

# KIC 003560436

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003560436-01	OBS	No	191.065093	159.284229	938.3	2.796	9.2	8.0	1.00	5780	3.38	2.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003560436-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

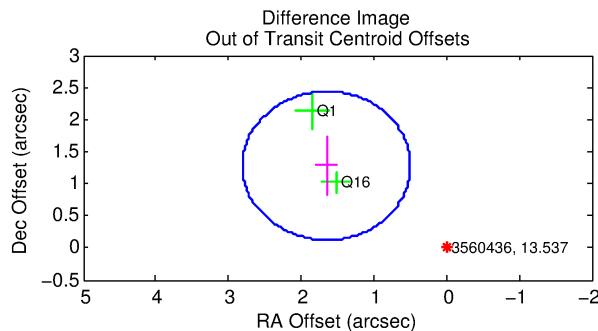
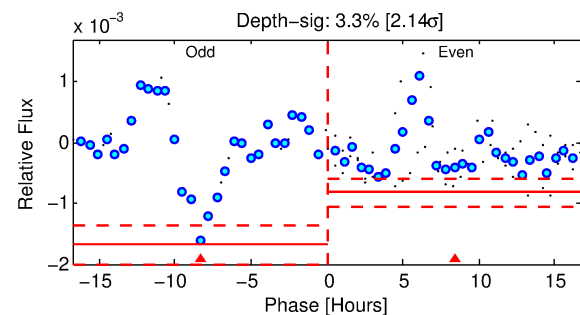
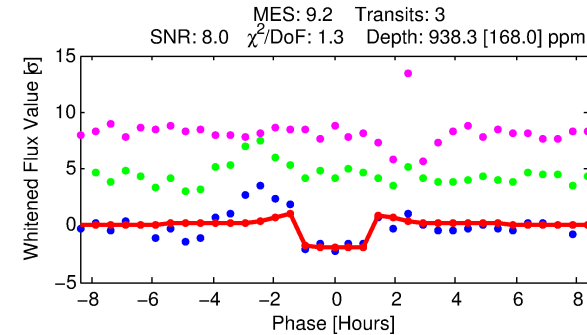
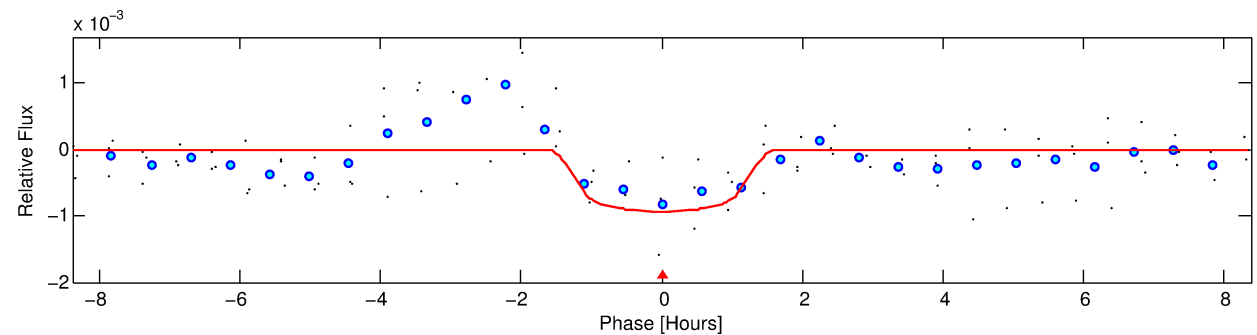
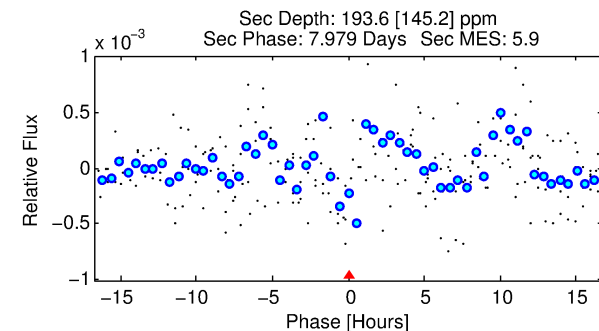
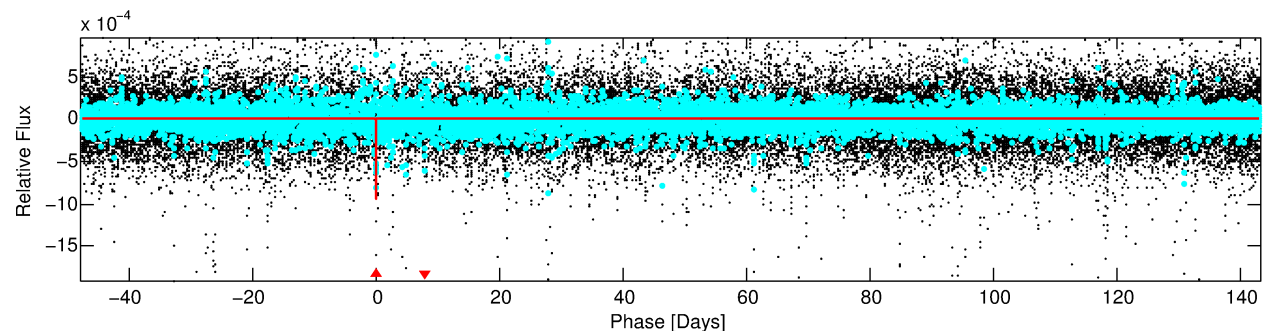
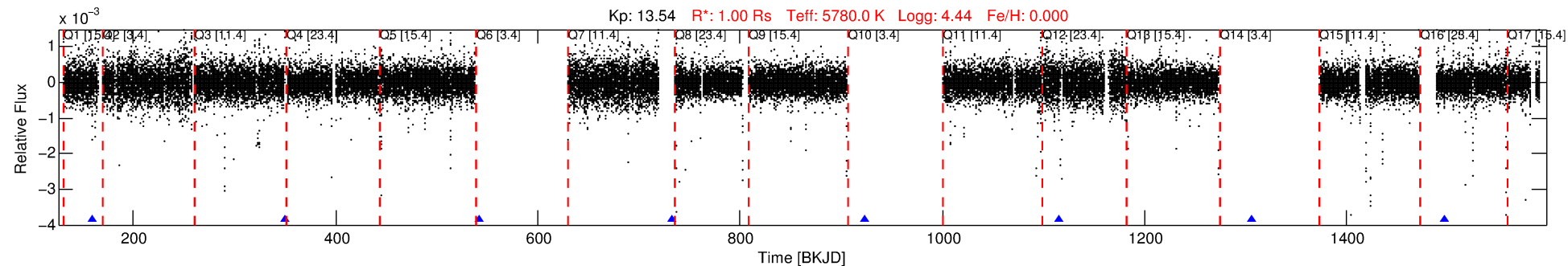
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003560436-01

No Significant Match Found

# DV One-Page Summary

KIC: 3560436 Candidate: 1 of 1 Period: 191.065 d



## DV Fit Results:

Period = 191.06509 [0.00151] d  
Epoch = 159.2842 [0.0082] BKJD  
Rp/R\* = 0.0310 [0.0237]  
a/R\* = 346.86 [1127.54]  
b = 0.79 [1.59]  
Seff = 2.37 [0.00]  
Teq = 316 [0] K  
Rp = 3.39 [2.58] Re  
a = 0.6494 [0.0000] AU  
Ag = 3919.07 [6666.57] [0.59σ]  
Teffp = 3871 [1646] K [2.16σ]

