

# KIC 006145982

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006145982-01	OBS	No	368.773605	150.714654	279.9	9.587	7.9	5.1	1.09	6100	2.03	1.47

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006145982-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

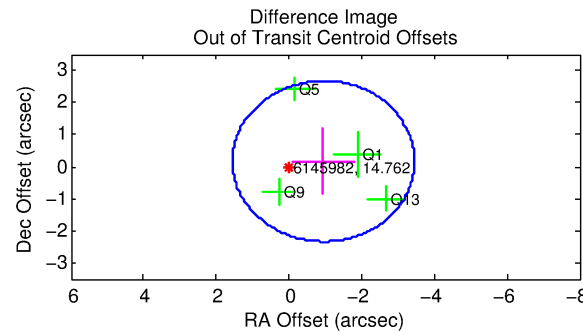
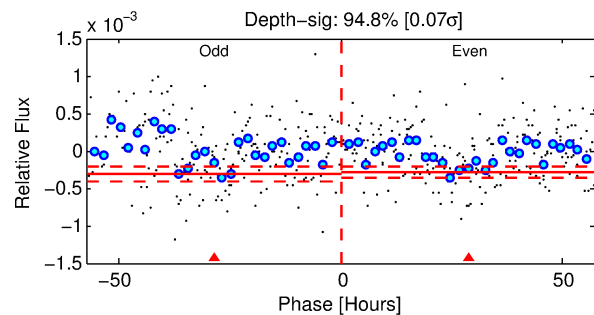
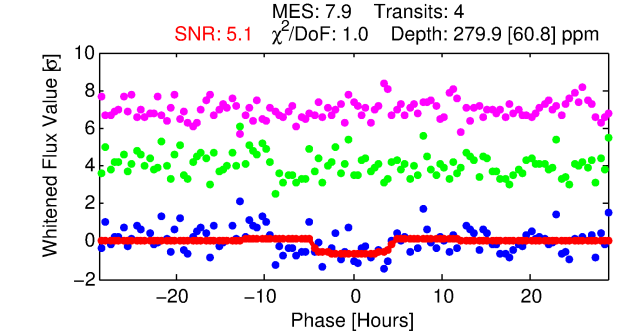
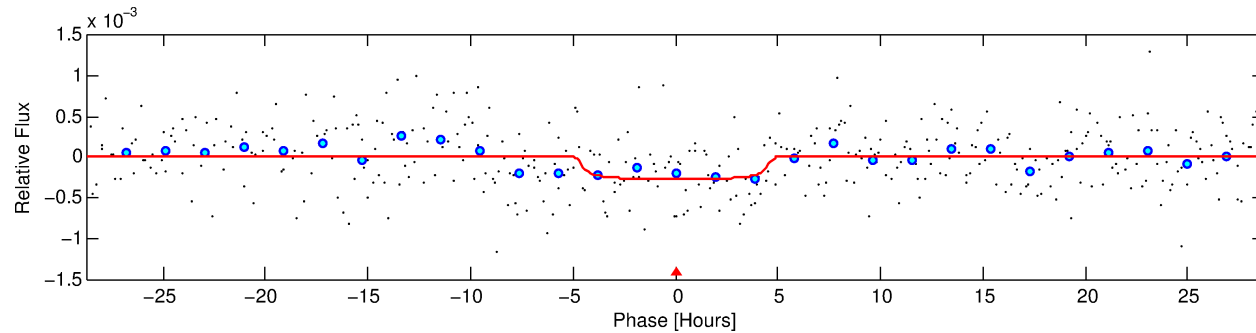
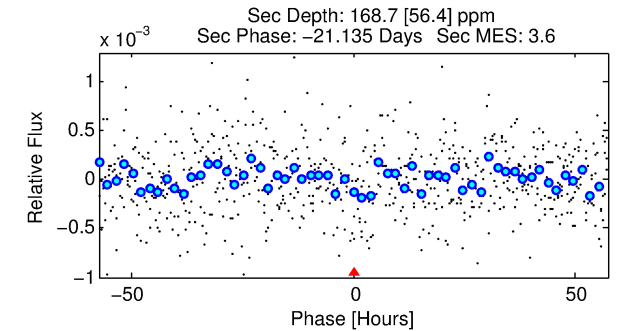
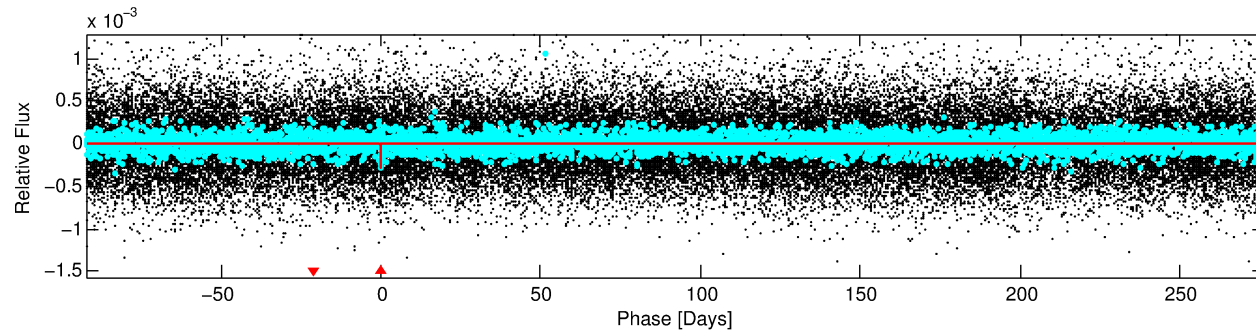
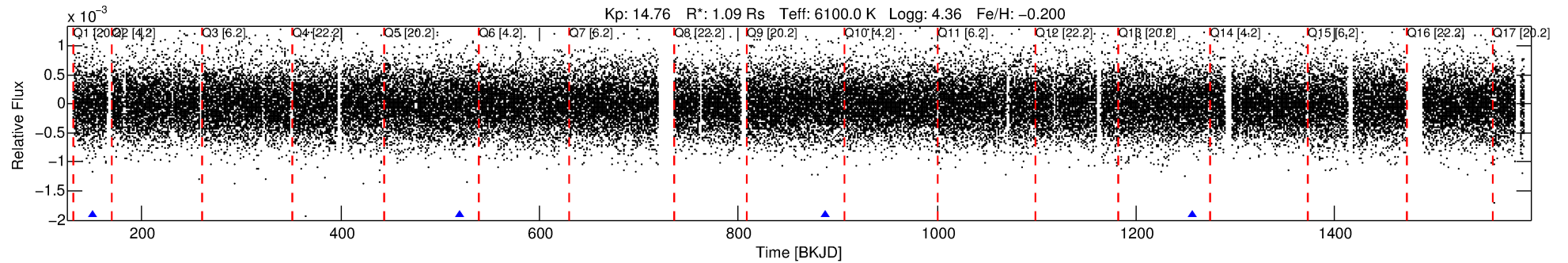
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006145982-01

No Significant Match Found

# DV One-Page Summary

KIC: 6145982 Candidate: 1 of 1 Period: 368.774 d



## DV Fit Results:

Period = 368.77361 [0.01426] d  
Epoch = 150.7147 [0.0275] BKJD  
Rp/R\* = 0.0170 [0.0106]  
a/R\* = 182.35 [567.12]  
b = 0.81 [1.36]  
Seff = 1.47 [0.56]  
Teff = 281 [27] K  
Rp = 2.03 [1.40] Re  
a = 1.0045 [0.2471] AU  
Ag = 22765.90 [30393.96] [0.75 $\sigma$ ]  
Teffp = 5331 [1725] K [2.93 $\sigma$ ]

