

# KIC 005112567

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005112567-01	OBS	4043.01	1.615871	133.136119	145.0	1.885	18.2	18.6	1.62	6770	3.86	5566.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005112567-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—CENT_KIC_POS

**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.

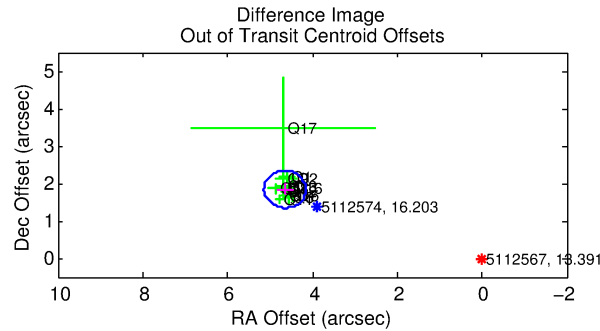
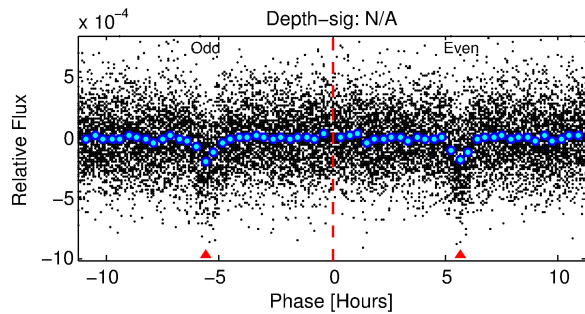
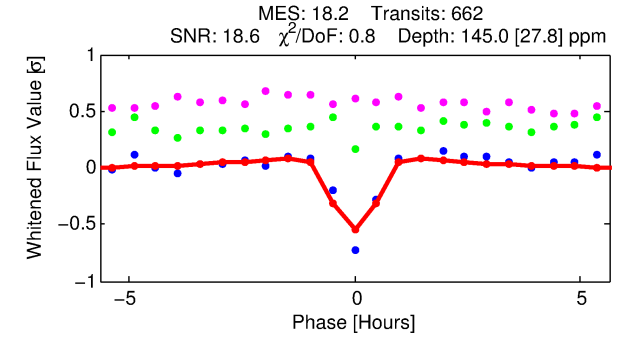
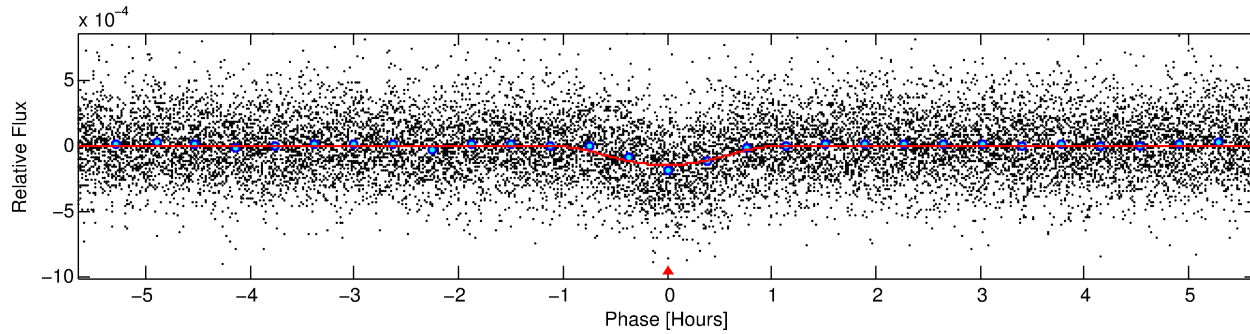
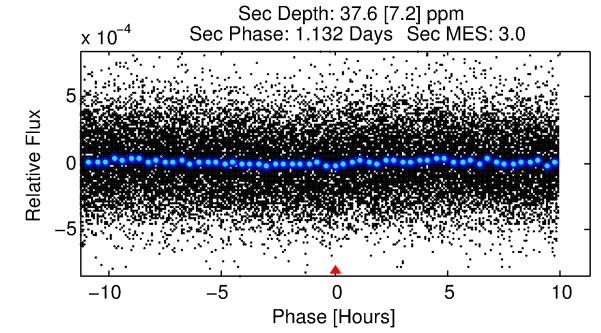
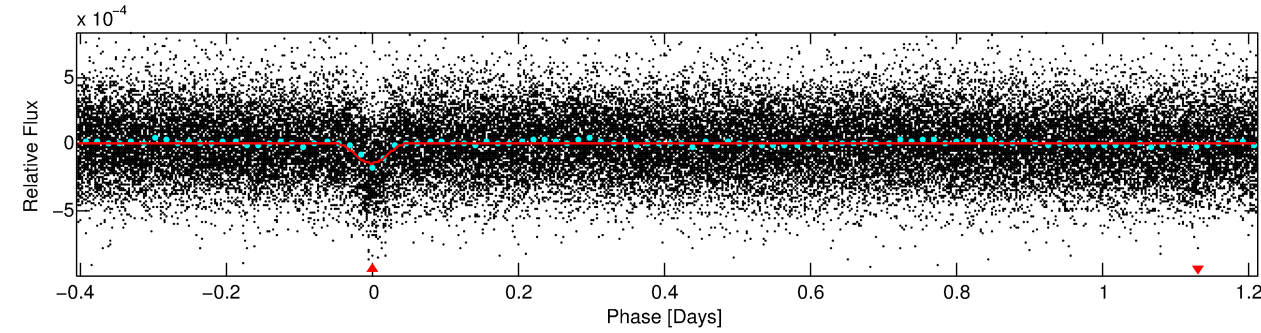
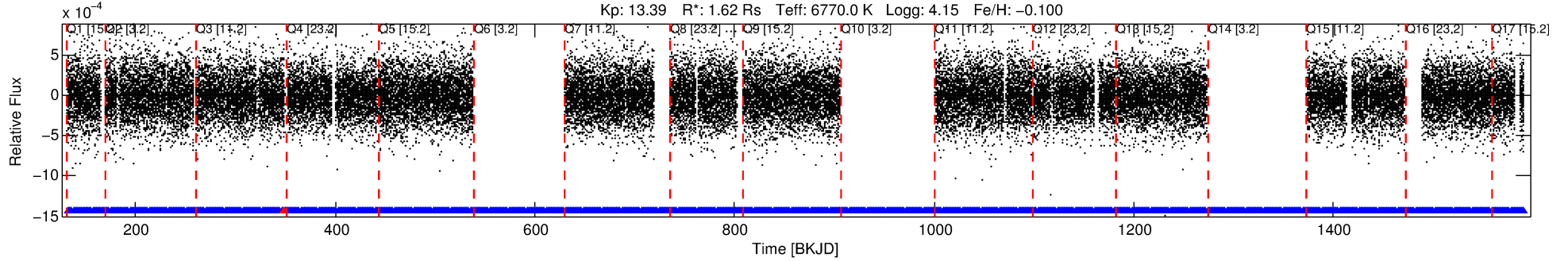
## Ephemeris Match Information For 005112567-01

No Significant Match Found

# DV One-Page Summary

KIC: 5112567 Candidate: 1 of 1 Period: 1.616 d  
KOI: K04043 Corr: No Ephemeris Match

Kp: 13.39 R\*: 1.62 Rs Teff: 6770.0 K Logg: 4.15 Fe/H: -0.100



## DV Fit Results:

Period = 1.61587 [0.00001] d  
Epoch = 133.1361 [0.0012] BKJD  
Rp/R\* = 0.0218 [0.0537]  
a/R\* = 1.72 [0.75]  
b = 1.00 [0.08]  
Seff = 5566.54 [2195.68]  
Teq = 2203 [217] K  
Rp = 3.86 [9.57] Re  
a = 0.0298 [0.0074] AU  
Ag = 1.23 [6.08] [0.04σ]  
Teffp = 3588 [4418] K [0.31σ]

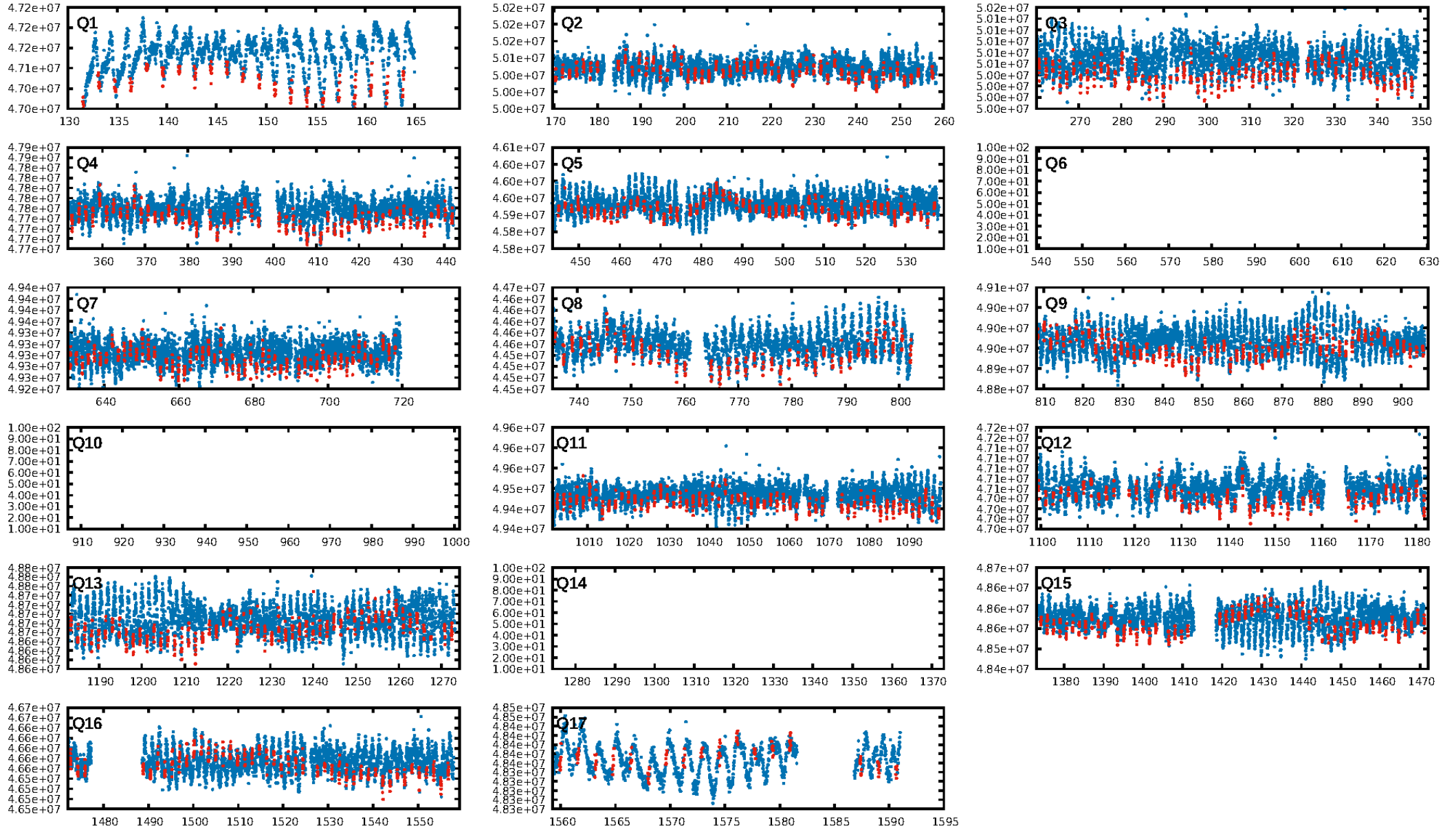
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.22e-70  
RollingBand-fgt: 1.00 [623/624]  
GhostDiagnostic-chr: 1.697  
Centroid-sig: 0.0%  
Centroid-so: 3.717 arcsec [5.24σ]  
OotOffset-rm: 5.003 arcsec [30.23σ]  
KicOffset-rm: 4.100 arcsec [24.63σ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 0.93 [13/14]  
DiffImageOverlap-fno: 1.00 [14/14]

