

# KIC 007902429

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007902429-01	OBS	No	369.435025	233.063845	663.2	9.576	7.7	7.5	0.86	5826	2.33	0.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007902429-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

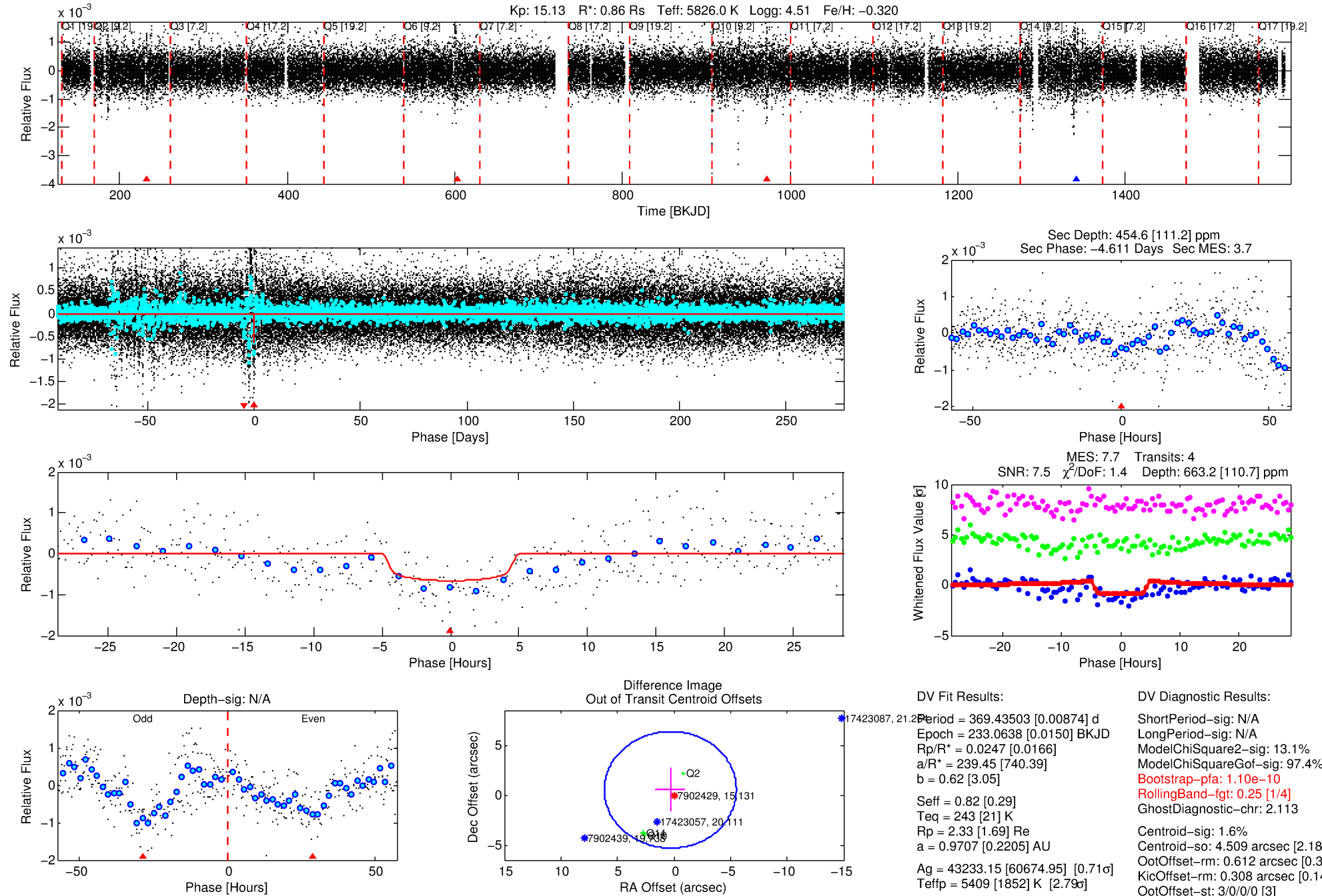
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007902429-01

No Significant Match Found

# DV One-Page Summary

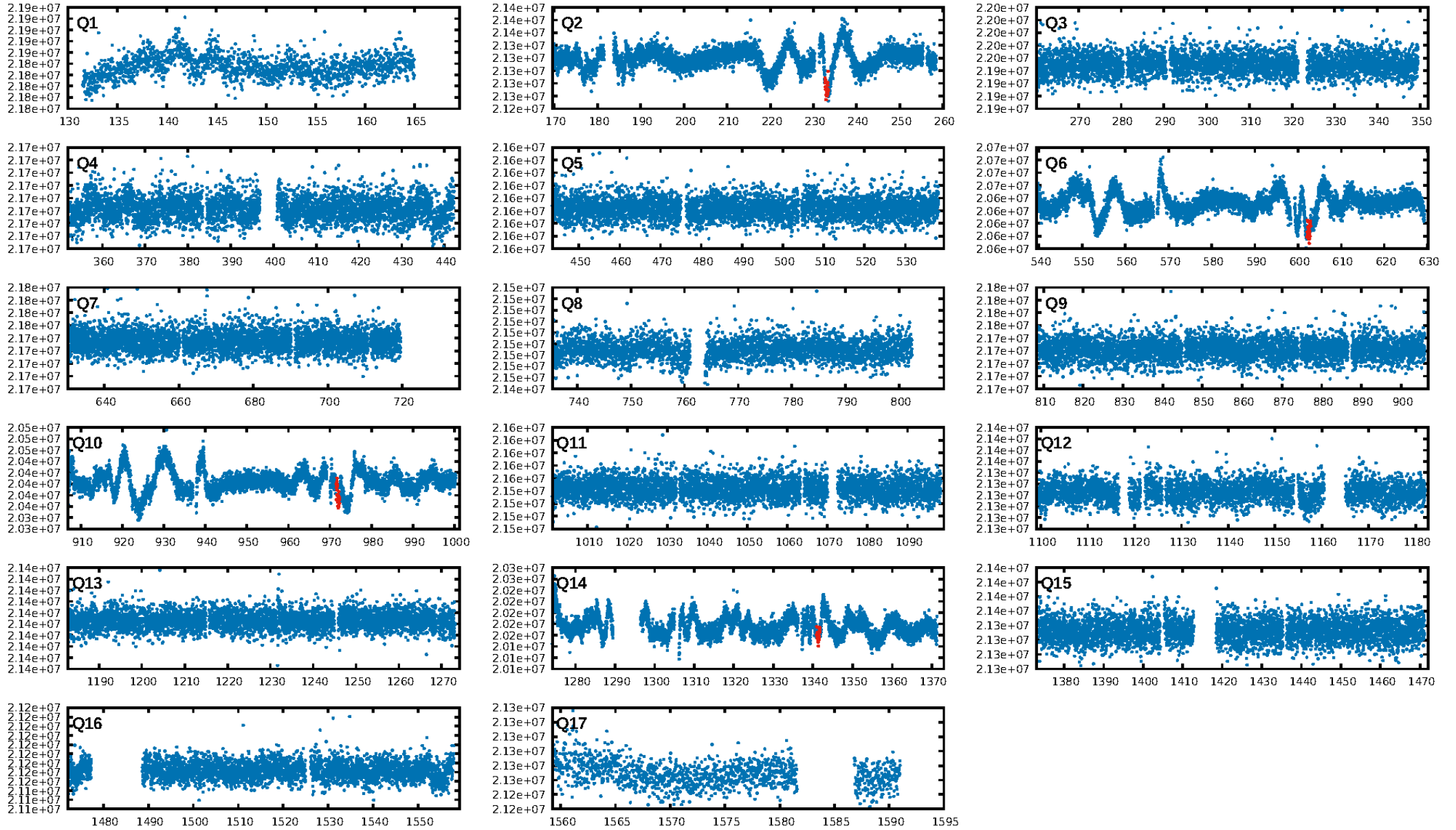
KIC: 7902429 Candidate: 1 of 1 Period: 369.435 d



