

# KIC 012265786

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
012265786-01	OBS	4595.01	0.597012	131.718293	128.0	1.029	9.8	12.5	0.63	4985	0.70	1467.14

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012265786-01	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 012265786-01

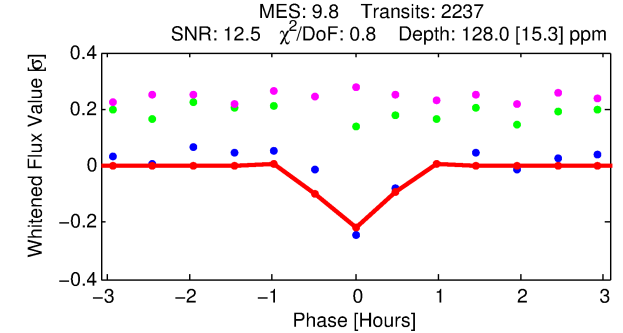
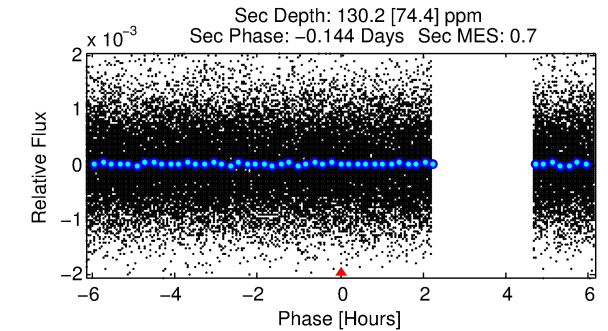
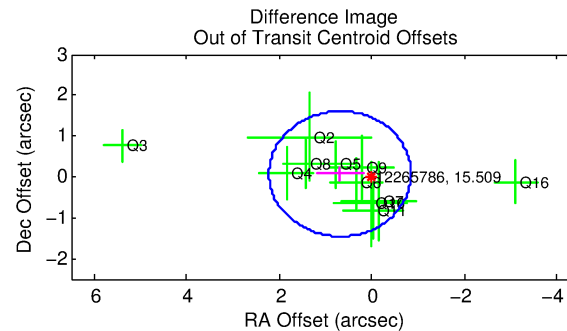
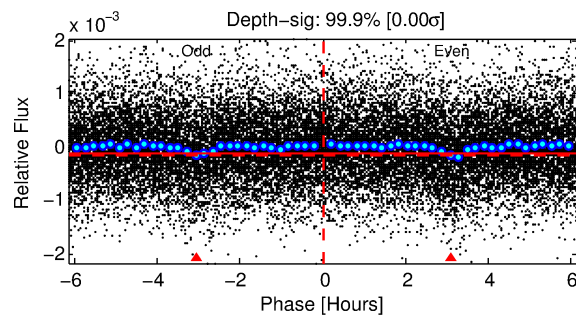
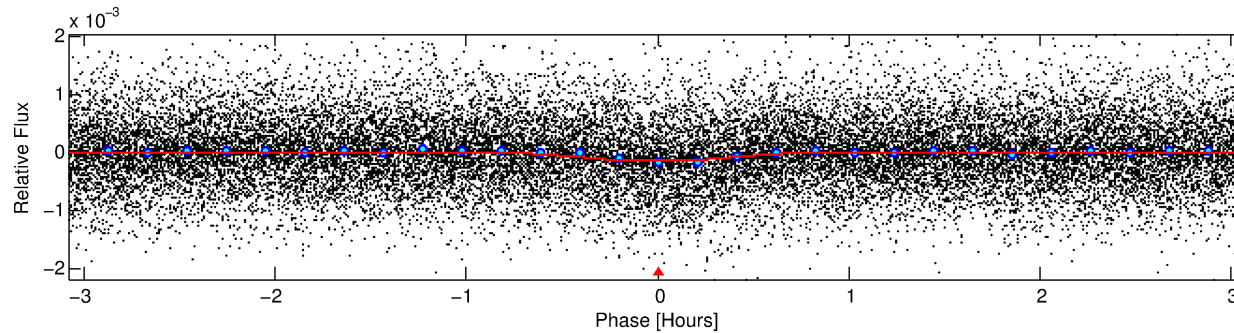
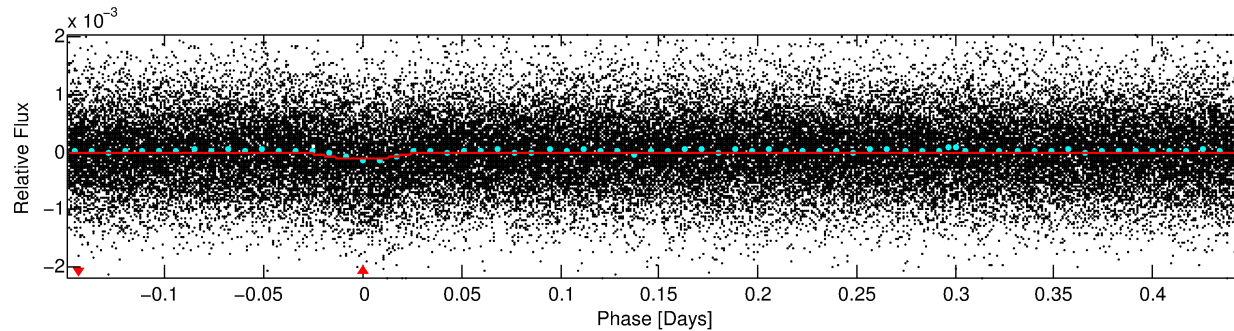
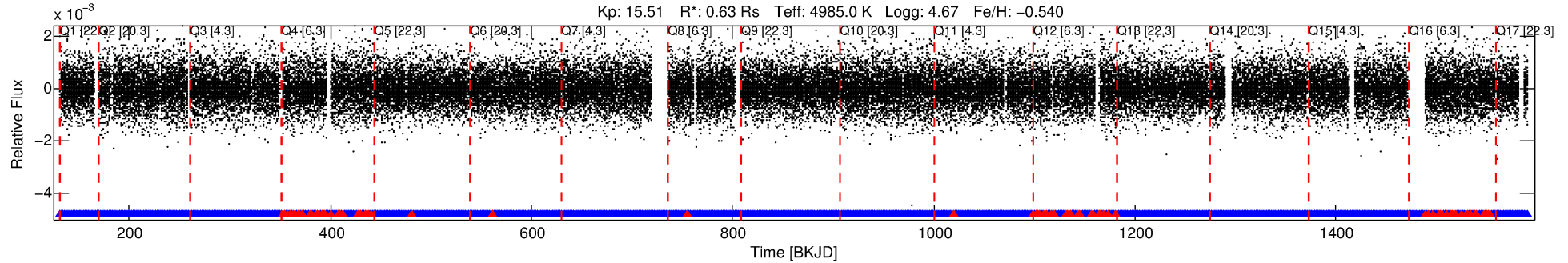
No Significant Match Found

# DV One-Page Summary

KIC: 12265786 Candidate: 1 of 1 Period: 0.597 d

KOI: K04595 Corr: No Ephemeris Match

Kp: 15.51 R\*: 0.63 Rs Teff: 4985.0 K Logg: 4.67 Fe/H: -0.540



## DV Fit Results:

Period = 0.59701 [0.00001] d  
Epoch = 131.7183 [0.0014] BKJD  
Rp/R\* = 0.0103 [0.0163]  
a/R\* = 4.43 [24.83]  
b = 0.20 [28.31]  
Seff = 1467.14 [267.28]  
Teq = 1578 [72] K  
Rp = 0.71 [1.12] Re  
a = 0.0122 [0.0012] AU  
Ag = 21.55 [69.64] [0.30σ]  
Teffp = 5257 [4246] K [0.87σ]

