

KIC 007464520

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})
007464520-01	OBS	No	492.704333	588.879224	424.7	16.019	8.9	7.5	0.80	5736	1.82	0.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007464520-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

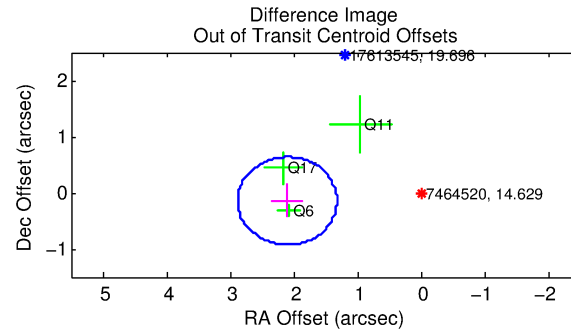
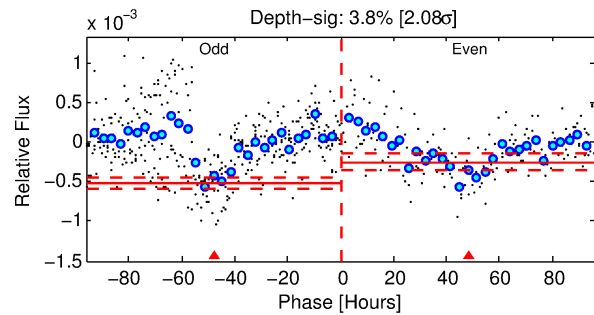
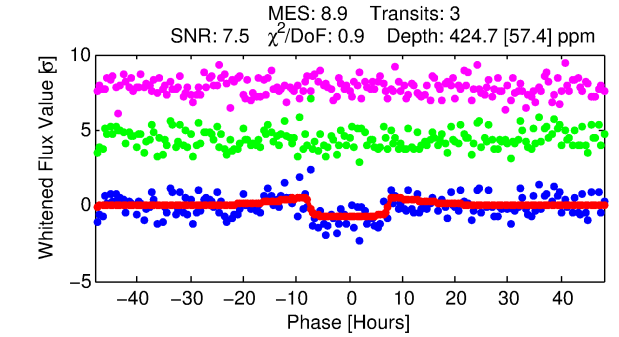
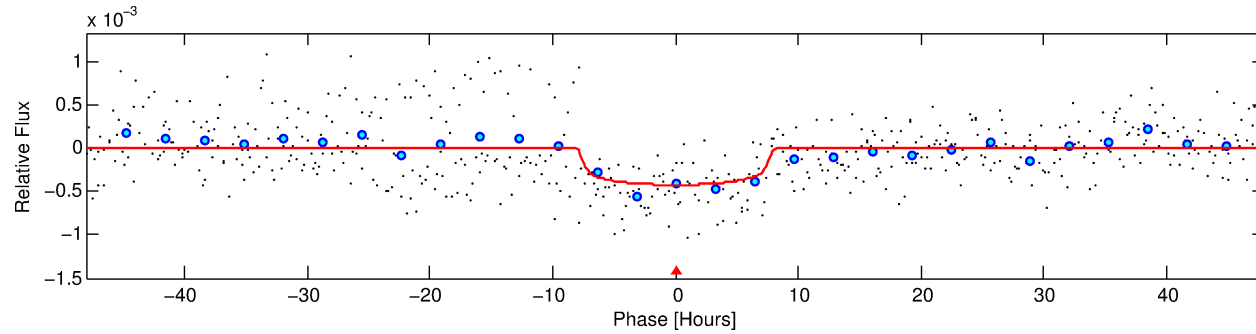
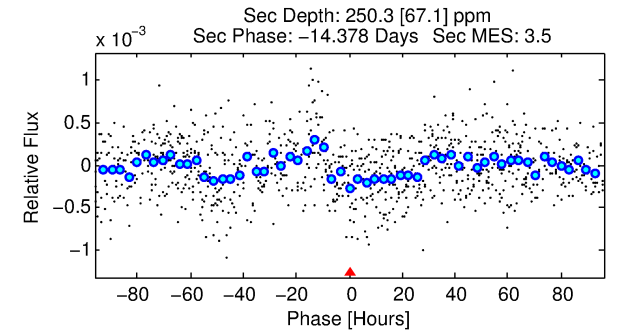
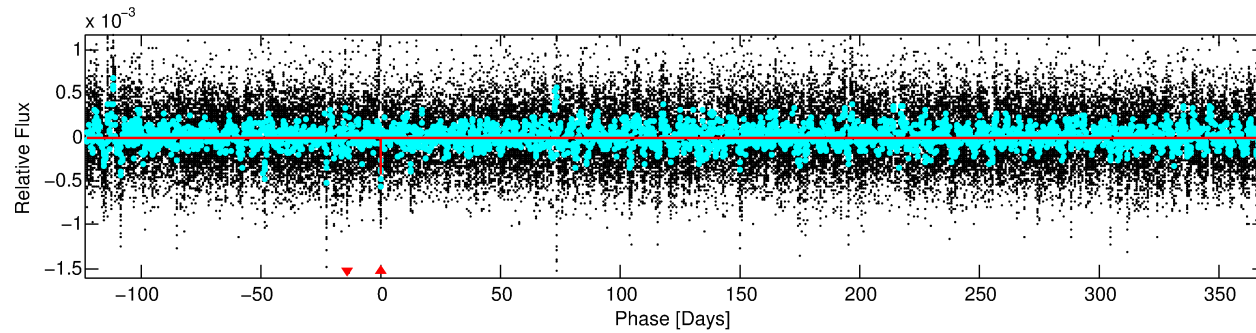
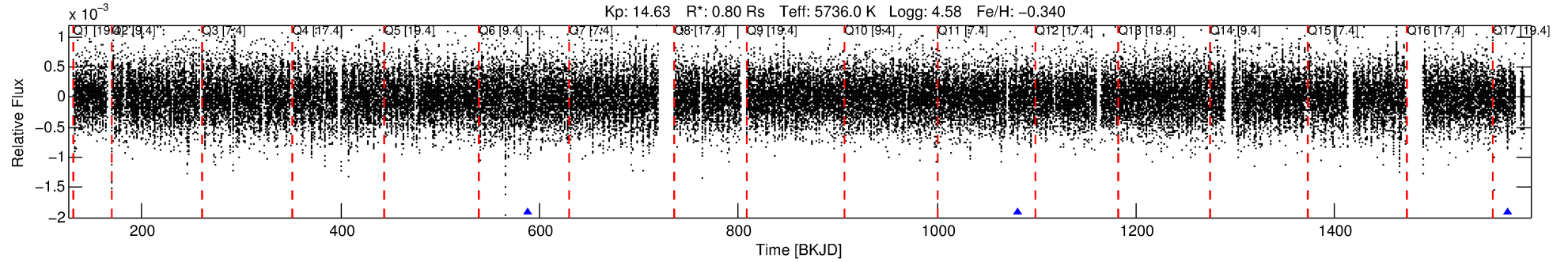
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007464520-01

No Significant Match Found

DV One-Page Summary

KIC: 7464520 Candidate: 1 of 1 Period: 492.704 d



DV Fit Results:

Period = 492.70433 [0.01422] d
Epoch = 588.8792 [0.0198] BKJD
Rp/R* = 0.0208 [0.0038]
a/R* = 151.88 [116.93]
b = 0.79 [0.37]
Seff = 0.45 [0.14]
Teff = 209 [17] K
Rp = 1.82 [0.56] Re
a = 1.1709 [0.2414] AU
Ag = 56905.75 [30742.43] [1.85 σ]
Teffp = 4998 [580] K [8.25 σ]

