

# KIC 010717591

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010717591-01	OBS	No	301.480072	189.285509	675.2	11.751	7.4	5.8	0.64	4365	1.85	0.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010717591-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—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.

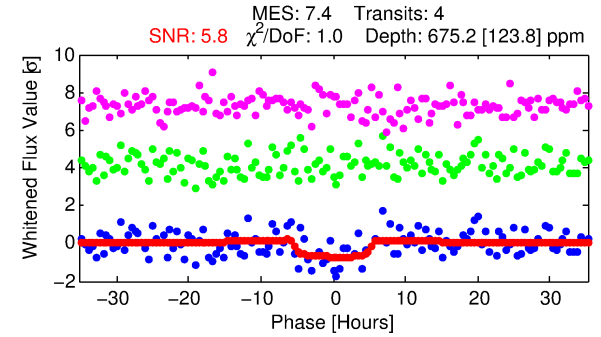
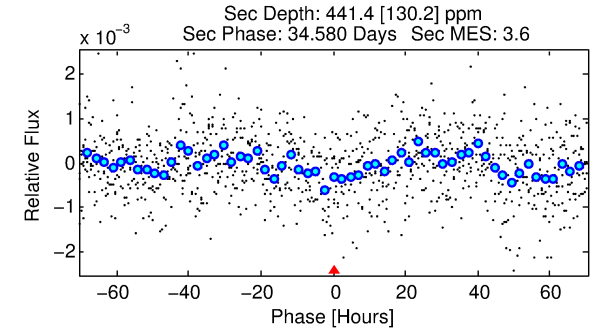
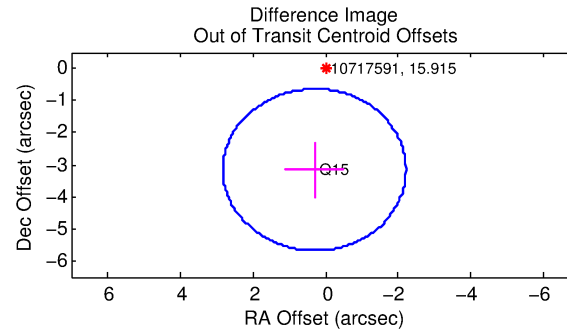
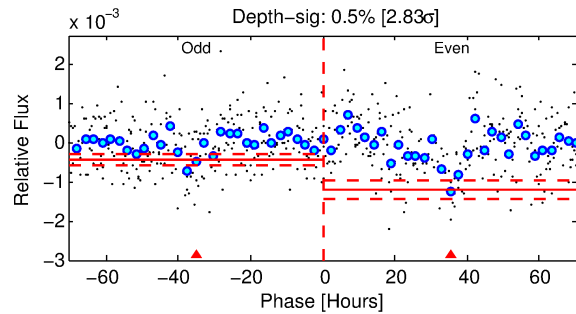
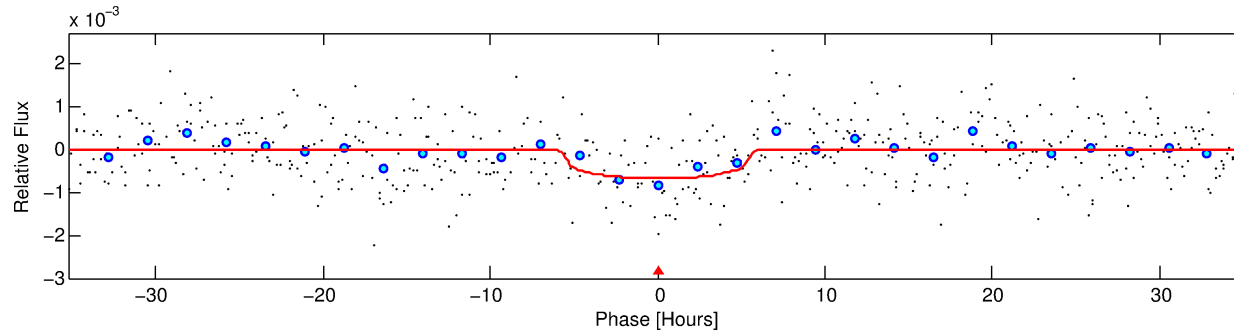
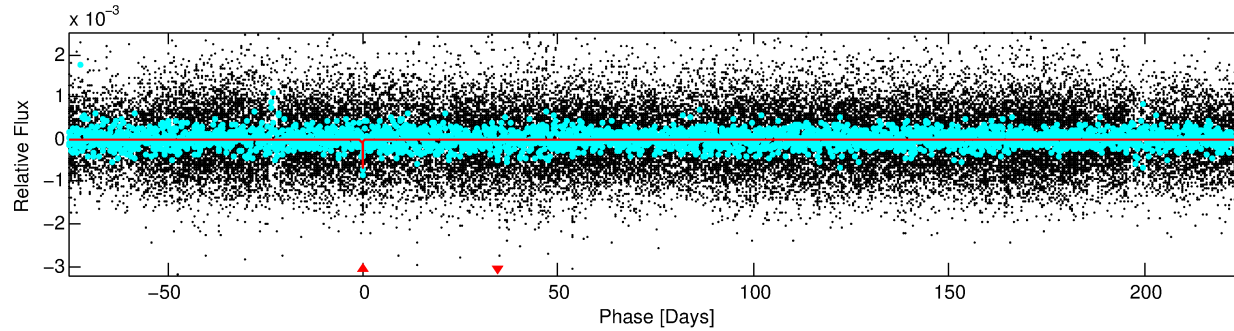
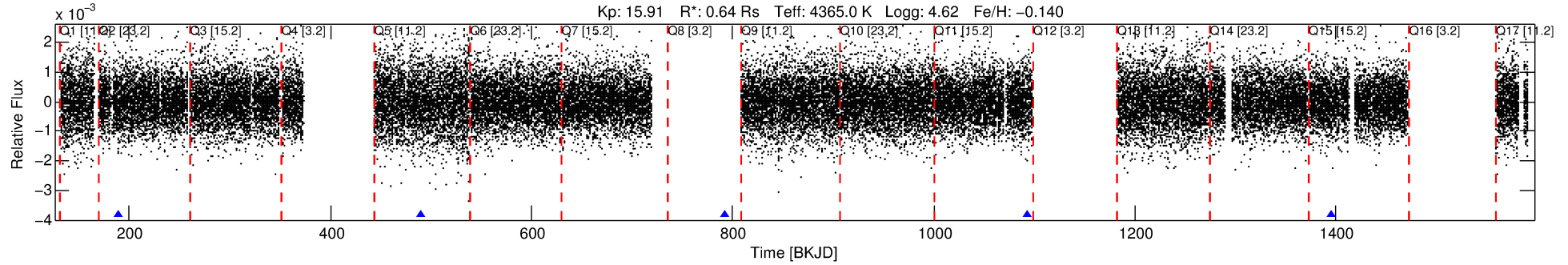
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010717591-01

No Significant Match Found

# DV One-Page Summary

KIC: 10717591 Candidate: 1 of 1 Period: 301.480 d



## DV Fit Results:

Period = 301.48007 [0.00987] d  
Epoch = 189.2855 [0.0263] BKJD  
Rp/R\* = 0.0264 [0.0140]  
a/R\* = 131.93 [229.27]  
b = 0.77 [0.91]  
Seff = 0.24 [0.04]  
Teq = 178 [7] K  
Rp = 1.85 [1.00] Re  
a = 0.7571 [0.0523] AU  
Ag = 40507.16 [44776.26] [0.90 $\sigma$ ]  
Teffp = 3896 [1079] K [3.45 $\sigma$ ]