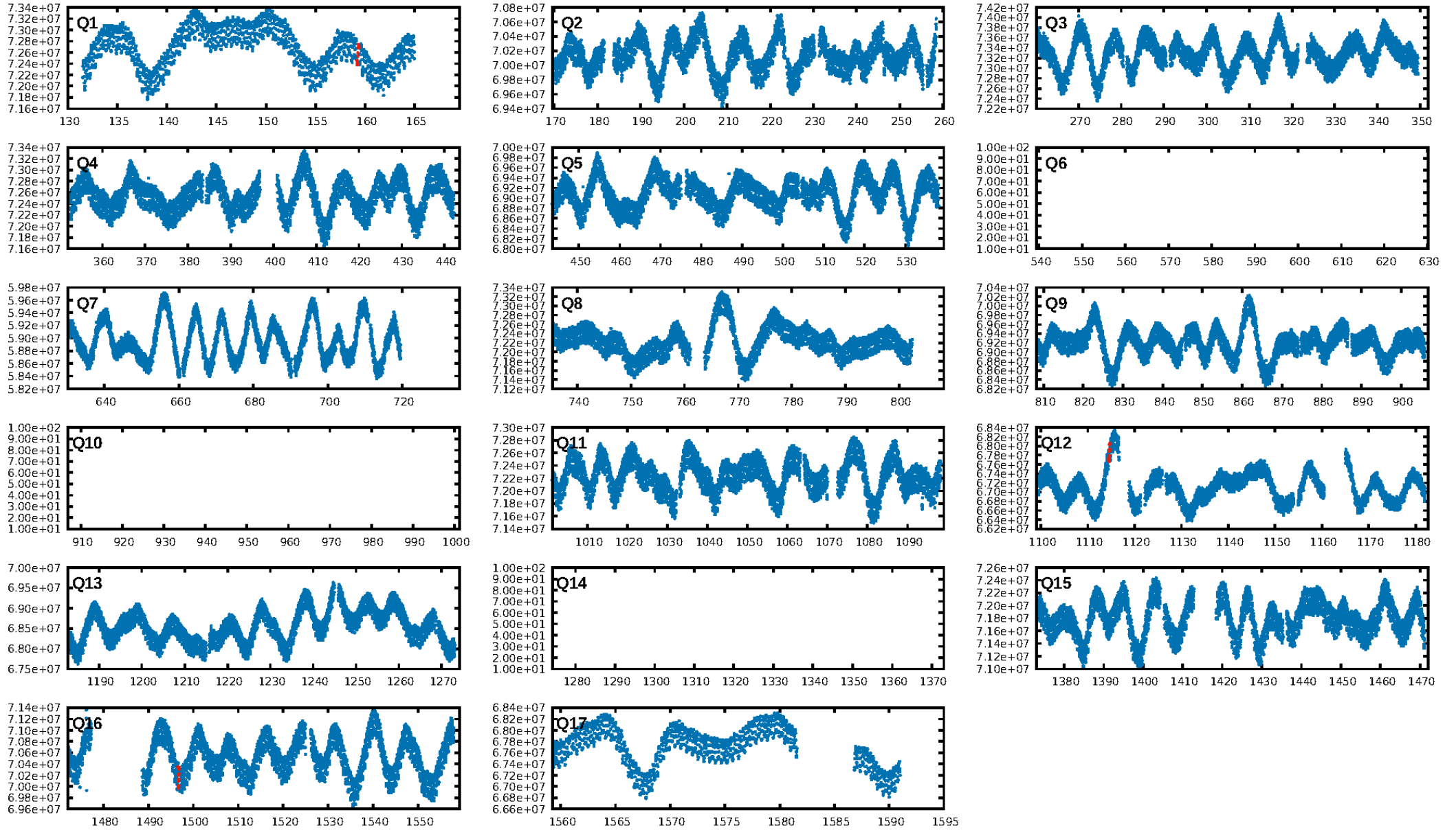
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 34.9%  
ModelChiSquareGof-sig: 80.2%  
**Bootstrap-pfa: 1.07e-07**  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: -1.664  
Centroid-sig: 8.4%  
Centroid-so: 0.999 arcsec [1.00σ]  
**OotOffset-rm: 2.091 arcsec [5.42σ]**  
**KicOffset-rm: 1.453 arcsec [4.80σ]**  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

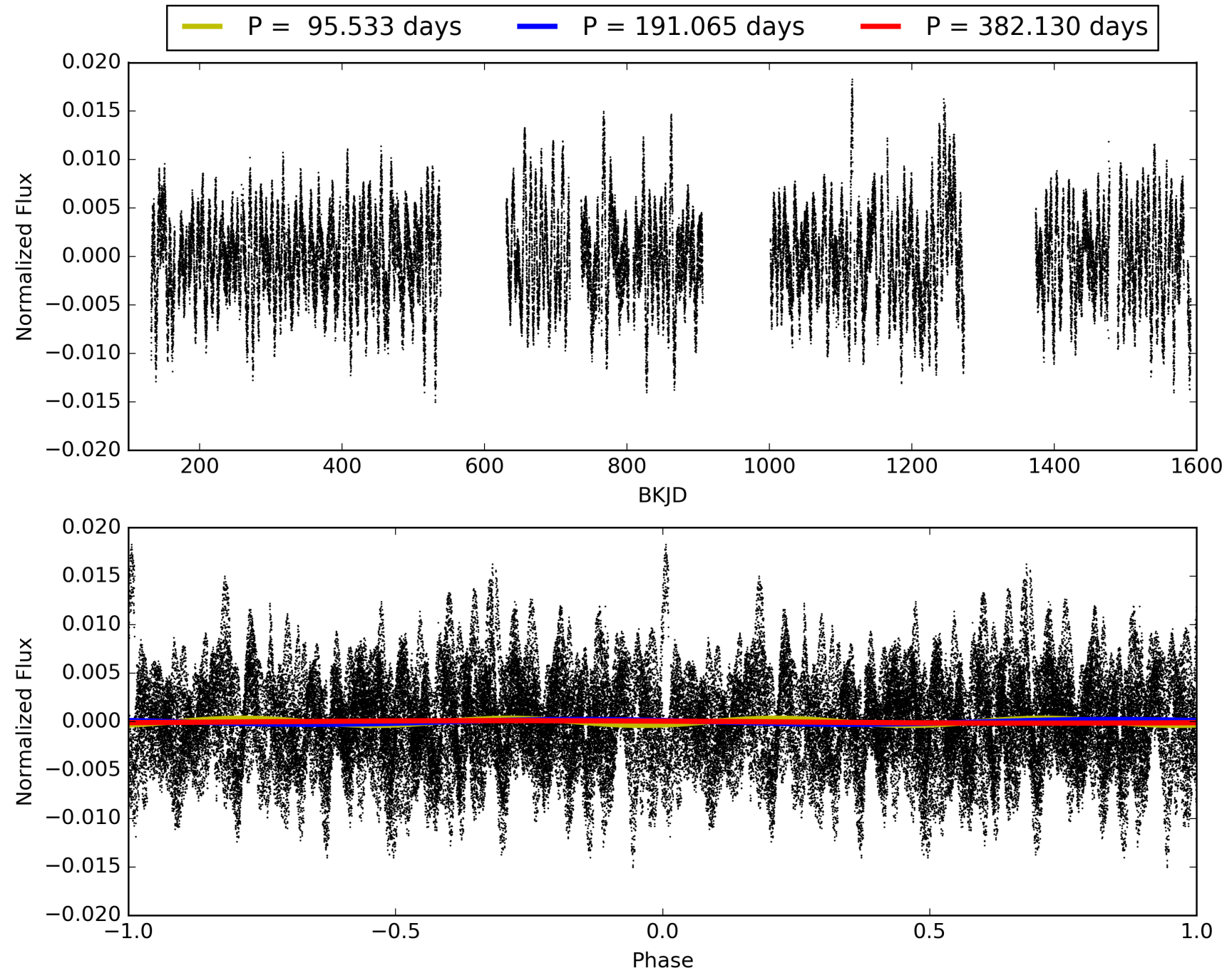
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:30:14 Z

