

# KIC 008584610

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008584610-01	OBS	No	675.215132	159.159067	110.5	6.577	10.1	7.9	1.12	5885	1.36	0.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008584610-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_SATURATED

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

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

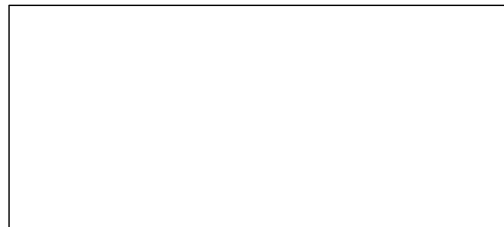
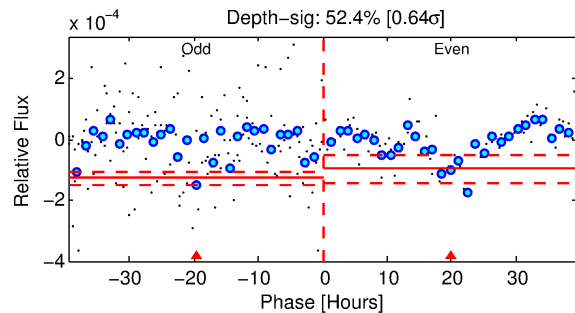
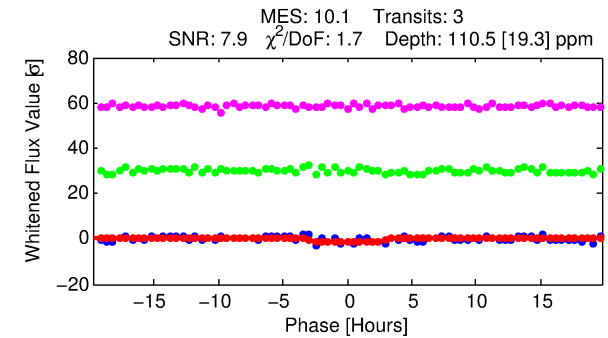
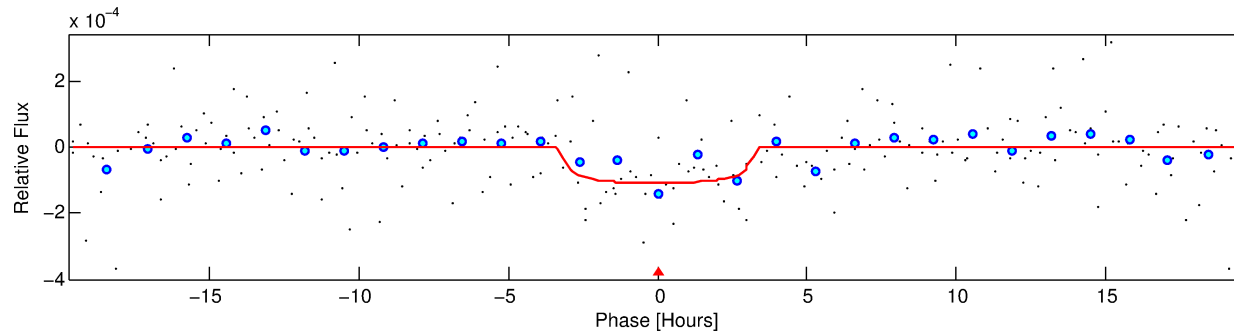
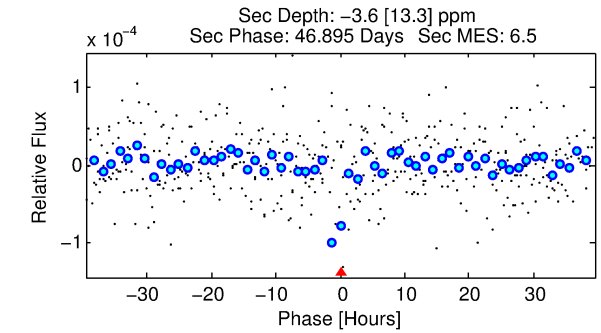
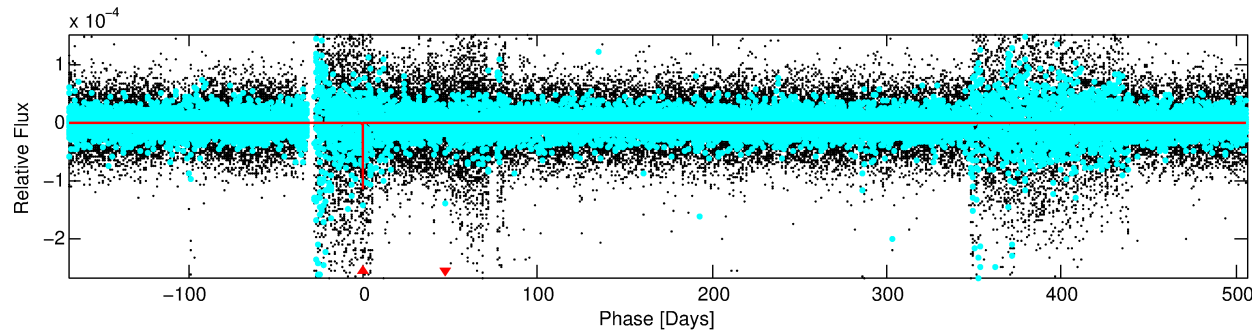
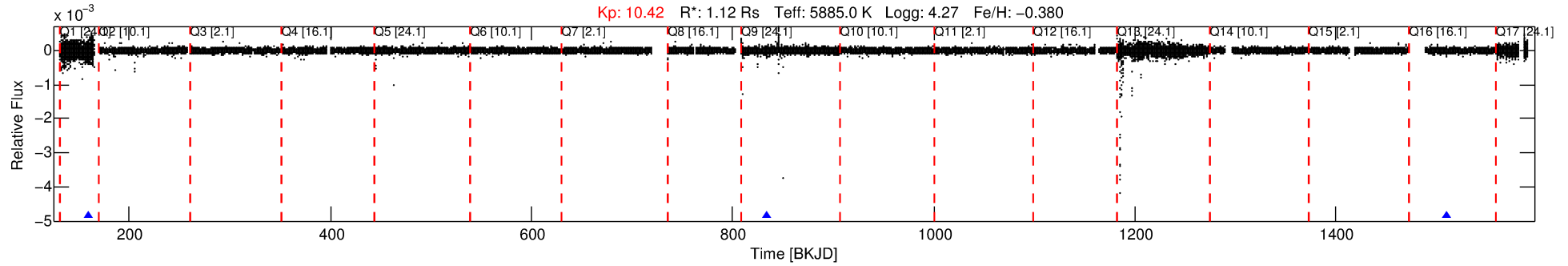
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008584610-01

No Significant Match Found

# DV One-Page Summary

KIC: 8584610 Candidate: 1 of 1 Period: 675.215 d



## DV Fit Results:

Period = 675.21513 [0.01272] d  
Epoch = 159.1591 [0.0225] BKJD  
Rp/R\* = 0.0111 [0.0050]  
a/R\* = 408.72 [913.08]  
b = 0.87 [0.65]  
Seff = 0.66 [0.24]  
Teq = 230 [21] K  
Rp = 1.36 [0.68] Re  
a = 1.4349 [0.3119] AU  
Ag = N/A  
Teffp = N/A

