

# KIC 008197176

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008197176-01	OBS	5485.01	9.358932	133.482226	1433.9	3.579	7.7	8.2	4.52	5188	20.94	1292.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008197176-01	OBS	PC	0.28	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.

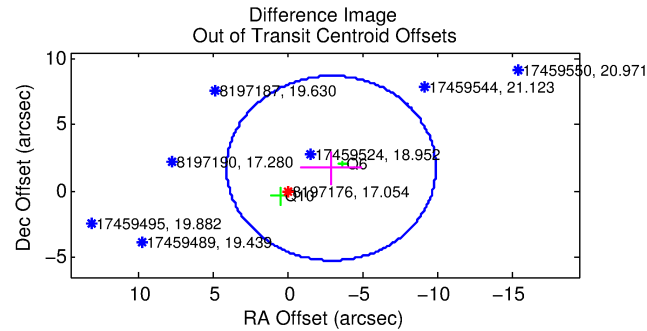
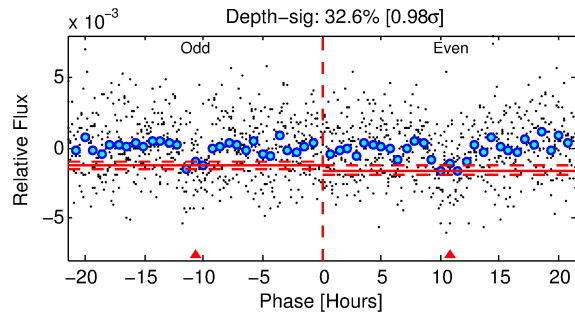
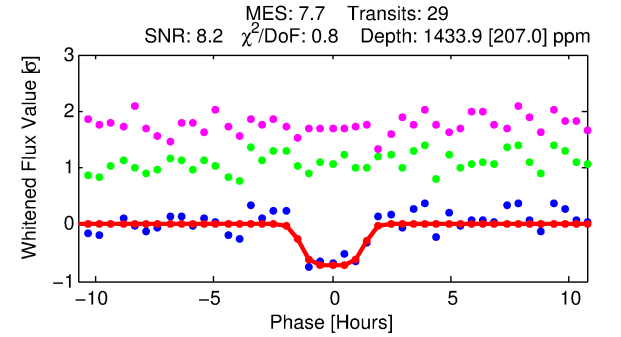
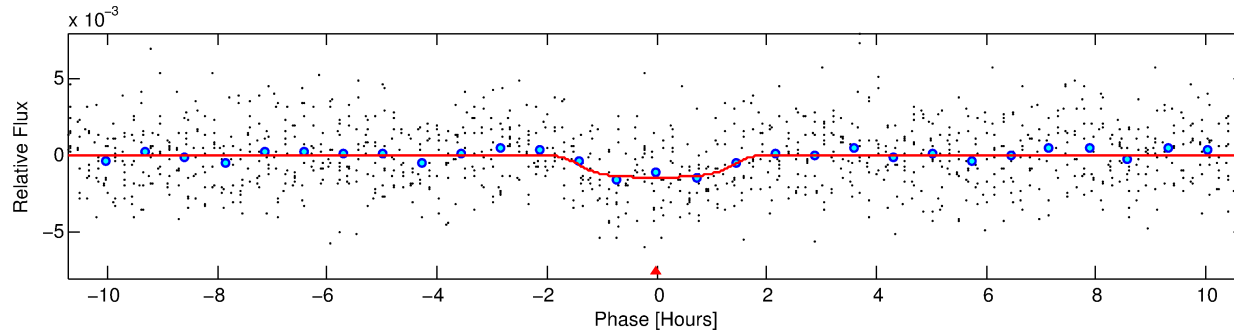
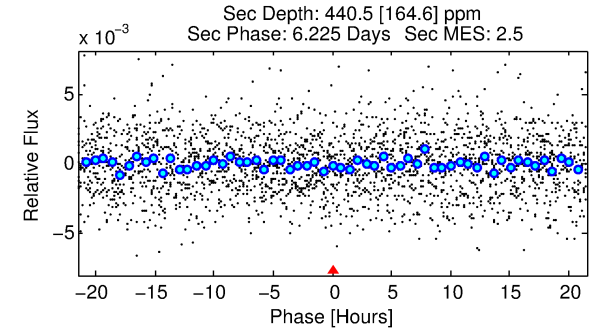
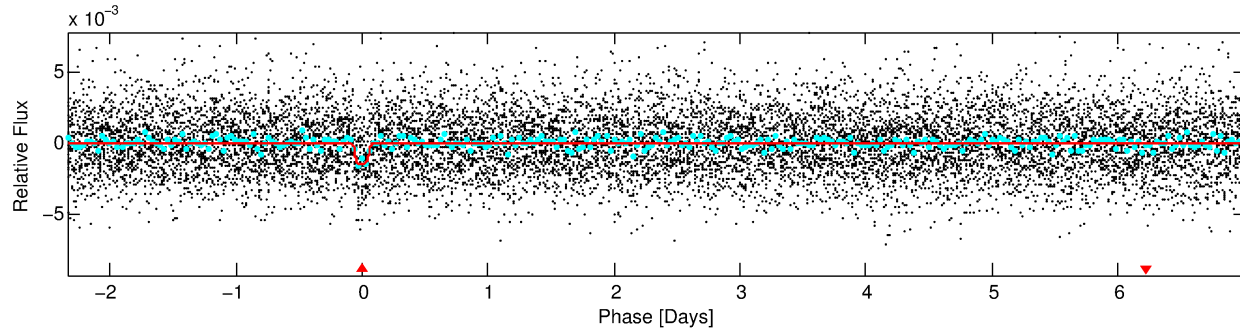
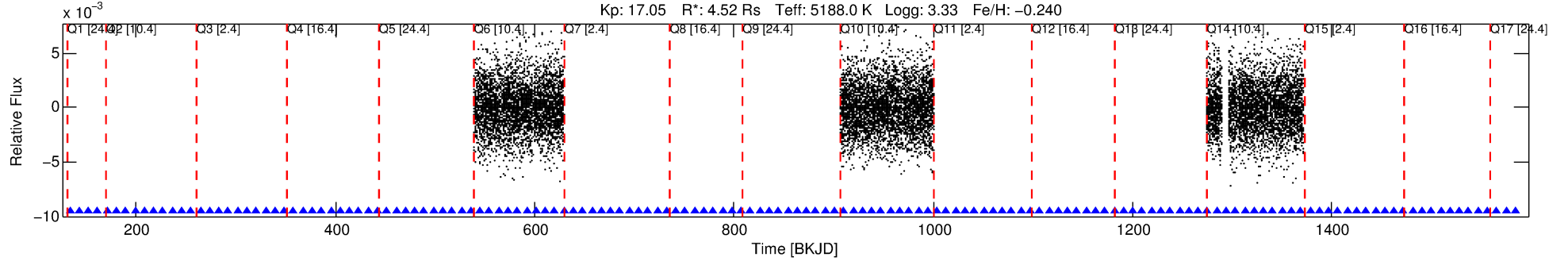
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008197176-01

No Significant Match Found

# DV One-Page Summary

KIC: 8197176 Candidate: 1 of 1 Period: 9.359 d  
KOI: K05485.01 Corr: 0.941



## DV Fit Results:

Period = 9.35893 [0.00017] d  
Epoch = 133.4822 [0.0158] BKJD  
Rp/R\* = 0.0424 [0.0089]  
a/R\* = 10.16 [7.34]  
b = 0.91 [0.14]  
Seff = 1292.46 [918.93]  
Teq = 1529 [272] K  
**Rp = 20.94 [10.64] Re**  
a = 0.1013 [0.0446] AU  
Ag = 5.67 [5.09] [0.92σ]  
Teffp = 3648 [524] K [3.59σ]

