

KIC 008752940

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})
008752940-01	OBS	4730.01	9.078299	138.258654	554.7	0.659	8.6	14.6	1.61	5086	3.84	221.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752940-01	OBS	PC	0.83	0	0	0	0	NO_COMMENT

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

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

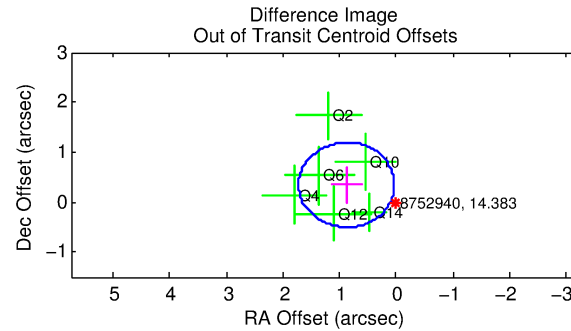
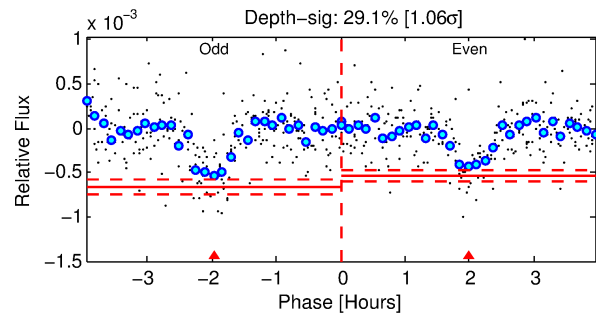
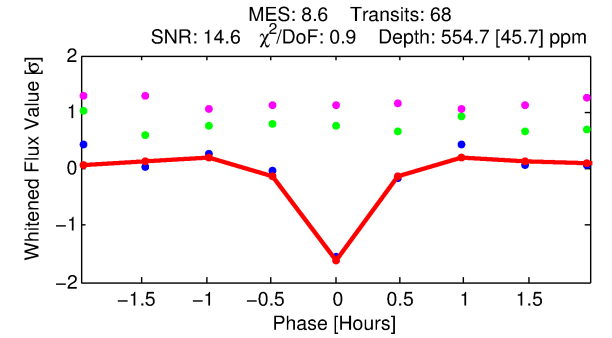
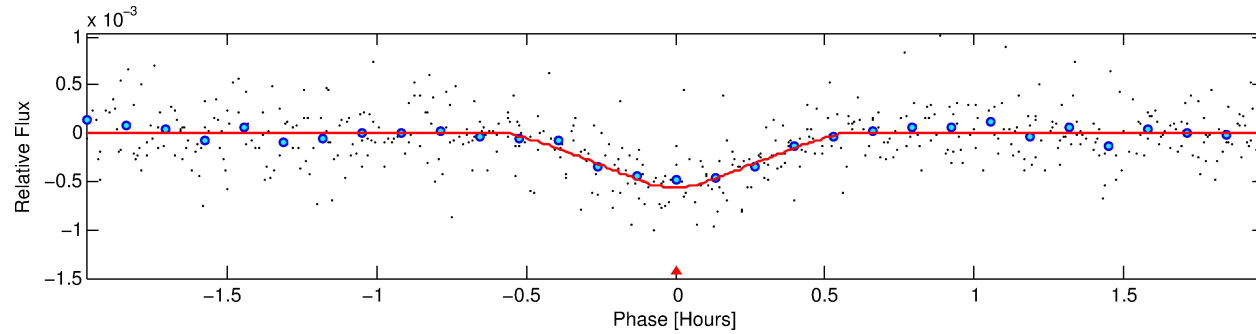
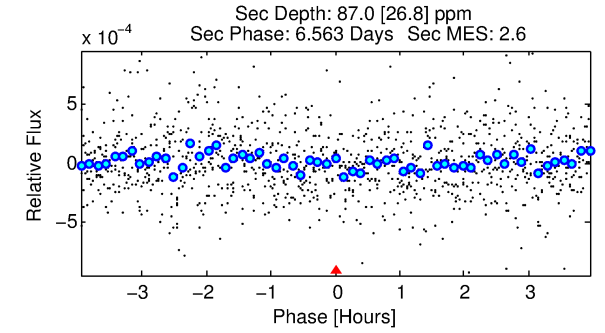
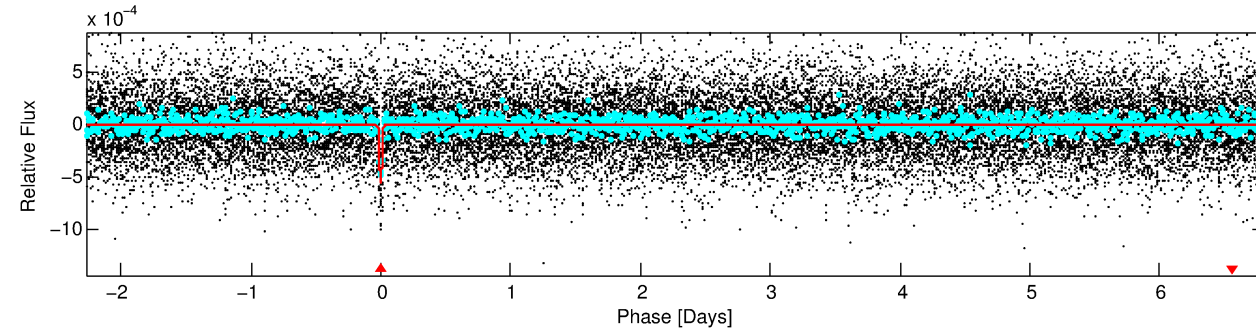
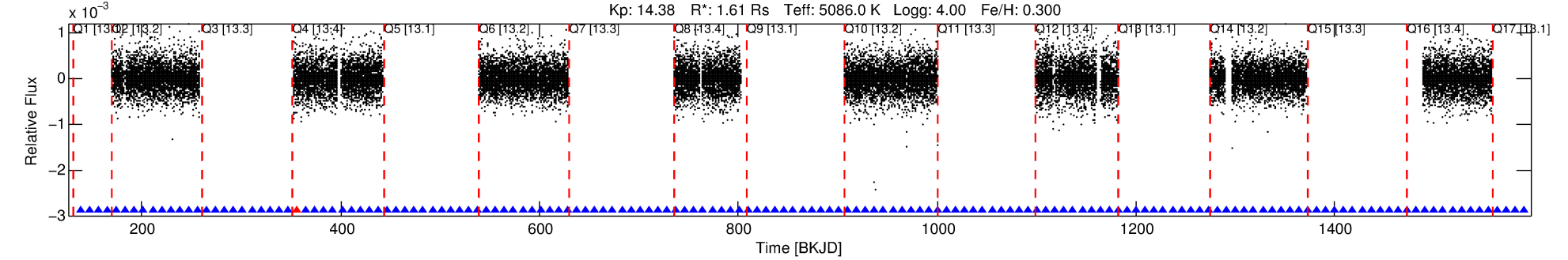
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752940-01

