

# KIC 006127224

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006127224-01	OBS	No	265.472741	197.909987	687.3	7.030	7.6	7.1	0.85	5713	2.38	1.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006127224-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—MOD_NONUNIQ_ALT—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.

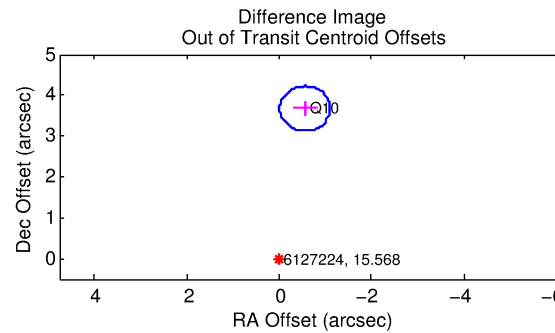
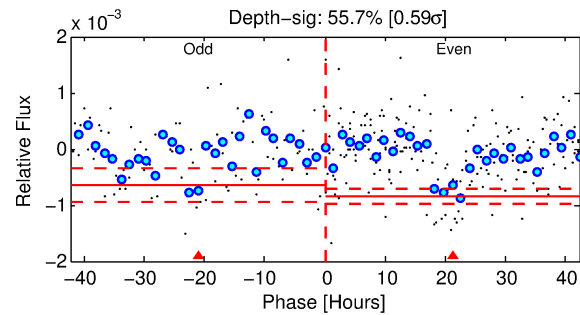
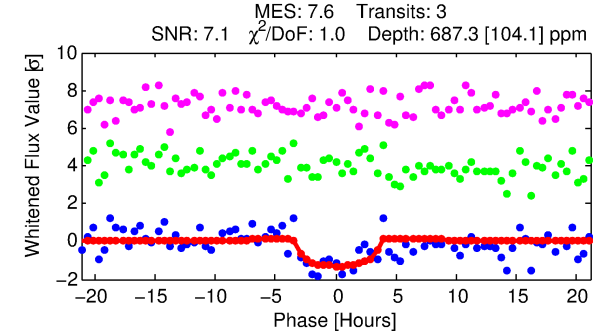
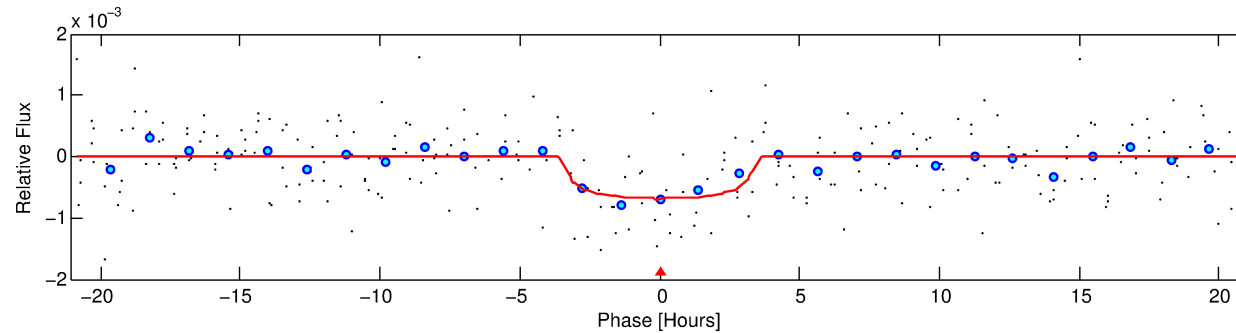
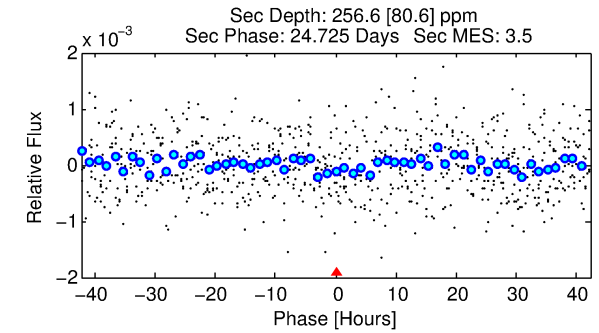
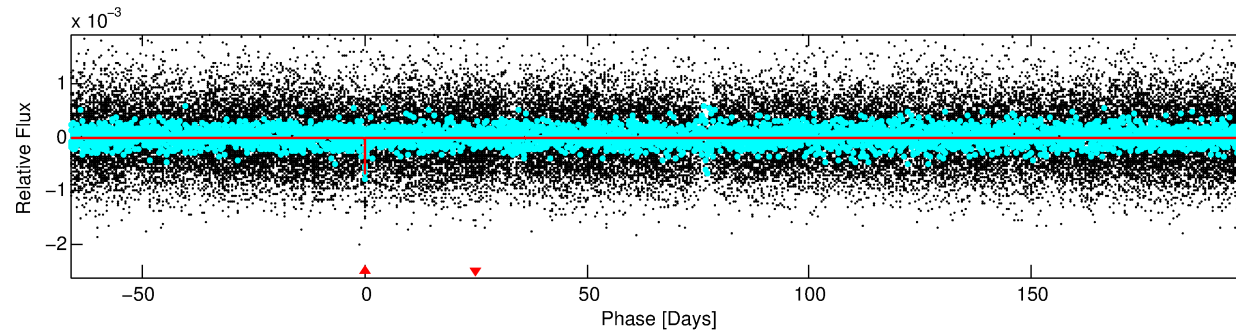
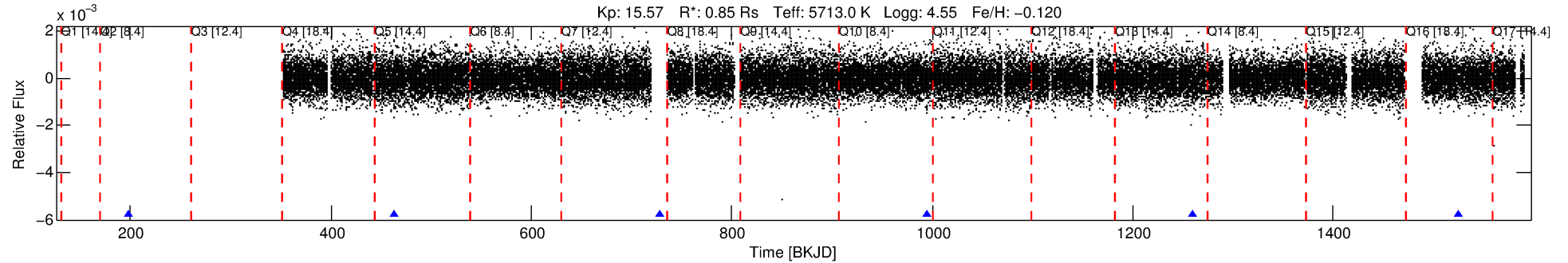
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006127224-01

No Significant Match Found

# DV One-Page Summary

KIC: 6127224 Candidate: 1 of 1 Period: 265.473 d



## DV Fit Results:

Period = 265.47274 [0.00854] d  
Epoch = 197.9100 [0.0247] BKJD  
Rp/R\* = 0.0257 [0.0240]  
a/R\* = 215.18 [882.70]  
b = 0.70 [2.97]  
Seff = 1.10 [0.40]  
Teq = 261 [24] K  
Rp = 2.39 [2.33] Re  
a = 0.7937 [0.1906] AU  
Ag = 15633.62 [30081.54] [0.52σ]  
Teff = 4512 [2141] K [1.99σ]

