

# KIC 005184526

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005184526-01	OBS	No	363.802025	143.692819	1008.2	7.904	7.6	7.1	0.83	5454	2.86	0.58

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005184526-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

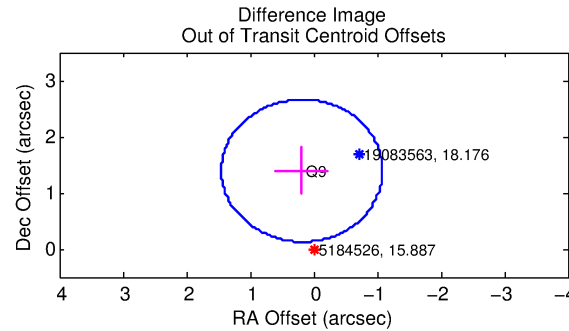
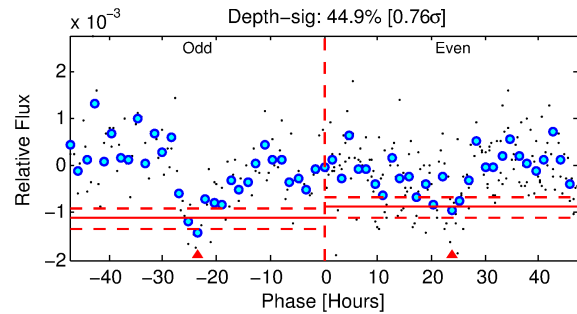
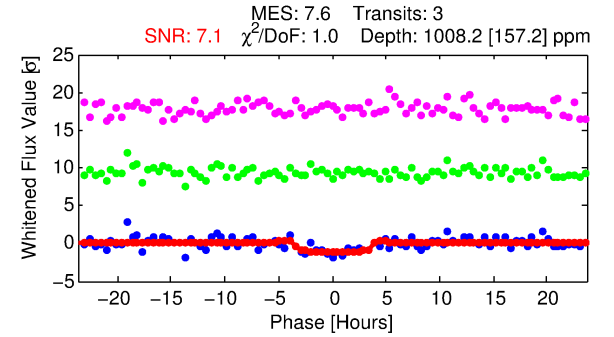
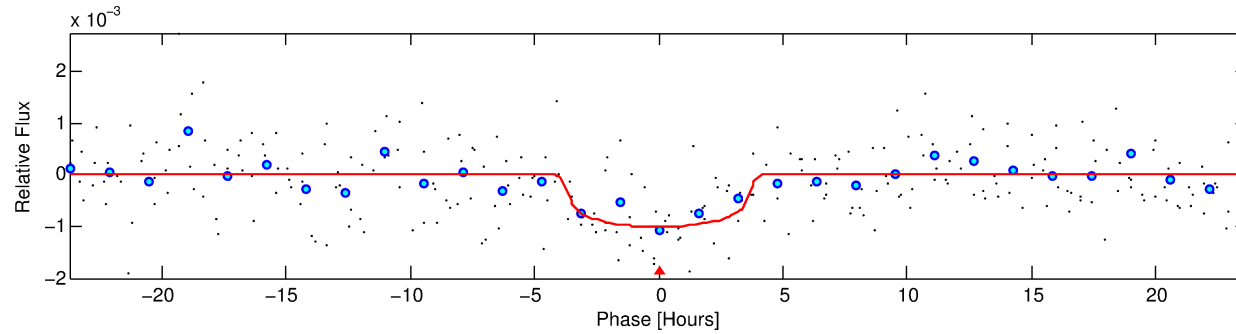
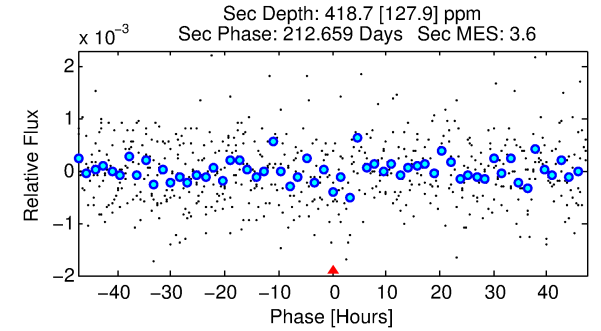
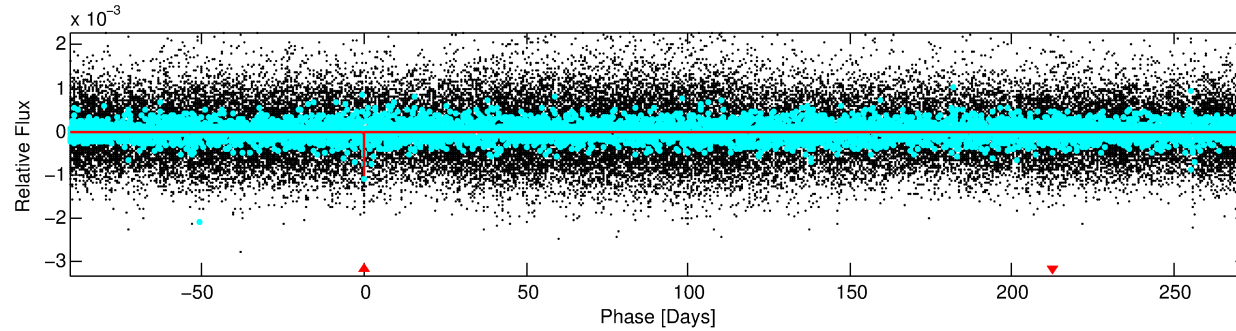
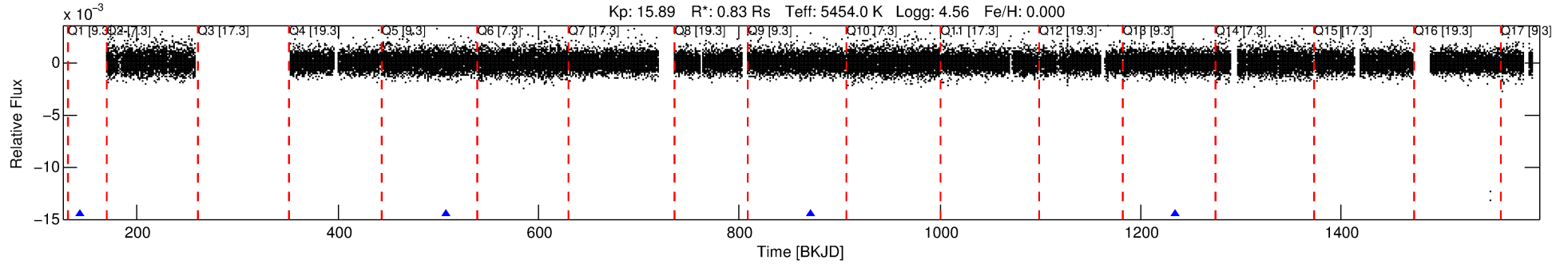
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005184526-01

No Significant Match Found

# DV One-Page Summary

KIC: 5184526 Candidate: 1 of 1 Period: 363.802 d



## DV Fit Results:

Period = 363.80202 [0.01177] d  
Epoch = 143.6928 [0.0280] BKJD  
Rp/R\* = 0.0316 [0.0206]  
a/R\* = 249.38 [643.08]  
b = 0.75 [1.54]  
Seff = 0.58 [0.18]  
Teff = 223 [17] K  
Rp = 2.86 [1.97] Re  
a = 0.9674 [0.1853] AU  
Ag = 26397.60 [36139.48] [0.73σ]  
Teffp = 4387 [1477] K [2.82σ]

