

# KIC 003545457

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003545457-01	OBS	No	2.492474	133.115659	153.0	29.910	12.8	23.8	1.84	7591	2.58	5528.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545457-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

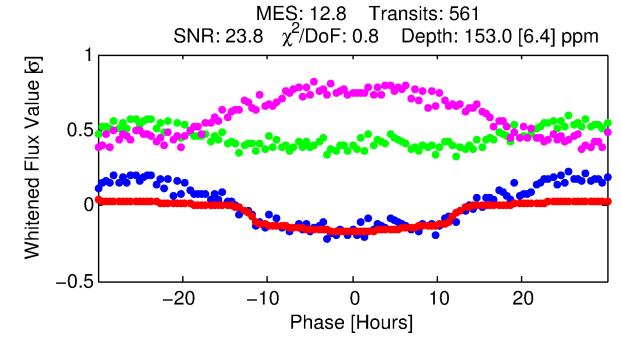
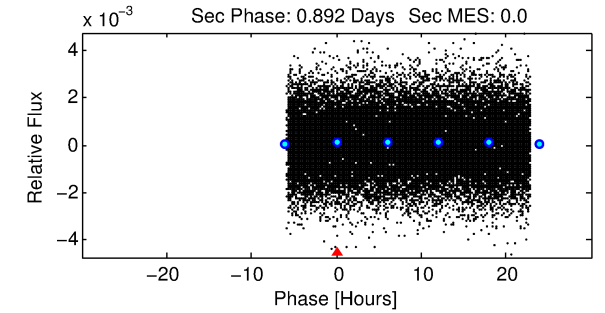
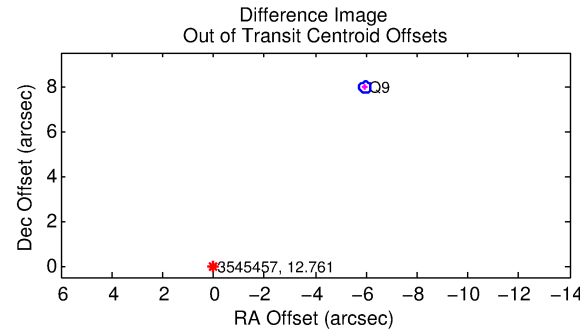
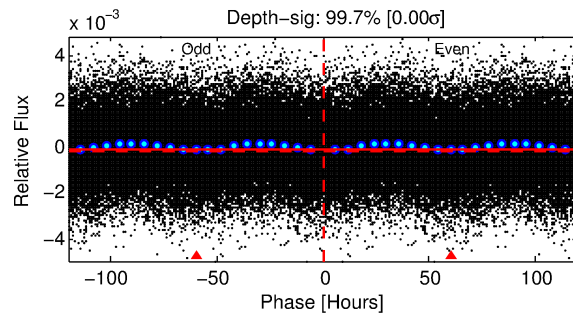
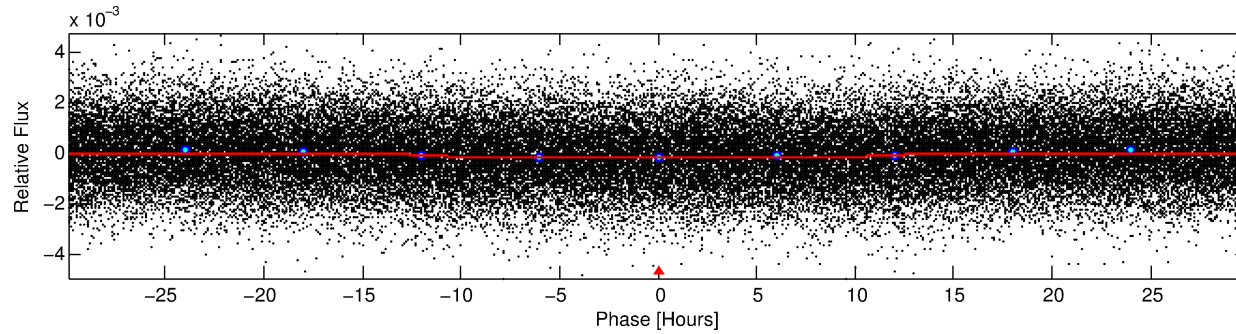
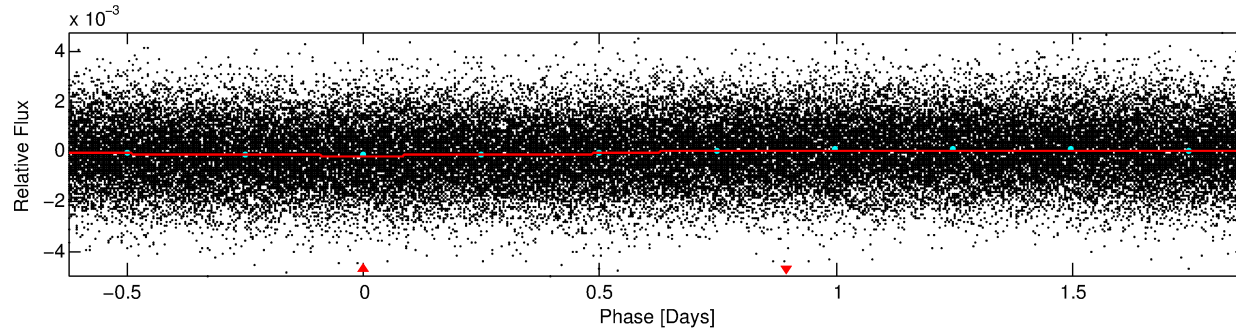
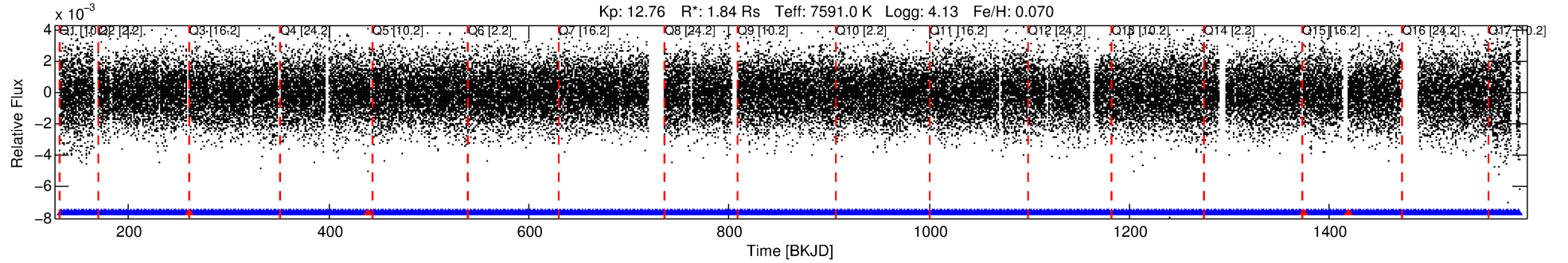
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003545457-01

No Significant Match Found

# DV One-Page Summary

KIC: 3545457 Candidate: 1 of 1 Period: 2.492 d



## DV Fit Results:

Period = 2.49247 [0.00007] d  
Epoch = 133.1157 [0.0218] BKJD  
Rp/R\* = 0.0128 [0.0005]  
a/R\* = 1.01 [0.00]  
b = 0.86 [0.06]  
Seff = 5528.16 [2143.64]  
Teff = 2199 [213] K  
Rp = 2.58 [0.77] Re  
a = 0.0428 [0.0105] AU  
Ag = N/A  
Teffp = N/A

