

# KIC 011362423

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011362423-01	OBS	No	277.278020	172.430447	200.6	14.330	8.3	8.4	1.67	6088	2.58	4.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011362423-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

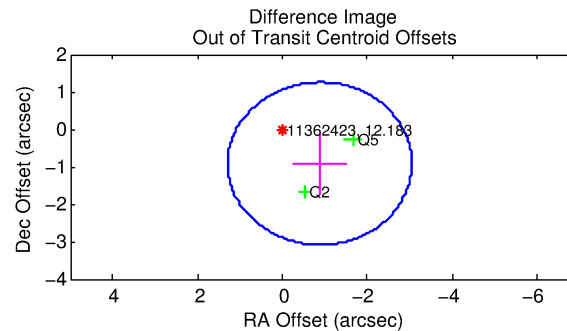
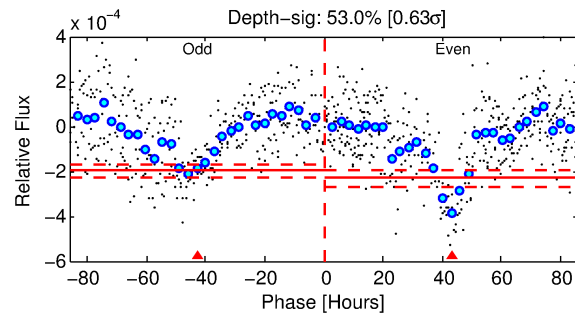
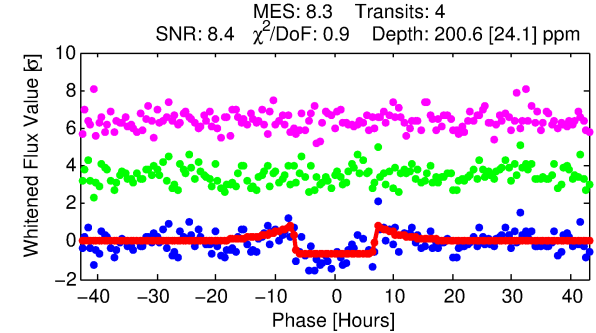
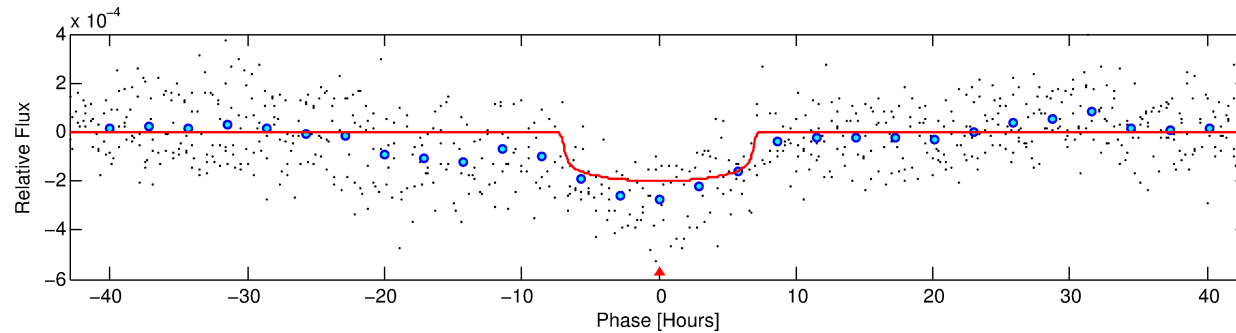
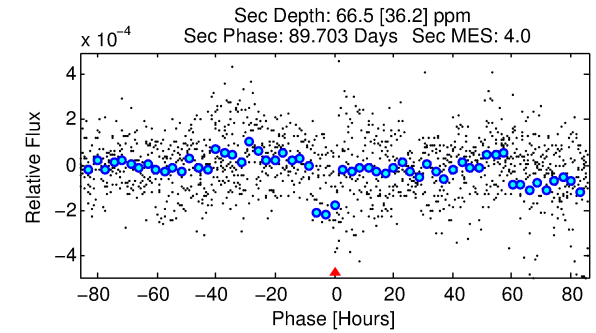
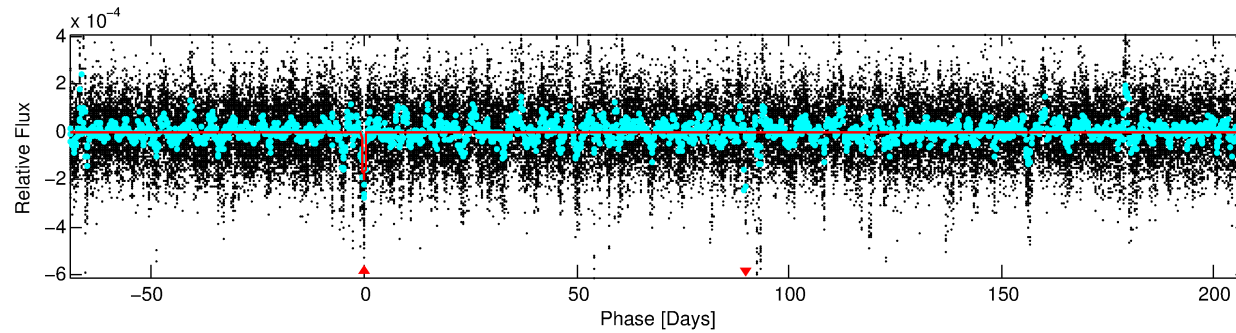
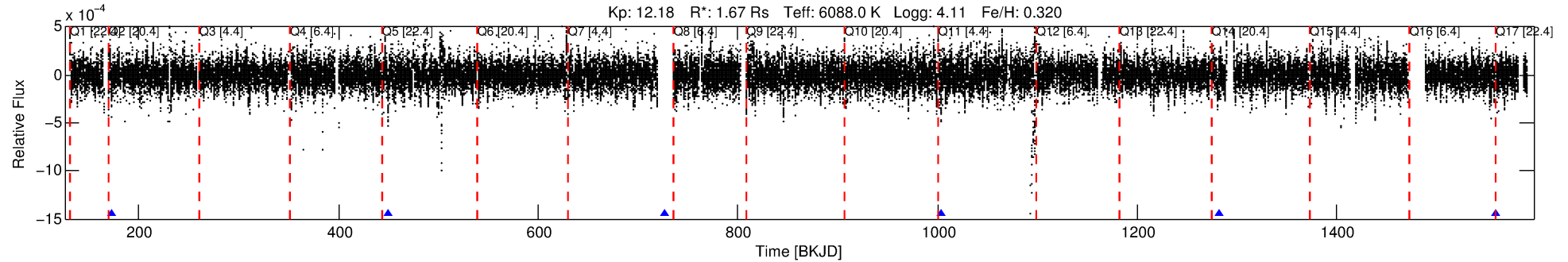
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011362423-01

No Significant Match Found

# DV One-Page Summary

KIC: 11362423 Candidate: 1 of 1 Period: 277.278 d



## DV Fit Results:

Period = 277.27802 [0.00417] d  
Epoch = 172.4304 [0.0111] BKJD  
Rp/R\* = 0.0141 [0.0025]  
a/R\* = 100.07 [73.27]  
b = 0.76 [0.42]  
Seff = 4.12 [1.57]  
Teq = 363 [35] K  
Rp = 2.58 [0.80] Re  
a = 0.9141 [0.2116] AU  
Ag = 4600.95 [3398.31] [1.35σ]  
Teffp = 4627 [763] K [5.58σ]

