

# KIC 005802486

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005802486-01	OBS	1039.01	1.073897	131.754384	733.1	1.474	64.7	53.3	0.96	5962	3.14	2453.15

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005802486-01	OBS	FP	0.00	0	1	1	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—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 005802486-01

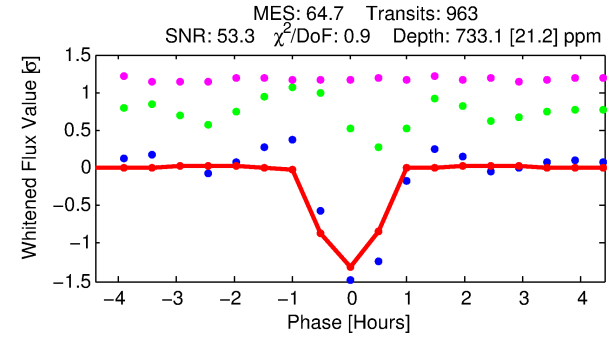
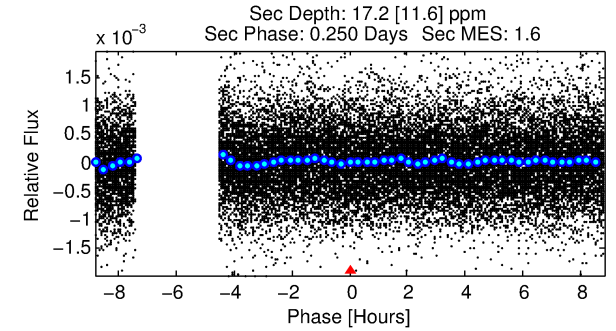
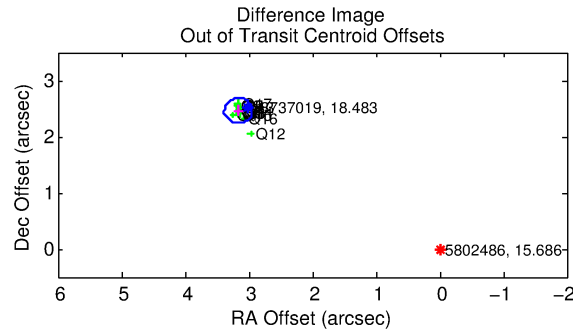
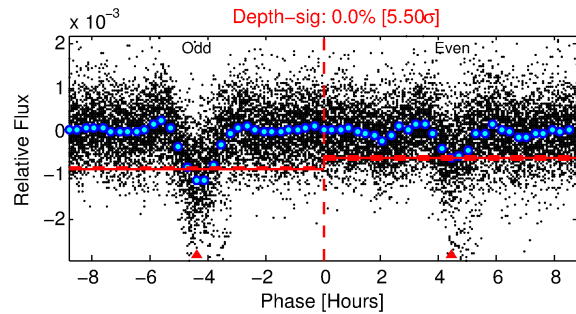
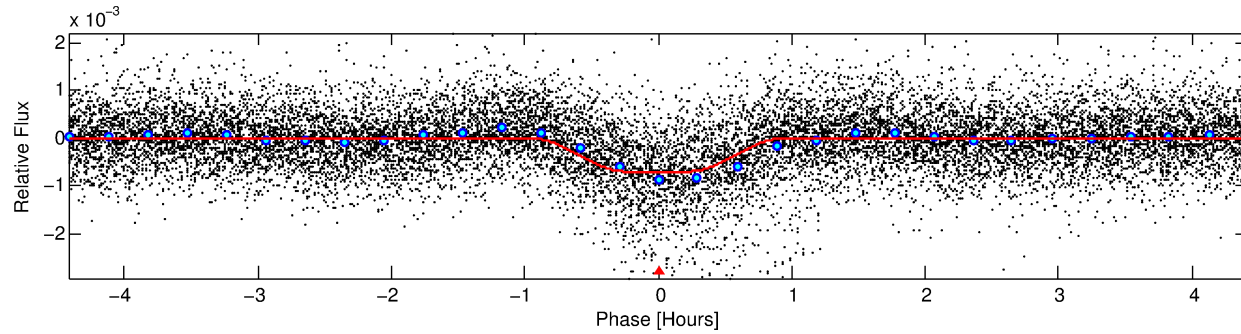
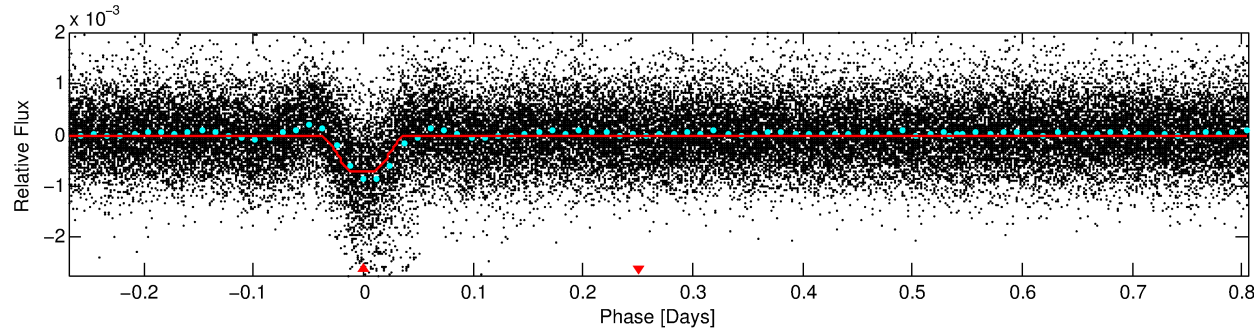
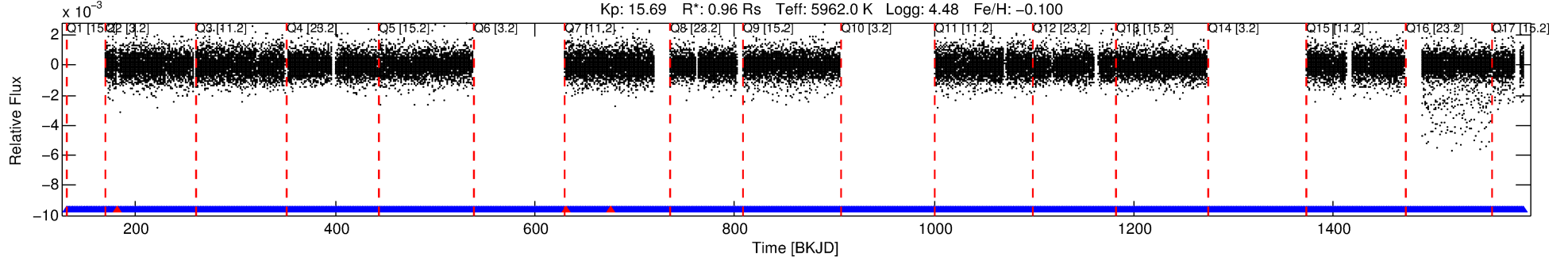
No Significant Match Found

# DV One-Page Summary

KIC: 5802486 Candidate: 1 of 1 Period: 1.074 d

KOI: K01039.01 Corr: 0.775

Kp: 15.69 R\*: 0.96 Rs Teff: 5962.0 K Logg: 4.48 Fe/H: -0.100



## DV Fit Results:

Period = 1.07390 [0.00000] d  
Epoch = 131.7544 [0.0004] BKJD  
Rp/R\* = 0.0300 [0.0020]  
a/R\* = 2.79 [0.76]  
b = 0.92 [0.06]  
Seff = 2453.15 [1026.98]  
Teq = 1795 [188] K  
Rp = 3.14 [1.03] Re  
a = 0.0206 [0.0056] AU  
Ag = 0.41 [0.32] [-1.83σ]  
Teffp = 2217 [388] K [0.98σ]

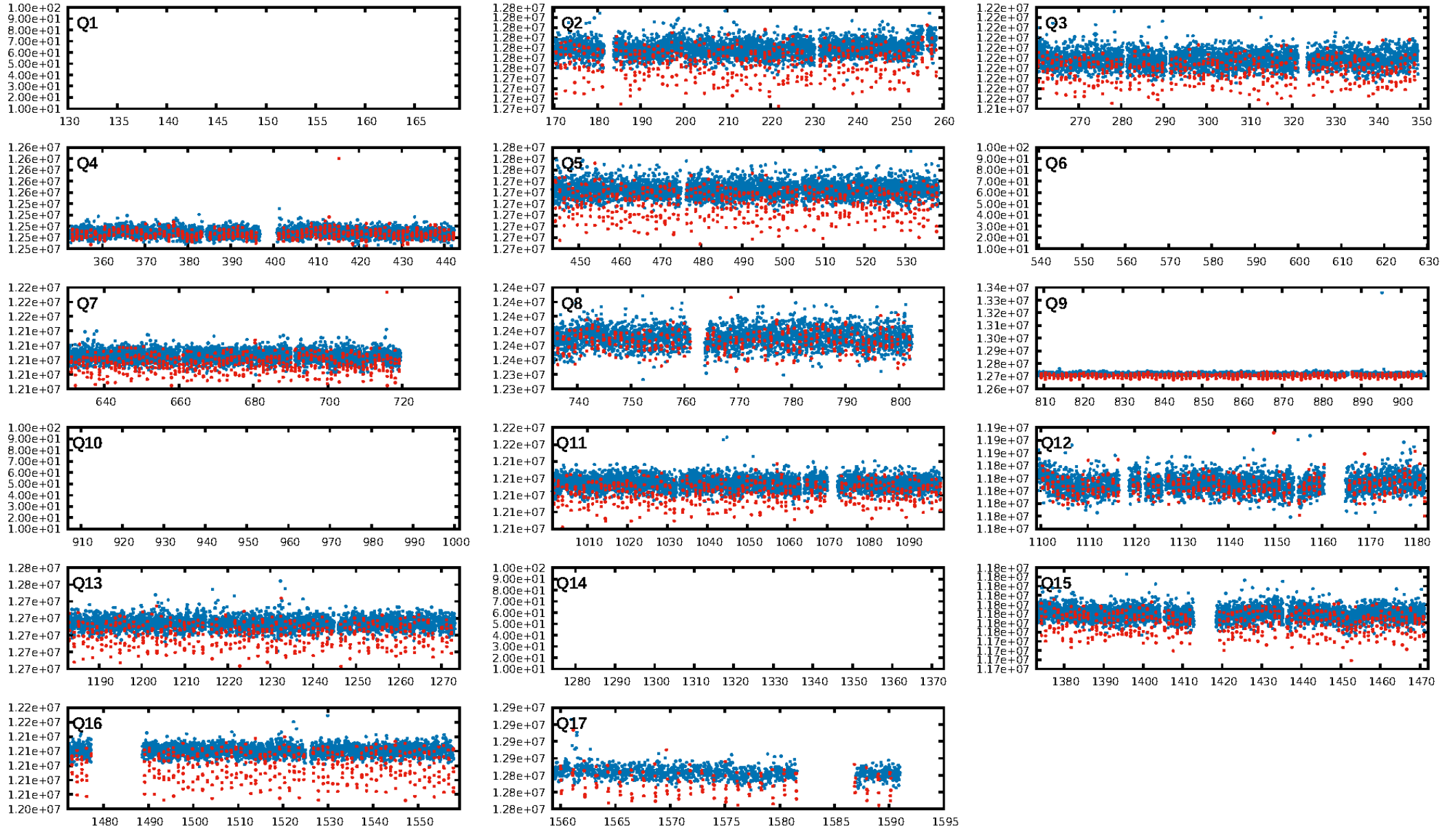
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [935/938]  
GhostDiagnostic-chr: 0.3694  
Centroid-sig: 0.0%  
Centroid-so: 4.956 arcsec [24.13σ]  
OotOffset-rm: 4.009 arcsec [54.53σ]  
KicOffset-rm: 3.944 arcsec [54.92σ]  
OotOffset-st: 1/4/4/4 [13]  
KicOffset-st: 1/4/4/4 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

