

# KIC 007902498

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007902498-01	OBS	No	369.544503	233.715771	464.4	16.476	8.8	7.1	0.86	5325	1.89	0.58

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007902498-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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.

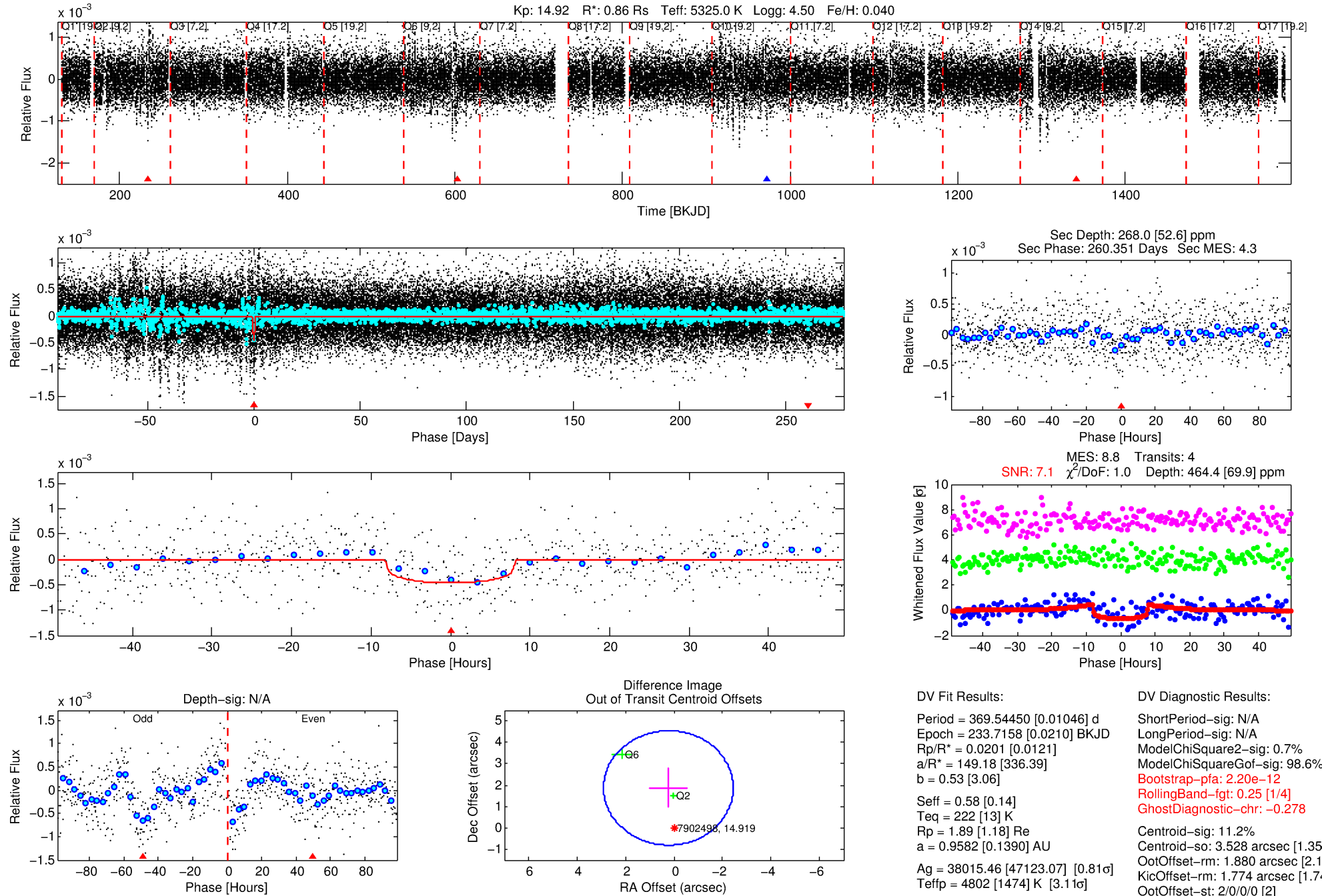
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007902498-01

No Significant Match Found

# DV One-Page Summary

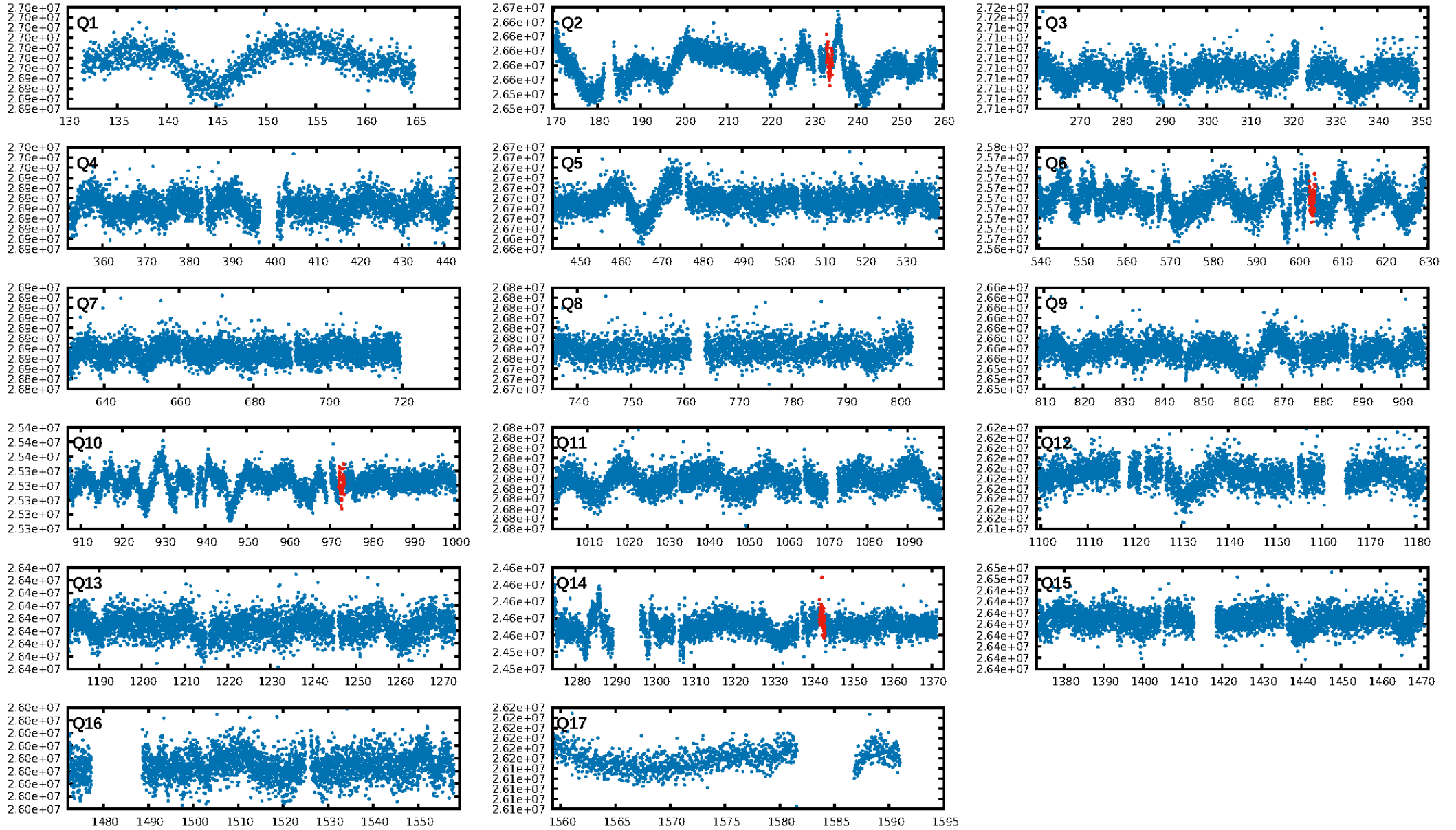
KIC: 7902498 Candidate: 1 of 1 Period: 369.545 d



