

# KIC 005340644

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005340644-01	OBS	0503.01	8.222410	131.844303	1451.8	2.860	61.3	65.3	0.61	4213	2.67	22.90

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005340644-01	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 005340644-01

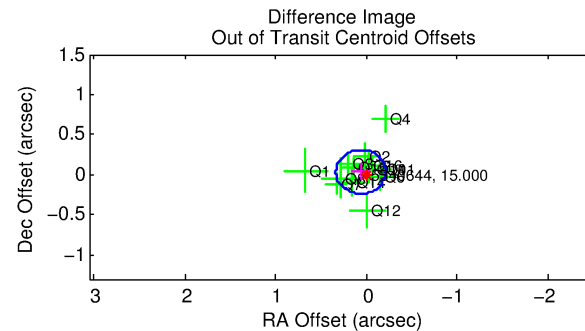
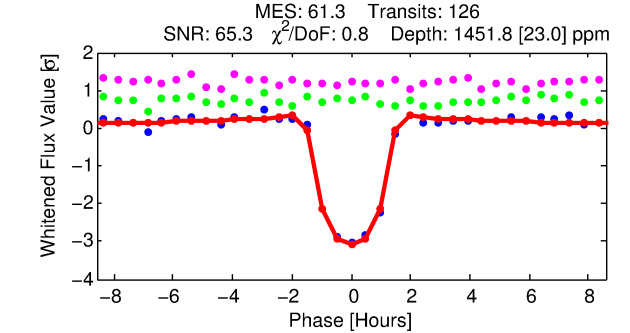
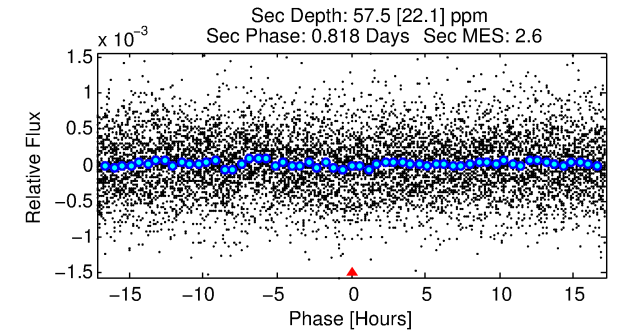
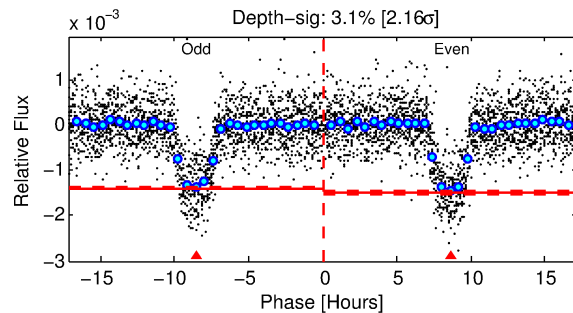
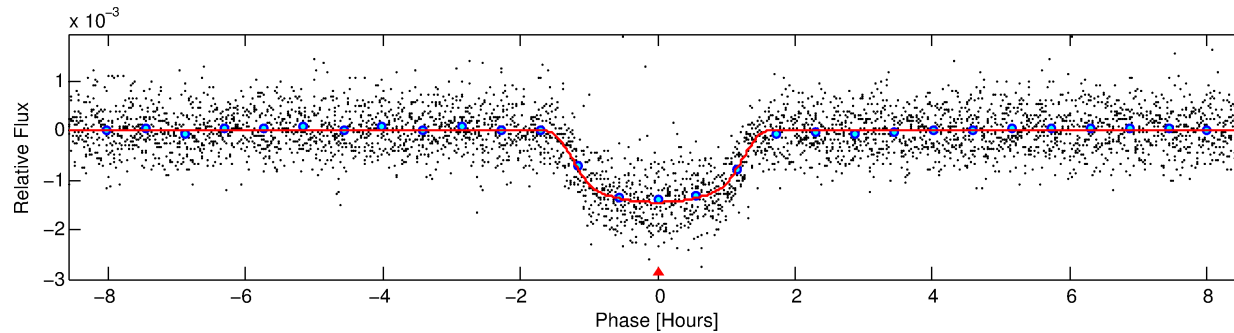
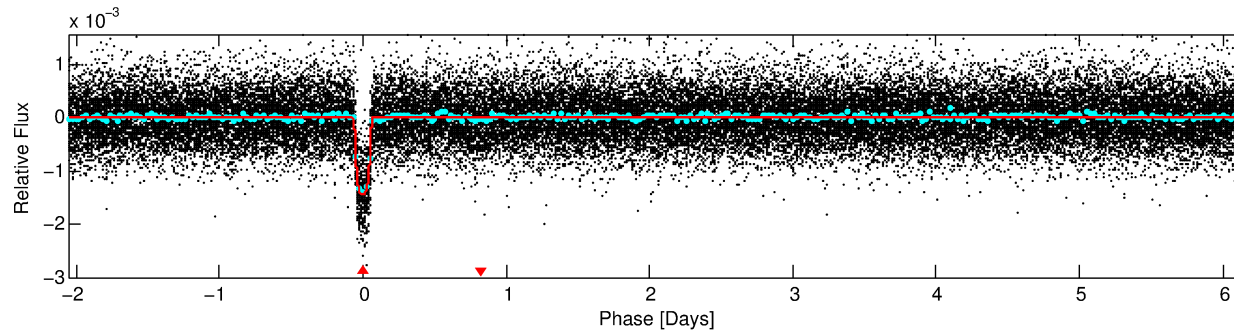
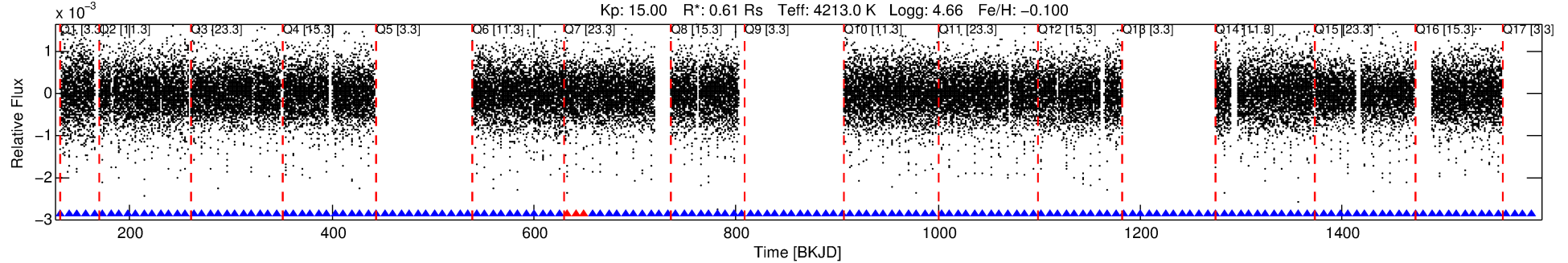
No Significant Match Found

# DV One-Page Summary

KIC: 5340644 Candidate: 1 of 1 Period: 8.222 d

KOI: K00503.01 Corr: 0.972

Kp: 15.00 R\*: 0.61 Rs Teff: 4213.0 K Logg: 4.66 Fe/H: -0.100



## DV Fit Results:

Period = 8.22241 [0.00001] d  
Epoch = 131.8443 [0.0009] BKJD  
Rp/R\* = 0.0397 [0.0036]  
a/R\* = 14.11 [4.43]  
b = 0.82 [0.13]  
Seff = 22.90 [2.17]  
Teq = 558 [13] K  
Rp = 2.67 [0.27] Re  
a = 0.0683 [0.0026] AU  
Ag = 20.76 [8.87] [2.23σ]  
Teffp = 1841 [199] K [6.44σ]

