

# KIC 011518142

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011518142-01	OBS	3762.01	240.800362	334.142220	4994.7	16.206	151.9	147.5	1.39	5758	10.12	3.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011518142-01	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.

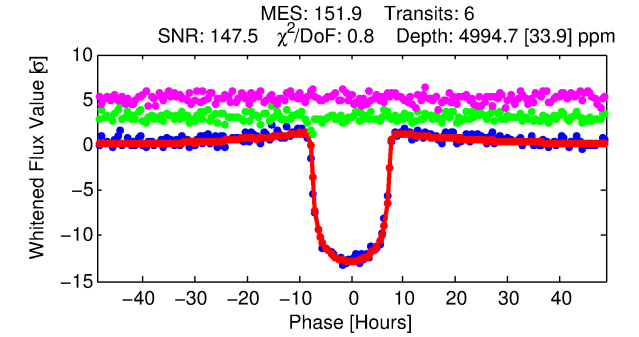
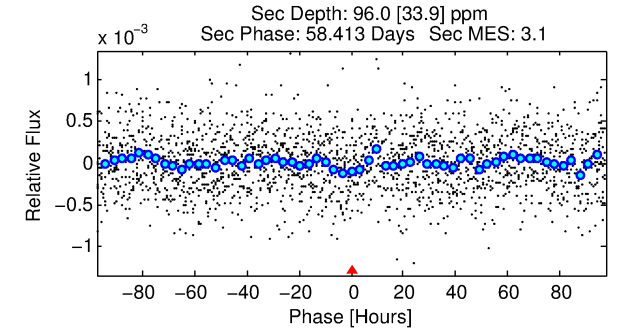
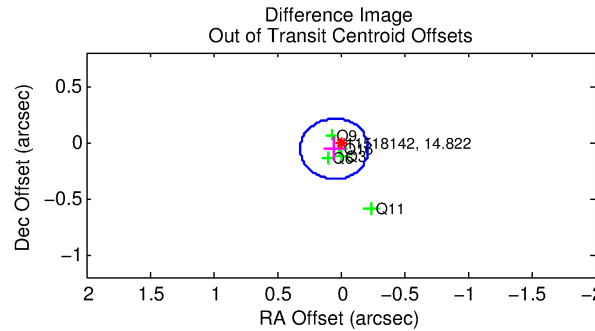
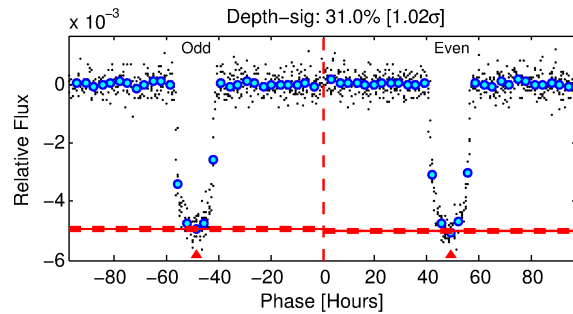
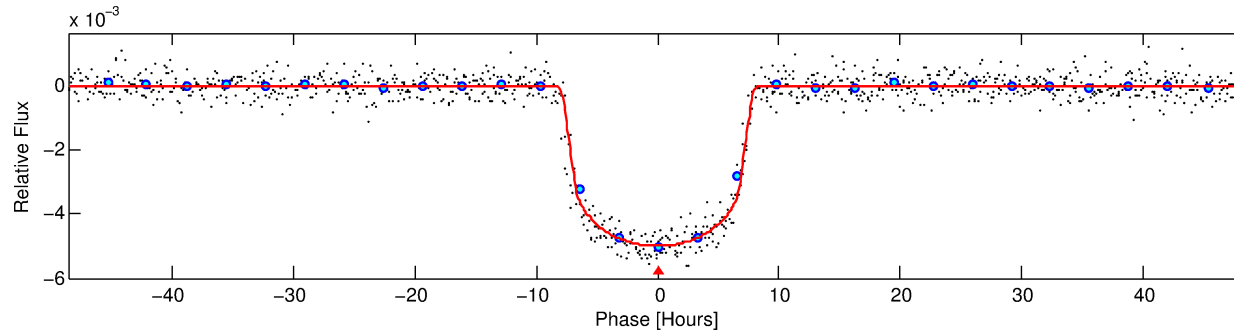
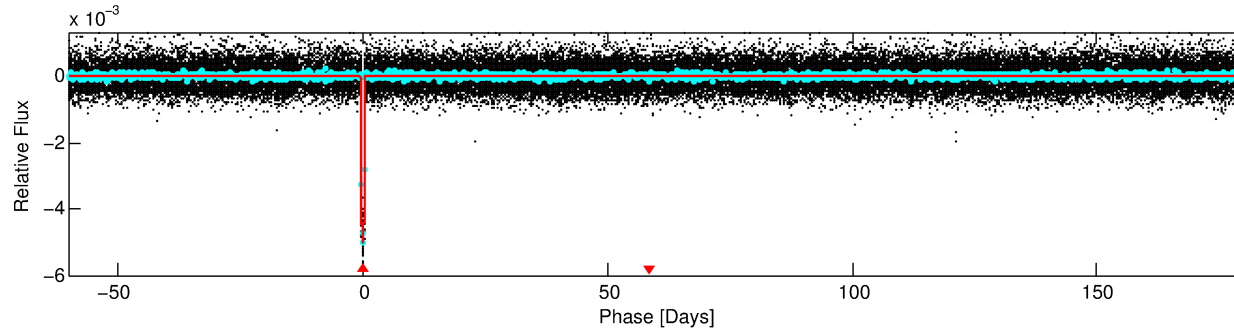
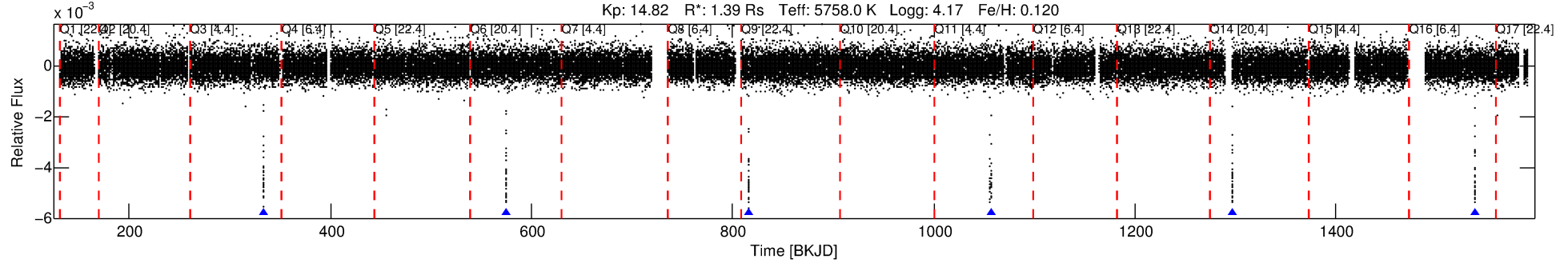
## Ephemeris Match Information For 011518142-01