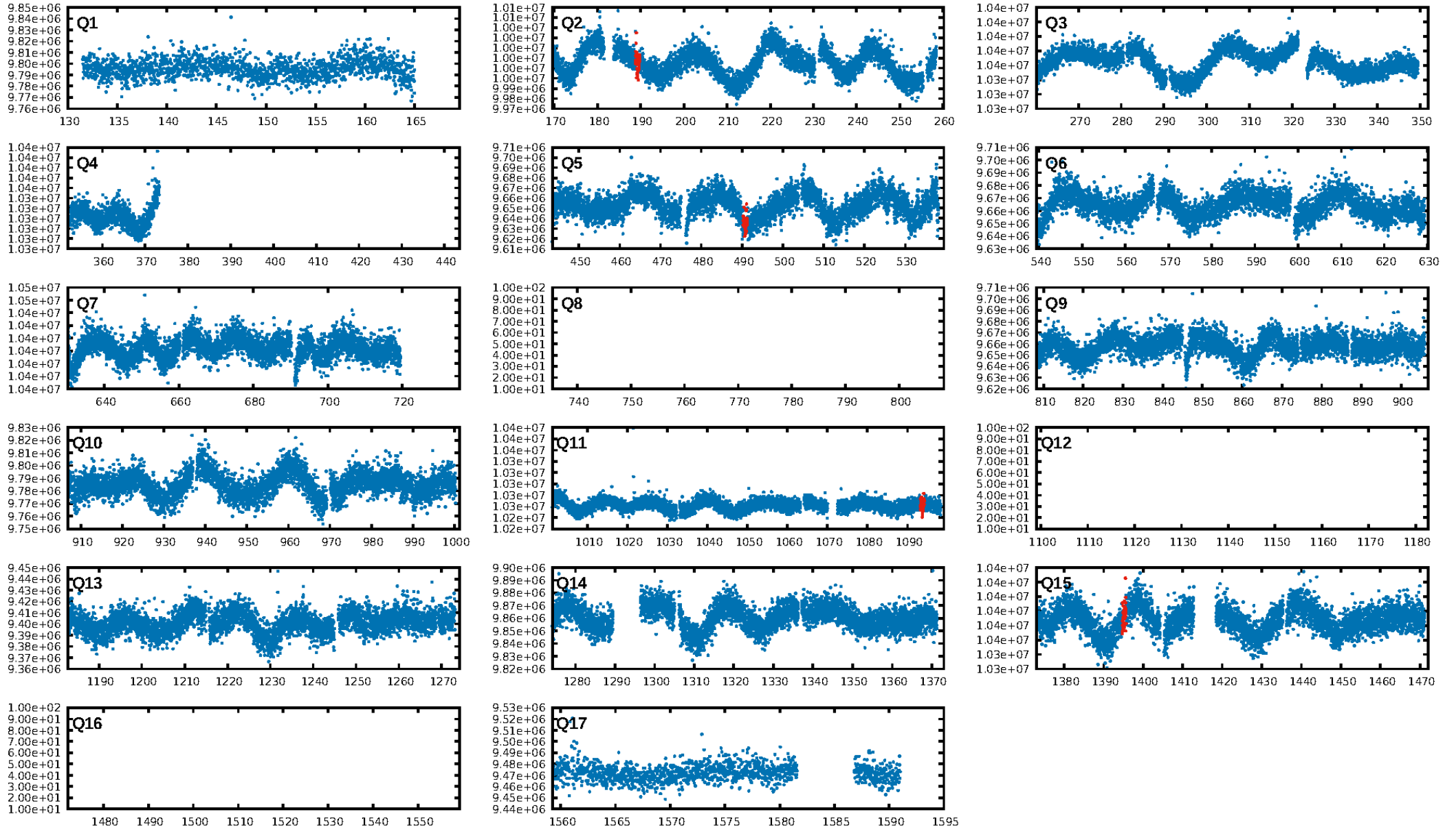
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 9.11e-13  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -0.2943  
Centroid-sig: 62.2%  
Centroid-so: 1.442 arcsec [0.69 $\sigma$ ]  
OotOffset-rm: 3.176 arcsec [3.78 $\sigma$ ]  
KicOffset-rm: 3.474 arcsec [4.13 $\sigma$ ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [3/3]

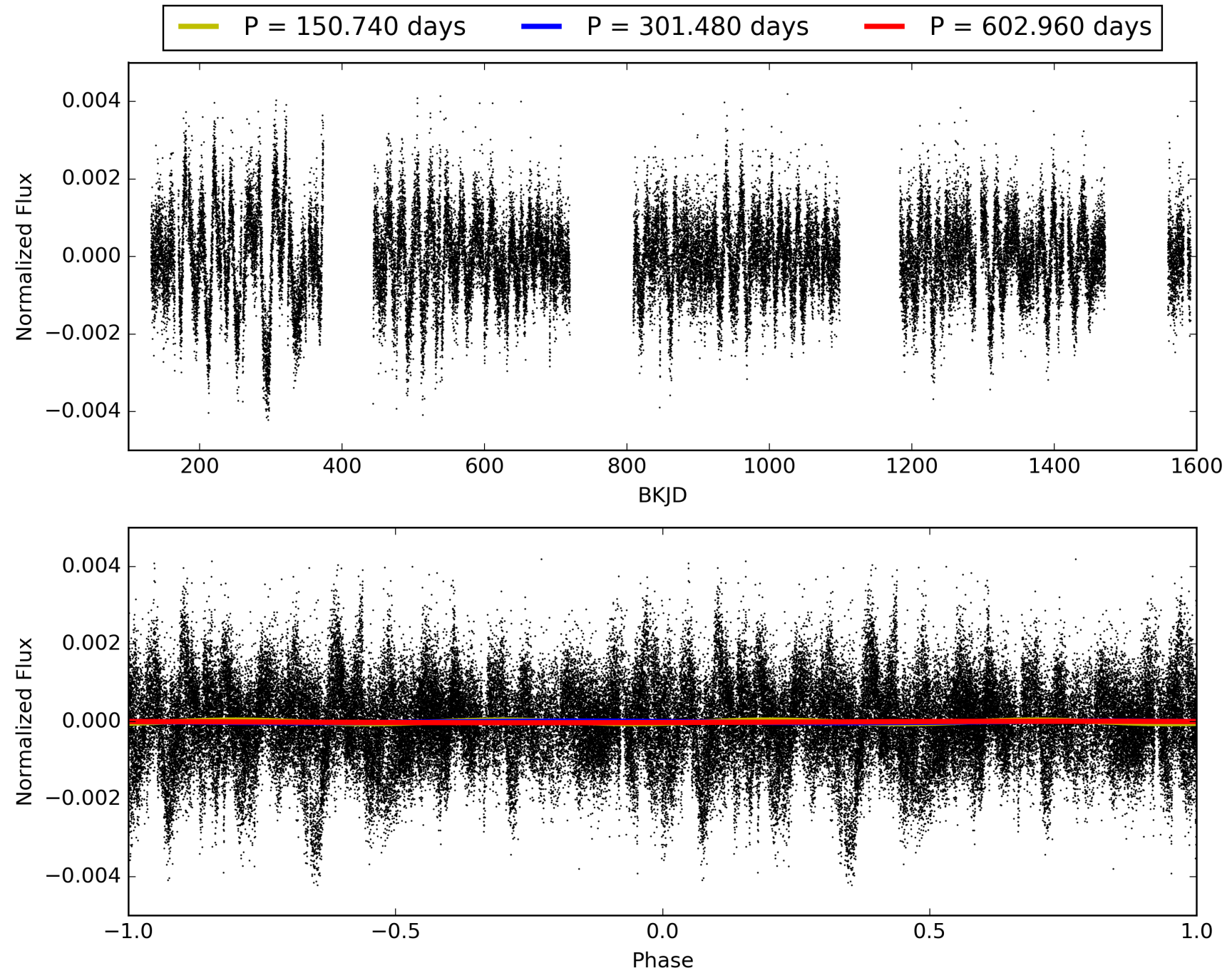
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:02:28 Z

