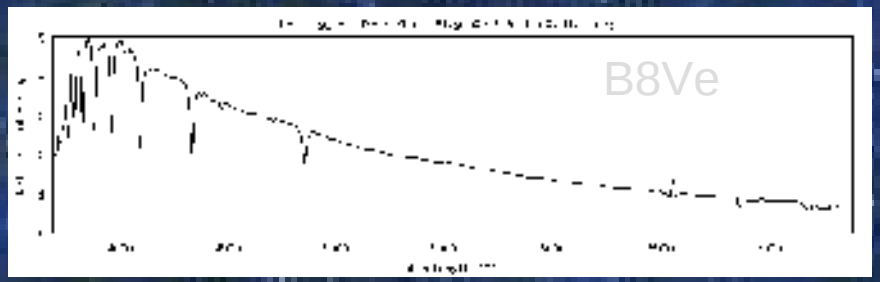
Le Top 5 du Cygne

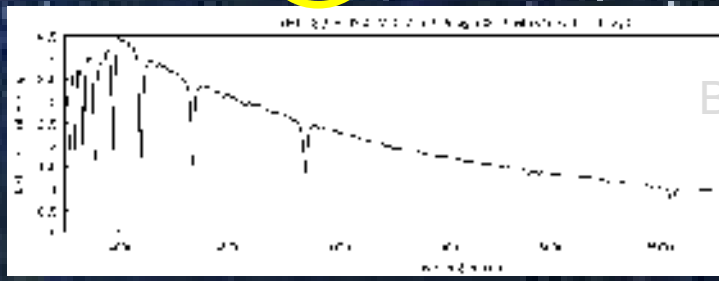




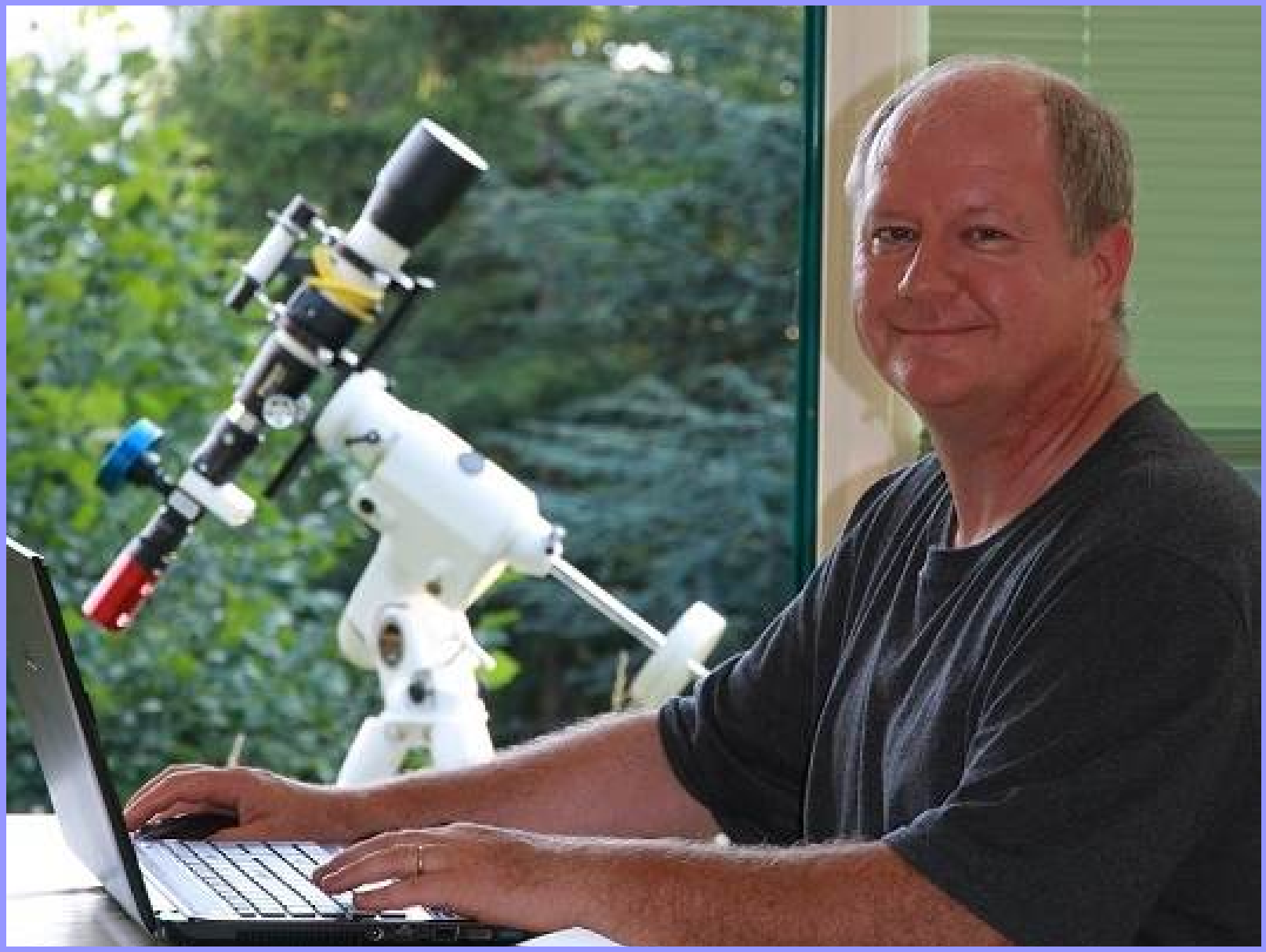


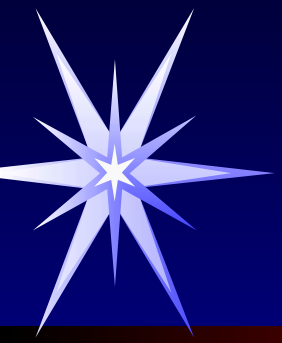






Travaux Pratiques...

