

# KIC 010918405

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010918405-01	OBS	No	361.161054	373.870476	552.6	20.071	8.4	8.4	1.08	6442	2.58	1.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010918405-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

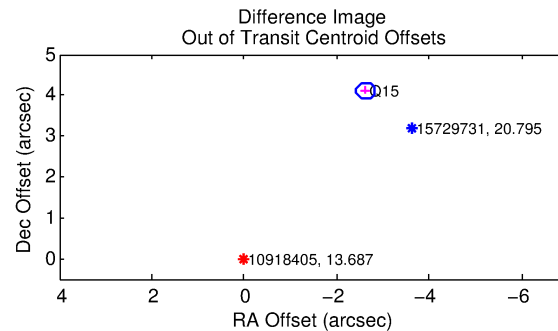
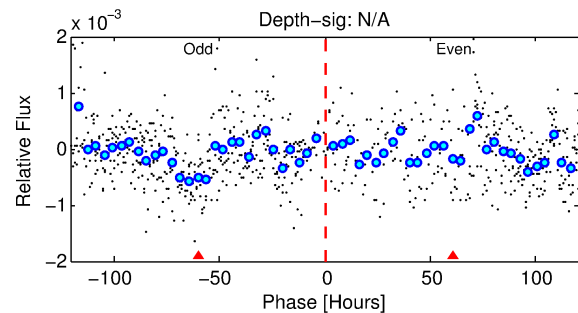
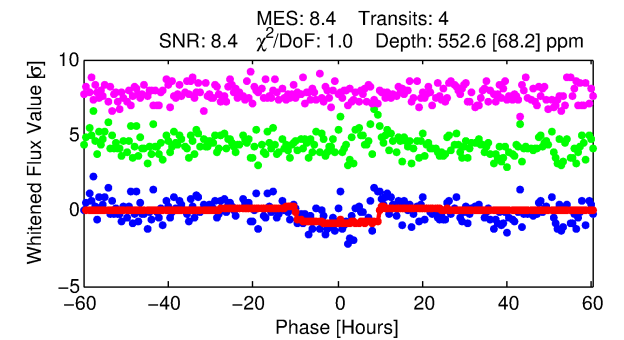
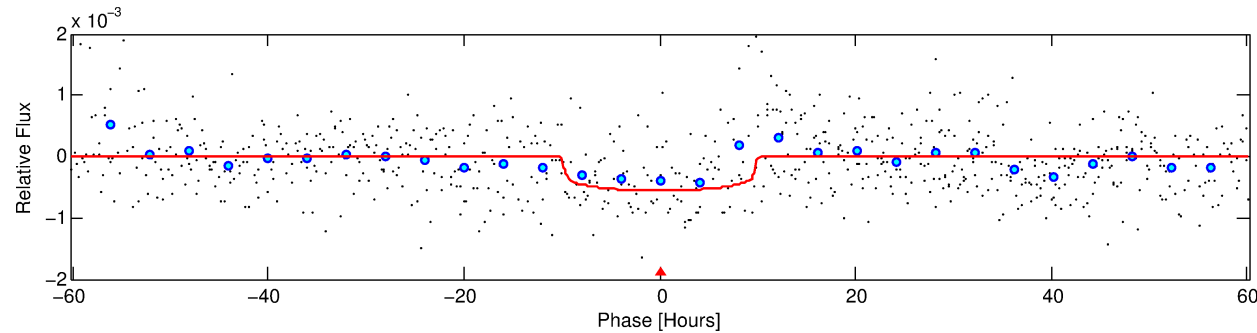
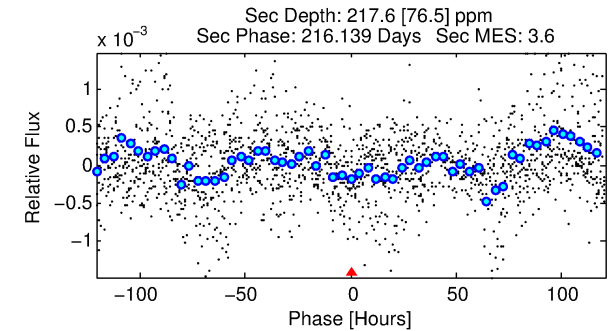
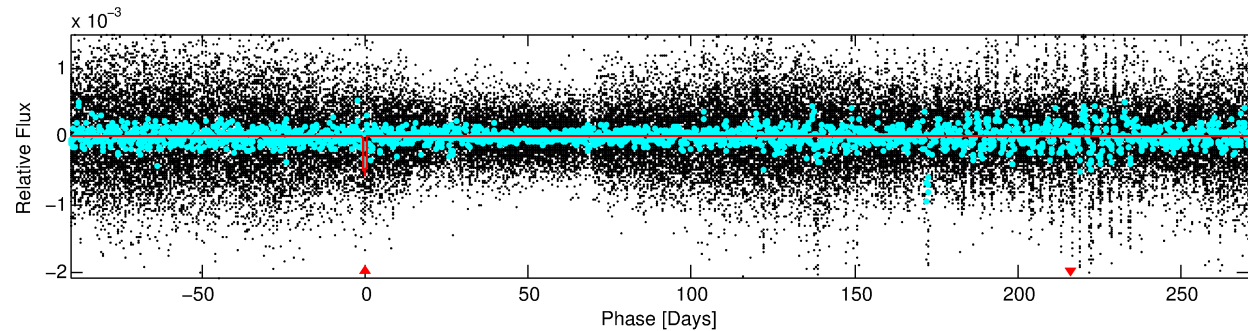
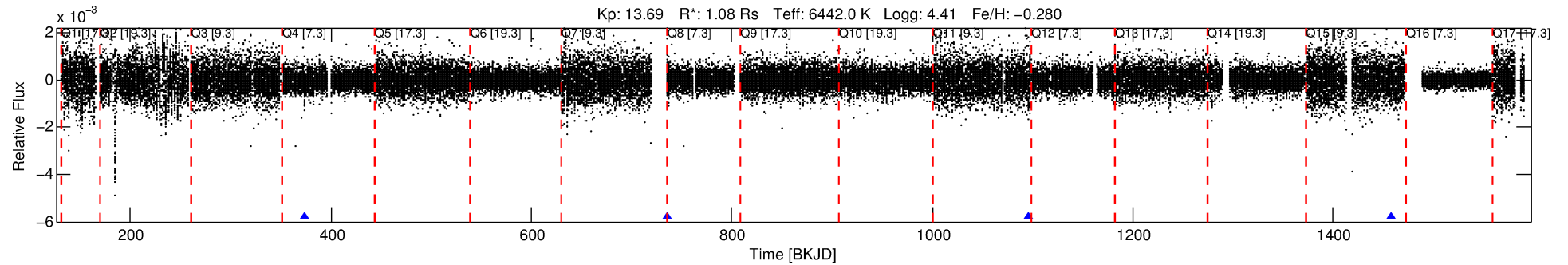
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010918405-01

No Significant Match Found

# DV One-Page Summary

KIC: 10918405 Candidate: 1 of 1 Period: 361.161 d



## DV Fit Results:

Period = 361.16105 [0.01022] d  
Epoch = 373.8705 [0.0134] BKJD  
Rp/R\* = 0.0220 [0.0095]  
a/R\* = 130.30 [294.40]  
b = 0.38 [5.08]  
Seff = 1.71 [0.70]  
Teq = 291 [30] K  
Rp = 2.58 [1.38] Re  
a = 1.0234 [0.2733] AU  
Ag = 18840.68 [19062.81] [0.99σ]  
Teff = 5279 [1241] K [4.02σ]