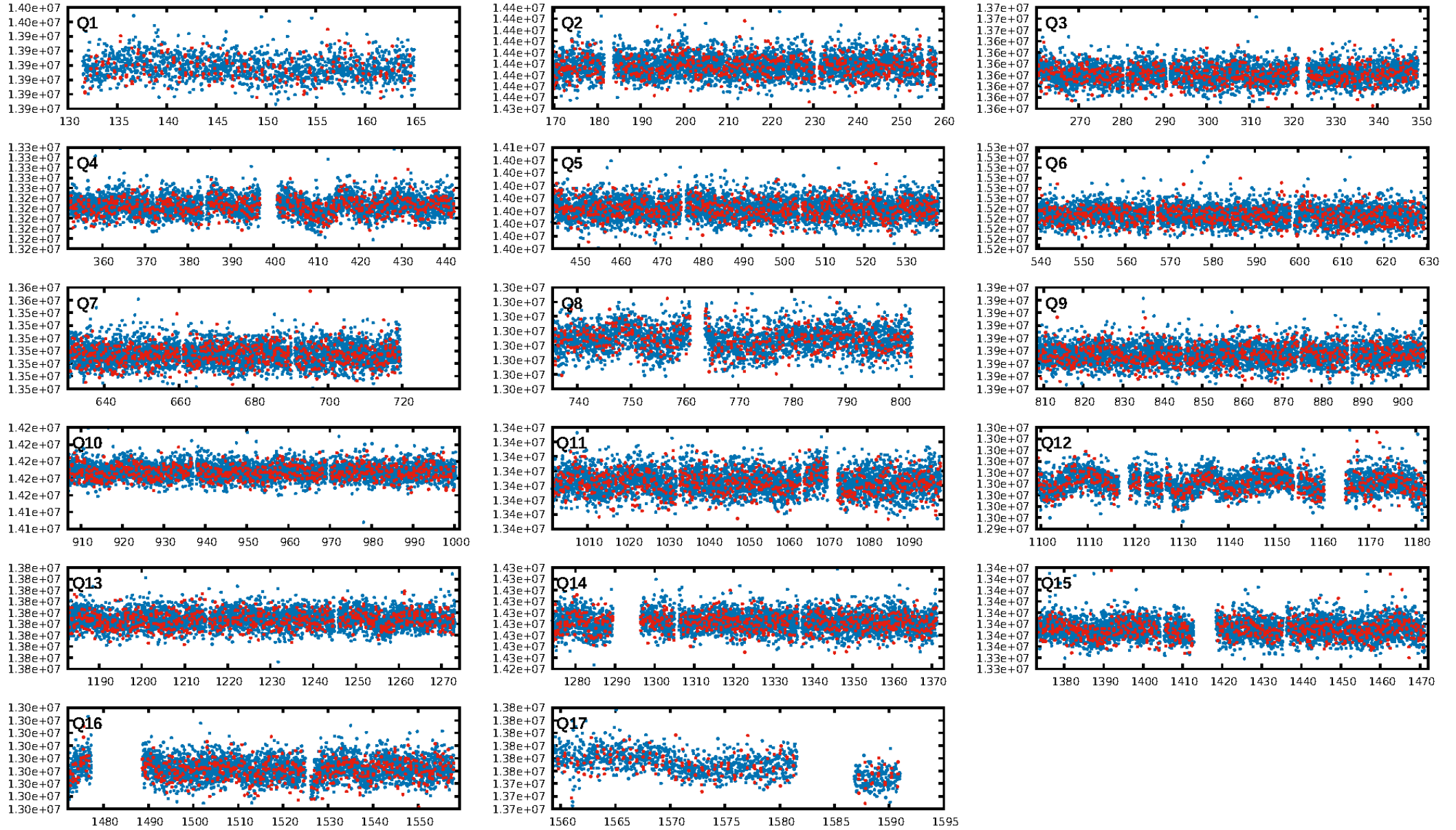
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.75e-22  
RollingBand-fgt: 0.96 [2051/2137]  
GhostDiagnostic-chr: 2.416  
Centroid-sig: 1.1%  
Centroid-so: 2.214 arcsec [1.83σ]  
OotOffset-rm: 0.691 arcsec [1.35σ]  
KicOffset-rm: 0.893 arcsec [1.61σ]  
OotOffset-st: 3/3/3/2 [11]  
KicOffset-st: 3/3/3/2 [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: 29-Jan-2016 01:33:15 Z

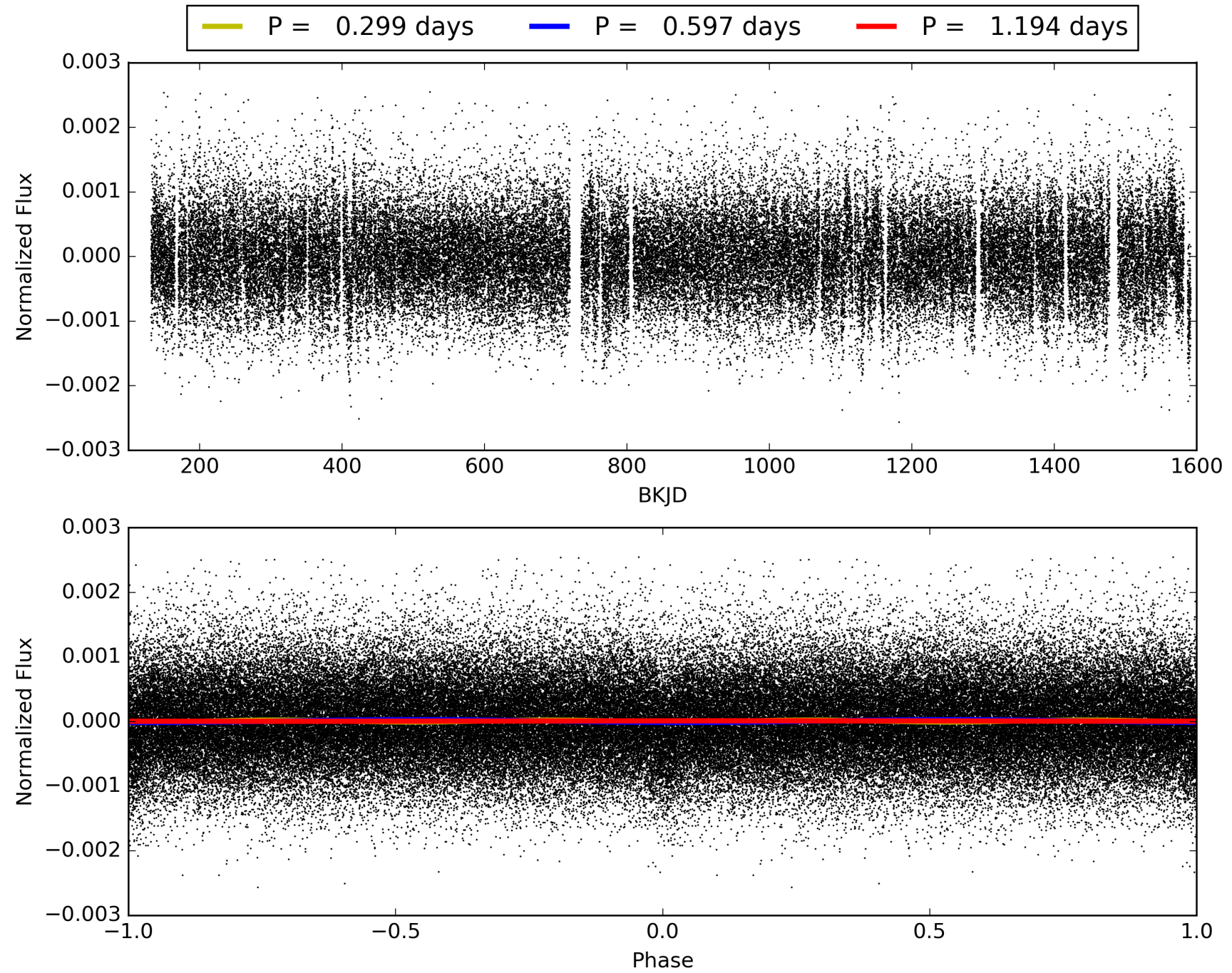
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 012265786-01, PDC Light Curves



