

# KIC 005955282

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005955282-01	OBS	No	371.851114	496.000900	1569.6	28.475	7.2	8.1	0.83	5695	3.26	0.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005955282-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

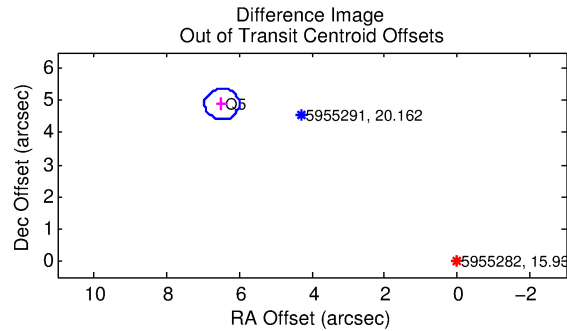
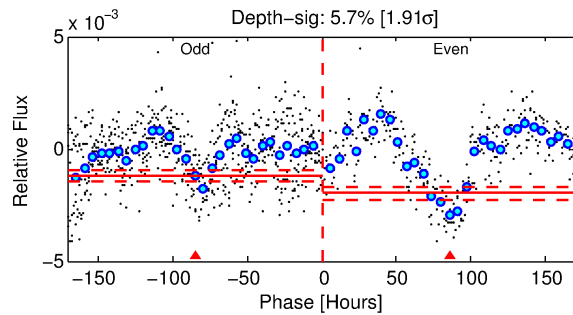
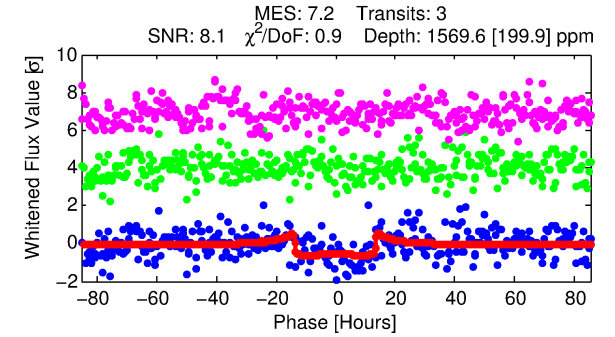
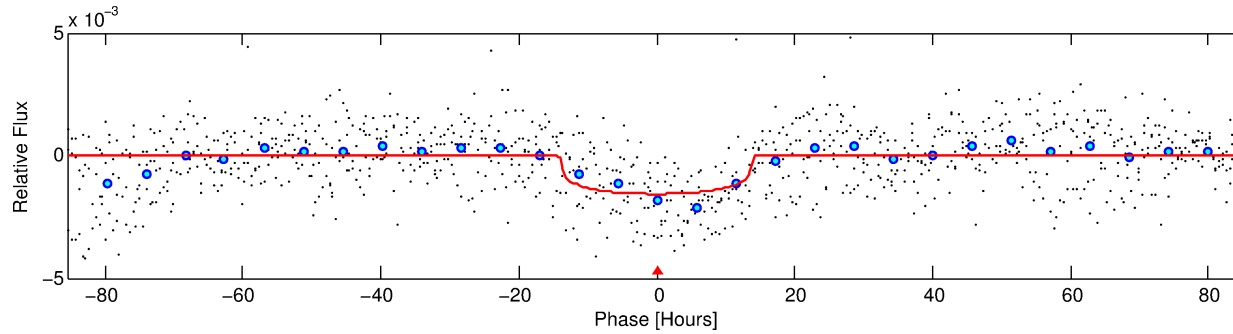
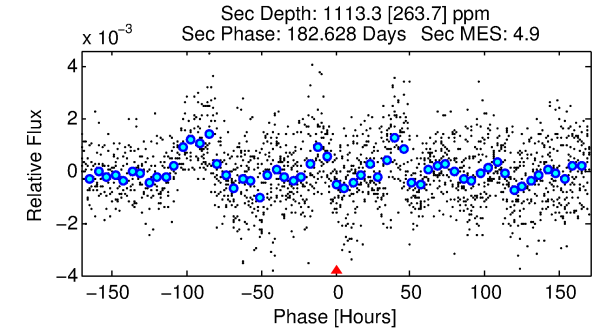
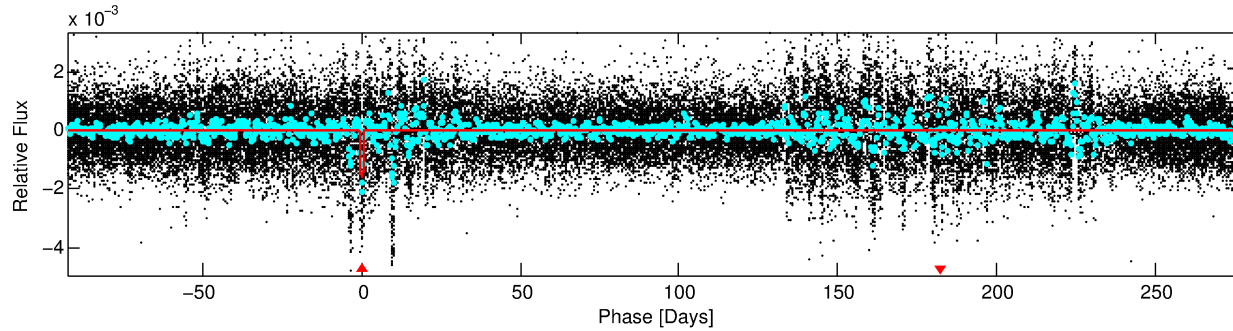
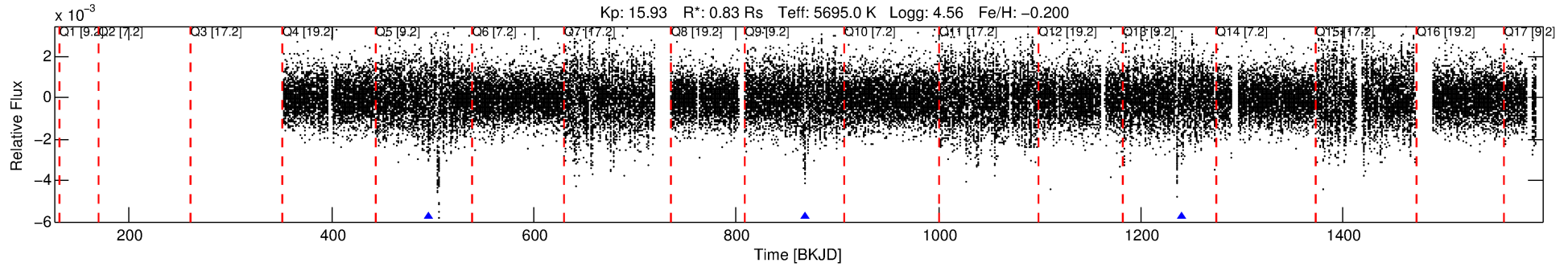
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005955282-01

No Significant Match Found

# DV One-Page Summary

KIC: 5955282 Candidate: 1 of 1 Period: 371.851 d



## DV Fit Results:

Period = 371.85111 [0.01623] d  
Epoch = 496.0009 [0.0213] BKJD  
Rp/R\* = 0.0362 [0.0078]  
a/R\* = 100.45 [88.35]  
b = 0.24 [3.40]  
Seff = 0.67 [0.21]  
Teq = 231 [18] K  
Rp = 3.26 [1.03] Re  
a = 0.9824 [0.1891] AU  
Ag = 55498.73 [31397.96] [1.77σ]  
Teff = 5470 [699] K [7.49σ]