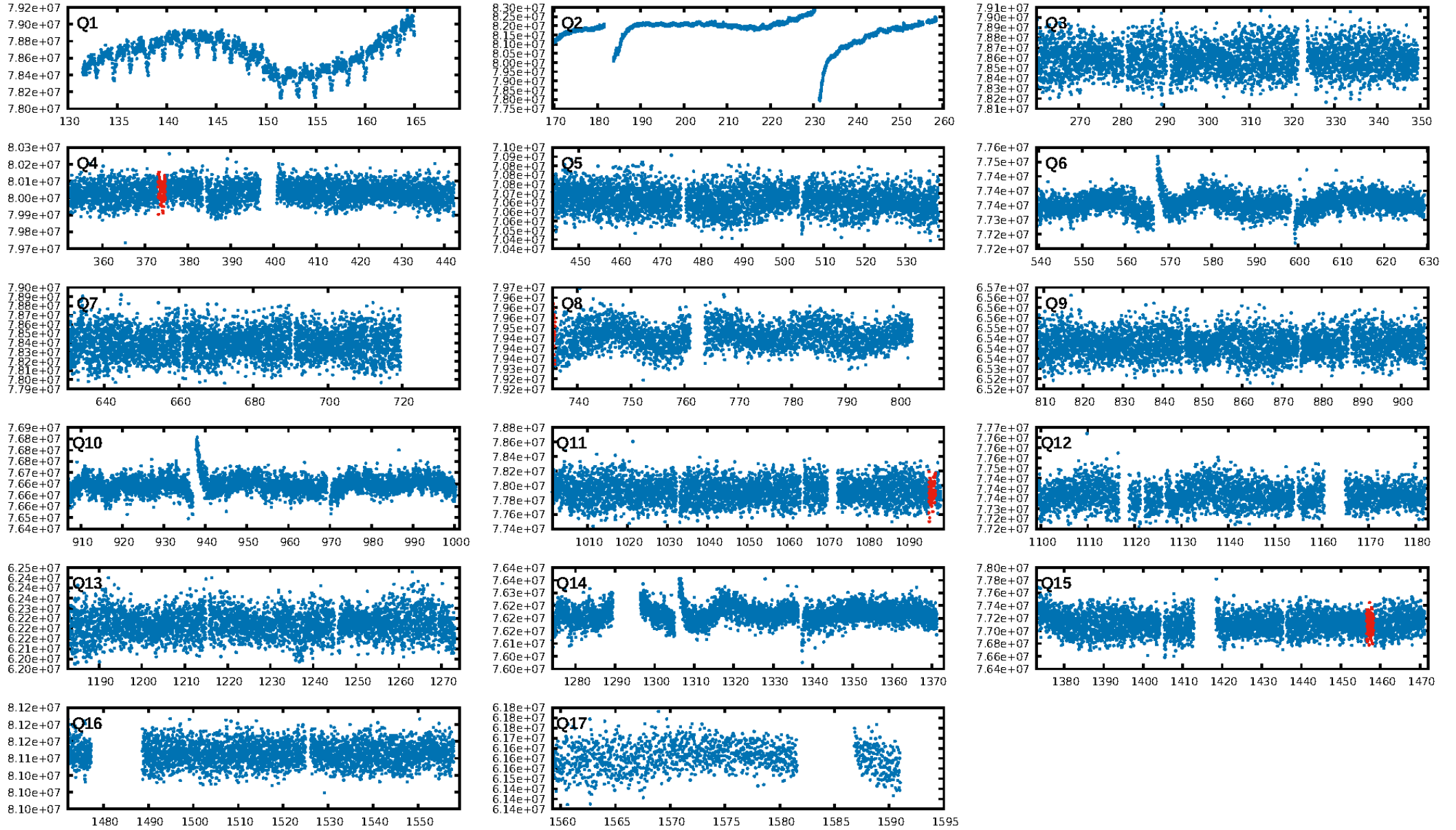
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 14.1%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 5.10e-11**  
RollingBand-fgt: 1.00 [4/4]  
**GhostDiagnostic-chr: -0.3716**  
Centroid-sig: 3.0%  
Centroid-so: 3.523 arcsec [2.67σ]  
**OotOffset-rm: 4.874 arcsec [72.52σ]**  
**KicOffset-rm: 3.345 arcsec [49.77σ]**  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [1/1]

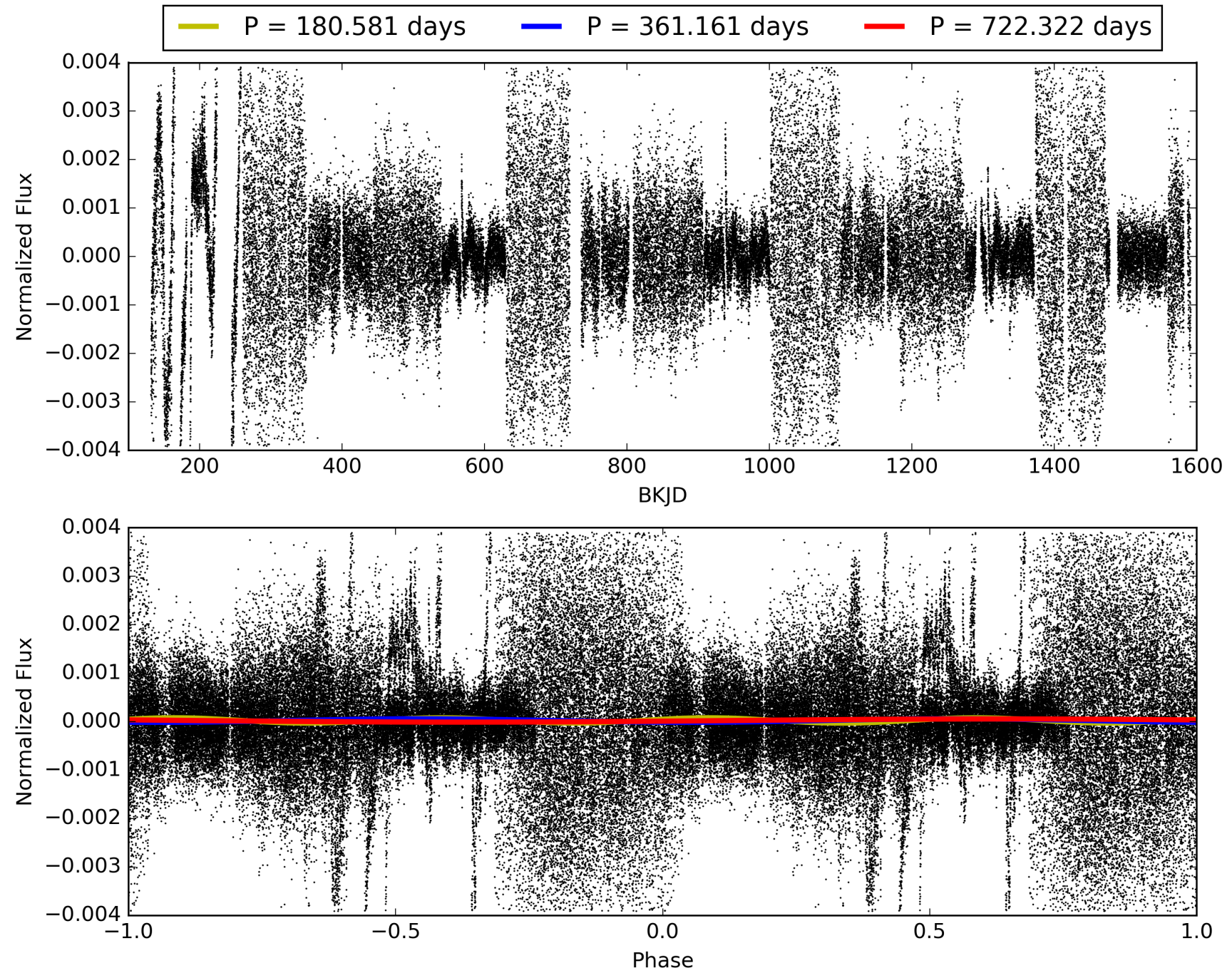
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:18:33 Z