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

# TCE 010717591-01, PDC Light Curves

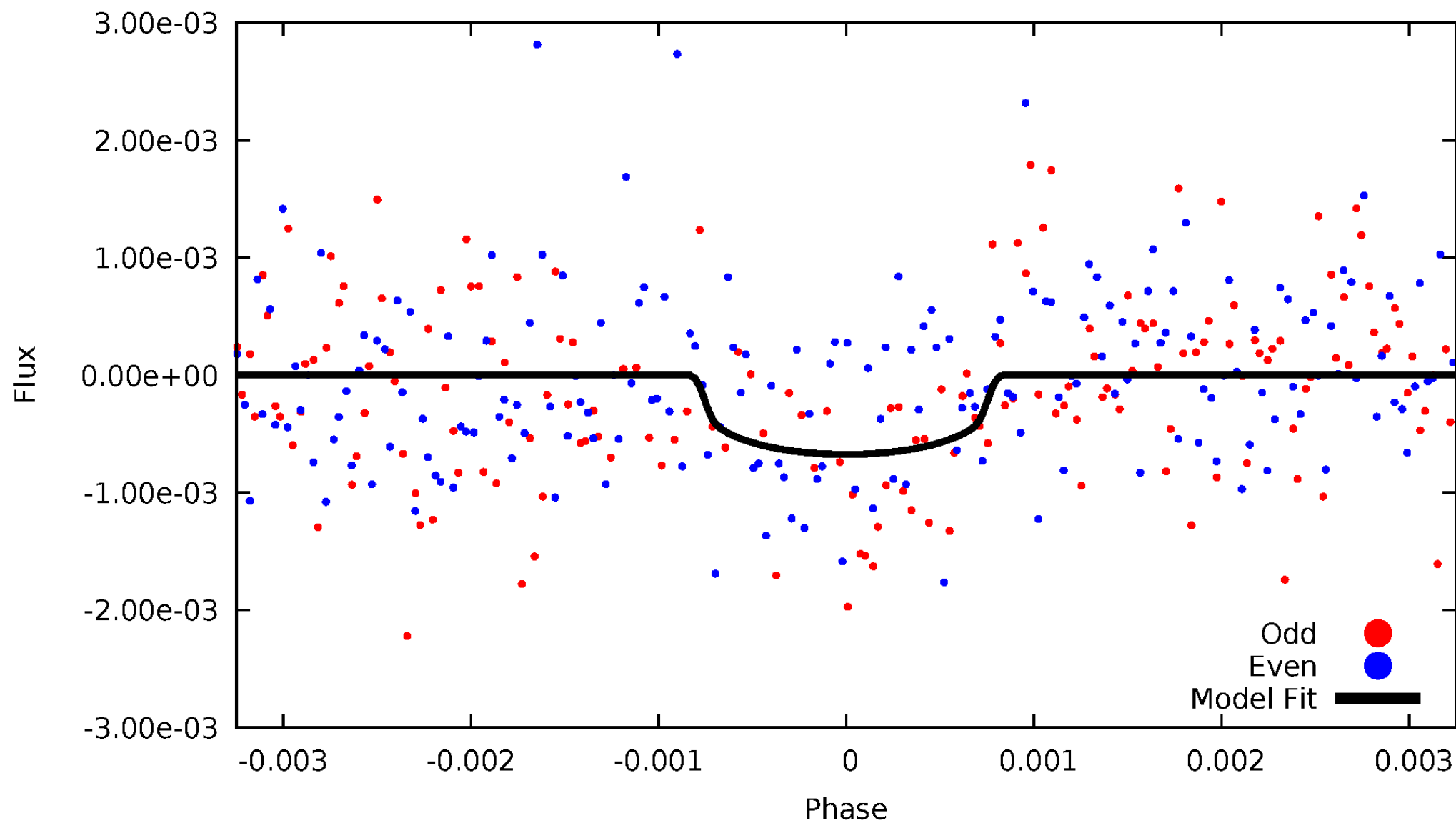


# TCE 010717591-01



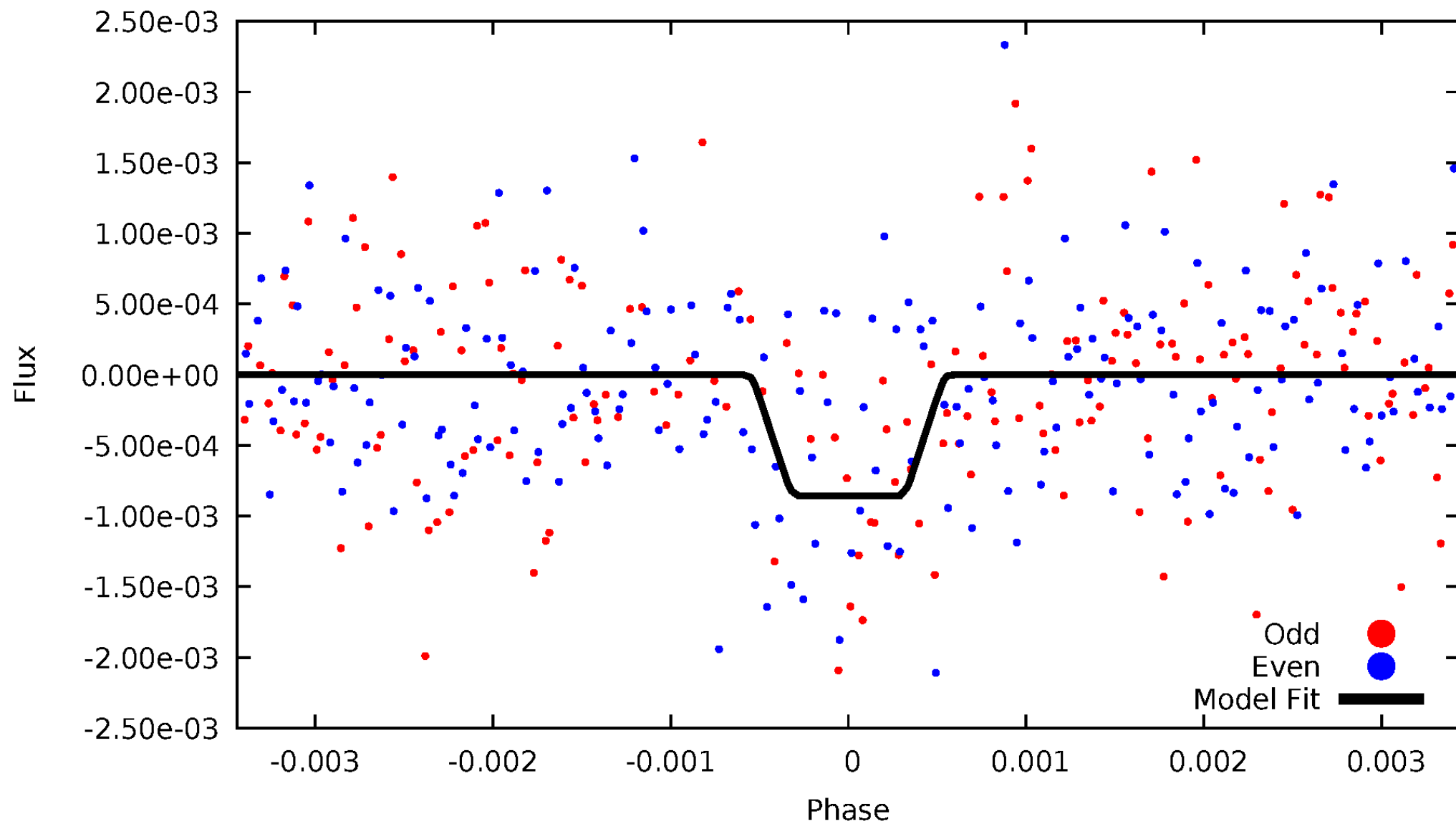
# DV Odd/Even

TCE 010717591-01

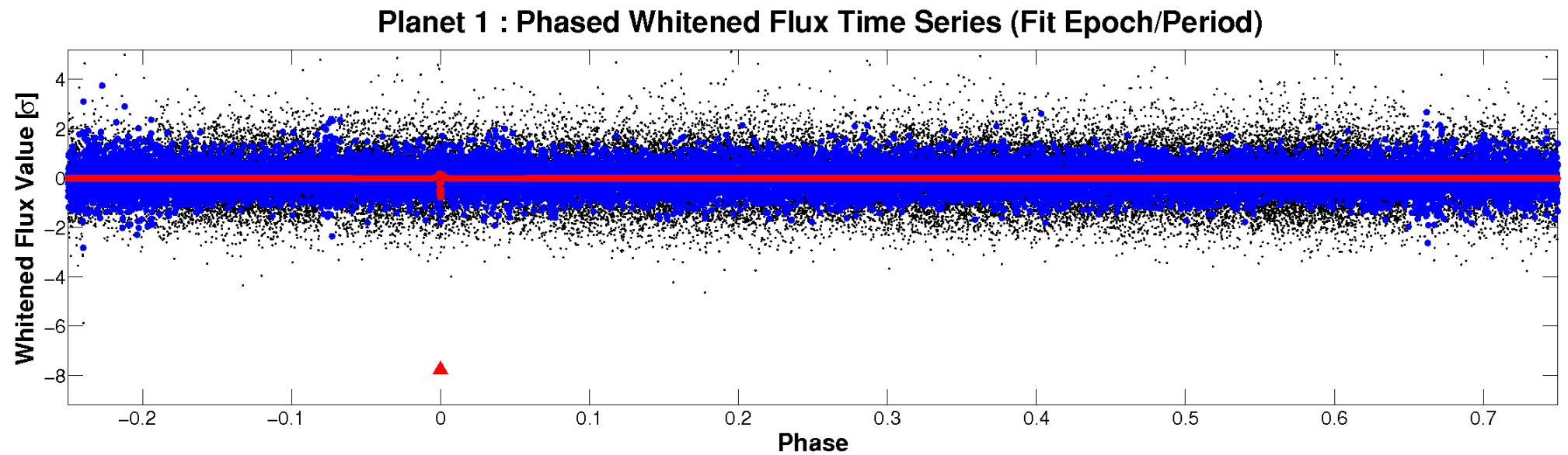