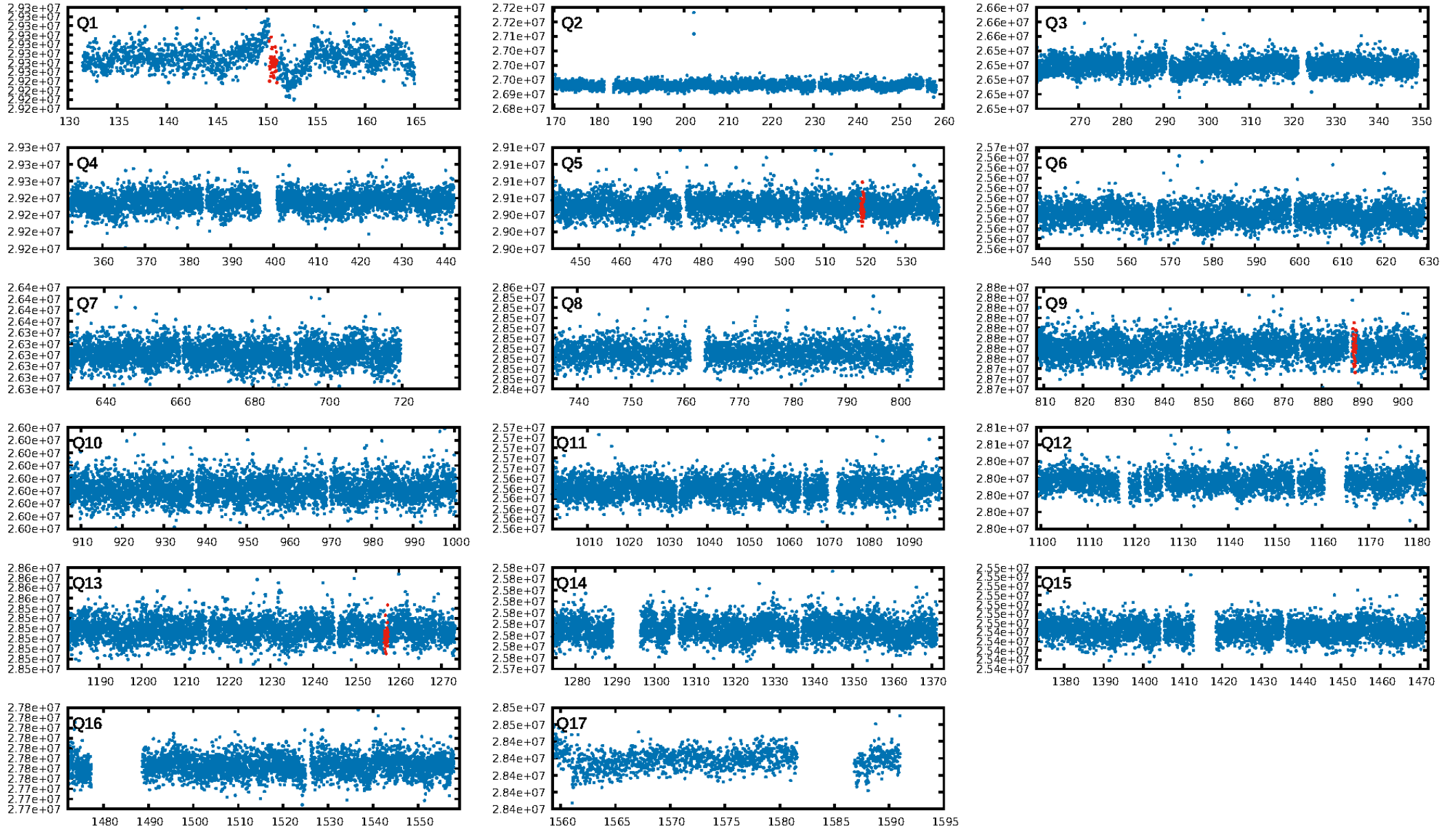
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.2%  
ModelChiSquareGof-sig: 99.4%  
**Bootstrap-pfa: 2.86e-11**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 3.032  
Centroid-sig: 41.0%  
Centroid-so: 3.328 arcsec [1.02 $\sigma$ ]  
OotOffset-rm: 0.960 arcsec [1.15 $\sigma$ ]  
KicOffset-rm: 1.014 arcsec [1.22 $\sigma$ ]  
OotOffset-st: 0/0/0/4 [4]  
KicOffset-st: 0/0/0/4 [4]  
DiffImageQuality-fgm: 0.50 [2/4]  
DiffImageOverlap-fno: 1.00 [4/4]

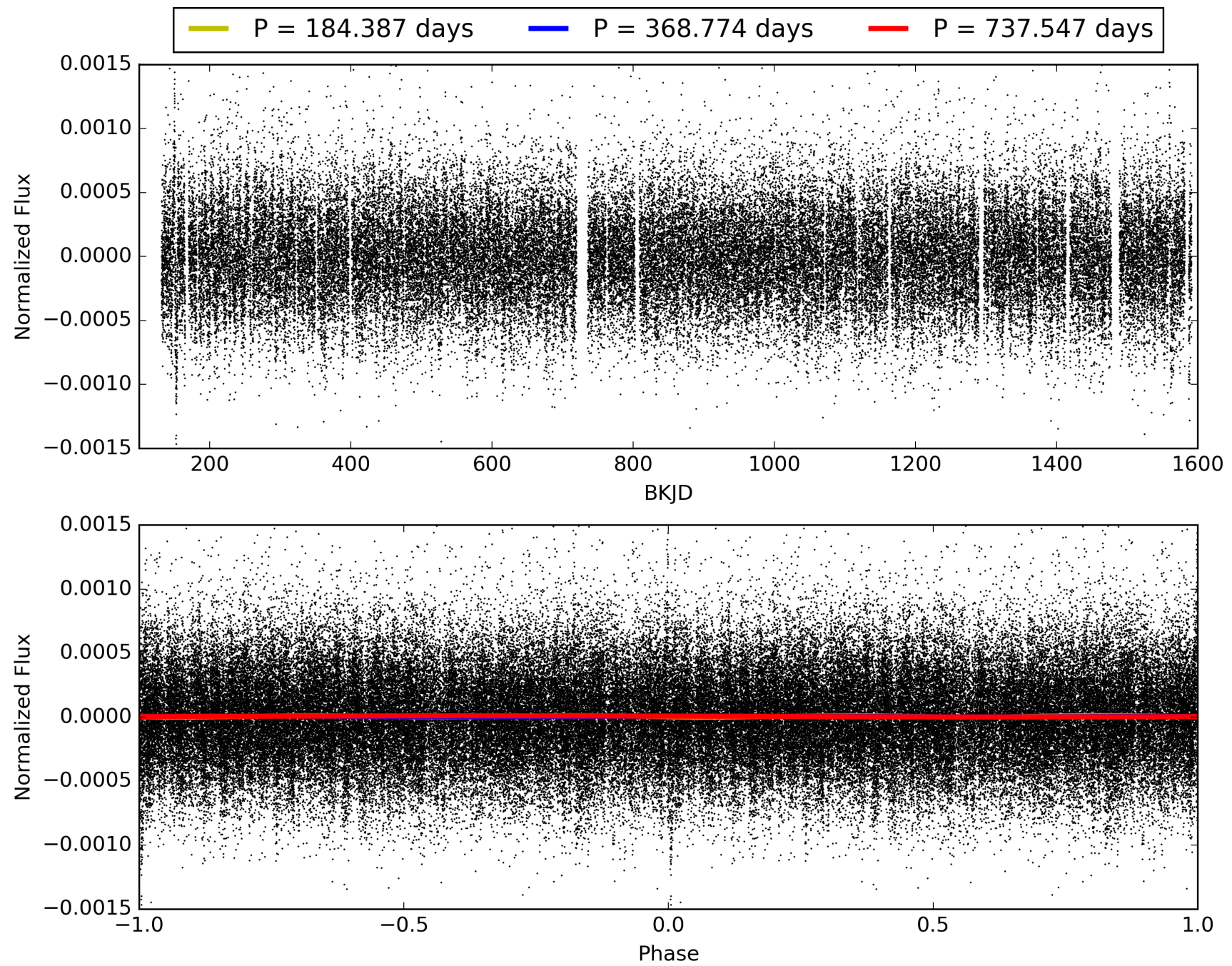
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:33:39 Z

