

KIC 003102384

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})
003102384-01	OBS	0273.01	10.573748	132.773078	296.4	1.823	77.7	81.1	1.08	5720	2.29	120.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003102384-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED

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

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

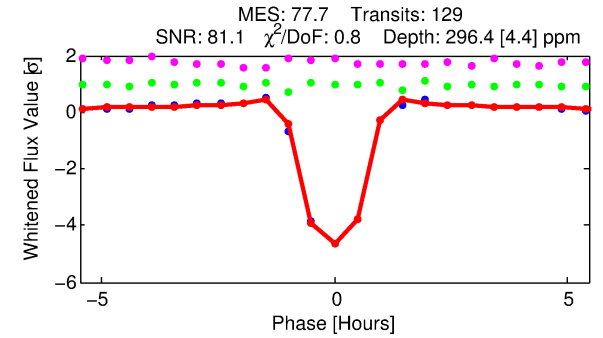
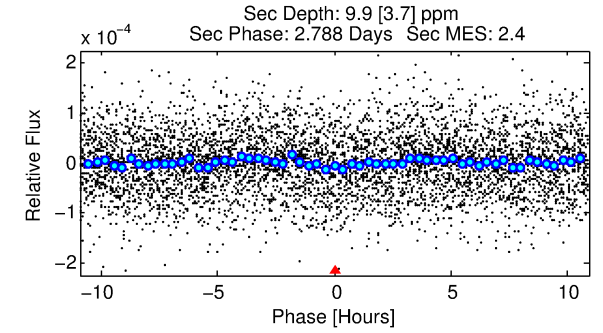
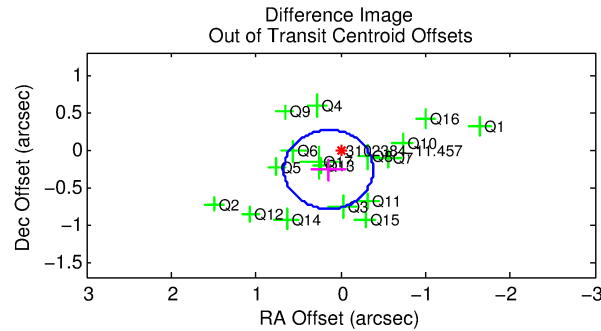
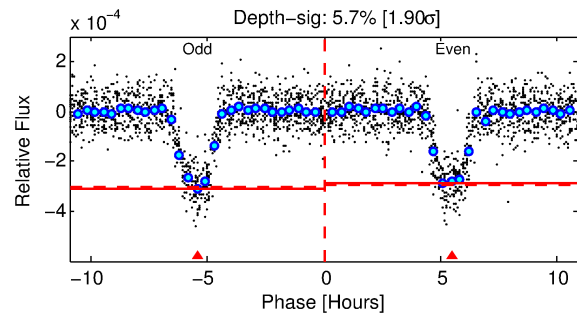
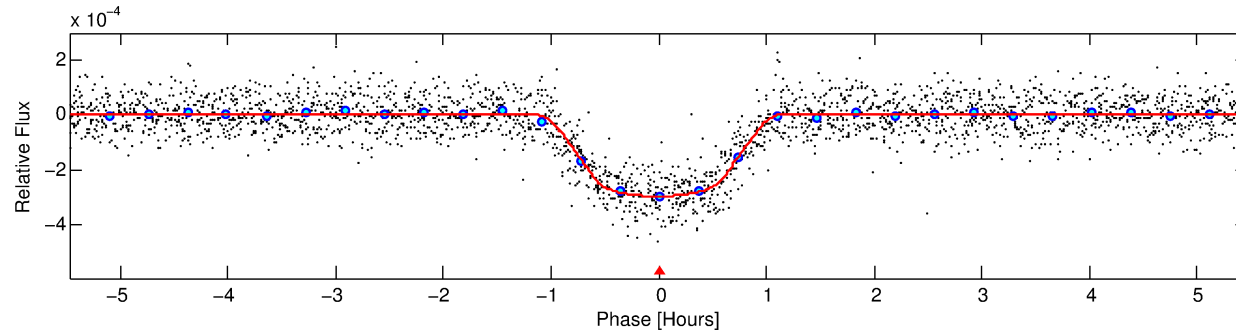
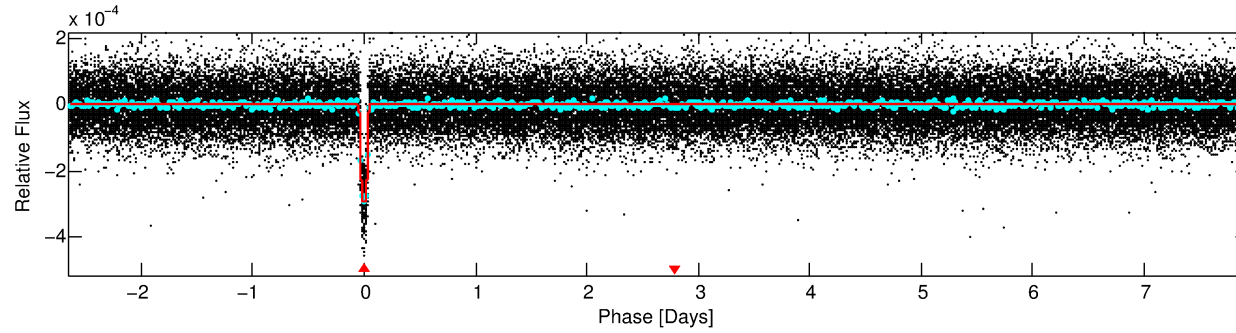
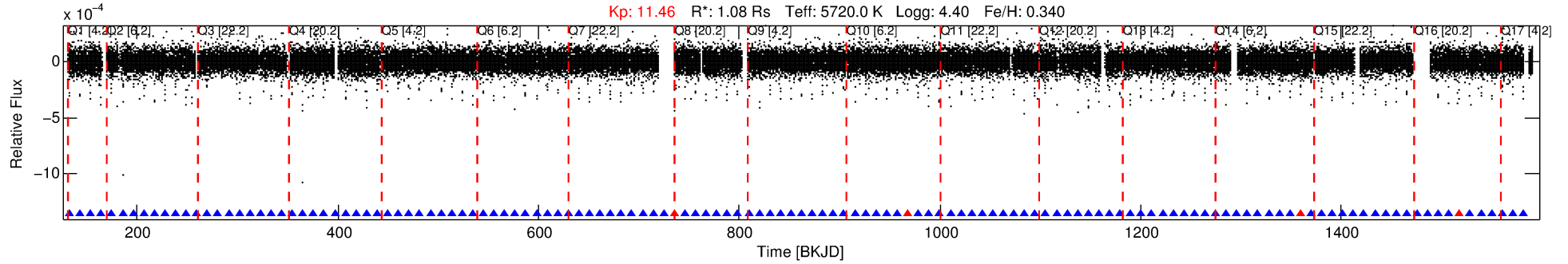
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003102384-01

No Significant Match Found

DV One-Page Summary

KIC: 3102384 Candidate: 1 of 1 Period: 10.574 d
KOI: K00273.01 Corr: 0.965



DV Fit Results:

Period = 10.57375 [0.00001] d
Epoch = 132.7731 [0.0006] BKJD
Rp/R* = 0.0195 [0.0012]
a/R* = 19.16 [5.44]
b = 0.92 [0.05]
Seff = 120.35 [7.27]
Teq = 845 [13] K
Rp = 2.29 [0.16] Re
a = 0.0964 [0.0022] AU
Ag = 9.60 [3.85] [2.24 σ]
Teffp = 2299 [232] K [6.27 σ]

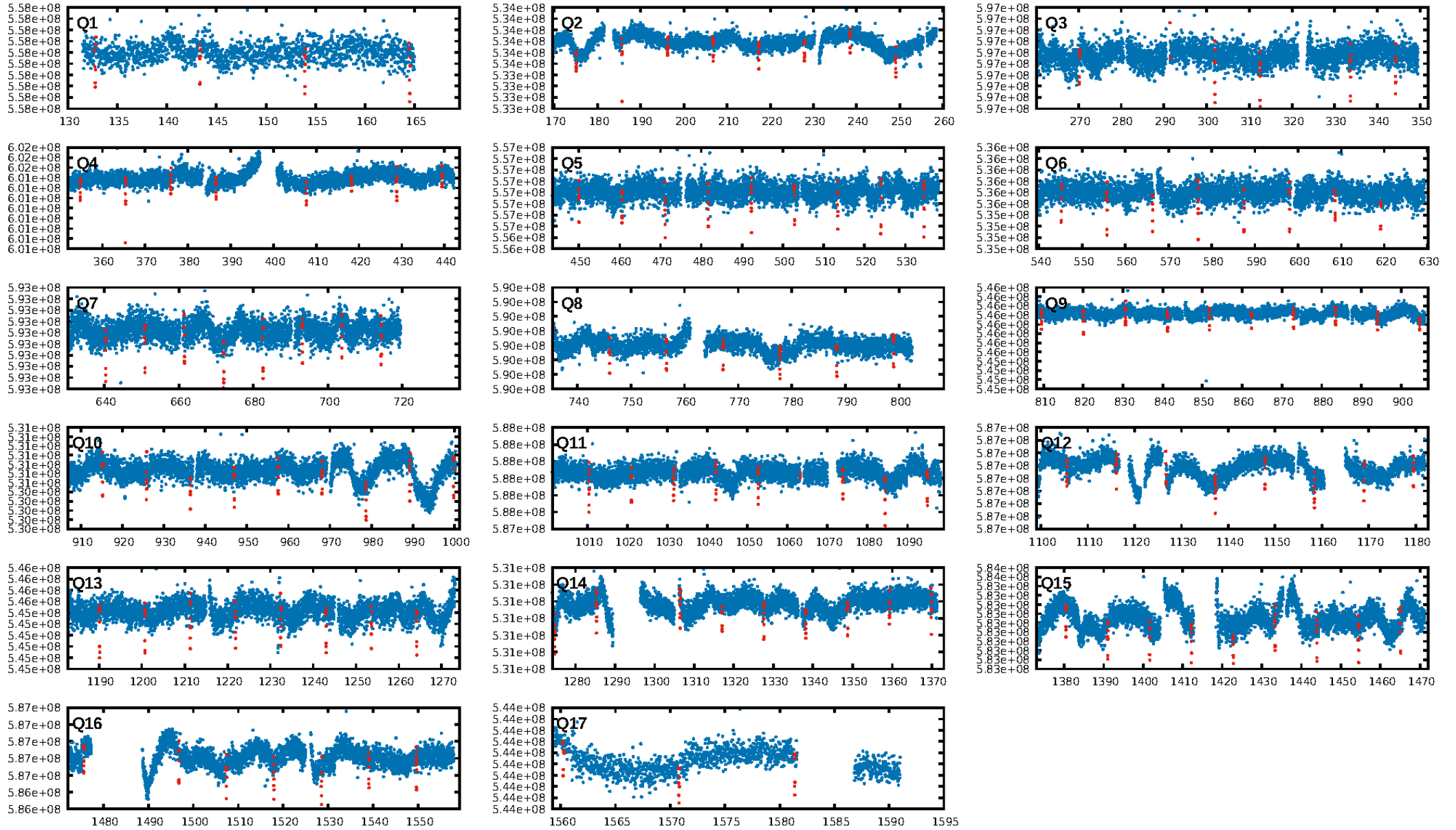
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [118/122]
GhostDiagnostic-chr: 8.296
Centroid-sig: 0.0%
Centroid-so: 0.383 arcsec [2.23 σ]
OotOffset-rm: 0.301 arcsec [1.72 σ]
KicOffset-rm: 0.577 arcsec [2.94 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

