

KIC 009594184

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})
009594184-01	OBS	5696.01	42.093866	141.096752	892.9	4.840	8.8	9.4	0.76	4885	2.41	6.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009594184-01	OBS	FP	0.51	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

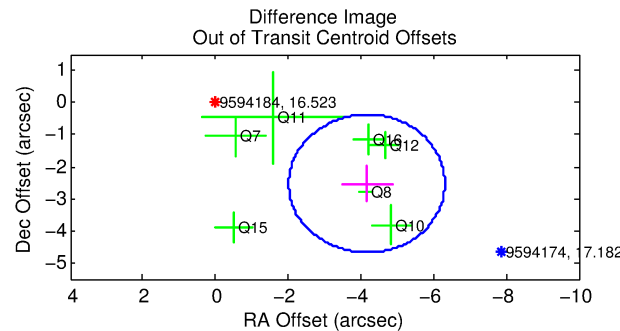
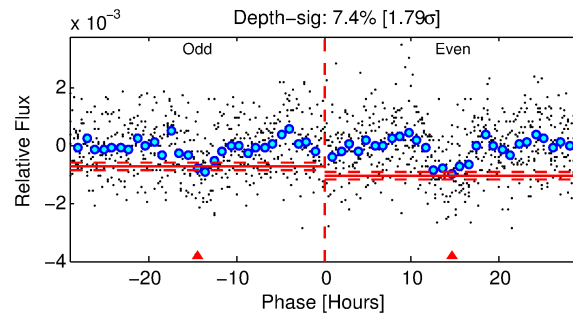
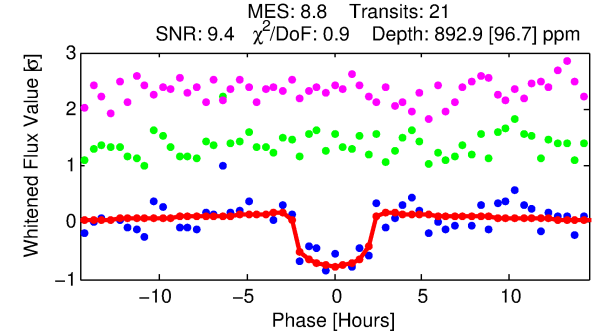
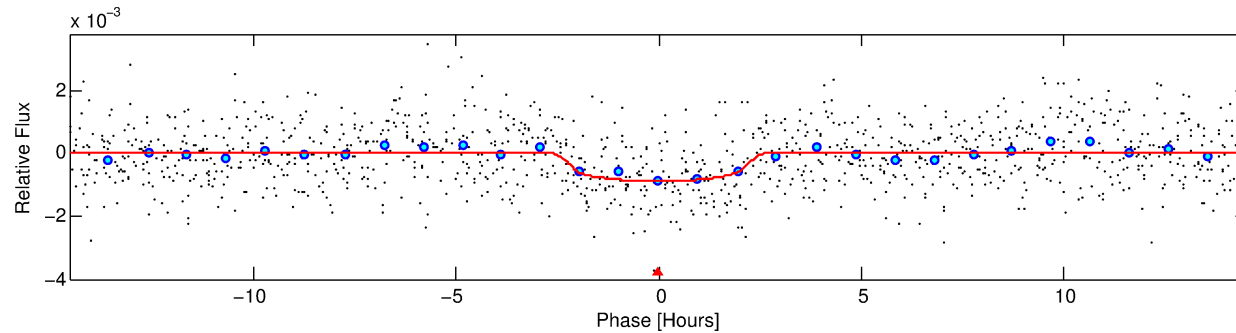
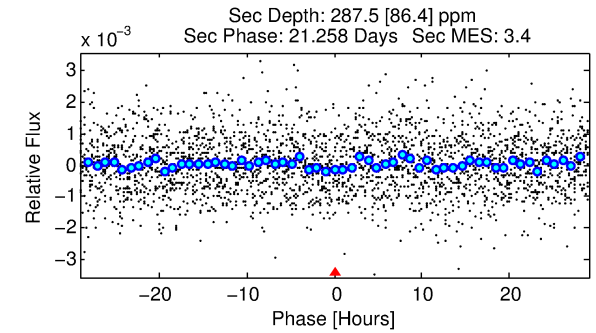
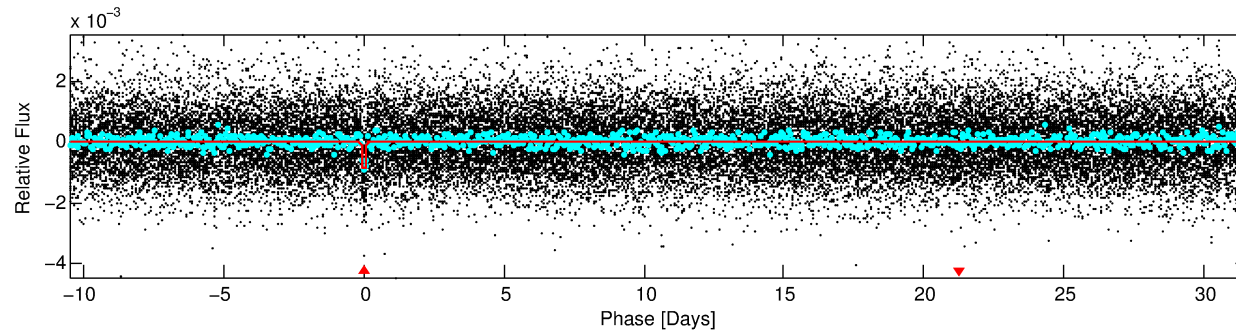
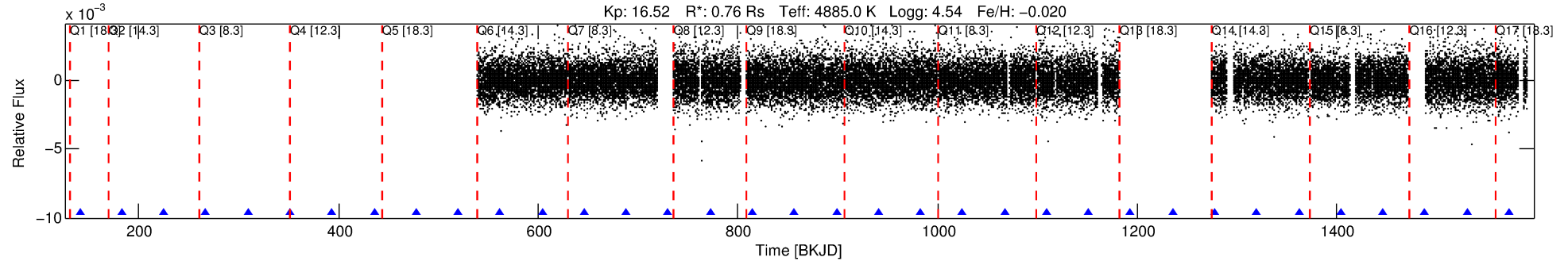
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009594184-01

No Significant Match Found

DV One-Page Summary

KIC: 9594184 Candidate: 1 of 1 Period: 42.094 d
KOI: K05696.01 Corr: 0.957



DV Fit Results:

Period = 42.09387 [0.00066] d
Epoch = 141.0968 [0.0149] BKJD
Rp/R* = 0.0290 [0.0293]
a/R* = 51.40 [174.01]
b = 0.68 [2.76]
Seff = 6.48 [1.25]
Teq = 407 [20] K
Rp = 2.41 [2.45] Re
a = 0.2141 [0.0189] AU
Ag = 1245.80 [2554.96] [0.49σ]
Teffp = 3737 [1917] K [1.74σ]

