

# KIC 008241472

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008241472-01	OBS	No	373.692351	227.142122	2003.1	20.030	8.5	9.4	0.84	5662	5.38	0.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008241472-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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.

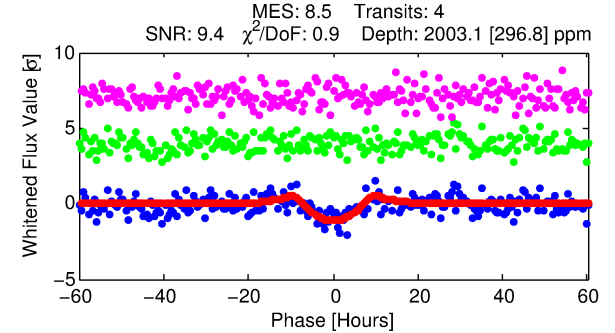
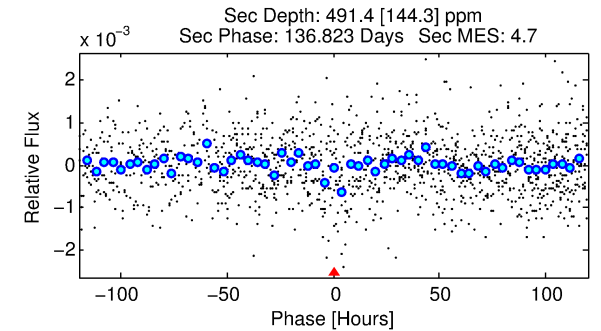
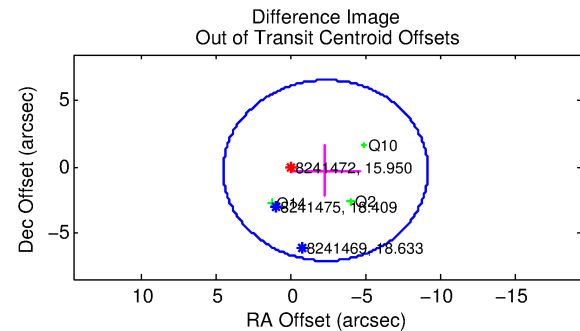
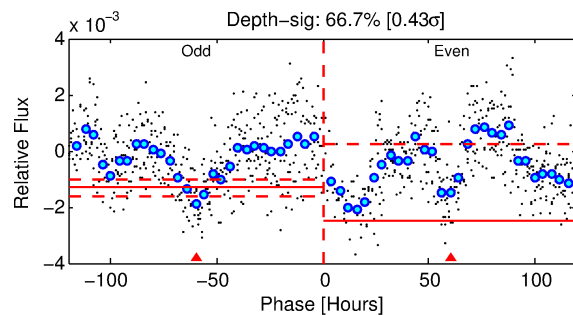
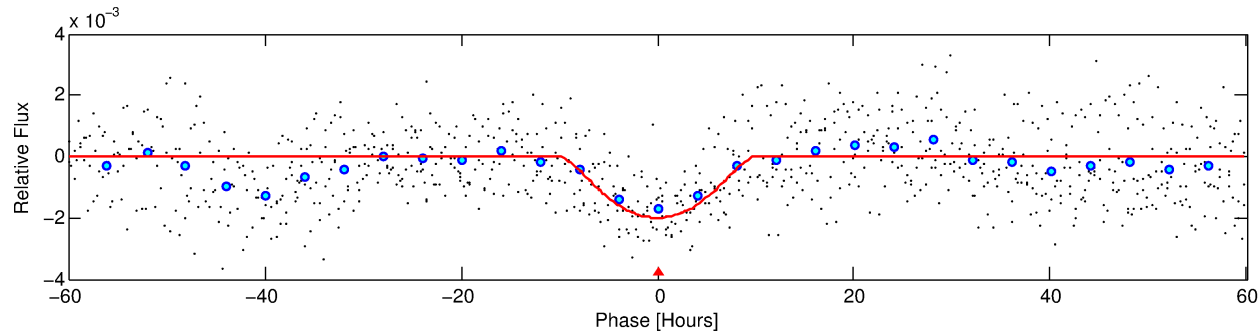
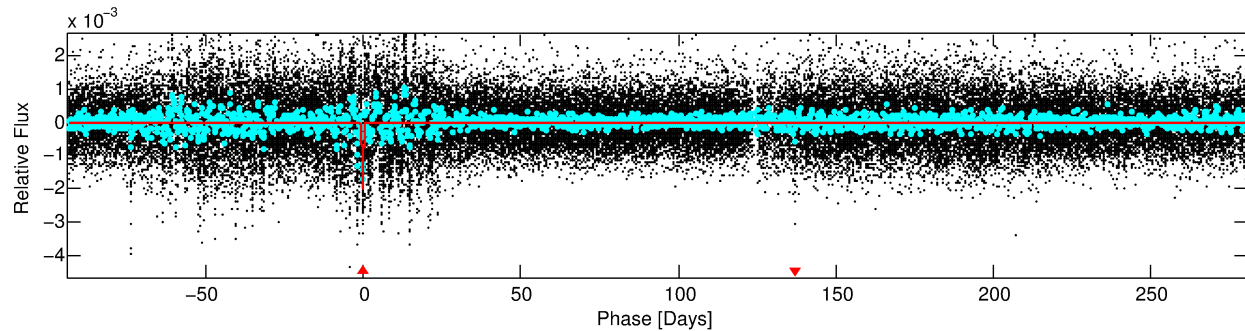
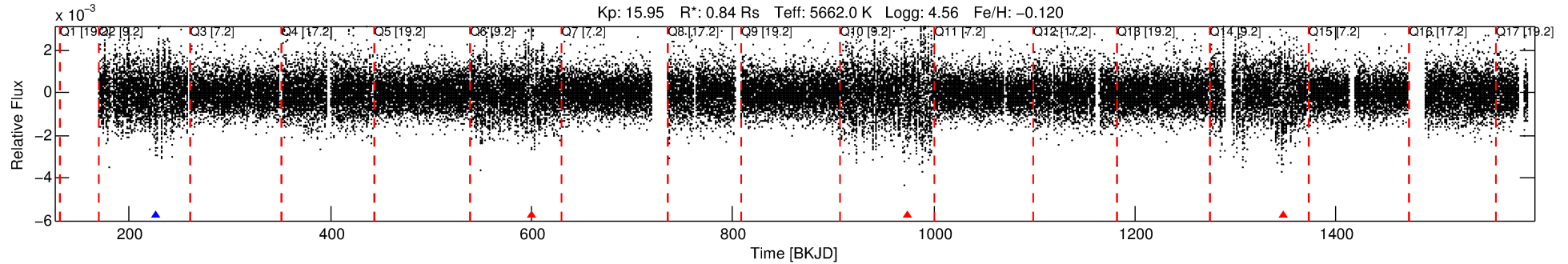
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008241472-01

No Significant Match Found

# DV One-Page Summary

KIC: 8241472 Candidate: 1 of 1 Period: 373.692 d



## DV Fit Results:

Period = 373.69235 [0.01631] d  
Epoch = 227.1421 [0.0302] BKJD  
Rp/R\* = 0.0587 [0.0357]  
a/R\* = 61.64 [16.24]  
b = 0.97 [0.07]  
Seff = 0.66 [0.22]  
Teq = 230 [20] K  
Rp = 5.38 [3.53] Re  
a = 0.9929 [0.2114] AU  
Ag = 9194.70 [11869.85] [0.77σ]  
Teffp = 3478 [1093] K [2.97σ]

