

# KIC 008752053

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008752053-01	OBS	No	511.847132	377.162218	223.8	21.400	8.8	7.7	0.89	5713	1.42	0.48

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752053-01	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.

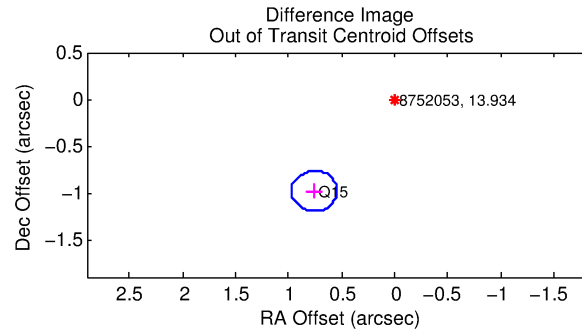
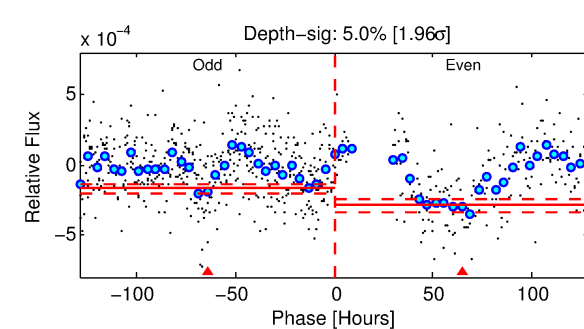
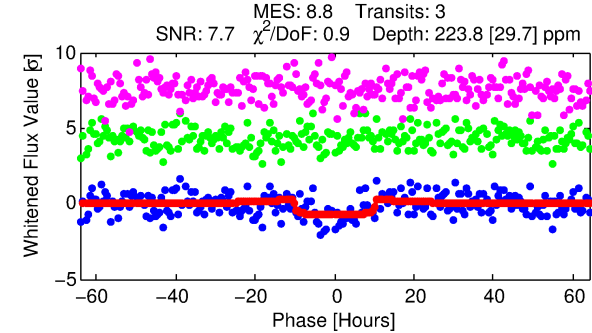
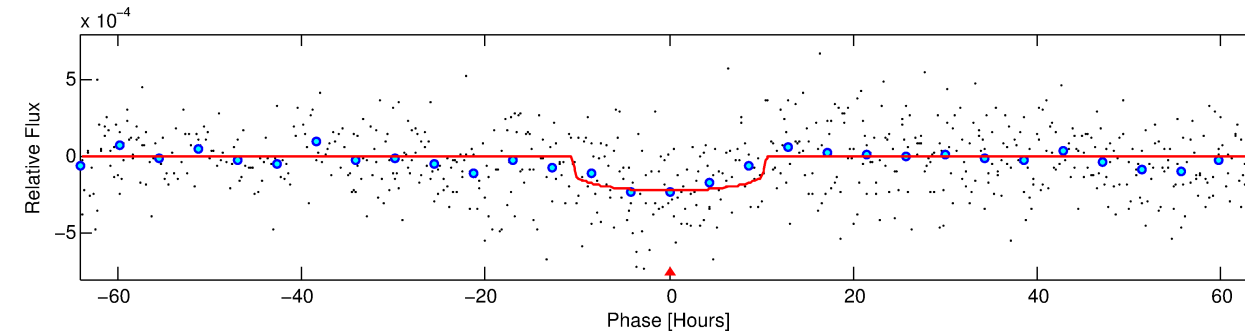
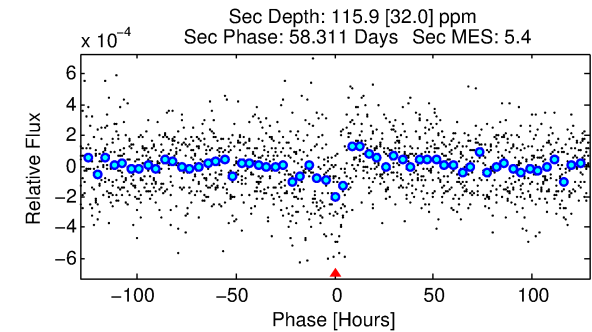
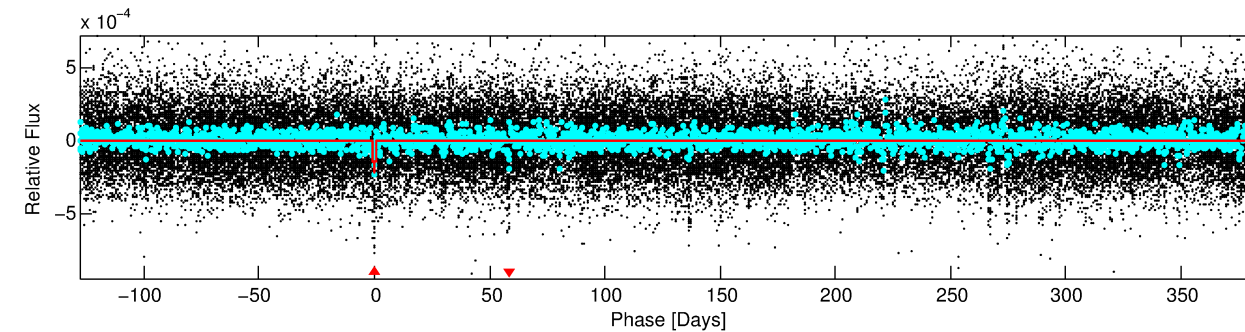
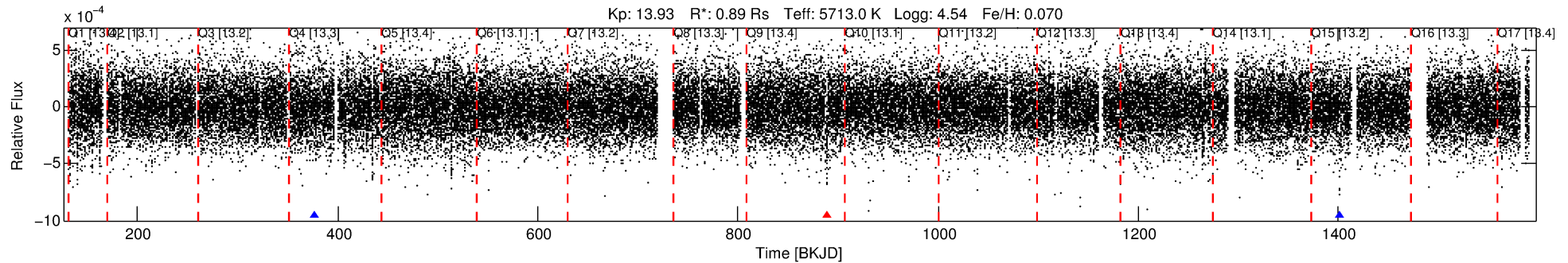
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008752053-01

