

# KIC 006372205

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006372205-01	OBS	No	145.772724	253.115776	958.6	5.502	11.2	4.7	19.42	4815	68.91	283.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006372205-01	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

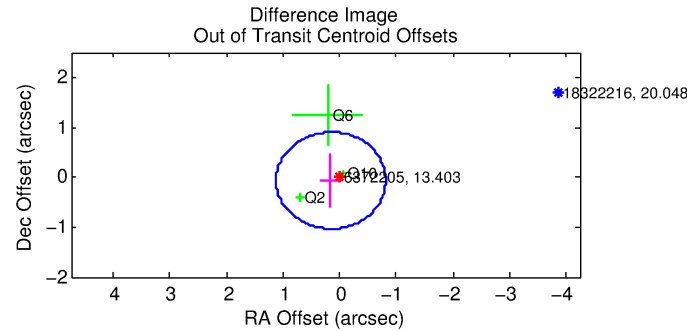
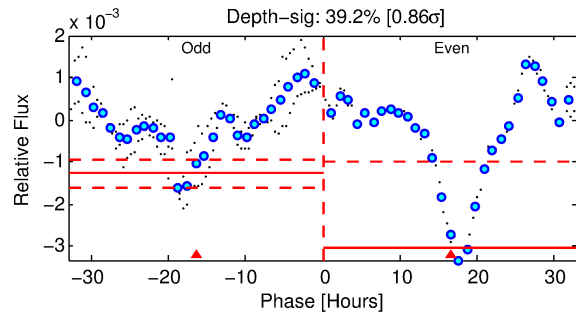
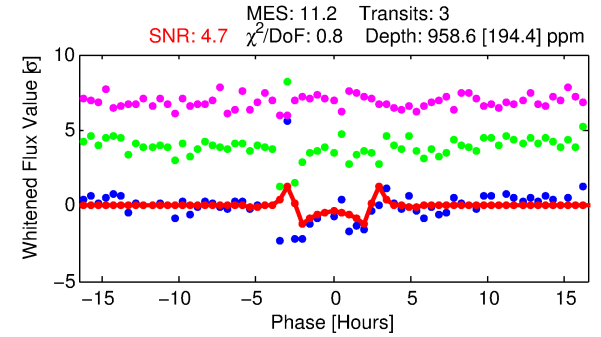
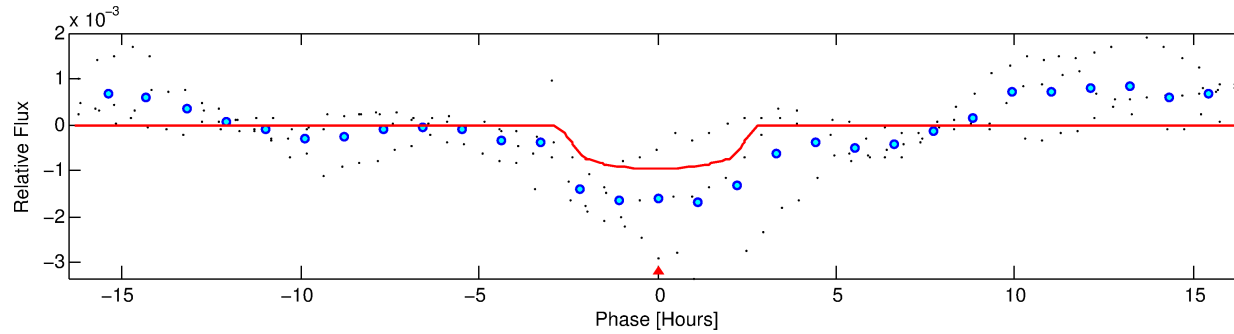
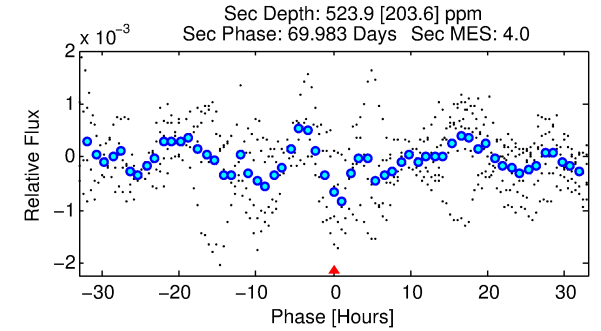
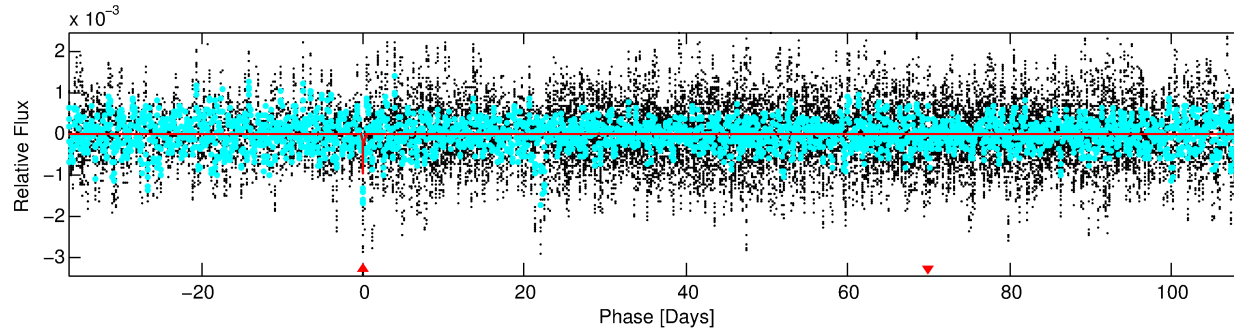
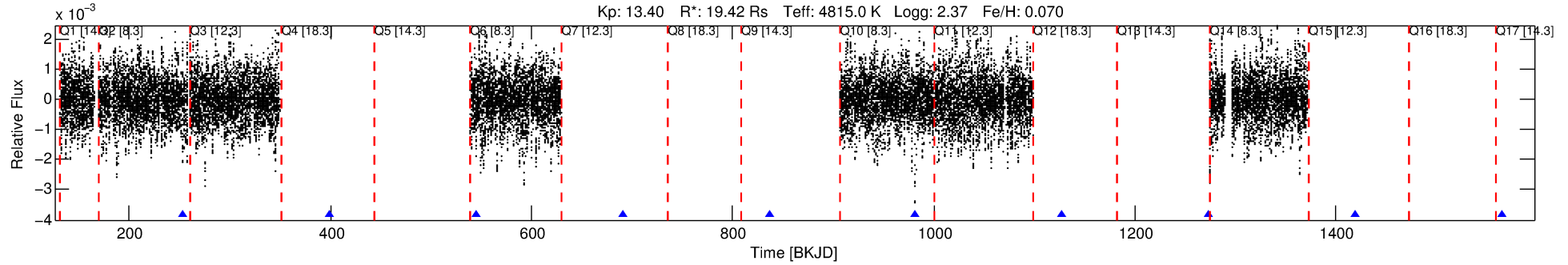
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006372205-01

No Significant Match Found

# DV One-Page Summary

KIC: 6372205 Candidate: 1 of 1 Period: 145.773 d



## DV Fit Results:

Period = 145.77272 [0.00206] d  
Epoch = 253.1158 [0.0054] BKJD  
Rp/R\* = 0.0325 [0.0194]  
a/R\* = 124.14 [256.50]  
b = 0.83 [0.78]  
Seff = 283.95 [84.35]  
Teq = 1047 [78] K  
Rp = 68.91 [48.64] Re  
a = 0.7999 [0.2028] AU  
Ag = 38.83 [49.67] [0.76σ]  
Teff = 4040 [1274] K [2.34σ]

