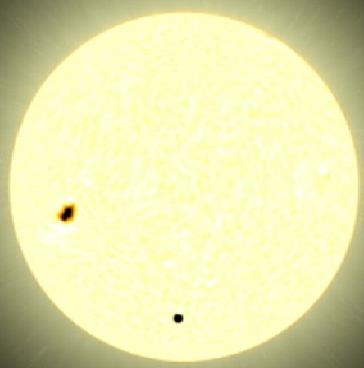


Stellar fundamental parameters : characterizing the central star



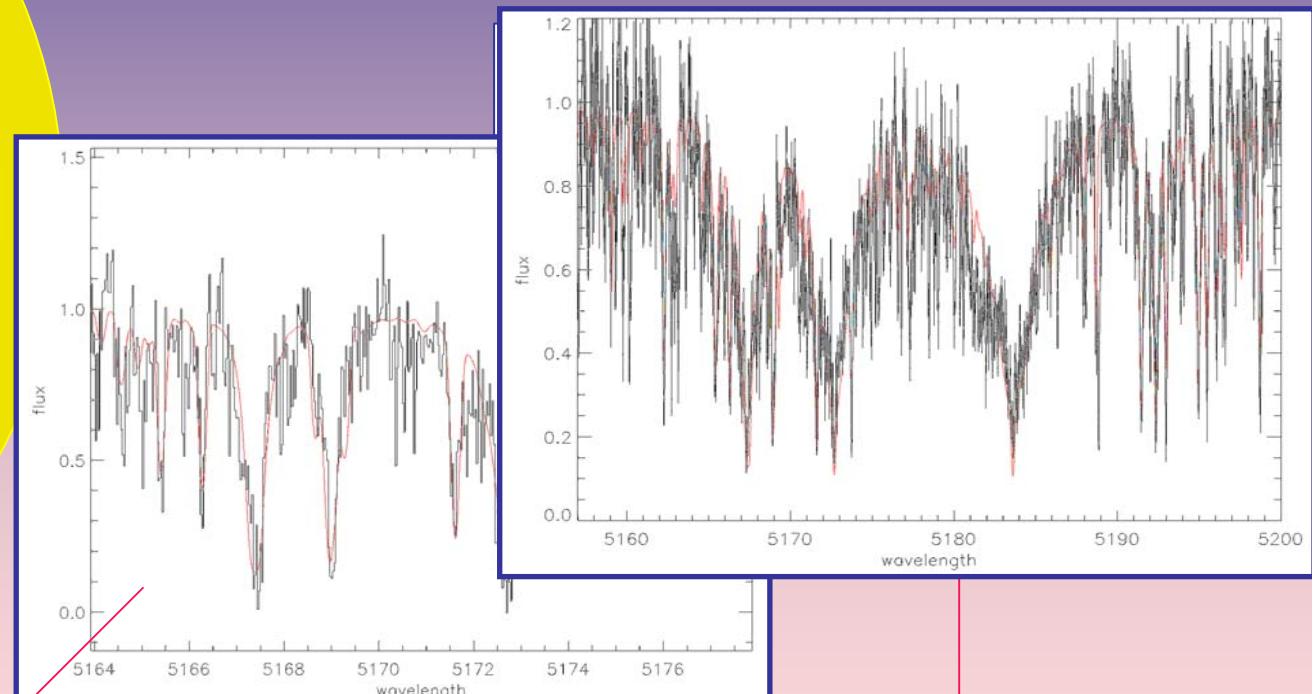
- M. Fridlund : ESA
- H. Bruntt, C. Catala : LESIA
- A. Hatzes, E. Guenther, D. Gandolfi, K. Fuhrman : Tautenburg Obs.
- M. Barbieri , J.C. Gazzano : LAM

*M. Deleuil
(Laboratoire d'Astrophysique de Marseille)*

Why bother making stars typing ..