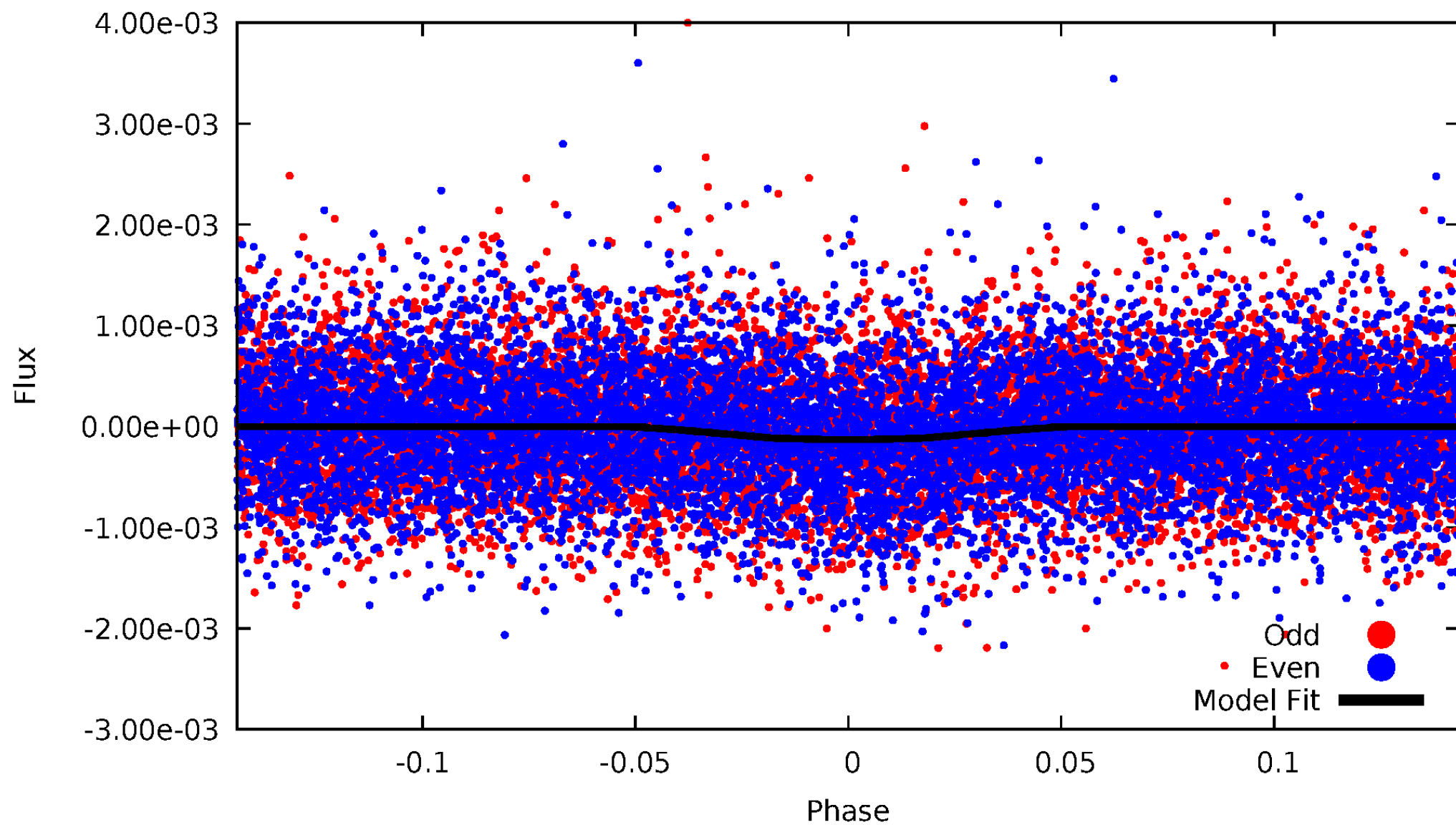


TCE 012265786-01



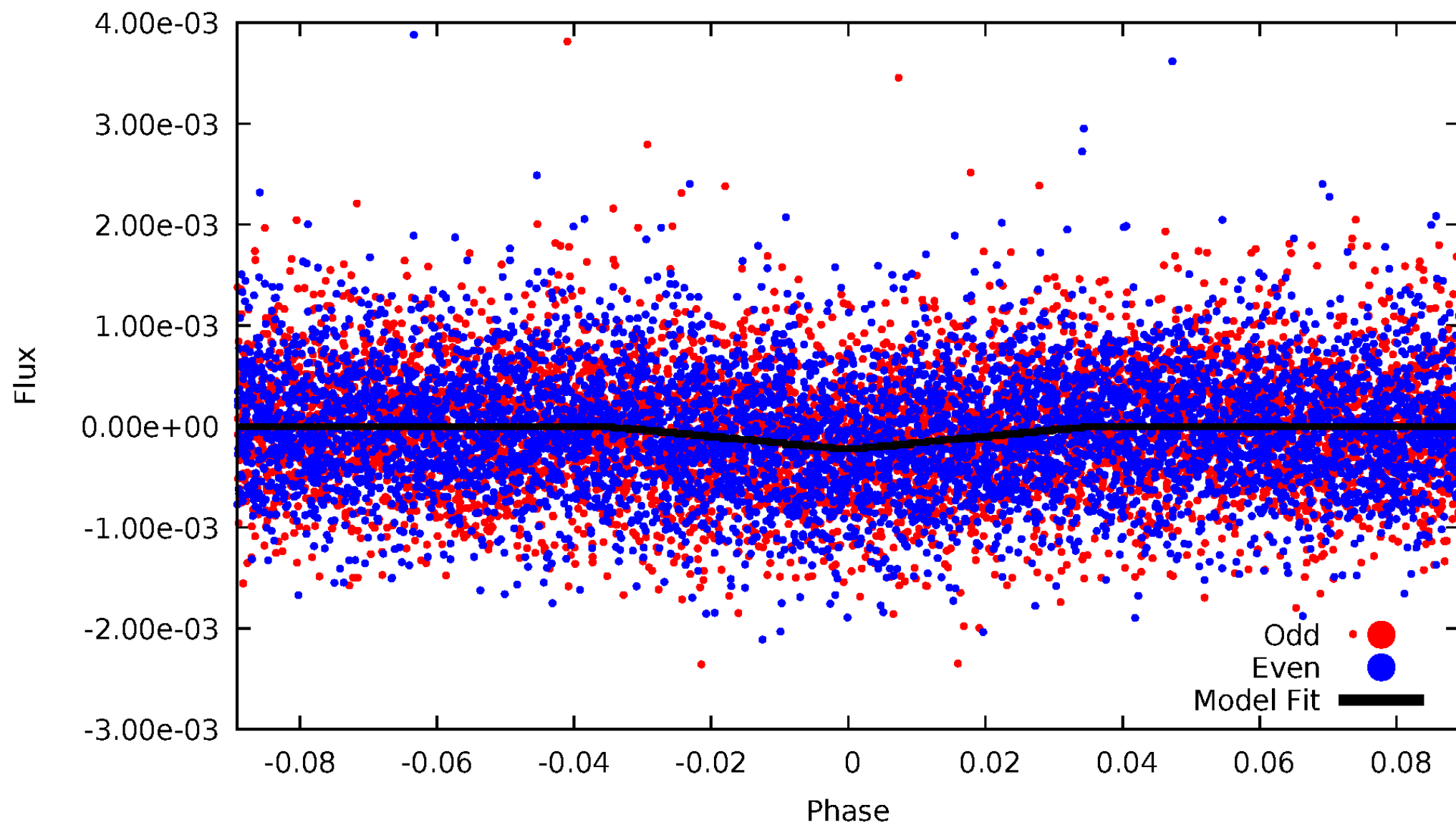
# DV Odd/Even

TCE 012265786-01



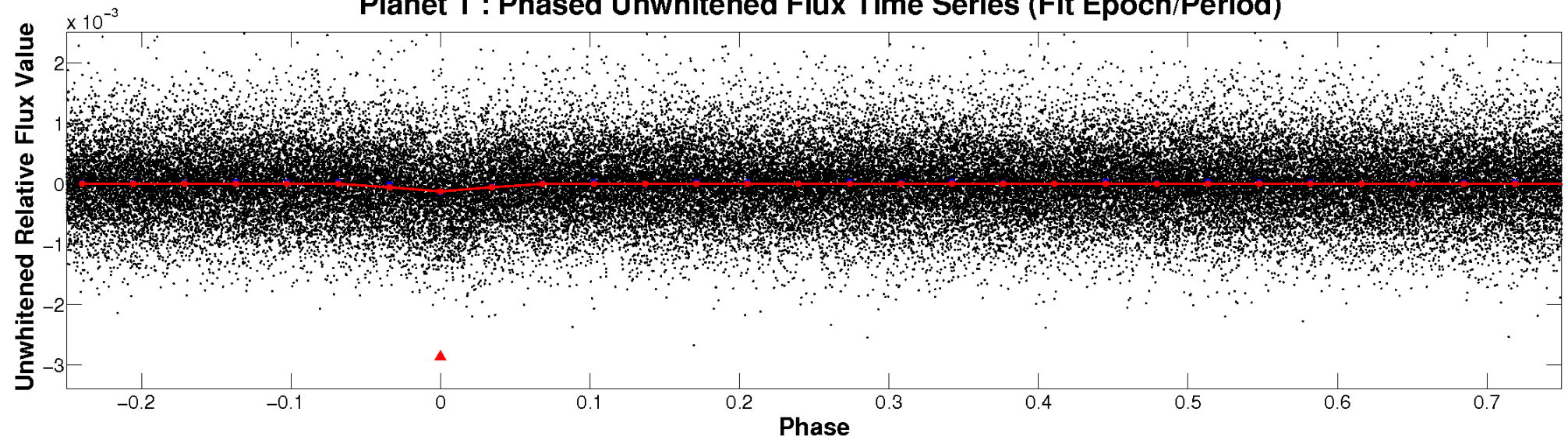
# ALT Odd/Even

TCE 012265786-01

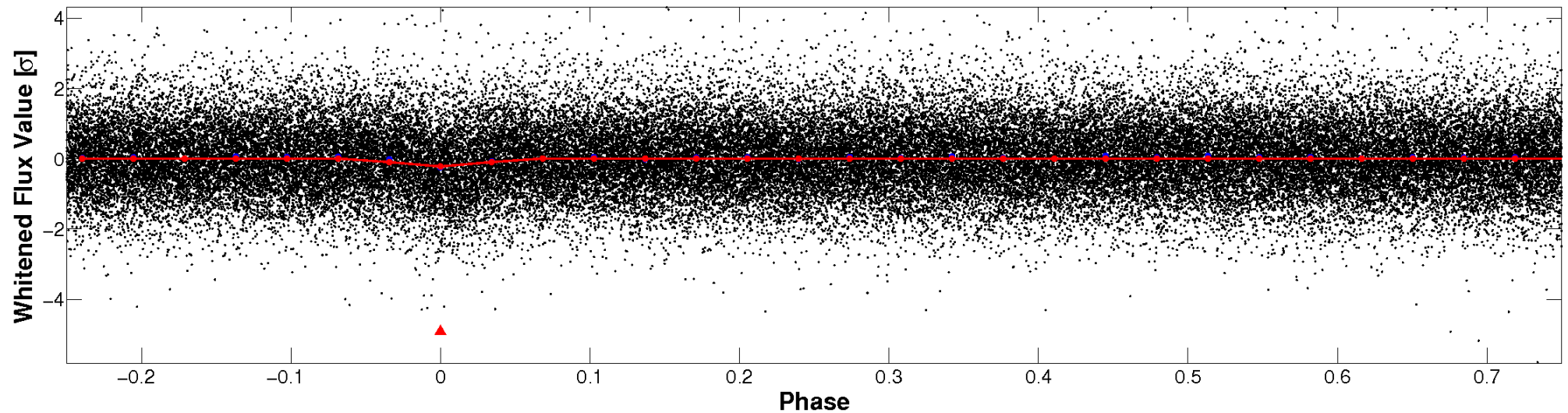