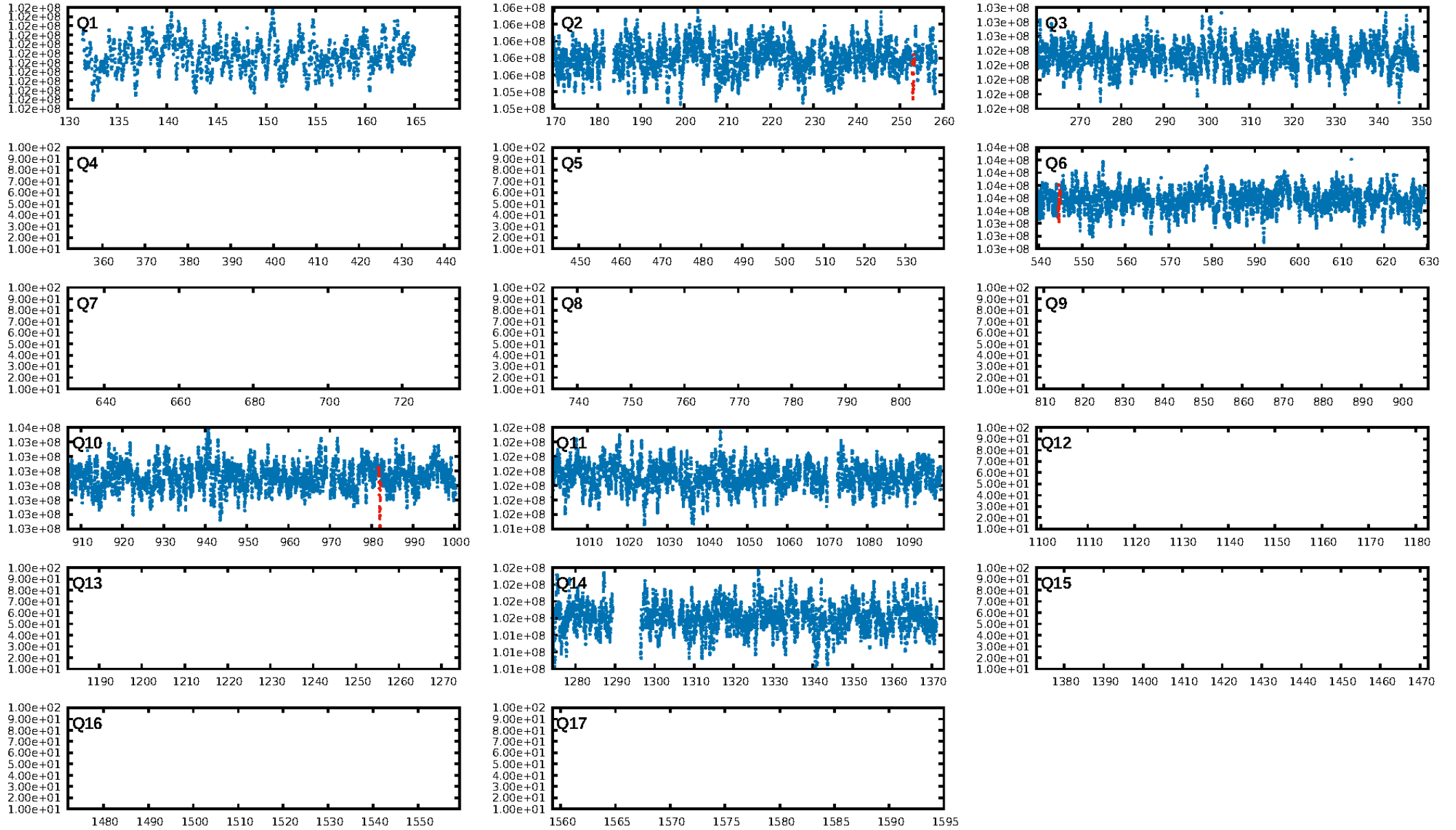
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 22.5%  
ModelChiSquareGof-sig: 91.3%  
Bootstrap-pfa: 4.32e-17  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.8072  
Centroid-sig: 53.6%  
Centroid-so: 0.446 arcsec [0.98σ]  
OotOffset-rm: 0.171 arcsec [0.53σ]  
OotOffset-st: 3/0/0/0 [3]  
KicOffset-rm: 0.135 arcsec [0.50σ]  
KicOffset-st: 3/0/0/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

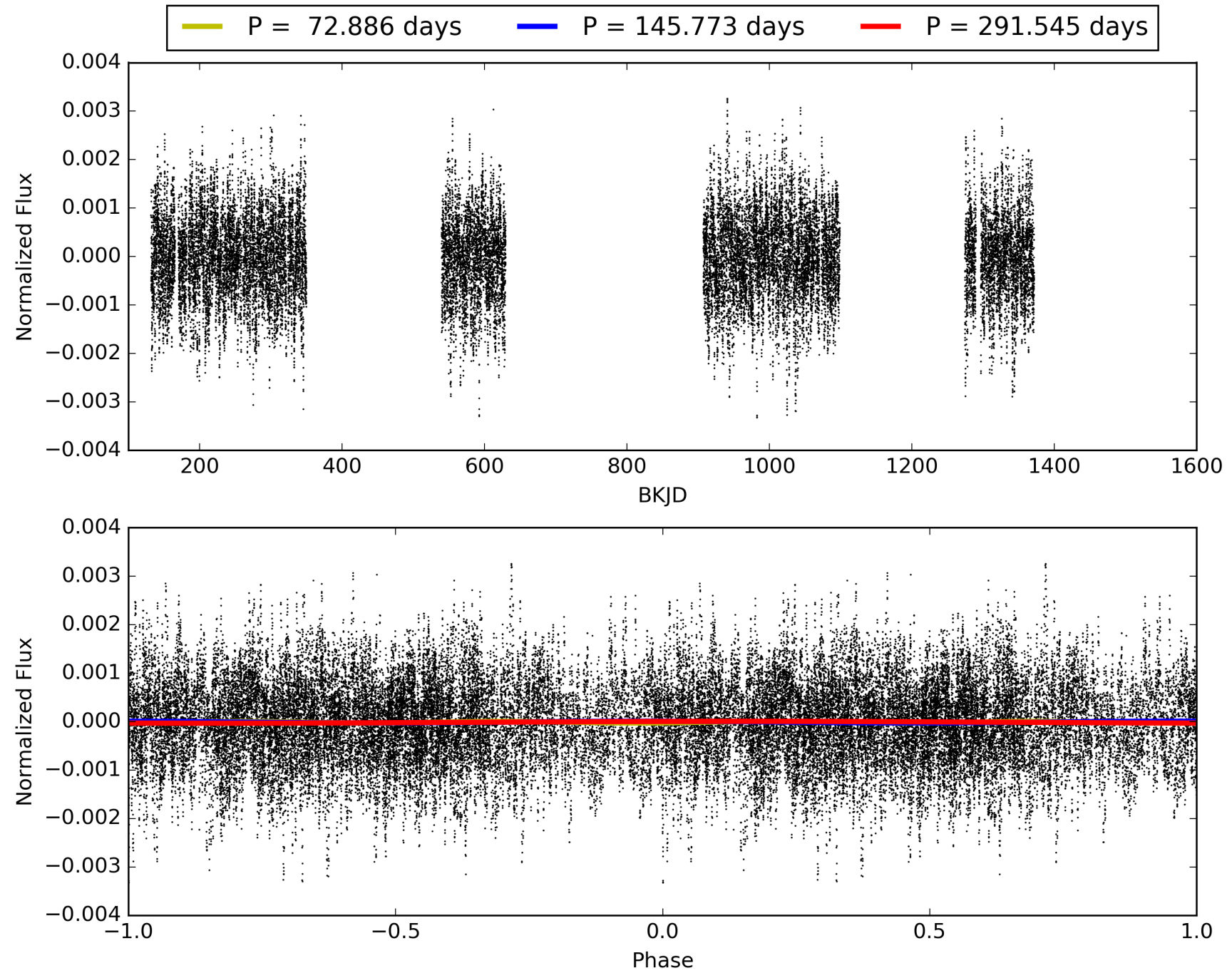
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:13:42 Z