No Significant Match Found

# DV One-Page Summary

KIC: 8752053 Candidate: 1 of 1 Period: 511.847 d



## DV Fit Results:

Period = 511.84713 [0.01838] d  
Epoch = 377.1622 [0.0245] BKJD  
Rp/R\* = 0.0145 [0.0057]  
a/R\* = 138.30 [230.60]  
b = 0.68 [1.35]  
Seff = 0.48 [0.16]  
Teq = 212 [17] K  
Rp = 1.41 [0.64] Re  
a = 1.2571 [0.2487] AU  
Ag = 50359.34 [44594.30] [1.13σ]  
Teffp = 4920 [1036] K [4.54σ]

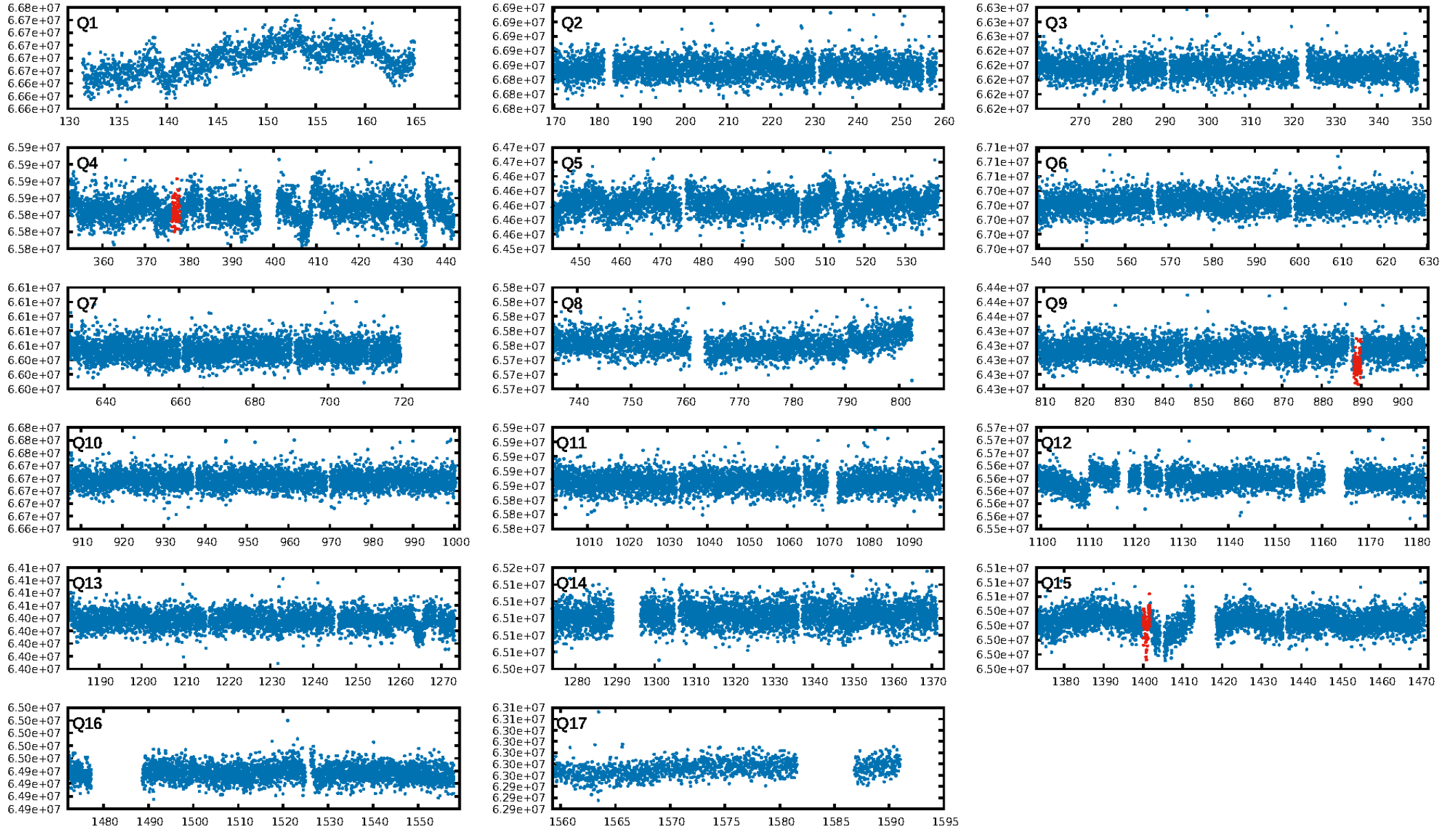
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 5.61e-13  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: 0.7906  
Centroid-sig: 0.0%  
Centroid-so: 4.231 arcsec [2.31σ]  
OotOffset-rm: 1.239 arcsec [17.28σ]  
KicOffset-rm: 1.172 arcsec [16.36σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

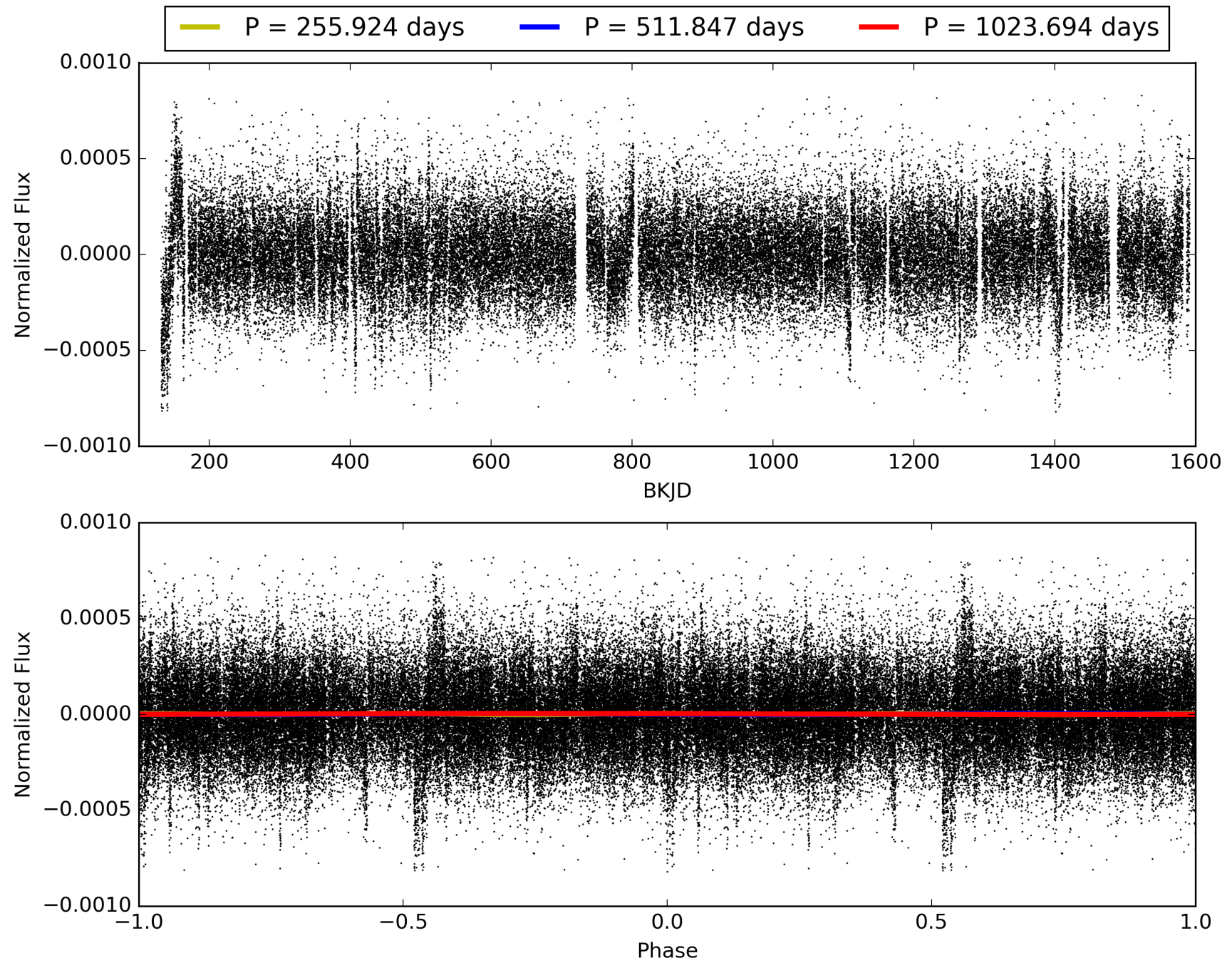
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:46:23 Z