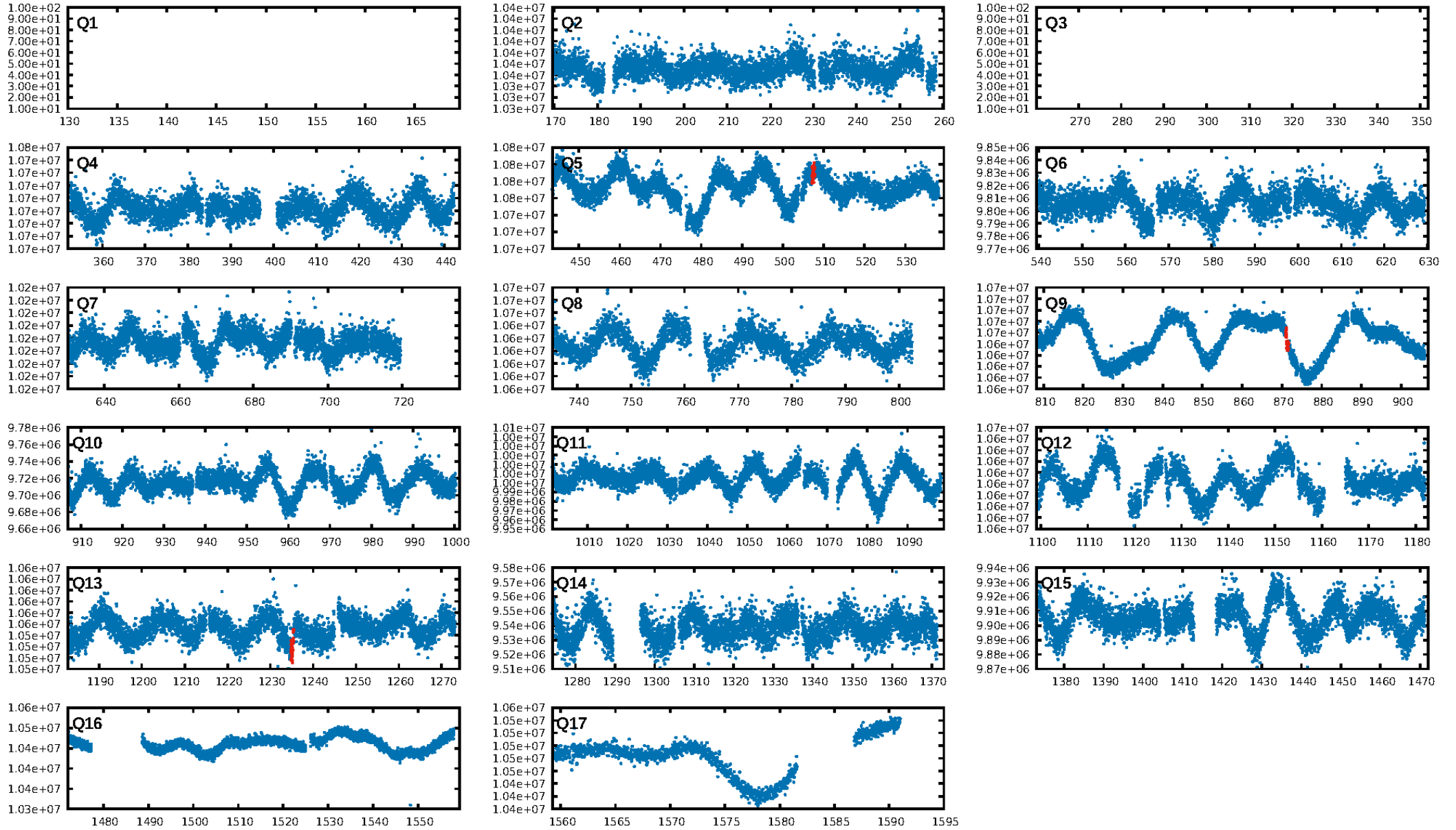
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 16.2%  
ModelChiSquareGof-sig: 99.3%  
Bootstrap-pfa: 1.73e-15  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.553  
Centroid-sig: 54.2%  
Centroid-so: 0.954 arcsec [0.59σ]  
OotOffset-rm: 1.405 arcsec [3.33σ]  
KicOffset-rm: 1.370 arcsec [3.24σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

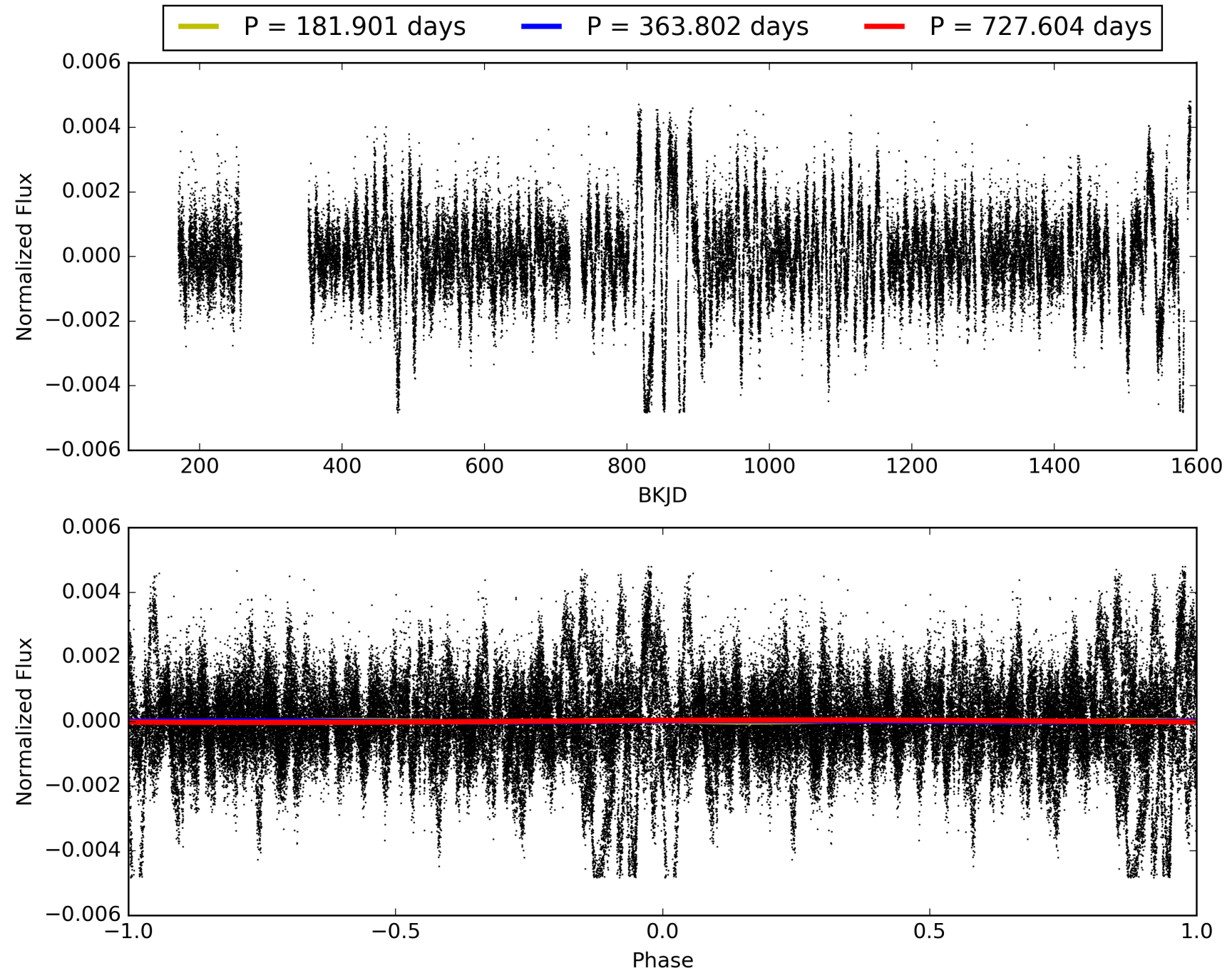
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:05:06 Z