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

# TCE 006372205-01, PDC Light Curves

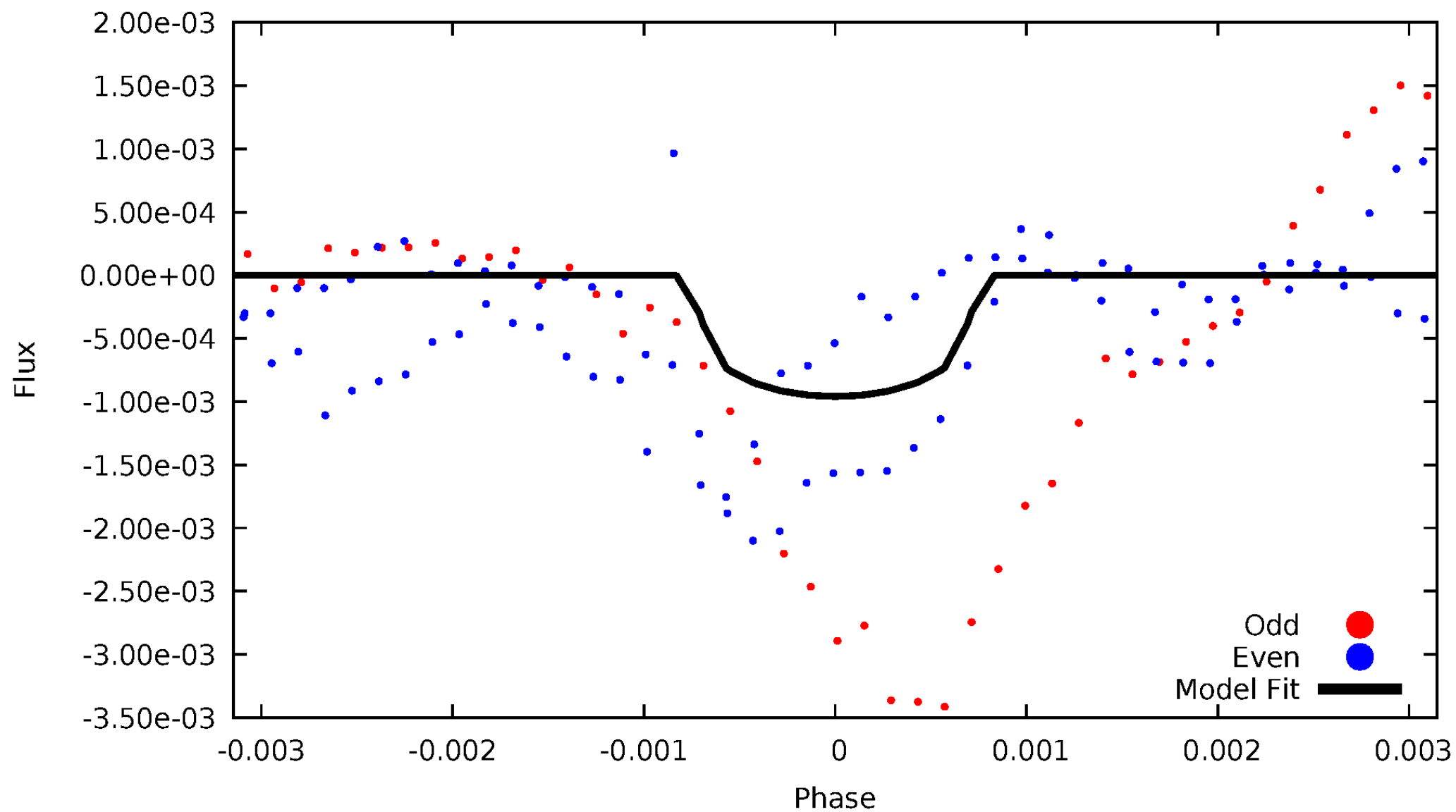


TCE 006372205-01



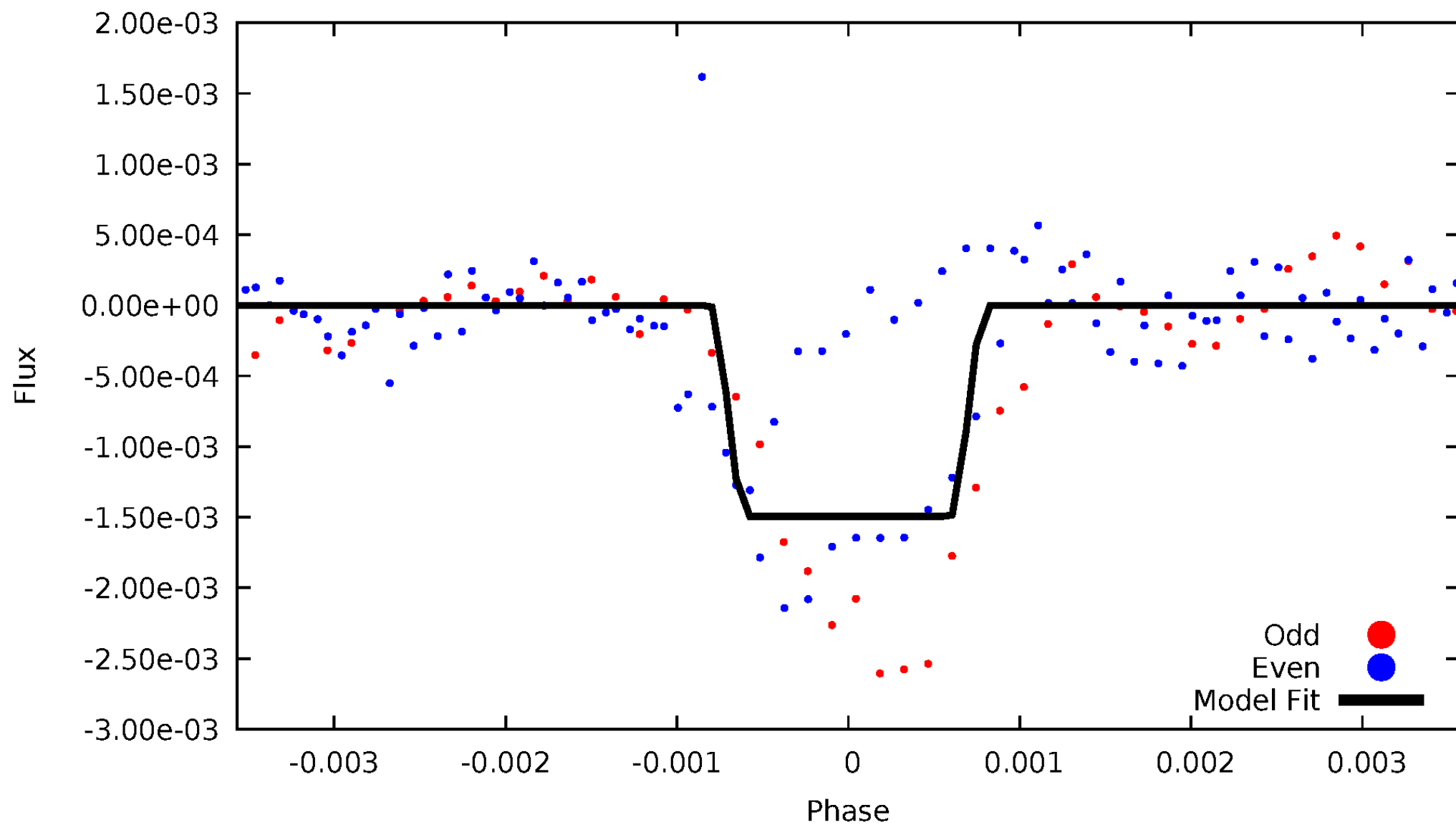
# DV Odd/Even

TCE 006372205-01



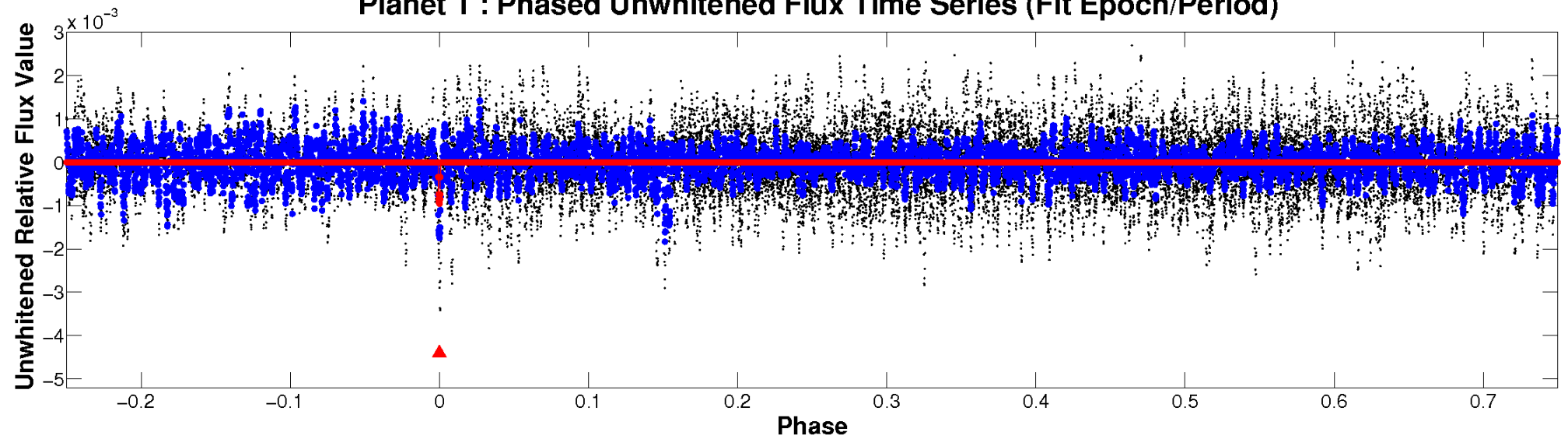