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

# TCE 006145982-01, PDC Light Curves

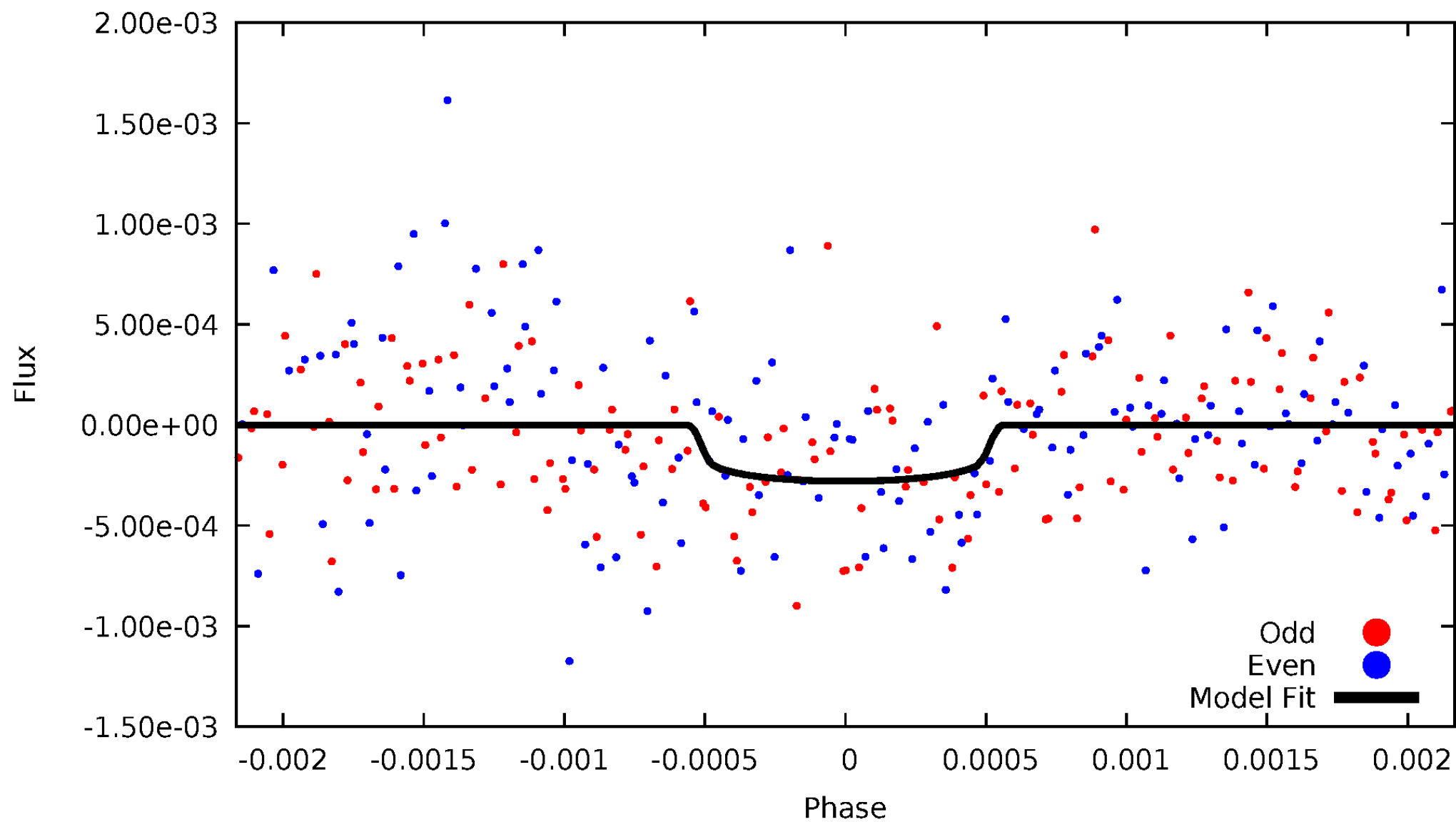


TCE 006145982-01



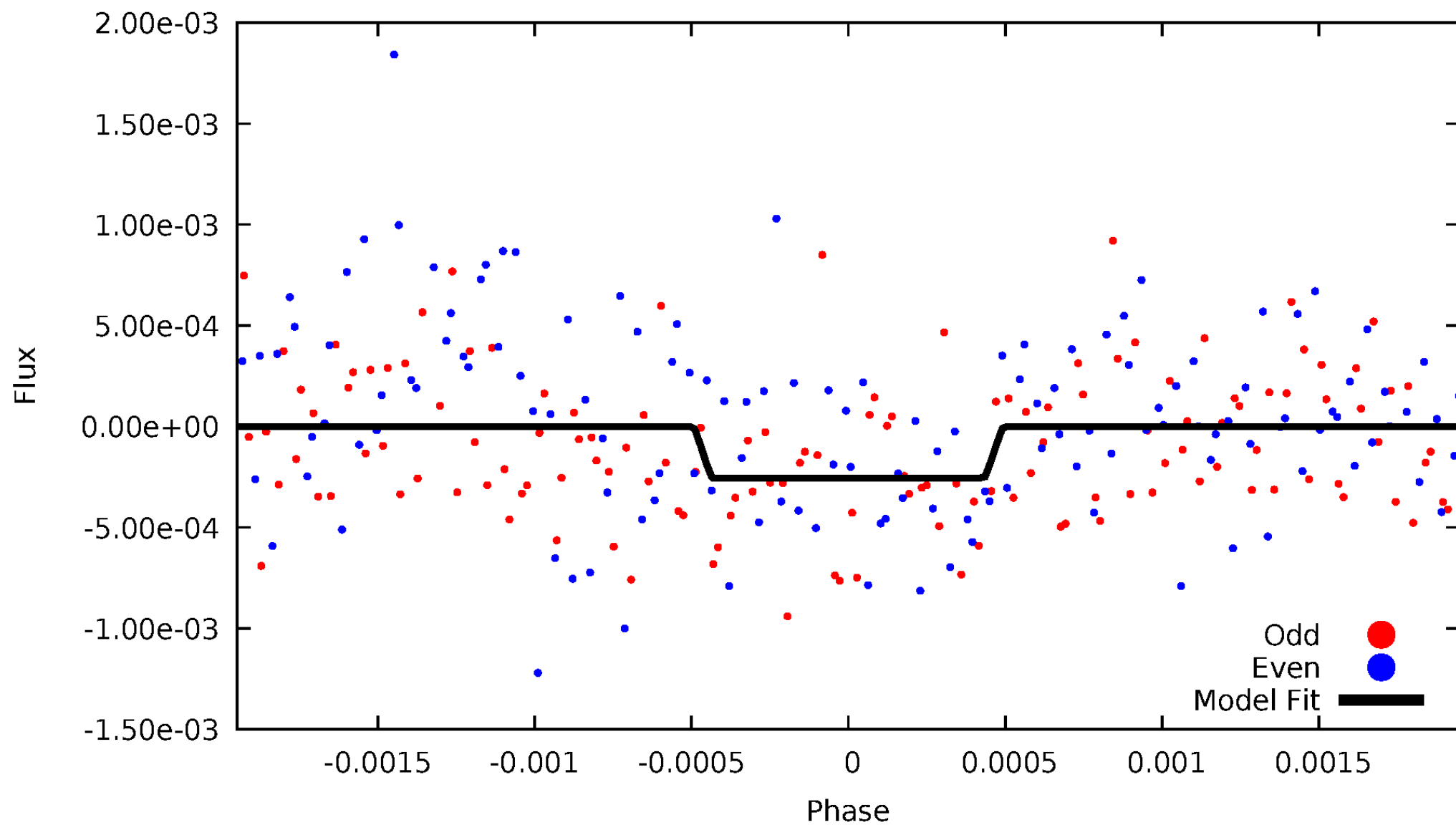
# DV Odd/Even

TCE 006145982-01



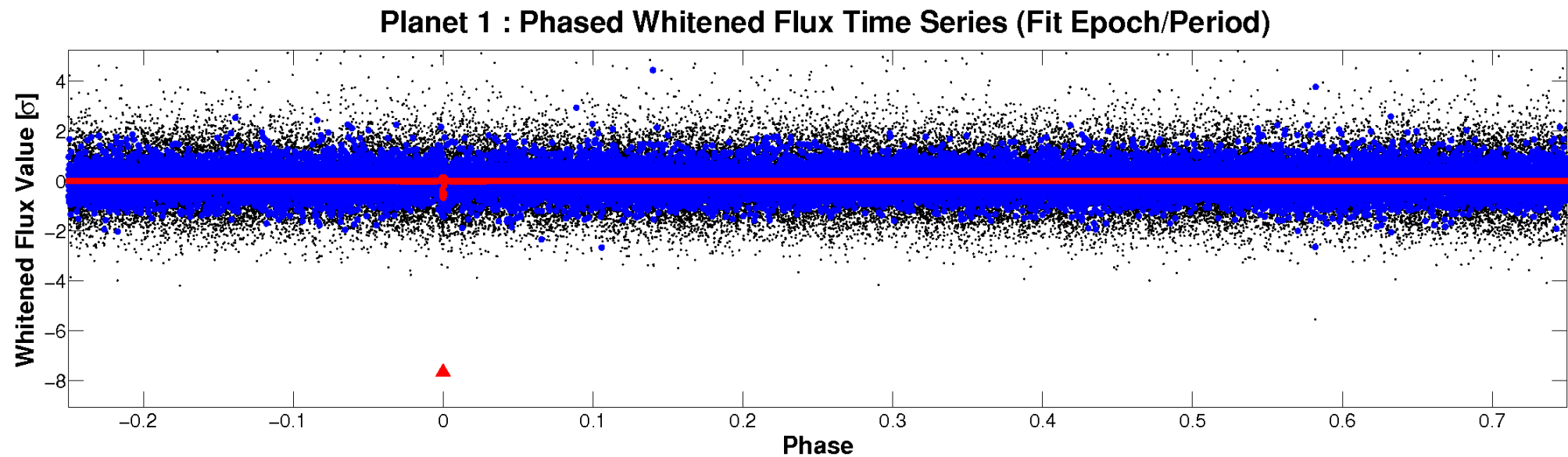
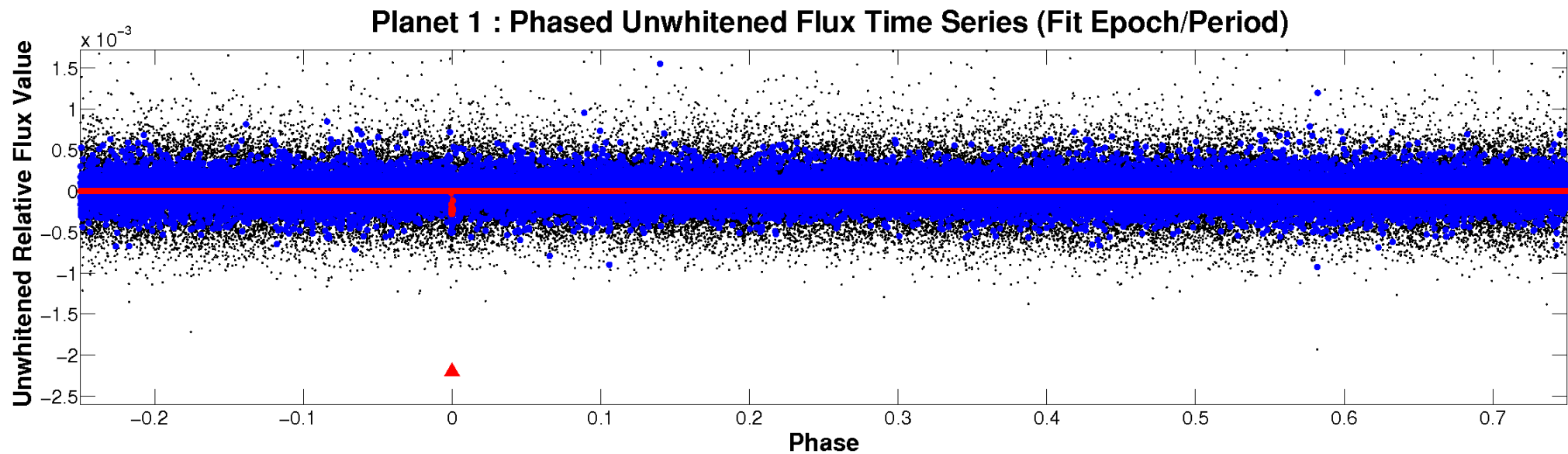
# ALT Odd/Even