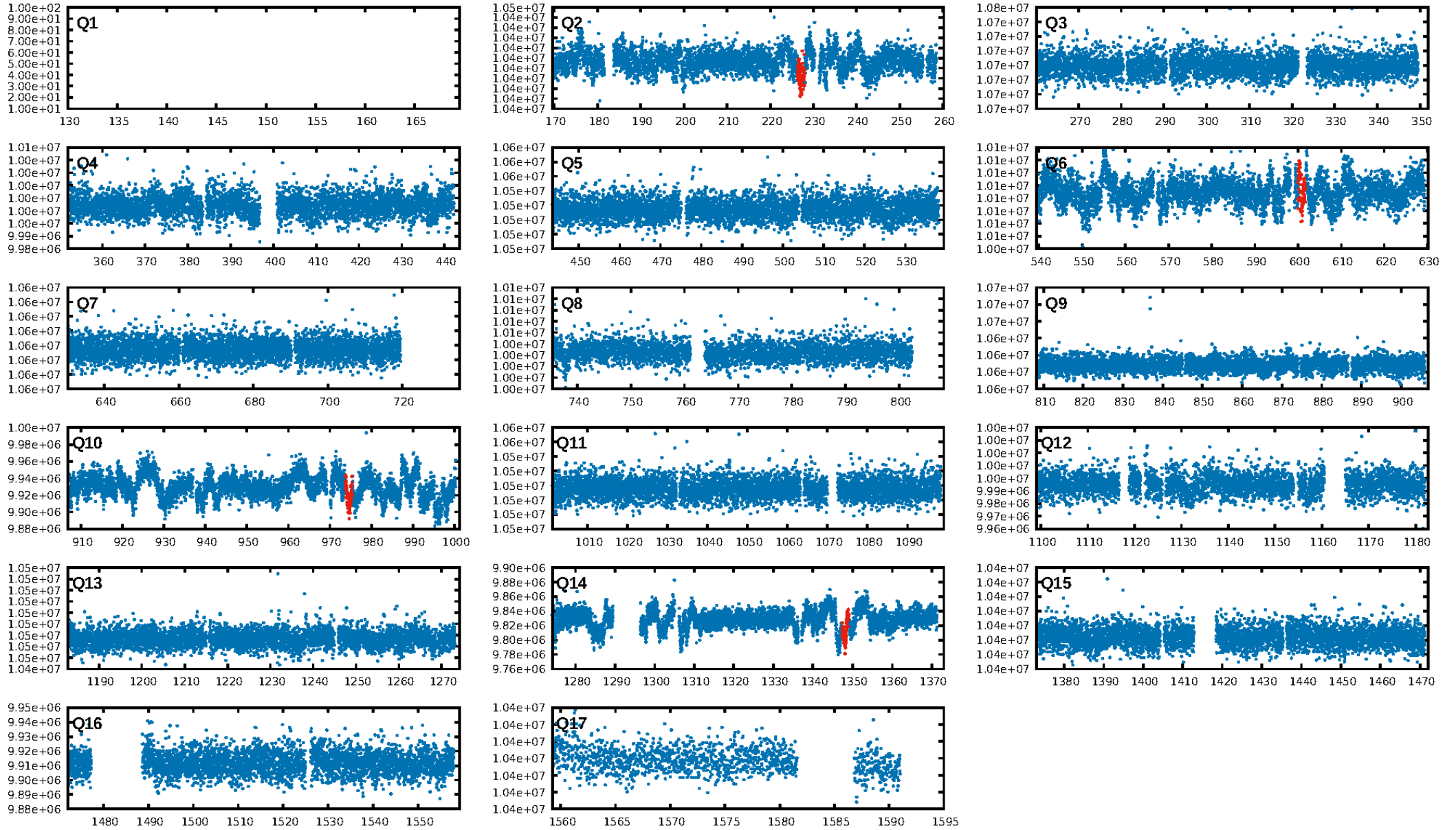
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 45.4%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 1.34e-09  
RollingBand-fgt: 0.25 [1/4]  
GhostDiagnostic-chr: 0.3957  
Centroid-sig: 13.4%  
Centroid-so: 2.841 arcsec [1.30σ]  
OotOffset-rm: 2.390 arcsec [1.05σ]  
KicOffset-rm: 2.314 arcsec [1.02σ]  
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]

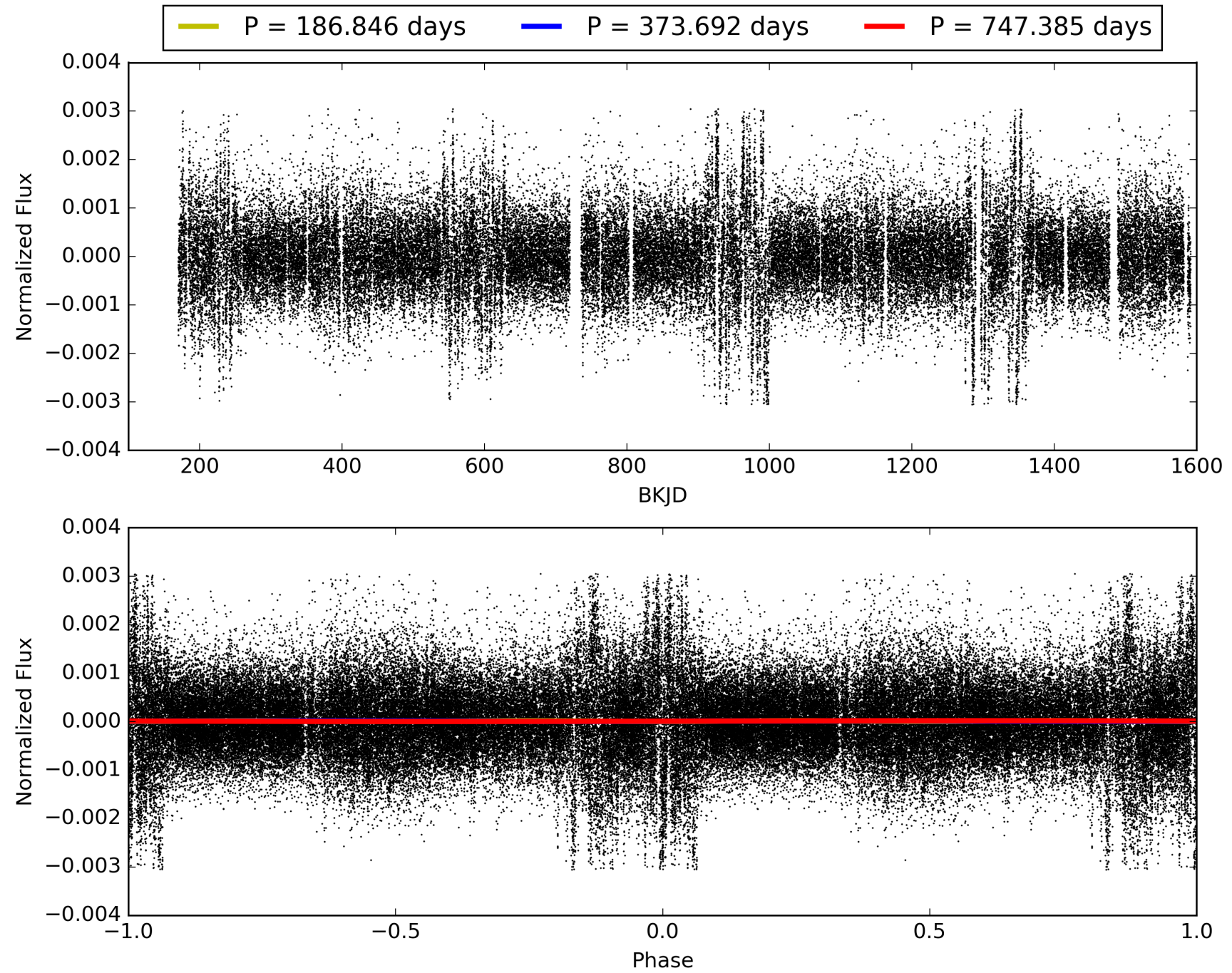
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:22:20 Z

