

# KIC 007902073

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007902073-01	OBS	No	369.723683	232.361936	526.9	5.897	7.7	6.8	0.81	5352	1.98	0.50

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007902073-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

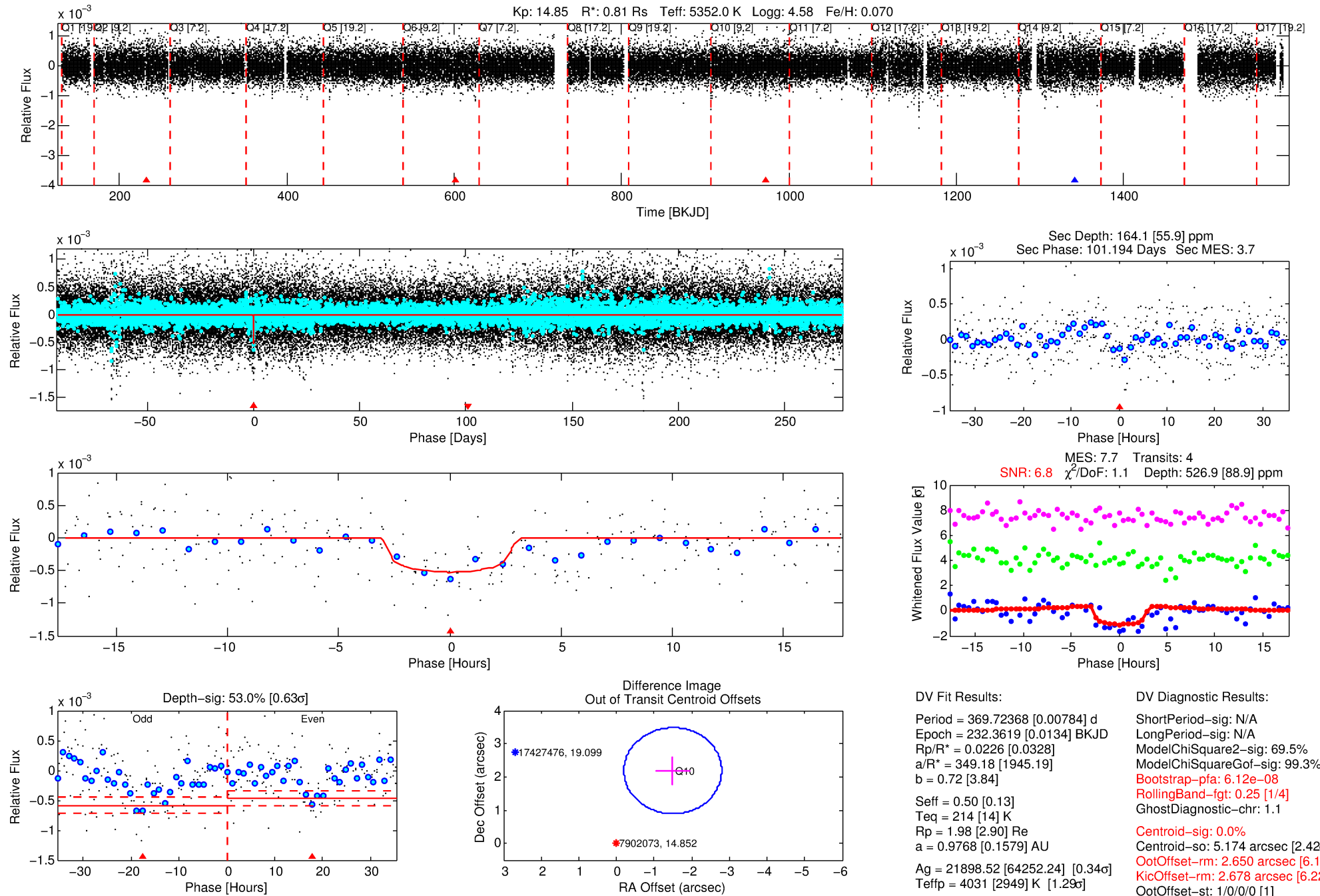
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007902073-01

No Significant Match Found

# DV One-Page Summary

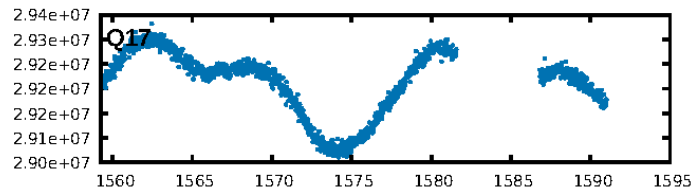
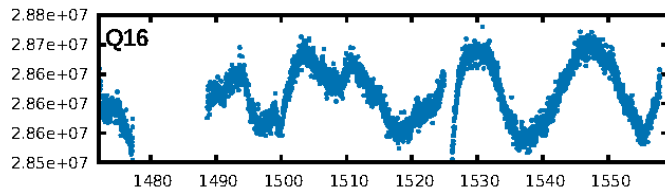
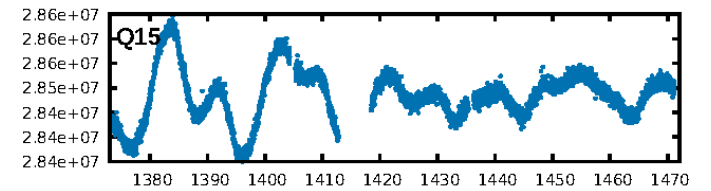
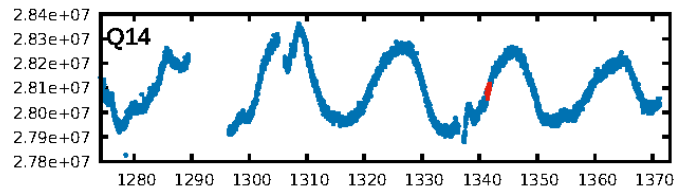
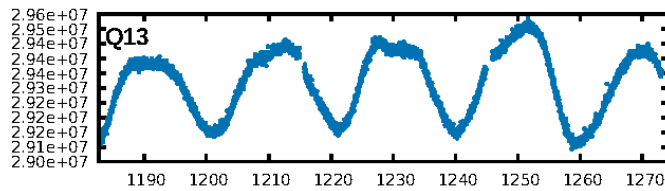
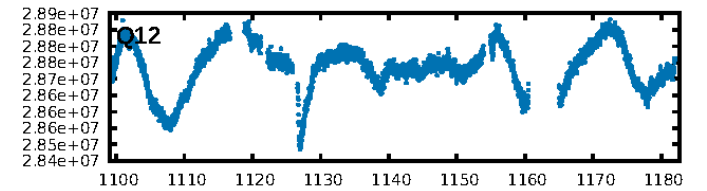
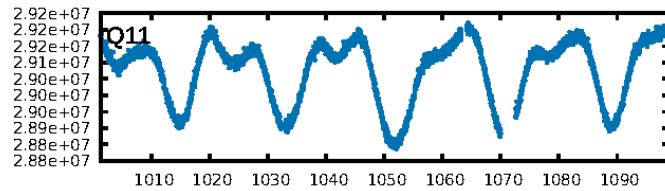
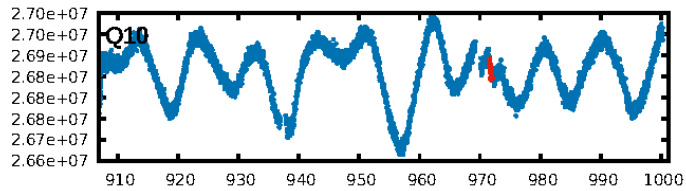
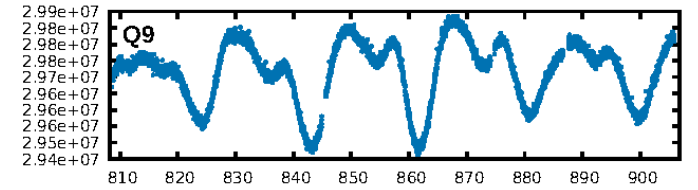
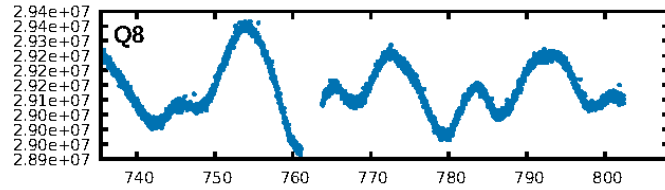
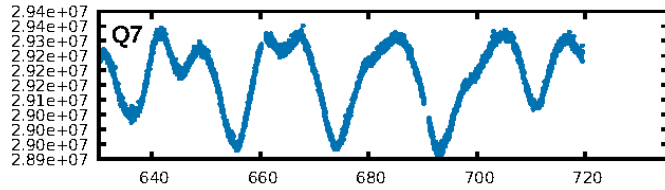
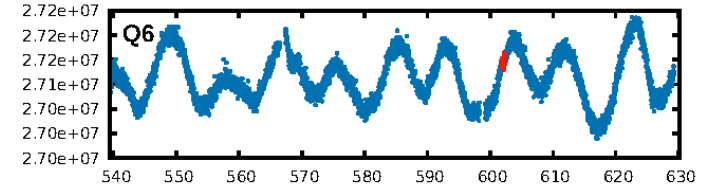
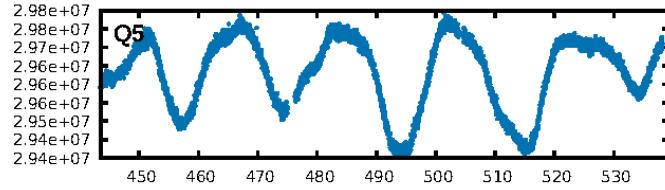
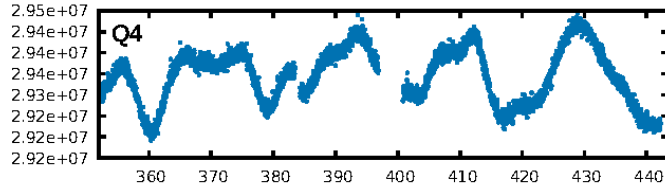
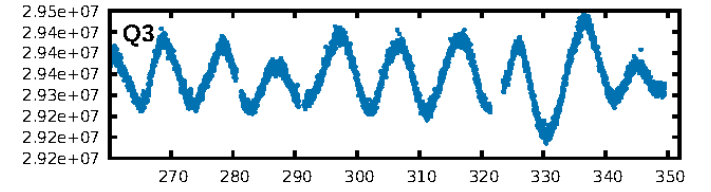
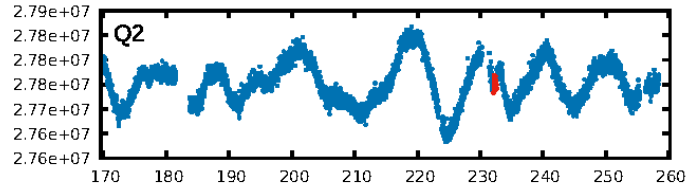
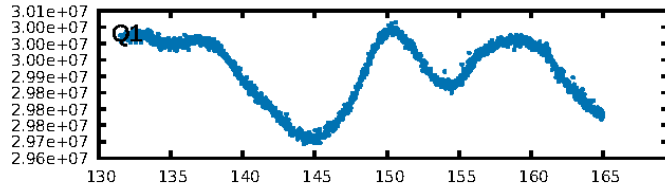
KIC: 7902073 Candidate: 1 of 1 Period: 369.724 d



