

# KIC 010679097

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010679097-01	OBS	No	606.000371	139.455230	1058.9	7.599	7.4	8.1	3.57	5185	16.30	3.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010679097-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL

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

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

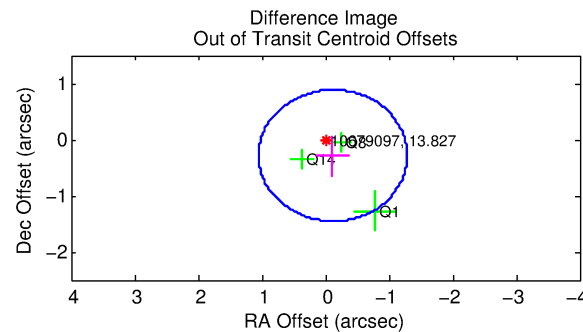
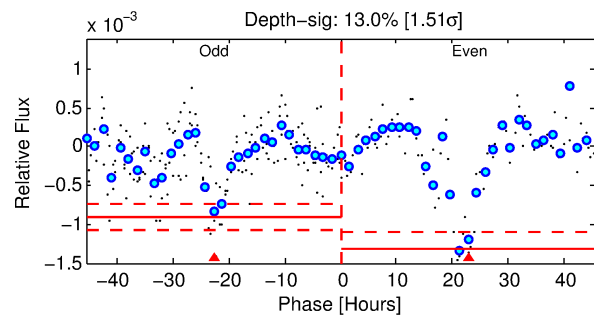
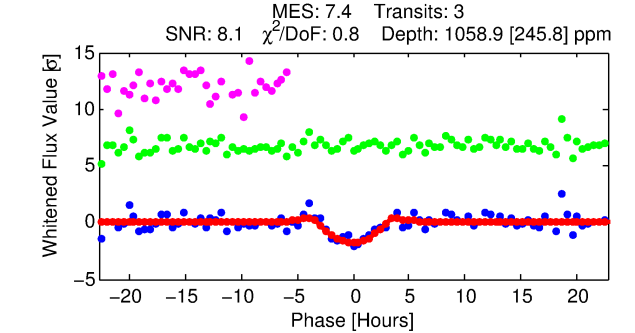
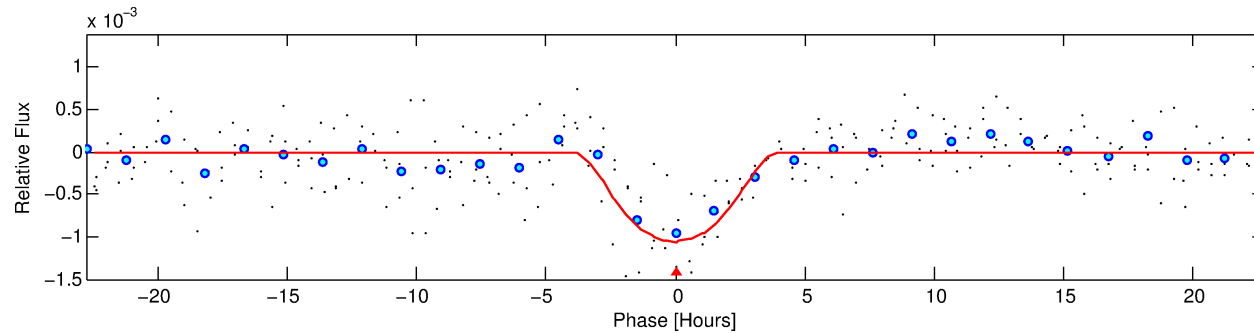
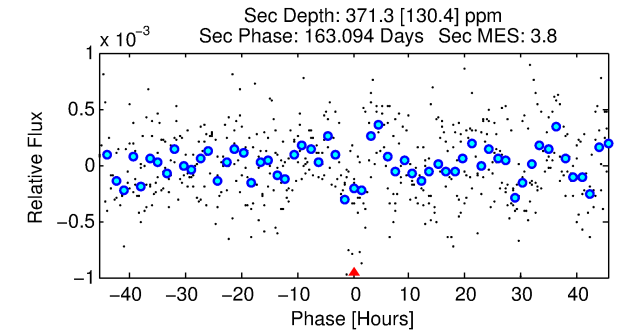
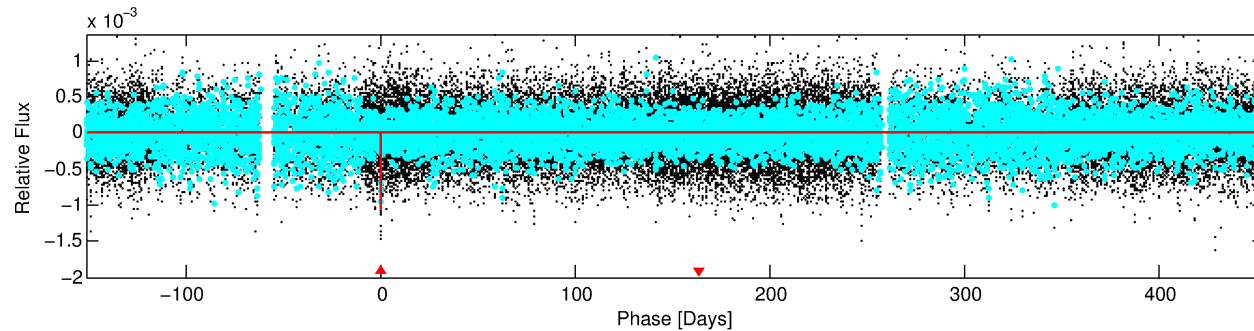
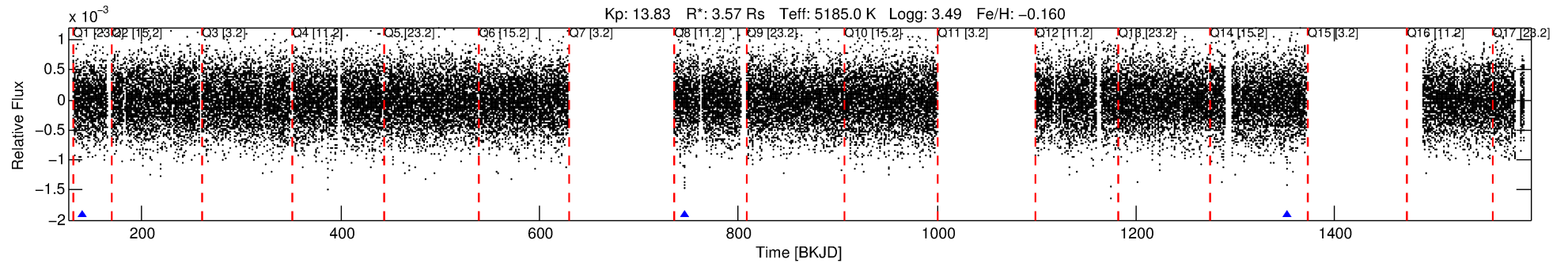
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010679097-01

No Significant Match Found

# DV One-Page Summary

KIC: 10679097 Candidate: 1 of 1 Period: 606.000 d



## DV Fit Results:

Period = 606.00037 [0.01079] d  
Epoch = 139.4552 [0.0137] BKJD  
Rp/R\* = 0.0418 [0.0176]  
a/R\* = 236.07 [63.07]  
b = 0.97 [0.05]  
Seff = 3.29 [4.39]  
Teq = 343 [115] K  
Rp = 16.30 [11.44] Re  
a = 1.5862 [1.1738] AU  
Ag = 1935.17 [3123.64] [0.62 $\sigma$ ]  
Teffp = 3520 [811] K [3.88 $\sigma$ ]