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

# TCE 005184526-01, PDC Light Curves

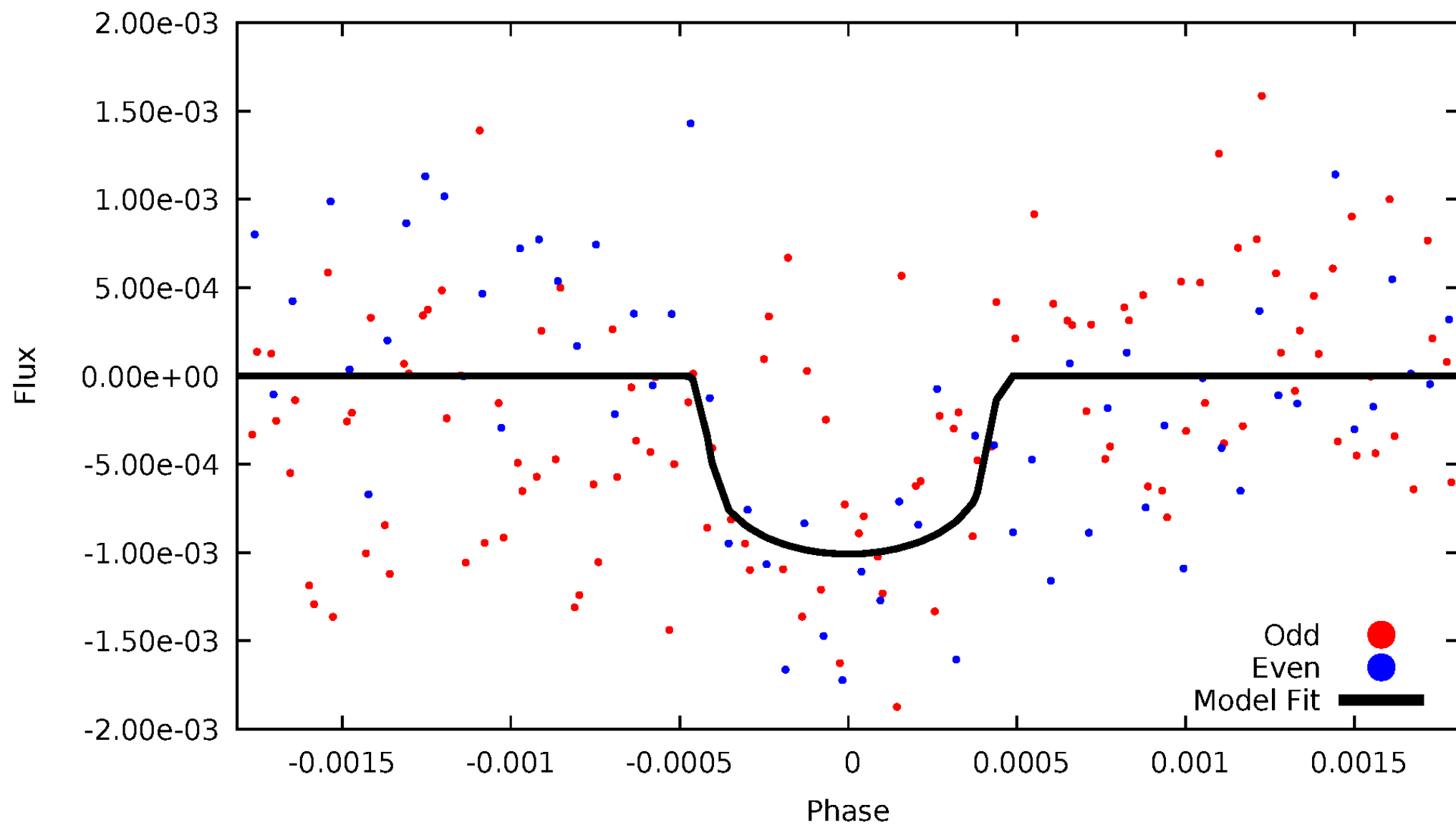


TCE 005184526-01



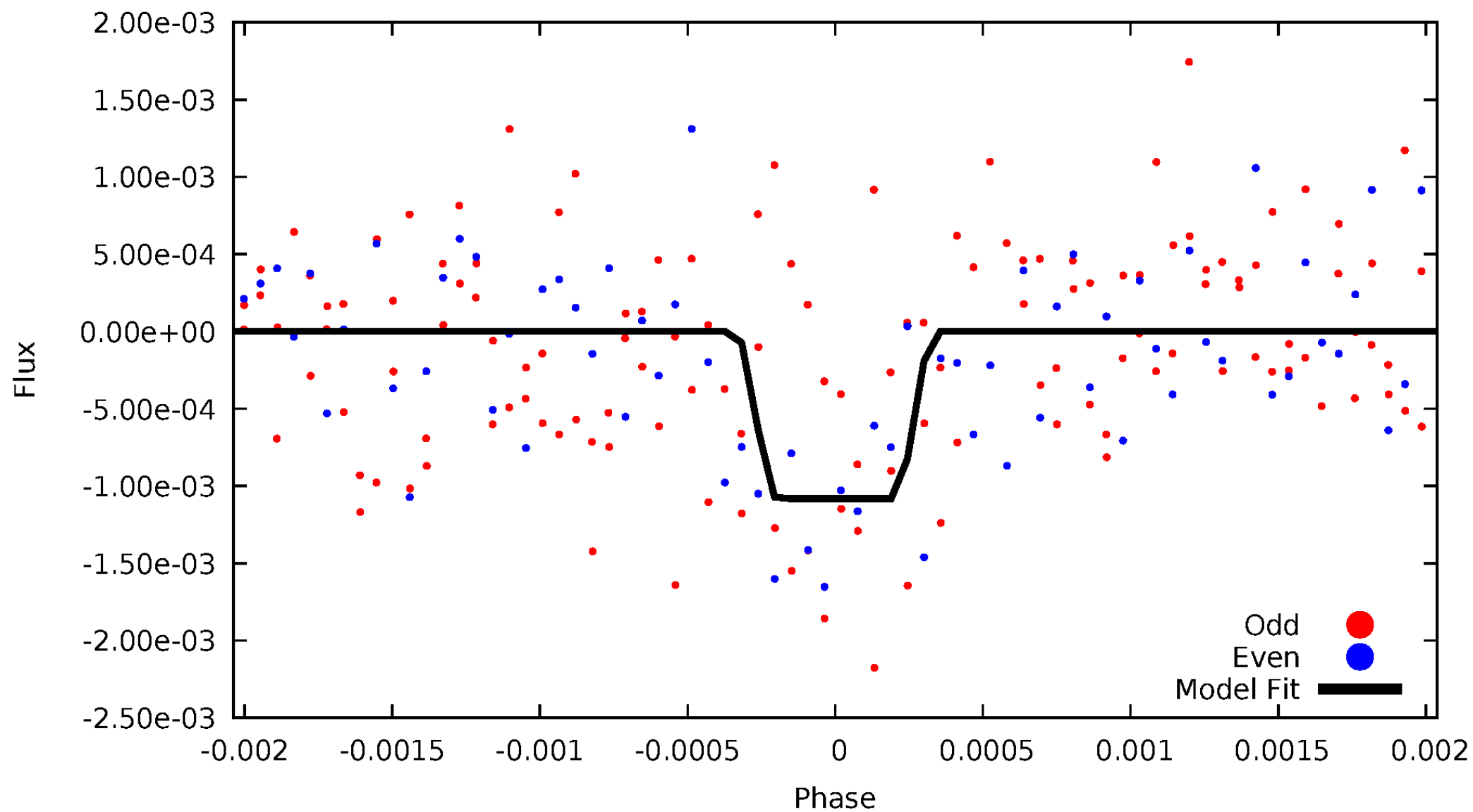
# DV Odd/Even

TCE 005184526-01



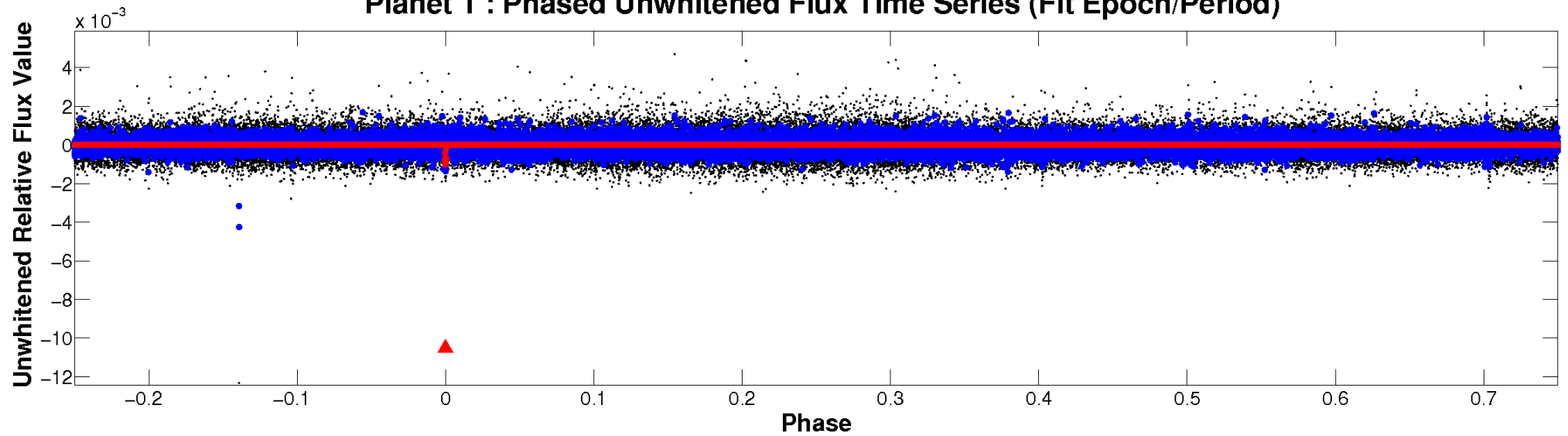