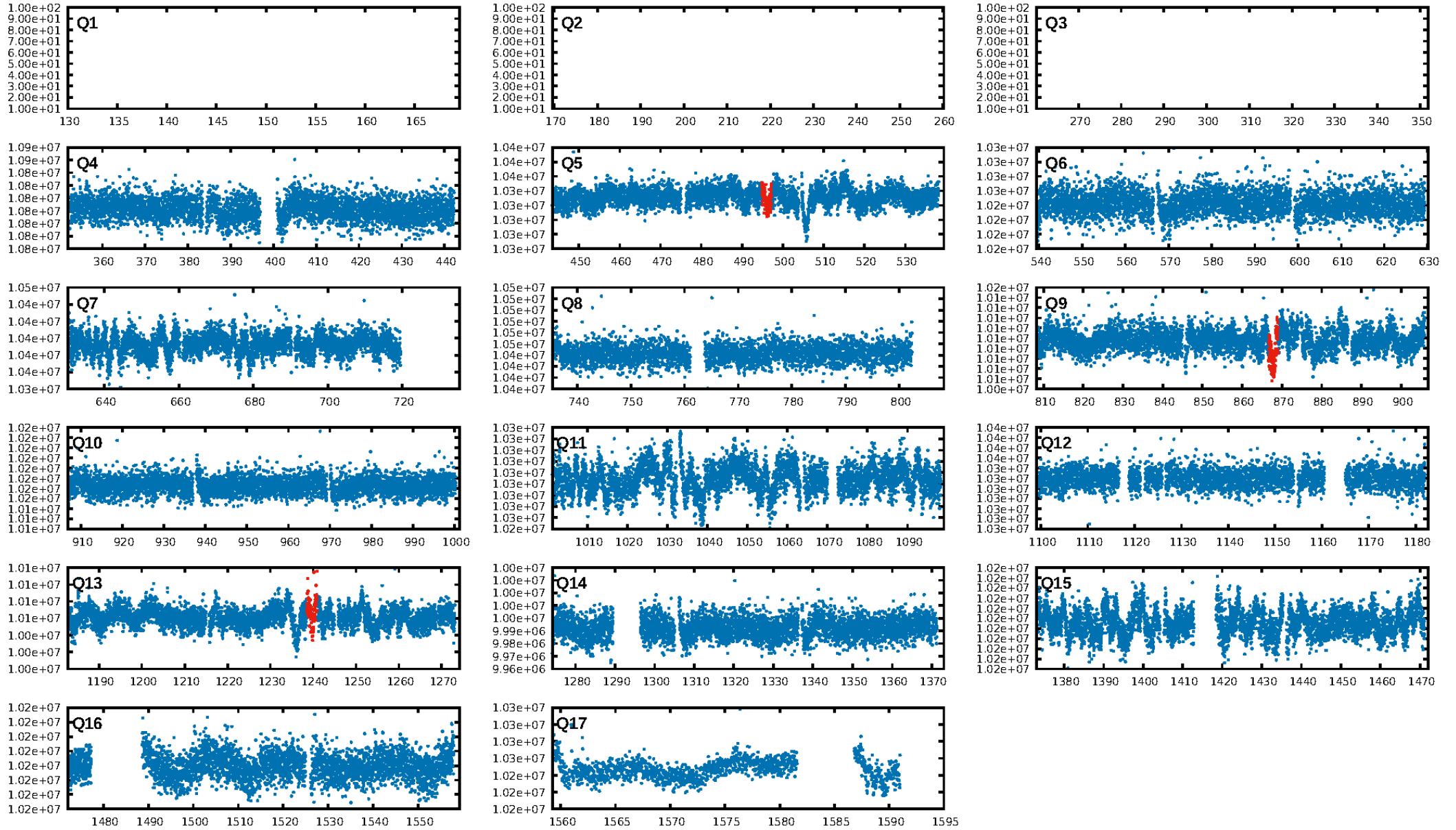
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 6.5%  
ModelChiSquareGoF-sig: 100.0%  
**Bootstrap-pfa: 4.37e-08**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -16.53  
**Centroid-sig: 0.0%**  
Centroid-so: 0.499 arcsec [0.60σ]  
**OotOffset-rm: 8.110 arcsec [50.95σ]**  
**KicOffset-rm: 4.718 arcsec [31.35σ]**  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [2/2]

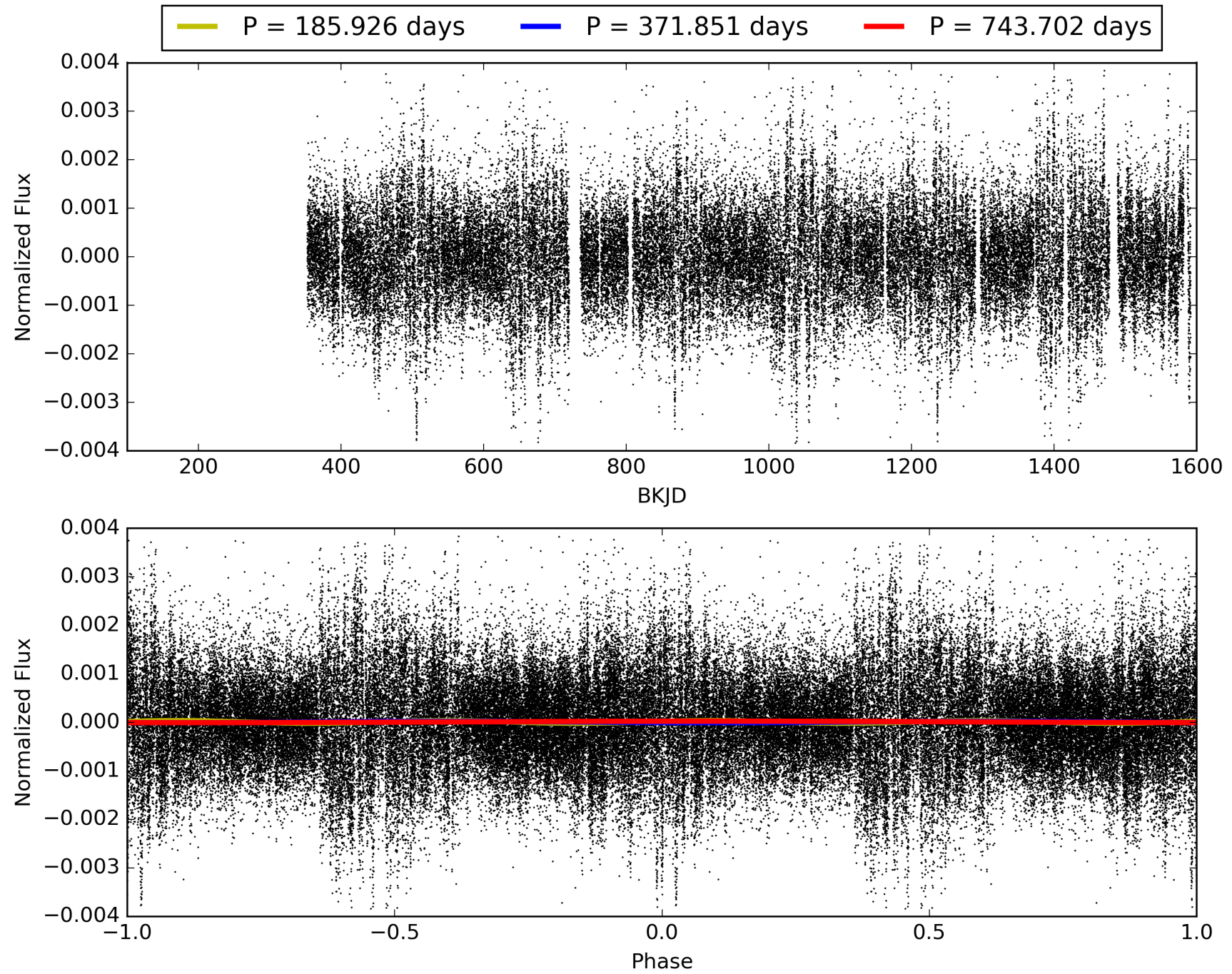
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:08:28 Z

