

# KIC 006696462

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006696462-01	OBS	1693.01	3.403744	133.828909	765.4	1.428	48.5	59.0	0.85	5596	3.19	348.15

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006696462-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

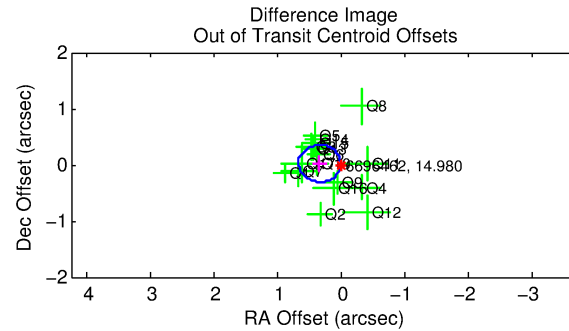
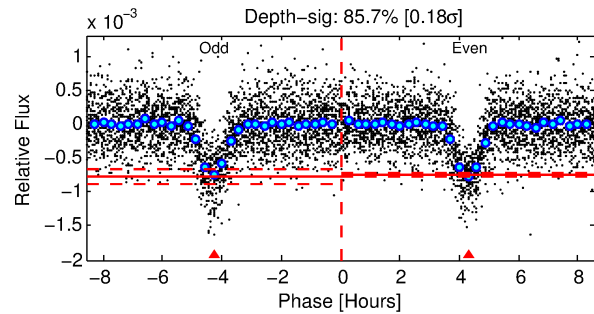
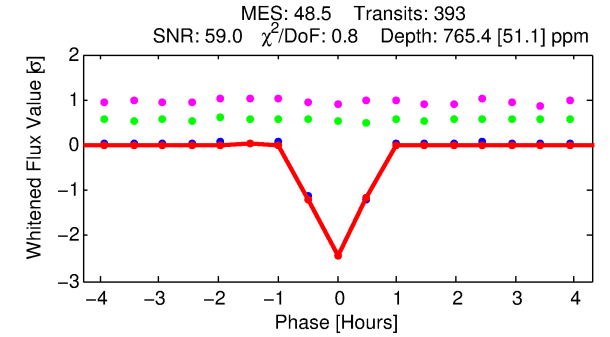
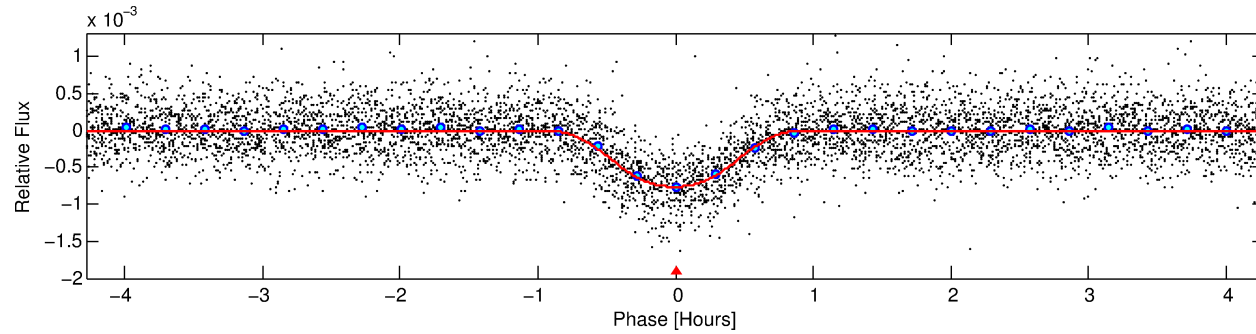
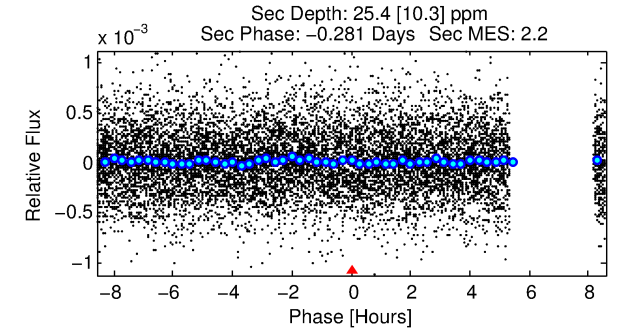
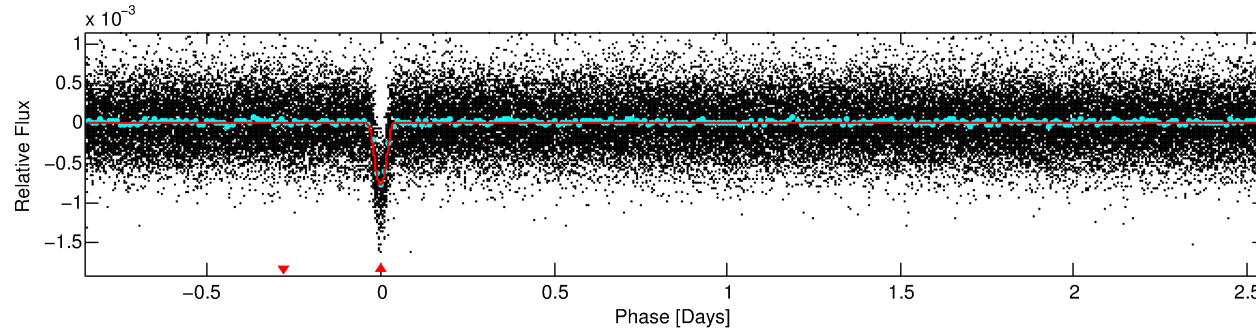
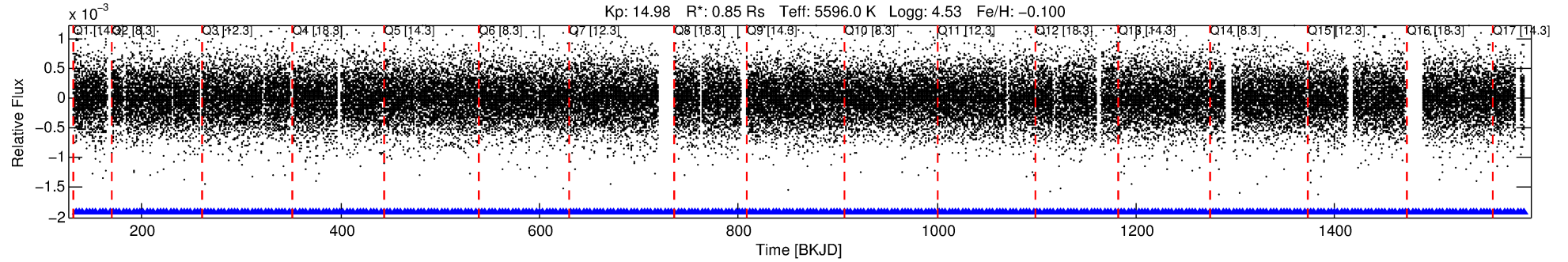
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006696462-01

No Significant Match Found

# DV One-Page Summary

KIC: 6696462 Candidate: 1 of 1 Period: 3.404 d  
KOI: K01693.01 Corr: 0.967



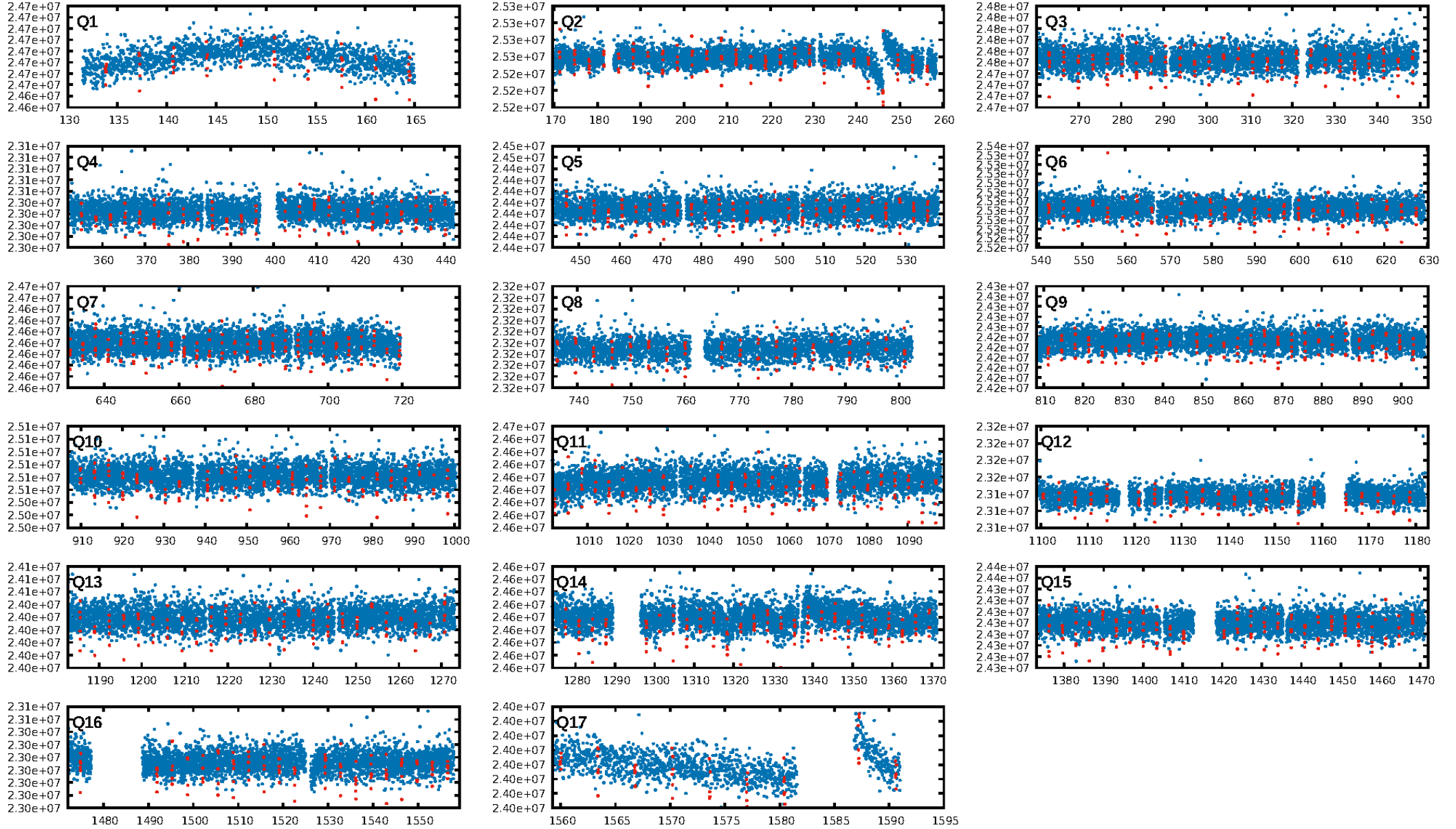
## DV Fit Results:

Period = 3.40374 [0.00000] d  
Epoch = 133.8289 [0.0004] BKJD  
Rp/R\* = 0.0343 [0.0028]  
a/R\* = 6.82 [0.75]  
b = 0.97 [0.01]  
Seff = 348.15 [114.15]  
Teff = 1101 [90] K  
Rp = 3.20 [0.85] Re  
a = 0.0429 [0.0091] AU  
Ag = 2.51 [1.34] [1.13σ]  
Teffp = 2143 [243] K [4.03σ]