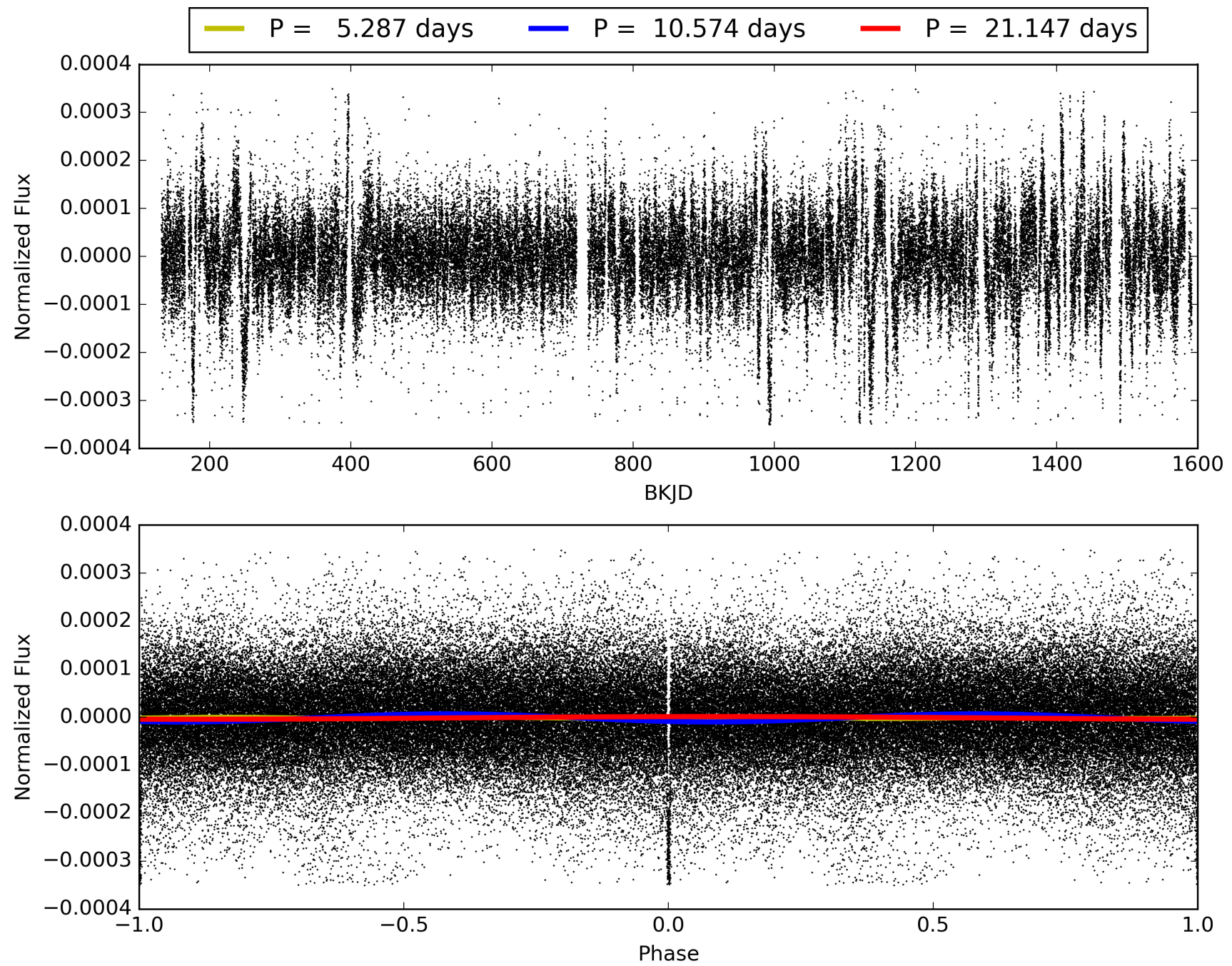
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:52:15 Z