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

# TCE 005955282-01, PDC Light Curves

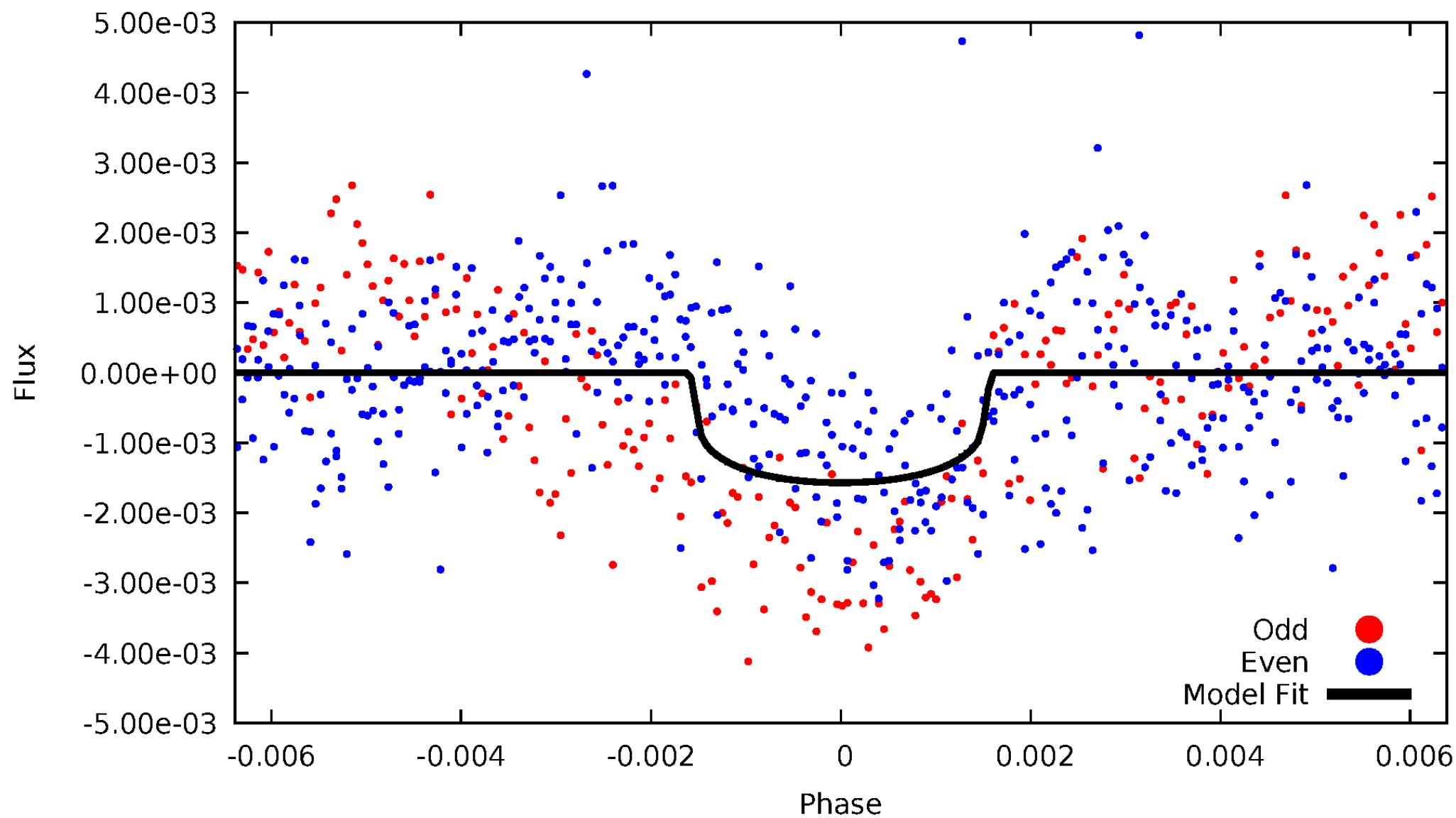


TCE 005955282-01



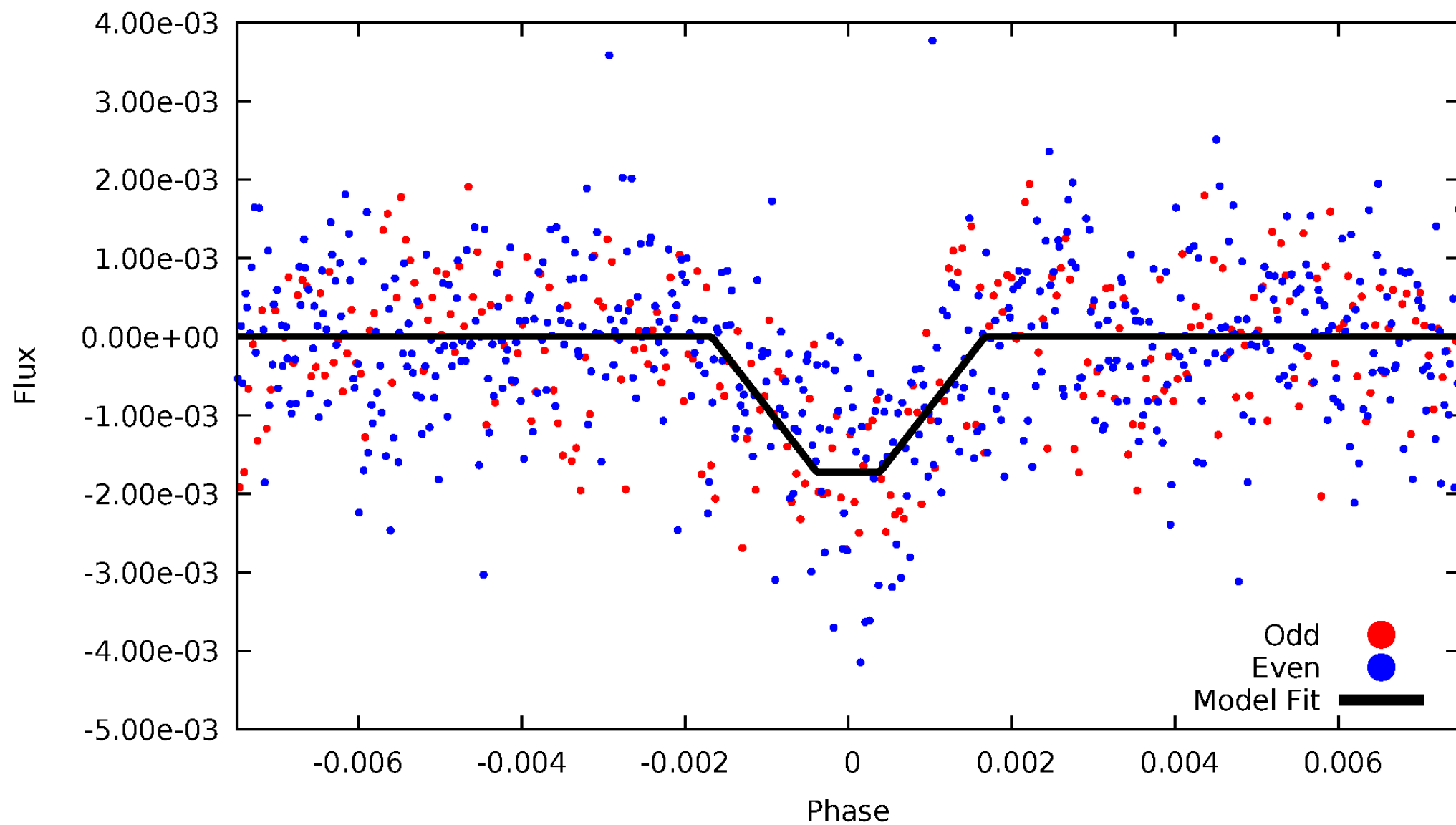
# DV Odd/Even

TCE 005955282-01