# ALT Odd/Even

TCE 005184526-01

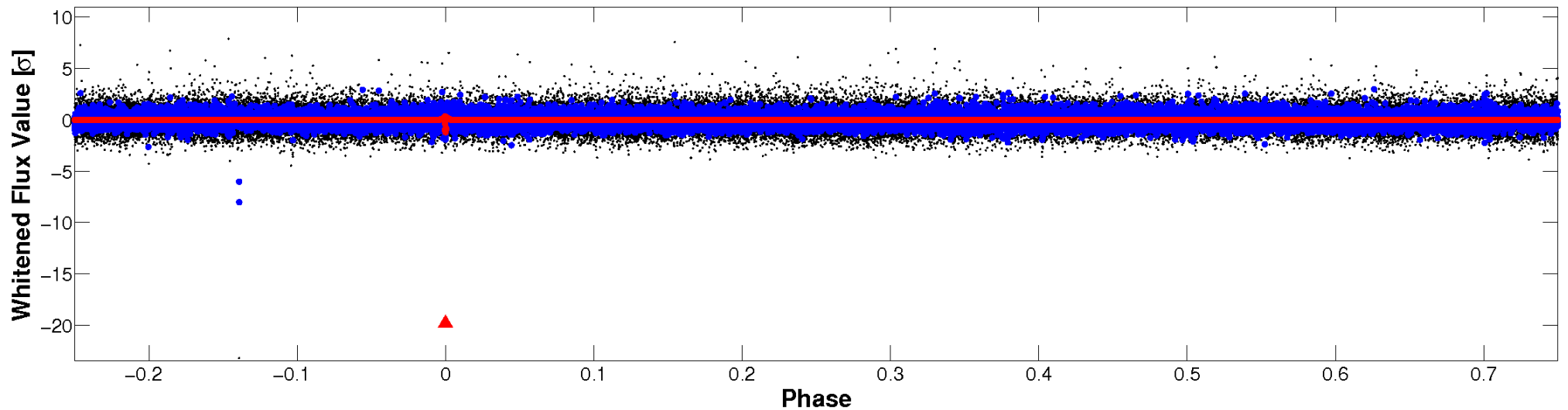


# Non-Whitened Vs. Whitened Light Curve

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

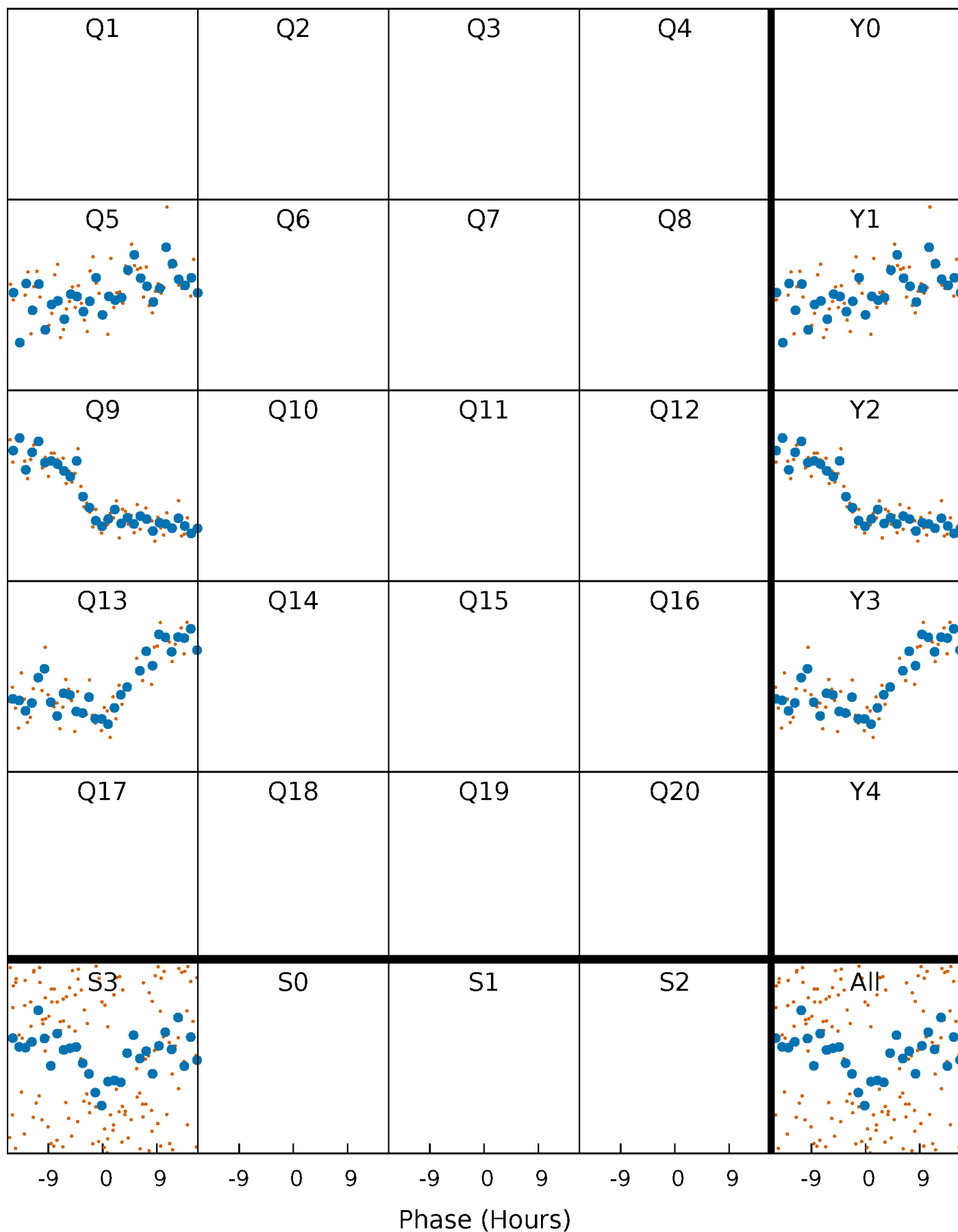


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 