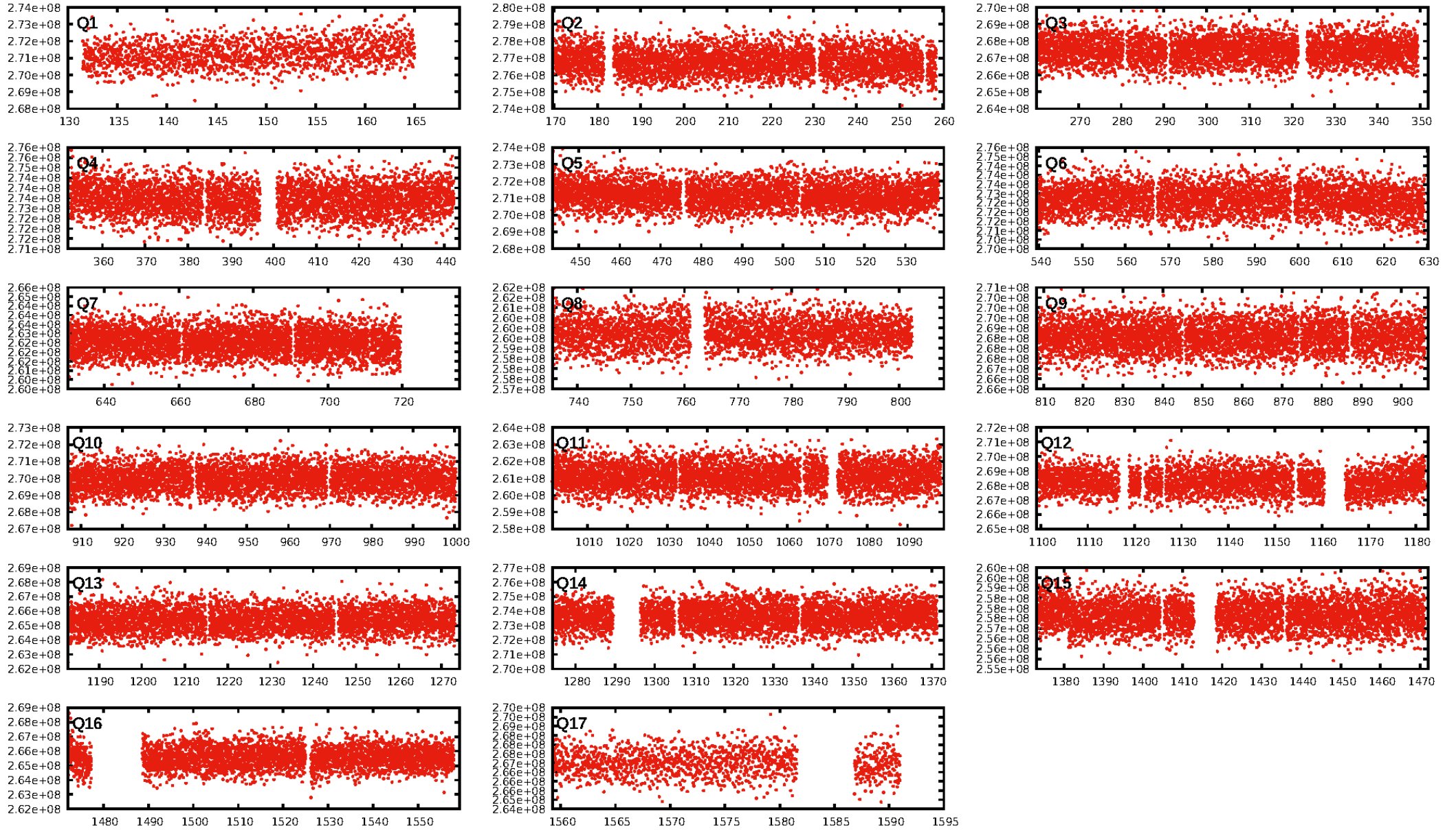
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [530/534]  
GhostDiagnostic-chr: 1.582  
Centroid-sig: 46.2%  
Centroid-so: 0.194 arcsec [2.05σ]  
OotOffset-rm: 9.928 arcsec [125.69σ]  
KicOffset-rm: 9.947 arcsec [125.87σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [17/17]

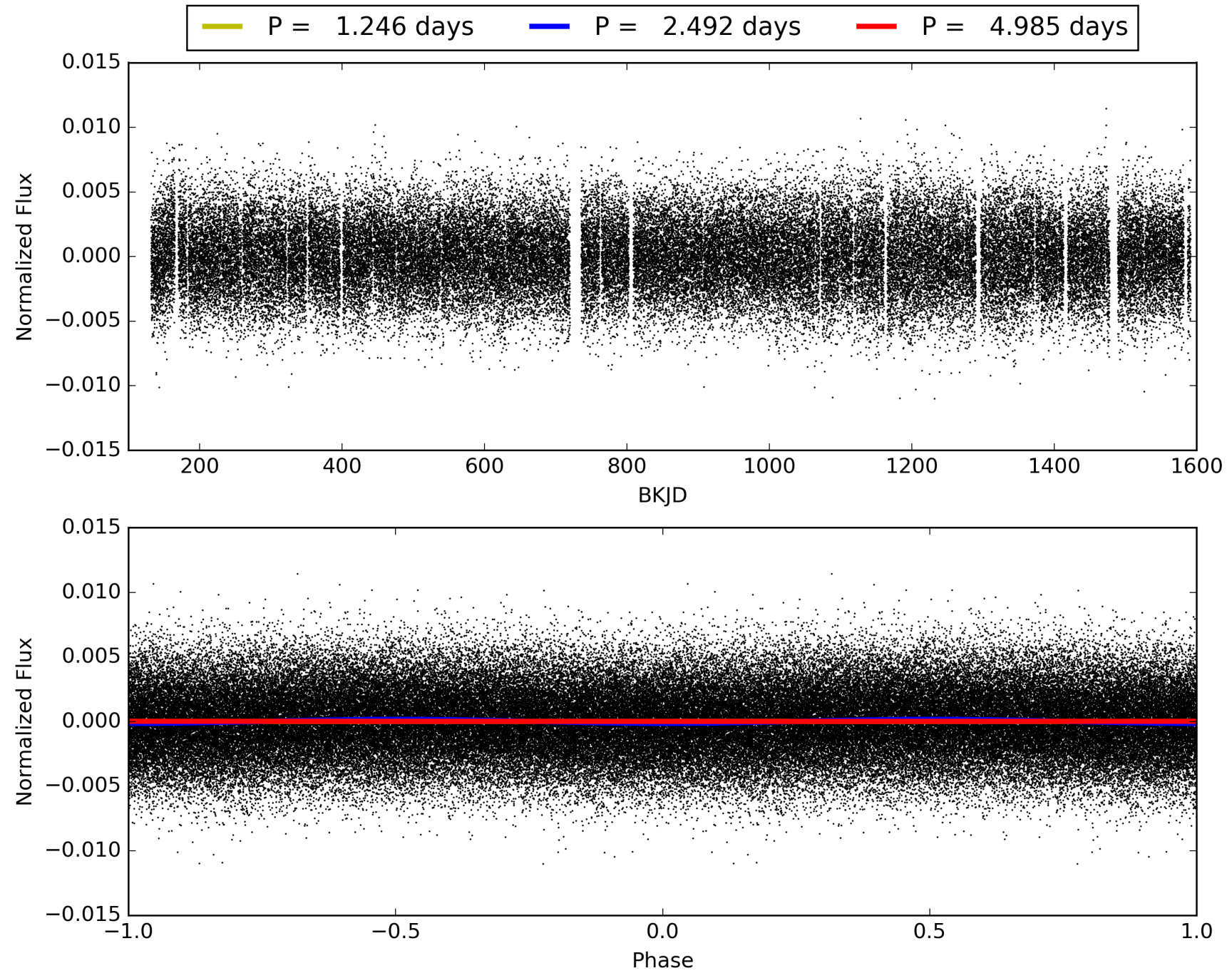
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:11:16 Z