No Significant Match Found

DV One-Page Summary

KIC: 8752940 Candidate: 1 of 1 Period: 9.078 d
KOI: K04730.01 Corr: 0.943



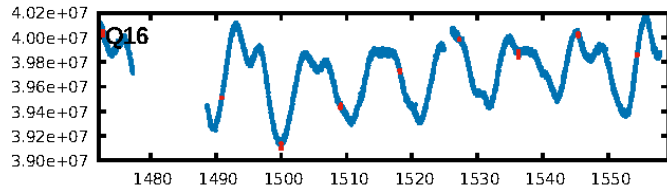
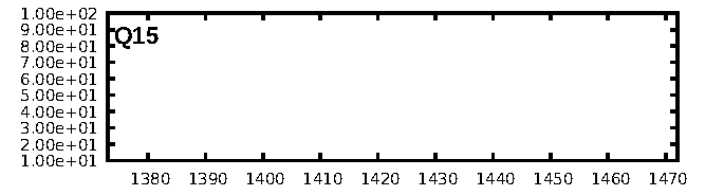
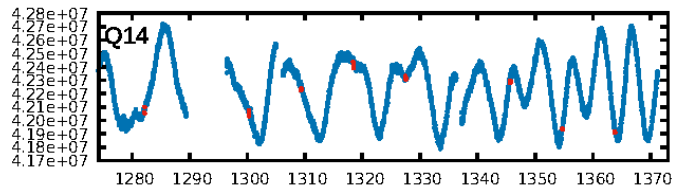
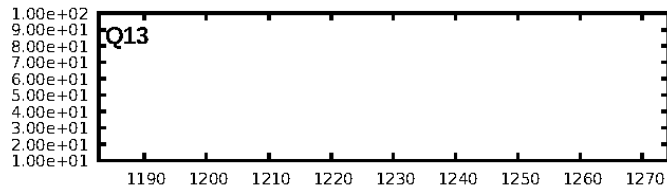
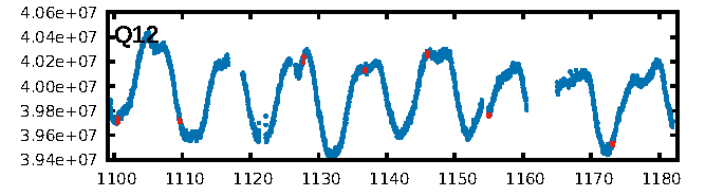
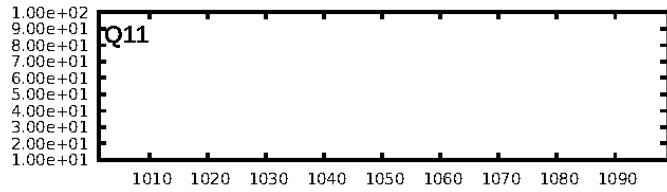
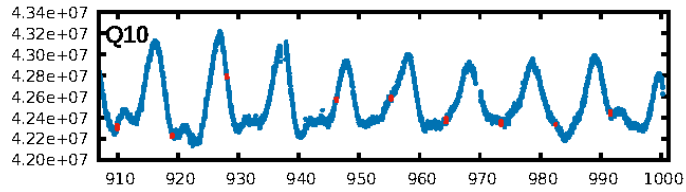
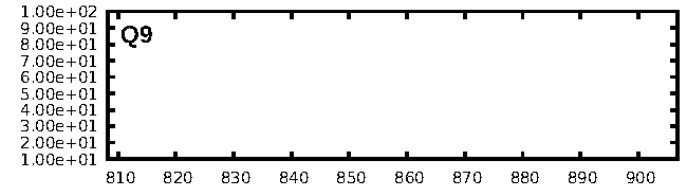
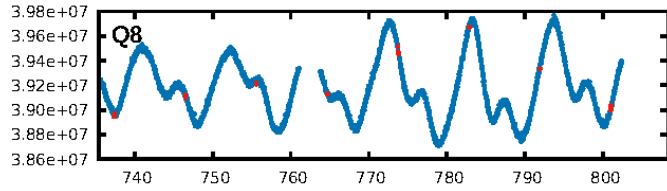
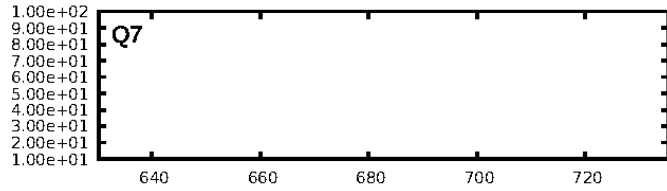
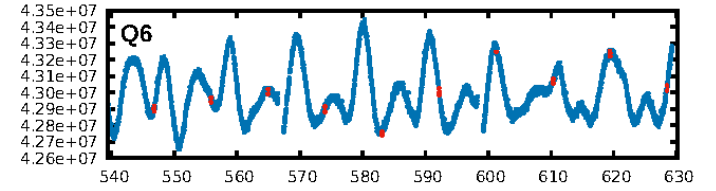
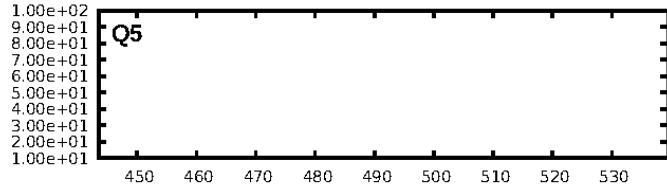
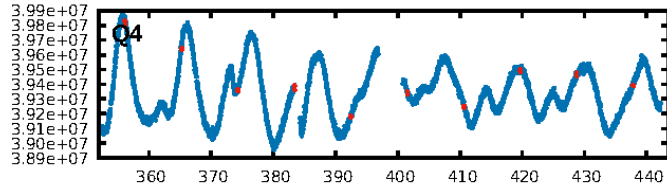
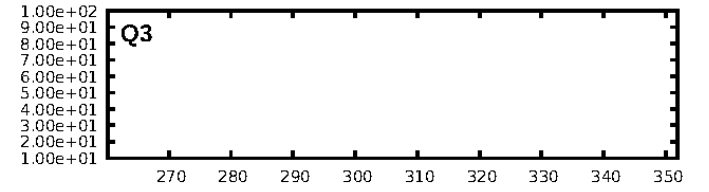
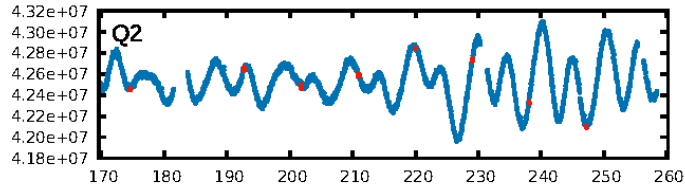
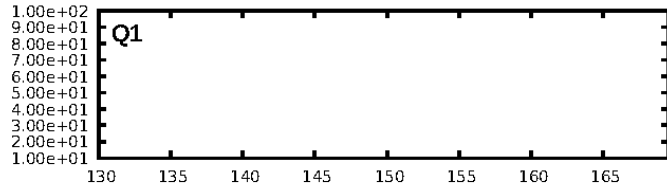
DV Fit Results:

Period = 9.07830 [0.00002] d
Epoch = 138.2587 [0.0014] BKJD
Rp/R* = 0.0219 [0.0216]
a/R* = 102.88 [344.49]
b = 0.30 [10.37]
Seff = 221.71 [195.38]
Teq = 984 [217] K
Rp = 3.84 [4.22] Re
a = 0.0838 [0.0431] AU
Ag = 22.74 [49.57] [0.44σ]
Teffp = 3322 [1665] K [1.39σ]

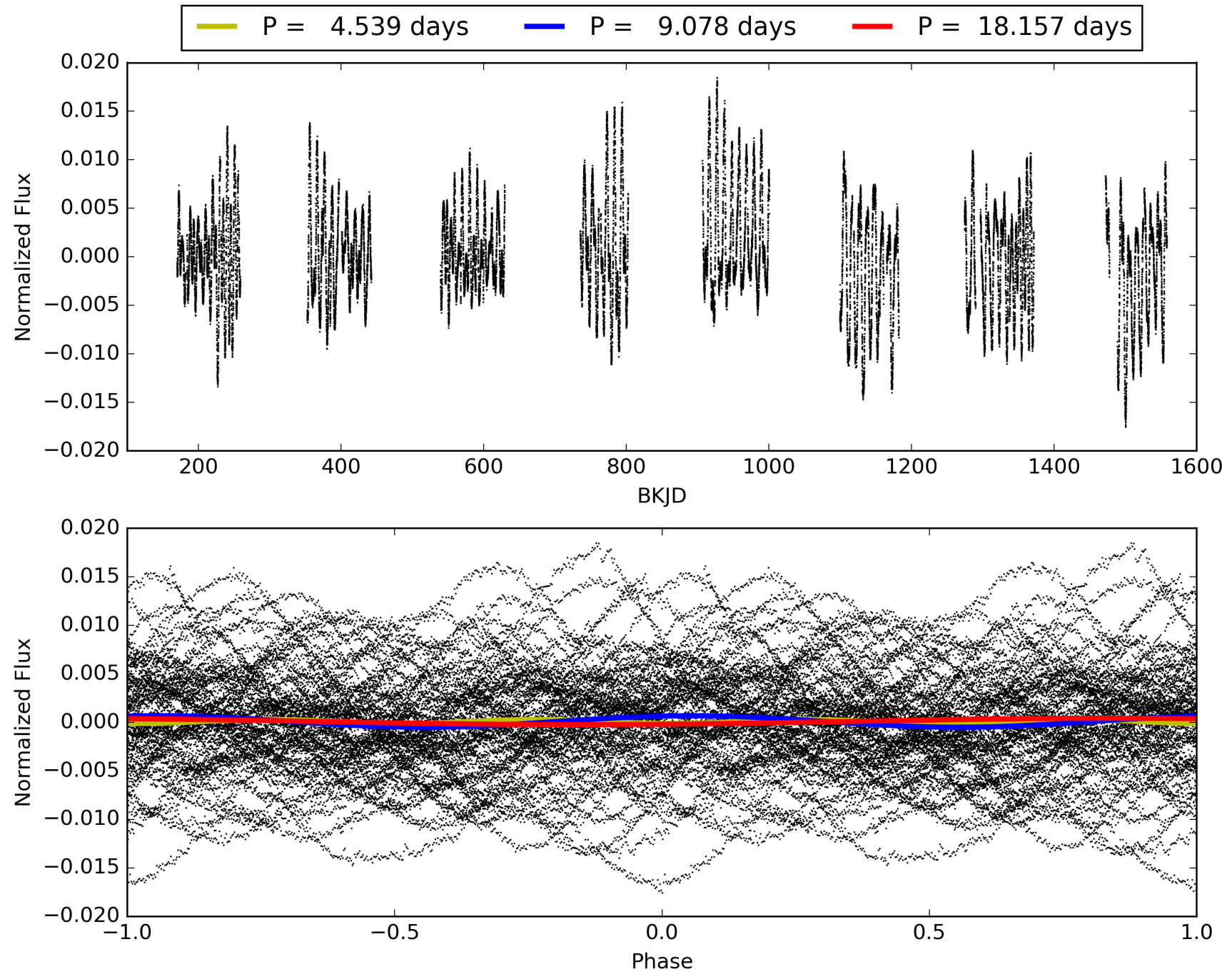
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.02e-17
RollingBand-fgt: 0.99 [67/68]
GhostDiagnostic-chr: -4.175
Centroid-sig: 0.0%
Centroid-so: 0.757 arcsec [1.05σ]
OotOffset-rm: 0.942 arcsec [3.33σ]
KicOffset-rm: 0.938 arcsec [3.18σ]
OotOffset-st: 4/0/2/0 [6]
KicOffset-st: 4/0/2/0 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 008752940-01, PDC Light Curves

