

# KIC 008037743

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008037743-01	OBS	No	553.138521	233.486921	423.4	10.366	8.7	8.0	1.09	6032	2.28	0.80

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008037743-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—ALL_TRANS_CHASES—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.

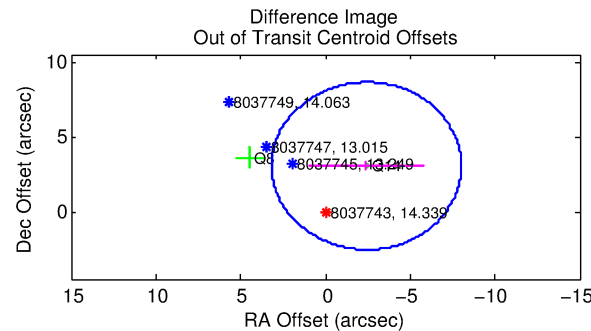
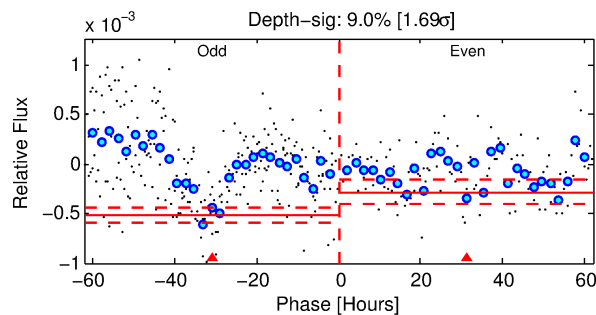
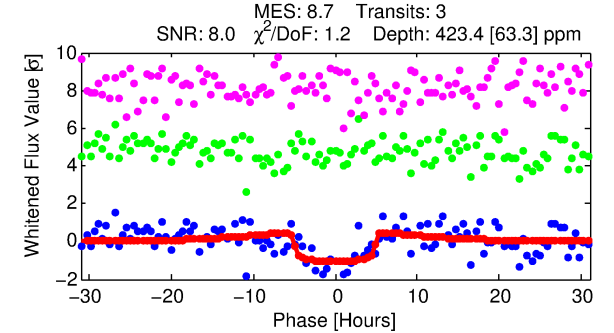
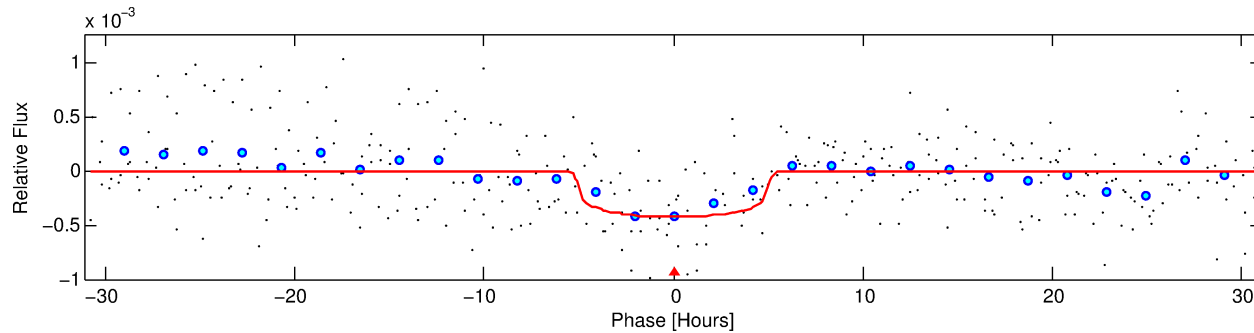
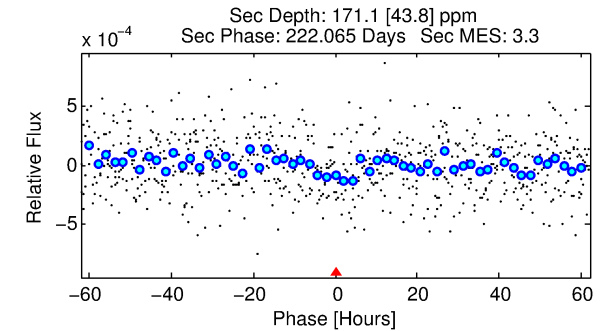
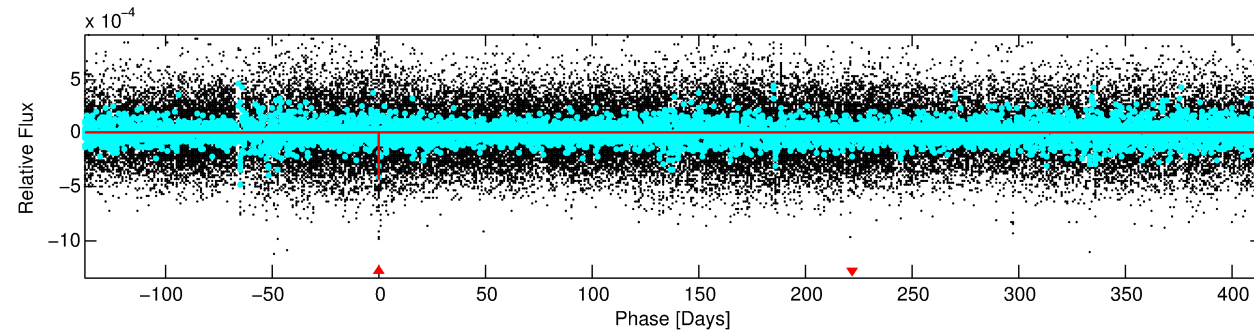
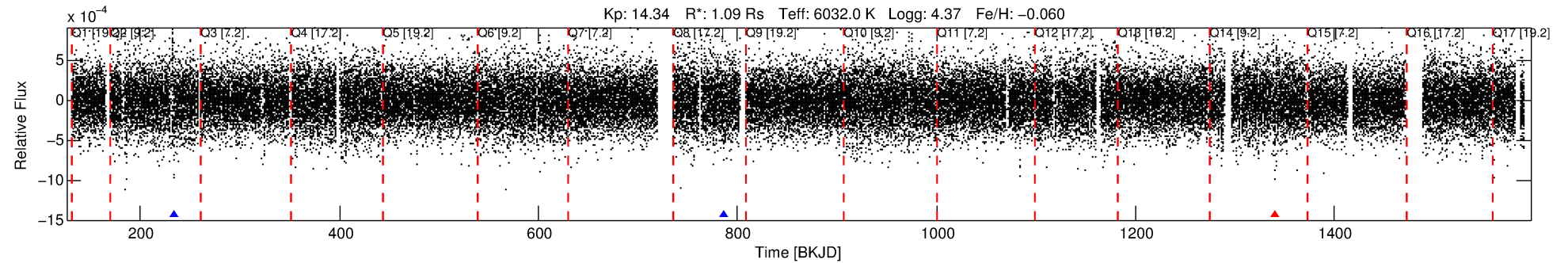
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008037743-01

No Significant Match Found

# DV One-Page Summary

KIC: 8037743 Candidate: 1 of 1 Period: 553.139 d



## DV Fit Results:

Period = 553.13852 [0.01212] d  
Epoch = 233.4869 [0.0156] BKJD  
Rp/R\* = 0.0191 [0.0473]  
a/R\* = 385.89 [4549.46]  
b = 0.38 [27.03]  
Seff = 0.80 [0.31]  
Teff = 241 [23] K  
Rp = 2.28 [5.69] Re  
a = 1.3313 [0.3337] AU  
Ag = 32148.39 [160141.59] [0.20 $\sigma$ ]  
Teffp = 4994 [6205] K [0.77 $\sigma$ ]