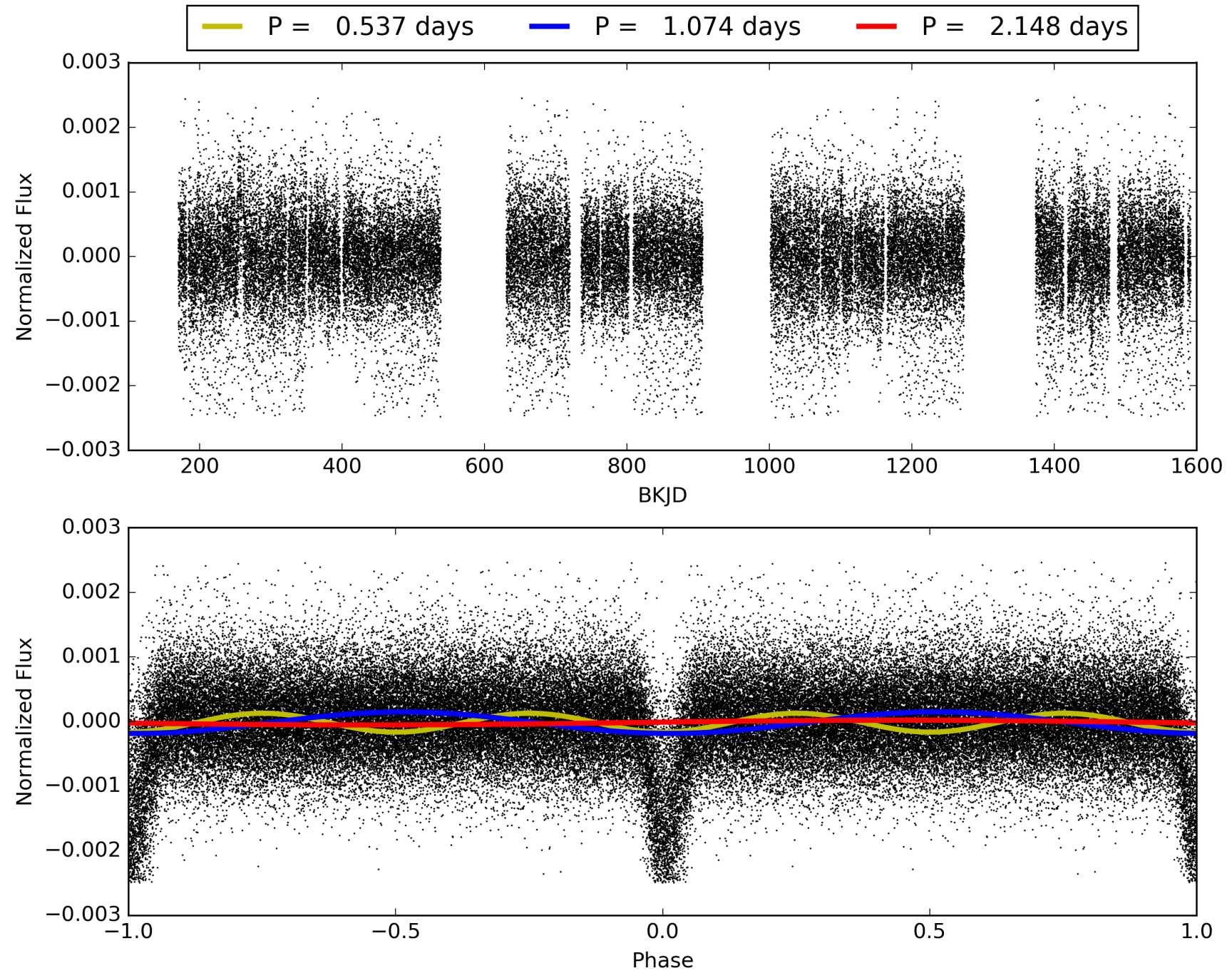
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:49:31 Z

