

# KIC 006191808

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006191808-01	OBS	No	469.778595	484.180627	368.1	48.231	8.2	8.7	0.94	5751	1.88	0.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006191808-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

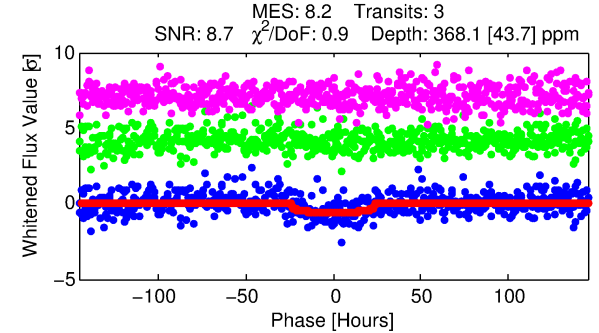
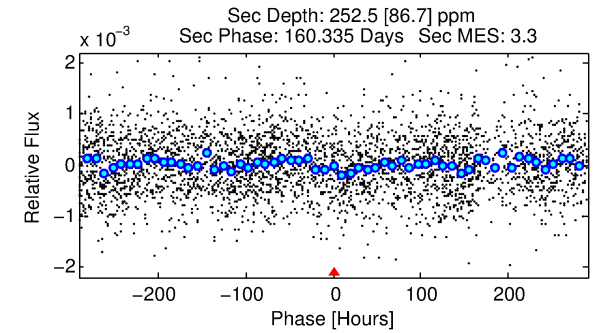
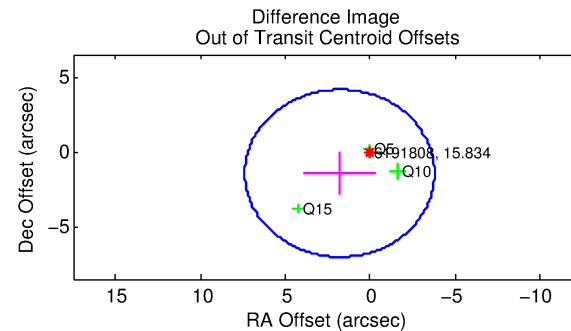
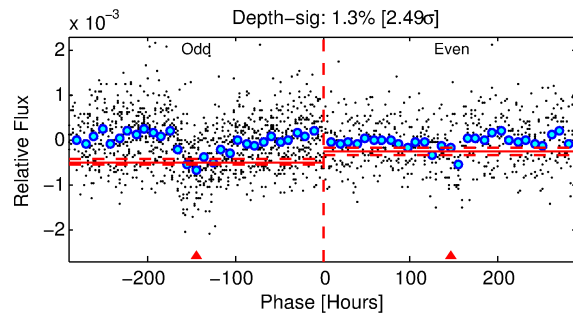
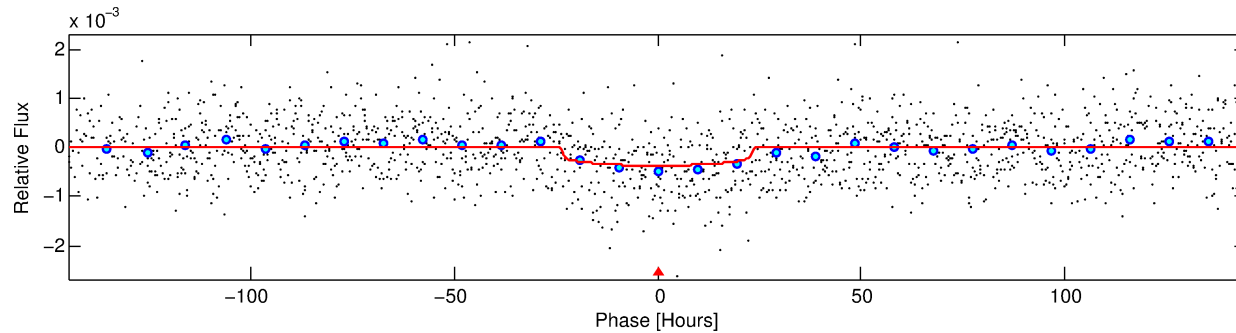
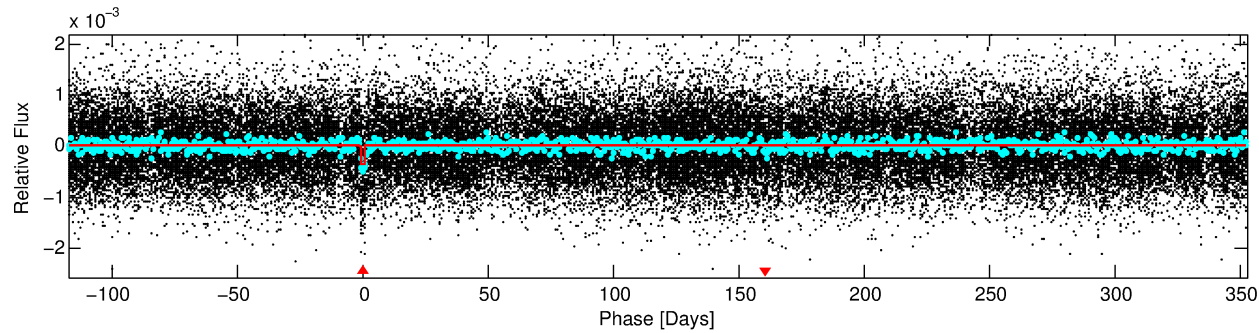
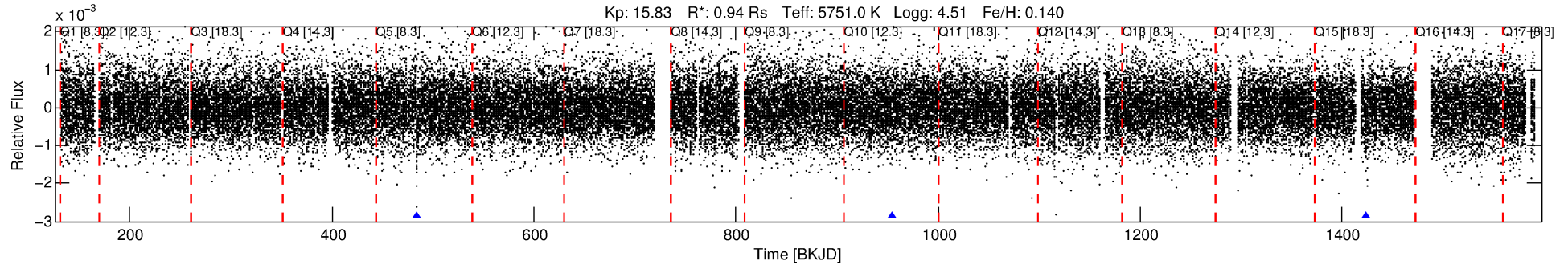
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006191808-01

No Significant Match Found

# DV One-Page Summary

KIC: 6191808 Candidate: 1 of 1 Period: 469.779 d



## DV Fit Results:

Period = 469.77859 [0.04825] d  
Epoch = 484.1806 [0.0621] BKJD  
Rp/R\* = 0.0184 [0.0058]  
a/R\* = 60.09 [79.42]  
b = 0.62 [1.32]  
Seff = 0.60 [0.24]  
Teq = 225 [23] K  
Rp = 1.88 [0.82] Re  
a = 1.1978 [0.3087] AU  
Ag = 56221.65 [45627.70] [1.23σ]  
Teffp = 5351 [970] K [5.28σ]

