

# KIC 008349582

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008349582-01	OBS	0122.01	11.523052	131.970200	504.5	4.021	120.5	118.4	1.41	5644	3.56	175.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008349582-01	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.

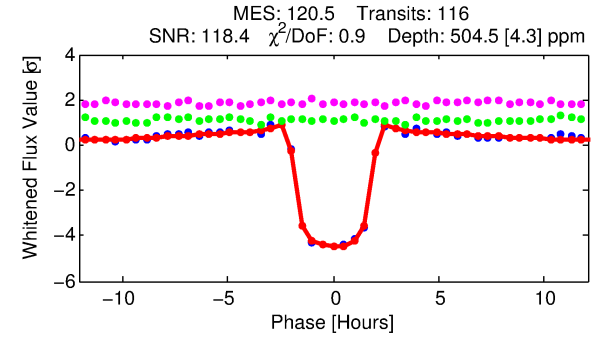
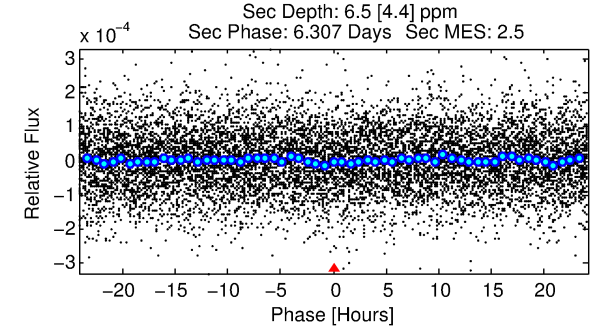
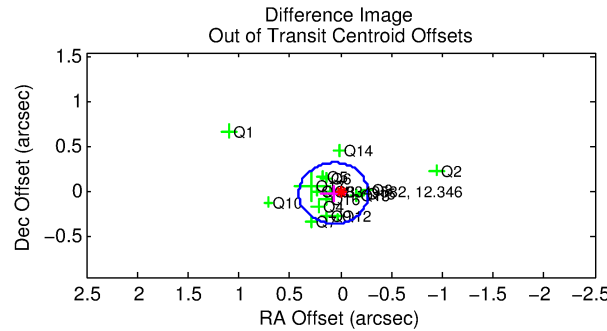
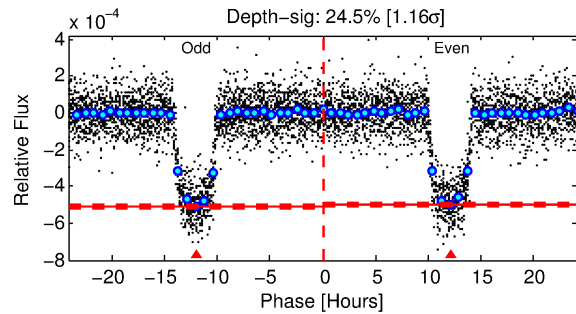
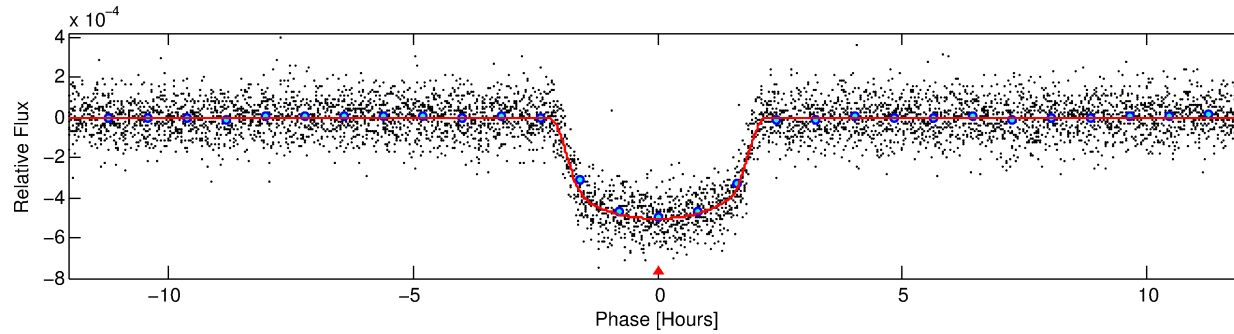
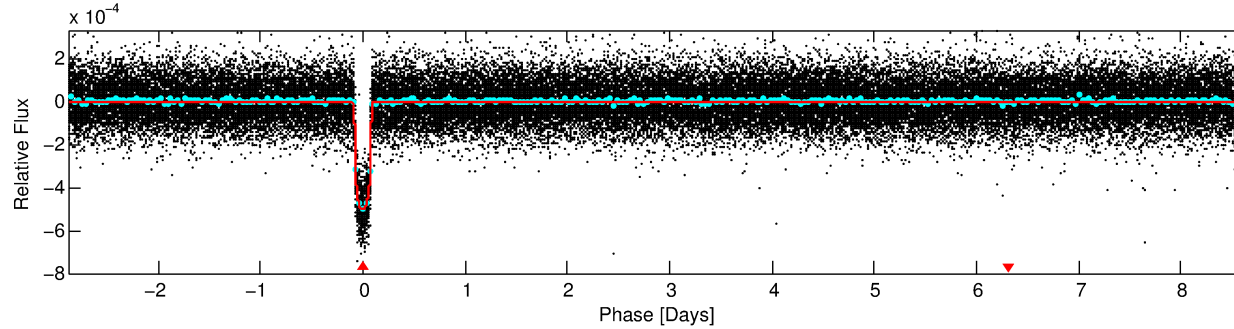
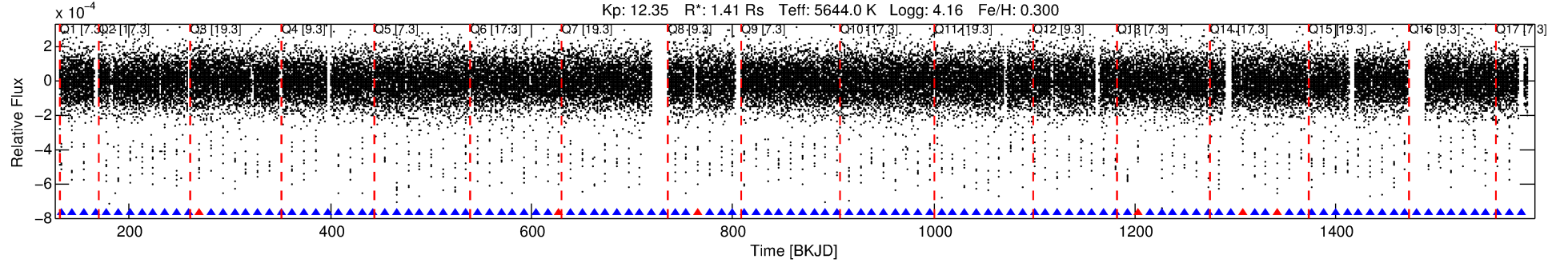
## Ephemeris Match Information For 008349582-01

No Significant Match Found

# DV One-Page Summary

KIC: 8349582 Candidate: 1 of 1 Period: 11.523 d  
KOI: K00122.01 Name: Kepler-95b Corr: 0.984