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

TCE 003102384-01, PDC Light Curves

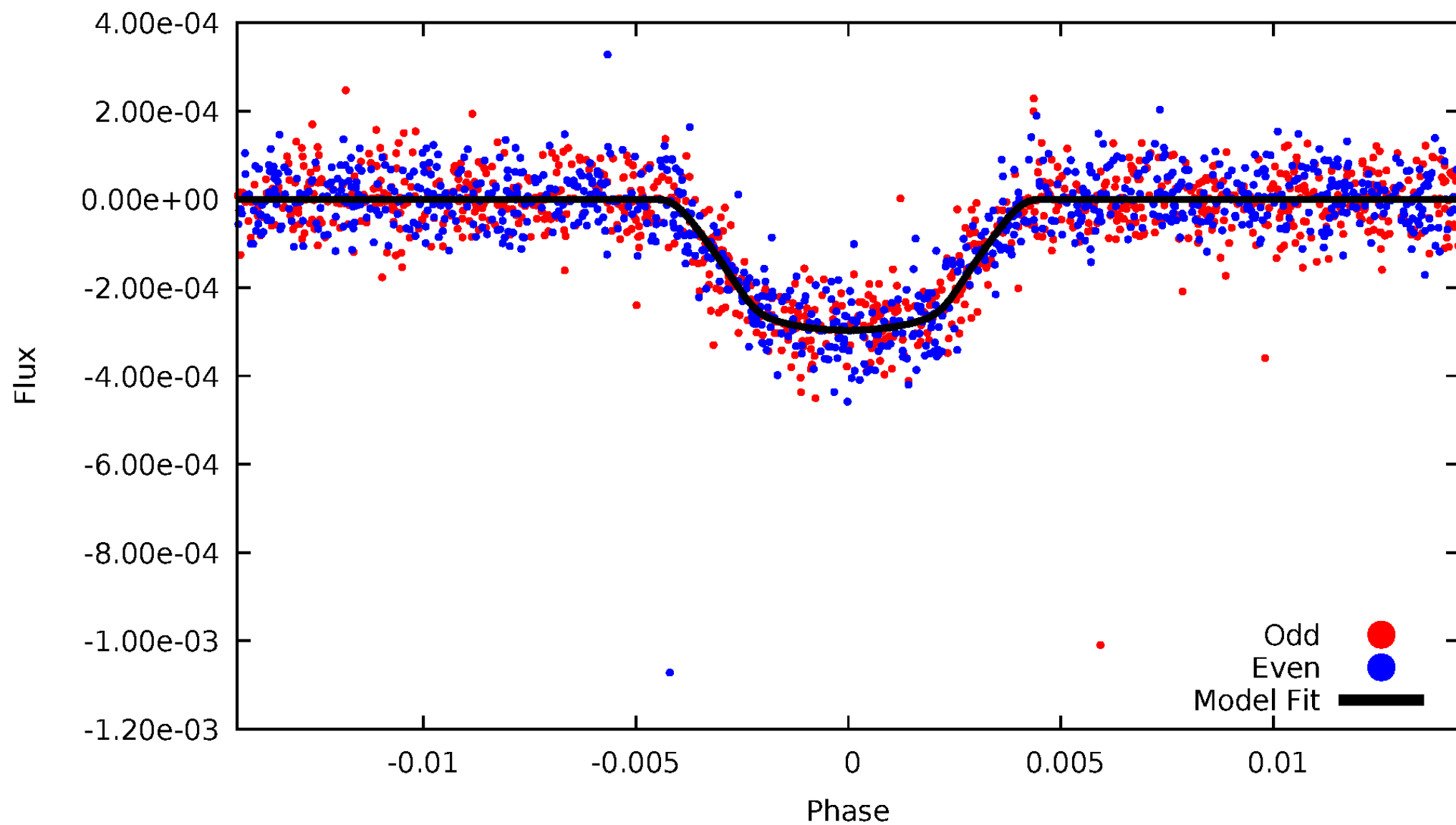


TCE 003102384-01



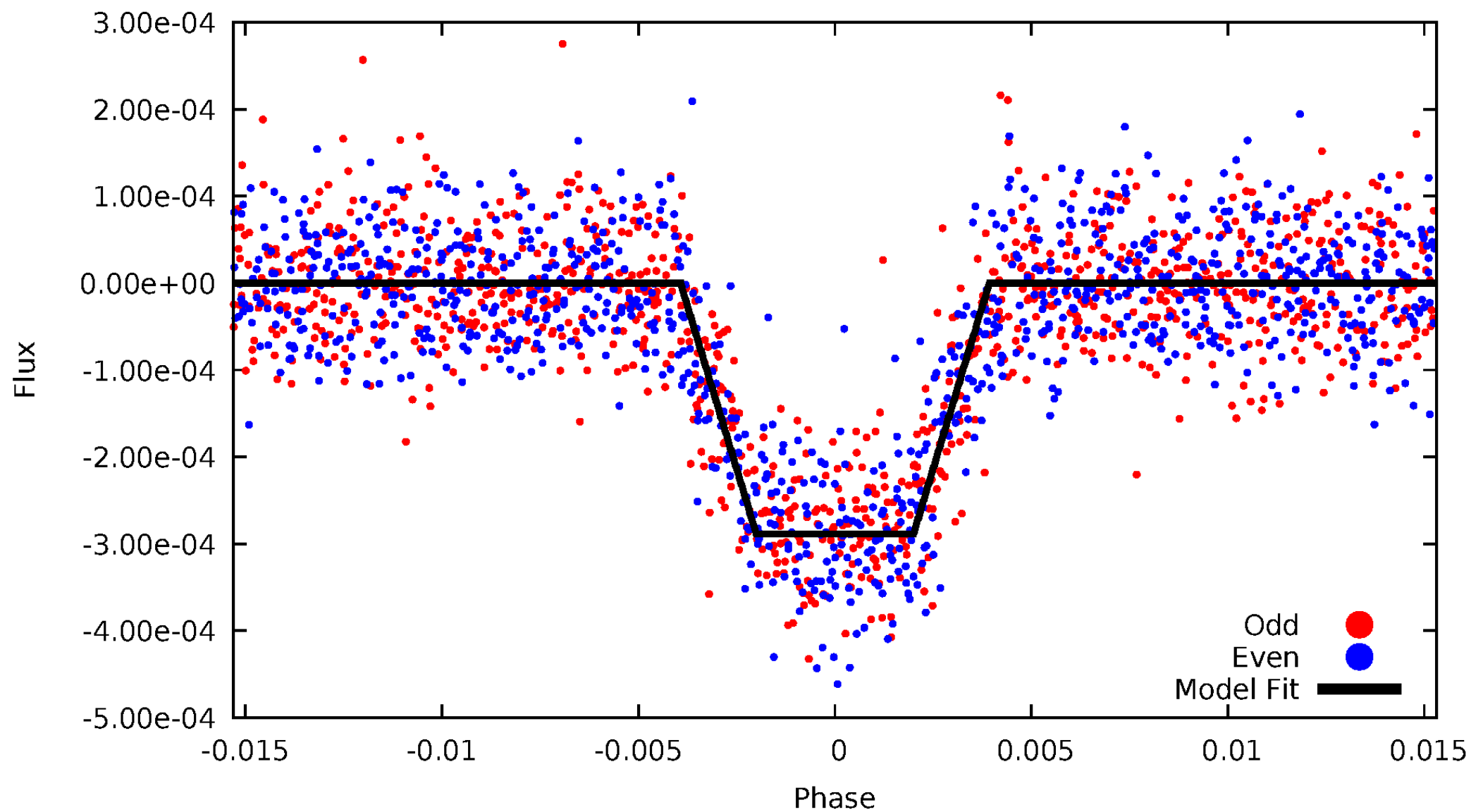
DV Odd/Even

TCE 003102384-01



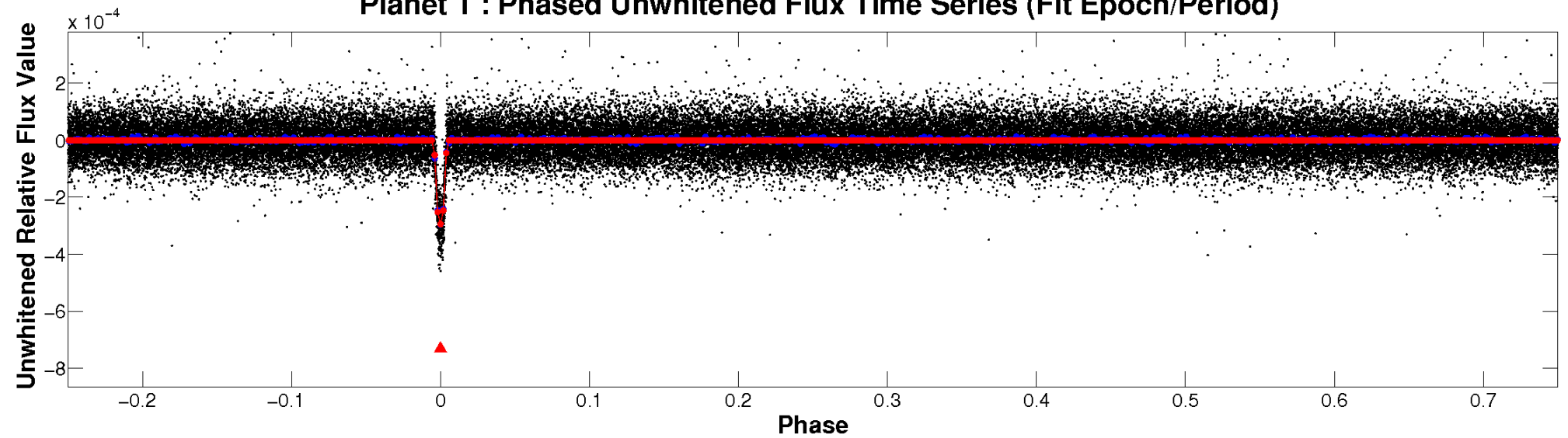
ALT Odd/Even

TCE 003102384-01

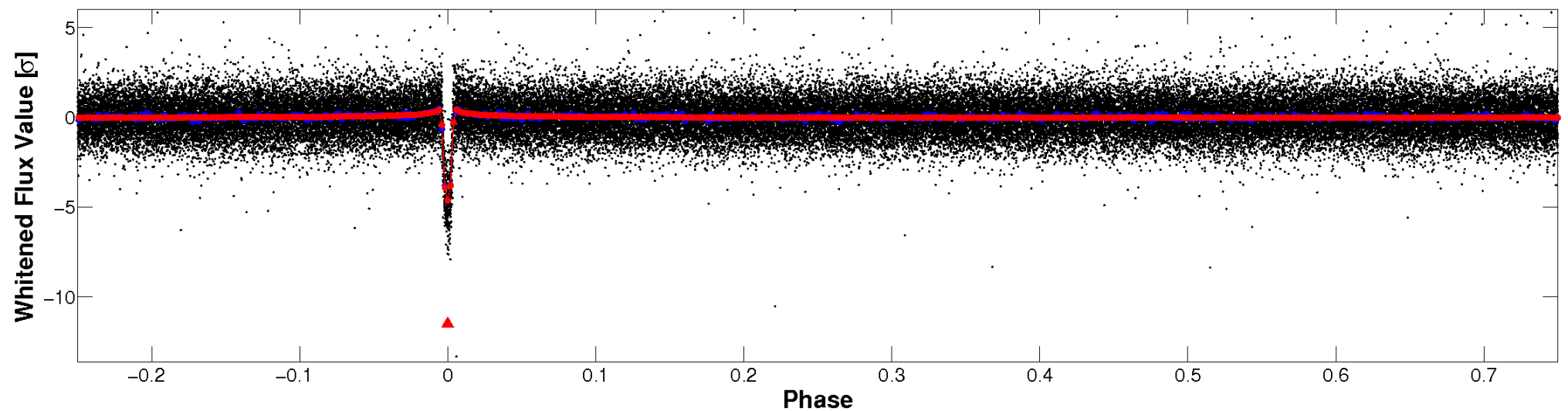


Non-Whitened Vs. Whitened Light Curve

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

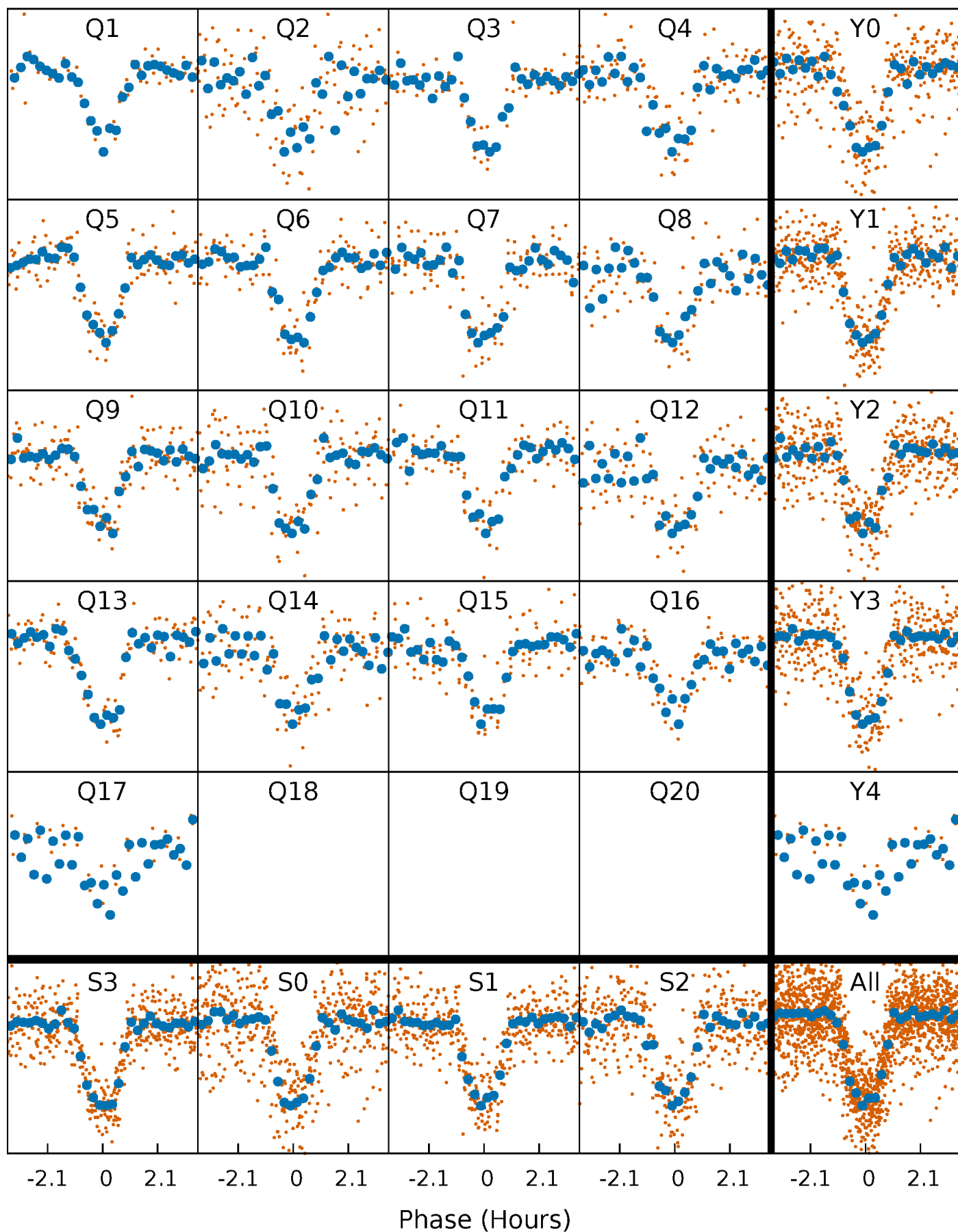


