

# KIC 008194874

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008194874-01	OBS	No	351.701656	321.504983	197.2	9.562	7.5	7.2	2.33	8026	3.63	14.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008194874-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—MOD_NONUNIQ_ALT

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

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

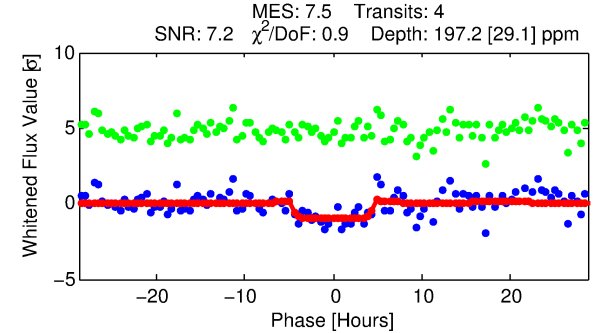
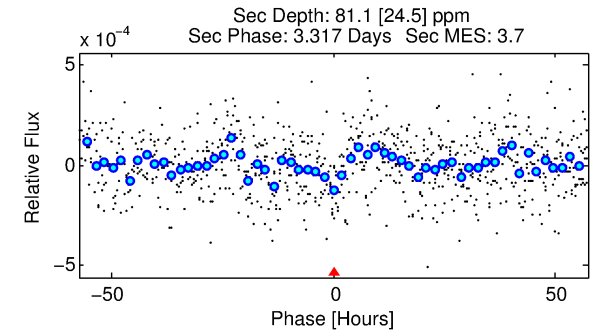
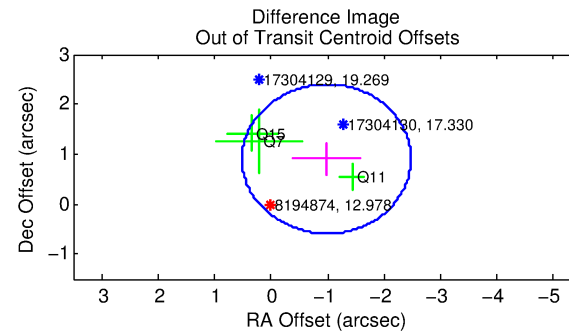
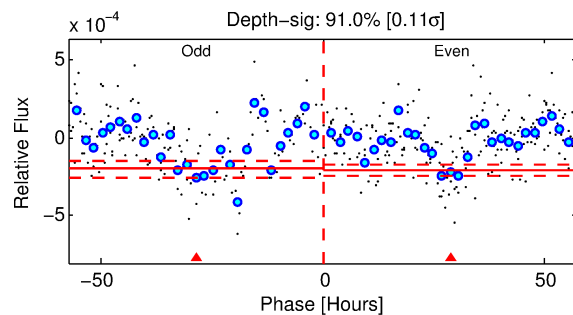
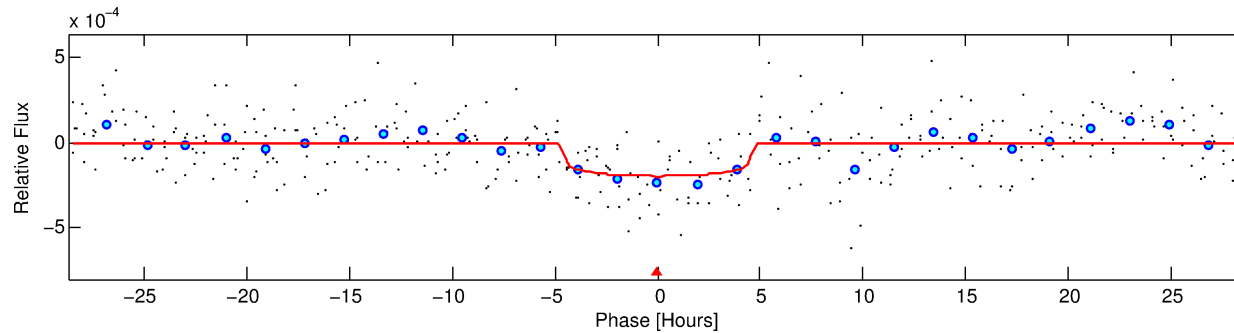
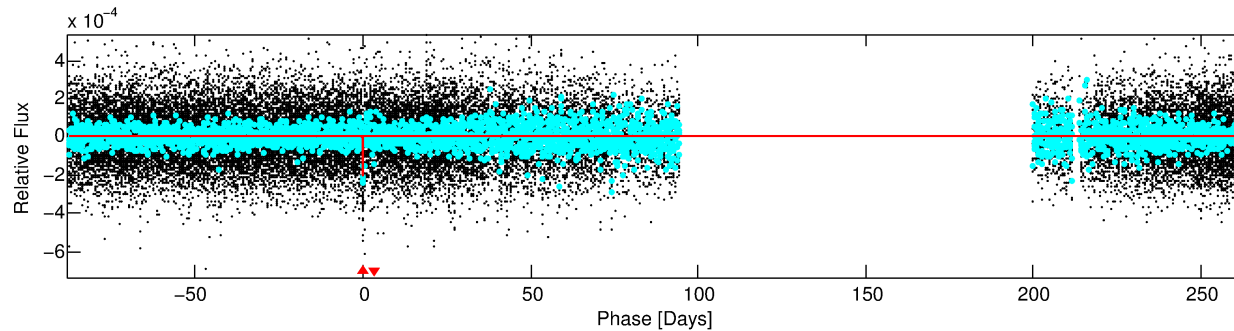
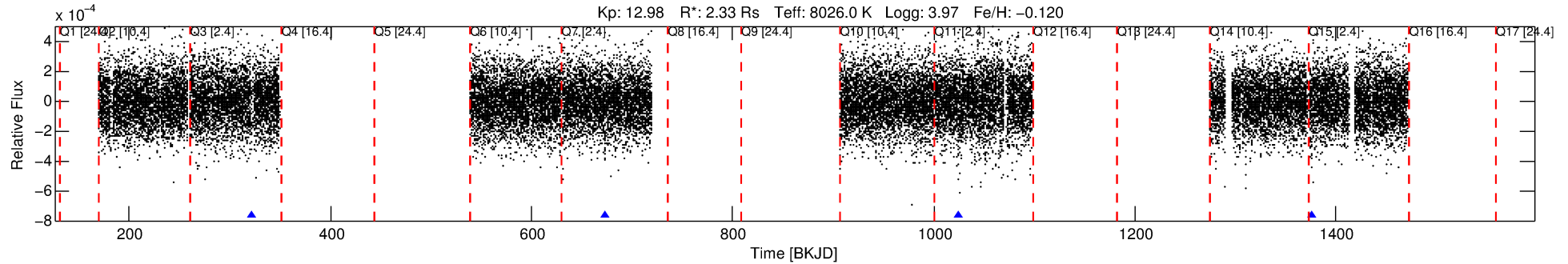
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008194874-01

No Significant Match Found

# DV One-Page Summary

KIC: 8194874 Candidate: 1 of 1 Period: 351.702 d



## DV Fit Results:

Period = 351.70166 [0.00981] d  
Epoch = 321.5050 [0.0191] BKJD  
Rp/R\* = 0.0143 [0.0053]  
a/R\* = 169.86 [370.38]  
b = 0.81 [0.90]  
Seff = 14.04 [6.21]  
Teq = 494 [55] K  
Rp = 3.63 [1.71] Re  
a = 1.1984 [0.3179] AU  
Ag = 4870.03 [4362.95] [1.12 $\sigma$ ]  
Teffp = 6375 [1299] K [4.53 $\sigma$ ]

