

# KIC 010337218

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010337218-01	OBS	No	310.640202	186.788236	654.6	25.094	8.7	9.1	0.77	5411	3.54	0.63

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010337218-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—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.

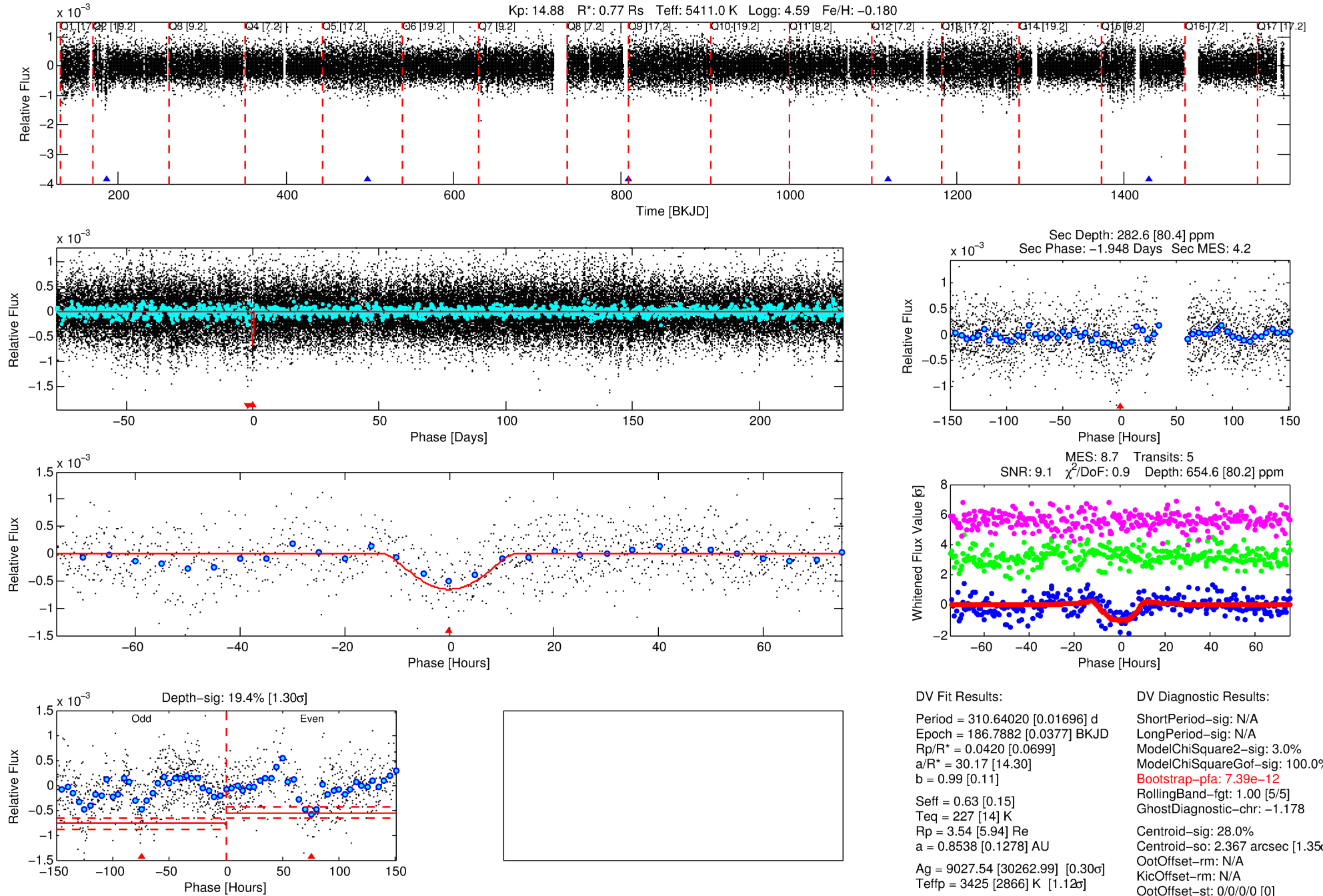
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010337218-01

No Significant Match Found

# DV One-Page Summary

KIC: 10337218 Candidate: 1 of 1 Period: 310.640 d



## DV Fit Results:

Period = 310.64020 [0.01696] d  
Epoch = 186.7882 [0.0377] BKJD  
Rp/R\* = 0.0420 [0.0699]  
a/R\* = 30.17 [14.30]  
b = 0.99 [0.11]  
Seff = 0.63 [0.15]  
Teq = 227 [14] K  
Rp = 3.54 [5.94] Re  
a = 0.8538 [0.1278] AU  
Ag = 9027.54 [30262.99] [0.30σ]  
Teffp = 3425 [2866] K [1.12σ]

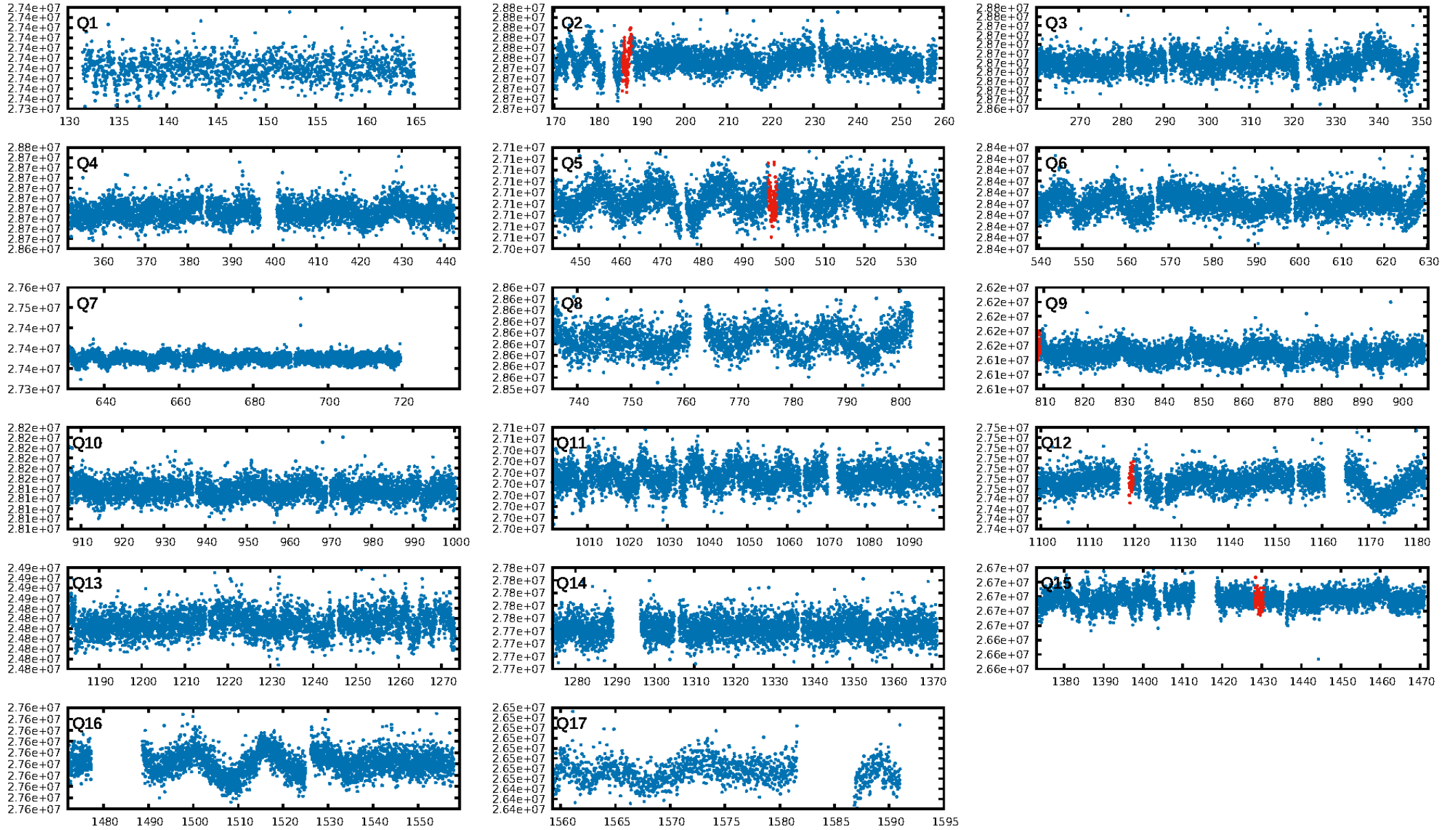
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.0%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 7.39e-12**  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: -1.178  
Centroid-sig: 28.0%  
Centroid-so: 2.367 arcsec [1.35σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [3/3]

