

# KIC 010735329

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010735329-01	OBS	No	522.019471	264.697662	204.8	15.901	10.6	10.1	1.51	6594	2.32	2.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010735329-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

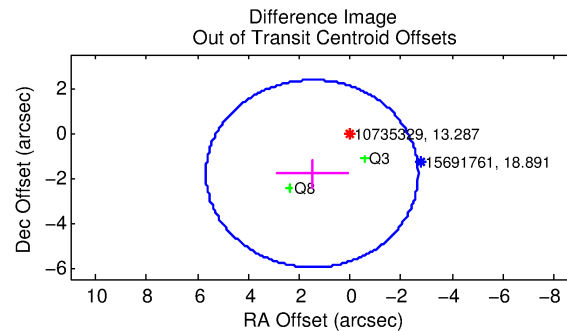
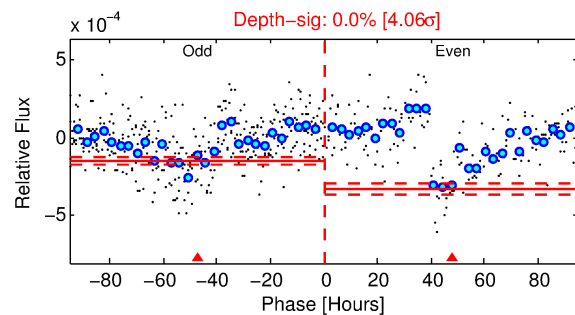
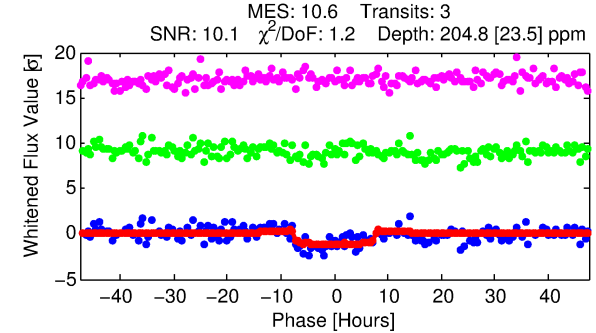
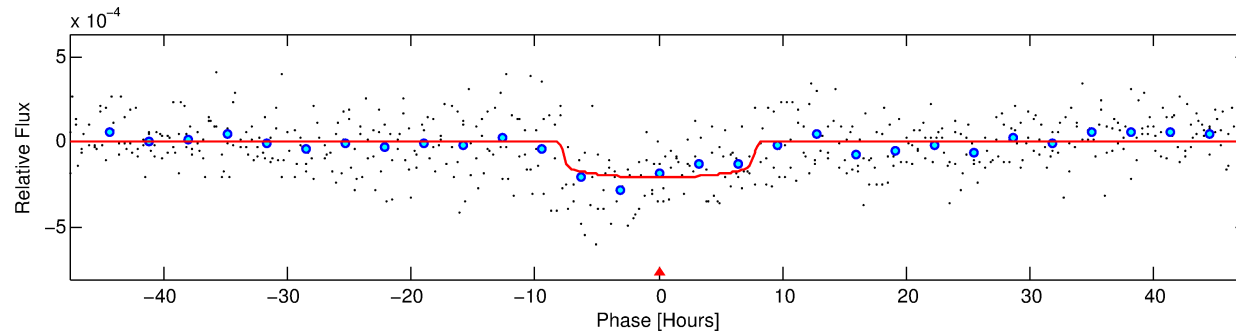
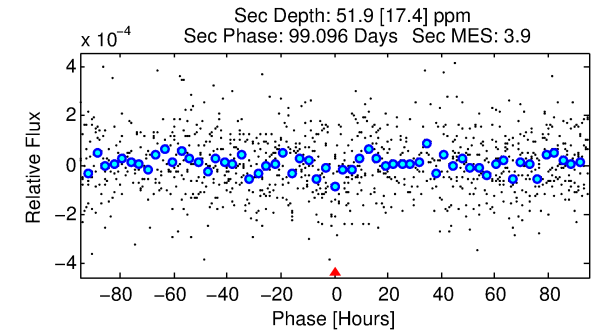
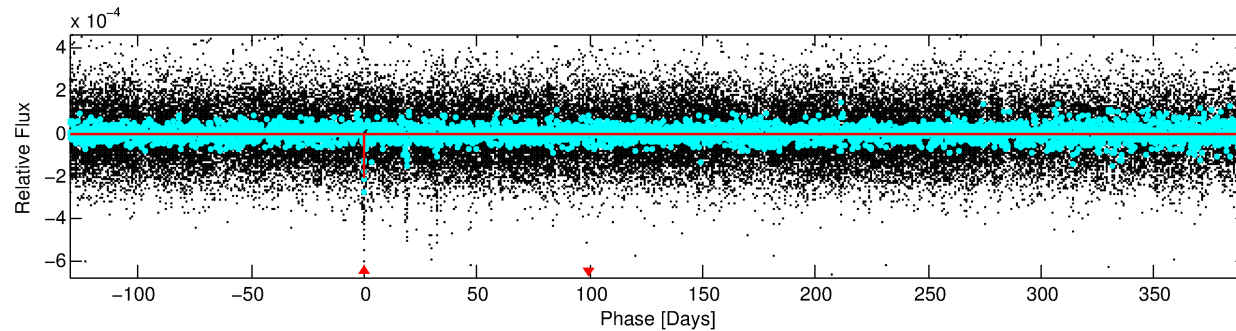
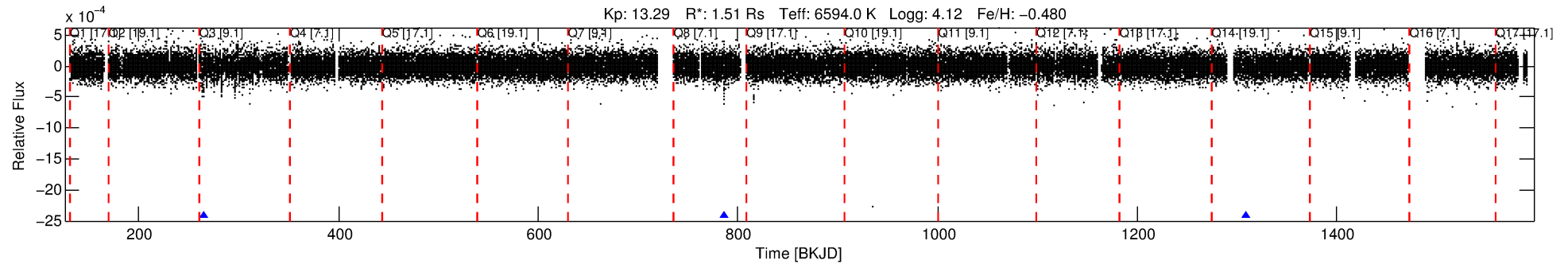
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010735329-01

No Significant Match Found

# DV One-Page Summary

KIC: 10735329 Candidate: 1 of 1 Period: 522.019 d



## DV Fit Results:

Period = 522.01947 [0.01323] d  
Epoch = 264.6977 [0.0173] BKJD  
Rp/R\* = 0.0140 [0.0039]  
a/R\* = 184.09 [278.67]  
b = 0.70 [1.12]  
Seff = 2.27 [1.01]  
Teq = 313 [35] K  
Rp = 2.32 [0.91] Re  
a = 1.3047 [0.3478] AU  
Ag = 9059.11 [7067.62] [1.28σ]  
Teffp = 4724 [784] K [5.62σ]