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

# TCE 005802486-01, PDC Light Curves

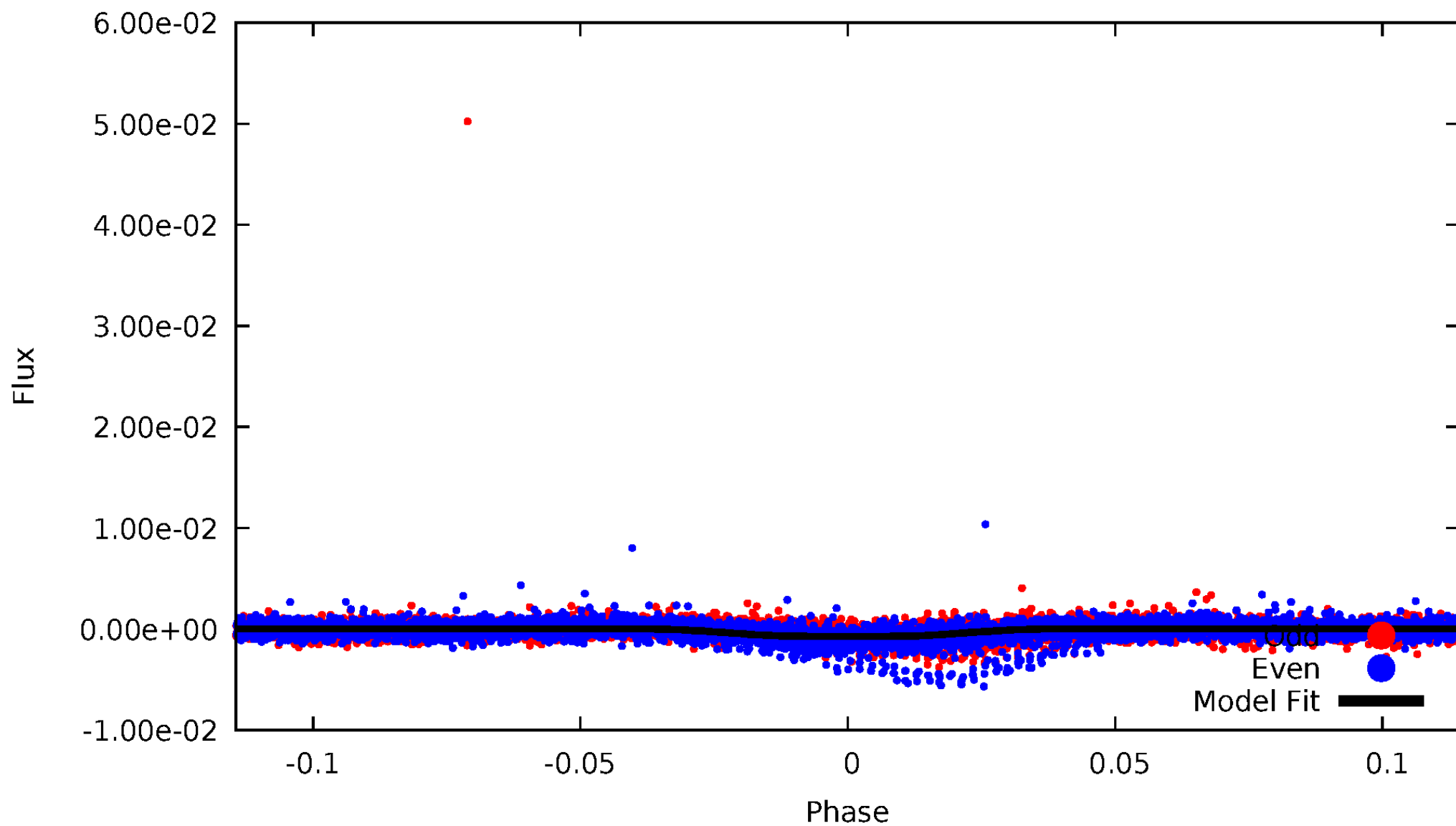


TCE 005802486-01



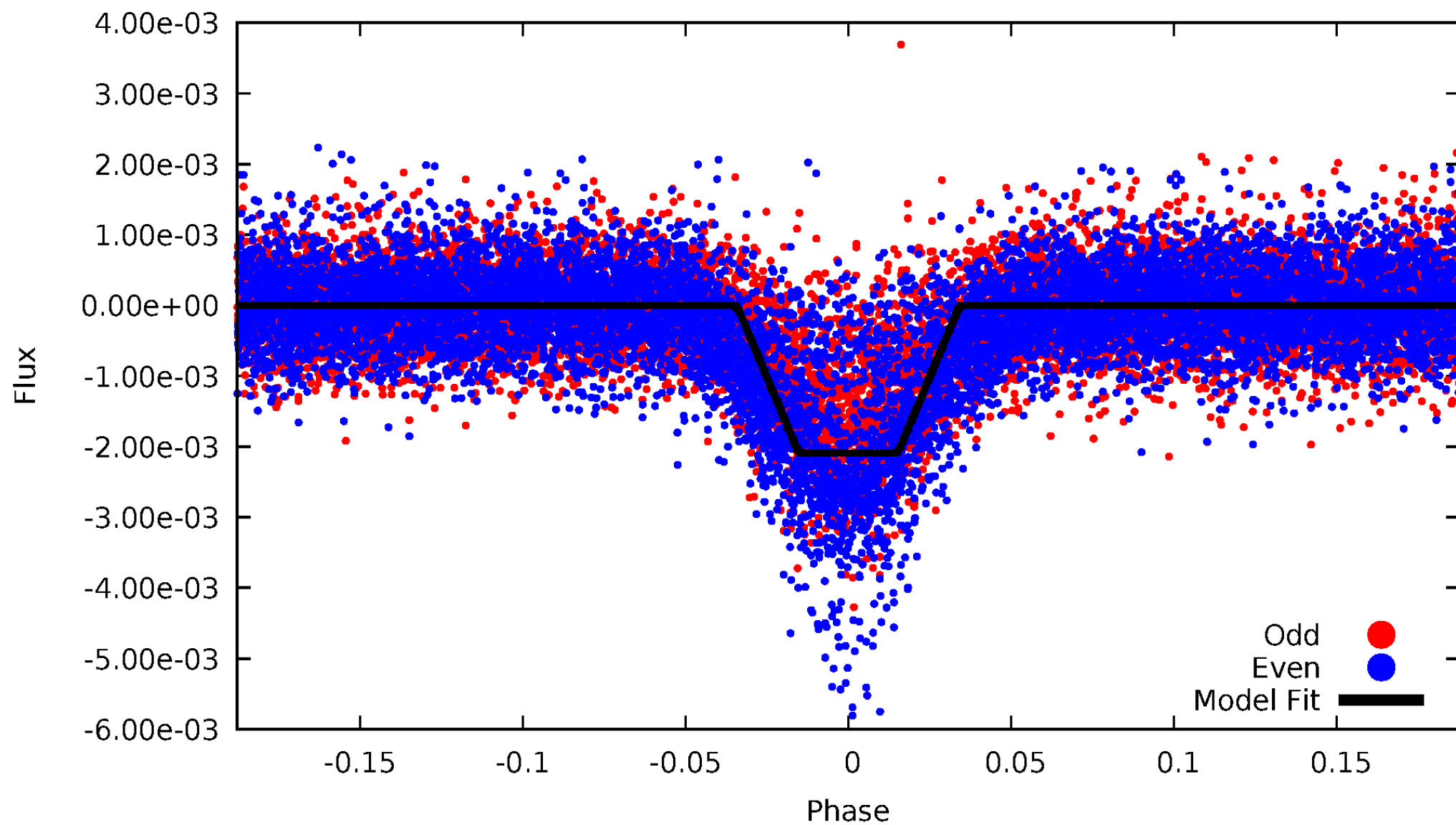
# DV Odd/Even

TCE 005802486-01



# ALT Odd/Even

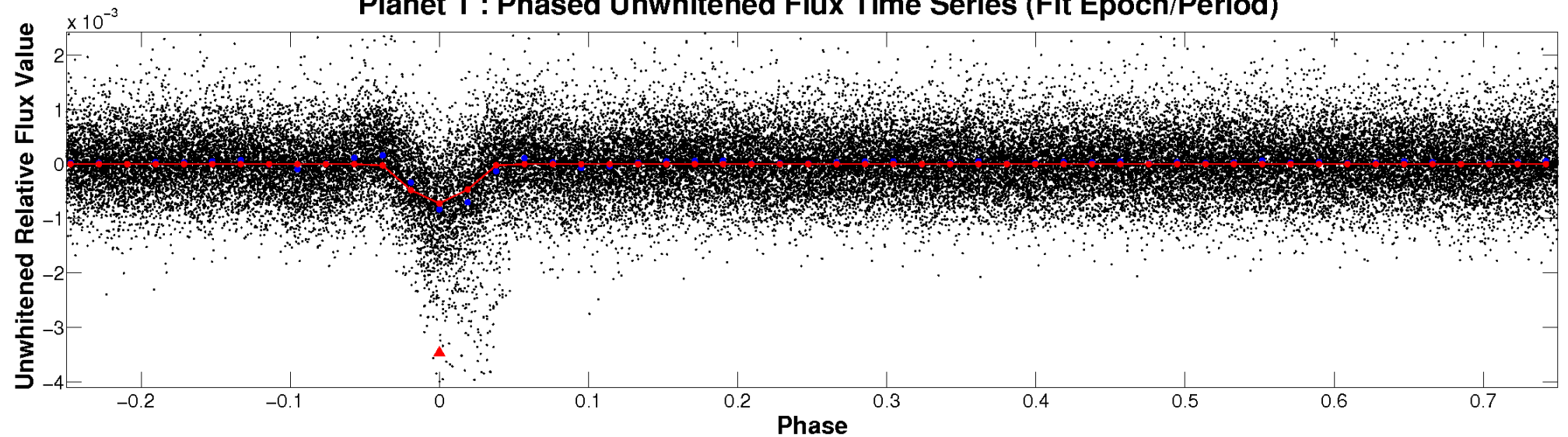
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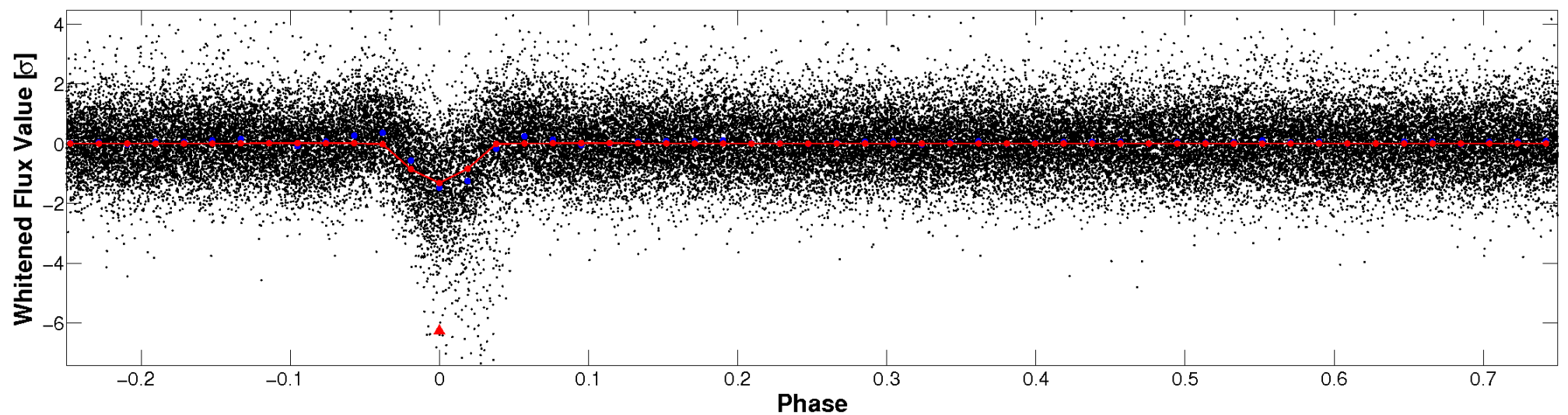