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

# TCE 010918405-01, PDC Light Curves

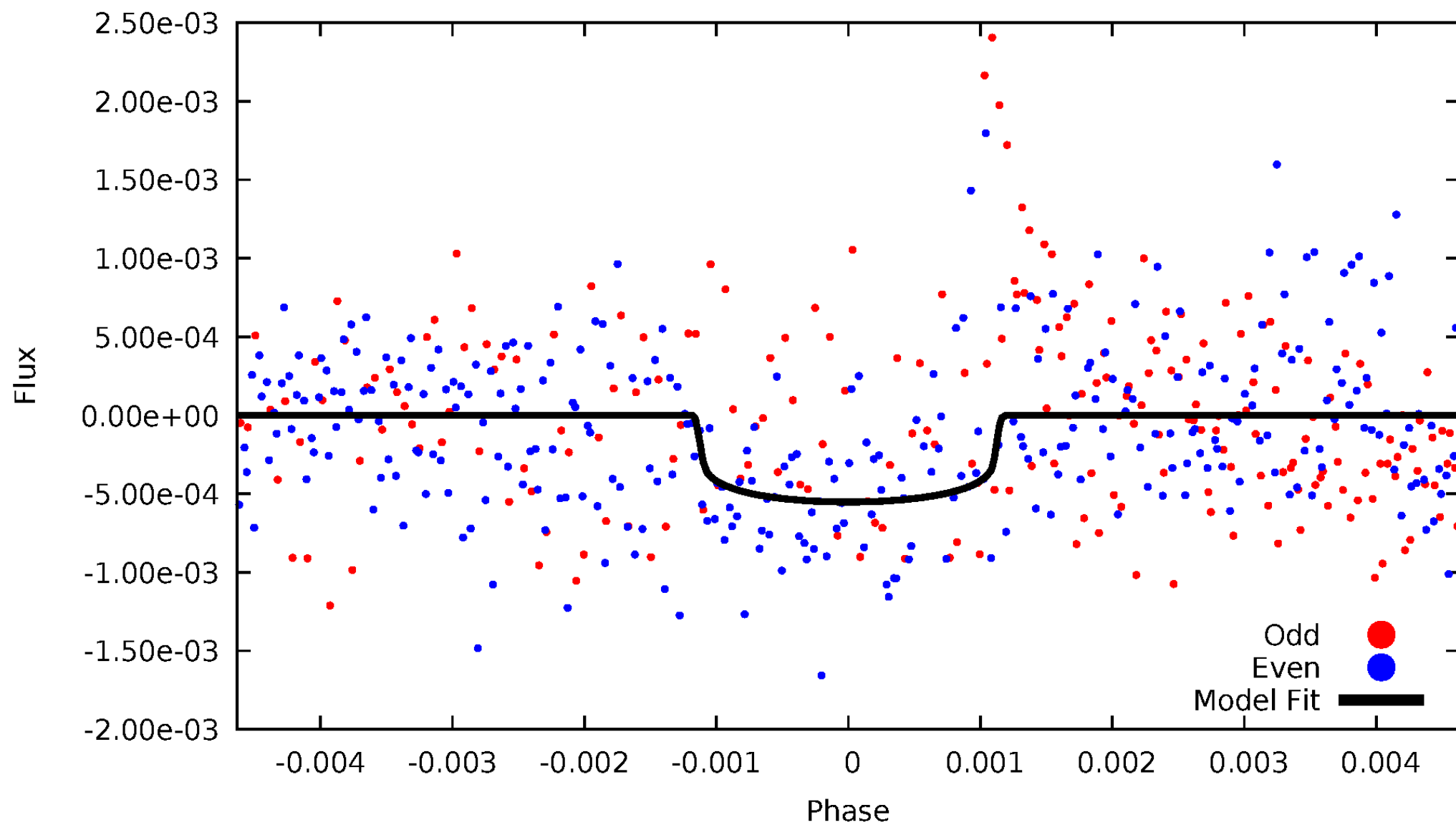


TCE 010918405-01



# DV Odd/Even

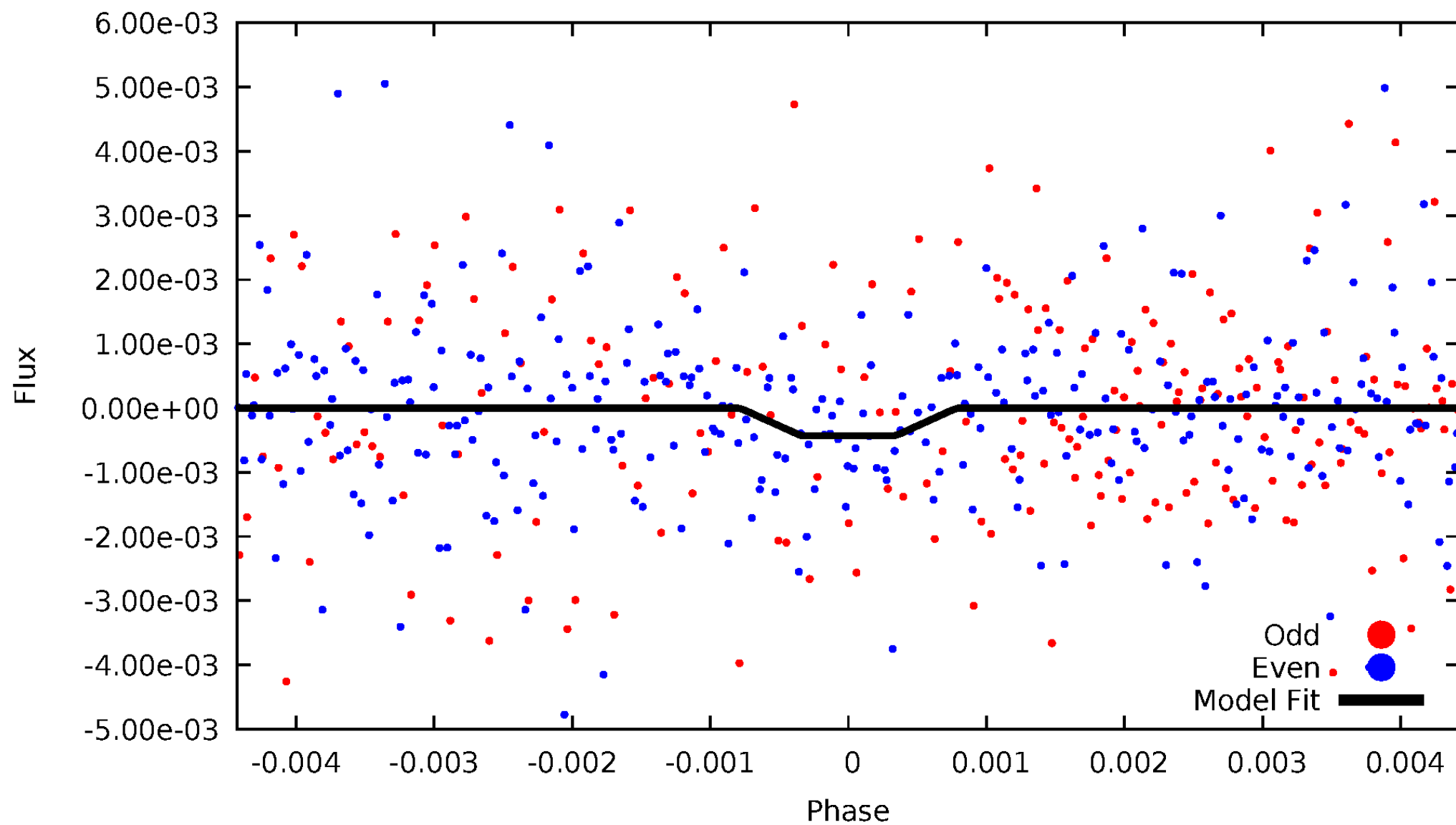
