

# KIC 005526772

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005526772-01	OBS	No	424.748248	326.730209	1064.5	20.201	7.9	7.1	0.77	4822	2.65	0.26

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005526772-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

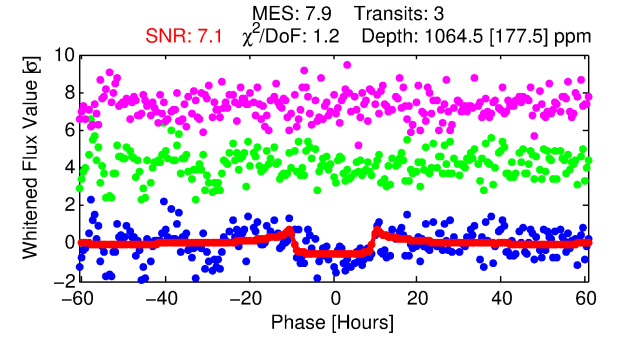
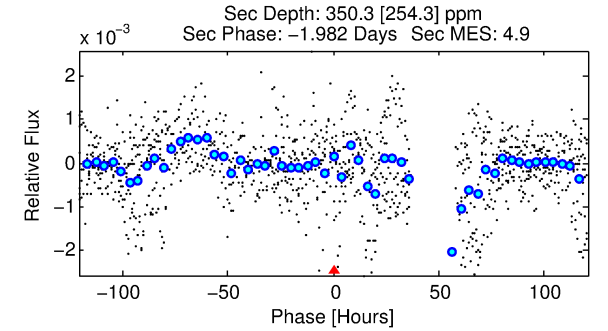
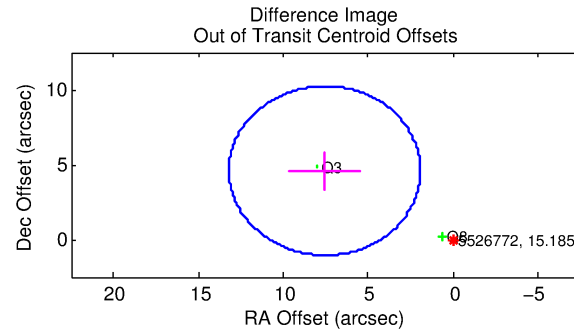
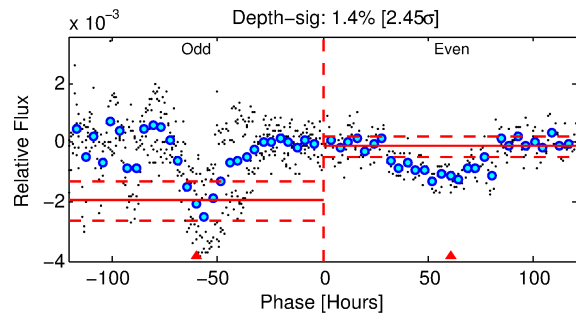
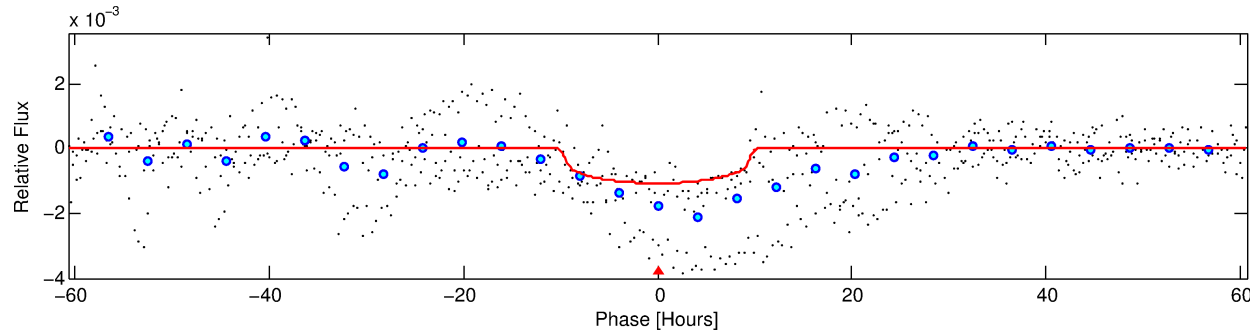
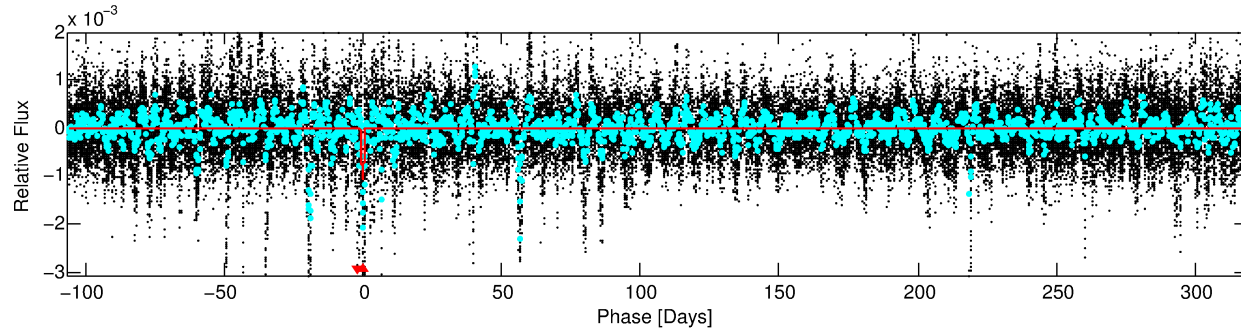
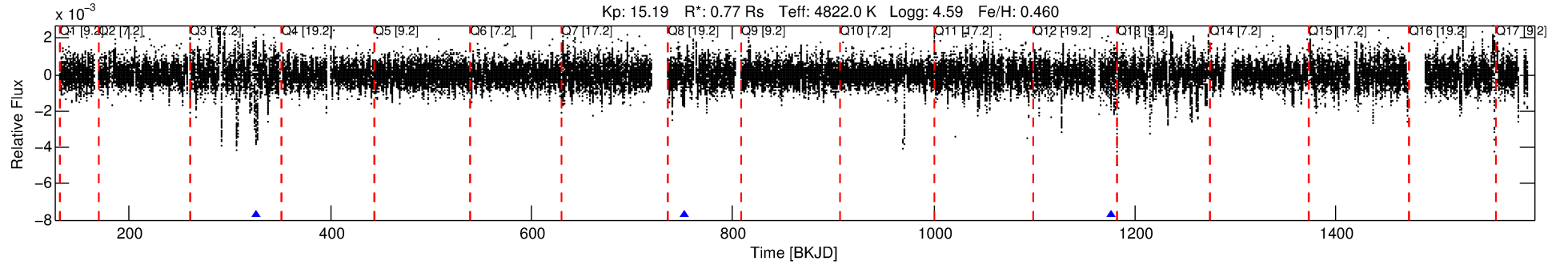
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005526772-01

No Significant Match Found

# DV One-Page Summary

KIC: 5526772 Candidate: 1 of 1 Period: 424.748 d



## DV Fit Results:

Period = 424.74825 [0.01560] d  
Epoch = 326.7302 [0.0209] BKJD  
Rp/R\* = 0.0314 [0.0073]  
a/R\* = 126.59 [85.41]  
b = 0.67 [0.57]  
Seff = 0.26 [0.04]  
Teq = 182 [7] K  
Rp = 2.65 [0.64] Re  
a = 1.0500 [0.0633] AU  
Ag = 30277.61 [26276.88] [1.15 $\sigma$ ]  
Teffp = 3720 [810] K [4.37 $\sigma$ ]