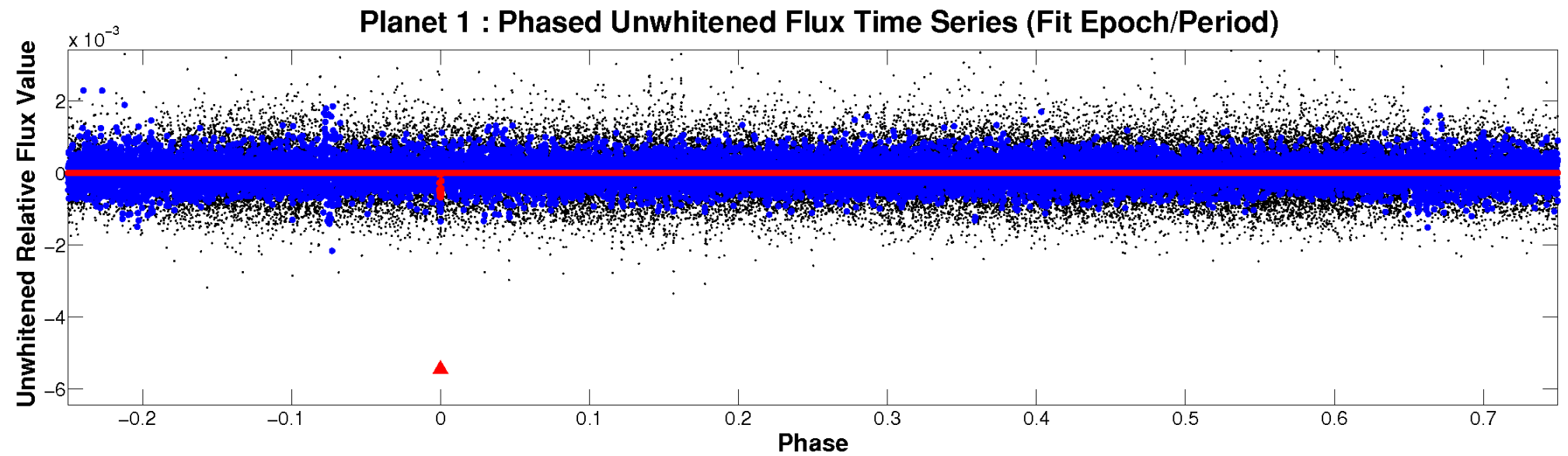


# ALT Odd/Even

TCE 010717591-01



# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

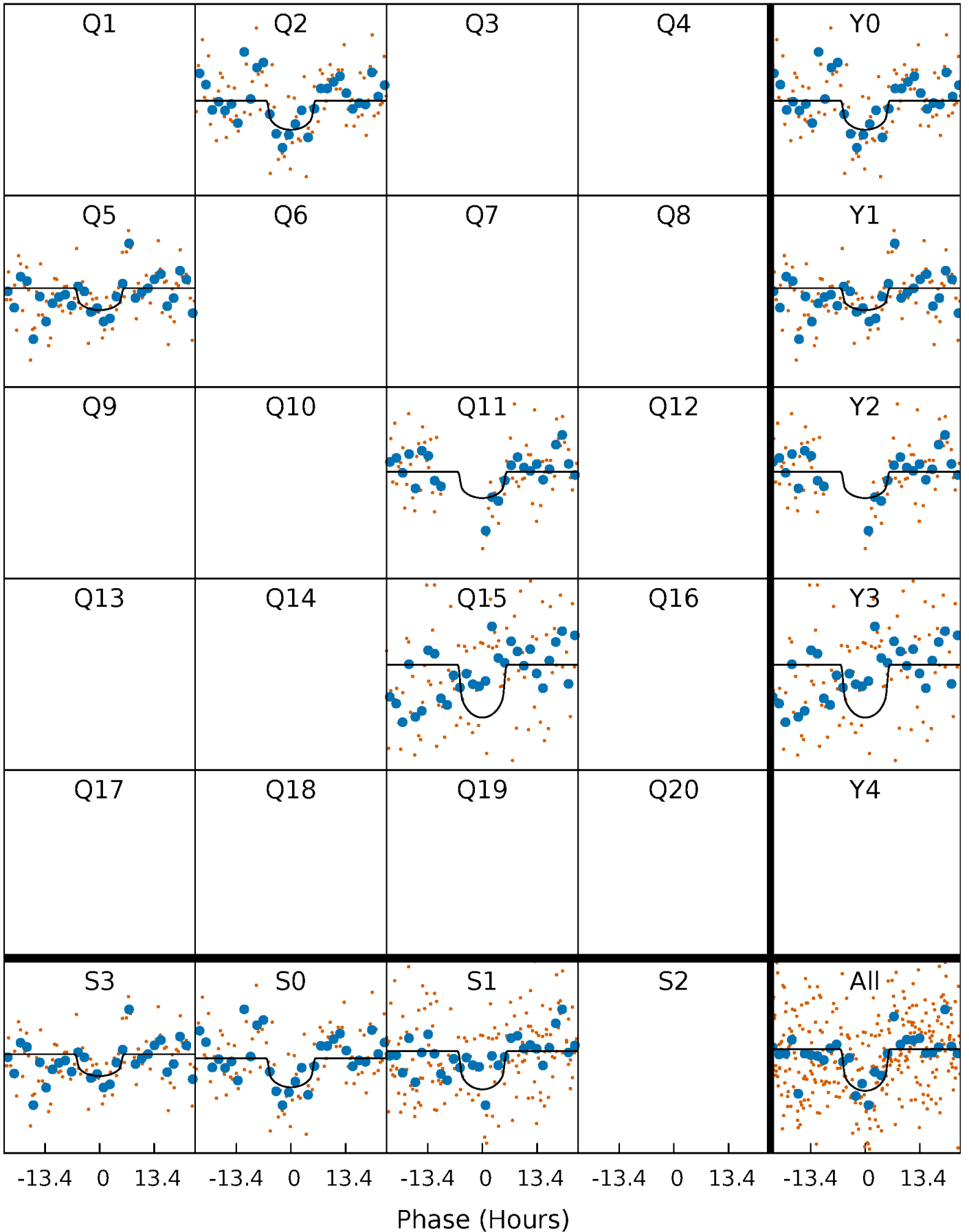
TCE 010717591-01 P=301.480072 Days  $T_0=189.285509$  (BKJD)