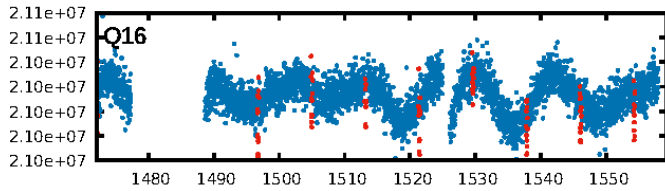
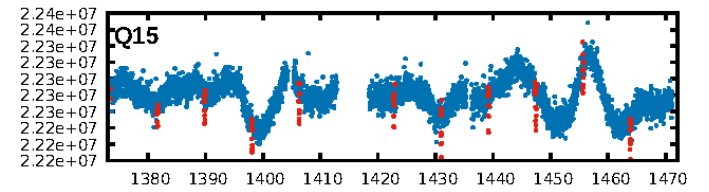
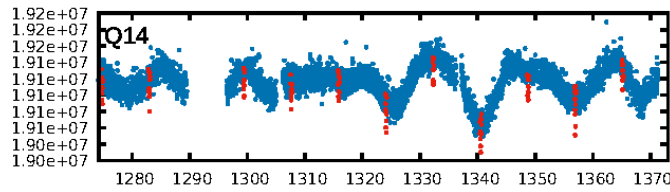
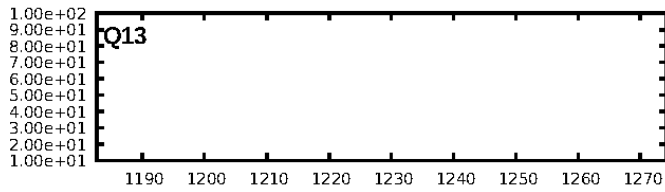
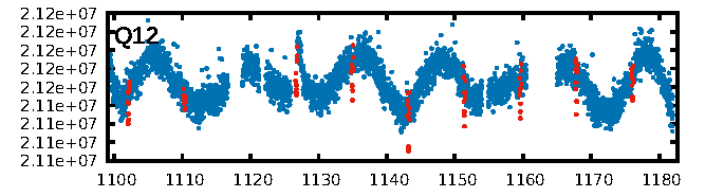
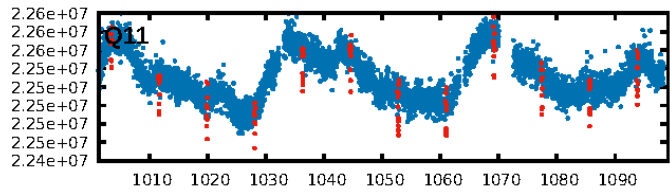
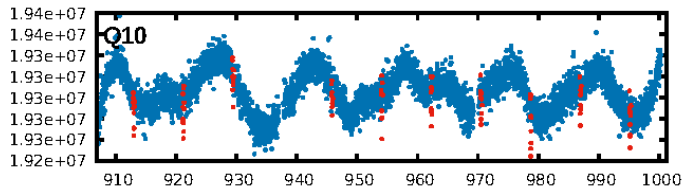
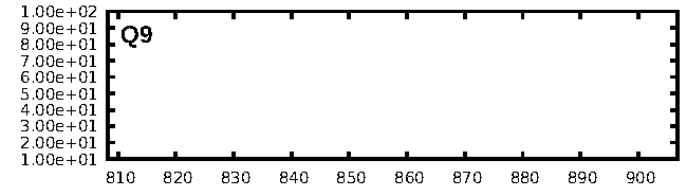
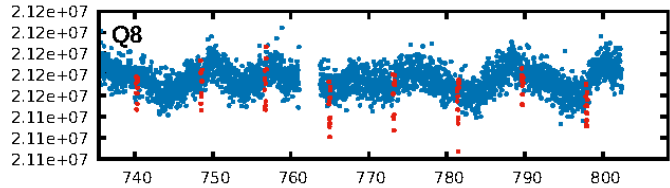
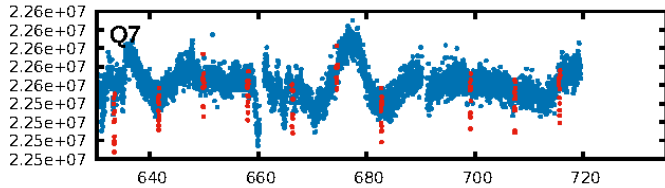
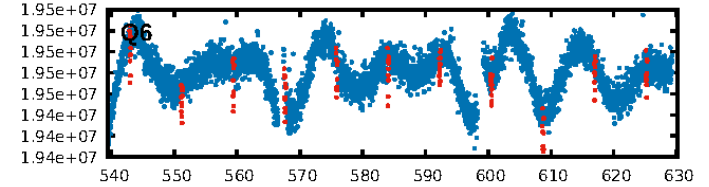
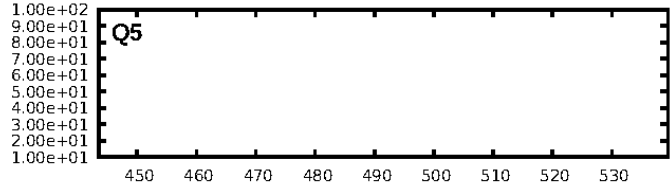
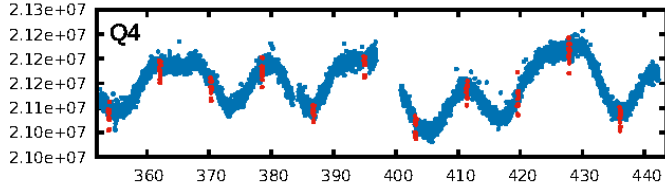
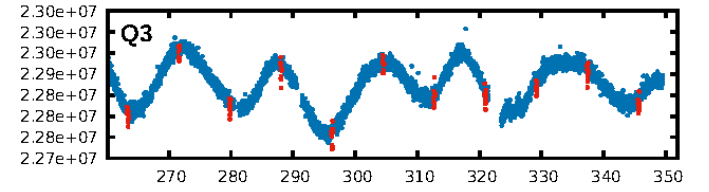
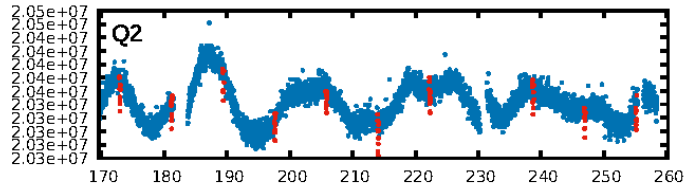
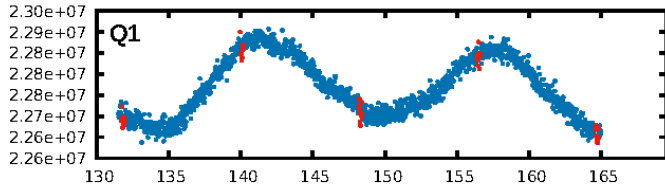
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 88.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.98 [118/121]  
GhostDiagnostic-chr: 3.916  
Centroid-sig: 9.7%  
Centroid-so: 0.344 arcsec [1.70σ]  
OotOffset-rm: 0.073 arcsec [0.80σ]  
KicOffset-rm: 0.139 arcsec [1.59σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

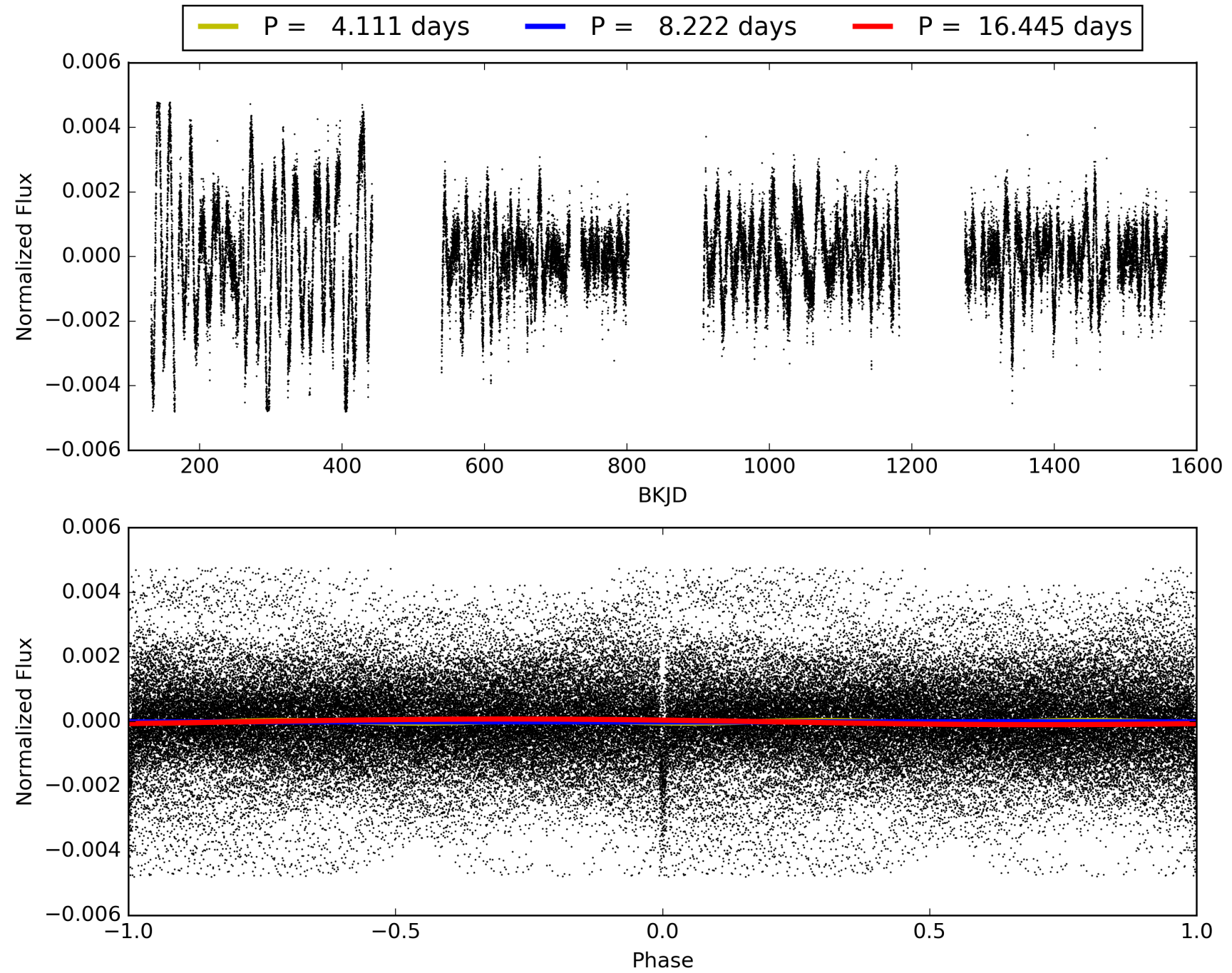
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:32:45 Z