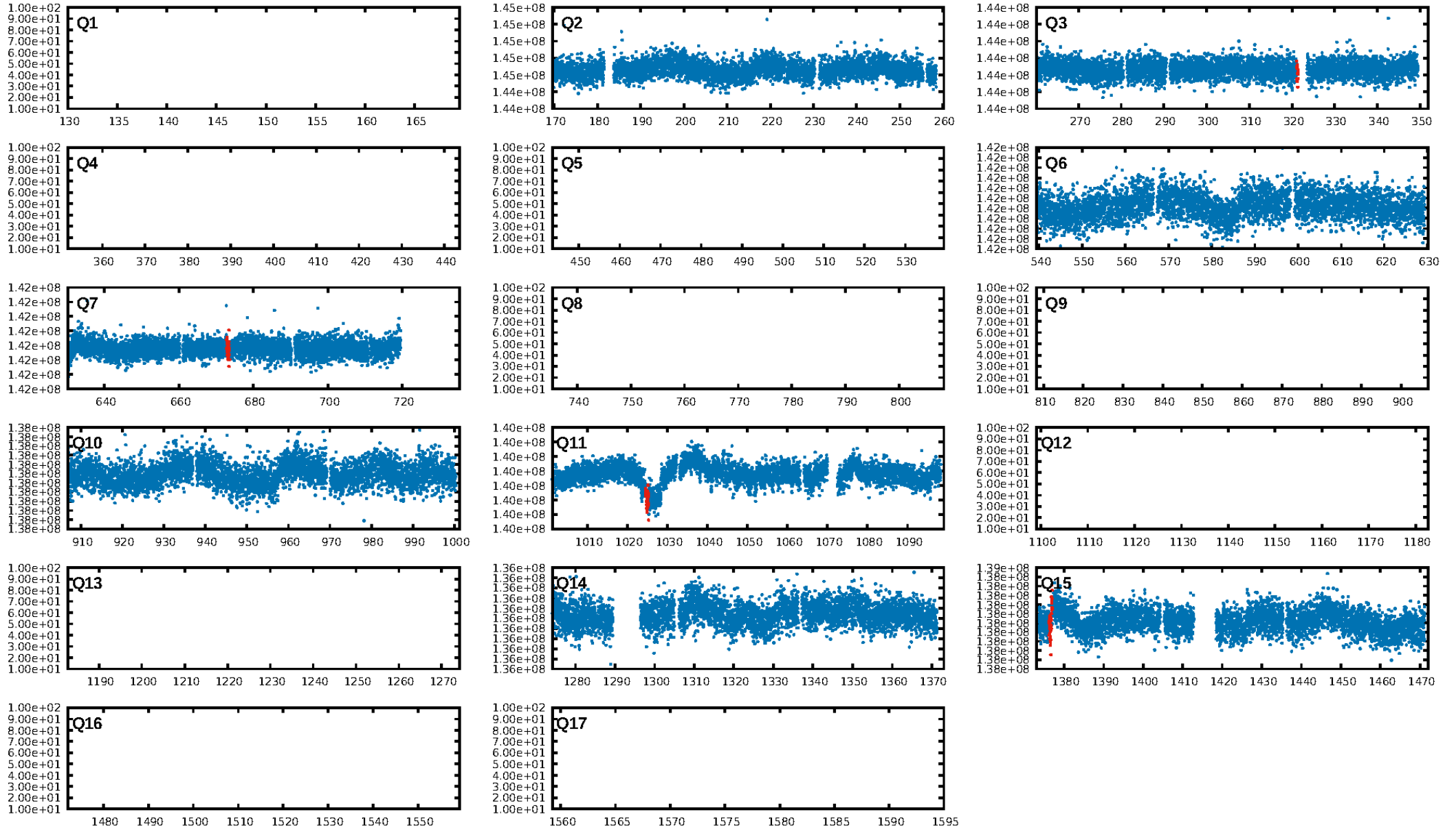
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 20.2%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 1.09e-13  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -3.739  
Centroid-sig: 52.3%  
Centroid-so: 1.025 arcsec [0.58 $\sigma$ ]  
OotOffset-rm: 1.335 arcsec [2.68 $\sigma$ ]  
KicOffset-rm: 1.373 arcsec [2.86 $\sigma$ ]  
OotOffset-st: 0/3/0/0 [3]  
KicOffset-st: 0/3/0/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

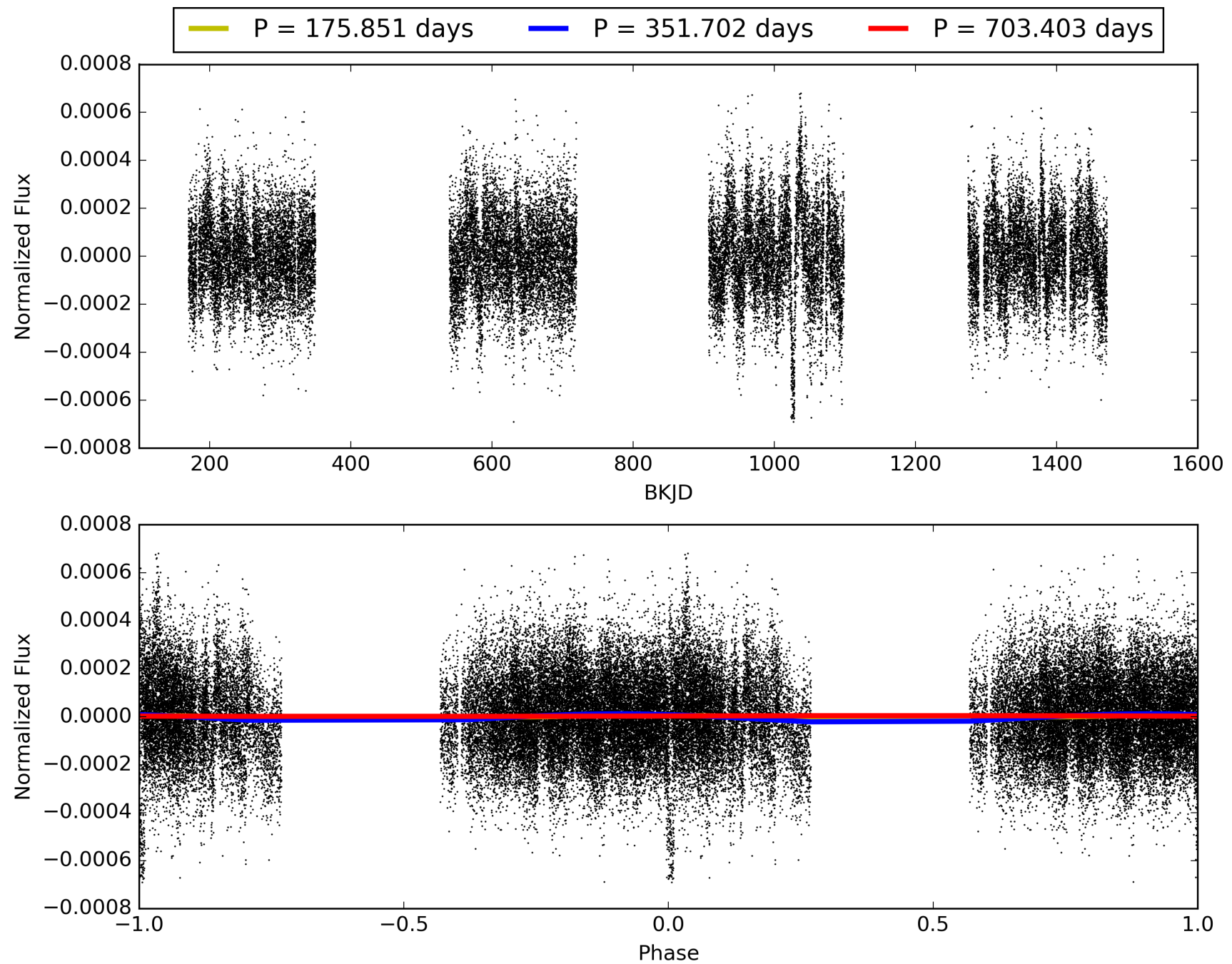
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:44:37 Z