TCE 006145982-01



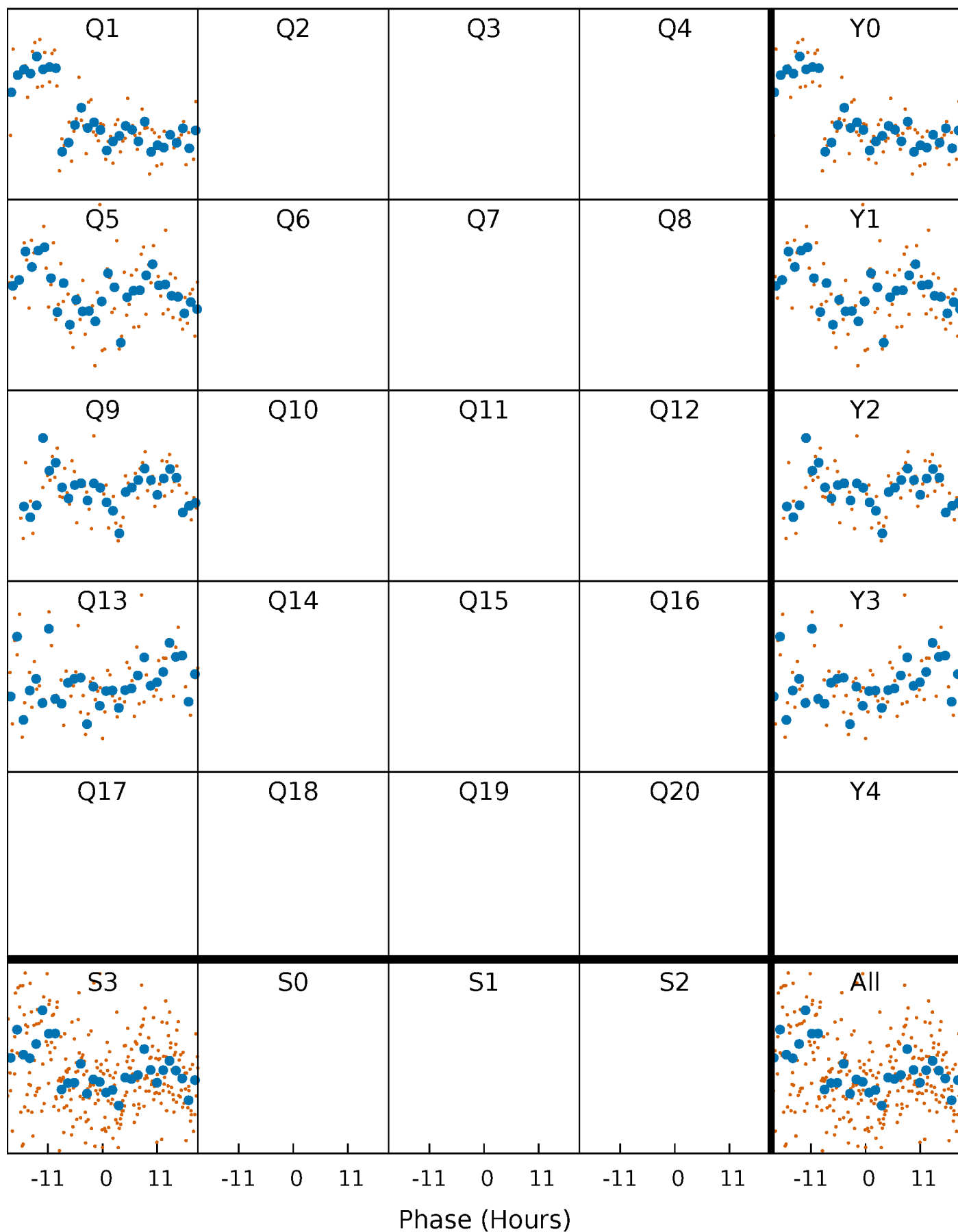


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

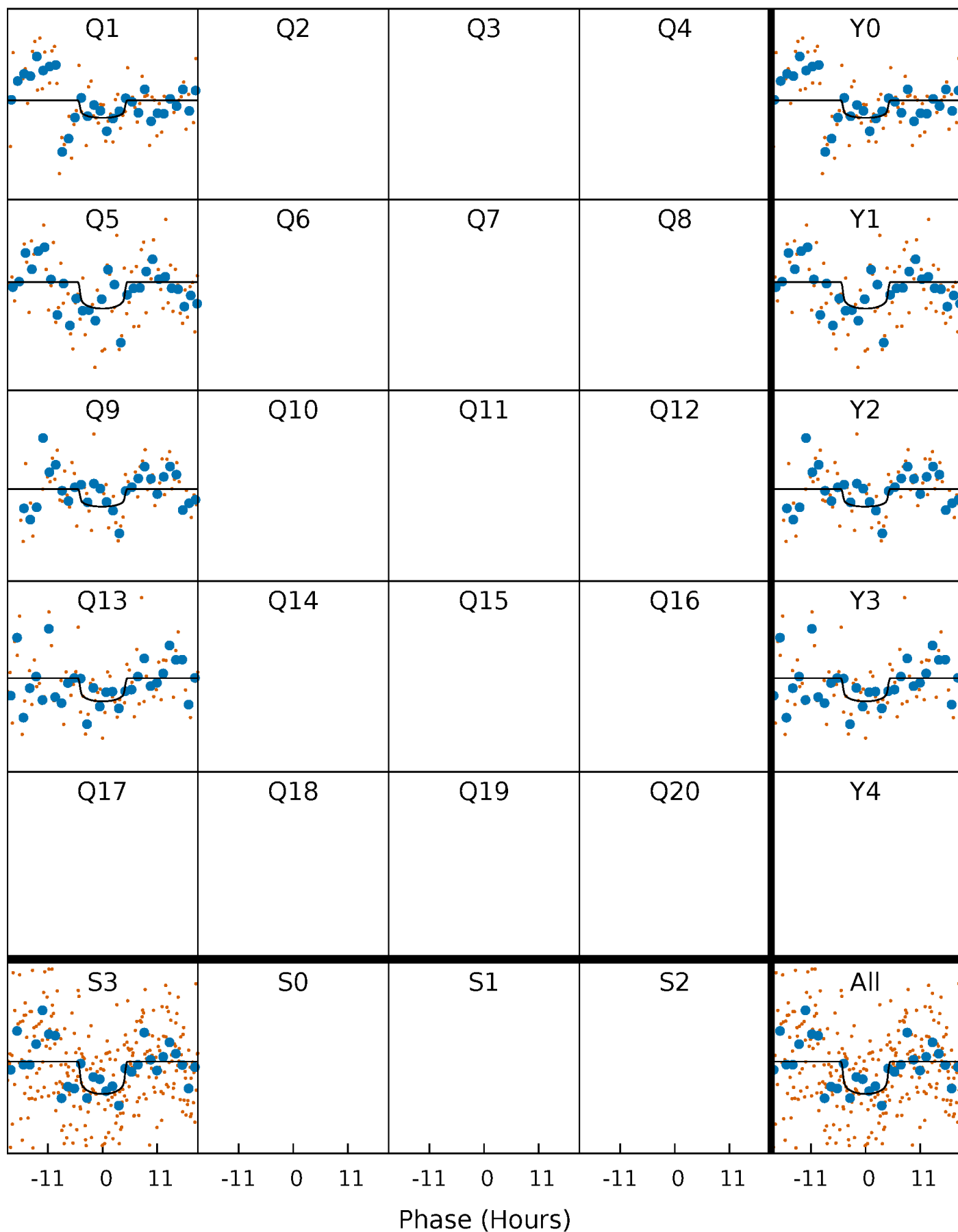
TCE 006145982-01     $P=368.773605$  Days     $T_0=150.714654$  (BKJD)





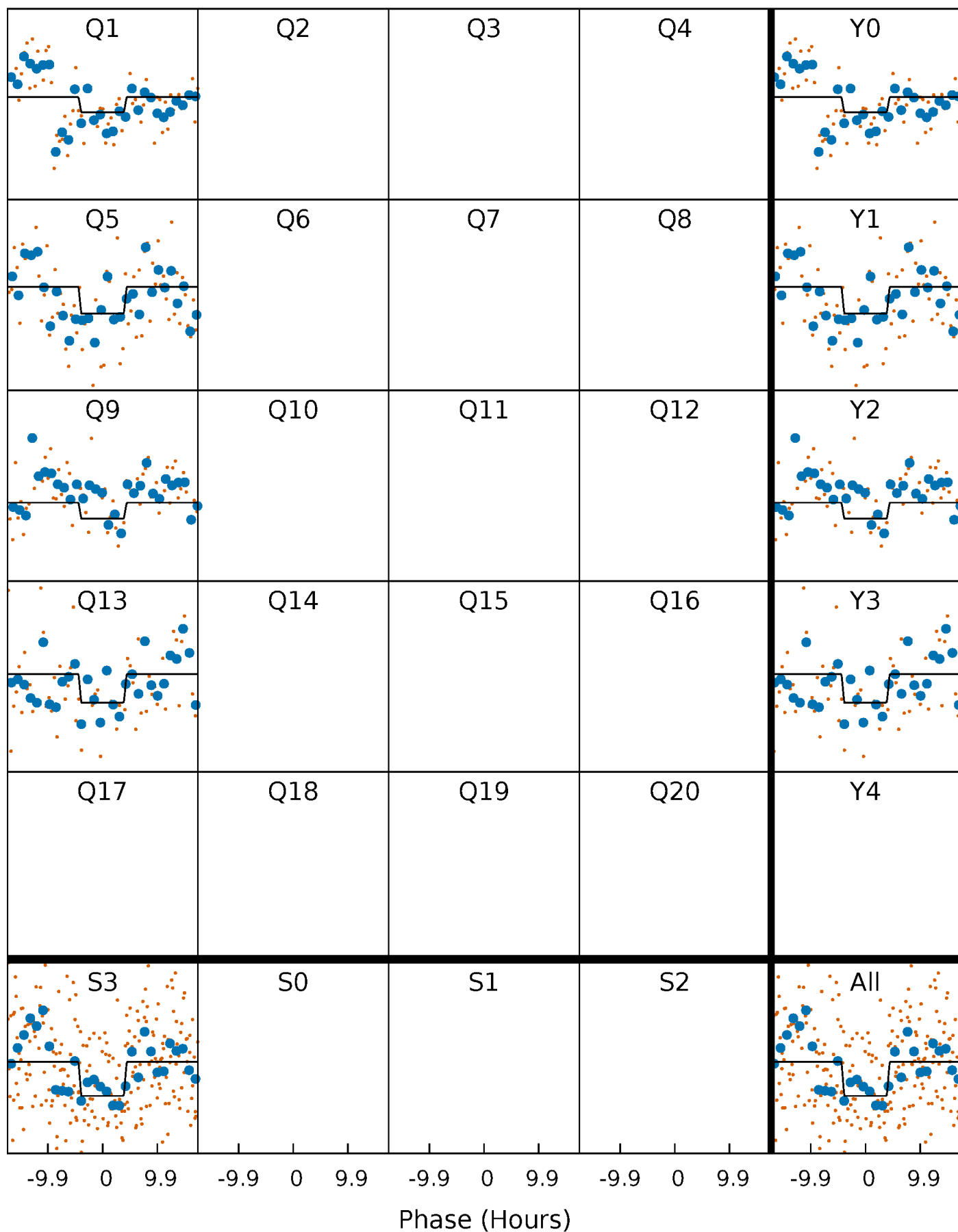
