

# KIC 003248033

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
003248033-01	OBS	0006.01	1.334126	132.365316	49.8	2.342	21.5	24.4	1.58	6178	1.32	5237.55

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003248033-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

**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 003248033-01

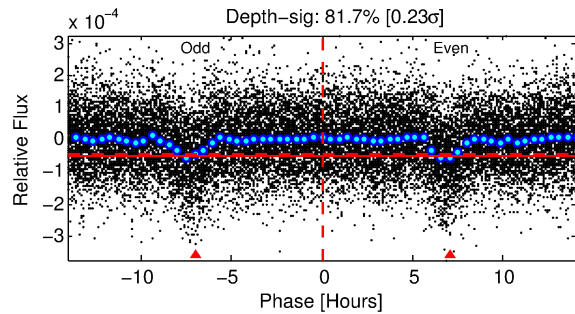
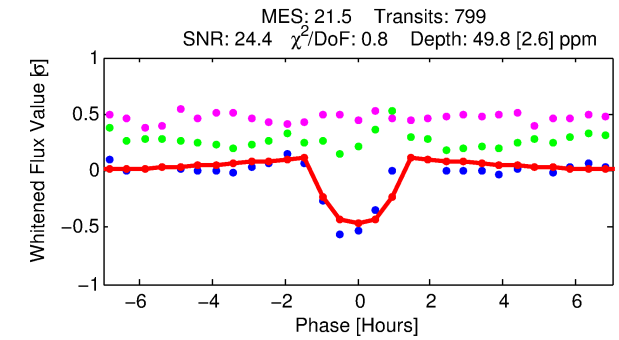
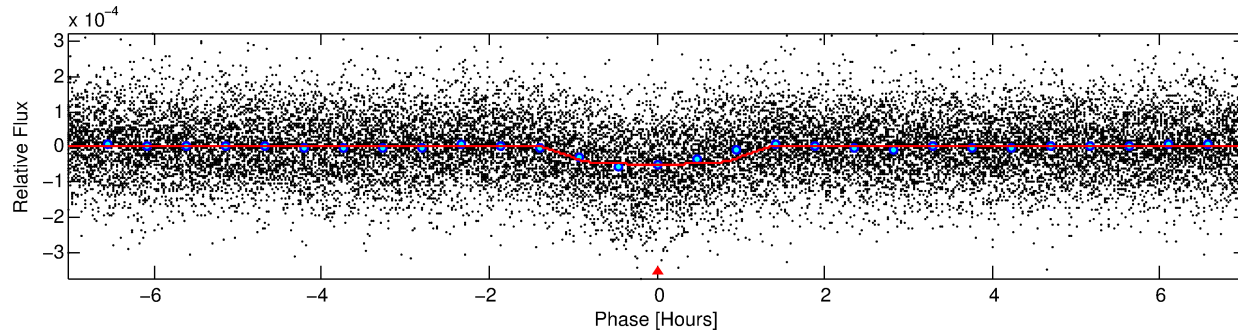
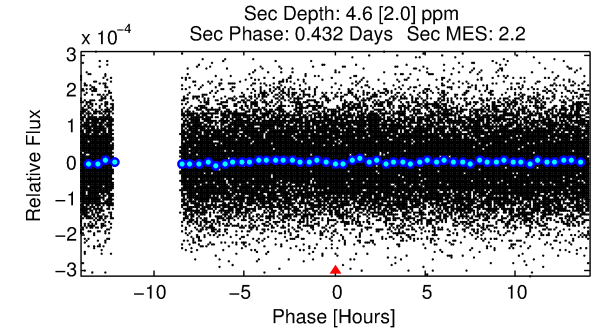
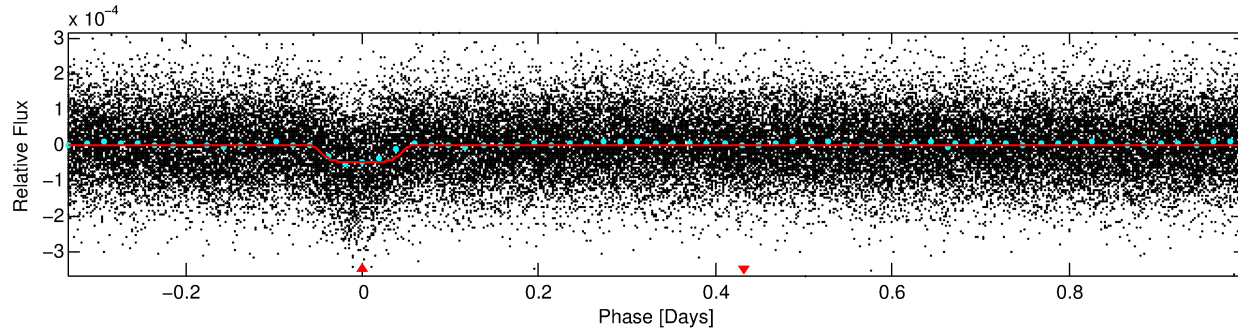
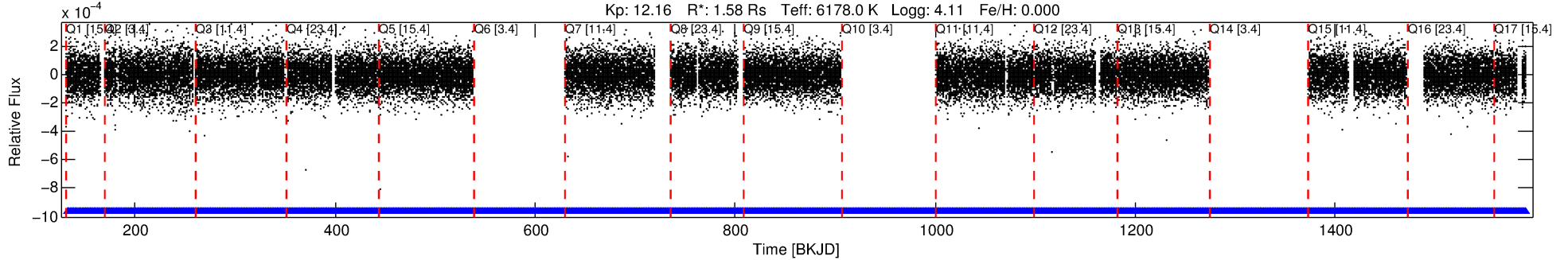
TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	ΔRow	ΔCol	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	σ <sub>P</sub>	σ <sub>T</sub>
003248033-01	3248033	1759.01	3248019	1:1	14.3	-4	0	15.39	12.16	1322.90	Direct-PRF	0	1.34	0.14

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's. σ<sub>P</sub> and σ<sub>T</sub> are the significance of the match in period and epoch. For a match to be considered significant σ<sub>P</sub> < 5.0 and σ<sub>T</sub> < 5.0. Matches which have σ<sub>P</sub> and σ<sub>T</sub> very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 3248033 Candidate: 1 of 1 Period: 1.334 d  
KOI: K00006.01 Corr: 0.870

Kp: 12.16 R\*: 1.58 Rs Teff: 6178.0 K Logg: 4.11 Fe/H: 0.000



## DV Fit Results:

Period = 1.33413 [0.00000] d  
Epoch = 132.3653 [0.0011] BKJD  
Rp/R\* = 0.0076 [0.0015]  
a/R\* = 2.15 [1.82]  
b = 0.90 [0.22]  
Seff = 5237.55 [1611.94]  
Teq = 2169 [167] K  
Rp = 1.32 [0.39] Re  
a = 0.0249 [0.0048] AU  
Ag = 0.91 [0.60] [-0.15σ]  
Teffp = 3274 [488] K [2.14σ]