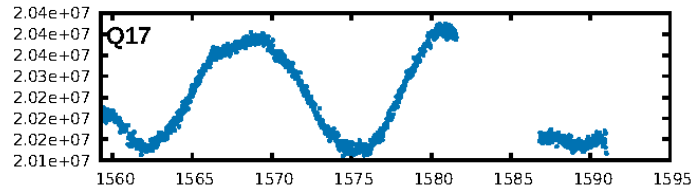
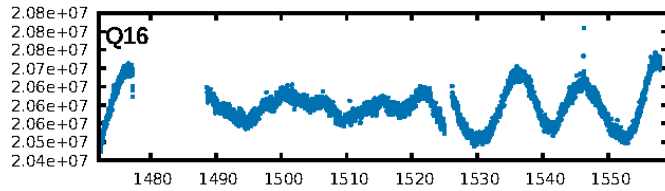
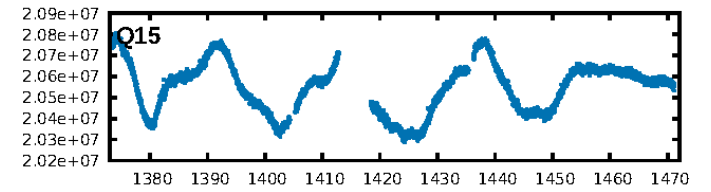
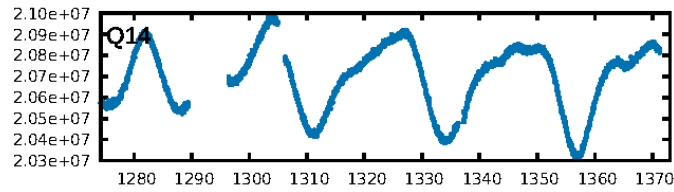
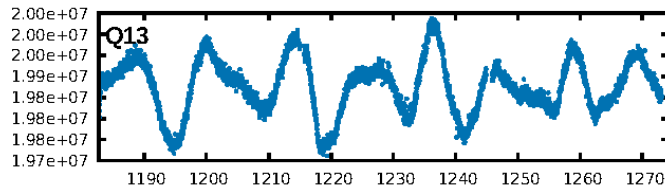
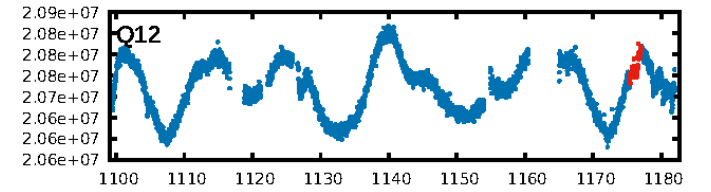
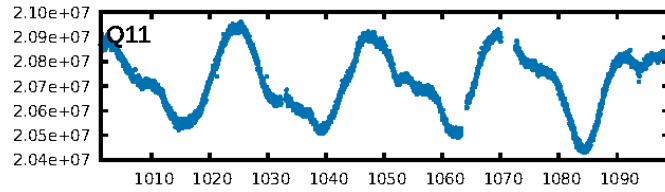
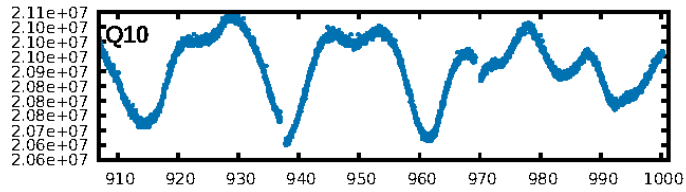
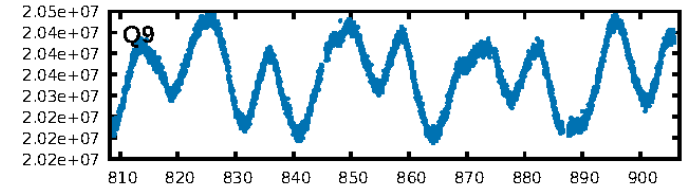
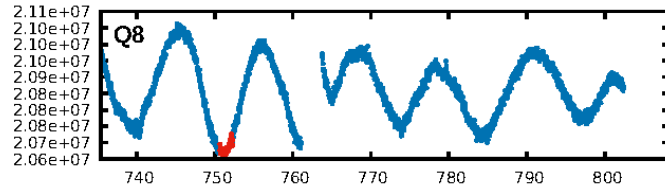
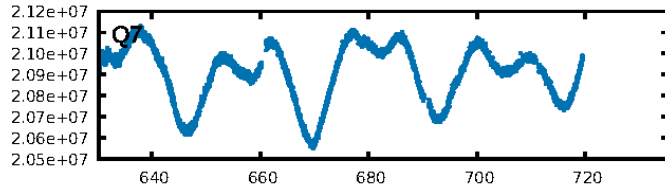
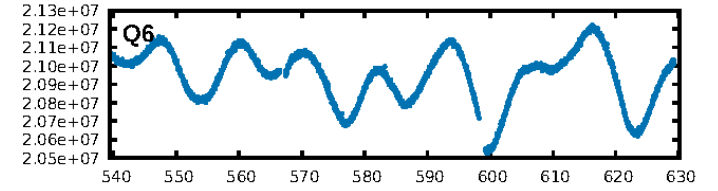
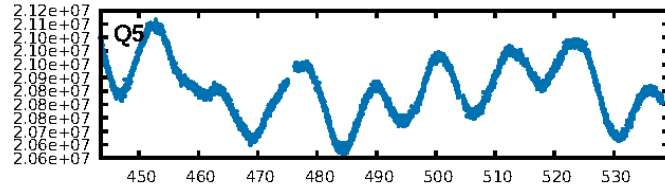
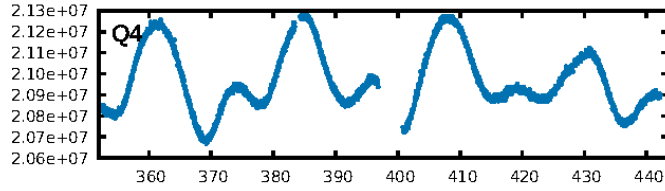
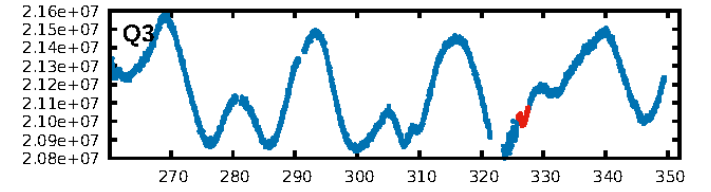
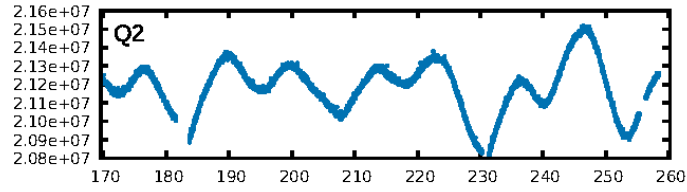
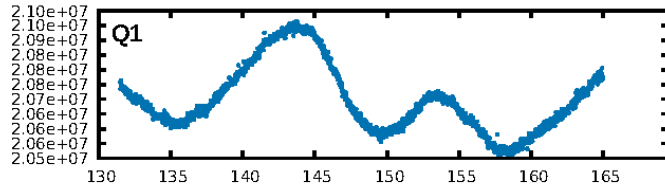
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.6%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 1.01e-06  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.694  
Centroid-sig: 59.3%  
Centroid-so: 0.930 arcsec [0.95 $\sigma$ ]  
OotOffset-rm: 8.832 arcsec [4.69 $\sigma$ ]  
OotOffset-st: 0/1/1/0 [2]  
KicOffset-rm: 8.620 arcsec [1.98 $\sigma$ ]  
KicOffset-st: 0/1/1/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [2/2]