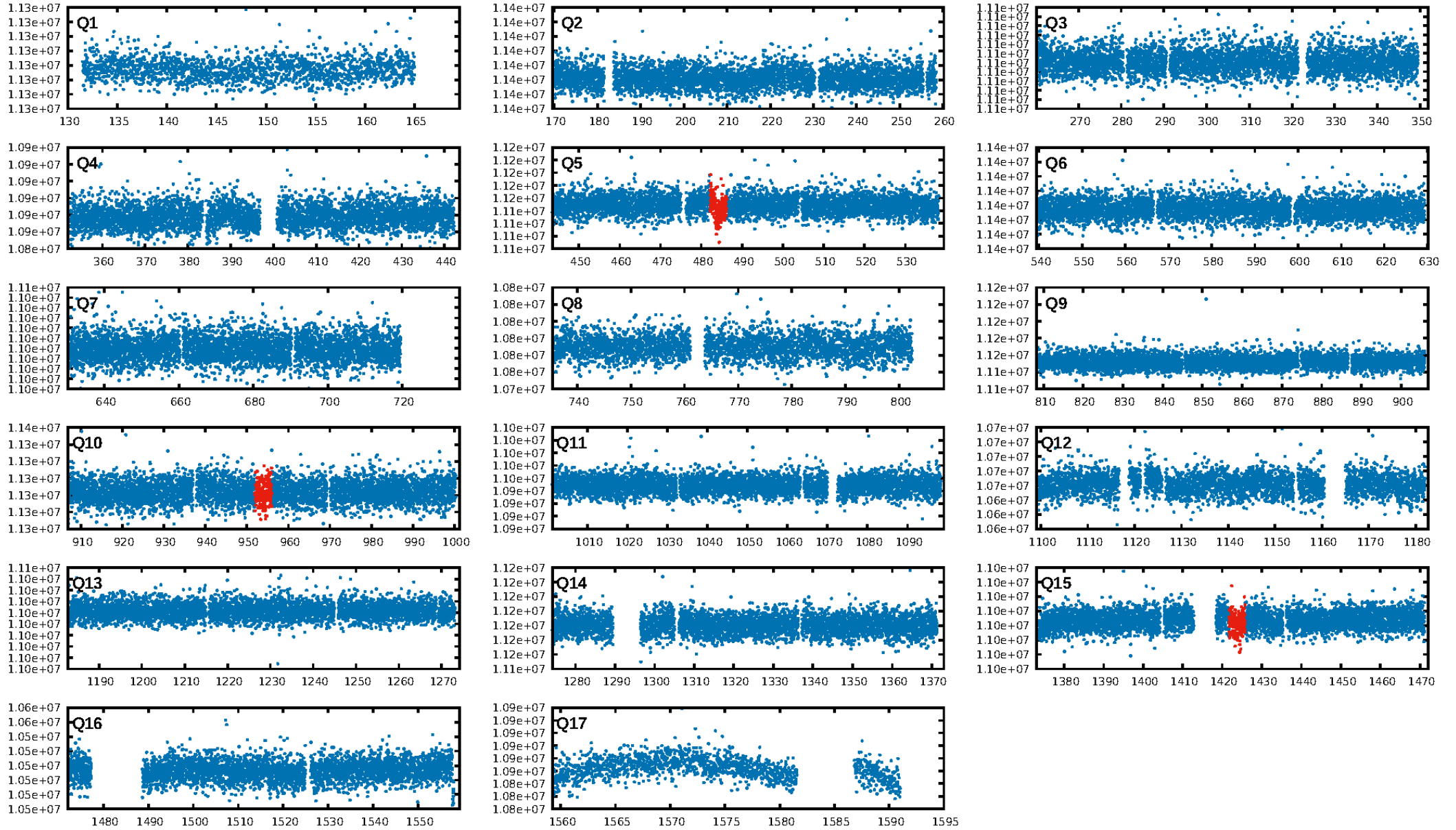
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.32e-16  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 9.602  
Centroid-sig: 75.4%  
Centroid-so: 0.778 arcsec [0.59σ]  
OotOffset-rm: 2.295 arcsec [1.23σ]  
OotOffset-st: 1/1/0/1 [3]  
KicOffset-rm: 2.373 arcsec [1.31σ]  
KicOffset-st: 1/1/0/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

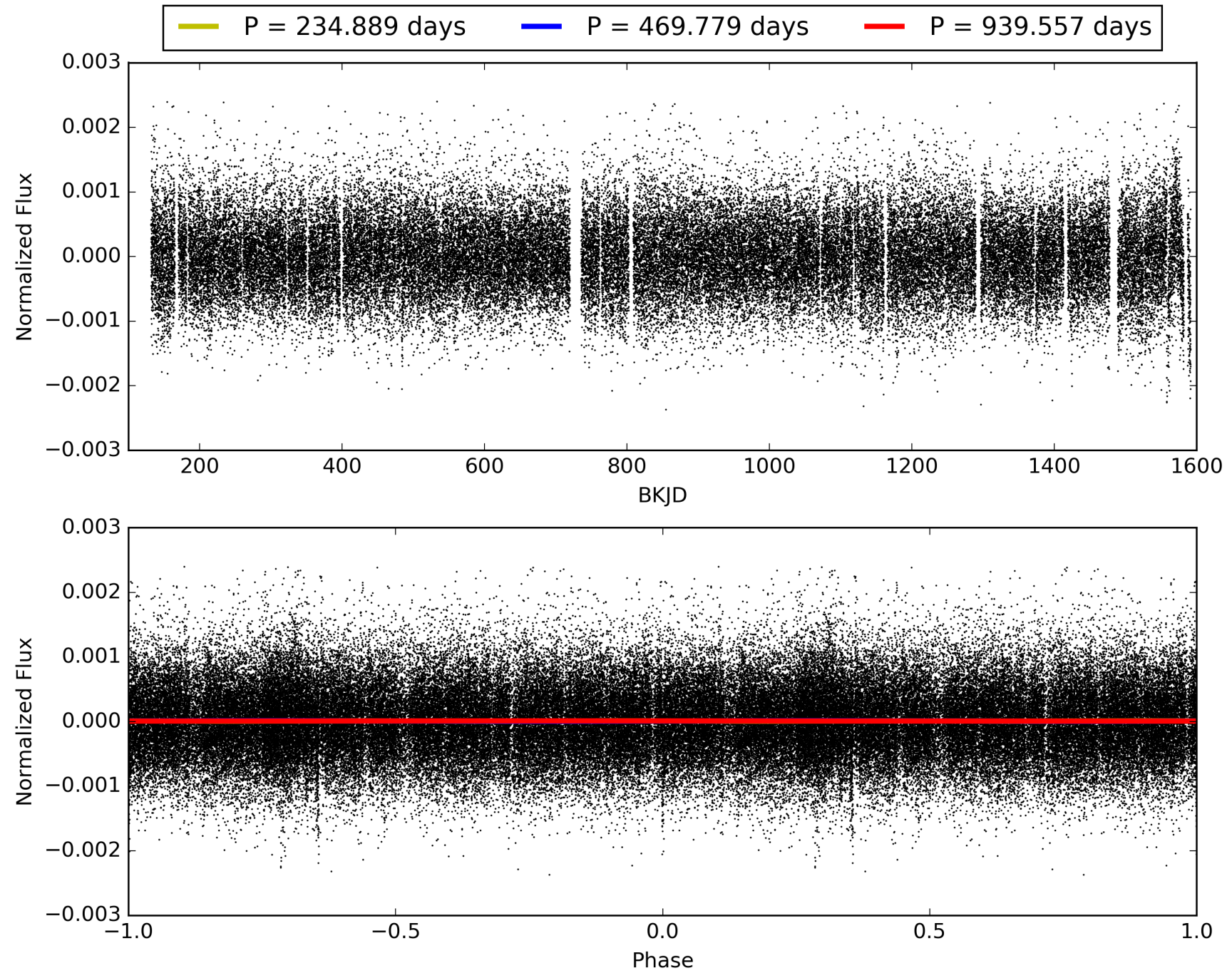
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:11:29 Z