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

# TCE 003560436-01, PDC Light Curves

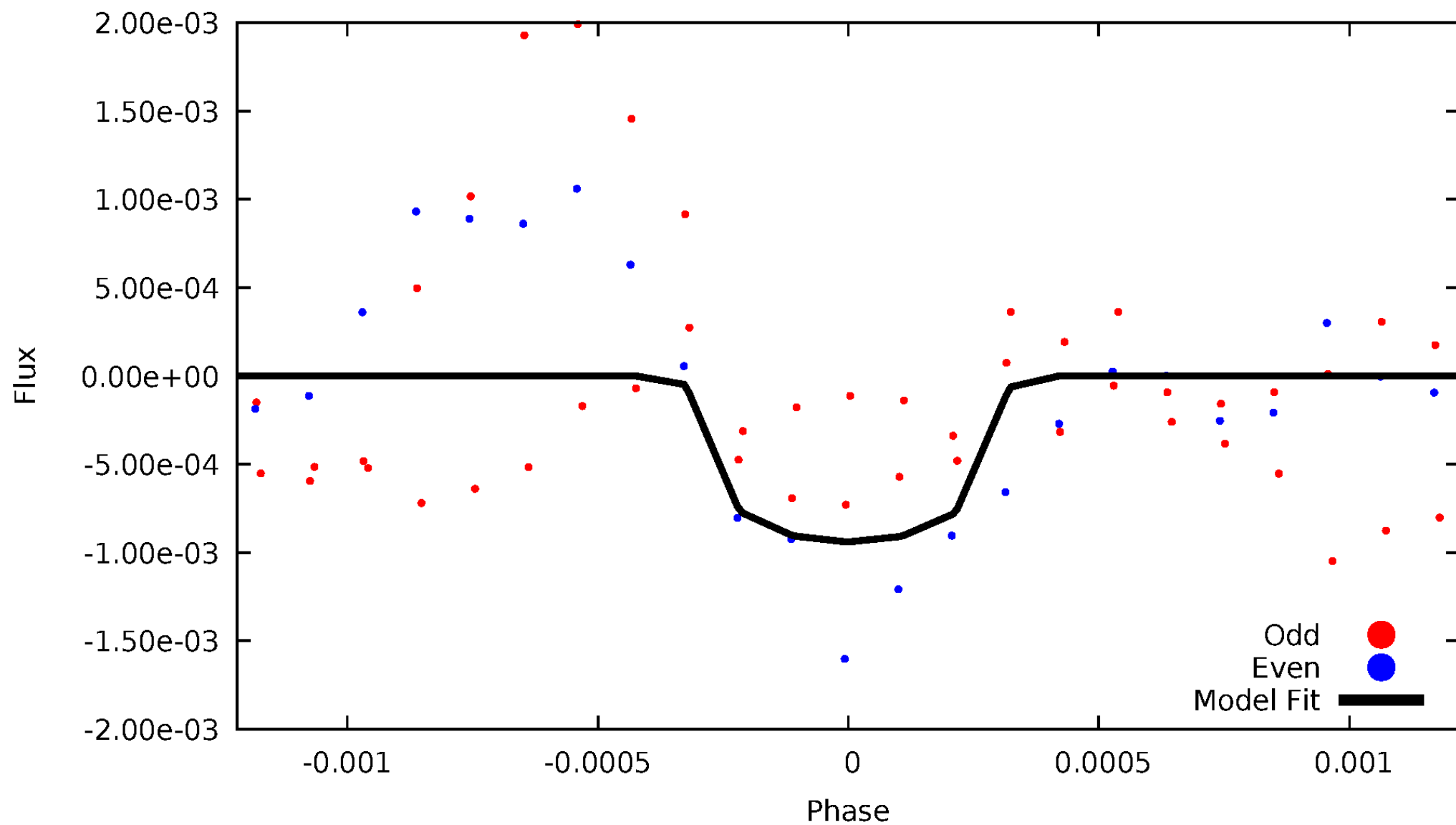


TCE 003560436-01



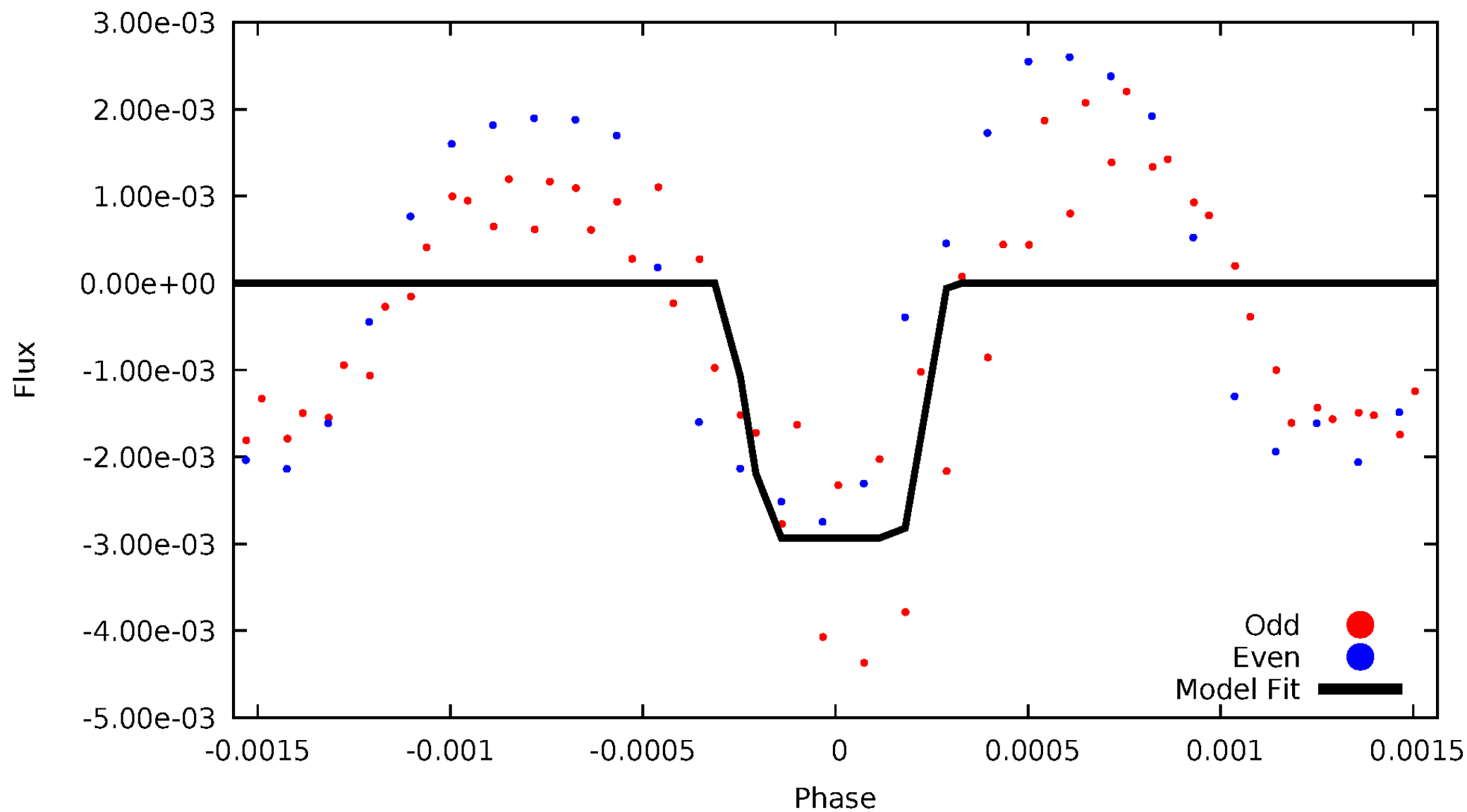
# DV Odd/Even

TCE 003560436-01

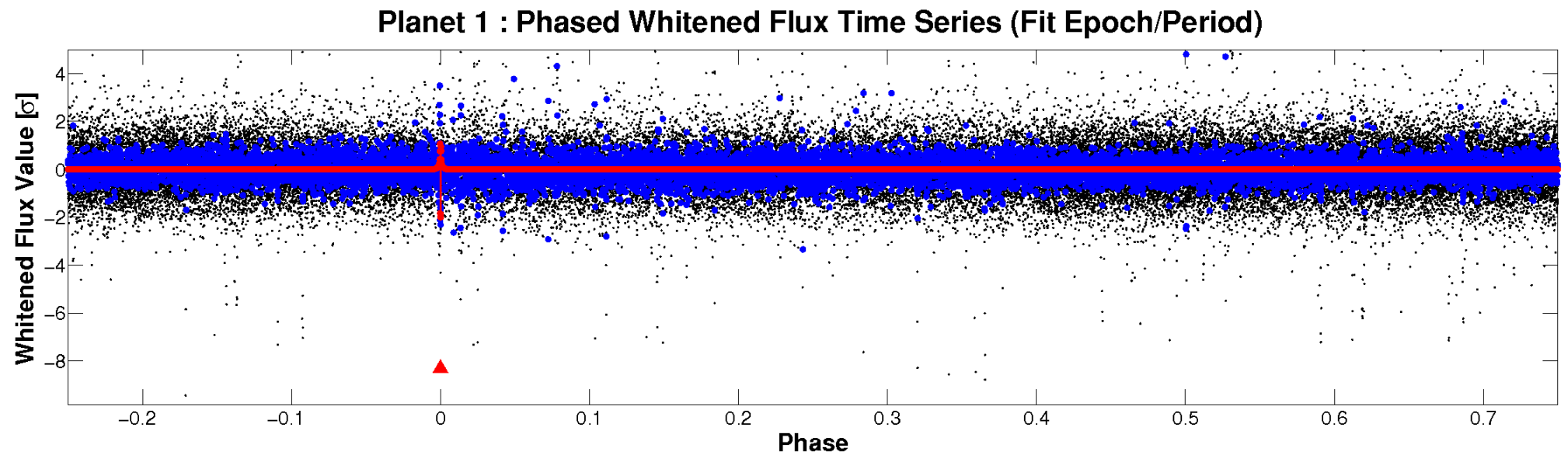
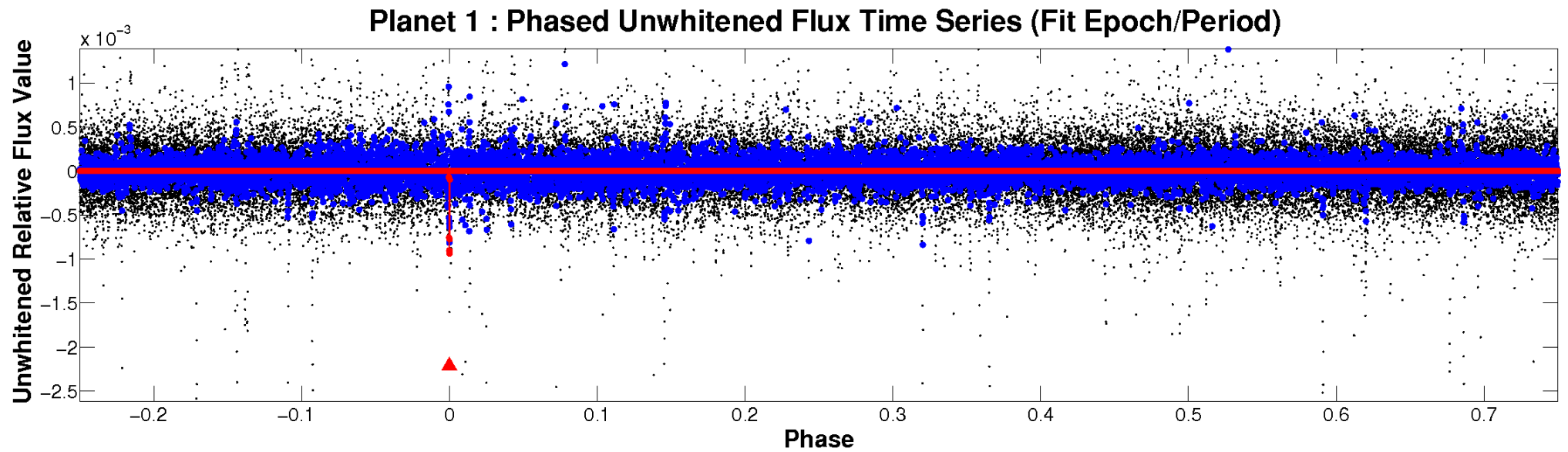