# ALT Odd/Even

TCE 006372205-01

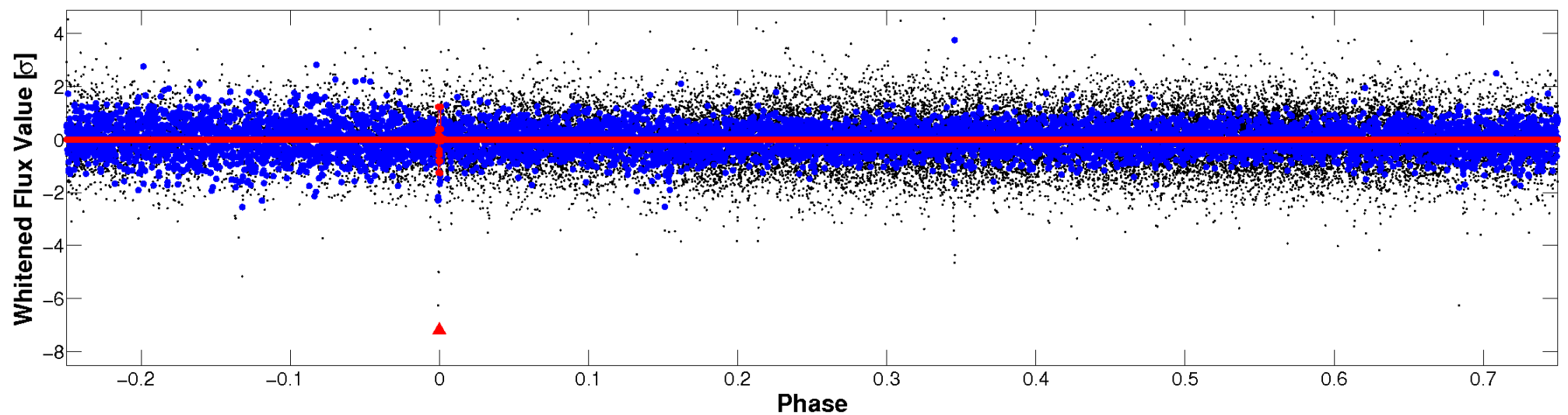


# Non-Whitened Vs. Whitened Light Curve

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

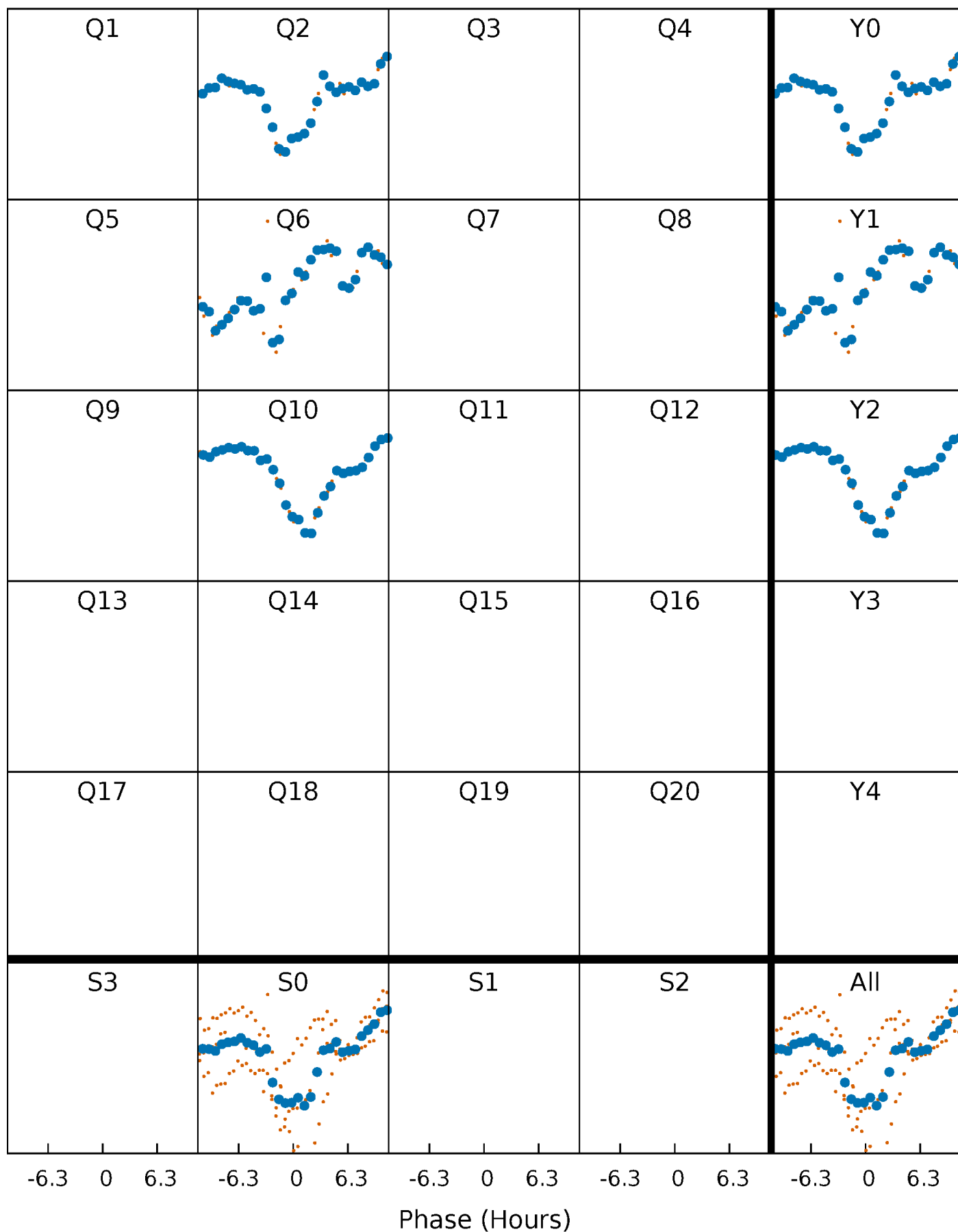


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

