

# KIC 011773027

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011773027-01	OBS	No	355.711362	476.095128	828.1	15.569	8.4	7.7	0.88	5767	2.62	0.81

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011773027-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

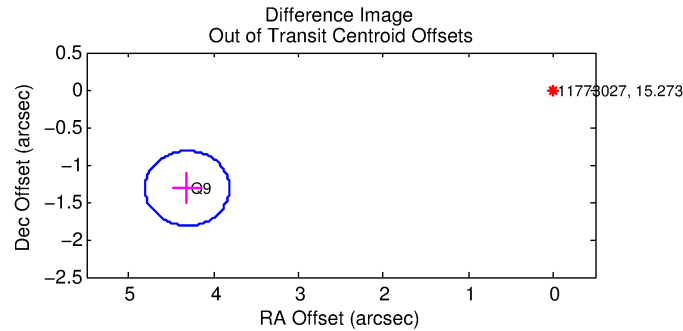
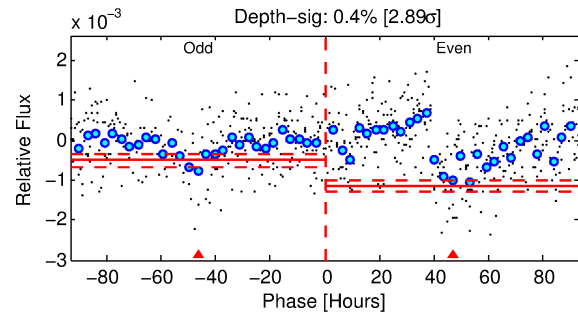
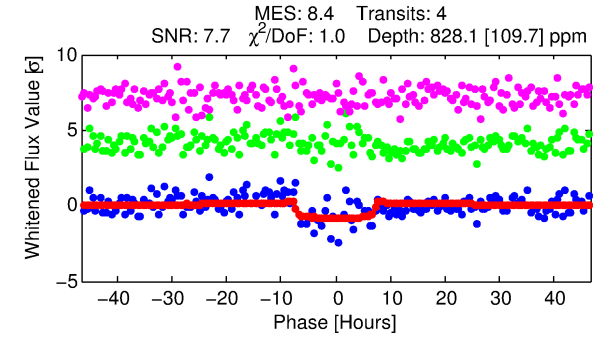
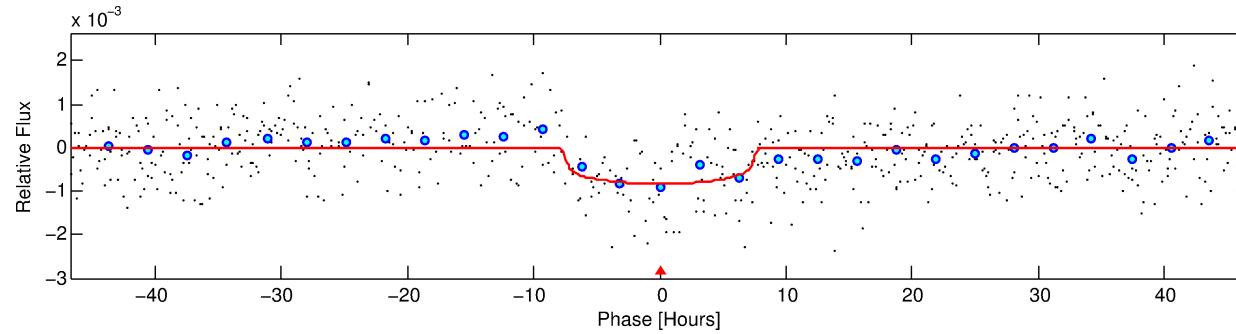
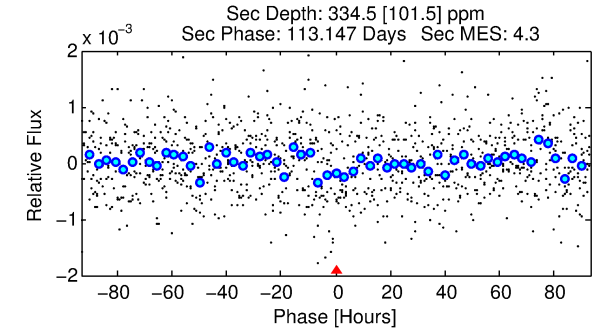
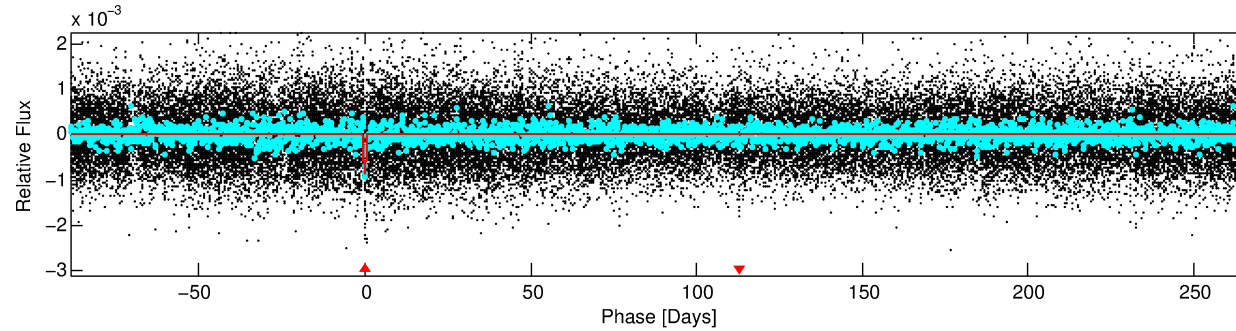
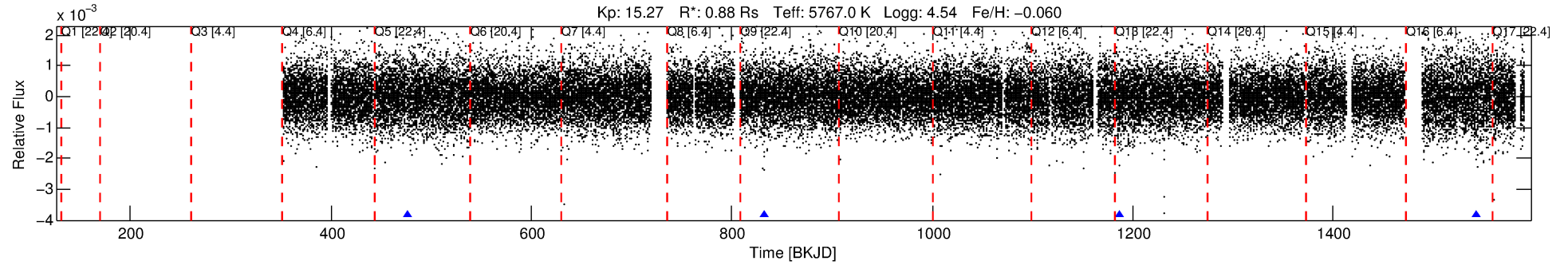
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011773027-01

No Significant Match Found

# DV One-Page Summary

KIC: 11773027 Candidate: 1 of 1 Period: 355.711 d



## DV Fit Results:

Period = 355.71136 [0.01324] d  
Epoch = 476.0951 [0.0263] BKJD  
Rp/R\* = 0.0273 [0.0135]  
a/R\* = 149.53 [323.53]  
b = 0.57 [2.59]  
Seff = 0.81 [0.31]  
Teq = 242 [23] K  
Rp = 2.62 [1.51] Re  
a = 0.9752 [0.2397] AU  
Ag = 25490.39 [27840.86] [0.92σ]  
Teff = 4724 [1231] K [3.64σ]