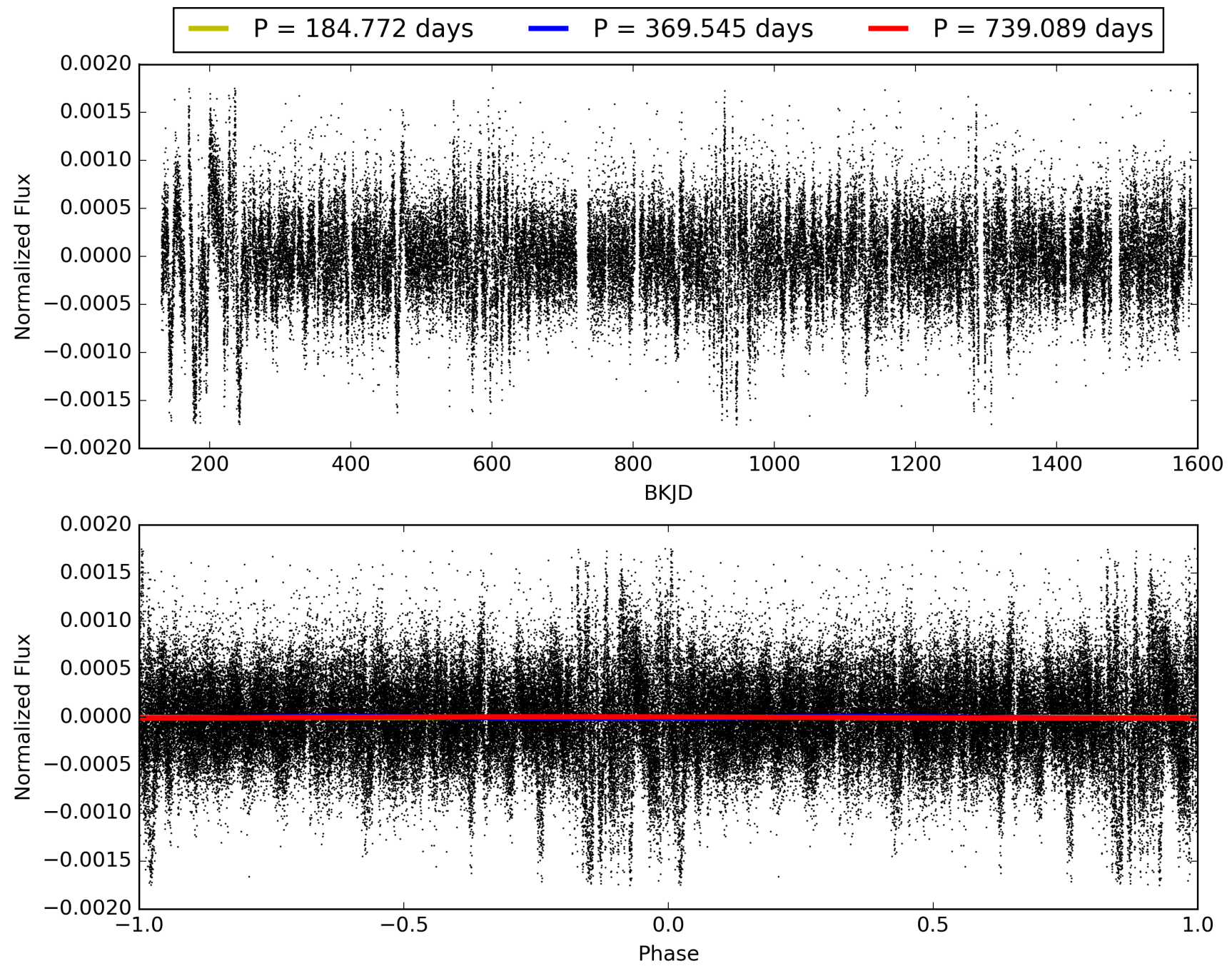
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:19:57 Z