# Non-Whitened Vs. Whitened Light Curve

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



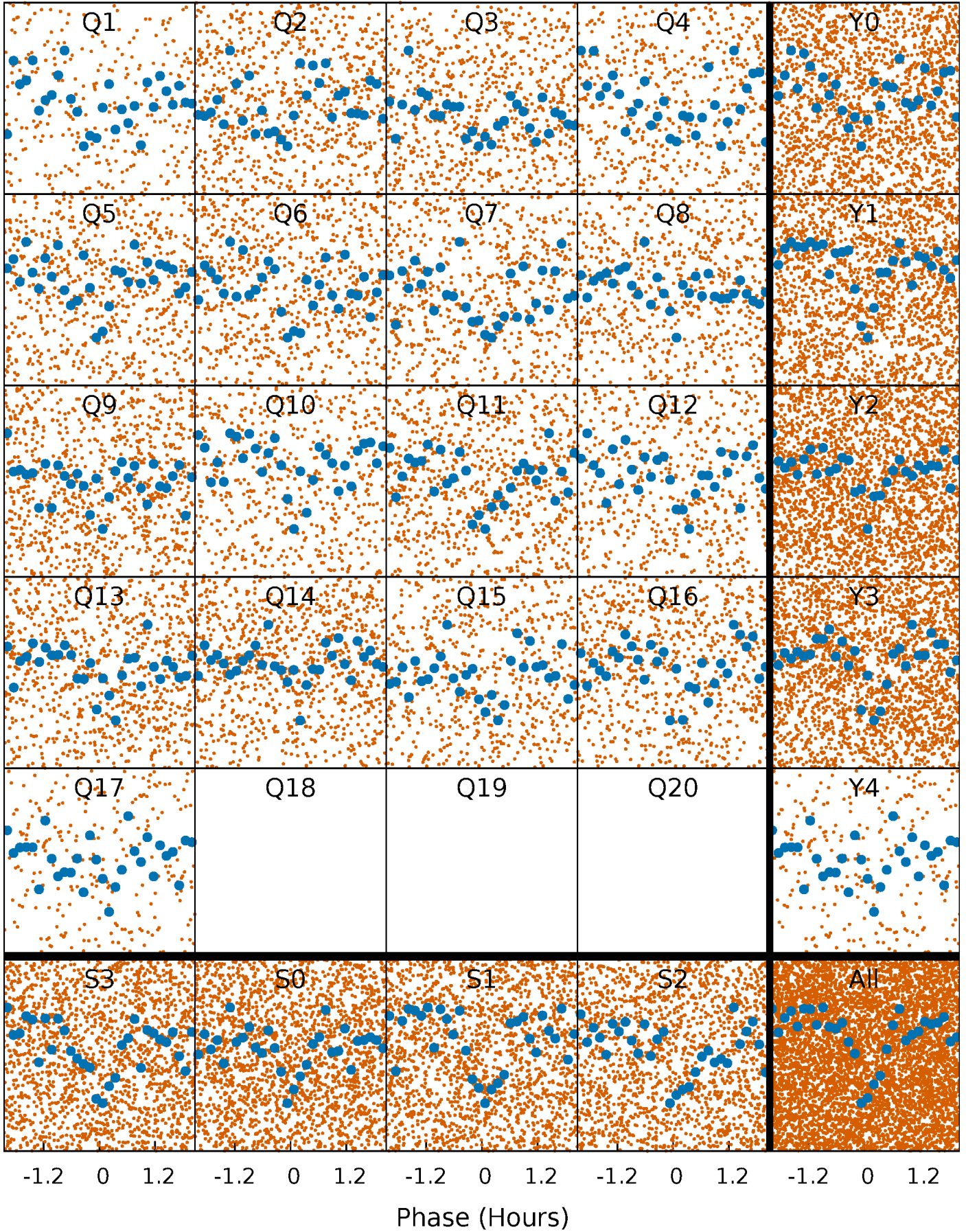
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

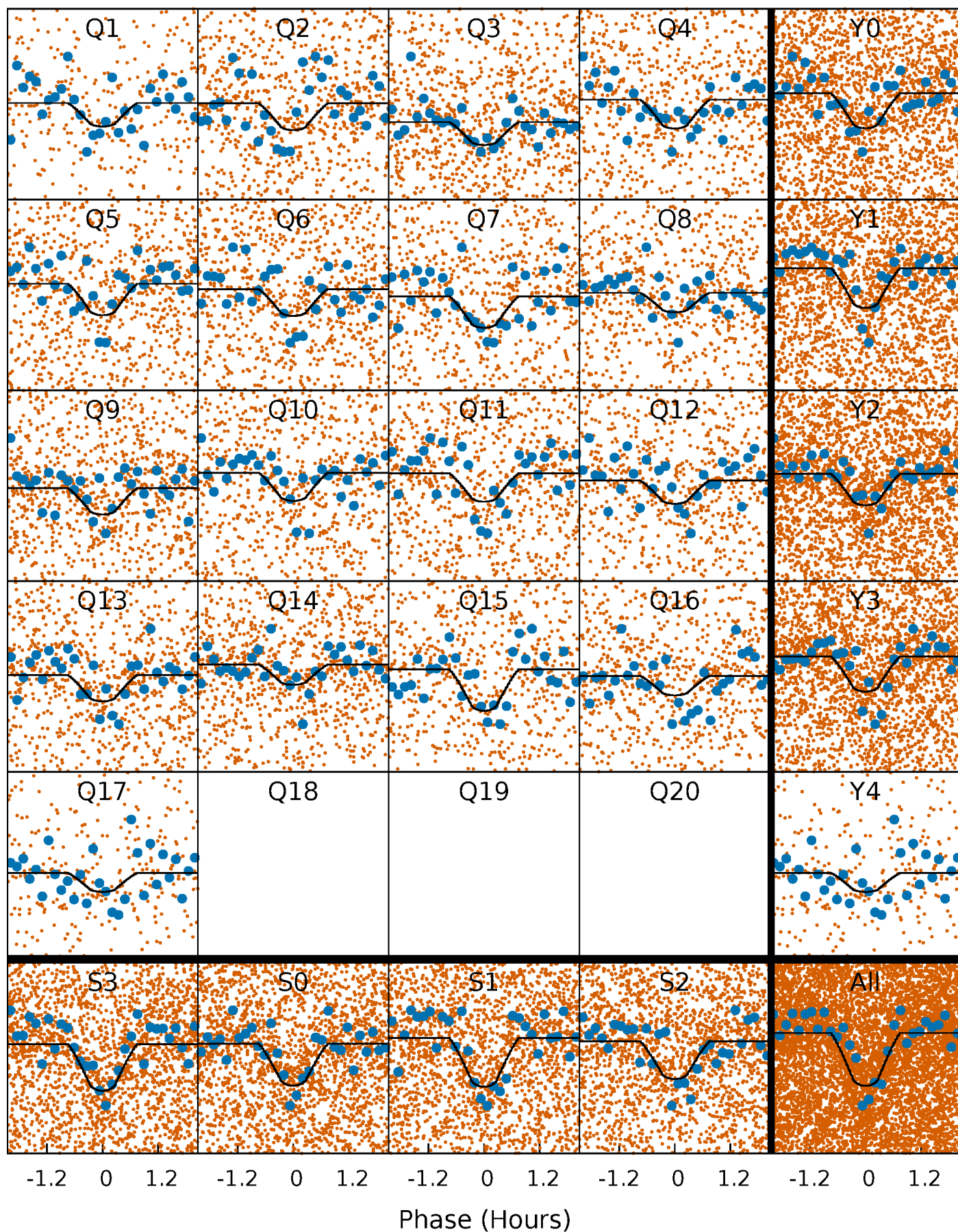
TCE 012265786-01 P= 0.597012 Days  $T_0=131.718293$  (BKJD)