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

# TCE 006191808-01, PDC Light Curves

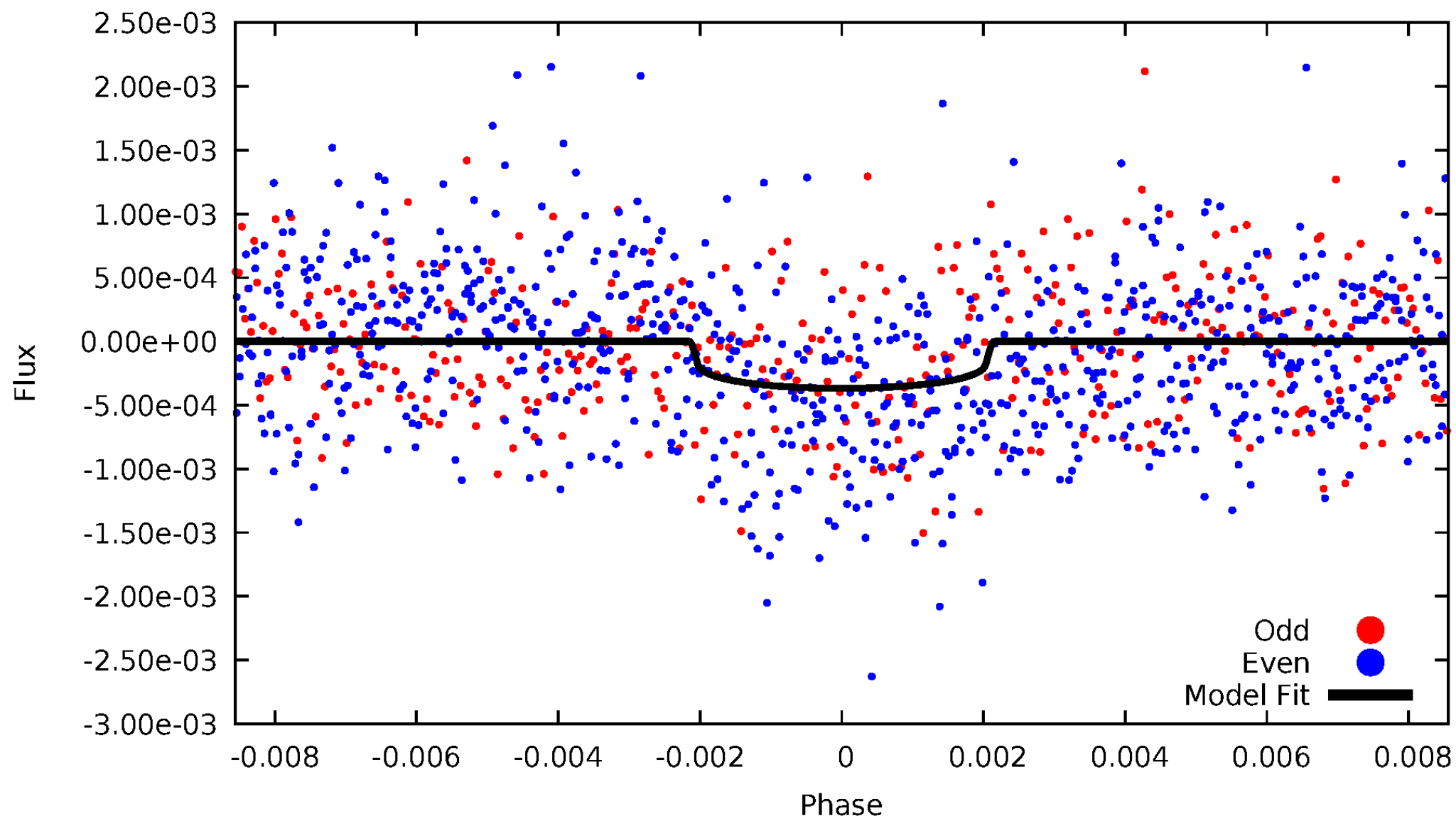


# TCE 006191808-01



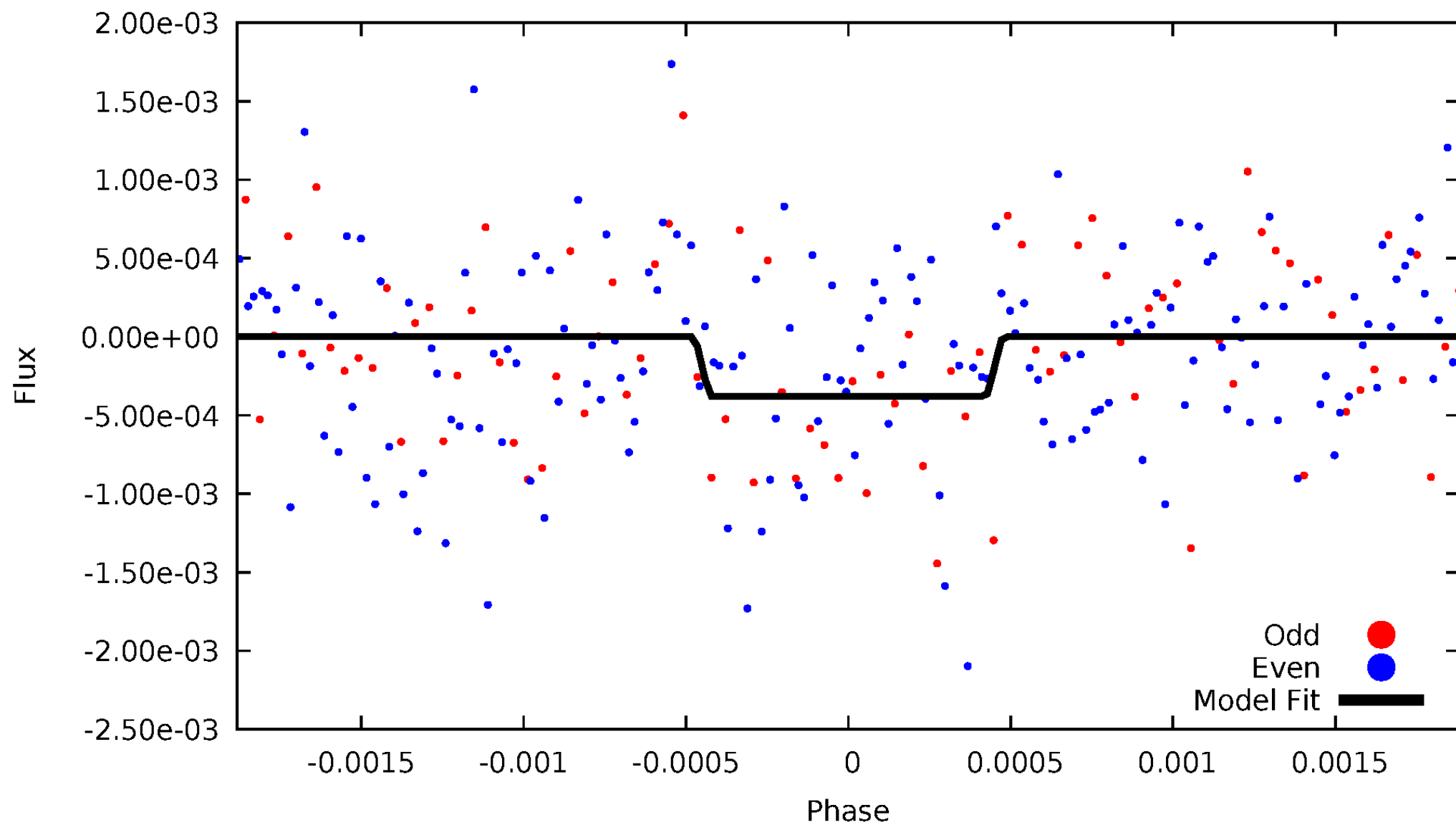
# DV Odd/Even

TCE 006191808-01



# ALT Odd/Even

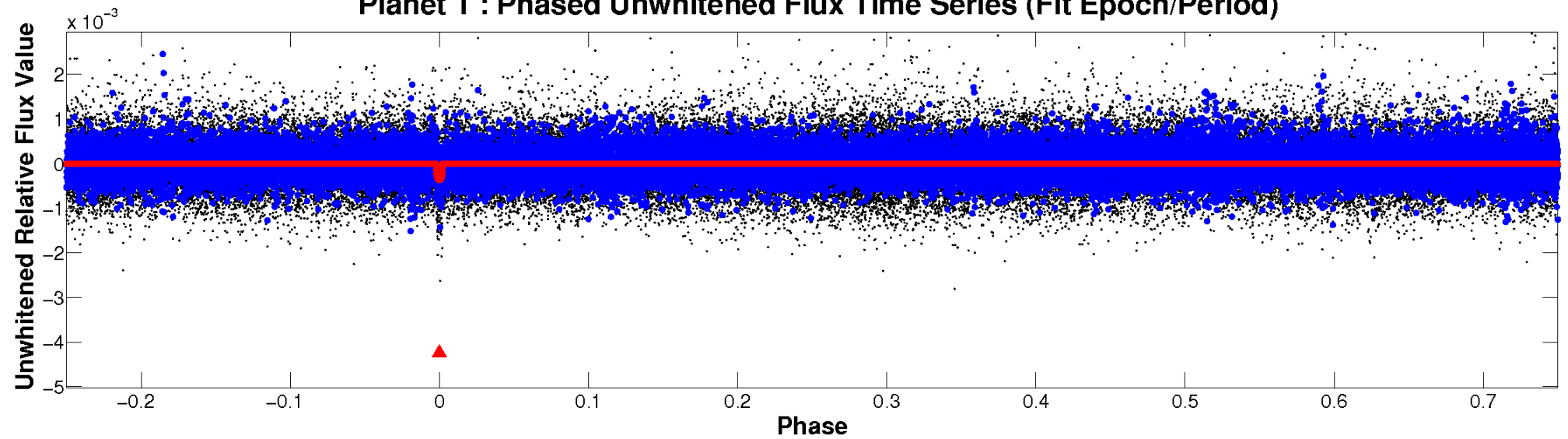
TCE 006191808-01



