

# KIC 007900770

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007900770-01	OBS	No	367.578065	237.218721	1305.8	10.647	8.4	7.7	0.90	5632	3.25	0.72

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007900770-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

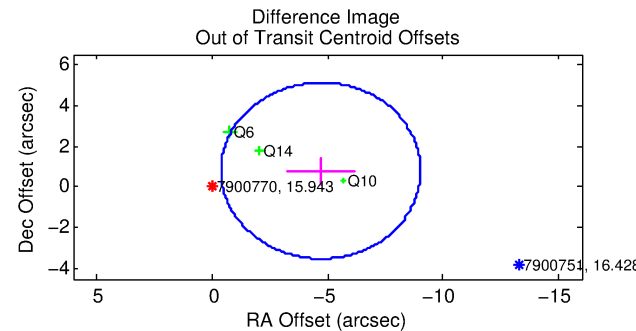
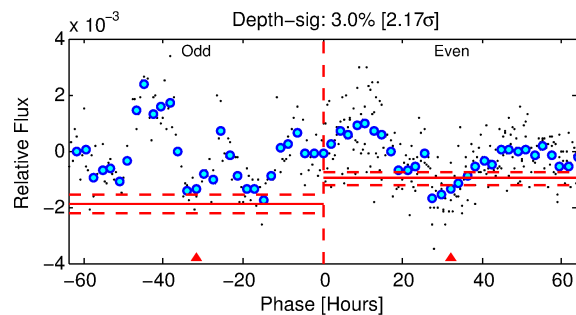
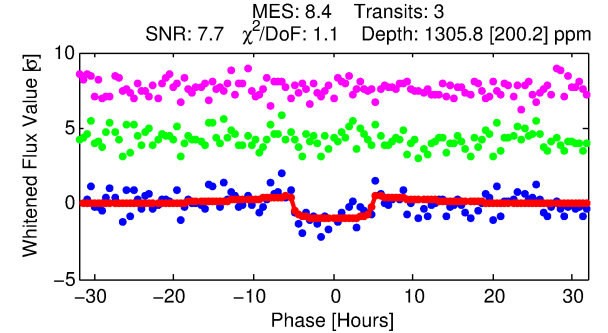
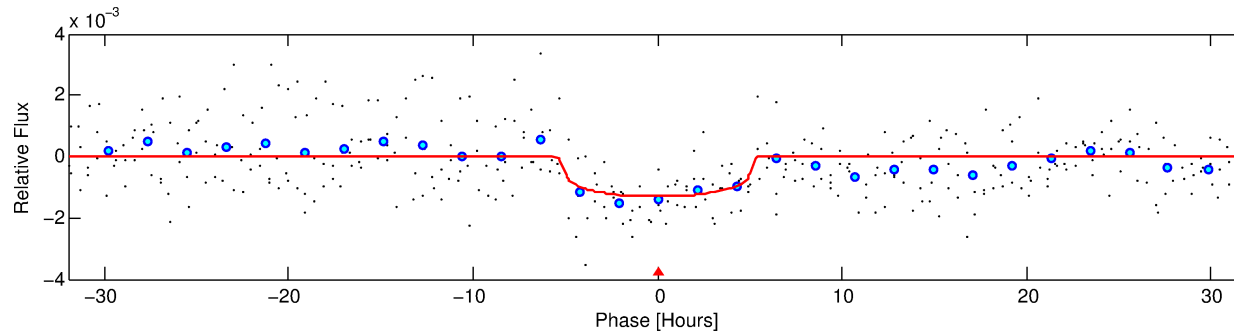
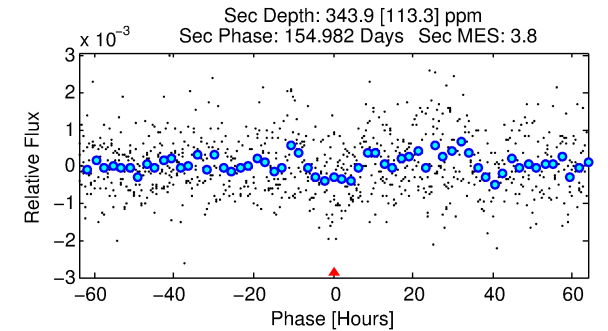
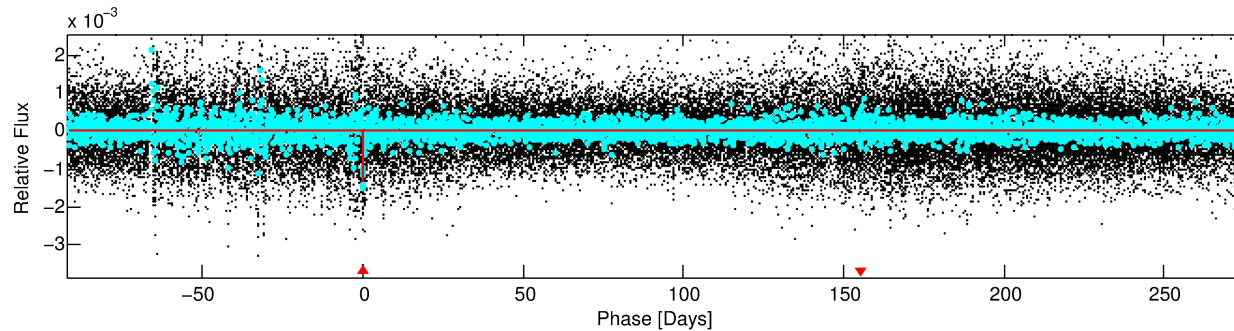
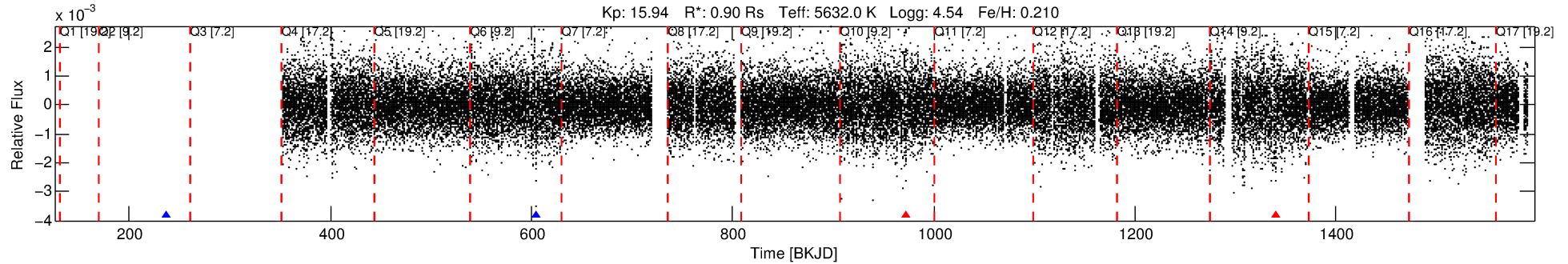
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007900770-01

No Significant Match Found

# DV One-Page Summary

KIC: 7900770 Candidate: 1 of 1 Period: 367.578 d



## DV Fit Results:

Period = 367.57807 [0.01285] d  
Epoch = 237.2187 [0.0285] BKJD  
Rp/R\* = 0.0330 [0.0280]  
a/R\* = 257.93 [874.74]  
b = 0.33 [9.13]  
Seff = 0.72 [0.25]  
Teq = 235 [20] K  
Rp = 3.26 [2.88] Re  
a = 1.0132 [0.2121] AU  
Ag = 18330.62 [32223.10] [0.57σ]  
Teffp = 4222 [1834] K [2.17σ]