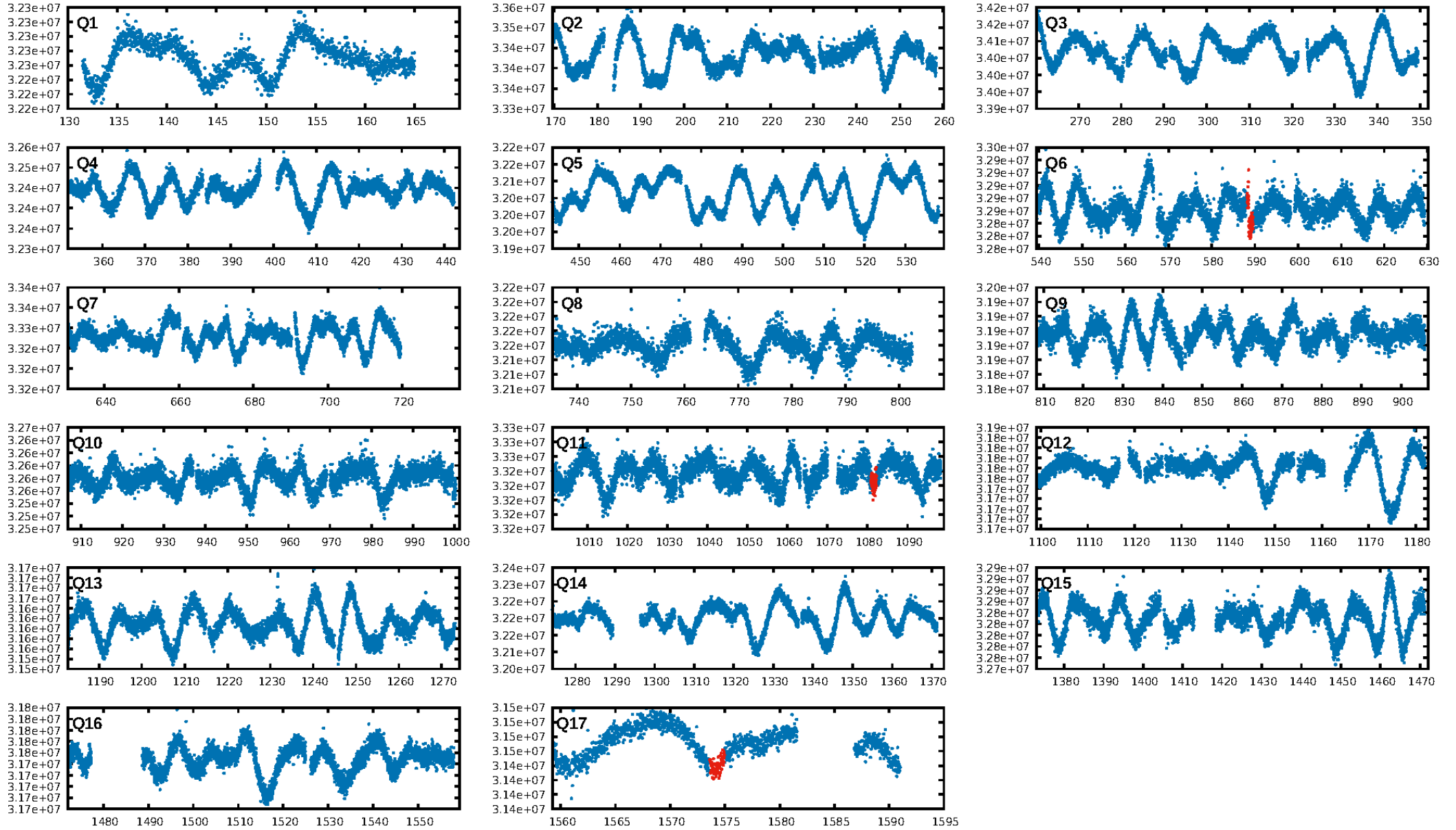
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.3%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.25e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -1.374
Centroid-sig: 0.4%
Centroid-so: 1.823 arcsec [1.74 σ]
OotOffset-rm: 2.105 arcsec [8.08 σ]
KicOffset-rm: 2.117 arcsec [6.09 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

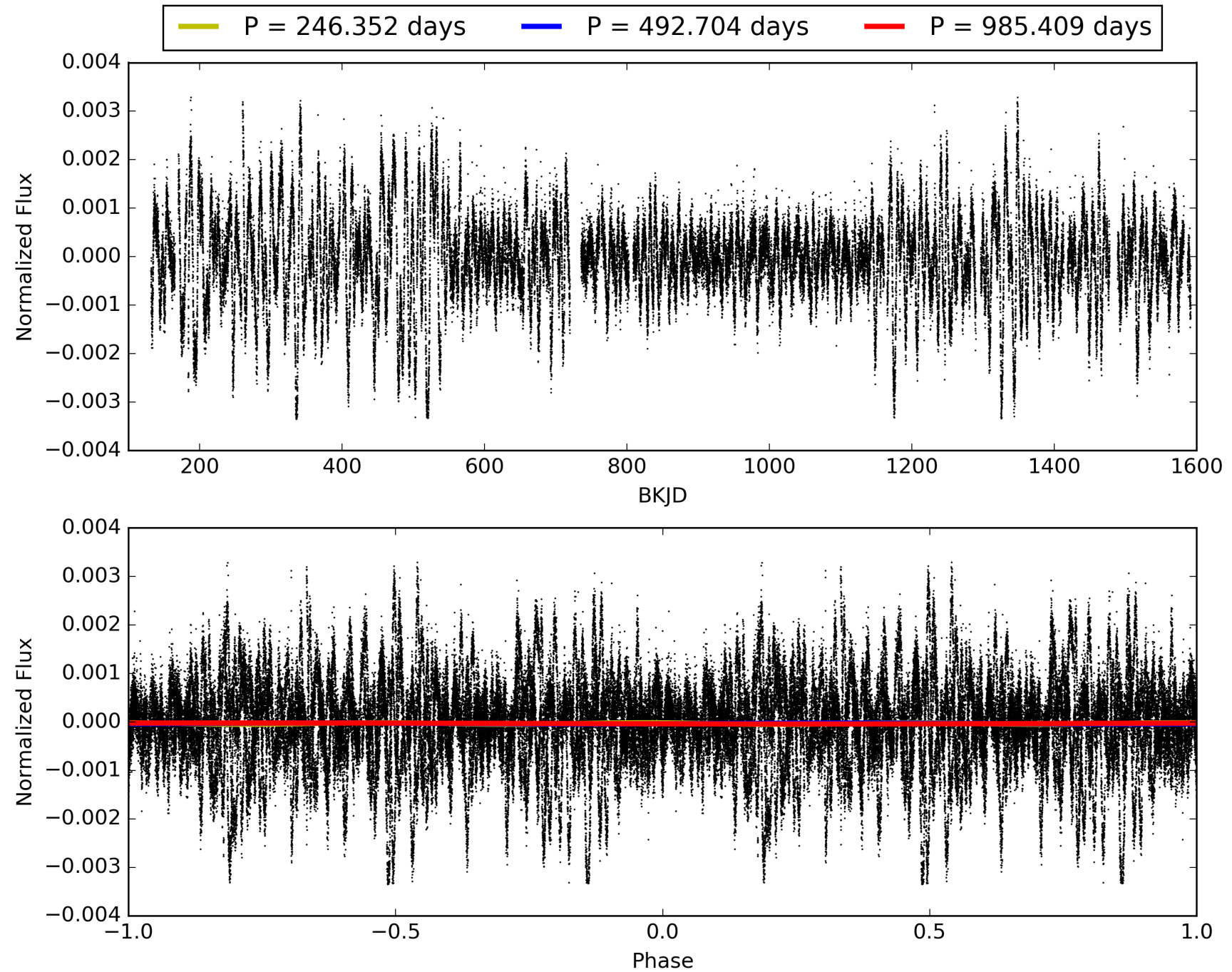
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:03:05 Z