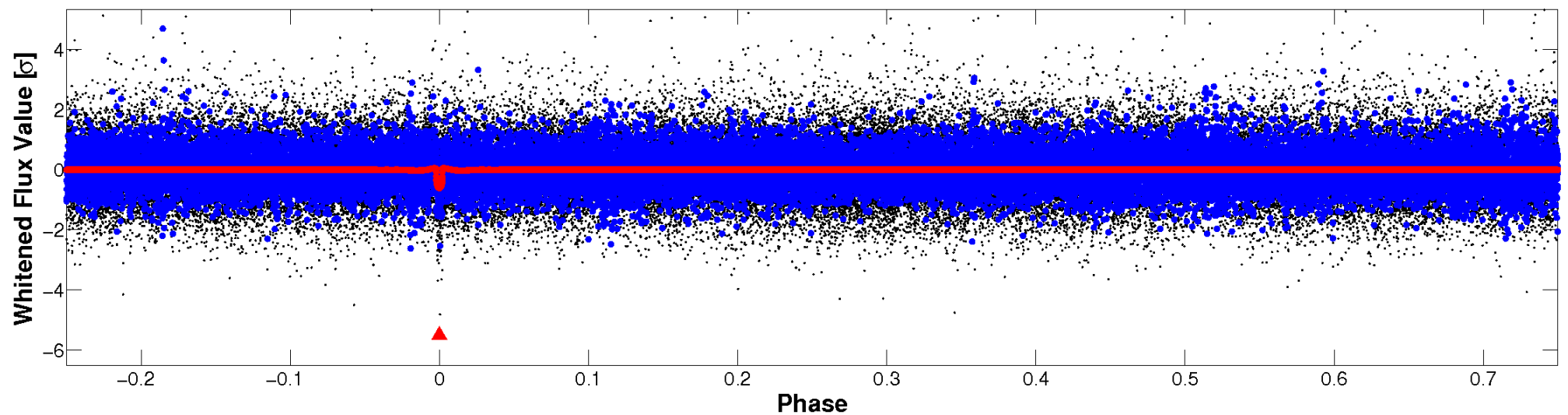


# Non-Whitened Vs. Whitened Light Curve

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

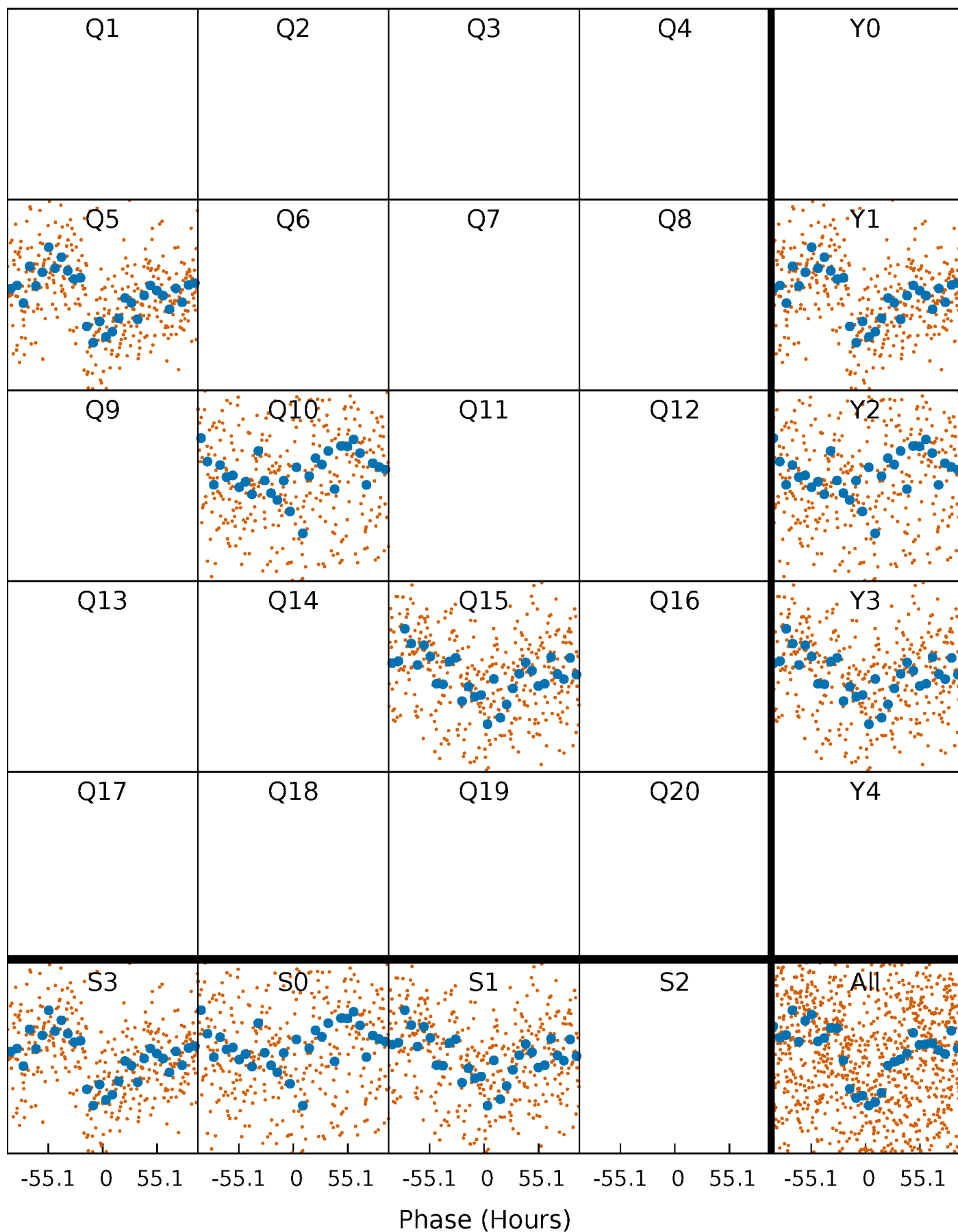


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

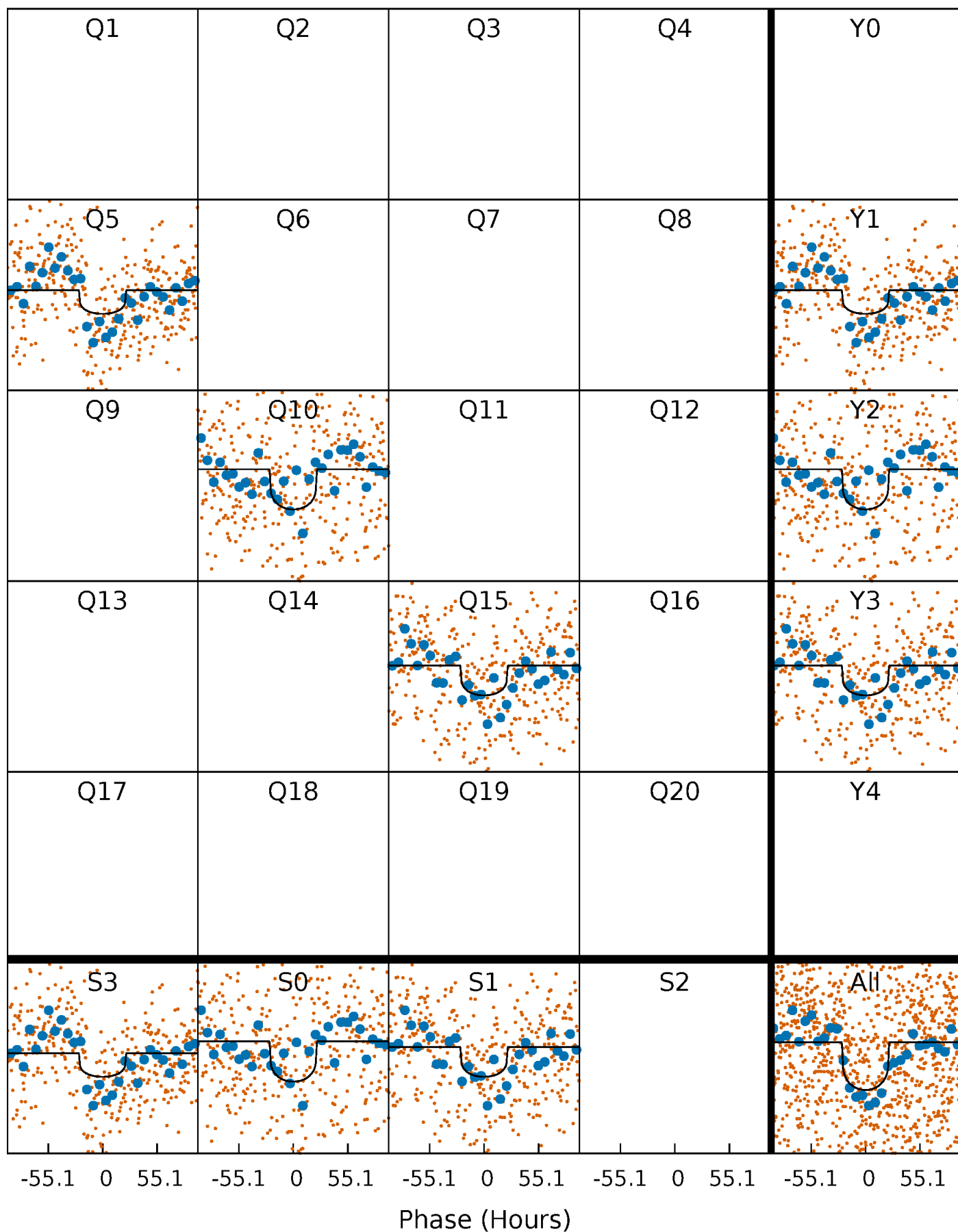
TCE 006191808-01 P=469.778595 Days  $T_0=484.180627$  (BKJD)





