

# KIC 008495232

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008495232-01	OBS	5524.01	9.636424	134.942579	50.3	3.262	9.3	9.8	3.01	5125	2.21	565.64

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008495232-01	OBS	FP	0.51	0	0	1	0	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.

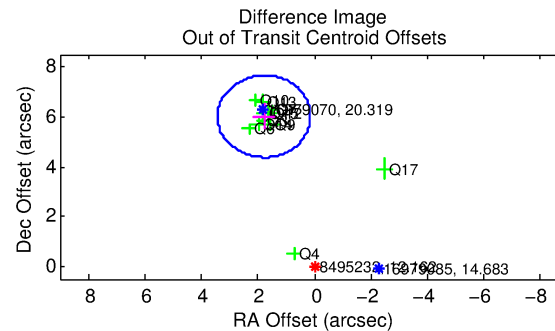
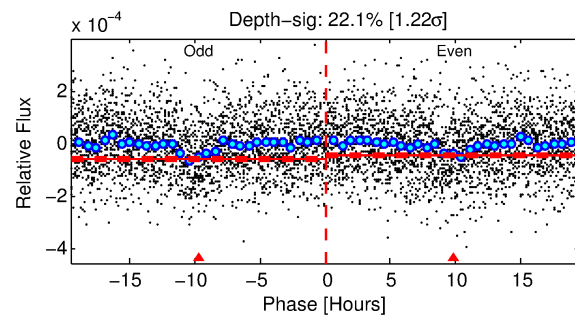
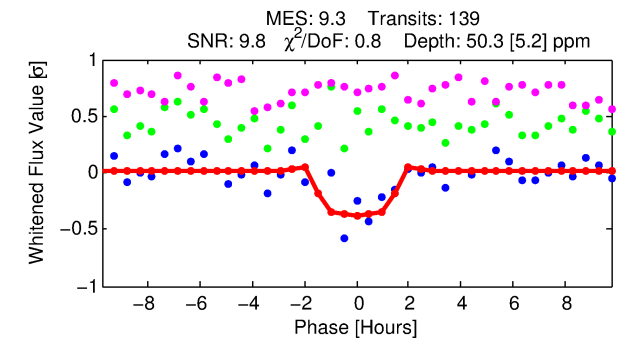
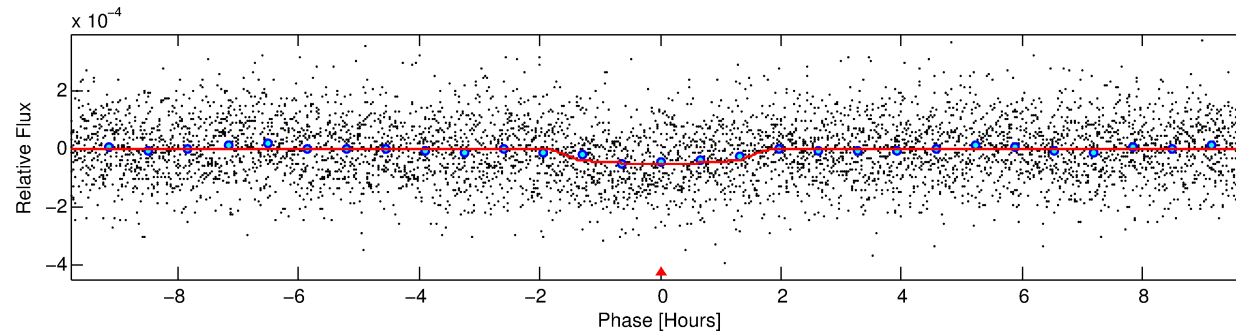
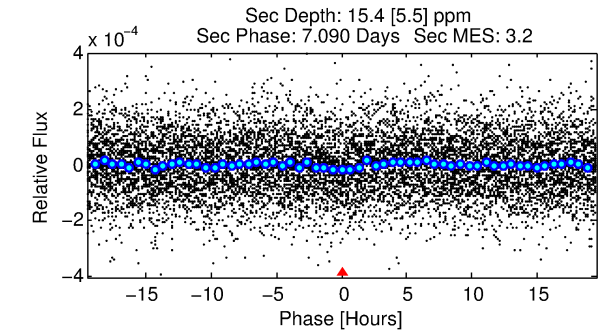
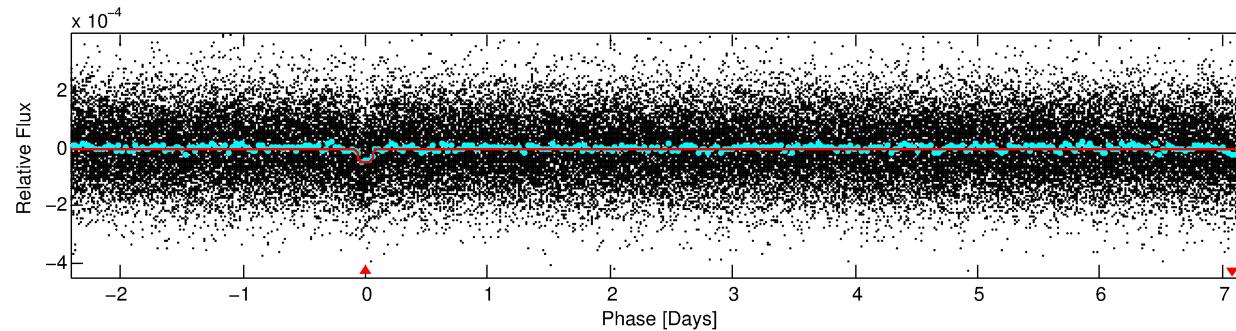
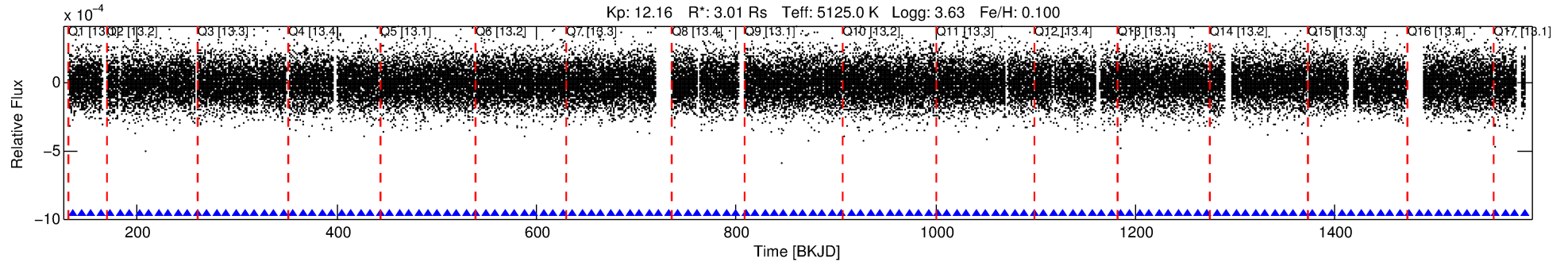
## Ephemeris Match Information For 008495232-01

No Significant Match Found

# DV One-Page Summary

KIC: 8495232 Candidate: 1 of 1 Period: 9.636 d

KOI: K05524.01 Corr: 0.981



## DV Fit Results:

Period = 9.63642 [0.00008] d  
Epoch = 134.9426 [0.0062] BKJD  
Rp/R\* = 0.0067 [0.0028]  
a/R\* = 18.13 [26.69]  
b = 0.61 [1.56]  
Seff = 565.64 [177.86]  
Teq = 1244 [98] K  
Rp = 2.21 [1.07] Re  
a = 0.0994 [0.0208] AU  
Ag = 17.21 [16.45] [0.99σ]  
Teffp = 3916 [889] K [2.99σ]