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

# TCE 008194874-01, PDC Light Curves

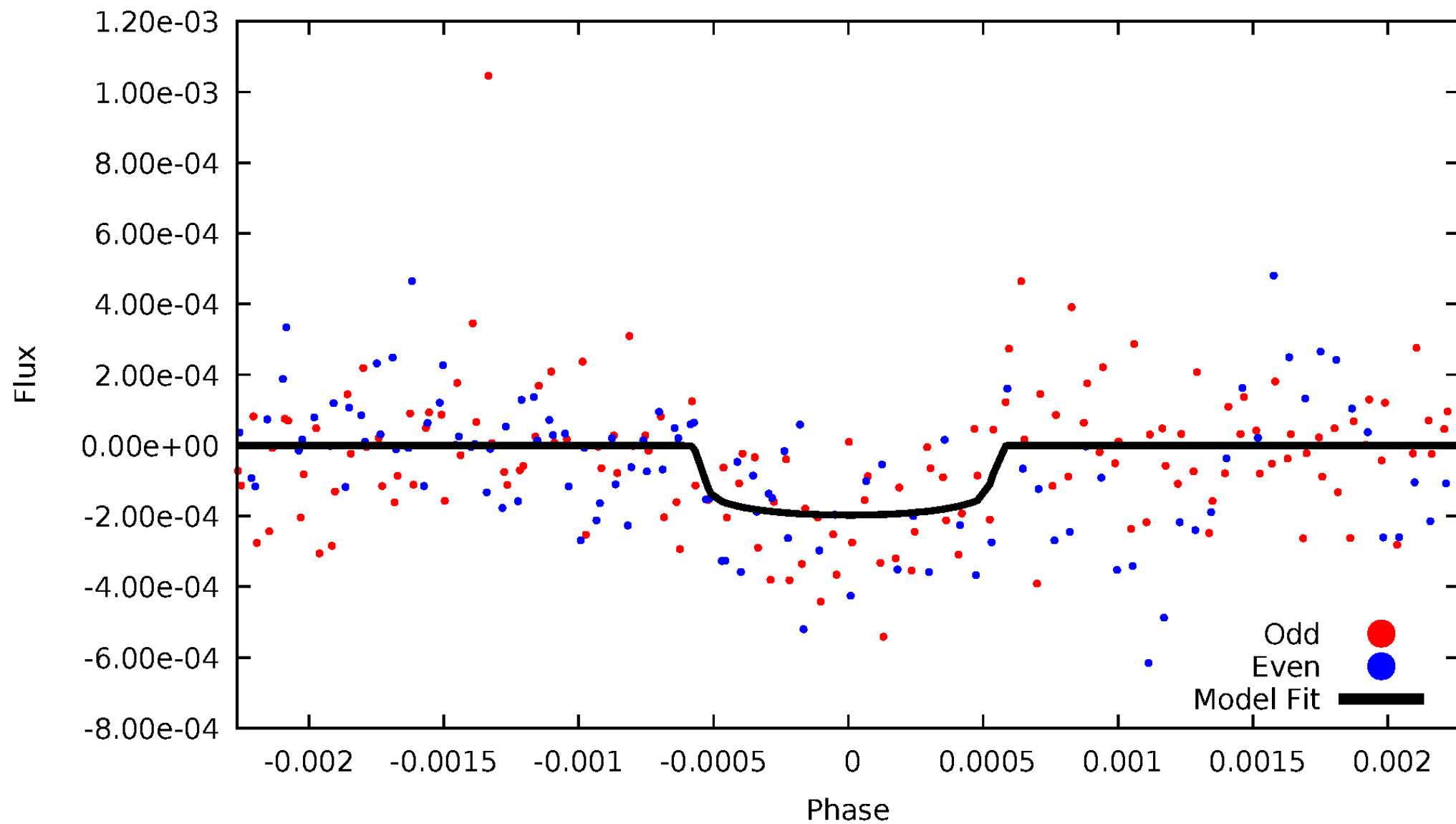


# TCE 008194874-01



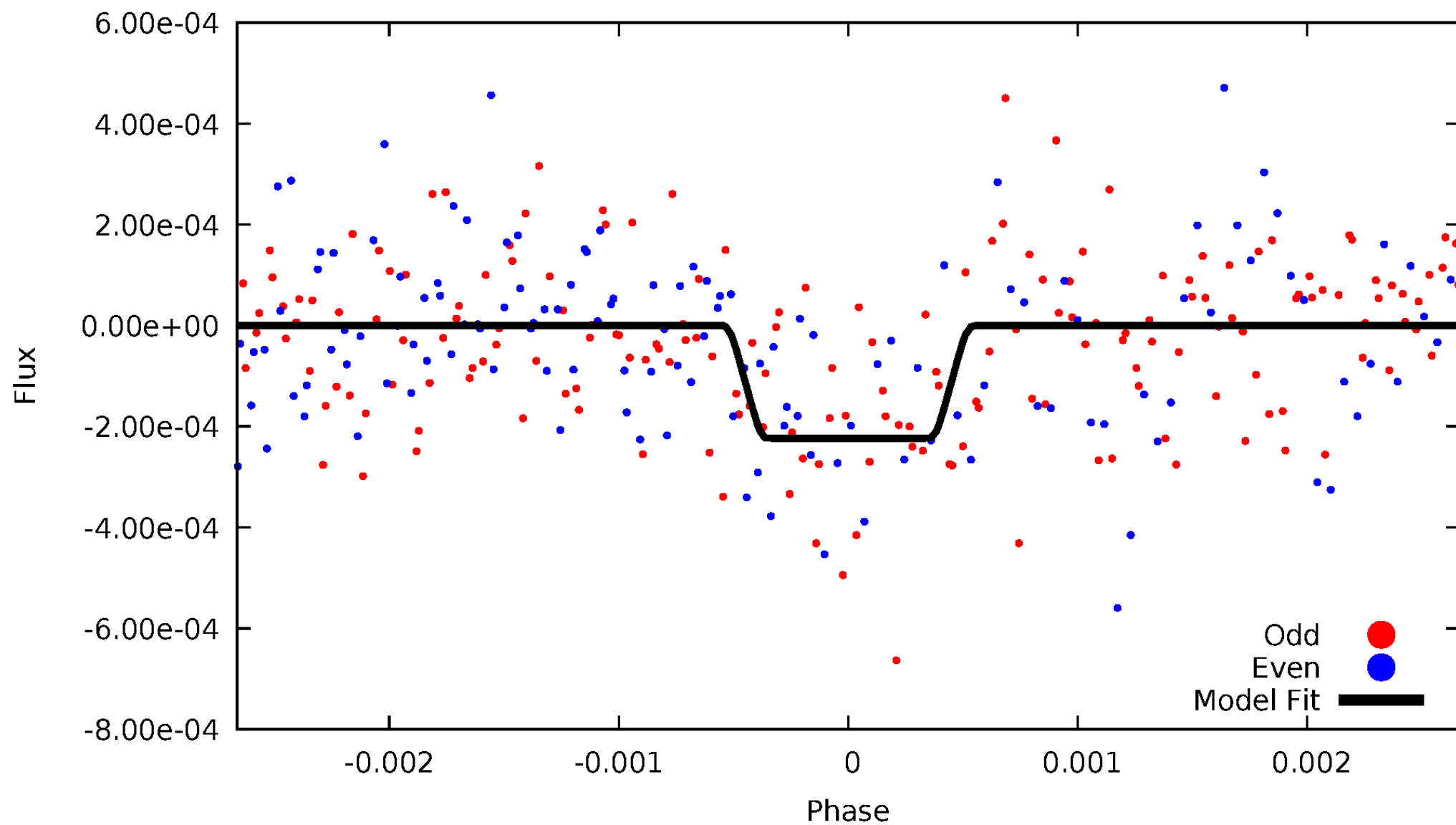
# DV Odd/Even

TCE 008194874-01

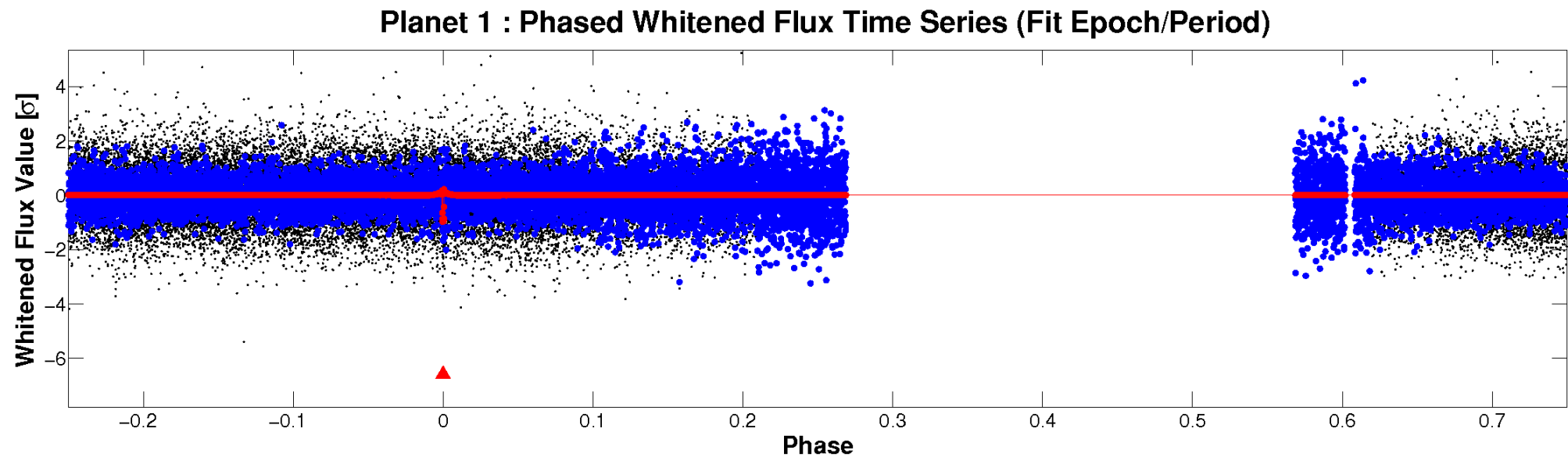
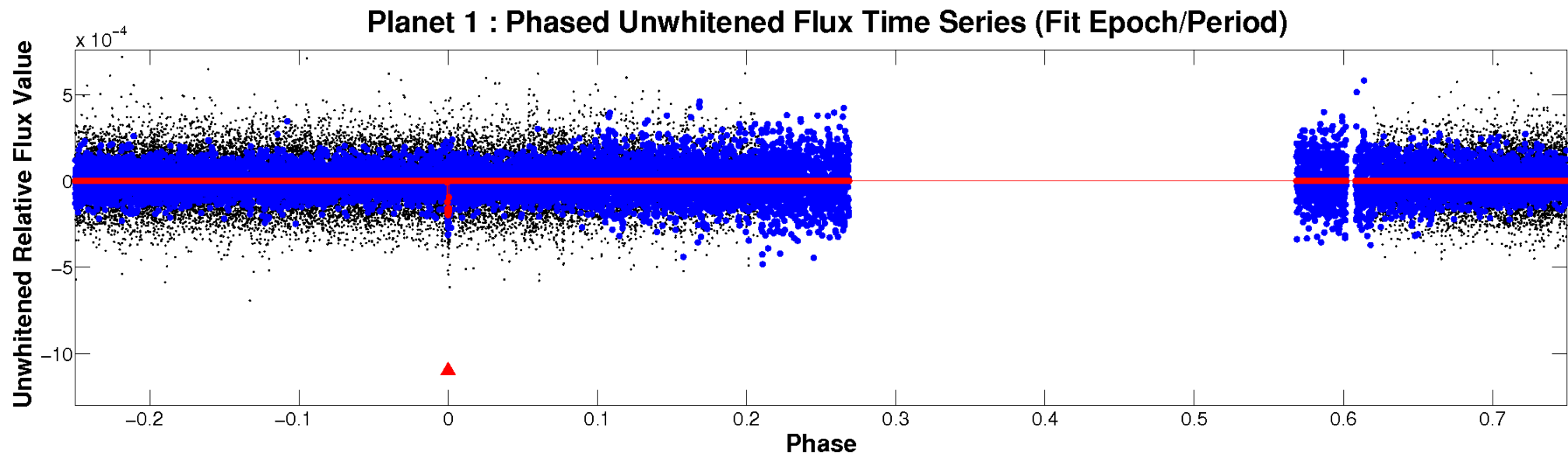


