

# KIC 006614629

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006614629-01	OBS	2737.01	0.526609	132.029216	41.0	1.270	24.8	28.4	1.83	5718	1.41	18162.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006614629-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

**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 006614629-01

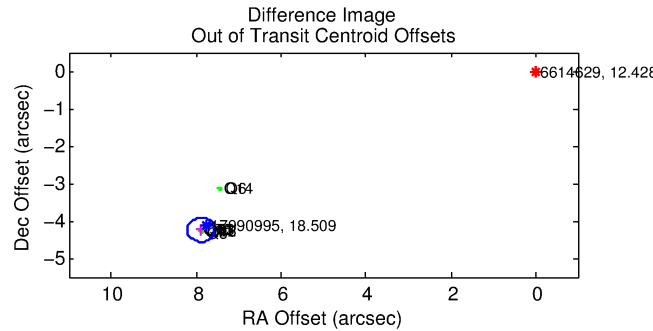
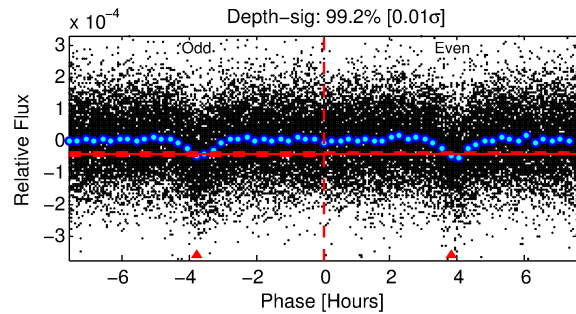
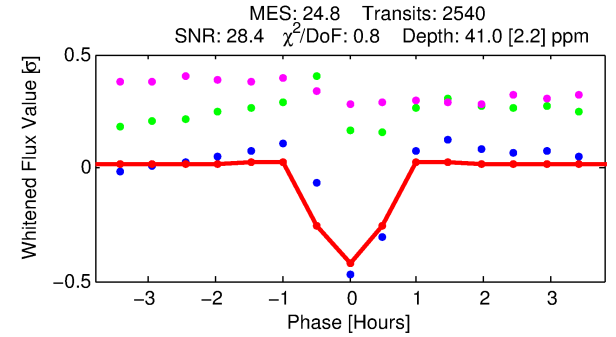
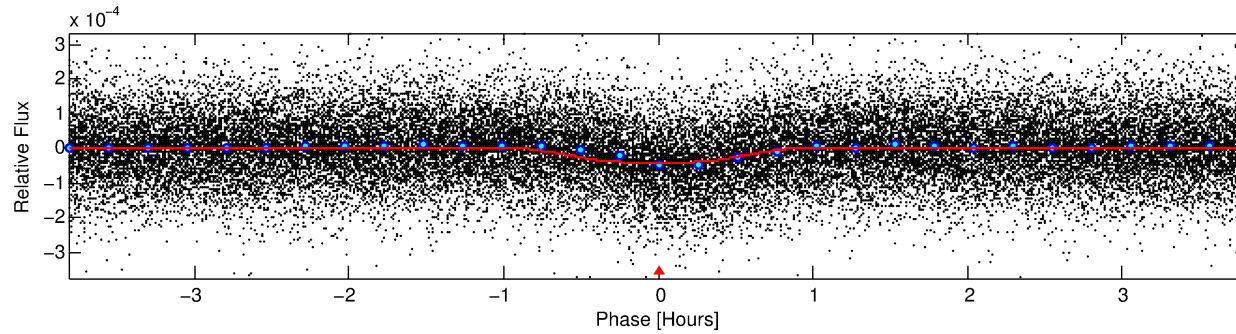
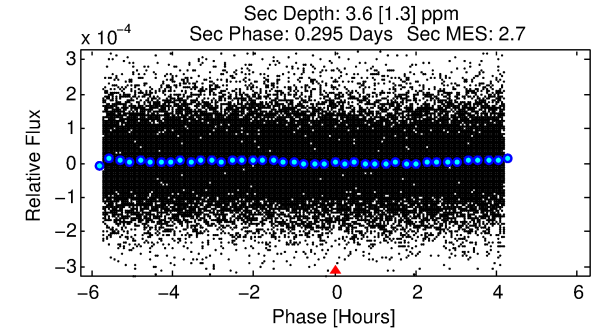
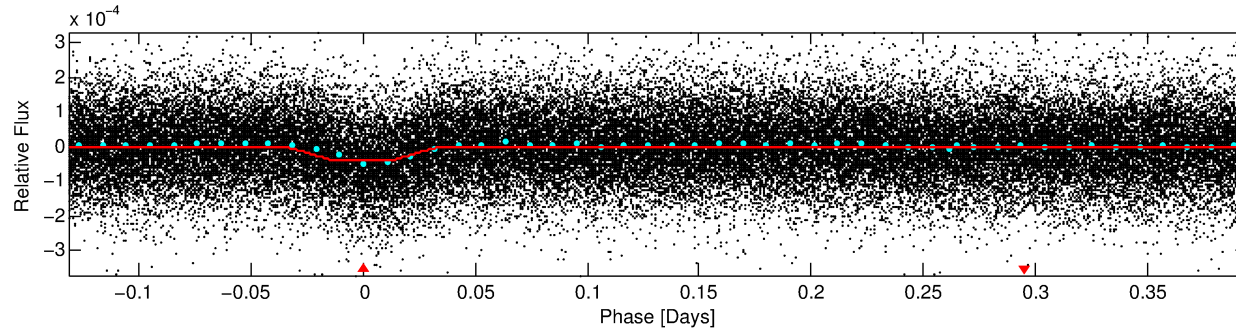
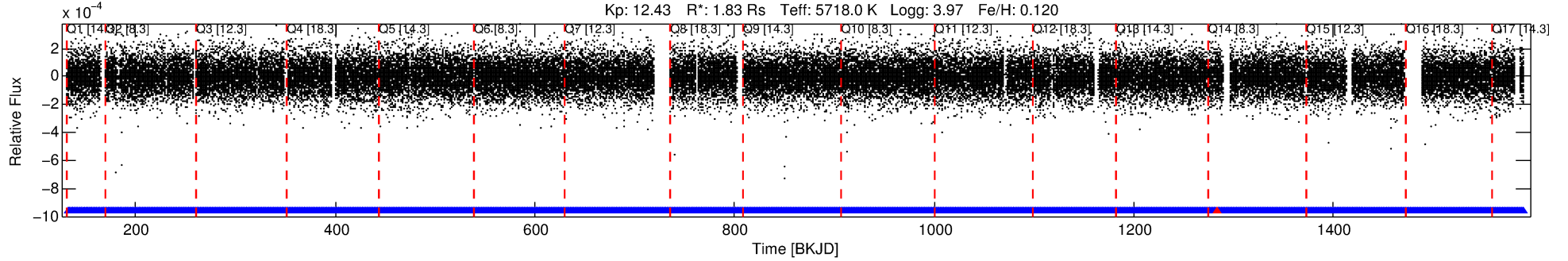
No Significant Match Found

# DV One-Page Summary

KIC: 6614629 Candidate: 1 of 1 Period: 0.527 d

KOI: K02737.01 Corr: 0.870

Kp: 12.43 R\*: 1.83 Rs Teff: 5718.0 K Logg: 3.97 Fe/H: 0.120



## DV Fit Results:

Period = 0.52661 [0.00000] d  
Epoch = 132.0292 [0.0007] BKJD  
Rp/R\* = 0.0070 [0.0011]  
a/R\* = 1.71 [0.80]  
b = 0.90 [0.15]  
Seff = 18162.27 [9216.81]  
Teq = 2960 [376] K  
Rp = 1.41 [0.49] Re  
a = 0.0133 [0.0041] AU  
Ag = 0.18 [0.12] [-6.78σ]  
Teffp = 2968 [362] K [0.01σ]

