

# KIC 003532734

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003532734-01	OBS	No	49.672804	177.924453	214.6	17.583	8.3	9.1	5.54	4888	11.12	183.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003532734-01	OBS	FP	0.01	1	0	0	0	LPP_DV

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

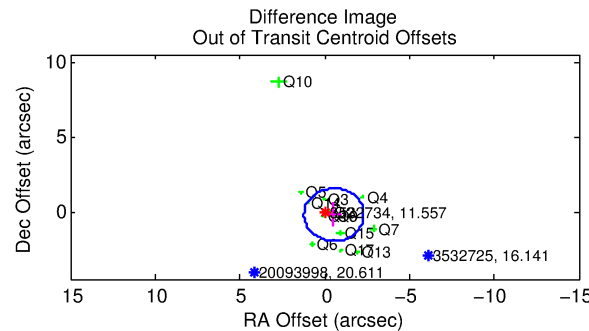
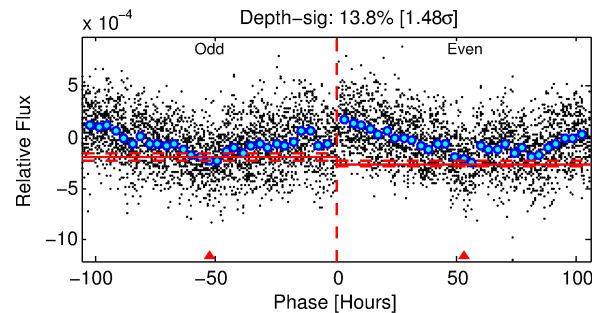
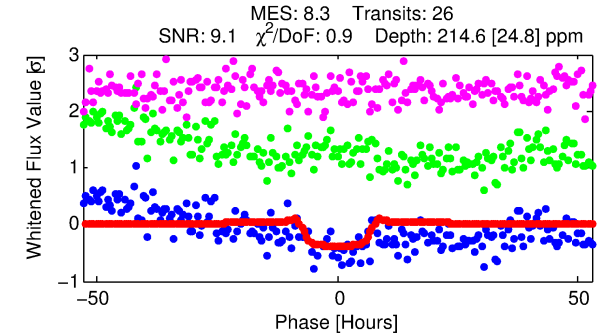
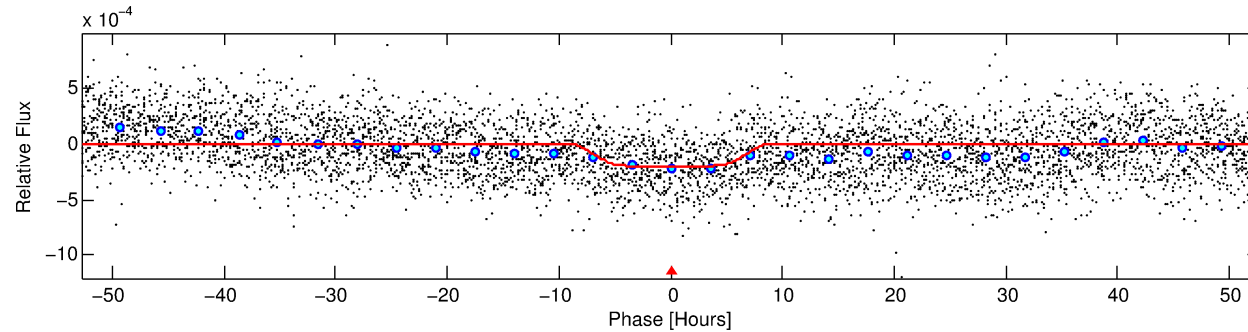
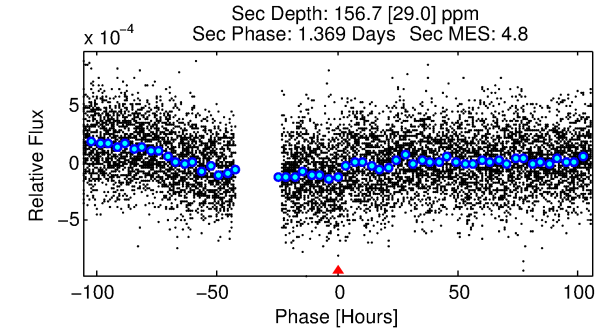
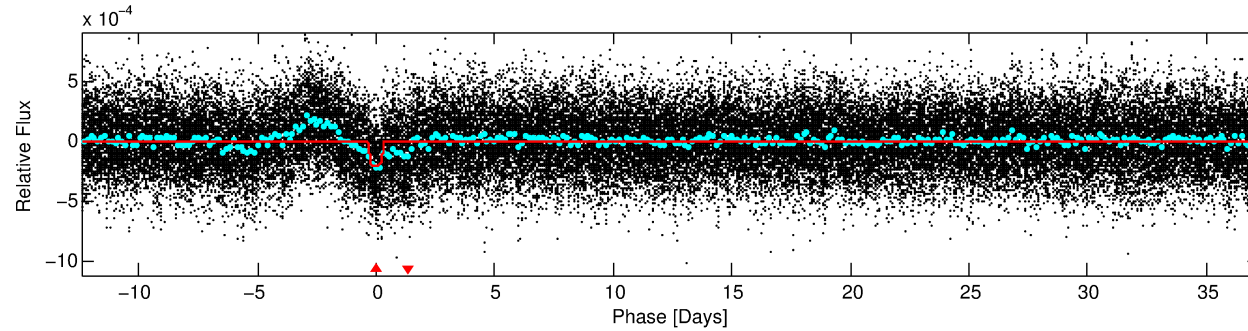
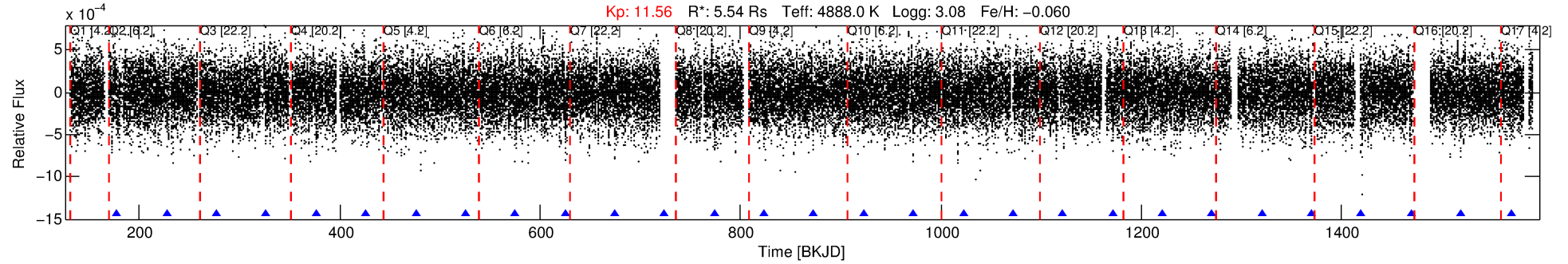
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003532734-01

No Significant Match Found

# DV One-Page Summary

KIC: 3532734 Candidate: 1 of 1 Period: 49.673 d



## DV Fit Results:

Period = 49.67280 [0.00186] d  
Epoch = 177.9245 [0.0310] BKJD  
Rp/R\* = 0.0184 [0.0014]  
a/R\* = 7.09 [1.19]  
b = 0.96 [0.01]  
Seff = 183.57 [20.53]  
Teq = 939 [26] K  
Rp = 11.12 [1.61] Re  
a = 0.2926 [0.0253] AU  
Ag = 59.70 [15.32] [3.83σ]  
Teffp = 4034 [246] K [12.50σ]