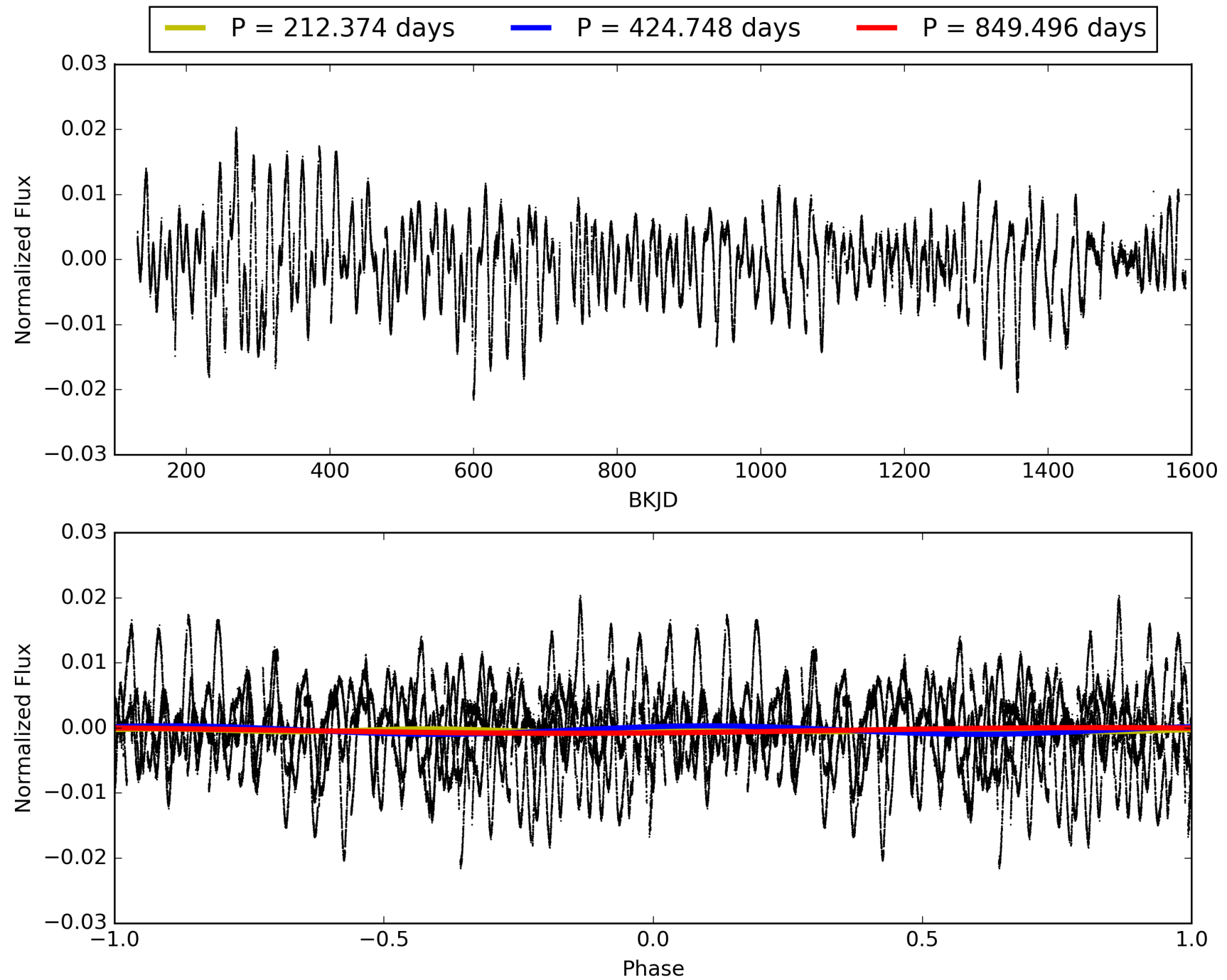
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:40:35 Z

