

# KIC 007124613

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007124613-01	OBS	0673.01	4.417467	135.451161	290.1	3.158	53.3	57.1	2.30	6570	4.56	2541.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007124613-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

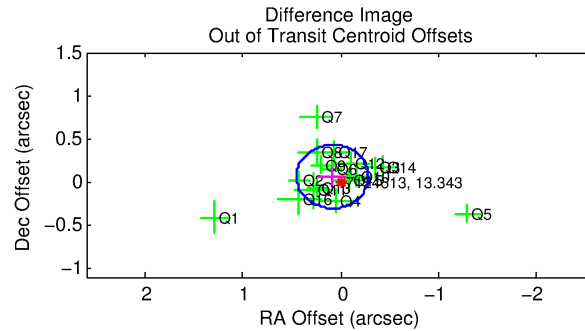
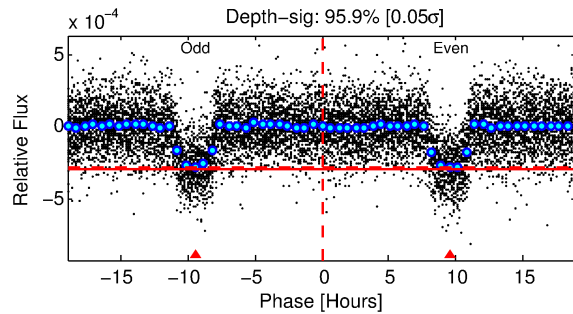
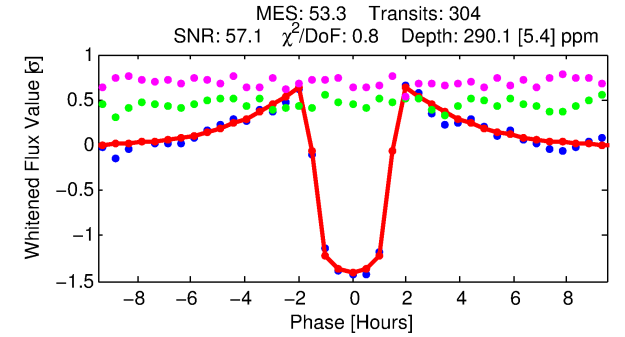
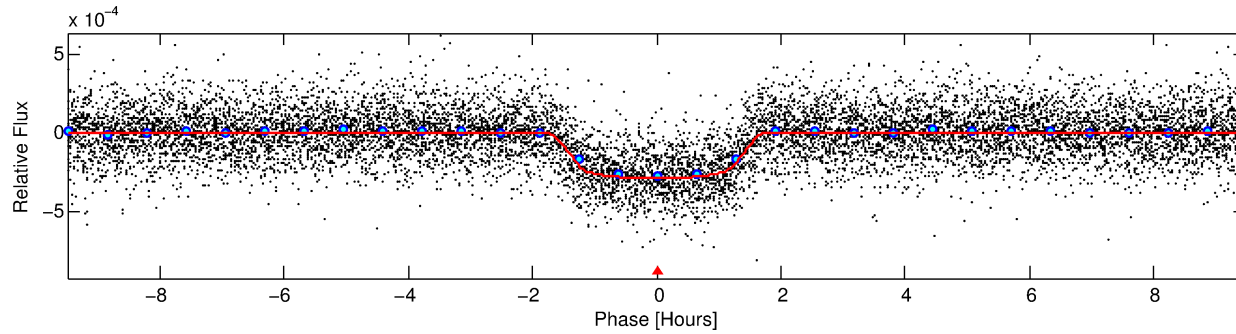
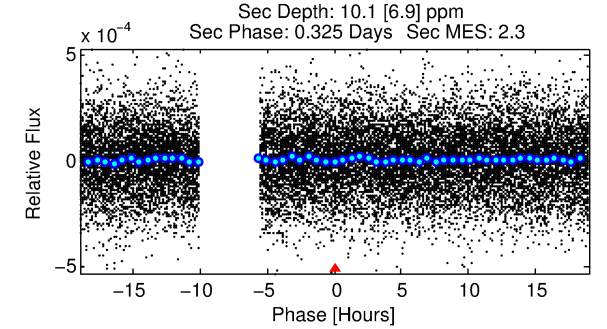
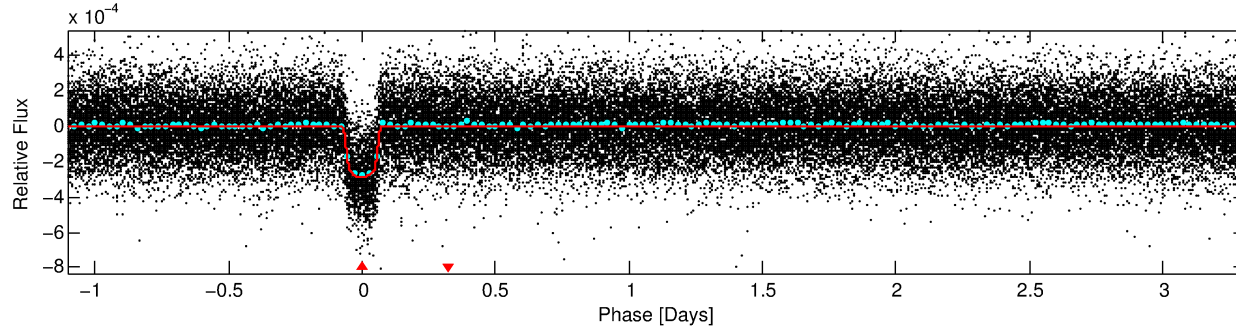
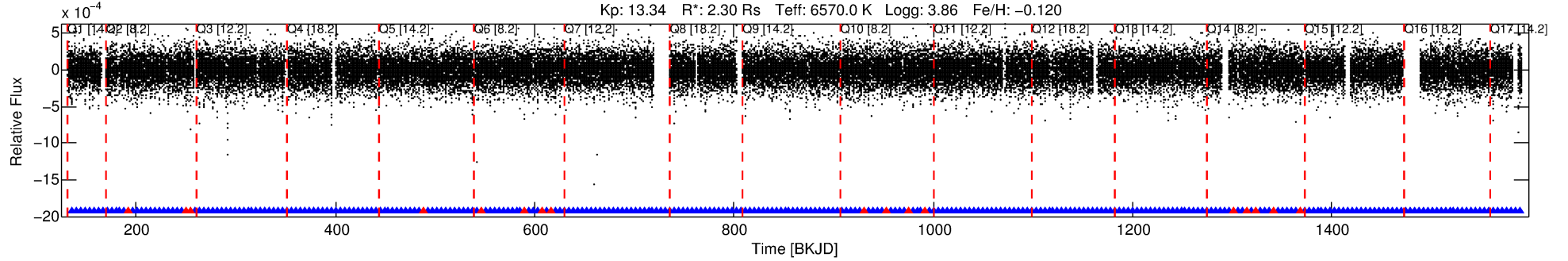
## Ephemeris Match Information For 007124613-01

No Significant Match Found

# DV One-Page Summary

KIC: 7124613 Candidate: 1 of 1 Period: 4.417 d

KOI: K00673.01 Corr: 0.968



## DV Fit Results:

Period = 4.41747 [0.00000] d  
Epoch = 135.4512 [0.0007] BKJD  
Rp/R\* = 0.0182 [0.0009]  
a/R\* = 5.23 [1.35]  
b = 0.90 [0.06]  
Seff = 2541.16 [1270.62]  
Teq = 1810 [226] K  
Rp = 4.56 [1.46] Re  
a = 0.0589 [0.0179] AU  
Ag = 0.93 [0.78] [-0.10σ]  
Teffp = 2746 [479] K [1.77σ]