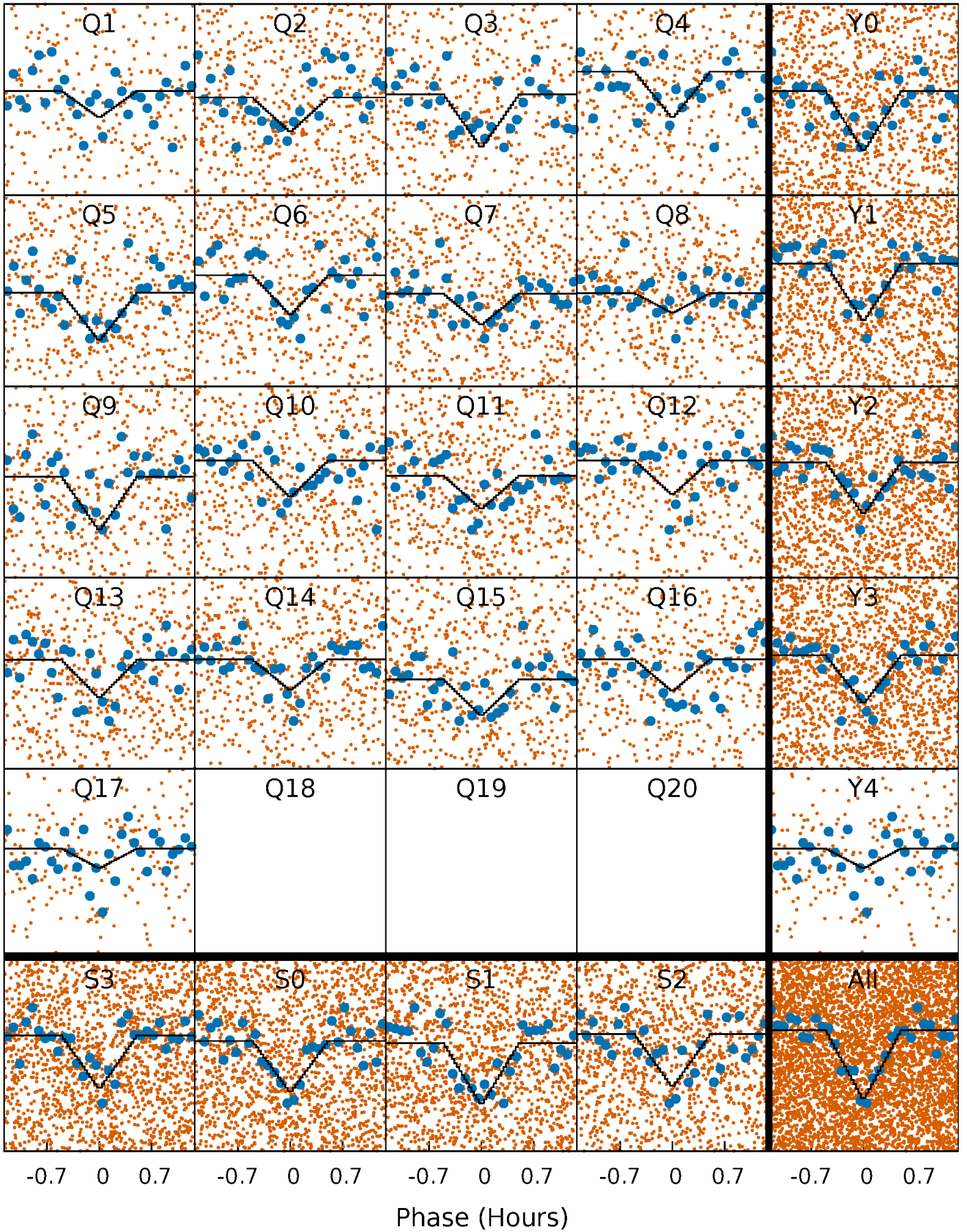
# DV Quarter-Phased Transit Curves

TCE 012265786-01 P= 0.597012 Days  $T_0=131.718293$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

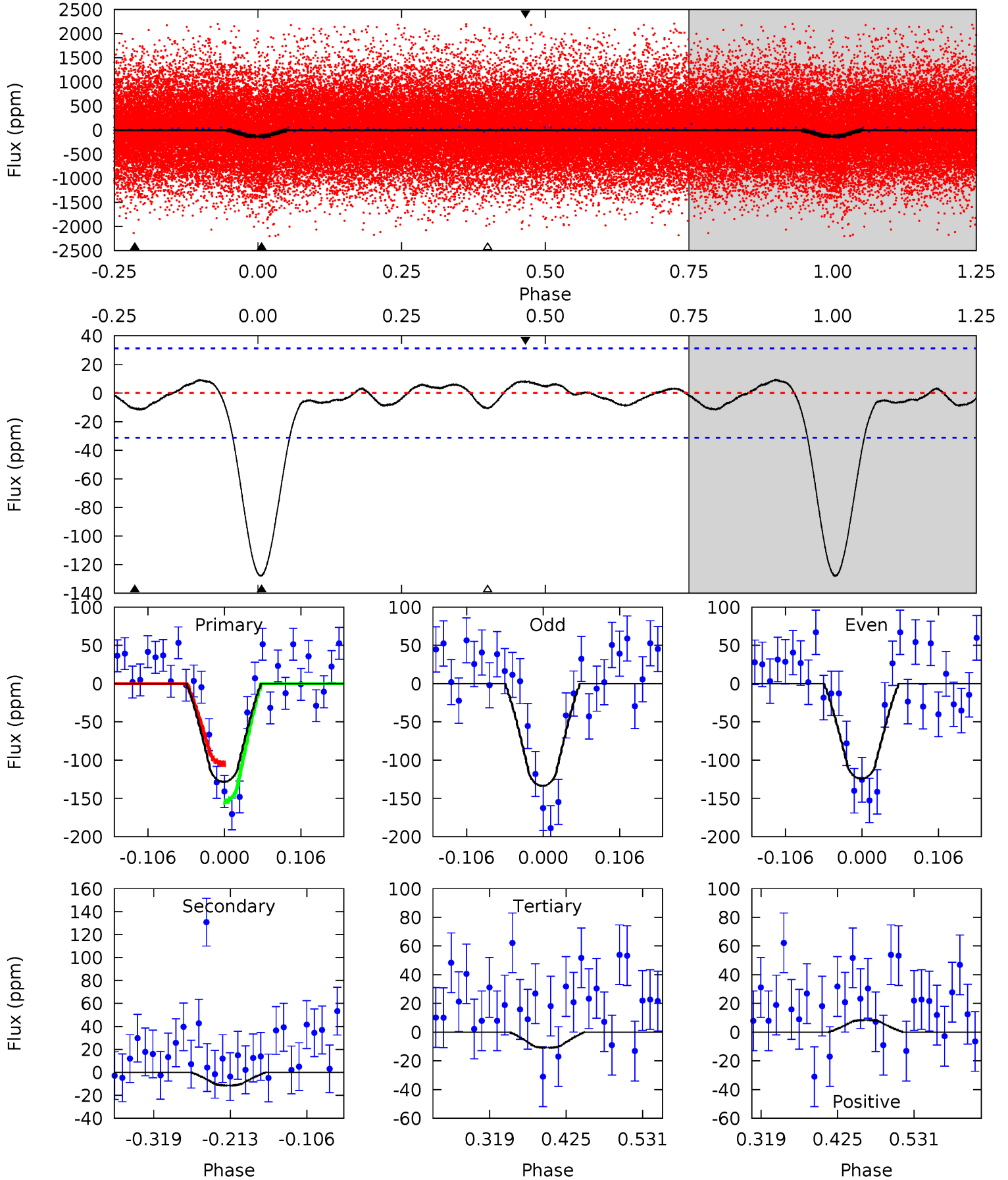
TCE 012265786-01 P= 0.597017 Days  $T_0=131.715055$  (BKJD)



# DV Model-Shift Uniqueness Test

012265786-01, P = 0.597012 Days, E = 131.121281 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
18.7	1.66	1.59	1.22	4.55	1.62	0.75	17.1	17.4	0.07	0.43	0.70	1.02	0.07	3.64