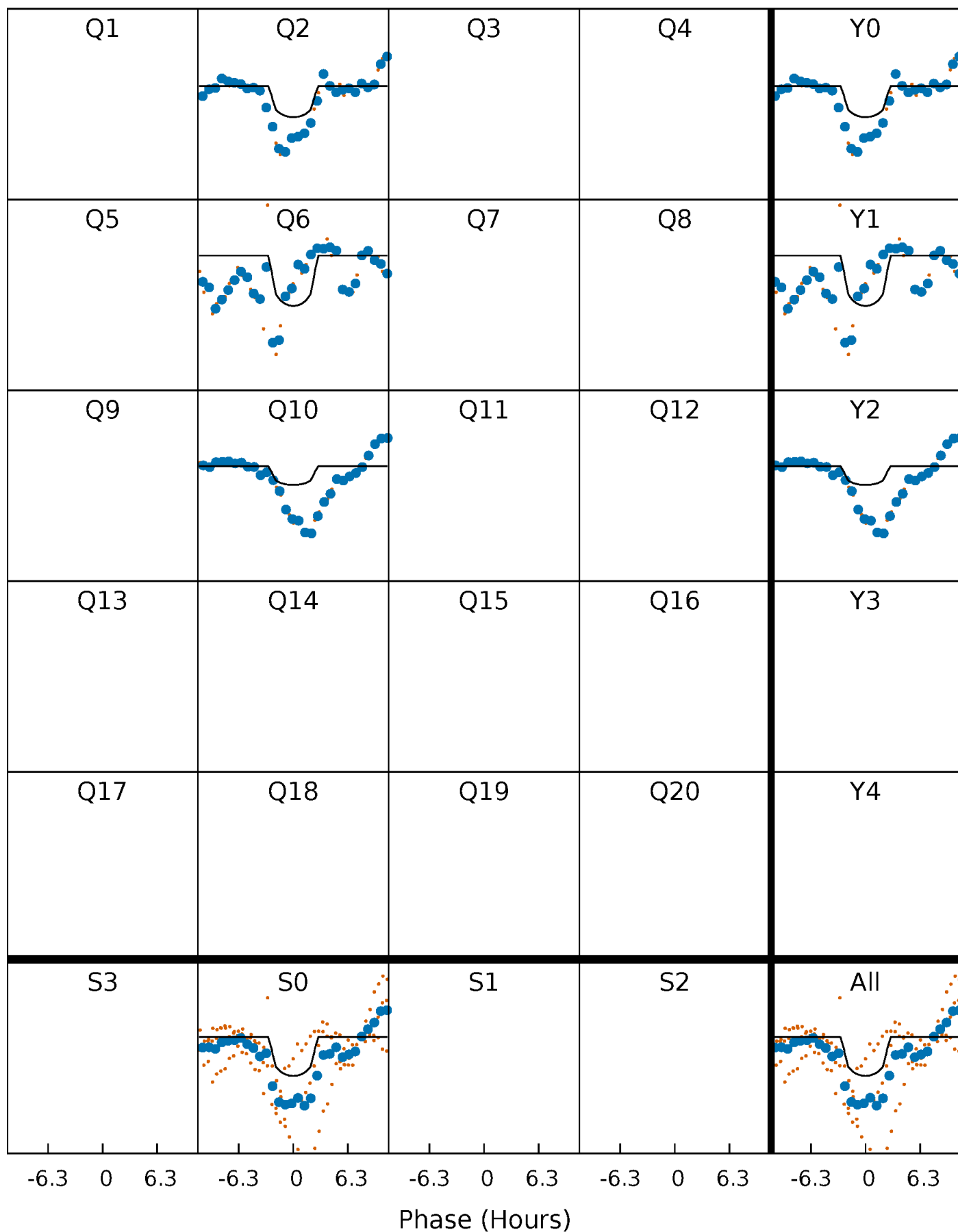
TCE 006372205-01 P=145.772724 Days  $T_0=253.115776$  (BKJD)





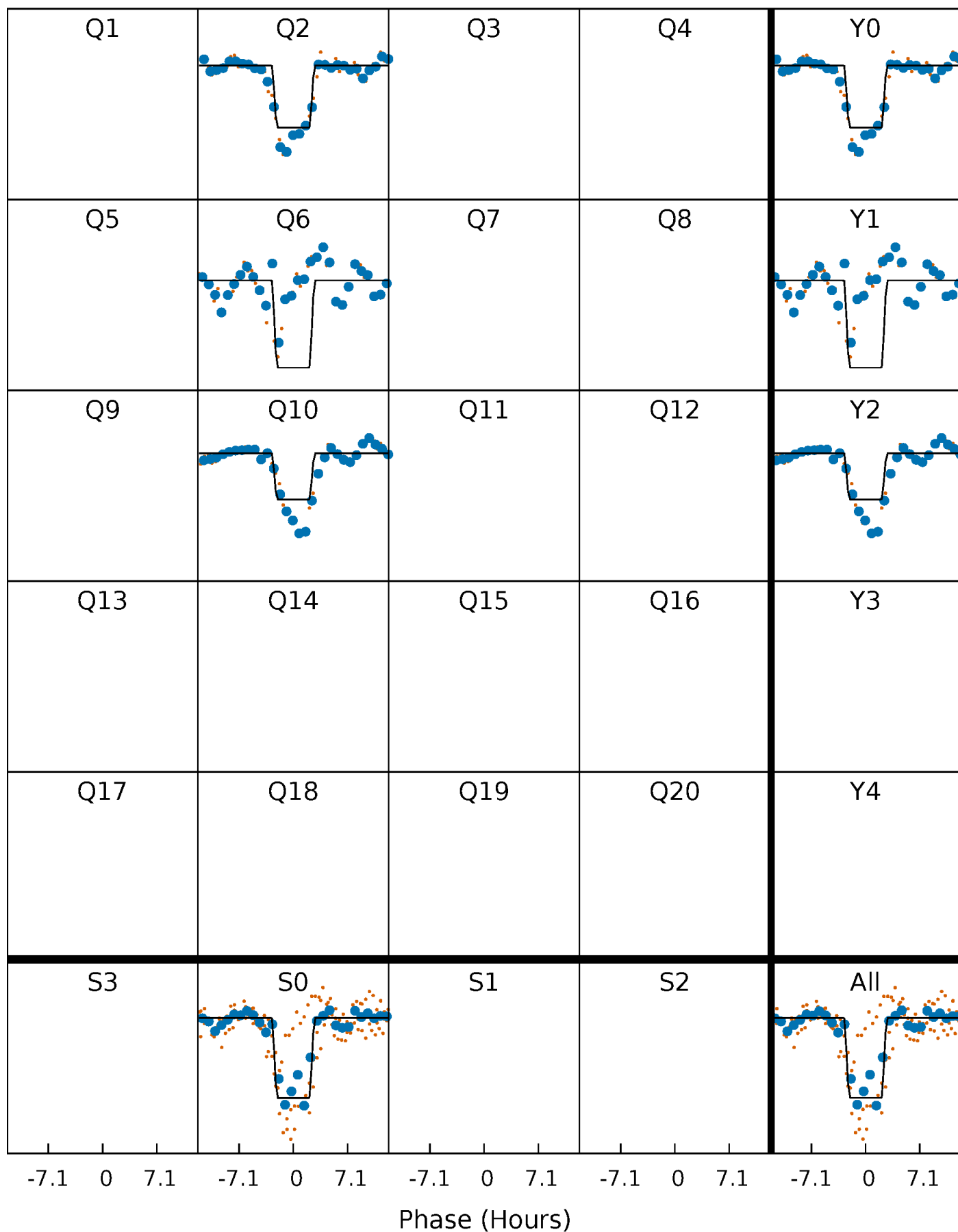
# DV Quarter-Phased Transit Curves

TCE 006372205-01 P=145.772724 Days  $T_0=253.115776$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