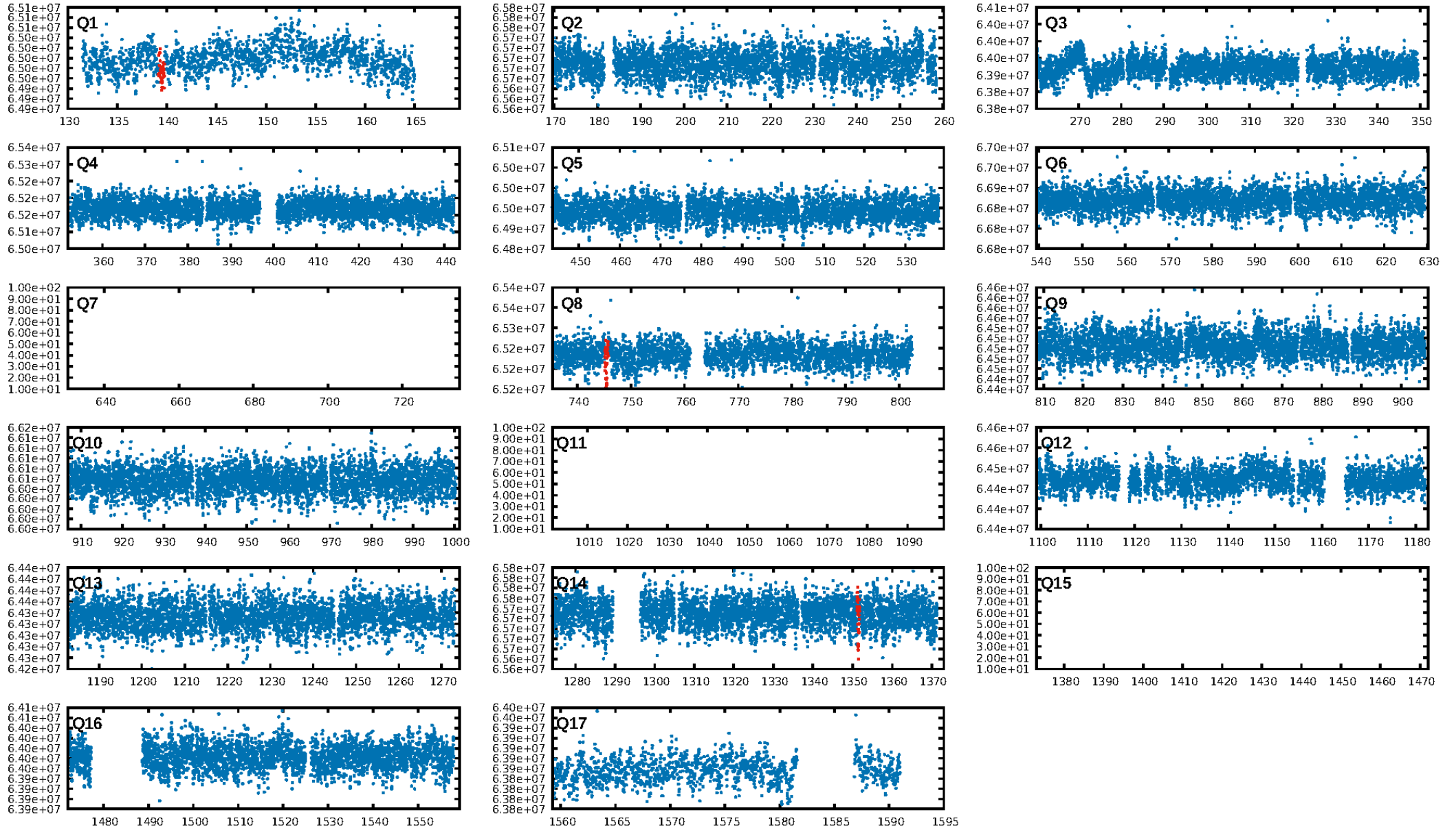
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 57.2%  
ModelChiSquareGof-sig: 99.6%  
**Bootstrap-pfa: 3.96e-12**  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 2.691  
**Centroid-sig: 0.1%**  
Centroid-so: 1.403 arcsec [2.97 $\sigma$ ]  
OotOffset-rm: 0.307 arcsec [0.79 $\sigma$ ]  
KicOffset-rm: 0.425 arcsec [1.18 $\sigma$ ]  
OotOffset-st: 1/0/1/1 [3]  
KicOffset-st: 1/0/1/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

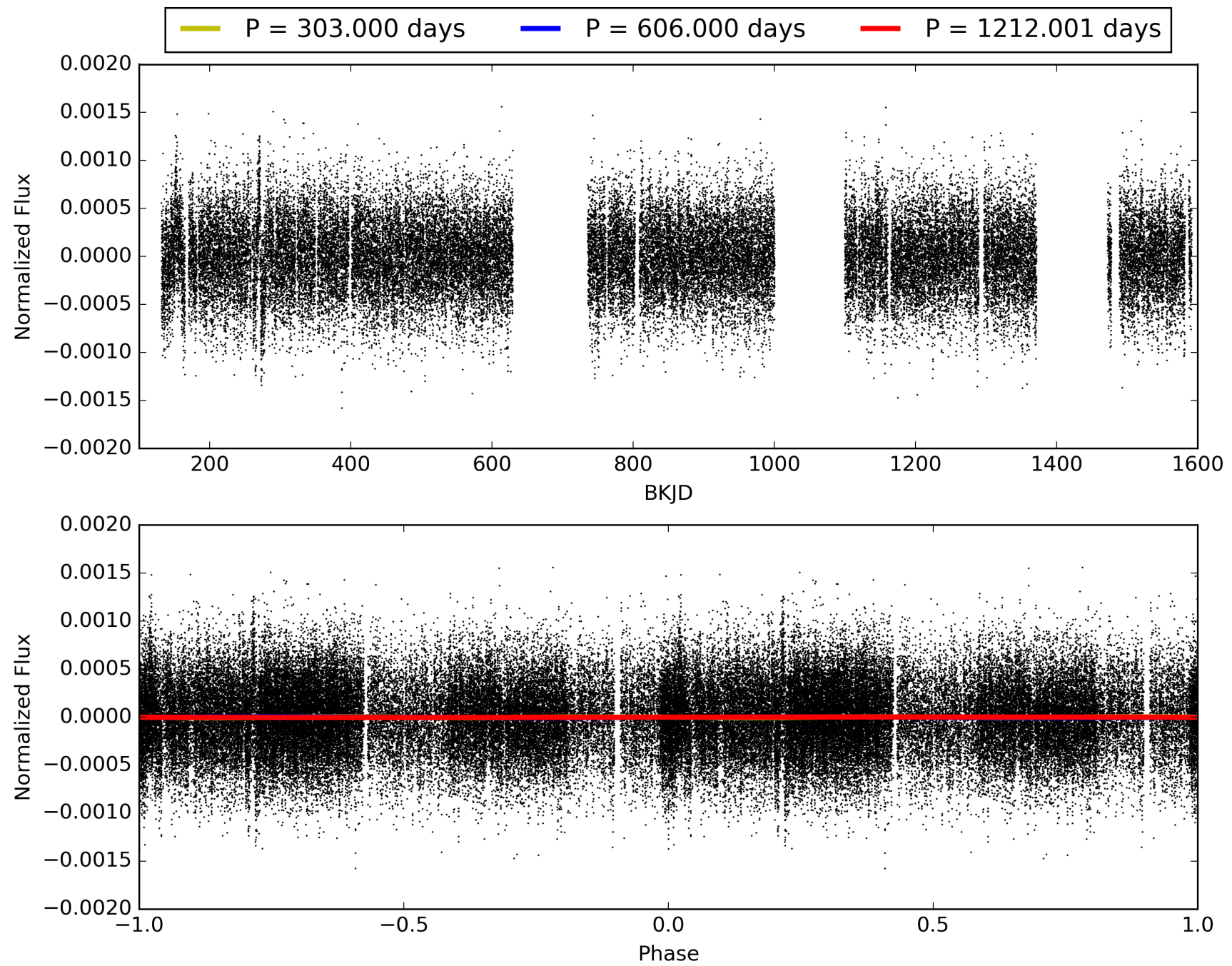
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:26:34 Z