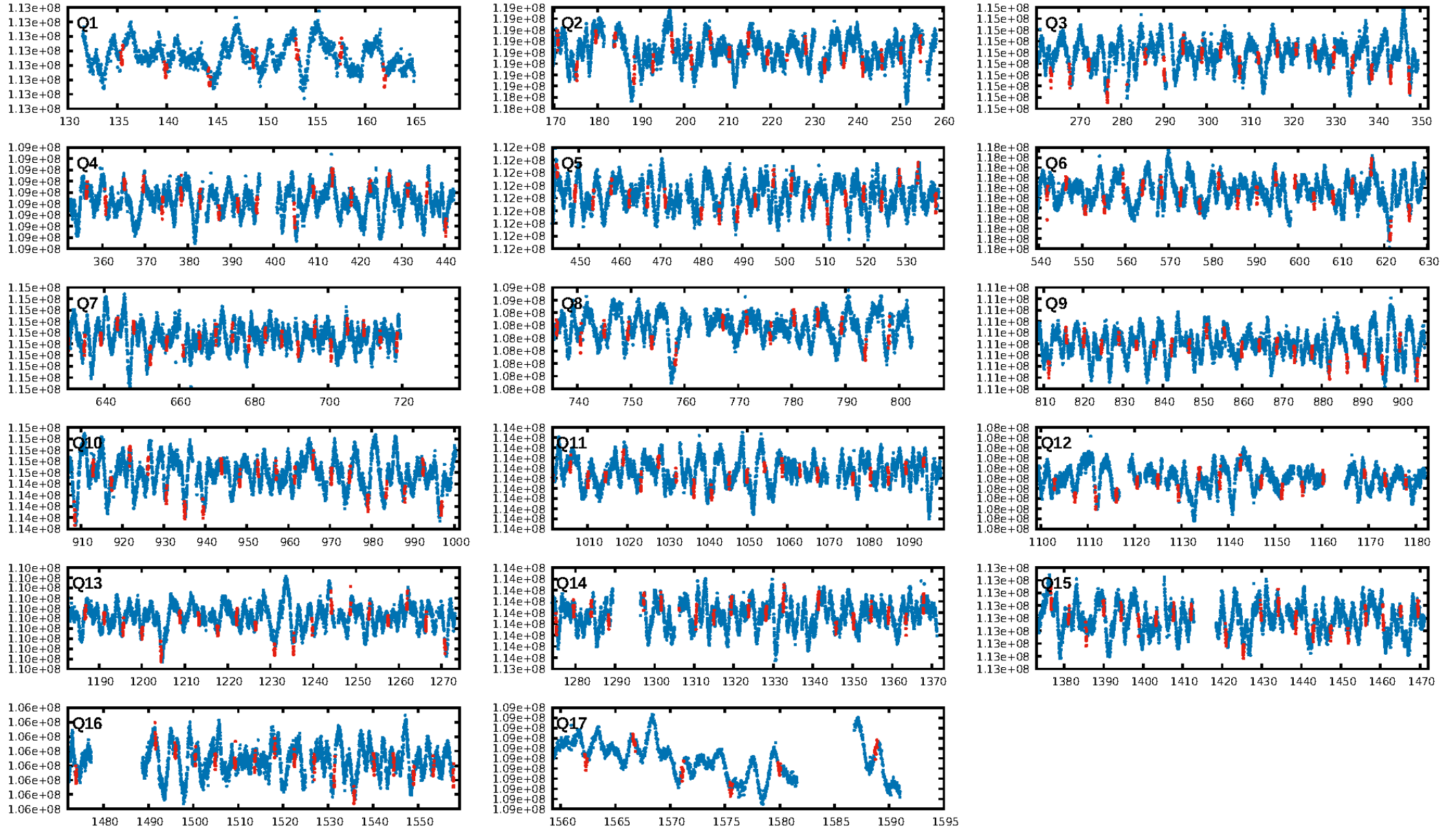
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.94 [274/291]  
GhostDiagnostic-chr: 4.905  
Centroid-sig: 2.9%  
Centroid-so: 0.310 arcsec [1.96σ]  
OotOffset-rm: 0.106 arcsec [0.86σ]  
KicOffset-rm: 0.097 arcsec [0.70σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

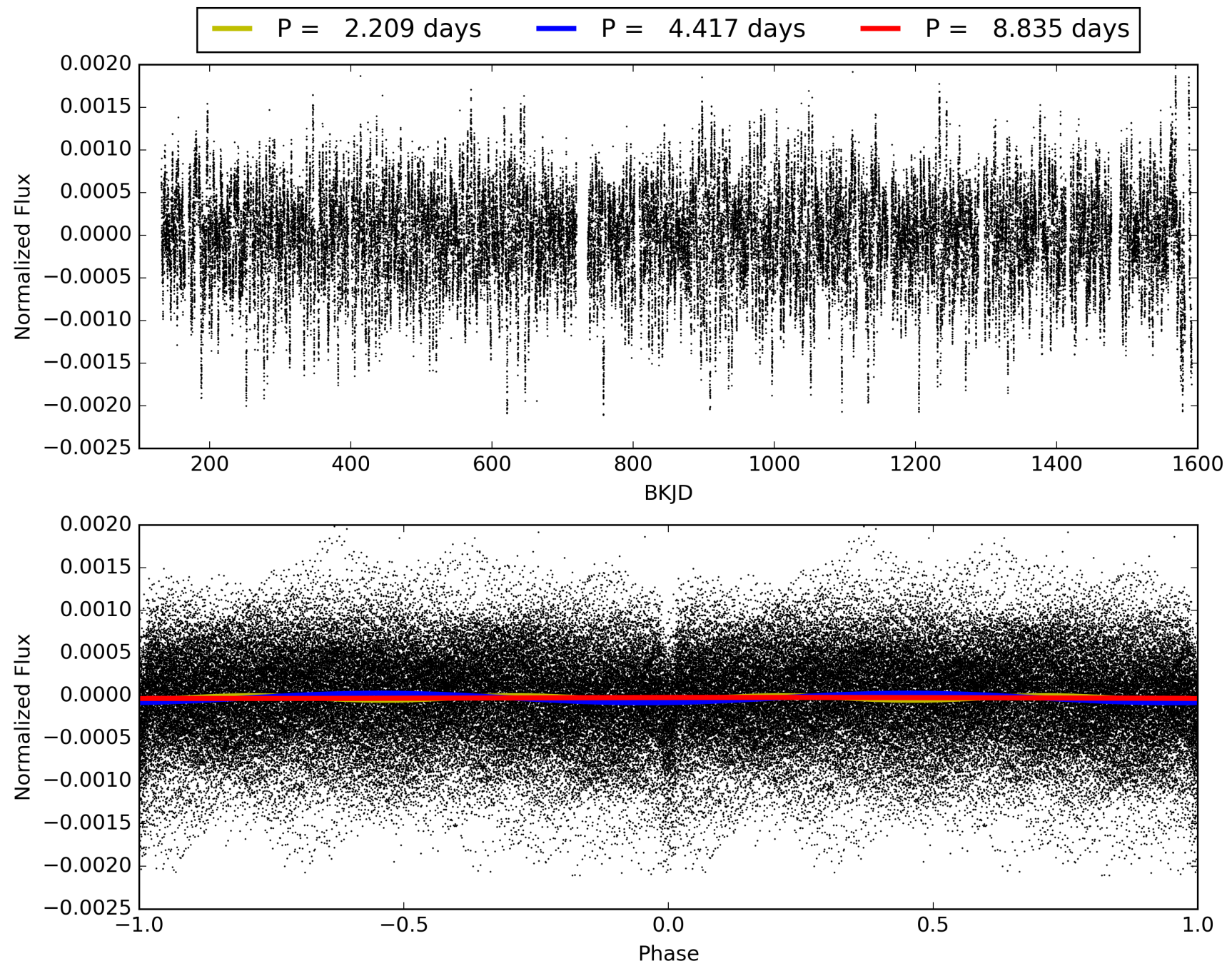
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:30:11 Z