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

# TCE 008241472-01, PDC Light Curves

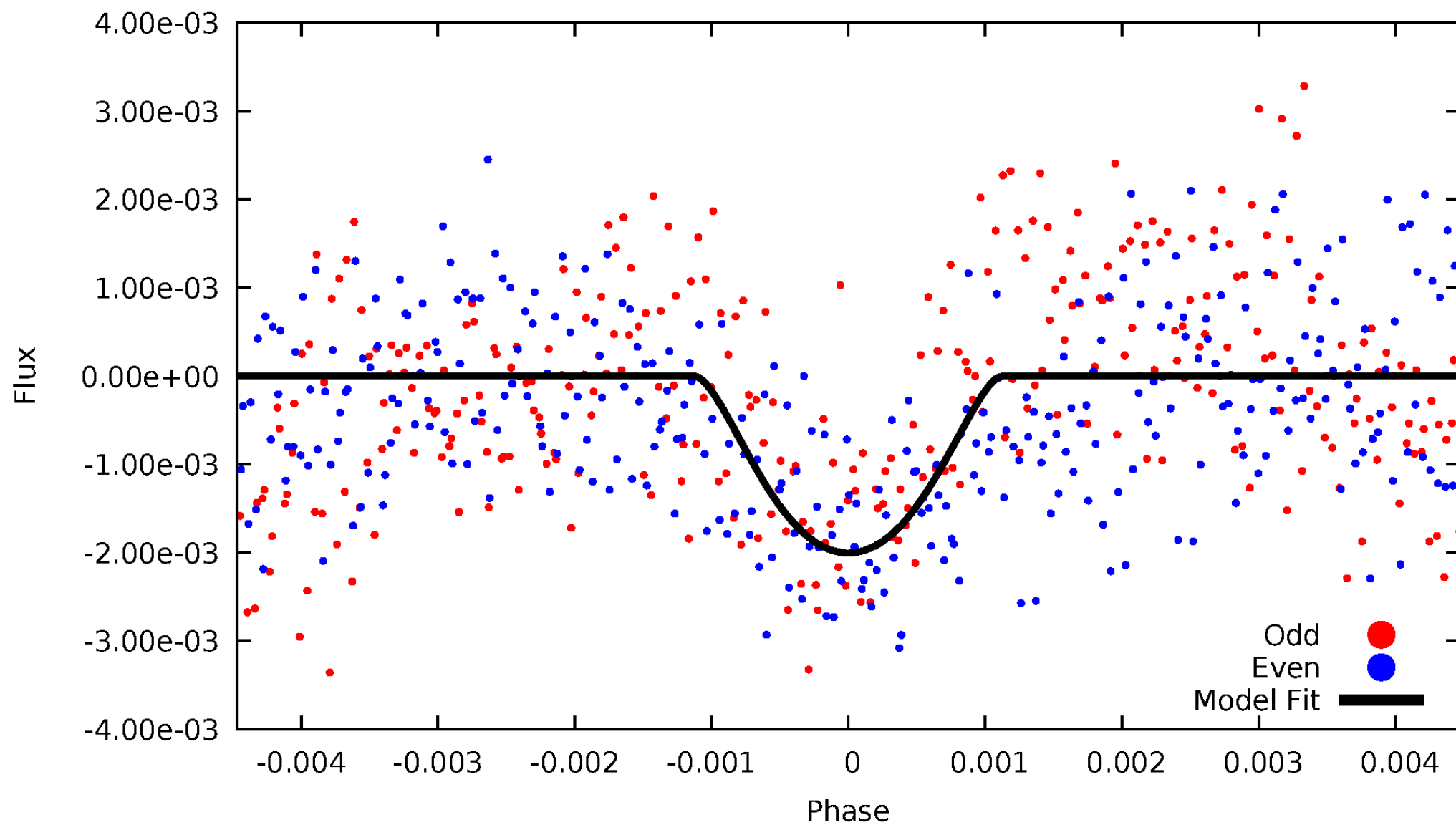


TCE 008241472-01



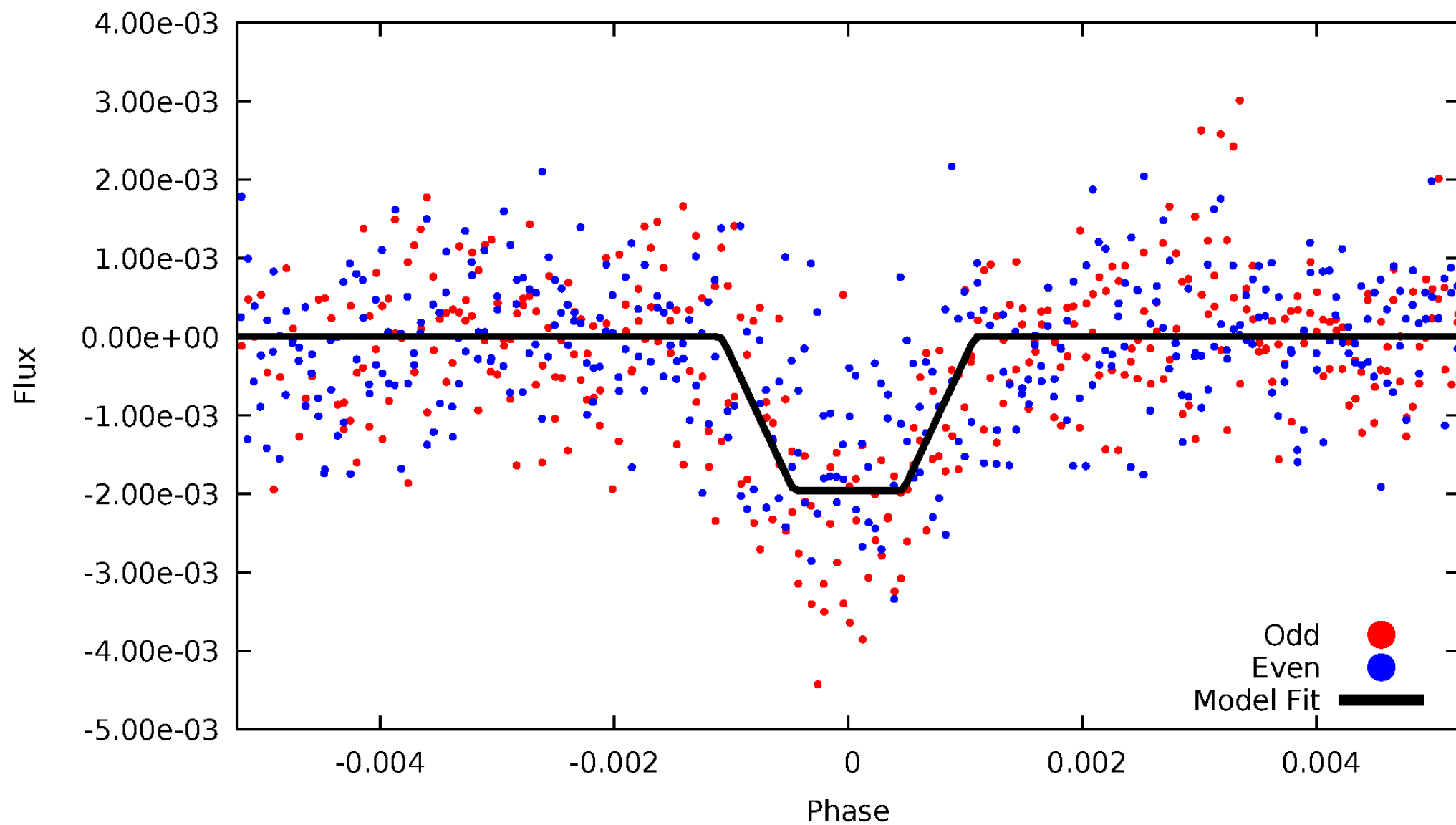
# DV Odd/Even

TCE 008241472-01



# ALT Odd/Even

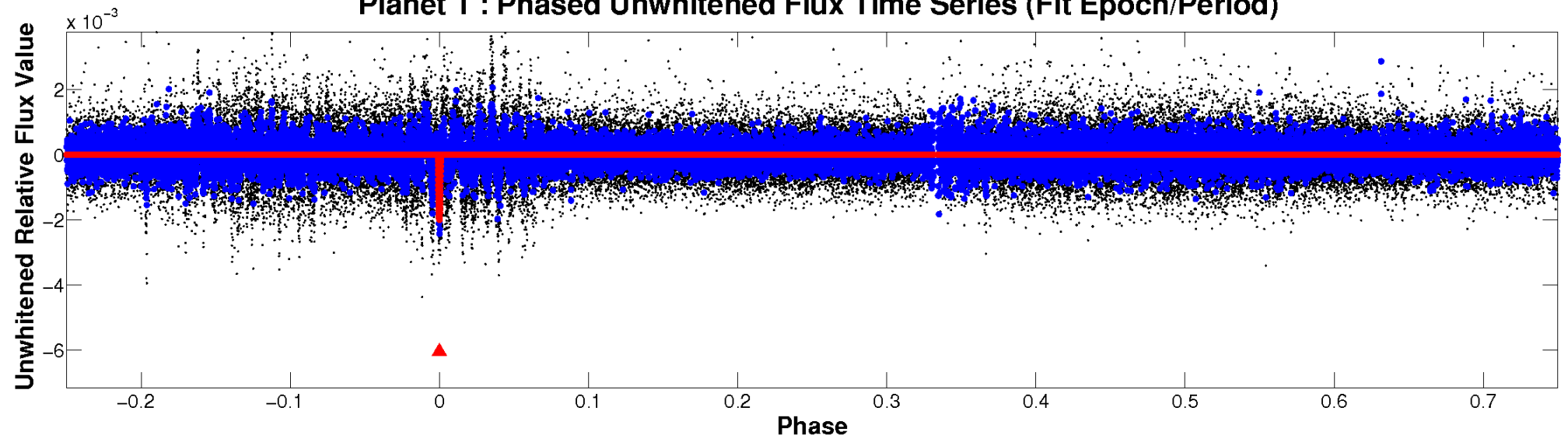