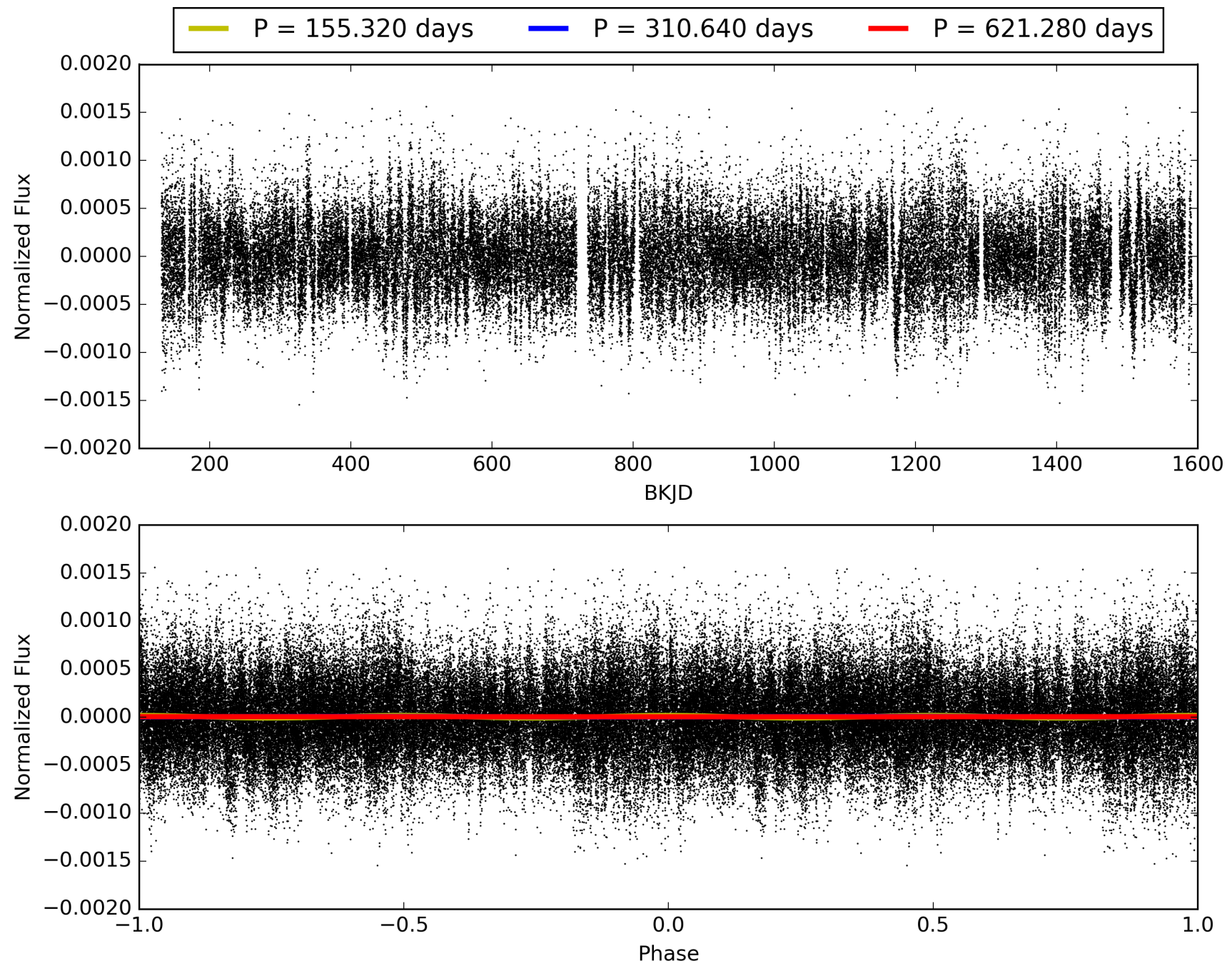
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:19:05 Z