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

# TCE 003545457-01, PDC Light Curves

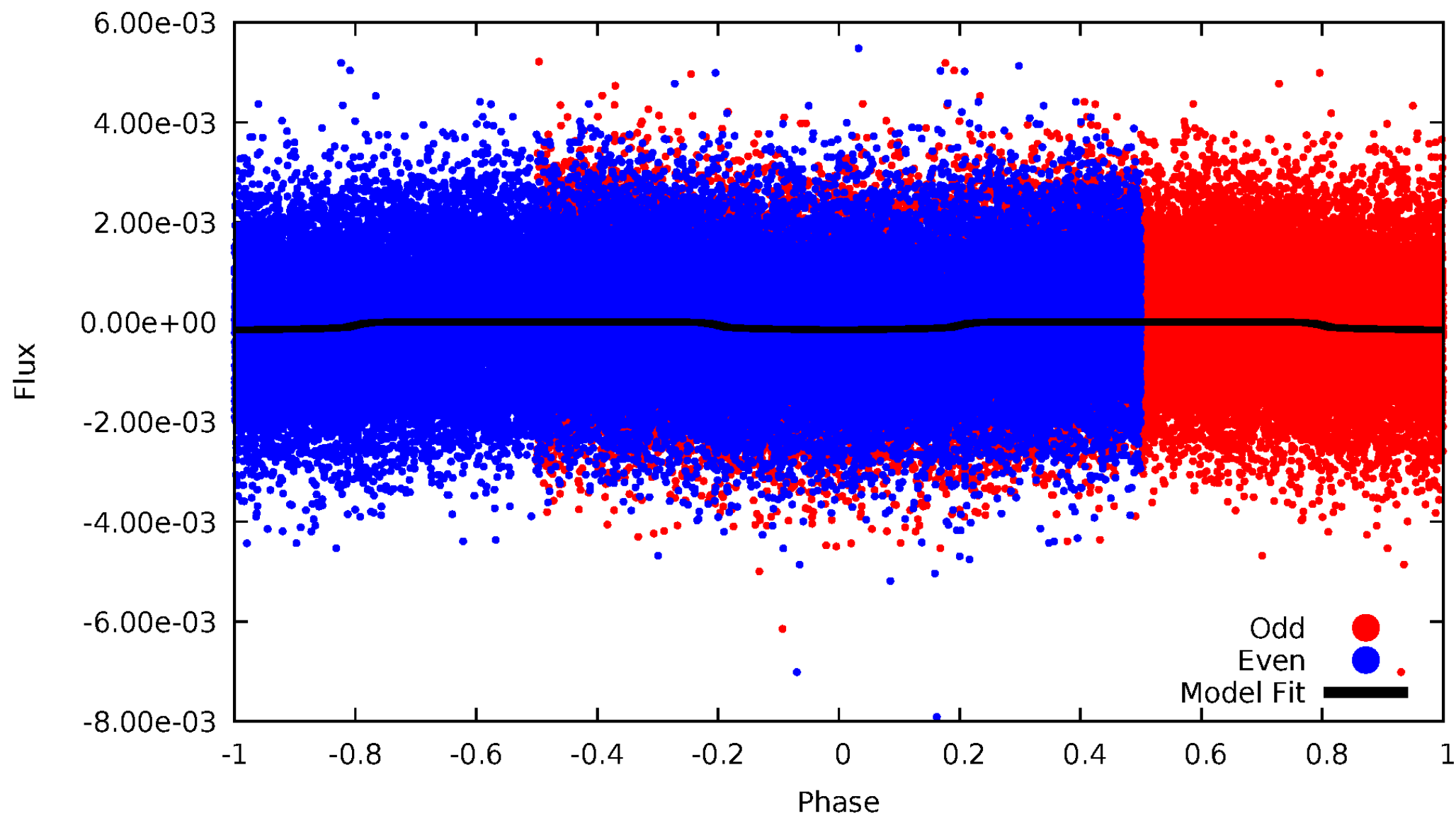


TCE 003545457-01



# DV Odd/Even

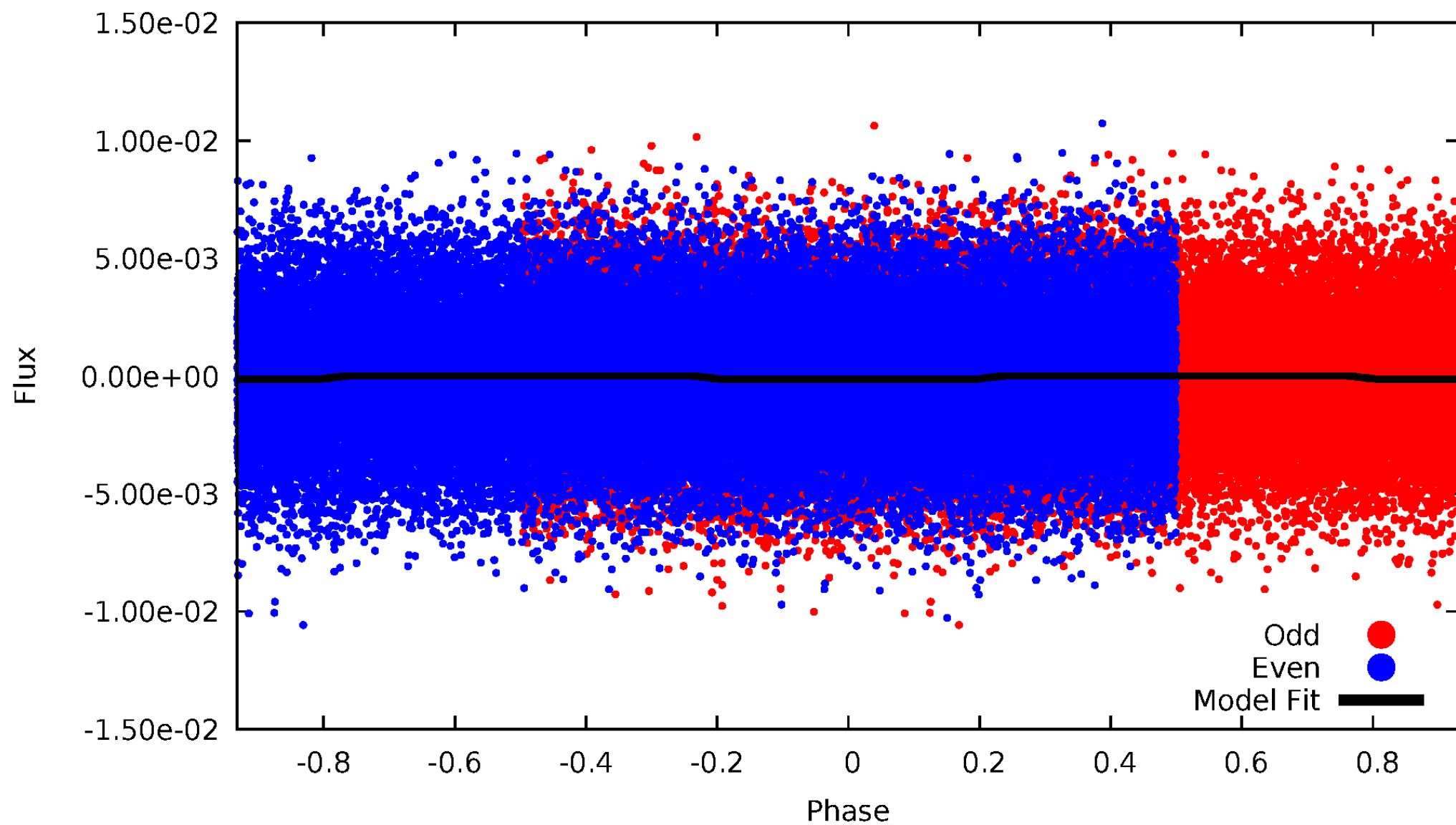
TCE 003545457-01





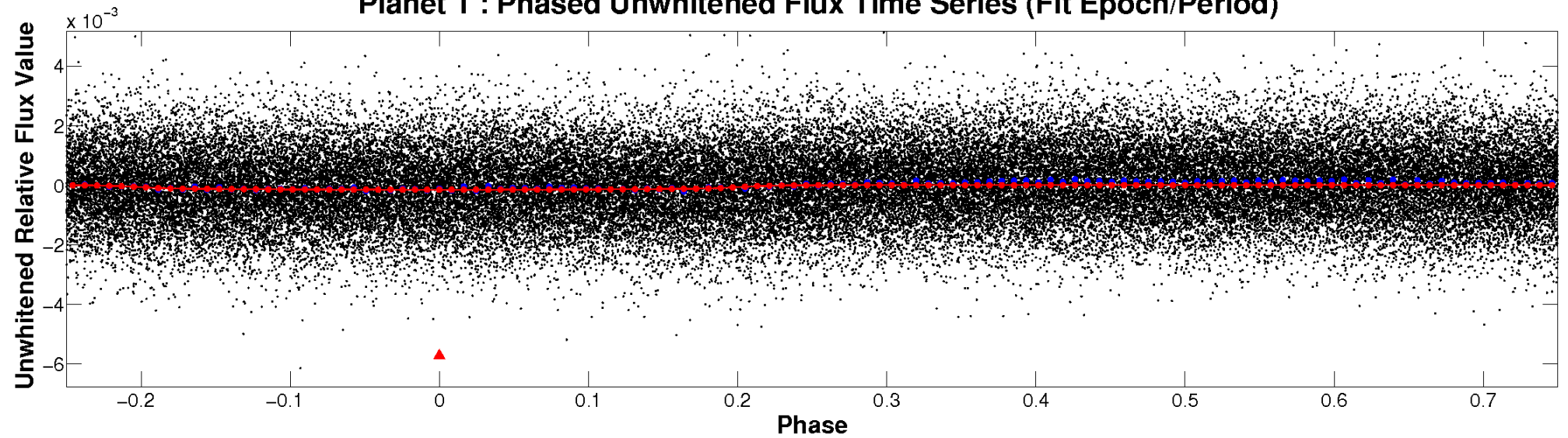
# ALT Odd/Even

TCE 003545457-01