Kp: 12.35 R\*: 1.41 Rs Teff: 5644.0 K Logg: 4.16 Fe/H: 0.300



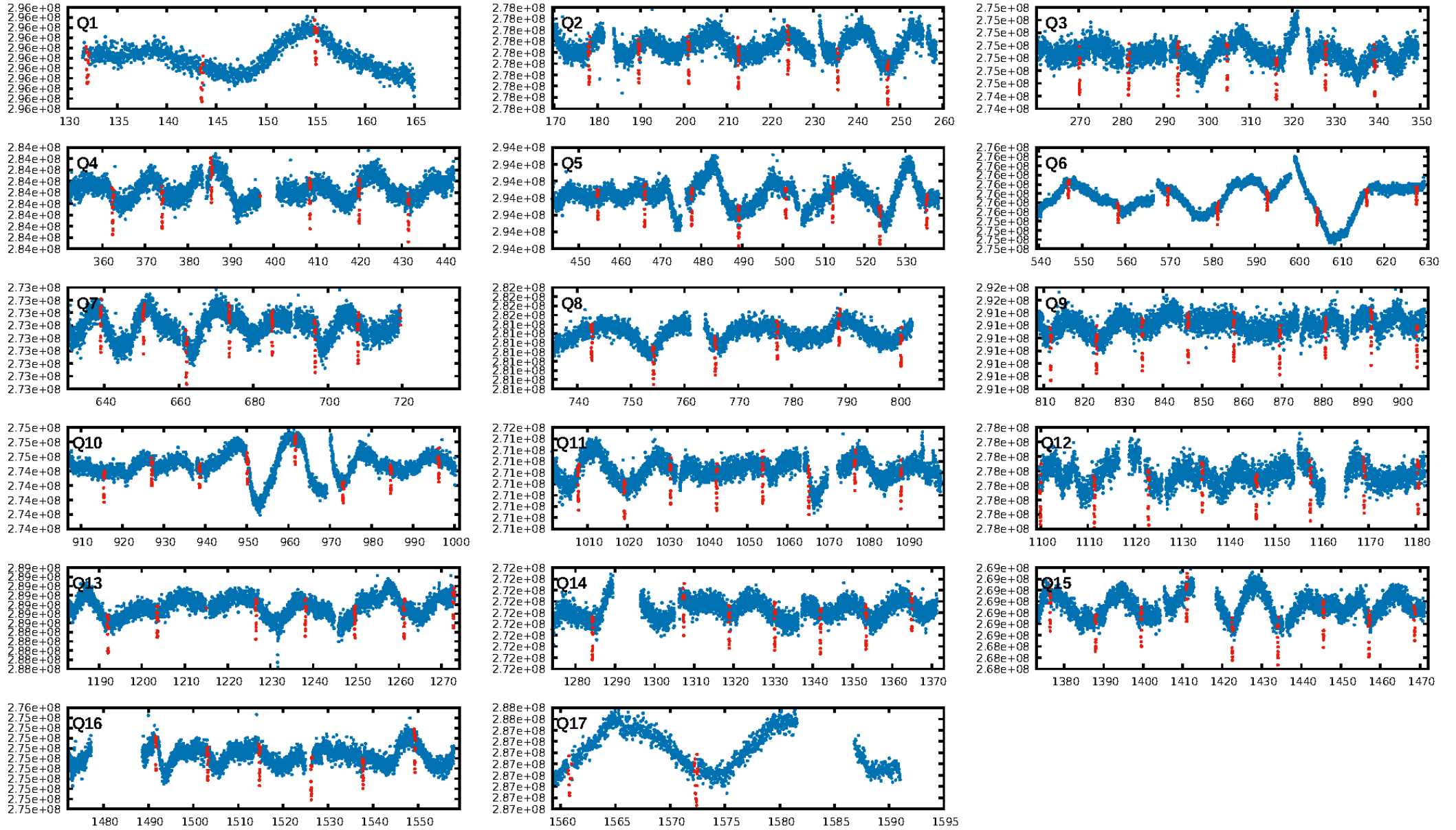
## DV Fit Results:

Period = 11.52305 [0.00001] d  
Epoch = 131.9702 [0.0006] BKJD  
Rp/R\* = 0.0231 [0.0011]  
a/R\* = 13.56 [2.65]  
b = 0.82 [0.08]  
Seff = 175.19 [15.63]  
Teq = 928 [21] K  
Rp = 3.56 [0.28] Re  
a = 0.1016 [0.0051] AU  
Ag = 2.91 [2.00] [0.96σ]  
Teffp = 1873 [321] K [2.94σ]

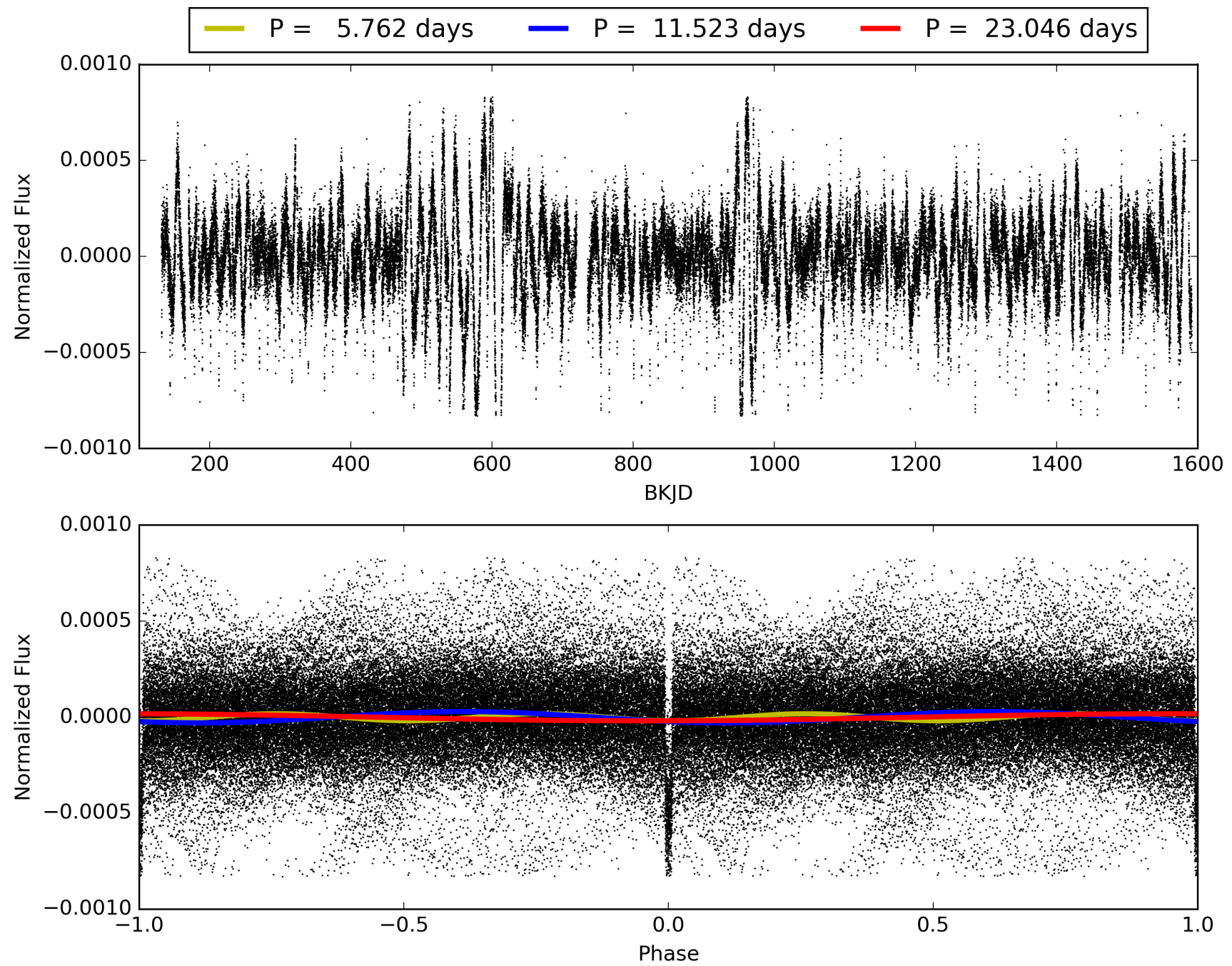
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 88.1%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.95 [105/111]  
GhostDiagnostic-chr: 12.83  
Centroid-sig: 0.3%  
Centroid-so: 0.402 arcsec [5.81σ]  
OotOffset-rm: 0.071 arcsec [0.62σ]  
KicOffset-rm: 0.262 arcsec [2.99σ]  
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]