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

# TCE 005526772-01, PDC Light Curves

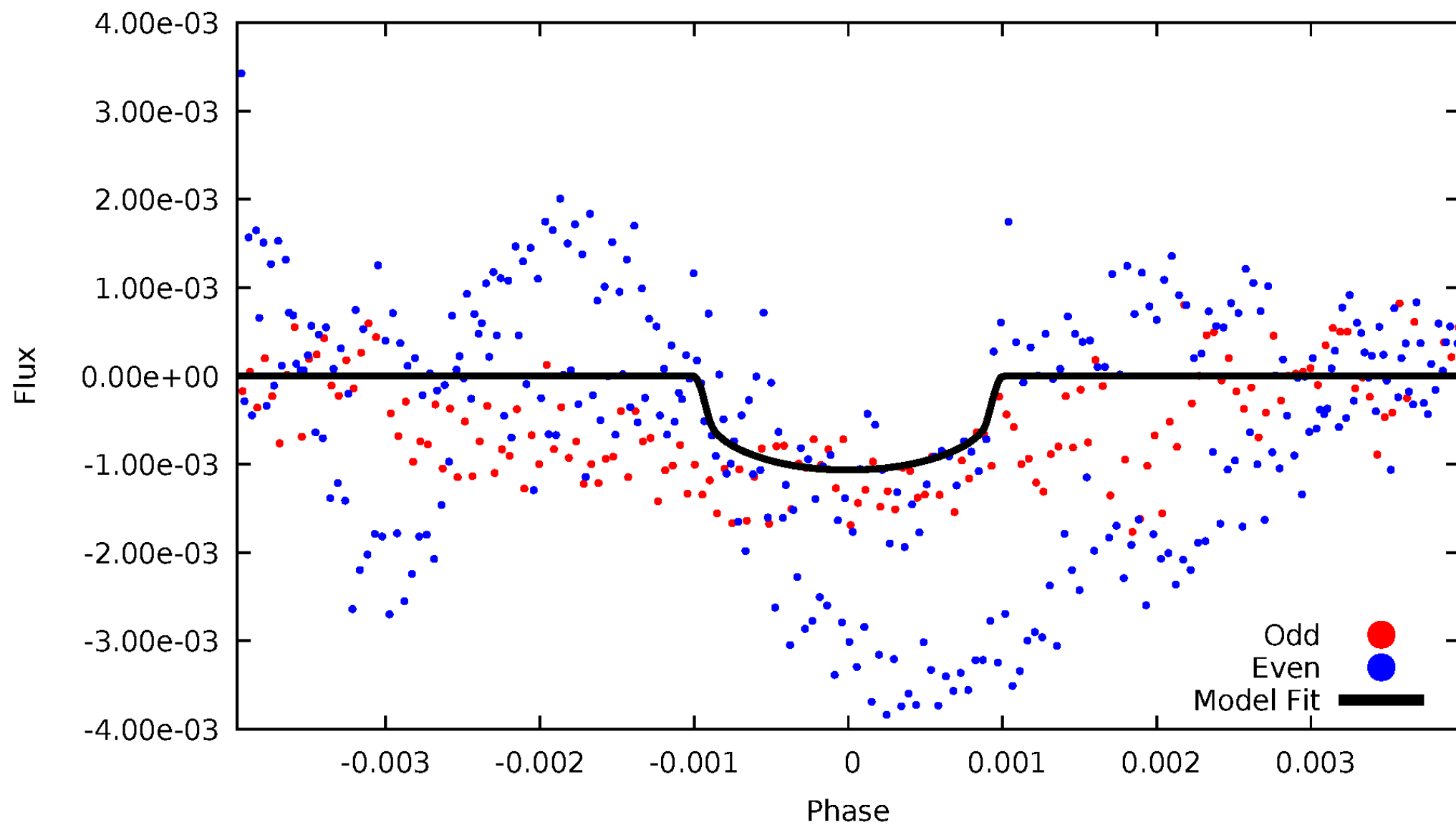


TCE 005526772-01



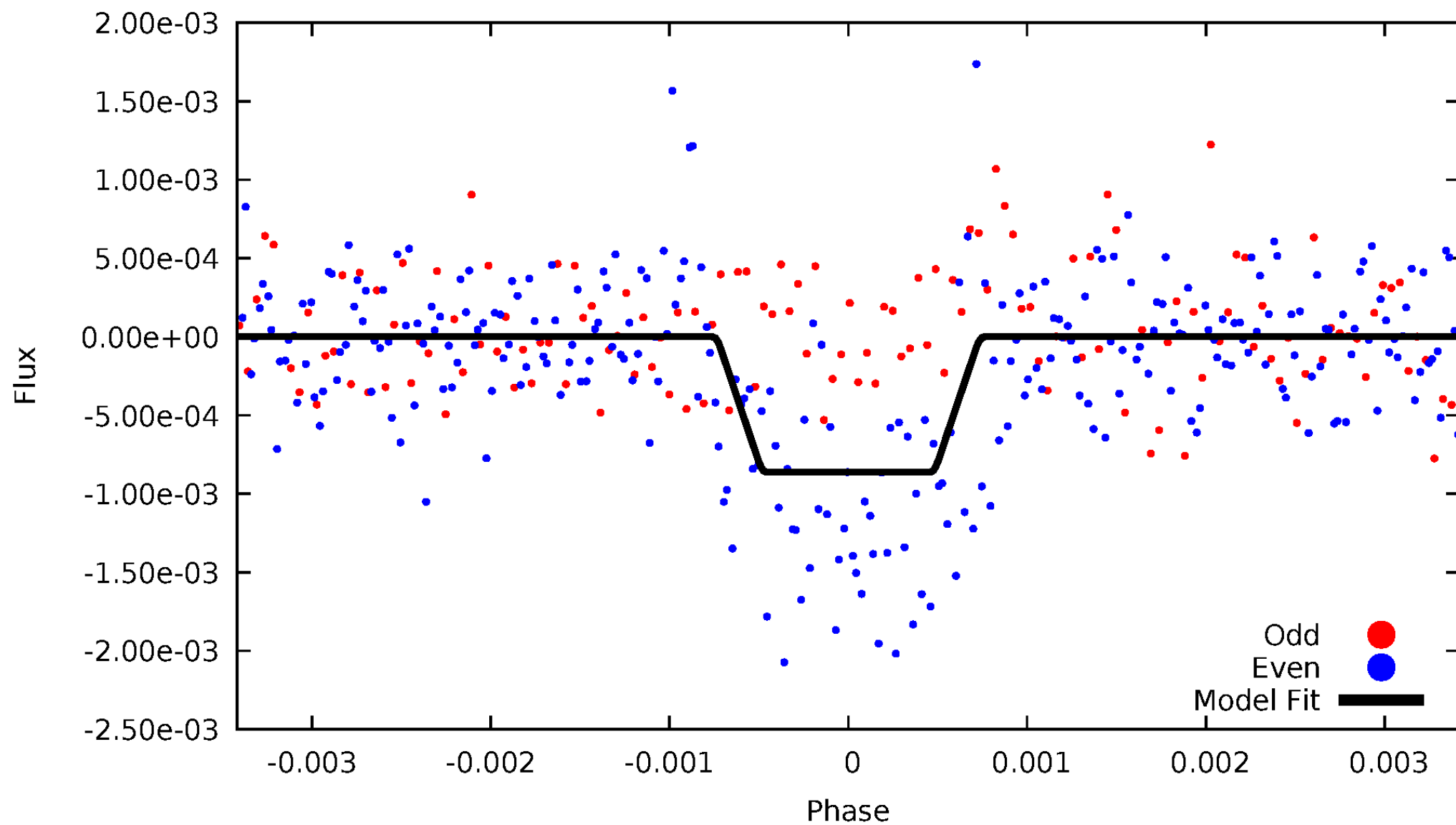
# DV Odd/Even

TCE 005526772-01

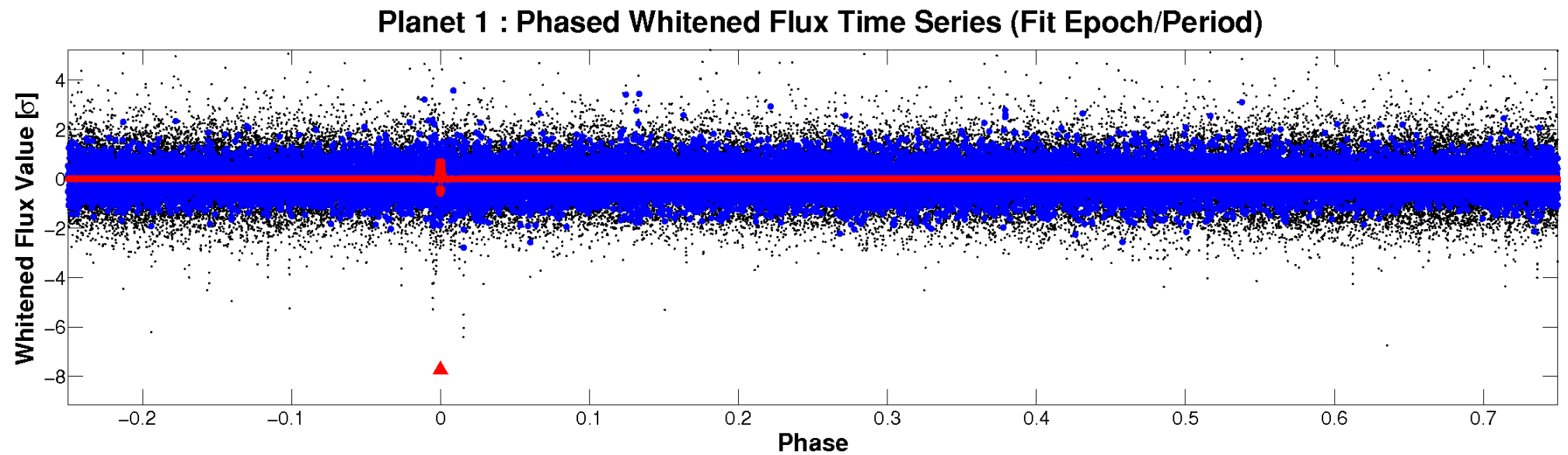
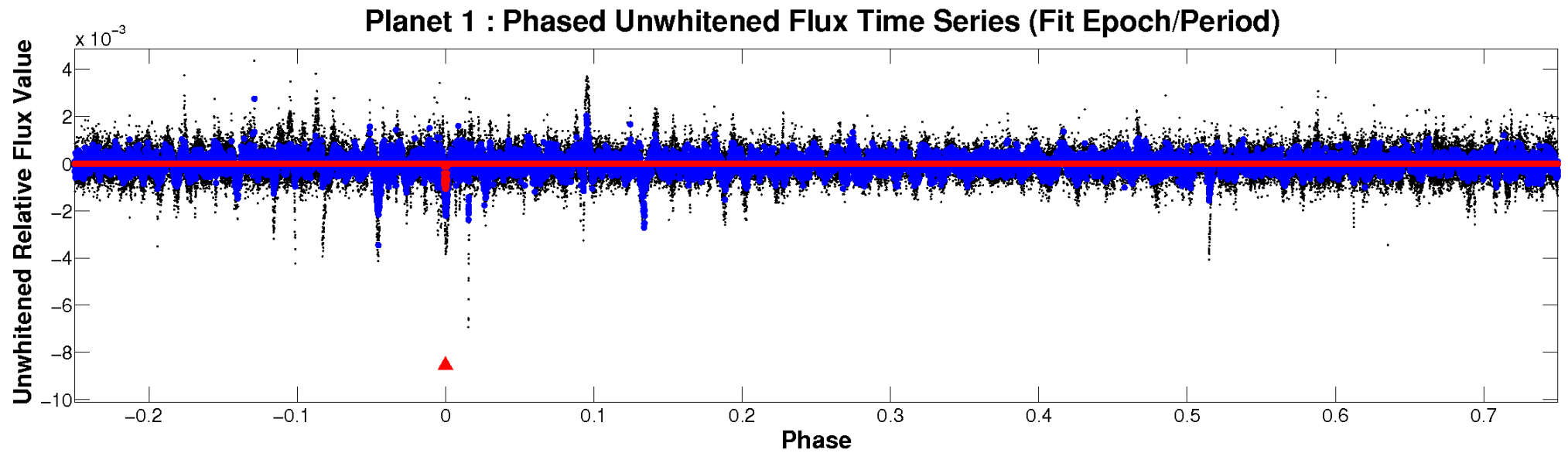