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

TCE 007464520-01, PDC Light Curves

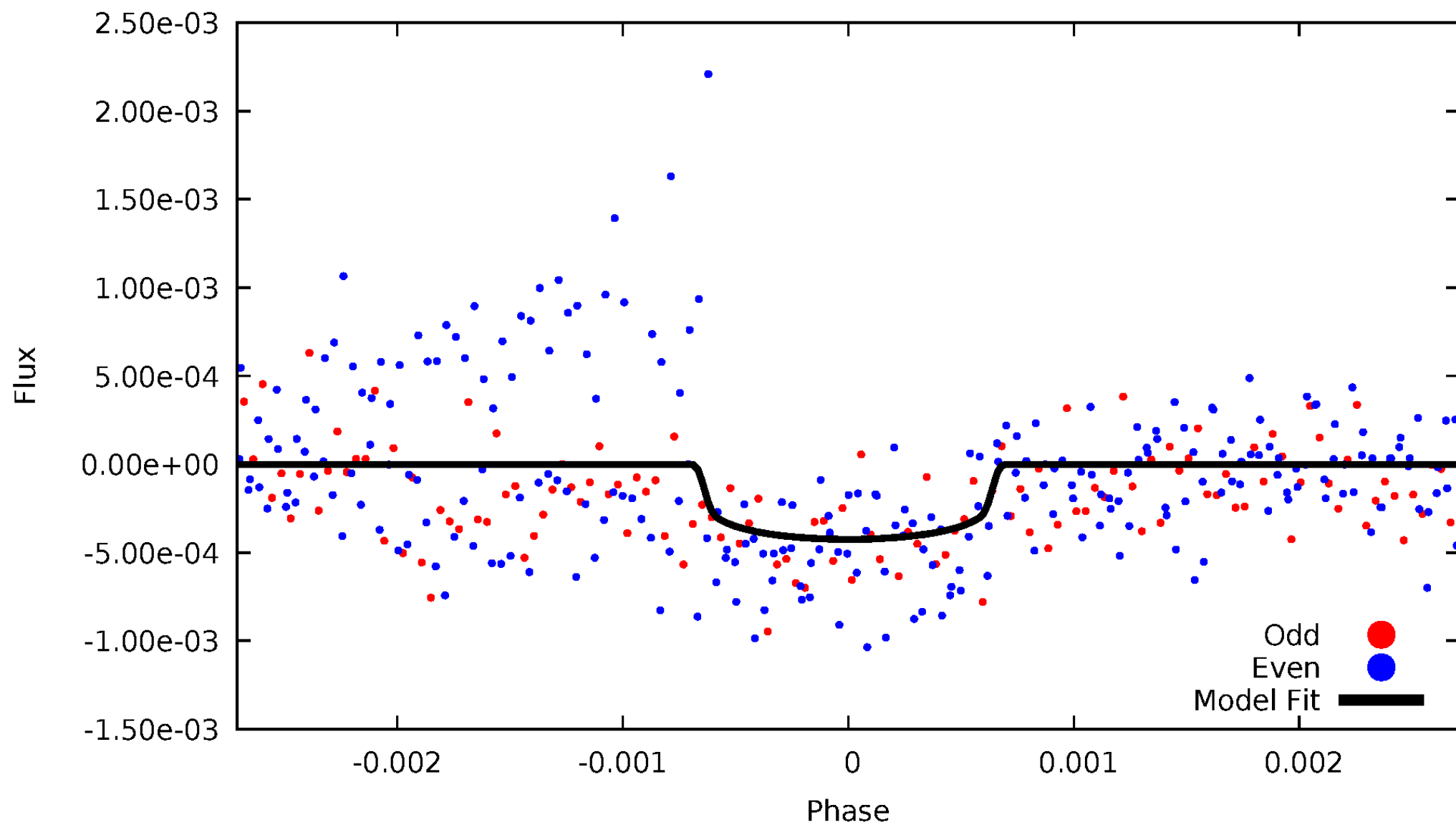


TCE 007464520-01



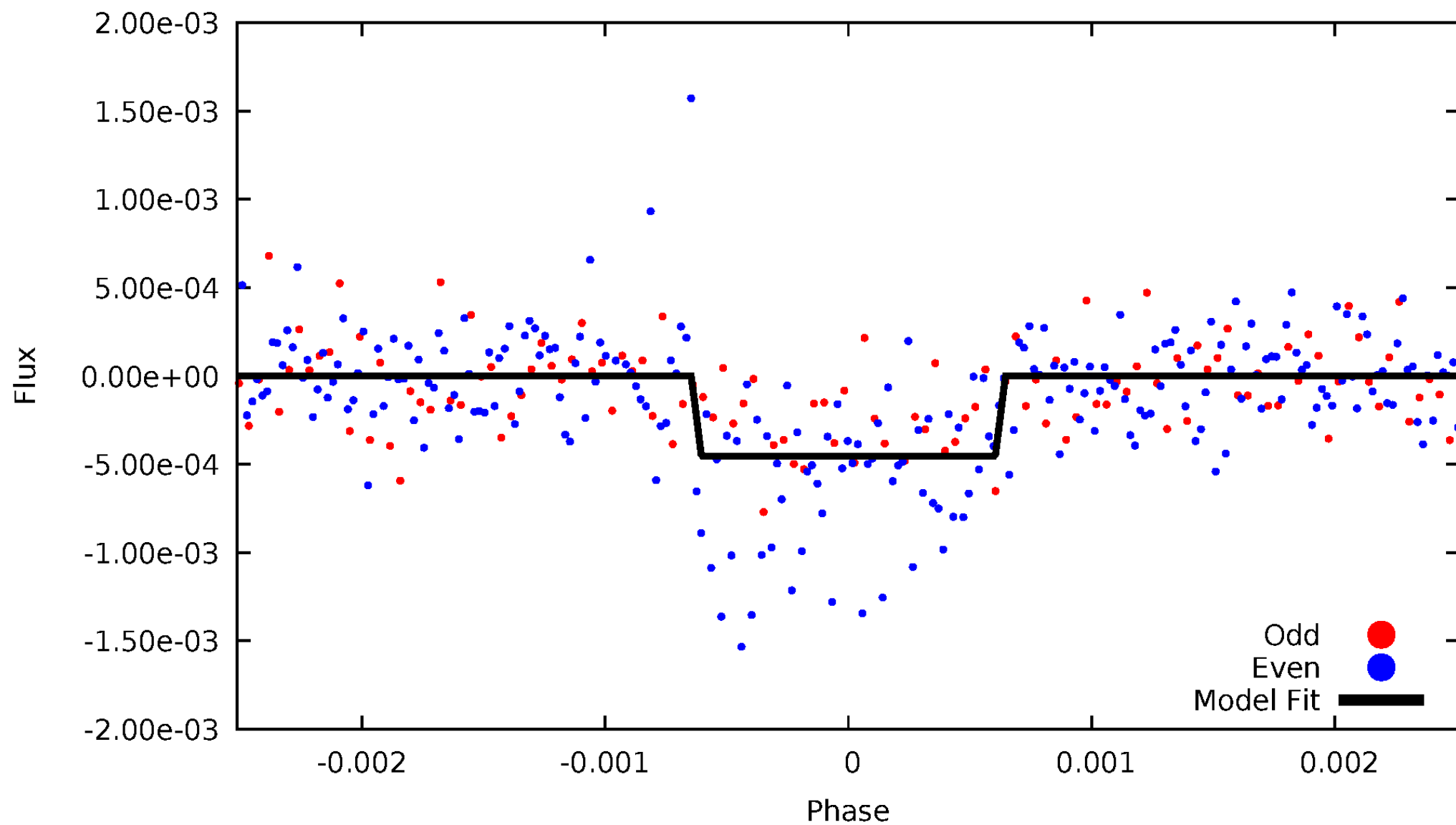
DV Odd/Even

TCE 007464520-01



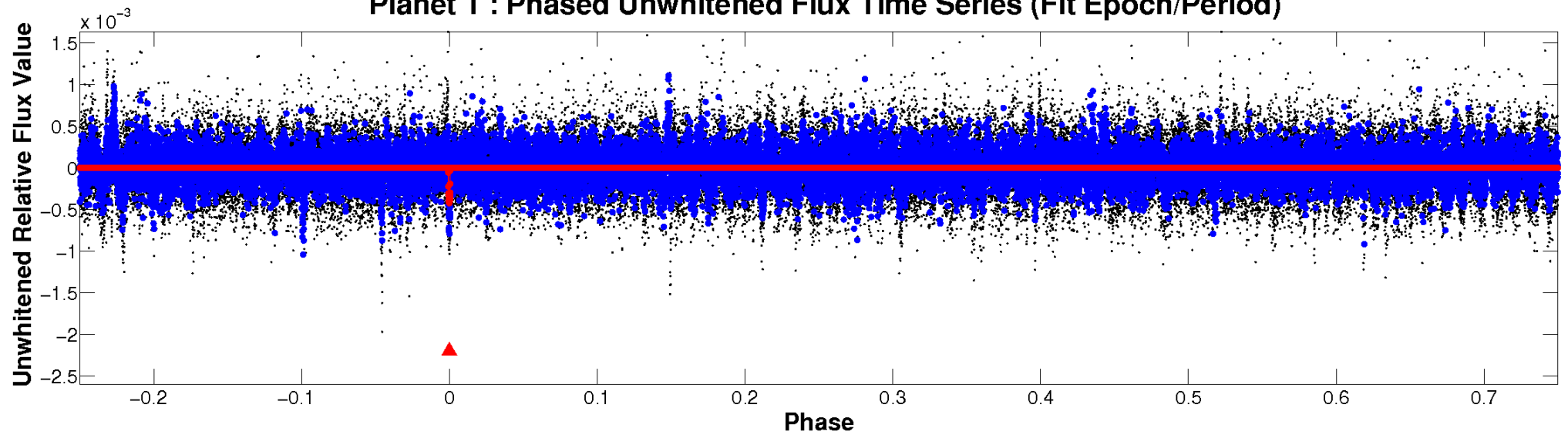
ALT Odd/Even

TCE 007464520-01