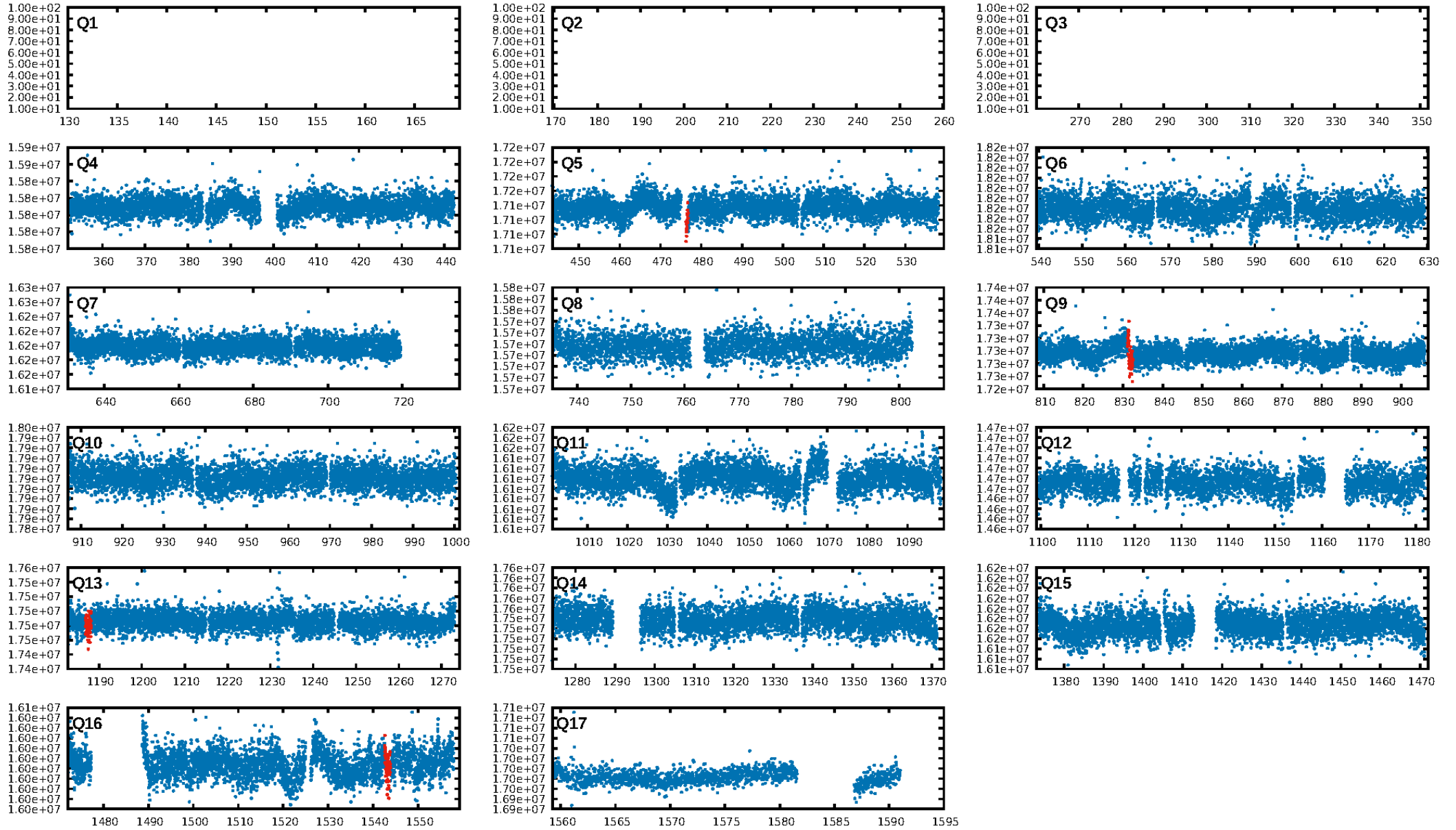
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 21.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 5.66e-14  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 17.65  
Centroid-sig: 15.4%  
Centroid-so: 2.418 arcsec [4.49σ]  
OotOffset-rm: 4.508 arcsec [27.10σ]  
KicOffset-rm: 4.593 arcsec [26.34σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [2/2]

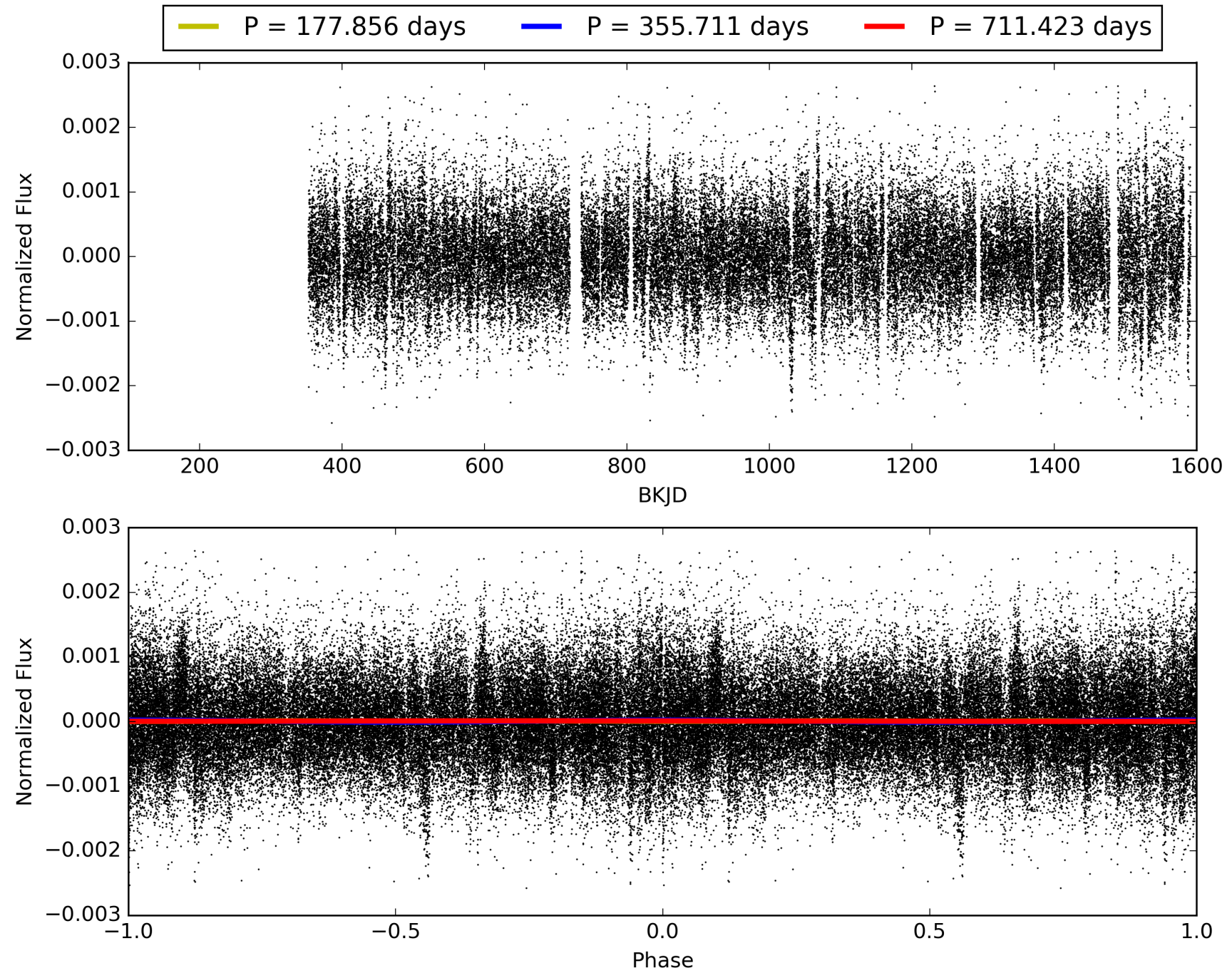
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:20:31 Z

