γ Doradus Thematic Team

http://www.obs-nice.fr/gdor_corot/index.html
wggdor@obs-nice.fr

- About 35 persons involved in different institutes:

OCA/Gemini/Cassiopée, LUAN, Institut d'Astrophysique de Liège, KU Leuven, IAA, IAC, UNAM, Vienna University, Royal Observatory Belgium, OAB, Observatoire de Genève, Observatoire de Paris, Konkoly Observatory

- Different skills:

Ground based observations, frequency analysis, mode identification, modelling

Goals of the Thematic Team

- **Characterization of γ Dor in the SISMO FoV**
  Variability: spectroscopy and photometry (timescales, LPV…)
  Mode identification (moments, FDI, photometric amplitudes…)
  Abundances
  Binarity & fundamental parameters

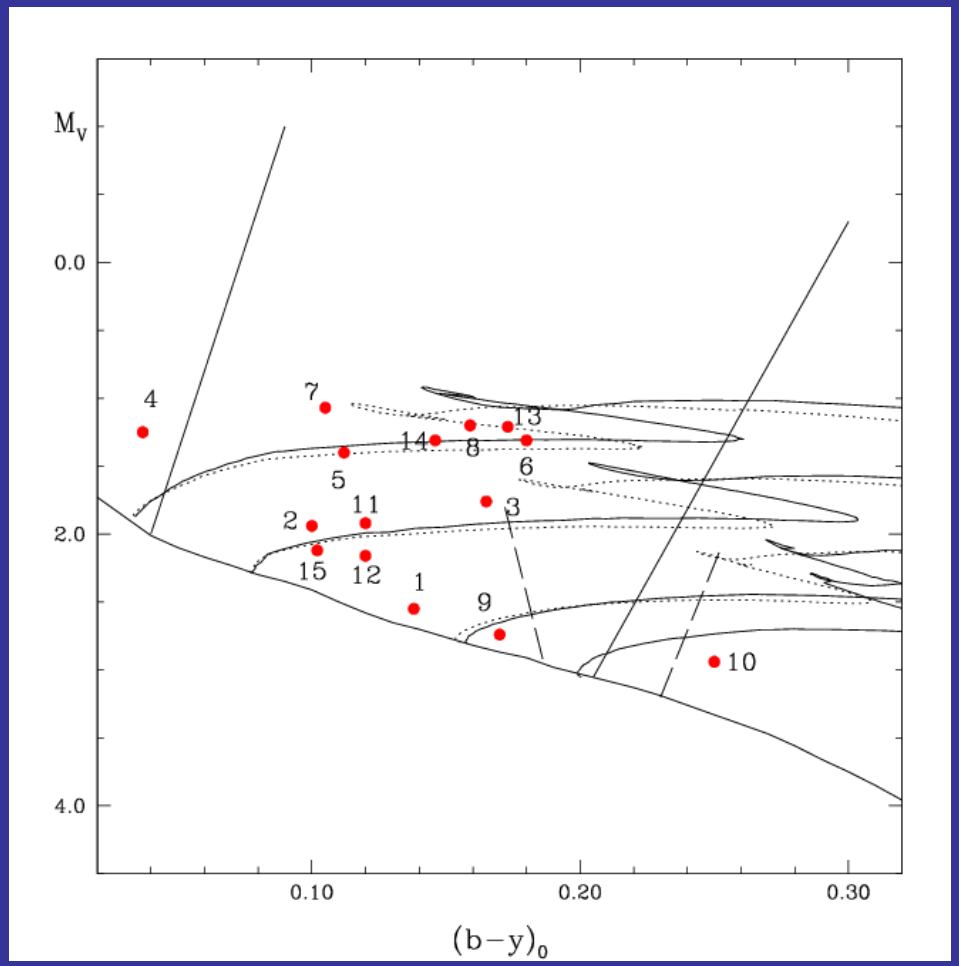
- **Simulation of γ Dor behaviour in the EXO FoV**
  Expected variables (pulsating, geometric, cataclysmic)
  Signal determination (relative photometric precision ~10^{-4})
  Mode identification from CDC 3-colour light curves

Candidates in the SISMO fields

From COROTSKY:

HD 49434 [9]:
- Teff = 7346 +- 69 K
- log g = 4.14 +- 0.2
- [Fe/H] = -0.13 +- 0.14 dex
- v sini = 82 km/s
- M ~ 1.55 Mo

