

Madrid 28th November 2011

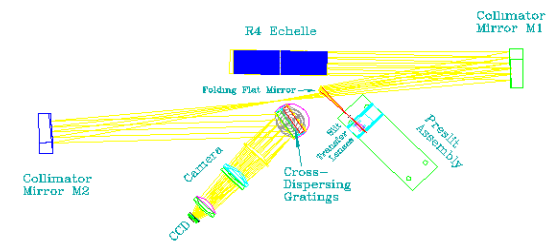
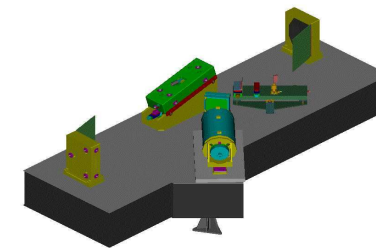
RoPACS Meeting Madrid 2011

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Max Planck Institut
für Extraterrestrische Physik

Radial velocity curves with high resolution spectra from HRS@HET

Outline

- The data
- Results
 - 19d_1_09358 (George)
 - 19c_4_06396 (Kate)
- Future work
- Paul Steele's talk

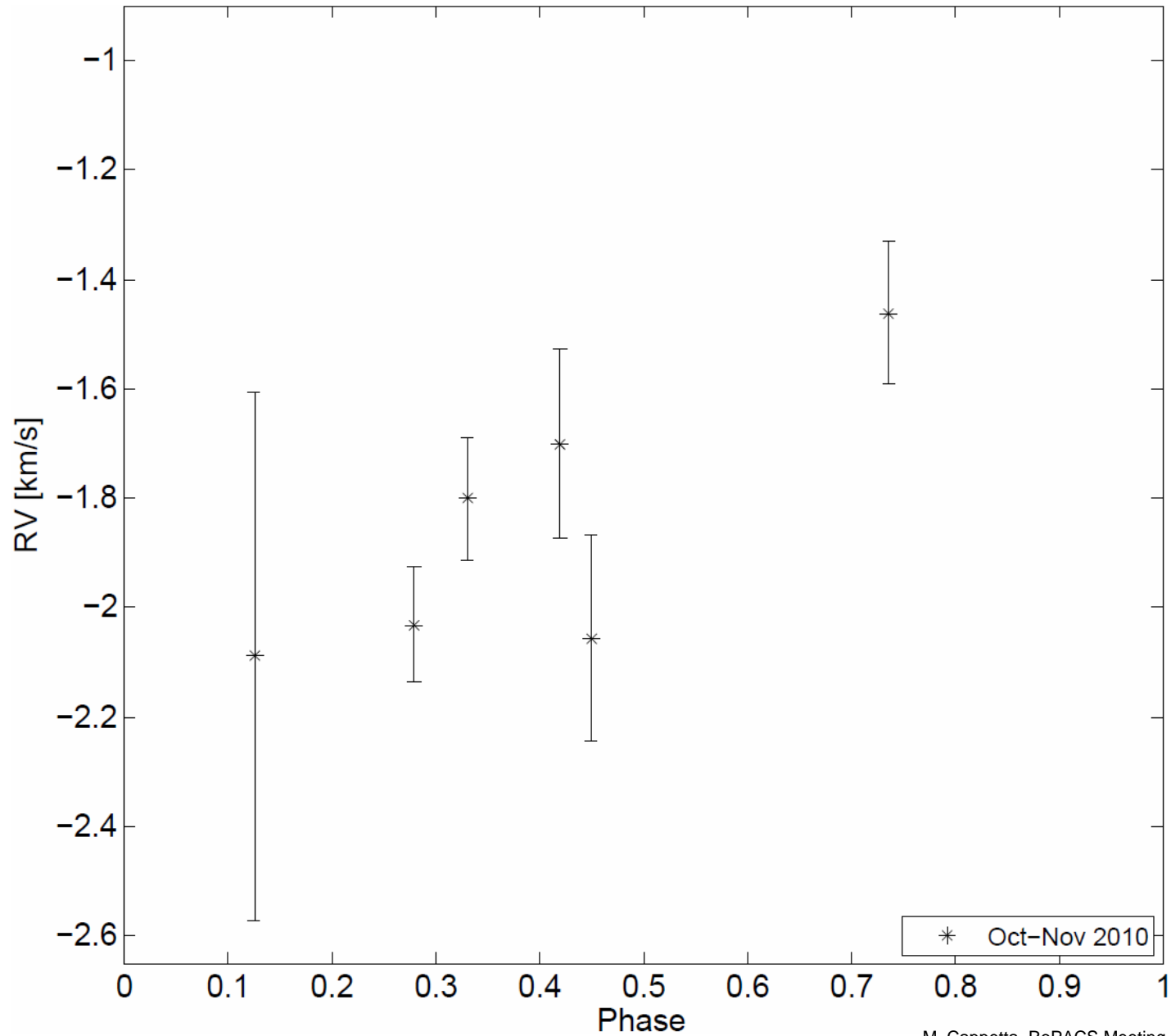


HRS Optical Layout

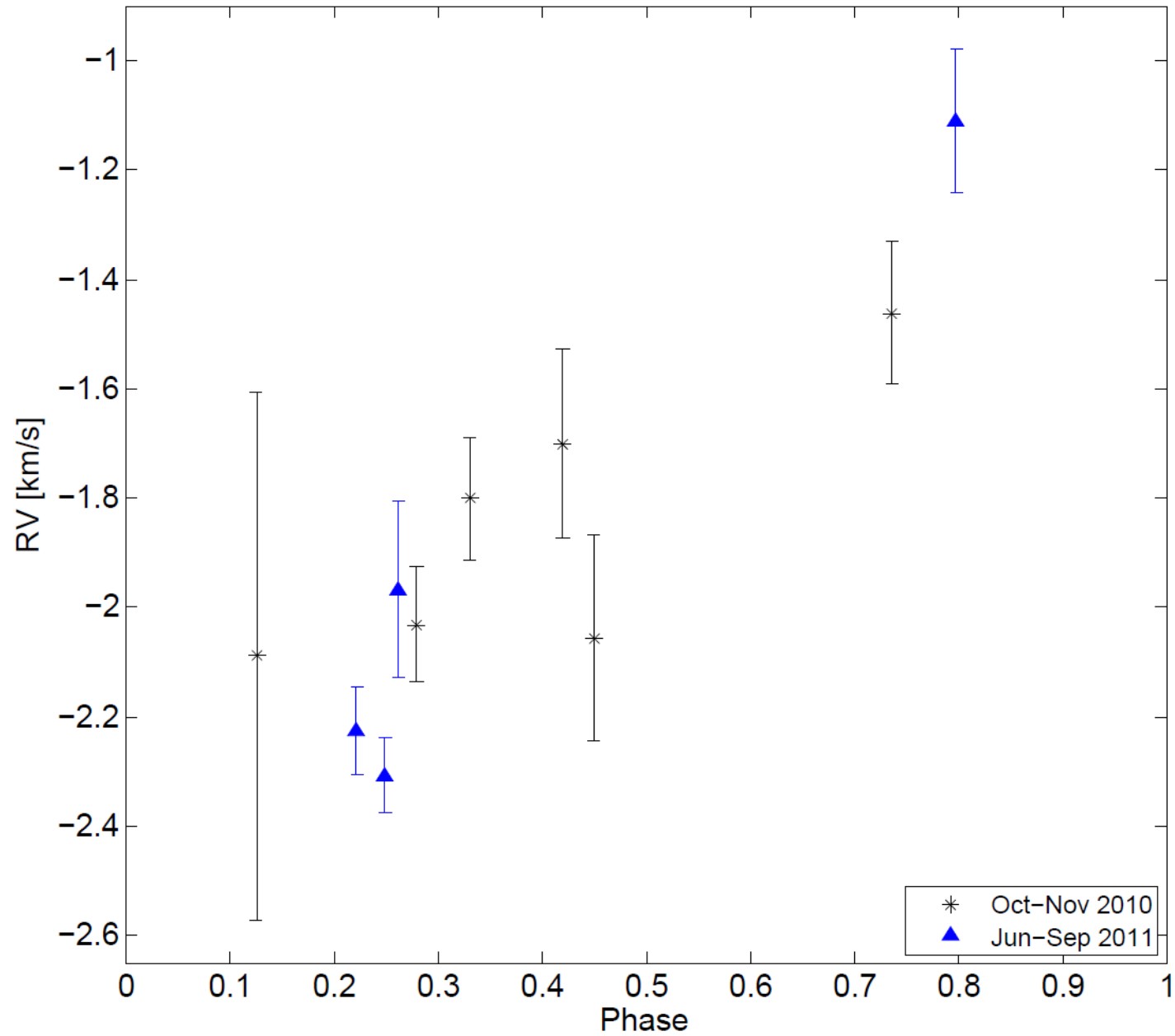
The data

| Object | Type | Magnitude | Echelle | Resolution | RV precision |