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

# TCE 007124613-01, PDC Light Curves



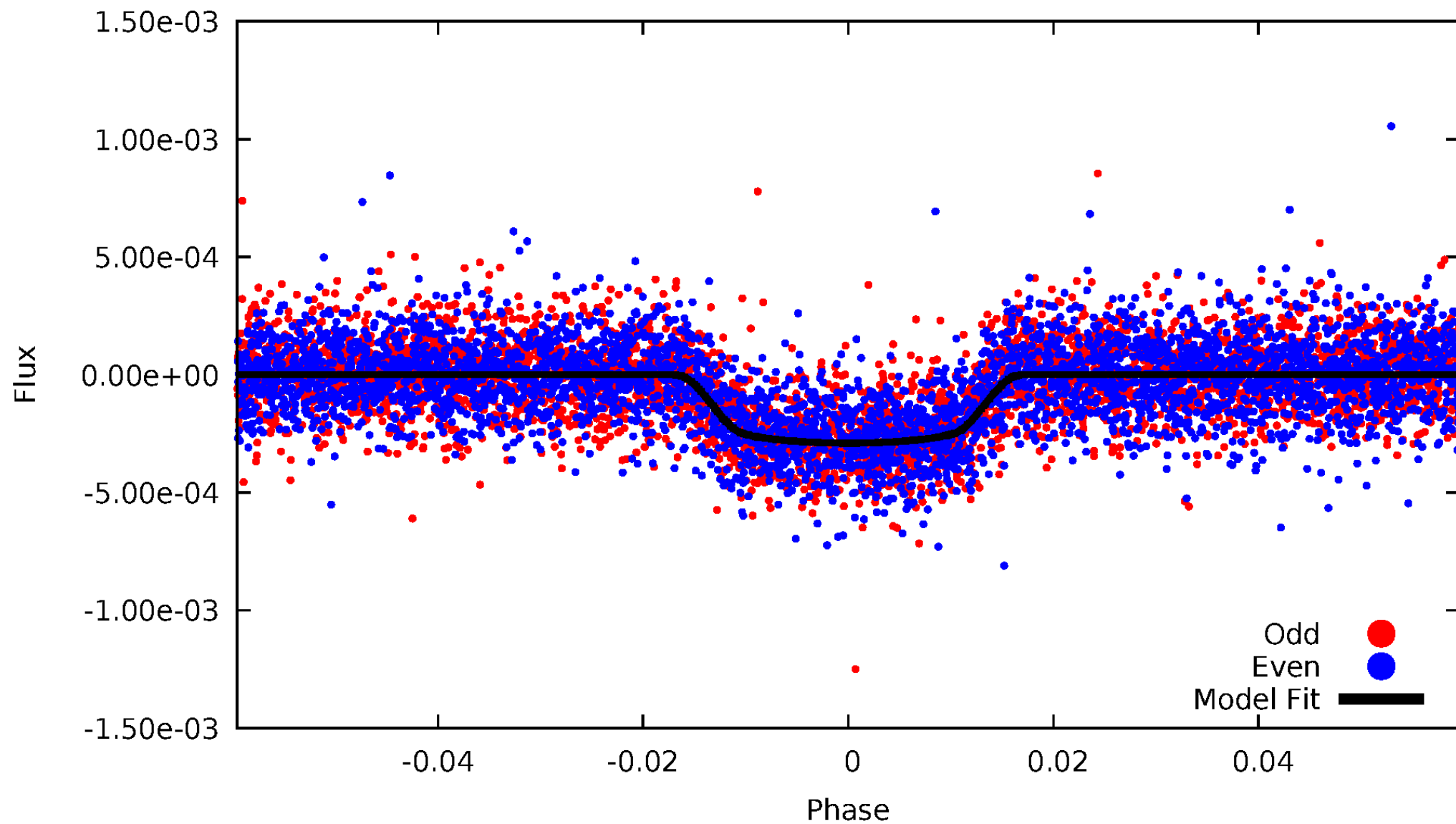
TCE 007124613-01





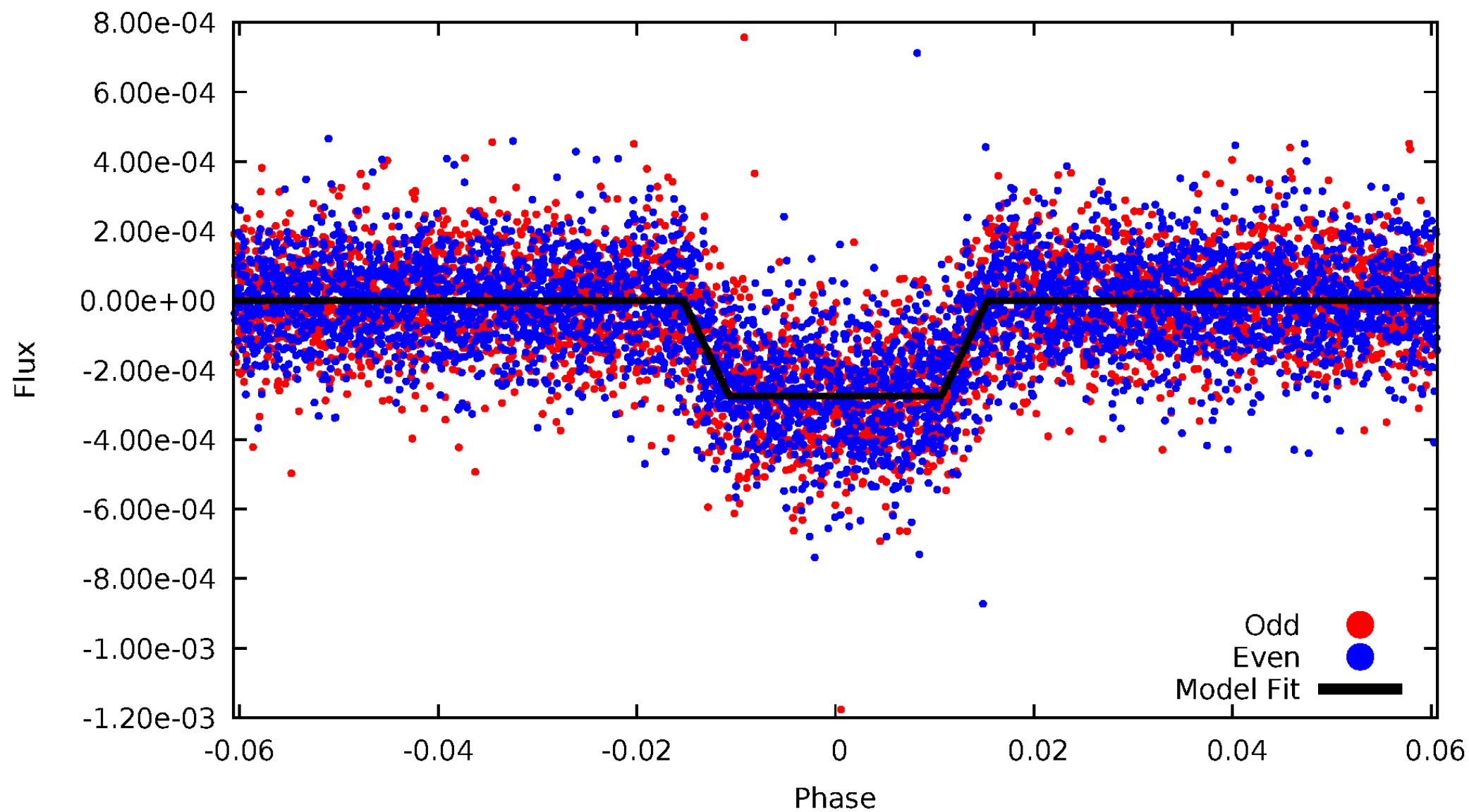
# DV Odd/Even

TCE 007124613-01

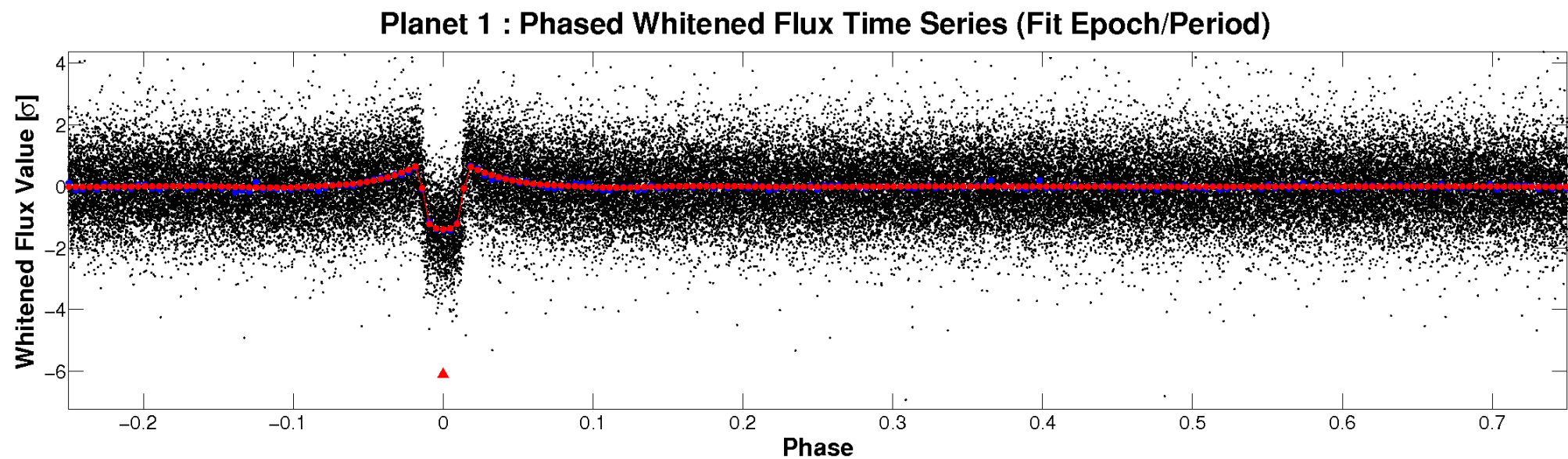
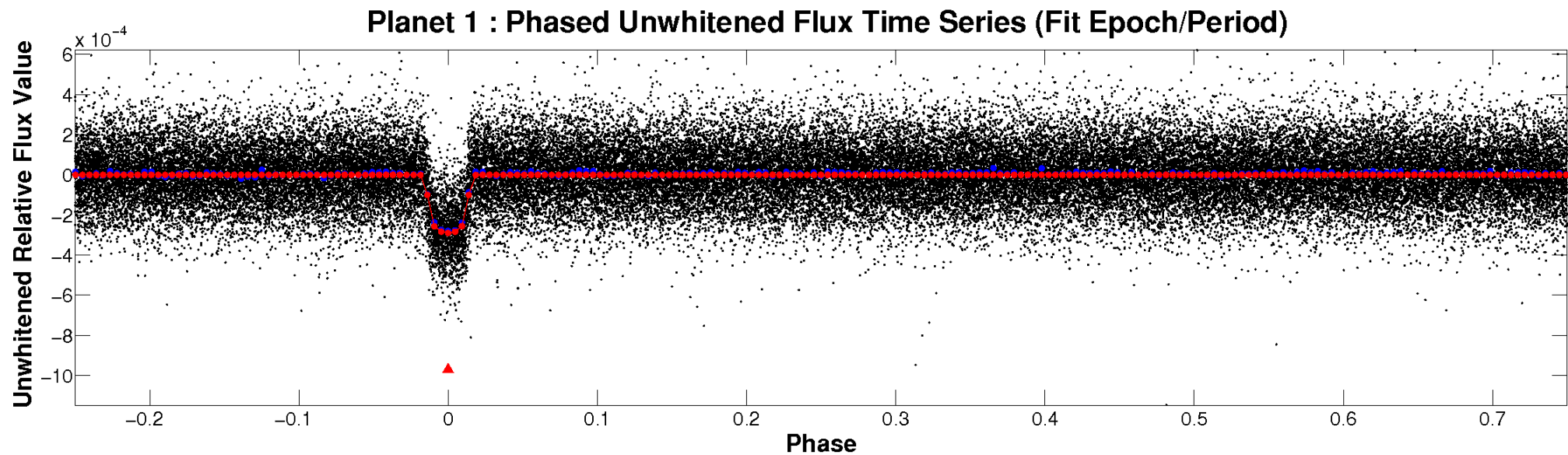