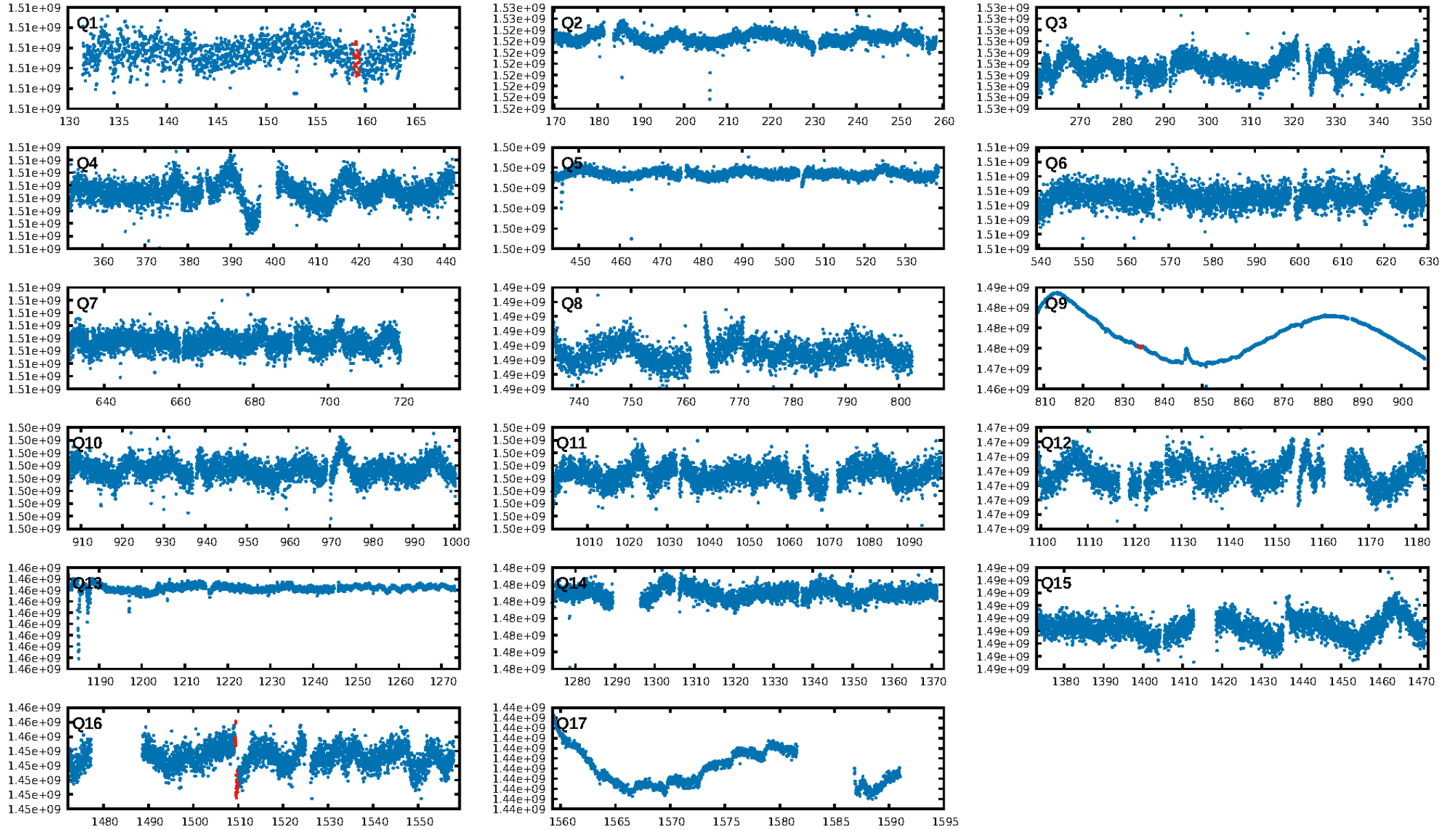
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.5%  
ModelChiSquareGof-sig: 27.4%  
**Bootstrap-pfa: 8.63e-07**  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: -0.5968  
**Centroid-sig: 0.0%**  
Centroid-so: 6.608 arcsec [2.41σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

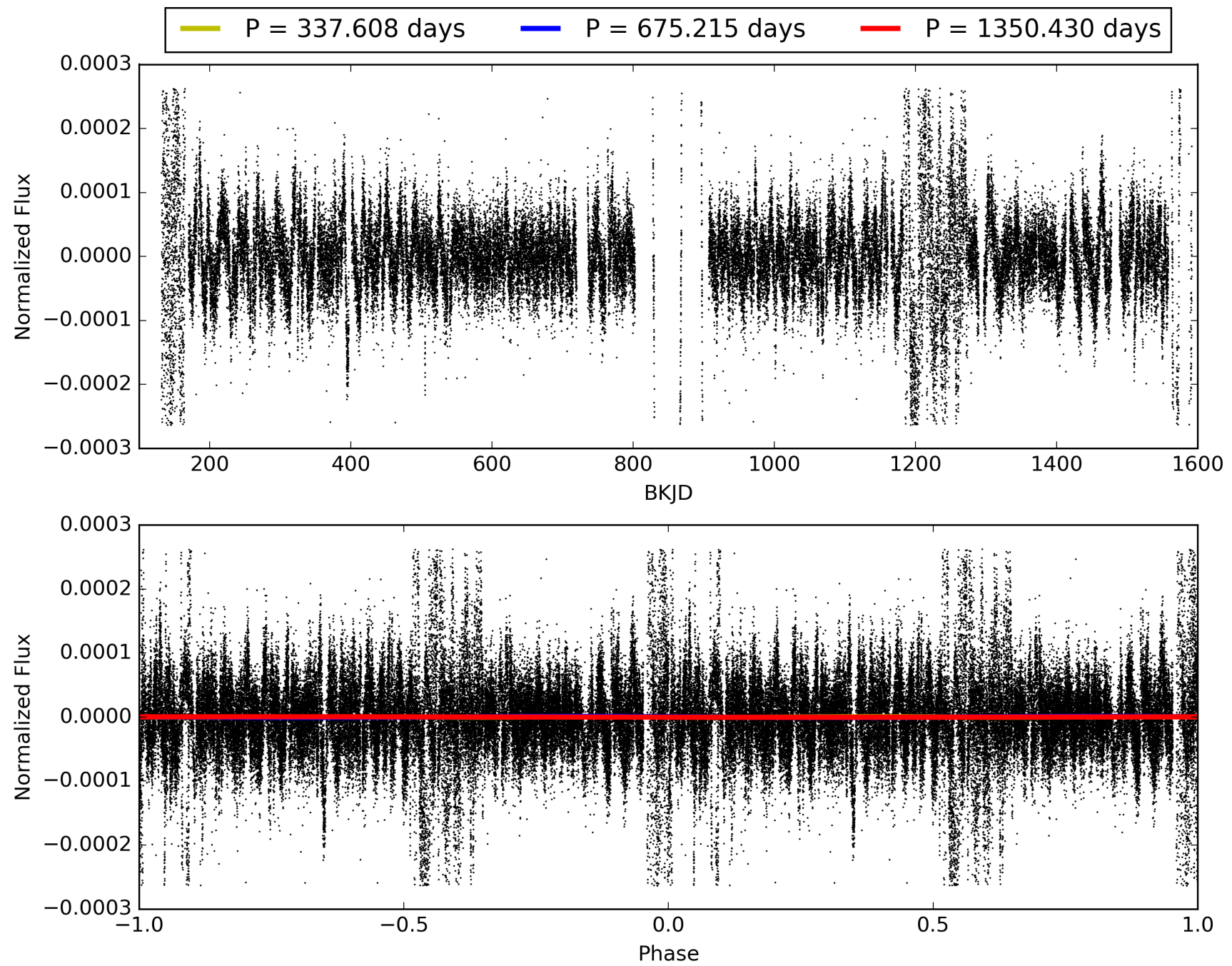
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:14:00 Z