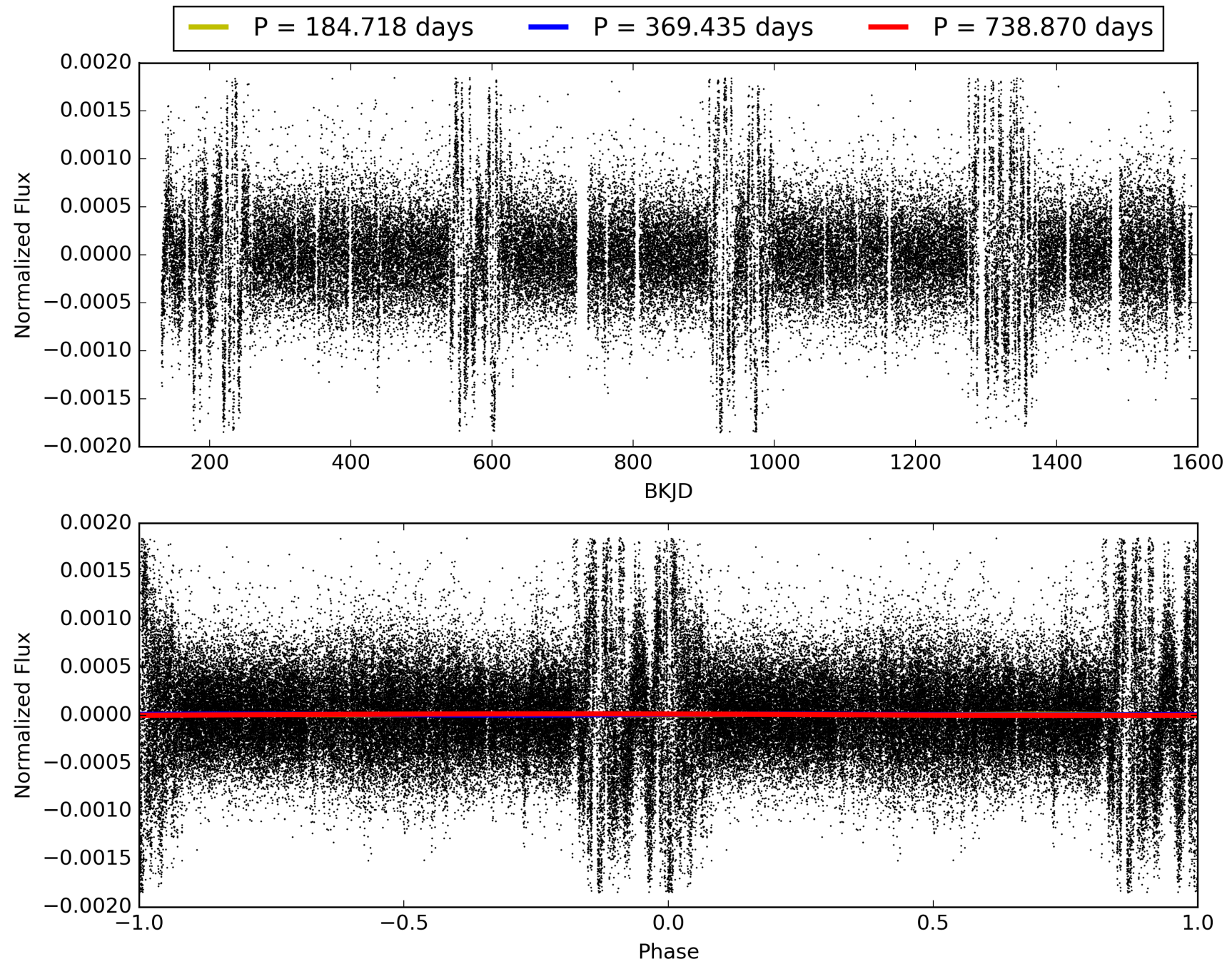
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:02:08 Z

