

# KIC 008171726

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008171726-01	OBS	No	371.897506	172.343582	1584.6	16.927	8.8	8.4	1.02	6137	5.00	1.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008171726-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—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.

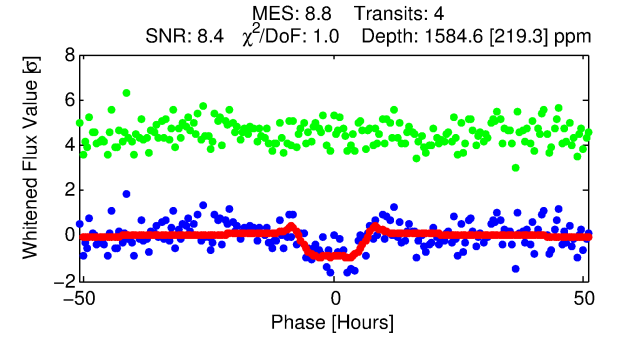
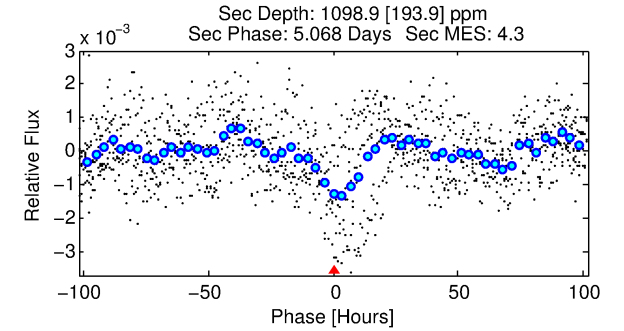
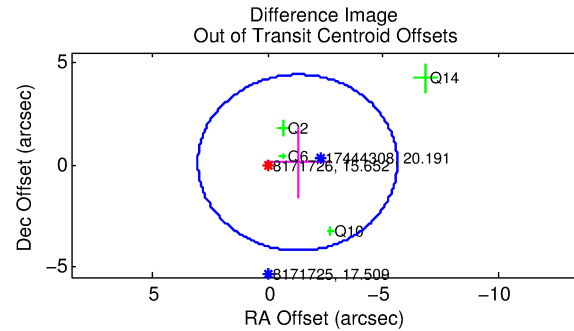
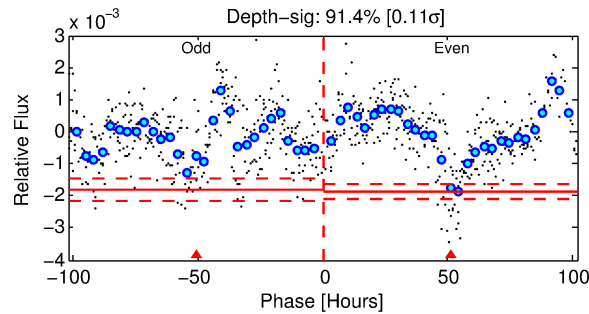
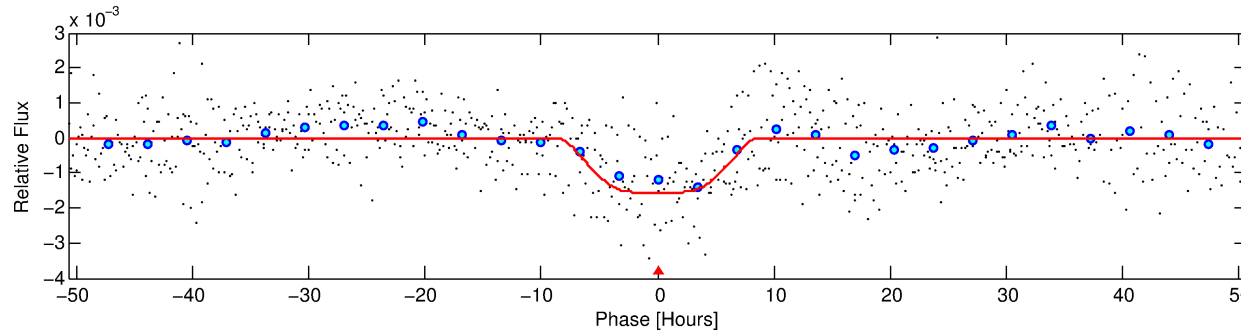
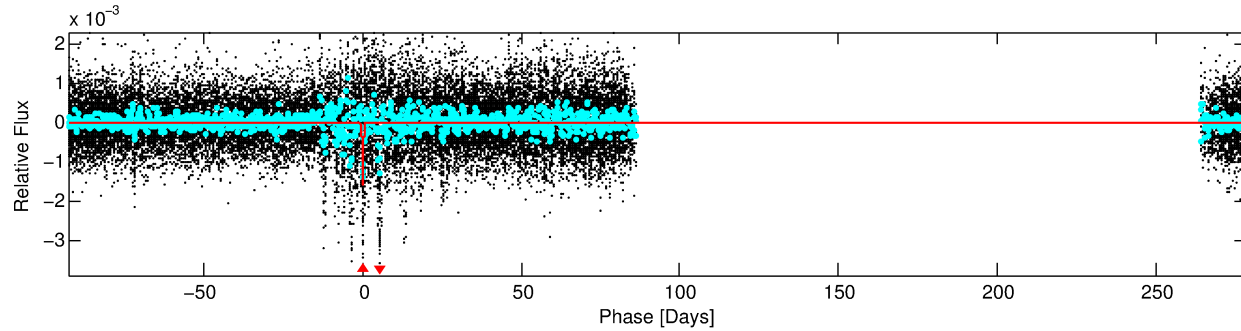
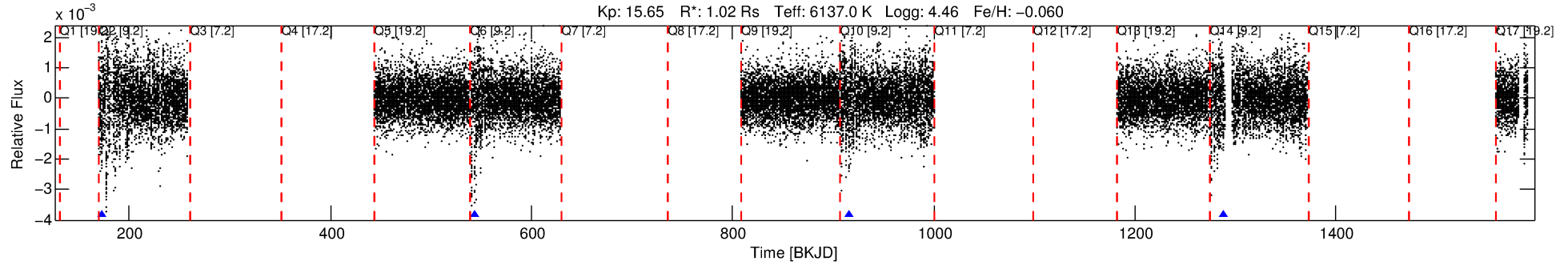
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008171726-01

No Significant Match Found

# DV One-Page Summary

KIC: 8171726 Candidate: 1 of 1 Period: 371.898 d



## DV Fit Results:

Period = 371.89751 [0.01649] d  
Epoch = 172.3436 [0.0310] BKJD  
Rp/R\* = 0.0450 [0.0037]  
a/R\* = 77.06 [10.42]  
b = 0.94 [0.02]  
Seff = 1.21 [0.47]  
Teq = 268 [26] K  
Rp = 5.00 [1.56] Re  
a = 1.0419 [0.2578] AU  
Ag = 26233.91 [11194.27] [2.34 $\sigma$ ]  
Teffp = 5266 [377] K [13.23 $\sigma$ ]