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

# TCE 011773027-01, PDC Light Curves

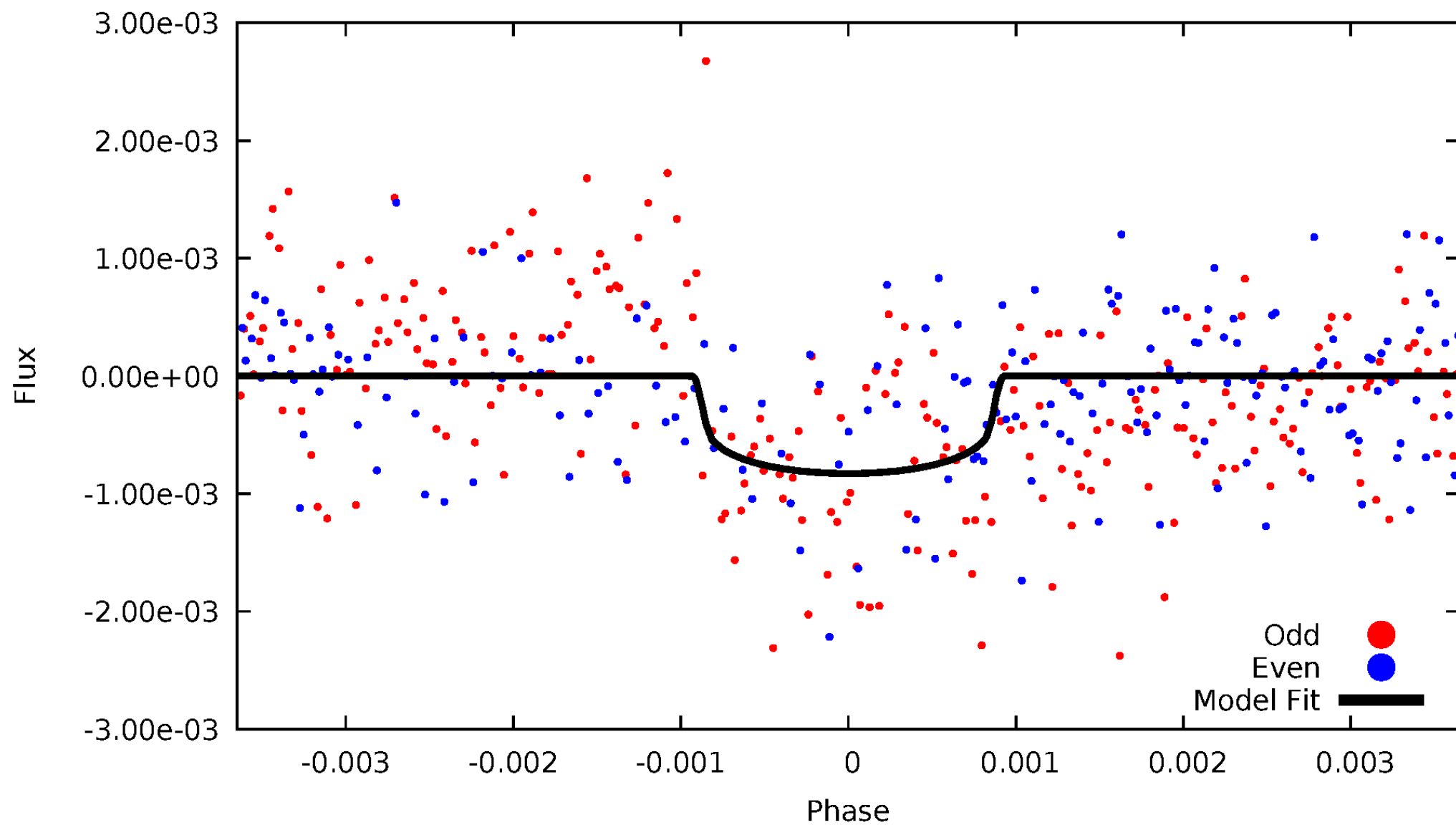


TCE 011773027-01



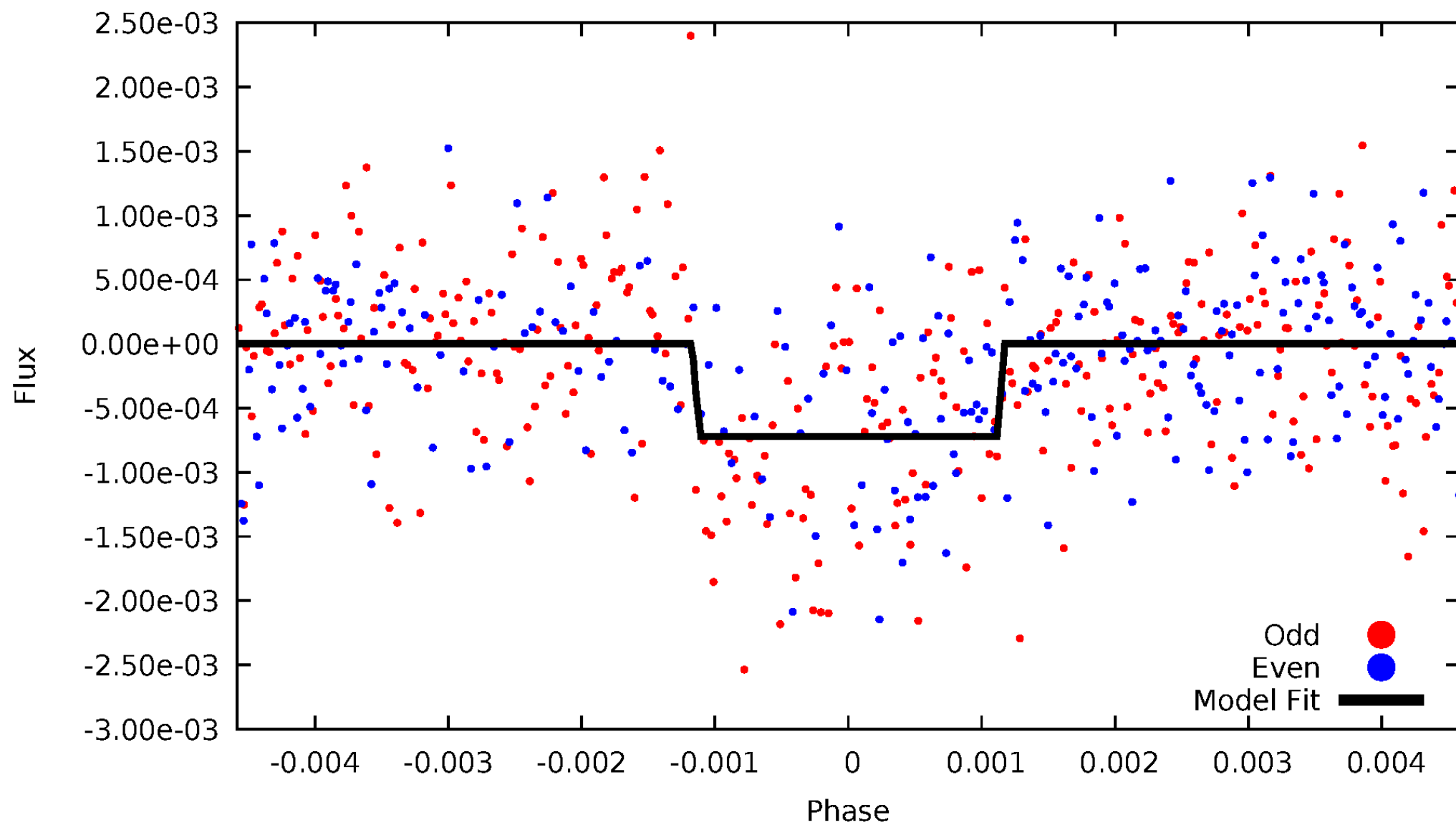
# DV Odd/Even

TCE 011773027-01