No Significant Match Found

# DV One-Page Summary

KIC: 11518142 Candidate: 1 of 1 Period: 240.800 d  
KOI: K03762.01 Corr: 0.993

Kp: 14.82 R\*: 1.39 Rs Teff: 5758.0 K Logg: 4.17 Fe/H: 0.120



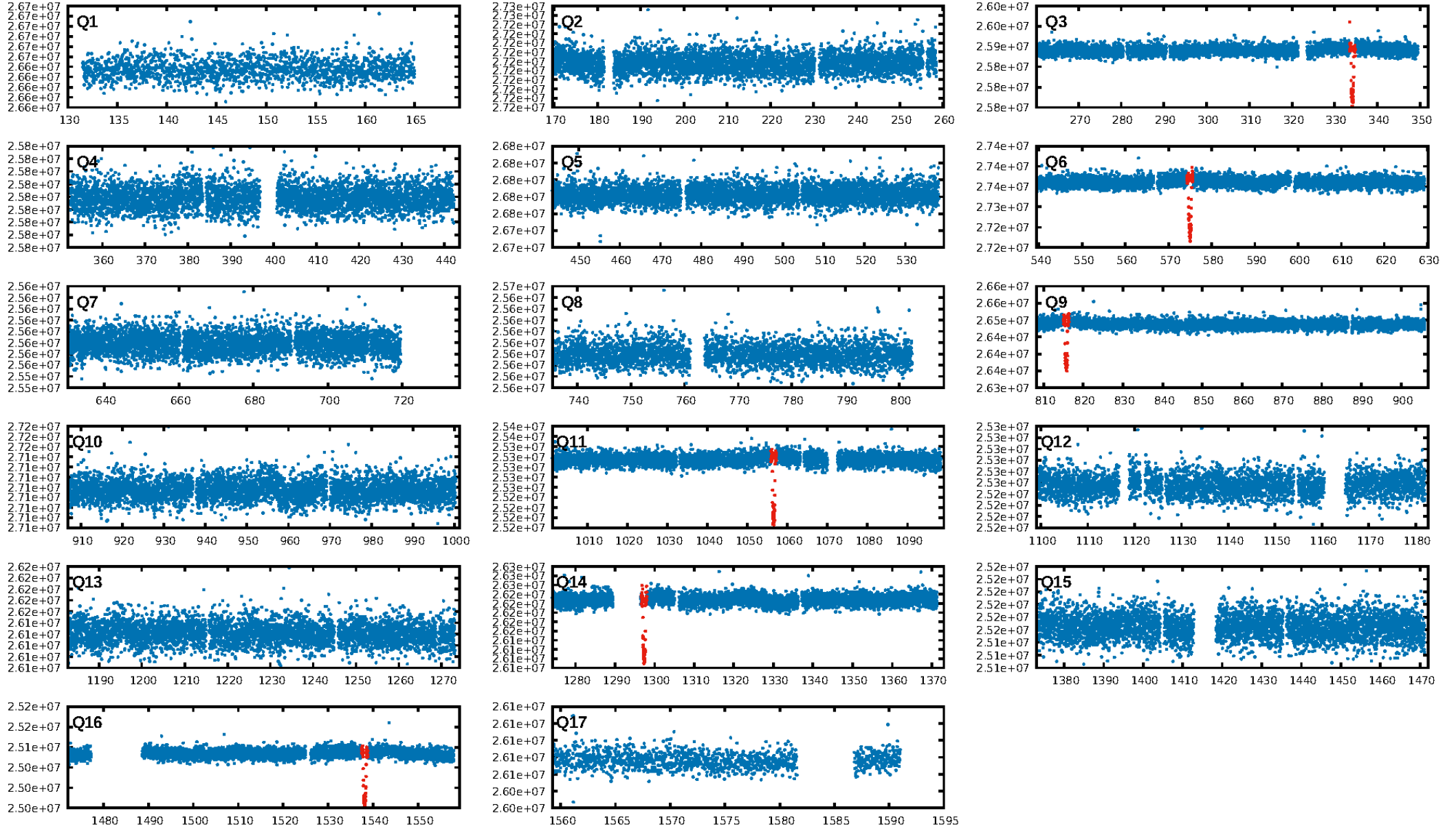
## DV Fit Results:

Period = 240.80036 [0.00058] d  
Epoch = 334.1422 [0.0018] BKJD  
Rp/R\* = 0.0670 [0.0008]  
a/R\* = 102.35 [5.02]  
b = 0.57 [0.06]  
Seff = 3.23 [1.02]  
Teq = 342 [27] K  
Rp = 10.12 [2.07] Re  
a = 0.7652 [0.1493] AU  
Ag = 302.04 [142.38] [2.11σ]  
Teffp = 2203 [198] K [9.32σ]

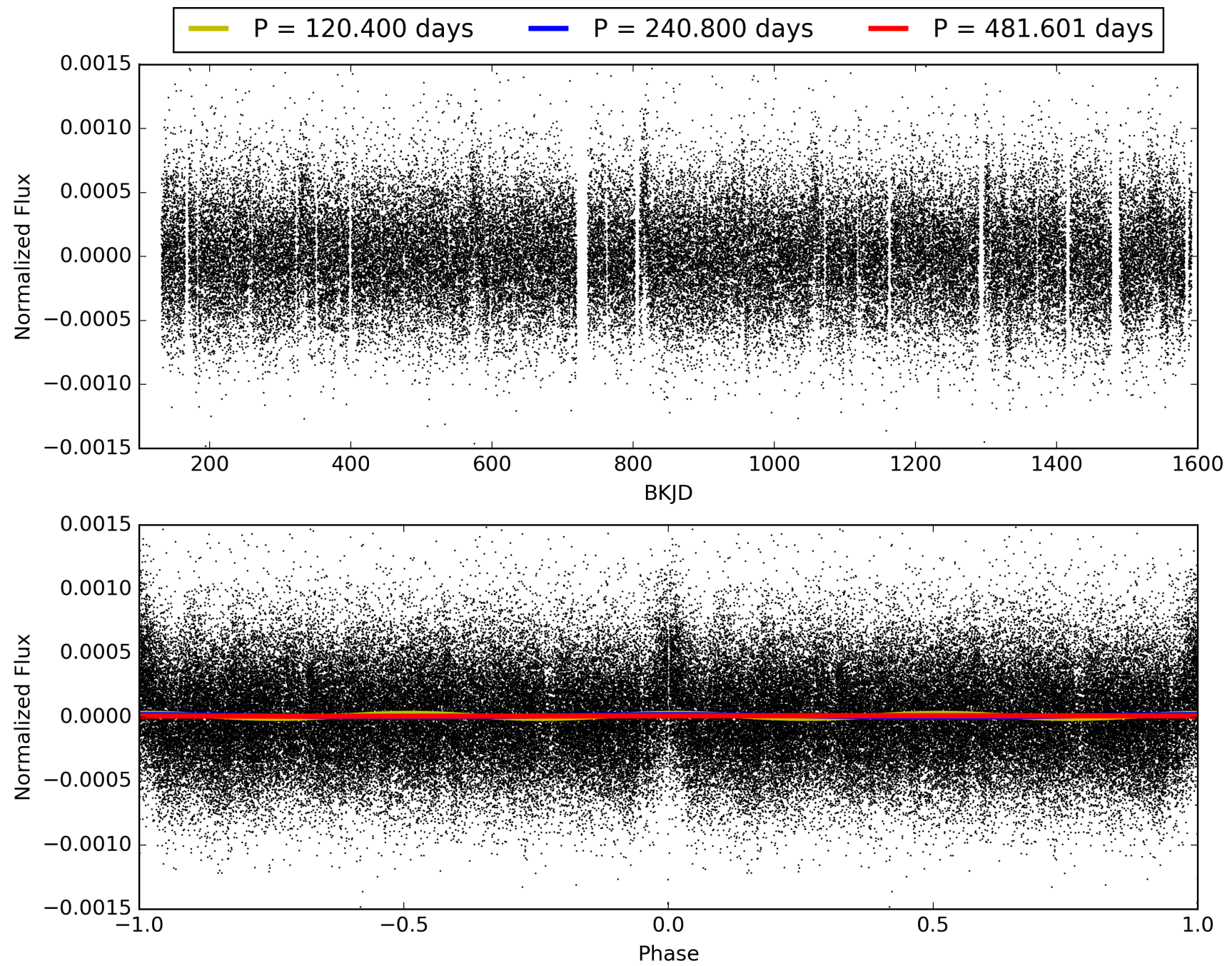
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 24.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: 8.291  
Centroid-sig: 0.0%  
Centroid-so: 1.119 arcsec [11.23σ]  
OotOffset-rm: 0.078 arcsec [0.87σ]  
KicOffset-rm: 0.151 arcsec [0.89σ]  
OotOffset-st: 1/2/1/1 [5]  
KicOffset-st: 1/2/1/1 [5]  
DiffImageQuality-fgm: 1.00 [5/5]  
DiffImageOverlap-fno: 1.00 [5/5]