# ALT Odd/Even

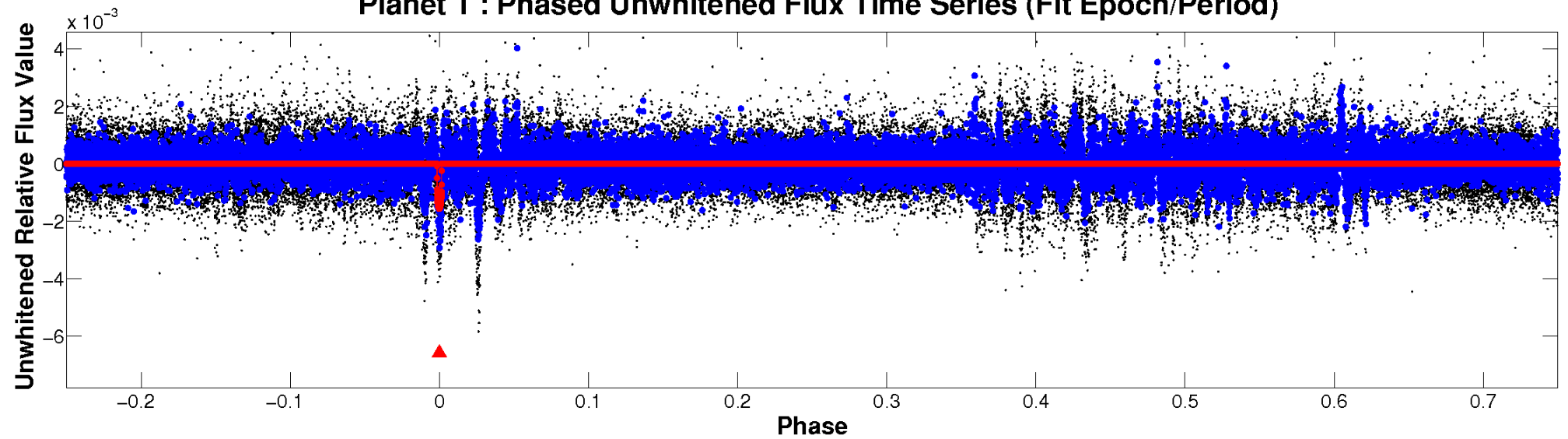
TCE 005955282-01



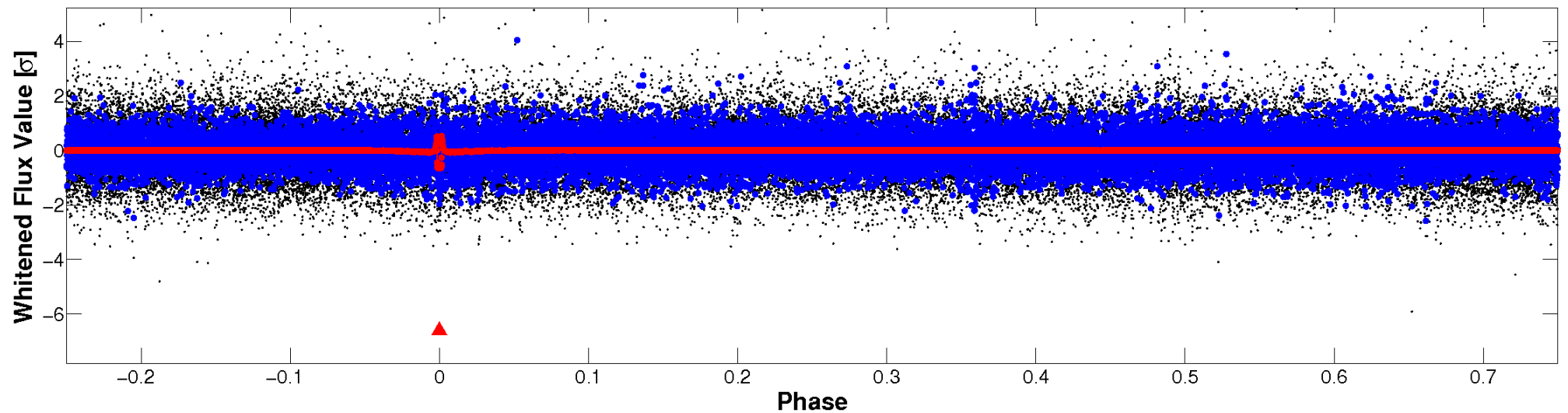


# Non-Whitened Vs. Whitened Light Curve

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