# ALT Odd/Even

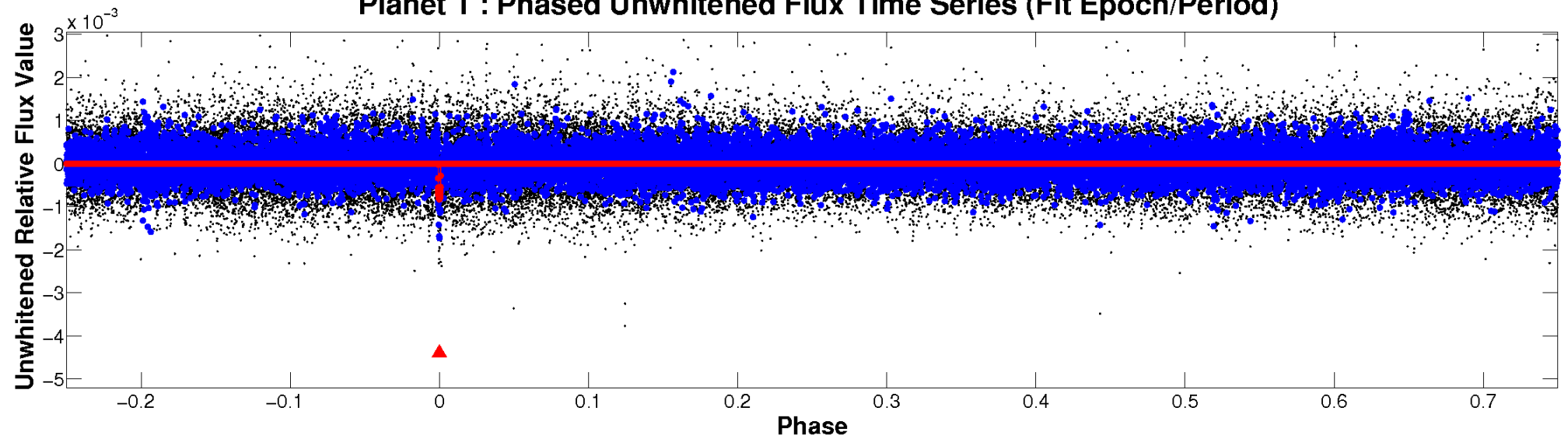
TCE 011773027-01



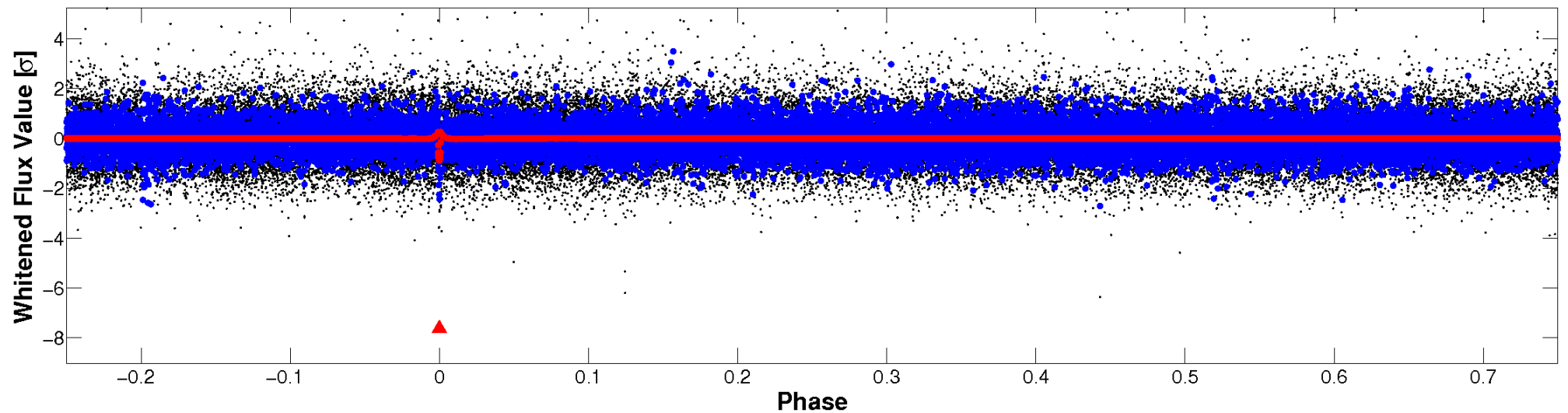


# Non-Whitened Vs. Whitened Light Curve

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