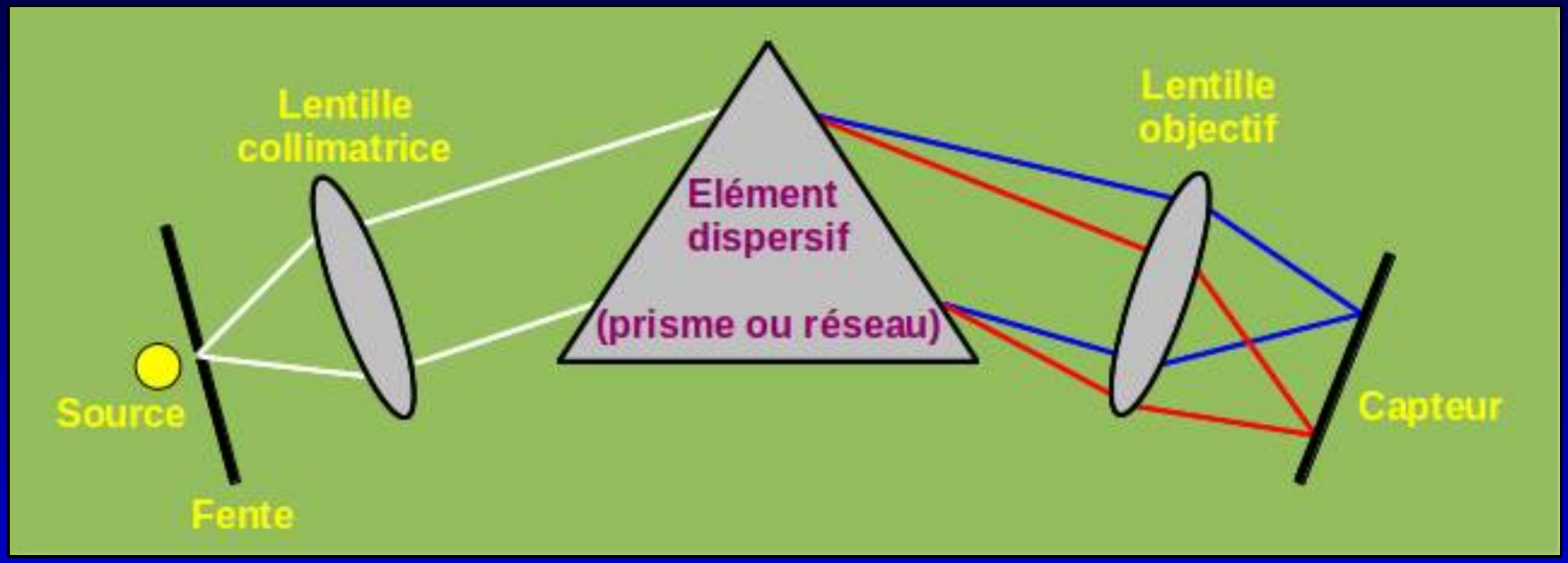




L'instrument...