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

# TCE 008584610-01, PDC Light Curves

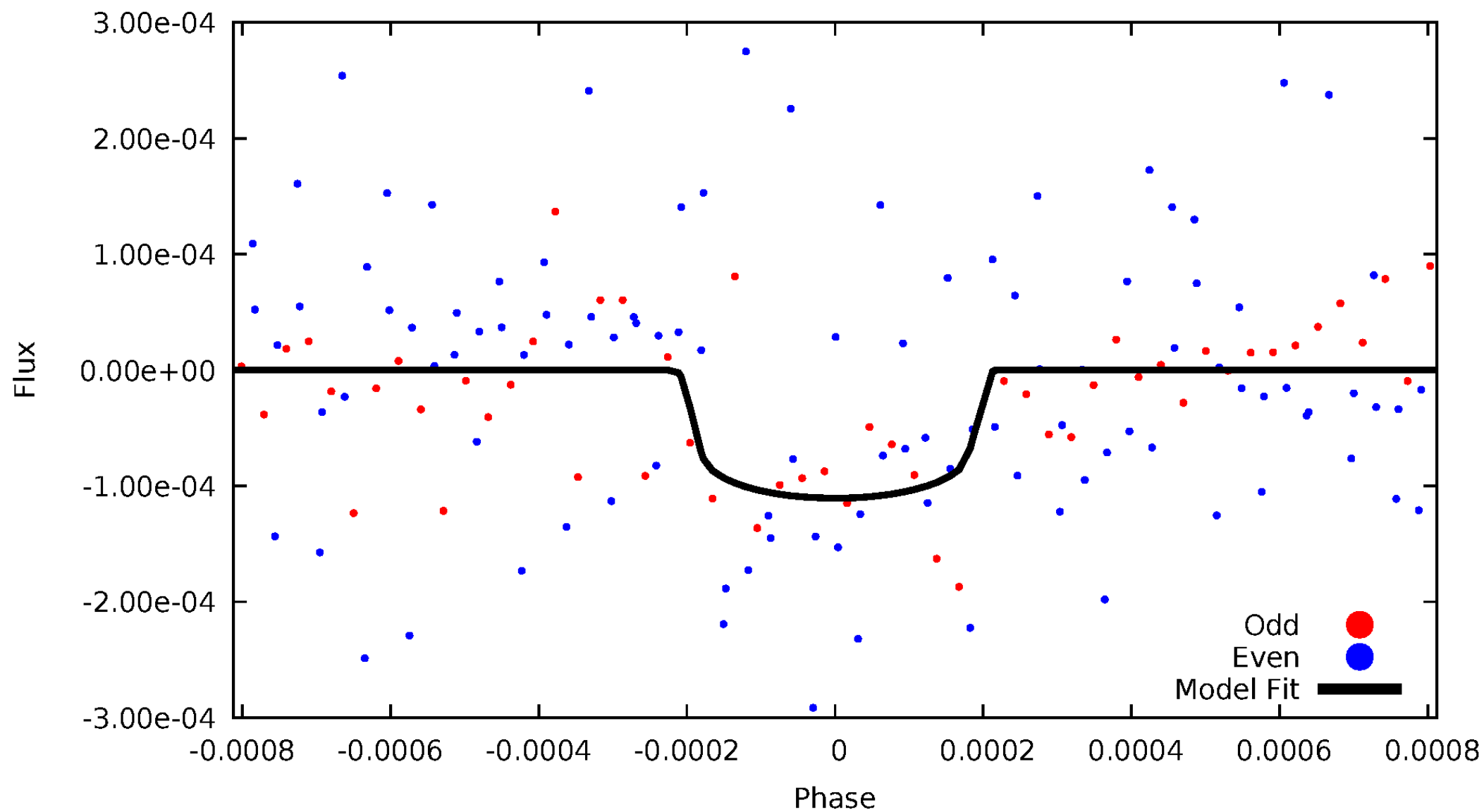


TCE 008584610-01



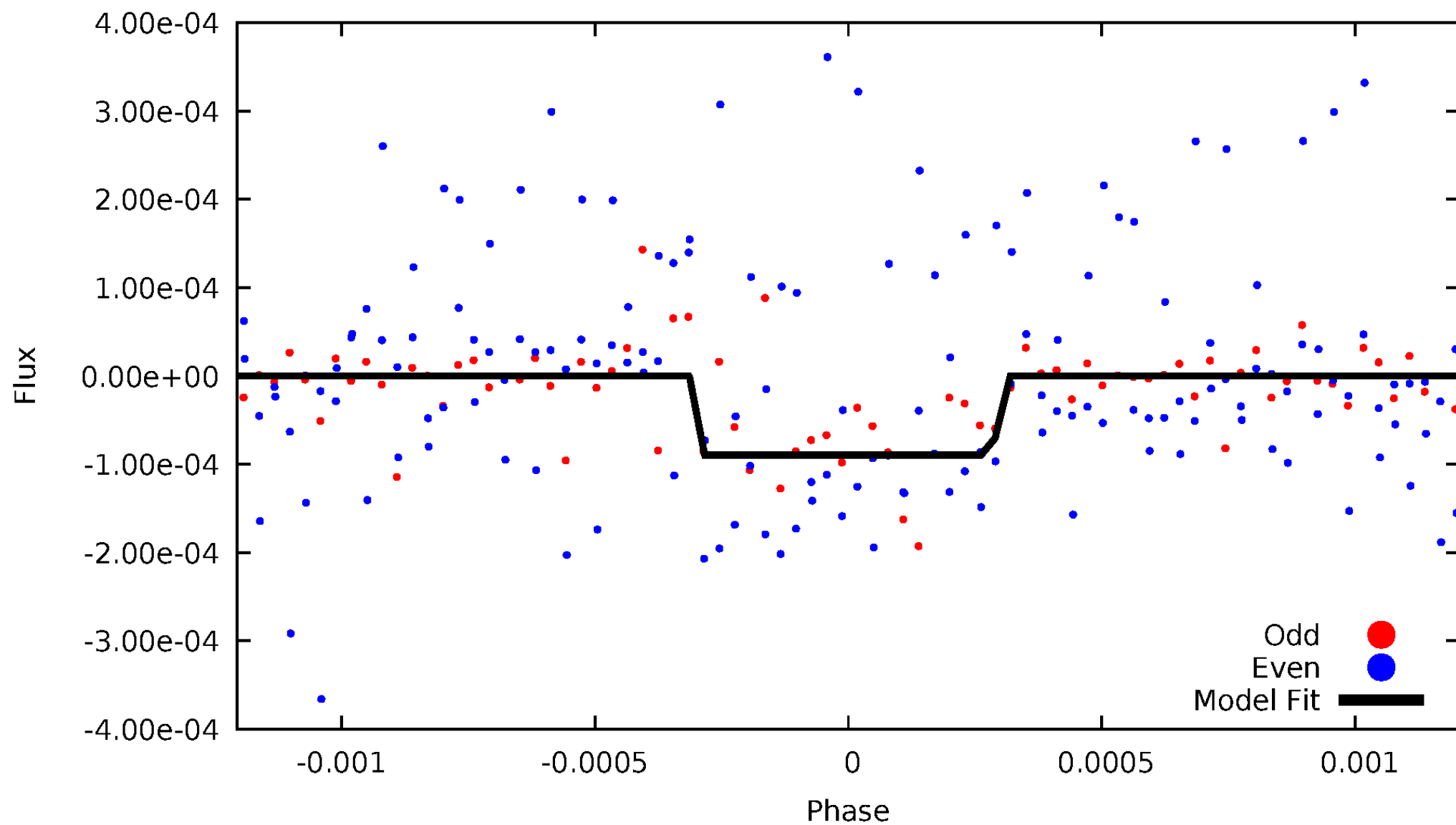
# DV Odd/Even

TCE 008584610-01