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

# TCE 008752053-01, PDC Light Curves

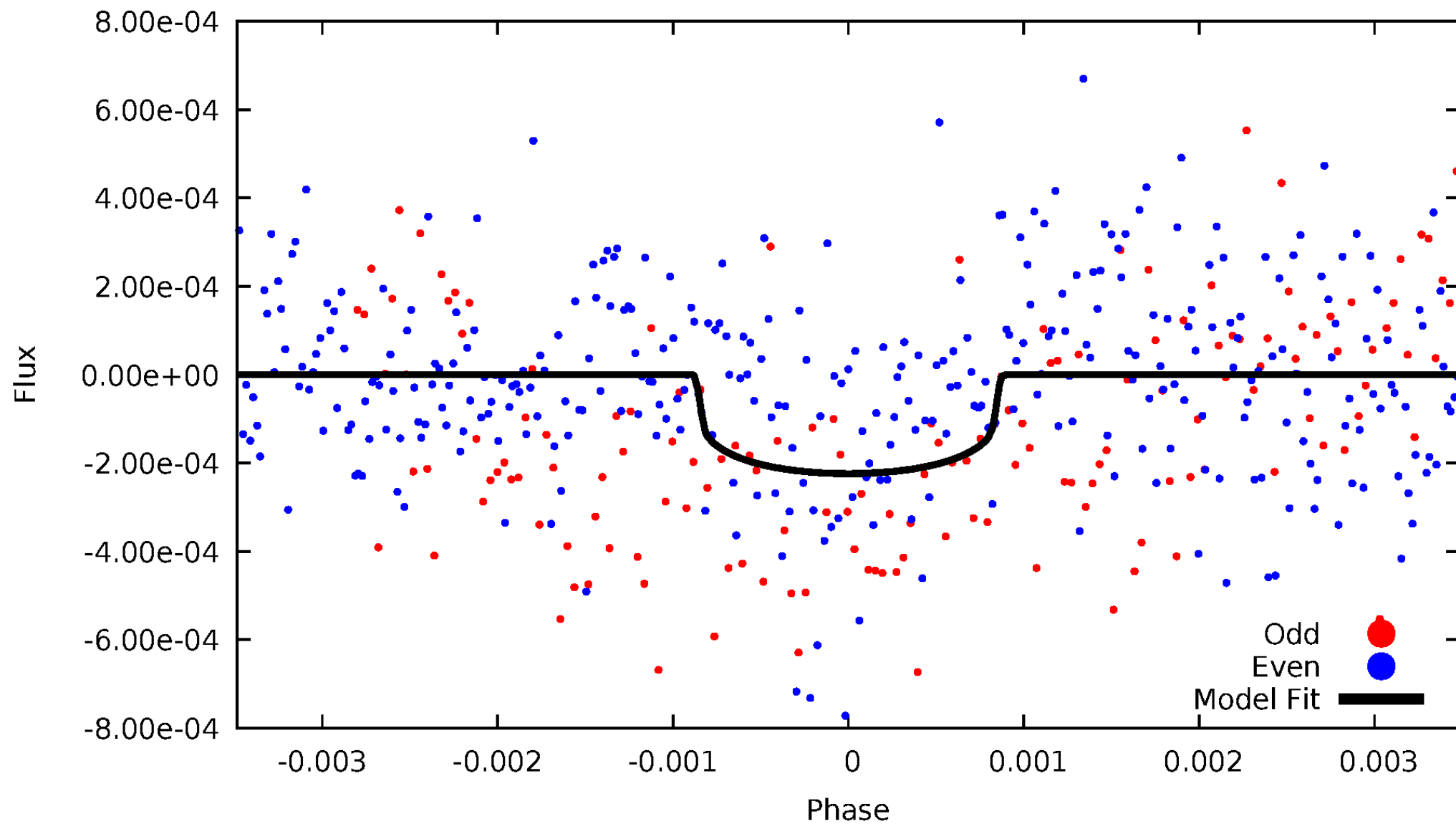


TCE 008752053-01



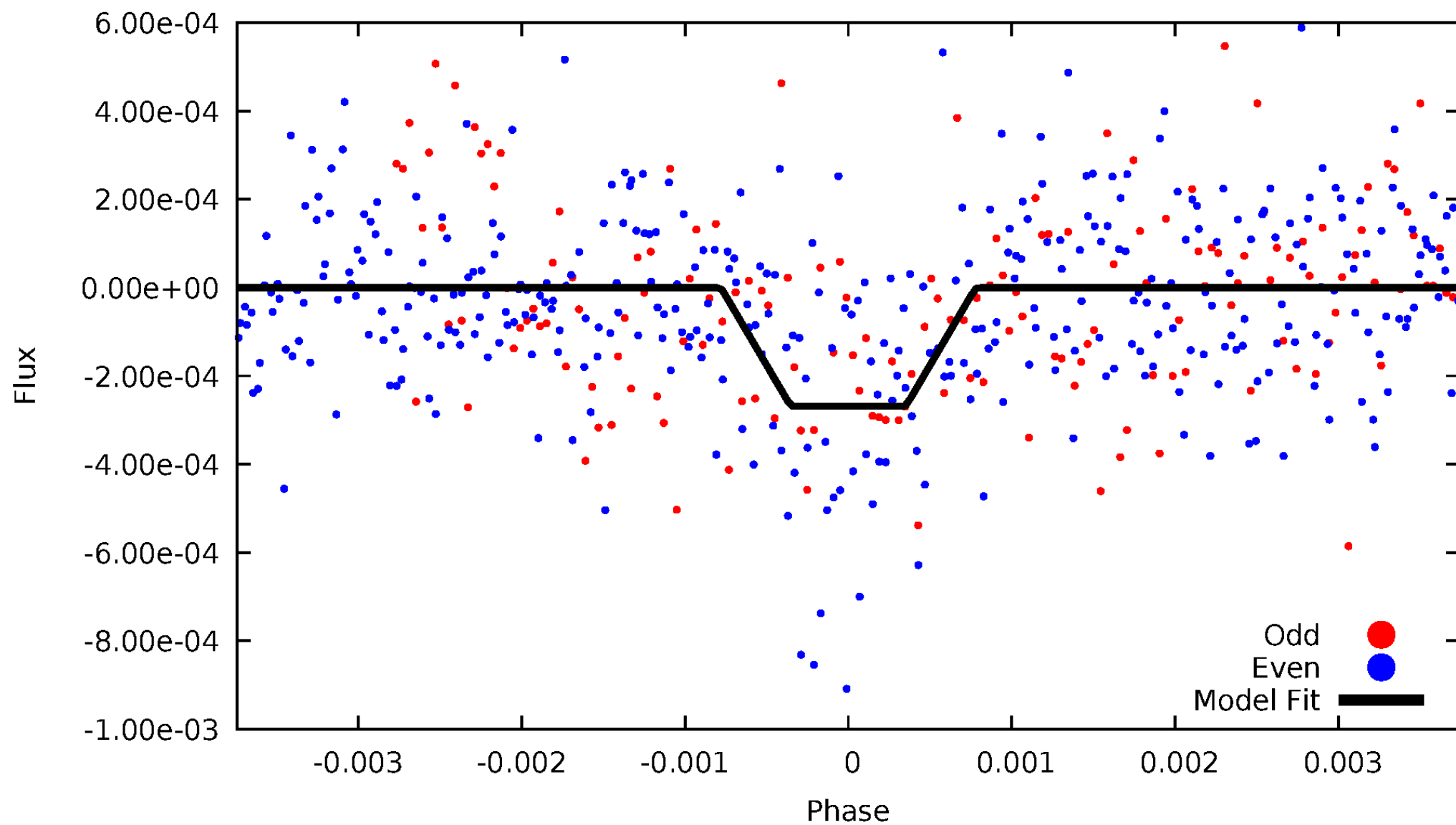
# DV Odd/Even

TCE 008752053-01