005184526-01     $P=363.802025$  Days     $T_0=143.692819$  (BKJD)





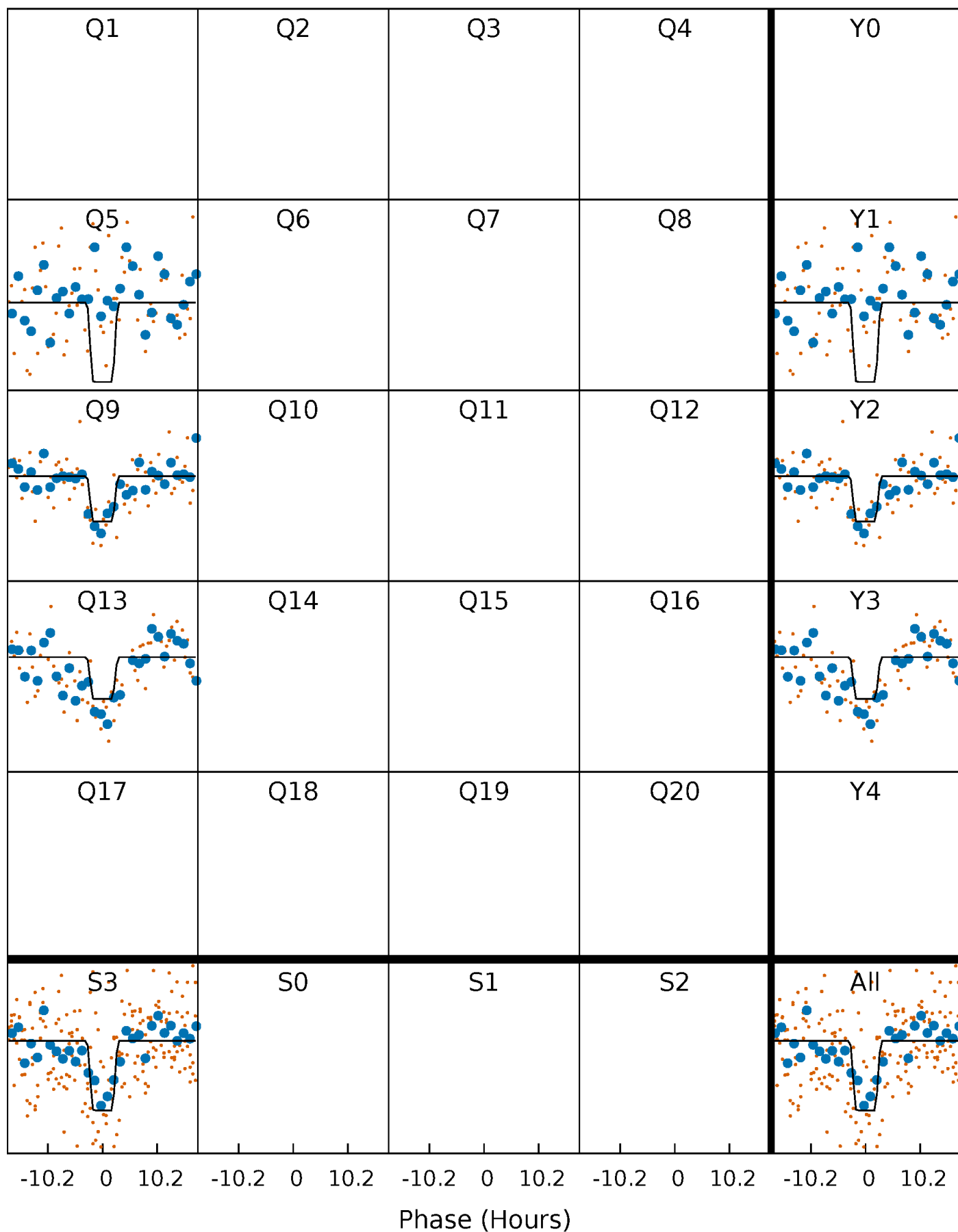
# DV Quarter-Phased Transit Curves

TCE 005184526-01 P=363.802025 Days  $T_0=143.692819$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