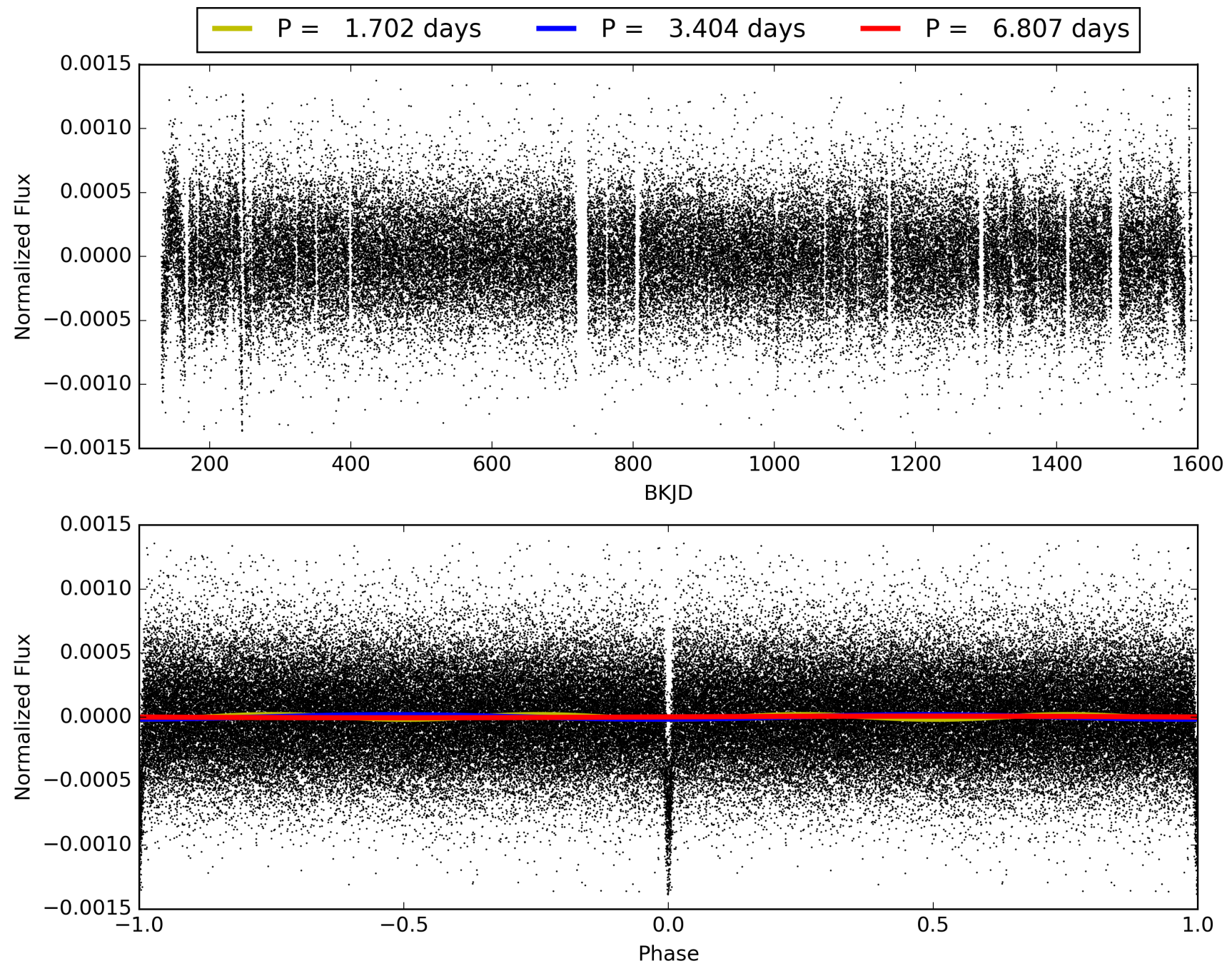
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [374/374]  
GhostDiagnostic-chr: 4.757  
Centroid-sig: 1.2%  
Centroid-so: 0.493 arcsec [2.18σ]  
OotOffset-rm: 0.343 arcsec [3.11σ]  
KicOffset-rm: 0.385 arcsec [3.56σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006696462-01, PDC Light Curves