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

## TCE 005340644-01, PDC Light Curves

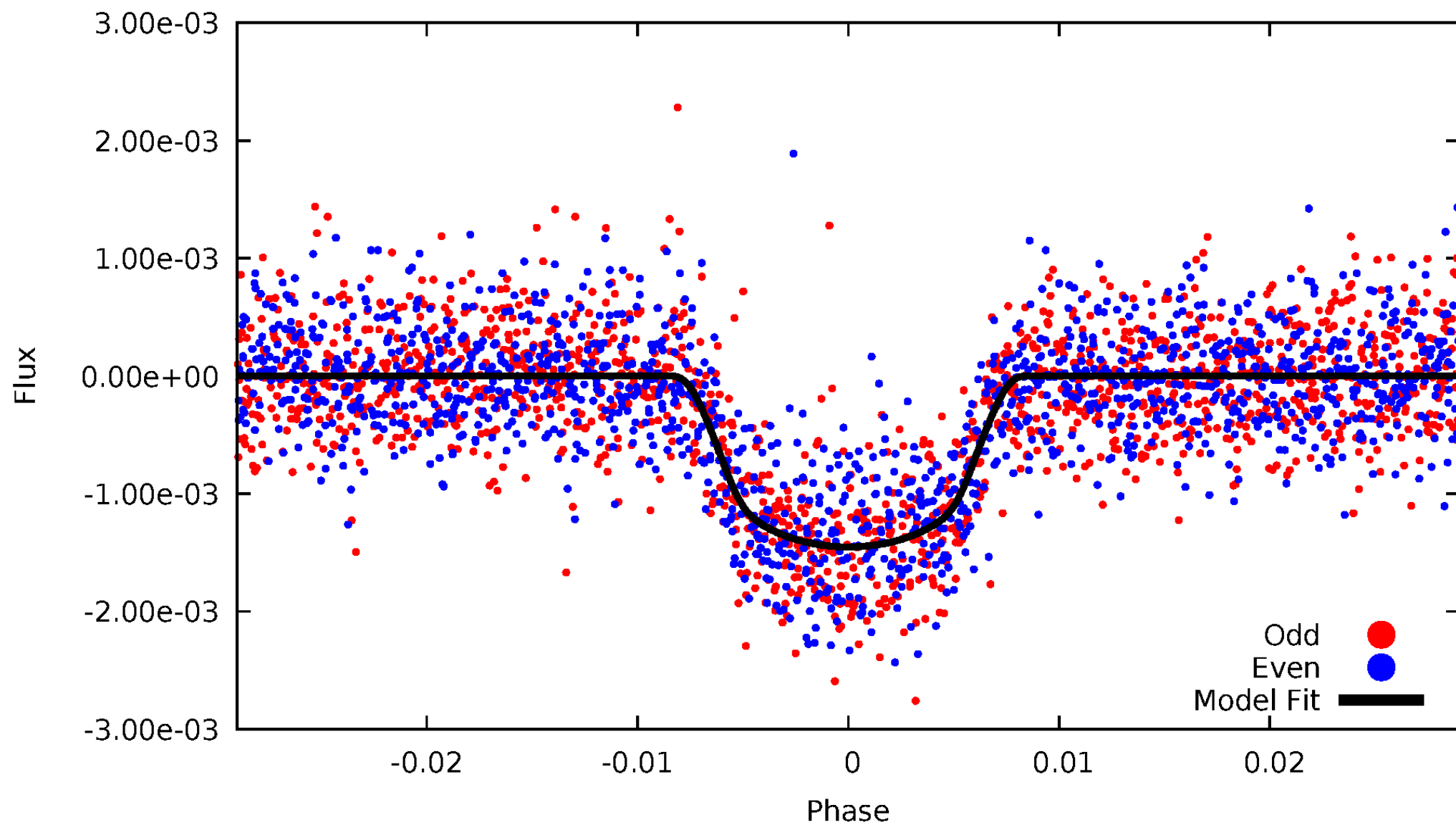


TCE 005340644-01



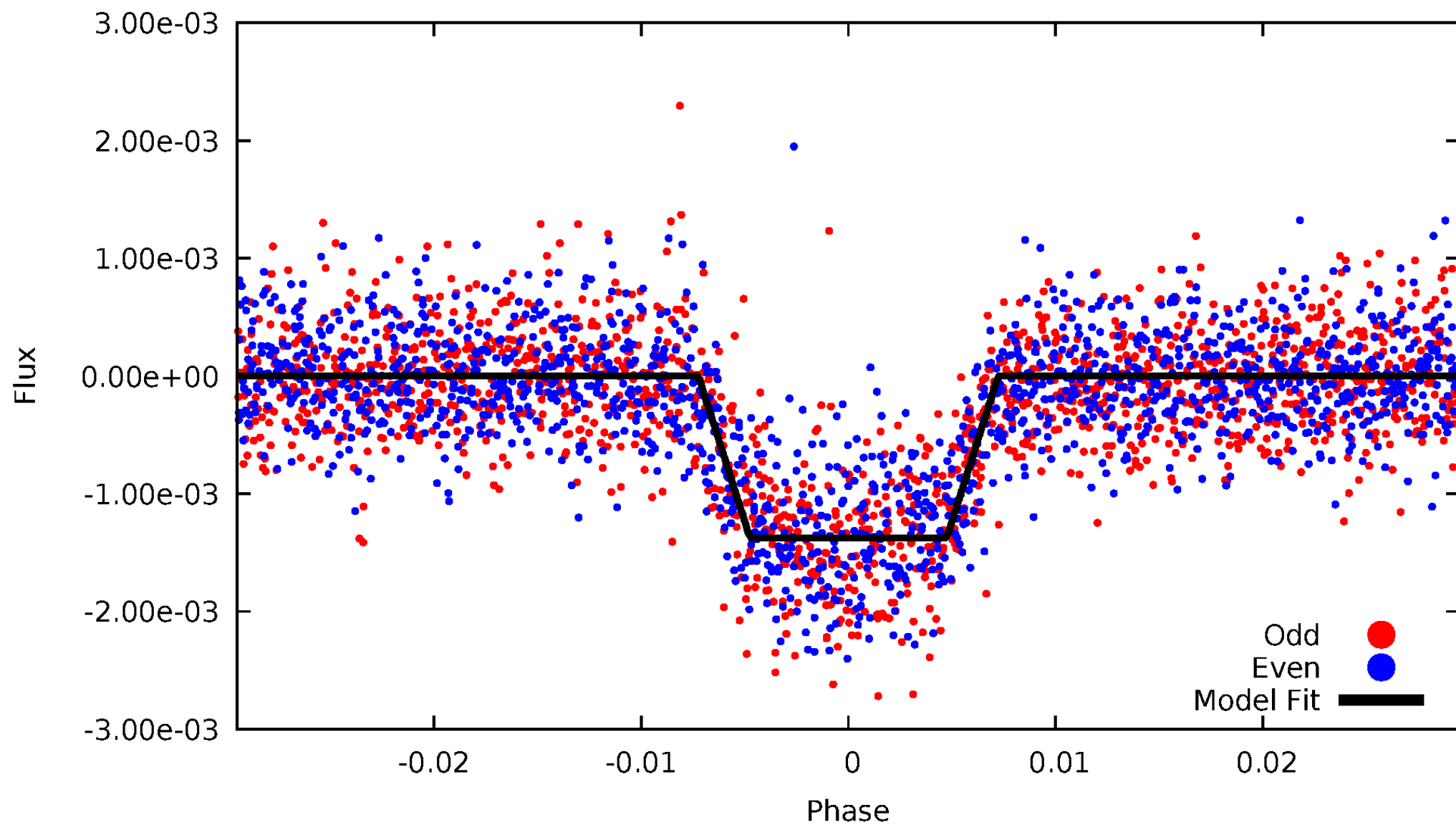
# DV Odd/Even

TCE 005340644-01



# ALT Odd/Even

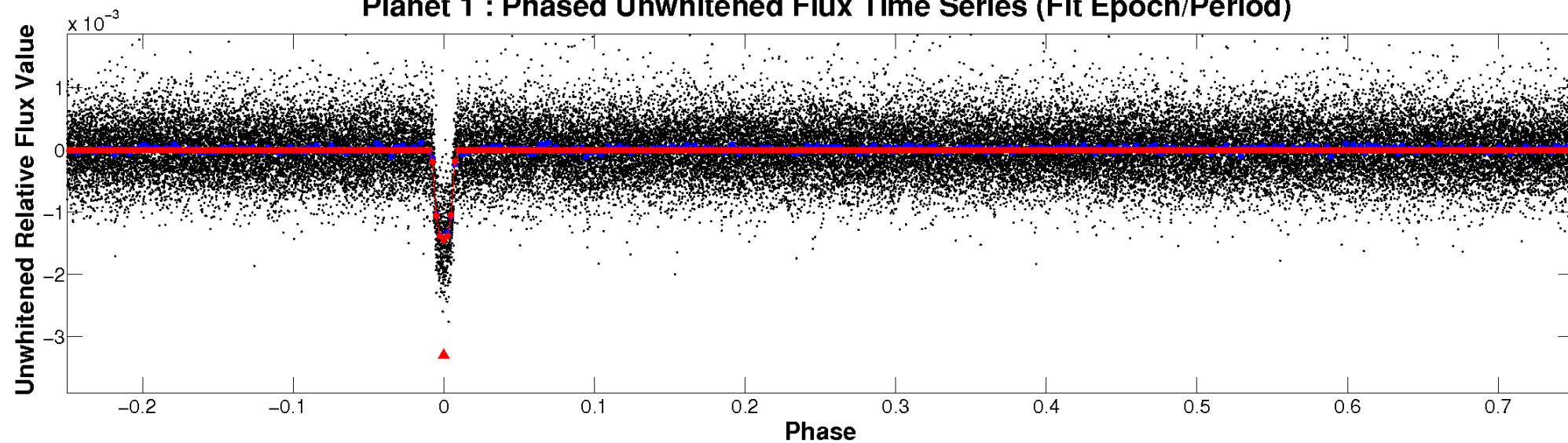
TCE 005340644-01