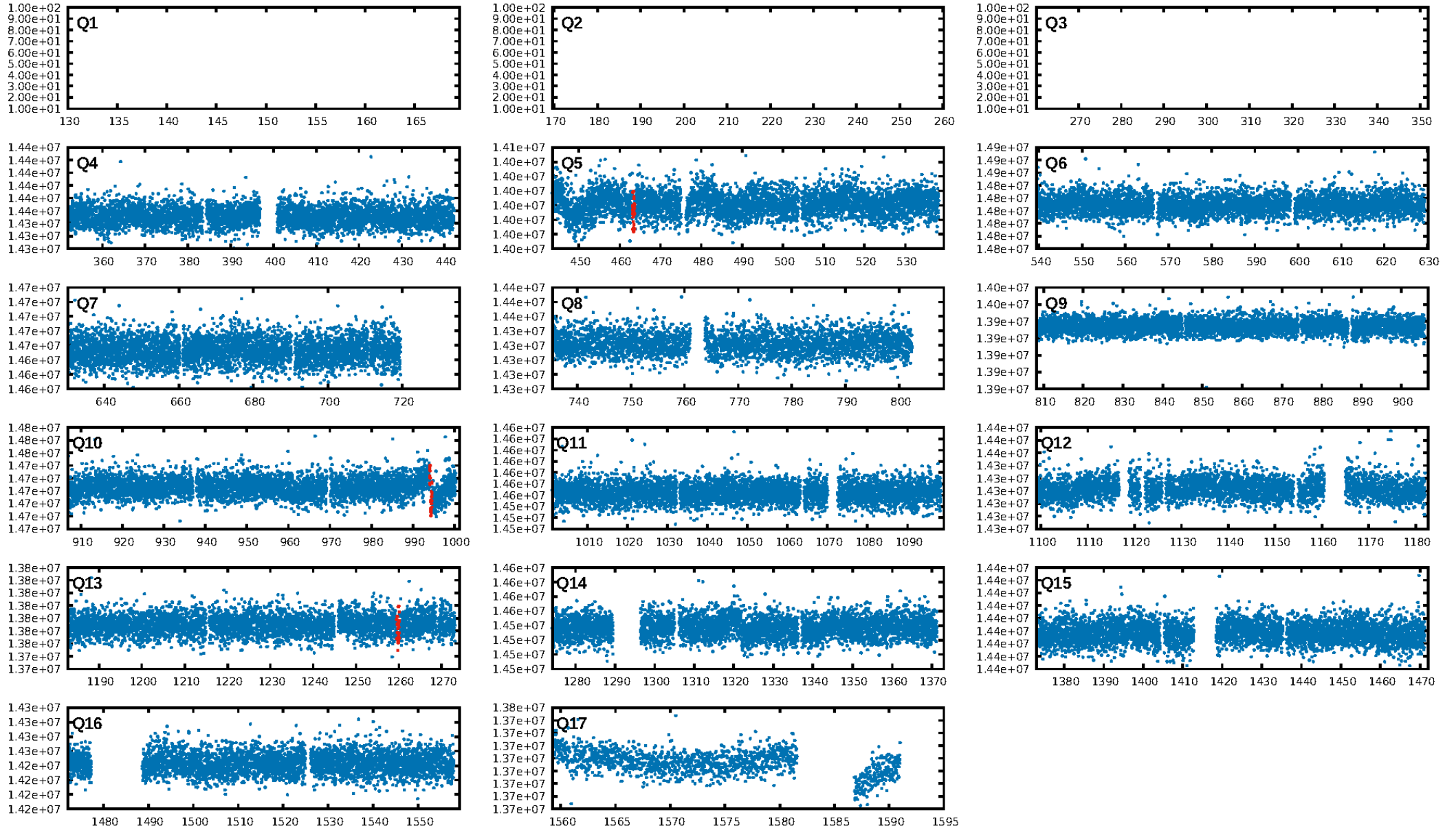
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.9%  
ModelChiSquareGoF-sig: 90.0%  
Bootstrap-pfa: 2.87e-13  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 2.965  
Centroid-sig: 9.0%  
Centroid-so: 1.205 arcsec [0.53σ]  
OotOffset-rm: 3.714 arcsec [20.26σ]  
KicOffset-rm: 3.537 arcsec [19.25σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

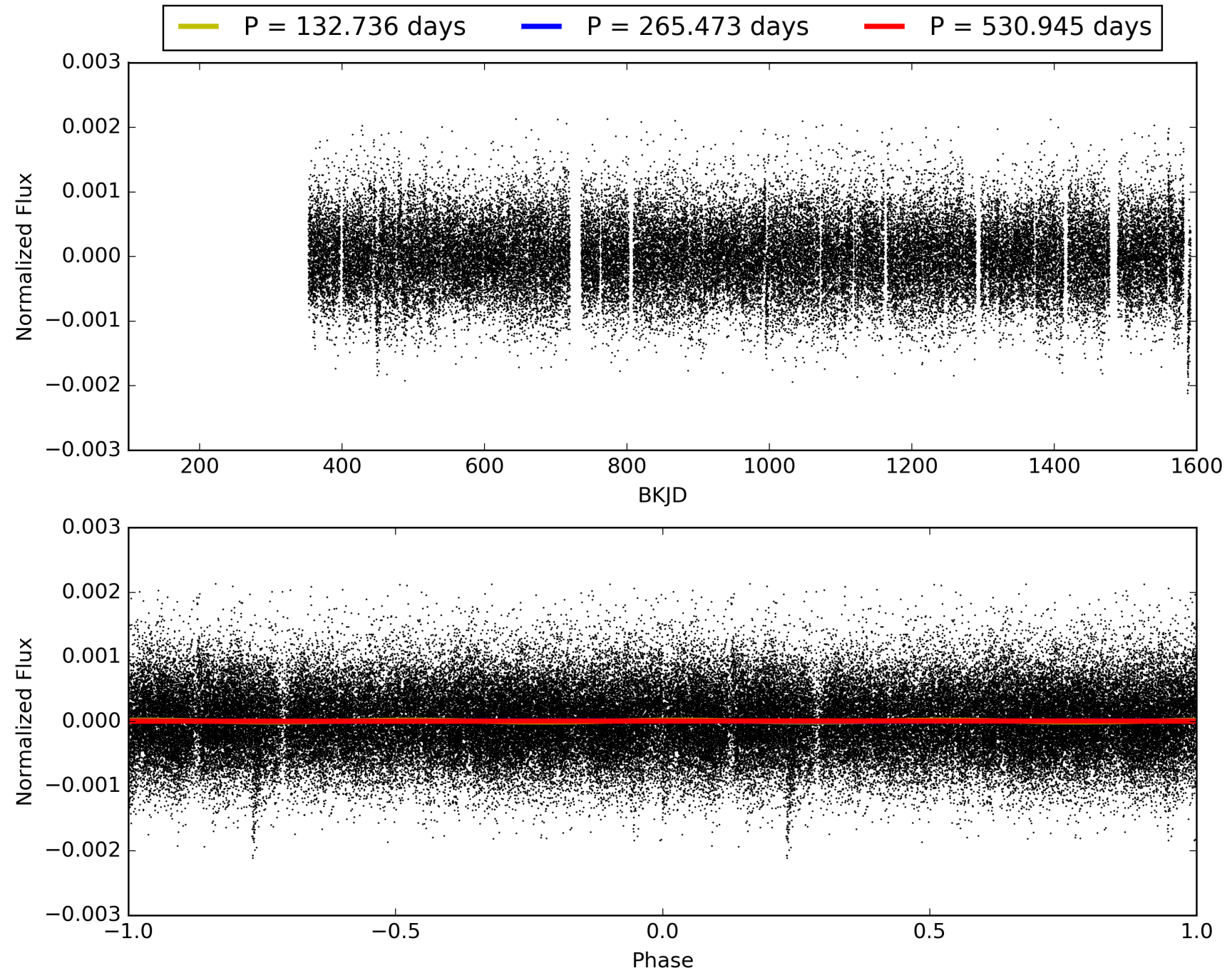
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:29:52 Z