# ALT Odd/Even

TCE 008194874-01

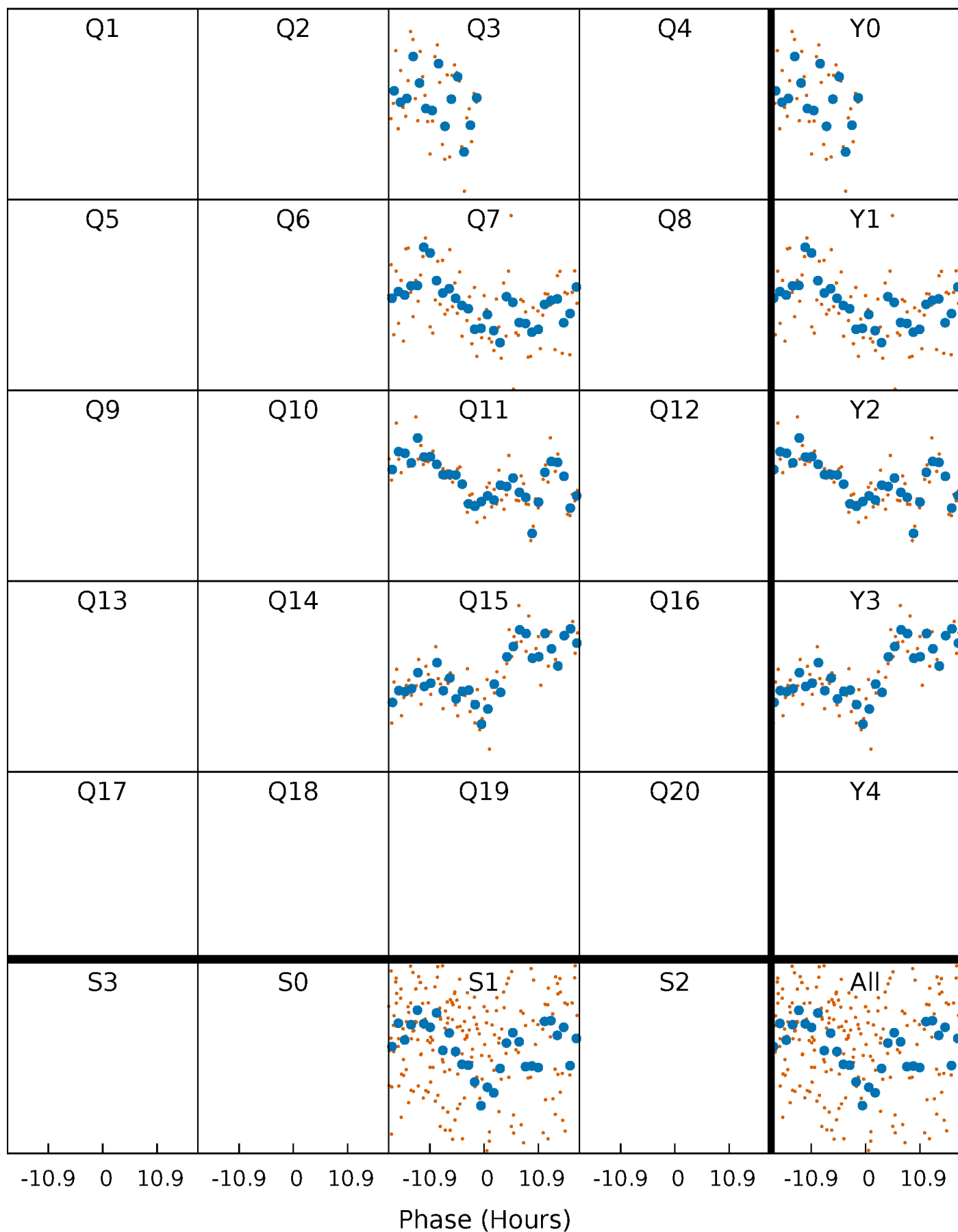


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

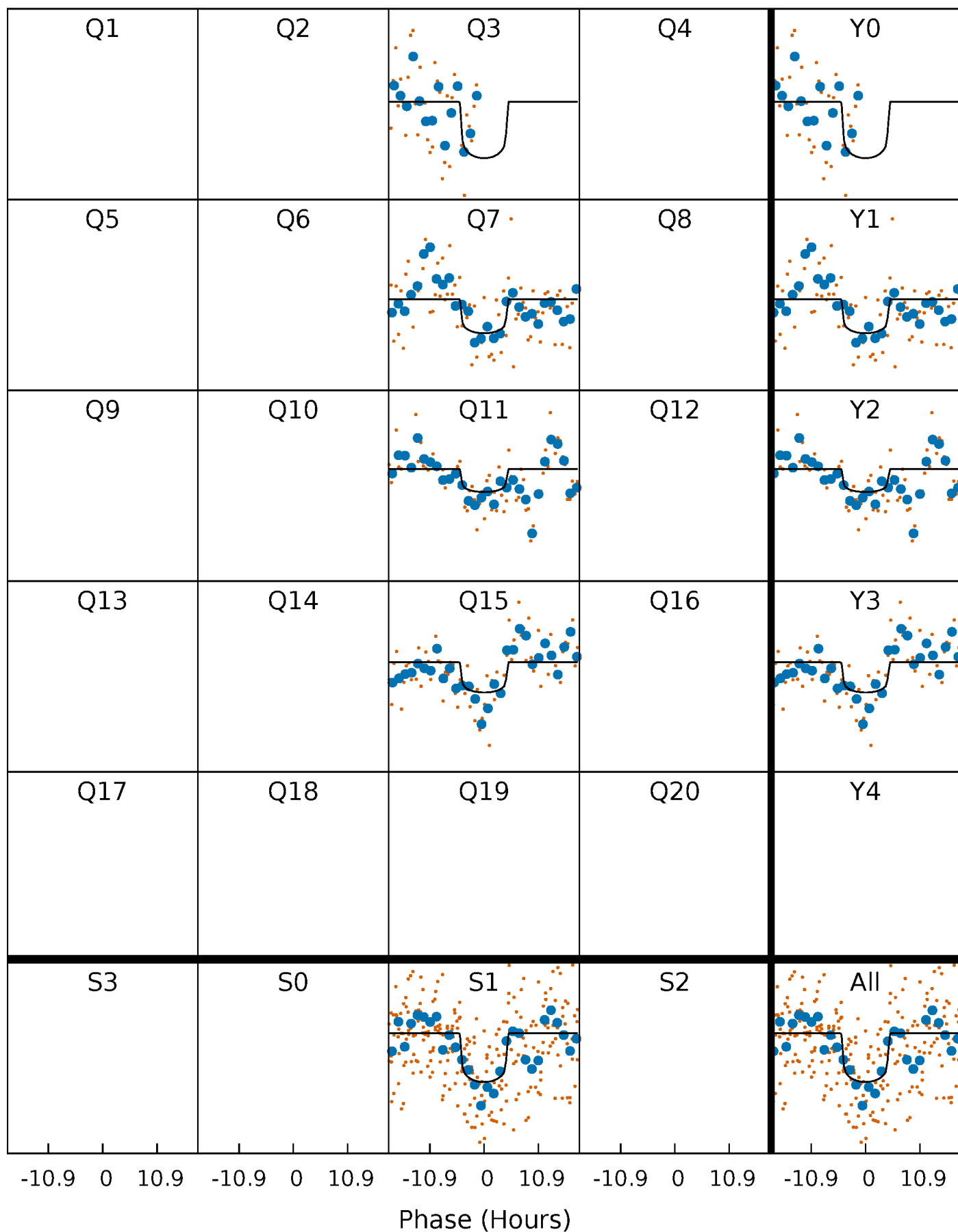
TCE 008194874-01 P=351.701656 Days  $T_0=321.504983$  (BKJD)