TCE 010918405-01





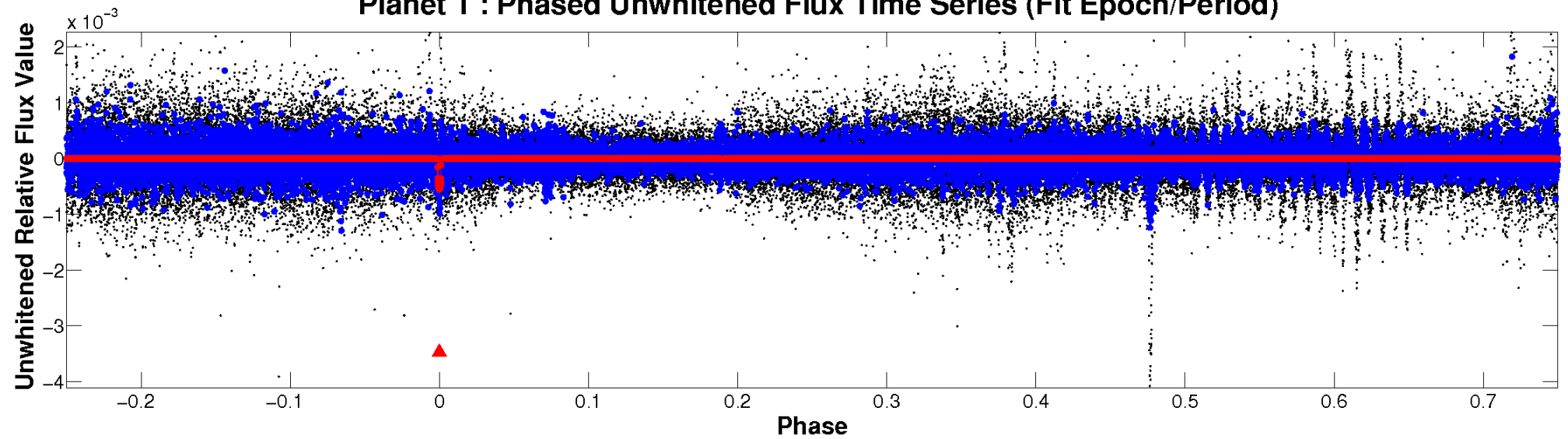
# ALT Odd/Even

TCE 010918405-01

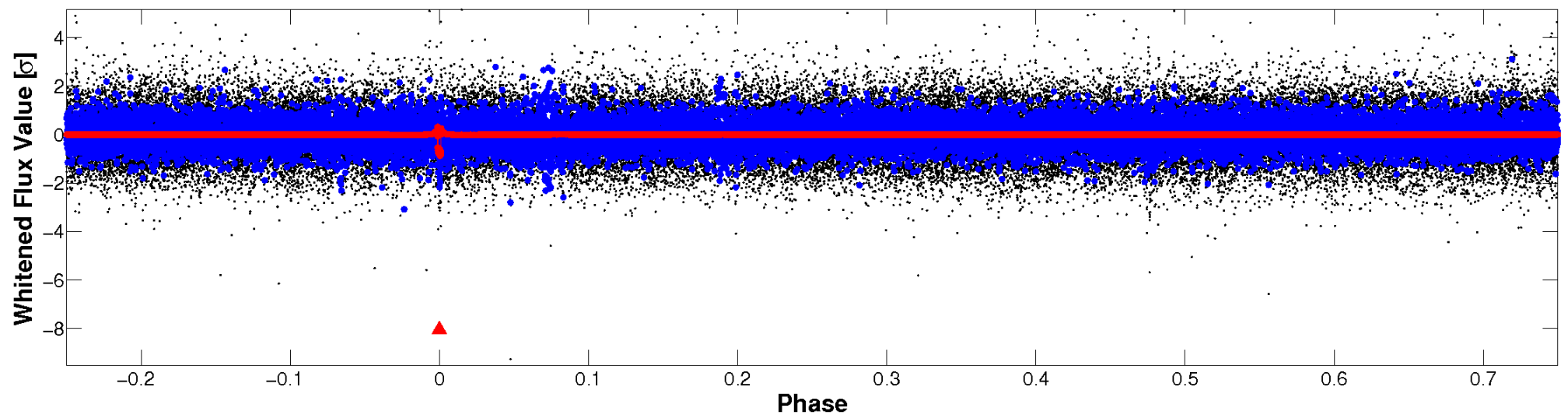


# Non-Whitened Vs. Whitened Light Curve

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