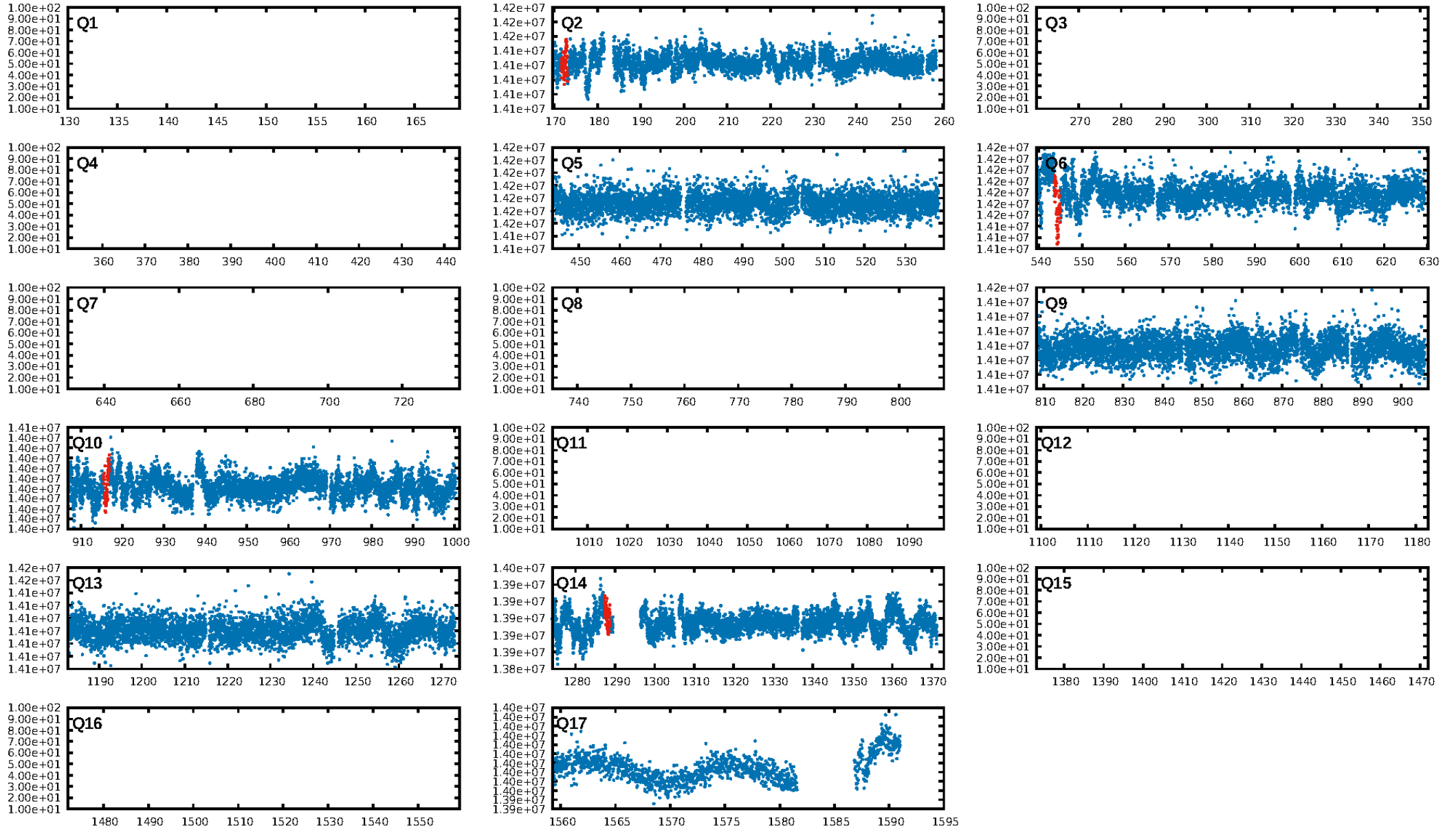
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.2%  
ModelChiSquareGof-sig: 99.0%  
Bootstrap-pfa: 2.91e-09  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 3.61  
Centroid-sig: 0.0%  
Centroid-so: 6.861 arcsec [3.26 $\sigma$ ]  
OotOffset-rm: 1.298 arcsec [0.90 $\sigma$ ]  
KicOffset-rm: 1.328 arcsec [0.90 $\sigma$ ]  
OotOffset-st: 4/0/0/0 [4]  
KicOffset-st: 4/0/0/0 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 1.00 [4/4]

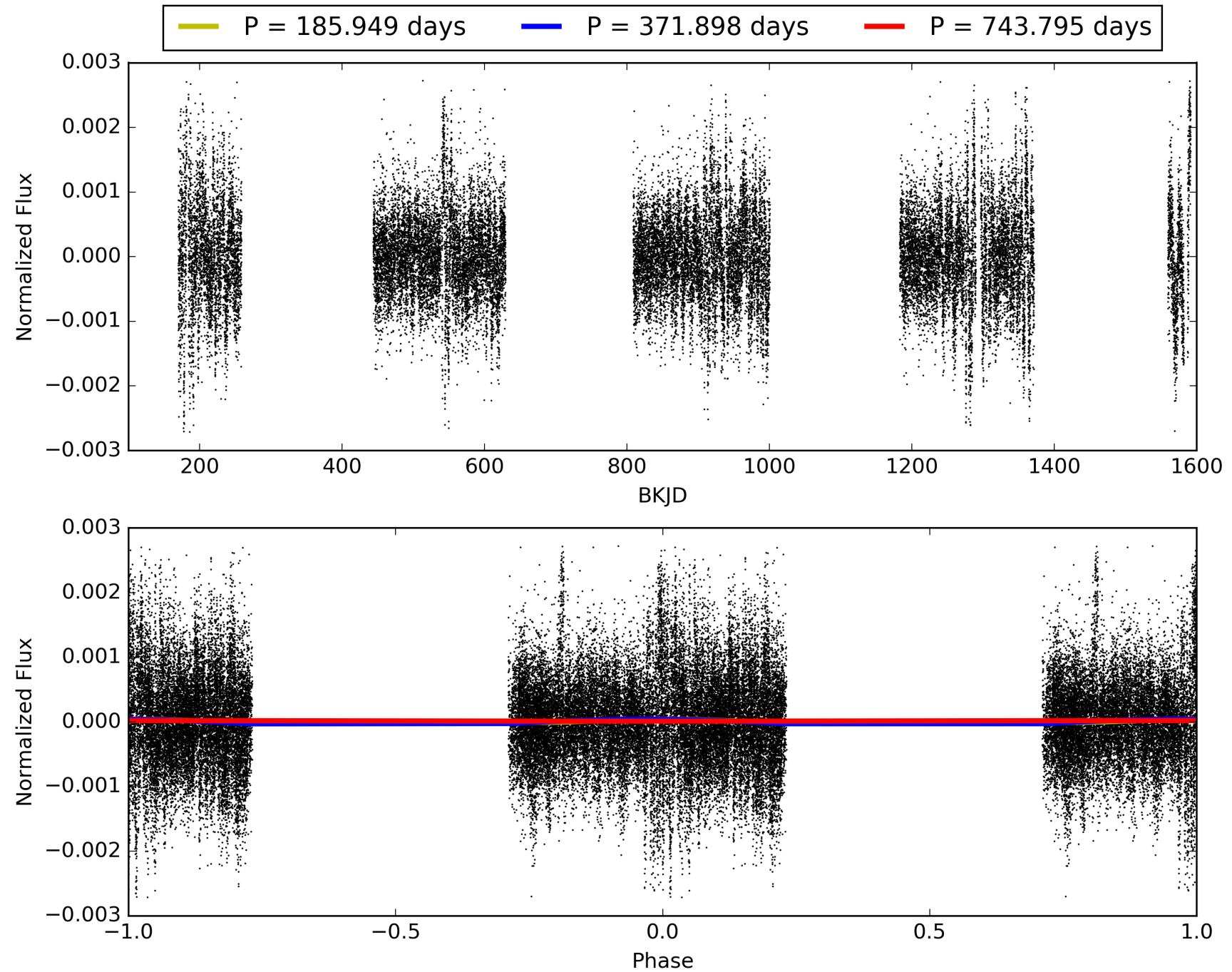
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:18:01 Z