# ALT Odd/Even

TCE 007124613-01

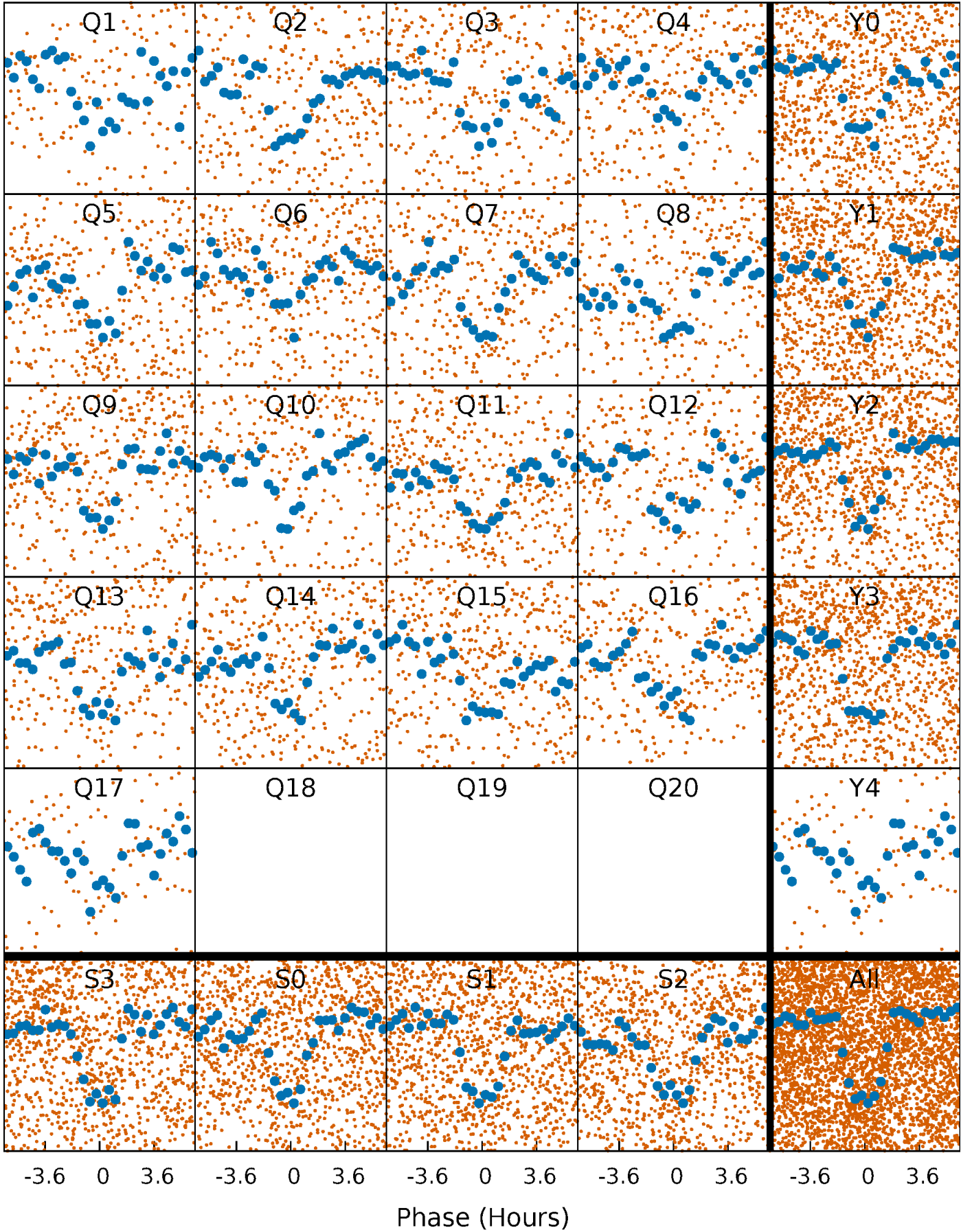


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

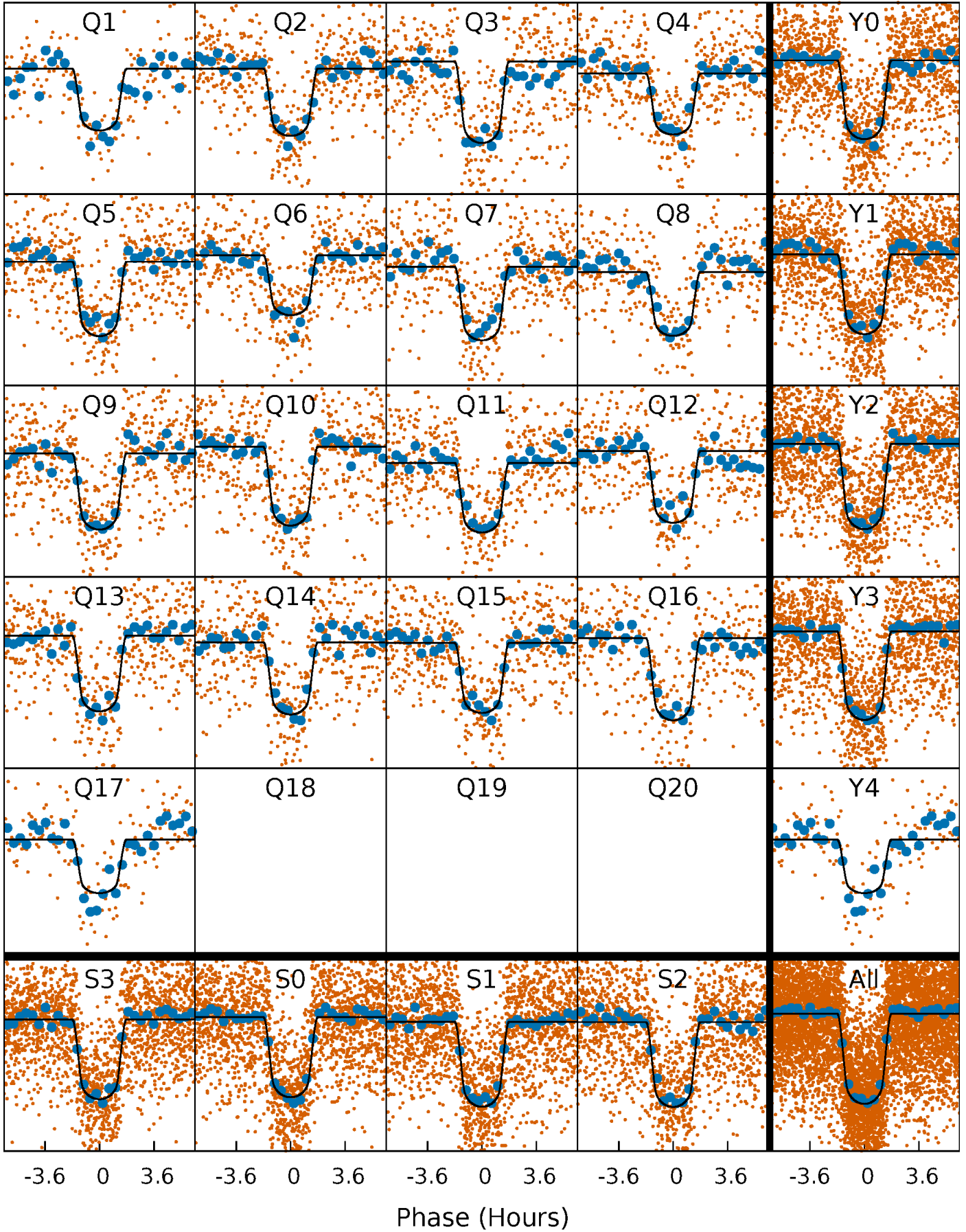
TCE 007124613-01 P= 4.417467 Days  $T_0=135.451161$  (BKJD)