|-------------|------|--------------|----------------------|------------|--------------|
| 19d_1_09358 | F6 | 16.8g, 16.4r | 316g5936 600g5271 | 60k | ~ 100 m/s |
| 19c_4_06396 | K3 | 16.3g, 15.5r | 316g5936 | 60k | ~ 60 m/s |
| WD0132+145 | WD | 17 V | 316g5936 | 15k | ~ 1 km/s |
| SDSS193252 | WD | 16 V | 316g5936 | 15k | ~ 1 km/s |
| SDSS193455 | WD | 16 V | 316g5936 | 15k | ~ 1 km/s |
| SDSS193144 | WD | 16 V | 316g5936 | 15k | ~ 1 km/s |
| SDSS193704 | WD | 16 V | 316g5936 | 15k | ~ 1 km/s |

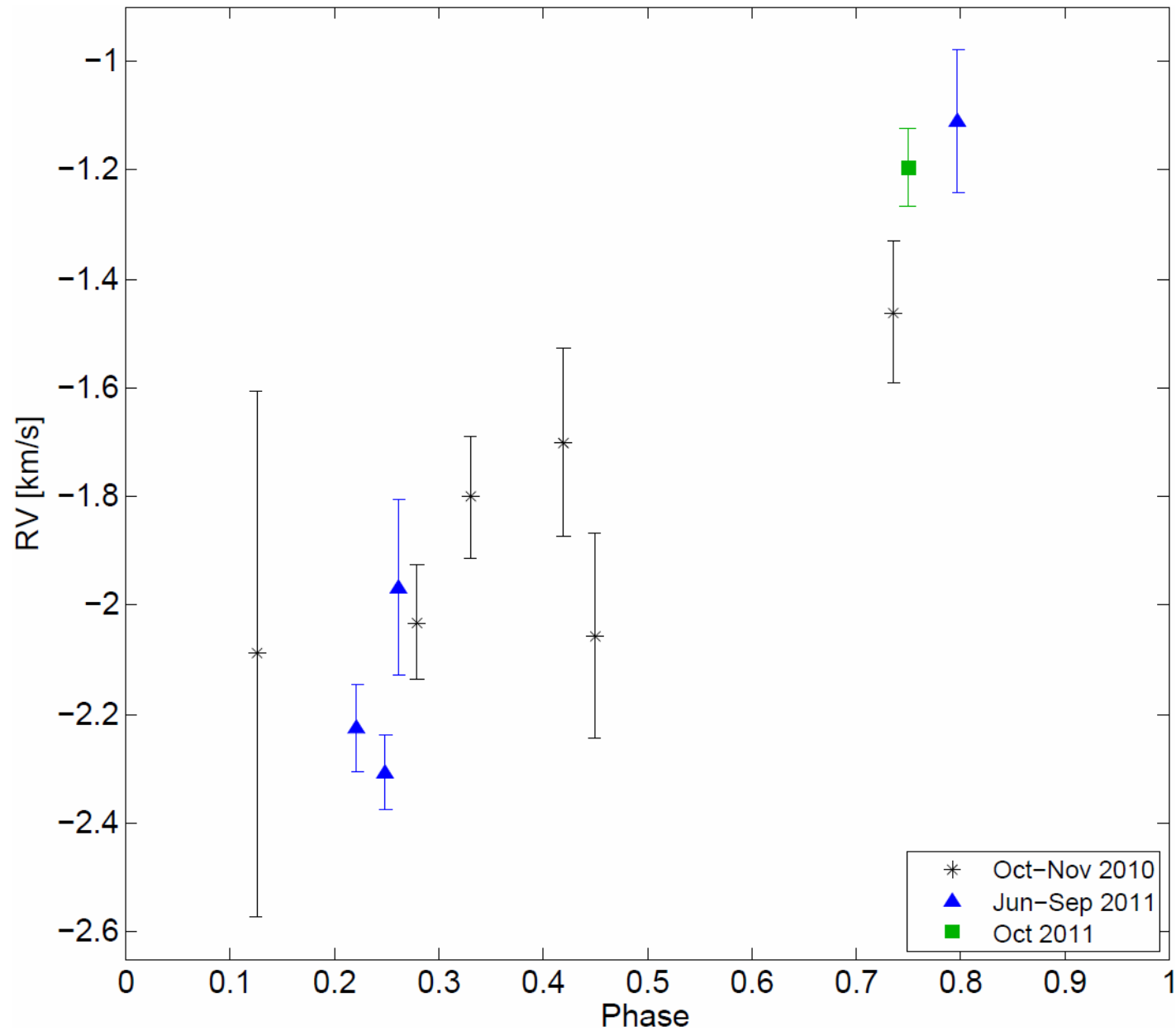
19d_1_09358 (George)



