

# KIC 006368905

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006368905-01	OBS	5276.01	220.717936	303.844188	940.5	7.379	9.7	10.4	0.70	5150	2.18	0.72

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006368905-01	OBS	PC	0.19	0	0	0	0	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.

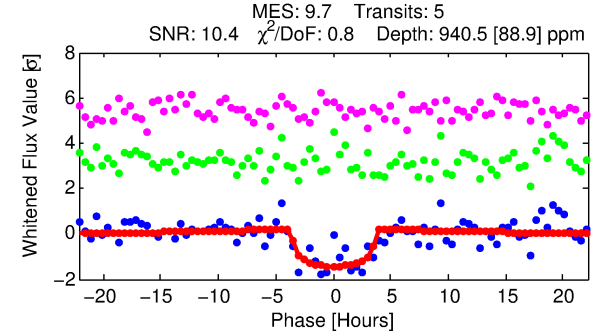
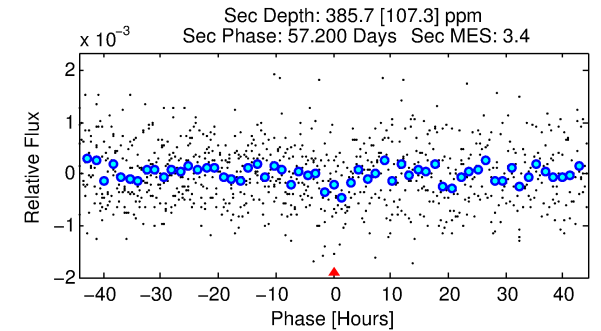
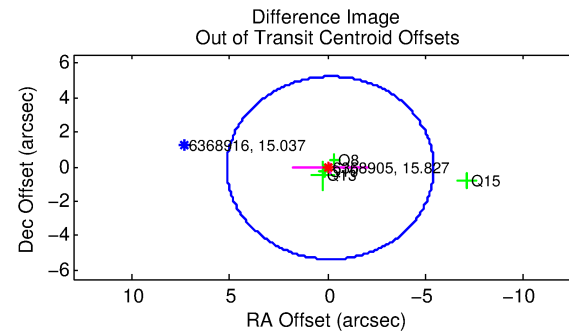
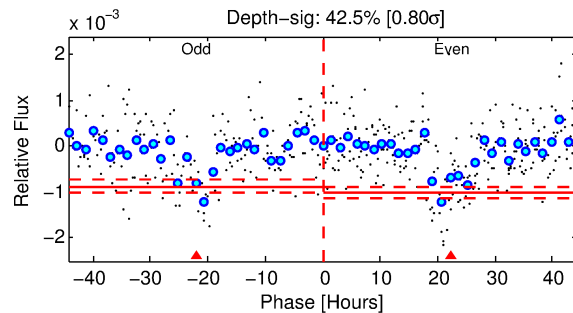
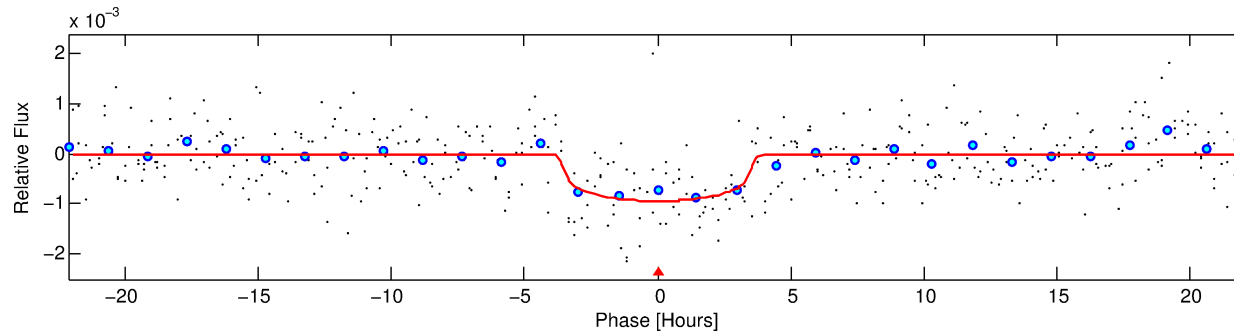
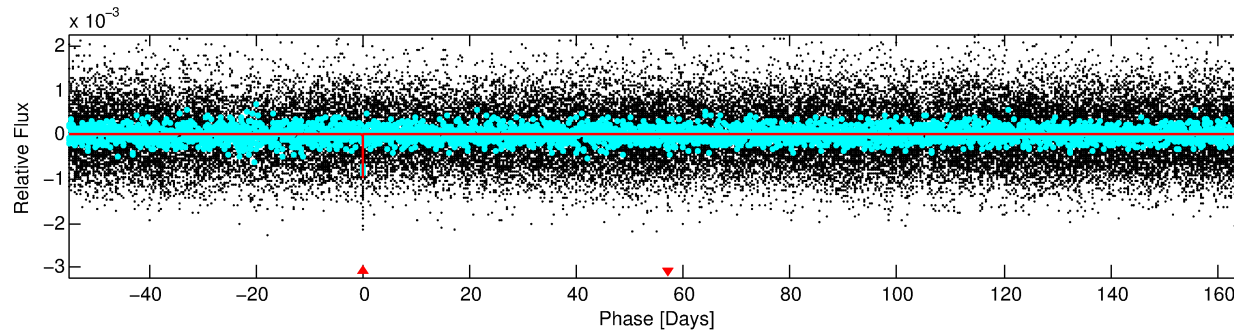
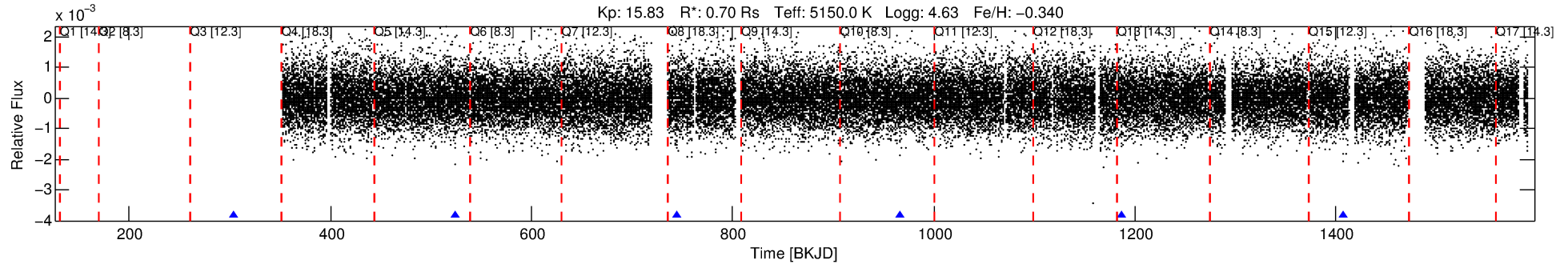
## Ephemeris Match Information For 006368905-01

No Significant Match Found

# DV One-Page Summary

KIC: 6368905 Candidate: 1 of 1 Period: 220.718 d

KOI: K05276.01 Corr: 0.952



## DV Fit Results:

Period = 220.71794 [0.00465] d  
Epoch = 303.8442 [0.0152] BKJD  
Rp/R\* = 0.0287 [0.0237]  
a/R\* = 201.00 [621.52]  
b = 0.53 [4.20]  
Seff = 0.72 [0.15]  
Teq = 235 [12] K  
Rp = 2.18 [1.83] Re  
a = 0.6526 [0.0719] AU  
Ag = 19075.74 [32163.65] [0.59 $\sigma$ ]  
Teffp = 4263 [1796] K [2.24 $\sigma$ ]