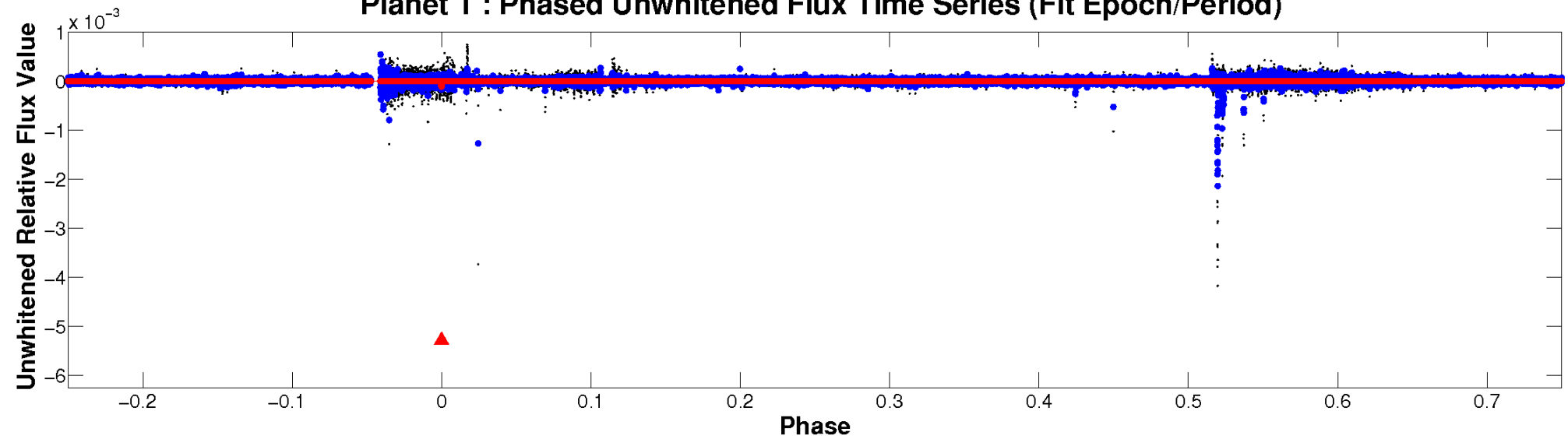
# ALT Odd/Even

TCE 008584610-01

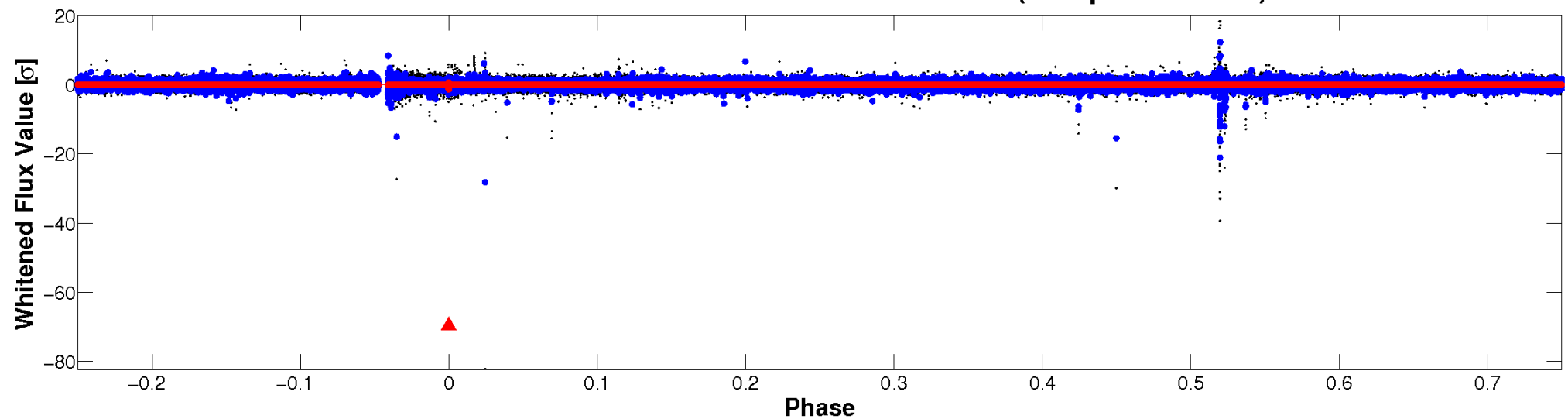


# Non-Whitened Vs. Whitened Light Curve

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