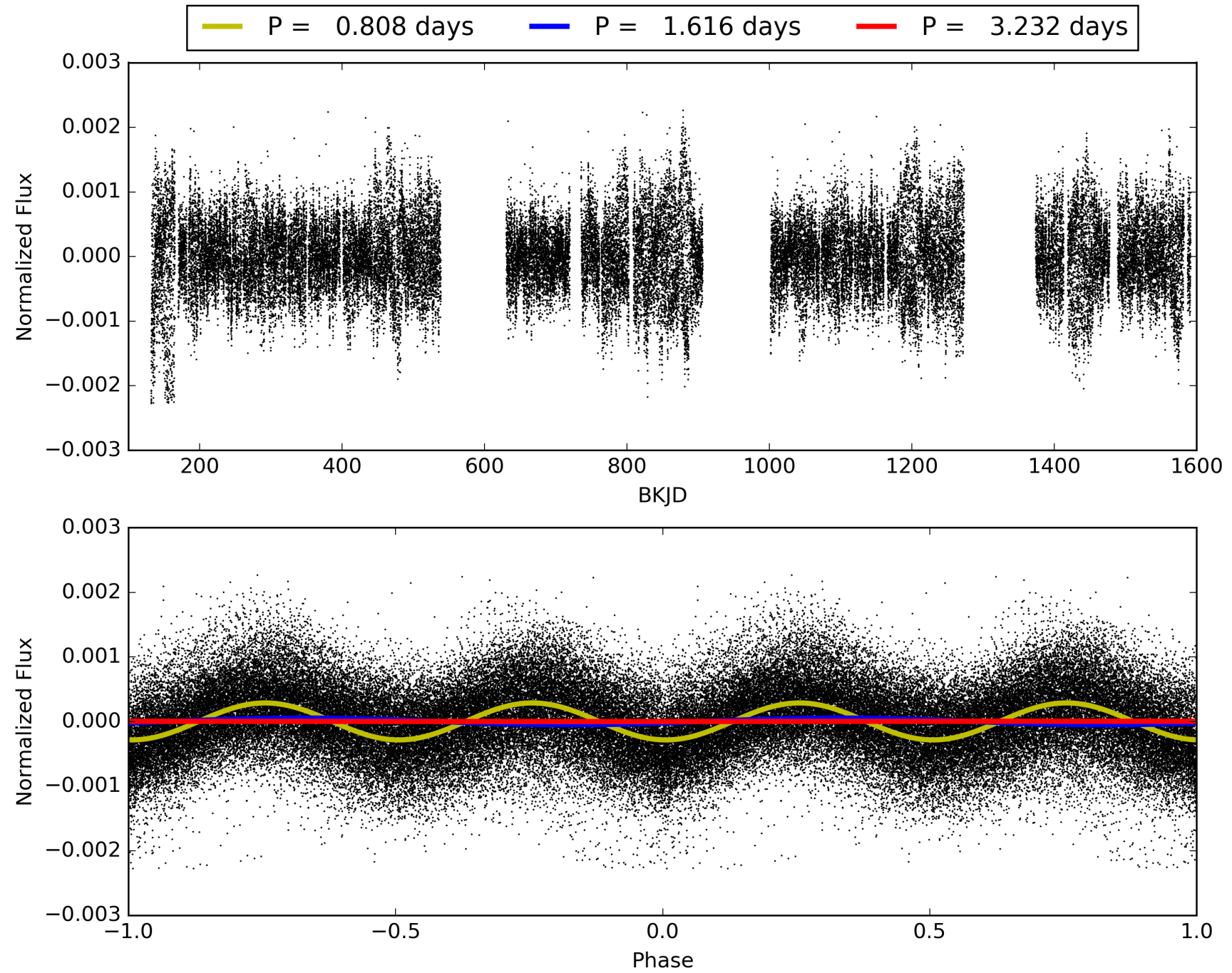
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:35:58 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005112567-01, PDC Light Curves