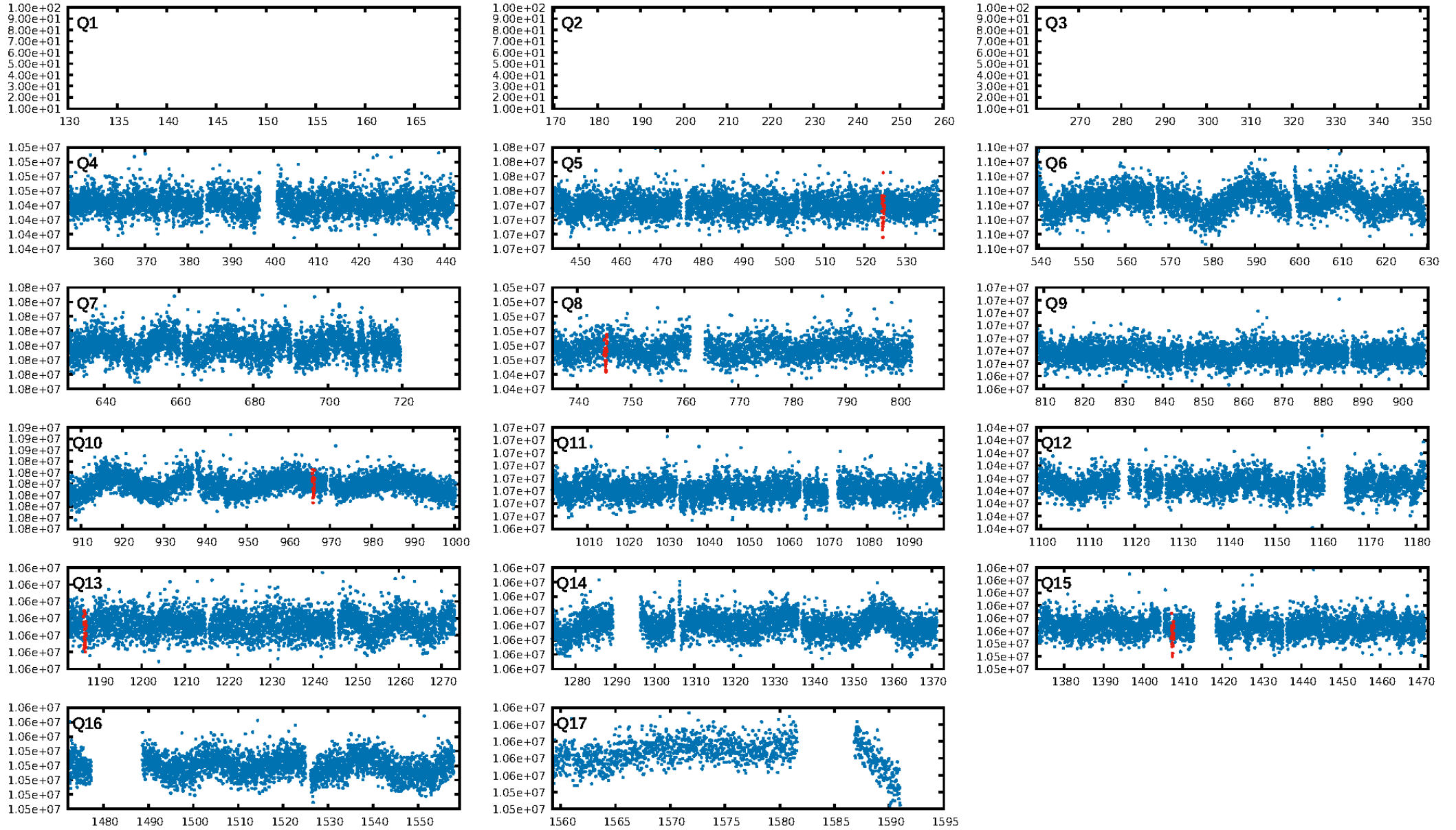
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 78.6%  
ModelChiSquareGof-sig: 99.2%  
Bootstrap-pfa: 1.52e-21  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 4.797  
Centroid-sig: 49.4%  
Centroid-so: 1.216 arcsec [0.92 $\sigma$ ]  
OotOffset-rm: 0.157 arcsec [0.09 $\sigma$ ]  
OotOffset-st: 1/1/1/1 [4]  
KicOffset-rm: 3.859 arcsec [2.56 $\sigma$ ]  
KicOffset-st: 1/1/1/1 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 1.00 [5/5]

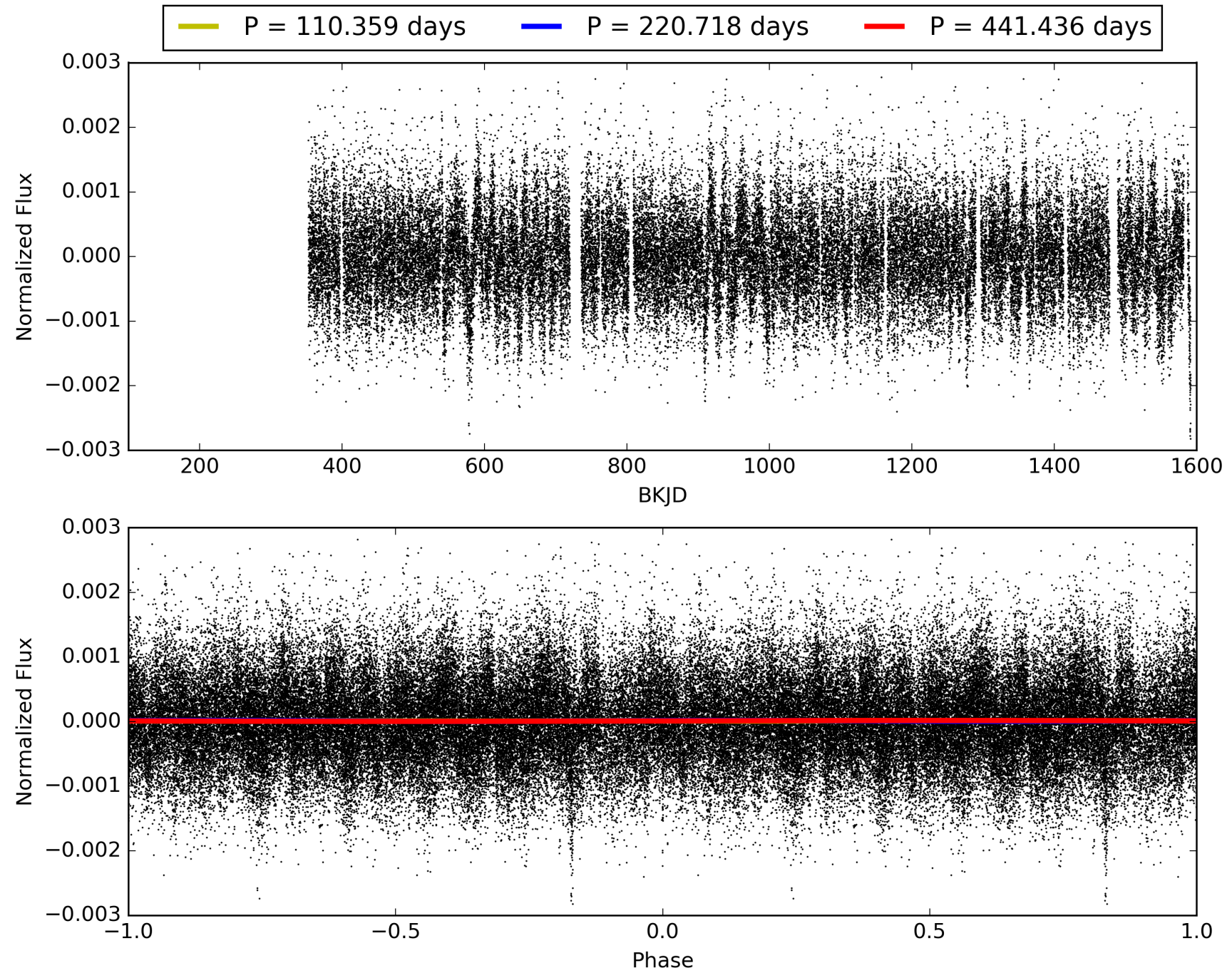
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:10:04 Z