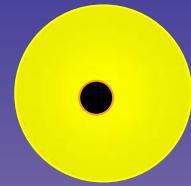
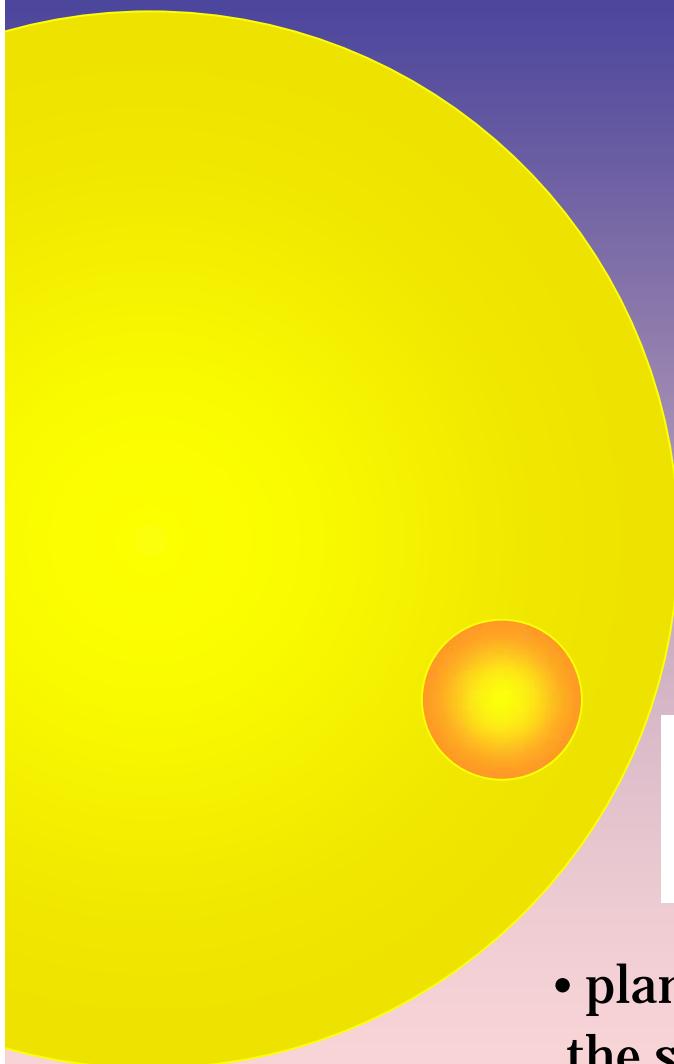
- it could help to identify confusing cases



Eclipsing binary

Further analyses

Why bother making stars typing ..



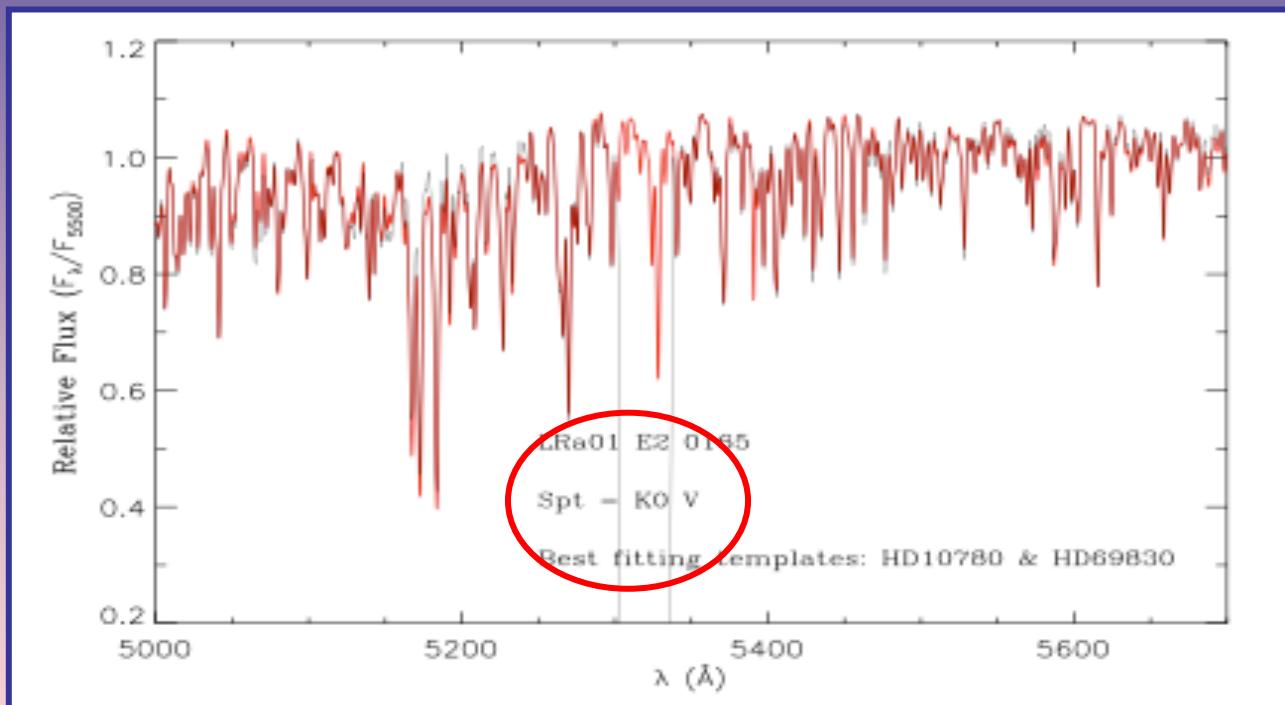
- it could help to identify confusing cases
cf C. Moutou's talk
- stars fundamental parameters mandatory :
 - Planet radius
 - Planet mass