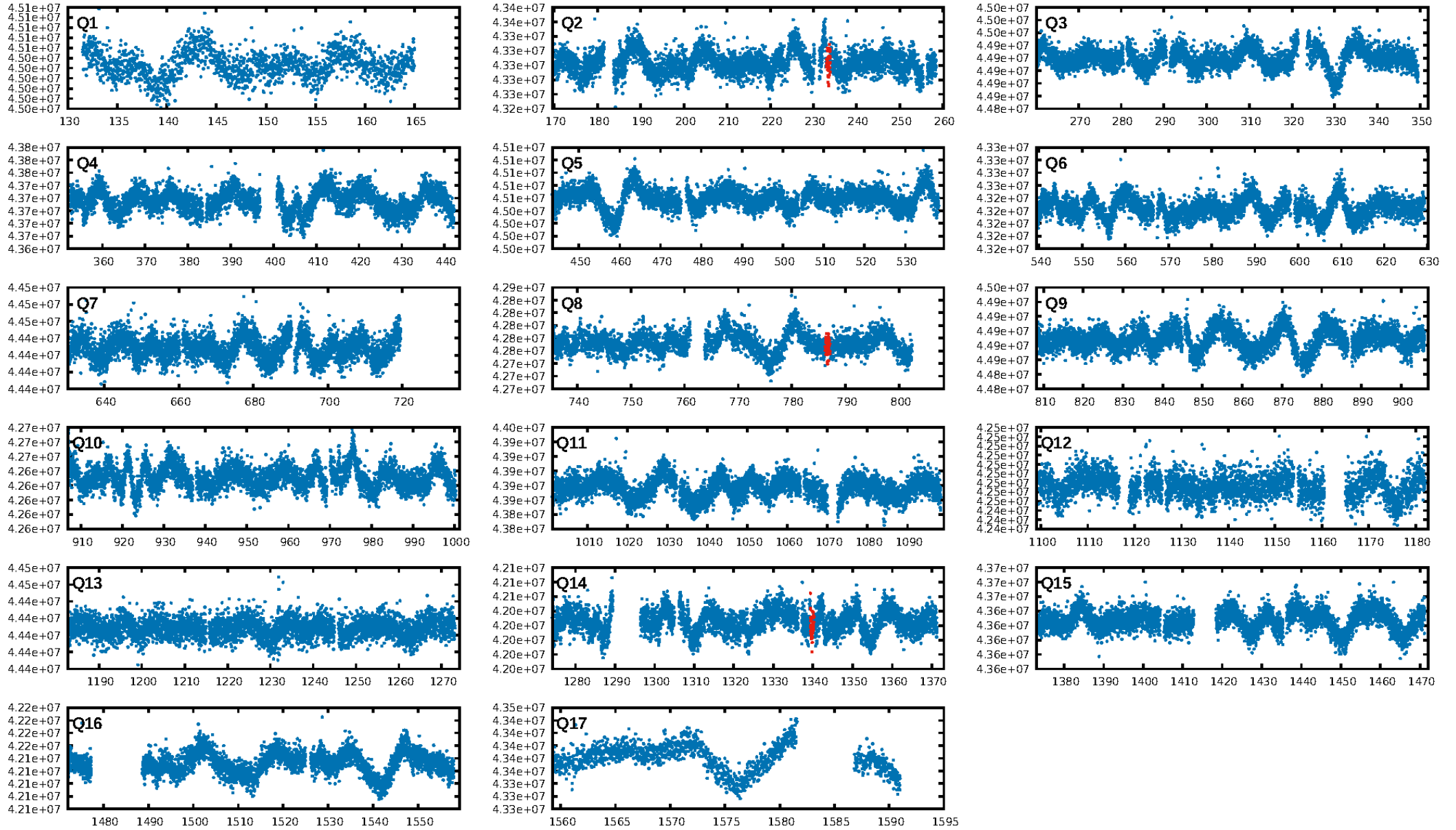
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 17.1%  
ModelChiSquareGof-sig: 90.0%  
Bootstrap-pfa: 2.50e-13  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: 0.3076  
Centroid-sig: 20.3%  
Centroid-so: 3.115 arcsec [1.19 $\sigma$ ]  
OotOffset-rm: 3.890 arcsec [2.09 $\sigma$ ]  
KicOffset-rm: 4.058 arcsec [4.07 $\sigma$ ]  
OotOffset-st: 1/0/1/0 [2]  
KicOffset-st: 1/0/1/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

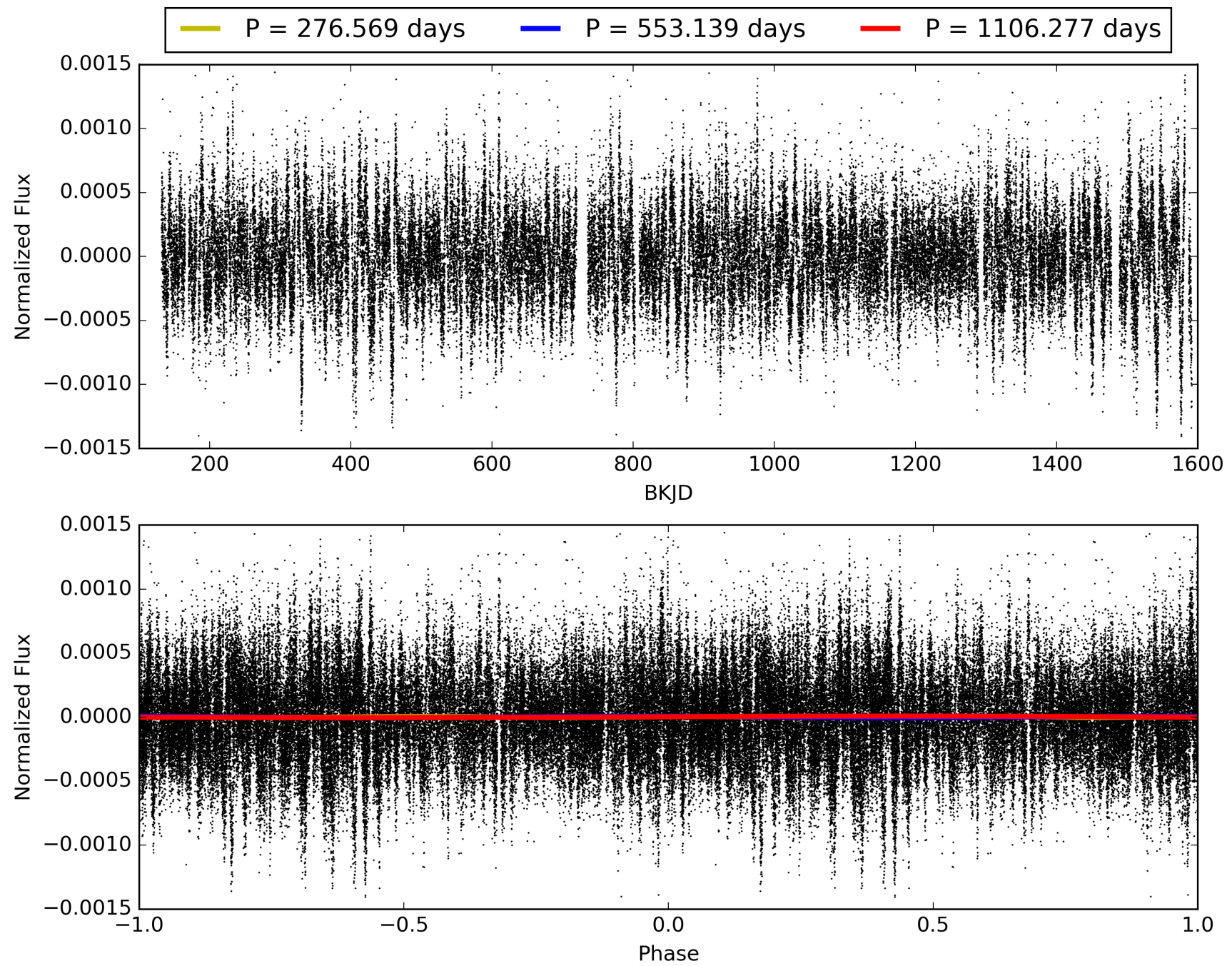
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:04:37 Z