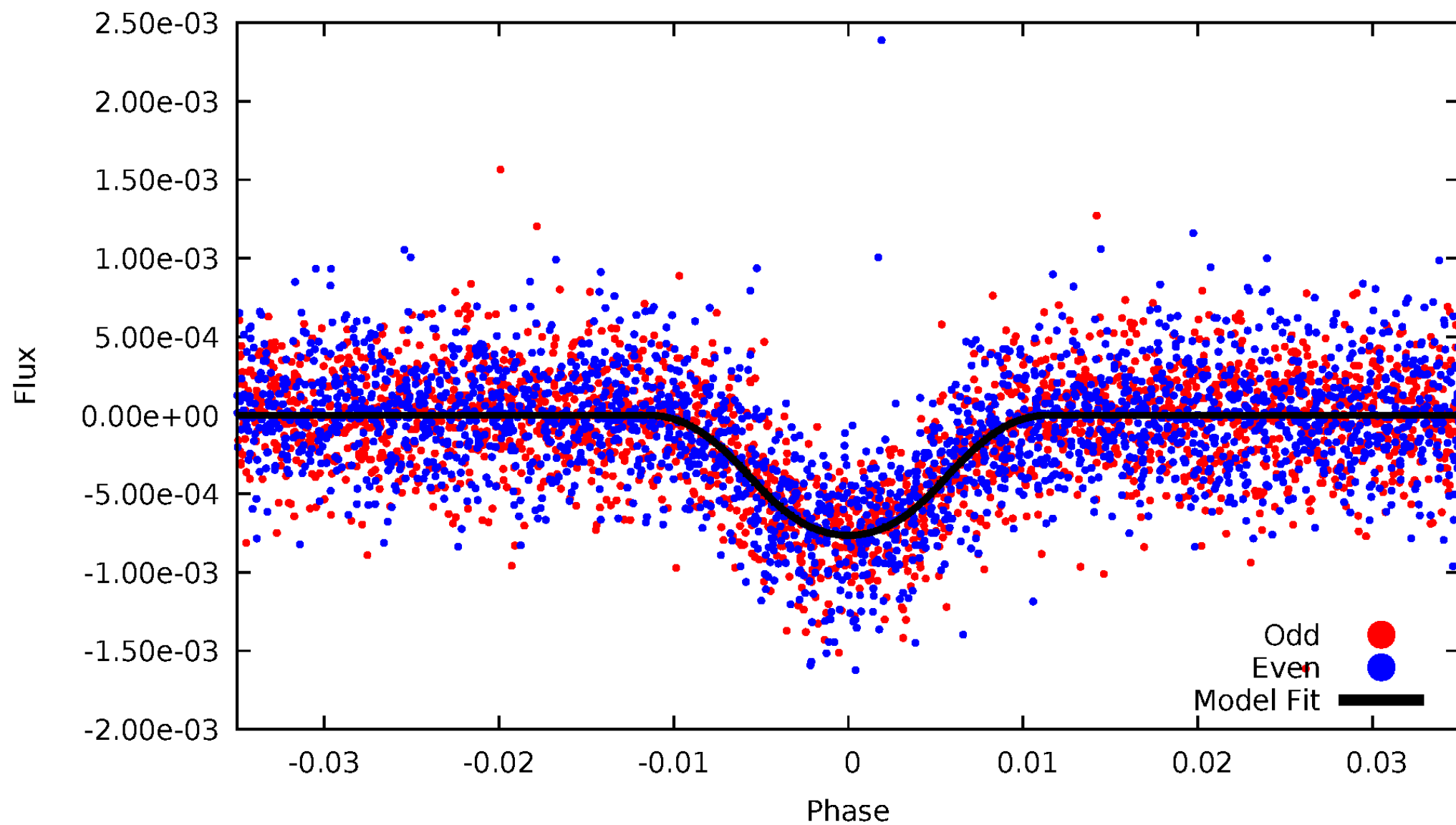
TCE 006696462-01





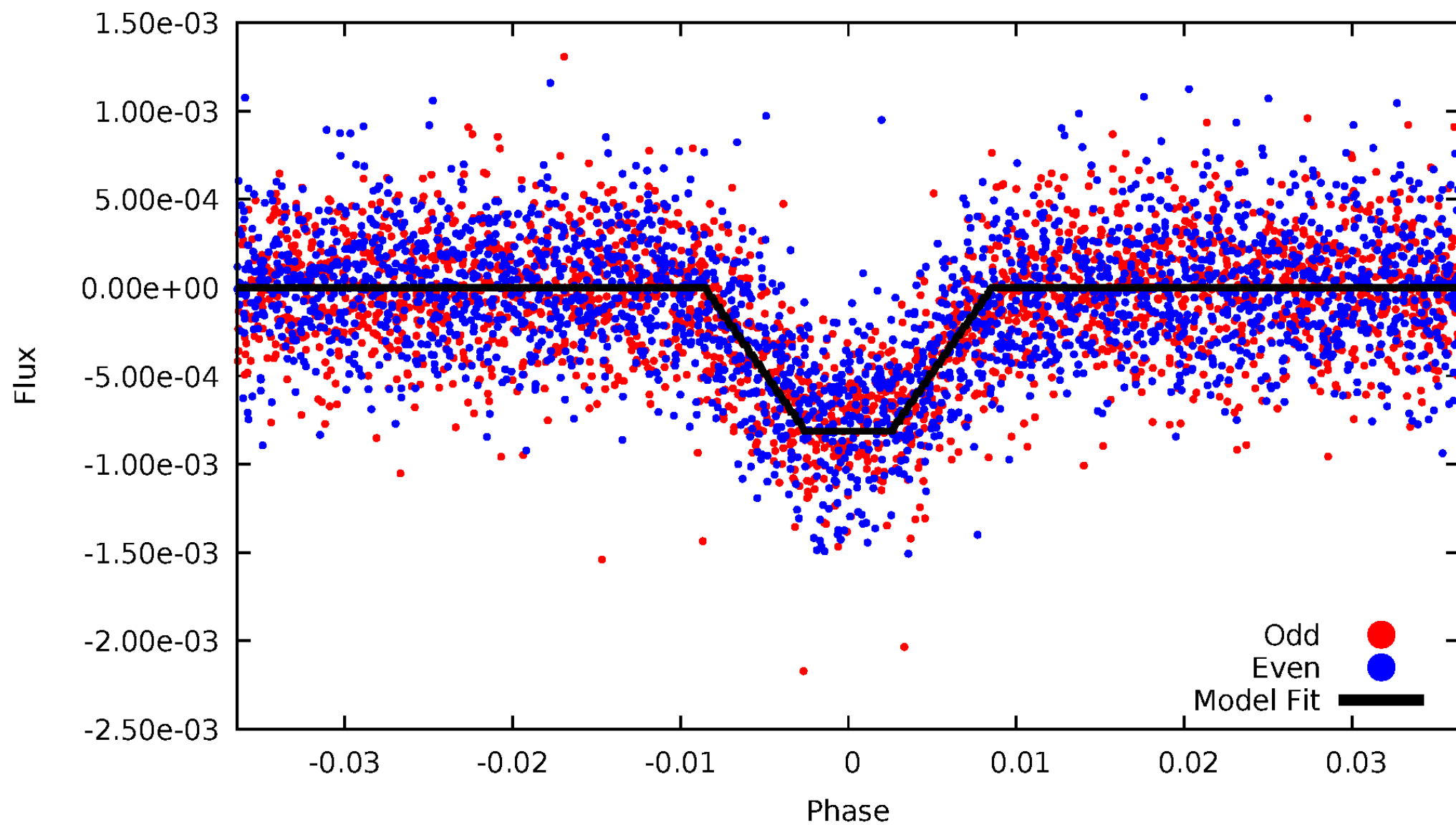
# DV Odd/Even

TCE 006696462-01



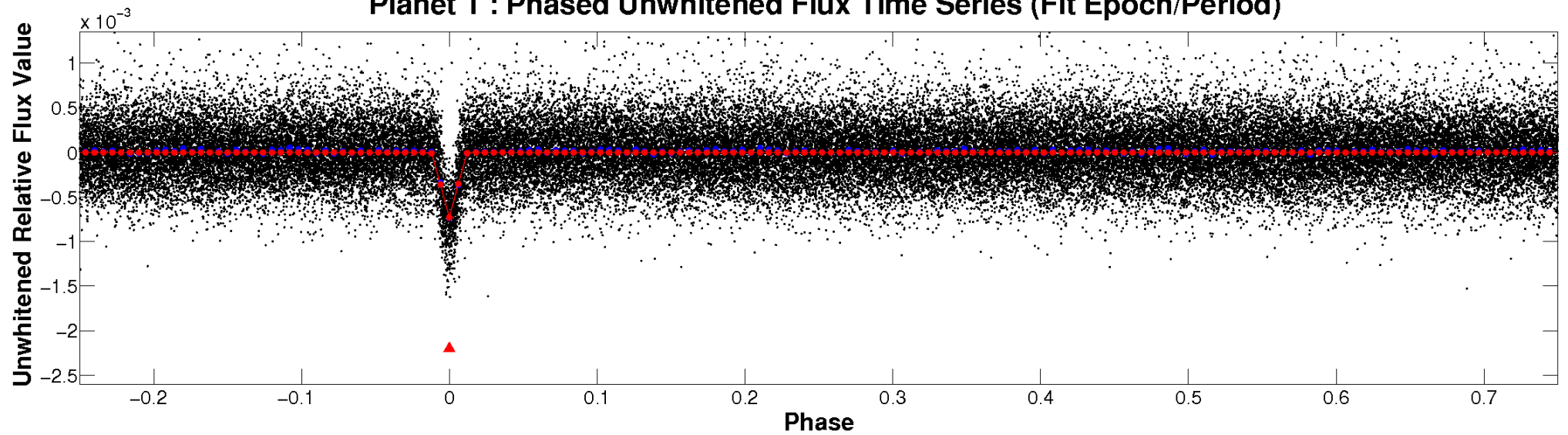
# ALT Odd/Even

TCE 006696462-01

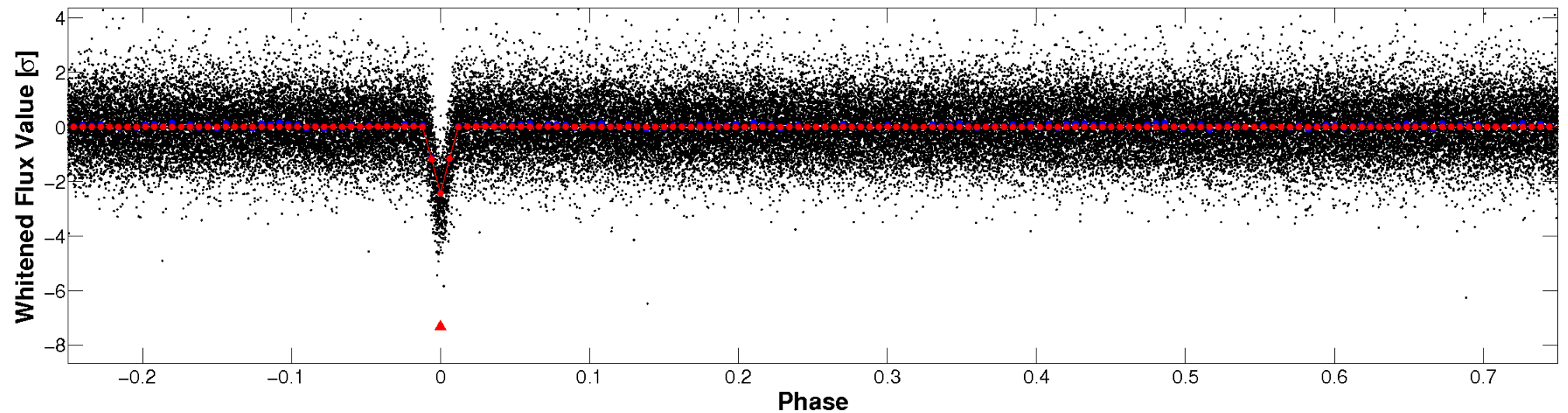


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

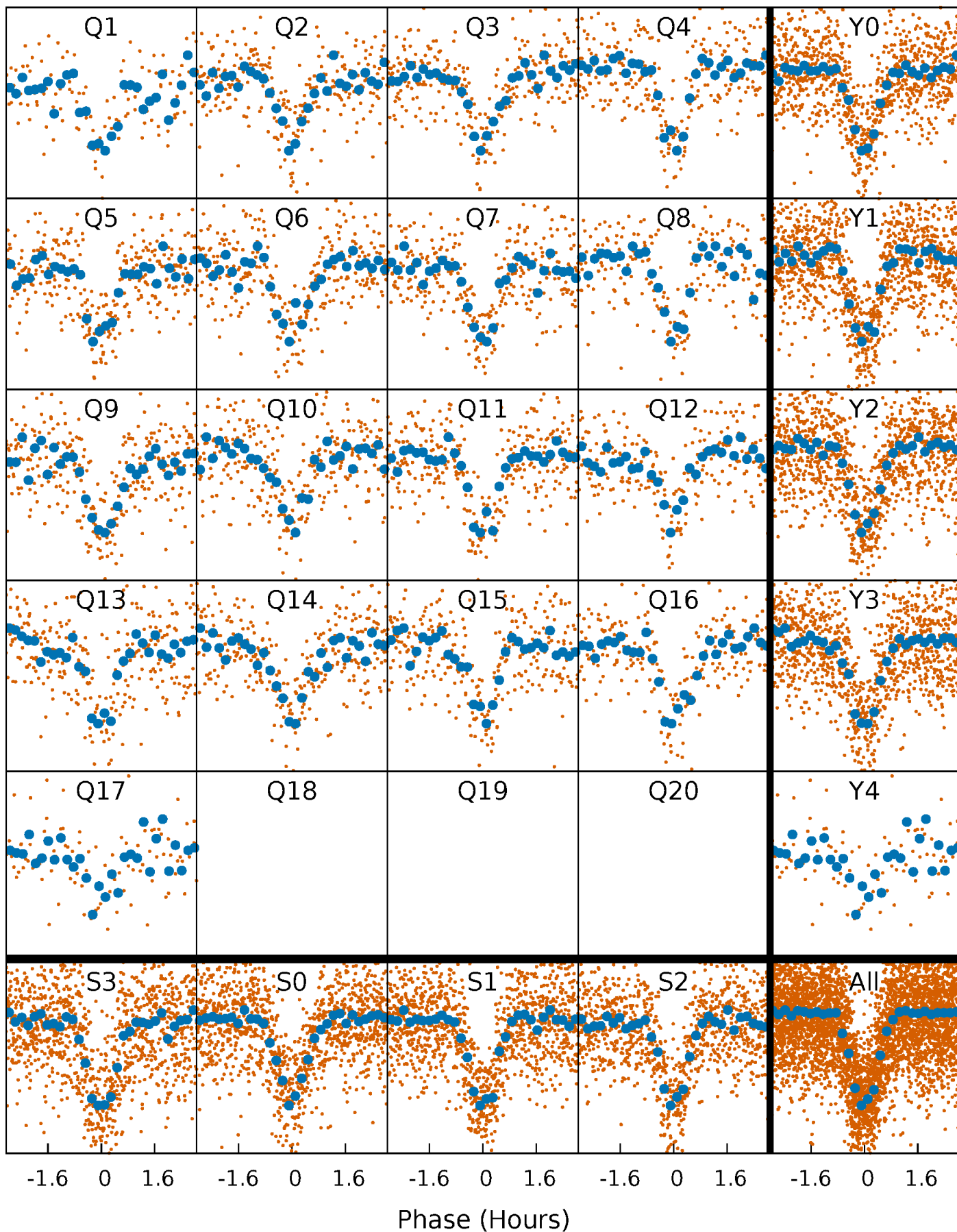


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

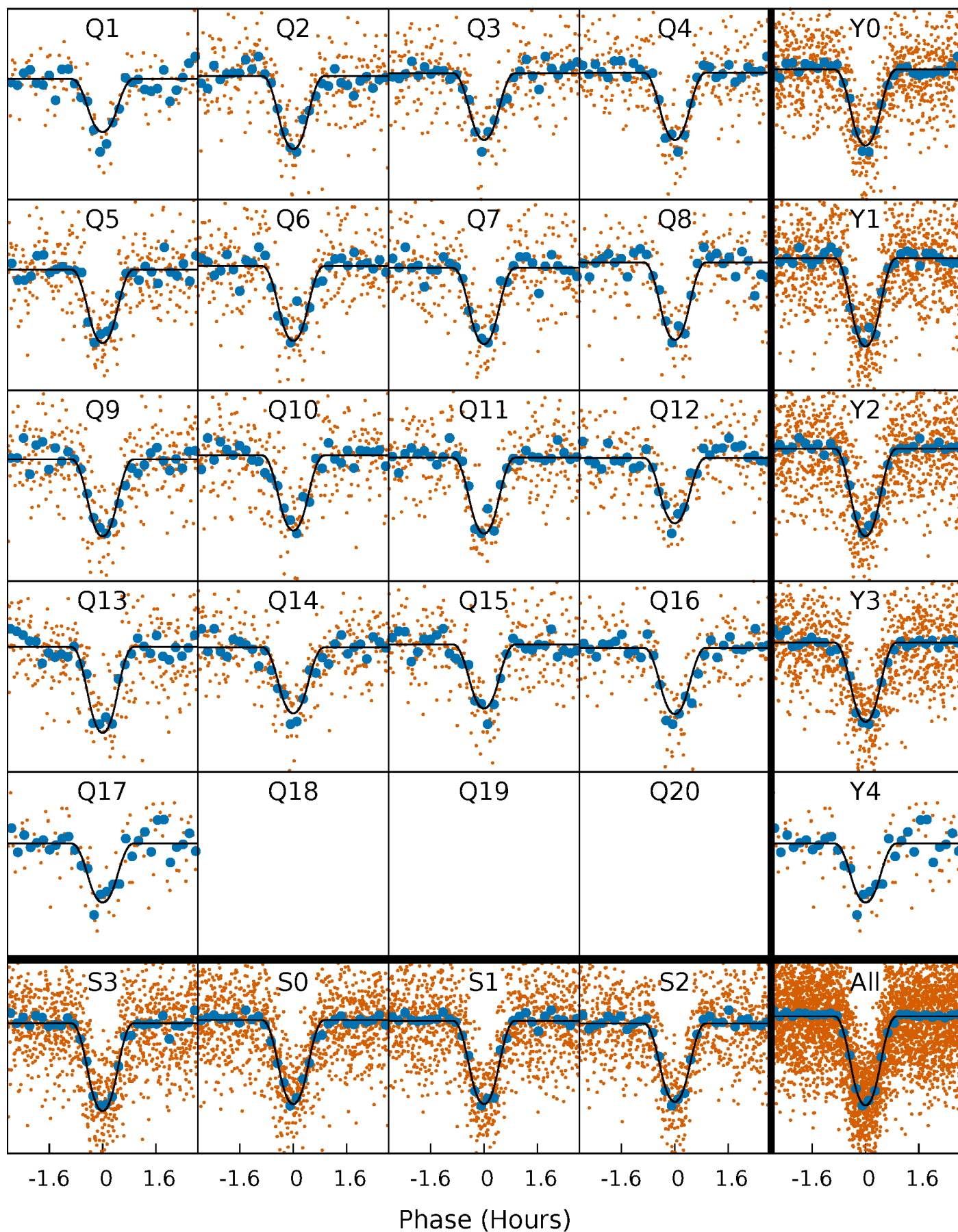
TCE 006696462-01 P= 3.403744 Days  $T_0=133.828909$  (BKJD)