$$\frac{\Delta F}{F} = \left(\frac{R_p}{R_*} \right)^2$$

$$k = \frac{28.4 \text{ ms}^{-1}}{\sqrt{1-e^2}} \frac{m_p \sin i}{M_{Jup}} \left(\frac{P}{1 \text{ yr}} \right)^{-1/3} \left(\frac{m_*}{1 M_\odot} \right)^{-2/3}$$

- planet host stars properties : require to characterize the stellar population in the exoplanet fields
cf M. Barbieri's & D. Gandolfi's talks

Central star's parameters : CoRoT-exo-7



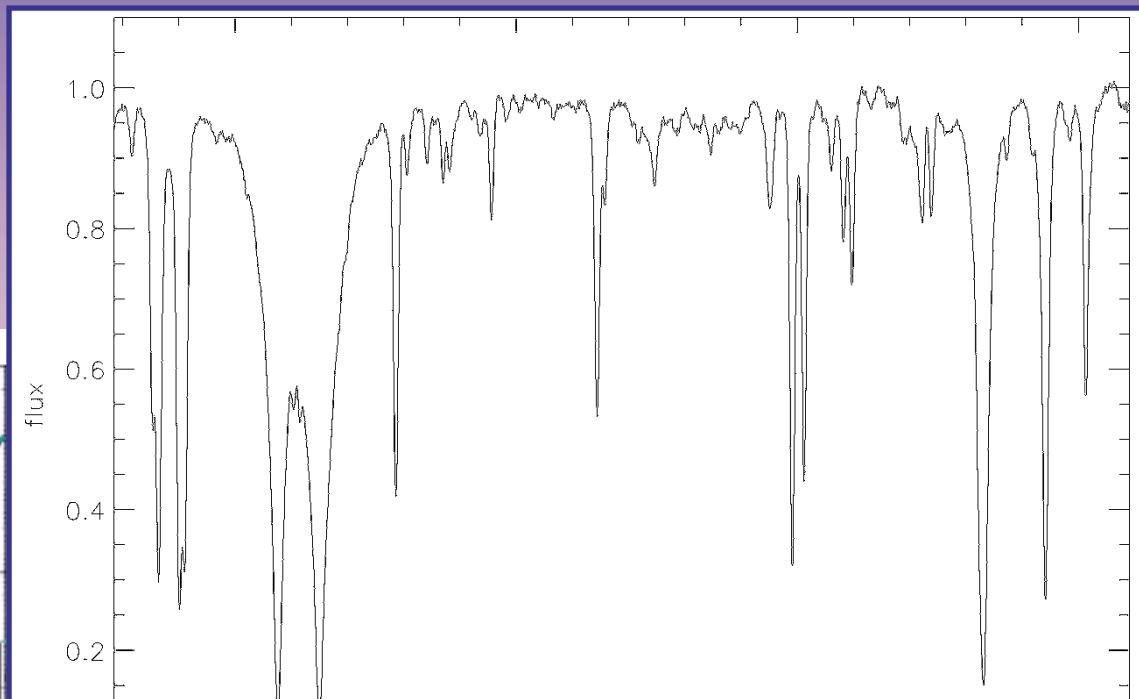
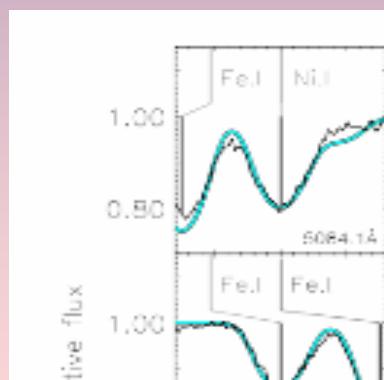
July 08 : AAOmega low resolution spectra - dwarf status confirmed