# TCE 008349582-01, PDC Light Curves

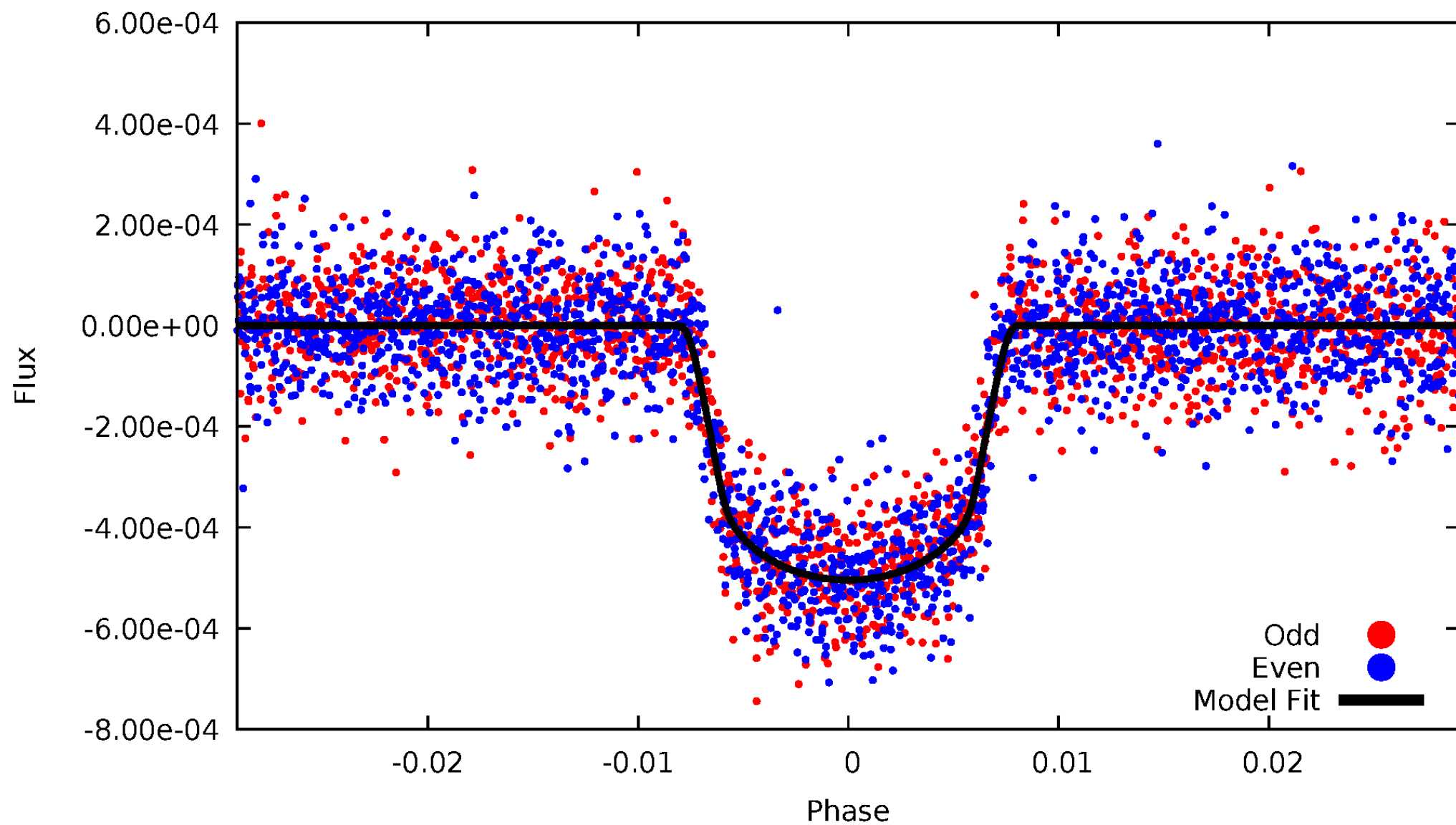


TCE 008349582-01



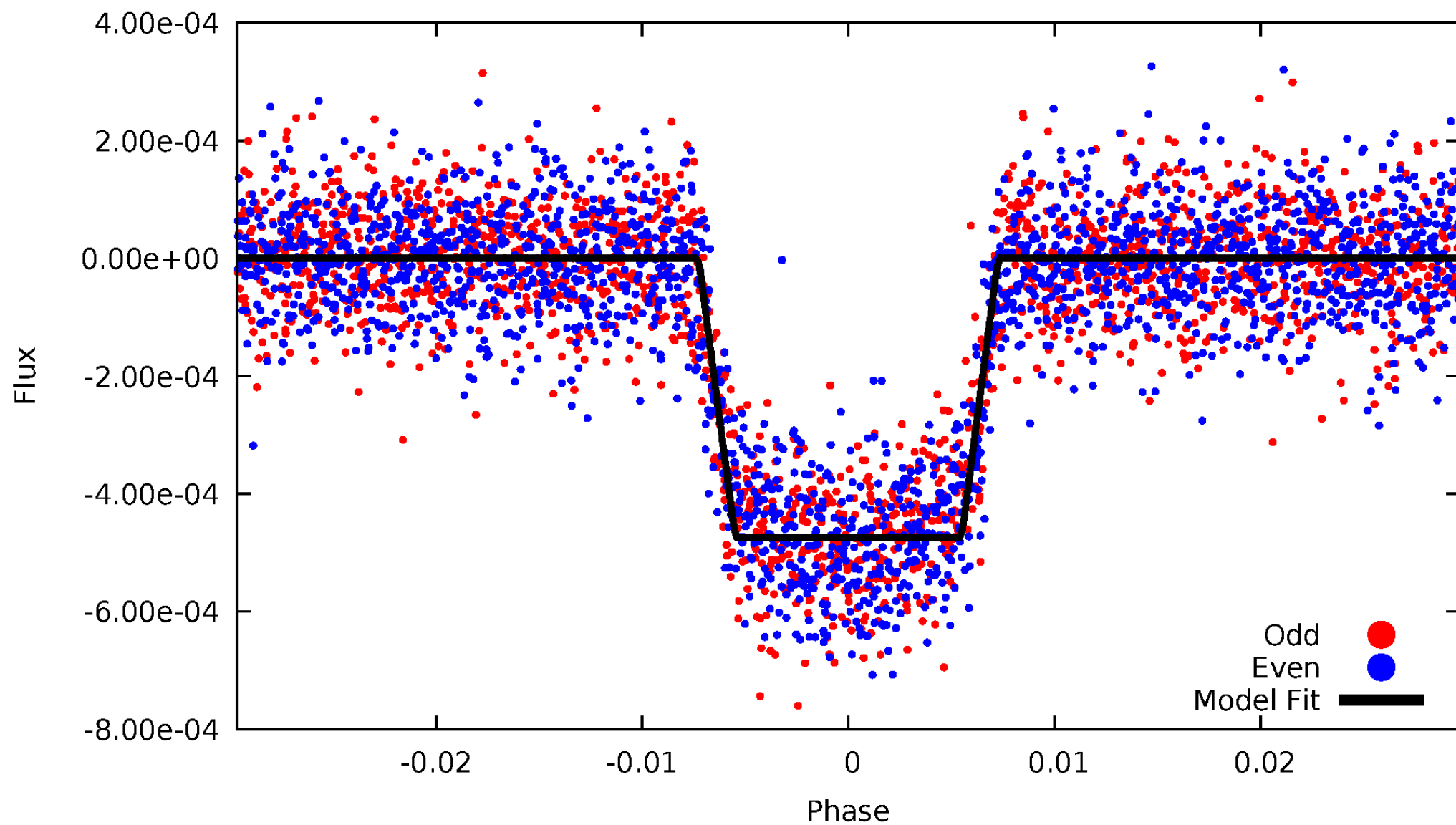
# DV Odd/Even

TCE 008349582-01



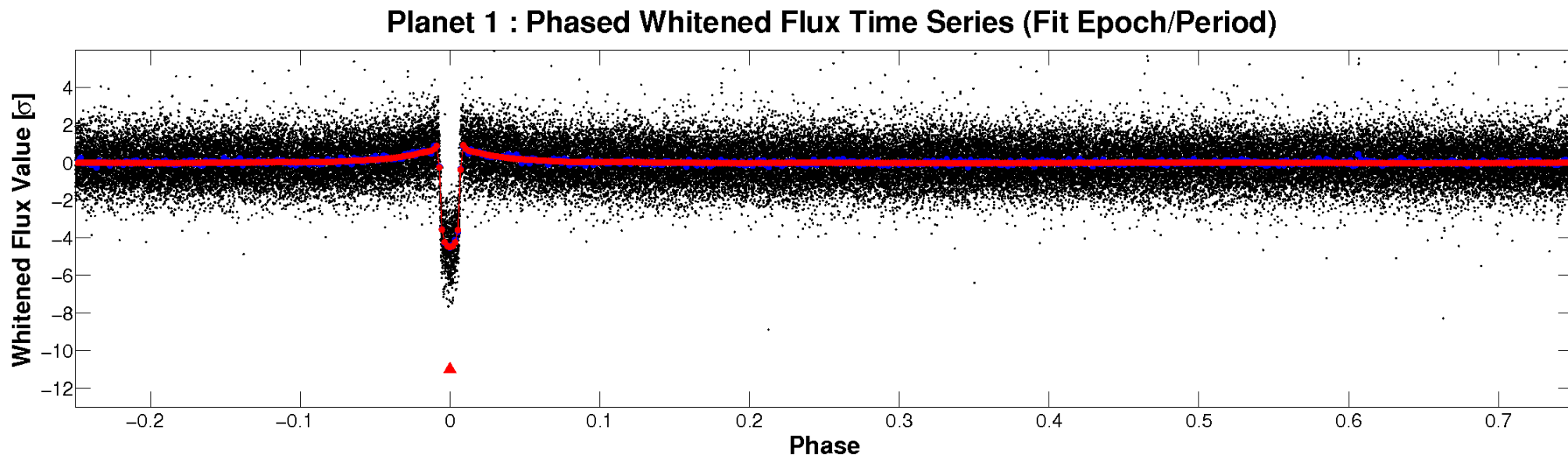
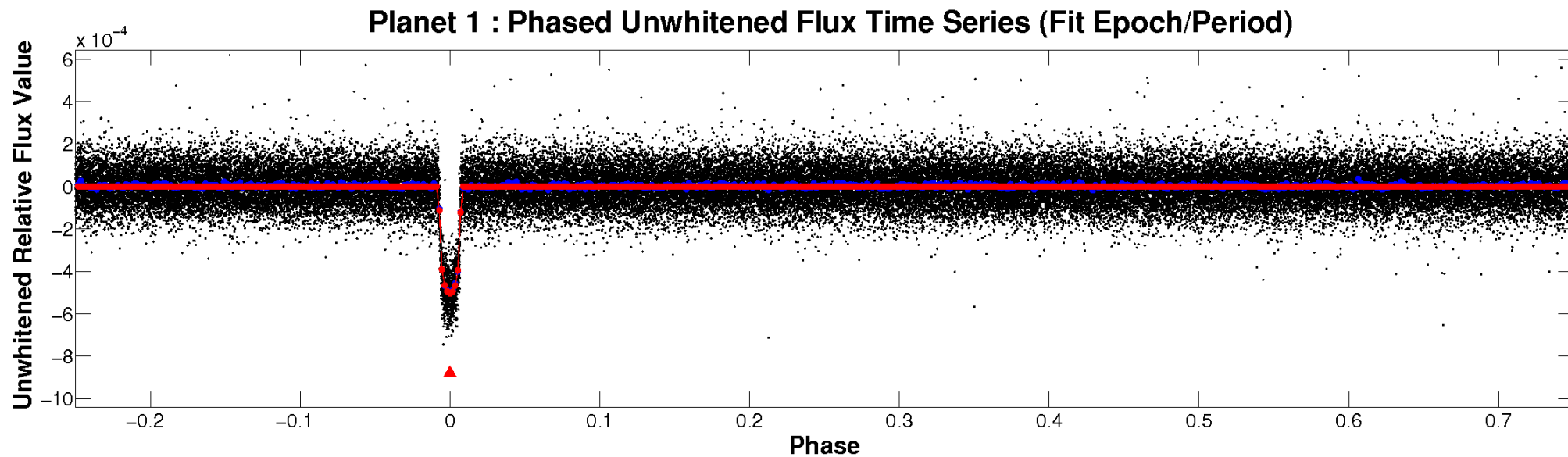
# ALT Odd/Even