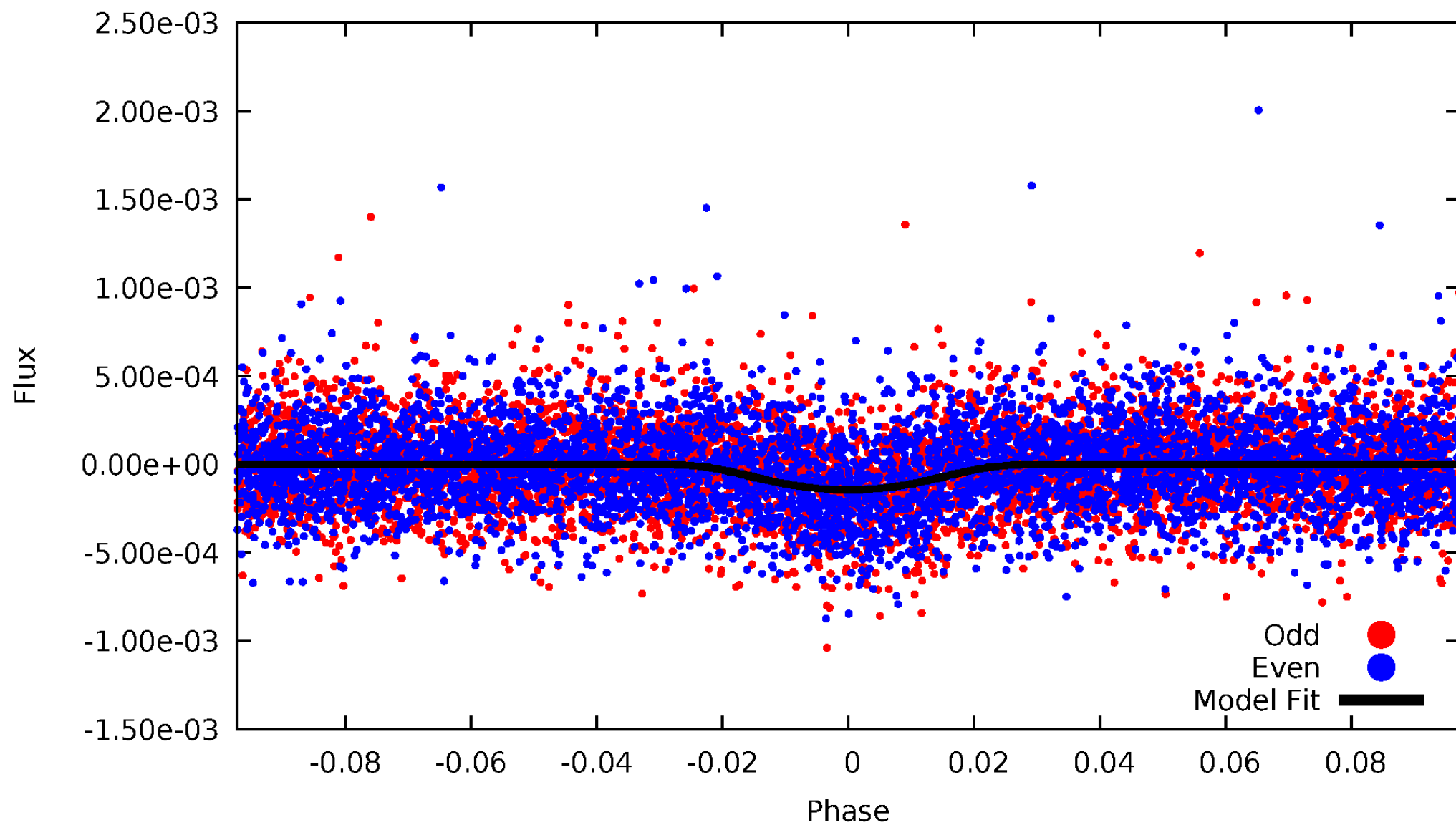


TCE 005112567-01



# DV Odd/Even

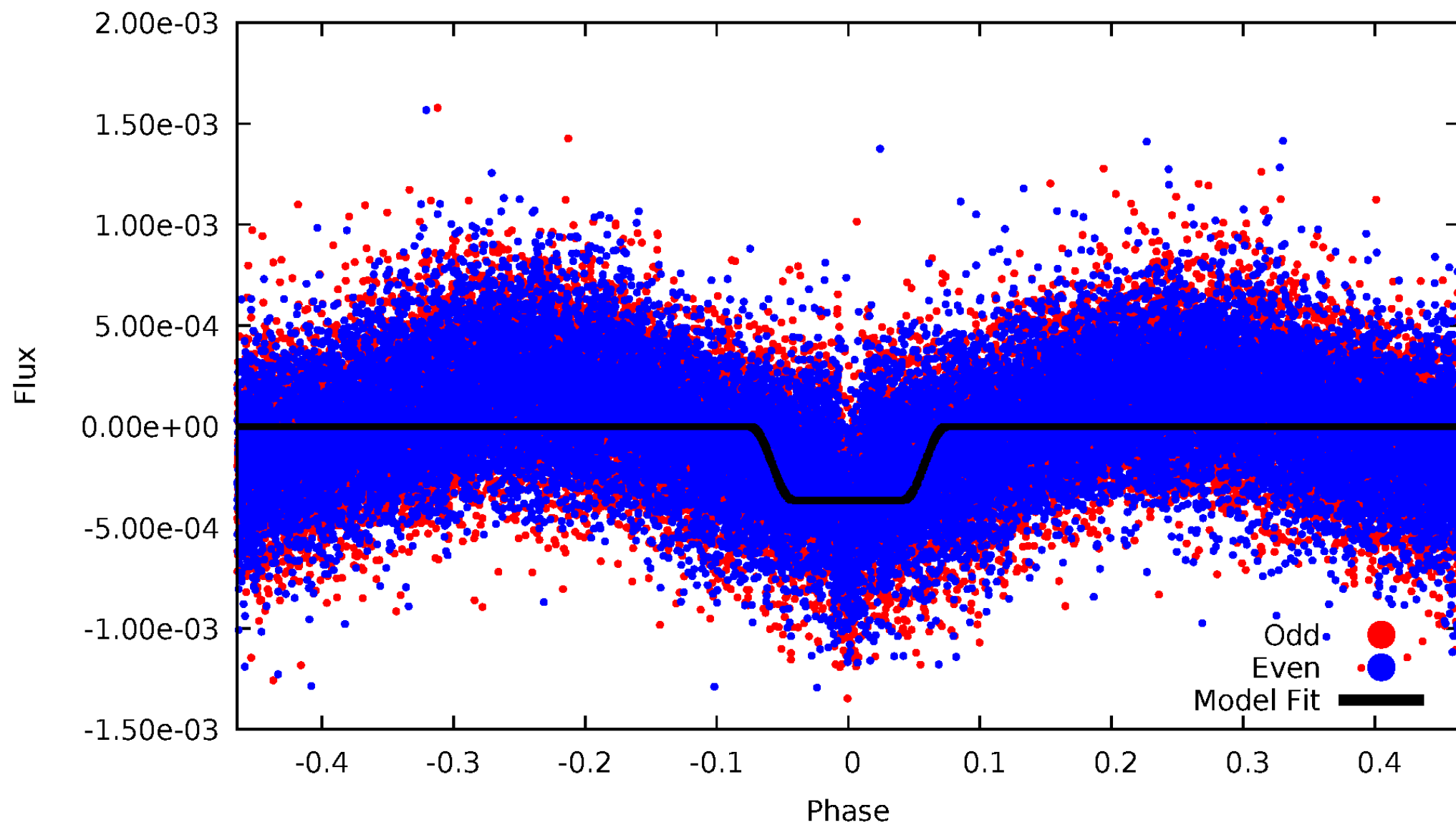
TCE 005112567-01



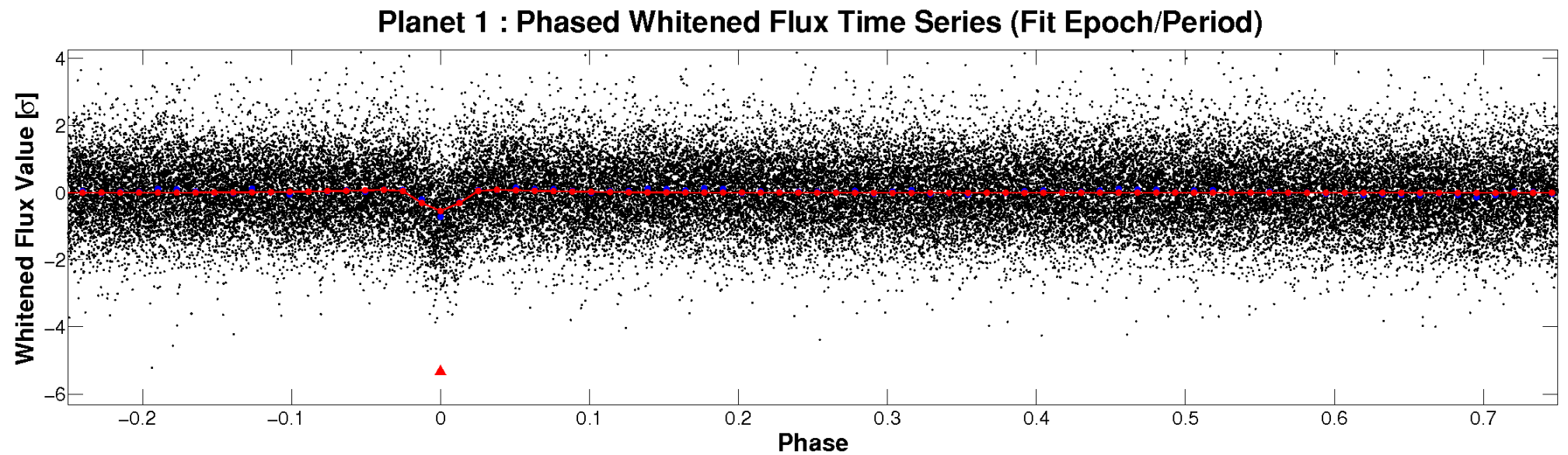
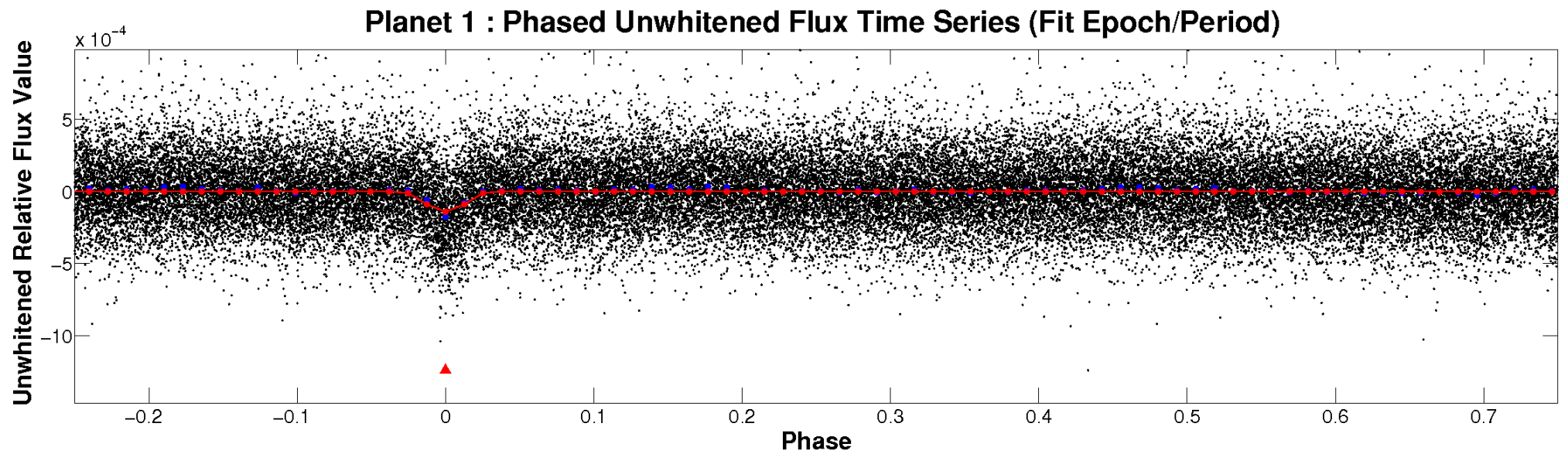