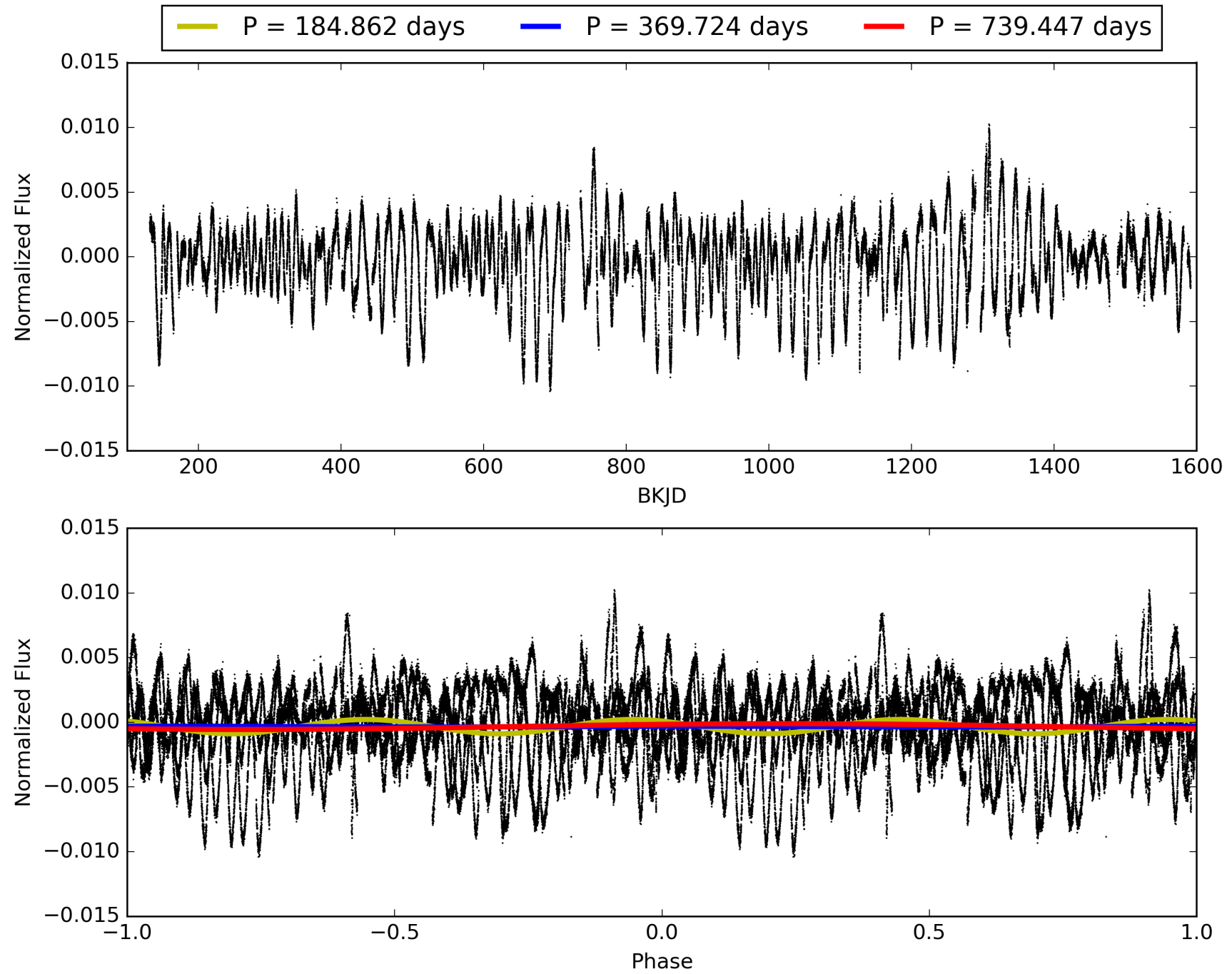
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:11:07 Z