TCE 008349582-01



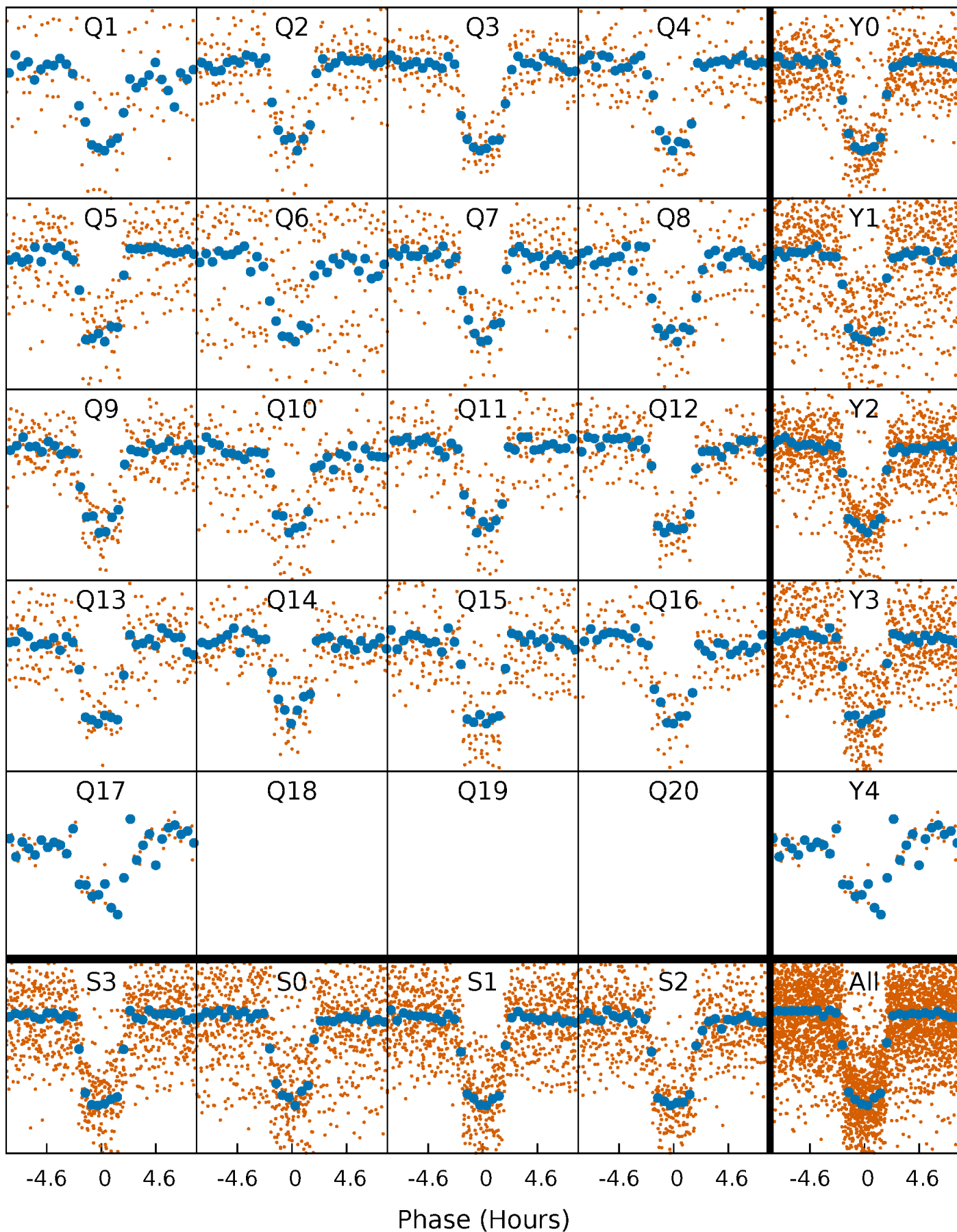


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

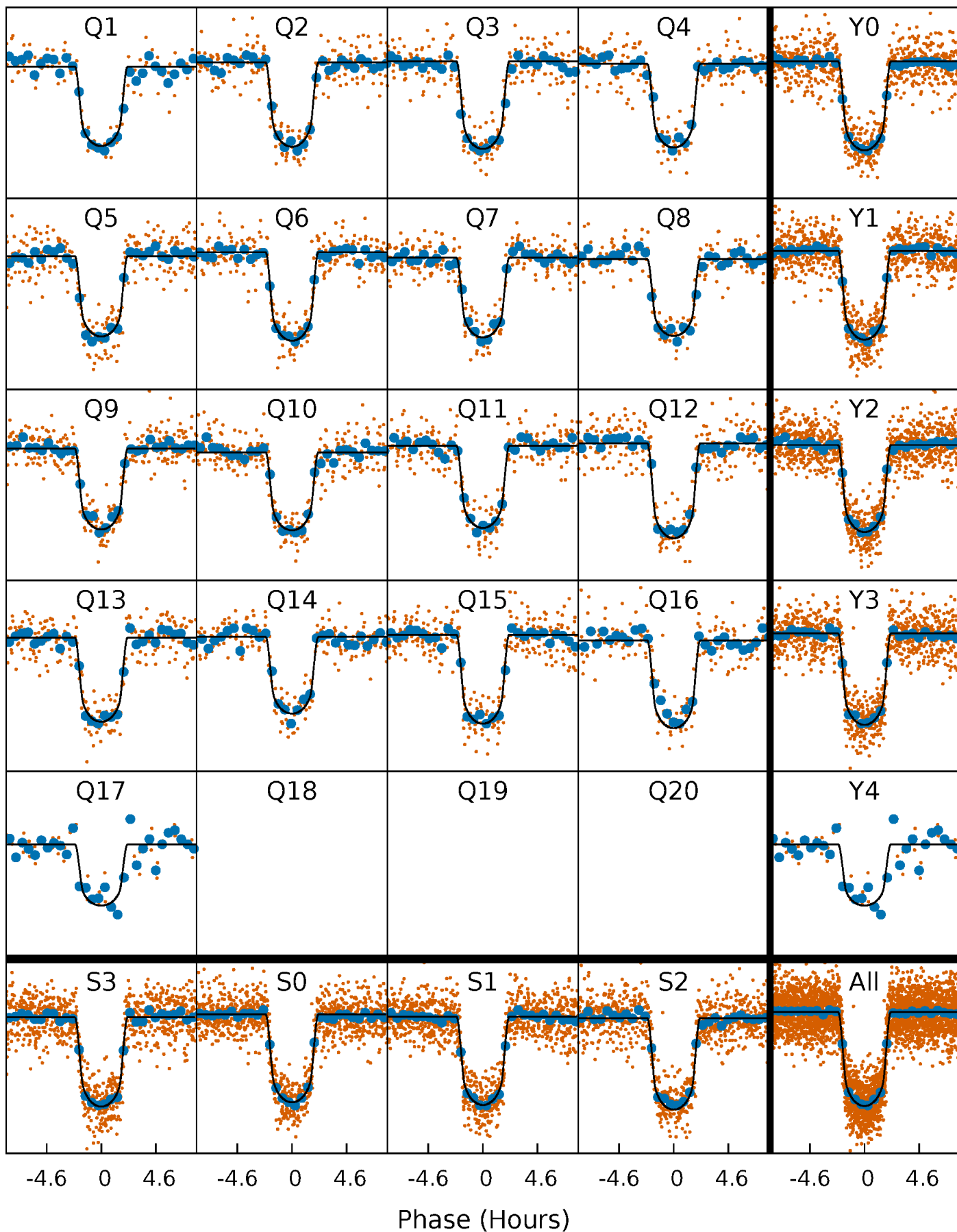
TCE 008349582-01 P= 11.523052 Days  $T_0=131.970200$  (BKJD)