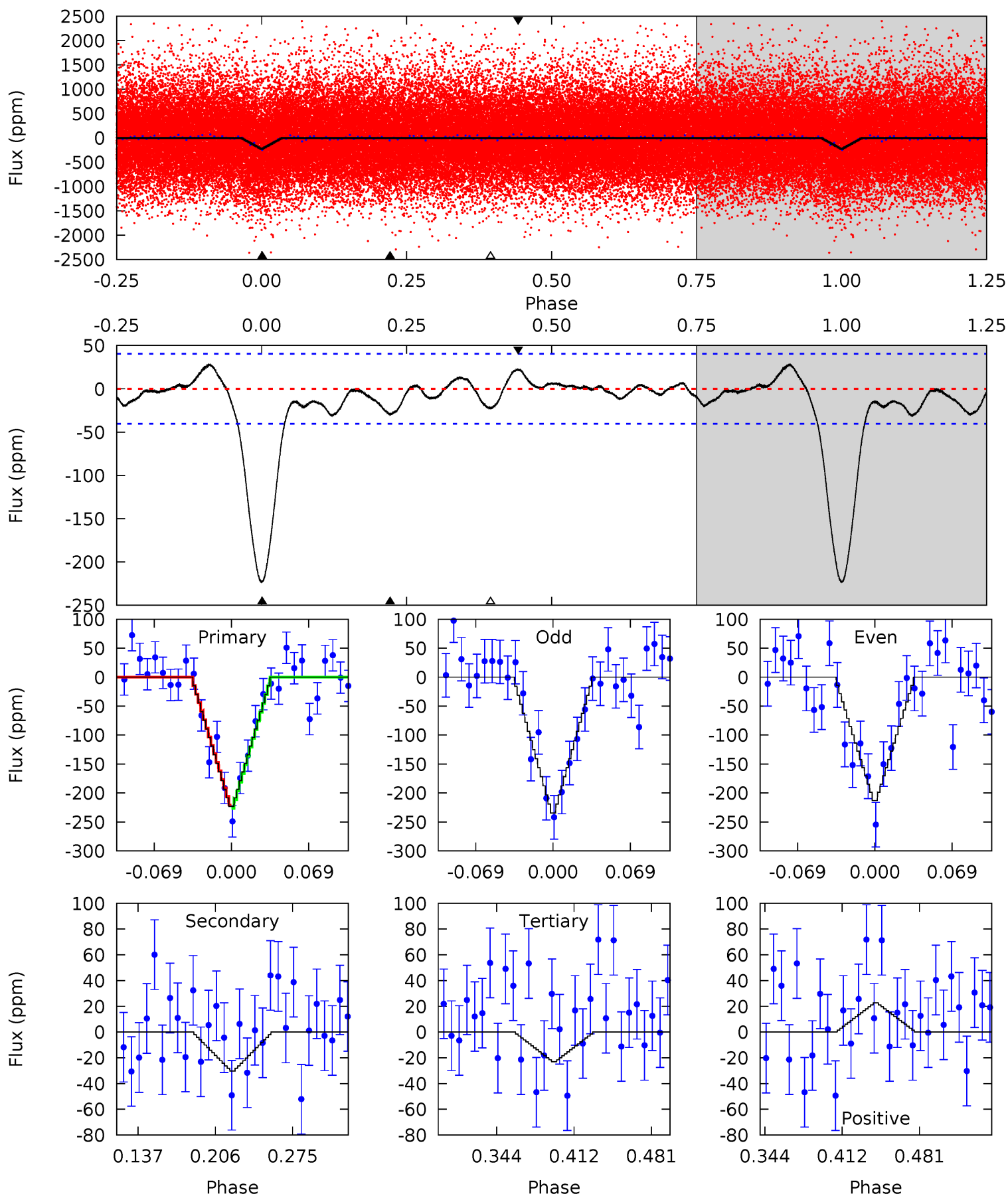




# Alt Model-Shift Uniqueness Test

012265786-01, P = 0.597017 Days, E = 131.118038 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
25.7	3.48	2.65	2.60	4.64	1.82	1.36	23.1	23.1	0.83	0.88	1.23	0.93	0.11	0.34





### Stellar Parameters For KIC 012265786

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4985^{+149}_{-134}$	$4.675^{+0.025}_{-0.070}$	$-0.540^{+0.300}_{-0.300}$	$0.630^{+0.081}_{-0.040}$	$0.688^{+0.065}_{-0.059}$	$3.871^{+0.484}_{-0.931}$
	+3%/-3%	+1%/-1%	+56%/-56%	+13%/-6%	+9%/-9%	+13%/-24%
Source	PHO1	KIC0	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 012265786-01 / KOI 4595.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-11 \pm 7$	$1.10^{+0.91}_{-0.72}$	$2223^{+84}_{-70}$	$2639^{+1345}_{-5078}$	$0.619^{+4.611}_{-0.489}$
Alt.	$-30 \pm 9$	$1.33^{+1.10}_{-0.84}$	$2224^{+84}_{-72}$	$3116^{+1341}_{-897}$	$1.385^{+8.584}_{-1.009}$

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

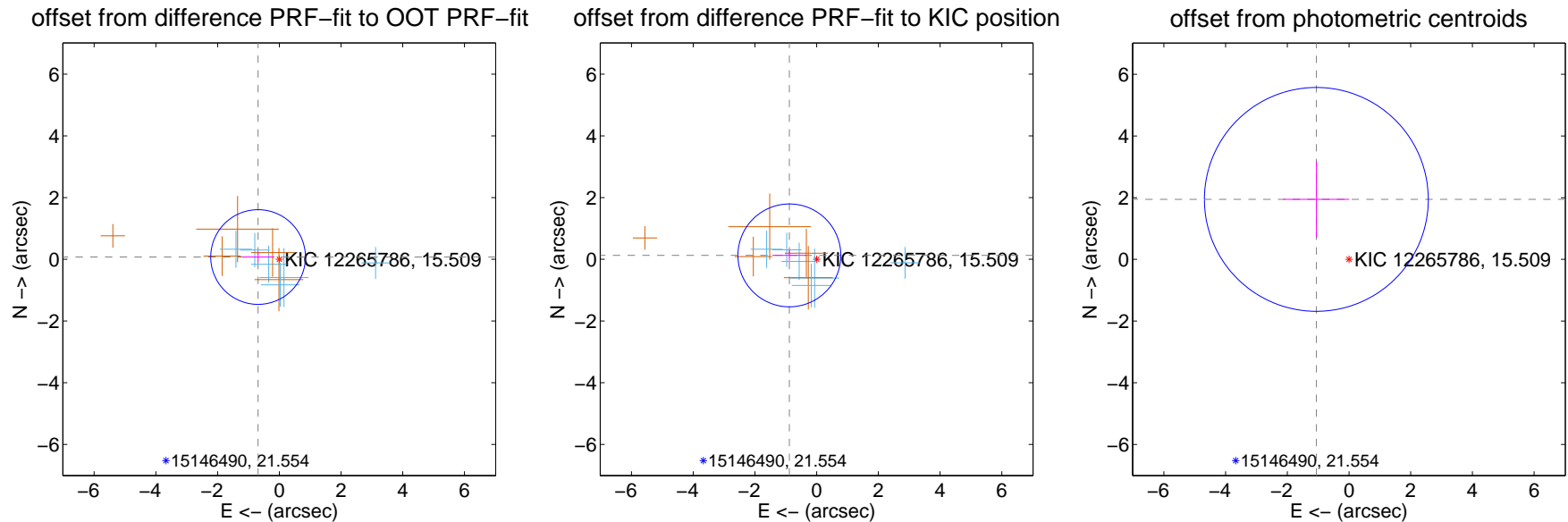
## DV Centroid Data

Supplemental centroid analysis for 012265786-01. Kepler magnitude: 15.51. Transit SNR 12.50

There are 6 quarters with good PRF difference image offsets

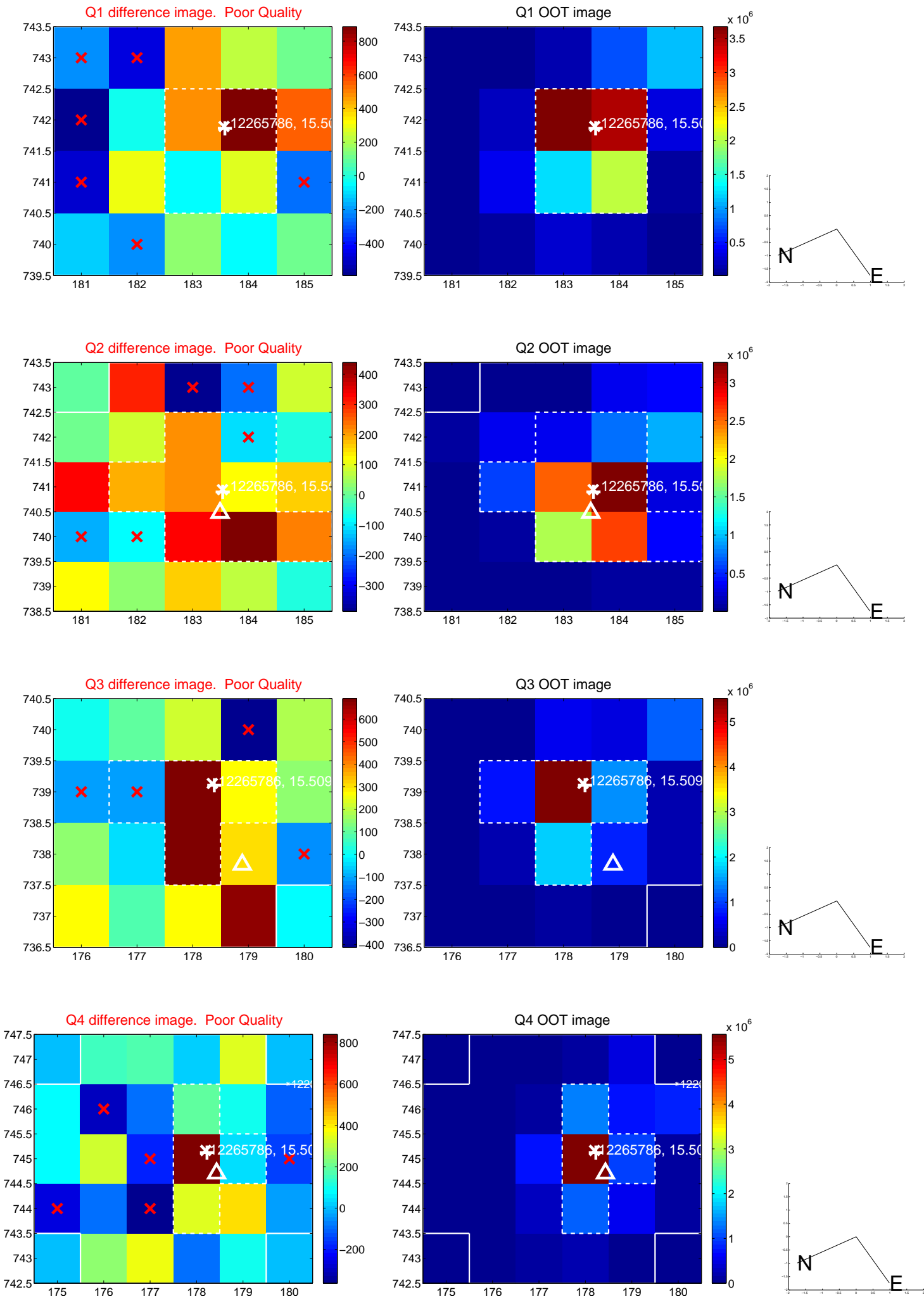
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.691 \pm 0.511$	1.35	$0.688 \pm 0.505$	$0.074 \pm 0.164$
PRF-fit source offset from KIC position	$0.893 \pm 0.556$	1.61	$0.884 \pm 0.551$	$0.127 \pm 0.171$
photometric centroid source offset	$2.21 \pm 1.21$	1.83	$1.06 \pm 1.07$	$1.94 \pm 1.25$