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

# TCE 010337218-01, PDC Light Curves

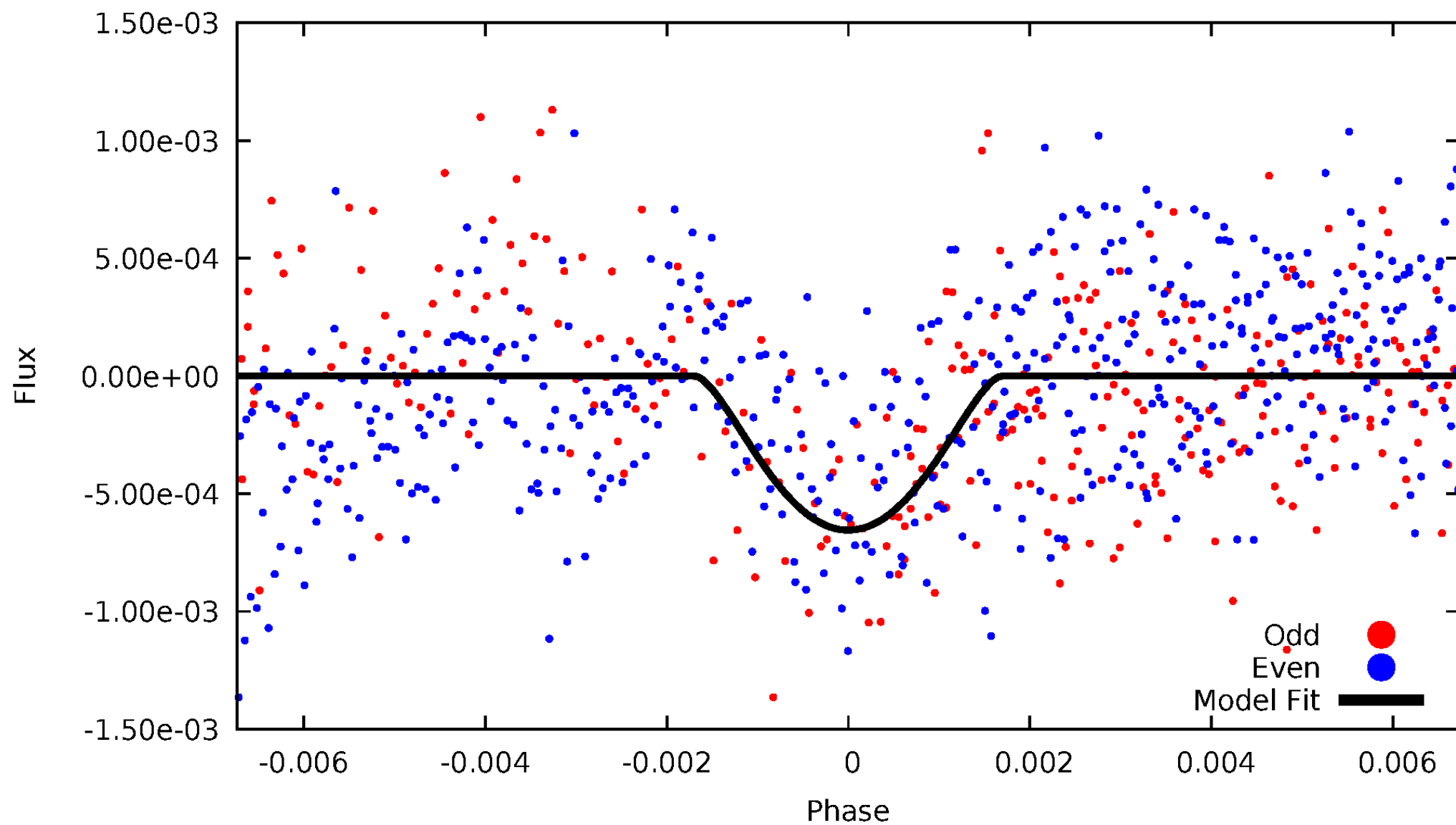


TCE 010337218-01



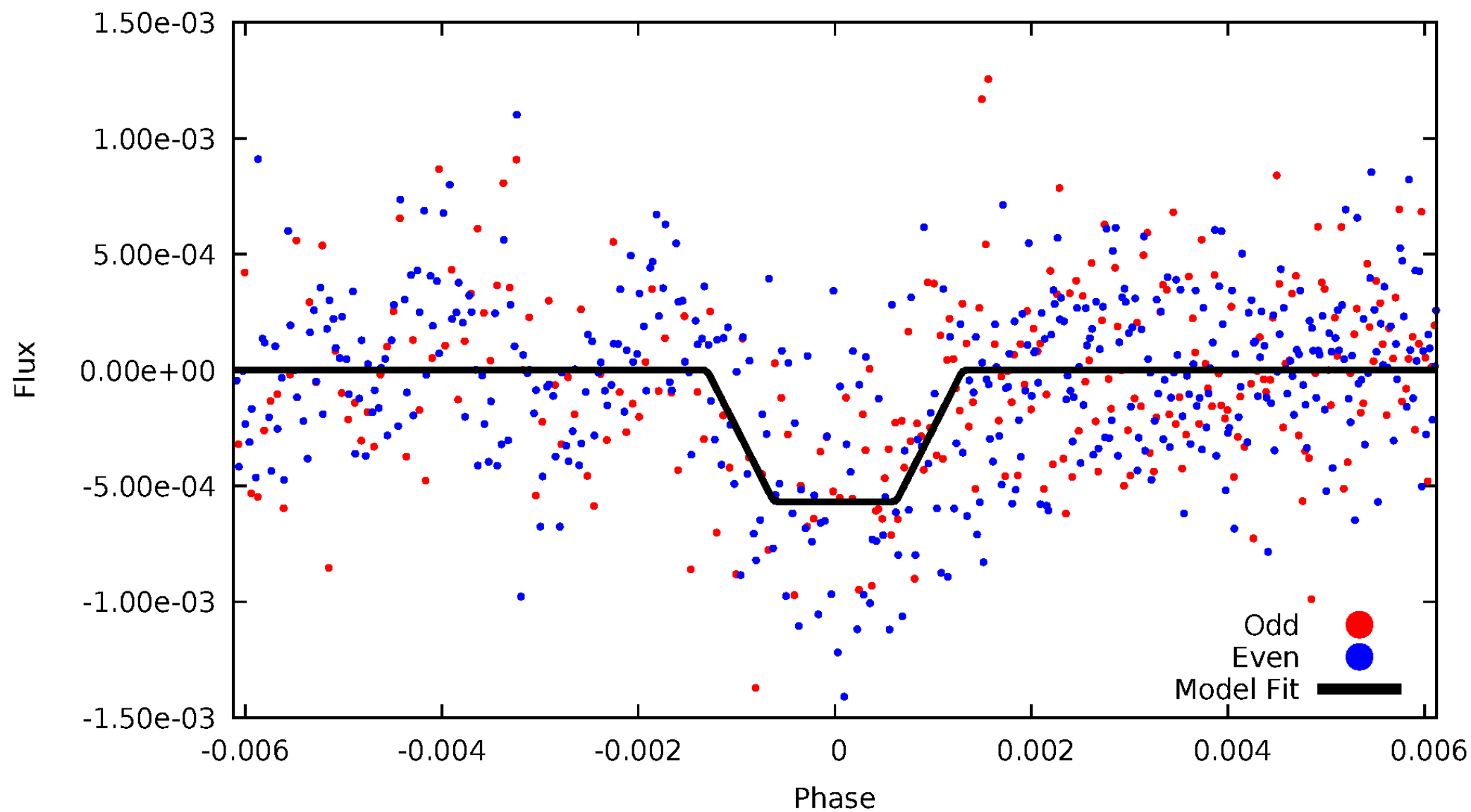
# DV Odd/Even

TCE 010337218-01



# ALT Odd/Even

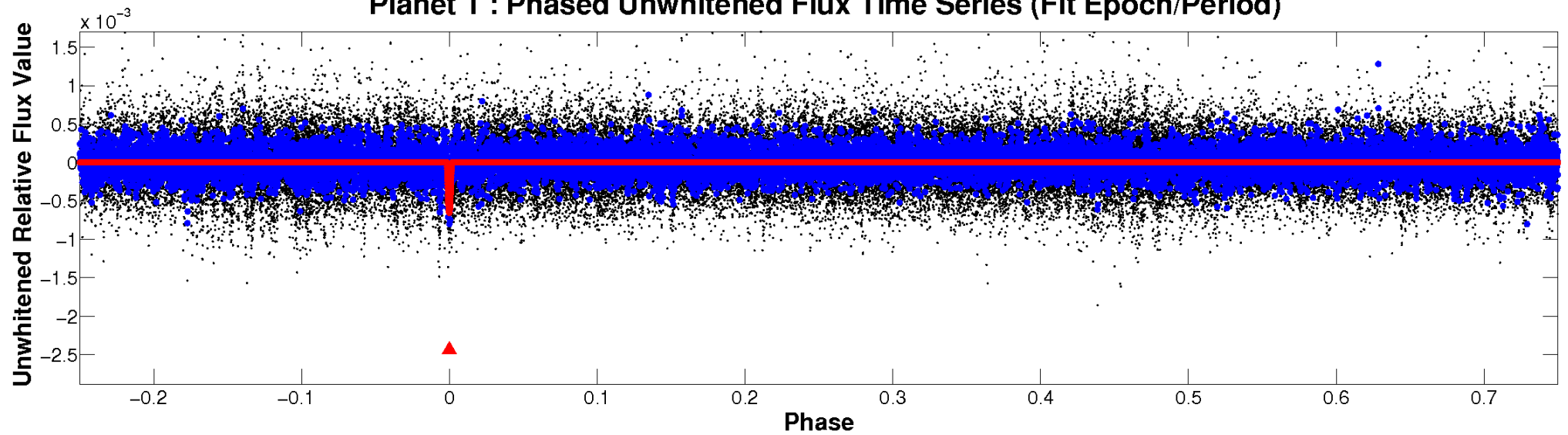
TCE 010337218-01



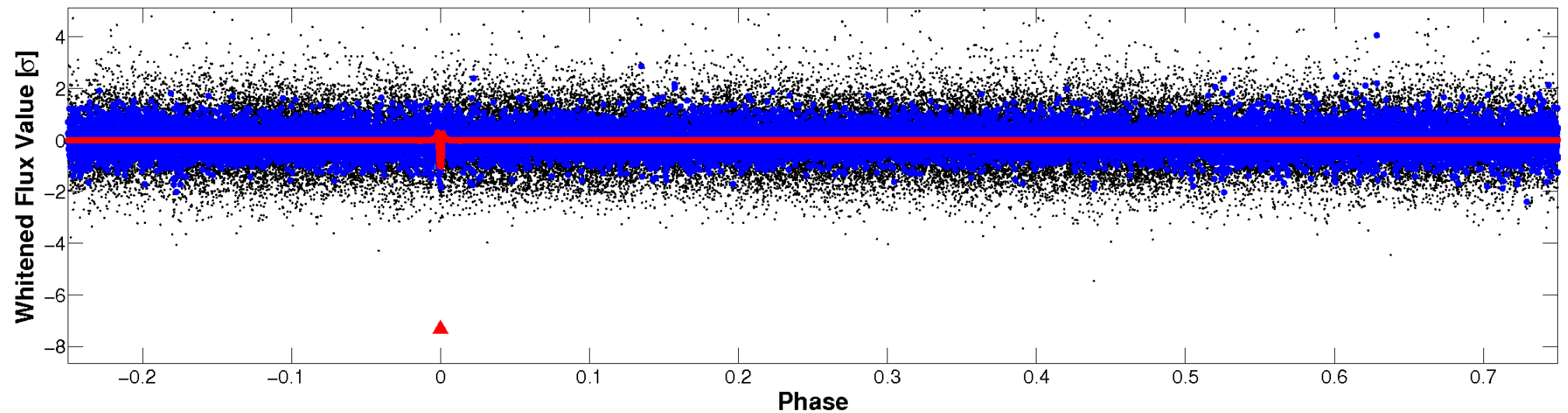


# Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

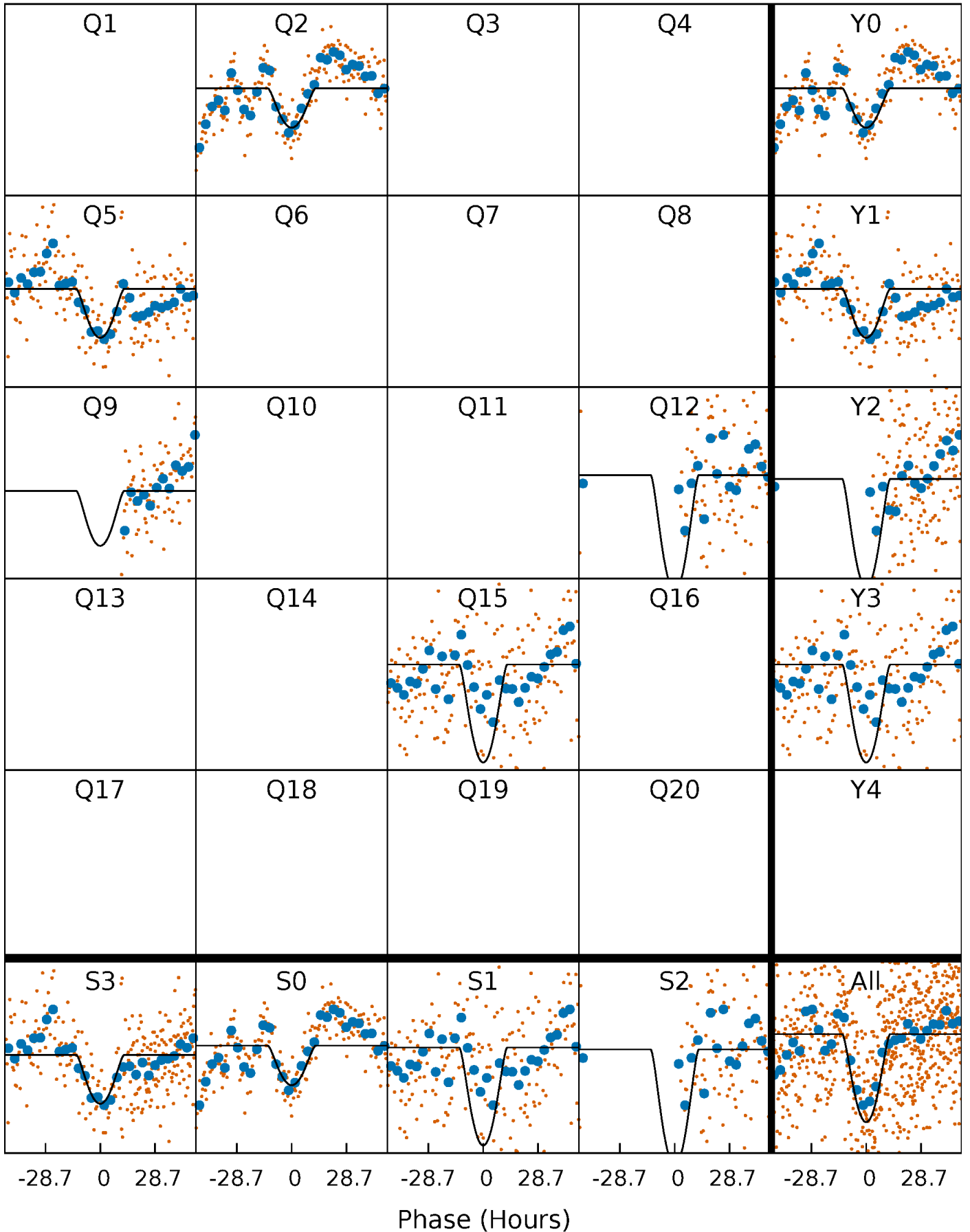
TCE 010337218-01 P=310.640202 Days  $T_0=186.788237$  (BKJD)





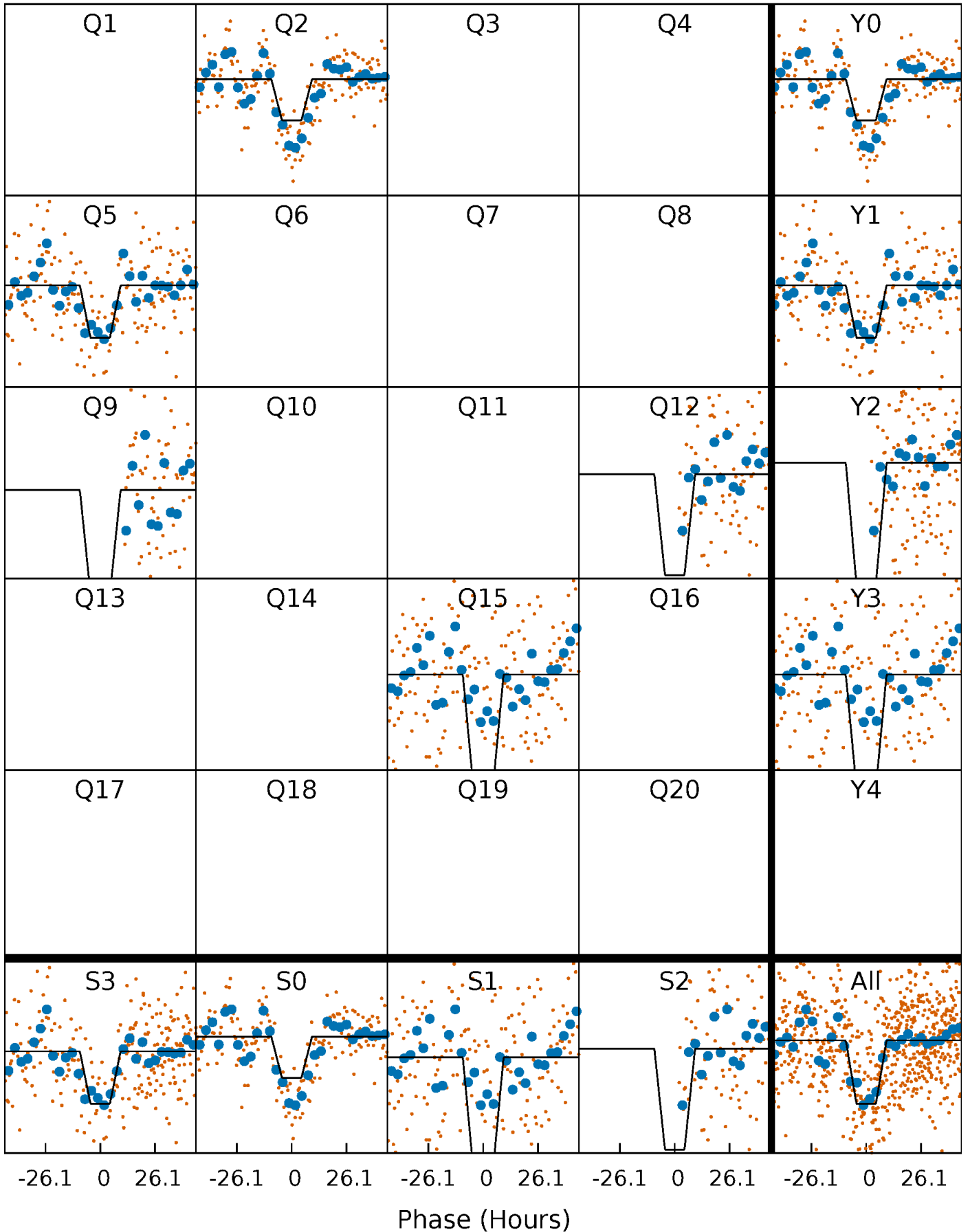
# DV Quarter-Phased Transit Curves

TCE 010337218-01 P=310.640202 Days  $T_0=186.788237$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