# ALT Odd/Even

TCE 005112567-01

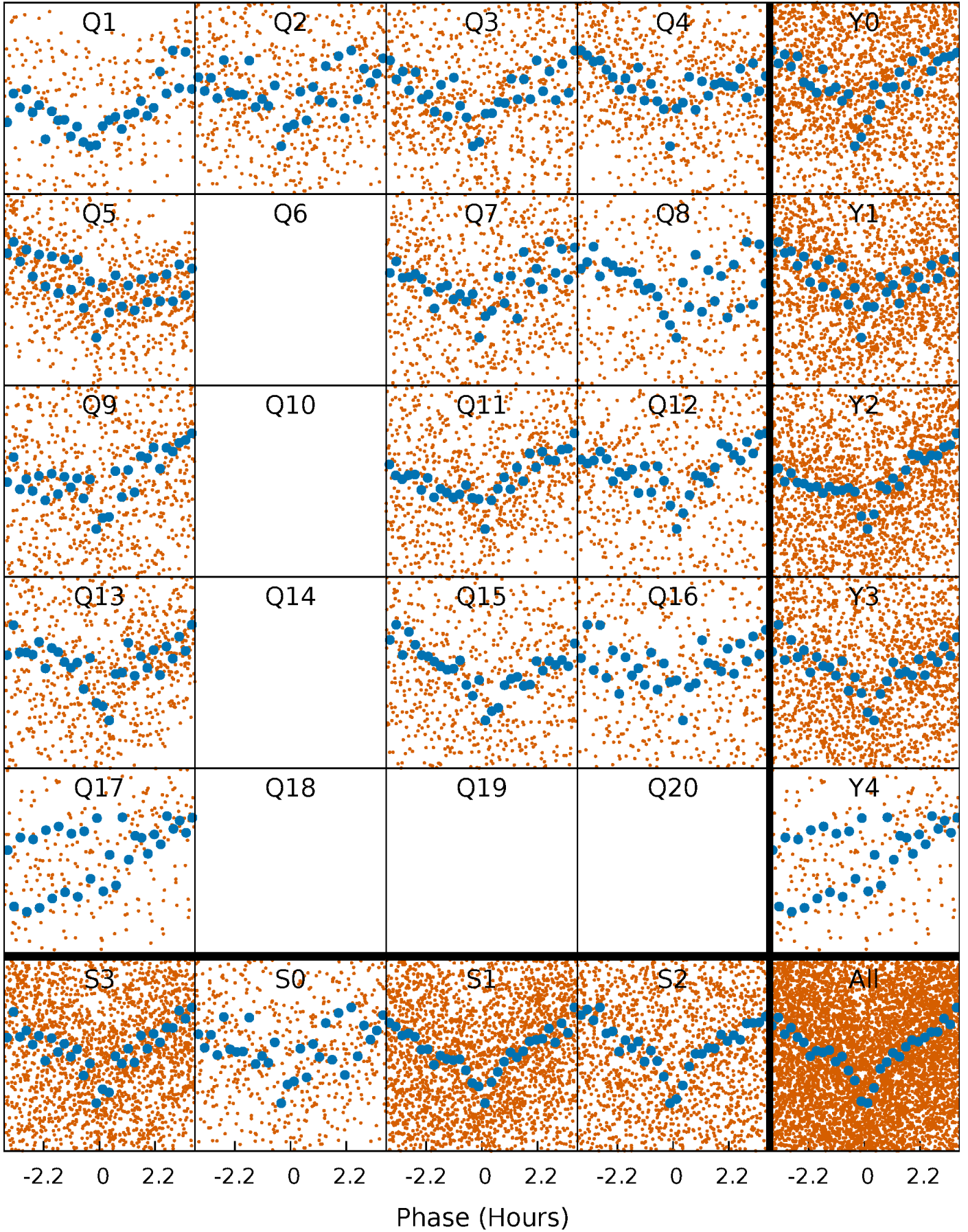


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

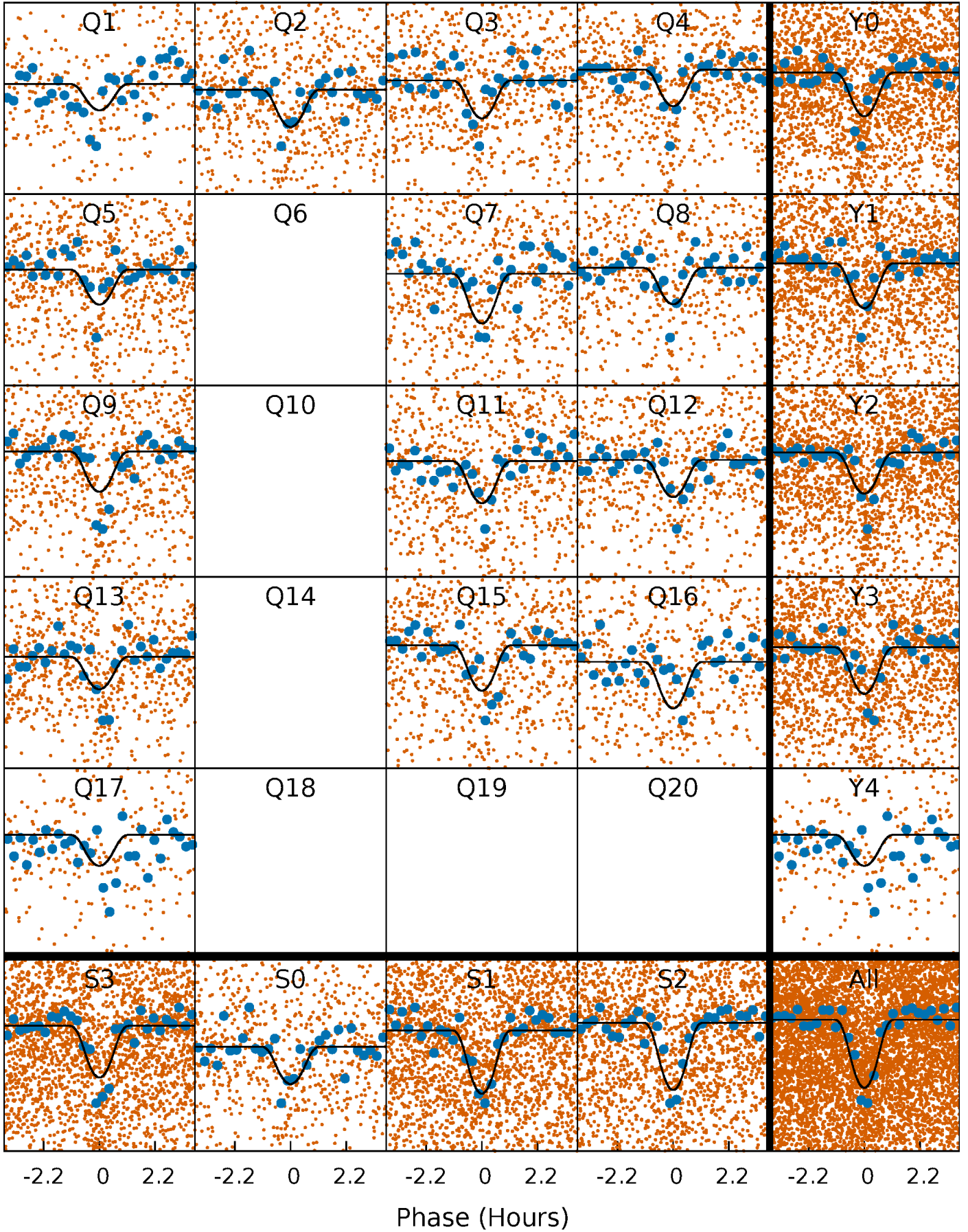
TCE 005112567-01 P= 1.615871 Days  $T_0=133.136119$  (BKJD)





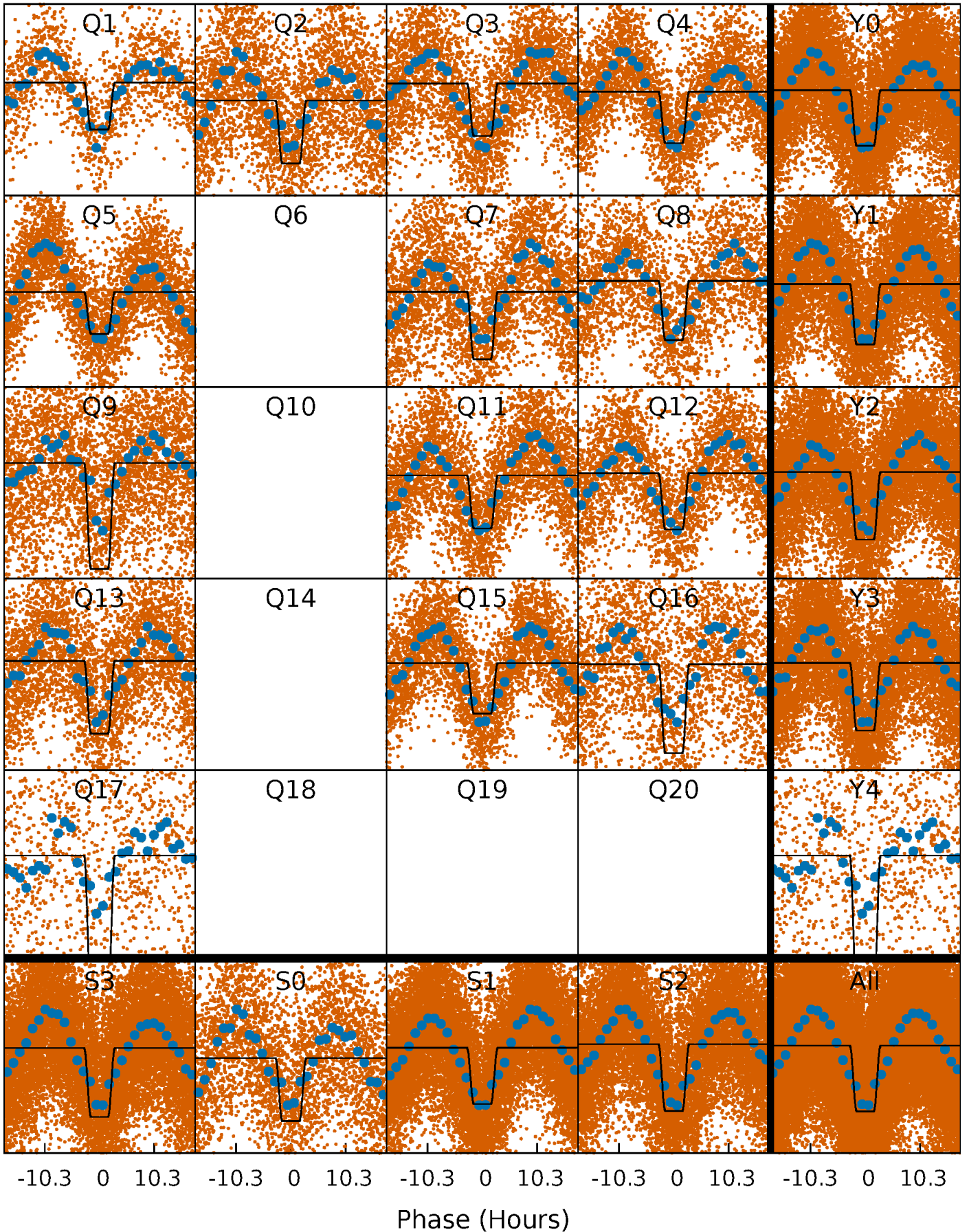
# DV Quarter-Phased Transit Curves

TCE 005112567-01 P= 1.615871 Days  $T_0=133.136119$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

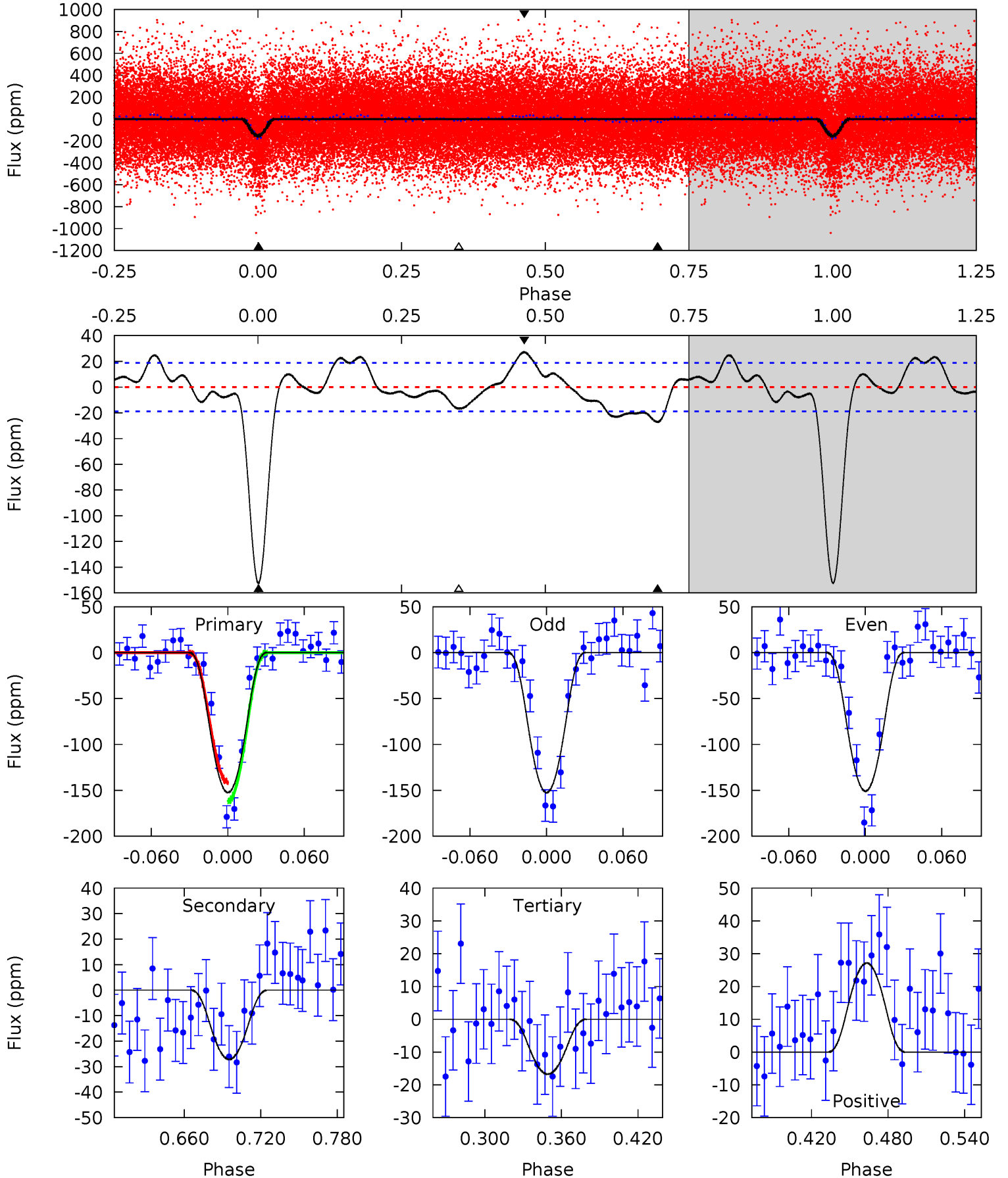
TCE 005112567-01 P= 1.615900 Days  $T_0=133.124710$  (BKJD)