TCE 008241472-01



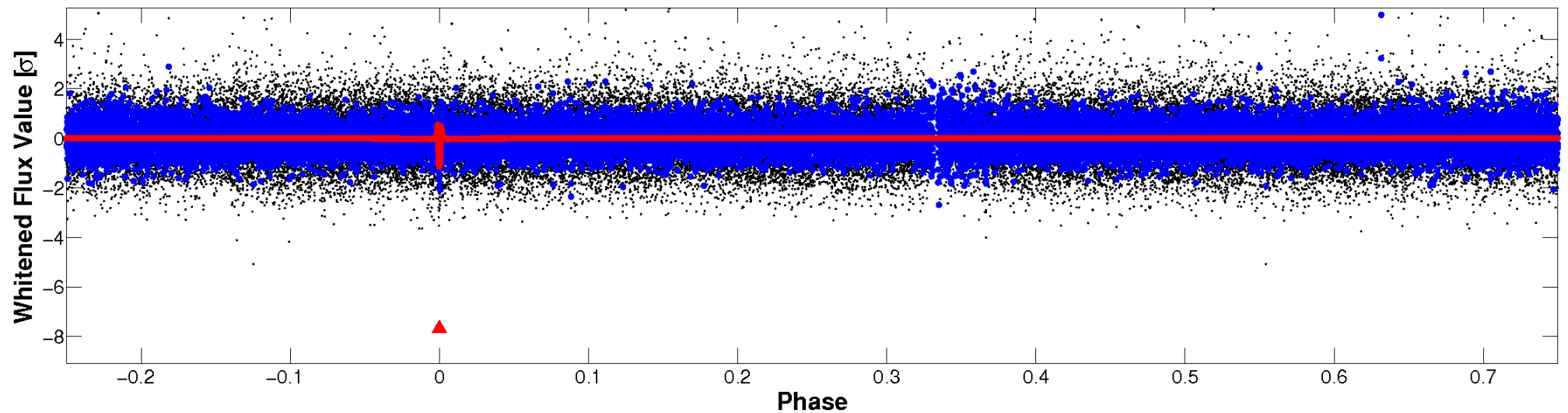


# Non-Whitened Vs. Whitened Light Curve

**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

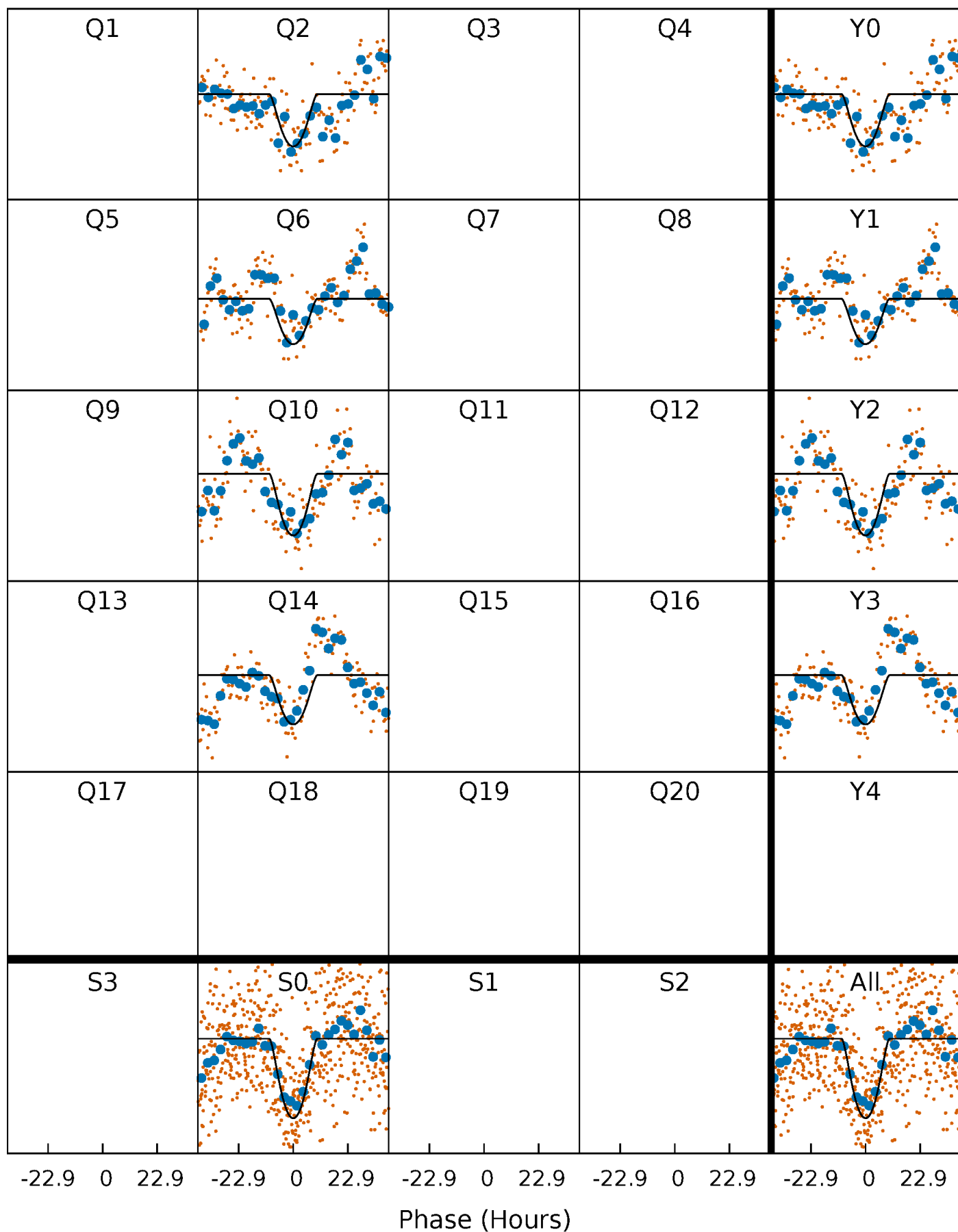
TCE 008241472-01 P=373.692351 Days  $T_0=227.142122$  (BKJD)