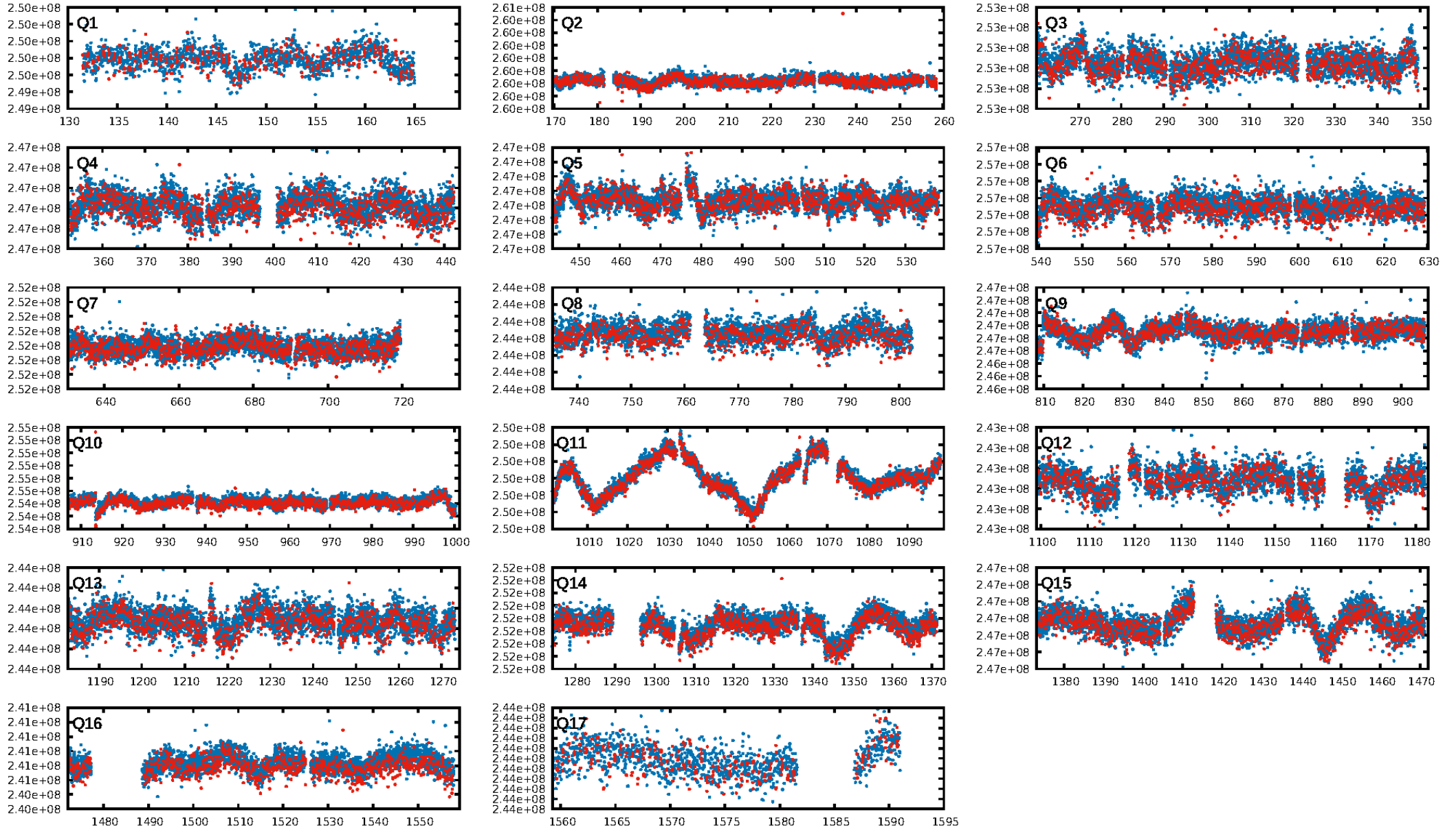
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.87e-115  
RollingBand-fgt: 1.00 [2425/2426]  
GhostDiagnostic-chr: -1.487  
Centroid-sig: 0.0%  
Centroid-so: 3.280 arcsec [9.66σ]  
OotOffset-rm: 8.959 arcsec [83.73σ]  
KicOffset-rm: 8.780 arcsec [86.68σ]  
OotOffset-st: 2/4/4/5 [15]  
KicOffset-st: 2/4/4/5 [15]  
DiffImageQuality-fgm: 1.00 [15/15]  
DiffImageOverlap-fno: 1.00 [17/17]

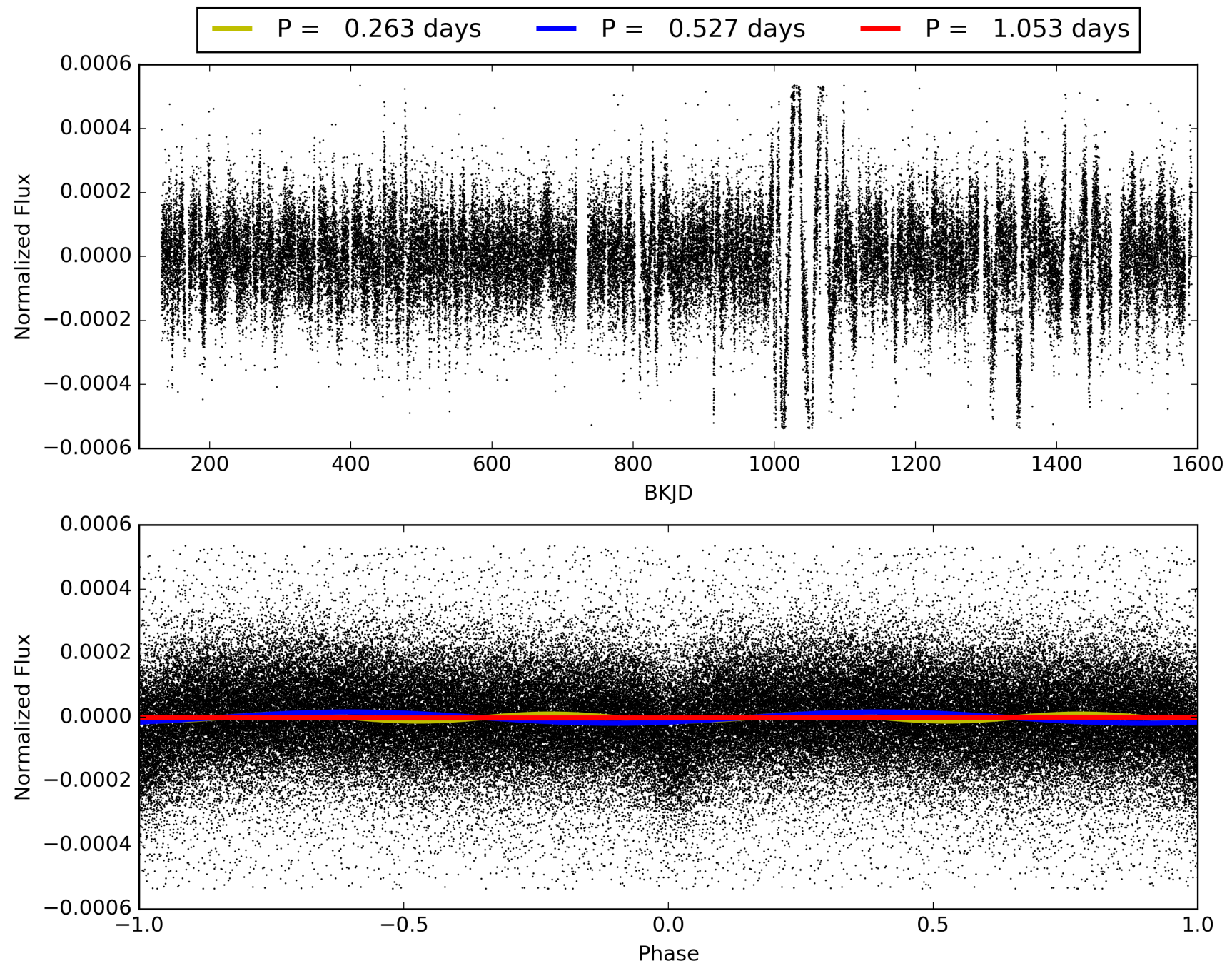
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:46:56 Z