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

# TCE 008171726-01, PDC Light Curves

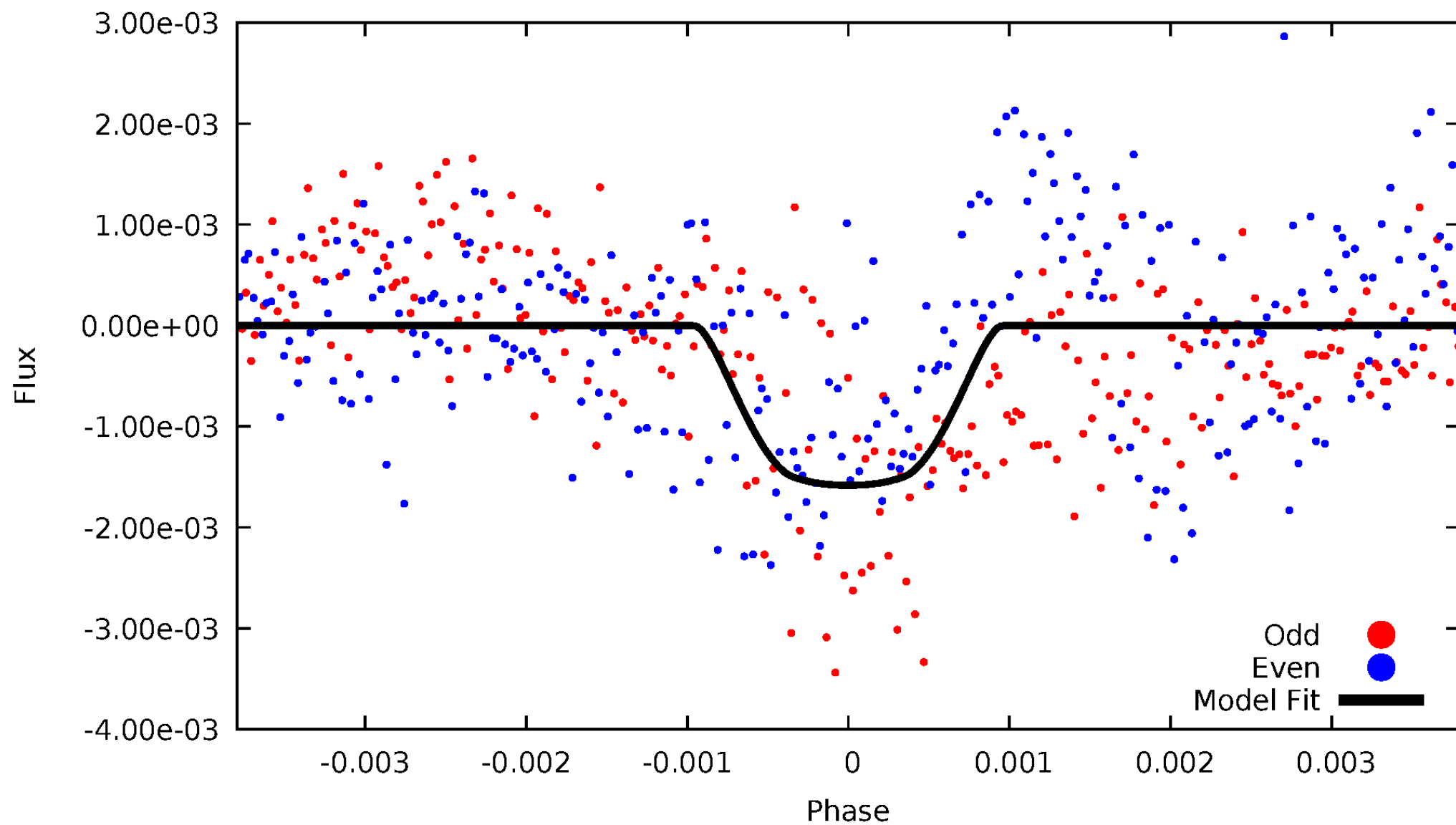


# TCE 008171726-01



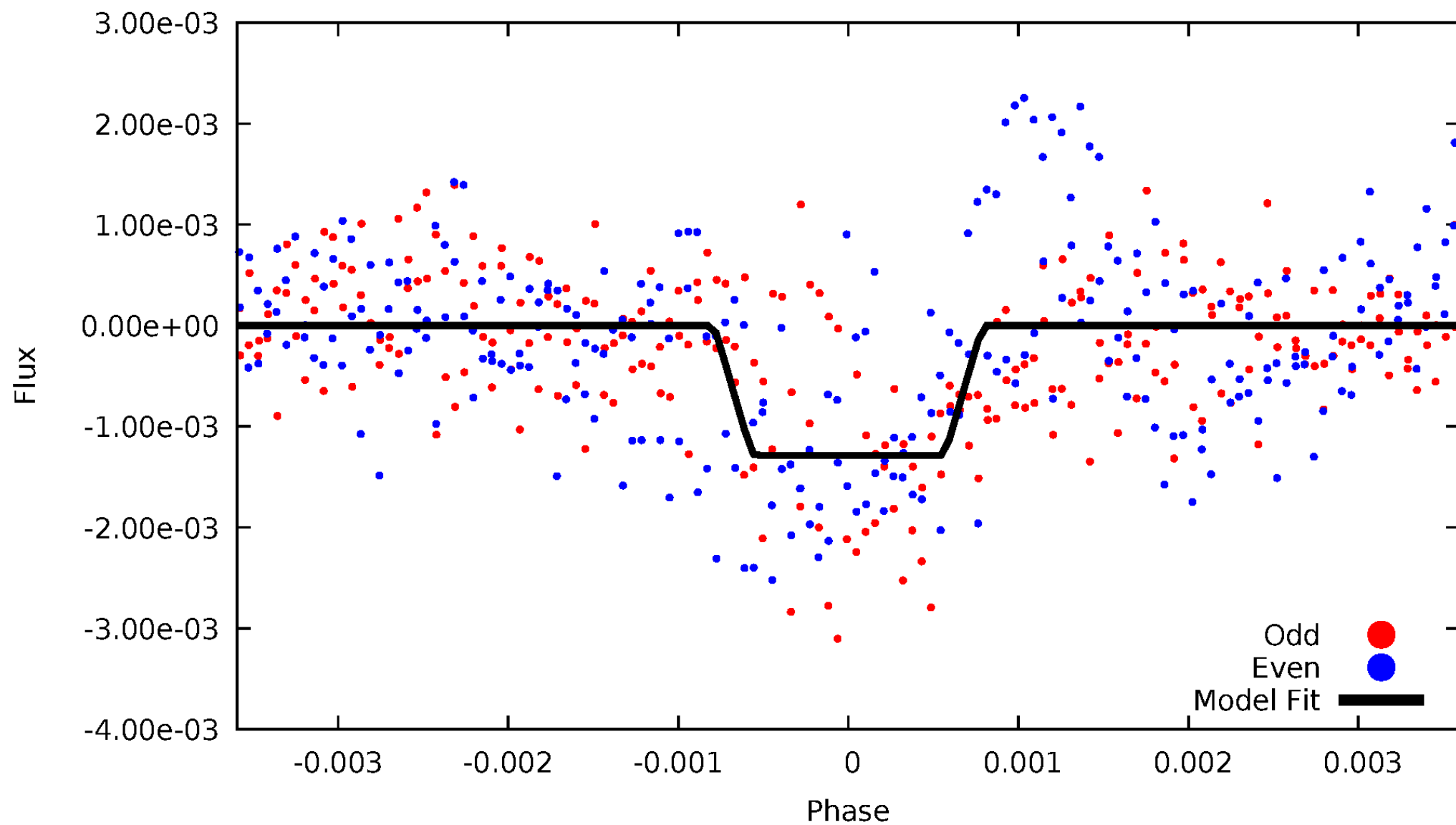
# DV Odd/Even

TCE 008171726-01



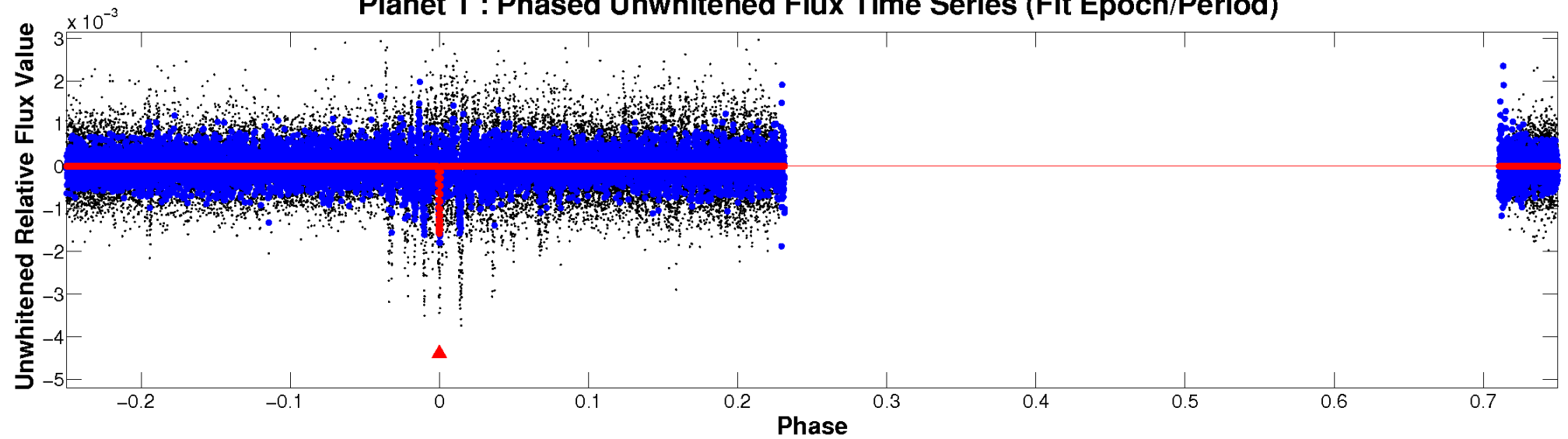
# ALT Odd/Even

TCE 008171726-01