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

# TCE 006127224-01, PDC Light Curves

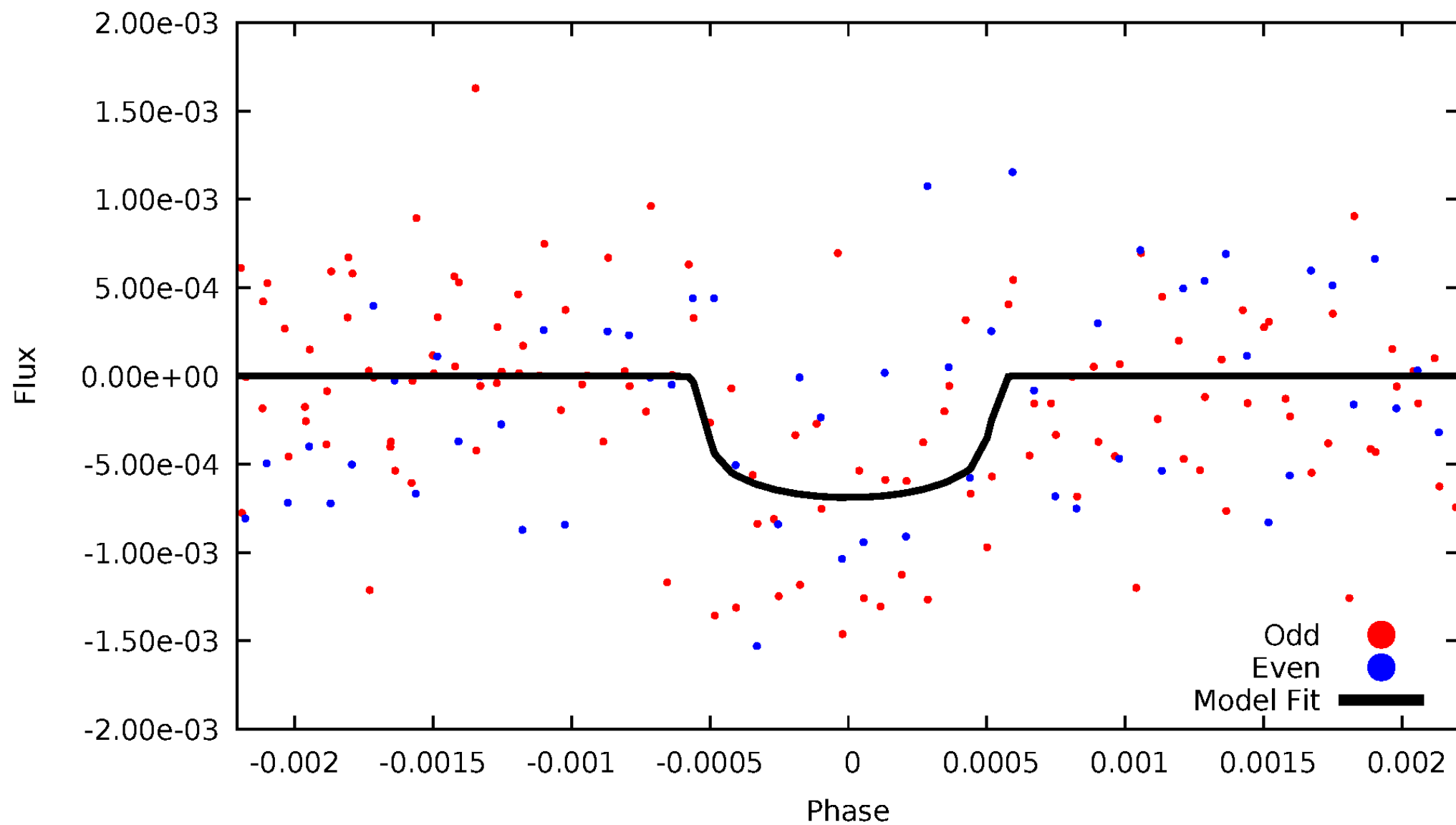


TCE 006127224-01



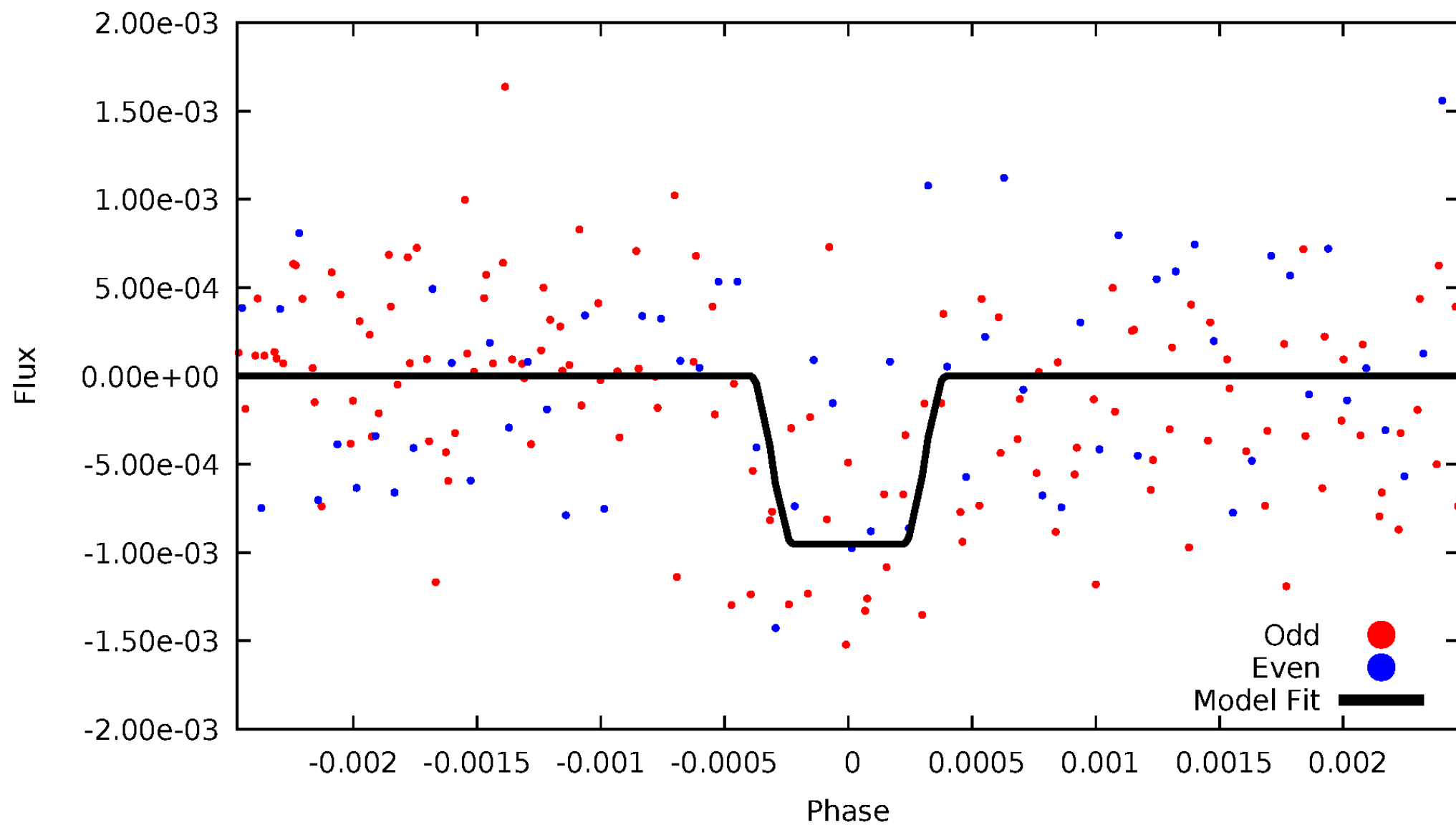
# DV Odd/Even

TCE 006127224-01



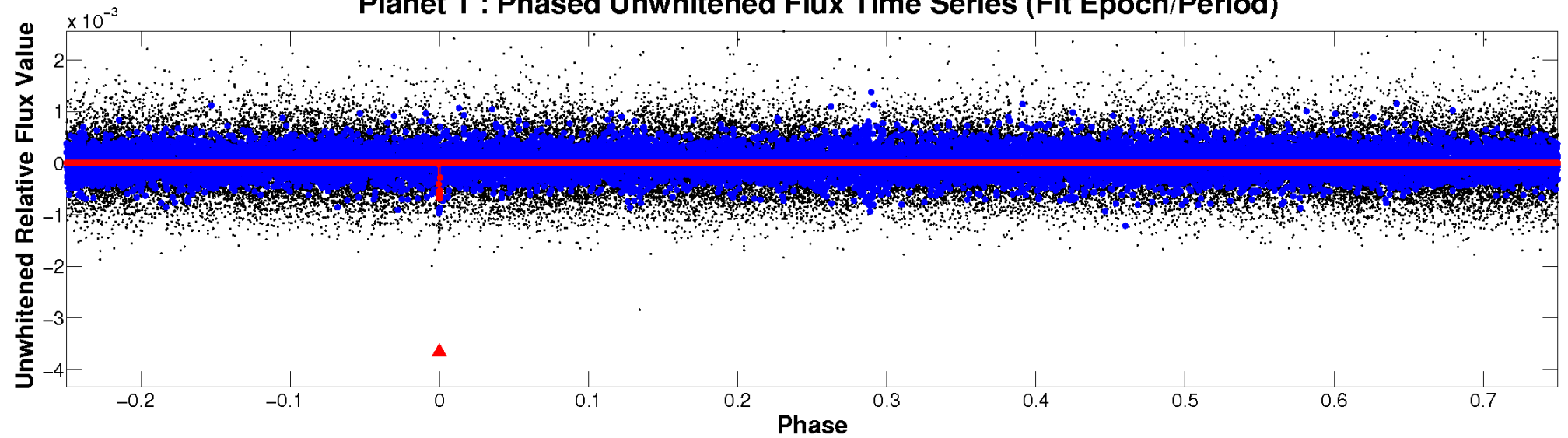