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

# TCE 006368905-01, PDC Light Curves

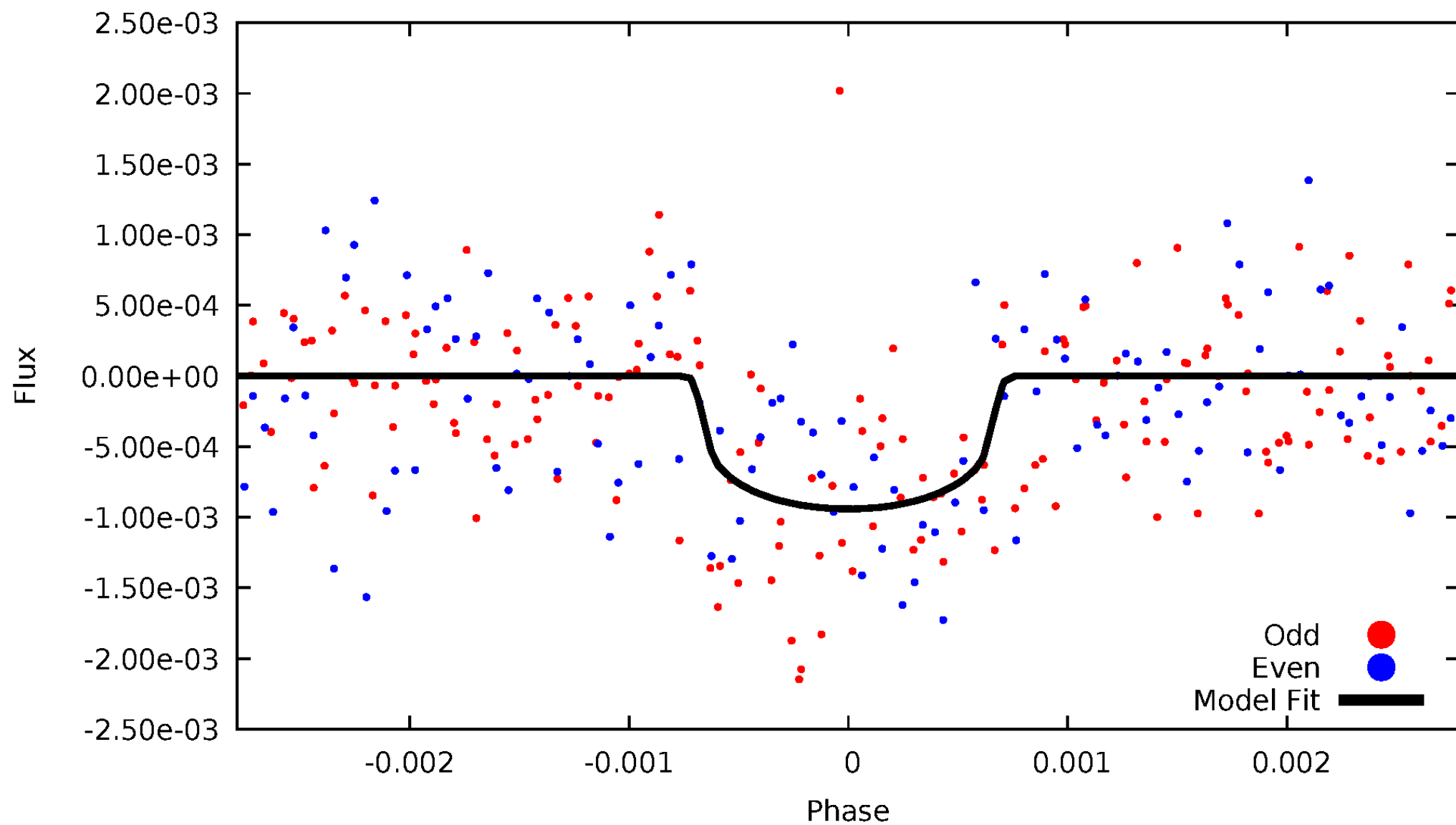


TCE 006368905-01



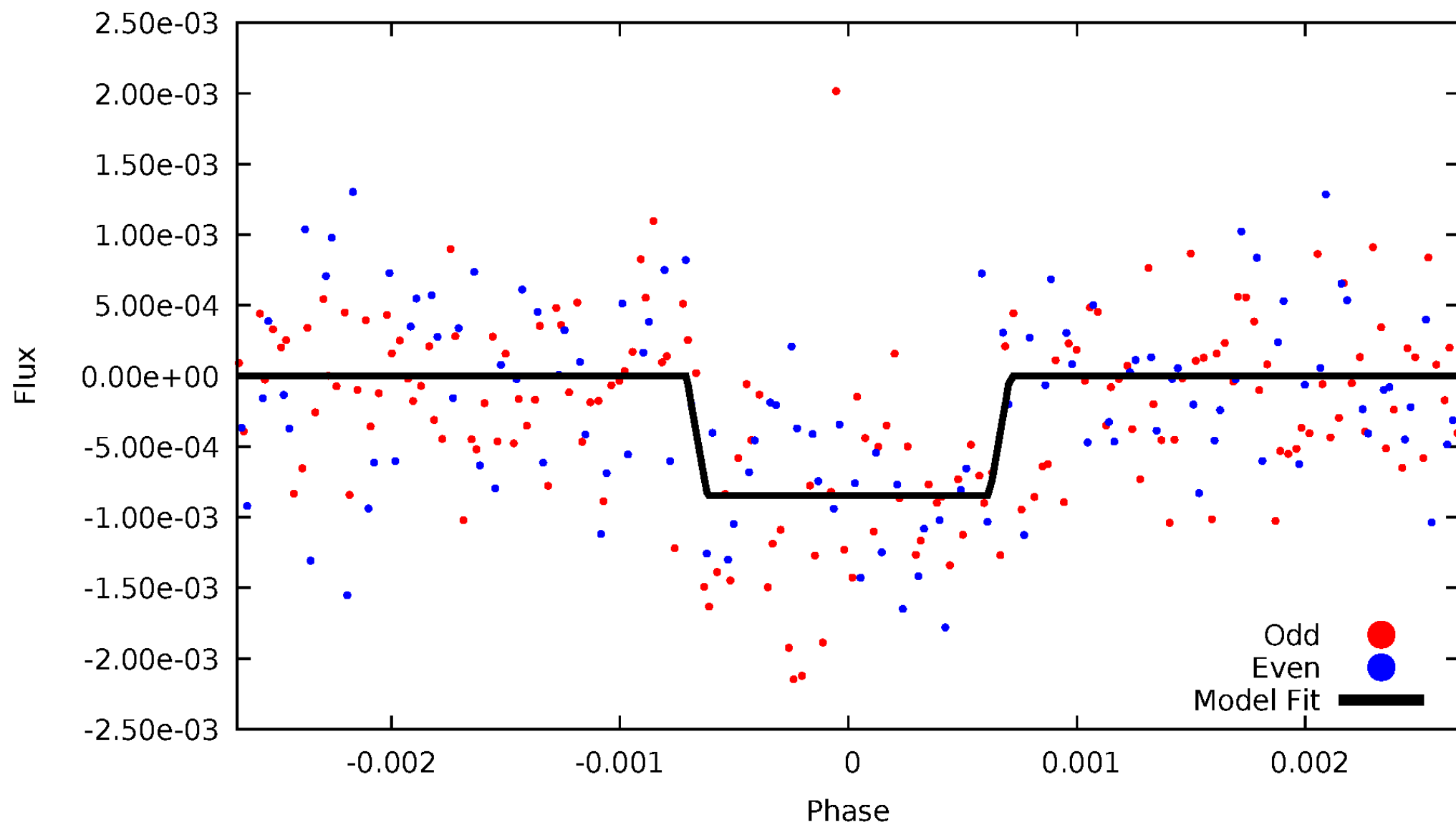
# DV Odd/Even

TCE 006368905-01



# ALT Odd/Even

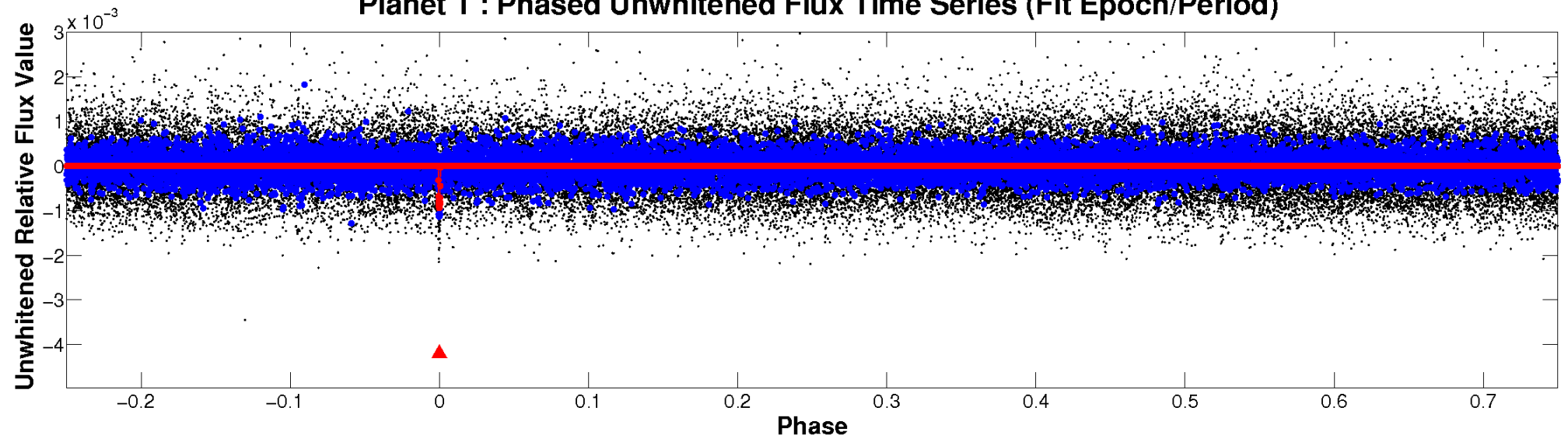
TCE 006368905-01



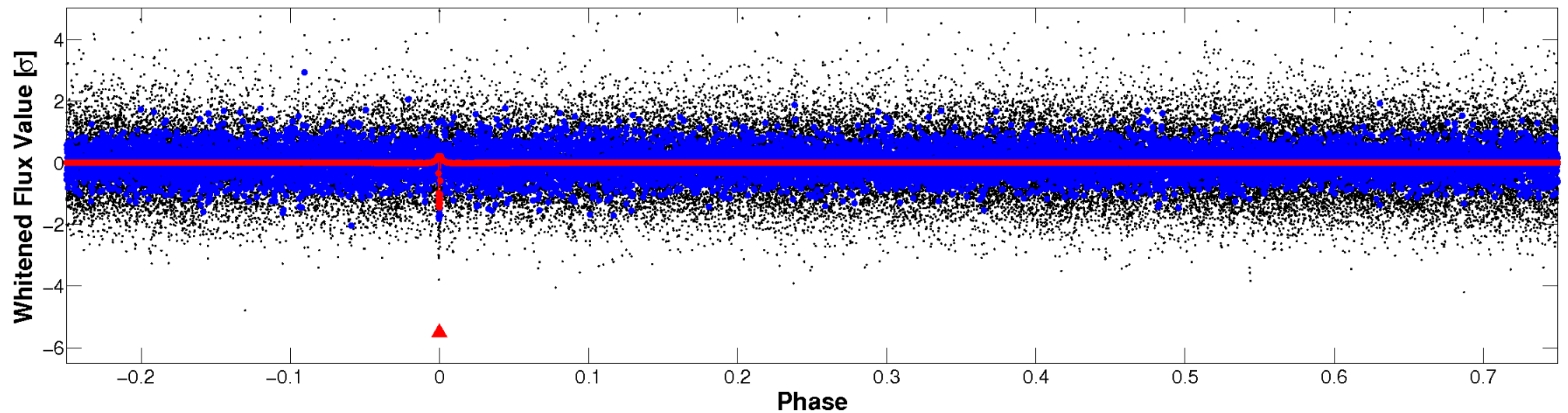


# Non-Whitened Vs. Whitened Light Curve

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