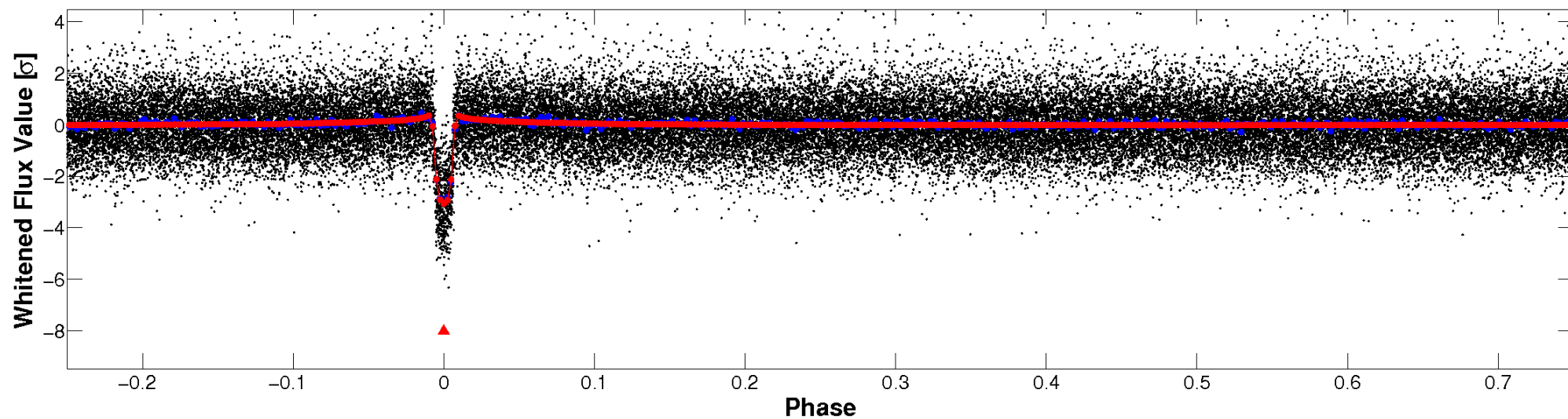


# Non-Whitened Vs. Whitened Light Curve

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

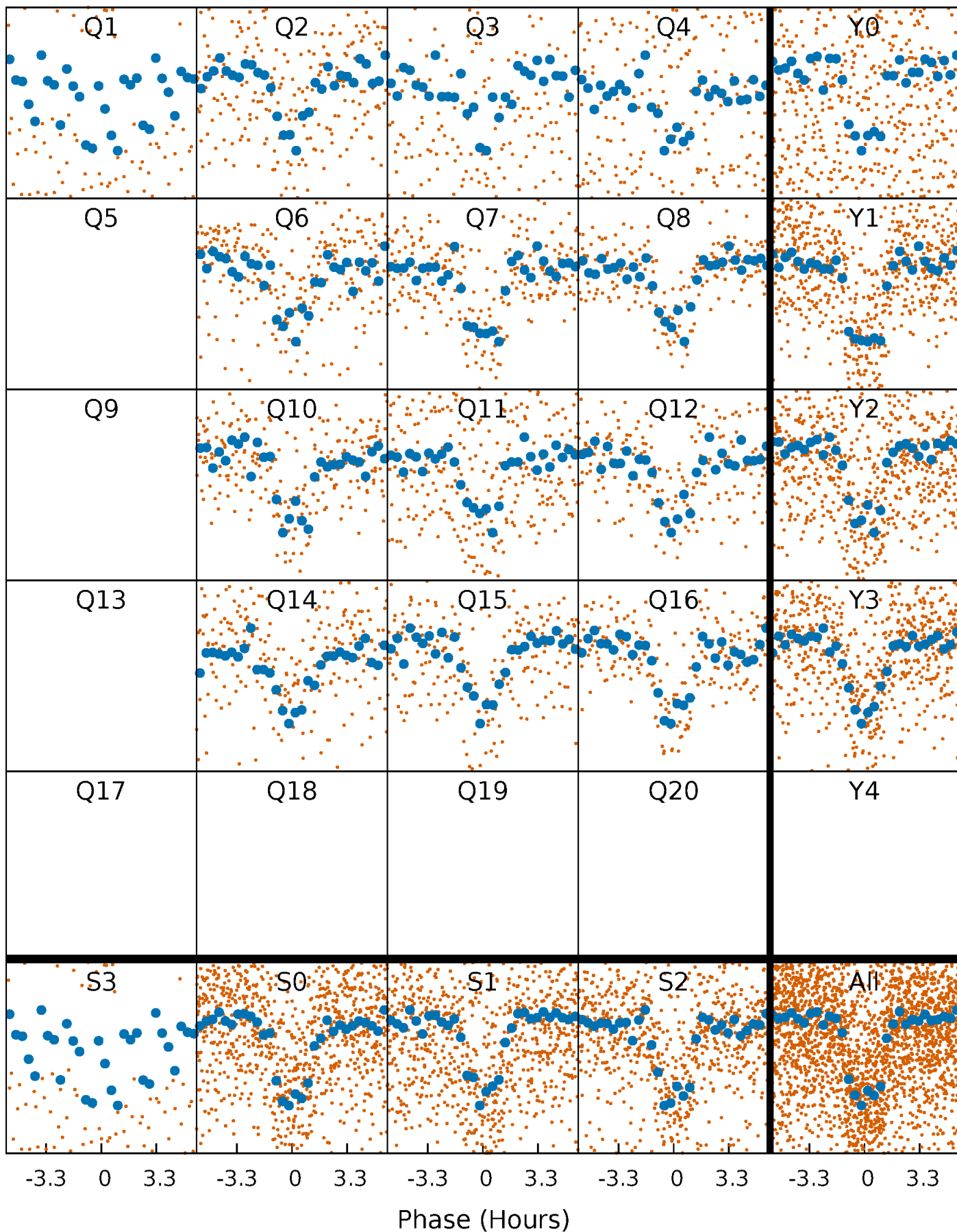


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

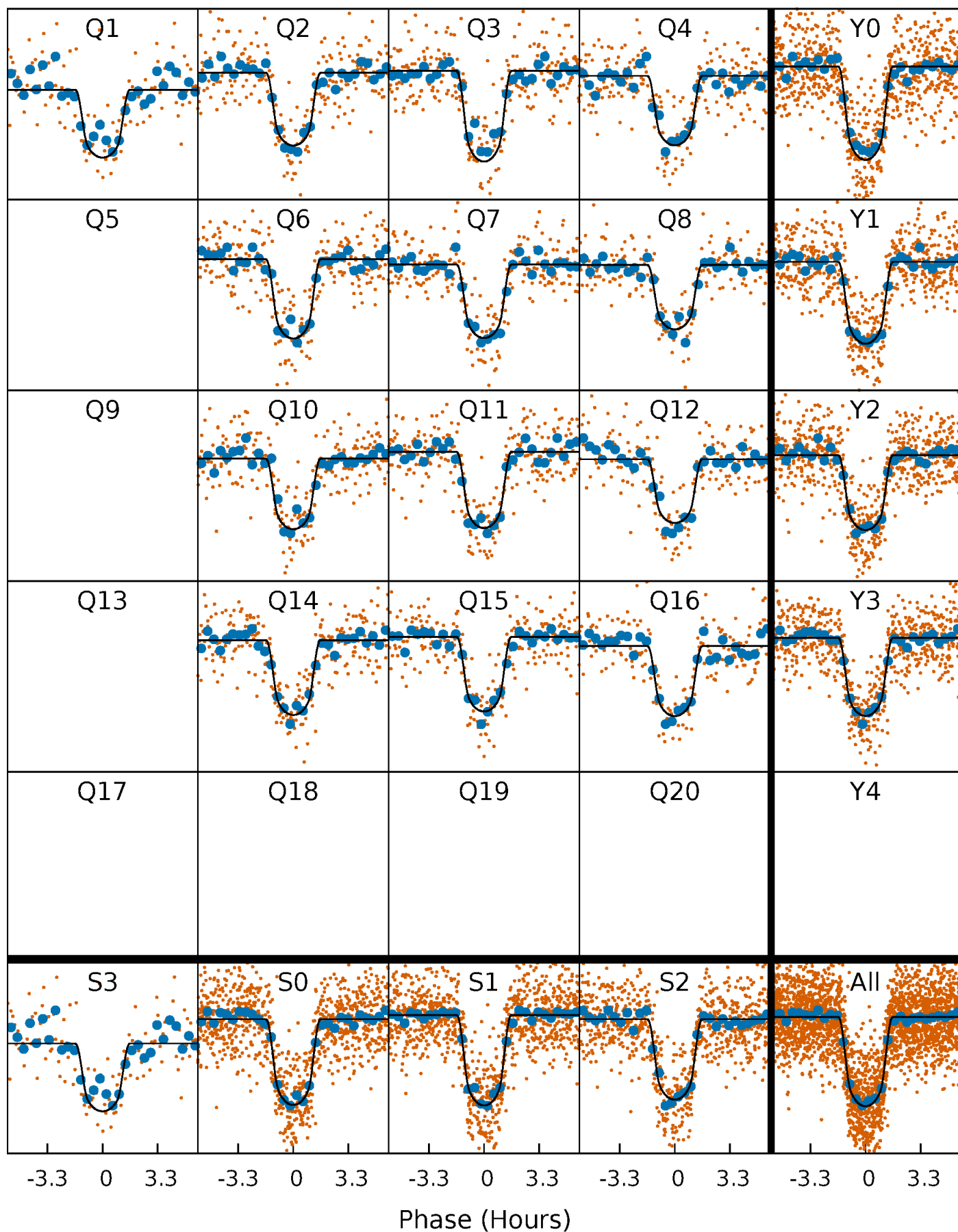
TCE 005340644-01 P= 8.222410 Days  $T_0=131.844303$  (BKJD)