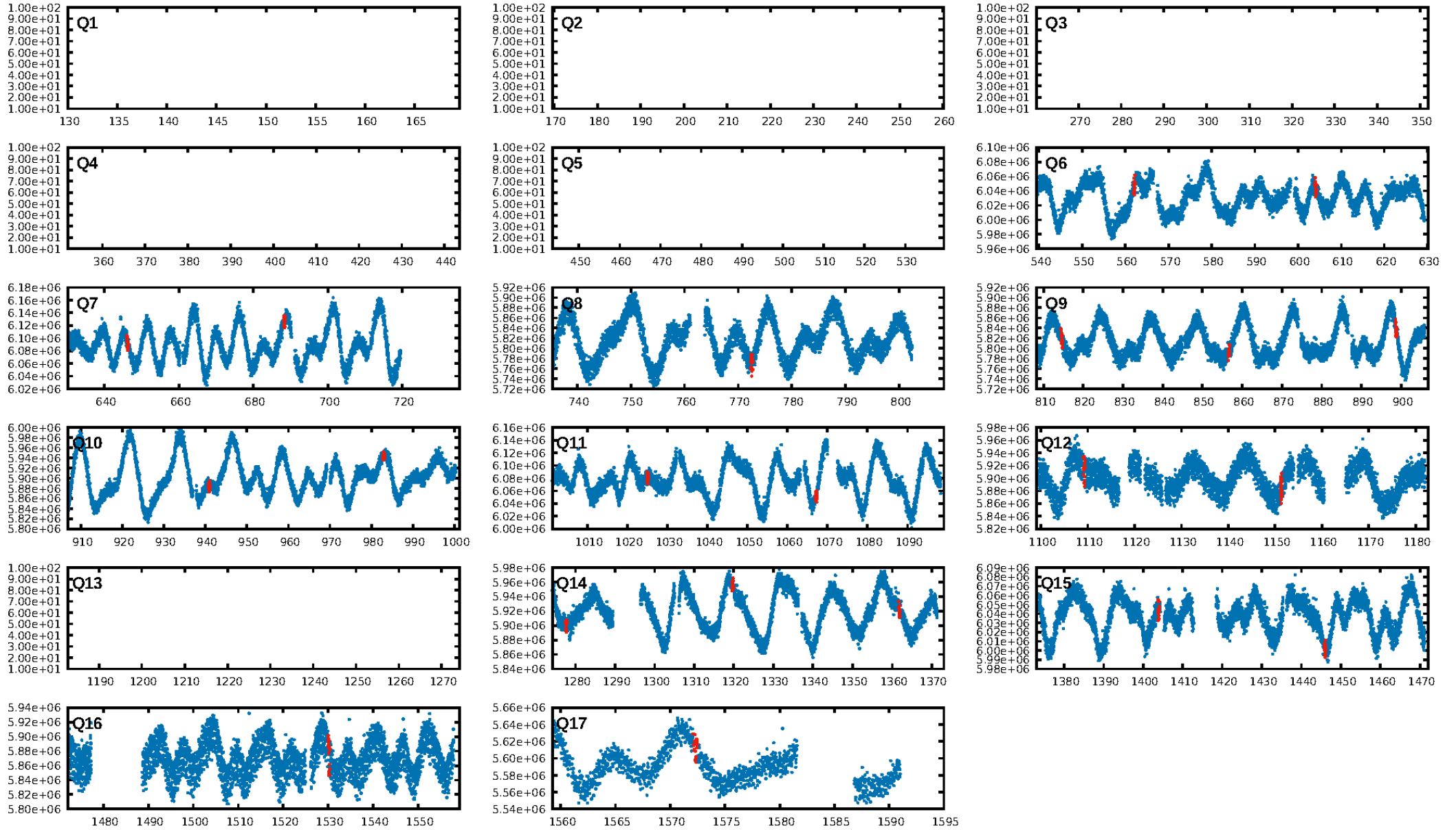
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.10e-18
RollingBand-fgt: 1.00 [20/20]
GhostDiagnostic-chr: 9.091
Centroid-sig: 24.1%
Centroid-so: 1.900 arcsec [1.06σ]
OotOffset-rm: 4.867 arcsec [6.79σ]
KicOffset-rm: 4.893 arcsec [7.10σ]
OotOffset-st: 1/3/3/0 [7]
KicOffset-st: 1/3/3/0 [7]
DiffImageQuality-fgm: 0.86 [6/7]
DiffImageOverlap-fno: 1.00 [11/11]

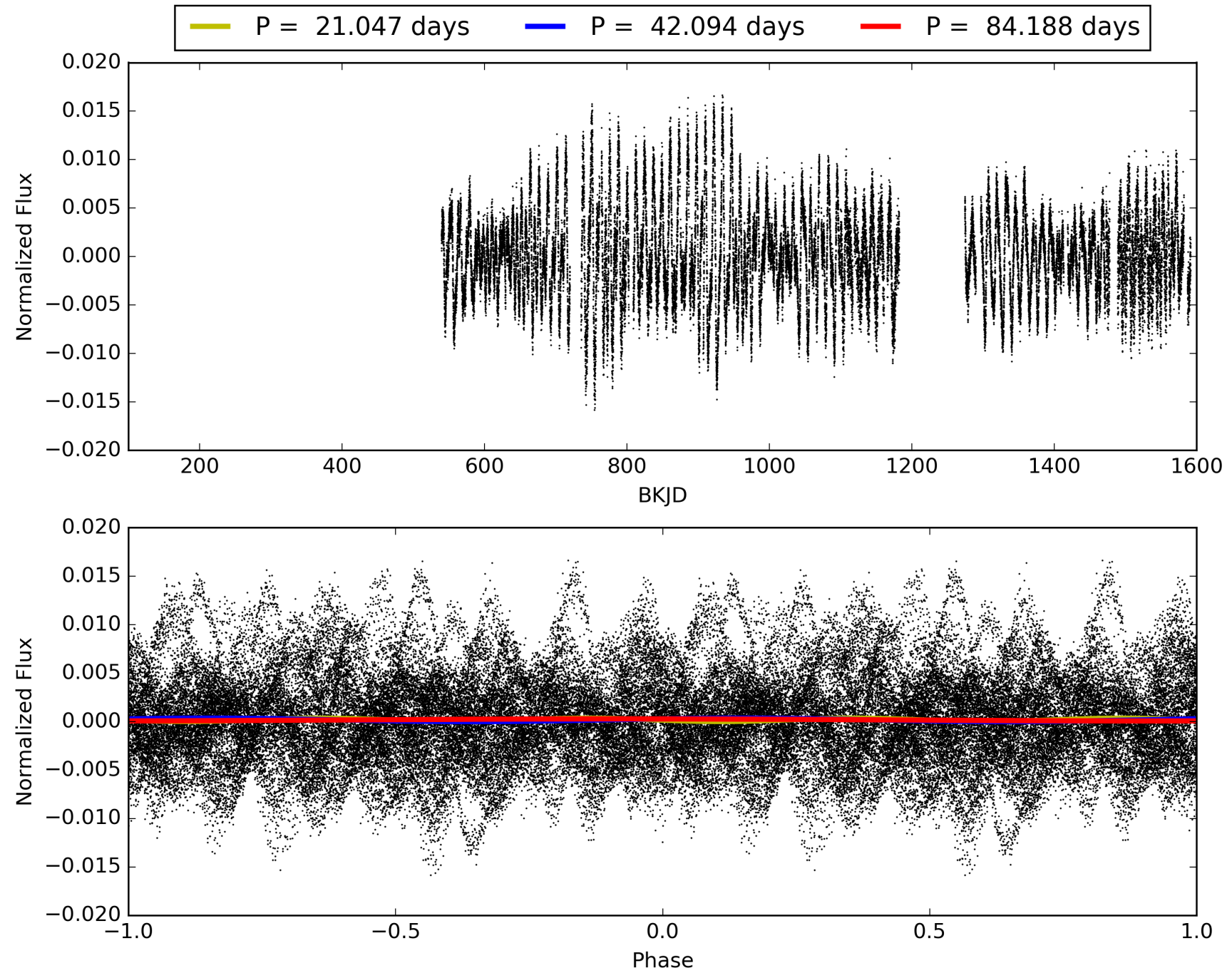
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:58:52 Z