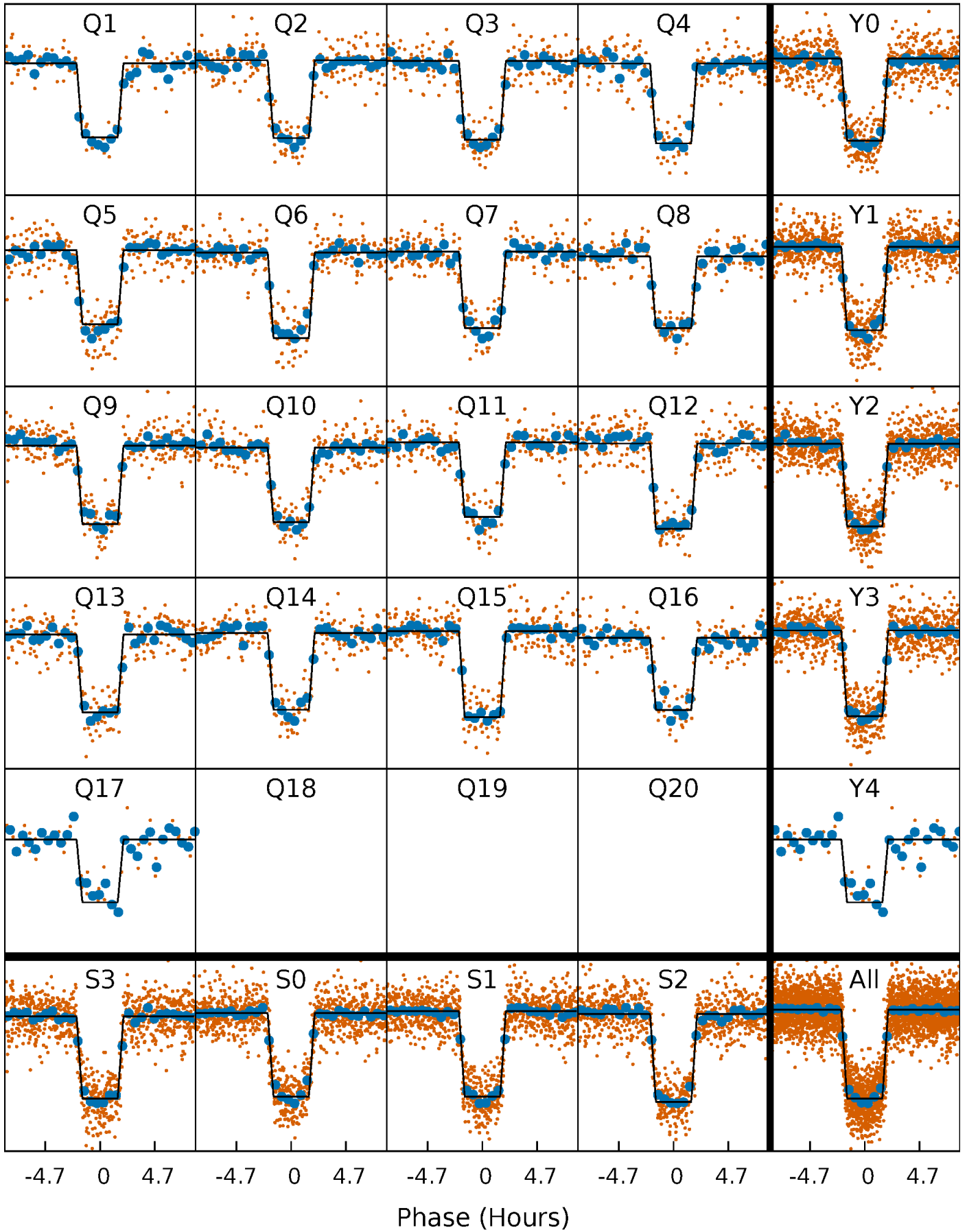
# DV Quarter-Phased Transit Curves

TCE 008349582-01 P= 11.523052 Days  $T_0=131.970200$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

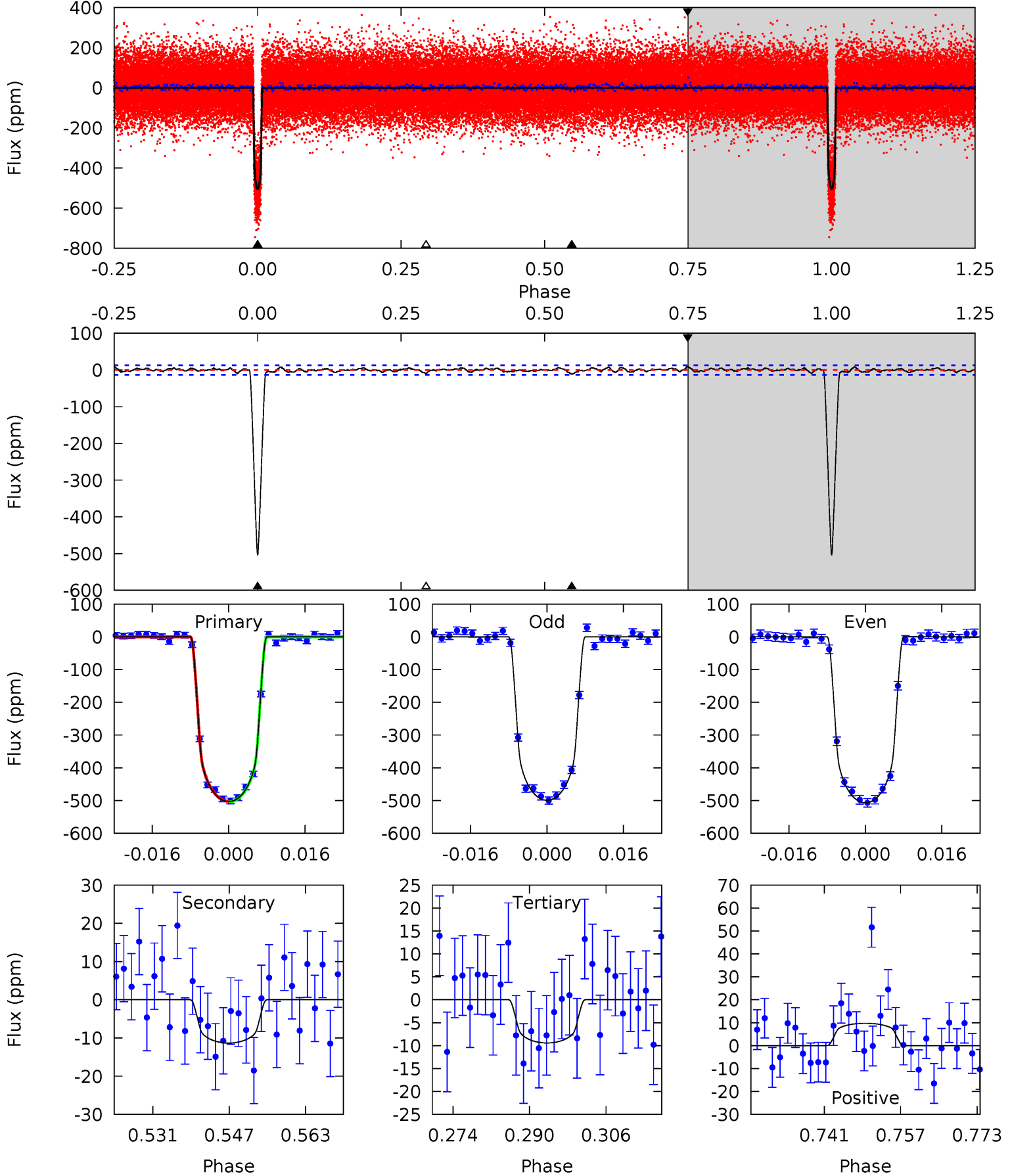
TCE 008349582-01 P= 11.523020 Days  $T_0=131.972163$  (BKJD)