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

# TCE 007902498-01, PDC Light Curves

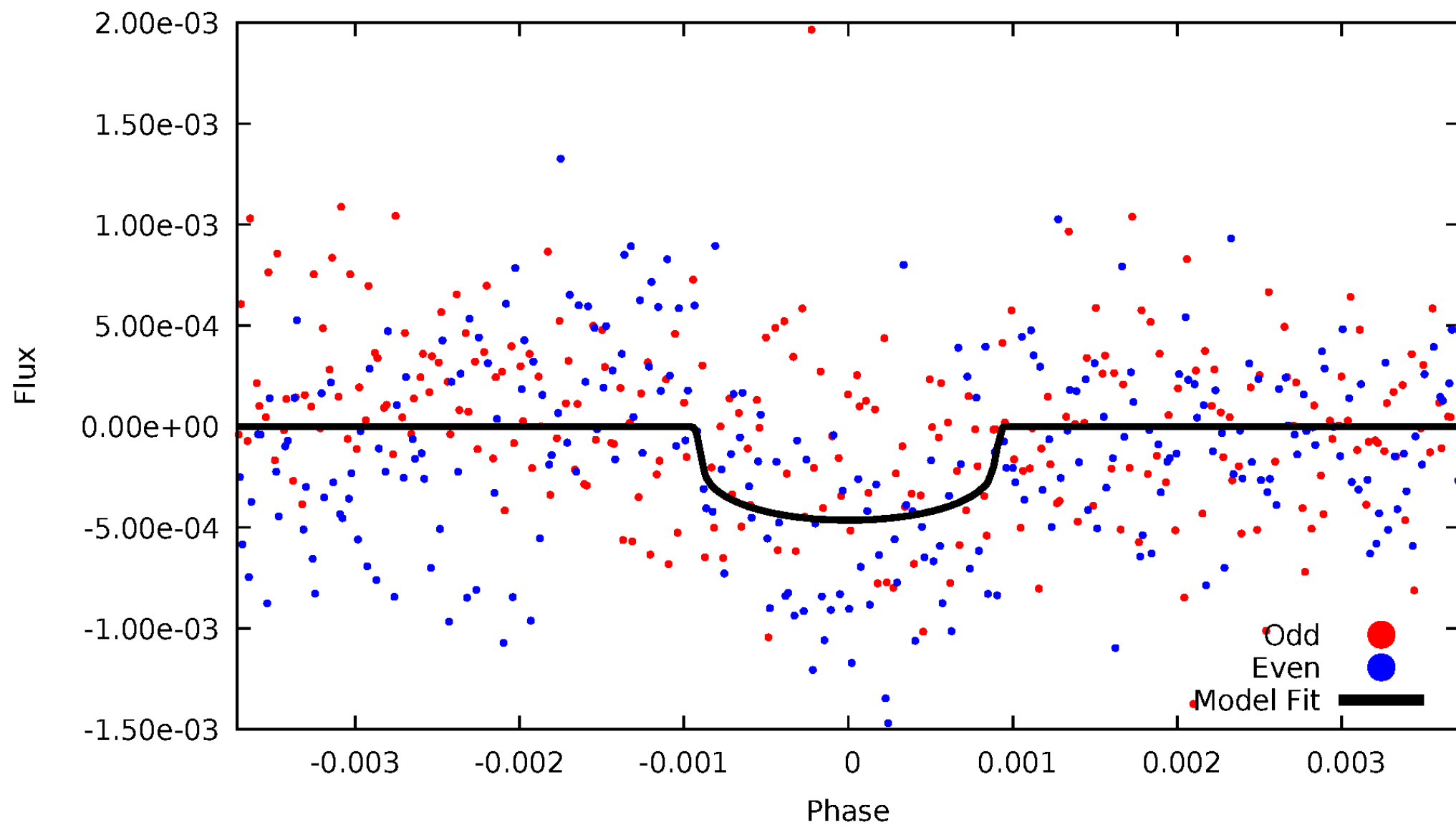


TCE 007902498-01



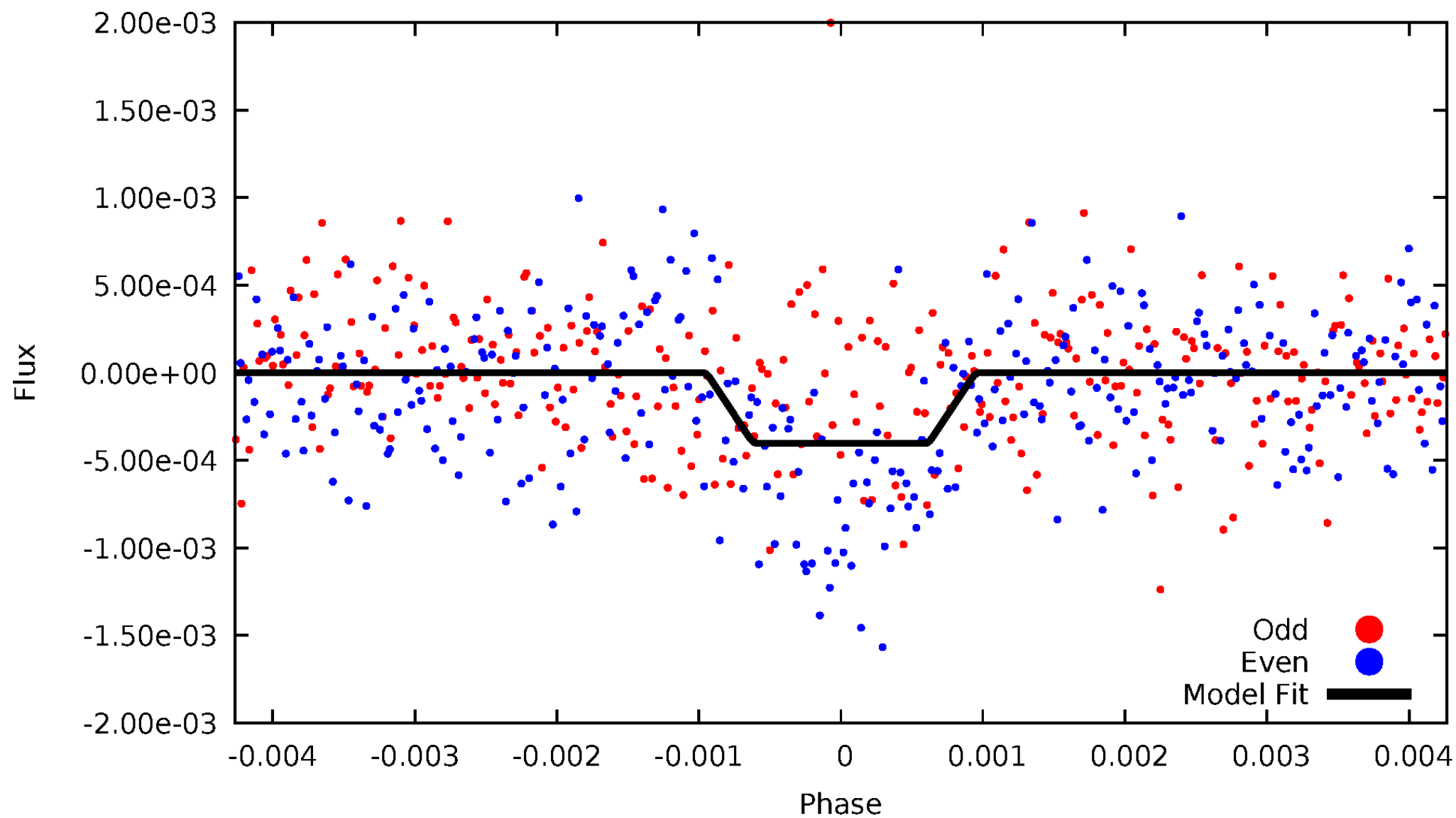
# DV Odd/Even

TCE 007902498-01



# ALT Odd/Even

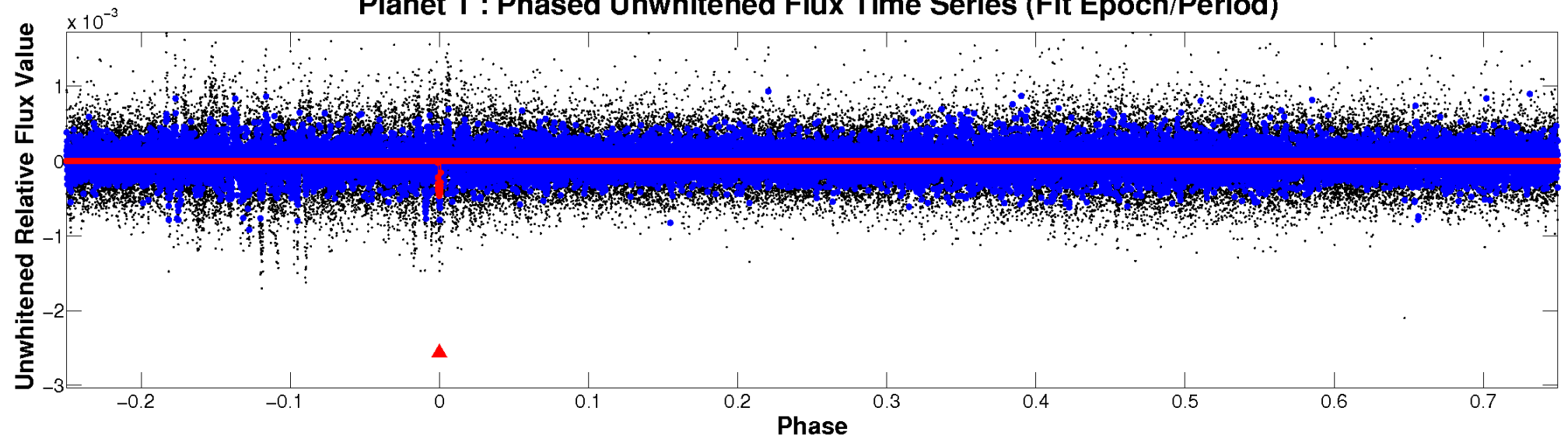
TCE 007902498-01



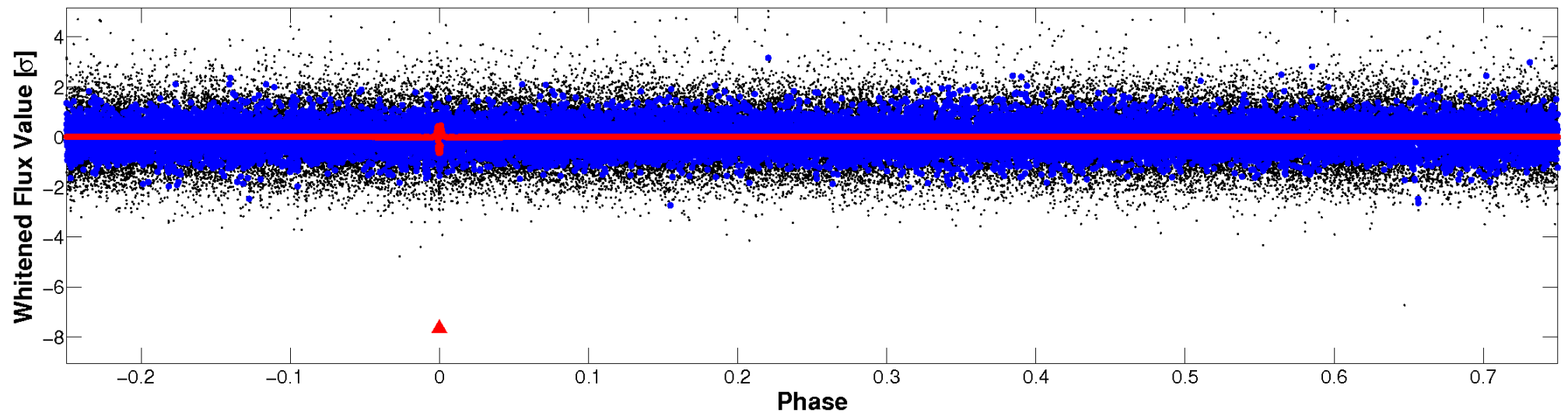


# Non-Whitened Vs. Whitened Light Curve

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