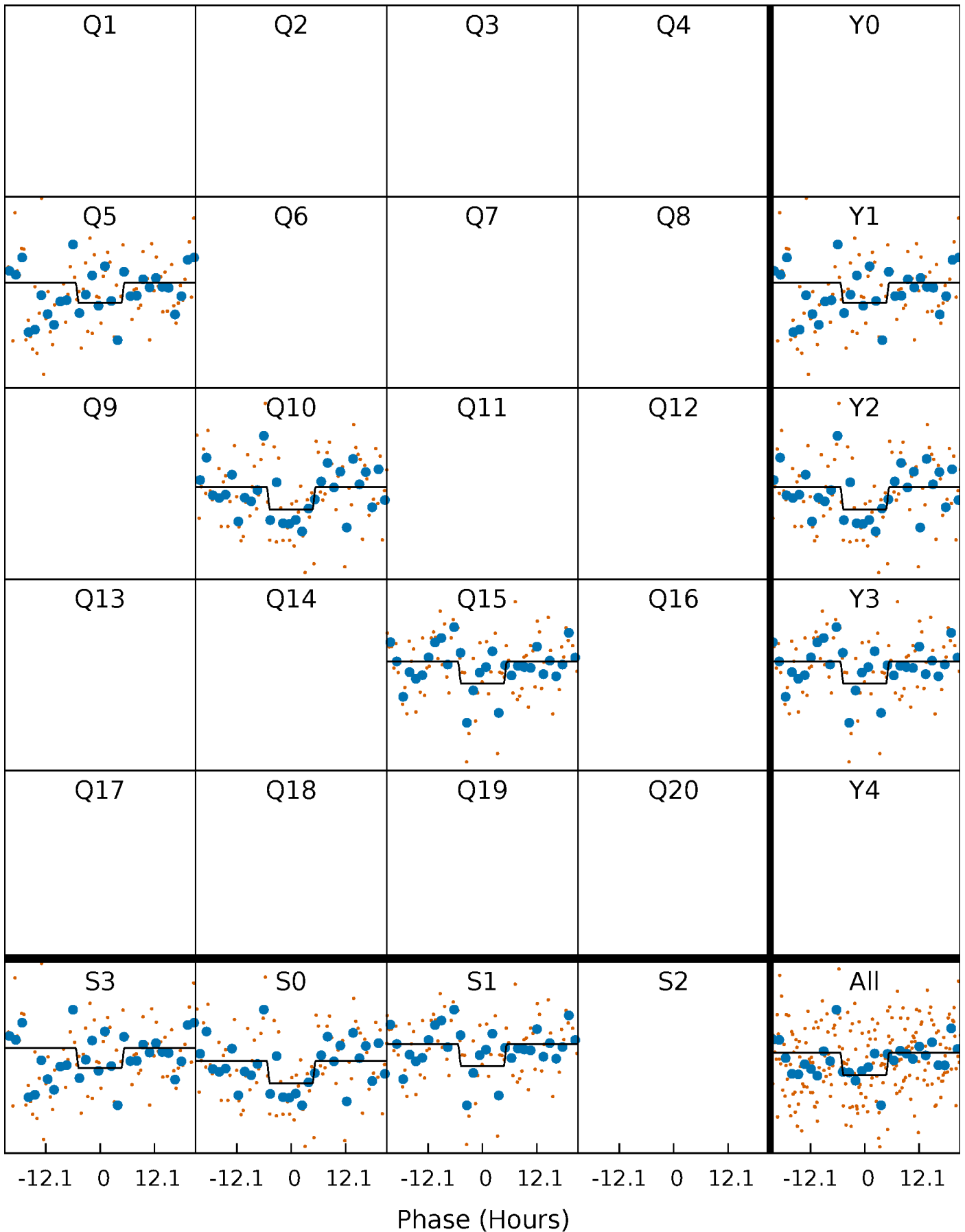
# DV Quarter-Phased Transit Curves

TCE 006191808-01 P=469.778595 Days  $T_0=484.180627$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

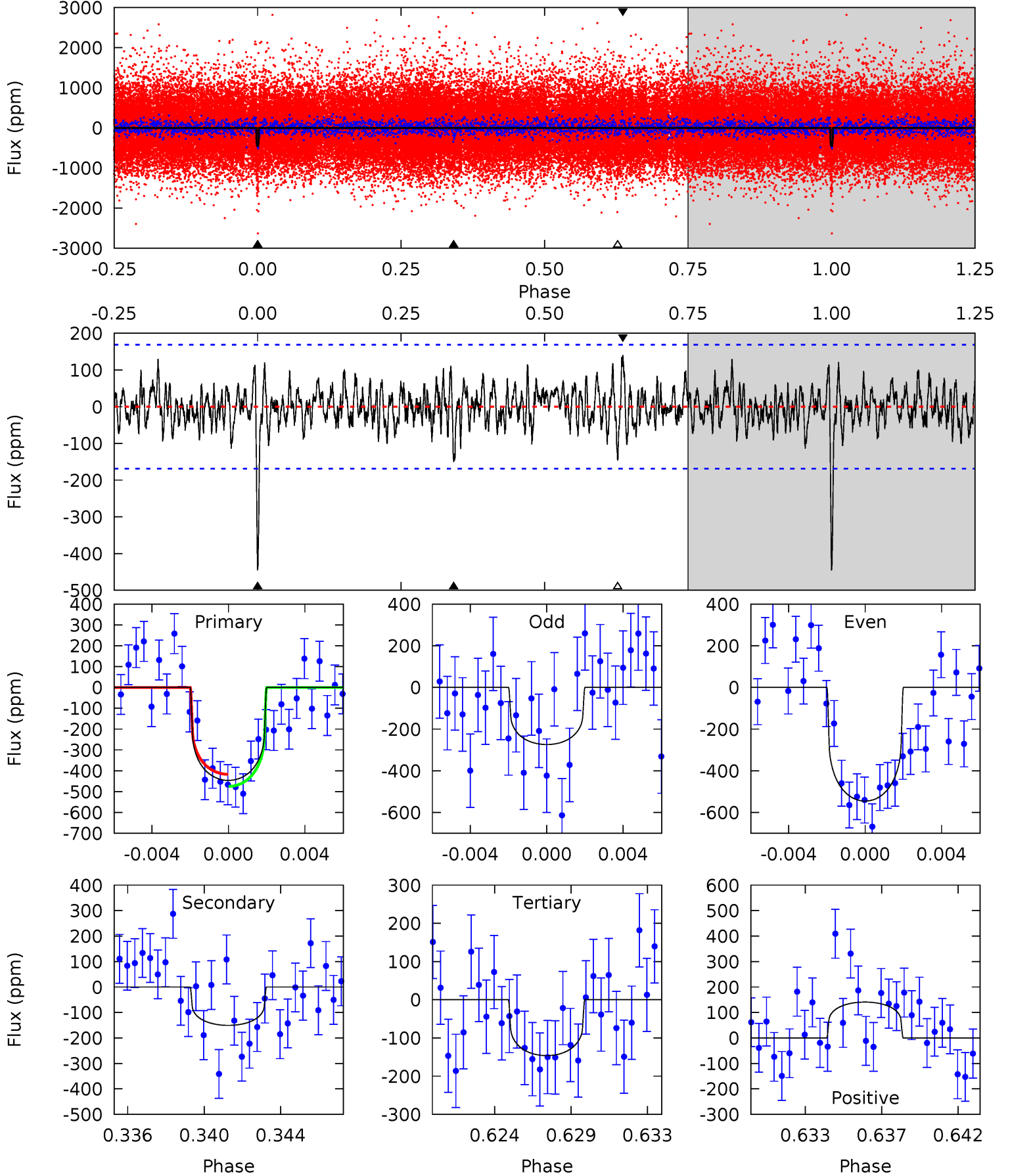
TCE 006191808-01 P=470.162593 Days  $T_0=484.206854$  (BKJD)