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

# TCE 006614629-01, PDC Light Curves



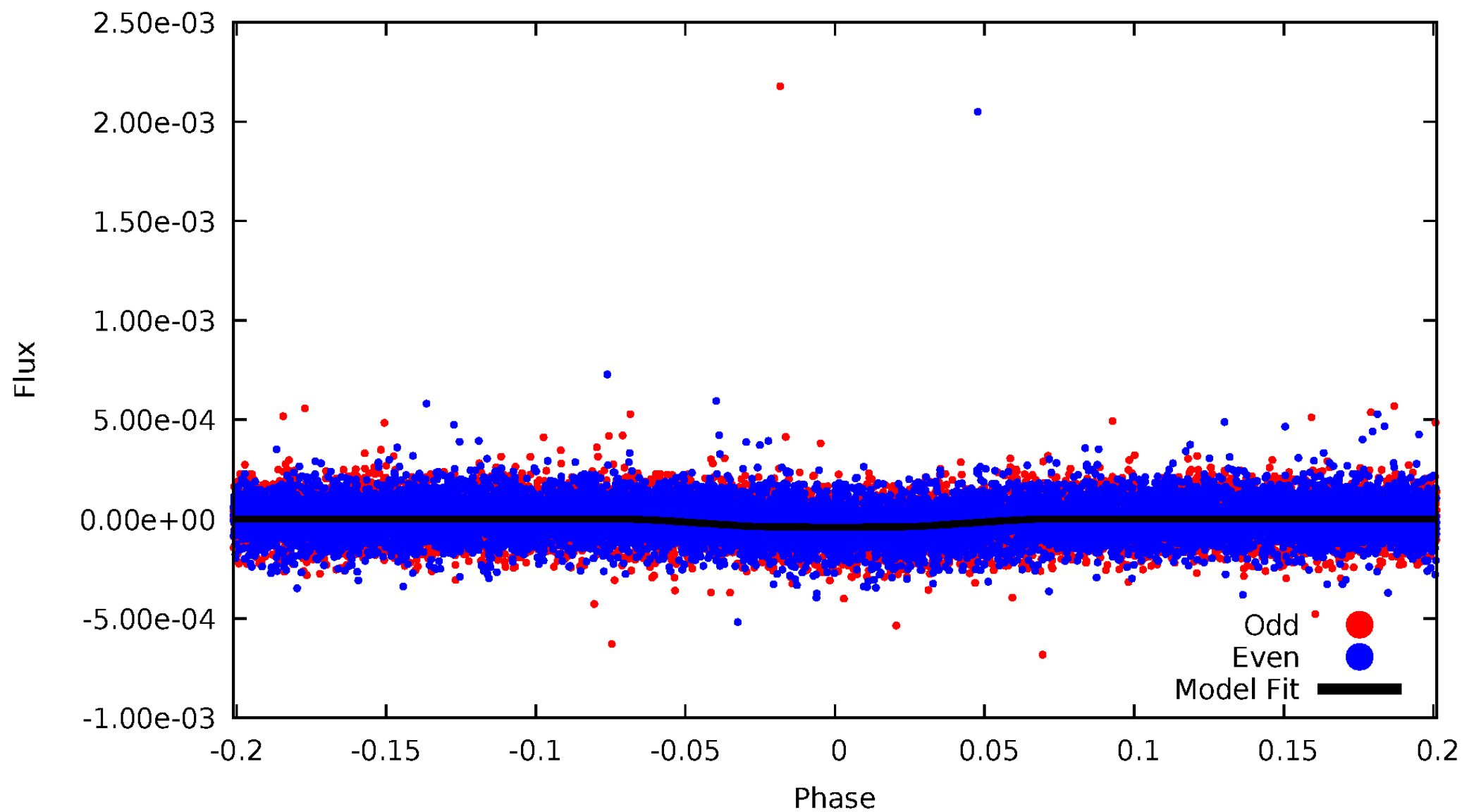
TCE 006614629-01





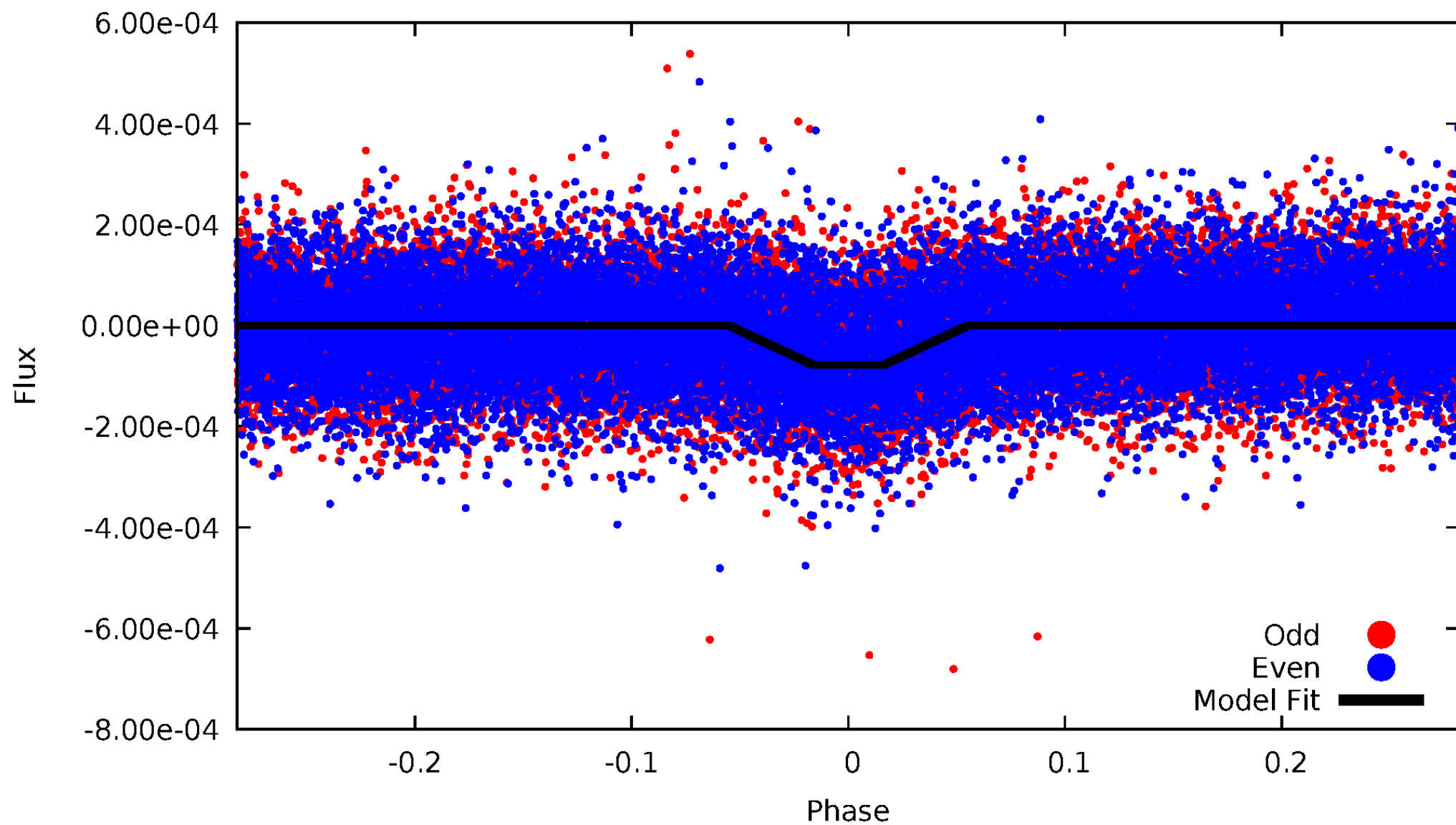
# DV Odd/Even

TCE 006614629-01



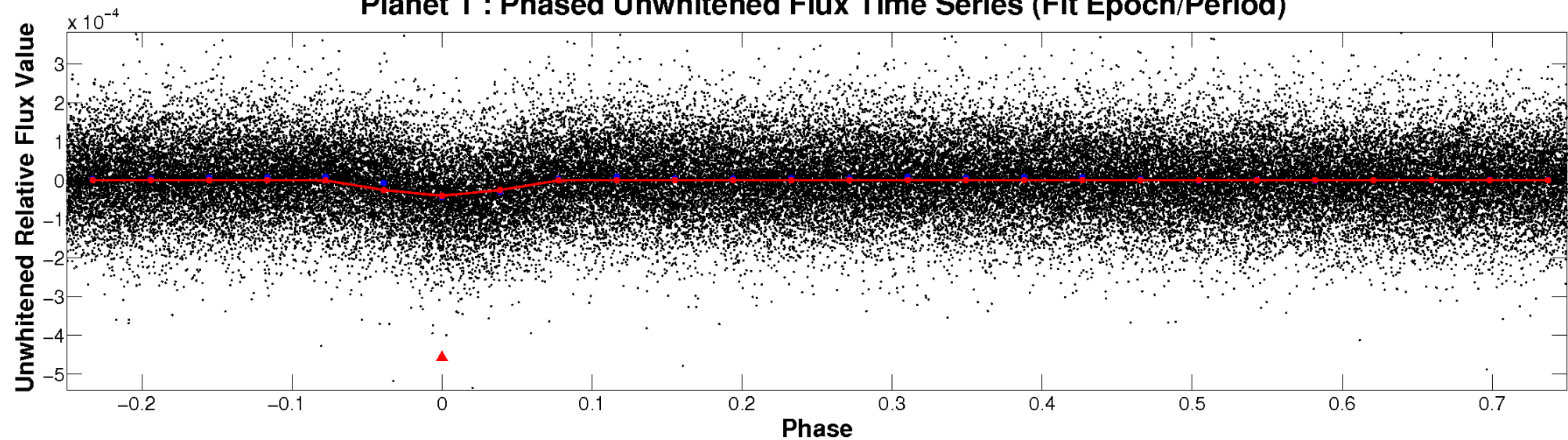
# ALT Odd/Even

TCE 006614629-01