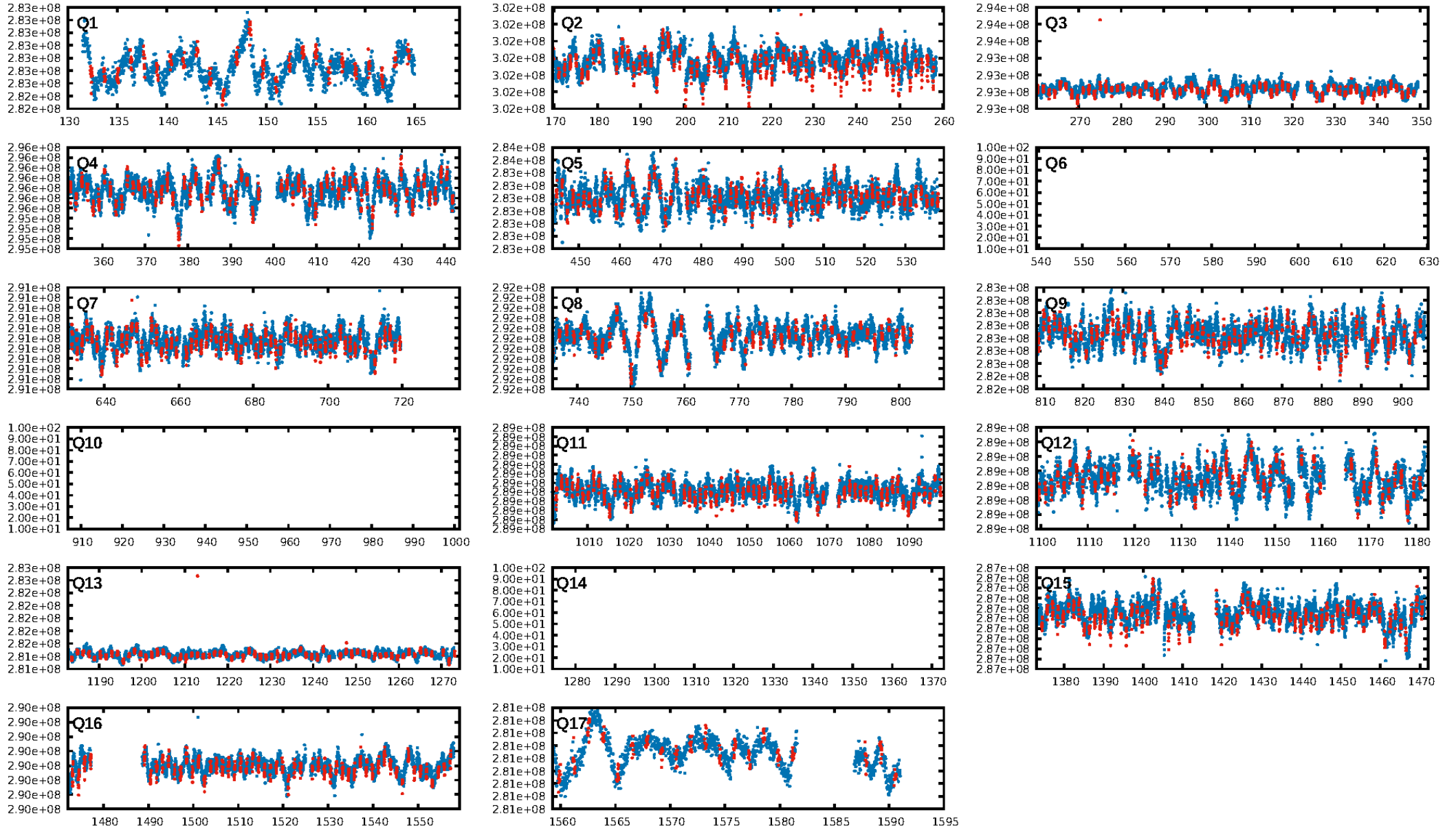
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.01e-101  
RollingBand-fgt: 1.00 [754/754]  
GhostDiagnostic-chr: -0.2755  
Centroid-sig: N/A  
Centroid-so: 88.594 arcsec [205.04σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [14/14]

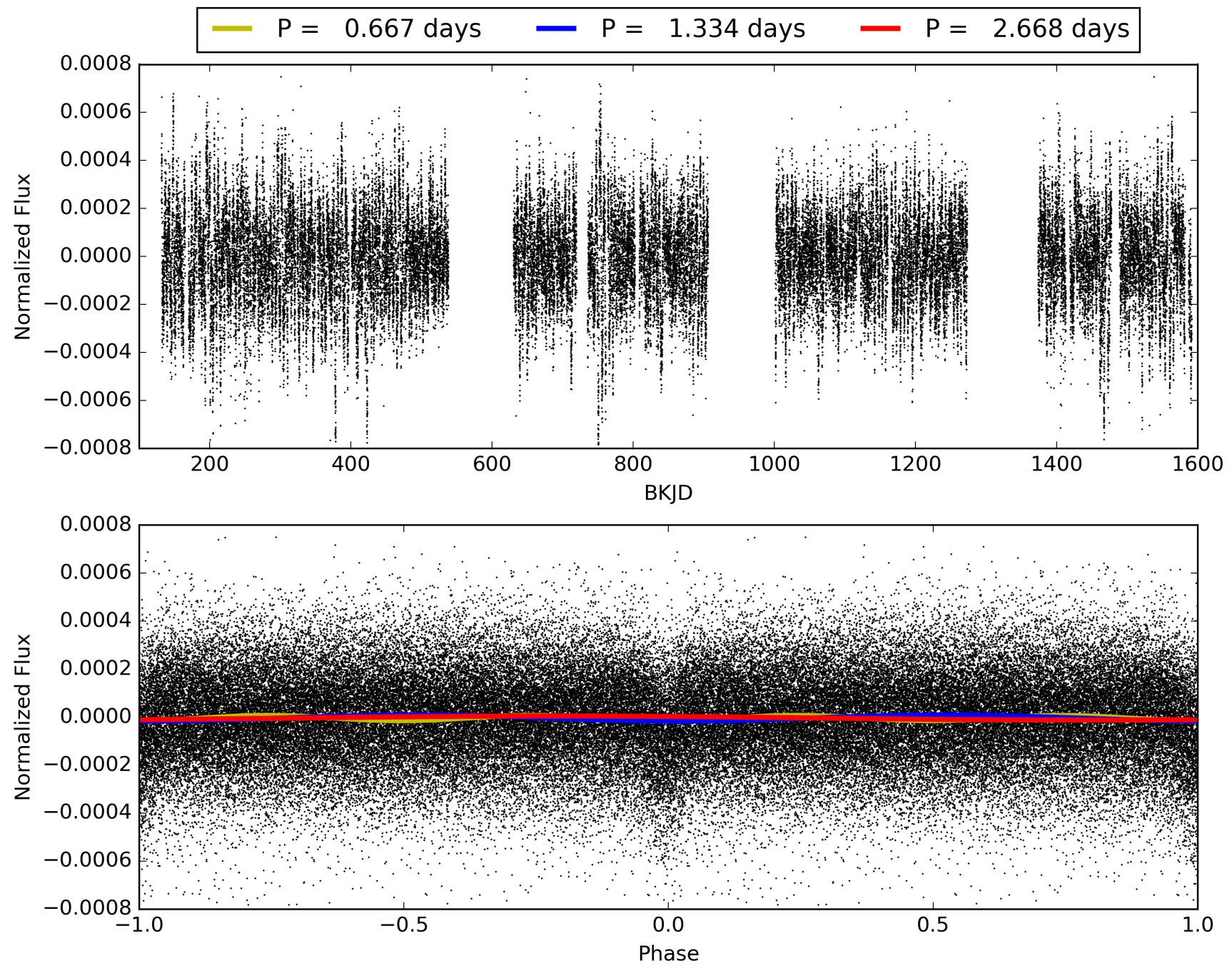
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:37:34 Z