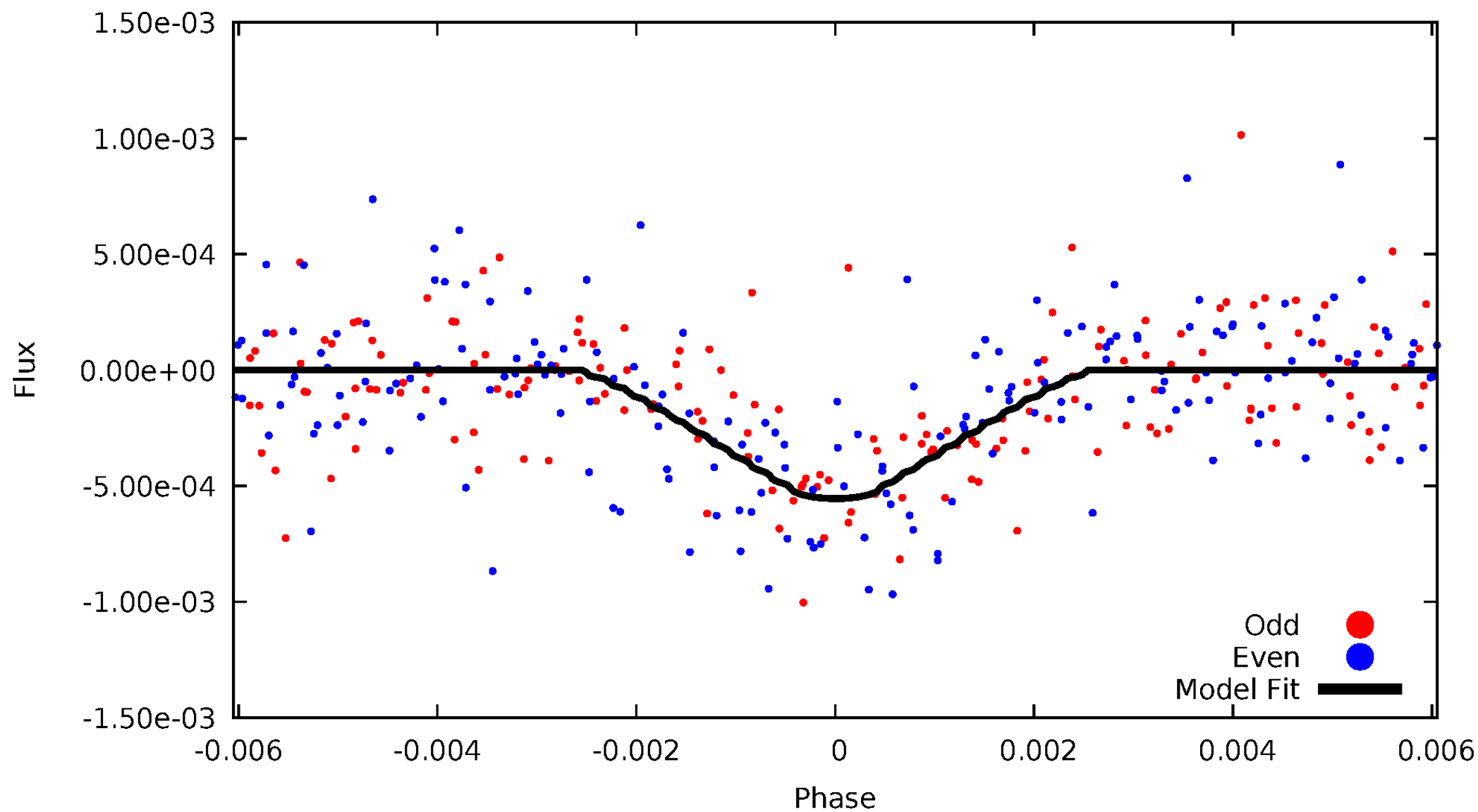


TCE 008752940-01



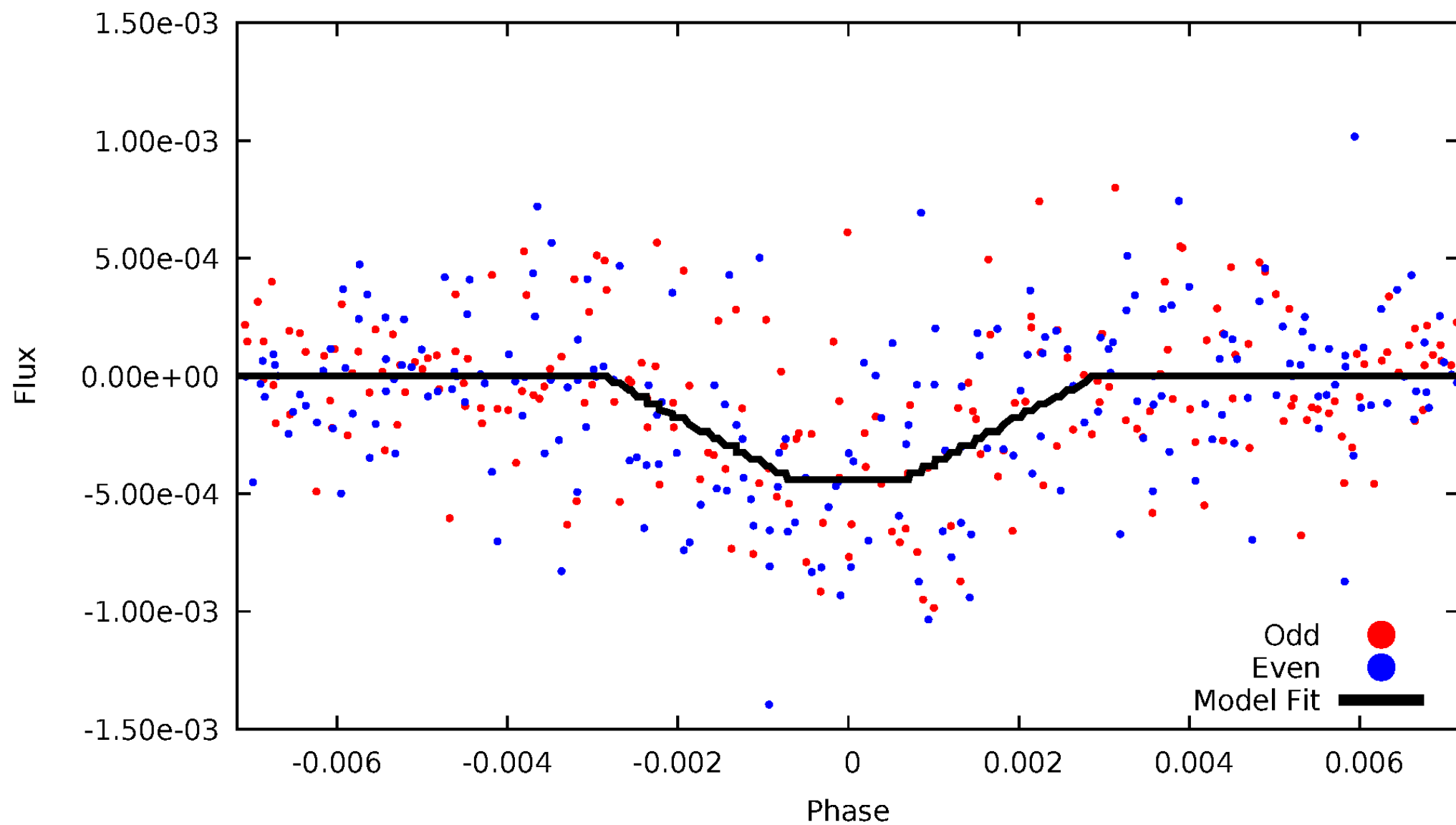
DV Odd/Even

TCE 008752940-01

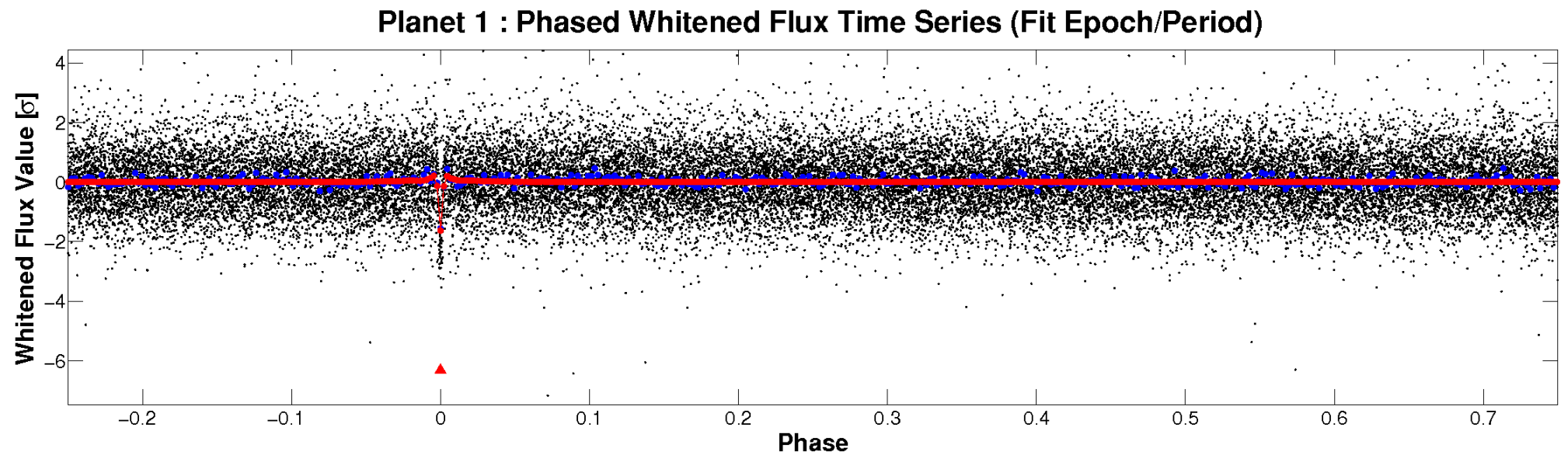
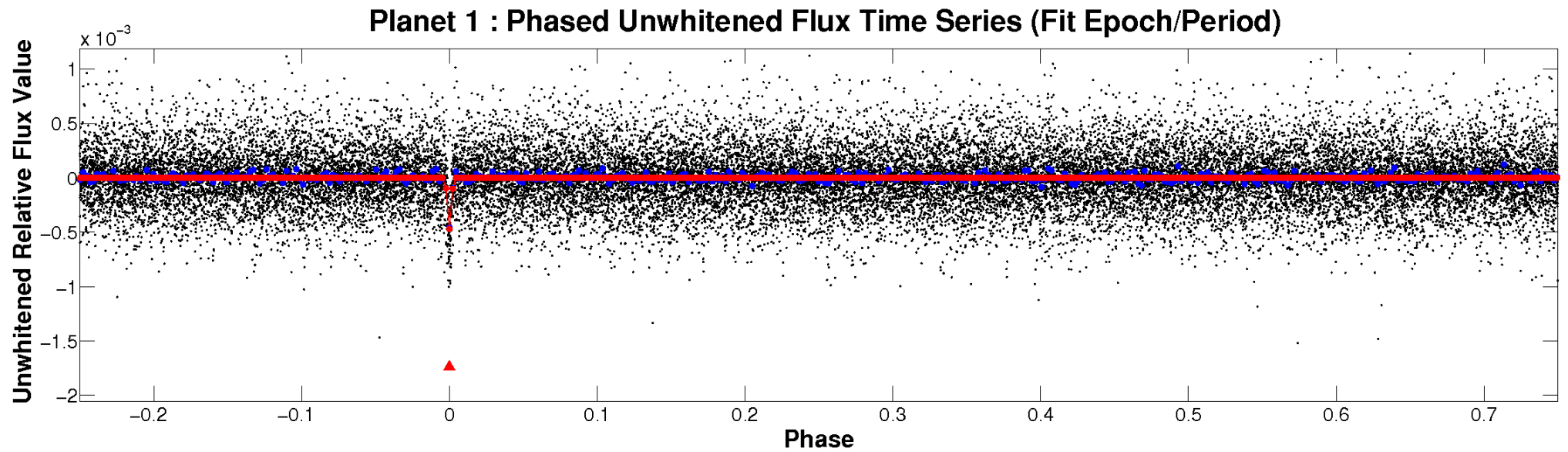