# DV Model-Shift Uniqueness Test

008349582-01,  $P = 11.523052$  Days,  $E = 120.447148$  Days

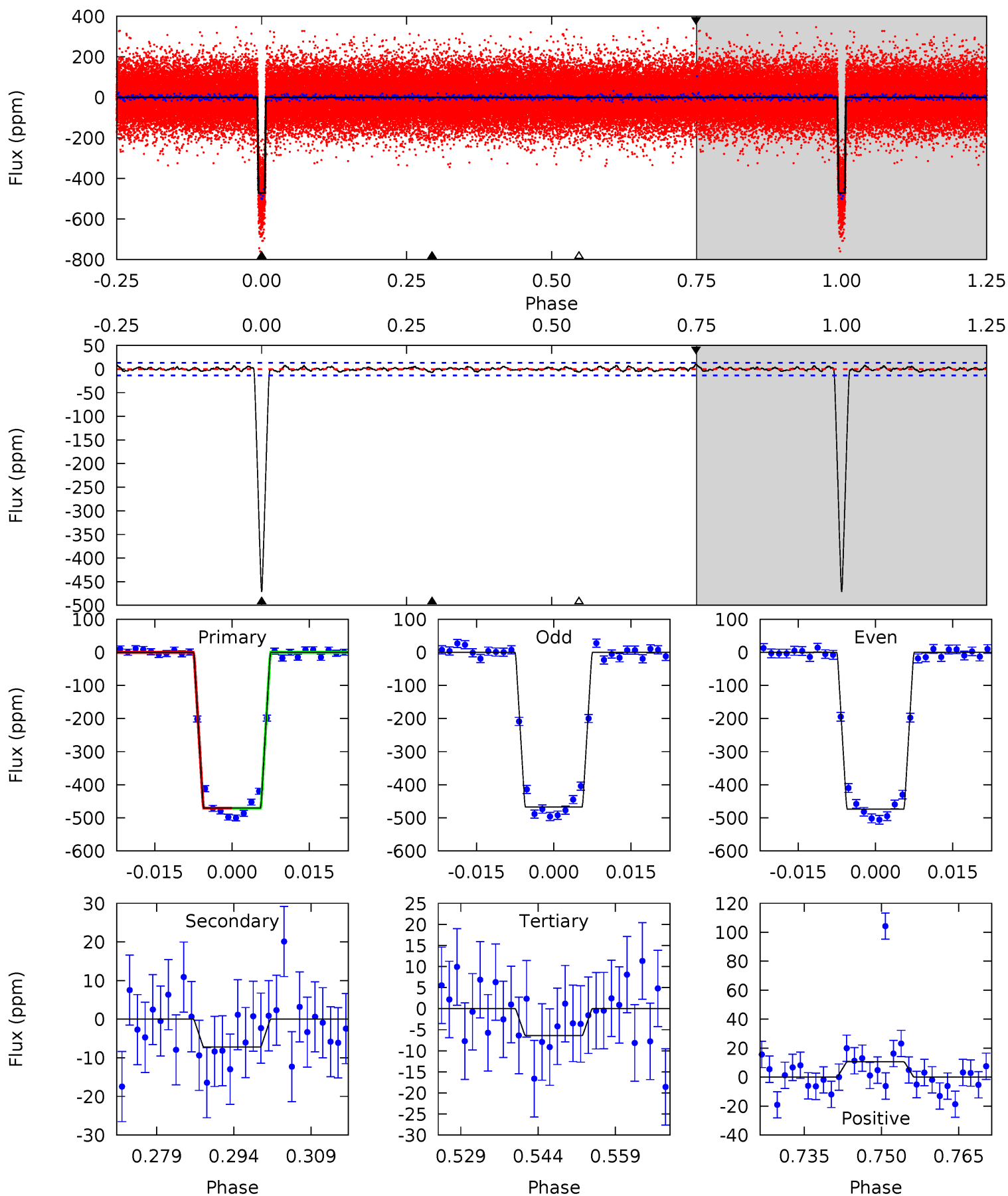
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
191.1	4.30	3.58	3.70	4.93	2.41	1.24	187.5	187.4	0.72	0.60	1.46	0.99	0.02	0.41



# Alt Model-Shift Uniqueness Test

008349582-01,  $P = 11.523020$  Days,  $E = 120.449143$  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
176.8	2.71	2.39	3.96	4.95	2.44	1.04	174.5	172.9	0.31	-1.25	1.07	0.99	0.02	0.01



### Stellar Parameters For KIC 008349582

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5644^{+84}_{-75}$	$4.162^{+0.033}_{-0.030}$	$0.300^{+0.150}_{-0.150}$	$1.411^{+0.091}_{-0.073}$	$1.053^{+0.115}_{-0.057}$	$0.528^{+0.065}_{-0.058}$
	+1%/-1%	+1%/-1%	+50%/-50%	+6%/-5%	+11%/-5%	+12%/-11%
Source	SPE72	AST69	SPE72	DSEP		

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

### Secondary Eclipse Parameters for KIC 008349582-01 / KOI 0122.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-11 \pm 3$	$3.57^{+0.24}_{-0.21}$	$1297^{+27}_{-22}$	$2844^{+98}_{-113}$	$5.037^{+1.317}_{-1.273}$
Alt.	$-7 \pm 3$	$3.37^{+0.21}_{-0.21}$	$1296^{+27}_{-23}$	$2716^{+129}_{-170}$	$3.619^{+1.458}_{-1.325}$

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



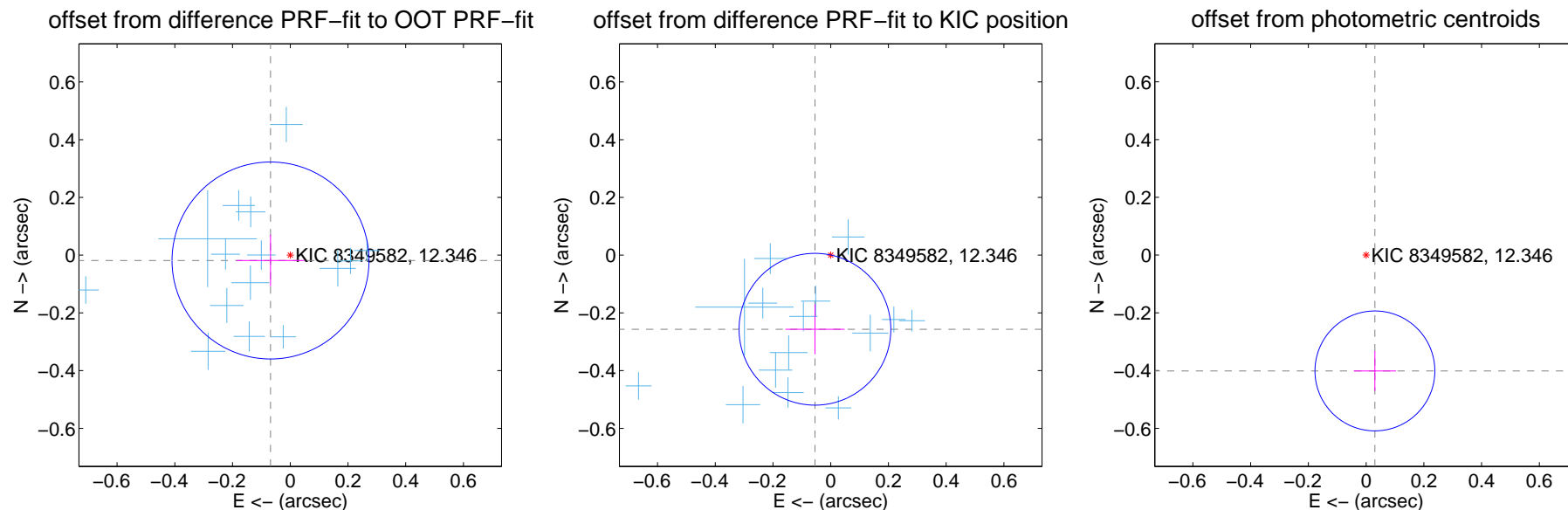
## DV Centroid Data

Supplemental centroid analysis for 008349582-01. Kepler magnitude: 12.35. Transit SNR 118.35

There are 17 quarters with good PRF difference image offsets

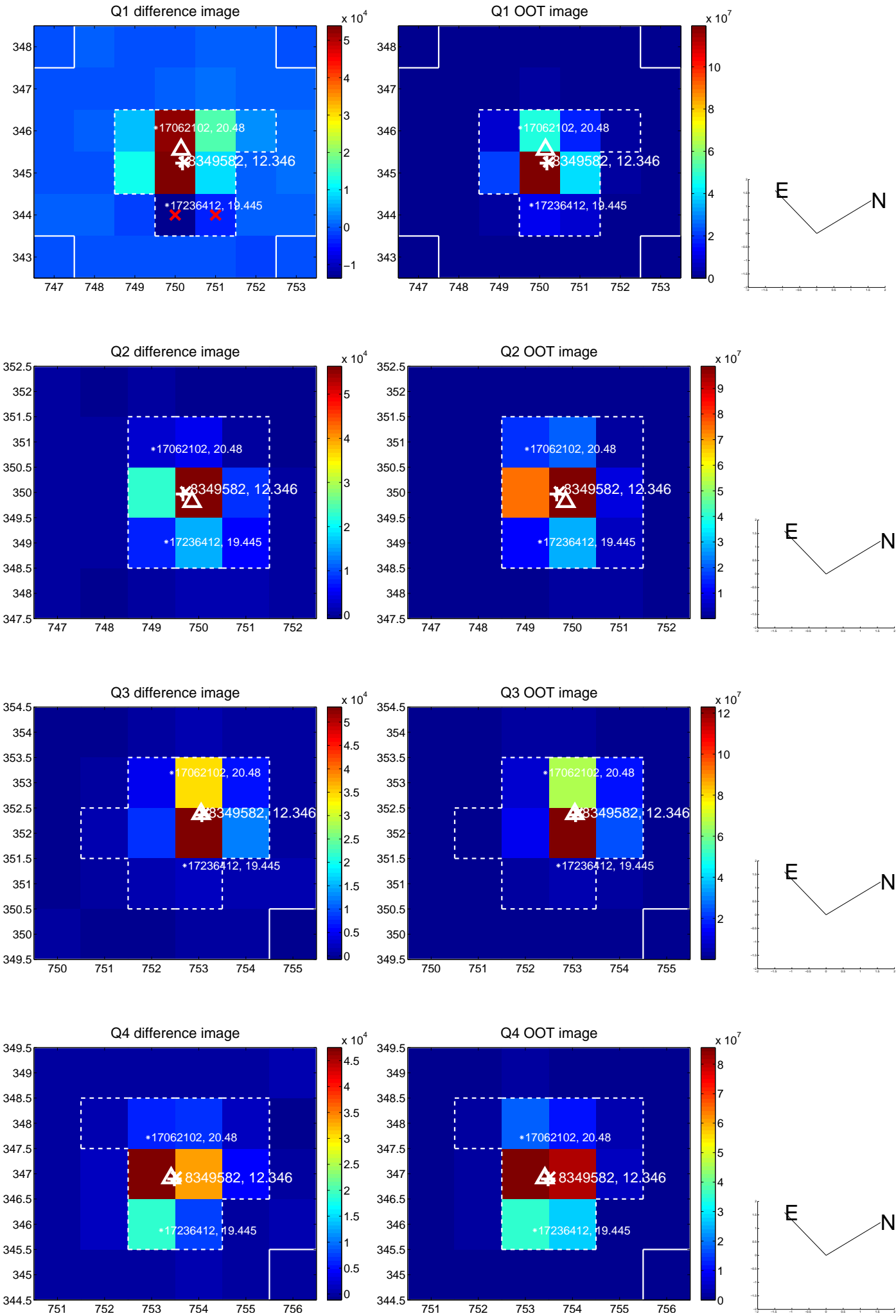
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.071 \pm 0.114$	0.62	$0.068 \pm 0.118$	$-0.019 \pm 0.089$
PRF-fit source offset from KIC position	$0.262 \pm 0.088$	2.99	$0.055 \pm 0.103$	$-0.257 \pm 0.087$
photometric centroid source offset	$0.40 \pm 0.07$	5.81	$-0.03 \pm 0.07$	$-0.40 \pm 0.07$

