

# KIC 005802246

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005802246-01	OBS	1044.01	0.525136	131.661144	88.9	1.223	17.8	14.5	0.85	5582	0.95	4377.96

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005802246-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST

**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 005802246-01

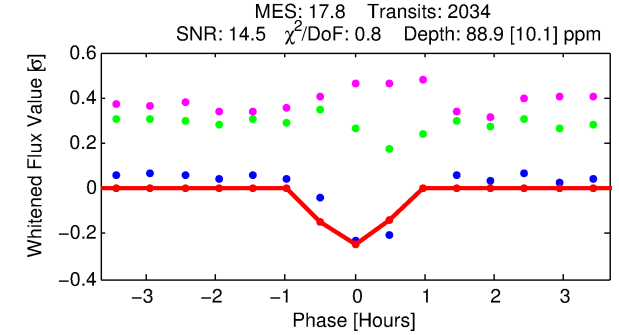
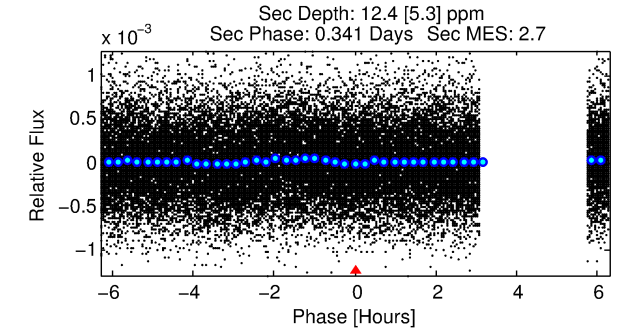
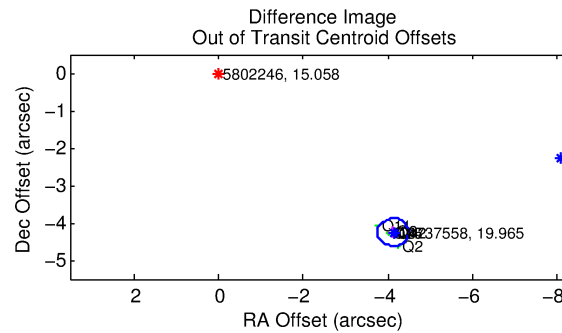
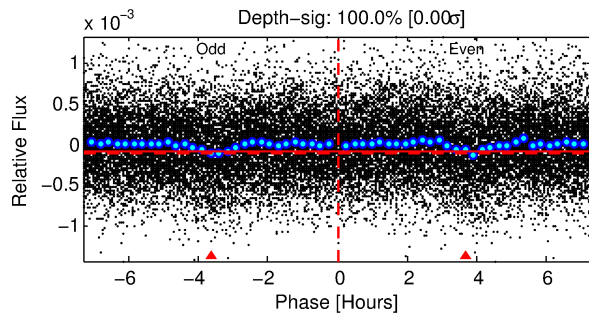
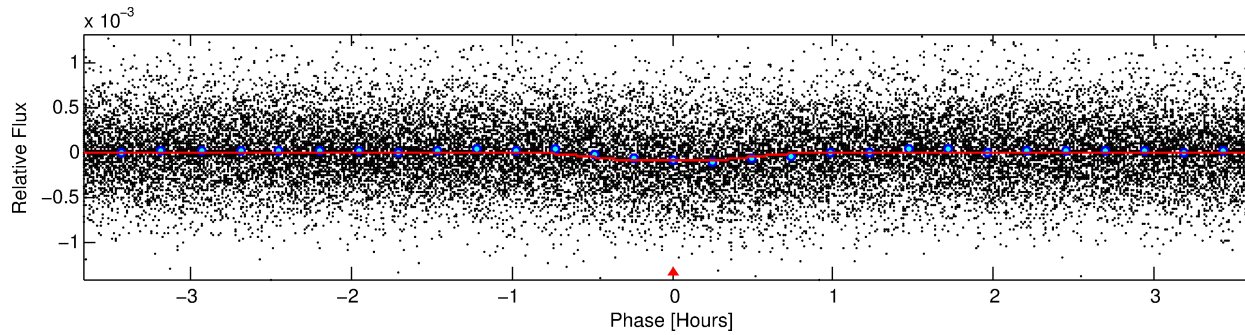
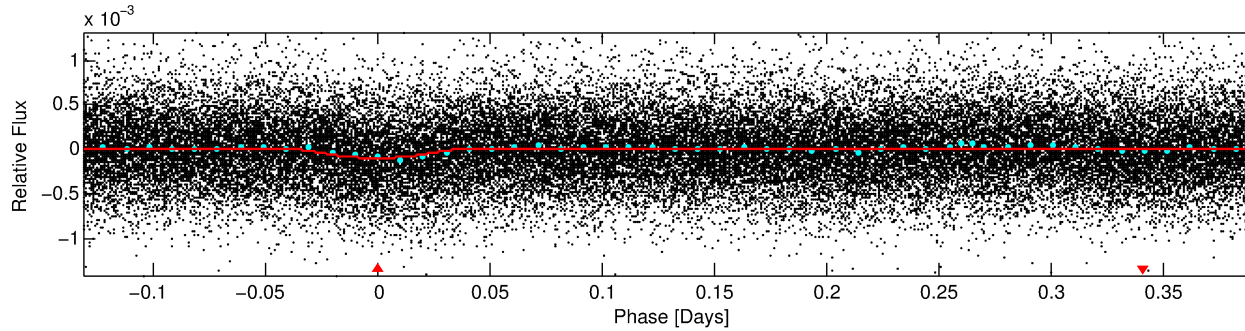
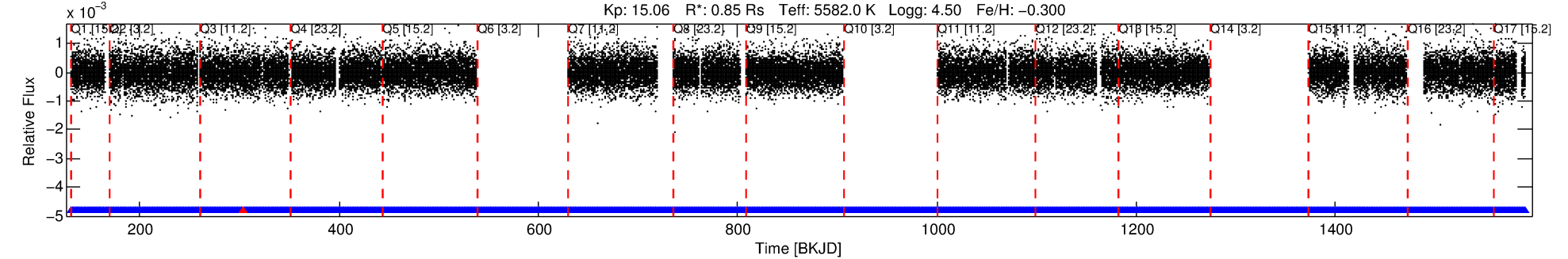
No Significant Match Found

# DV One-Page Summary

KIC: 5802246 Candidate: 1 of 1 Period: 0.525 d

KOI: K01044 Corr: No Ephemeris Match

Kp: 15.06 R\*: 0.85 Rs Teff: 5582.0 K Logg: 4.50 Fe/H: -0.300



## DV Fit Results:

Period = 0.52514 [0.00001] d  
Epoch = 131.6611 [0.0014] BKJD  
Rp/R\* = 0.0103 [0.0066]  
a/R\* = 1.77 [3.66]  
b = 0.90 [0.65]  
Seff = 4377.96 [1312.42]  
Teq = 2074 [155] K  
Rp = 0.95 [0.65] Re  
a = 0.0119 [0.0022] AU  
Ag = 1.07 [1.47] [0.05σ]  
Teffp = 3259 [1104] K [1.06σ]

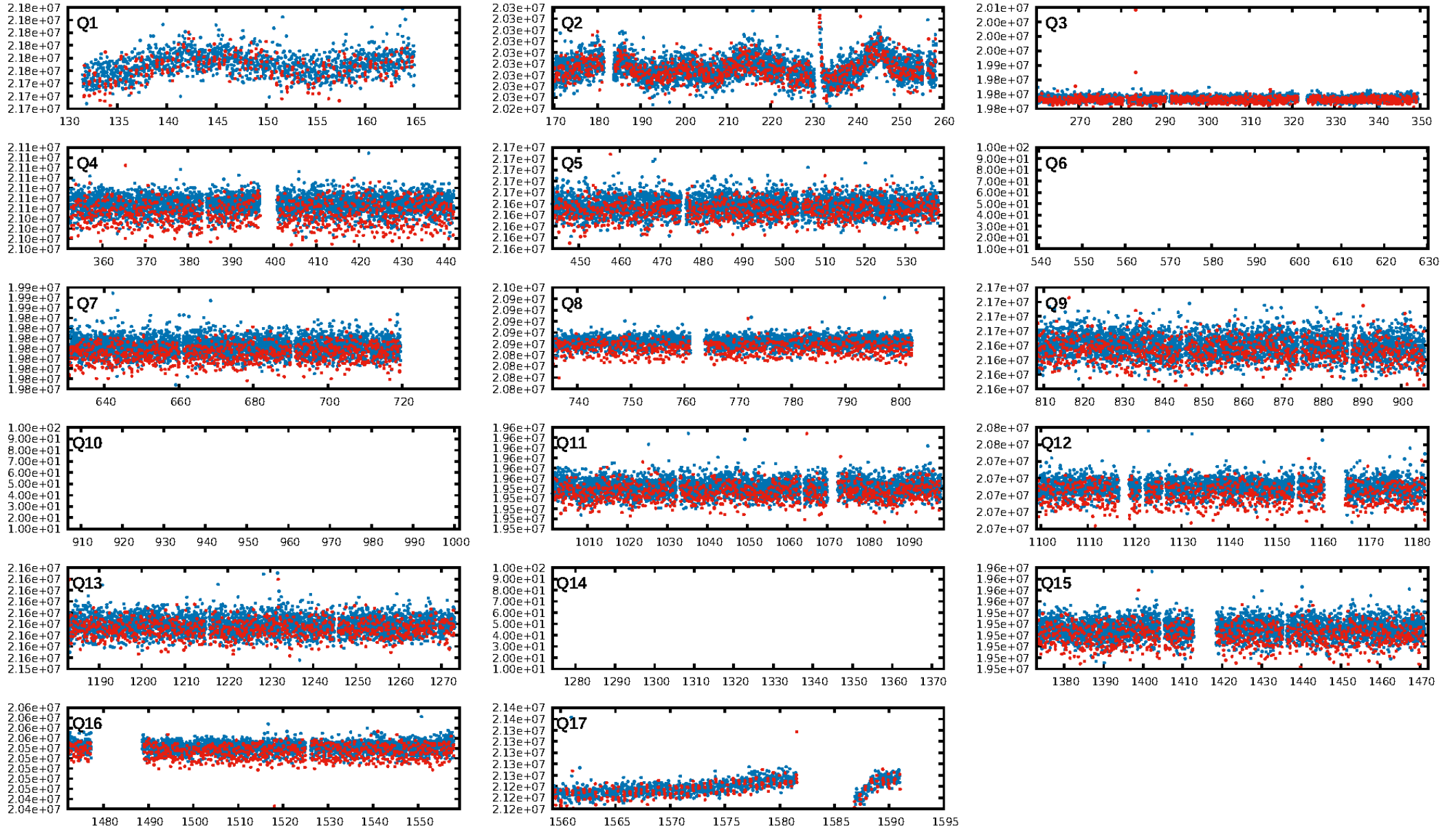
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.07e-68  
RollingBand-fgt: 1.00 [1917/1918]  
GhostDiagnostic-chr: -0.03355  
Centroid-sig: 0.0%  
Centroid-so: 31.732 arcsec [30.28σ]  
OotOffset-rm: 5.926 arcsec [48.32σ]  
KicOffset-rm: 5.969 arcsec [71.64σ]  
OotOffset-st: 1/1/4/0 [6]  
KicOffset-st: 1/1/4/0 [6]  
DiffImageQuality-fgm: 1.00 [6/6]  
DiffImageOverlap-fno: 1.00 [14/14]