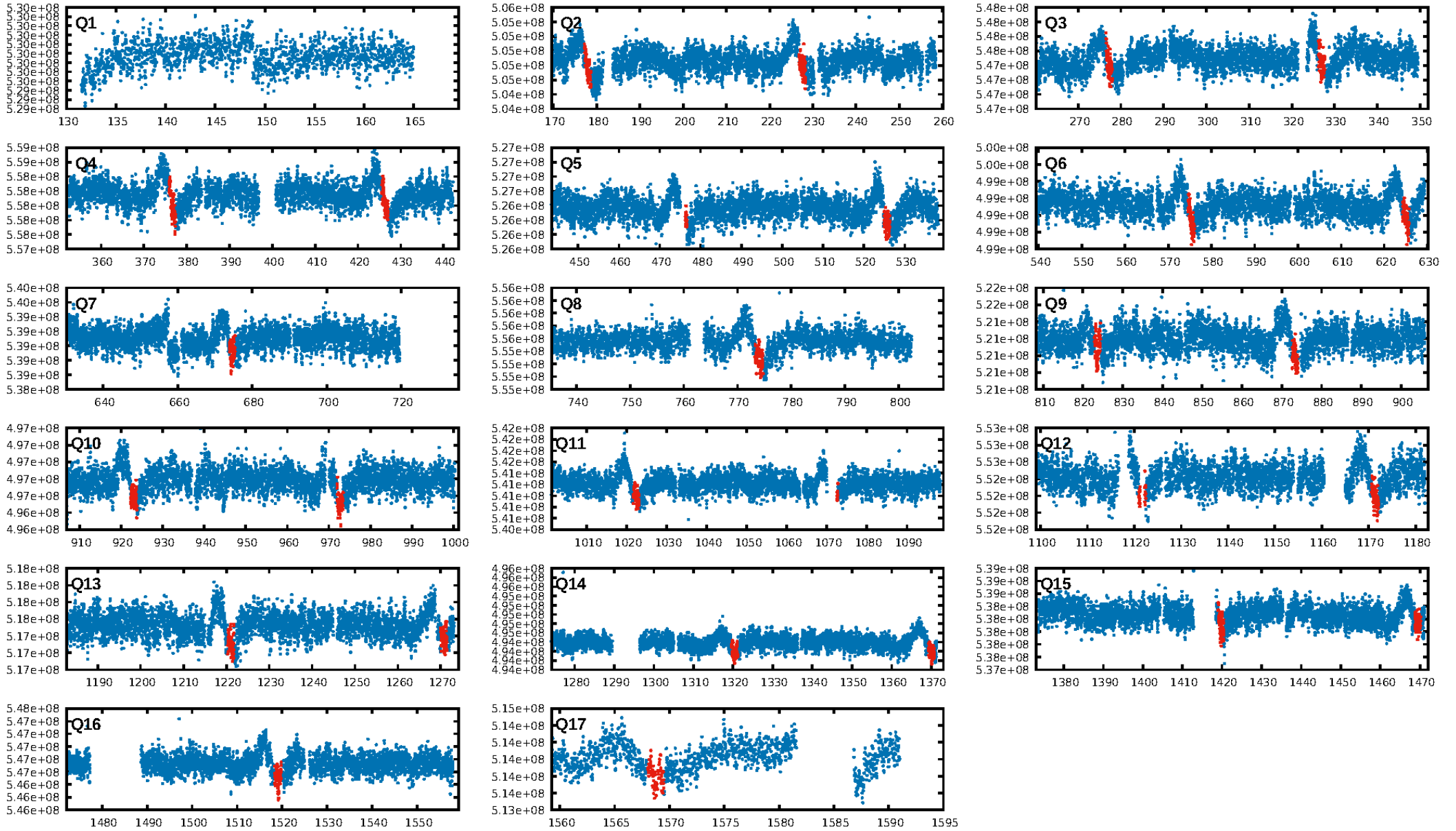
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 93.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 9.88e-16  
RollingBand-fgt: 1.00 [25/25]  
**GhostDiagnostic-chr: 0.8984**  
Centroid-sig: 25.8%  
Centroid-so: 0.340 arcsec [0.93σ]  
OotOffset-rm: 0.587 arcsec [1.00σ]  
OotOffset-st: 4/3/2/4 [13]  
KicOffset-rm: 0.393 arcsec [0.69σ]  
KicOffset-st: 4/3/2/4 [13]  
DiffImageQuality-fgm: 0.85 [11/13]  
DiffImageOverlap-fno: 1.00 [14/14]

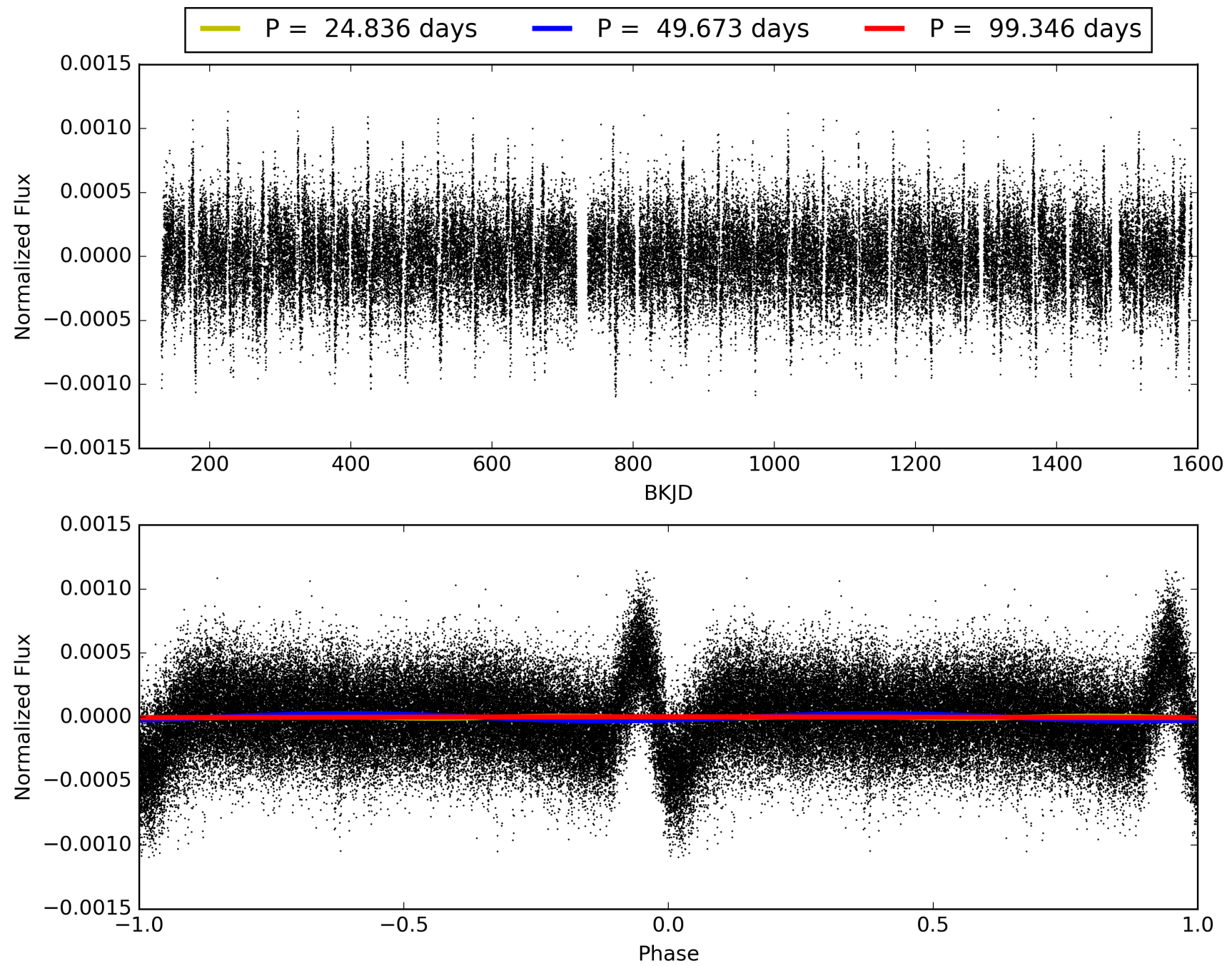
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:52:09 Z