# Non-Whitened Vs. Whitened Light Curve

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

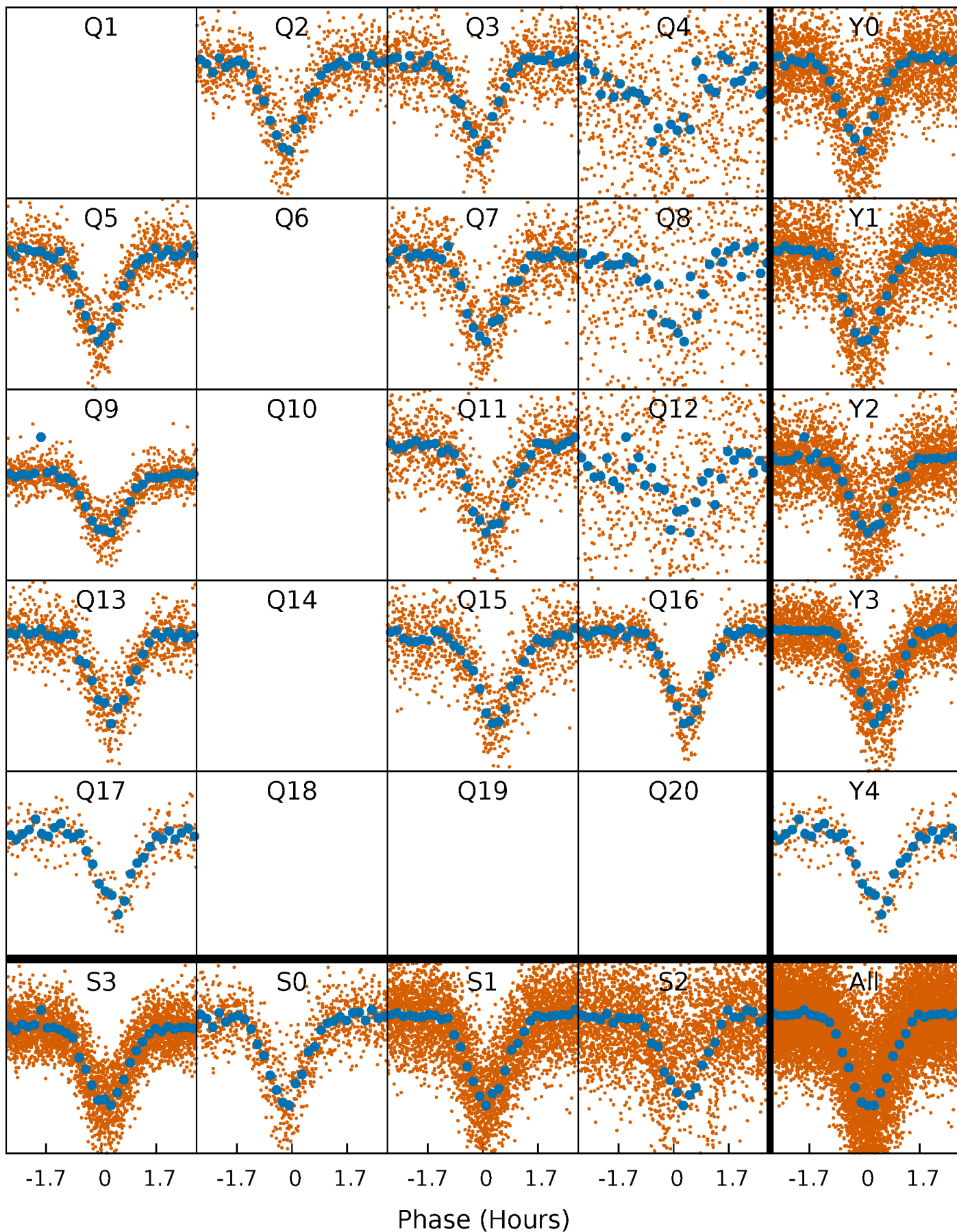


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

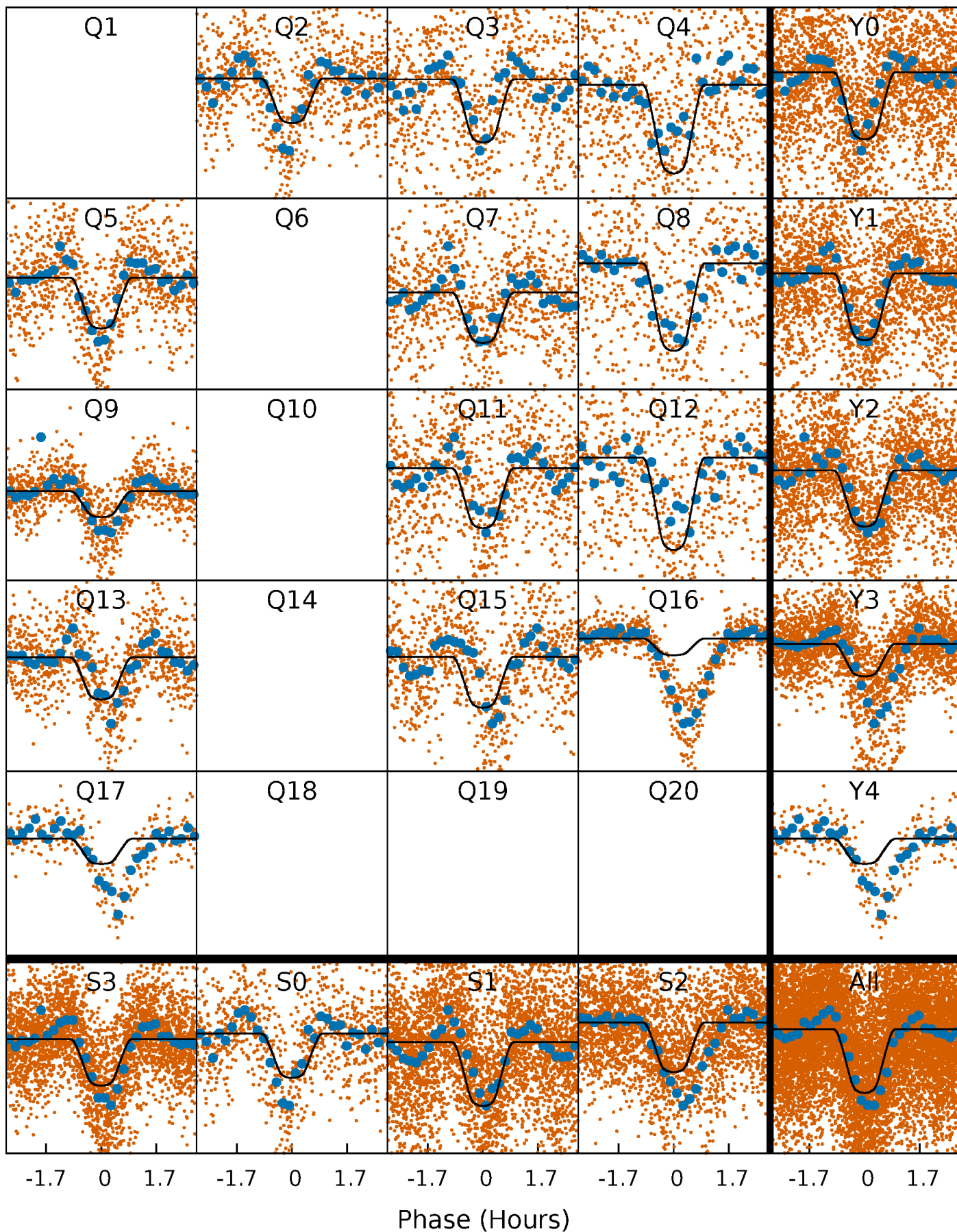
TCE 005802486-01 P= 1.073897 Days  $T_0=131.754384$  (BKJD)





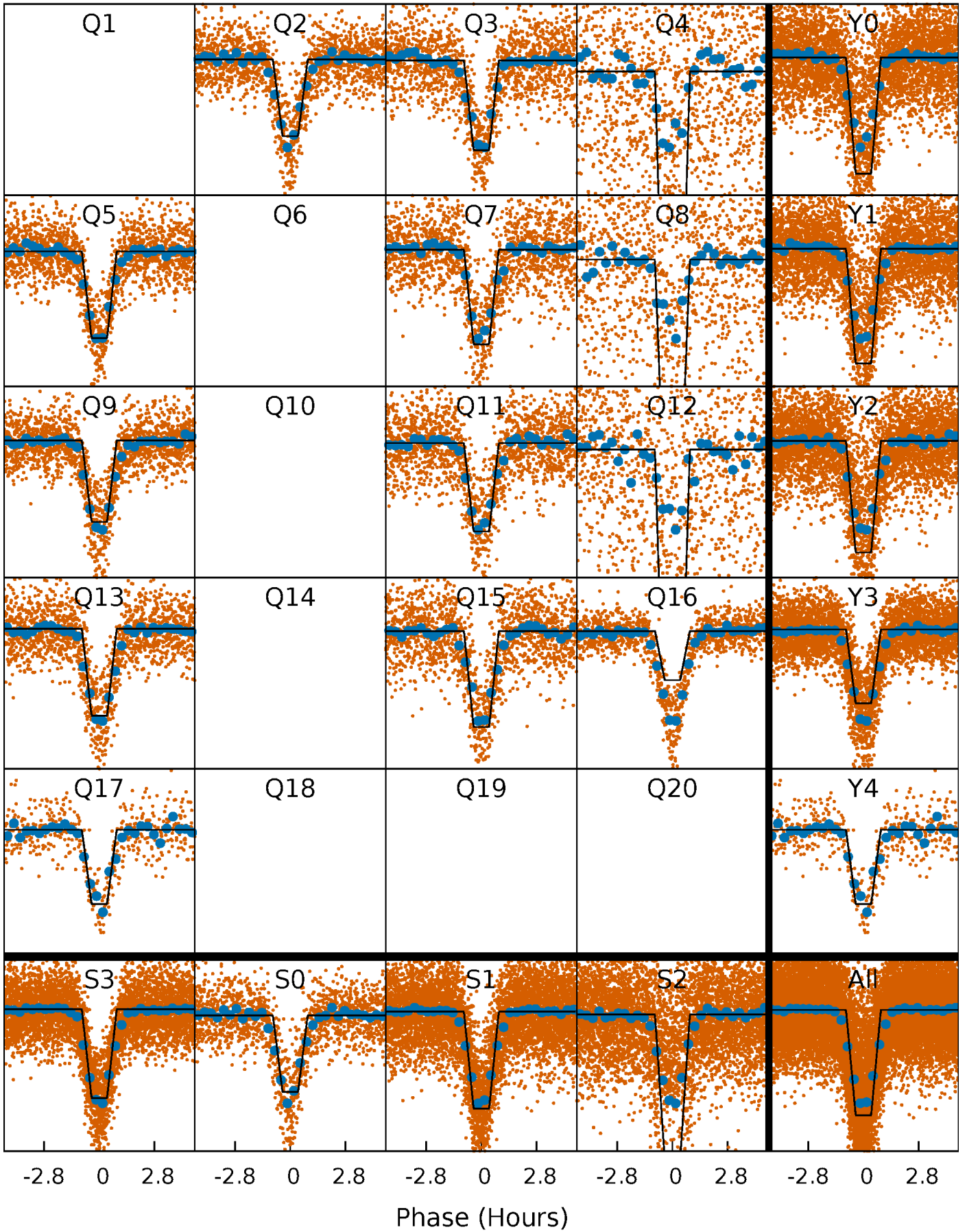
# DV Quarter-Phased Transit Curves

TCE 005802486-01 P= 1.073897 Days  $T_0=131.754384$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

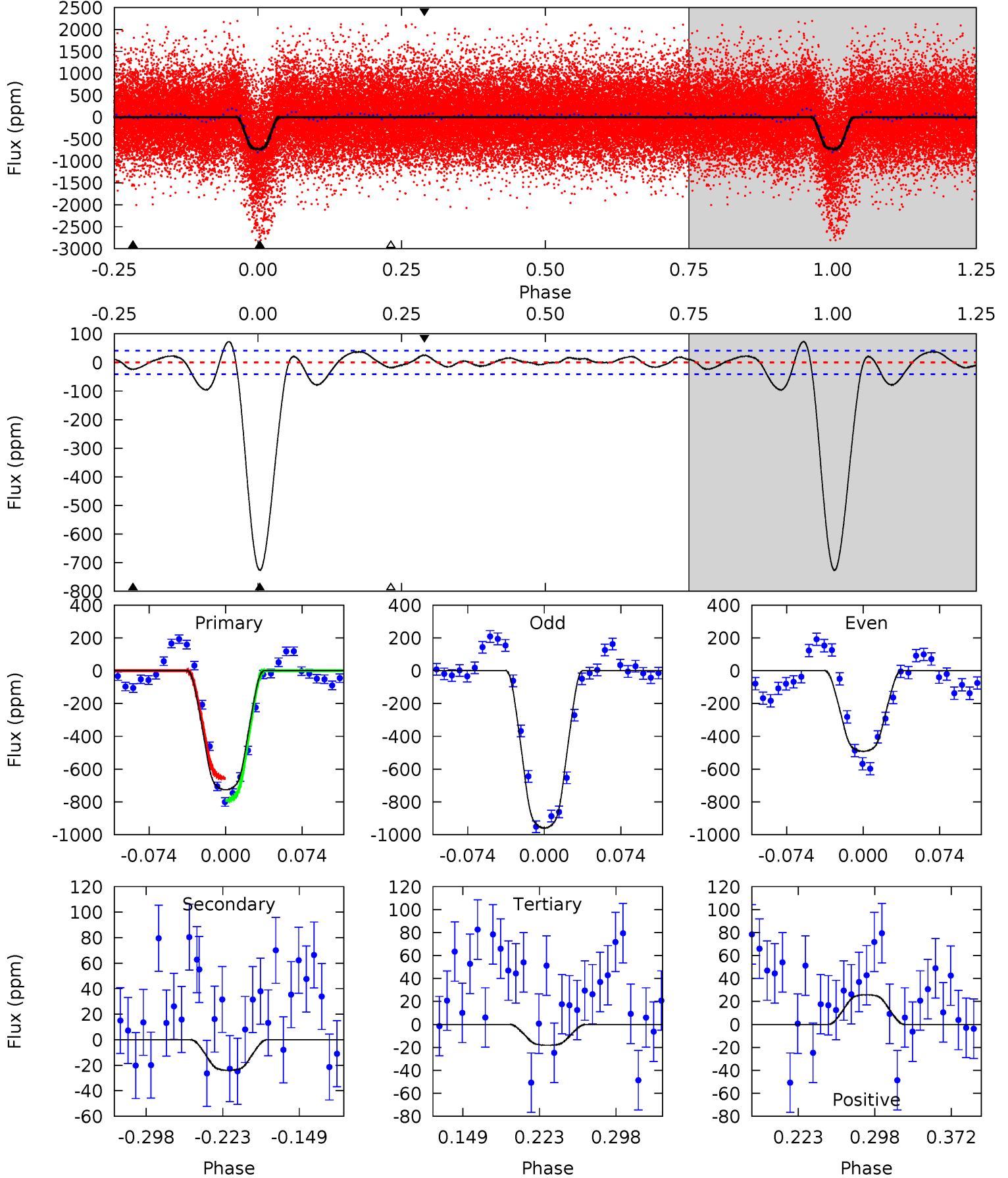
TCE 005802486-01 P= 1.073916 Days  $T_0=131.747252$  (BKJD)