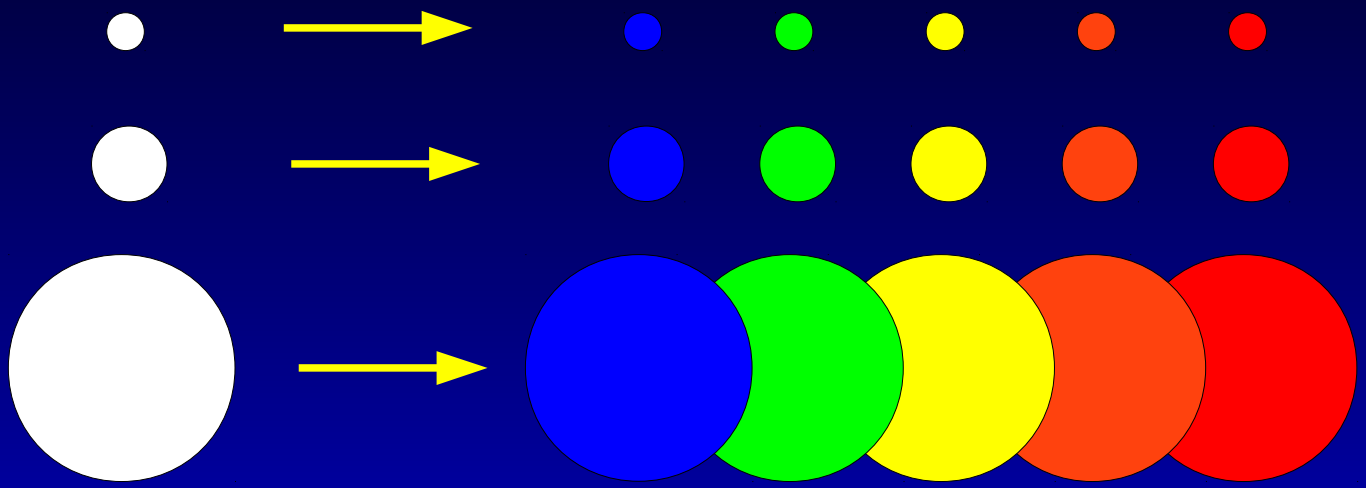
… un peu d'optique

Spectrographe



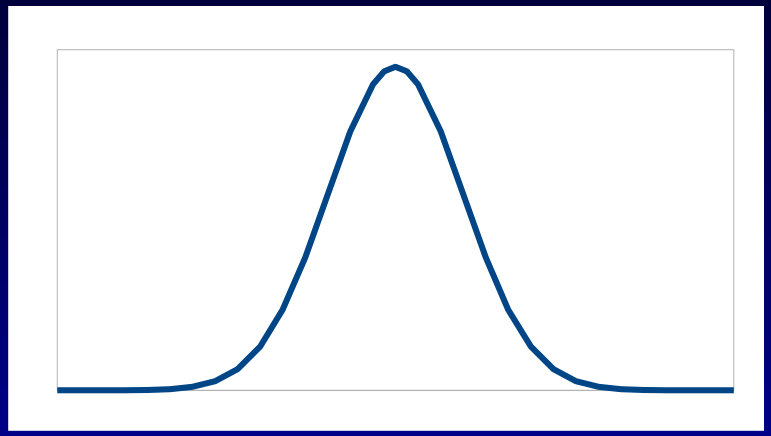
De la taille de la source dépend la résolution

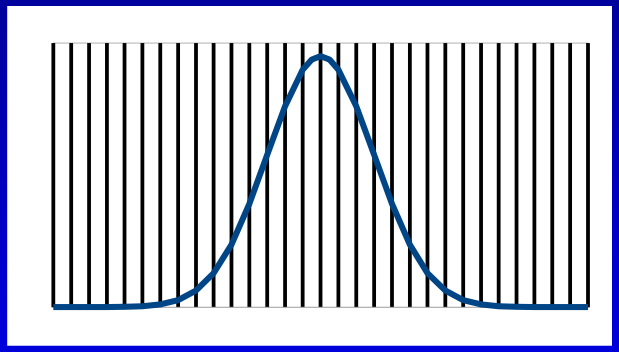
Résolution



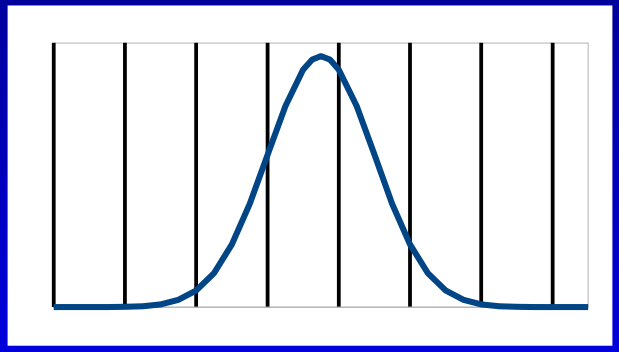
Shalyak

Echantillonnage

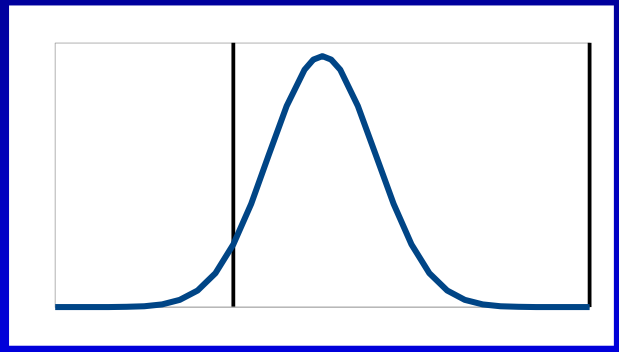




sur-échantillonné



correct

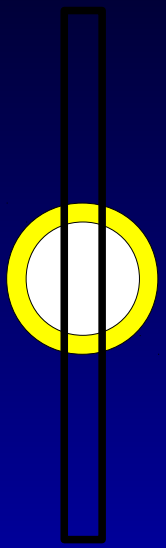


sous-échantillonné

Taille de la fente

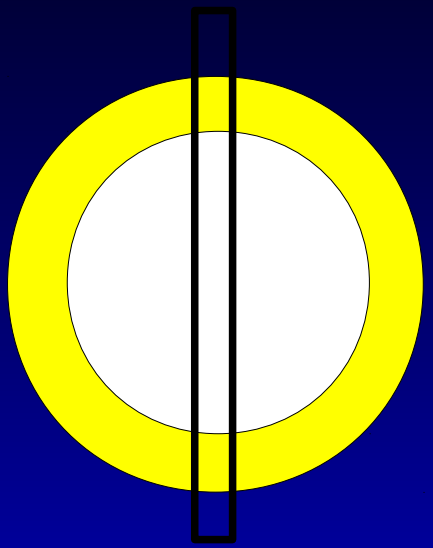
T200mm
F/10

F = 2 m



T600mm
F/10

F = 6 m



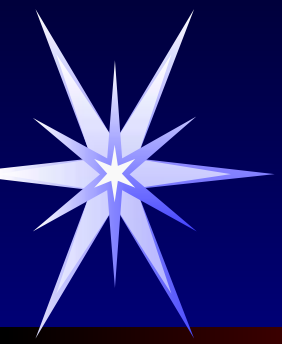
T2000mm
F/10

F = 20 m

Fente de ~20µm

Bon seeing (~1,5 arcsec)