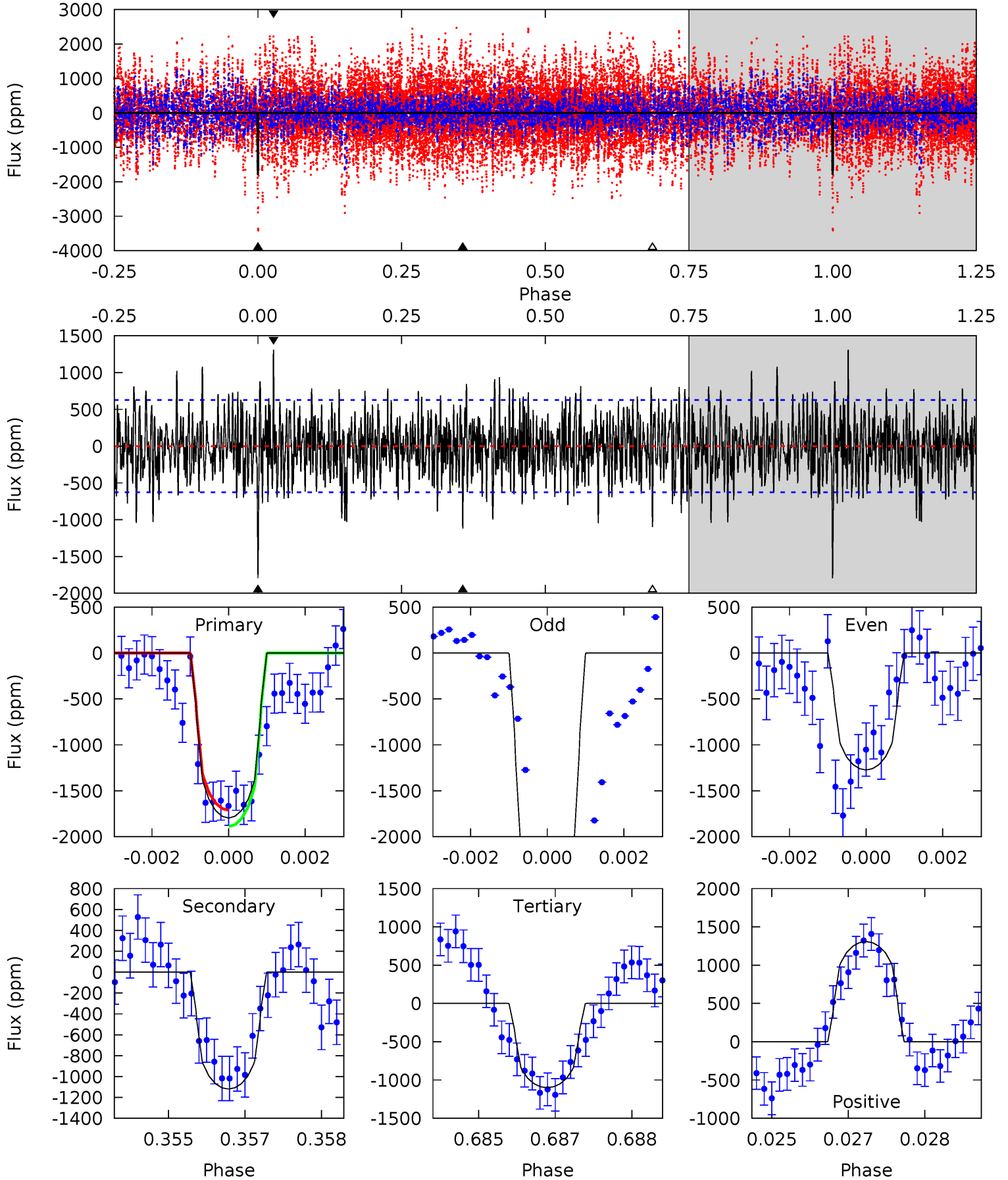
TCE 006372205-01 P=145.777499 Days  $T_0=253.107723$  (BKJD)



# DV Model-Shift Uniqueness Test

006372205-01, P = 145.772724 Days, E = 107.343052 Days

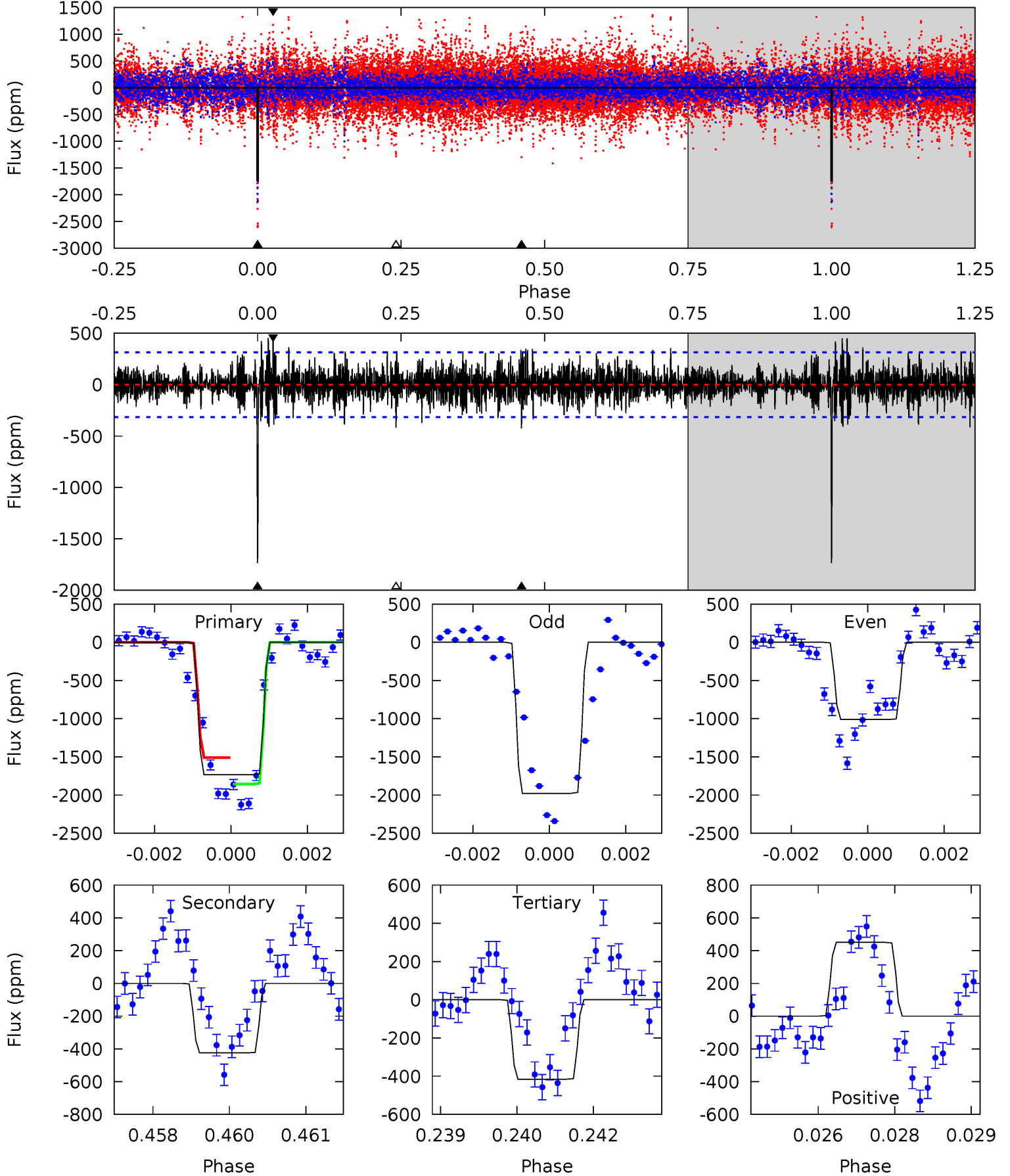
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	9.57	9.40	11.2	5.36	3.14	2.80	5.96	4.17	0.17	-1.61	6.33	0.99	0.42	0.77



# Alt Model-Shift Uniqueness Test

006372205-01, P = 145.777499 Days, E = 107.330224 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
29.6	7.23	7.09	7.67	5.36	3.15	1.88	22.5	21.9	0.15	-0.44	8.50	0.78	0.21	3.02



### Stellar Parameters For KIC 006372205

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4815^{+60}_{-180}$	$2.368^{+0.027}_{-0.030}$	$0.070^{+0.150}_{-0.450}$	$19.422^{+1.298}_{-7.357}$	$3.211^{+0.359}_{-2.032}$	$0.001^{+0.000}_{-0.000}$
	+1%/-4%	+1%/-1%	+214%/-643%	+7%/-38%	+11%/-63%	+66%/-11%
Source	PHO1	AST9	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 006372205-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	-1119 $\pm$ 117	$73.02^{+36.76}_{-37.82}$	$1461^{+31}_{-56}$	$4719^{+1946}_{-656}$	$75^{+248}_{-41}$
Alt.	-424 $\pm$ 59	$87.84^{+39.78}_{-40.11}$	$1458^{+33}_{-56}$	$3729^{+856}_{-464}$	$20^{+45}_{-11}$

