

# KIC 001724842

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001724842-01	OBS	No	468.864703	507.781908	375.8	14.537	9.0	9.0	1.15	5631	2.67	0.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001724842-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

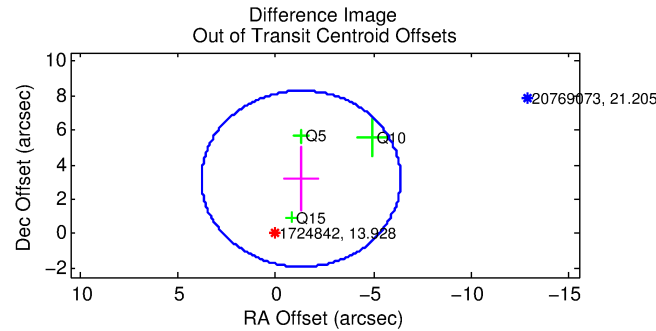
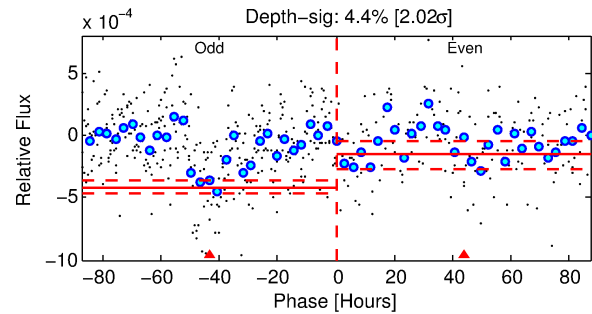
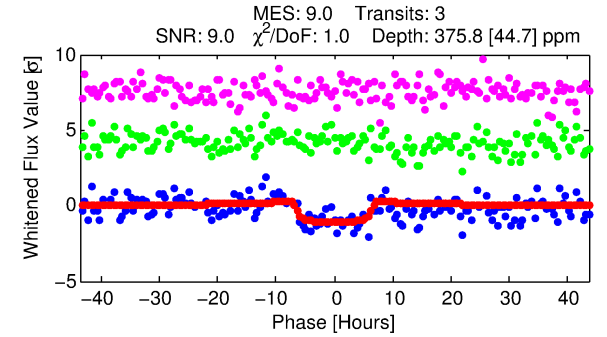
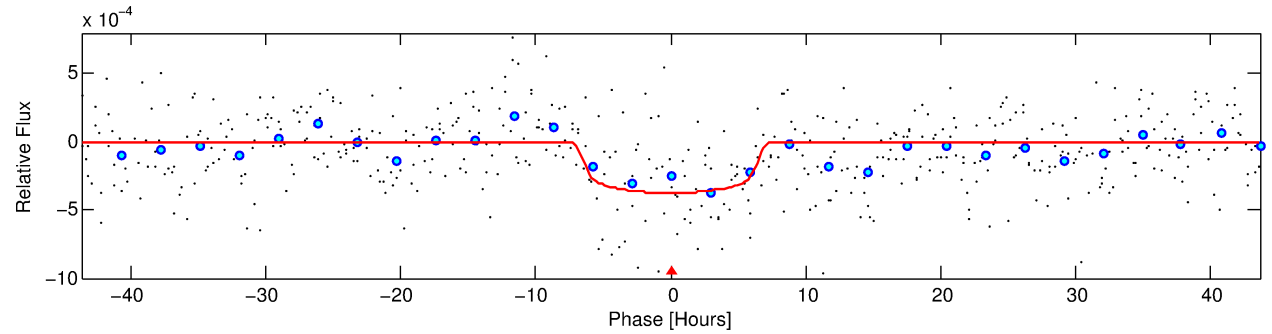
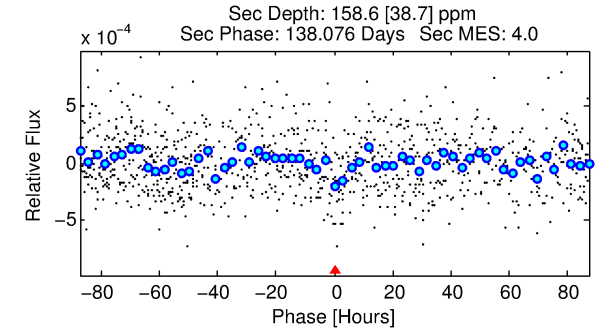
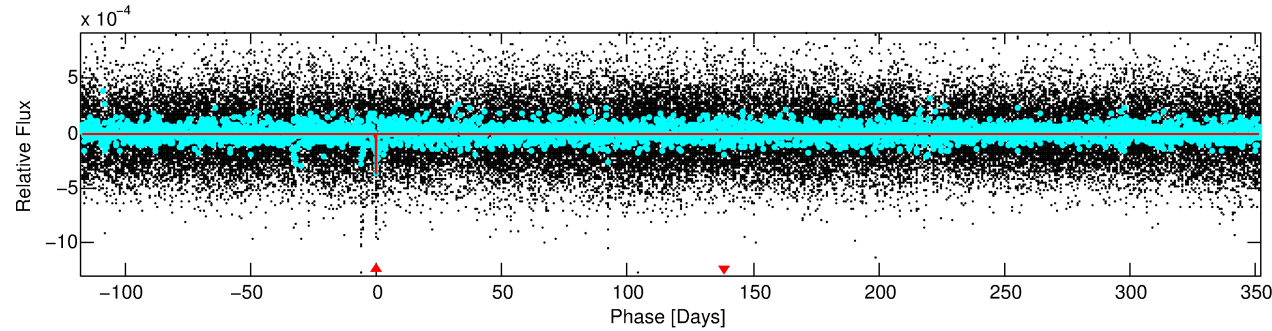
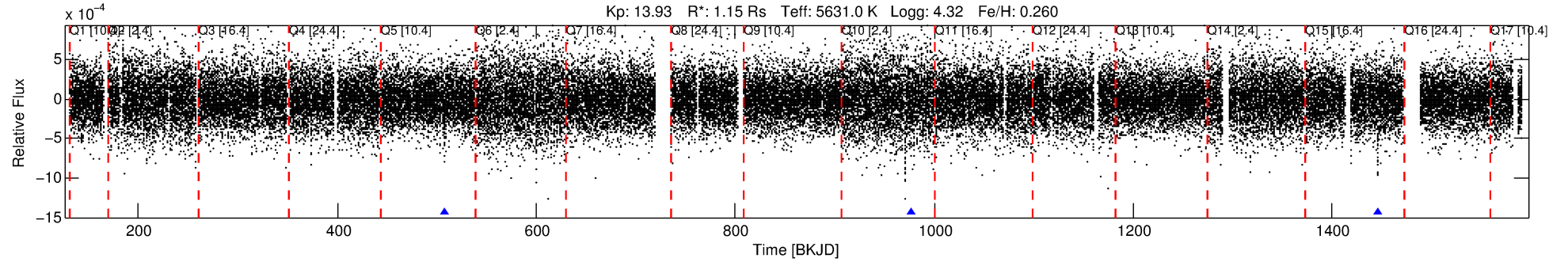
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 001724842-01

No Significant Match Found

# DV One-Page Summary

KIC: 1724842 Candidate: 1 of 1 Period: 468.865 d



## DV Fit Results:

Period = 468.86470 [0.01610] d  
Epoch = 507.7819 [0.0205] BKJD  
Rp/R\* = 0.0213 [0.0031]  
a/R\* = 118.88 [68.38]  
b = 0.90 [0.12]  
Seff = 0.85 [0.20]  
Teff = 245 [14] K  
Rp = 2.67 [0.57] Re  
a = 1.1831 [0.1714] AU  
Ag = 17079.58 [7576.96] [2.25σ]  
Teffp = 4333 [418] K [9.78σ]