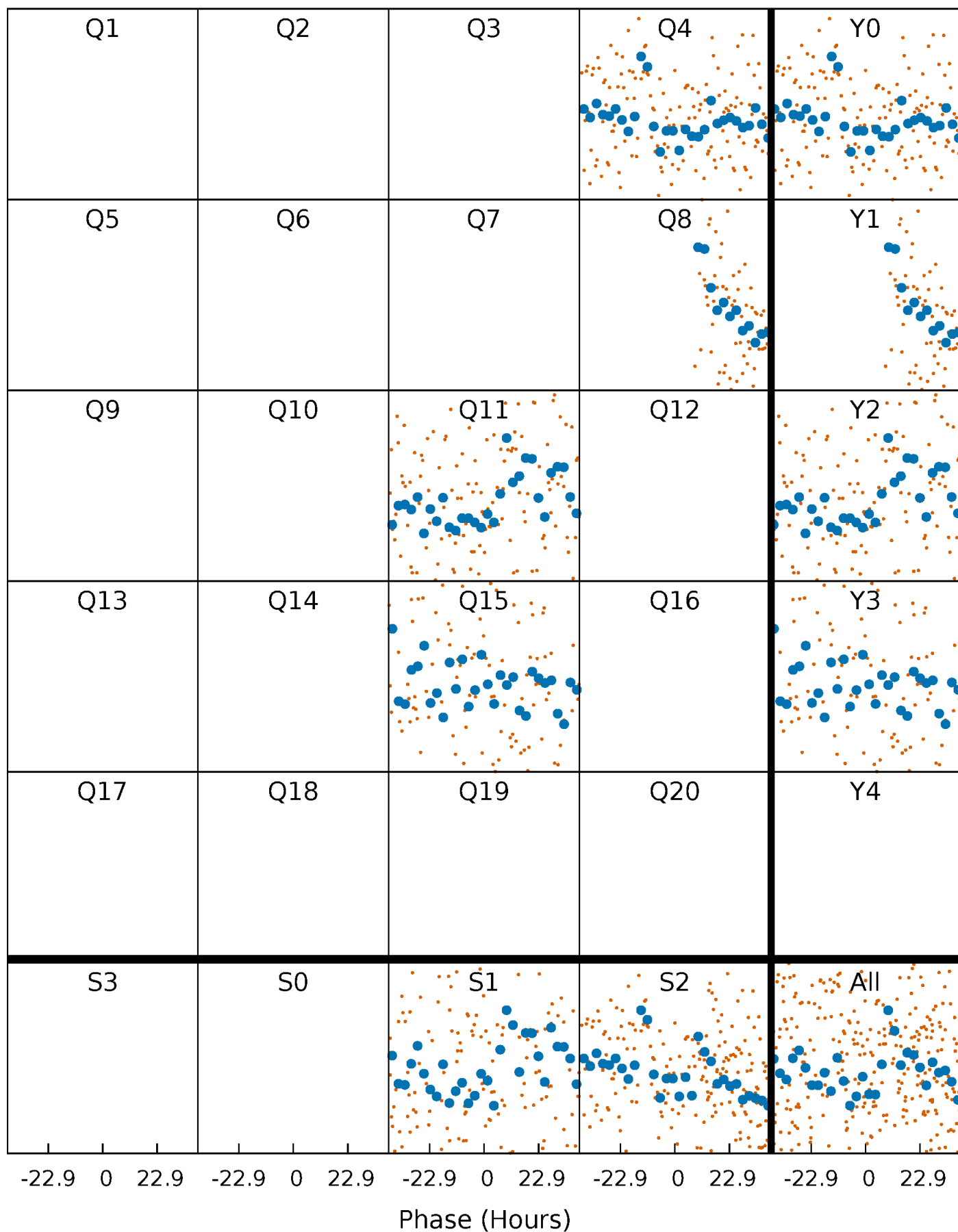


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

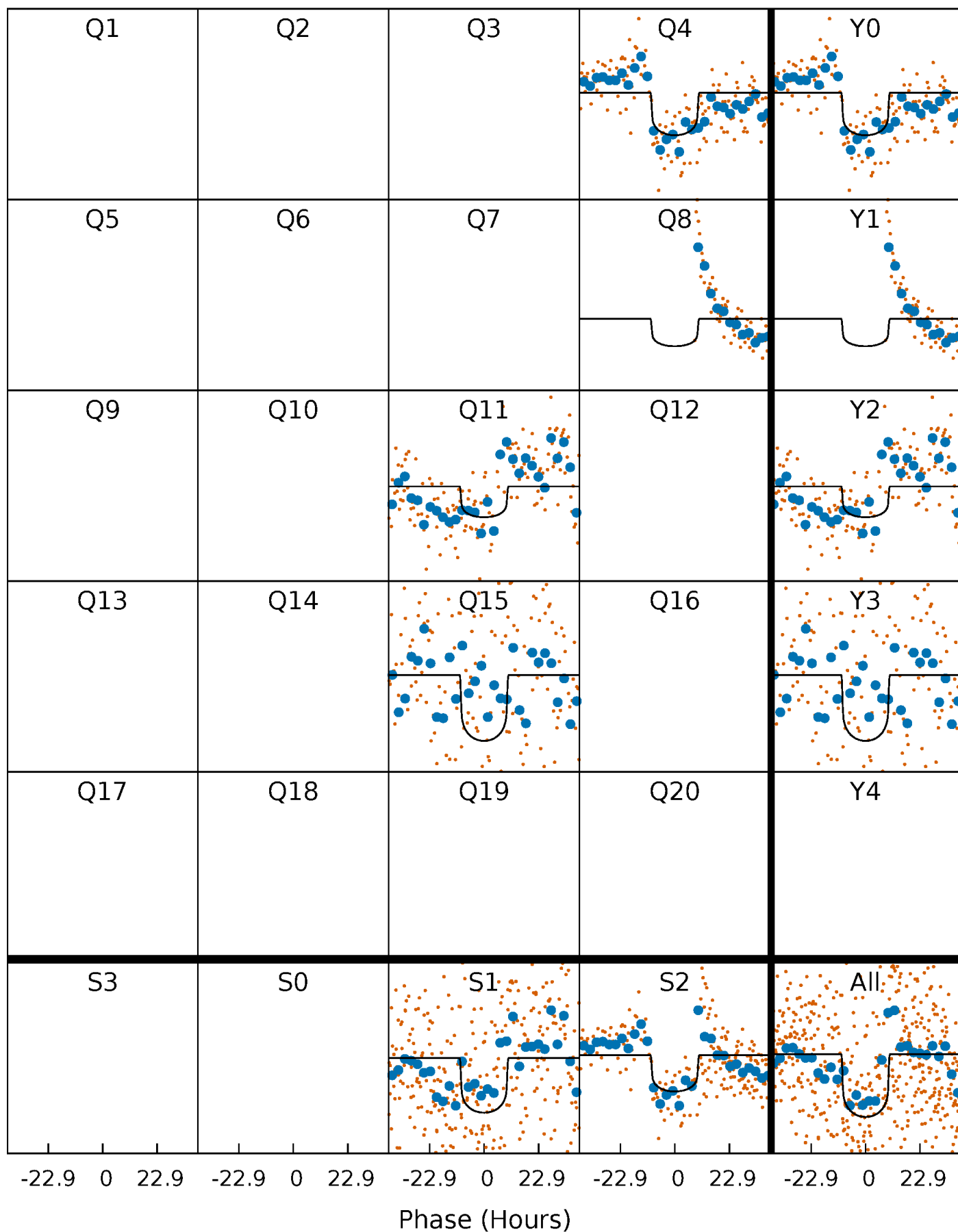
TCE 010918405-01 P=361.161054 Days  $T_0=373.870476$  (BKJD)