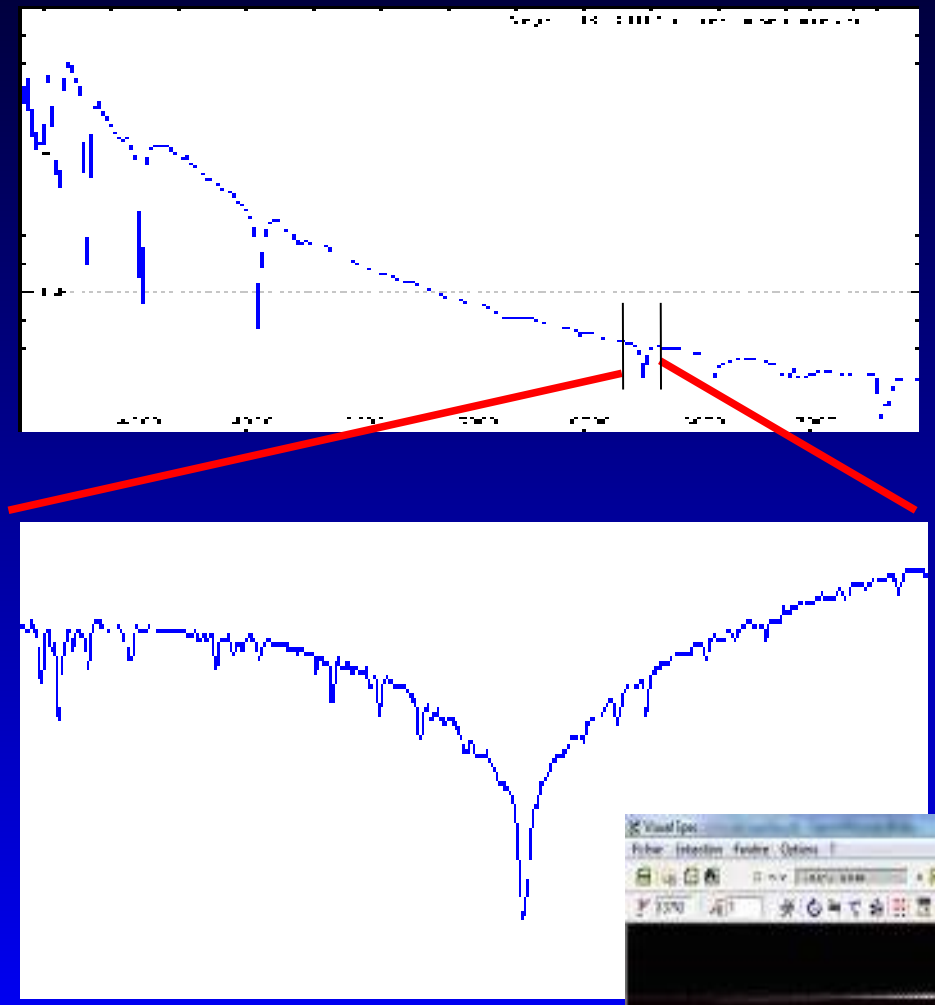
Mauvais seeing (4 arcsec)



Haute ou basse résolution ?