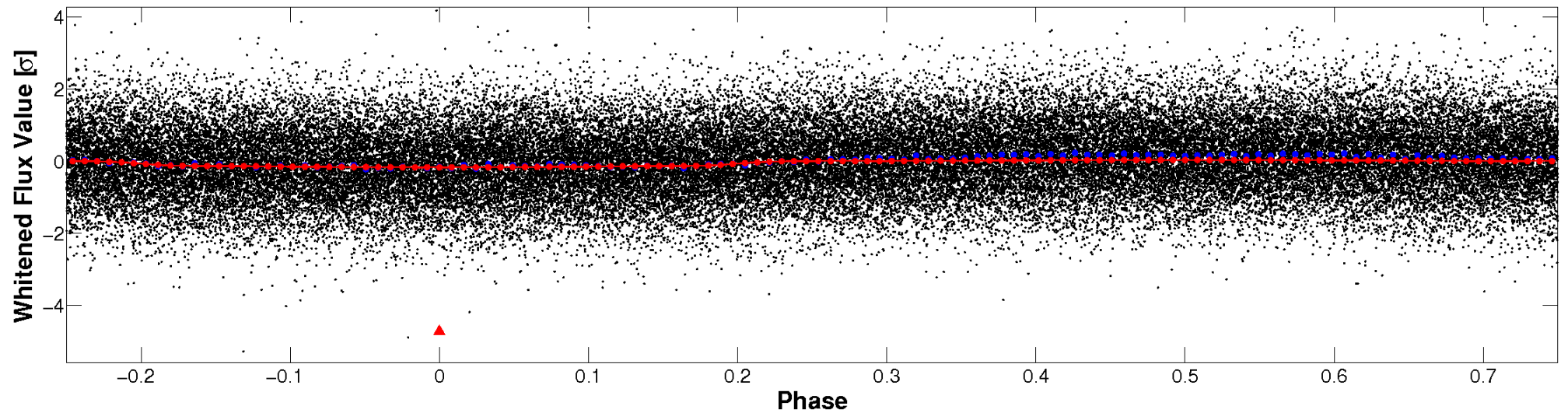


# Non-Whitened Vs. Whitened Light Curve

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

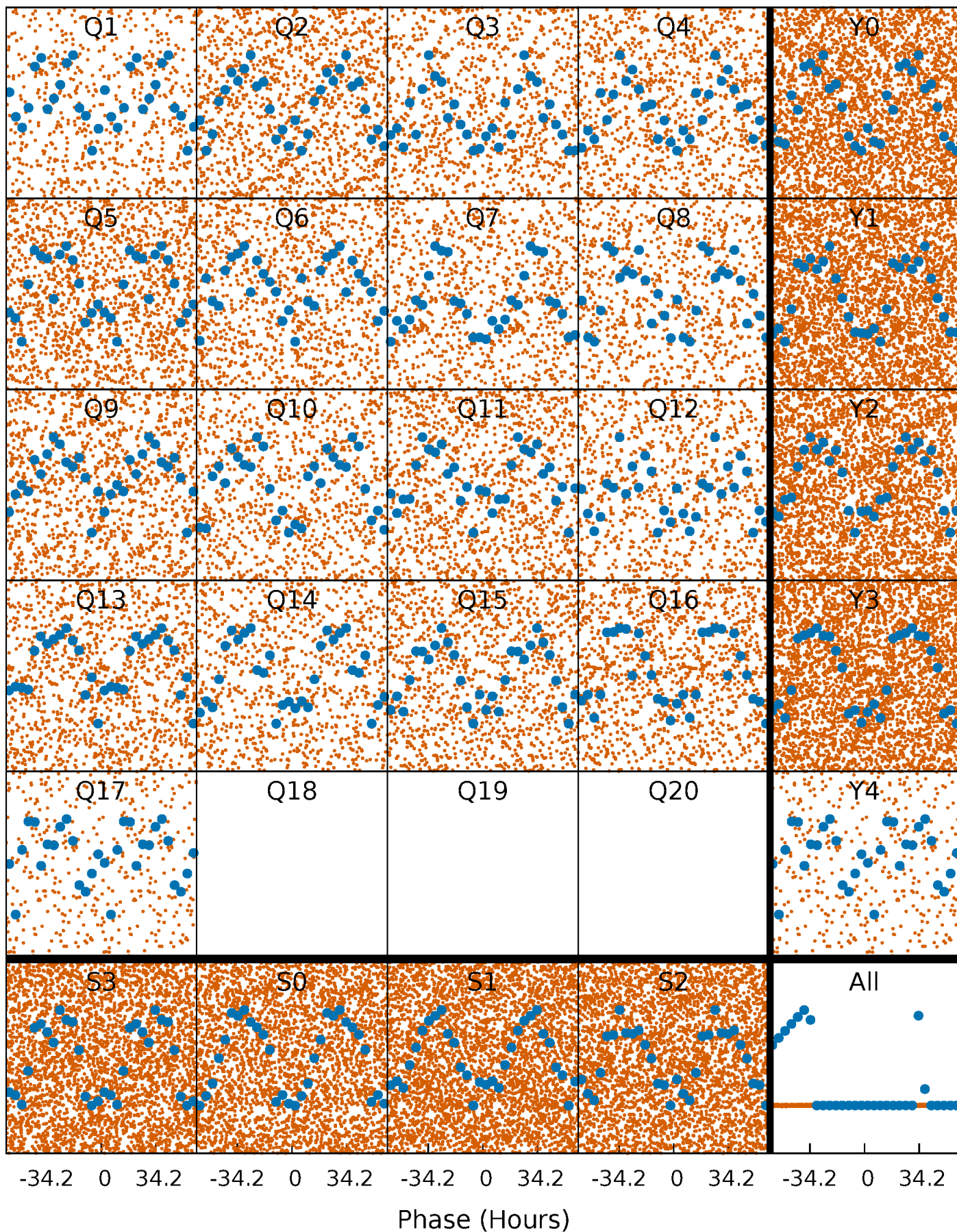


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

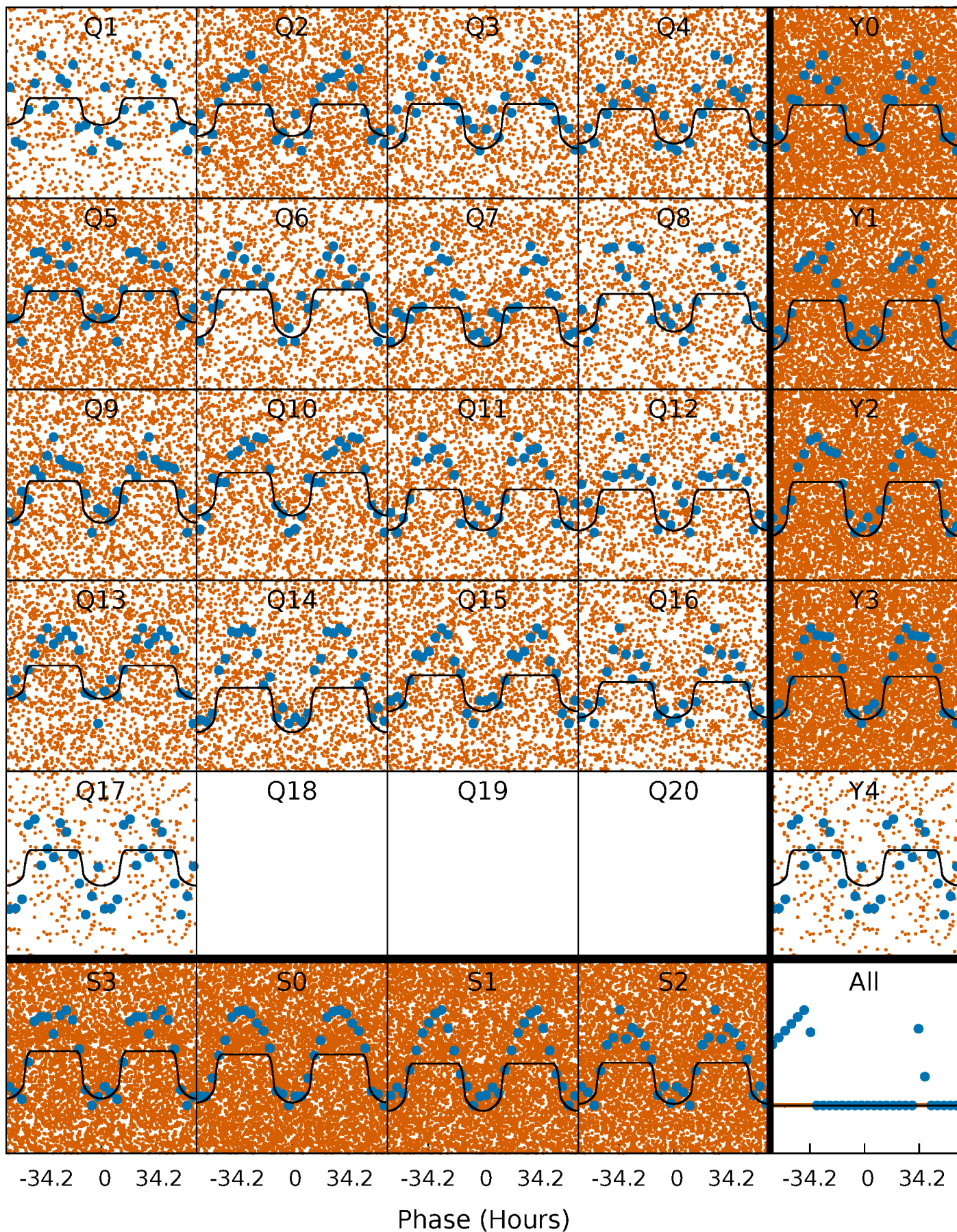
TCE 003545457-01 P= 2.492474 Days  $T_0=133.115659$  (BKJD)