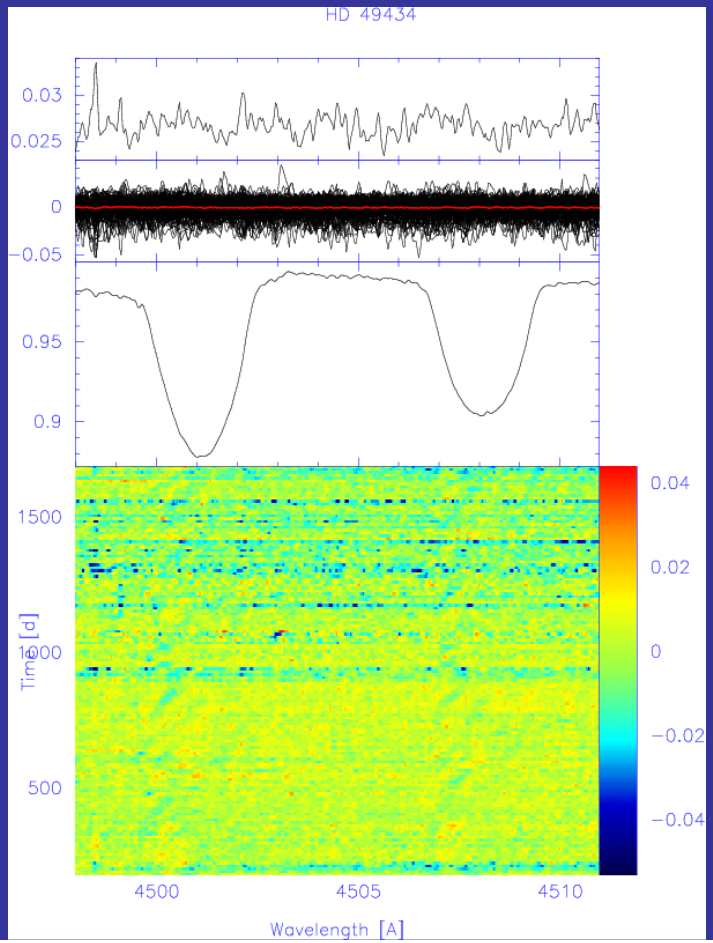
HD 171834 [10]:
- Teff = 6879 +- 67 K
- log g = 4.05 +- 0.3
- [Fe/H] = -0.22 +- 0.2 dex
- v sini = 64 km/s
- M ~ 1.40 Mo