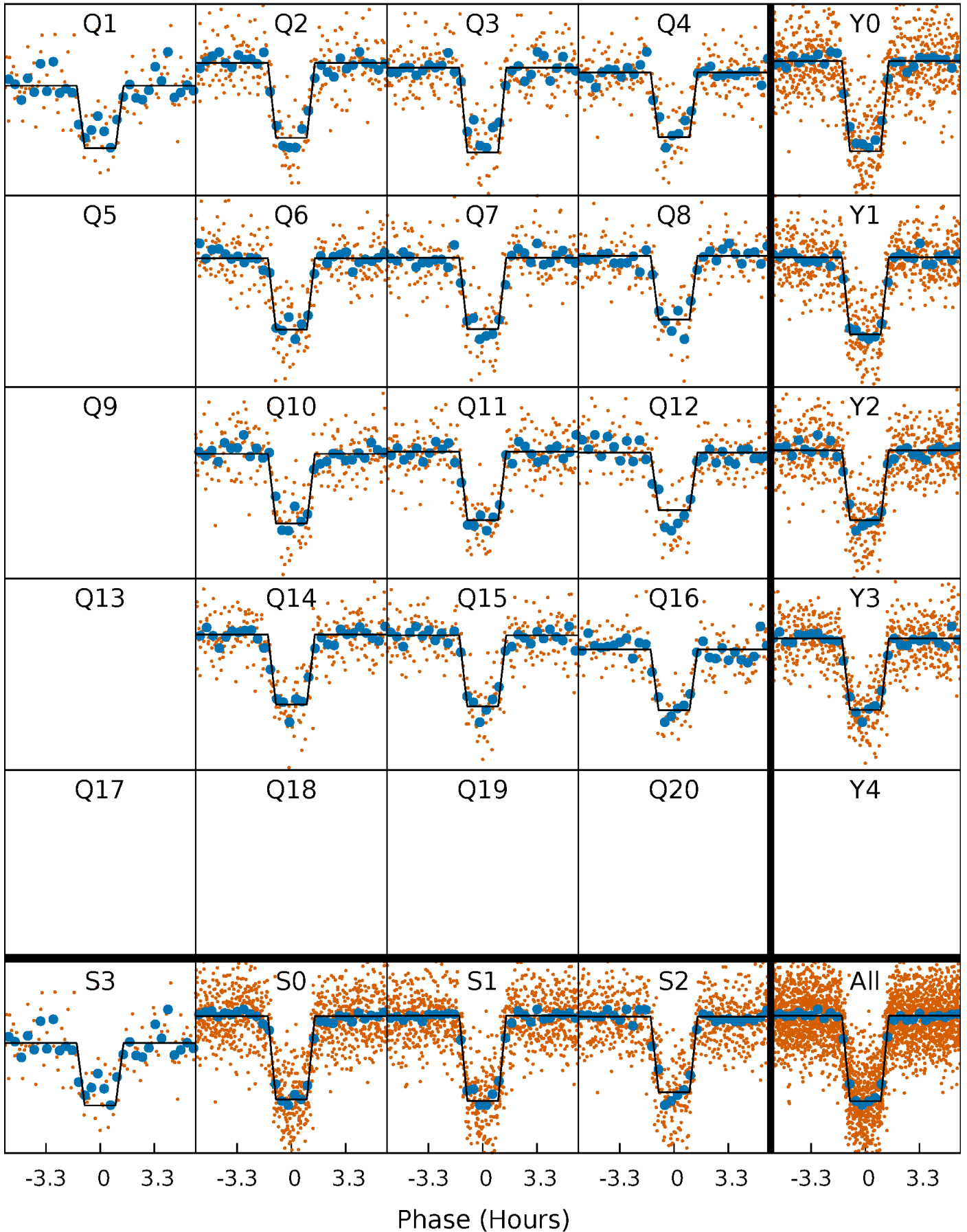
# DV Quarter-Phased Transit Curves

TCE 005340644-01 P= 8.222410 Days  $T_0=131.844303$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

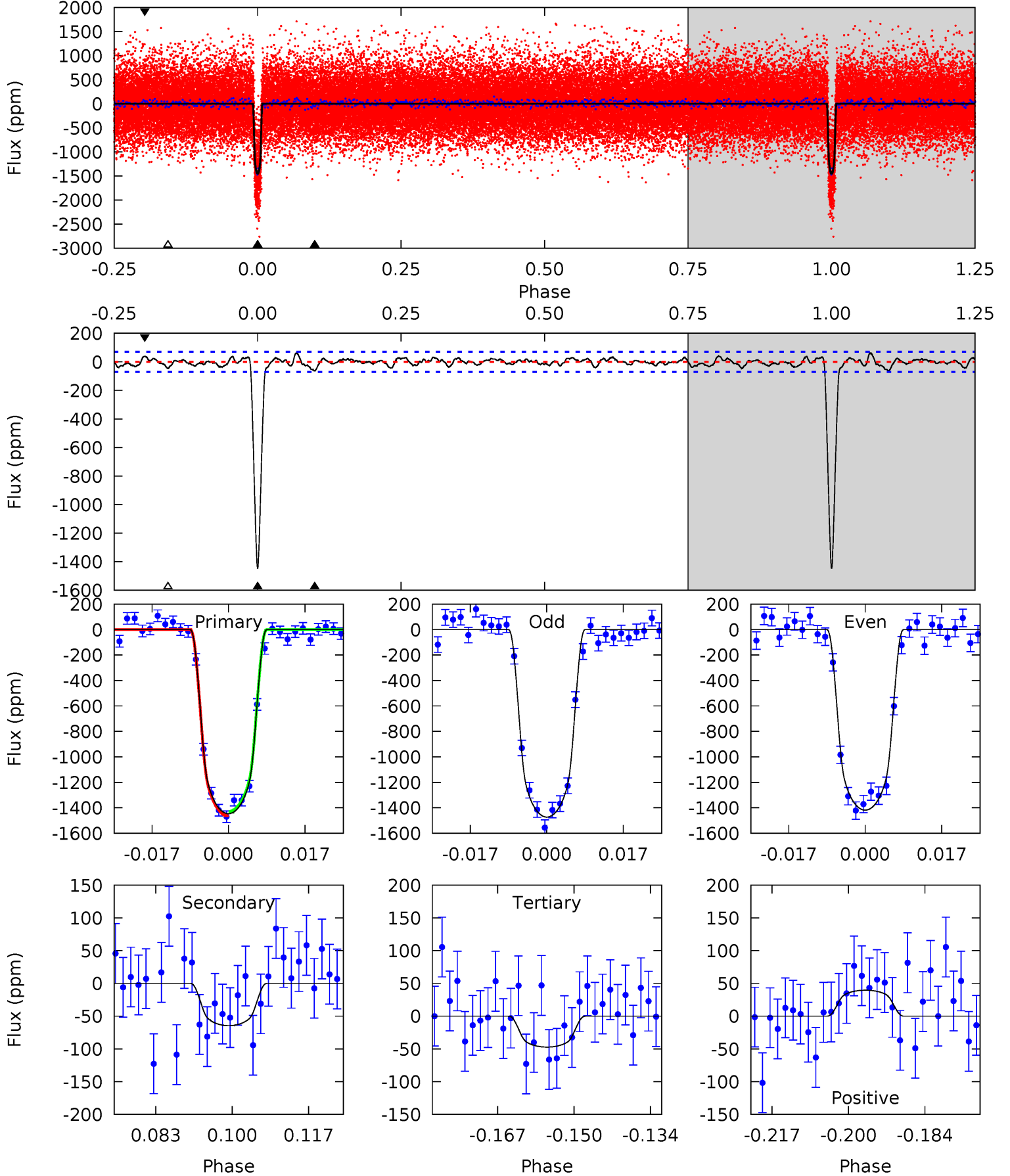
TCE 005340644-01 P= 8.222413 Days  $T_0=131.844538$  (BKJD)



# DV Model-Shift Uniqueness Test

005340644-01, P = 8.222410 Days, E = 123.621893 Days

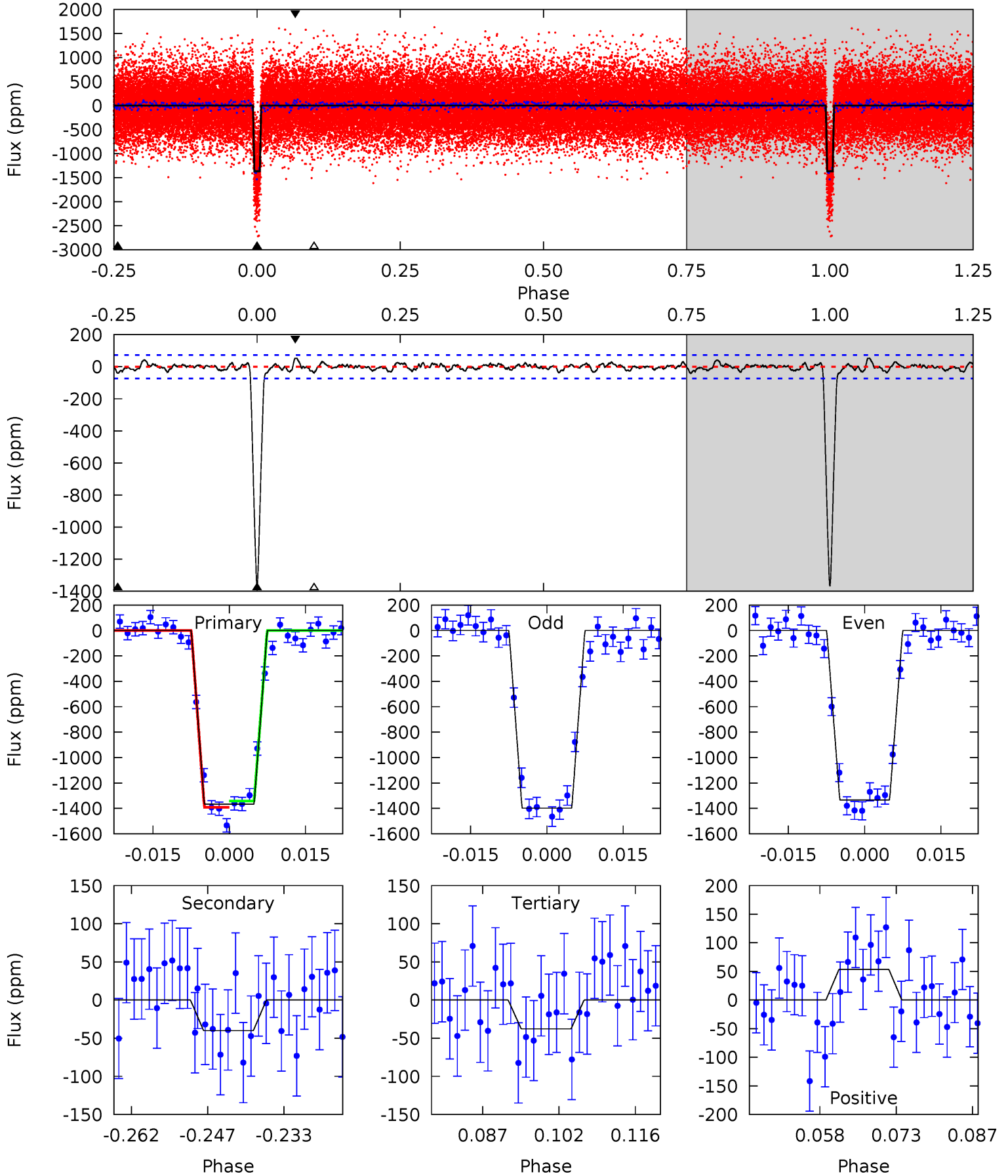
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.2	4.52	3.31	2.77	4.93	2.39	1.26	97.9	98.4	1.21	1.75	1.92	0.98	0.04	1.20