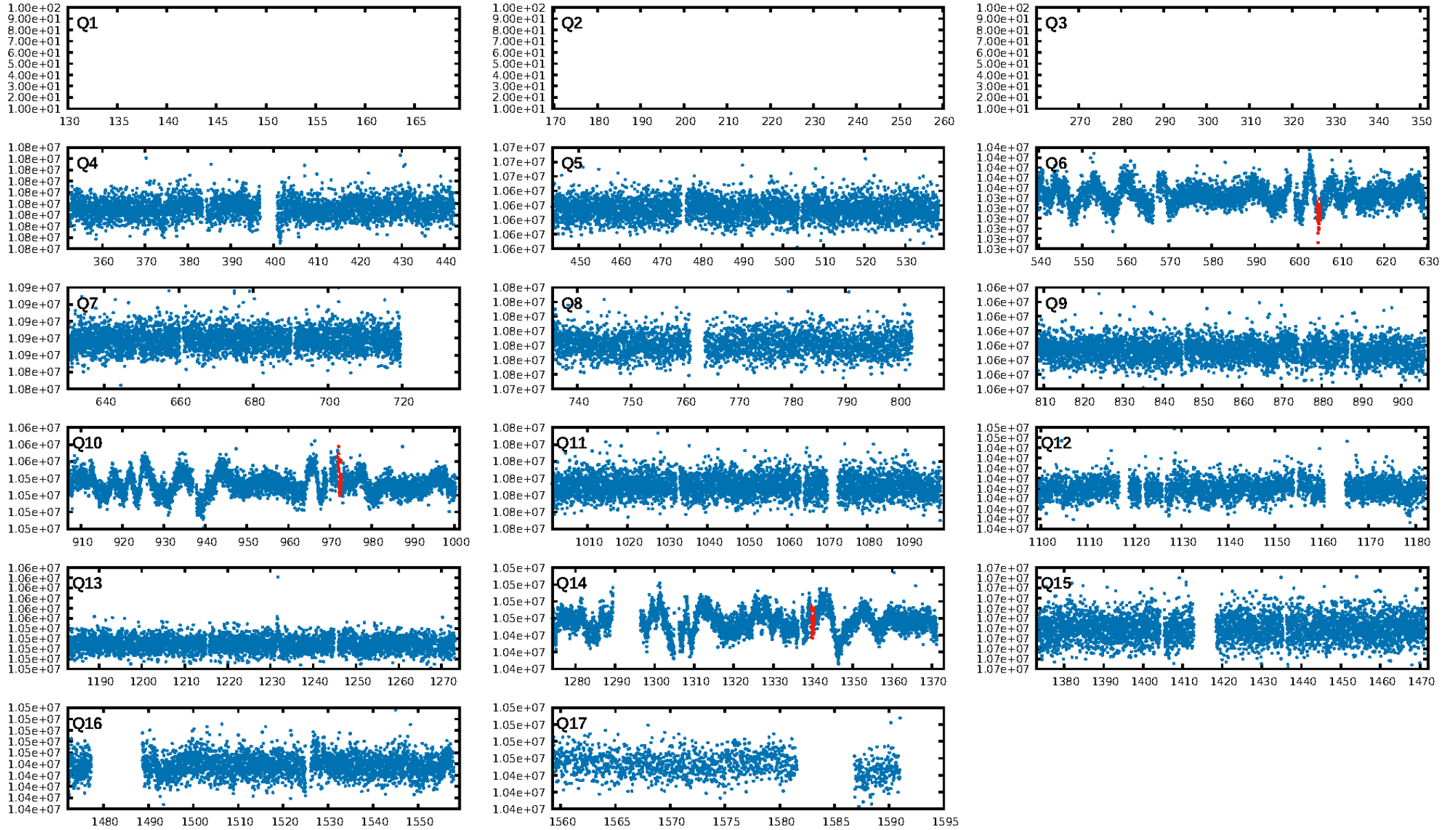
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 53.2%  
ModelChiSquareGof-sig: 99.1%  
**Bootstrap-pfa: 1.81e-12**  
**RollingBand-fgt: 0.33 [1/3]**  
GhostDiagnostic-chr: 1.348  
**Centroid-sig: 0.2%**  
Centroid-so: 4.558 arcsec [2.71σ]  
**OotOffset-rm: 4.777 arcsec [3.32σ]**  
**KicOffset-rm: 4.546 arcsec [3.13σ]**  
OotOffset-st: 3/0/0/0 [3]  
KicOffset-st: 3/0/0/0 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 1.00 [3/3]

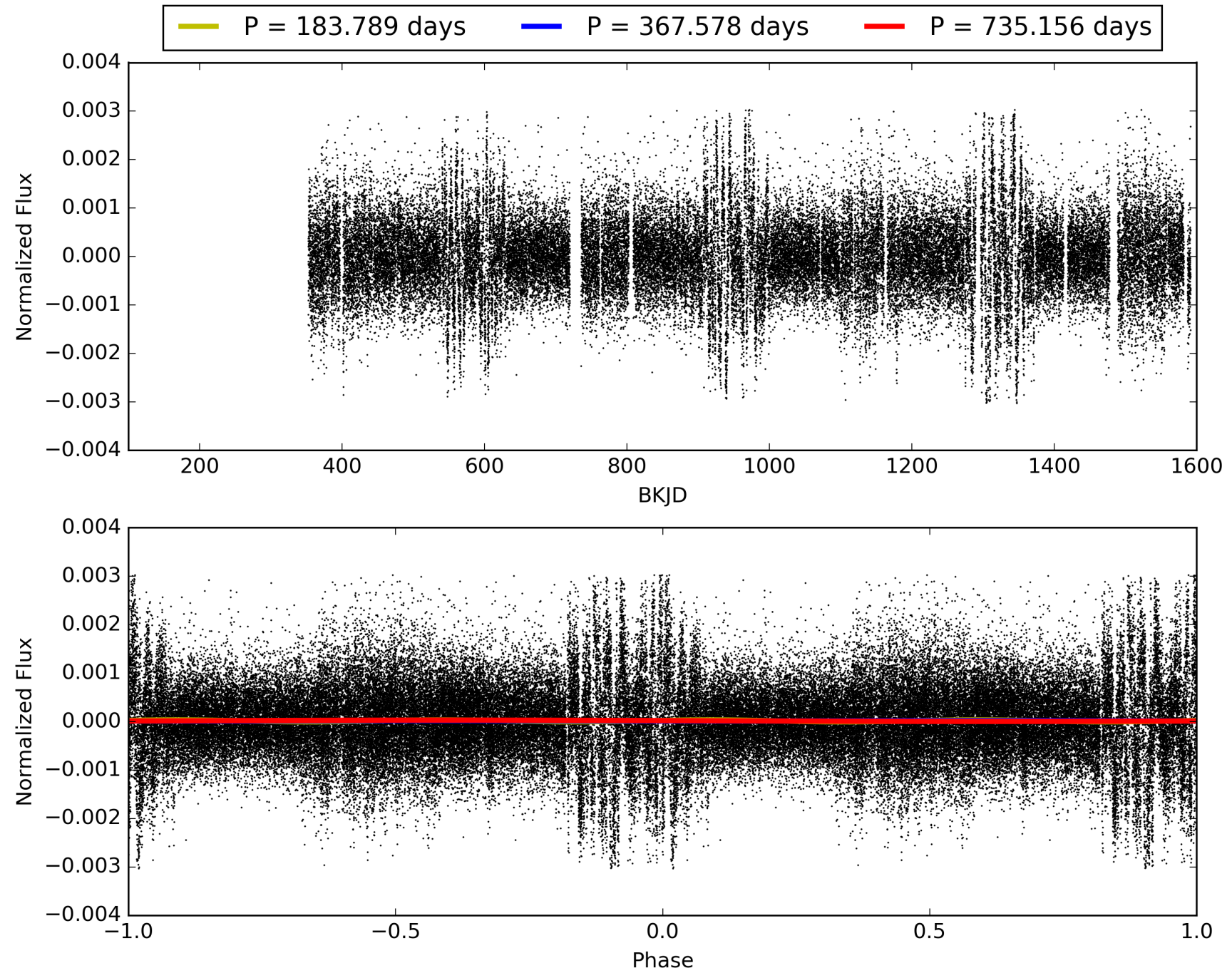
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:41:36 Z