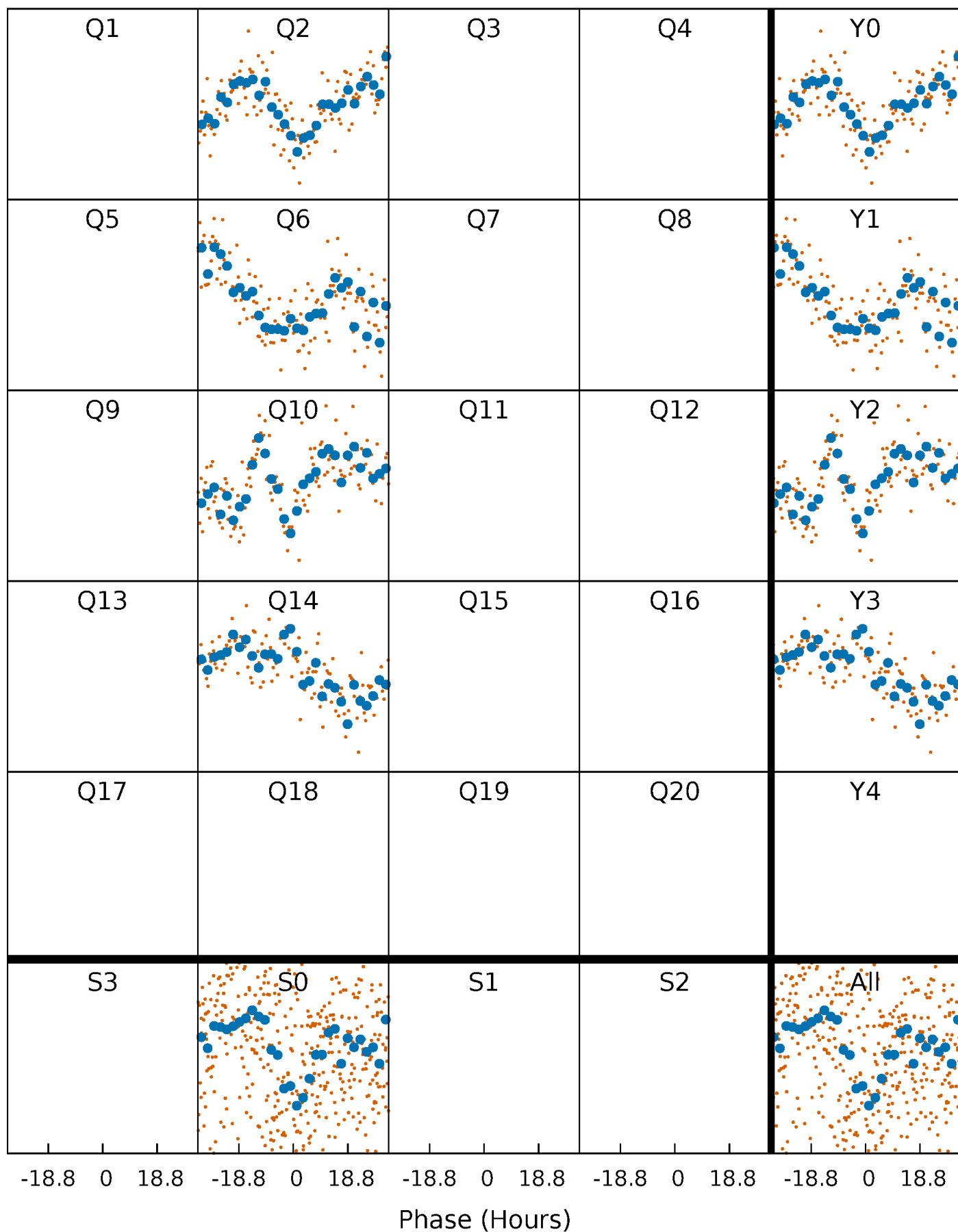


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

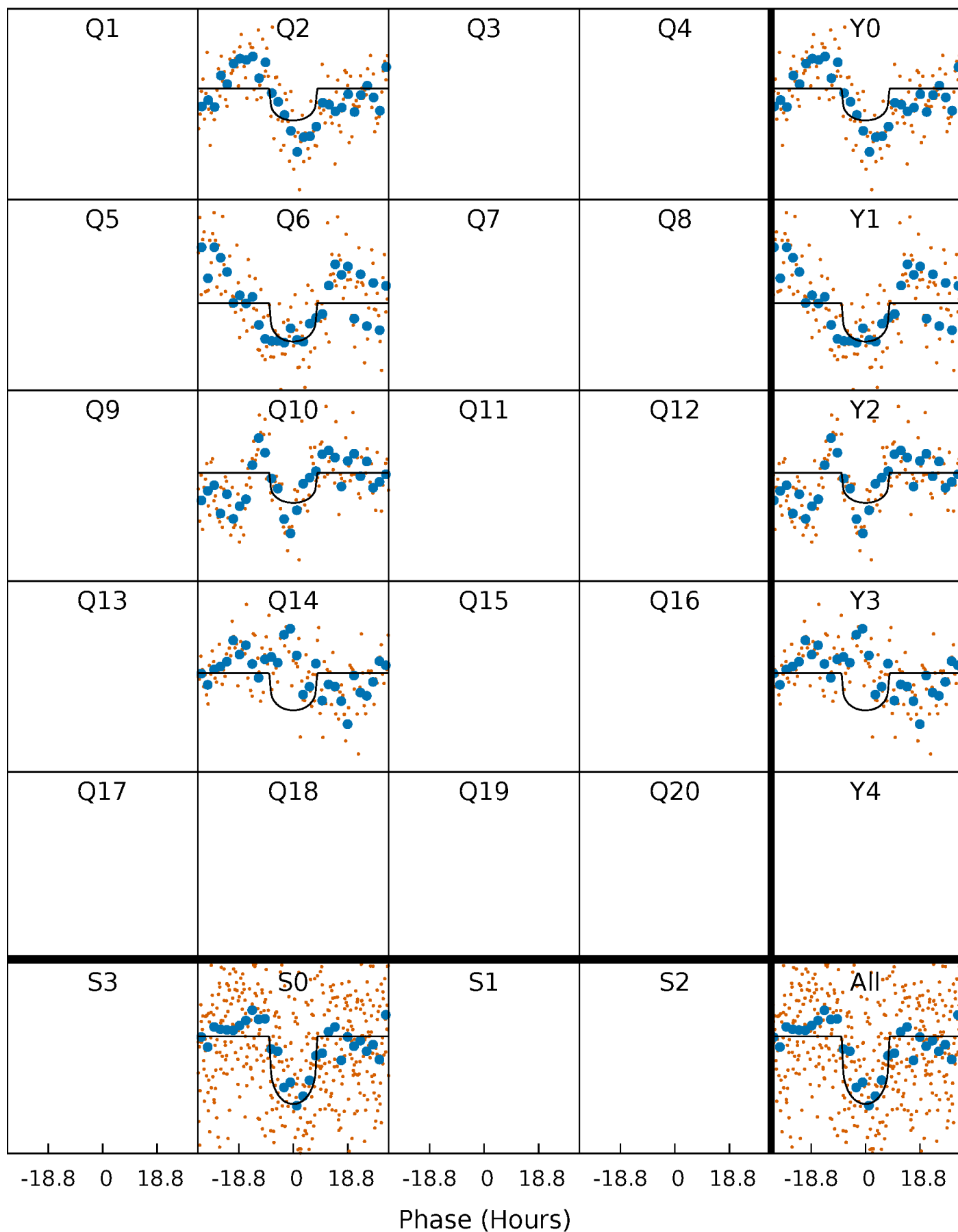
TCE 007902498-01   P=369.544503 Days    $T_0=233.715771$  (BKJD)





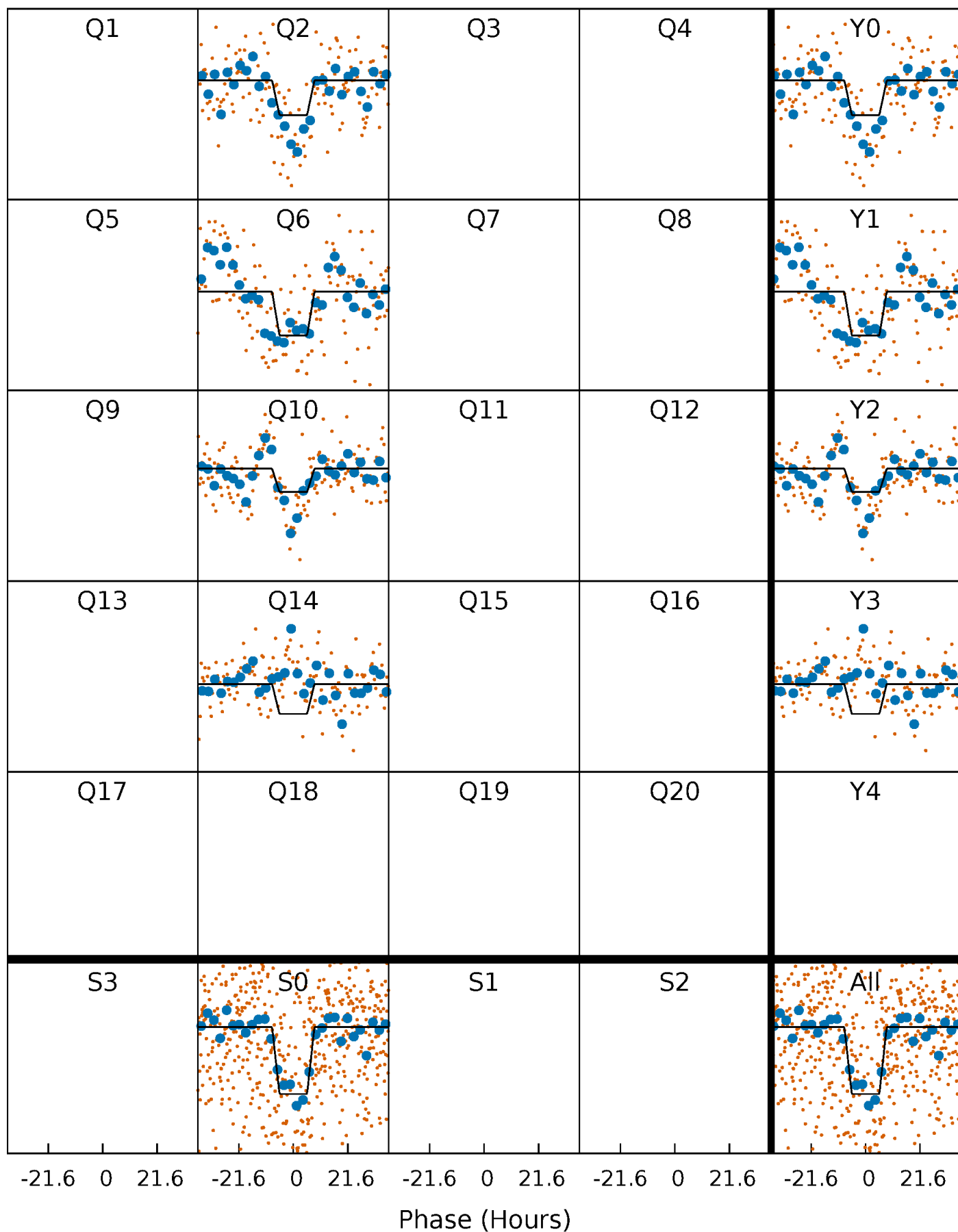
# DV Quarter-Phased Transit Curves

TCE 007902498-01 P=369.544503 Days  $T_0=233.715771$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