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

# TCE 010679097-01, PDC Light Curves

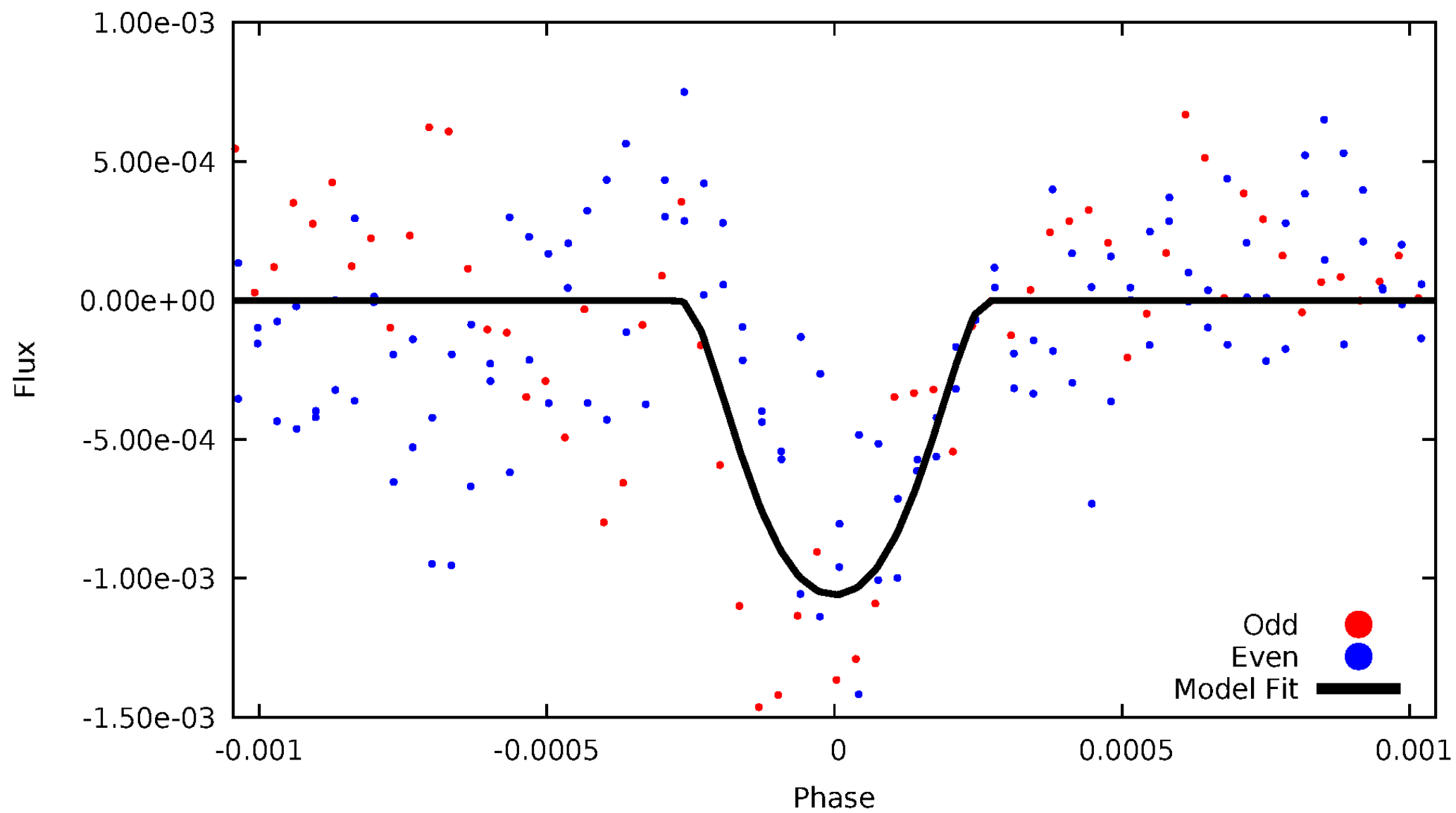


# TCE 010679097-01



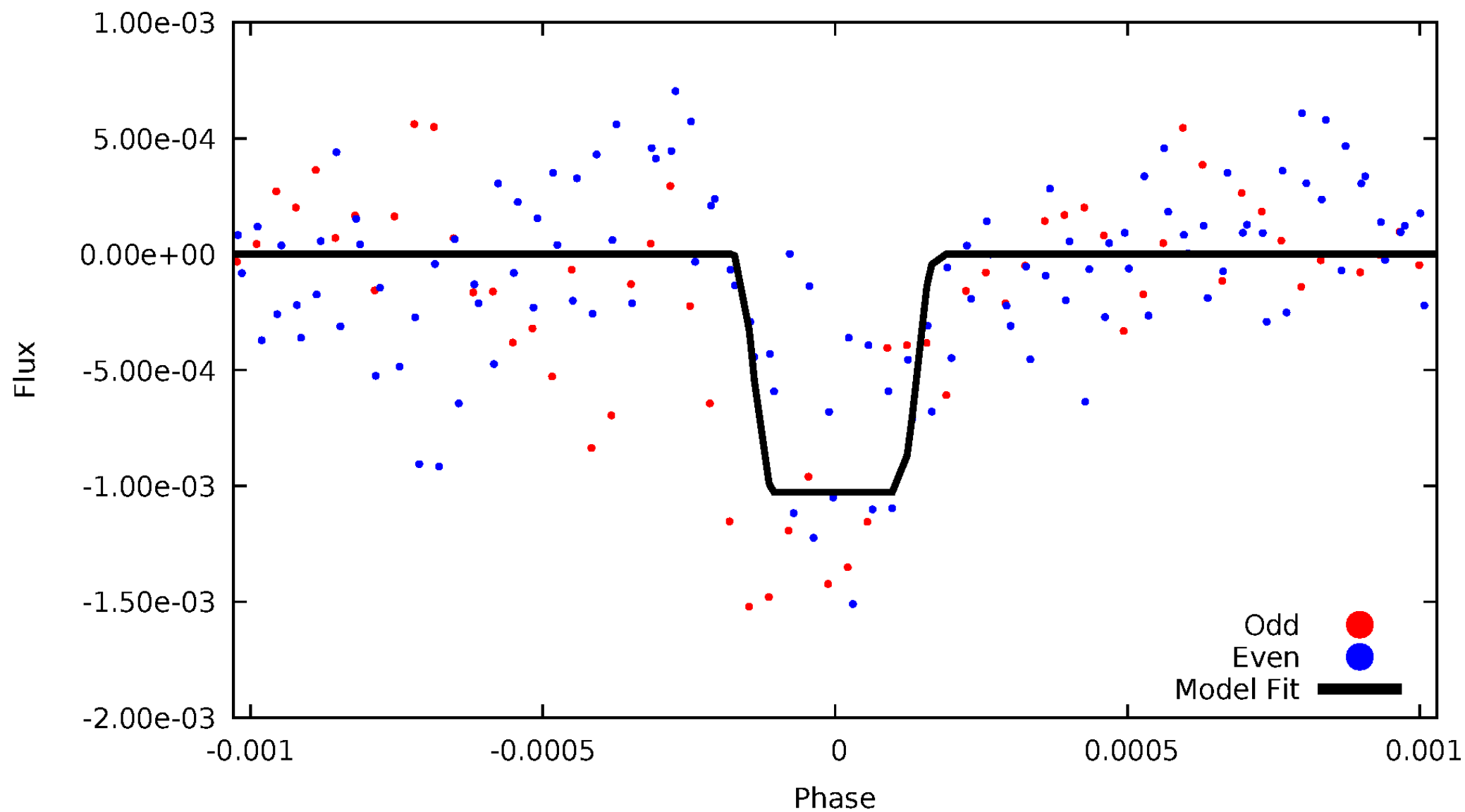
# DV Odd/Even

TCE 010679097-01

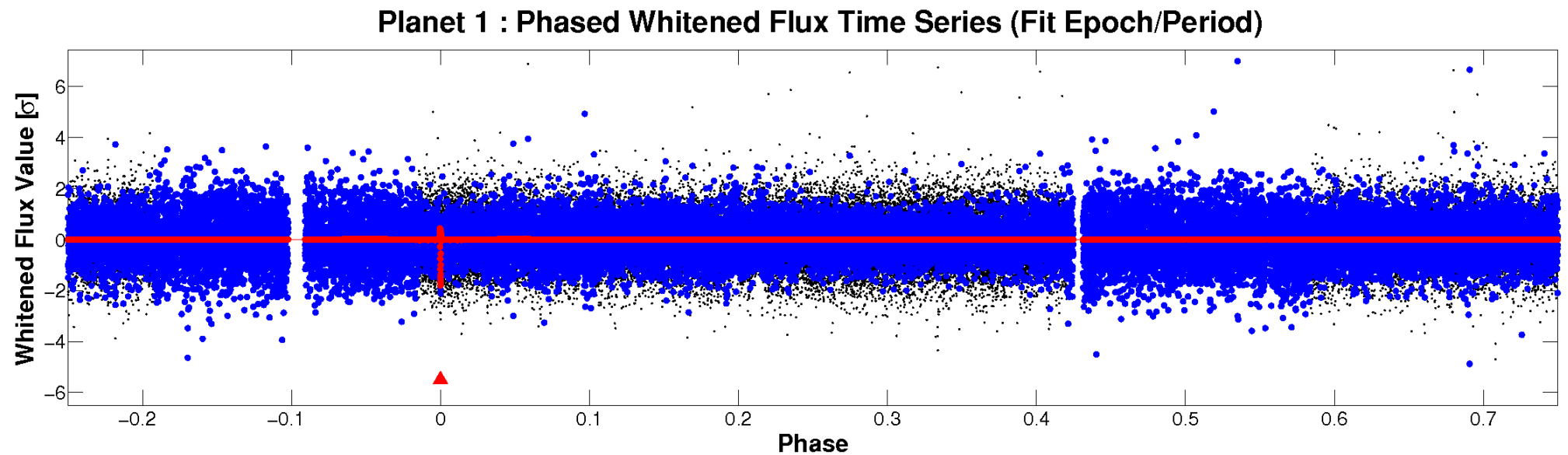
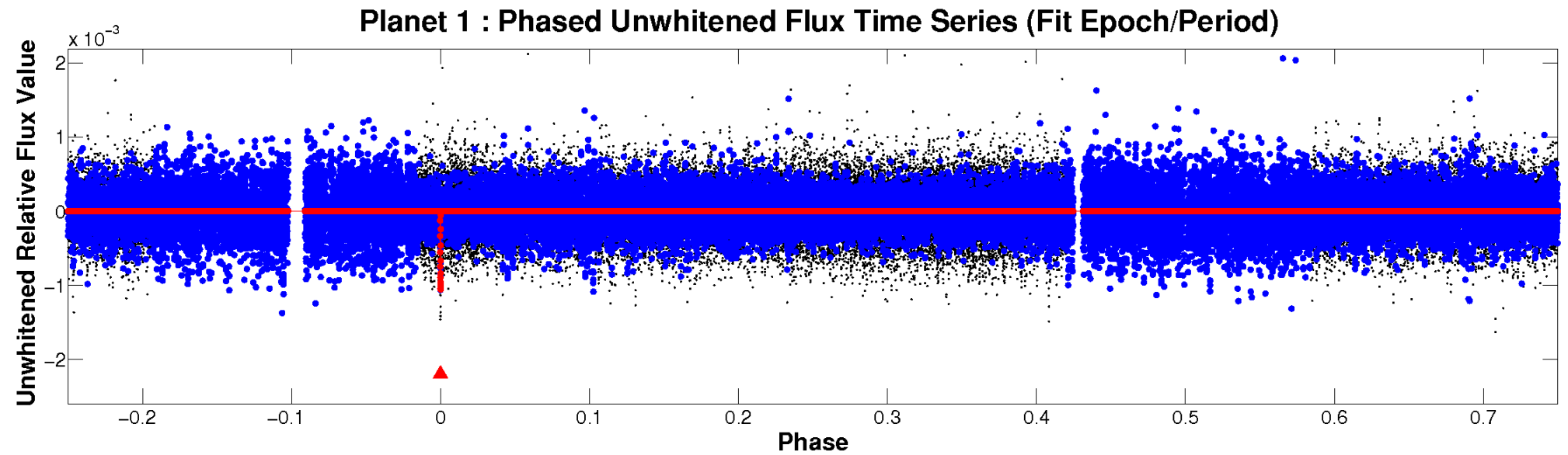