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

# TCE 007900770-01, PDC Light Curves

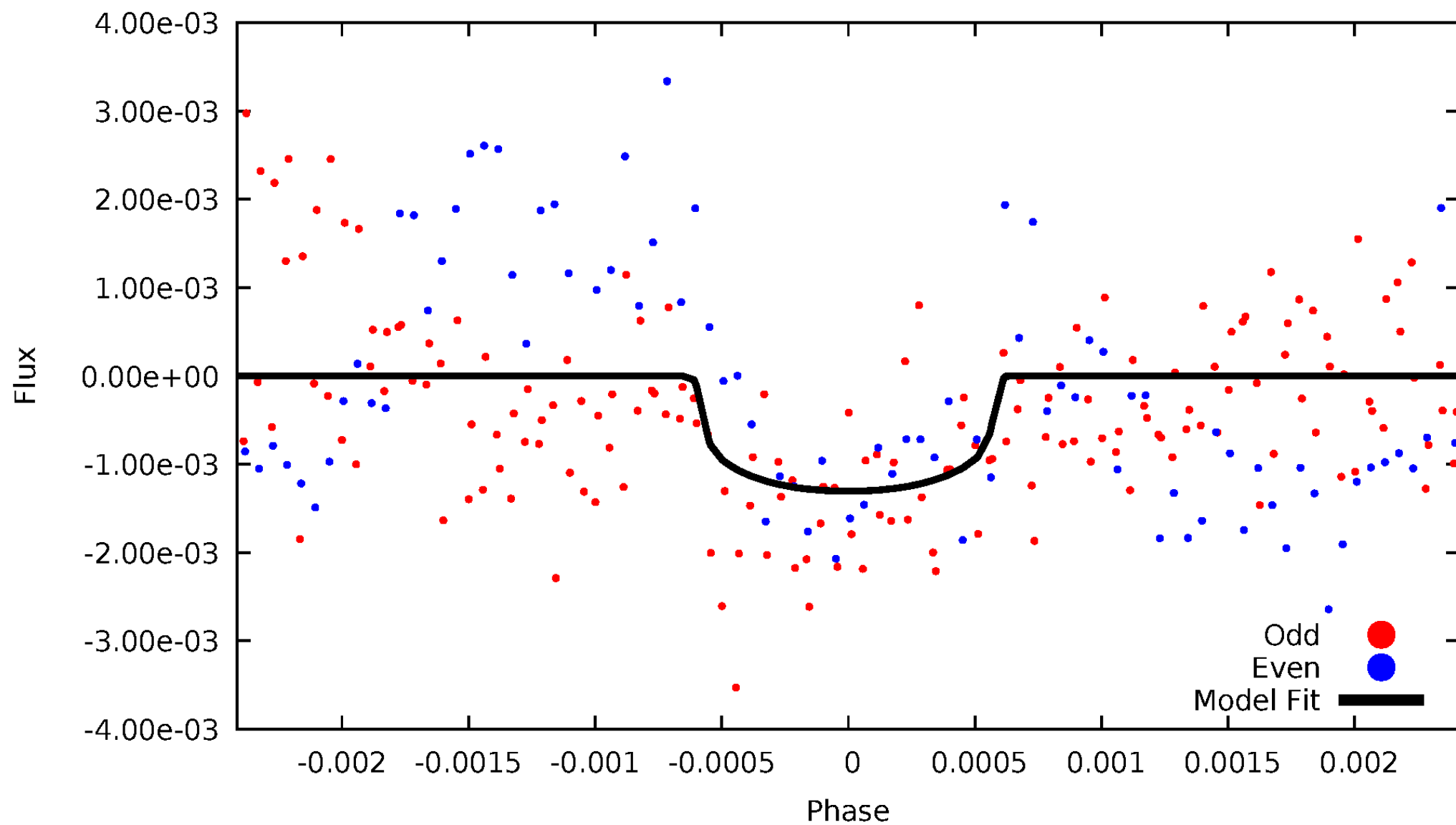


TCE 007900770-01



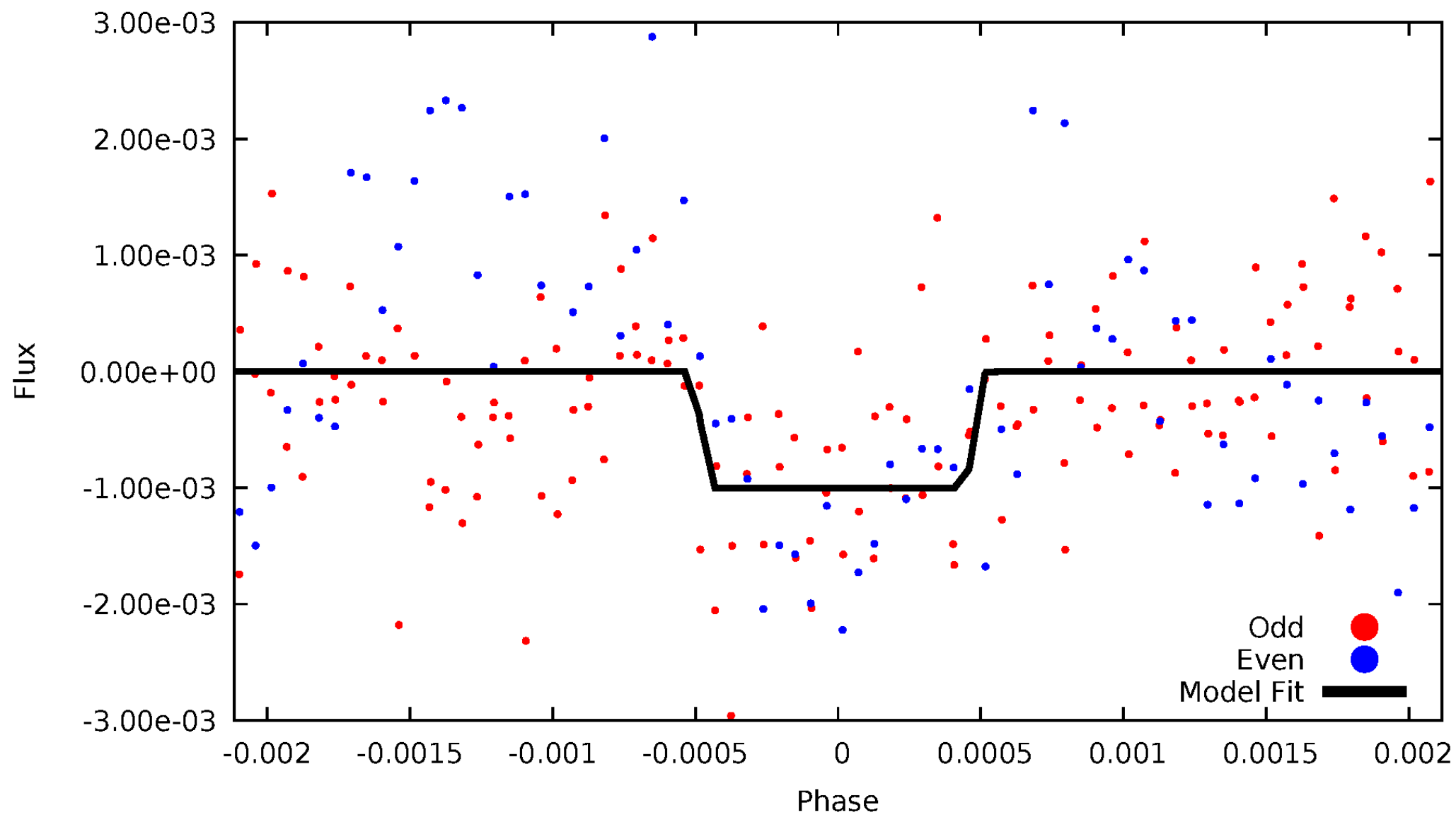
# DV Odd/Even

TCE 007900770-01