# ALT Odd/Even

TCE 006127224-01

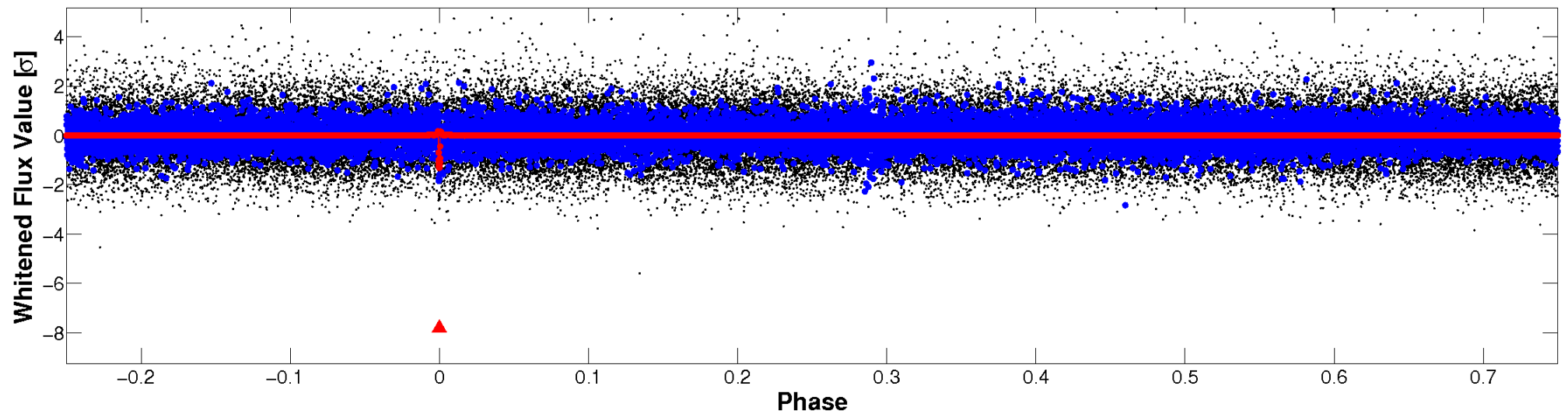


# Non-Whitened Vs. Whitened Light Curve

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

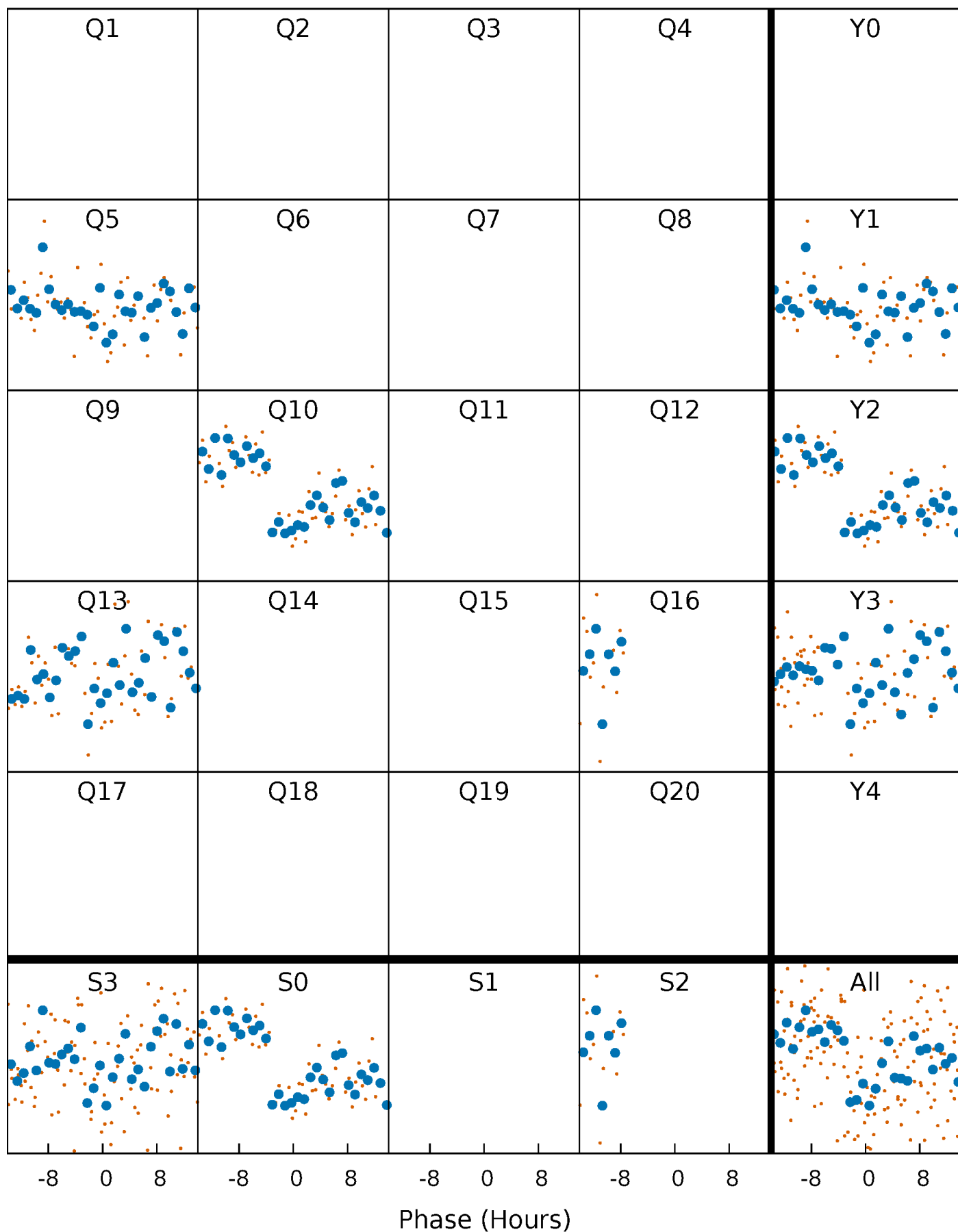


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