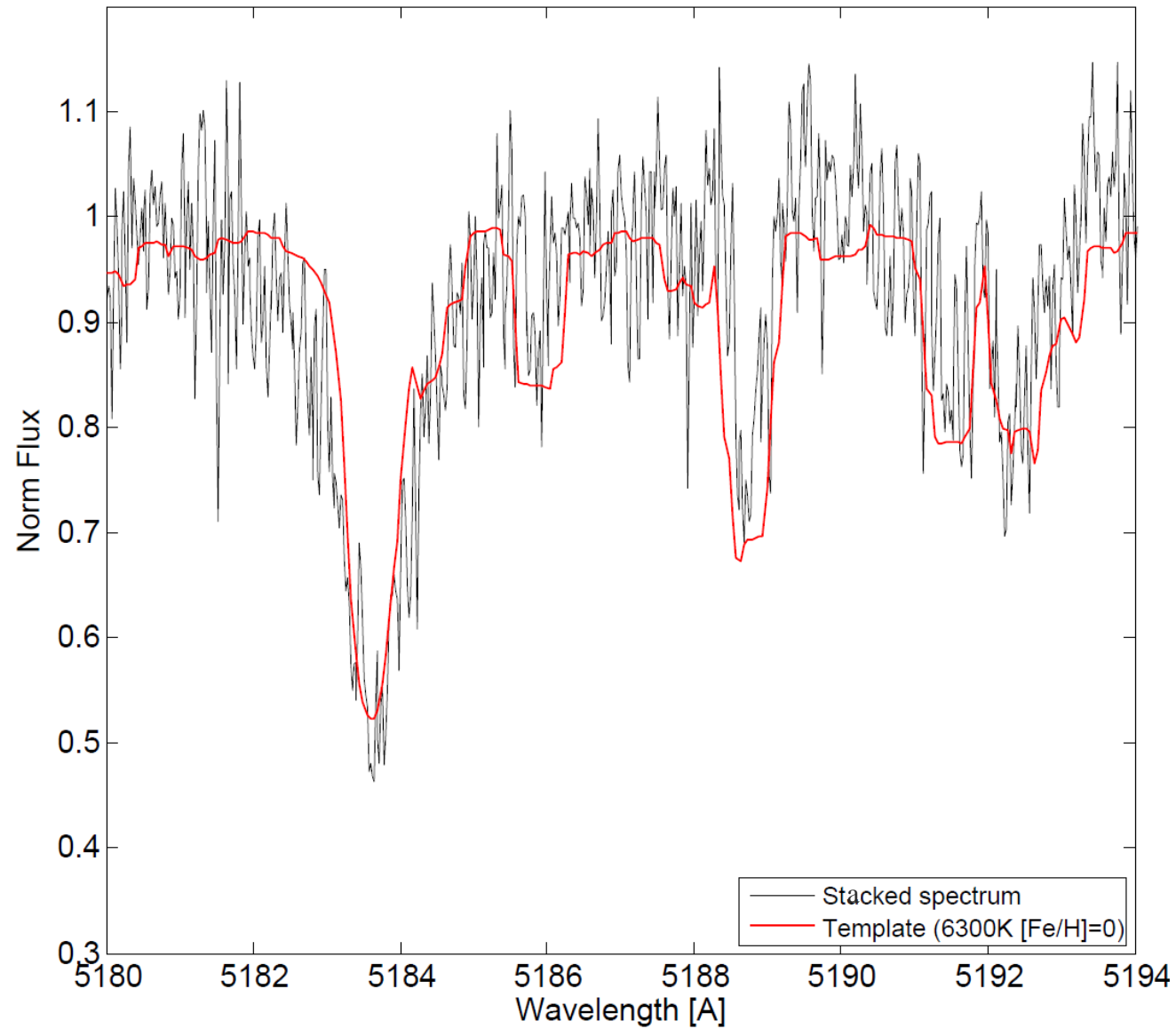
19d_1_09358 (George)