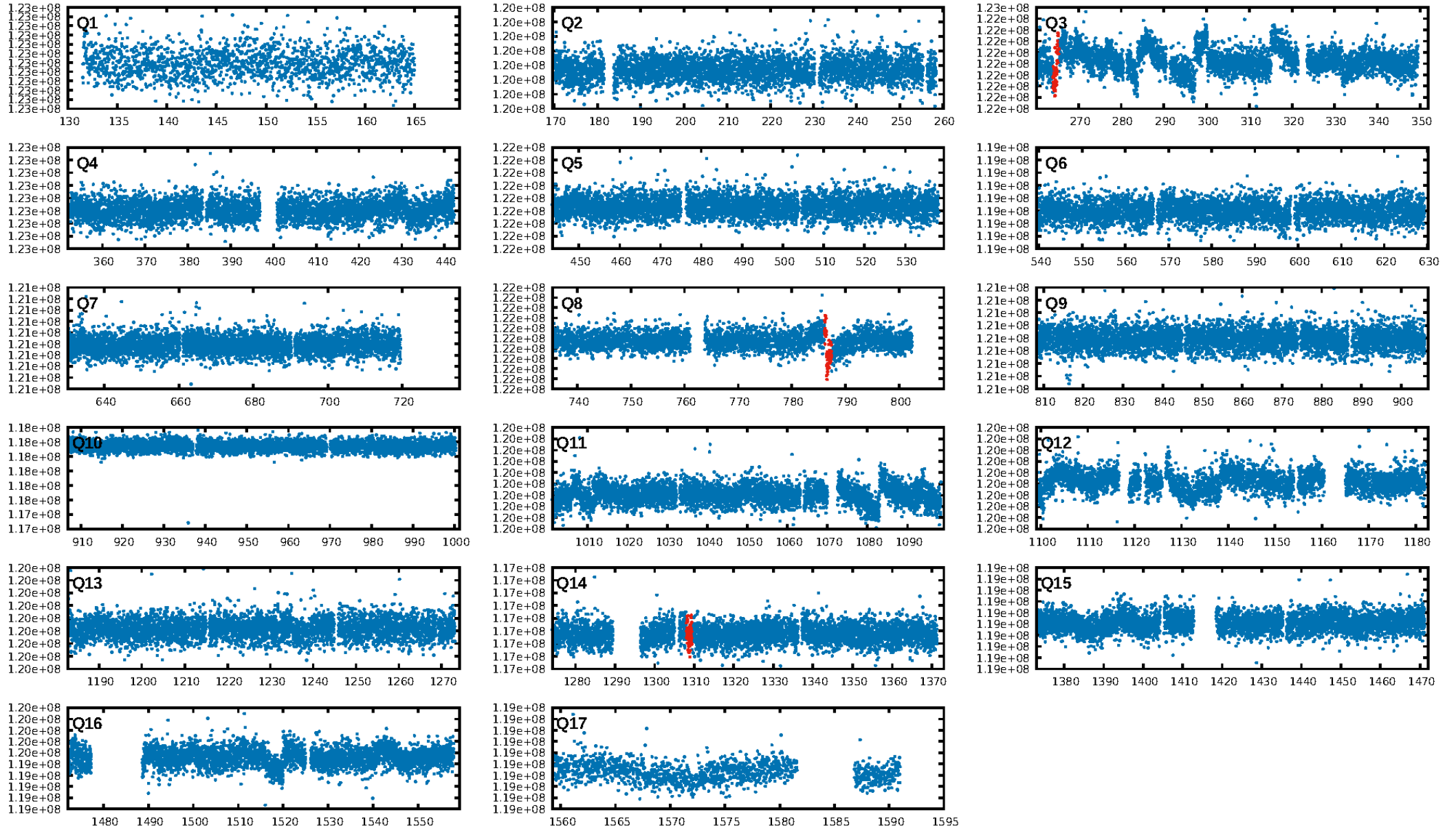
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 83.2%  
Bootstrap-pfa: 1.60e-12  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -3.35  
Centroid-sig: 21.3%  
Centroid-so: 1.483 arcsec [1.32σ]  
OotOffset-rm: 2.346 arcsec [1.69σ]  
OotOffset-st: 0/1/1/0 [2]  
KicOffset-rm: 2.268 arcsec [2.01σ]  
KicOffset-st: 0/1/1/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

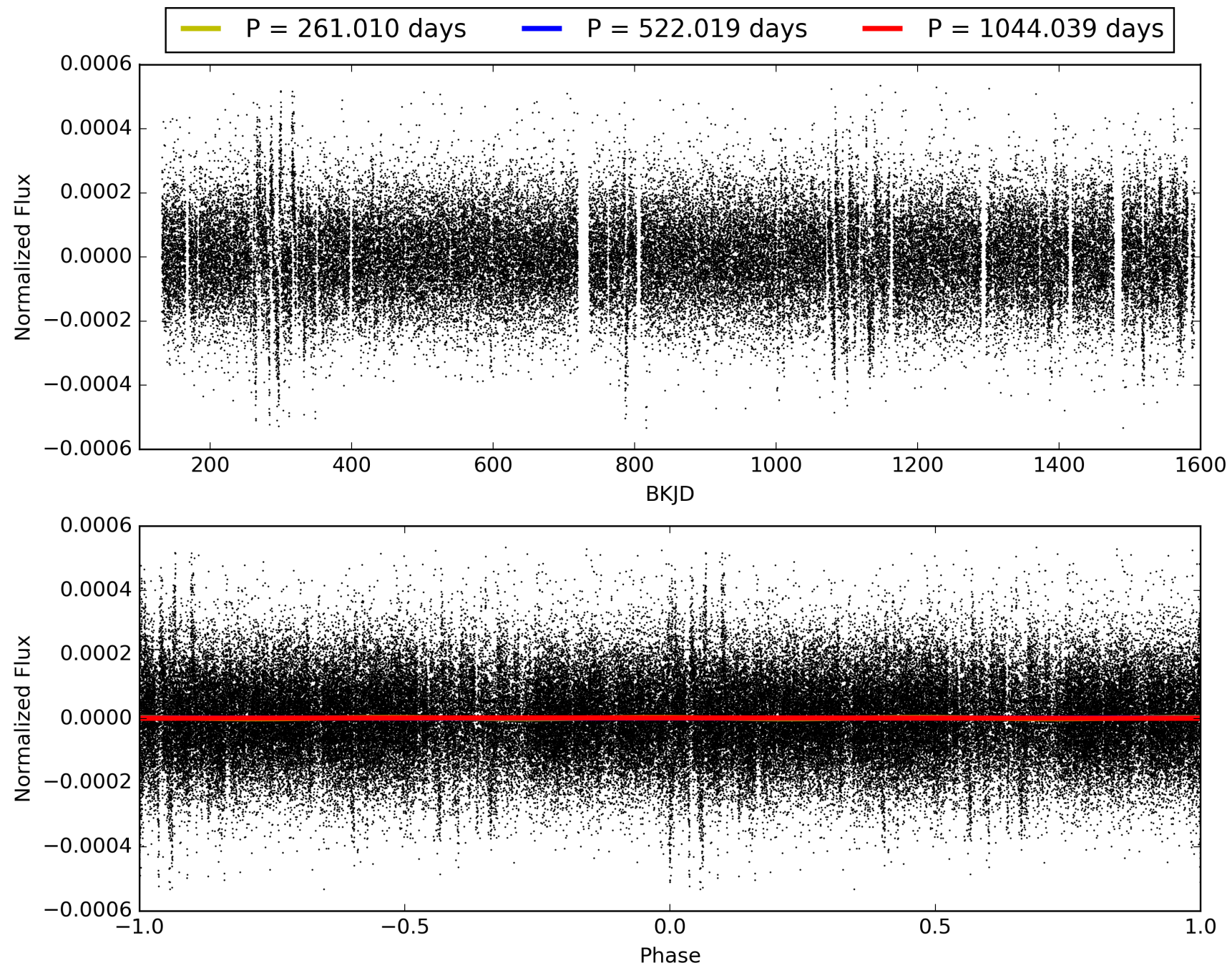
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:24:23 Z

