

KIC 009594364

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})
009594364-01	OBS	No	416.196365	171.833981	458.2	17.348	7.2	7.3	0.68	5114	1.55	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009594364-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

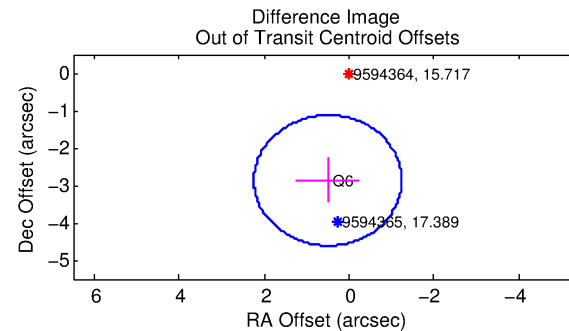
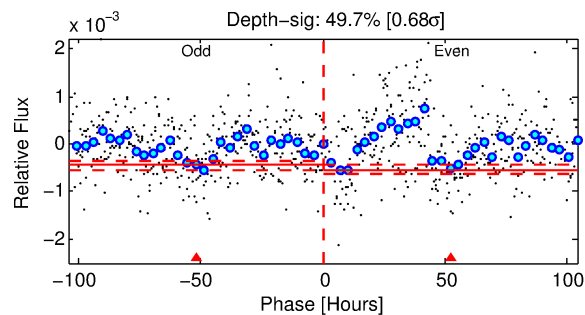
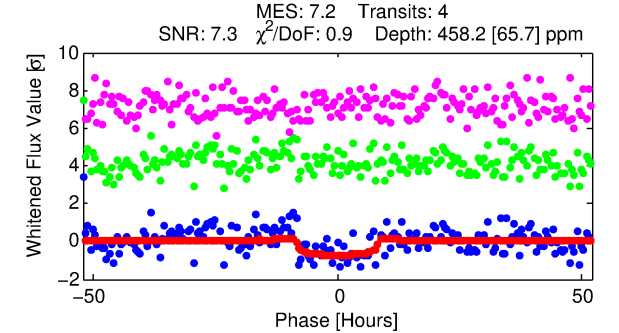
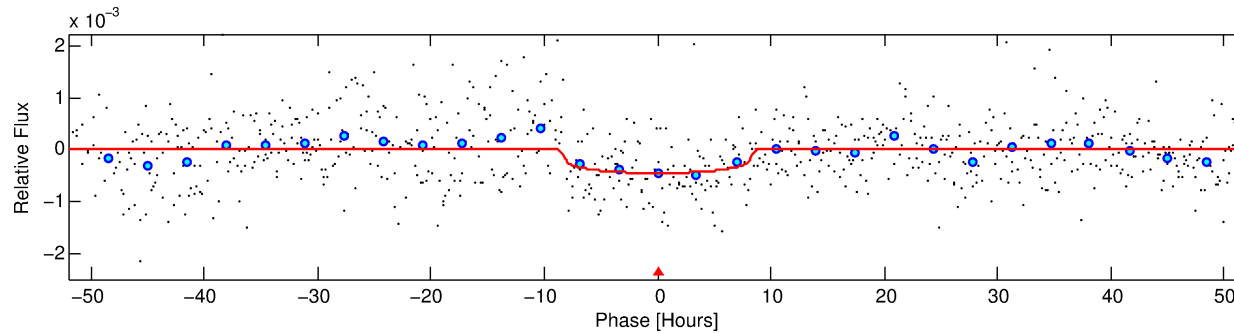
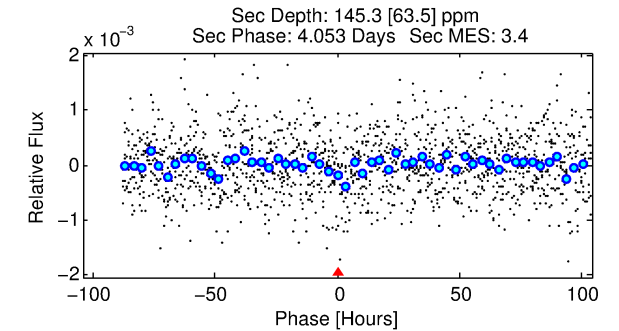
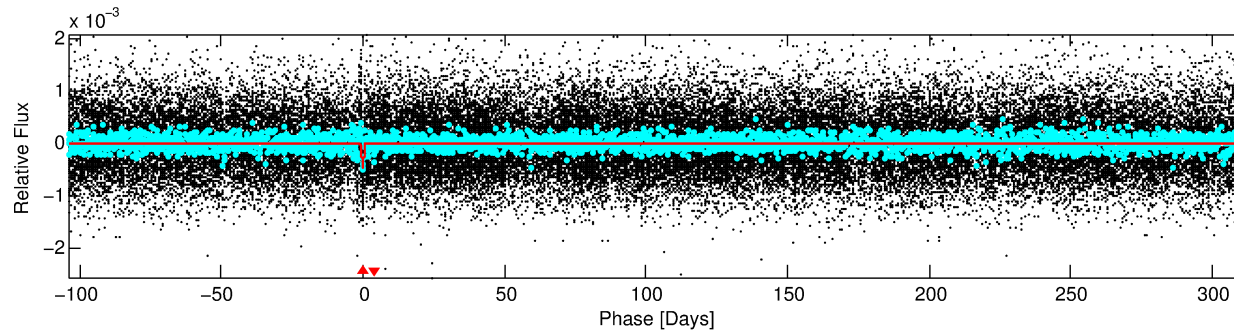
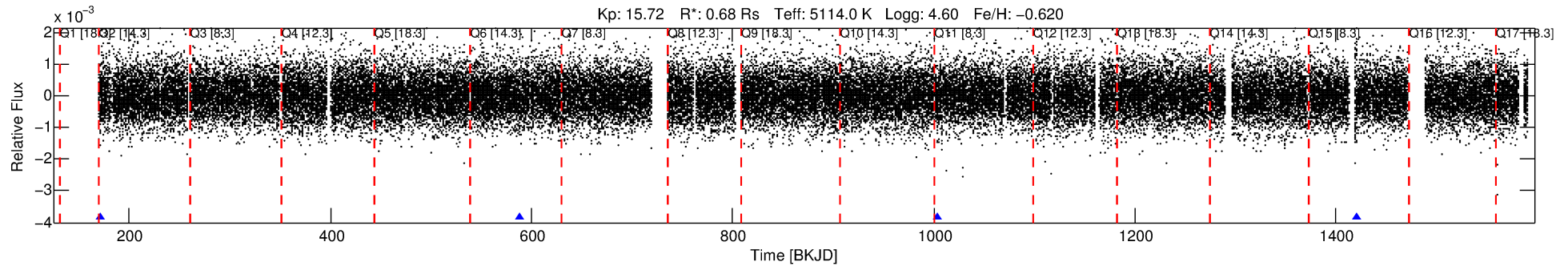
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009594364-01

No Significant Match Found

DV One-Page Summary

KIC: 9594364 Candidate: 1 of 1 Period: 416.196 d



DV Fit Results:

Period = 416.19637 [0.01591] d
Epoch = 171.8340 [0.0322] BKJD
Rp/R* = 0.0210 [0.0094]
a/R* = 133.93 [234.79]
b = 0.71 [1.22]
Seff = 0.31 [0.05]
Teq = 190 [8] K
Rp = 1.55 [0.71] Re
a = 0.9479 [0.0817] AU
Ag = 29993.21 [30190.99] [0.99σ]
Teffp = 3874 [974] K [3.78σ]