# DV Quarter-Phased Transit Curves

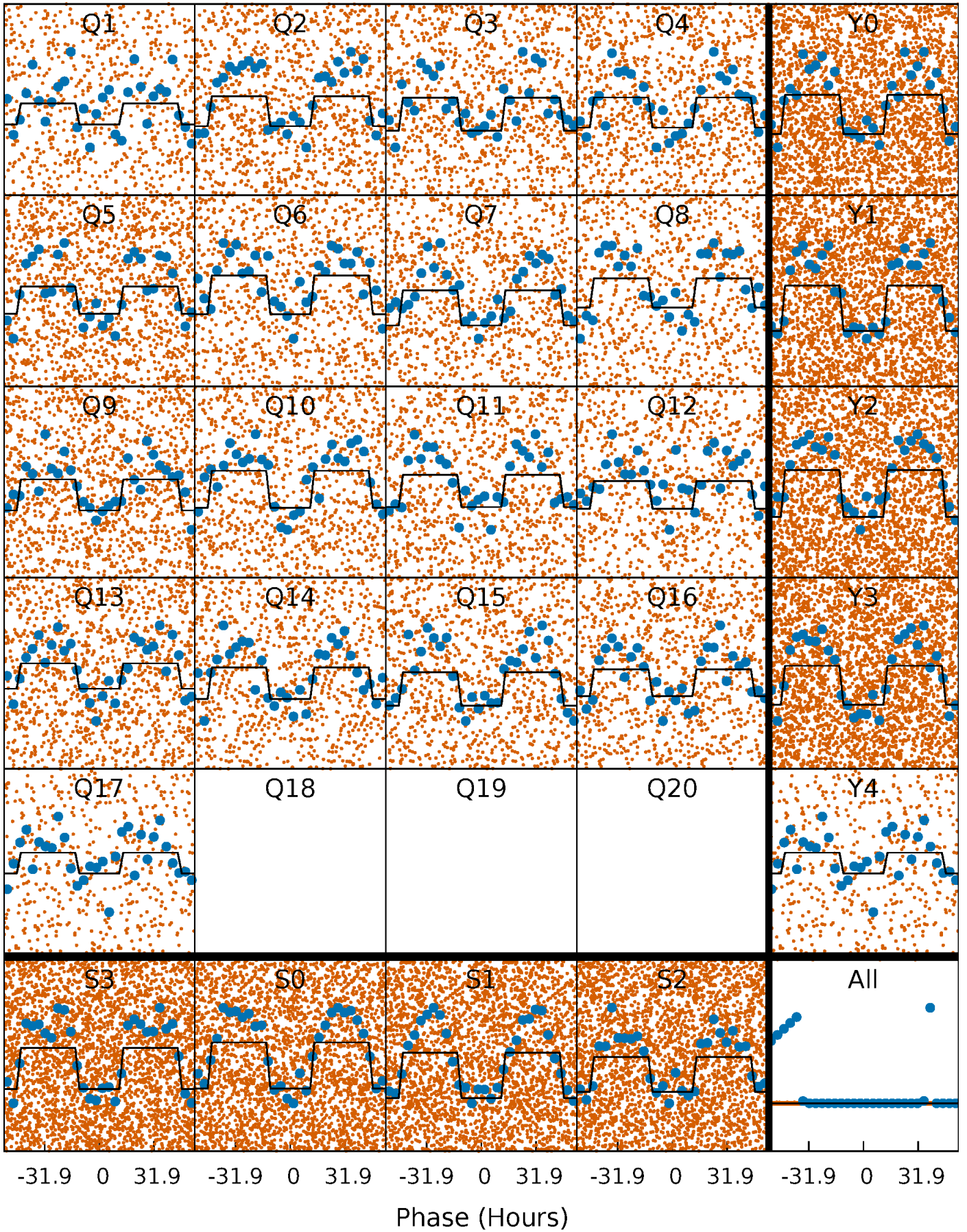
TCE 003545457-01 P= 2.492474 Days  $T_0=133.115659$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

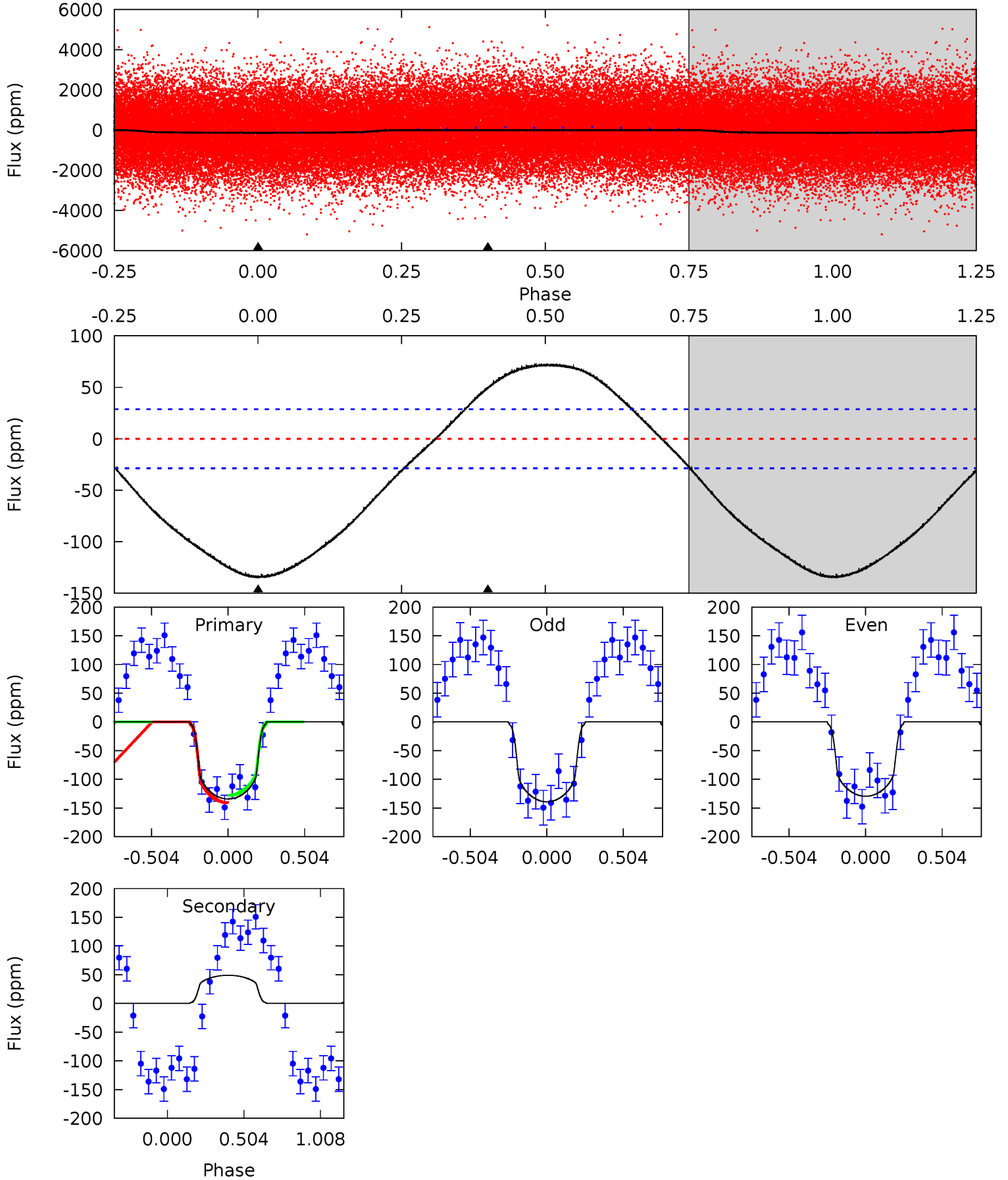
TCE 003545457-01 P= 2.492566 Days  $T_0=133.096615$  (BKJD)



# DV Model-Shift Uniqueness Test

003545457-01, P = 2.492474 Days, E = 130.623185 Days

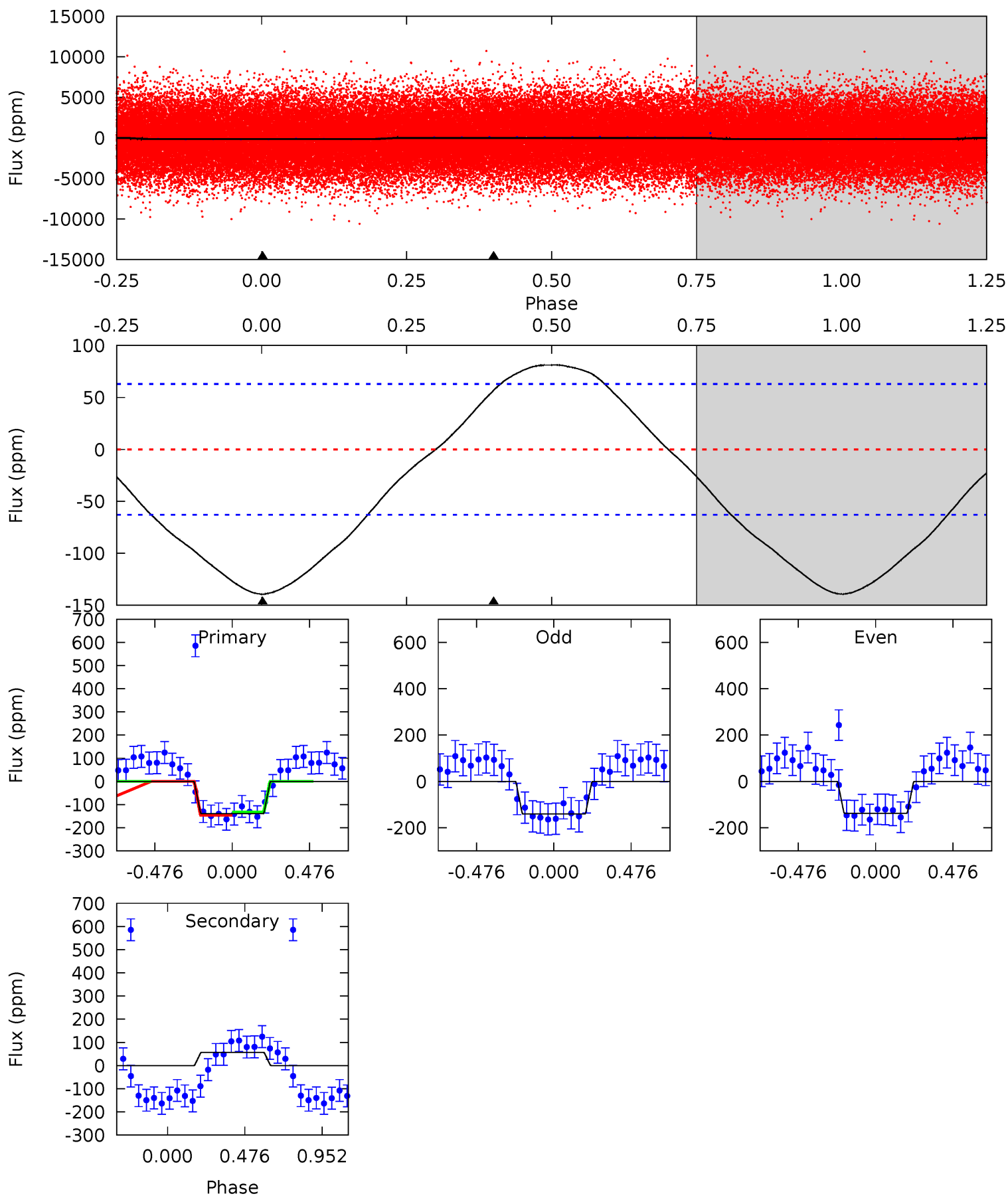
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.8	-7.21	0	0	4.21	0.67	2.43	19.8	19.8	-7.21	-7.21	0.71	3.07	0.35	0.94



