

# KIC 005966097

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005966097-01	OBS	No	356.951117	213.012310	189.1	14.329	9.4	11.8	1.53	6078	2.36	3.56

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005966097-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

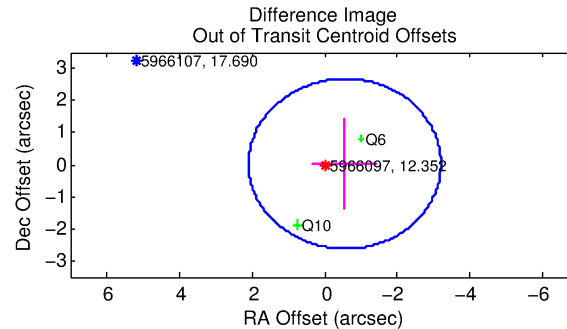
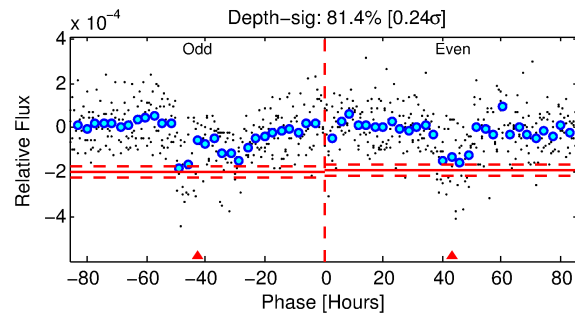
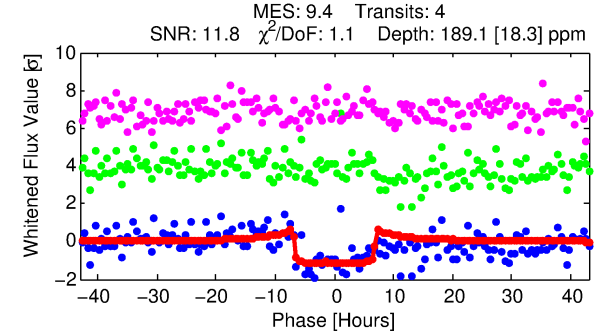
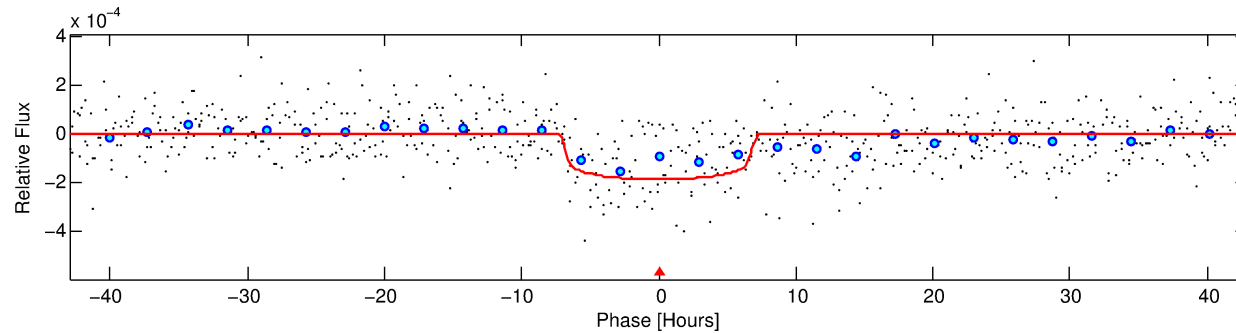
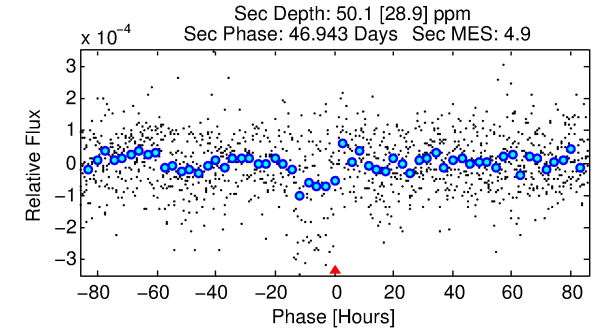
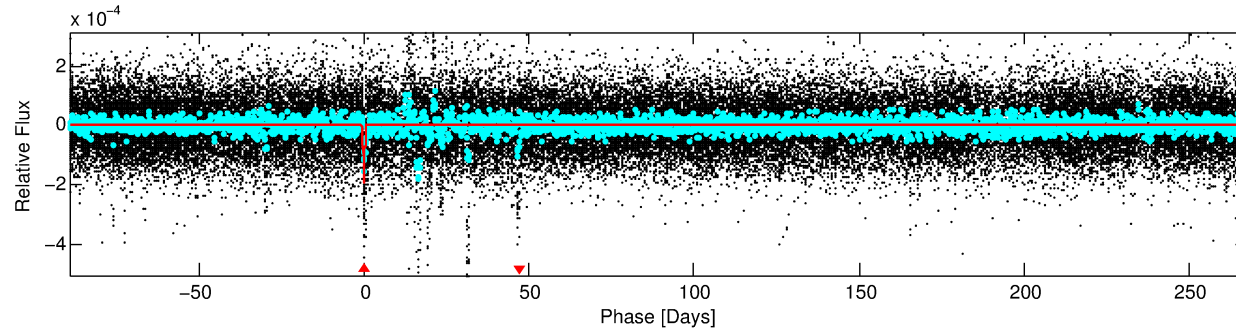
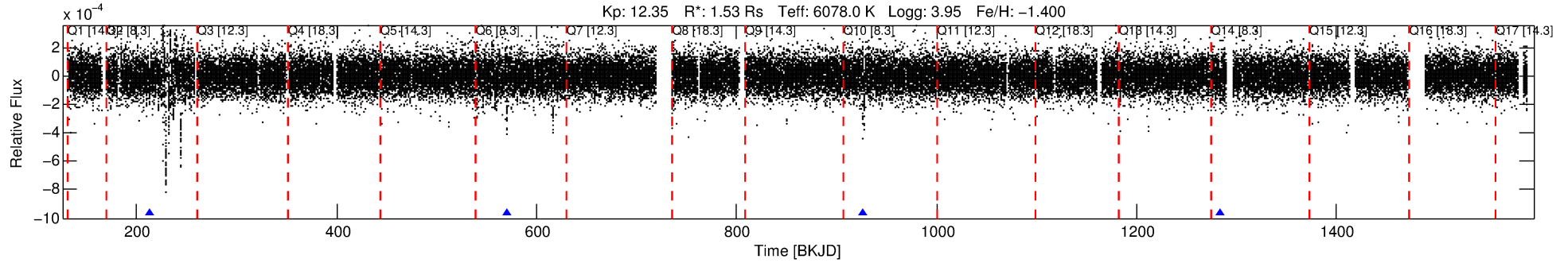
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005966097-01

No Significant Match Found

# DV One-Page Summary

KIC: 5966097 Candidate: 1 of 1 Period: 356.951 d



## DV Fit Results:

Period = 356.95112 [0.00594] d  
Epoch = 213.0123 [0.0123] BKJD  
Rp/R\* = 0.0141 [0.0016]  
a/R\* = 109.02 [62.15]  
b = 0.84 [0.21]  
Seff = 3.56 [3.20]  
Teq = 350 [79] K  
Rp = 2.36 [1.17] Re  
a = 0.8973 [0.4724] AU  
Ag = 3966.17 [4324.03] [0.92σ]  
Teffp = 4299 [673] K [5.83σ]