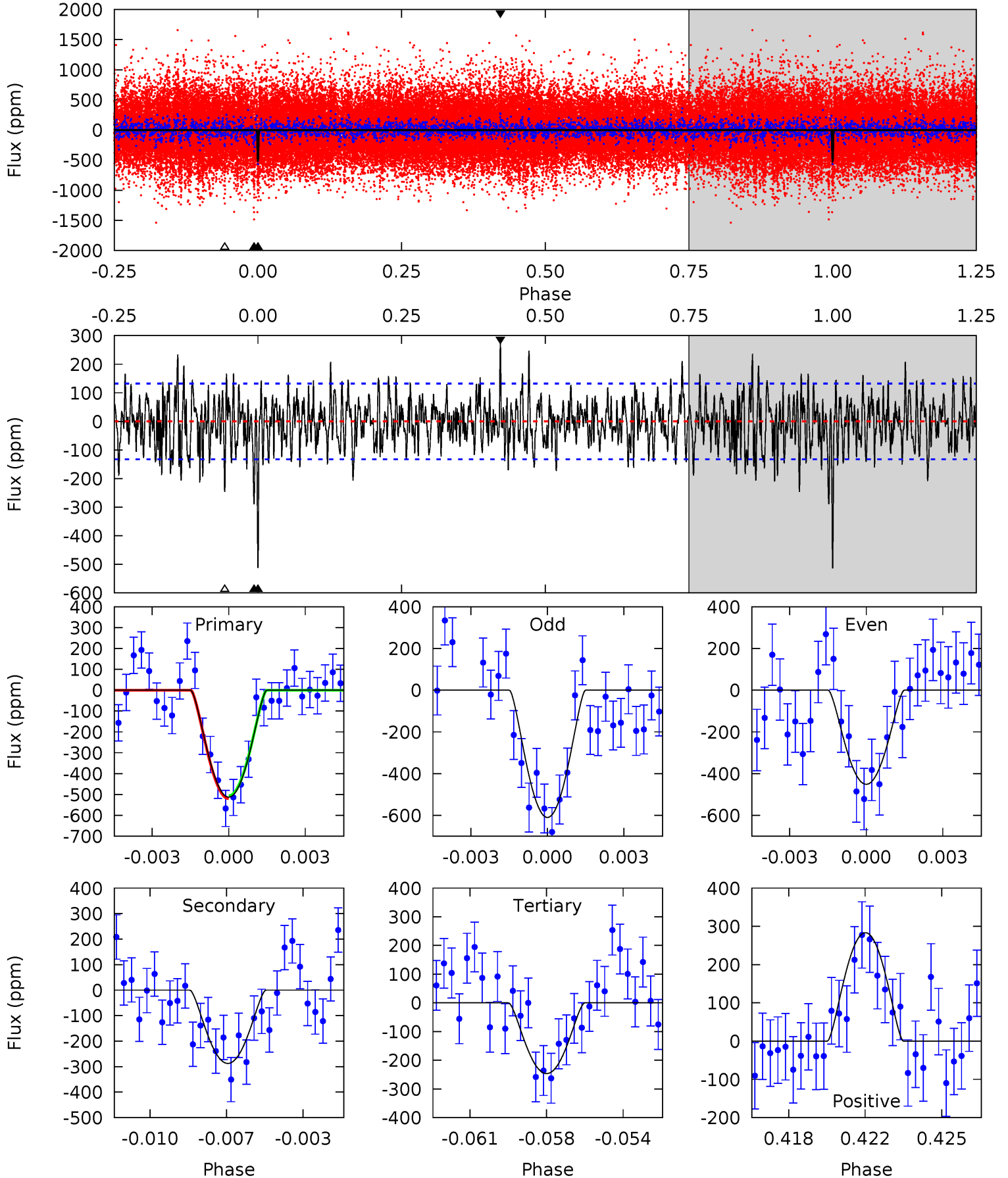
TCE 010337218-01 P=310.665035 Days  $T_0=186.757083$  (BKJD)



# DV Model-Shift Uniqueness Test

010337218-01, P = 310.640202 Days, E = 186.788237 Days

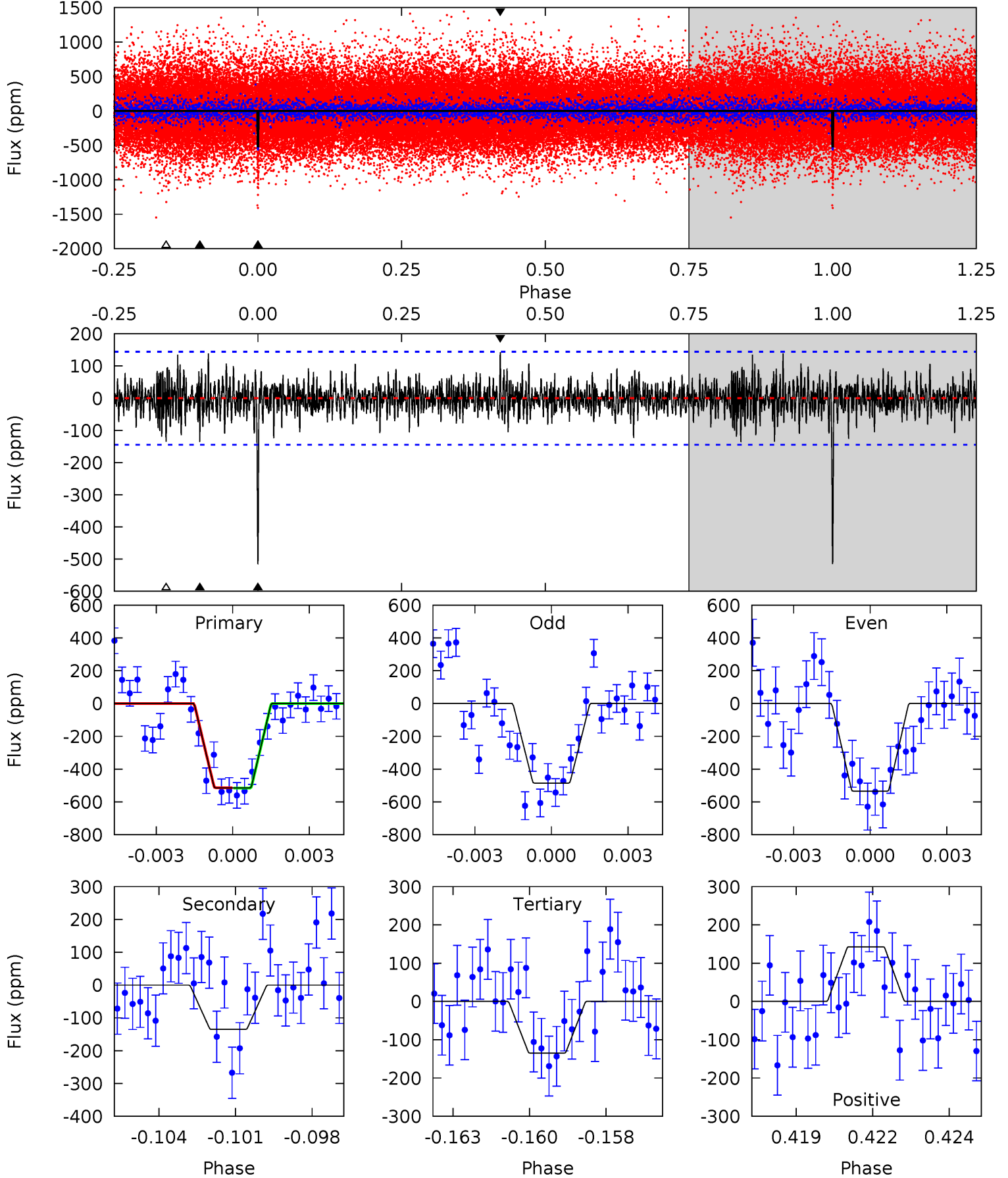
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	11.4	9.73	11.2	5.23	2.93	2.83	10.5	9.05	1.62	0.16	3.07	5.49	0.36	0.26



# Alt Model-Shift Uniqueness Test

010337218-01, P = 310.665035 Days, E = 186.757083 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
18.8	4.93	4.93	5.21	5.28	3.01	1.32	13.9	13.6	0.00	-0.28	0.88	1.14	0.22	0.04