# TCE 011518142-01, PDC Light Curves

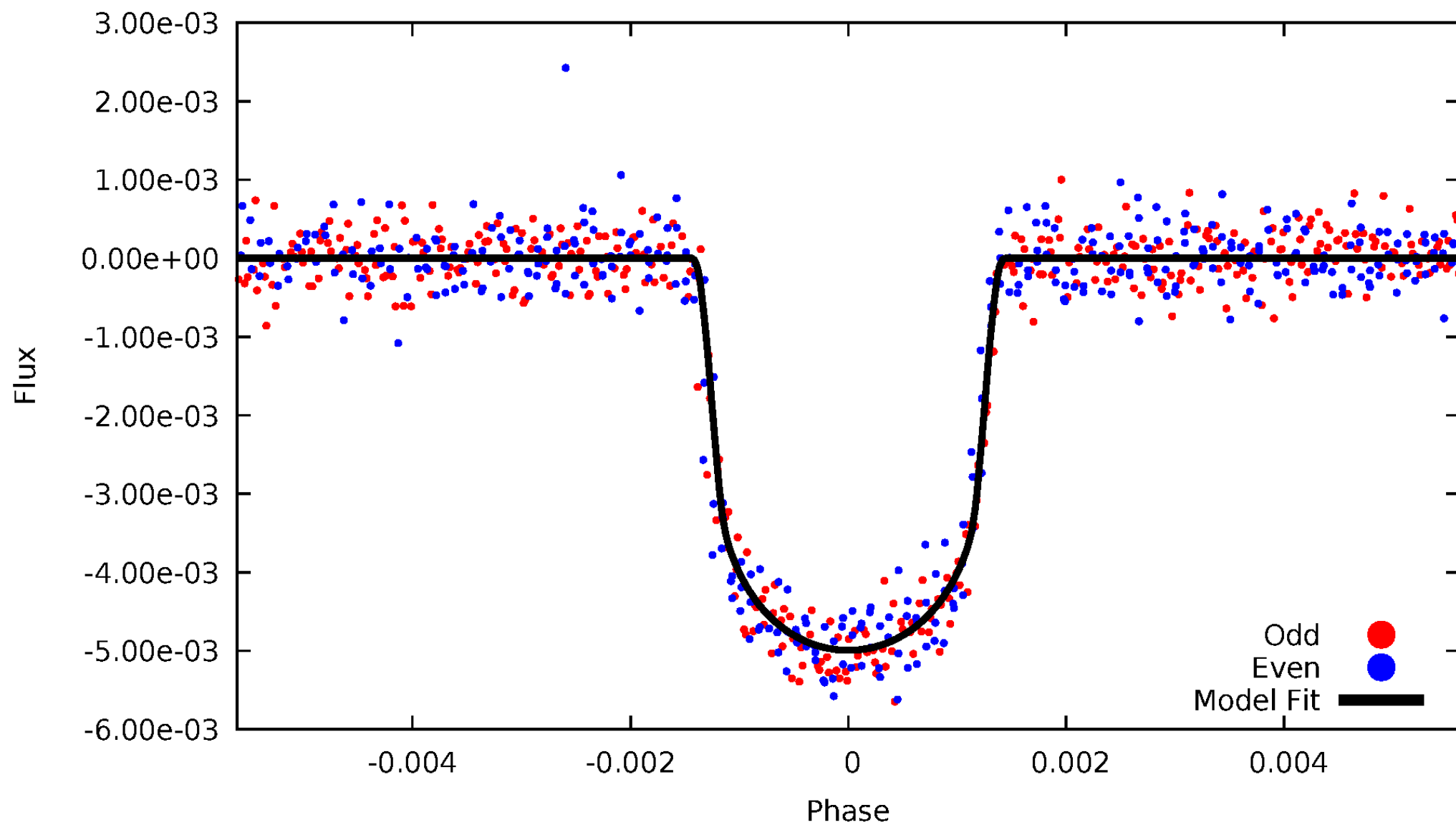


TCE 011518142-01



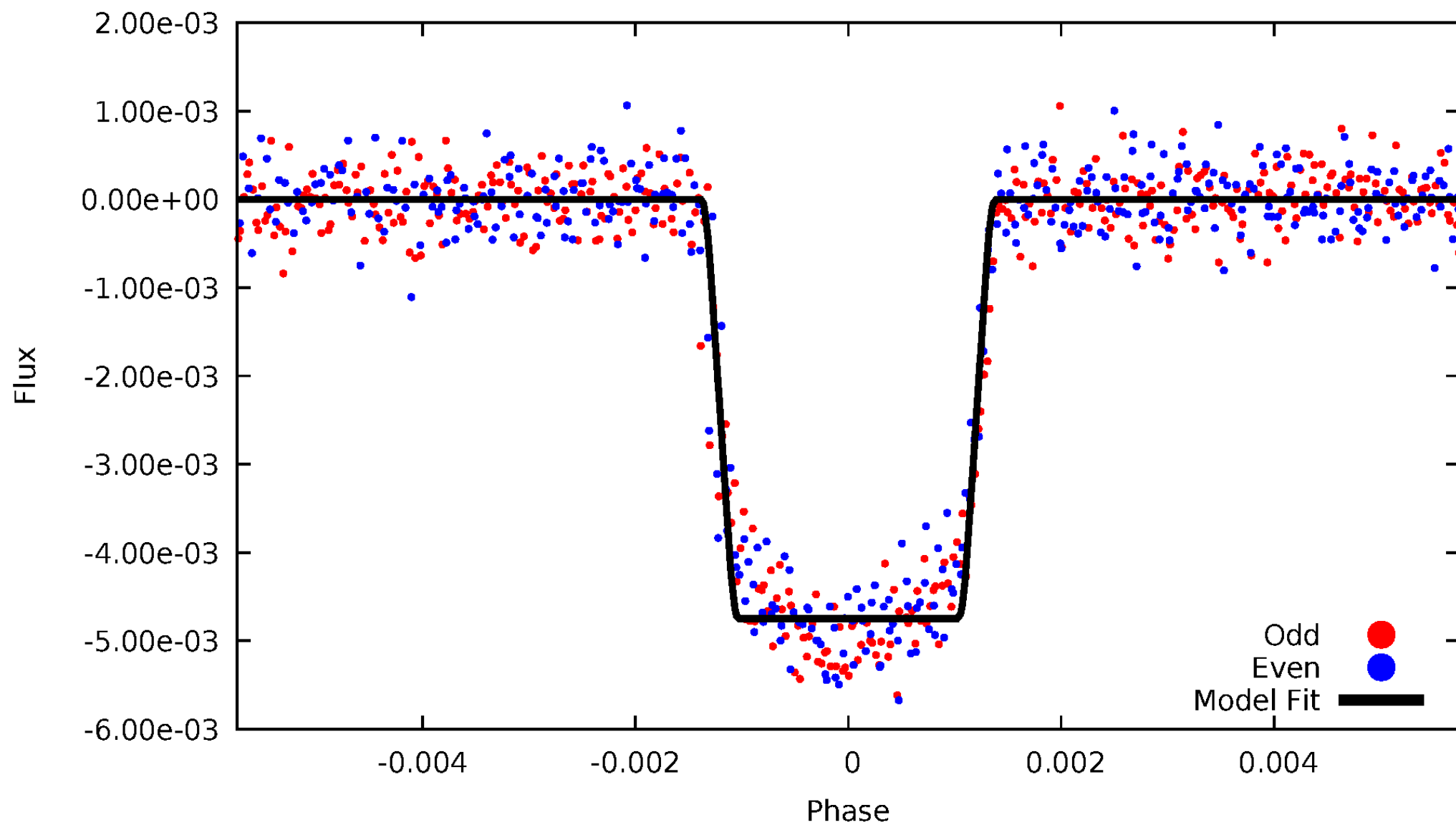
# DV Odd/Even

TCE 011518142-01



# ALT Odd/Even

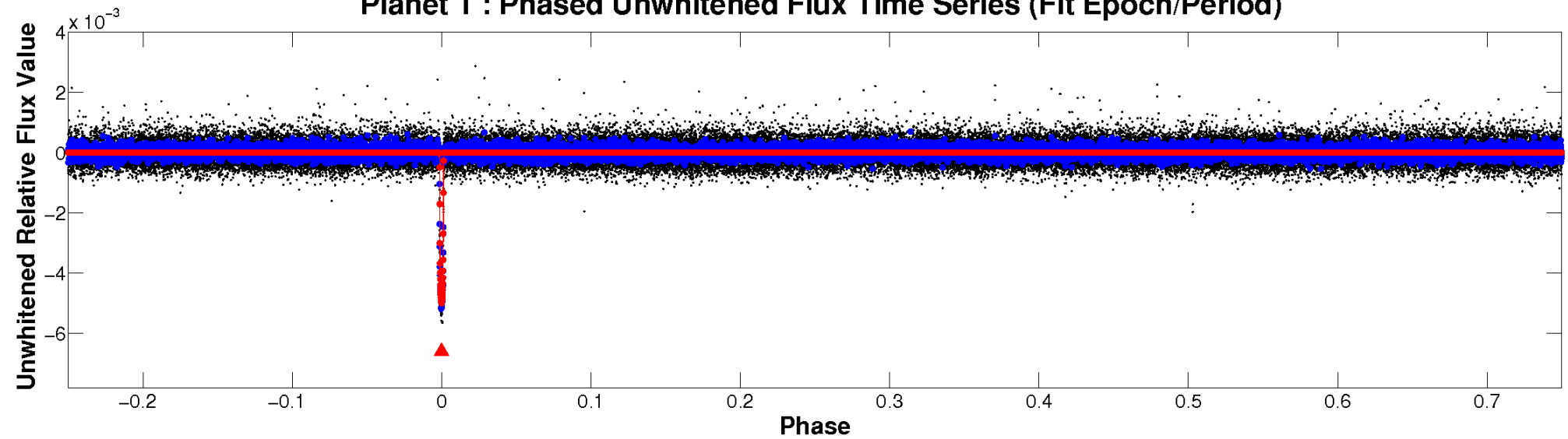
TCE 011518142-01



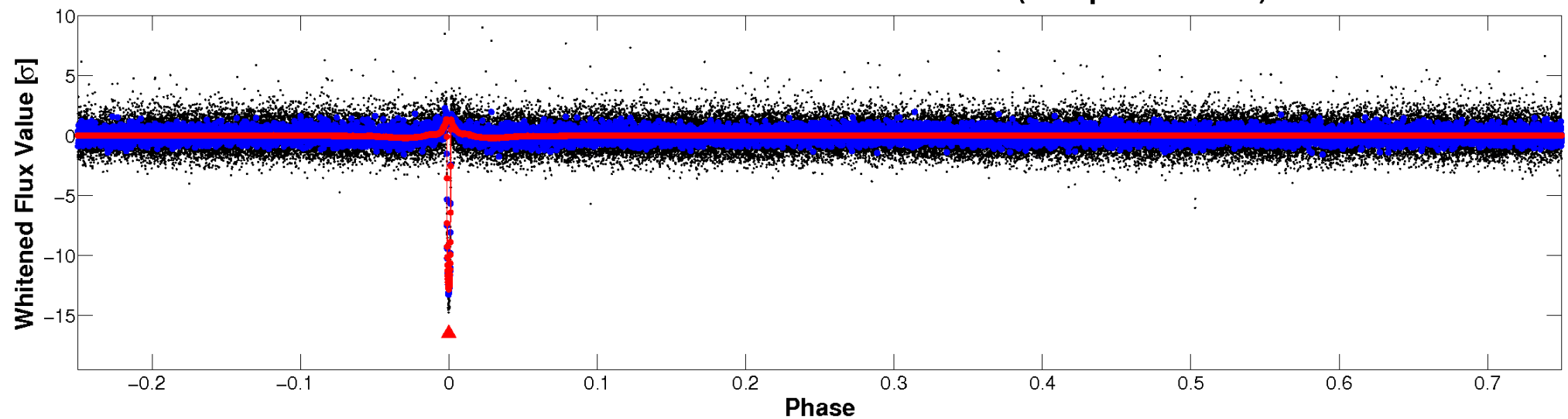