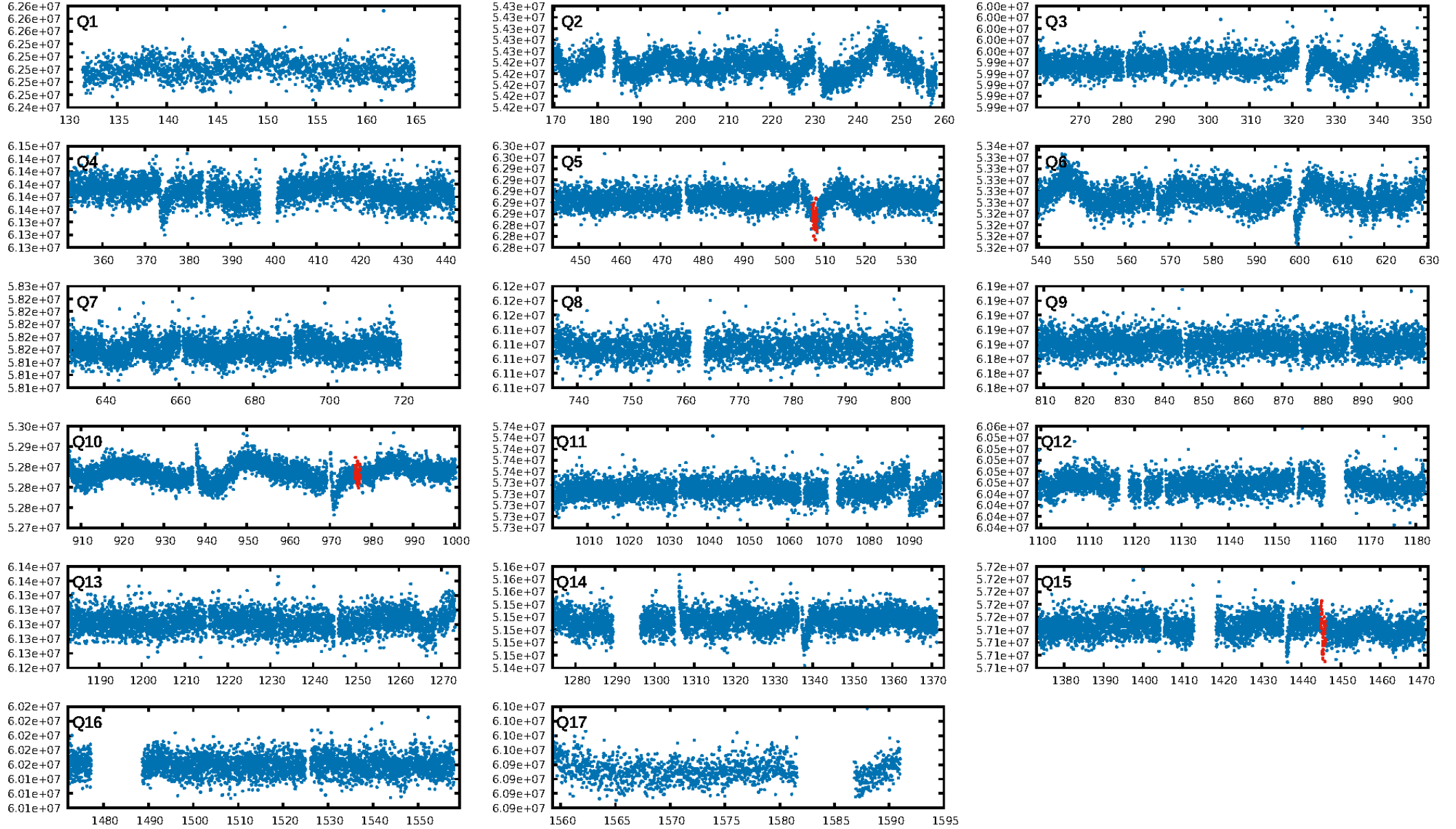
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.0%  
ModelChiSquareGof-sig: 97.9%  
Bootstrap-pfa: 1.39e-14  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 2.719  
Centroid-sig: 29.9%  
Centroid-so: 1.771 arcsec [1.48σ]  
OotOffset-rm: 3.436 arcsec [2.02σ]  
KicOffset-rm: 3.258 arcsec [1.88σ]  
OotOffset-st: 1/1/0/1 [3]  
KicOffset-st: 1/1/0/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

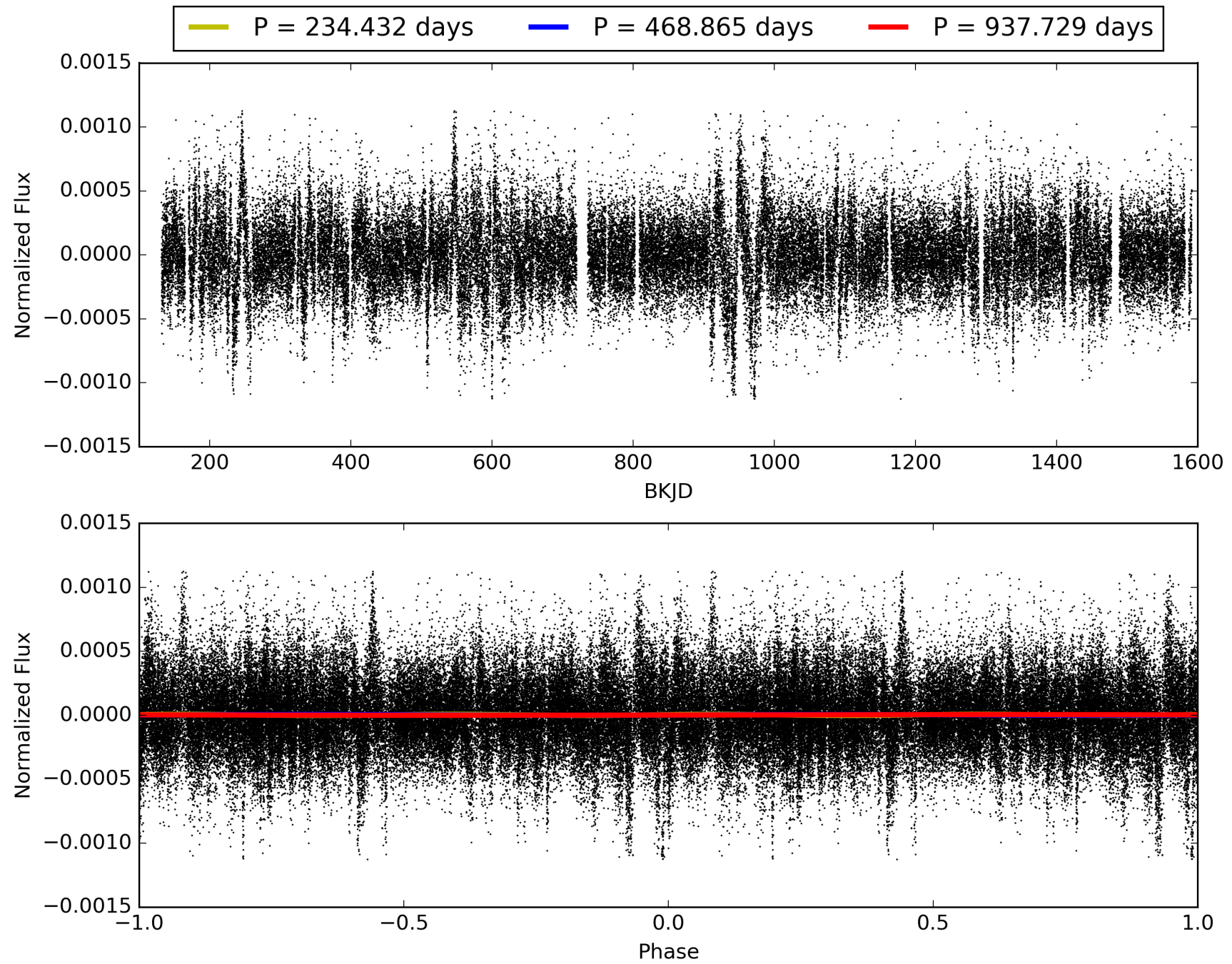
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:45:09 Z