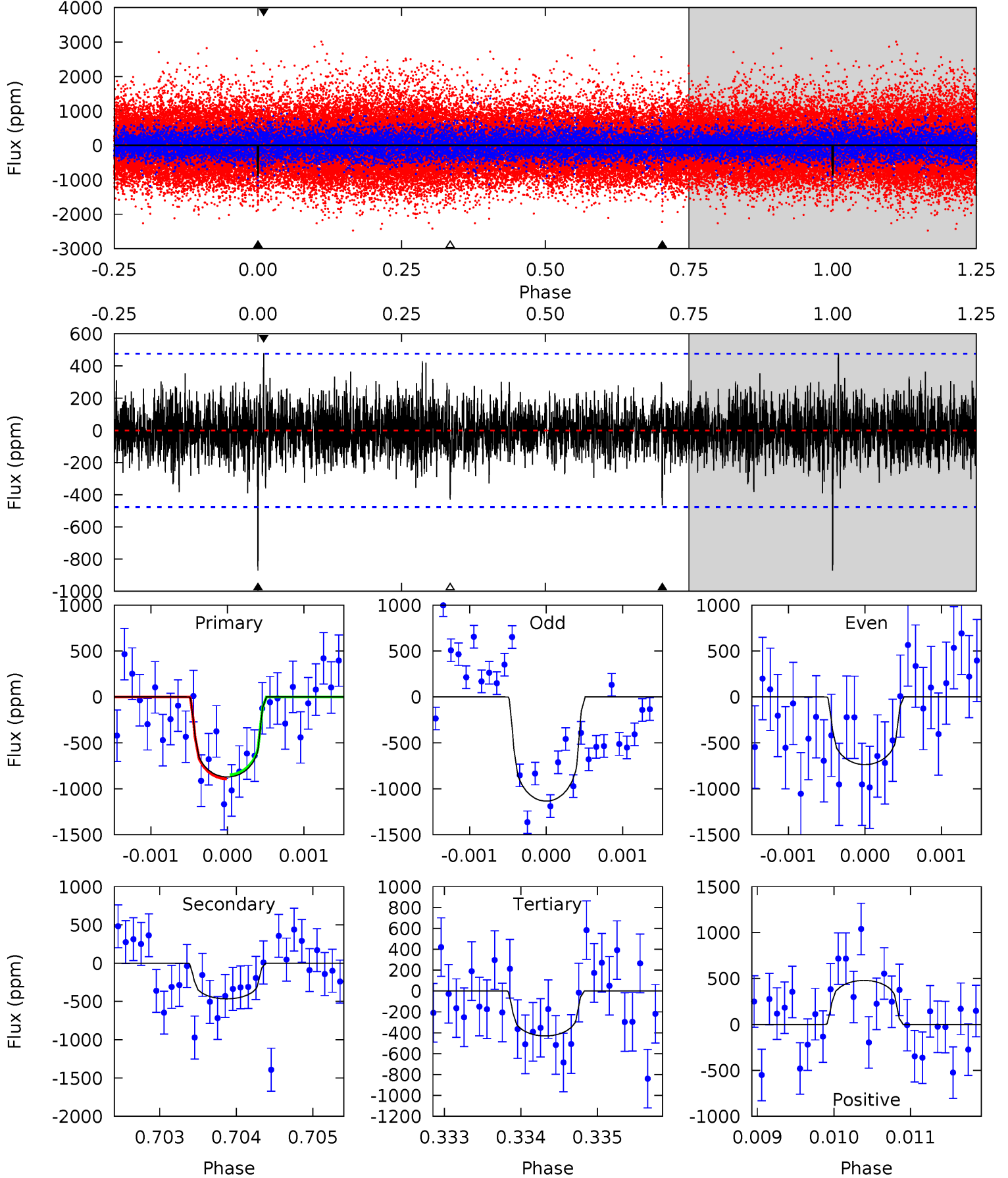
TCE 005184526-01 P=363.799102 Days  $T_0=143.705479$  (BKJD)



# DV Model-Shift Uniqueness Test

005184526-01, P = 363.802025 Days, E = 143.692819 Days

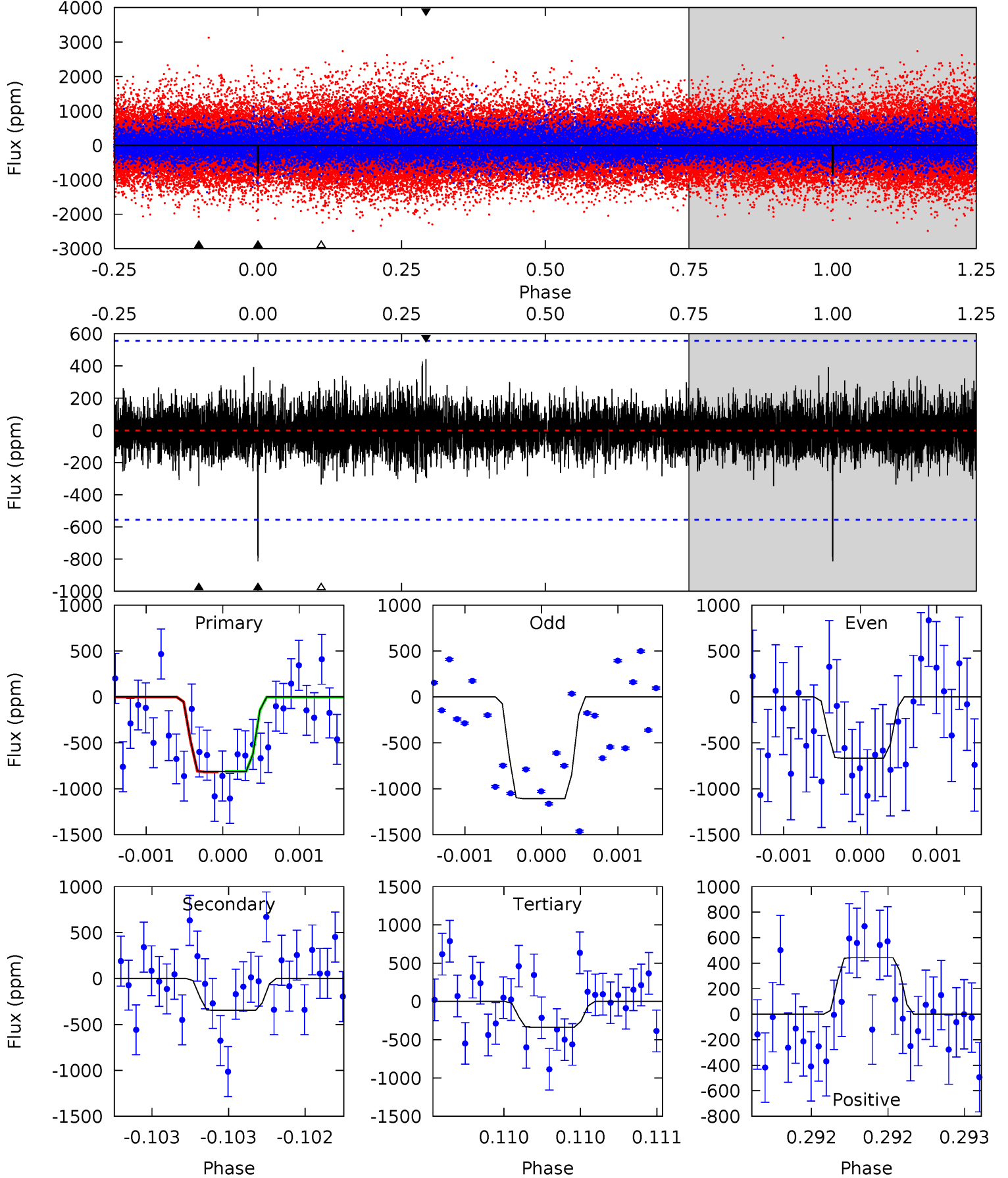
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.98	5.34	4.93	5.49	5.46	3.30	1.24	5.05	4.50	0.41	-0.15	2.15	0.78	0.35	0.25



# Alt Model-Shift Uniqueness Test

005184526-01, P = 363.799102 Days, E = 143.705479 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
8.10	3.45	3.36	4.41	5.54	3.42	0.94	4.74	3.69	0.09	-0.96	2.12	0.73	0.35	0.03



