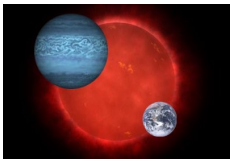


Ongoing Planet Searches at MPE

J. Koppenhoefer, R.Saglia, M. Montalto, R.Bender



Ongoing Planet Searches at MPE



Ralf Bender



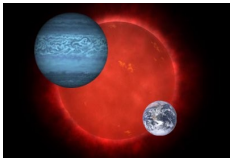
Roberto Saglia



Marco Montalto



Johannes Koppenhöfer



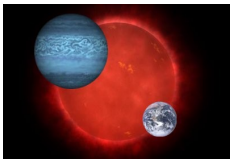
Transit Projects at MPE

- follow-up of OGLE2-TR-L9:

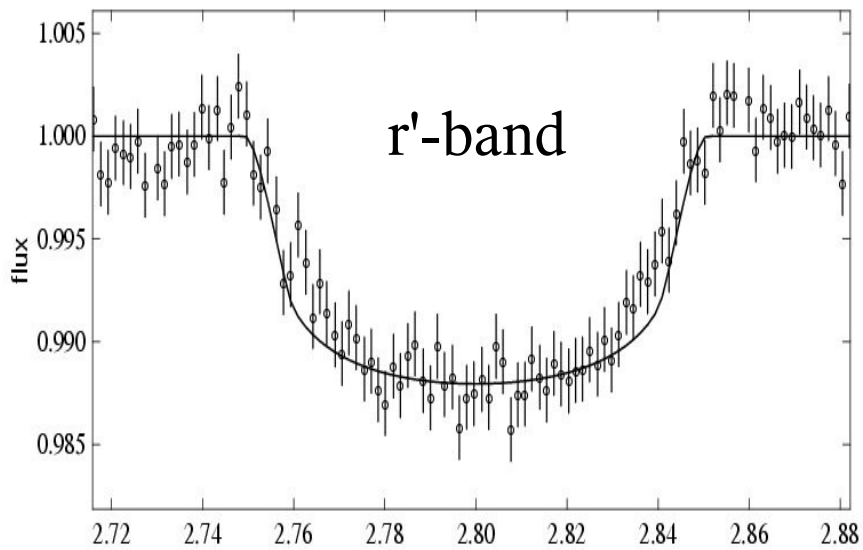
a Very Hot Jupiter transiting a fast rotating F dwarf

- pre-OmegaTranS survey:

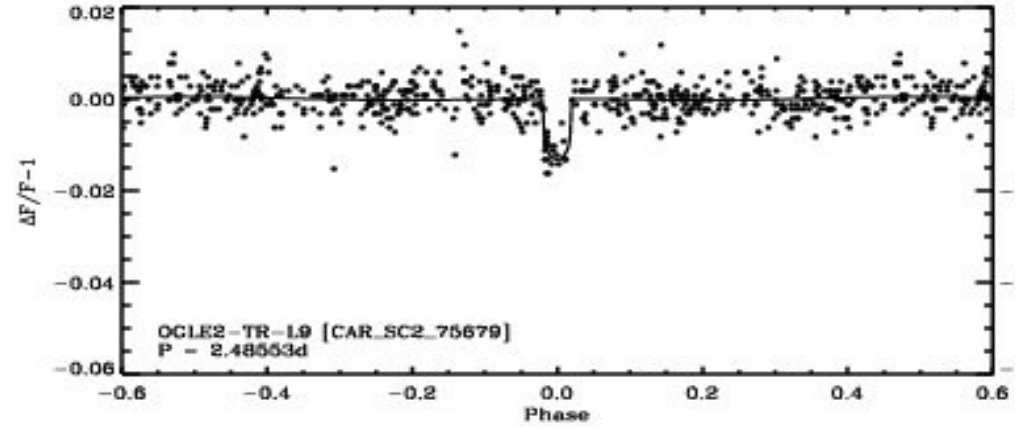
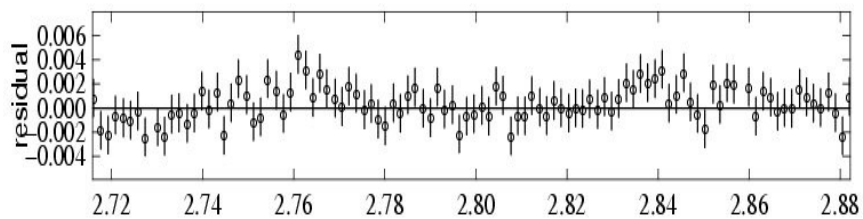
4 transit candidates



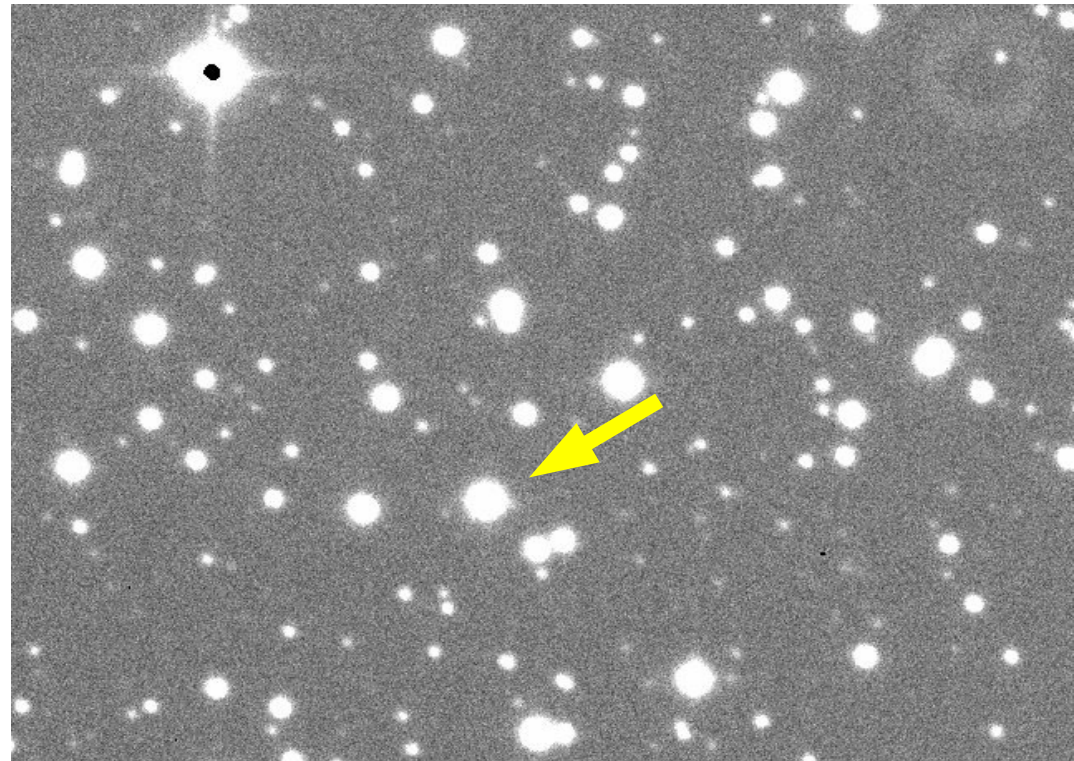
OGLE2-TR-L9:

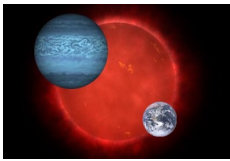


JD-2454490

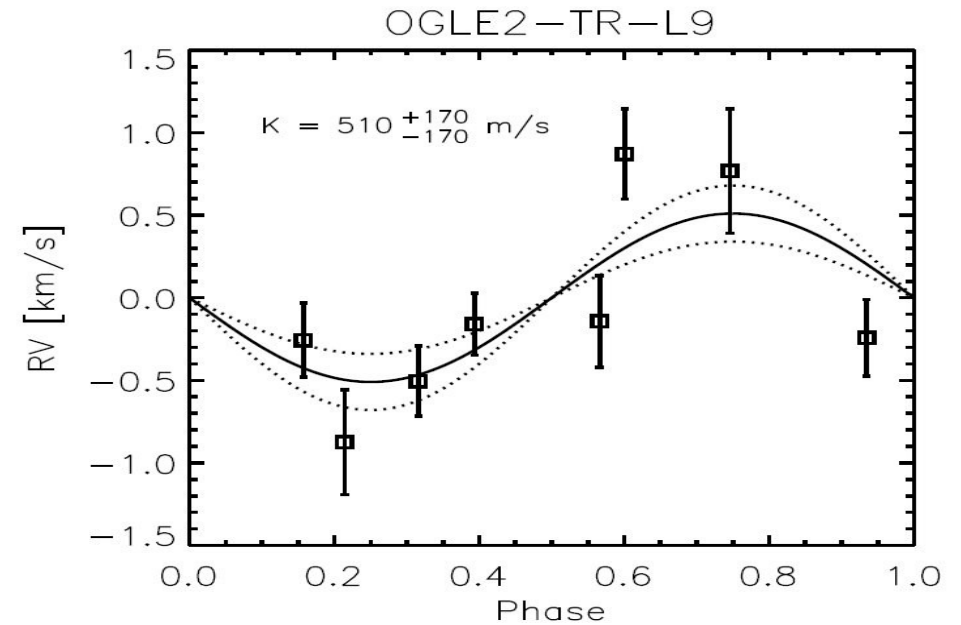
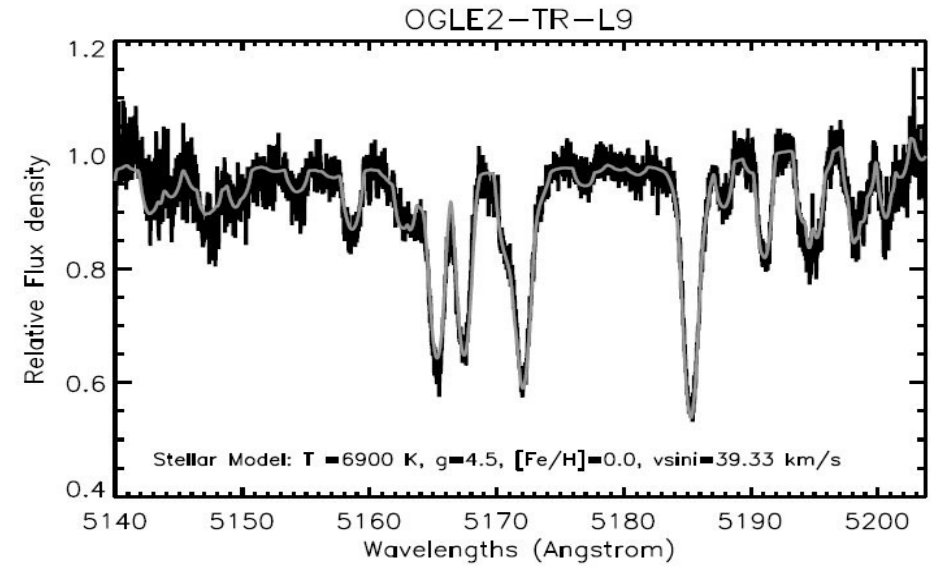
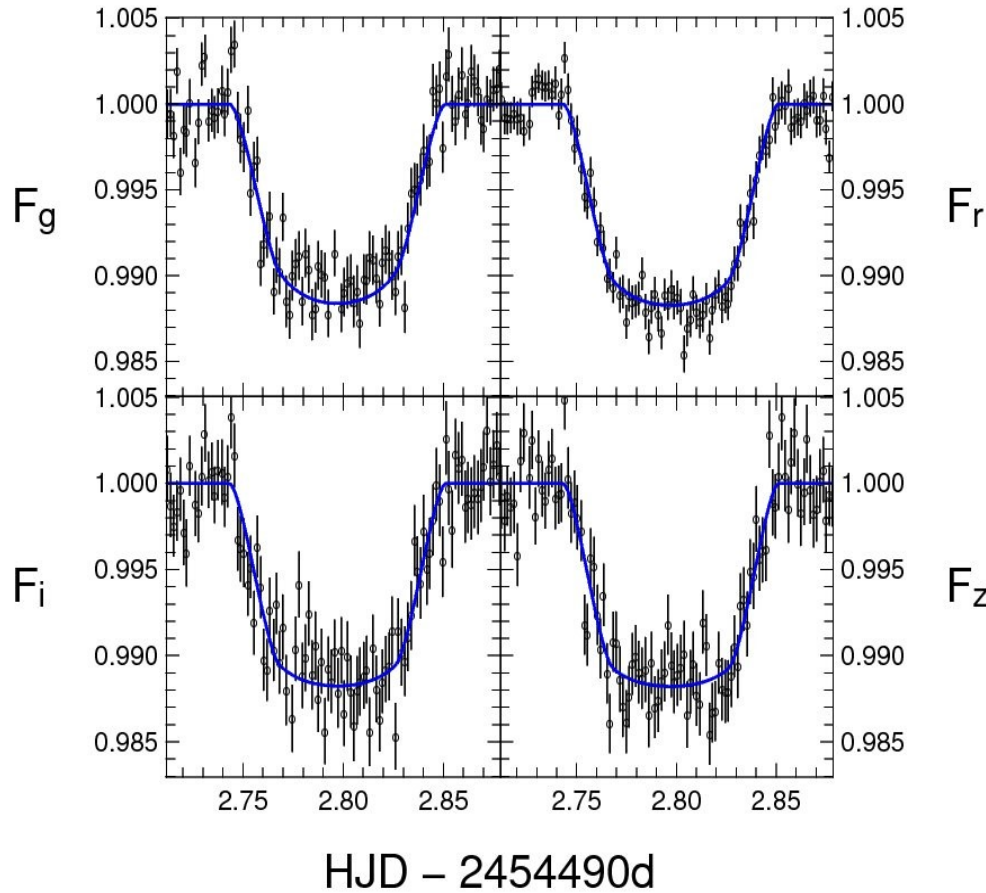