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

# TCE 008037743-01, PDC Light Curves

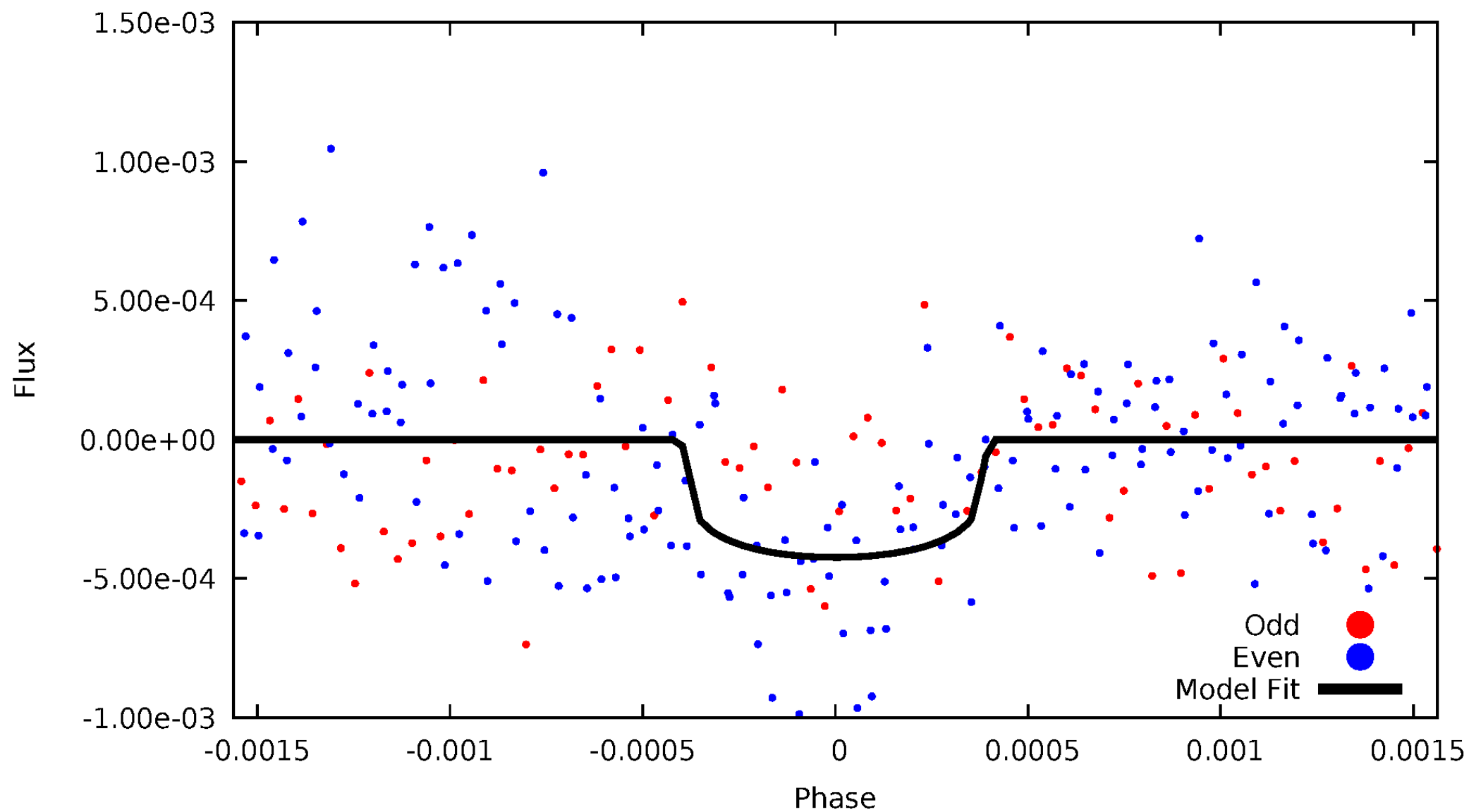


TCE 008037743-01



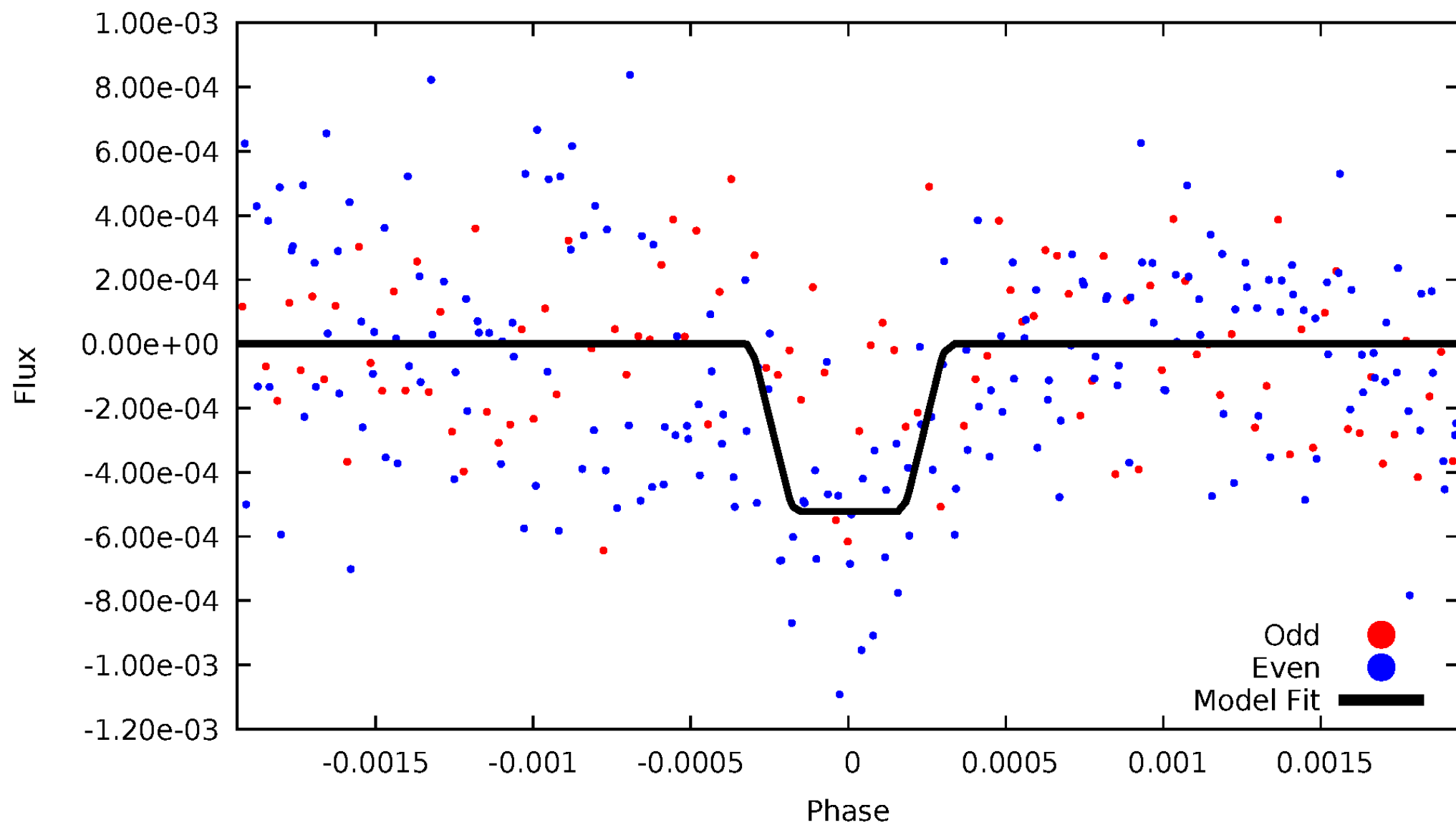
# DV Odd/Even

TCE 008037743-01



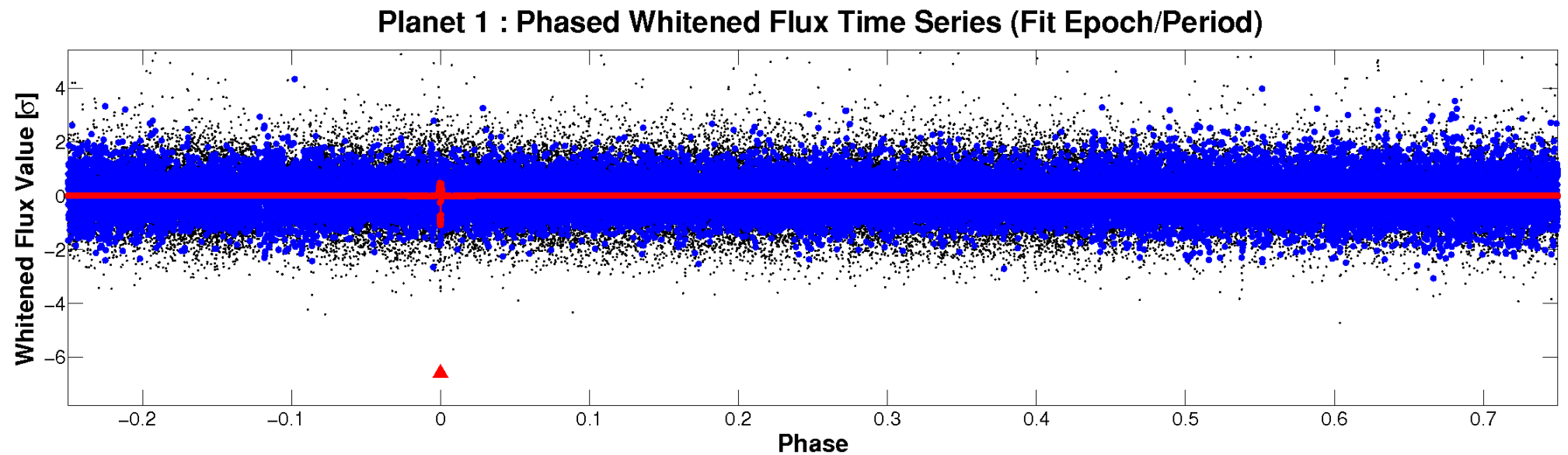
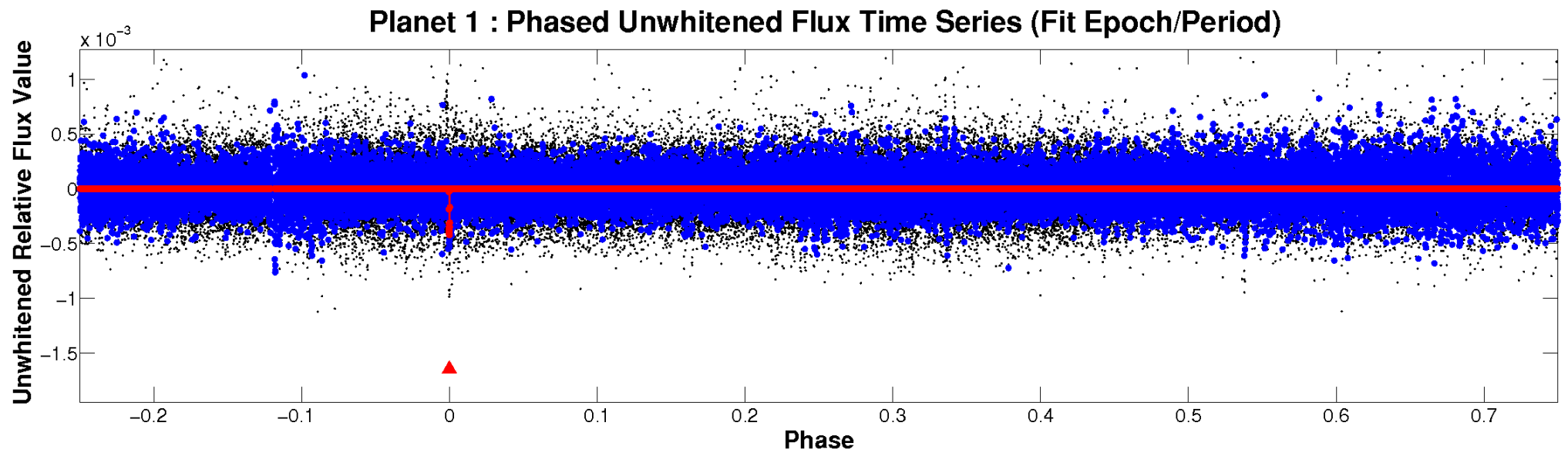
# ALT Odd/Even