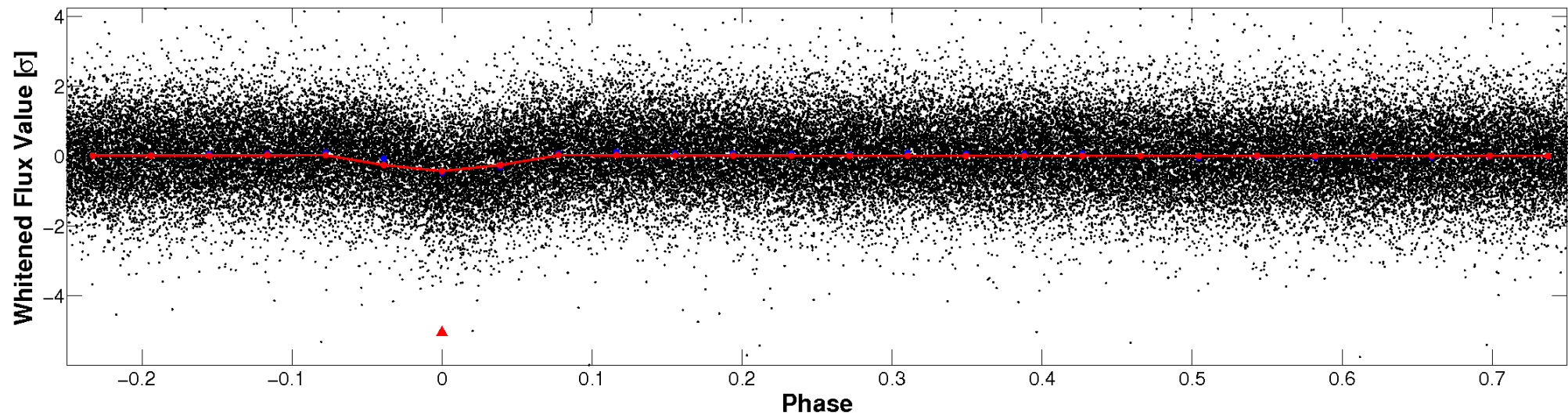


# Non-Whitened Vs. Whitened Light Curve

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

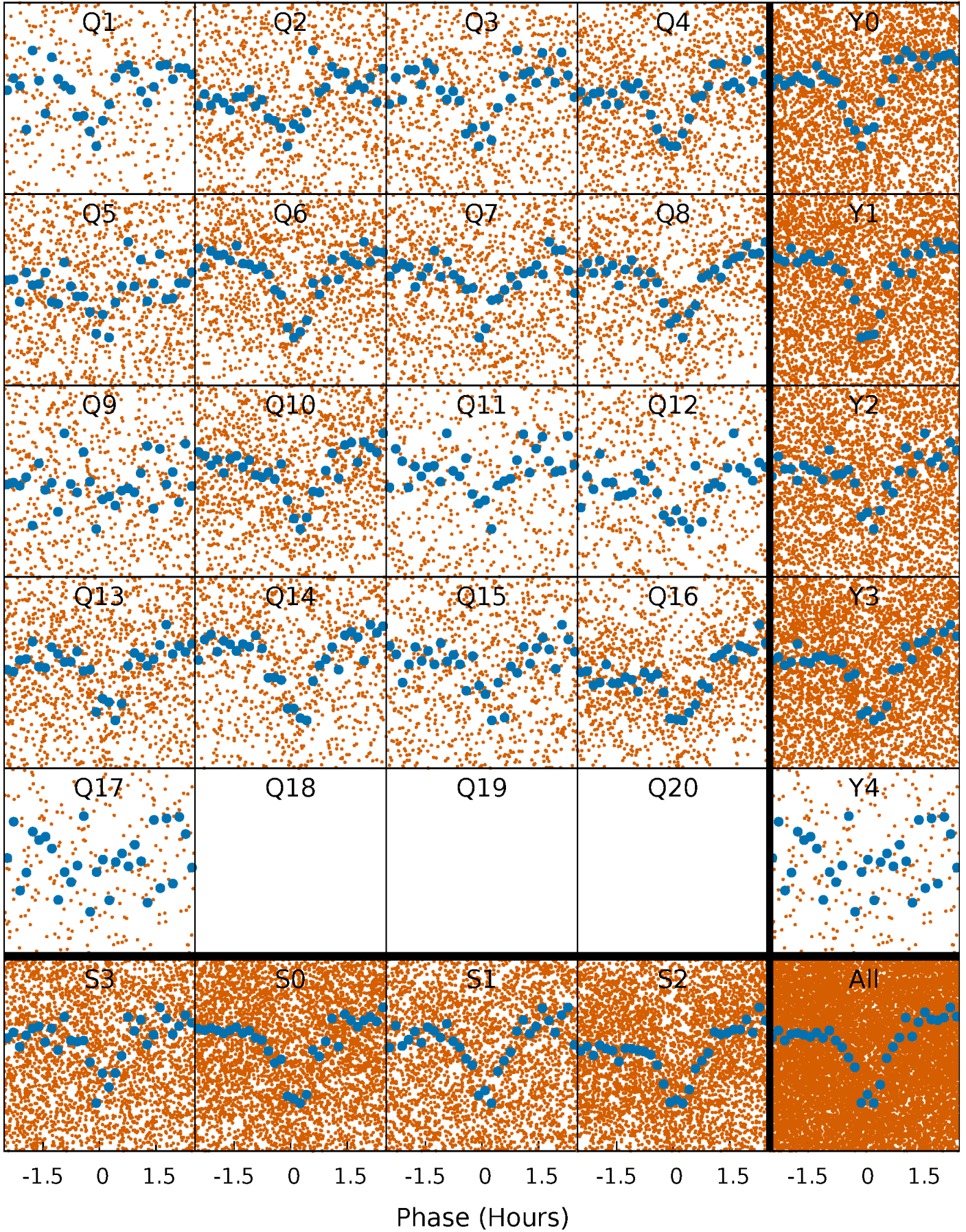


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

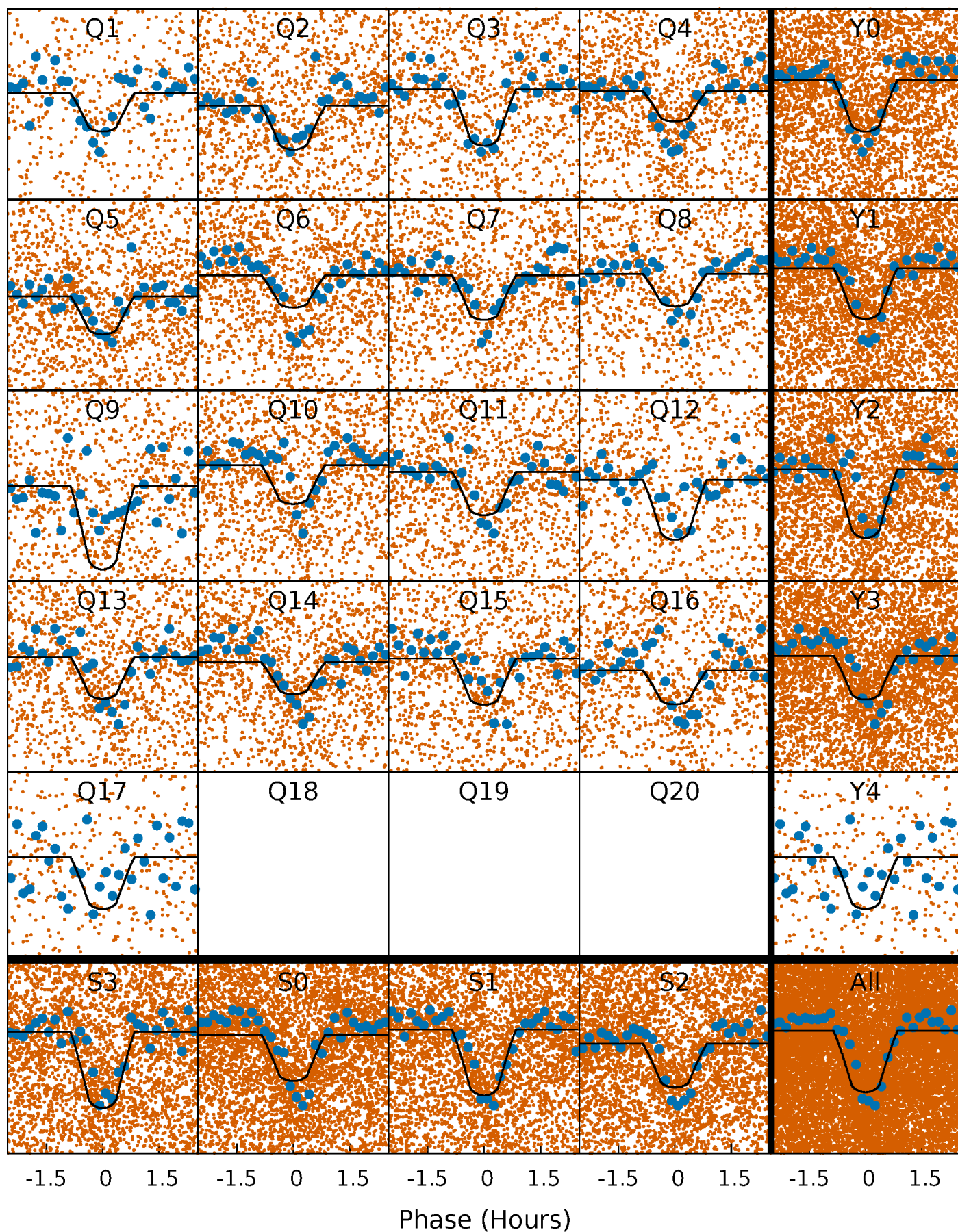
TCE 006614629-01 P= 0.526609 Days  $T_0=132.029216$  (BKJD)