# ALT Odd/Even

TCE 005526772-01

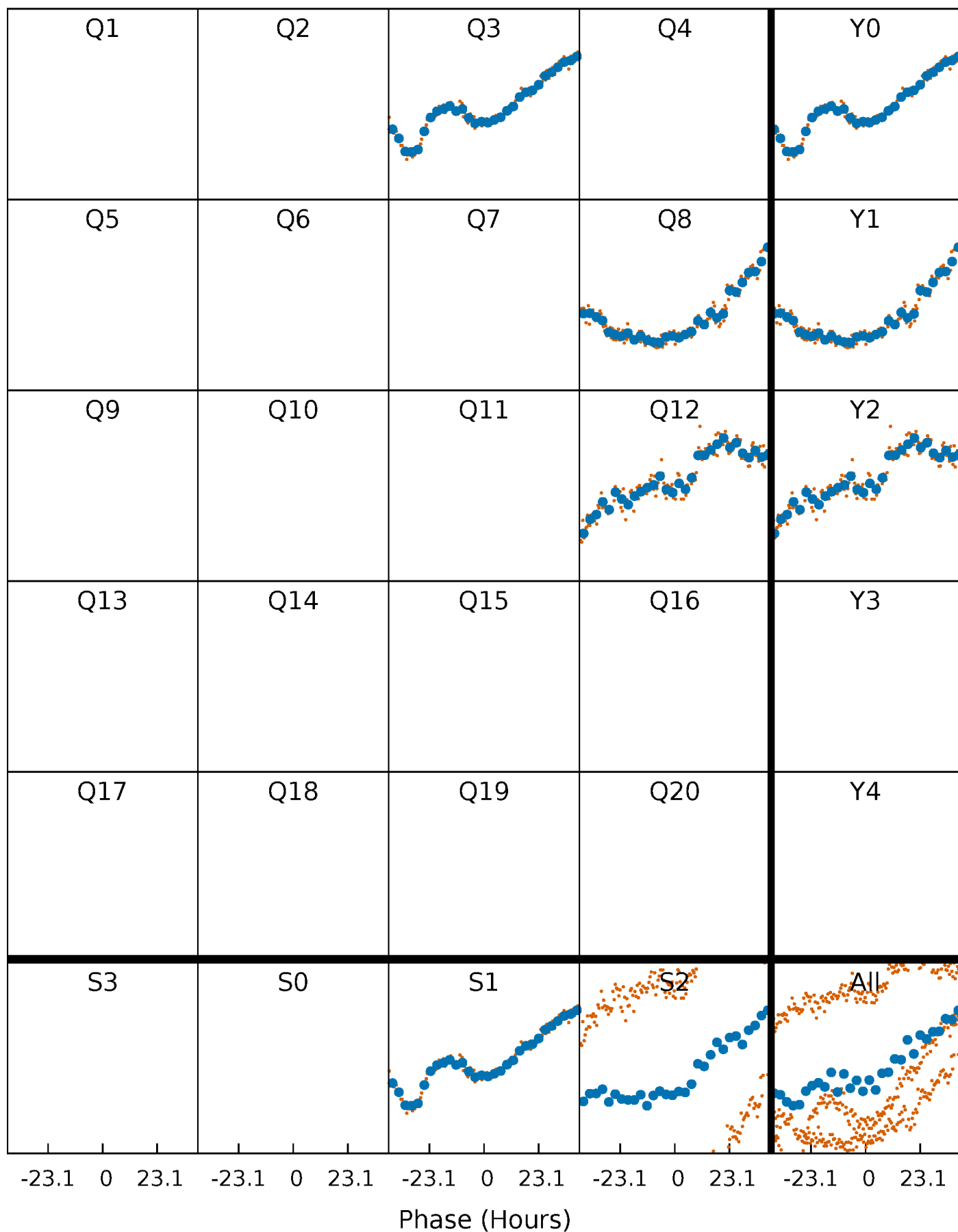


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

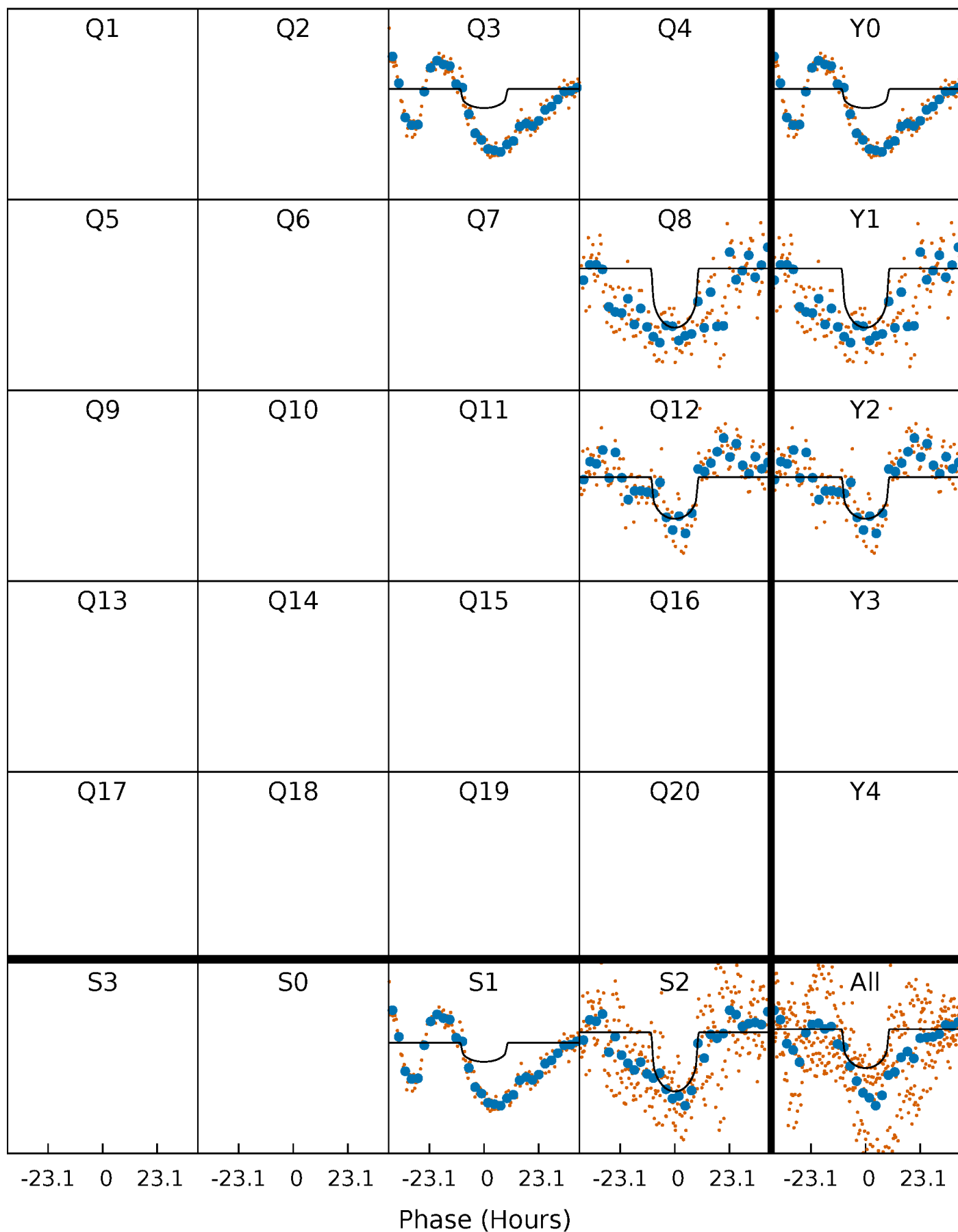
TCE 005526772-01 P=424.748248 Days  $T_0=326.730209$  (BKJD)