# DV Model-Shift Uniqueness Test

006191808-01,  $P = 469.778595$  Days,  $E = 14.402032$  Days

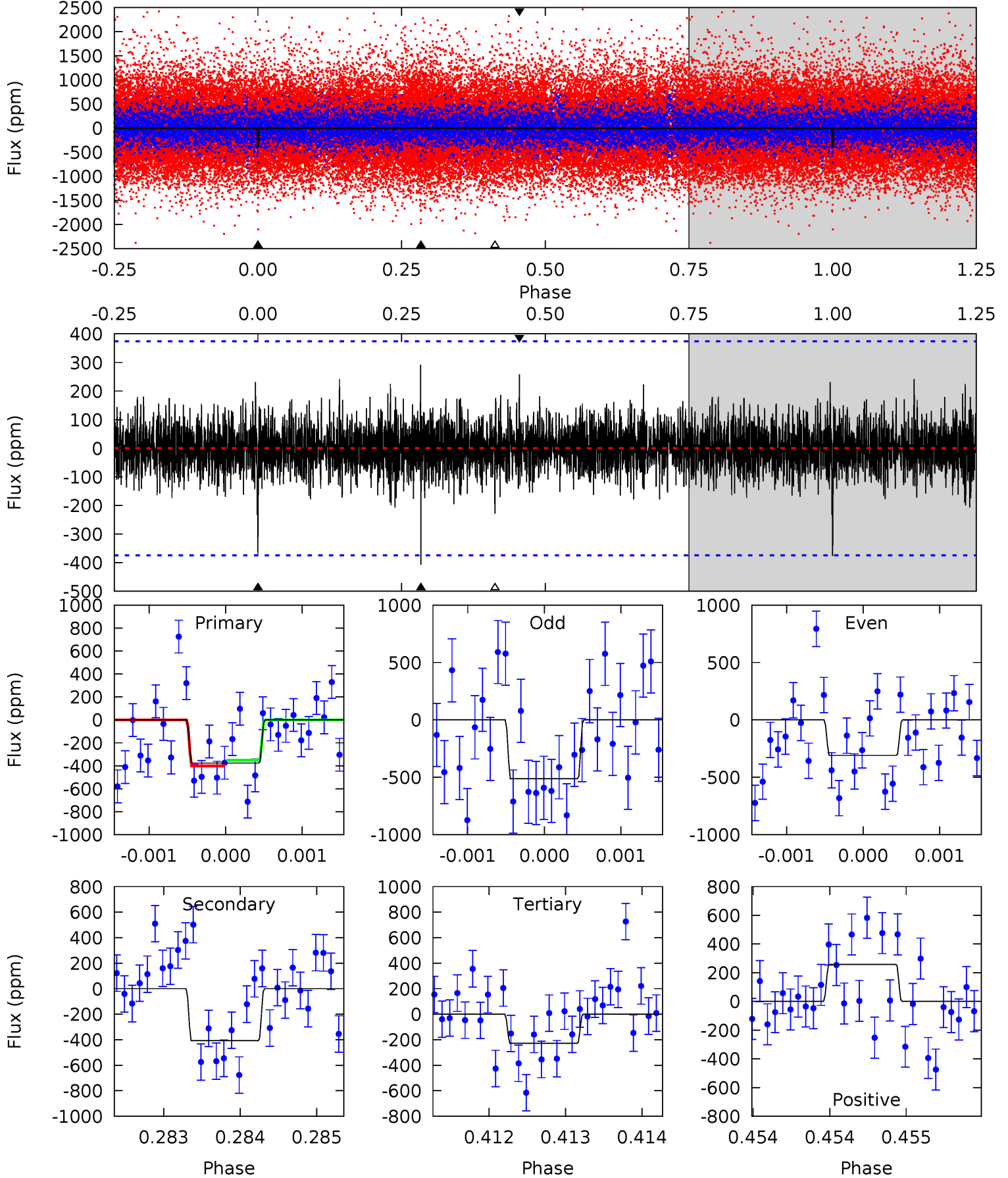
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	4.63	4.49	4.33	5.19	2.85	1.30	9.22	9.38	0.13	0.30	3.90	0.94	0.24	0.89



# Alt Model-Shift Uniqueness Test

006191808-01,  $P = 470.162593$  Days,  $E = 14.044261$  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
5.49	5.94	3.34	3.77	5.46	3.31	0.87	2.16	1.72	2.60	2.17	1.39	1.05	0.42	0.36



### Stellar Parameters For KIC 006191808

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5751^{+154}_{-171}$	$4.508^{+0.037}_{-0.213}$	$0.140^{+0.200}_{-0.300}$	$0.940^{+0.281}_{-0.088}$	$1.038^{+0.110}_{-0.122}$	$1.761^{+0.348}_{-0.897}$
	+3%/-3%	+1%/-5%	+143%/-214%	+30%/-9%	+11%/-12%	+20%/-51%
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 006191808-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-151 \pm 33$	$1.95^{+0.71}_{-0.64}$	$322^{+22}_{-14}$	$4850^{+944}_{-601}$	$29941^{+36929}_{-14569}$
Alt.	$-407 \pm 69$	$2.10^{+0.68}_{-0.65}$	$322^{+23}_{-15}$	$5880^{+1194}_{-769}$	$72529^{+72731}_{-33922}$

$T_{max}$  = 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

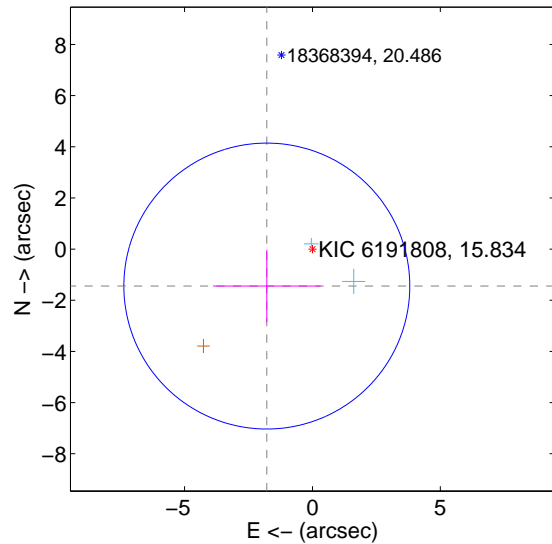
Supplemental centroid analysis for 006191808-01. Kepler magnitude: 15.83. Transit SNR 8.73

There are 2 quarters with good PRF difference image offsets

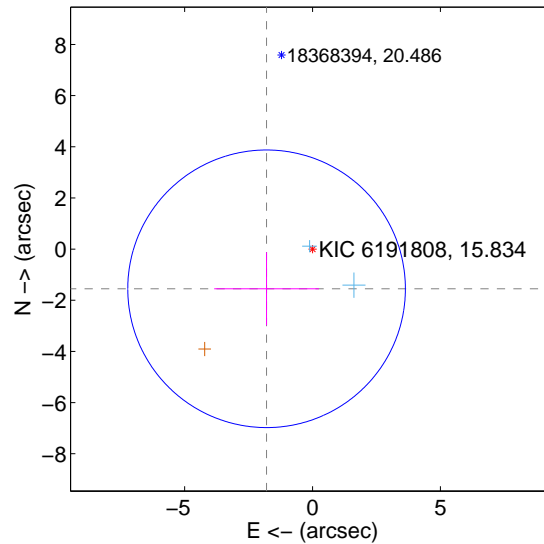
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.295 \pm 1.863$	1.23	$1.783 \pm 2.105$	$-1.445 \pm 1.417$
PRF-fit source offset from KIC position	$2.373 \pm 1.809$	1.31	$1.796 \pm 2.048$	$-1.552 \pm 1.427$
photometric centroid source offset	$0.78 \pm 1.31$	0.59	$0.63 \pm 1.29$	$-0.45 \pm 1.35$

