

# KIC 004447268

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004447268-01	OBS	No	316.120313	404.014019	292.1	12.653	7.5	7.2	2.43	6443	4.99	8.96

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004447268-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—HALO_GHOST

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

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

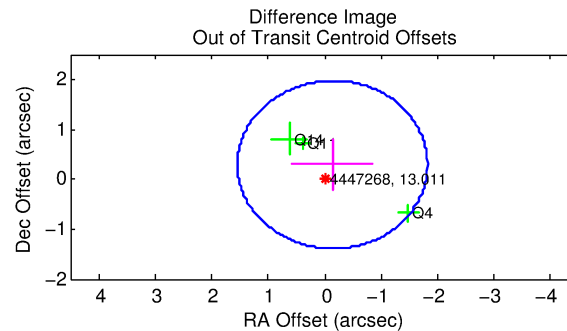
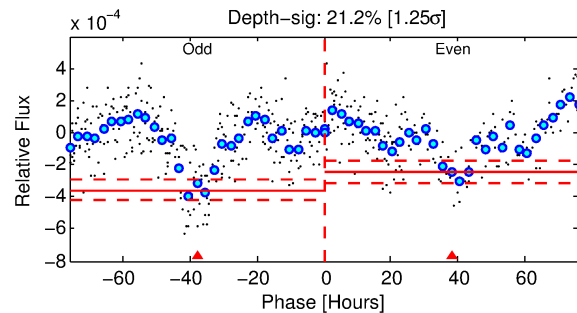
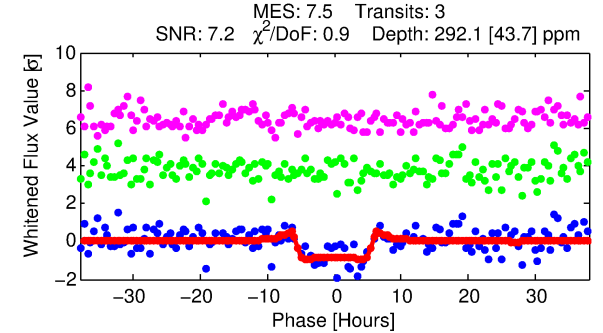
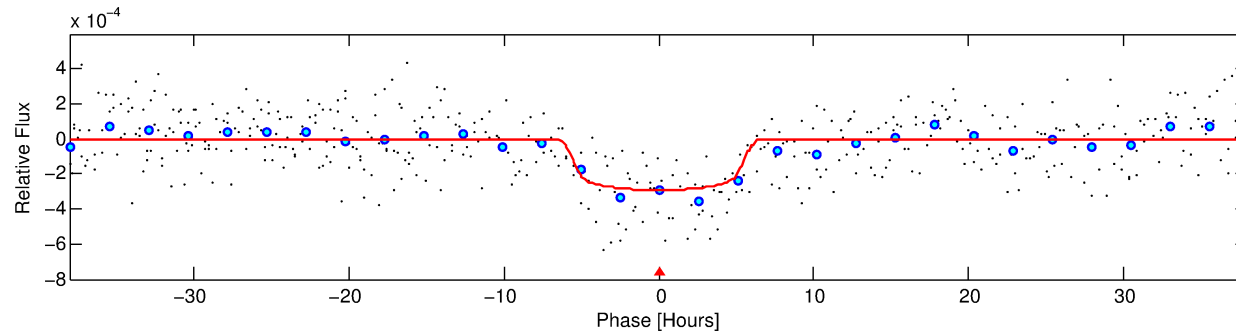
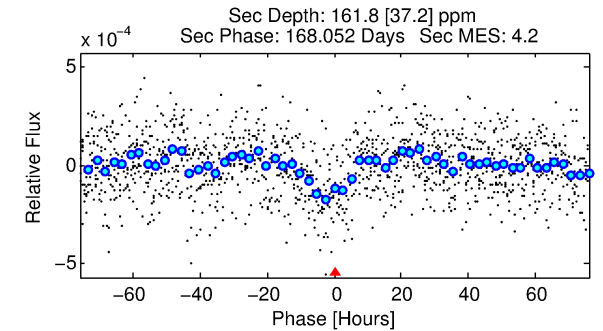
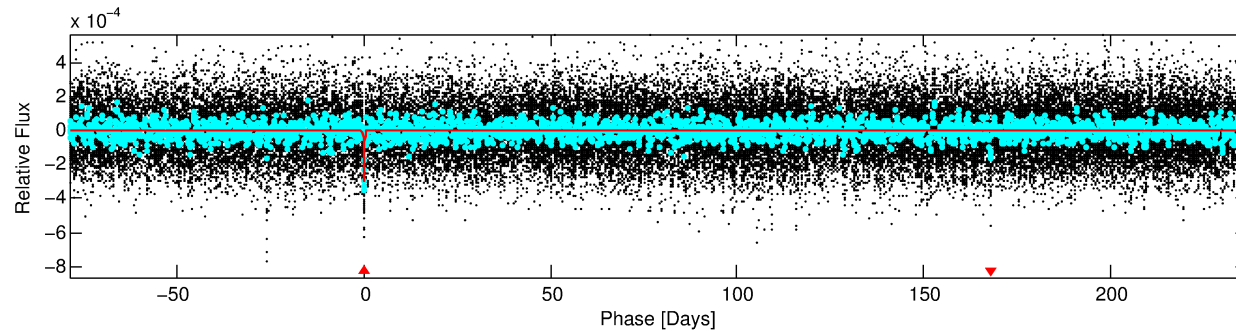
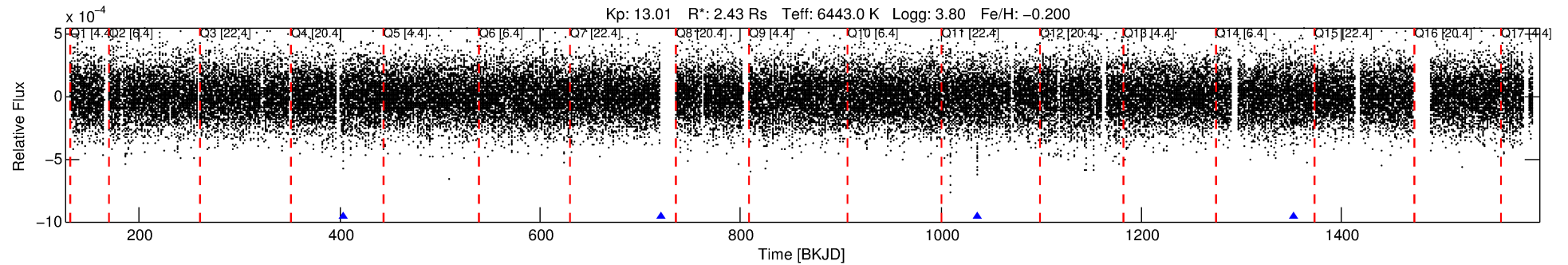
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004447268-01

No Significant Match Found

# DV One-Page Summary

KIC: 4447268 Candidate: 1 of 1 Period: 316.120 d



## DV Fit Results:

Period = 316.12031 [0.00795] d  
Epoch = 404.0140 [0.0171] BKJD  
Rp/R\* = 0.0188 [0.0019]  
a/R\* = 80.38 [25.82]  
b = 0.93 [0.05]  
Seff = 8.96 [4.62]  
Teq = 441 [57] K  
Rp = 4.99 [1.79] Re  
a = 1.0098 [0.3241] AU  
Ag = 3649.68 [2148.13] [1.70σ]  
Teffp = 5301 [430] K [11.21σ]