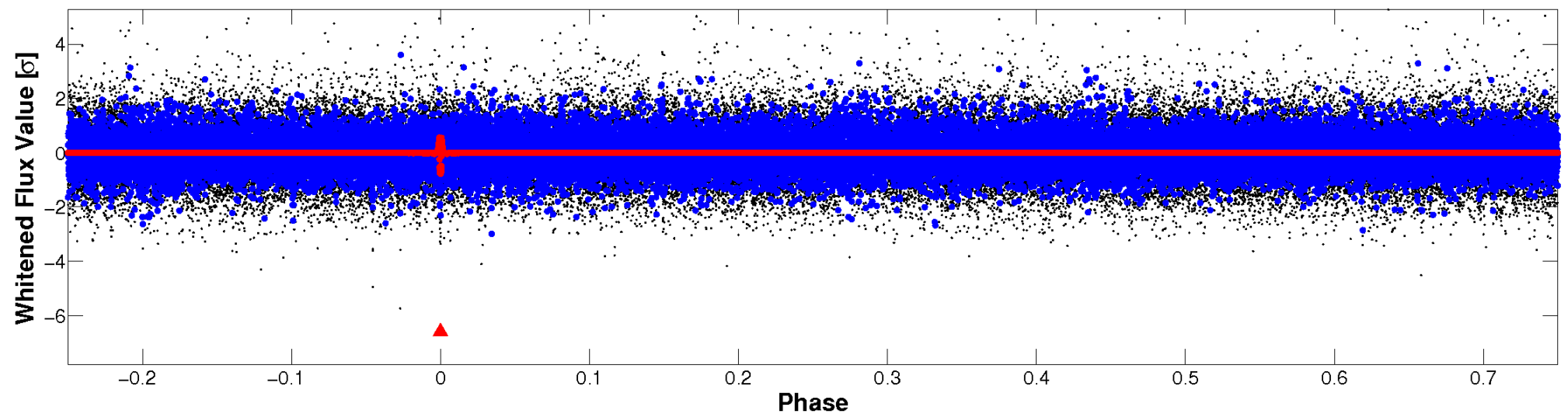


Non-Whitened Vs. Whitened Light Curve

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

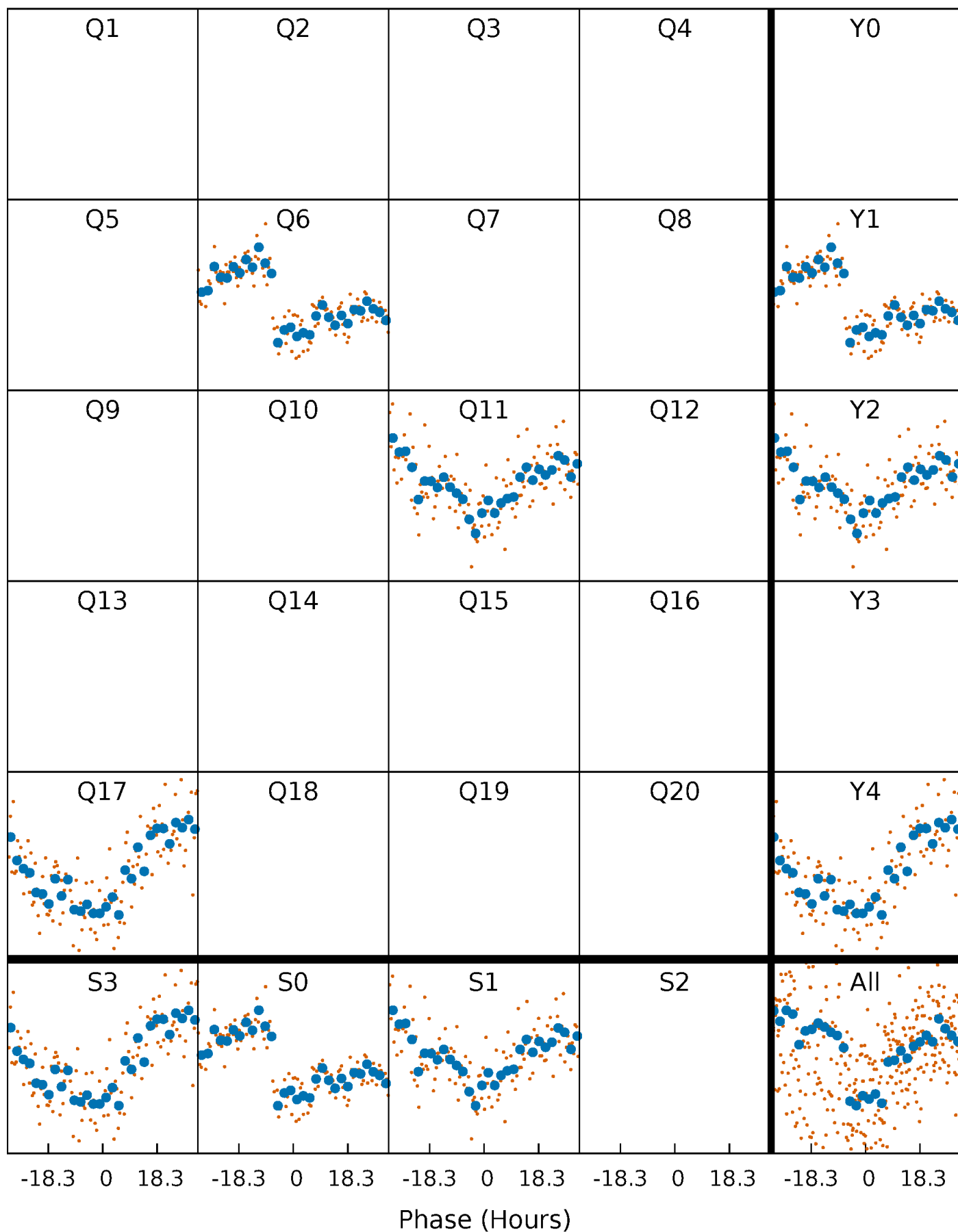


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



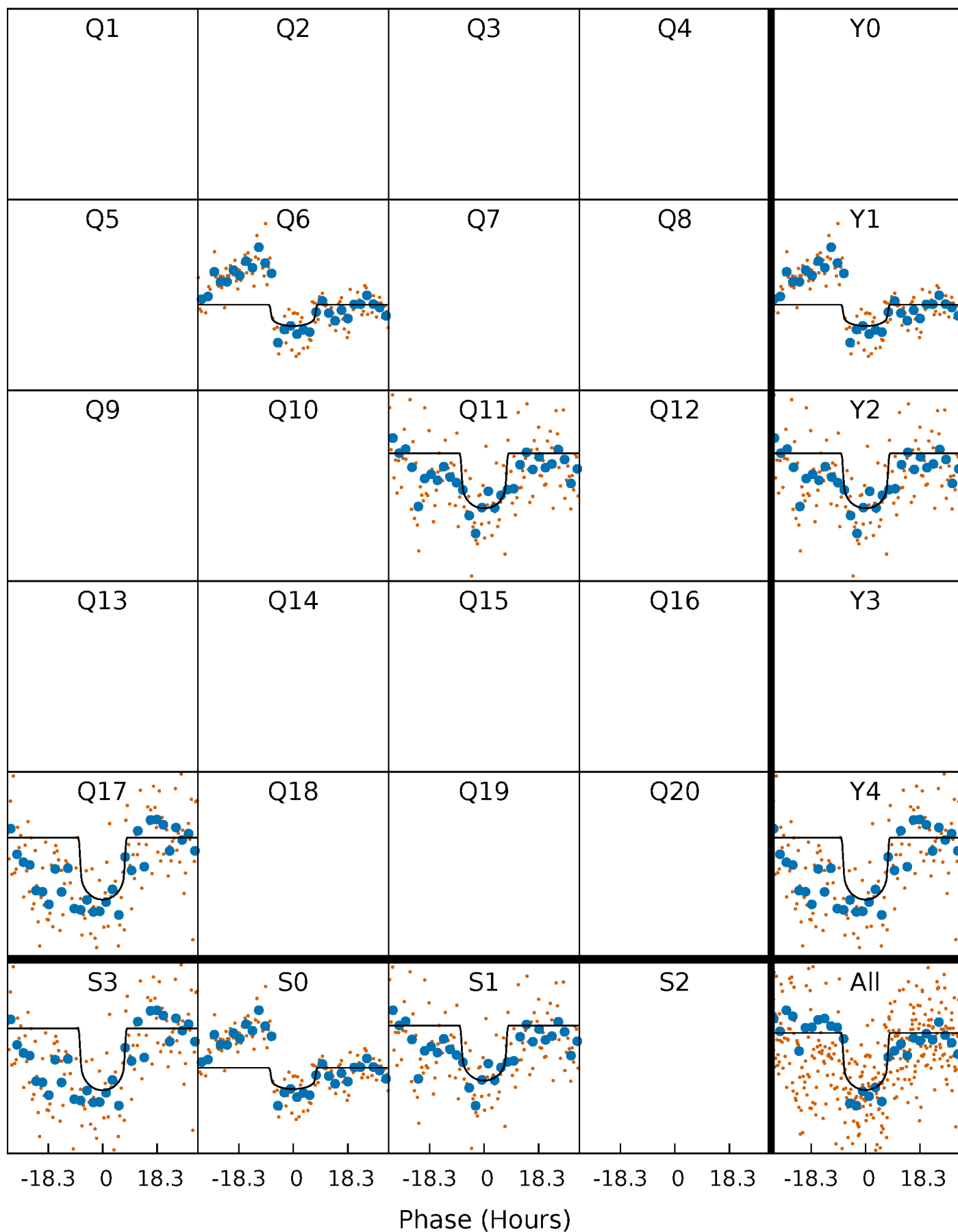
PDC Quarter-Phased Transit Curves