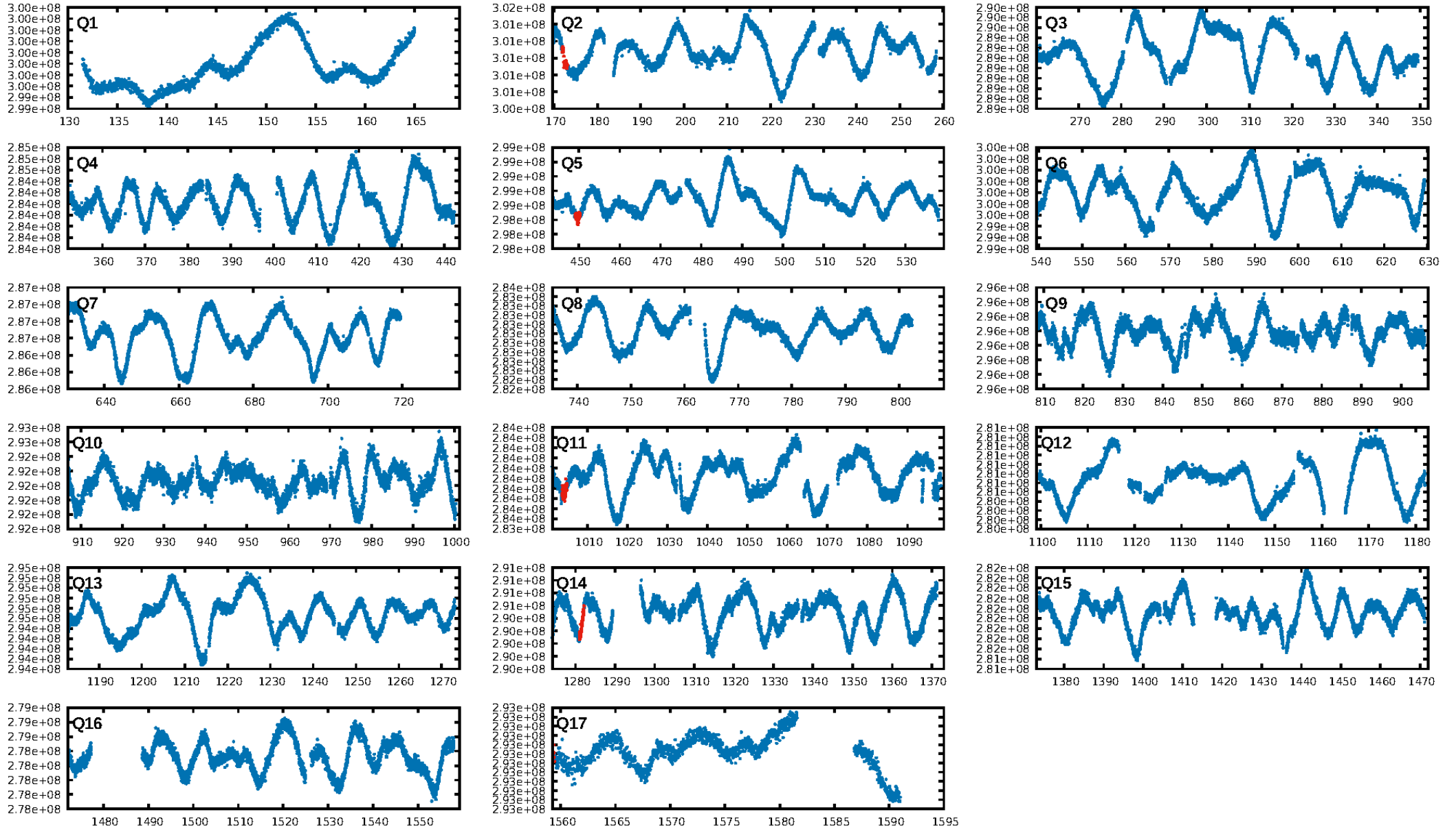
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 61.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.57e-08**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -22.03  
Centroid-sig: 78.1%  
Centroid-so: 0.598 arcsec [0.54σ]  
OotOffset-rm: 1.275 arcsec [1.76σ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-rm: 1.278 arcsec [1.71σ]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

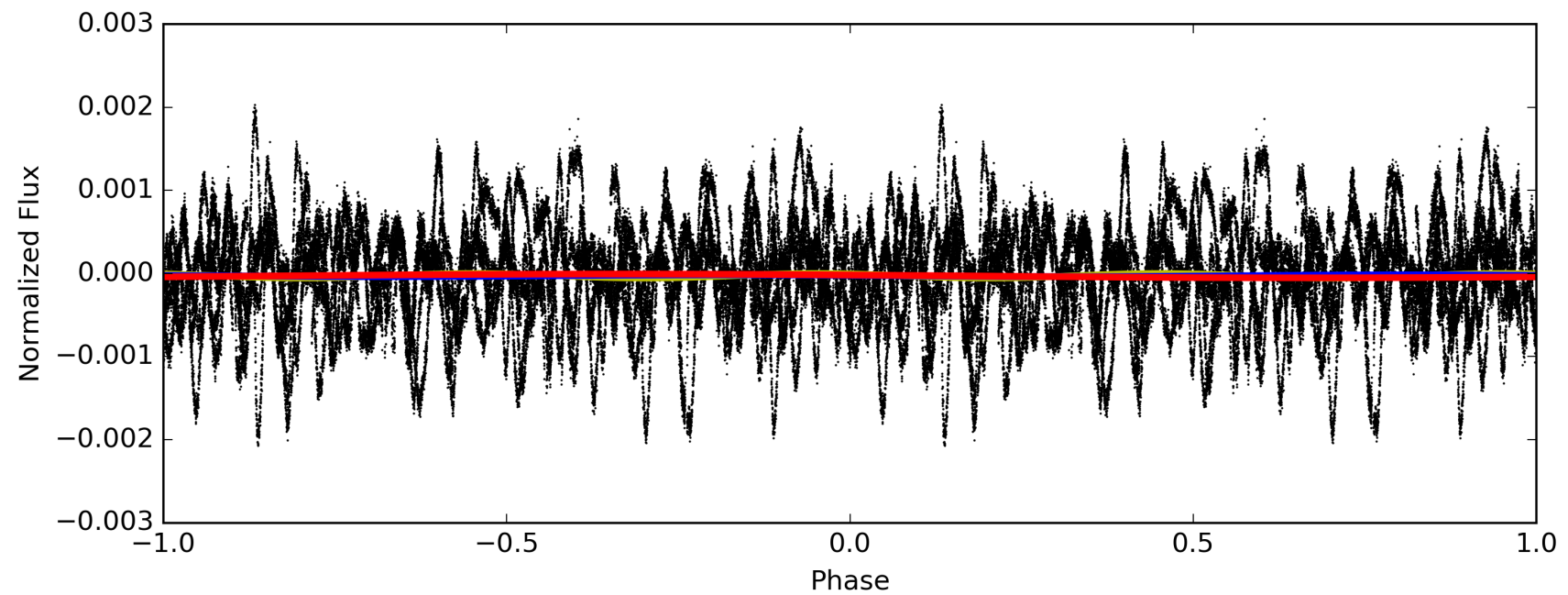
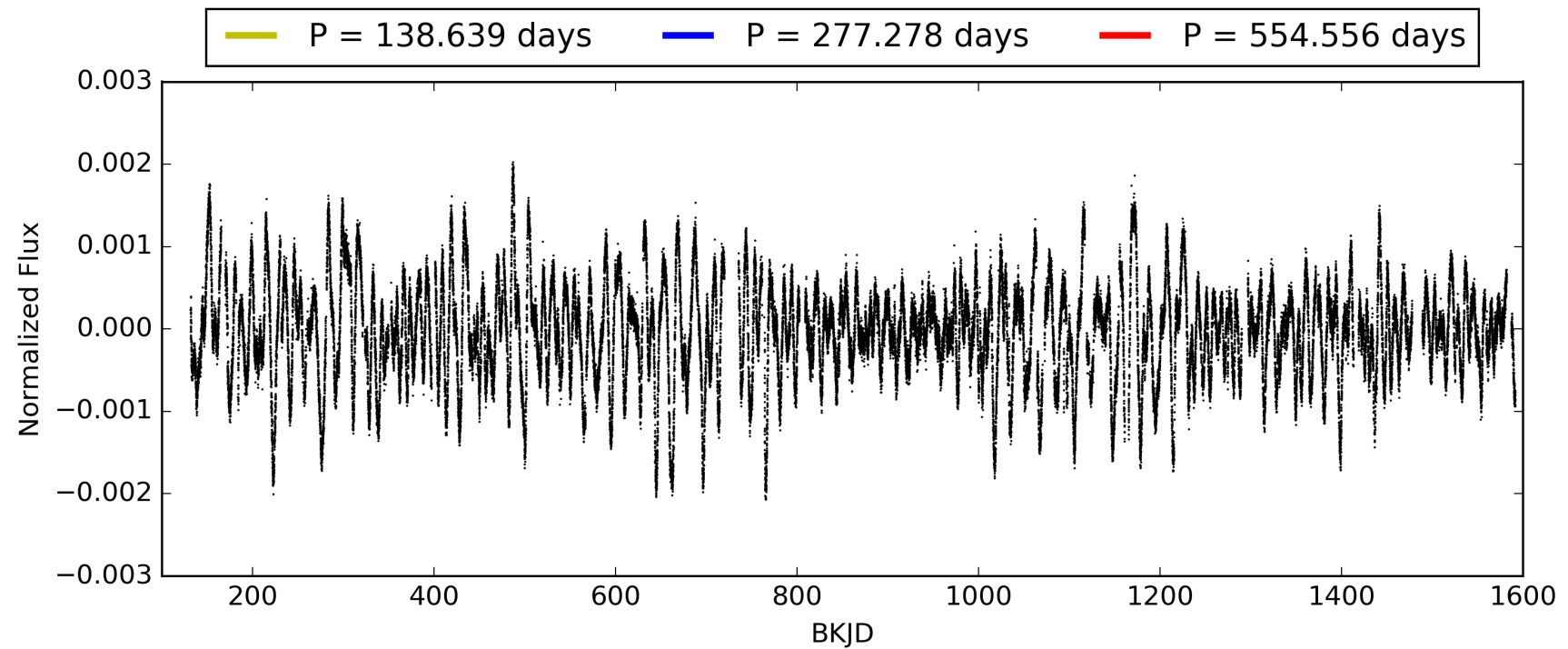
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:31:12 Z