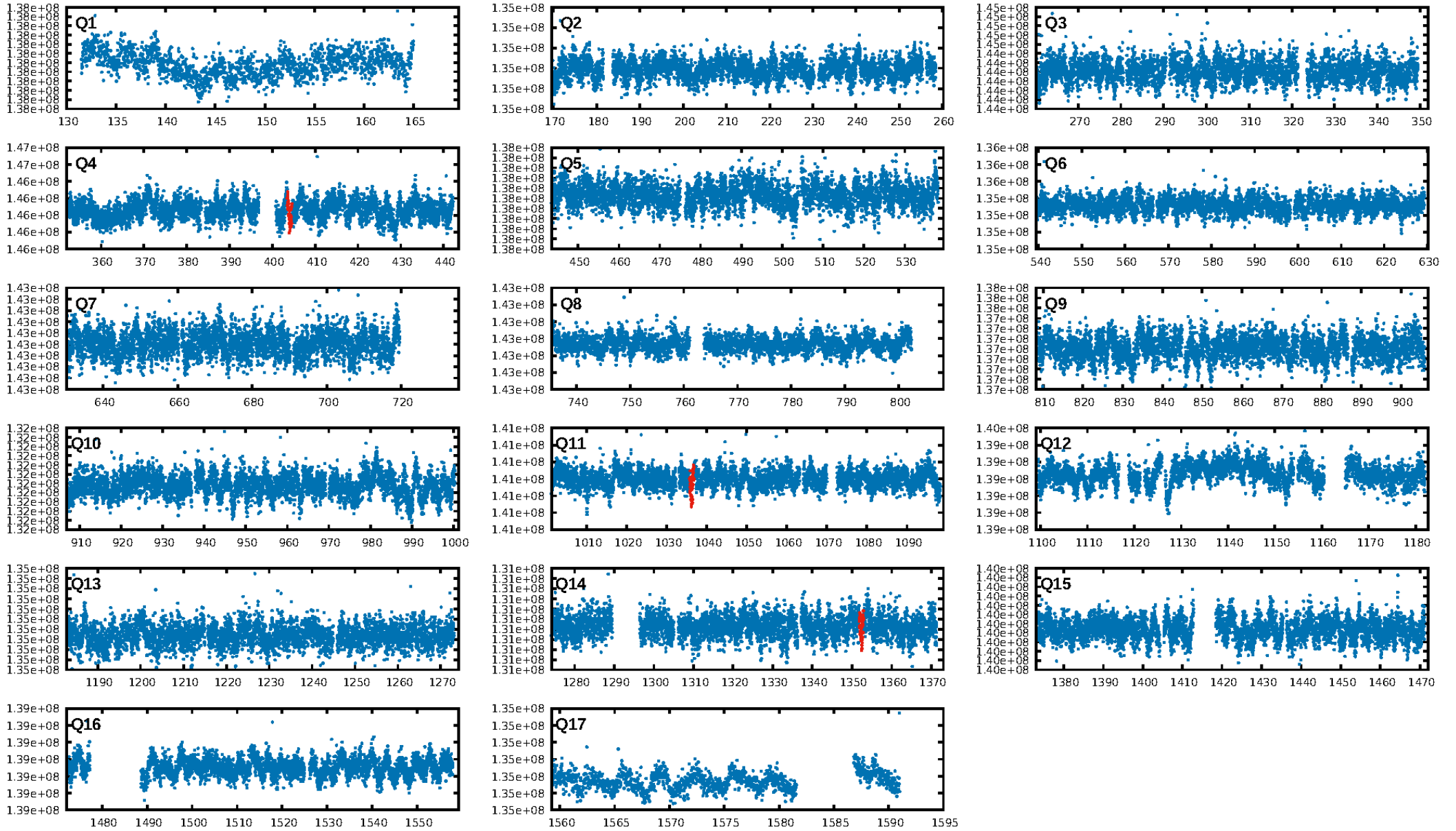
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 15.7%  
ModelChiSquareGof-sig: 99.3%  
**Bootstrap-pfa: 4.64e-12**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: -0.0321**  
Centroid-sig: 3.5%  
Centroid-so: 1.268 arcsec [1.50σ]  
OotOffset-rm: 0.321 arcsec [0.57σ]  
KicOffset-rm: 0.442 arcsec [0.81σ]  
OotOffset-st: 1/1/1/0 [3]  
KicOffset-st: 1/1/1/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

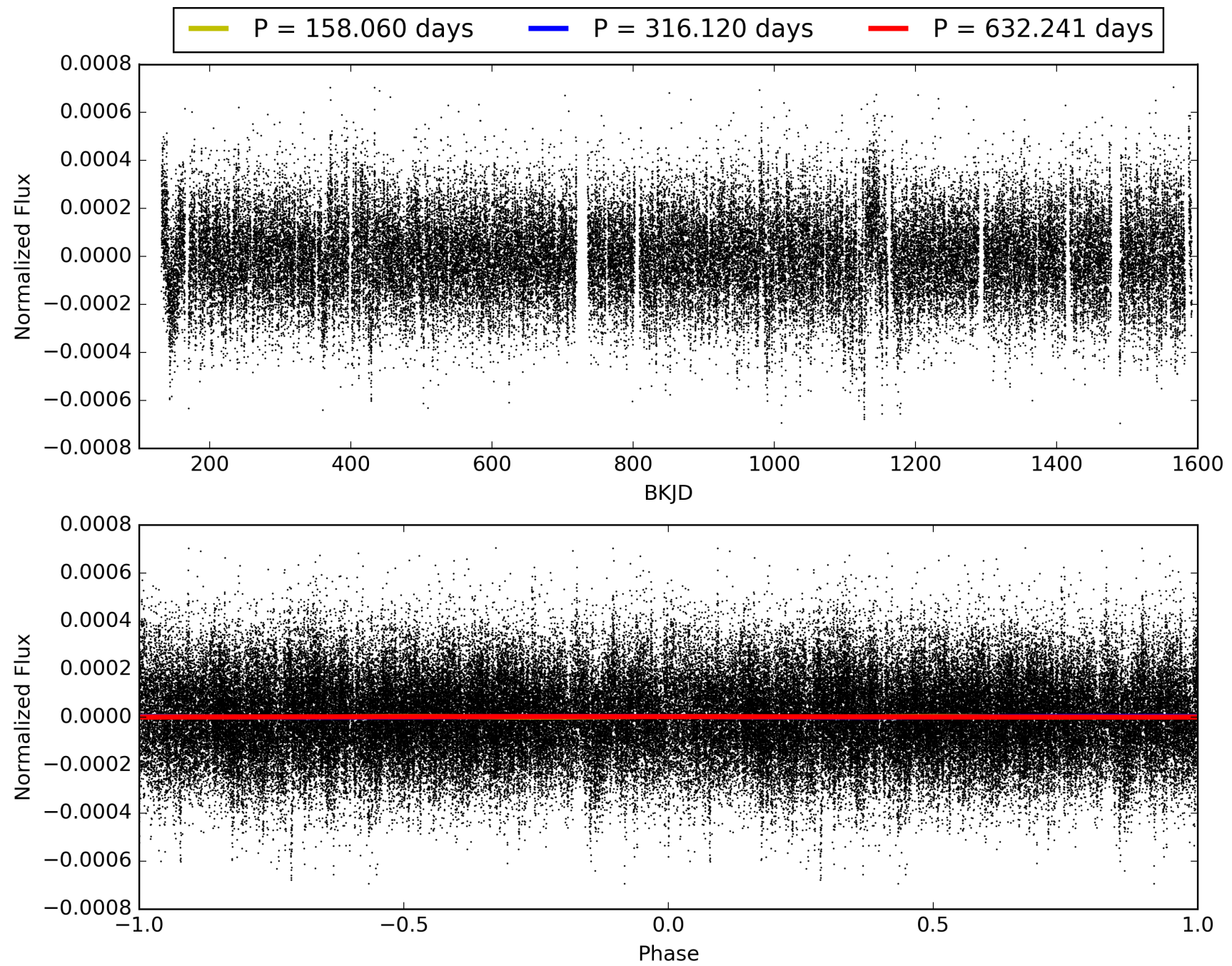
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:55:43 Z