# ALT Odd/Even

TCE 010679097-01

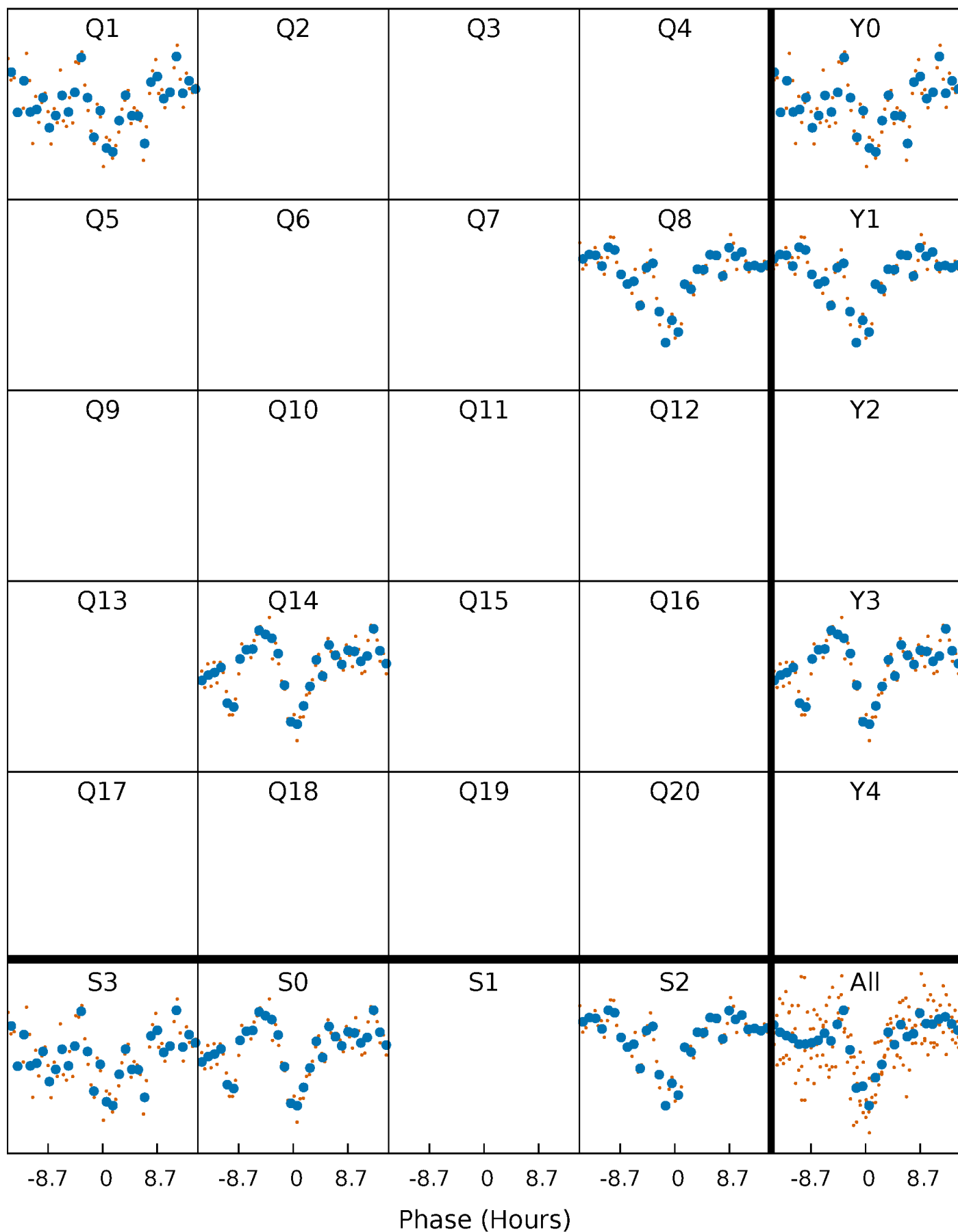


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

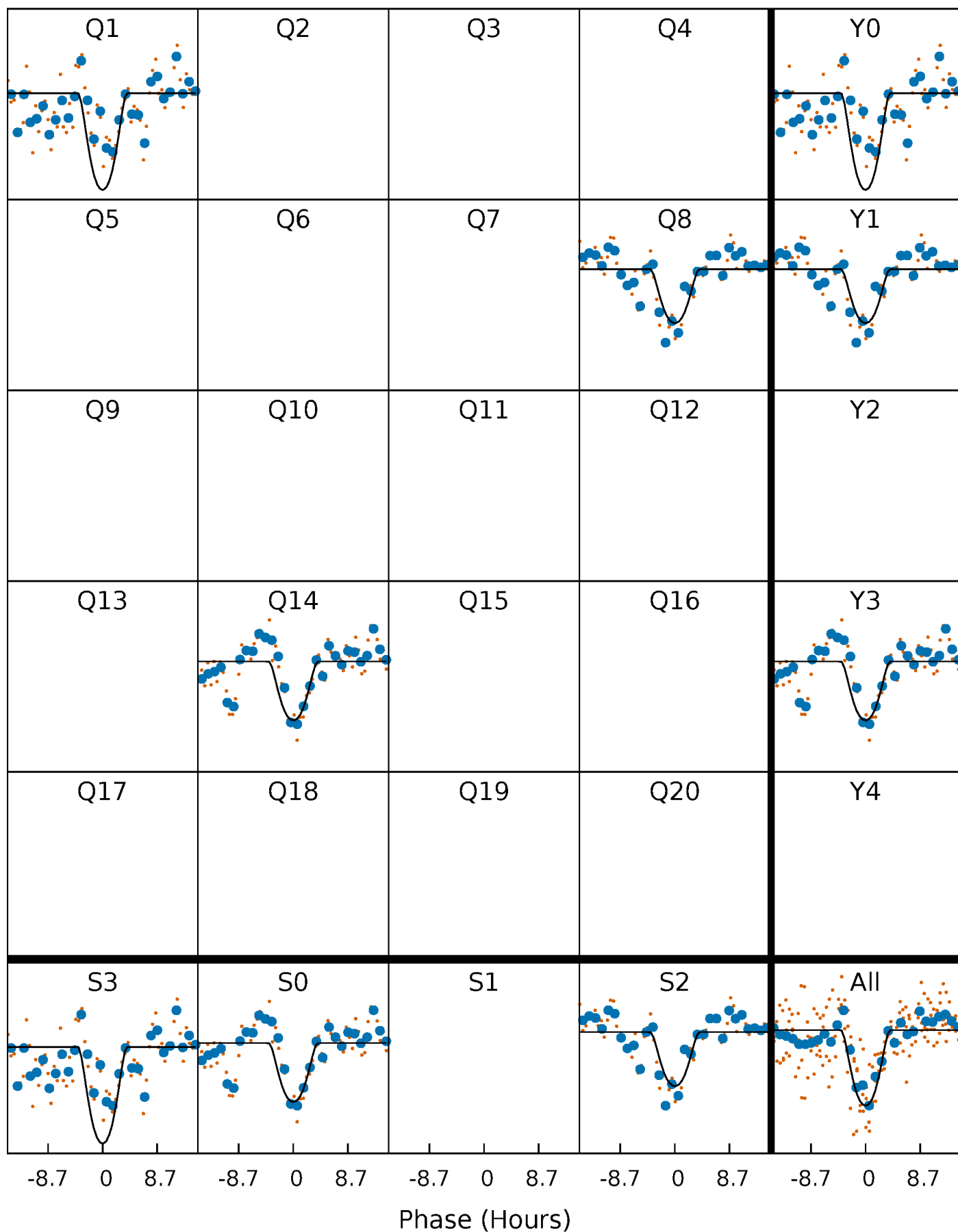
TCE 010679097-01 P=606.000371 Days  $T_0=139.455230$  (BKJD)