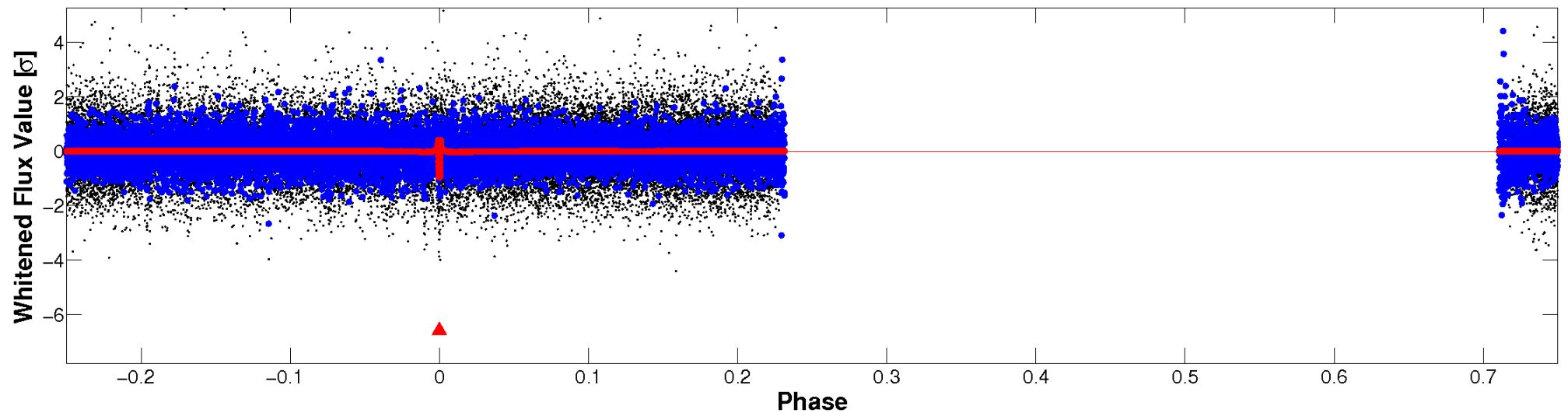


# Non-Whitened Vs. Whitened Light Curve

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

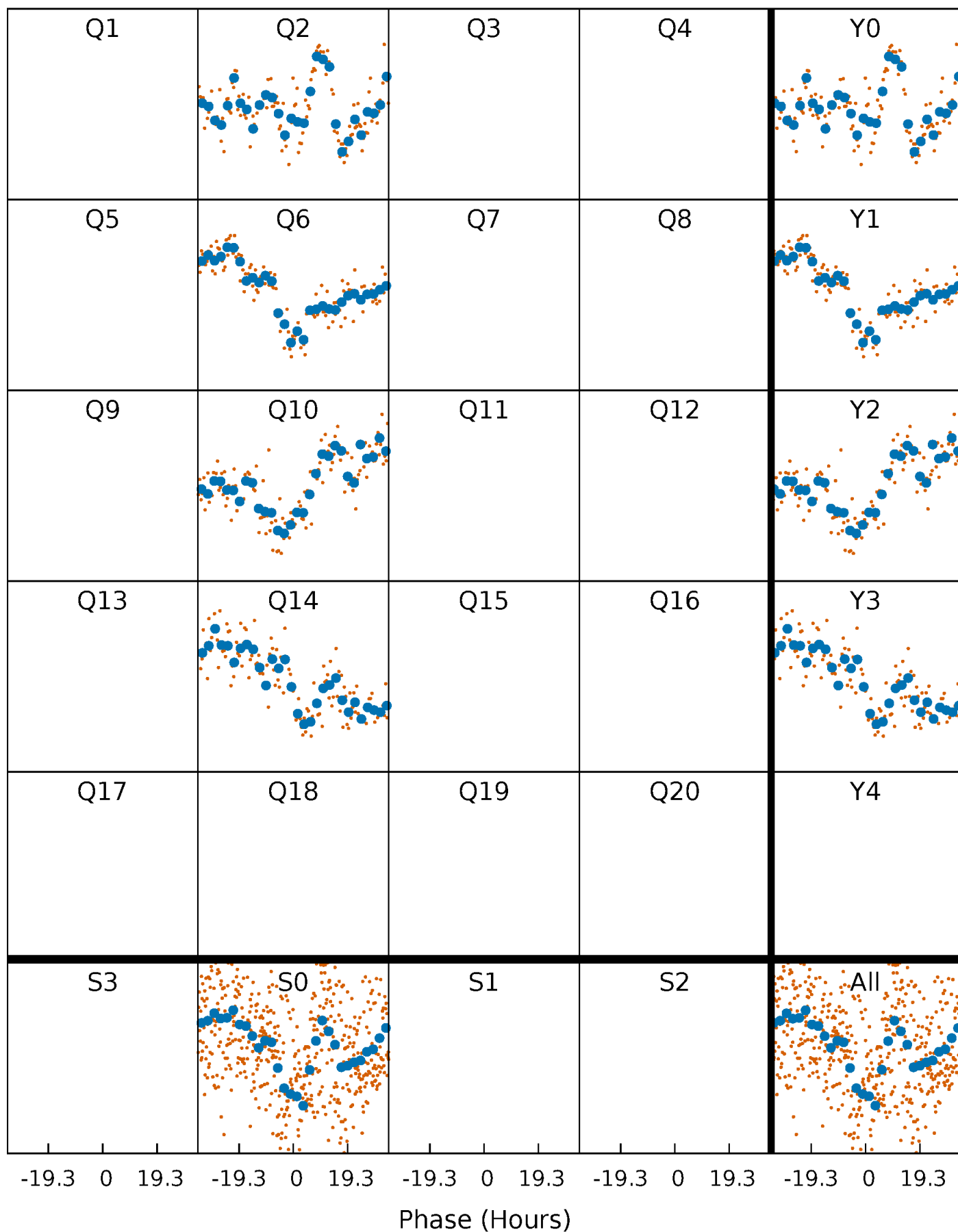


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

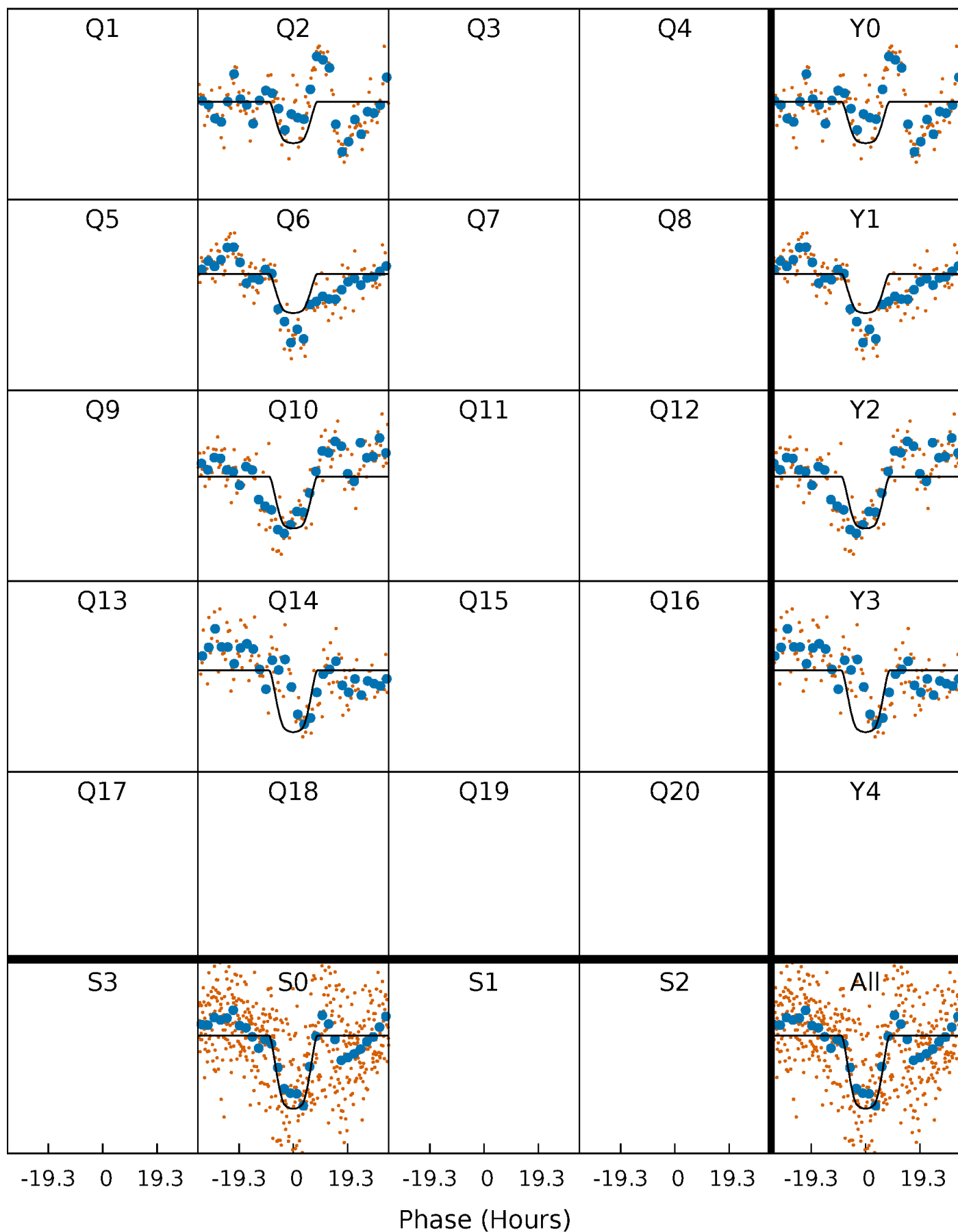
TCE 008171726-01 P=371.897506 Days  $T_0=172.343582$  (BKJD)