### Stellar Parameters For KIC 005184526

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5454^{+180}_{-164}$	$4.562^{+0.036}_{-0.153}$	$0.000^{+0.250}_{-0.300}$	$0.828^{+0.188}_{-0.075}$	$0.913^{+0.082}_{-0.101}$	$2.267^{+0.444}_{-0.943}$
	+3%/-3%	+1%/-3%	+inf%/-inf%	+23%/-9%	+9%/-11%	+20%/-42%
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 005184526-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-466 \pm 87$	$3.03^{+2.06}_{-1.76}$	$317^{+18}_{-13}$	$4625^{+2297}_{-841}$	$25500^{+118478}_{-16570}$
Alt.	$-346 \pm 100$	$3.13^{+1.82}_{-1.62}$	$316^{+17}_{-13}$	$4246^{+1639}_{-672}$	$16912^{+60285}_{-10606}$

$T_{\text{max}}$  = 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

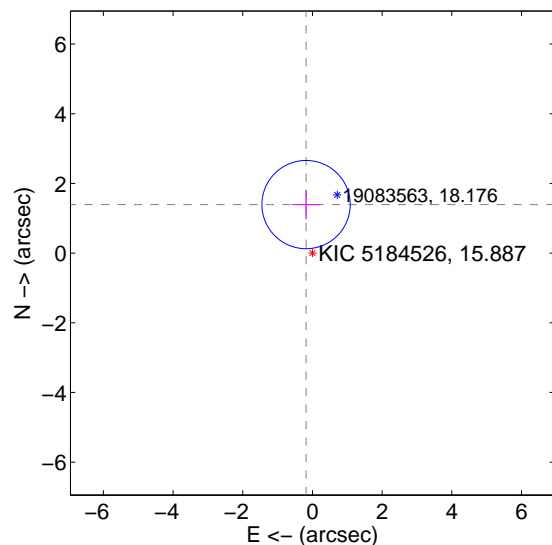
Supplemental centroid analysis for 005184526-01. Kepler magnitude: 15.89. Transit SNR 7.07

There are 1 quarters with good PRF difference image offsets

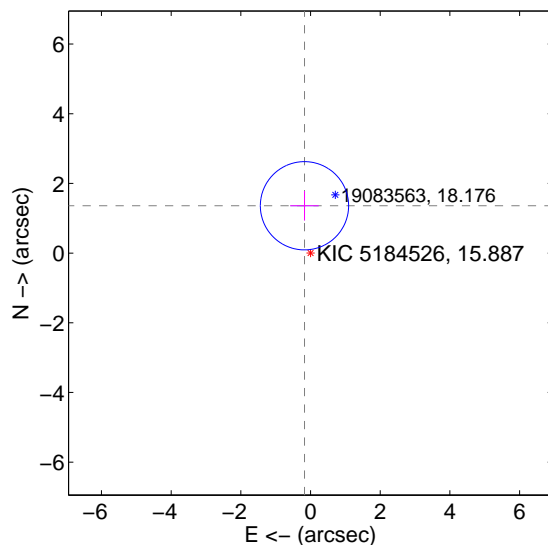
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.405 \pm 0.422$	3.33	$0.184 \pm 0.409$	$1.393 \pm 0.422$
PRF-fit source offset from KIC position	$1.370 \pm 0.422$	3.24	$0.174 \pm 0.409$	$1.359 \pm 0.422$
photometric centroid source offset	$0.95 \pm 1.61$	0.59	$-0.12 \pm 1.51$	$-0.95 \pm 1.61$

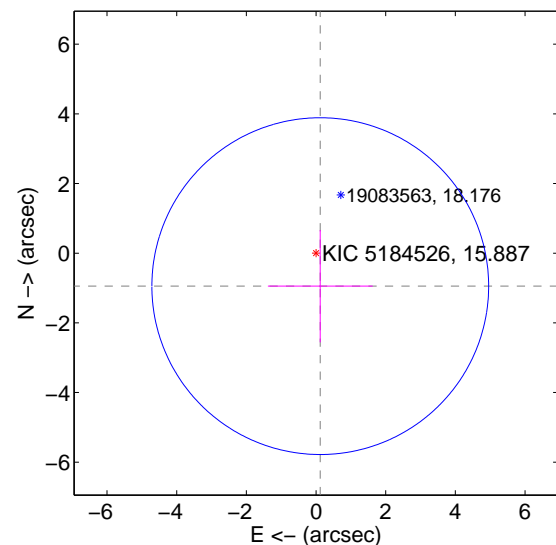
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