# ALT Odd/Even

TCE 003560436-01

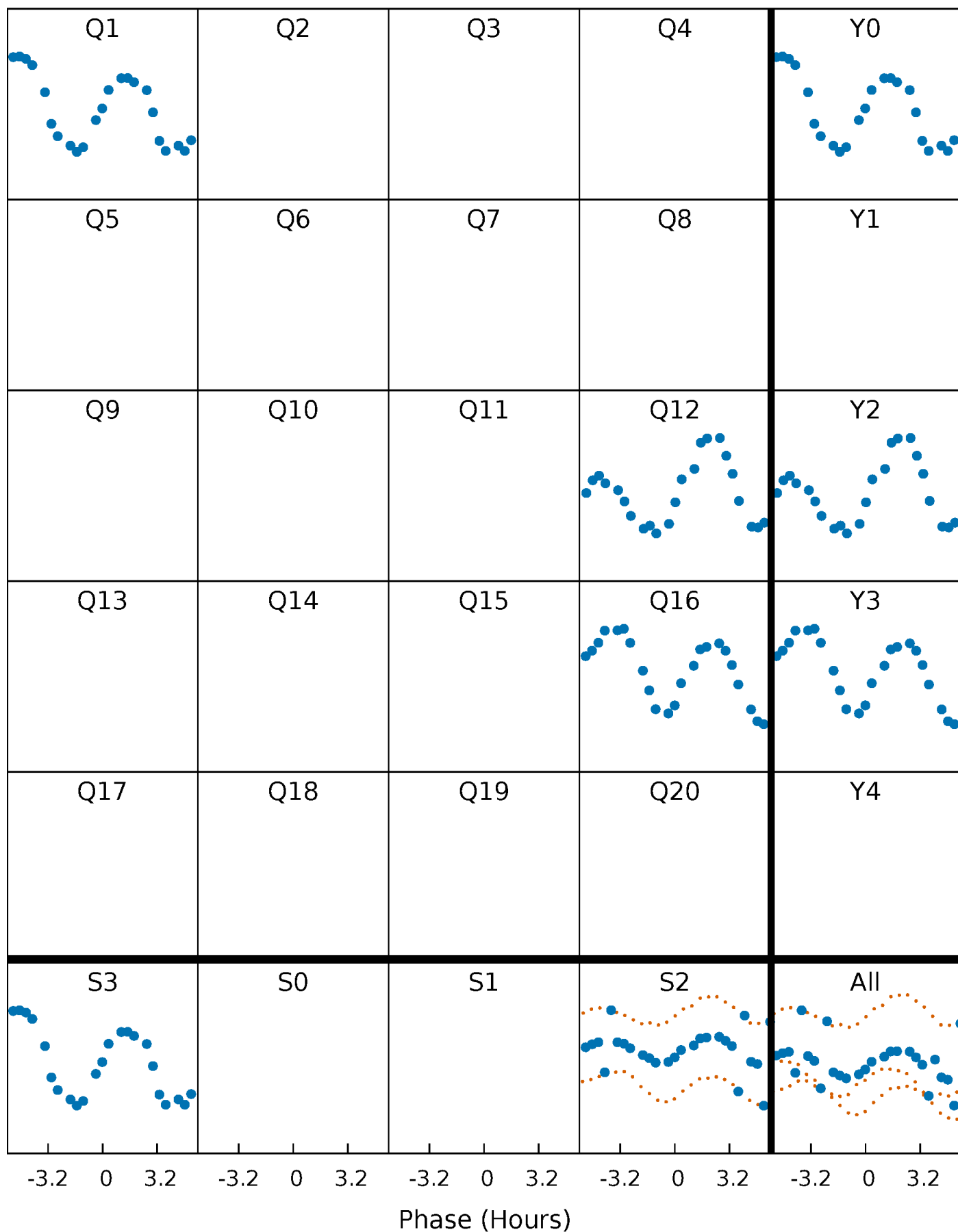


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

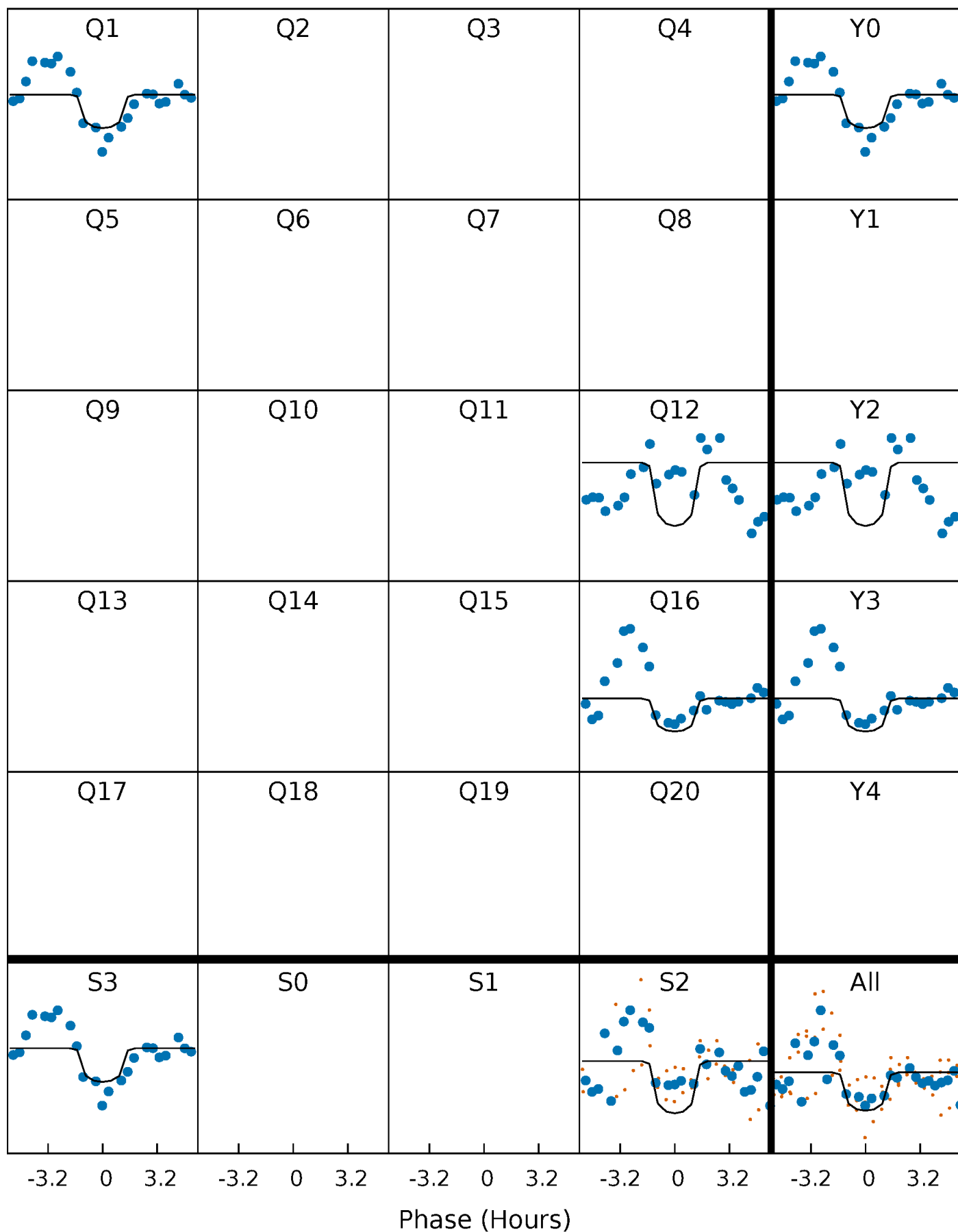
TCE 003560436-01 P=191.065093 Days  $T_0=159.284229$  (BKJD)