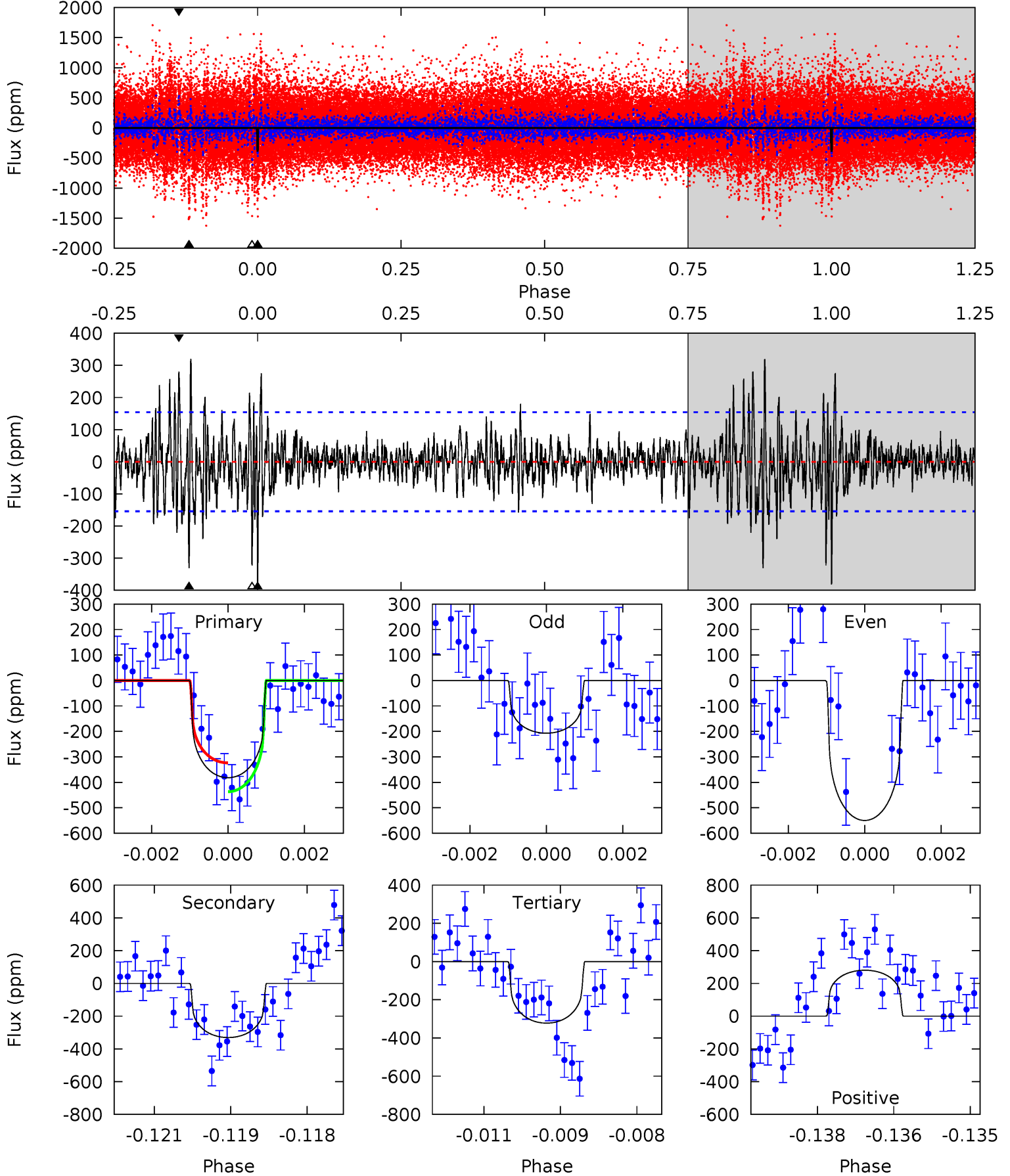
TCE 007902498-01 P=369.513688 Days  $T_0=233.752183$  (BKJD)



# DV Model-Shift Uniqueness Test

007902498-01, P = 369.544503 Days, E = 233.715771 Days

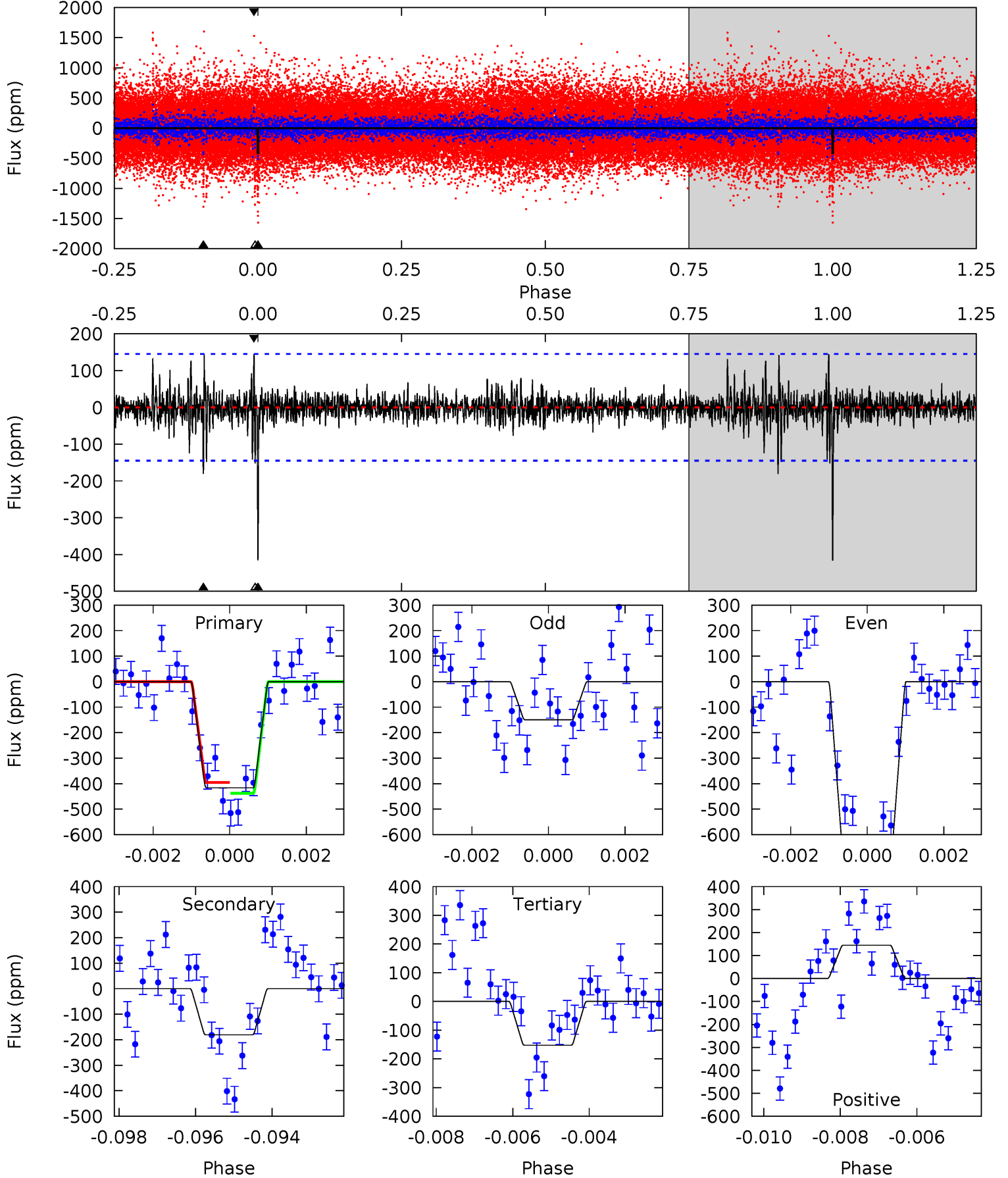
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	11.4	11.2	9.70	5.34	3.11	2.09	2.05	3.51	0.29	1.75	5.93	0.76	0.46	1.96