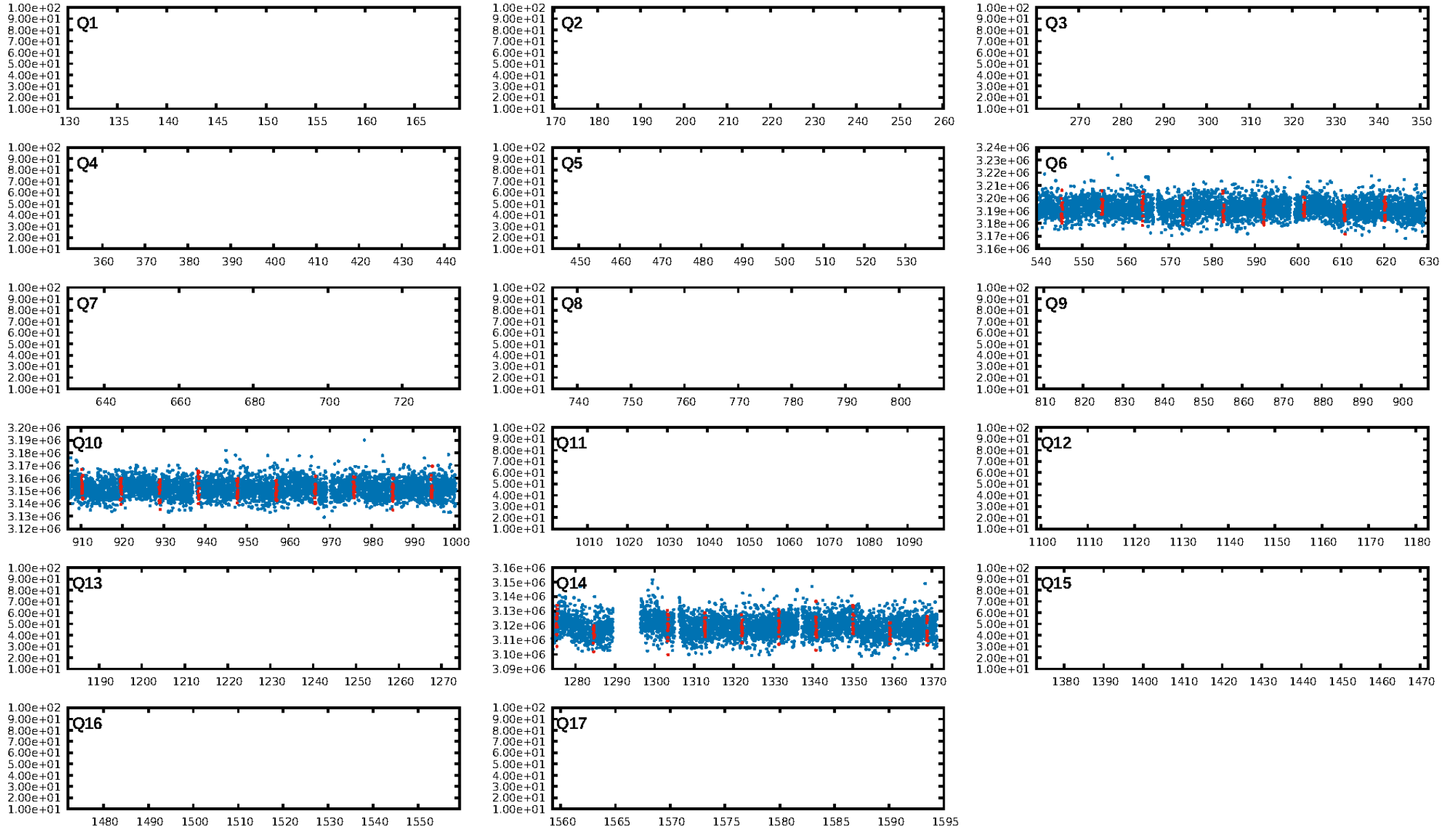
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 91.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.59e-15  
RollingBand-fgt: 1.00 [29/29]  
GhostDiagnostic-chr: 2.135  
Centroid-sig: 0.6%  
Centroid-so: 0.858 arcsec [0.68σ]  
OotOffset-rm: 3.413 arcsec [1.47σ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-rm: 2.585 arcsec [1.91σ]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

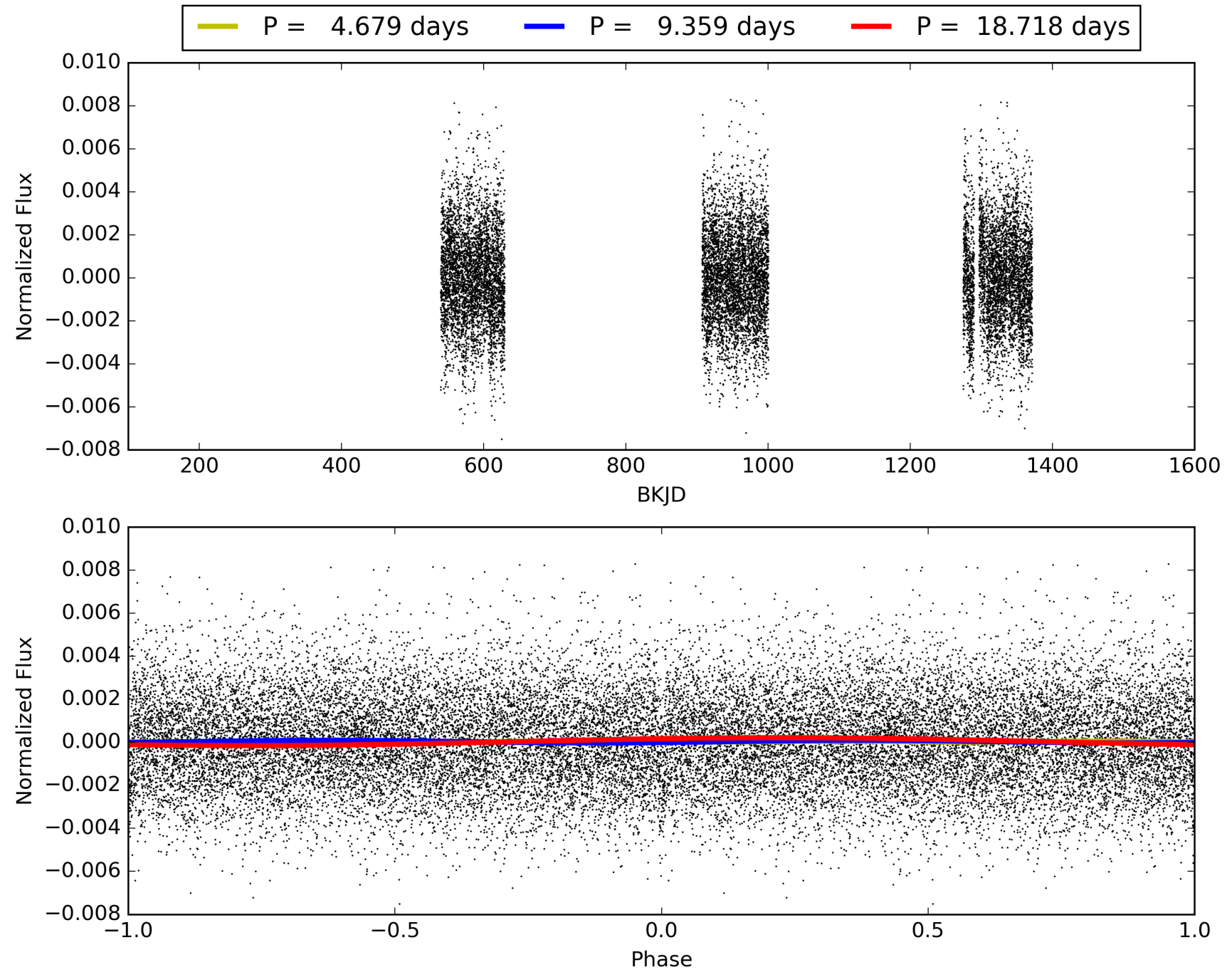
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:23:05 Z