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

TCE 009594184-01, PDC Light Curves

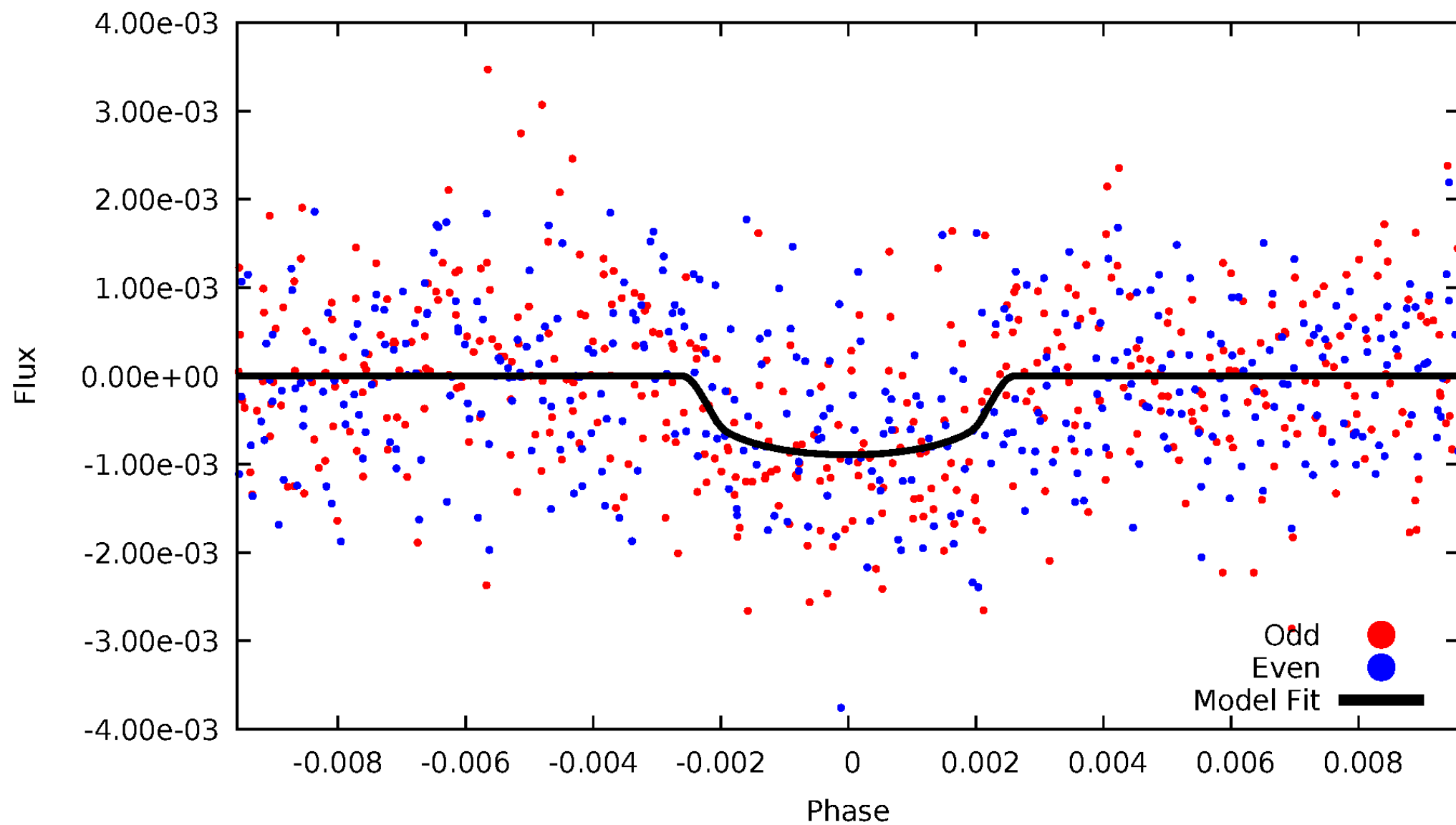


TCE 009594184-01



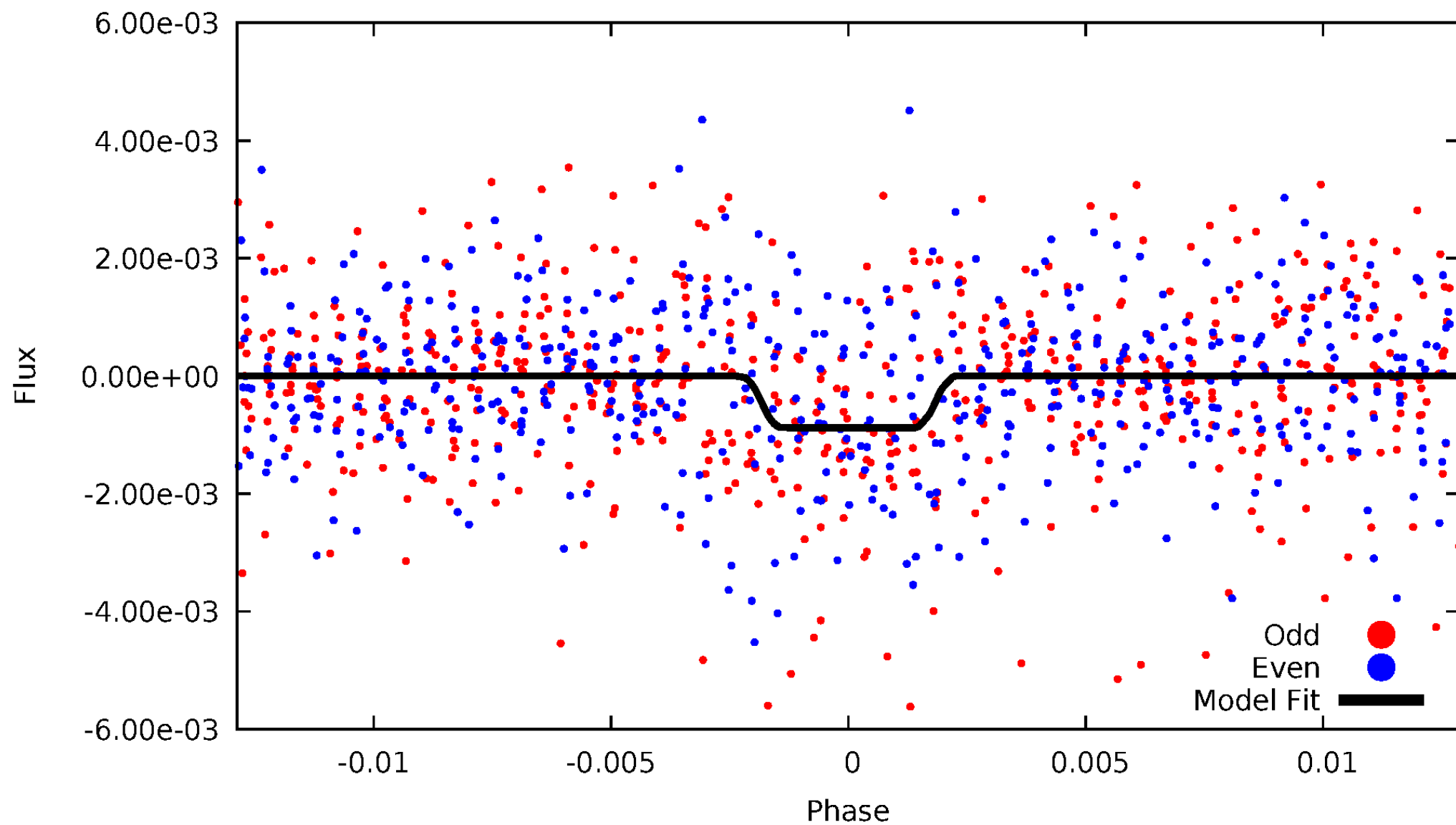
DV Odd/Even

TCE 009594184-01



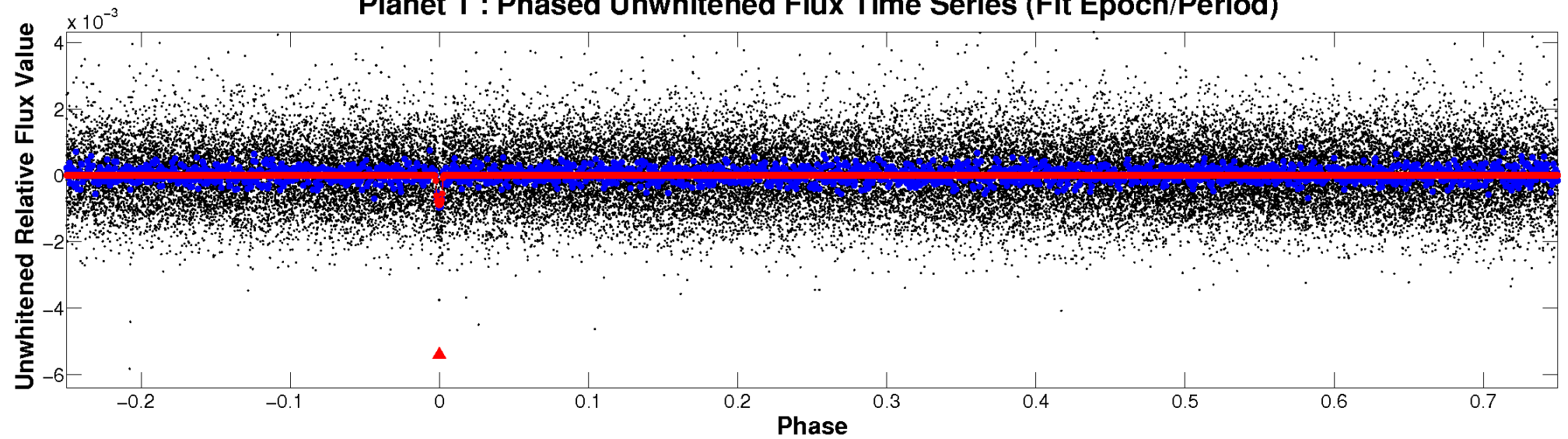
ALT Odd/Even

TCE 009594184-01

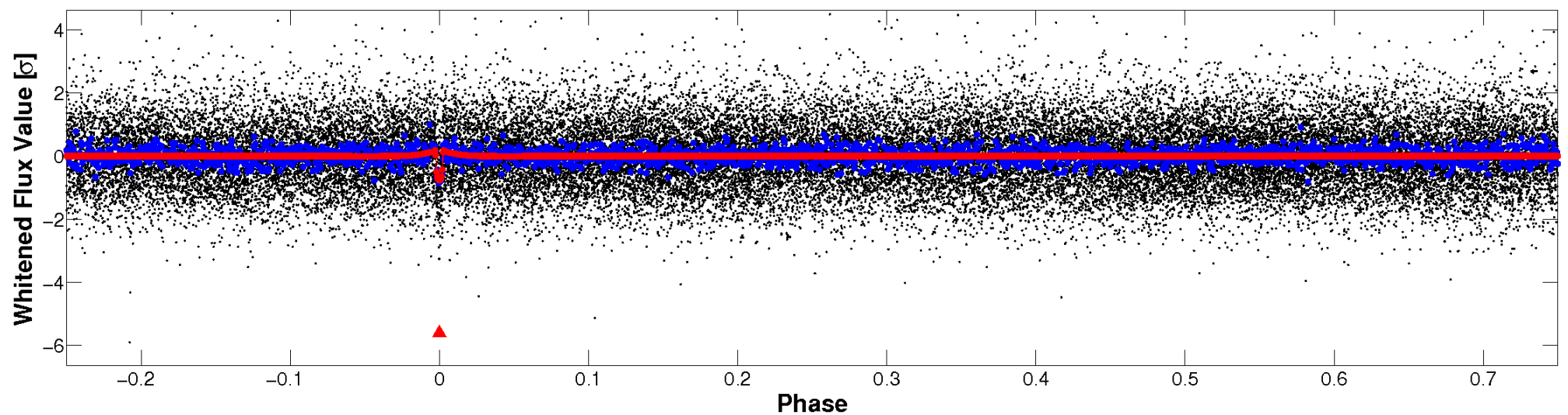