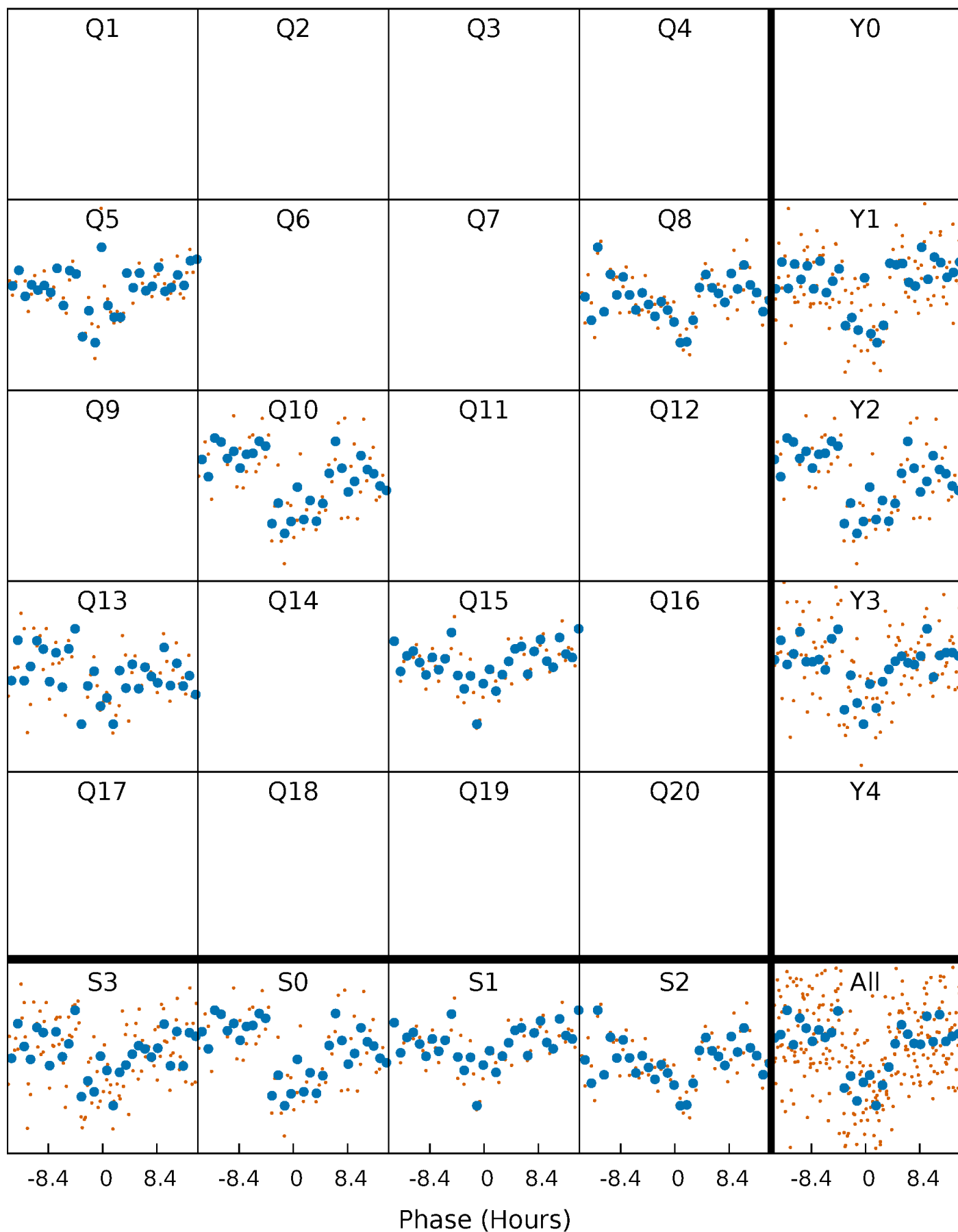


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

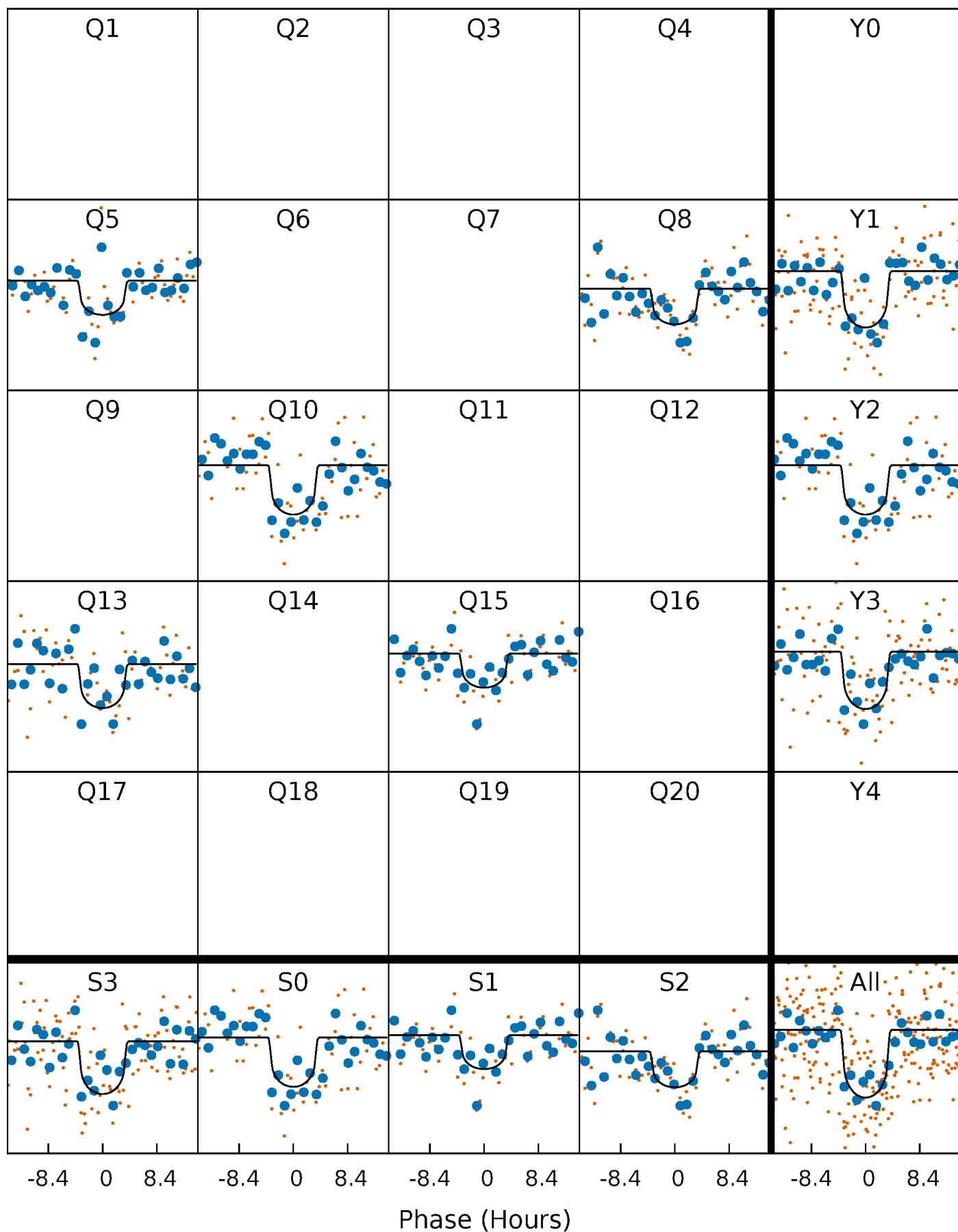
TCE 006368905-01 P=220.717936 Days  $T_0=303.844188$  (BKJD)





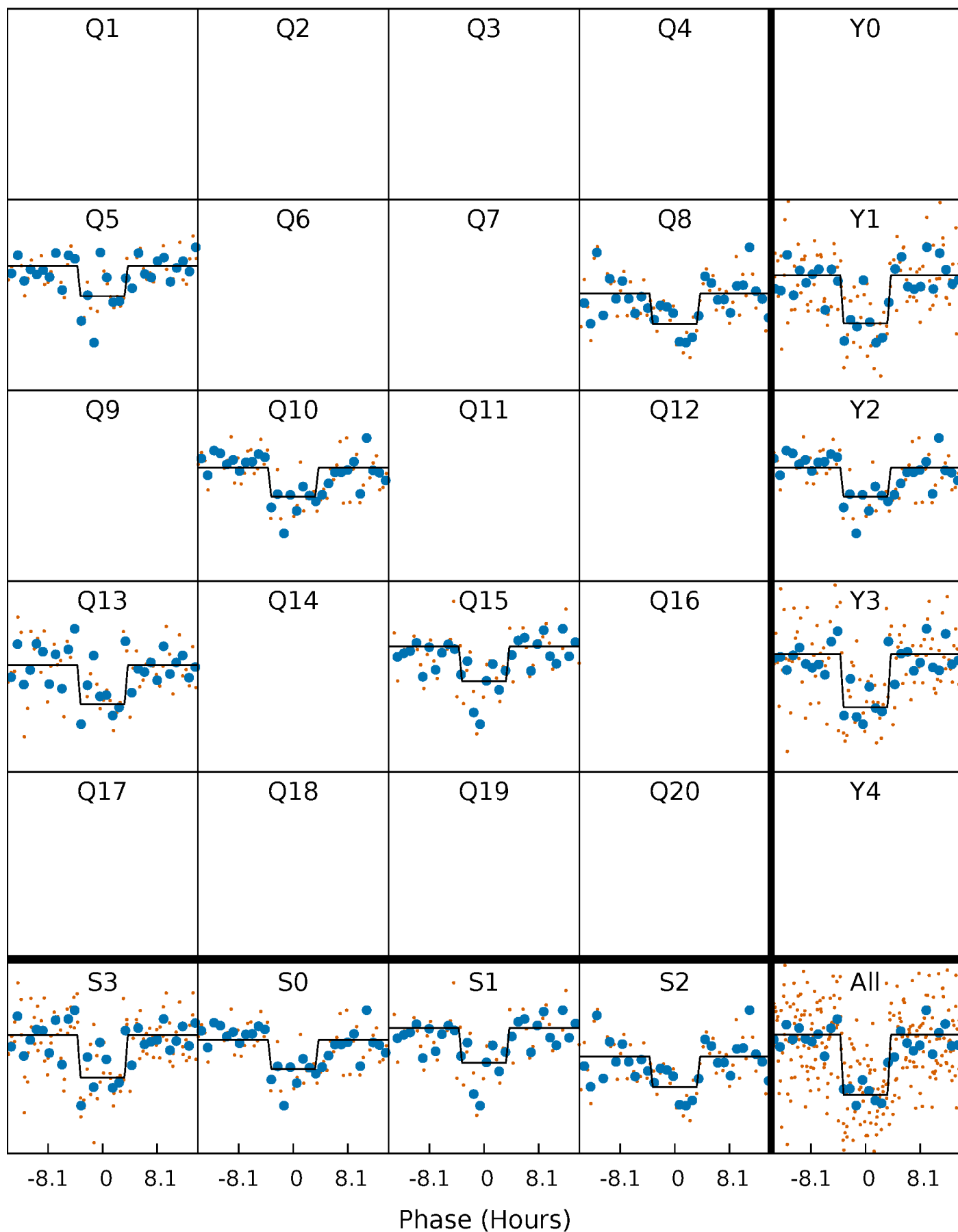
# DV Quarter-Phased Transit Curves

TCE 006368905-01 P=220.717936 Days  $T_0=303.844188$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