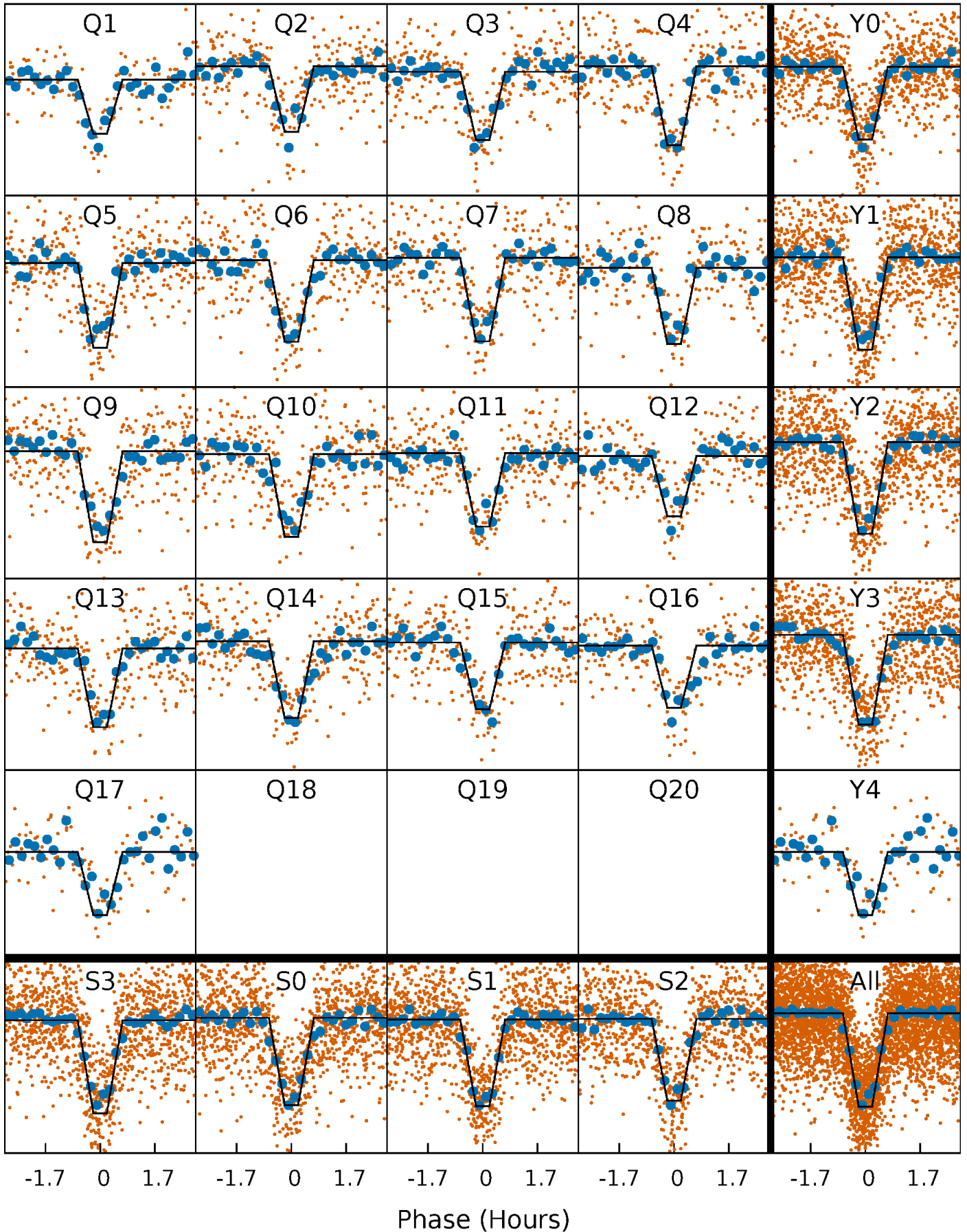
# DV Quarter-Phased Transit Curves

TCE 006696462-01   P= 3.403744 Days    $T_0=133.828909$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

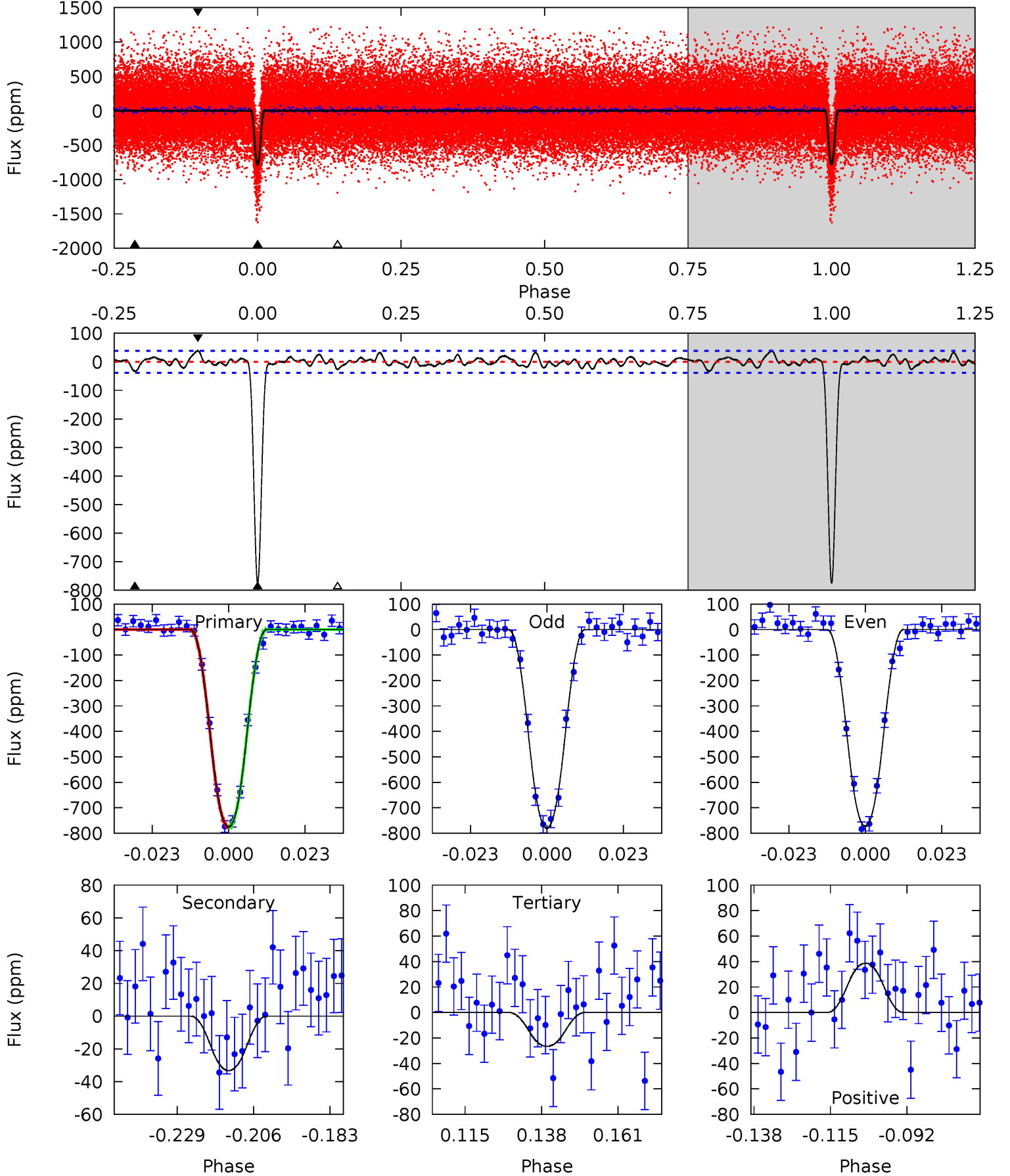
TCE 006696462-01   P= 3.403725 Days    $T_0=133.832789$  (BKJD)



# DV Model-Shift Uniqueness Test

006696462-01, P = 3.403744 Days, E = 130.425165 Days

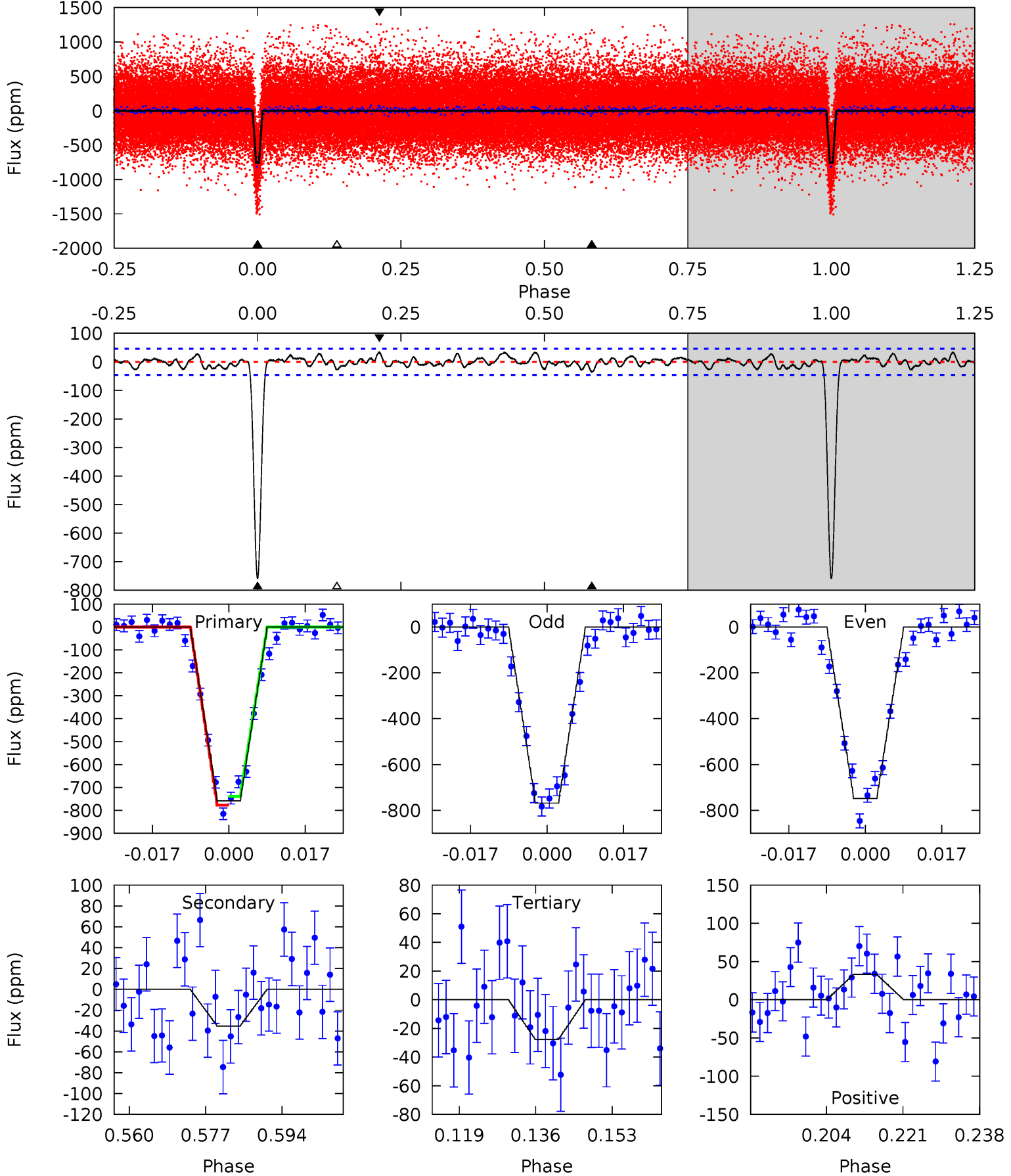
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
97.8	4.19	3.36	4.88	4.86	2.27	1.50	94.5	92.9	0.84	-0.69	0.45	0.99	0.05	0.11