# DV Model-Shift Uniqueness Test

005112567-01, P = 1.615871 Days, E = 129.904377 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
37.8	6.74	4.16	6.73	4.67	1.88	3.01	33.7	31.1	2.59	0.01	0.20	1.00	0.15	2.64

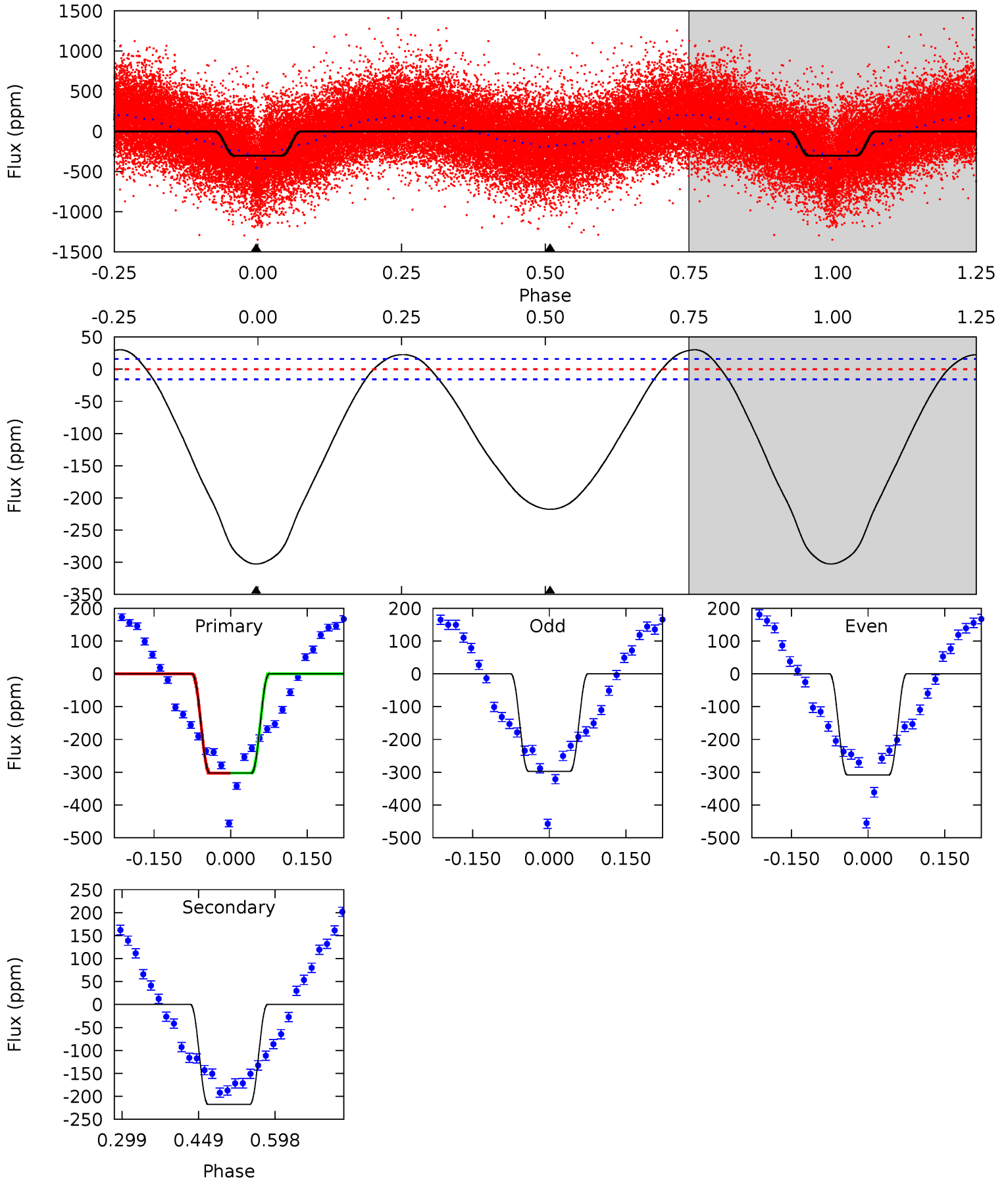




# Alt Model-Shift Uniqueness Test

005112567-01, P = 1.615900 Days, E = 131.508810 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
85.7	61.7	0	0	4.48	1.44	8.46	85.7	85.7	61.7	61.7	1.55	0.99	0.09	0.05





### Stellar Parameters For KIC 005112567

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6770^{+189}_{-283}$	$4.150^{+0.158}_{-0.193}$	$-0.100^{+0.250}_{-0.350}$	$1.623^{+0.486}_{-0.397}$	$1.365^{+0.196}_{-0.261}$	$0.450^{+0.442}_{-0.224}$
	+3%/-4%	+4%/-5%	+250%/-350%	+30%/-24%	+14%/-19%	+98%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 005112567-01 / KOI 4043.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-27 \pm 4$	$7.99^{+7.91}_{-5.62}$	$3095^{+242}_{-211}$	$-2644^{+6929}_{-446}$	$0.214^{+2.004}_{-0.162}$
Alt.	$-218 \pm 4$	$8.78^{+7.37}_{-6.13}$	$3086^{+270}_{-214}$	$3875^{+2824}_{-1151}$	$1.420^{+13.929}_{-1.017}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

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

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

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

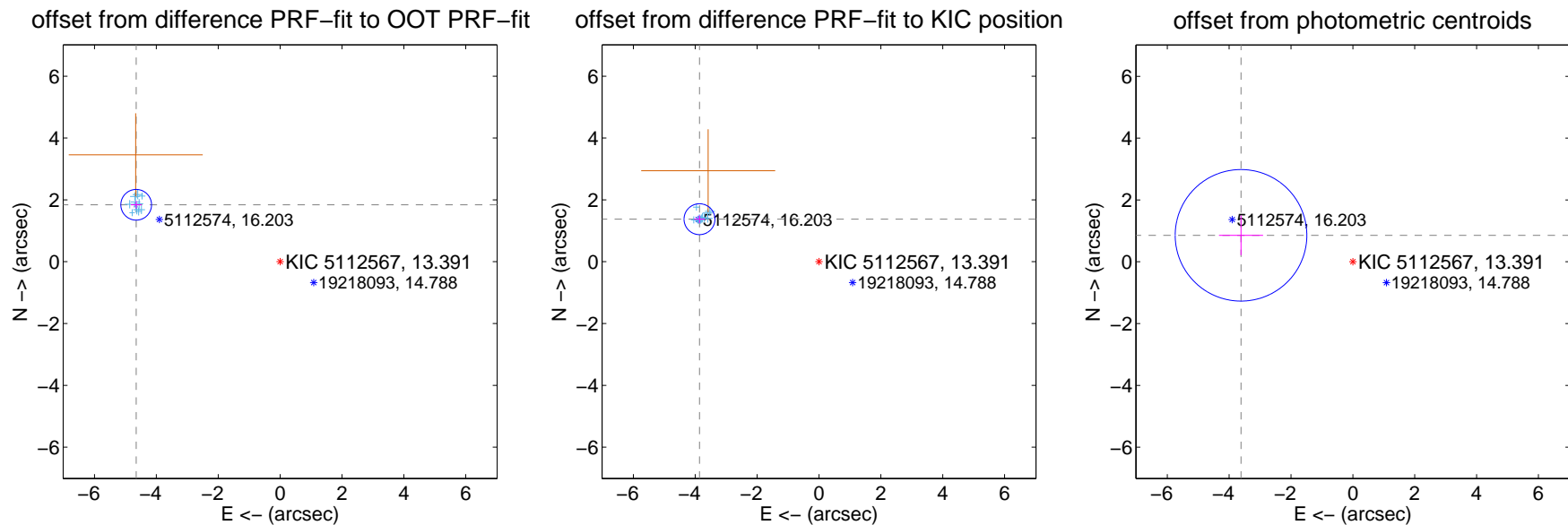
## DV Centroid Data

Supplemental centroid analysis for 005112567-01. Kepler magnitude: 13.39. Transit SNR 18.61