Central star's parameters : CoRoT-exo-7

filled spectroscopic analyses : Teff, Logg & [M/H], done using a S spectra (S/N ~ 100)

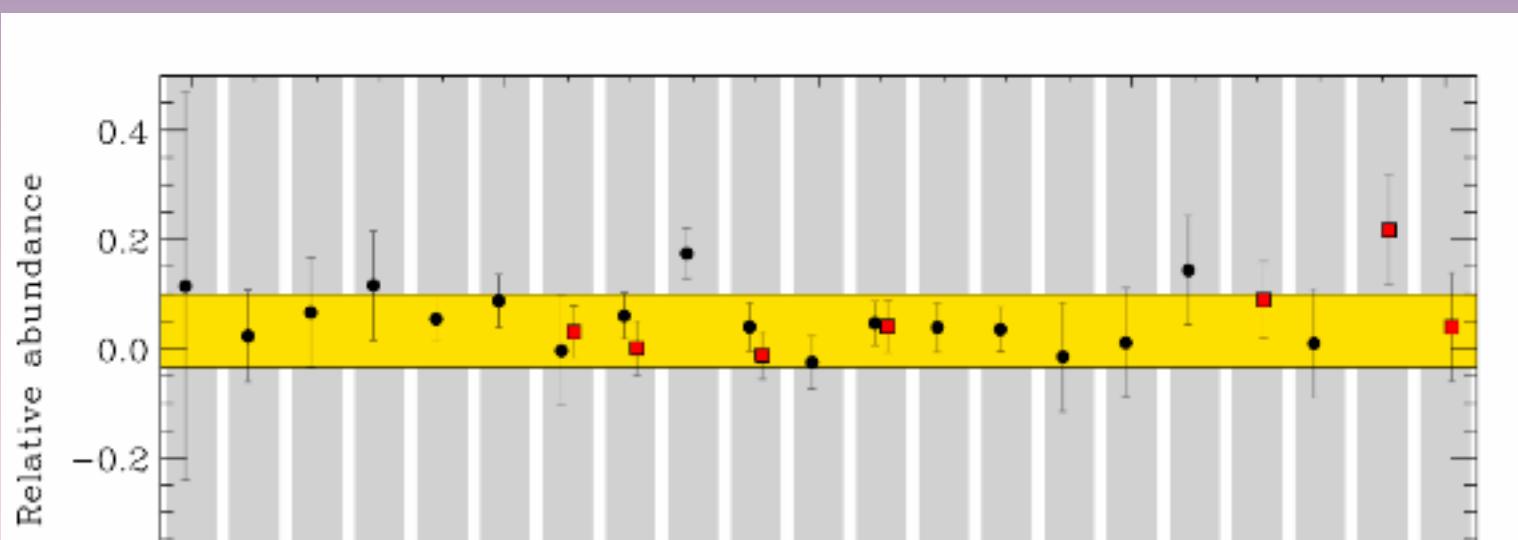
ysis of the co-addition of a series of 53 HARPS on-going

rent methods :