# Alt Model-Shift Uniqueness Test

003545457-01, P = 2.492566 Days, E = 130.604049 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
9.36	-3.83	0	0	4.23	0.71	1.08	9.36	9.36	-3.83	-3.83	0.09	1.46	0.37	0.47





### Stellar Parameters For KIC 003545457

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7591^{+211}_{-316}$	$4.132^{+0.101}_{-0.188}$	$0.070^{+0.200}_{-0.350}$	$1.845^{+0.549}_{-0.338}$	$1.683^{+0.204}_{-0.250}$	$0.377^{+0.212}_{-0.185}$
	+3%/-4%	+2%/-5%	+286%/-500%	+30%/-18%	+12%/-15%	+56%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 003545457-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$49 \pm 7$	$2.61^{+0.44}_{-0.29}$	$3102^{+233}_{-198}$	$-5581^{+249}_{-238}$	$-6.954^{+1.758}_{-2.071}$
Alt.	$57 \pm 15$	$2.41^{+0.38}_{-0.26}$	$3096^{+206}_{-189}$	$-5994^{+451}_{-404}$	$-9.594^{+3.190}_{-3.786}$

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

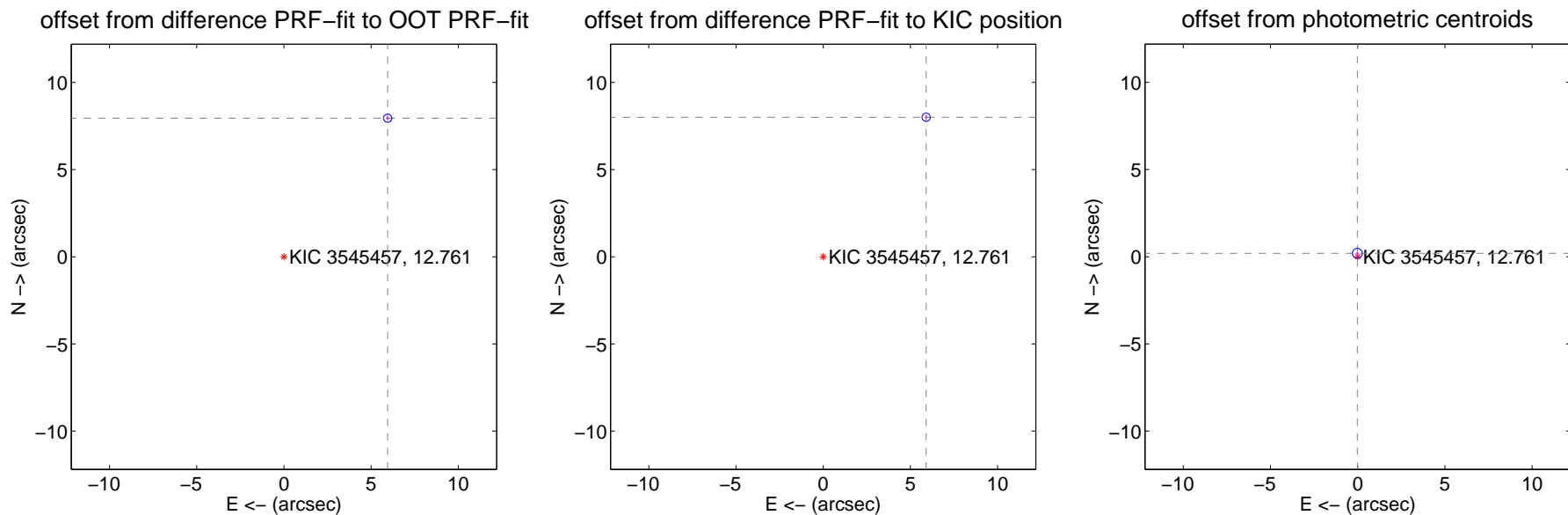
## DV Centroid Data

Supplemental centroid analysis for 003545457-01. Kepler magnitude: 12.76. Transit SNR 23.80

There are 0 quarters with good PRF difference image offsets

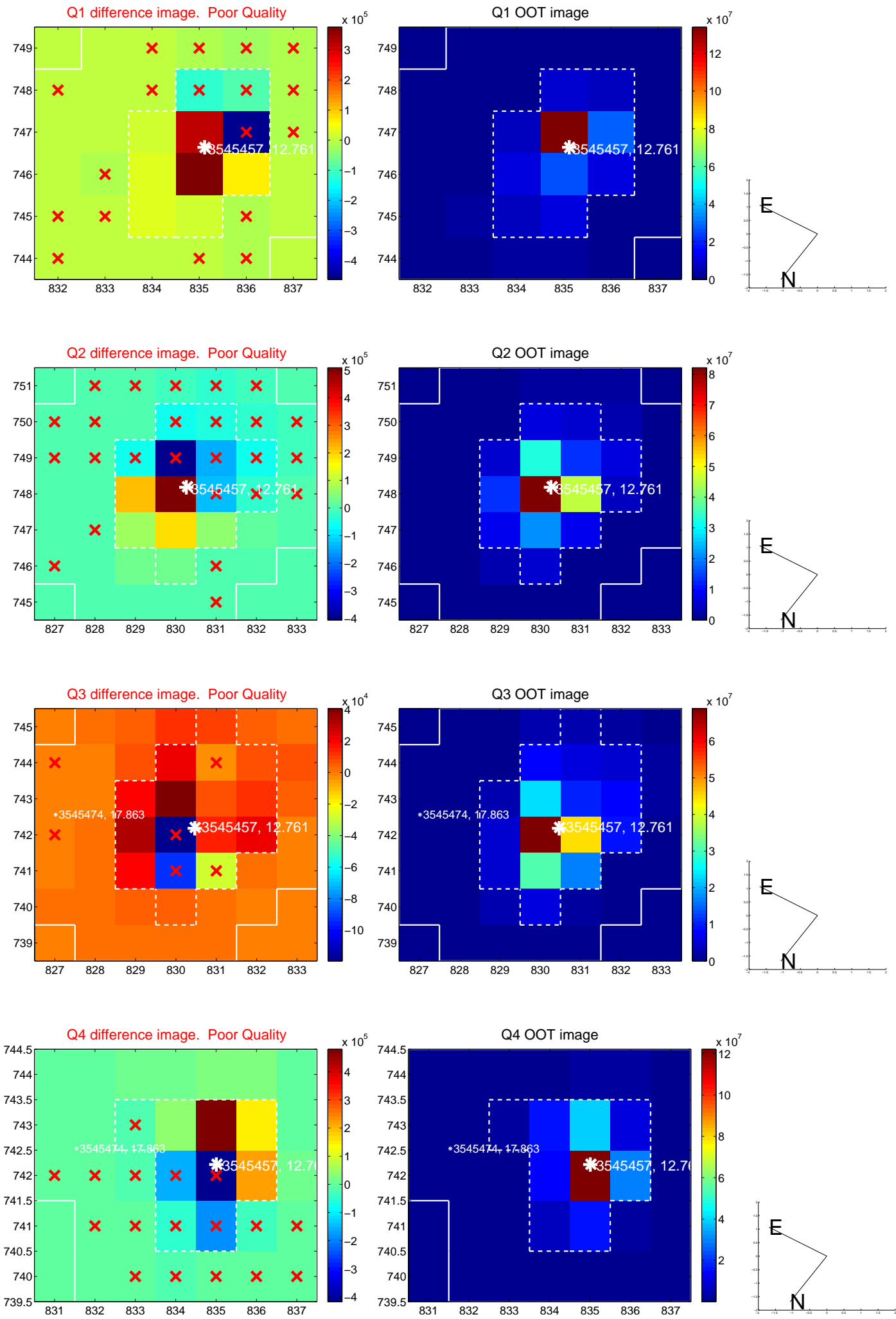
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$9.928 \pm 0.079$	125.69	$-5.947 \pm 0.075$	$7.950 \pm 0.081$
PRF-fit source offset from KIC position	$9.947 \pm 0.079$	125.87	$-5.906 \pm 0.075$	$8.004 \pm 0.081$
photometric centroid source offset	$0.19 \pm 0.09$	2.05	$0.02 \pm 0.07$	$0.19 \pm 0.09$