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

# TCE 007902429-01, PDC Light Curves

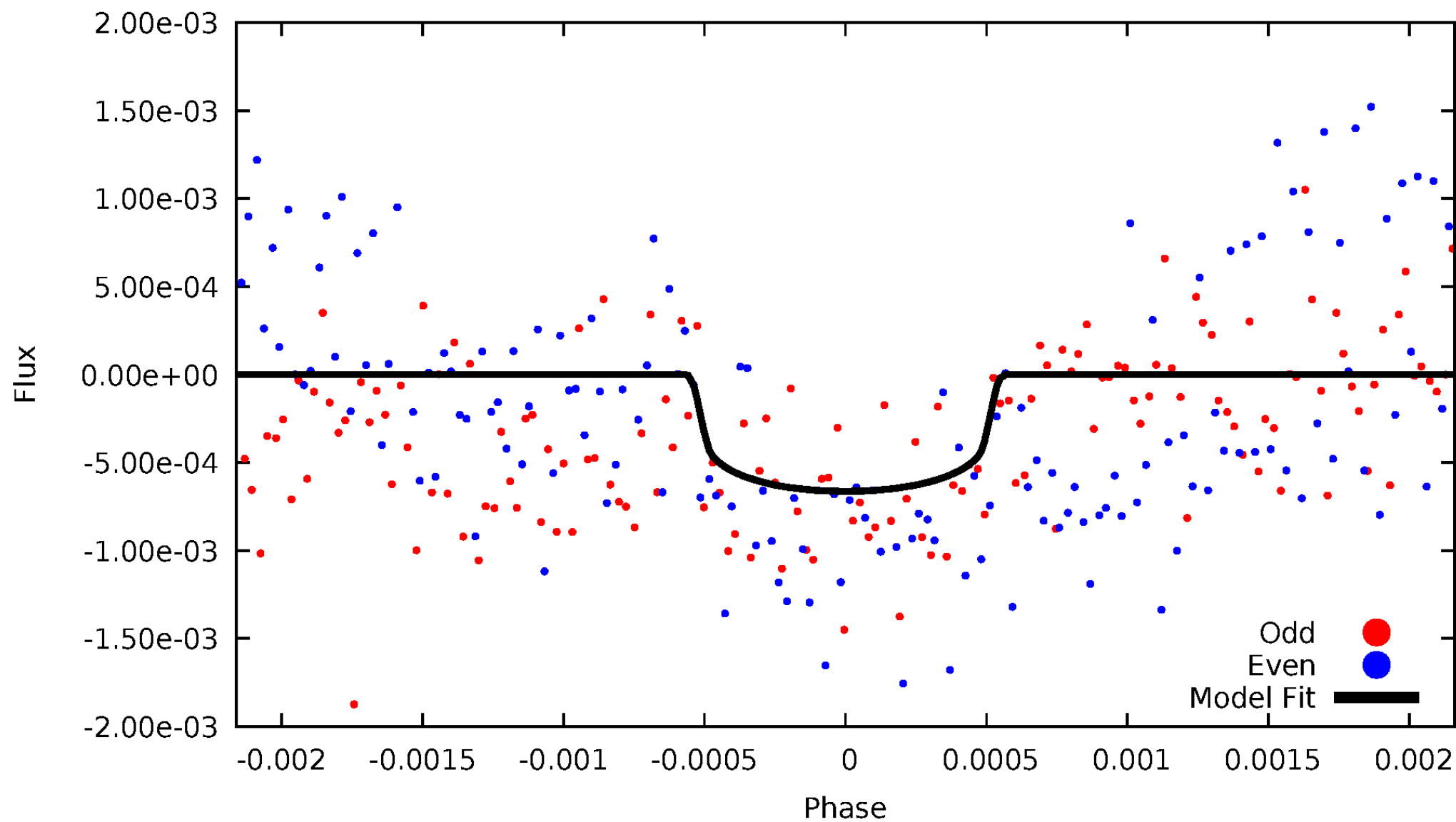


TCE 007902429-01



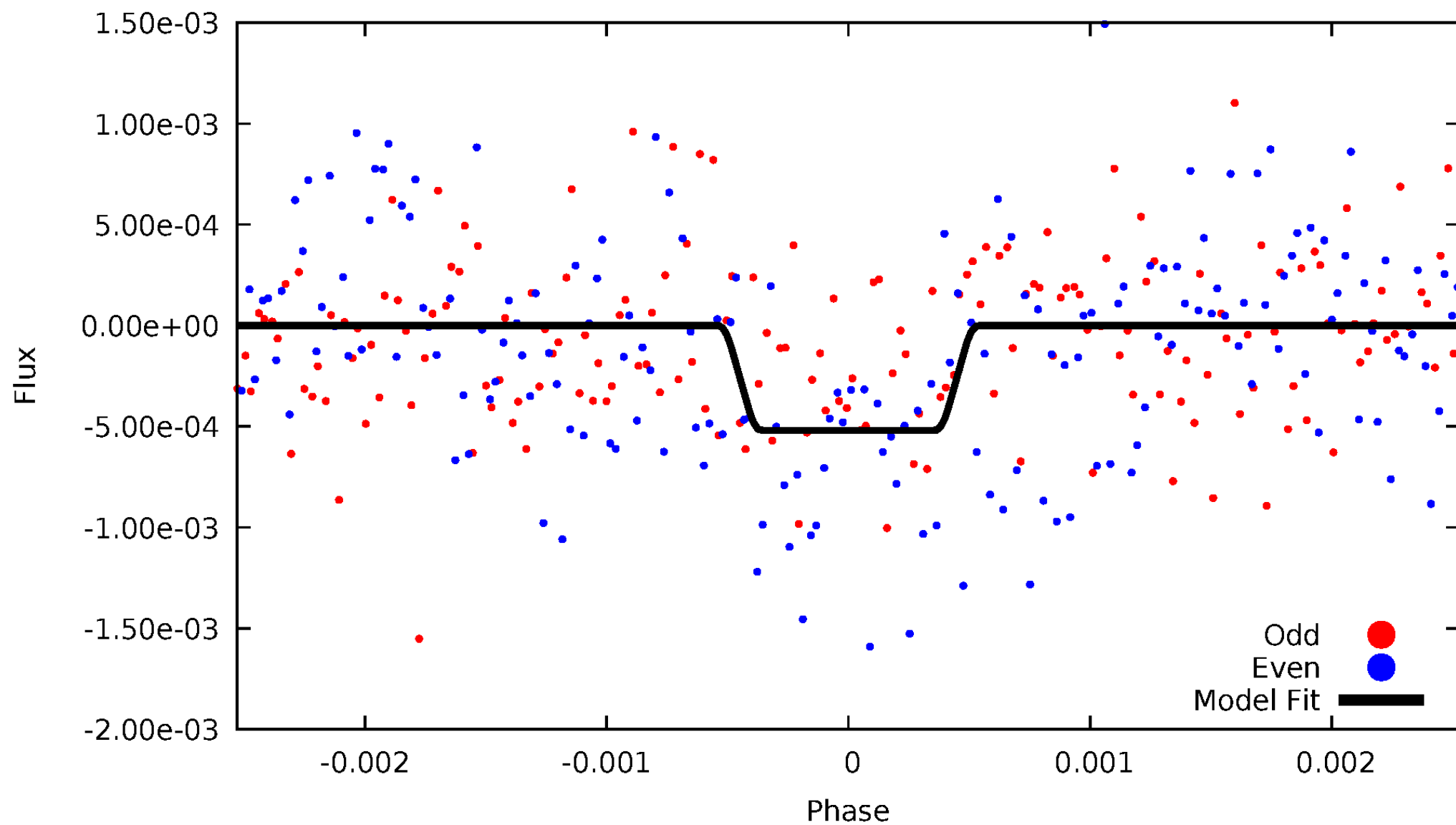
# DV Odd/Even

TCE 007902429-01



# ALT Odd/Even

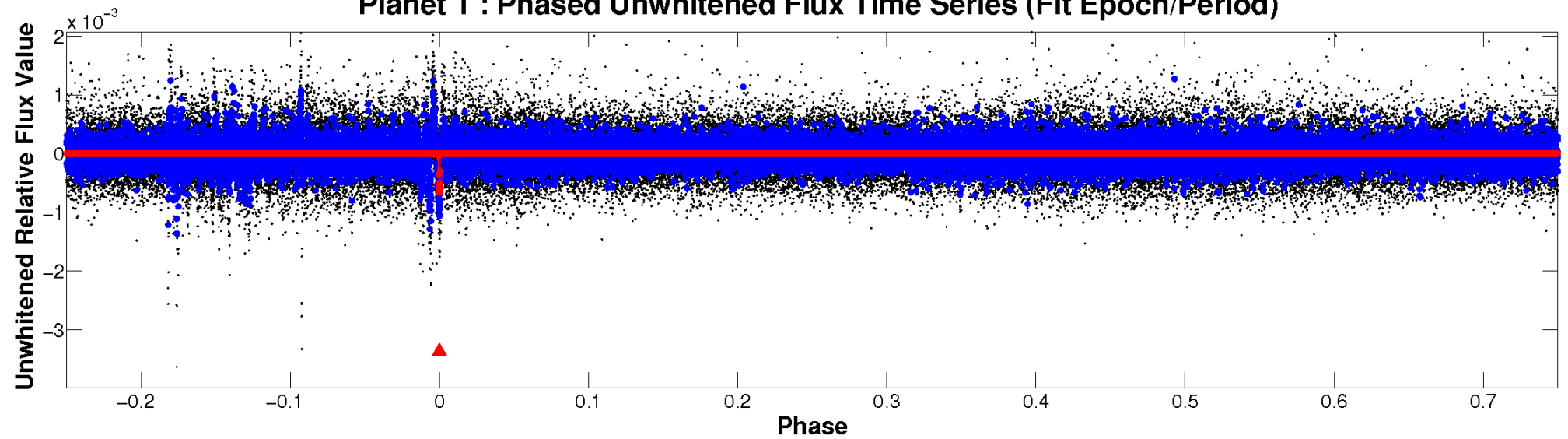
TCE 007902429-01