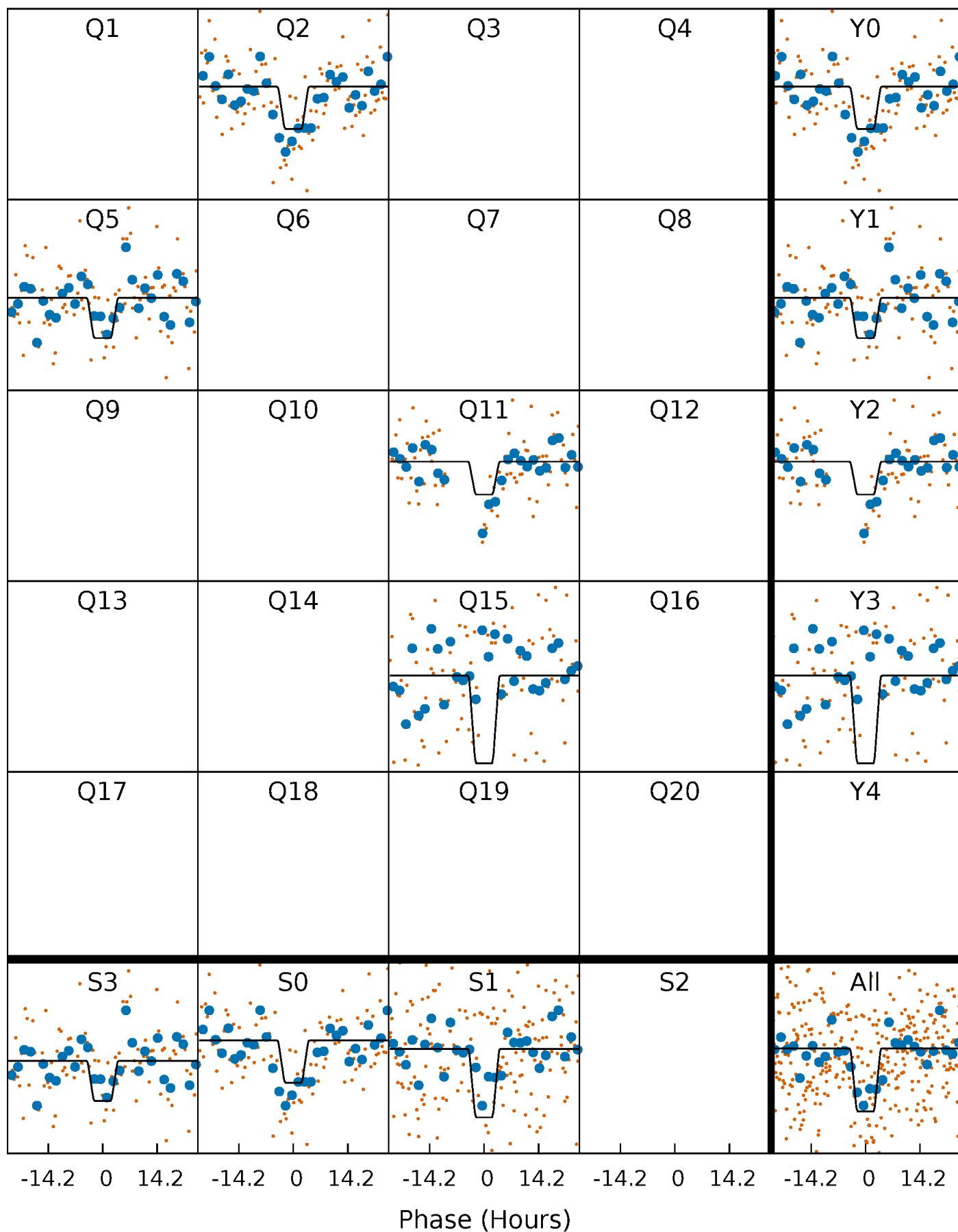
# DV Quarter-Phased Transit Curves

TCE 010717591-01     $P=301.480072$  Days     $T_0=189.285509$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

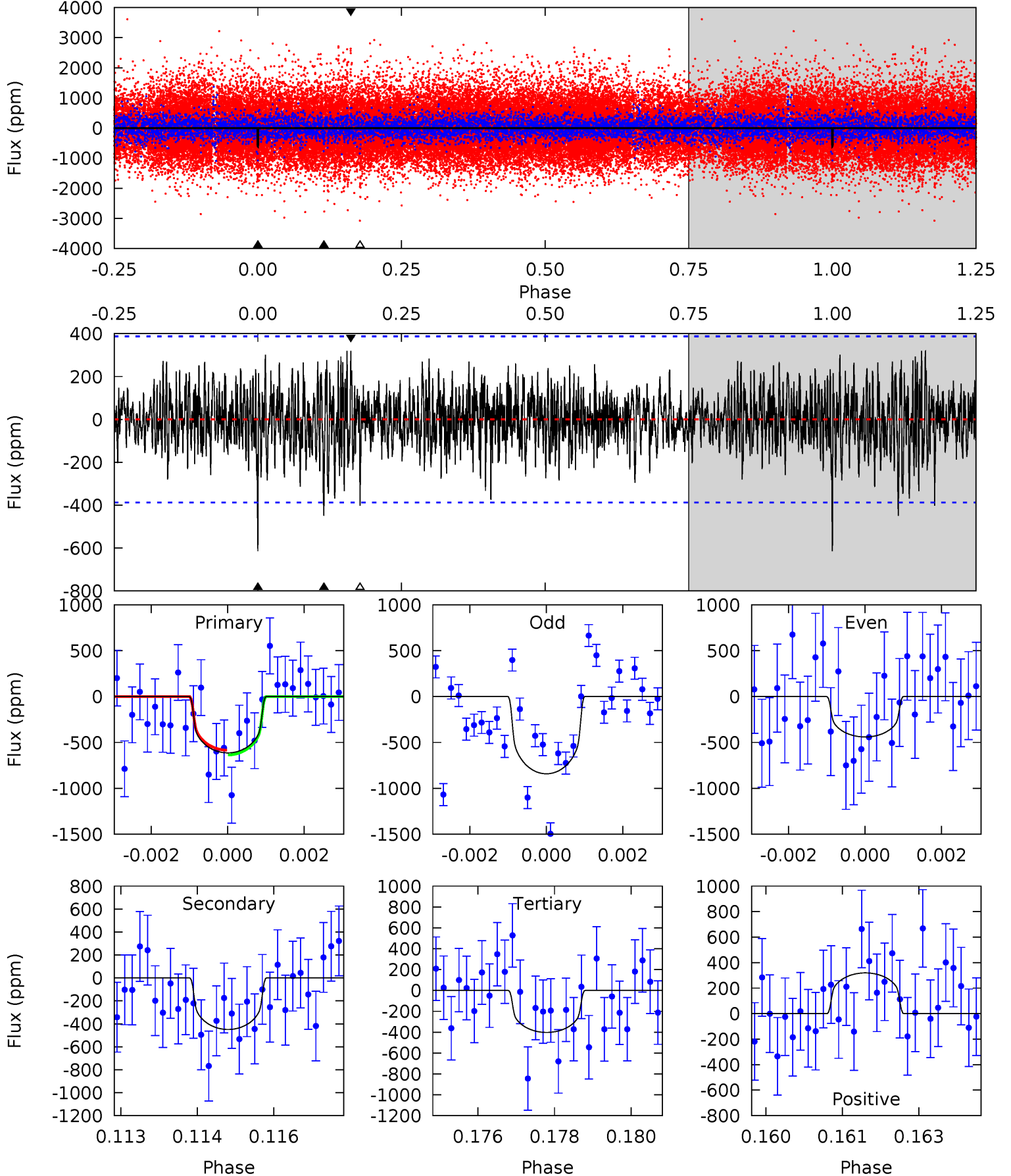
TCE 010717591-01 P=301.483555 Days  $T_0=189.294486$  (BKJD)