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

# TCE 011362423-01, PDC Light Curves

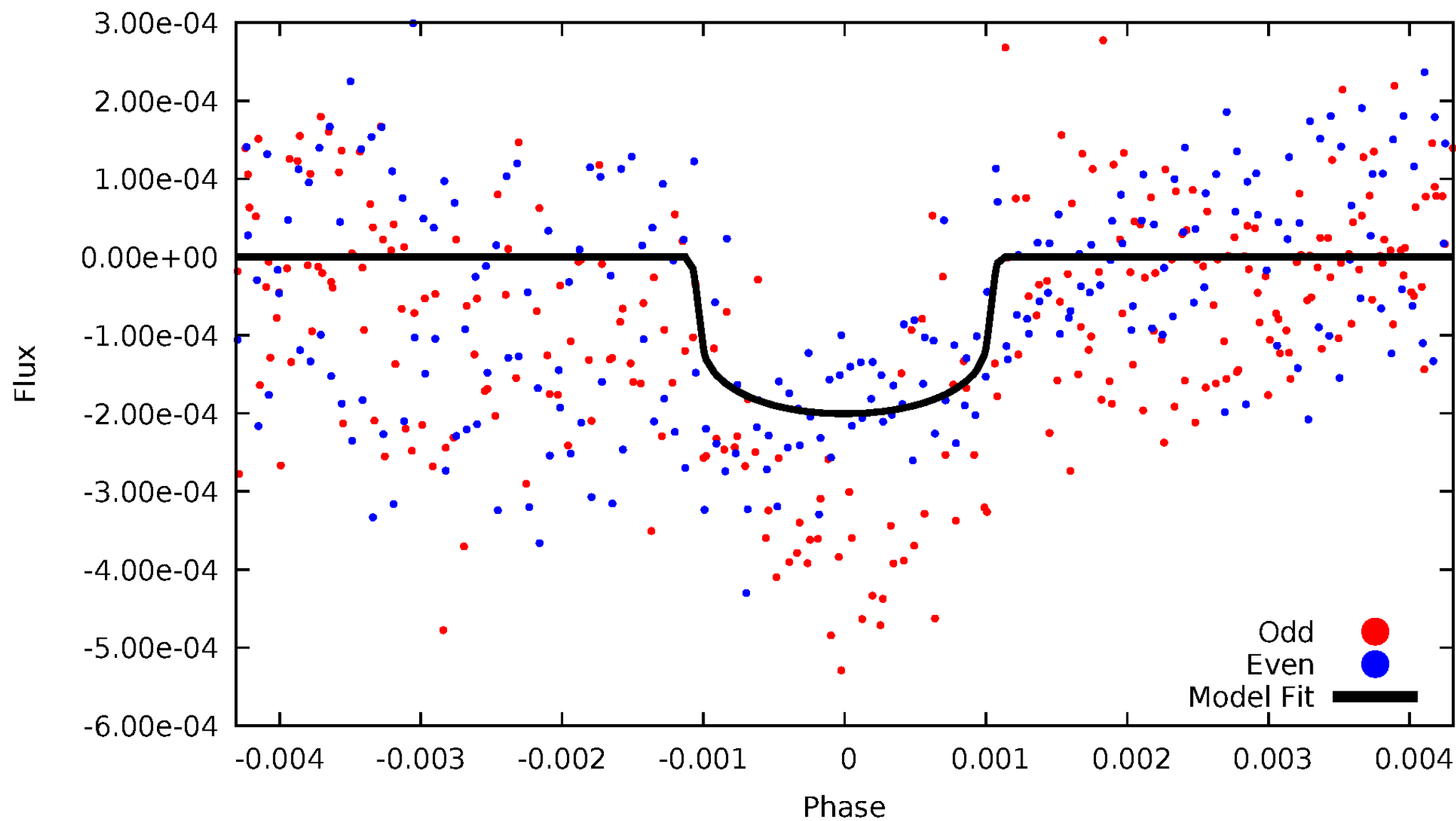


TCE 011362423-01