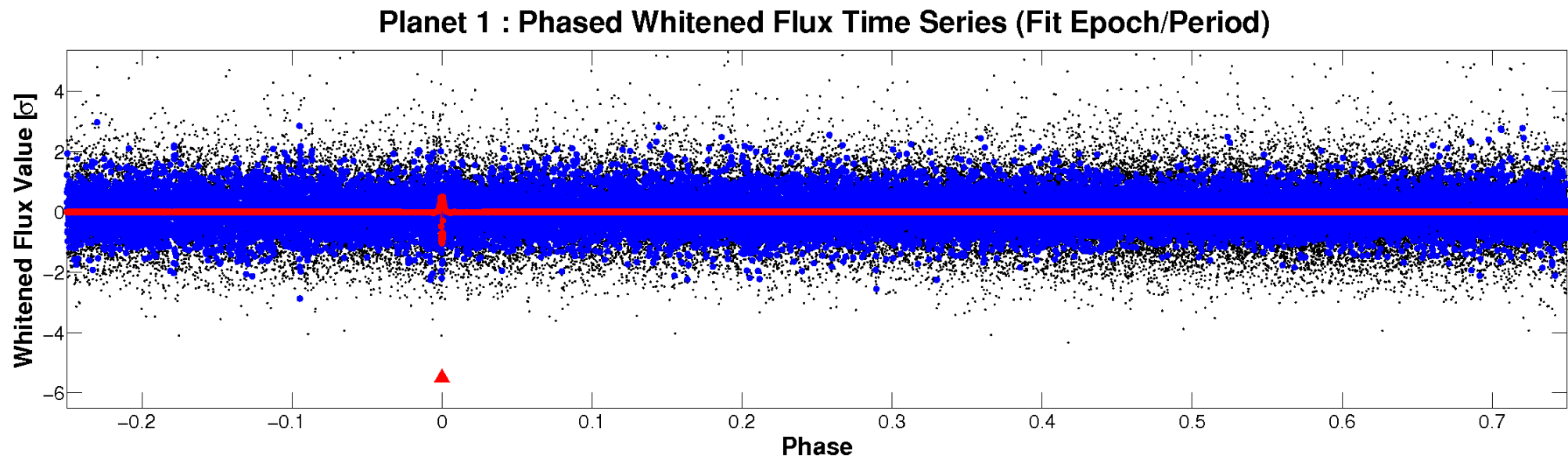
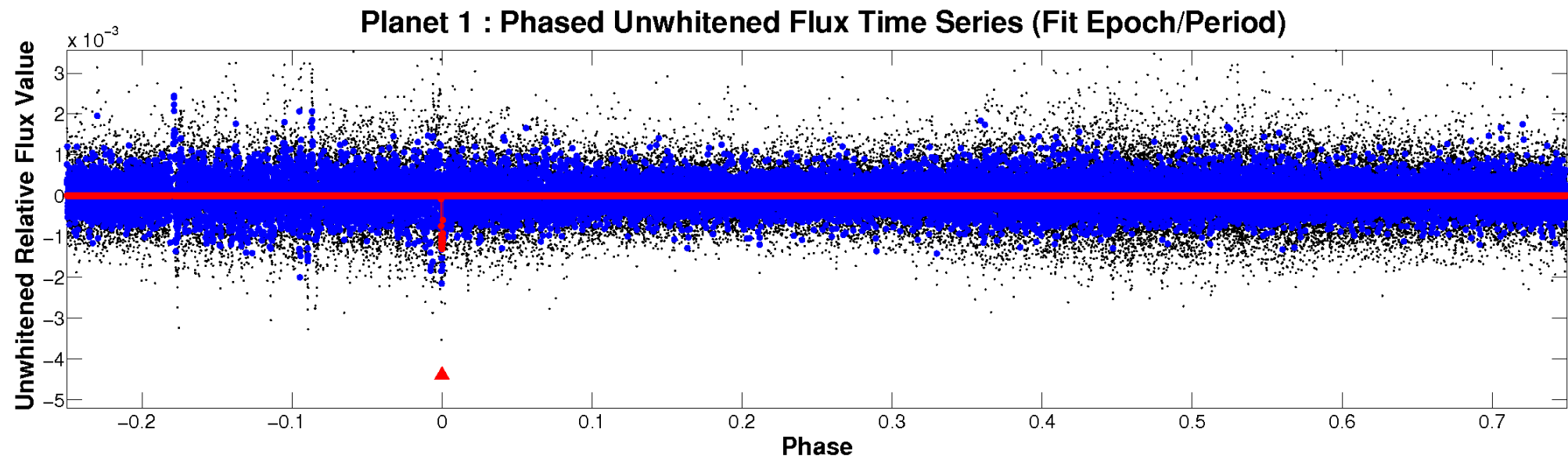


# ALT Odd/Even

TCE 007900770-01



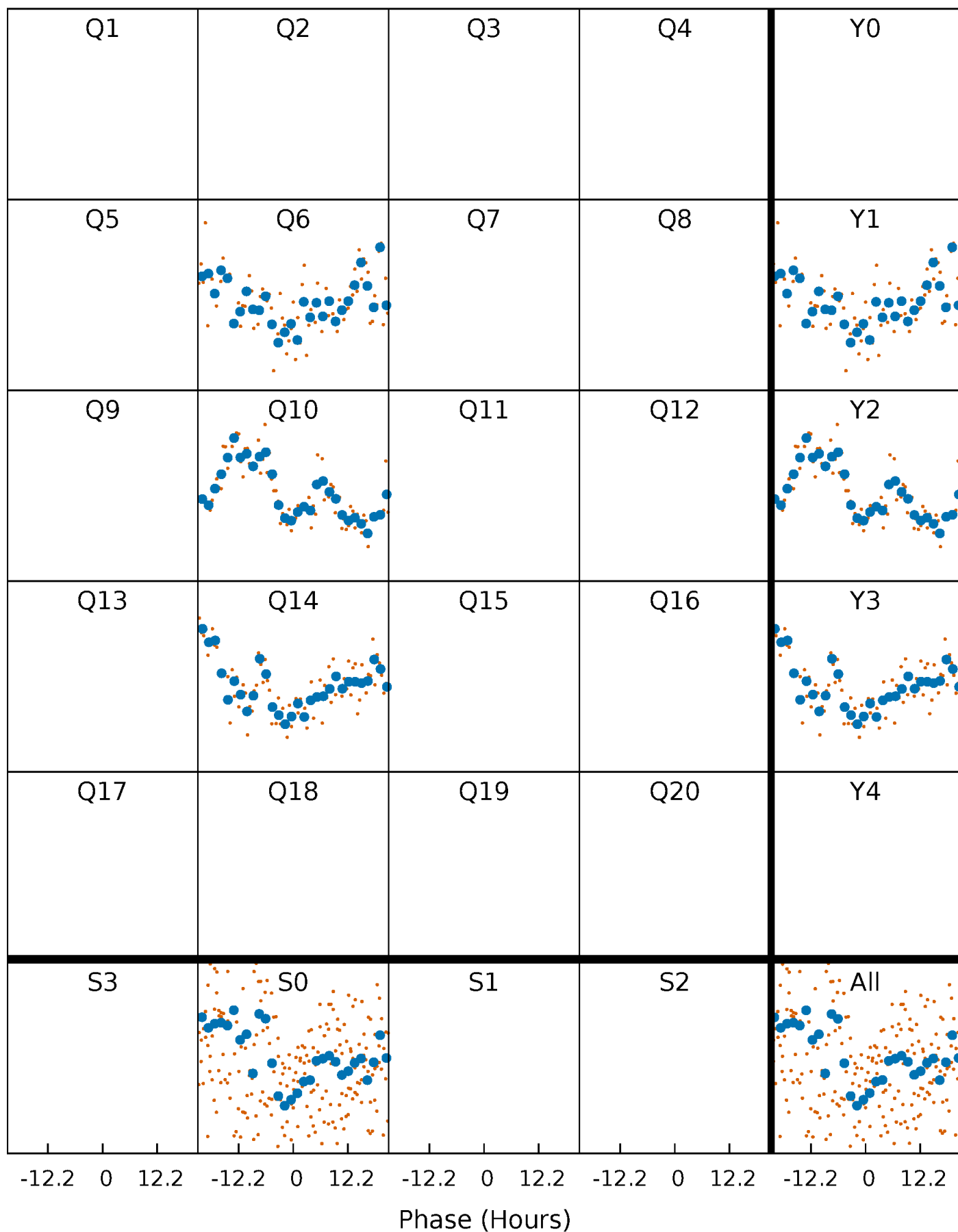
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