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

# TCE 001724842-01, PDC Light Curves

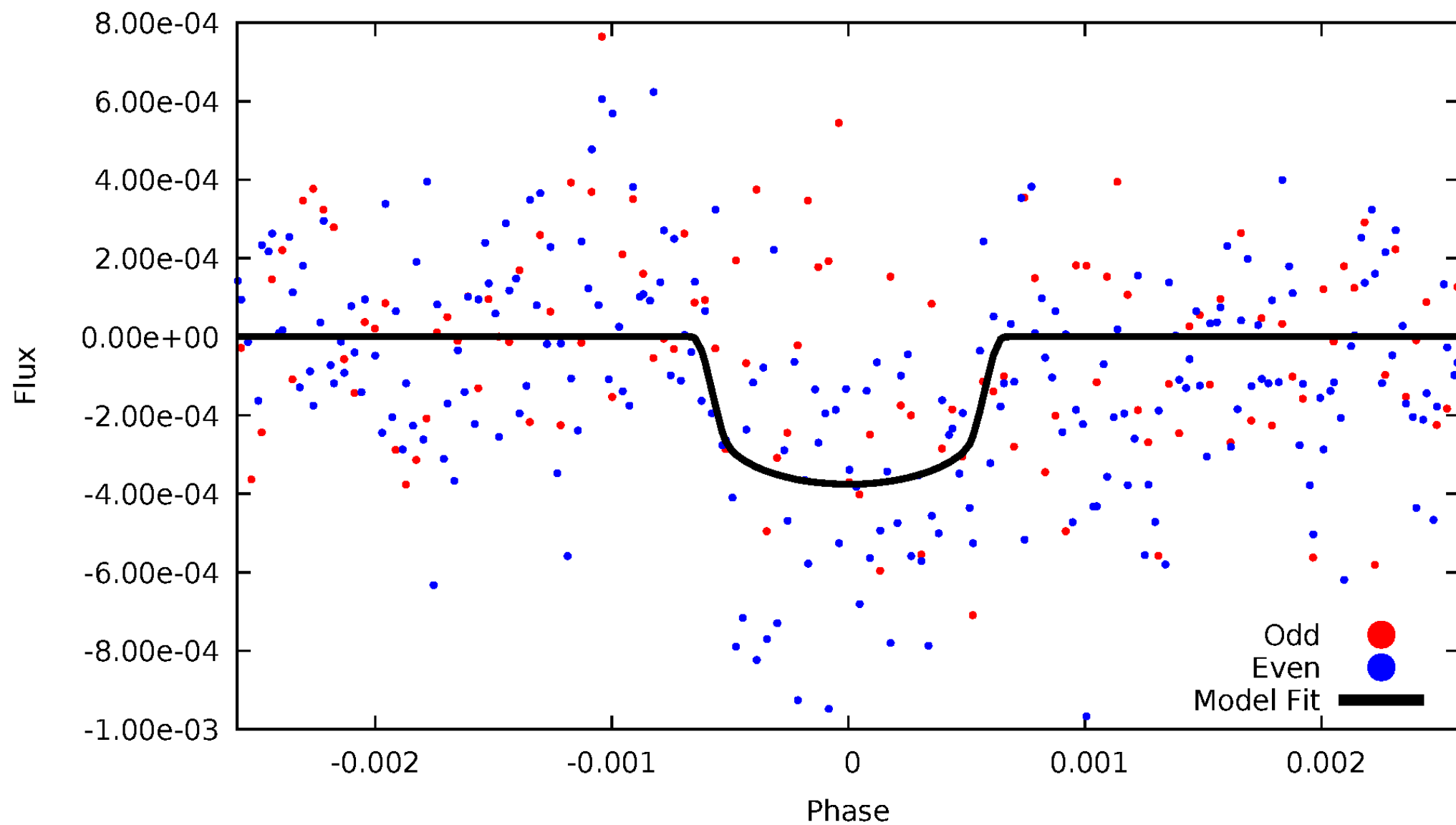


TCE 001724842-01



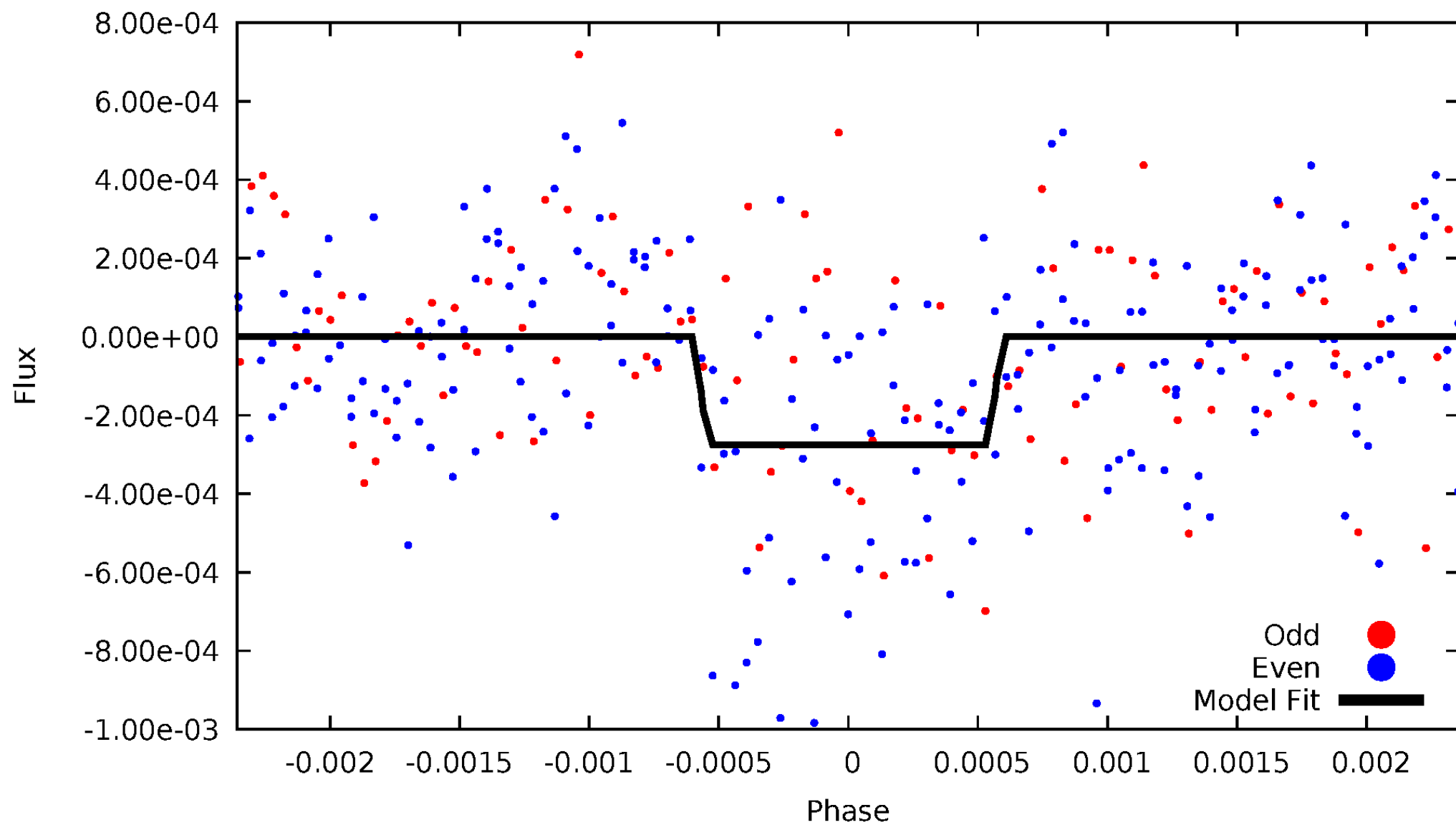
# DV Odd/Even

TCE 001724842-01



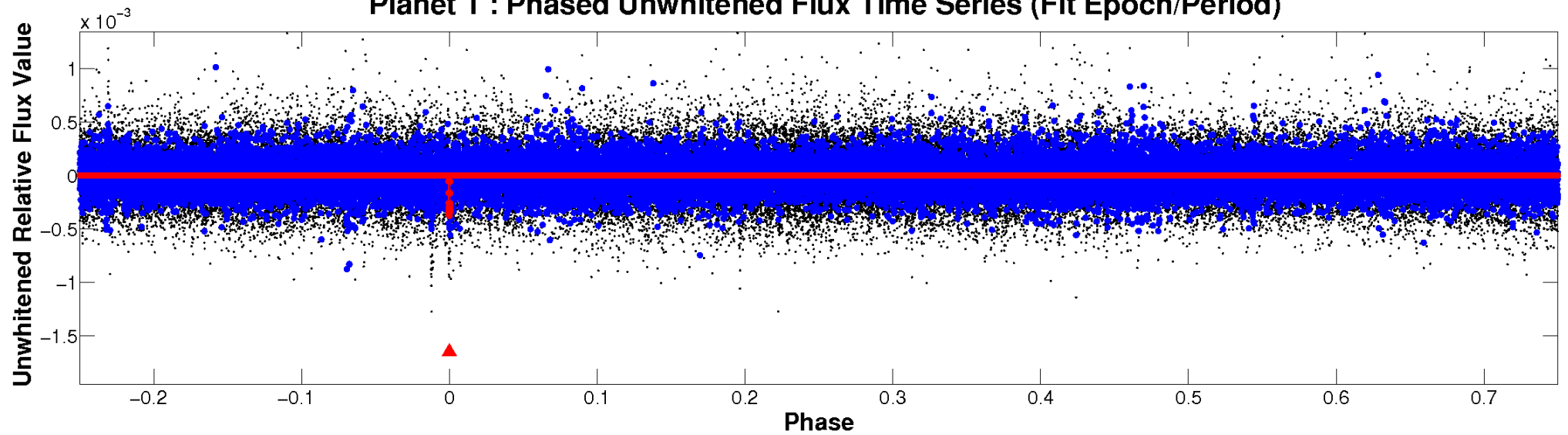
# ALT Odd/Even

TCE 001724842-01

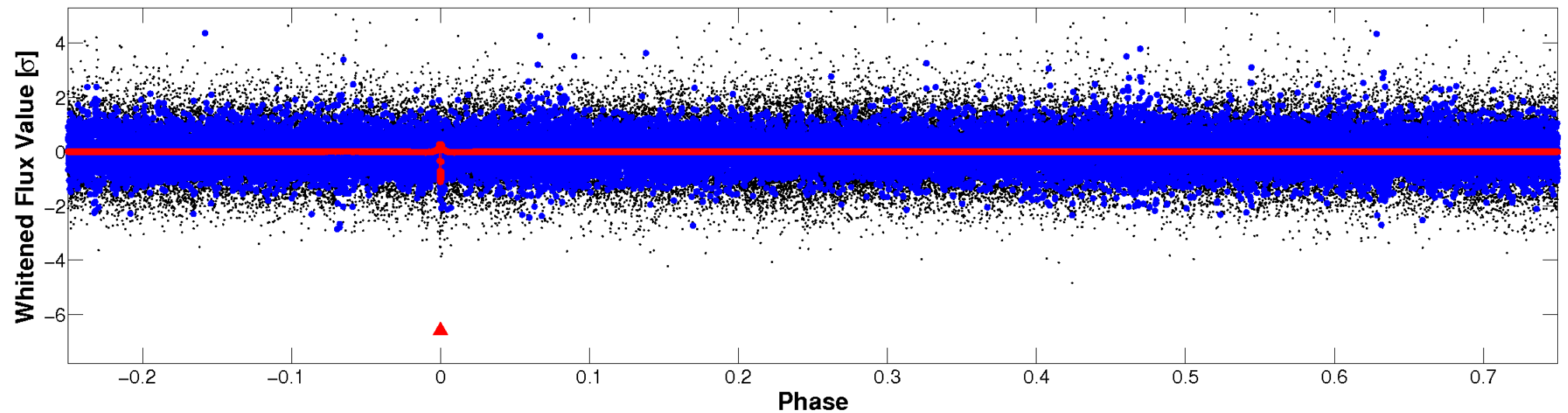