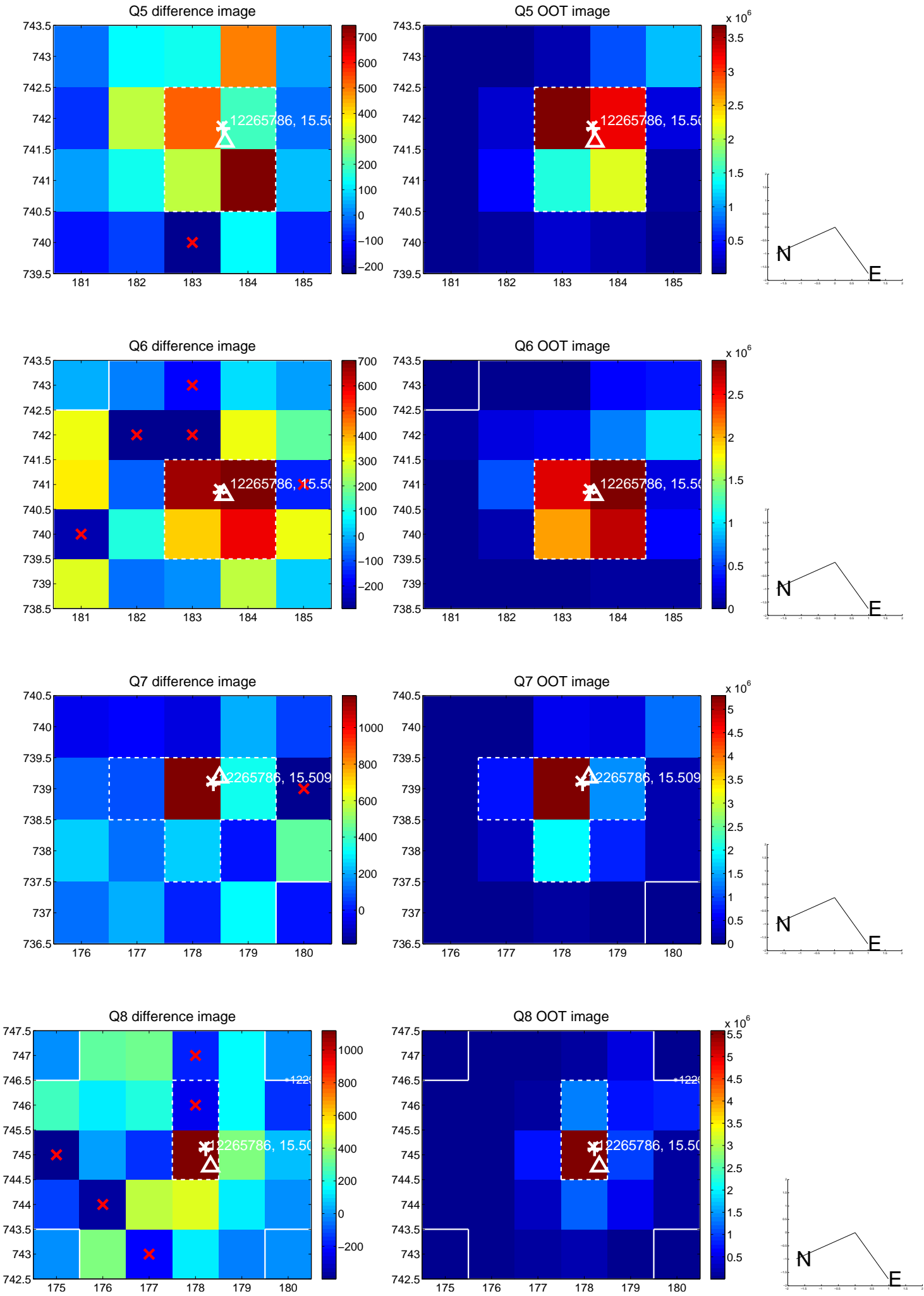


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

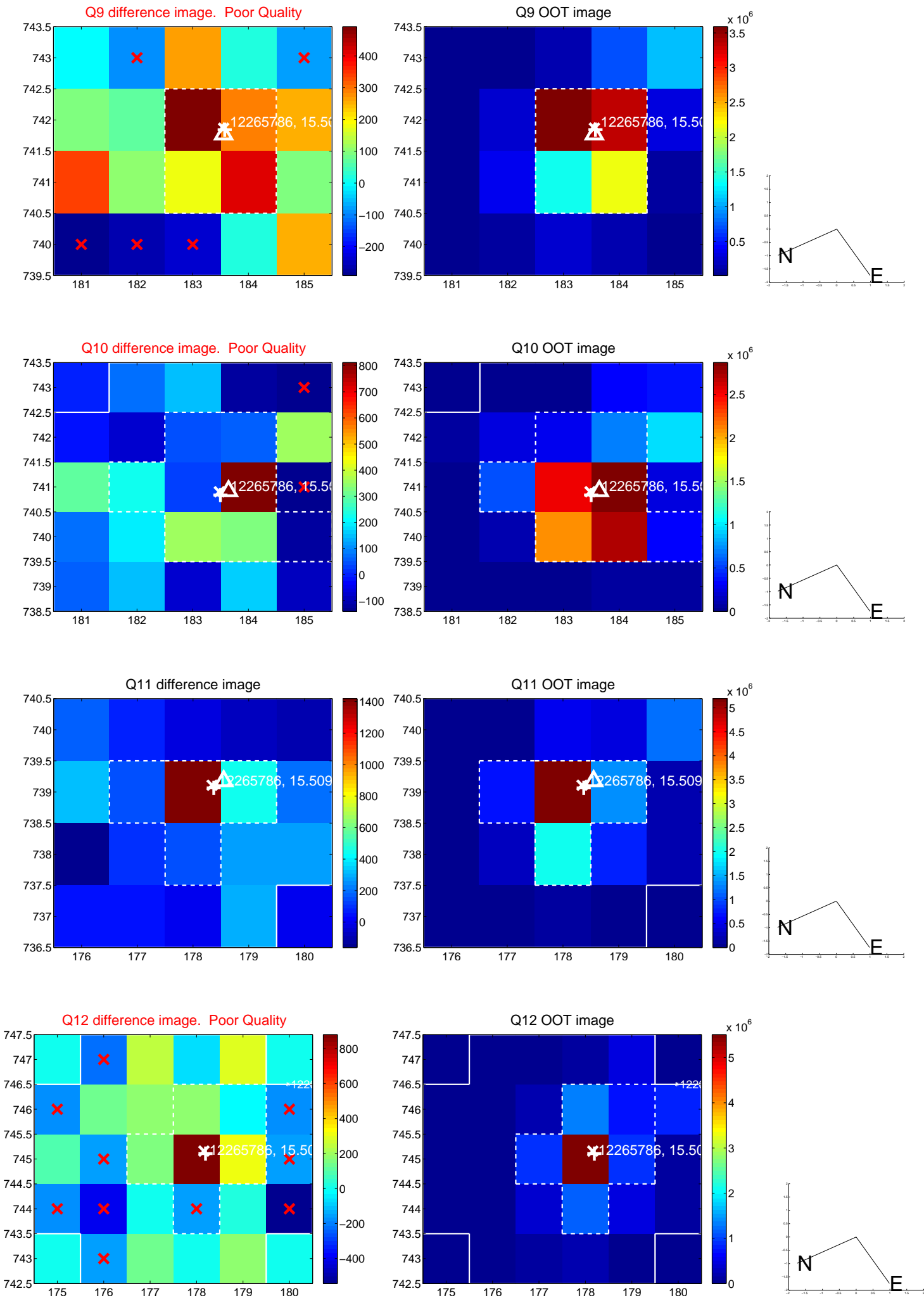


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