Non-Whitened Vs. Whitened Light Curve

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

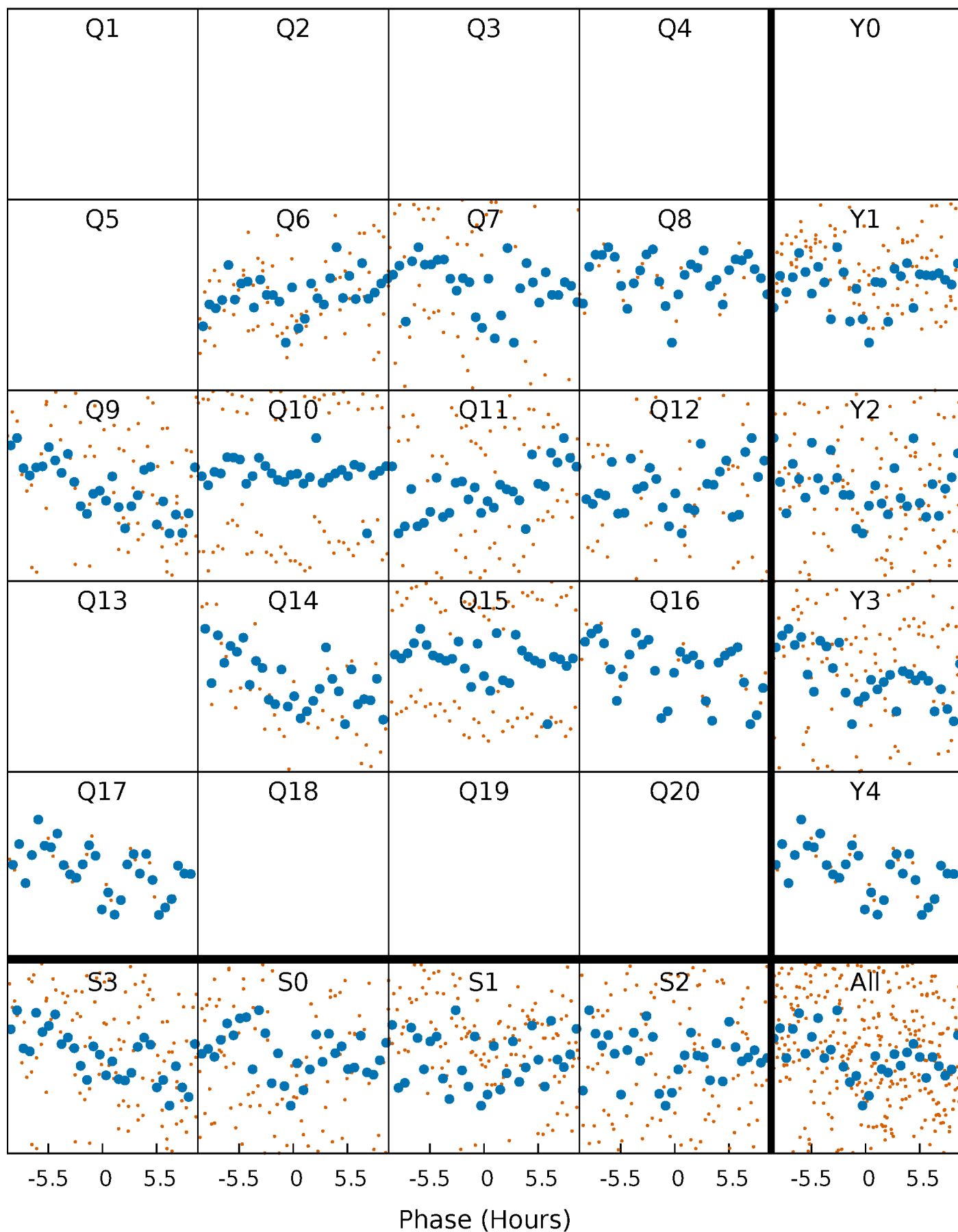


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



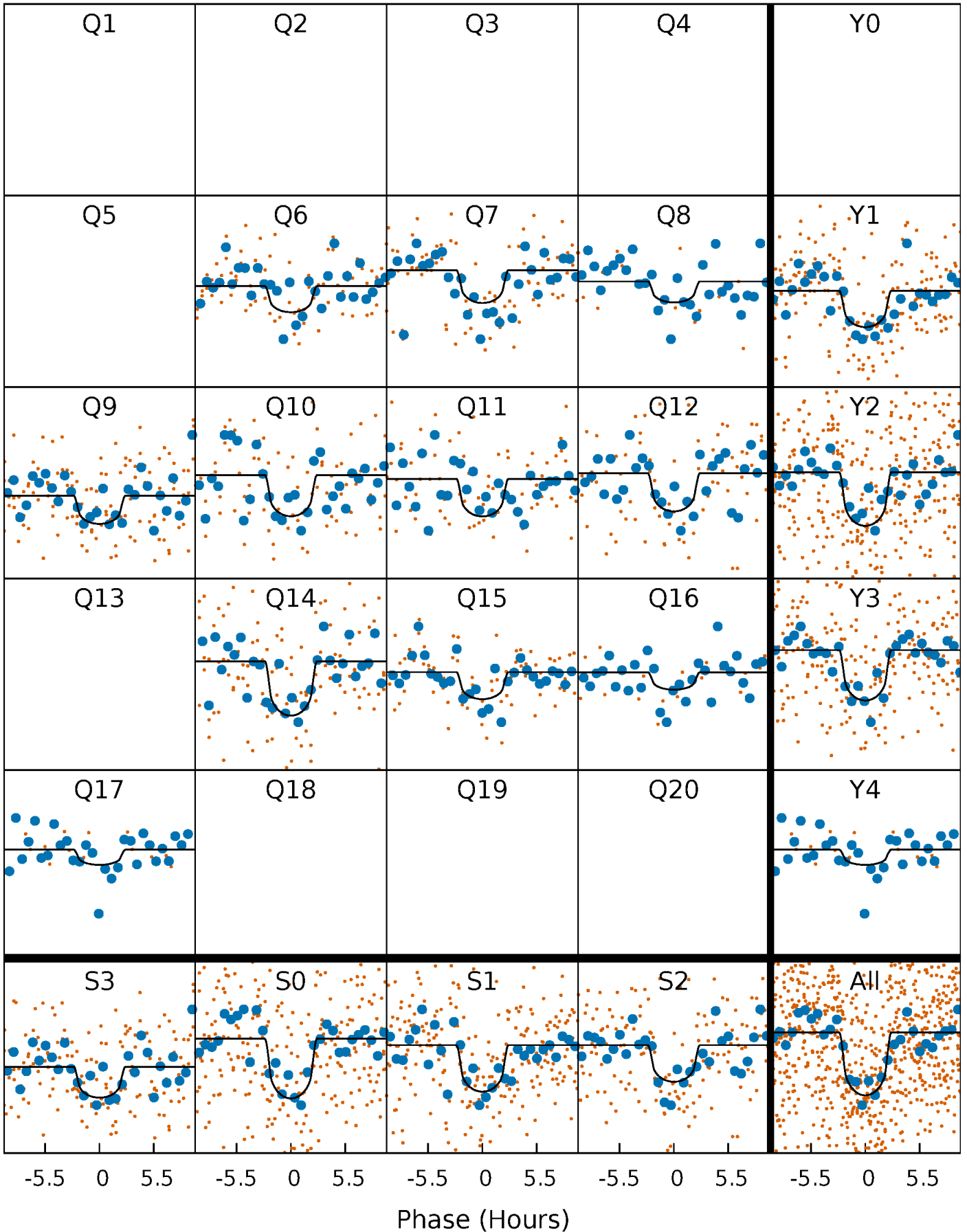
PDC Quarter-Phased Transit Curves

TCE 009594184-01 P= 42.093866 Days $T_0=141.096752$ (BKJD)