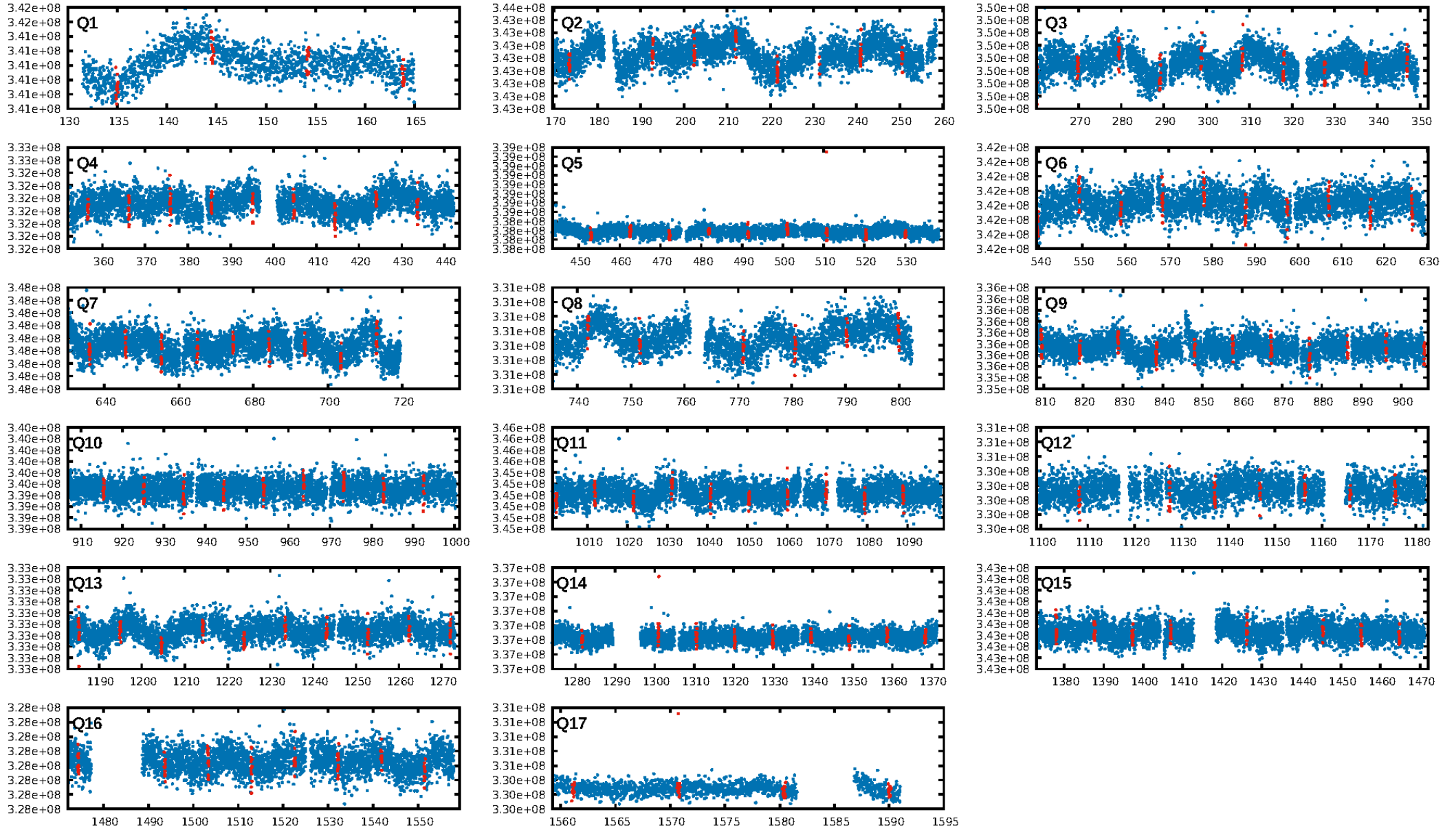
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.41e-19  
RollingBand-fgt: 1.00 [131/131]  
GhostDiagnostic-chr: 0.6785  
Centroid-sig: 0.0%  
Centroid-so: 7.218 arcsec [8.32σ]  
OotOffset-rm: 6.272 arcsec [11.45σ]  
KicOffset-rm: 6.419 arcsec [11.78σ]  
OotOffset-st: 3/3/2/3 [11]  
KicOffset-st: 3/3/2/3 [11]  
DiffImageQuality-fgm: 0.55 [6/11]  
DiffImageOverlap-fno: 1.00 [17/17]

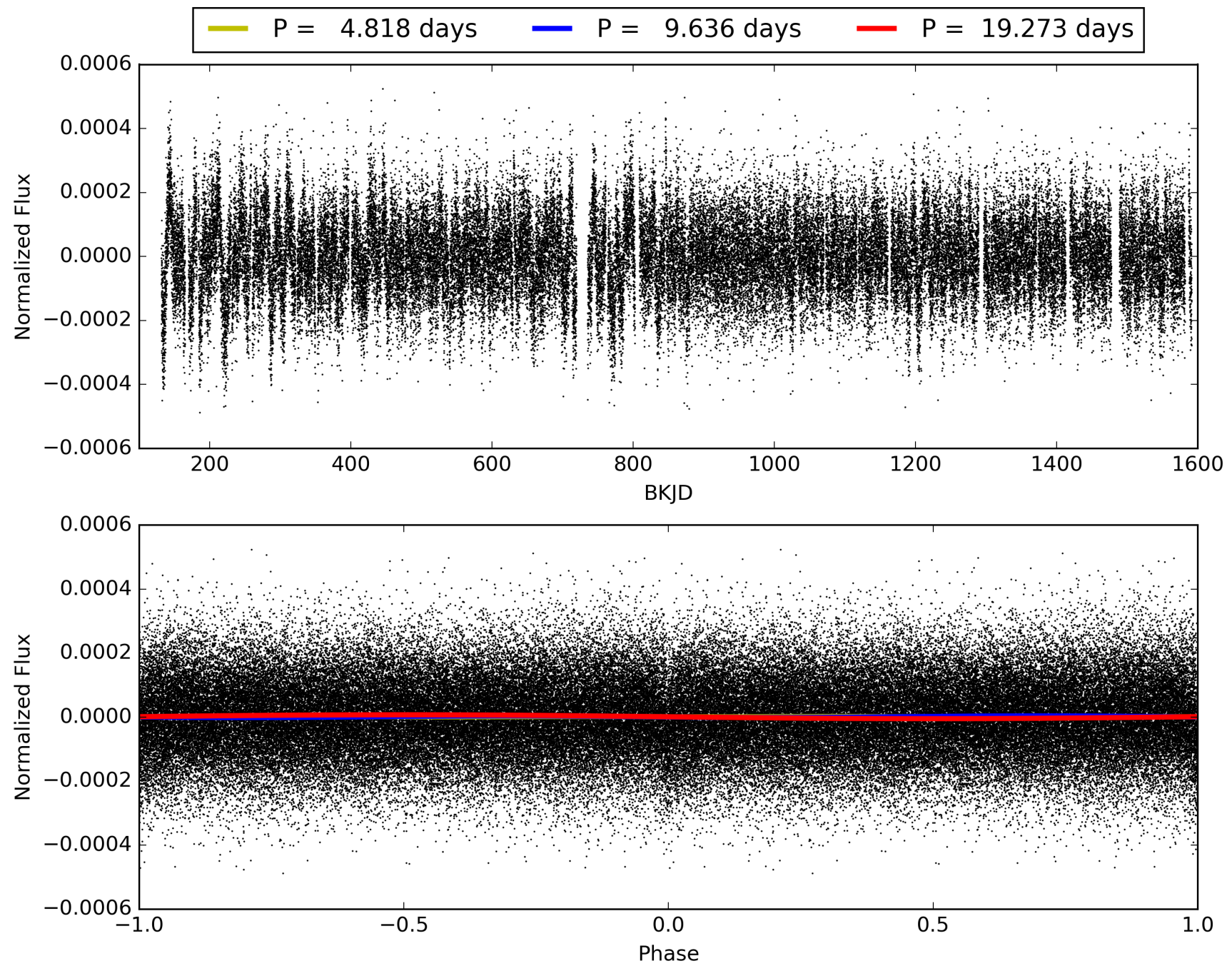
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:45:54 Z