# Alt Model-Shift Uniqueness Test

005340644-01, P = 8.222413 Days, E = 123.622125 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
92.6	2.71	2.56	3.64	4.95	2.44	1.01	90.1	89.0	0.15	-0.93	2.17	0.98	0.04	1.63



### Stellar Parameters For KIC 005340644

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4213^{+84}_{-84}$	$4.658^{+0.025}_{-0.020}$	$-0.100^{+0.150}_{-0.150}$	$0.615^{+0.025}_{-0.031}$	$0.626^{+0.029}_{-0.033}$	$3.801^{+0.415}_{-0.303}$
	+2%/-2%	+1%/-0%	+150%/-150%	+4%/-5%	+5%/-5%	+11%/-8%
Source	SPE60	SPE60	SPE60	DSEP		

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

### Secondary Eclipse Parameters for KIC 005340644-01 / KOI 0503.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-65 \pm 14$	$2.67^{+0.25}_{-0.26}$	$779^{+17}_{-17}$	$2597^{+103}_{-100}$	$23^{+8}_{-6}$
Alt.	$-40 \pm 15$	$2.50^{+0.25}_{-0.24}$	$779^{+18}_{-17}$	$2484^{+122}_{-141}$	$17^{+7}_{-6}$

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

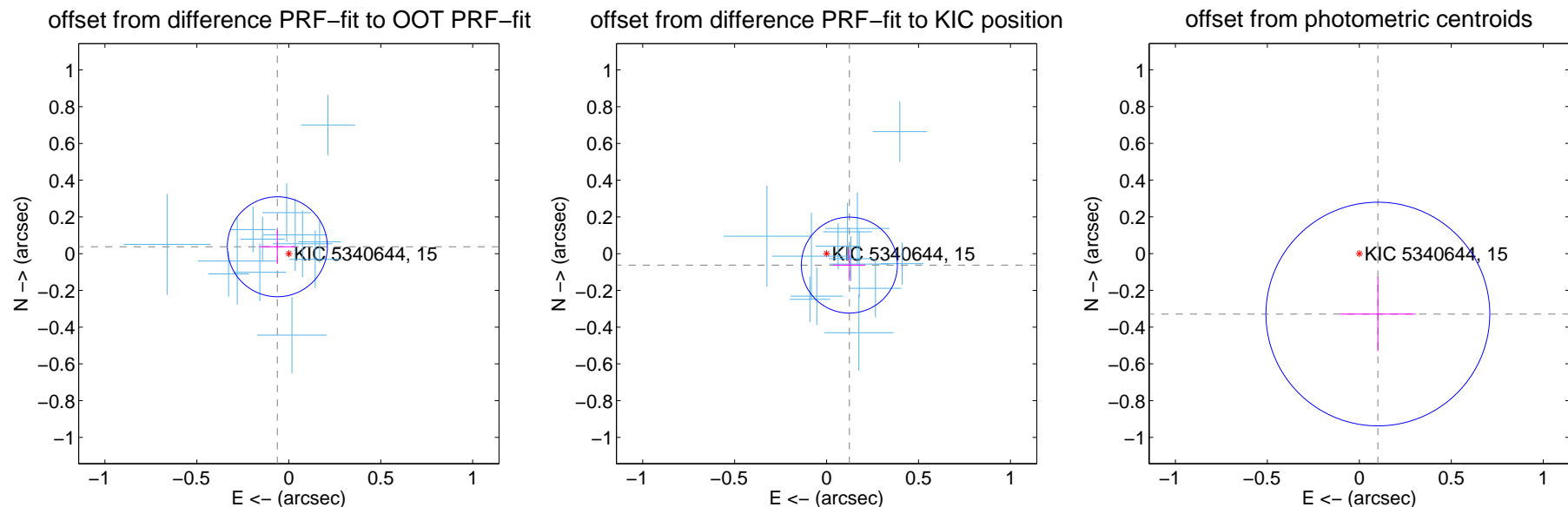
## DV Centroid Data

Supplemental centroid analysis for 005340644-01. Kepler magnitude: 15.00. Transit SNR 65.29

There are 13 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

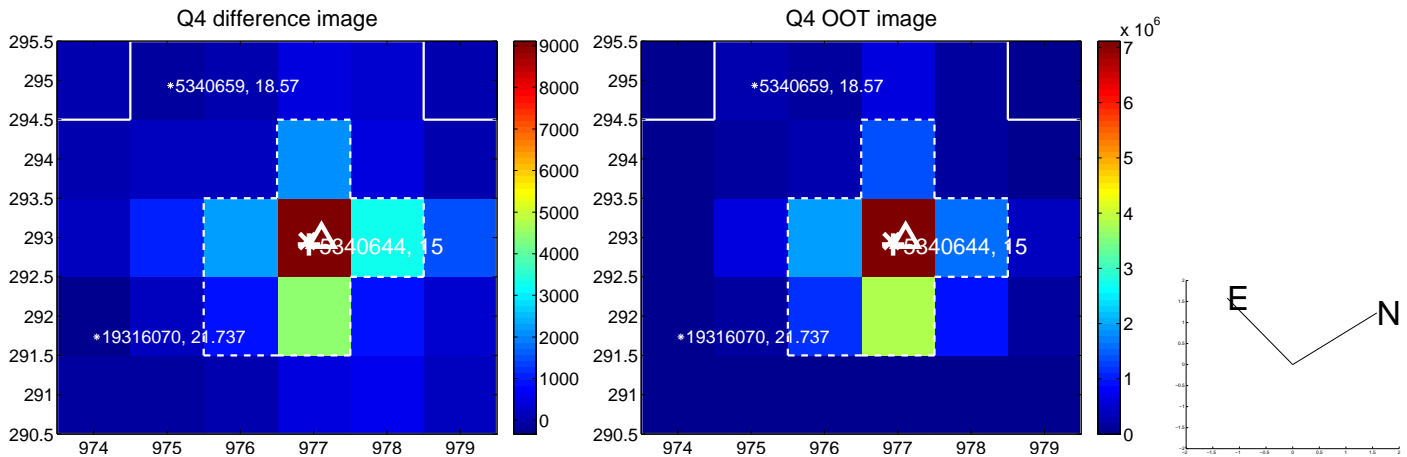
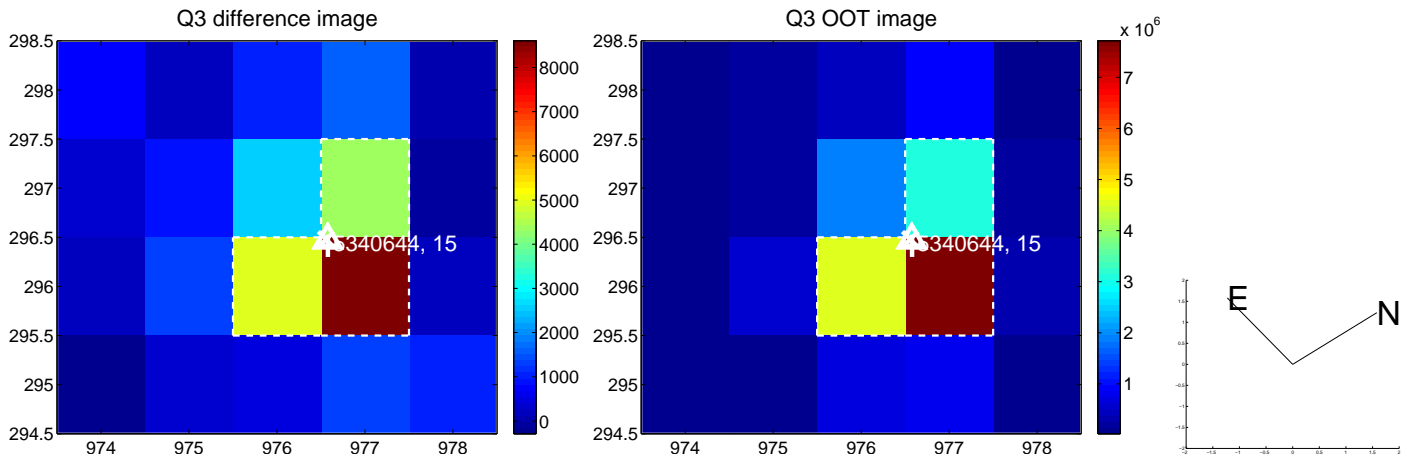
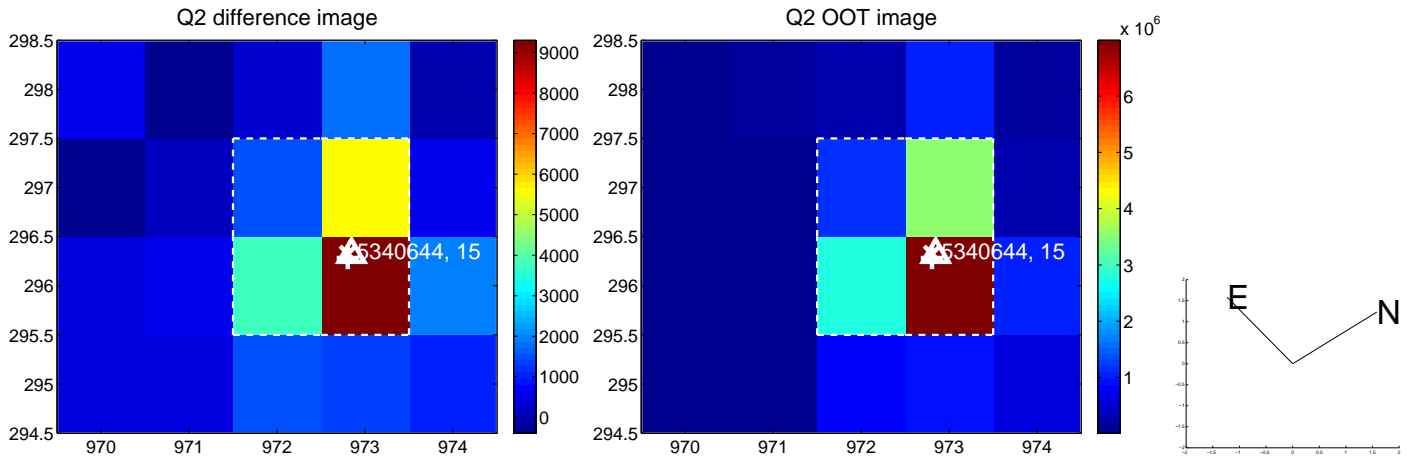
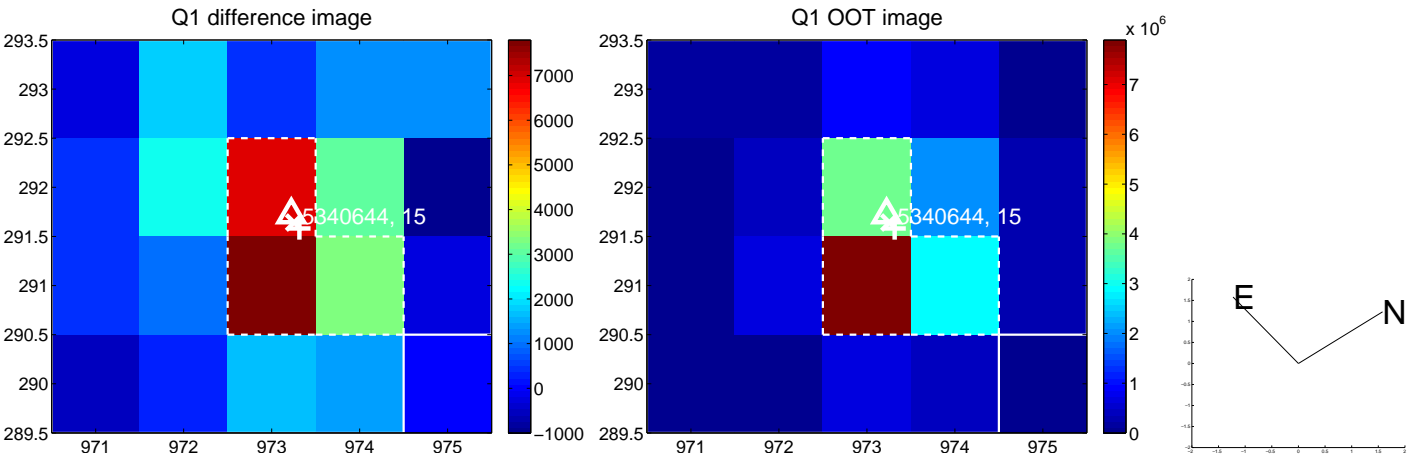
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.073 \pm 0.091$	0.80	$0.062 \pm 0.099$	$0.037 \pm 0.093$
PRF-fit source offset from KIC position	$0.139 \pm 0.087$	1.59	$-0.124 \pm 0.087$	$-0.062 \pm 0.086$
photometric centroid source offset	$0.34 \pm 0.20$	1.70	$-0.10 \pm 0.20$	$-0.33 \pm 0.20$