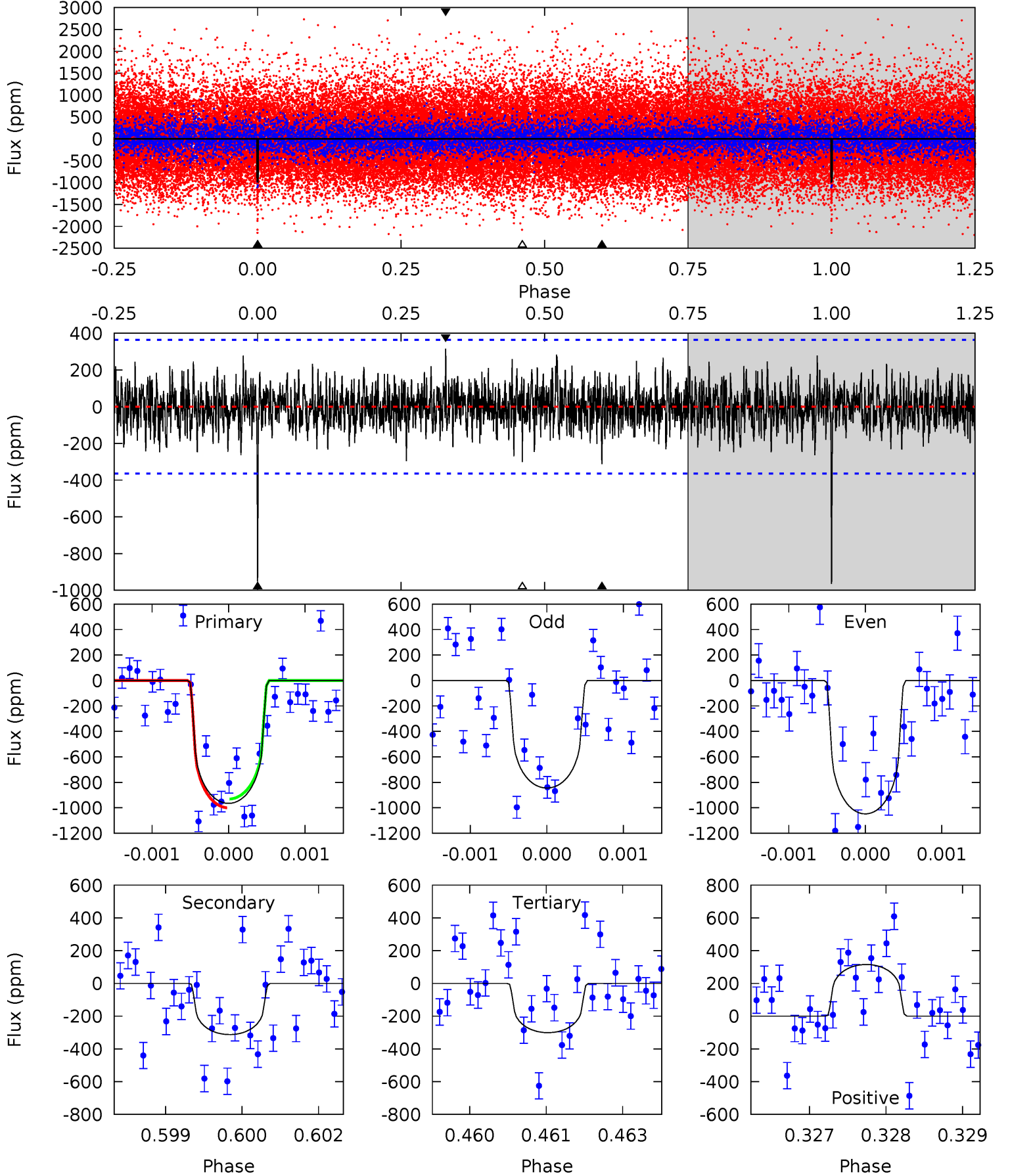
TCE 006368905-01 P=220.716504 Days  $T_0=303.848904$  (BKJD)