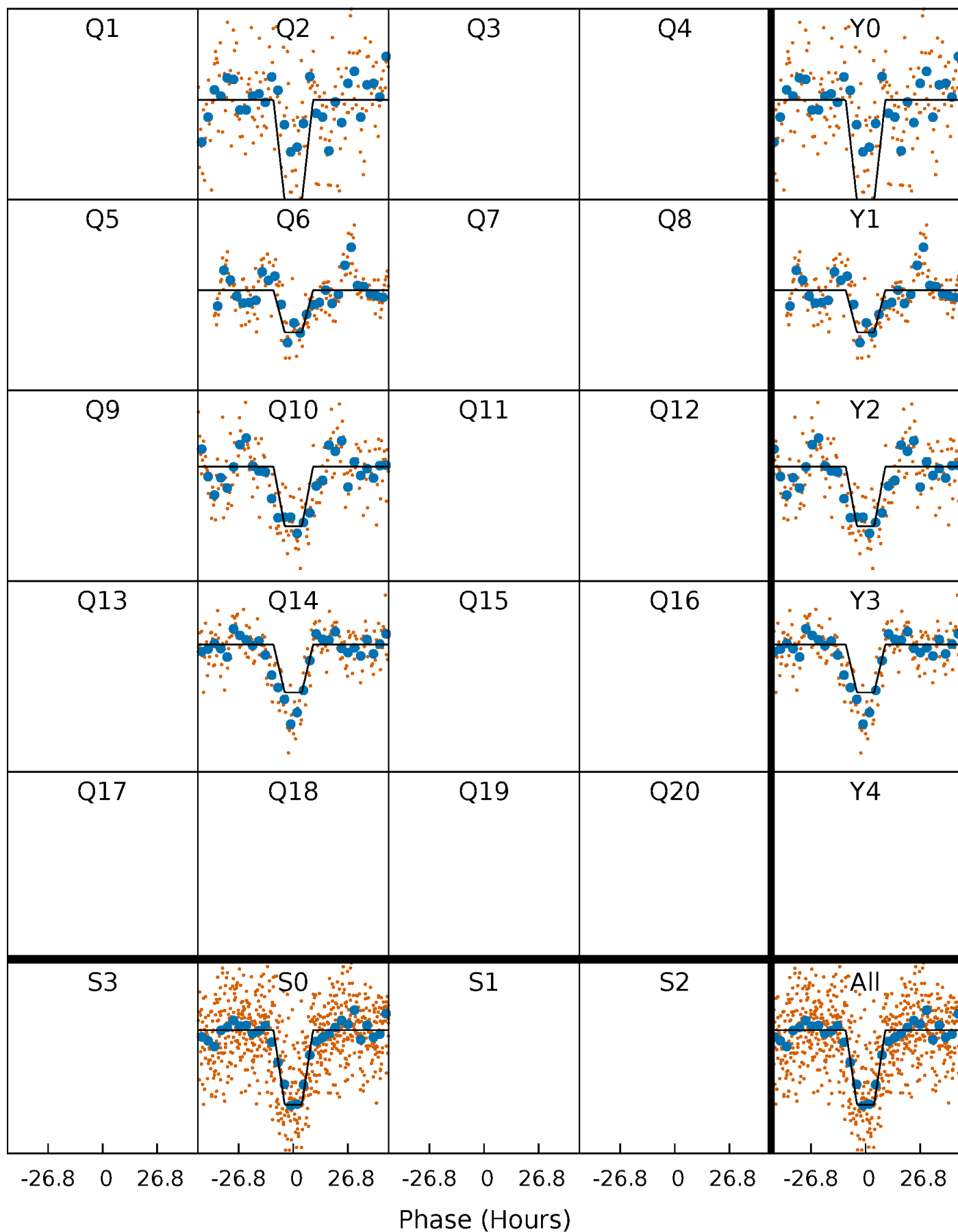
# DV Quarter-Phased Transit Curves

TCE 008241472-01 P=373.692351 Days  $T_0=227.142122$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

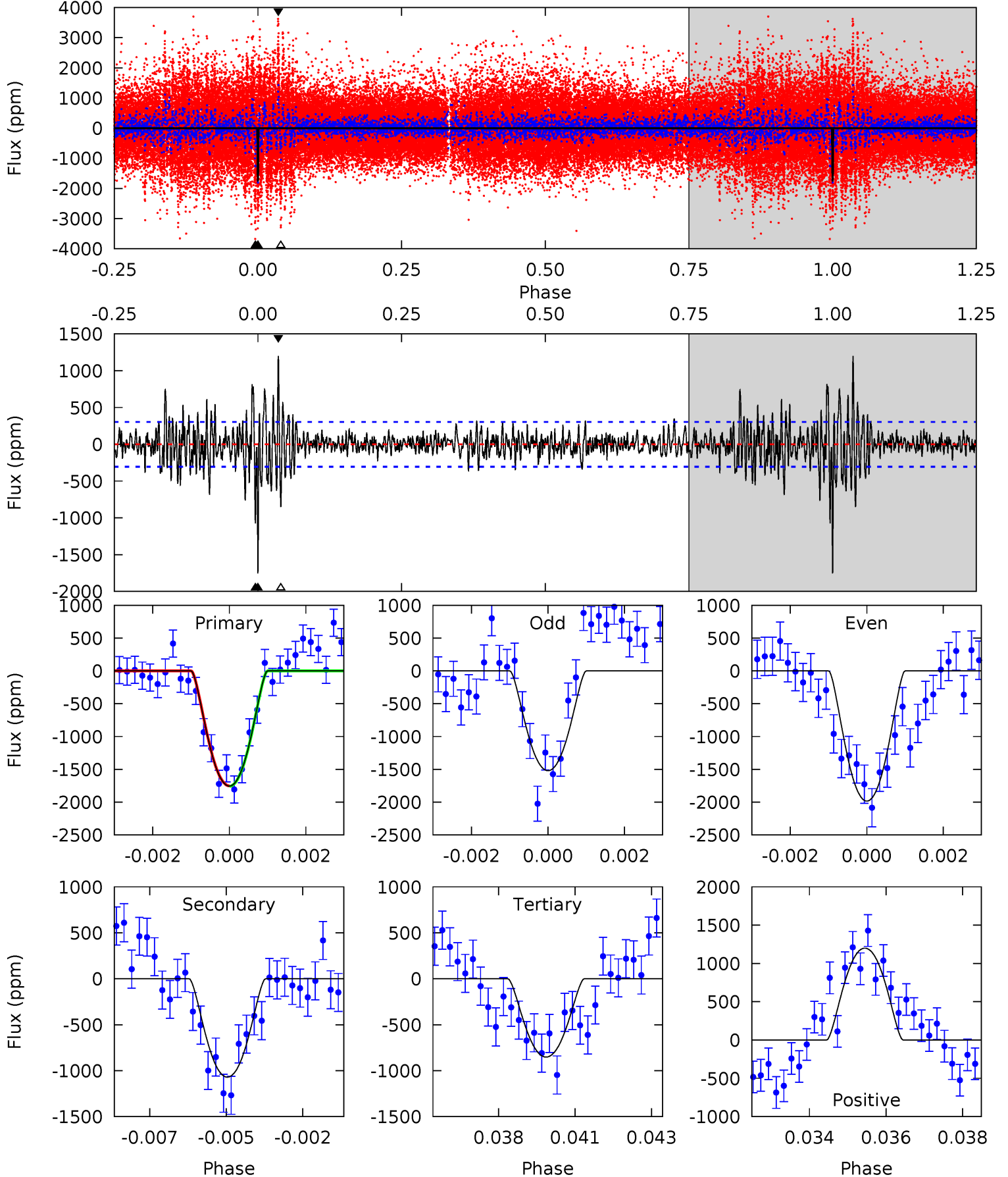
TCE 008241472-01 P=373.688945 Days  $T_0=227.140850$  (BKJD)