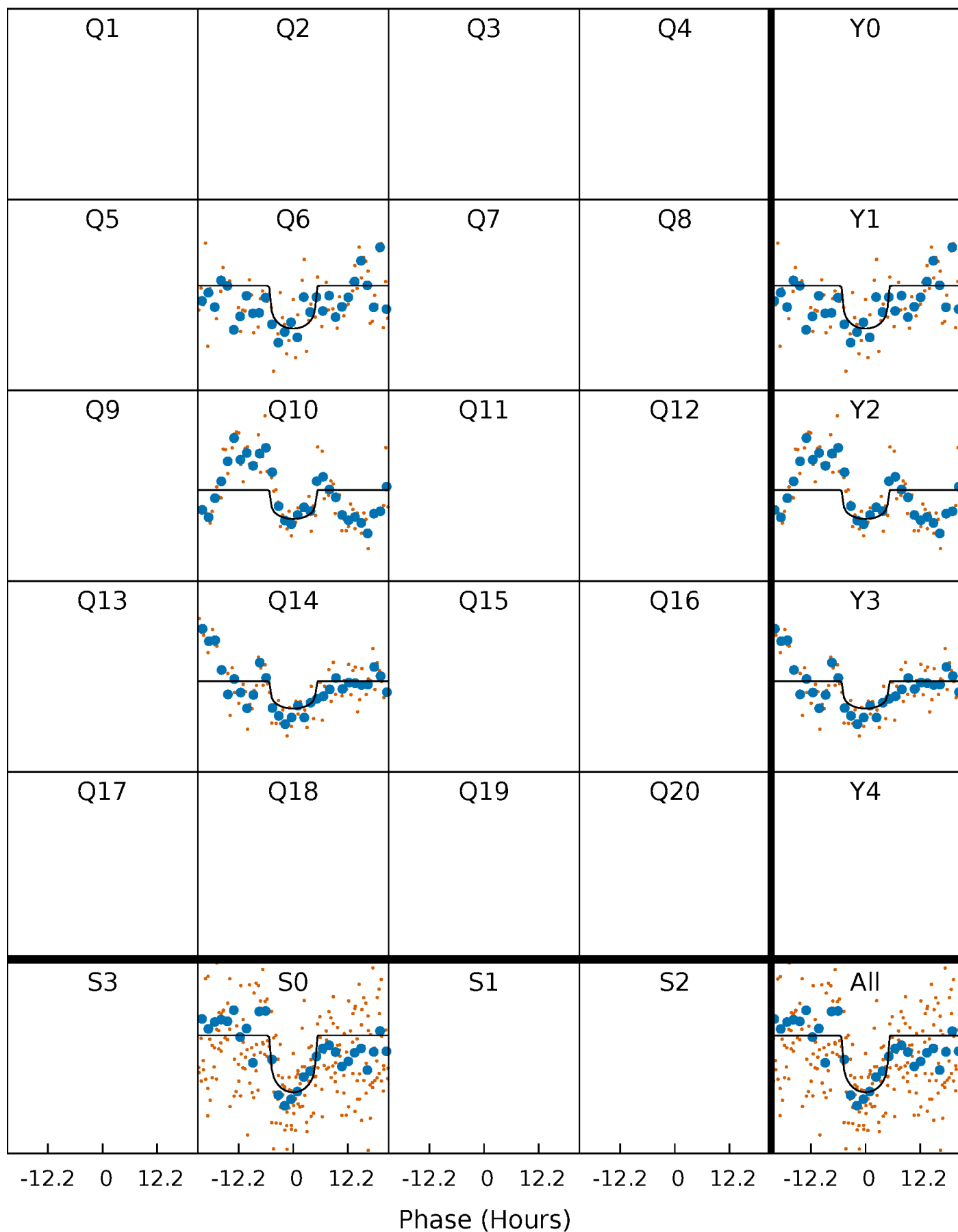
TCE 007900770-01 P=367.578065 Days  $T_0=237.218721$  (BKJD)





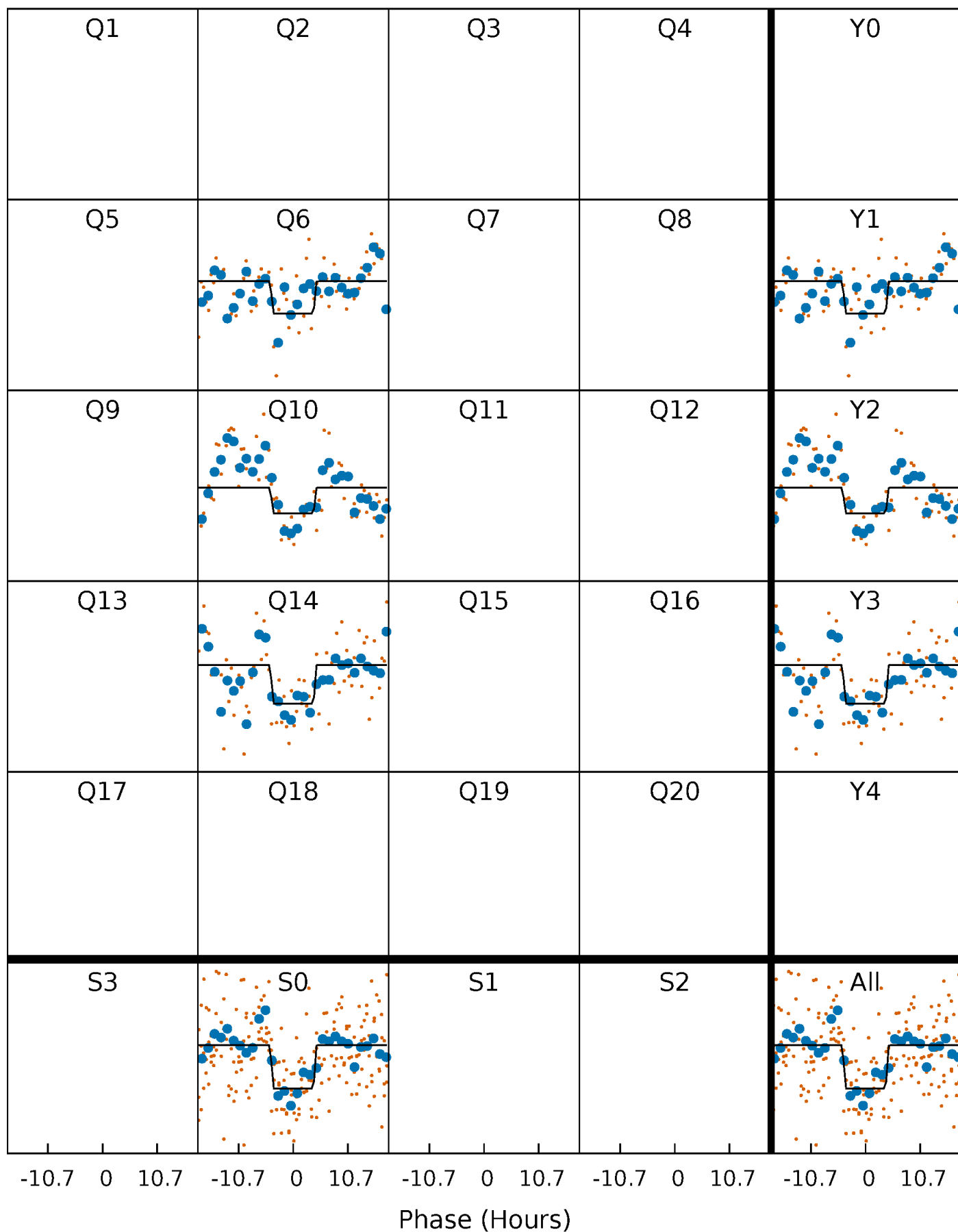
# DV Quarter-Phased Transit Curves

TCE 007900770-01 P=367.578065 Days  $T_0=237.218721$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

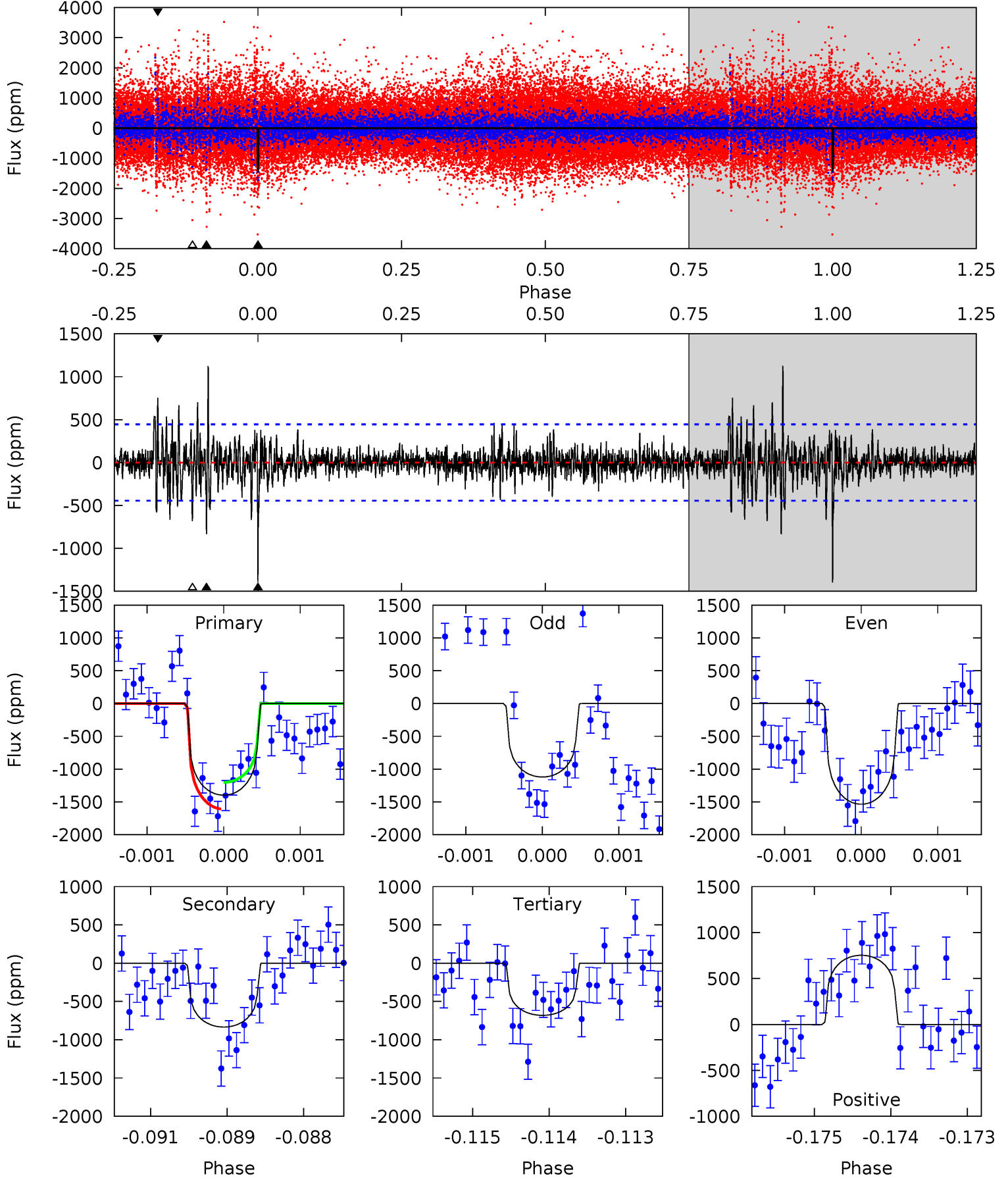
TCE 007900770-01 P=367.579311 Days  $T_0=237.192462$  (BKJD)