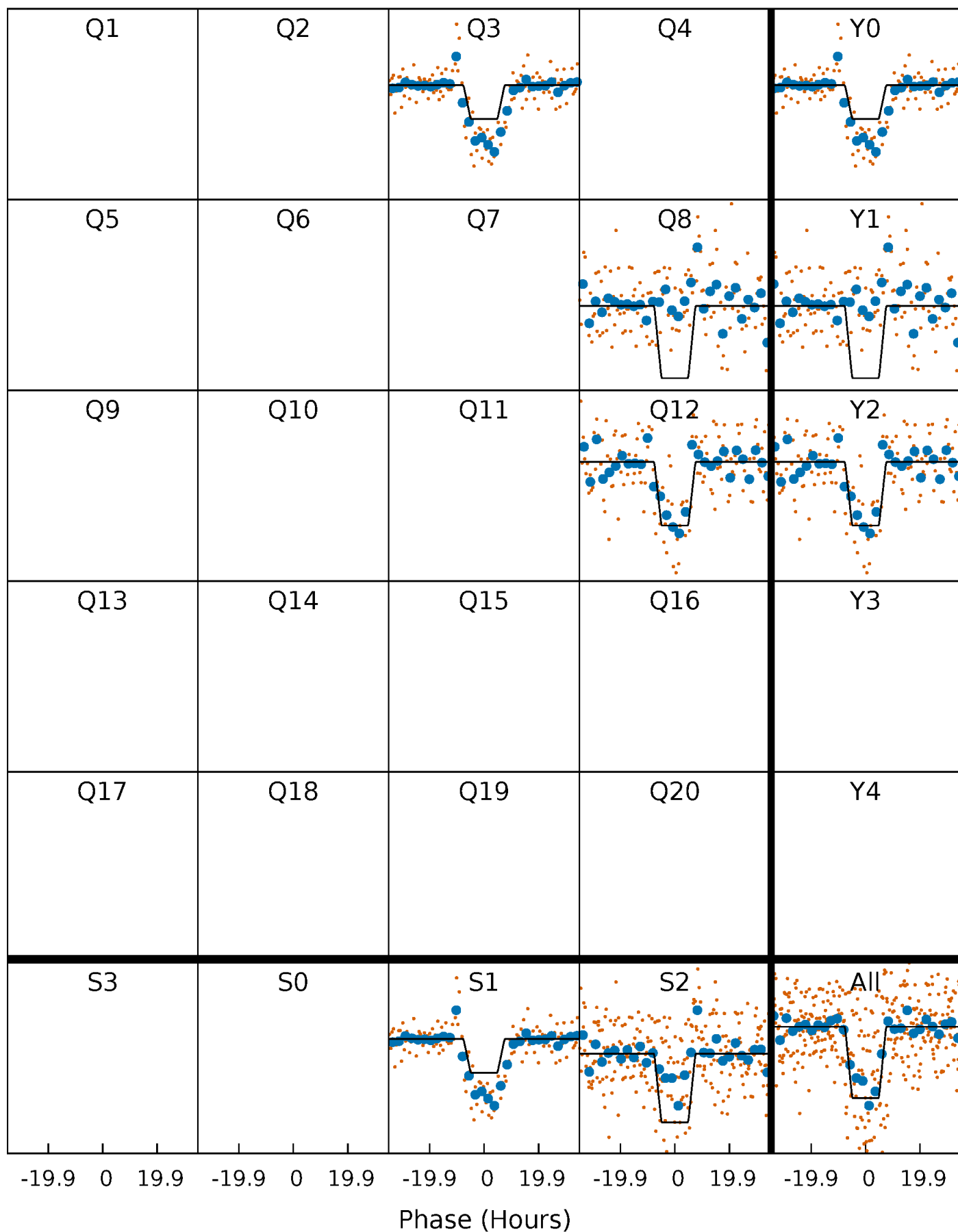
# DV Quarter-Phased Transit Curves

TCE 005526772-01     $P=424.748248$  Days     $T_0=326.730209$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

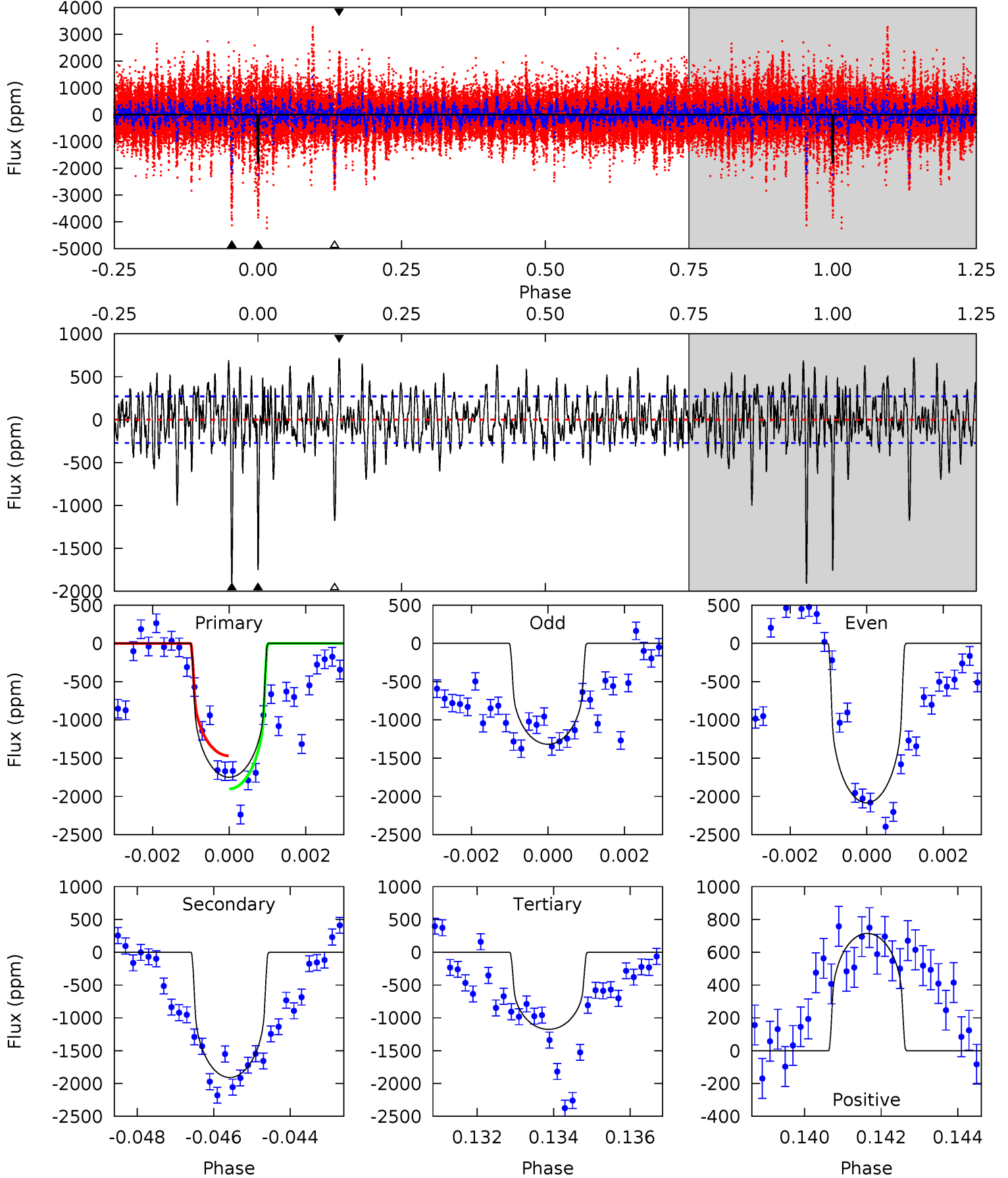
TCE 005526772-01 P=424.820524 Days  $T_0=326.722364$  (BKJD)