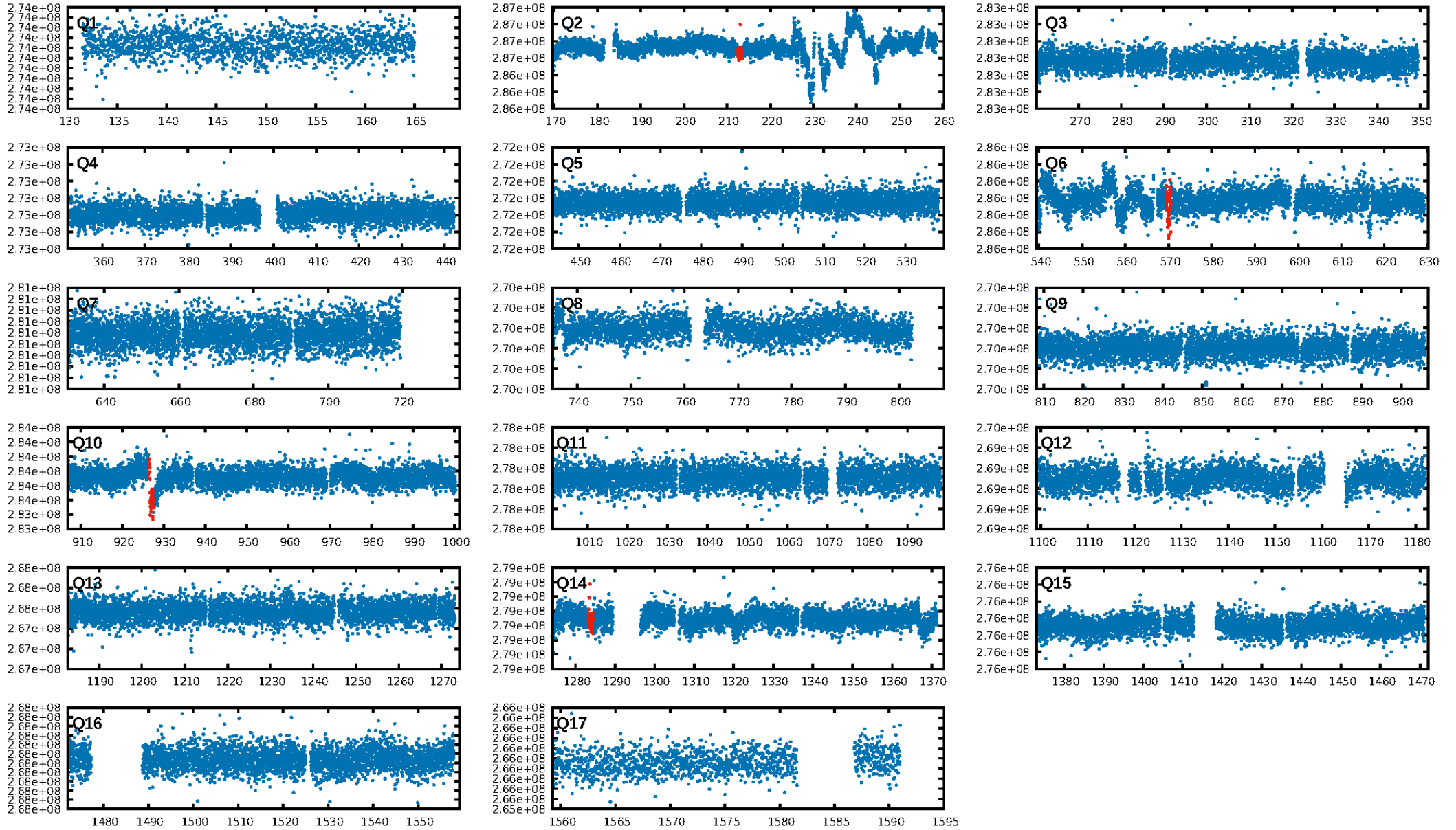
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 98.1%  
Bootstrap-pfa: 1.37e-12  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -3.541  
Centroid-sig: 10.4%  
Centroid-so: 1.016 arcsec [1.33σ]  
OotOffset-rm: 0.557 arcsec [0.63σ]  
KicOffset-rm: 0.727 arcsec [0.80σ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

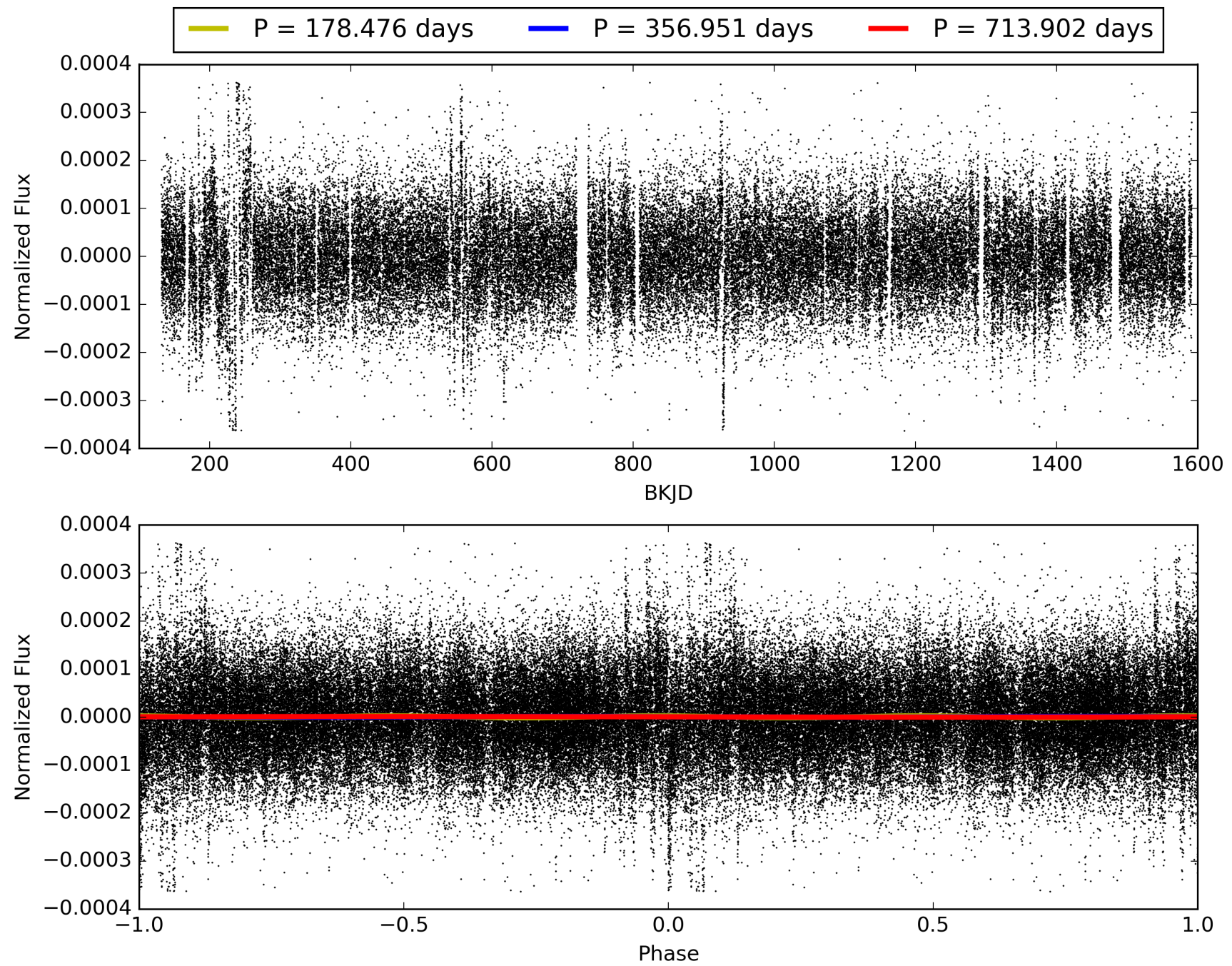
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:02:59 Z