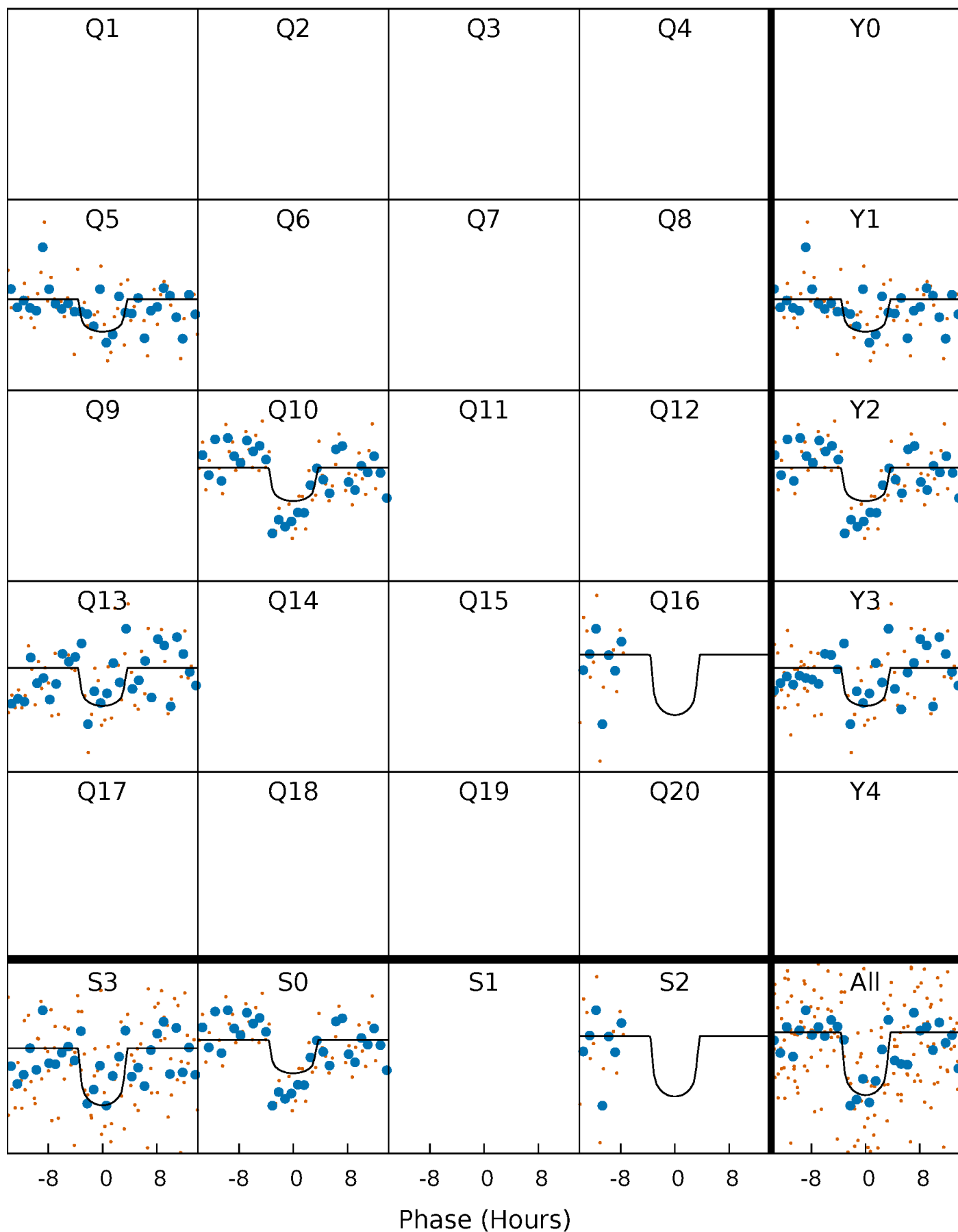
TCE 006127224-01 P=265.472741 Days  $T_0=197.909987$  (BKJD)





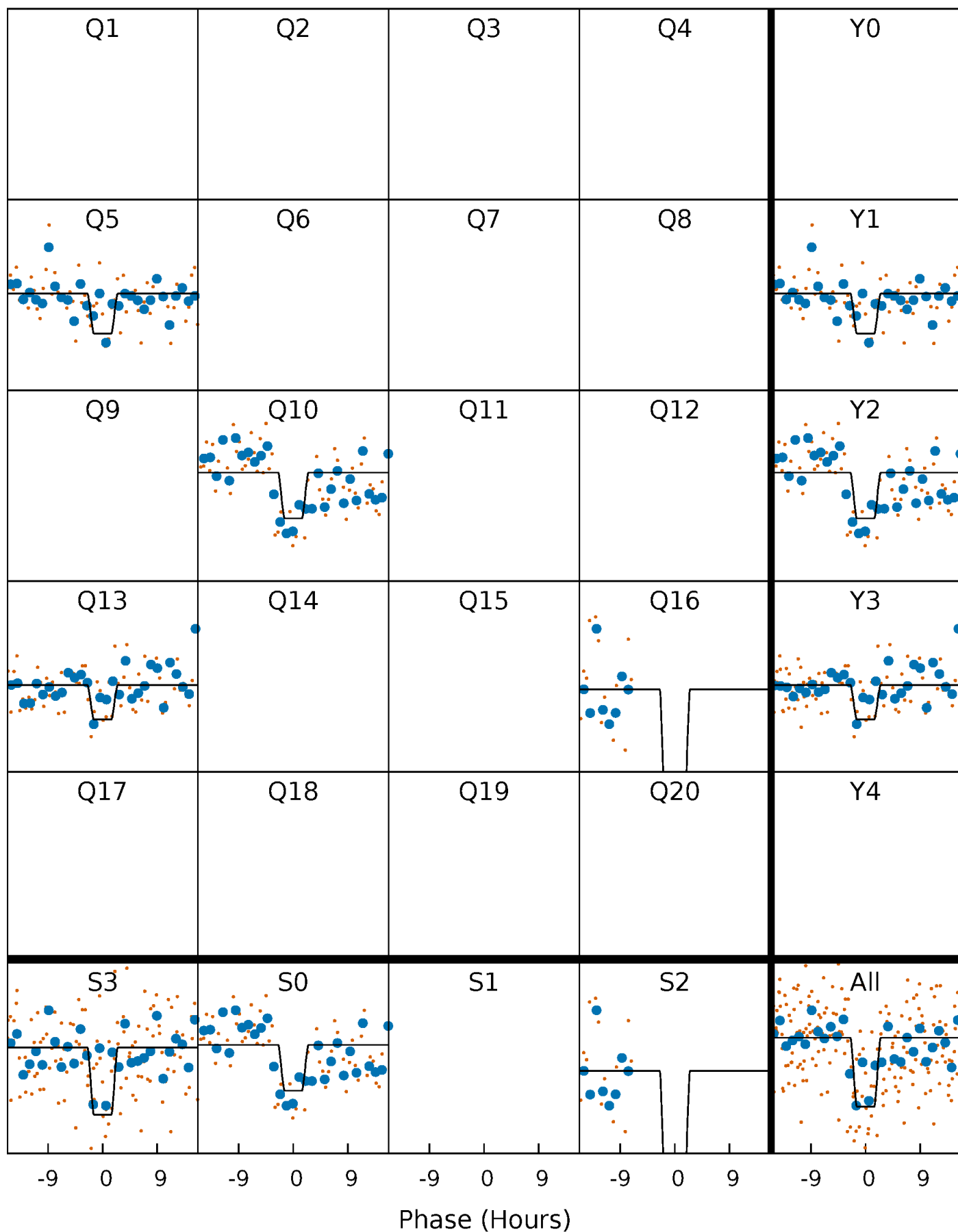
# DV Quarter-Phased Transit Curves

TCE 006127224-01 P=265.472741 Days  $T_0=197.909987$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