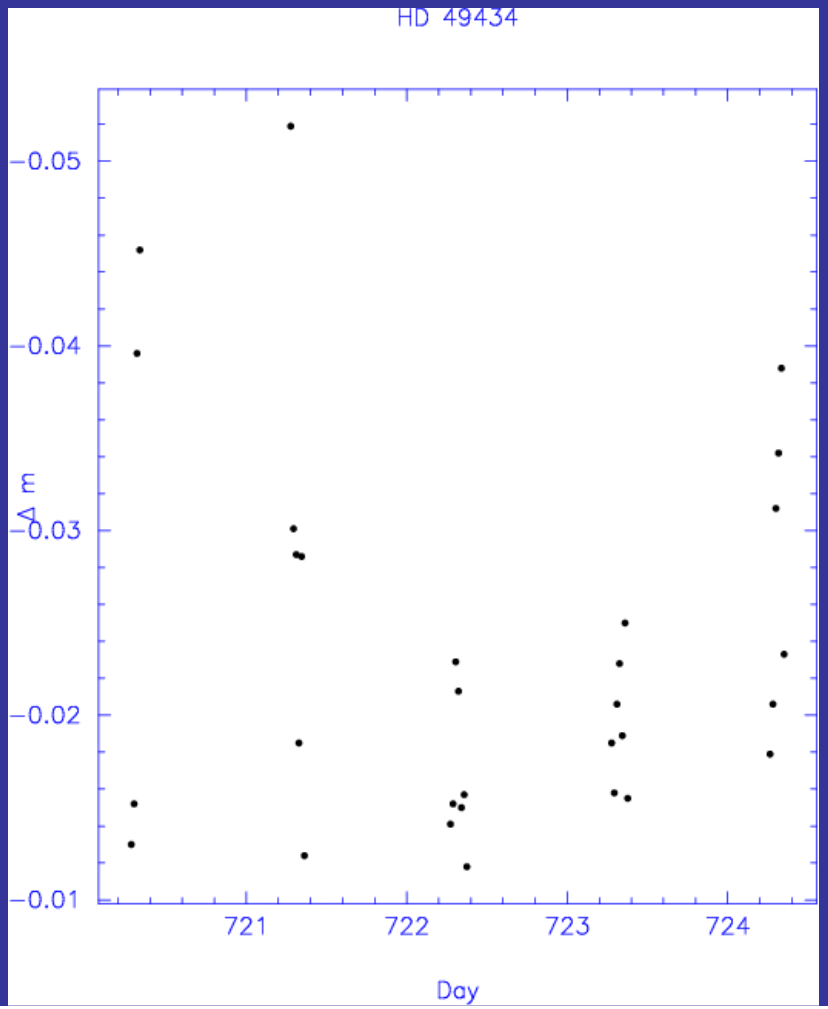
Poretti et al. 2005

HD 49434

Spectroscopy (OHP) in 2003 & 2006, but bad weather: no periodic signal determined