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

# TCE 003532734-01, PDC Light Curves

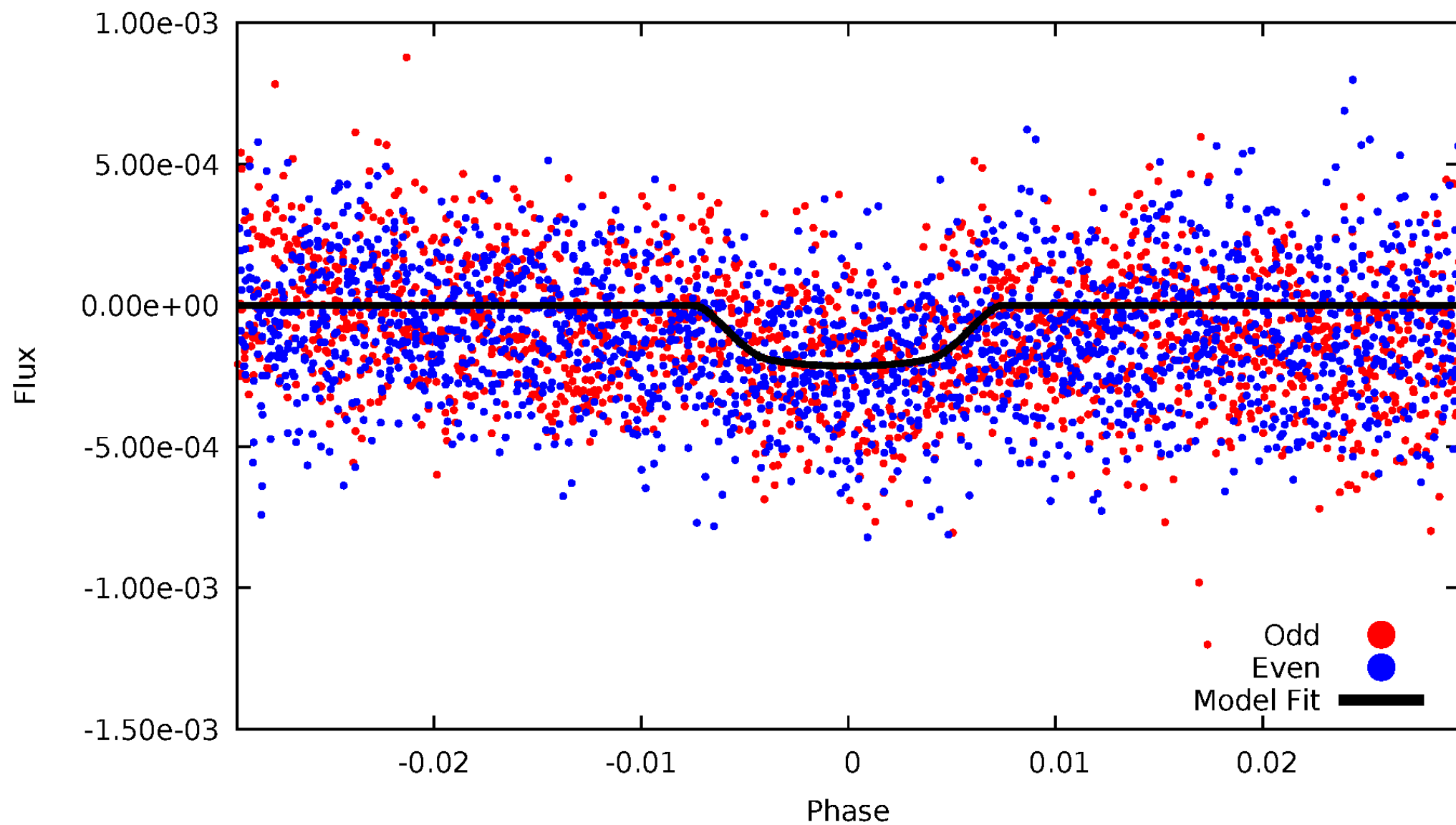


TCE 003532734-01



# DV Odd/Even

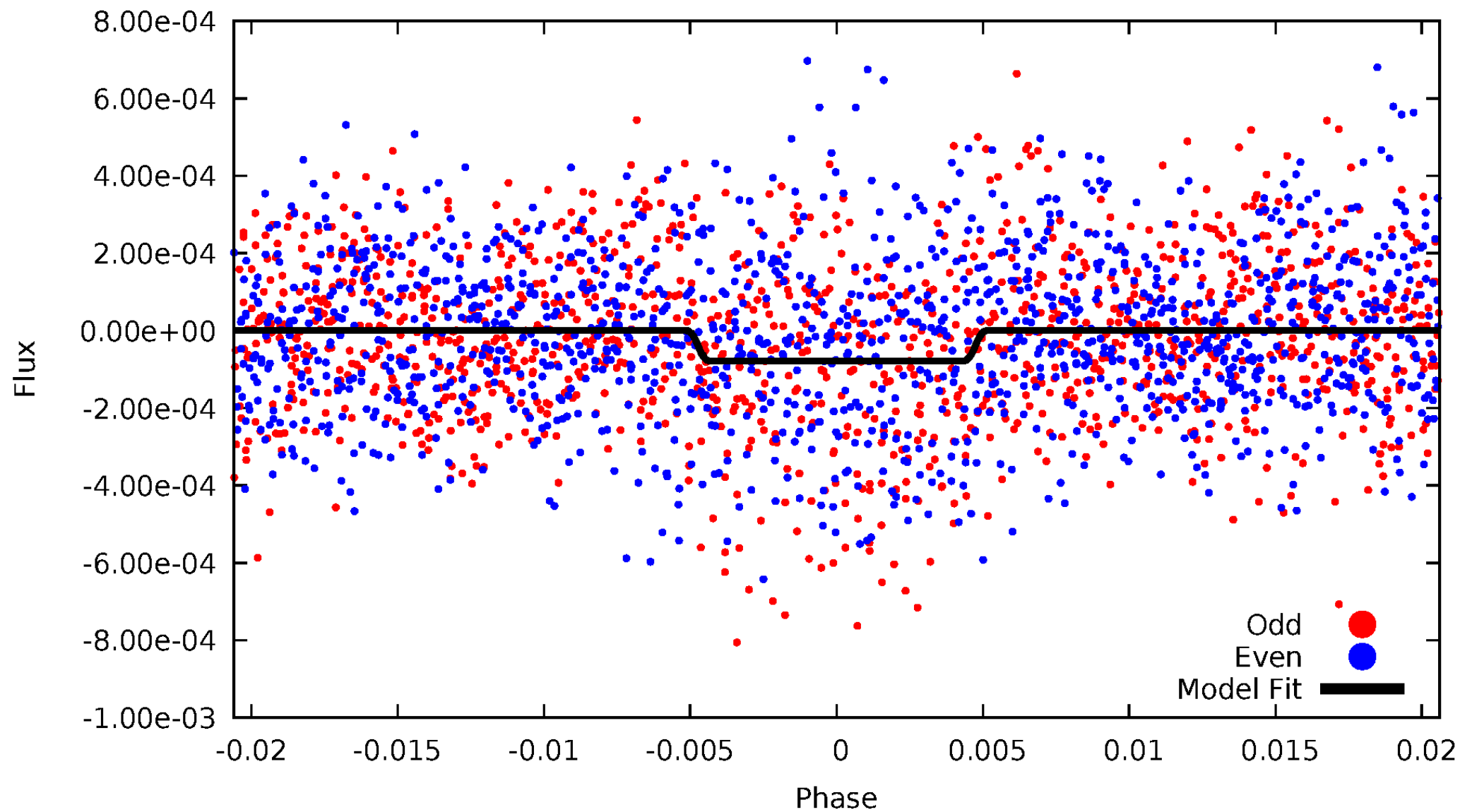
TCE 003532734-01



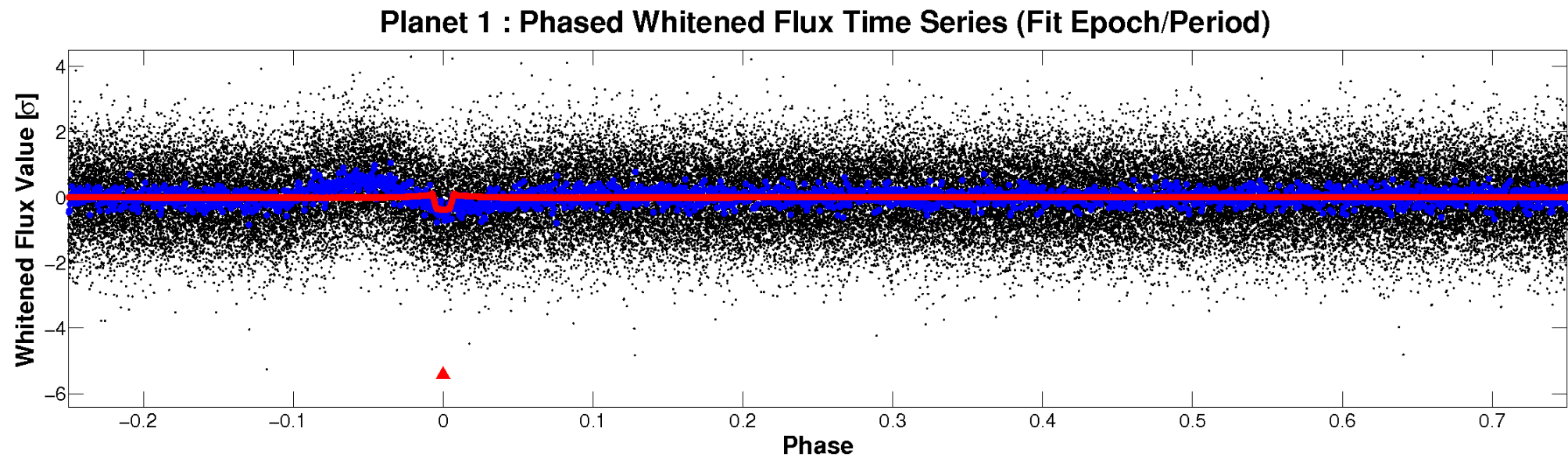
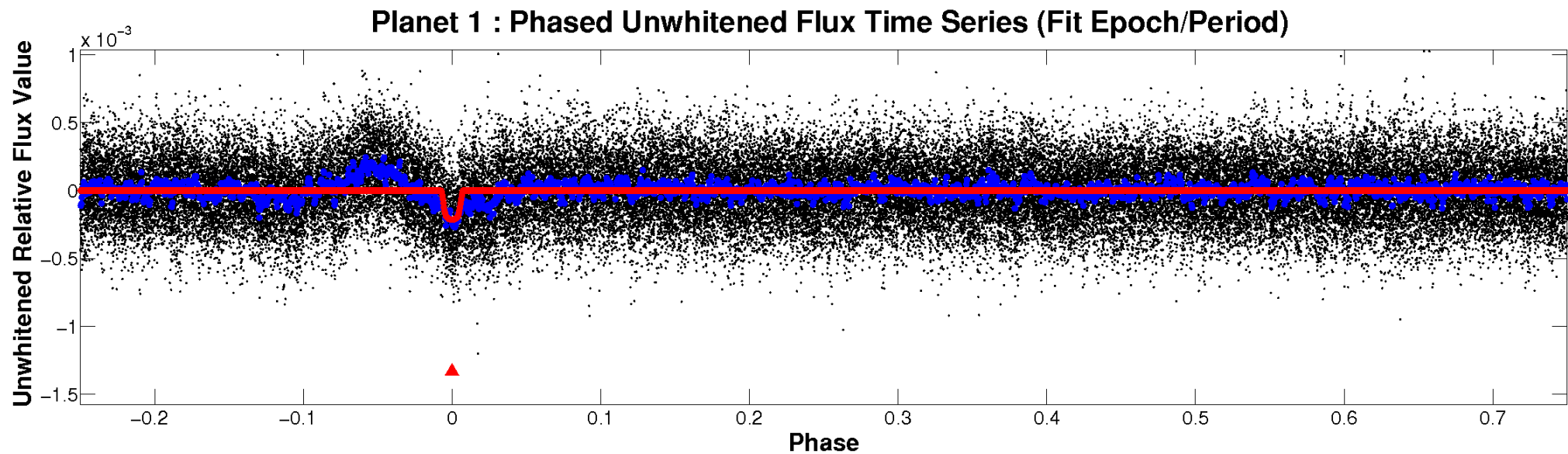