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

# TCE 004447268-01, PDC Light Curves

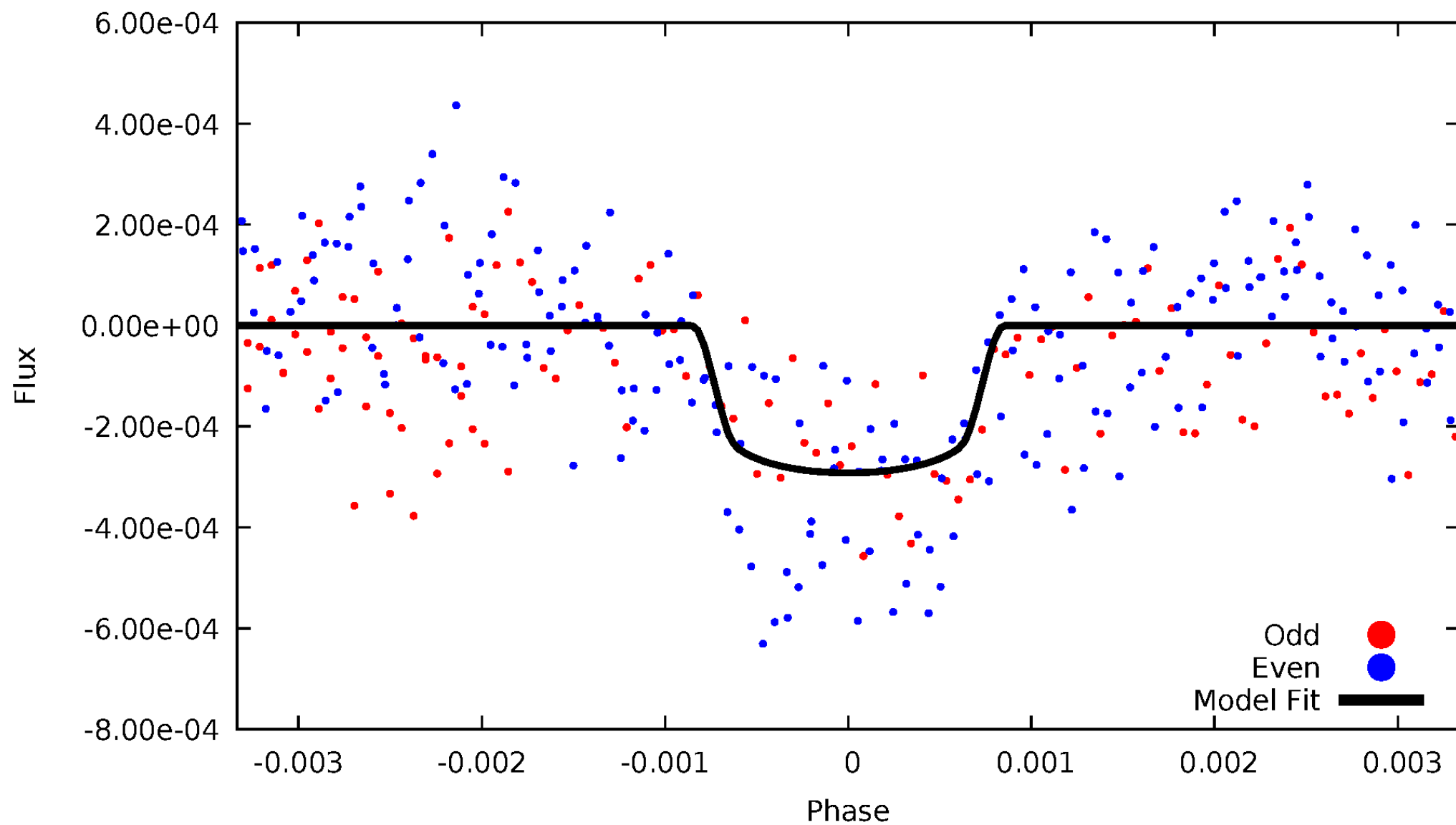


TCE 004447268-01



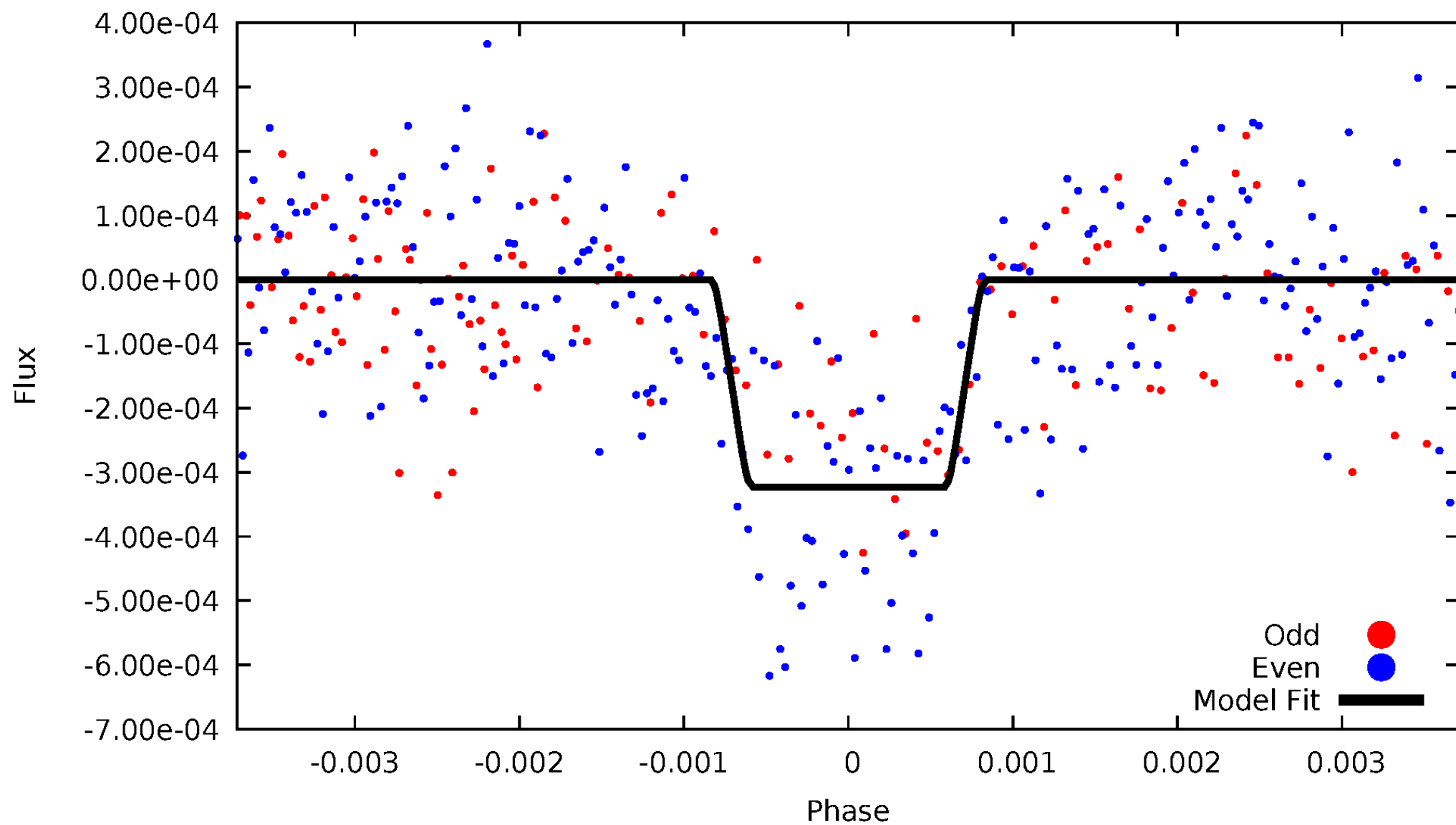
# DV Odd/Even

TCE 004447268-01



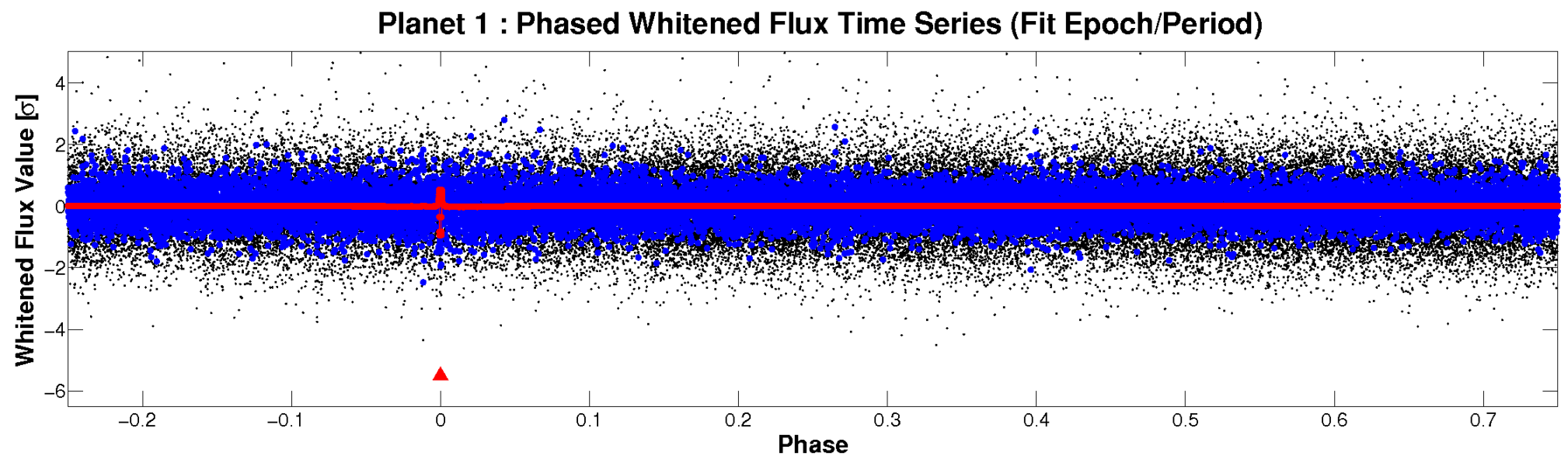
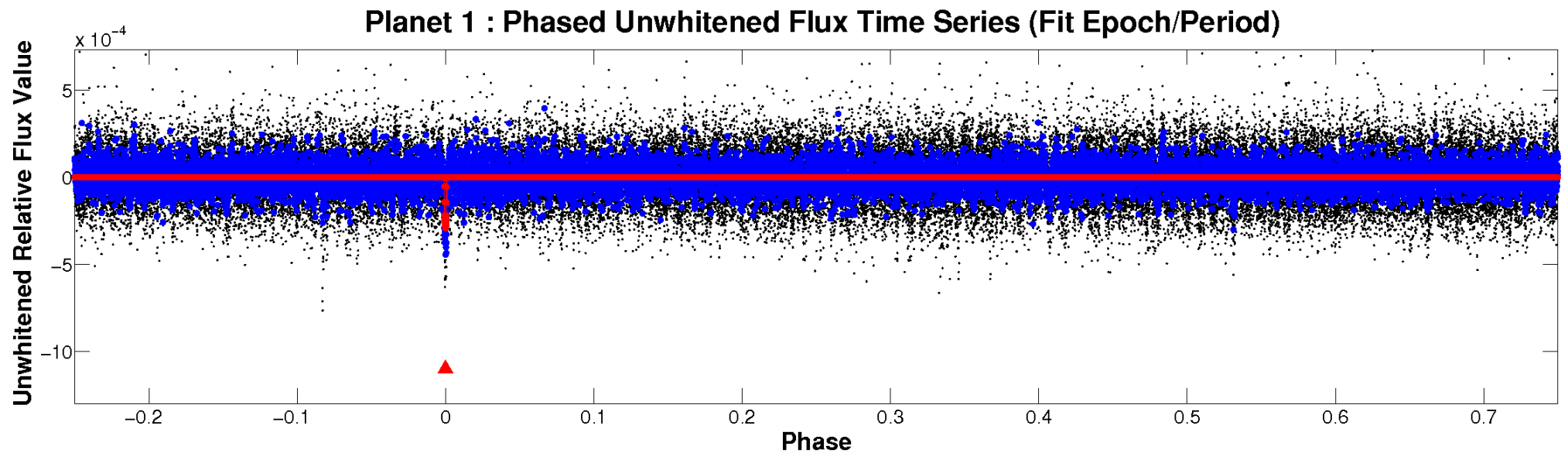
# ALT Odd/Even