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

# TCE 010735329-01, PDC Light Curves

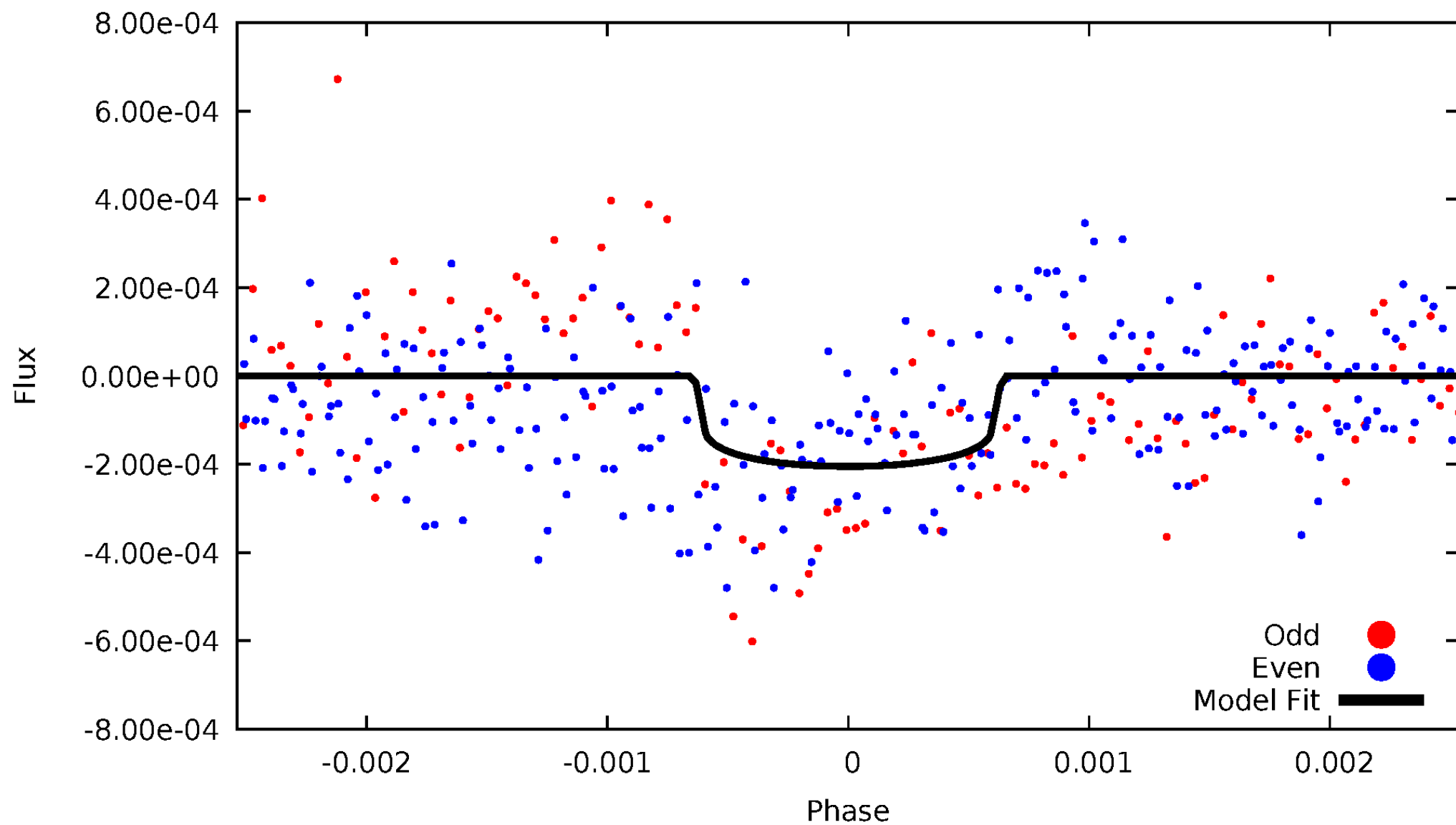


# TCE 010735329-01



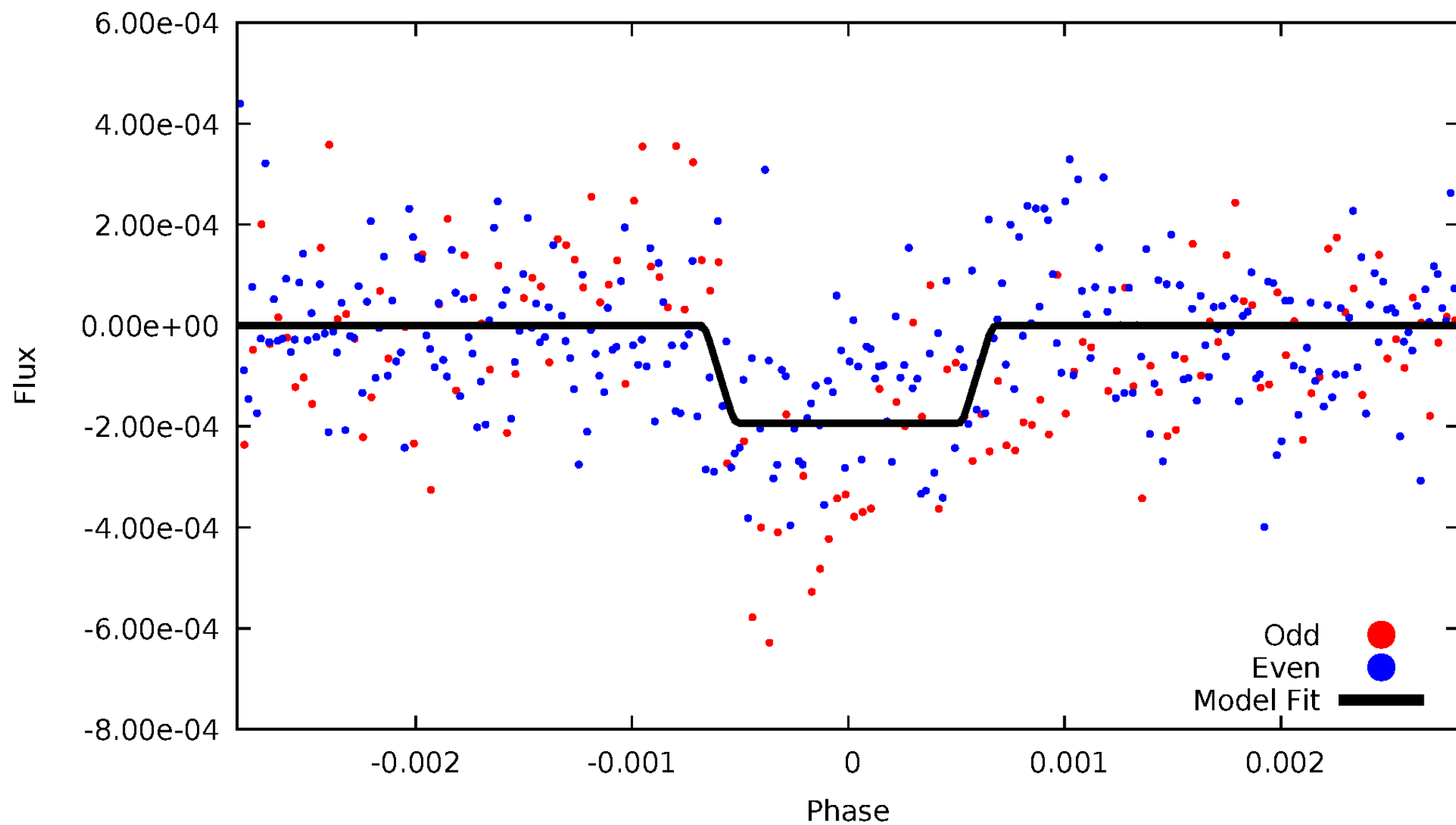
# DV Odd/Even

TCE 010735329-01