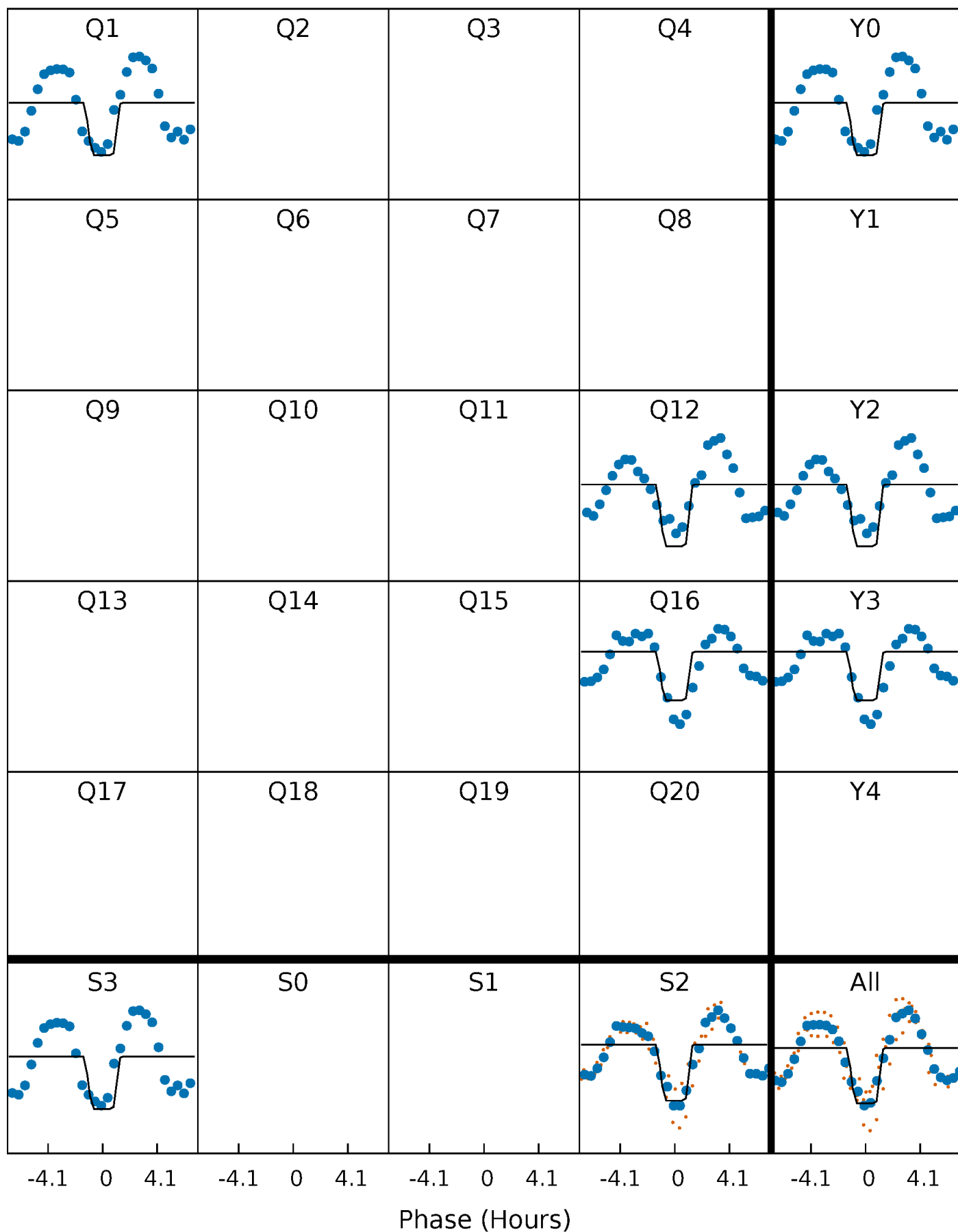
# DV Quarter-Phased Transit Curves

TCE 003560436-01 P=191.065093 Days  $T_0=159.284229$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

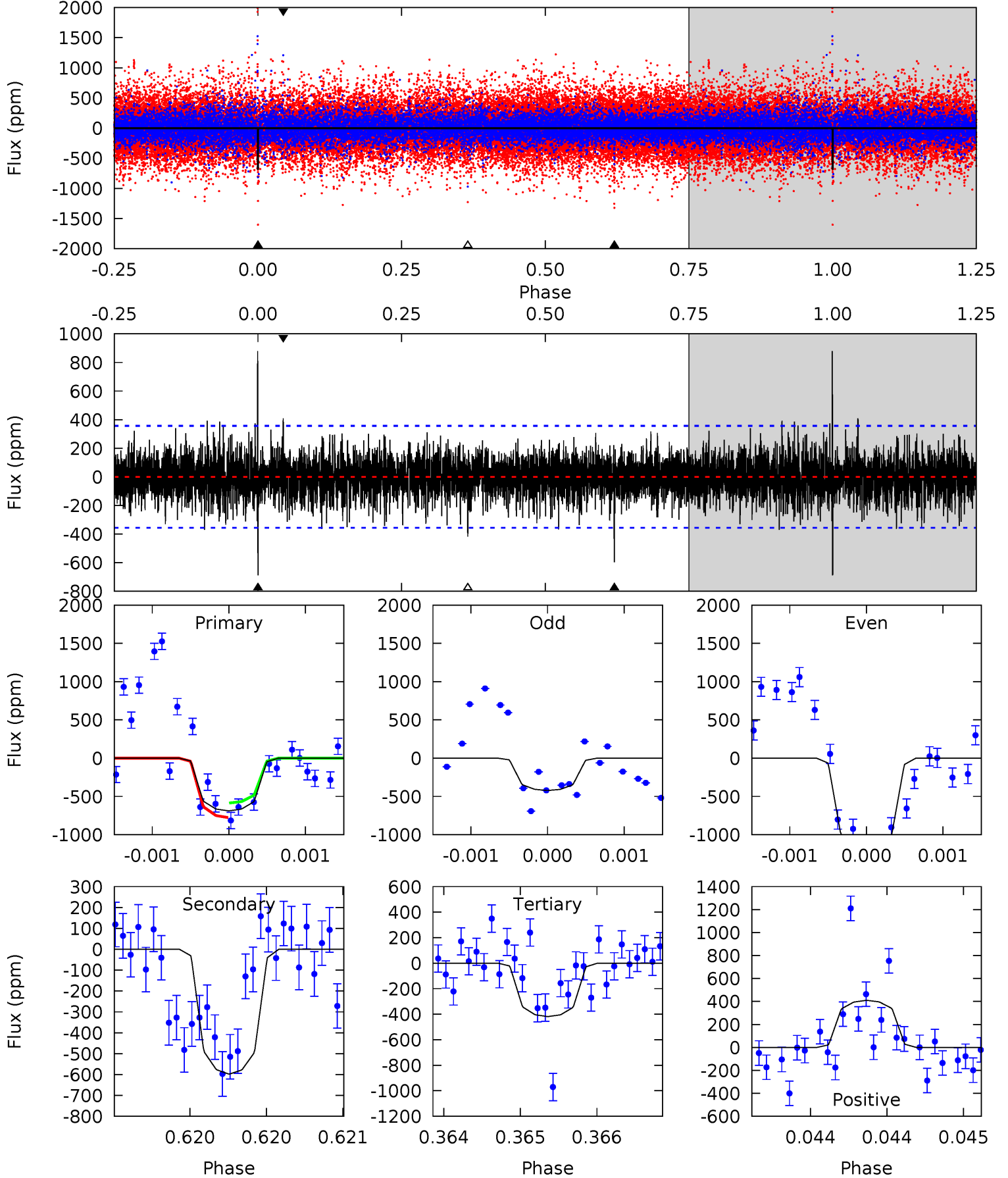
TCE 003560436-01 P=191.068031 Days  $T_0=159.227945$  (BKJD)