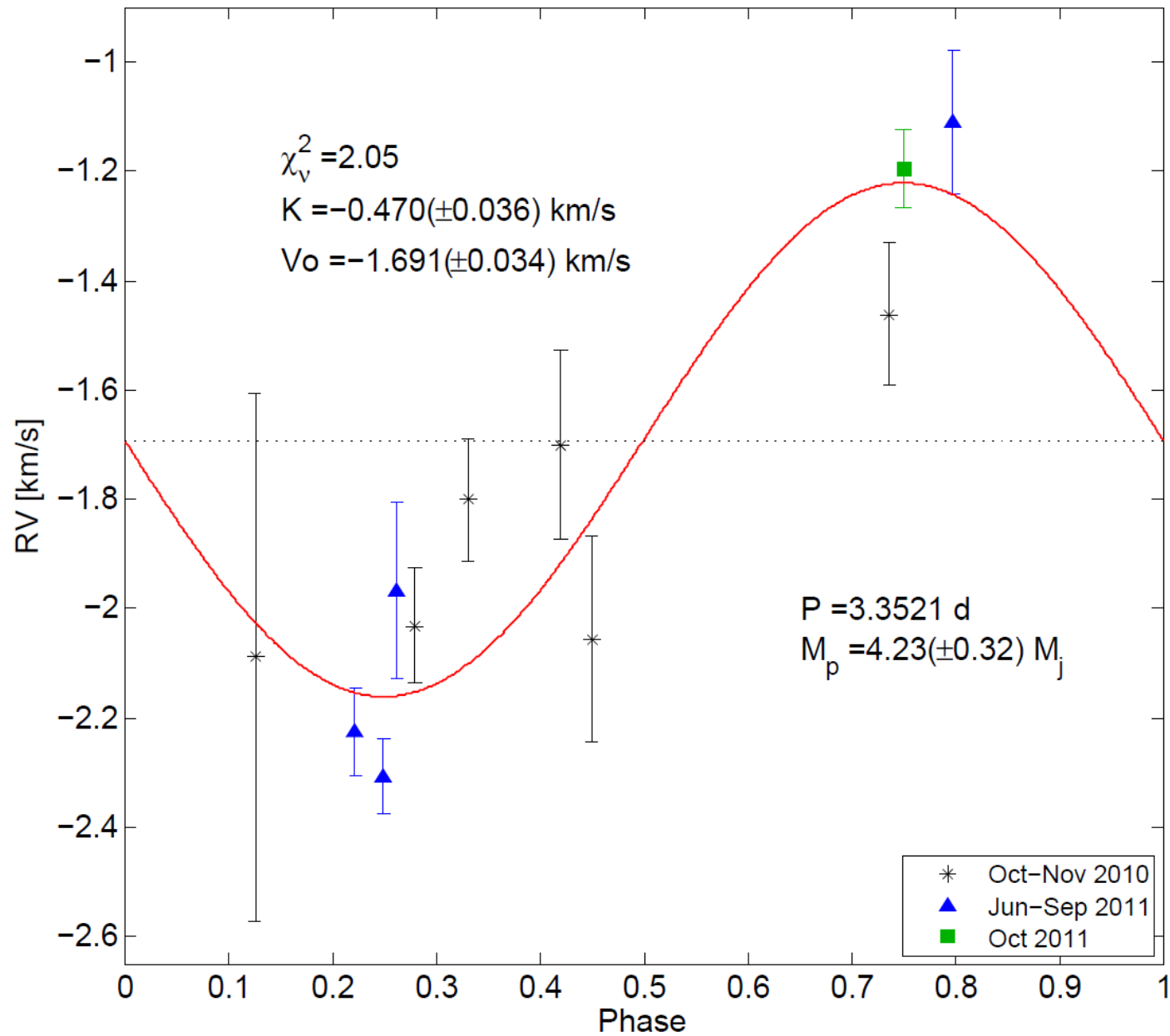
19d_1_09358 (George)



19d_1_09358 (George)



19d_1_09358 (George)

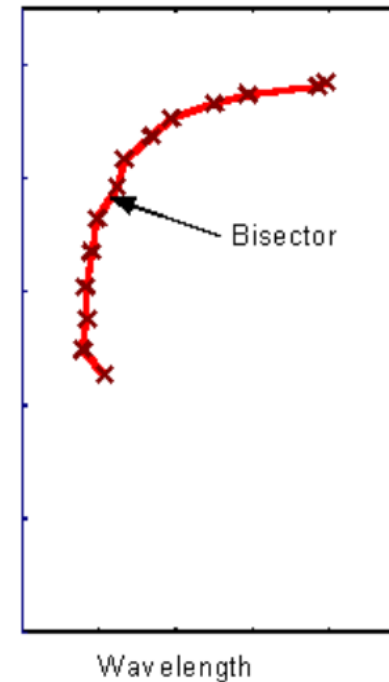
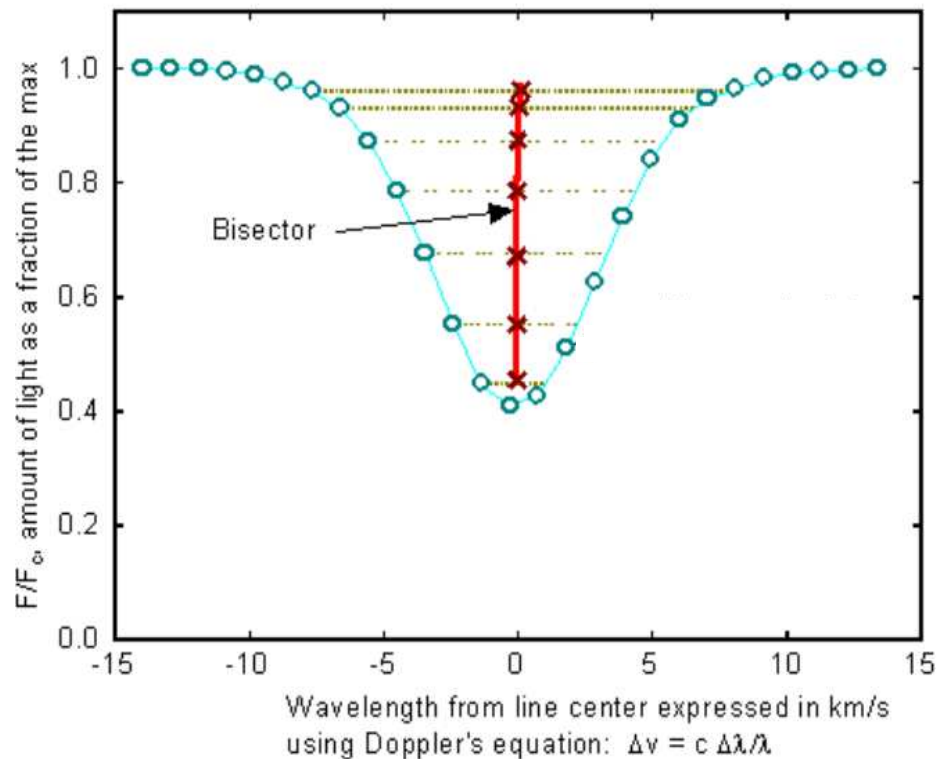