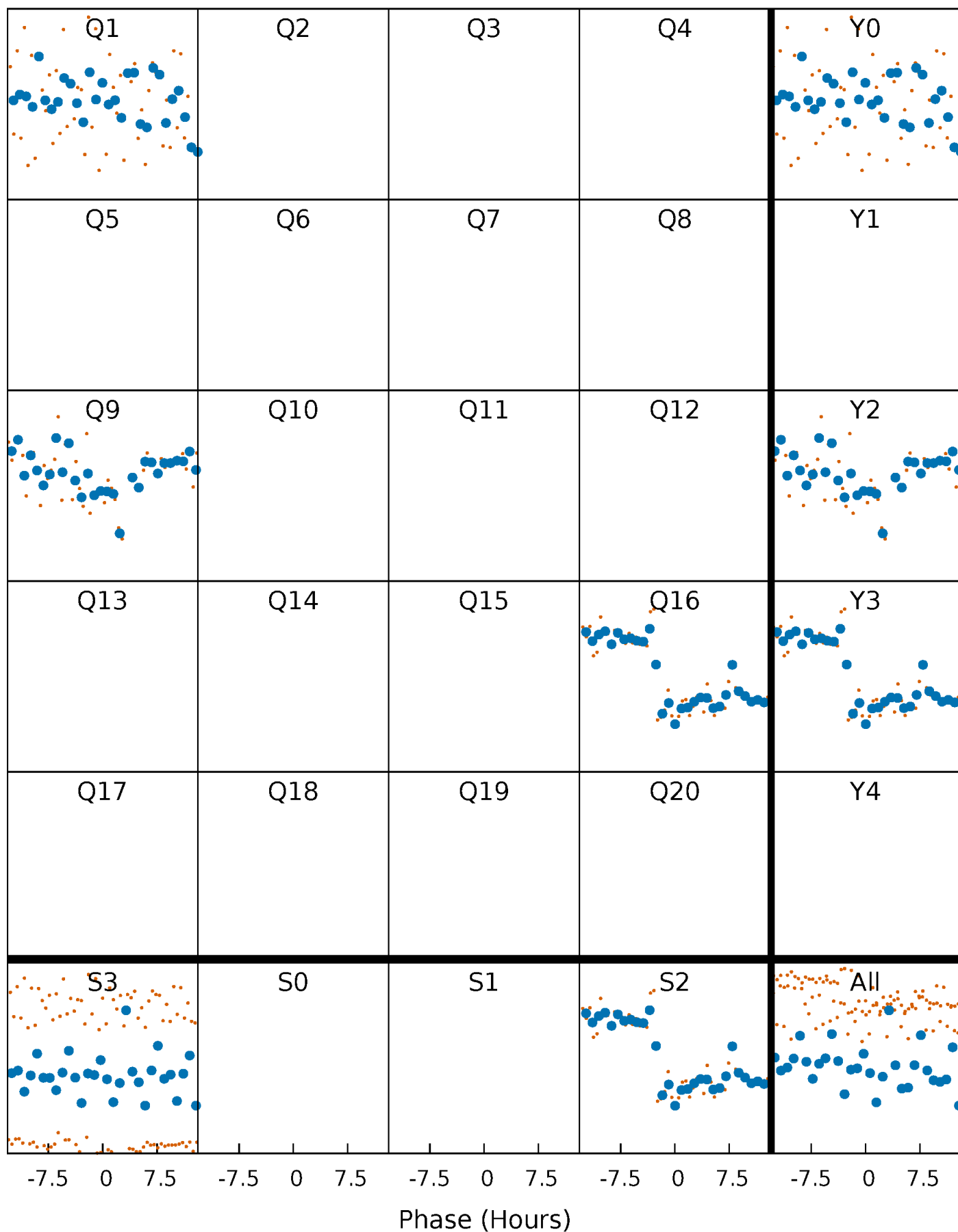


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

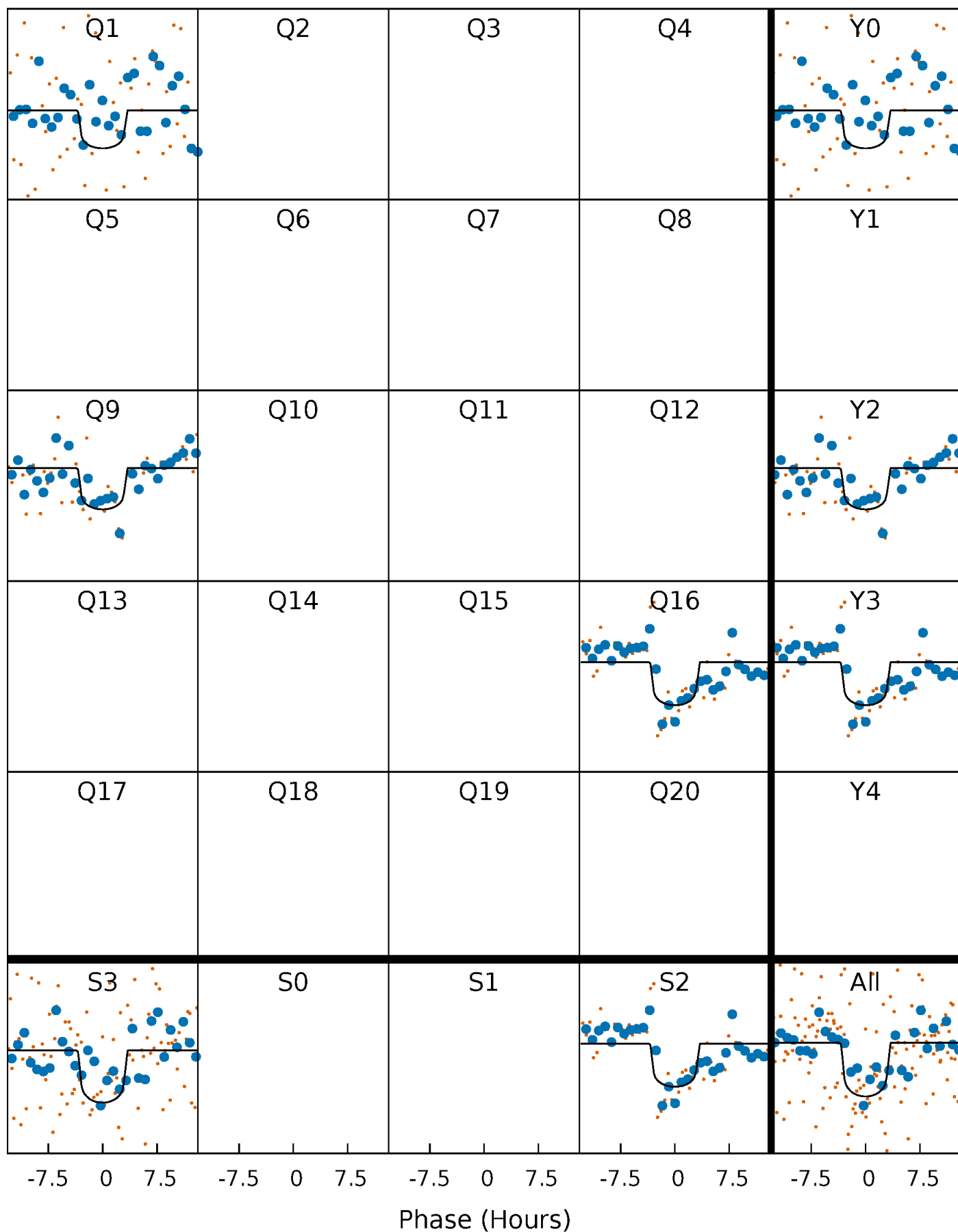
TCE 008584610-01 P=675.215132 Days  $T_0=159.159067$  (BKJD)