TCE 008037743-01



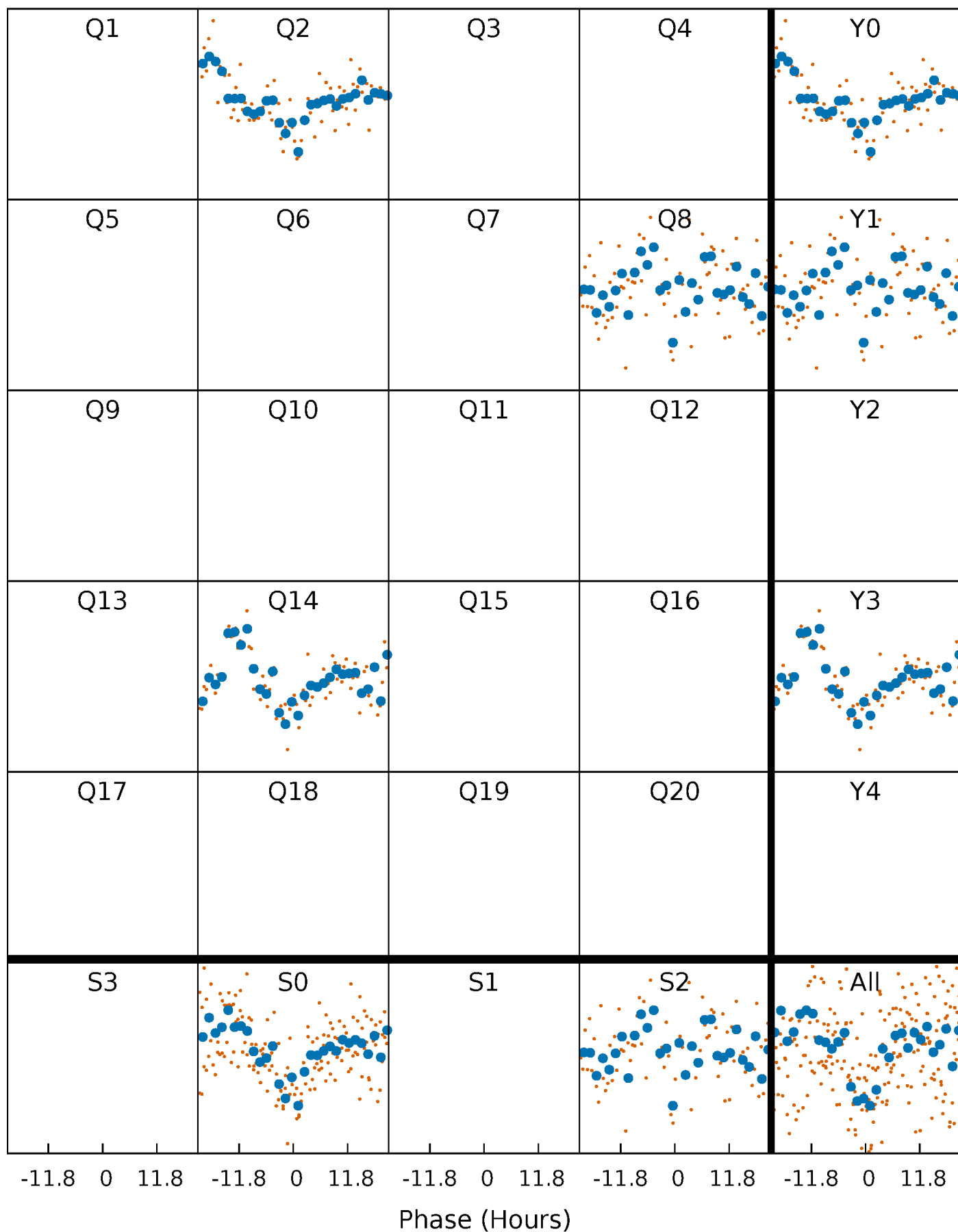


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

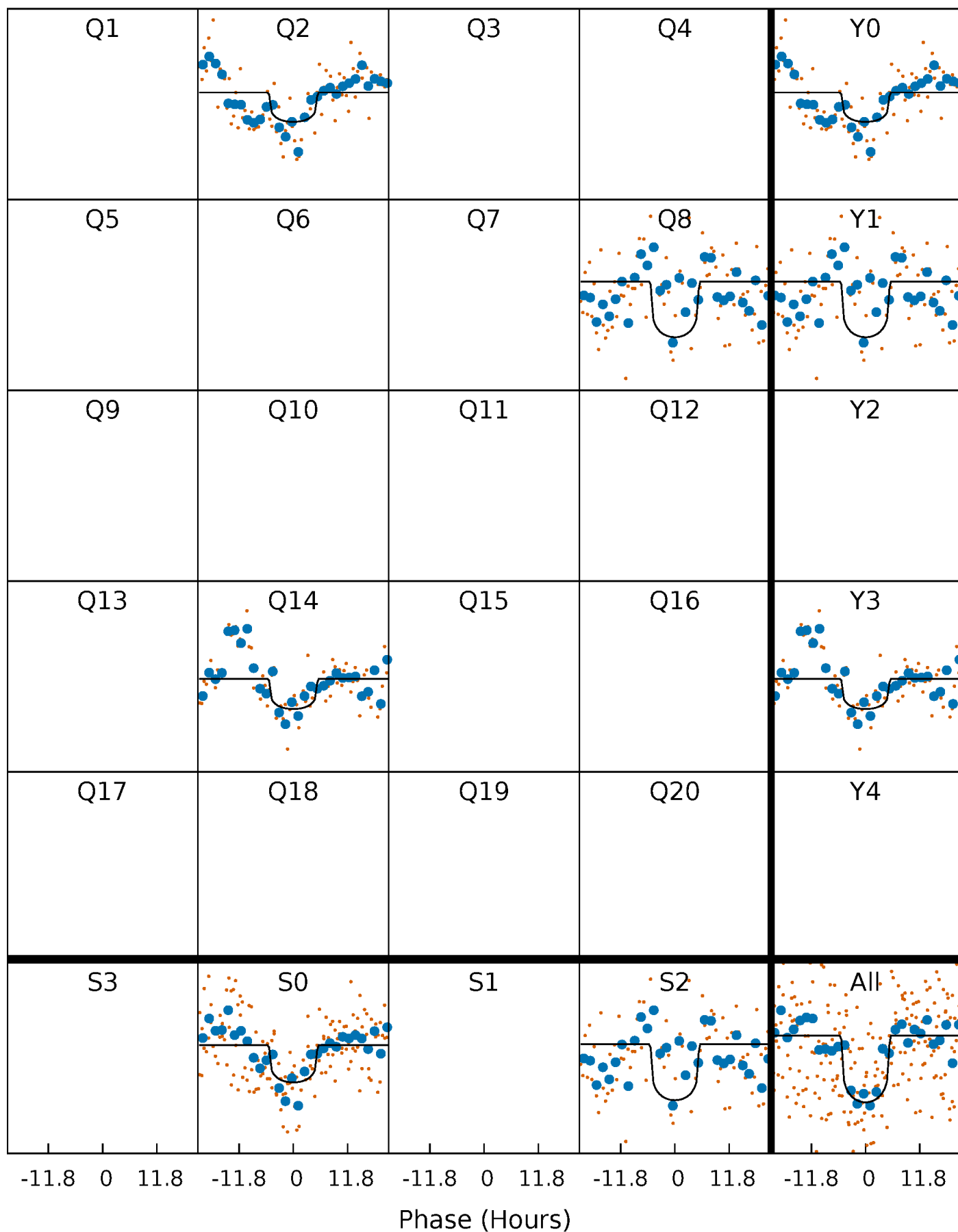
TCE 008037743-01 P=553.138521 Days  $T_0=233.486921$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 008037743-01 P=553.138521 Days  $T_0=233.486921$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