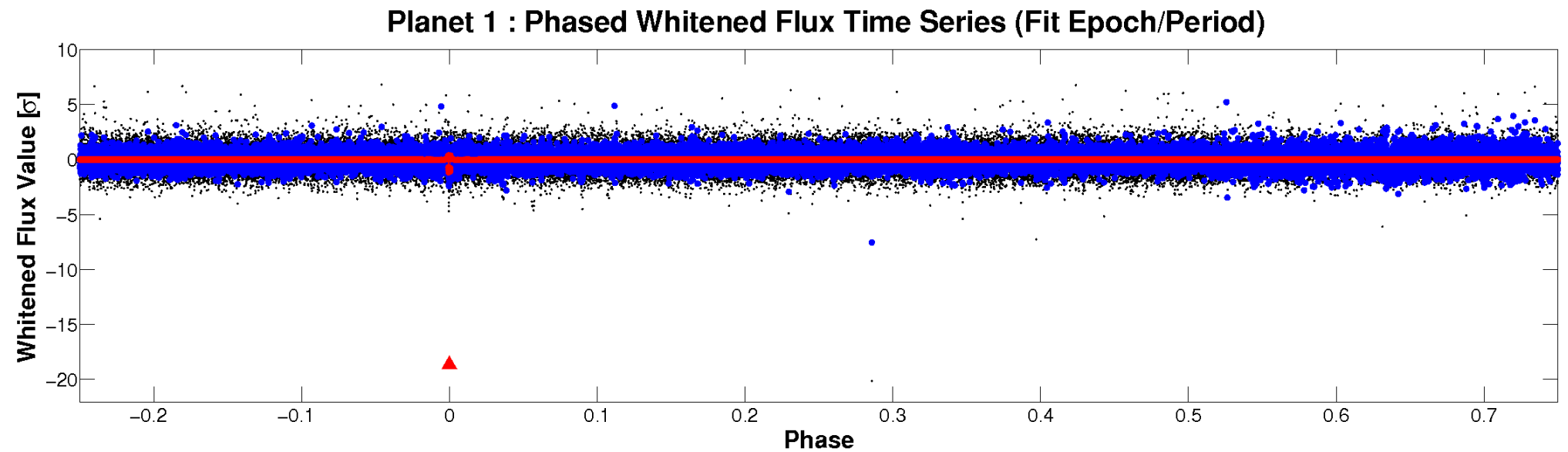
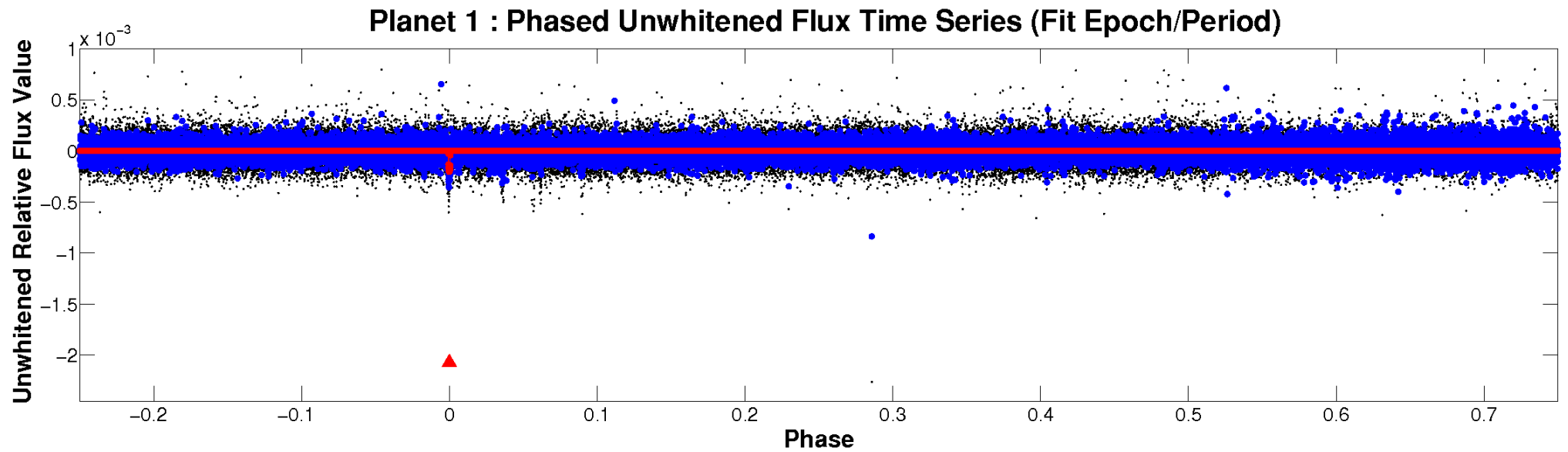


# ALT Odd/Even

TCE 010735329-01



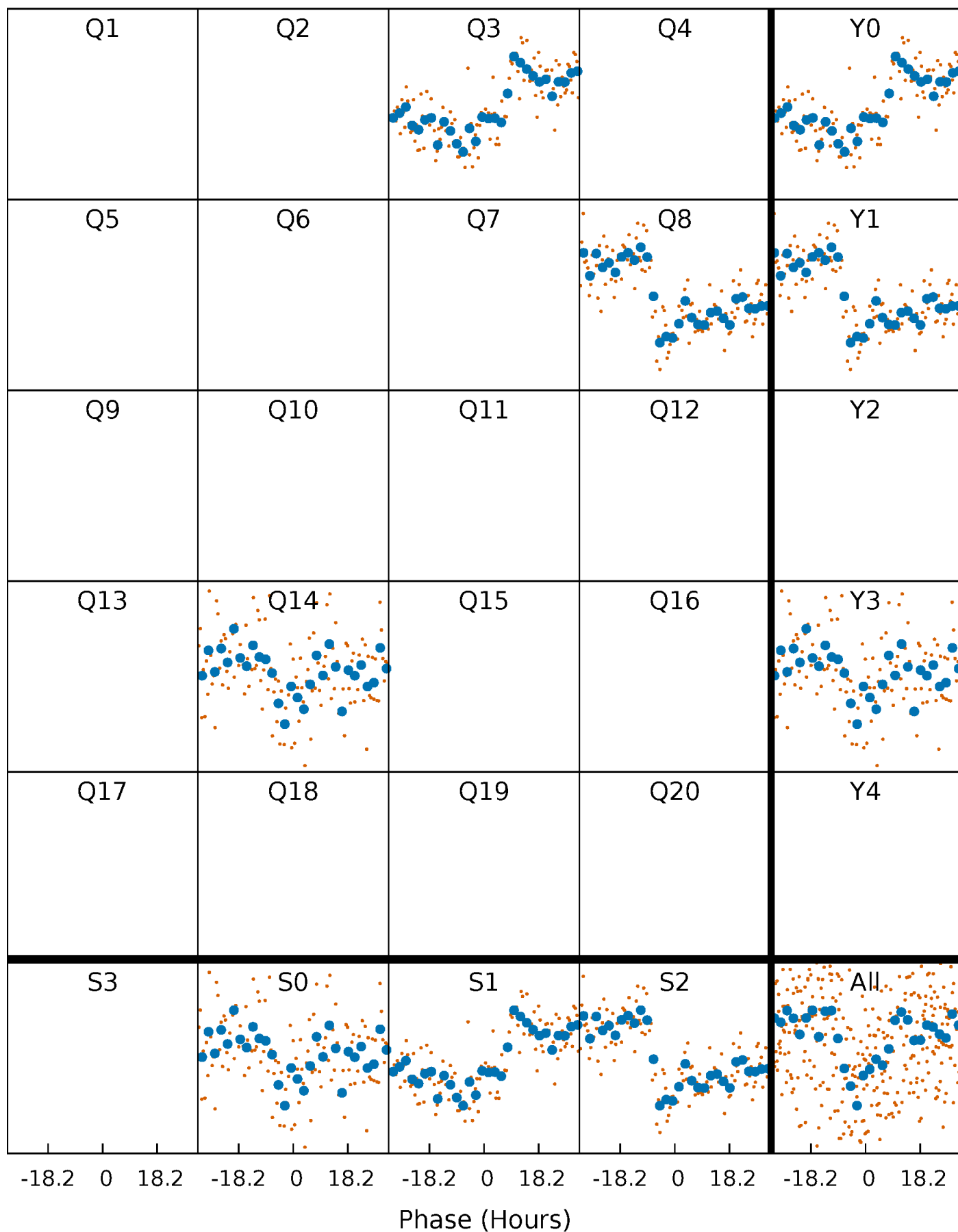
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