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

# TCE 003248033-01, PDC Light Curves

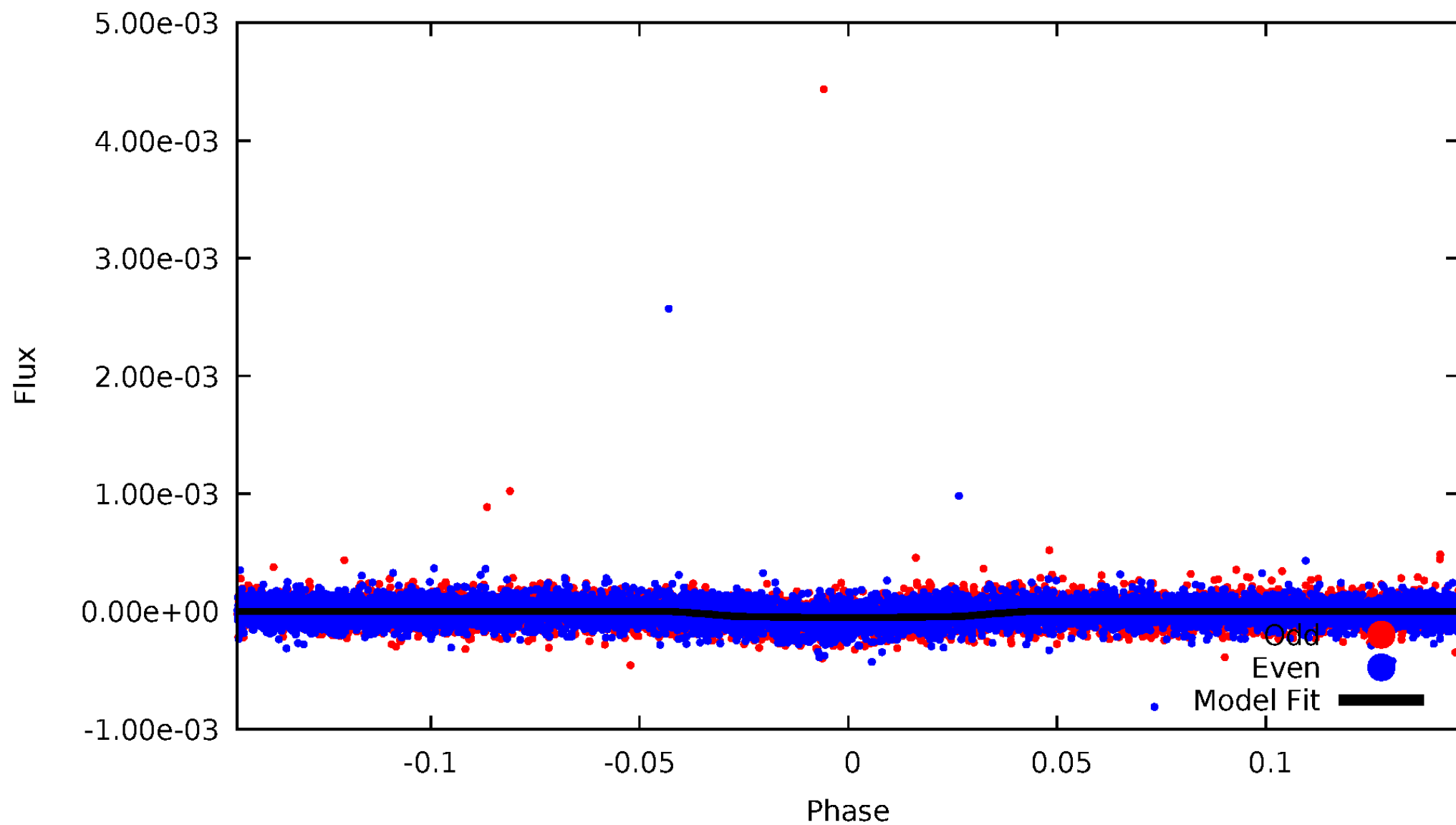


TCE 003248033-01



# DV Odd/Even

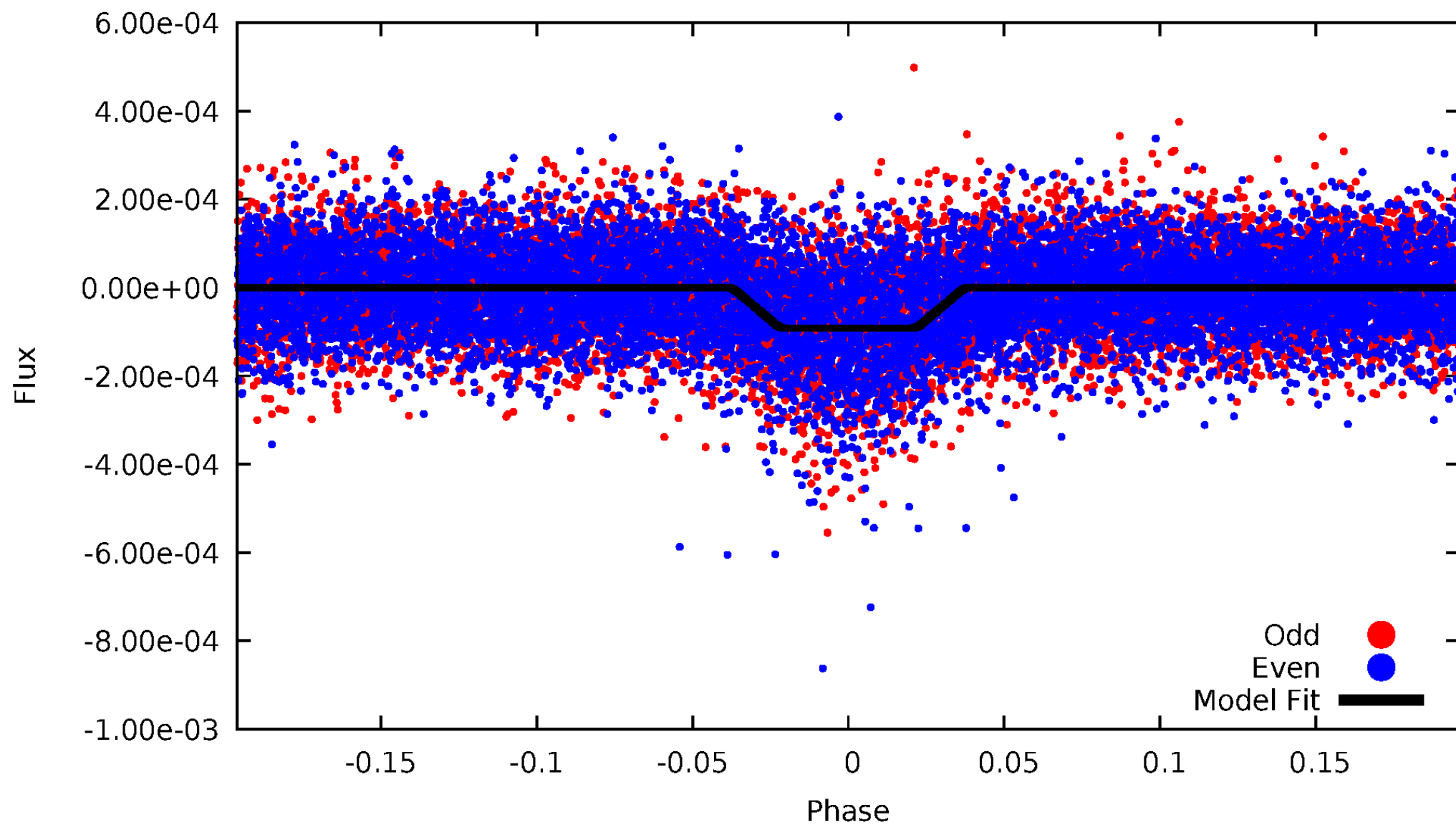
TCE 003248033-01





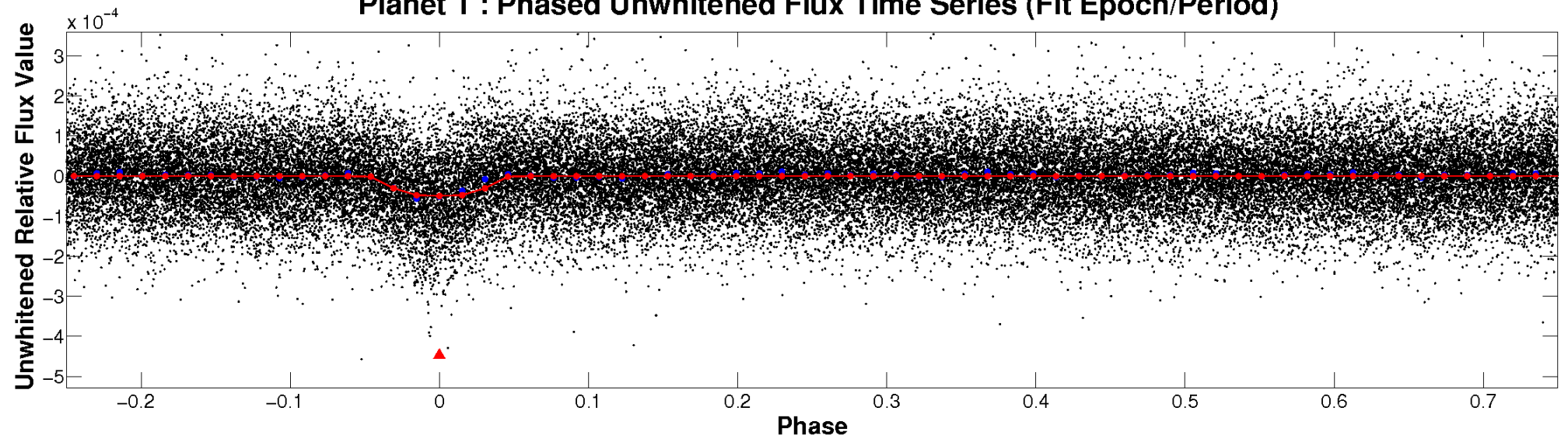
# ALT Odd/Even

TCE 003248033-01