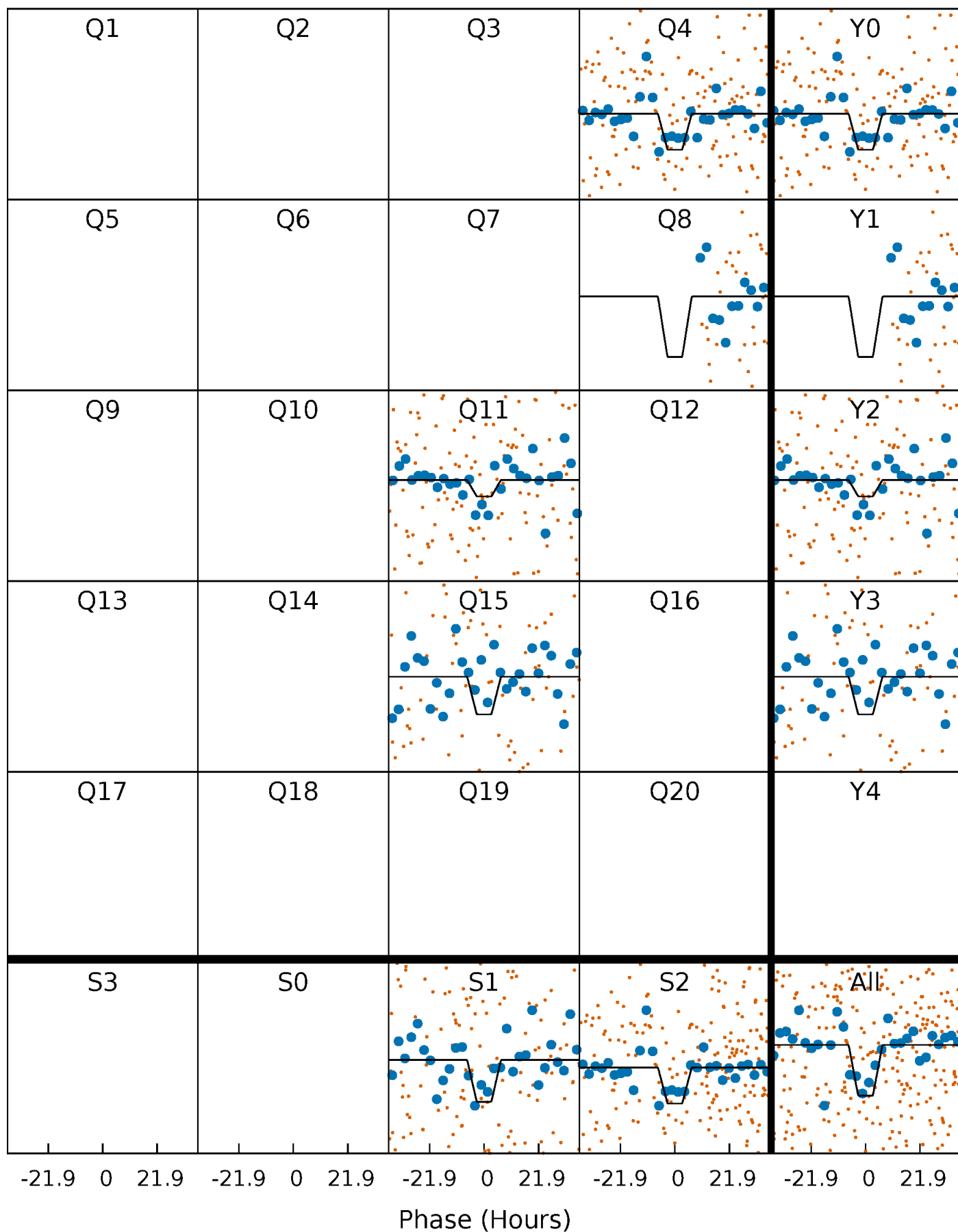
# DV Quarter-Phased Transit Curves

TCE 010918405-01 P=361.161054 Days  $T_0=373.870476$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

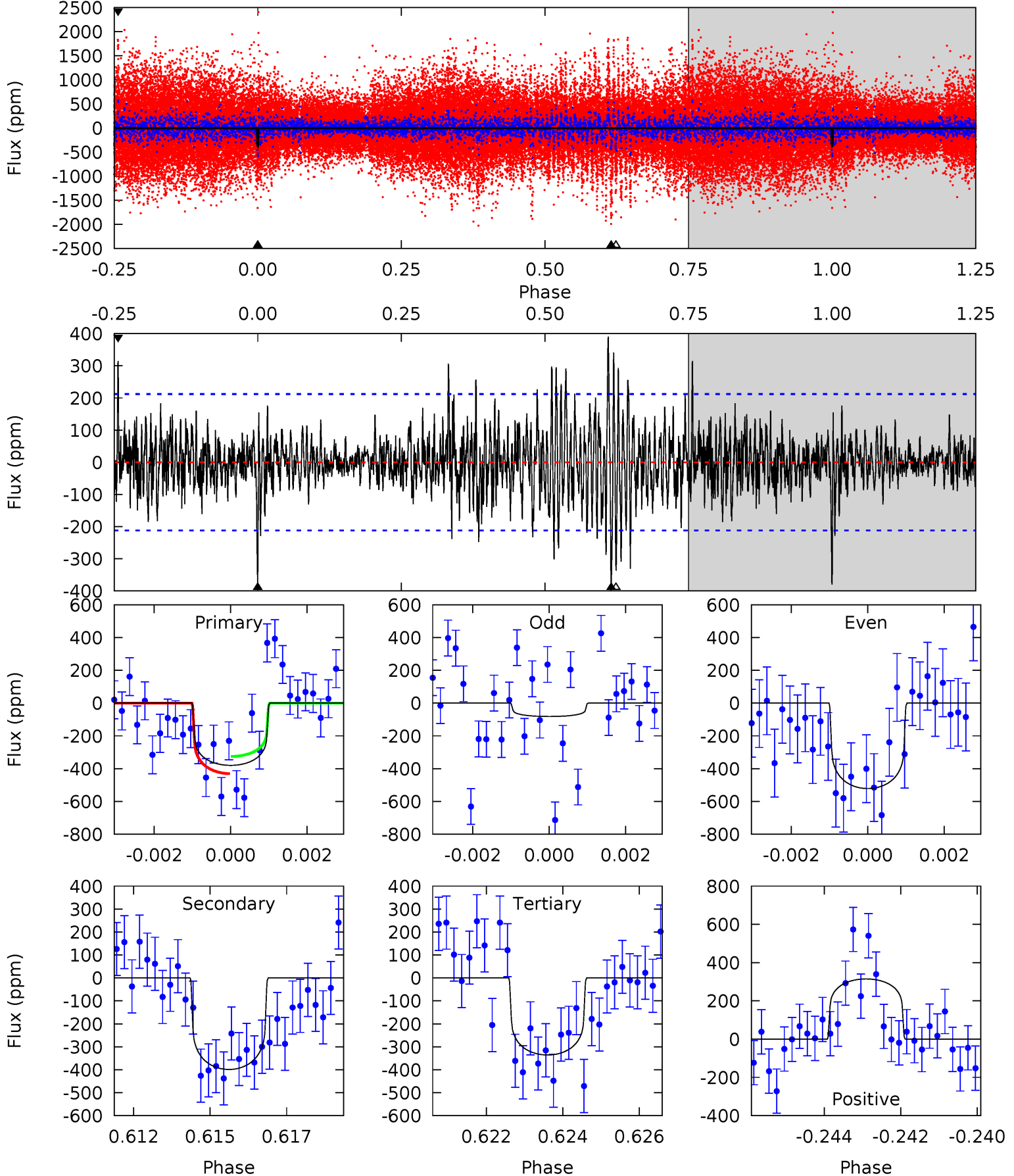
TCE 010918405-01 P=361.197229 Days  $T_0=373.813288$  (BKJD)