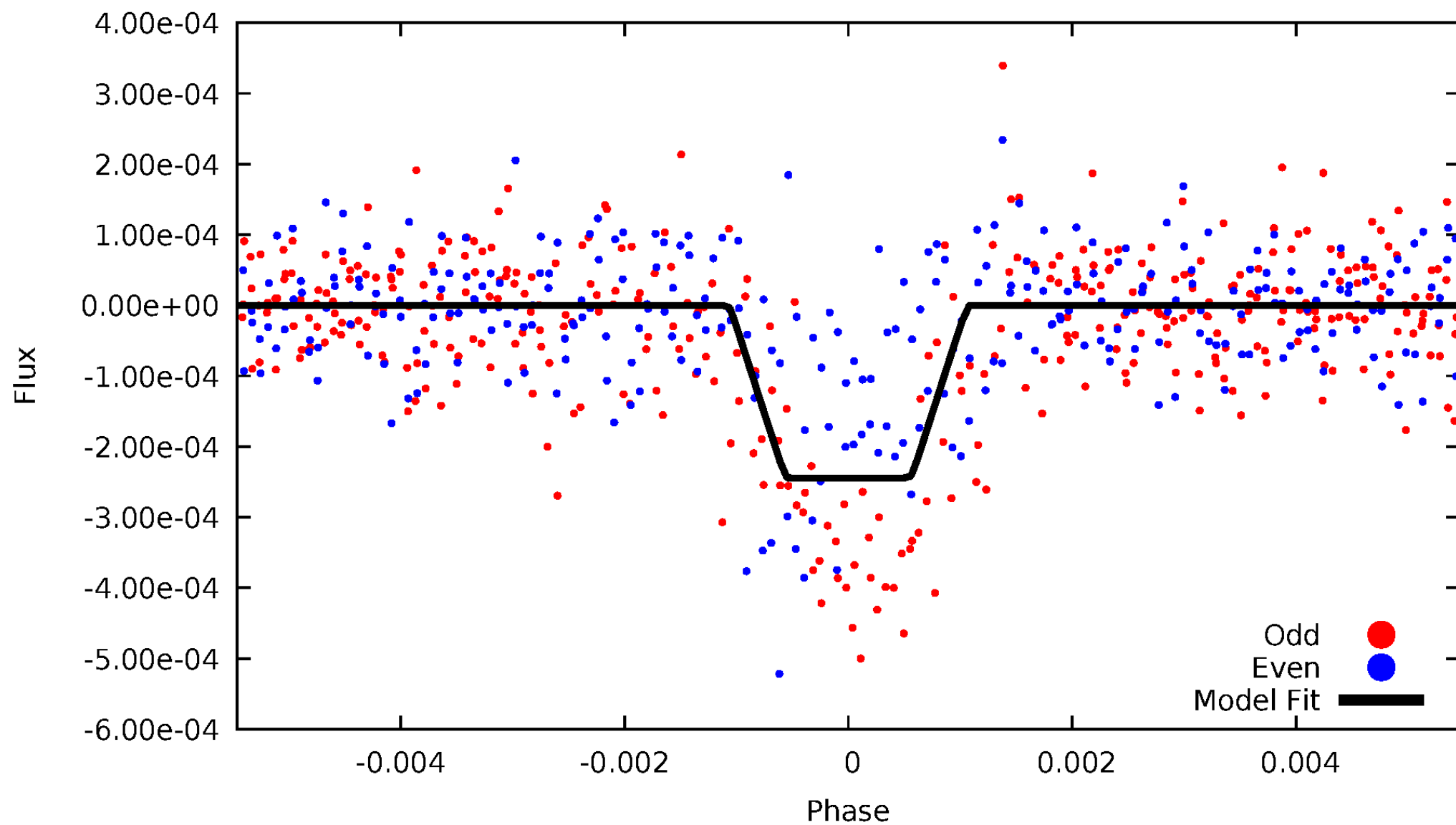
# DV Odd/Even

TCE 011362423-01

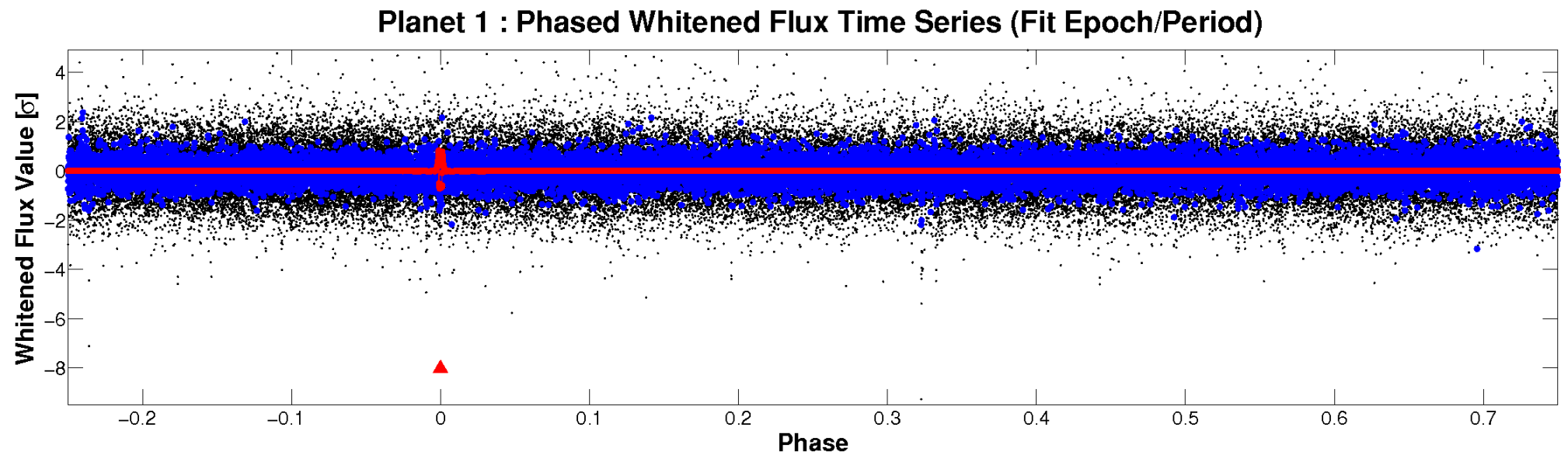
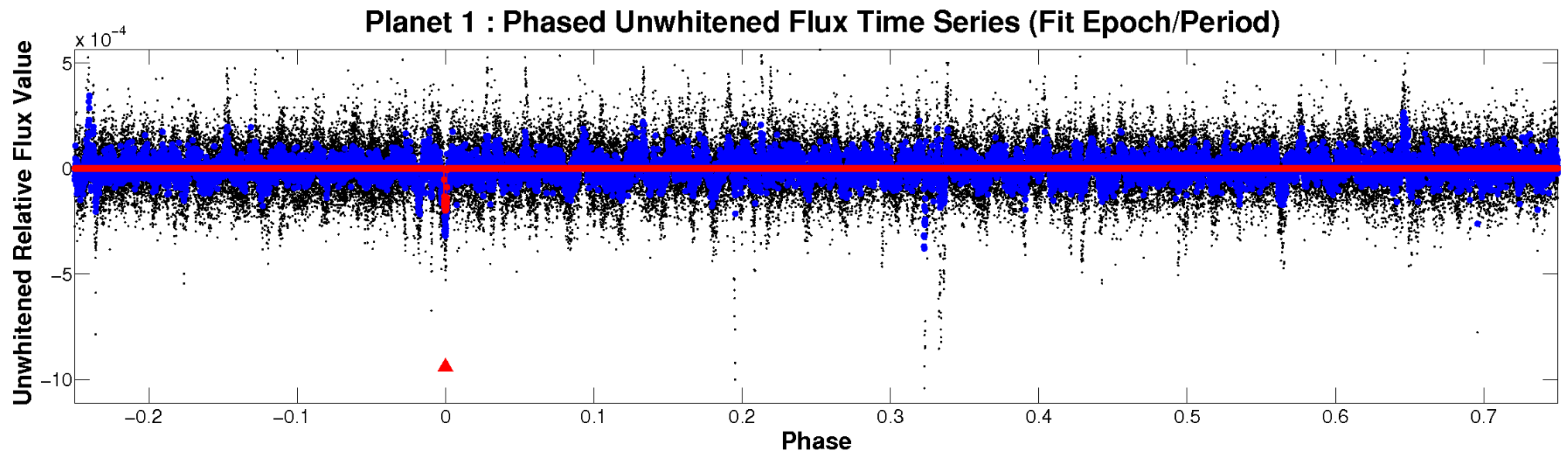