# DV Model-Shift Uniqueness Test

006368905-01, P = 220.717936 Days, E = 303.844188 Days

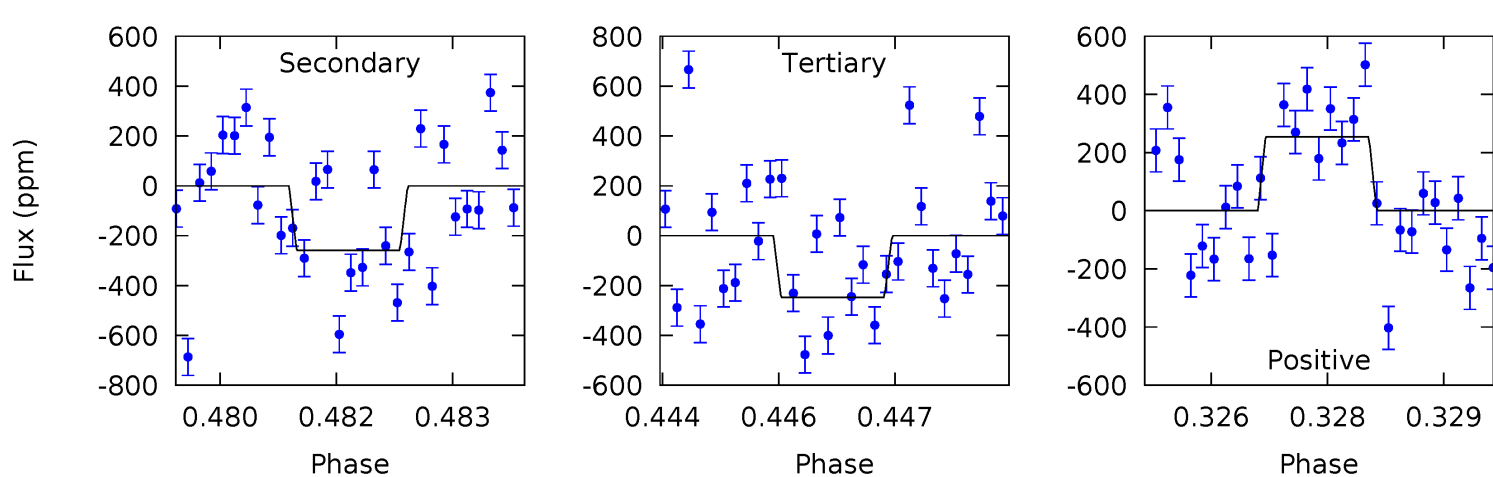
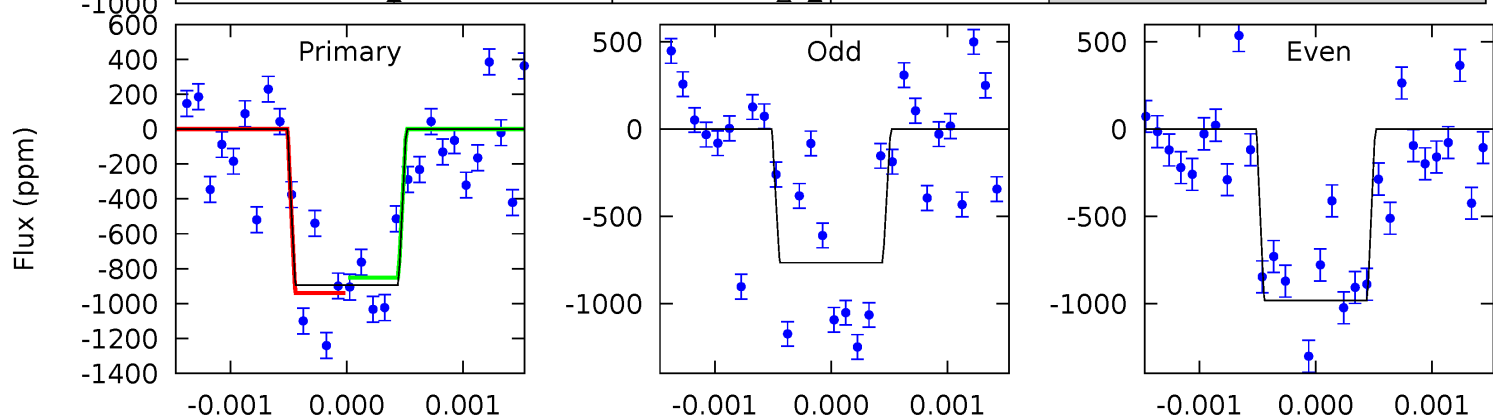
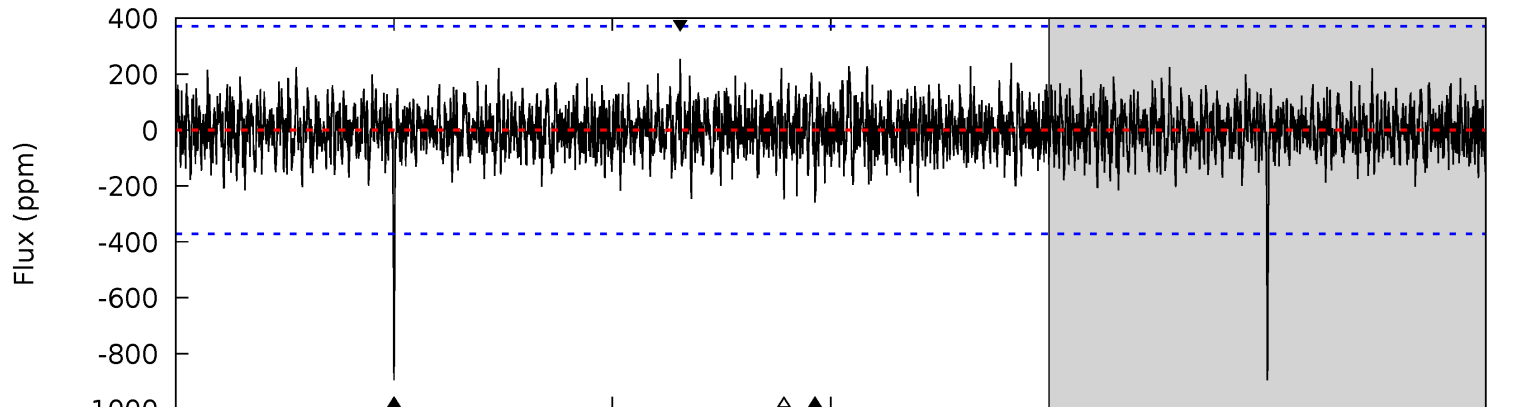
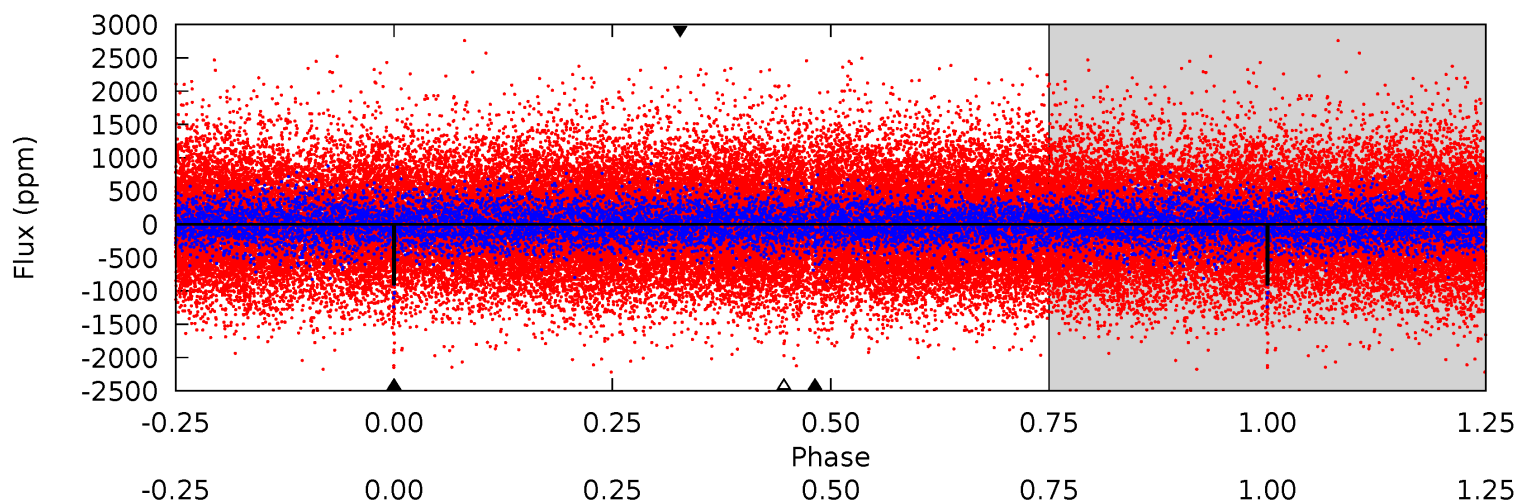
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	4.62	4.45	4.66	5.39	3.19	1.25	9.82	9.61	0.17	-0.04	1.47	0.96	0.25	0.51



# Alt Model-Shift Uniqueness Test

006368905-01, P = 220.716504 Days, E = 303.848904 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
13.0	3.75	3.59	3.69	5.39	3.20	1.02	9.39	9.29	0.16	0.06	1.54	0.96	0.22	0.64



### Stellar Parameters For KIC 006368905

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5150^{+184}_{-184}$	$4.634^{+0.033}_{-0.077}$	$-0.340^{+0.300}_{-0.300}$	$0.696^{+0.097}_{-0.057}$	$0.770^{+0.073}_{-0.082}$	$3.214^{+0.478}_{-0.890}$
	+4%/-4%	+1%/-2%	+88%/-88%	+14%/-8%	+9%/-11%	+15%/-28%
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 006368905-01 / KOI 5276.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-312 \pm 68$	$2.40^{+1.68}_{-1.32}$	$331^{+15}_{-14}$	$4121^{+1643}_{-711}$	$12254^{+49095}_{-8054}$
Alt.	$-259 \pm 69$	$2.47^{+1.72}_{-1.51}$	$331^{+14}_{-14}$	$3930^{+1997}_{-628}$	$9782^{+59360}_{-6459}$

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

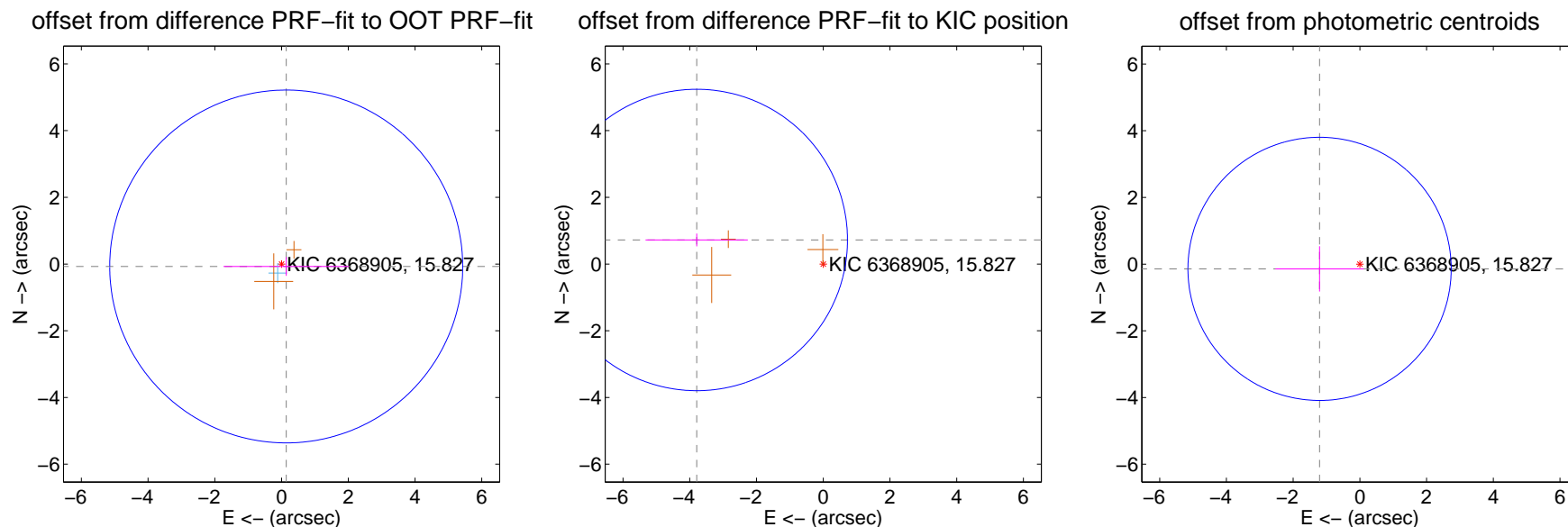
## DV Centroid Data

Supplemental centroid analysis for 006368905-01. Kepler magnitude: 15.83. Transit SNR 10.38

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 7.25 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	$0.157 \pm 1.763$	0.09	$-0.140 \pm 1.880$	$-0.073 \pm 0.281$
PRF-fit source offset from KIC position	$3.859 \pm 1.506$	2.56	$3.791 \pm 1.532$	$0.721 \pm 0.192$
photometric centroid source offset	$1.22 \pm 1.32$	0.92	$1.21 \pm 1.32$	$-0.14 \pm 0.68$