ALT Odd/Even

TCE 008752940-01



Non-Whitened Vs. Whitened Light Curve



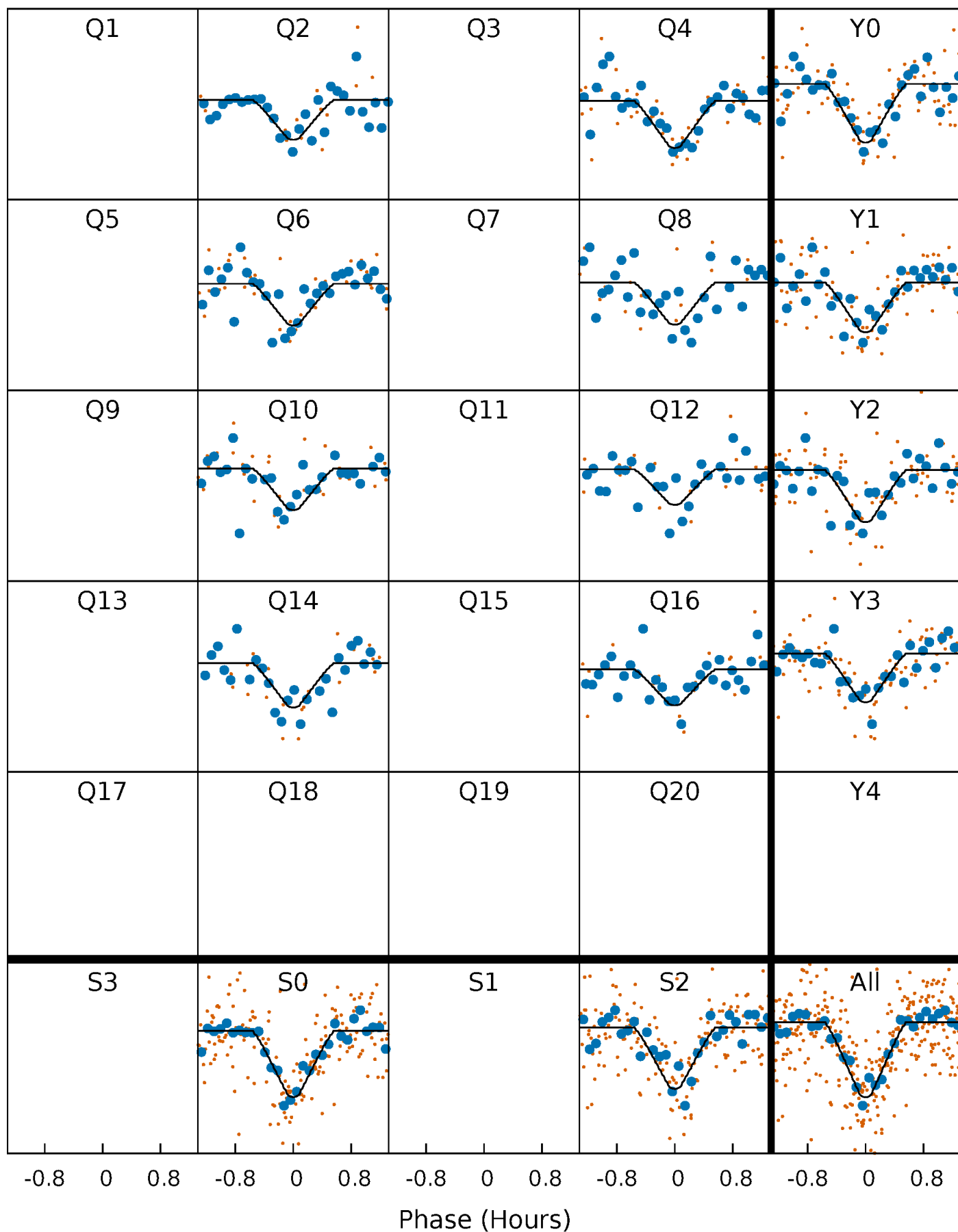
PDC Quarter-Phased Transit Curves

TCE 008752940-01 P= 9.078299 Days $T_0=138.258654$ (BKJD)