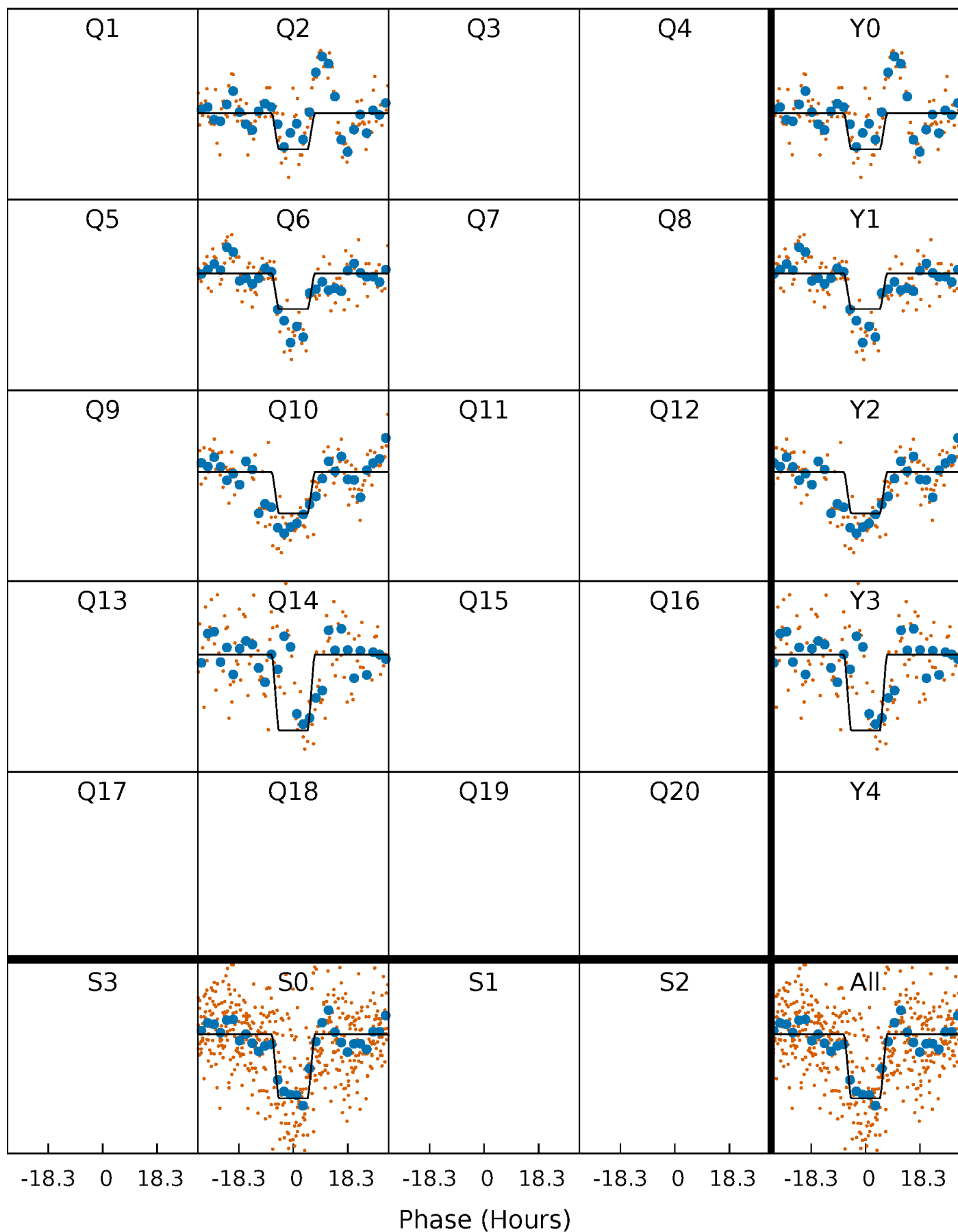
# DV Quarter-Phased Transit Curves

TCE 008171726-01 P=371.897506 Days  $T_0=172.343582$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

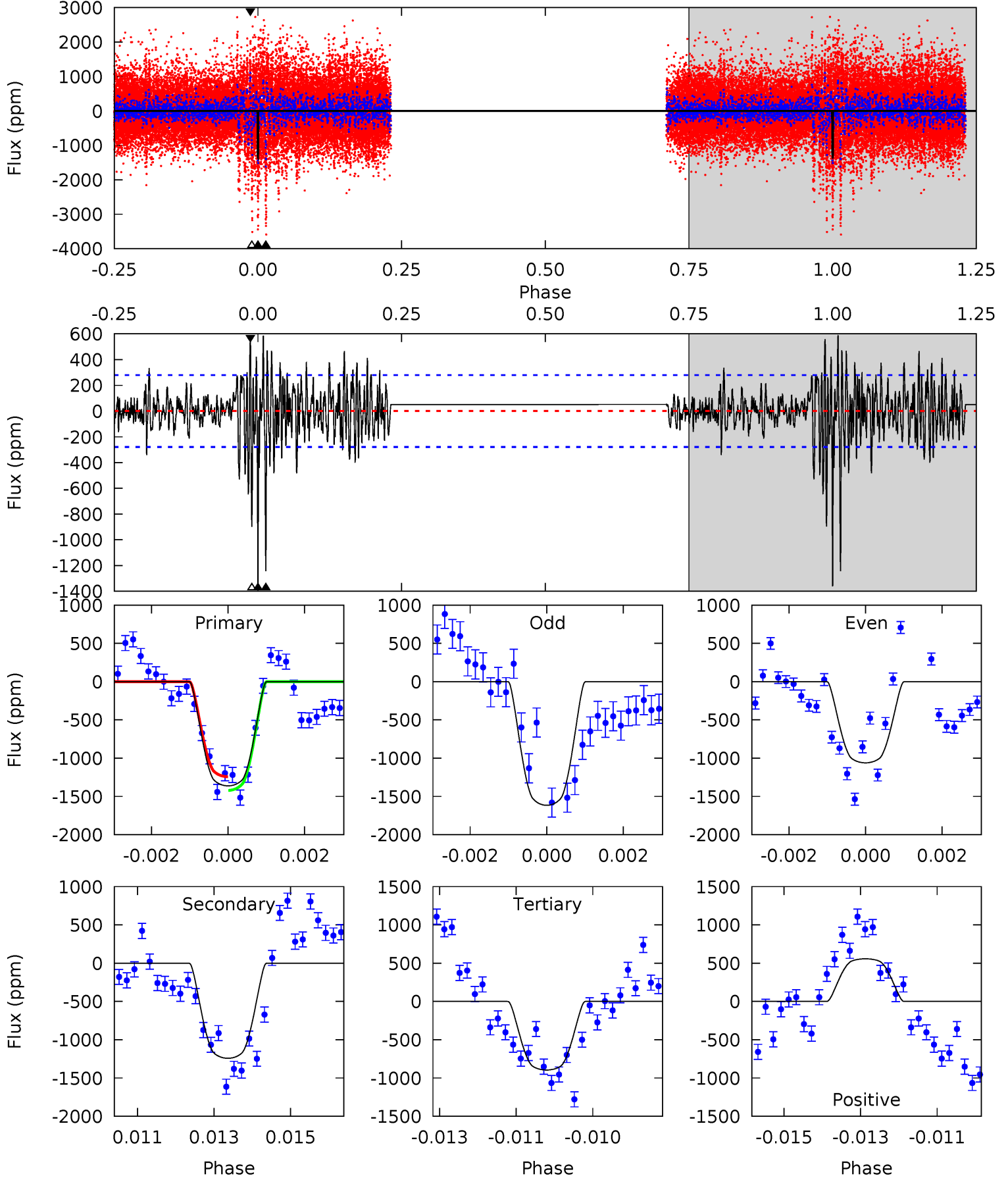
TCE 008171726-01 P=371.890792 Days  $T_0=172.343792$  (BKJD)