# Non-Whitened Vs. Whitened Light Curve

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

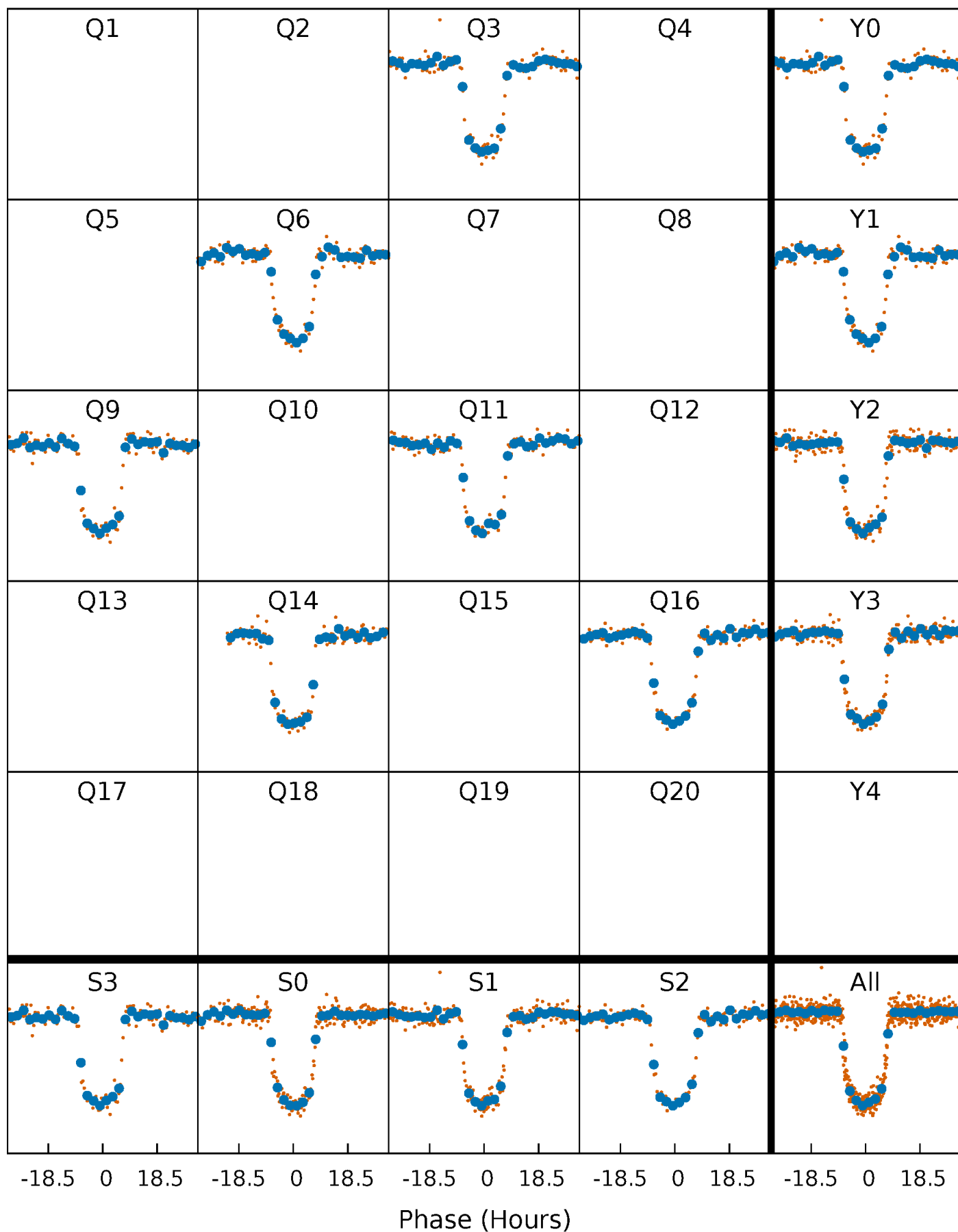


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

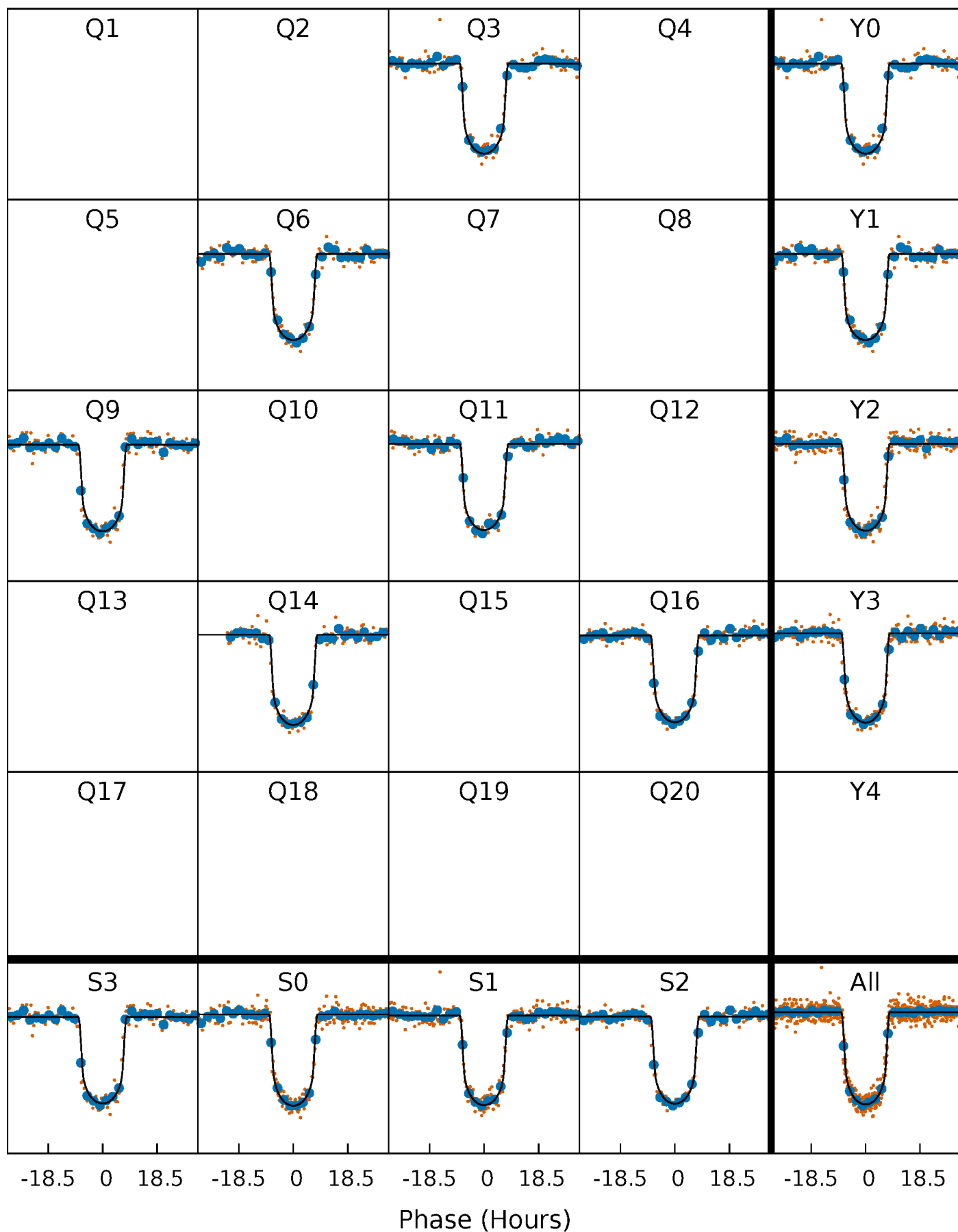
TCE 011518142-01 P=240.800362 Days  $T_0=334.142220$  (BKJD)