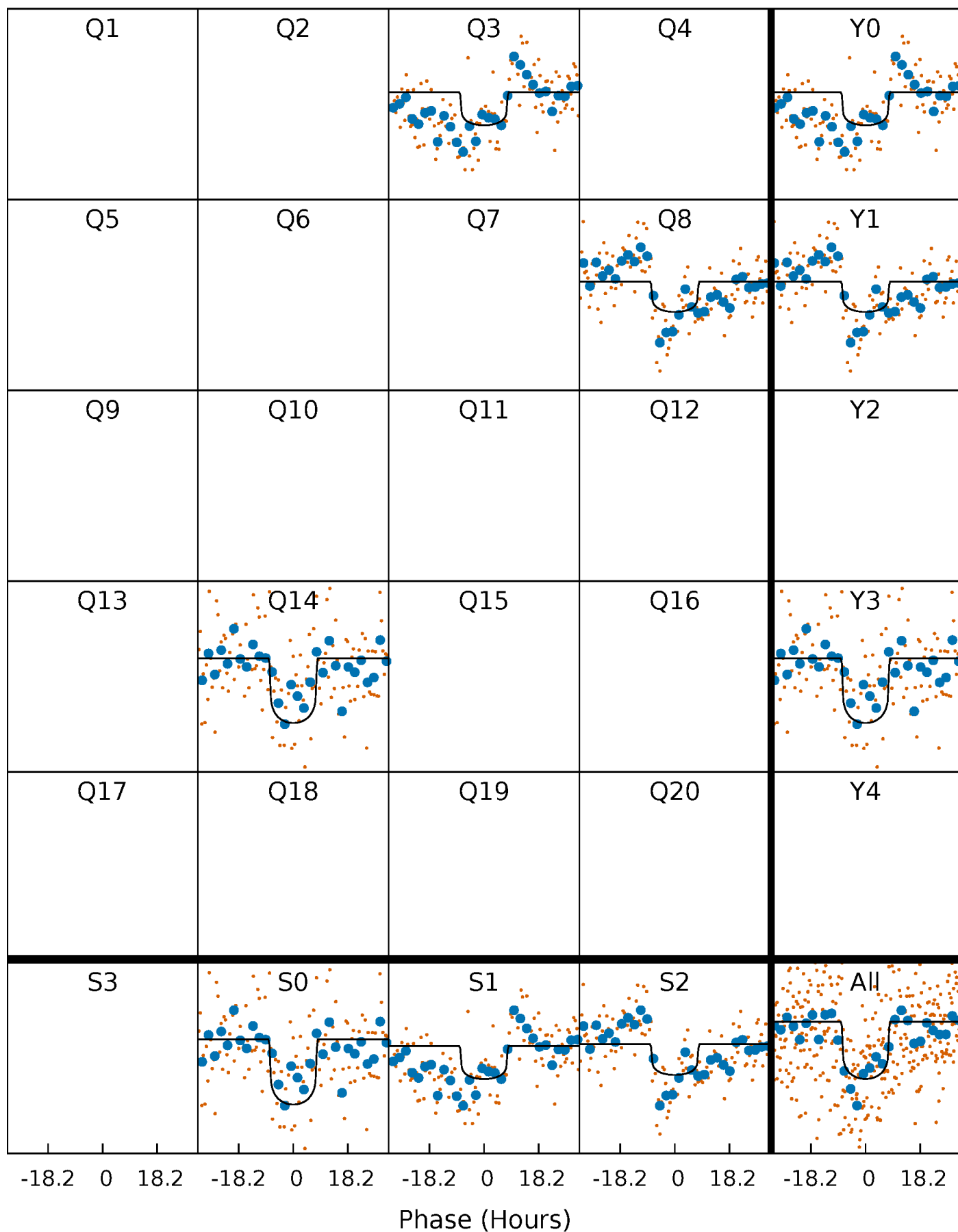
TCE 010735329-01 P=522.019471 Days  $T_0=264.697662$  (BKJD)





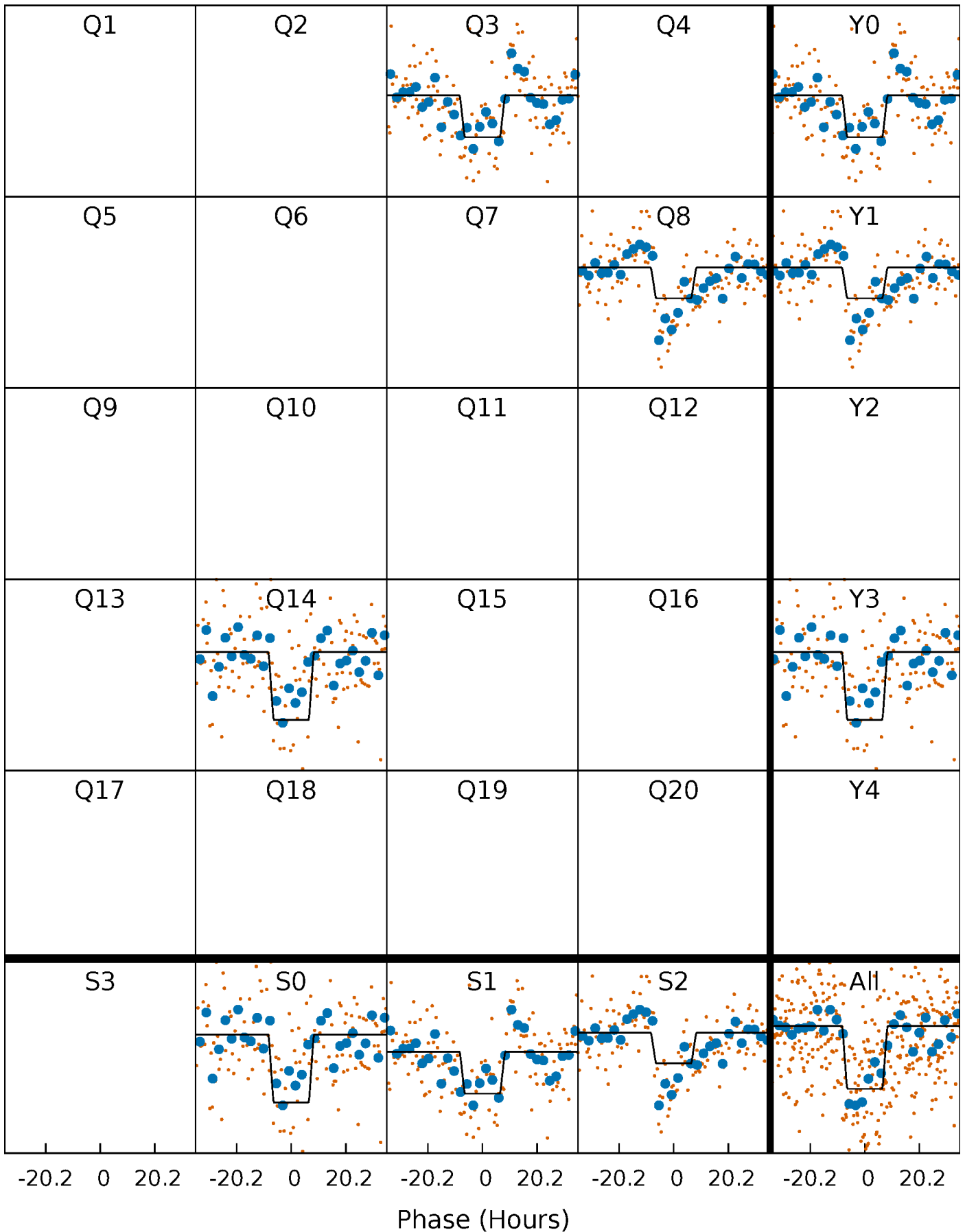
# DV Quarter-Phased Transit Curves

TCE 010735329-01 P=522.019471 Days  $T_0=264.697662$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