### Stellar Parameters For KIC 010337218

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5411^{+145}_{-145}$	$4.595^{+0.030}_{-0.120}$	$-0.180^{+0.300}_{-0.300}$	$0.774^{+0.137}_{-0.063}$	$0.867^{+0.072}_{-0.099}$	$2.639^{+0.430}_{-0.965}$
	+3%/-3%	+1%/-3%	+167%/-167%	+18%/-8%	+8%/-11%	+16%/-37%
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 010337218-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-287 \pm 25$	$6.06^{+5.16}_{-3.84}$	$323^{+15}_{-11}$	$3225^{+1355}_{-507}$	$3025^{+20889}_{-2141}$
Alt.	$-135 \pm 27$	$4.87^{+5.00}_{-3.55}$	$323^{+15}_{-12}$	$3087^{+1707}_{-545}$	$2266^{+28192}_{-1735}$

$T_{max}$  = 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

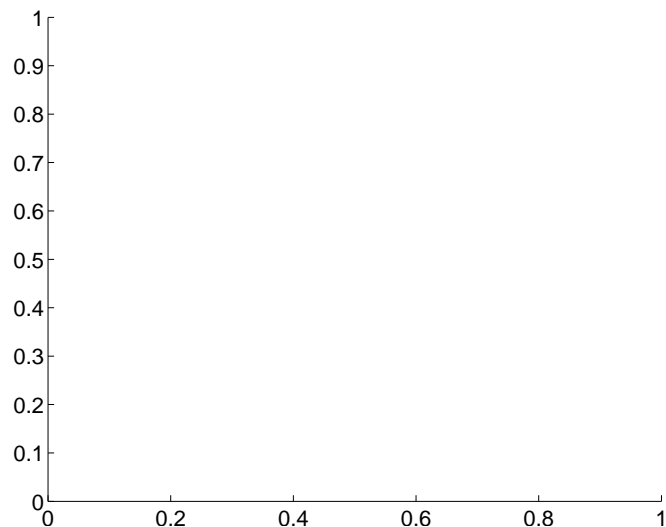
Supplemental centroid analysis for 010337218-01. Kepler magnitude: 14.88. Transit SNR 9.05

There are 0 quarters with good PRF difference image offsets

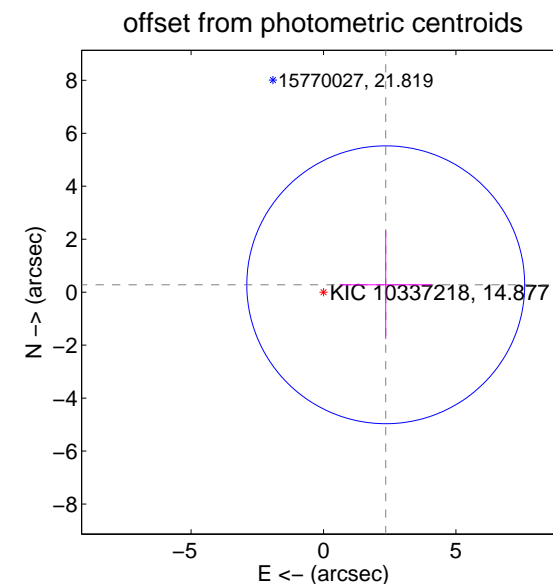
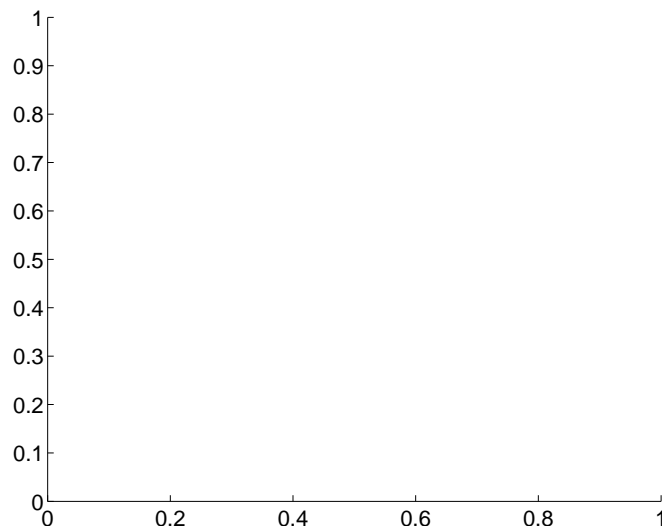
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$2.37 \pm 1.75$	1.35	$-2.35 \pm 1.74$	$0.28 \pm 2.05$