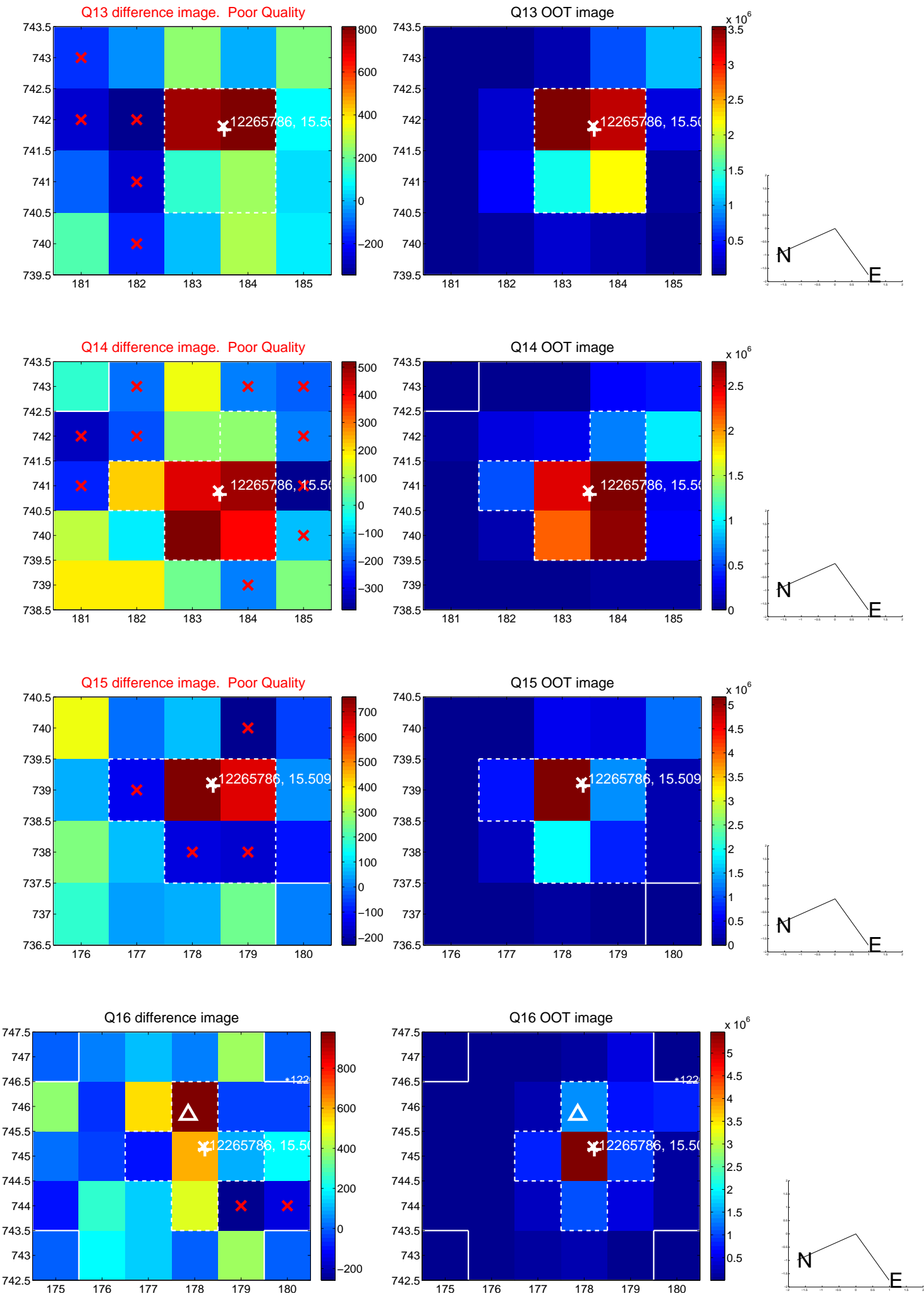




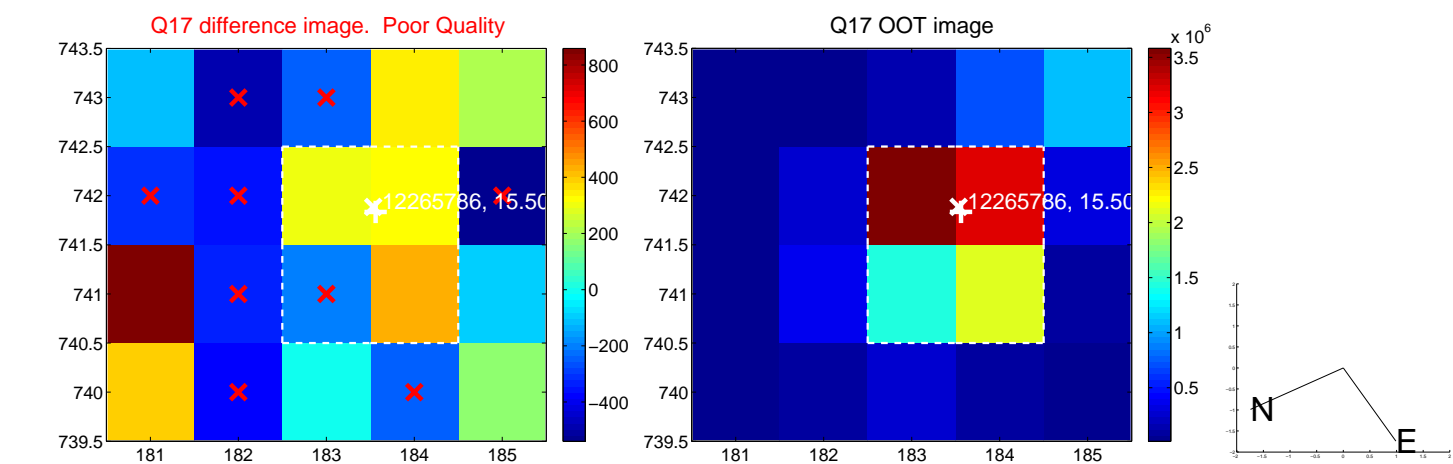
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



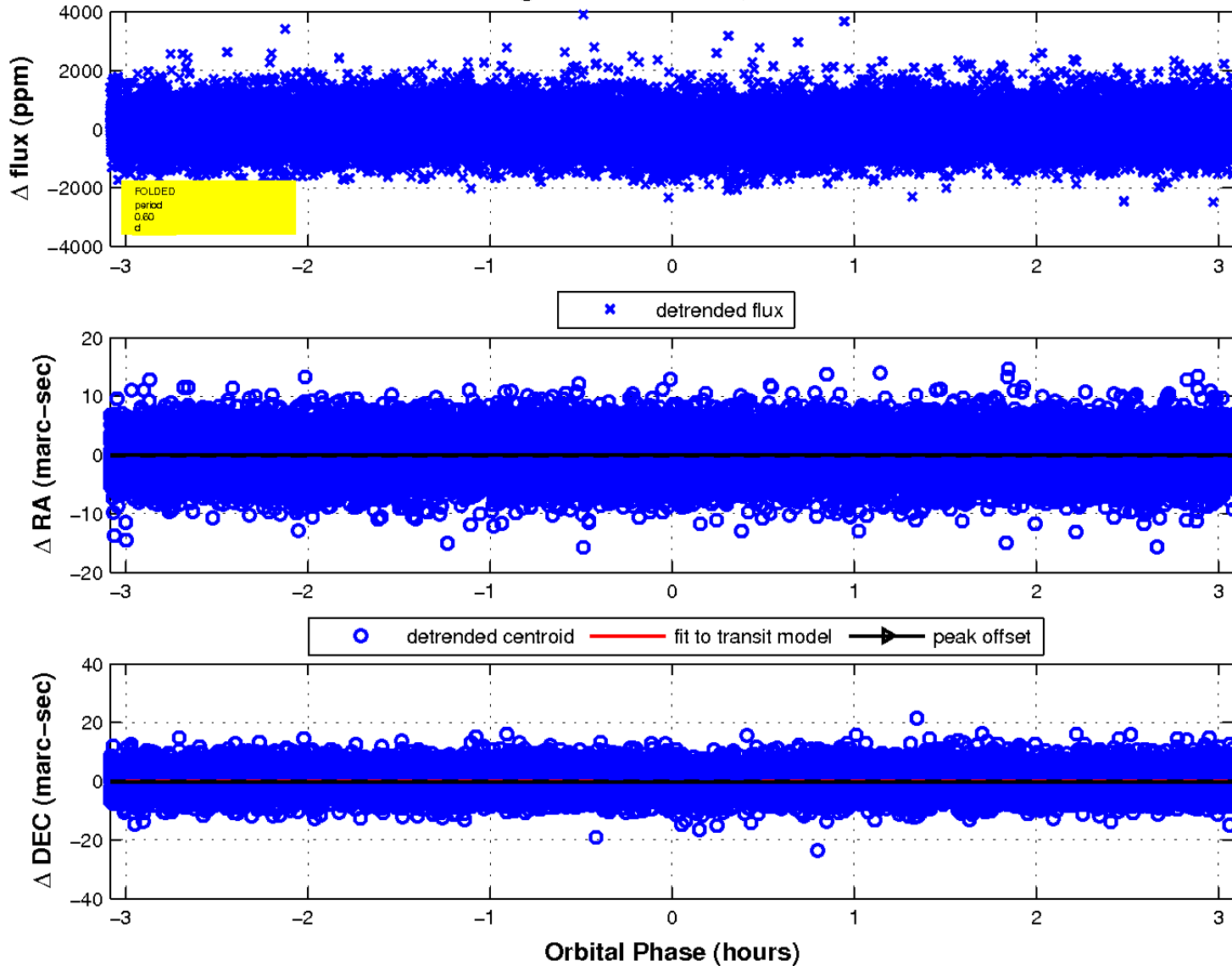
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