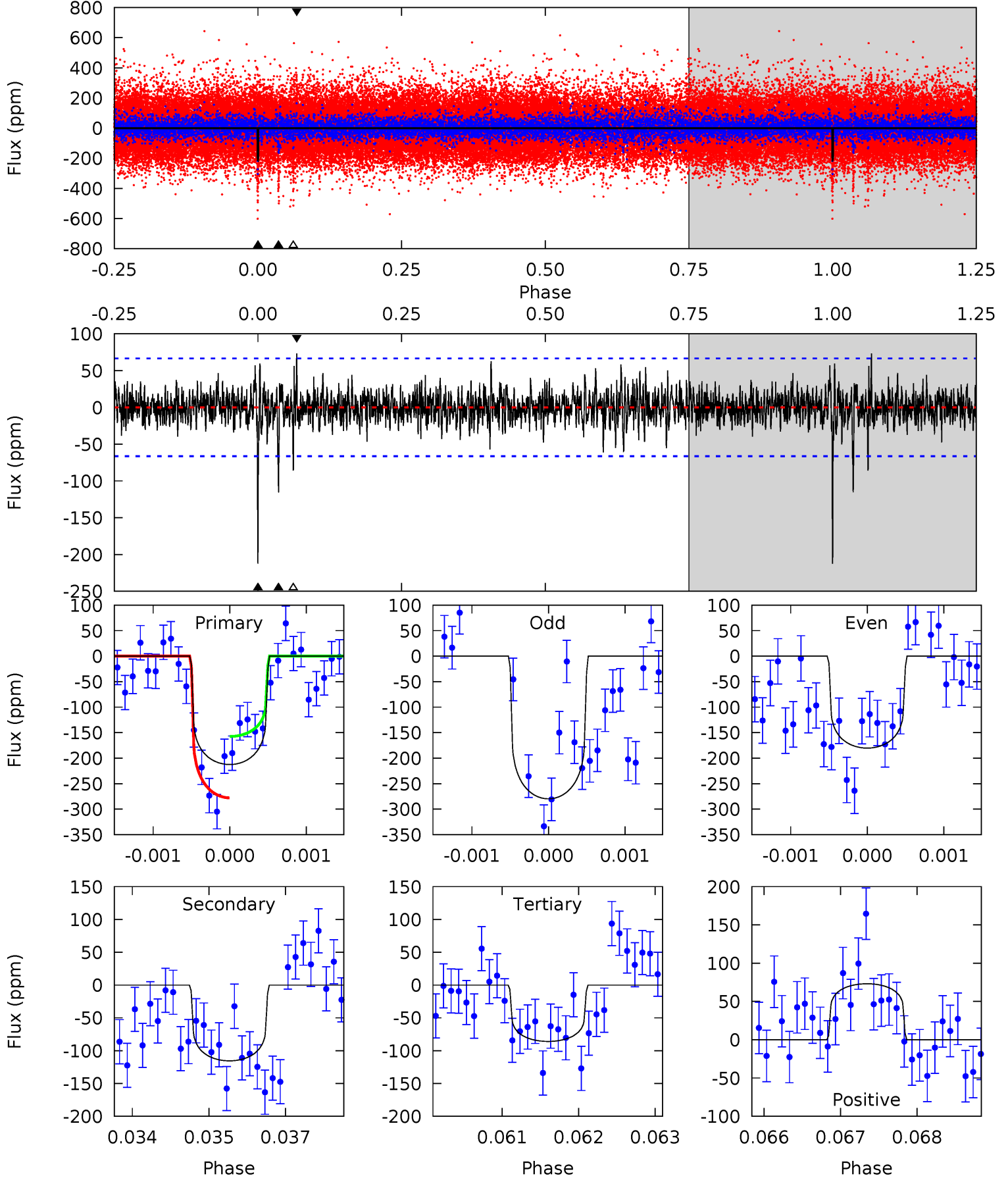
TCE 010735329-01 P=522.022969 Days  $T_0=264.676013$  (BKJD)



# DV Model-Shift Uniqueness Test

010735329-01, P = 522.019471 Days, E = 264.697662 Days

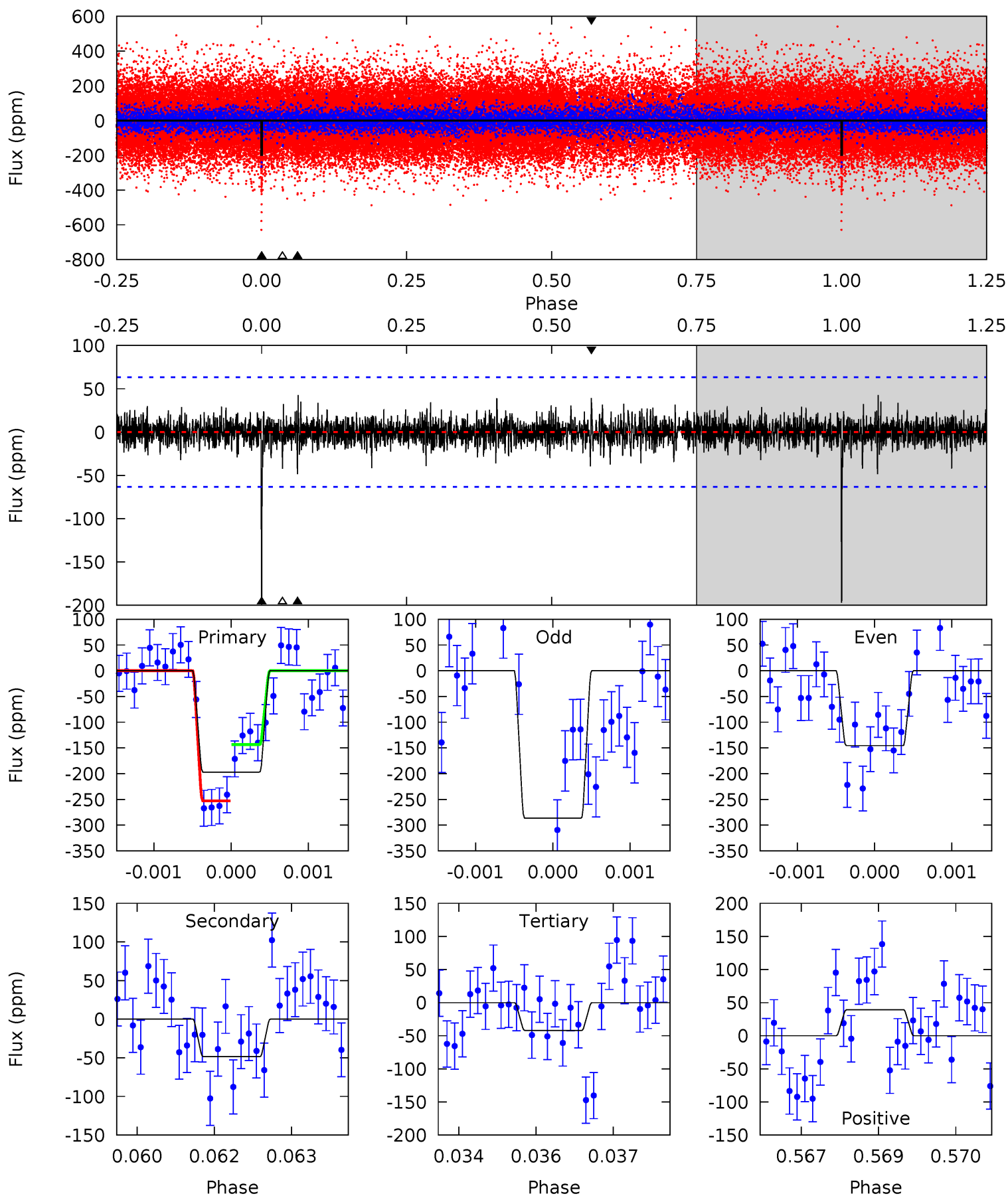
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	9.39	6.99	5.95	5.41	3.22	1.32	10.3	11.3	2.41	3.45	3.79	0.93	0.26	4.86



# Alt Model-Shift Uniqueness Test

010735329-01, P = 522.022969 Days, E = 264.676013 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
16.8	4.13	3.58	3.35	5.40	3.20	0.86	13.2	13.4	0.54	0.78	5.64	1.12	0.18	4.67



### Stellar Parameters For KIC 010735329

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6594^{+168}_{-202}$	$4.115^{+0.252}_{-0.168}$	$-0.480^{+0.250}_{-0.300}$	$1.512^{+0.416}_{-0.416}$	$1.086^{+0.179}_{-0.134}$	$0.442^{+0.662}_{-0.200}$
	+3%/-3%	+6%/-4%	+52%/-62%	+28%/-28%	+16%/-12%	+150%/-45%
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 010735329-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-116 \pm 12$	$2.26^{+0.75}_{-0.71}$	$433^{+35}_{-35}$	$5767^{+1085}_{-617}$	$21365^{+22507}_{-9628}$
Alt.	$-48 \pm 12$	$2.25^{+0.85}_{-0.67}$	$432^{+35}_{-33}$	$4750^{+779}_{-487}$	$8719^{+10008}_{-4129}$