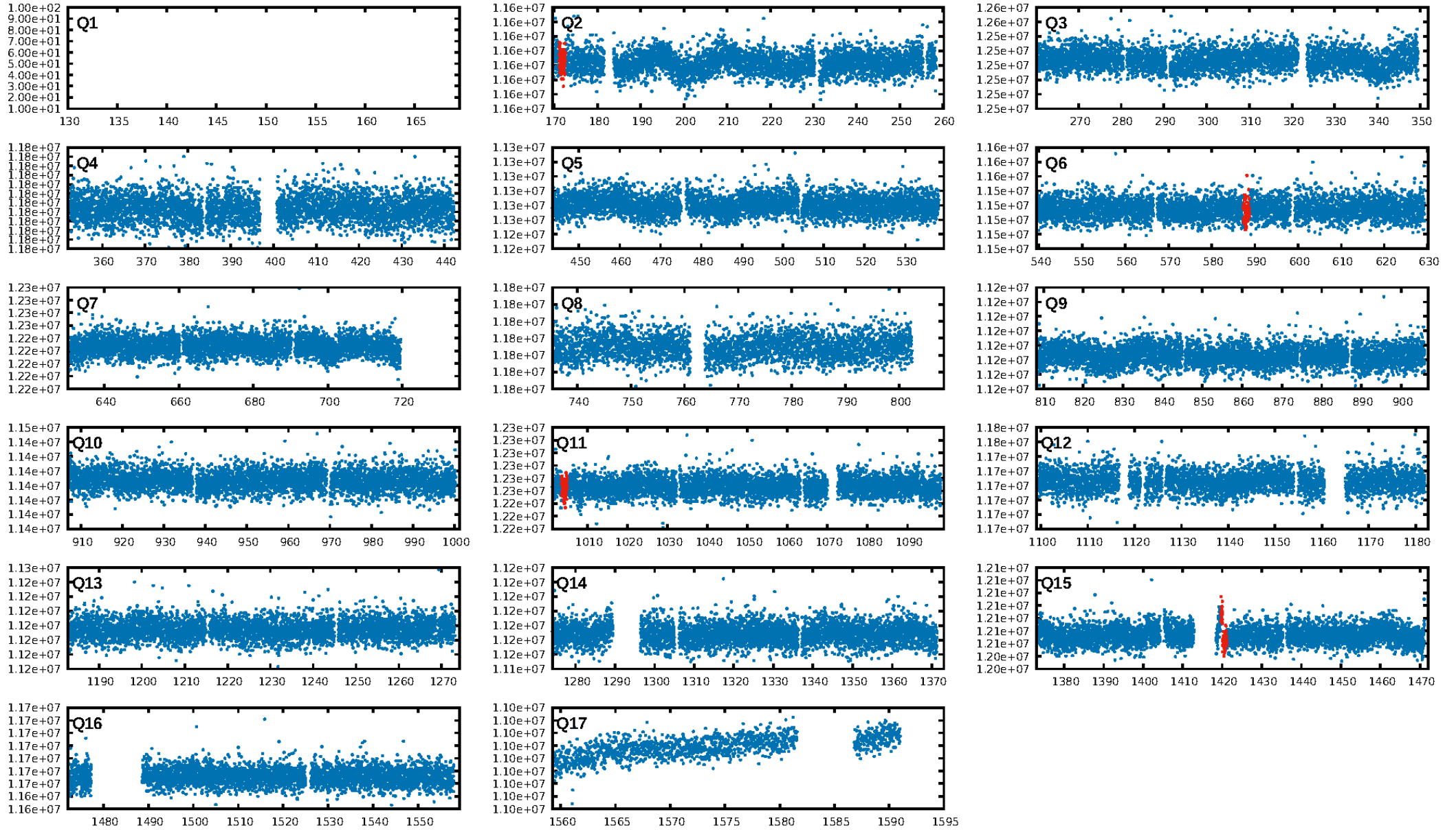
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 22.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.53e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.954
Centroid-sig: 9.5%
Centroid-so: 2.488 arcsec [1.55σ]
OotOffset-rm: 2.911 arcsec [5.02σ]
KicOffset-rm: 3.139 arcsec [5.43σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

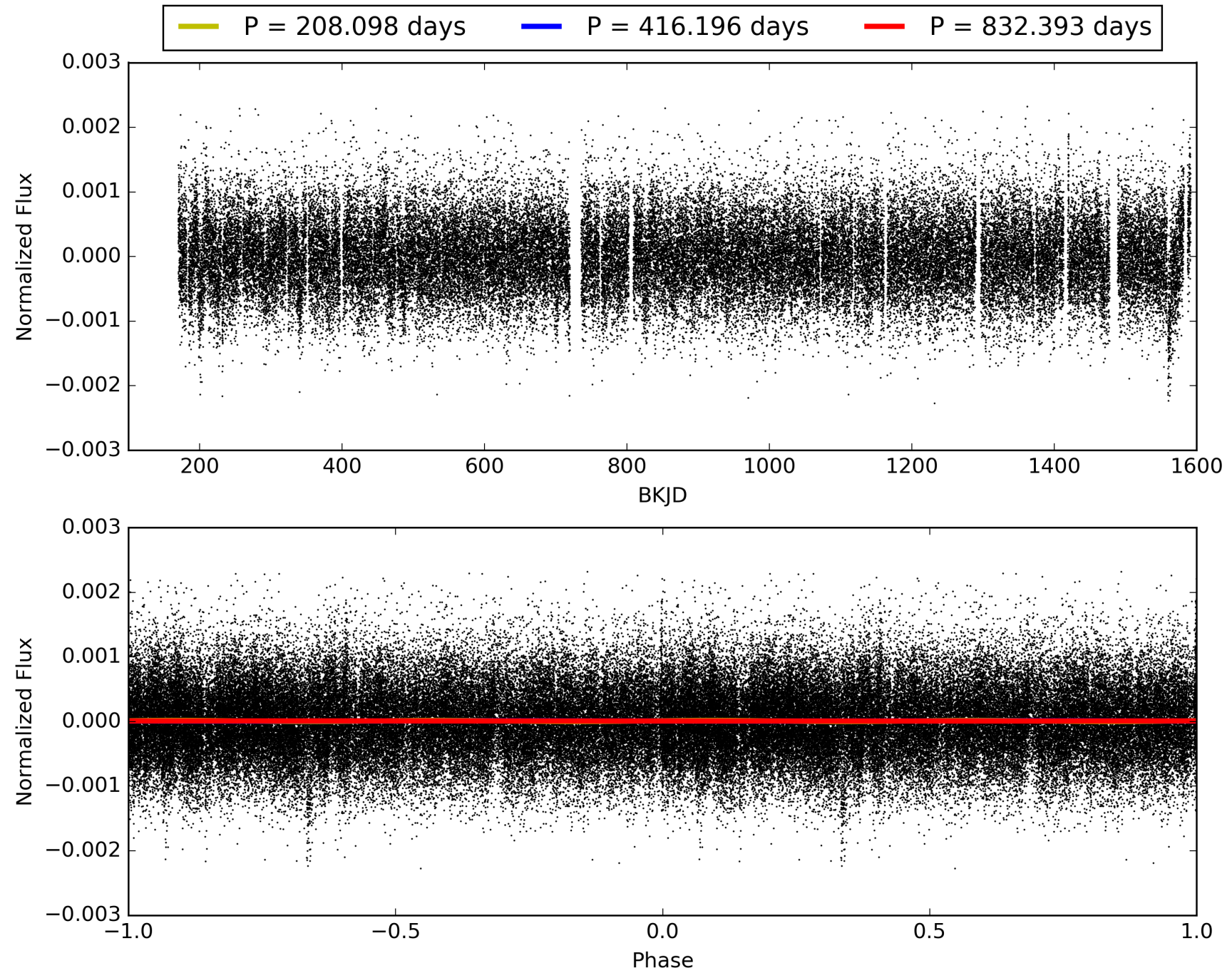
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:06:11 Z