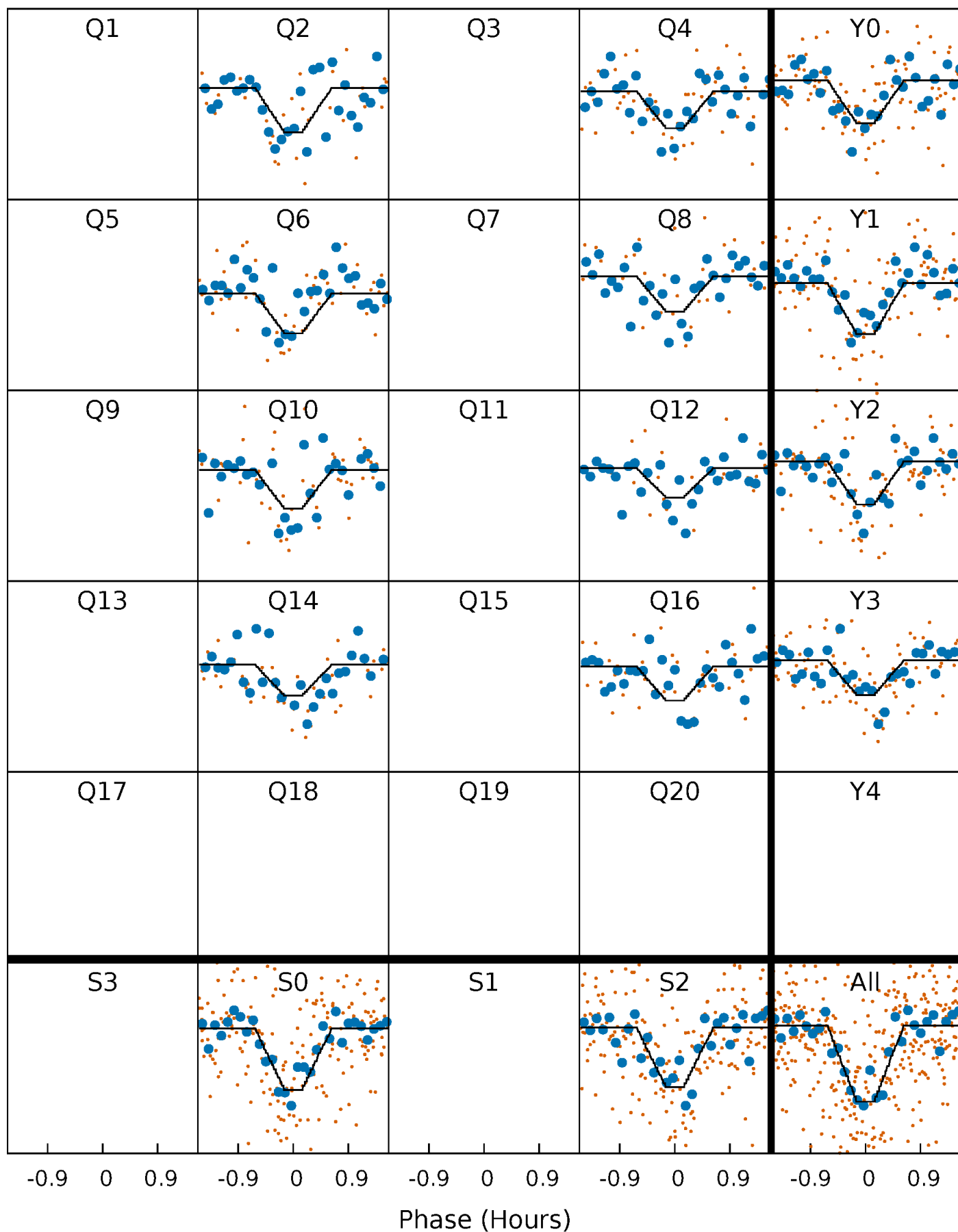
DV Quarter-Phased Transit Curves

TCE 008752940-01 P= 9.078299 Days $T_0=138.258654$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

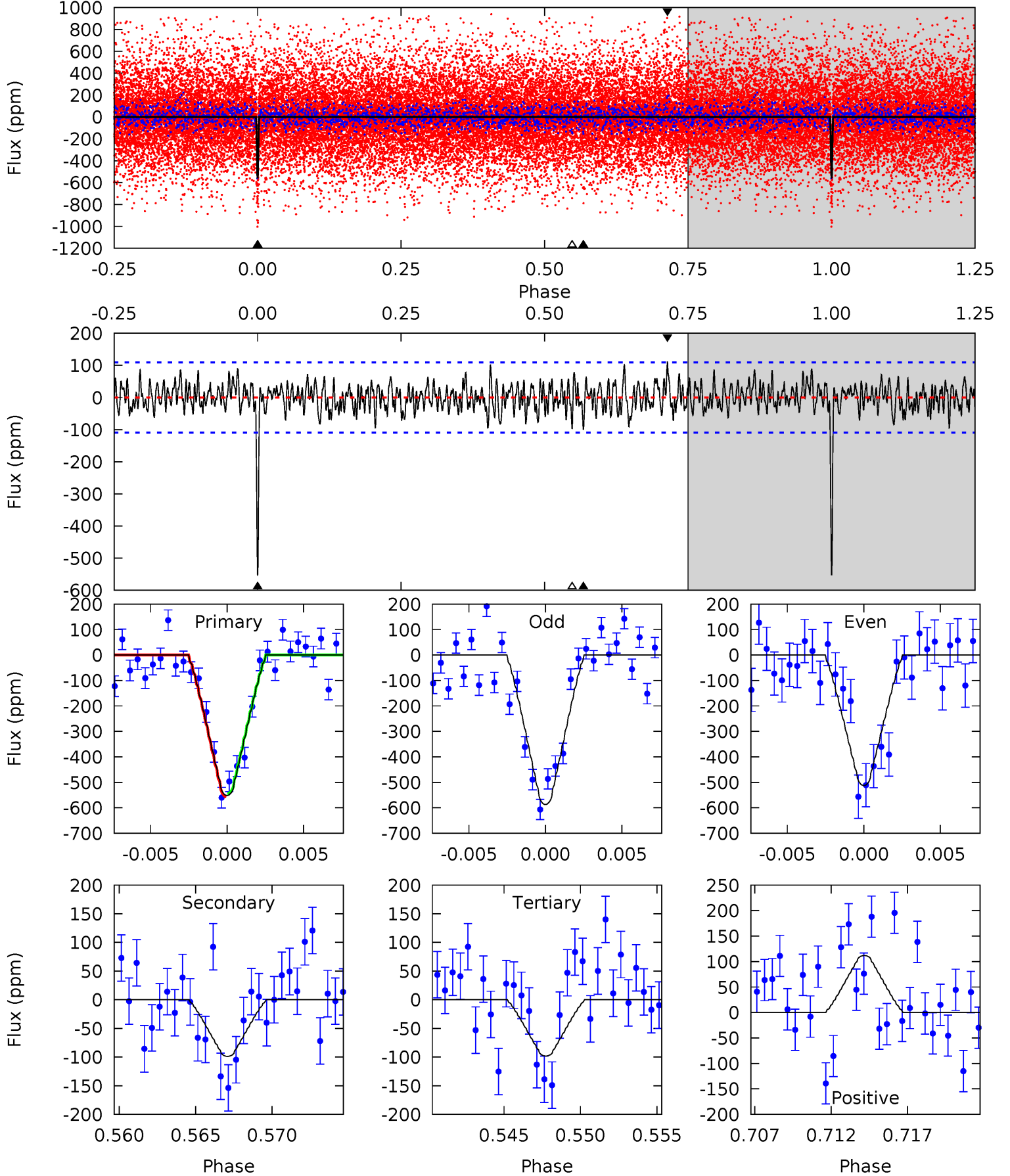
TCE 008752940-01 P= 9.078181 Days $T_0=138.268587$ (BKJD)



DV Model-Shift Uniqueness Test

008752940-01, P = 9.078299 Days, E = 138.258654 Days

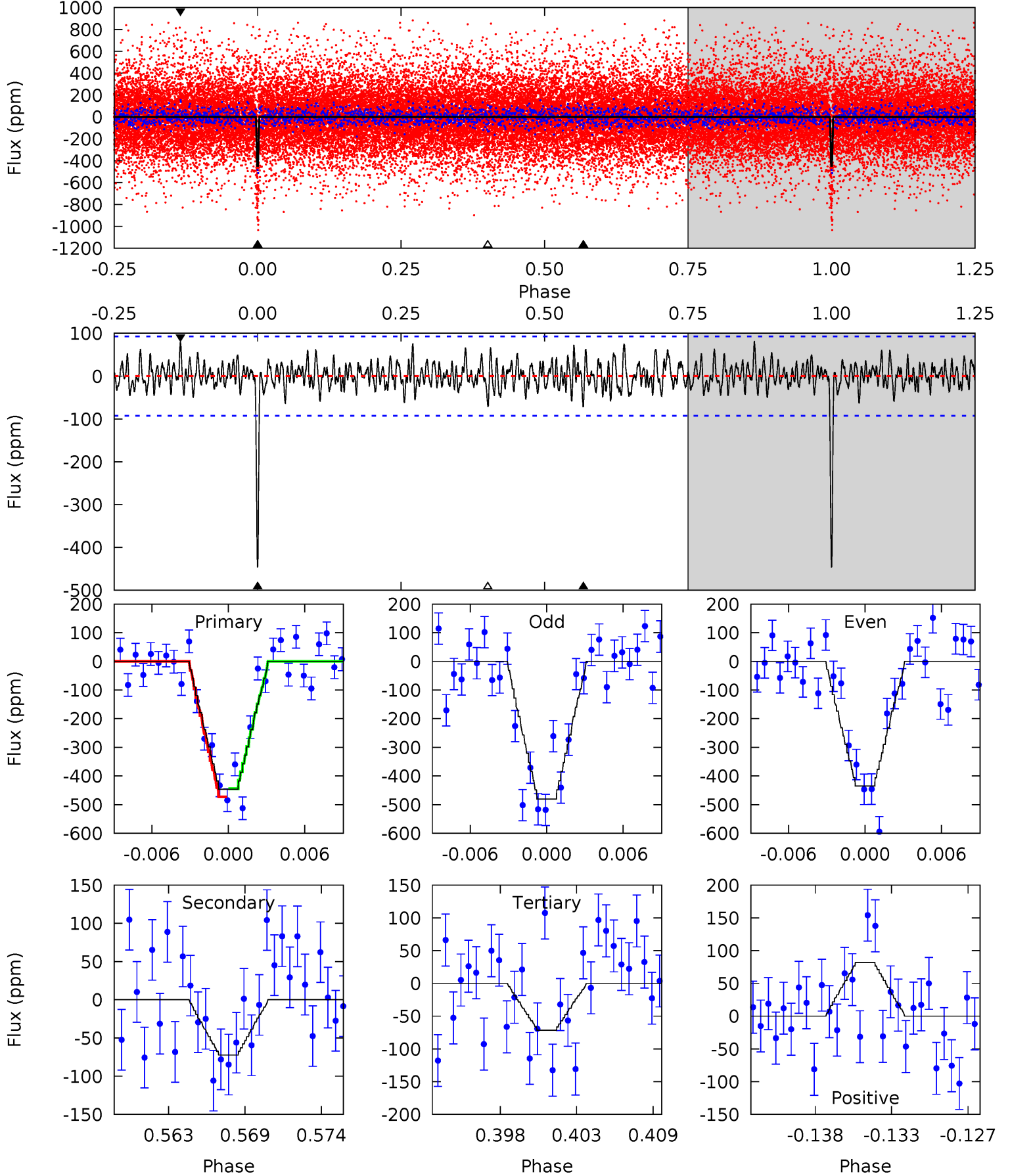
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.0	4.65	4.63	5.27	5.16	2.80	1.64	21.4	20.7	0.03	-0.62	1.77	1.01	0.17	0.29