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

# TCE 007902073-01, PDC Light Curves

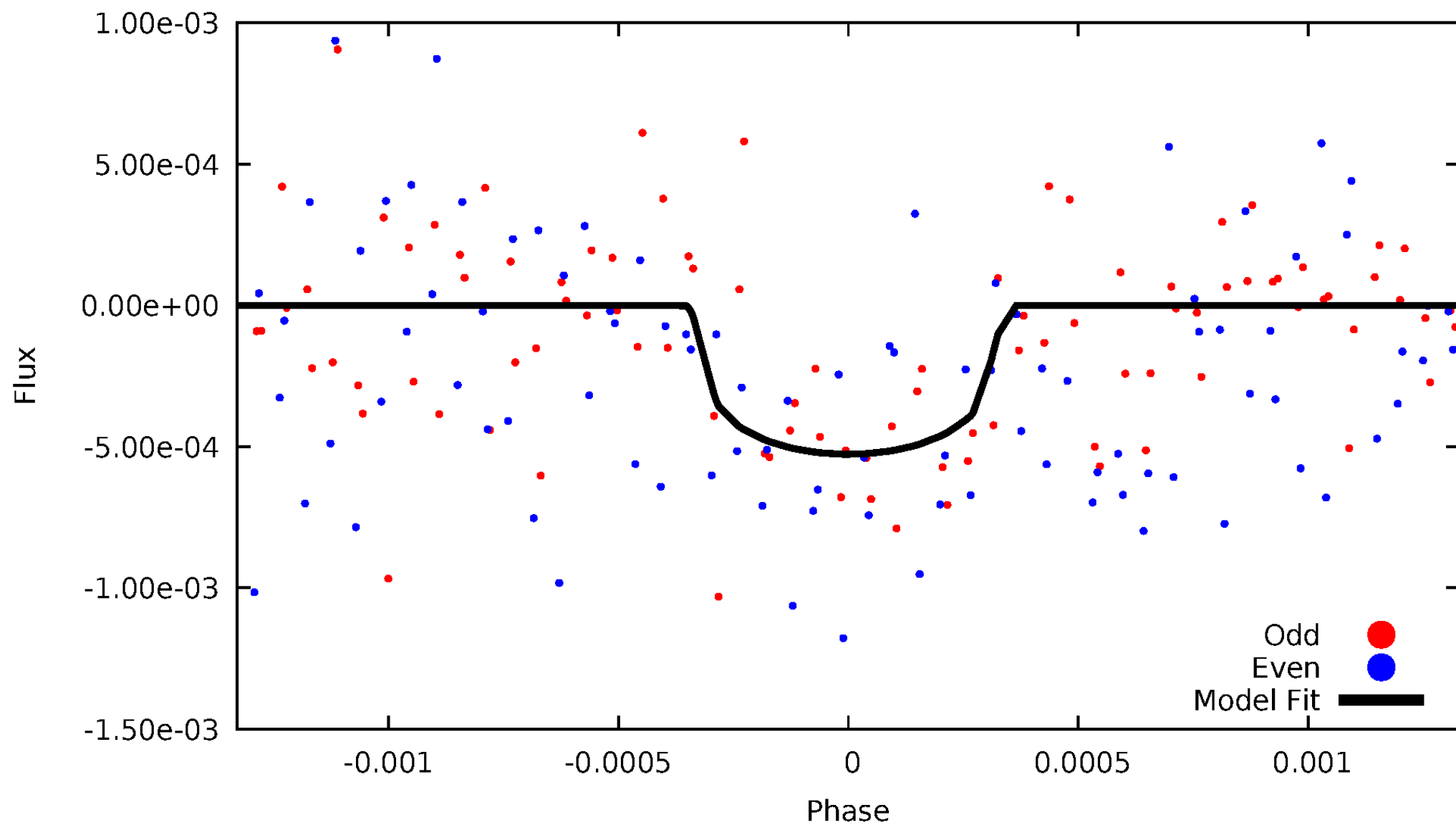


TCE 007902073-01



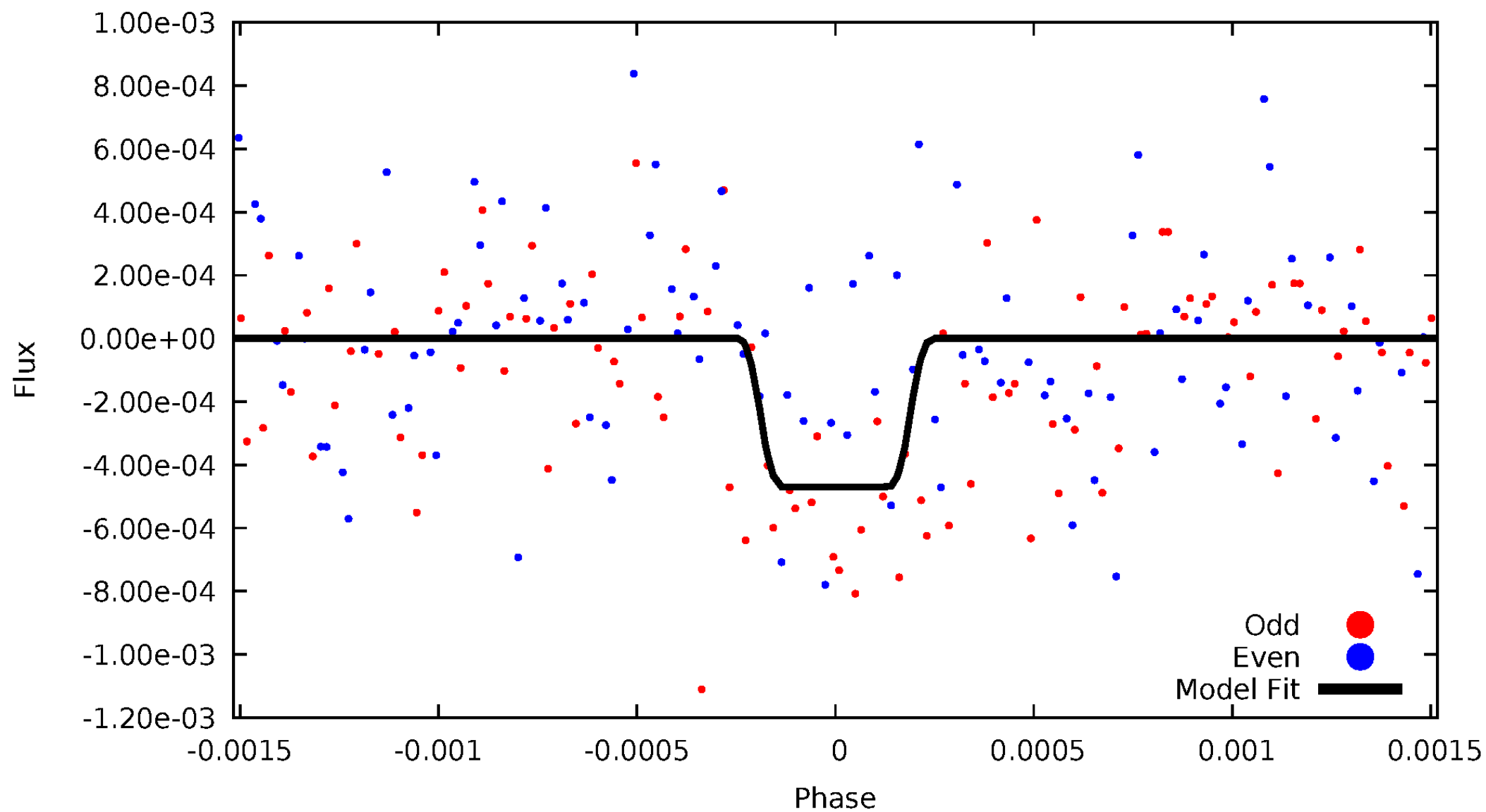
# DV Odd/Even

TCE 007902073-01

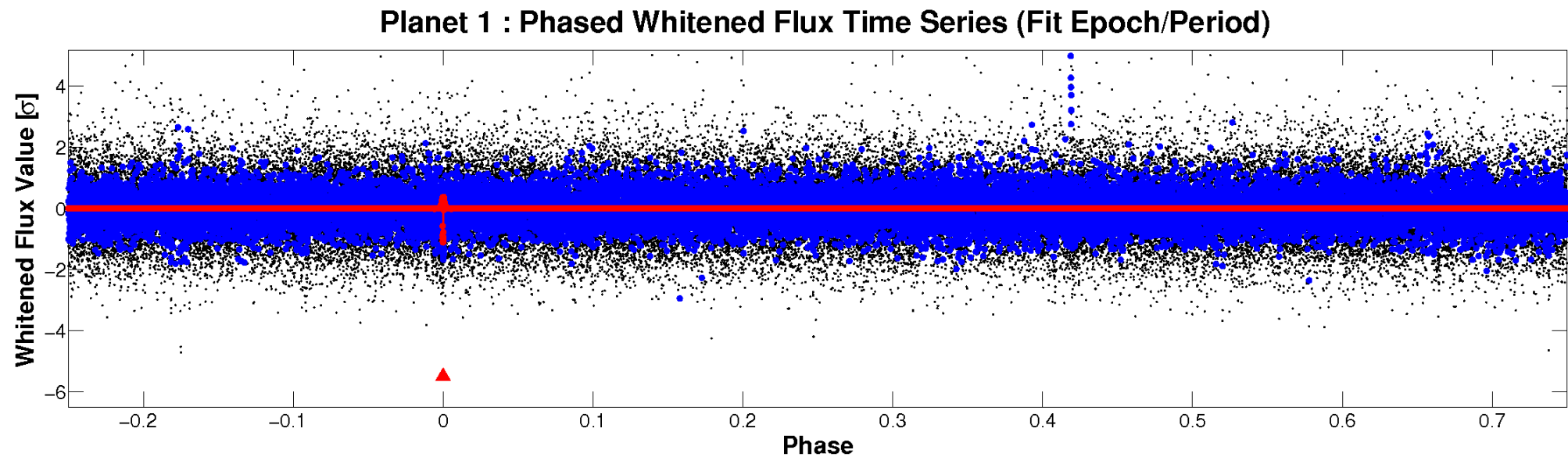
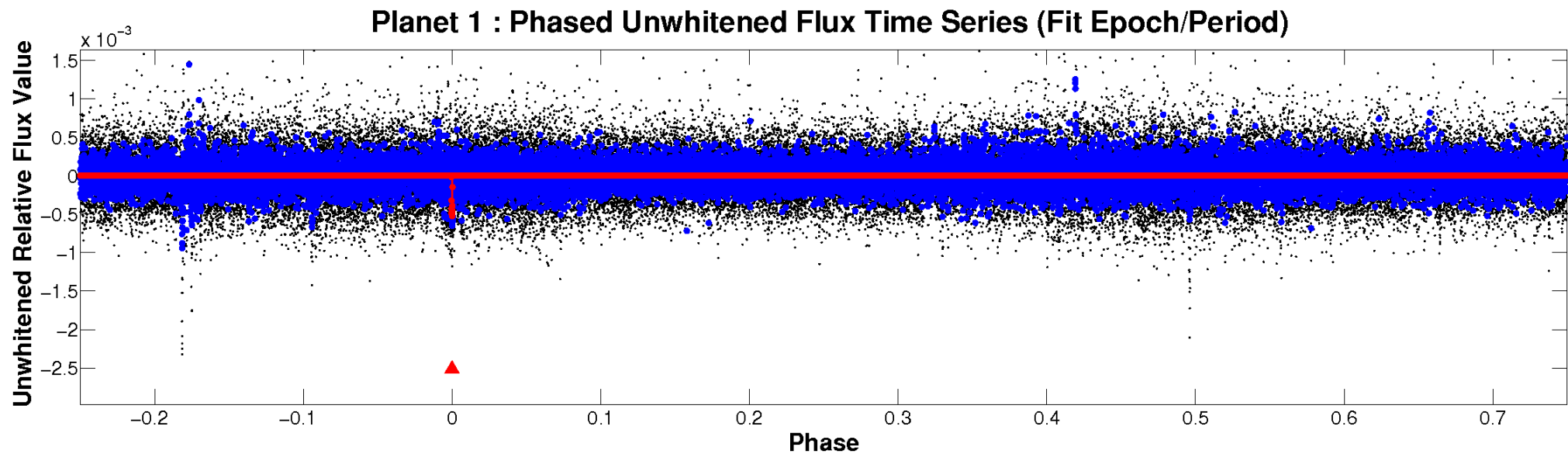