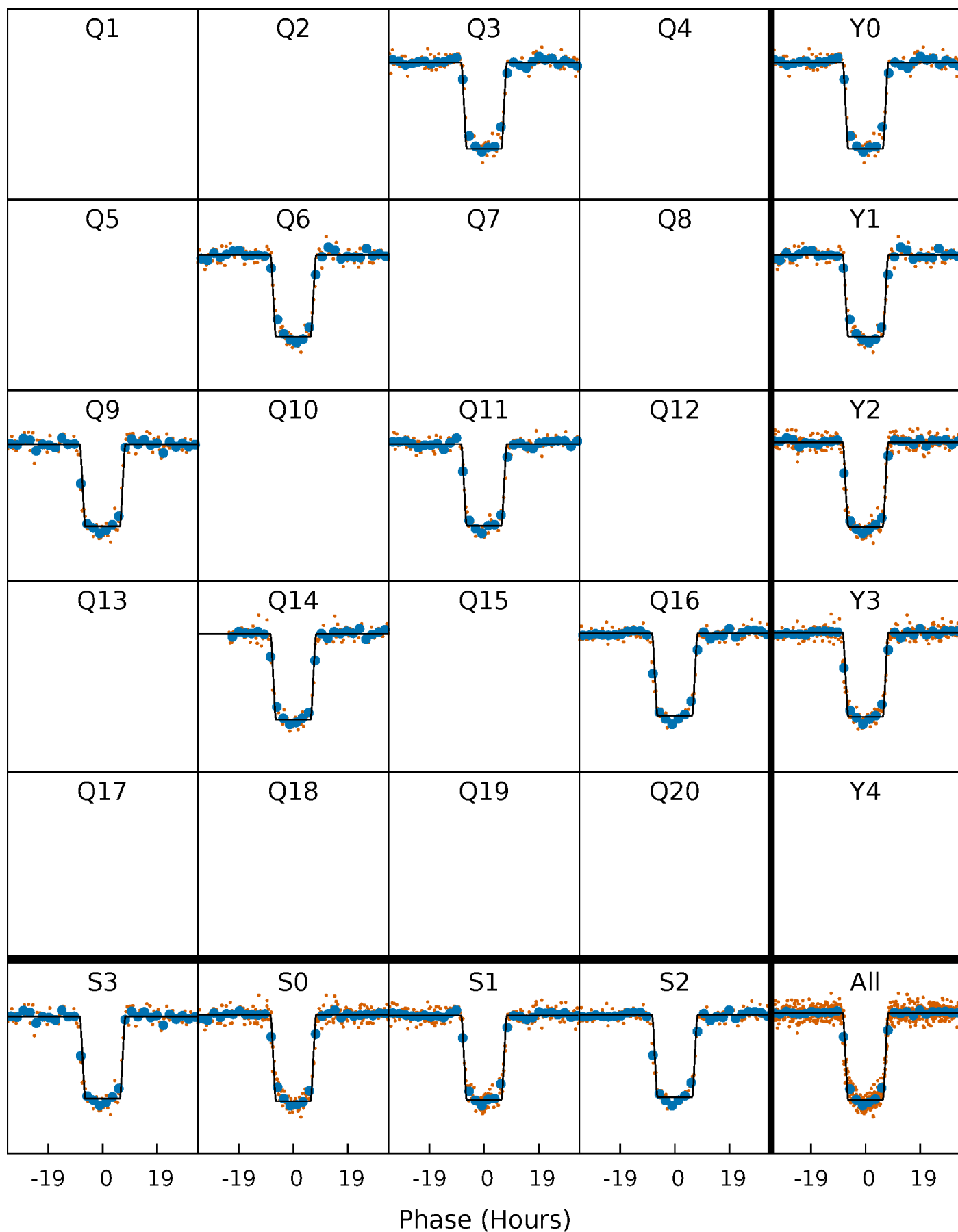
# DV Quarter-Phased Transit Curves

TCE 011518142-01 P=240.800362 Days  $T_0=334.142220$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

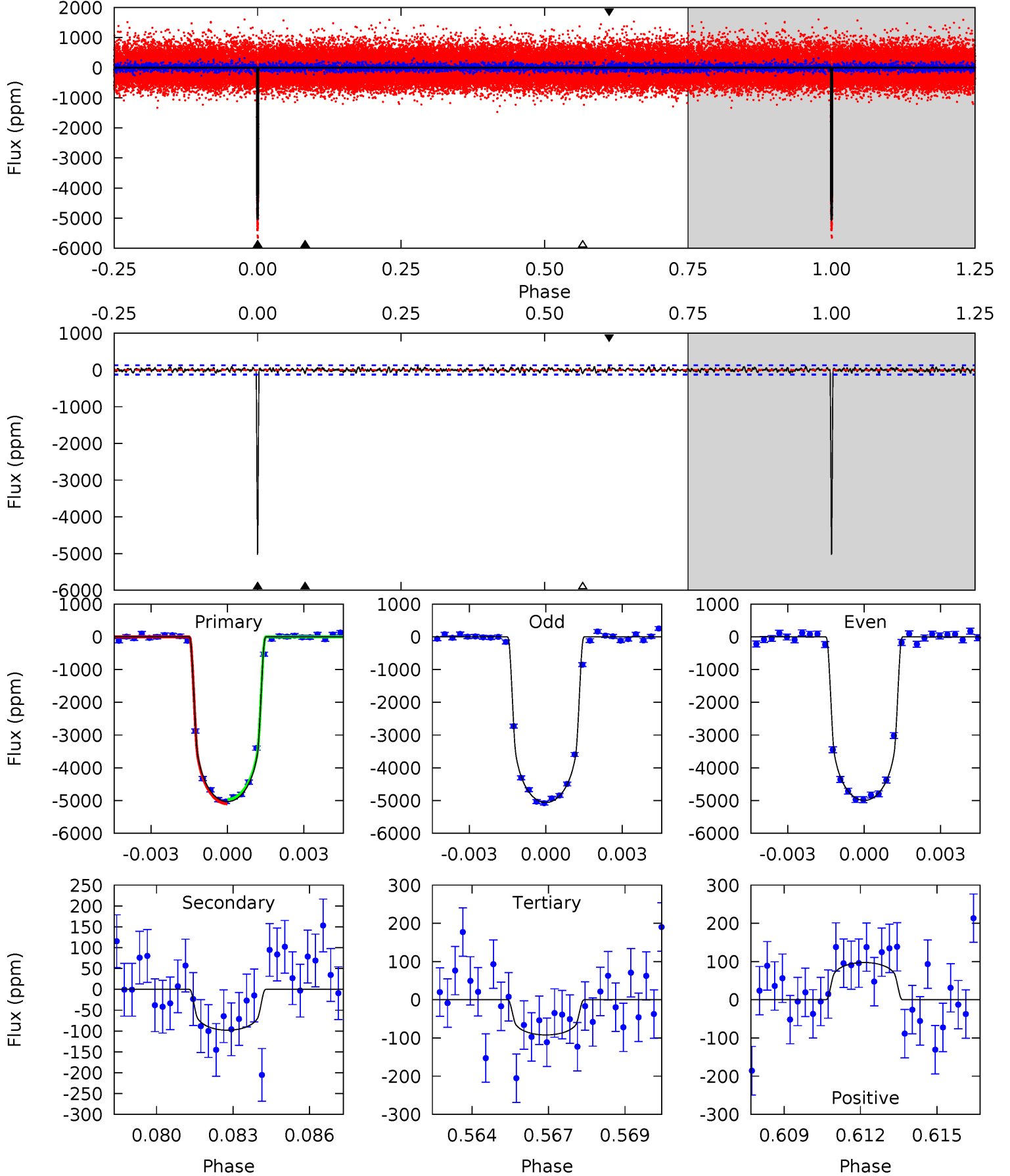
TCE 011518142-01 P=240.802693 Days  $T_0=334.131962$  (BKJD)