# DV Model-Shift Uniqueness Test

007900770-01, P = 367.578065 Days, E = 237.218721 Days

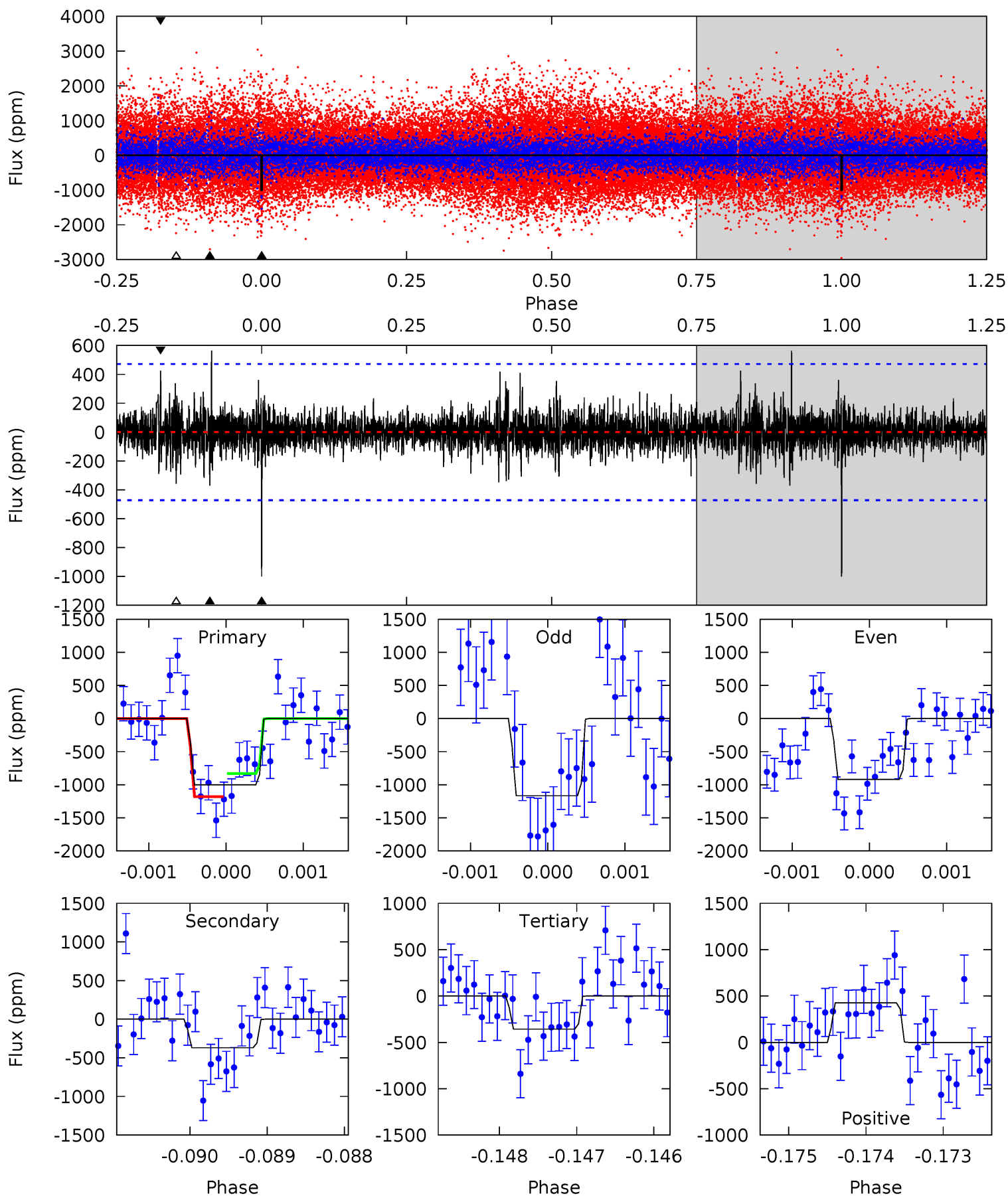
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	10.1	8.29	9.16	5.41	3.22	1.66	8.71	7.84	1.86	0.99	2.39	1.05	0.45	2.47



# Alt Model-Shift Uniqueness Test

007900770-01, P = 367.579311 Days, E = 237.192462 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
11.6	4.27	4.12	4.91	5.44	3.28	0.98	7.43	6.64	0.14	-0.64	1.35	0.91	0.36	2.03



### Stellar Parameters For KIC 007900770

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5632^{+155}_{-214}$	$4.537^{+0.030}_{-0.170}$	$0.210^{+0.200}_{-0.300}$	$0.904^{+0.222}_{-0.074}$	$1.026^{+0.084}_{-0.126}$	$1.954^{+0.319}_{-0.885}$
	+3%/-4%	+1%/-4%	+95%/-143%	+25%/-8%	+8%/-12%	+16%/-45%
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 007900770-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-834 \pm 82$	$3.79^{+2.92}_{-2.20}$	$336^{+18}_{-17}$	$4995^{+2769}_{-945}$	$31985^{+144320}_{-21736}$
Alt.	$-370 \pm 87$	$3.57^{+2.59}_{-2.15}$	$335^{+19}_{-16}$	$4334^{+2208}_{-729}$	$15395^{+79974}_{-10286}$

$T_{max}$  = 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

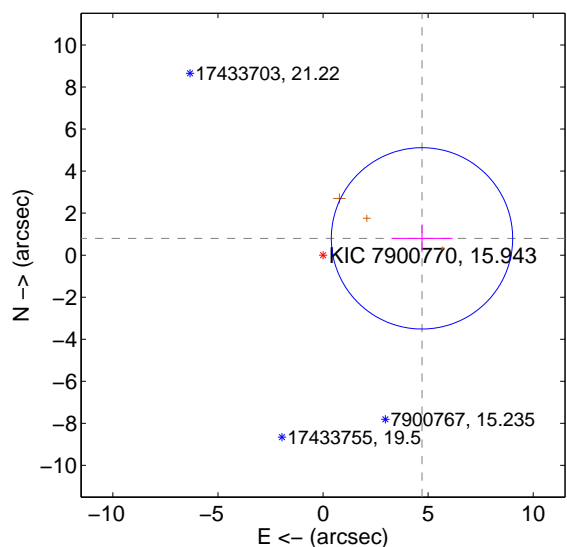
Supplemental centroid analysis for 007900770-01. Kepler magnitude: 15.94. Transit SNR 7.66

There are 0 quarters with good PRF difference image offsets

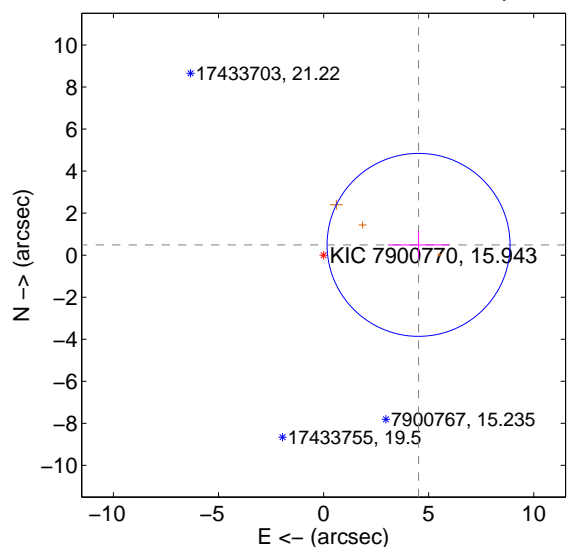
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	4.777 $\pm$ 1.438	3.32	-4.709 $\pm$ 1.454	0.800 $\pm$ 0.658
PRF-fit source offset from KIC position	4.546 $\pm$ 1.451	3.13	-4.520 $\pm$ 1.458	0.490 $\pm$ 0.655
photometric centroid source offset	4.56 $\pm$ 1.68	2.71	3.92 $\pm$ 1.68	-2.32 $\pm$ 1.67