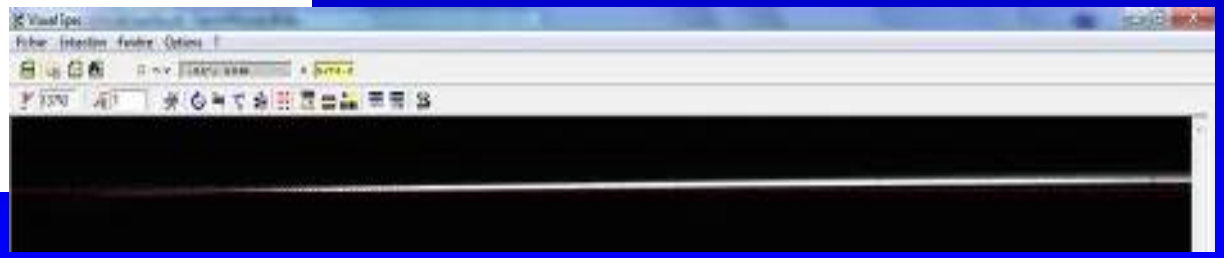
Alpy ou Lhires III

Un spectre : Vega

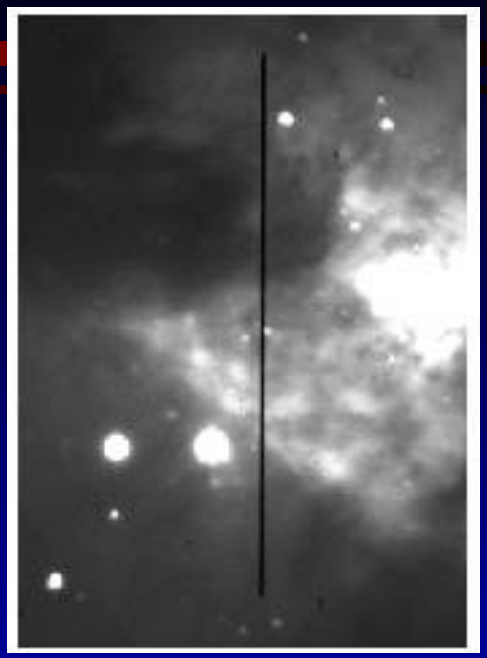


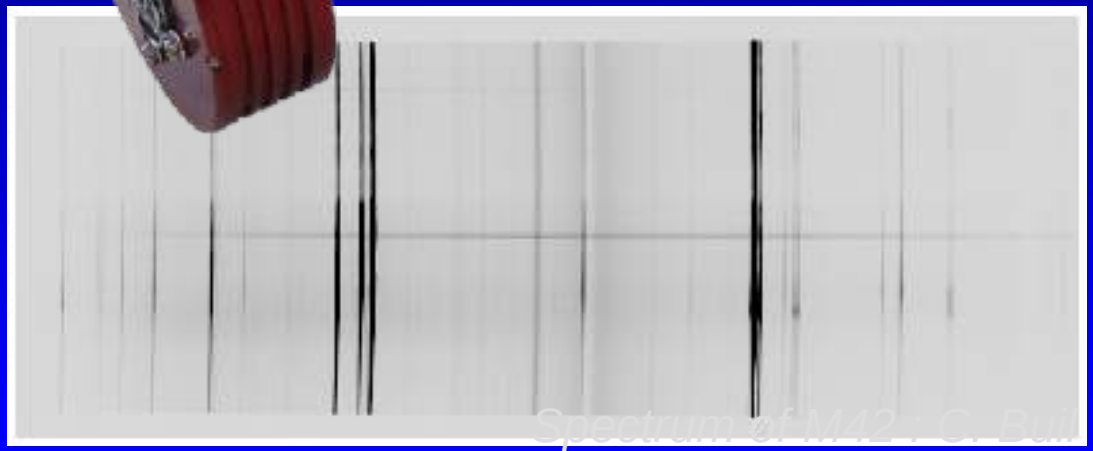
- Basse résolution (BR)
  - ~R < 1.000
  - Large bande spectrale
  - Temps d'exposition court

- Haute résolution (HR)
  - ~R > 5.000
  - Détail dans les profils



Alpy (R ~600)





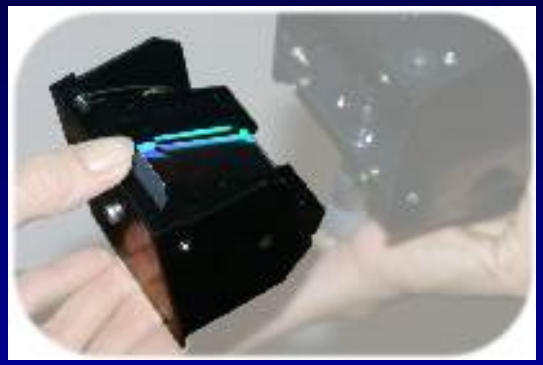
Diameter	S/N=10 @650nm	S/N=10 @ 450nm
85mm	12,9	14,3
200mm	14,6	16,0
280mm	15,1	16,5
350mm	15,4	16,8
940mm	17,0	18,4

Limit magnitude :

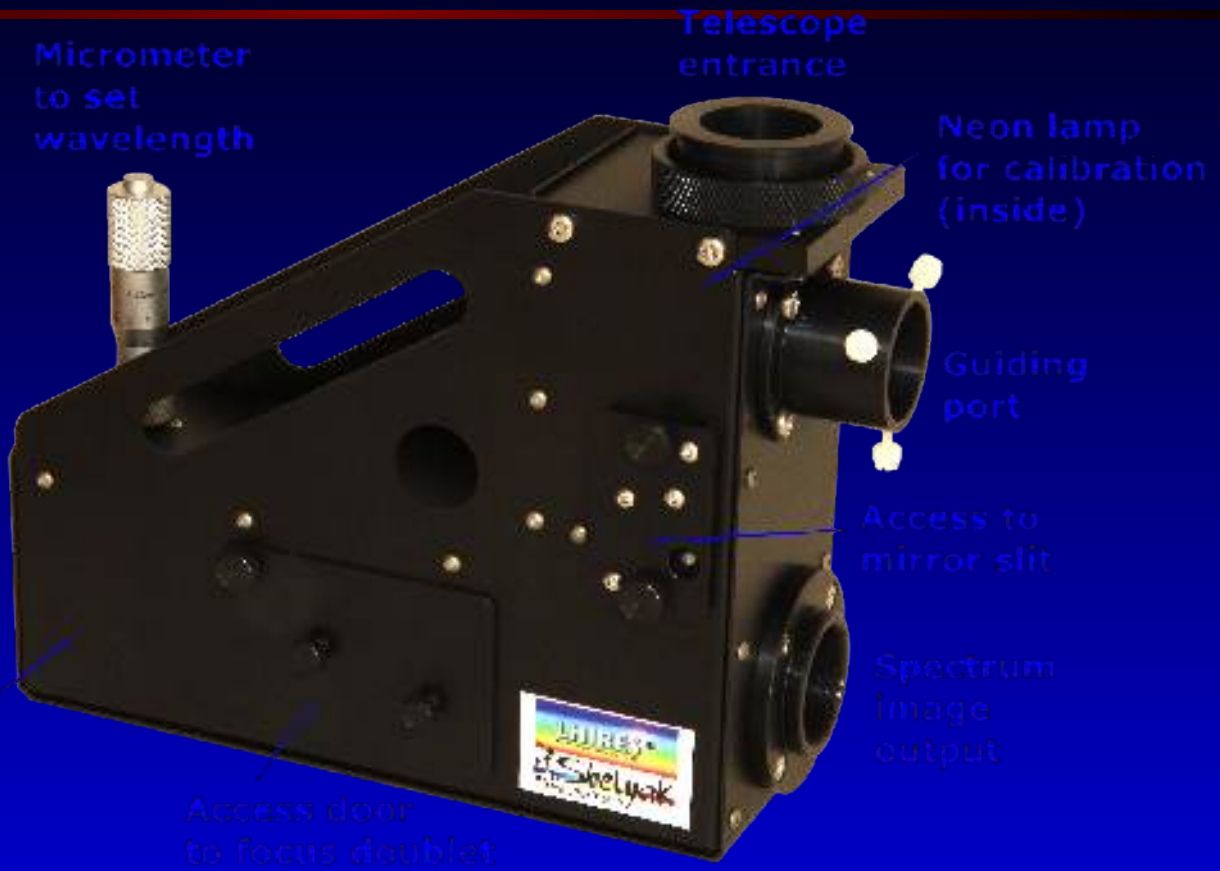
A0V type star

1h exposure (Atik 460EX)

Lhires III : haute résolution



Interchangeable gratings



		2400	1200	600	300	150
Resolution	Å	0,3	1	2,5	5	11
	km/s	18	50	110	230	500
Power of Resolution (R)		17000	6000	2700	1300	600
Spectral domain	Å	85	250	550	1100	2300
Limiting magnitude		5	6	7	8	9

Choisir...