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

# TCE 005966097-01, PDC Light Curves

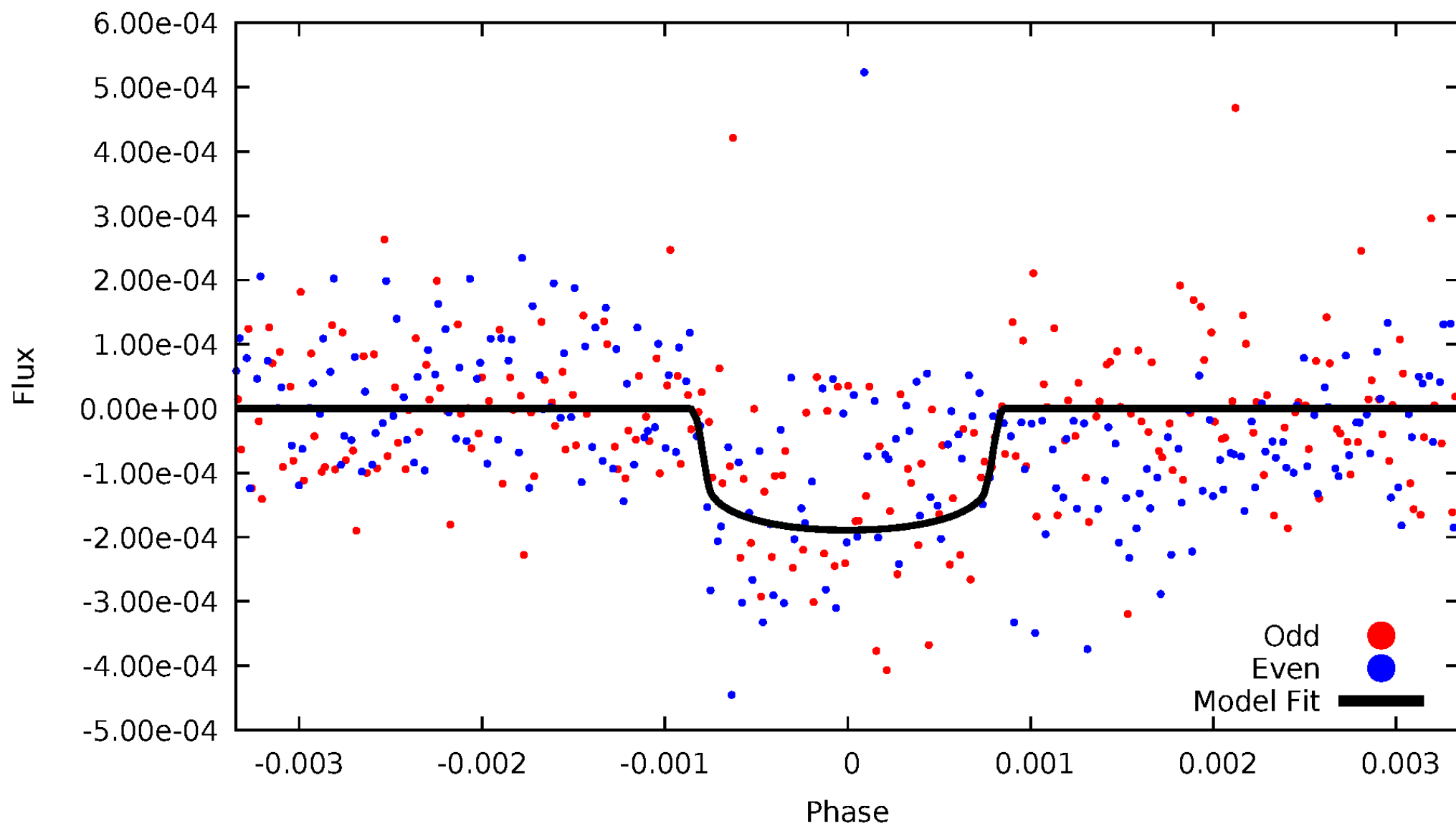


TCE 005966097-01



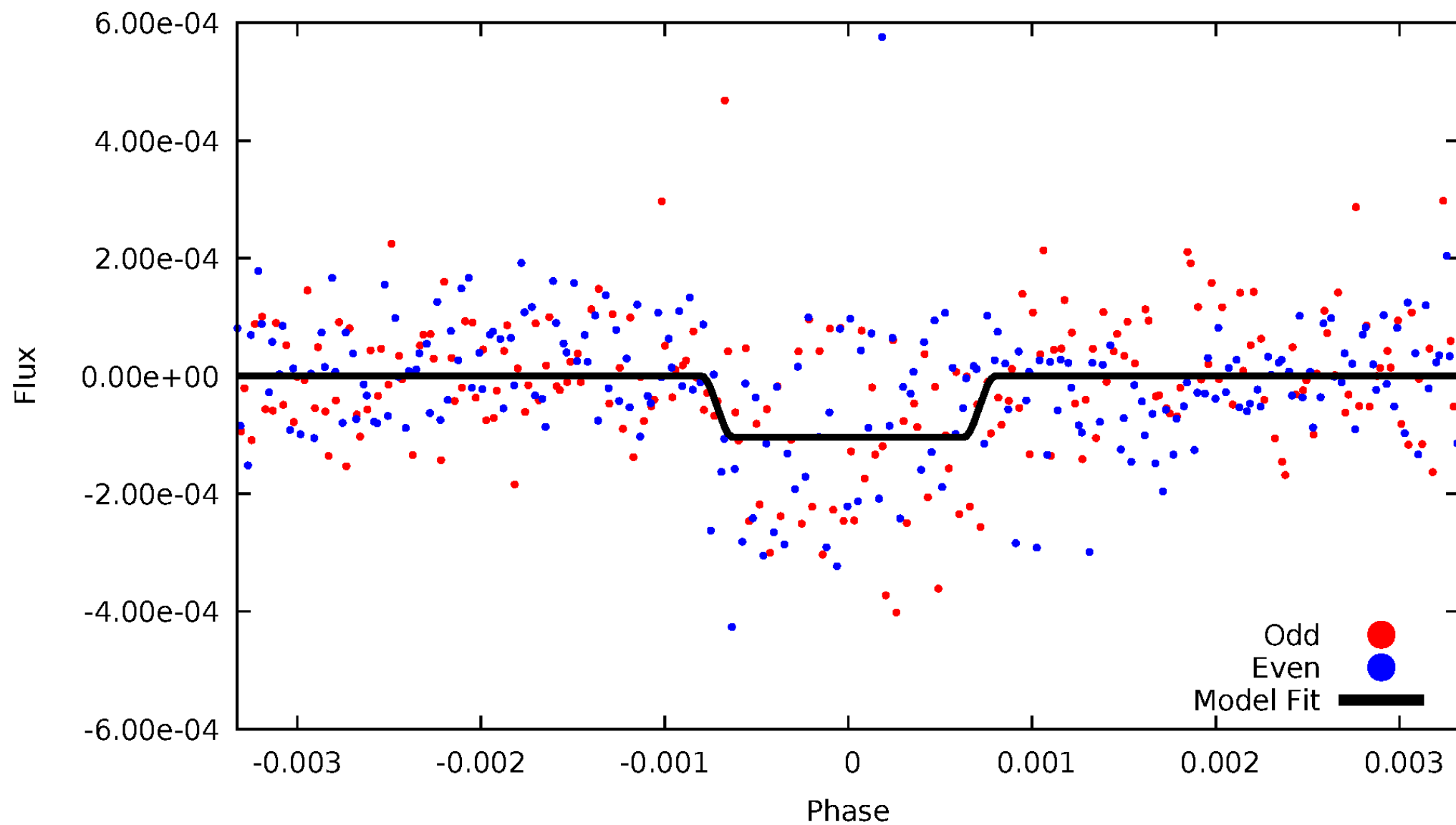
# DV Odd/Even

TCE 005966097-01



# ALT Odd/Even

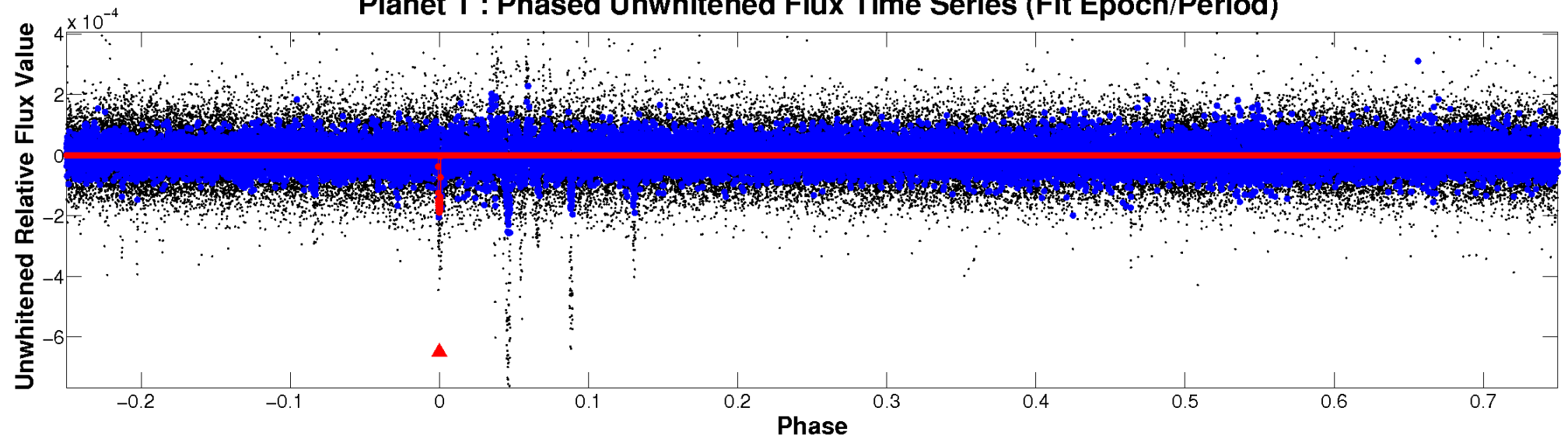
TCE 005966097-01