TCE 007464520-01 P=492.704333 Days $T_0=588.879224$ (BKJD)



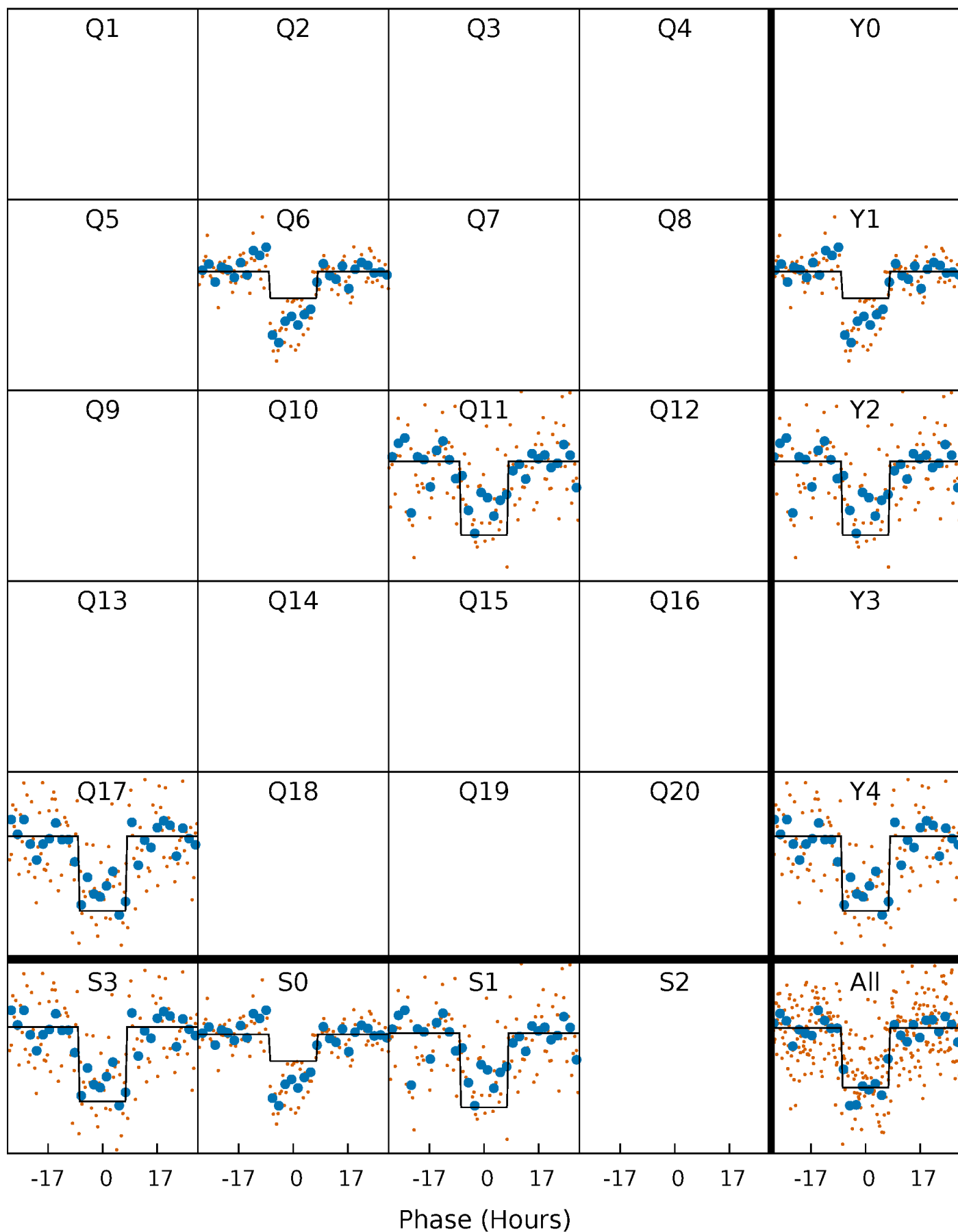
DV Quarter-Phased Transit Curves

TCE 007464520-01 P=492.704333 Days $T_0=588.879224$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

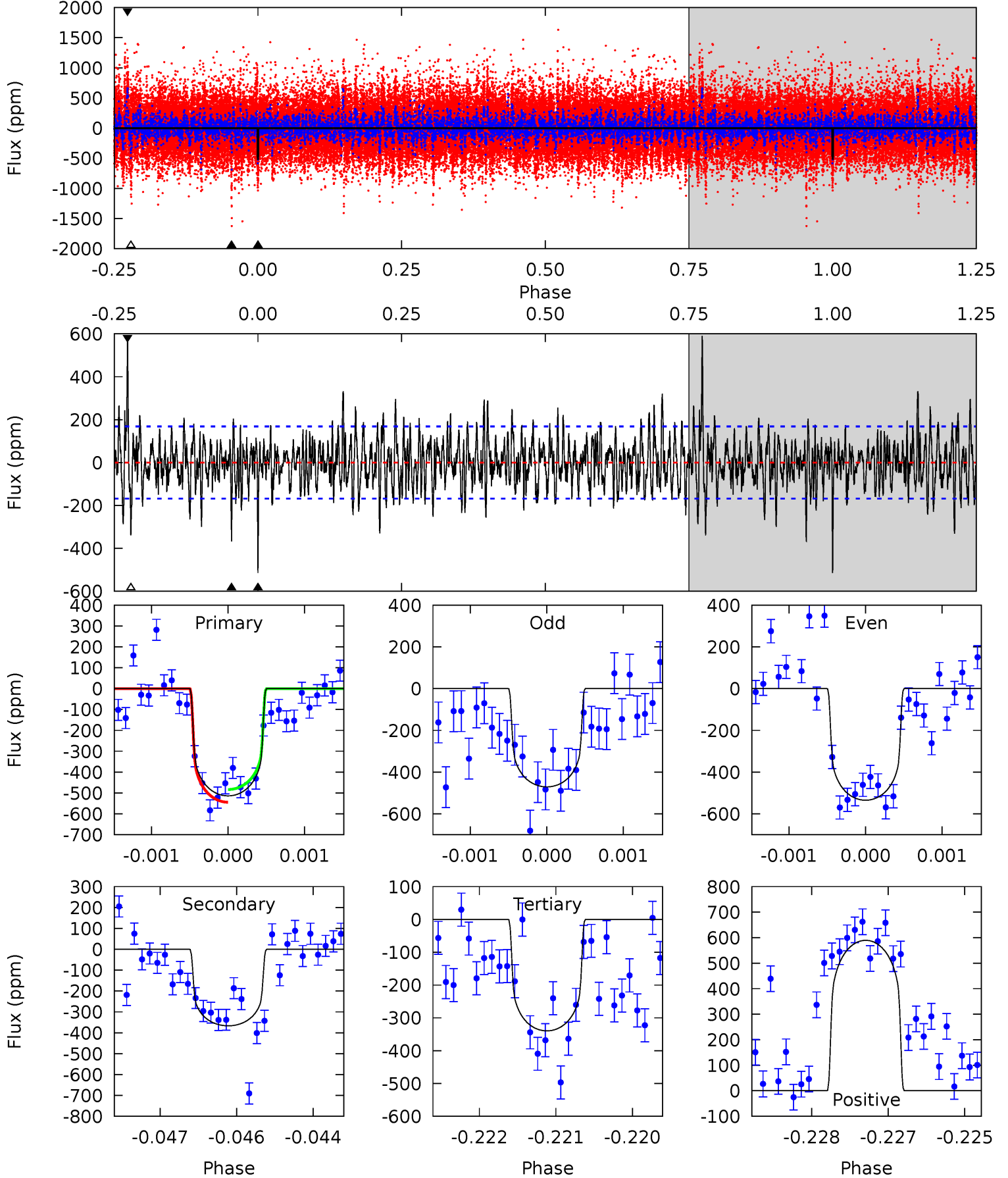
TCE 007464520-01 P=492.687187 Days $T_0=588.891923$ (BKJD)