Basse résolution

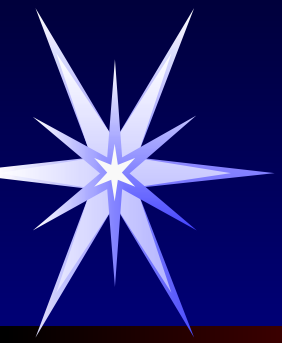
- Large étendue spectrale
- Objets faibles
- Temps de pose courts
- Grande diversité d'observations

... plus facile ?

Haute résolution

- Détails dans le spectre
- Mesure de vitesses
- Réduction plus simple
- Tout bouge à cette échelle

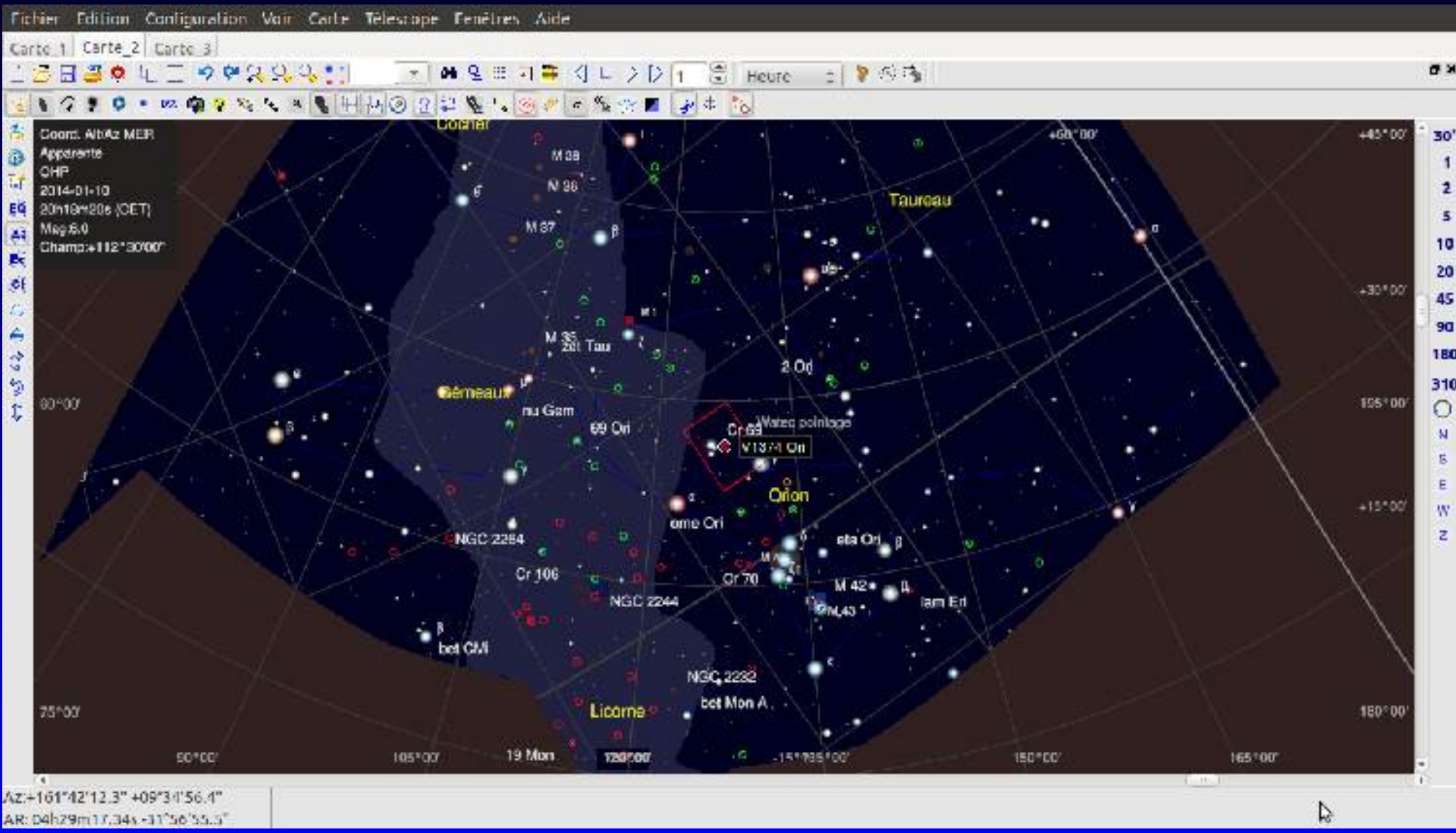
... moins difficile ?