# DV Model-Shift Uniqueness Test

008171726-01, P = 371.897506 Days, E = 172.343582 Days

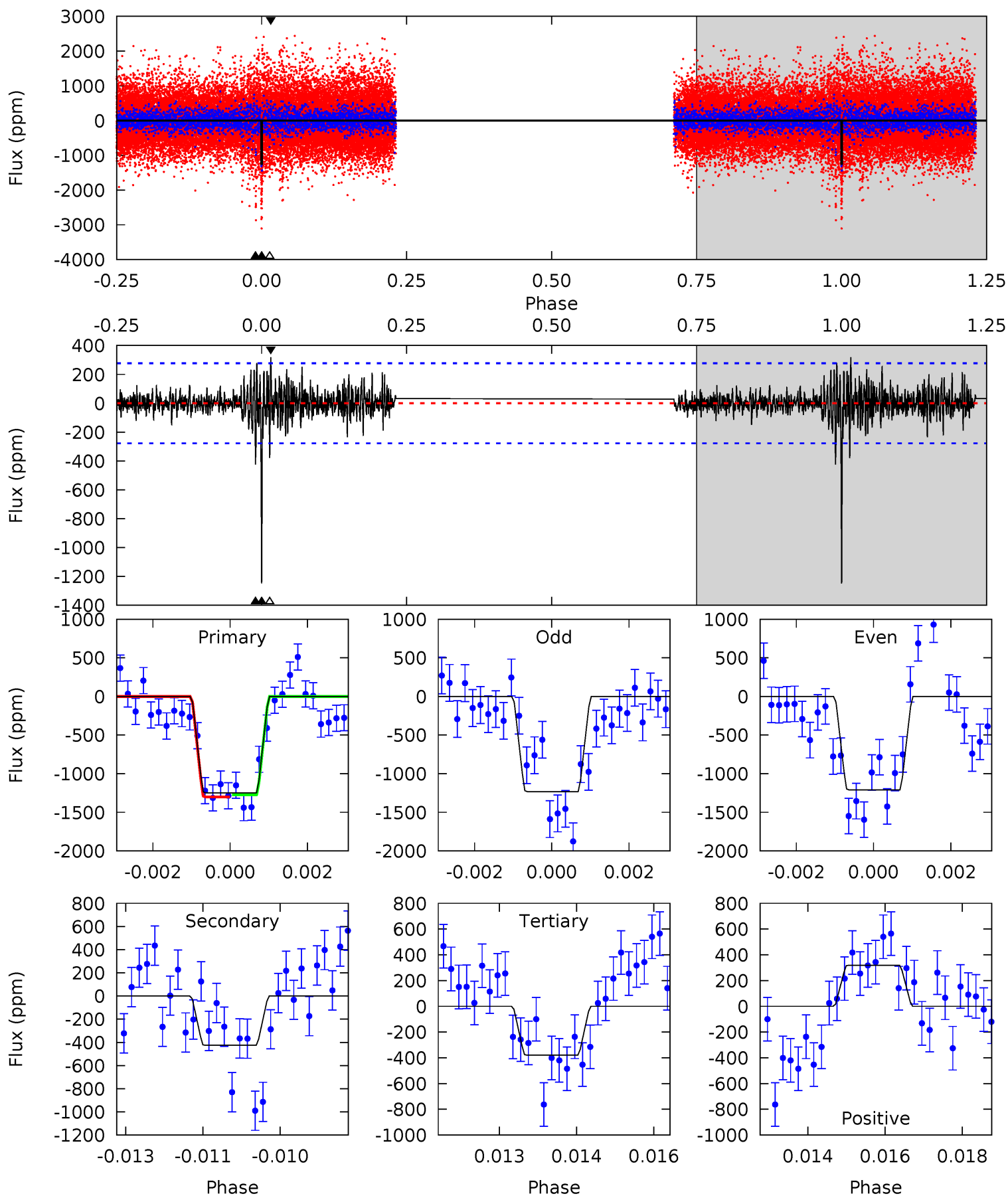
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.1	23.8	17.1	10.7	5.34	3.10	3.09	8.93	15.4	6.64	13.1	5.29	1.22	0.30	1.70



# Alt Model-Shift Uniqueness Test

008171726-01, P = 371.890792 Days, E = 172.343792 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
24.1	8.22	7.33	6.16	5.37	3.16	1.35	16.8	18.0	0.89	2.07	0.22	1.01	0.20	0.26



### Stellar Parameters For KIC 008171726

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6137^{+193}_{-236}$	$4.460^{+0.062}_{-0.188}$	$-0.060^{+0.250}_{-0.300}$	$1.018^{+0.307}_{-0.123}$	$1.086^{+0.139}_{-0.153}$	$1.452^{+0.467}_{-0.690}$
	+3%/-4%	+1%/-4%	+417%/-500%	+30%/-12%	+13%/-14%	+32%/-48%
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 008171726-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1242 \pm 52$	$5.13^{+0.84}_{-0.57}$	$380^{+24}_{-21}$	$5440^{+312}_{-241}$	$27607^{+6884}_{-6581}$
Alt.	$-425 \pm 52$	$4.11^{+0.68}_{-0.56}$	$380^{+25}_{-20}$	$4763^{+255}_{-248}$	$14578^{+4812}_{-3796}$

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

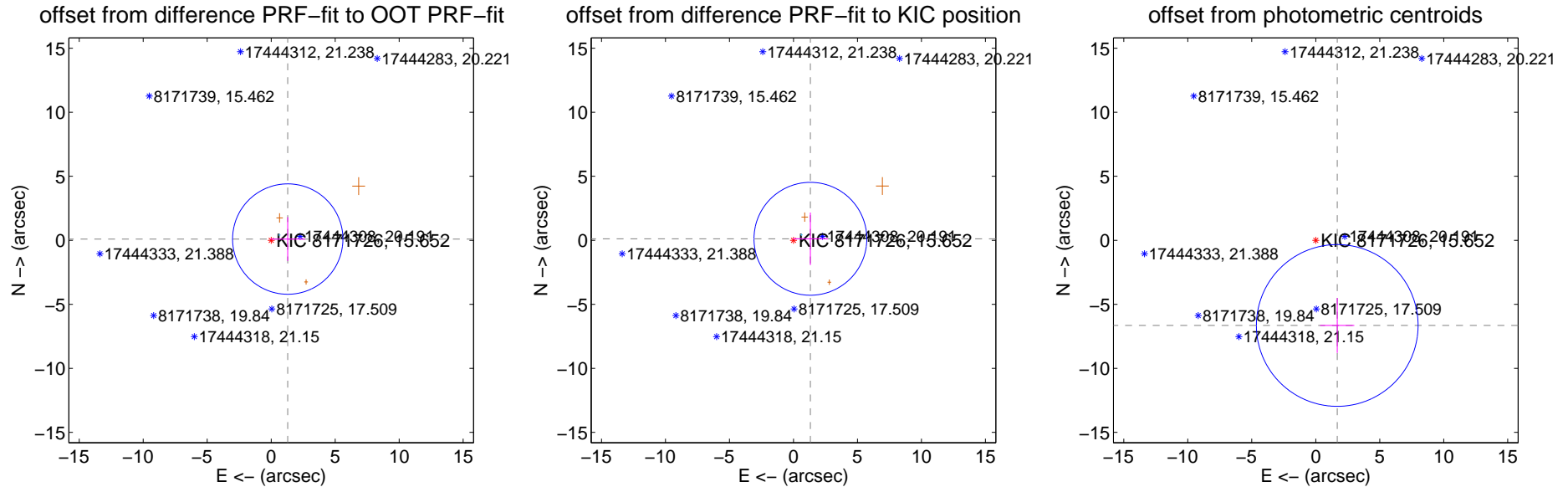
## DV Centroid Data

Supplemental centroid analysis for 008171726-01. Kepler magnitude: 15.65. Transit SNR 8.41

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.298 \pm 1.437$	0.90	$-1.294 \pm 1.359$	$0.097 \pm 1.713$
PRF-fit source offset from KIC position	$1.328 \pm 1.470$	0.90	$-1.323 \pm 1.367$	$0.118 \pm 2.051$
photometric centroid source offset	$6.86 \pm 2.11$	3.26	$-1.68 \pm 1.34$	$-6.65 \pm 2.15$