TCE 004447268-01



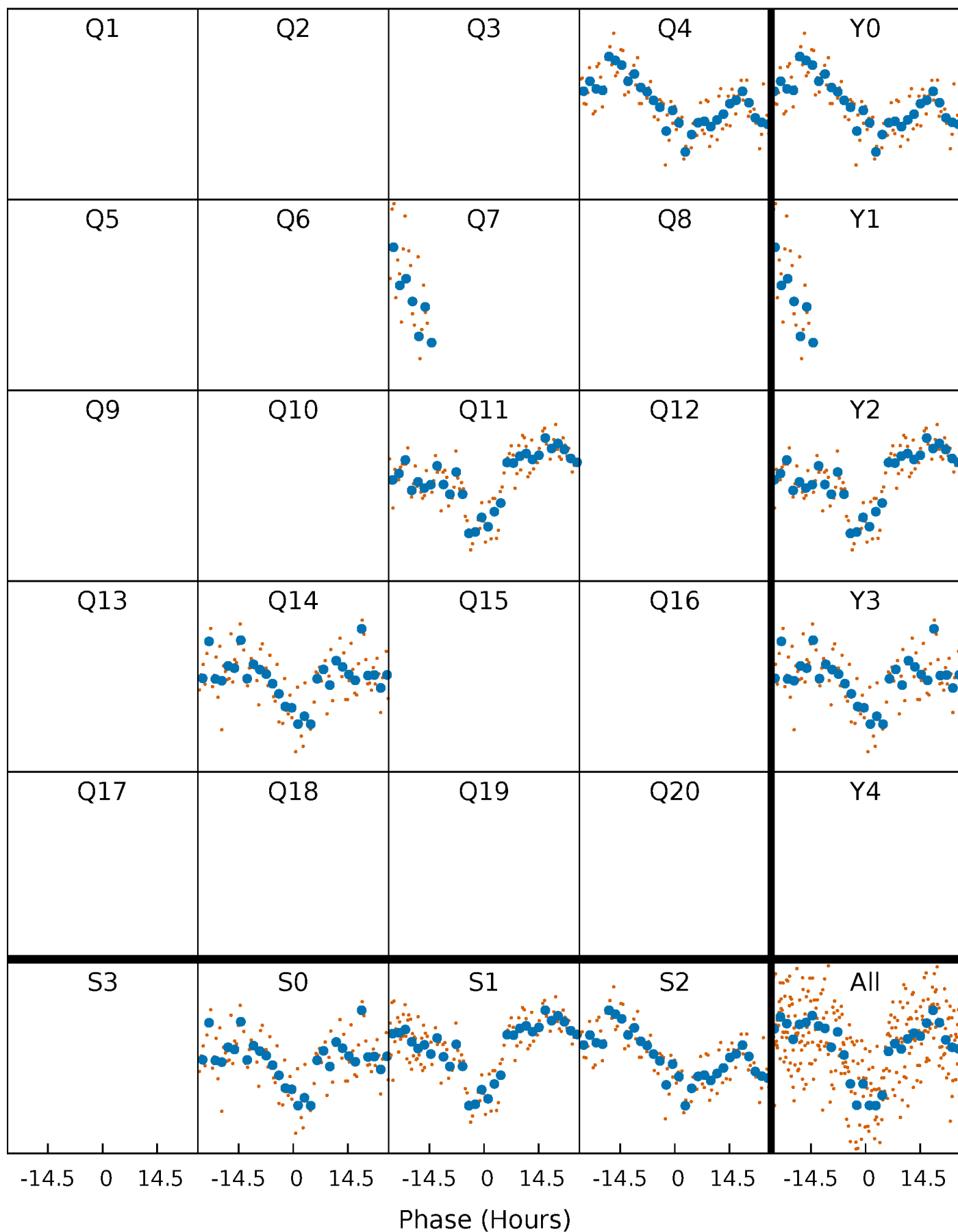


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

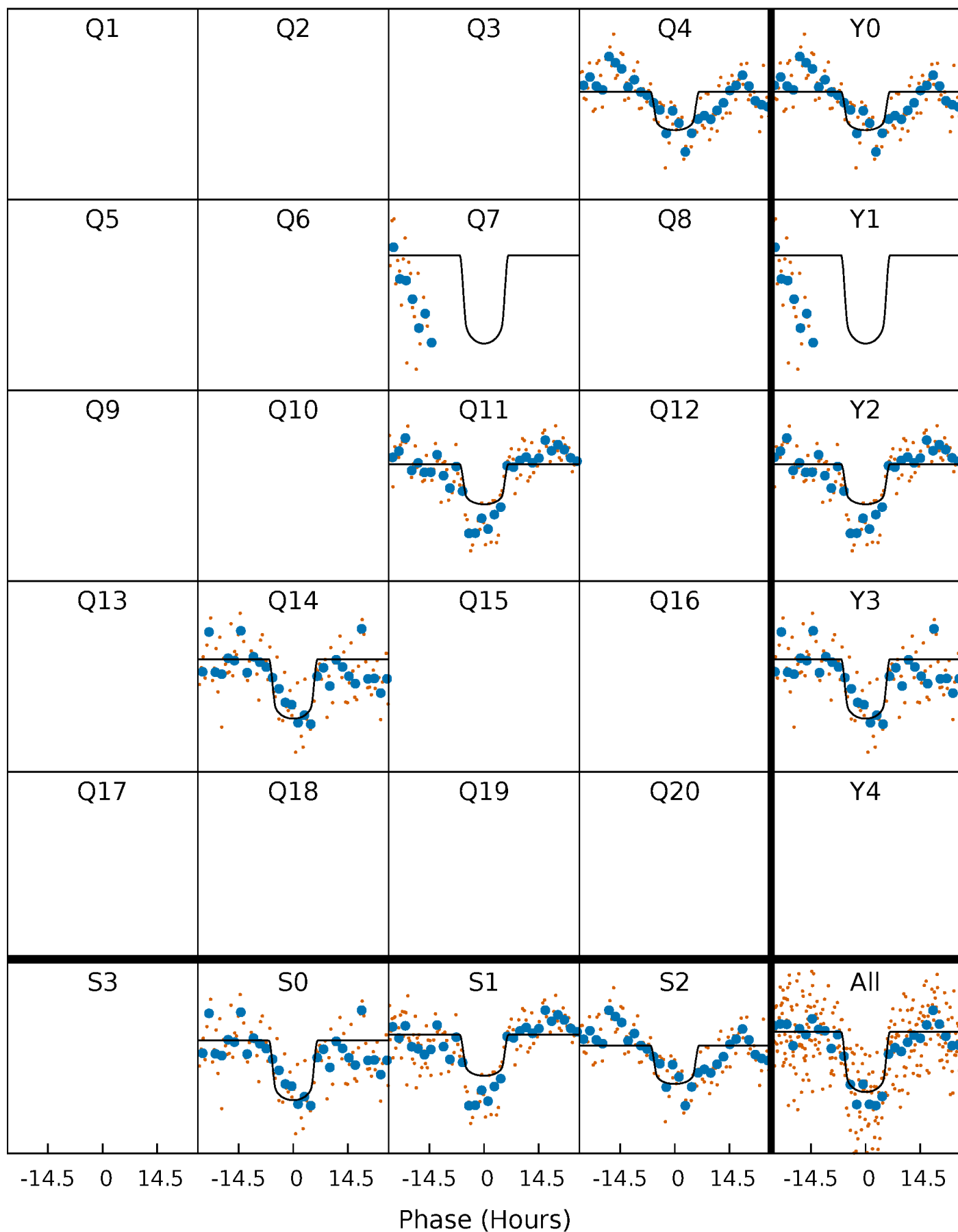
TCE 004447268-01 P=316.120313 Days  $T_0=404.014019$  (BKJD)





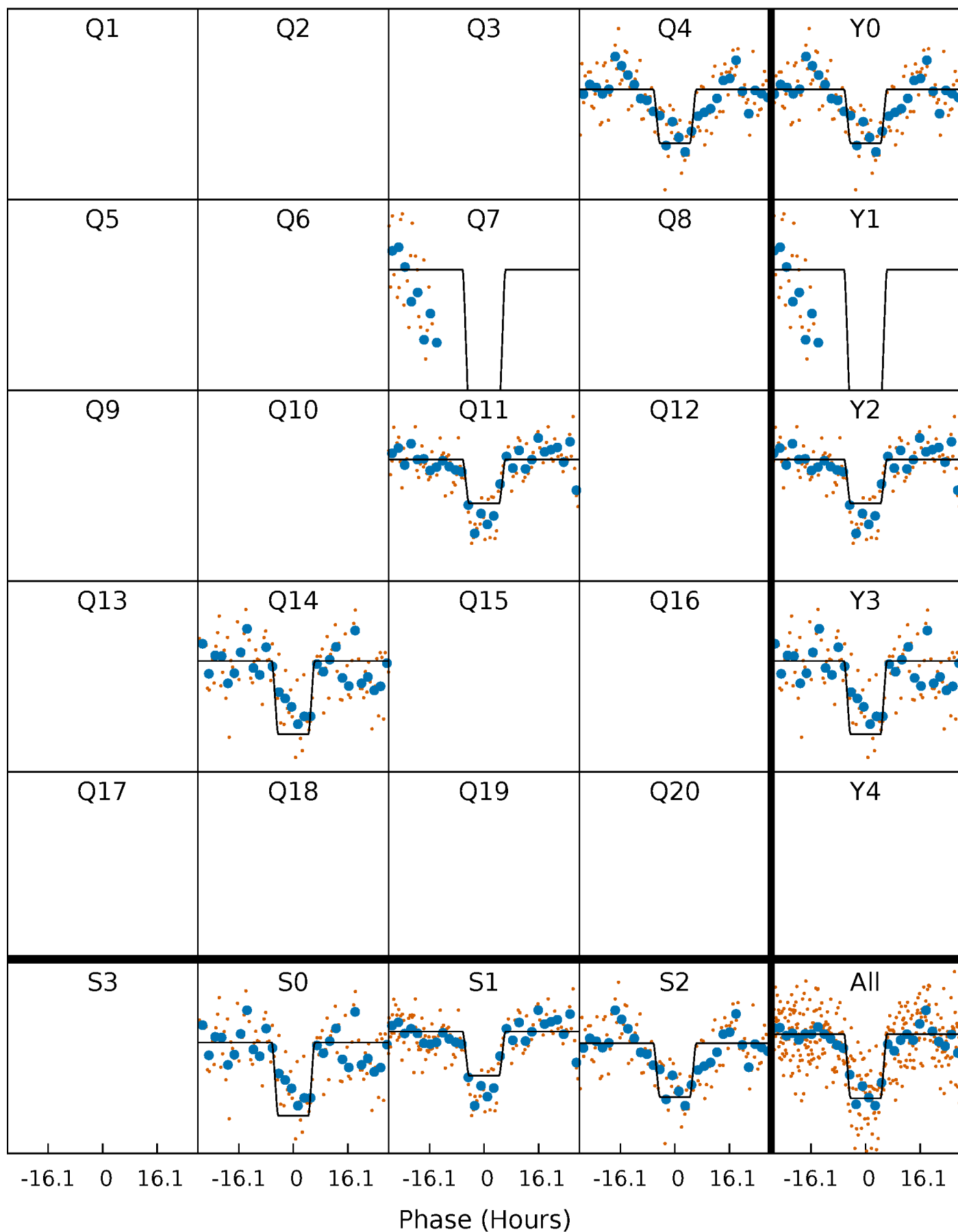