# ALT Odd/Even

TCE 011362423-01

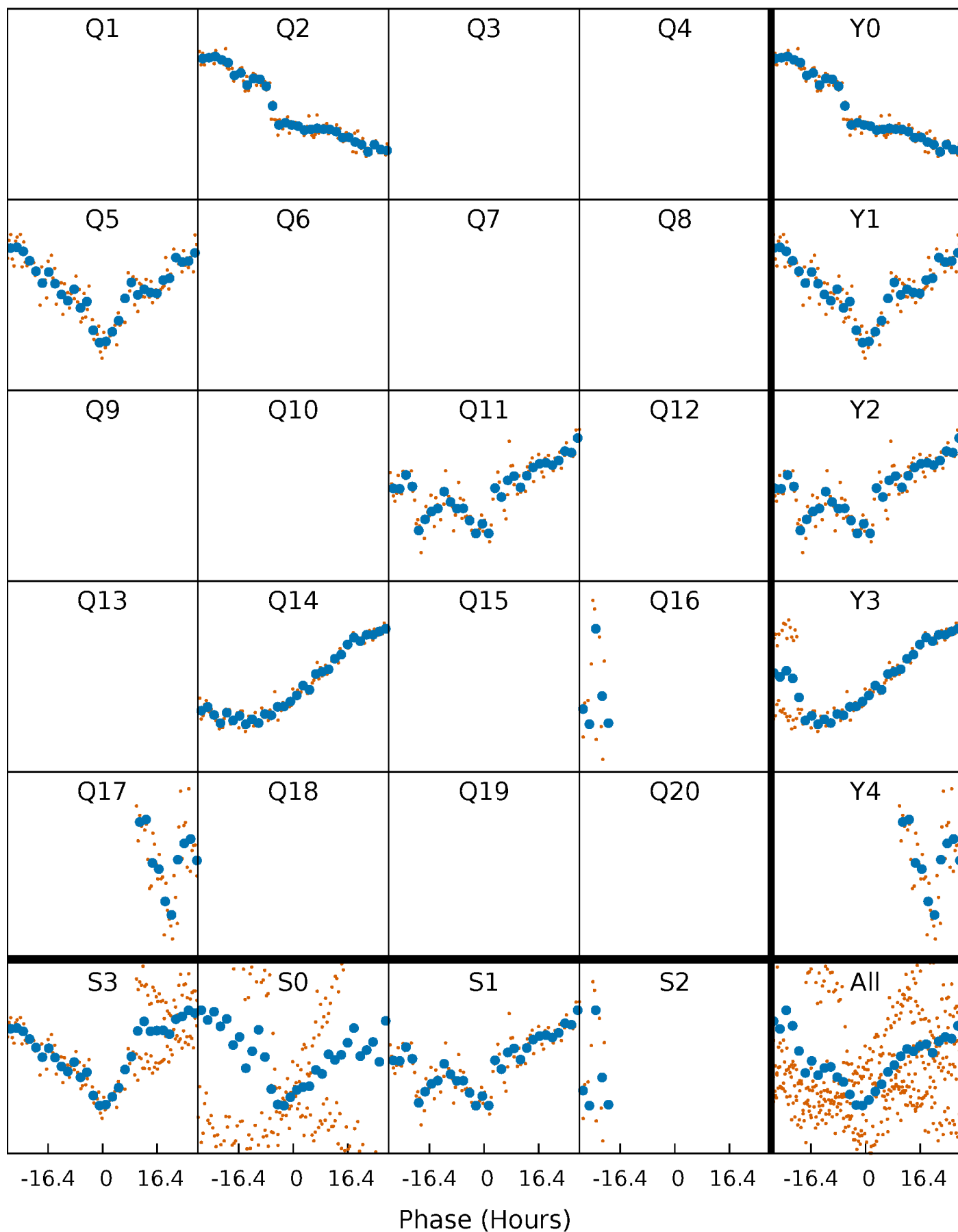


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

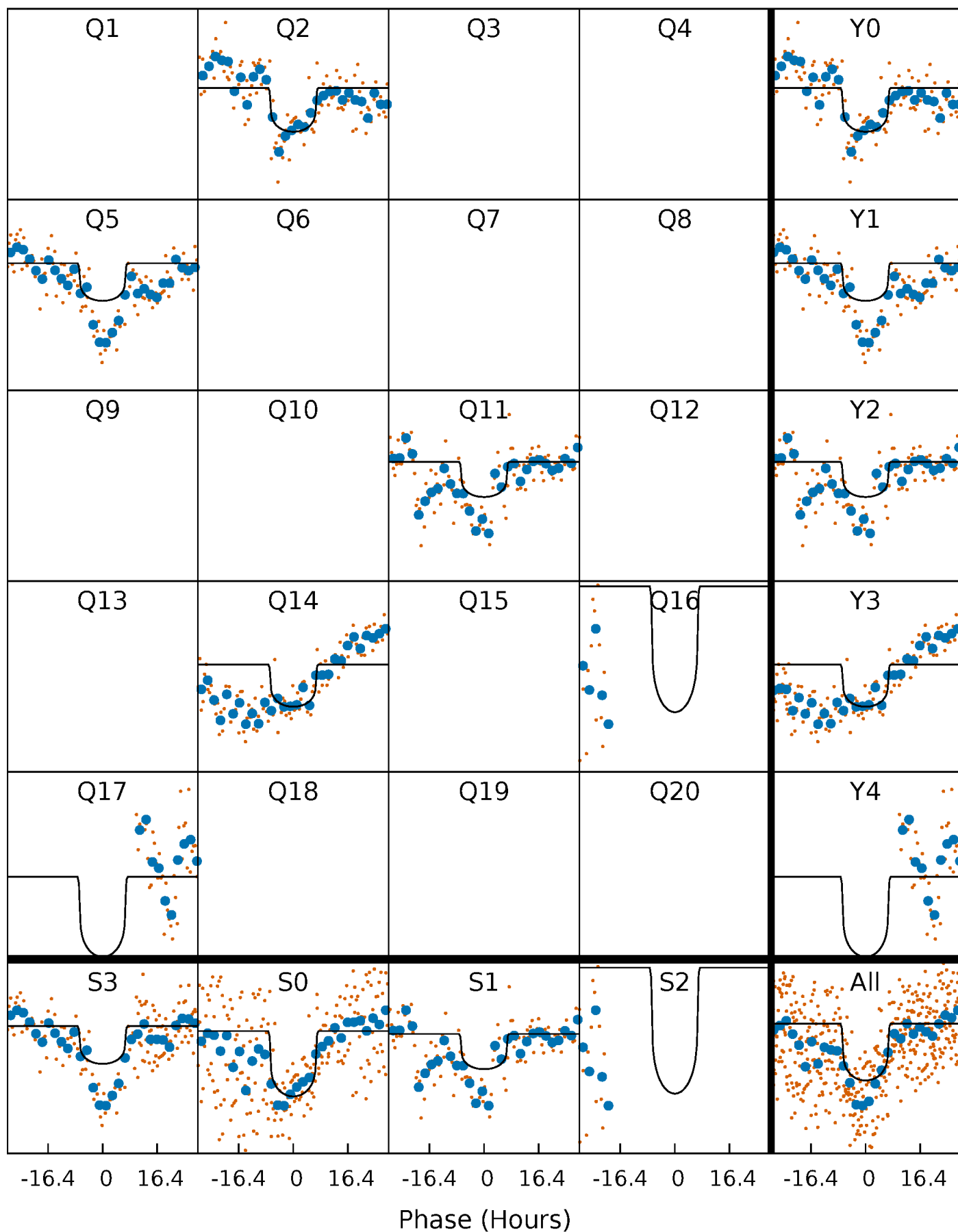
TCE 011362423-01 P=277.278020 Days  $T_0=172.430446$  (BKJD)