# ALT Odd/Even

TCE 003532734-01

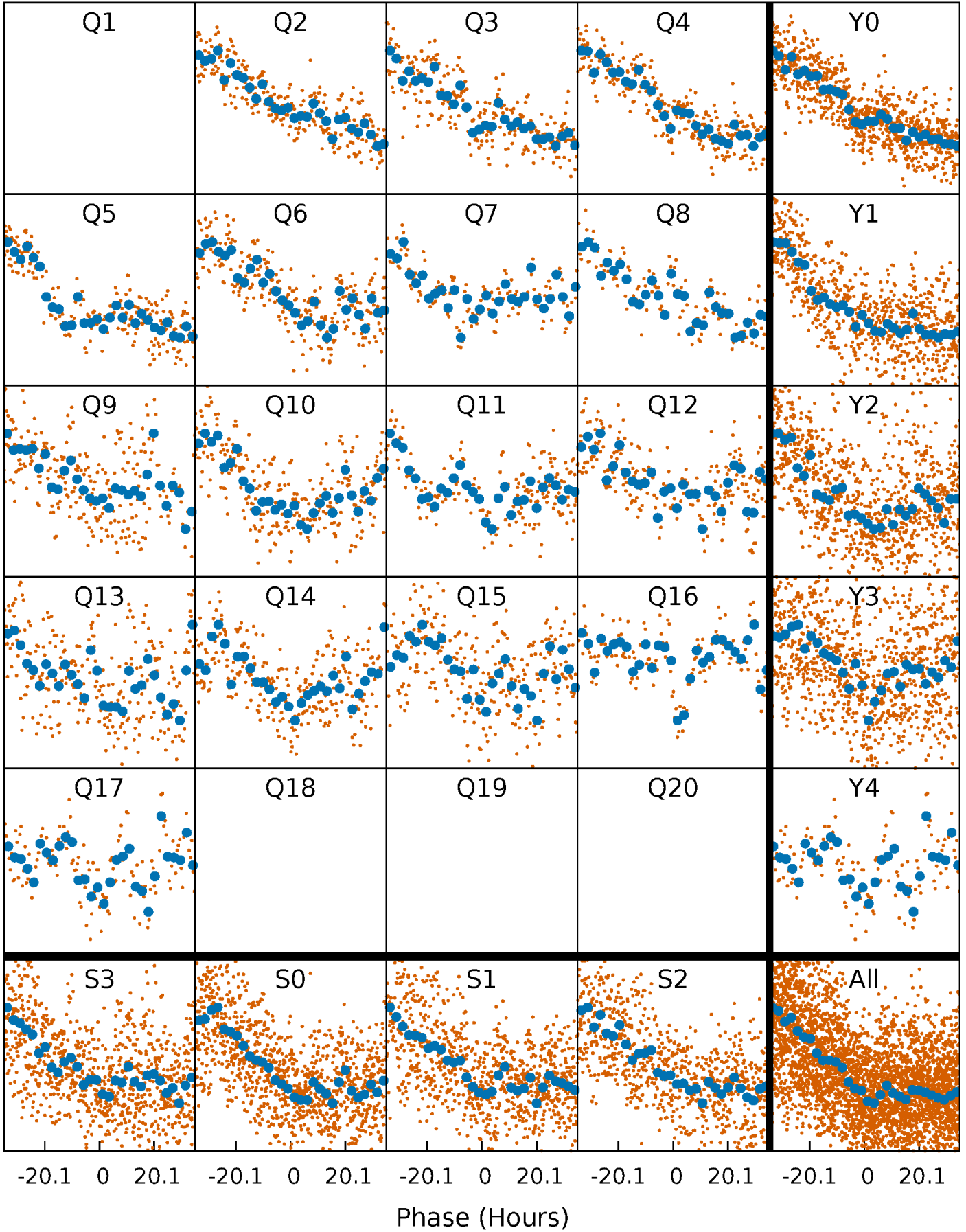


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

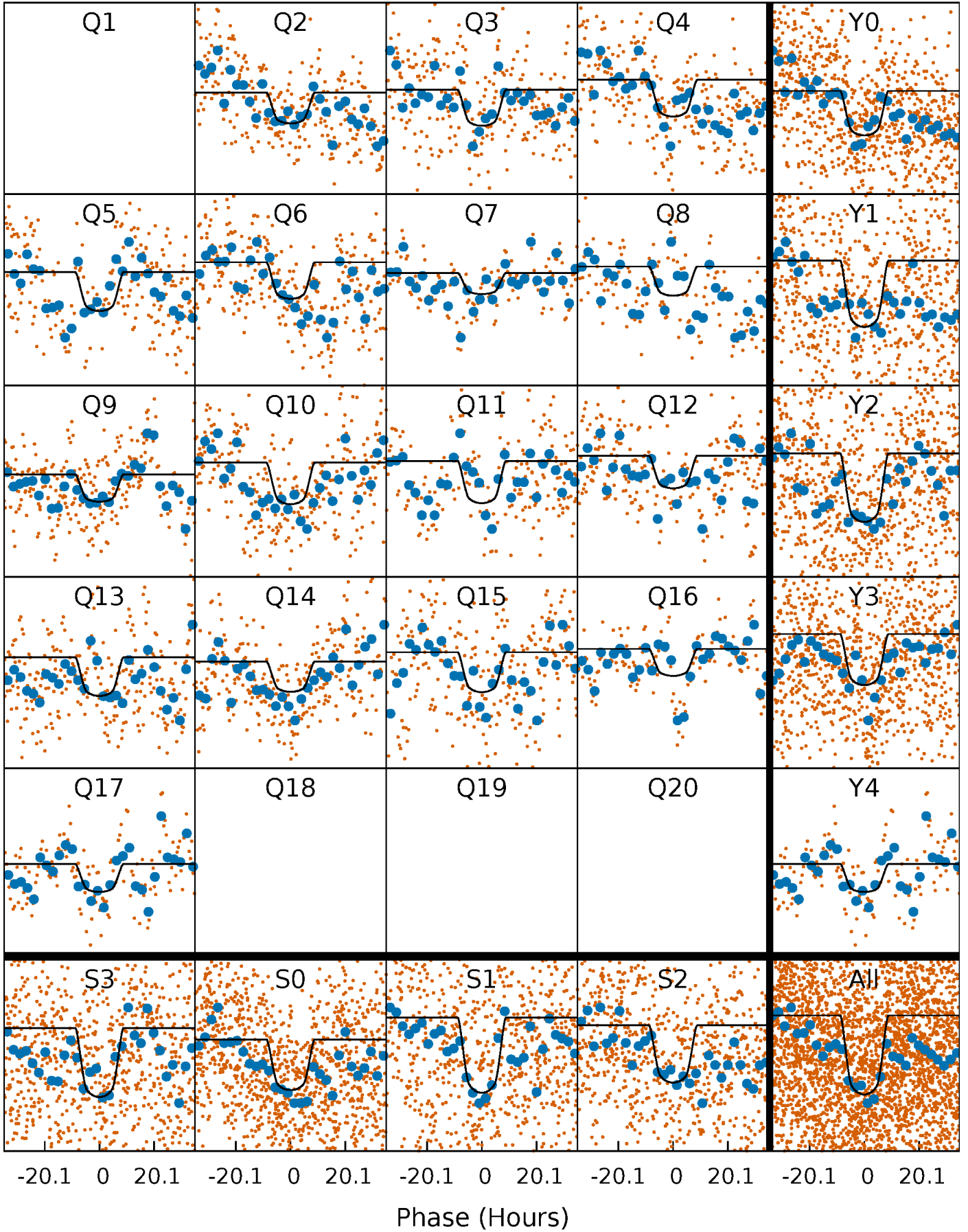
TCE 003532734-01 P= 49.672804 Days  $T_0=177.924453$  (BKJD)





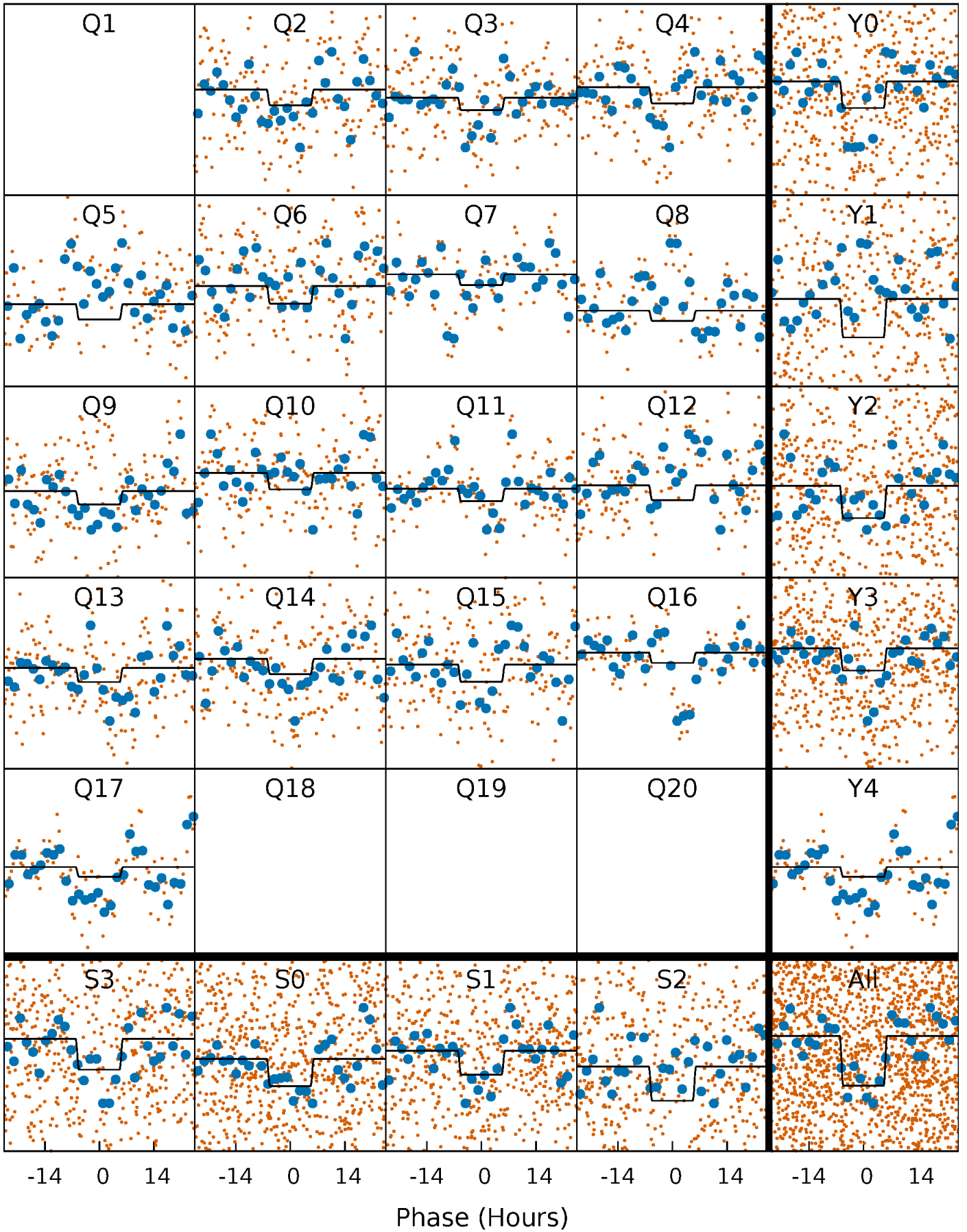
# DV Quarter-Phased Transit Curves

TCE 003532734-01     $P = 49.672804$  Days     $T_0 = 177.924453$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