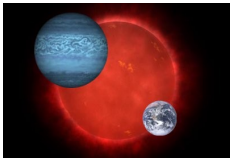
Snellen et al. 2007



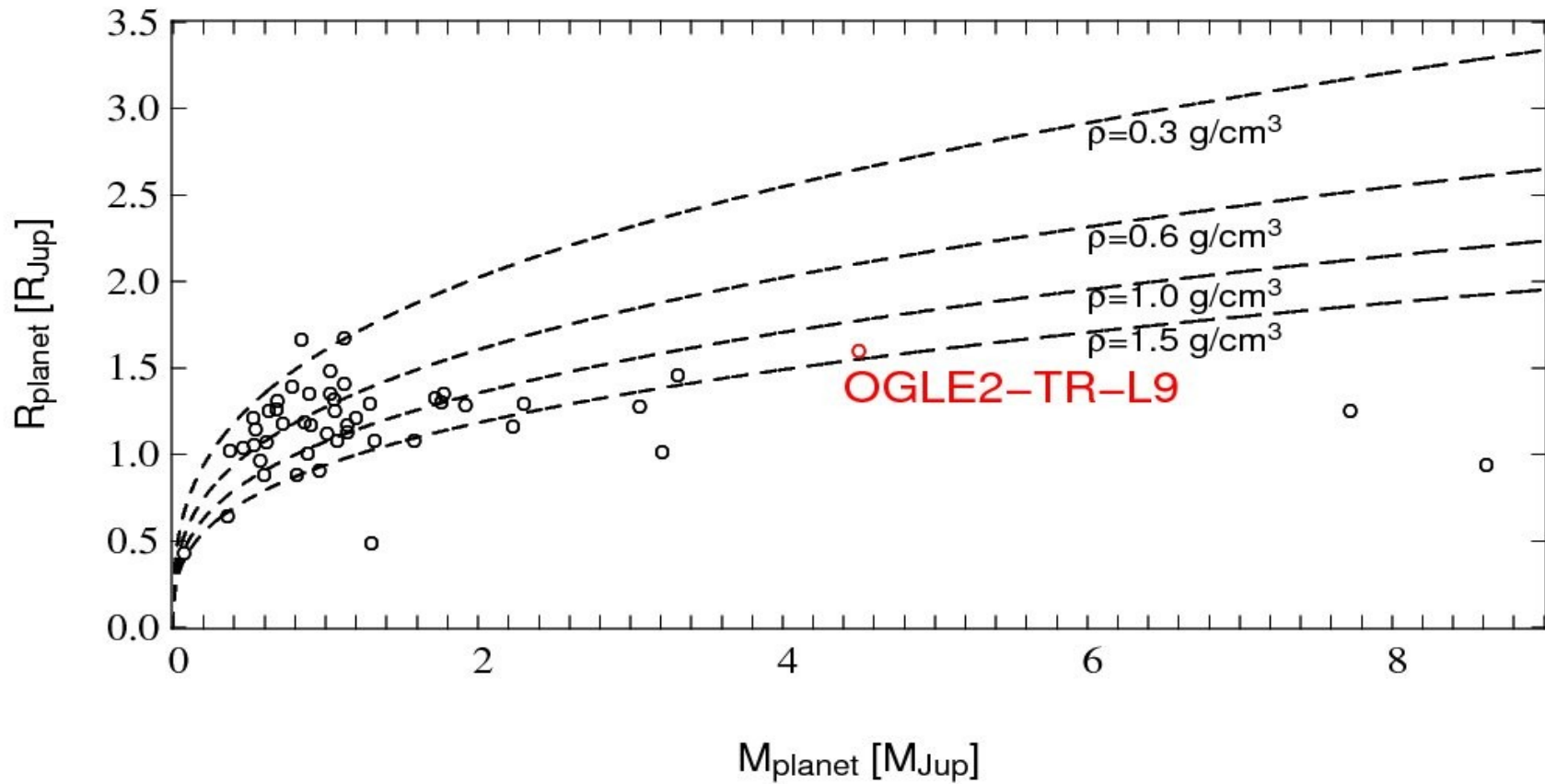


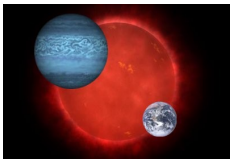
OGLE2-TR-L9





$$R = 1.61 \pm 0.04 R_J$$
$$M = 4.5 \pm 1.5 M_J$$





Pre-OmegaTranS Survey:

1 field in Carina
0.3 sq. deg. ($b \sim -4.5$)

~12000 stars
($R \leq 17.5$)