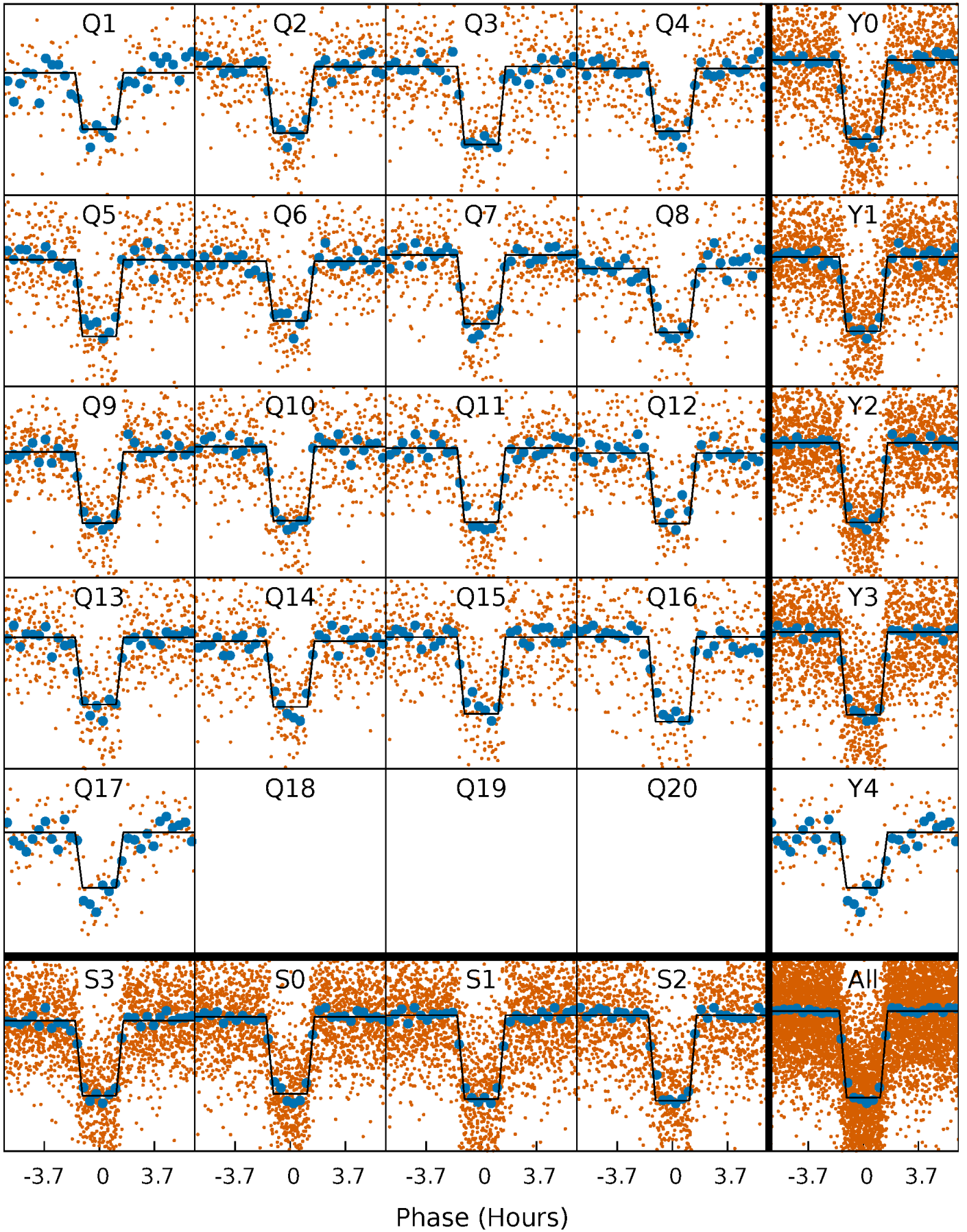
# DV Quarter-Phased Transit Curves

TCE 007124613-01 P= 4.417467 Days  $T_0=135.451161$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

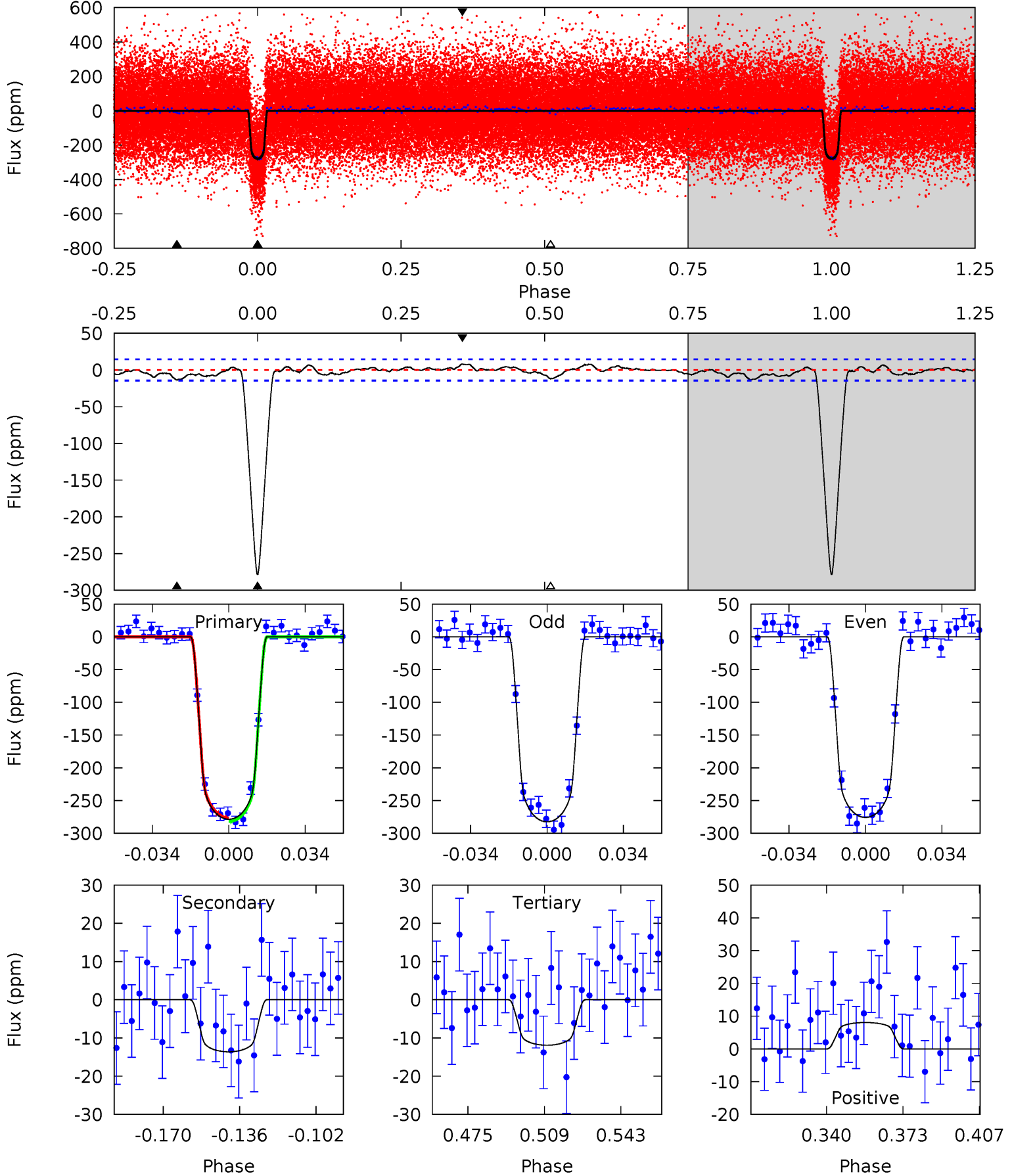
TCE 007124613-01   P= 4.417456 Days    $T_0=135.452837$  (BKJD)



# DV Model-Shift Uniqueness Test

007124613-01, P = 4.417467 Days, E = 131.033694 Days

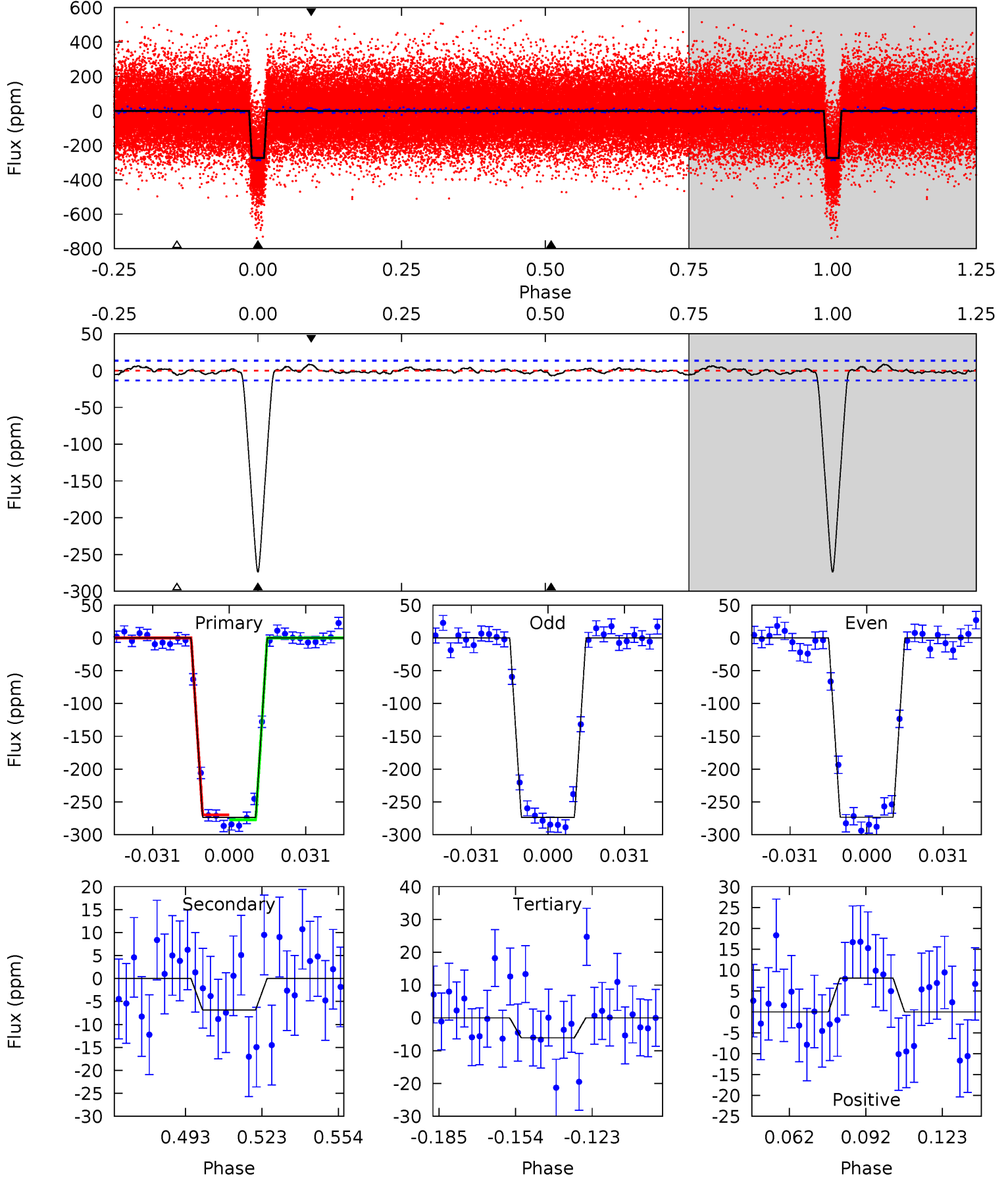
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.0	4.50	3.93	2.66	4.79	2.12	1.32	88.0	89.3	0.57	1.84	1.11	1.01	0.03	0.83