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

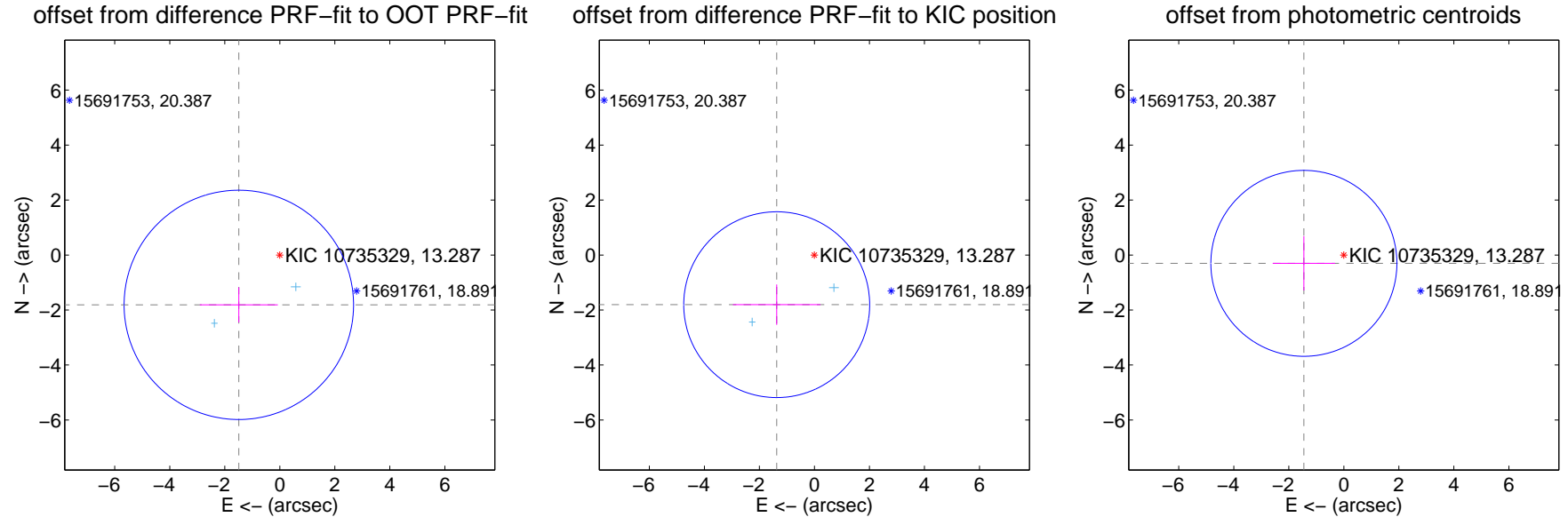
## DV Centroid Data

Supplemental centroid analysis for 010735329-01. Kepler magnitude: 13.29. Transit SNR 10.08

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.346 \pm 1.390$	1.69	$1.490 \pm 1.418$	$-1.813 \pm 0.637$
PRF-fit source offset from KIC position	$2.268 \pm 1.127$	2.01	$1.371 \pm 1.592$	$-1.806 \pm 0.734$
photometric centroid source offset	$1.48 \pm 1.13$	1.32	$1.45 \pm 1.13$	$-0.30 \pm 0.99$



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.

Q1 no difference image



Q1 no OOT image



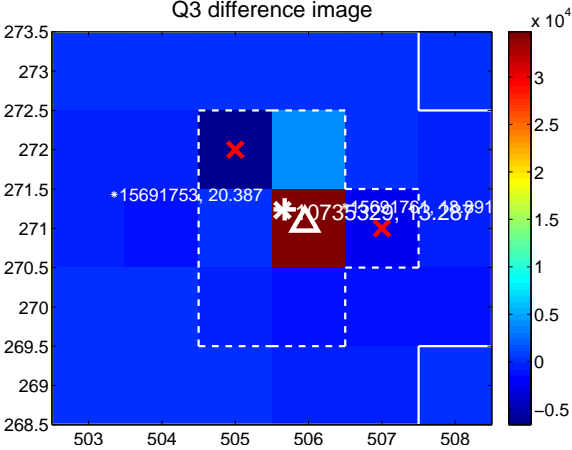
Q2 no difference image



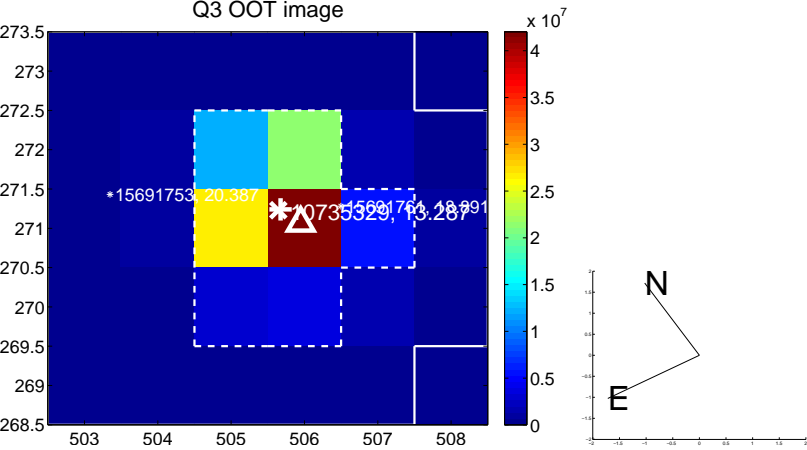
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image