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

# TCE 008495232-01, PDC Light Curves

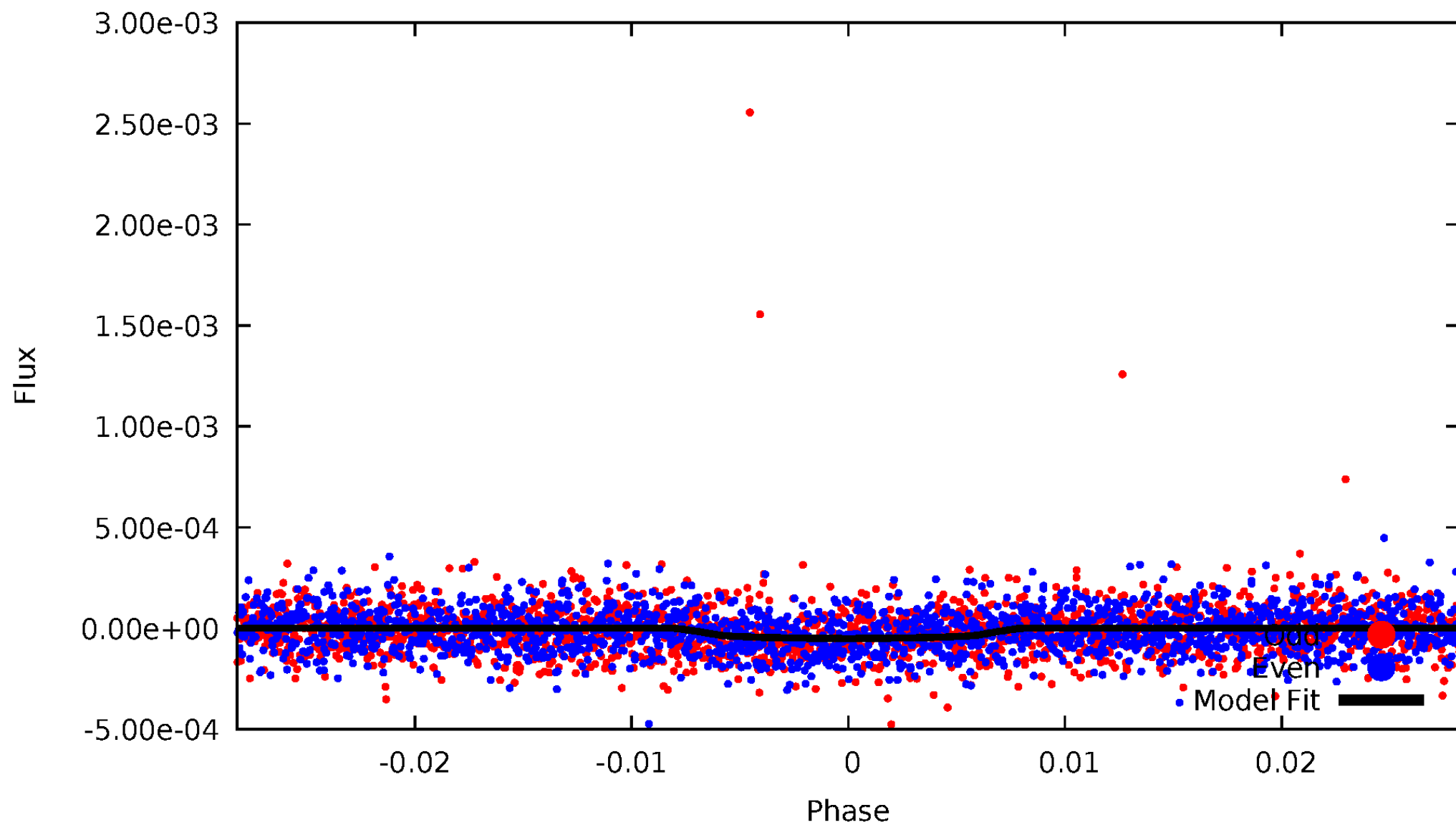


TCE 008495232-01



# DV Odd/Even

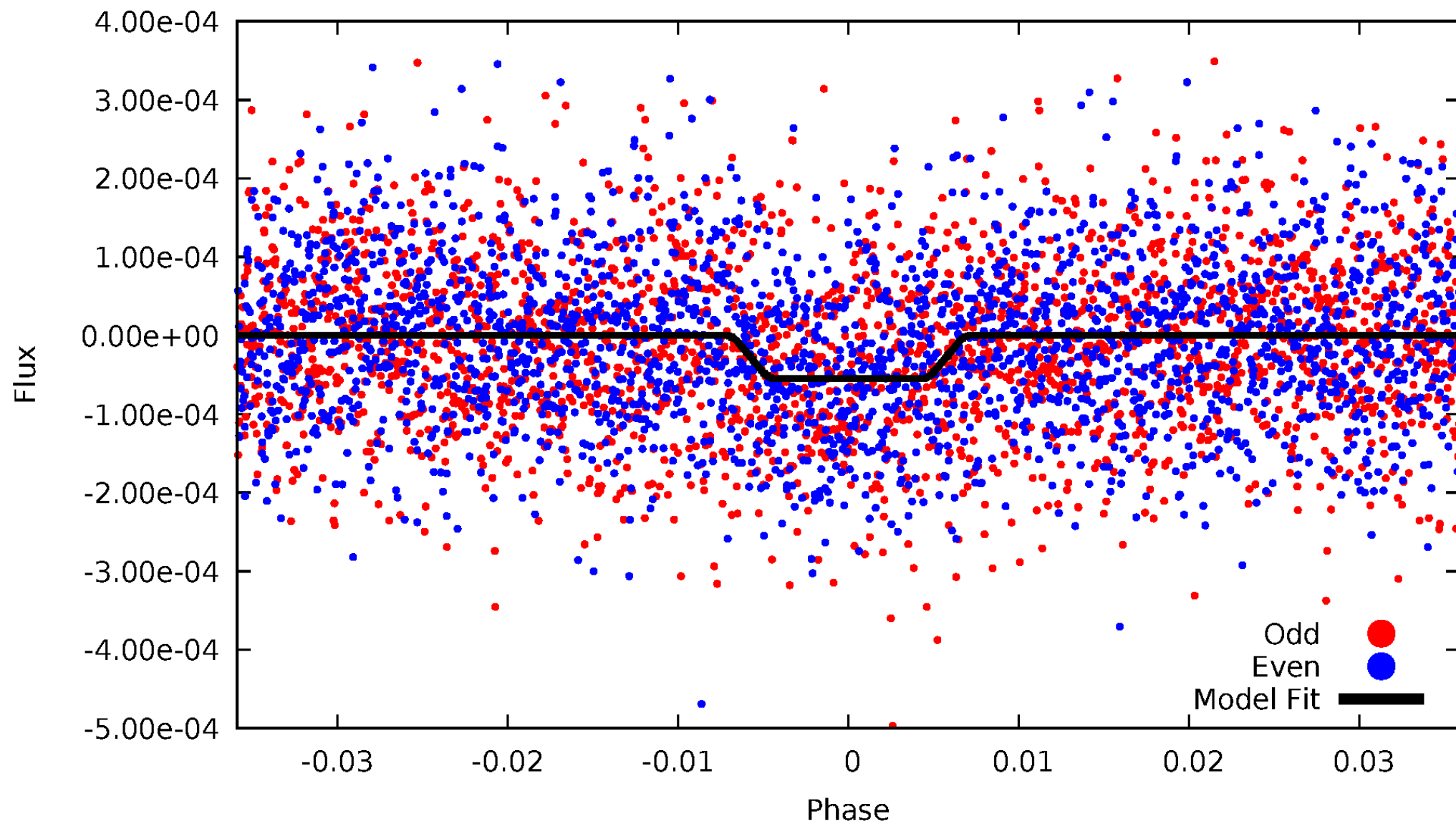
TCE 008495232-01





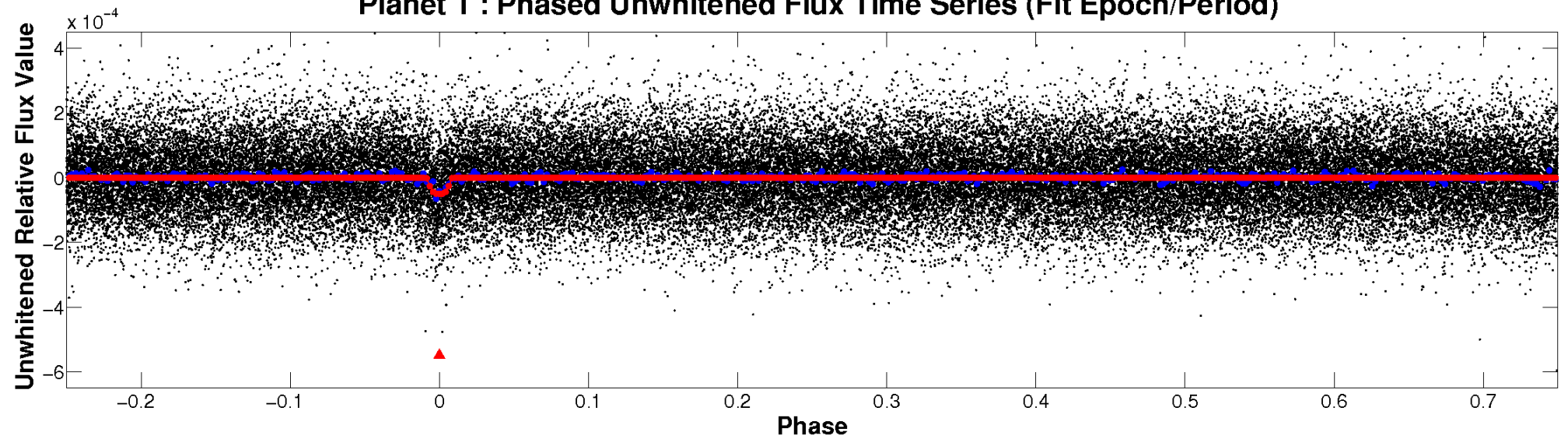
# ALT Odd/Even

TCE 008495232-01