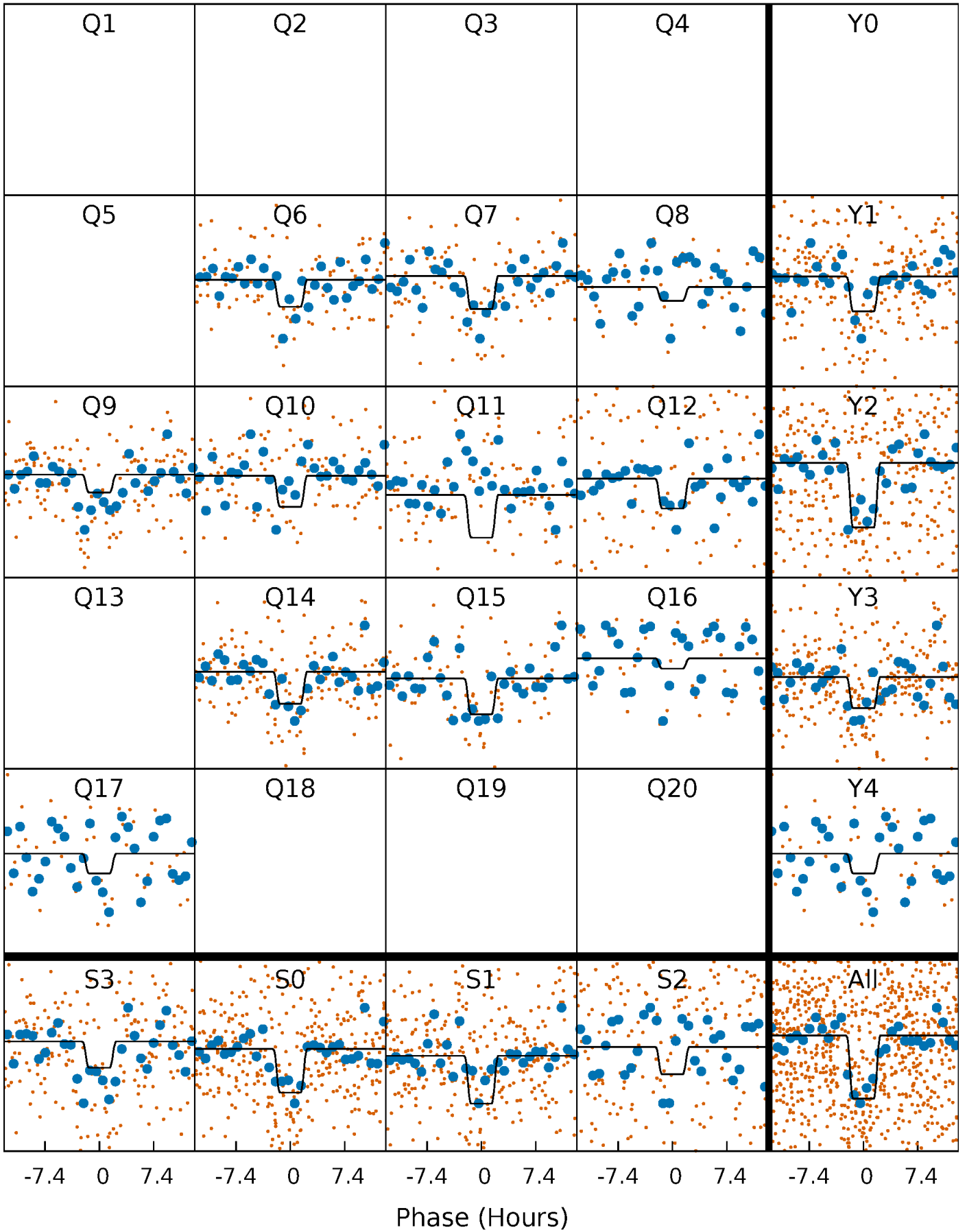
DV Quarter-Phased Transit Curves

TCE 009594184-01 $P = 42.093866$ Days $T_0 = 141.096752$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

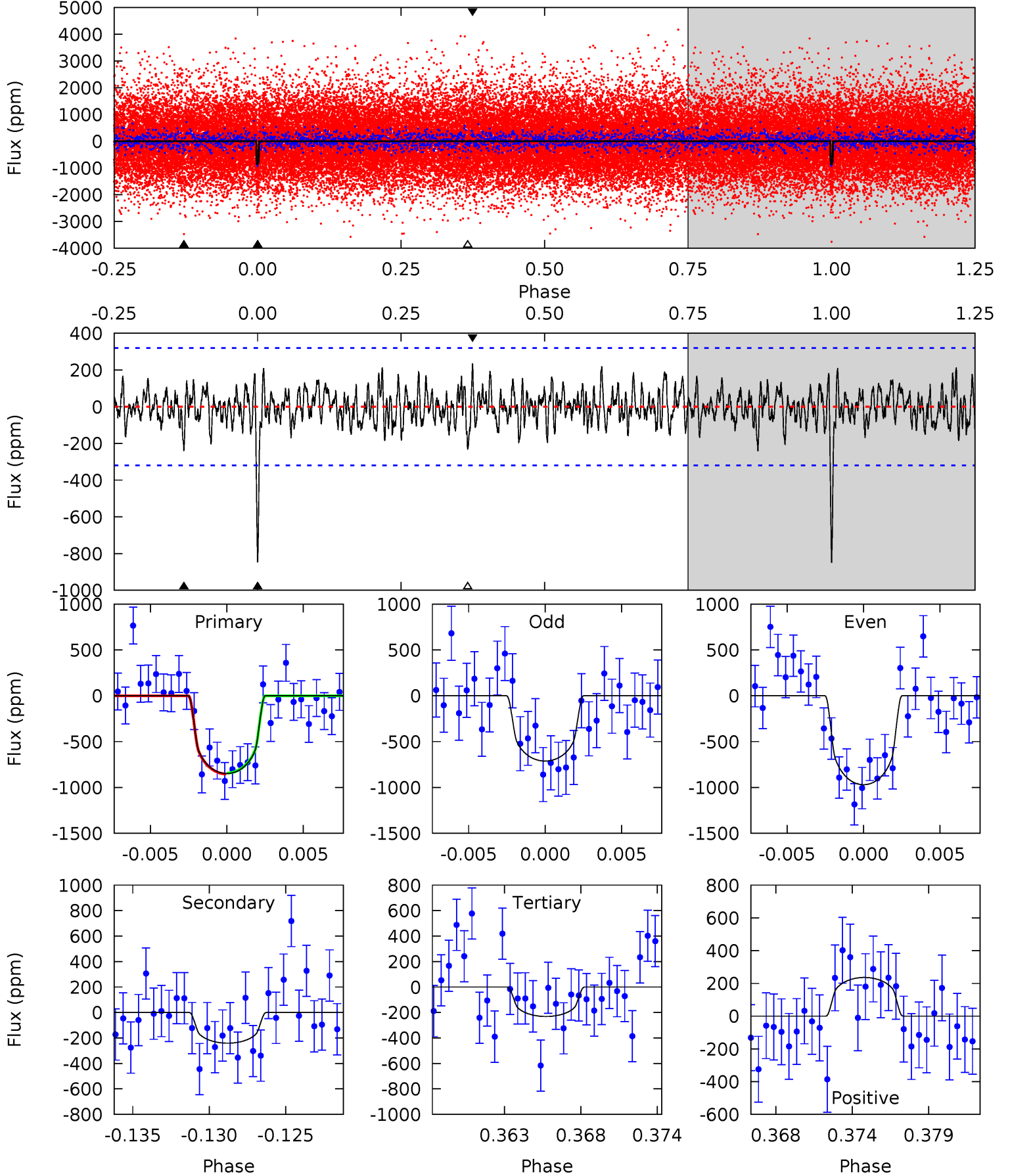
TCE 009594184-01 $P = 42.093543$ Days $T_0 = 141.112295$ (BKJD)



DV Model-Shift Uniqueness Test

009594184-01, $P = 42.093866$ Days, $E = 141.096752$ Days

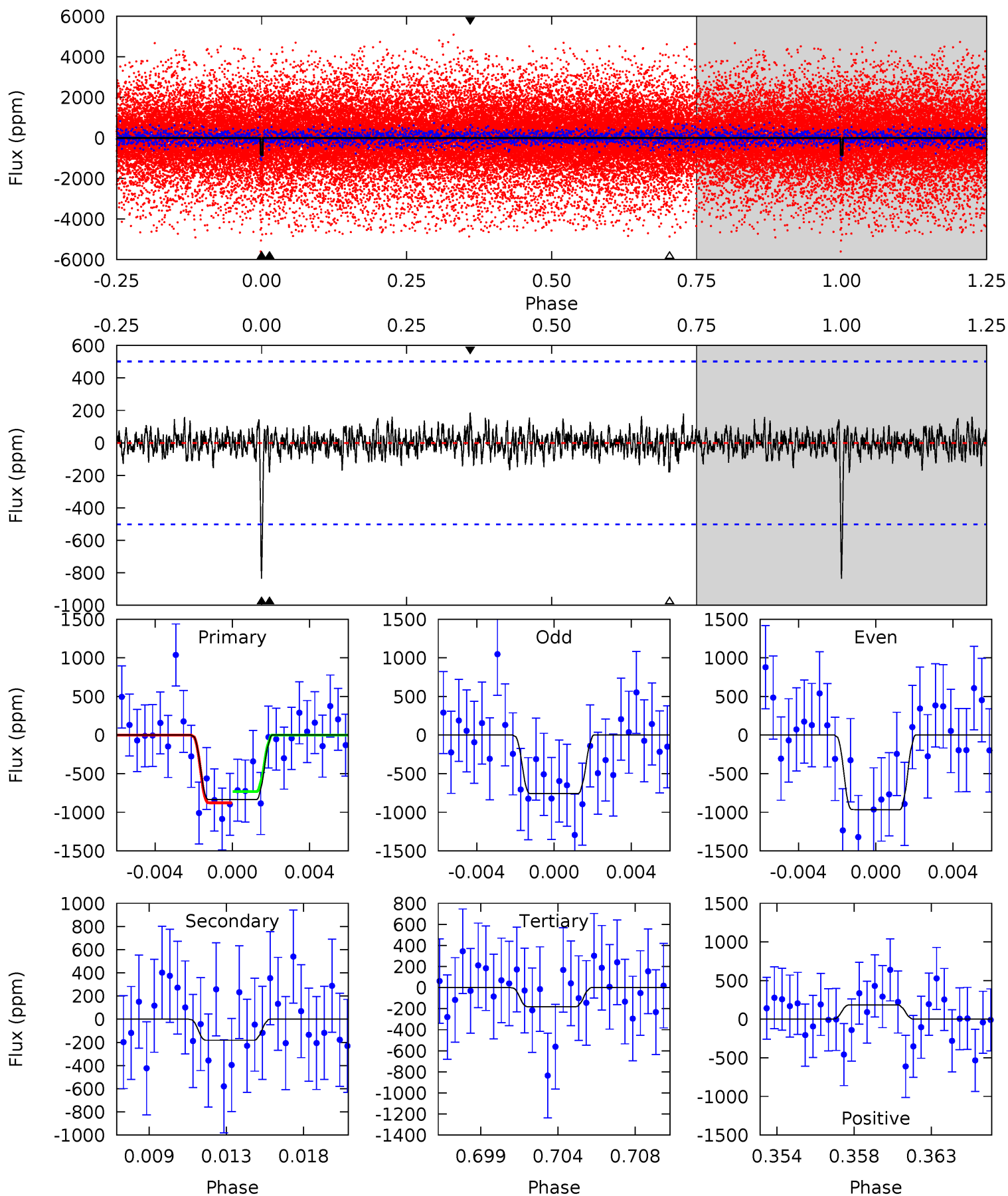
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	3.88	3.72	3.80	5.15	2.80	1.23	9.93	9.86	0.15	0.08	2.08	0.88	0.22	0.09