# Non-Whitened Vs. Whitened Light Curve

**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 001724842-01 P=468.864703 Days  $T_0=507.781908$  (BKJD)



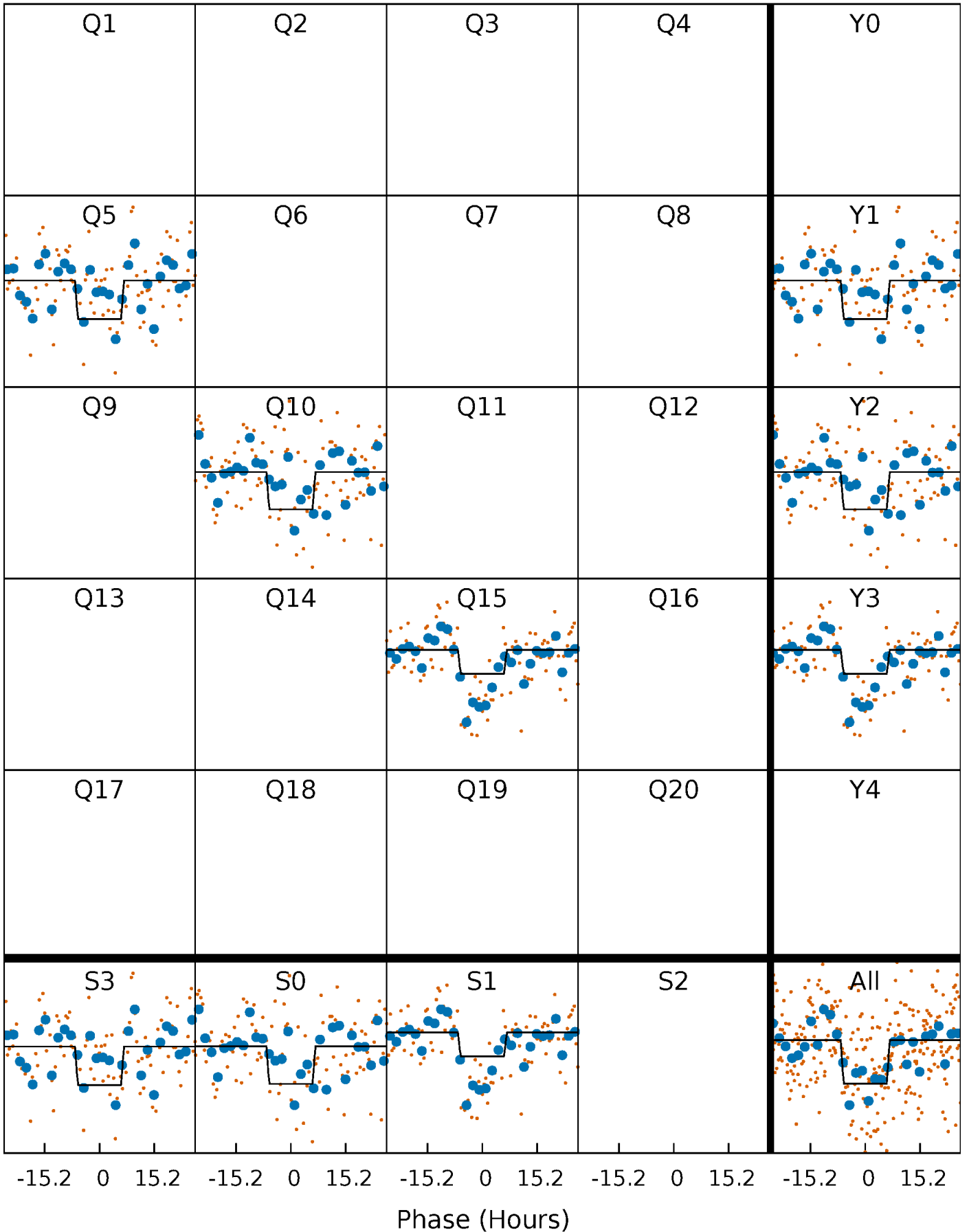
# DV Quarter-Phased Transit Curves

TCE 001724842-01   P=468.864703 Days    $T_0=507.781908$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

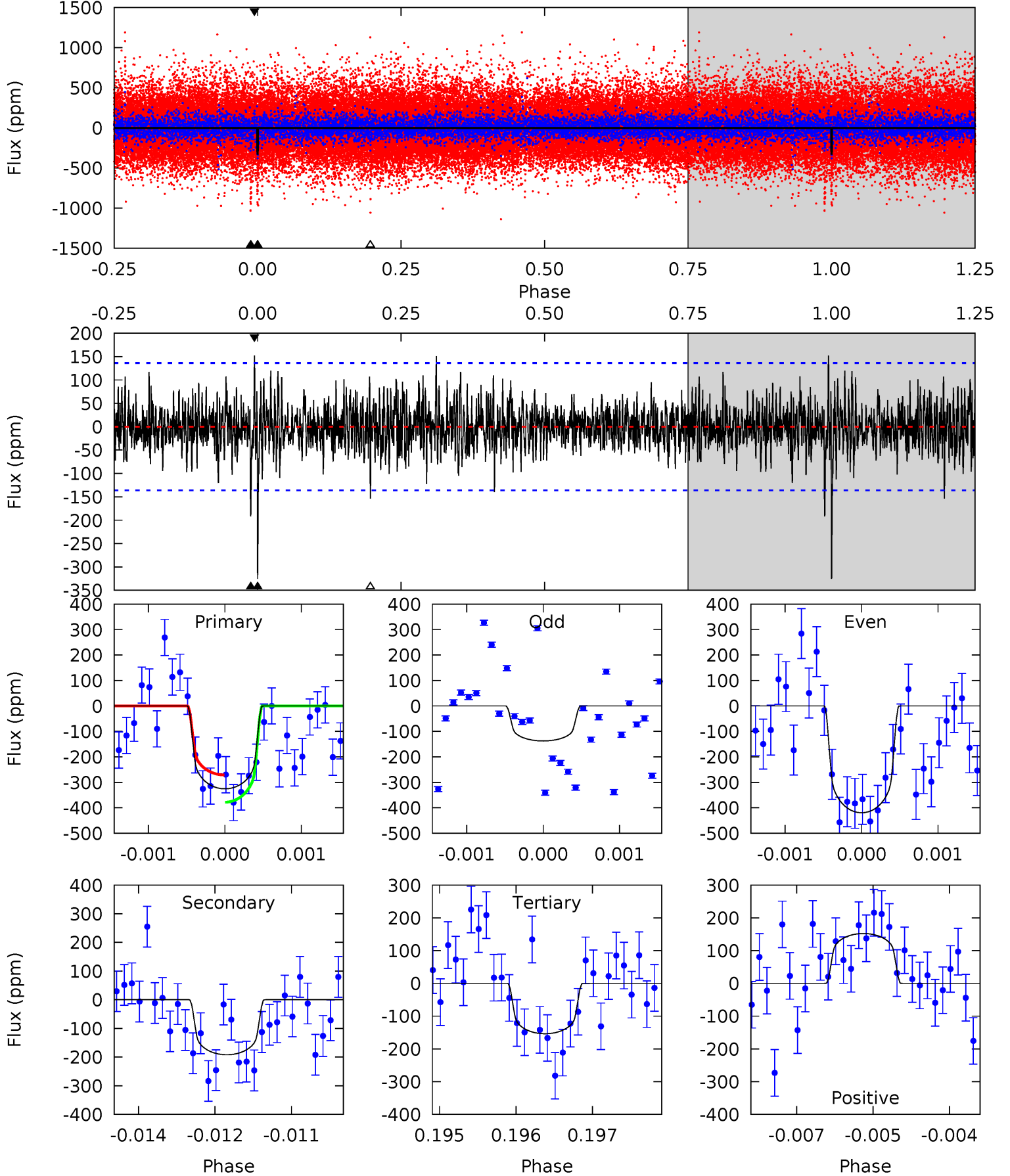
TCE 001724842-01 P=468.888901 Days  $T_0=507.756449$  (BKJD)