# DV Model-Shift Uniqueness Test

003560436-01, P = 191.065093 Days, E = 159.284229 Days

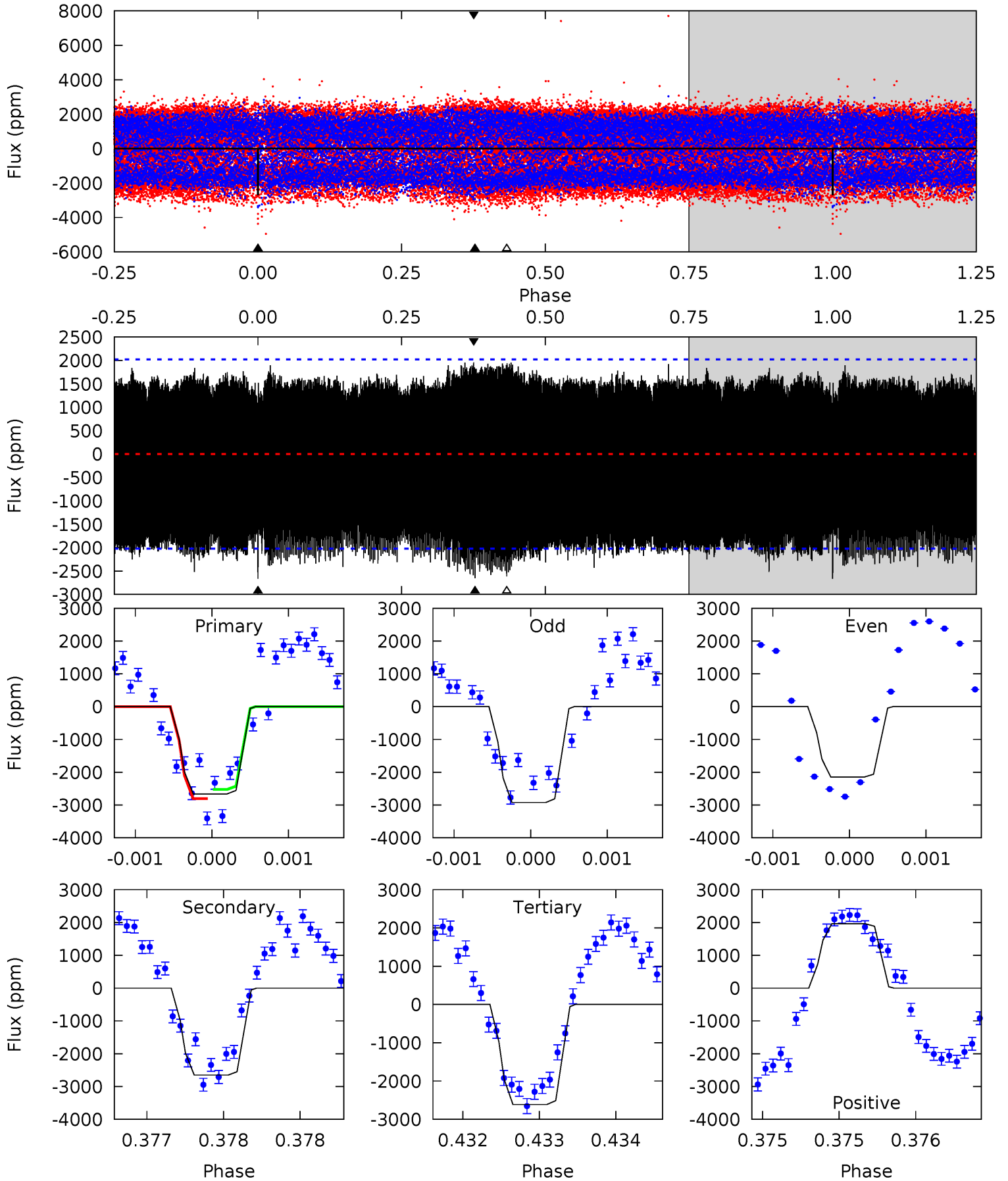
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	9.28	6.50	6.35	5.53	3.41	1.55	4.19	4.33	2.78	2.92	5.78	1.14	0.56	1.48



# Alt Model-Shift Uniqueness Test

003560436-01, P = 191.068031 Days, E = 159.227945 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
7.31	7.28	7.17	5.38	5.55	3.44	3.57	0.13	1.93	0.11	1.90	0.95	1.24	0.42	0.39



### Stellar Parameters For KIC 003560436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 003560436-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-597 \pm 64$	$3.64^{+2.57}_{-2.05}$	$443^{+21}_{-21}$	$5024^{+2630}_{-961}$	$10383^{+44296}_{-6803}$
Alt.	$-2652 \pm 364$	$5.85^{+2.57}_{-2.41}$	$443^{+20}_{-20}$	$5669^{+1879}_{-867}$	$17793^{+33662}_{-9404}$

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

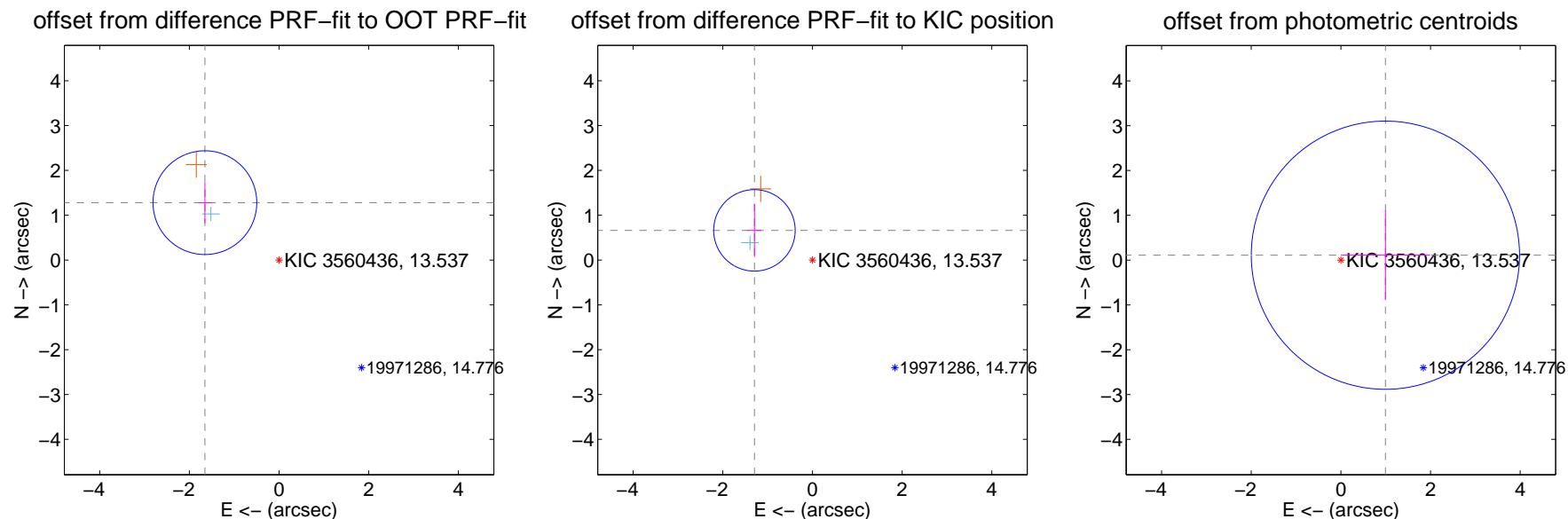
## DV Centroid Data

Supplemental centroid analysis for 003560436-01. Kepler magnitude: 13.54. Transit SNR 8.05