# Alt Model-Shift Uniqueness Test

007124613-01, P = 4.417456 Days, E = 131.035381 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
97.9	2.45	2.18	2.90	4.81	2.16	0.94	95.7	95.0	0.27	-0.45	0.06	0.99	0.03	1.33





### Stellar Parameters For KIC 007124613

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6570^{+156}_{-195}$	$3.860^{+0.285}_{-0.114}$	$-0.120^{+0.300}_{-0.250}$	$2.297^{+0.485}_{-0.727}$	$1.396^{+0.222}_{-0.247}$	$0.162^{+0.276}_{-0.055}$
	+2%/-3%	+7%/-3%	+250%/-208%	+21%/-32%	+16%/-18%	+170%/-34%
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 007124613-01 / KOI 0673.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 3$	$4.43^{+0.62}_{-0.79}$	$2486^{+159}_{-221}$	$3313^{+165}_{-176}$	$1.334^{+0.704}_{-0.390}$
Alt.	$-7 \pm 3$	$4.04^{+0.59}_{-0.71}$	$2482^{+159}_{-201}$	$2989^{+244}_{-404}$	$0.812^{+0.509}_{-0.360}$

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

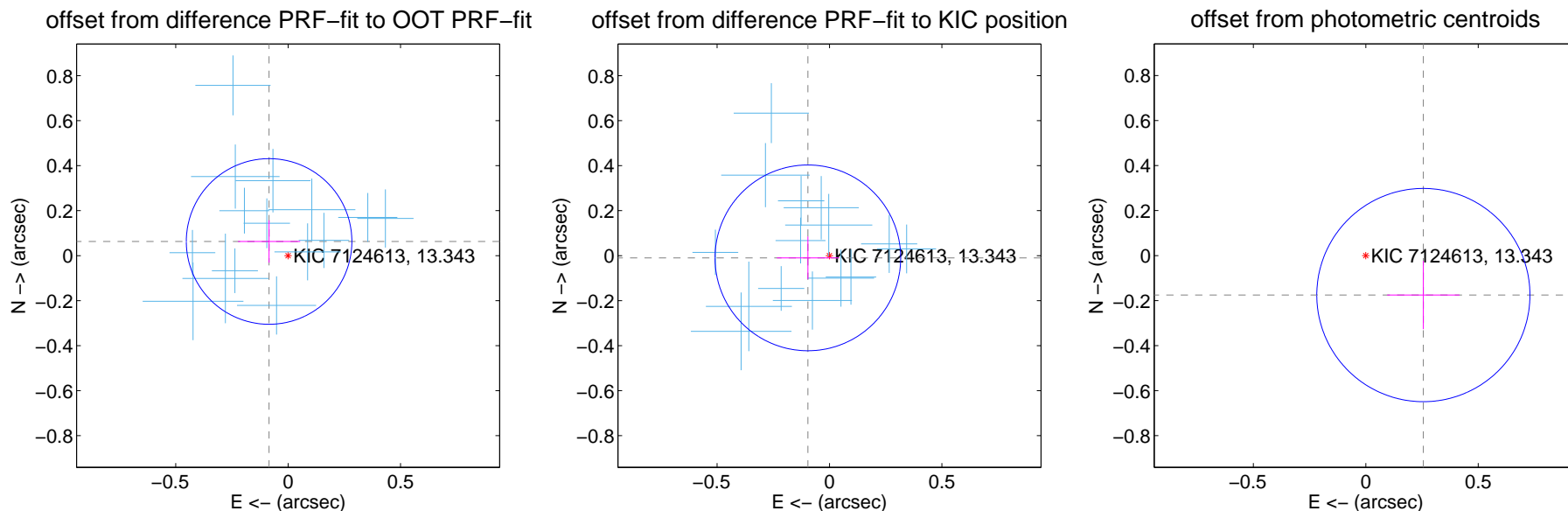
## DV Centroid Data

Supplemental centroid analysis for 007124613-01. Kepler magnitude: 13.34. Transit SNR 57.09

There are 17 quarters with good PRF difference image offsets

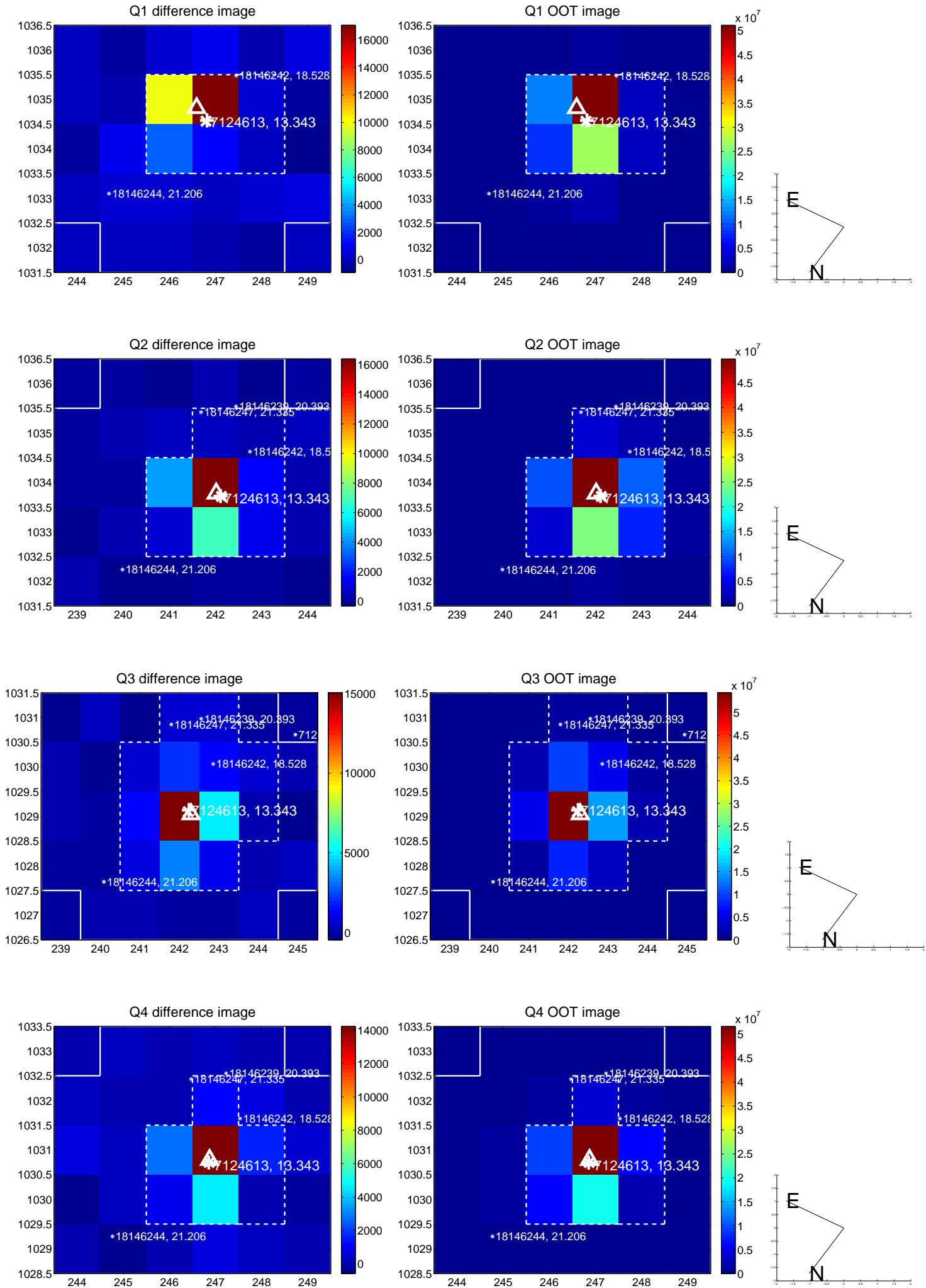
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.106 \pm 0.123$	0.86	$0.085 \pm 0.138$	$0.063 \pm 0.094$
PRF-fit source offset from KIC position	$0.097 \pm 0.138$	0.70	$0.096 \pm 0.138$	$-0.010 \pm 0.095$
photometric centroid source offset	$0.31 \pm 0.16$	1.96	$-0.26 \pm 0.16$	$-0.18 \pm 0.15$