# DV Quarter-Phased Transit Curves

TCE 006145982-01   P=368.773605 Days    $T_0=150.714654$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

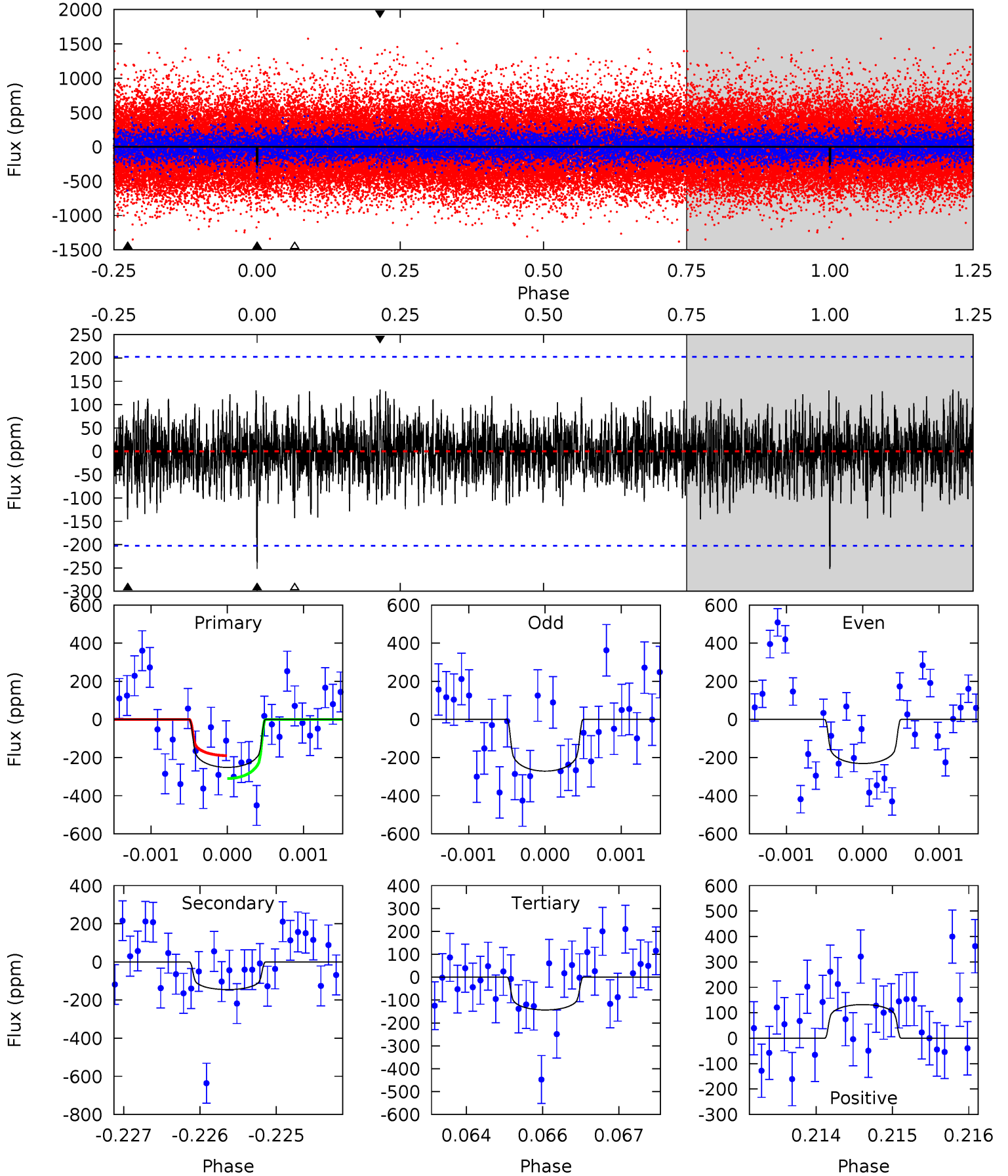
TCE 006145982-01 P=368.778080 Days  $T_0=150.717703$  (BKJD)