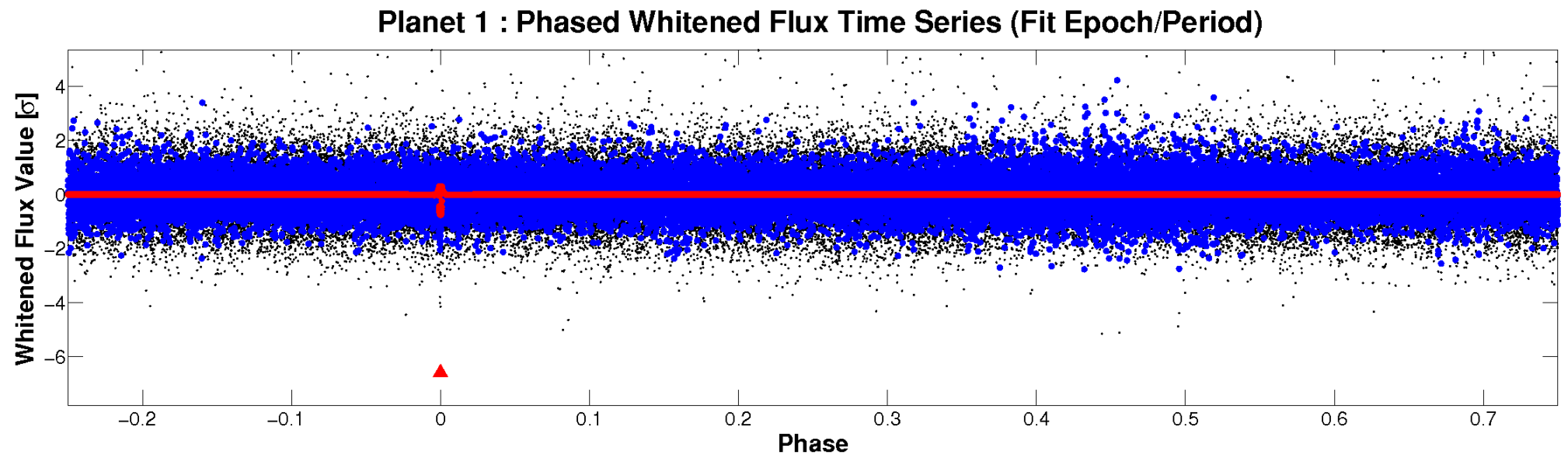
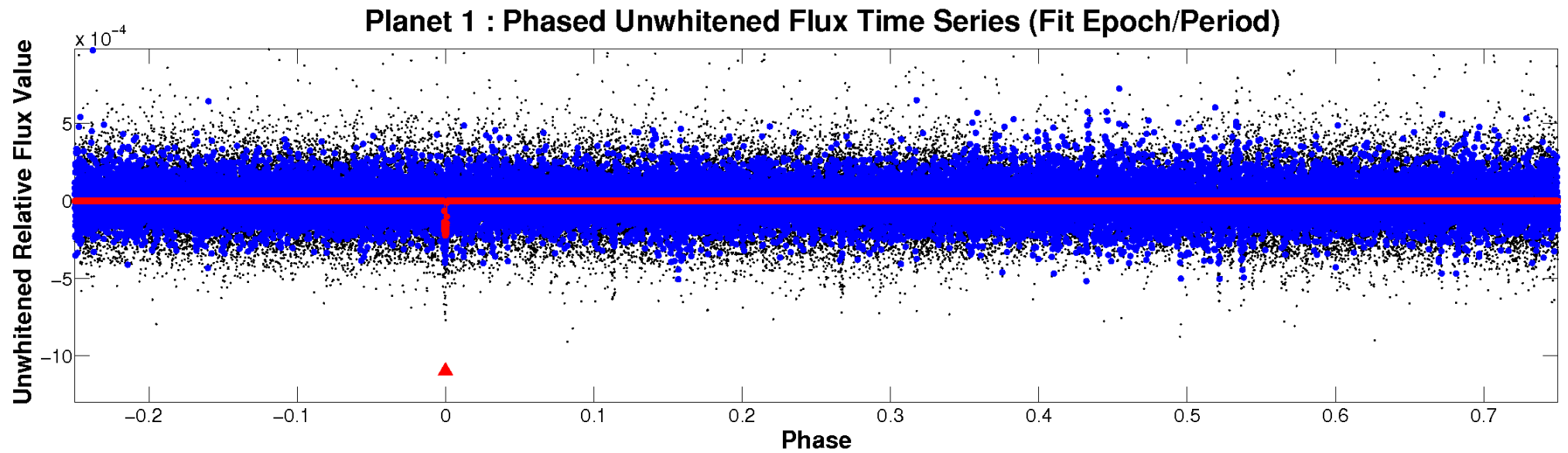
# ALT Odd/Even

TCE 008752053-01





# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

TCE 008752053-01 P=511.847132 Days  $T_0=377.162218$  (BKJD)