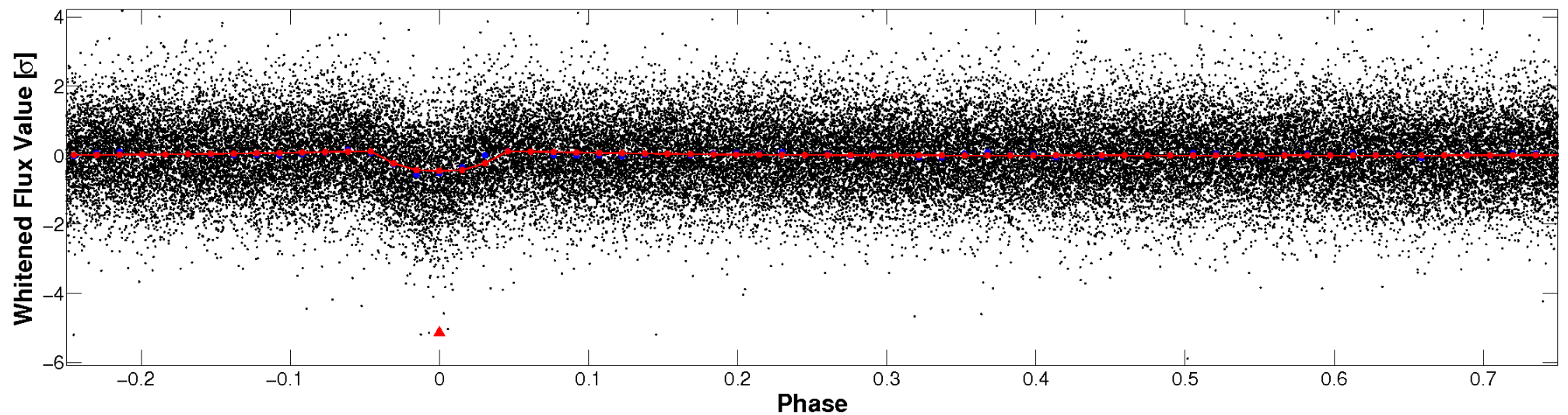


# Non-Whitened Vs. Whitened Light Curve

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

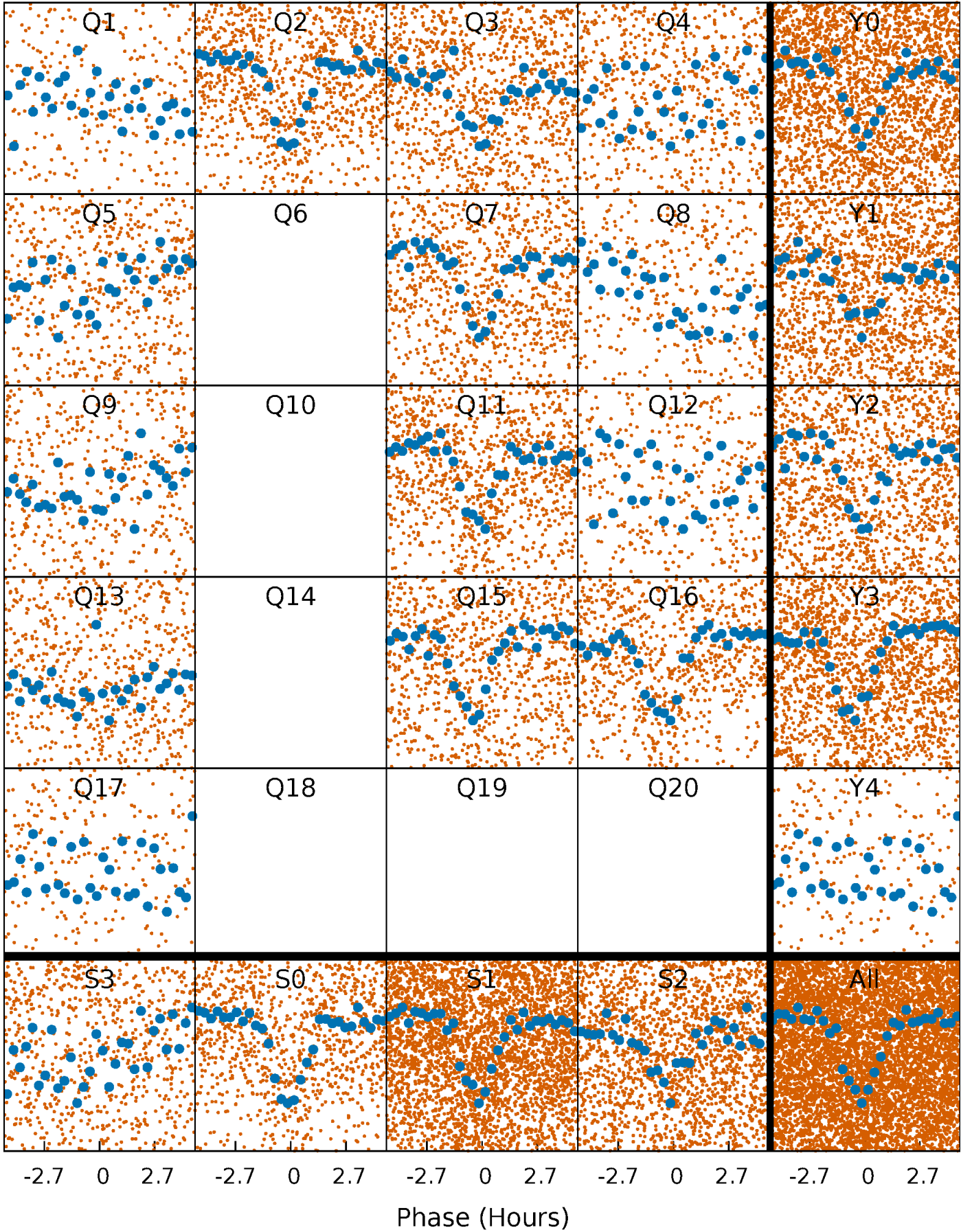


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

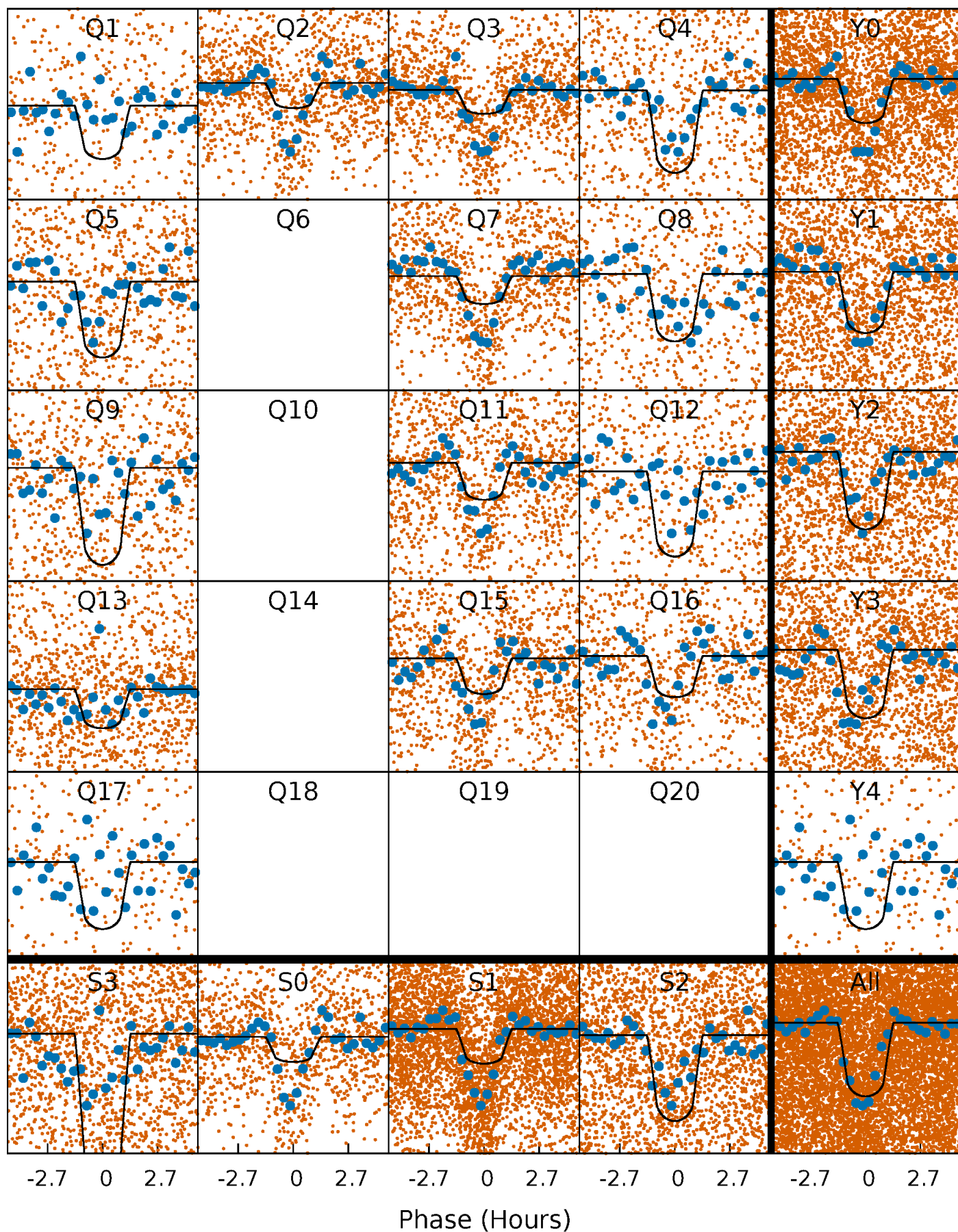
TCE 003248033-01   P= 1.334126 Days    $T_0=132.365316$  (BKJD)