Alt Model-Shift Uniqueness Test

008752940-01, P = 9.078181 Days, E = 138.268587 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	4.02	3.96	4.54	5.14	2.77	1.38	20.8	20.3	0.06	-0.52	1.27	1.00	0.15	0



Stellar Parameters For KIC 008752940

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5086^{+192}_{-174}	$4.002^{+0.526}_{-0.283}$	$0.300^{+0.150}_{-0.250}$	$1.611^{+0.771}_{-0.771}$	$0.951^{+0.095}_{-0.127}$	$0.320^{+1.912}_{-0.210}$
	+4%/-3%	+13%/-7%	+50%/-83%	+48%/-48%	+10%/-13%	+597%/-65%
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 008752940-01 / KOI 4730.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-99 ± 21	$4.44^{+3.86}_{-2.91}$	1370^{+176}_{-195}	3539^{+1611}_{-599}	19^{+145}_{-14}
Alt.	-72 ± 18	$4.13^{+3.54}_{-2.57}$	1356^{+184}_{-173}	3401^{+1380}_{-540}	16^{+96}_{-11}

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

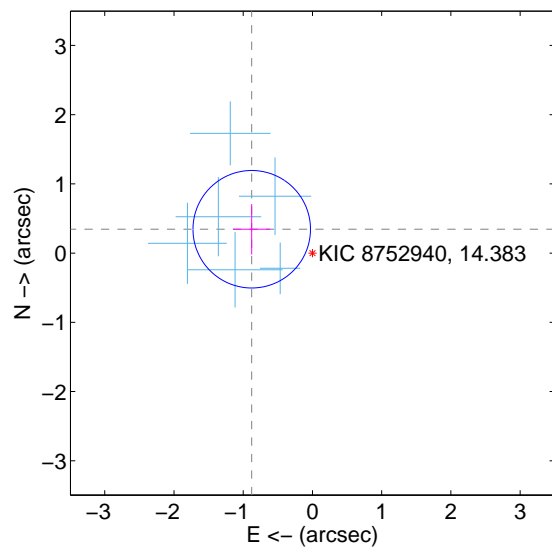
Supplemental centroid analysis for 008752940-01. Kepler magnitude: 14.38. Transit SNR 14.64

There are 6 quarters with good PRF difference image offsets

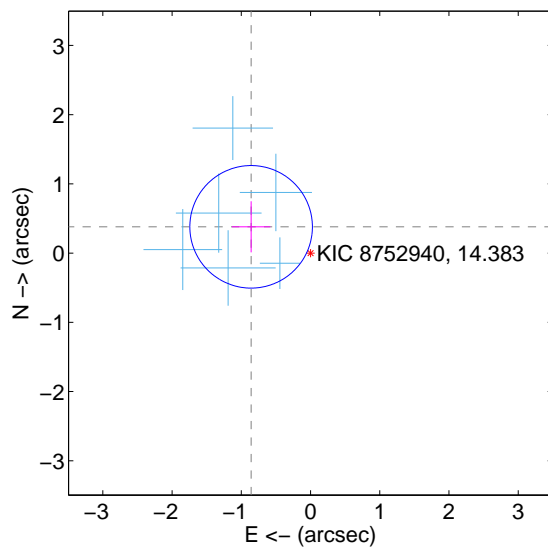
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.942 ± 0.283	3.33	0.877 ± 0.268	0.345 ± 0.365
PRF-fit source offset from KIC position	0.938 ± 0.295	3.18	0.858 ± 0.278	0.379 ± 0.369
photometric centroid source offset	0.76 ± 0.72	1.05	-0.49 ± 0.68	-0.58 ± 0.74

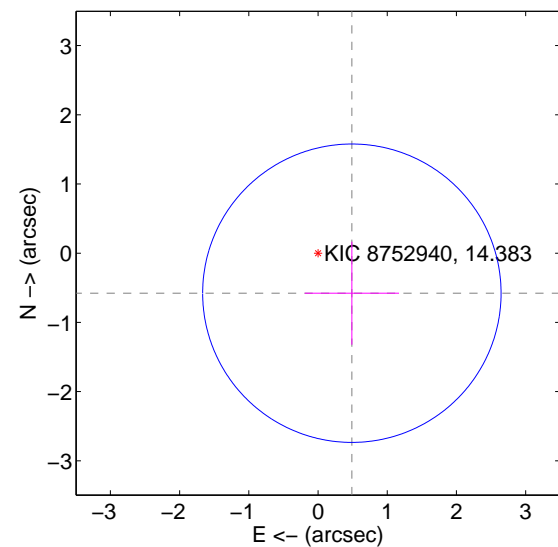
offset from difference PRF-fit to OOT PRF-fit



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.

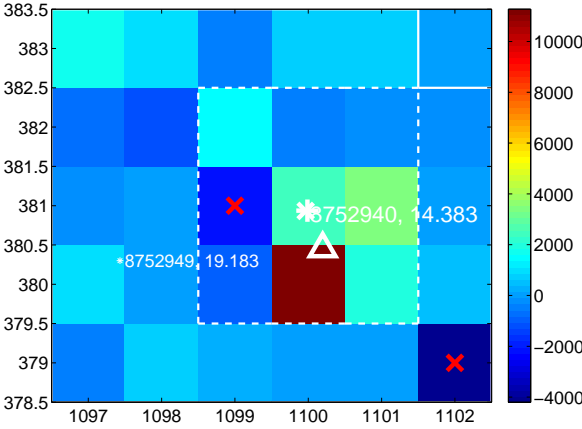
Q1 no difference image



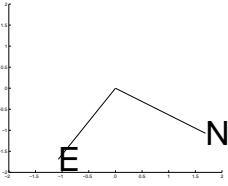
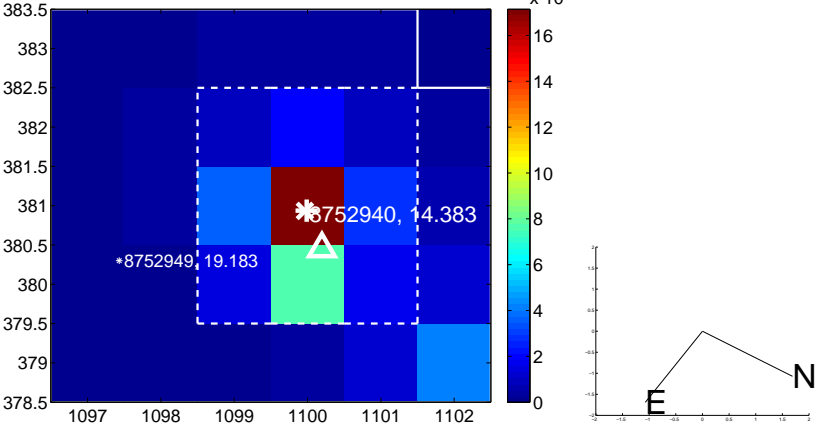
Q1 no OOT image