# DV Model-Shift Uniqueness Test

001724842-01, P = 468.864703 Days, E = 38.917205 Days

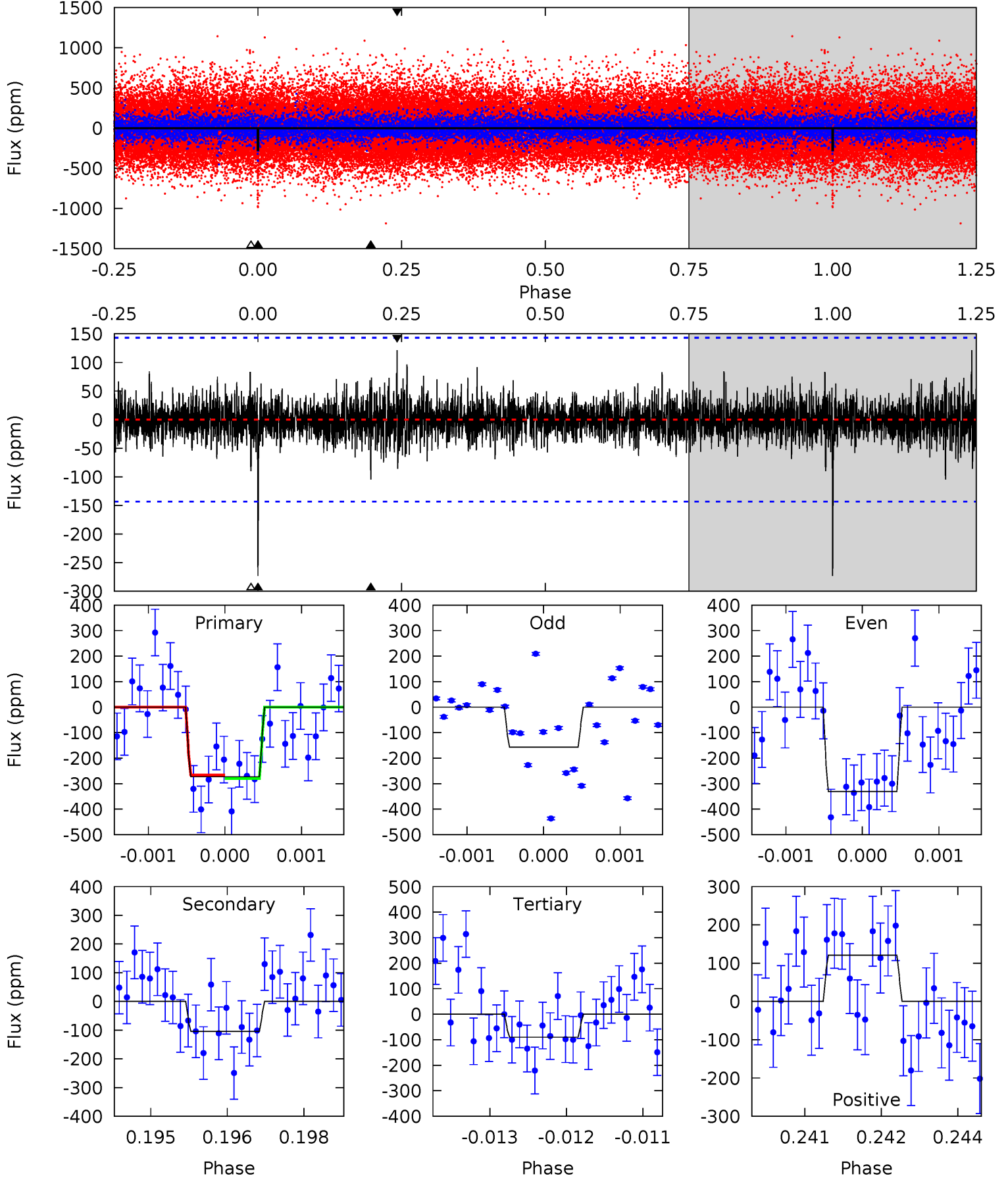
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	7.60	6.09	6.03	5.40	3.20	1.49	6.80	6.86	1.51	1.57	5.25	1.11	0.32	2.11



# Alt Model-Shift Uniqueness Test

001724842-01, P = 468.888901 Days, E = 38.867548 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
10.3	3.95	3.40	4.58	5.42	3.24	0.86	6.92	5.74	0.55	-0.63	3.11	1.74	0.31	0.27



### Stellar Parameters For KIC 001724842

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5631^{+84}_{-76}$	$4.317^{+0.132}_{-0.108}$	$0.260^{+0.150}_{-0.150}$	$1.152^{+0.179}_{-0.146}$	$1.006^{+0.062}_{-0.055}$	$0.926^{+0.538}_{-0.290}$
	+1%/-1%	+3%/-3%	+58%/-58%	+16%/-13%	+6%/-5%	+58%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 001724842-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-192 \pm 25$	$2.63^{+0.53}_{-0.44}$	$342^{+14}_{-14}$	$4692^{+359}_{-294}$	$21518^{+9641}_{-6844}$
Alt.	$-104 \pm 26$	$2.07^{+0.42}_{-0.40}$	$342^{+14}_{-14}$	$4583^{+483}_{-376}$	$18783^{+12969}_{-7210}$

$T_{\text{max}}$  = 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  $A_{\text{obs}} \gg 1.0$

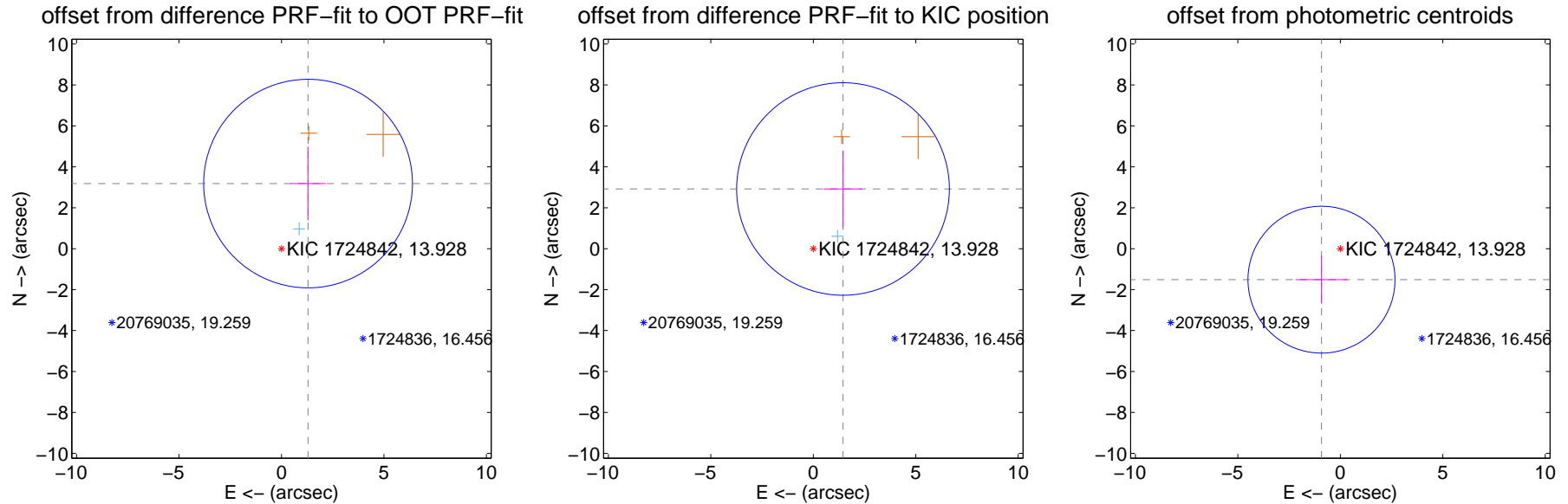
## DV Centroid Data

Supplemental centroid analysis for 001724842-01. Kepler magnitude: 13.93. Transit SNR 9.00