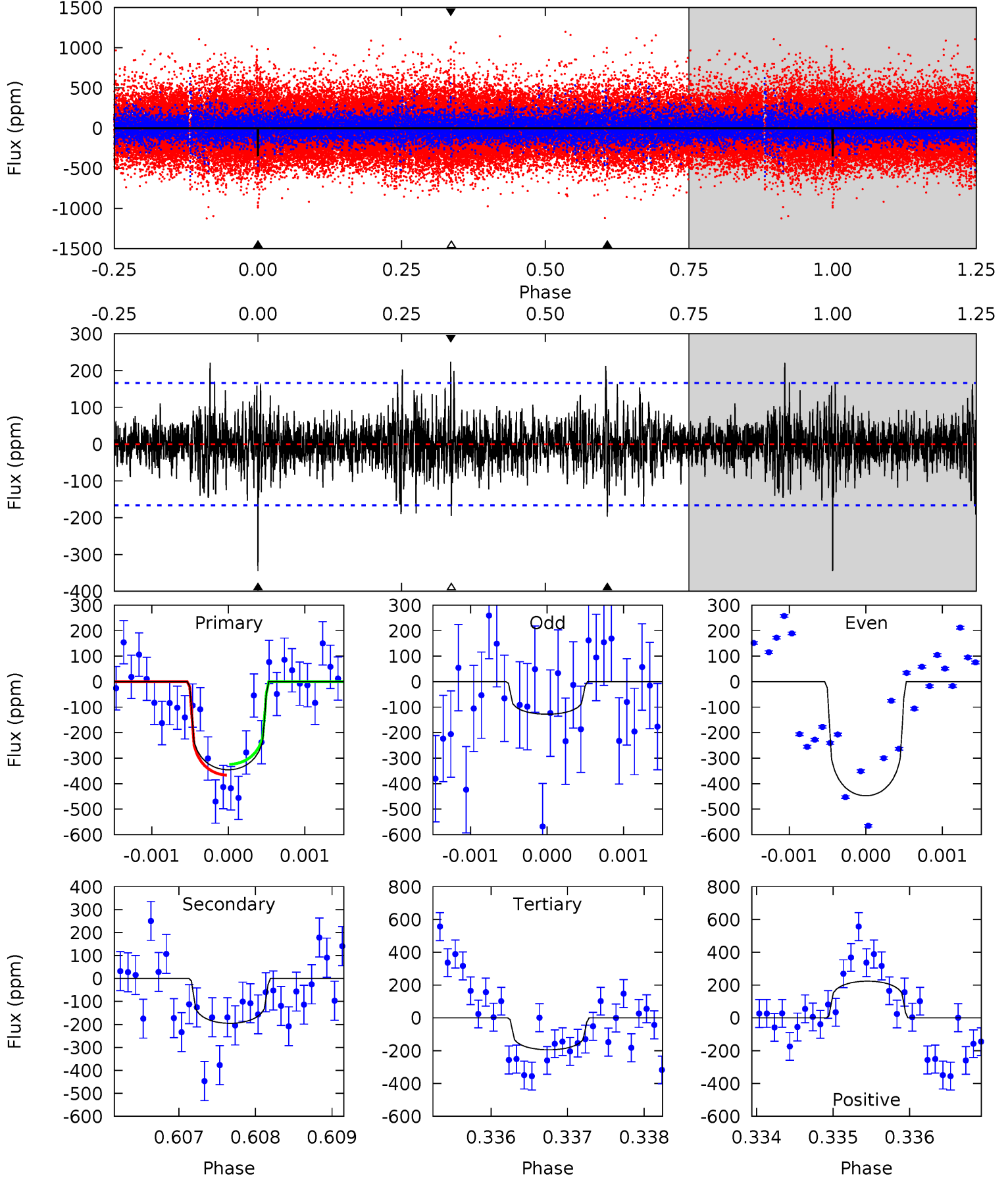
TCE 008037743-01 P=553.116036 Days  $T_0=233.495553$  (BKJD)



# DV Model-Shift Uniqueness Test

008037743-01, P = 553.138521 Days, E = 233.486921 Days

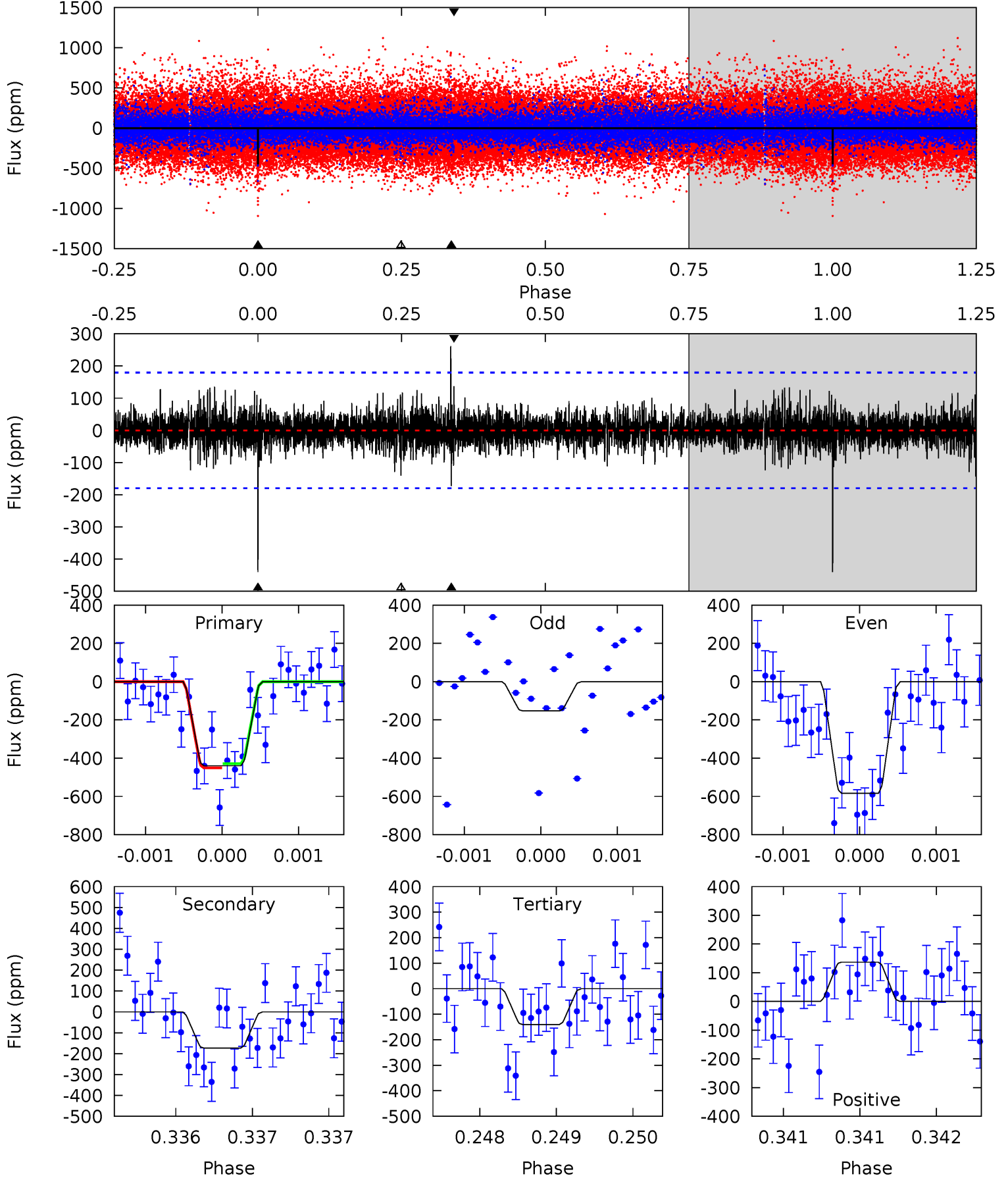
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	6.44	6.43	7.39	5.49	3.36	1.54	4.99	4.03	0.02	-0.94	4.89	0.90	0.39	0.70