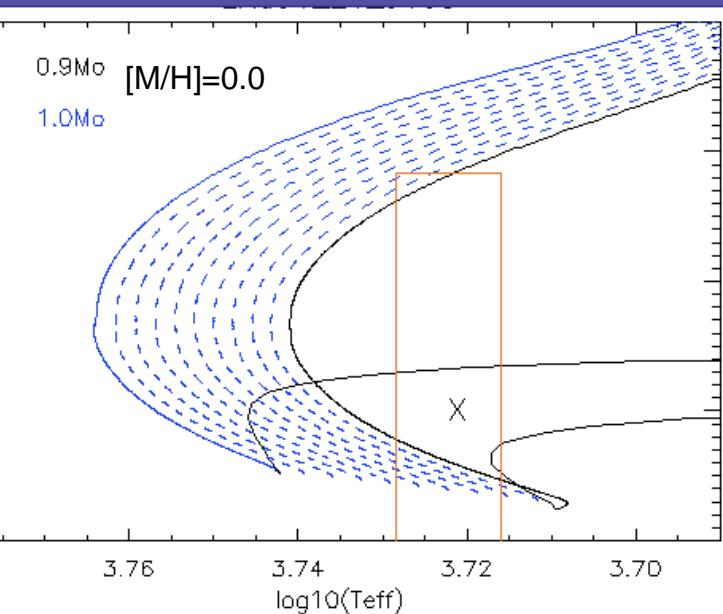


RoT-exo-7 : atmospheric parameters

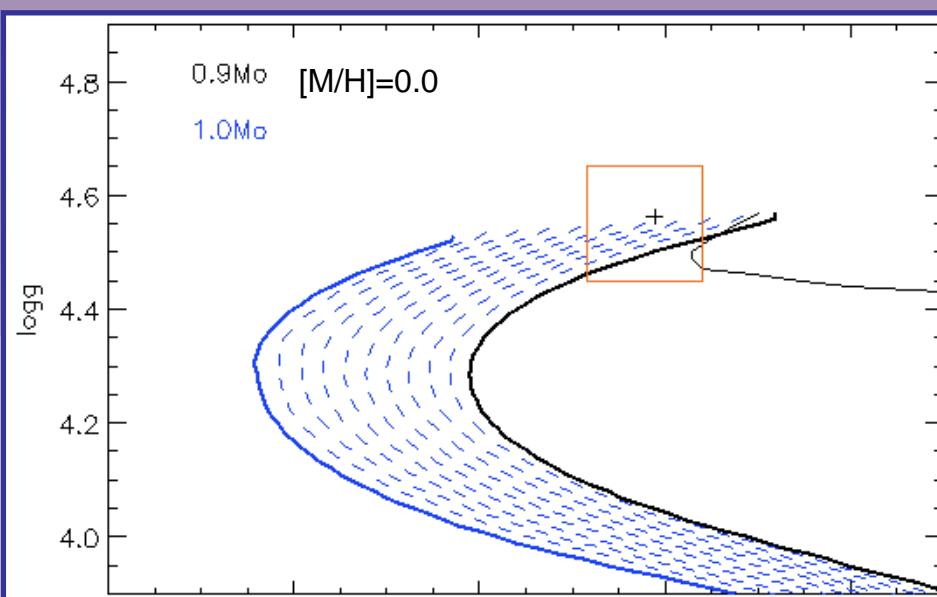
Teff	logg	[M/H]	vsini (km/s)
5250K +/- 150	4.3 +/- 0.30	"solar "	1.0 +/- 1.0
5300K +/- 44	4.55 +/- 0.05	+0.032 +/- 0.027	0.8 +/- 1.0
5270K +/- 80	4.45 +/- 0.10	+0.00 +/- 0.05	2.0 +/- 1.0
5250K +/- 50	4.62 +/- 0.1	+0.00 +/- 0.1	2.4 +/- 1.5
5250K +/- 100	4.54 +/- 0.1	[Fe/H] = 0.08 +/- 0.08	