# Alt Model-Shift Uniqueness Test

006696462-01, P = 3.403725 Days, E = 130.429064 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.2	3.76	2.97	3.55	4.92	2.39	1.37	78.2	77.6	0.79	0.21	1.07	0.99	0.04	2.04



### Stellar Parameters For KIC 006696462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5596^{+152}_{-169}$	$4.533^{+0.044}_{-0.165}$	$-0.100^{+0.300}_{-0.300}$	$0.853^{+0.217}_{-0.078}$	$0.906^{+0.095}_{-0.095}$	$2.057^{+0.467}_{-0.939}$
	+3%/-3%	+1%/-4%	+300%/-300%	+25%/-9%	+10%/-10%	+23%/-46%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006696462-01 / KOI 1693.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-33 \pm 8$	$3.30^{+0.46}_{-0.34}$	$1570^{+98}_{-70}$	$2908^{+150}_{-138}$	$2.901^{+1.142}_{-0.903}$
Alt.	$-35 \pm 9$	$2.74^{+0.39}_{-0.33}$	$1567^{+86}_{-67}$	$3128^{+158}_{-189}$	$4.640^{+1.993}_{-1.653}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$



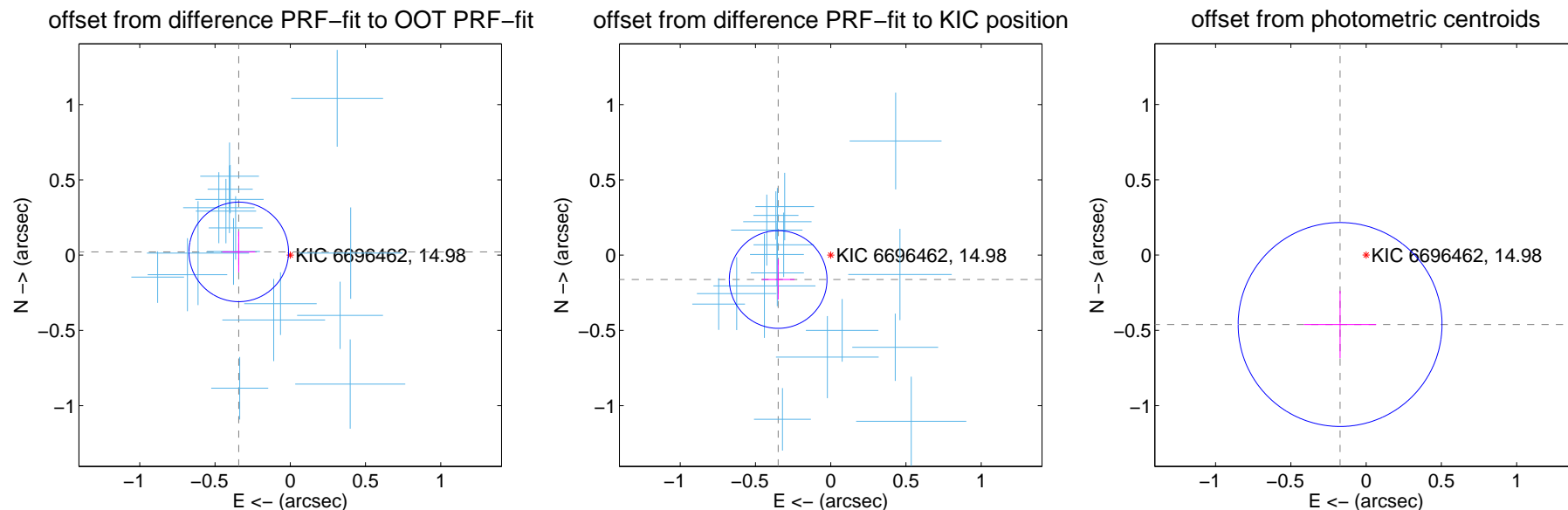
## DV Centroid Data

Supplemental centroid analysis for 006696462-01. Kepler magnitude: 14.98. Transit SNR 58.98

There are 17 quarters with good PRF difference image offsets

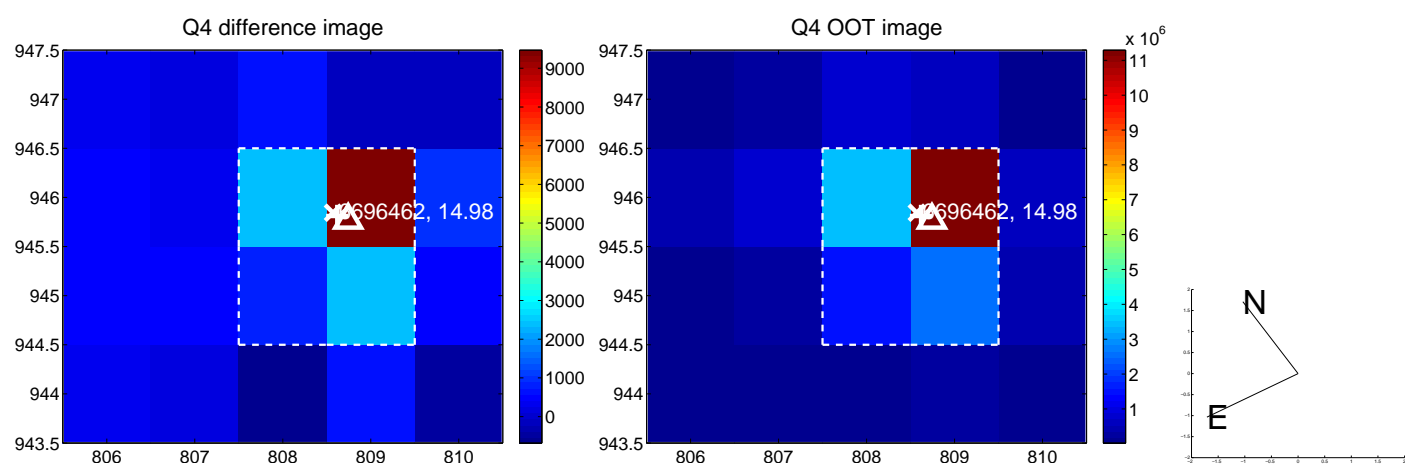
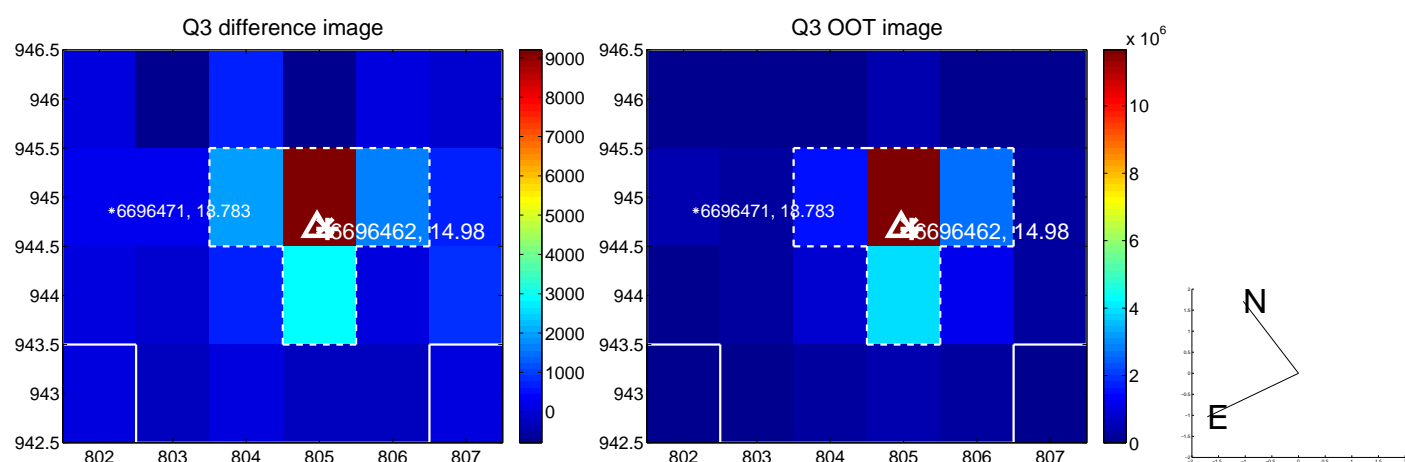
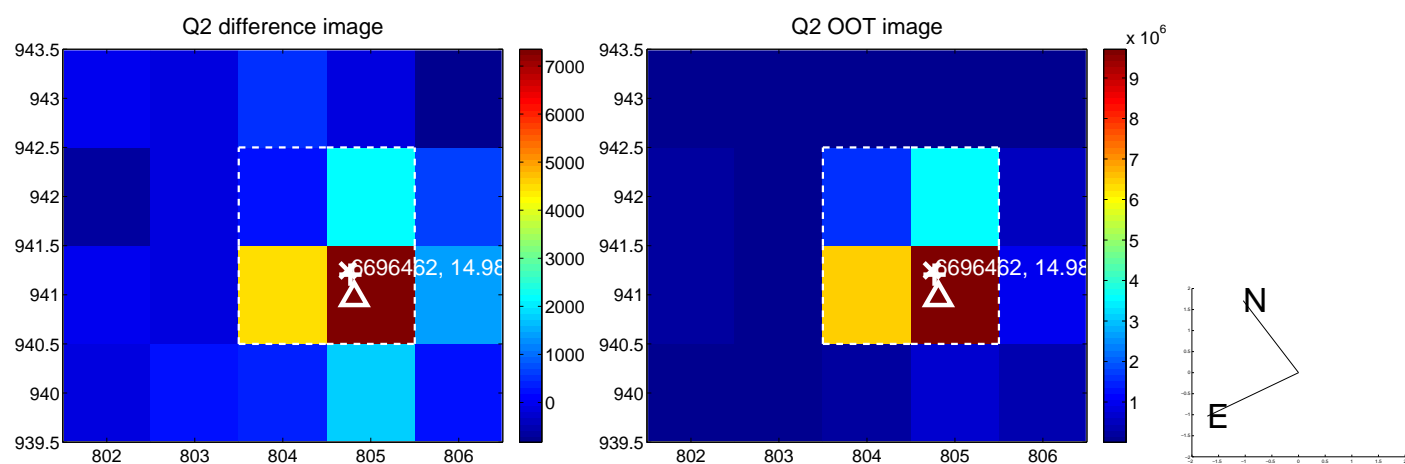
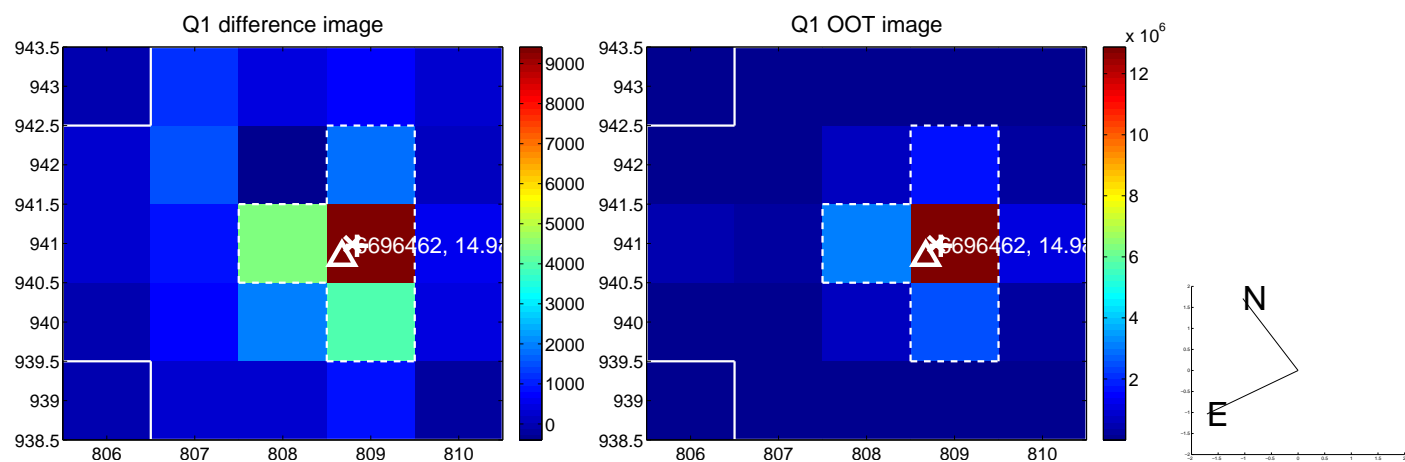
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.343 \pm 0.110$	3.11	$0.342 \pm 0.109$	$0.022 \pm 0.136$
PRF-fit source offset from KIC position	$0.385 \pm 0.108$	3.56	$0.349 \pm 0.108$	$-0.162 \pm 0.134$
photometric centroid source offset	$0.49 \pm 0.23$	2.18	$0.17 \pm 0.24$	$-0.46 \pm 0.22$