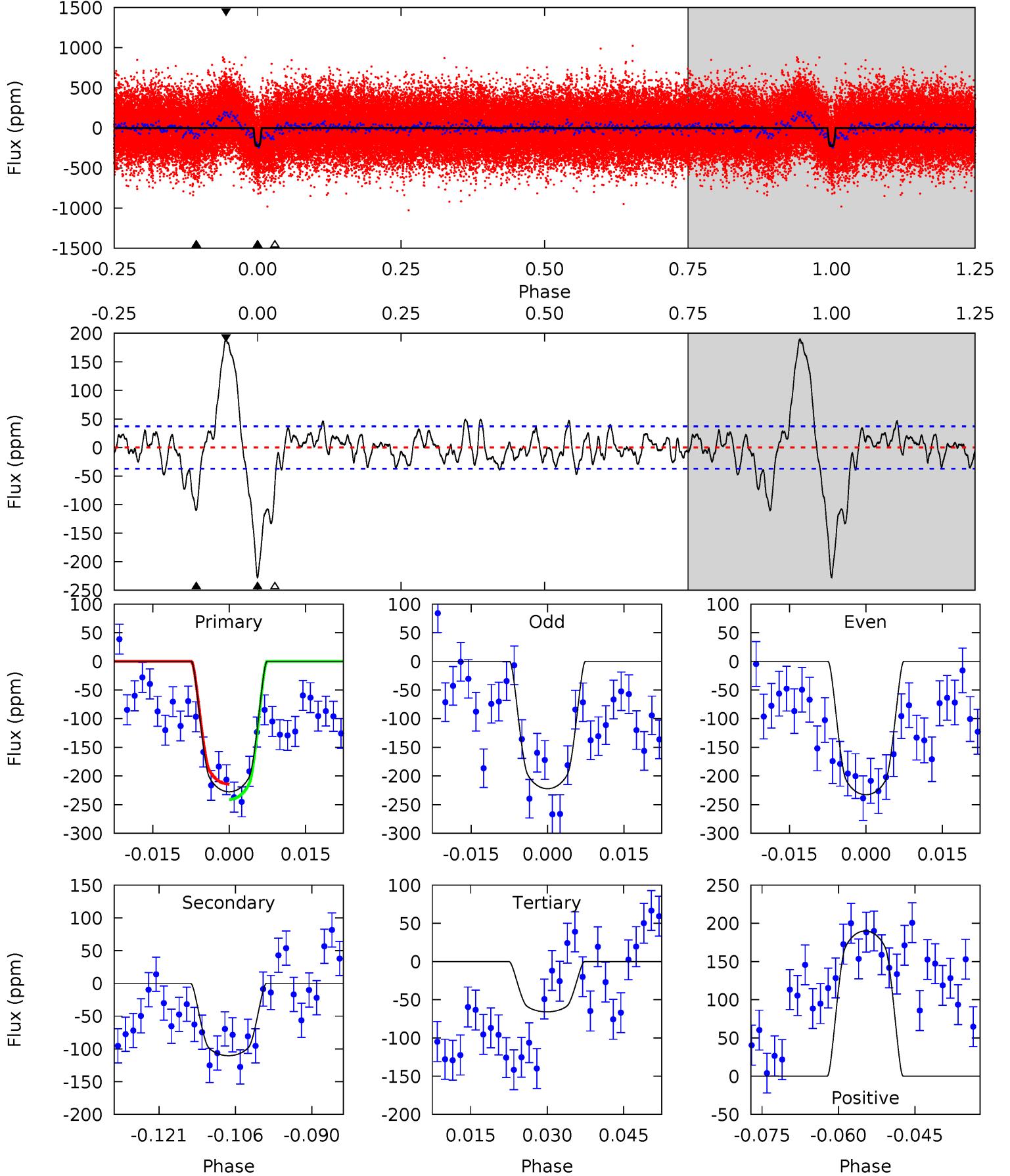
TCE 003532734-01 P= 49.672431 Days  $T_0=177.921954$  (BKJD)



# DV Model-Shift Uniqueness Test

003532734-01, P = 49.672804 Days, E = 128.251649 Days

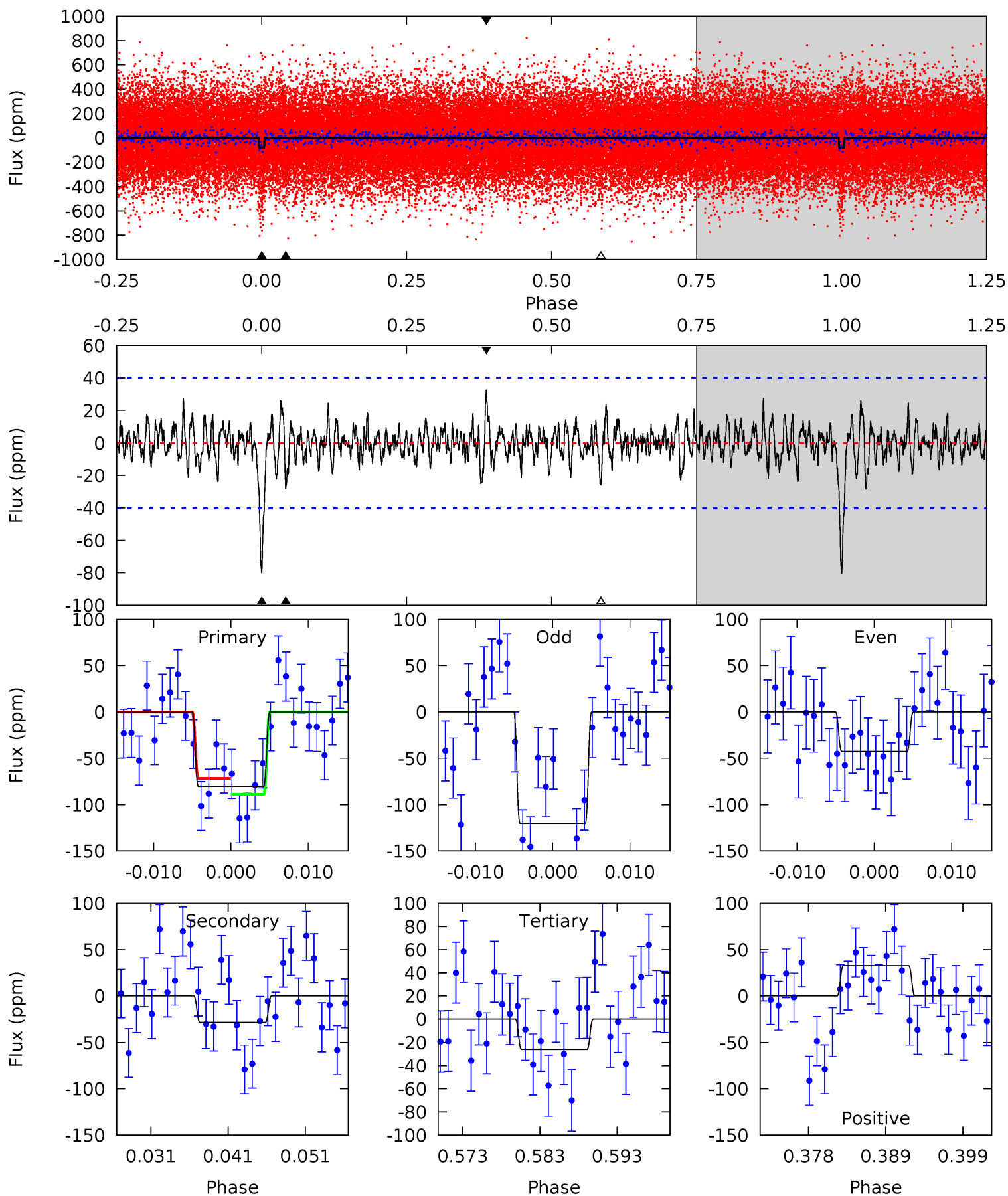
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.3	14.7	8.77	25.3	4.95	2.43	5.15	21.5	5.01	5.93	-10.6	0.70	0.67	0.45	1.77



# Alt Model-Shift Uniqueness Test

003532734-01, P = 49.672431 Days, E = 128.249523 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
10.0	3.55	3.26	4.09	5.02	2.57	1.04	6.76	5.92	0.29	-0.54	4.85	0.98	0.29	1.08



### Stellar Parameters For KIC 003532734

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4888^{+58}_{-68}$	$3.082^{+0.033}_{-0.027}$	$-0.060^{+0.100}_{-0.100}$	$5.544^{+0.401}_{-0.688}$	$1.354^{+0.168}_{-0.311}$	$0.011^{+0.002}_{-0.001}$
	+1%/-1%	+1%/-1%	+167%/-167%	+7%/-12%	+12%/-23%	+20%/-10%
Source	SPE74	AST9	SPE74	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 003532734-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-110 \pm 8$	$11.24^{+1.07}_{-1.04}$	$1312^{+25}_{-26}$	$3941^{+125}_{-119}$	$42^{+8}_{-7}$
Alt.	$-28 \pm 8$	$5.36^{+0.89}_{-0.92}$	$1311^{+25}_{-27}$	$4032^{+302}_{-319}$	$47^{+25}_{-17}$