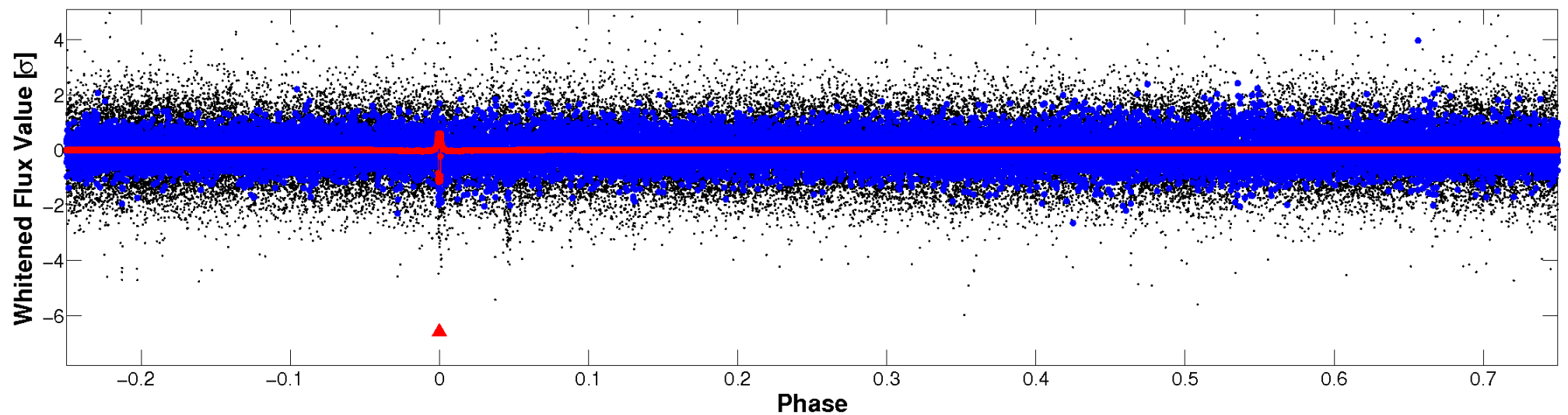


# Non-Whitened Vs. Whitened Light Curve

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

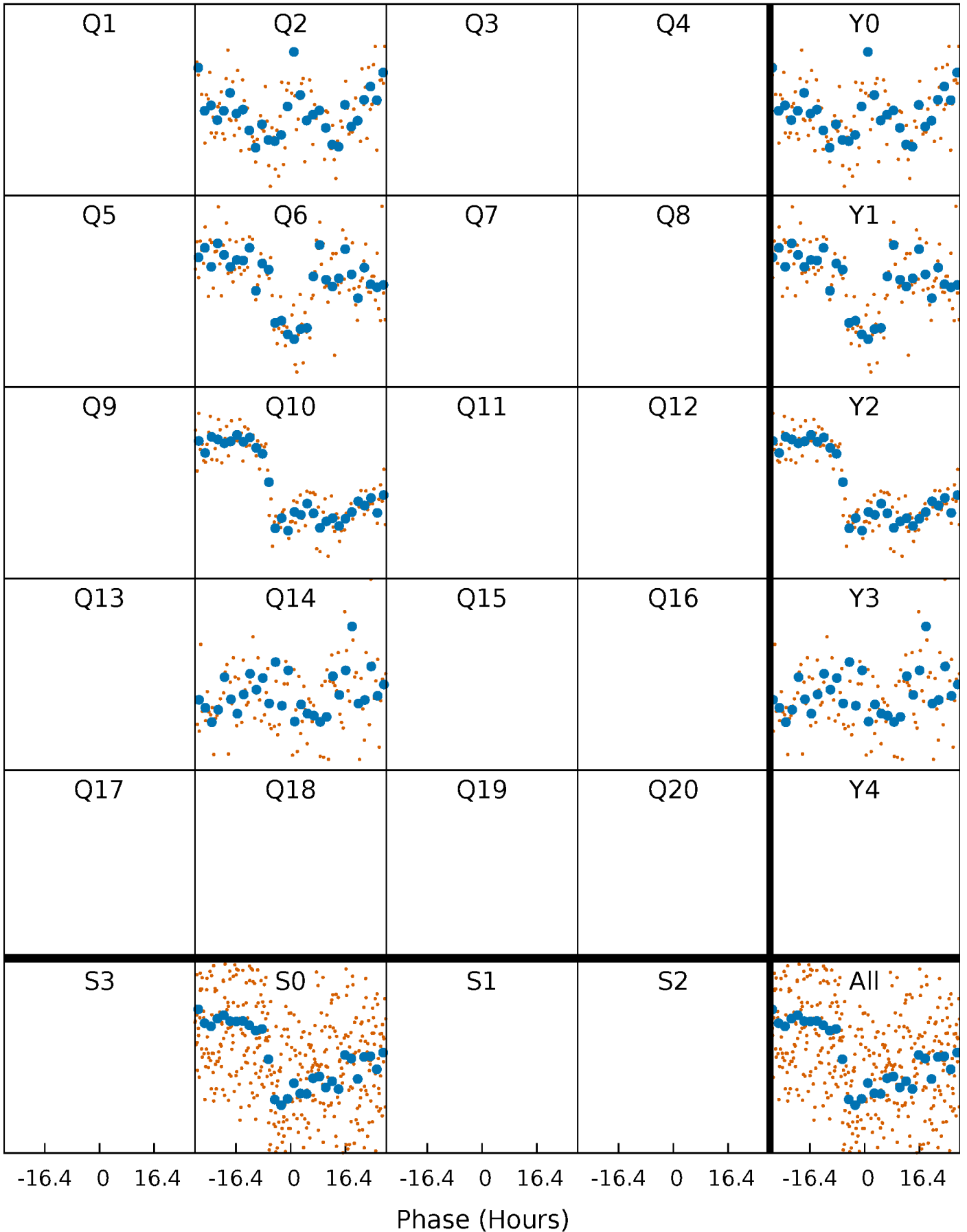


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

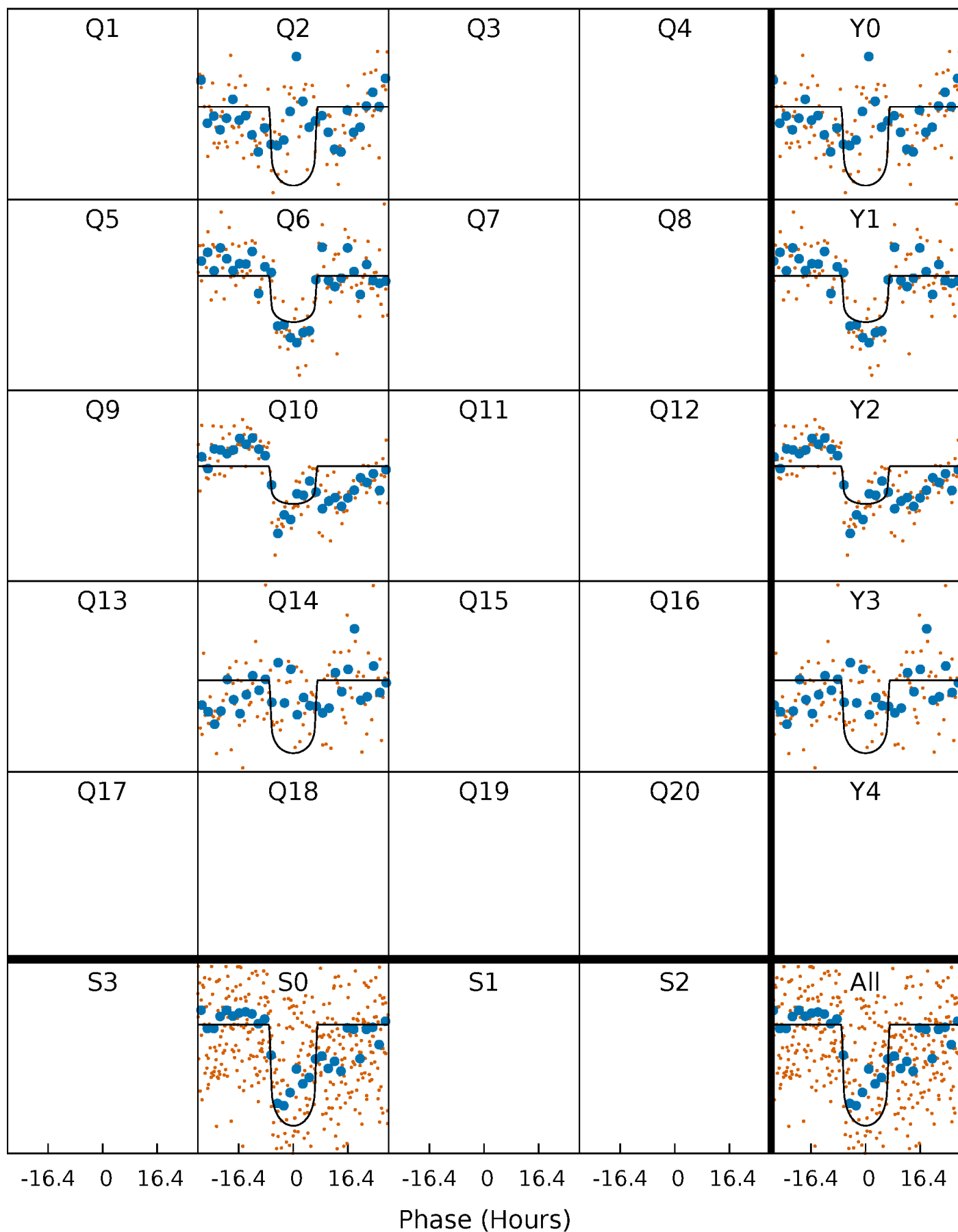
TCE 005966097-01 P=356.951117 Days  $T_0=213.012310$  (BKJD)