Alt Model-Shift Uniqueness Test

009594184-01, $P = 42.093543$ Days, $E = 141.112295$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	1.88	1.87	1.92	5.18	2.85	0.56	6.75	6.71	0.00	-0.04	1.08	0.88	0.18	0.75



Stellar Parameters For KIC 009594184

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4885^{+174}_{-174}	$4.541^{+0.072}_{-0.044}$	$-0.020^{+0.250}_{-0.300}$	$0.763^{+0.059}_{-0.079}$	$0.738^{+0.083}_{-0.060}$	$2.337^{+0.705}_{-0.377}$
	+4%/-4%	+2%/-1%	+1250%/-1500%	+8%/-10%	+11%/-8%	+30%/-16%
Source	KIC0	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 009594184-01 / KOI 5696.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-241 ± 62	$2.89^{+2.07}_{-1.76}$	566^{+23}_{-25}	3618^{+1557}_{-557}	723^{+4228}_{-483}
Alt.	-182 ± 97	$2.97^{+2.14}_{-1.88}$	567^{+23}_{-24}	3410^{+1530}_{-626}	469^{+3489}_{-350}

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

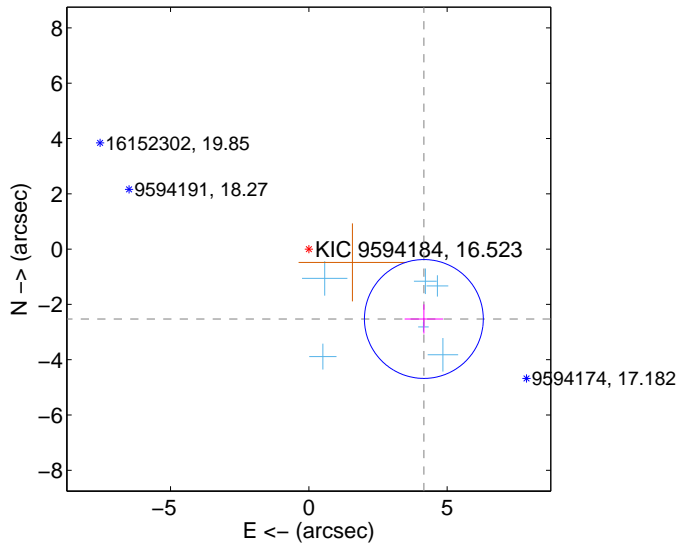
Supplemental centroid analysis for 009594184-01. Kepler magnitude: 16.52. Transit SNR 9.41

There are 6 quarters with good PRF difference image offsets

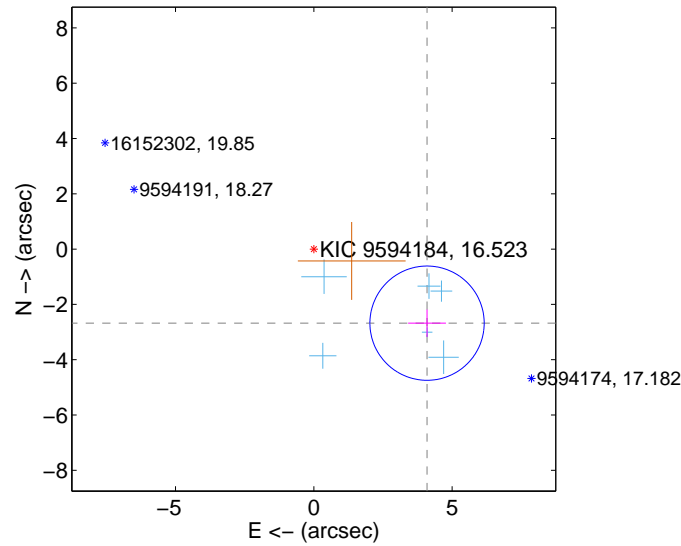
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.867 ± 0.716	6.79	-4.160 ± 0.694	-2.527 ± 0.529
PRF-fit source offset from KIC position	4.893 ± 0.689	7.10	-4.095 ± 0.685	-2.679 ± 0.494
photometric centroid source offset	1.90 ± 1.80	1.06	-1.87 ± 1.81	0.36 ± 1.43

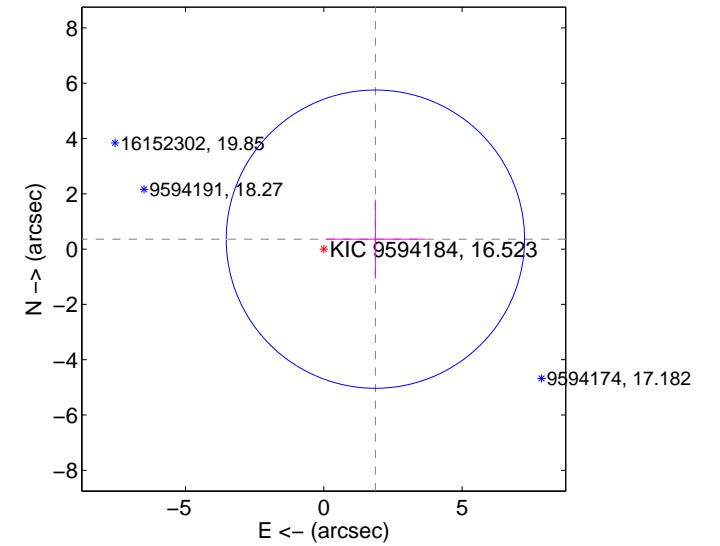
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