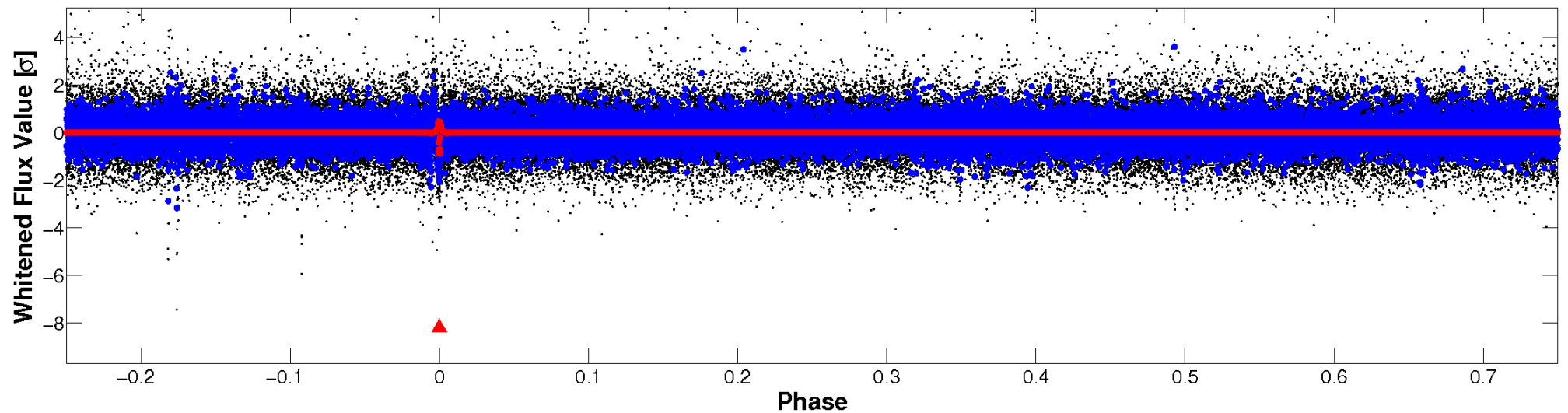


# Non-Whitened Vs. Whitened Light Curve

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

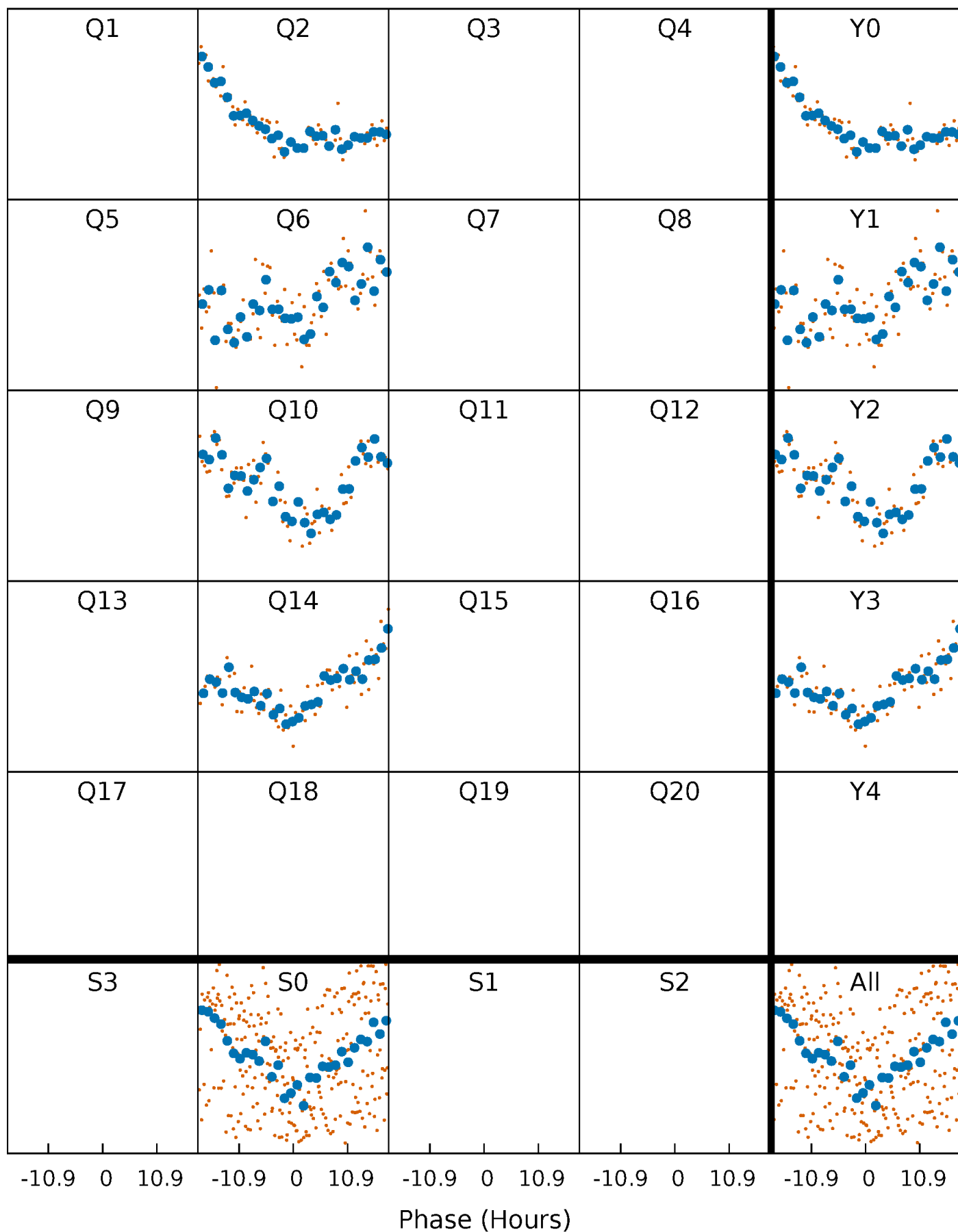


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

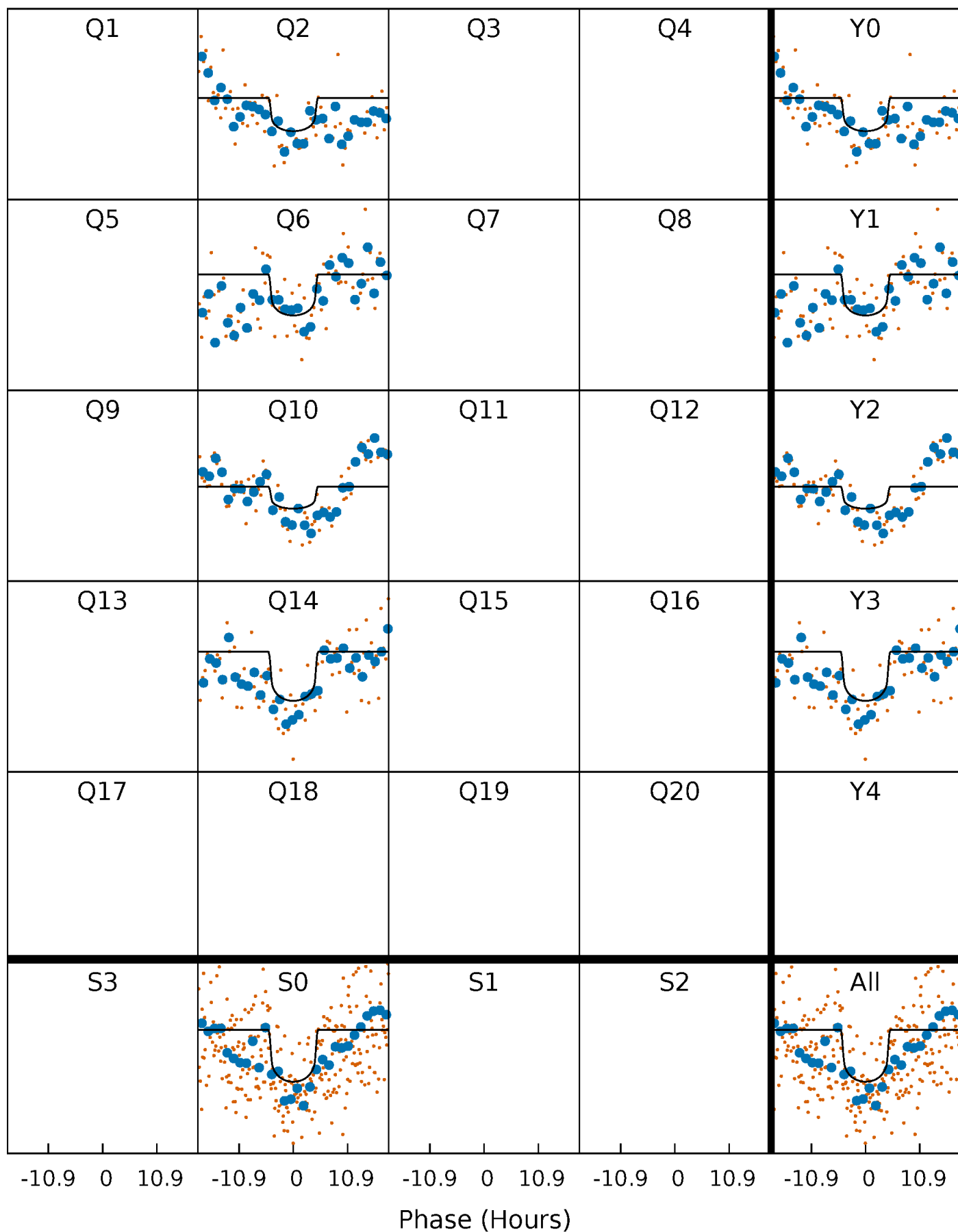
TCE 007902429-01 P=369.435025 Days  $T_0=233.063845$  (BKJD)