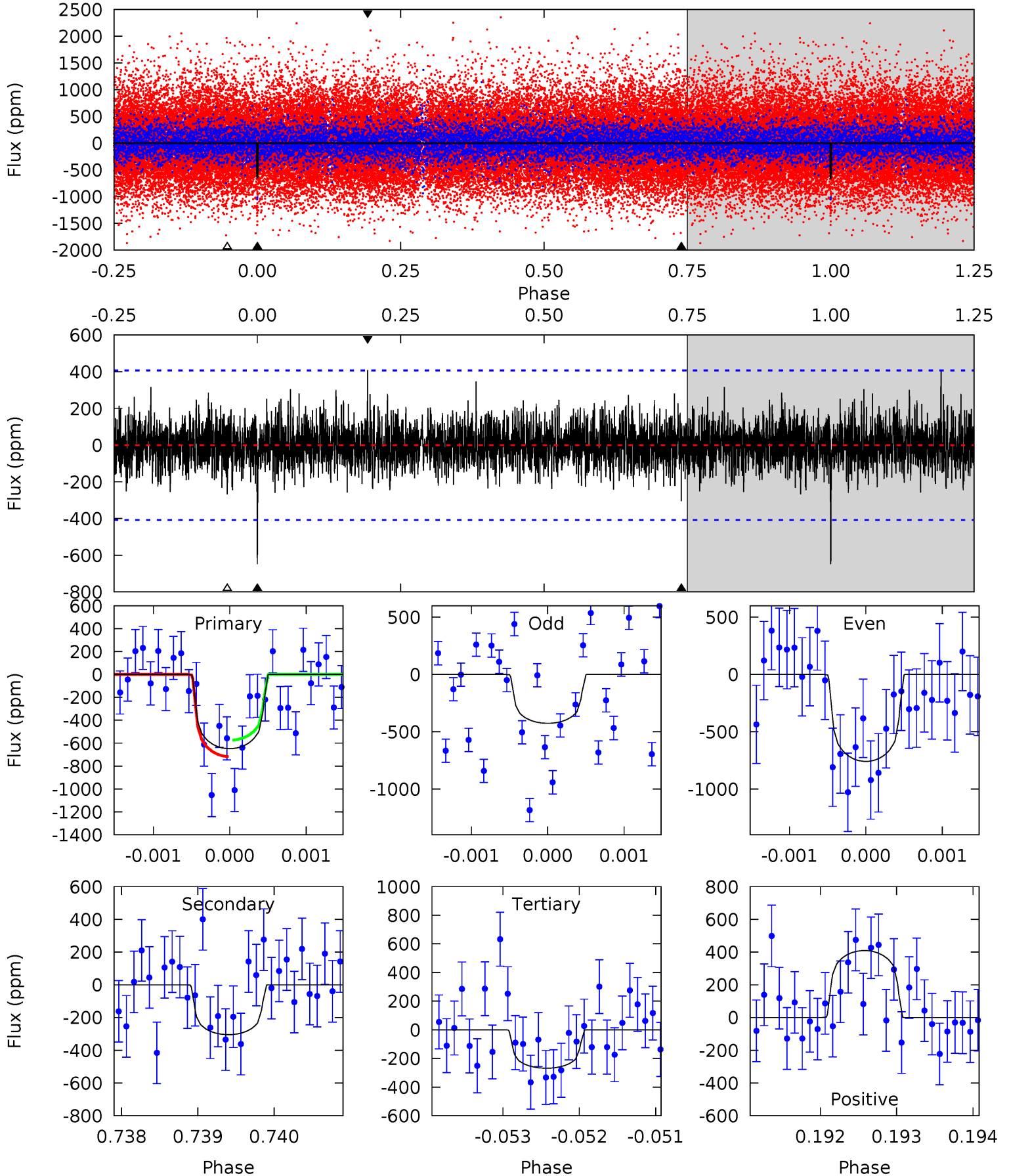
TCE 006127224-01 P=265.466000 Days  $T_0=197.927260$  (BKJD)



# DV Model-Shift Uniqueness Test

006127224-01, P = 265.472741 Days, E = 197.909987 Days

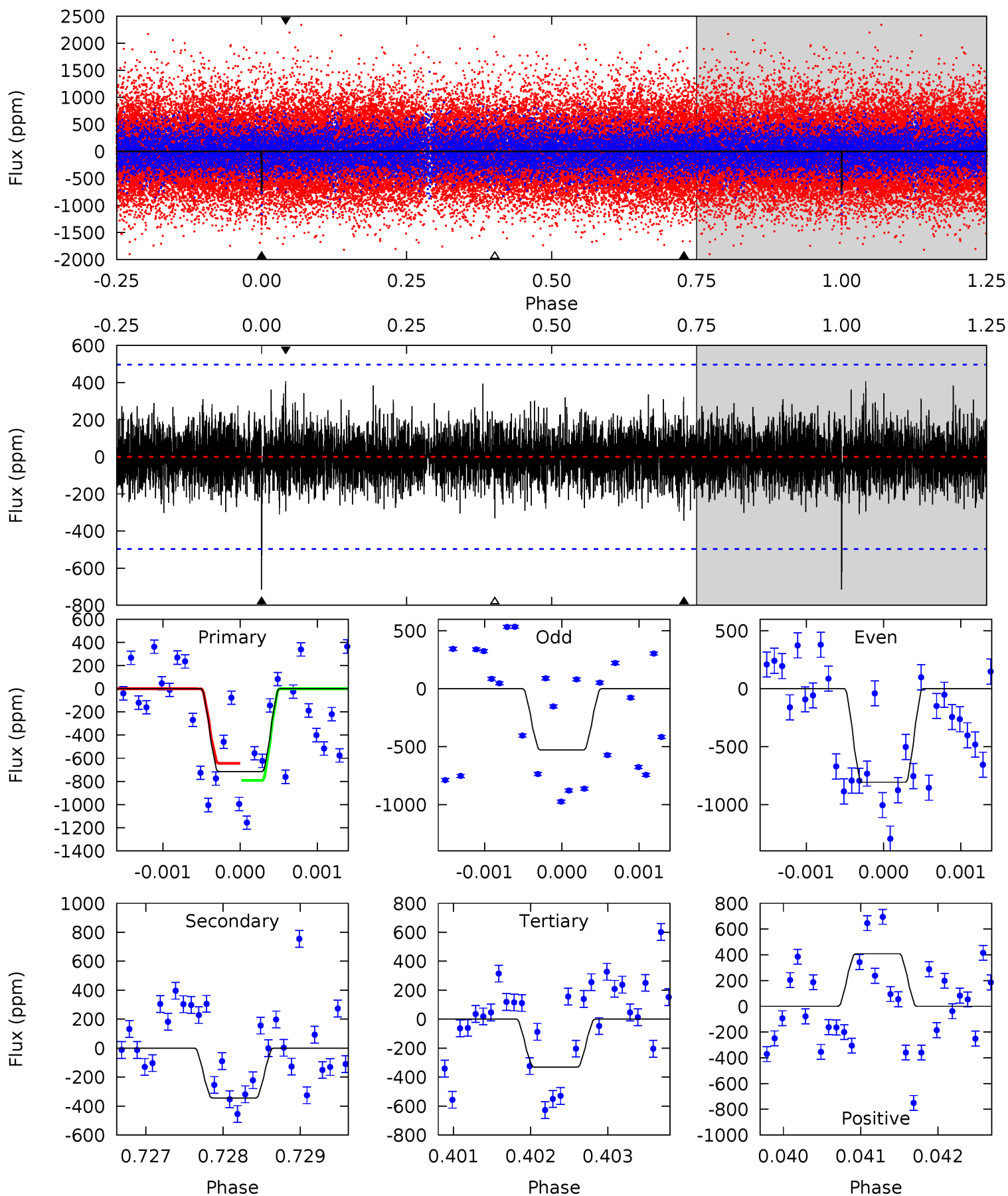
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	4.05	3.57	5.44	5.43	3.25	1.14	5.06	3.18	0.49	-1.39	2.11	1.41	0.39	0.95



# Alt Model-Shift Uniqueness Test

006127224-01, P = 265.466000 Days, E = 197.927260 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
7.90	3.81	3.66	4.51	5.50	3.36	1.06	4.24	3.39	0.15	-0.70	1.48	1.35	0.36	0.82