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

# TCE 008197176-01, PDC Light Curves

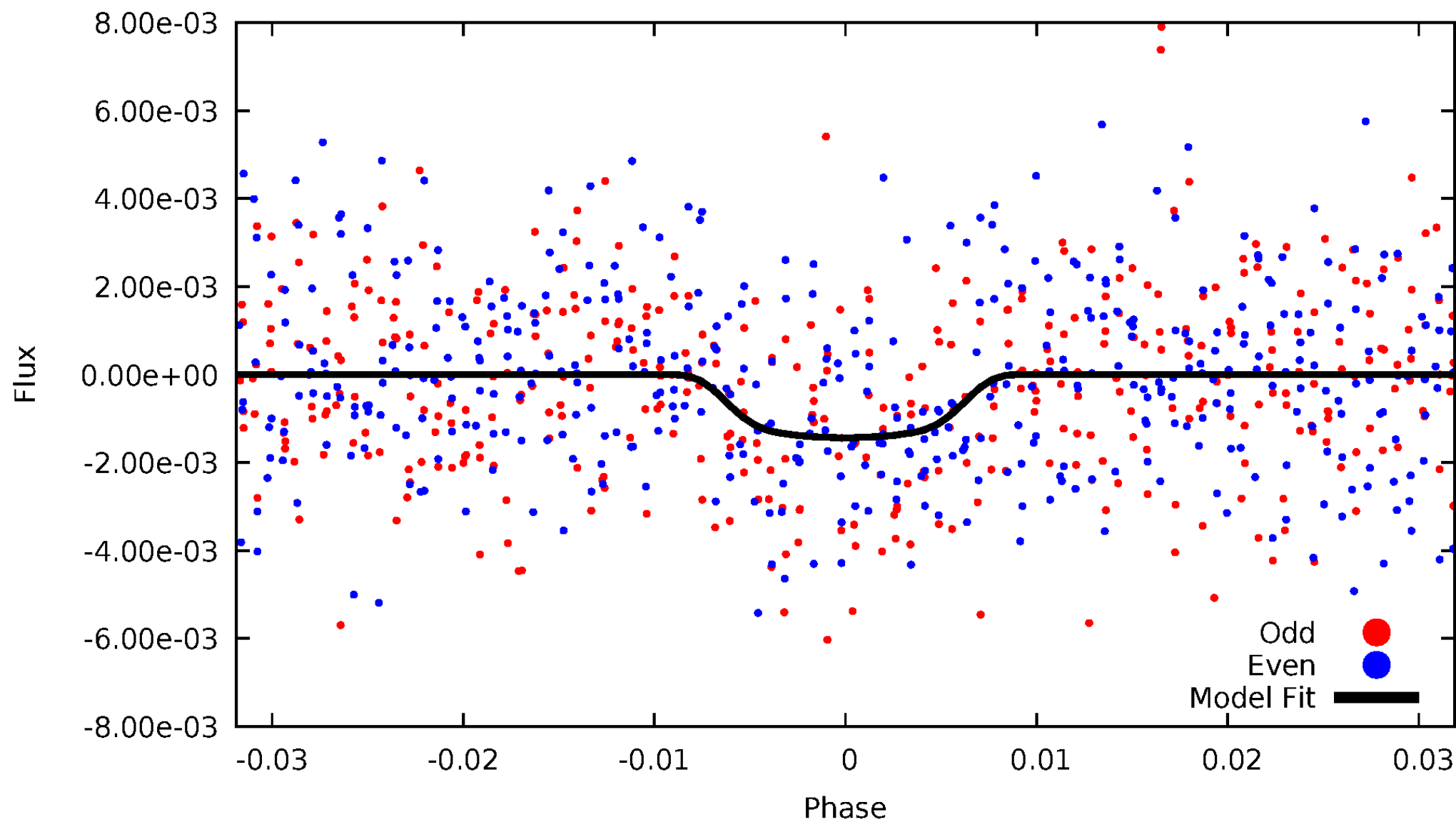


# TCE 008197176-01



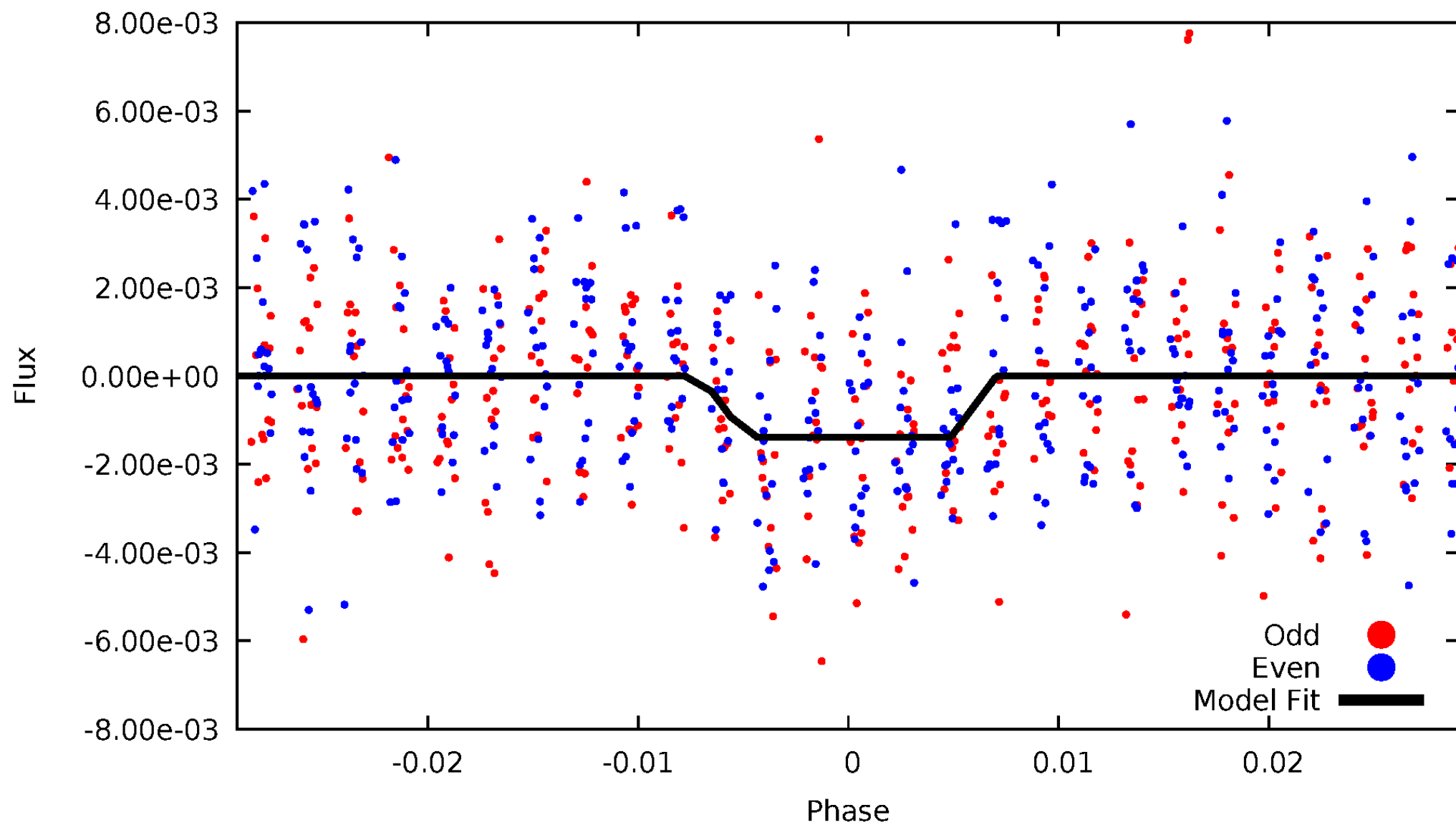
# DV Odd/Even

TCE 008197176-01

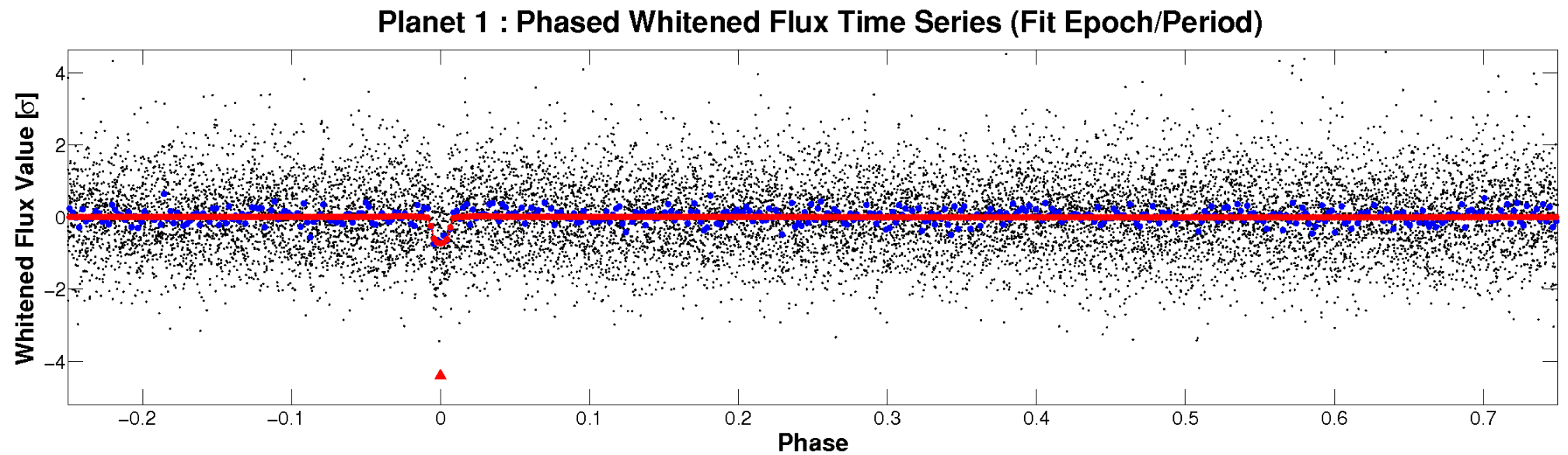
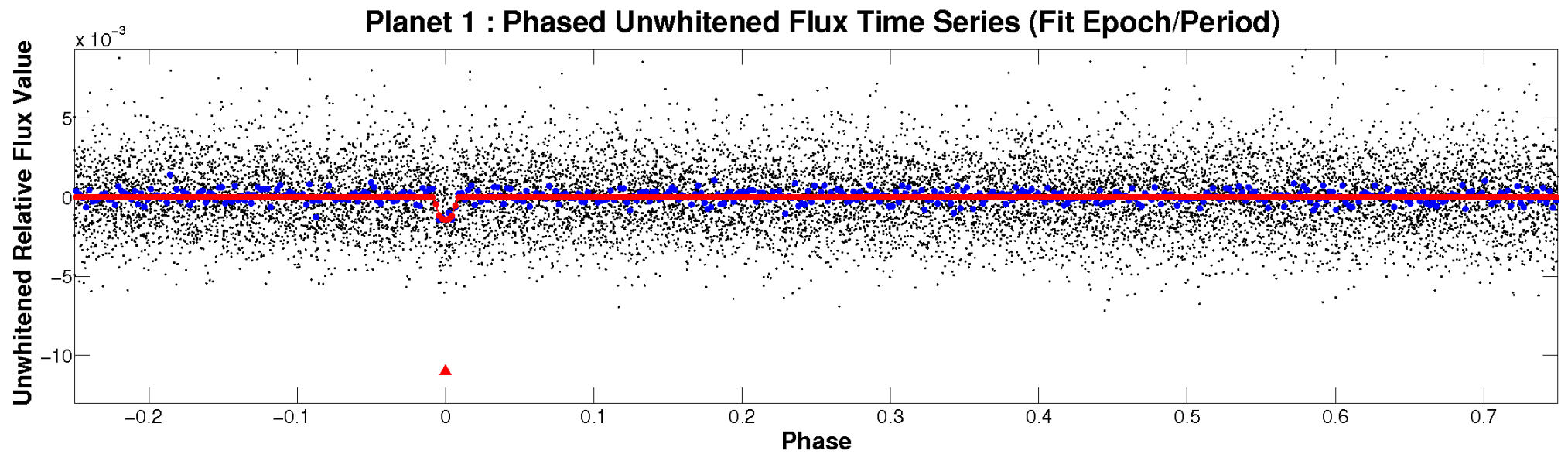