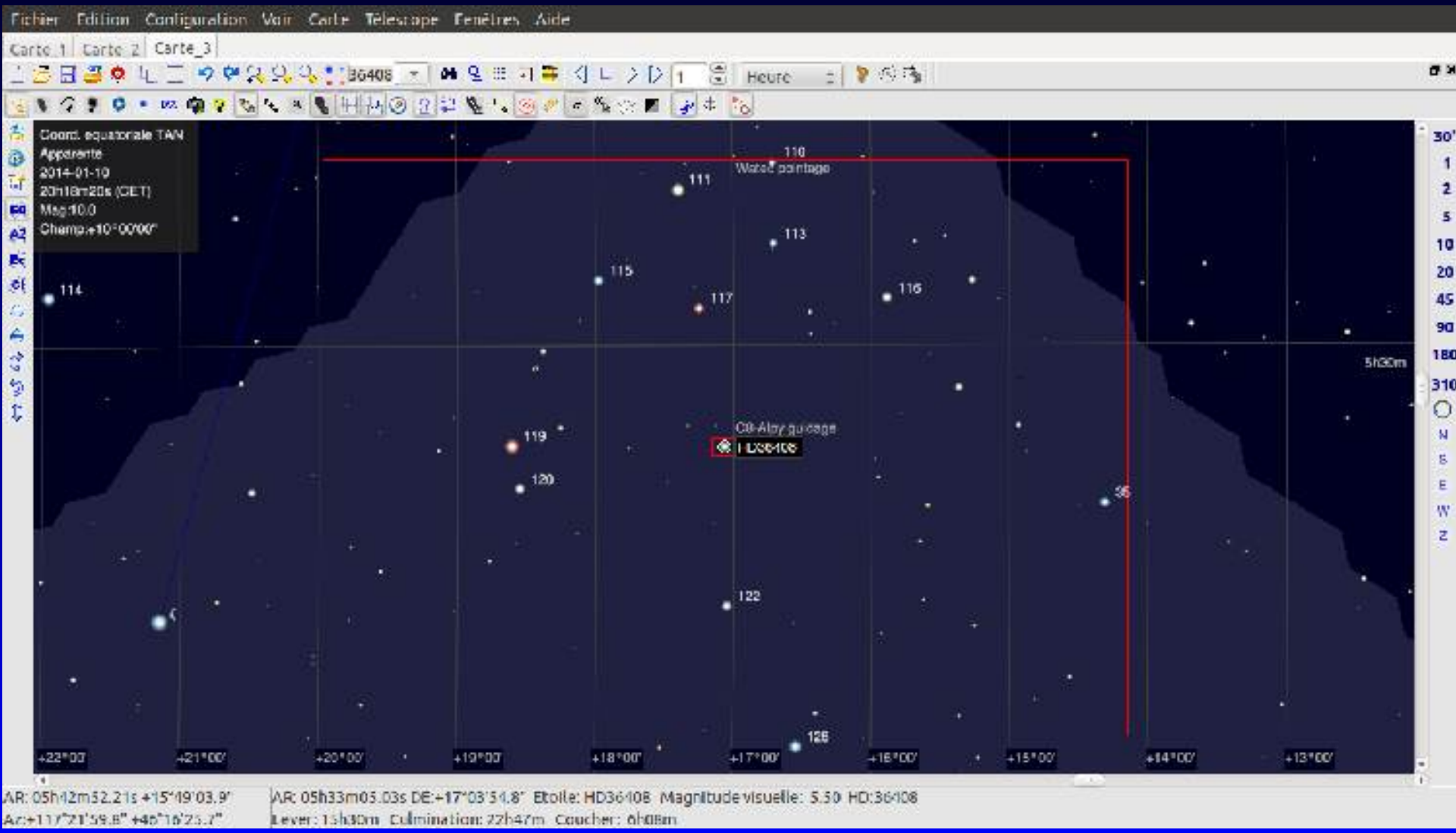
Concrètement...