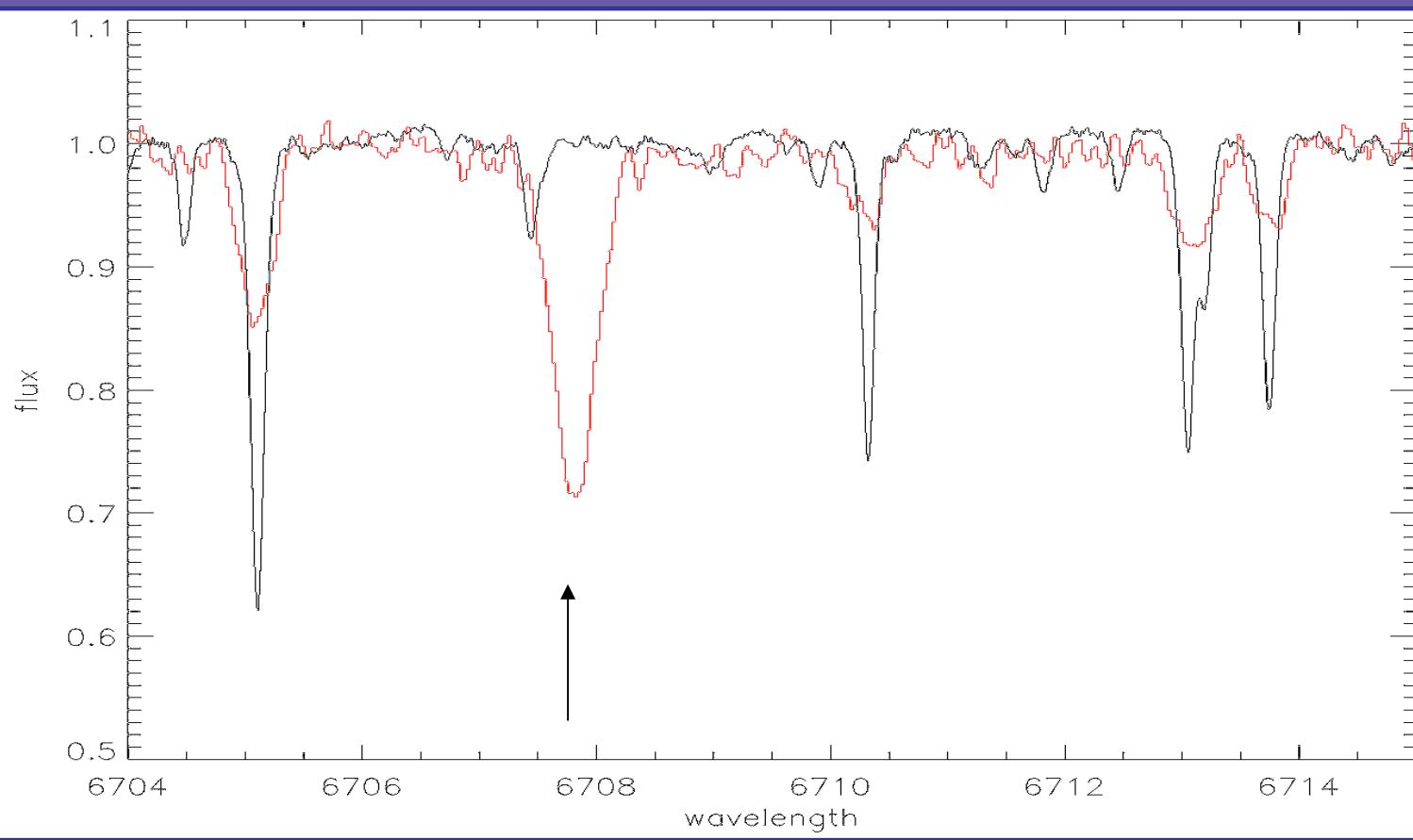
RoT-exo-7 : mass & radius



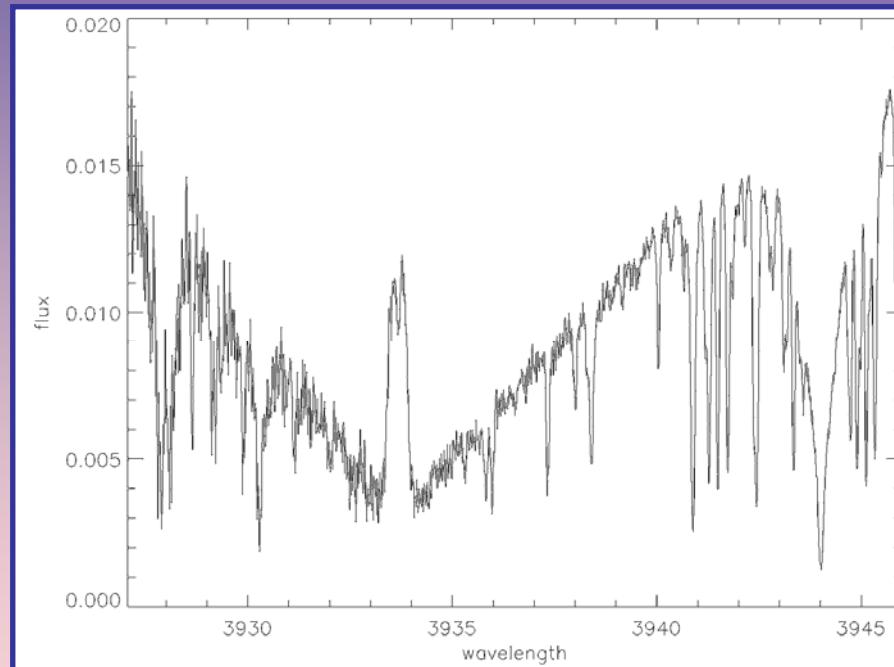