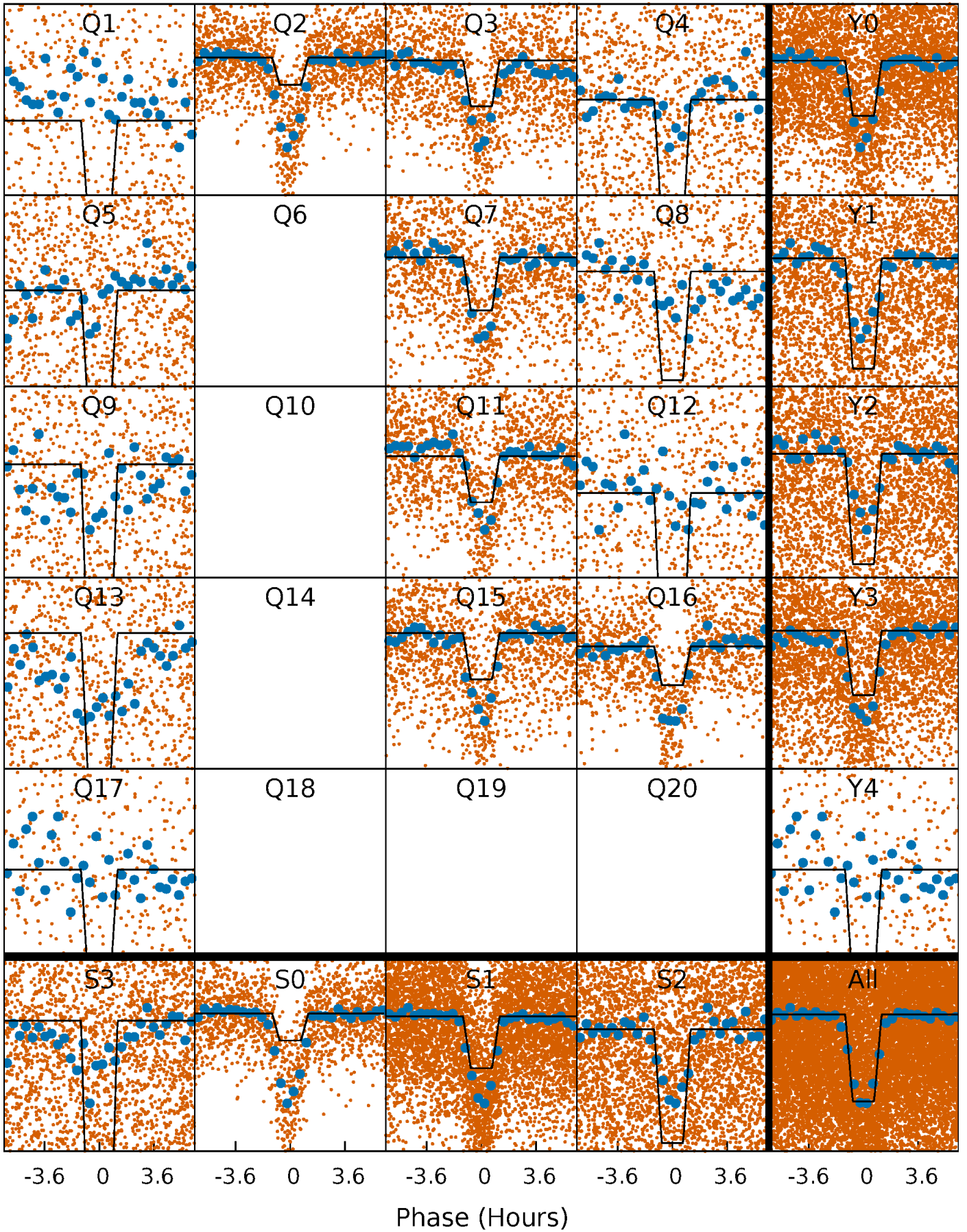
# DV Quarter-Phased Transit Curves

TCE 003248033-01 P= 1.334126 Days  $T_0=132.365316$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

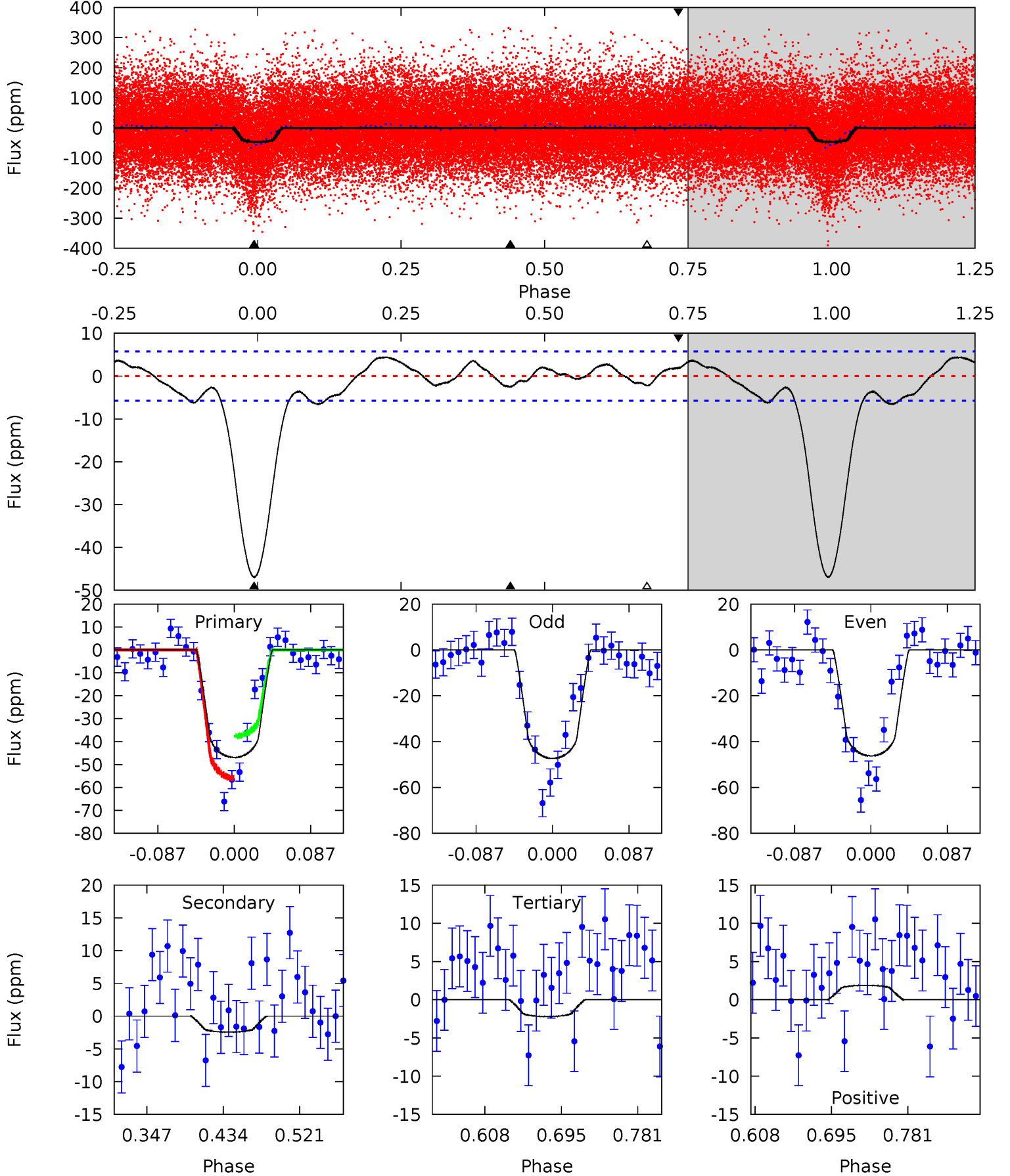
TCE 003248033-01 P= 1.334102 Days  $T_0=132.368076$  (BKJD)



# DV Model-Shift Uniqueness Test

003248033-01, P = 1.334126 Days, E = 131.031190 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
37.5	1.95	1.76	1.51	4.59	1.71	2.32	35.7	36.0	0.19	0.44	0.43	1.03	0.09	7.30