There is no PRF-fit offset from OOT-fit



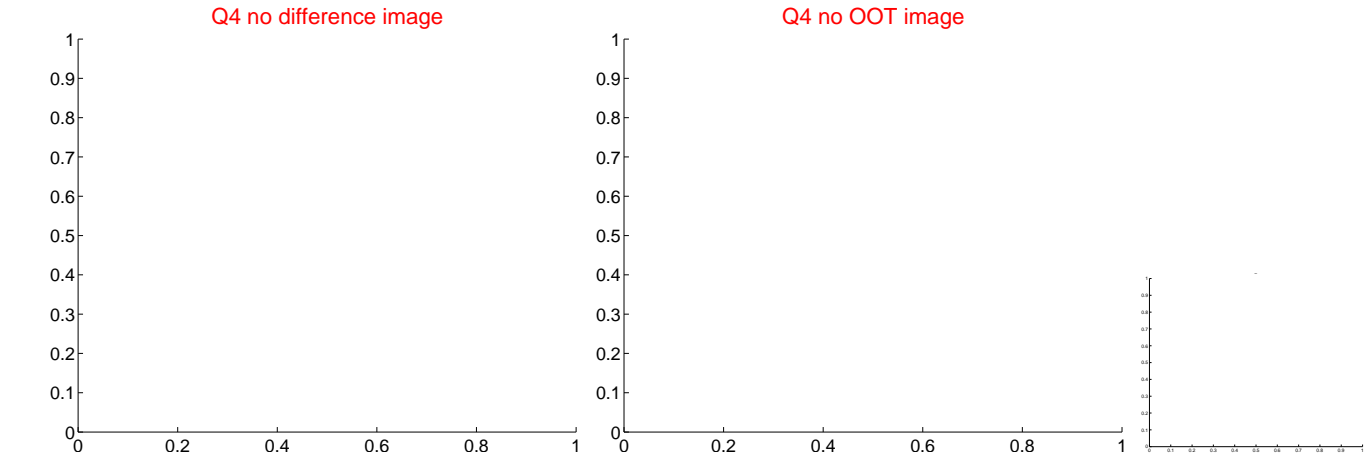
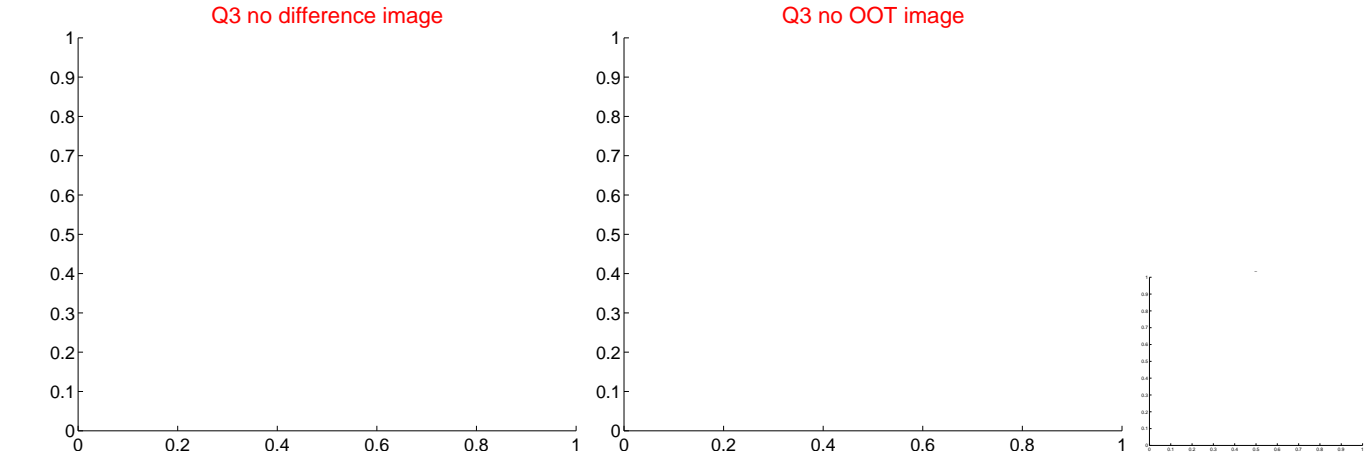
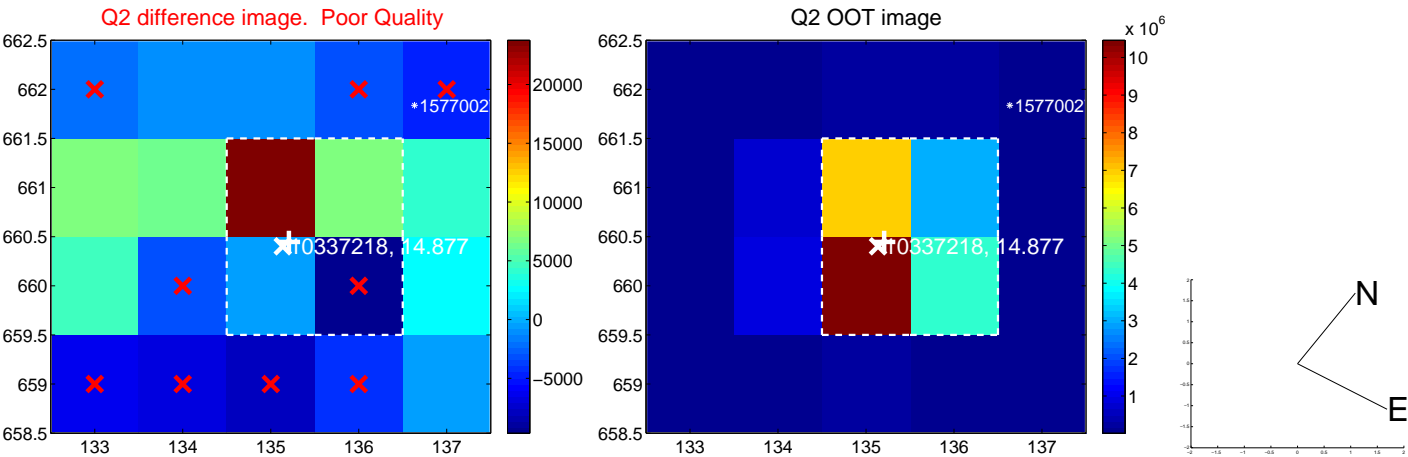
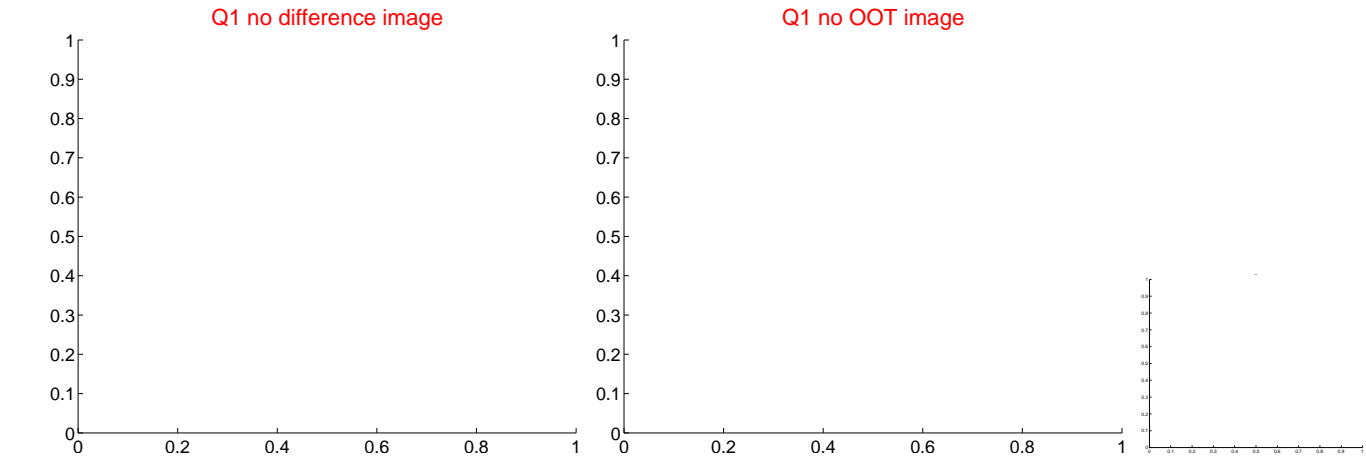
There is no PRF-fit offset from KIC



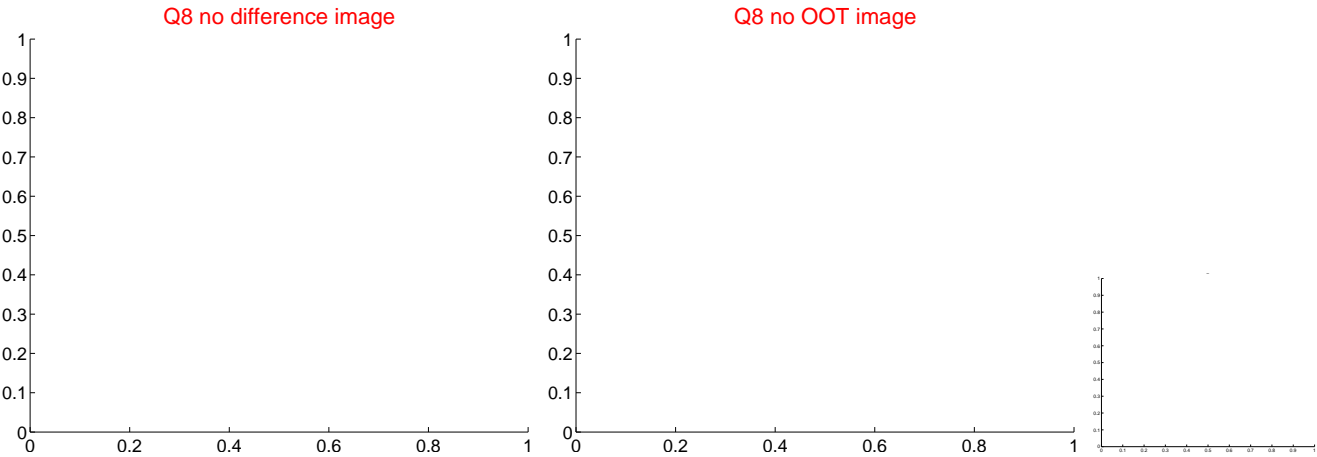
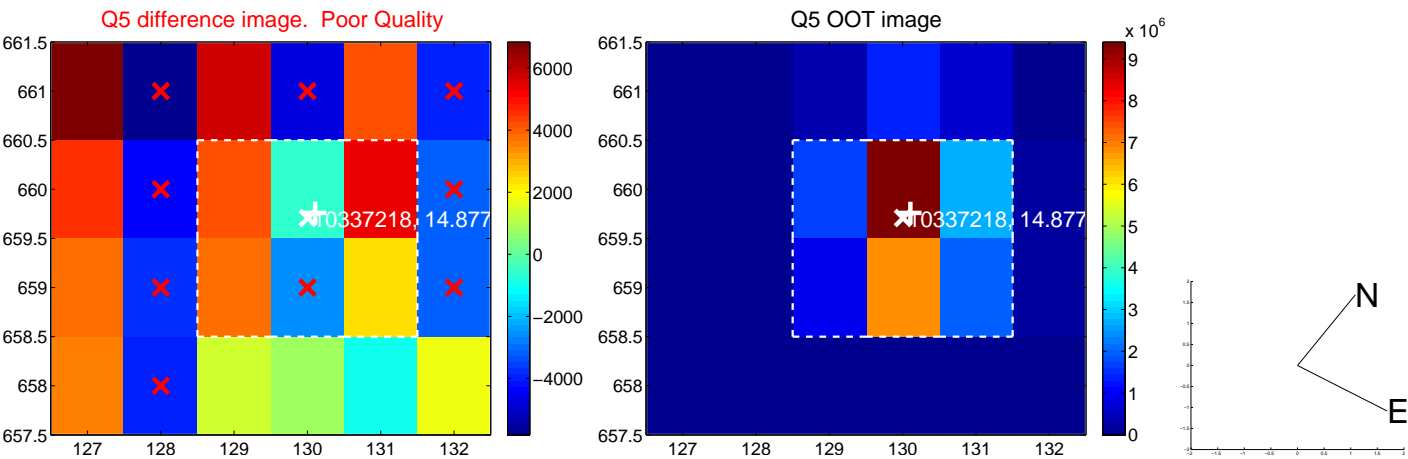
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