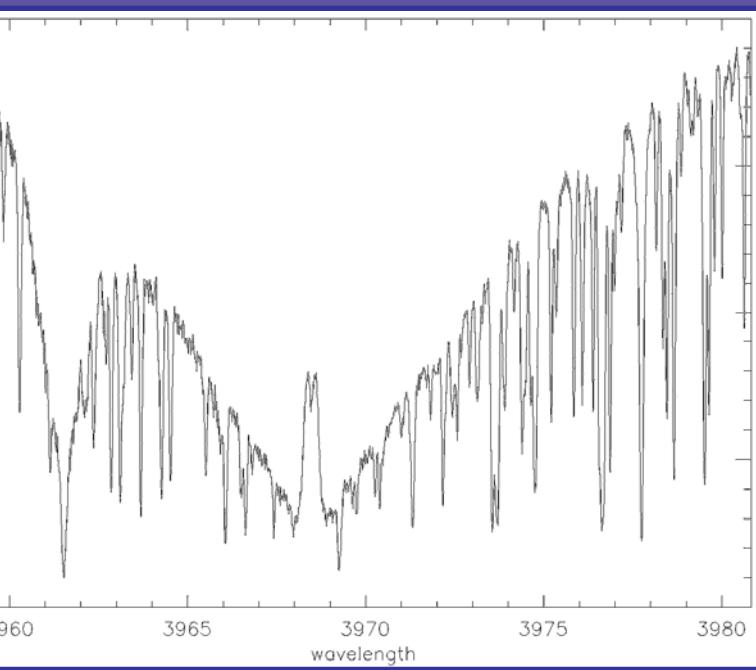
*starEvol tracks
but also ASTEC & van den Bergh
tracks*