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



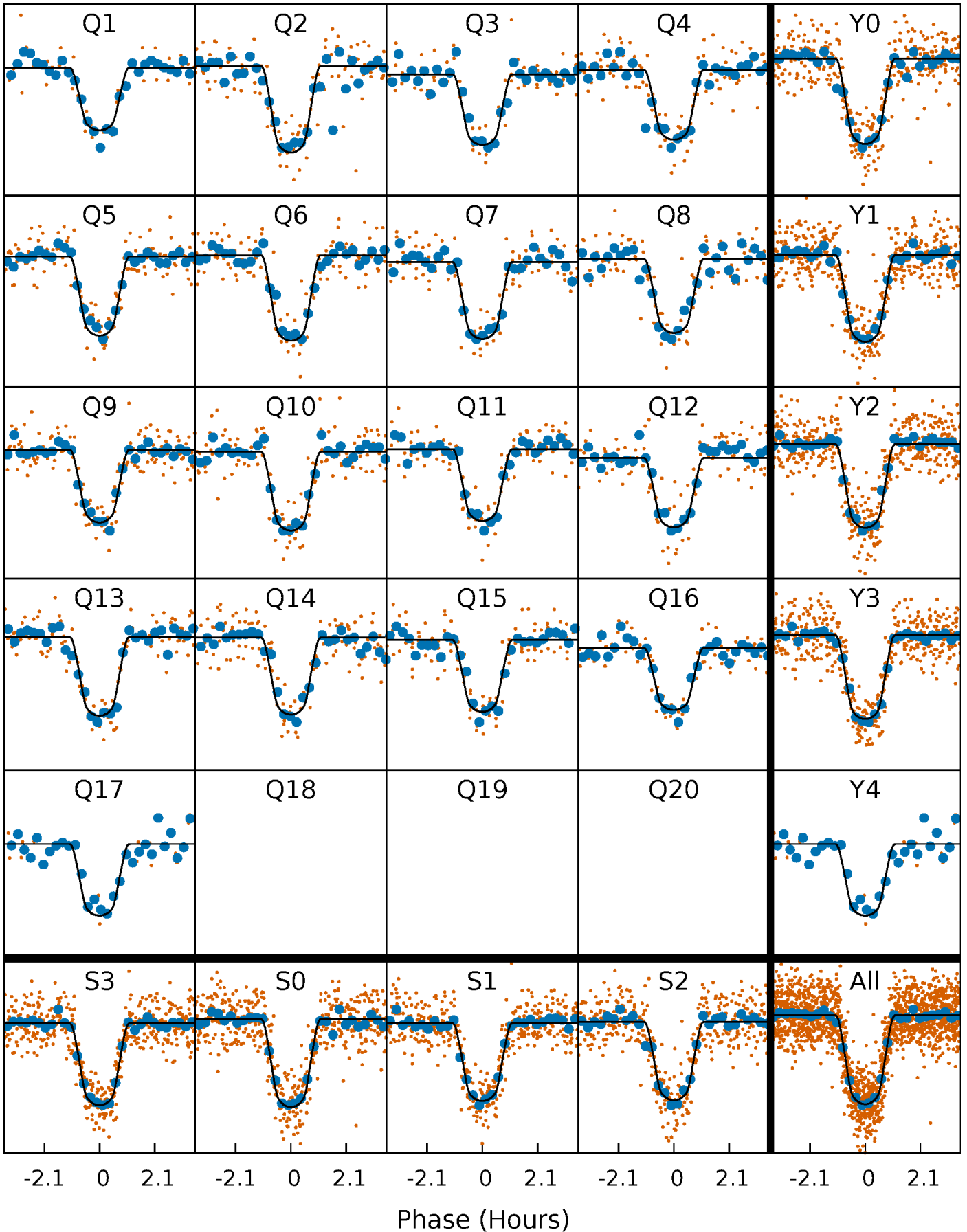
PDC Quarter-Phased Transit Curves

TCE 003102384-01 P= 10.573748 Days $T_0=132.773078$ (BKJD)



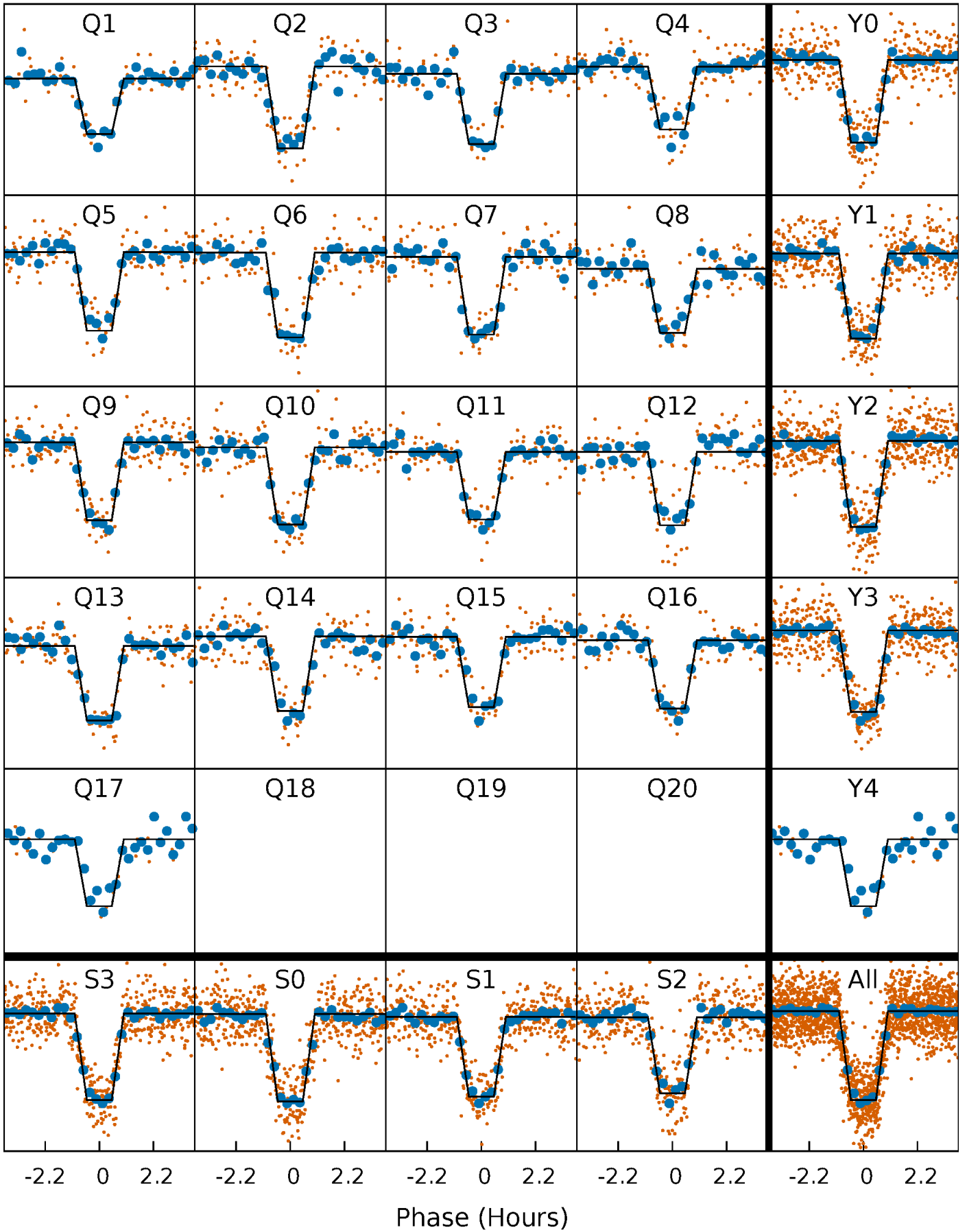
DV Quarter-Phased Transit Curves

TCE 003102384-01 P= 10.573748 Days $T_0=132.773078$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

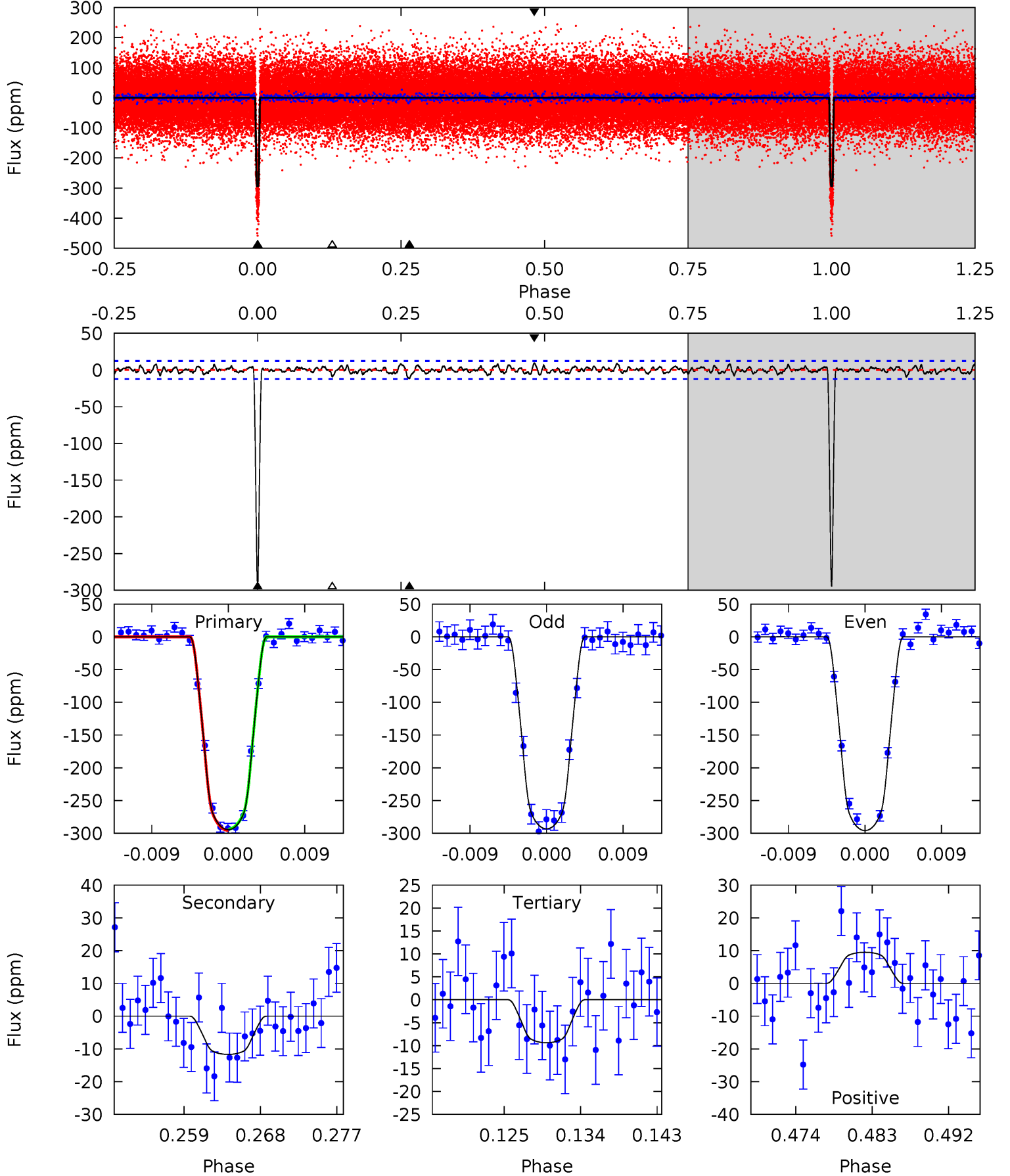
TCE 003102384-01 P= 10.573715 Days $T_0=132.775176$ (BKJD)