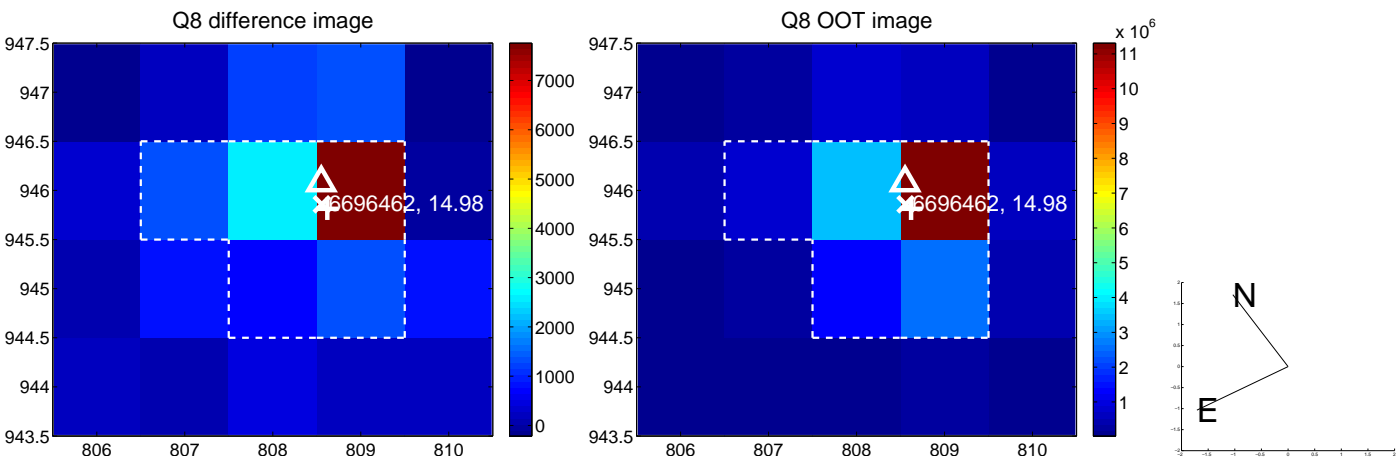
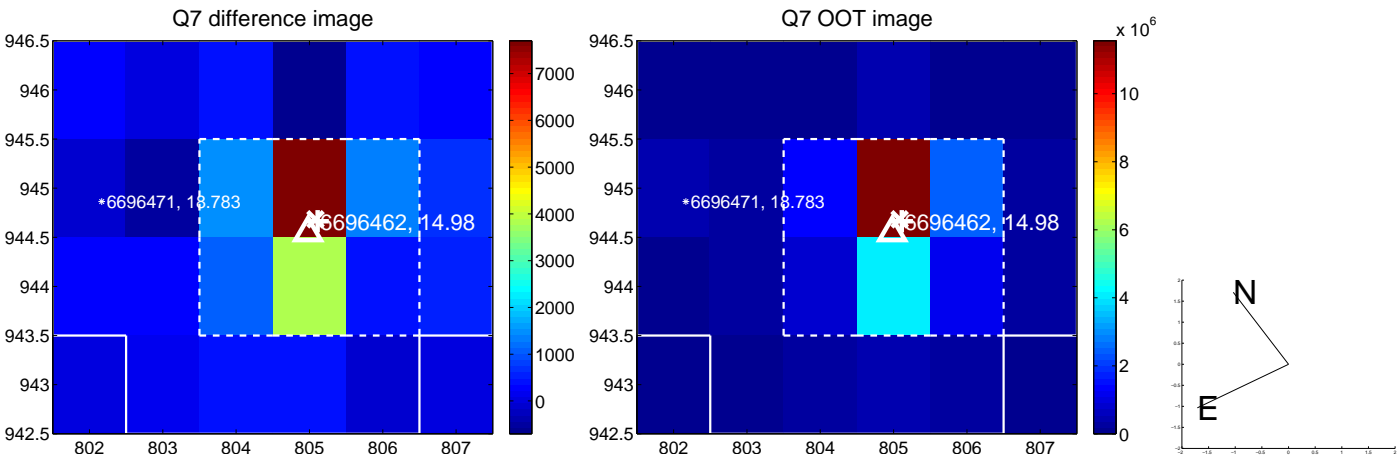
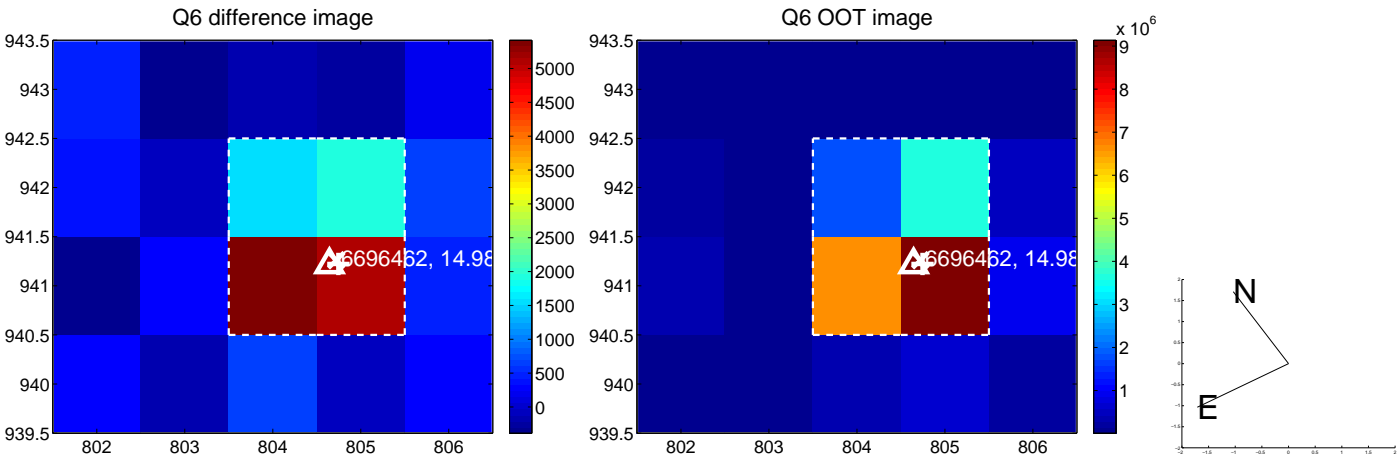
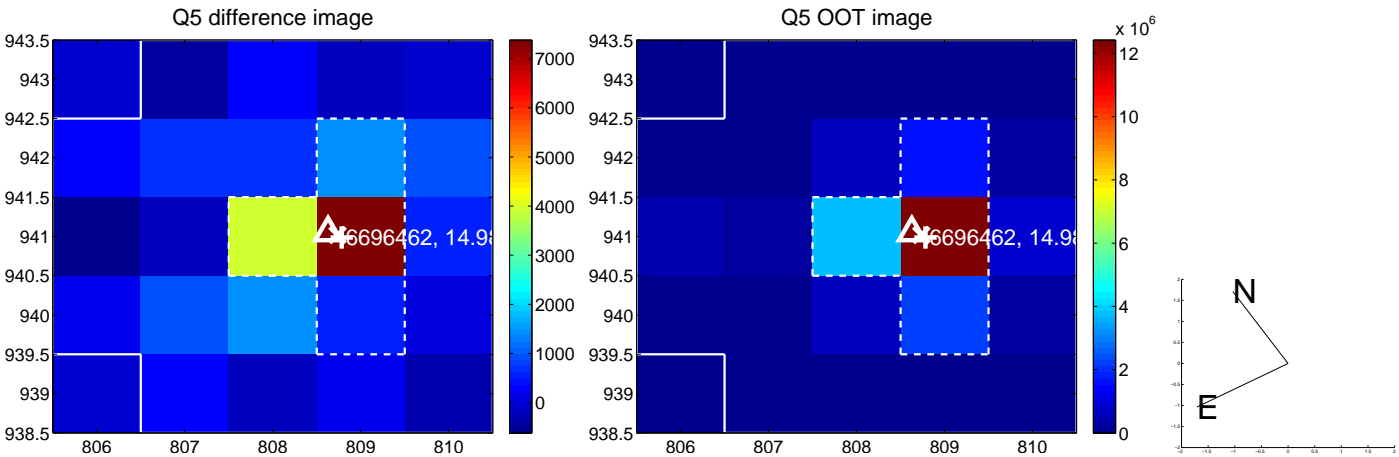