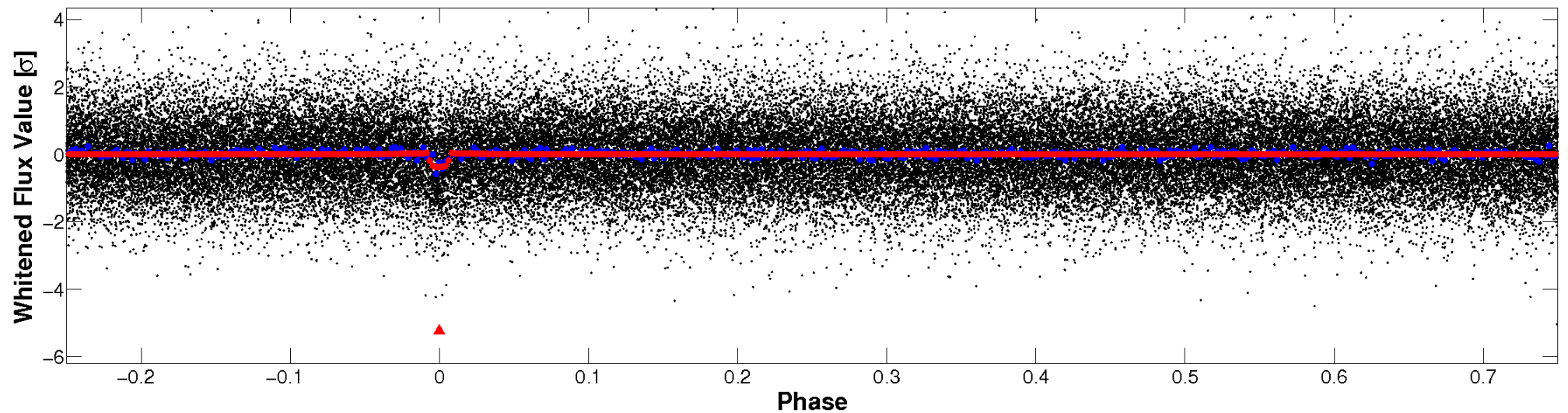


# Non-Whitened Vs. Whitened Light Curve

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

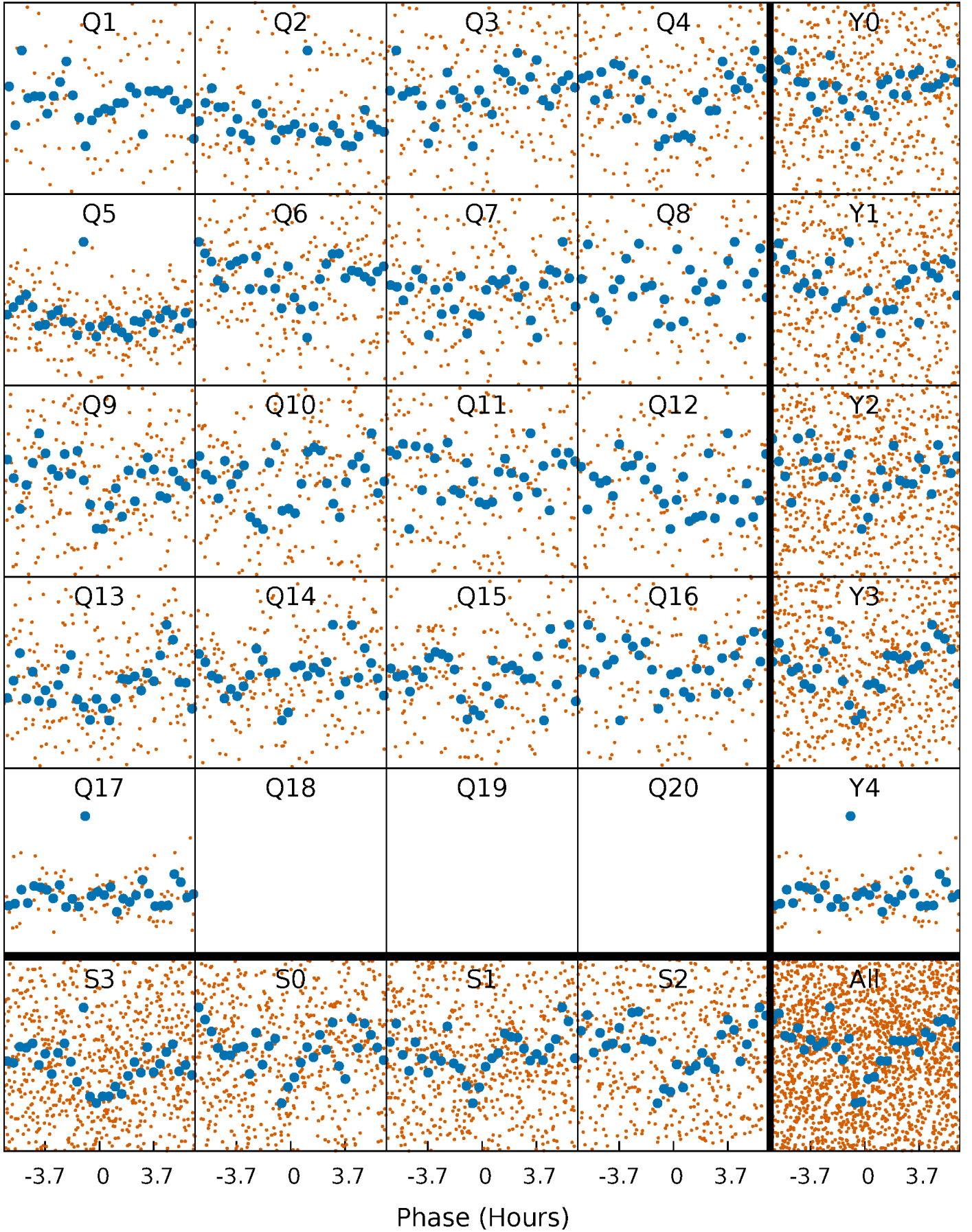


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

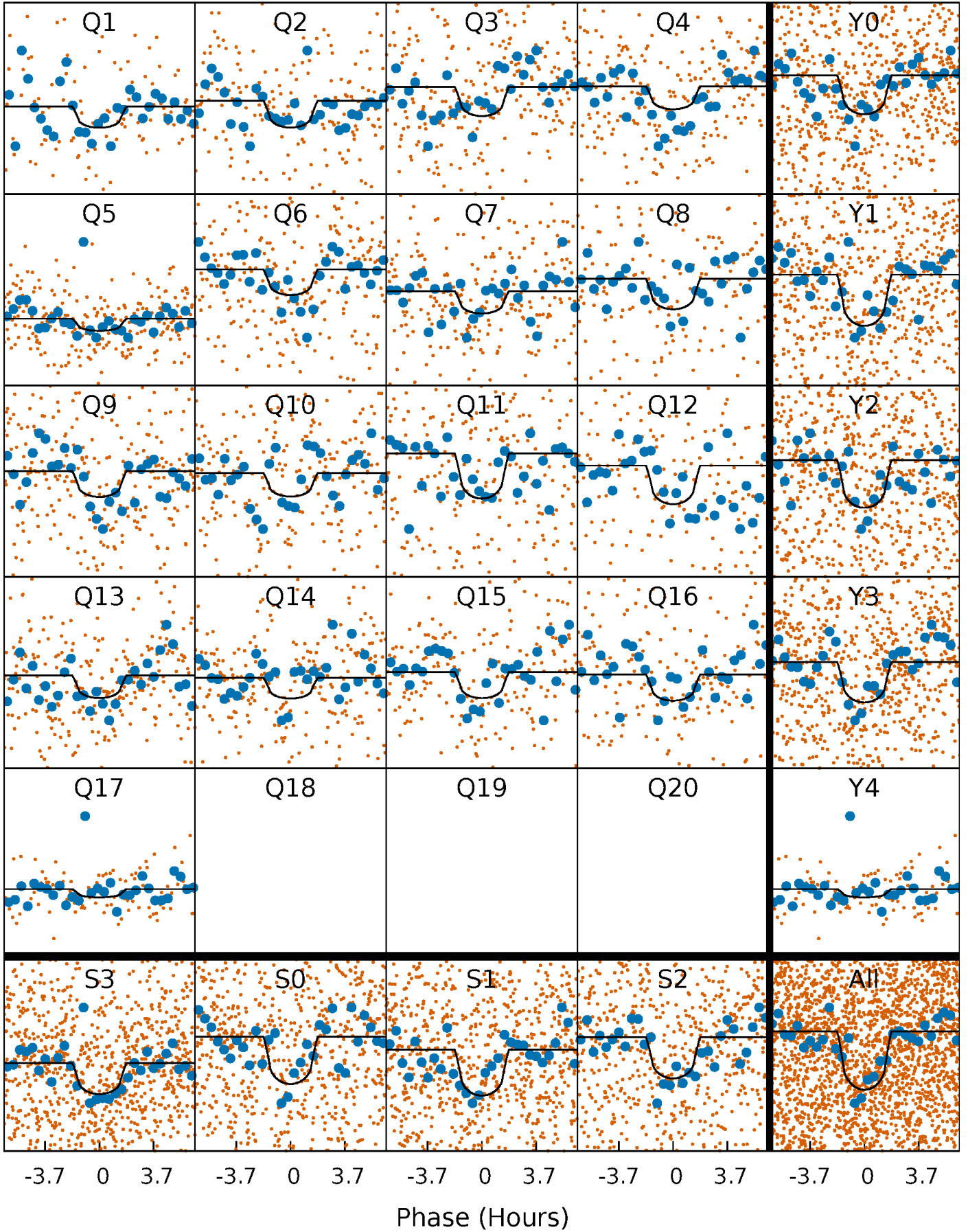
TCE 008495232-01   P= 9.636424 Days    $T_0=134.942579$  (BKJD)