# DV Model-Shift Uniqueness Test

010717591-01, P = 301.480072 Days, E = 189.285509 Days

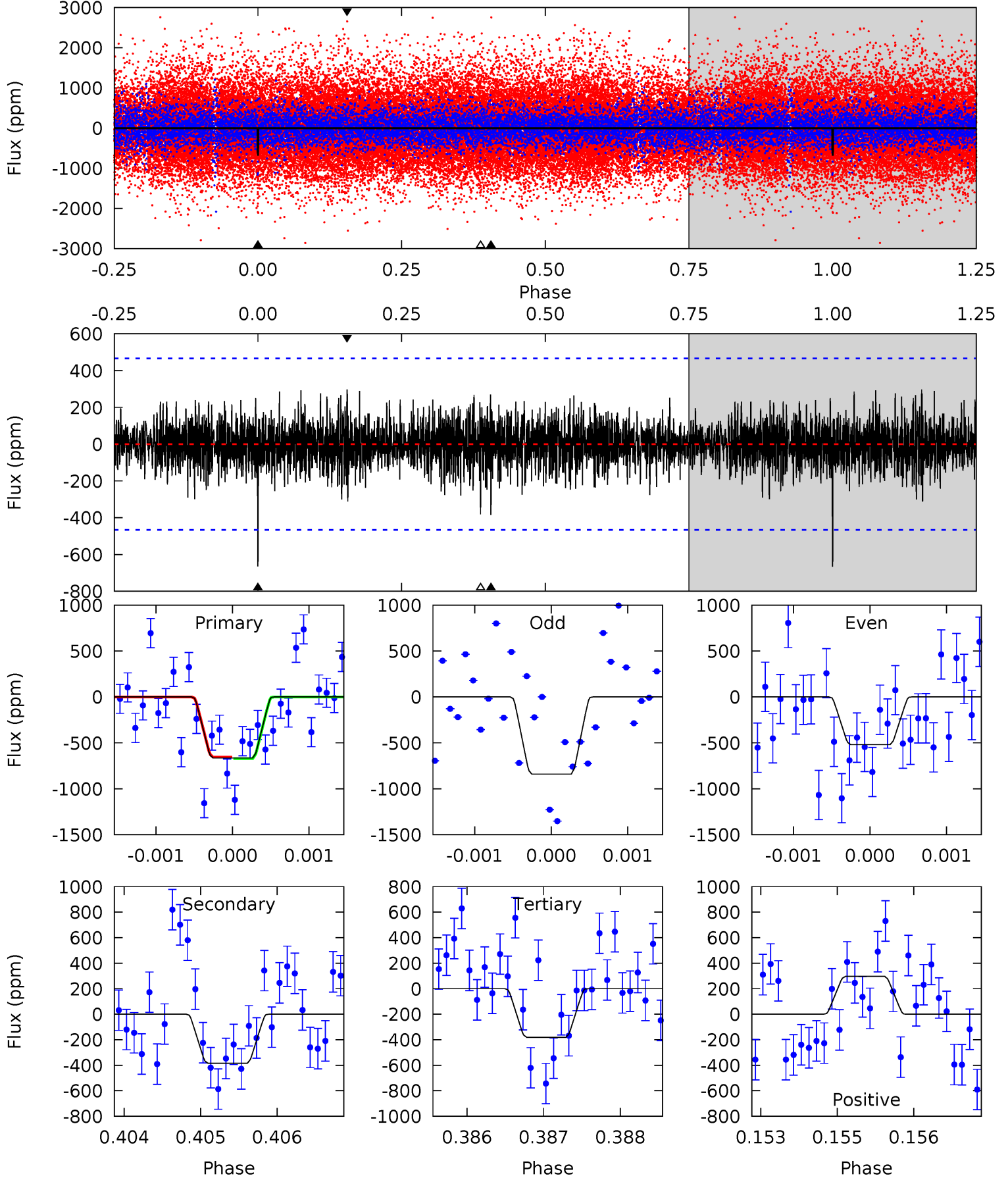
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.50	6.22	5.57	4.42	5.36	3.14	1.47	2.93	4.07	0.65	1.80	2.71	0.93	0.34	0.35



# Alt Model-Shift Uniqueness Test

010717591-01, P = 301.483555 Days, E = 189.294486 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
7.76	4.48	4.44	3.46	5.43	3.26	1.07	3.32	4.30	0.04	1.02	1.86	0.85	0.31	0.09



### Stellar Parameters For KIC 010717591

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$4365^{+130}_{-130}$	$4.624^{+0.049}_{-0.021}$	$-0.140^{+0.300}_{-0.300}$	$0.644^{+0.046}_{-0.056}$	$0.637^{+0.063}_{-0.052}$	$3.357^{+0.717}_{-0.358}$
	+3%/-3%	+1%/-0%	+214%/-214%	+7%/-9%	+10%/-8%	+21%/-11%
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 010717591-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-449 \pm 72$	$2.00^{+0.93}_{-0.98}$	$247^{+8}_{-9}$	$3940^{+1119}_{-510}$	$36484^{+101252}_{-20217}$
Alt.	$-384 \pm 86$	$2.10^{+0.92}_{-1.02}$	$247^{+9}_{-8}$	$3757^{+1001}_{-455}$	$27916^{+71810}_{-15156}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)