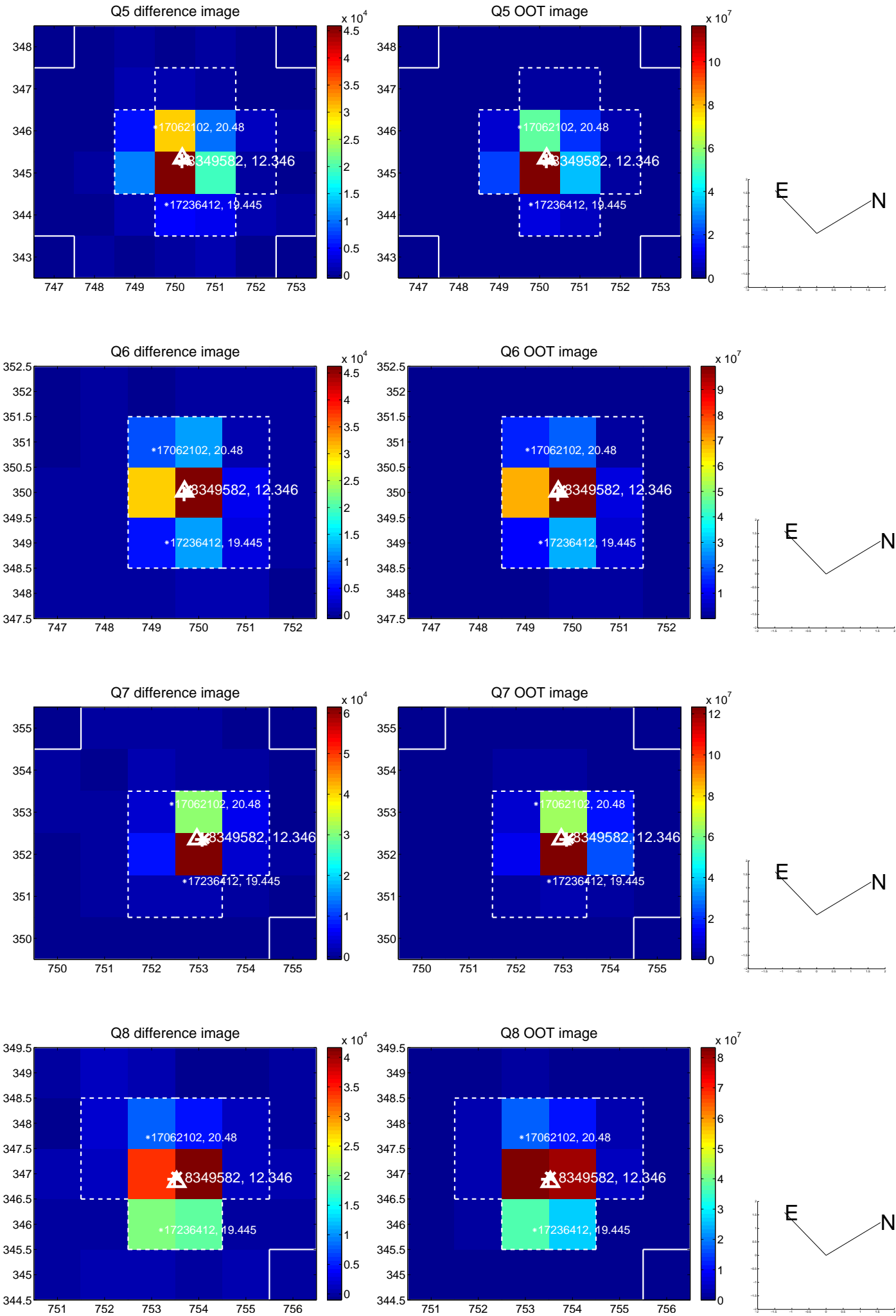


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

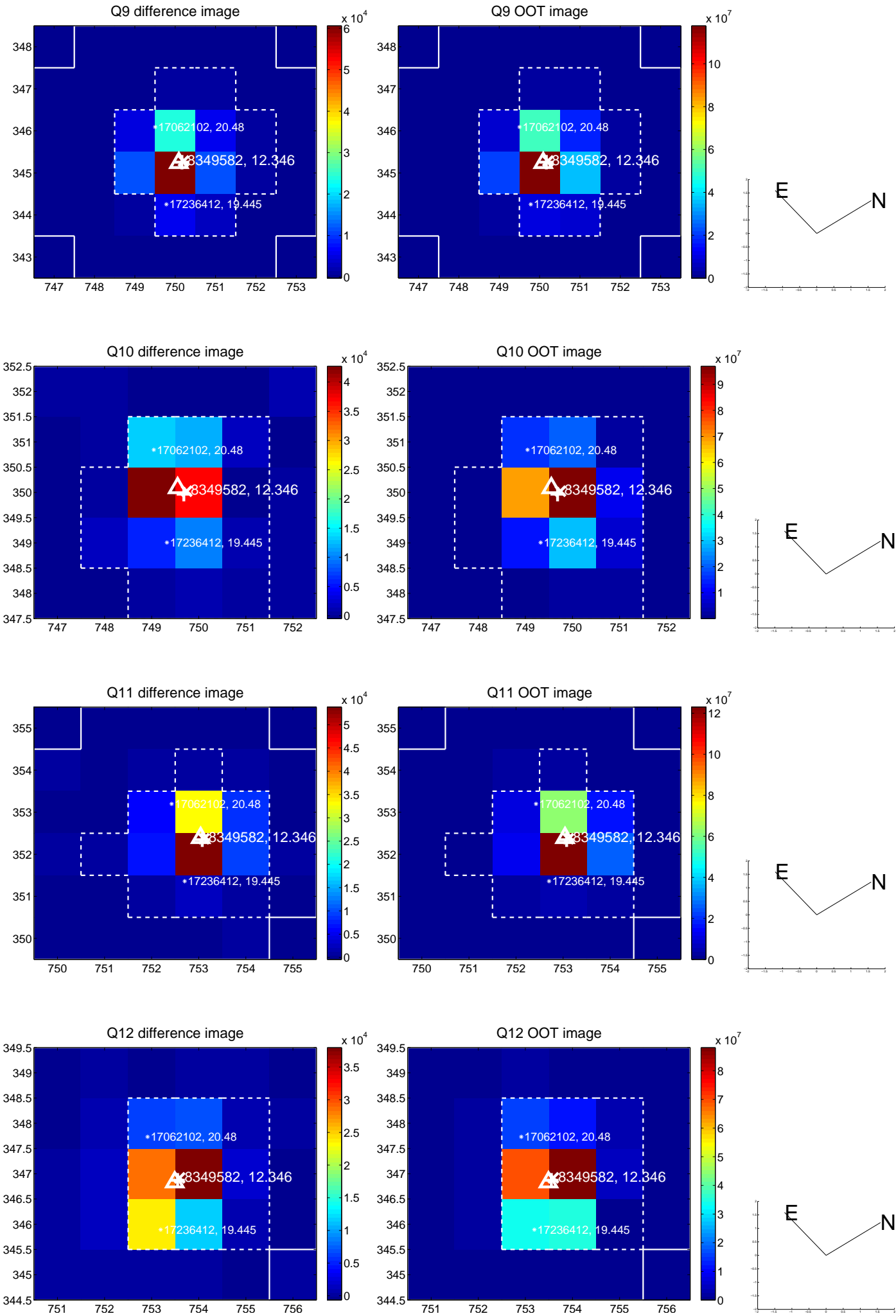
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