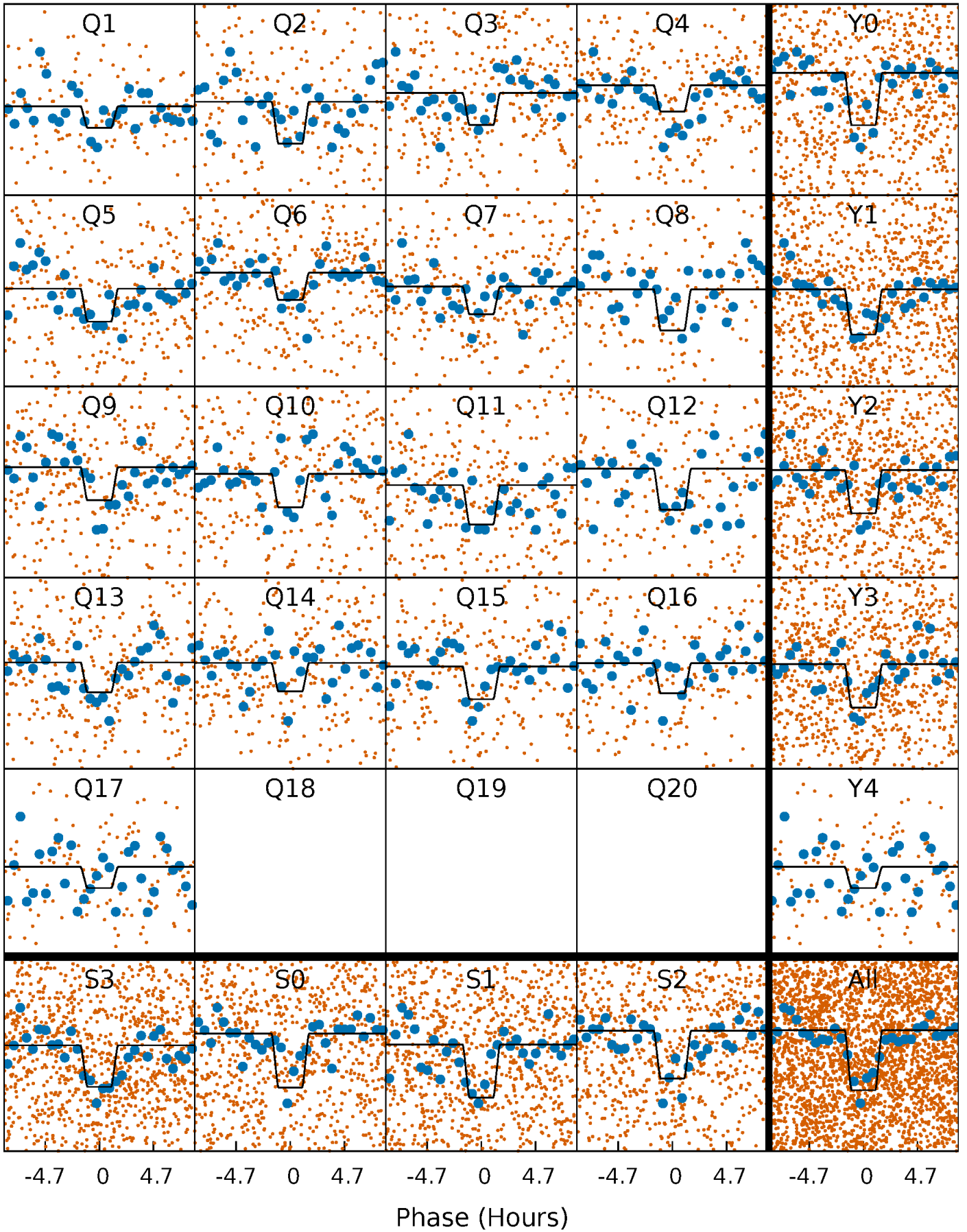
# DV Quarter-Phased Transit Curves

TCE 008495232-01   P= 9.636424 Days    $T_0=134.942579$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

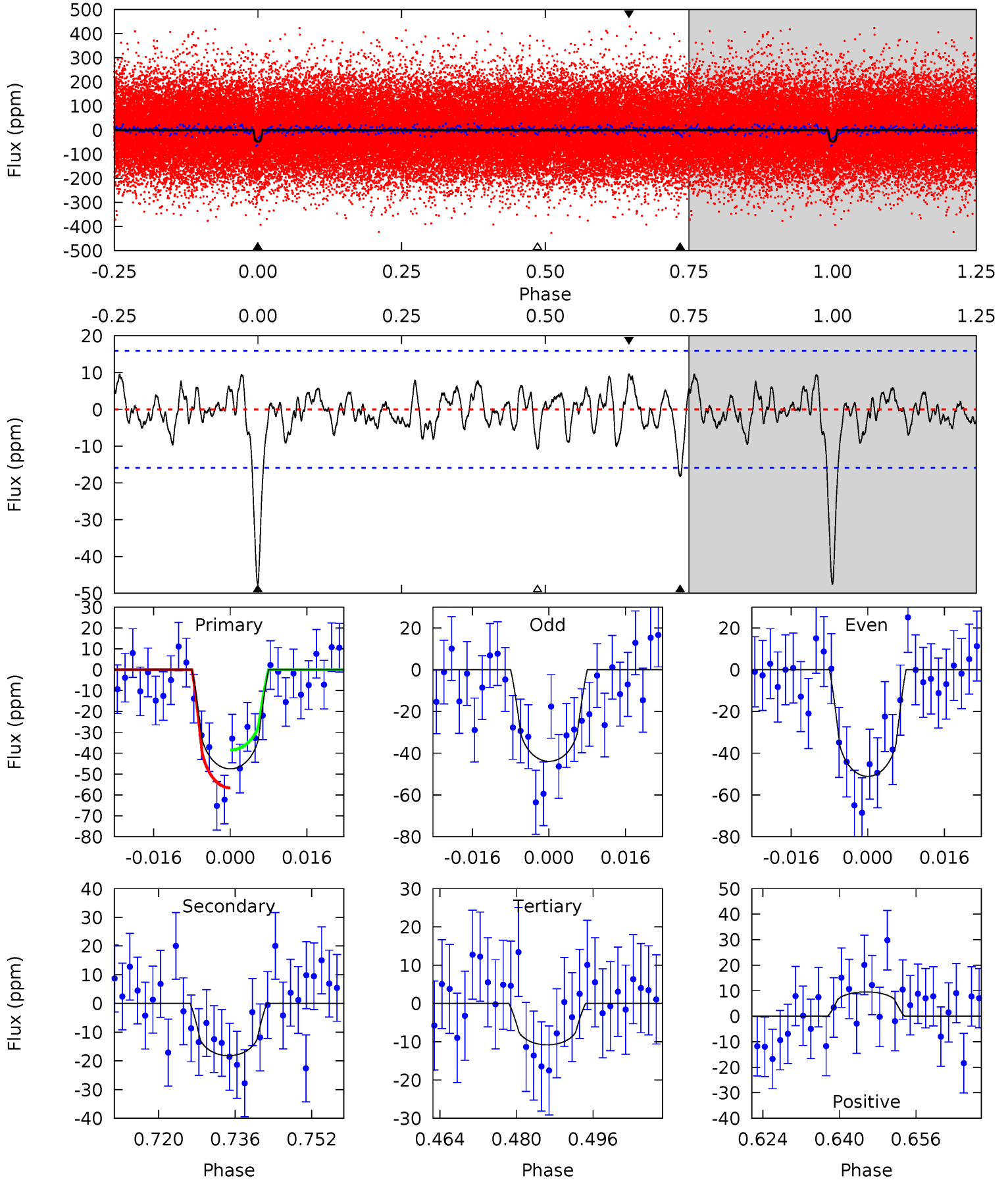
TCE 008495232-01 P= 9.636430 Days  $T_0=134.935981$  (BKJD)



# DV Model-Shift Uniqueness Test

008495232-01, P = 9.636424 Days, E = 125.306155 Days

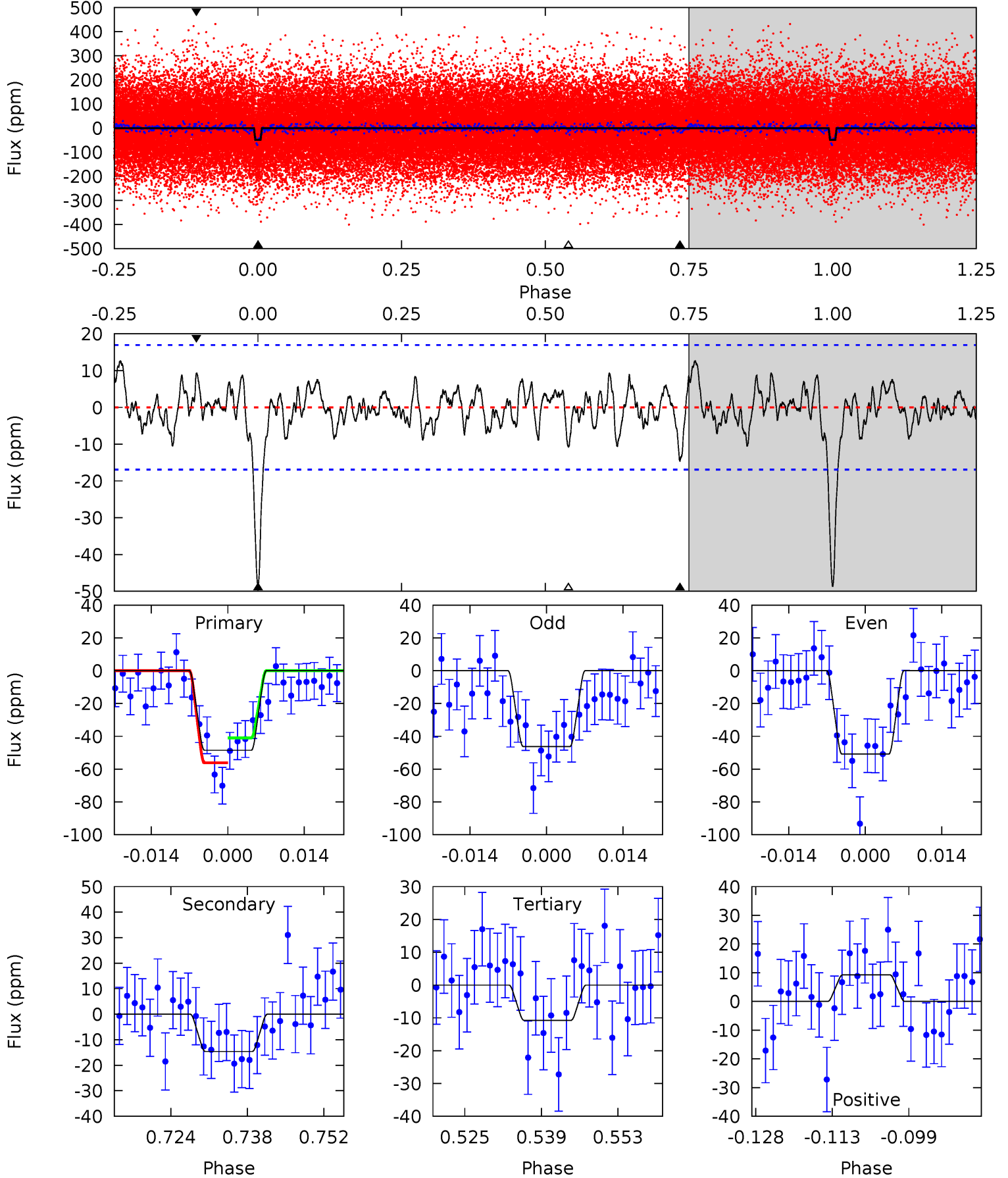
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	5.65	3.36	2.96	4.94	2.41	1.25	11.4	11.8	2.29	2.70	1.12	0.97	0.17	2.83