# Alt Model-Shift Uniqueness Test

008037743-01, P = 553.116036 Days, E = 233.495553 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
13.5	5.32	4.32	4.21	5.53	3.42	1.05	9.21	9.32	1.01	1.11	6.22	0.77	0.37	0.34



### Stellar Parameters For KIC 008037743

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6032^{+163}_{-199}$	$4.372^{+0.105}_{-0.195}$	$-0.060^{+0.250}_{-0.300}$	$1.094^{+0.330}_{-0.152}$	$1.028^{+0.159}_{-0.130}$	$1.107^{+0.528}_{-0.573}$
	+3%/-3%	+2%/-4%	+417%/-500%	+30%/-14%	+15%/-13%	+48%/-52%
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 008037743-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-195 \pm 30$	$5.07^{+5.16}_{-3.40}$	$340^{+25}_{-19}$	$3859^{+2148}_{-749}$	$7118^{+59554}_{-5344}$
Alt.	$-173 \pm 32$	$5.12^{+4.83}_{-3.49}$	$339^{+28}_{-19}$	$3773^{+2217}_{-714}$	$6250^{+59729}_{-4617}$

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

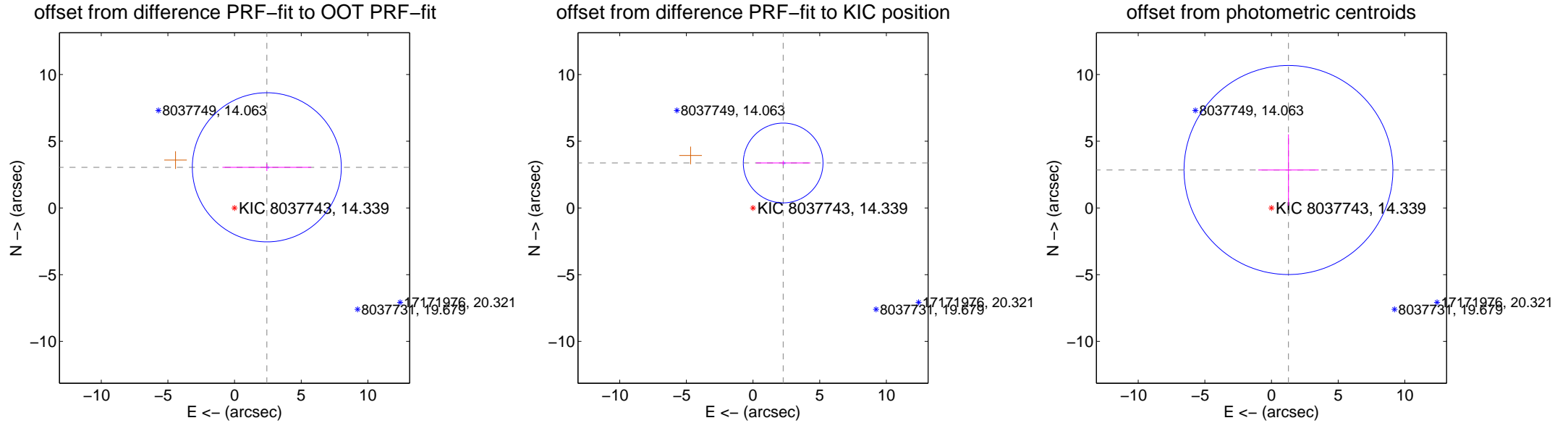
## DV Centroid Data

Supplemental centroid analysis for 008037743-01. Kepler magnitude: 14.34. Transit SNR 8.00

There are 1 quarters with good PRF difference image offsets

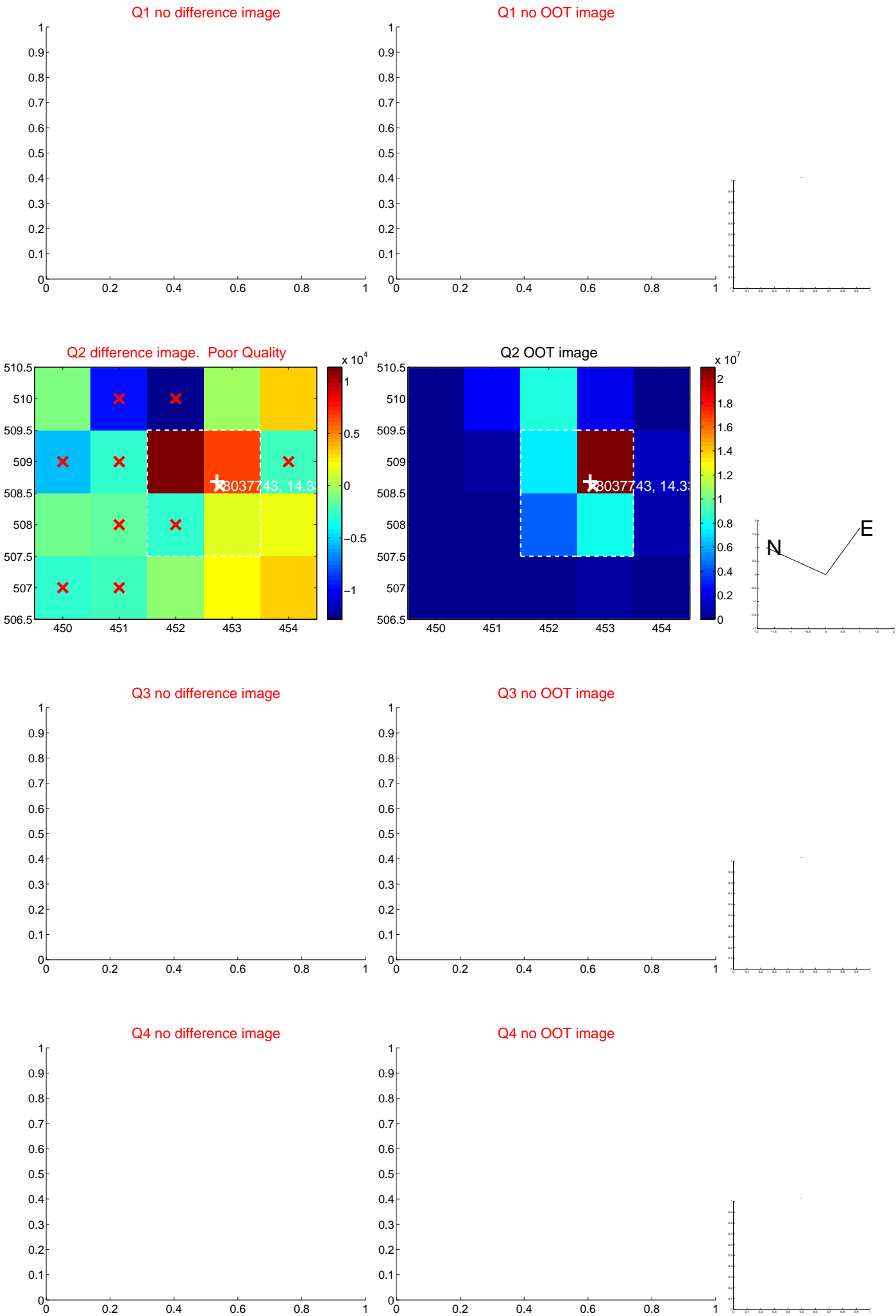
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.890 \pm 1.863$	2.09	$-2.419 \pm 3.329$	$3.046 \pm 0.274$
PRF-fit source offset from KIC position	$4.058 \pm 0.997$	4.07	$-2.259 \pm 2.036$	$3.371 \pm 0.179$
photometric centroid source offset	$3.12 \pm 2.61$	1.19	$-1.27 \pm 2.27$	$2.84 \pm 2.67$