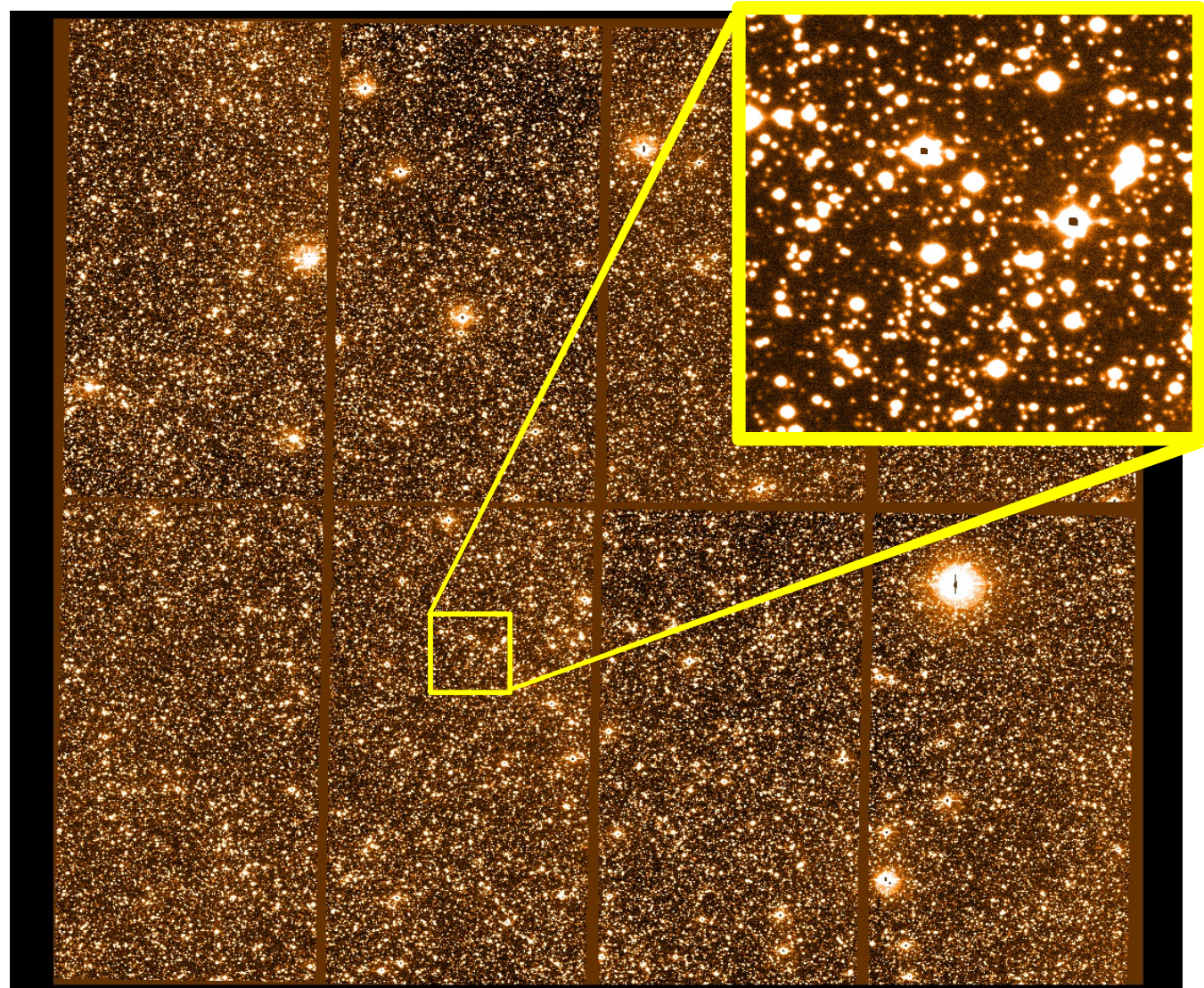
120h observations
in 2006/2007/2008

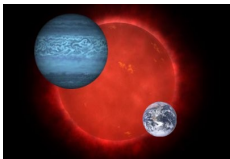
~4400 images

1.5' cycle rate

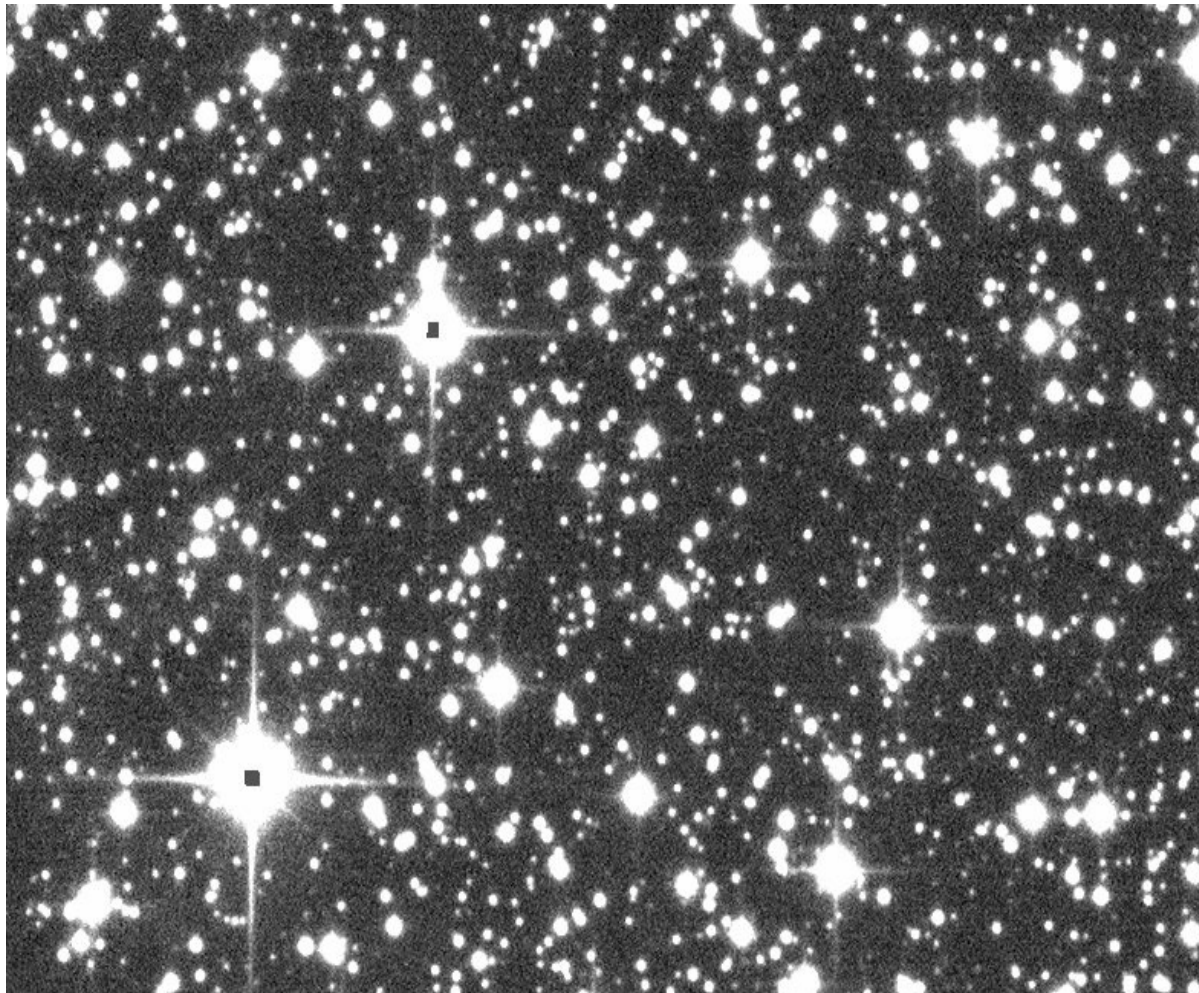
25s exposure time

~0.8 Tbyte raw data

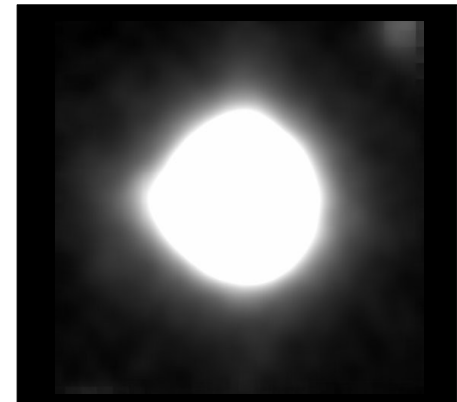




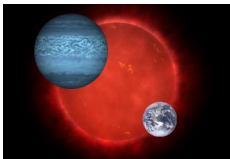
photometry:



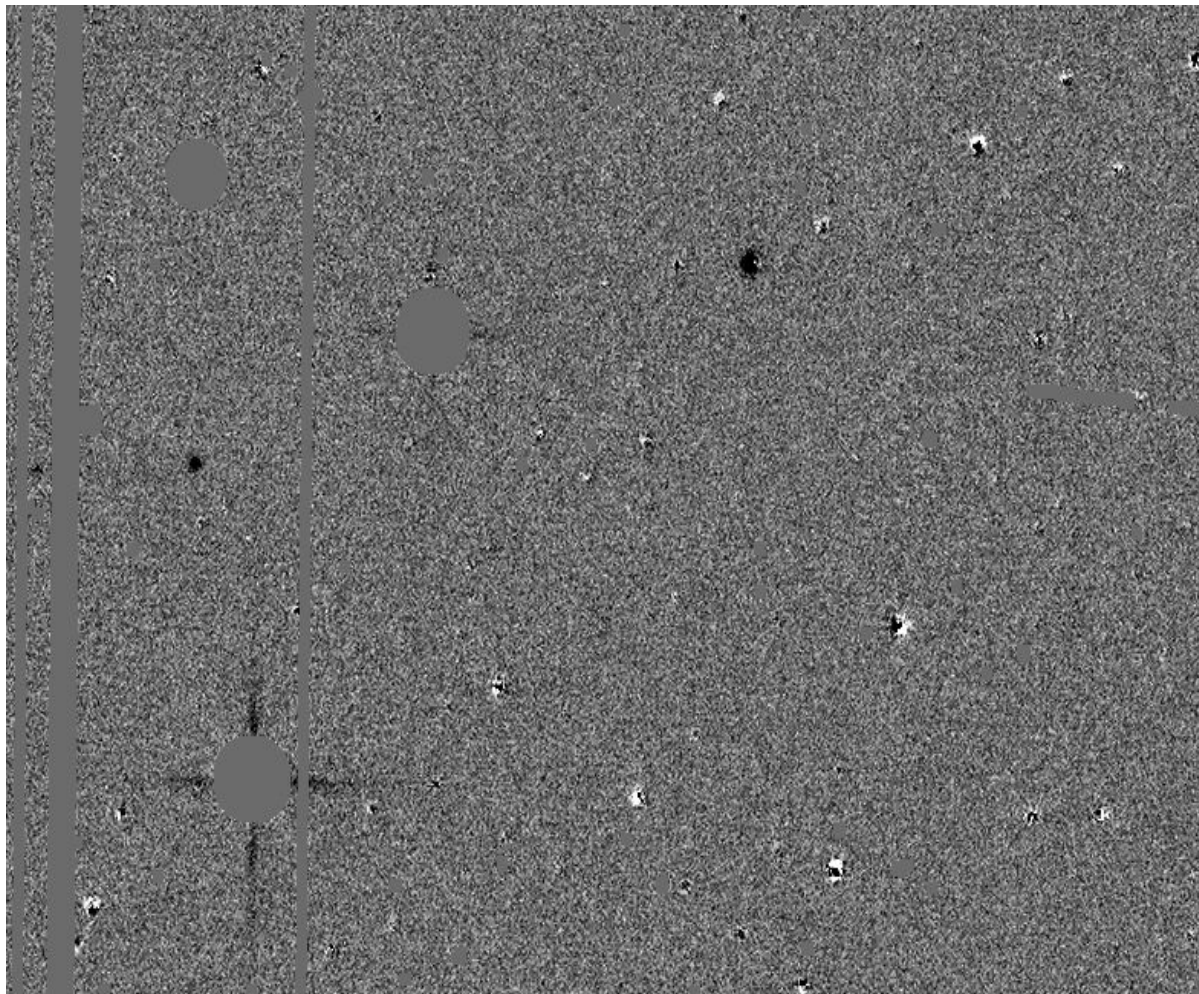
reference image PSF



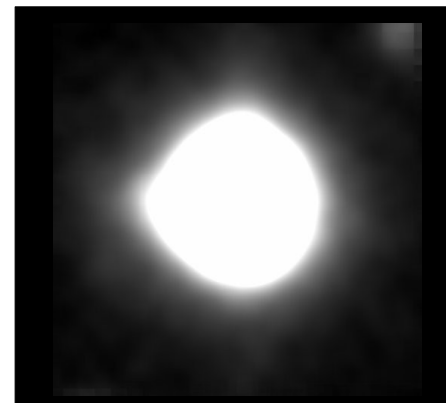
single image PSF



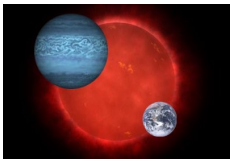
photometry:



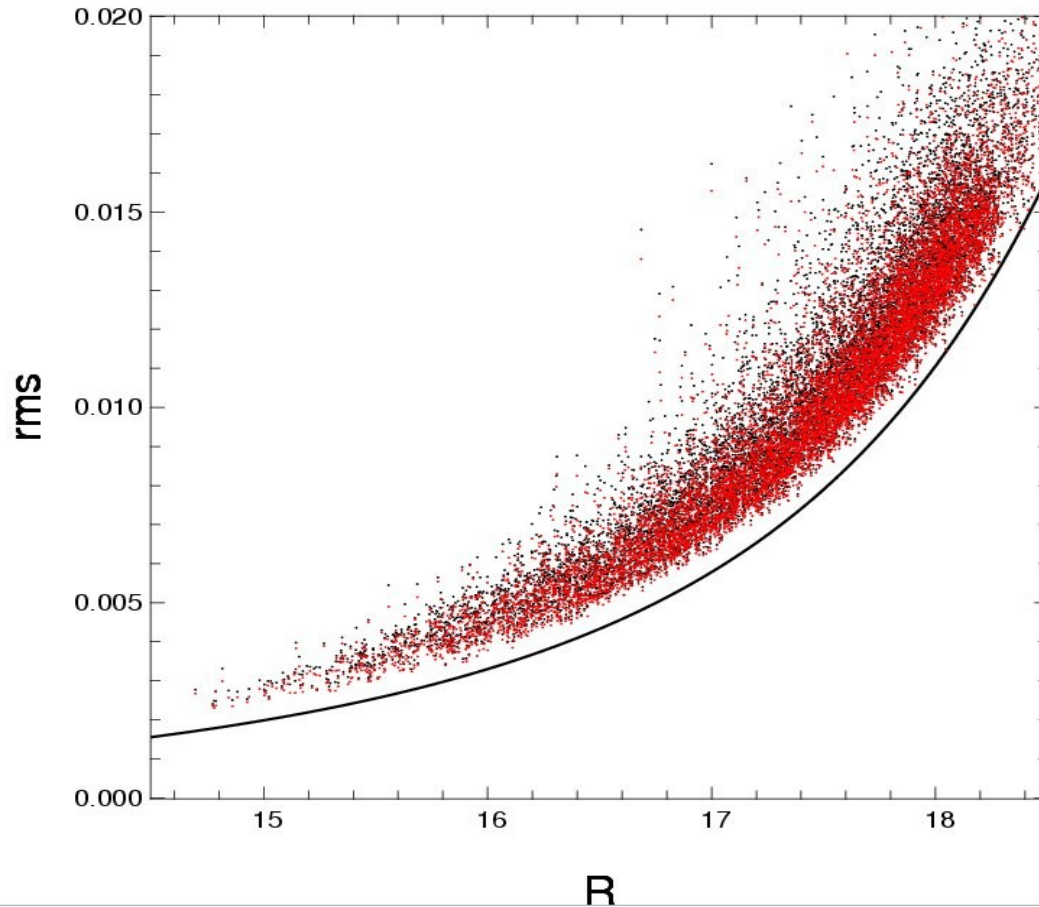
reference image PSF



single image PSF



photometric precision:

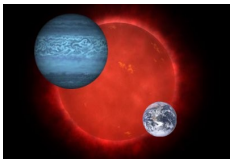


2000 lightcurves per chip
with > 2500 data points

nomalized $\chi^2 \leq 1.3$

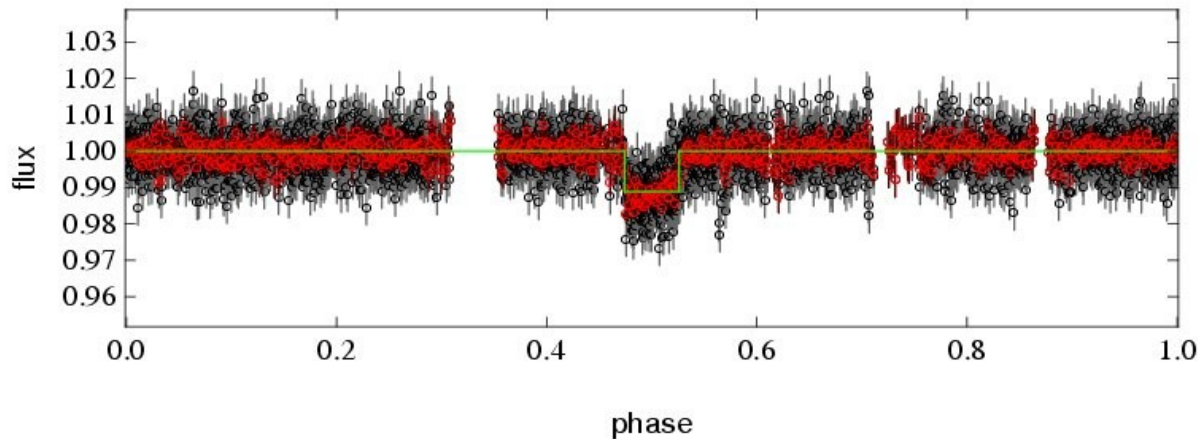
\Rightarrow 11000 lightcurves

1 systematic effect
removed with sysrem



lightcurve analysis:

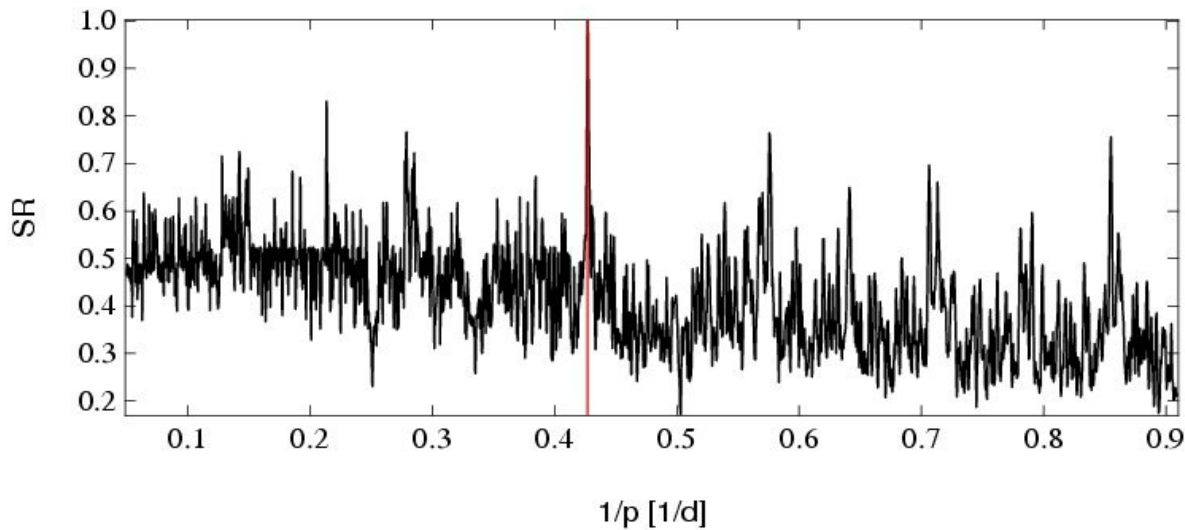
method: Box-Least-Square fitting (BLS) proposed by Kovacs et al. 2002

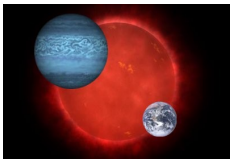


$$p = 0.9...9.1$$

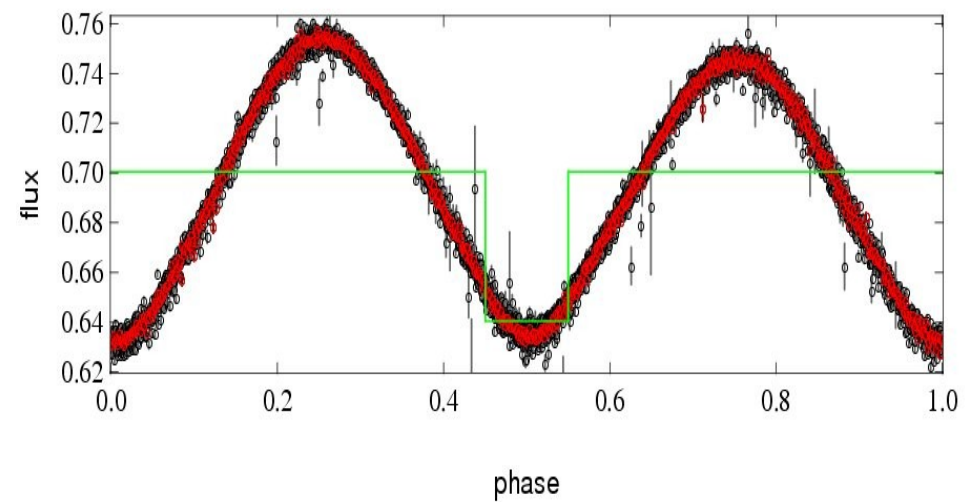
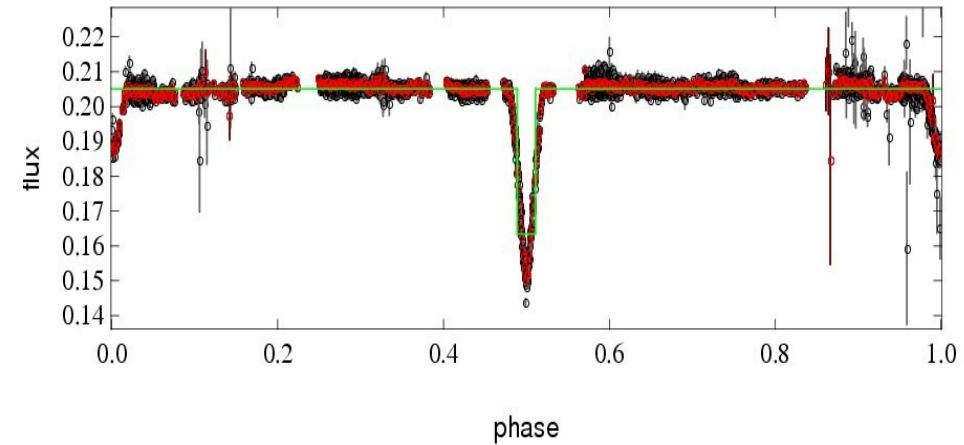
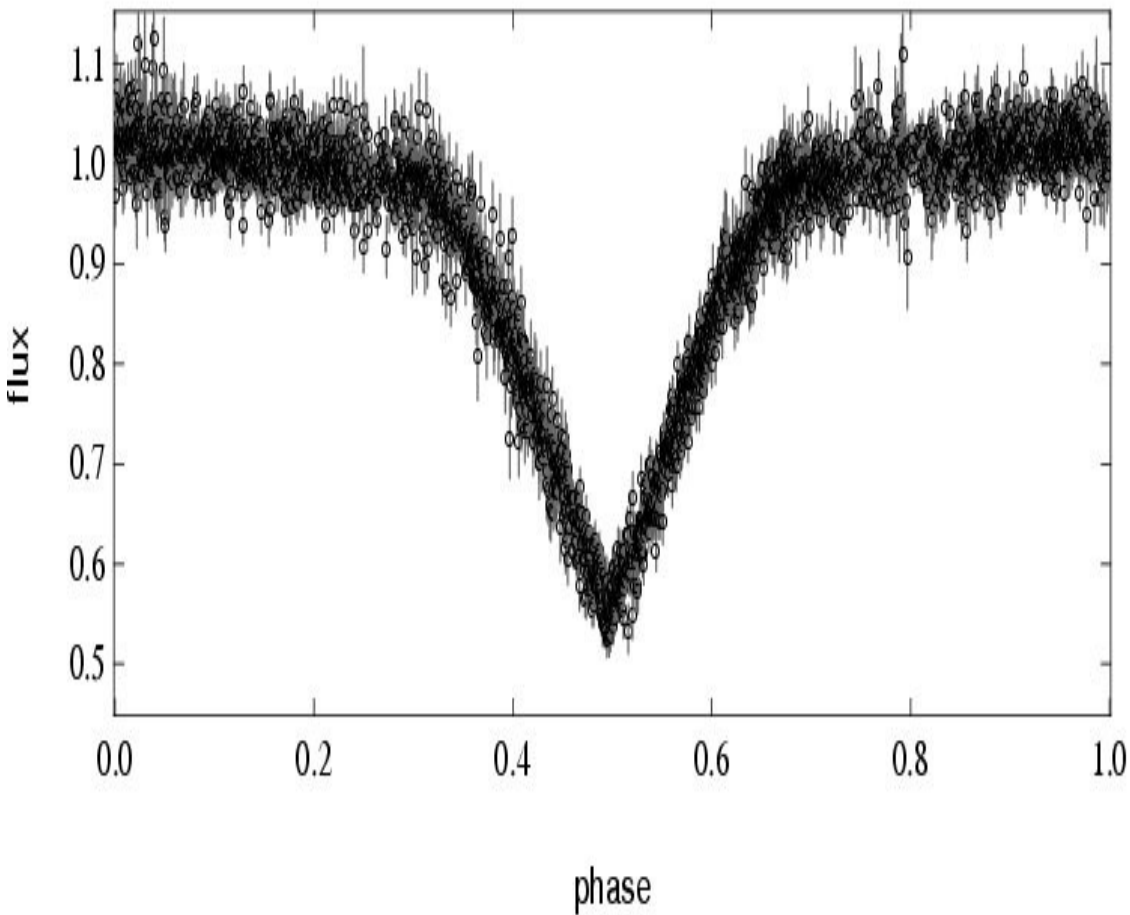
$$\tau = 0.01...0.10$$