# DV Model-Shift Uniqueness Test

006145982-01, P = 368.773605 Days, E = 150.714654 Days

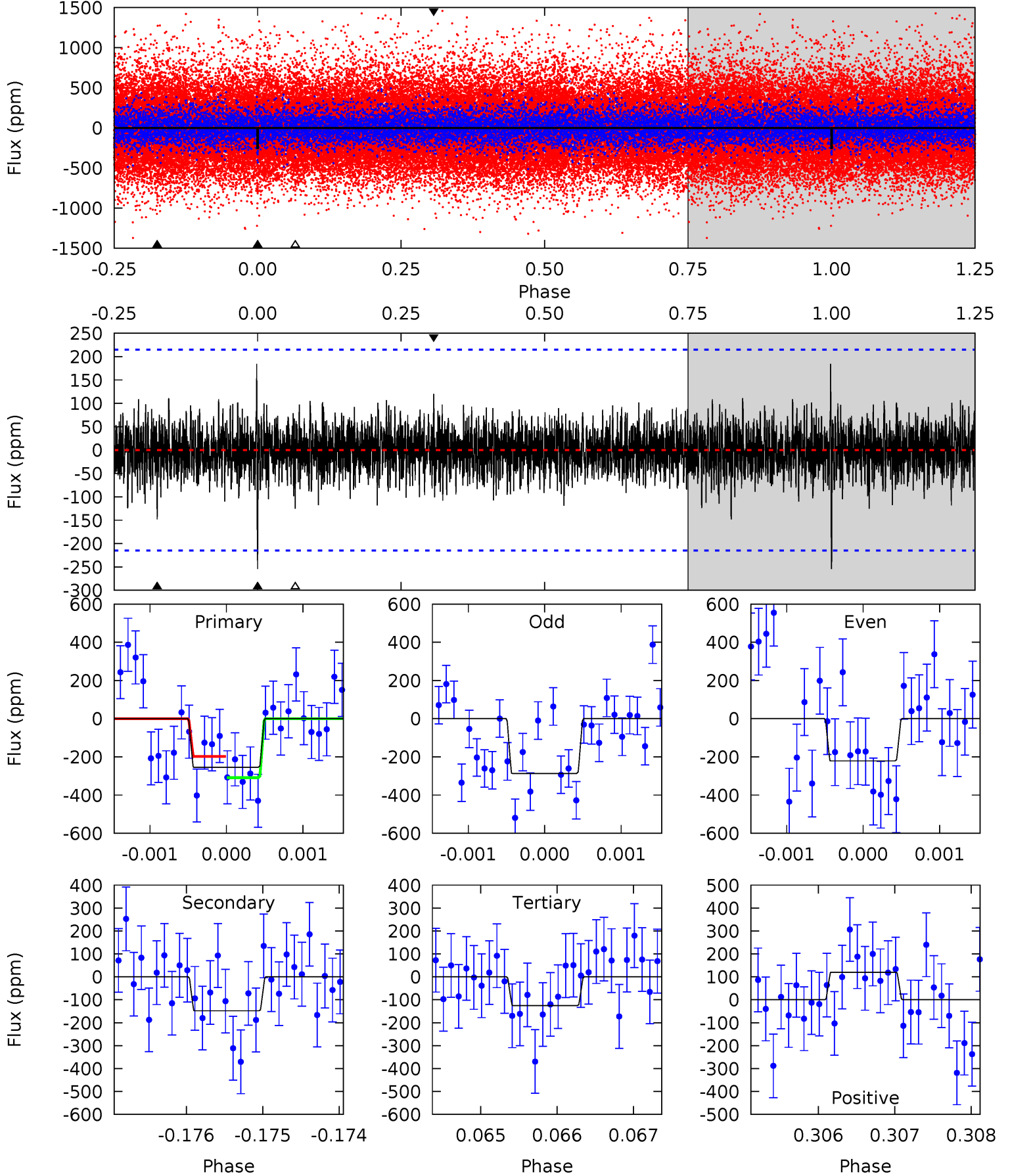
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.74	3.89	3.84	3.55	5.43	3.26	1.14	2.90	3.20	0.05	0.35	0.53	1.03	0.34	1.61



# Alt Model-Shift Uniqueness Test

006145982-01,  $P = 368.778080$  Days,  $E = 150.717703$  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
6.45	3.76	3.18	3.04	5.45	3.29	0.91	3.27	3.40	0.58	0.71	0.84	0.88	0.42	1.41



### Stellar Parameters For KIC 006145982

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6100^{+190}_{-211}$	$4.358^{+0.128}_{-0.192}$	$-0.200^{+0.250}_{-0.300}$	$1.093^{+0.323}_{-0.174}$	$0.993^{+0.154}_{-0.112}$	$1.072^{+0.618}_{-0.527}$
	+3%/-3%	+3%/-4%	+125%/-150%	+30%/-16%	+16%/-11%	+58%/-49%
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 006145982-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-145 \pm 37$	$2.14^{+1.42}_{-1.15}$	$393^{+31}_{-24}$	$5106^{+2615}_{-908}$	$17951^{+66258}_{-11581}$
Alt.	$-148 \pm 39$	$2.11^{+1.36}_{-1.16}$	$393^{+30}_{-24}$	$5156^{+2398}_{-928}$	$17708^{+72683}_{-11174}$

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

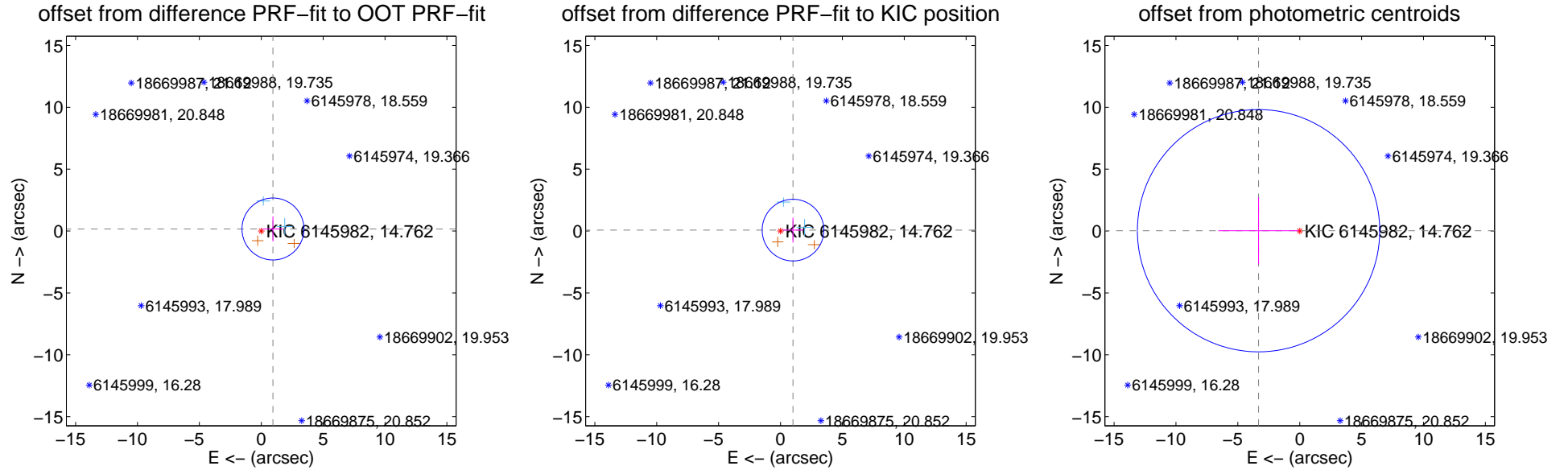
## DV Centroid Data

Supplemental centroid analysis for 006145982-01. Kepler magnitude: 14.76. Transit SNR 5.10