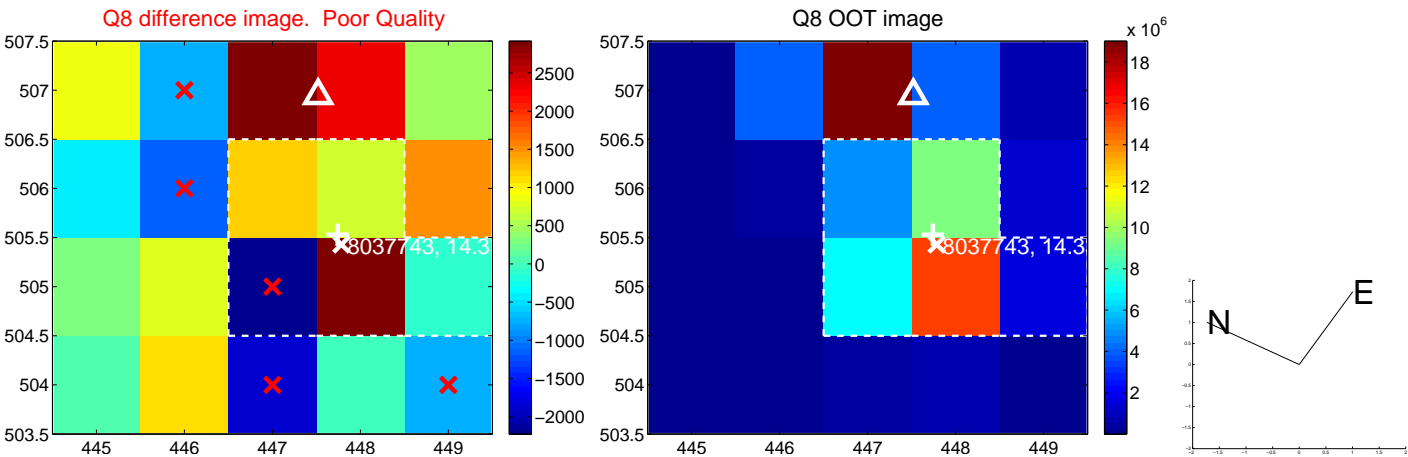
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

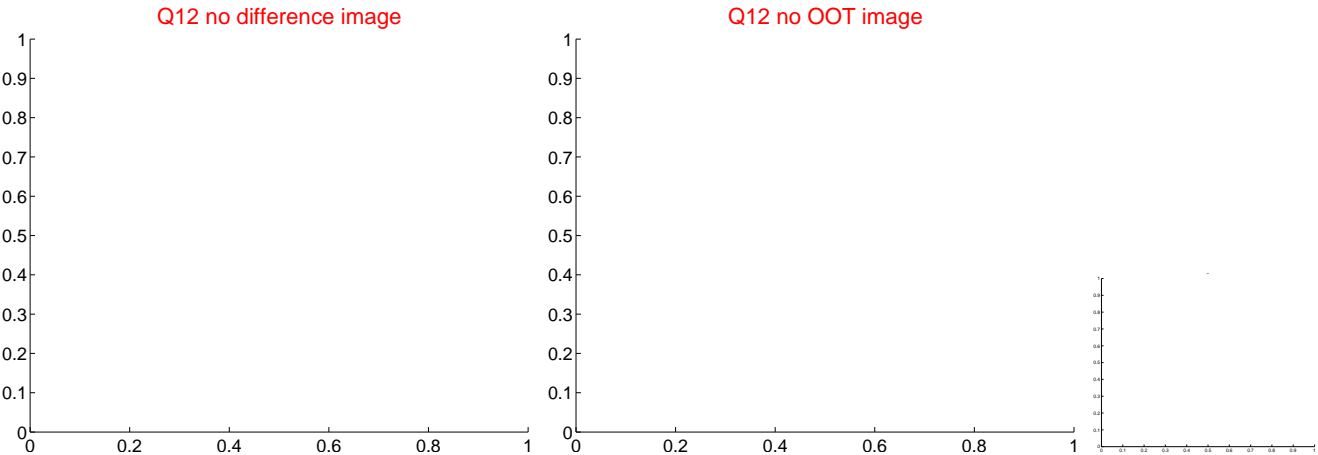
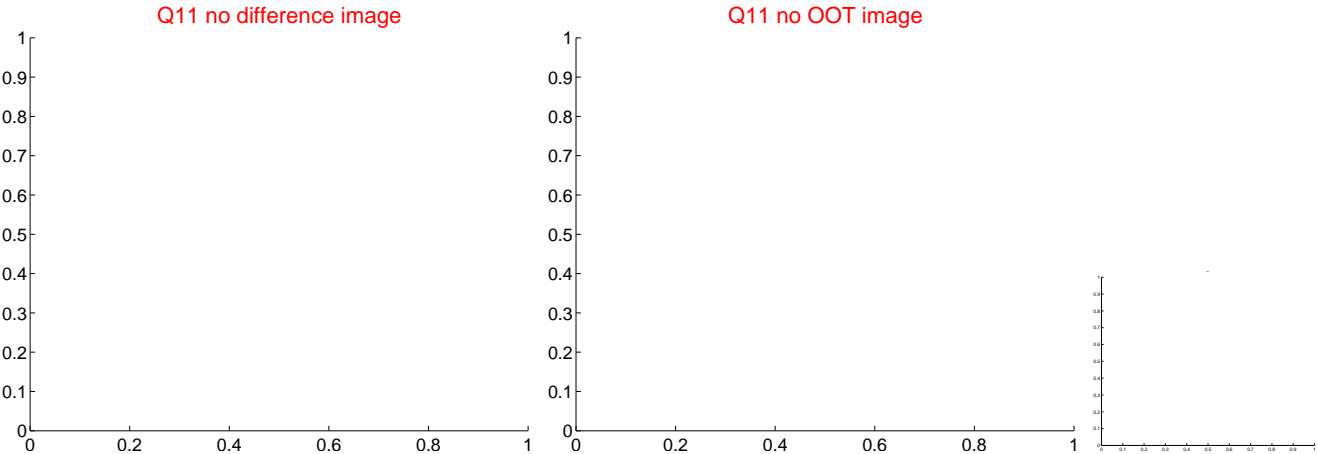
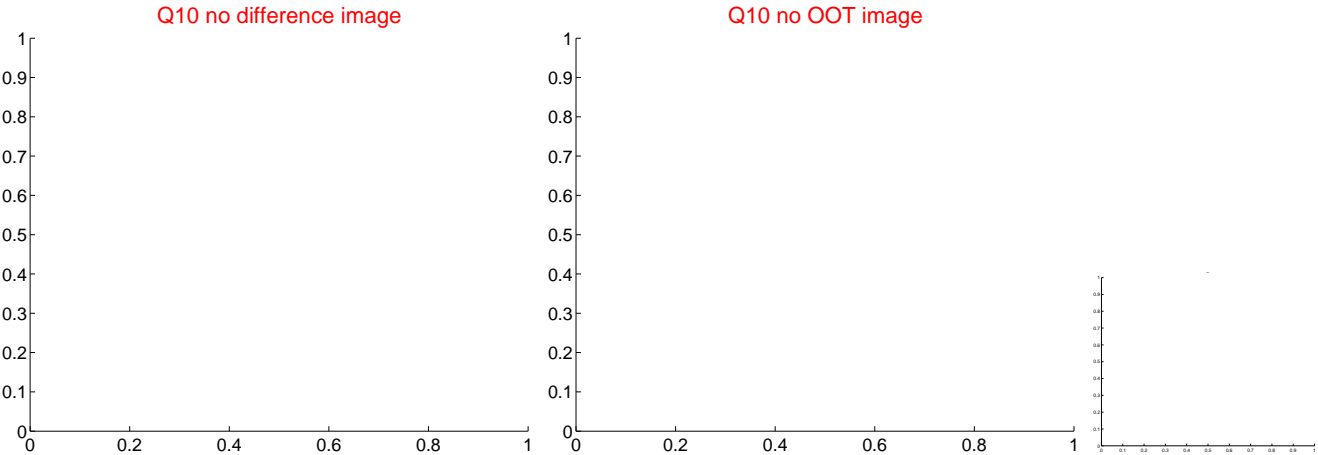
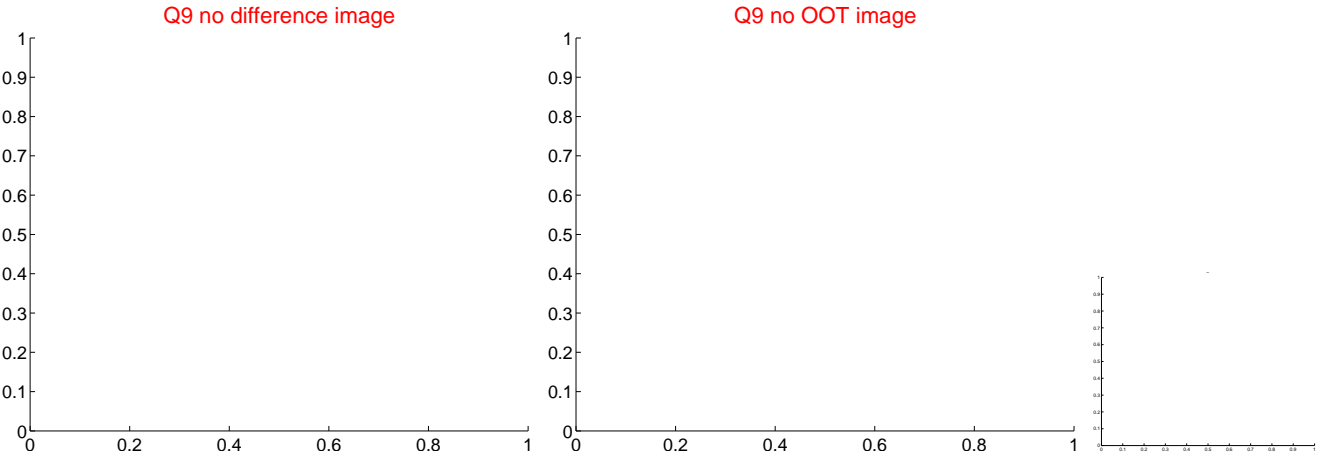