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

TCE 009594364-01, PDC Light Curves

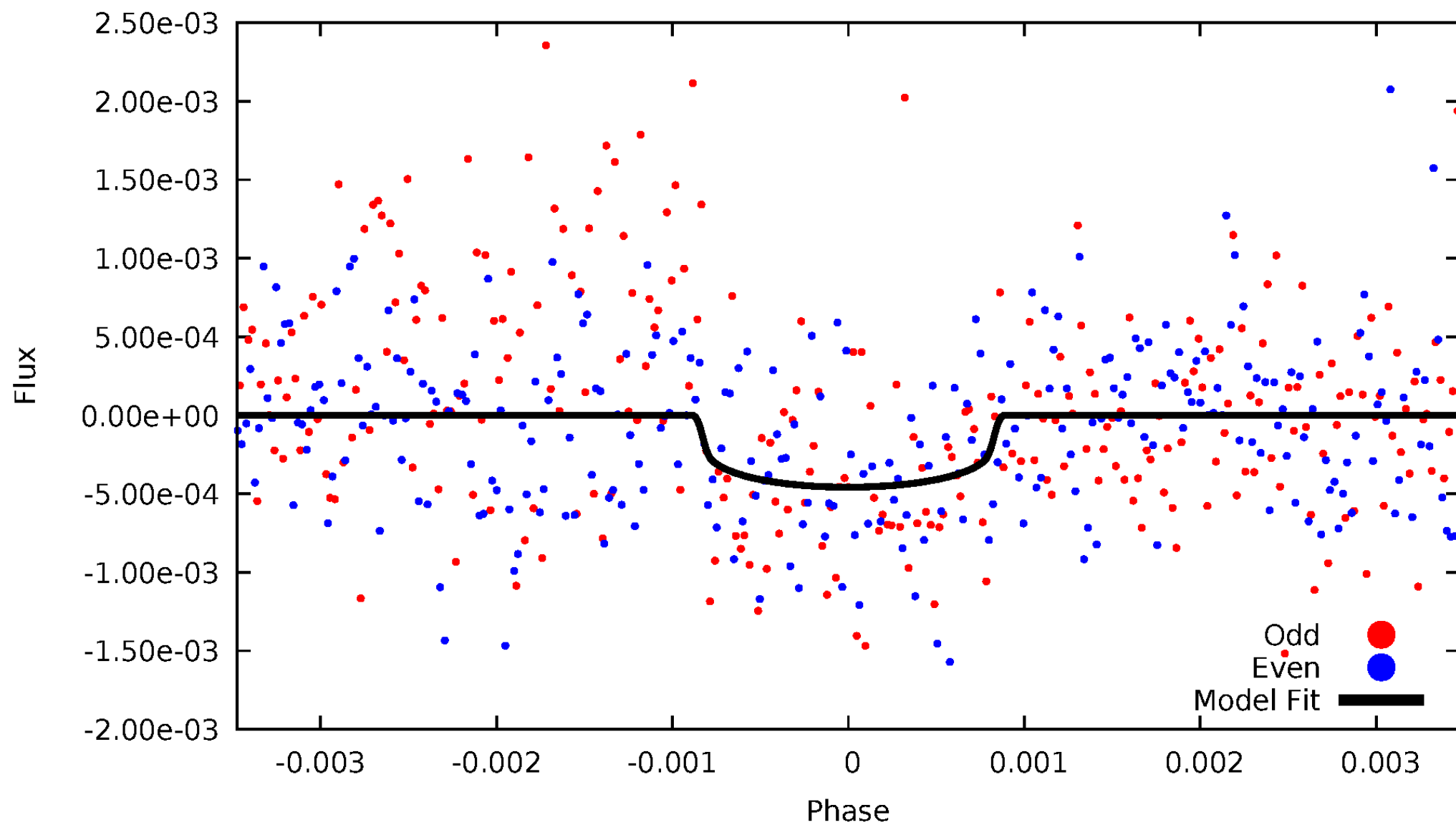


TCE 009594364-01



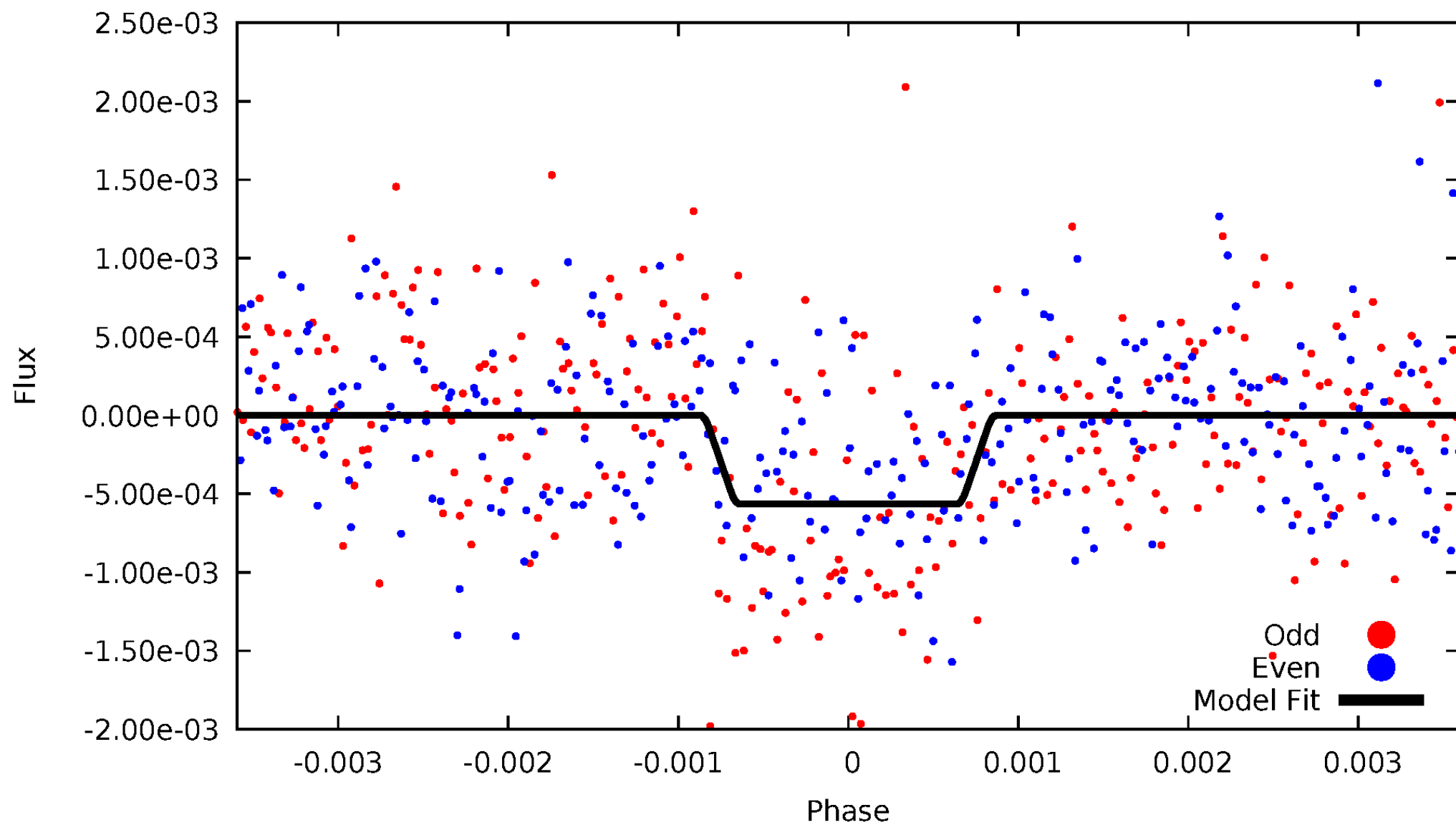
DV Odd/Even

TCE 009594364-01