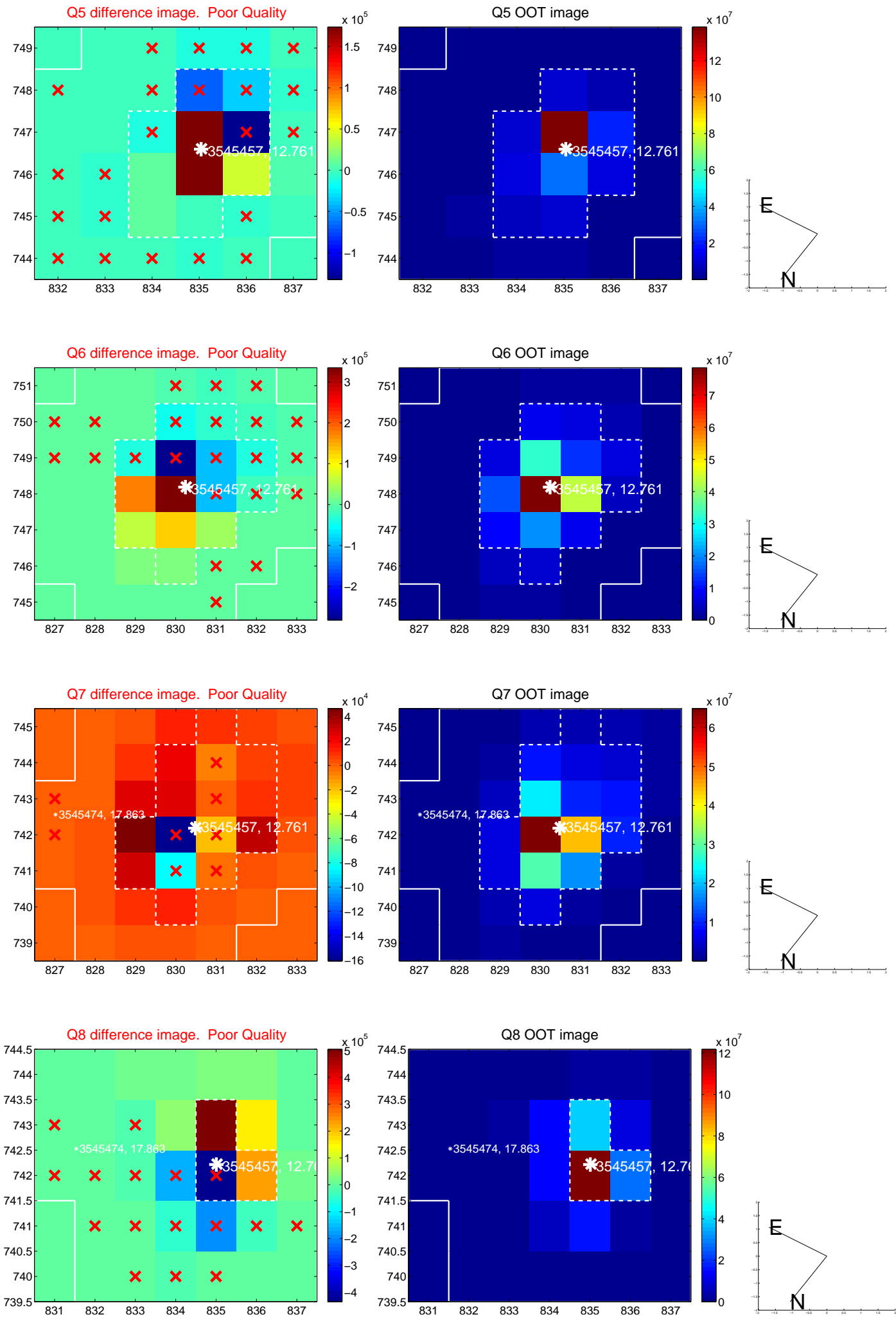


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

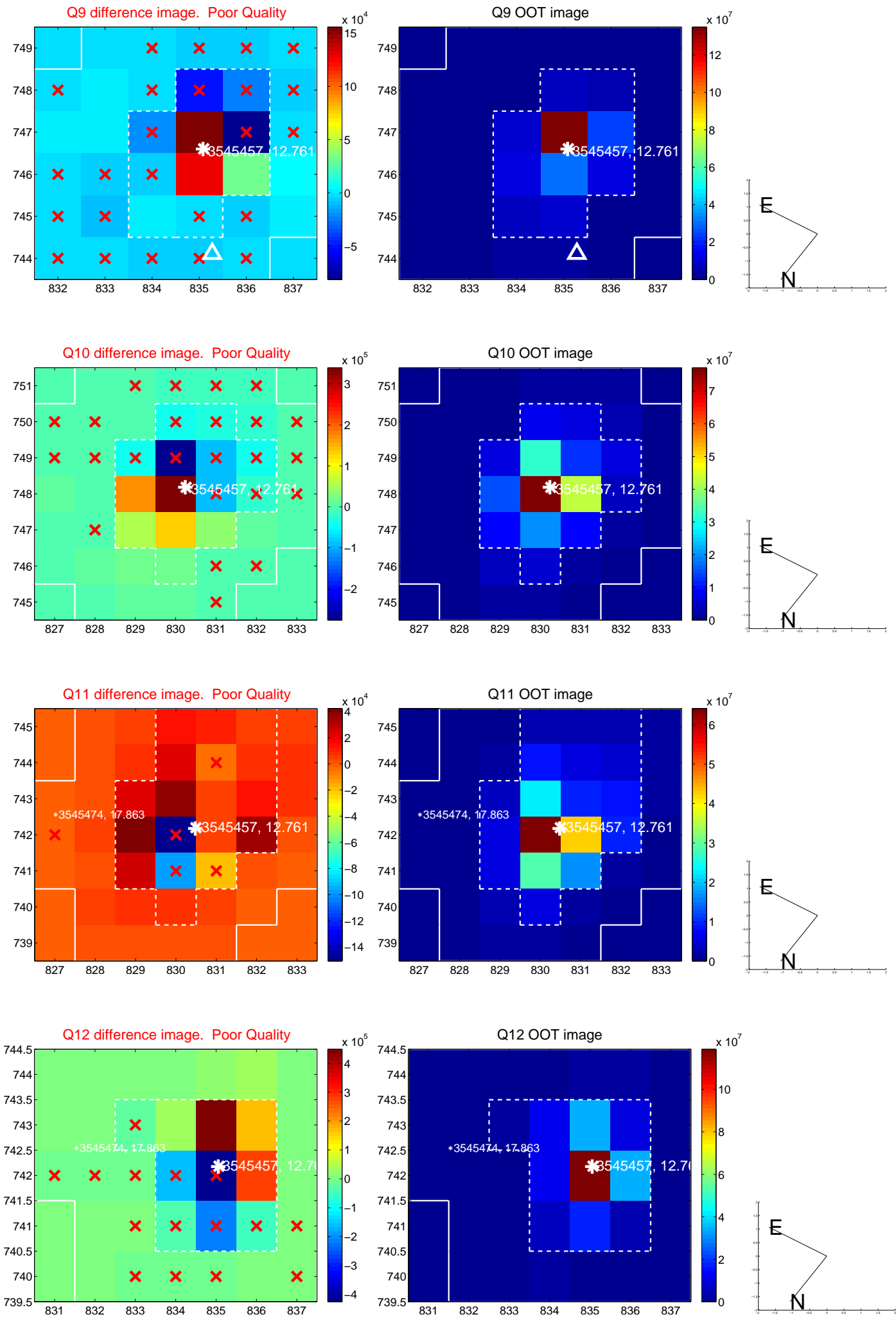


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