# DV Quarter-Phased Transit Curves

TCE 004447268-01 P=316.120313 Days  $T_0=404.014019$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

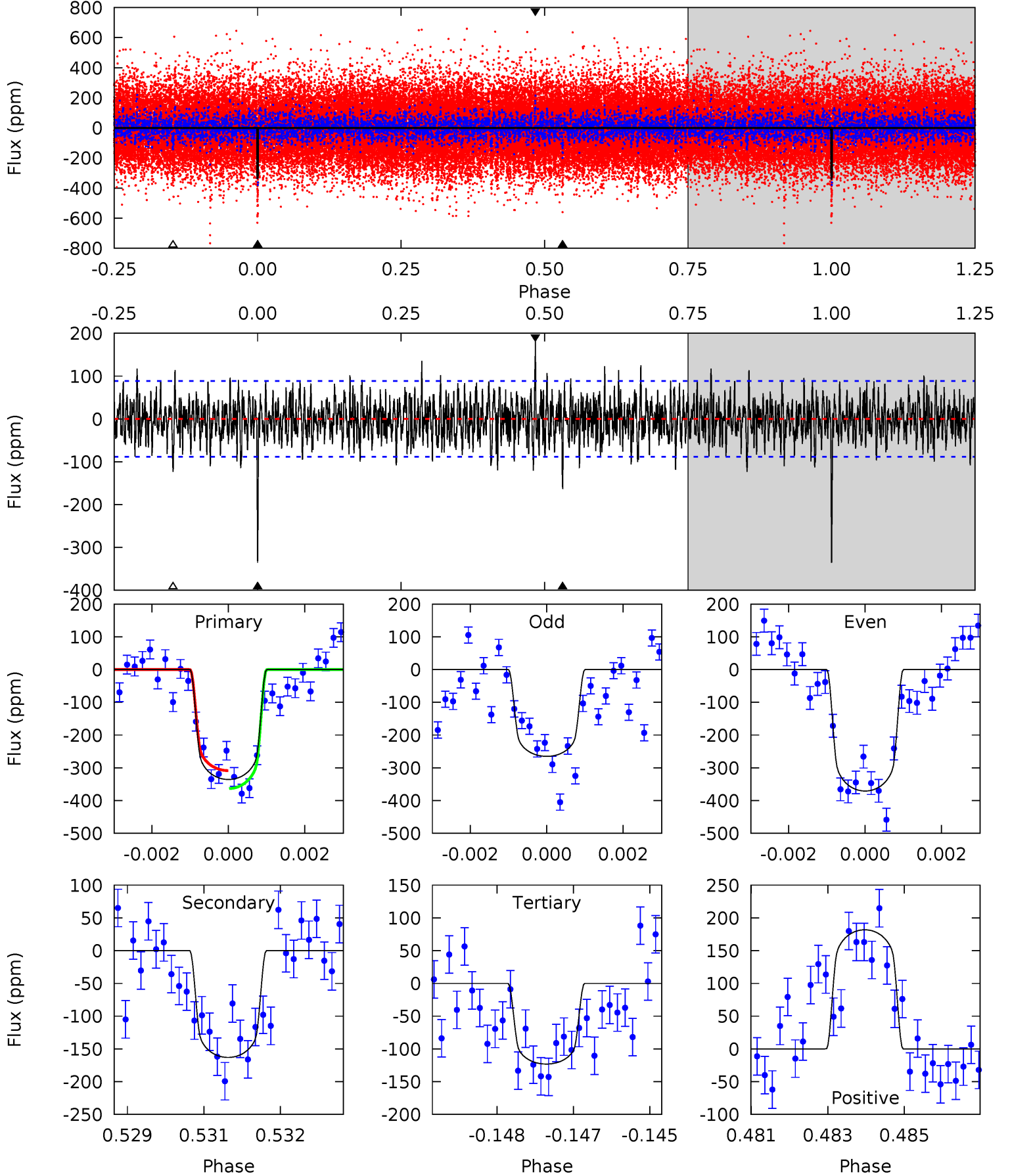
TCE 004447268-01   P=316.113984 Days    $T_0=404.030811$  (BKJD)