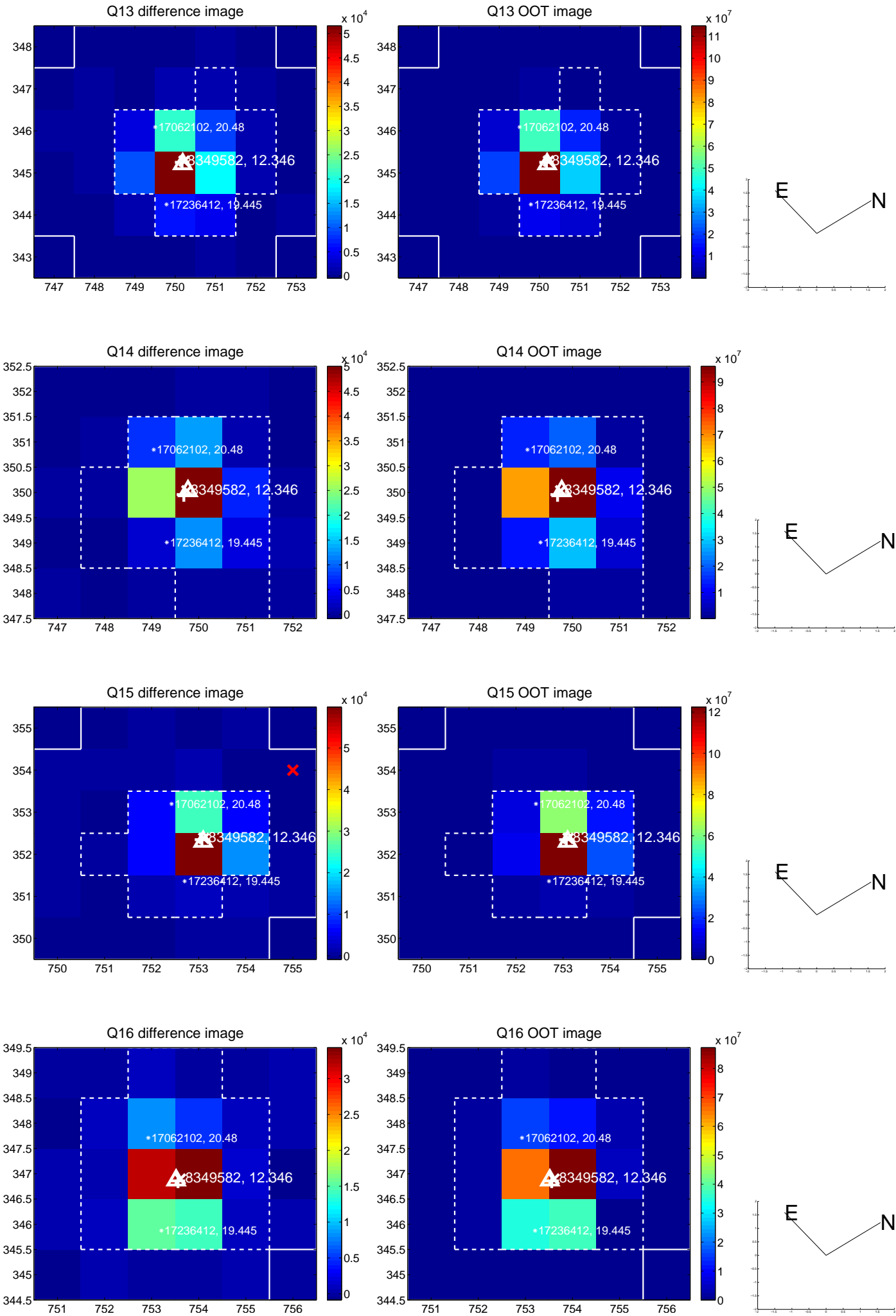
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

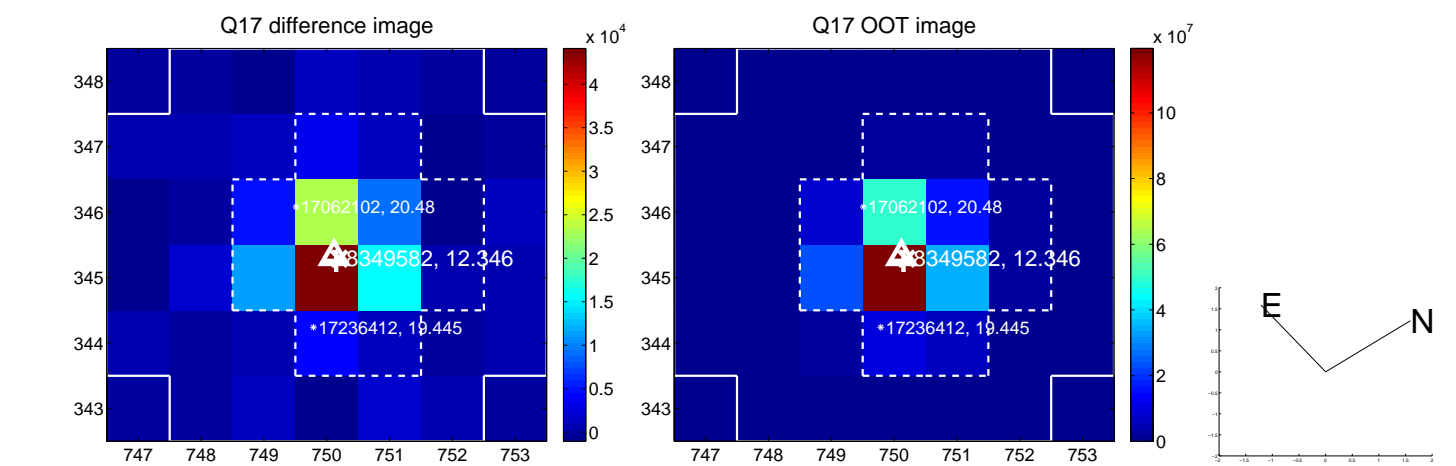


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

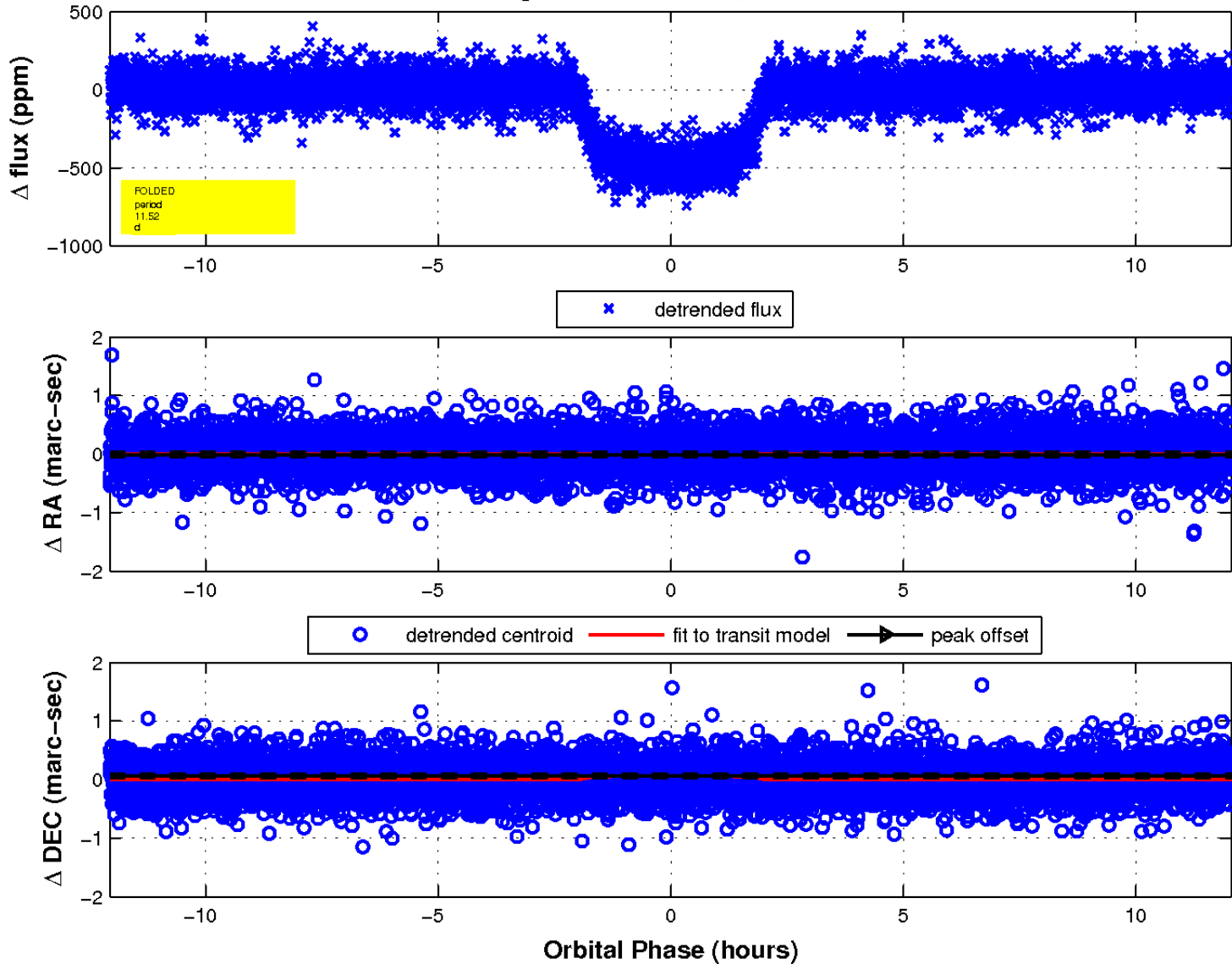




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