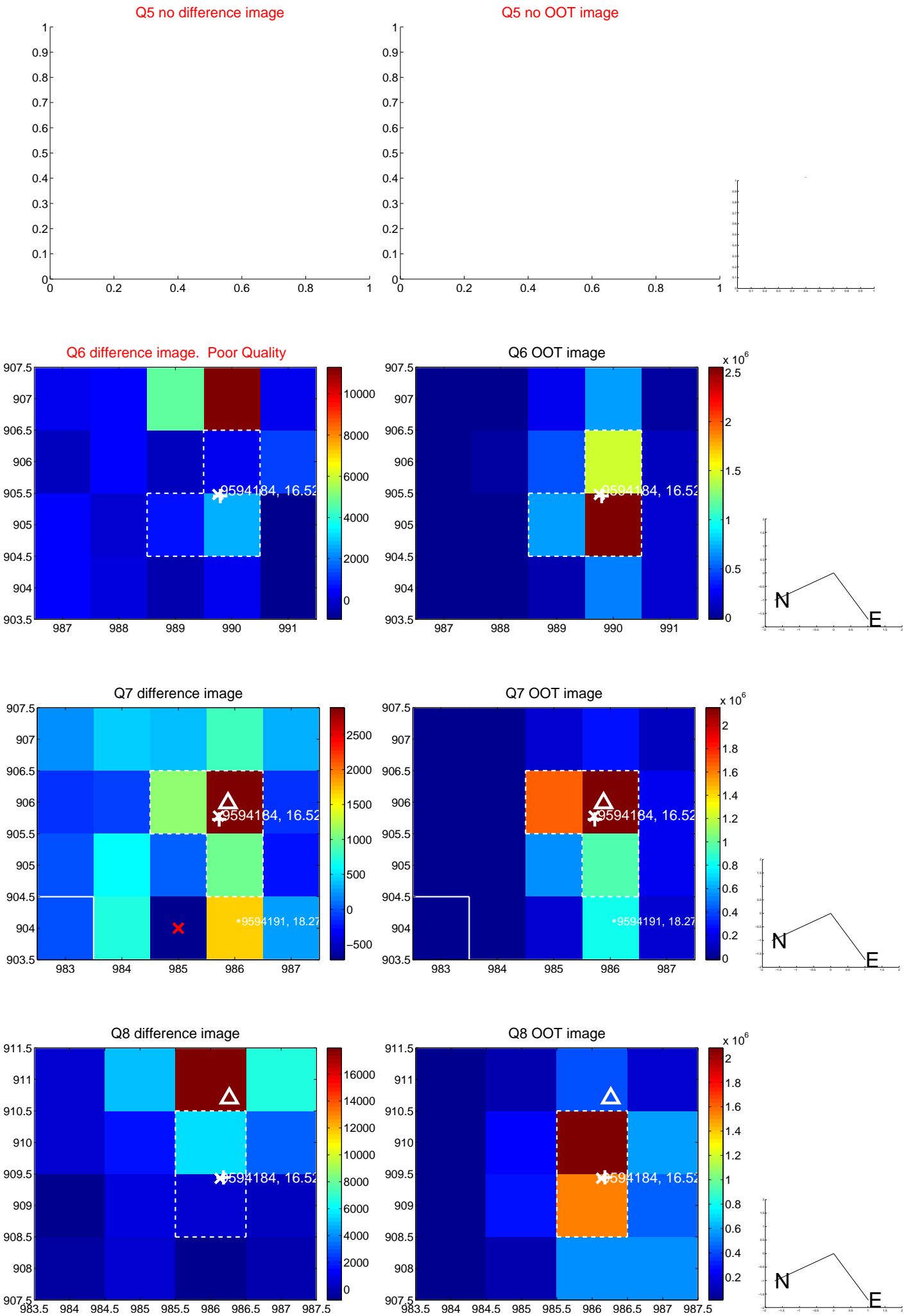


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

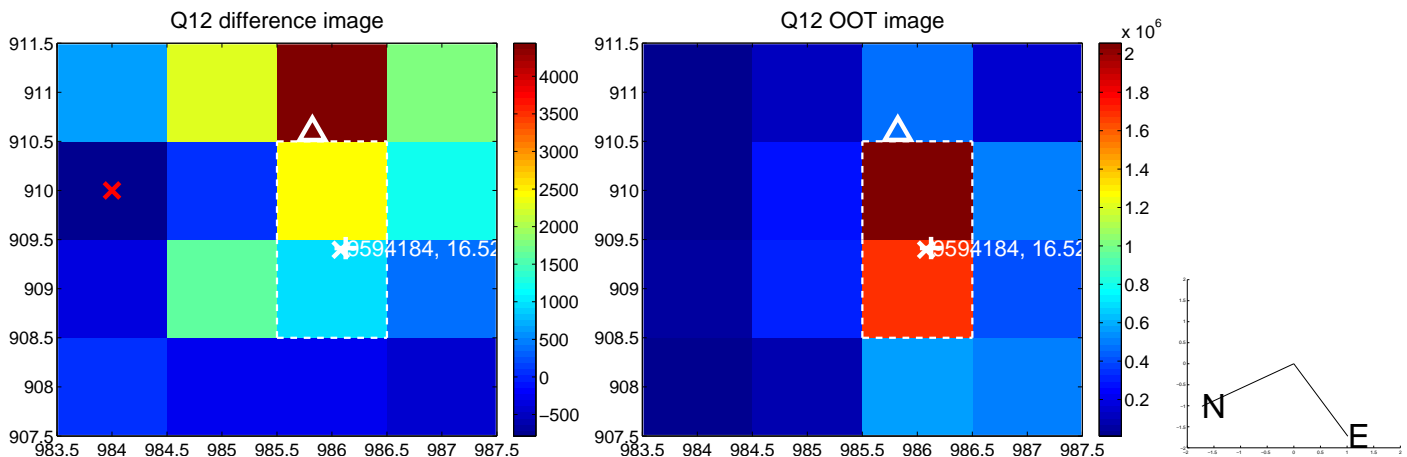
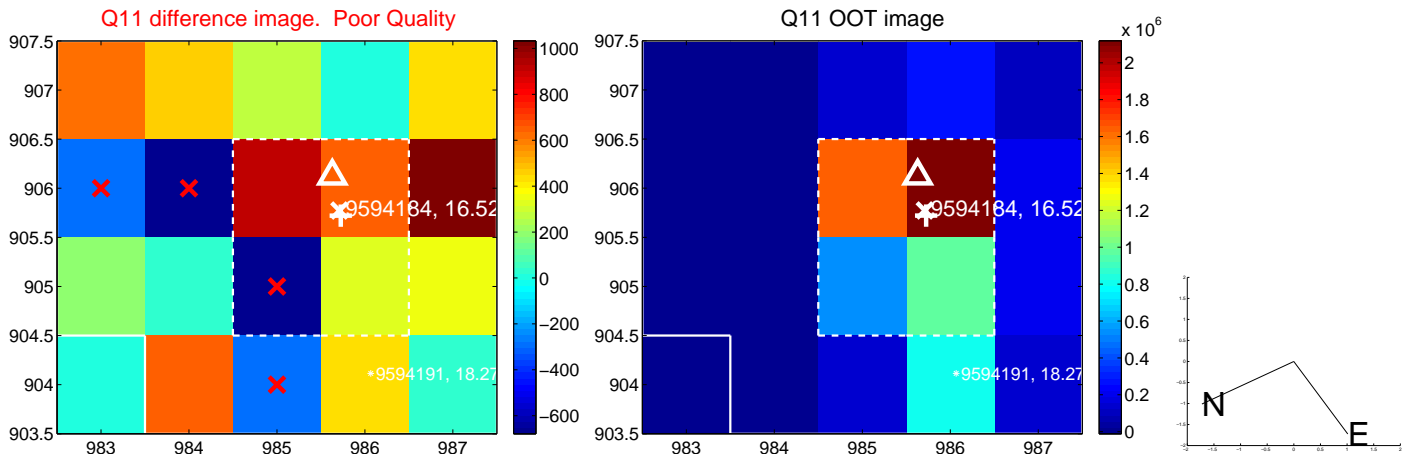
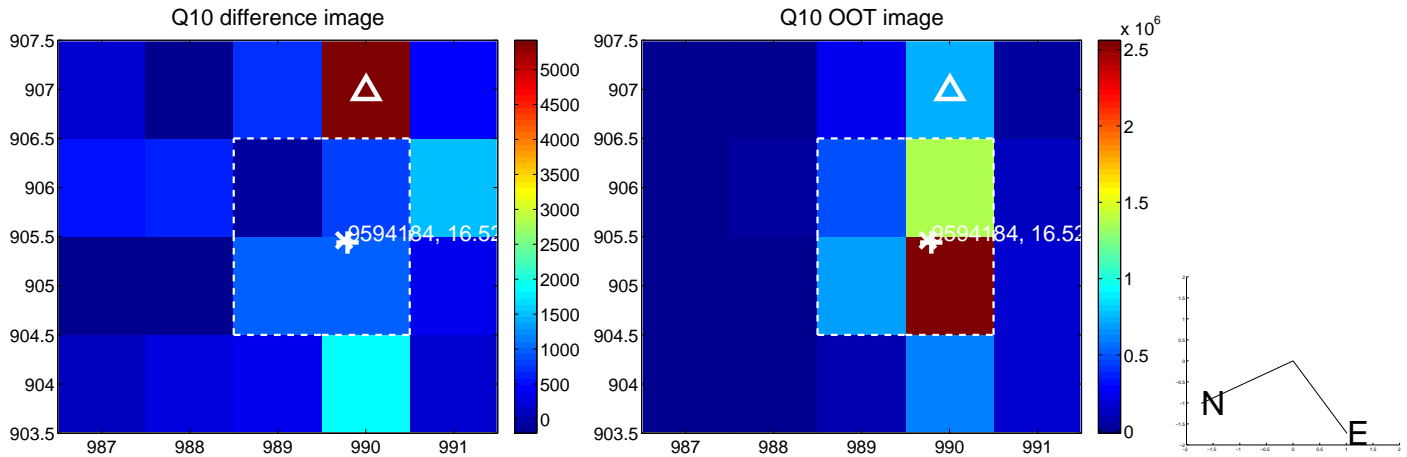
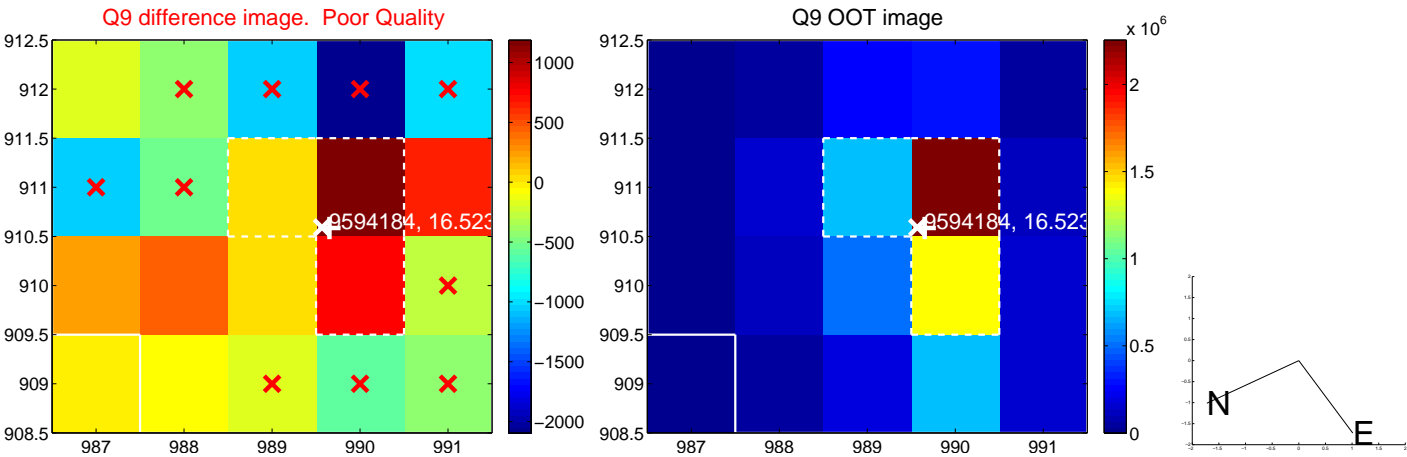
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