expérience vécue

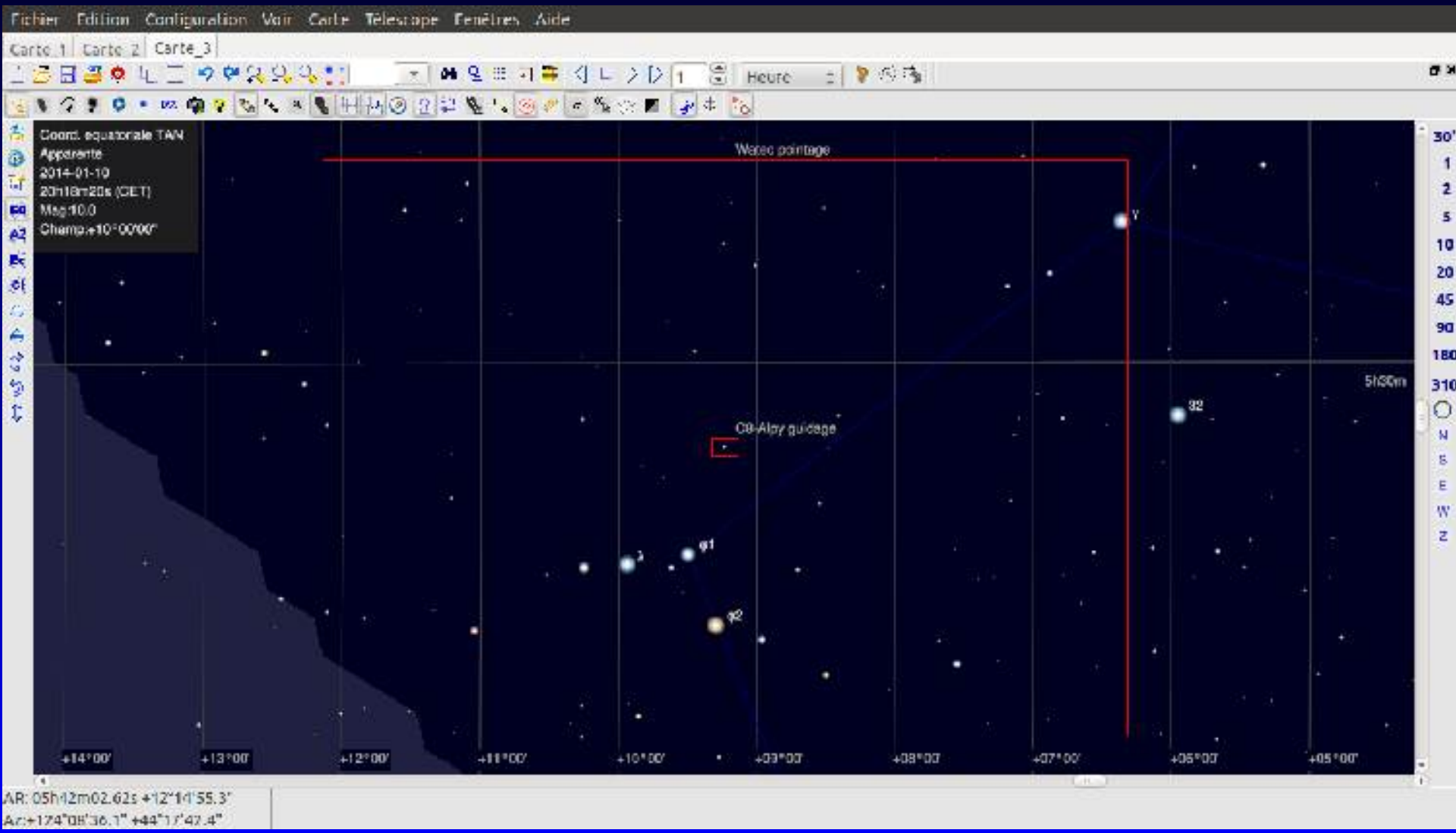
Observation de Be



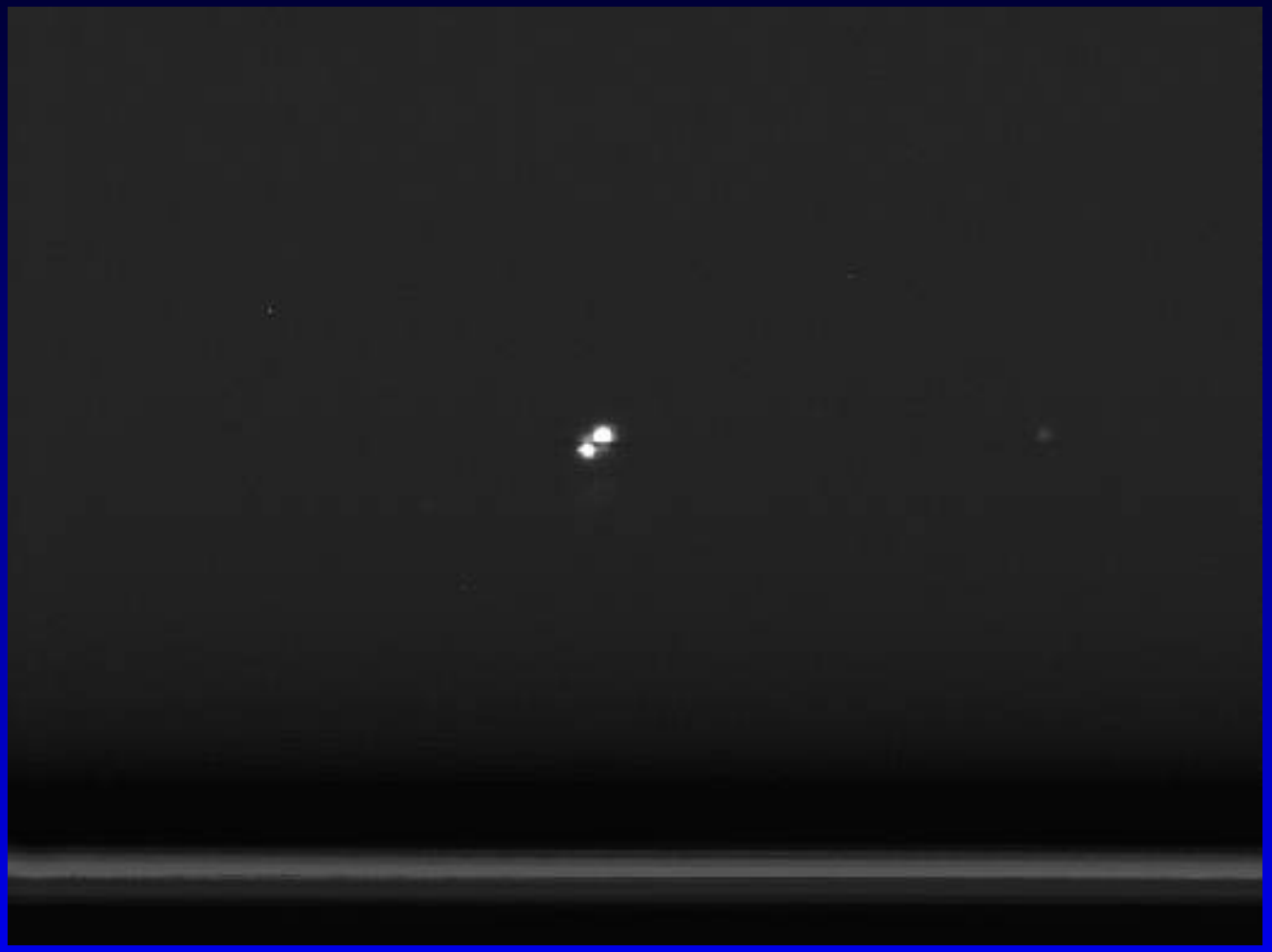
Observation de Be



Obs de HD36408...



HD36408



HD36408

HD36408


C8-Alpy guidage
+17°00'00"
+17°05'00"
+17°10'00"
AR: 05h33m04.69s DE: +17°03'56.2" Cat: HD 36408 Magnitude: 6.06 30.0 x 30.0 '
Lever: 17h56m Culmination: 1h17m Coucher: 8h34m

Merci !