DV Model-Shift Uniqueness Test

003102384-01, P = 10.573748 Days, E = 122.199330 Days

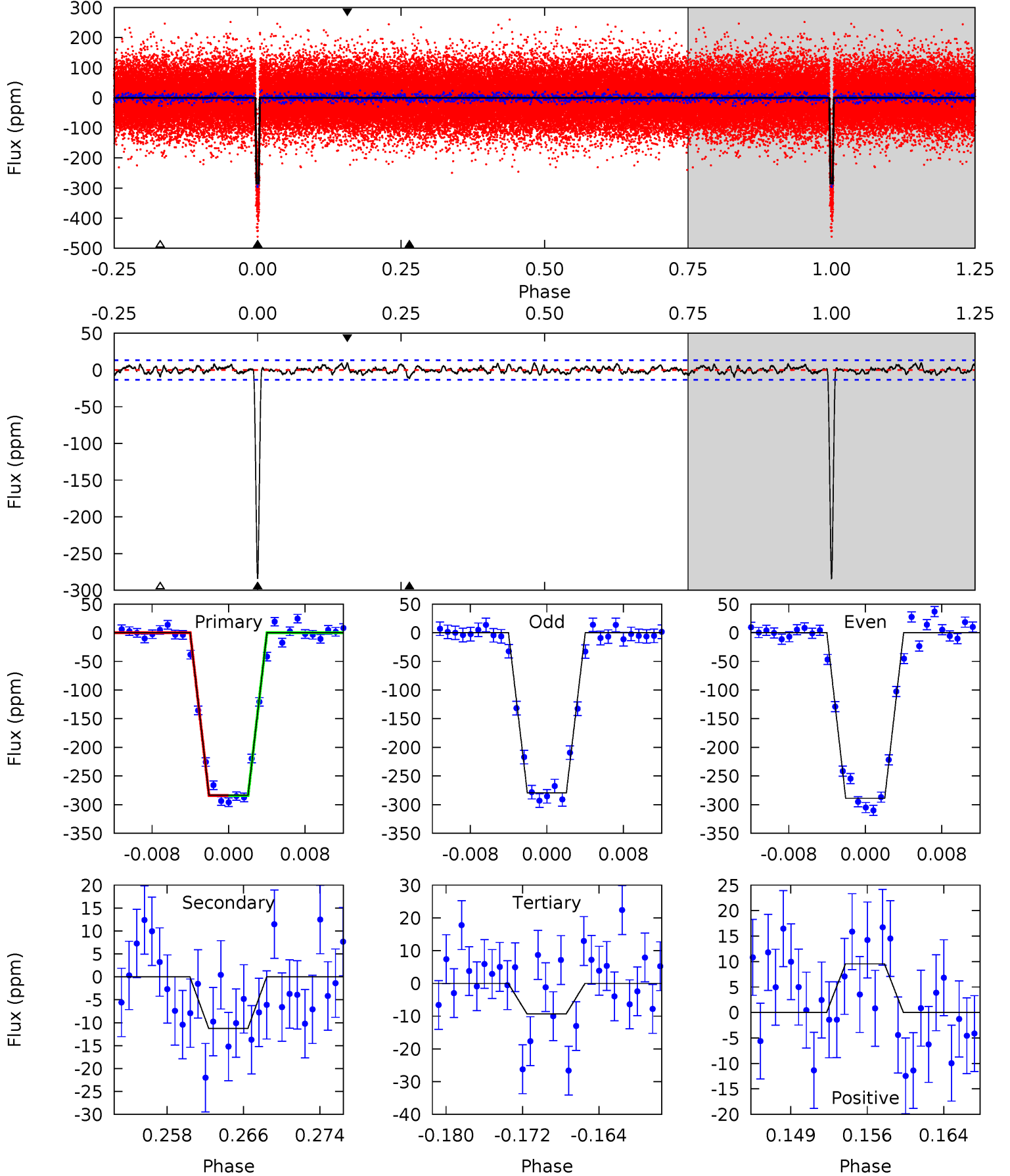
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
121.2	4.81	3.86	3.91	5.05	2.61	1.29	117.3	117.3	0.95	0.90	0.55	1.01	0.03	0.43



Alt Model-Shift Uniqueness Test

003102384-01, $P = 10.573715$ Days, $E = 122.201461$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
107.6	4.28	3.54	3.62	5.07	2.66	1.26	104.0	103.9	0.73	0.66	1.81	1.00	0.03	0.04



Stellar Parameters For KIC 003102384

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5720^{+77}_{-77}	$4.400^{+0.012}_{-0.012}$	$0.340^{+0.100}_{-0.150}$	$1.080^{+0.027}_{-0.033}$	$1.067^{+0.039}_{-0.055}$	$1.193^{+0.062}_{-0.054}$
	+1%/-1%	+0%/-0%	+29%/-44%	+2%/-3%	+4%/-5%	+5%/-5%
Source	SPE72	AST8	SPE72	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003102384-01 / KOI 0273.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 2	$2.30^{+0.15}_{-0.15}$	1181^{+17}_{-18}	3037^{+109}_{-111}	11^{+3}_{-3}
Alt.	-11 ± 3	$2.00^{+0.15}_{-0.15}$	1180^{+18}_{-17}	3136^{+133}_{-144}	14^{+4}_{-4}

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 $A_{\text{obs}} \gg 1.0$

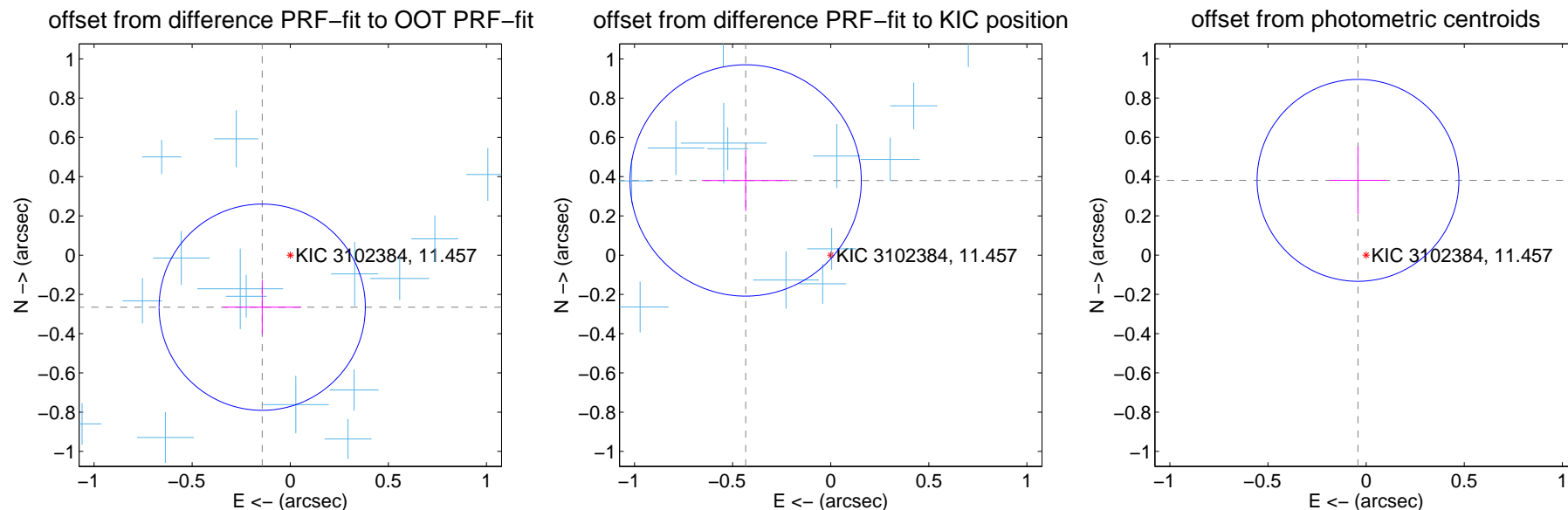
DV Centroid Data

Supplemental centroid analysis for 003102384-01. **Kepler magnitude: 11.46.** Transit SNR 81.05

There are 17 quarters with good PRF difference image offsets

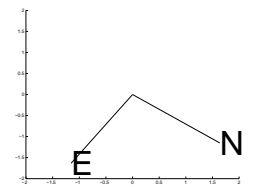
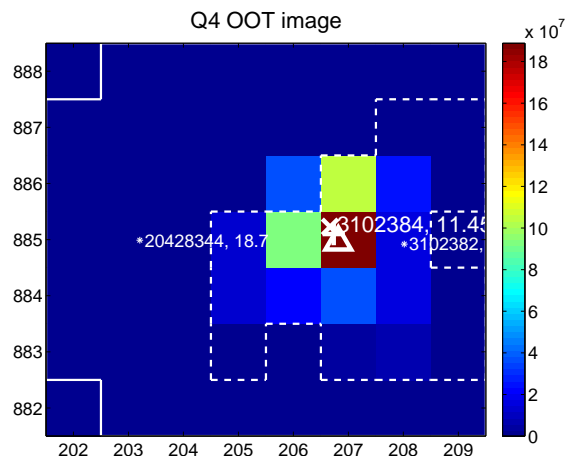
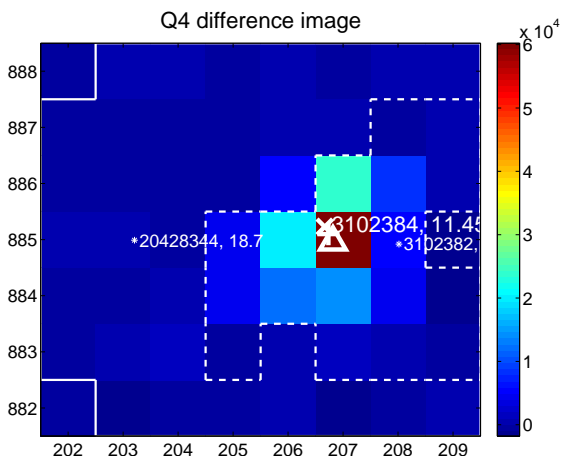
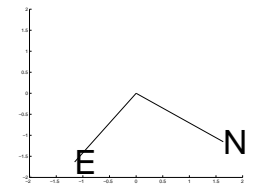
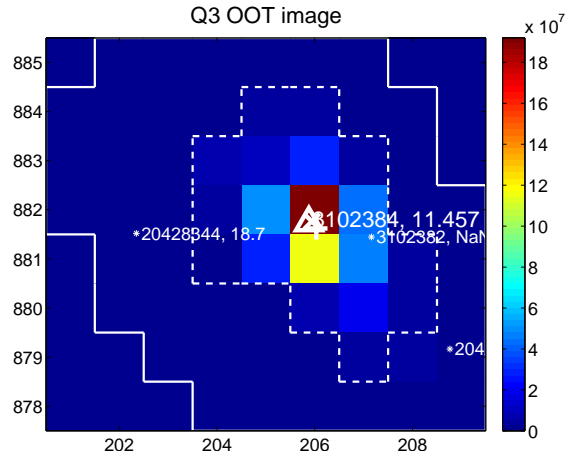
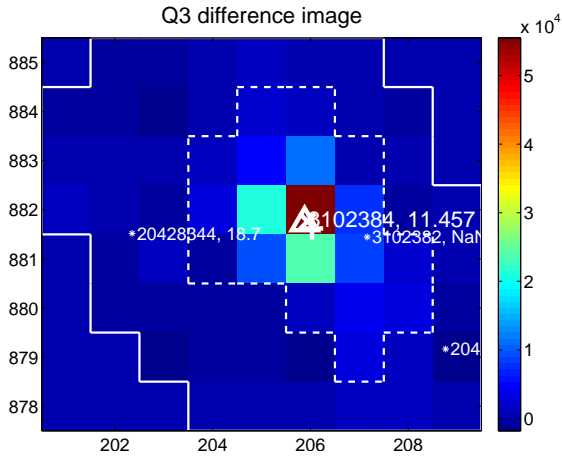
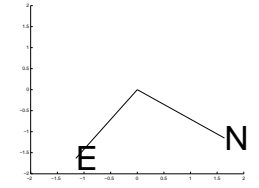
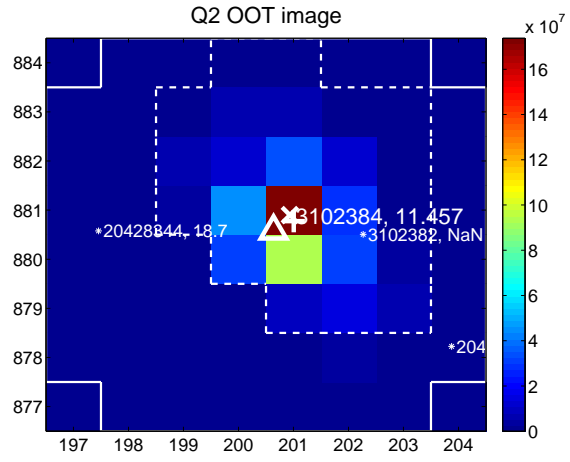
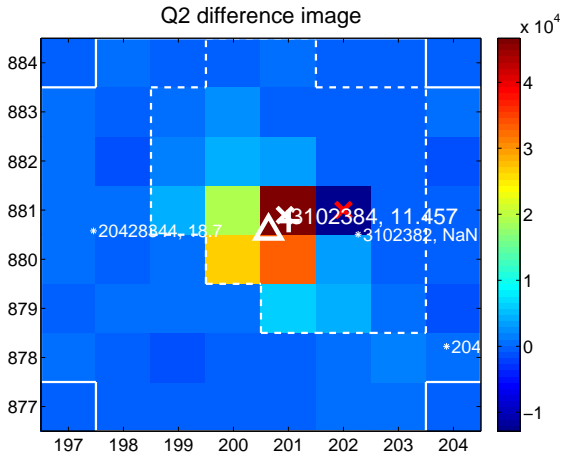
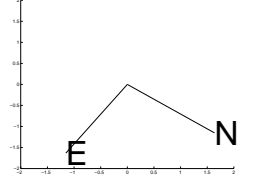
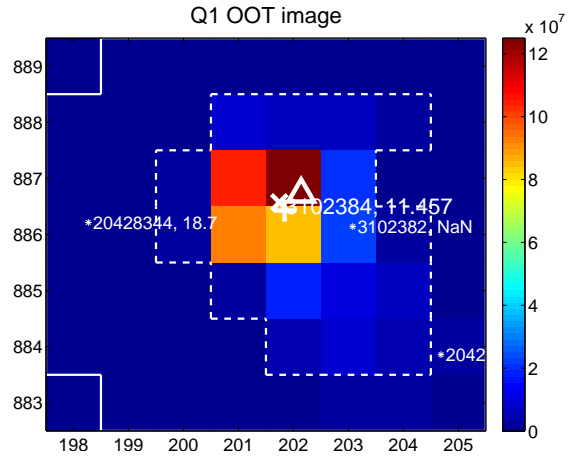
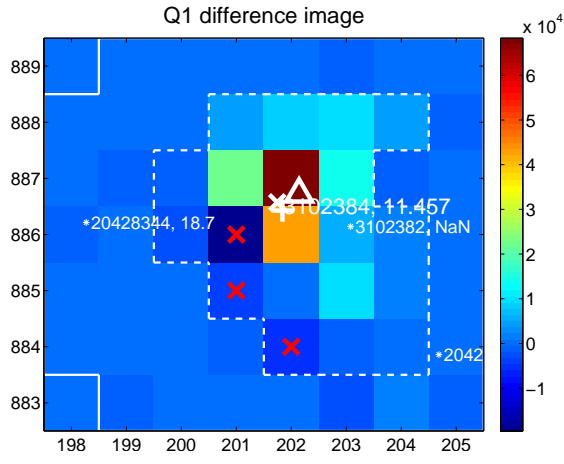
The direct PRF centroid is offset from the target star catalog position by about 0.80 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.301 ± 0.175	1.72	0.143 ± 0.200	-0.265 ± 0.138
PRF-fit source offset from KIC position	0.577 ± 0.196	2.94	0.433 ± 0.223	0.381 ± 0.155
photometric centroid source offset	0.38 ± 0.17	2.23	0.04 ± 0.14	0.38 ± 0.17