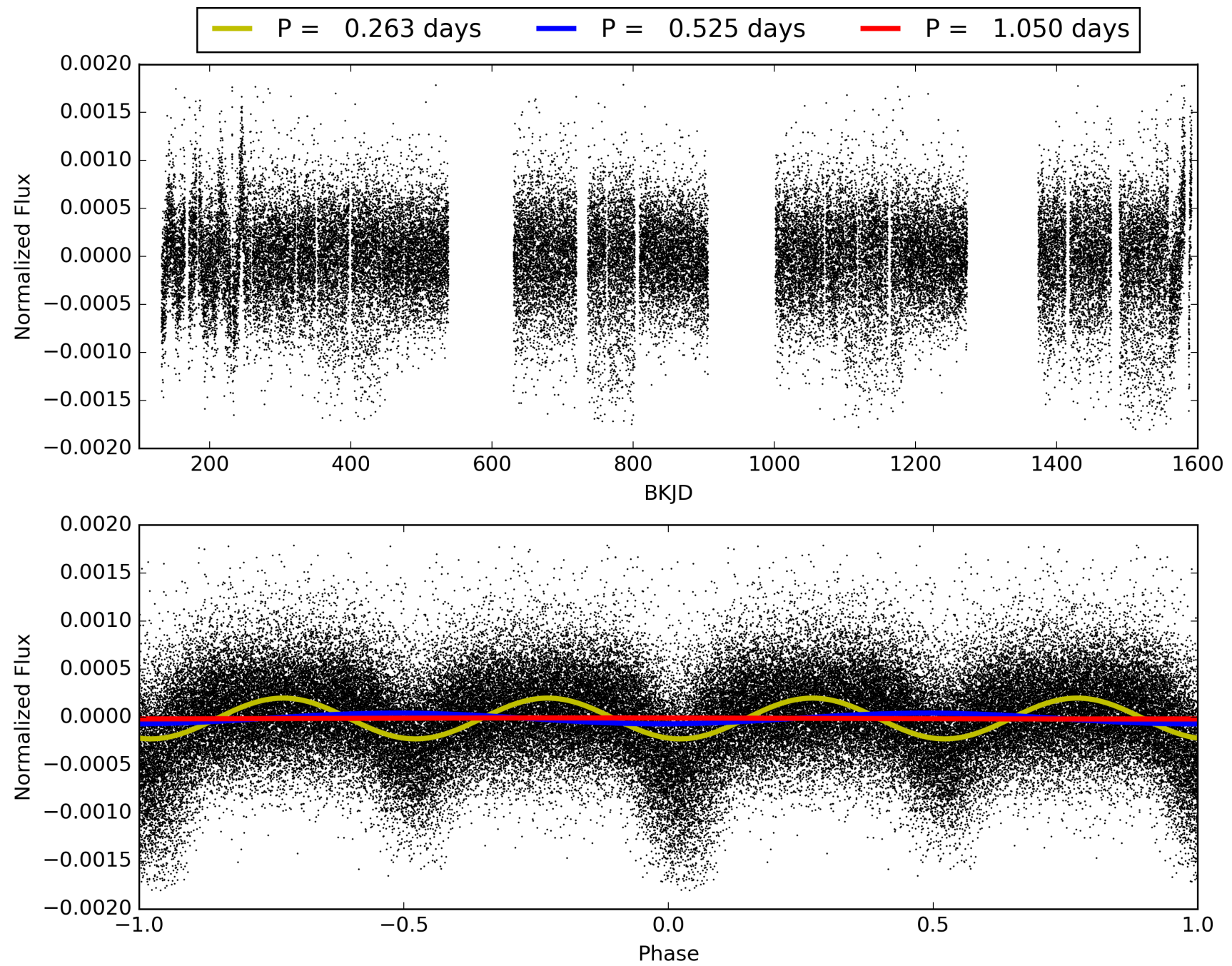
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:28:01 Z