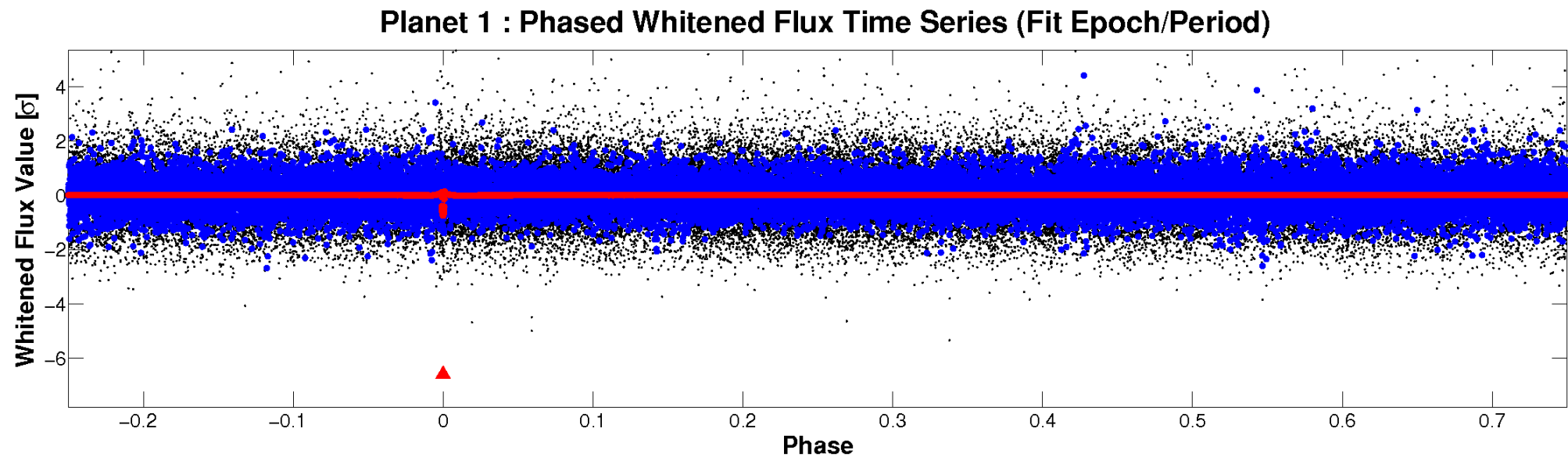
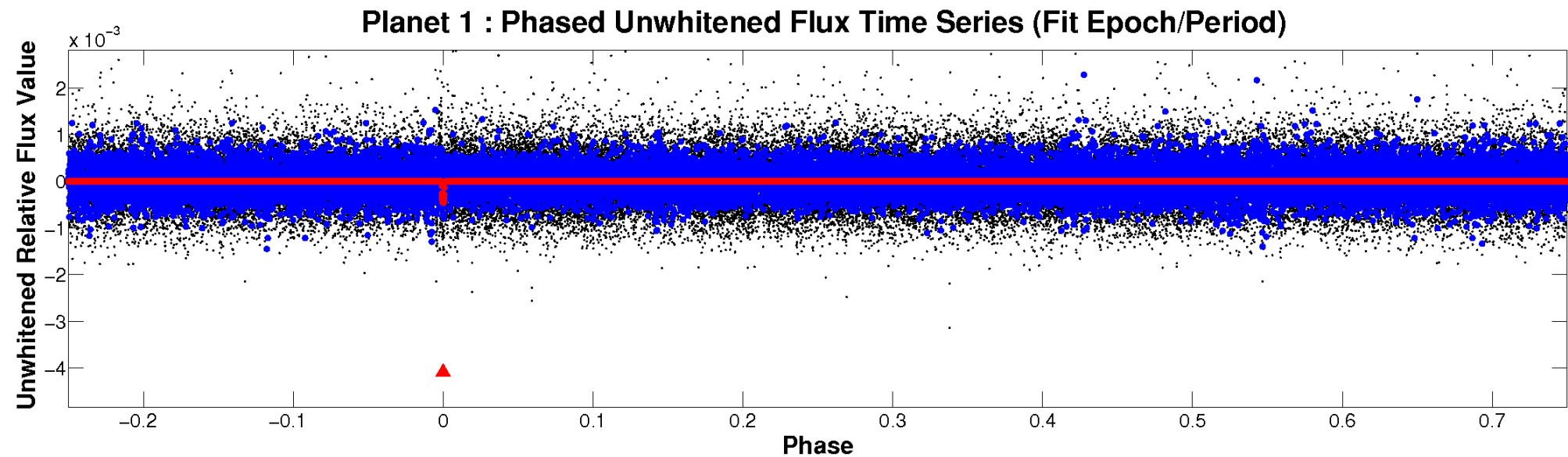


ALT Odd/Even

TCE 009594364-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 009594364-01 $P=416.196365$ Days $T_0=171.833981$ (BKJD)