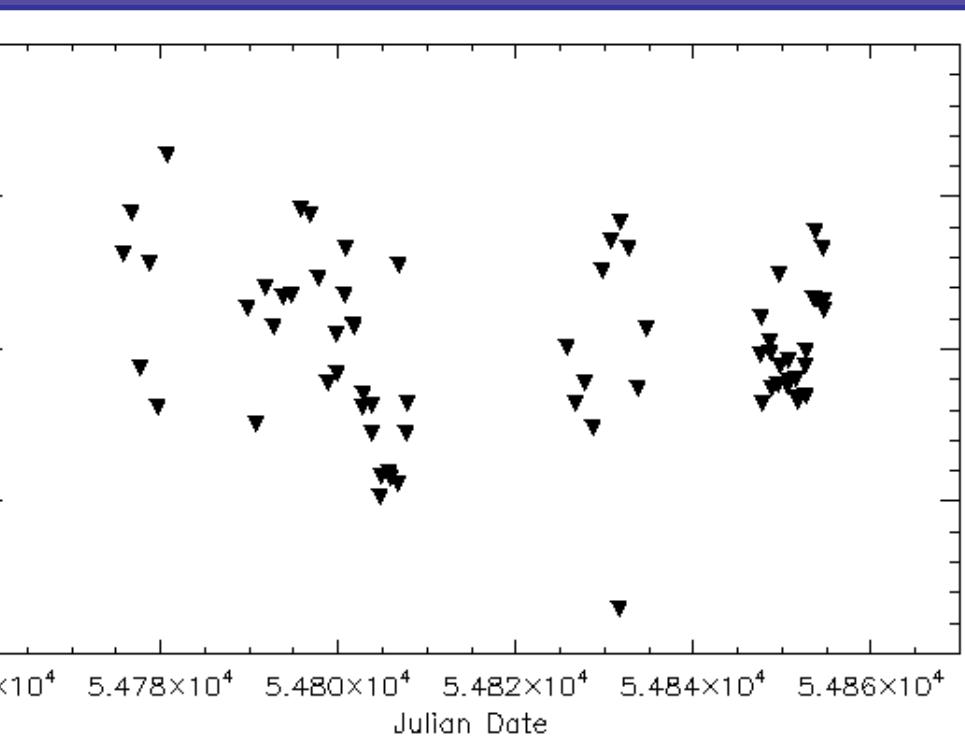
RoT-exo-7 : constraining the age



chromospheric activity

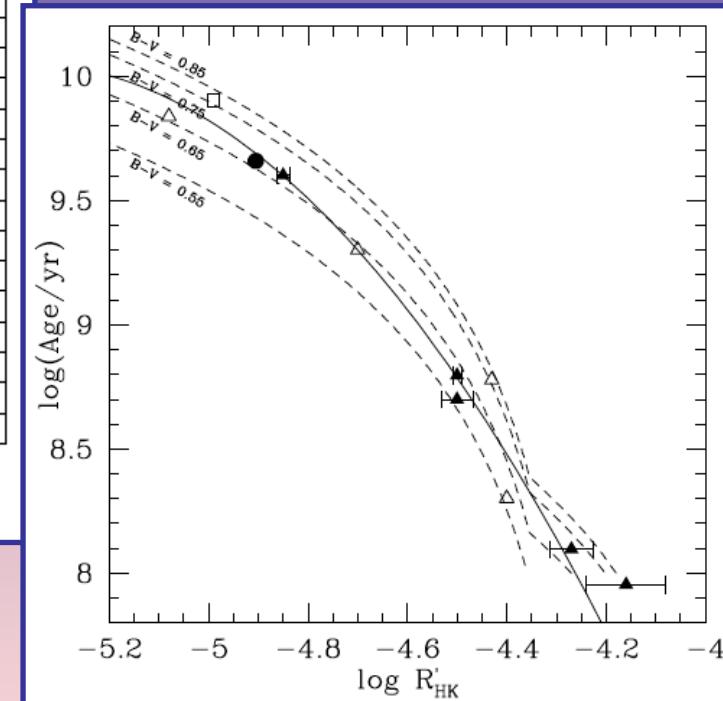


chromospheric activity



$$\log R_{\text{HK}} = -4.601 \pm 0.05$$

Mamajek & Hillenbrand, 2008



chromospheric age 1.4 ± 0.40 Gyr

(Wright et al., 2004)

Inclusion & perspective



oT-exo-7 : dwarf type, not evolved star -
ysis of the co-addition of 53 HARPS spectra on-going
ndamental parameters will be refined in the forthcoming days

on-going :
ned spectral analysis of CoRoT-exo-1 & CoRoT-exo-2

parison of the evolutionary tracks and reference abundances -
impacts on the star's derived parameters.

Typing of the bunch of candidates!