# DV Model-Shift Uniqueness Test

010918405-01, P = 361.161054 Days, E = 12.709422 Days

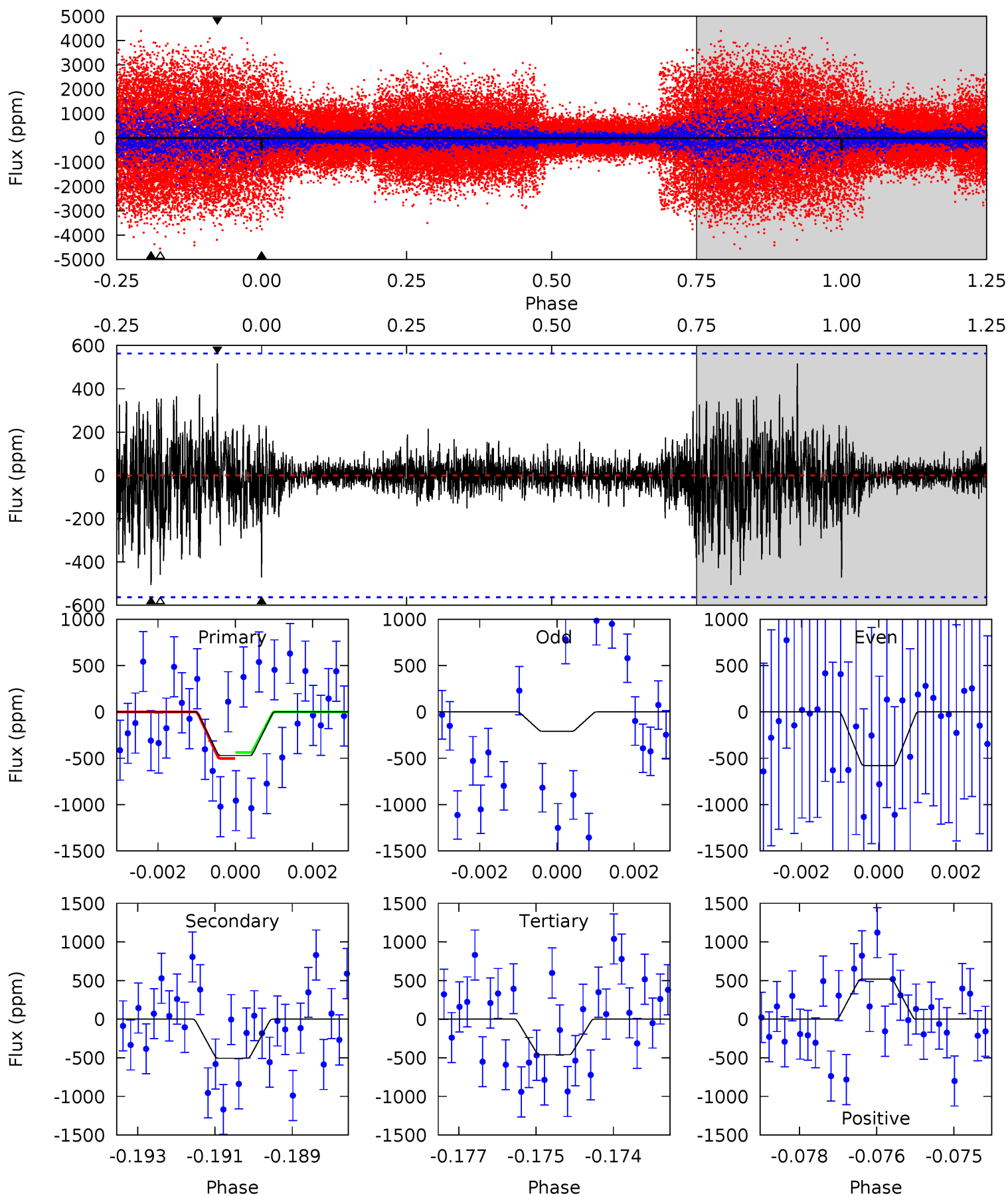
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.50	9.97	8.39	7.87	5.30	3.04	2.15	1.10	1.63	1.57	2.10	5.33	-0.87	0.49	1.31



# Alt Model-Shift Uniqueness Test

010918405-01, P = 361.197229 Days, E = 12.616059 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
4.49	4.82	4.38	4.93	5.37	3.16	0.79	0.11	-0.44	0.44	-0.11	1.68	1.01	0.51	0.31



### Stellar Parameters For KIC 010918405

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6442^{+154}_{-193}$	$4.414^{+0.067}_{-0.216}$	$-0.280^{+0.250}_{-0.300}$	$1.076^{+0.338}_{-0.121}$	$1.094^{+0.156}_{-0.142}$	$1.237^{+0.363}_{-0.664}$
	+2%/-3%	+2%/-5%	+89%/-107%	+31%/-11%	+14%/-13%	+29%/-54%
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 010918405-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-399 \pm 40$	$2.69^{+1.19}_{-1.12}$	$414^{+31}_{-21}$	$6146^{+2074}_{-964}$	$30901^{+62692}_{-15959}$
Alt.	$-505 \pm 105$	$2.57^{+1.38}_{-1.12}$	$416^{+31}_{-21}$	$6655^{+2588}_{-1231}$	$42636^{+87401}_{-24415}$

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

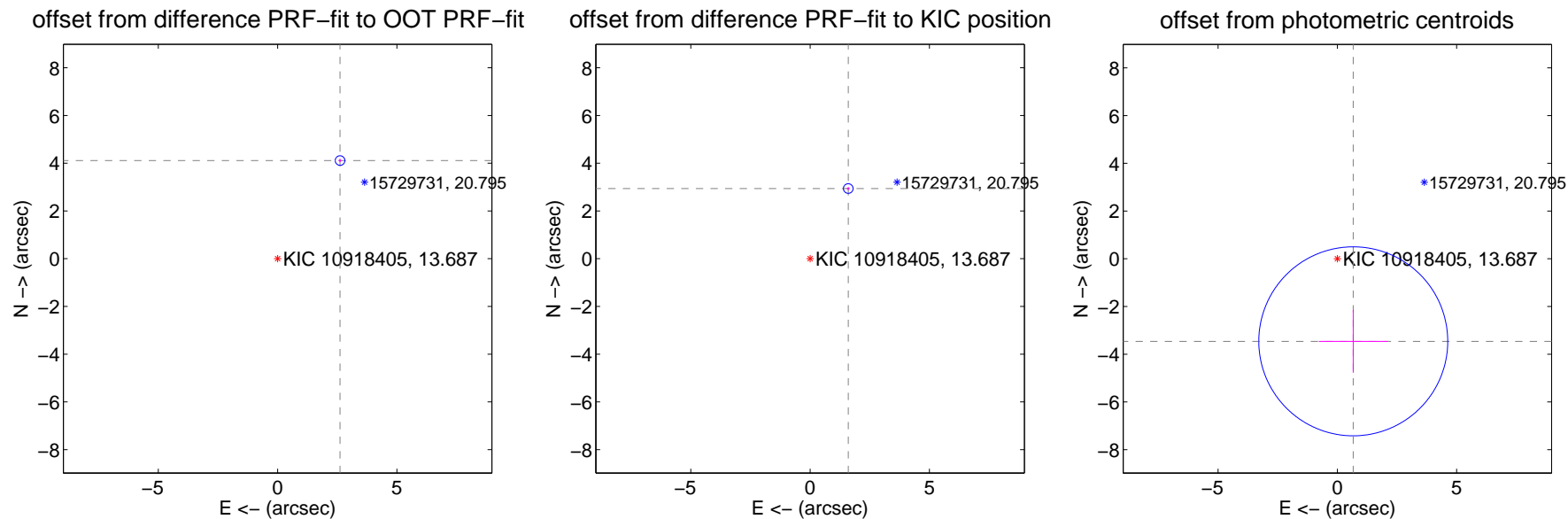
## DV Centroid Data

Supplemental centroid analysis for 010918405-01. Kepler magnitude: 13.69. Transit SNR 8.42

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.55 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.874 \pm 0.067$	72.52	$-2.617 \pm 0.067$	$4.111 \pm 0.067$
PRF-fit source offset from KIC position	$3.345 \pm 0.067$	49.77	$-1.598 \pm 0.067$	$2.939 \pm 0.067$
photometric centroid source offset	$3.52 \pm 1.32$	2.67	$-0.67 \pm 1.44$	$-3.46 \pm 1.32$



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.