# Alt Model-Shift Uniqueness Test

008495232-01, P = 9.636430 Days, E = 125.299551 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
14.2	4.28	3.15	2.72	4.96	2.45	1.25	11.1	11.5	1.13	1.55	0.68	1.02	0.21	2.23



### Stellar Parameters For KIC 008495232

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5125^{+71}_{-92}$	$3.631^{+0.168}_{-0.112}$	$0.100^{+0.150}_{-0.200}$	$3.007^{+0.496}_{-0.744}$	$1.411^{+0.139}_{-0.302}$	$0.073^{+0.072}_{-0.022}$
	+1%/-2%	+5%/-3%	+150%/-200%	+16%/-25%	+10%/-21%	+98%/-31%
Source	SPE74	SPE74	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 008495232-01 / KOI 5524.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-18 \pm 3$	$2.14^{+1.06}_{-0.88}$	$1732^{+81}_{-104}$	$4227^{+1040}_{-532}$	$20^{+36}_{-11}$
Alt.	$-15 \pm 3$	$2.37^{+0.94}_{-0.89}$	$1730^{+76}_{-97}$	$3942^{+793}_{-452}$	$14^{+23}_{-7}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$



## DV Centroid Data

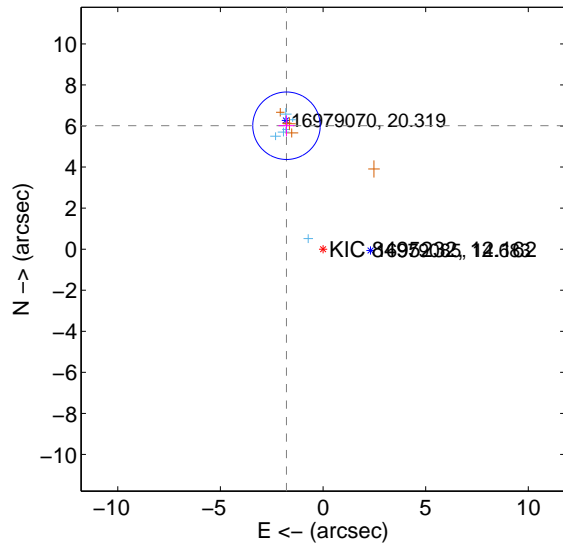
Supplemental centroid analysis for 008495232-01. Kepler magnitude: 12.16. Transit SNR 9.77

There are 6 quarters with good PRF difference image offsets

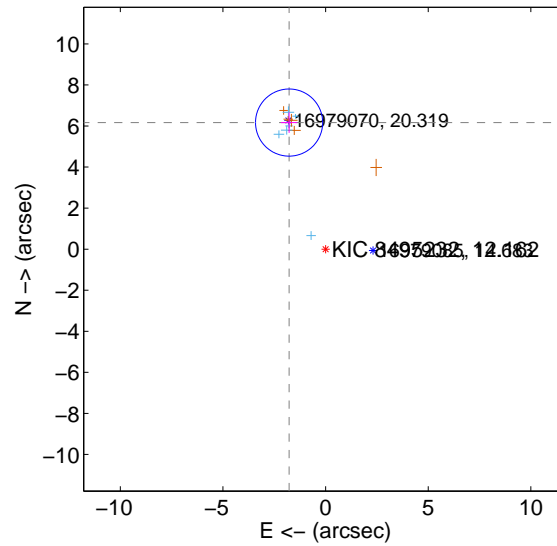
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.272 \pm 0.548$	11.45	$1.780 \pm 0.390$	$6.014 \pm 0.512$
PRF-fit source offset from KIC position	$6.419 \pm 0.545$	11.78	$1.778 \pm 0.396$	$6.168 \pm 0.503$
photometric centroid source offset	$7.22 \pm 0.87$	8.32	$1.82 \pm 0.83$	$6.99 \pm 0.87$

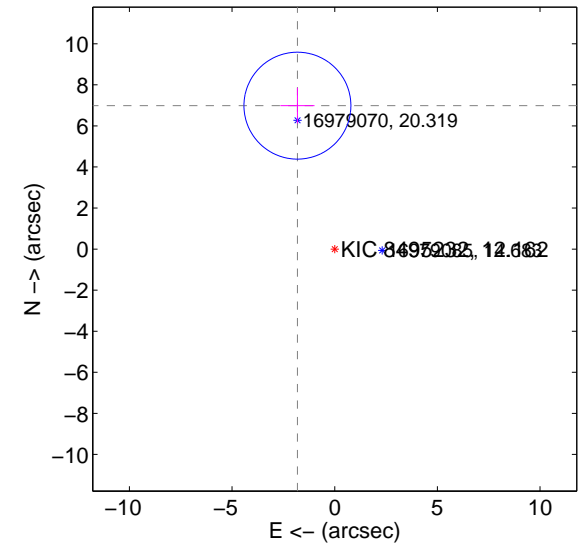
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