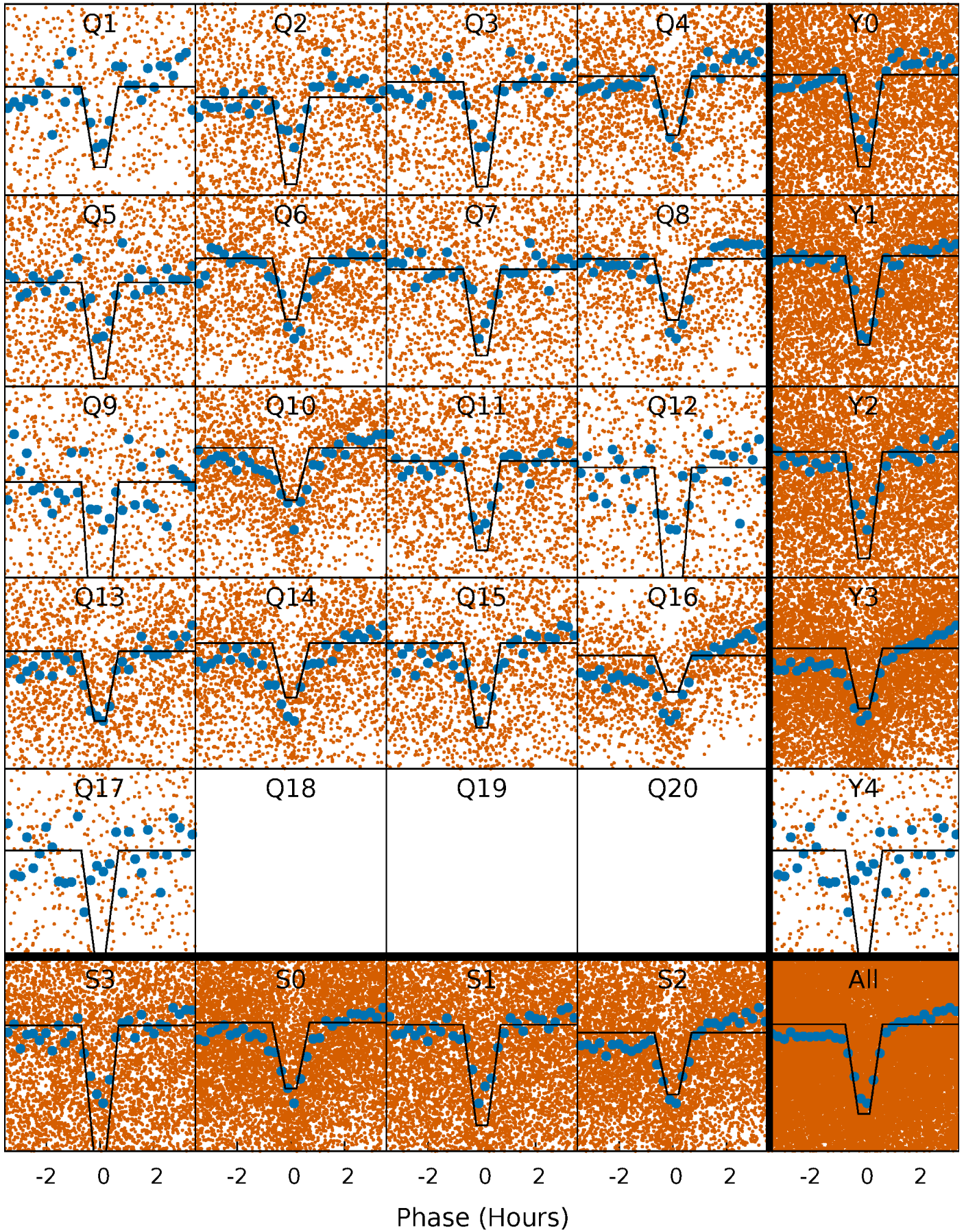
# DV Quarter-Phased Transit Curves

TCE 006614629-01 P= 0.526609 Days  $T_0=132.029216$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006614629-01 P= 0.526617 Days  $T_0=132.022784$  (BKJD)