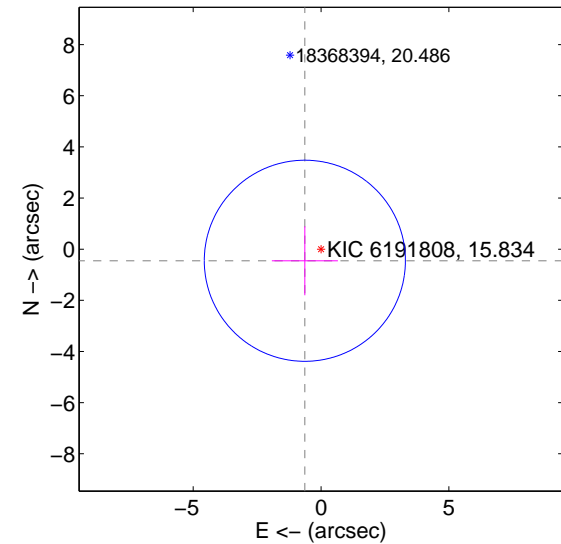
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



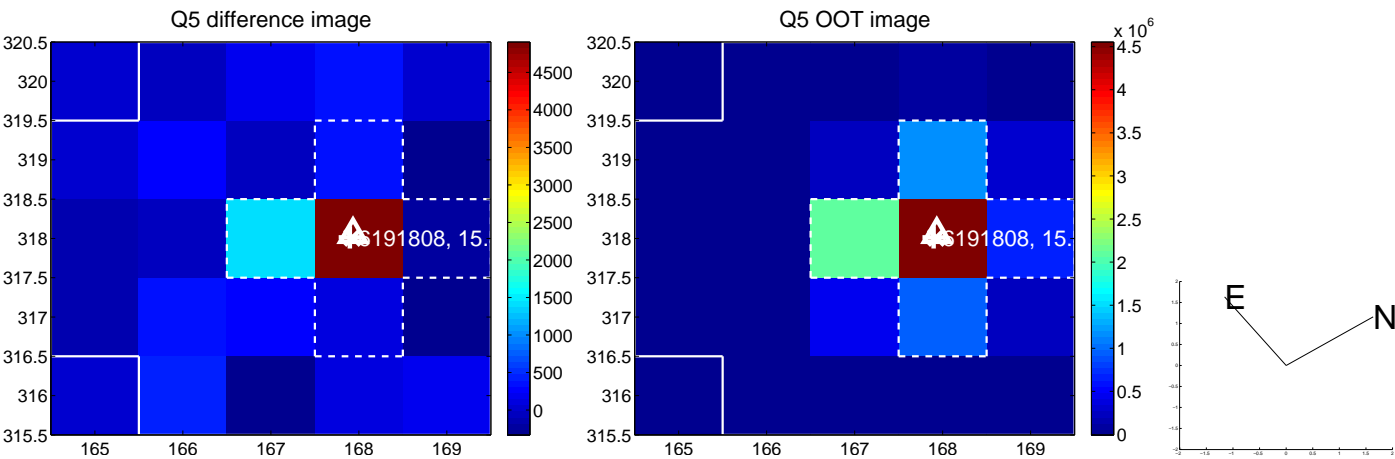
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



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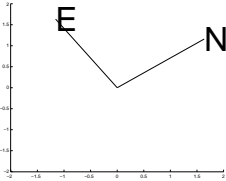
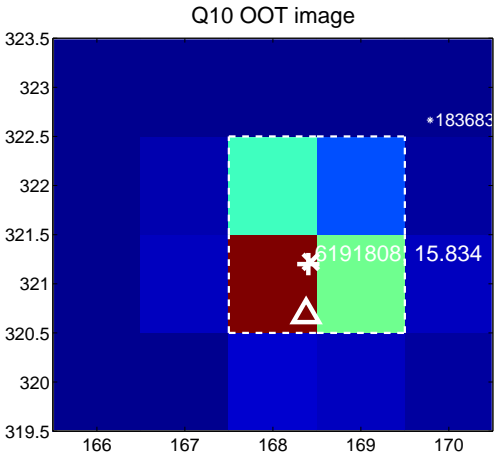
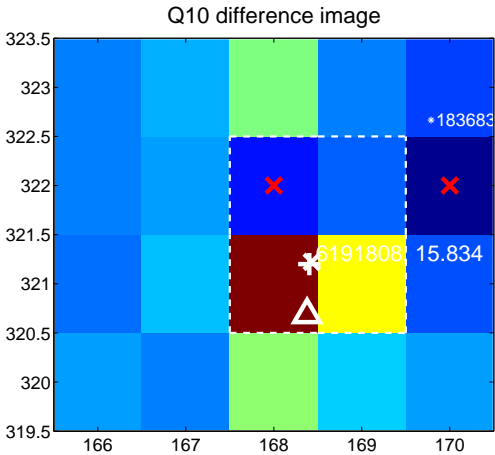