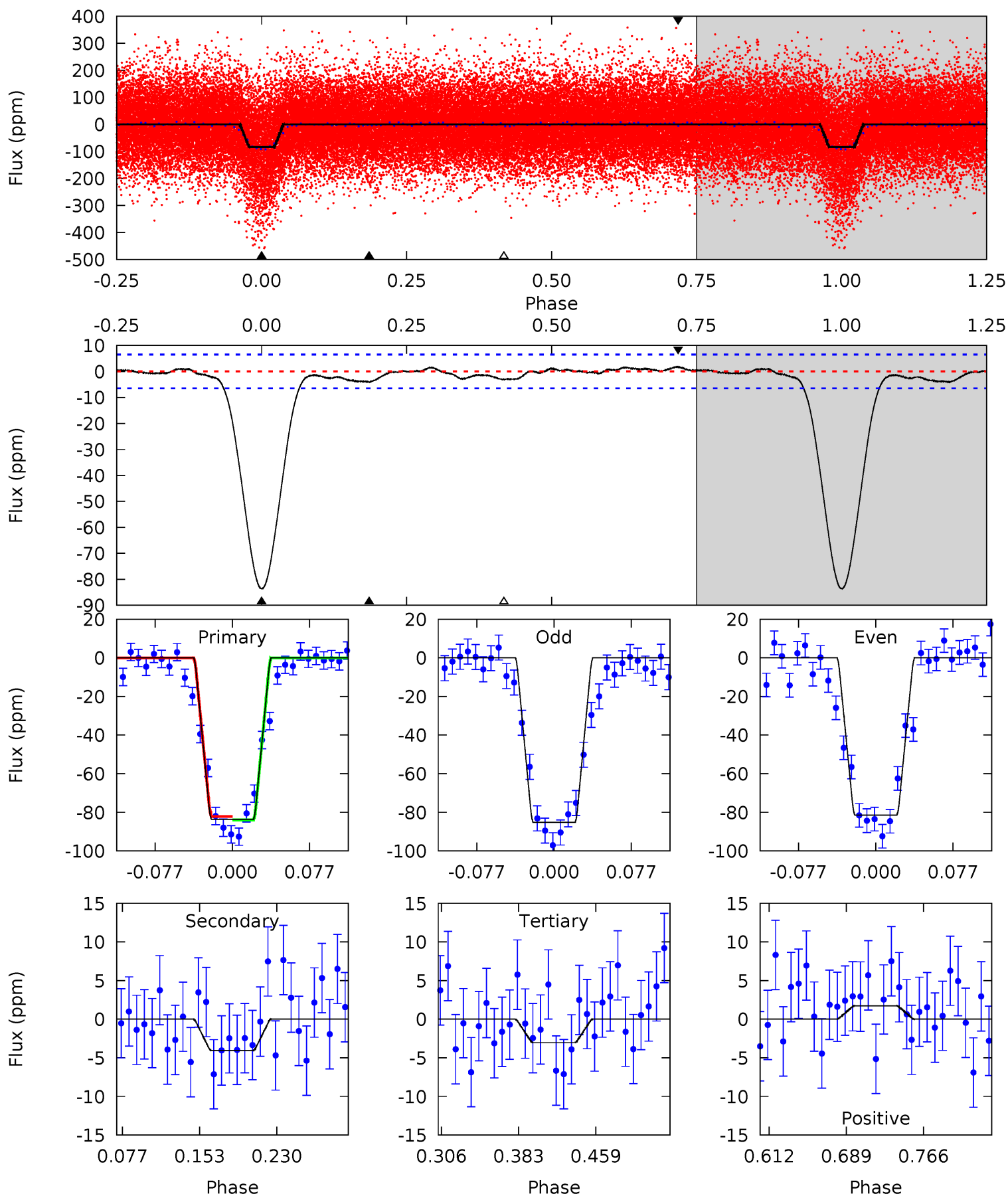




# Alt Model-Shift Uniqueness Test

003248033-01, P = 1.334102 Days, E = 131.033974 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
59.4	2.89	2.15	1.23	4.62	1.77	0.89	57.3	58.2	0.74	1.66	1.33	1.16	0.02	0.62





### Stellar Parameters For KIC 003248033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6178^{+111}_{-136}$	$4.106^{+0.168}_{-0.112}$	$0.000^{+0.150}_{-0.150}$	$1.580^{+0.277}_{-0.339}$	$1.160^{+0.131}_{-0.107}$	$0.415^{+0.353}_{-0.139}$
	+2%/-2%	+4%/-3%	+inf%/-inf%	+18%/-21%	+11%/-9%	+85%/-34%
Source	SPE18	SPE18	SPE18	DSEP		

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

### Secondary Eclipse Parameters for KIC 003248033-01 / KOI 0006.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-2 \pm 1$	$1.29^{+0.33}_{-0.29}$	$3020^{+163}_{-185}$	$2867^{+560}_{-5602}$	$0.472^{+0.439}_{-0.285}$
Alt.	$-4 \pm 1$	$1.62^{+0.35}_{-0.31}$	$3020^{+148}_{-167}$	$2979^{+399}_{-1080}$	$0.530^{+0.324}_{-0.226}$

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

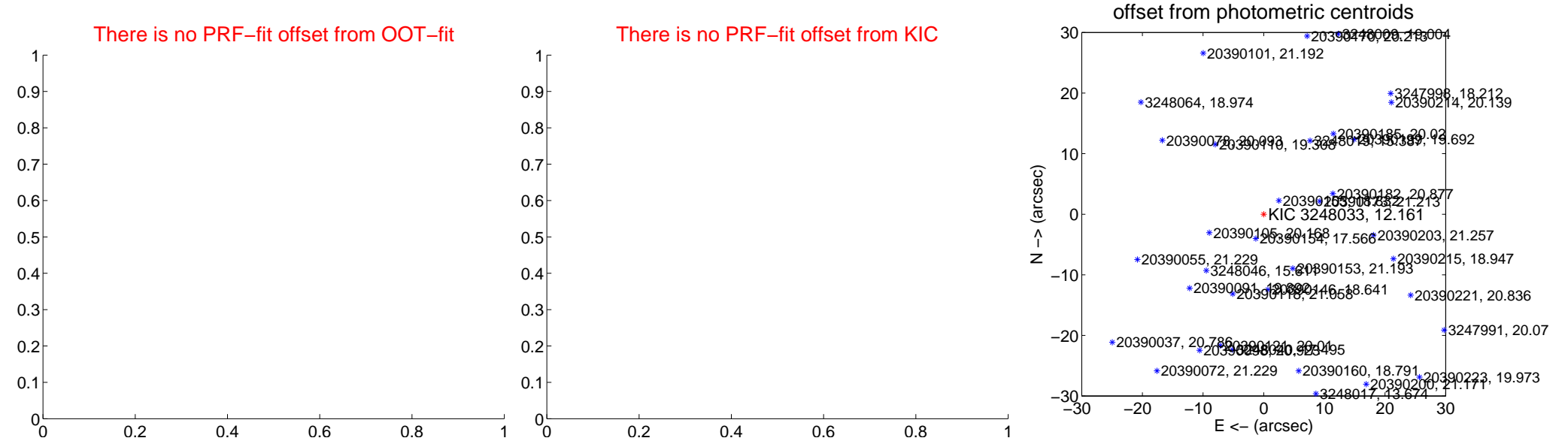
## DV Centroid Data

Supplemental centroid analysis for 003248033-01. Kepler magnitude: 12.16. Transit SNR 24.36

There are 0 quarters with good PRF difference image offsets

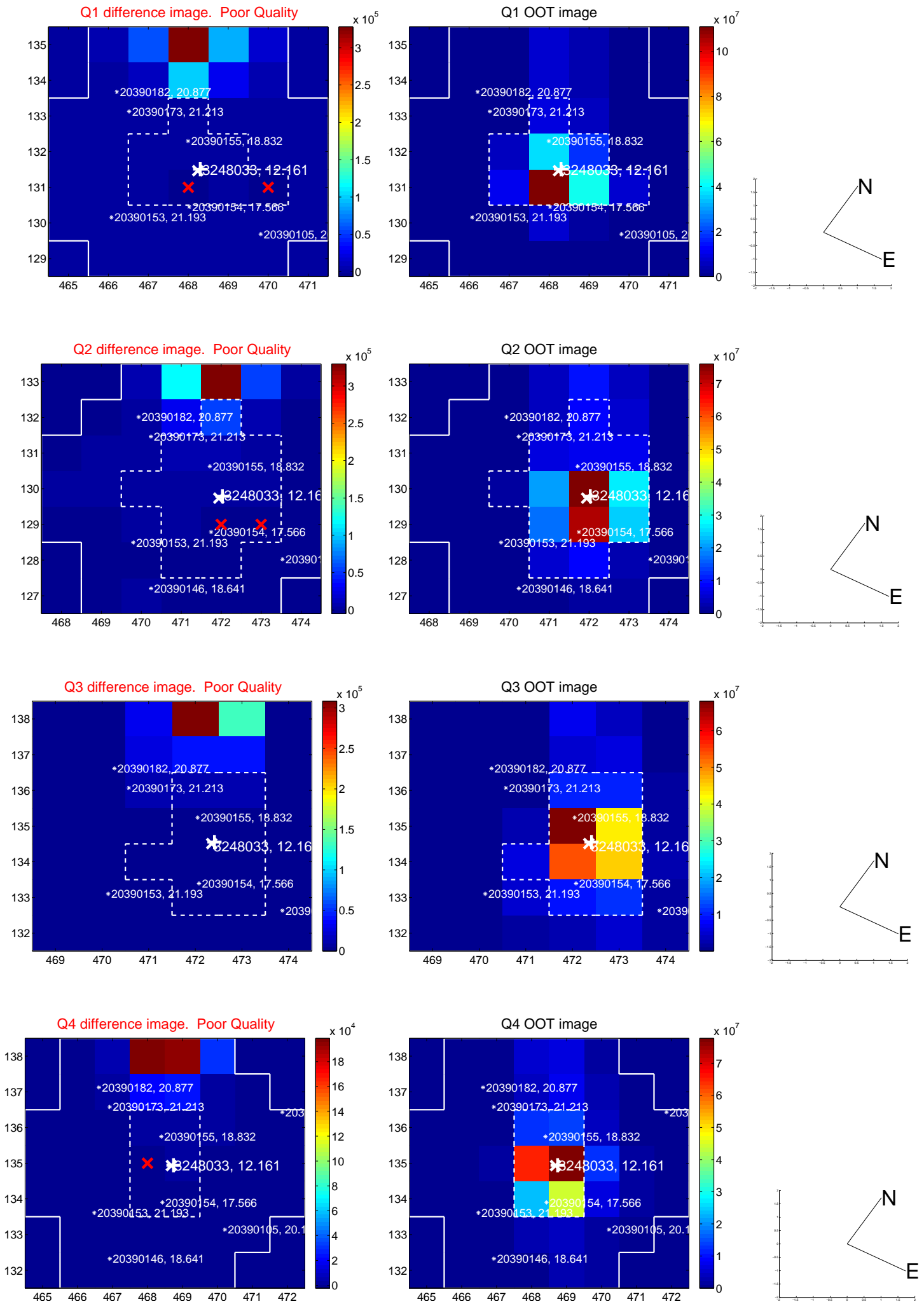
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$88.59 \pm 0.43$	205.04	$-50.61 \pm 0.43$	$72.70 \pm 0.43$