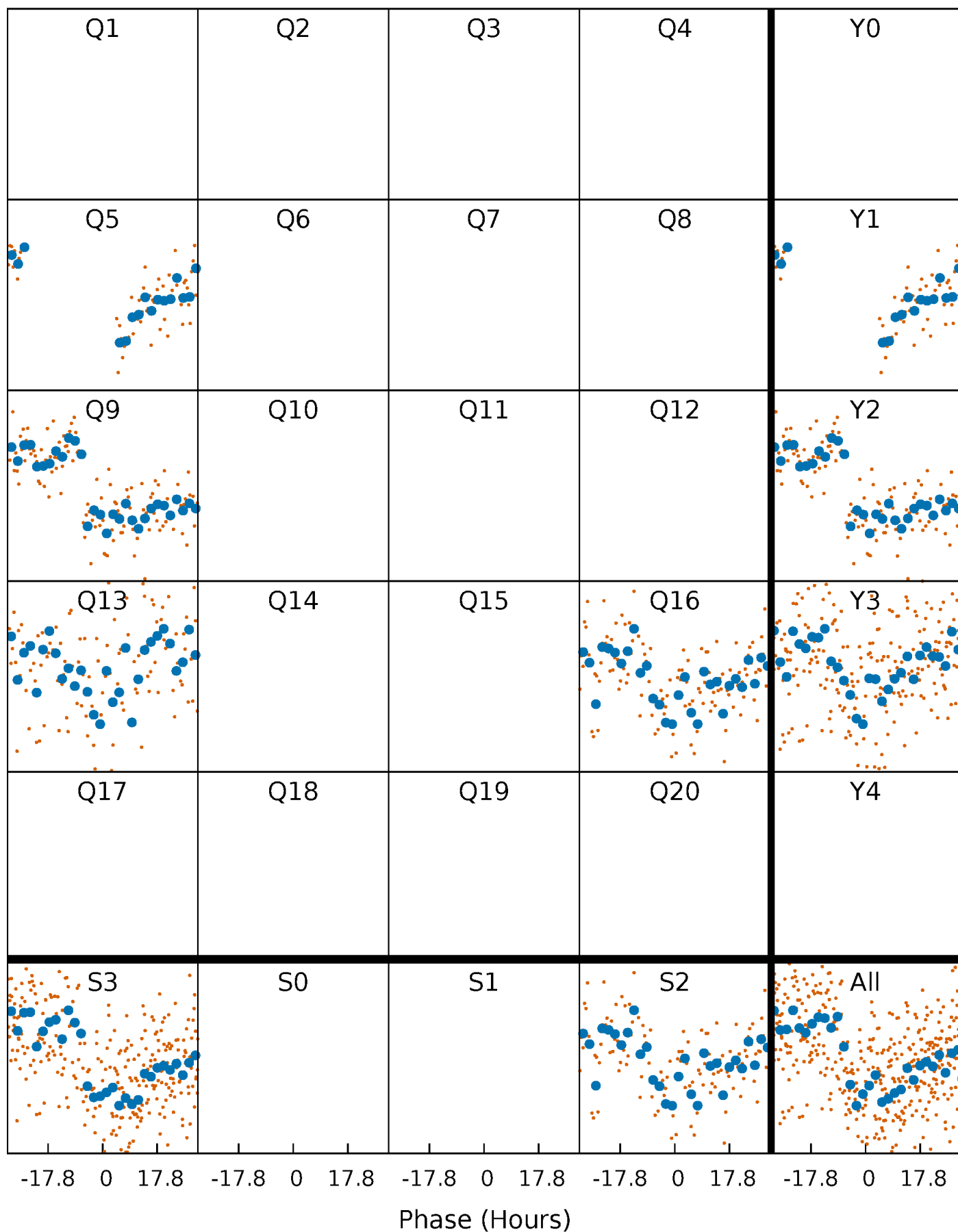


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

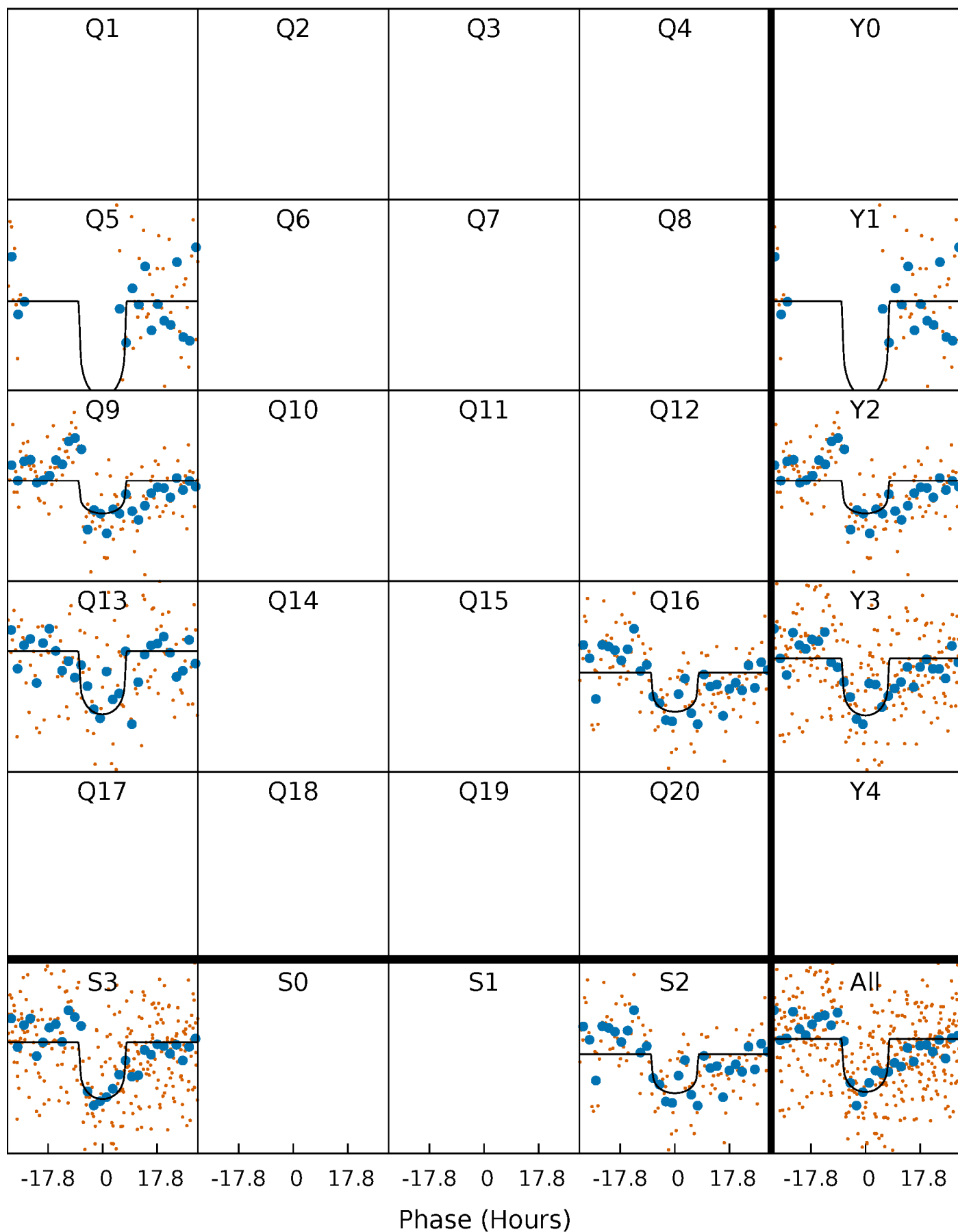
TCE 011773027-01 P=355.711362 Days  $T_0=476.095128$  (BKJD)