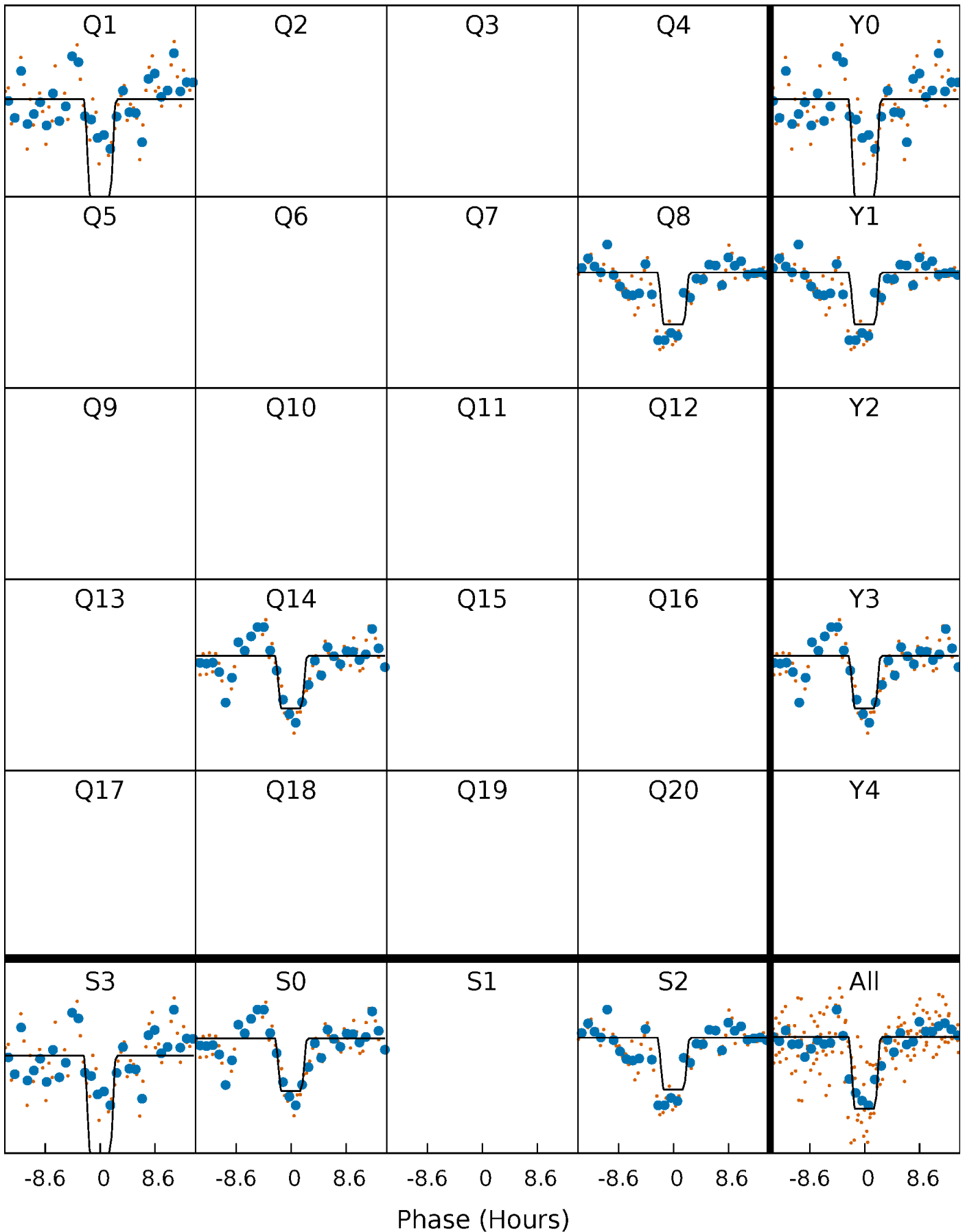
# DV Quarter-Phased Transit Curves

TCE 010679097-01 P=606.000371 Days  $T_0=139.455230$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

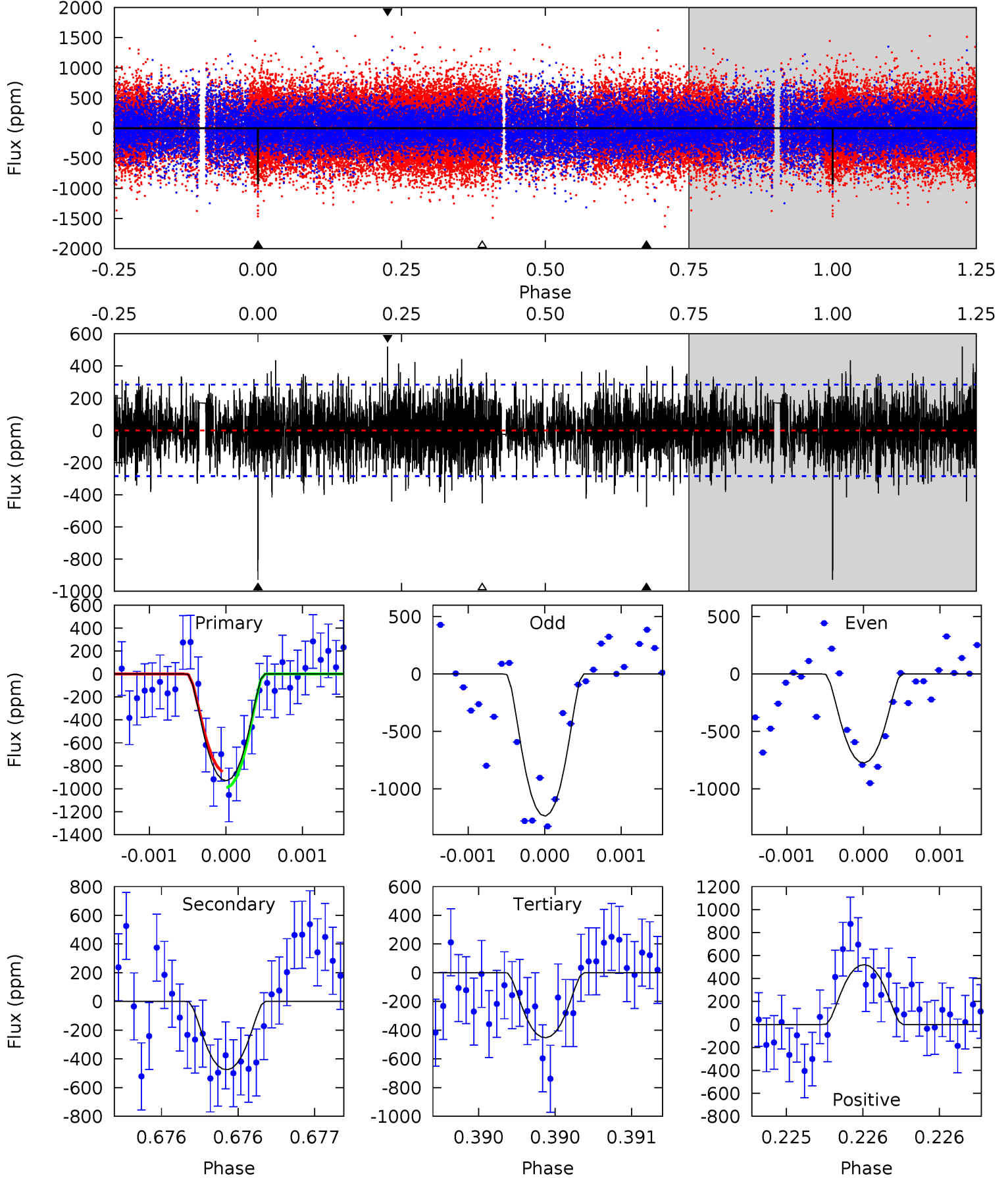
TCE 010679097-01 P=605.998089 Days  $T_0=139.467003$  (BKJD)