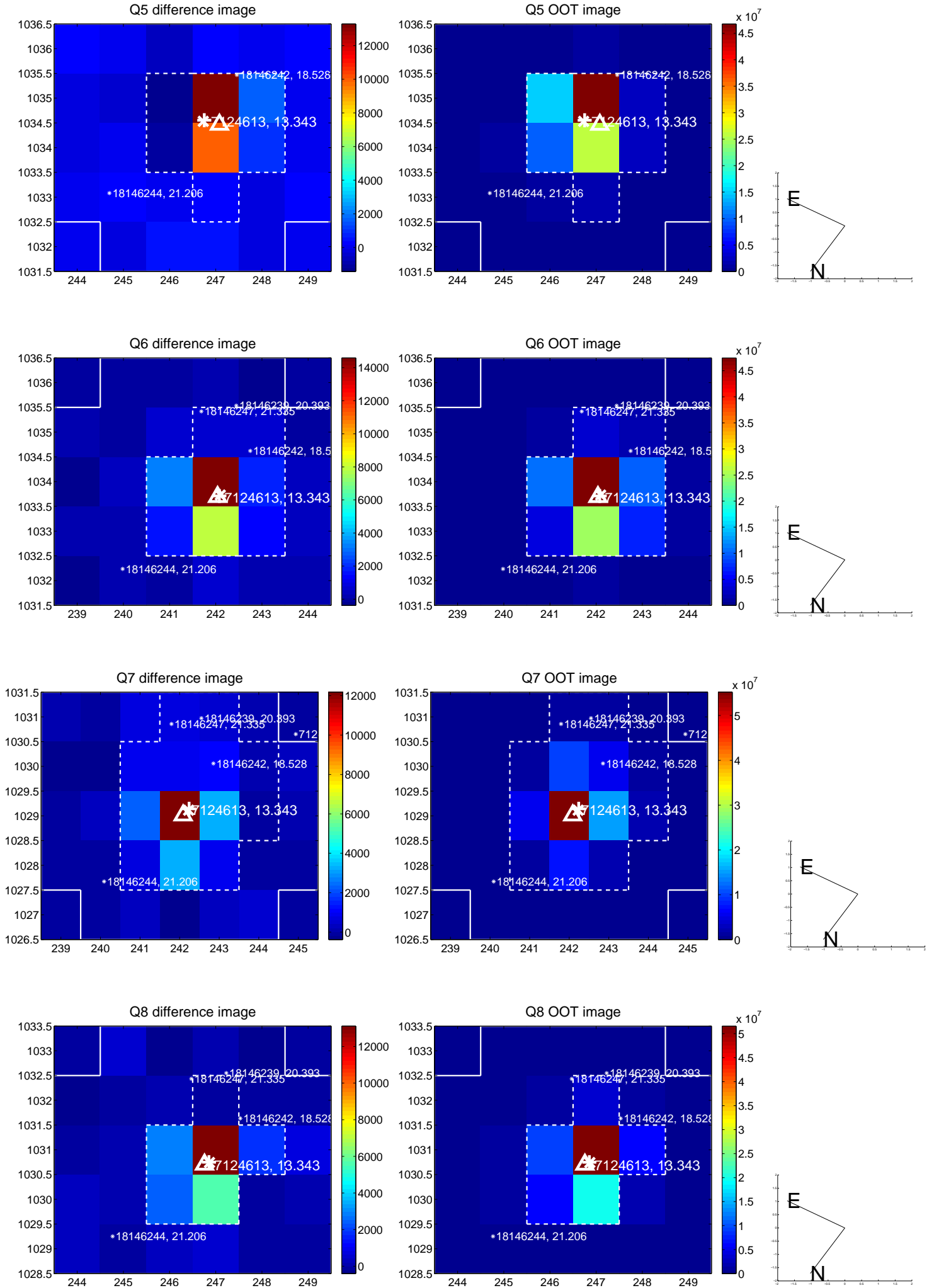


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

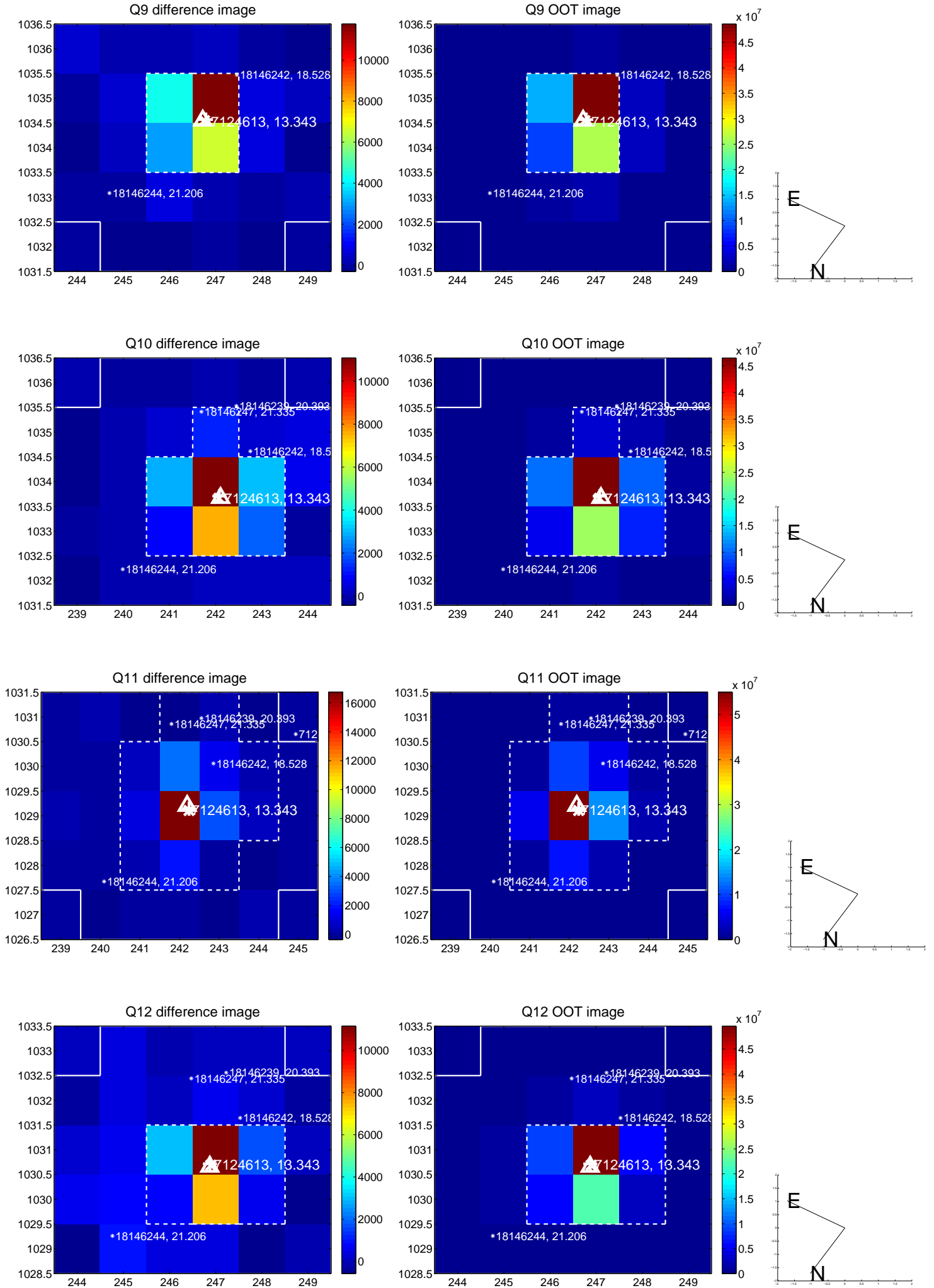


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