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

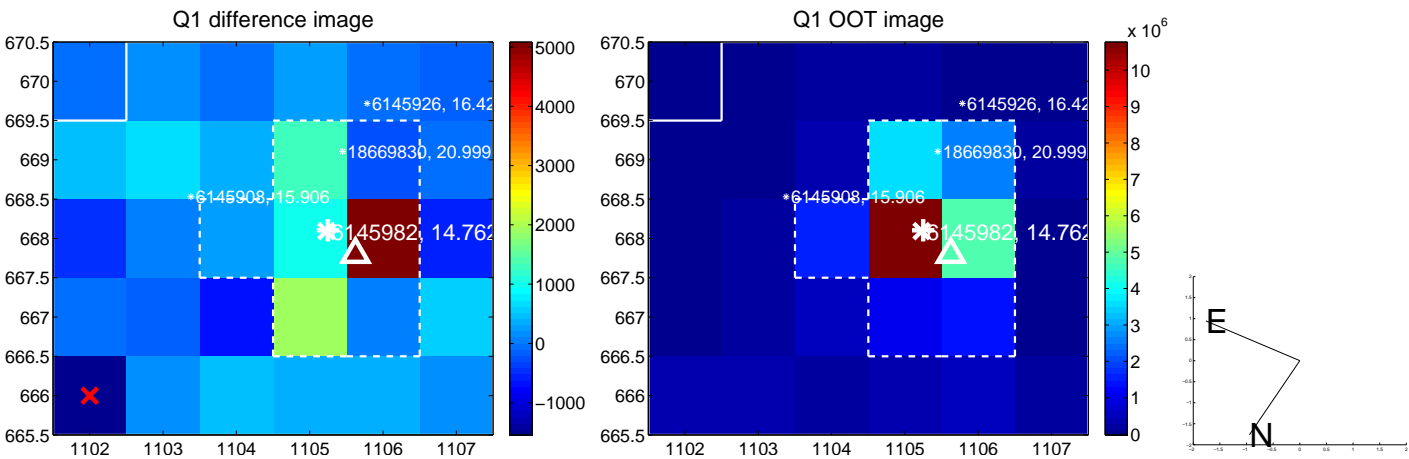
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.960 \pm 0.835$	1.15	$-0.945 \pm 0.829$	$0.167 \pm 1.006$
PRF-fit source offset from KIC position	$1.014 \pm 0.831$	1.22	$-1.011 \pm 0.830$	$0.076 \pm 1.009$
photometric centroid source offset	$3.33 \pm 3.26$	1.02	$3.33 \pm 3.26$	$0.03 \pm 2.71$



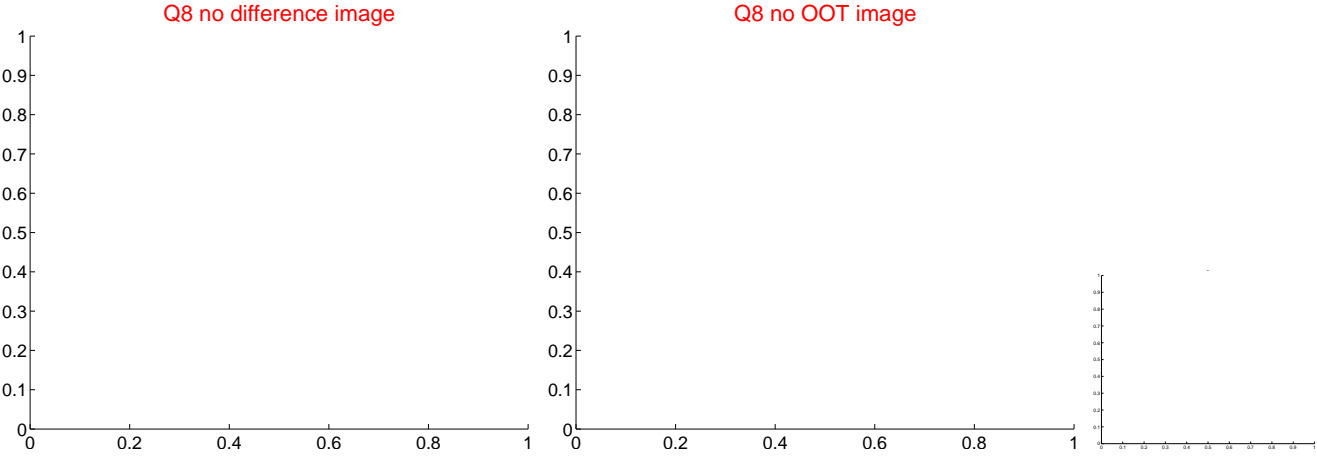
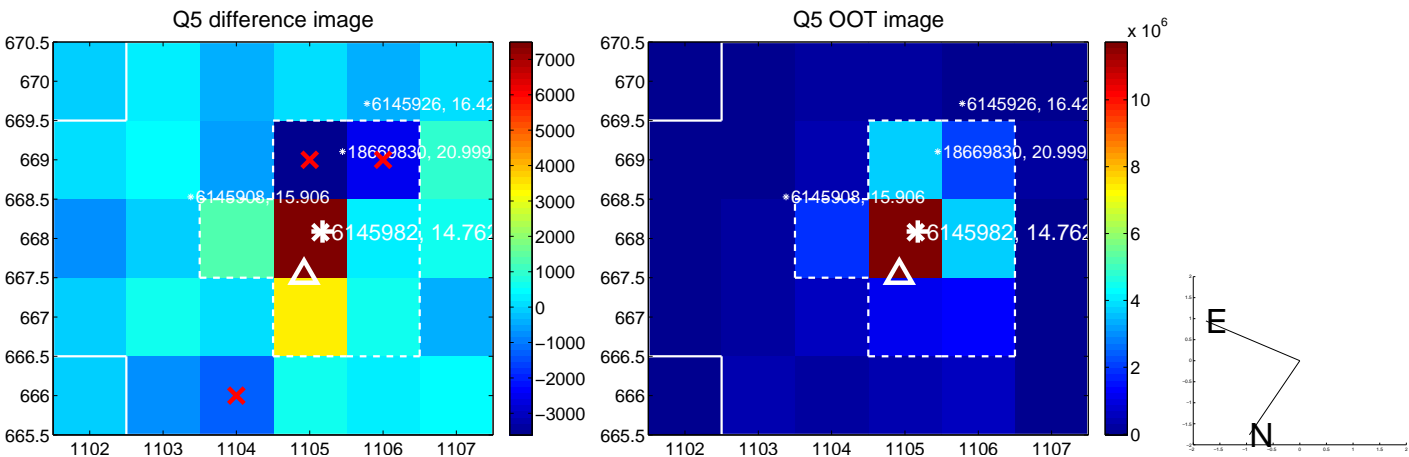
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



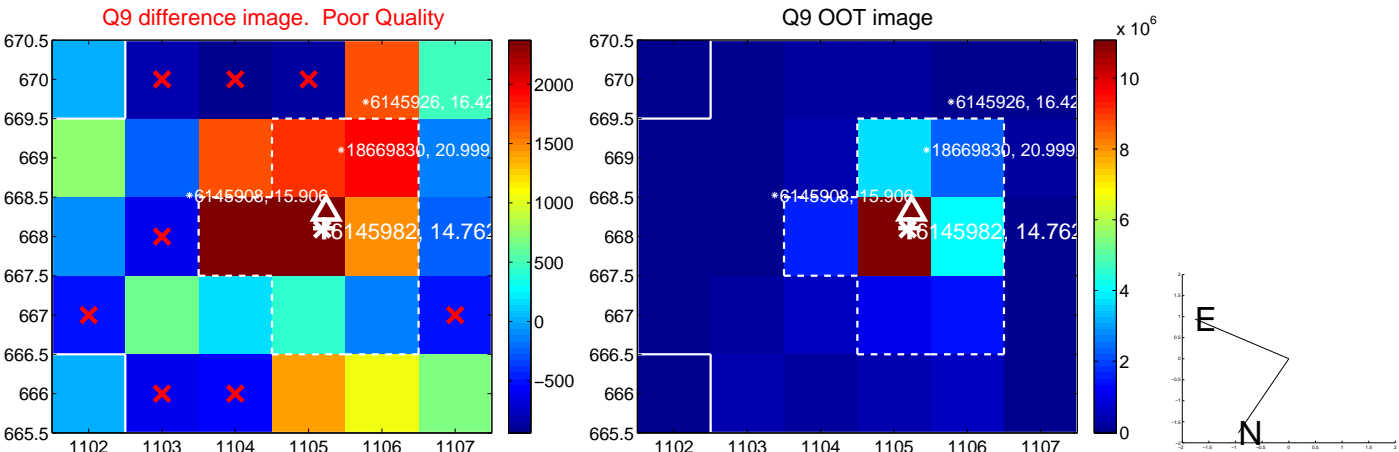
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