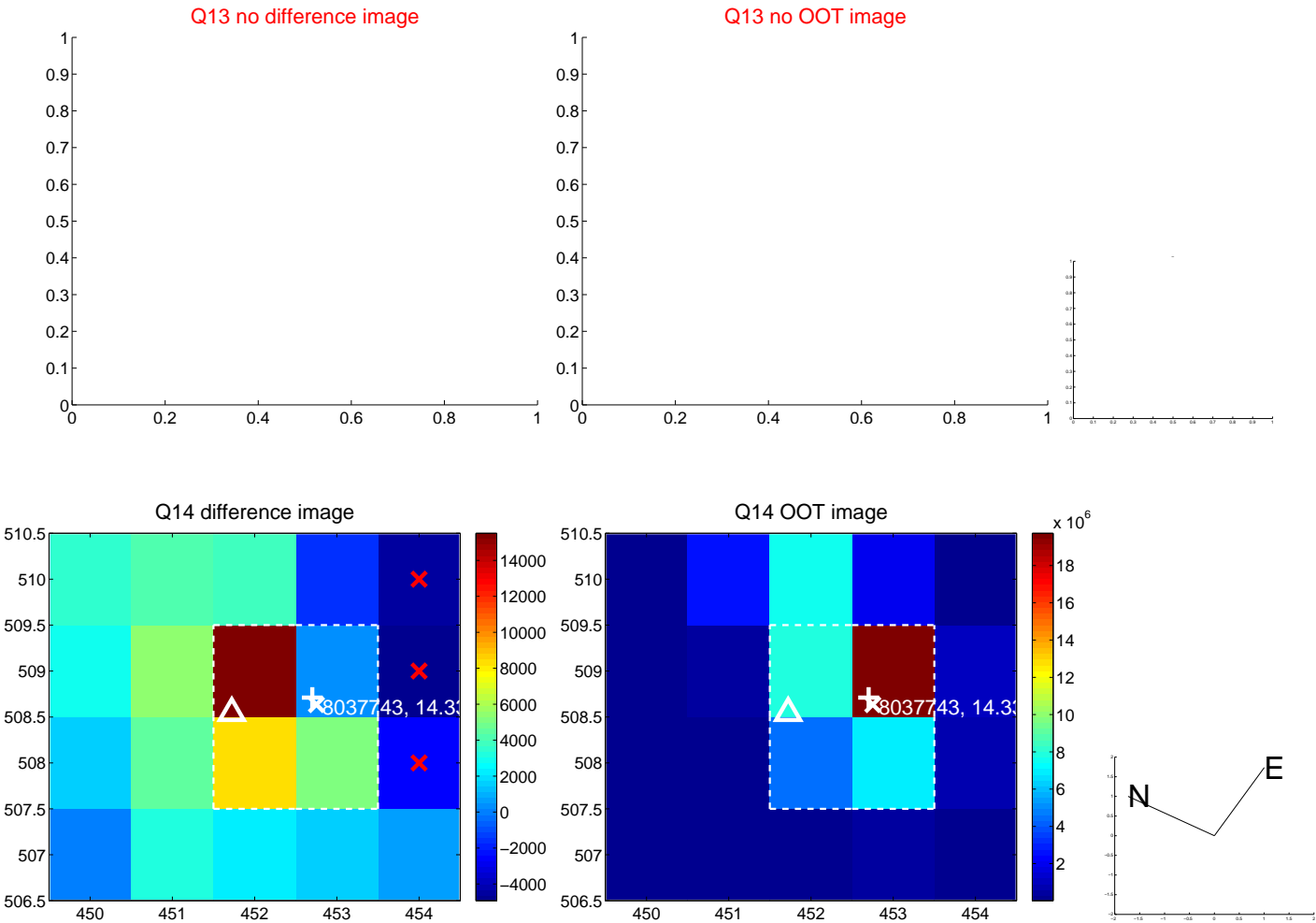
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



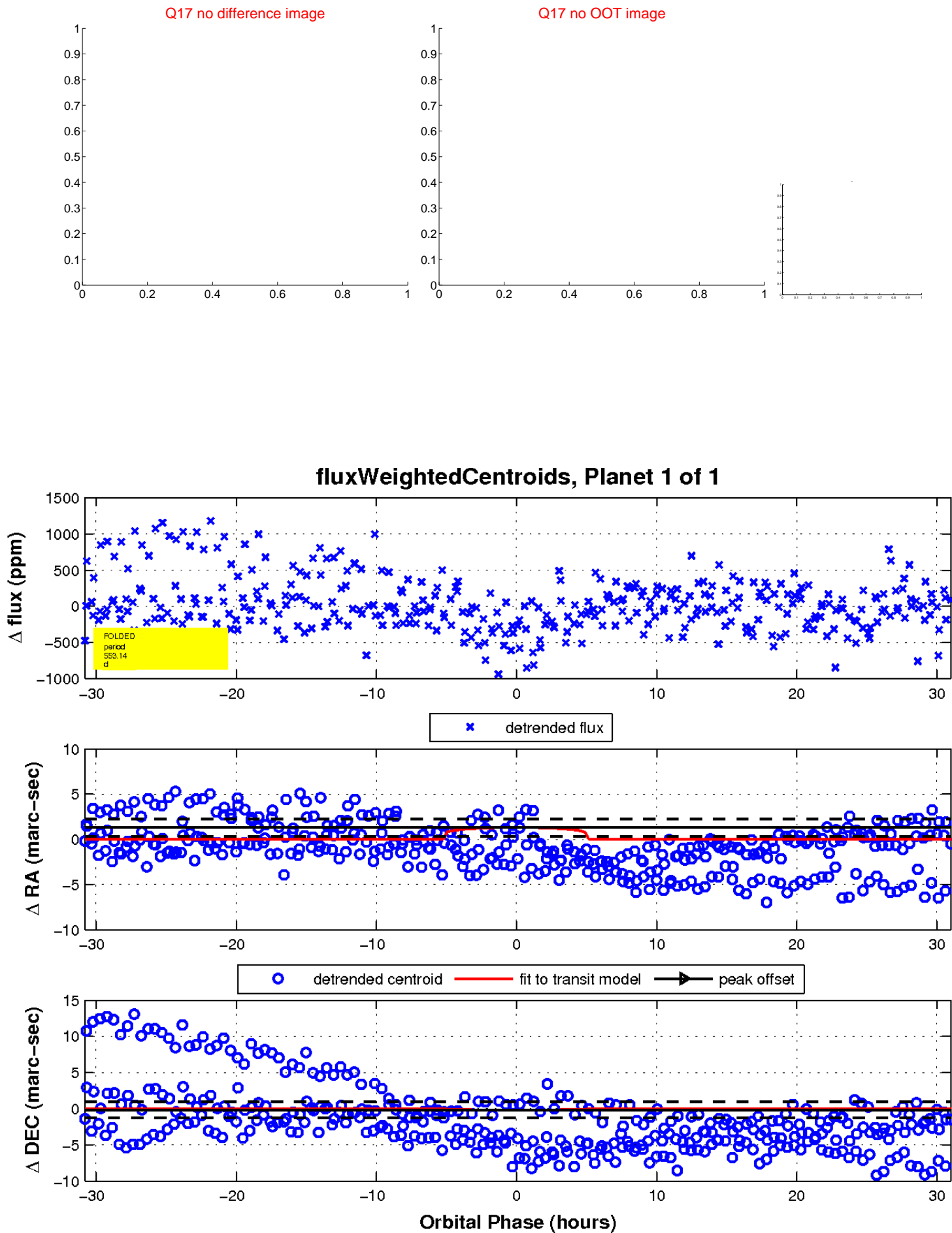
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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