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



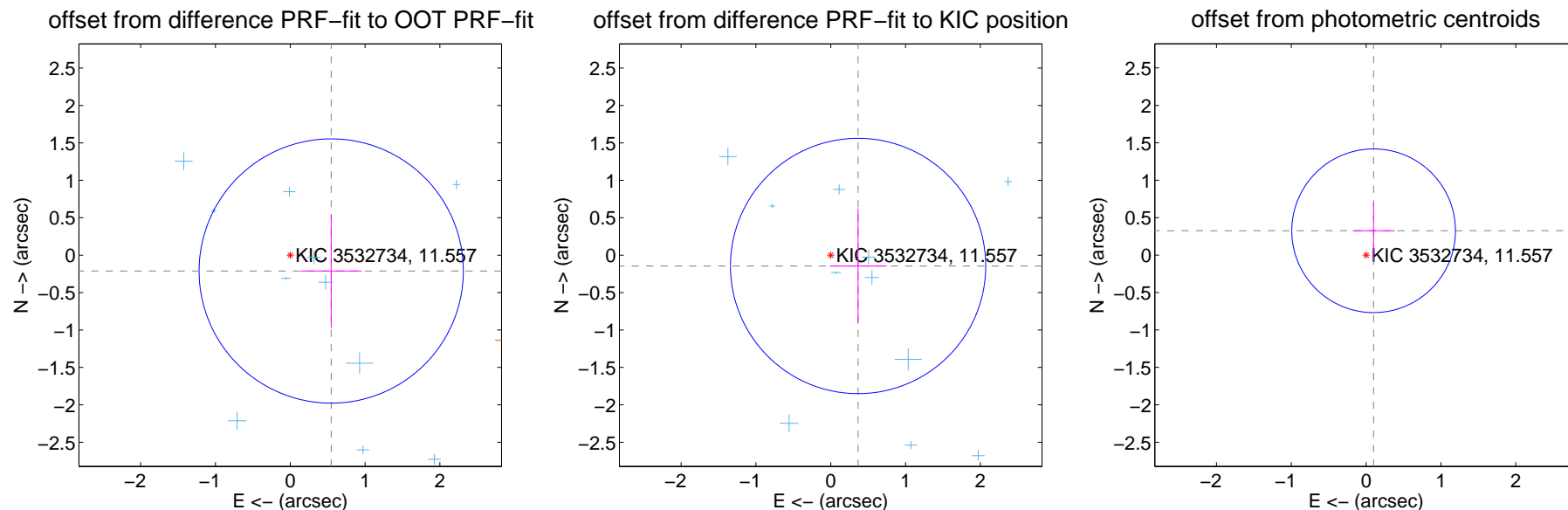
## DV Centroid Data

Supplemental centroid analysis for 003532734-01. **Kepler magnitude: 11.56.** Transit SNR 9.12

There are 11 quarters with good PRF difference image offsets

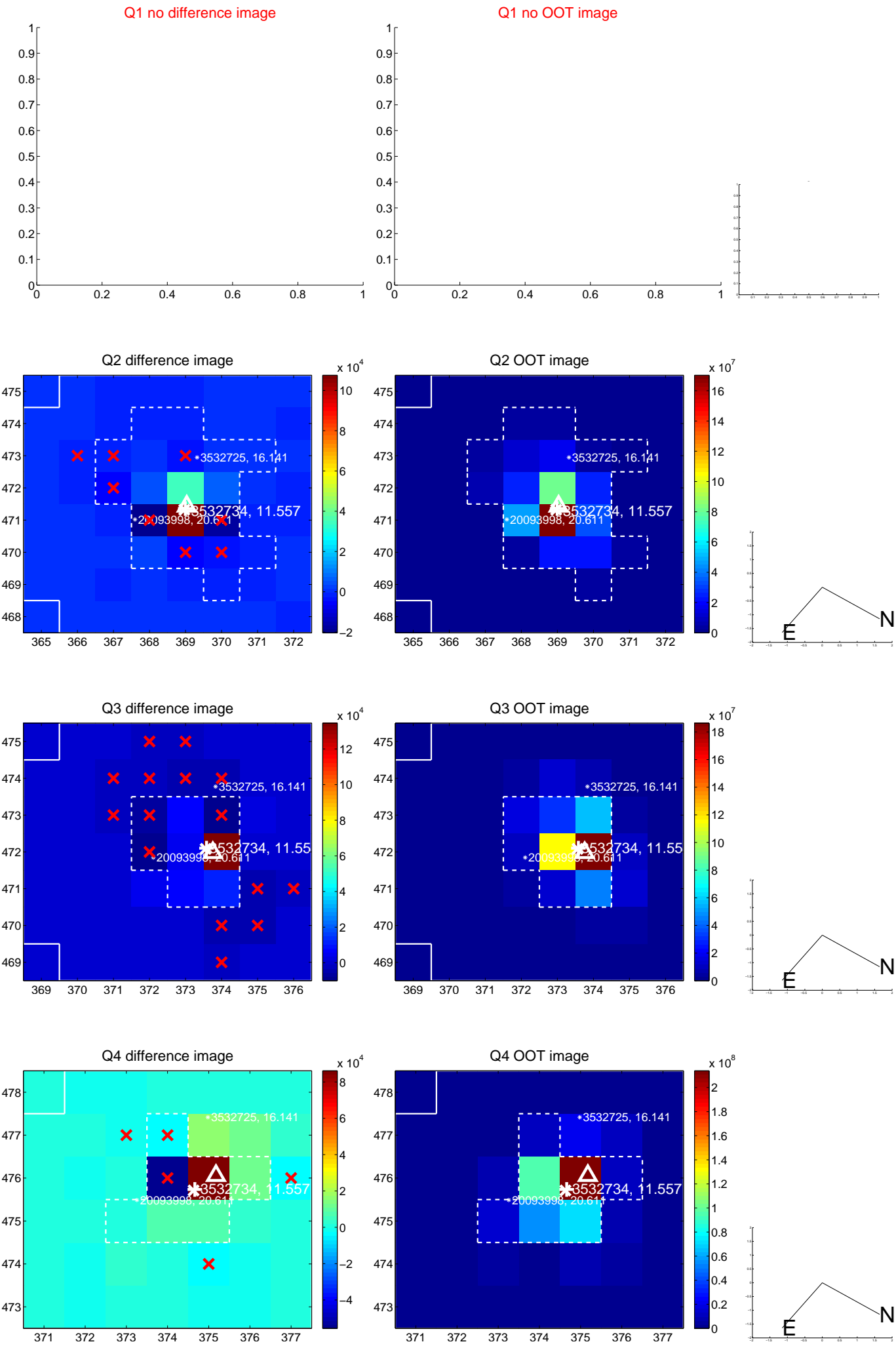
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.587 \pm 0.589$	1.00	$-0.547 \pm 0.406$	$-0.212 \pm 0.758$
PRF-fit source offset from KIC position	$0.393 \pm 0.569$	0.69	$-0.366 \pm 0.383$	$-0.145 \pm 0.769$
photometric centroid source offset	$0.34 \pm 0.36$	0.93	$-0.10 \pm 0.28$	$0.32 \pm 0.37$