# ALT Odd/Even

TCE 007902073-01

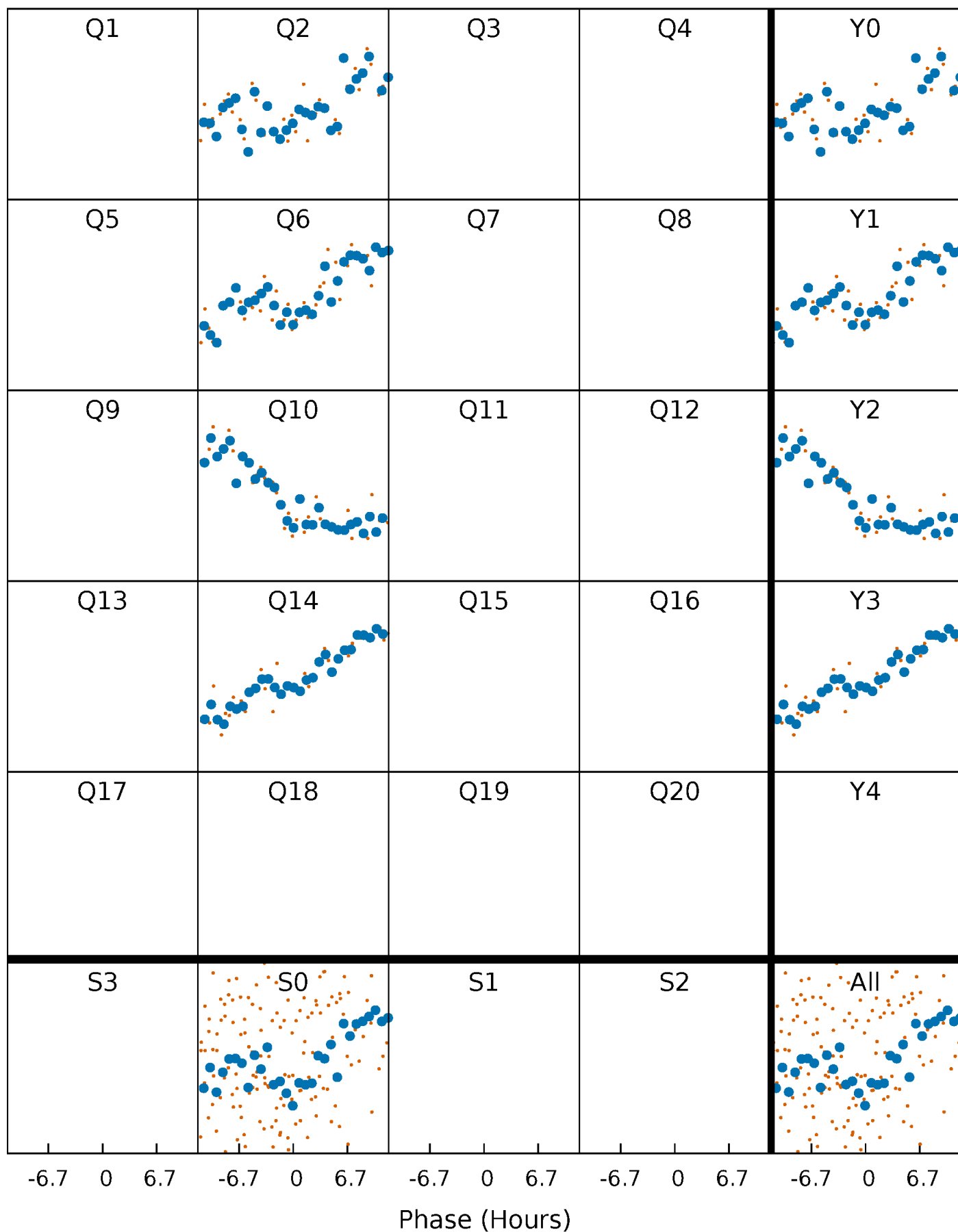


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

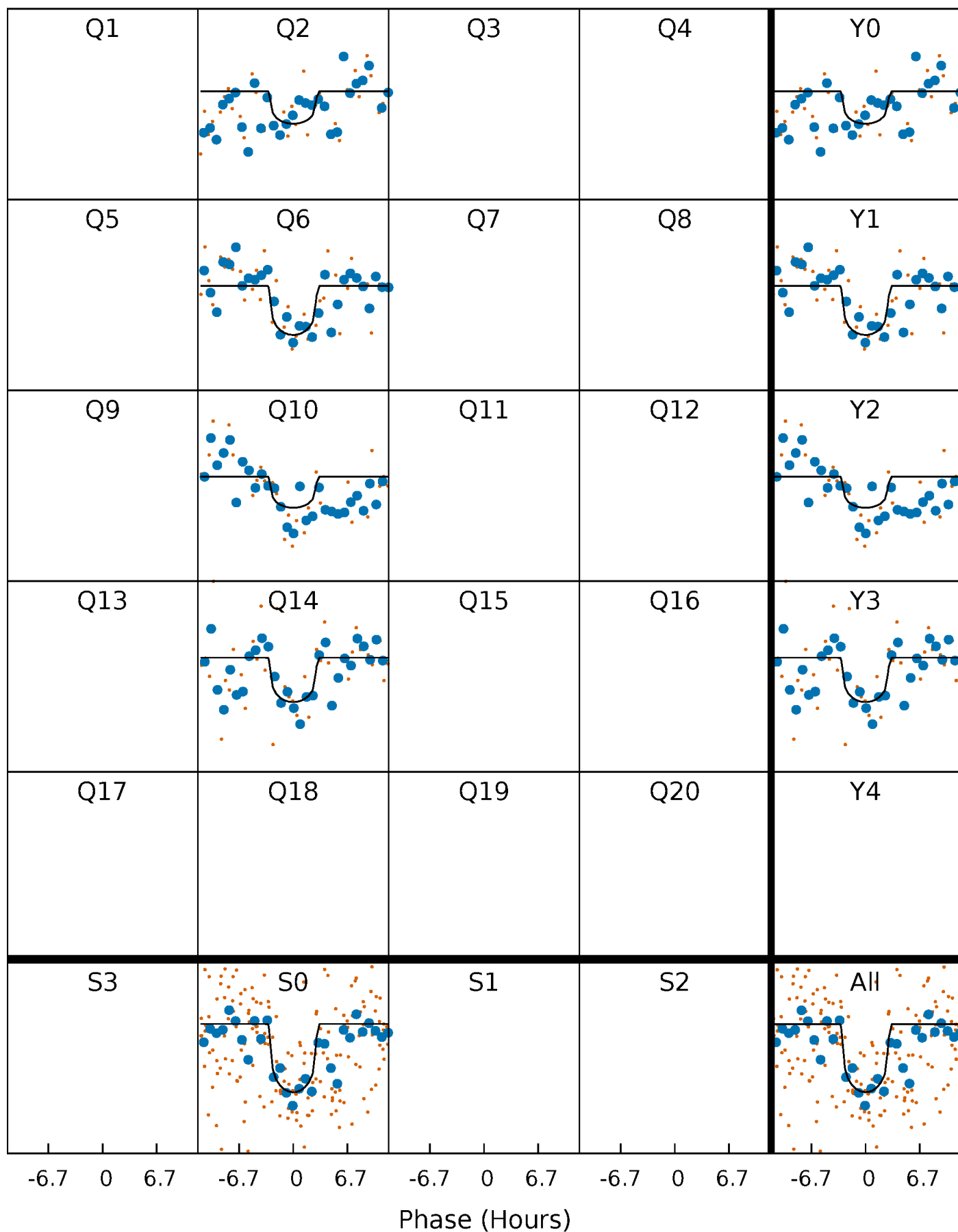
TCE 007902073-01 P=369.723682 Days  $T_0=232.361936$  (BKJD)





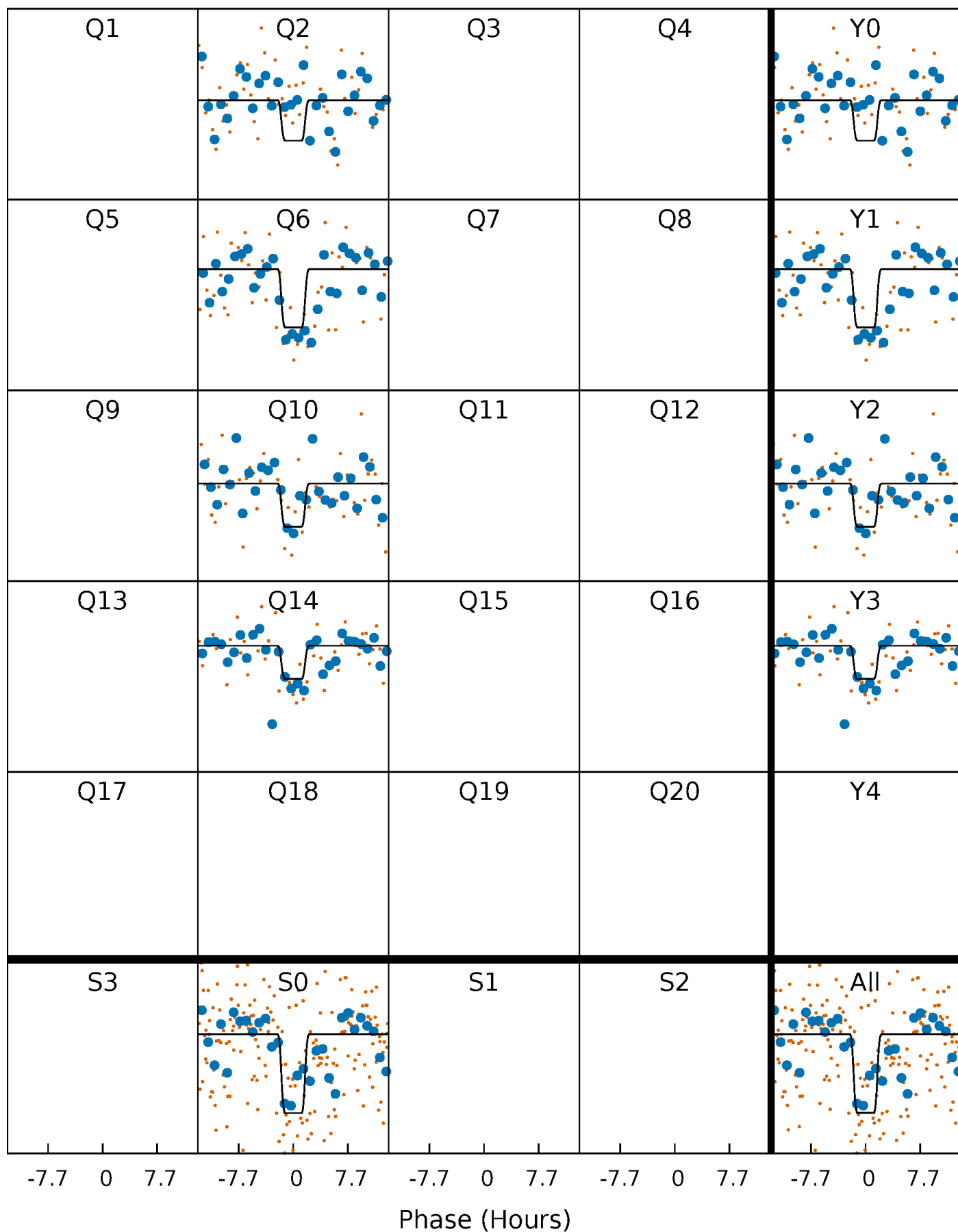