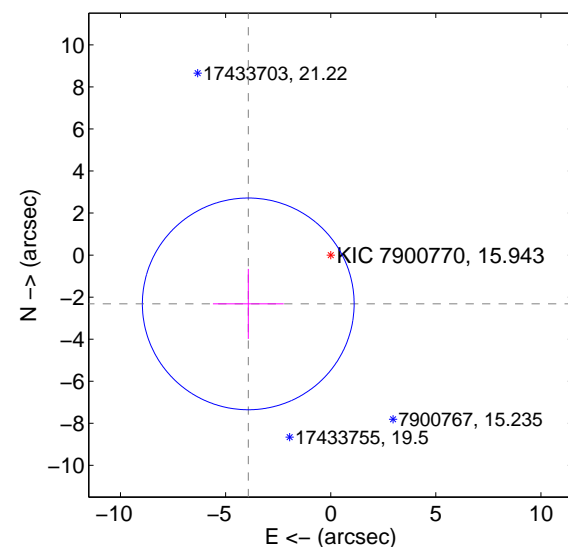
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



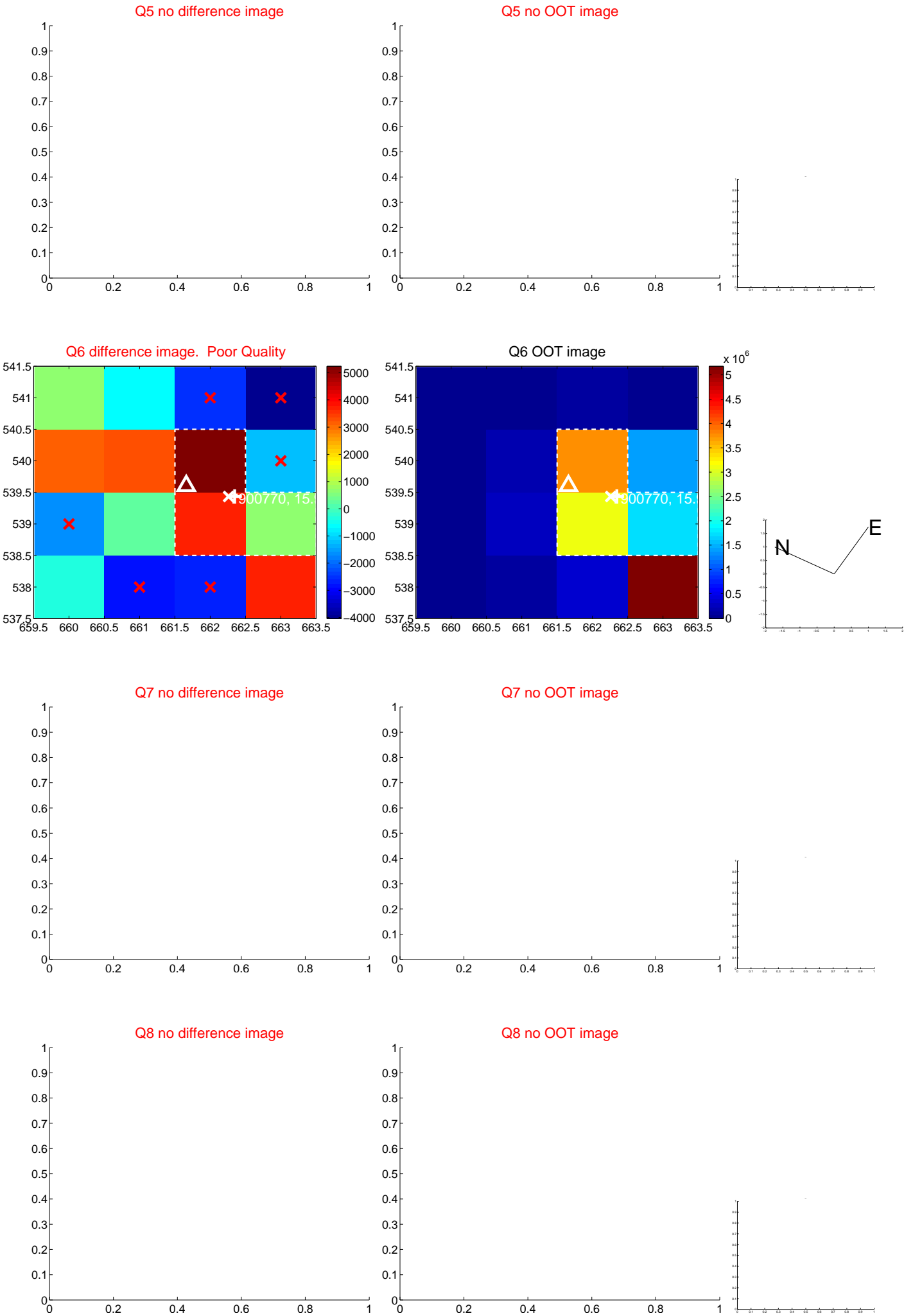
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