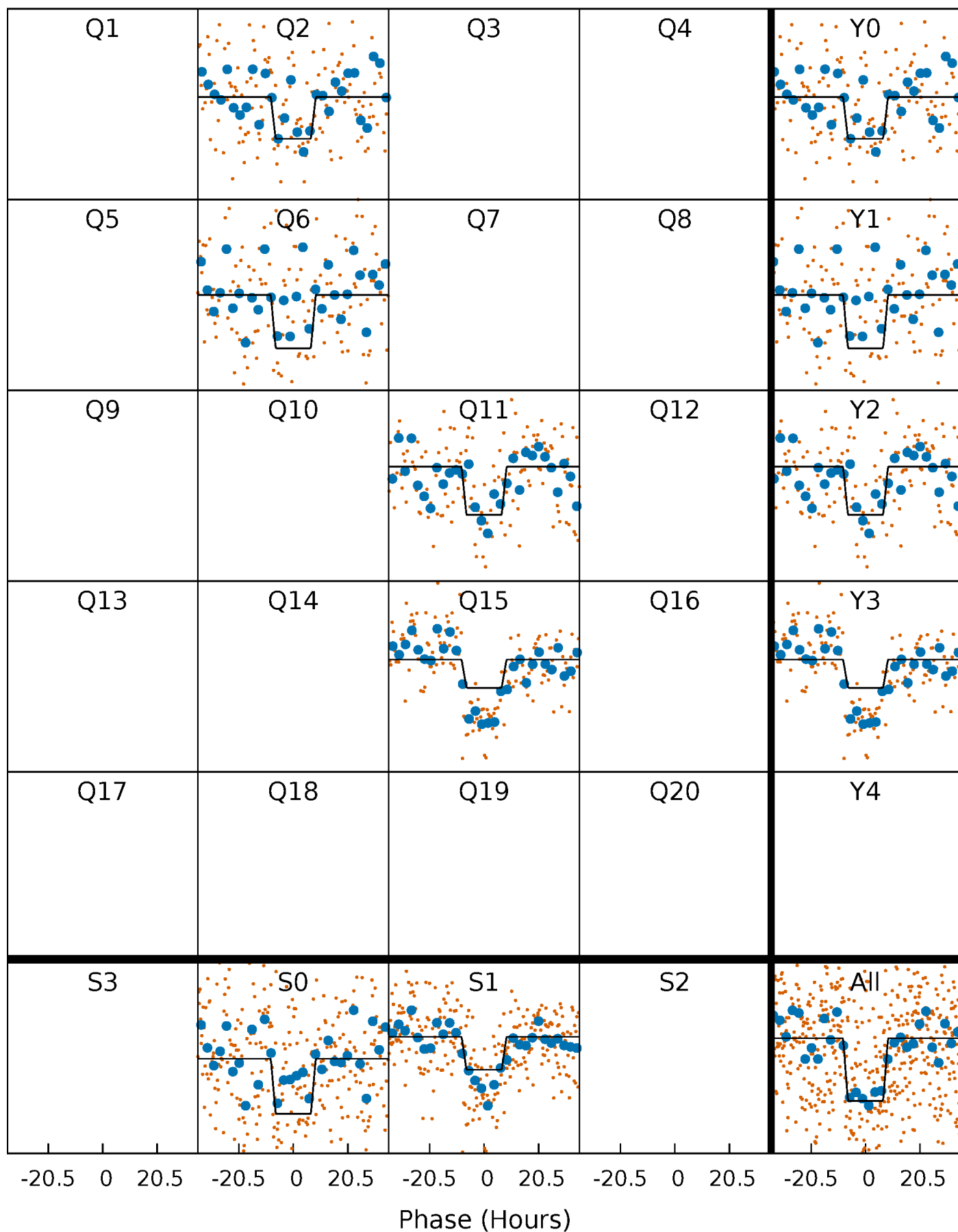
DV Quarter-Phased Transit Curves

TCE 009594364-01 $P=416.196365$ Days $T_0=171.833981$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

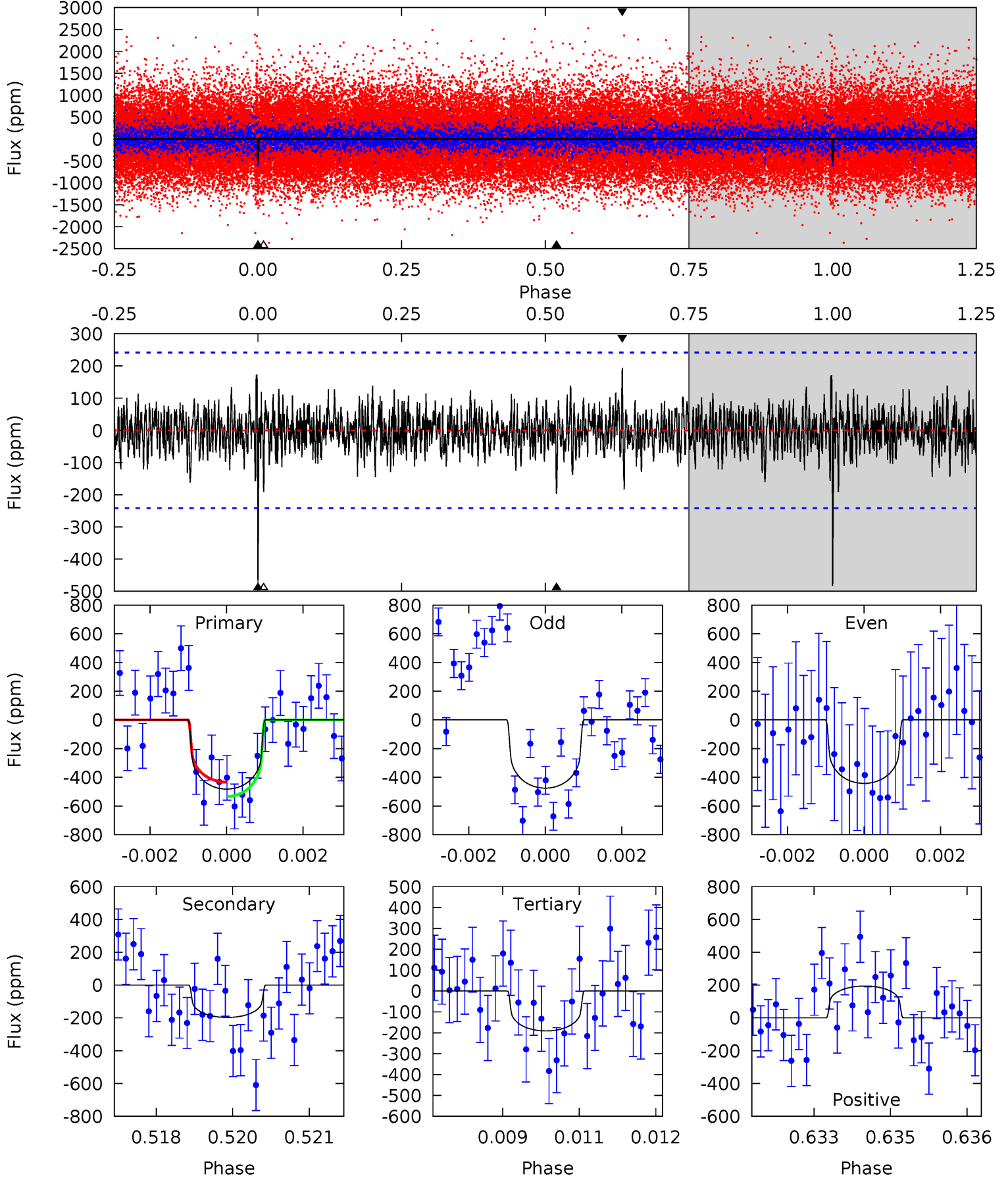
TCE 009594364-01 P=416.204372 Days $T_0=171.820278$ (BKJD)



DV Model-Shift Uniqueness Test

009594364-01, P = 416.196365 Days, E = 171.833981 Days

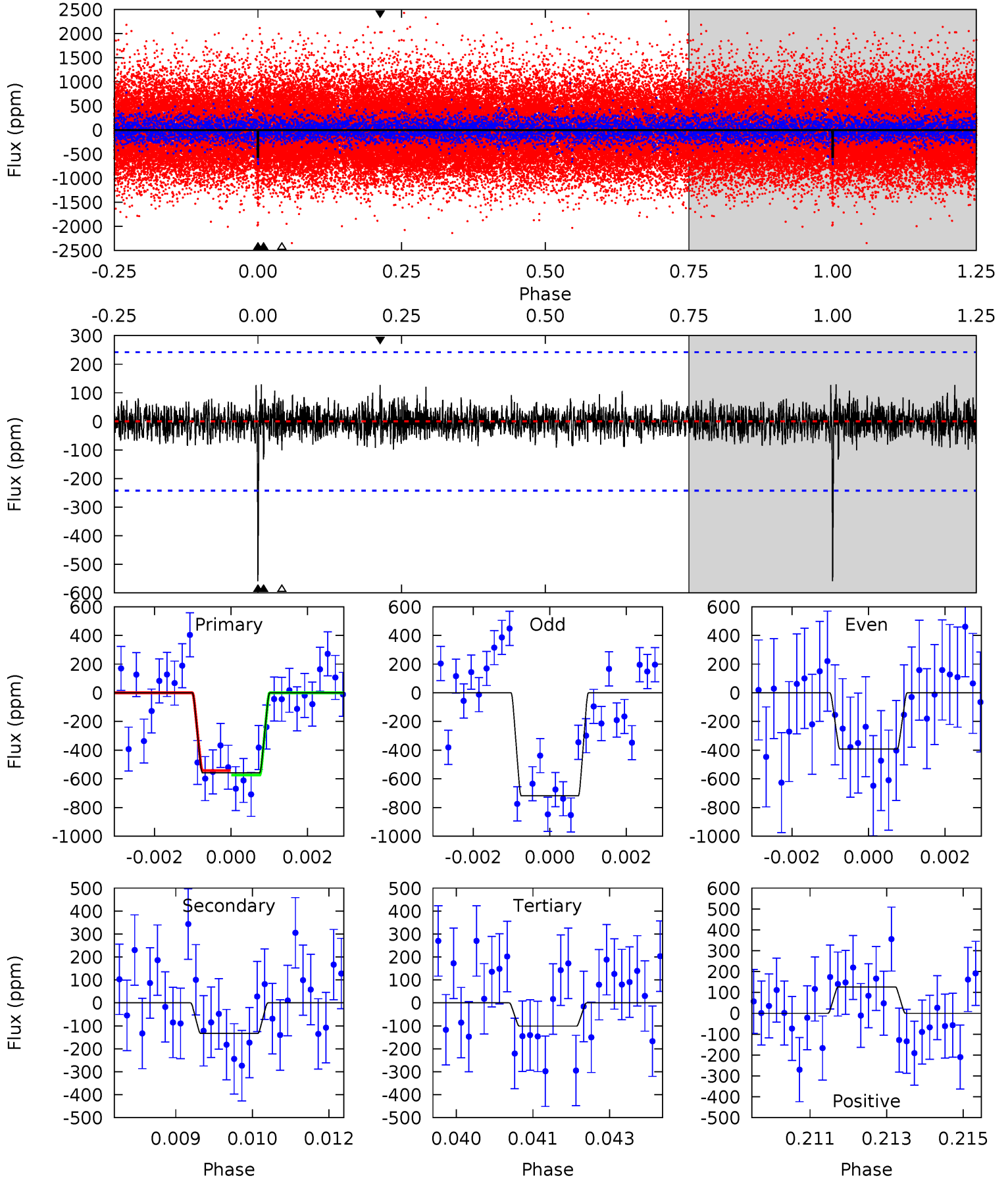
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.37	4.23	4.29	5.35	3.13	1.09	6.44	6.38	0.14	0.07	0.37	1.03	0.29	1.12