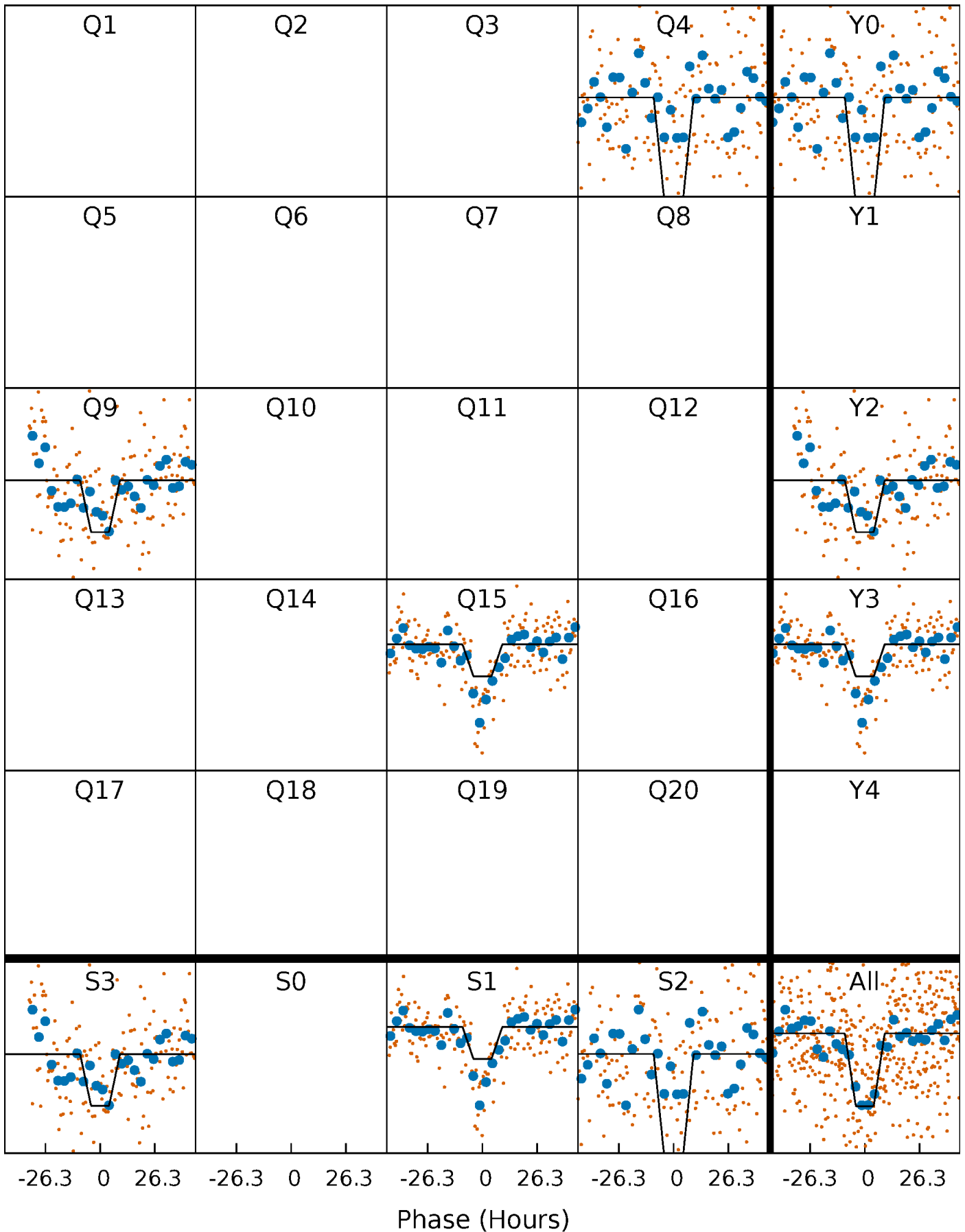
# DV Quarter-Phased Transit Curves

TCE 008752053-01 P=511.847132 Days  $T_0=377.162218$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

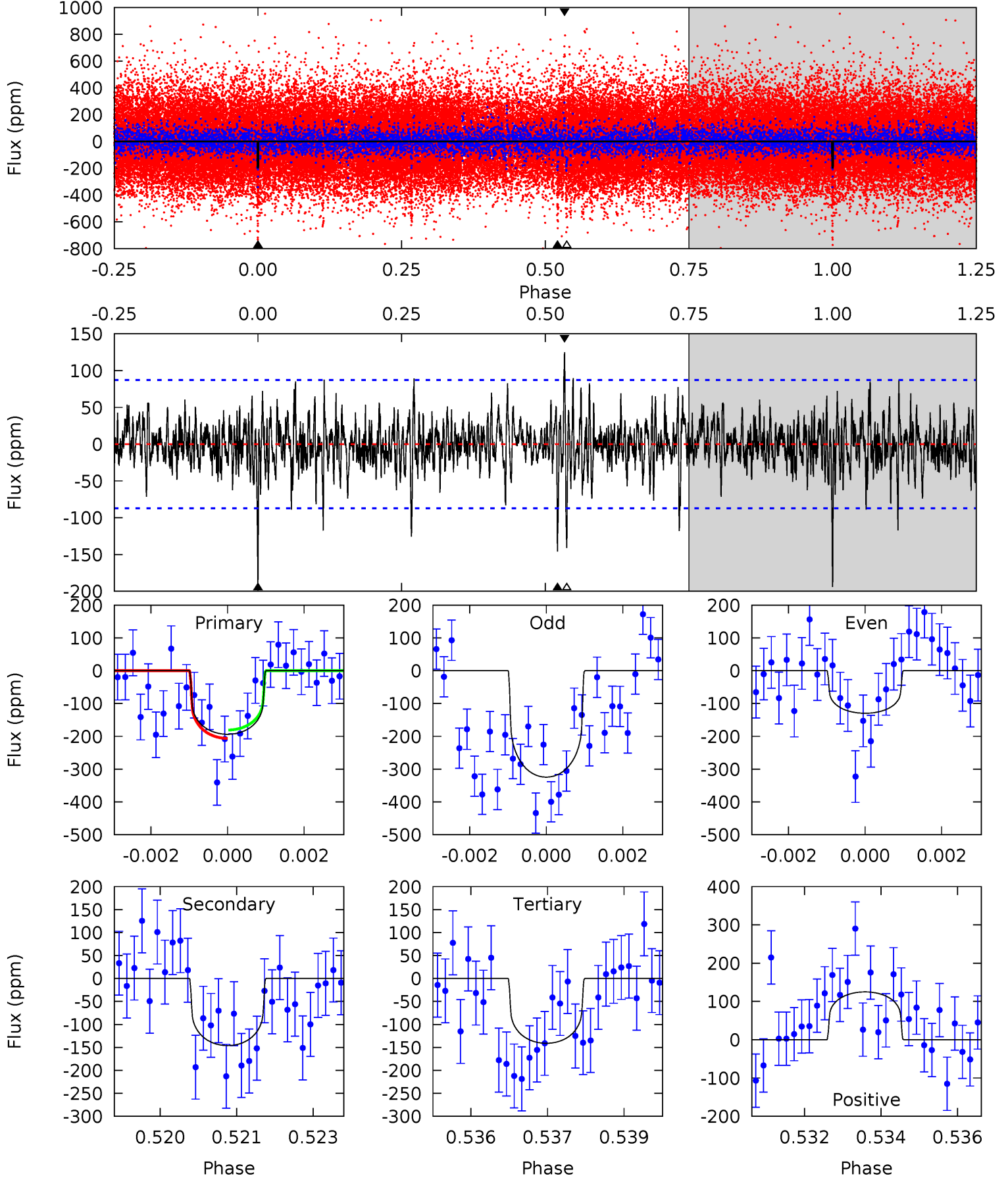
TCE 008752053-01 P=511.860678 Days  $T_0=377.131754$  (BKJD)