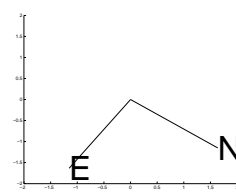
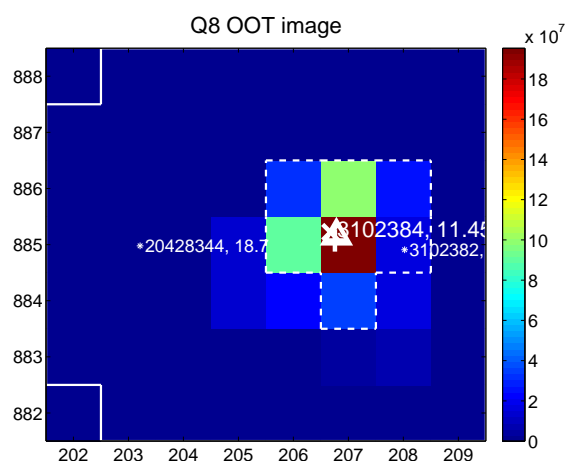
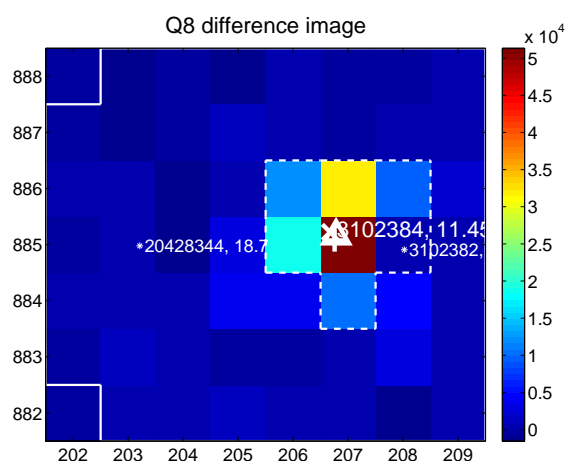
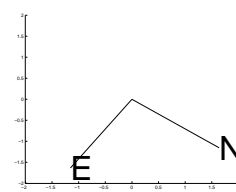
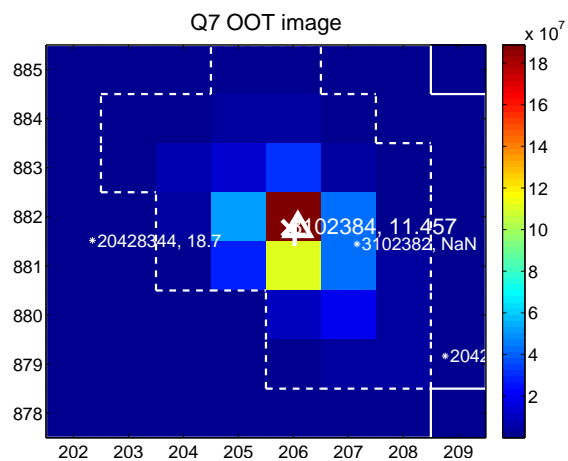
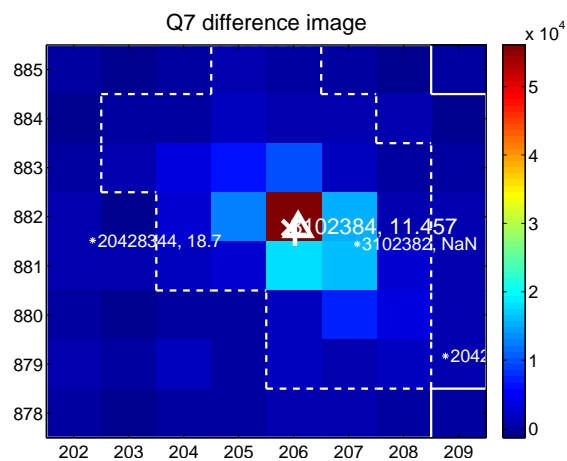
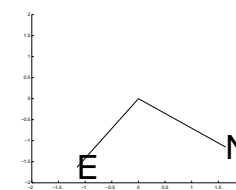
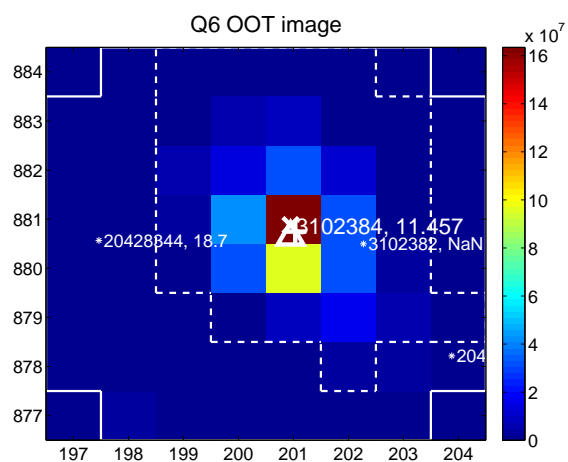
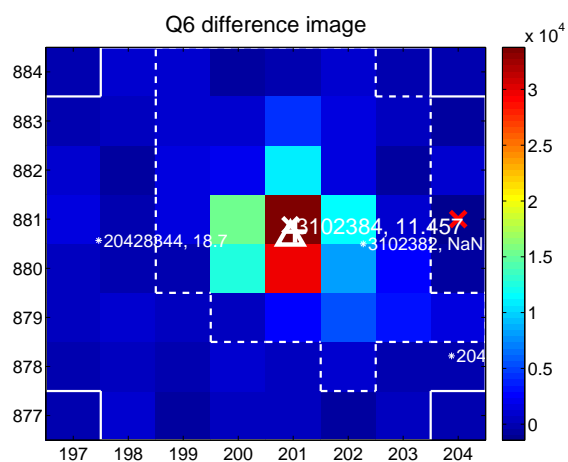
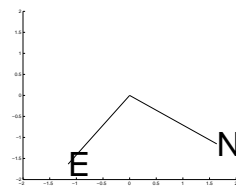
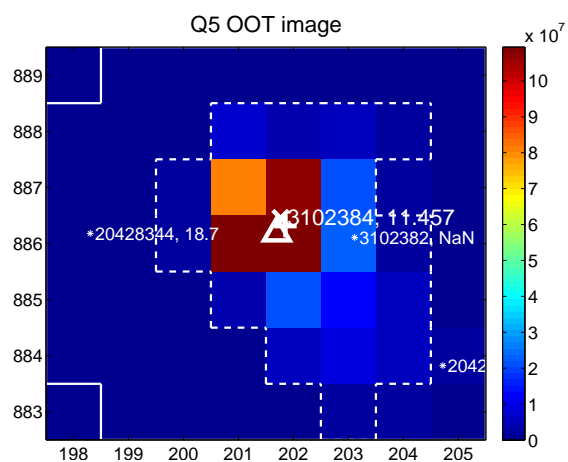
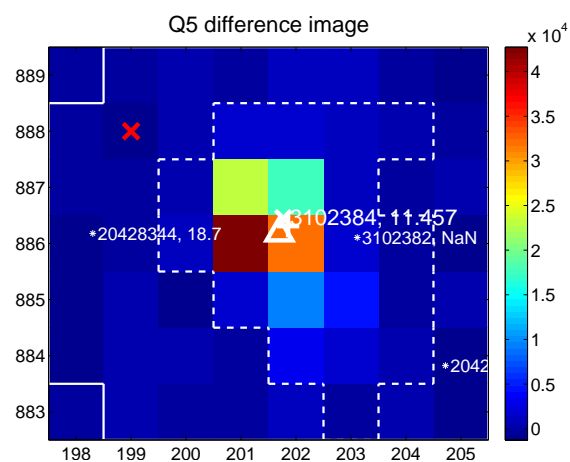