### Stellar Parameters For KIC 006127224

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5713^{+169}_{-186}$	$4.554^{+0.034}_{-0.184}$	$-0.120^{+0.300}_{-0.300}$	$0.851^{+0.248}_{-0.078}$	$0.948^{+0.104}_{-0.115}$	$2.164^{+0.407}_{-1.073}$
	+3%/-3%	+1%/-4%	+250%/-250%	+29%/-9%	+11%/-12%	+19%/-50%
Source	KIC0	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 006127224-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-305 \pm 75$	$2.91^{+2.43}_{-1.80}$	$373^{+27}_{-17}$	$4510^{+2520}_{-865}$	$12314^{+63780}_{-8830}$
Alt.	$-344 \pm 90$	$3.39^{+2.22}_{-1.94}$	$373^{+24}_{-17}$	$4401^{+1971}_{-761}$	$10302^{+45473}_{-6788}$

$T_{max}$  = 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

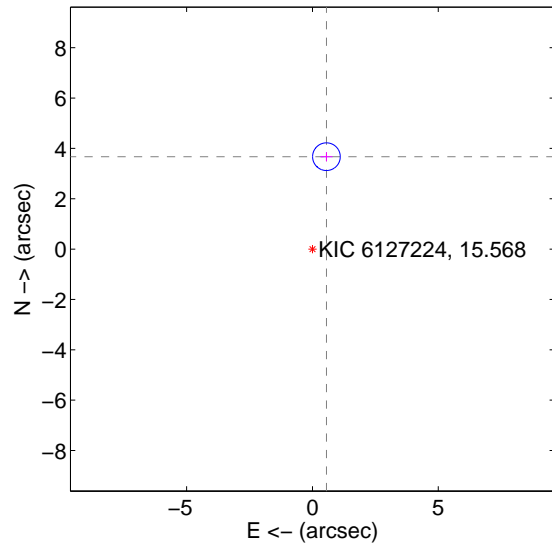
Supplemental centroid analysis for 006127224-01. Kepler magnitude: 15.57. Transit SNR 7.12

There are 1 quarters with good PRF difference image offsets

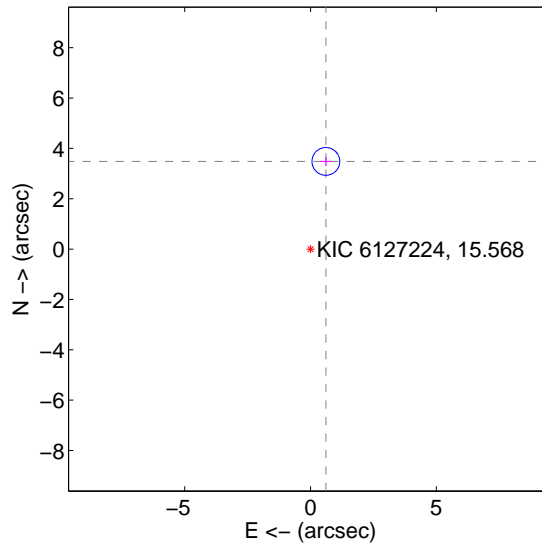
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.714 \pm 0.183$	20.26	$-0.556 \pm 0.238$	$3.672 \pm 0.182$
PRF-fit source offset from KIC position	$3.537 \pm 0.184$	19.25	$-0.610 \pm 0.238$	$3.484 \pm 0.182$
photometric centroid source offset	$1.21 \pm 2.27$	0.53	$-0.20 \pm 1.74$	$-1.19 \pm 2.28$

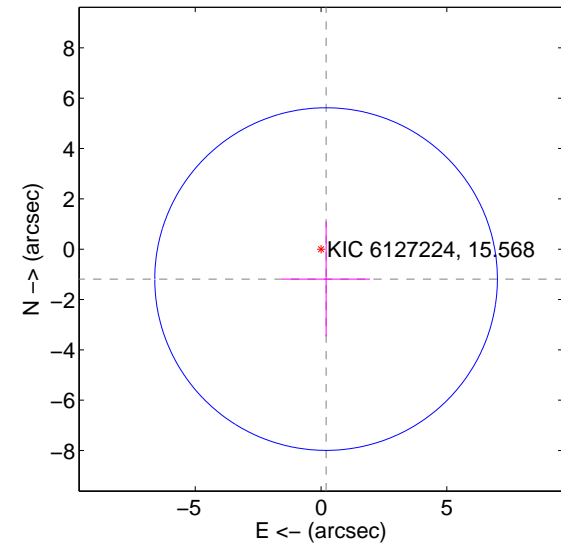
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