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

# TCE 005802246-01, PDC Light Curves

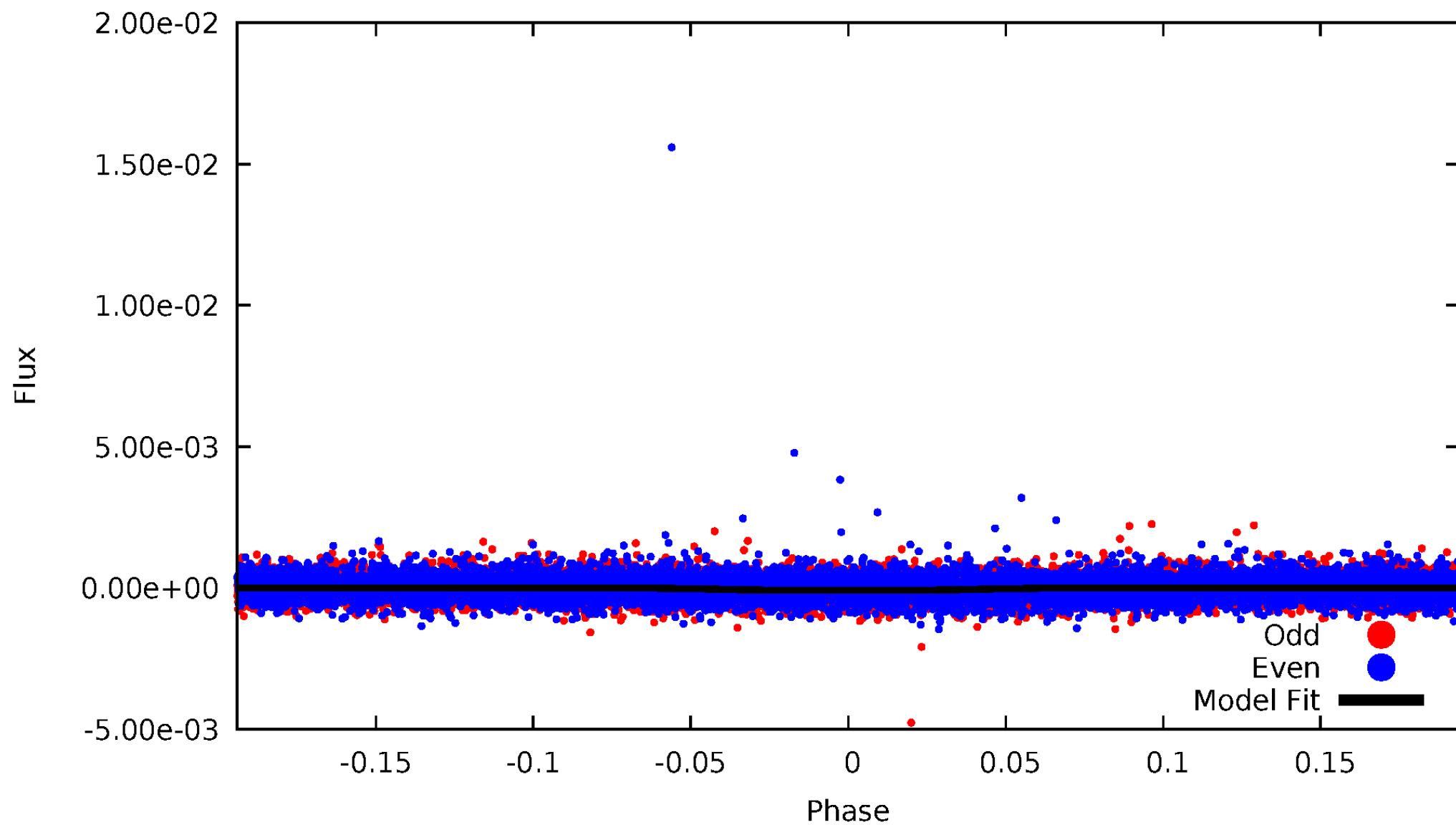


TCE 005802246-01



# DV Odd/Even

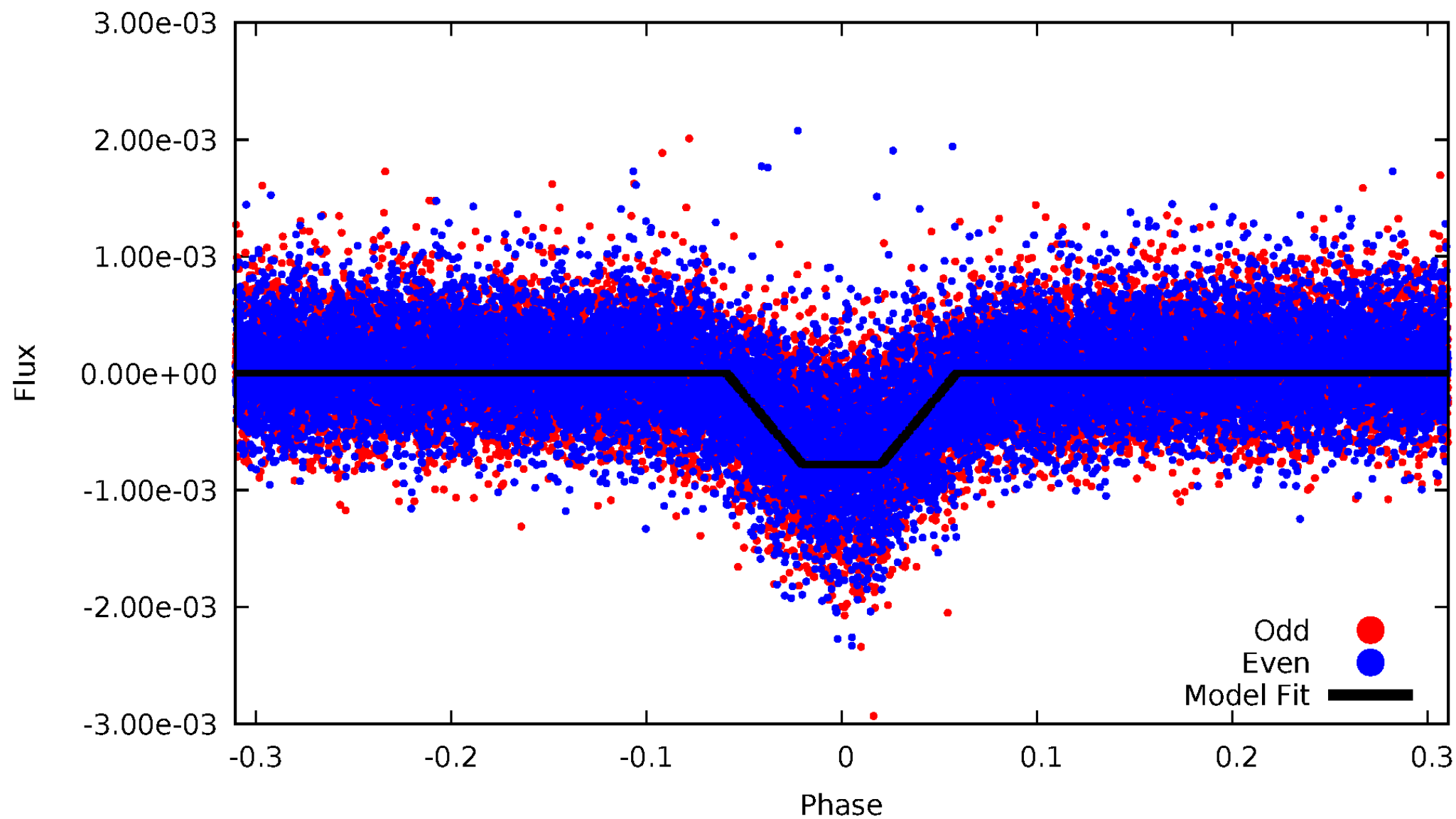
TCE 005802246-01





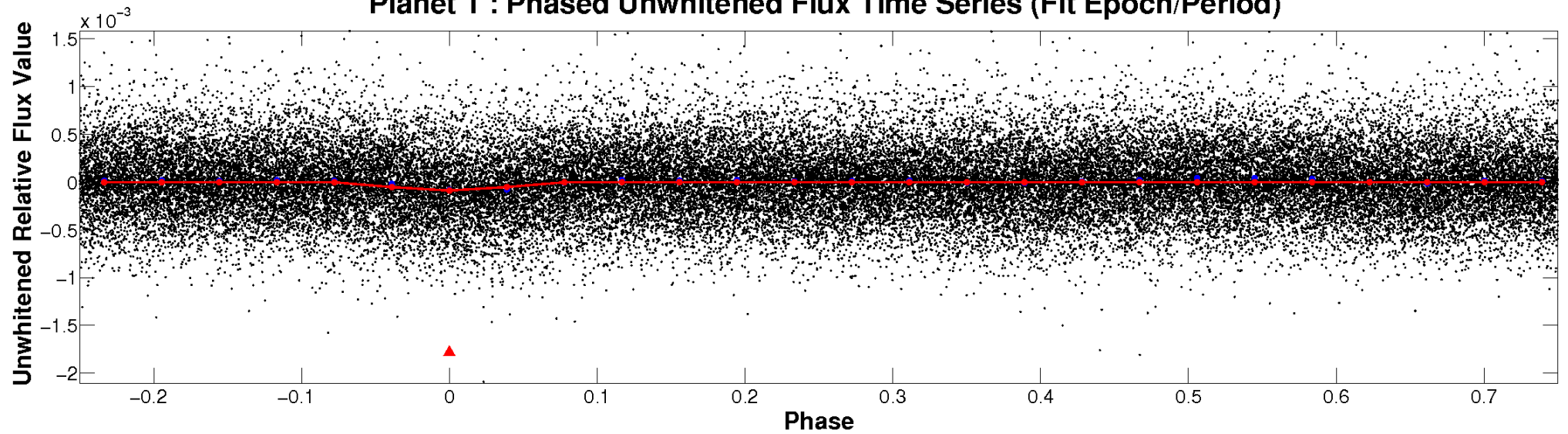
# ALT Odd/Even

TCE 005802246-01

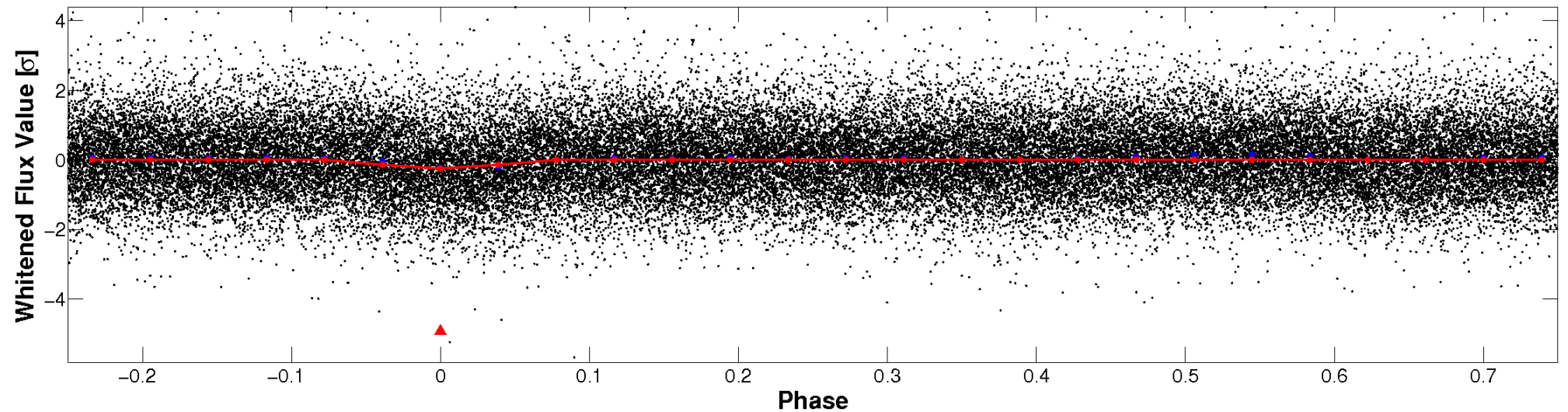


# Non-Whitened Vs. Whitened Light Curve

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