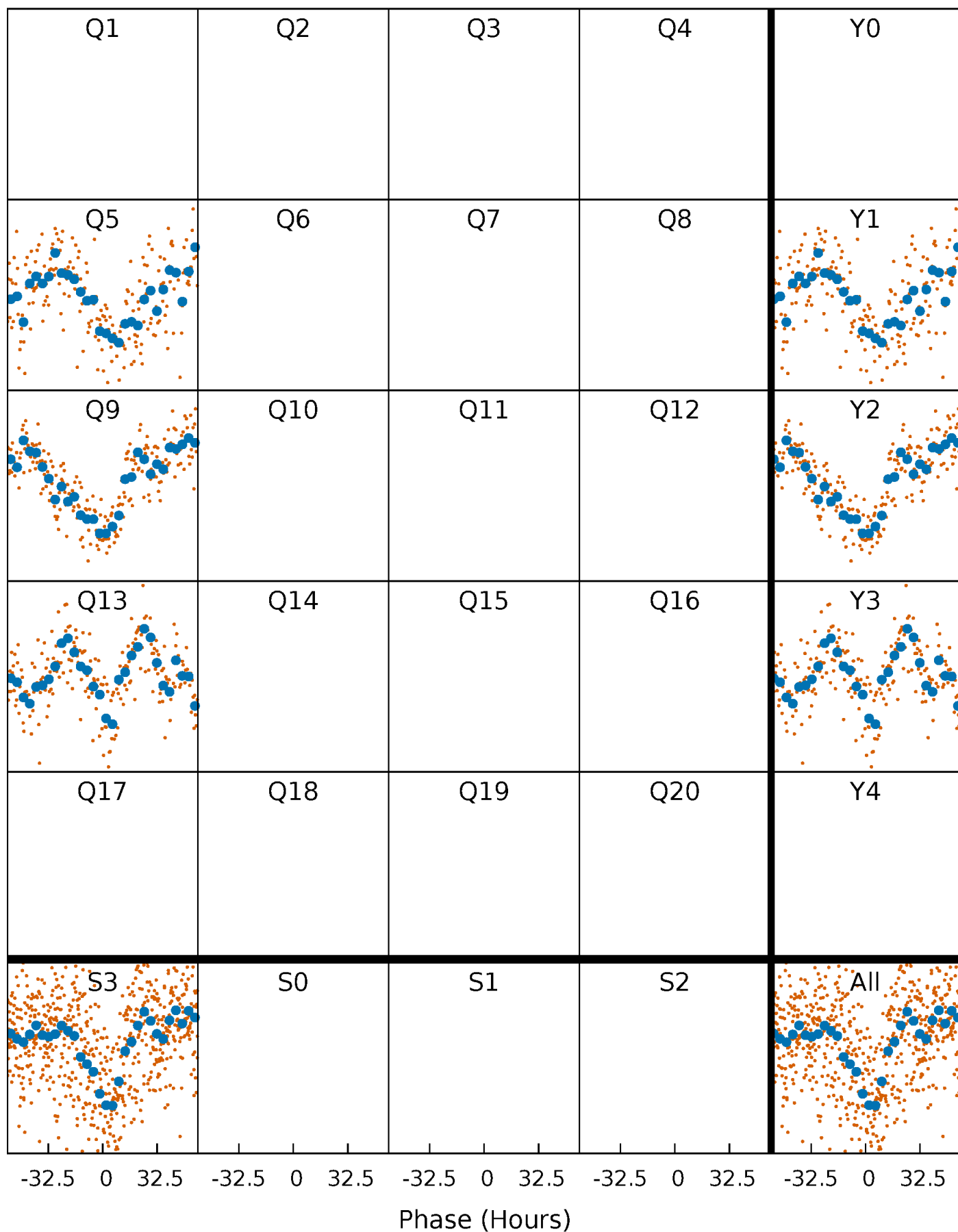


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

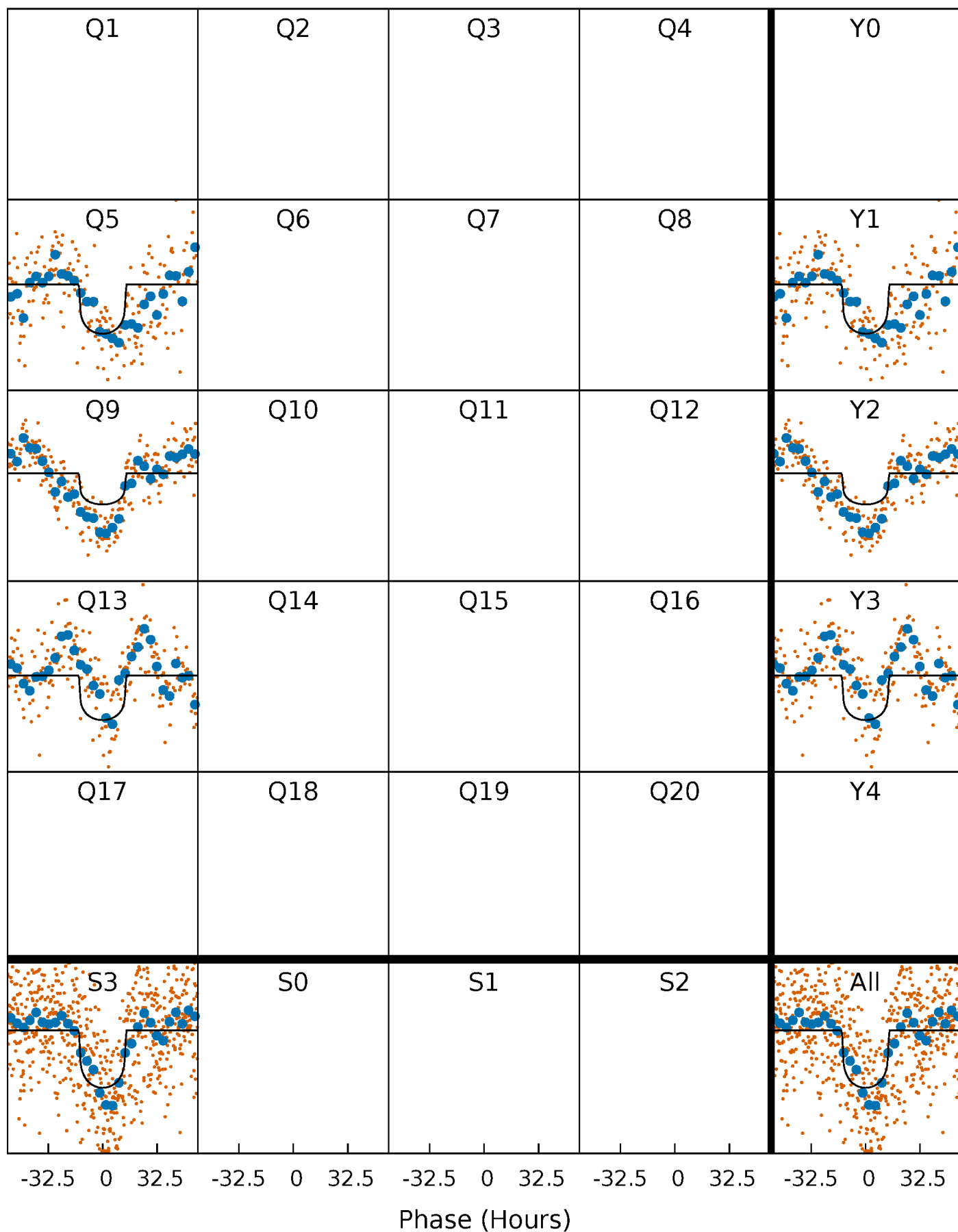
TCE 005955282-01 P=371.851114 Days  $T_0=496.000900$  (BKJD)