There are 1 quarters with good PRF difference image offsets

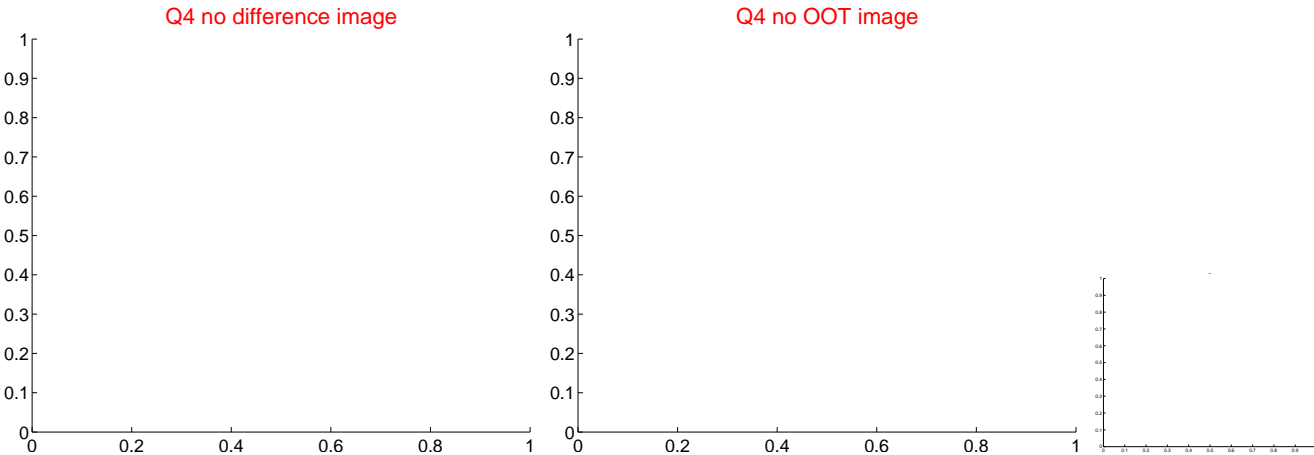
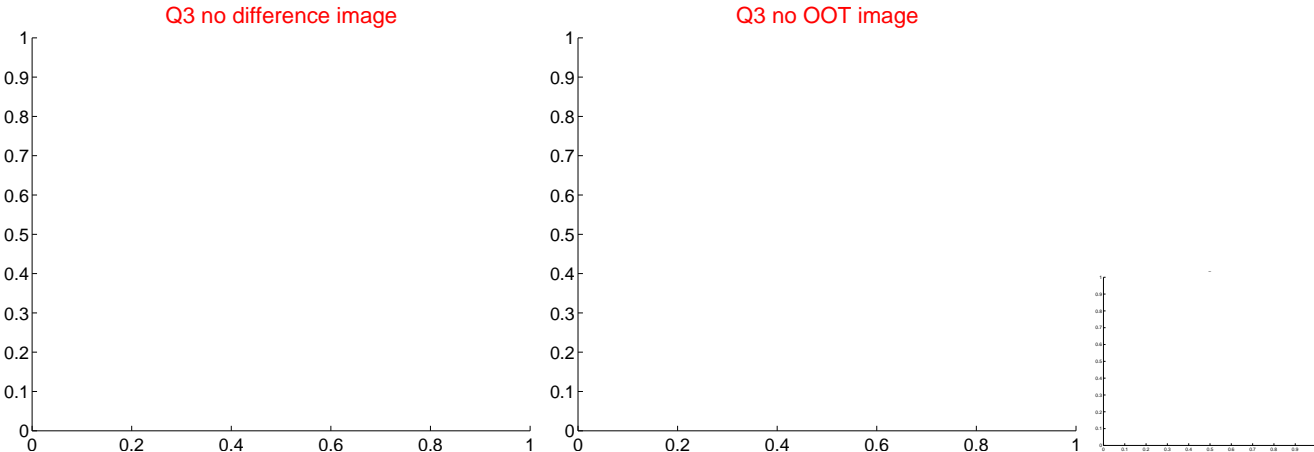
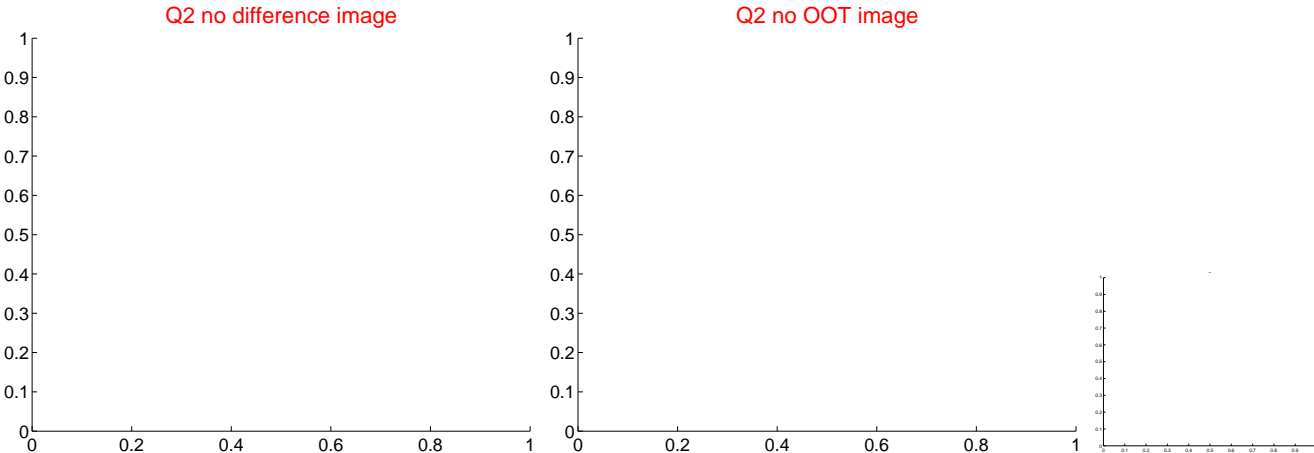
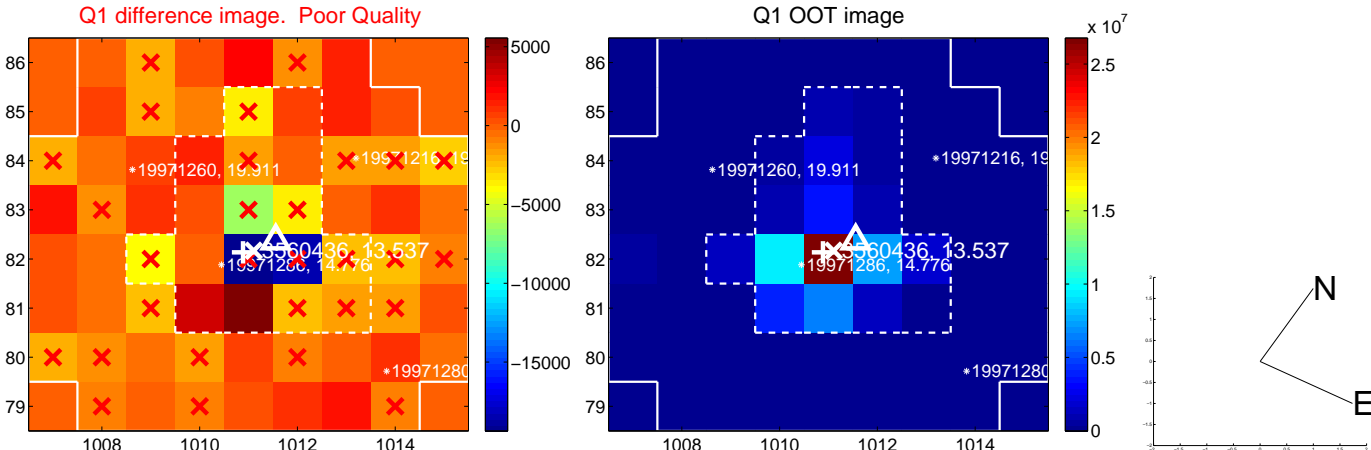
The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>2.091 <math>\pm</math> 0.386</b>	<b>5.42</b>	1.654 $\pm$ 0.149	1.280 $\pm$ 0.454
PRF-fit source offset from KIC position	<b>1.453 <math>\pm</math> 0.303</b>	<b>4.80</b>	1.294 $\pm$ 0.153	0.662 $\pm$ 0.594
photometric centroid source offset	1.00 $\pm$ 1.00	1.00	-0.99 $\pm$ 1.00	0.11 $\pm$ 1.00