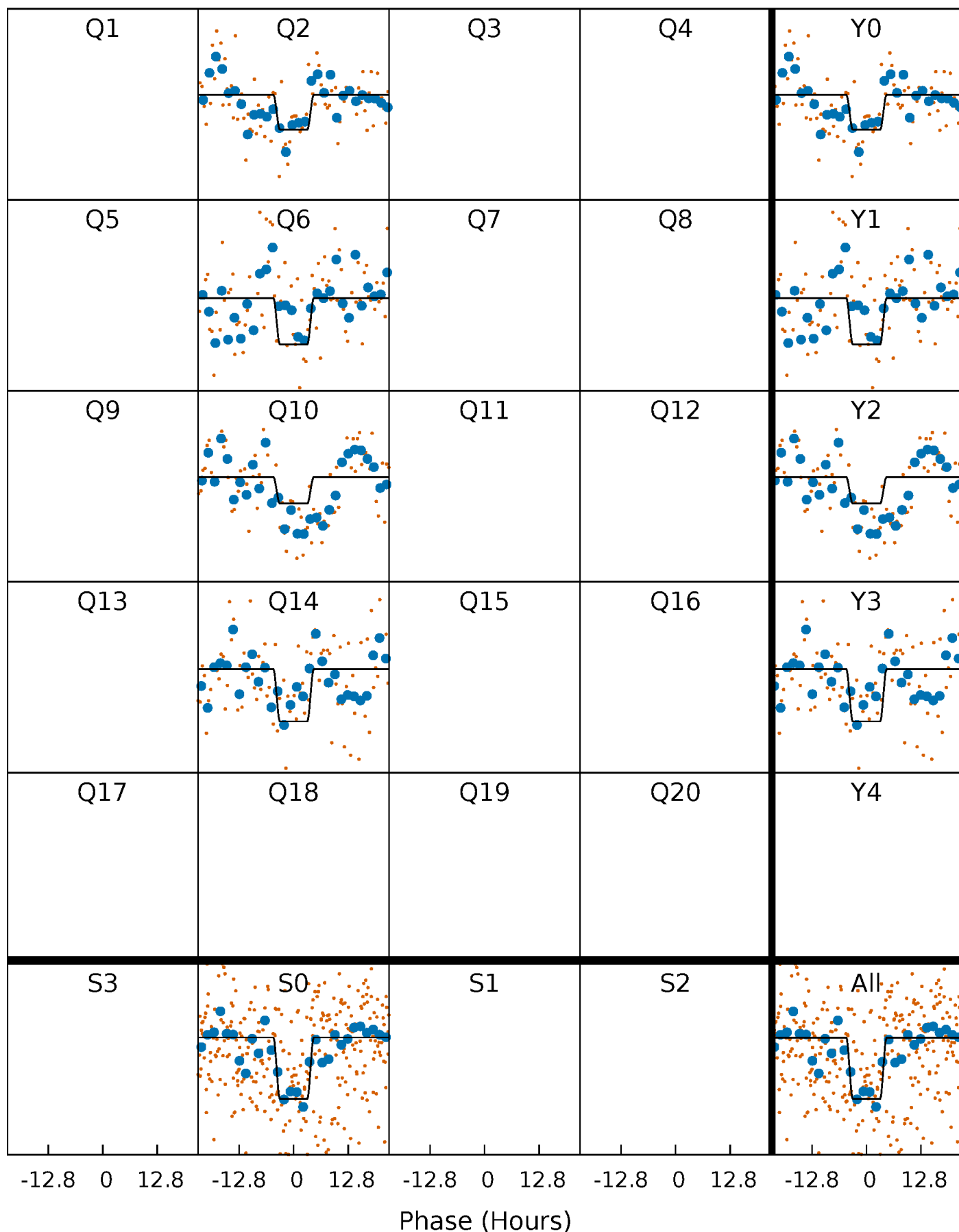
# DV Quarter-Phased Transit Curves

TCE 007902429-01 P=369.435025 Days  $T_0=233.063845$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

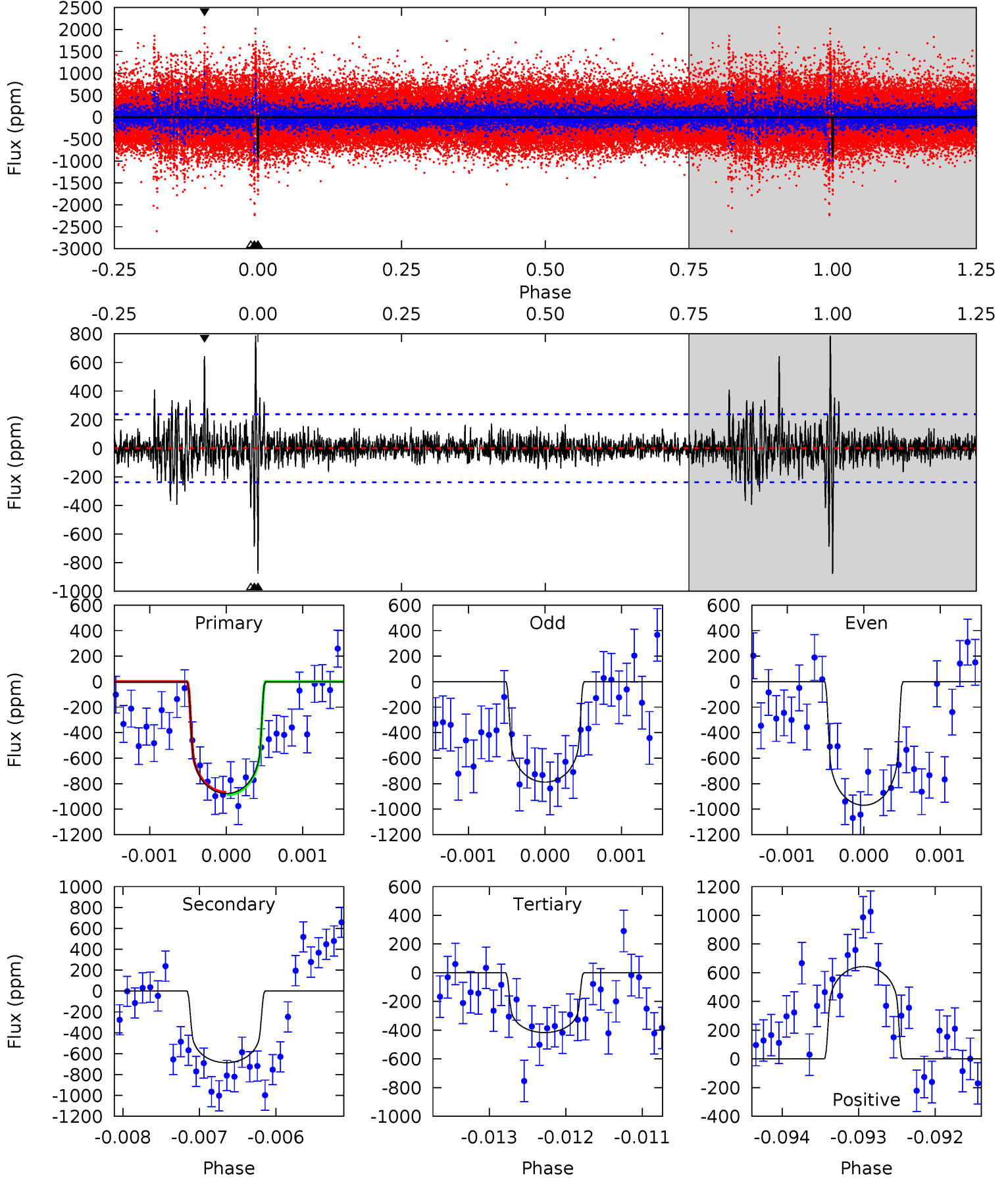
TCE 007902429-01 P=369.466009 Days  $T_0=233.044948$  (BKJD)



# DV Model-Shift Uniqueness Test

007902429-01, P = 369.435025 Days, E = 233.063845 Days

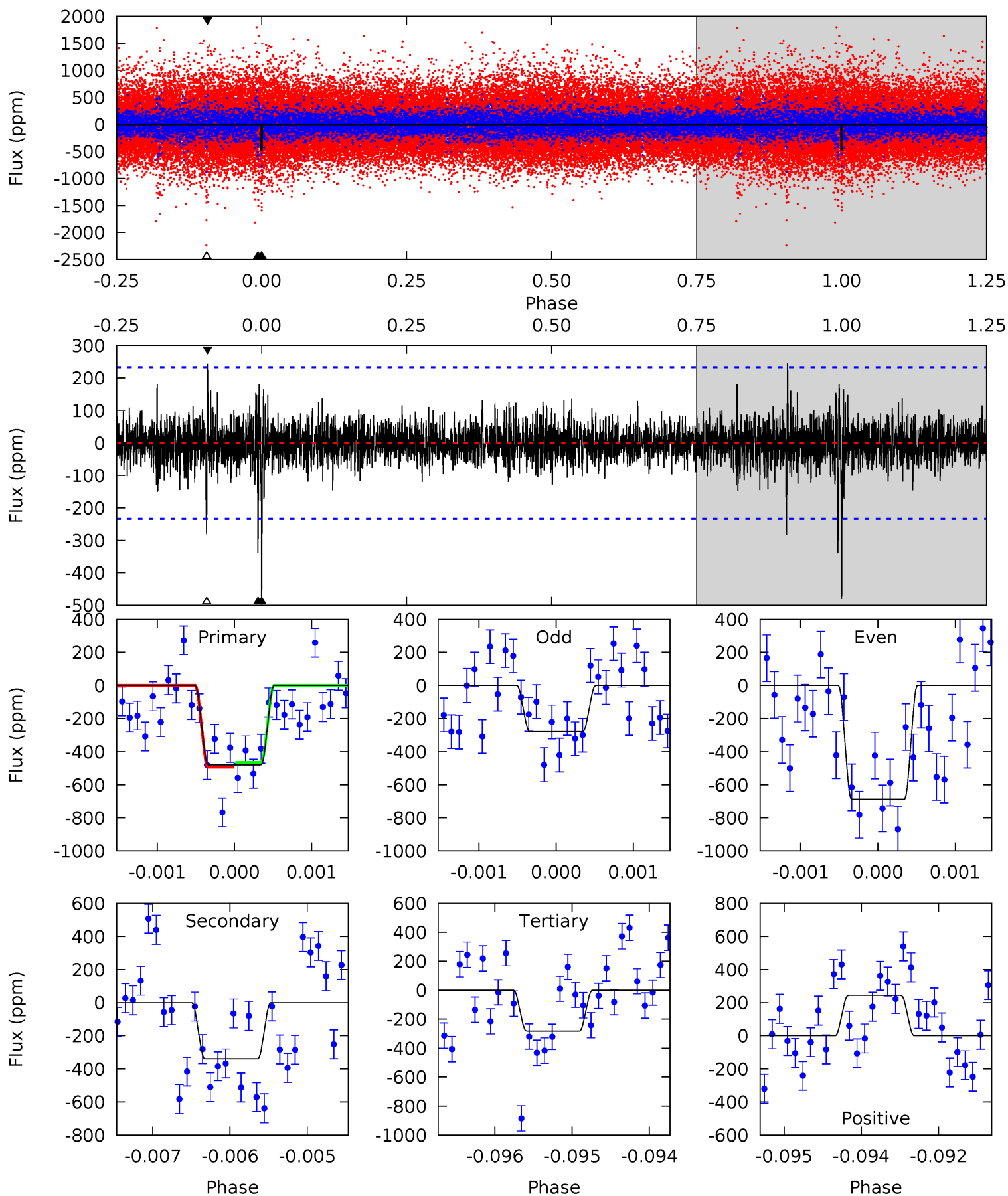
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	15.7	9.52	14.7	5.43	3.26	1.82	10.5	5.35	6.15	0.99	2.06	1.02	0.47	0.24