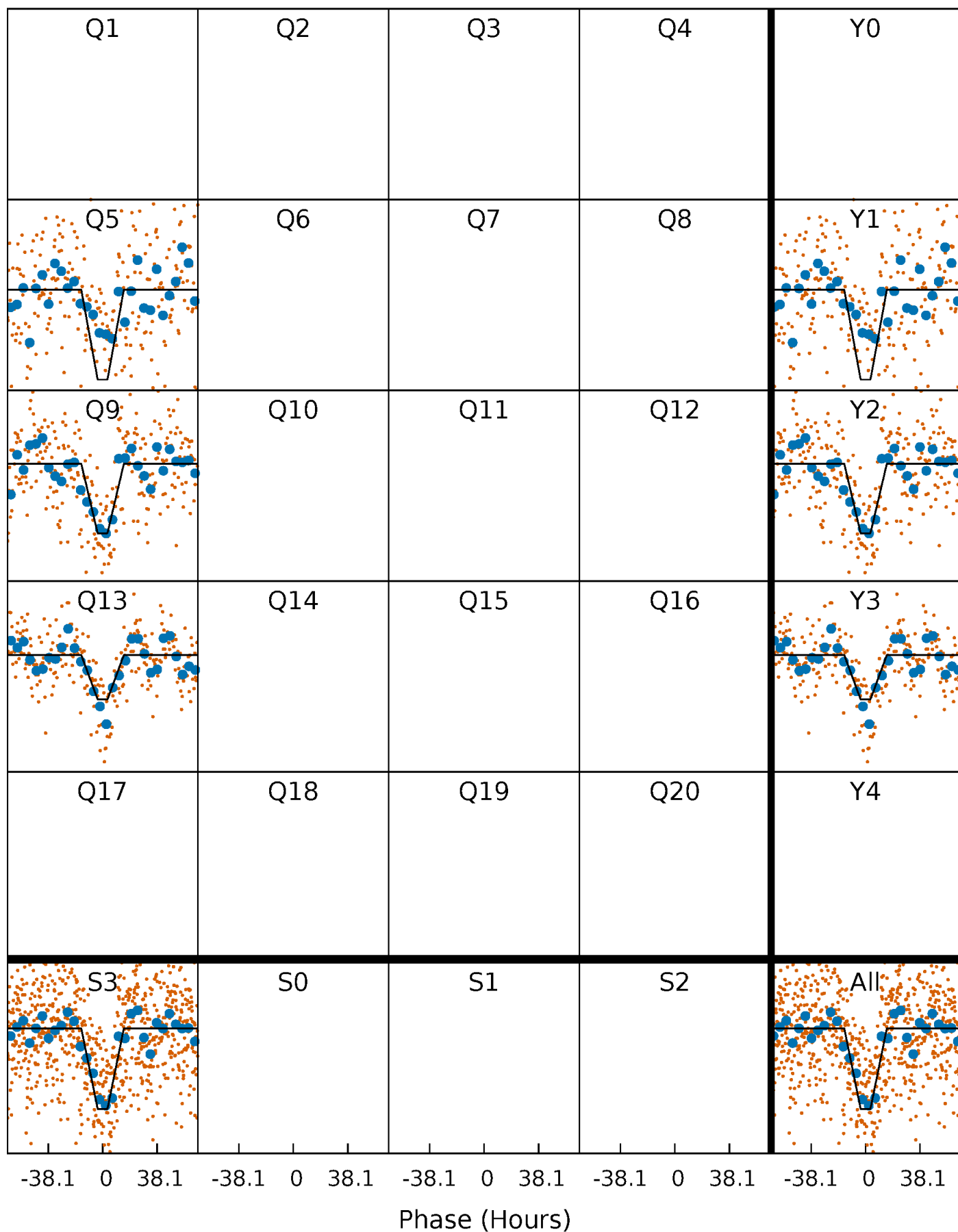
# DV Quarter-Phased Transit Curves

TCE 005955282-01 P=371.851114 Days  $T_0=496.000900$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

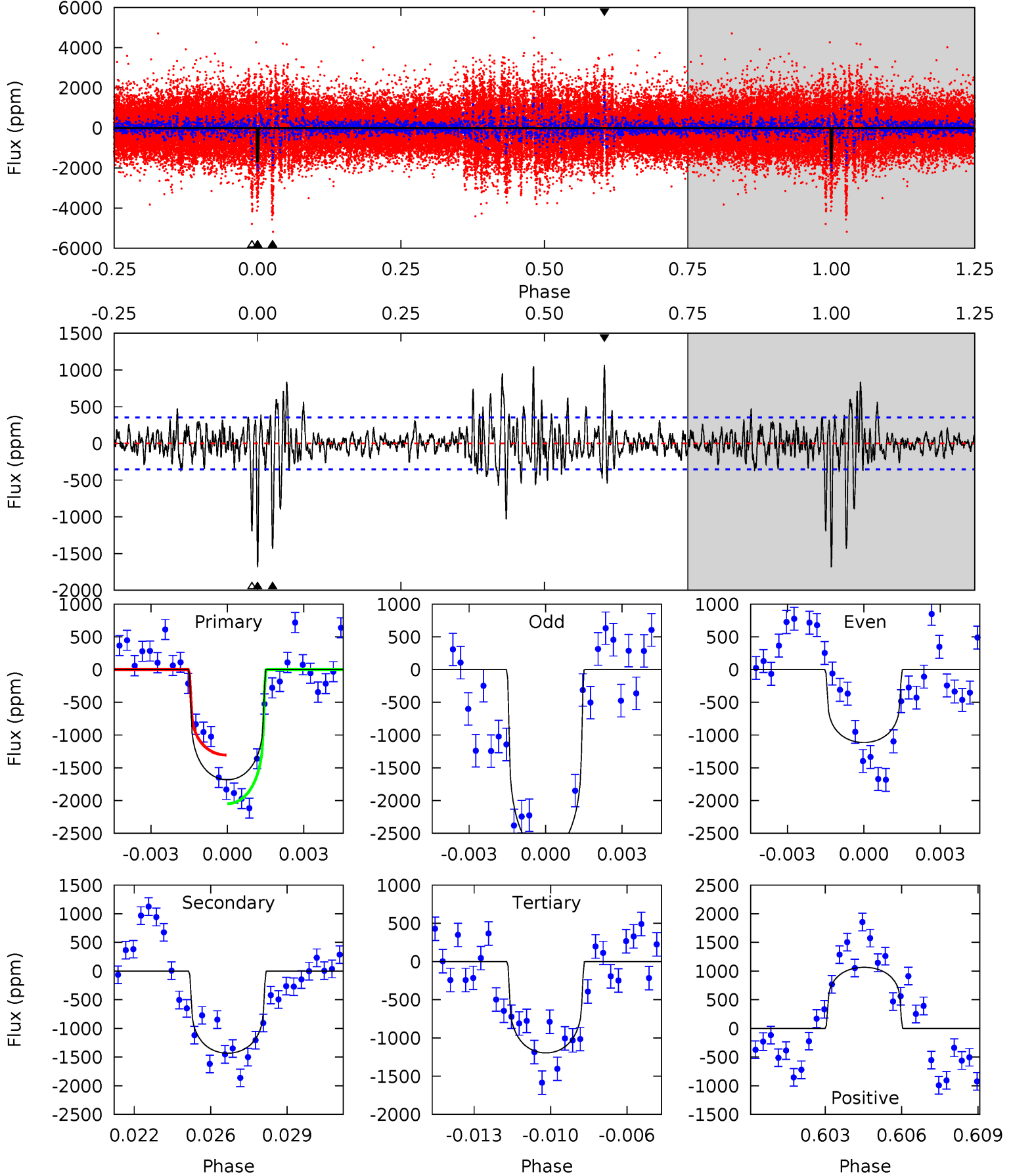
TCE 005955282-01 P=371.822680 Days  $T_0=496.149855$  (BKJD)