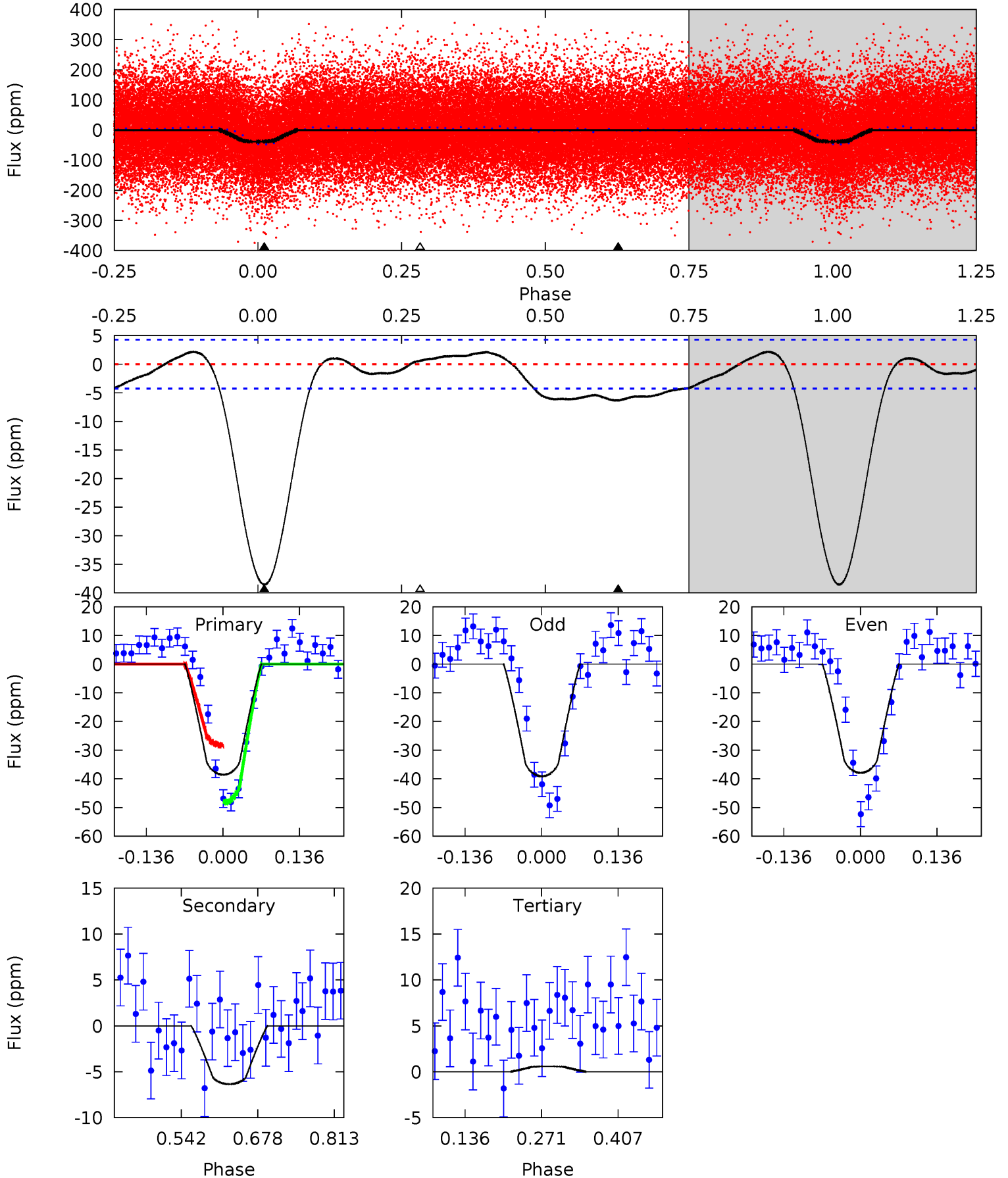




# DV Model-Shift Uniqueness Test

006614629-01, P = 0.526609 Days, E = 131.502607 Days

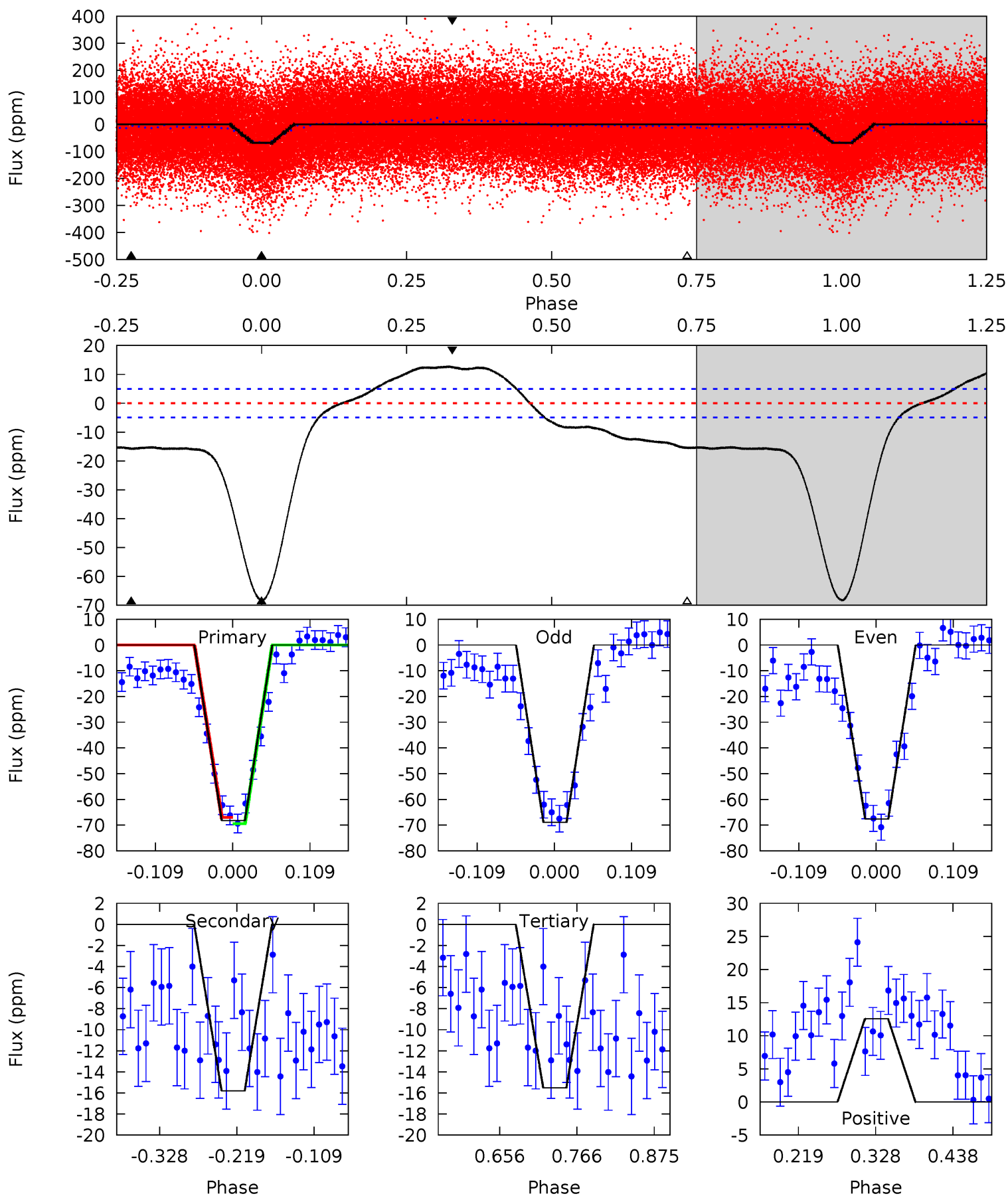
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.5	6.67	-0.61	0	4.50	1.49	1.81	41.1	40.5	7.28	6.67	0.63	1.01	0.05	10.5



# Alt Model-Shift Uniqueness Test

006614629-01, P = 0.526617 Days, E = 131.496167 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
62.9	14.6	14.3	11.6	4.55	1.60	9.23	48.6	51.4	0.26	2.99	0.61	1.00	0.16	1.11





### Stellar Parameters For KIC 006614629

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5718^{+156}_{-142}$	$3.966^{+0.292}_{-0.097}$	$0.120^{+0.250}_{-0.250}$	$1.832^{+0.313}_{-0.581}$	$1.131^{+0.158}_{-0.174}$	$0.259^{+0.497}_{-0.078}$
	+3%/-2%	+7%/-2%	+208%/-208%	+17%/-32%	+14%/-15%	+192%/-30%
Source	PHO1	FLK73	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 006614629-01 / KOI 2737.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-6 \pm 1$	$1.33^{+0.29}_{-0.28}$	$4054^{+256}_{-321}$	$2842^{+700}_{-5828}$	$0.350^{+0.212}_{-0.112}$
Alt.	$-16 \pm 1$	$1.70^{+0.30}_{-0.37}$	$4088^{+236}_{-369}$	$3592^{+364}_{-449}$	$0.540^{+0.304}_{-0.149}$

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

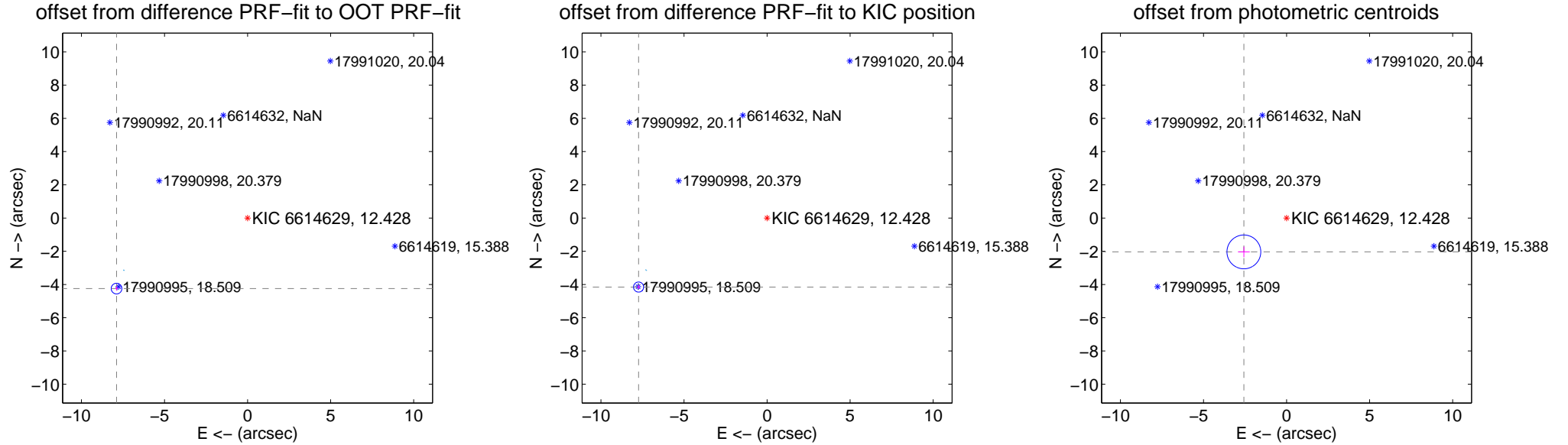
## DV Centroid Data

Supplemental centroid analysis for 006614629-01. Kepler magnitude: 12.43. Transit SNR 28.37

There are 15 quarters with good PRF difference image offsets

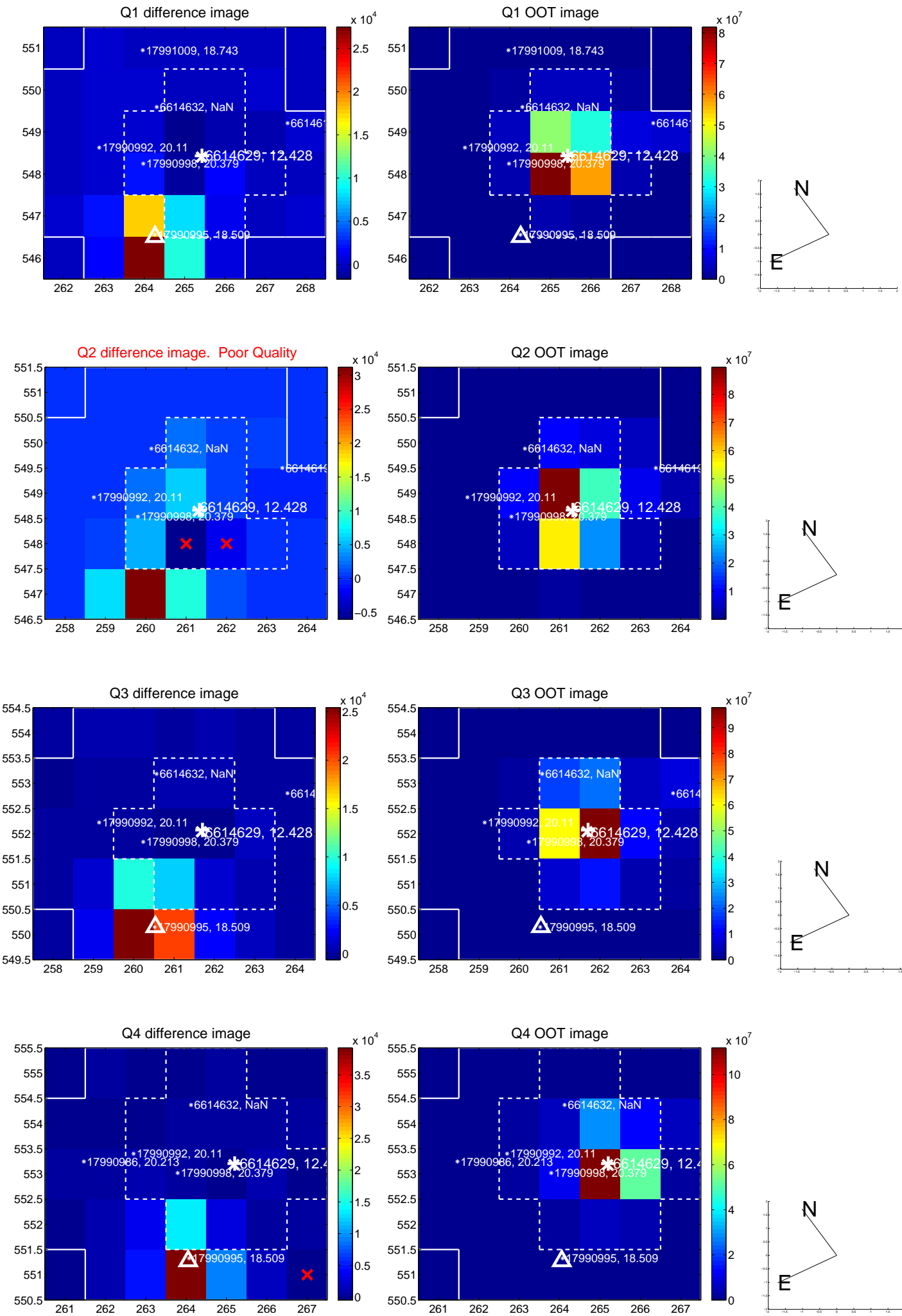
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	8.959 $\pm$ 0.107	83.73	7.888 $\pm$ 0.078	-4.246 $\pm$ 0.121
PRF-fit source offset from KIC position	8.780 $\pm$ 0.101	86.68	7.735 $\pm$ 0.078	-4.154 $\pm$ 0.110
photometric centroid source offset	3.28 $\pm$ 0.34	9.66	2.57 $\pm$ 0.35	-2.04 $\pm$ 0.32