# Alt Model-Shift Uniqueness Test

007902429-01, P = 369.466009 Days, E = 233.044948 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
11.2	7.90	6.57	5.66	5.44	3.28	1.01	4.62	5.52	1.33	2.24	4.79	1.26	0.34	0.35



### Stellar Parameters For KIC 007902429

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5826^{+157}_{-174}$	$4.515^{+0.060}_{-0.180}$	$-0.320^{+0.300}_{-0.300}$	$0.865^{+0.234}_{-0.100}$	$0.893^{+0.111}_{-0.090}$	$1.944^{+0.514}_{-0.944}$
	+3%/-3%	+1%/-4%	+94%/-94%	+27%/-12%	+12%/-10%	+26%/-49%
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 007902429-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-686 \pm 44$	$2.44^{+1.71}_{-1.33}$	$344^{+22}_{-14}$	$5965^{+3409}_{-1165}$	$60585^{+228420}_{-39740}$
Alt.	$-339 \pm 43$	$2.34^{+1.75}_{-1.41}$	$346^{+23}_{-17}$	$5162^{+3225}_{-985}$	$31274^{+171631}_{-20959}$

$T_{\text{max}}$  = 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

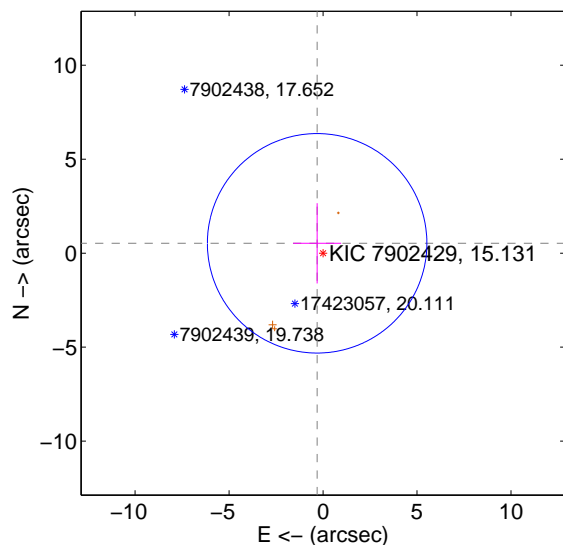
Supplemental centroid analysis for 007902429-01. Kepler magnitude: 15.13. Transit SNR 7.52

There are 0 quarters with good PRF difference image offsets

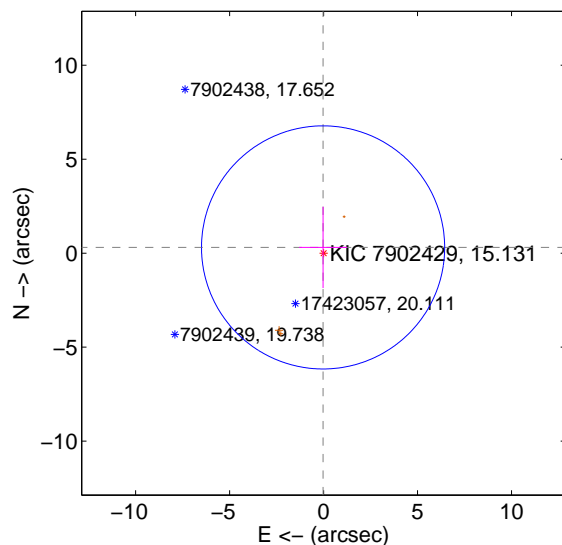
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.612 \pm 1.946$	0.31	$0.314 \pm 1.281$	$0.525 \pm 2.134$
PRF-fit source offset from KIC position	$0.308 \pm 2.156$	0.14	$0.027 \pm 1.272$	$0.307 \pm 2.161$
photometric centroid source offset	$4.51 \pm 2.07$	2.18	$4.50 \pm 2.07$	$0.19 \pm 2.73$

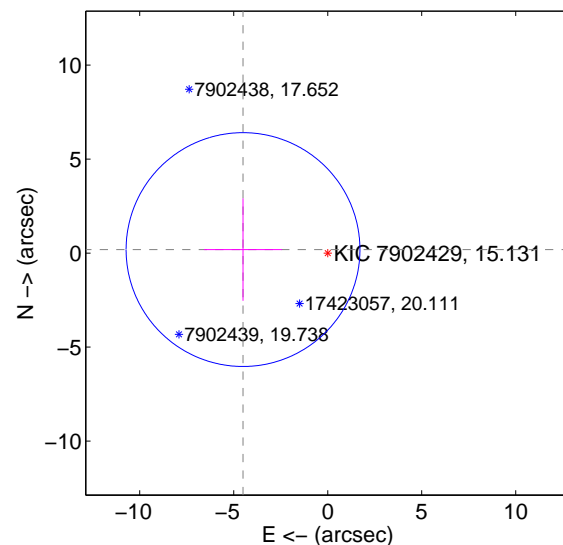
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