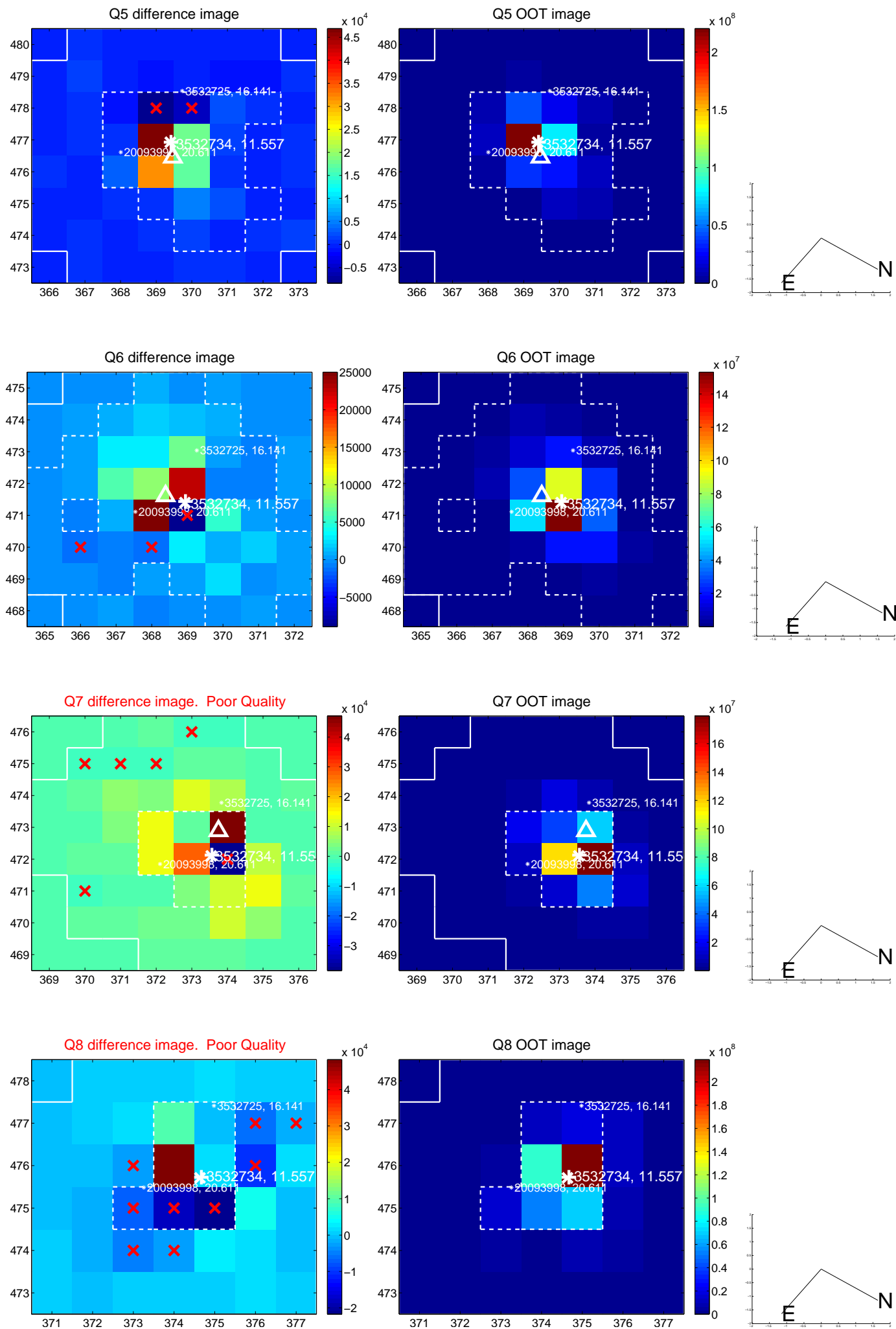


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

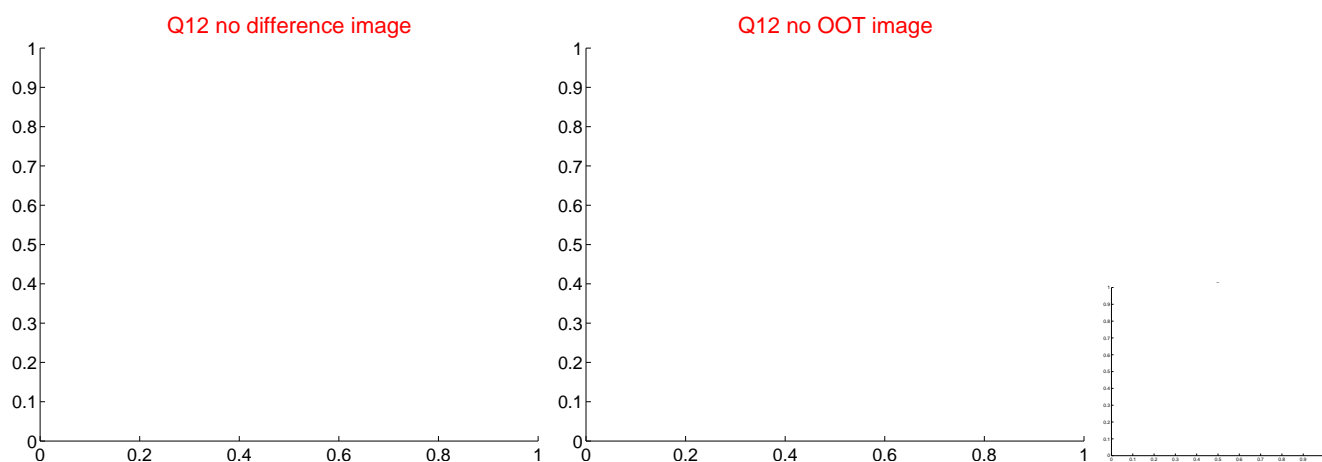
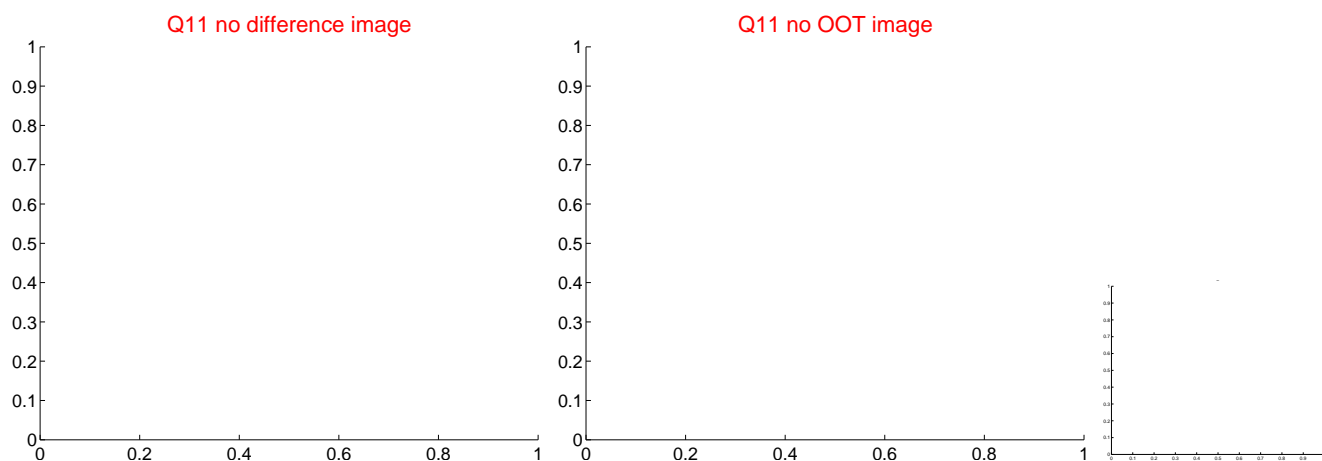
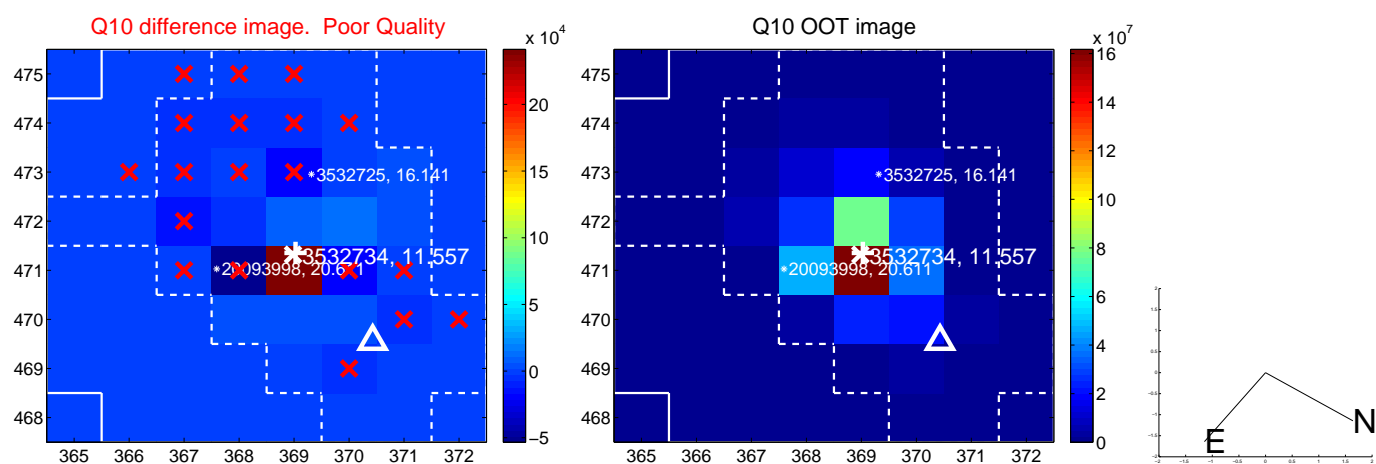
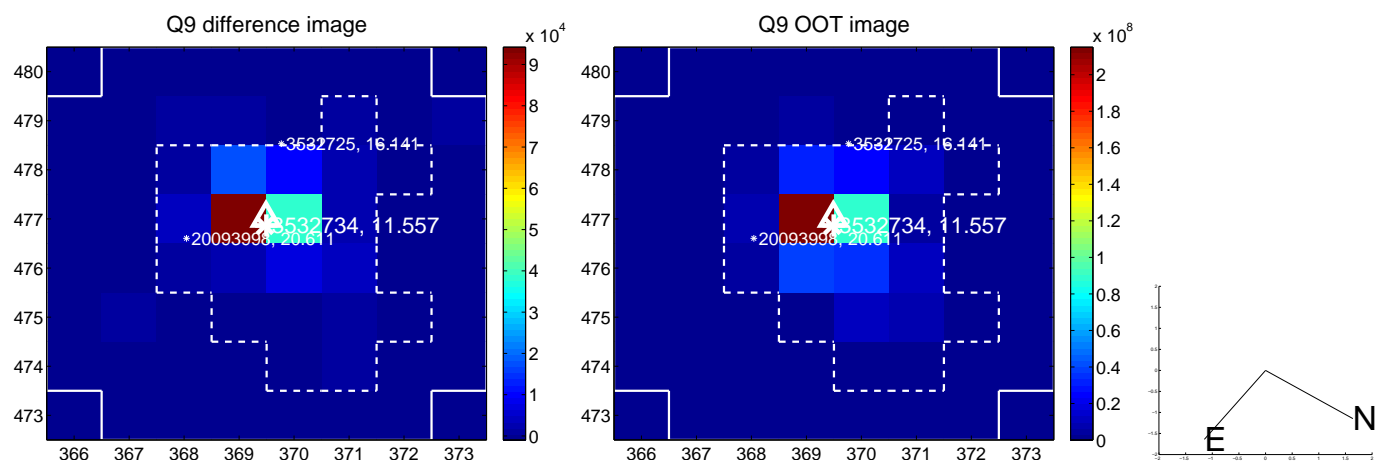
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