# DV Quarter-Phased Transit Curves

TCE 007902073-01 P=369.723682 Days  $T_0=232.361936$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

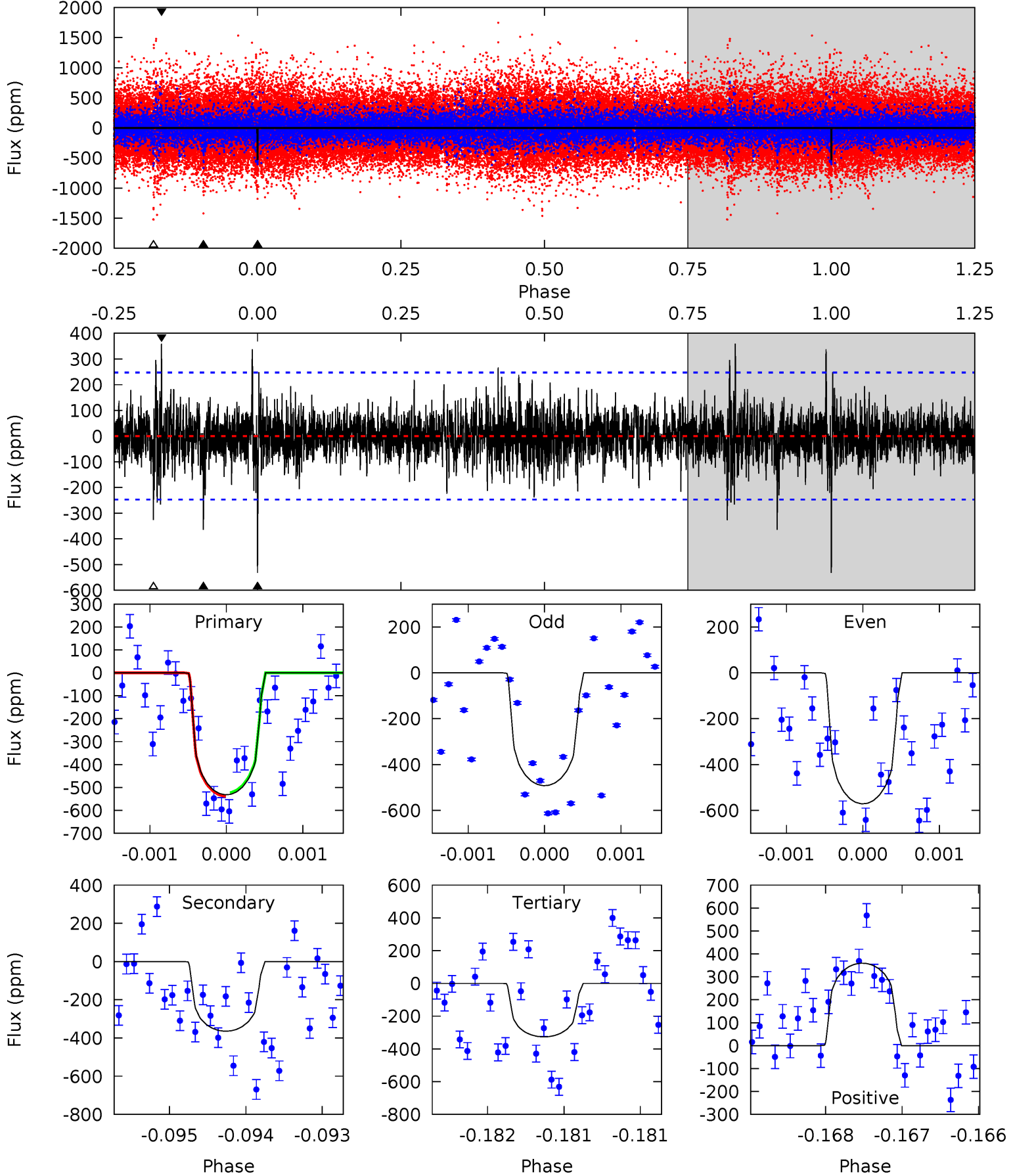
TCE 007902073-01 P=369.738457 Days  $T_0=232.337738$  (BKJD)