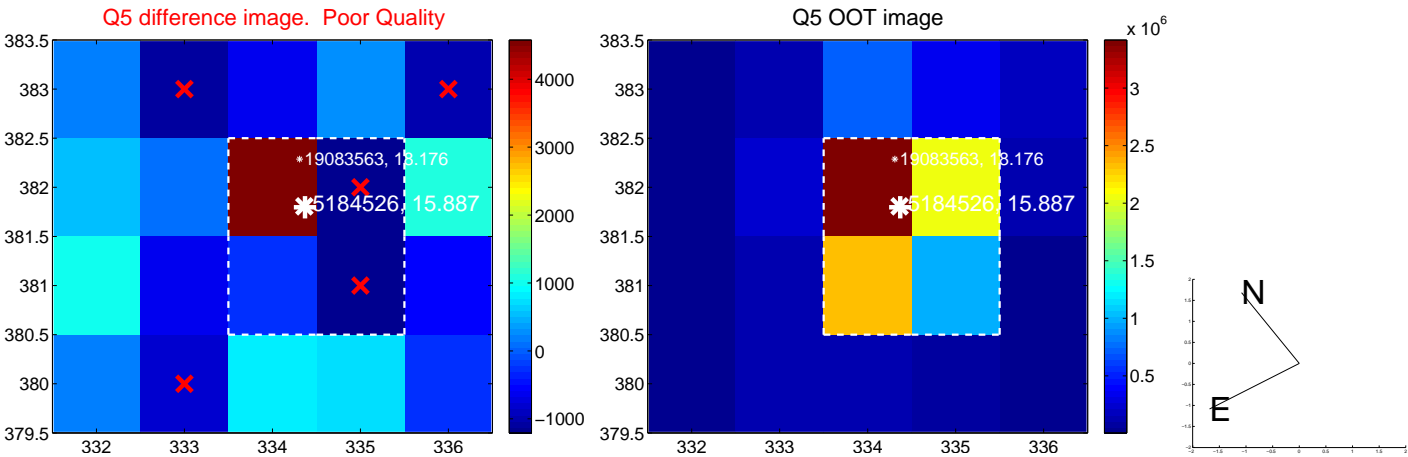


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

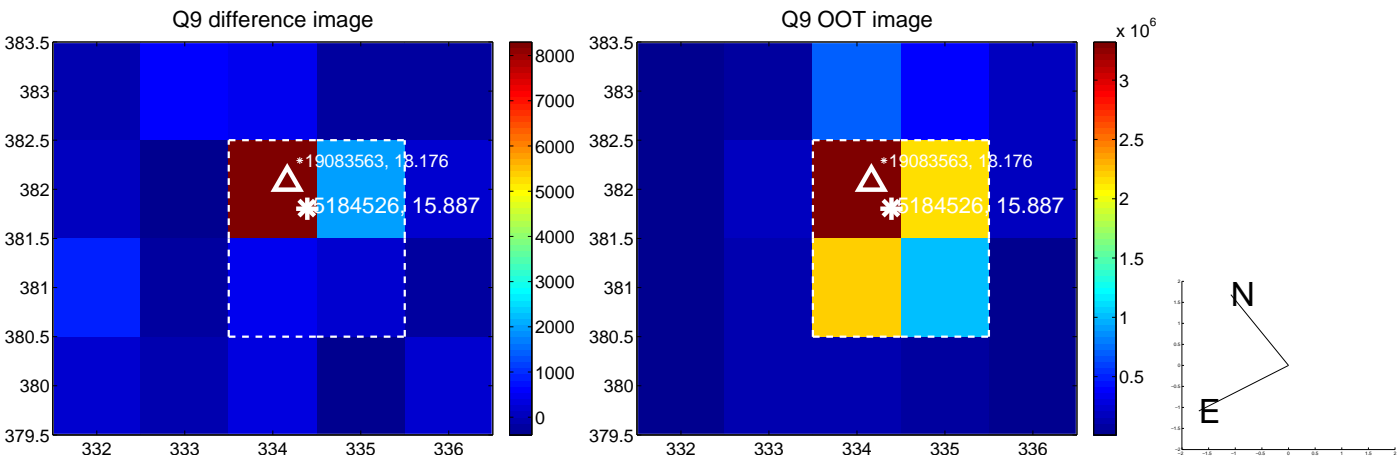


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

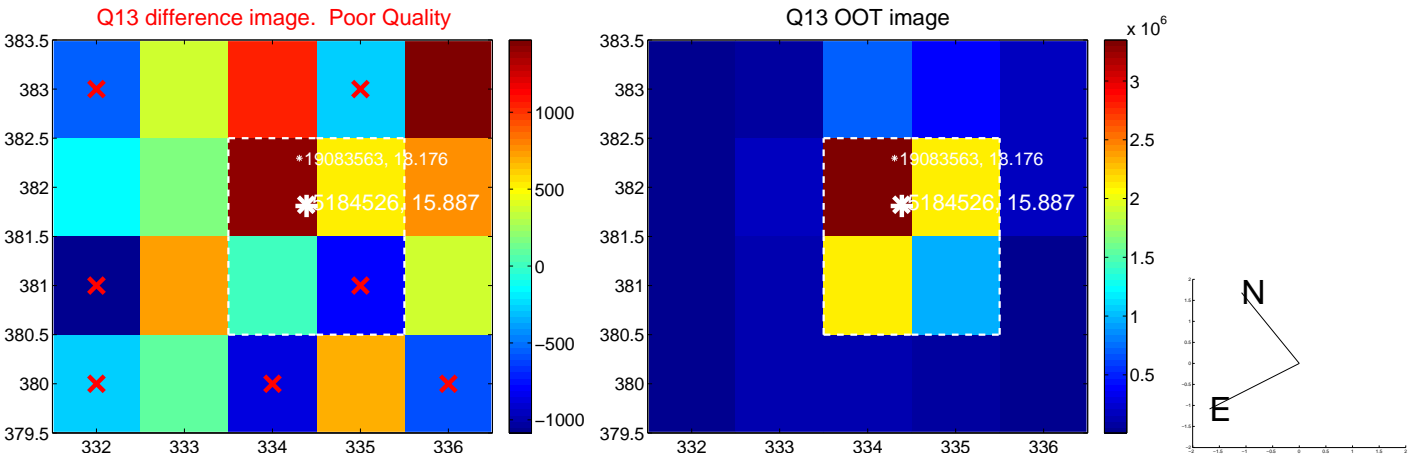




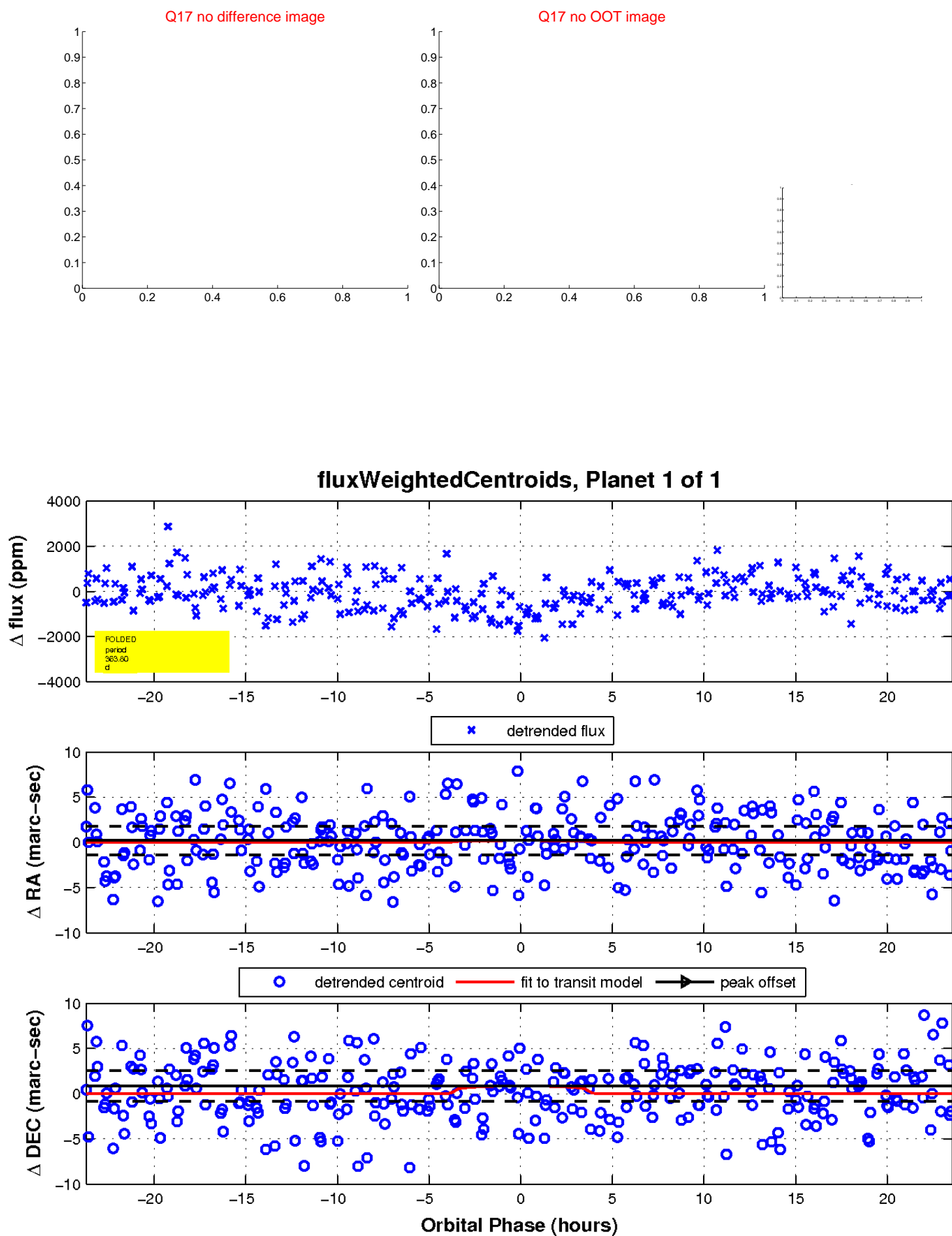
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