Alt Model-Shift Uniqueness Test

009594364-01, P = 416.204372 Days, E = 171.820278 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	2.94	2.24	2.80	5.35	3.14	0.70	10.1	9.55	0.70	0.14	3.60	1.35	0.19	0.34



Stellar Parameters For KIC 009594364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5114^{+154}_{-154}	$4.596^{+0.072}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.675^{+0.067}_{-0.067}$	$0.656^{+0.077}_{-0.033}$	$2.996^{+0.903}_{-0.537}$
	+3%/-3%	+2%/-1%	+56%/-48%	+10%/-10%	+12%/-5%	+30%/-18%
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 009594364-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-197 ± 45	$1.51^{+0.77}_{-0.66}$	265^{+10}_{-9}	4307^{+1323}_{-555}	40718^{+99613}_{-22270}
Alt.	-133 ± 45	$1.74^{+0.69}_{-0.71}$	265^{+10}_{-11}	3860^{+832}_{-477}	21650^{+38729}_{-11988}

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

DV Centroid Data

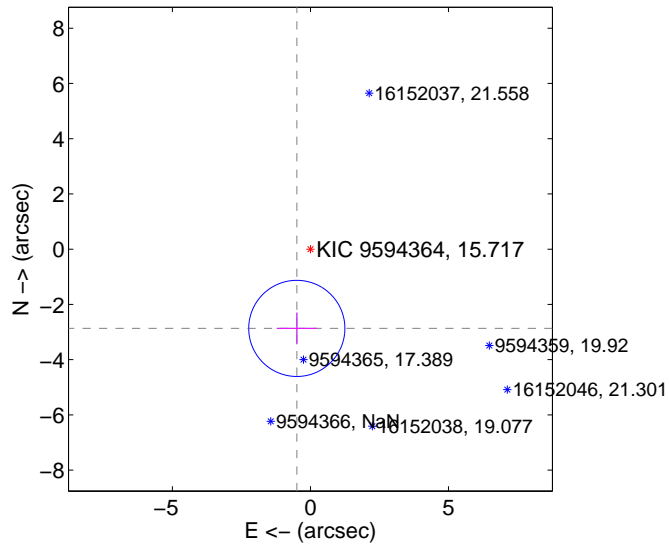
Supplemental centroid analysis for 009594364-01. Kepler magnitude: 15.72. Transit SNR 7.27

There are 1 quarters with good PRF difference image offsets

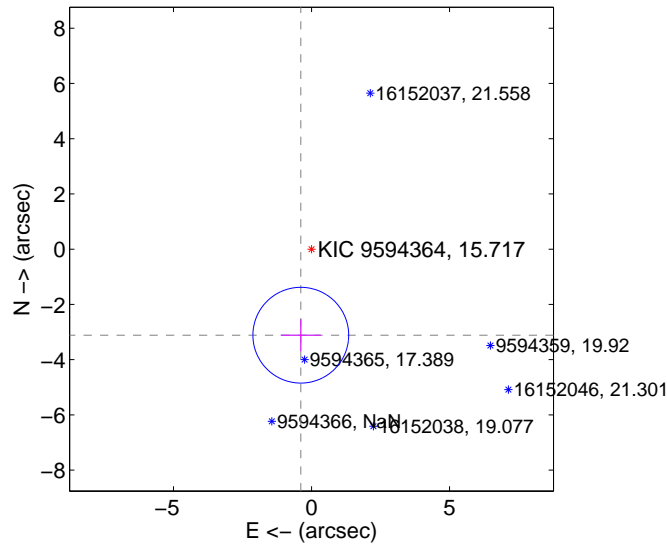
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.911 ± 0.580	5.02	0.493 ± 0.727	-2.869 ± 0.575
PRF-fit source offset from KIC position	3.139 ± 0.578	5.43	0.388 ± 0.727	-3.115 ± 0.575
photometric centroid source offset	2.49 ± 1.60	1.55	-0.60 ± 1.60	-2.41 ± 1.60

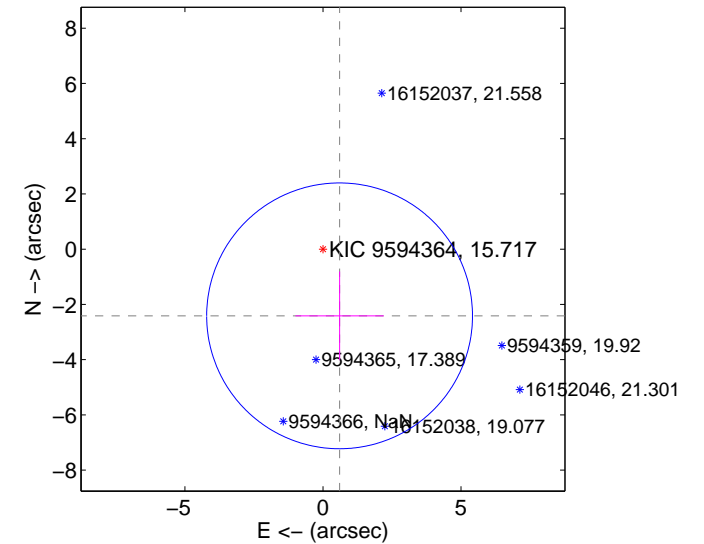
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