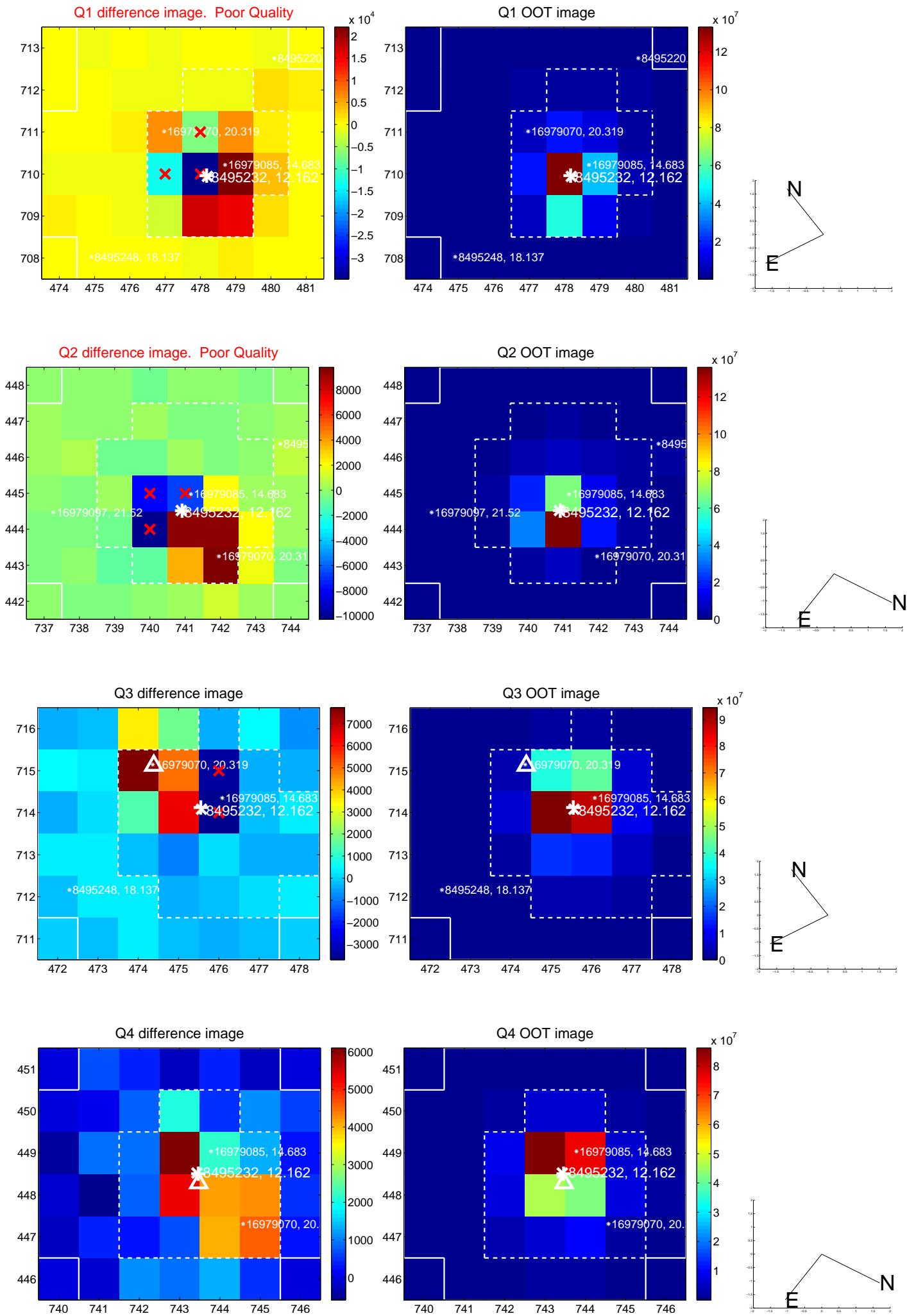


offset from photometric centroids

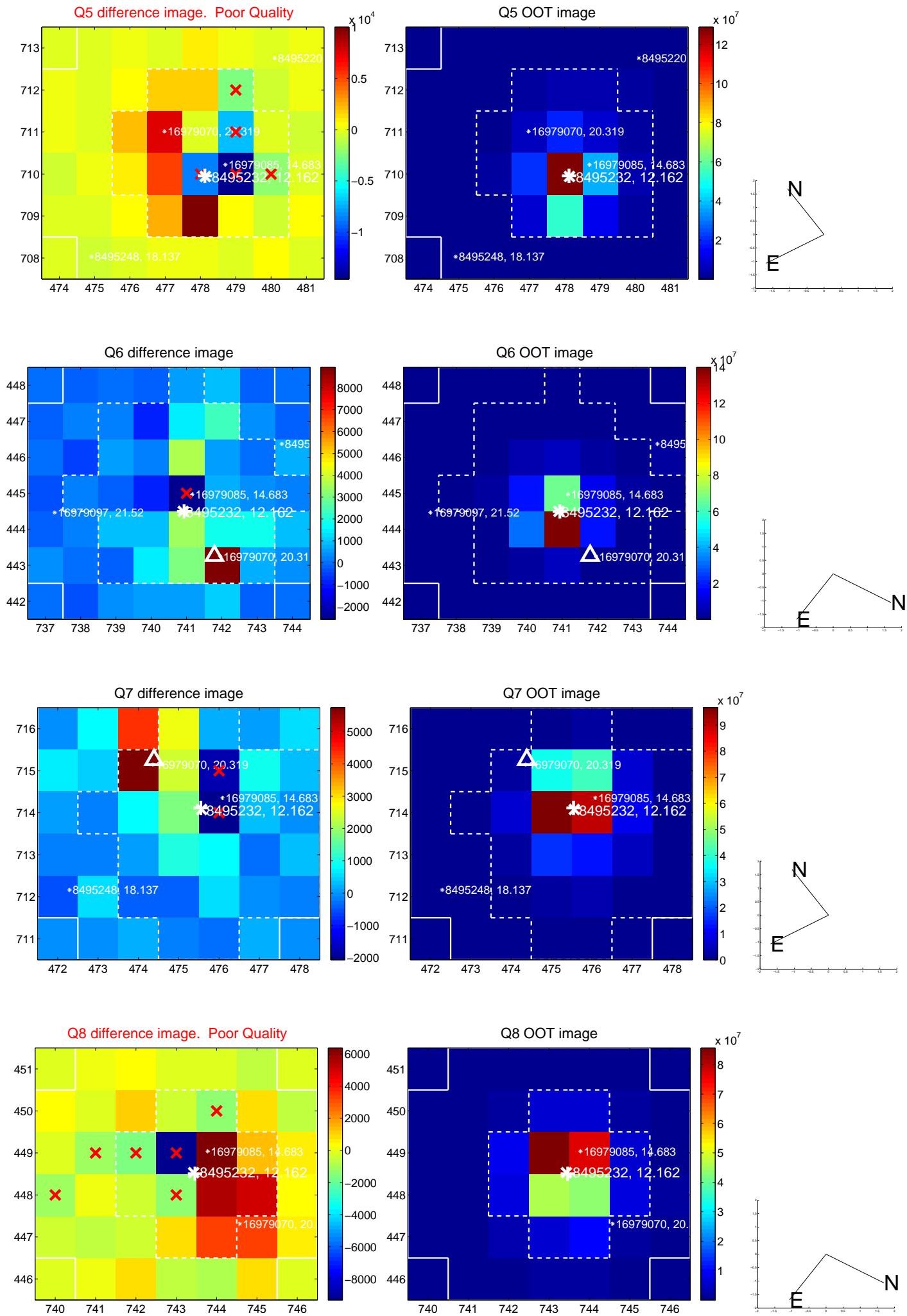


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

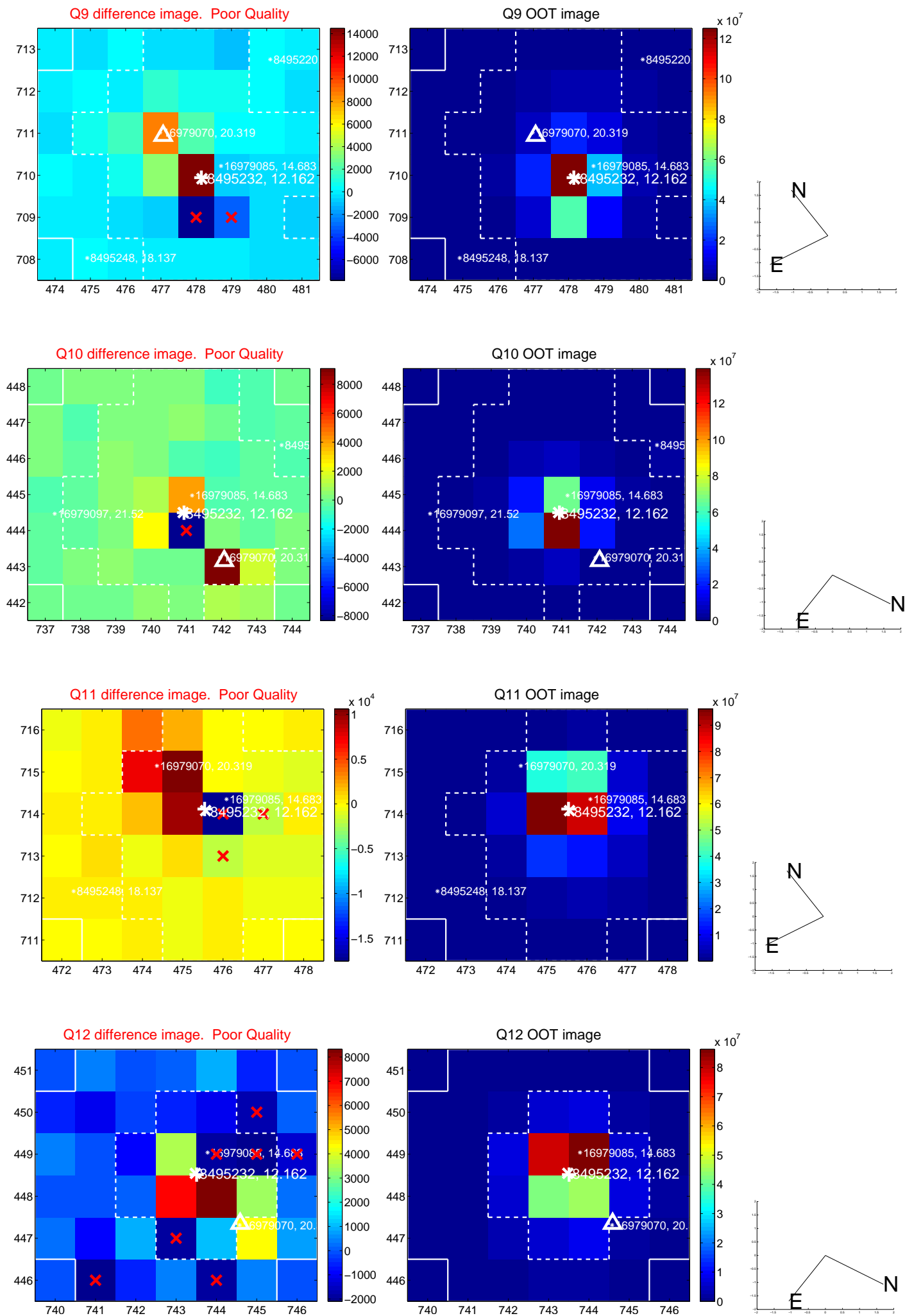
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