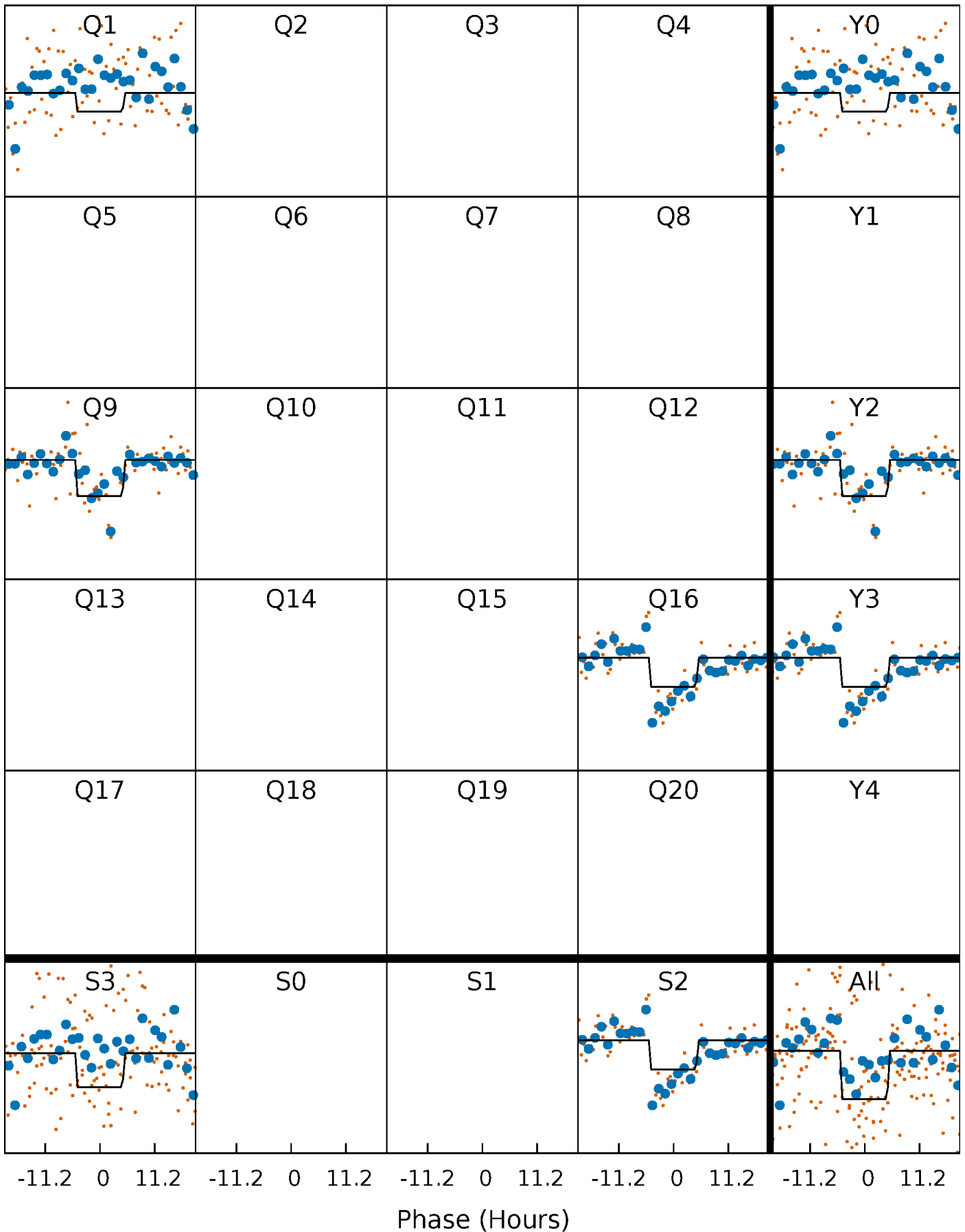
# DV Quarter-Phased Transit Curves

TCE 008584610-01 P=675.215132 Days  $T_0=159.159067$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

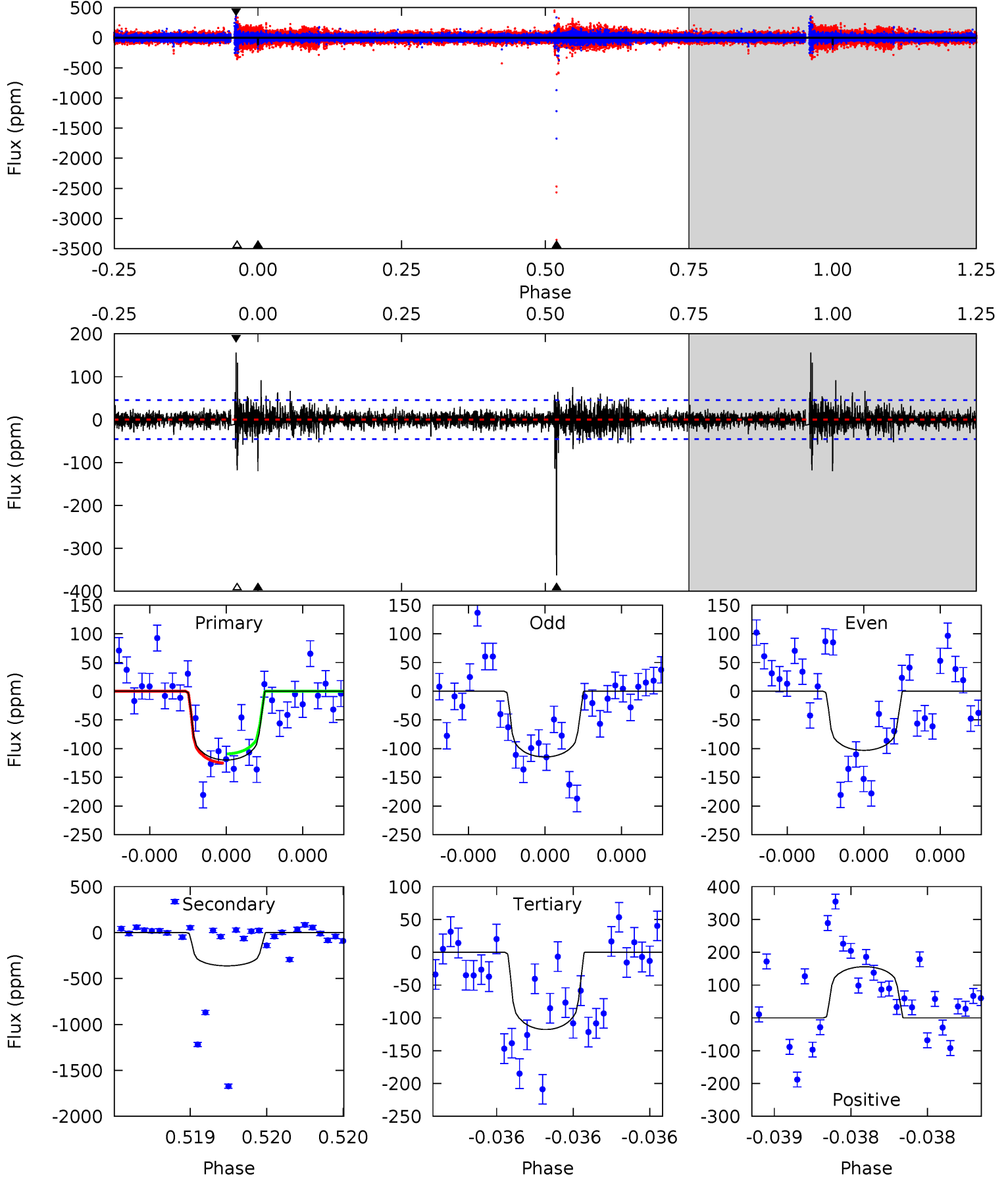
TCE 008584610-01 P=675.288291 Days  $T_0=159.105463$  (BKJD)