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

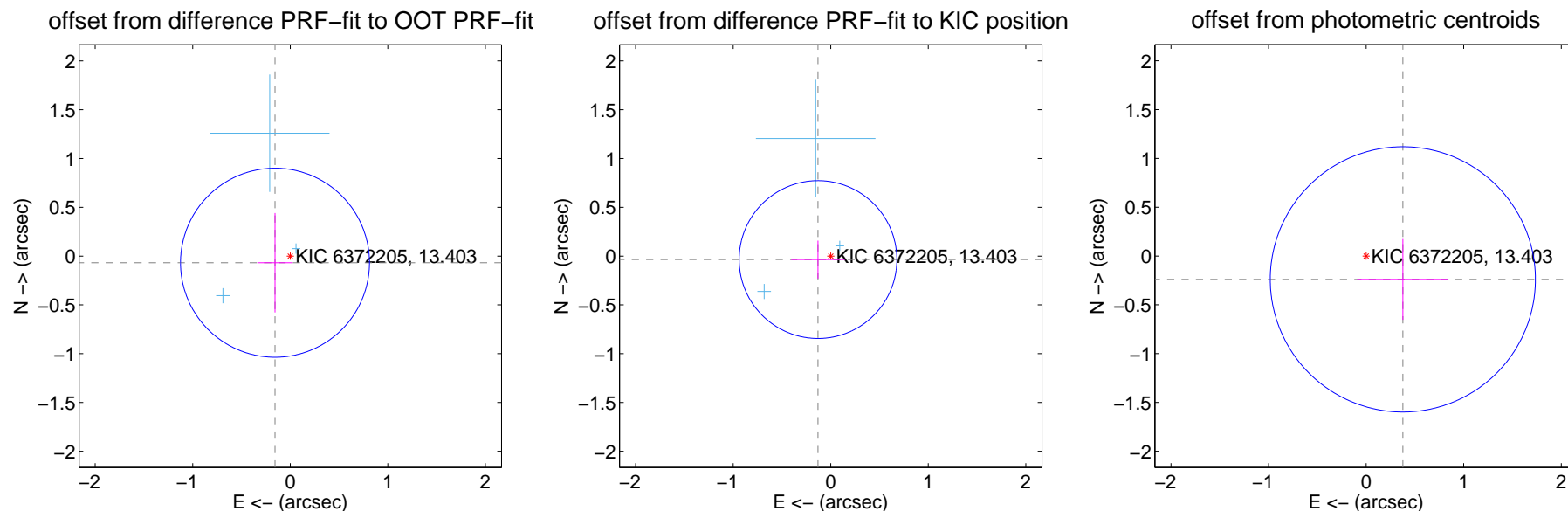
## DV Centroid Data

Supplemental centroid analysis for 006372205-01. Kepler magnitude: 13.40. Transit SNR 4.69

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.171 \pm 0.323$	0.53	$0.156 \pm 0.182$	$-0.068 \pm 0.509$
PRF-fit source offset from KIC position	$0.135 \pm 0.269$	0.50	$0.130 \pm 0.274$	$-0.036 \pm 0.194$
photometric centroid source offset	$0.45 \pm 0.45$	0.98	$-0.38 \pm 0.47$	$-0.24 \pm 0.41$



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.

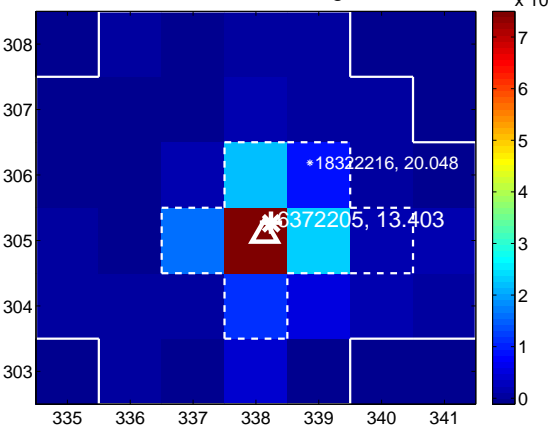
Q1 no difference image



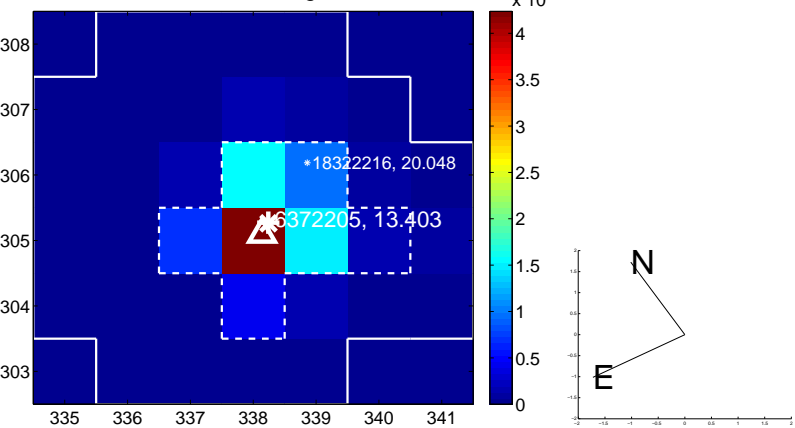
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