# DV Model-Shift Uniqueness Test

011518142-01,  $P = 240.800362$  Days,  $E = 93.341858$  Days

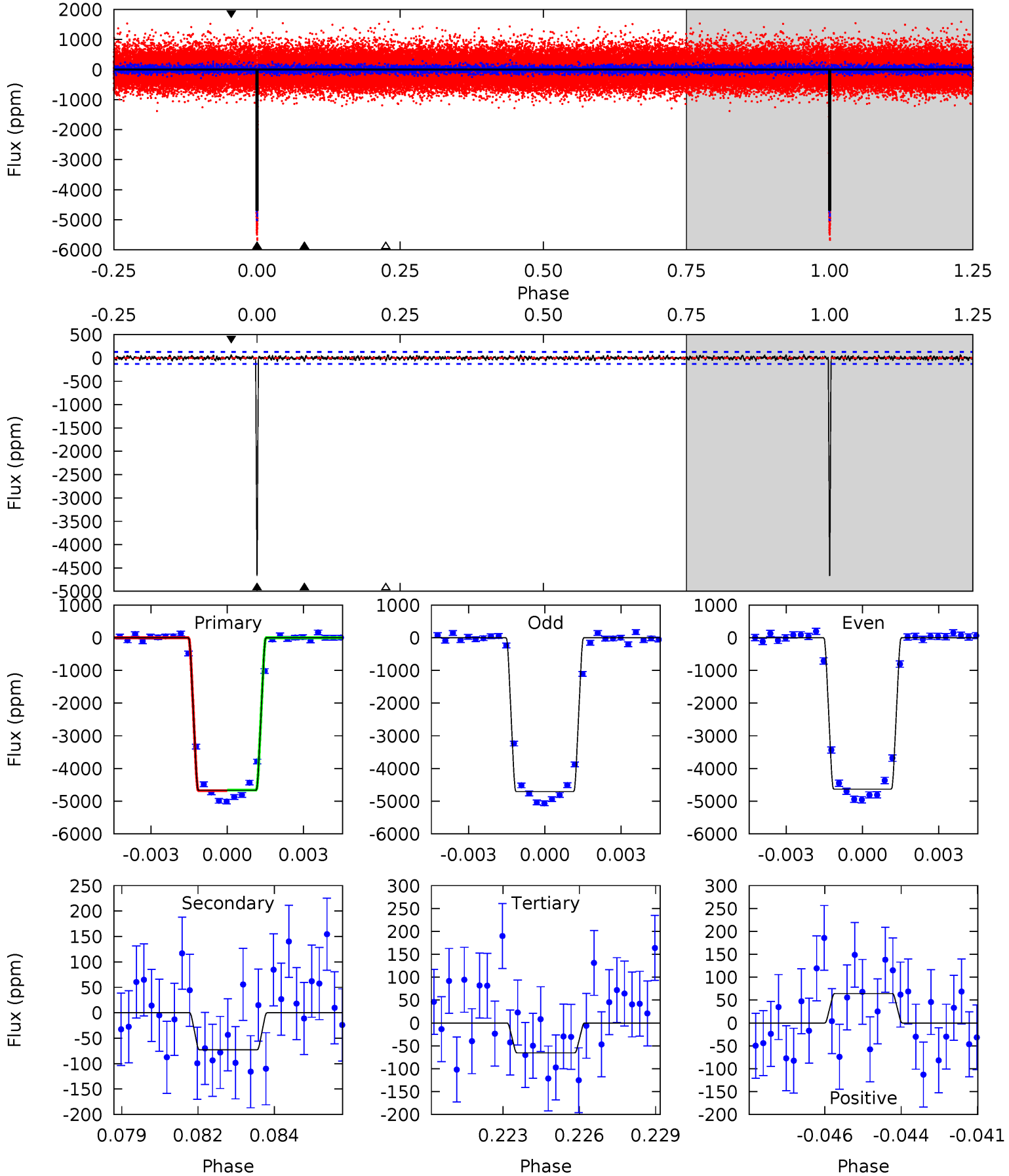
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
208.8	4.07	3.82	4.05	5.26	2.98	1.22	205.0	204.8	0.25	0.02	1.30	0.99	0.02	2.85



# Alt Model-Shift Uniqueness Test

011518142-01,  $P = 240.802693$  Days,  $E = 93.329269$  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
190.3	2.97	2.66	2.62	5.27	3.00	0.79	187.6	187.7	0.31	0.35	1.53	0.99	0.01	0.28



### Stellar Parameters For KIC 011518142

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5758^{+78}_{-86}$	$4.168^{+0.182}_{-0.098}$	$0.120^{+0.150}_{-0.150}$	$1.385^{+0.232}_{-0.283}$	$1.029^{+0.090}_{-0.073}$	$0.546^{+0.461}_{-0.165}$
	+1%/-1%	+4%/-2%	+125%/-125%	+17%/-20%	+9%/-7%	+85%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 011518142-01 / KOI 3762.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-98 \pm 24$	$10.11^{+0.83}_{-1.14}$	$474^{+21}_{-26}$	$2913^{+98}_{-121}$	$314^{+116}_{-89}$
Alt.	$-73 \pm 25$	$10.37^{+0.93}_{-1.18}$	$474^{+23}_{-27}$	$2776^{+110}_{-143}$	$224^{+99}_{-81}$

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

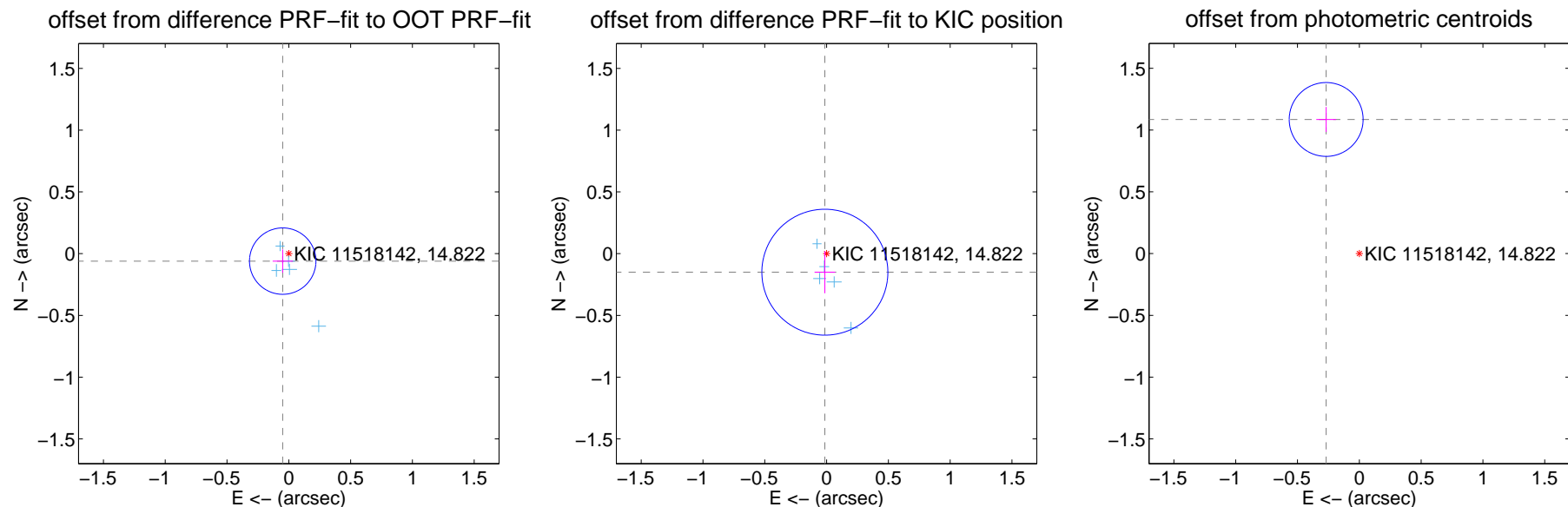
## DV Centroid Data

Supplemental centroid analysis for 011518142-01. Kepler magnitude: 14.82. Transit SNR 147.54