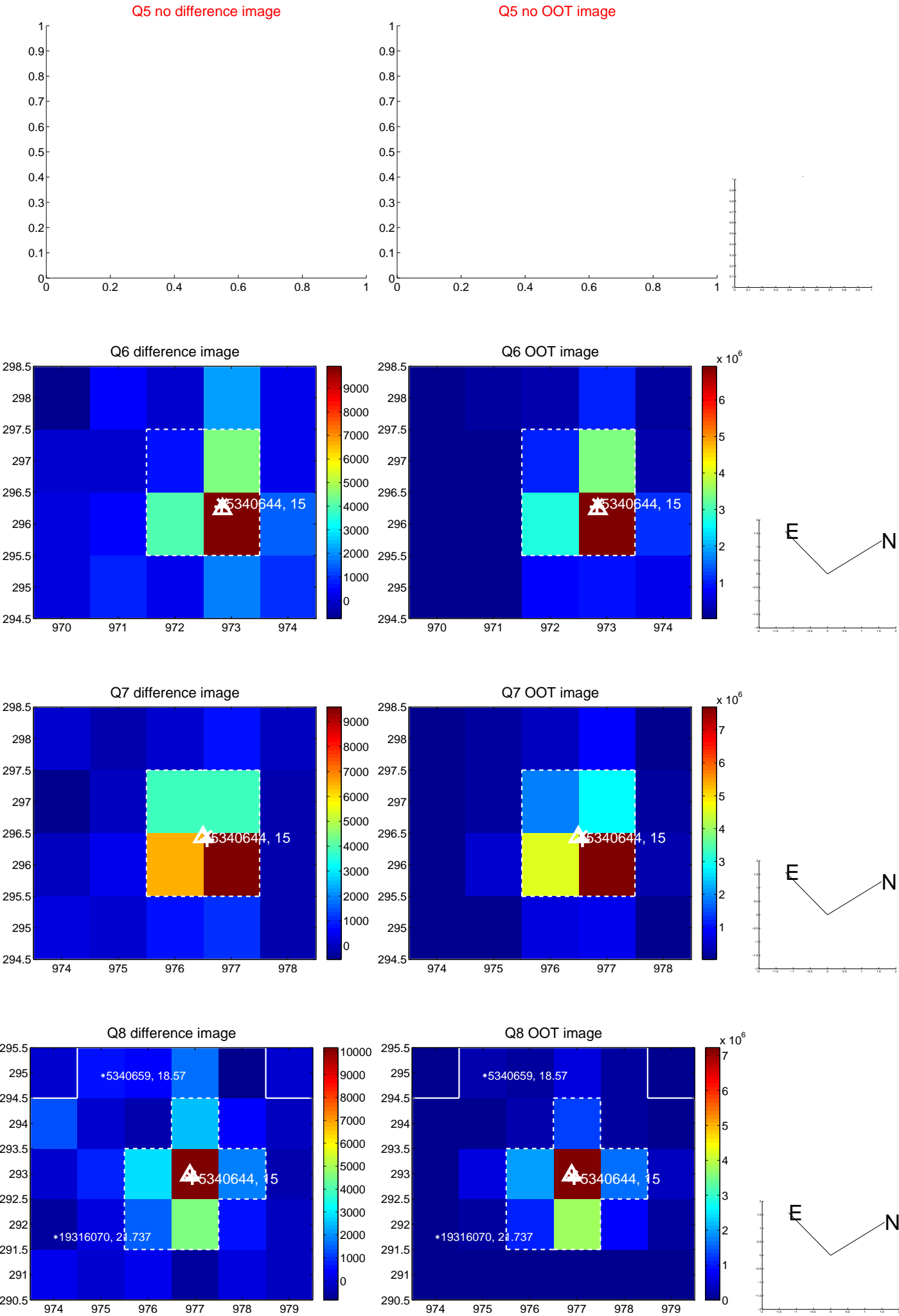
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