Bisector analysis

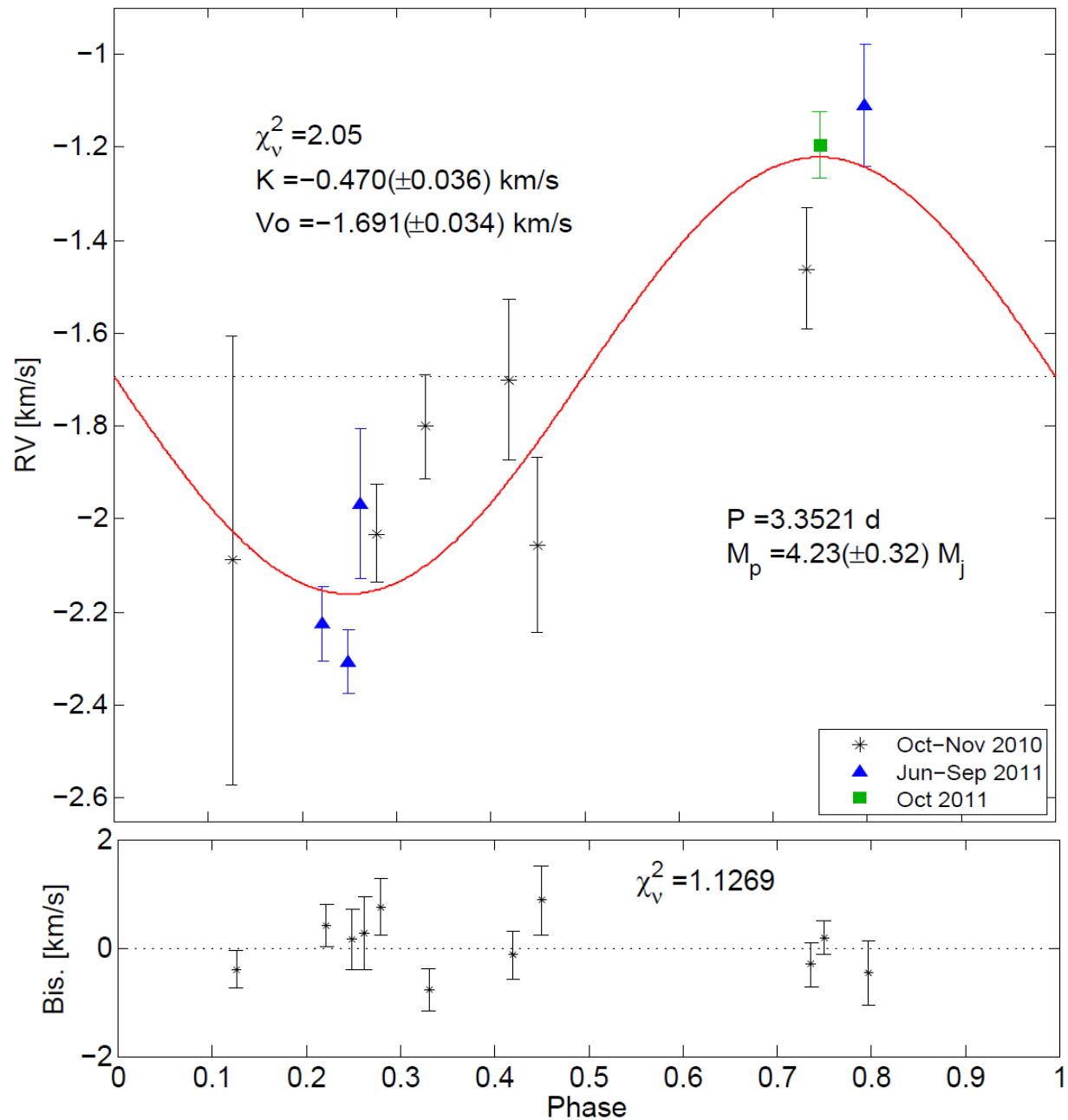
The most common method for measuring the asymmetries of spectral lines.

Variation in a star's lines bisectors are known to arise from:

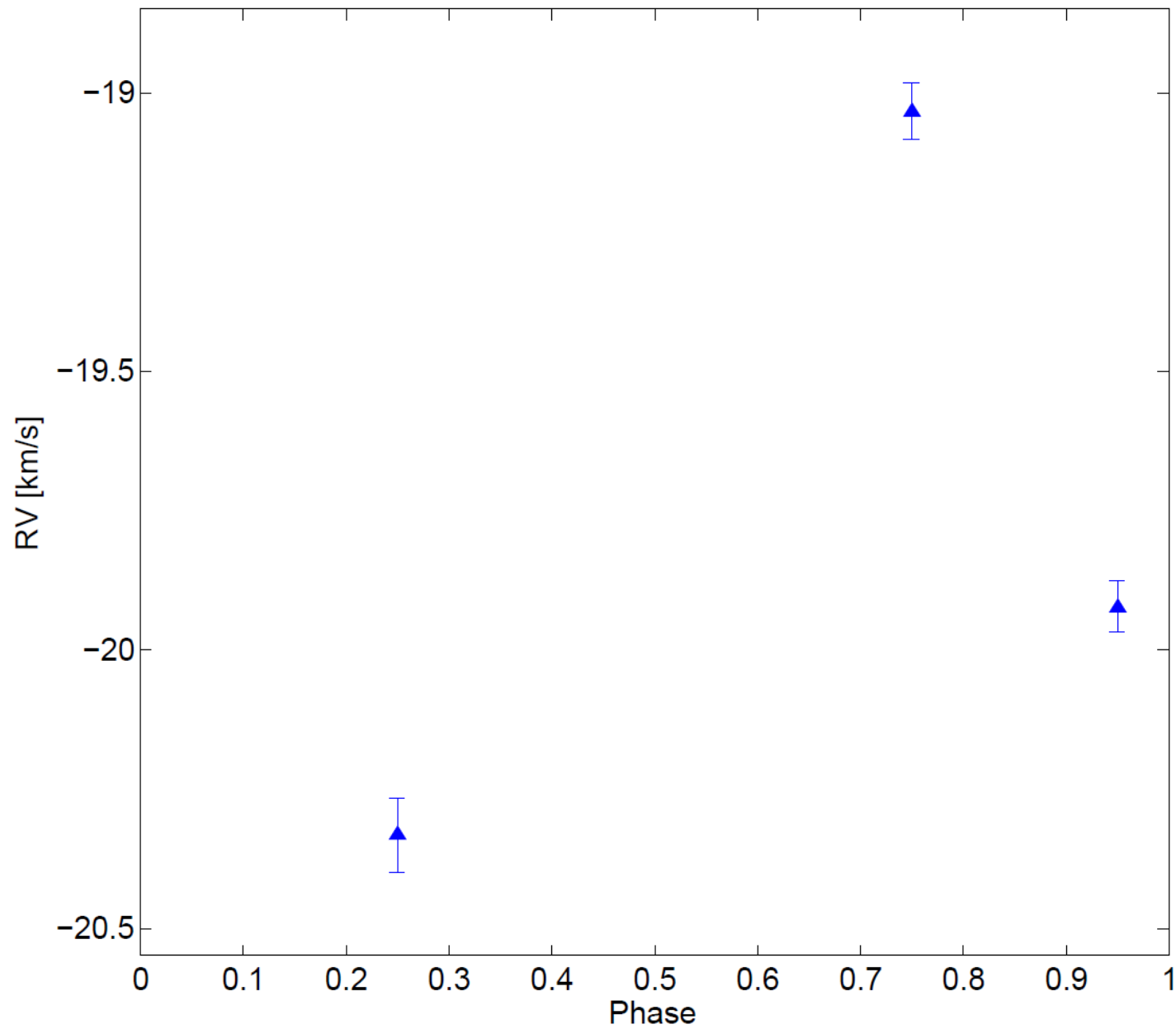
- Doppler shifts due to oscillations of the star surface
- Surface features on the star
- Back/foreground contaminations



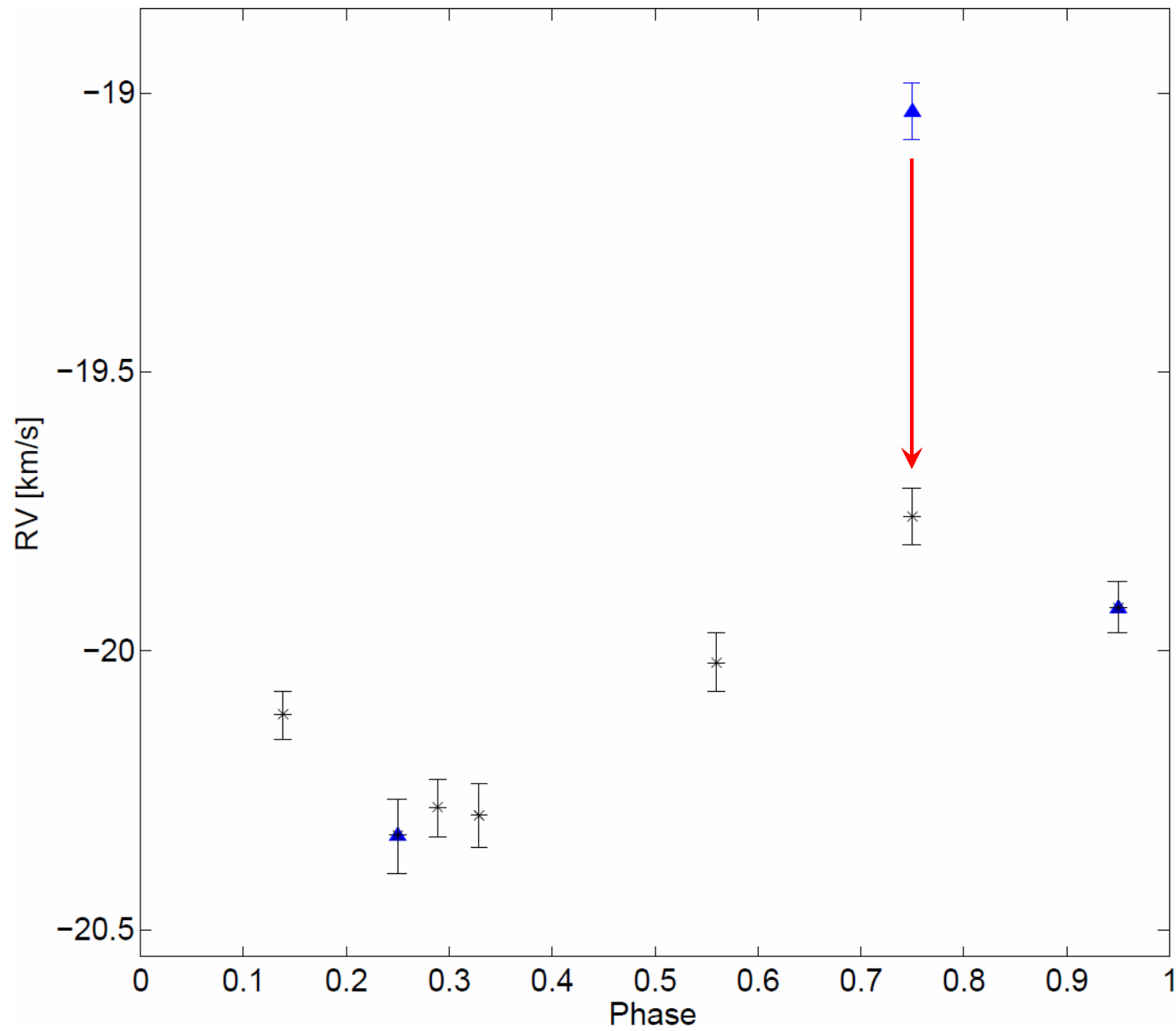
19d_1_09358 (George)