# ALT Odd/Even

TCE 008197176-01

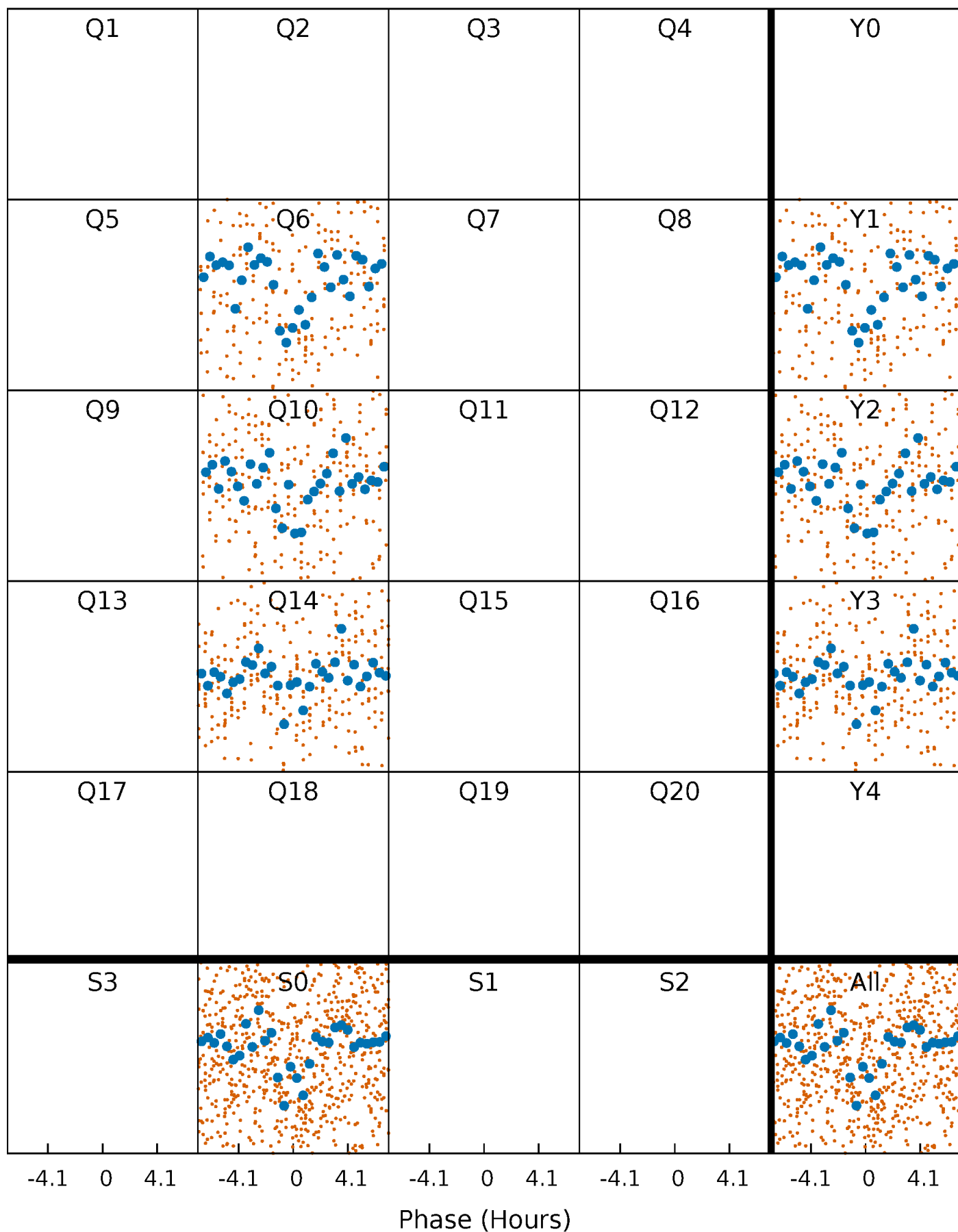


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

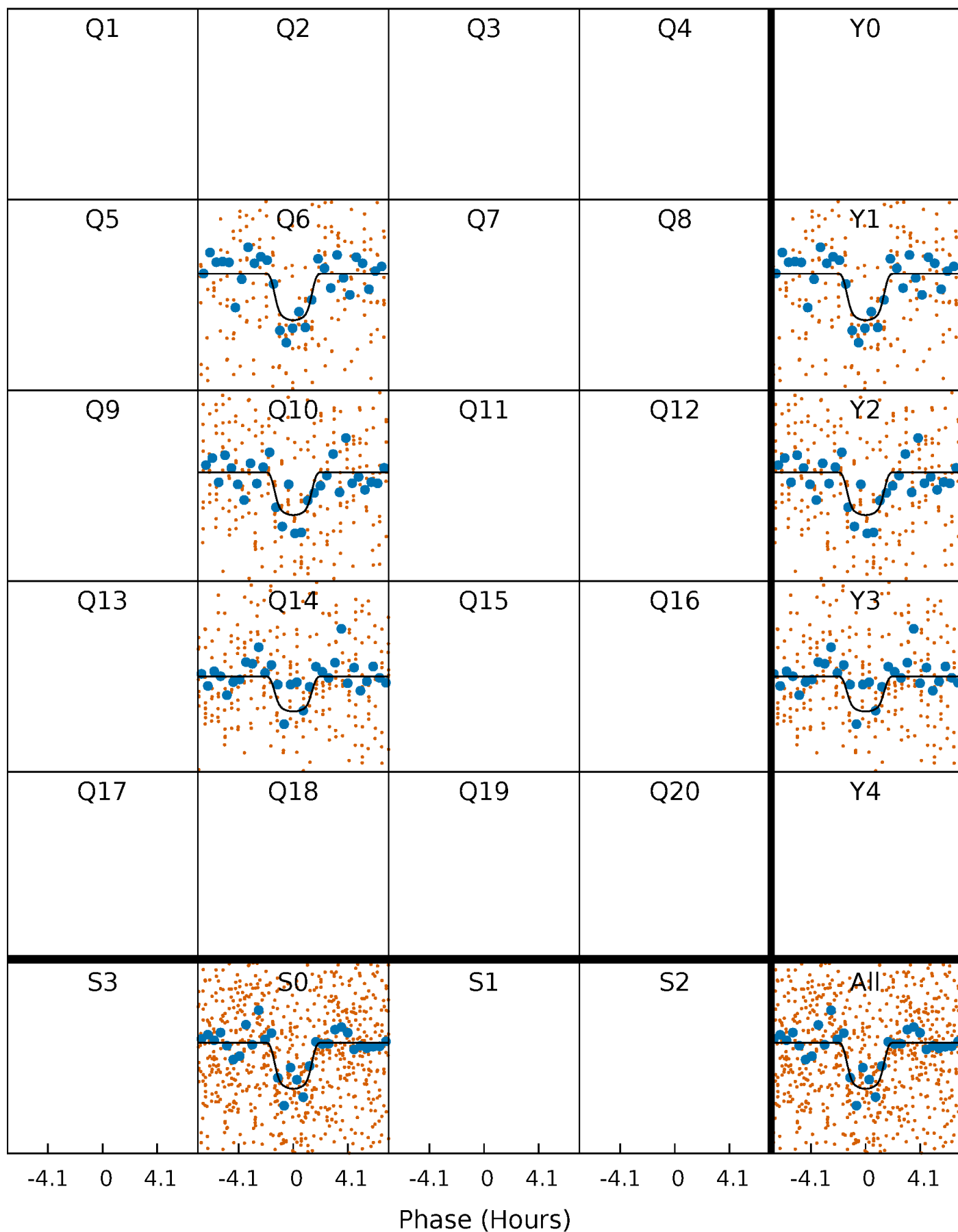
TCE 008197176-01 P= 9.358932 Days  $T_0=133.482226$  (BKJD)