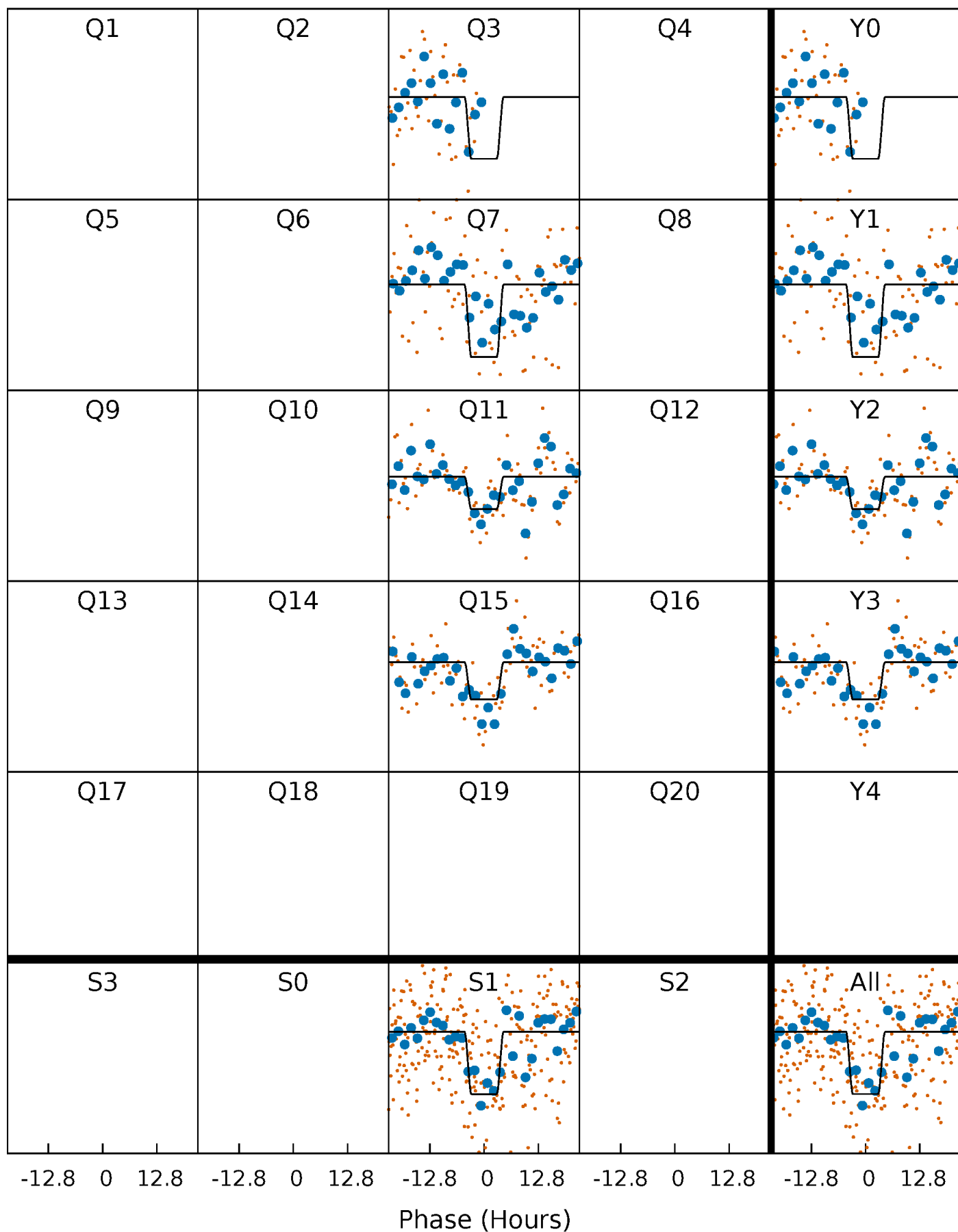
# DV Quarter-Phased Transit Curves

TCE 008194874-01 P=351.701656 Days  $T_0=321.504983$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

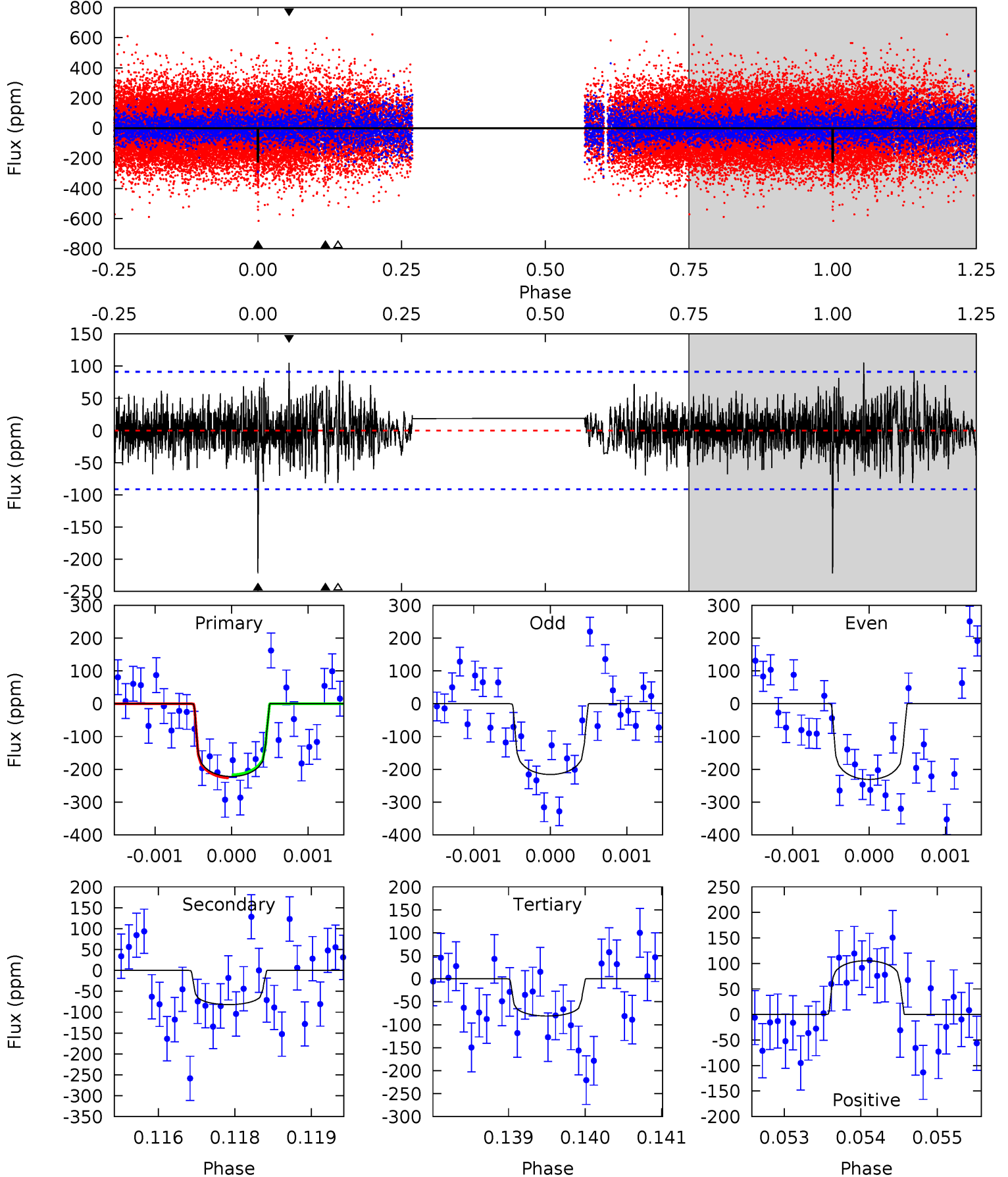
TCE 008194874-01 P=351.695624 Days  $T_0=321.495591$  (BKJD)



# DV Model-Shift Uniqueness Test

008194874-01, P = 351.701656 Days, E = 321.504983 Days

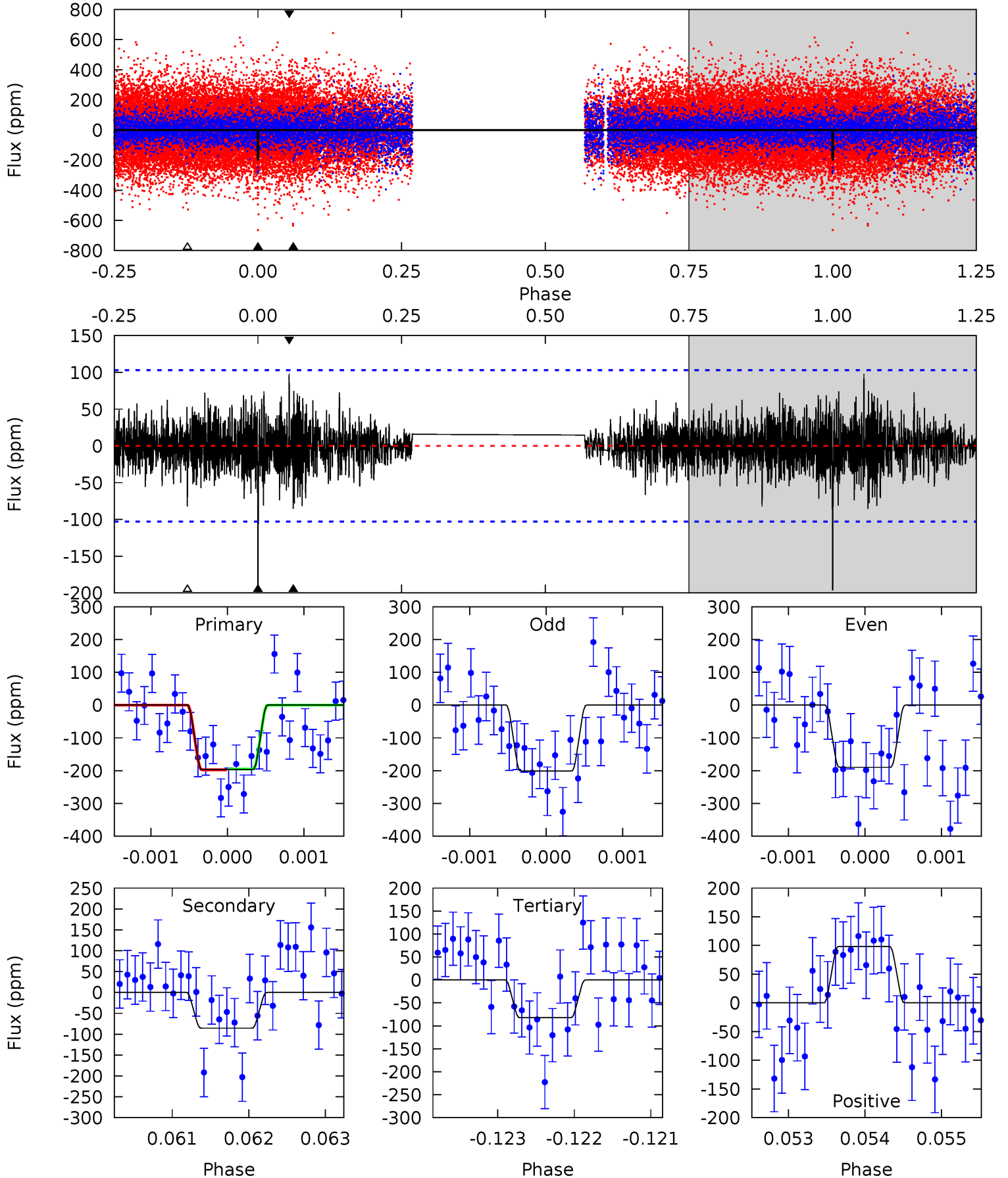
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	4.87	4.83	6.26	5.42	3.24	1.43	8.37	6.93	0.04	-1.39	0.43	0.94	0.32	0.28