# DV Model-Shift Uniqueness Test

007902073-01, P = 369.723682 Days, E = 232.361936 Days

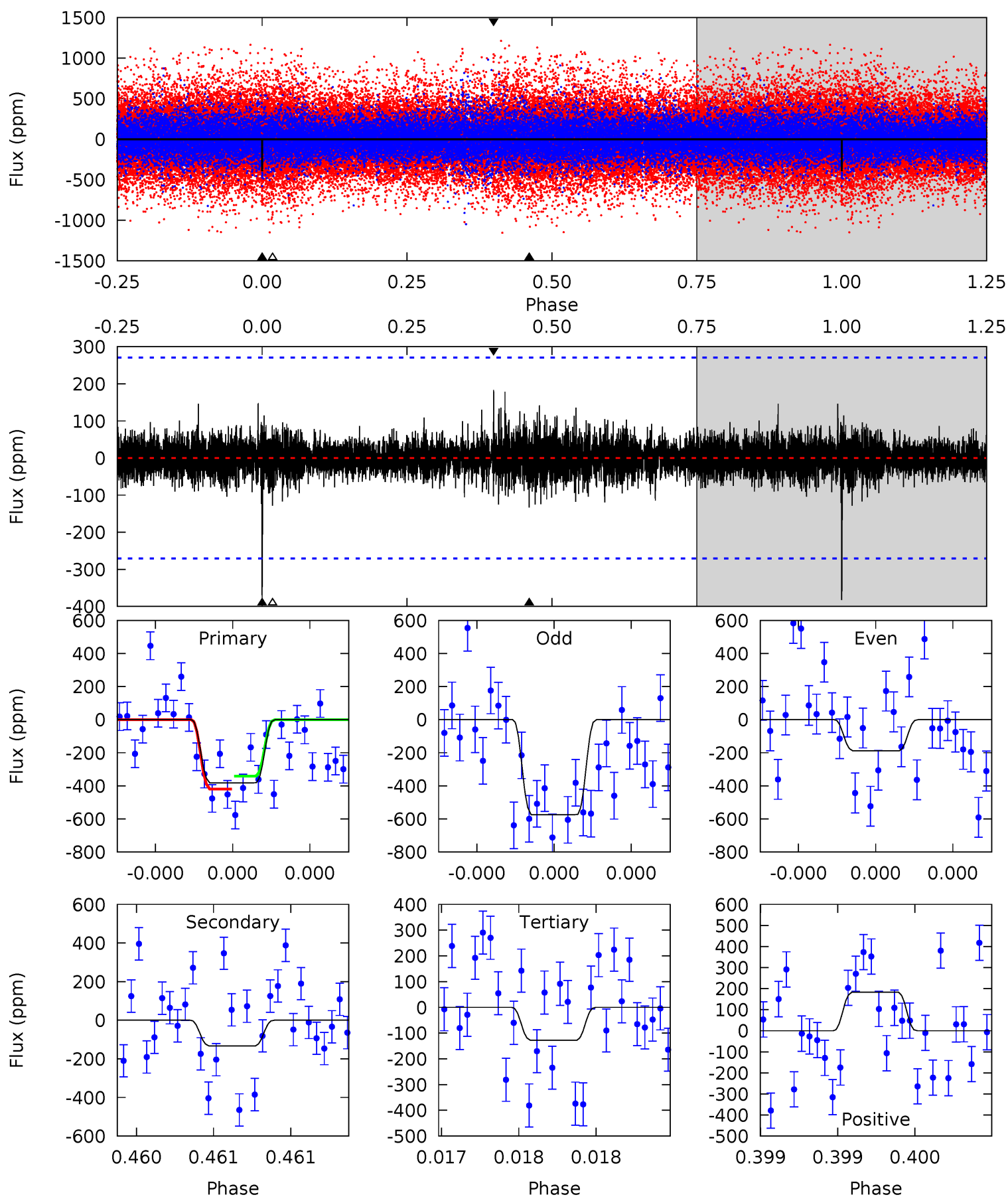
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	8.13	7.28	8.01	5.51	3.38	1.46	4.57	3.84	0.84	0.11	0.86	1.08	0.40	0.17



## Alt Model-Shift Uniqueness Test

007902073-01, P = 369.738457 Days, E = 232.337738 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
7.89	2.75	2.64	3.79	5.59	3.51	0.65	5.24	4.10	0.10	-1.04	3.99	0.82	0.32	0.81



### Stellar Parameters For KIC 007902073

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5352^{+159}_{-159}$	$4.585^{+0.024}_{-0.136}$	$0.070^{+0.250}_{-0.300}$	$0.805^{+0.149}_{-0.064}$	$0.919^{+0.058}_{-0.099}$	$2.481^{+0.397}_{-0.936}$
	+3%/-3%	+1%/-3%	+357%/-429%	+19%/-8%	+6%/-11%	+16%/-38%
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 007902073-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-364 \pm 45$	$3.01^{+2.54}_{-2.00}$	$307^{+15}_{-13}$	$4324^{+2690}_{-825}$	$21504^{+158247}_{-15269}$
Alt.	$-133 \pm 48$	$2.86^{+2.45}_{-1.83}$	$306^{+15}_{-11}$	$3582^{+1673}_{-625}$	$7364^{+49796}_{-5314}$

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

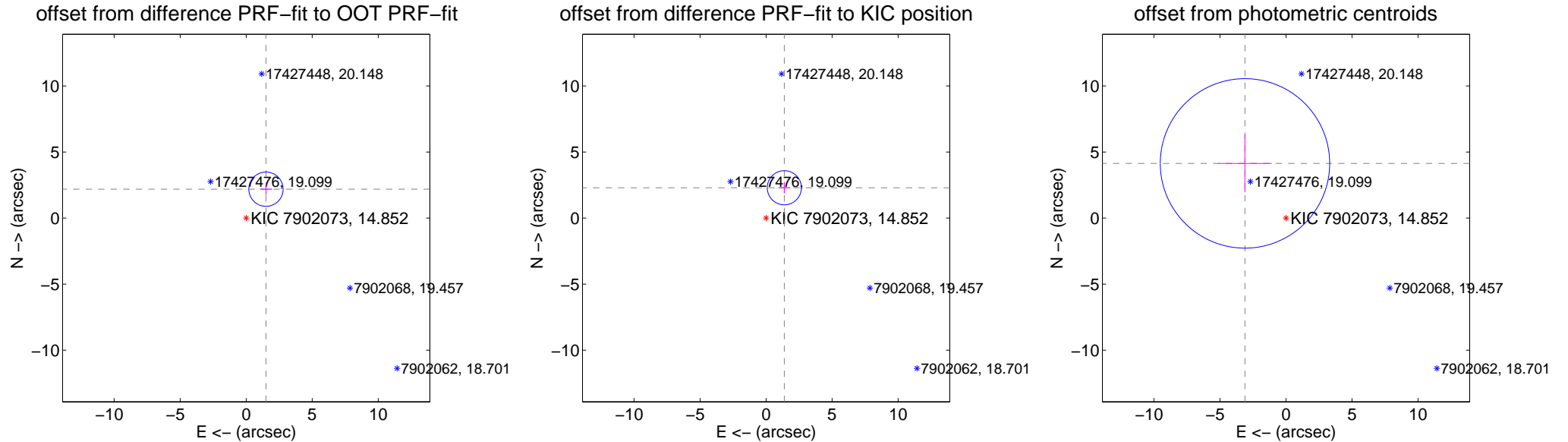
## DV Centroid Data

Supplemental centroid analysis for 007902073-01. Kepler magnitude: 14.85. Transit SNR 6.82