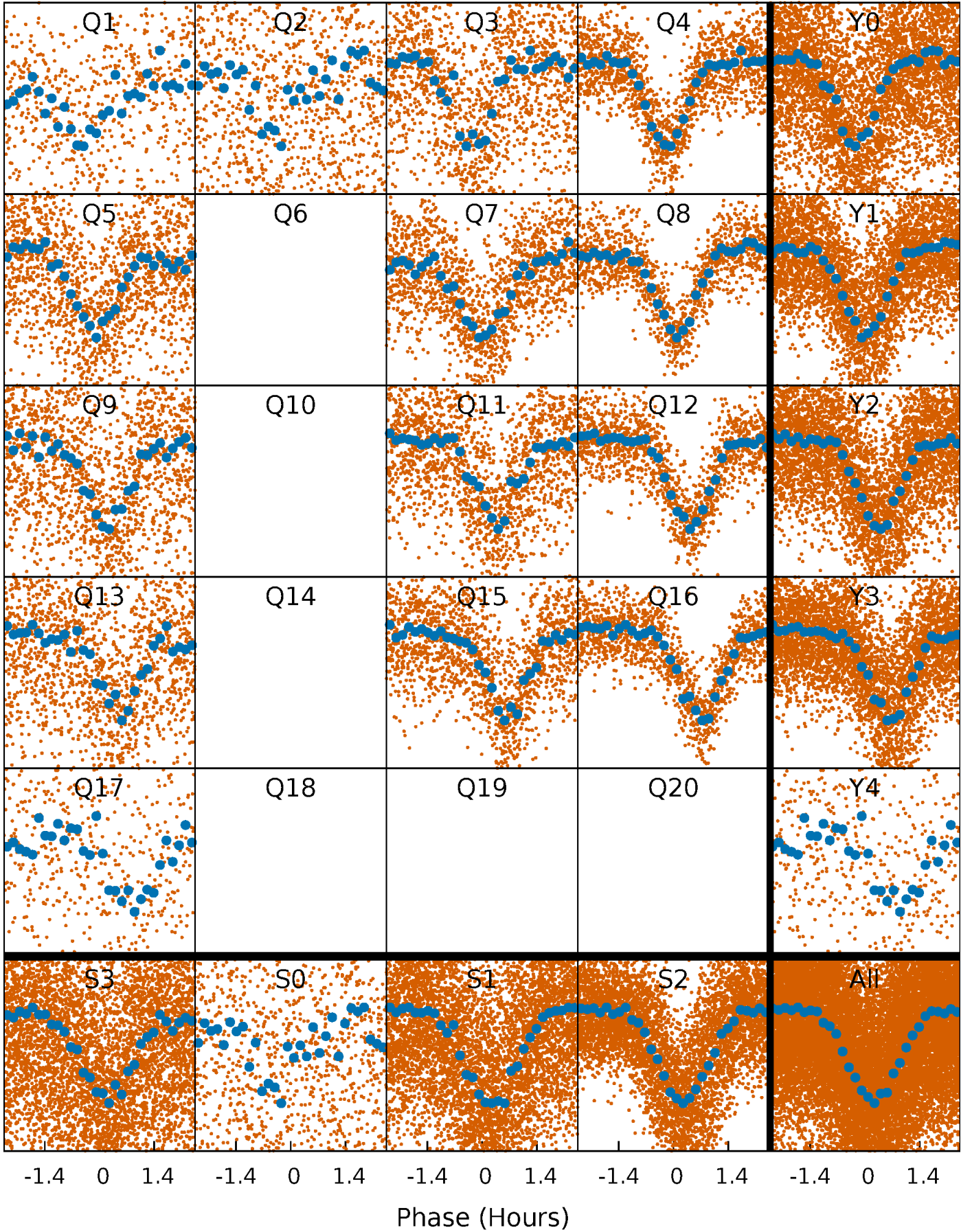


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

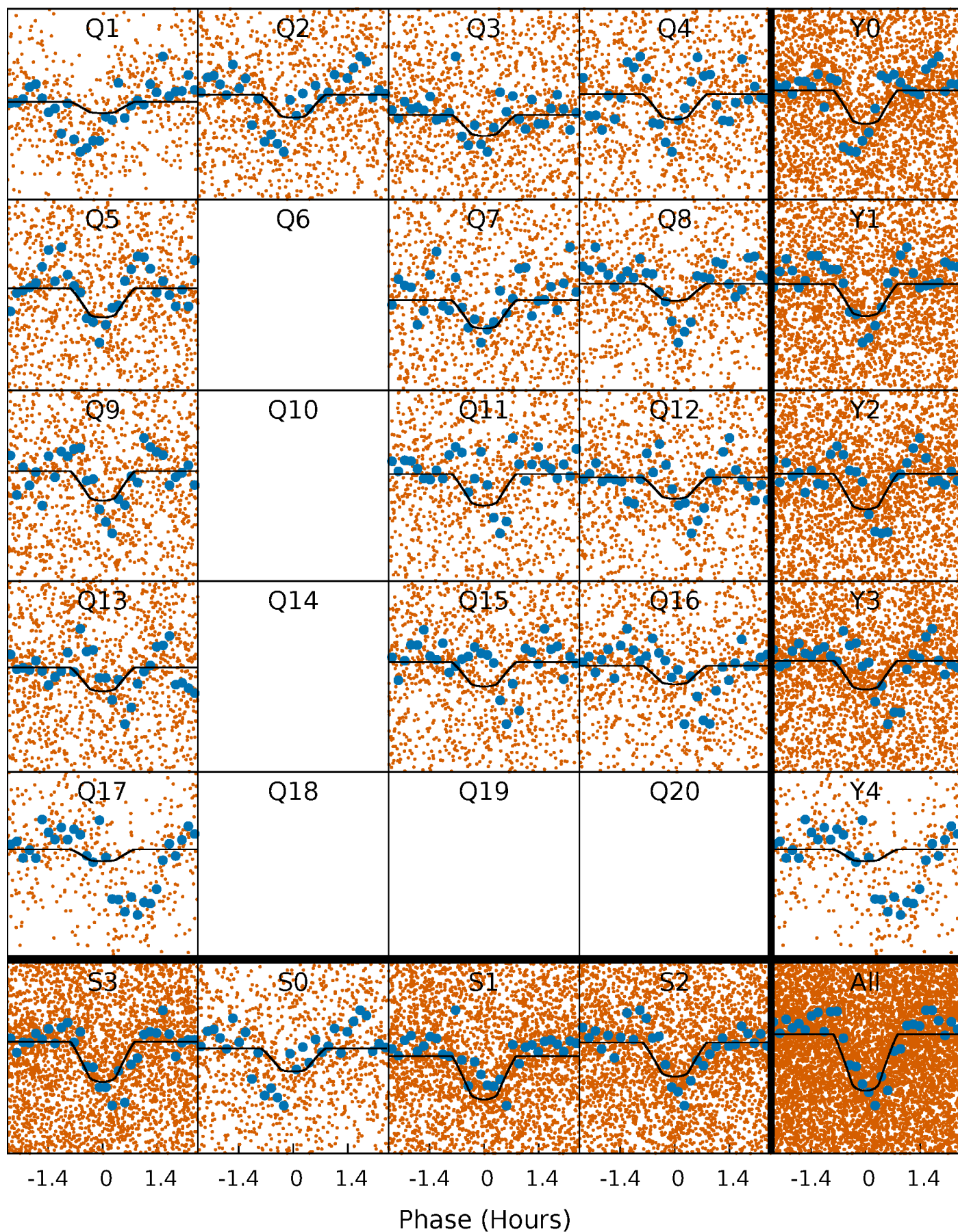
TCE 005802246-01 P= 0.525136 Days  $T_0=131.661144$  (BKJD)





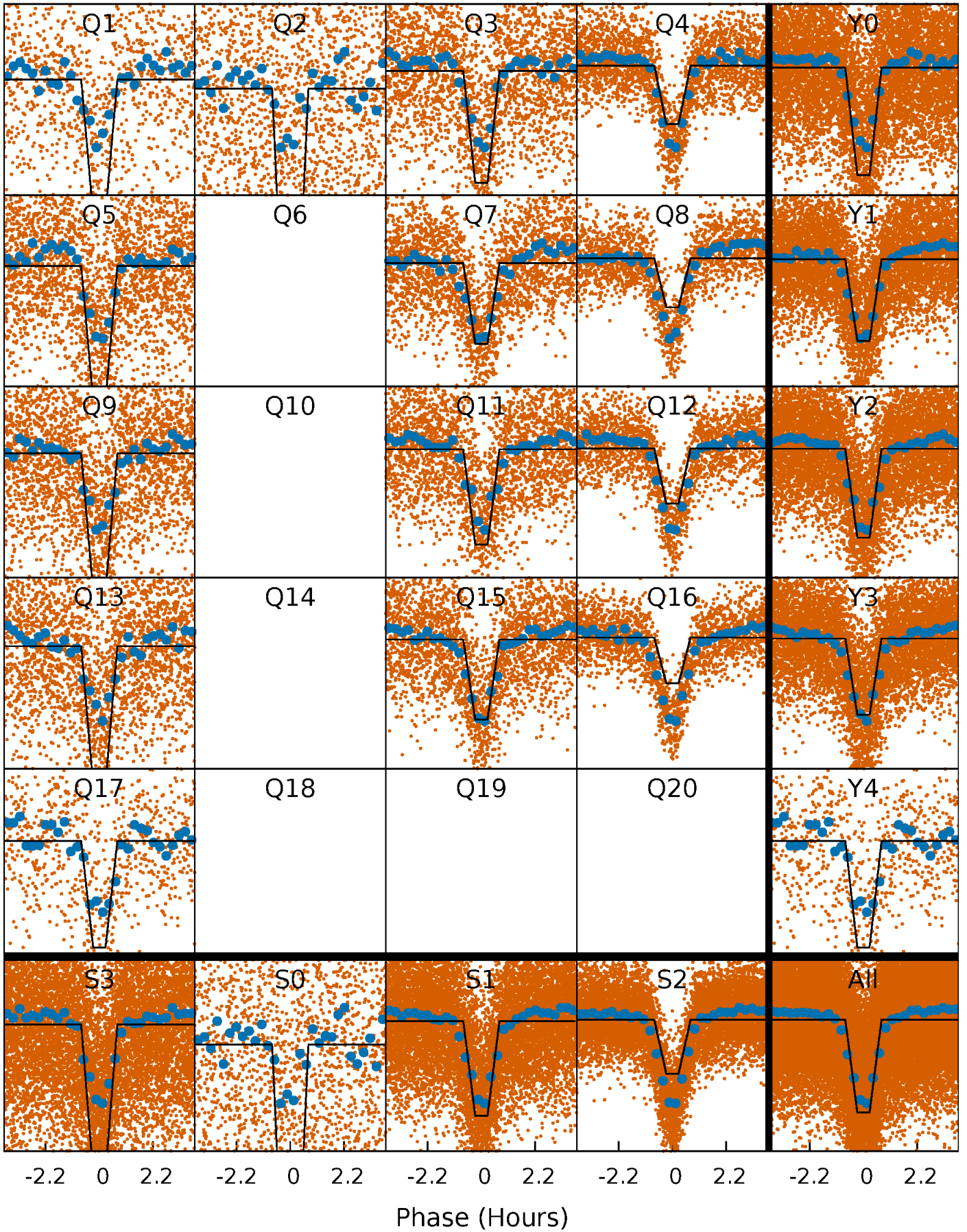
# DV Quarter-Phased Transit Curves

TCE 005802246-01 P= 0.525136 Days  $T_0=131.661144$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