# Alt Model-Shift Uniqueness Test

008194874-01, P = 351.695624 Days, E = 321.495591 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
10.4	4.52	4.36	5.20	5.44	3.28	1.24	6.03	5.19	0.17	-0.67	0.29	1.07	0.33	0.07



### Stellar Parameters For KIC 008194874

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$8026^{+225}_{-338}$	$3.972^{+0.234}_{-0.126}$	$-0.120^{+0.200}_{-0.350}$	$2.329^{+0.455}_{-0.682}$	$1.854^{+0.119}_{-0.380}$	$0.207^{+0.295}_{-0.079}$
	+3%/-4%	+6%/-3%	+167%/-292%	+20%/-29%	+6%/-20%	+142%/-38%
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 008194874-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-82 \pm 17$	$3.45^{+1.44}_{-1.29}$	$678^{+48}_{-58}$	$6159^{+1777}_{-872}$	$5275^{+8616}_{-2683}$
Alt.	$-86 \pm 19$	$3.61^{+1.48}_{-1.33}$	$682^{+44}_{-55}$	$6092^{+1611}_{-855}$	$4996^{+7142}_{-2644}$

$T_{\text{max}}$  = 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

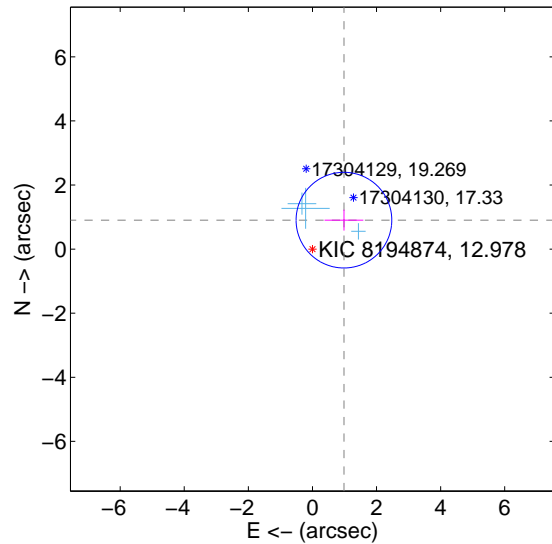
Supplemental centroid analysis for 008194874-01. Kepler magnitude: 12.98. Transit SNR 7.18

There are 3 quarters with good PRF difference image offsets

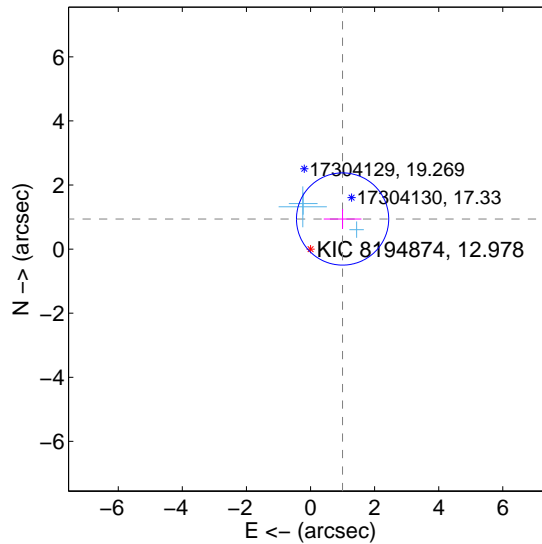
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.335 \pm 0.498$	2.68	$-0.983 \pm 0.605$	$0.904 \pm 0.327$
PRF-fit source offset from KIC position	$1.373 \pm 0.480$	2.86	$-1.001 \pm 0.589$	$0.939 \pm 0.313$
photometric centroid source offset	$1.03 \pm 1.76$	0.58	$-0.47 \pm 1.92$	$0.91 \pm 1.71$

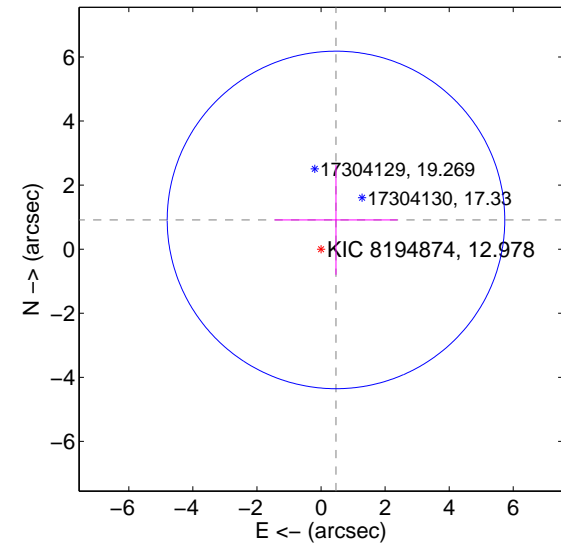
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