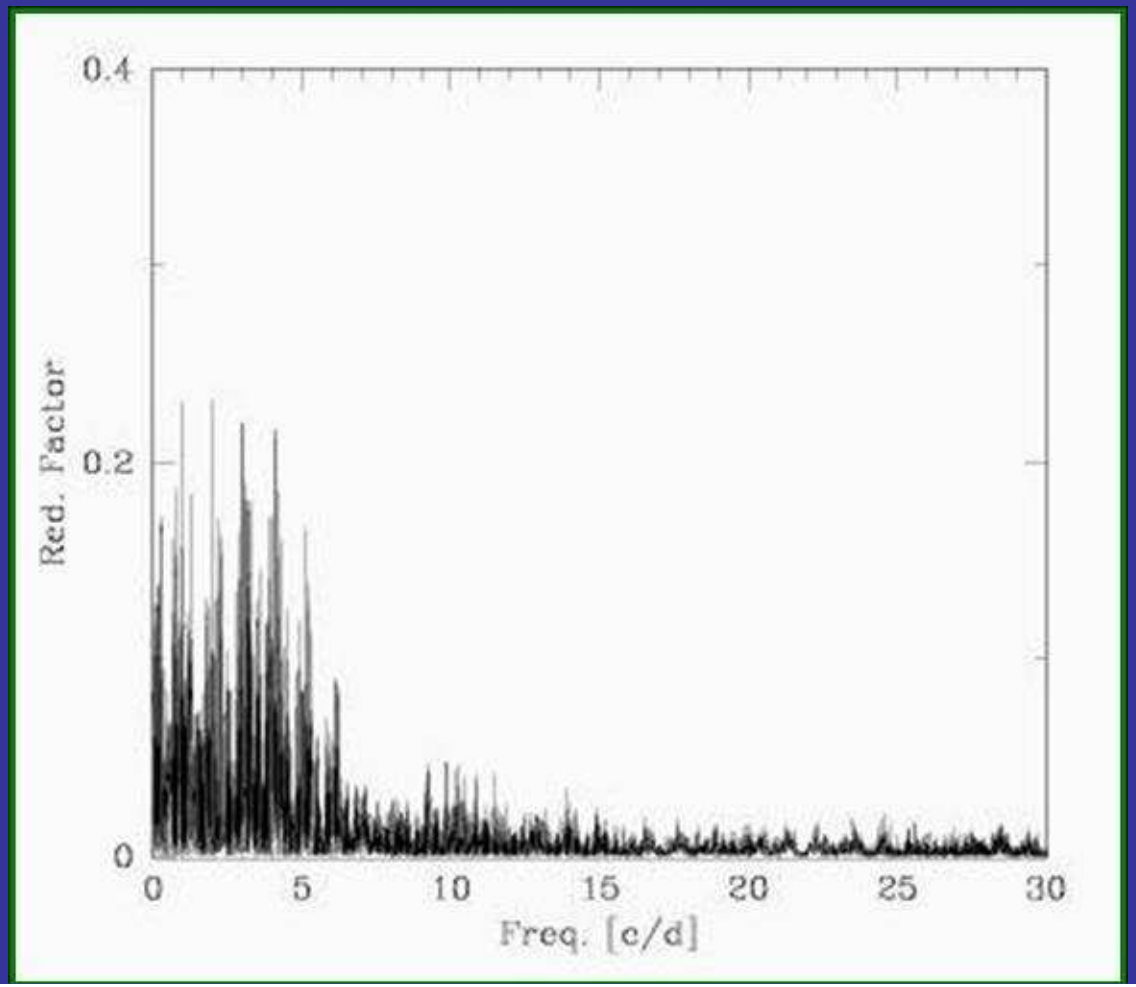


Last photometry (Konkoly) in 2006, but too scarce data

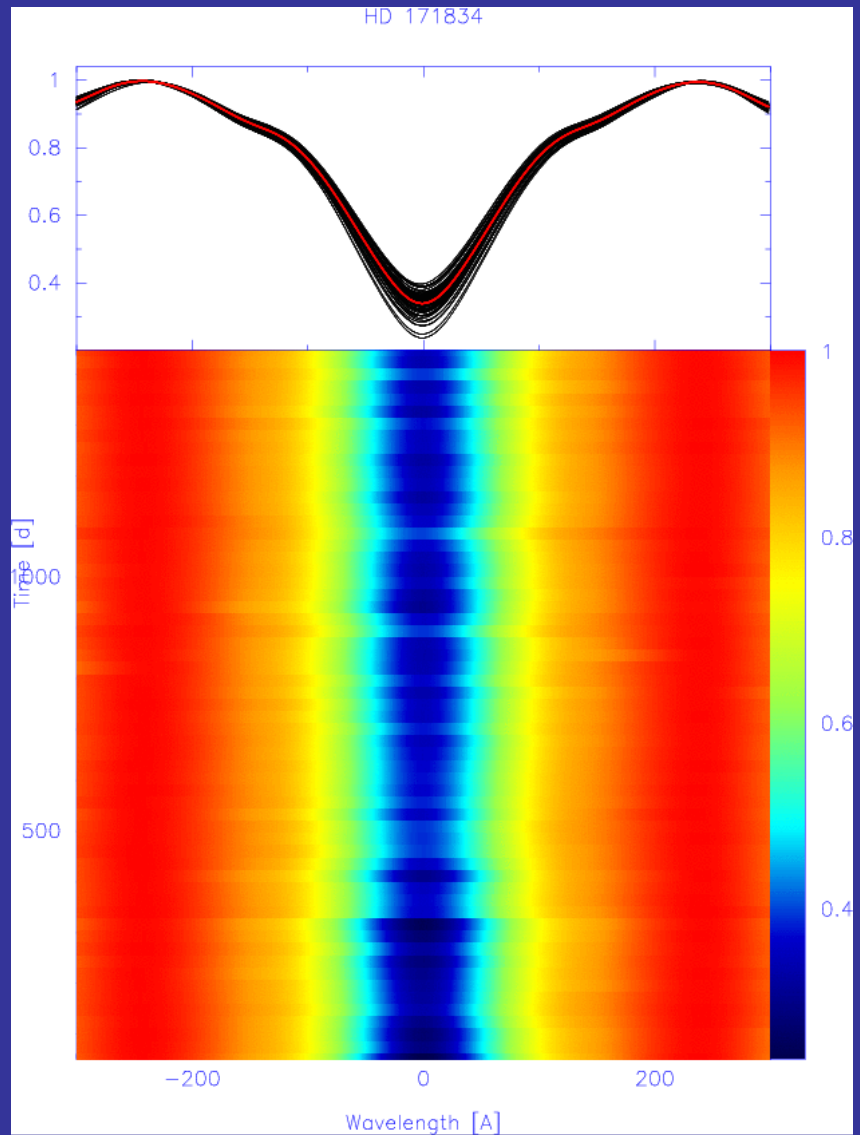