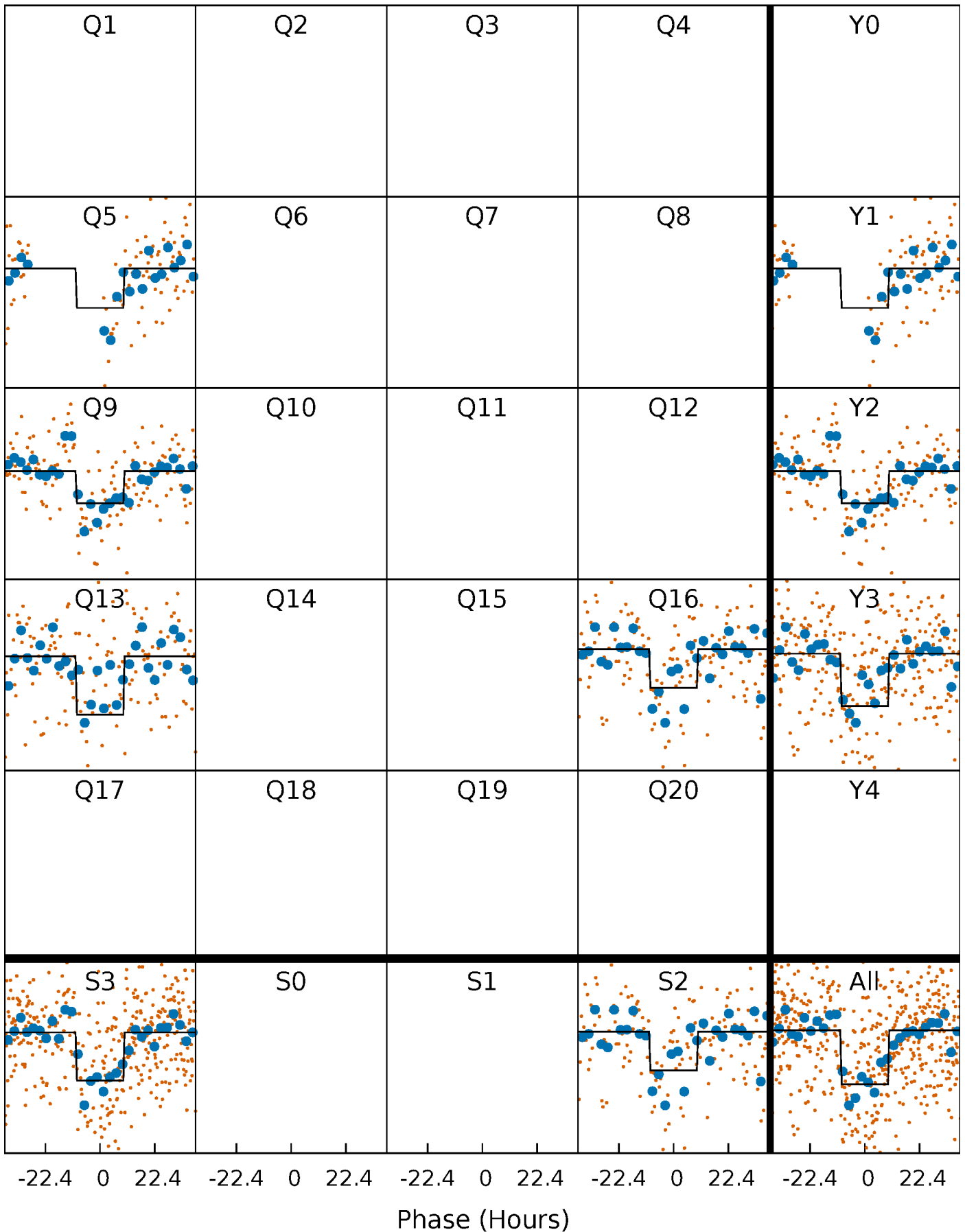
# DV Quarter-Phased Transit Curves

TCE 011773027-01 P=355.711362 Days  $T_0=476.095128$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

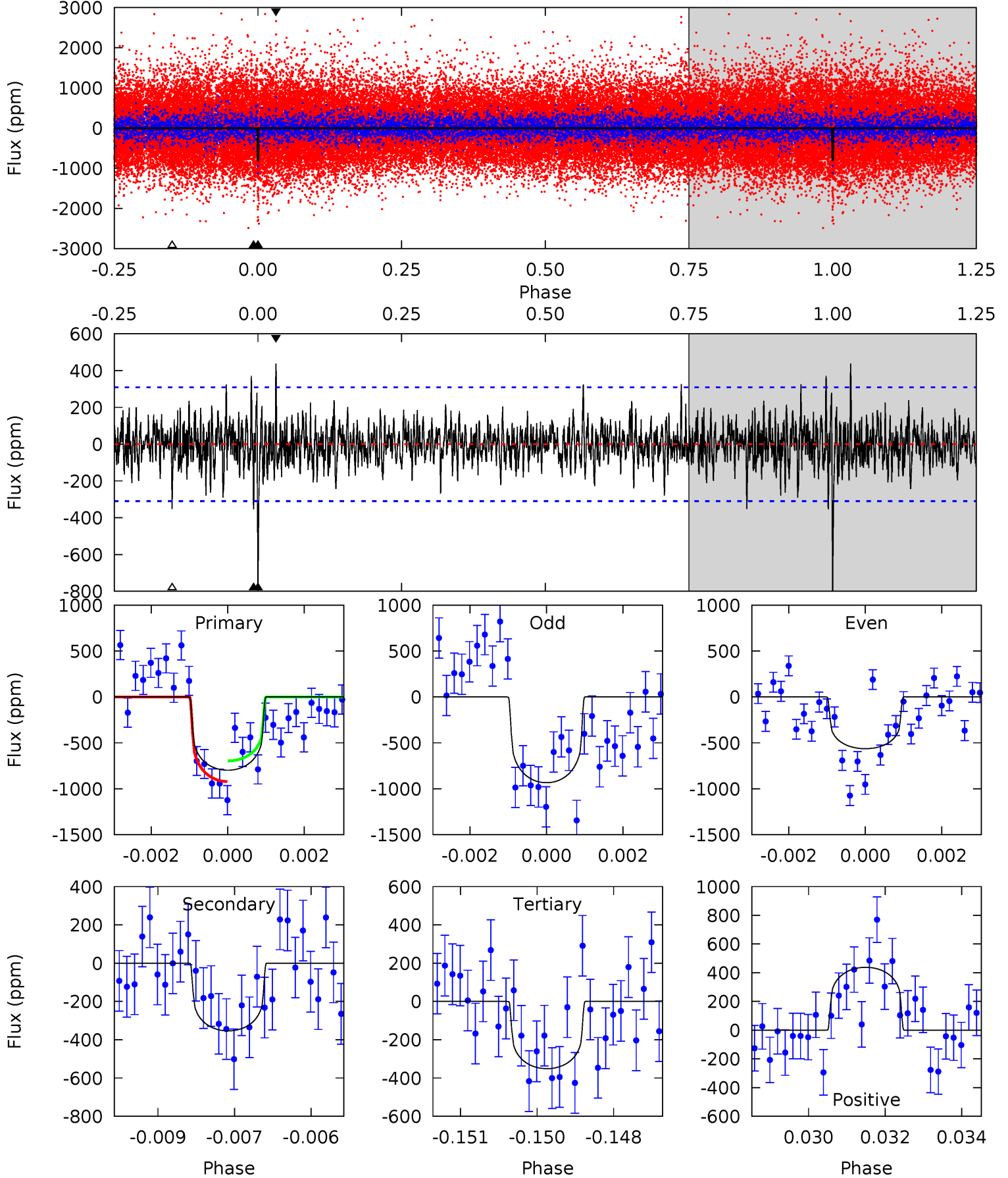
TCE 011773027-01 P=355.700601 Days  $T_0=476.224281$  (BKJD)