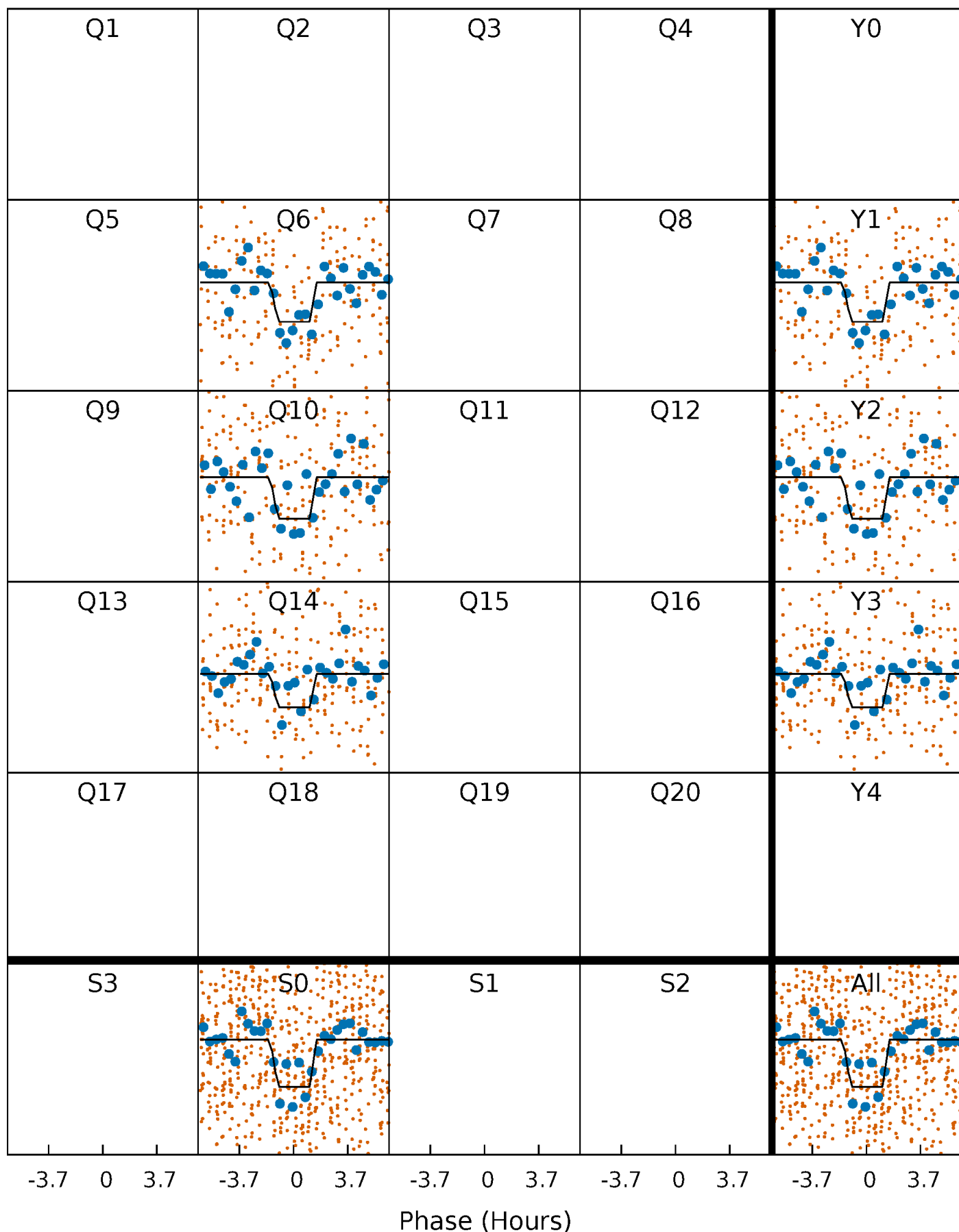
# DV Quarter-Phased Transit Curves

TCE 008197176-01 P= 9.358932 Days  $T_0=133.482226$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

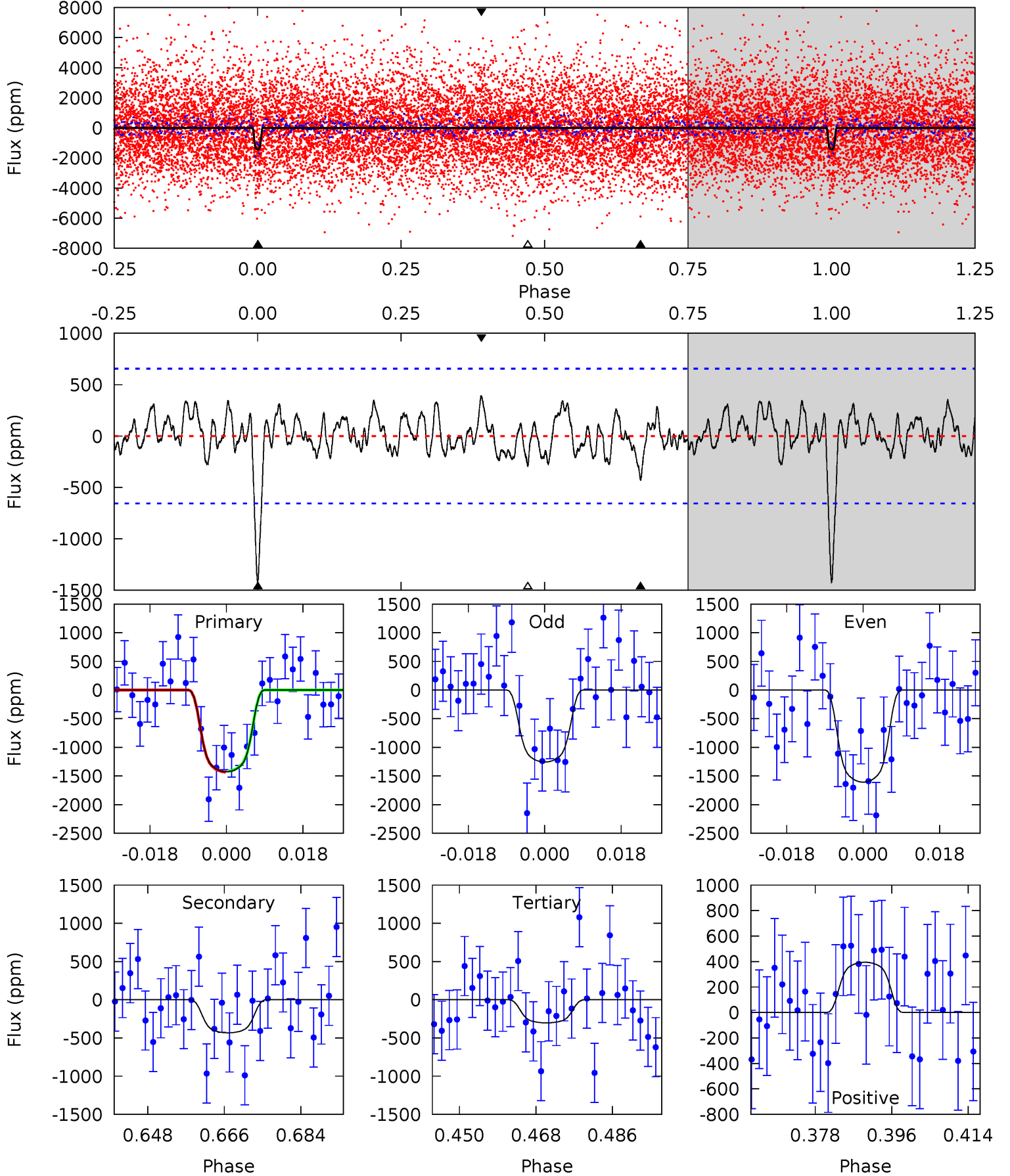
TCE 008197176-01 P= 9.359032 Days  $T_0=133.472880$  (BKJD)



# DV Model-Shift Uniqueness Test

008197176-01, P = 9.358932 Days, E = 133.482226 Days

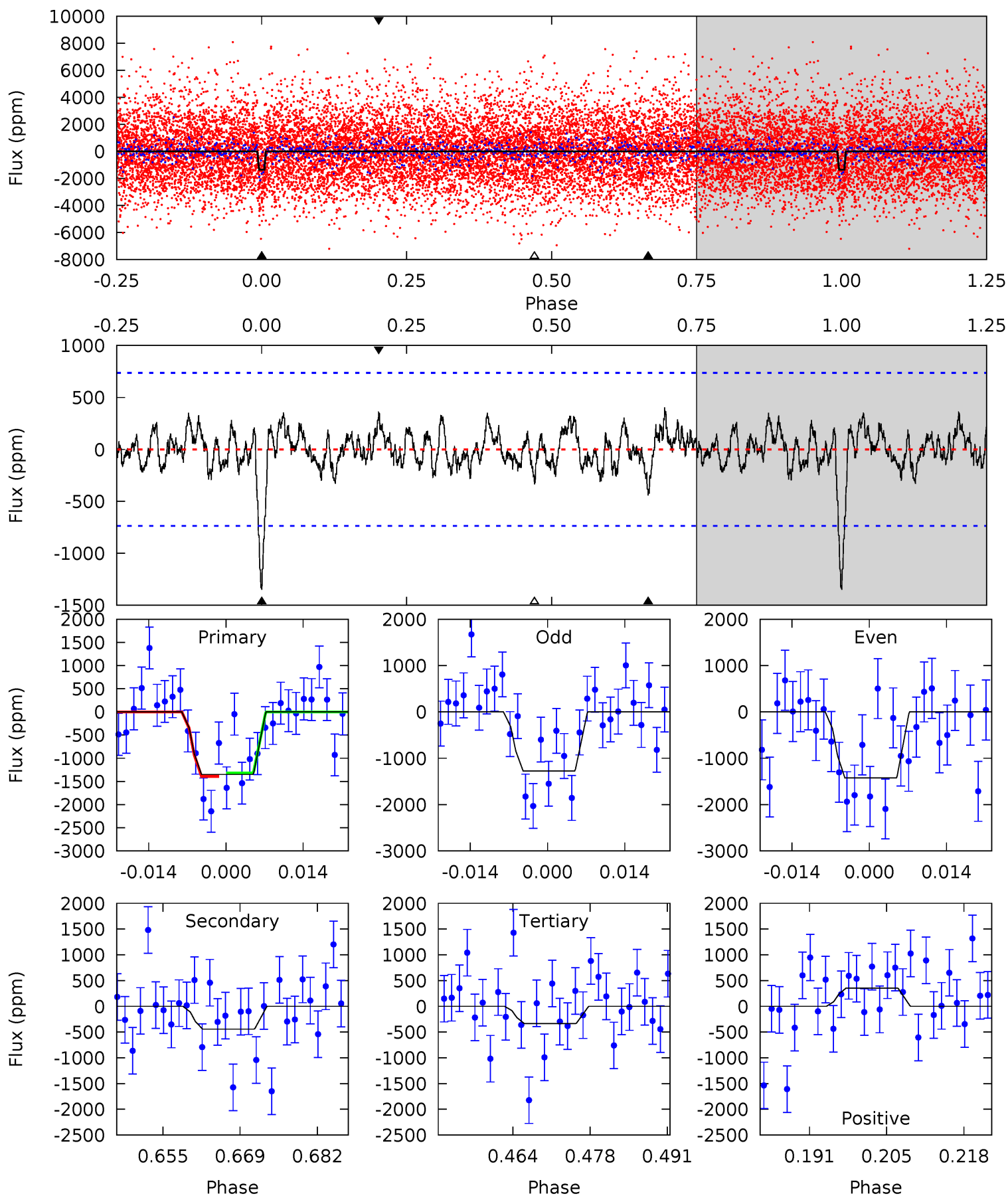
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	3.25	2.27	2.96	4.91	2.37	1.10	8.44	7.74	0.98	0.29	1.32	0.87	0.22	0.05