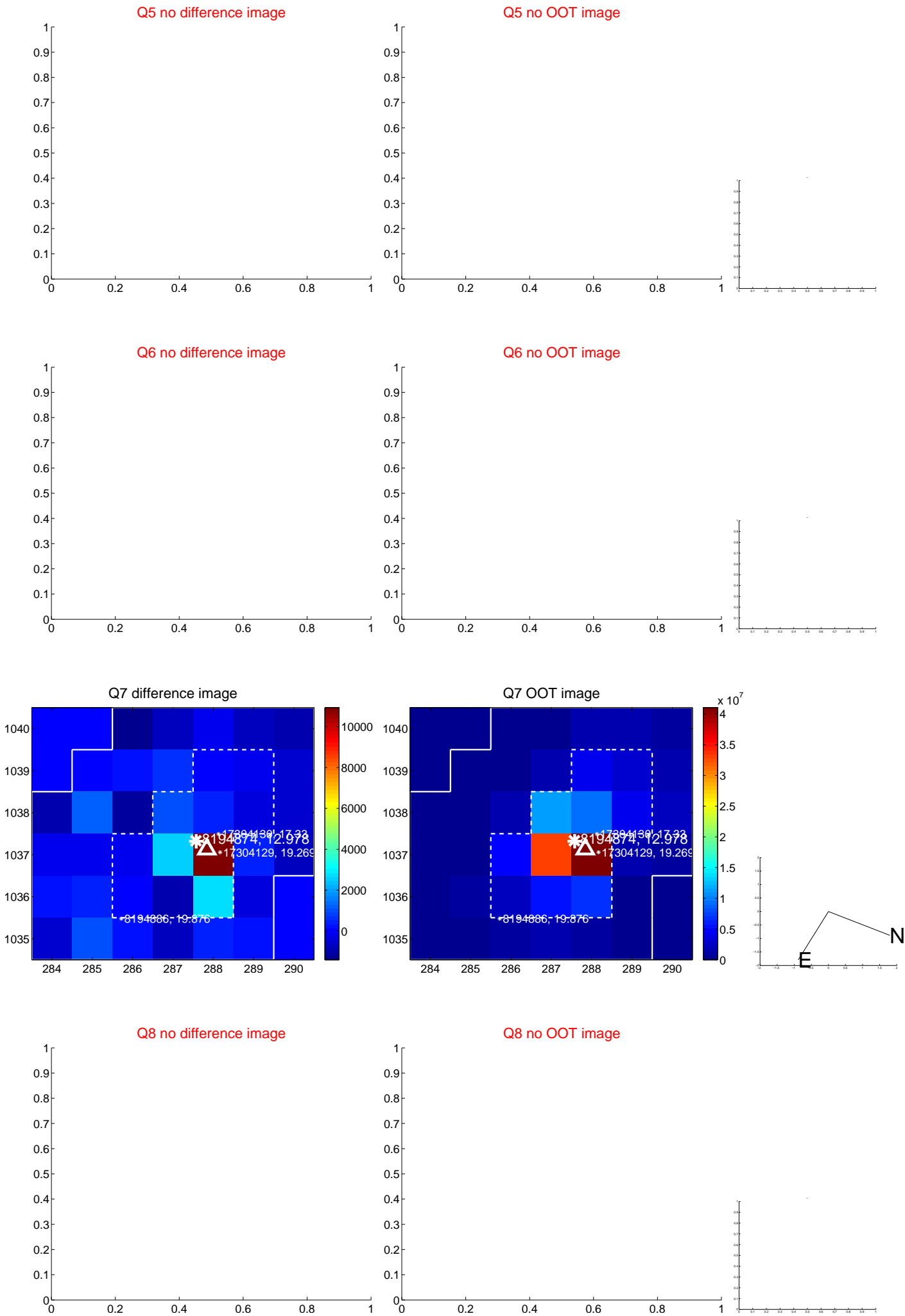


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

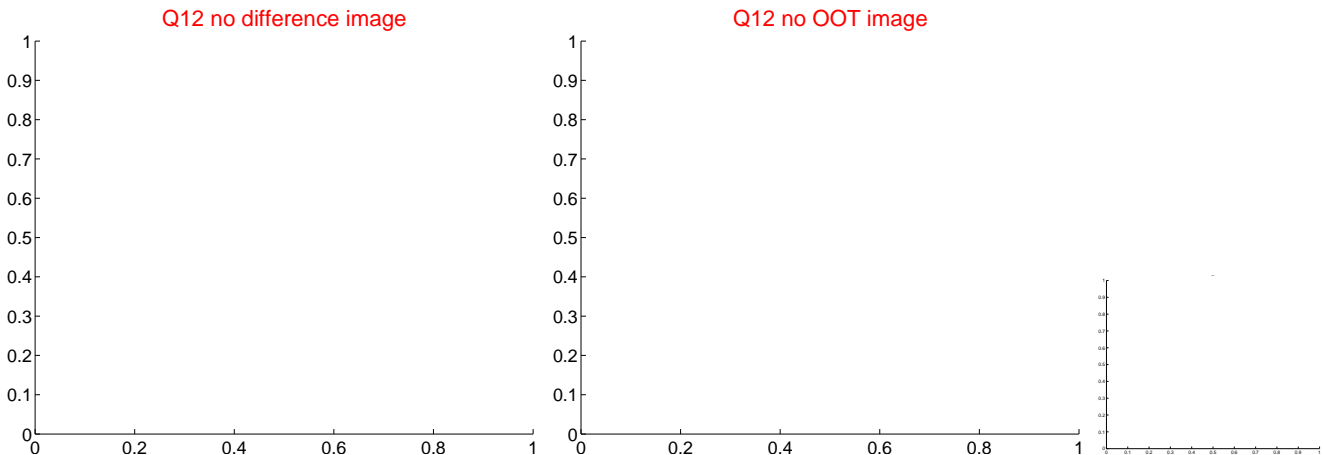
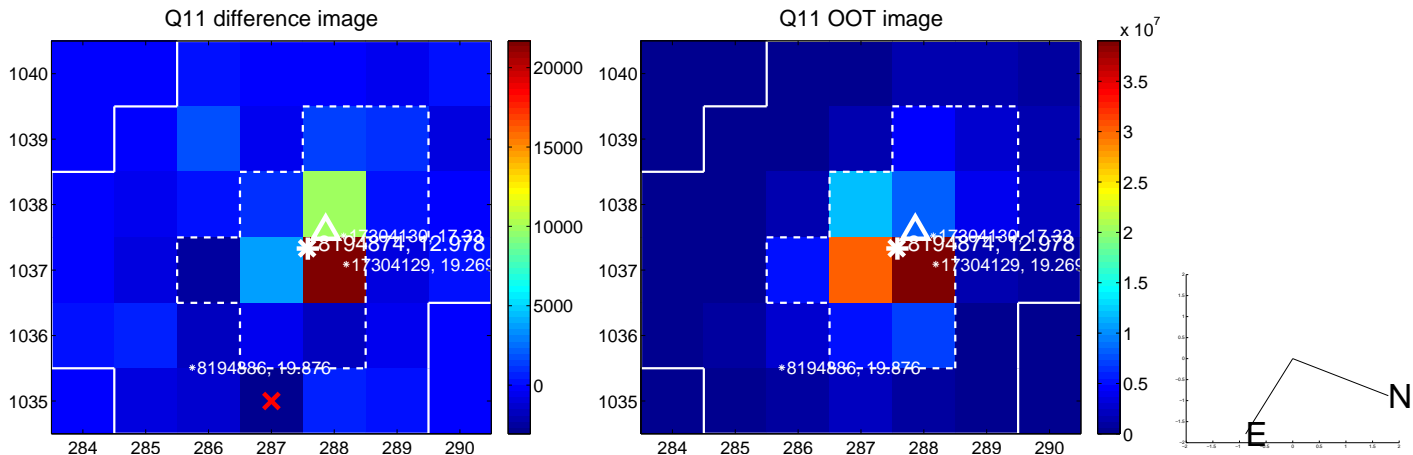
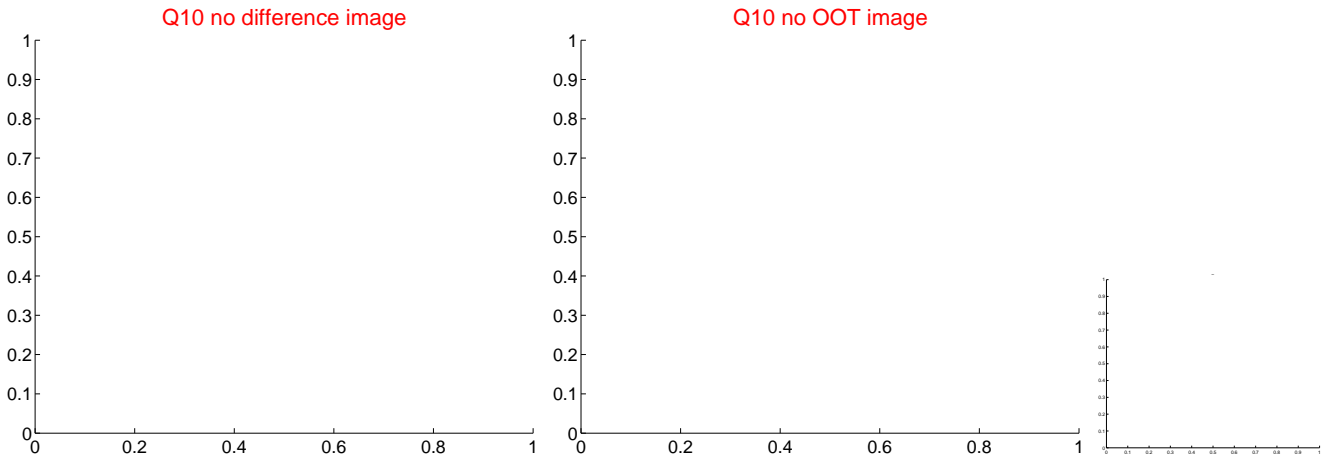
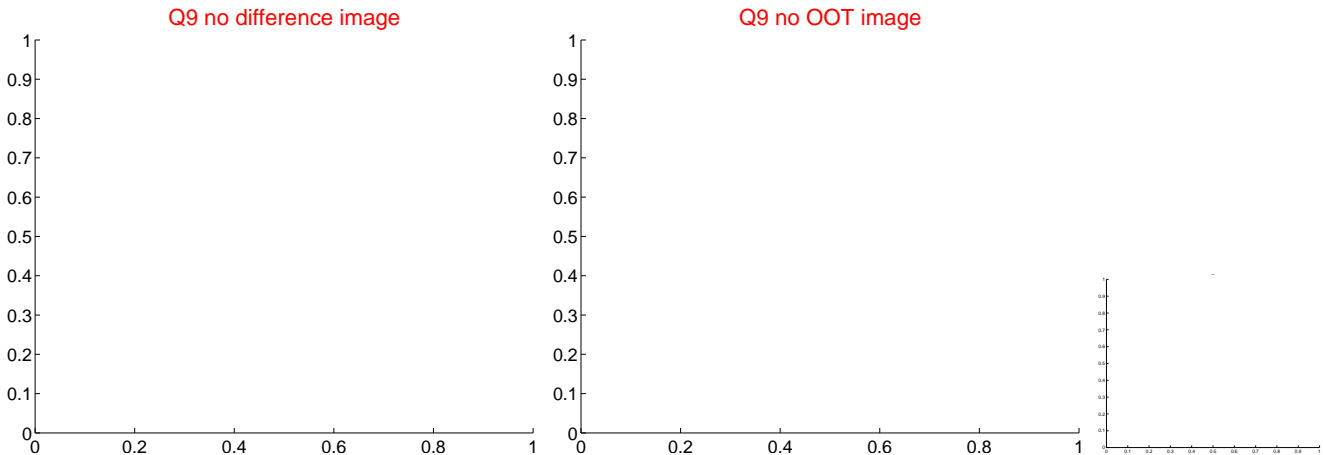