# DV Model-Shift Uniqueness Test

010679097-01, P = 606.000371 Days, E = 139.455230 Days

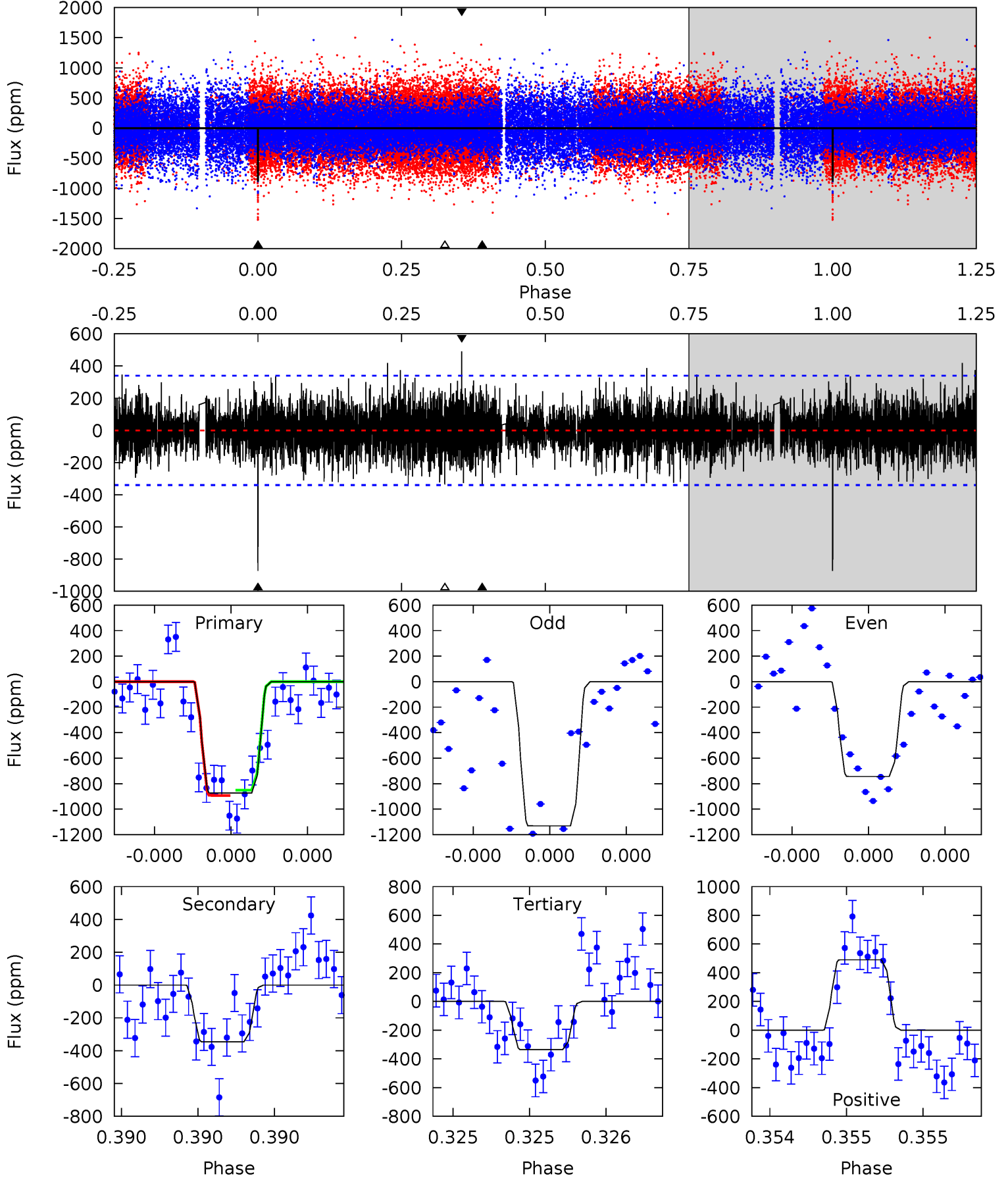
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	9.30	8.85	10.2	5.56	3.46	2.55	9.33	8.01	0.45	-0.87	4.29	0.93	0.36	1.36



# Alt Model-Shift Uniqueness Test

010679097-01, P = 605.998089 Days, E = 139.467003 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
14.4	5.72	5.55	8.12	5.63	3.57	1.70	8.89	6.33	0.17	-2.39	3.04	0.80	0.36	0.34



### Stellar Parameters For KIC 010679097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5185^{+155}_{-155}$	$3.493^{+0.832}_{-0.260}$	$-0.160^{+0.300}_{-0.300}$	$3.573^{+1.079}_{-2.004}$	$1.450^{+0.221}_{-0.516}$	$0.045^{+0.478}_{-0.025}$
	+3%/-3%	+24%/-7%	+188%/-188%	+30%/-56%	+15%/-36%	+1069%/-56%
Source	PHO1	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 010679097-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-475 \pm 51$	$14.18^{+9.23}_{-7.09}$	$469^{+54}_{-92}$	$3991^{+930}_{-435}$	$3245^{+9118}_{-2049}$
Alt.	$-346 \pm 60$	$11.08^{+8.62}_{-6.25}$	$469^{+52}_{-85}$	$4092^{+1417}_{-570}$	$3524^{+15912}_{-2302}$

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

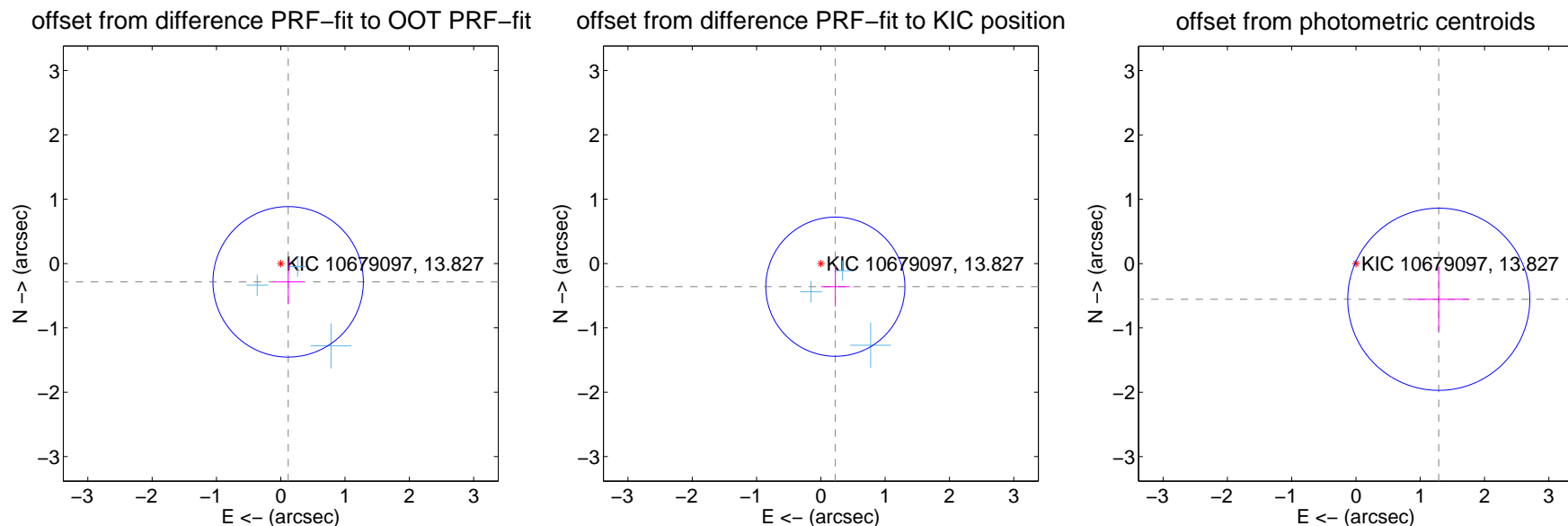
## DV Centroid Data

Supplemental centroid analysis for 010679097-01. Kepler magnitude: 13.83. Transit SNR 8.07