# DV Model-Shift Uniqueness Test

008584610-01, P = 675.215132 Days, E = 159.159067 Days

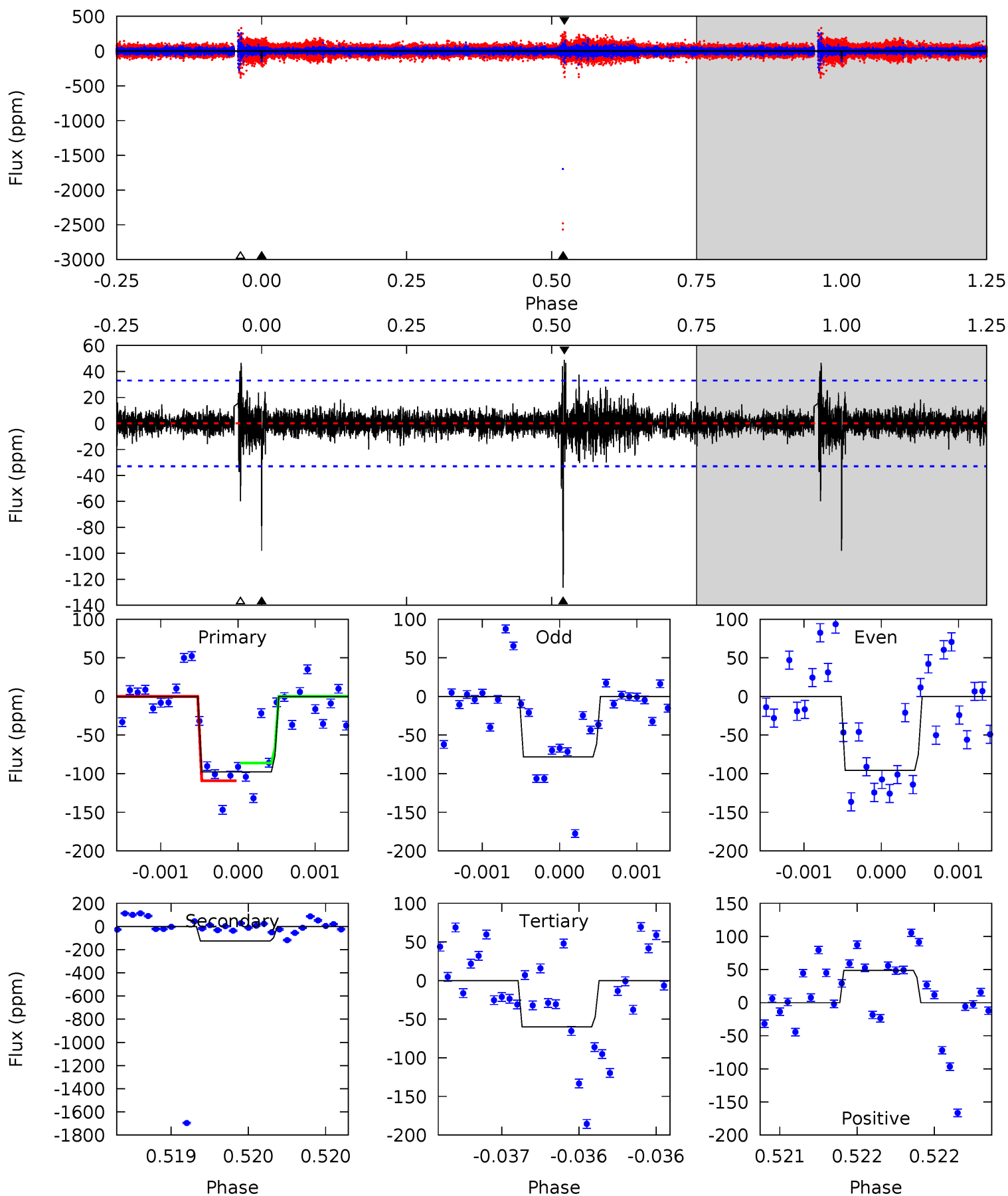
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	44.6	14.5	19.2	5.60	3.52	1.72	0.26	-4.42	30.1	25.4	0.67	0.79	0.30	0.95



# Alt Model-Shift Uniqueness Test

008584610-01, P = 675.288291 Days, E = 159.105463 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
16.4	21.2	10.1	8.18	5.54	3.43	1.10	6.36	8.24	11.1	13.0	1.31	0.65	0.28	1.93



### Stellar Parameters For KIC 008584610

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5885^{+146}_{-146}$	$4.273^{+0.214}_{-0.132}$	$-0.380^{+0.300}_{-0.250}$	$1.124^{+0.240}_{-0.240}$	$0.864^{+0.119}_{-0.069}$	$0.856^{+0.867}_{-0.318}$
	+2%/-2%	+5%/-3%	+79%/-66%	+21%/-21%	+14%/-8%	+101%/-37%
Source	PHO1	FLK73	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 008584610-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-362 \pm 8$	$1.36^{+0.66}_{-0.65}$	$318^{+21}_{-20}$	$7817^{+4477}_{-1444}$	$225973^{+601991}_{-122799}$
Alt.	$-126 \pm 6$	$1.17^{+0.62}_{-0.57}$	$318^{+22}_{-21}$	$6298^{+3238}_{-1127}$	$105988^{+312153}_{-60340}$

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

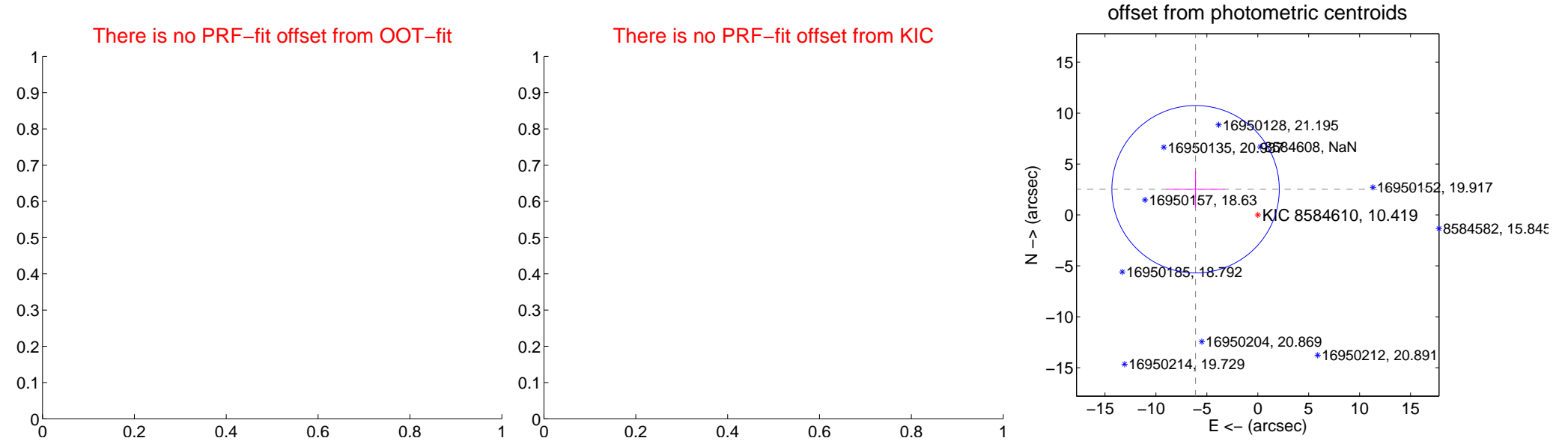
## DV Centroid Data

Supplemental centroid analysis for 008584610-01. **Kepler magnitude: 10.42.** Transit SNR 7.86