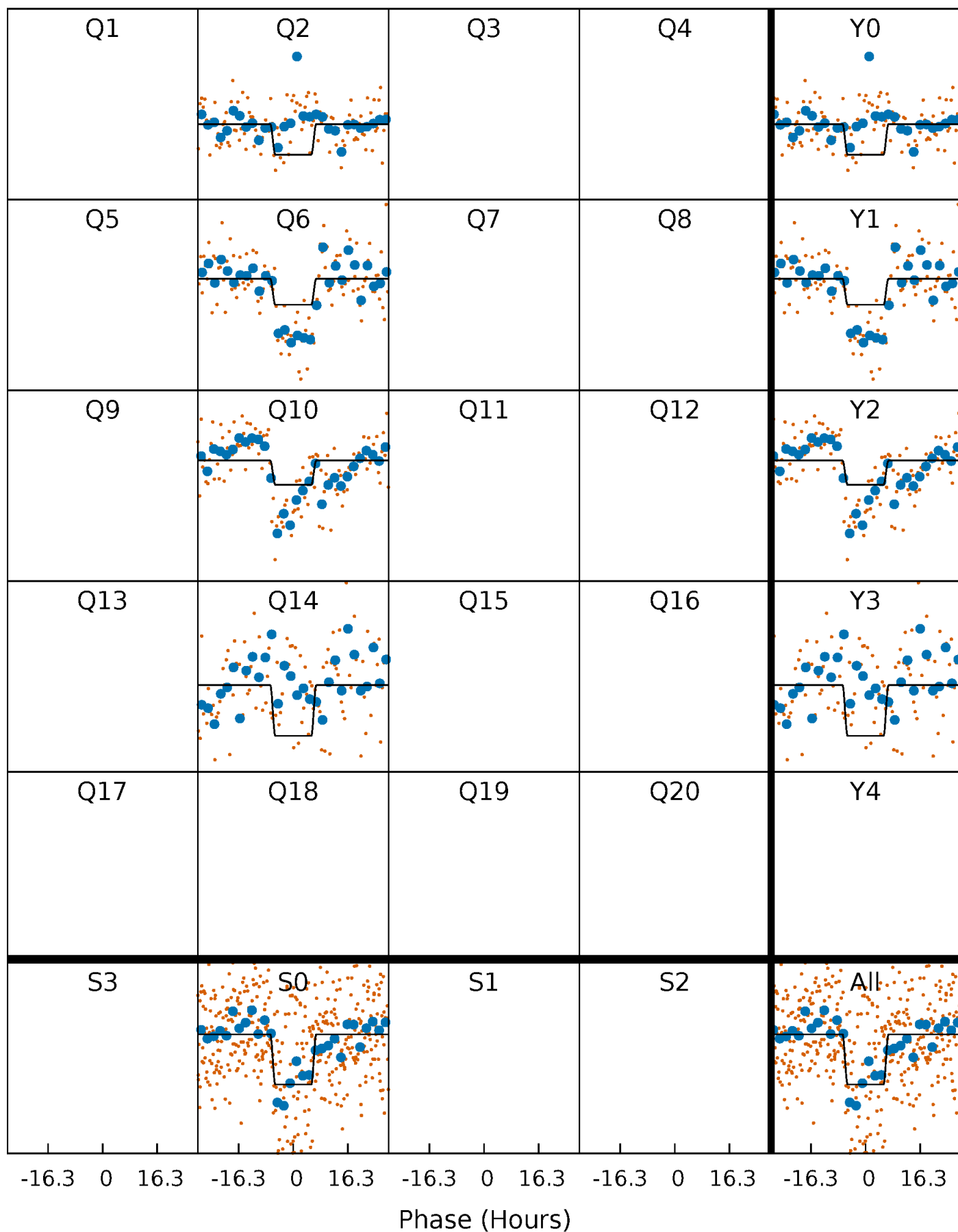
# DV Quarter-Phased Transit Curves

TCE 005966097-01 P=356.951117 Days  $T_0=213.012310$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

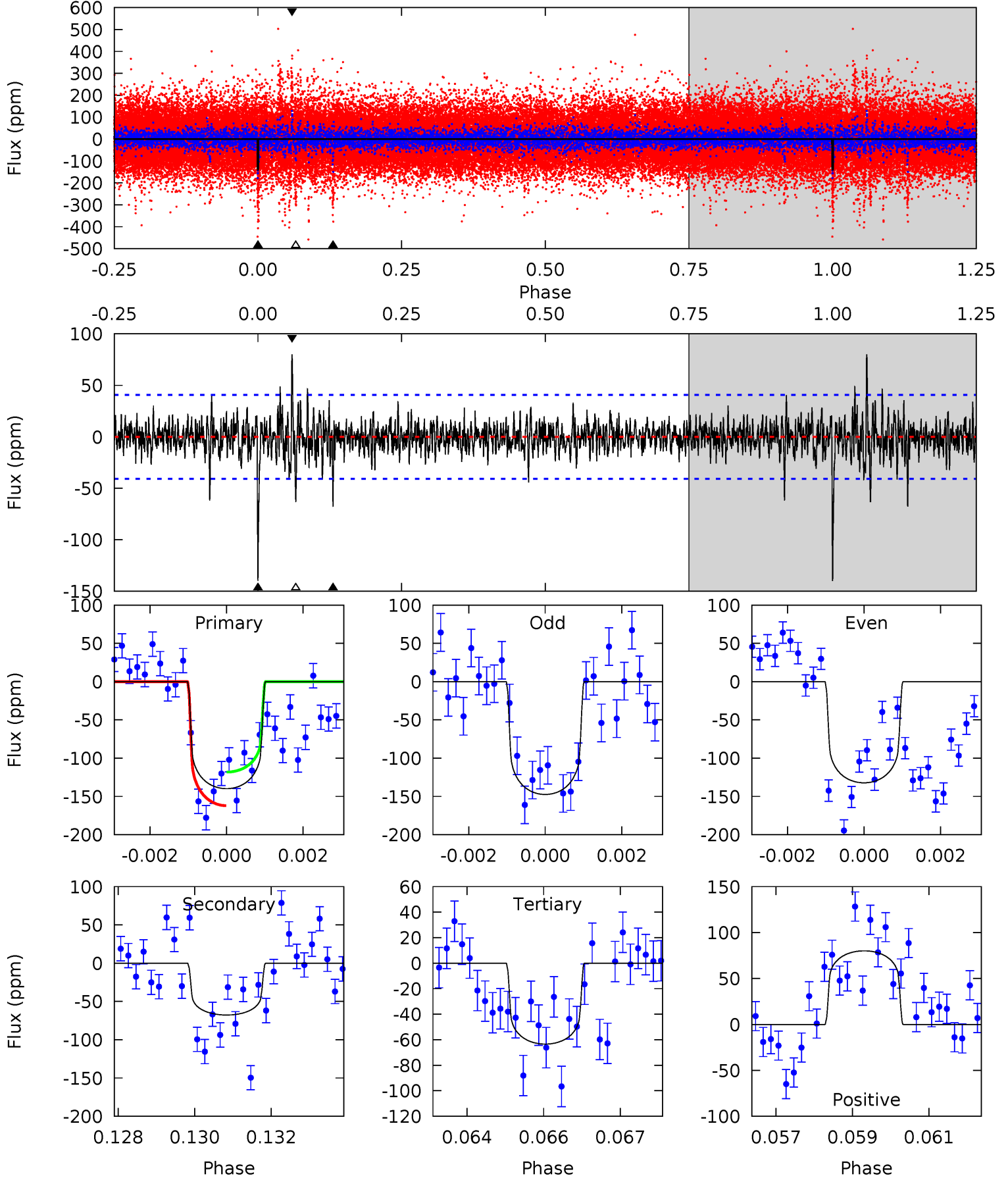
TCE 005966097-01 P=356.967482 Days  $T_0=212.979249$  (BKJD)