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

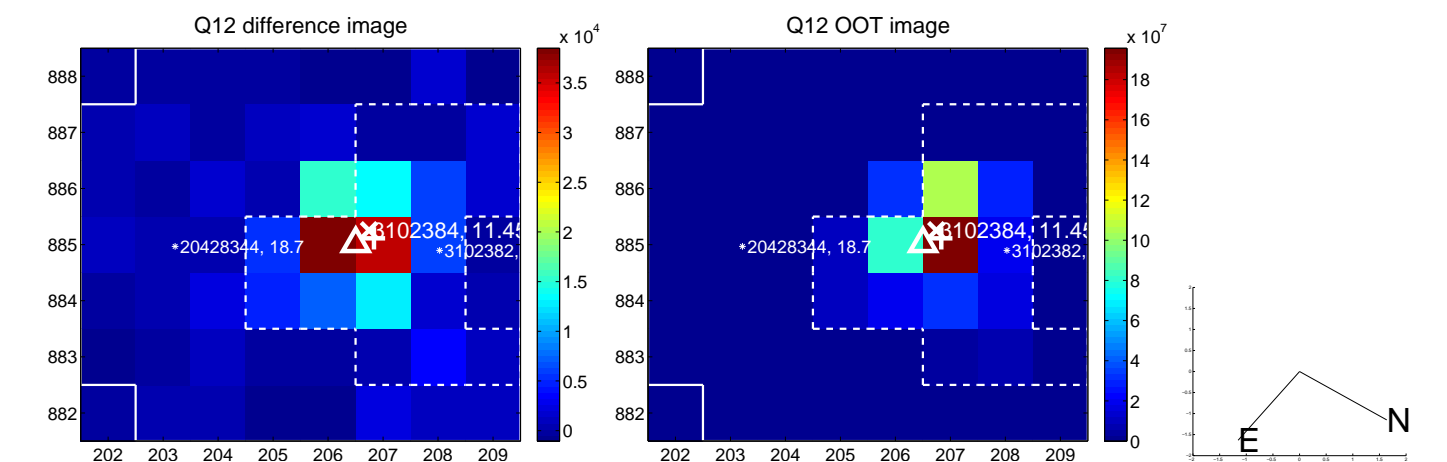
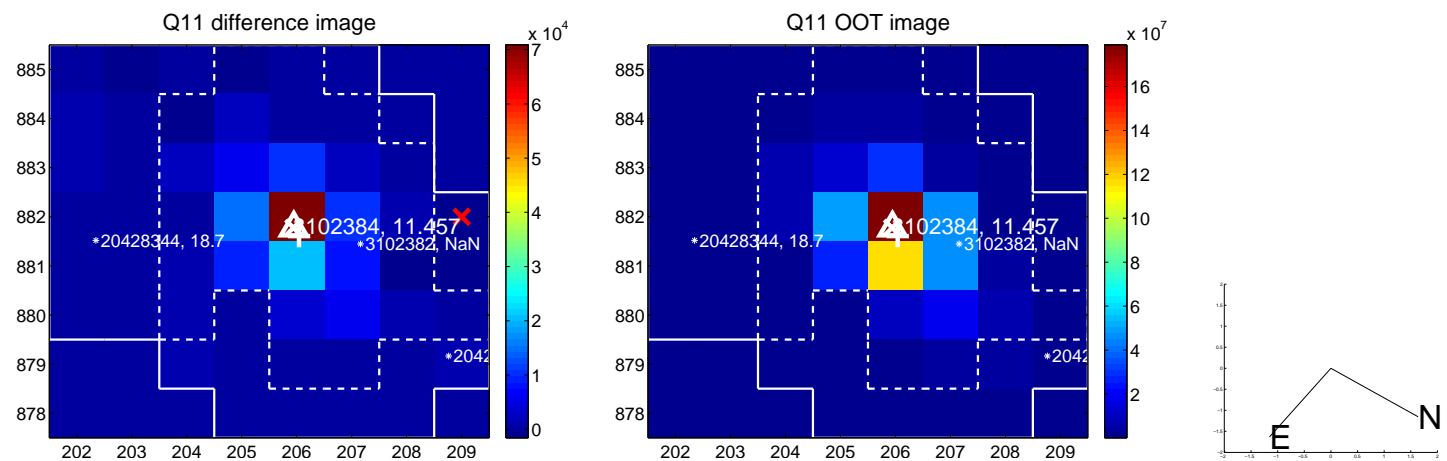
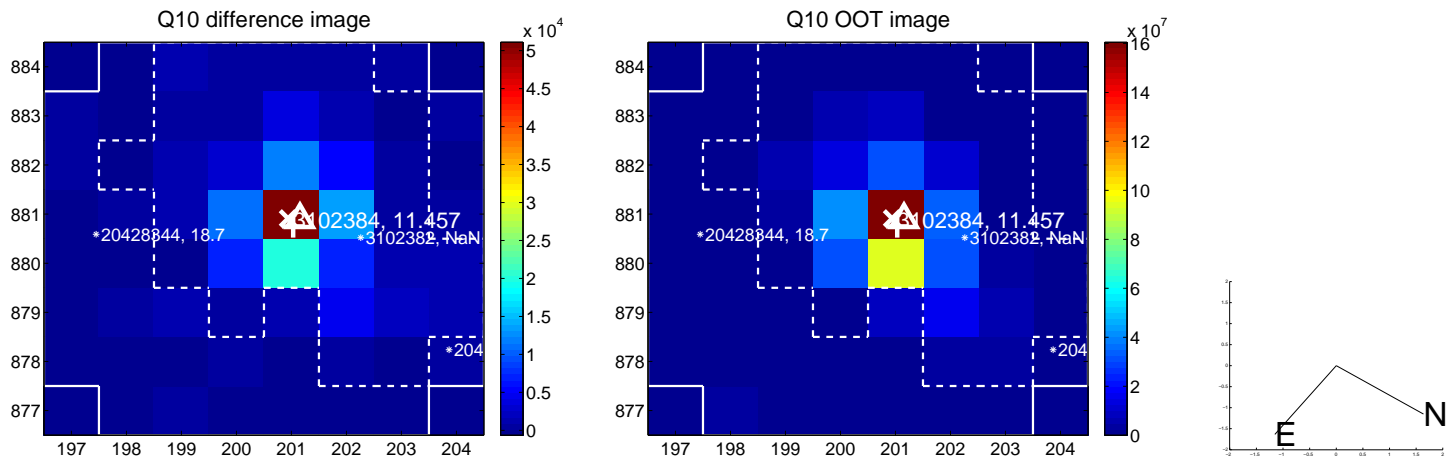
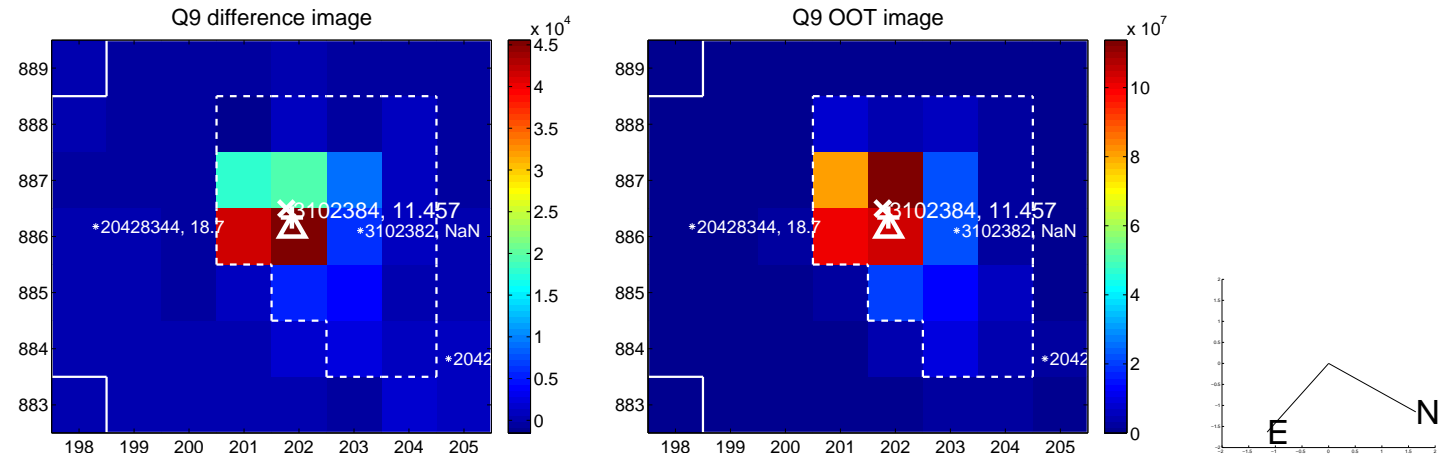
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