# Alt Model-Shift Uniqueness Test

007902498-01, P = 369.513688 Days, E = 233.752183 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
15.3	6.65	5.61	5.32	5.33	3.10	0.95	9.69	9.98	1.04	1.33	9.61	0.72	0.26	0.78



### Stellar Parameters For KIC 007902498

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5325^{+159}_{-159}$	$4.504^{+0.067}_{-0.114}$	$0.040^{+0.250}_{-0.300}$	$0.859^{+0.149}_{-0.092}$	$0.859^{+0.082}_{-0.074}$	$1.910^{+0.582}_{-0.669}$
	+3%/-3%	+1%/-3%	+625%/-750%	+17%/-11%	+10%/-9%	+30%/-35%
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 007902498-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-331 \pm 29$	$1.96^{+1.14}_{-1.06}$	$313^{+15}_{-12}$	$5049^{+2380}_{-831}$	$44383^{+150555}_{-27395}$
Alt.	$-181 \pm 27$	$1.99^{+1.16}_{-1.06}$	$313^{+14}_{-13}$	$4415^{+1758}_{-677}$	$22051^{+79313}_{-13124}$

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

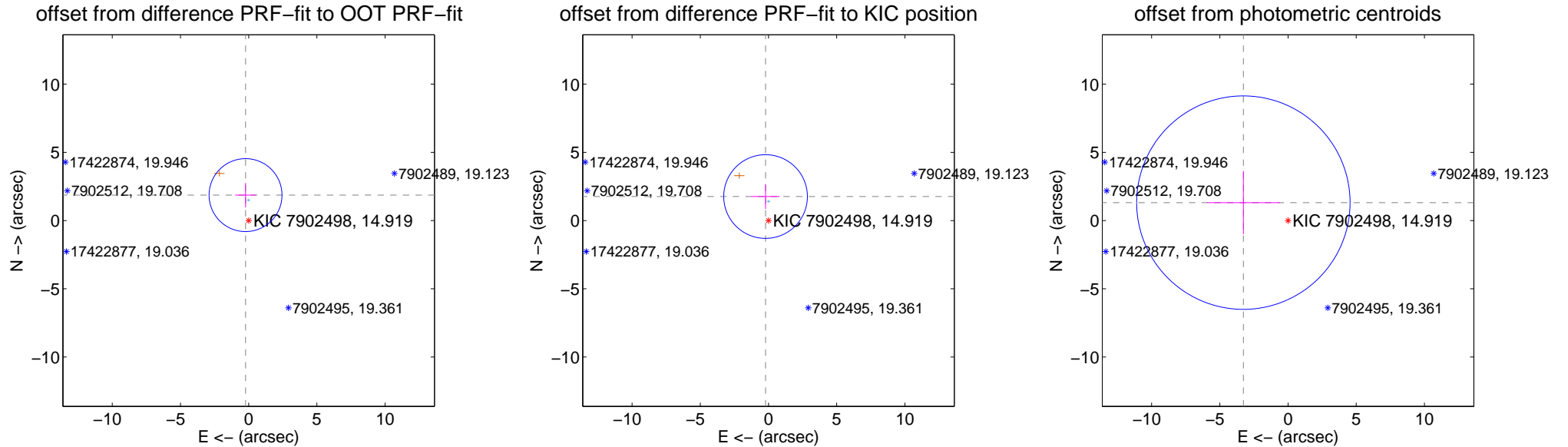
## DV Centroid Data

Supplemental centroid analysis for 007902498-01. Kepler magnitude: 14.92. Transit SNR 7.08

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

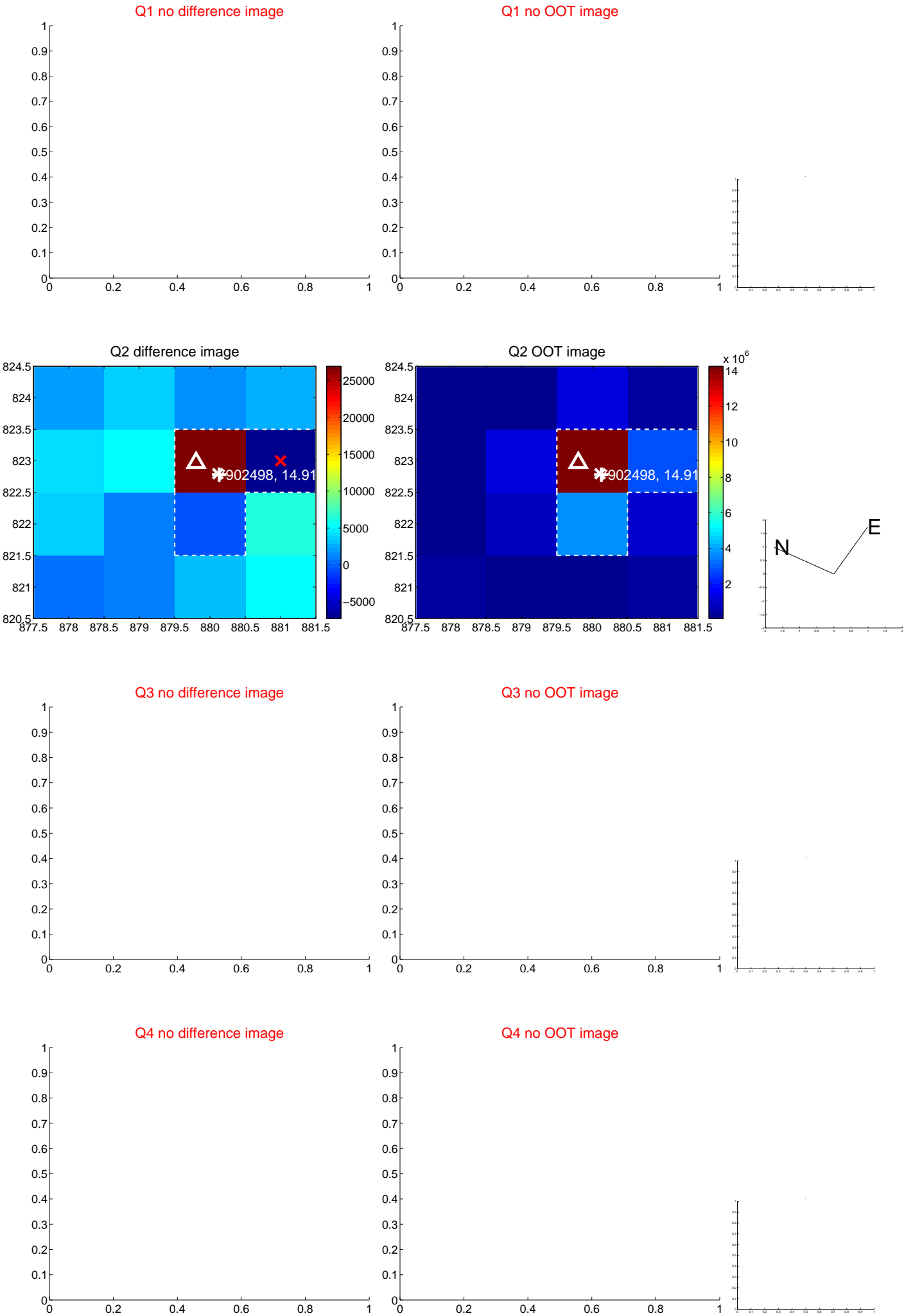
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.880 \pm 0.891$	2.11	$0.231 \pm 0.757$	$1.866 \pm 0.893$
PRF-fit source offset from KIC position	$1.774 \pm 1.022$	1.74	$0.216 \pm 1.031$	$1.761 \pm 0.904$
photometric centroid source offset	$3.53 \pm 2.61$	1.35	$3.27 \pm 2.65$	$1.31 \pm 2.31$