There are 3 quarters with good PRF difference image offsets

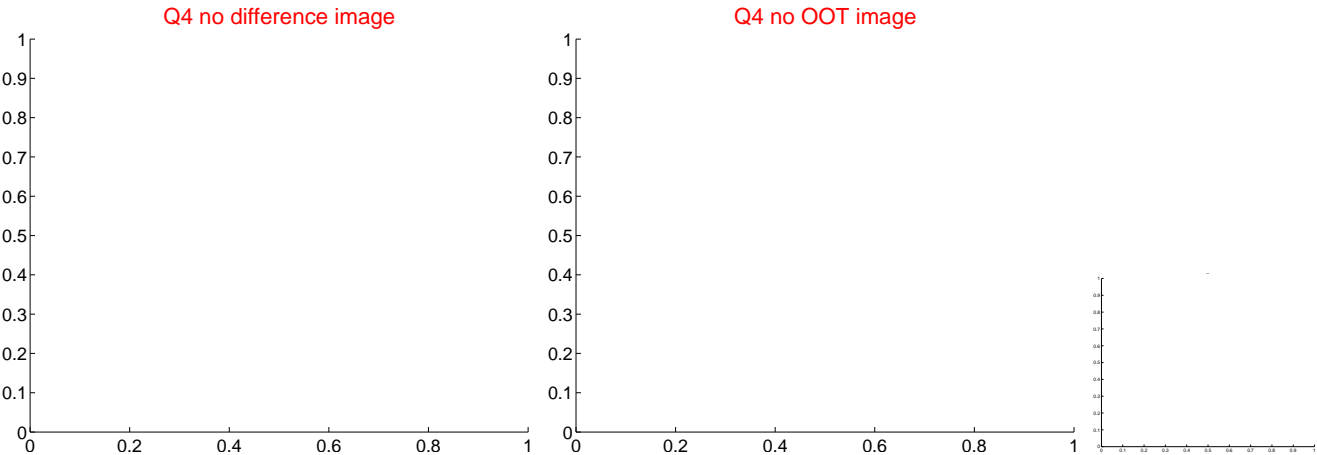
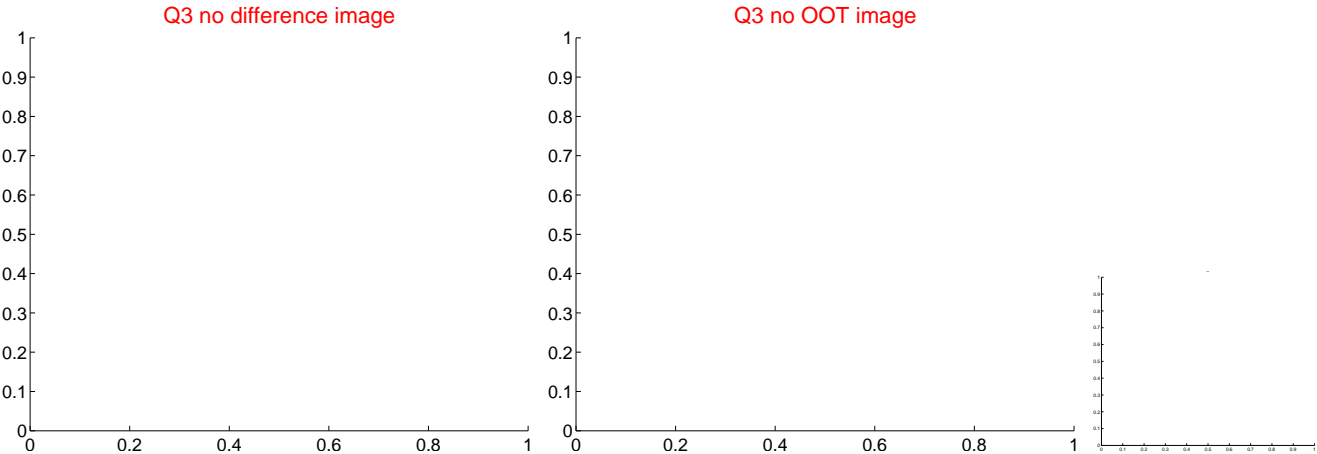
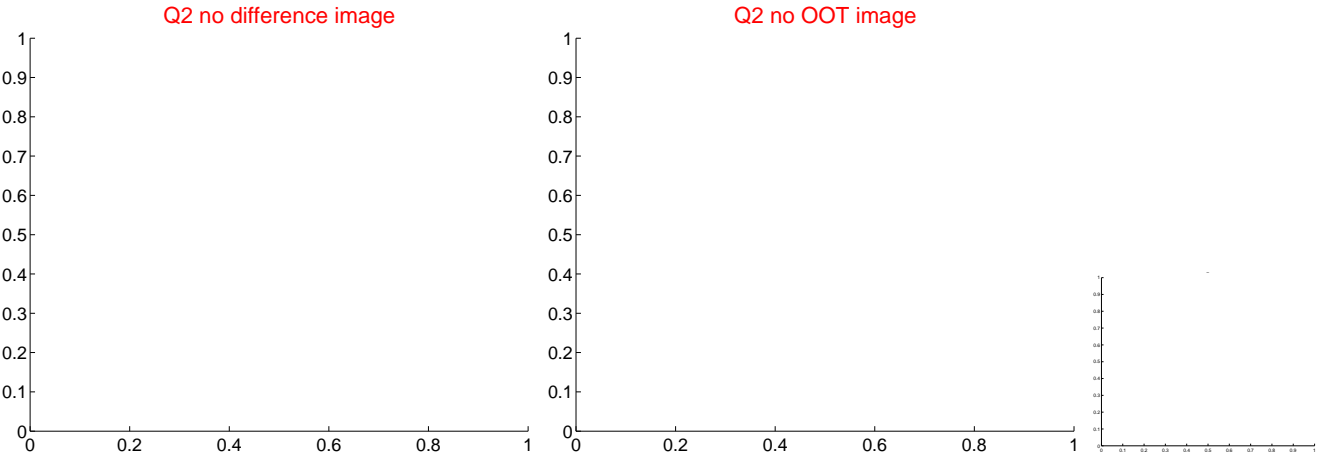
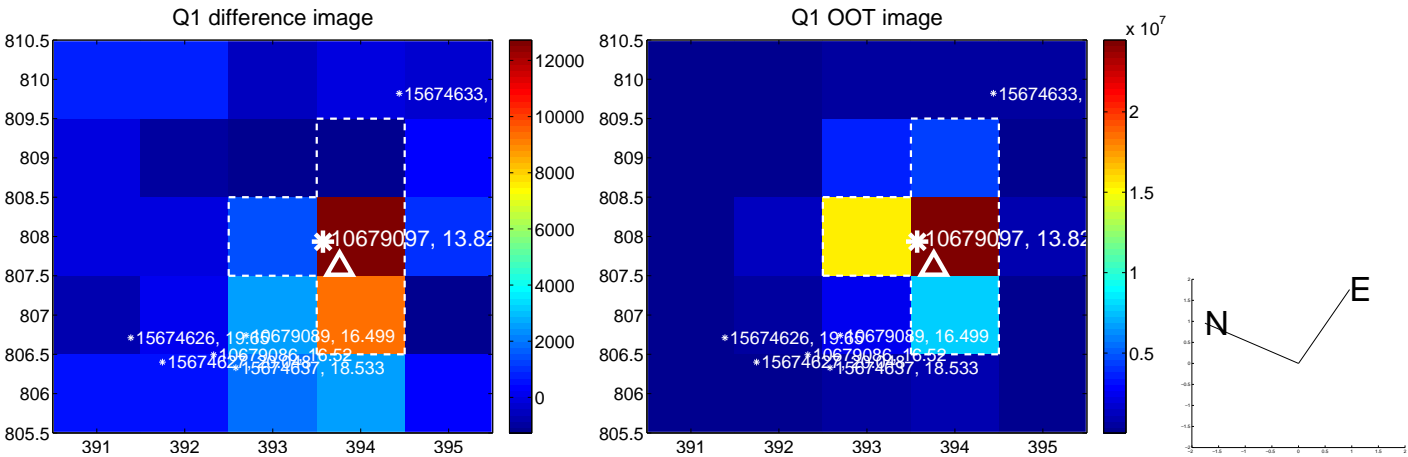
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.307 \pm 0.390$	0.79	$-0.115 \pm 0.242$	$-0.284 \pm 0.349$
PRF-fit source offset from KIC position	$0.425 \pm 0.361$	1.18	$-0.225 \pm 0.224$	$-0.360 \pm 0.309$
photometric centroid source offset	$1.40 \pm 0.47$	2.97	$-1.29 \pm 0.47$	$-0.55 \pm 0.50$