# DV Model-Shift Uniqueness Test

005966097-01, P = 356.951117 Days, E = 213.012310 Days

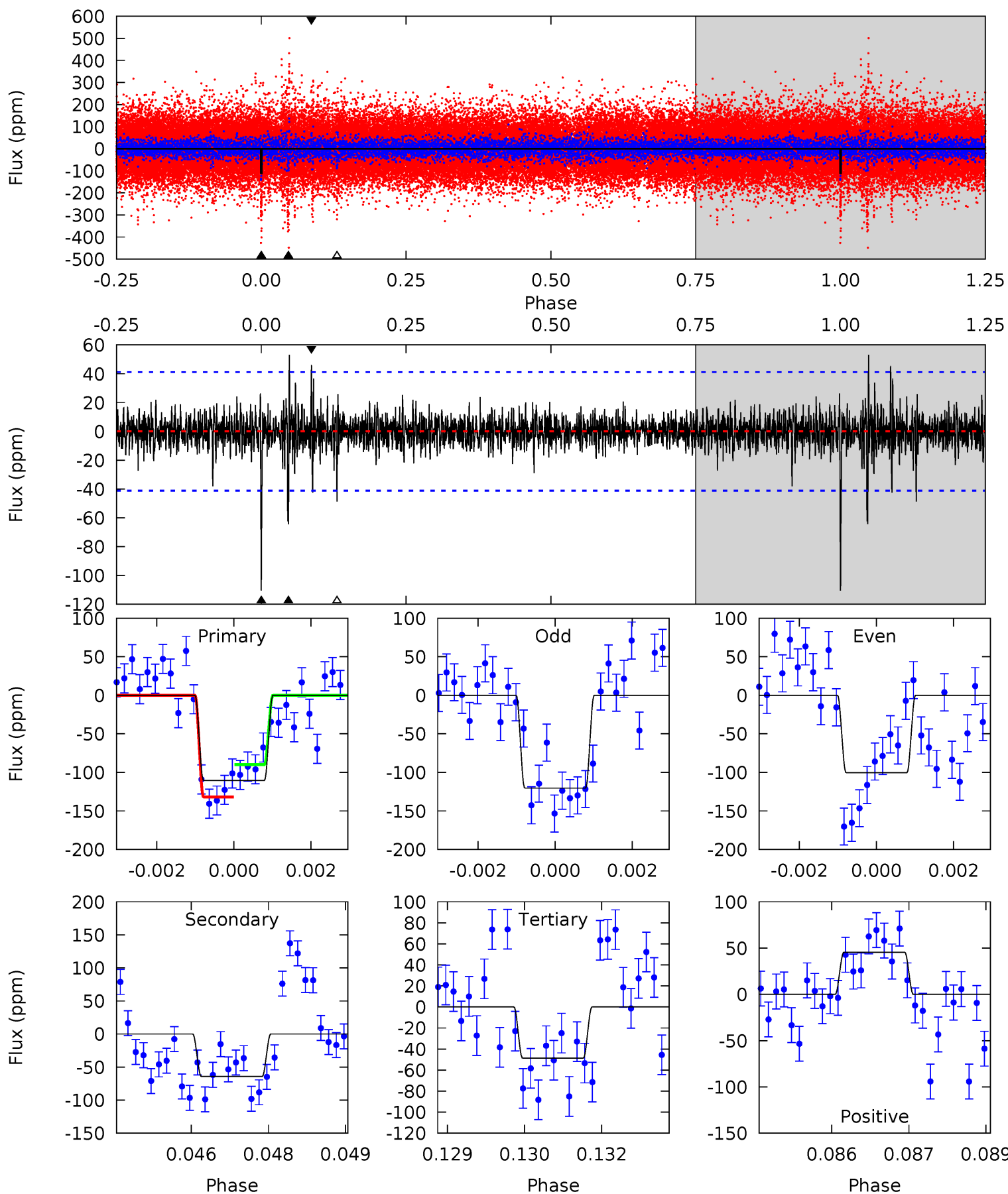
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	8.90	8.34	10.5	5.36	3.14	1.57	10.1	7.86	0.56	-1.63	1.00	1.01	0.36	2.89



# Alt Model-Shift Uniqueness Test

005966097-01,  $P = 356.967482$  Days,  $E = 212.979249$  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
14.4	8.39	6.35	5.94	5.37	3.16	1.05	8.06	8.47	2.04	2.45	1.30	1.04	0.32	2.73



### Stellar Parameters For KIC 005966097

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6078^{+91}_{-73}$	$3.946^{+0.544}_{-0.096}$	$-1.400^{+0.150}_{-0.150}$	$1.532^{+0.184}_{-0.737}$	$0.756^{+0.028}_{-0.043}$	$0.296^{+1.652}_{-0.083}$
	+1%/-1%	+14%/-2%	+11%/-11%	+12%/-48%	+4%/-6%	+558%/-28%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005966097-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-68 \pm 8$	$2.24^{+0.40}_{-0.60}$	$487^{+21}_{-67}$	$4774^{+291}_{-242}$	$5960^{+4982}_{-1817}$
Alt.	$-64 \pm 8$	$1.58^{+0.37}_{-0.41}$	$485^{+22}_{-66}$	$5443^{+448}_{-371}$	$11326^{+9705}_{-3924}$

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

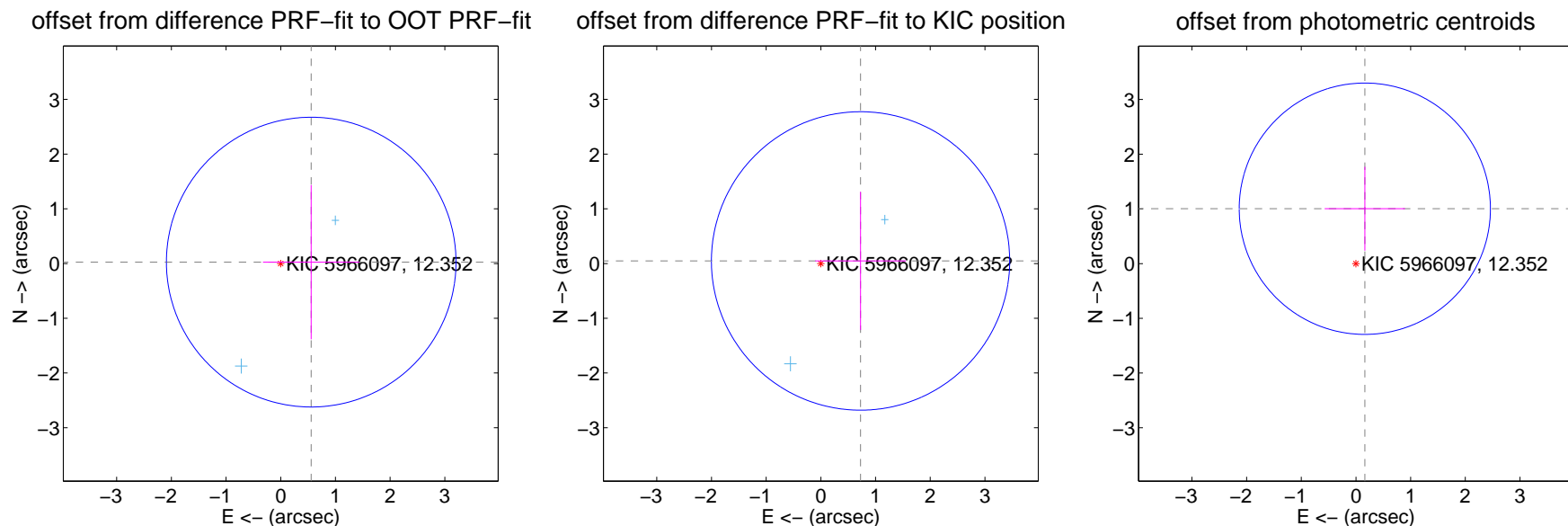
## DV Centroid Data

Supplemental centroid analysis for 005966097-01. Kepler magnitude: 12.35. Transit SNR 11.76