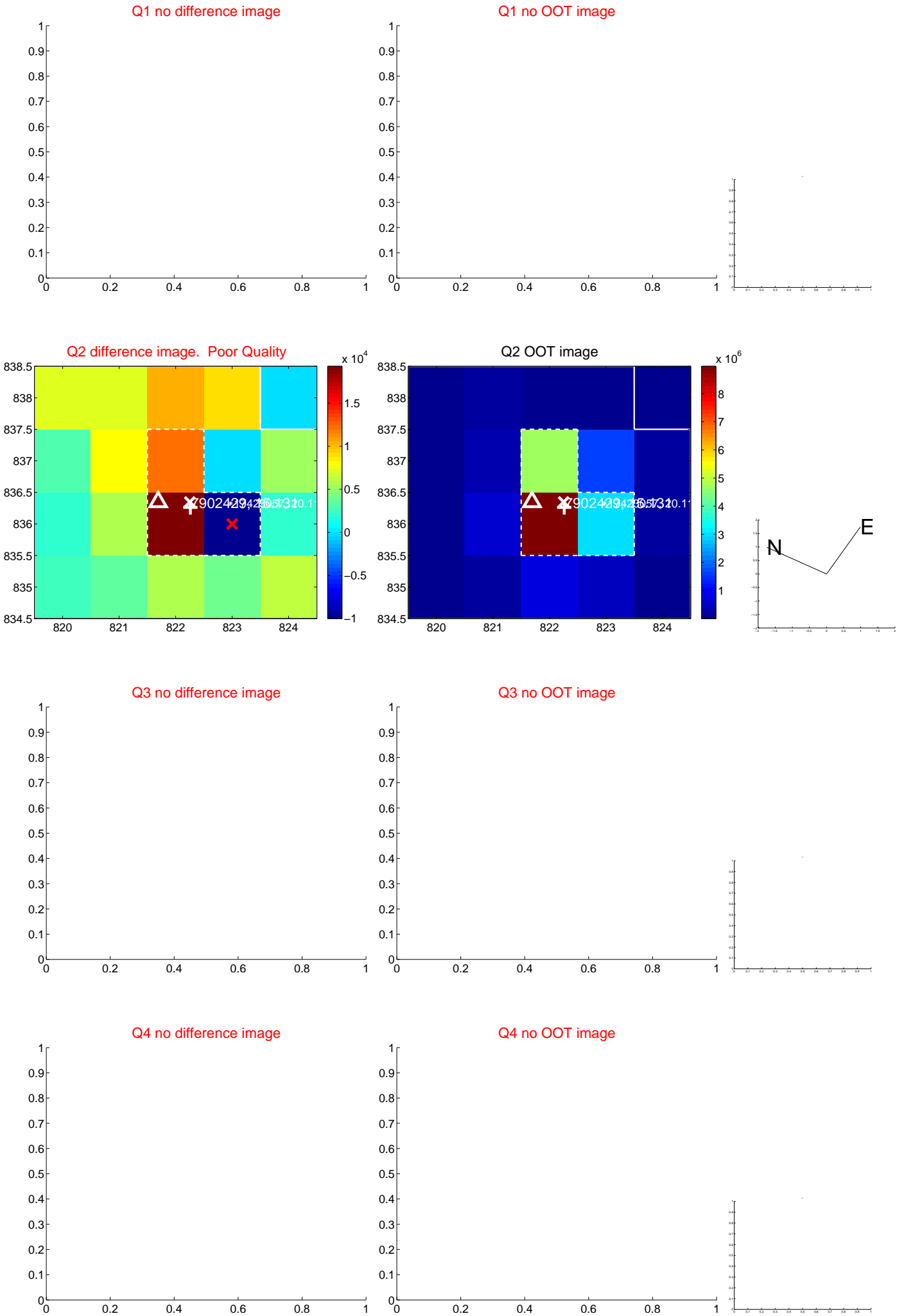


offset from photometric centroids



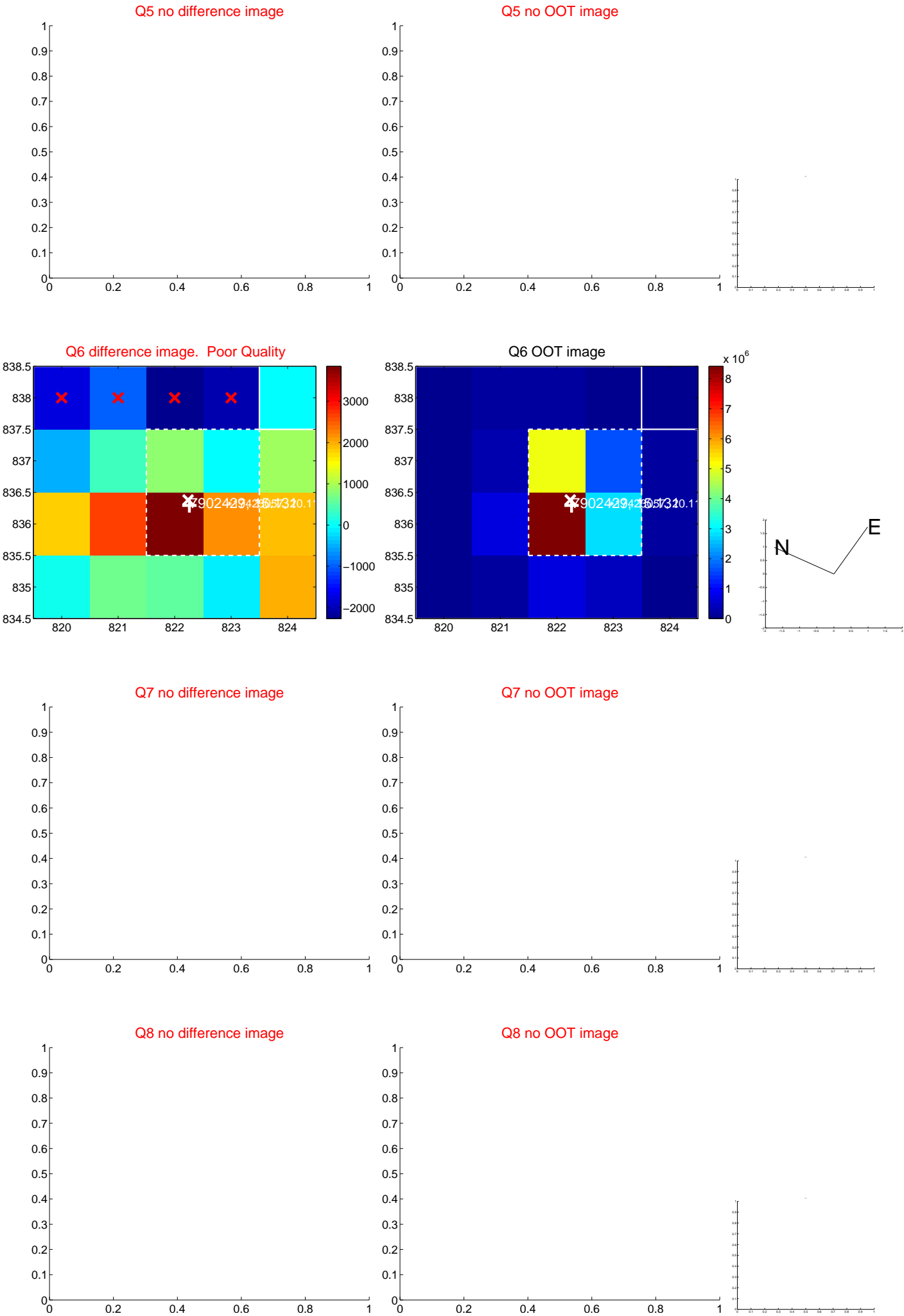
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