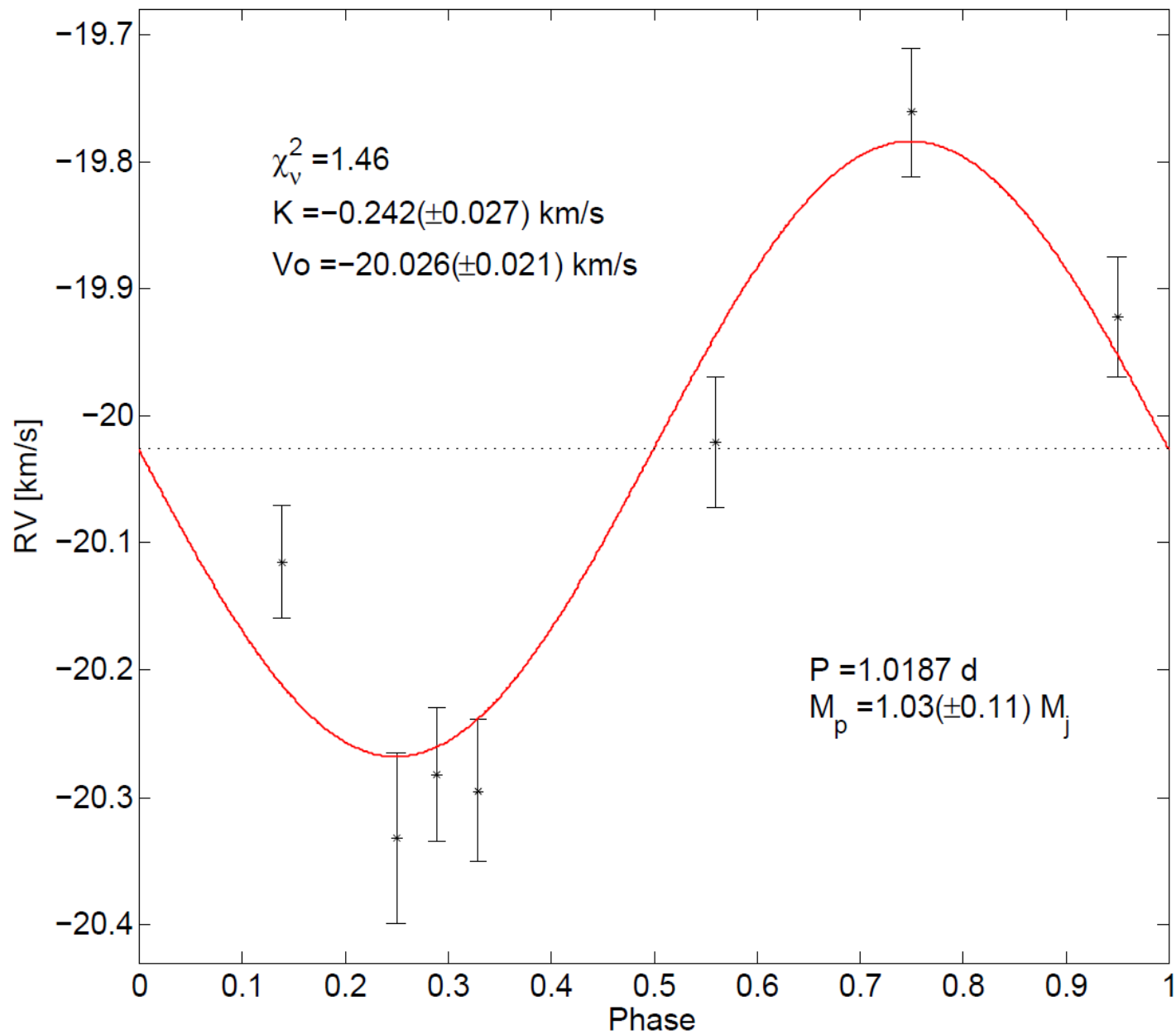
19c_4_06396 (Kate)