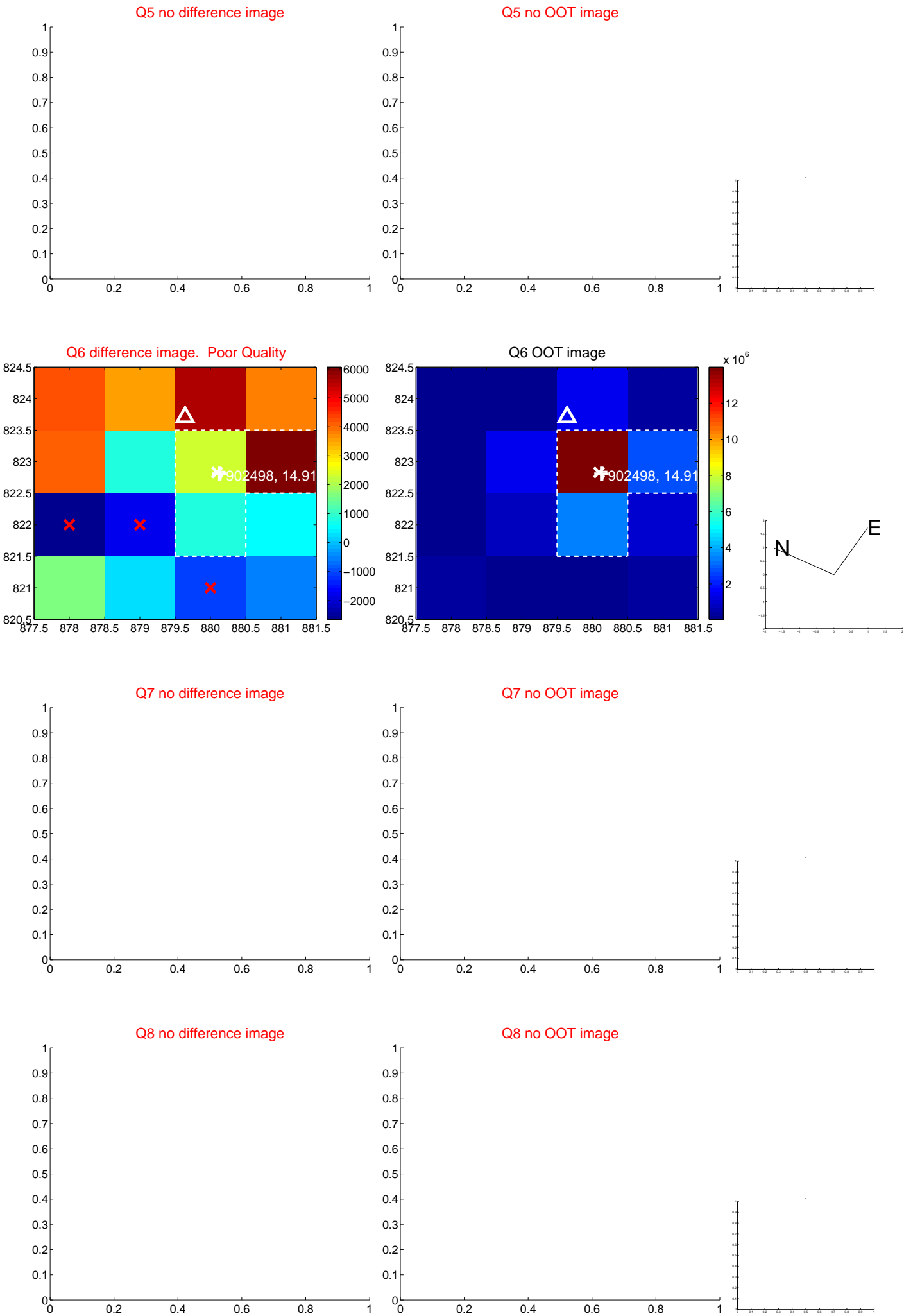
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



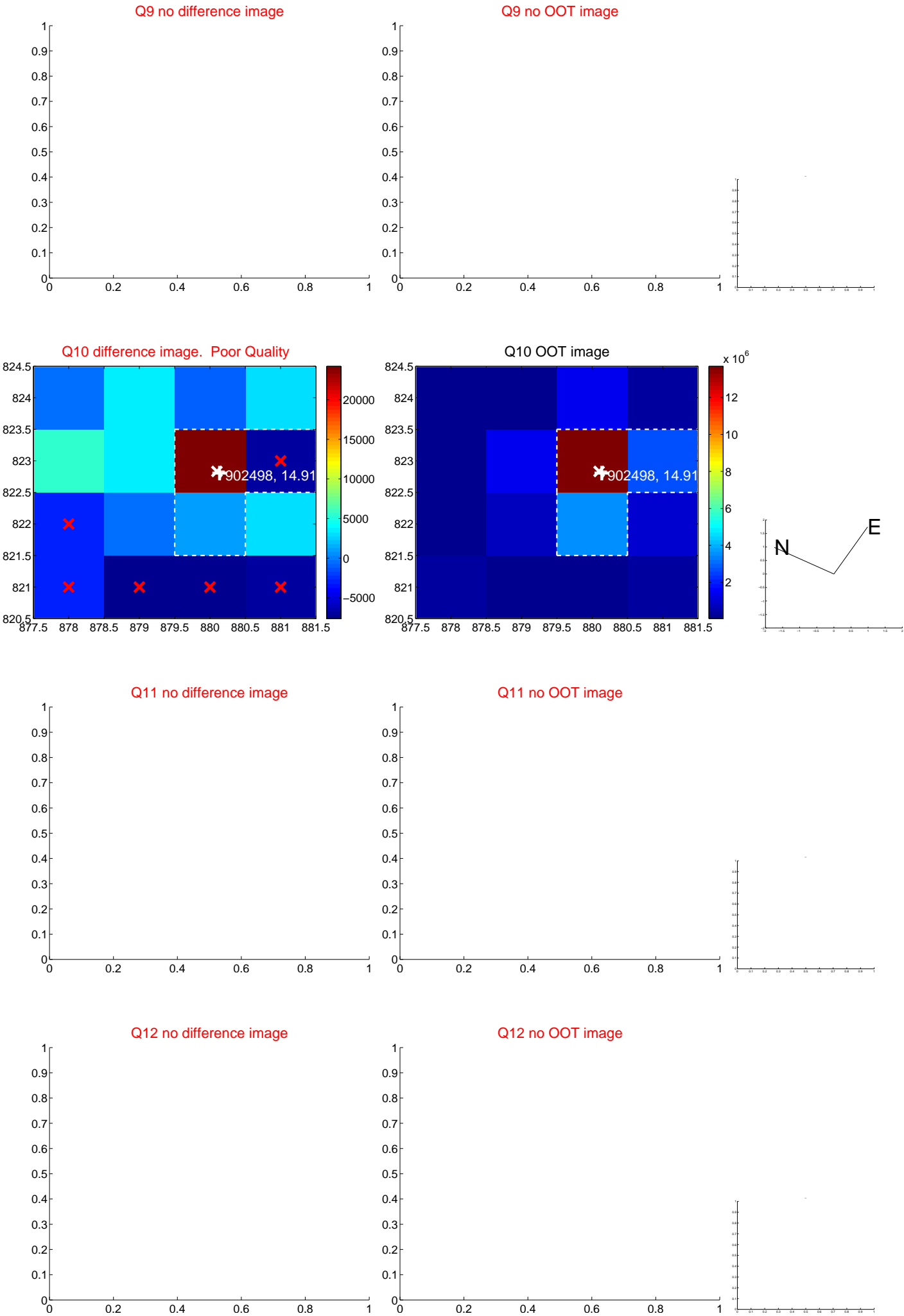
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