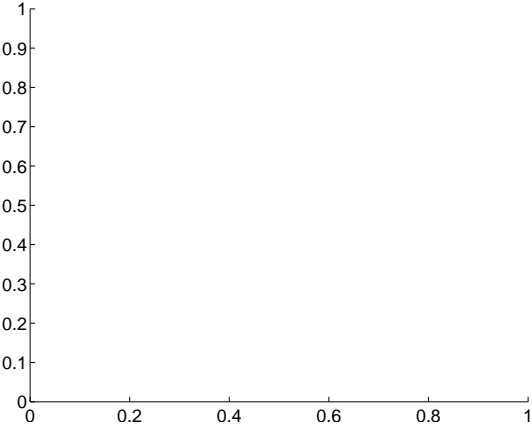
Q2 difference image



Q2 OOT image



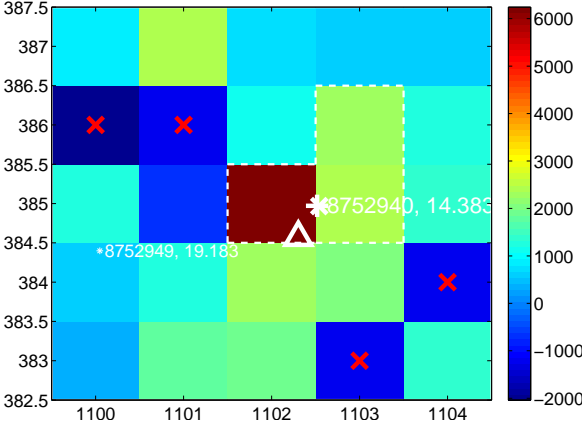
Q3 no difference image



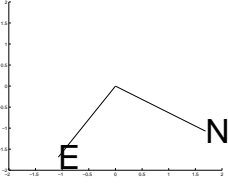
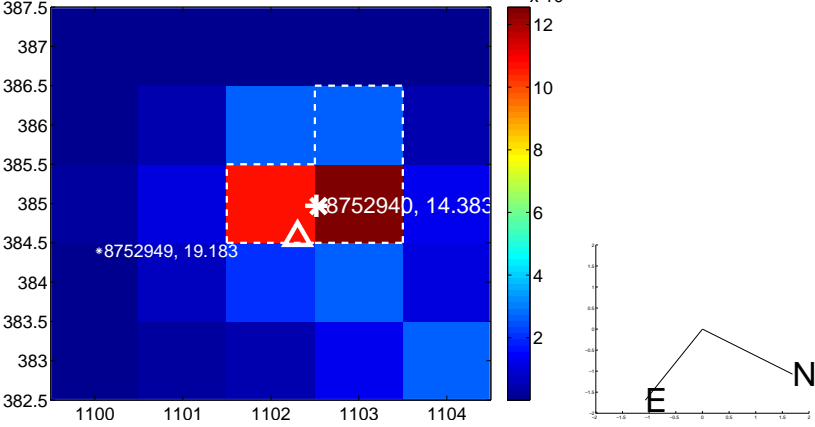
Q3 no OOT image



Q4 difference image



Q4 OOT image



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

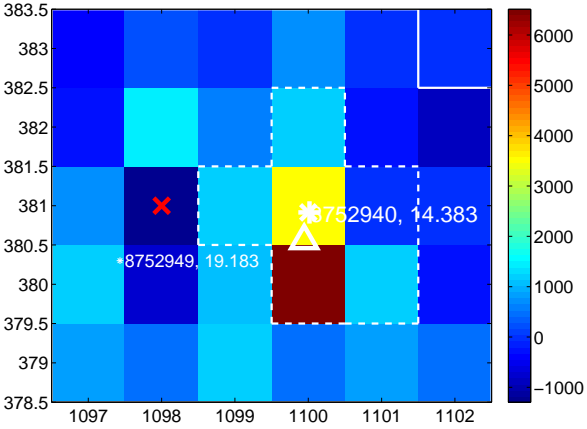
Q5 no difference image



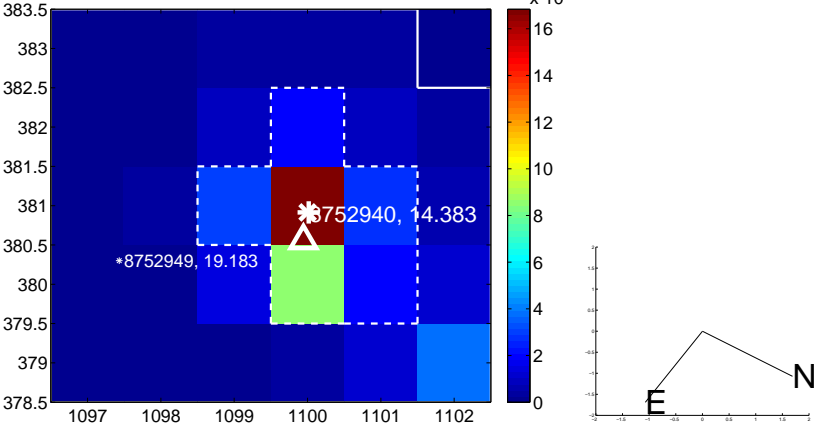
Q5 no OOT image



Q6 difference image



Q6 OOT image



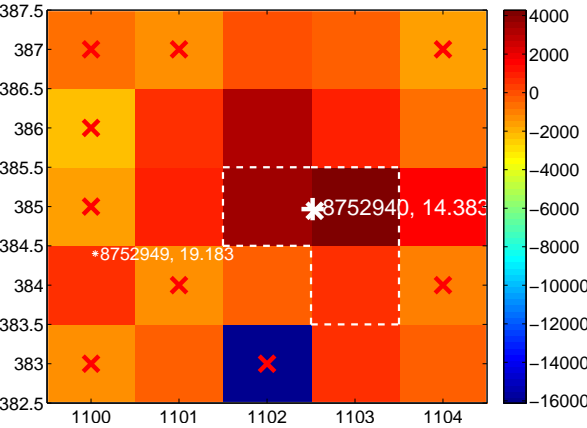
Q7 no difference image



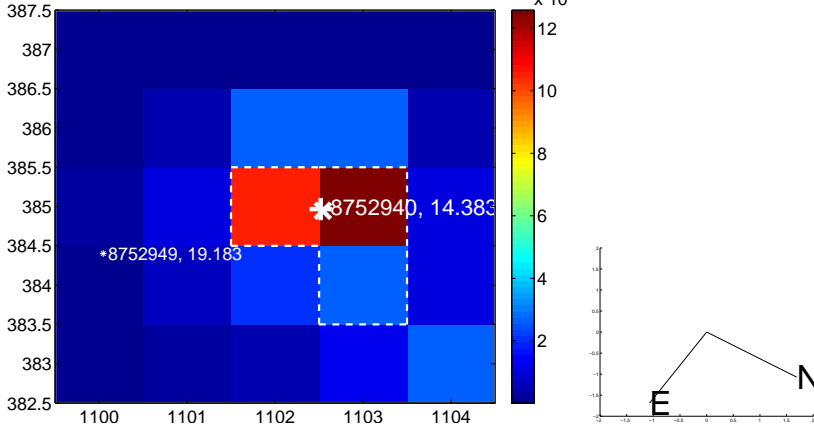
Q7 no OOT image



Q8 difference image. Poor Quality



Q8 OOT image

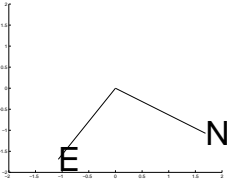
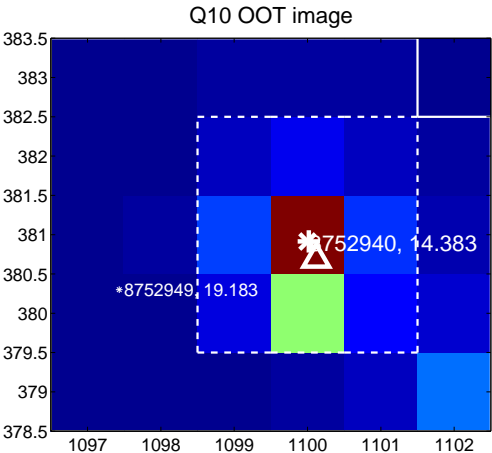
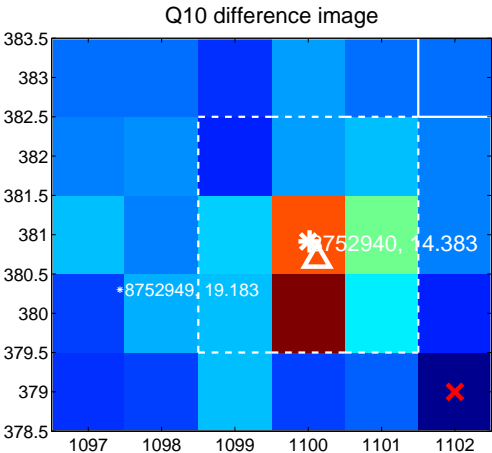


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

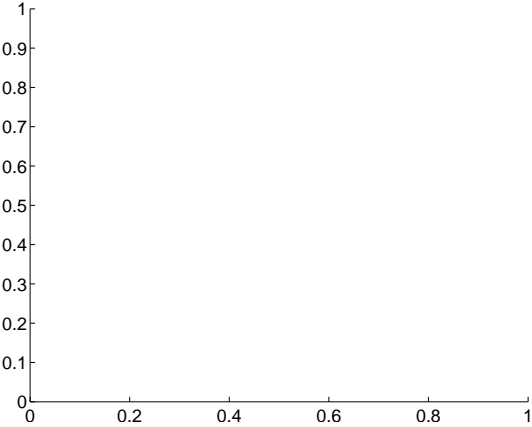
Q9 no difference image



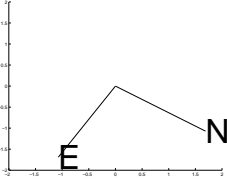
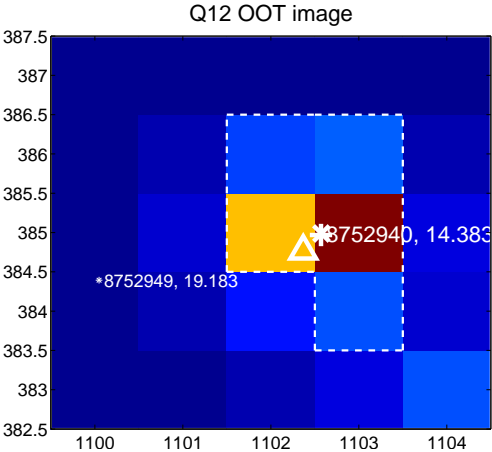
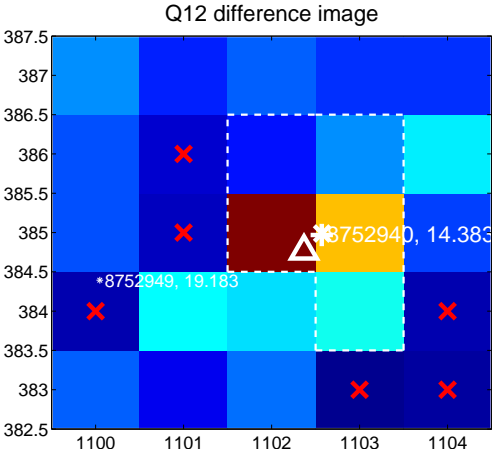
Q9 no OOT image