# DV Model-Shift Uniqueness Test

008241472-01, P = 373.692351 Days, E = 227.142122 Days

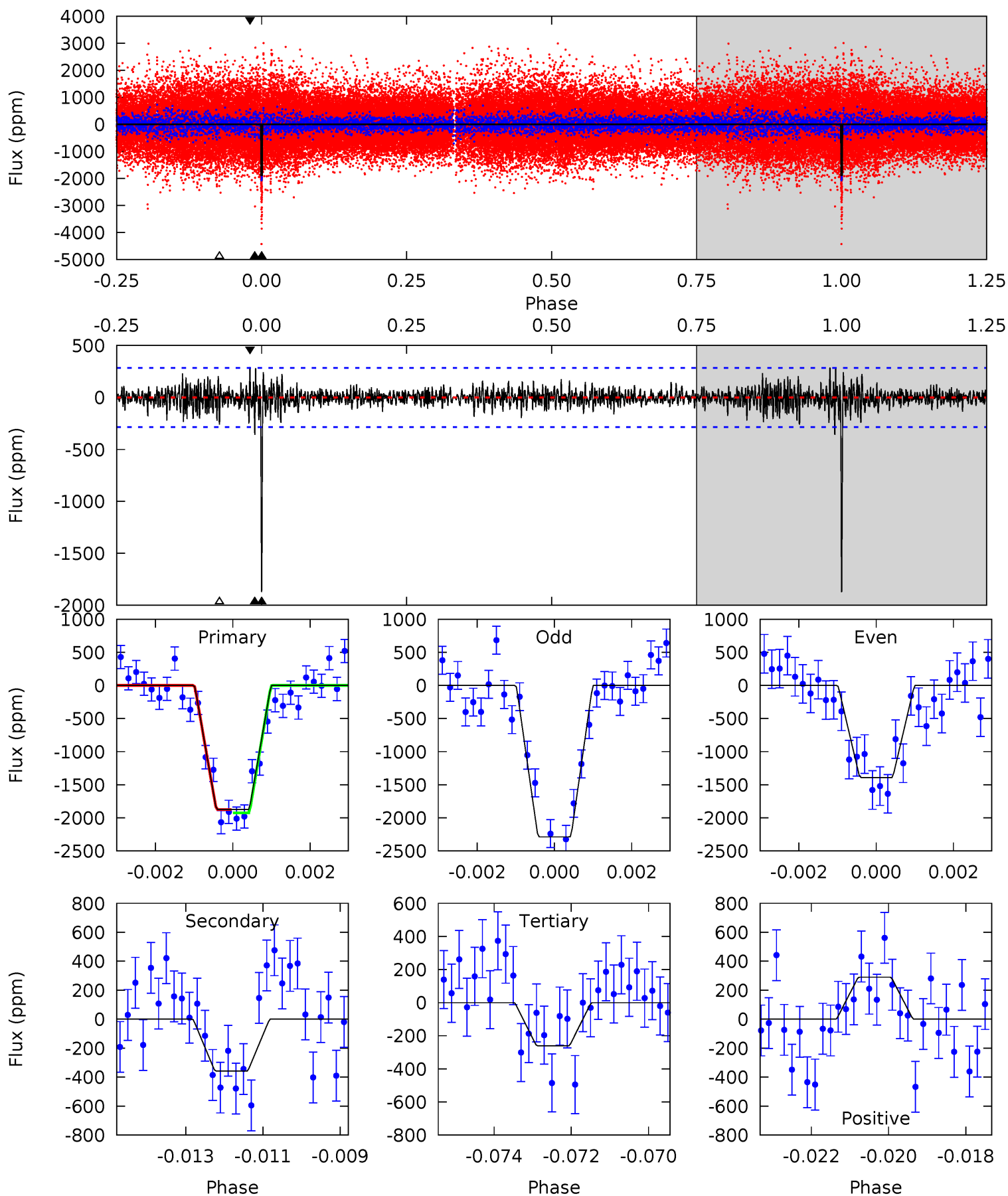
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.6	18.7	14.8	20.9	5.30	3.05	3.22	15.7	9.67	3.81	-2.25	4.01	0.98	0.41	0.06



# Alt Model-Shift Uniqueness Test

008241472-01, P = 373.688945 Days, E = 227.140850 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
34.9	6.67	4.86	5.40	5.31	3.06	1.18	30.0	29.5	1.80	1.26	8.41	0.94	0.13	0.47



### Stellar Parameters For KIC 008241472

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5662^{+169}_{-169}$	$4.560^{+0.042}_{-0.179}$	$-0.120^{+0.300}_{-0.300}$	$0.840^{+0.205}_{-0.073}$	$0.937^{+0.094}_{-0.115}$	$2.228^{+0.493}_{-1.002}$
	+3%/-3%	+1%/-4%	+250%/-250%	+24%/-9%	+10%/-12%	+22%/-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 008241472-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-1071 \pm 57$	$5.73^{+3.37}_{-3.01}$	$328^{+20}_{-14}$	$4381^{+1617}_{-646}$	$17251^{+56249}_{-10430}$
Alt.	$-358 \pm 54$	$4.53^{+3.36}_{-2.72}$	$328^{+19}_{-15}$	$3897^{+1711}_{-628}$	$8970^{+46763}_{-5804}$

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

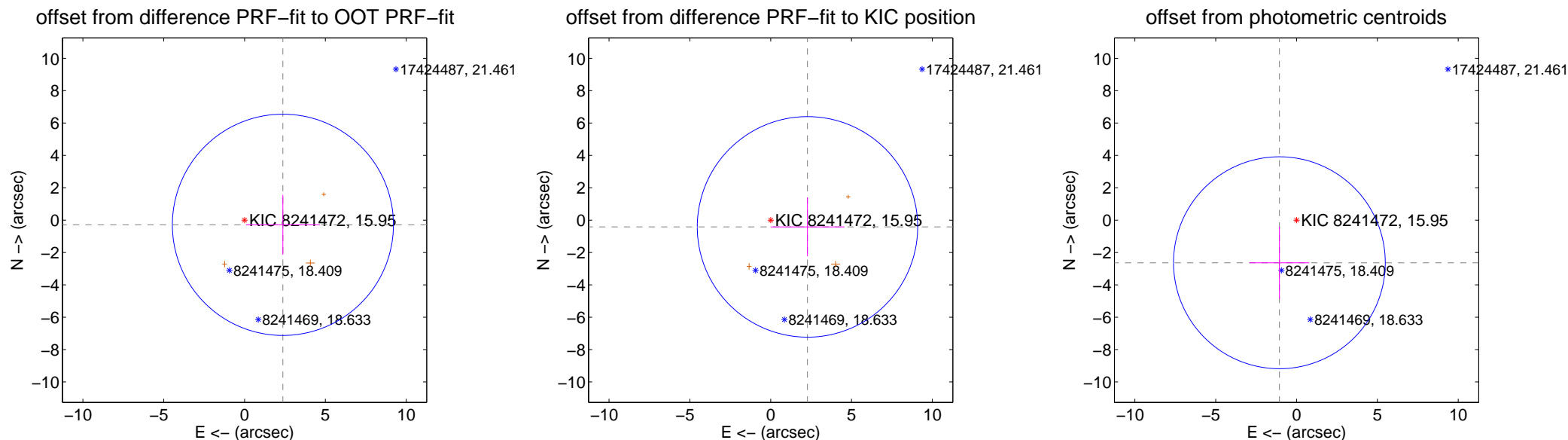
## DV Centroid Data

Supplemental centroid analysis for 008241472-01. Kepler magnitude: 15.95. Transit SNR 9.42