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.650 \pm 0.432$	6.13	$-1.497 \pm 0.454$	$2.187 \pm 0.422$
PRF-fit source offset from KIC position	$2.678 \pm 0.431$	6.22	$-1.380 \pm 0.454$	$2.295 \pm 0.422$
photometric centroid source offset	$5.17 \pm 2.14$	2.42	$3.11 \pm 2.03$	$4.14 \pm 2.20$

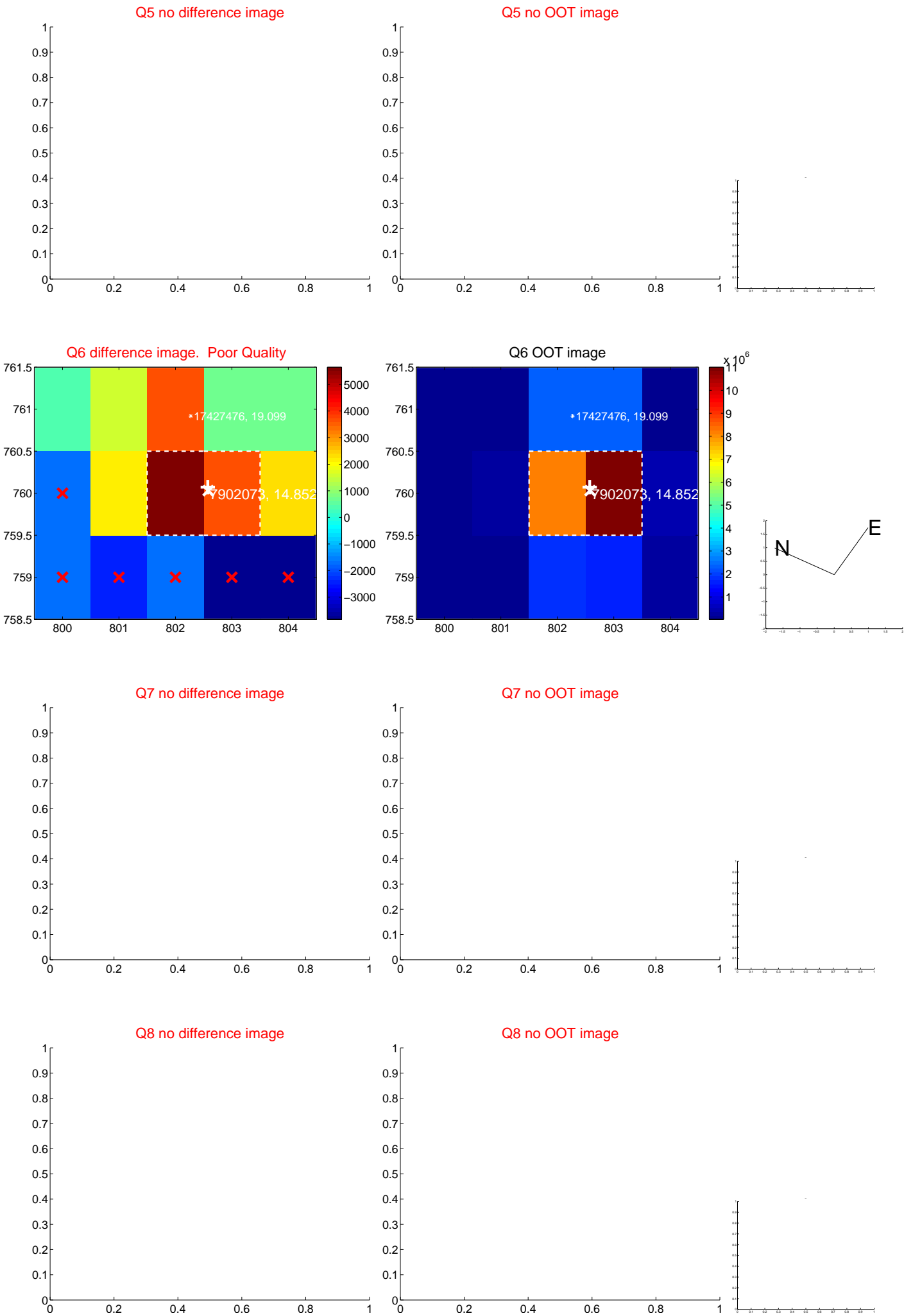


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

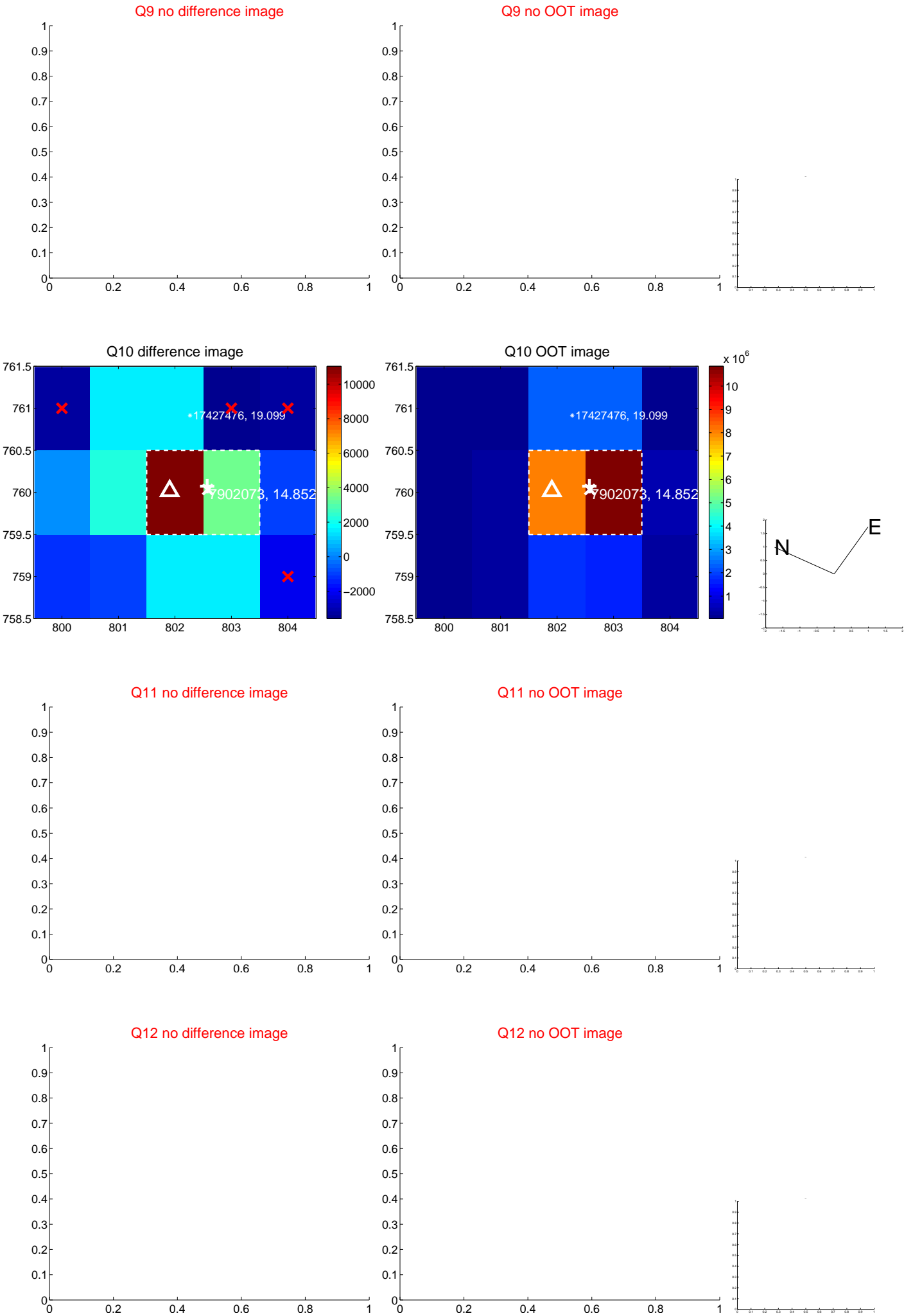