# DV Model-Shift Uniqueness Test

004447268-01, P = 316.120313 Days, E = 87.893706 Days

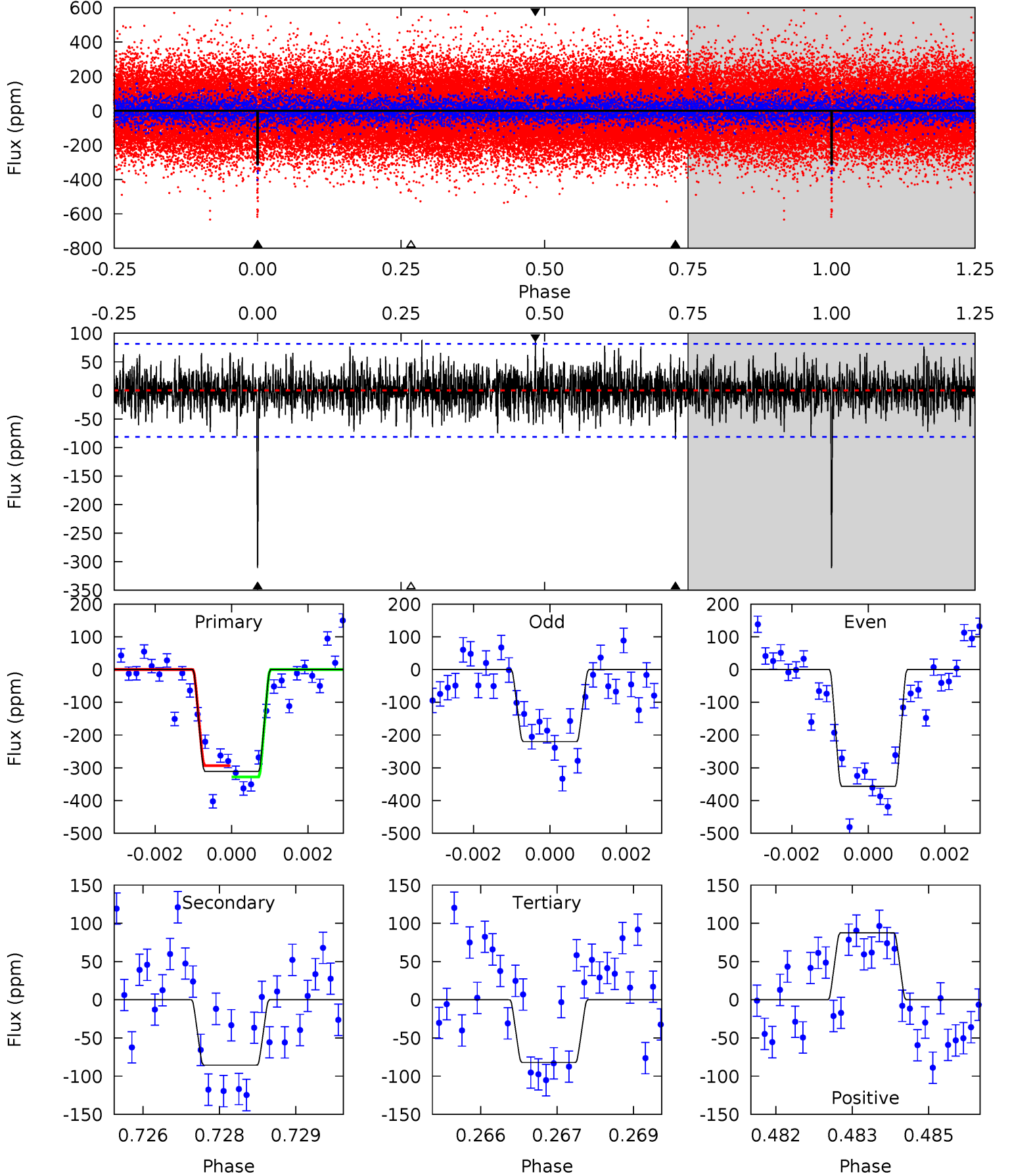
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	9.87	7.45	11.0	5.36	3.14	2.37	12.9	9.31	2.41	-1.13	3.03	1.16	0.35	1.66



# Alt Model-Shift Uniqueness Test

004447268-01,  $P = 316.113984$  Days,  $E = 87.916827$  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
20.5	5.62	5.40	5.76	5.36	3.15	1.56	15.1	14.7	0.22	-0.14	4.28	1.10	0.22	1.14



### Stellar Parameters For KIC 004447268

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+162}_{-179}$	$3.804^{+0.292}_{-0.097}$	$-0.200^{+0.300}_{-0.250}$	$2.432^{+0.451}_{-0.838}$	$1.373^{+0.222}_{-0.272}$	$0.135^{+0.288}_{-0.043}$
	+3%/-3%	+8%/-3%	+150%/-125%	+19%/-34%	+16%/-20%	+214%/-32%
Source	PHO1	FLK73	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 004447268-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-163 \pm 17$	$4.75^{+0.85}_{-0.90}$	$605^{+35}_{-52}$	$5357^{+322}_{-298}$	$4109^{+1867}_{-1165}$
Alt.	$-85 \pm 15$	$4.57^{+0.84}_{-0.84}$	$605^{+36}_{-53}$	$4736^{+297}_{-253}$	$2322^{+1125}_{-695}$

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

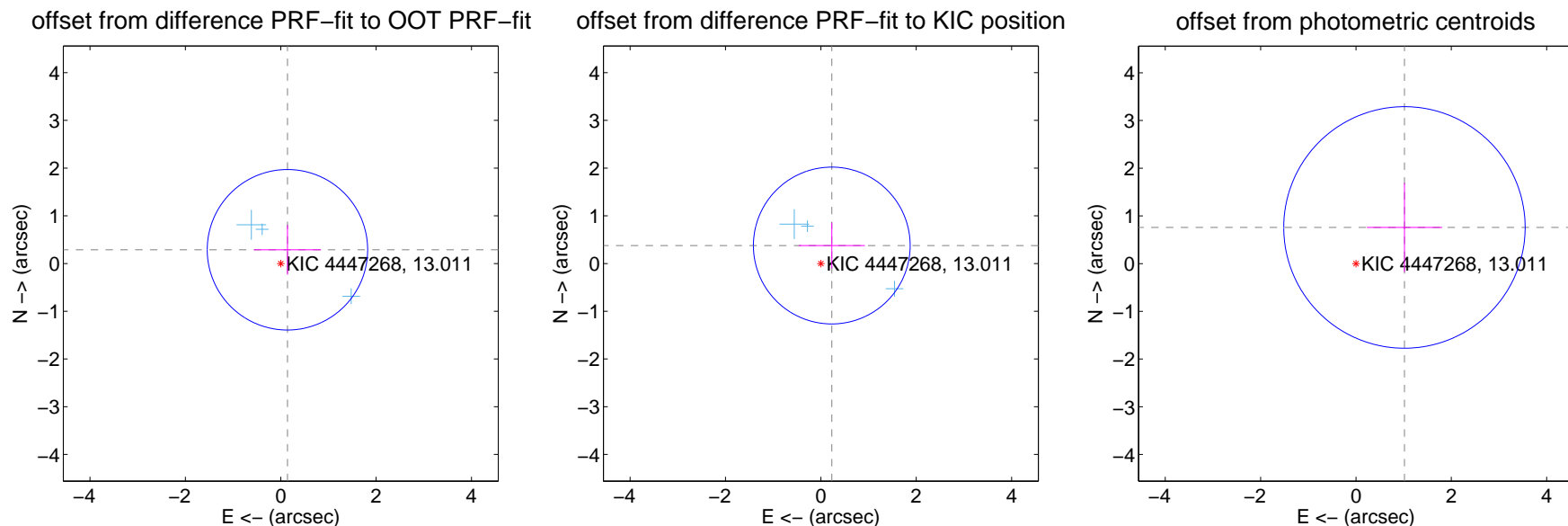
## DV Centroid Data

Supplemental centroid analysis for 004447268-01. Kepler magnitude: 13.01. Transit SNR 7.17