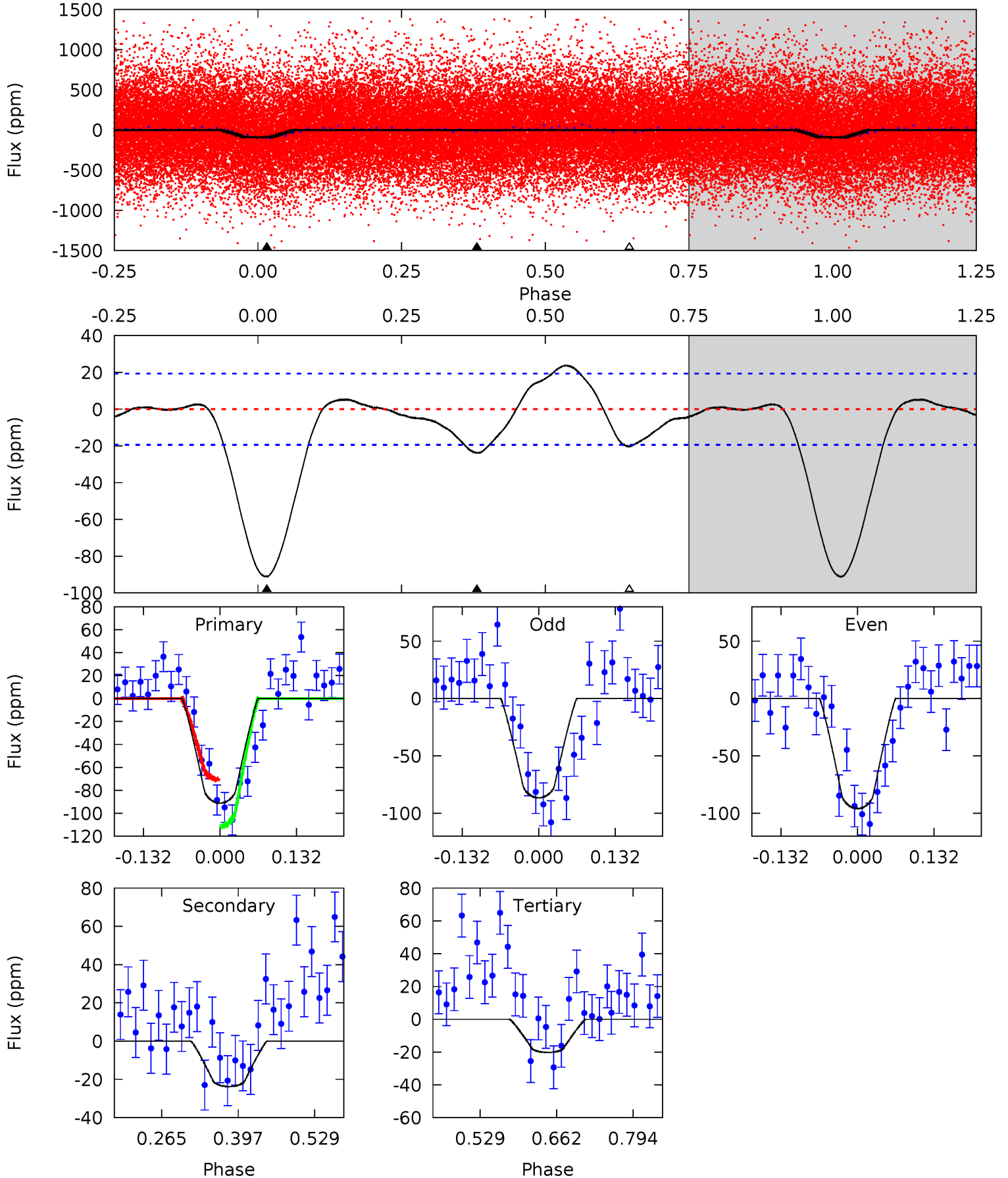
TCE 005802246-01 P= 0.525154 Days  $T_0=131.644303$  (BKJD)



# DV Model-Shift Uniqueness Test

005802246-01, P = 0.525136 Days, E = 131.136008 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
21.2	5.53	4.72	0	4.51	1.50	2.52	16.5	21.2	0.82	5.53	1.10	0.91	0.21	4.75

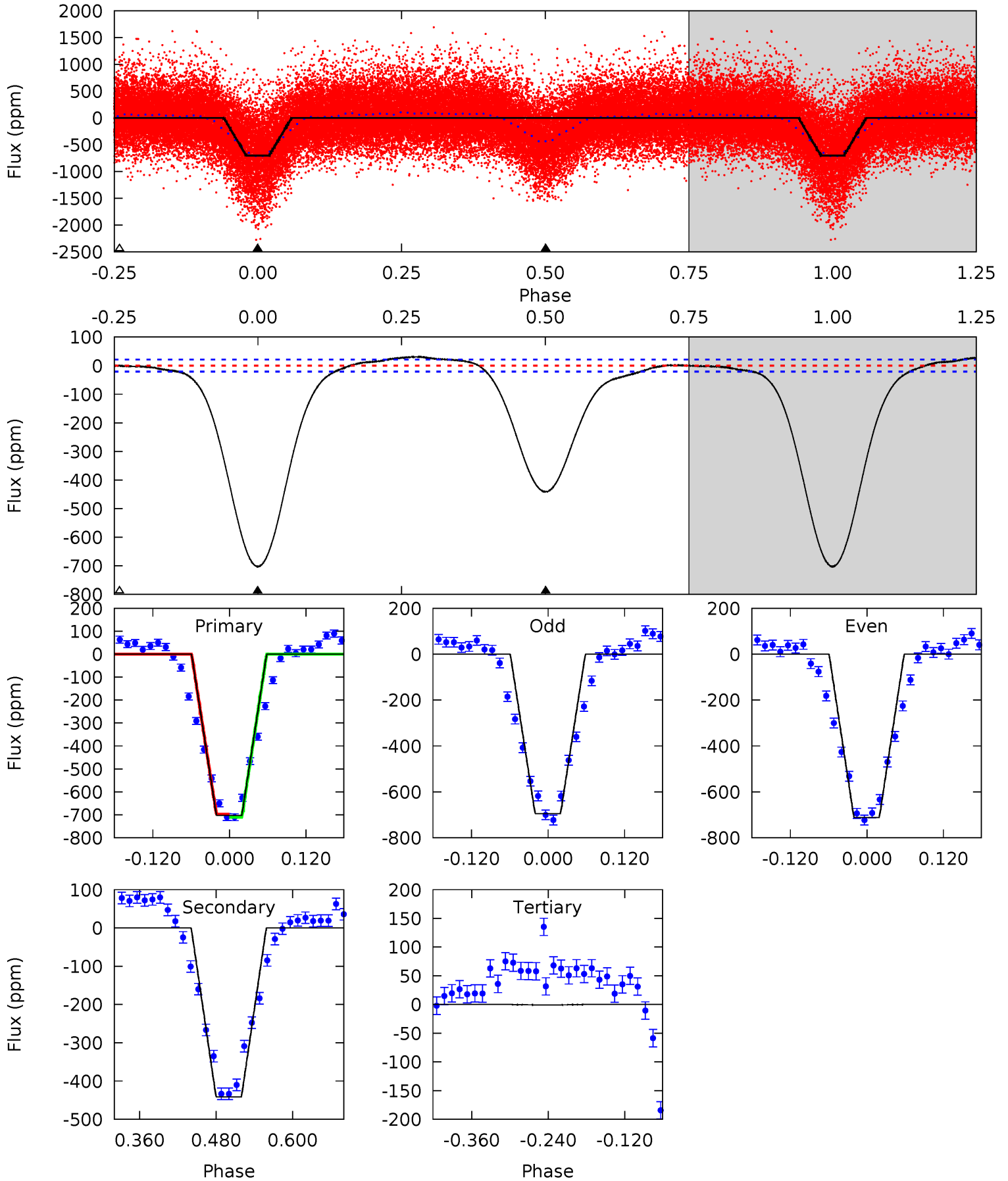




# Alt Model-Shift Uniqueness Test

005802246-01, P = 0.525154 Days, E = 131.119149 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
150.8	94.7	0.15	0	4.53	1.55	4.17	150.7	150.8	94.6	94.7	1.84	1.08	0.04	1.42





### Stellar Parameters For KIC 005802246

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5582^{+169}_{-152}$	$4.497^{+0.081}_{-0.150}$	$-0.300^{+0.300}_{-0.300}$	$0.846^{+0.189}_{-0.102}$	$0.819^{+0.106}_{-0.071}$	$1.906^{+0.676}_{-0.770}$
	+3%/-3%	+2%/-3%	+100%/-100%	+22%/-12%	+13%/-9%	+35%/-40%
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 005802246-01 / KOI 1044.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-24 \pm 4$	$1.03^{+0.60}_{-0.55}$	$2926^{+178}_{-141}$	$3910^{+1488}_{-743}$	$1.760^{+5.996}_{-1.082}$
Alt.	$-441 \pm 5$	$2.66^{+0.68}_{-0.66}$	$2934^{+194}_{-129}$	$4872^{+678}_{-443}$	$4.896^{+3.799}_{-1.759}$

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

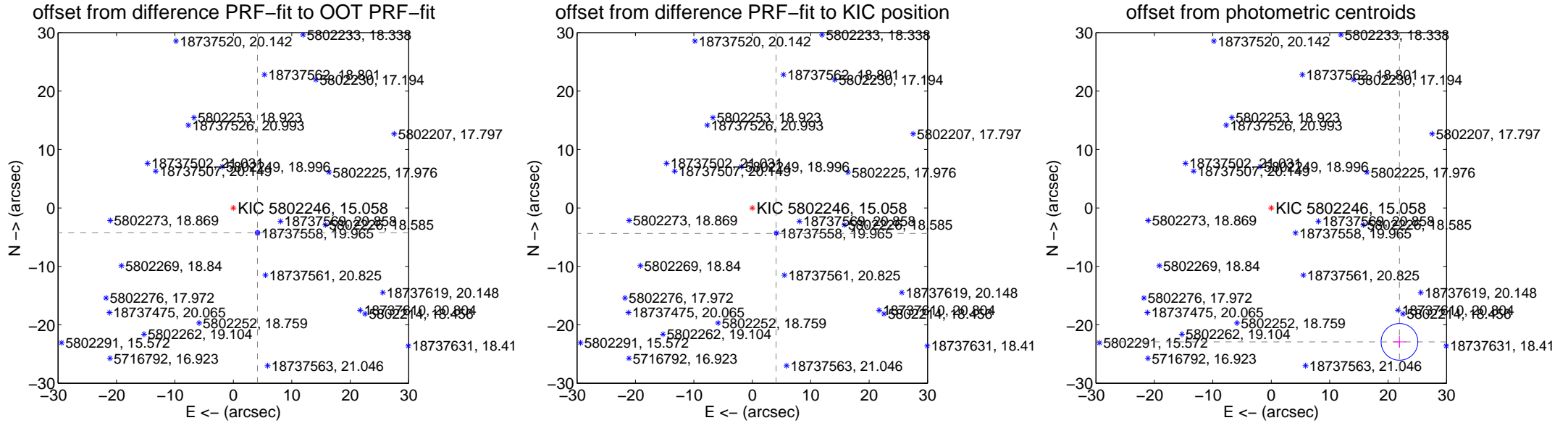
## DV Centroid Data

Supplemental centroid analysis for 005802246-01. Kepler magnitude: 15.06. Transit SNR 14.46