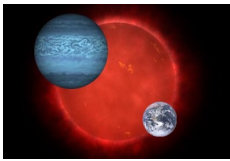
$$\Delta F/F \leq 0.01...0.05$$



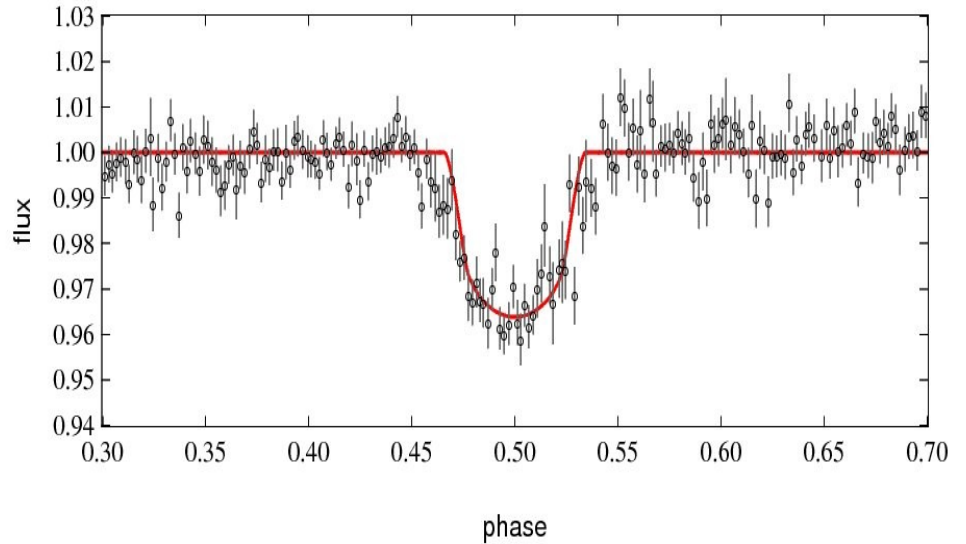
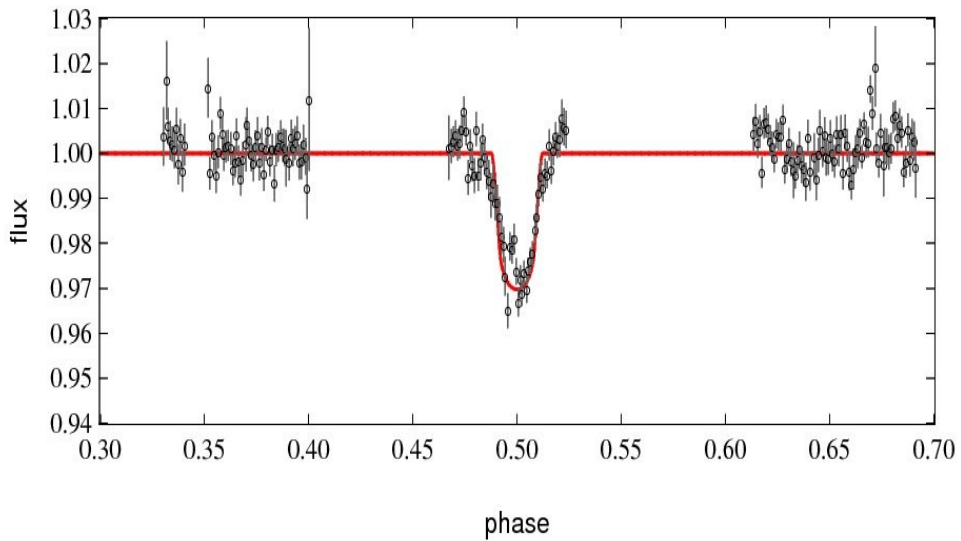
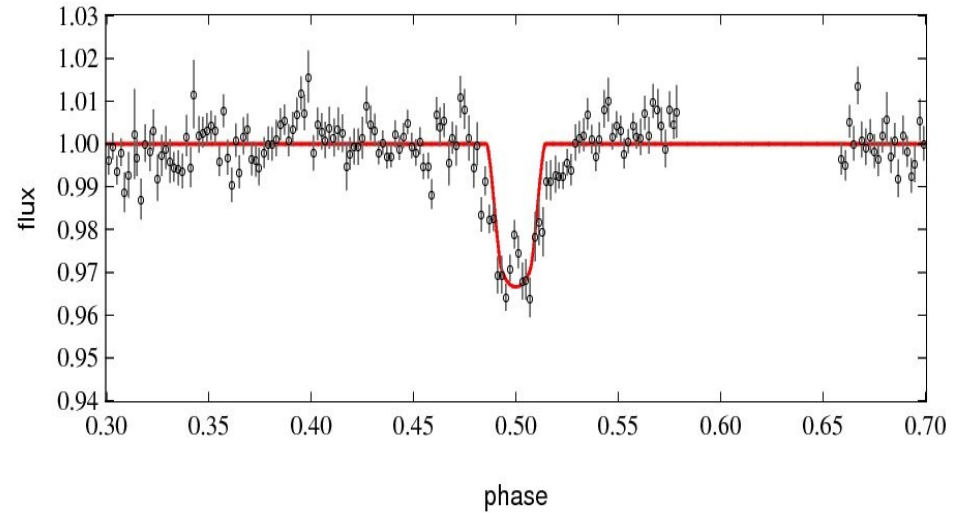
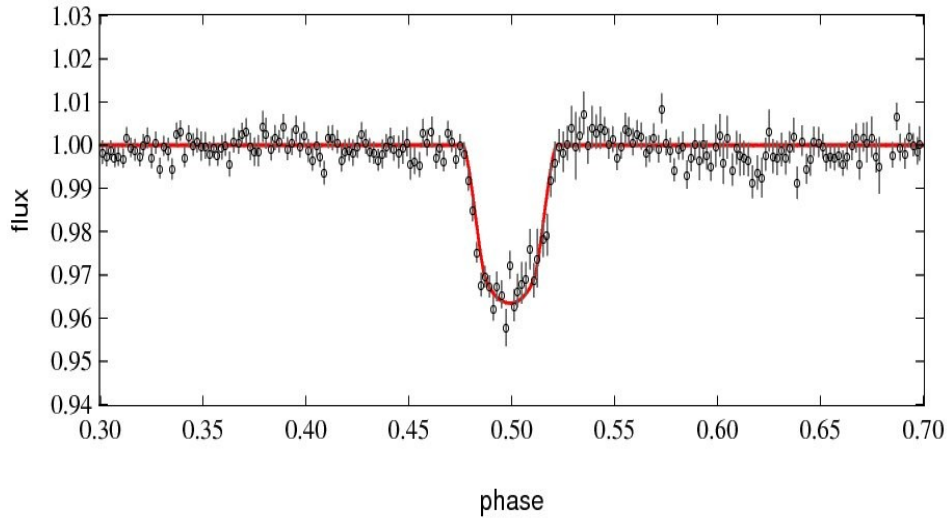