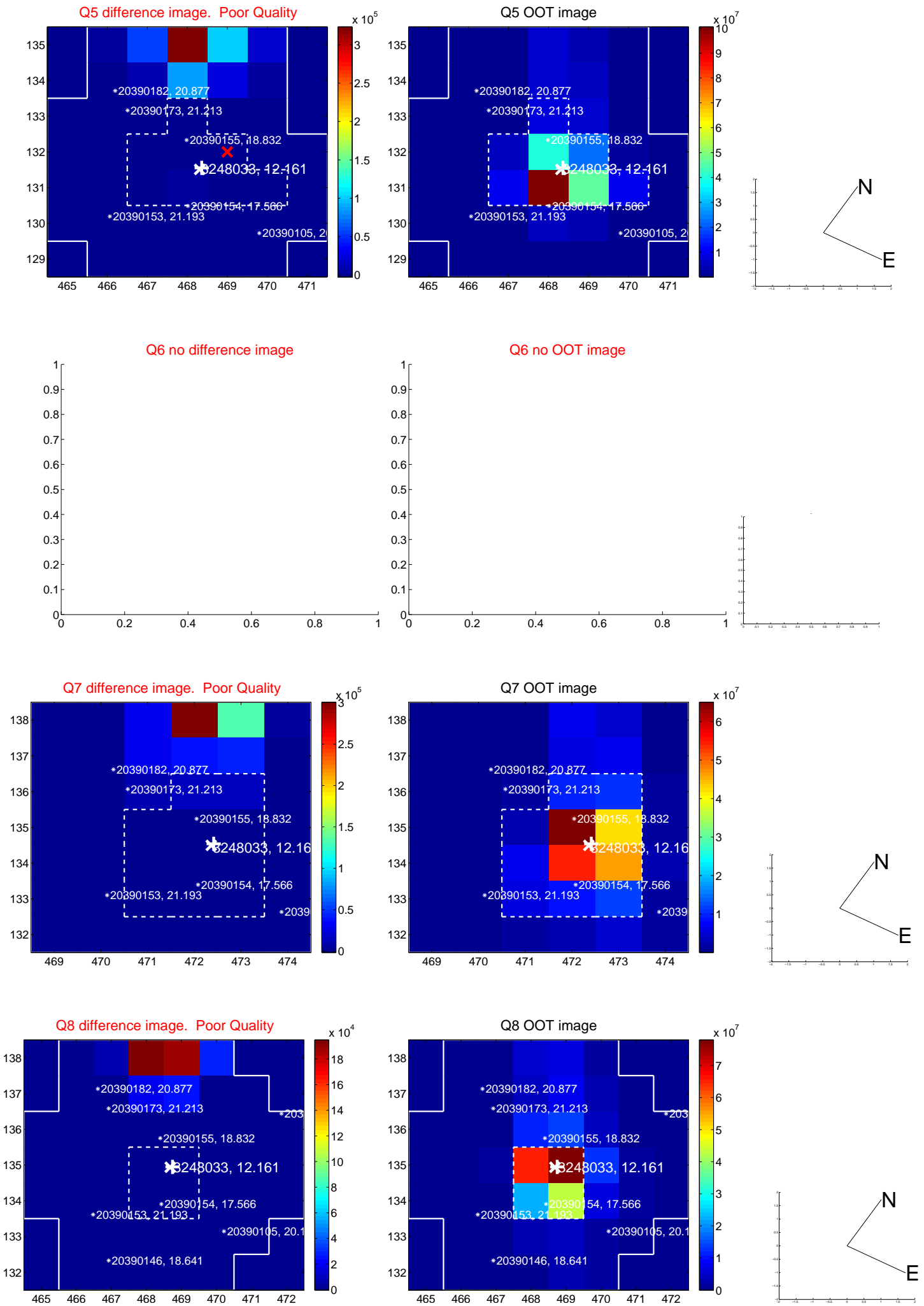


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

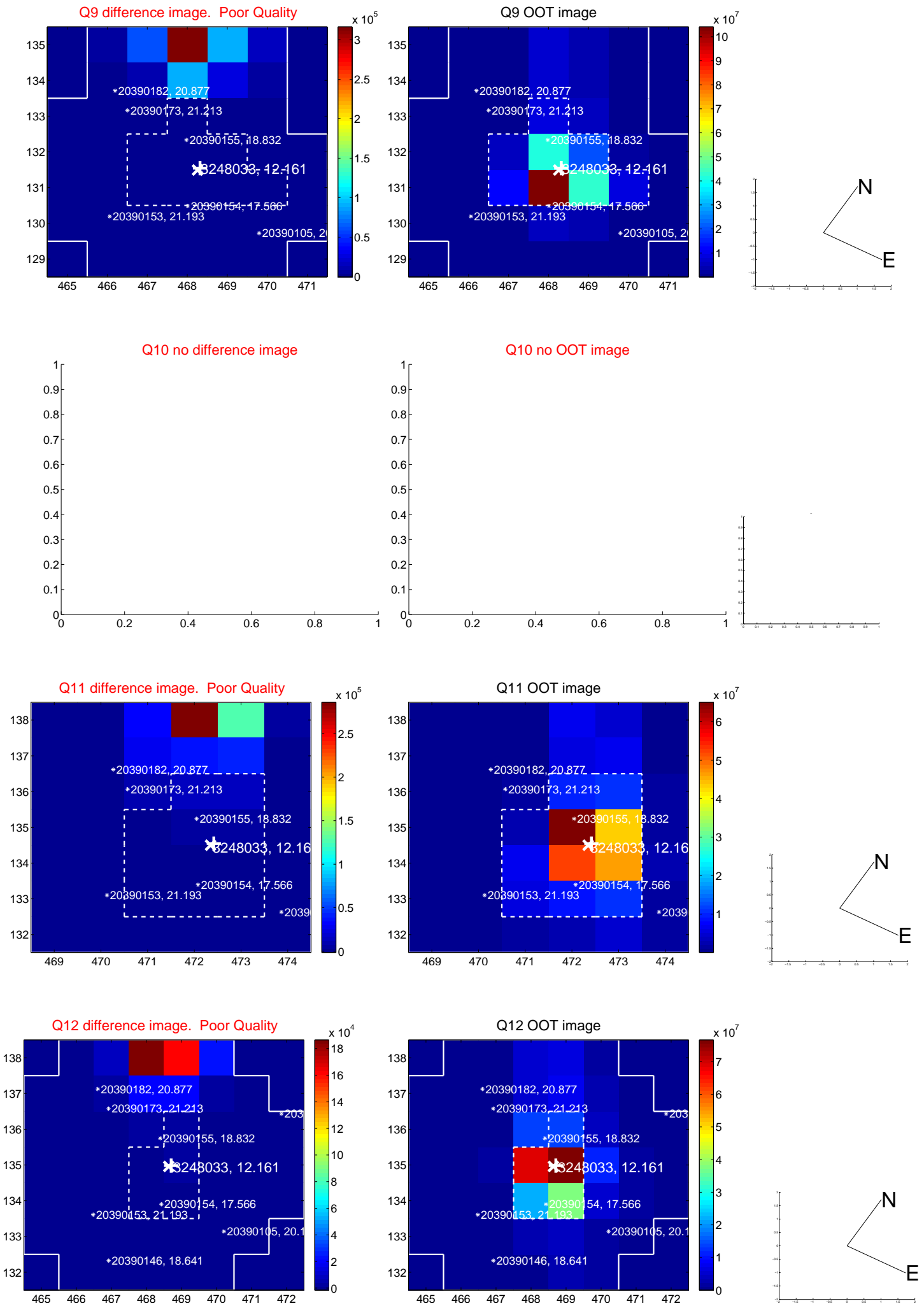


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