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.436 \pm 1.698$	2.02	$-1.298 \pm 0.874$	$3.182 \pm 1.799$
PRF-fit source offset from KIC position	$3.258 \pm 1.731$	1.88	$-1.451 \pm 0.945$	$2.917 \pm 1.875$
photometric centroid source offset	$1.77 \pm 1.20$	1.48	$0.92 \pm 1.26$	$-1.51 \pm 1.17$

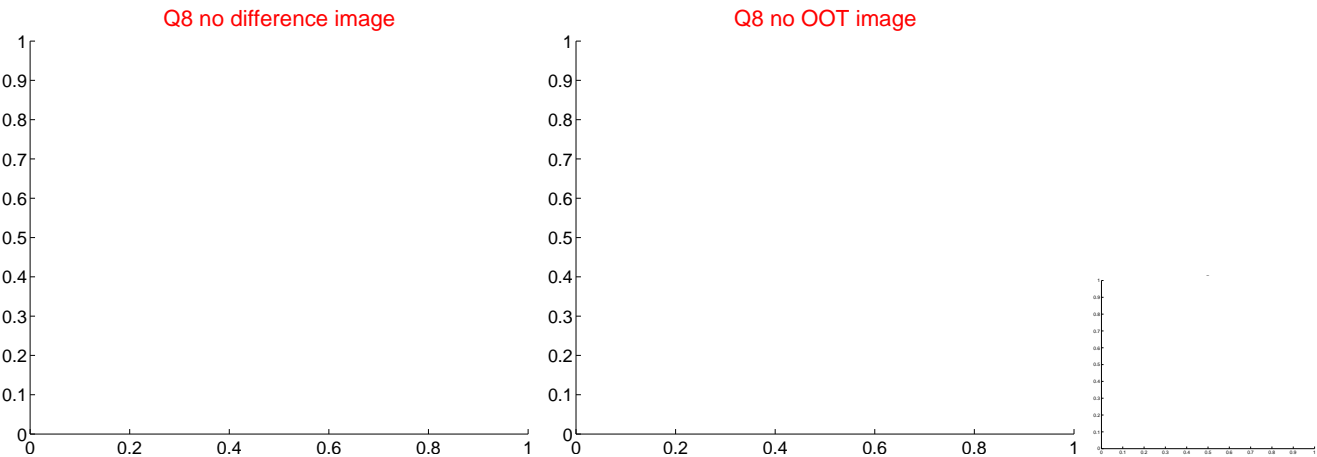
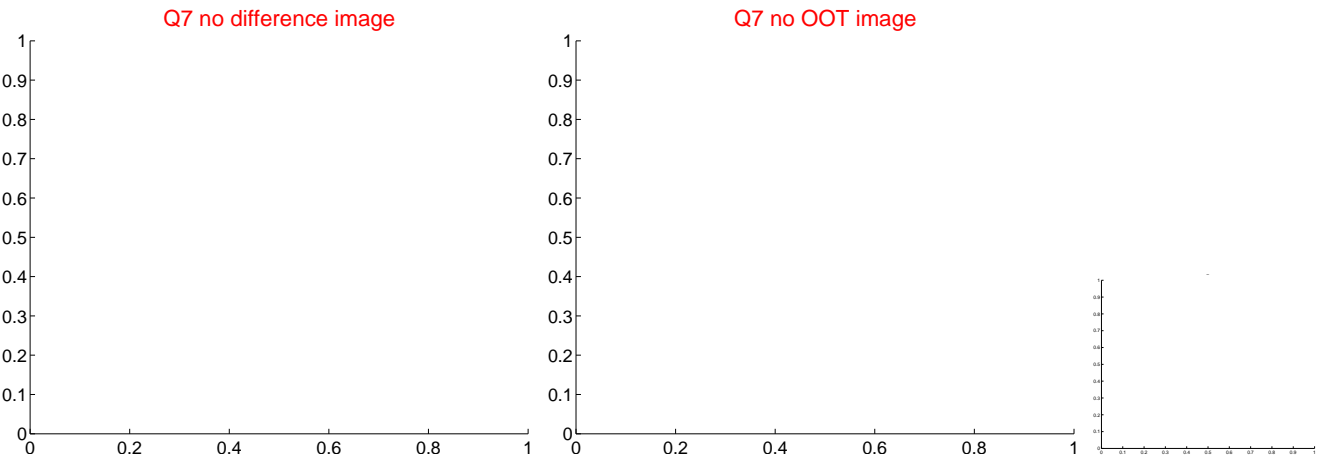
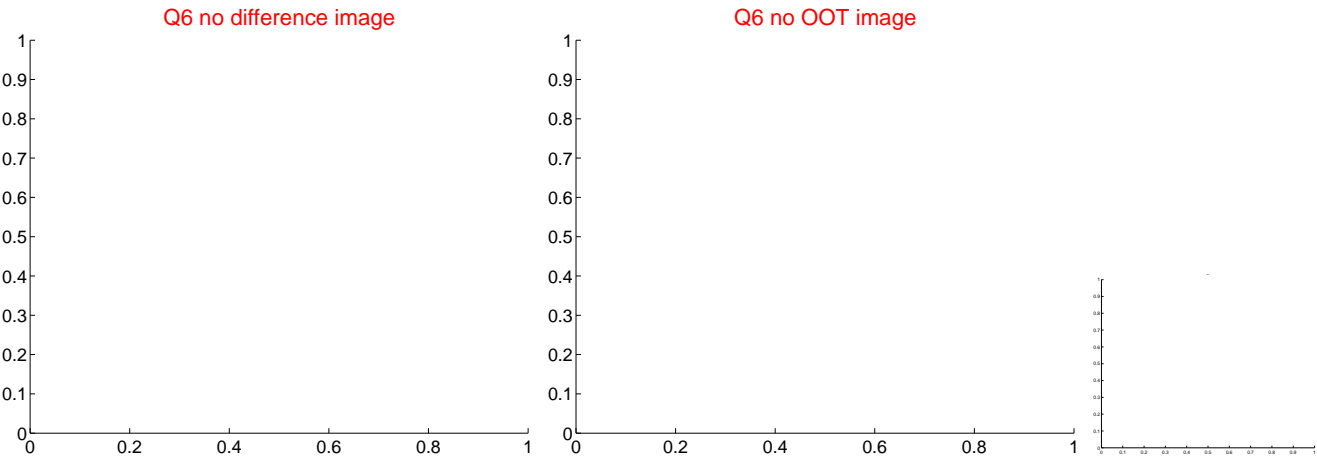
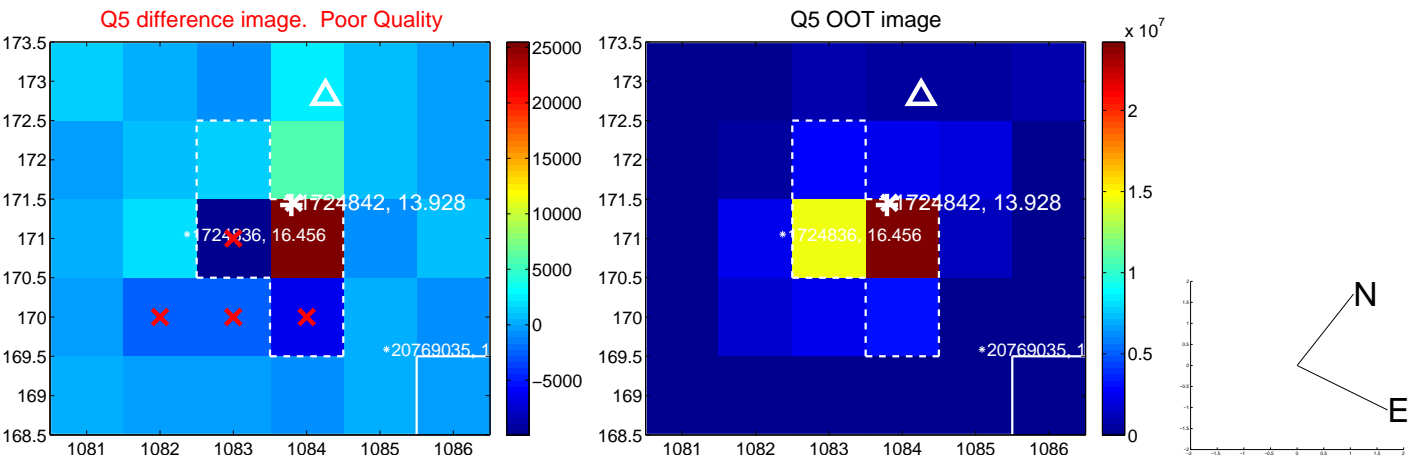