# DV Model-Shift Uniqueness Test

008752053-01, P = 511.847132 Days, E = 377.162218 Days

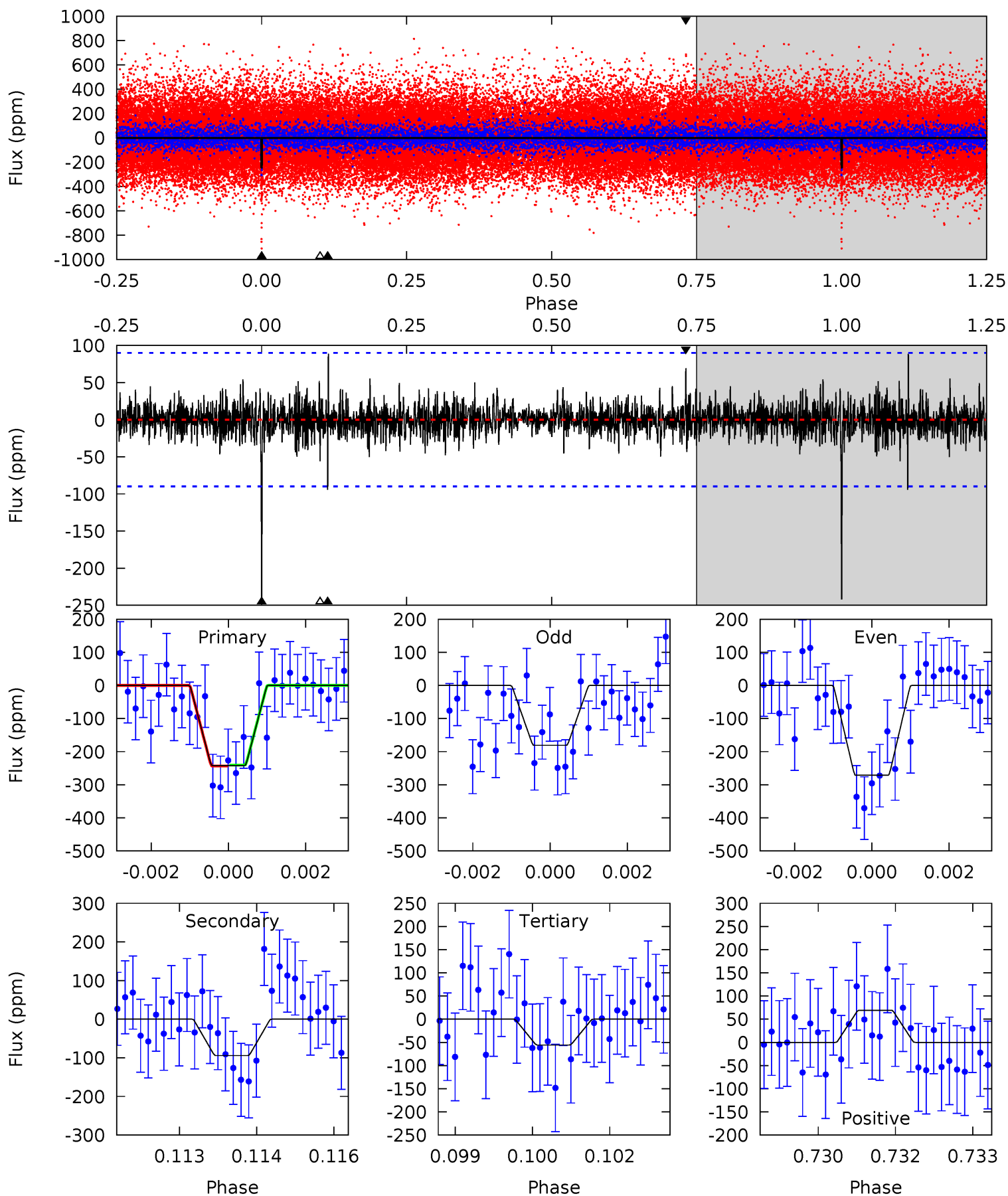
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	8.95	8.64	7.66	5.35	3.12	1.69	3.23	4.22	0.30	1.29	5.68	0.79	0.39	0.78



# Alt Model-Shift Uniqueness Test

008752053-01, P = 511.860678 Days, E = 377.131754 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	5.62	3.33	4.13	5.37	3.16	0.92	11.1	10.3	2.29	1.49	2.57	1.33	0.27	0.08



### Stellar Parameters For KIC 008752053

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5713^{+138}_{-173}$	$4.541^{+0.032}_{-0.168}$	$0.070^{+0.250}_{-0.300}$	$0.893^{+0.201}_{-0.072}$	$1.010^{+0.083}_{-0.124}$	$2.000^{+0.413}_{-0.859}$
	+2%/-3%	+1%/-4%	+357%/-429%	+23%/-8%	+8%/-12%	+21%/-43%
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 008752053-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-146 \pm 16$	$1.45^{+0.65}_{-0.58}$	$303^{+17}_{-13}$	$5286^{+1473}_{-725}$	$58529^{+104360}_{-30289}$
Alt.	$-94 \pm 17$	$1.65^{+0.59}_{-0.58}$	$303^{+17}_{-12}$	$4558^{+920}_{-490}$	$29370^{+40968}_{-13402}$

$T_{\text{max}}$  = 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

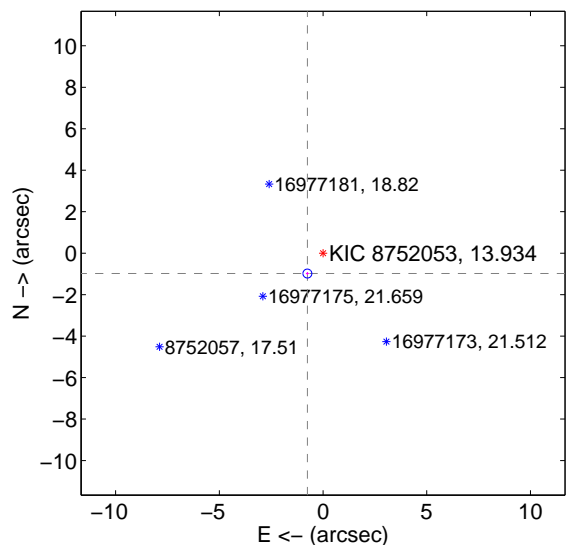
Supplemental centroid analysis for 008752053-01. Kepler magnitude: 13.93. Transit SNR 7.65