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

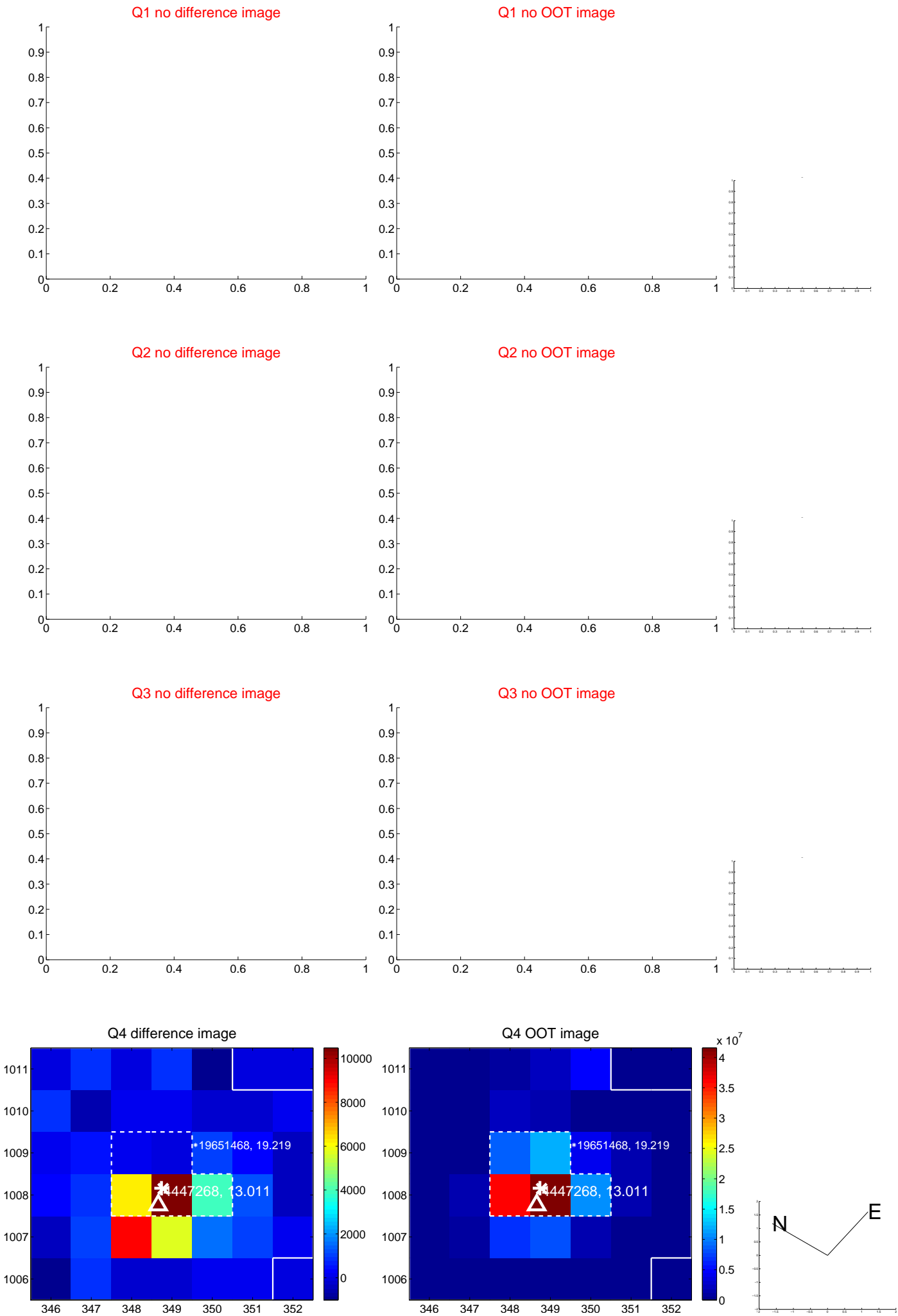
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.321 \pm 0.561$	0.57	$-0.140 \pm 0.703$	$0.288 \pm 0.521$
PRF-fit source offset from KIC position	$0.442 \pm 0.548$	0.81	$-0.229 \pm 0.695$	$0.377 \pm 0.483$
photometric centroid source offset	$1.27 \pm 0.84$	1.50	$-1.02 \pm 0.79$	$0.76 \pm 0.93$



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.

Q9 no difference image



Q9 no OOT image



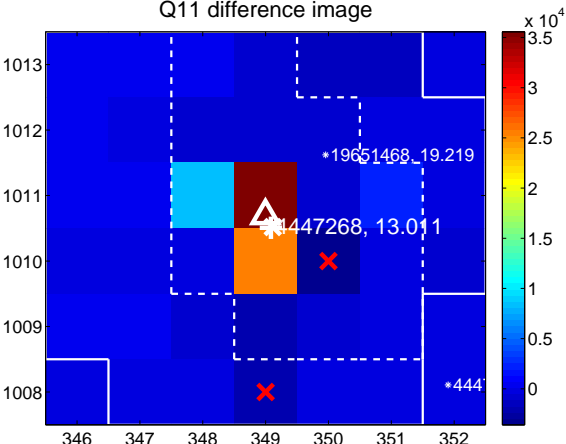
Q10 no difference image



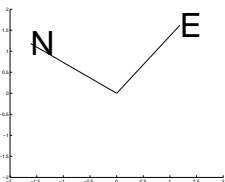
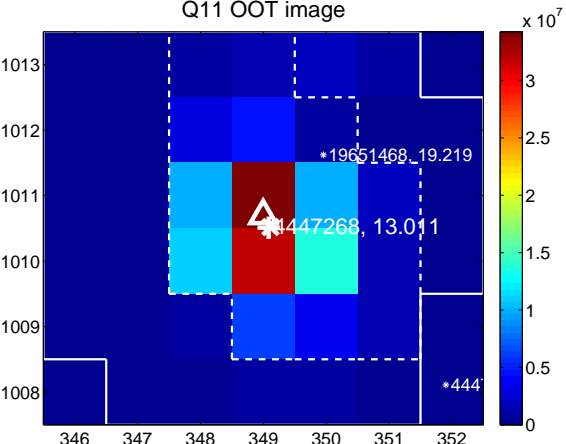
Q10 no OOT image