$A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

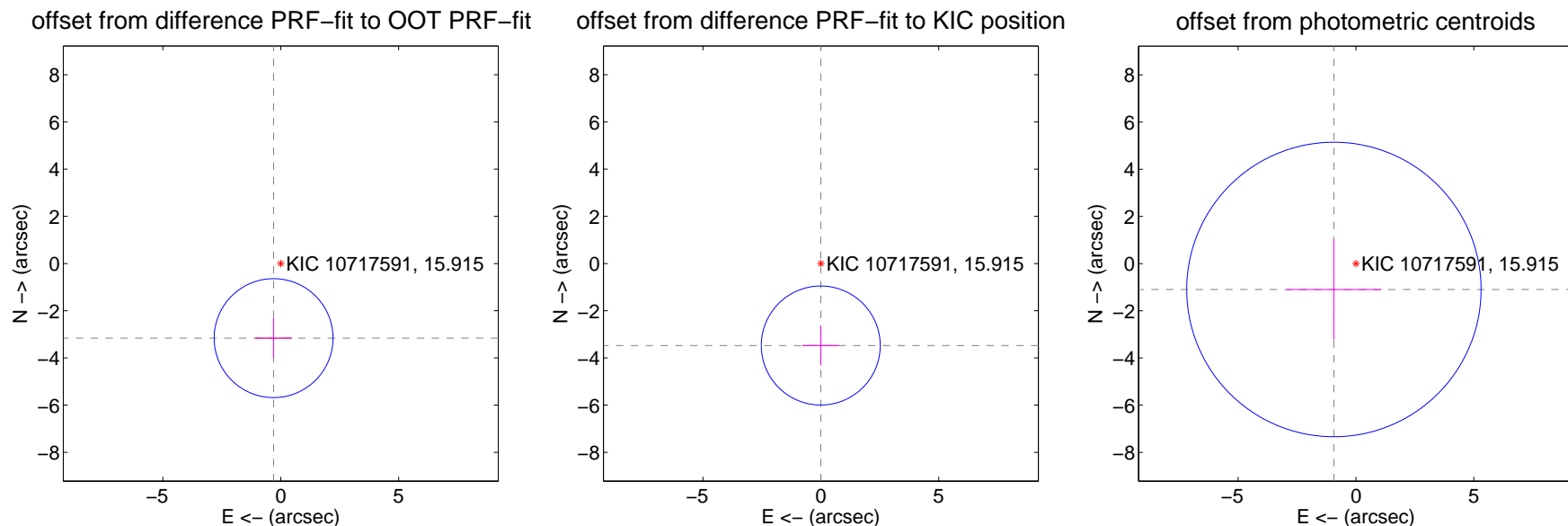
## DV Centroid Data

Supplemental centroid analysis for 010717591-01. Kepler magnitude: 15.91. Transit SNR 5.82

There are 0 quarters with good PRF difference image offsets

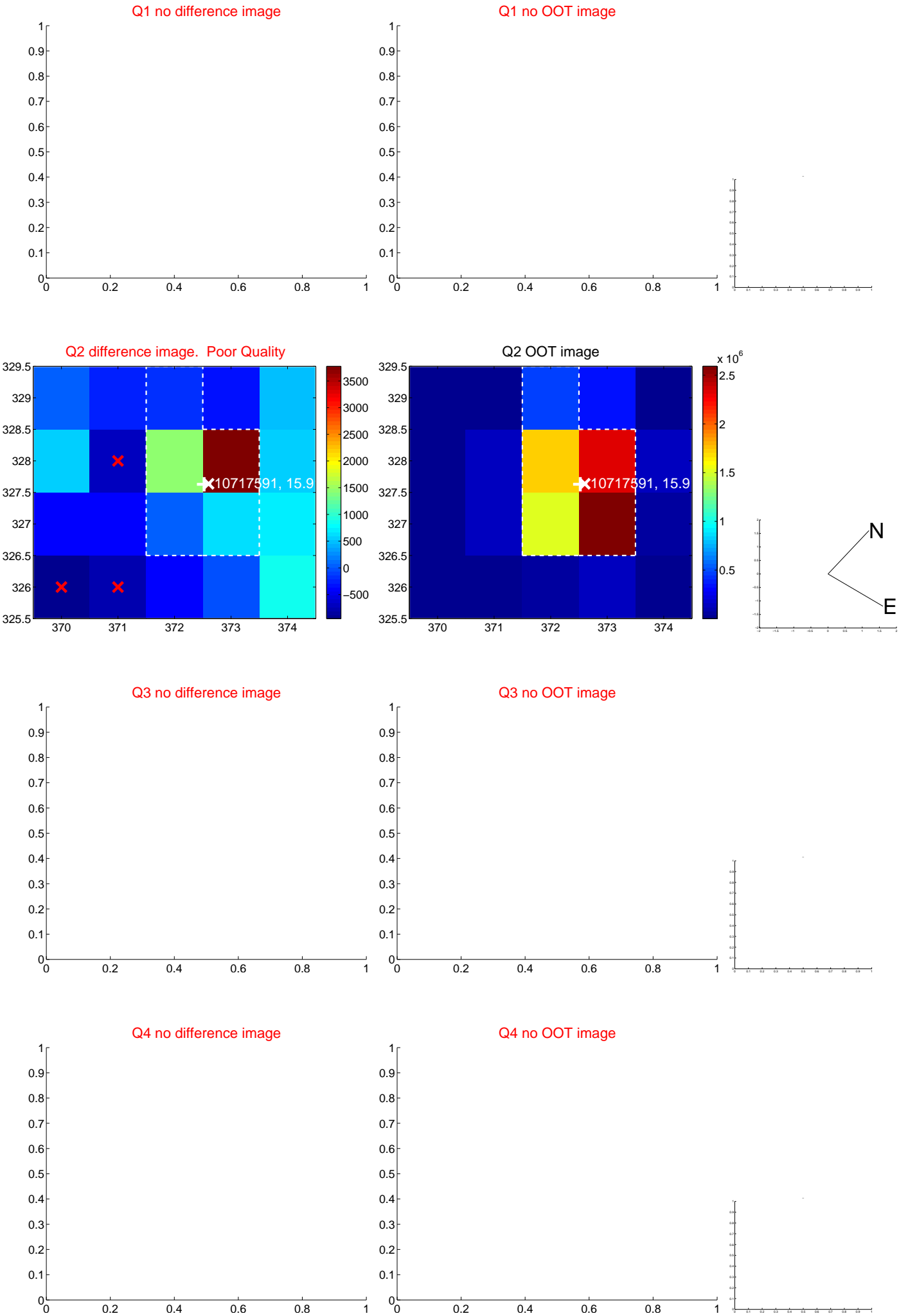
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.176 \pm 0.840$	3.78	$0.303 \pm 0.779$	$-3.161 \pm 0.840$
PRF-fit source offset from KIC position	$3.474 \pm 0.840$	4.13	$0.004 \pm 0.779$	$-3.474 \pm 0.840$
photometric centroid source offset	$1.44 \pm 2.08$	0.69	$0.94 \pm 2.01$	$-1.10 \pm 2.13$



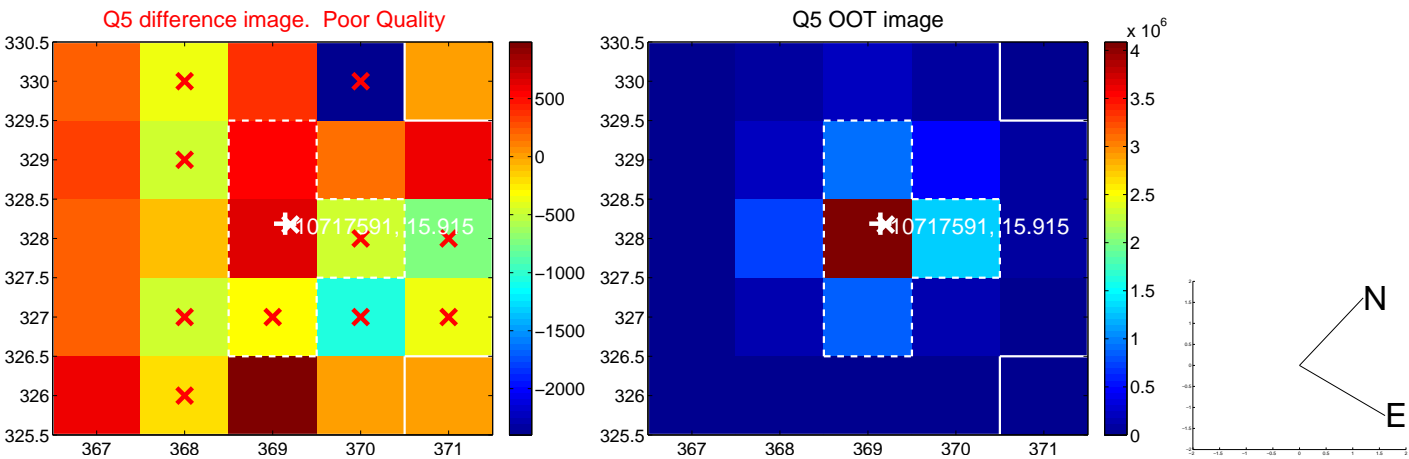
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