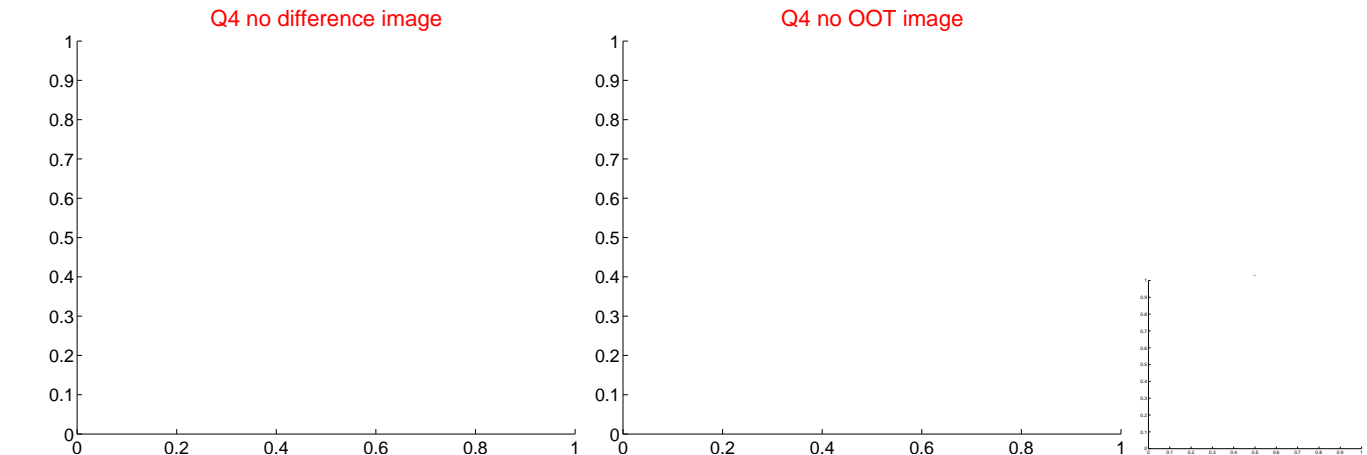
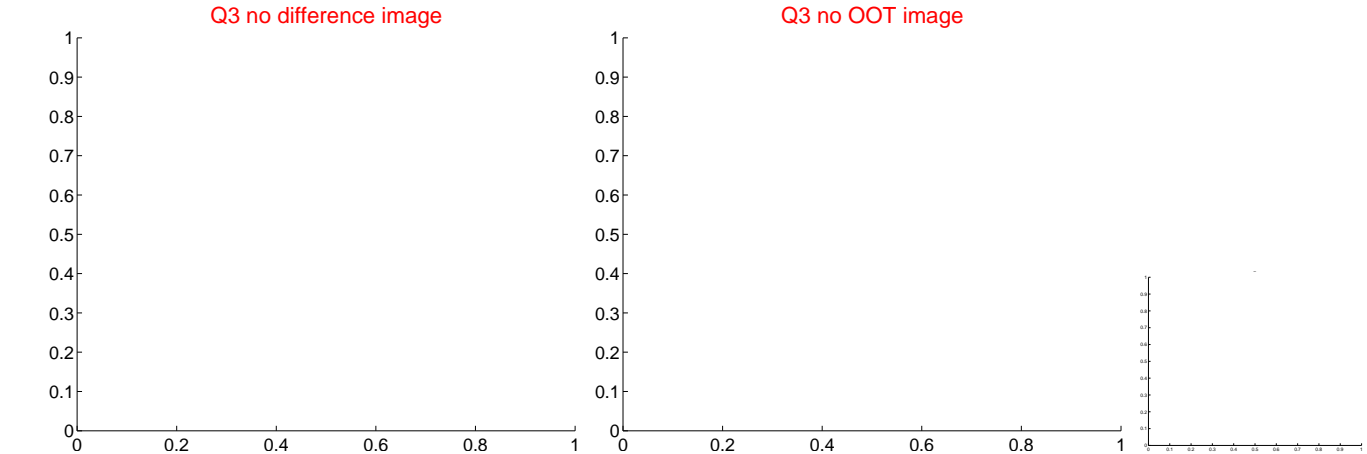
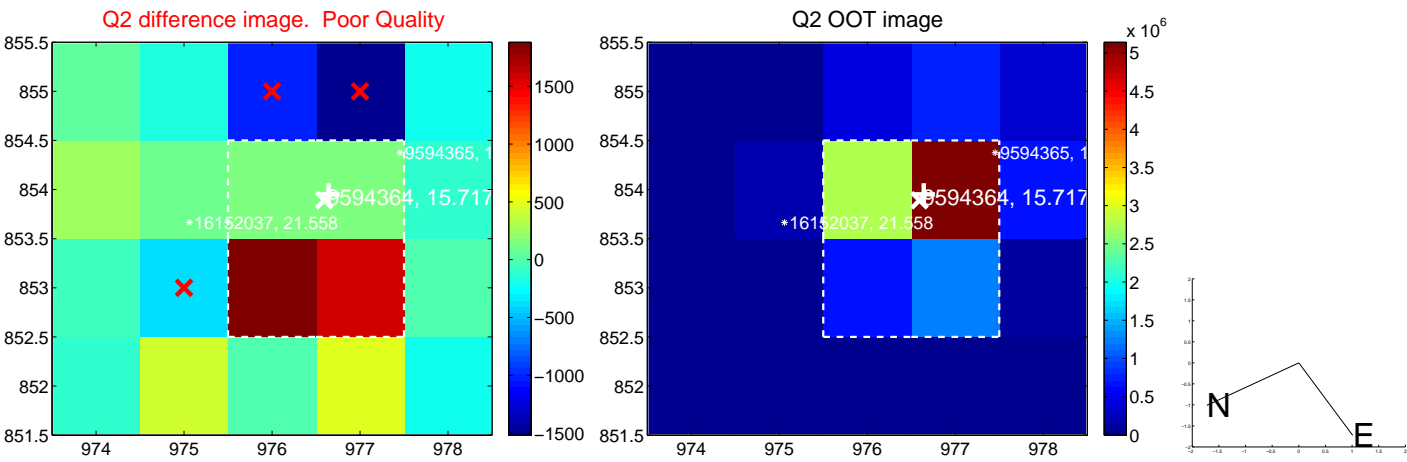
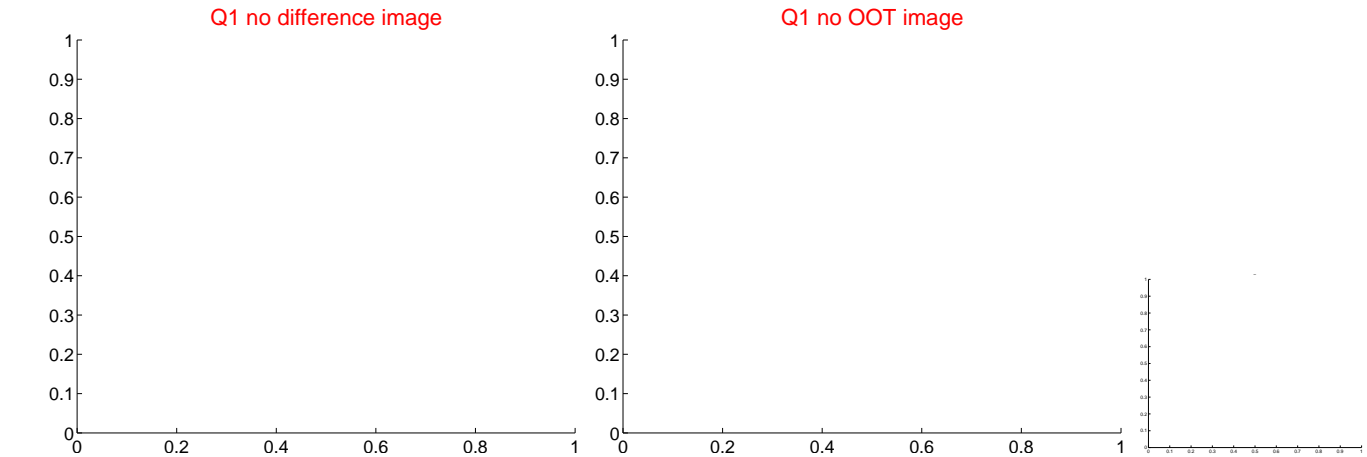