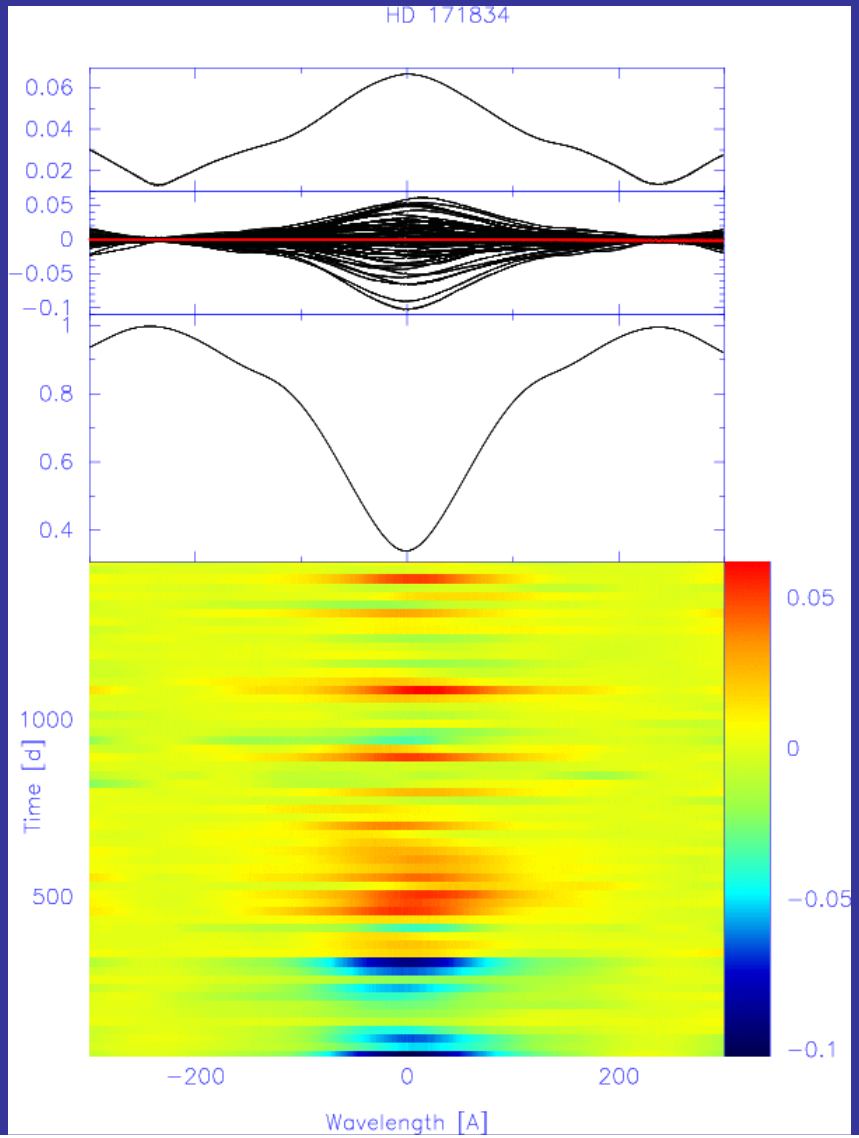
HD 49434

SPM & SN photometry, winter 2005-2006,
from Poretti et al.:

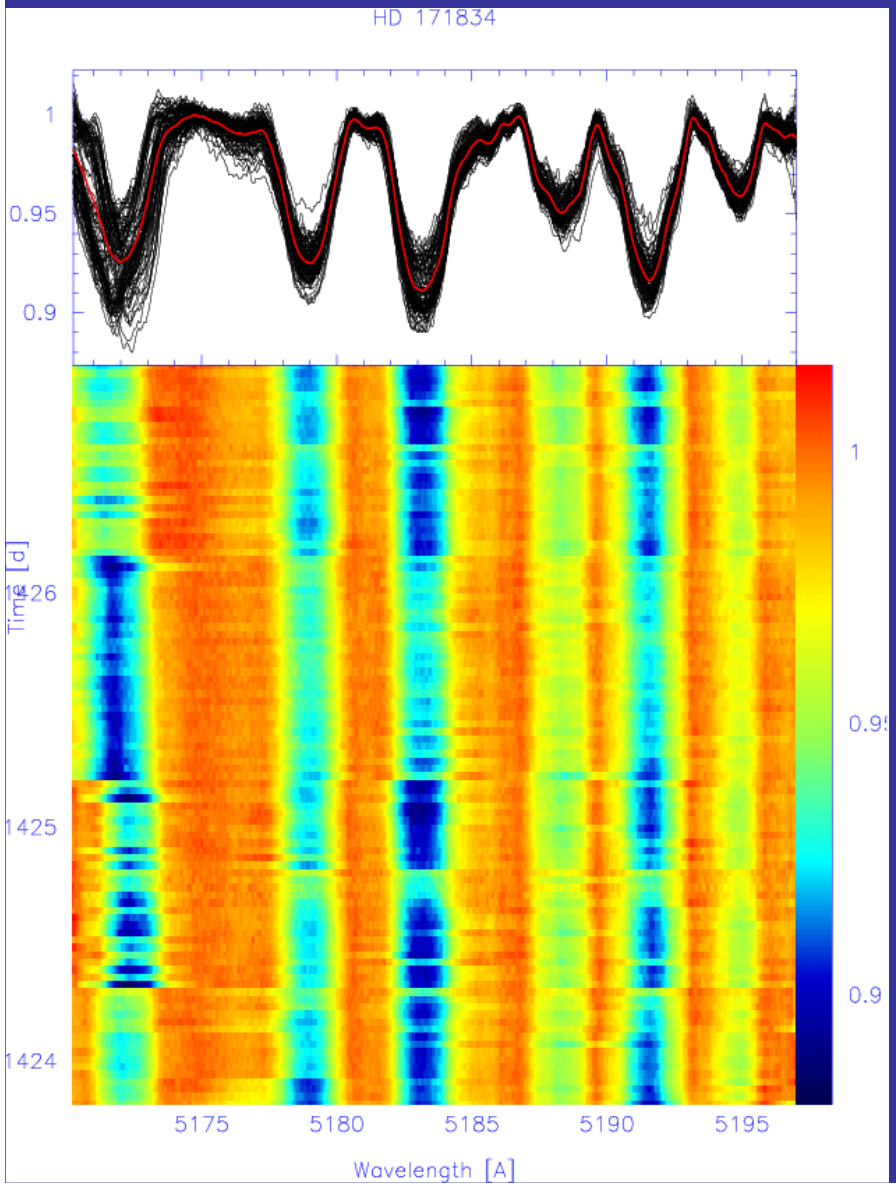


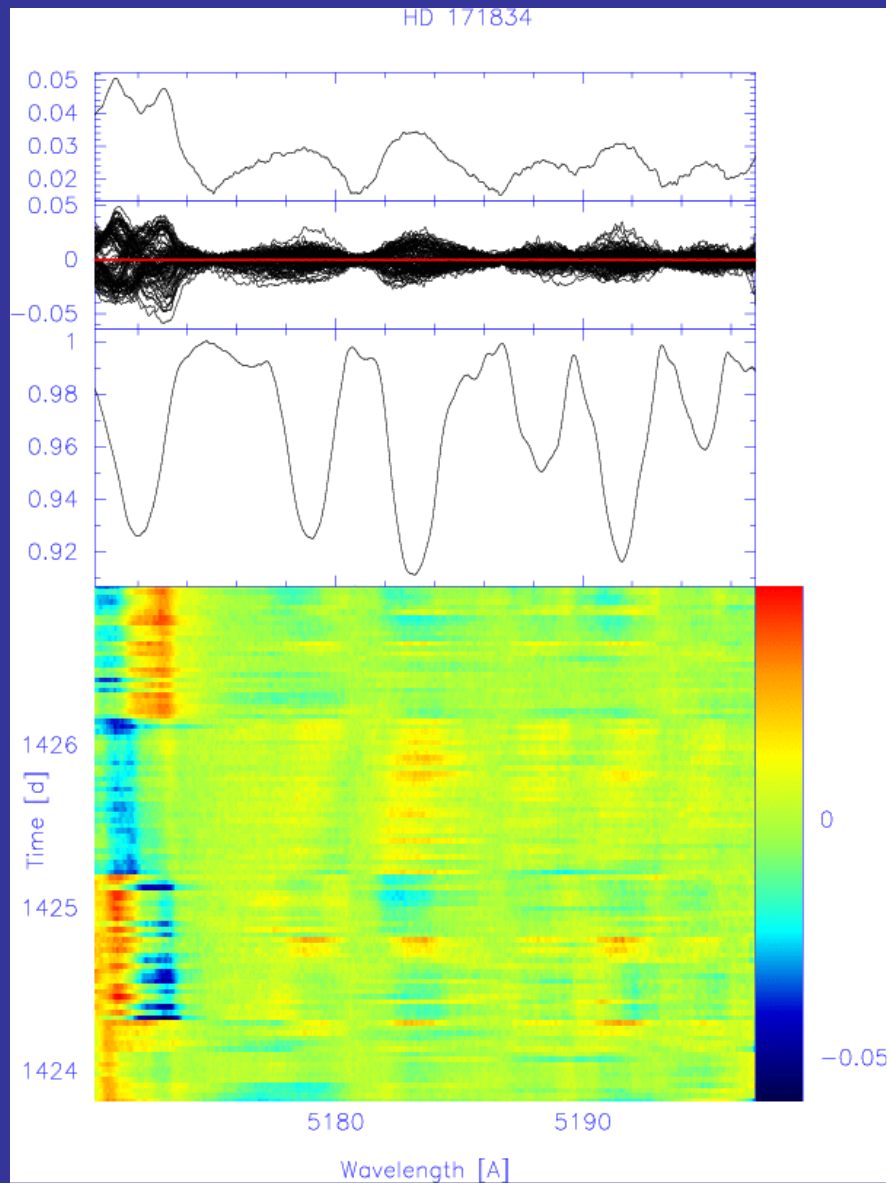
HD 171834: AURELIE spectra





HD 171834: MEZCAL spectra

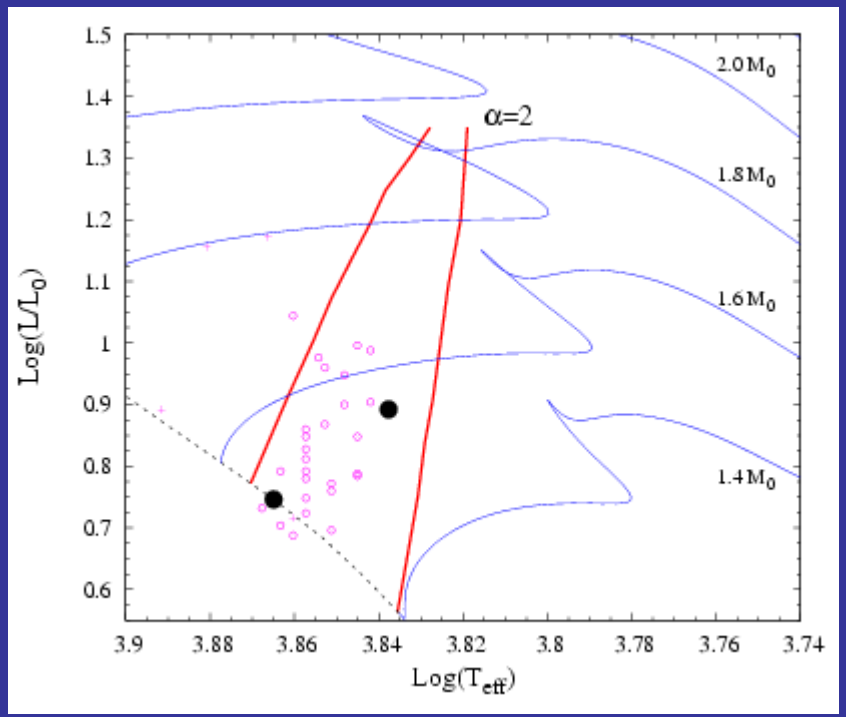