# DV Model-Shift Uniqueness Test

005802486-01, P = 1.073897 Days, E = 131.754384 Days

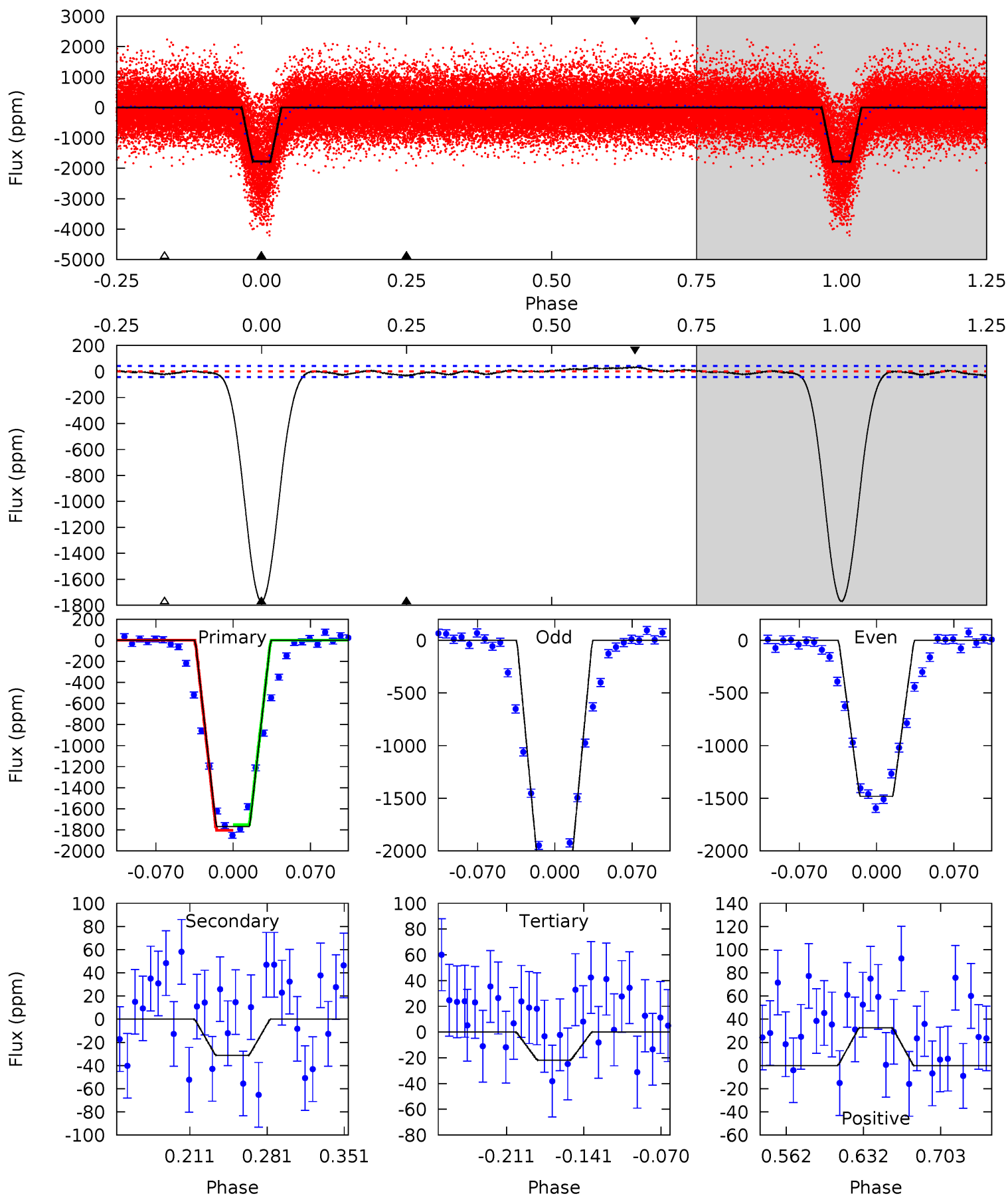
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.7	2.70	2.05	2.91	4.63	1.78	3.07	79.7	78.8	0.66	-0.21	26.4	1.19	0.09	7.67



# Alt Model-Shift Uniqueness Test

005802486-01, P = 1.073916 Days, E = 131.747252 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
192.7	3.41	2.39	3.55	4.64	1.81	1.61	190.3	189.1	1.02	-0.15	36.2	0.97	0.02	2.95



### Stellar Parameters For KIC 005802486

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5962^{+187}_{-208}$	$4.479^{+0.054}_{-0.216}$	$-0.100^{+0.300}_{-0.300}$	$0.959^{+0.308}_{-0.103}$	$1.011^{+0.128}_{-0.142}$	$1.615^{+0.477}_{-0.881}$
	+3%/-3%	+1%/-5%	+300%/-300%	+32%/-11%	+13%/-14%	+30%/-55%
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 005802486-01 / KOI 1039.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-24 \pm 9$	$3.23^{+0.59}_{-0.37}$	$2567^{+202}_{-132}$	$2680^{+309}_{-4669}$	$0.496^{+0.257}_{-0.207}$
Alt.	$-31 \pm 9$	$4.94^{+0.88}_{-0.50}$	$2566^{+191}_{-138}$	$-2081^{+4464}_{-481}$	$0.277^{+0.105}_{-0.099}$

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



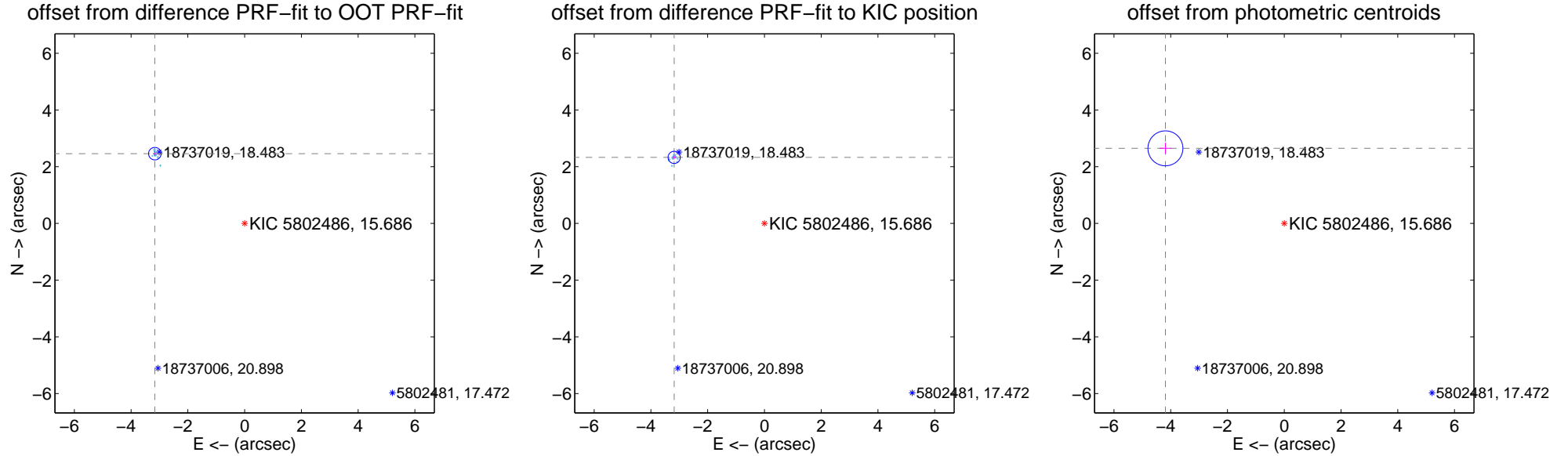
## DV Centroid Data

Supplemental centroid analysis for 005802486-01. Kepler magnitude: 15.69. Transit SNR 53.33