There are 6 quarters with good PRF difference image offsets

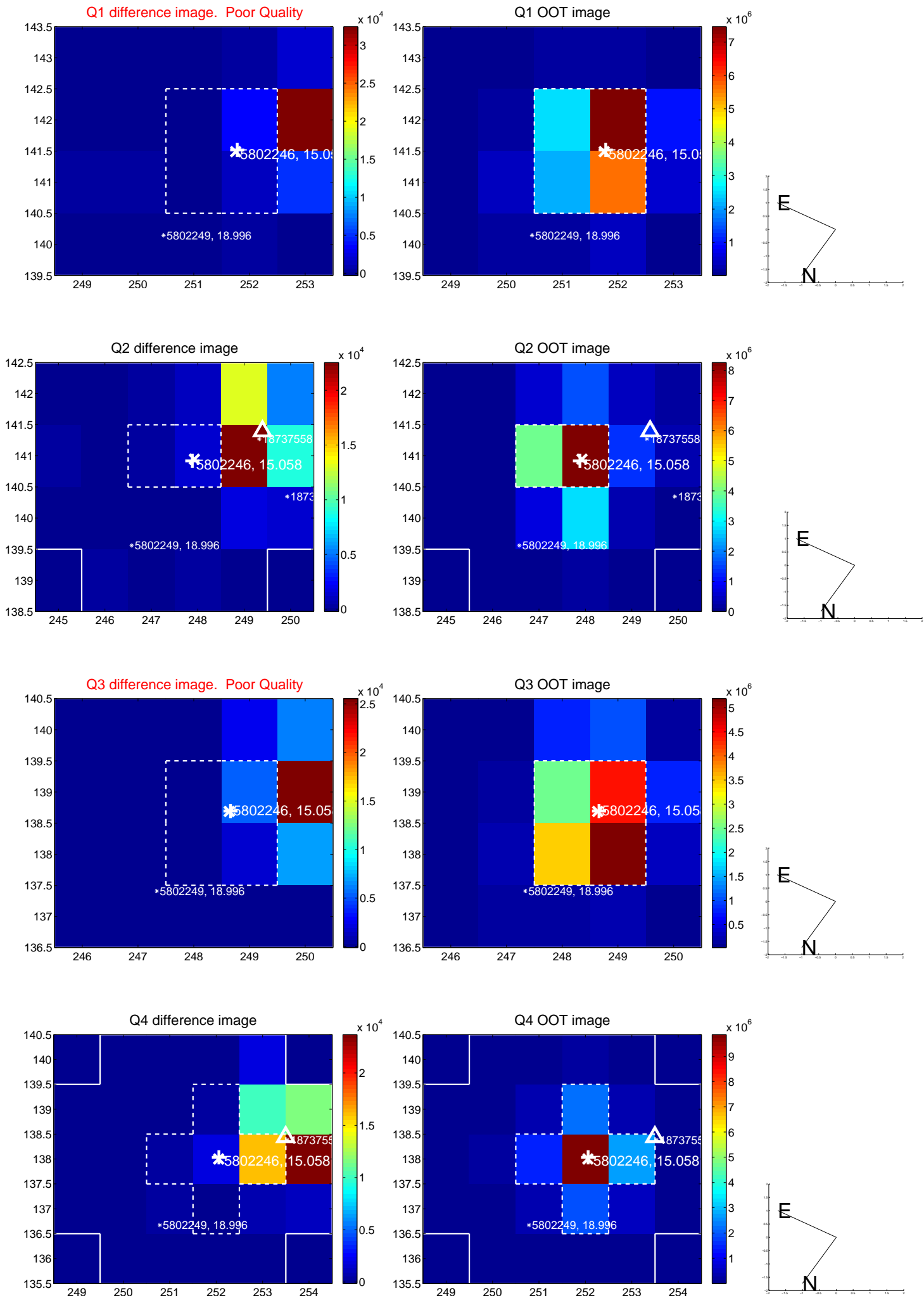
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>5.926 <math>\pm</math> 0.123</b>	<b>48.32</b>	-4.126 $\pm$ 0.097	-4.253 $\pm$ 0.107
PRF-fit source offset from KIC position	<b>5.969 <math>\pm</math> 0.083</b>	<b>71.64</b>	-4.069 $\pm$ 0.078	-4.366 $\pm$ 0.074
photometric centroid source offset	<b>31.73 <math>\pm</math> 1.05</b>	<b>30.28</b>	-21.95 $\pm$ 1.09	-22.92 $\pm$ 1.01

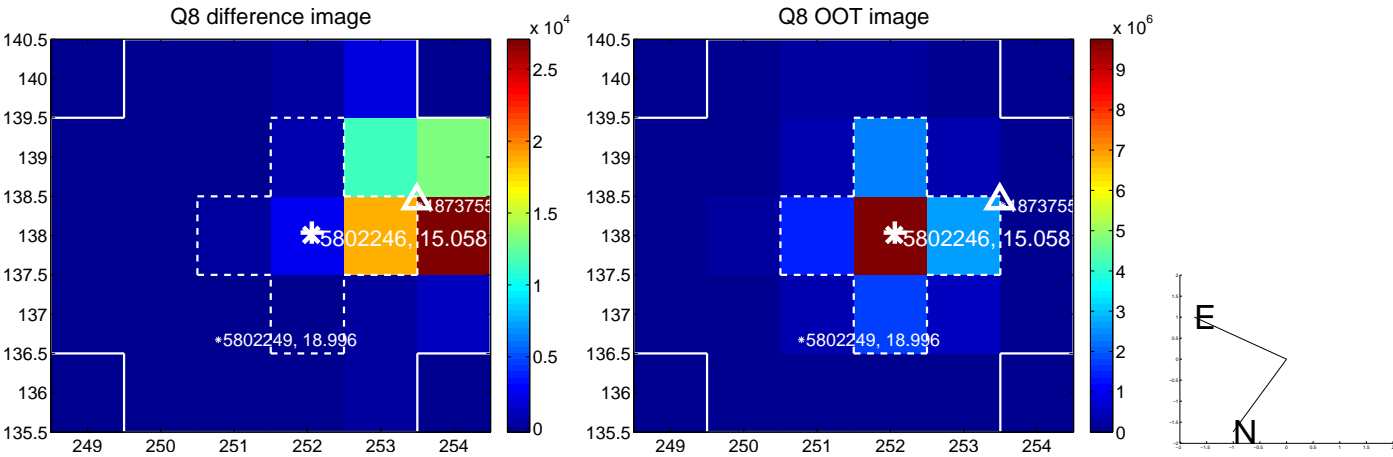
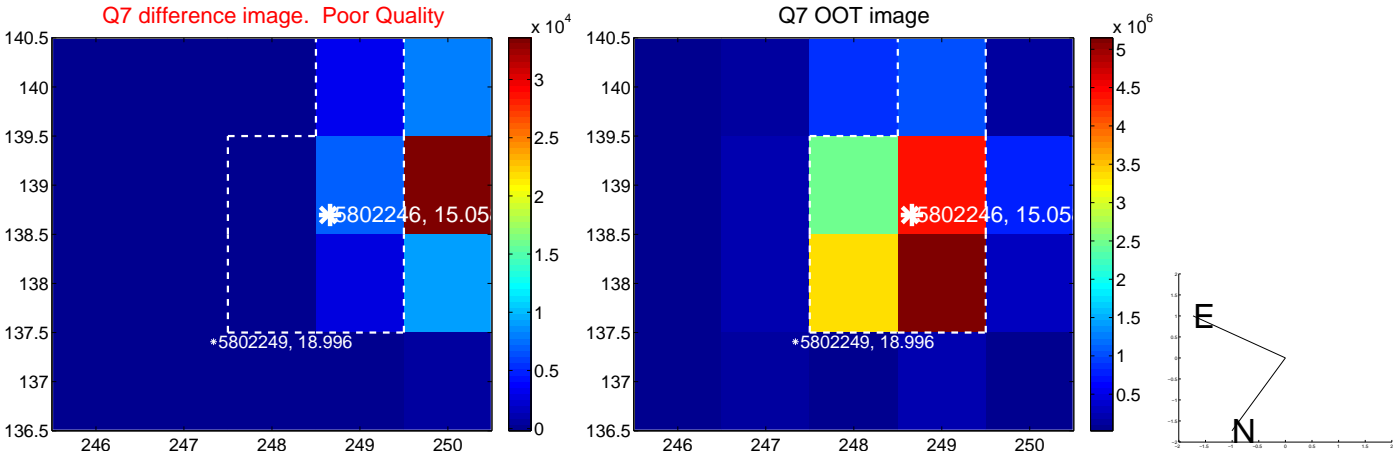
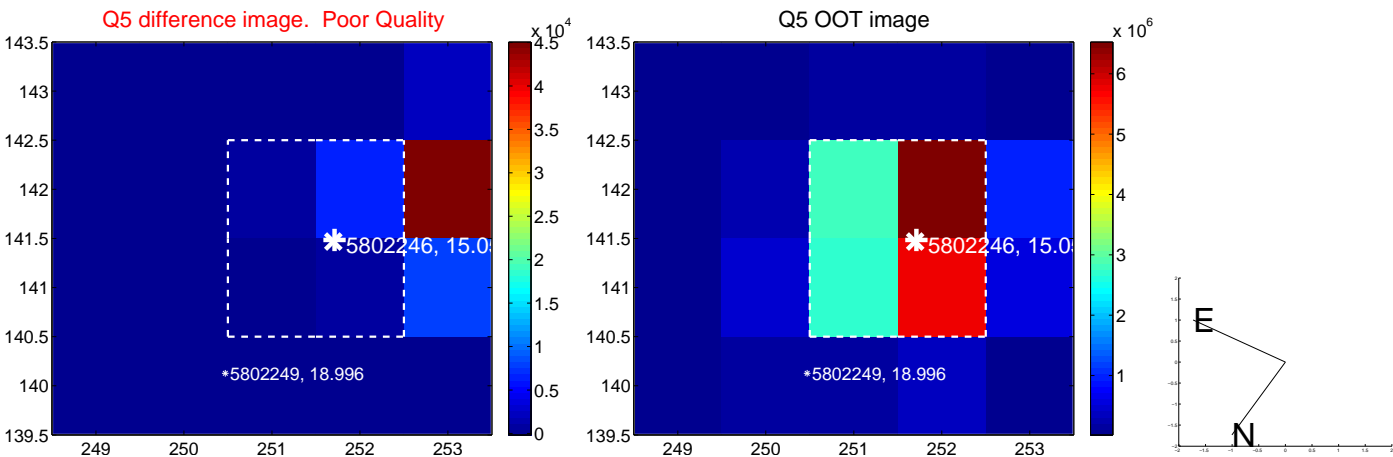