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

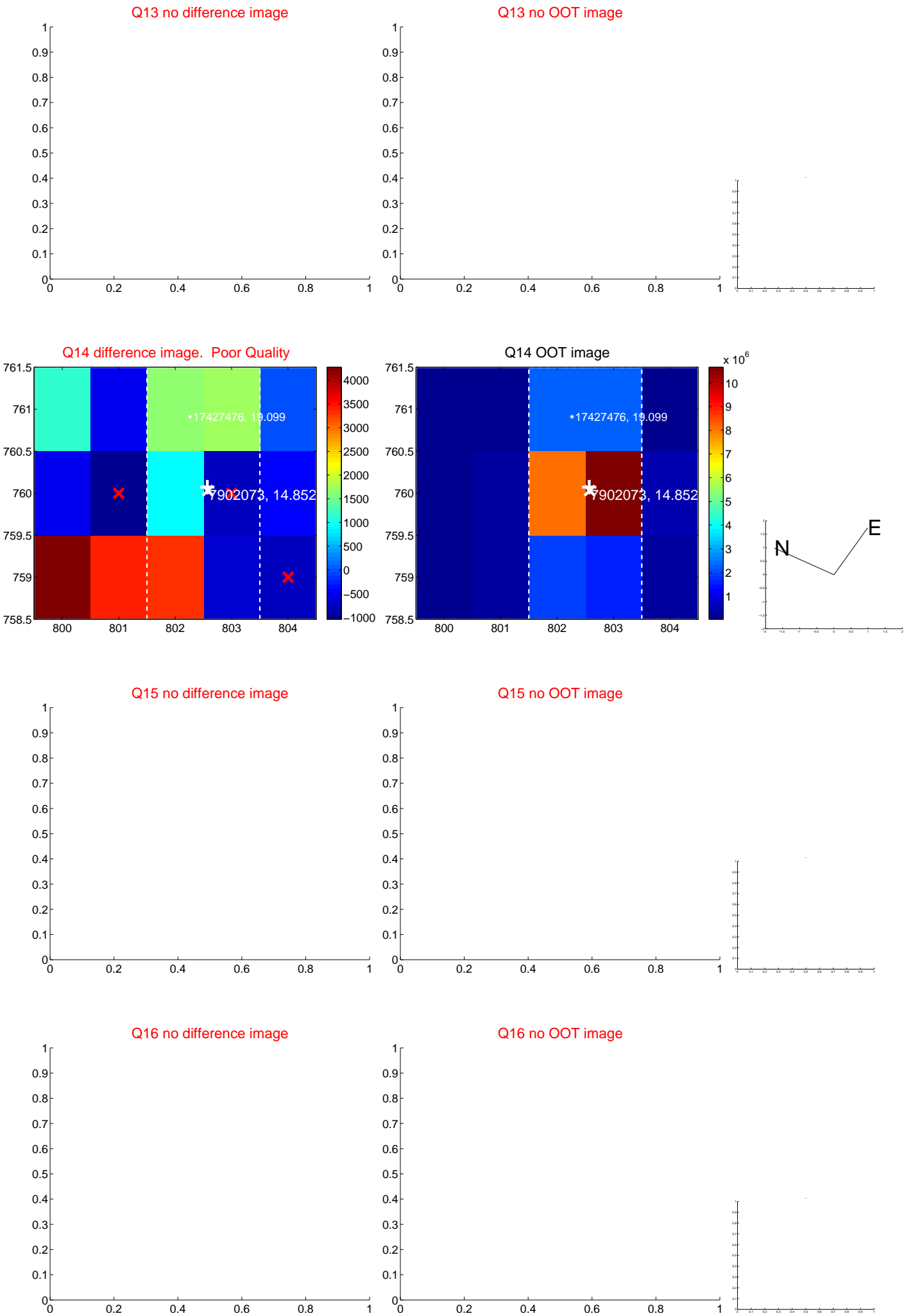




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



Q14 difference image. Poor Quality

Q14 OOT image

N

E

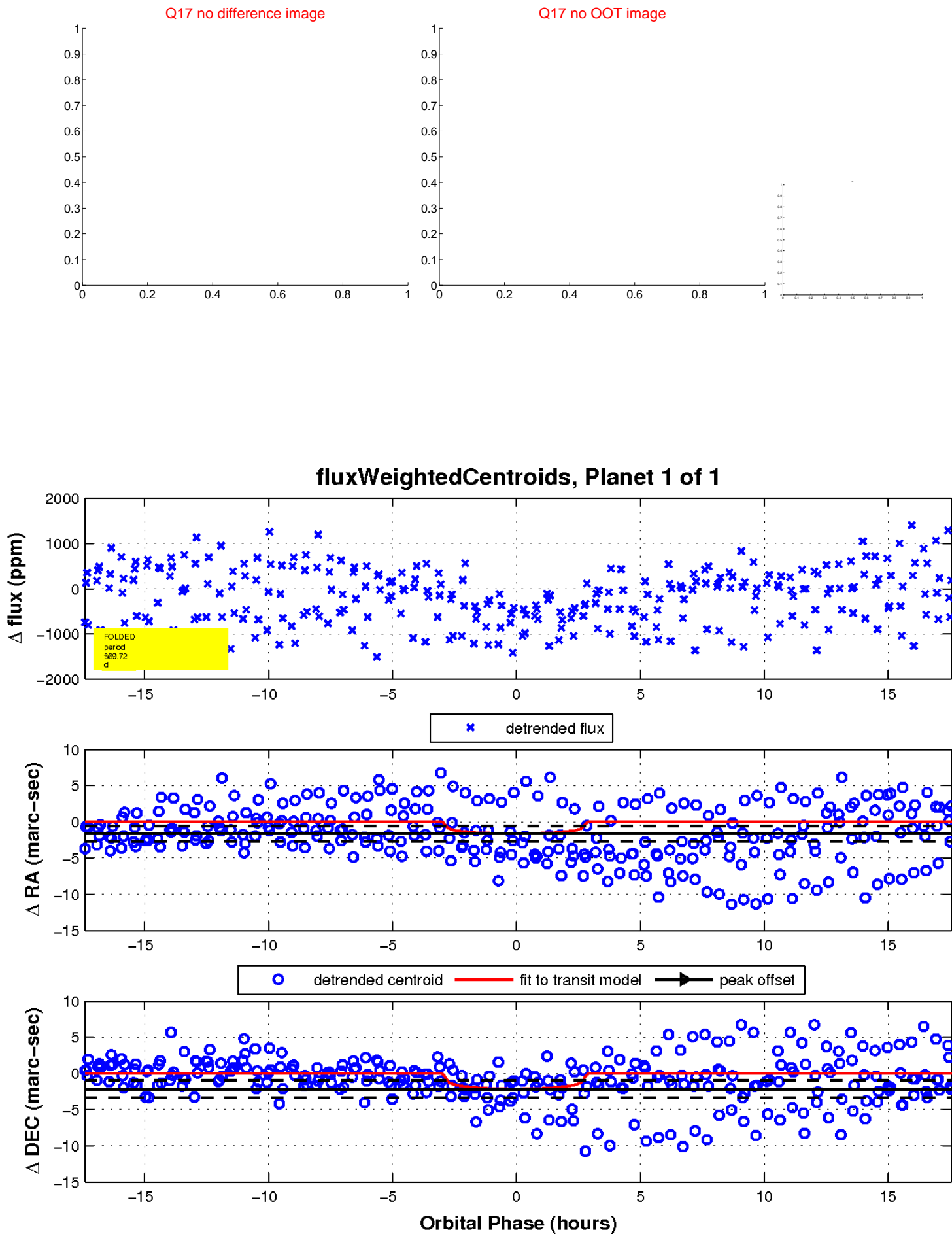
Q15 no difference image

Q15 no OOT image

Q16 no difference image

Q16 no OOT image

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



UKIRT Image

Declination