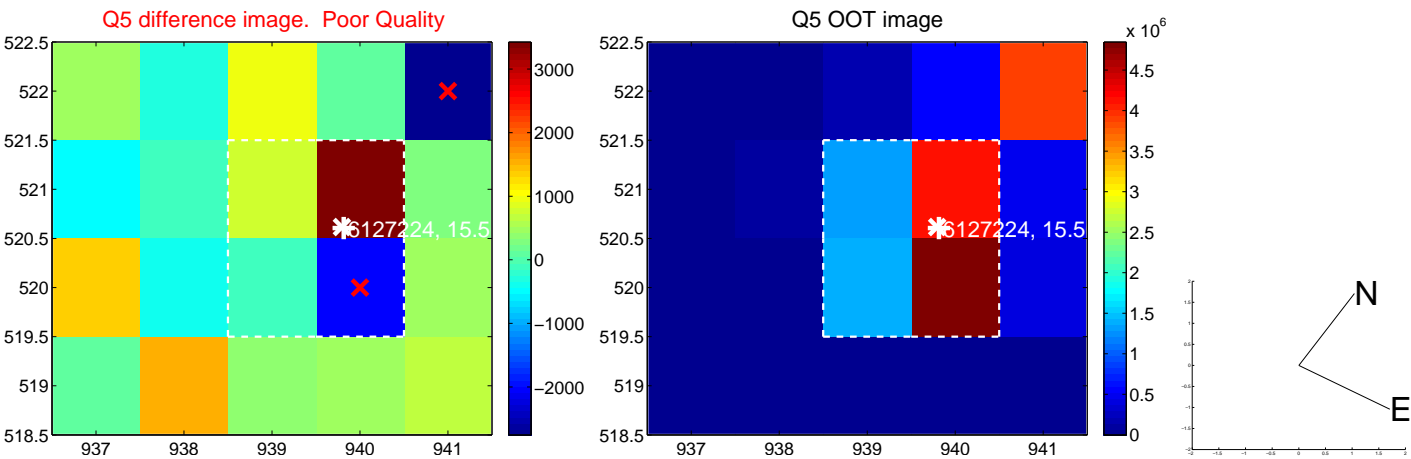


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

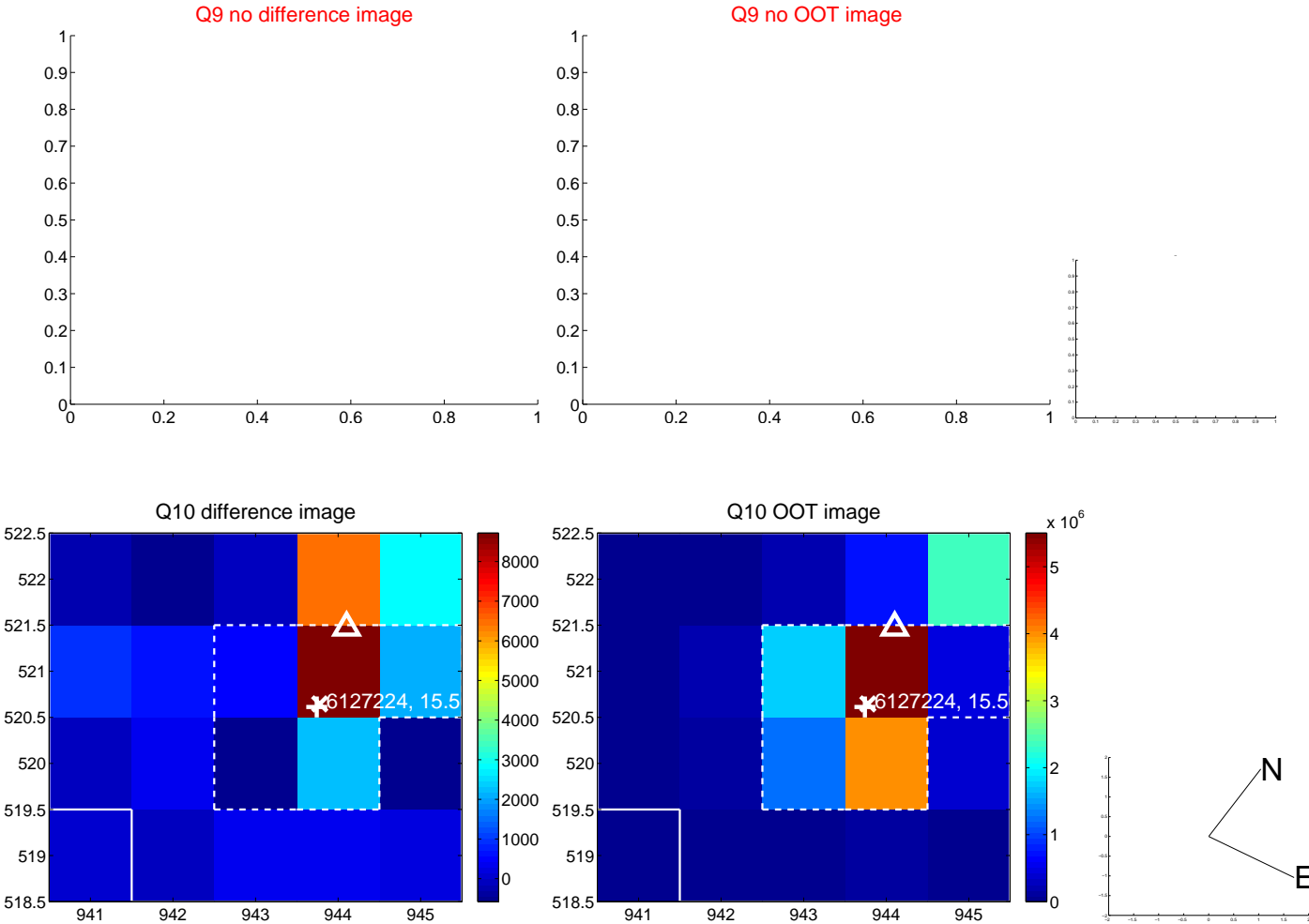


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

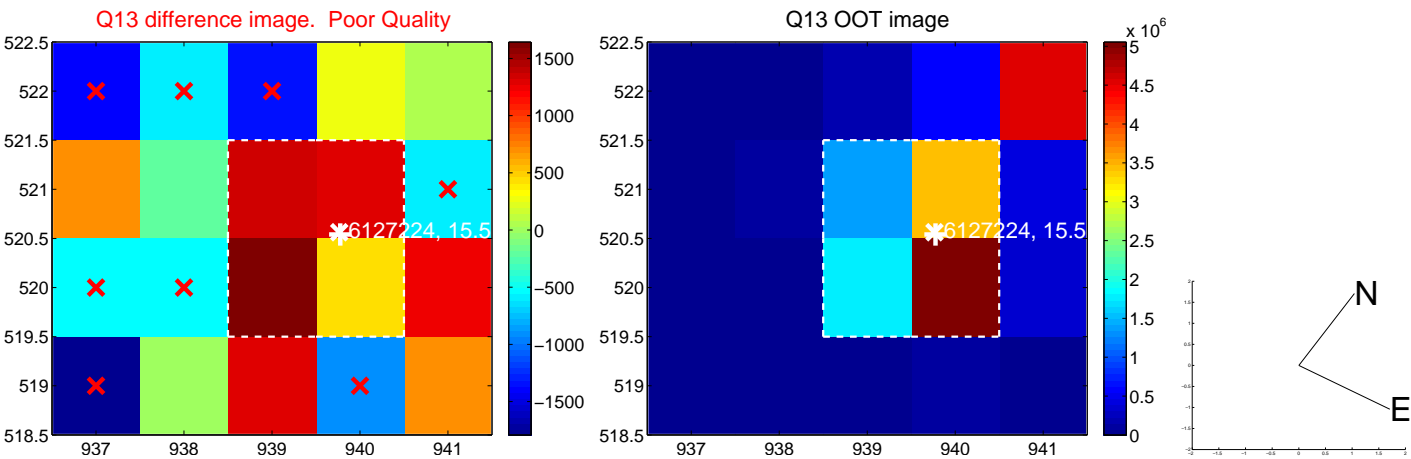




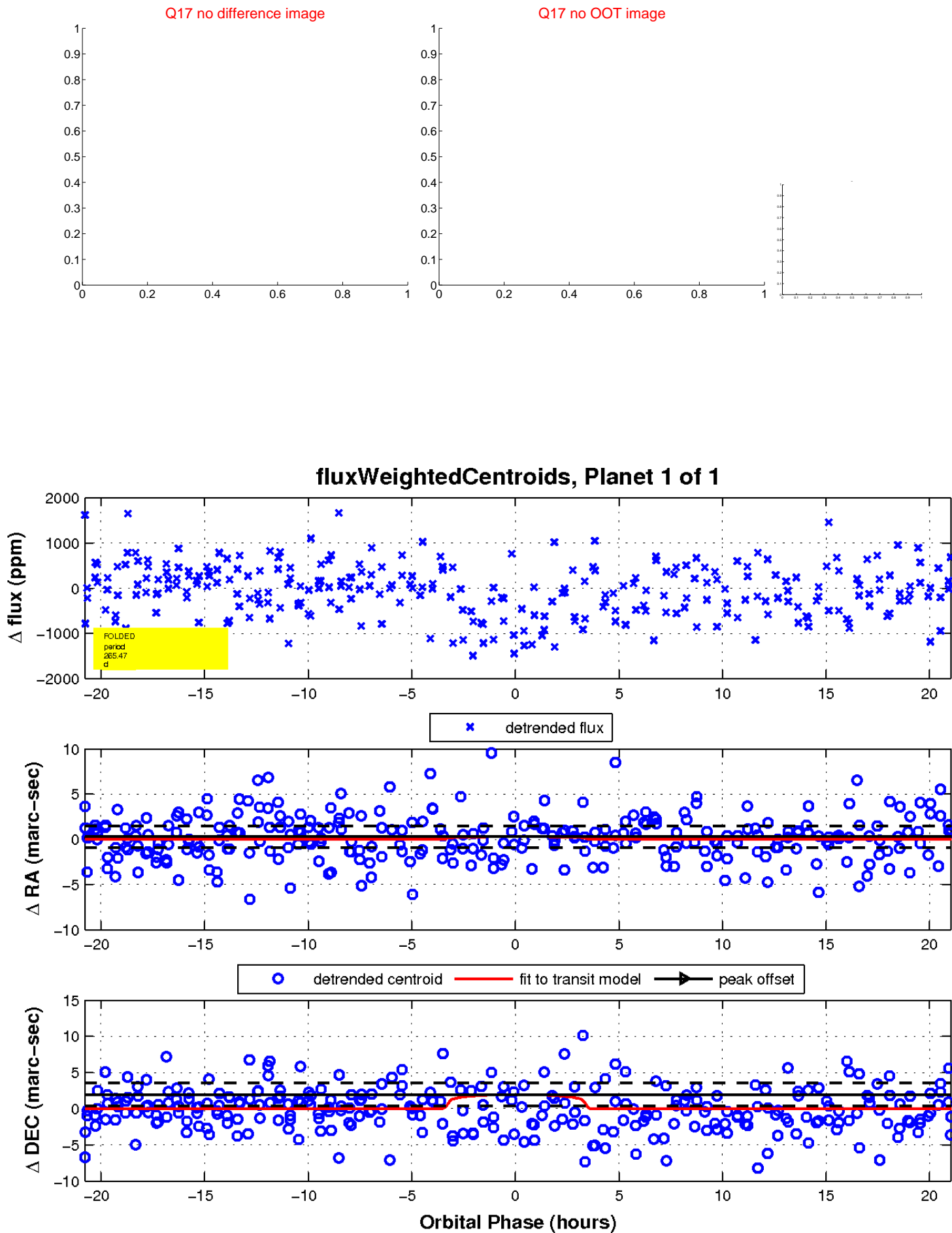
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