# DV Model-Shift Uniqueness Test

005526772-01, P = 424.748248 Days, E = 326.730209 Days

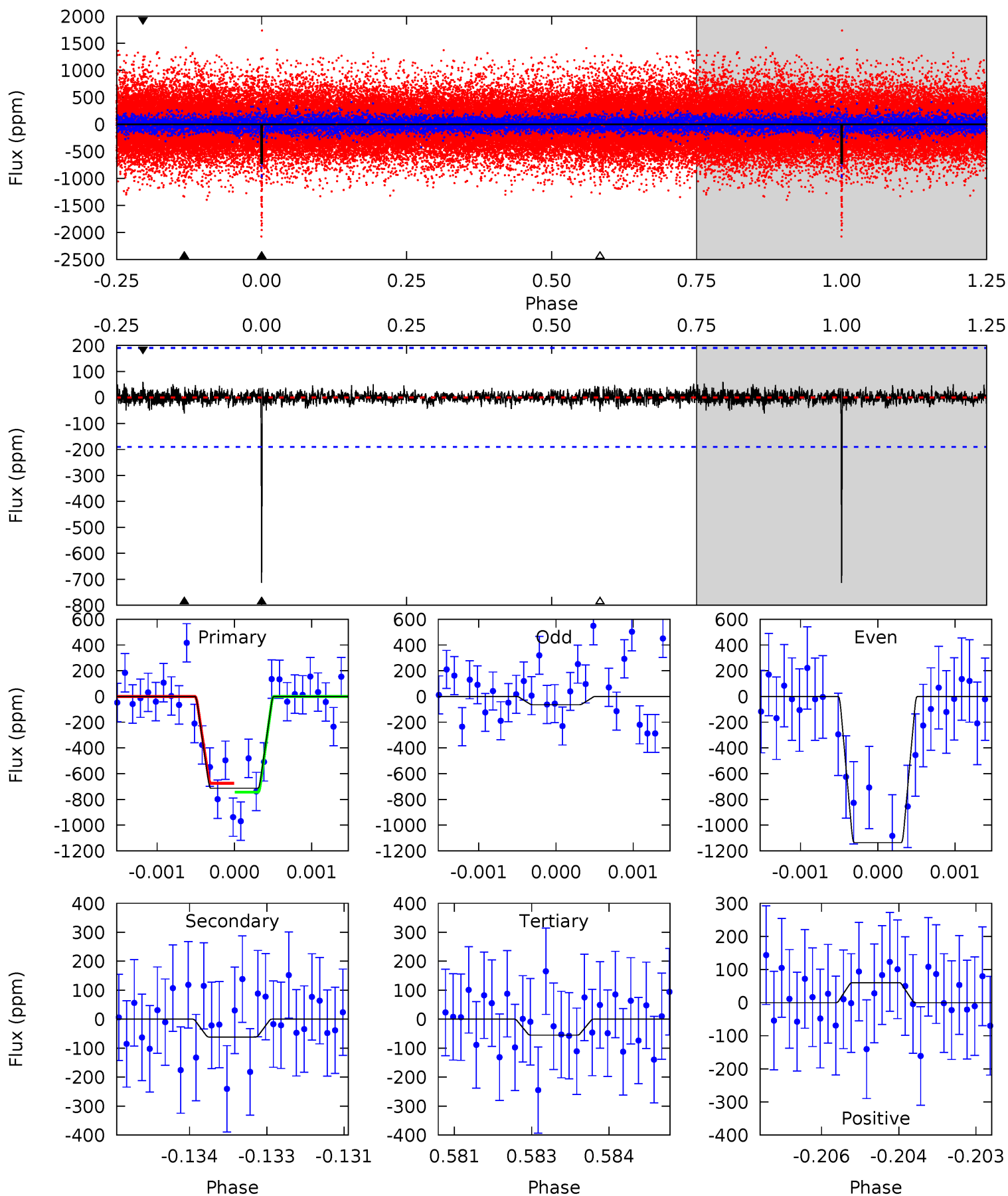
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.4	37.5	23.1	14.0	5.33	3.09	4.63	11.3	20.3	14.4	23.5	7.25	1.39	0.27	4.18



# Alt Model-Shift Uniqueness Test

005526772-01, P = 424.820524 Days, E = 326.722364 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
20.1	1.74	1.55	1.70	5.38	3.18	0.40	18.6	18.4	0.18	0.03	14.5	0.96	0.08	0.98



### Stellar Parameters For KIC 005526772

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4822^{+144}_{-129}$	$4.595^{+0.020}_{-0.056}$	$0.460^{+0.050}_{-0.300}$	$0.772^{+0.049}_{-0.043}$	$0.857^{+0.026}_{-0.072}$	$2.621^{+0.290}_{-0.465}$
	+3%/-3%	+0%/-1%	+11%/-65%	+6%/-6%	+3%/-8%	+11%/-18%
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 005526772-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-1909 \pm 51$	$2.69^{+0.64}_{-0.66}$	$257^{+9}_{-8}$	$5570^{+822}_{-546}$	$159165^{+119002}_{-56083}$
Alt.	$-62 \pm 35$	$2.51^{+0.60}_{-0.69}$	$257^{+9}_{-8}$	$3041^{+388}_{-391}$	$5513^{+6811}_{-3492}$

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

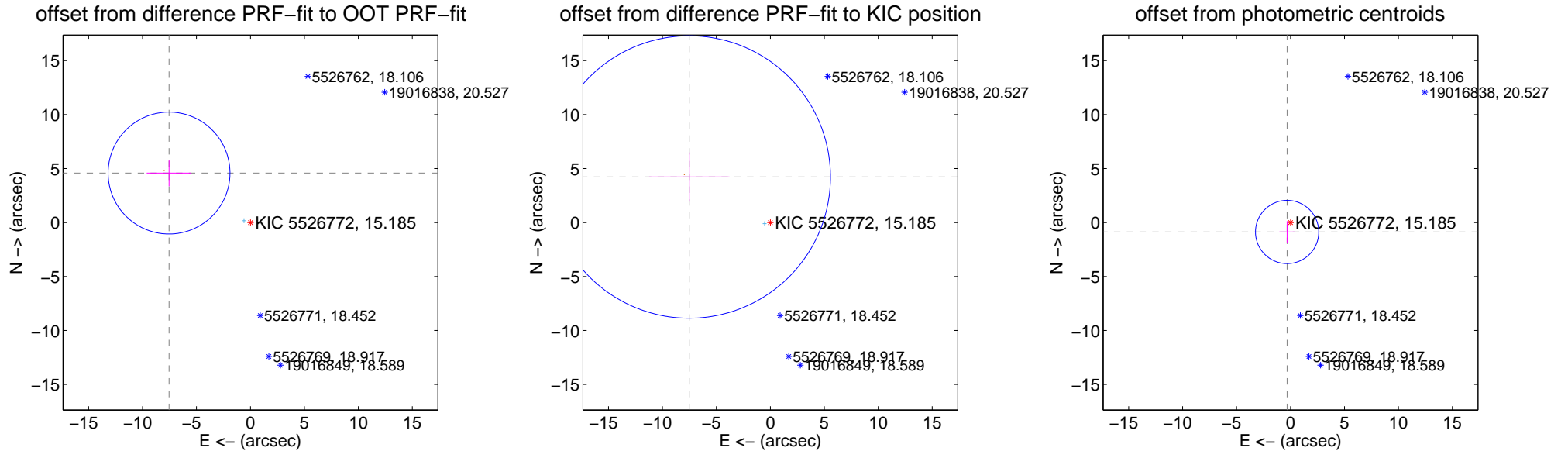
## DV Centroid Data

Supplemental centroid analysis for 005526772-01. Kepler magnitude: 15.19. Transit SNR 7.06