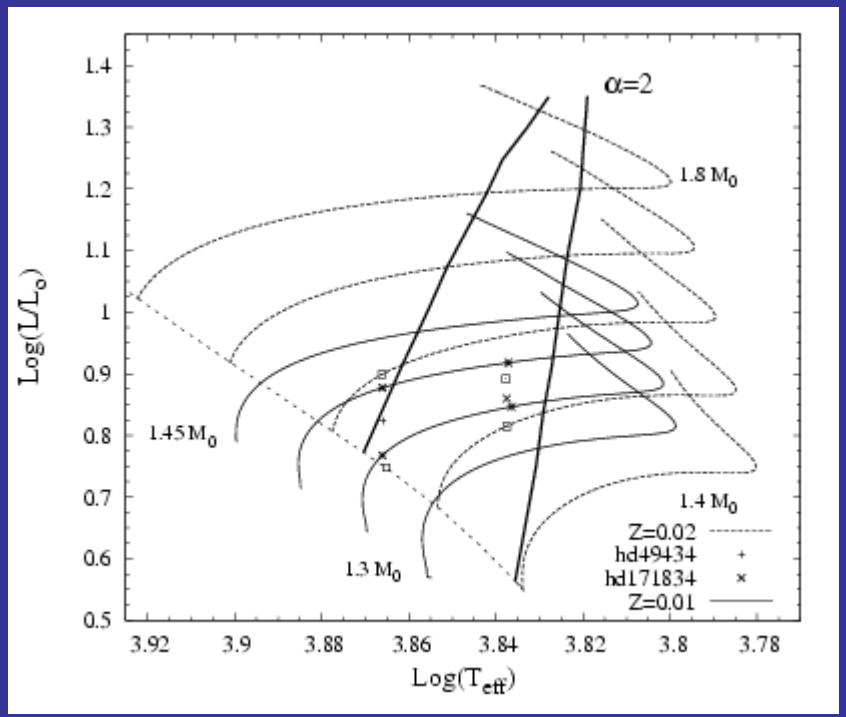


Modelling

See poster “Structure & Evolution of Gamma Doradus Stars” by A. Miglio, J. Montalban & S. Theado