There are 2 quarters with good PRF difference image offsets

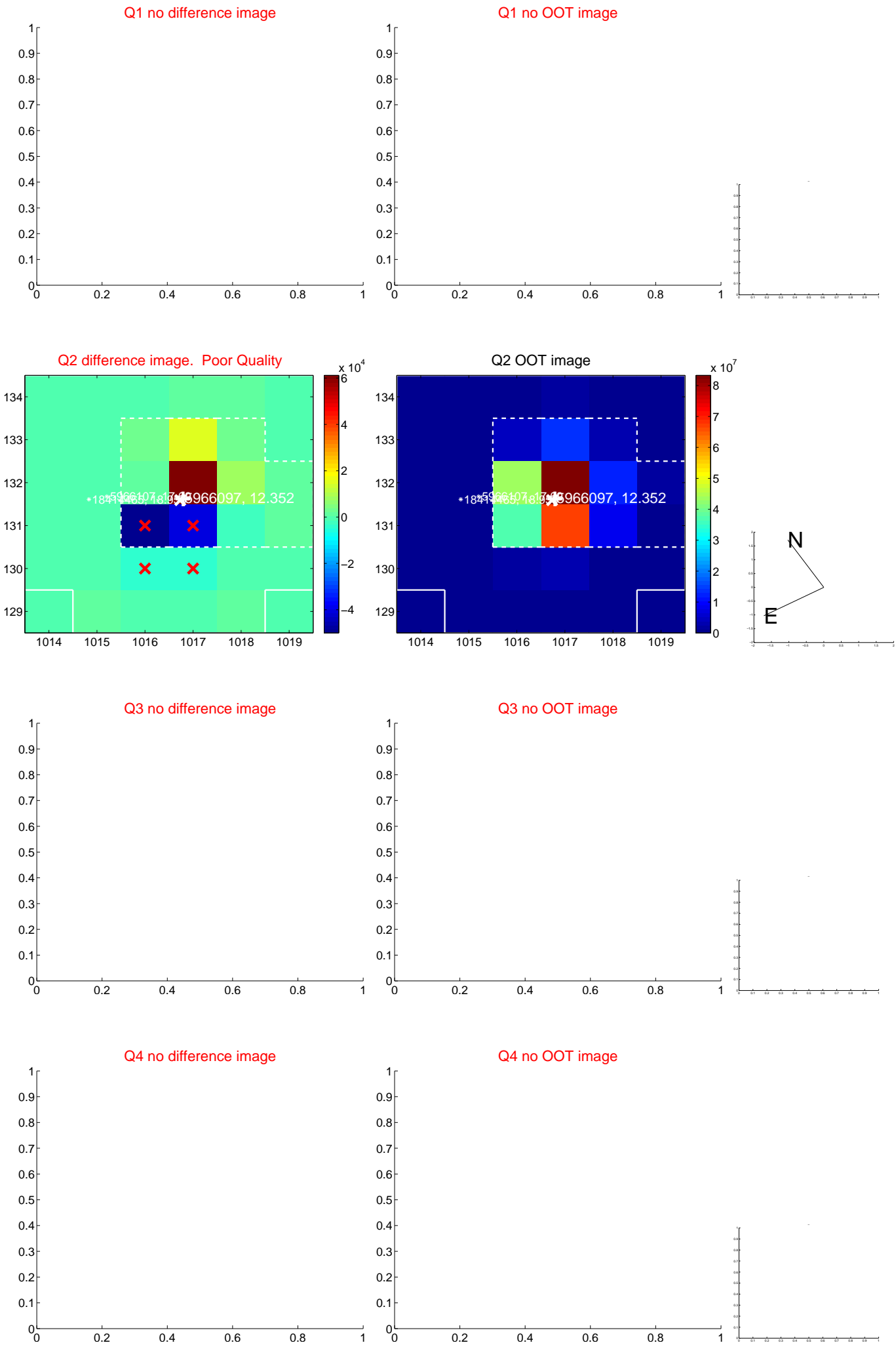
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.557 \pm 0.882$	0.63	$-0.557 \pm 0.881$	$0.026 \pm 1.409$
PRF-fit source offset from KIC position	$0.727 \pm 0.909$	0.80	$-0.726 \pm 0.829$	$0.047 \pm 1.263$
photometric centroid source offset	$1.02 \pm 0.77$	1.33	$-0.16 \pm 0.73$	$1.00 \pm 0.77$



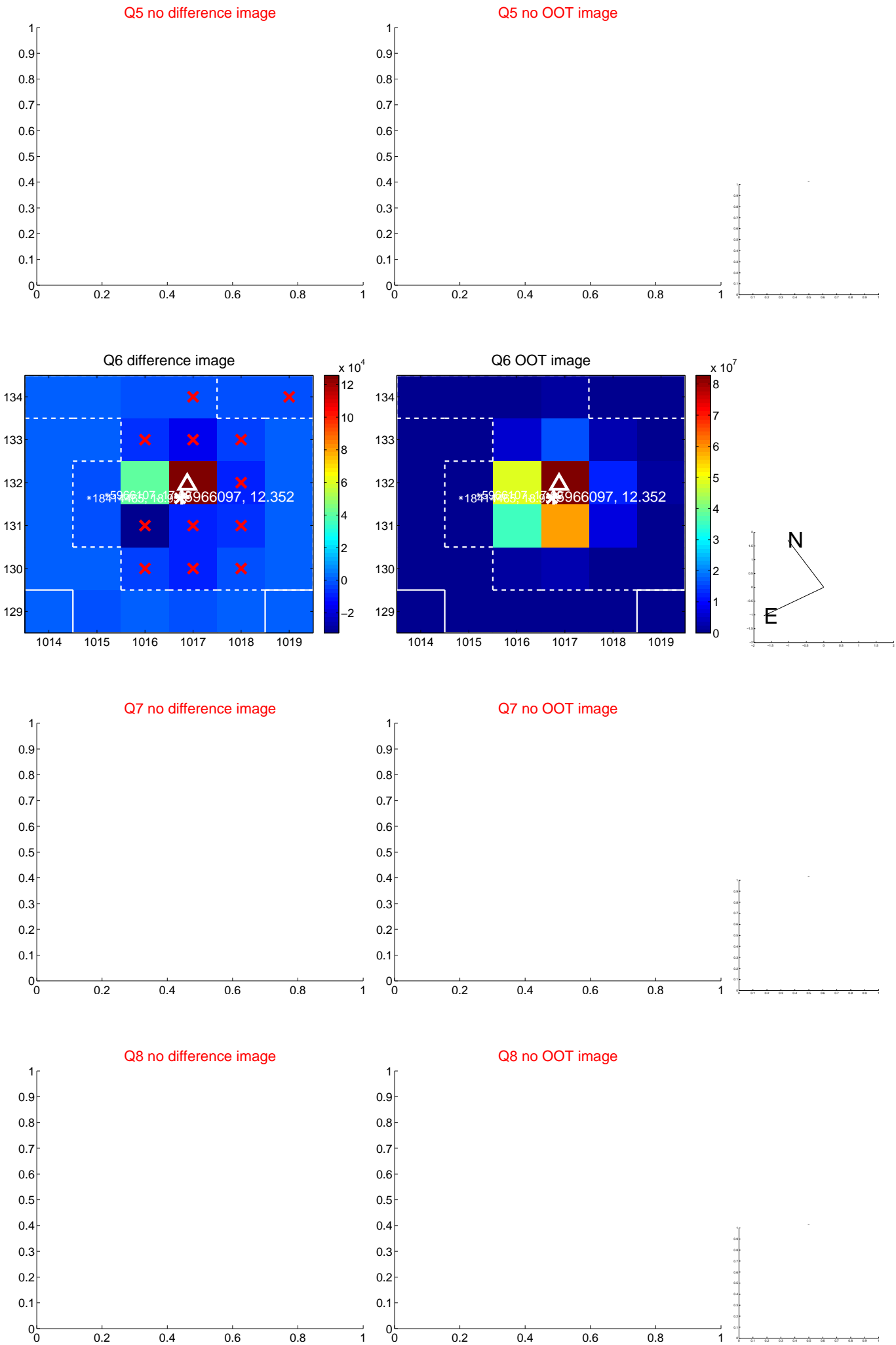
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