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

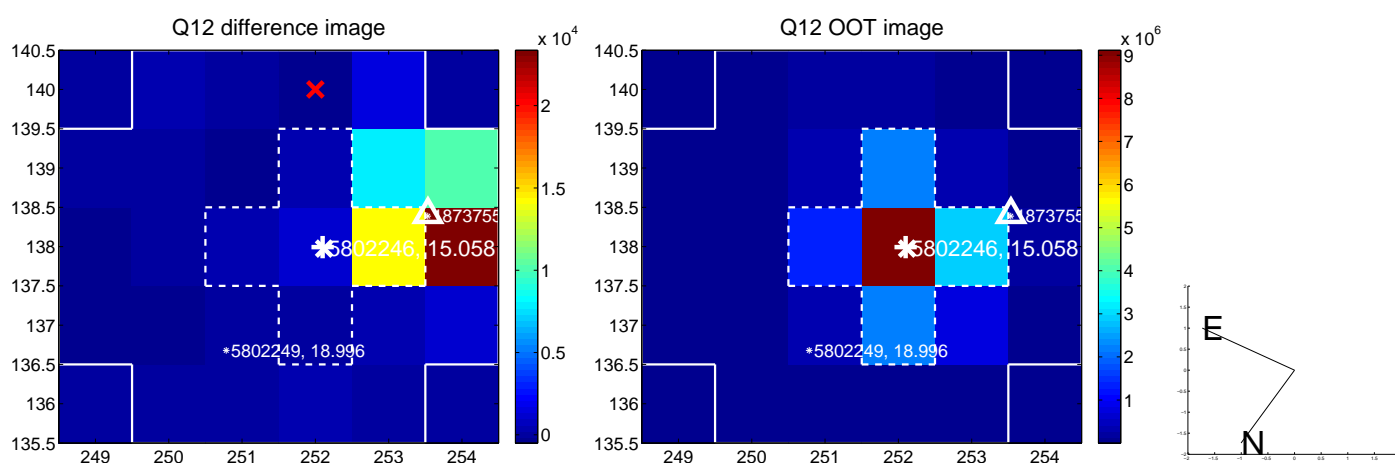
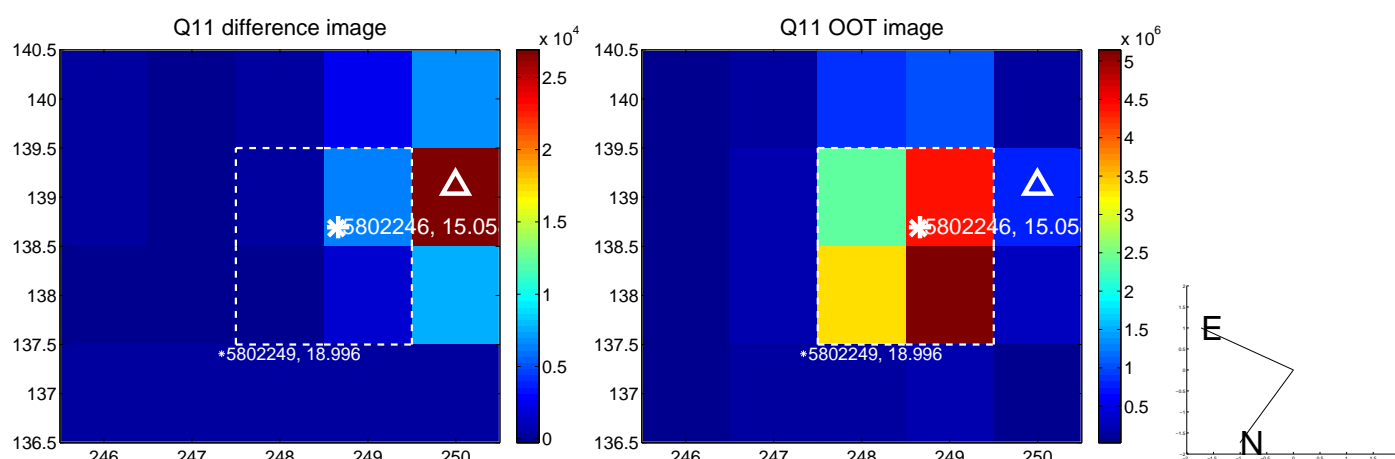
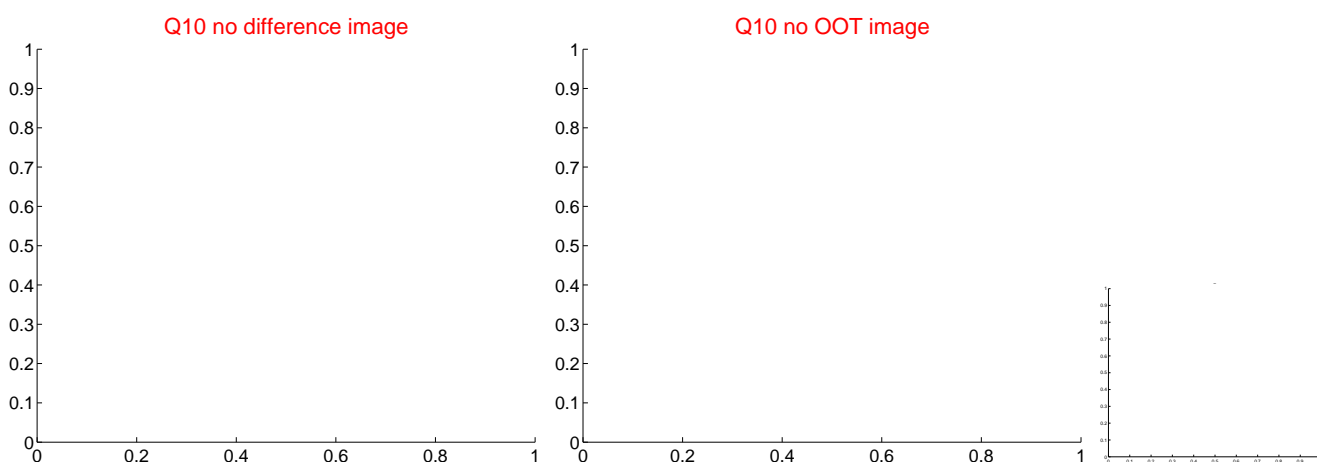
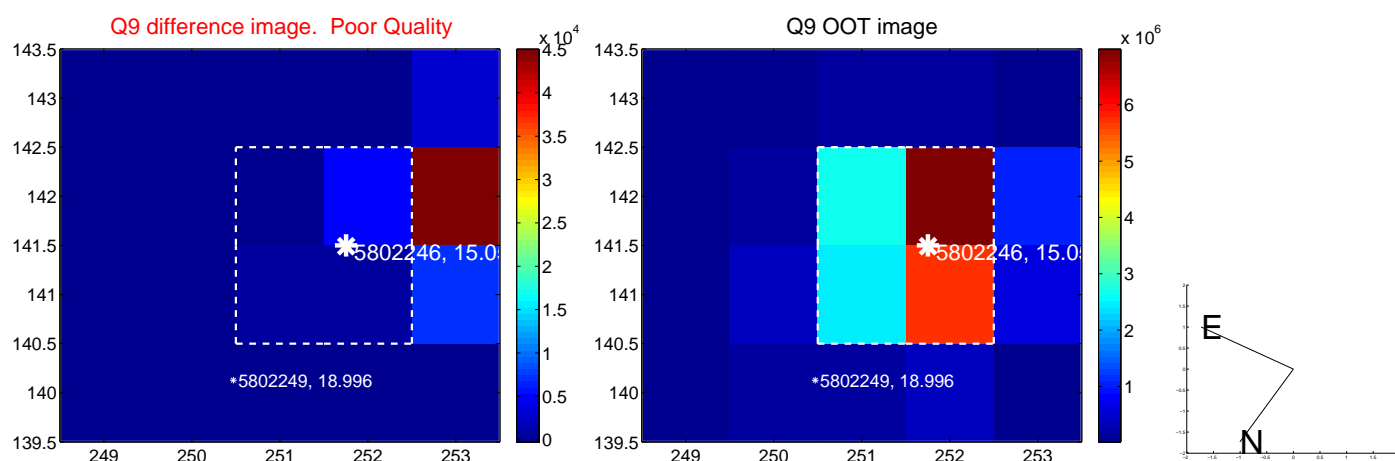