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

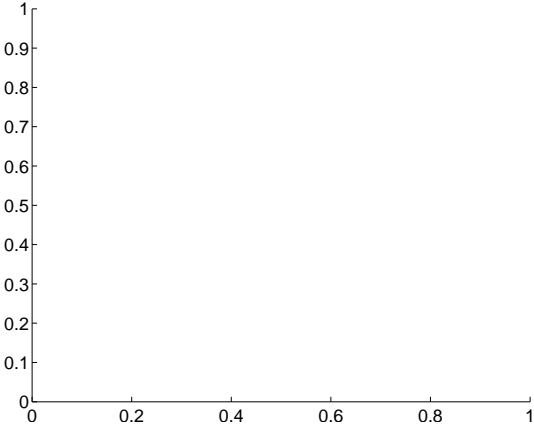
Q9 no difference image



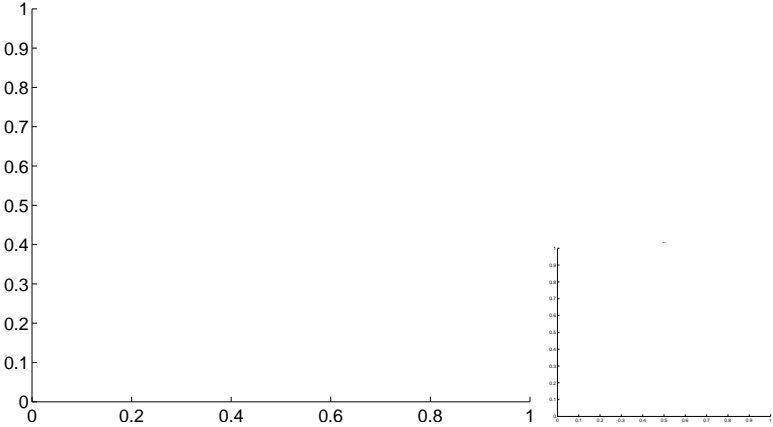
Q9 no OOT image



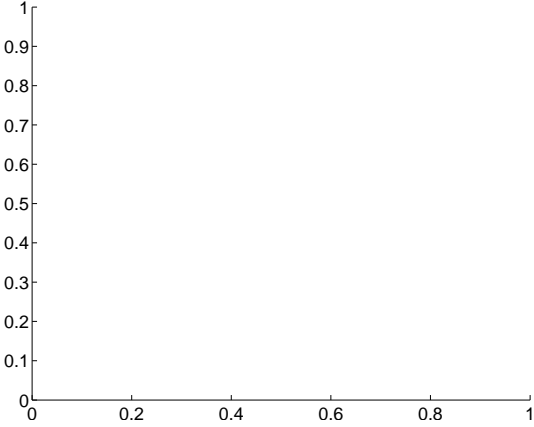
Q11 no difference image



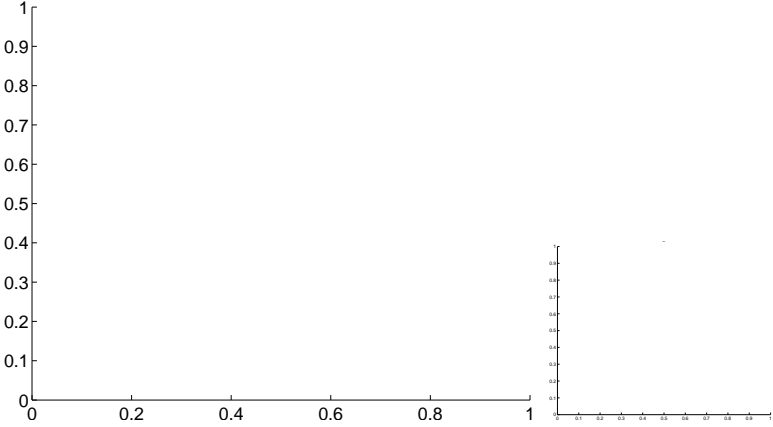
Q11 no OOT image



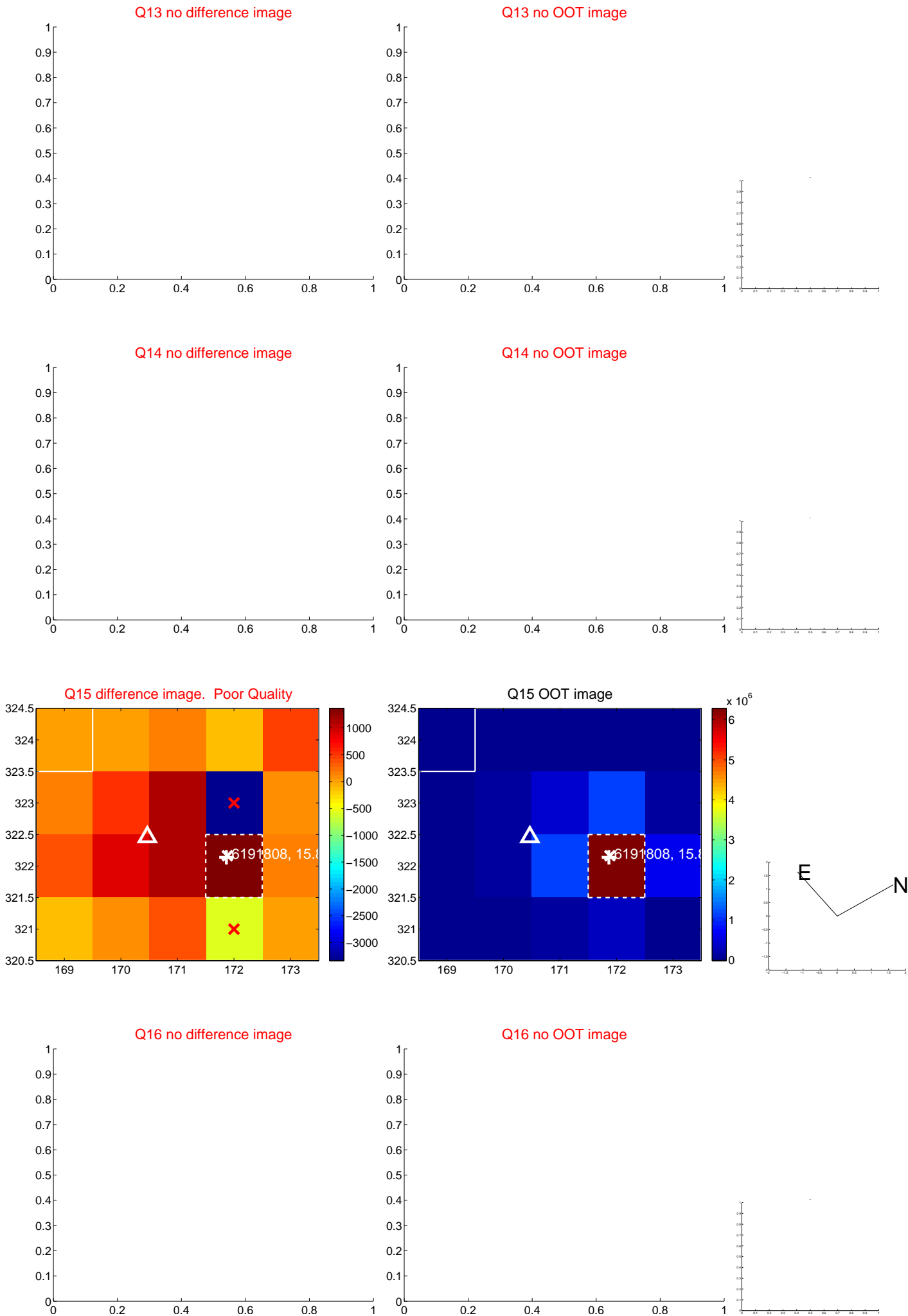
Q12 no difference image



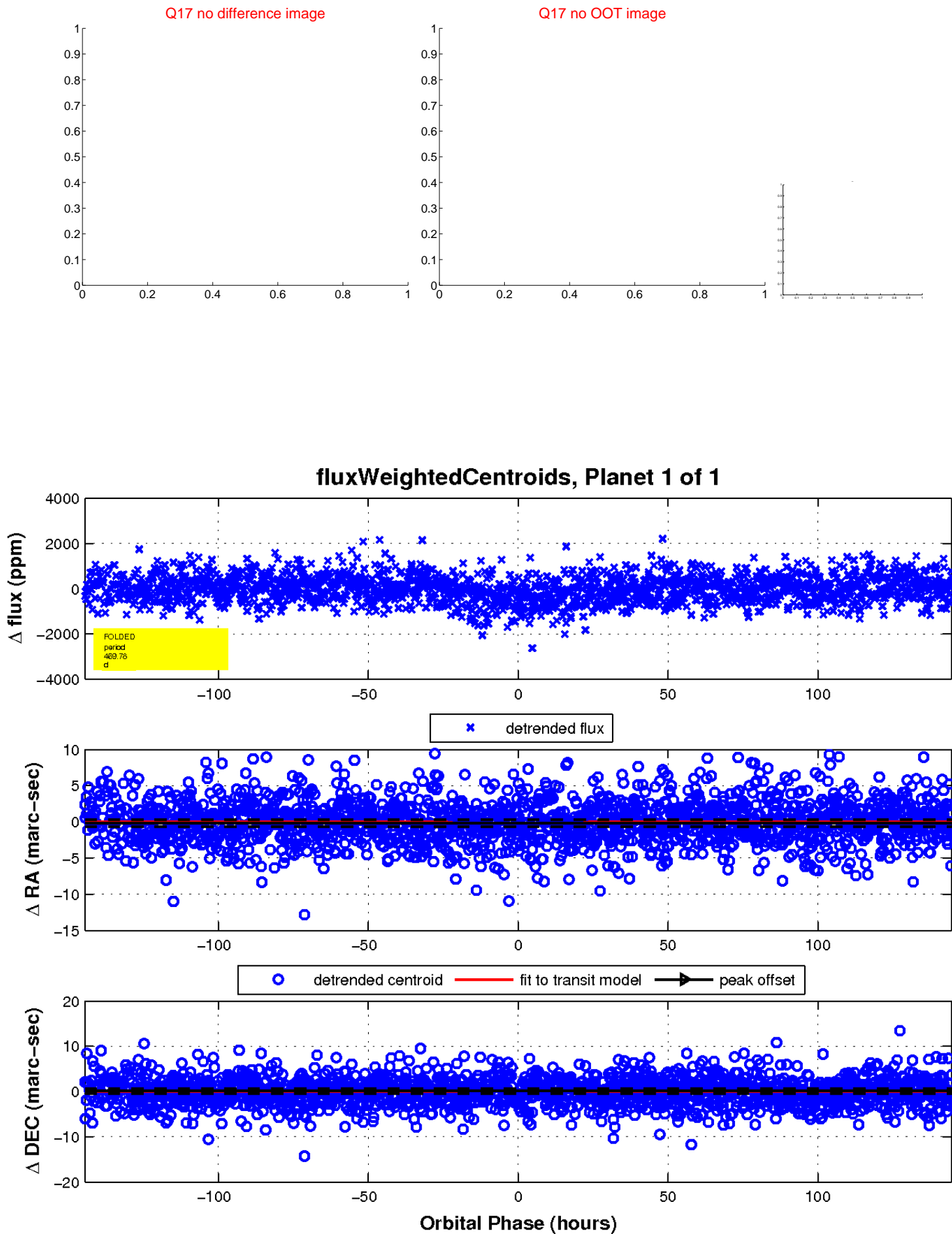
Q12 no OOT image



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