There are 5 quarters with good PRF difference image offsets

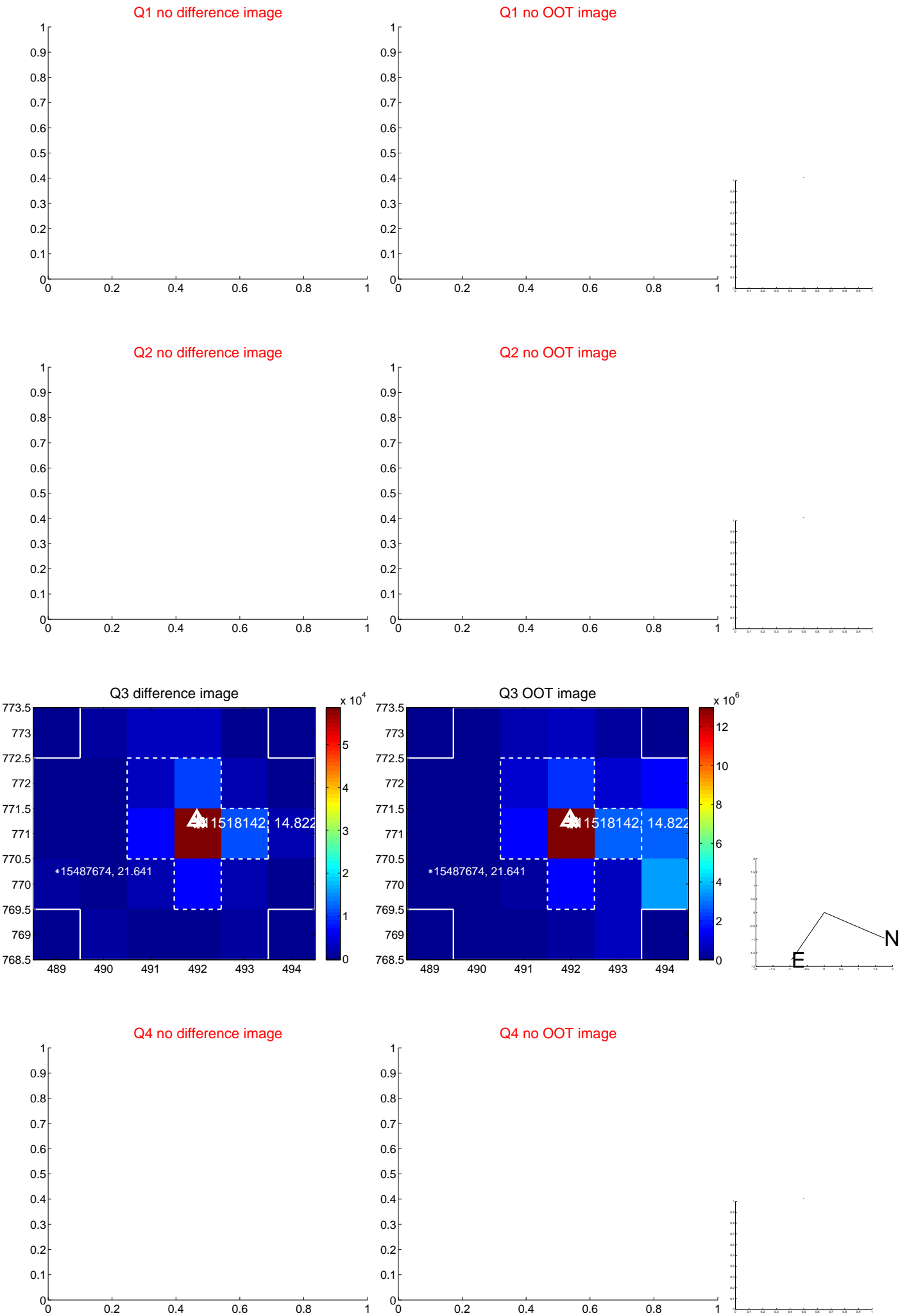
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.078 \pm 0.090$	0.87	$0.049 \pm 0.082$	$-0.060 \pm 0.095$
PRF-fit source offset from KIC position	$0.151 \pm 0.170$	0.89	$0.014 \pm 0.083$	$-0.150 \pm 0.171$
photometric centroid source offset	$1.12 \pm 0.10$	11.23	$0.27 \pm 0.08$	$1.09 \pm 0.10$



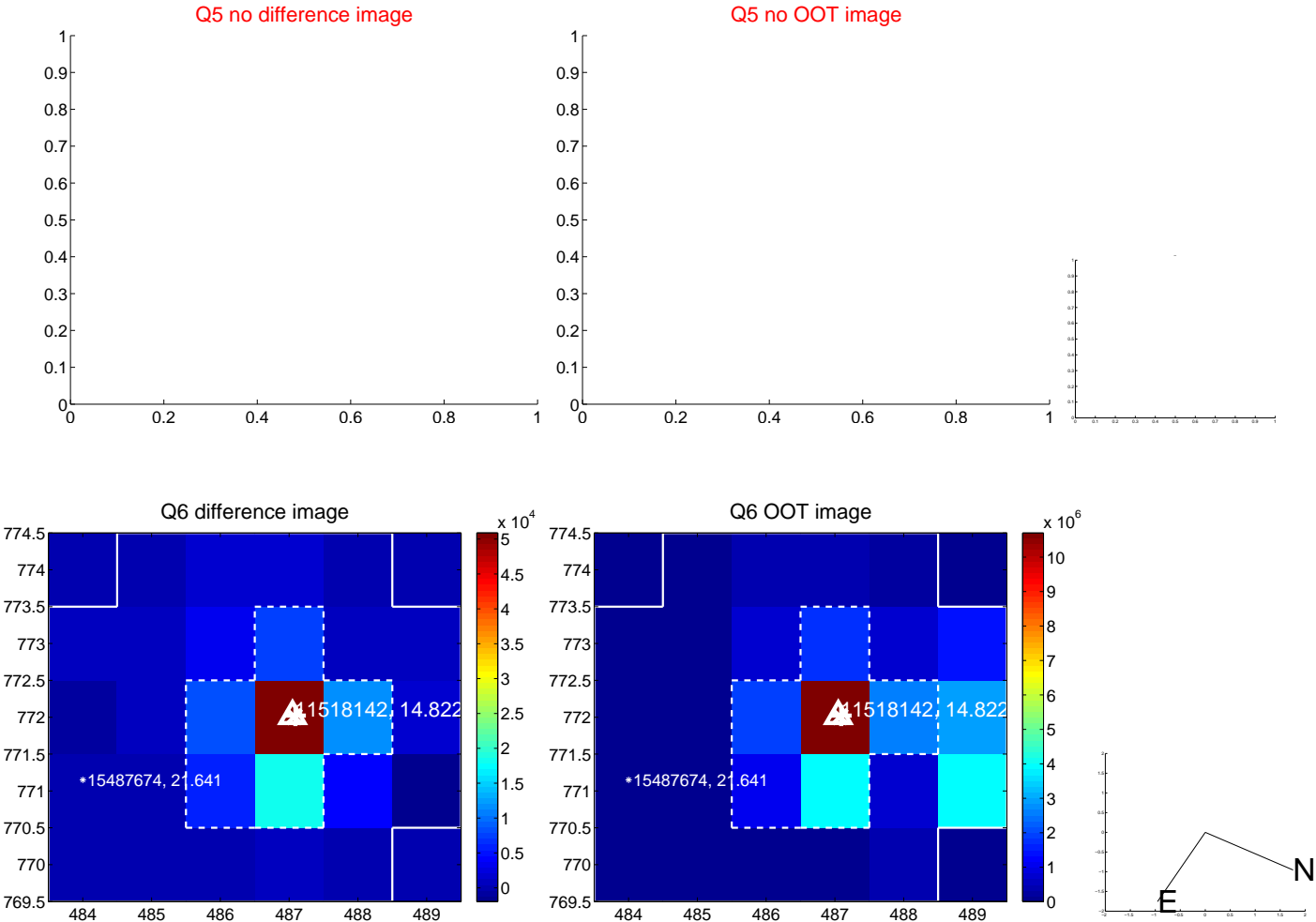
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

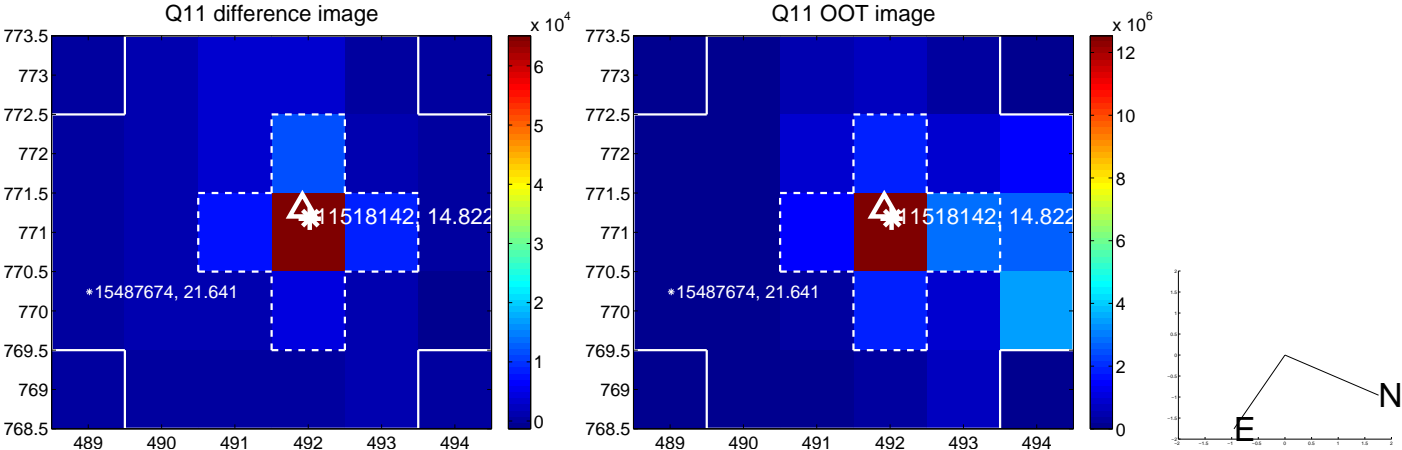
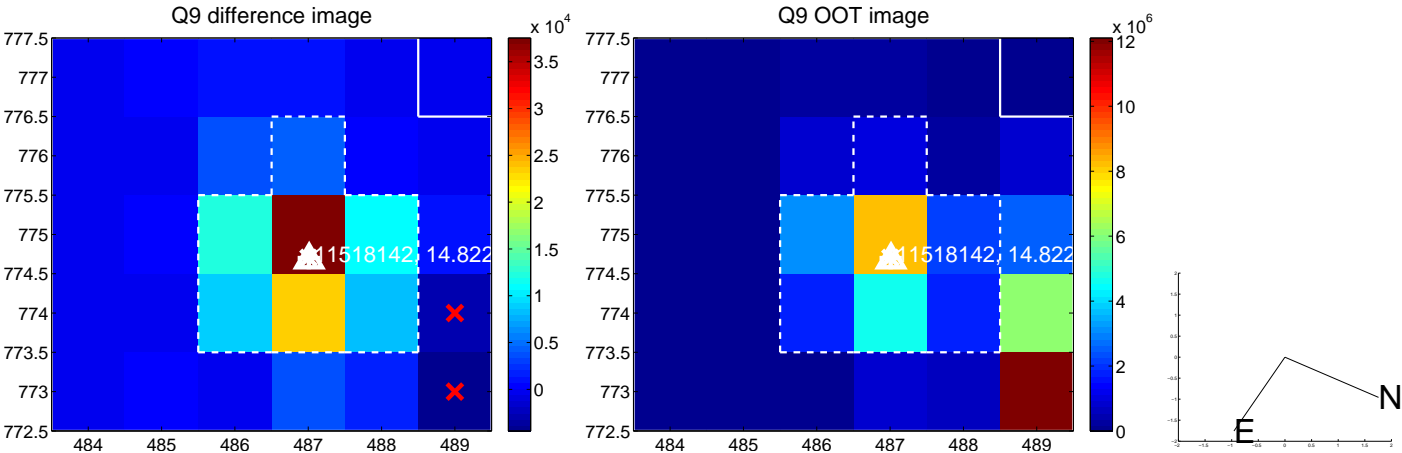