# DV Model-Shift Uniqueness Test

005955282-01, P = 371.851114 Days, E = 124.149786 Days

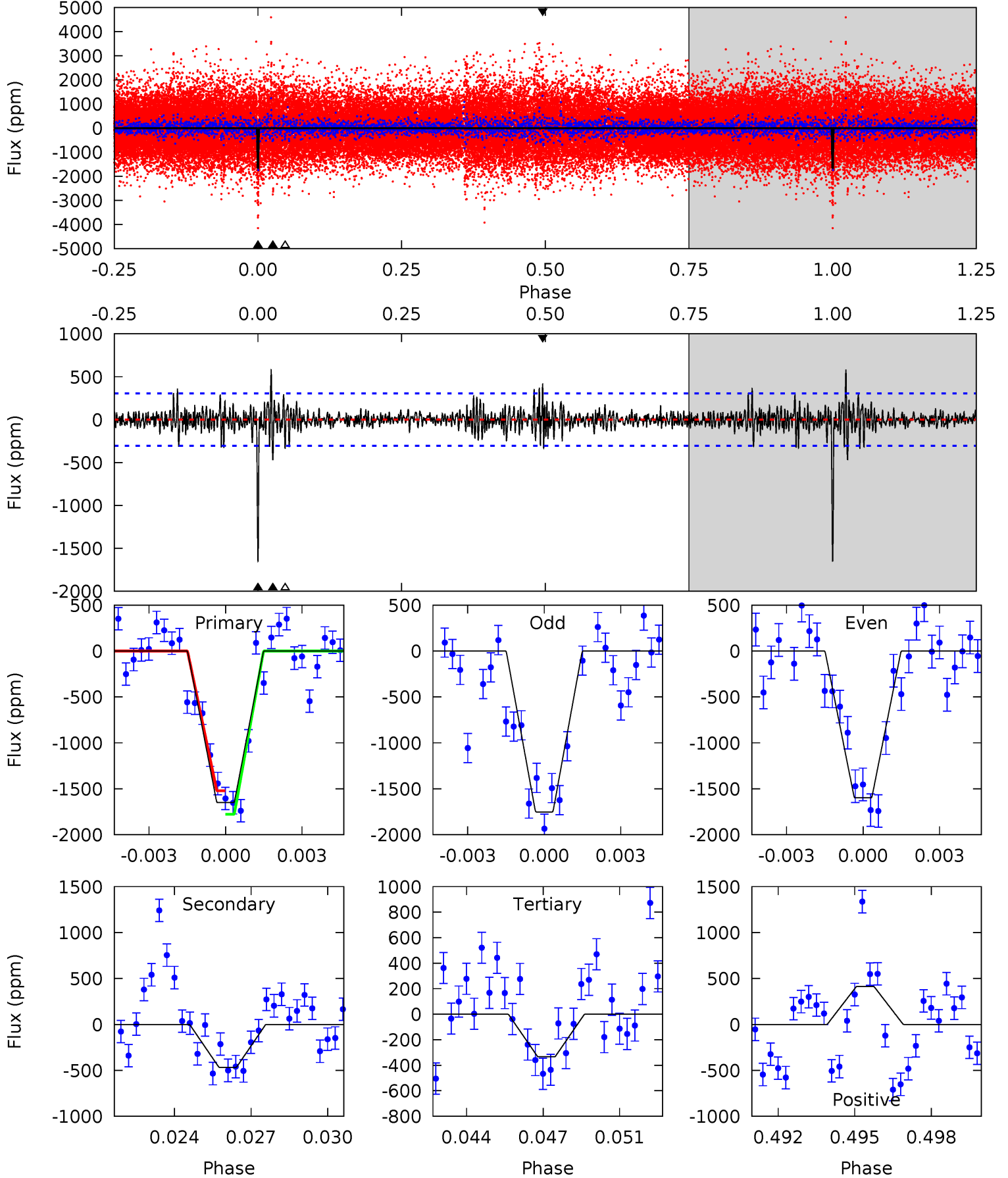
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	21.2	17.7	15.8	5.24	2.95	3.17	7.22	9.14	3.51	5.43	12.0	1.13	0.39	5.48



# Alt Model-Shift Uniqueness Test

005955282-01, P = 371.822680 Days, E = 124.327175 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
28.3	8.01	5.71	7.10	5.23	2.93	1.42	22.6	21.2	2.30	0.91	1.25	0.93	0.26	2.19



### Stellar Parameters For KIC 005955282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5695^{+178}_{-198}$	$4.564^{+0.038}_{-0.152}$	$-0.200^{+0.300}_{-0.300}$	$0.827^{+0.190}_{-0.068}$	$0.918^{+0.092}_{-0.112}$	$2.287^{+0.468}_{-0.982}$
	+3%/-3%	+1%/-3%	+150%/-150%	+23%/-8%	+10%/-12%	+20%/-43%
Source	KIC0	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 005955282-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-1433 \pm 67$	$3.41^{+0.77}_{-0.83}$	$328^{+17}_{-15}$	$5822^{+765}_{-602}$	$63999^{+45314}_{-21134}$
Alt.	$-467 \pm 58$	$3.80^{+0.91}_{-0.76}$	$328^{+18}_{-14}$	$4350^{+407}_{-324}$	$16506^{+9997}_{-5691}$

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

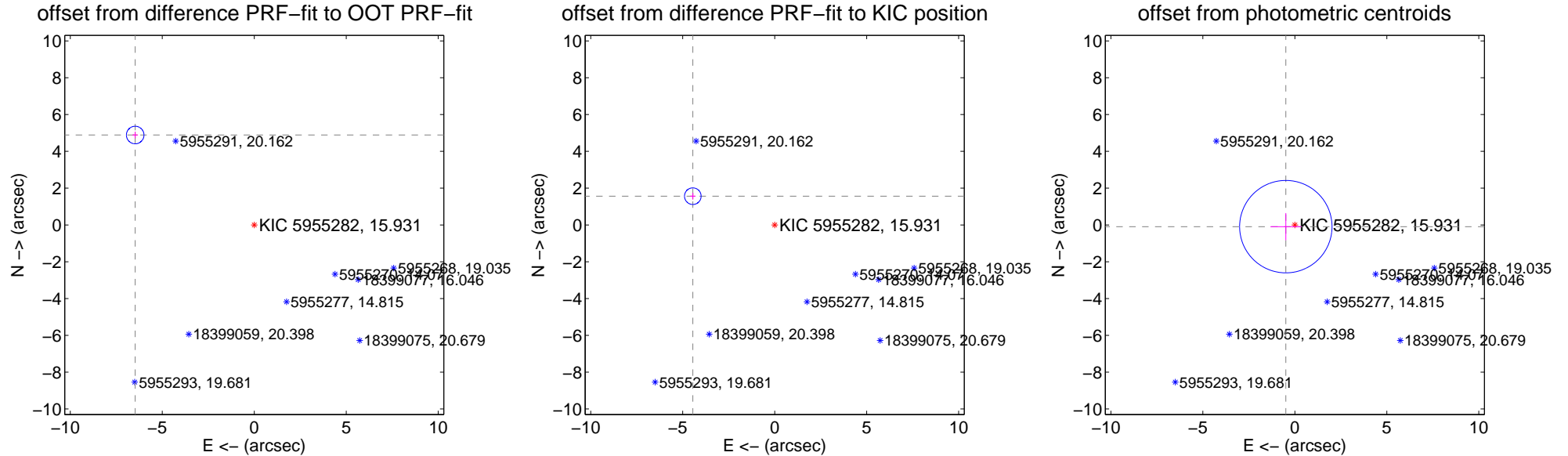
## DV Centroid Data

Supplemental centroid analysis for 005955282-01. Kepler magnitude: 15.93. Transit SNR 8.06

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.89 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$8.110 \pm 0.159$	50.95	$6.472 \pm 0.147$	$4.887 \pm 0.179$
PRF-fit source offset from KIC position	$4.718 \pm 0.150$	31.35	$4.451 \pm 0.147$	$1.563 \pm 0.179$
photometric centroid source offset	$0.50 \pm 0.84$	0.60	$0.49 \pm 0.84$	$-0.09 \pm 0.74$