There are 1 quarters with good PRF difference image offsets

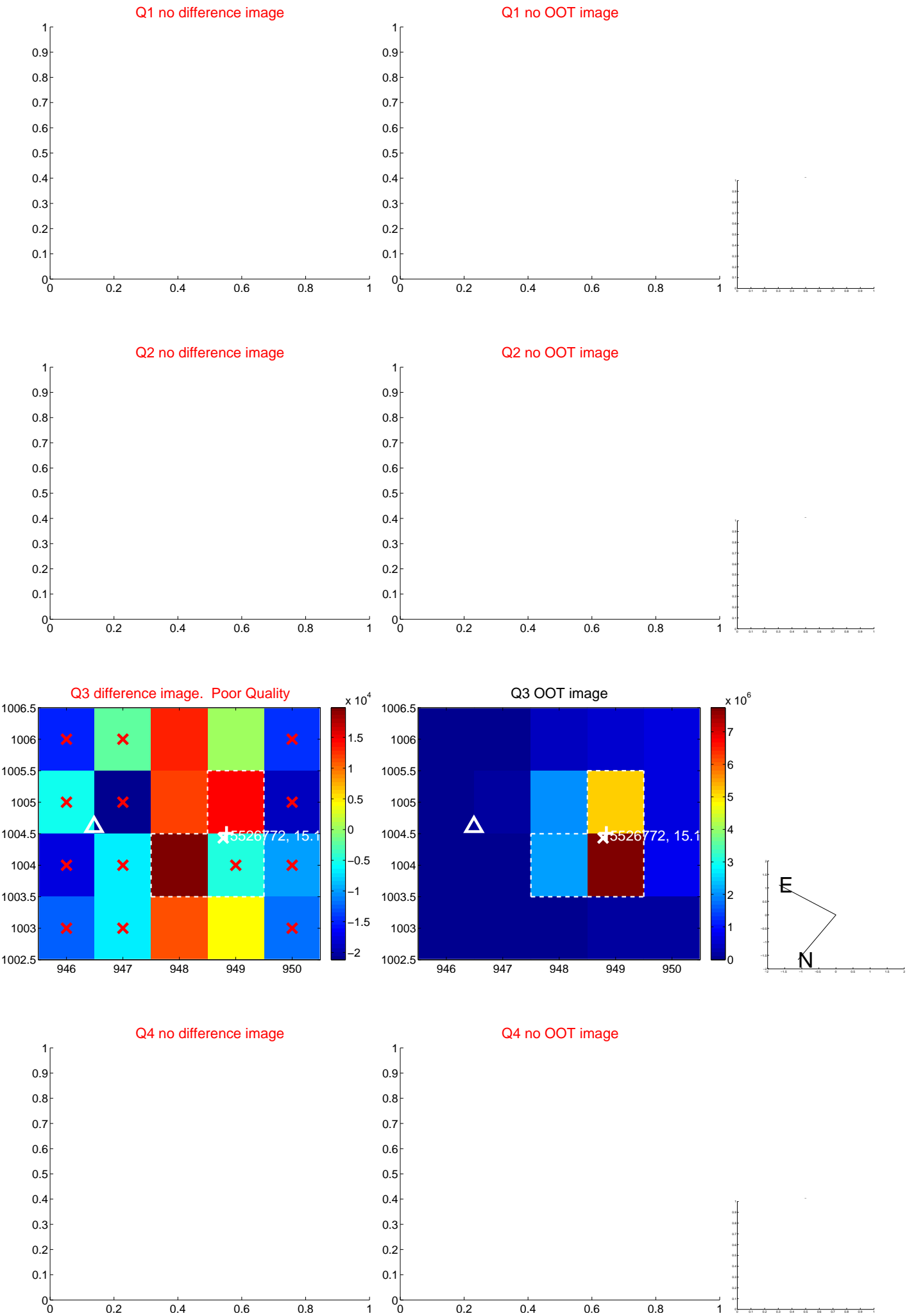
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>8.832 \pm 1.883</math></b>	<b>4.69</b>	$7.546 \pm 2.074$	$4.588 \pm 1.225$
PRF-fit source offset from KIC position	$8.620 \pm 4.362$	1.98	$7.516 \pm 3.722$	$4.219 \pm 2.282$
photometric centroid source offset	$0.93 \pm 0.98$	0.95	$0.32 \pm 0.75$	$-0.87 \pm 1.00$



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.

Q5 no difference image



Q5 no OOT image



Q6 no difference image



Q6 no OOT image



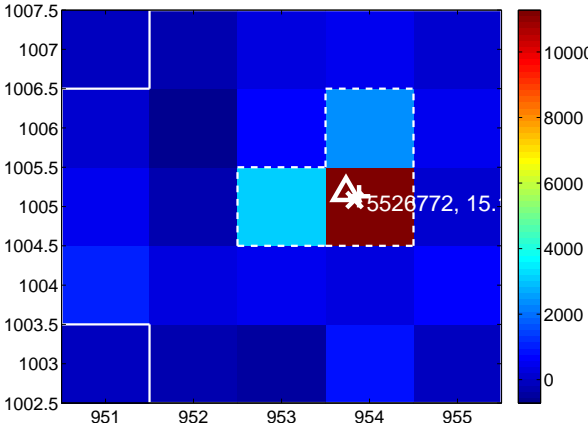
Q7 no difference image



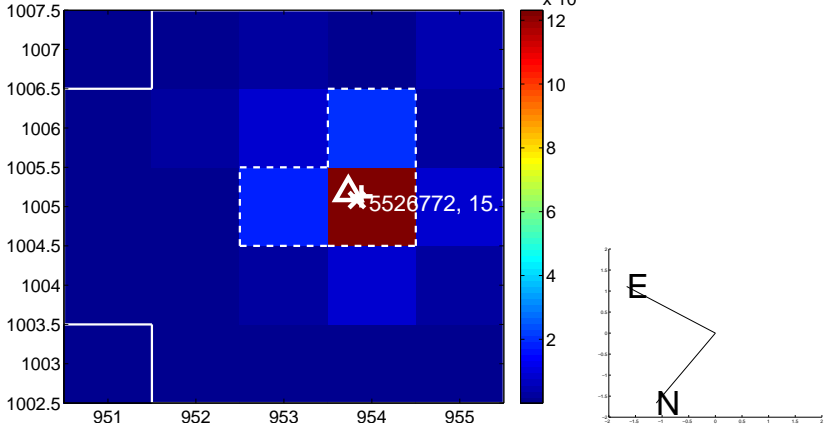
Q7 no OOT image



Q8 difference image



Q8 OOT image





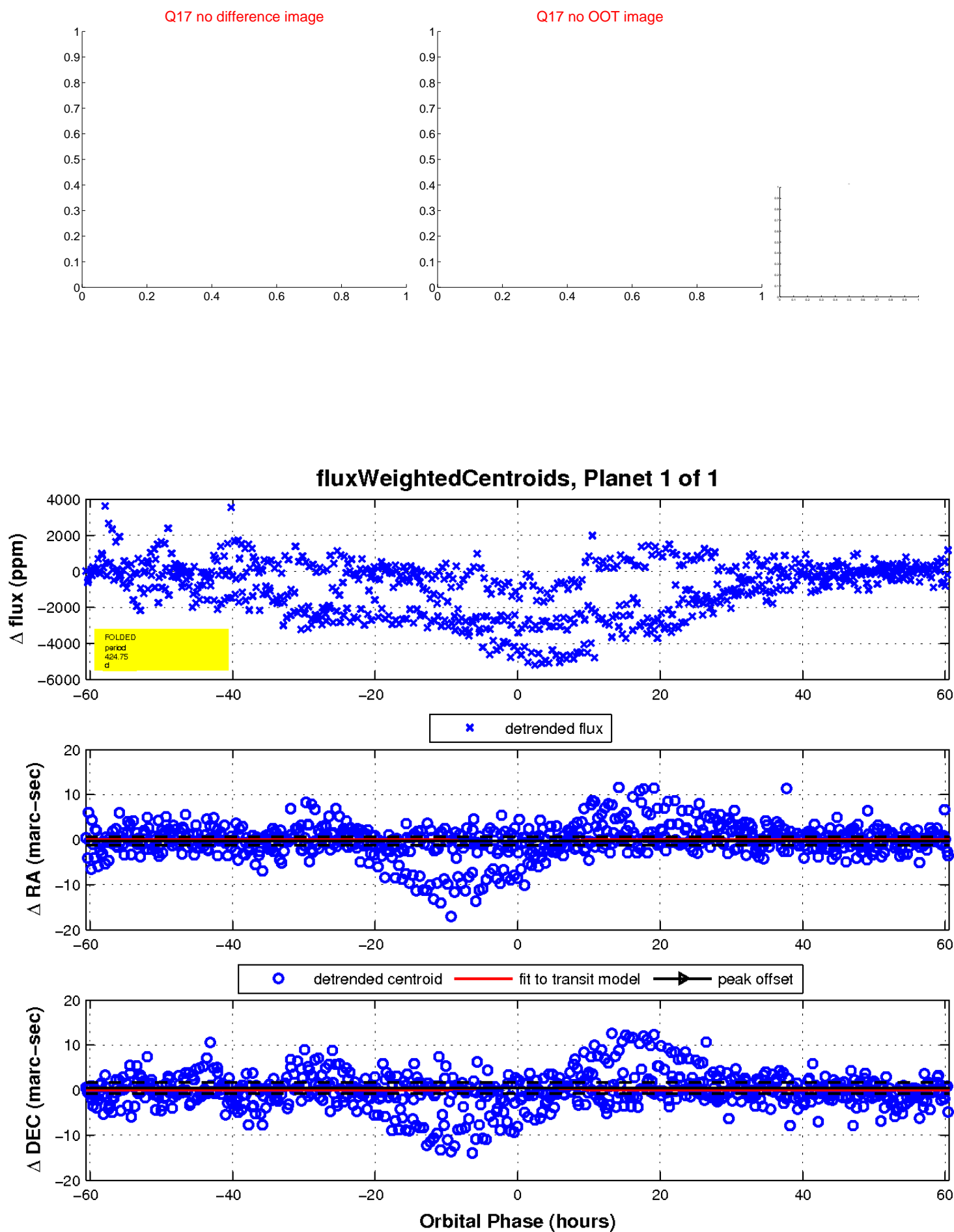
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