# DV Model-Shift Uniqueness Test

011773027-01, P = 355.711362 Days, E = 120.383766 Days

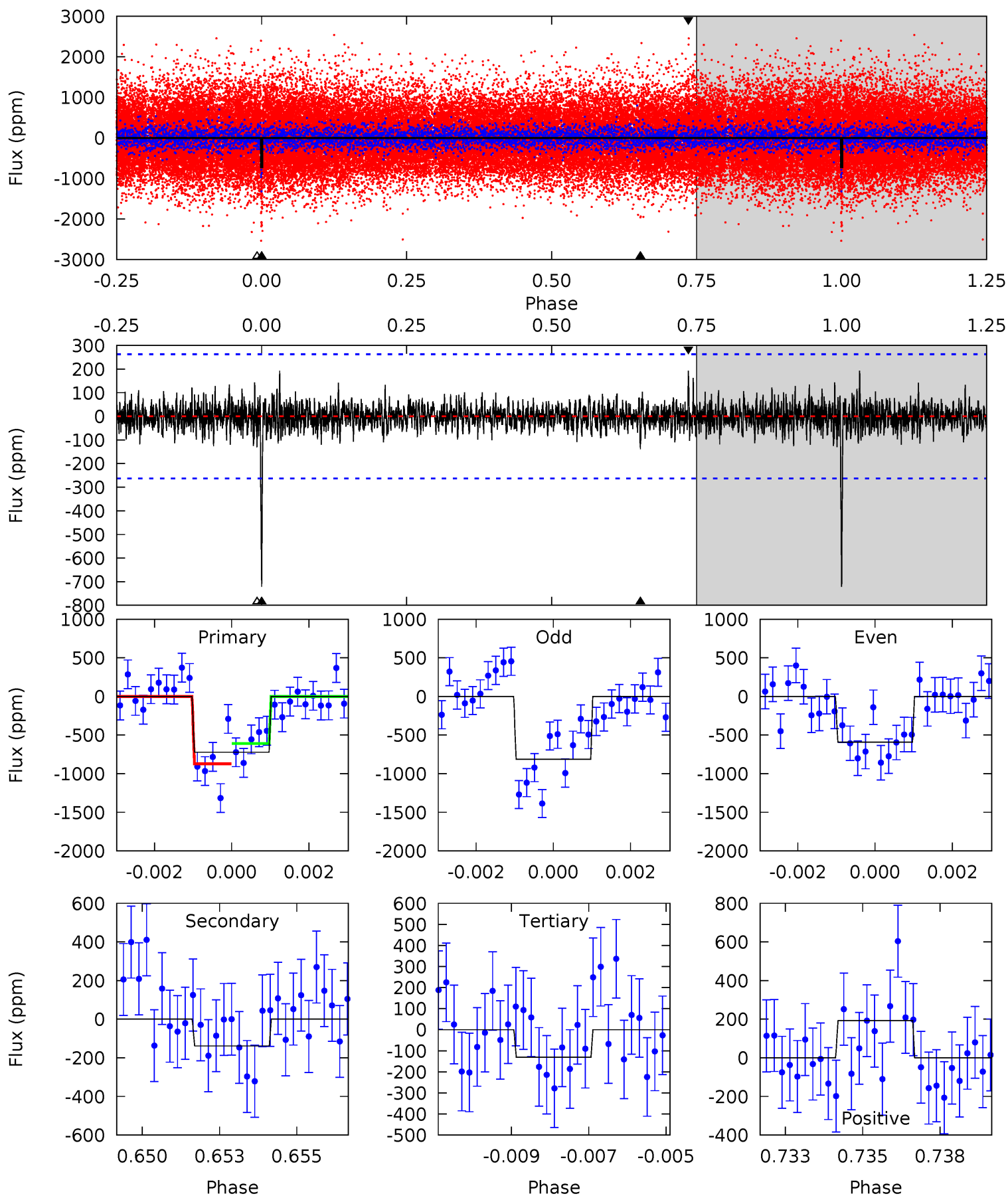
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	6.10	6.06	7.55	5.34	3.11	1.50	7.71	6.21	0.04	-1.45	3.14	0.88	0.35	1.93



# Alt Model-Shift Uniqueness Test

011773027-01, P = 355.700601 Days, E = 120.523680 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
14.6	2.79	2.64	3.90	5.30	3.05	0.78	11.9	10.7	0.15	-1.10	2.22	0.96	0.21	2.61



### Stellar Parameters For KIC 011773027

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5767^{+182}_{-202}$	$4.538^{+0.036}_{-0.192}$	$-0.060^{+0.300}_{-0.300}$	$0.881^{+0.260}_{-0.081}$	$0.979^{+0.114}_{-0.114}$	$2.017^{+0.394}_{-1.027}$
	+3%/-4%	+1%/-4%	+500%/-500%	+30%/-9%	+12%/-12%	+20%/-51%
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 011773027-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-354 \pm 58$	$2.92^{+1.38}_{-1.37}$	$346^{+24}_{-17}$	$4741^{+1633}_{-649}$	$21225^{+55277}_{-11766}$
Alt.	$-138 \pm 50$	$2.78^{+1.45}_{-1.31}$	$345^{+24}_{-17}$	$4050^{+1221}_{-572}$	$9048^{+24819}_{-5508}$

$T_{\text{max}}$  = 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

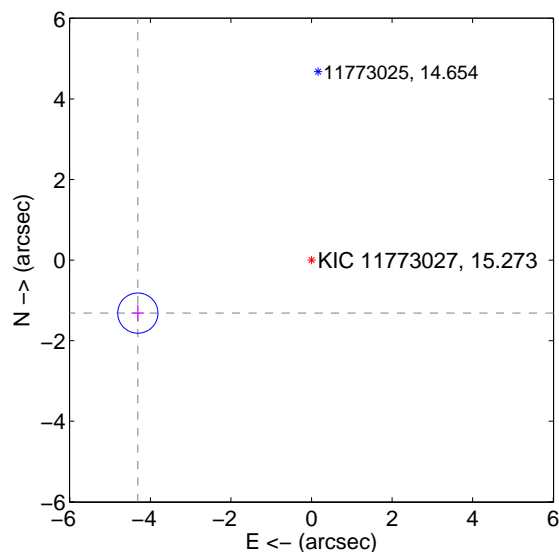
Supplemental centroid analysis for 011773027-01. Kepler magnitude: 15.27. Transit SNR 7.75

There are 1 quarters with good PRF difference image offsets

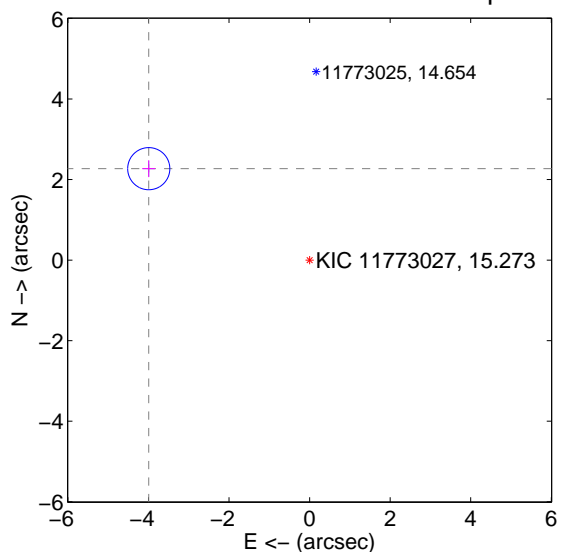
The OOT PRF centroid is offset from the target star catalog position by about 3.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.508 \pm 0.166$	27.10	$4.311 \pm 0.162$	$-1.316 \pm 0.208$
PRF-fit source offset from KIC position	$4.593 \pm 0.174$	26.34	$3.993 \pm 0.162$	$2.270 \pm 0.208$
photometric centroid source offset	$2.42 \pm 0.54$	4.49	$0.08 \pm 0.49$	$2.42 \pm 0.54$

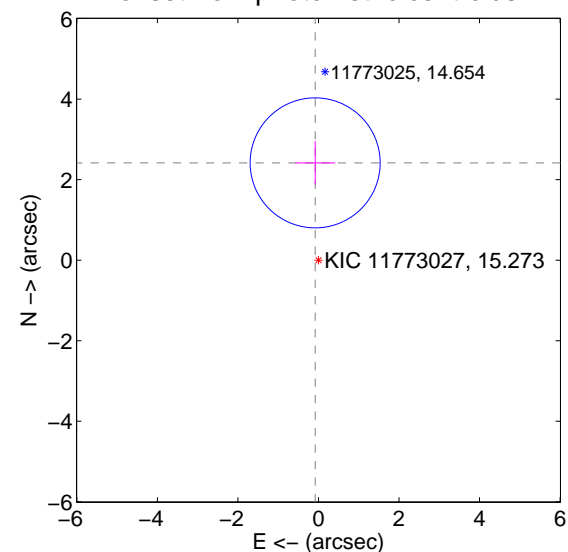
offset from difference PRF-fit to OOT PRF-fit



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.