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

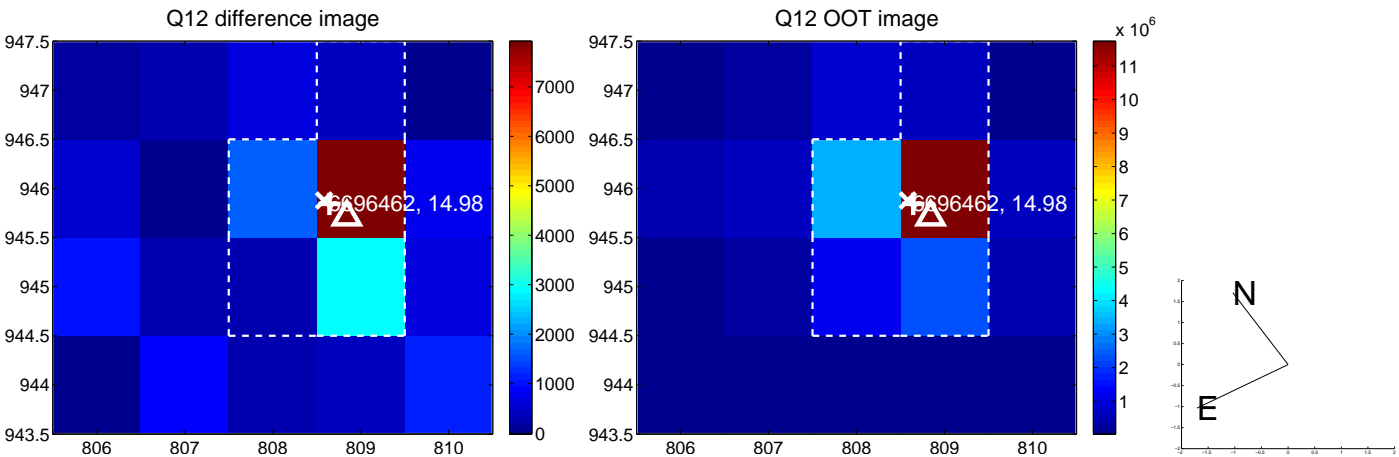
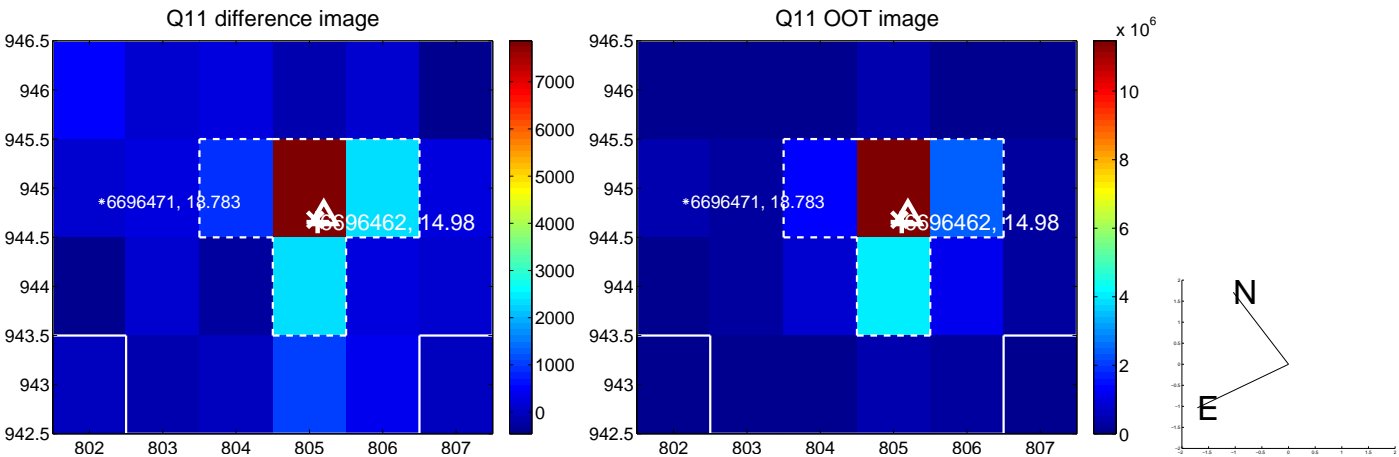
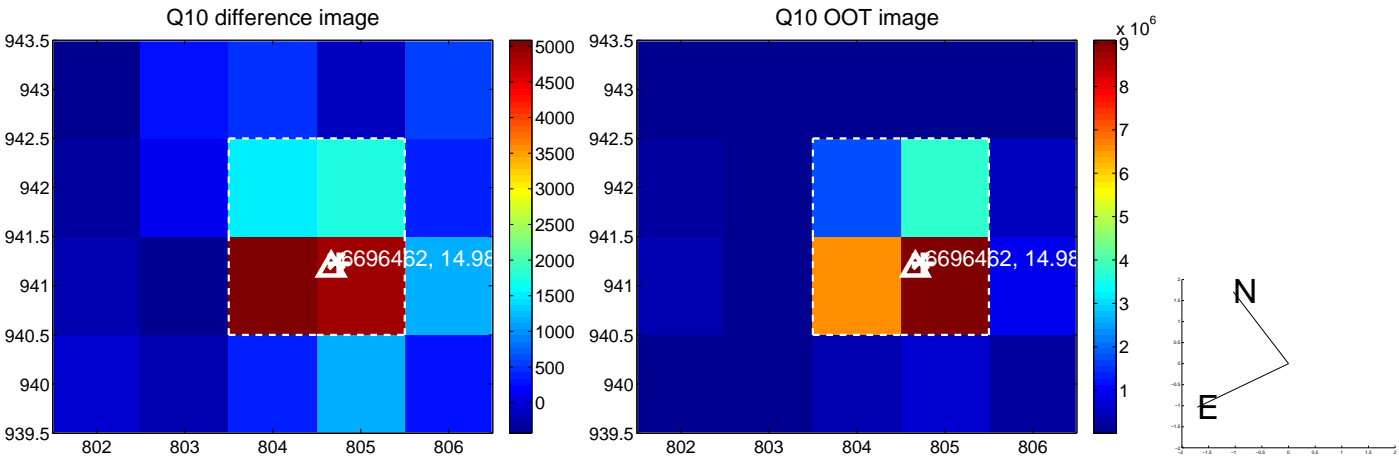
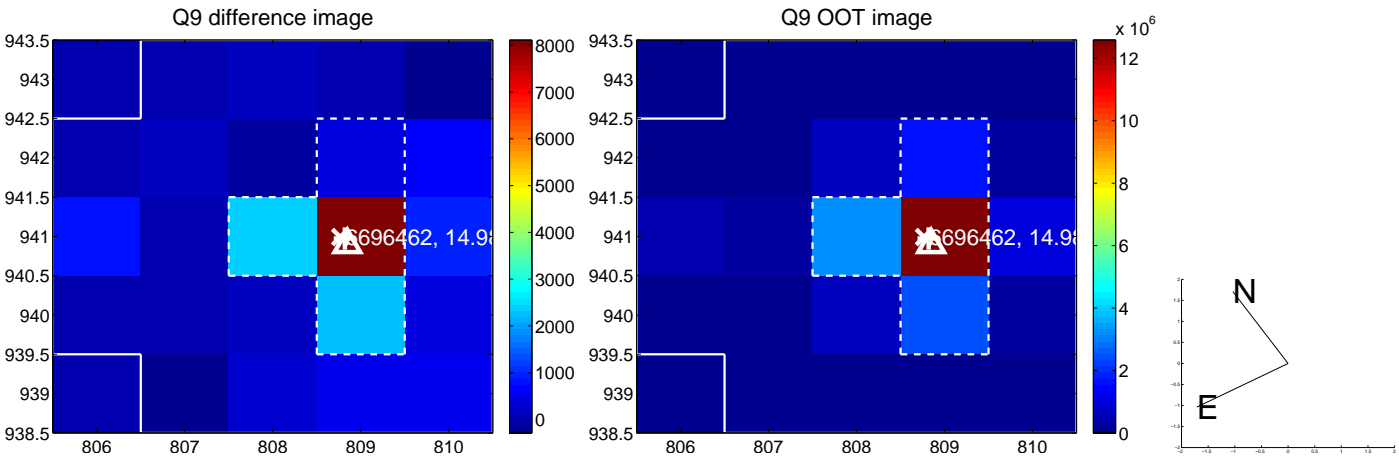
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