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

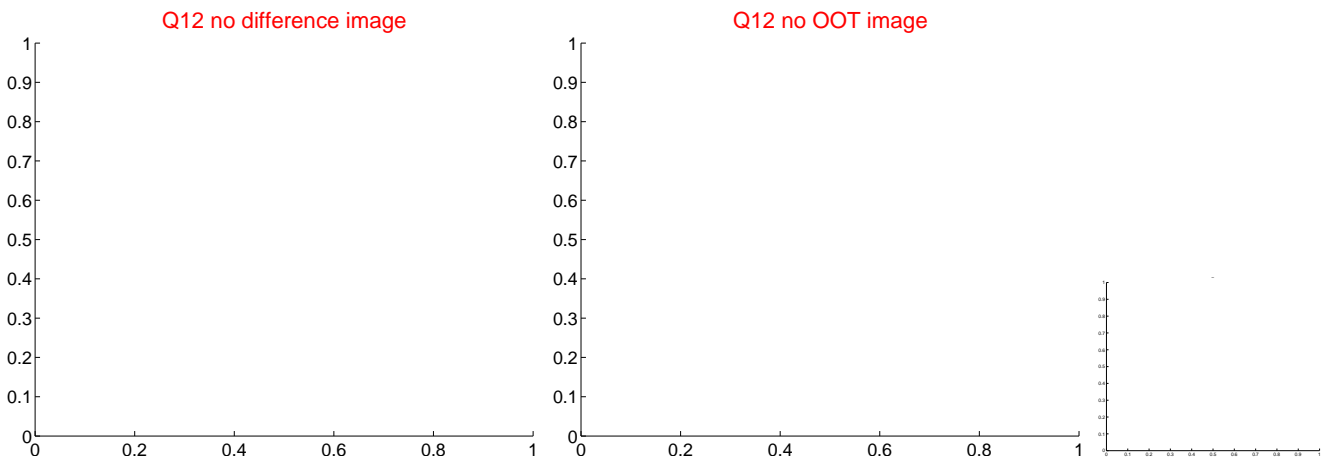
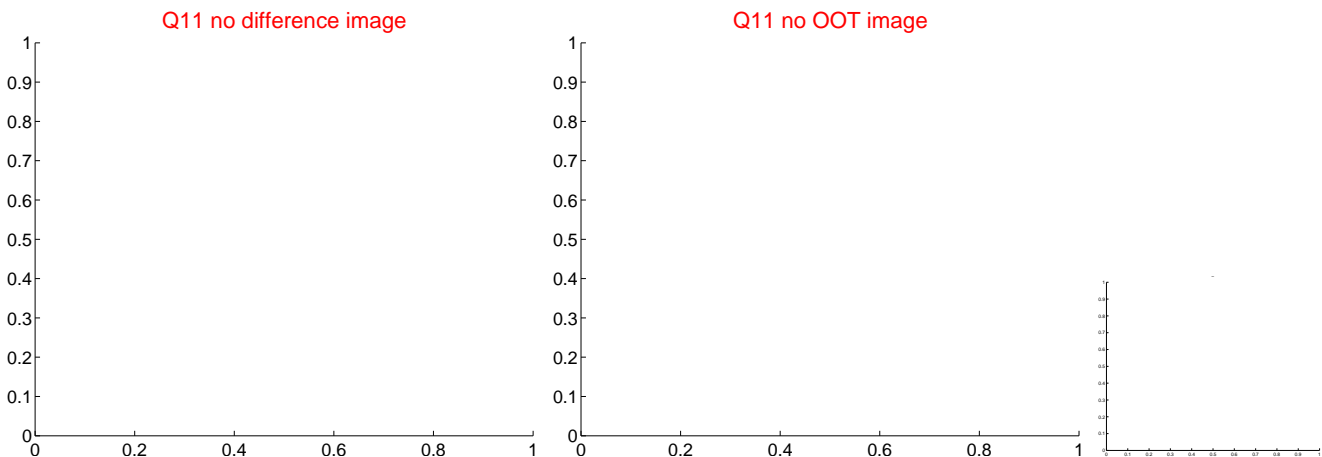
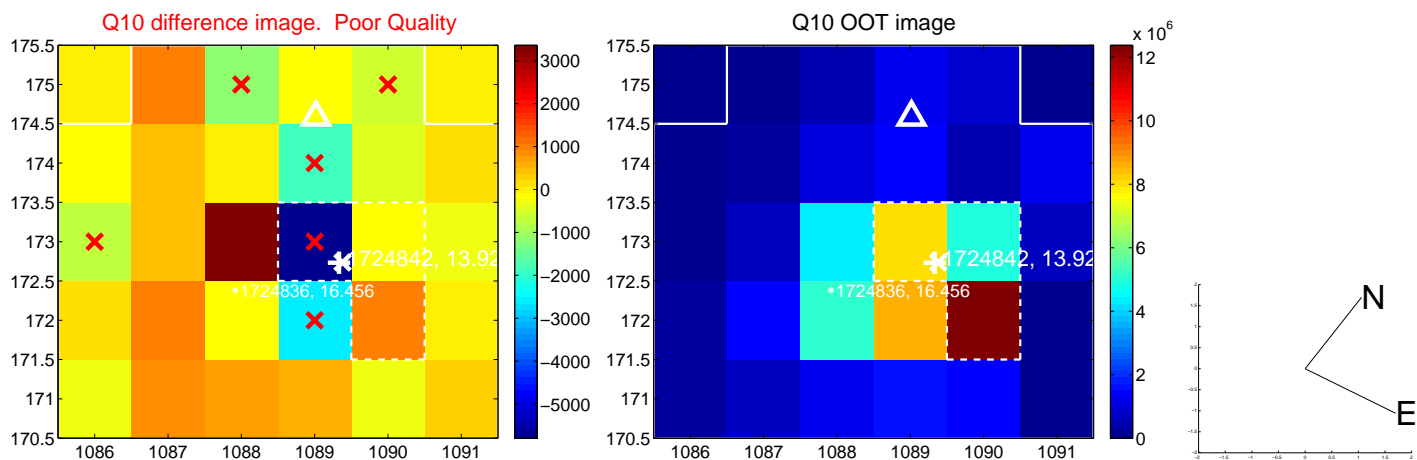
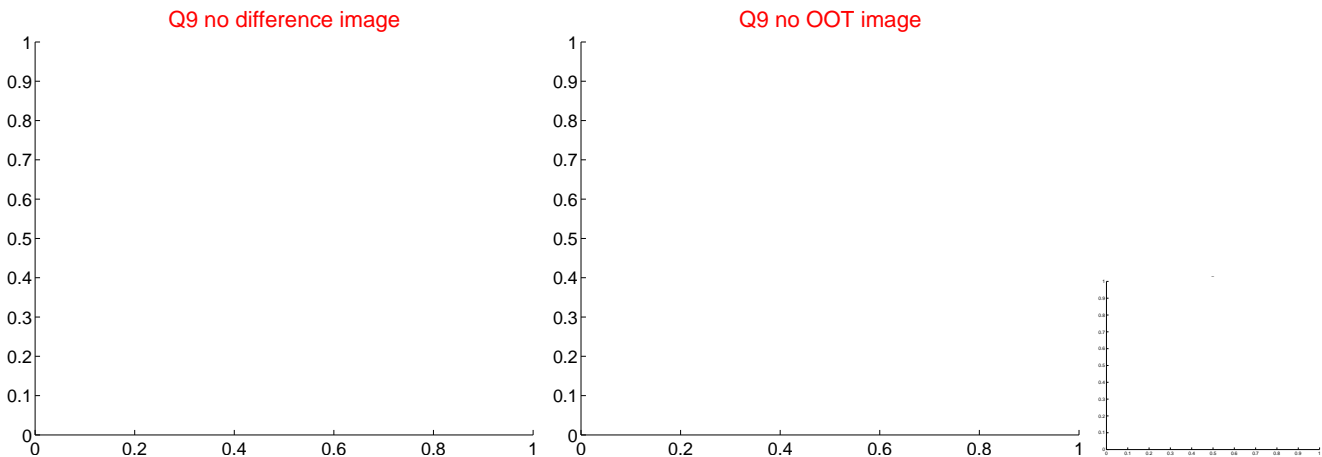
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