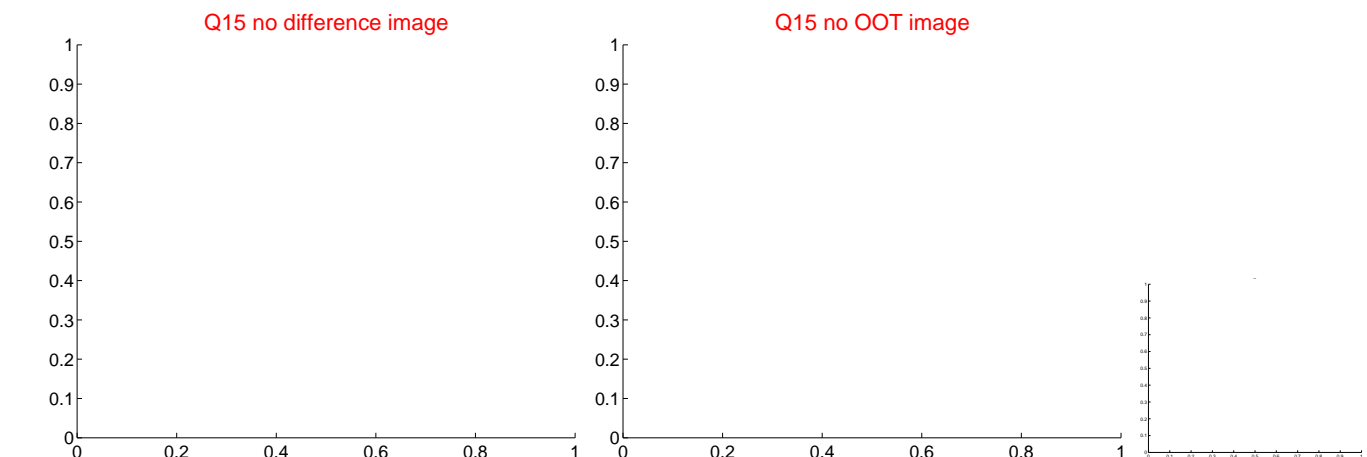
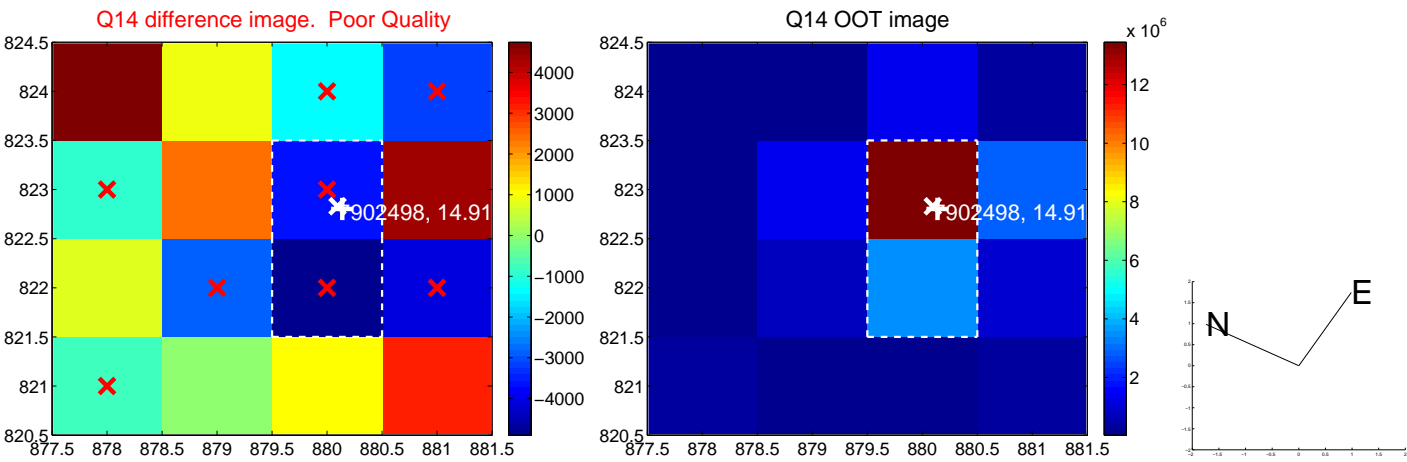
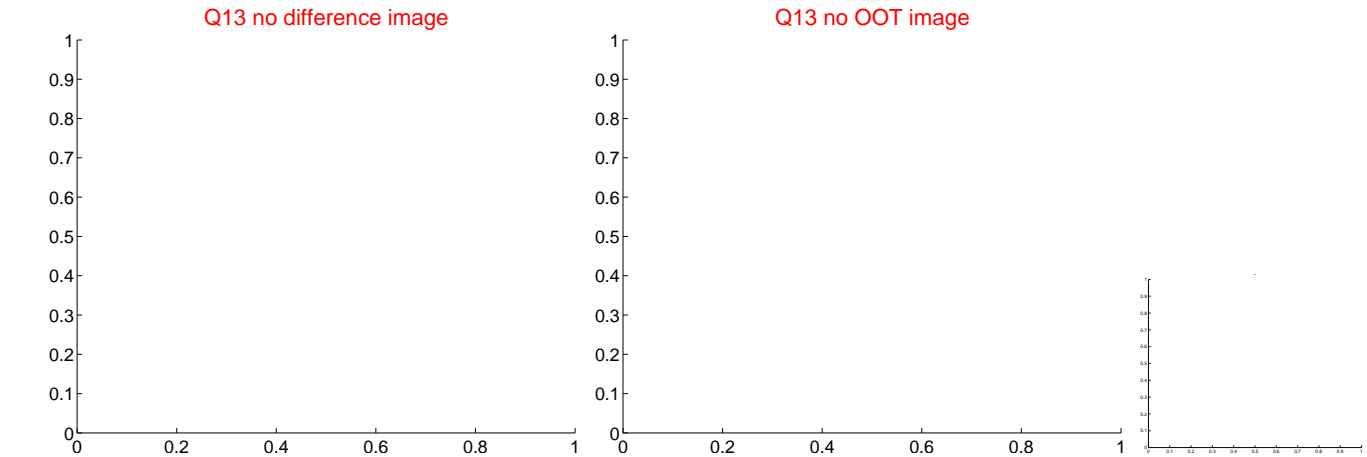
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



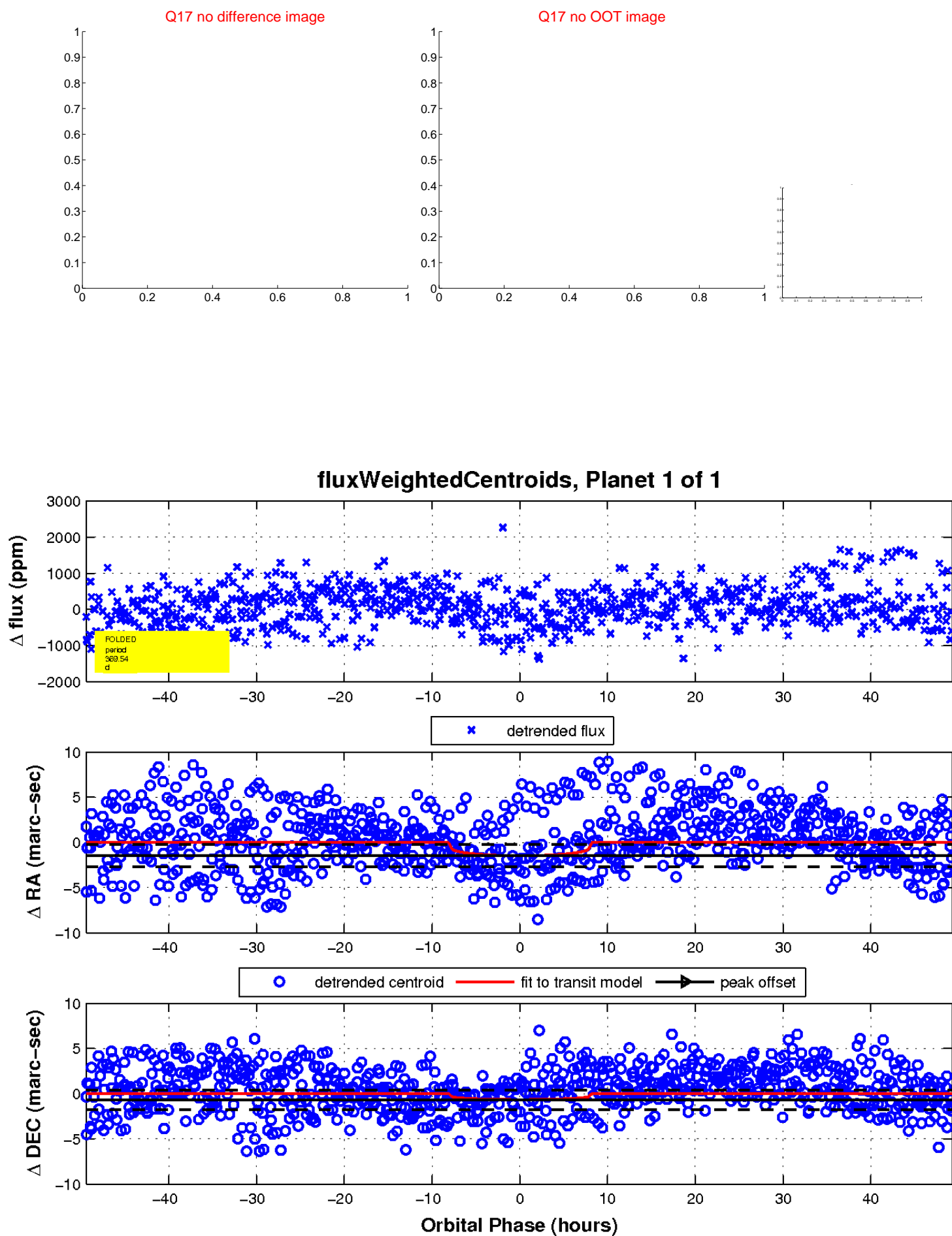
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