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

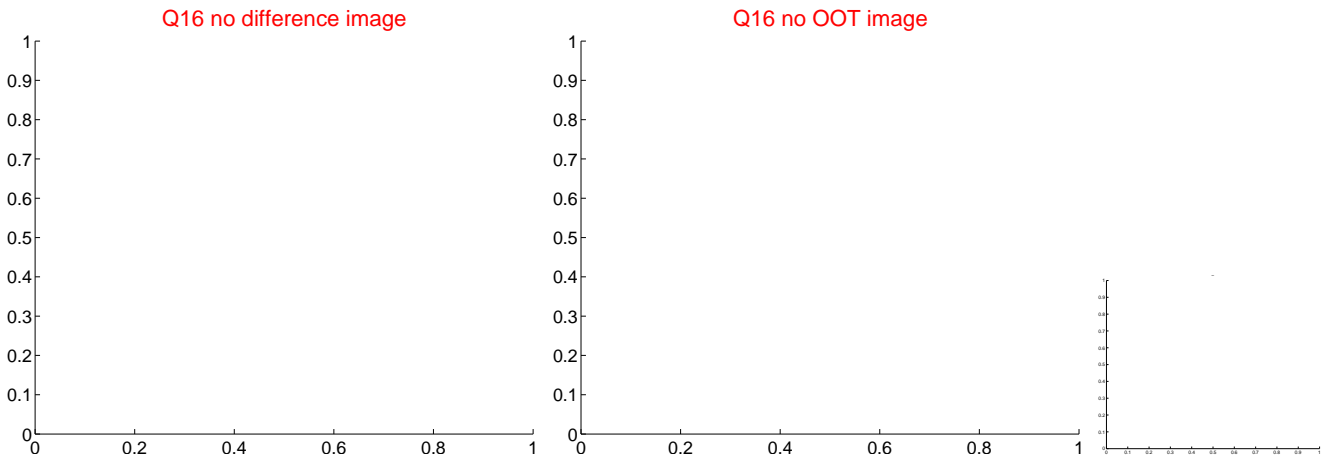
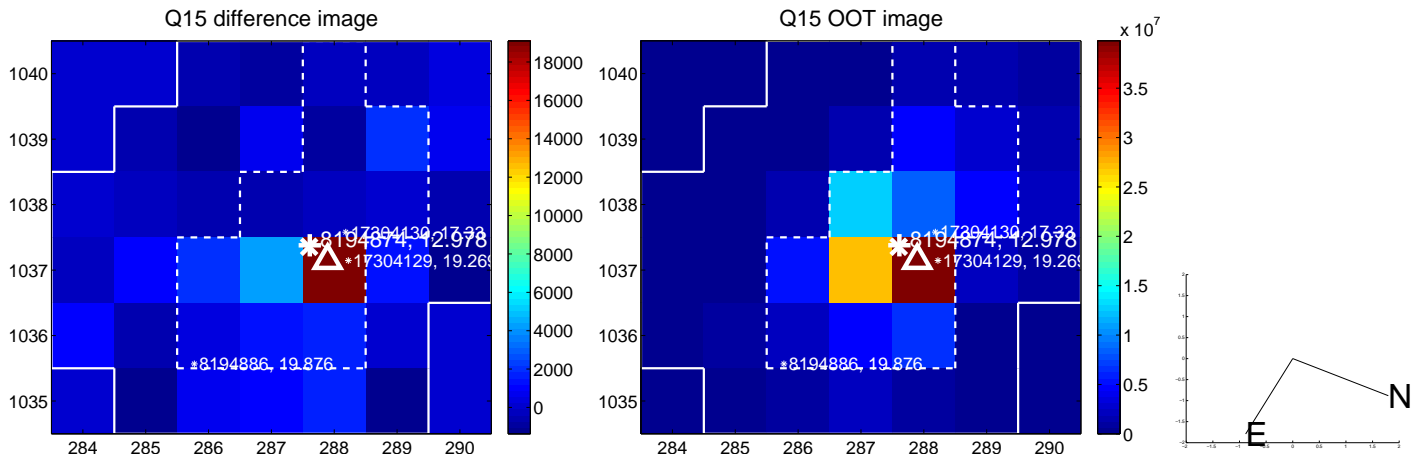
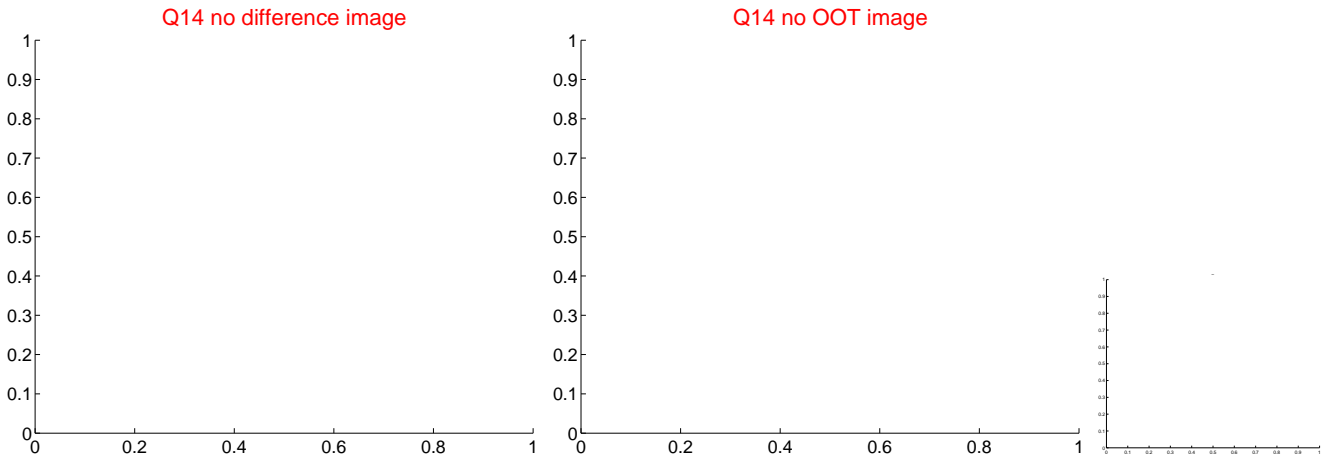
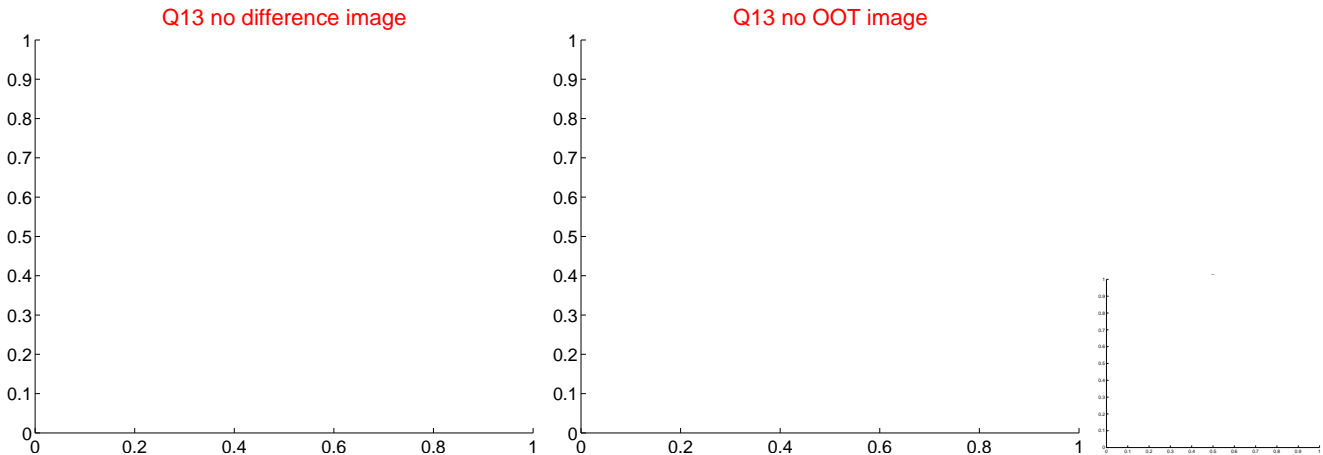




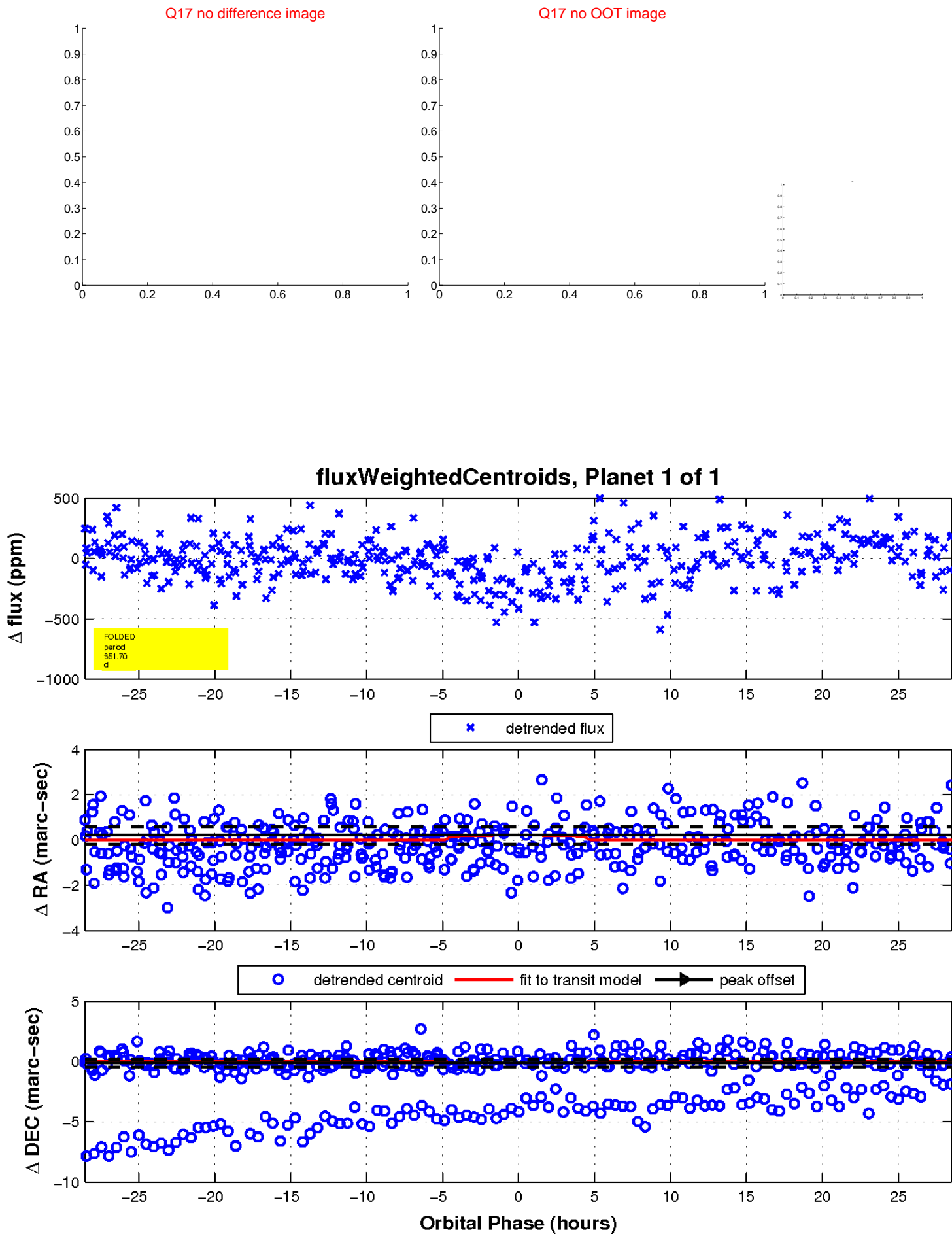
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