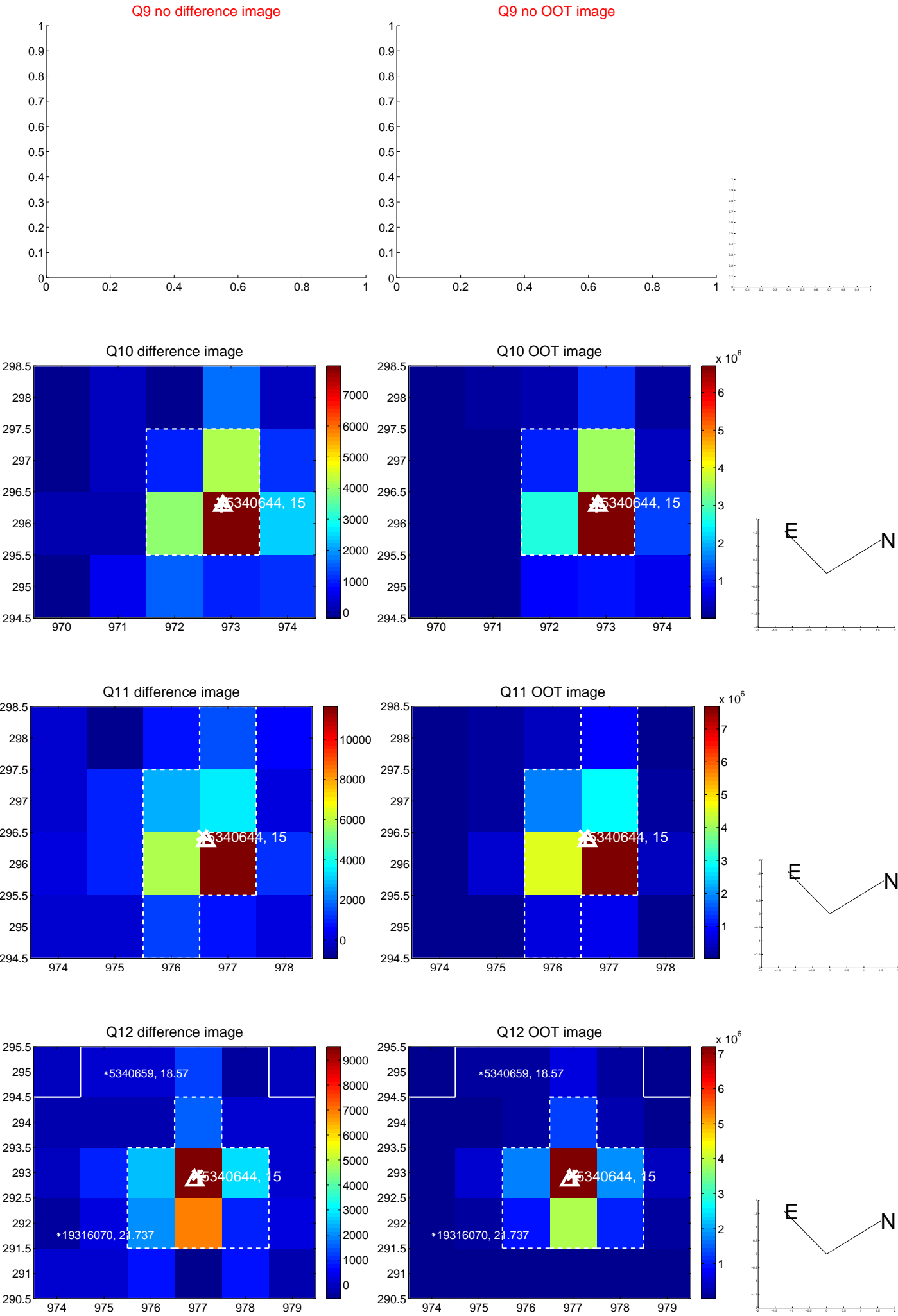
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



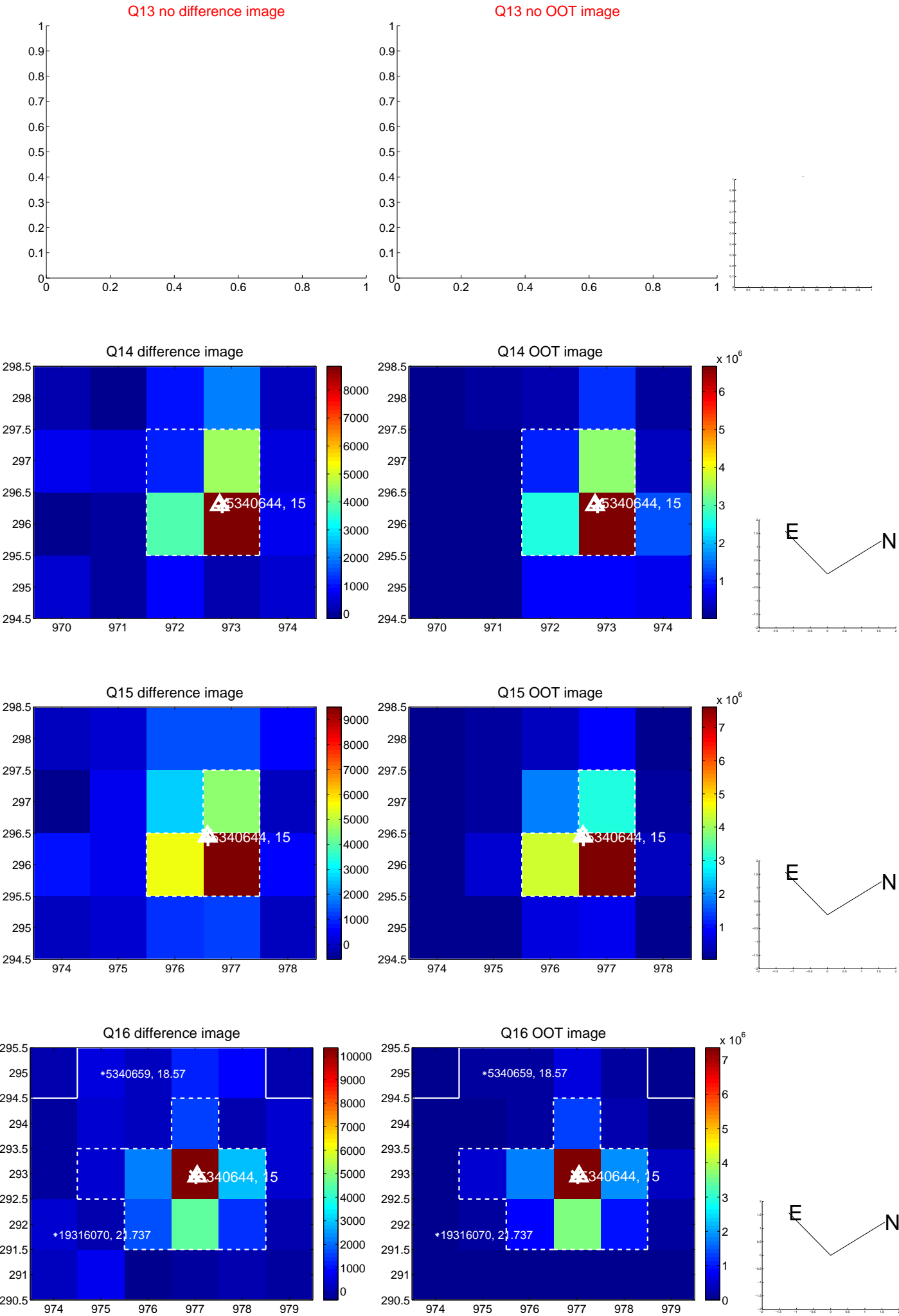
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



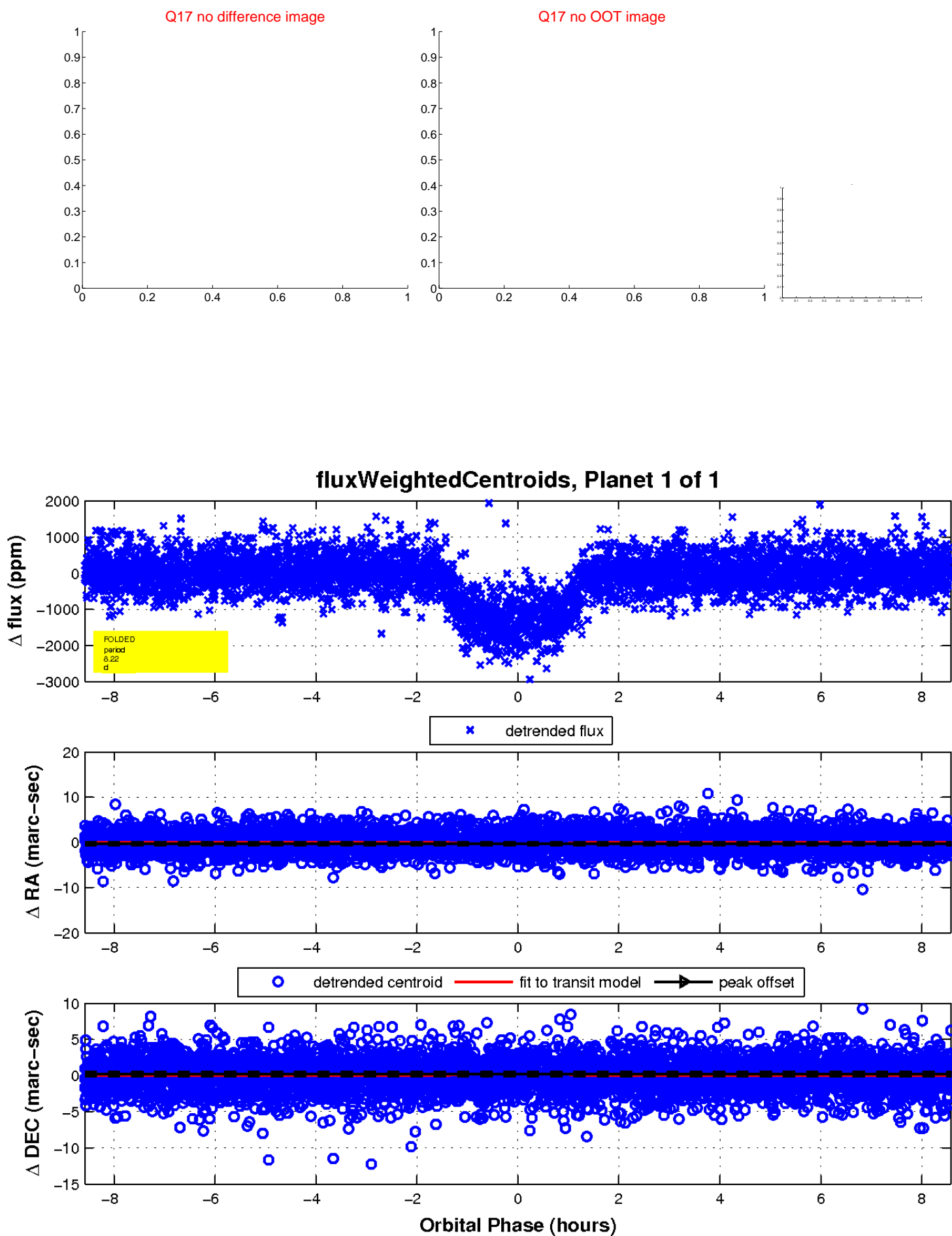
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