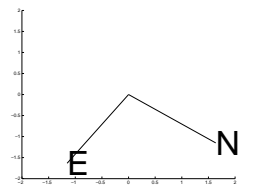
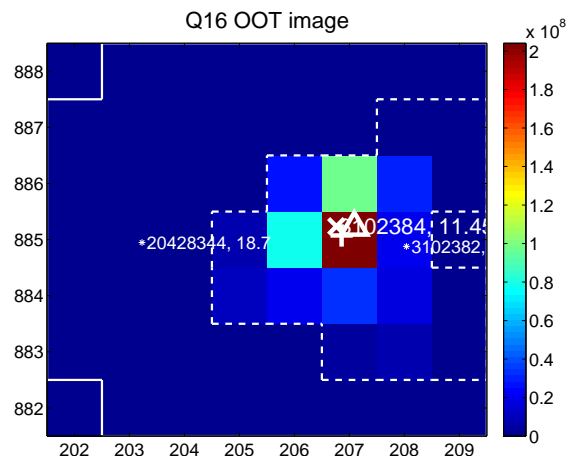
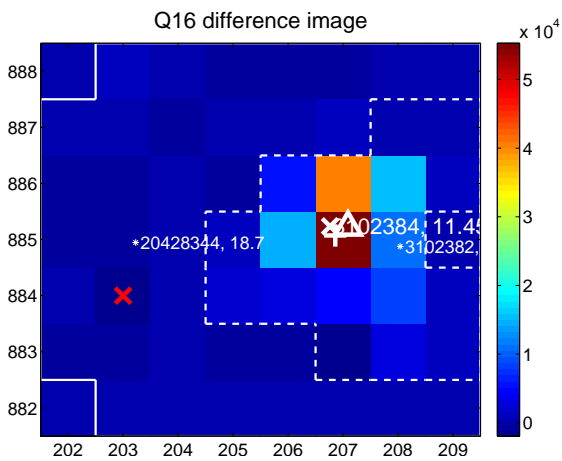
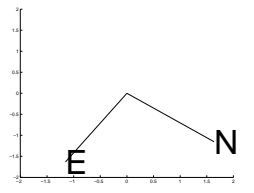
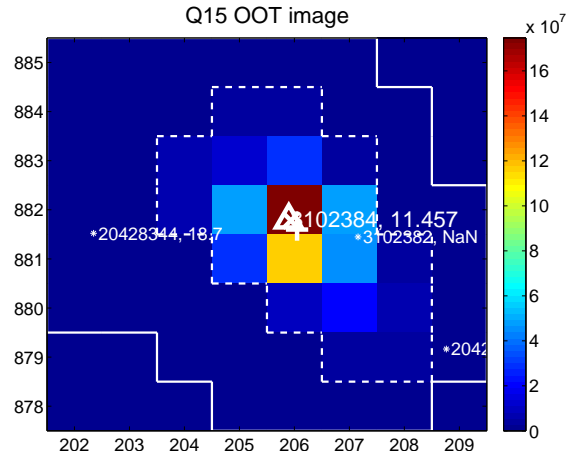
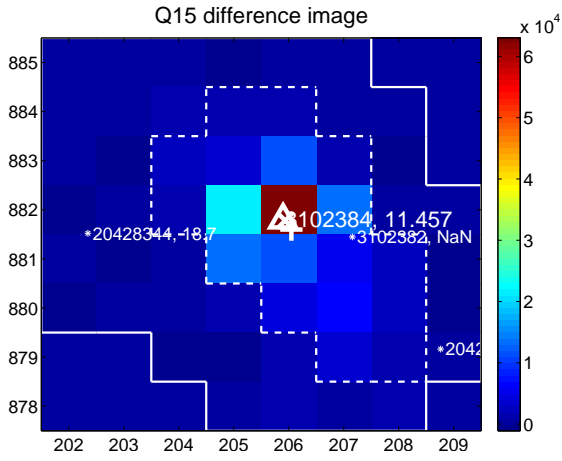
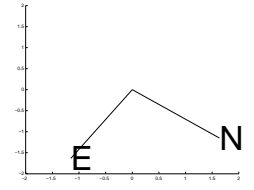
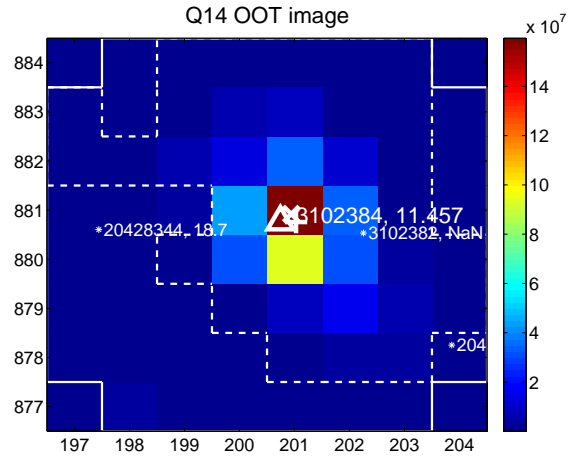
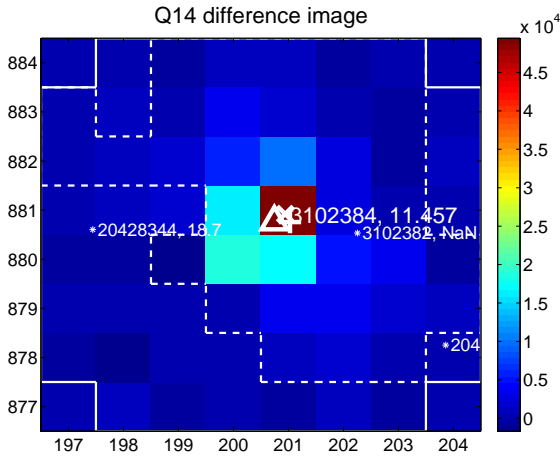
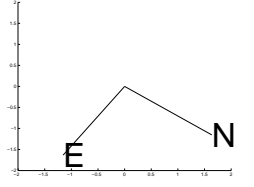
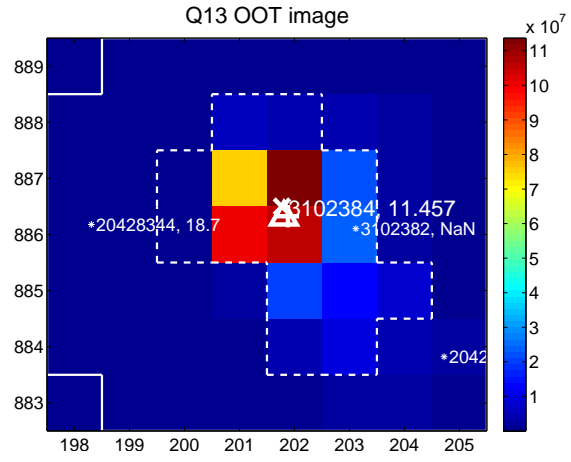
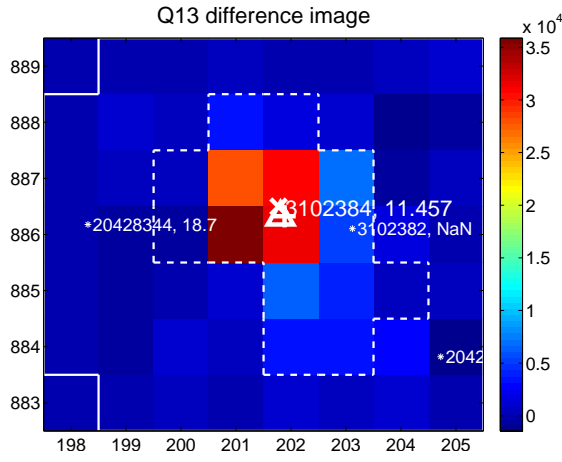
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



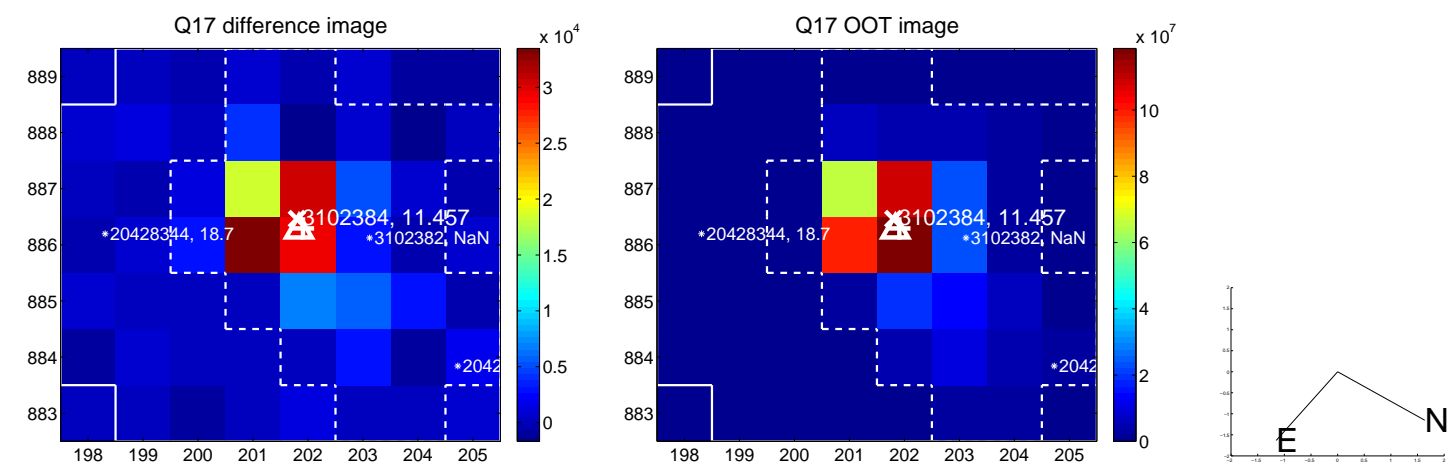
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



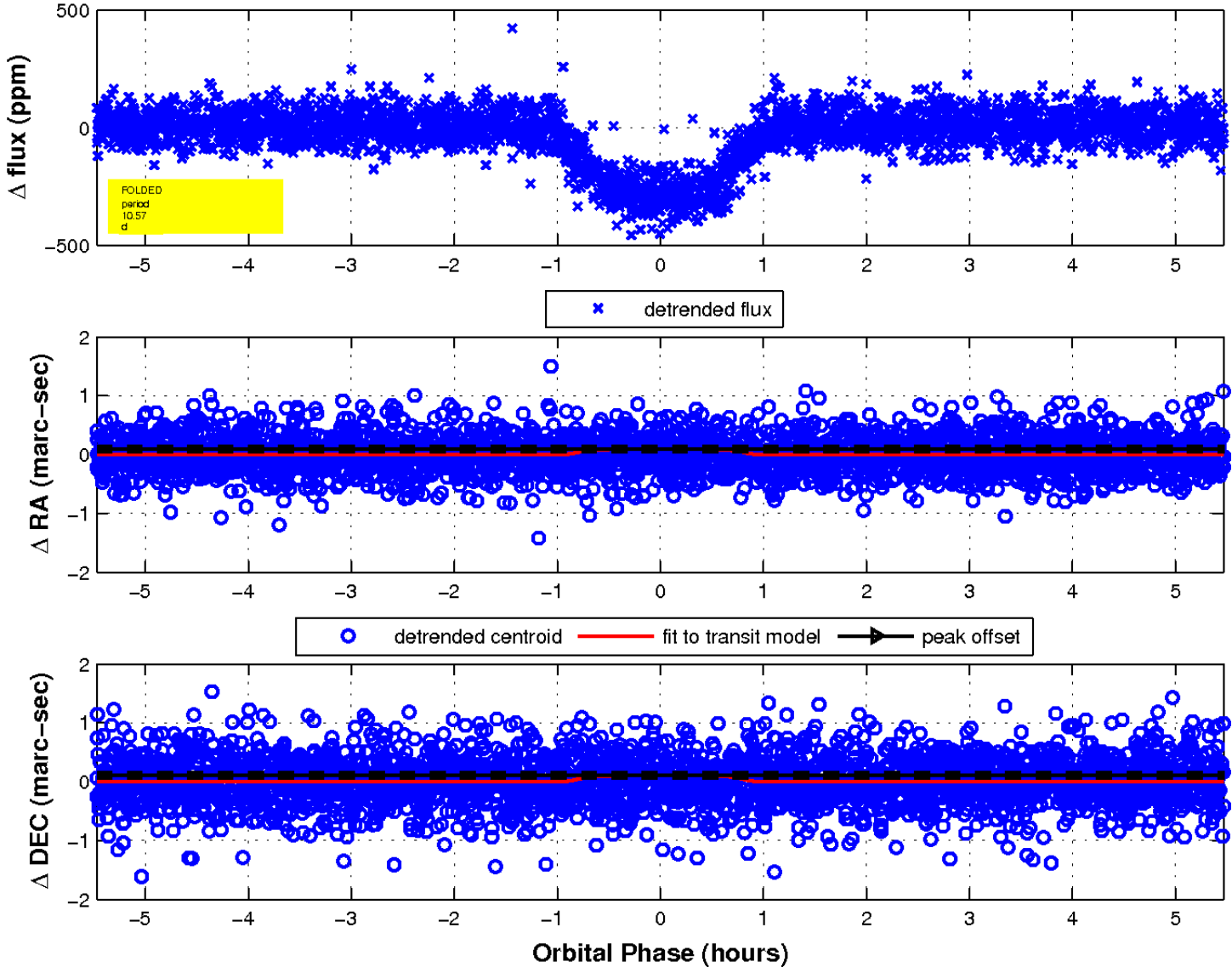
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