There are 13 quarters with good PRF difference image offsets

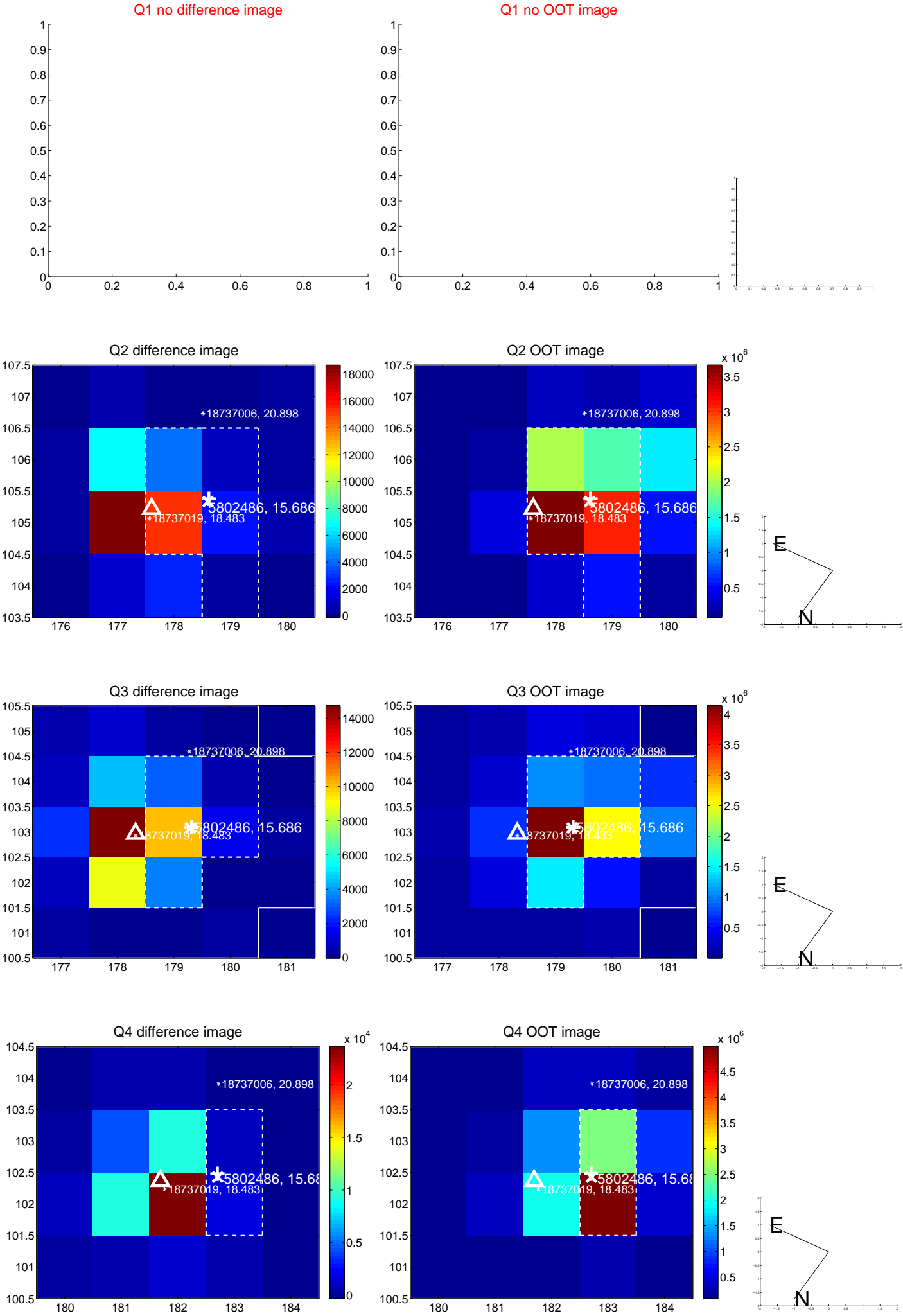
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.009 \pm 0.074$	54.53	$3.165 \pm 0.069$	$2.461 \pm 0.074$
PRF-fit source offset from KIC position	$3.944 \pm 0.072$	54.92	$3.182 \pm 0.071$	$2.330 \pm 0.073$
photometric centroid source offset	$4.96 \pm 0.21$	24.13	$4.19 \pm 0.21$	$2.65 \pm 0.20$

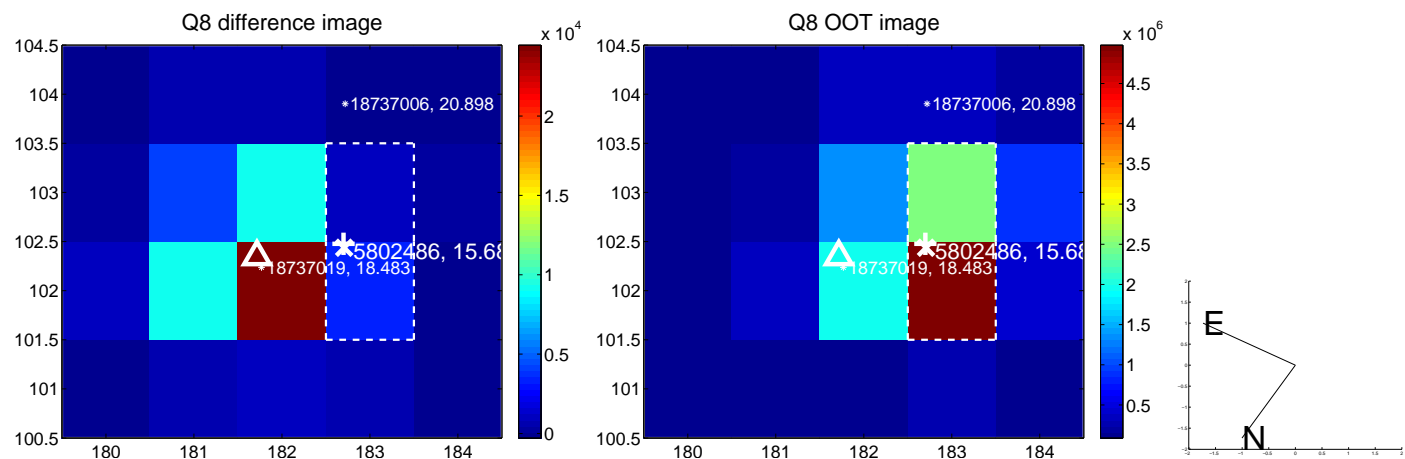
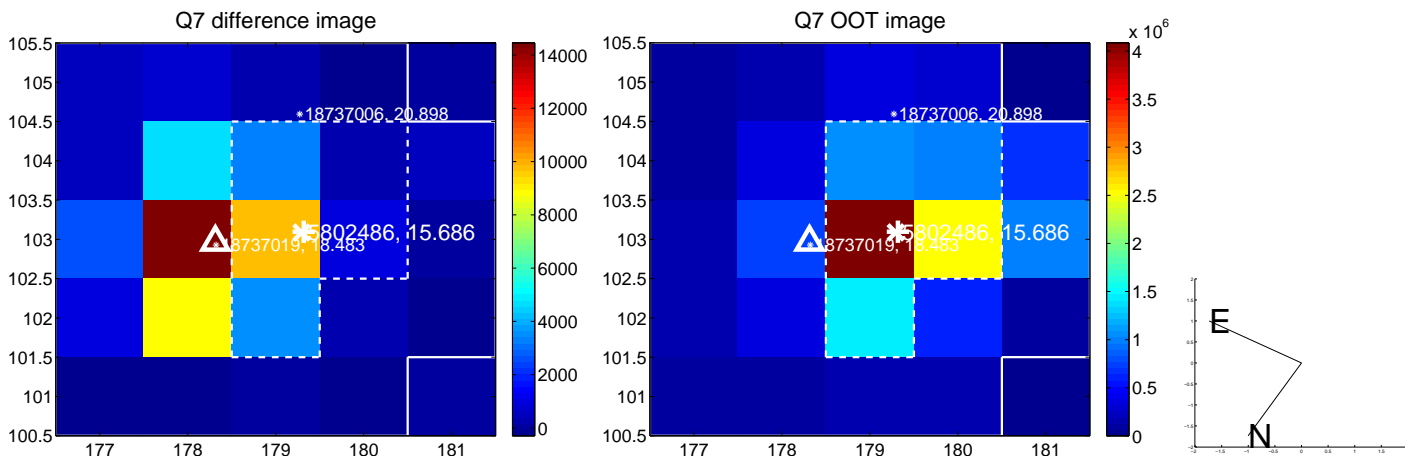
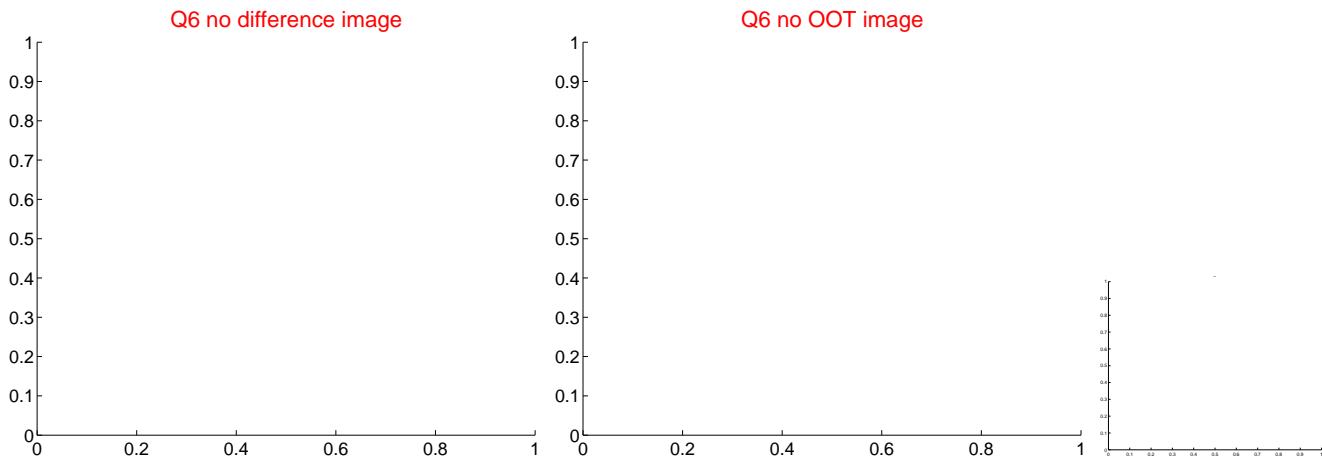
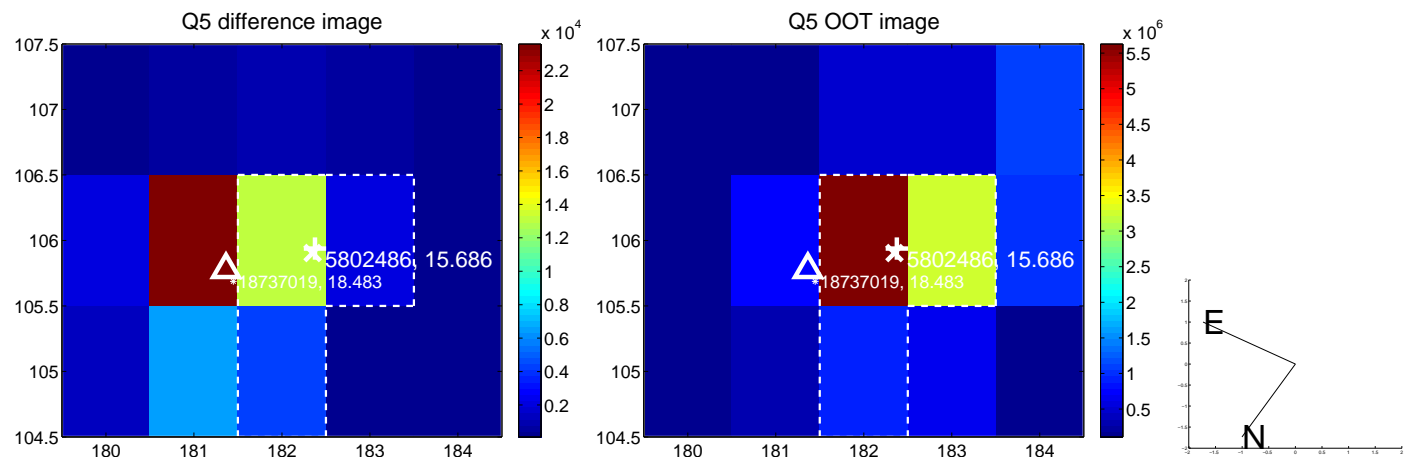