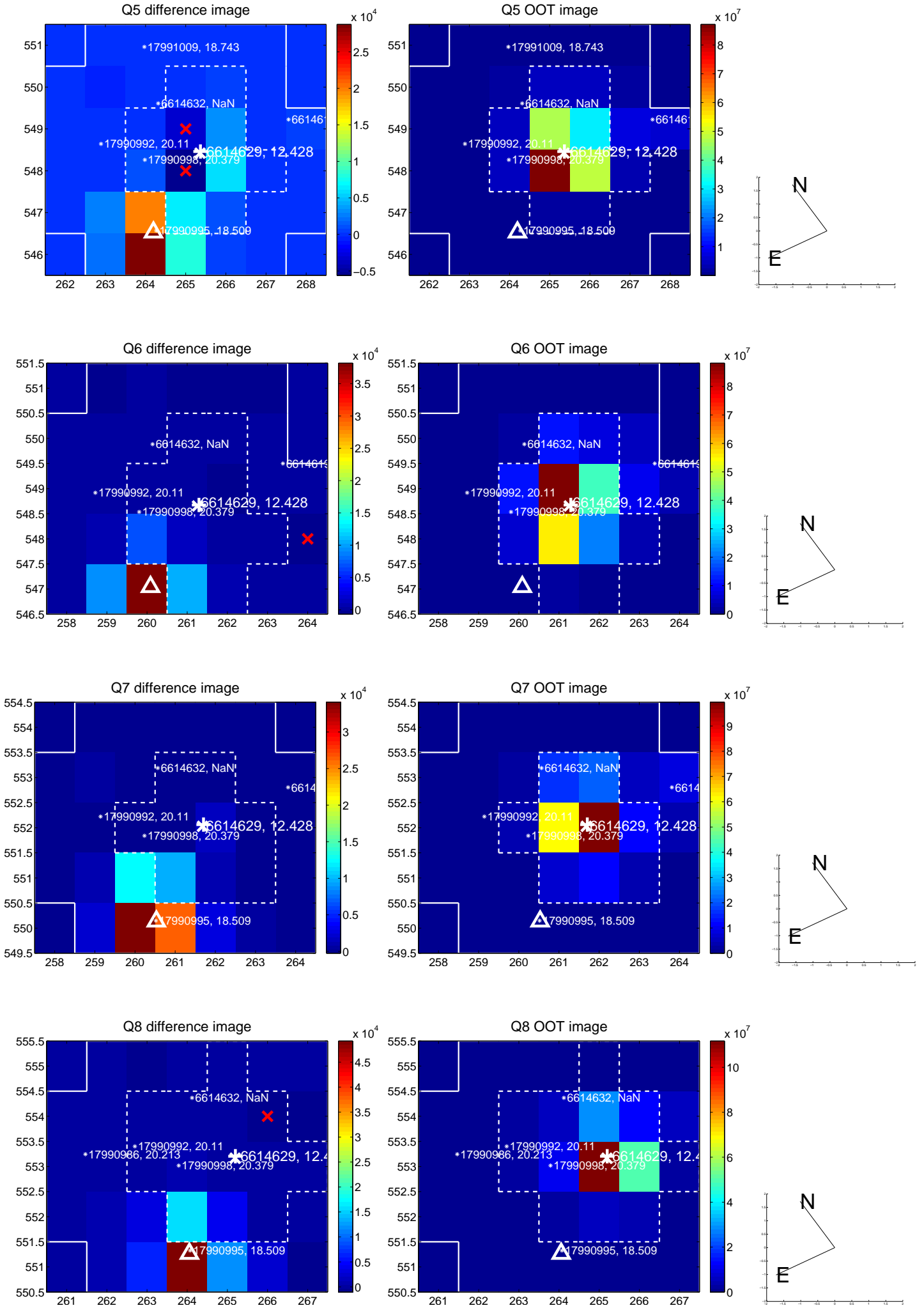


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

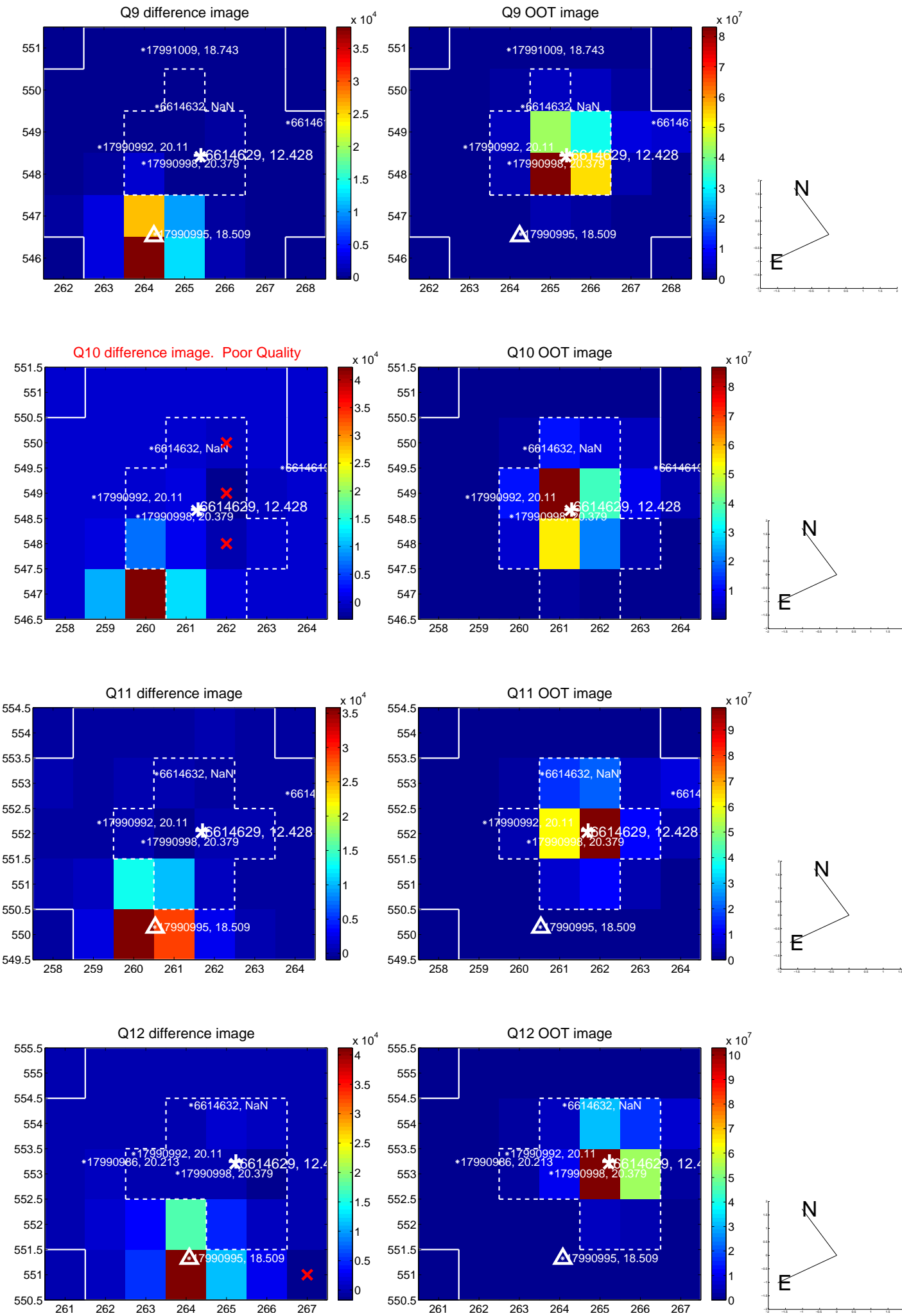


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