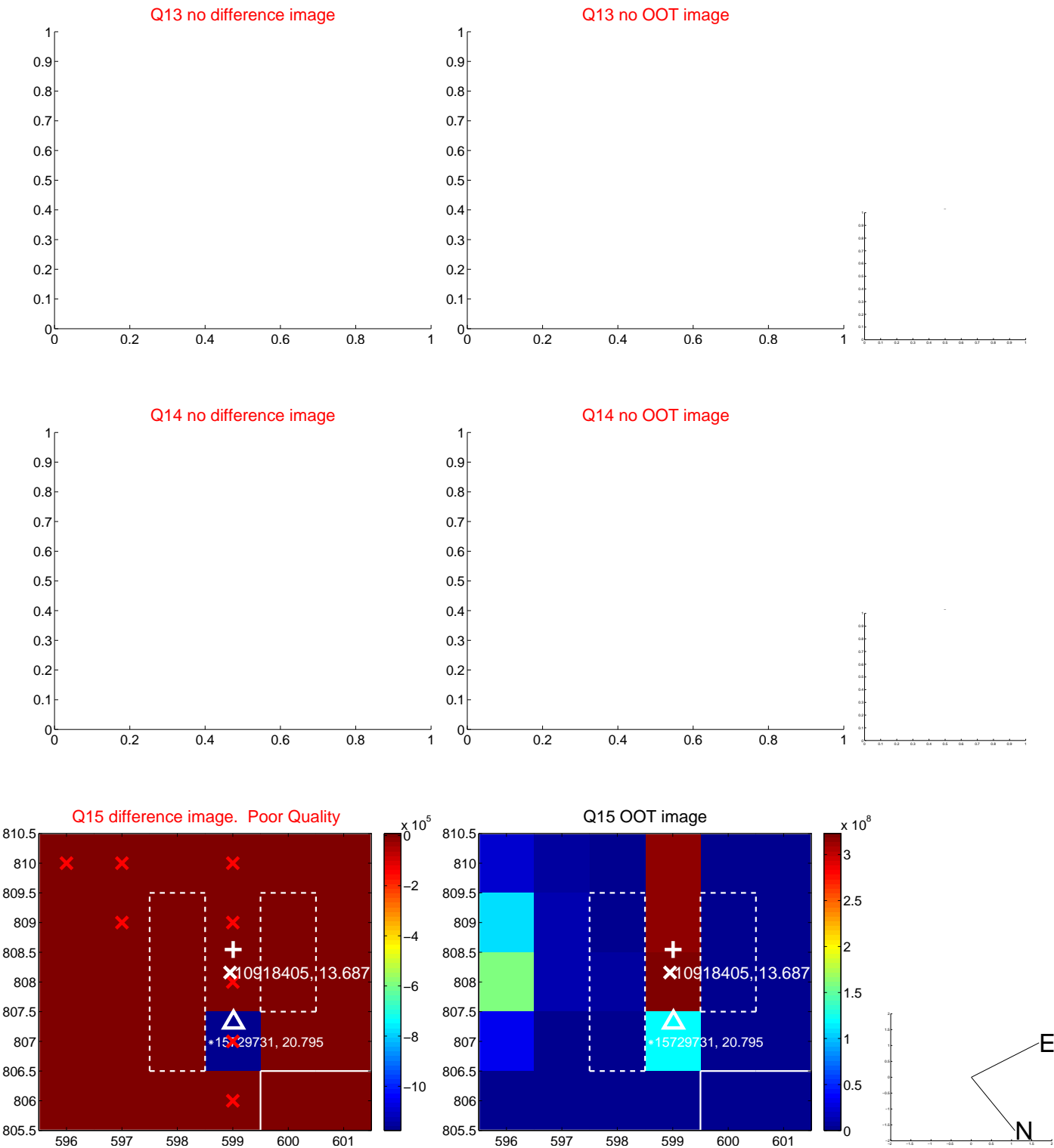
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



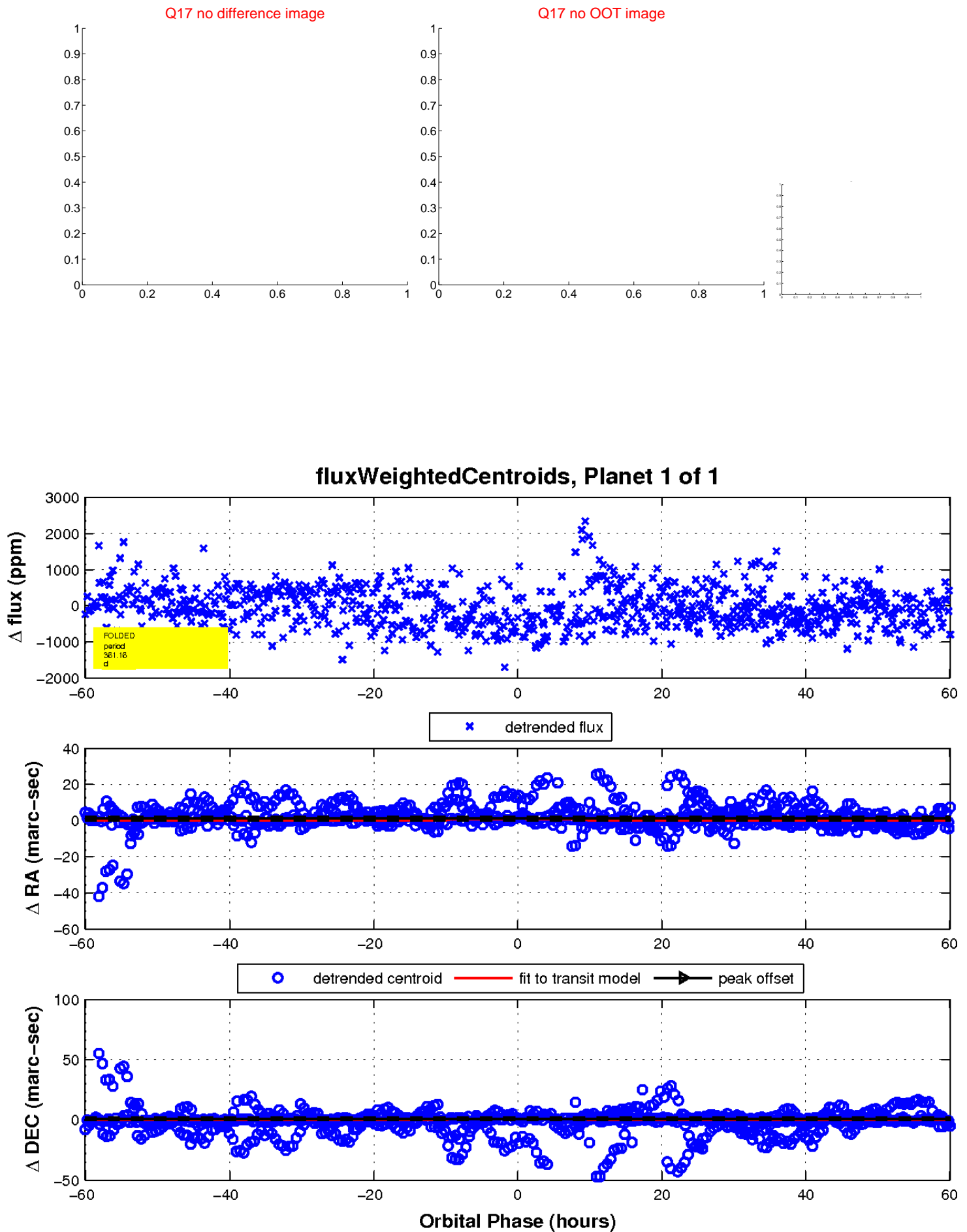
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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