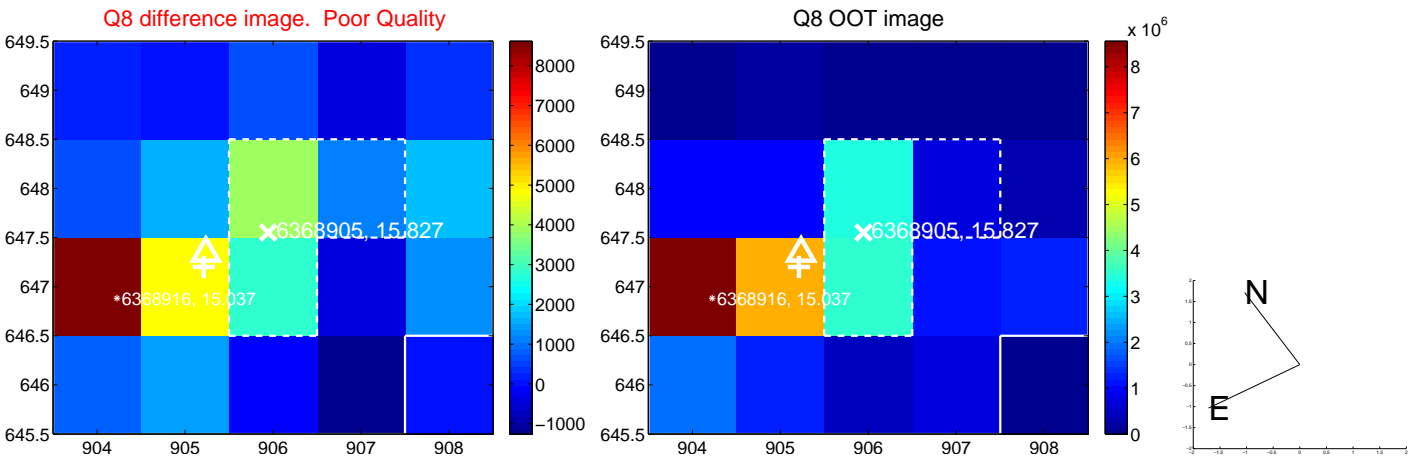
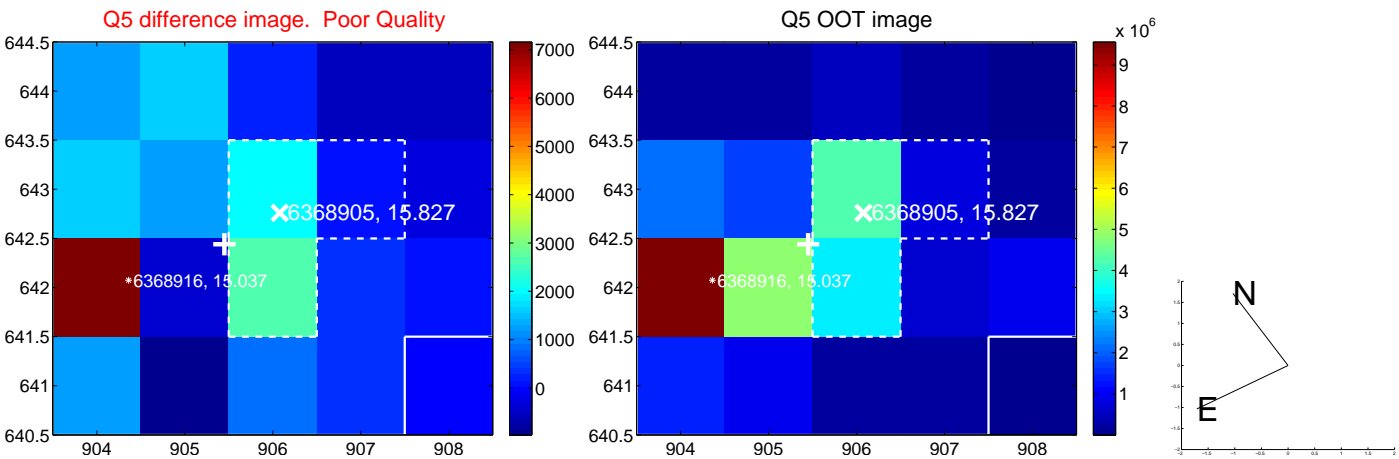
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