Q3 no OOT image



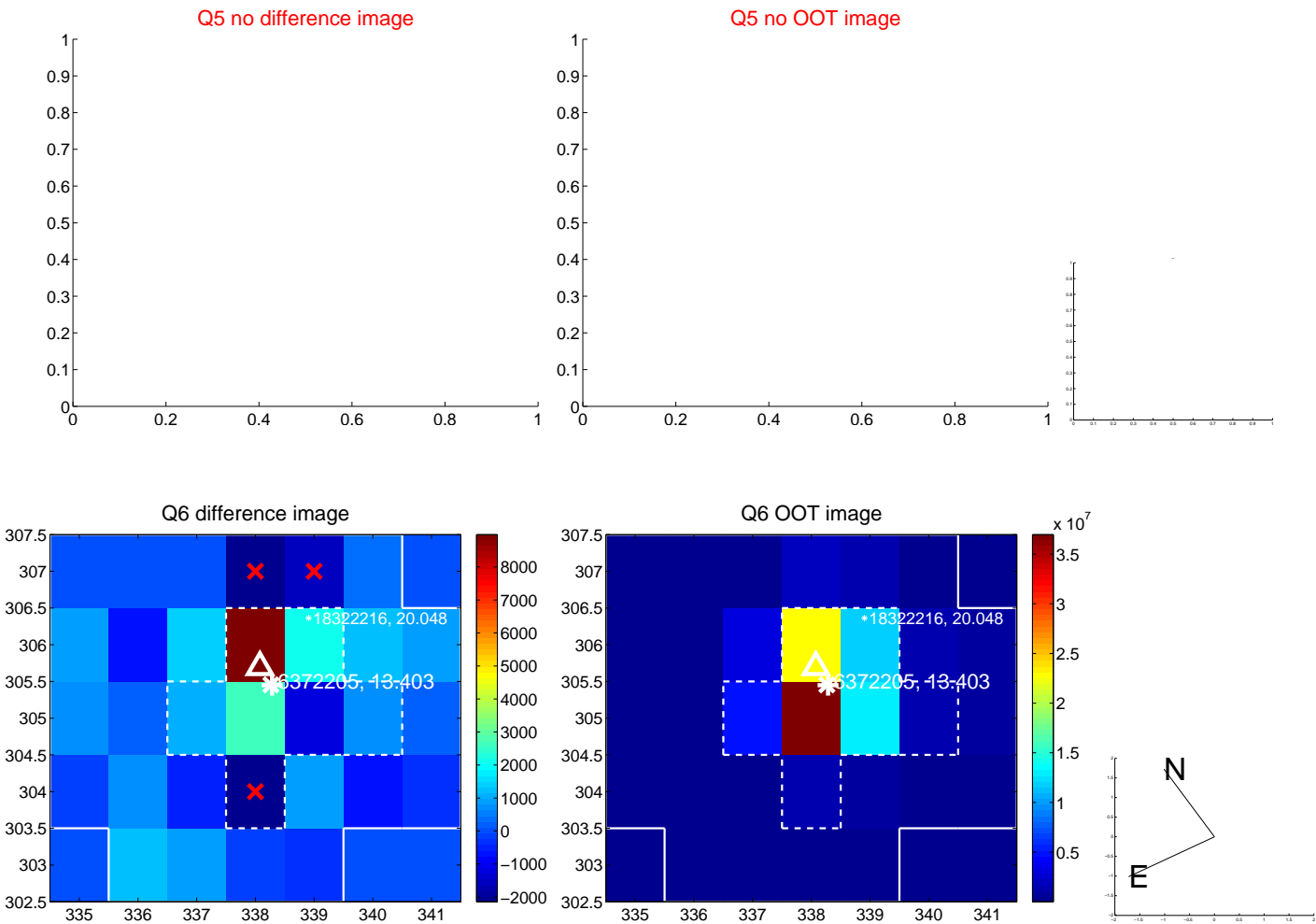
Q4 no difference image



Q4 no OOT image

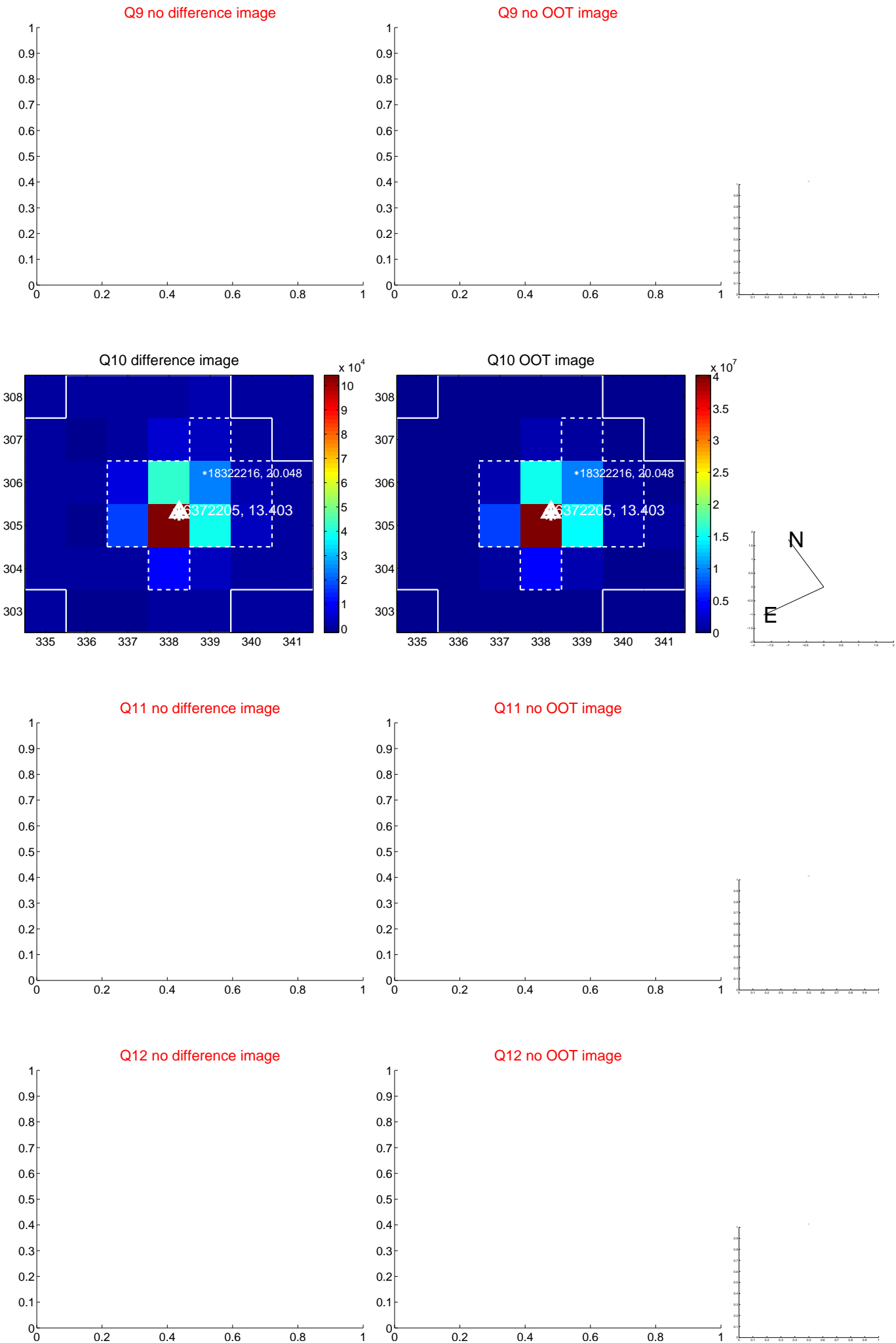


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





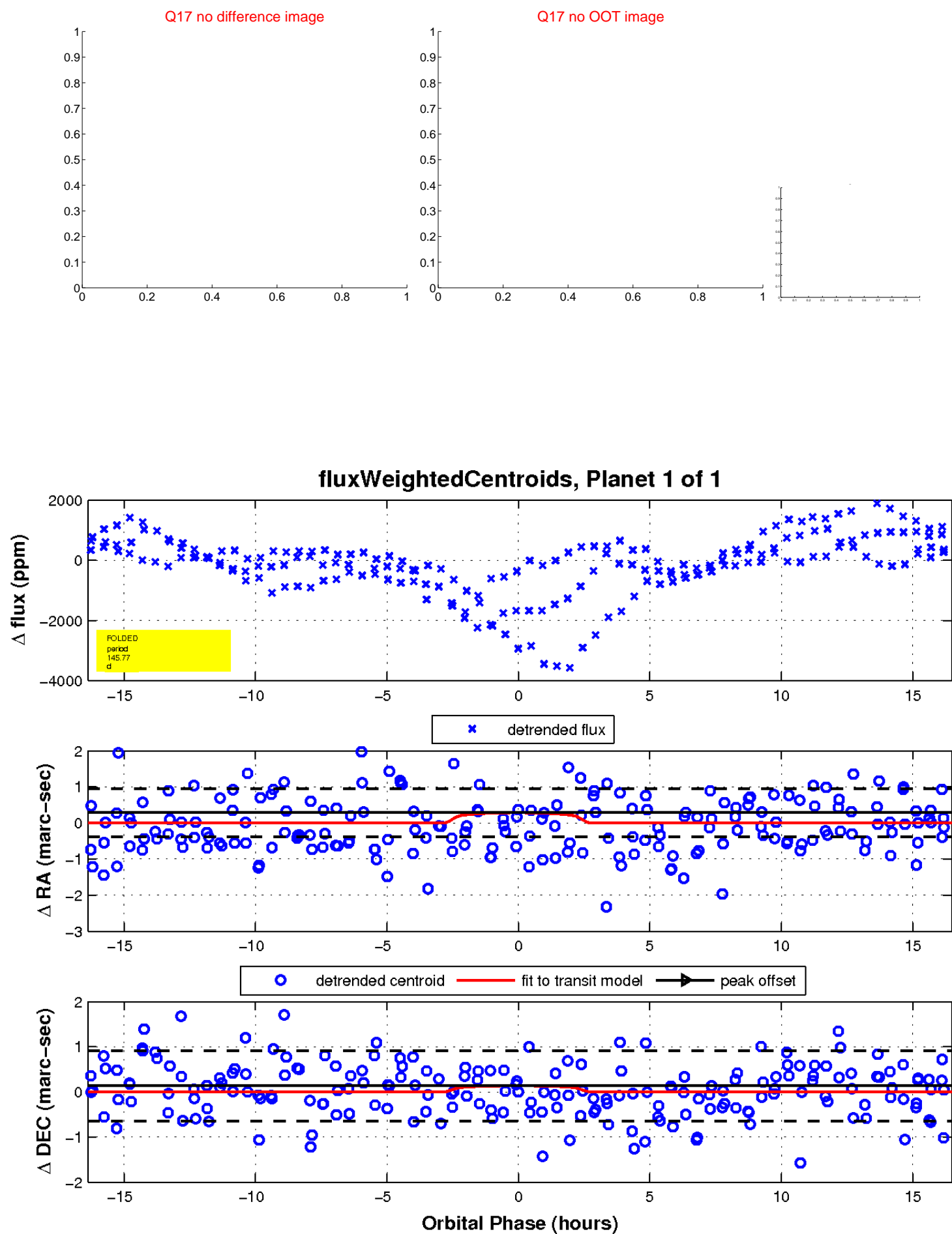
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