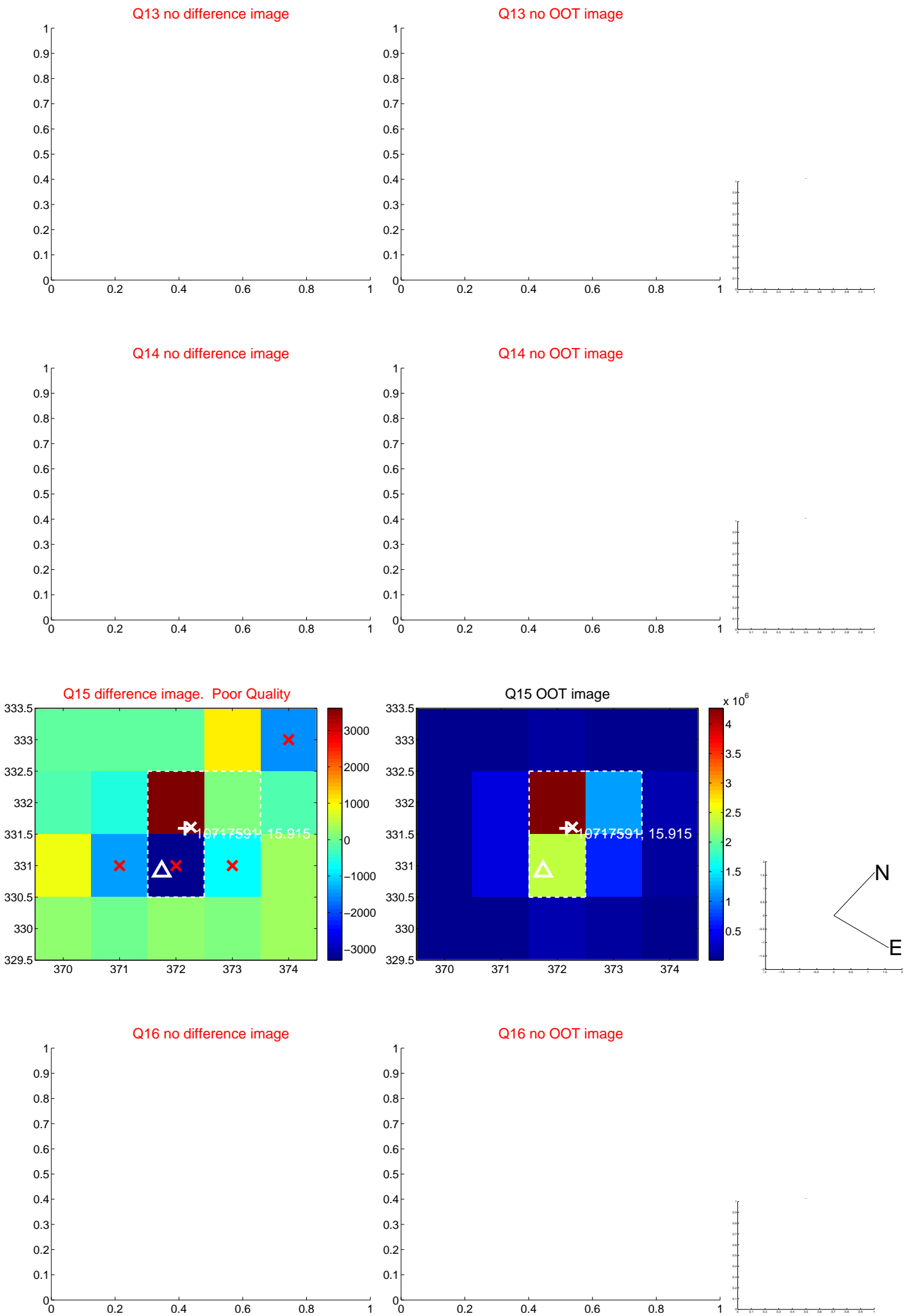
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



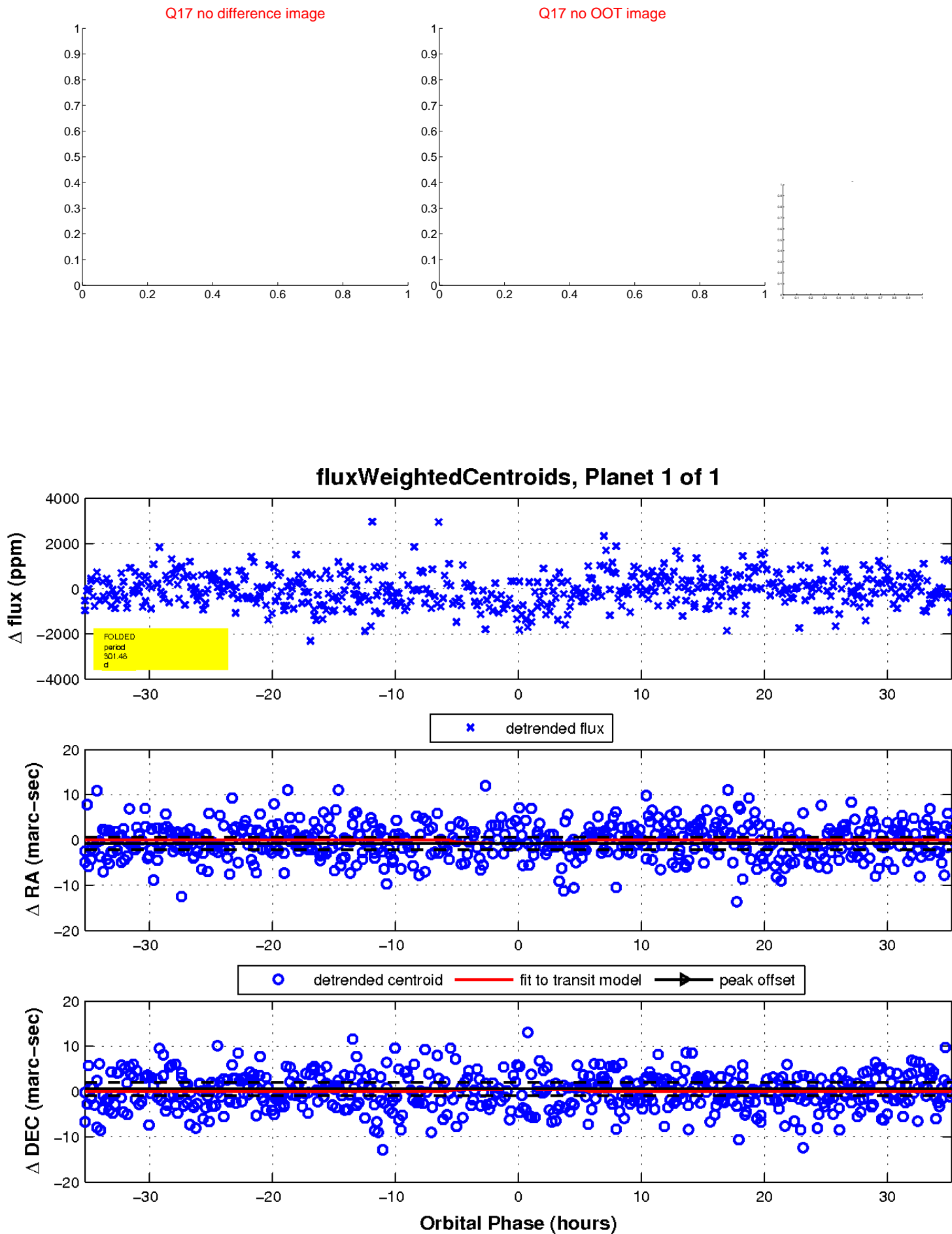
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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