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

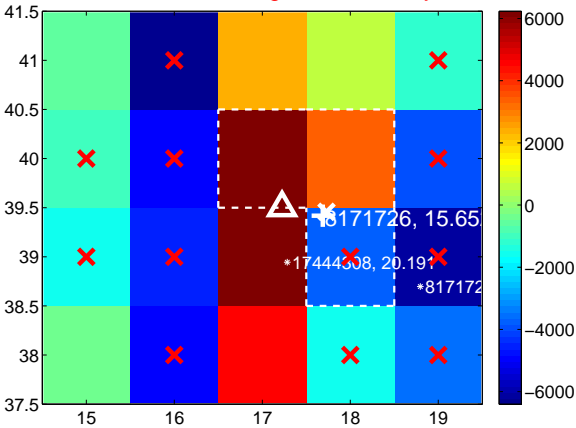
Q1 no difference image



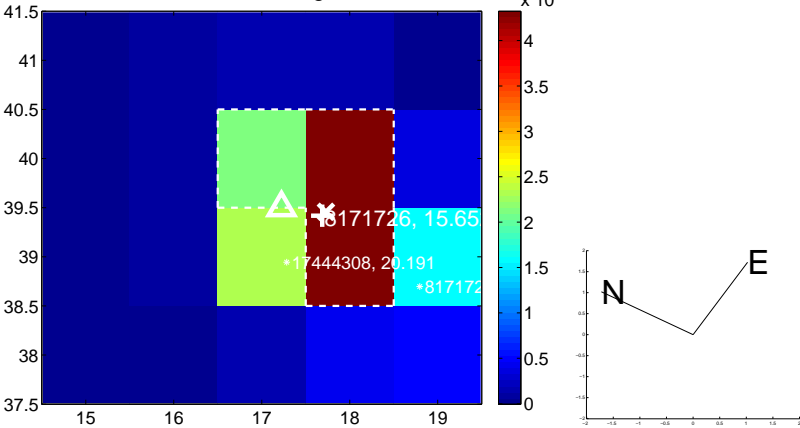
Q1 no OOT image



Q2 difference image. Poor Quality



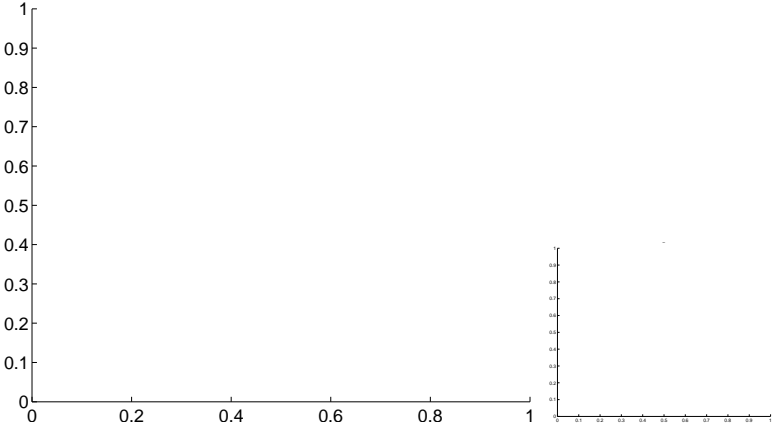
Q2 OOT image



Q3 no difference image



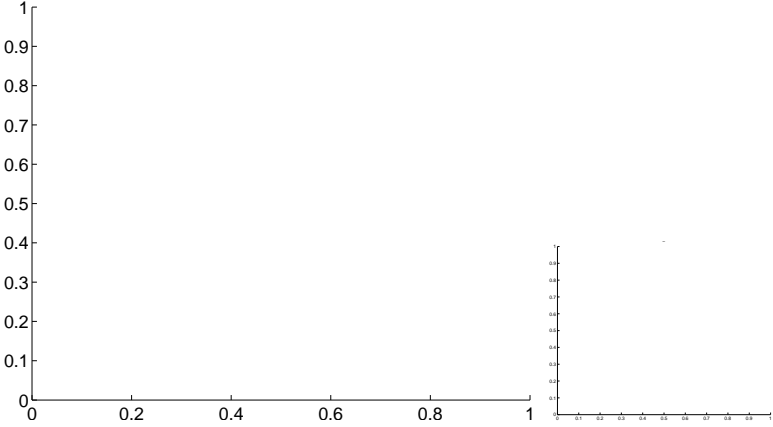
Q3 no OOT image



Q4 no difference image



Q4 no OOT image

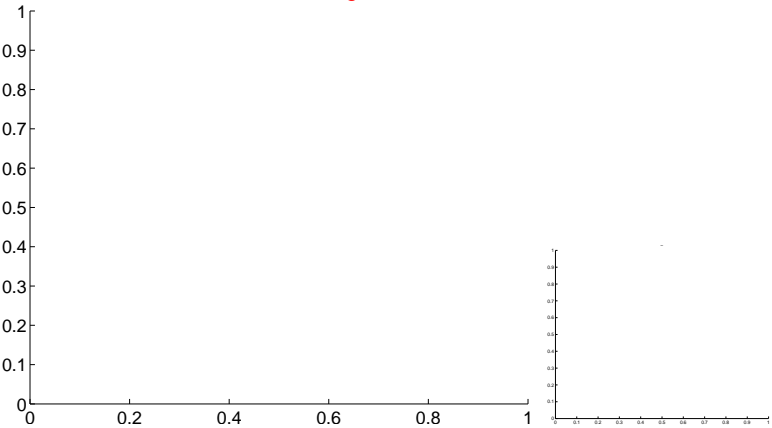


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

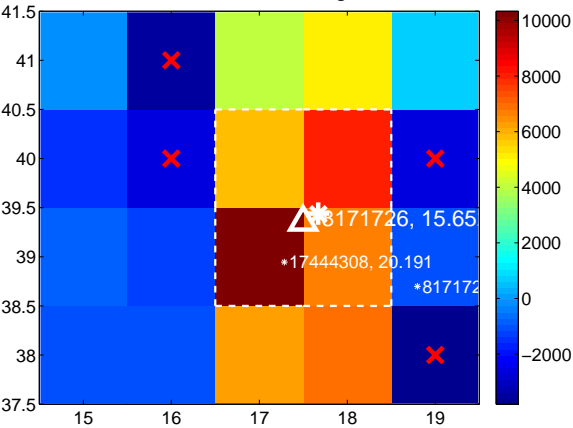
Q5 no difference image



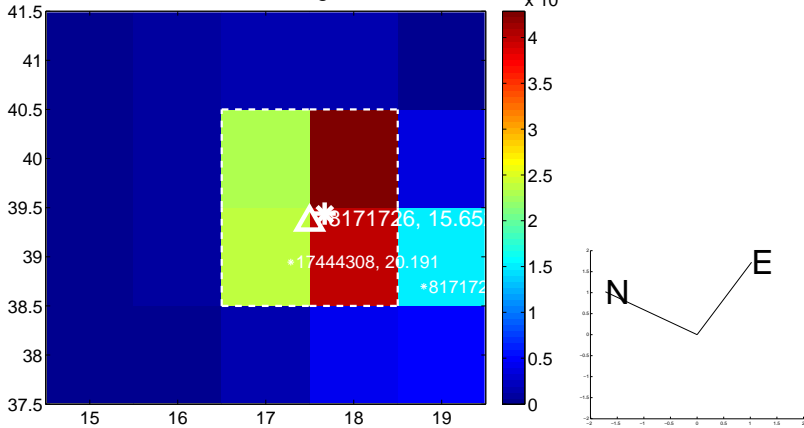
Q5 no OOT image



Q6 difference image



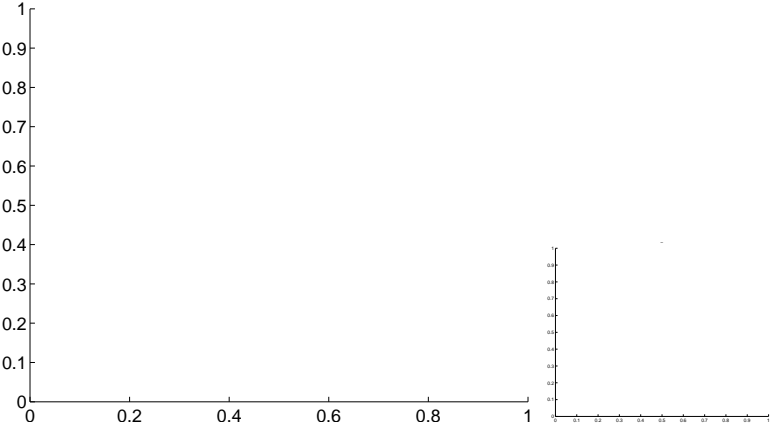