There are 0 quarters with good PRF difference image offsets

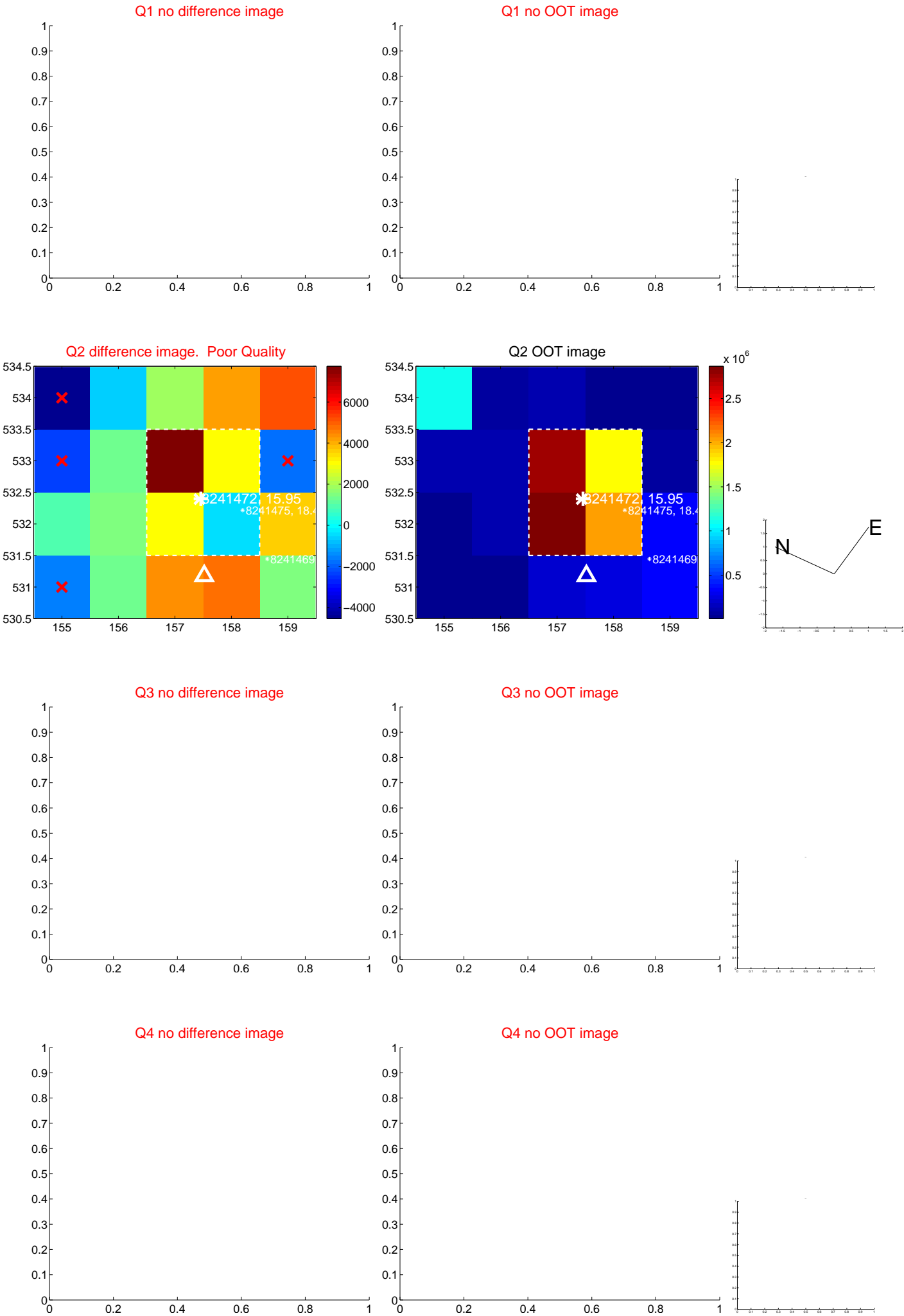
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.390 \pm 2.279$	1.05	$-2.372 \pm 2.285$	$-0.289 \pm 1.852$
PRF-fit source offset from KIC position	$2.314 \pm 2.273$	1.02	$-2.276 \pm 2.286$	$-0.418 \pm 1.821$
photometric centroid source offset	$2.84 \pm 2.18$	1.30	$1.06 \pm 1.85$	$-2.63 \pm 2.23$



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 are from the UKIRT catalog.