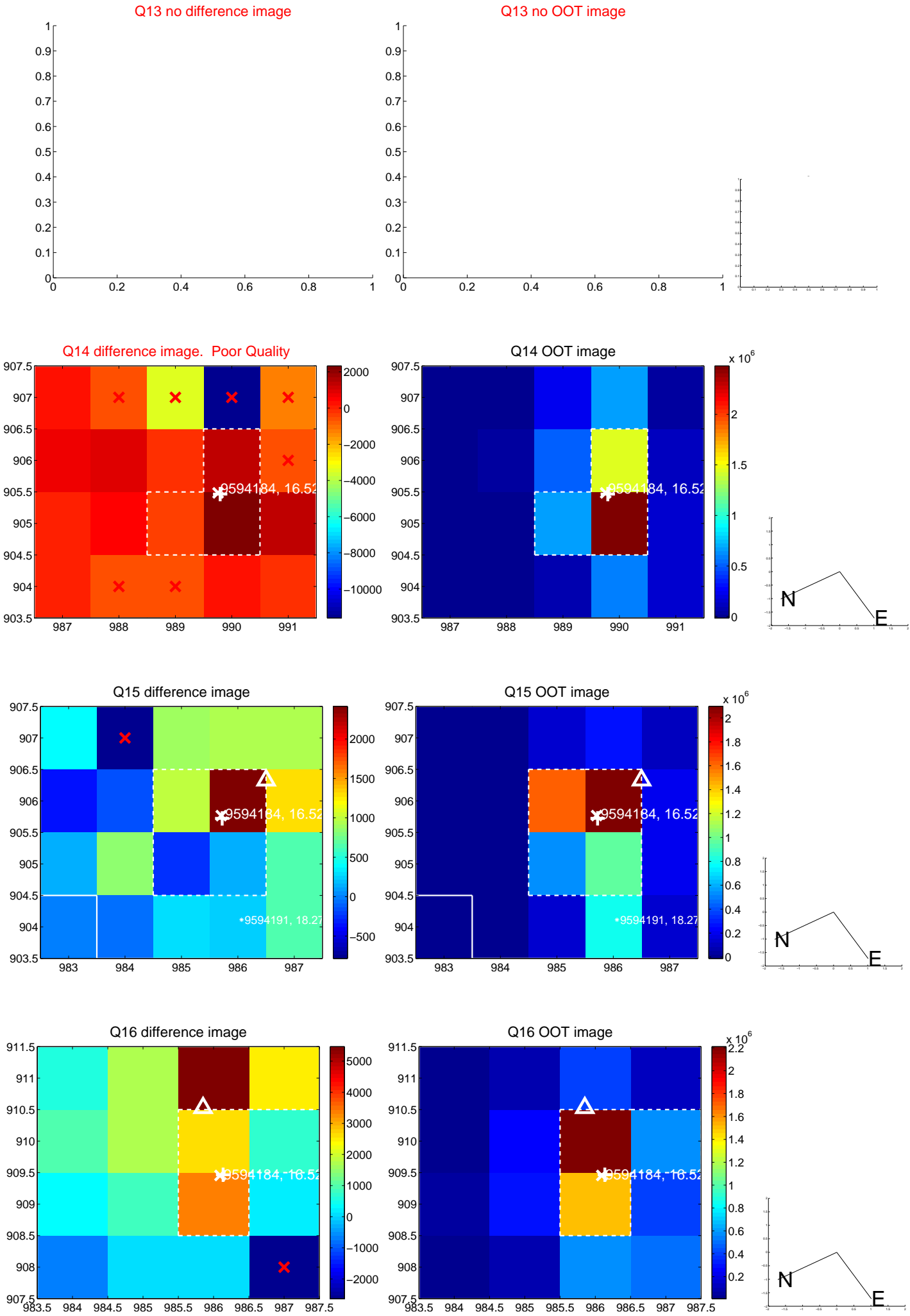
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



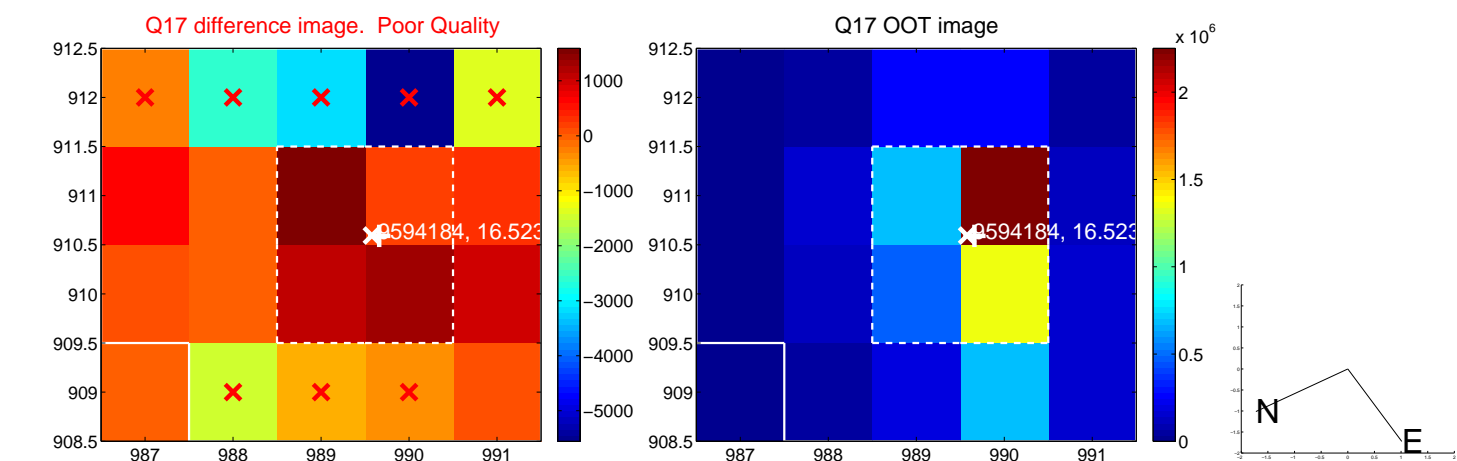
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



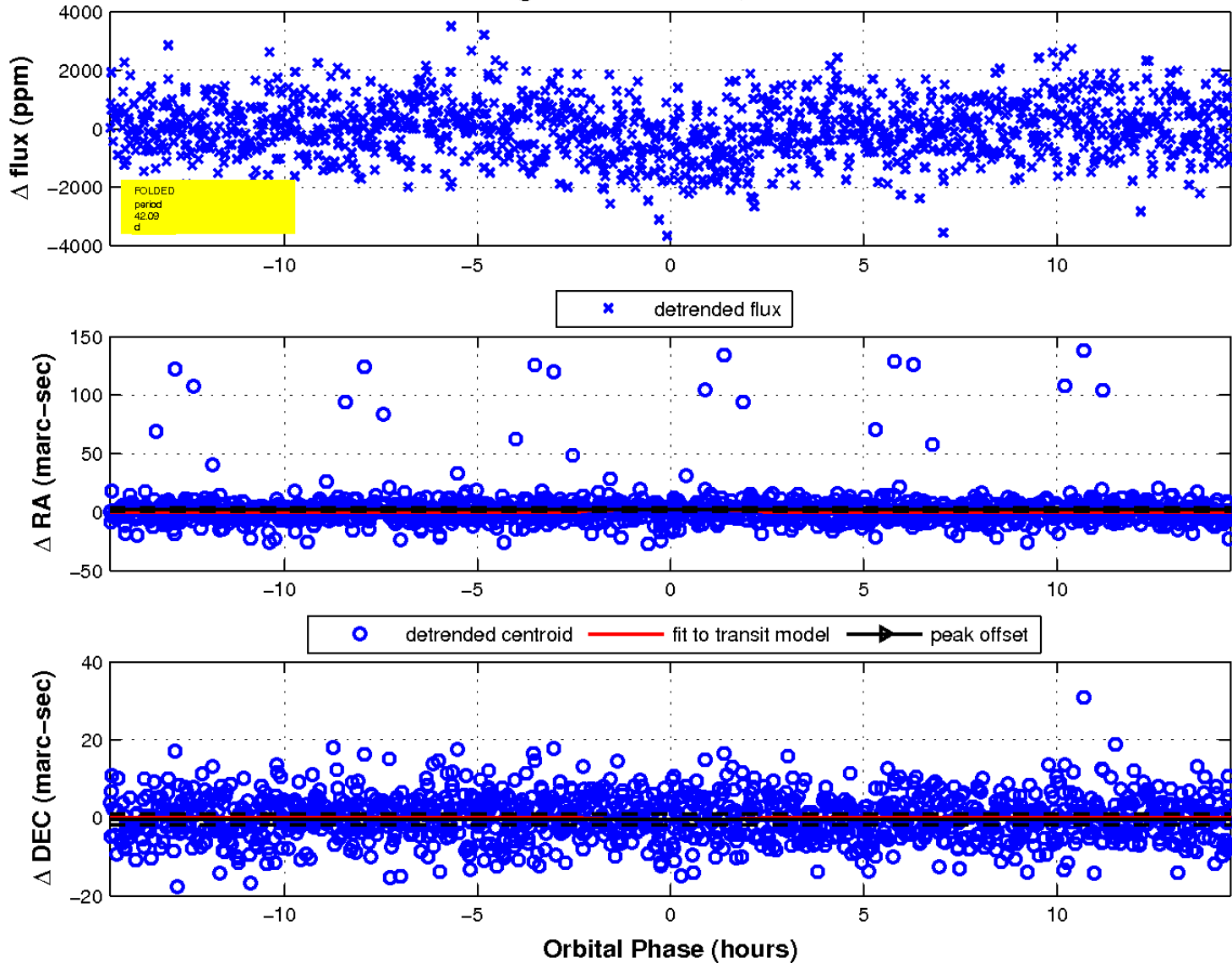
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