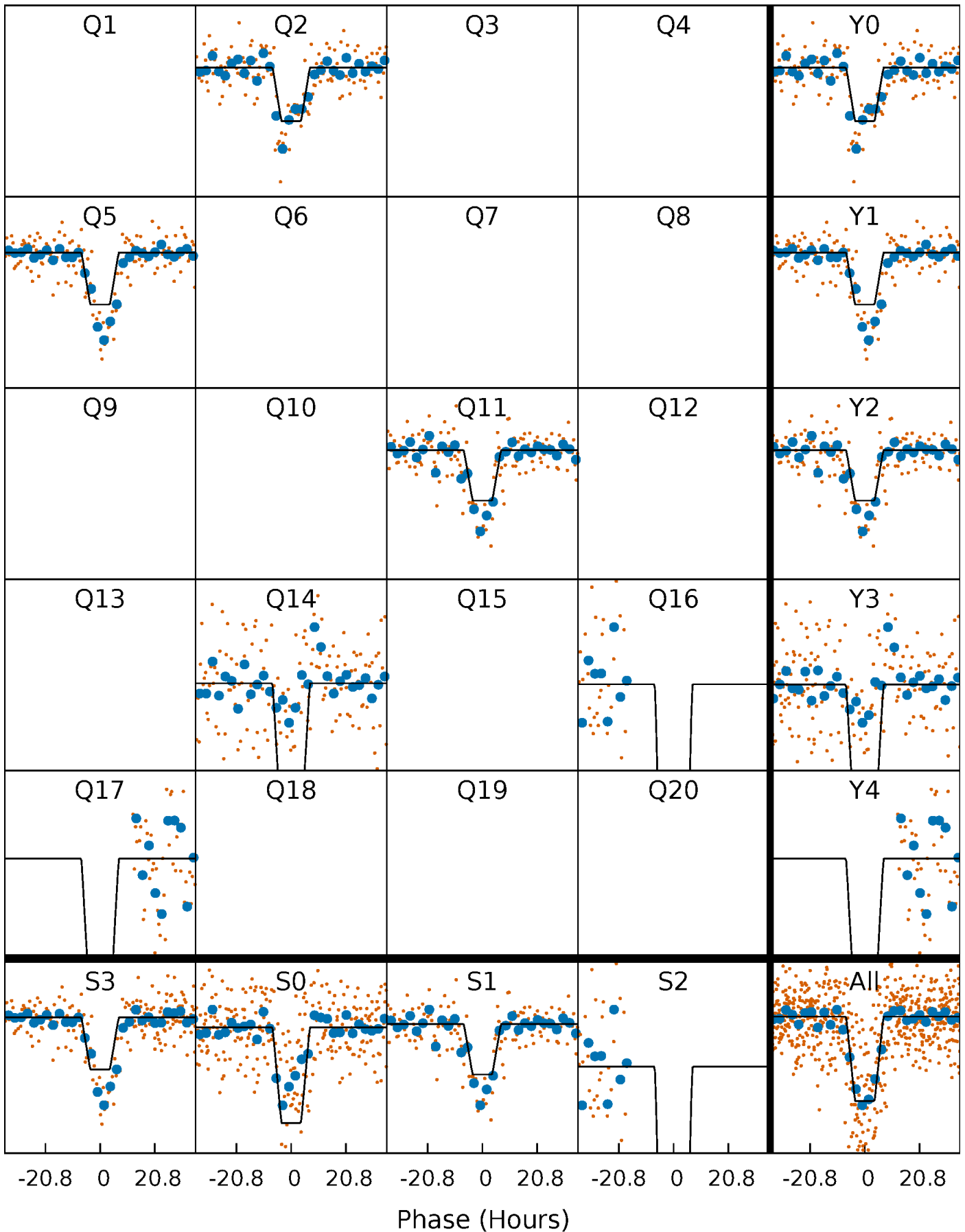
# DV Quarter-Phased Transit Curves

TCE 011362423-01 P=277.278020 Days  $T_0=172.430446$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

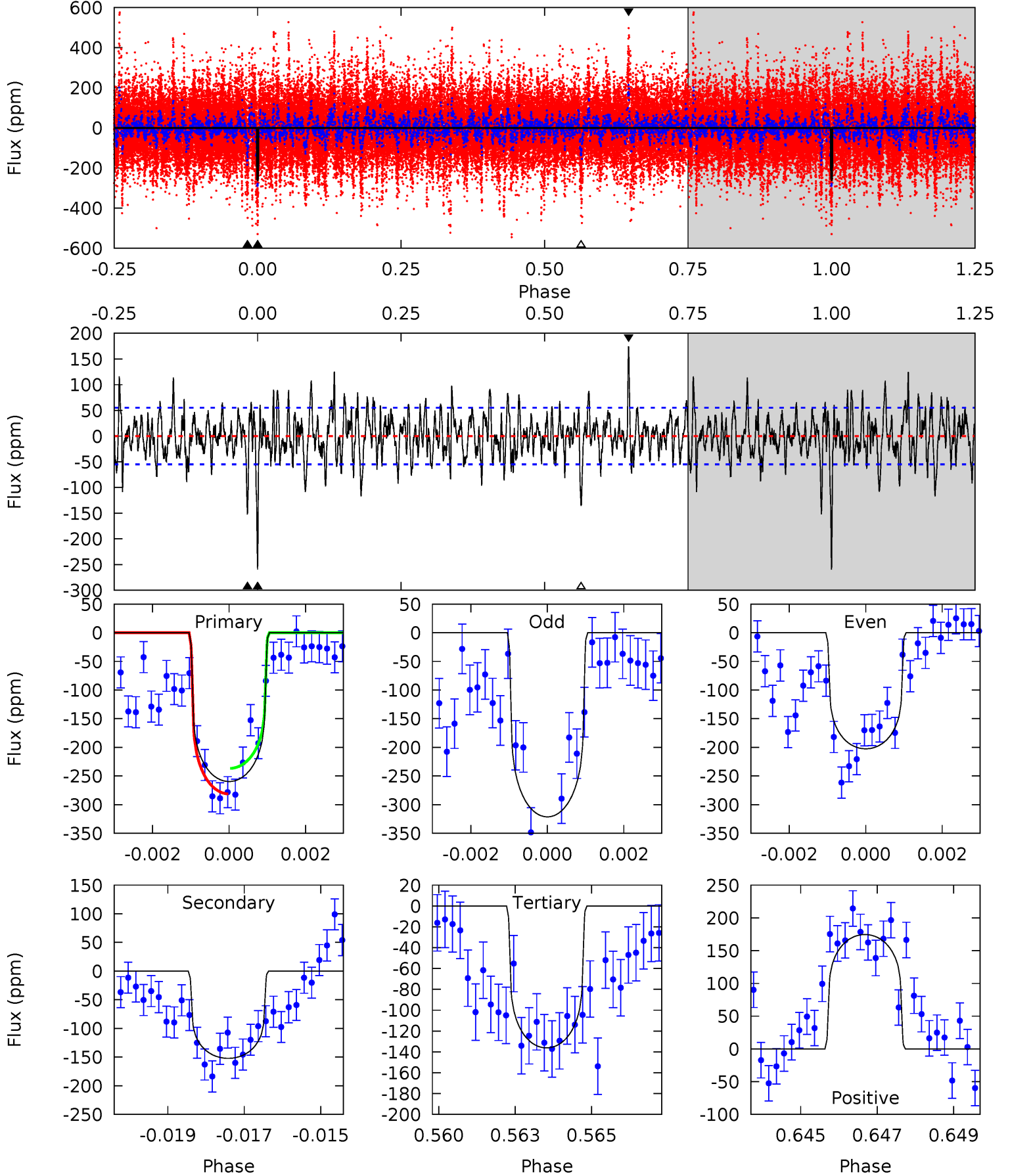
TCE 011362423-01     $P=277.262976$  Days     $T_0=172.408267$  (BKJD)



# DV Model-Shift Uniqueness Test

011362423-01, P = 277.278020 Days, E = 172.430446 Days

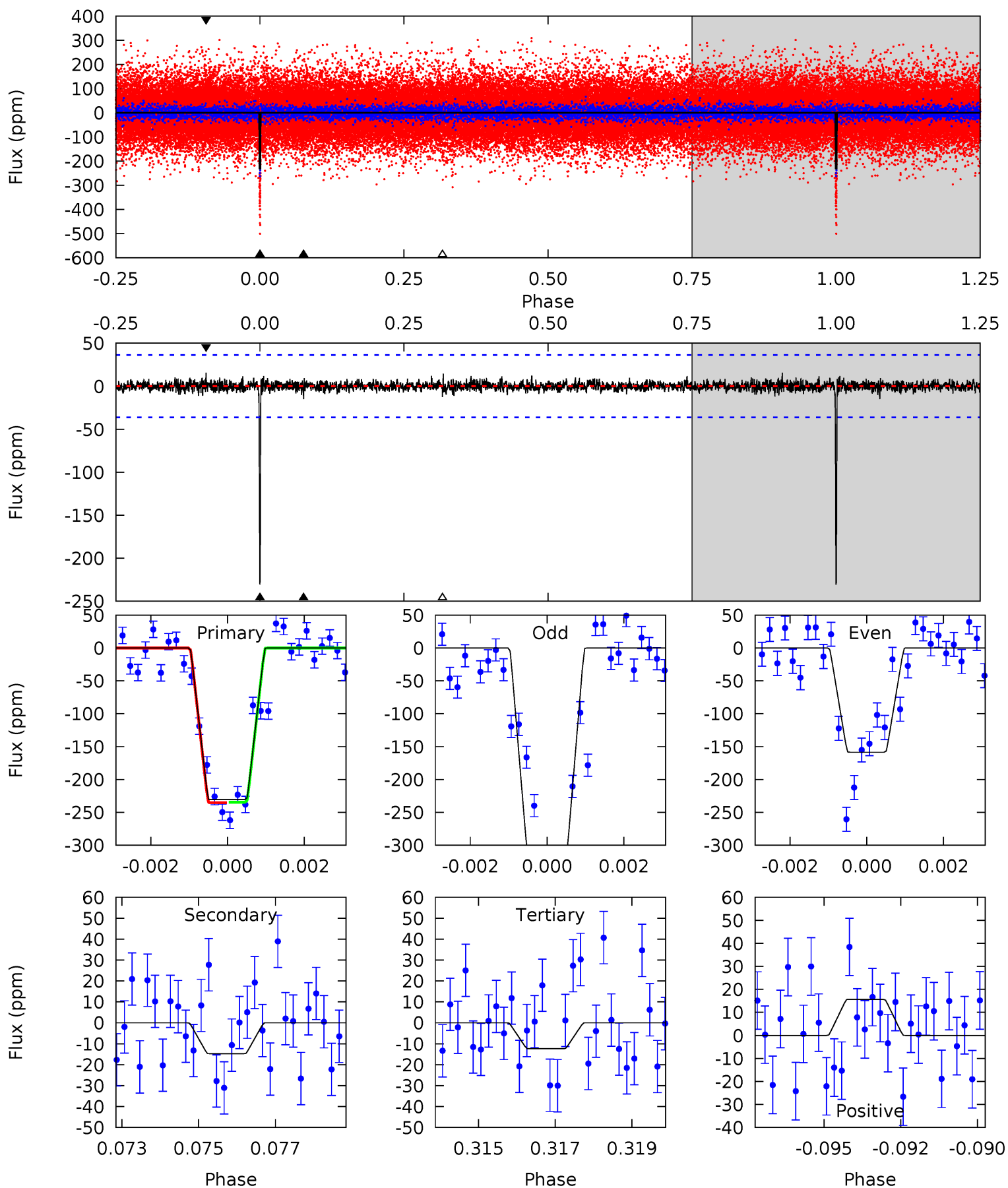
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	14.7	13.2	16.9	5.31	3.07	3.50	11.9	8.23	1.55	-2.16	5.65	1.06	0.40	2.15