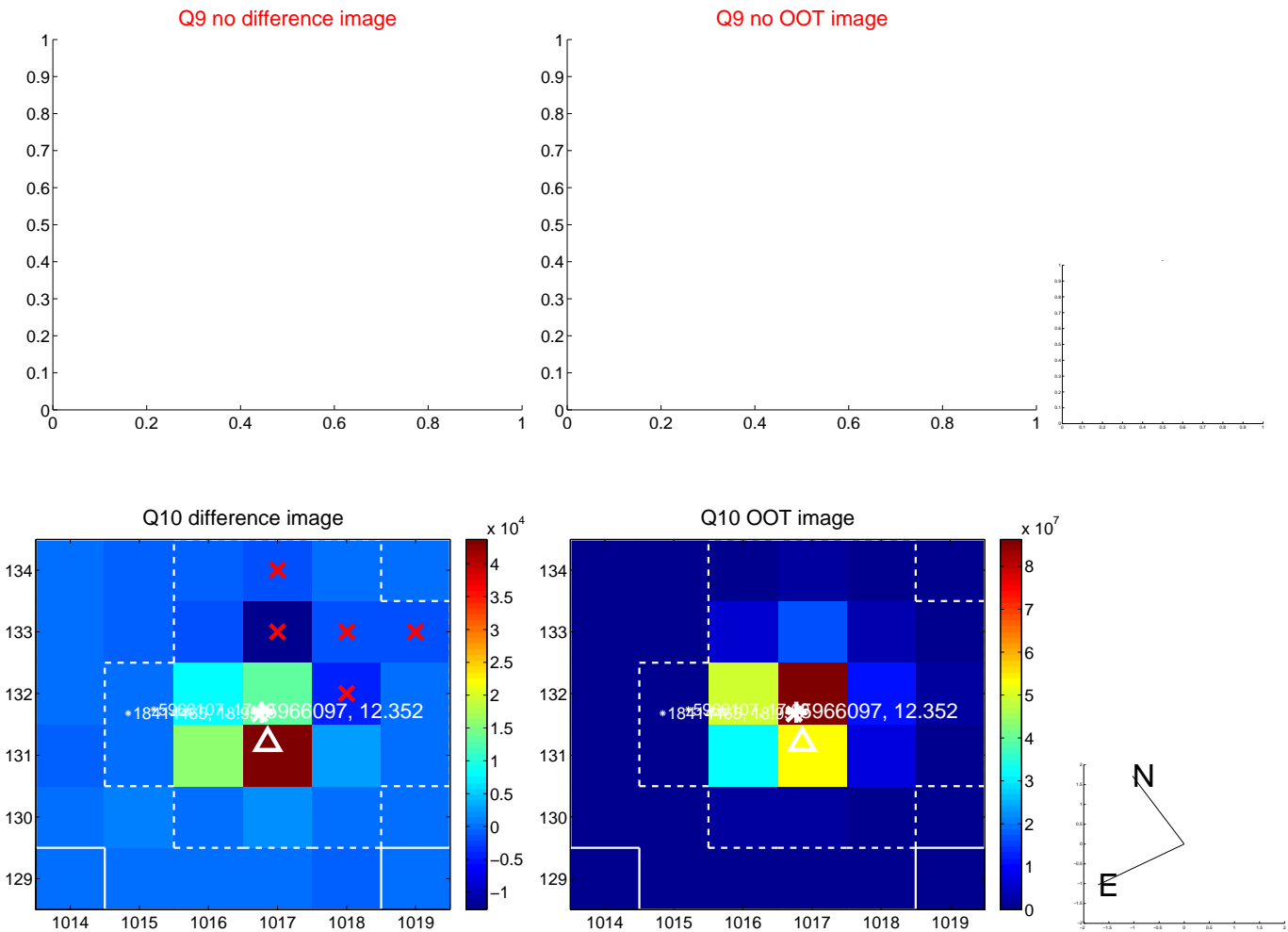




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



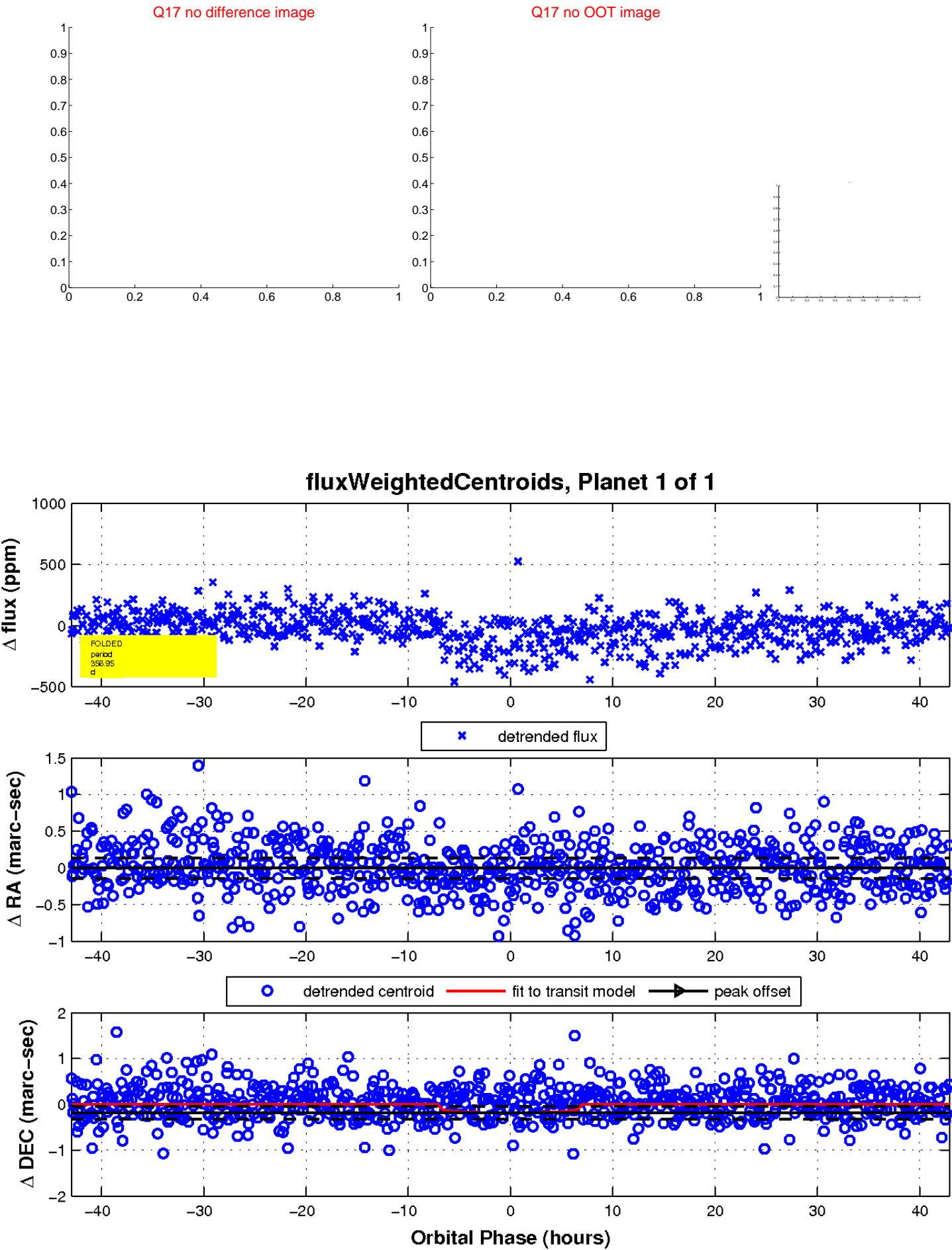
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