DV Model-Shift Uniqueness Test

007464520-01, P = 492.704333 Days, E = 96.174891 Days

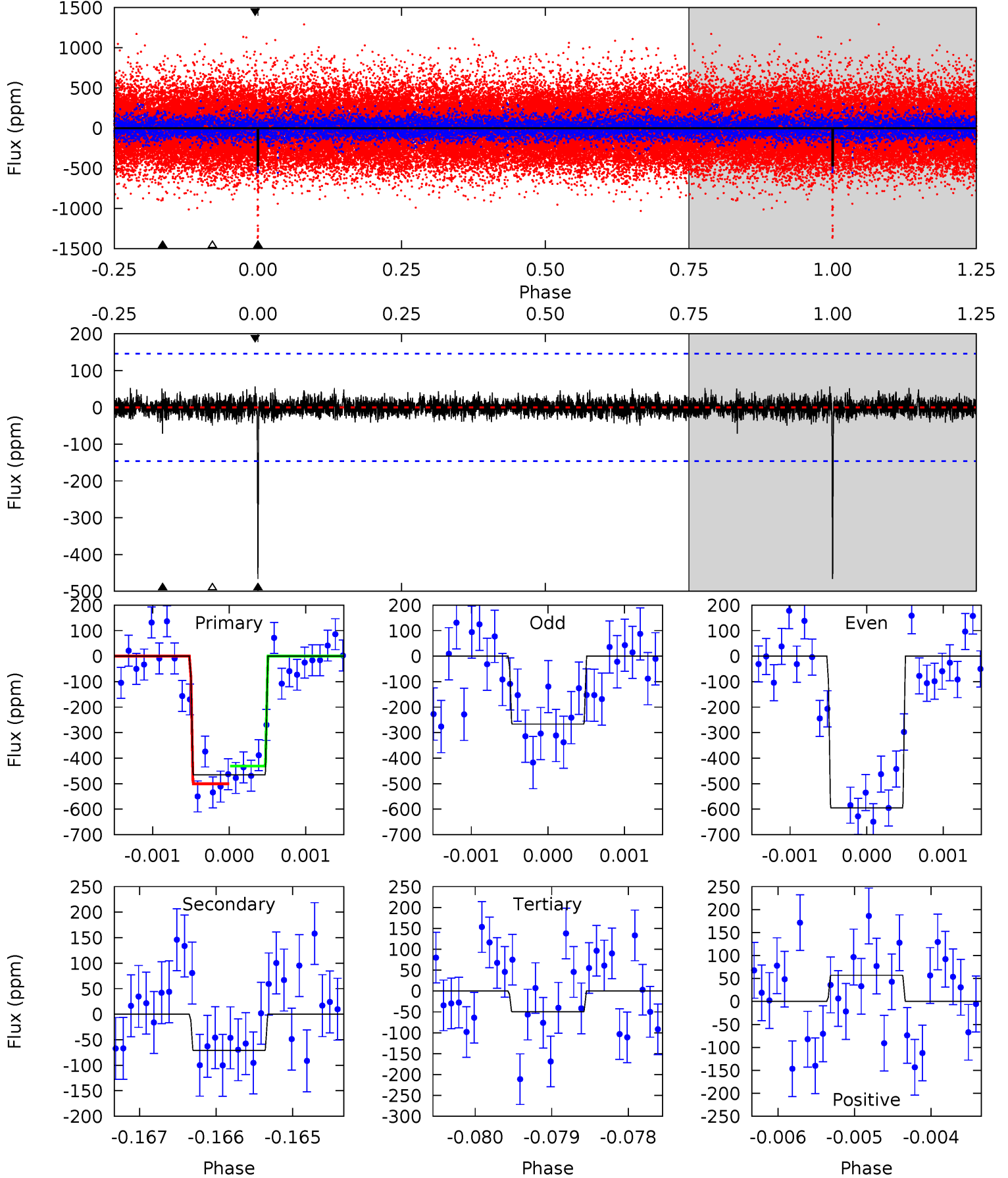
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	11.7	10.9	18.9	5.39	3.20	3.14	5.59	-2.42	0.87	-7.14	0.97	0.98	0.53	0.97



Alt Model-Shift Uniqueness Test

007464520-01, P = 492.687187 Days, E = 96.204736 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	2.63	1.84	2.10	5.41	3.22	0.49	15.4	15.1	0.79	0.53	5.77	1.41	0.11	1.27



Stellar Parameters For KIC 007464520

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5736^{+155}_{-155}	$4.576^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.801^{+0.199}_{-0.066}$	$0.892^{+0.091}_{-0.100}$	$2.448^{+0.402}_{-1.115}$
	+3%/-3%	+1%/-3%	+88%/-88%	+25%/-8%	+10%/-11%	+16%/-46%
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 007464520-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-367 ± 31	$1.87^{+0.43}_{-0.34}$	298^{+16}_{-12}	5524^{+576}_{-427}	77782^{+39151}_{-25201}
Alt.	-71 ± 27	$1.93^{+0.42}_{-0.39}$	299^{+17}_{-13}	3936^{+393}_{-375}	13846^{+9781}_{-6303}

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

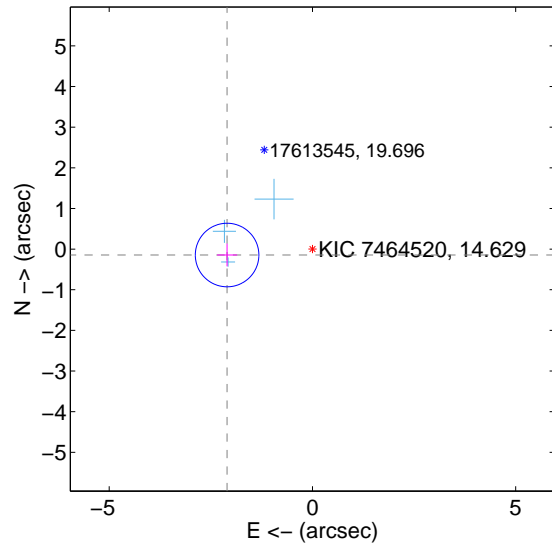
Supplemental centroid analysis for 007464520-01. Kepler magnitude: 14.63. Transit SNR 7.47

There are 3 quarters with good PRF difference image offsets

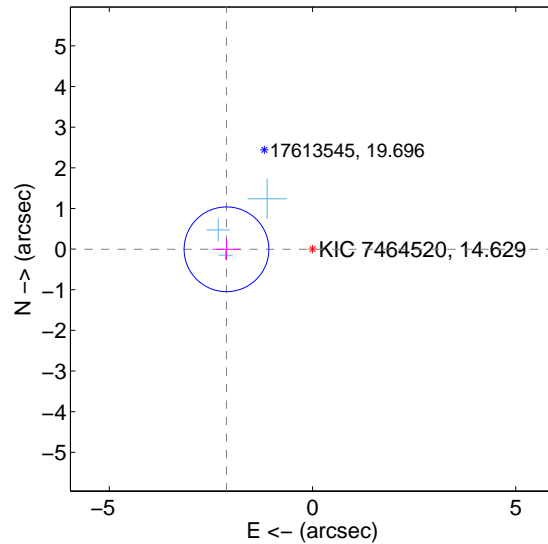
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.105 \pm 0.261	8.08	2.100 \pm 0.247	-0.146 \pm 0.279
PRF-fit source offset from KIC position	2.117 \pm 0.347	6.09	2.117 \pm 0.347	-0.005 \pm 0.251
photometric centroid source offset	1.82 \pm 1.05	1.74	1.65 \pm 1.08	-0.77 \pm 0.89