# Alt Model-Shift Uniqueness Test

008197176-01, P = 9.359032 Days, E = 133.472880 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
9.10	2.98	2.25	2.38	4.97	2.47	0.95	6.85	6.72	0.73	0.60	0.50	0.95	0.23	0.26



### Stellar Parameters For KIC 008197176

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5188^{+146}_{-164}$	$3.327^{+0.409}_{-0.220}$	$-0.240^{+0.250}_{-0.300}$	$4.521^{+1.396}_{-2.094}$	$1.583^{+0.209}_{-0.626}$	$0.024^{+0.084}_{-0.013}$
	+3%/-3%	+12%/-7%	+104%/-125%	+31%/-46%	+13%/-40%	+350%/-55%
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 008197176-01 / KOI 5485.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-433 \pm 133$	$19.05^{+7.40}_{-5.53}$	$2091^{+221}_{-252}$	$3883^{+424}_{-355}$	$6.291^{+6.806}_{-3.302}$
Alt.	$-443 \pm 148$	$16.95^{+6.52}_{-5.20}$	$2121^{+207}_{-263}$	$4095^{+551}_{-460}$	$7.972^{+9.426}_{-4.236}$

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

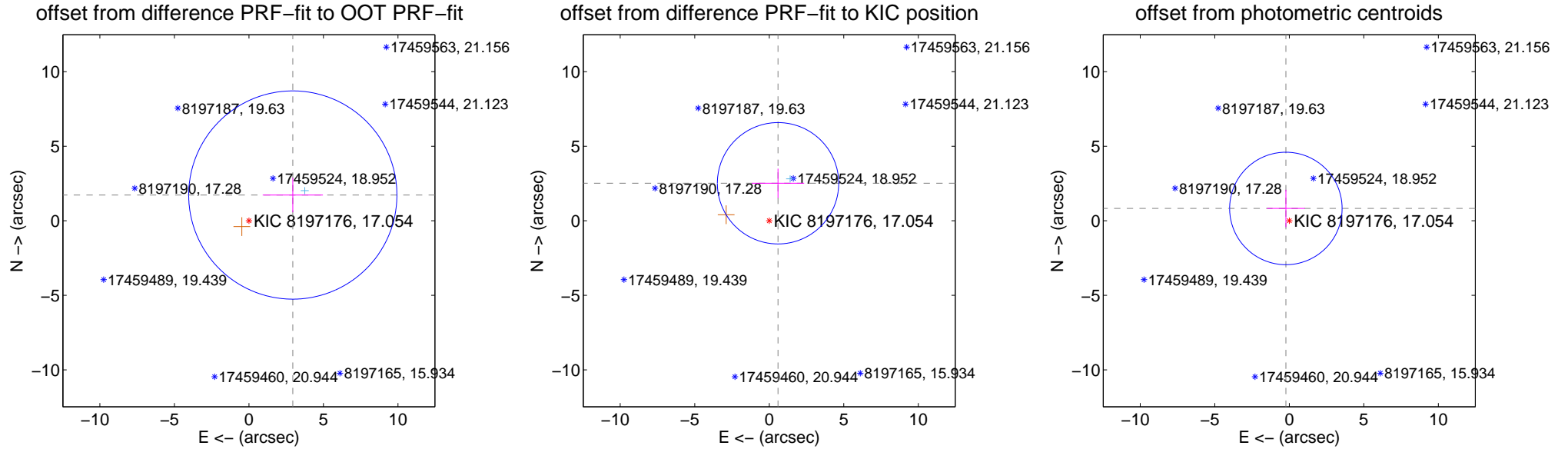
## DV Centroid Data

Supplemental centroid analysis for 008197176-01. Kepler magnitude: 17.05. Transit SNR 8.17

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 2.54 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	$3.413 \pm 2.328$	1.47	$-2.943 \pm 2.022$	$1.728 \pm 1.157$
PRF-fit source offset from KIC position	$2.585 \pm 1.357$	1.91	$-0.589 \pm 1.754$	$2.517 \pm 0.984$
photometric centroid source offset	$0.86 \pm 1.26$	0.68	$0.23 \pm 1.27$	$0.83 \pm 1.26$



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.

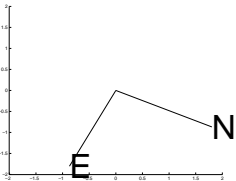
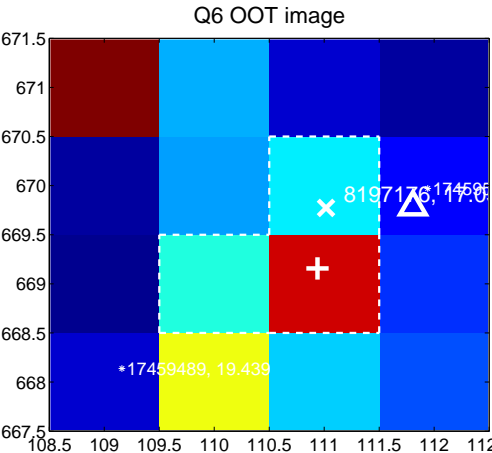
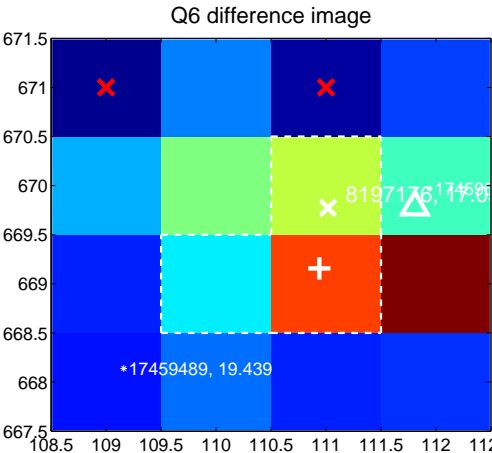