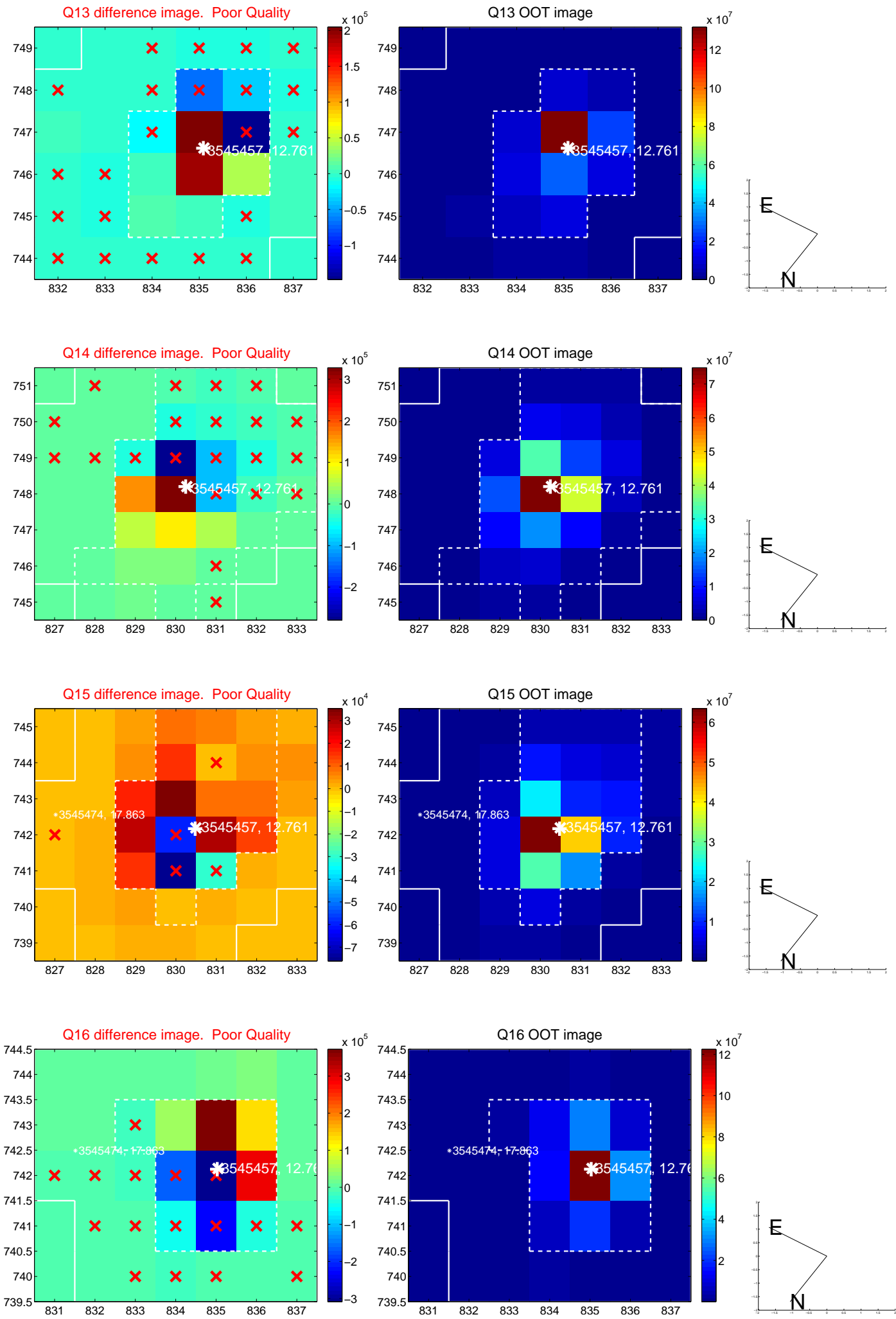




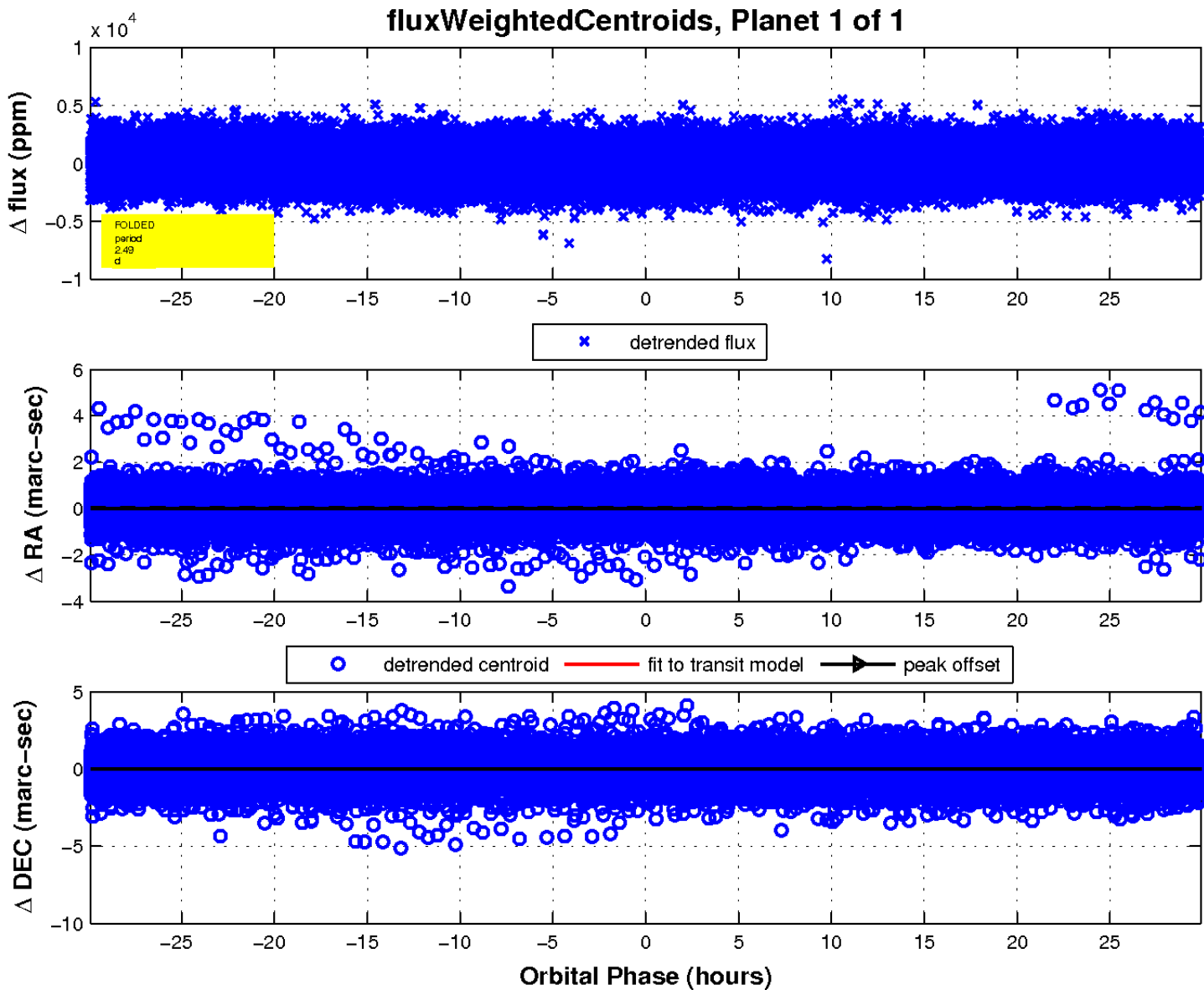
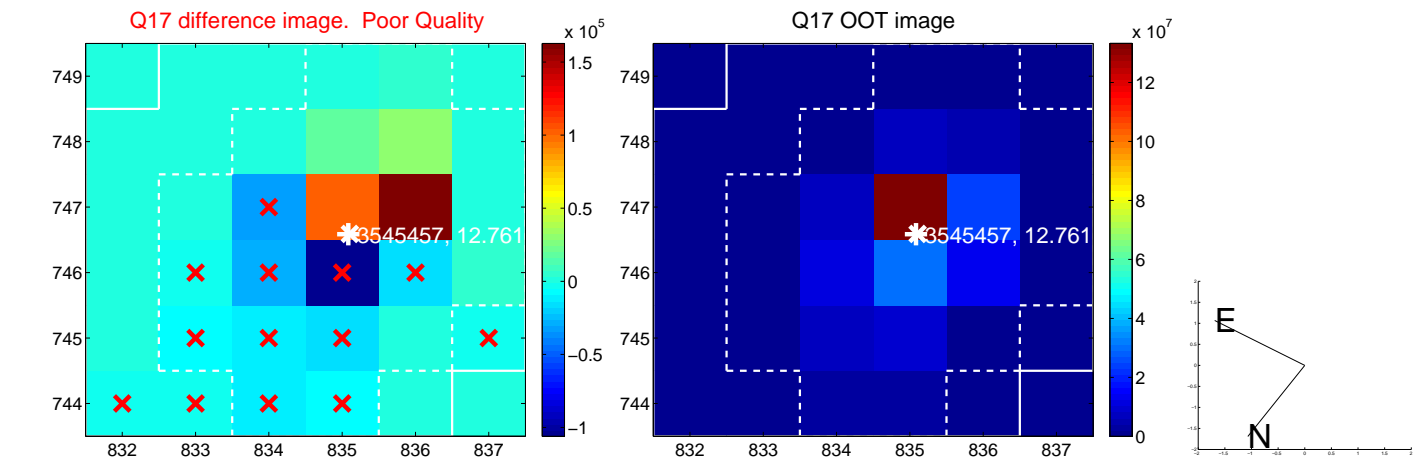
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