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

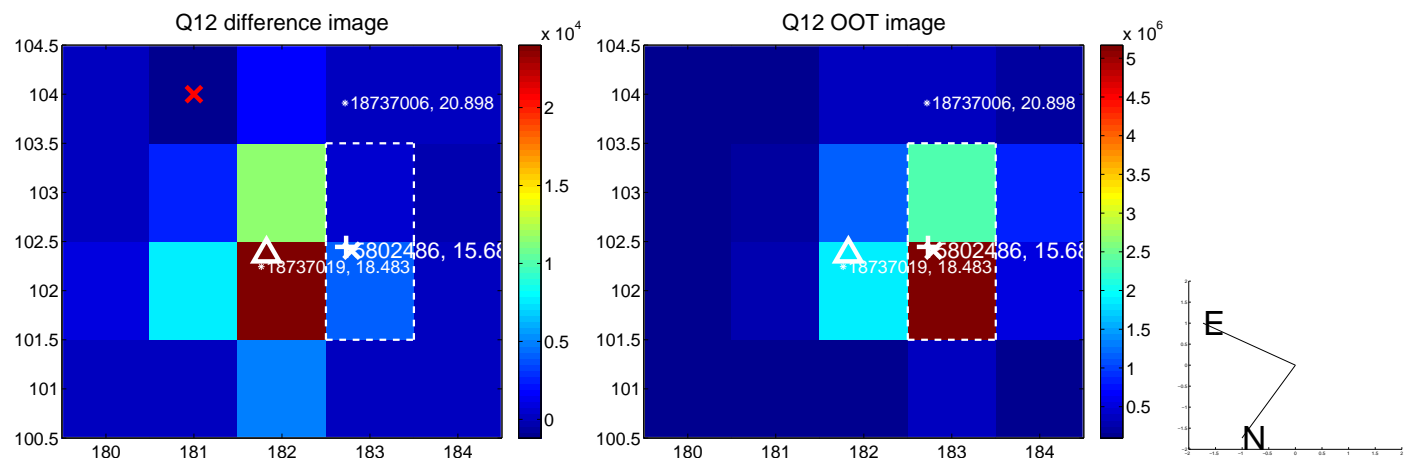
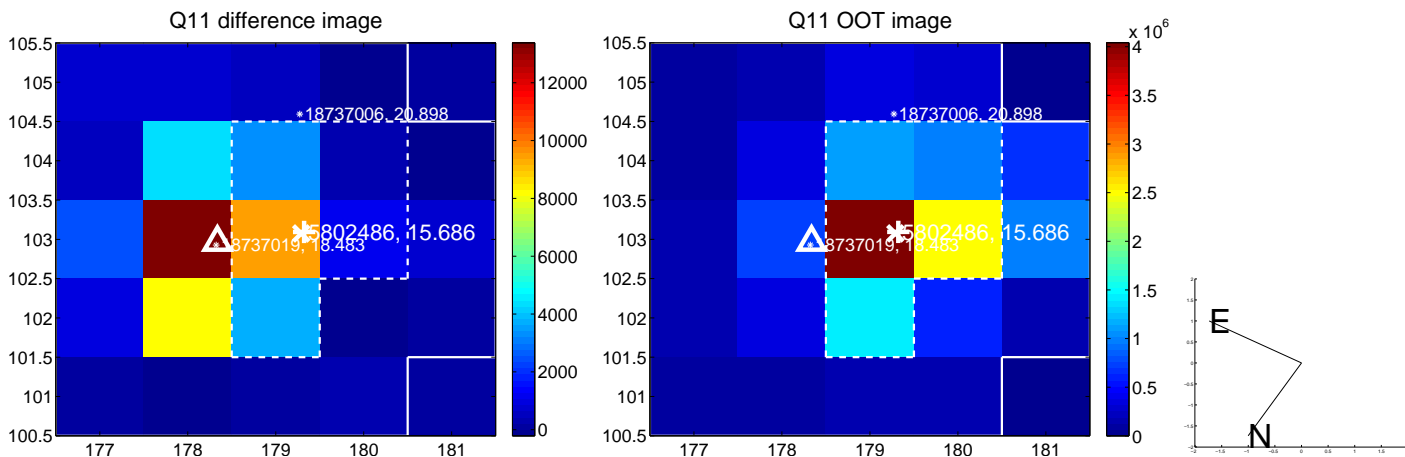
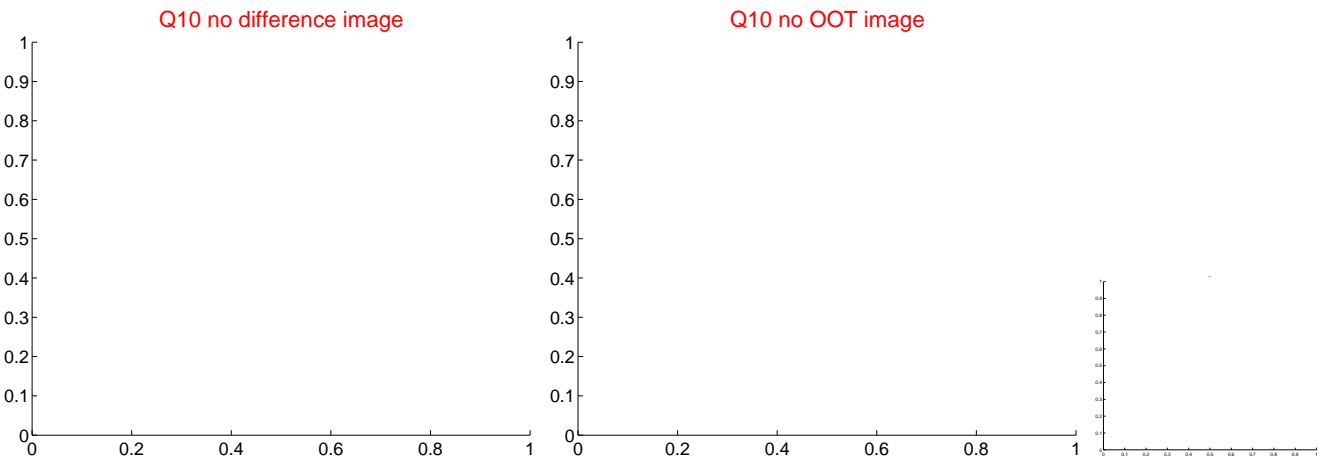
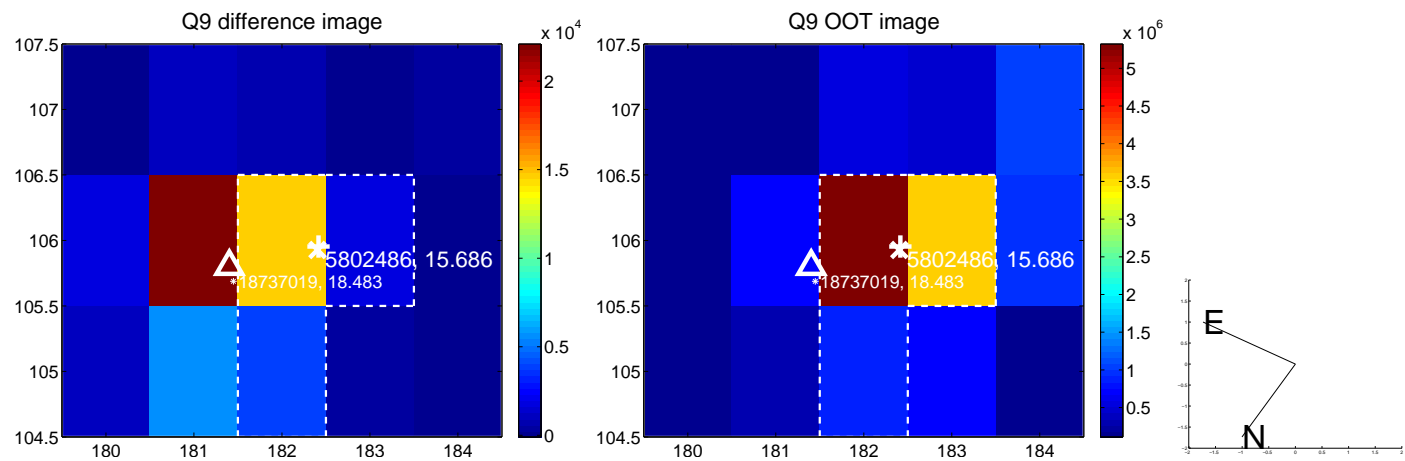
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