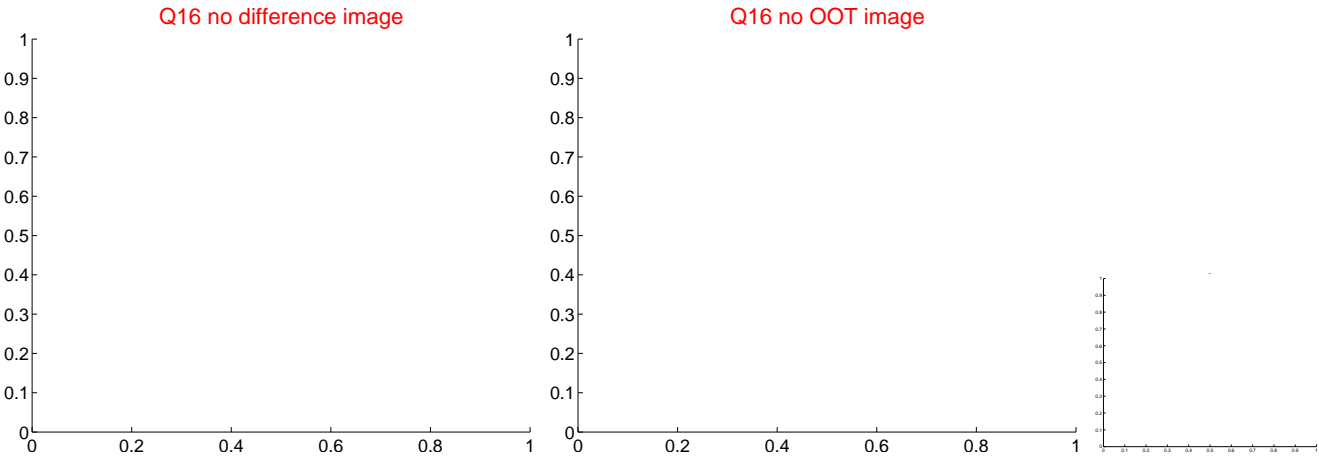
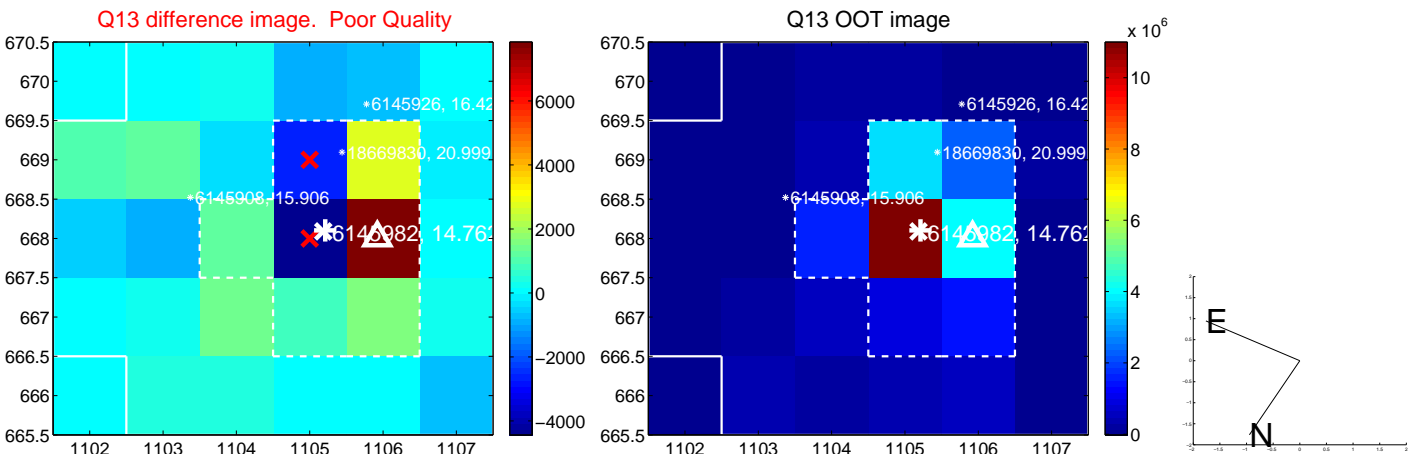
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



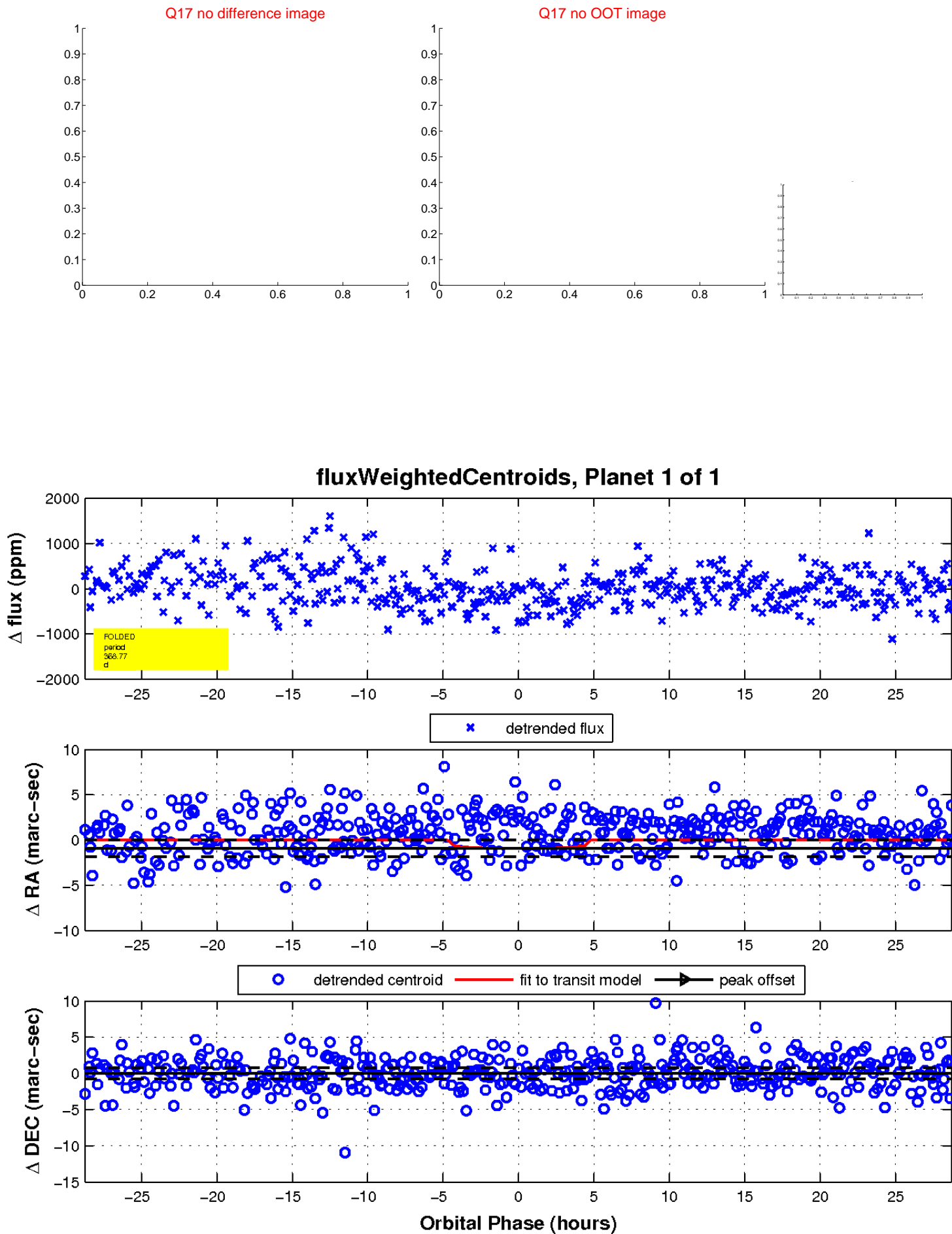
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