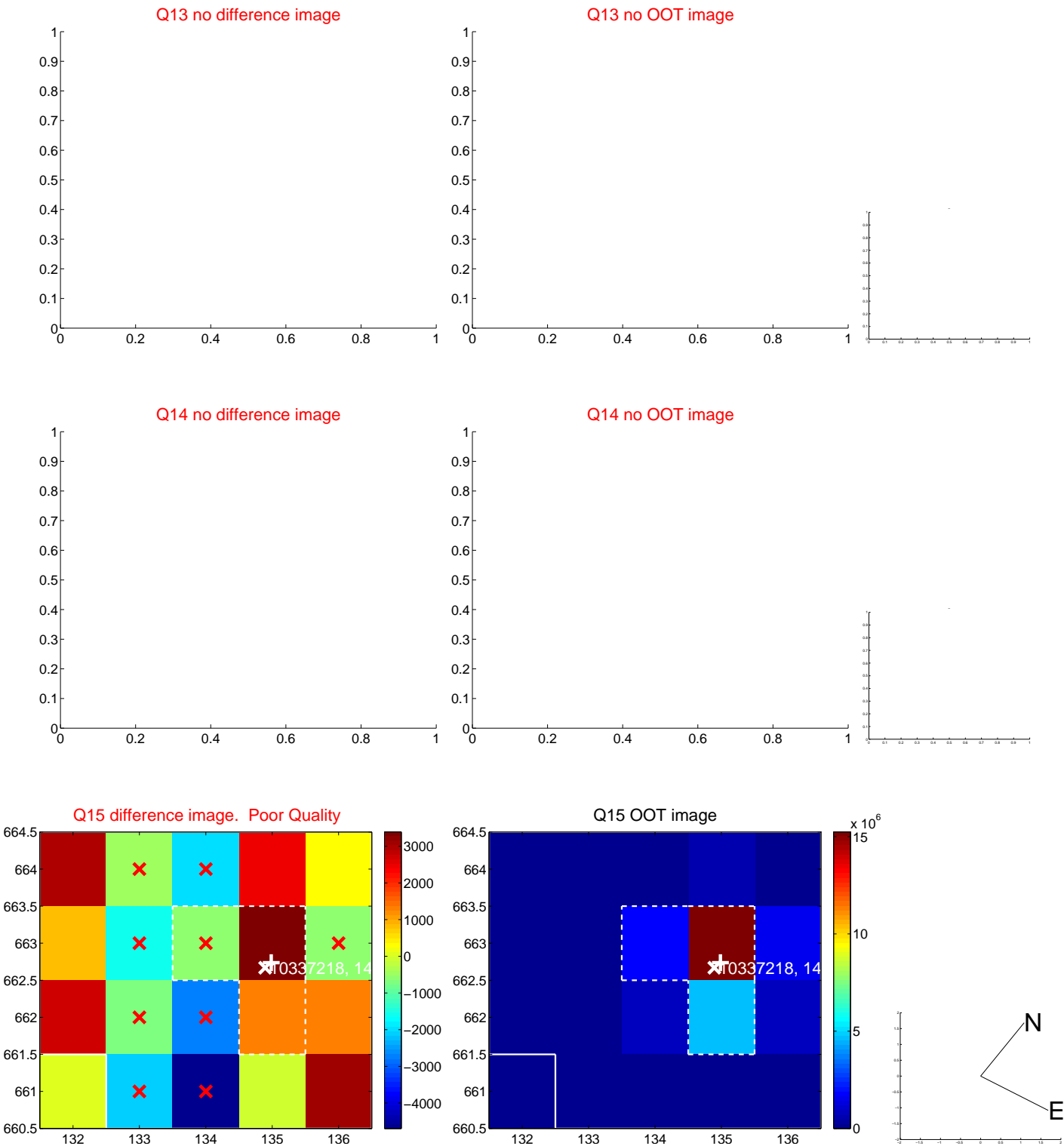
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



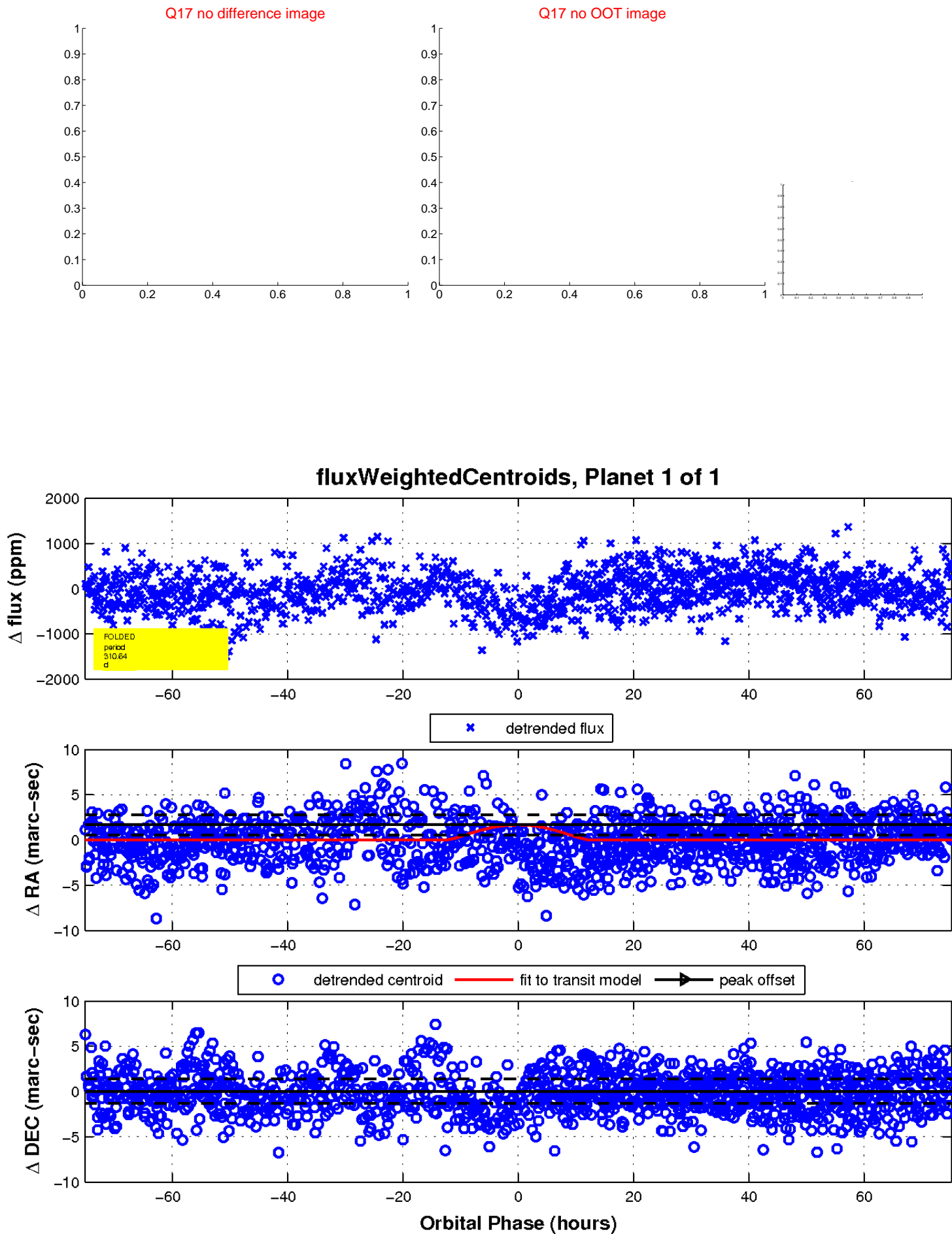
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