Q11 no difference image



Q11 no OOT image



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

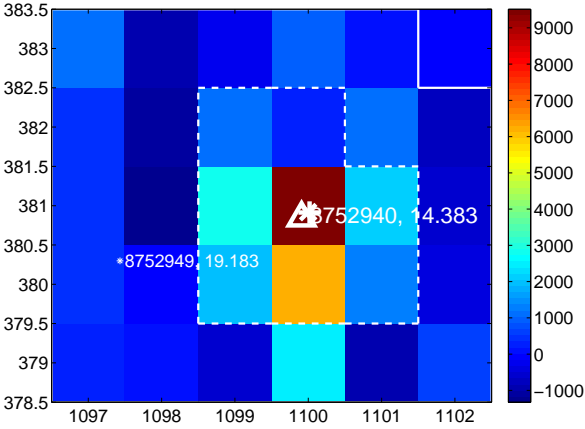
Q13 no difference image



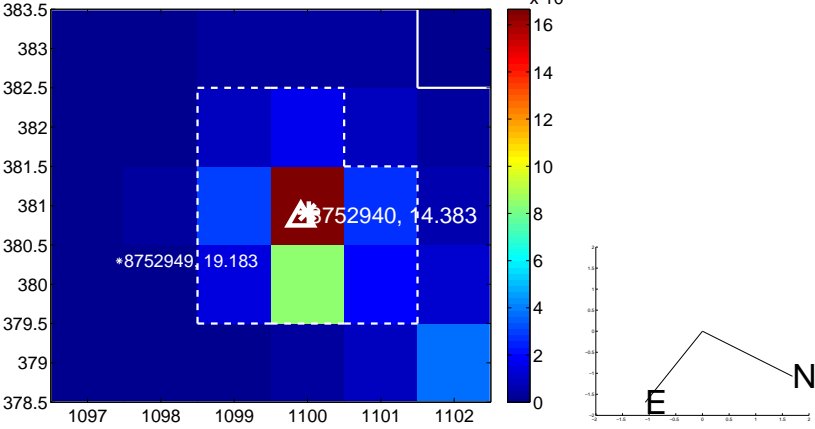
Q13 no OOT image



Q14 difference image



Q14 OOT image



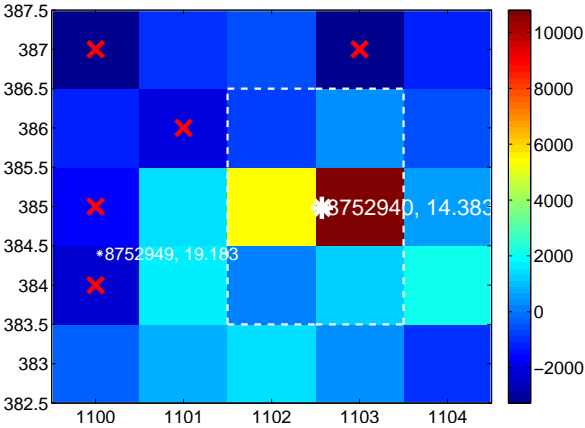
Q15 no difference image



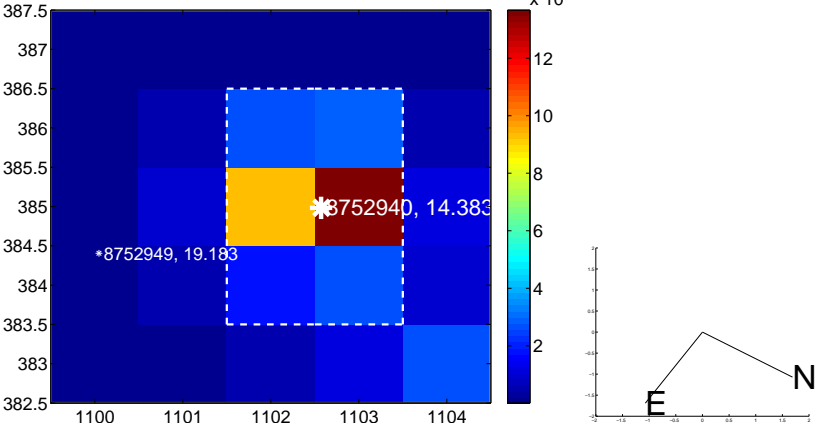
Q15 no OOT image



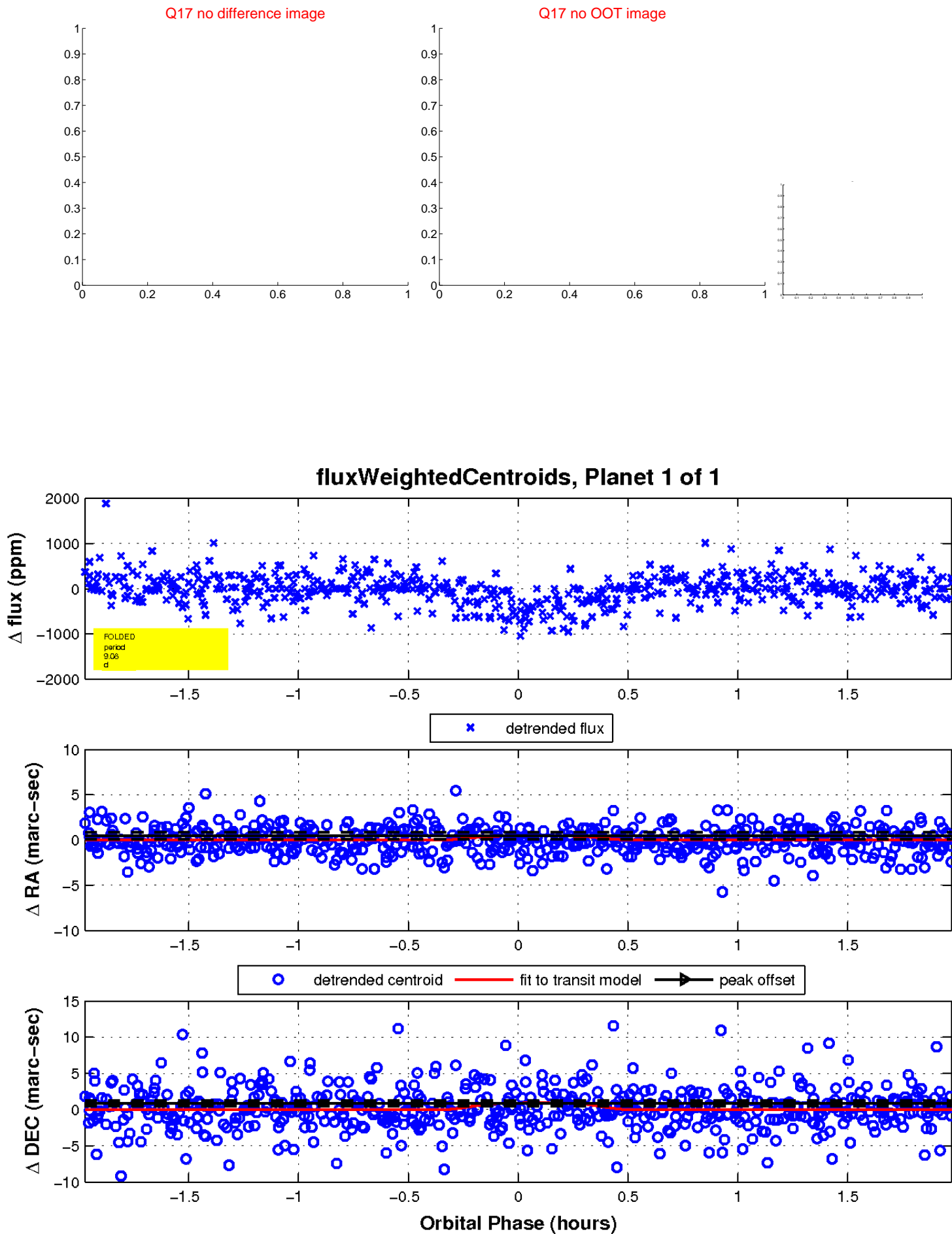
Q16 difference image. Poor Quality



Q16 OOT image



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



UKIRT Image

Declination