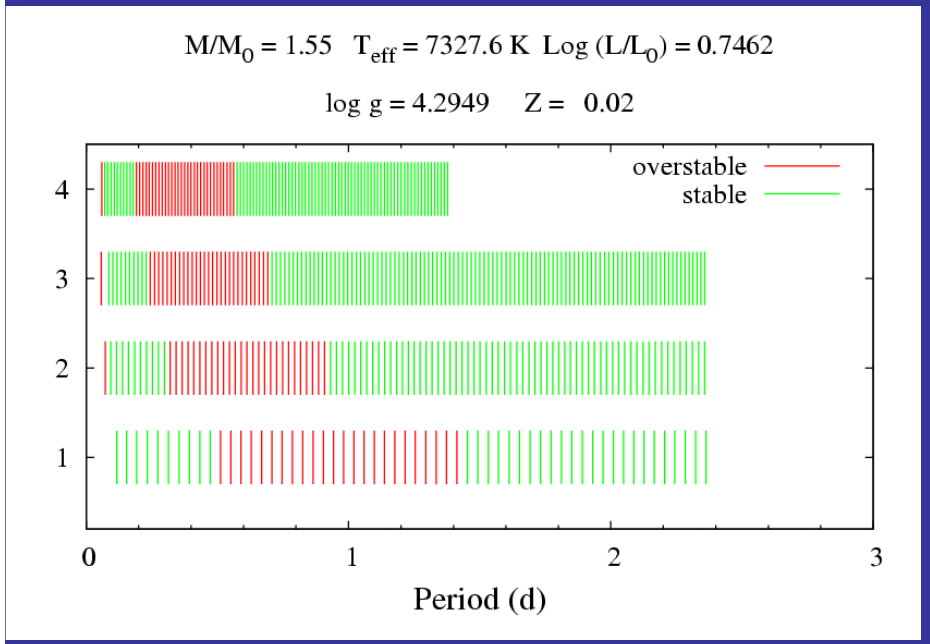
Study of Dupret & Grighacène:



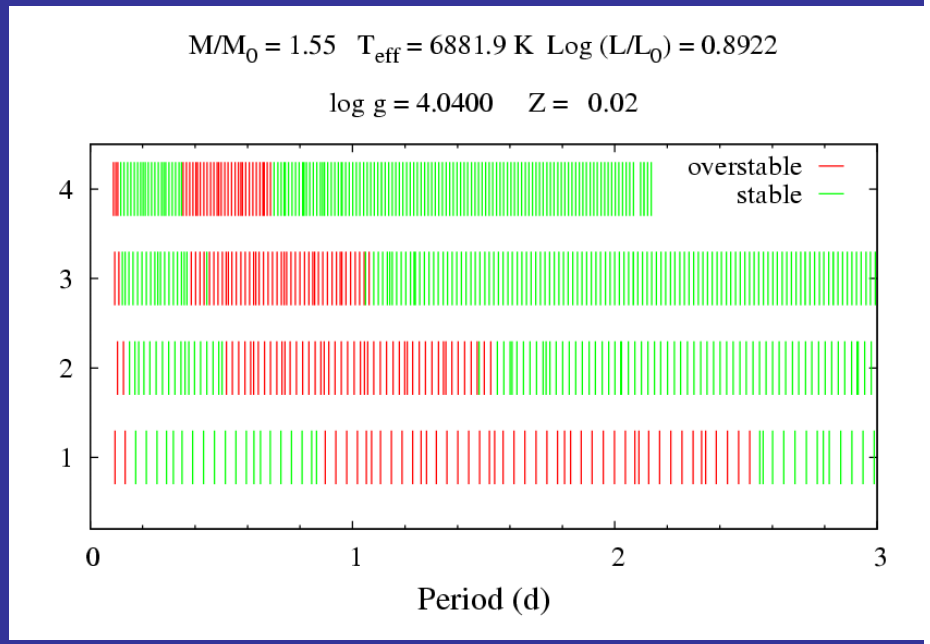


Modelling: expected frequencies

From Dupret & Grighacène:



HD 49434



HD 171834

Runs

LRA1: HD 49434

IREM01 (~60 d): HD 49434

LRC2: HD 171834

SRA: NGC 2264 field: HD 49015
PMS thematic team (K. Zwintz)

? SRC2: HD 175337 (bf):
- Teff = 7117+- 67 K
- log g = 4.18 +- 0.09
- [FE/H] = 0.06 +- 0.04
- v. sini = 38 km/s