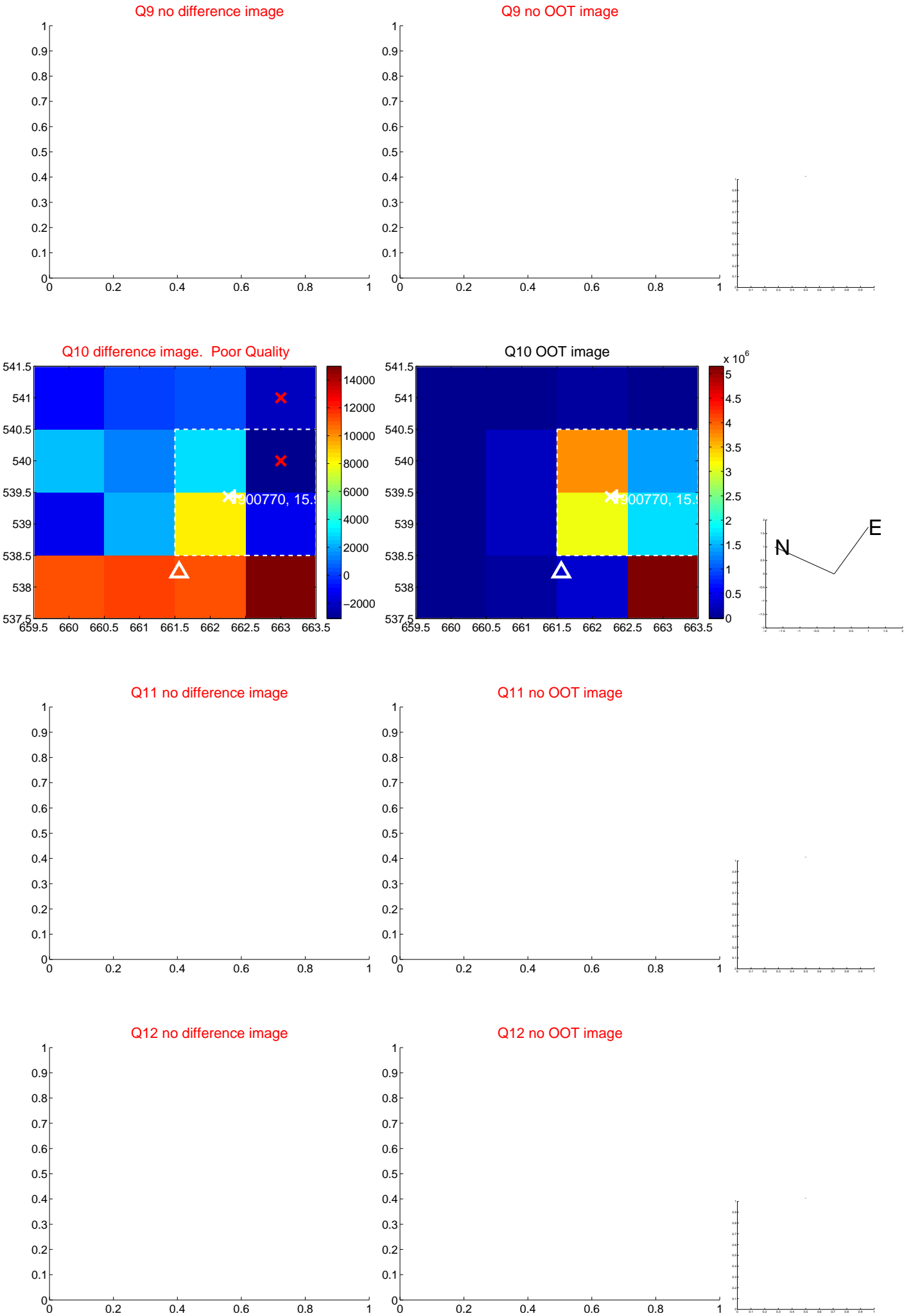




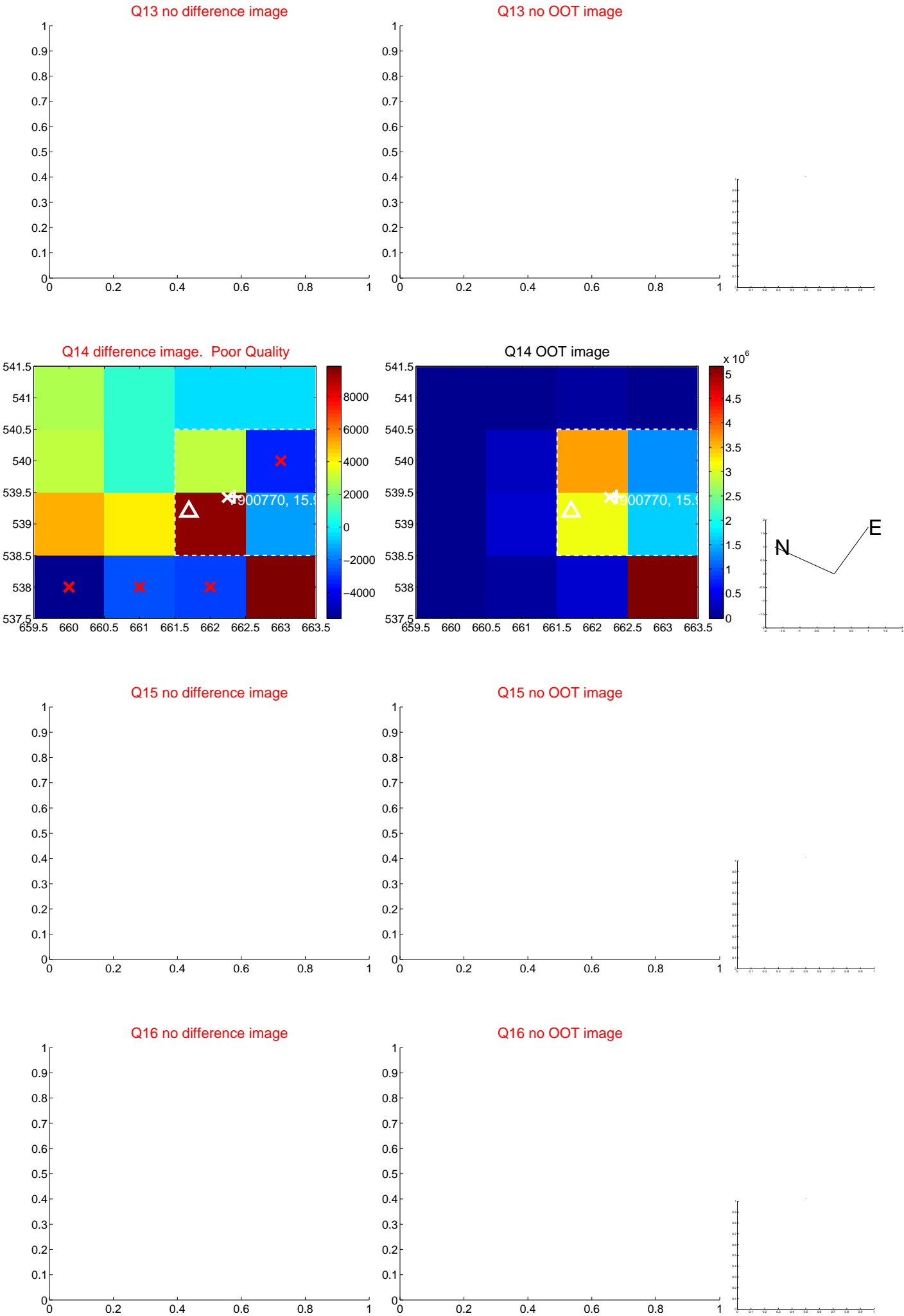
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



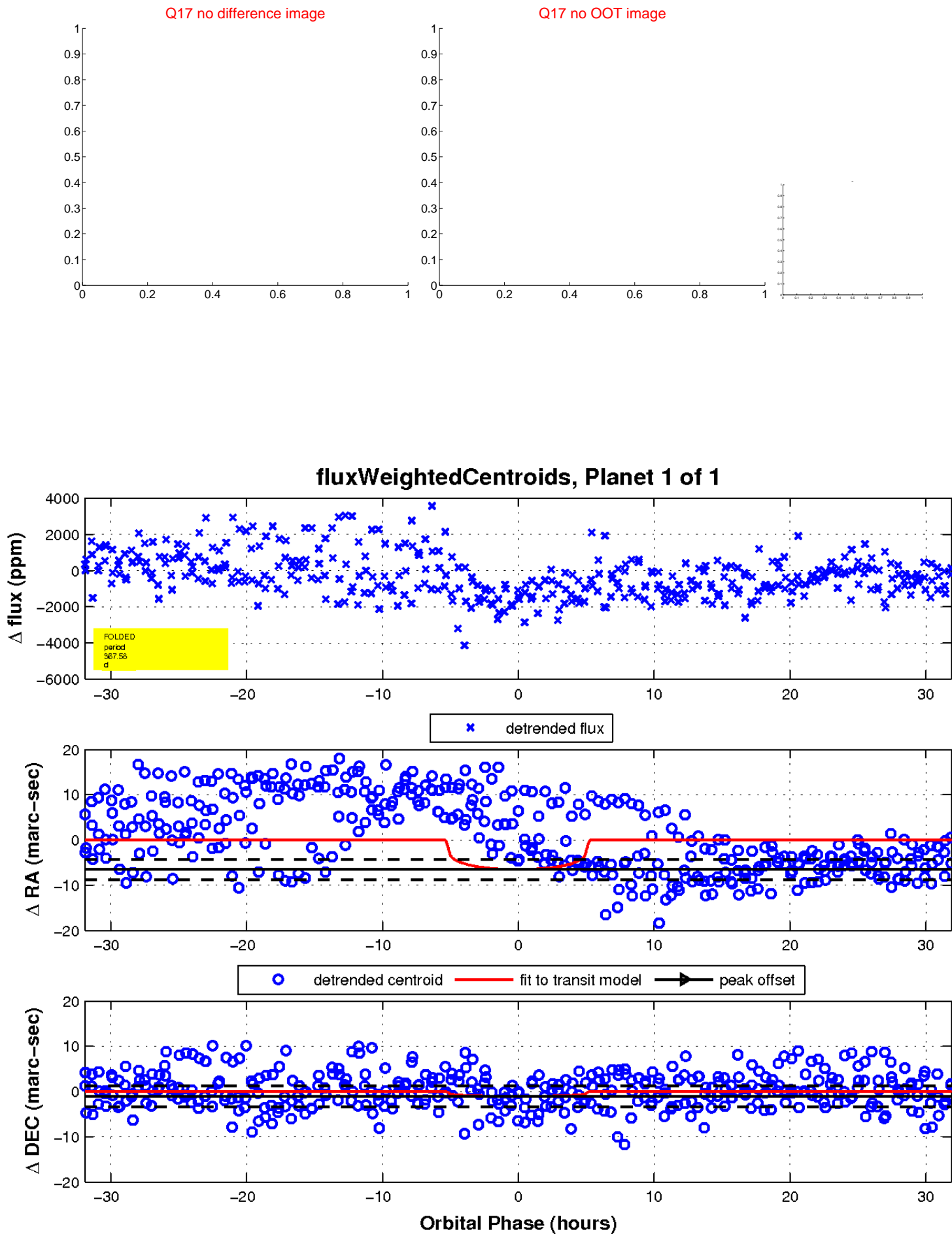
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