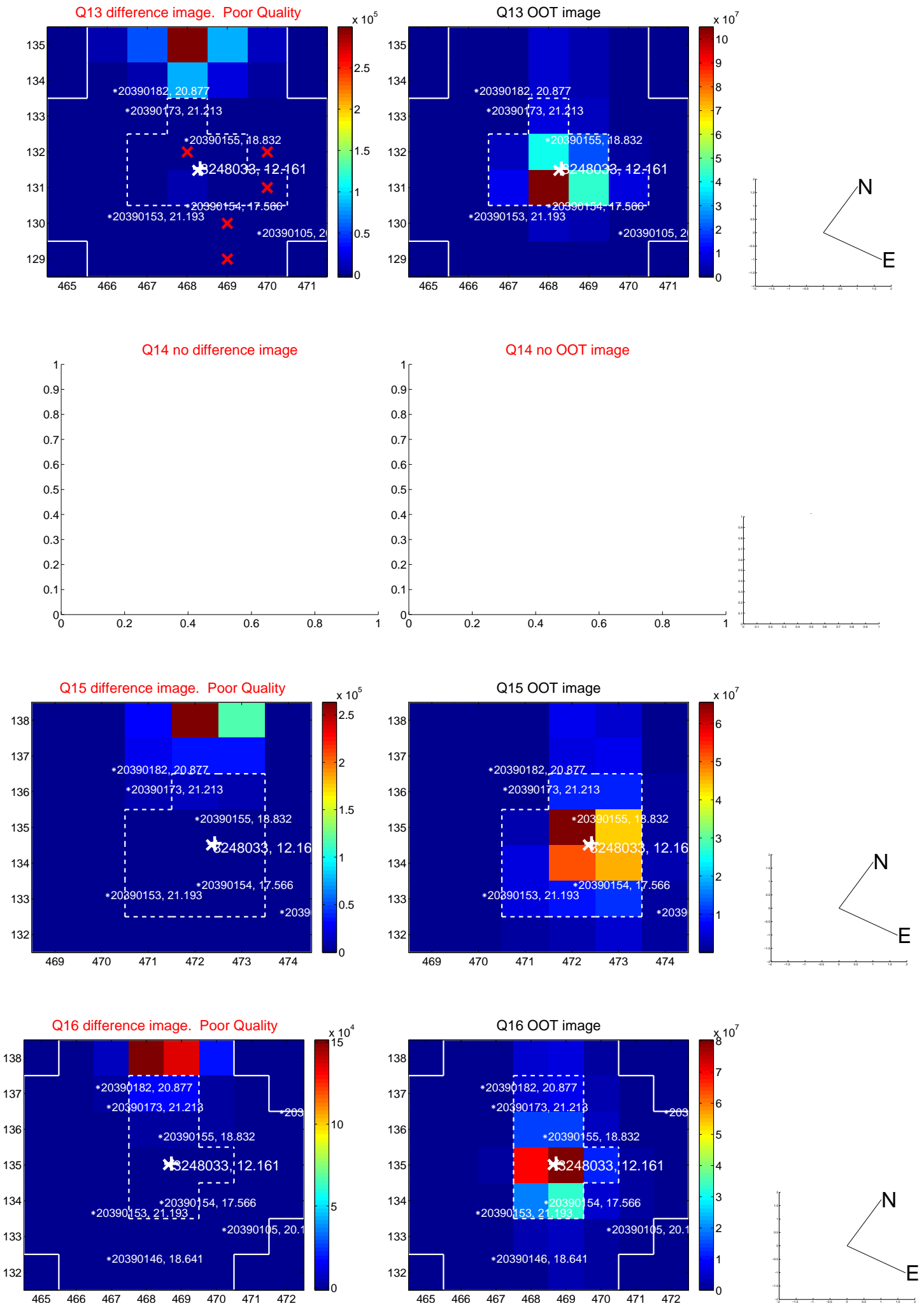




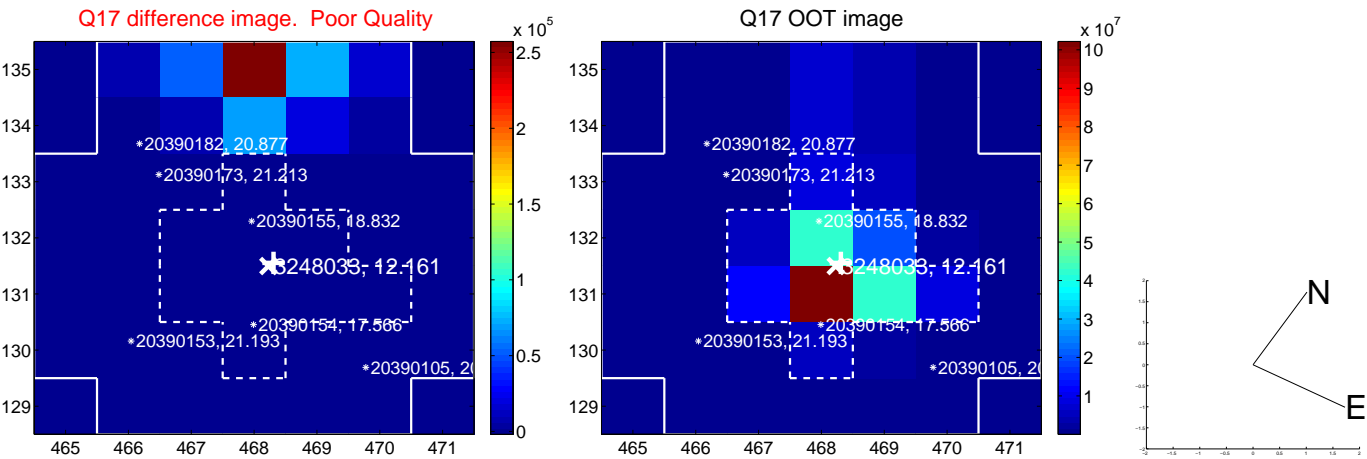
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



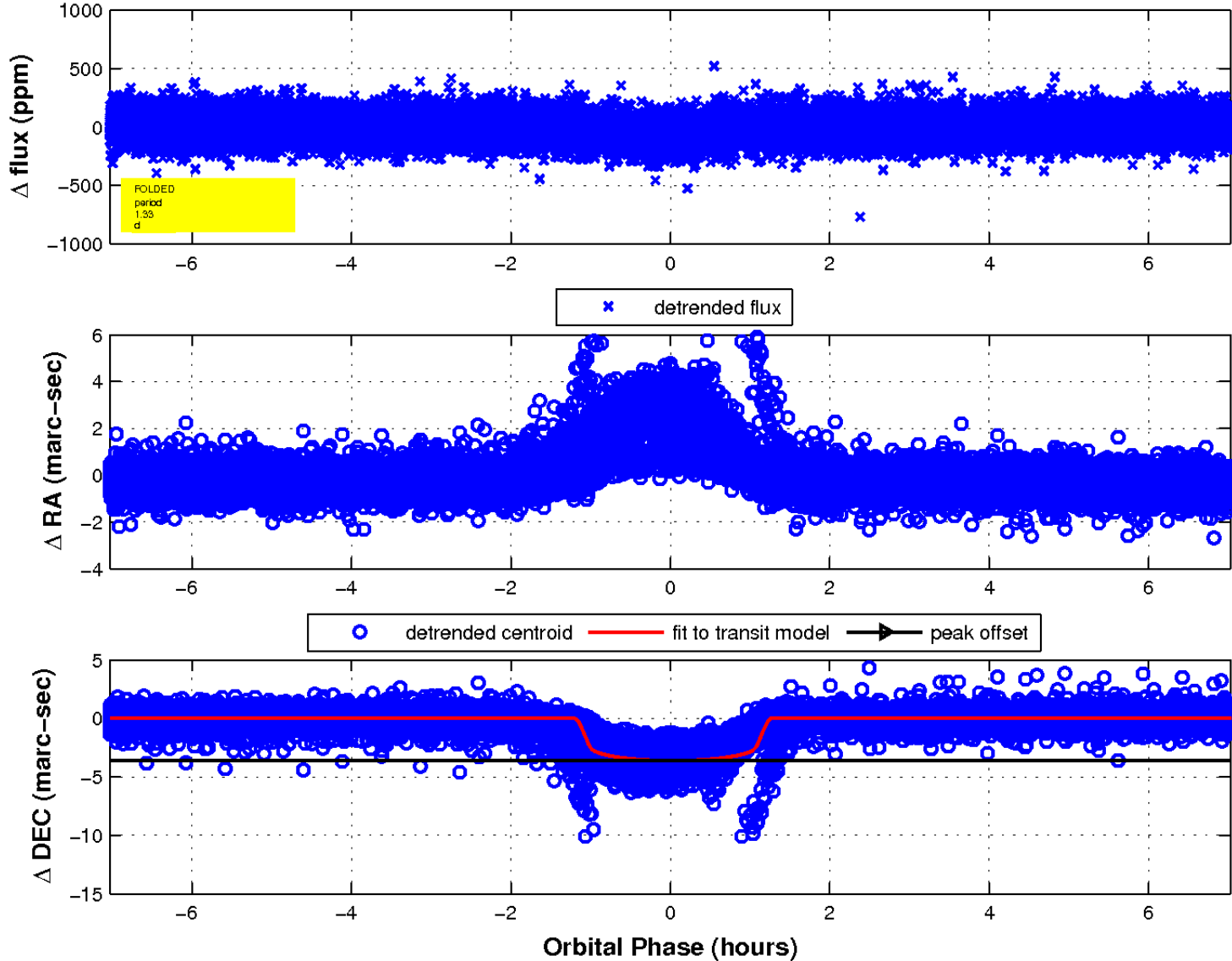
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