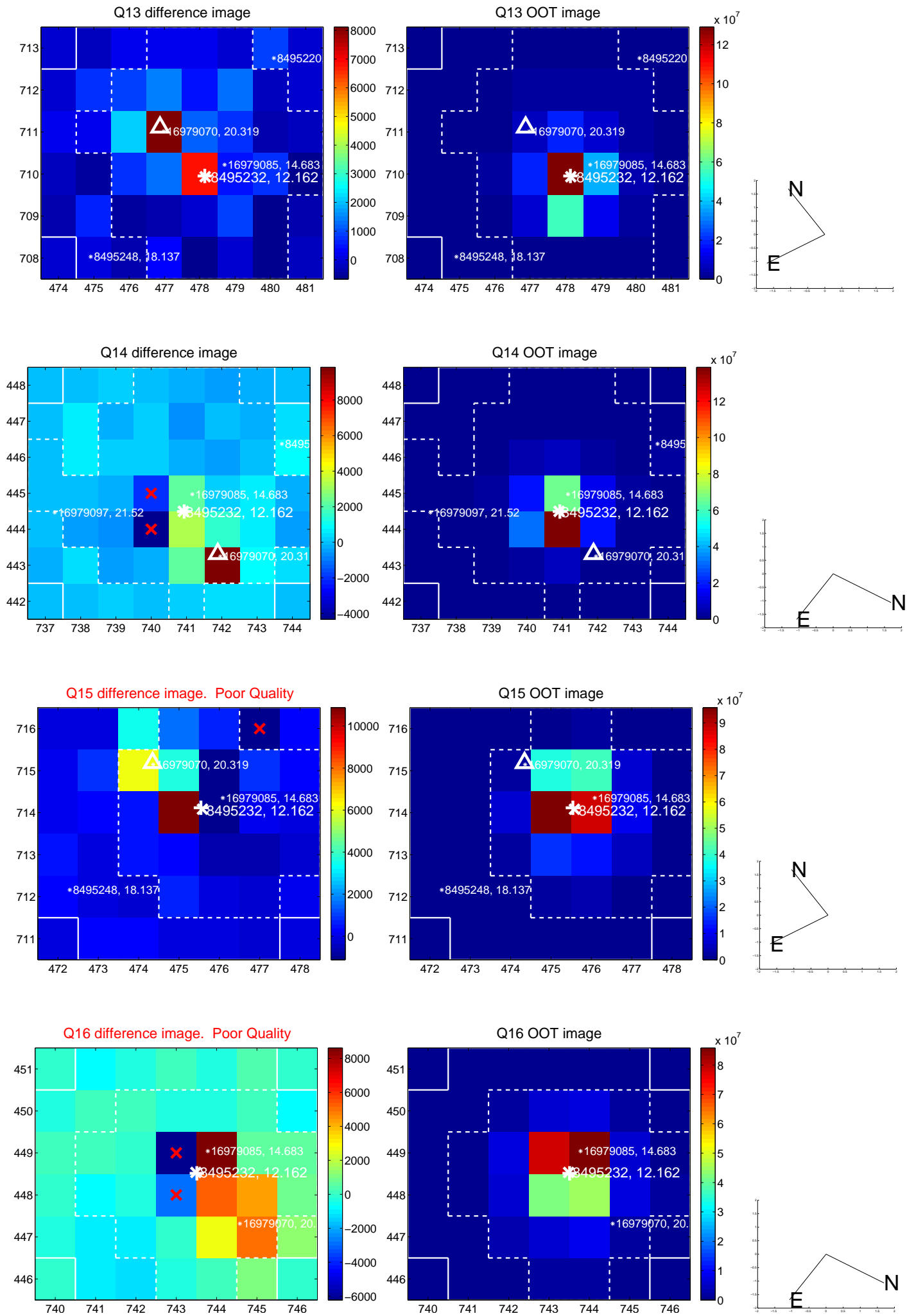
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

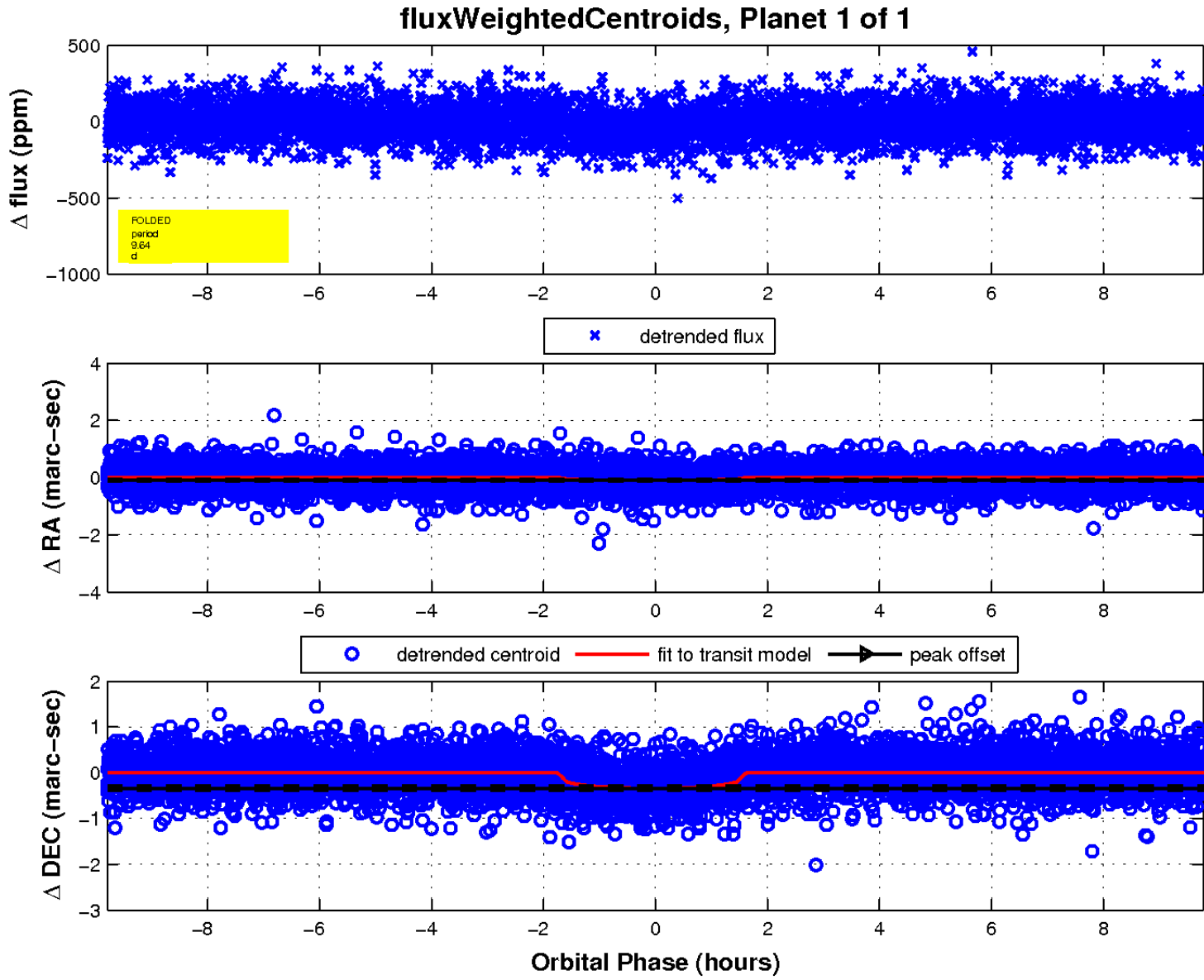
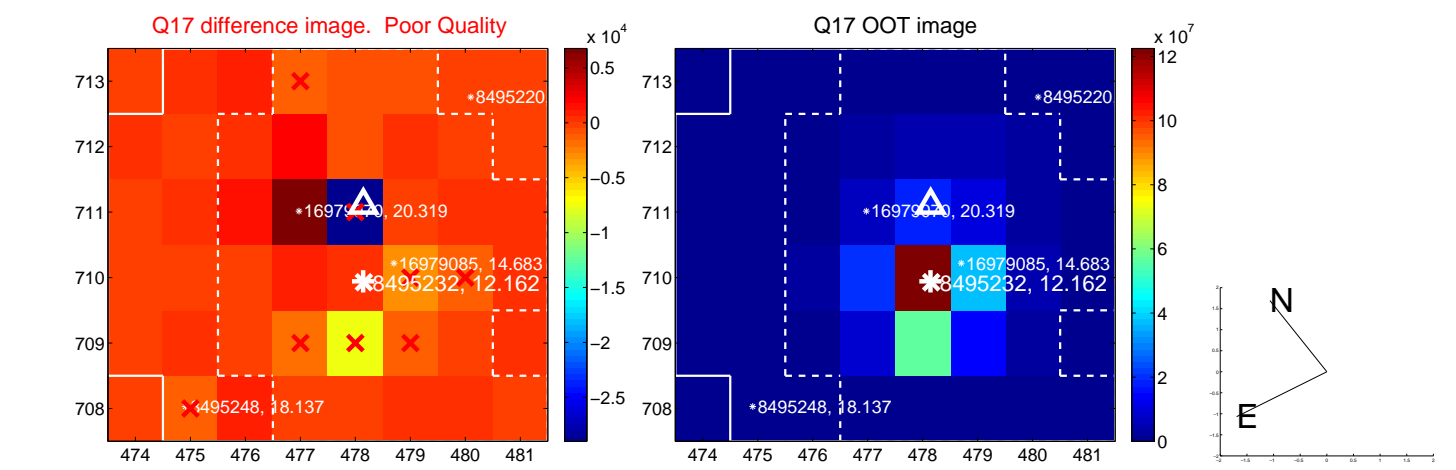


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