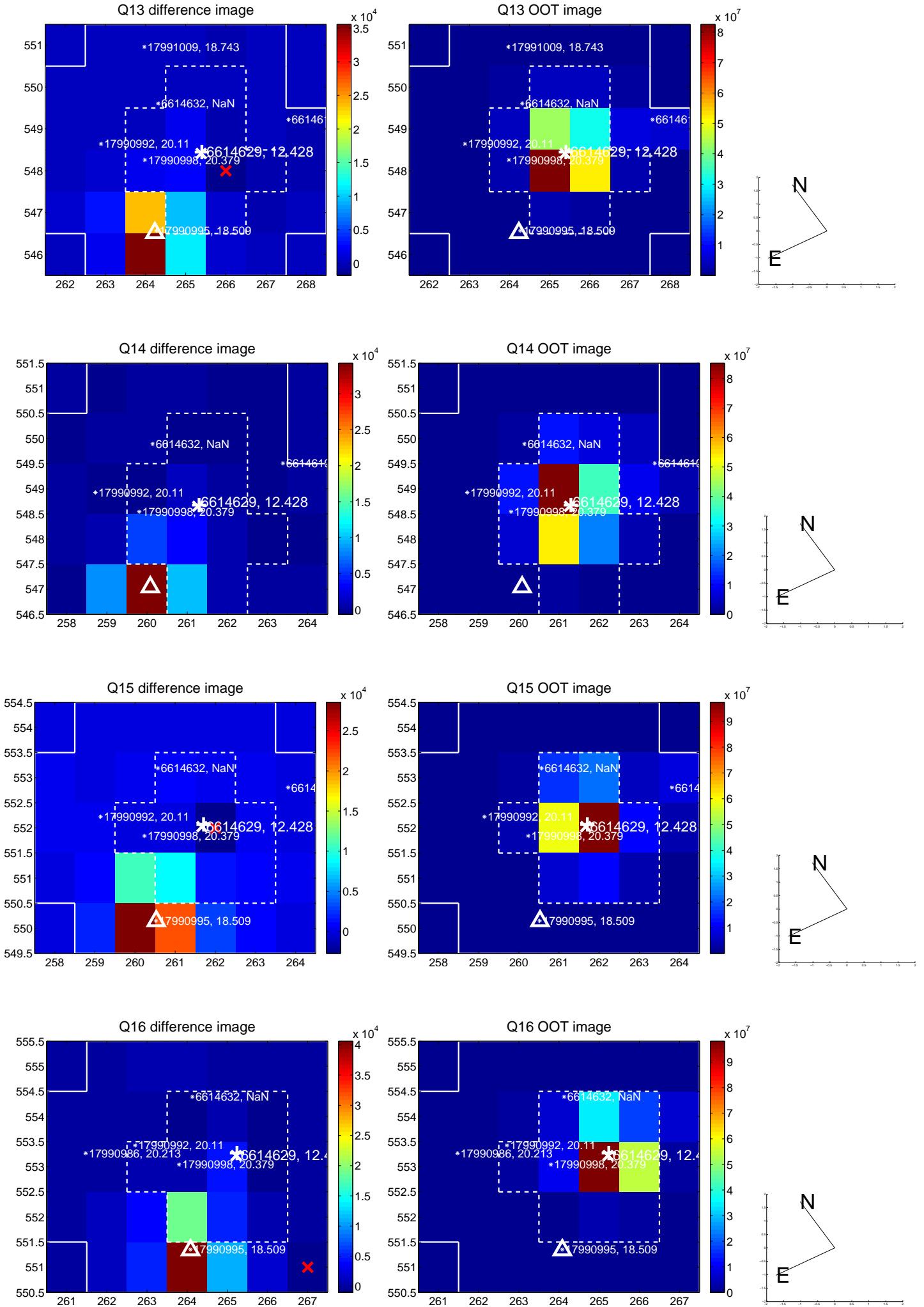




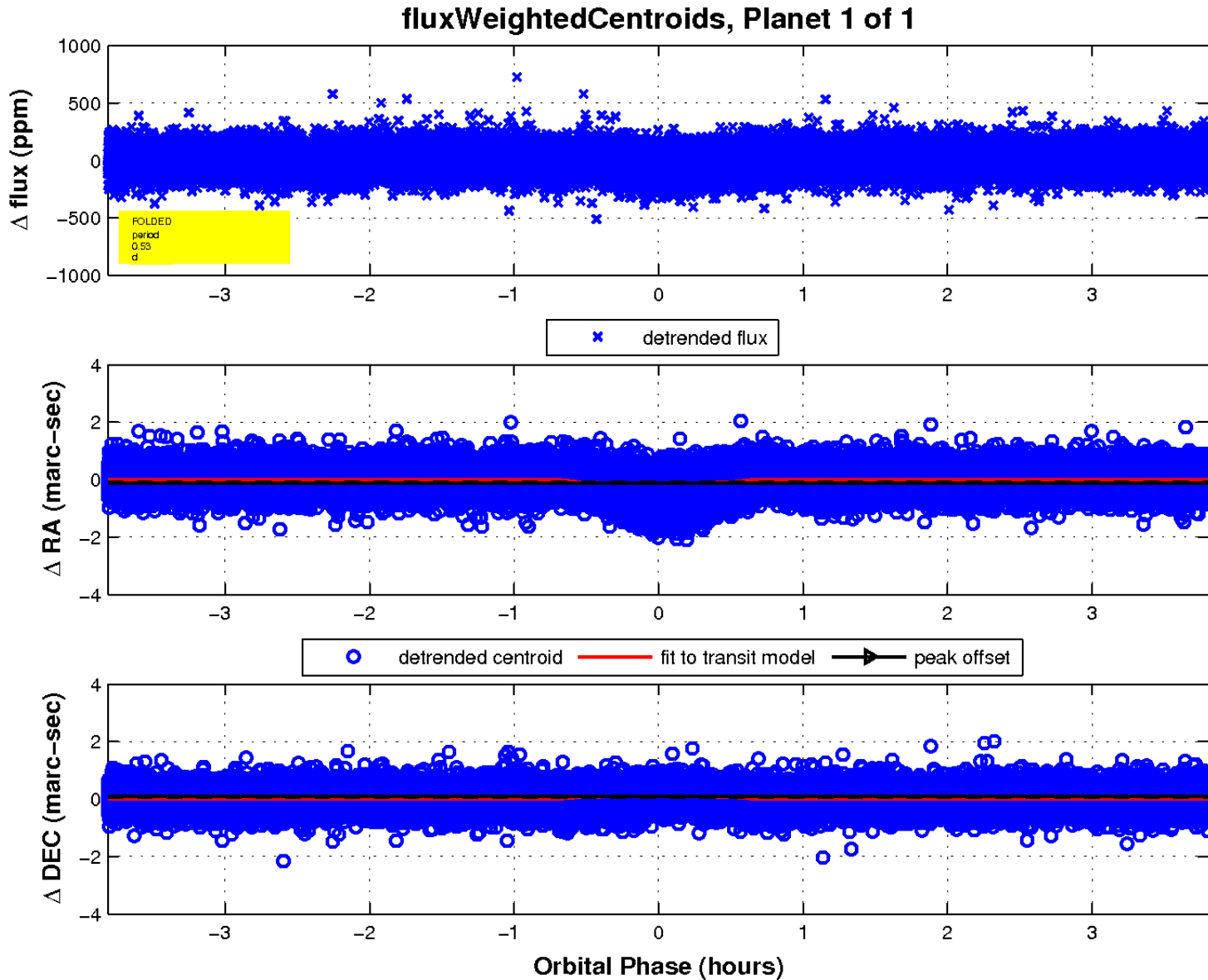
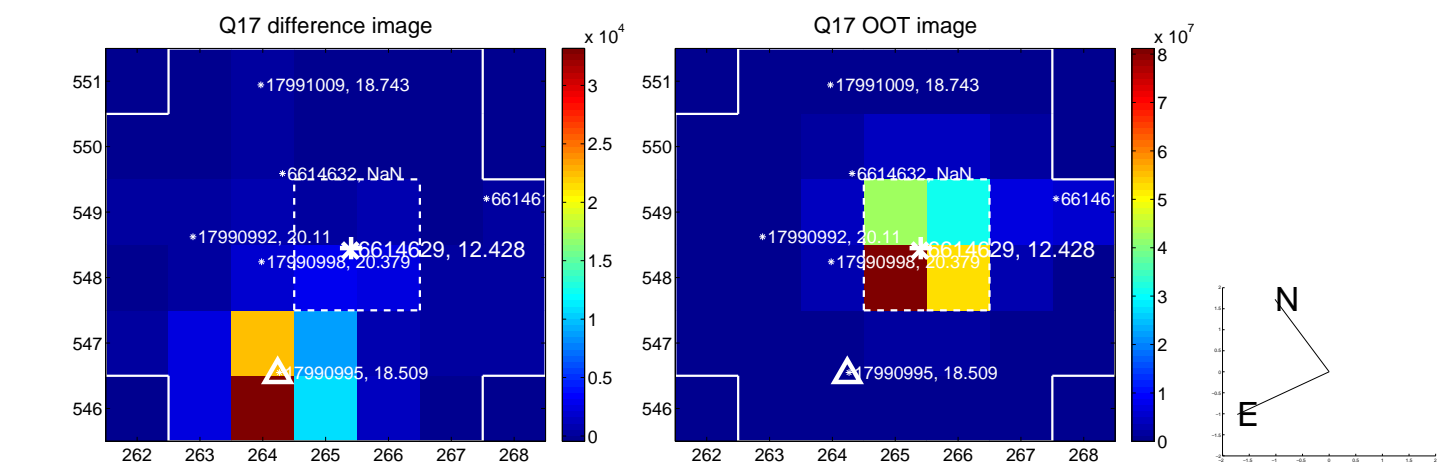
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