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

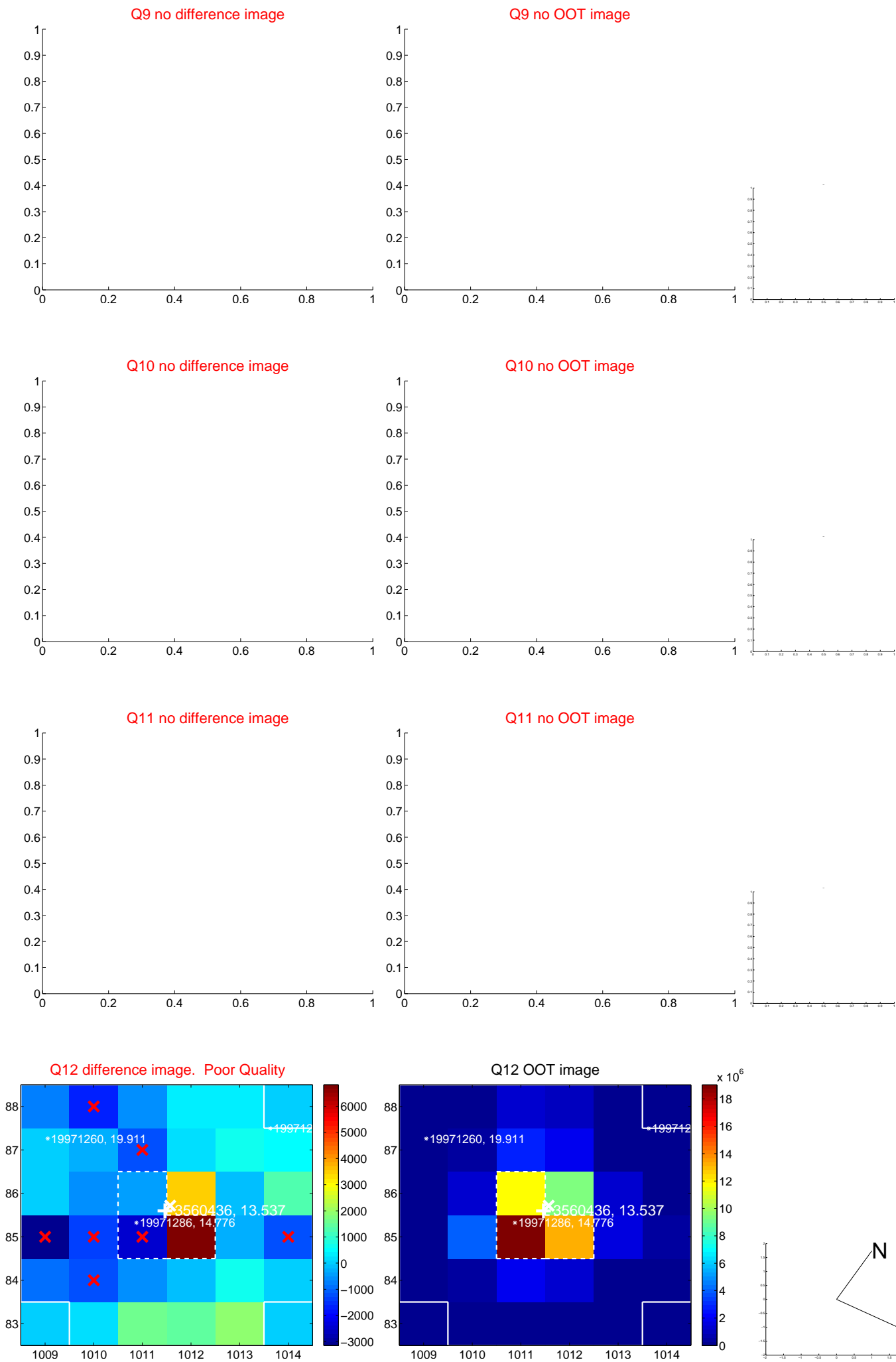


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

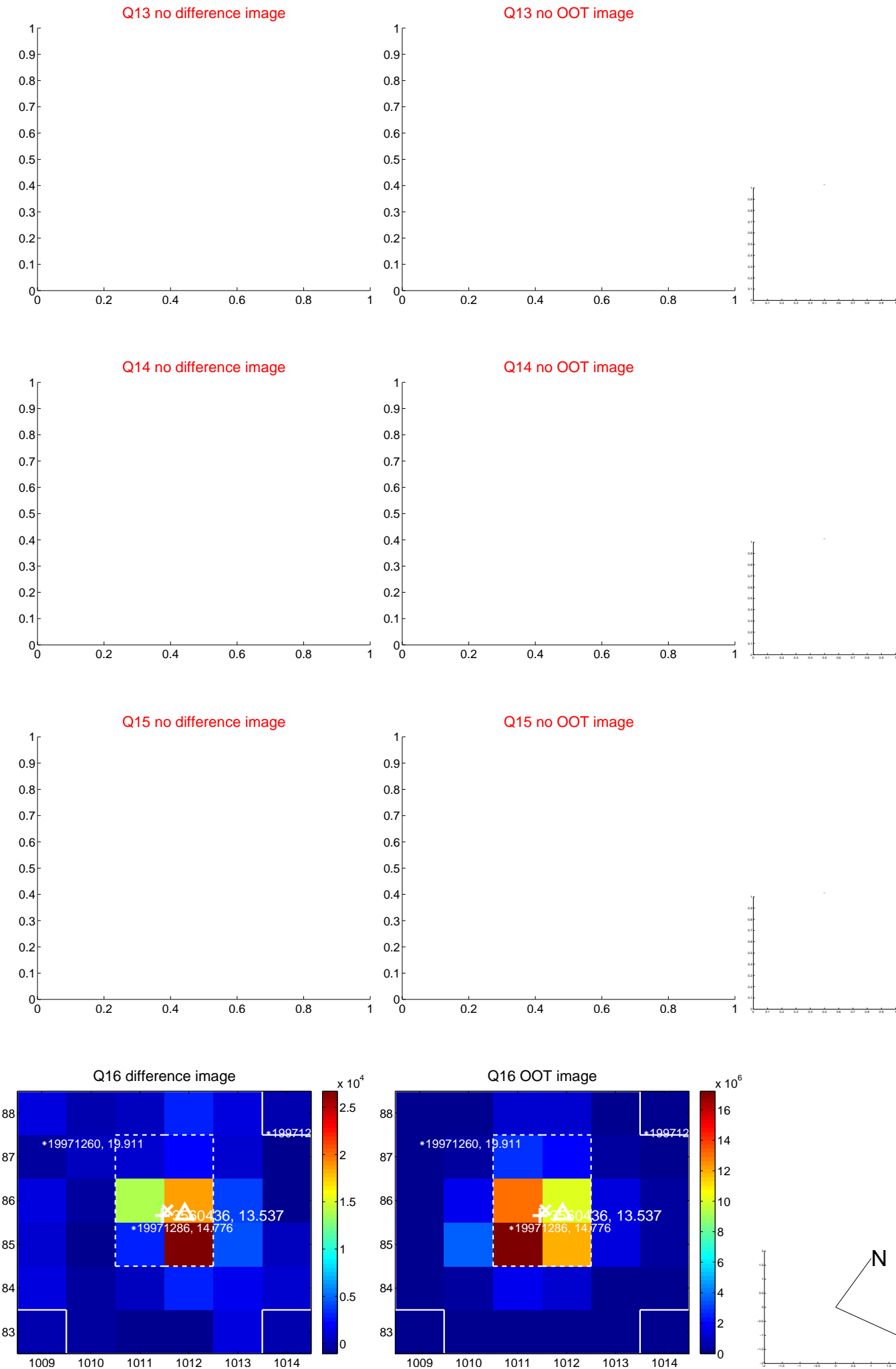




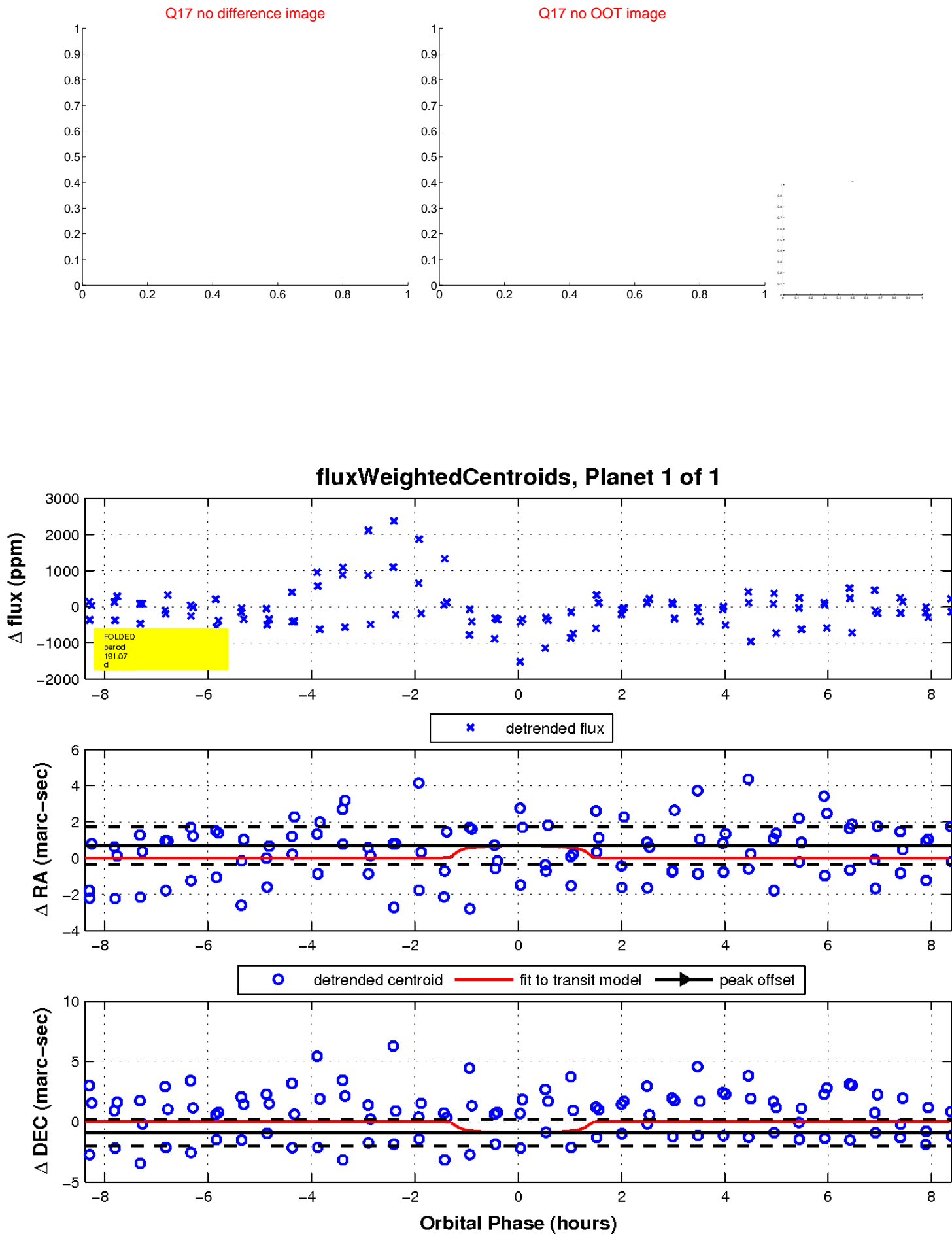
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

Declination