# Alt Model-Shift Uniqueness Test

011362423-01, P = 277.262976 Days, E = 172.408267 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
33.7	2.15	1.81	2.28	5.31	3.06	0.48	31.9	31.4	0.34	-0.13	11.8	0.81	0.06	0.05



### Stellar Parameters For KIC 011362423

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6088^{+163}_{-199}$	$4.113^{+0.204}_{-0.136}$	$0.320^{+0.100}_{-0.300}$	$1.673^{+0.350}_{-0.428}$	$1.324^{+0.131}_{-0.213}$	$0.398^{+0.454}_{-0.158}$
	+3%/-3%	+5%/-3%	+31%/-94%	+21%/-26%	+10%/-16%	+114%/-40%
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 011362423-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-152 \pm 10$	$2.47^{+0.65}_{-0.54}$	$503^{+34}_{-37}$	$5727^{+600}_{-439}$	$11526^{+6800}_{-4312}$
Alt.	$-15 \pm 7$	$2.80^{+0.55}_{-0.54}$	$506^{+31}_{-38}$	$3486^{+318}_{-334}$	$814^{+641}_{-401}$

$T_{\text{max}}$  = 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

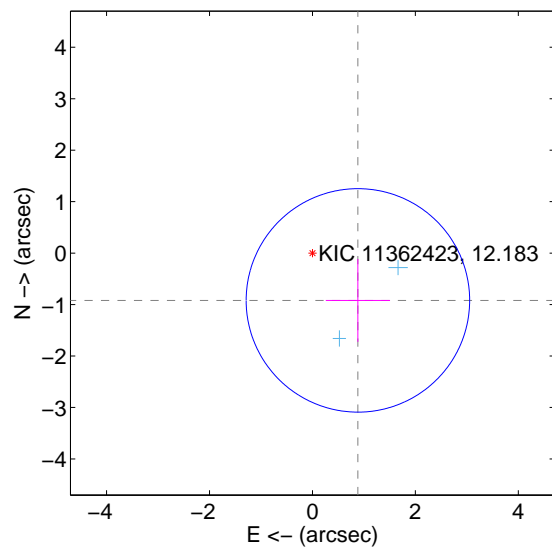
Supplemental centroid analysis for 011362423-01. Kepler magnitude: 12.18. Transit SNR 8.44

There are 2 quarters with good PRF difference image offsets

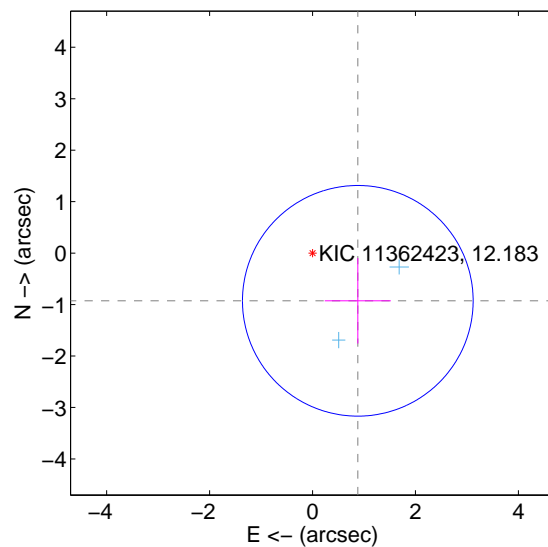
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.275 \pm 0.724$	1.76	$-0.883 \pm 0.624$	$-0.919 \pm 0.805$
PRF-fit source offset from KIC position	$1.278 \pm 0.747$	1.71	$-0.880 \pm 0.642$	$-0.927 \pm 0.830$
photometric centroid source offset	$0.60 \pm 1.11$	0.54	$-0.59 \pm 1.10$	$-0.11 \pm 1.24$

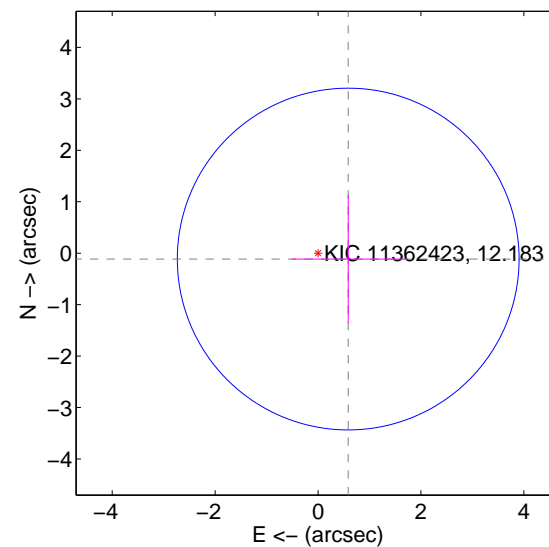
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