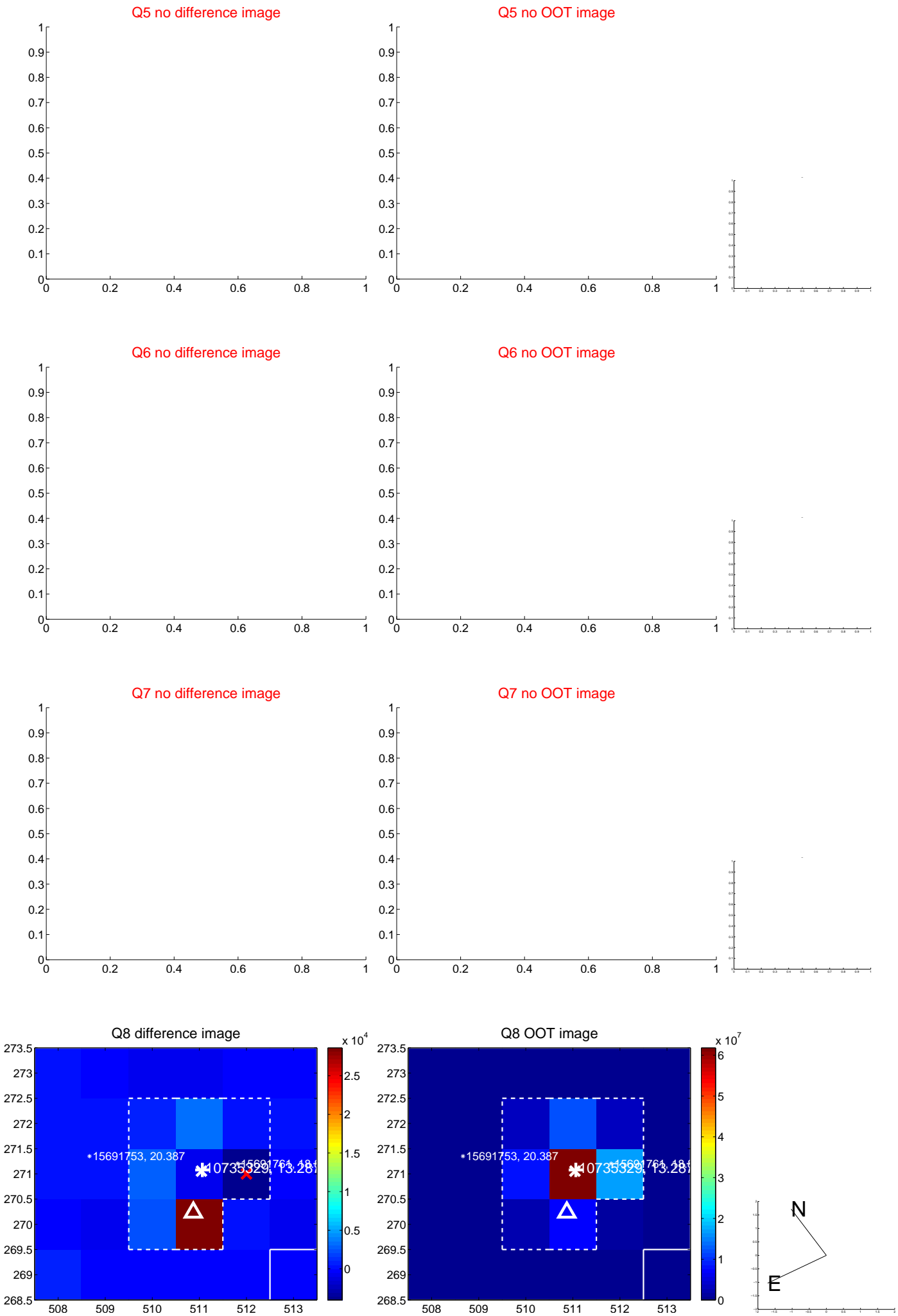


Q4 no OOT image





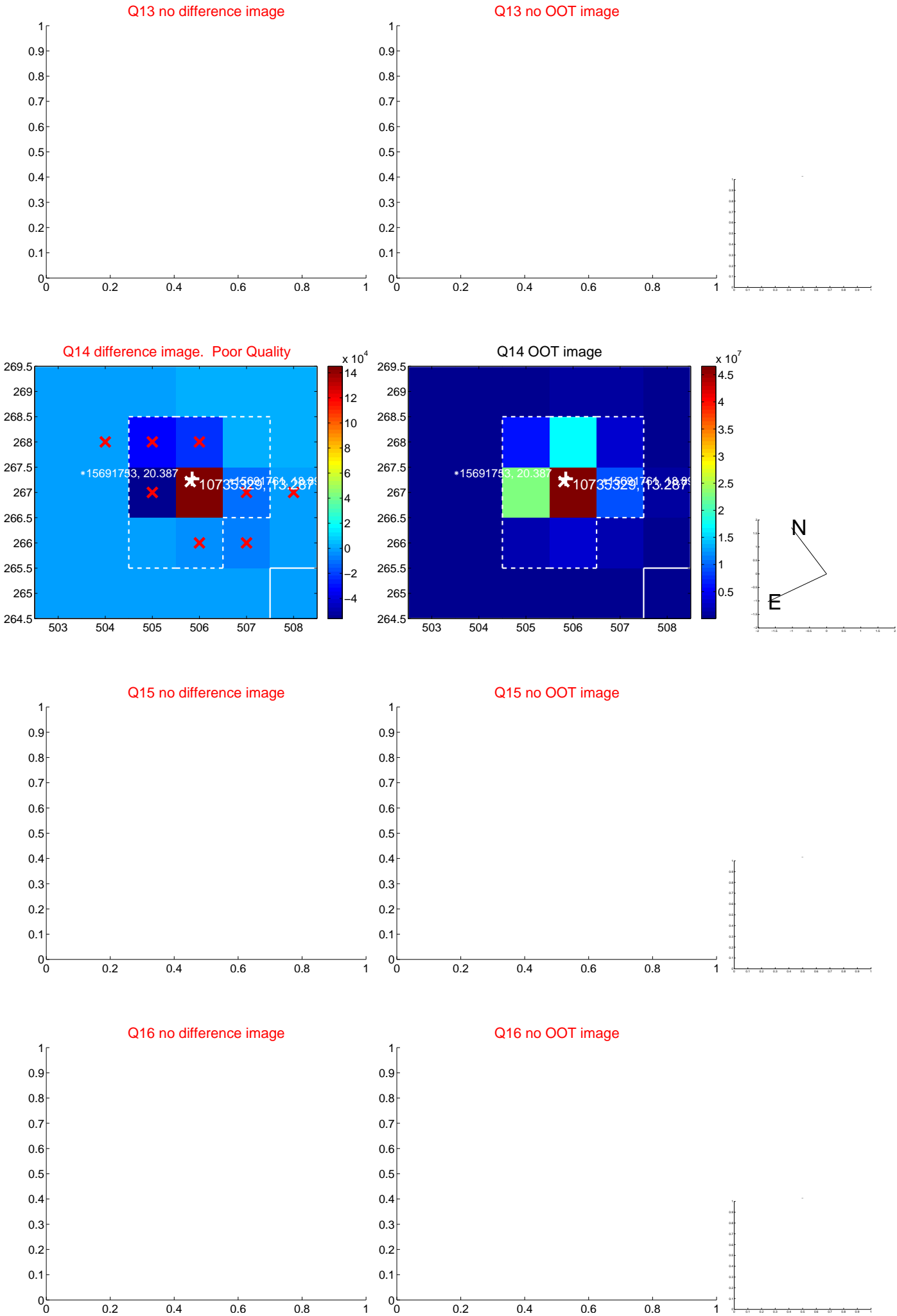
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



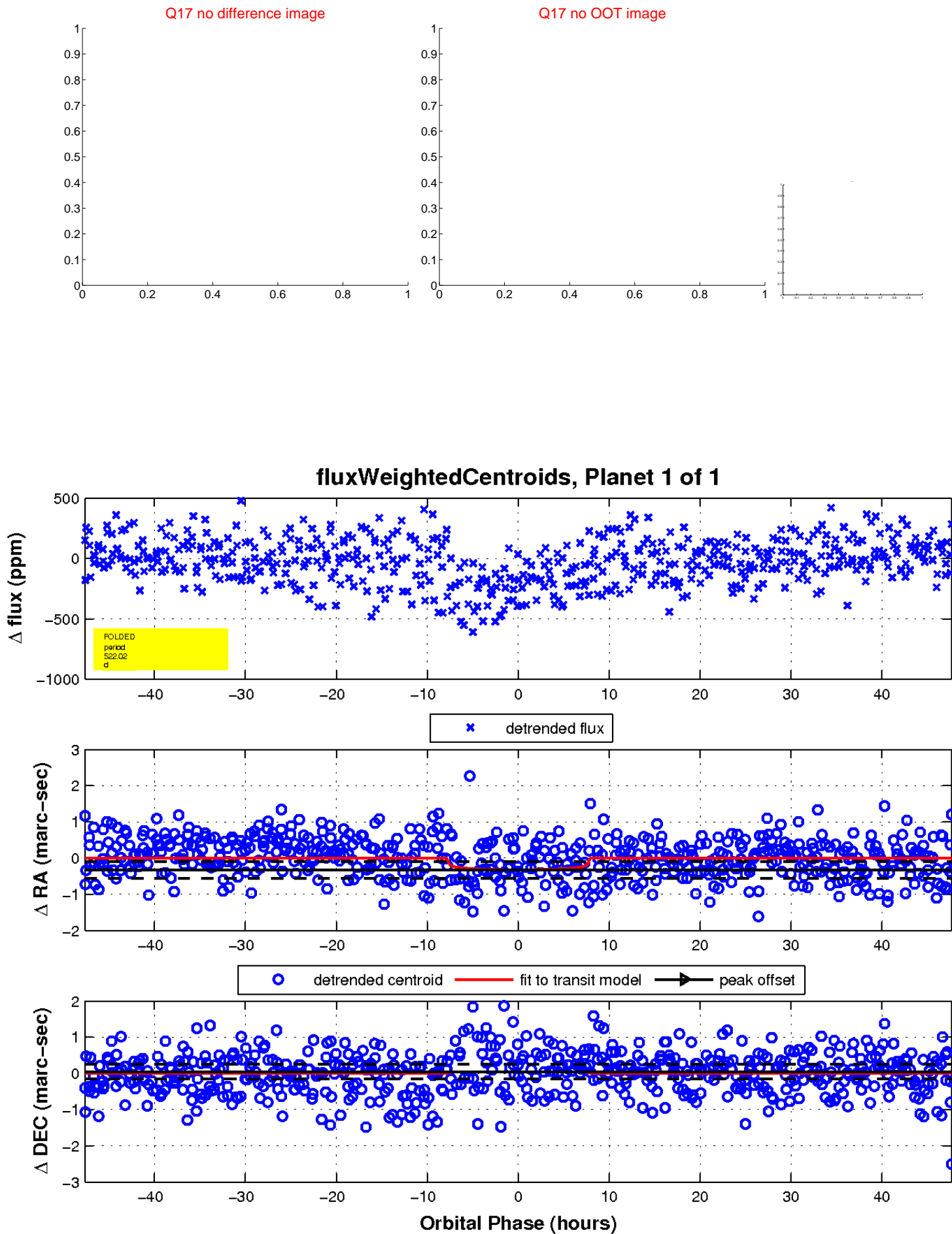
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