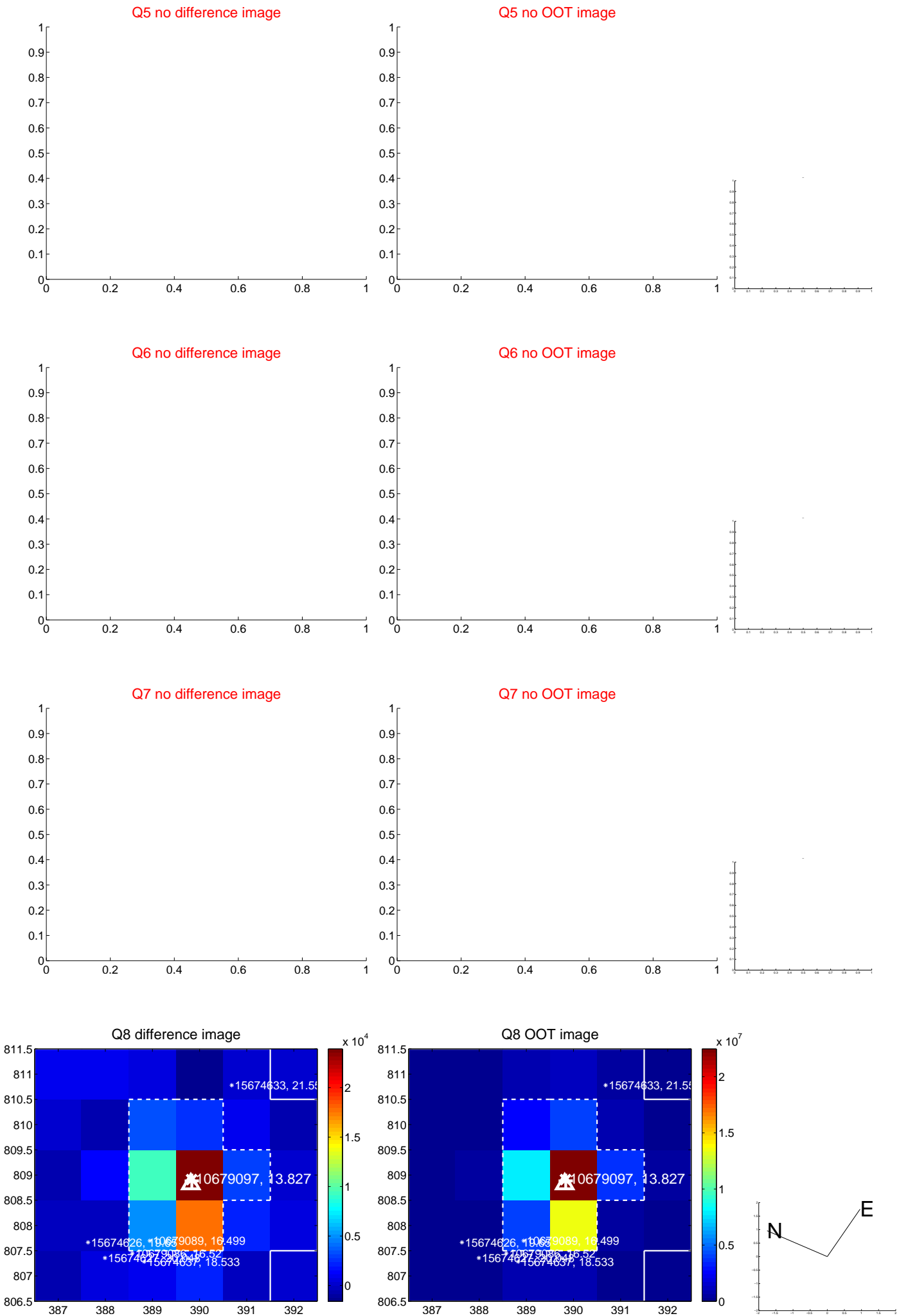


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

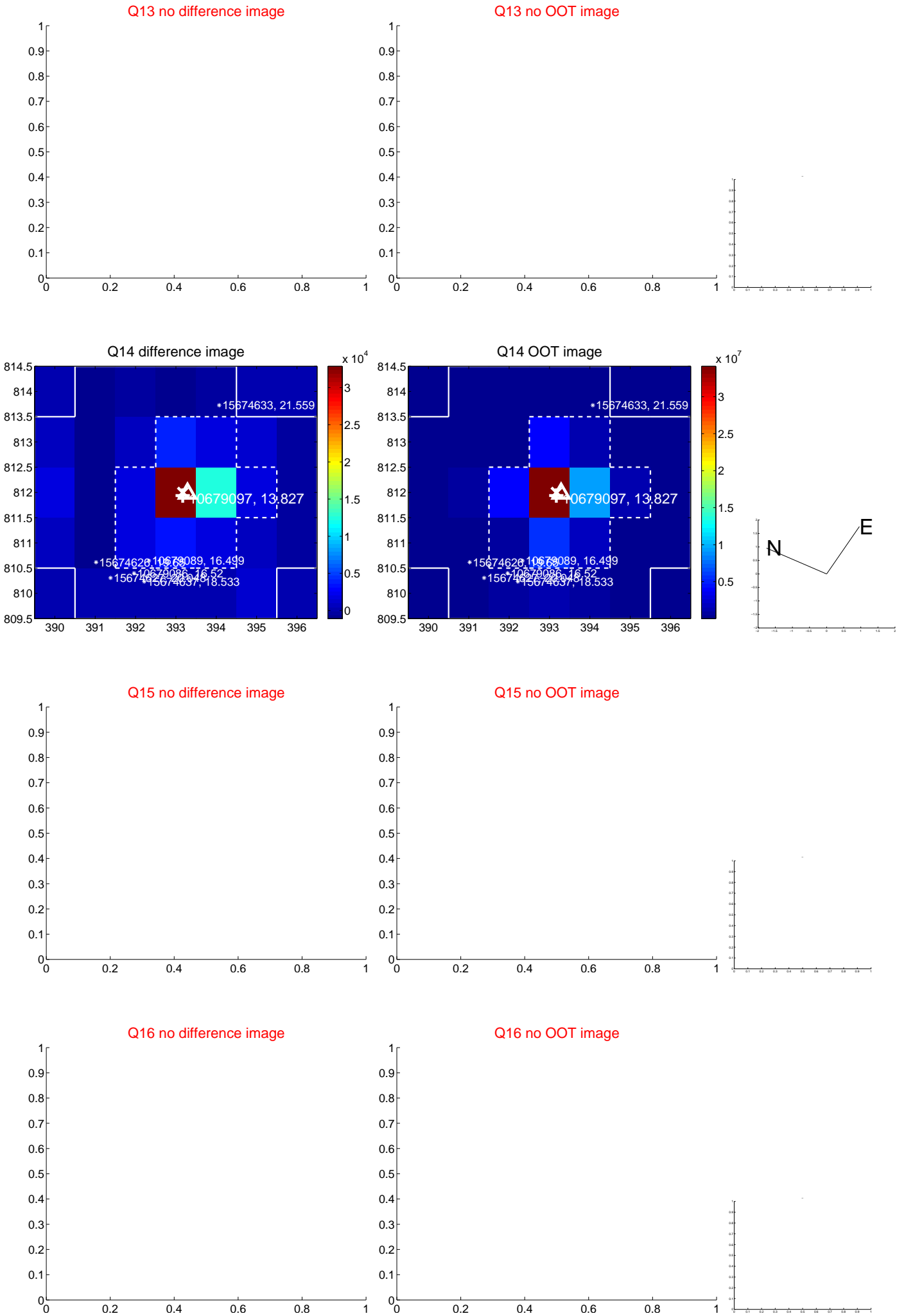




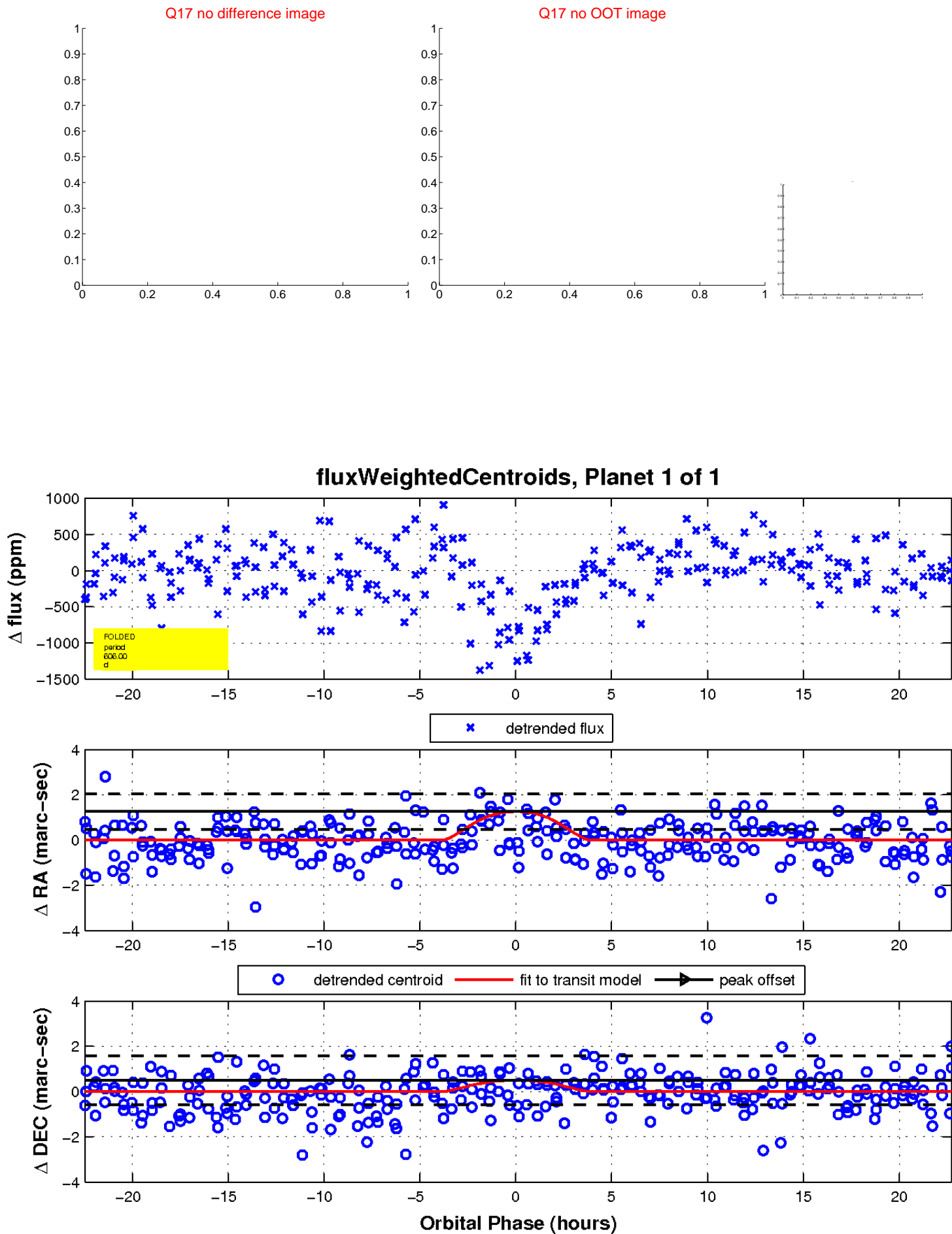
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