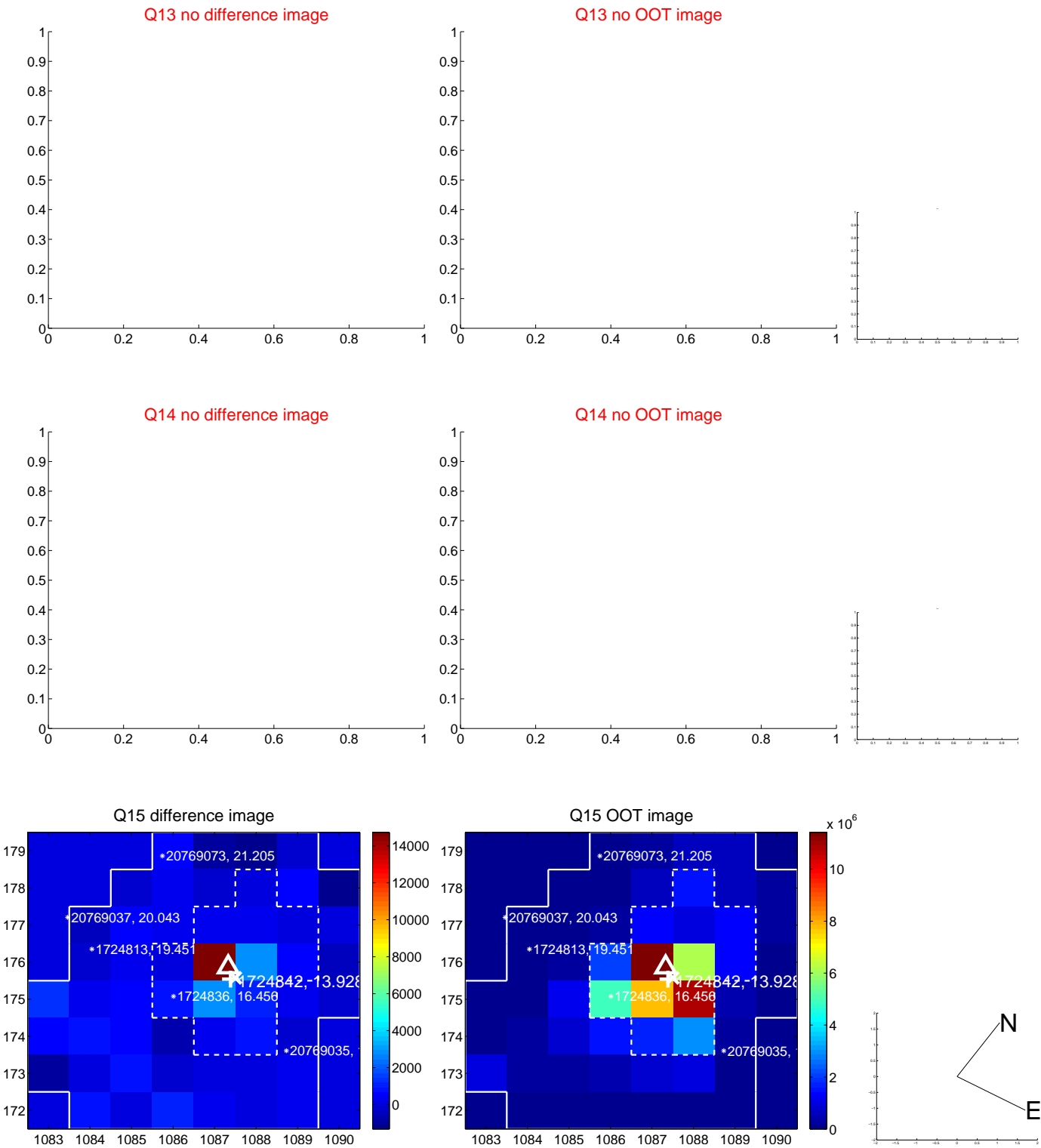
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



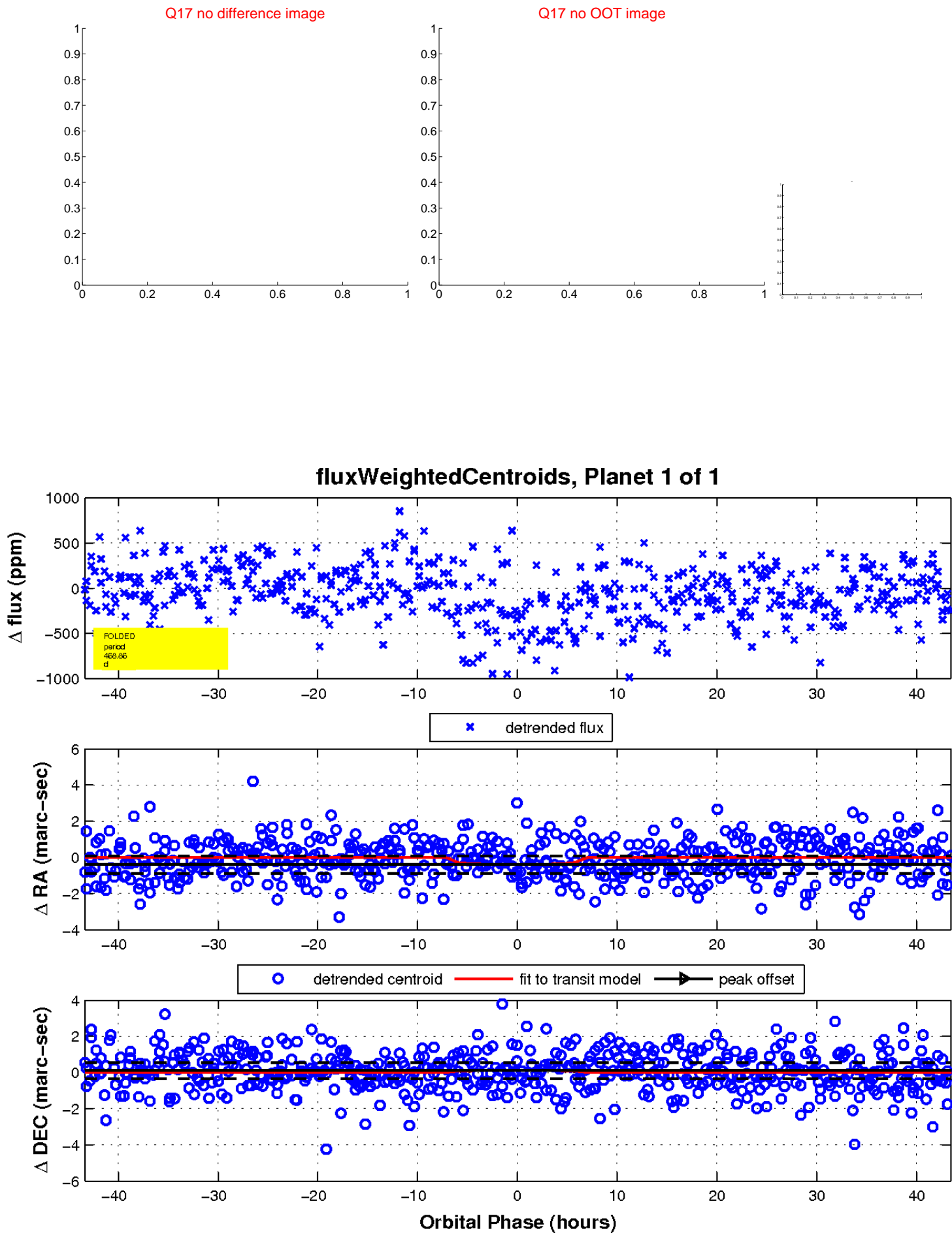
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

Declination