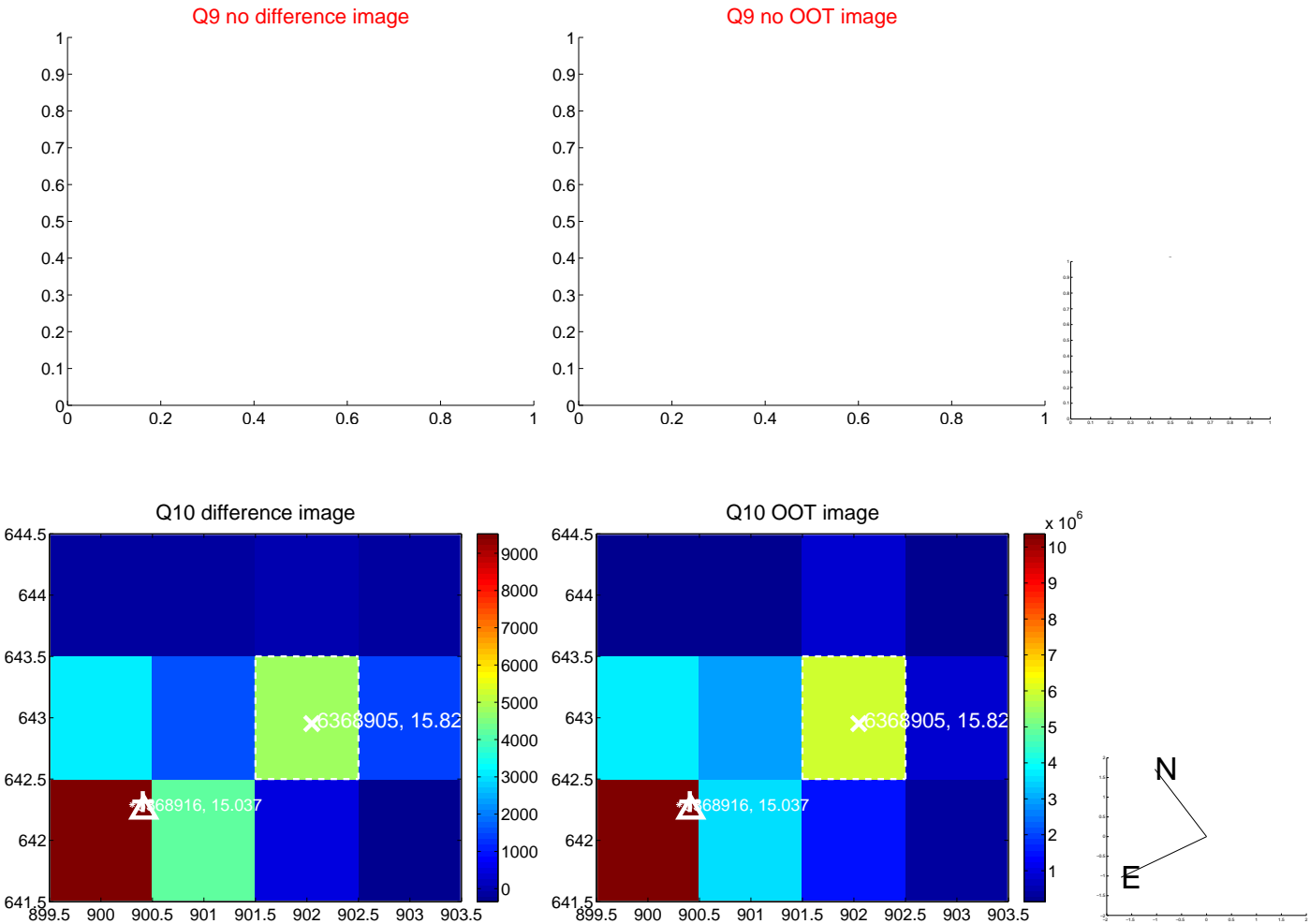




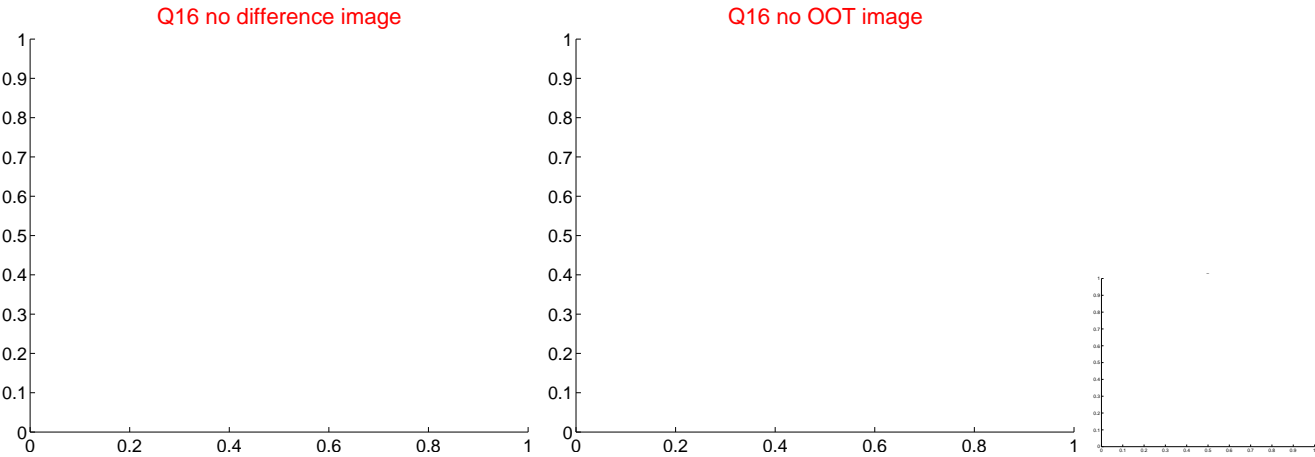
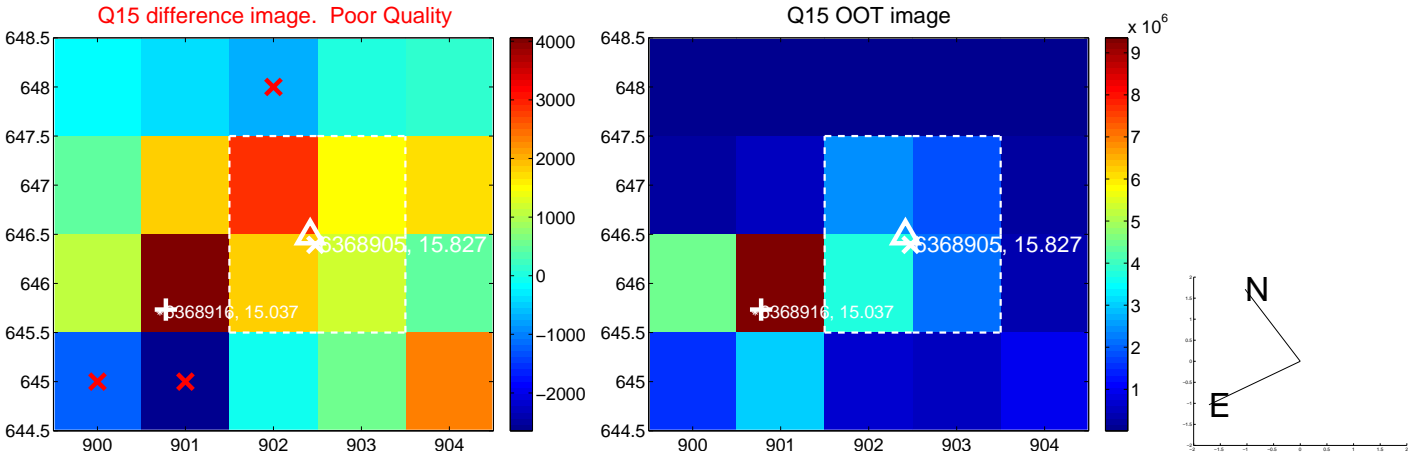
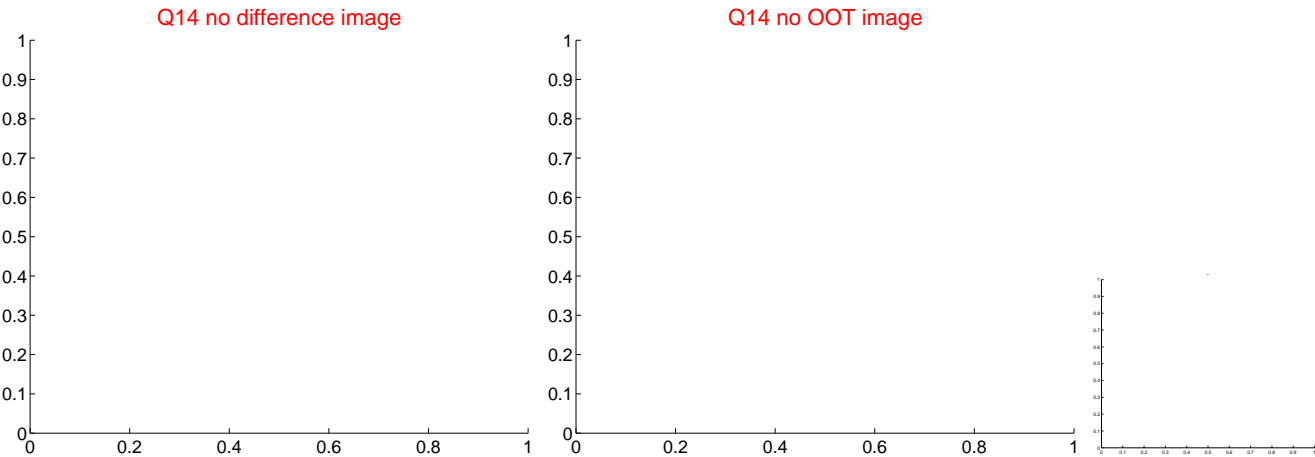
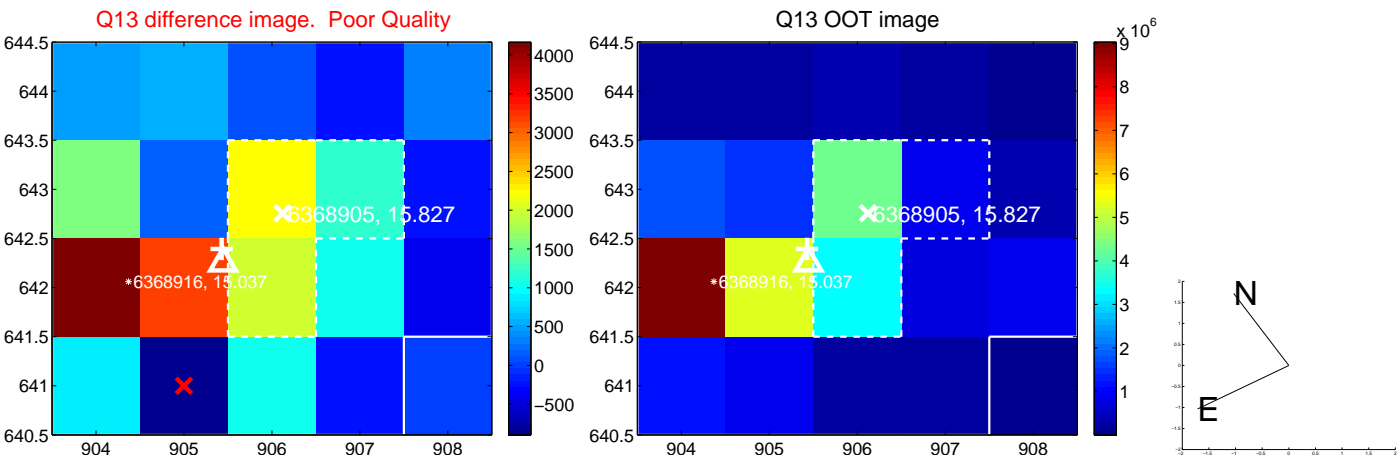
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



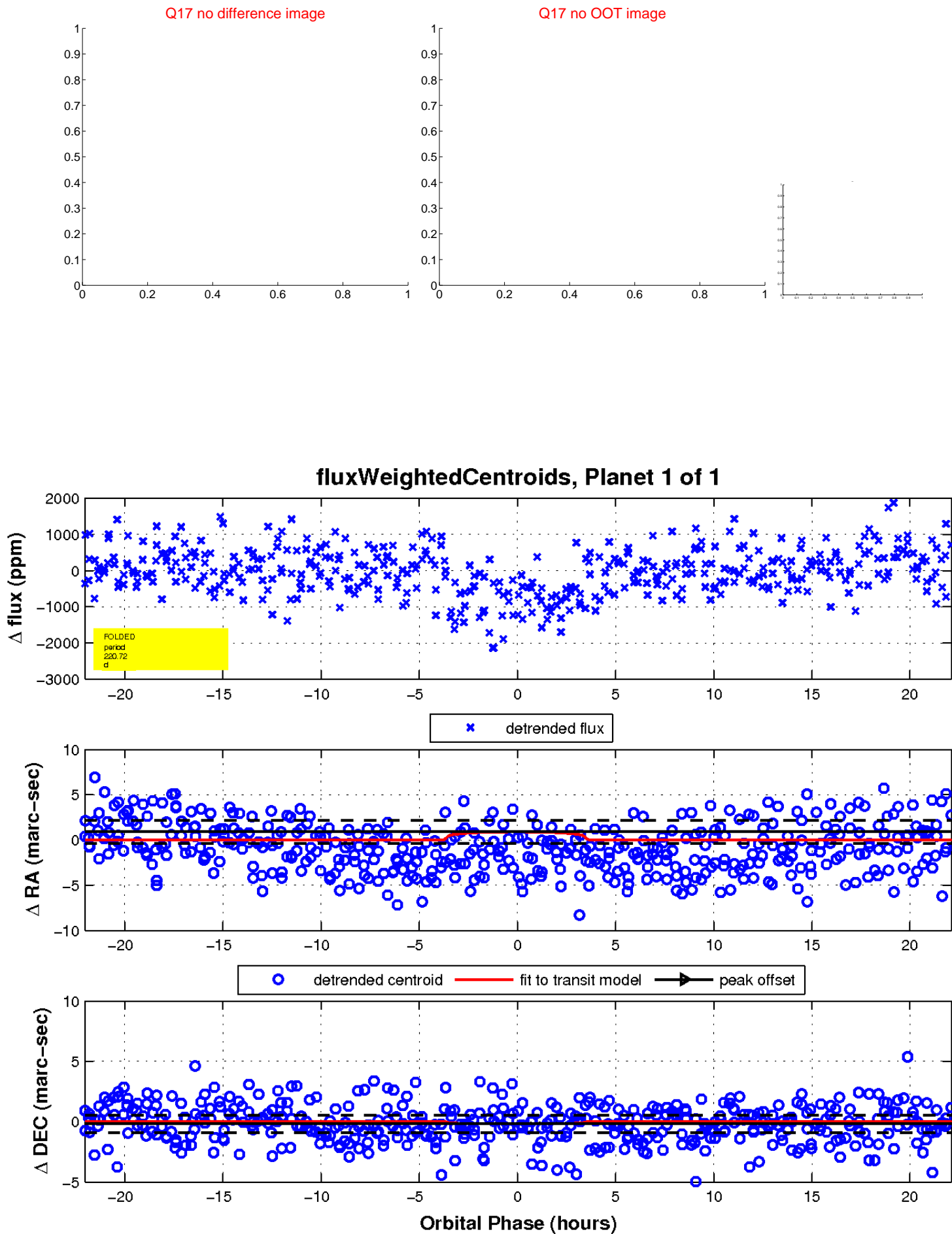
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