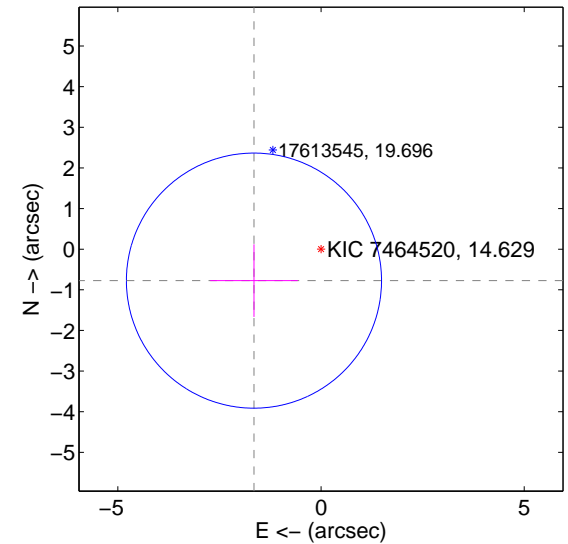
offset from difference PRF-fit to OOT PRF-fit



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.

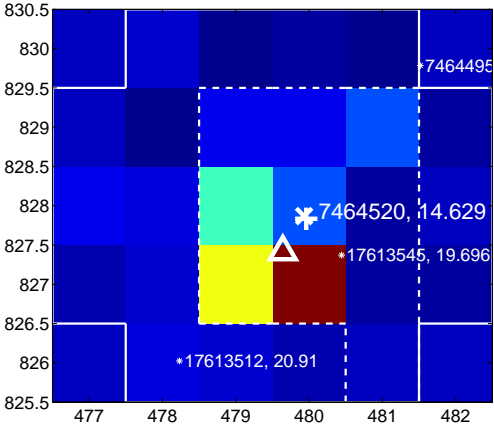
Q5 no difference image



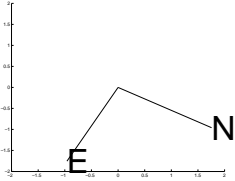
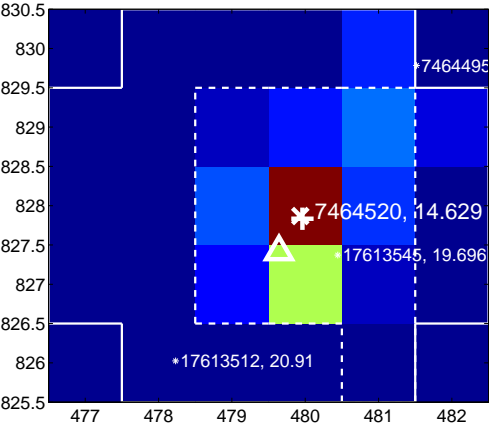
Q5 no OOT image