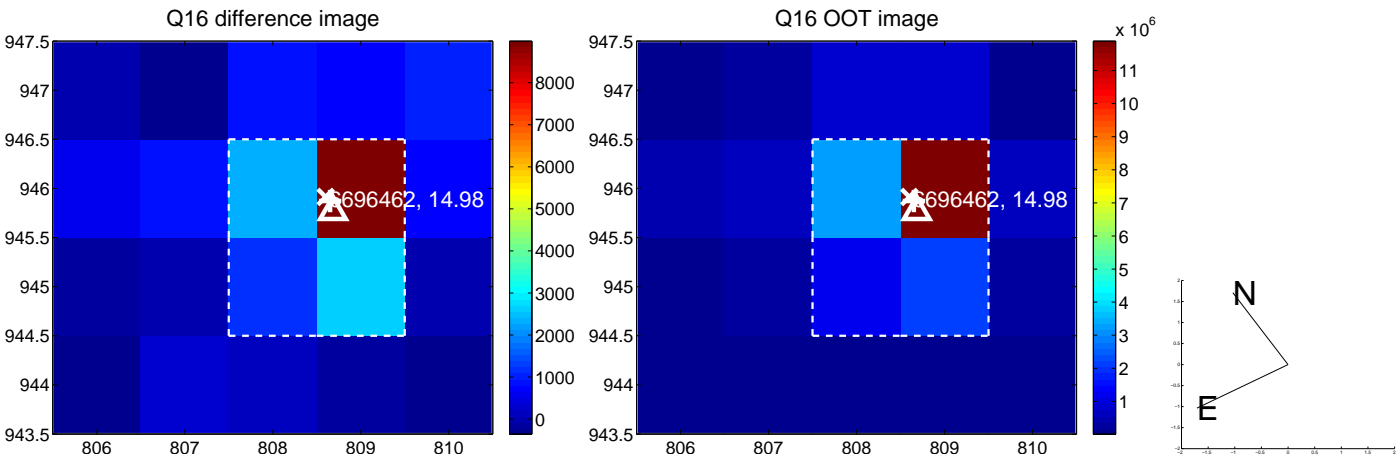
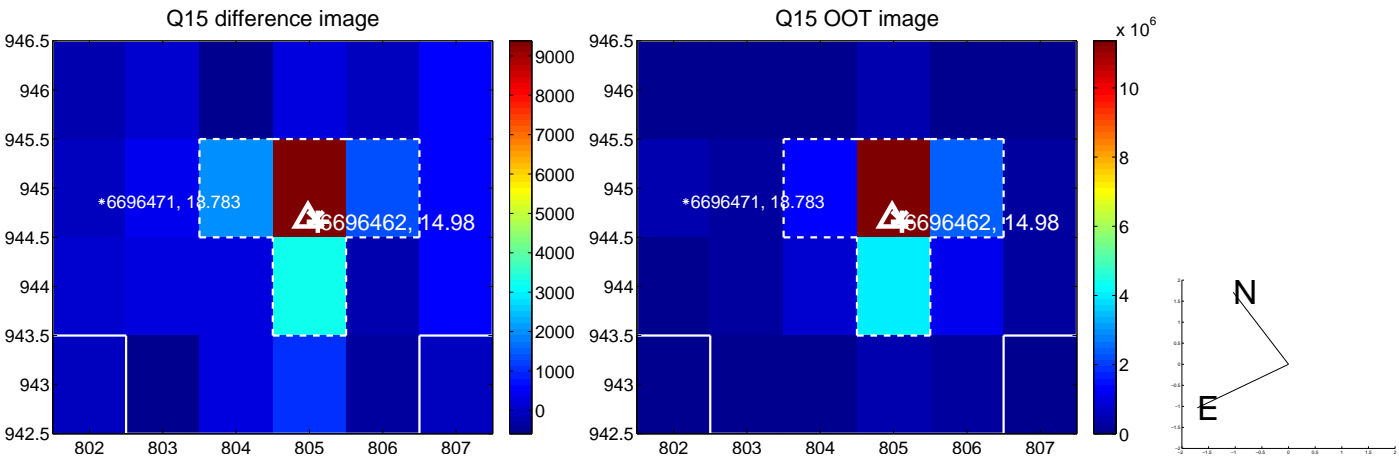
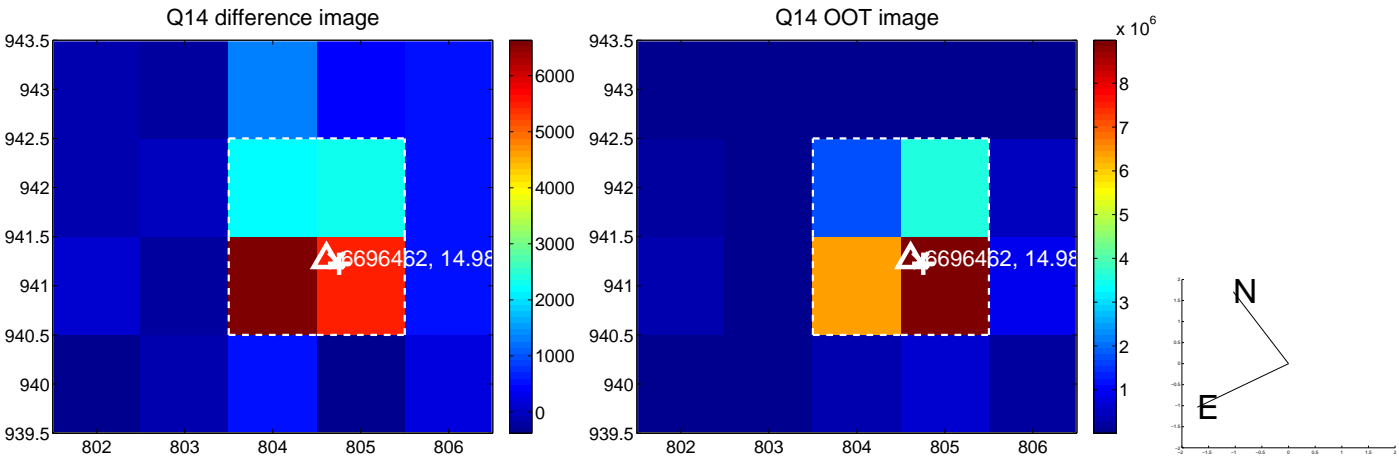
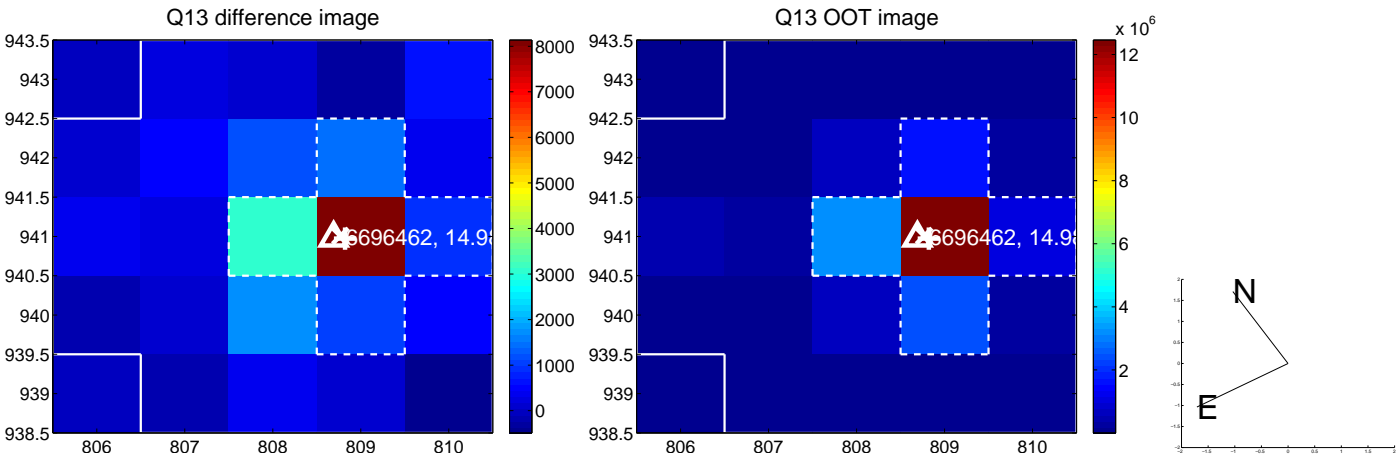
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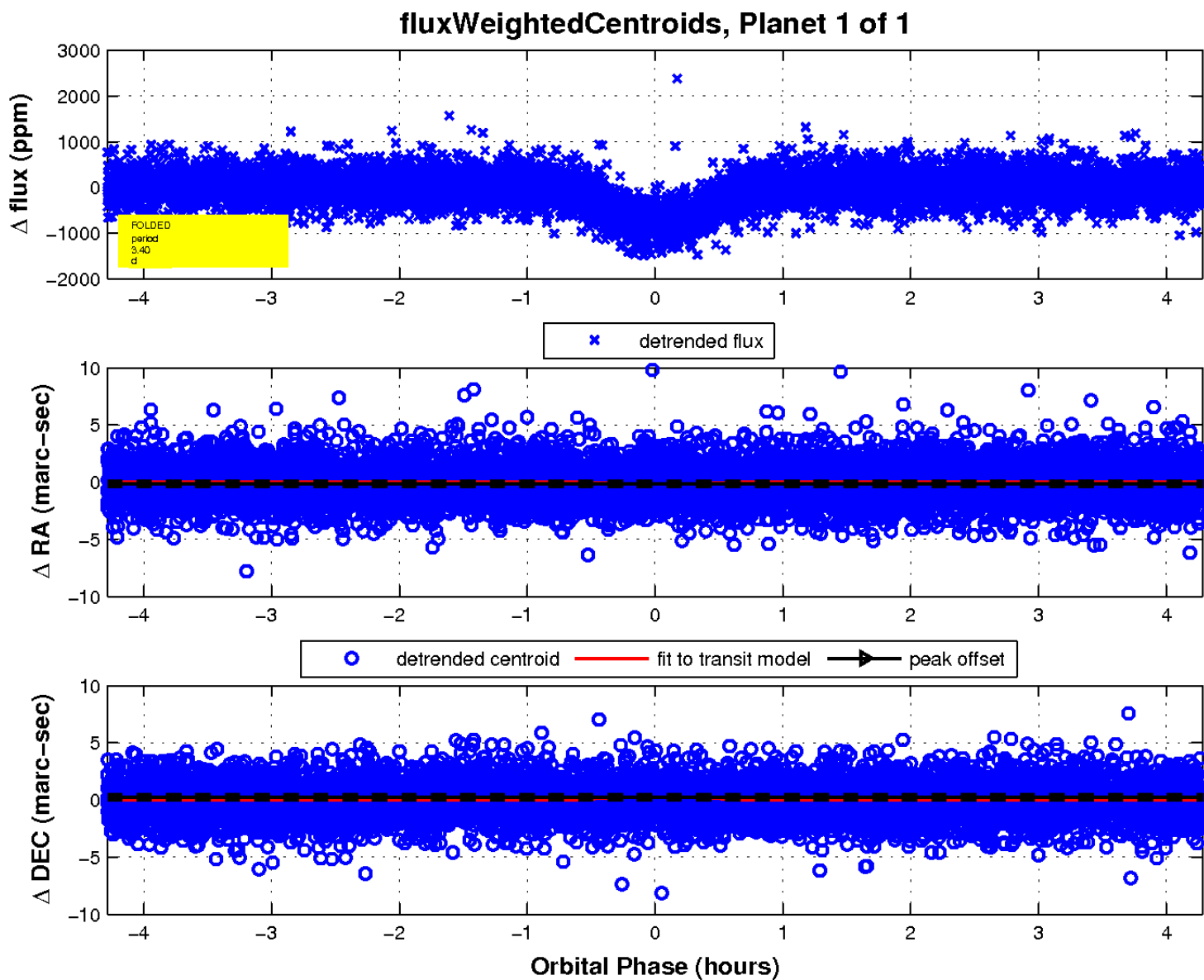
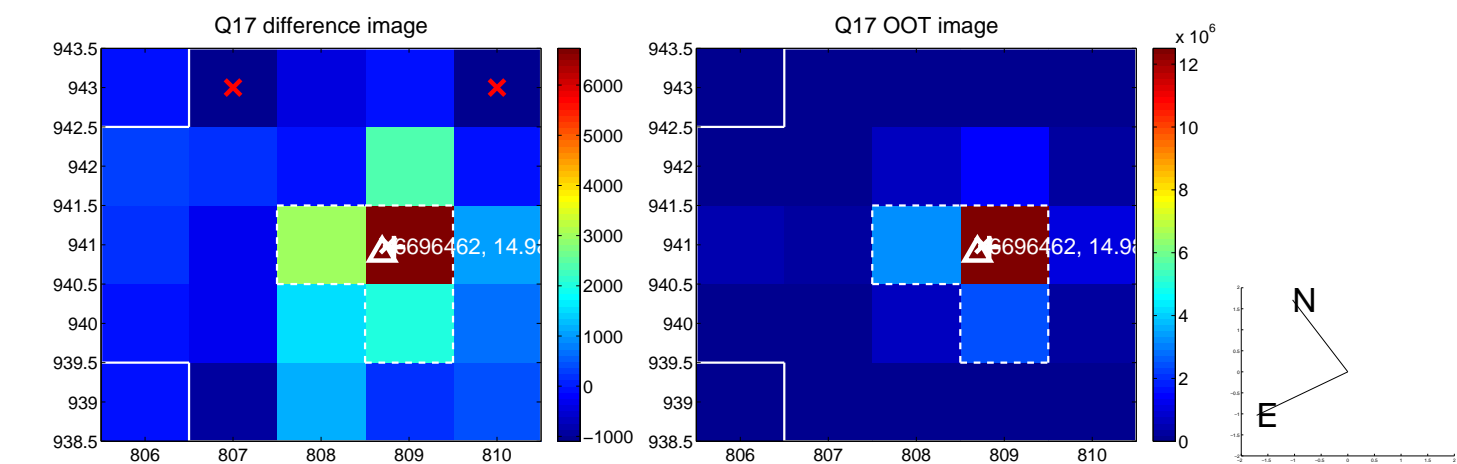


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