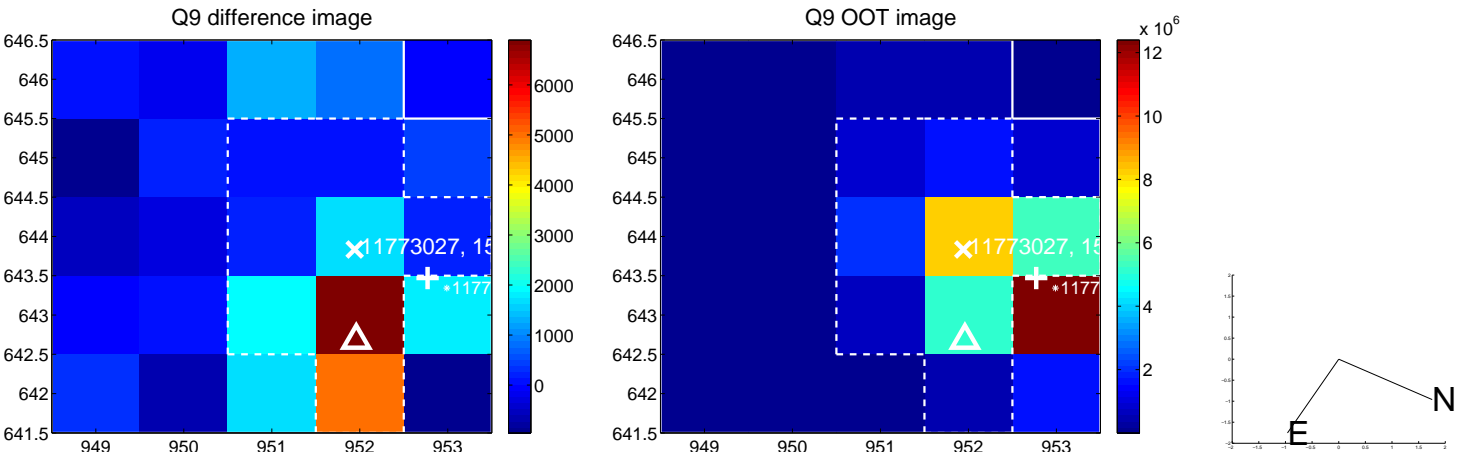




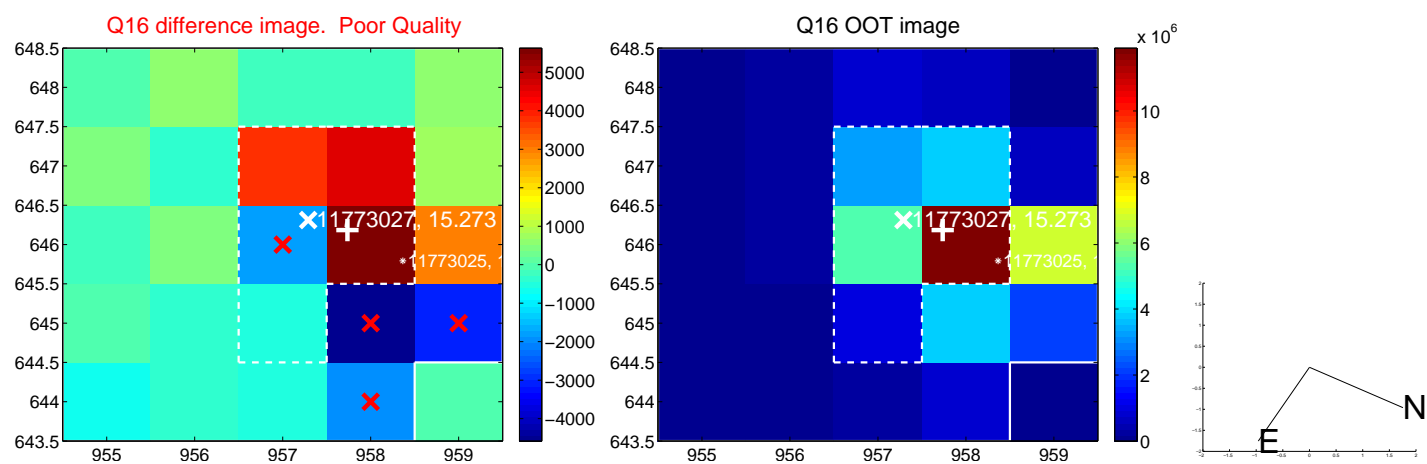
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



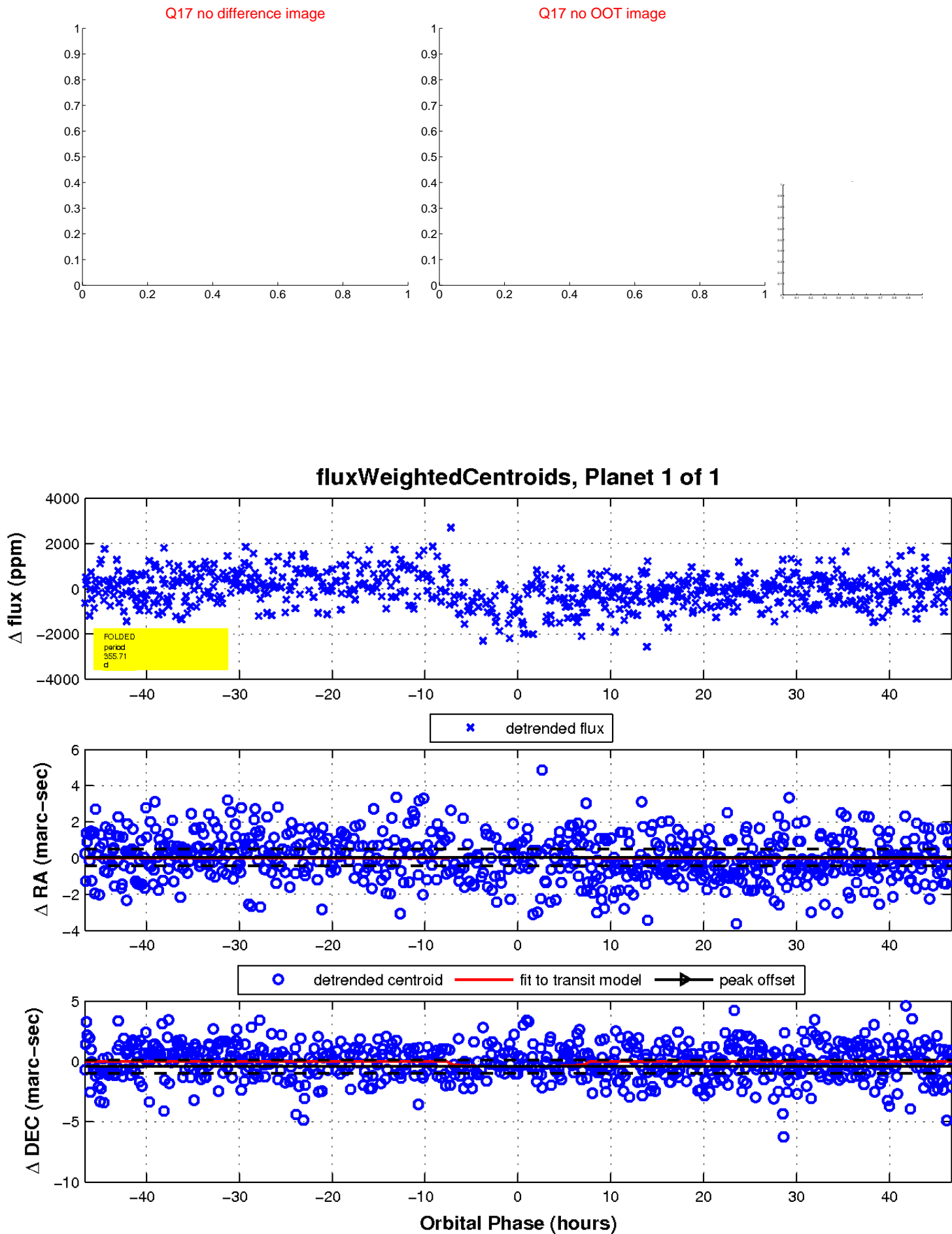
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