There are 13 quarters with good PRF difference image offsets

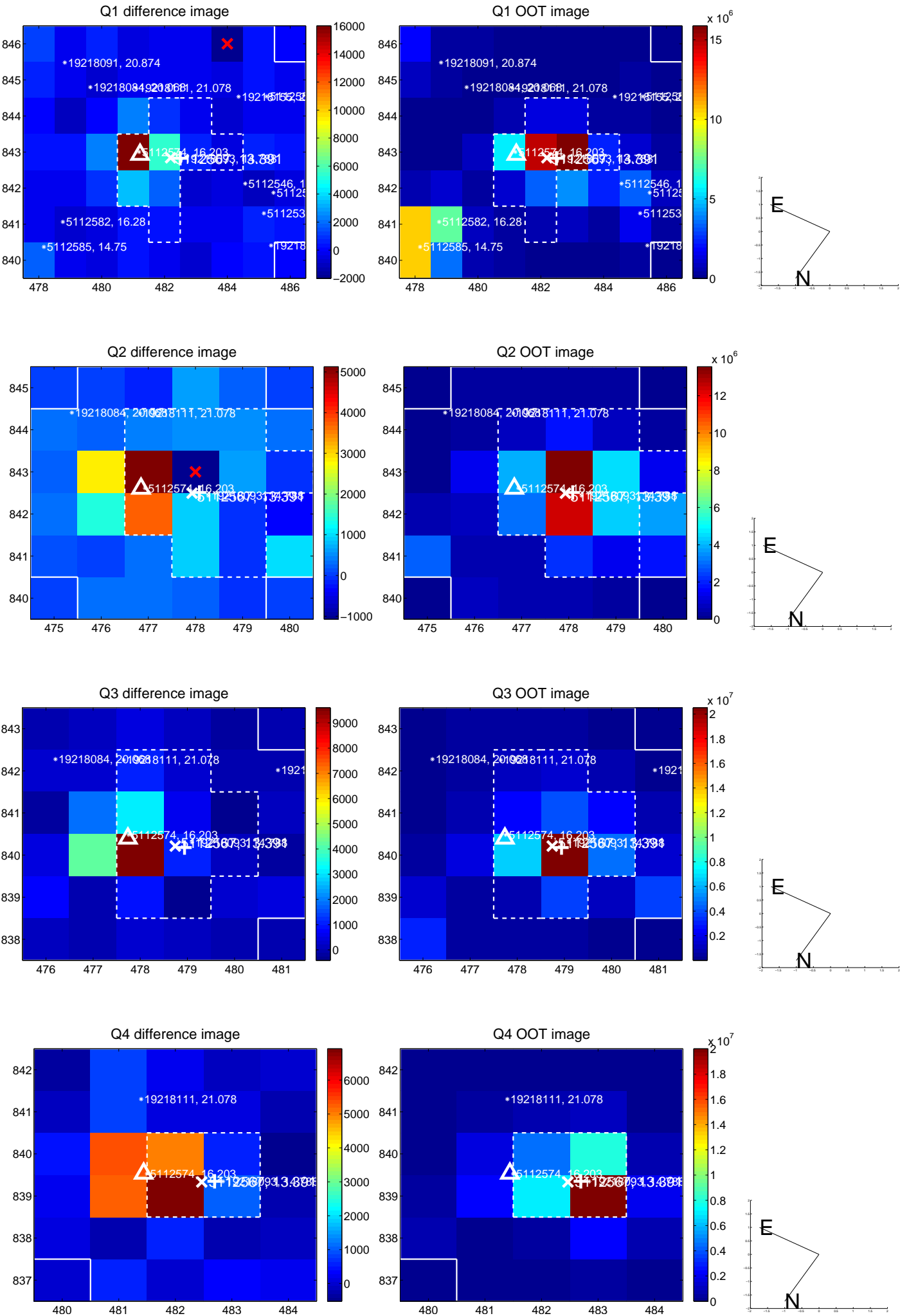
The direct PRF centroid is offset from the target star catalog position by about 1.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.003 \pm 0.165$	<b>30.23</b>	$4.652 \pm 0.171$	$1.841 \pm 0.121$
PRF-fit source offset from KIC position	$4.100 \pm 0.167$	<b>24.63</b>	$3.863 \pm 0.171$	$1.375 \pm 0.121$
photometric centroid source offset	$3.72 \pm 0.71$	<b>5.24</b>	$3.62 \pm 0.71$	$0.86 \pm 0.64$

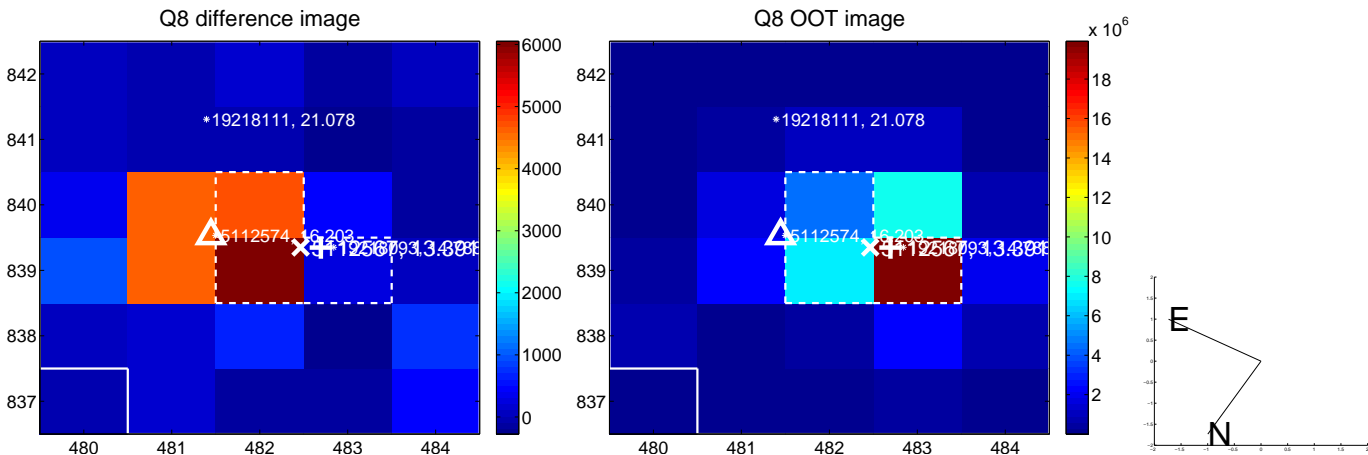
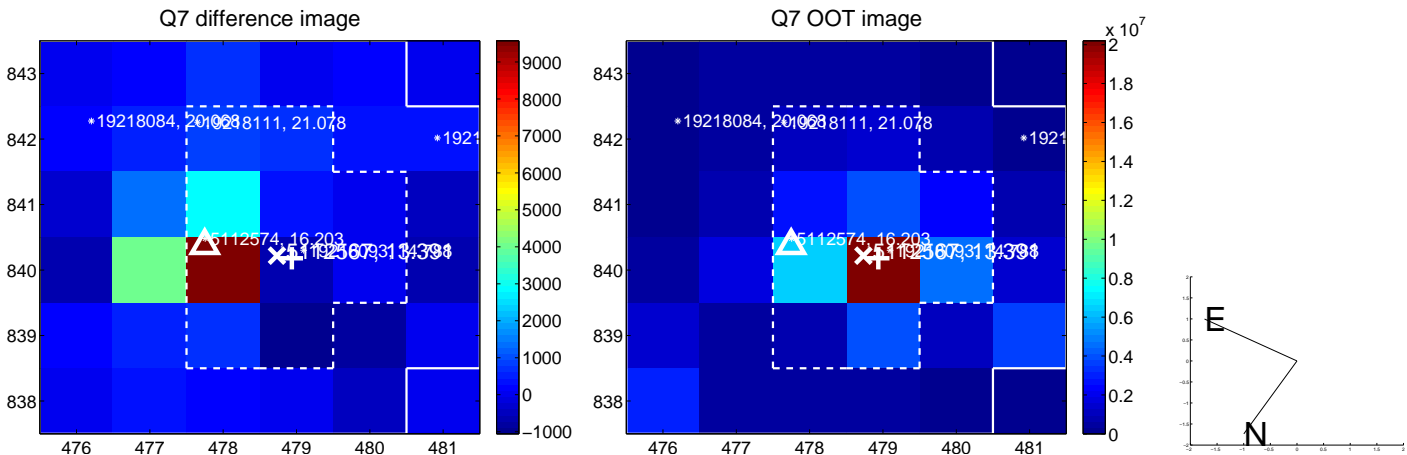
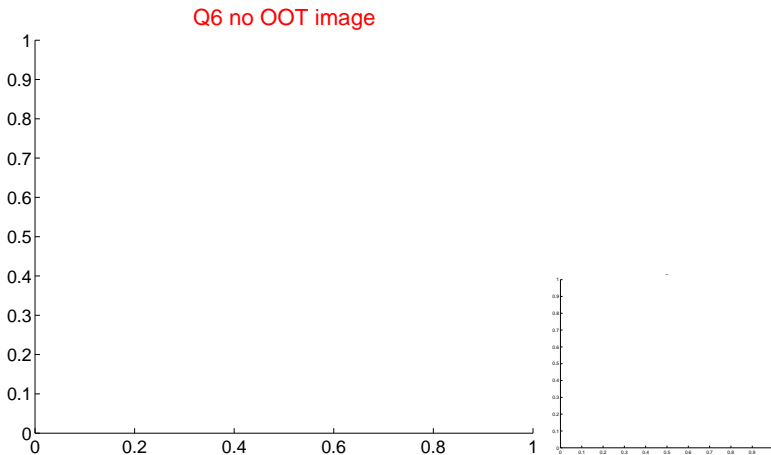
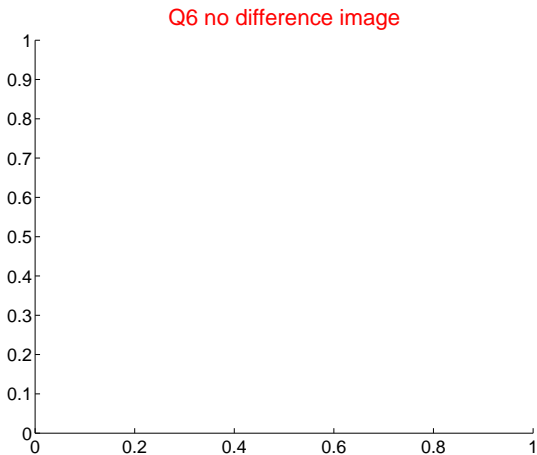
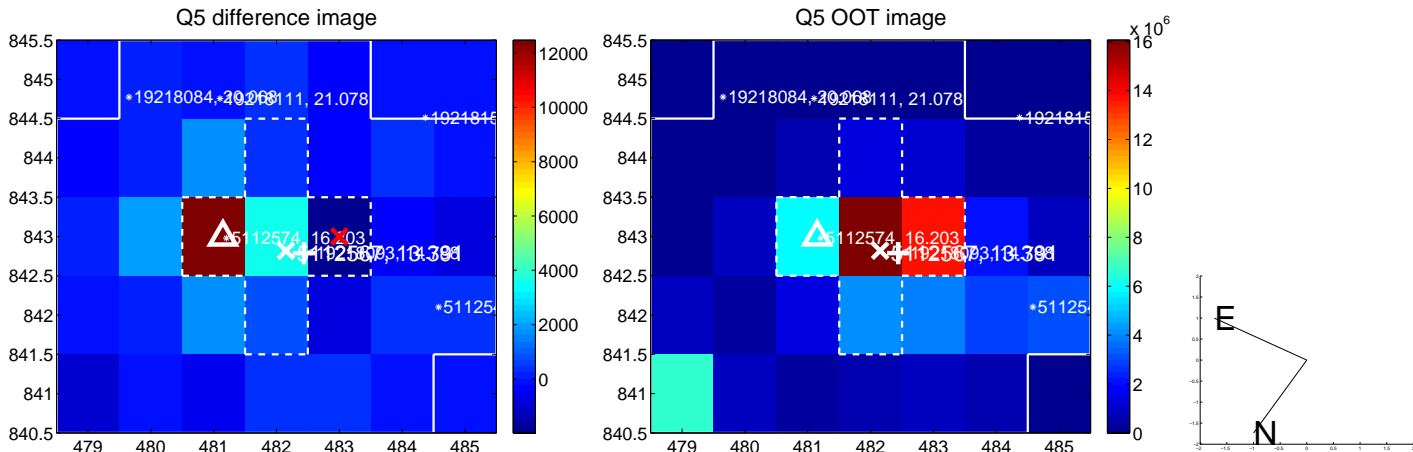


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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.