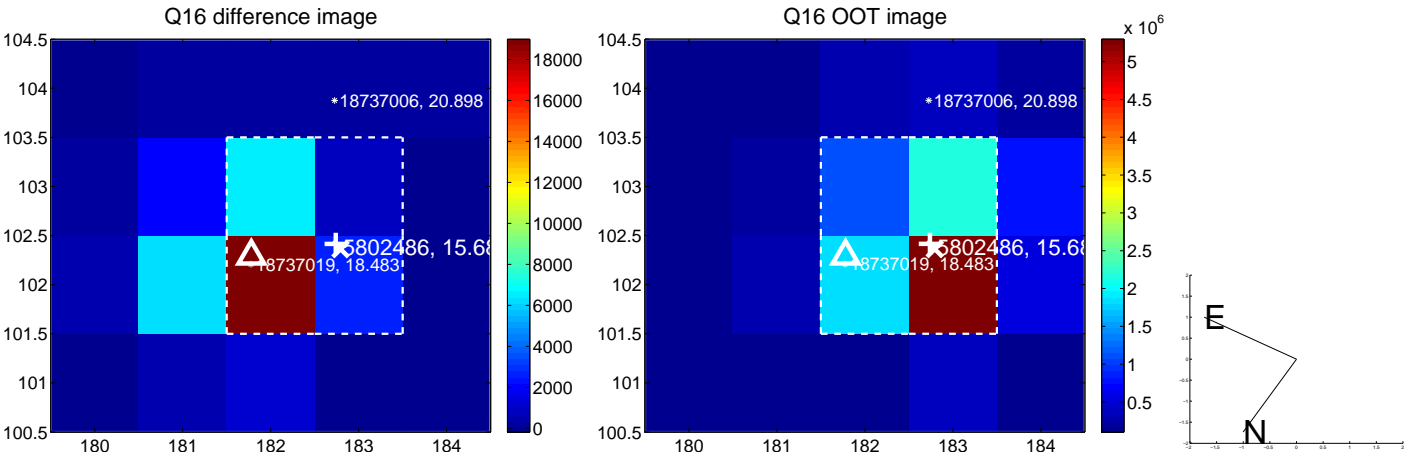
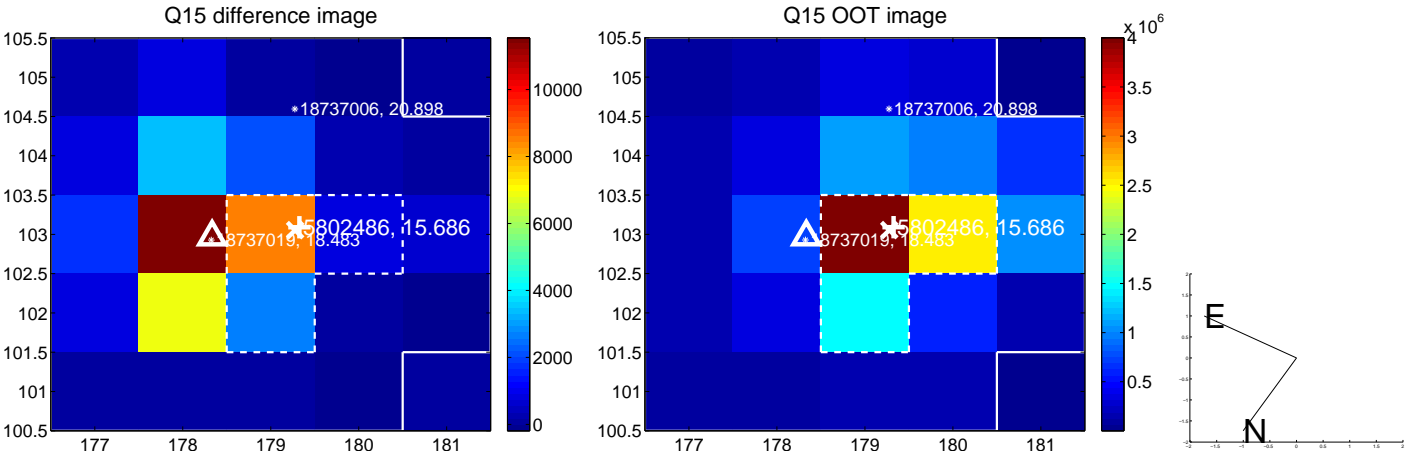
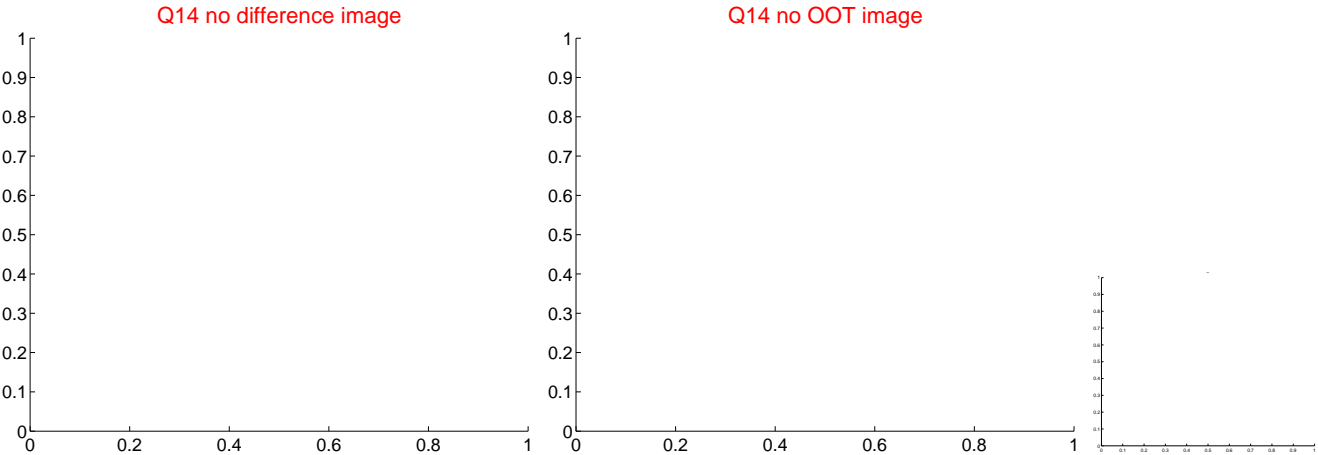
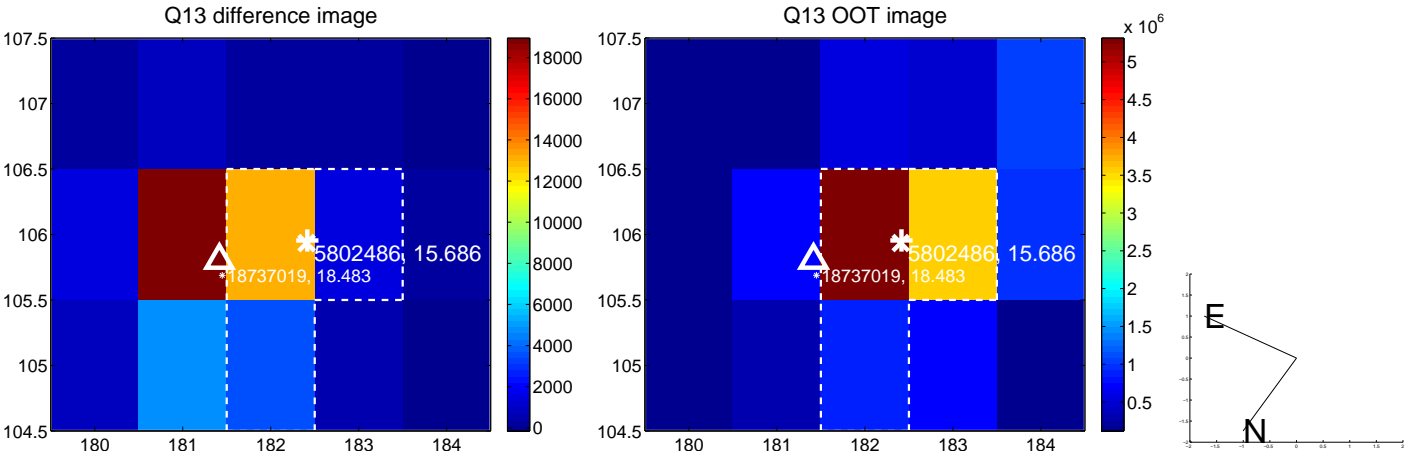
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

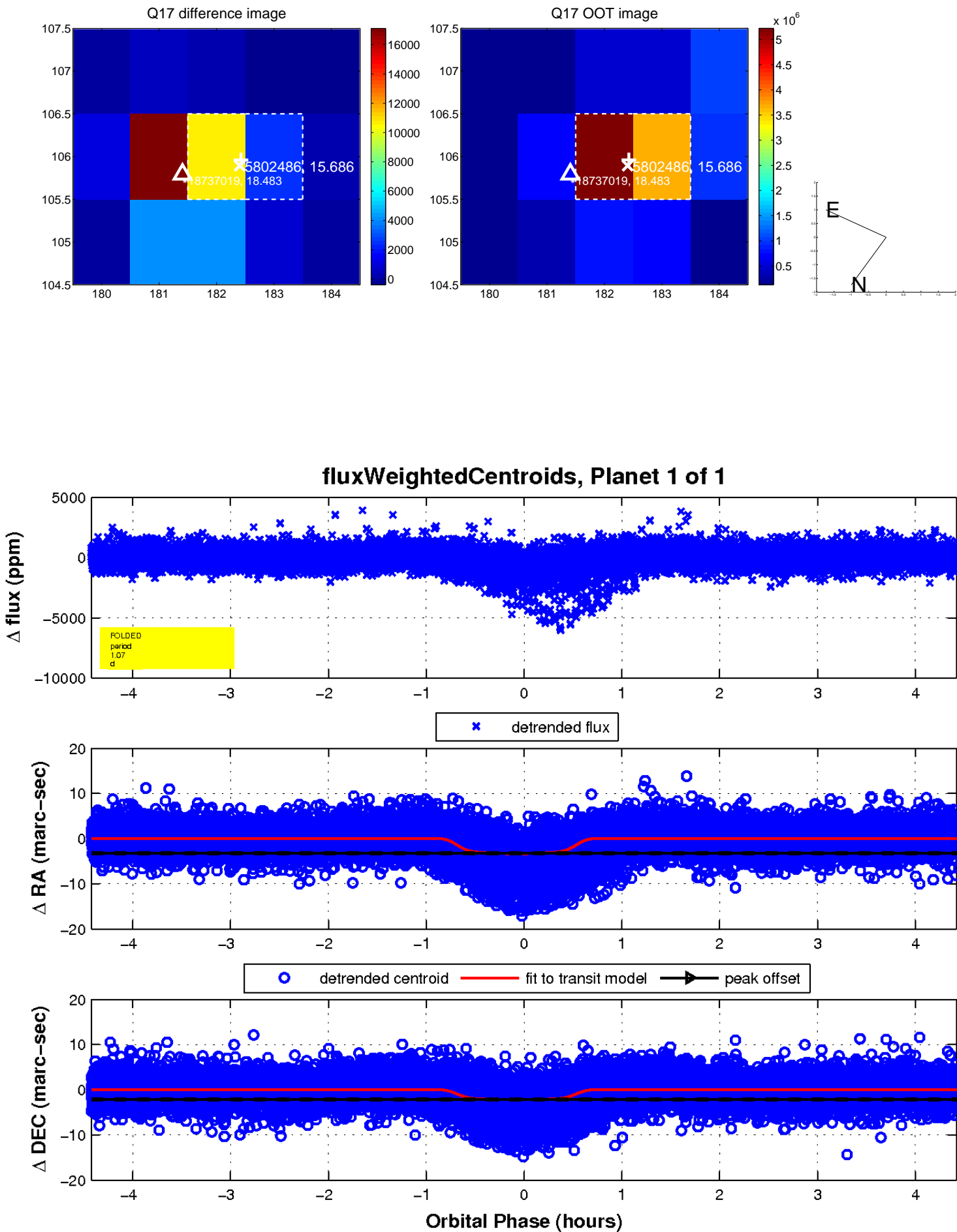


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