offset from photometric centroids

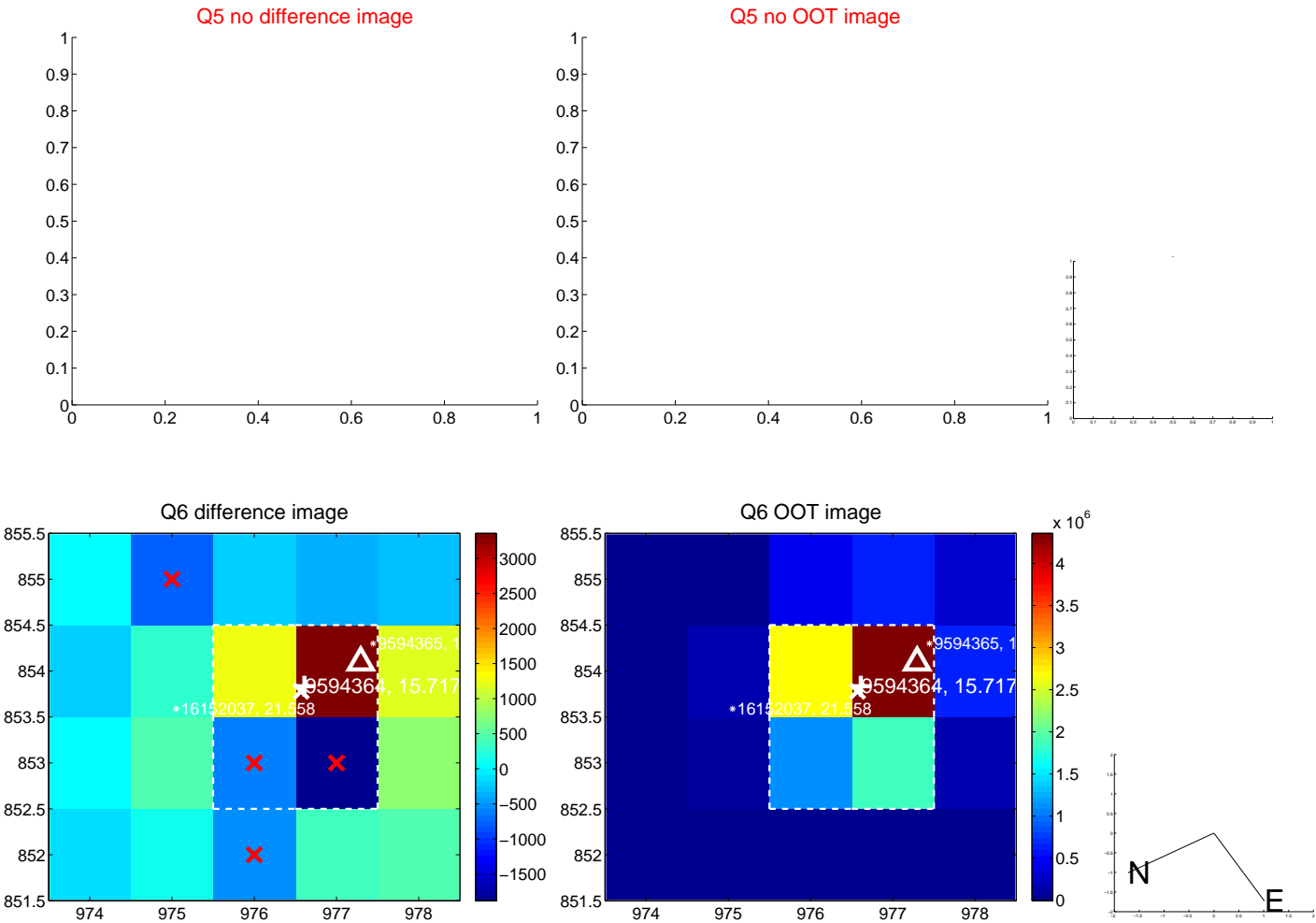


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



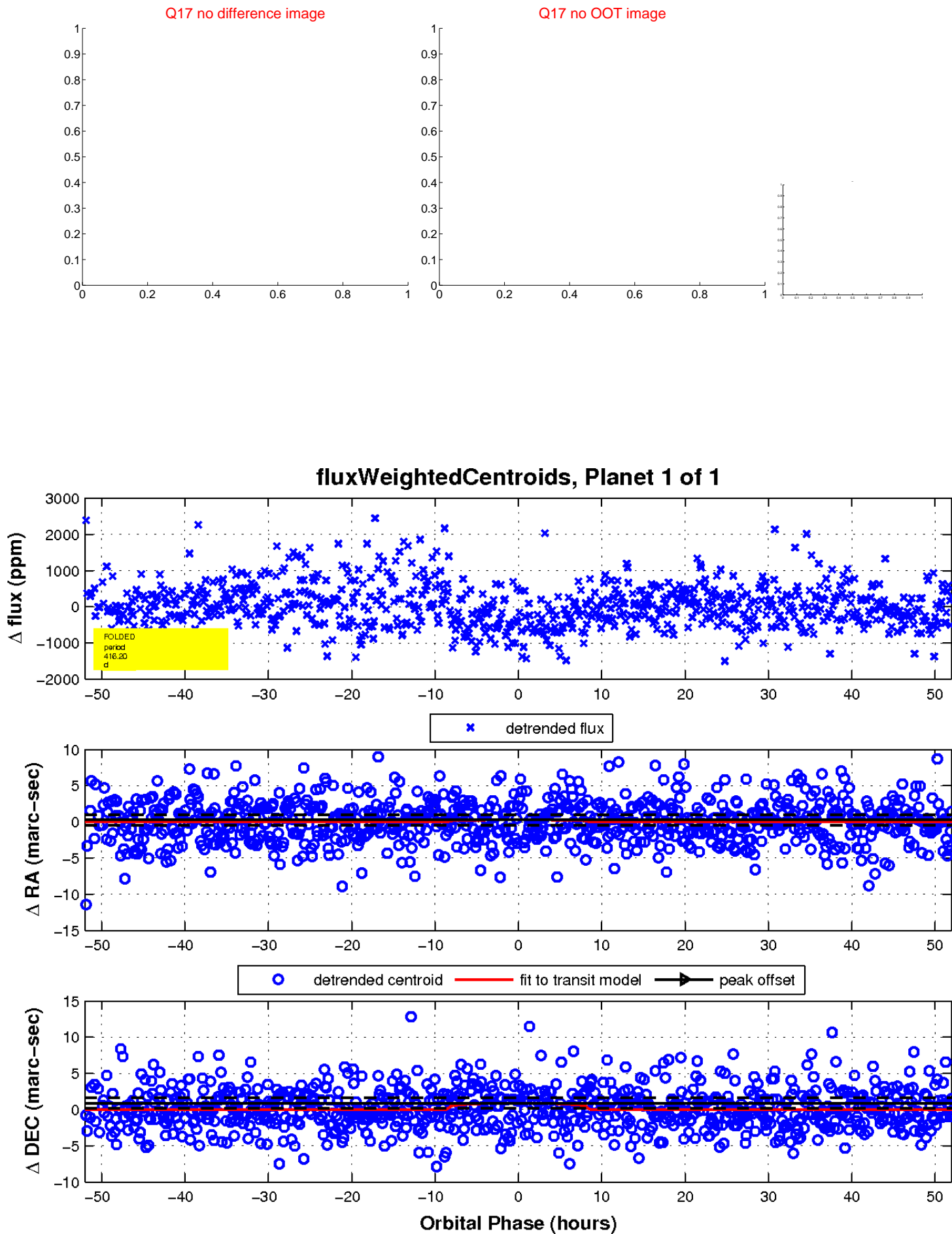
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