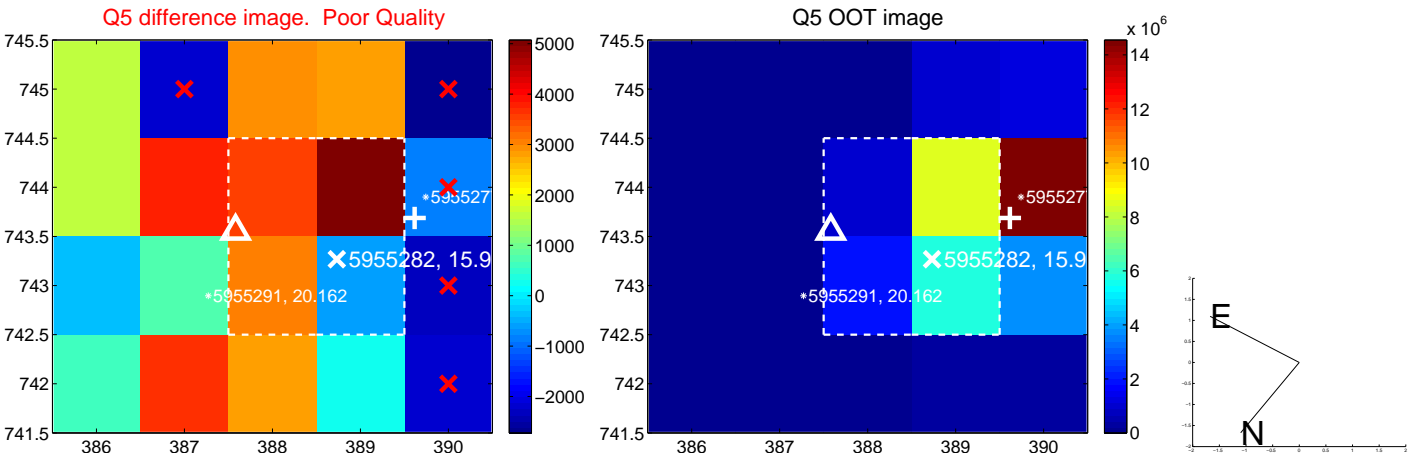
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



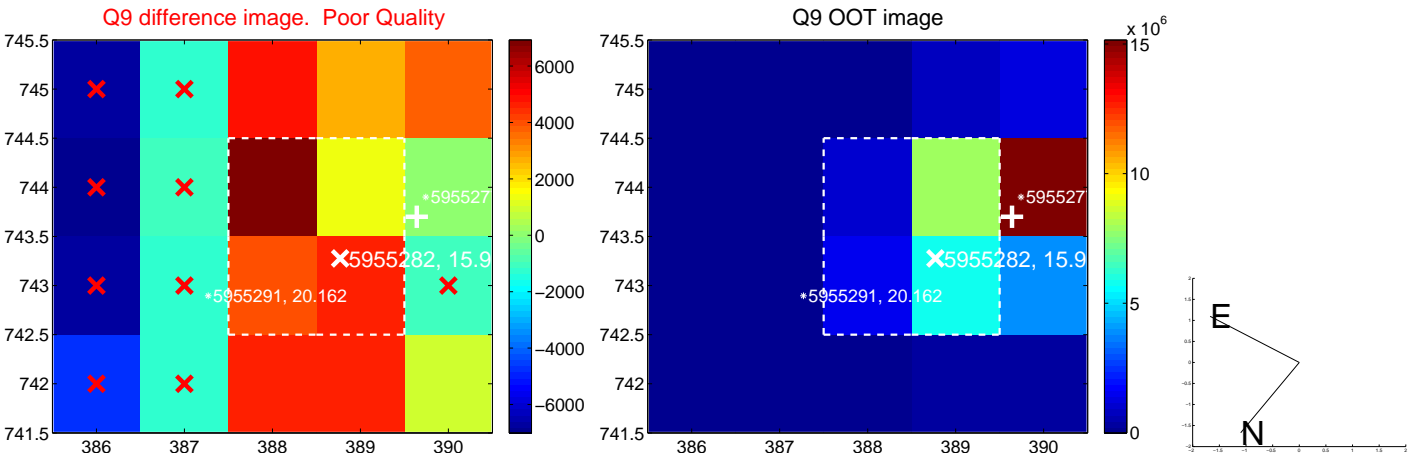
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



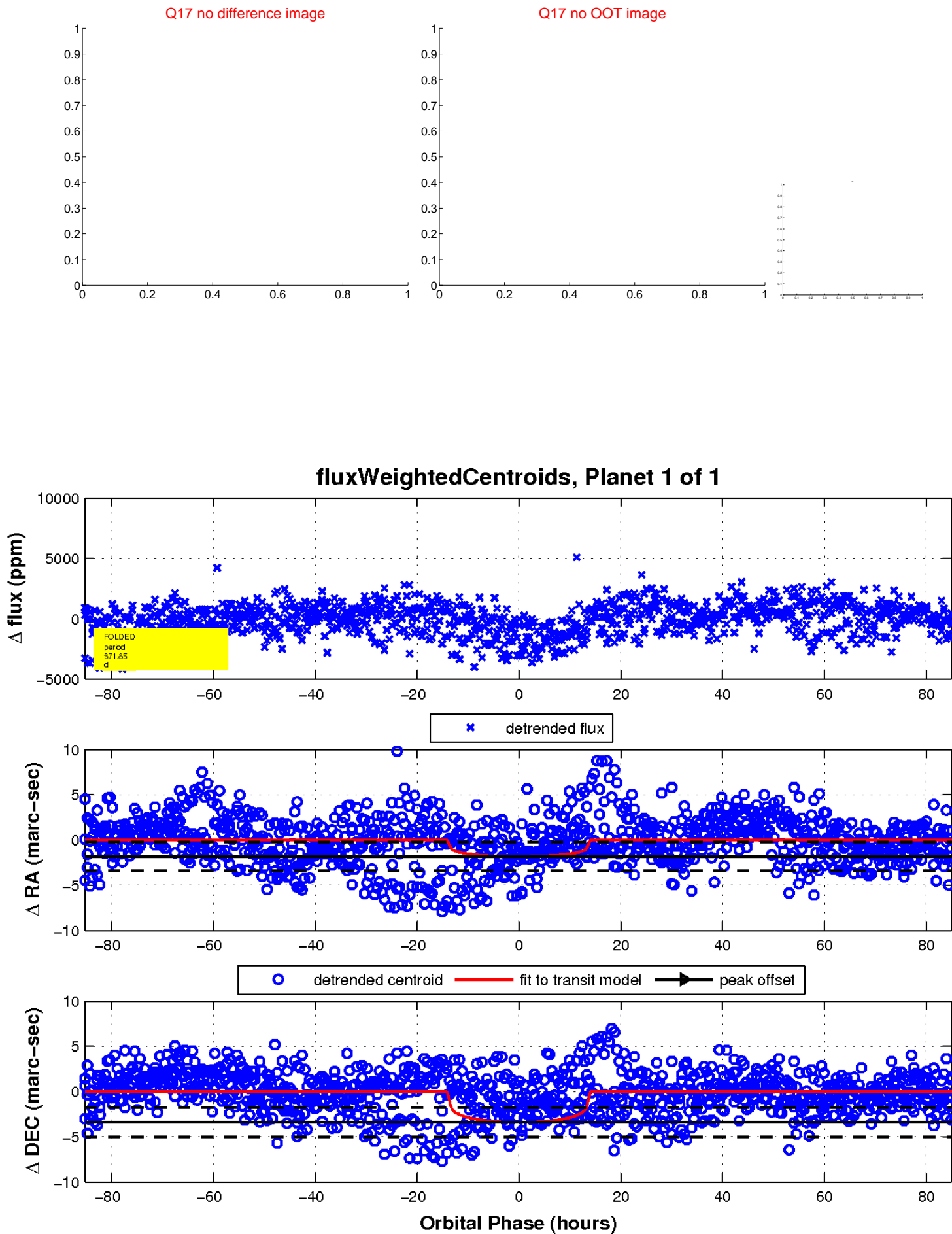
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



UKIRT Image

Declination