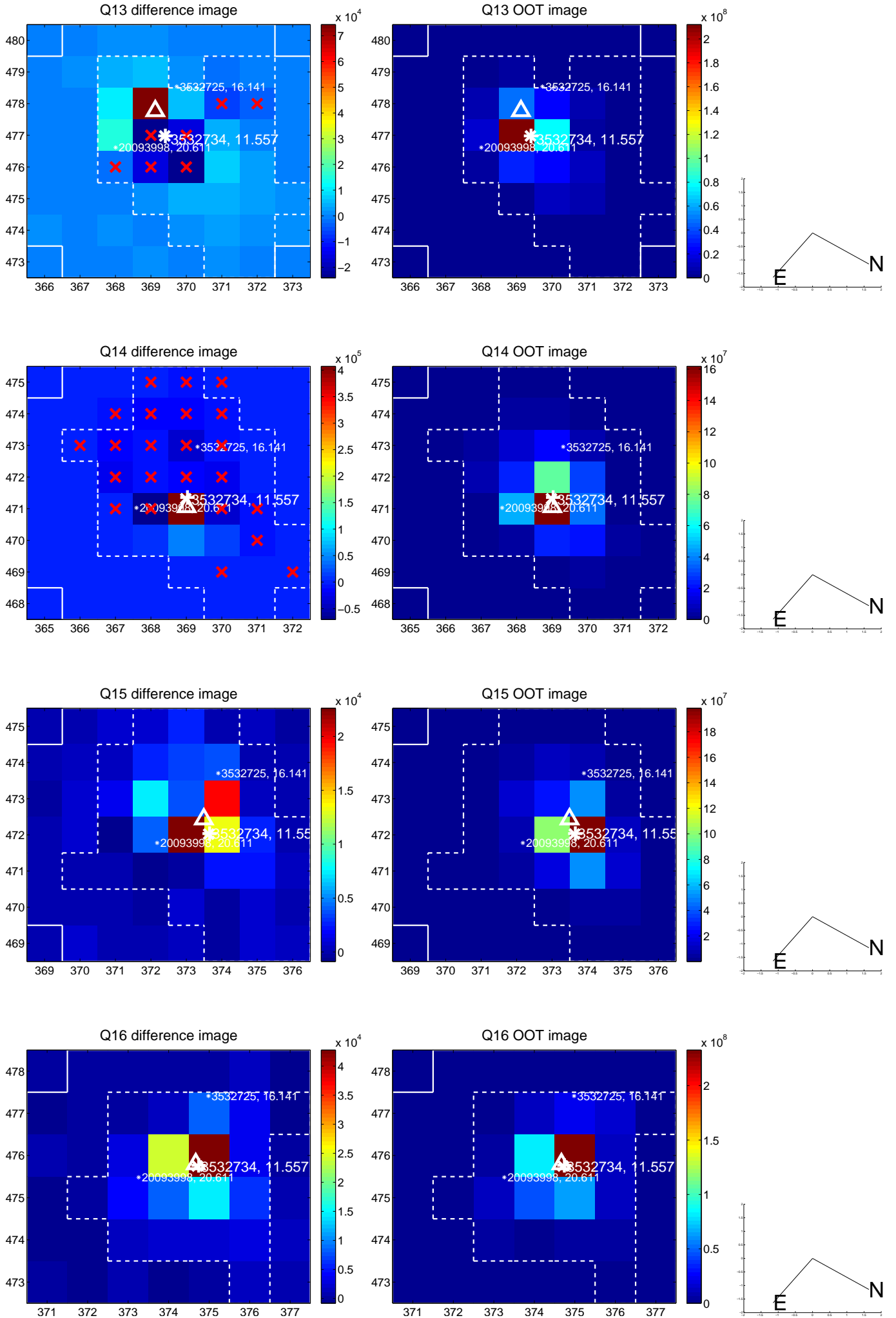
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

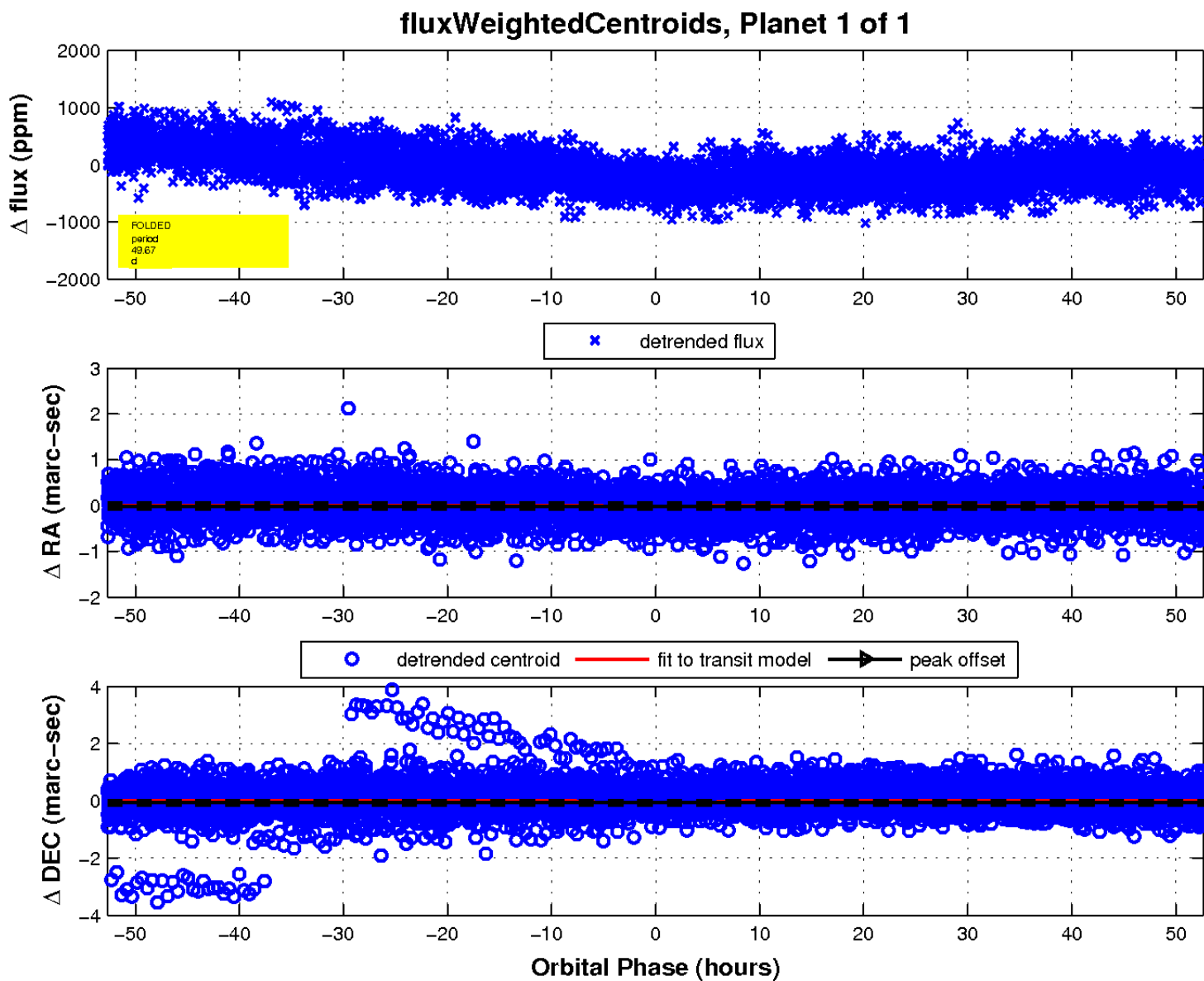
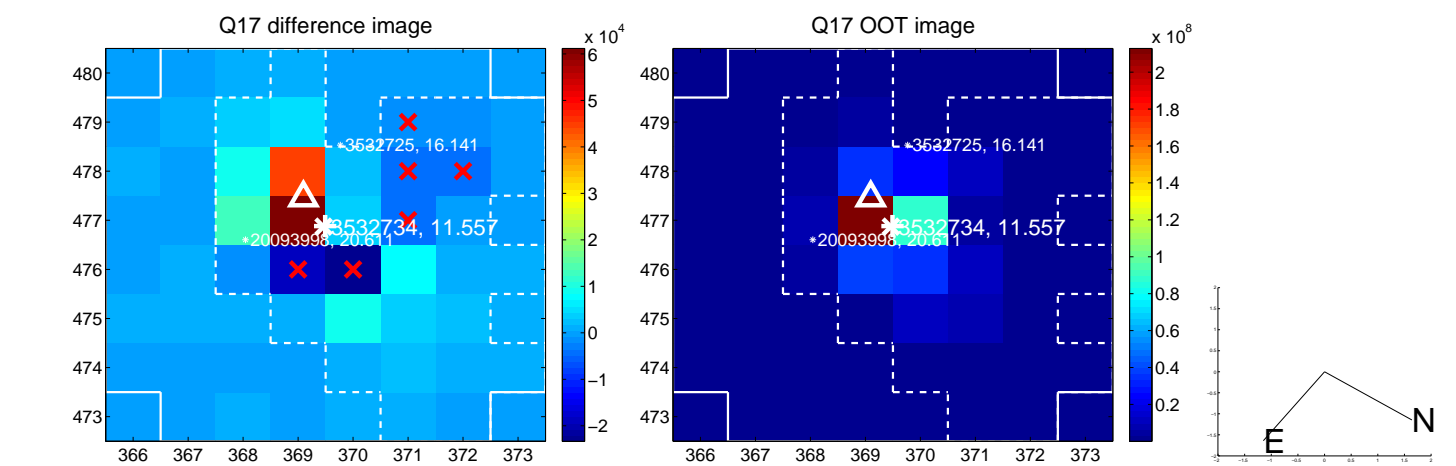


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