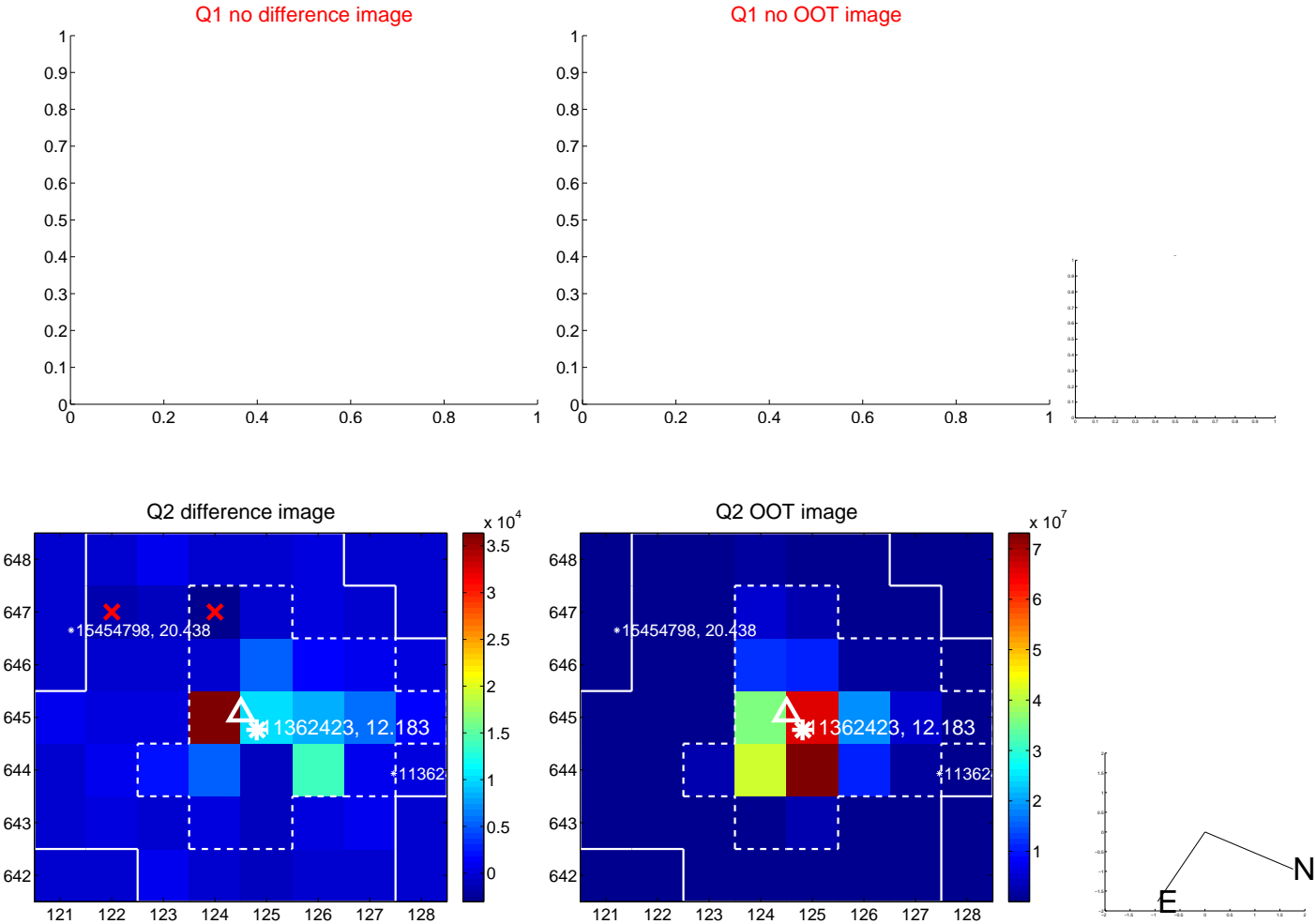


offset from photometric centroids

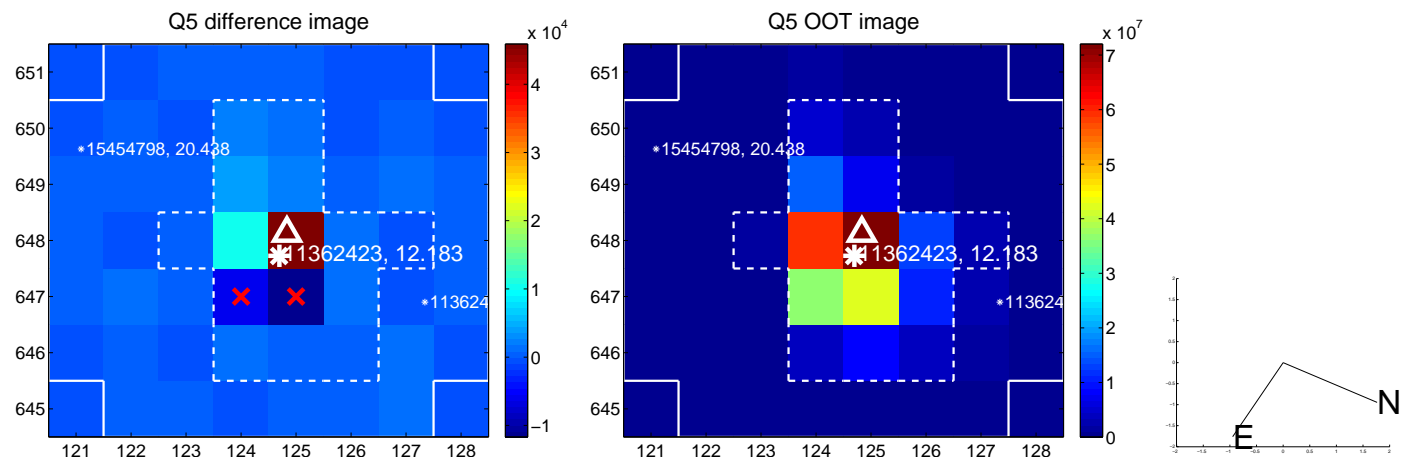


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





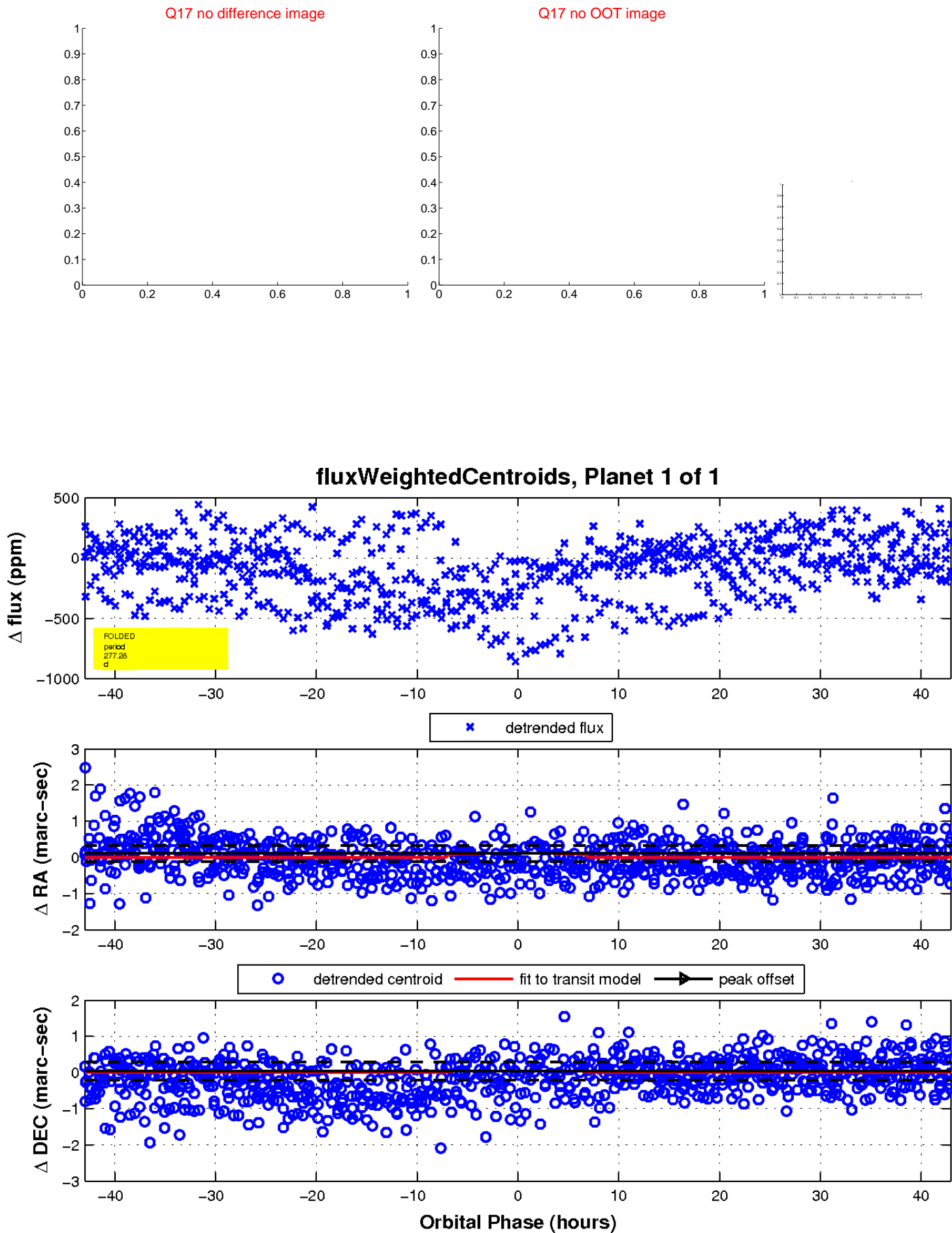
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