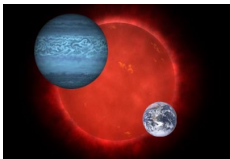
eclipsing binaries:





4 transit candidates:





POTS-C1

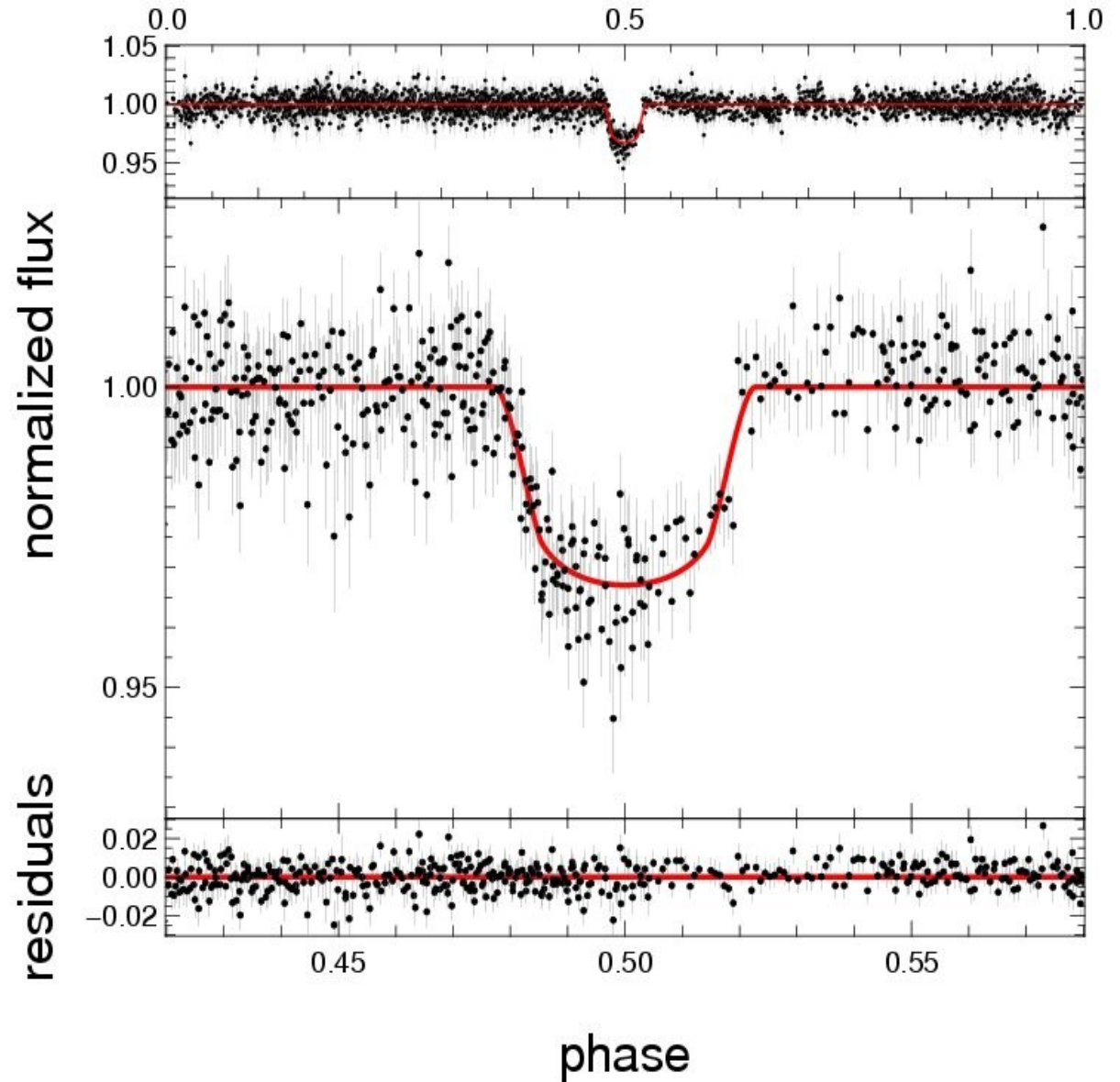
$p = 1.58$ days

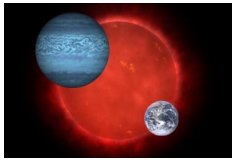
$\Delta F/F = 0.03$

$R = 17.0$ mag

K9V host star

$R_{pl} \sim 1.02 R_{Jup}$





follow-up strategy:

- **spectroscopic follow-up with UVES/FLAMES:**

10h in ESO period 83

expected RV amplitude ~ 300 m/s

- **photometric follow-up with GROND:**

2 transits in MPE GTO time (+3 in MPG time)