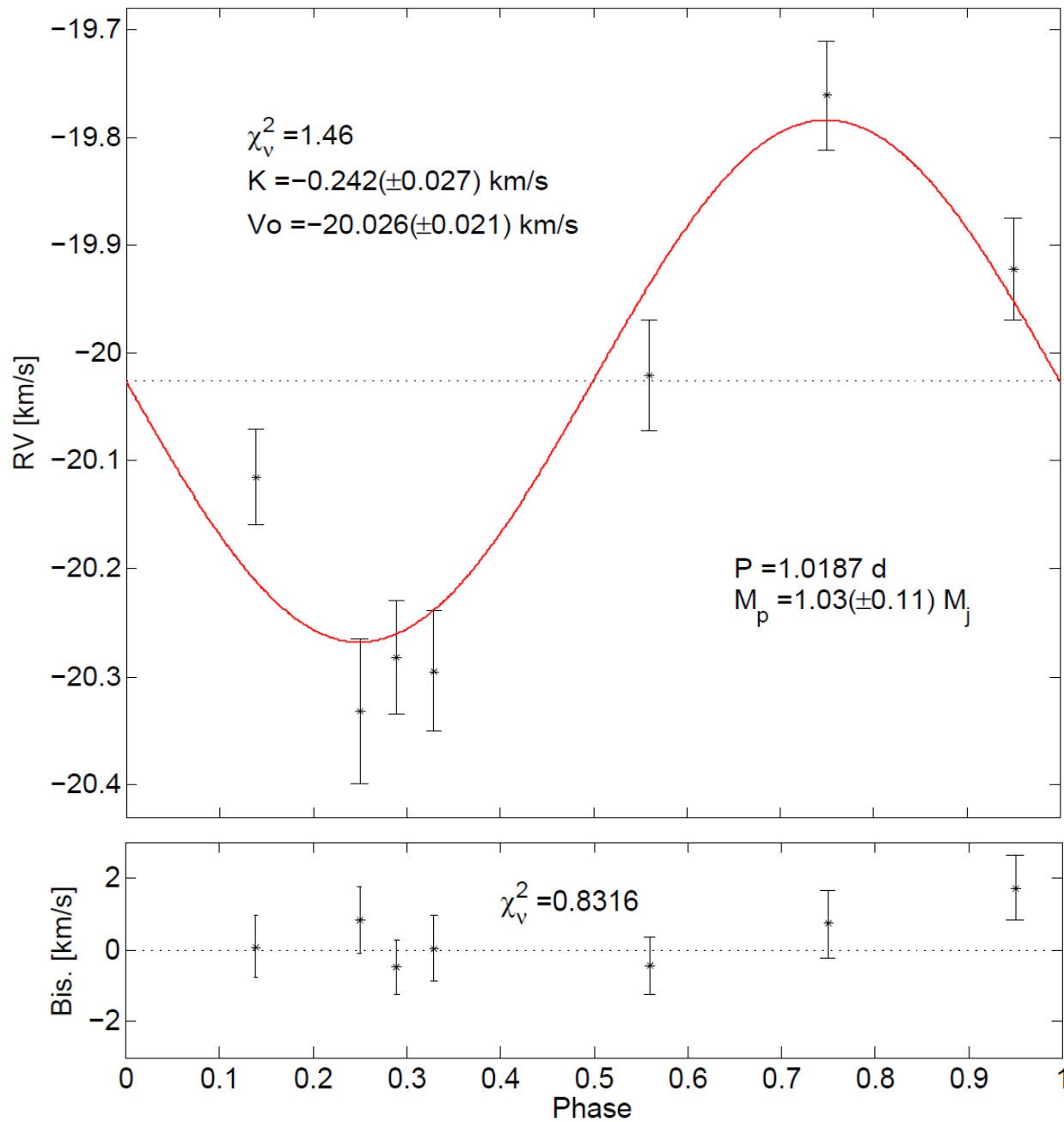
19c_4_06396 (Kate)



19c_4_06396 (Kate)

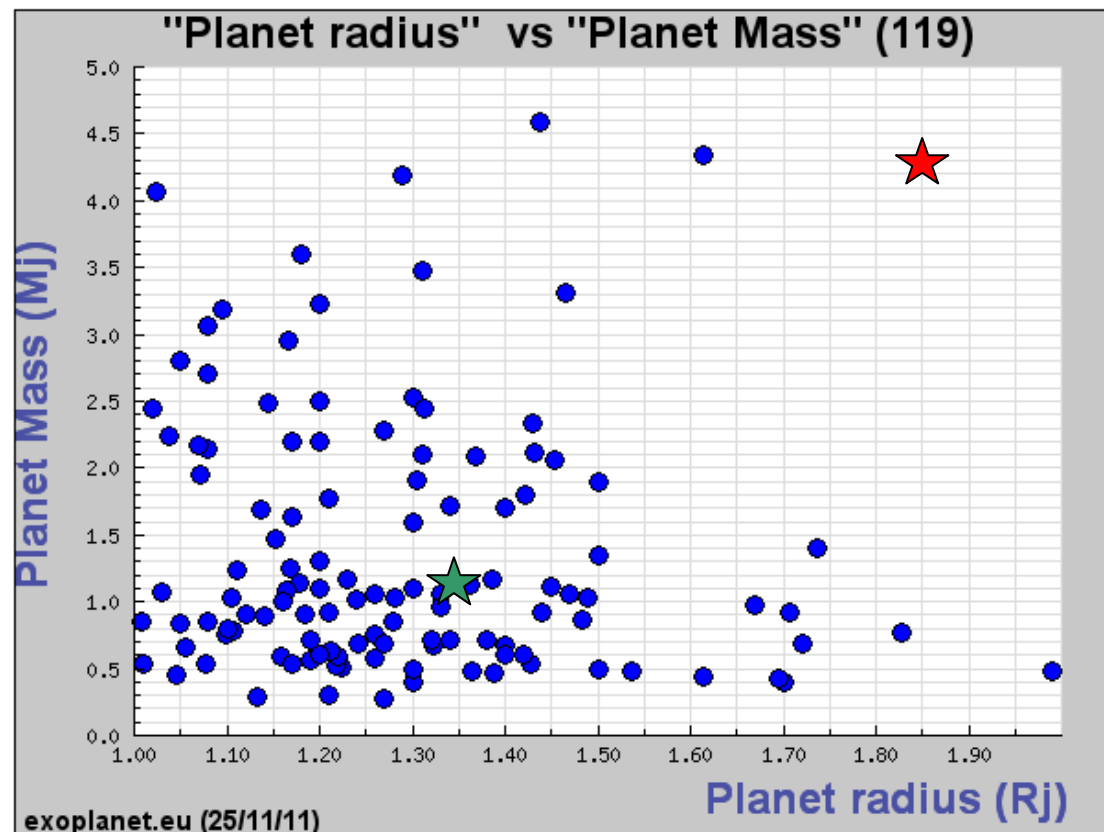


19c_4_06396 (Kate)



Conclusions

- Two confirmed planets
 - **George**: 4.23 Mj, 1.84 Rj, 3.35 d
 - **Kate**: 1.03 Mj, 1.33 Rj, 1.02 d
- Future paper
- Thesis ☹️



Thank you for your time