There are 1 quarters with good PRF difference image offsets

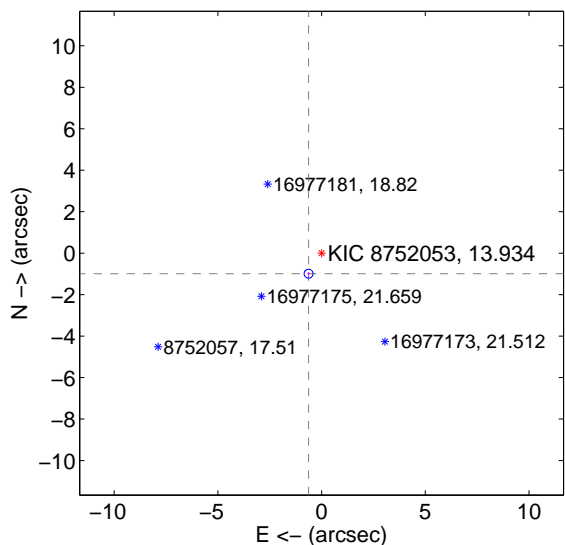
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.239 \pm 0.072$	17.28	$0.755 \pm 0.072$	$-0.982 \pm 0.072$
PRF-fit source offset from KIC position	$1.172 \pm 0.072$	16.36	$0.627 \pm 0.072$	$-0.991 \pm 0.072$
photometric centroid source offset	$4.23 \pm 1.83$	2.31	$-0.07 \pm 1.80$	$-4.23 \pm 1.83$

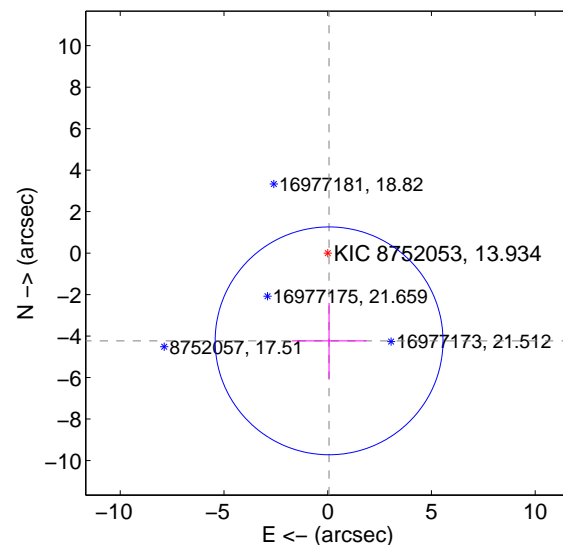
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



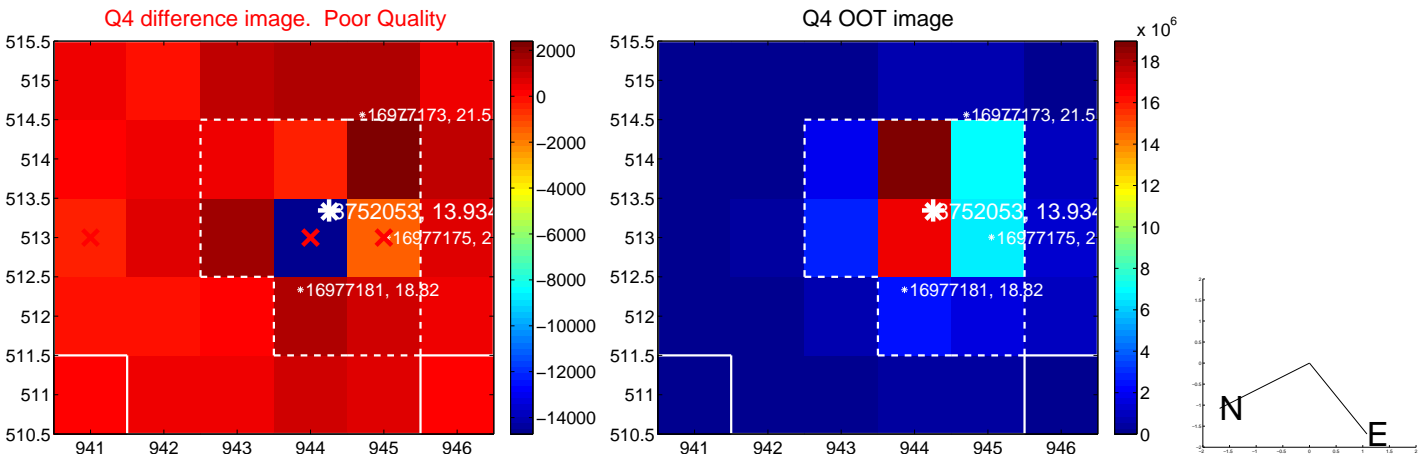
offset from photometric centroids



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.



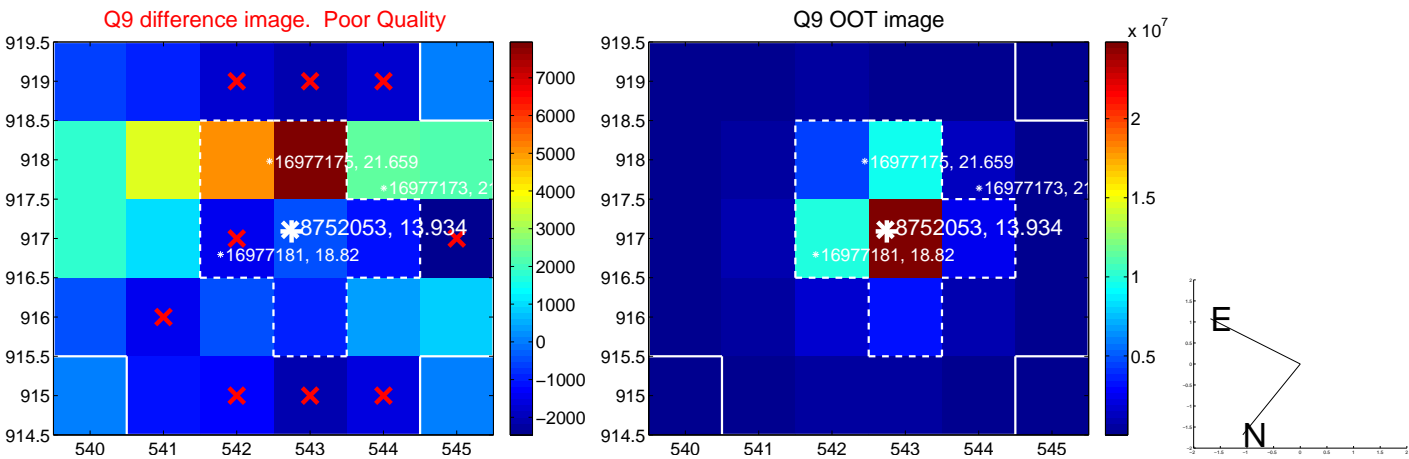
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