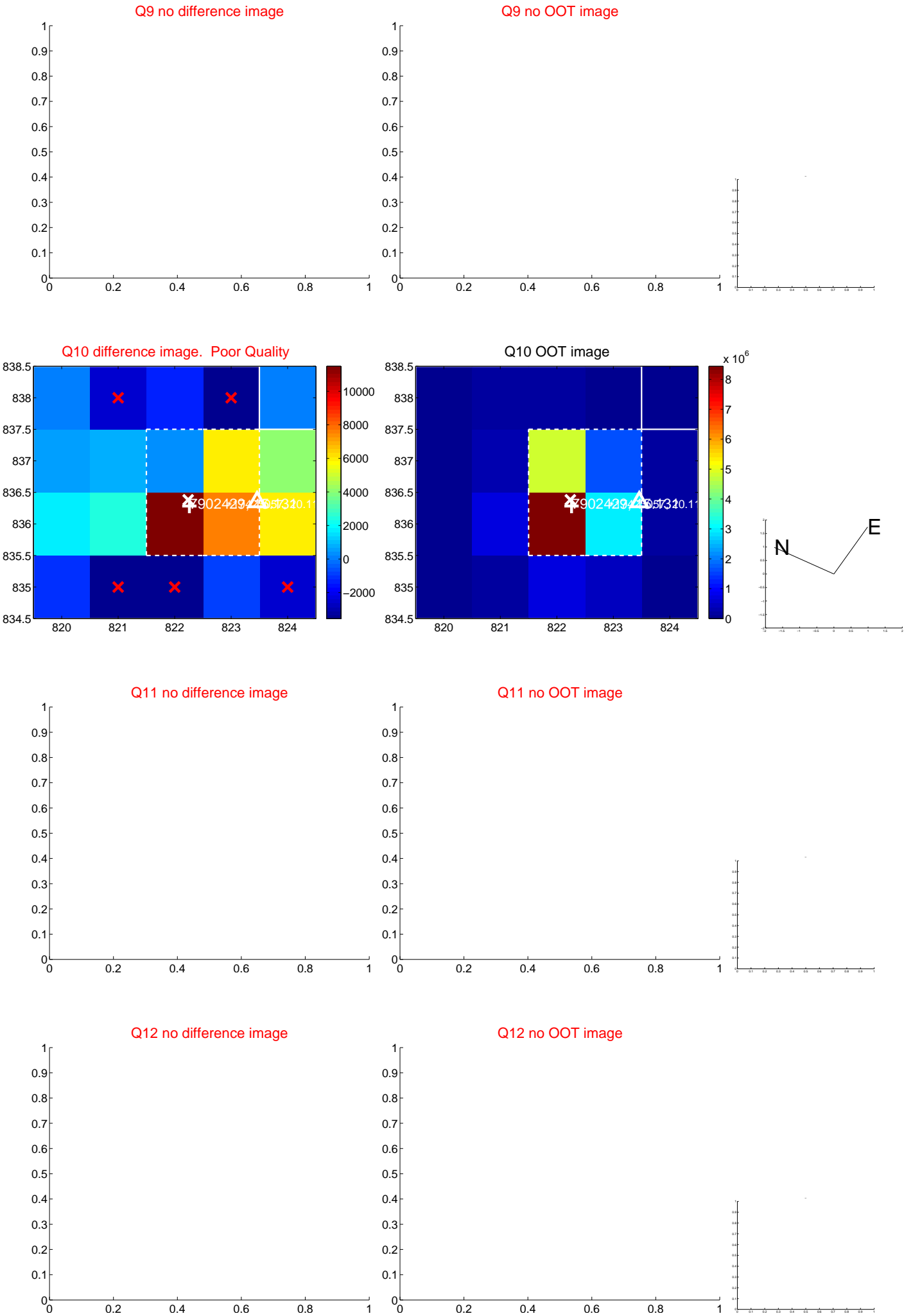




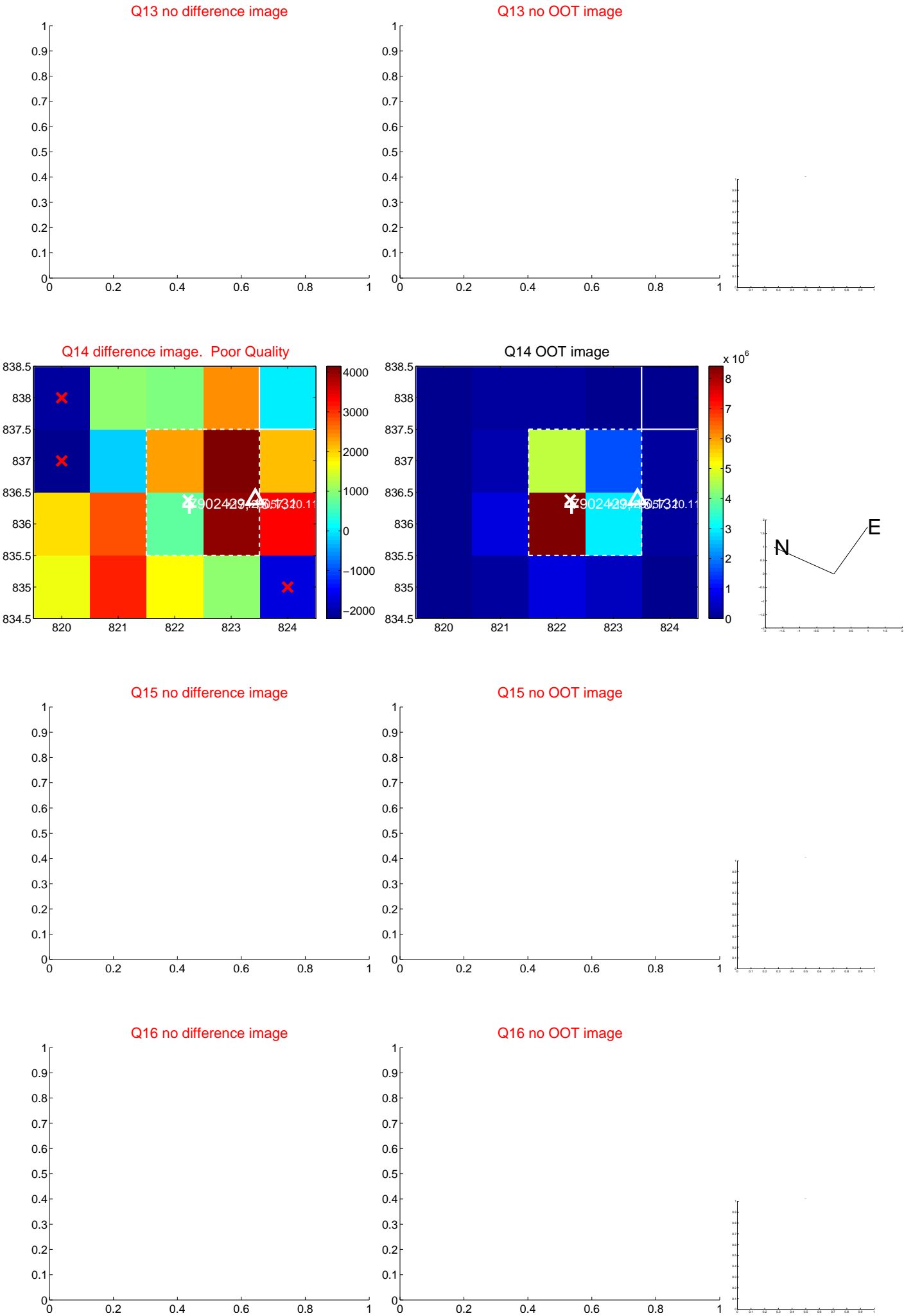
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



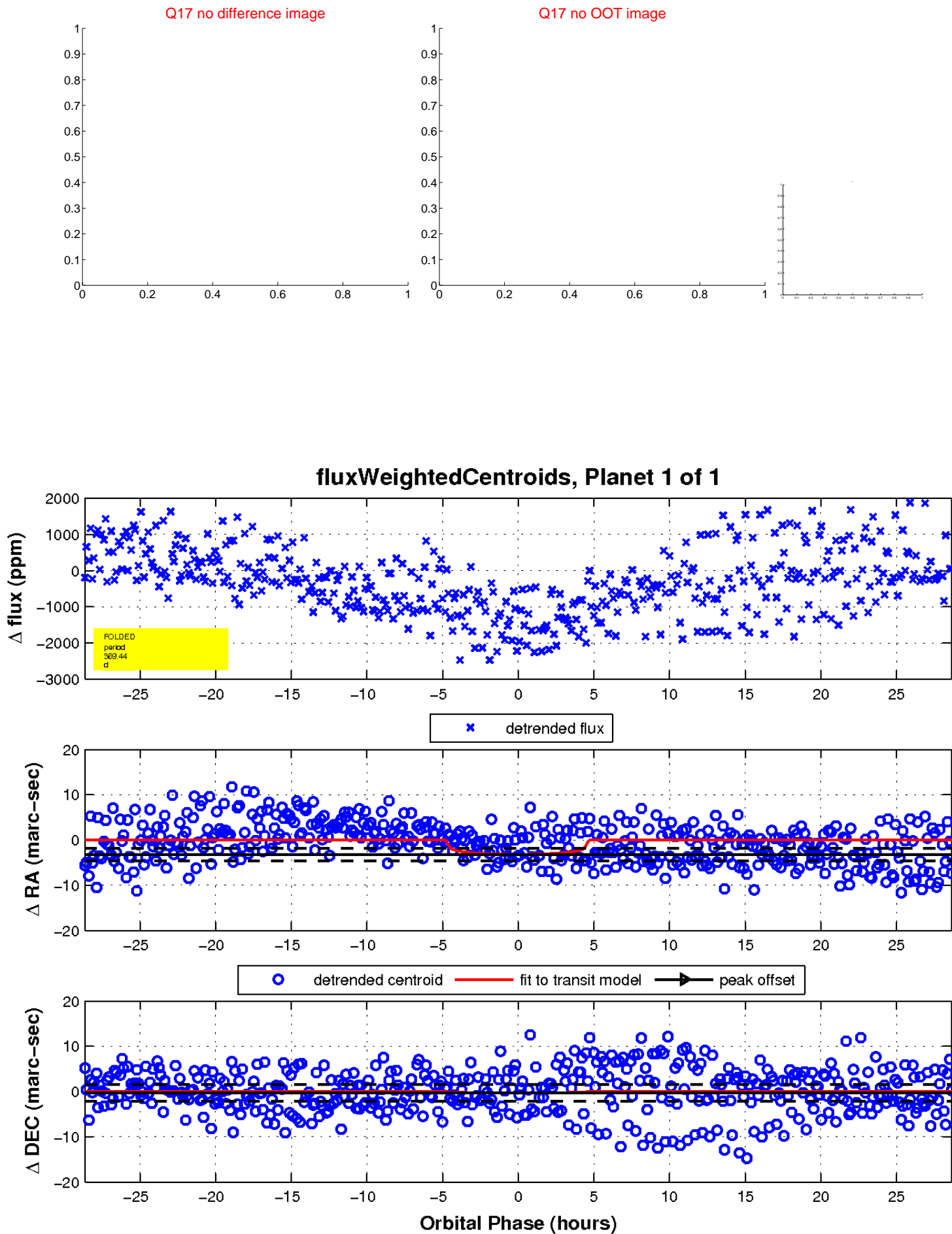
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white  $\times$ : 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