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

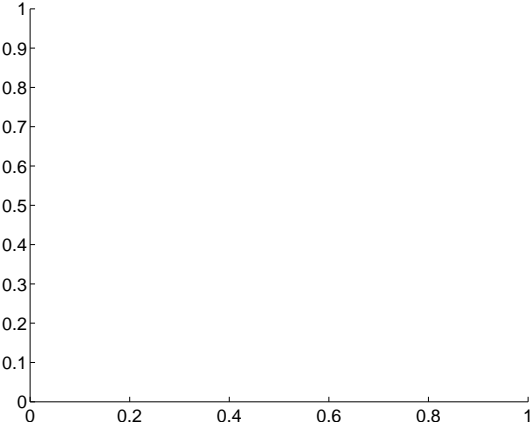
Q5 no difference image



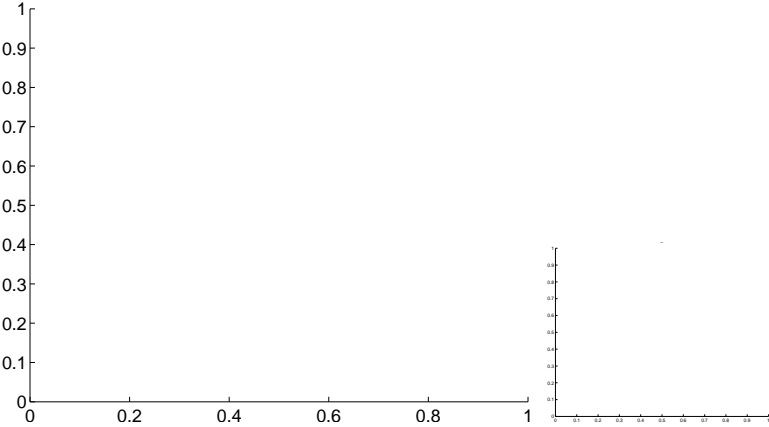
Q5 no OOT image



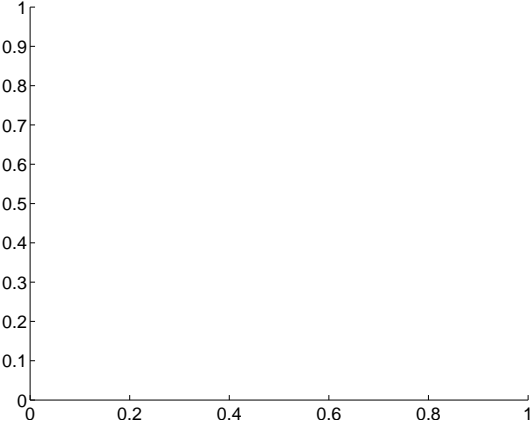
Q7 no difference image



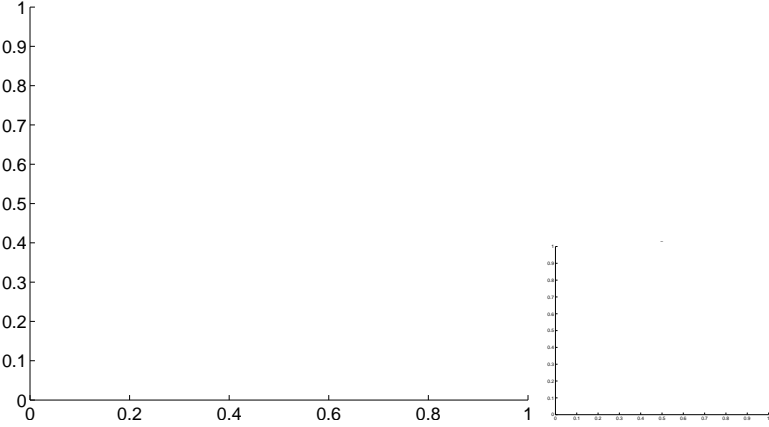
Q7 no OOT image



Q8 no difference image



Q8 no OOT image





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

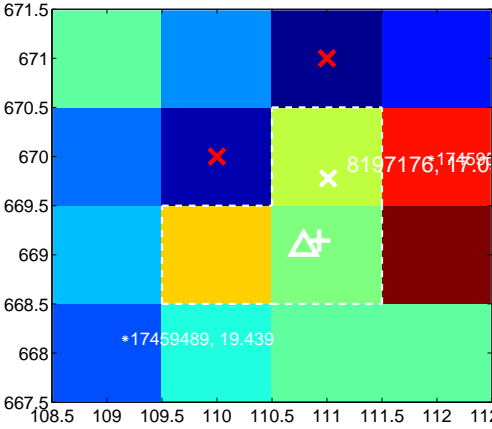
Q9 no difference image



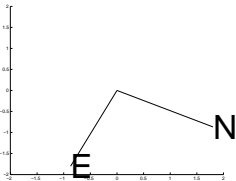
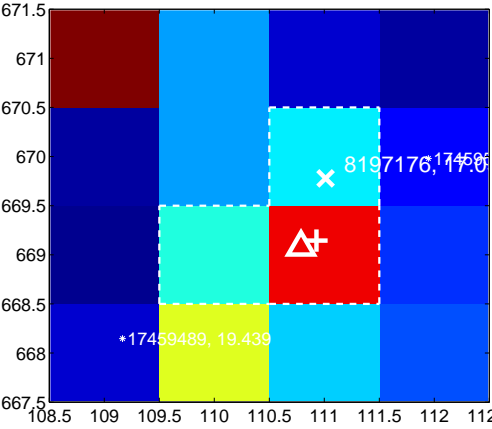
Q9 no OOT image