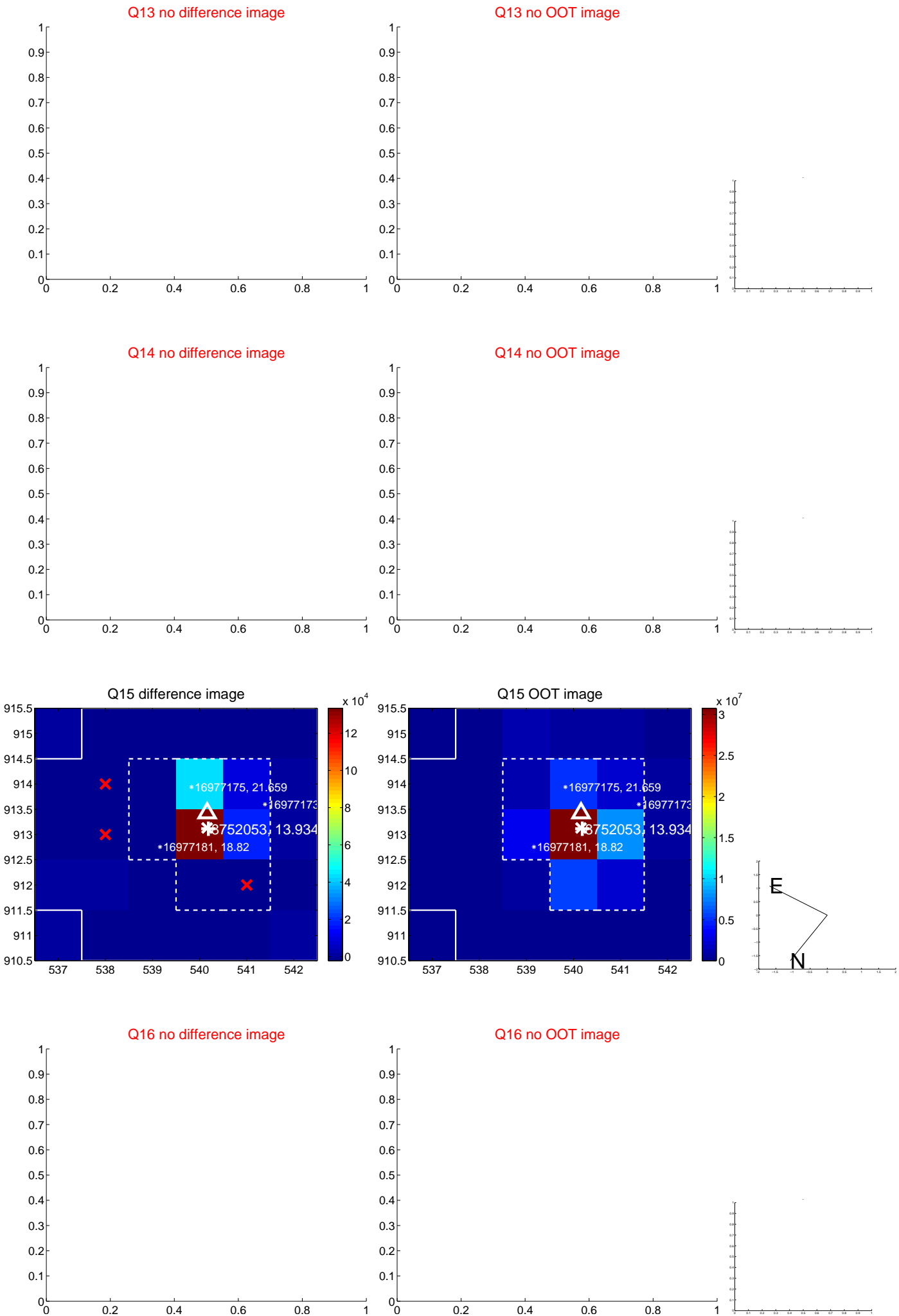
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



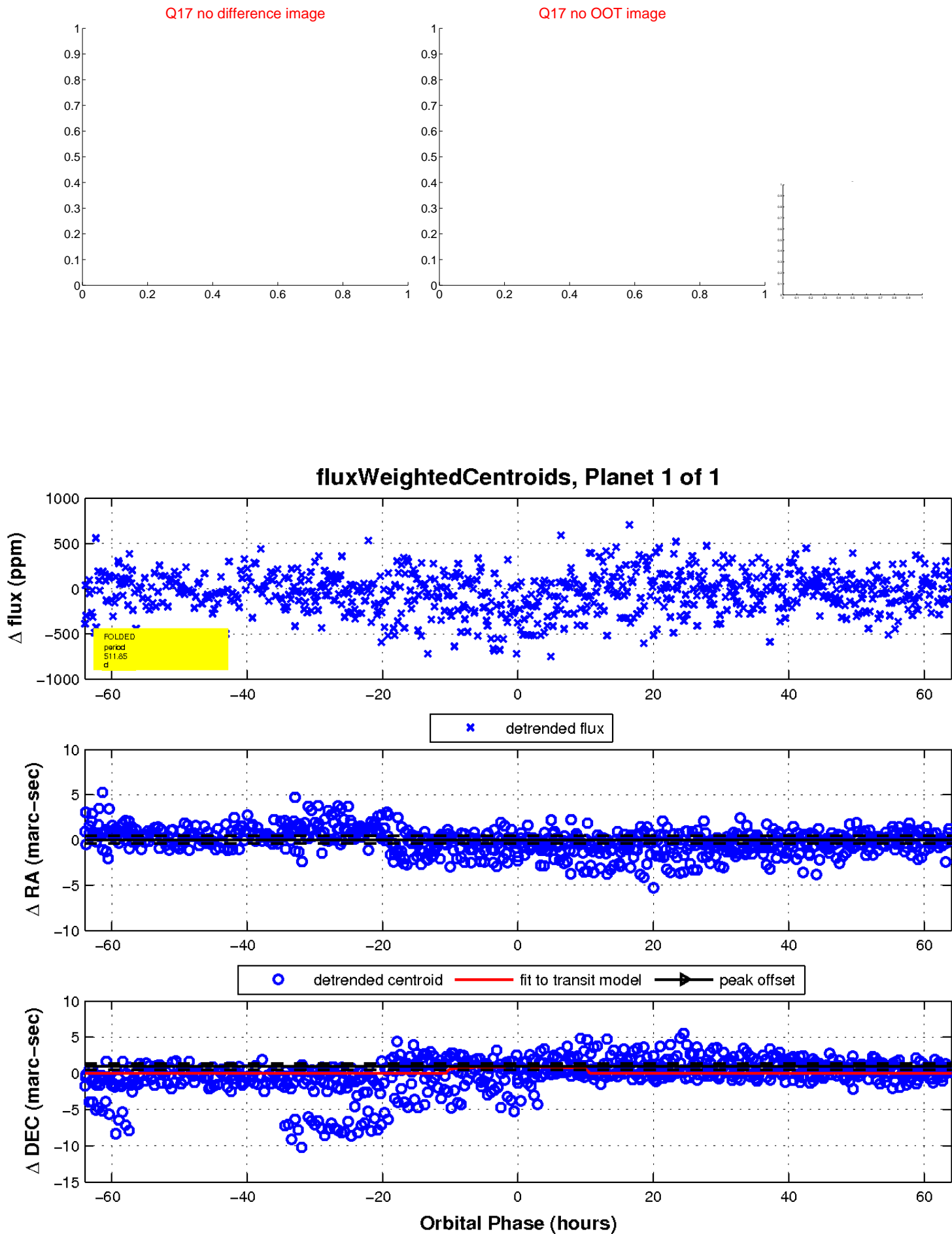
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