**There are 0 quarters with good PRF difference image offsets**

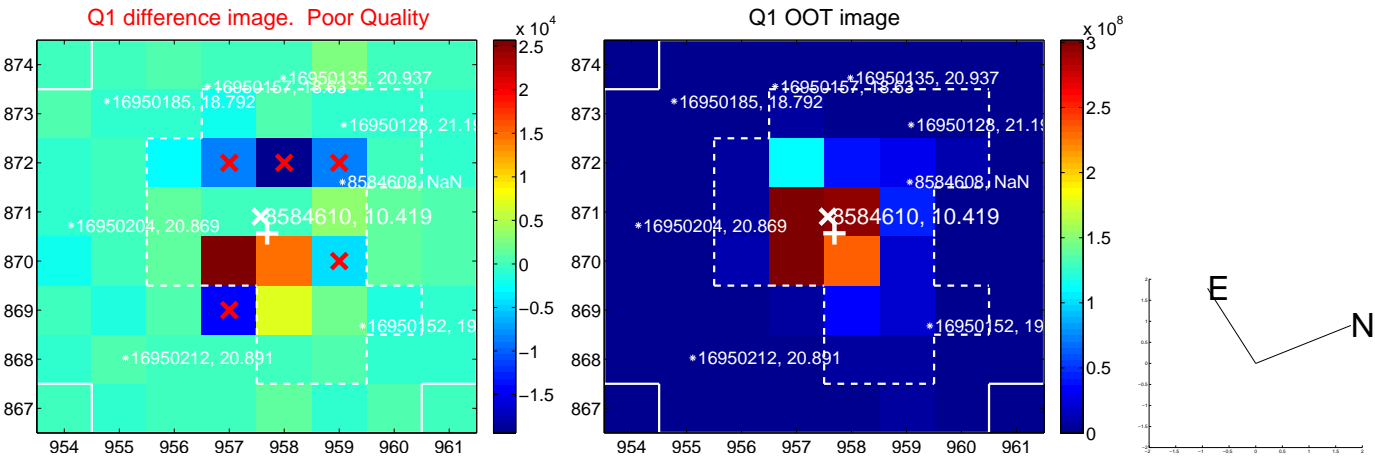
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$6.61 \pm 2.74$	2.41	$6.11 \pm 2.87$	$2.53 \pm 1.77$



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.

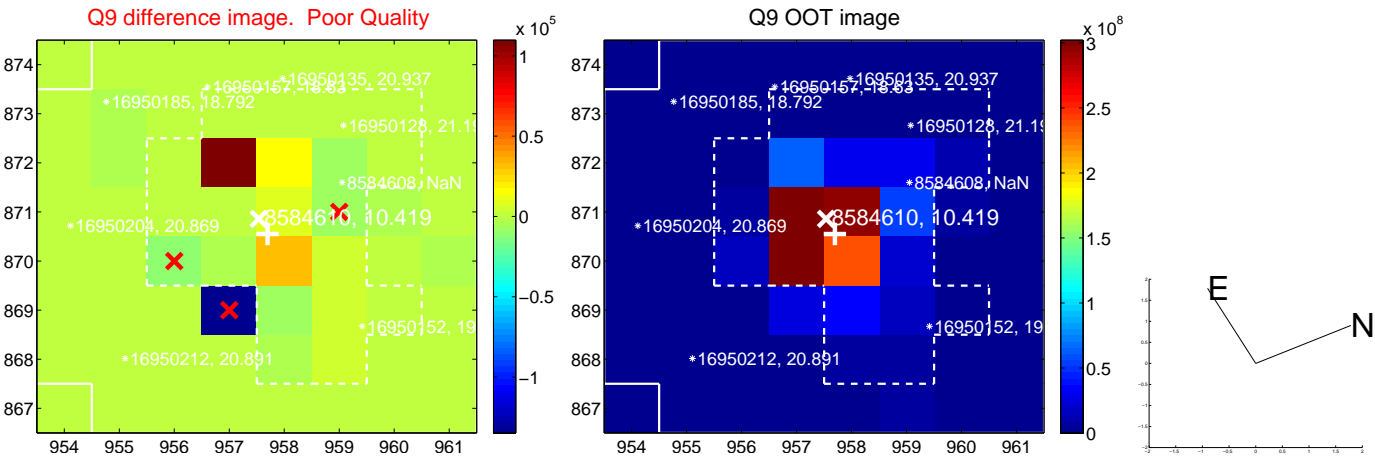


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





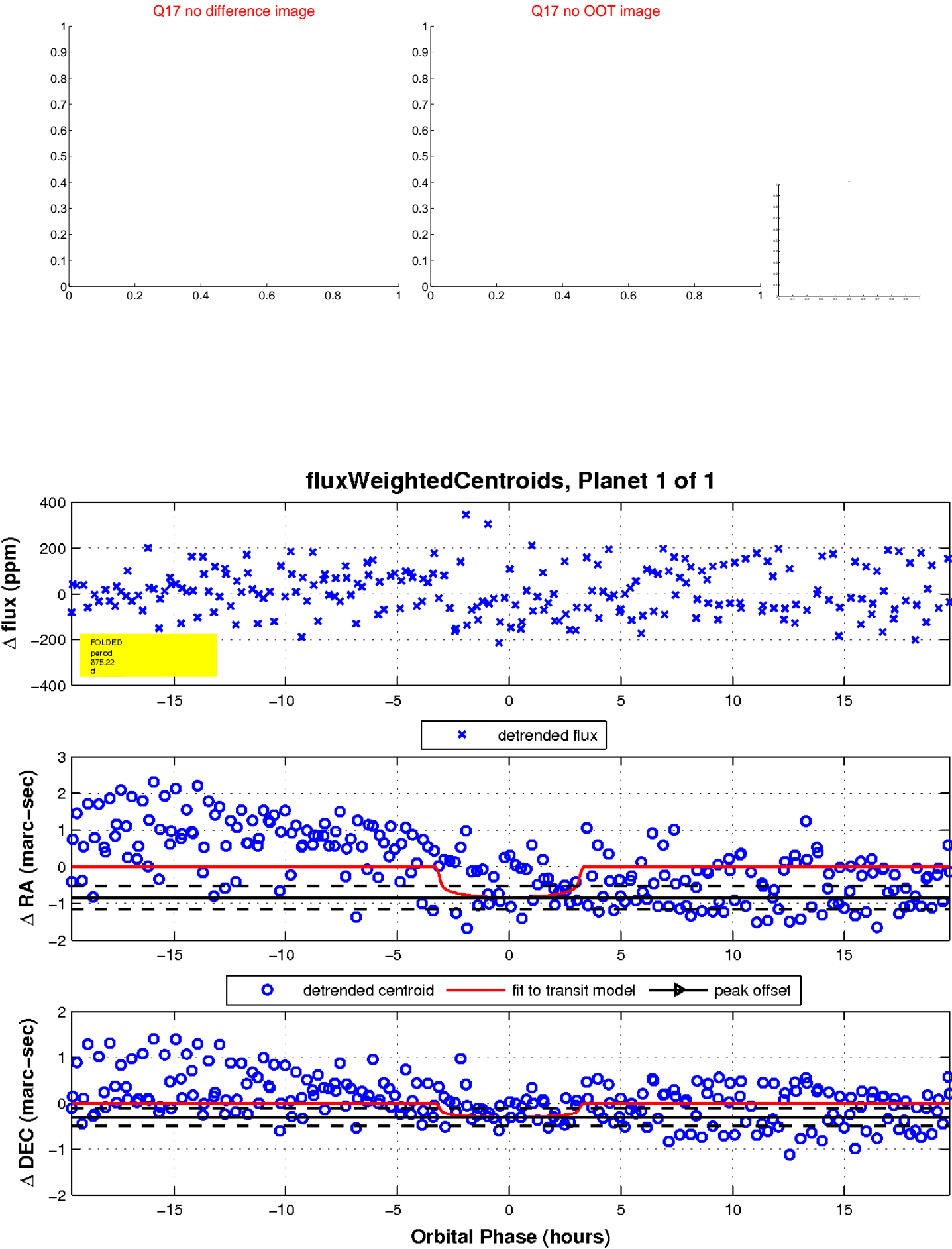
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