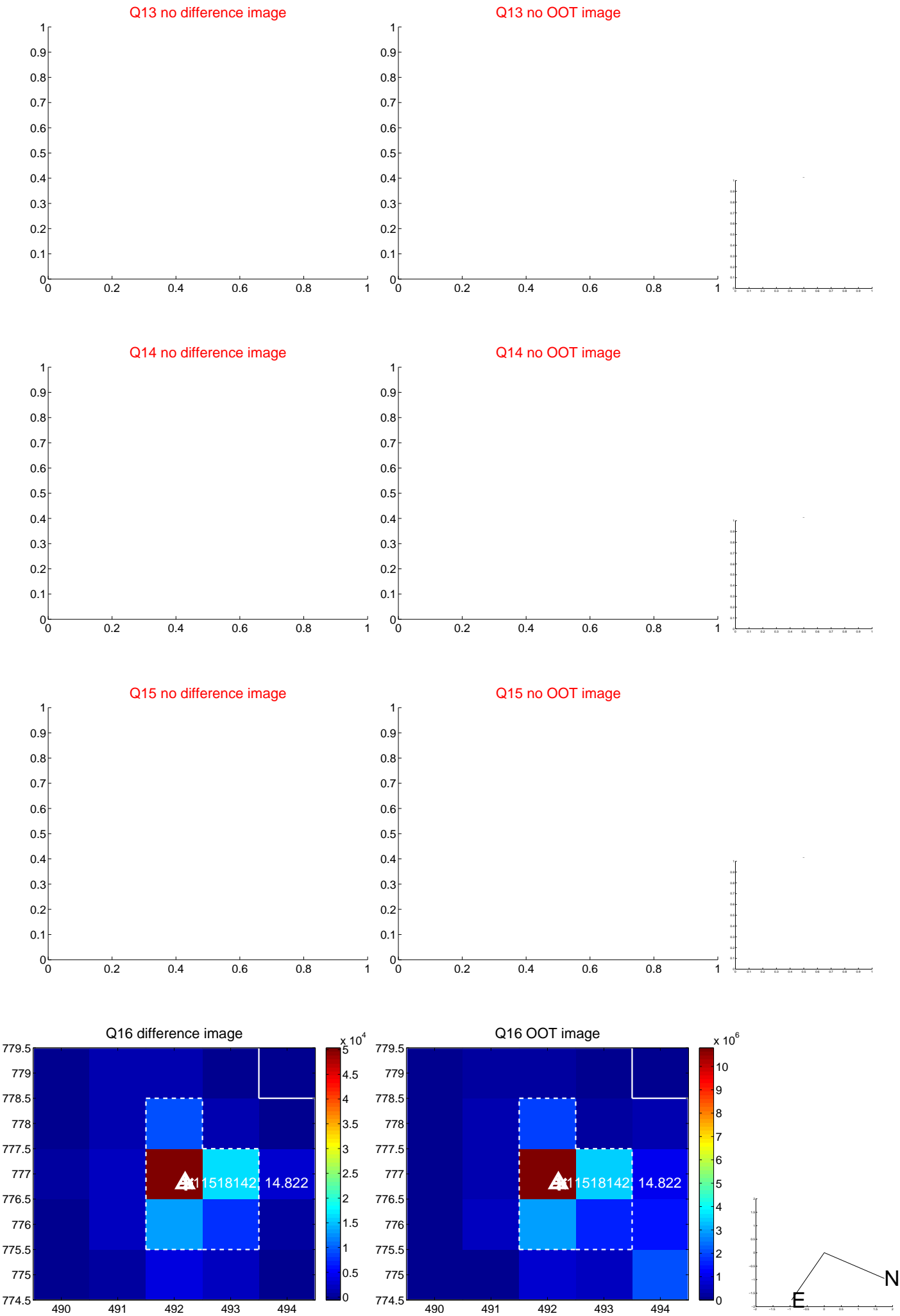
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



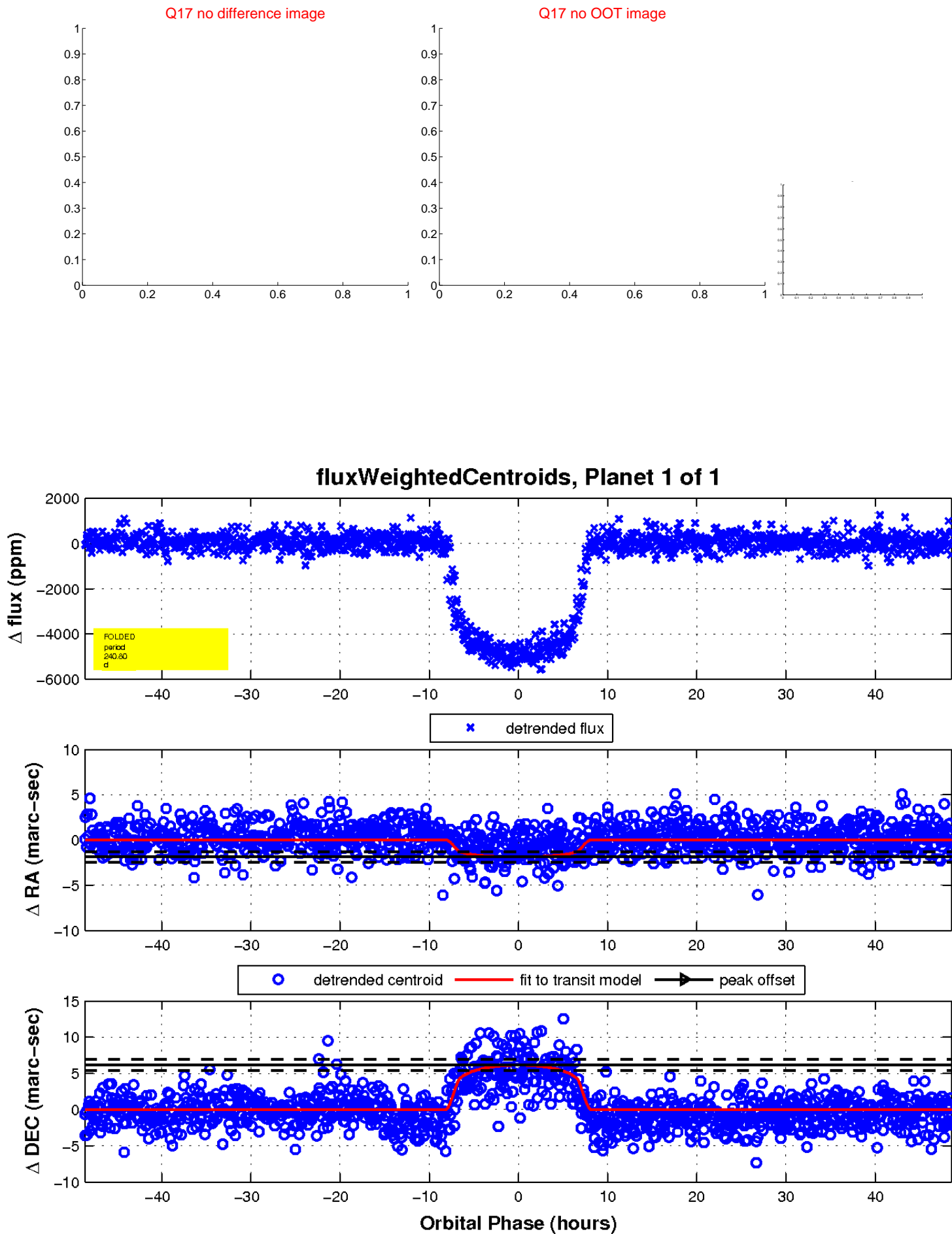
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