Q6 OOT image



Q7 no difference image



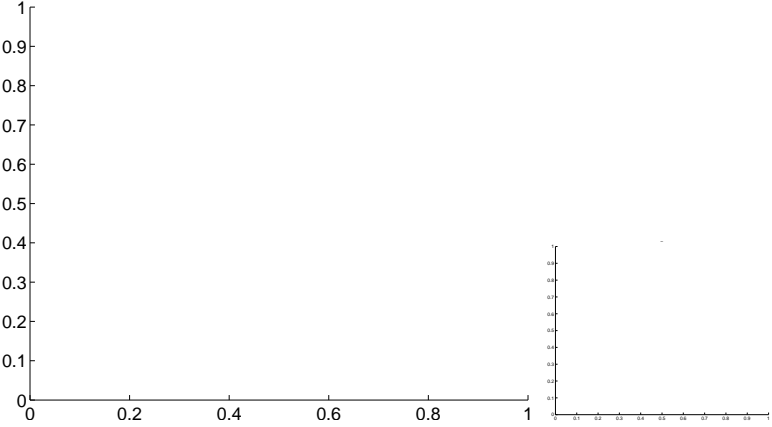
Q7 no OOT image



Q8 no difference image



Q8 no OOT image





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

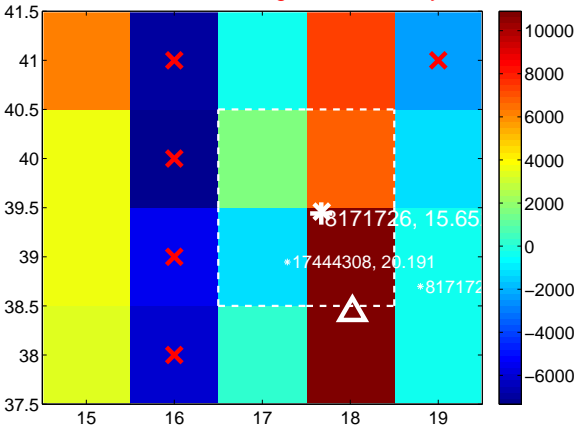
Q9 no difference image



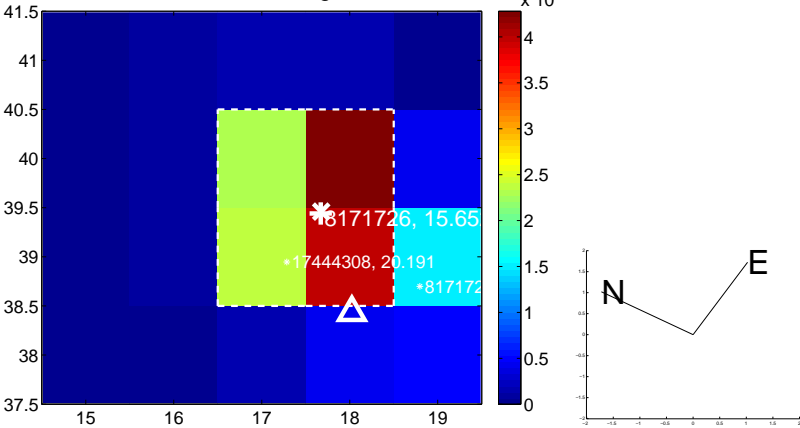
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

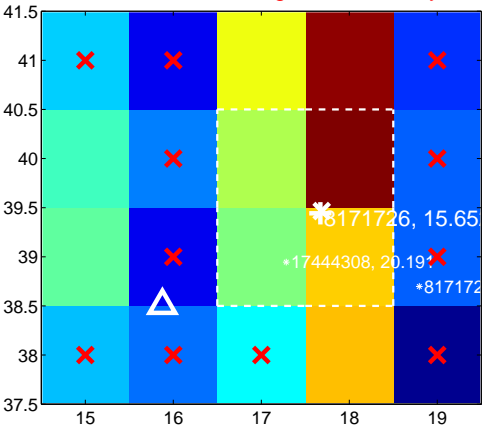
Q13 no difference image



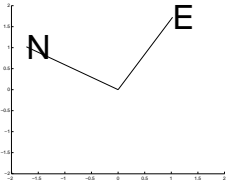
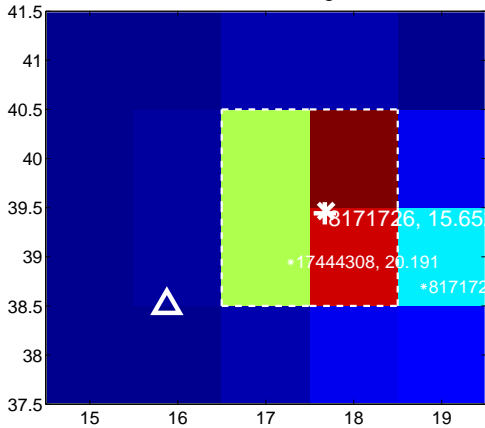
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



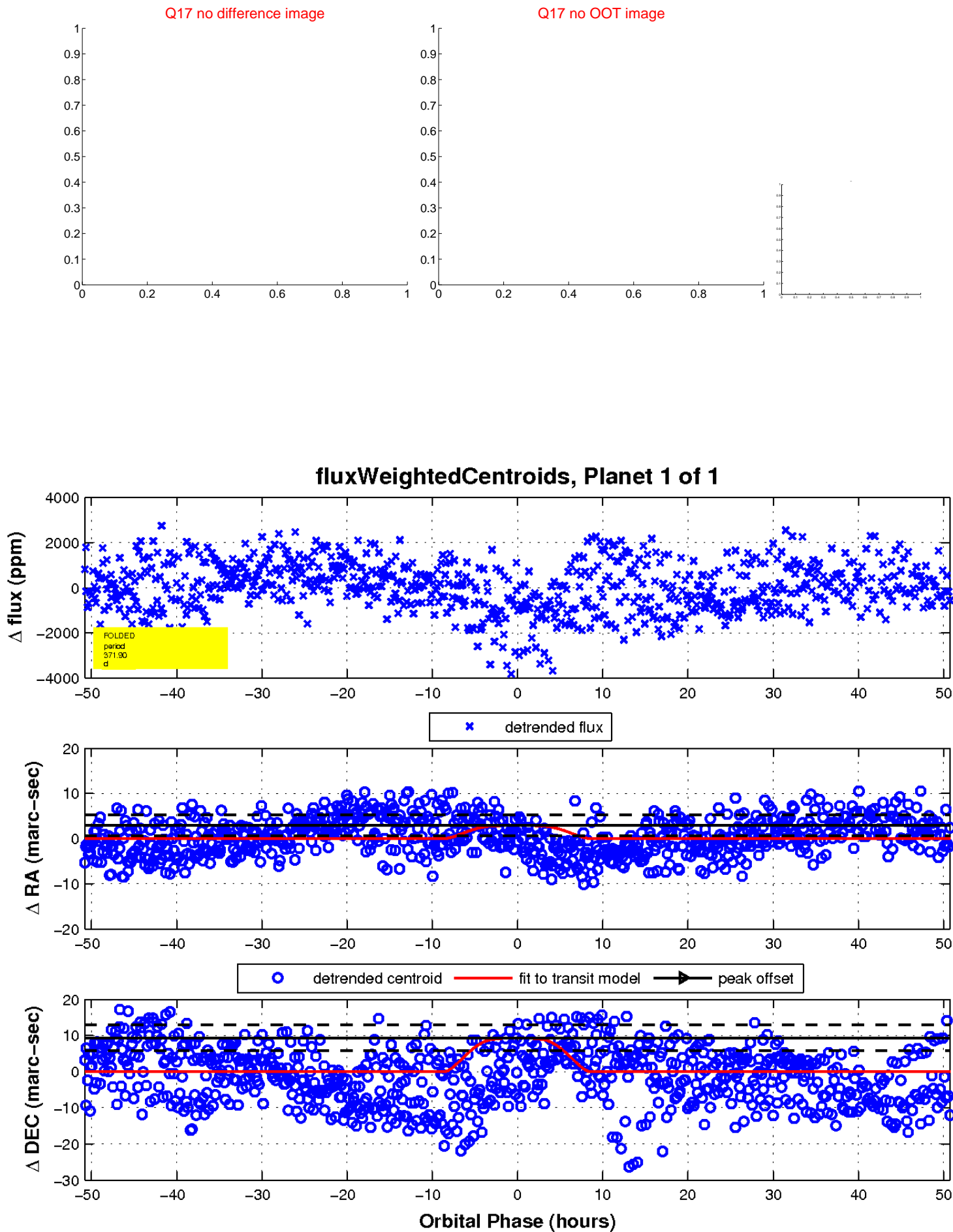
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