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

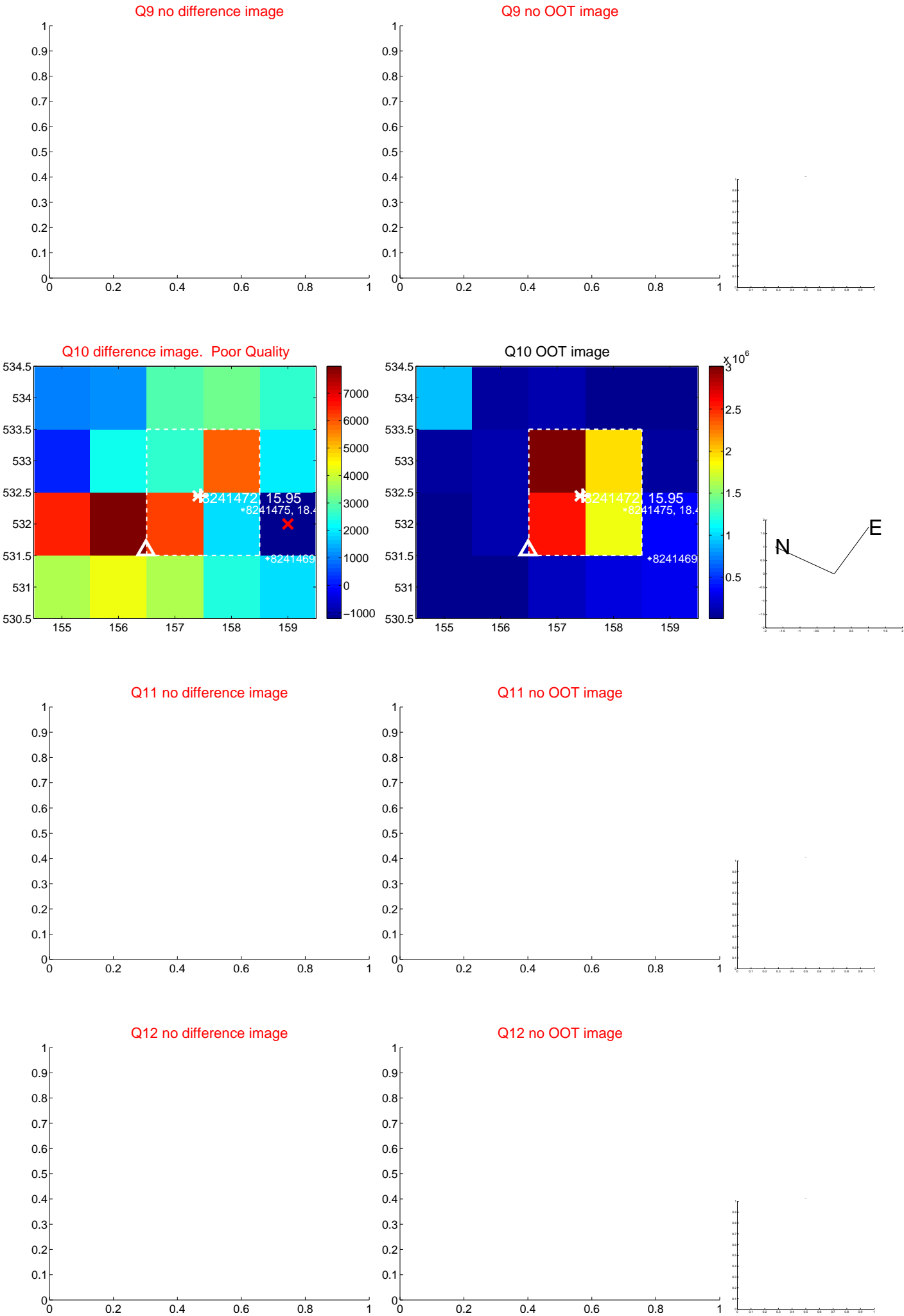




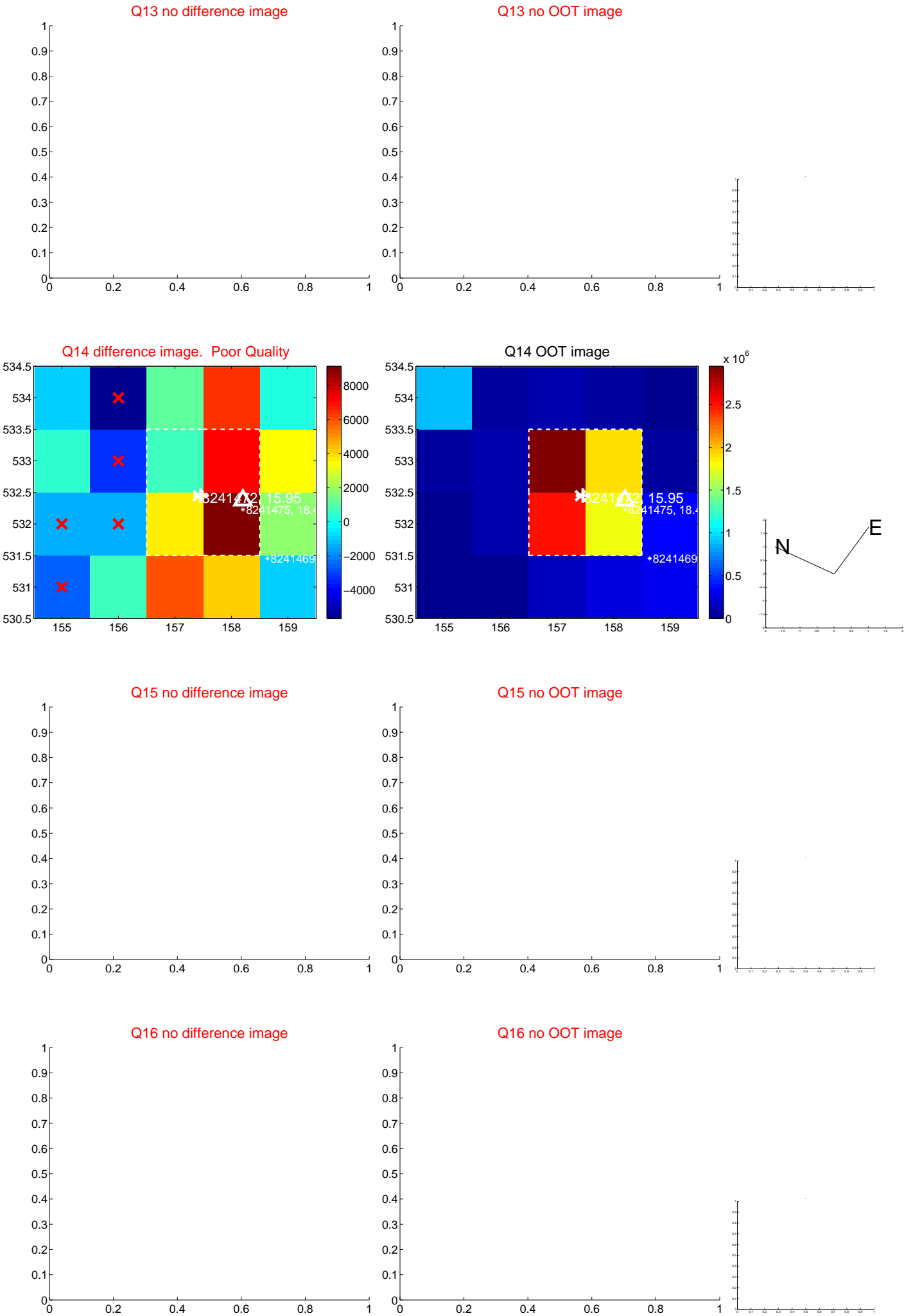
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



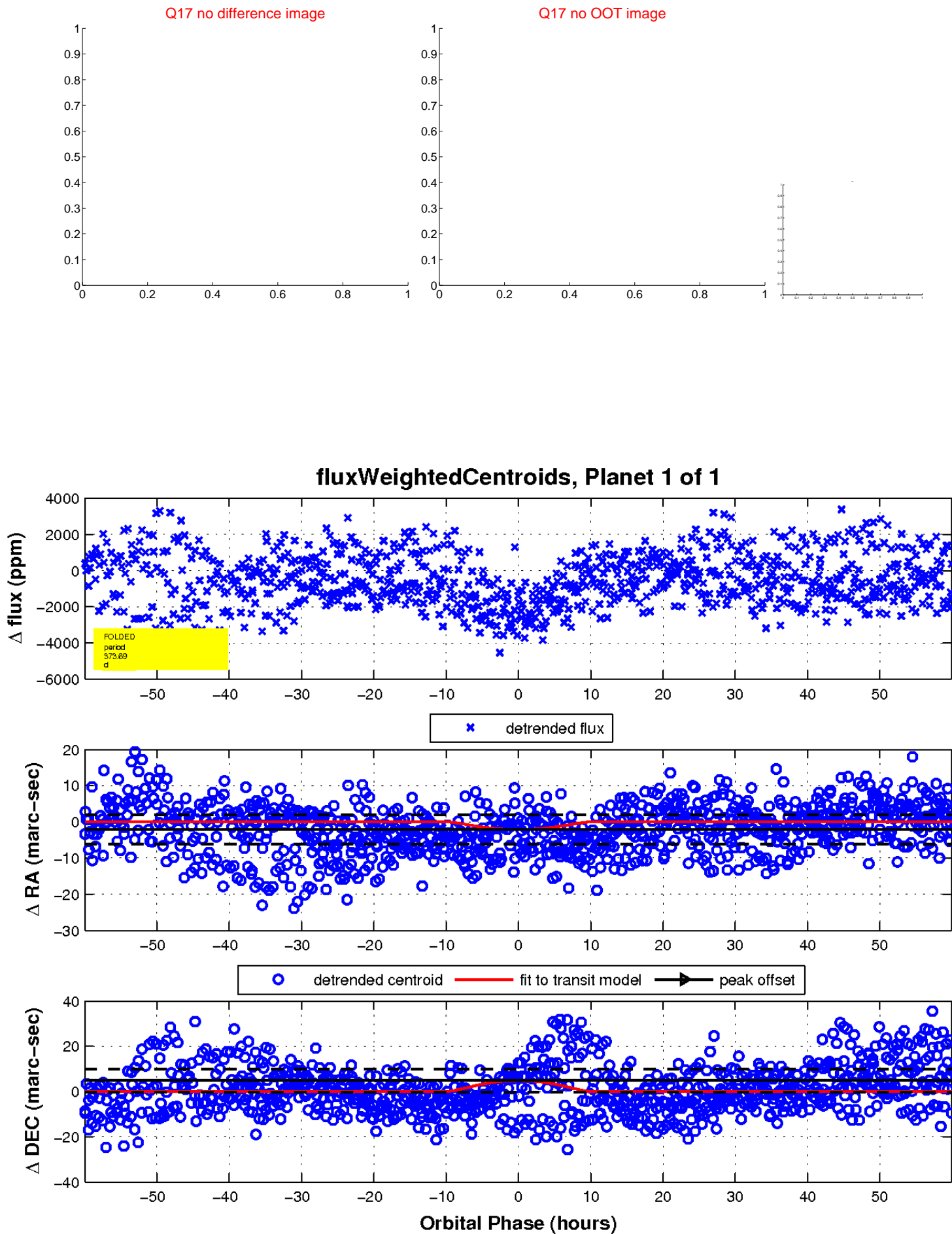
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