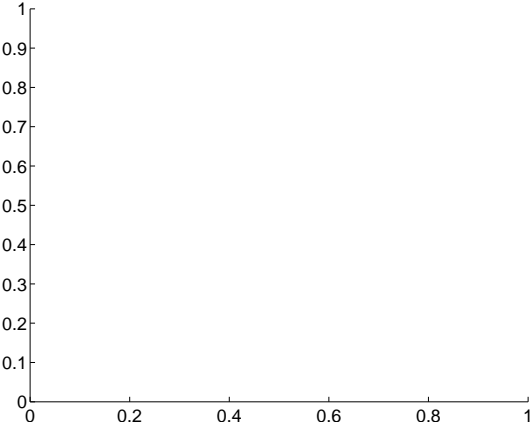
Q10 difference image. Poor Quality



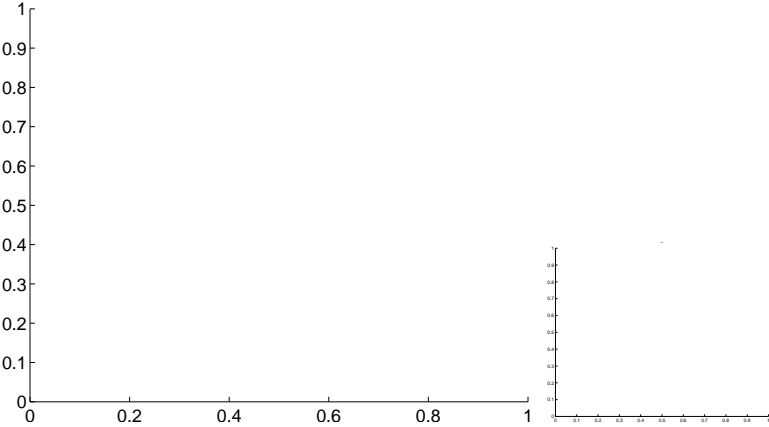
Q10 OOT image



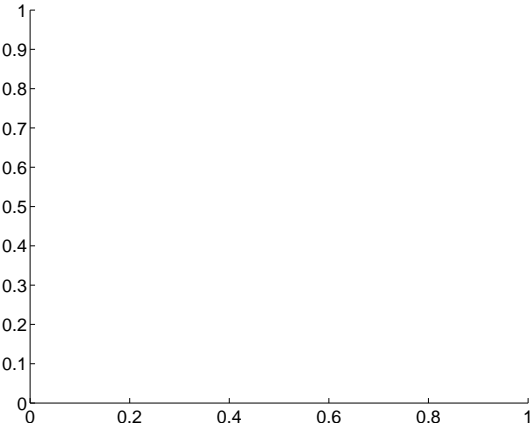
Q11 no difference image



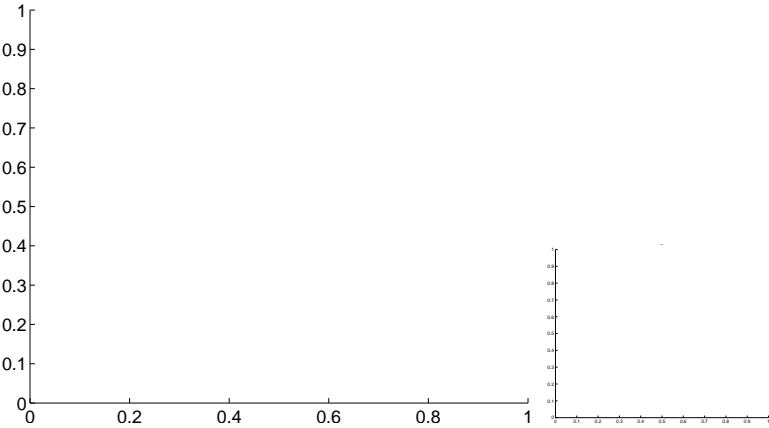
Q11 no OOT image



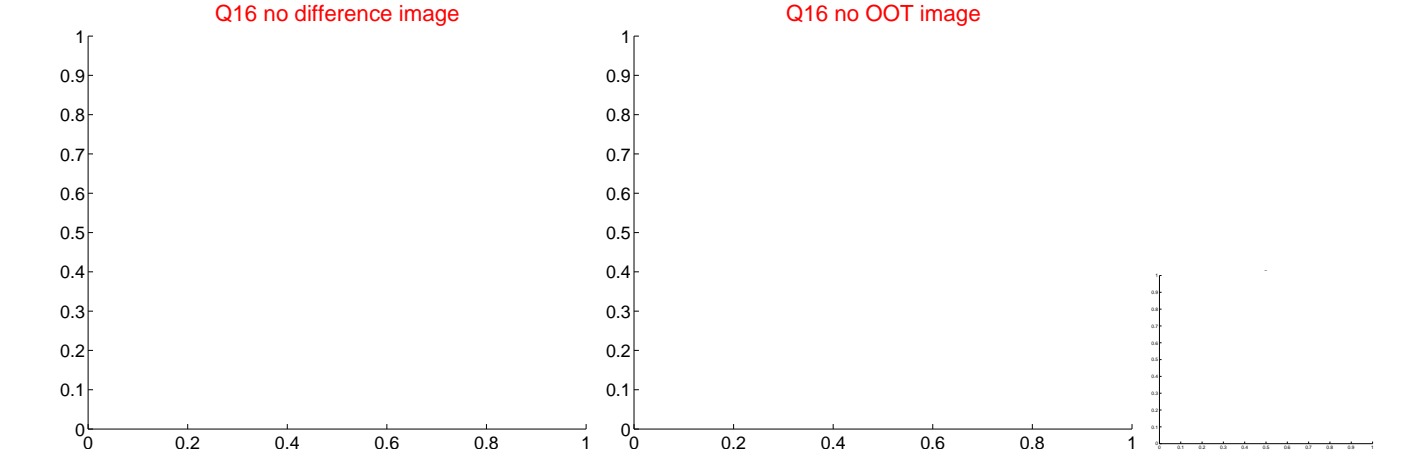
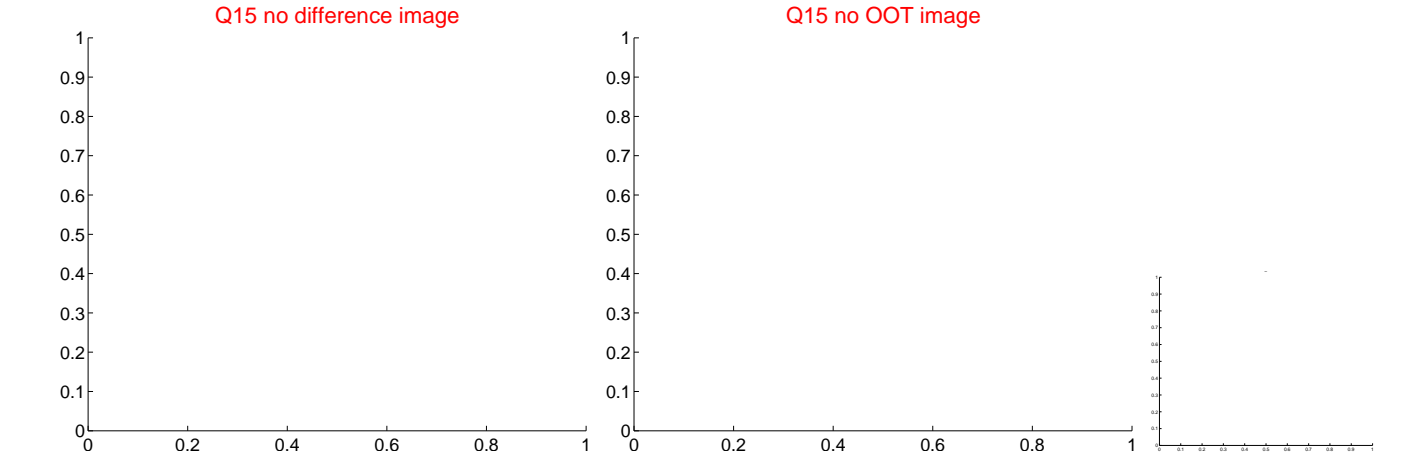
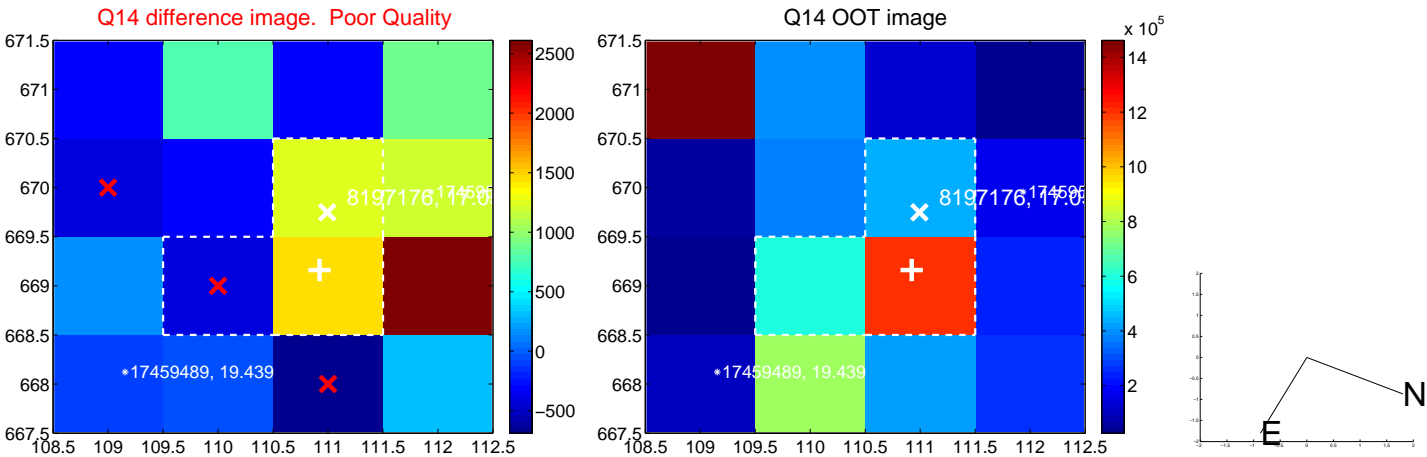
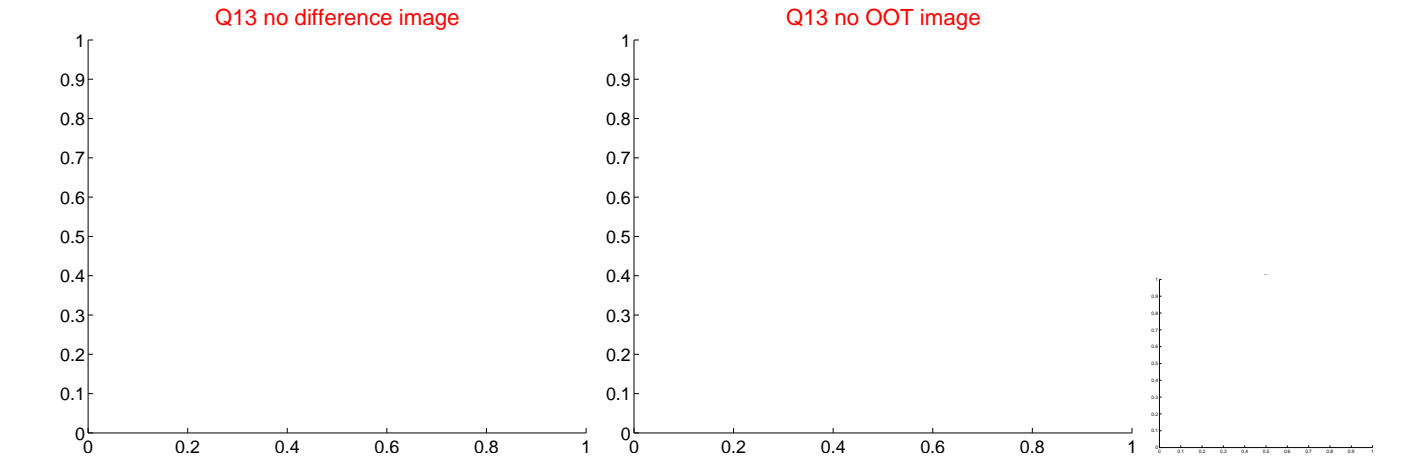
Q12 no difference image



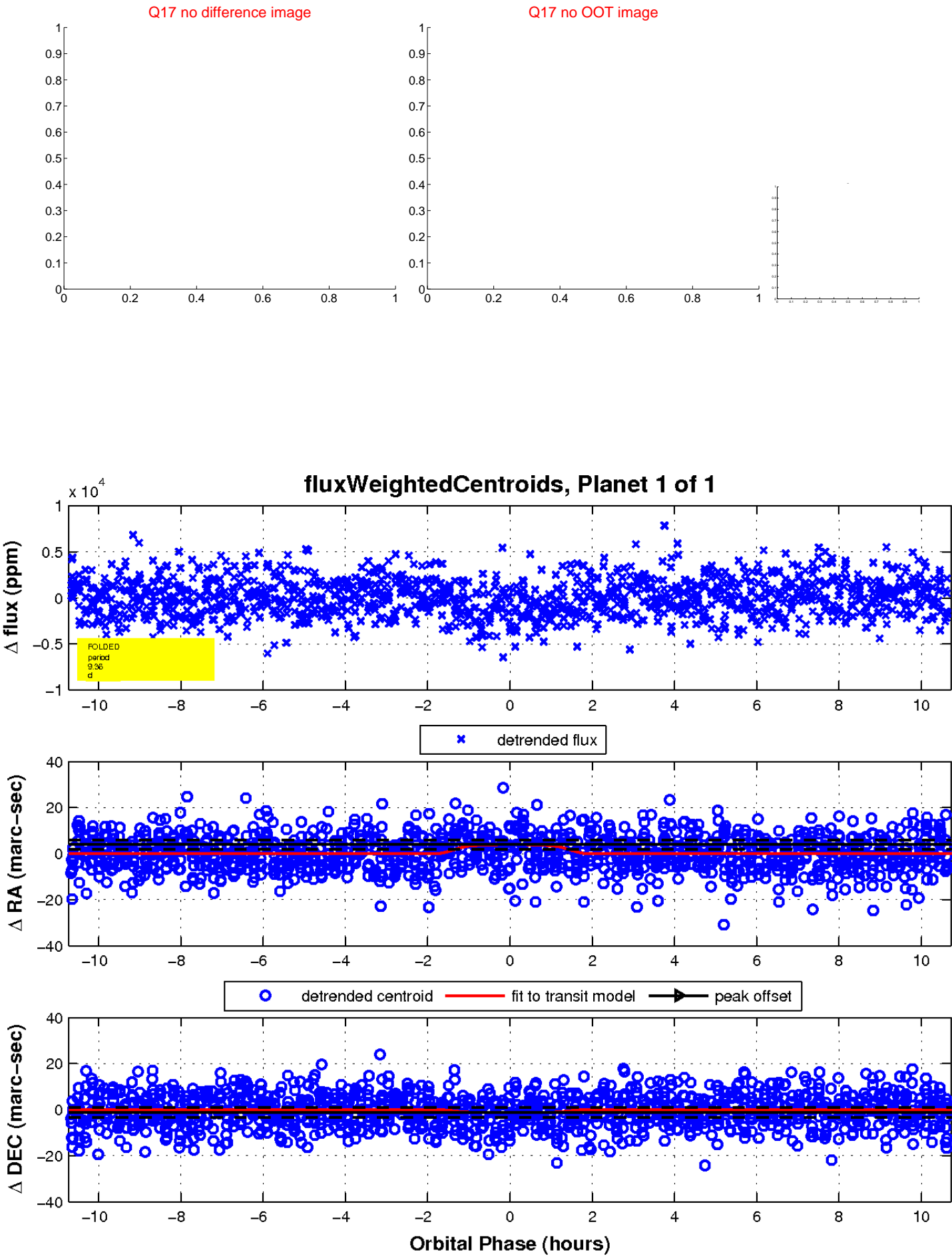
Q12 no OOT image



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



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



UKIRT Image

Declination