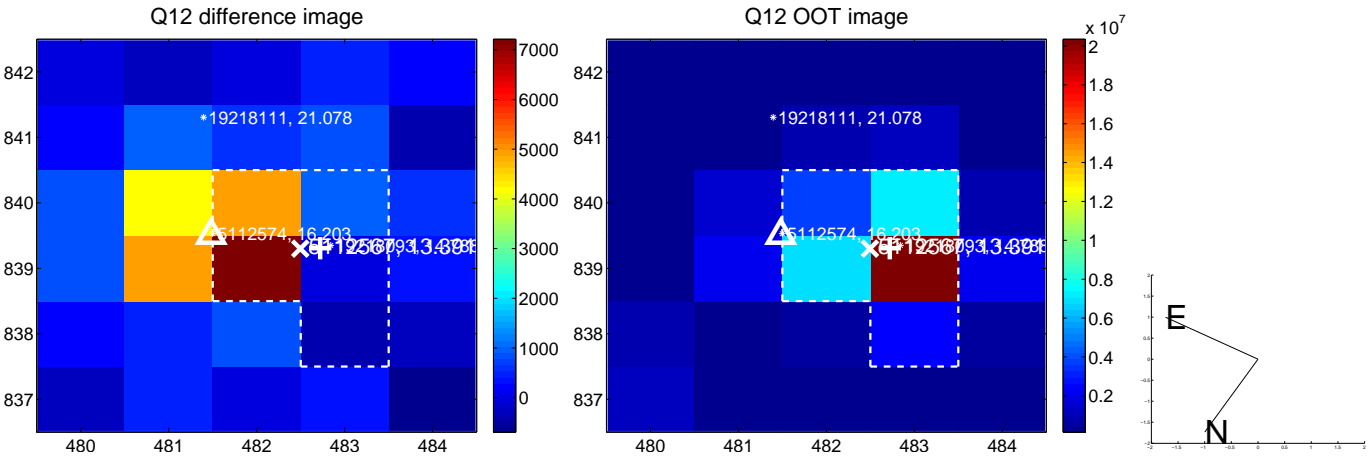
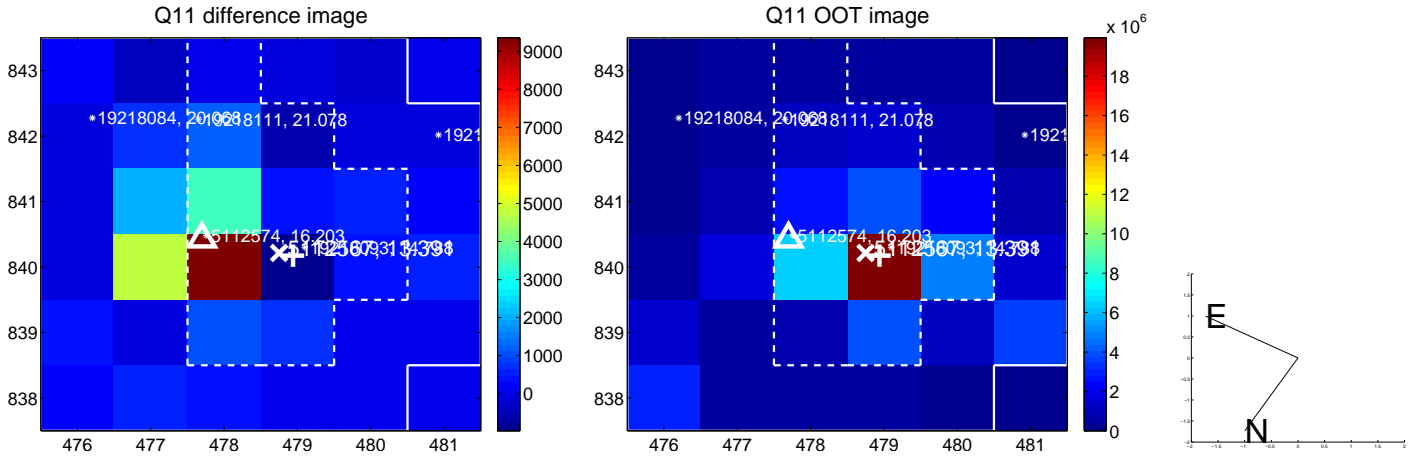
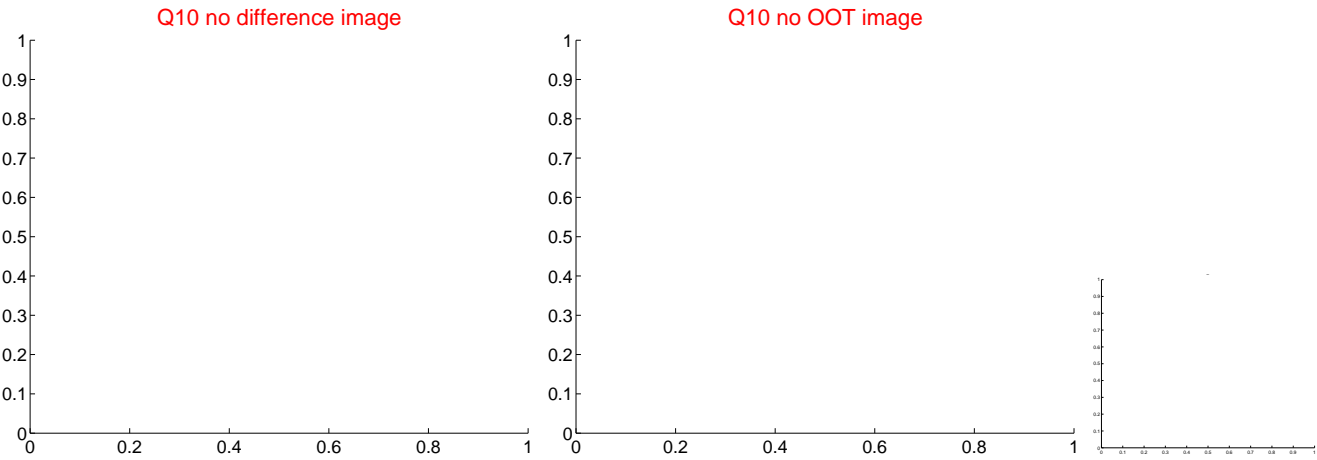
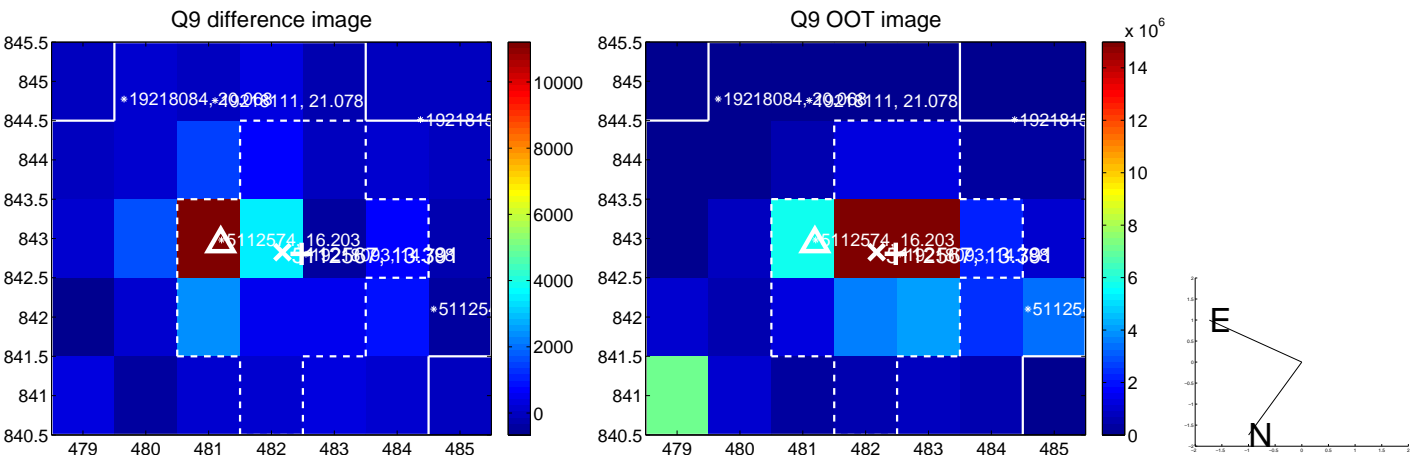