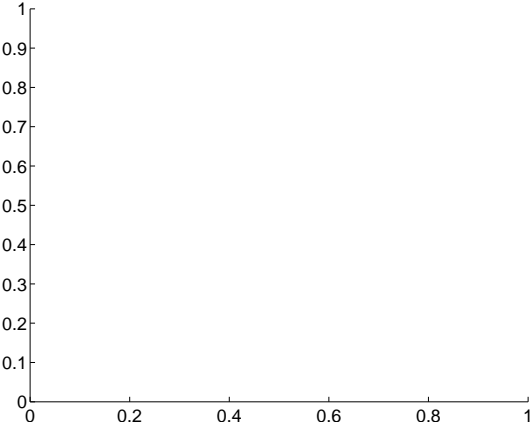
Q6 difference image



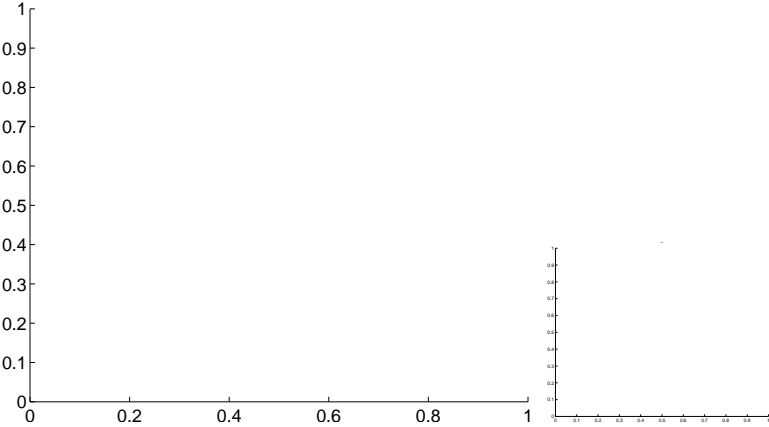
Q6 OOT image



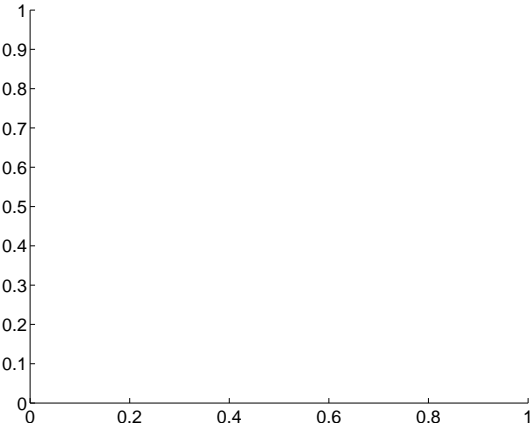
Q7 no difference image



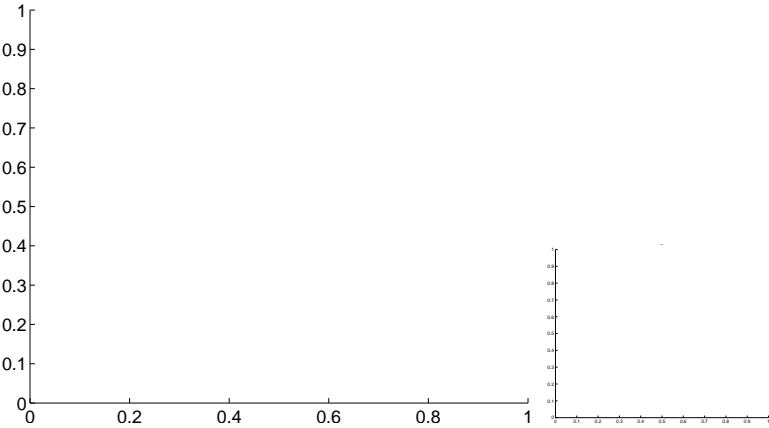
Q7 no OOT image



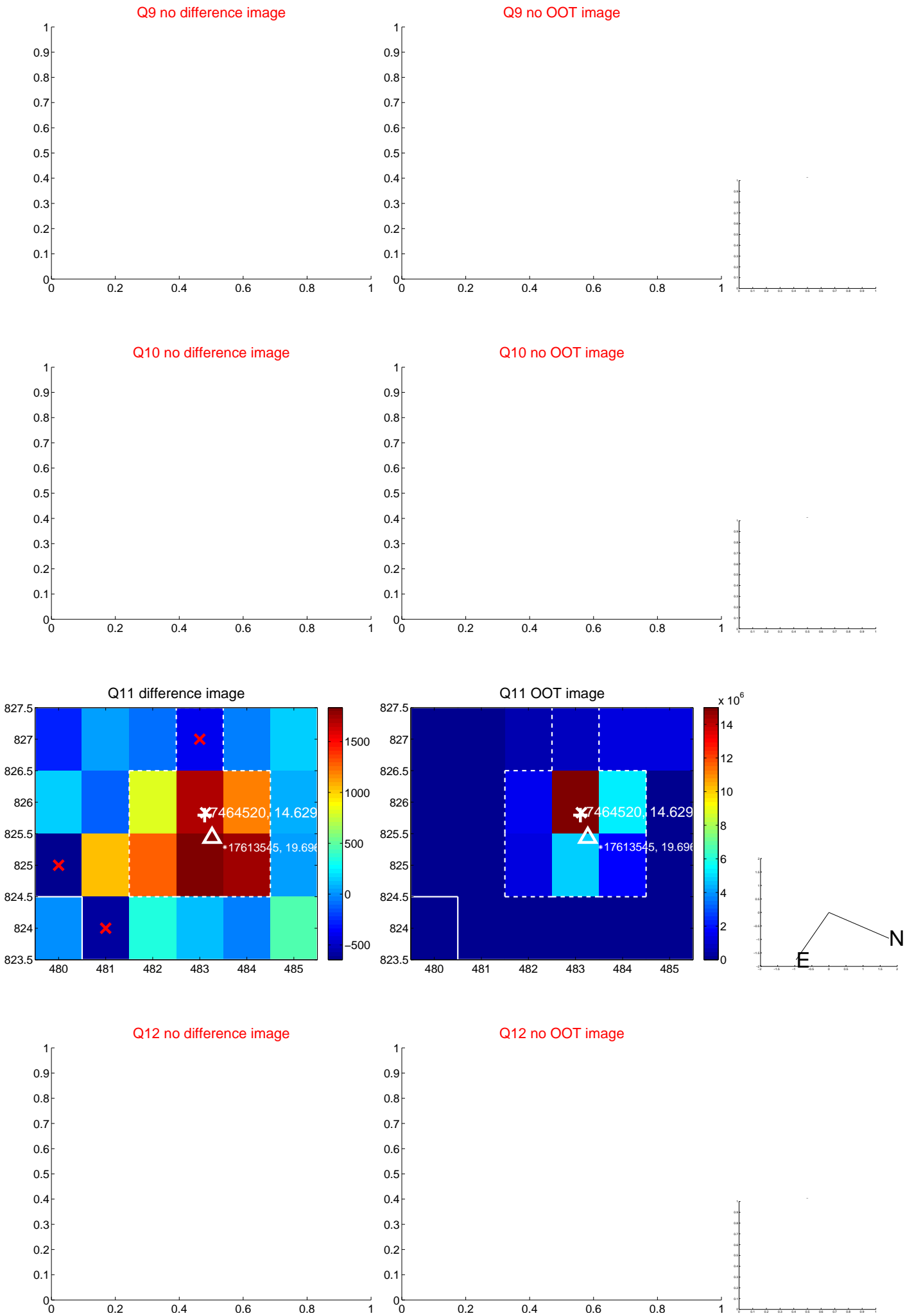
Q8 no difference image



Q8 no OOT image



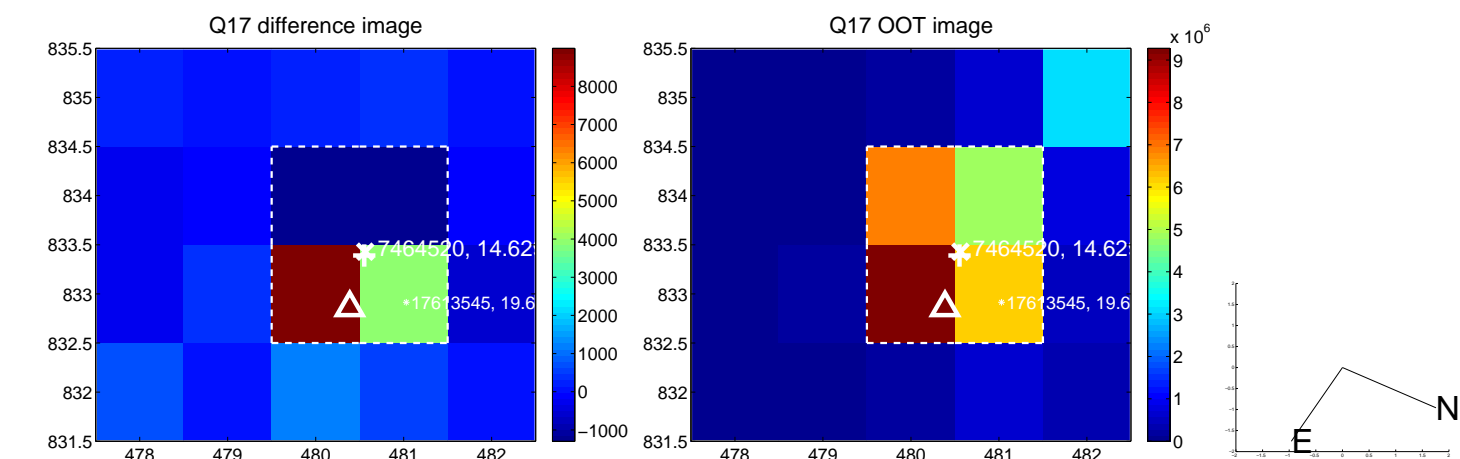
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



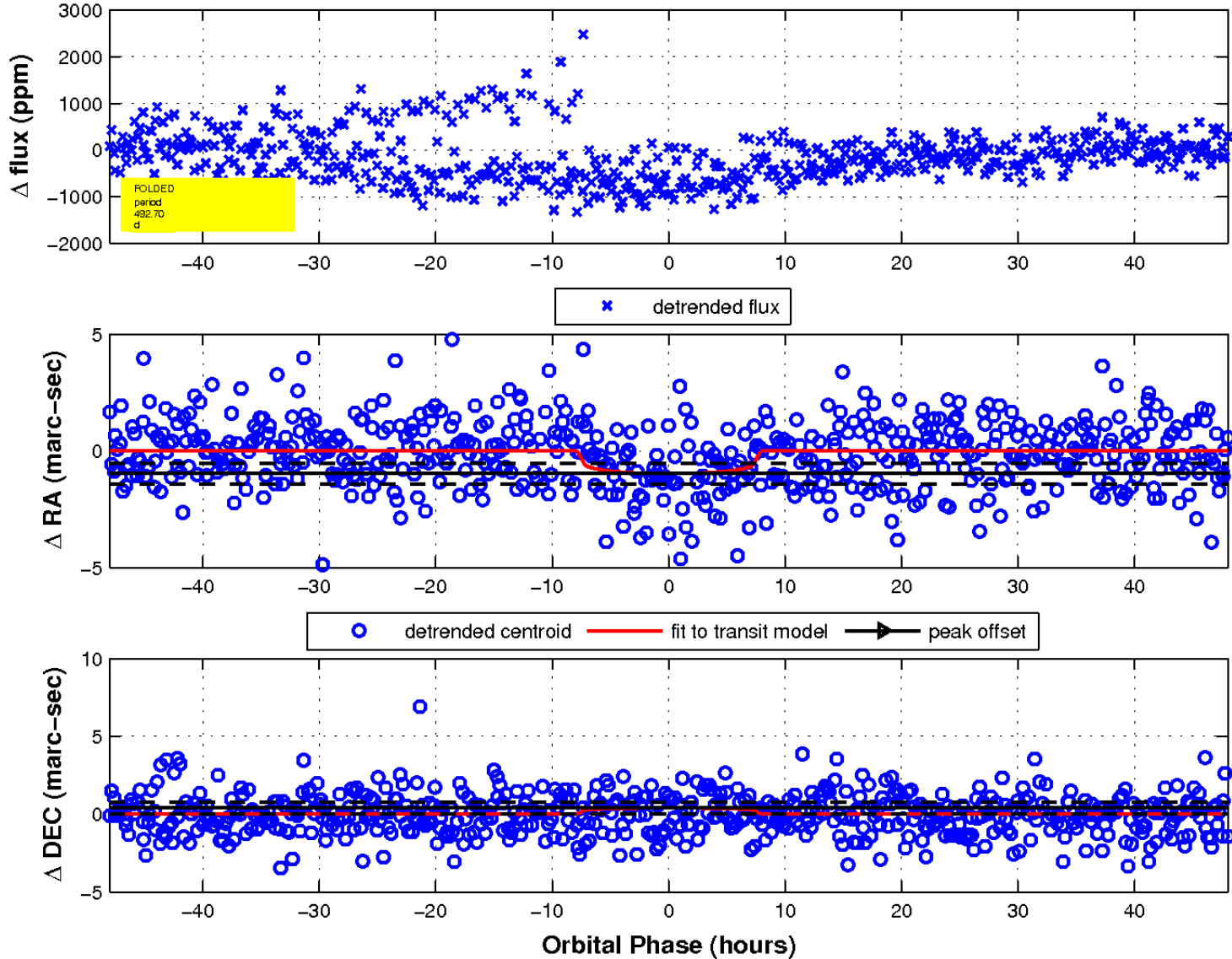
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