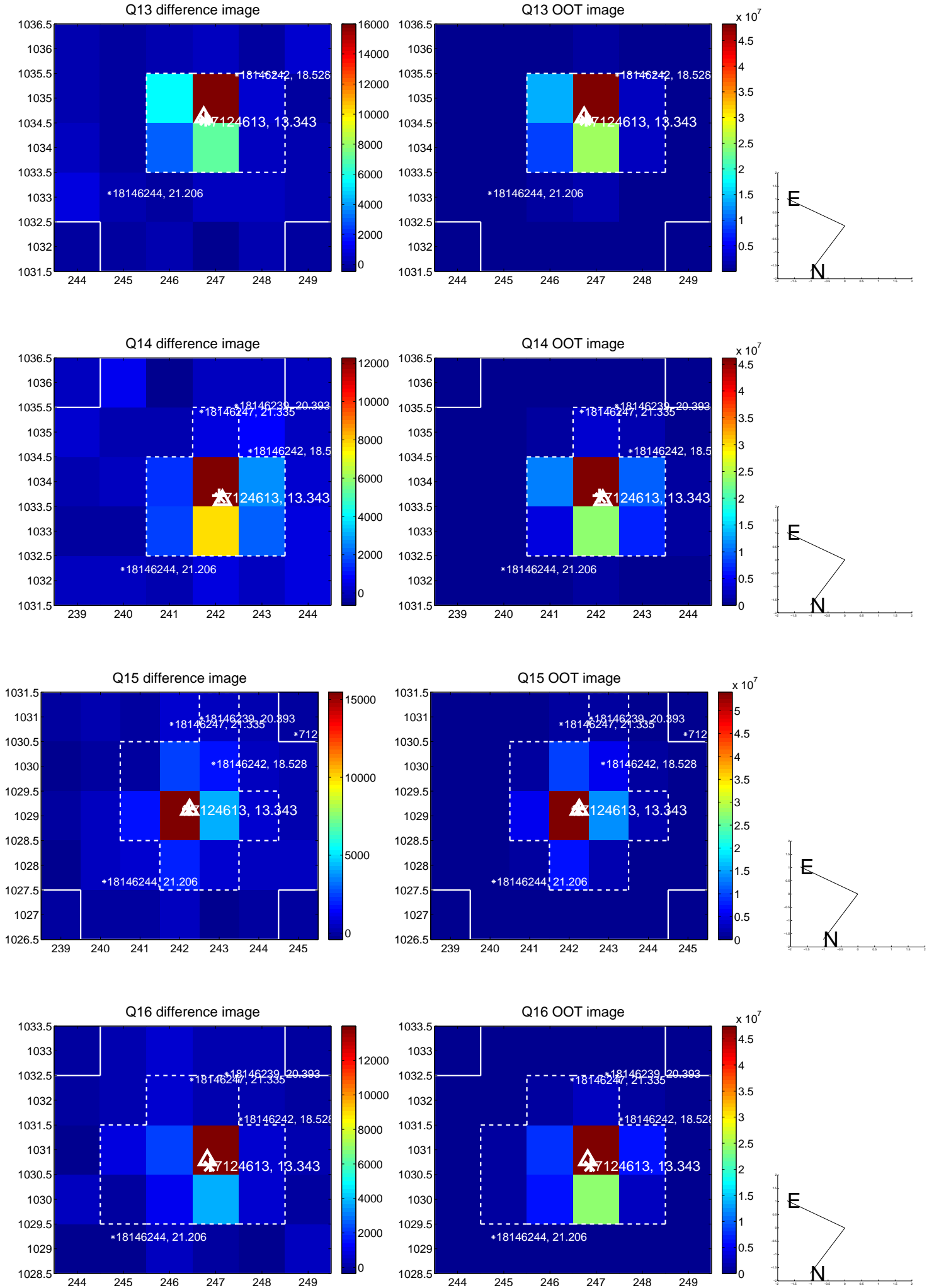




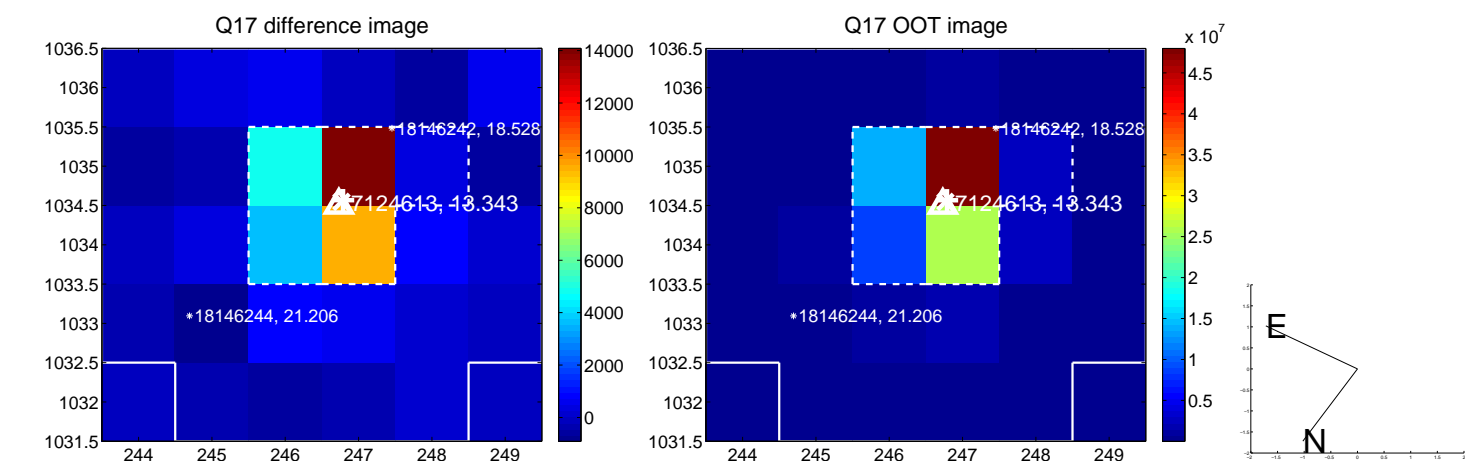
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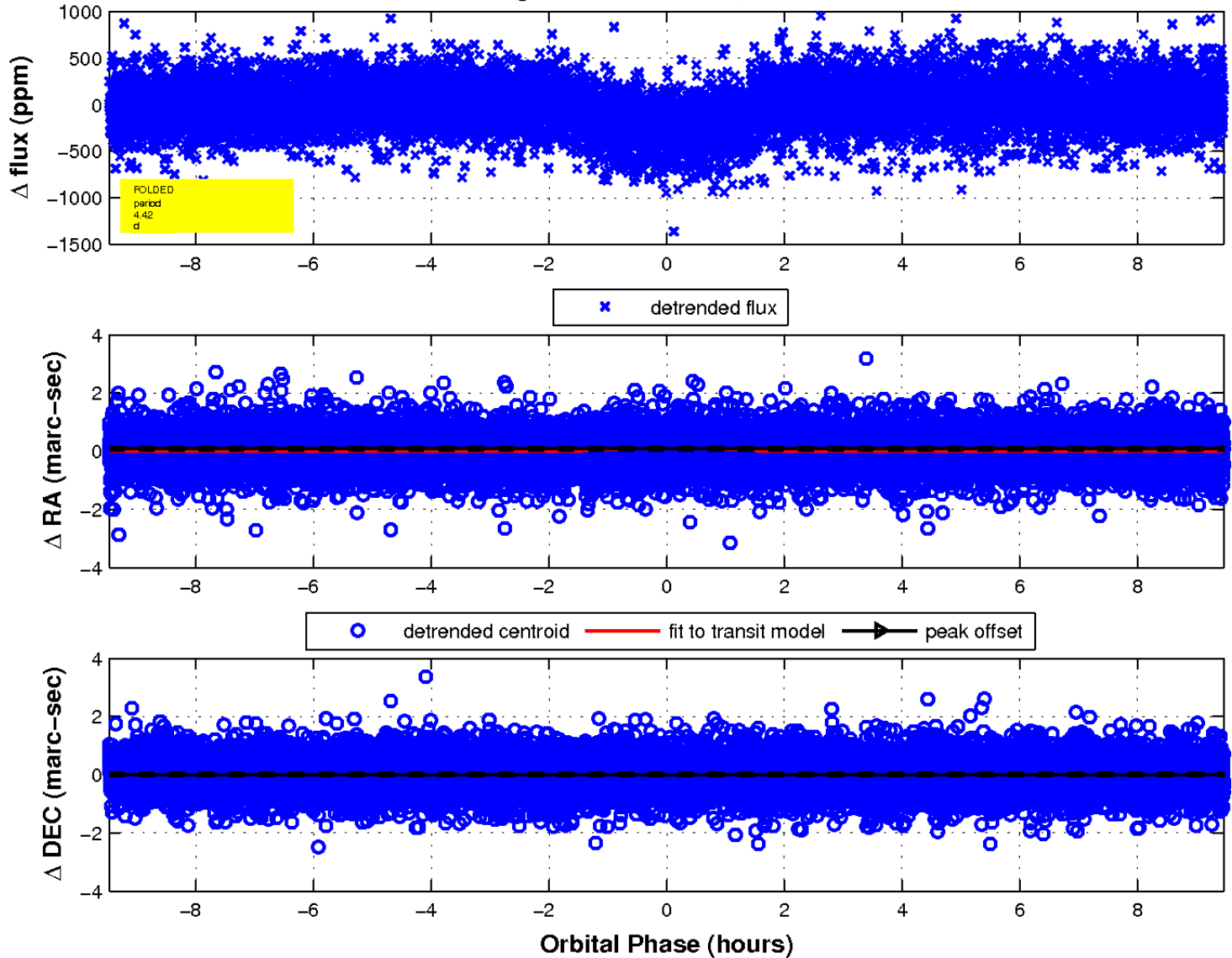
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