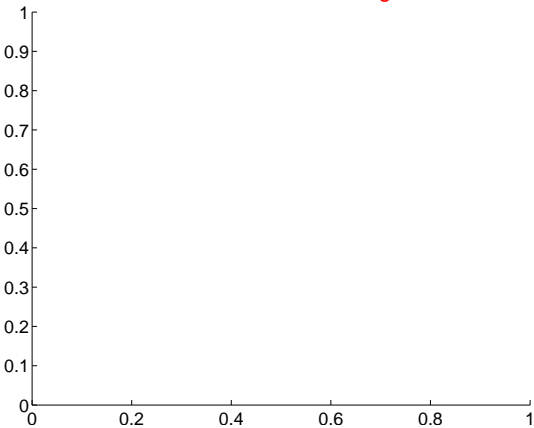
Q11 difference image



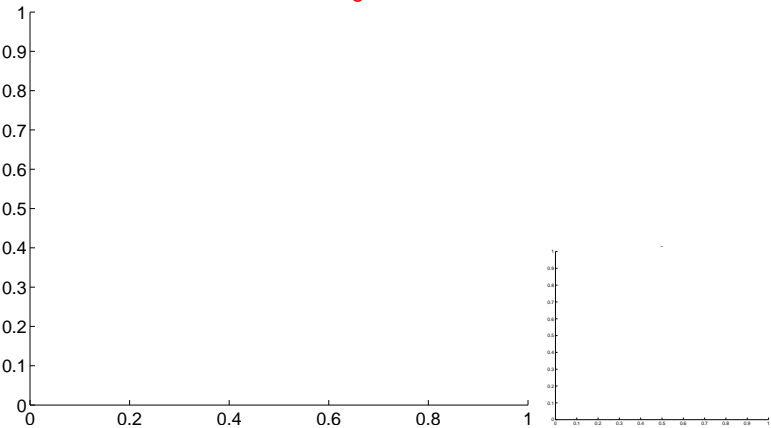
Q11 OOT image



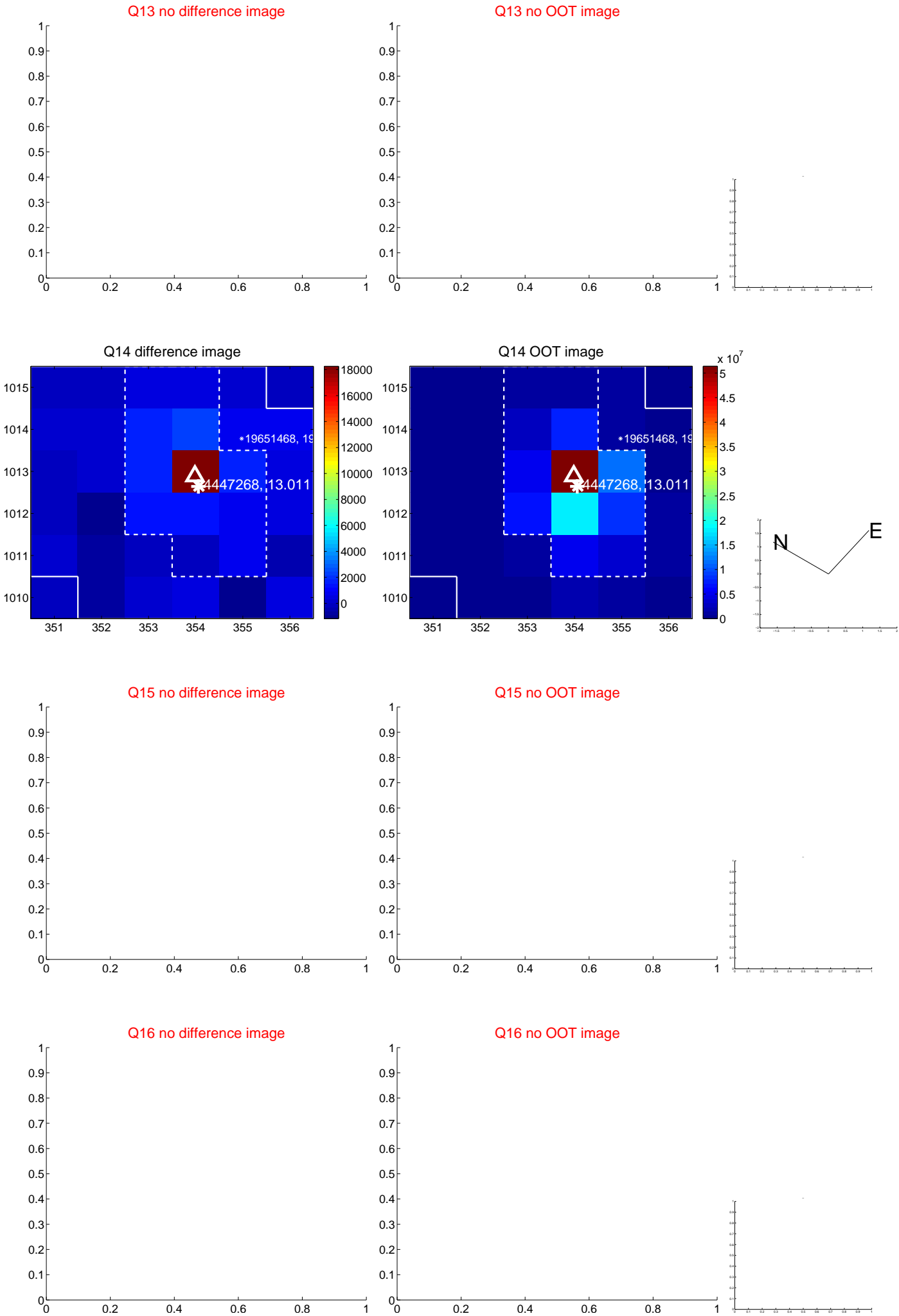
Q12 no difference image



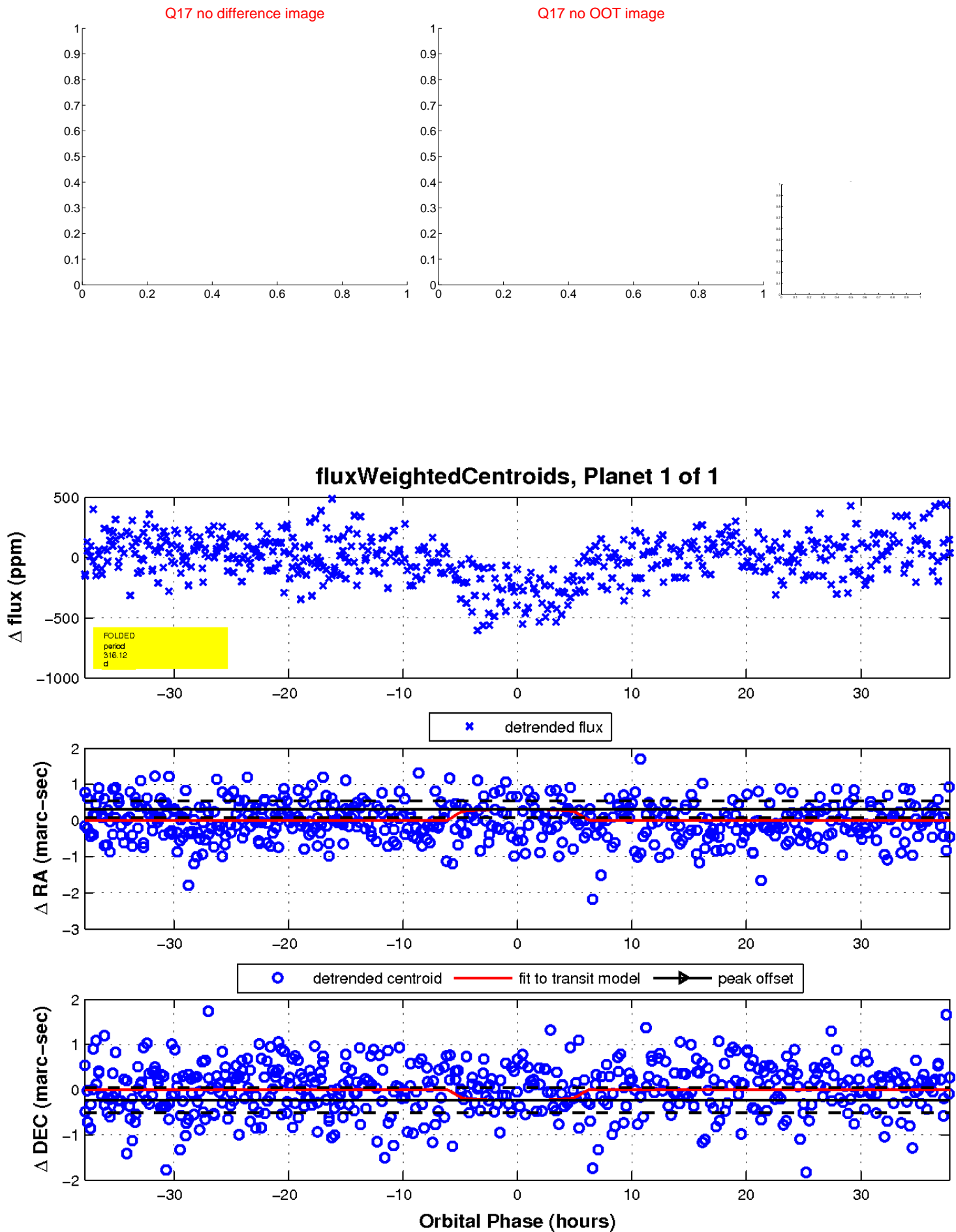
Q12 no OOT image



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



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



UKIRT Image

Declination