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

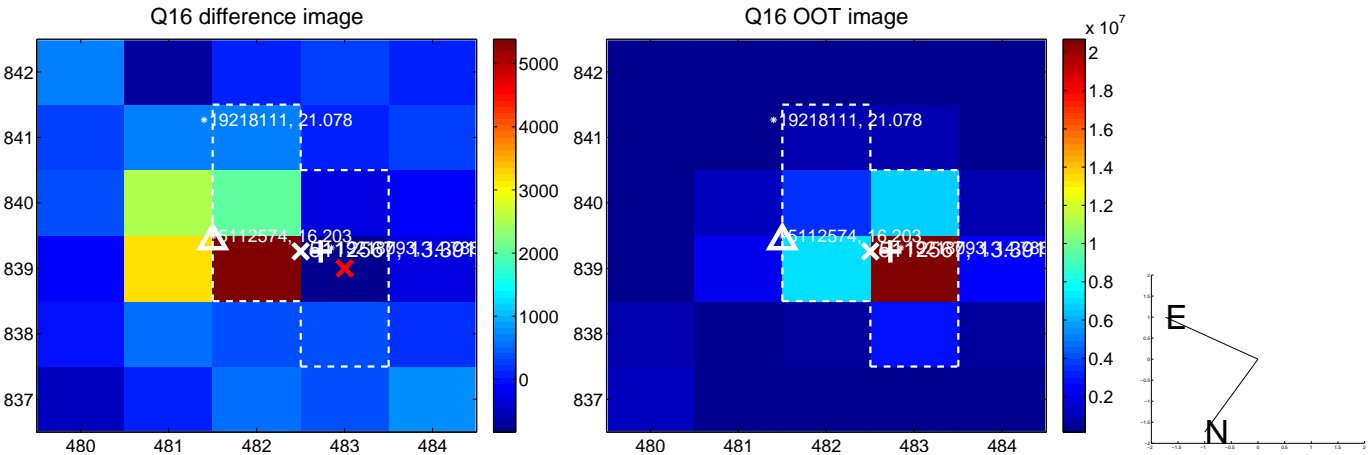
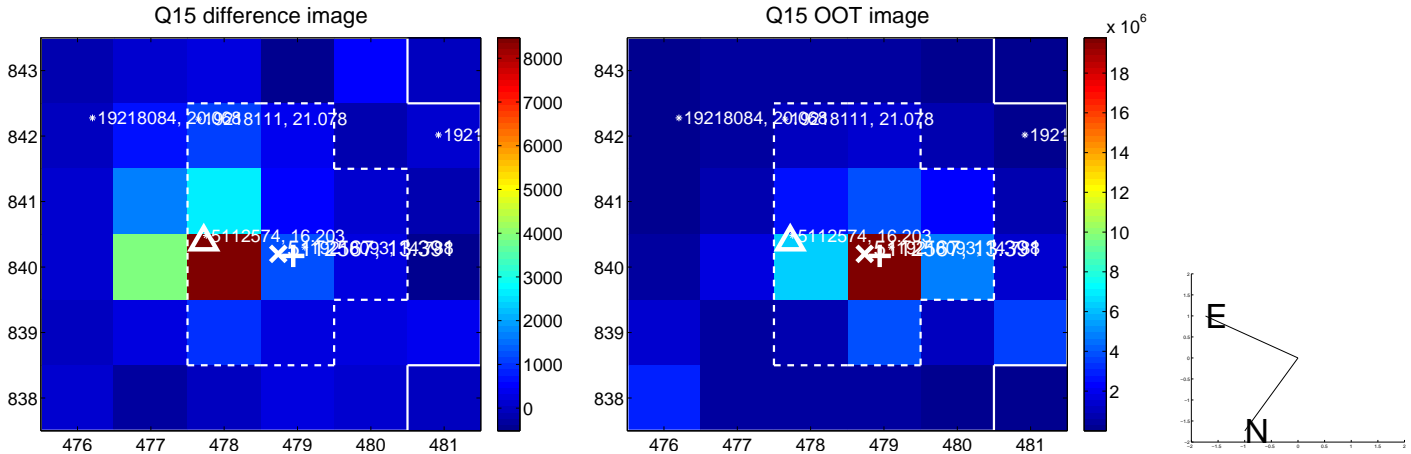
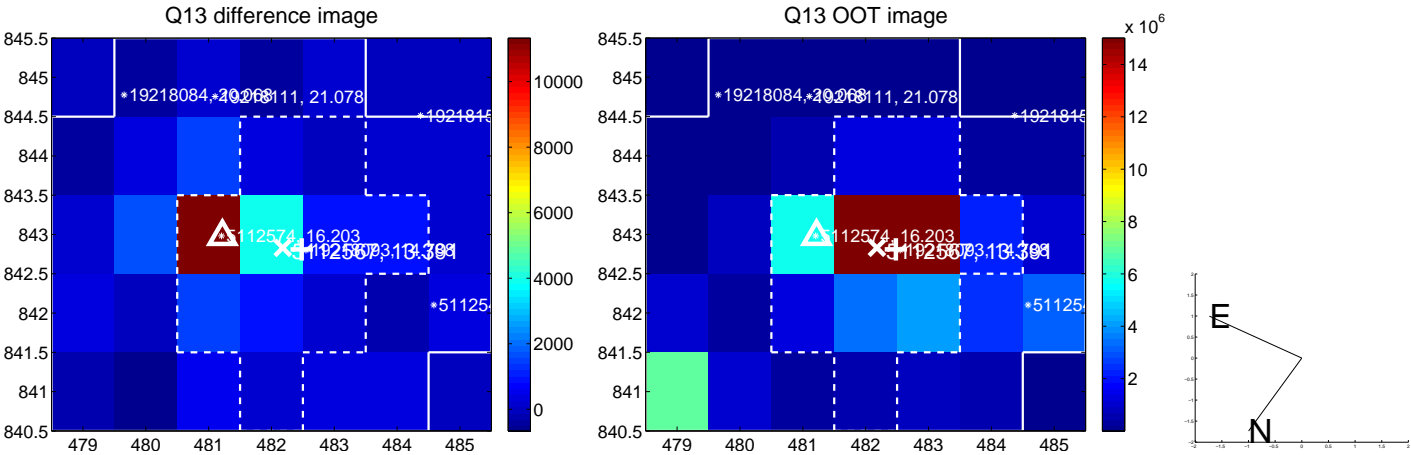




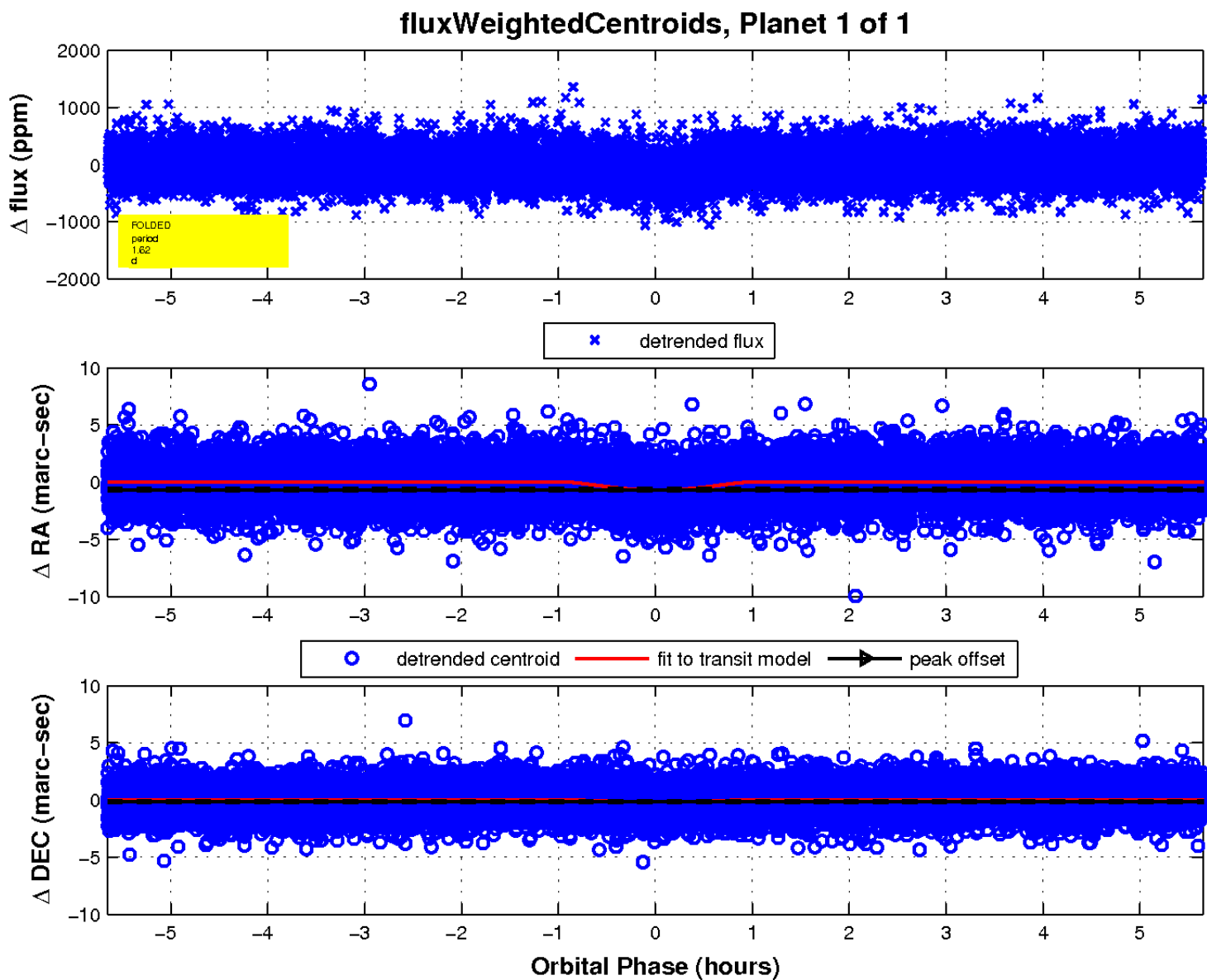
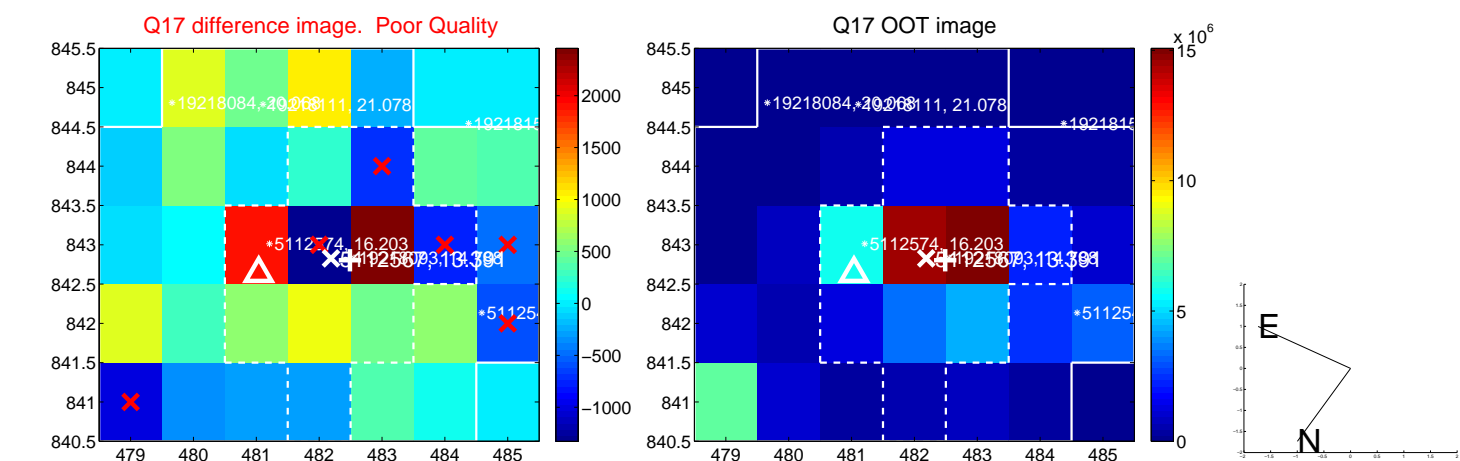
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