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

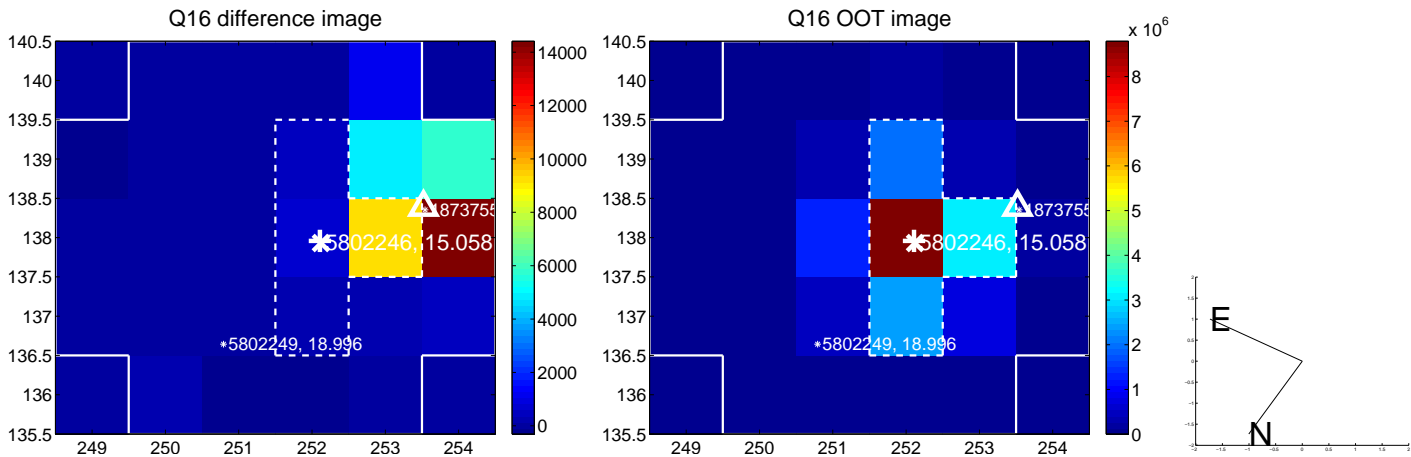
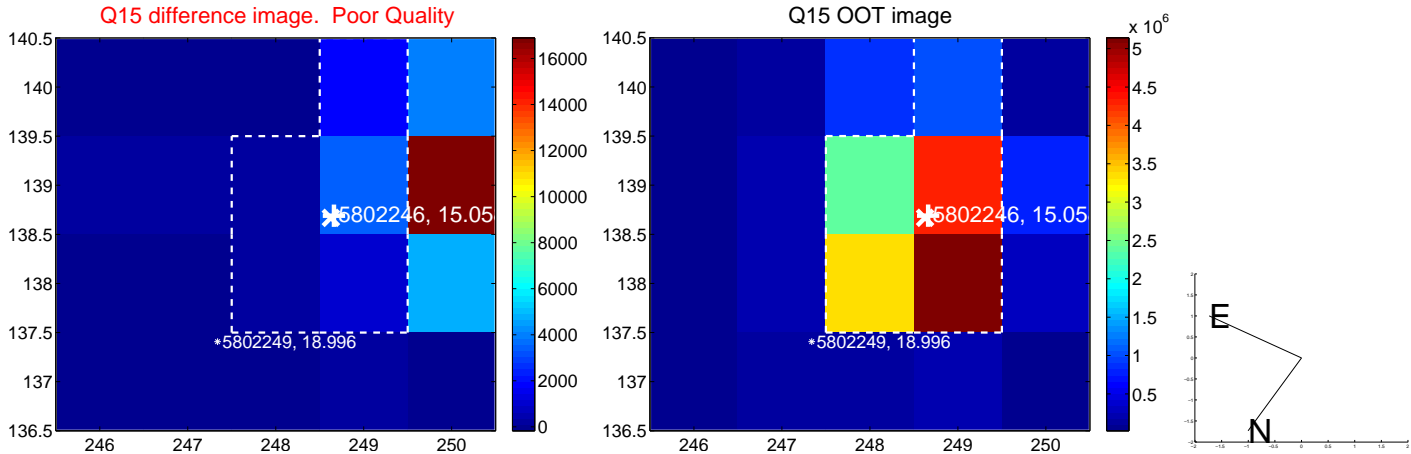
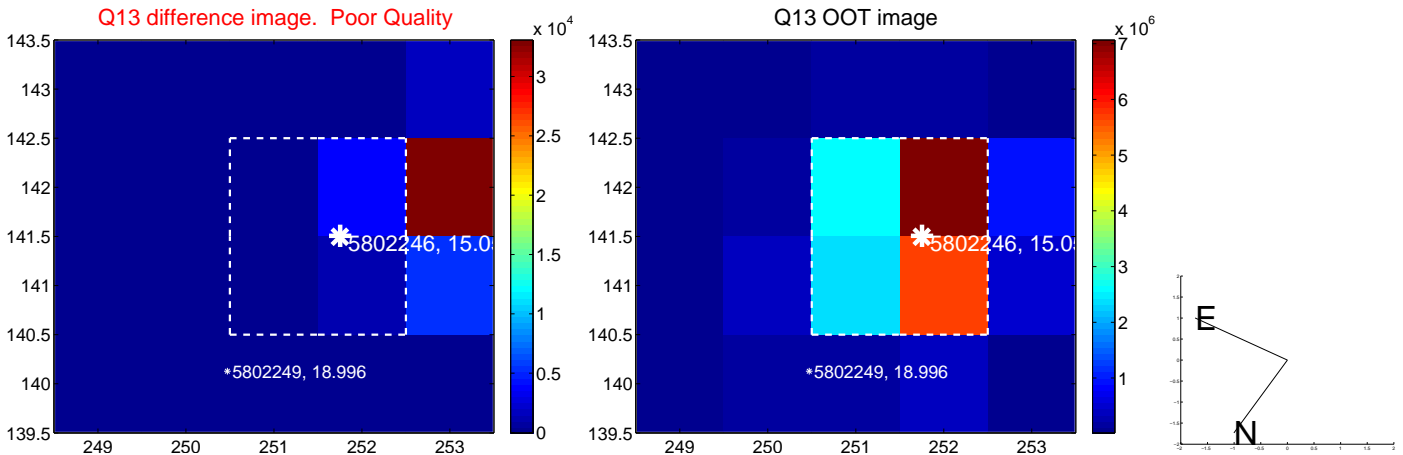




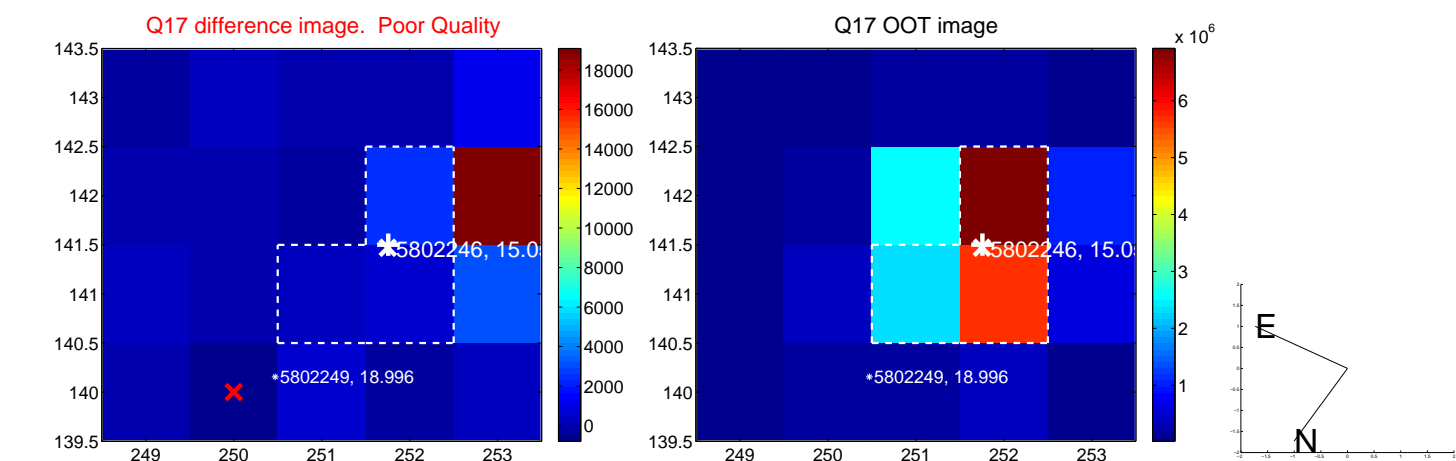
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



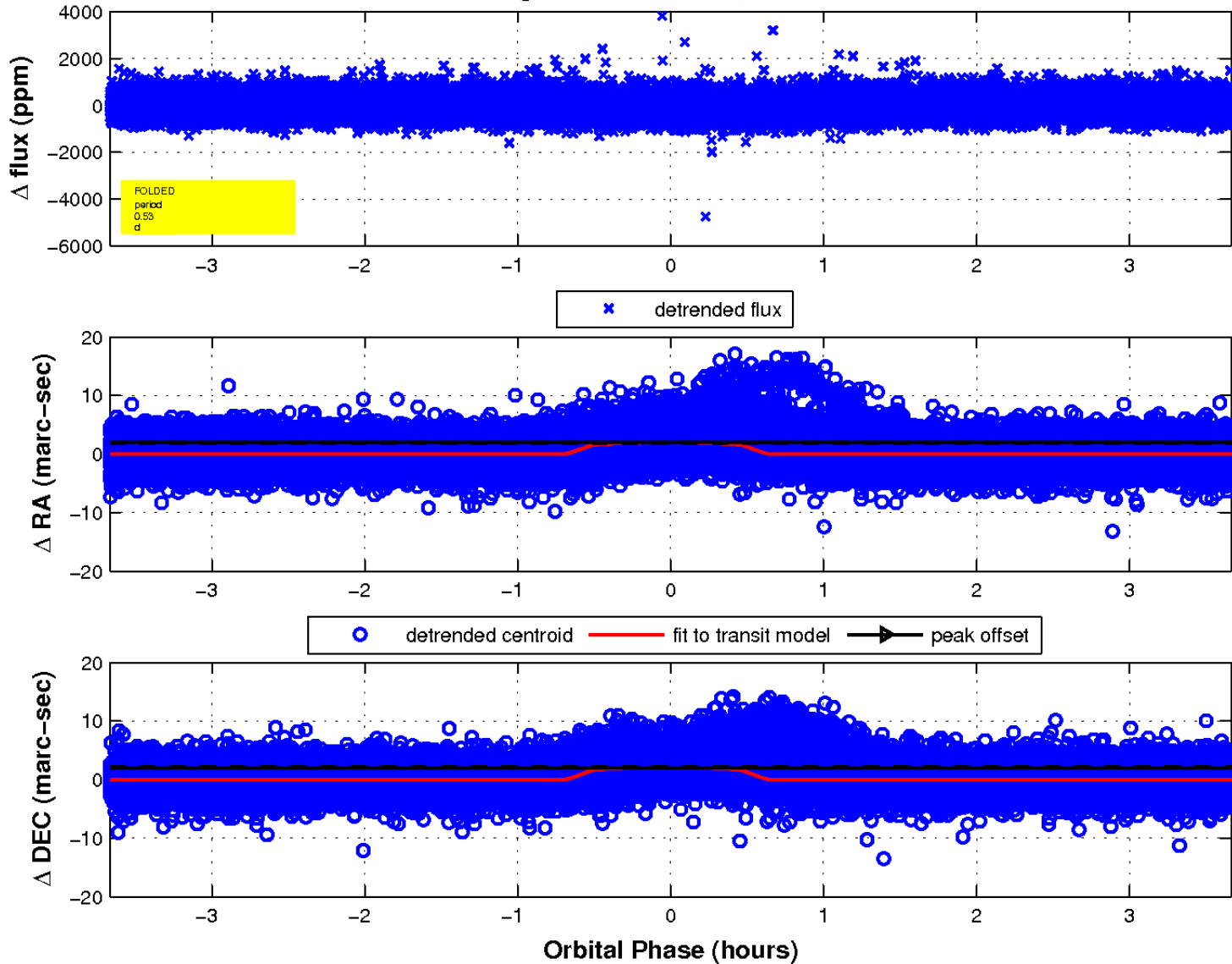
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

