

KIC 008870564

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})
008870564-01	OBS	No	367.362419	238.625632	1109.5	31.750	7.4	8.4	0.91	5926	5.79	0.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008870564-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

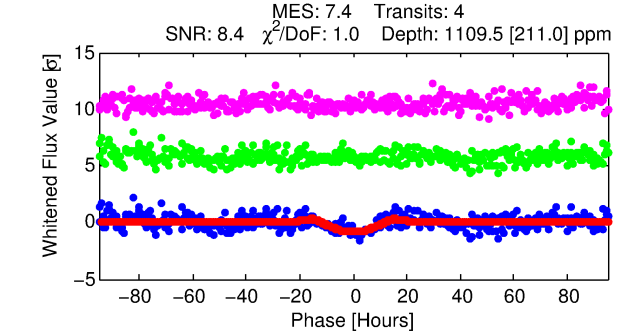
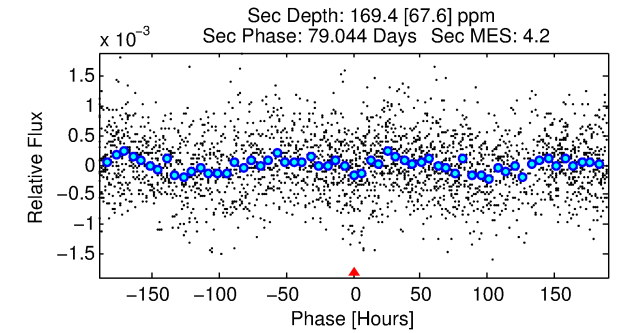
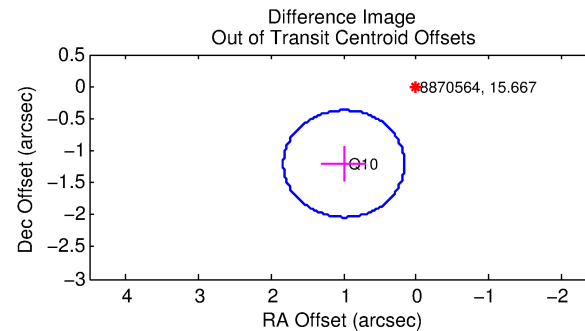
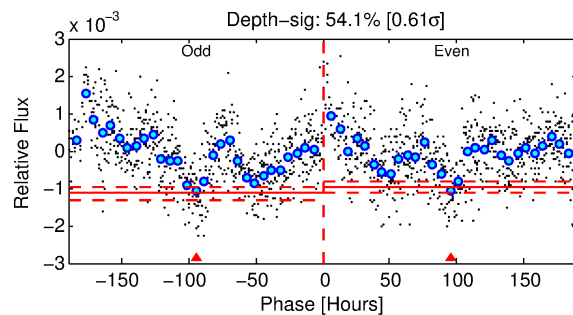
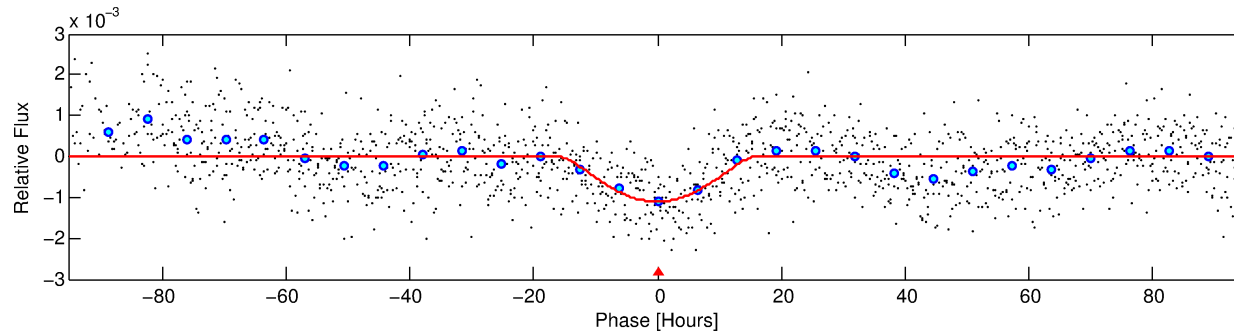
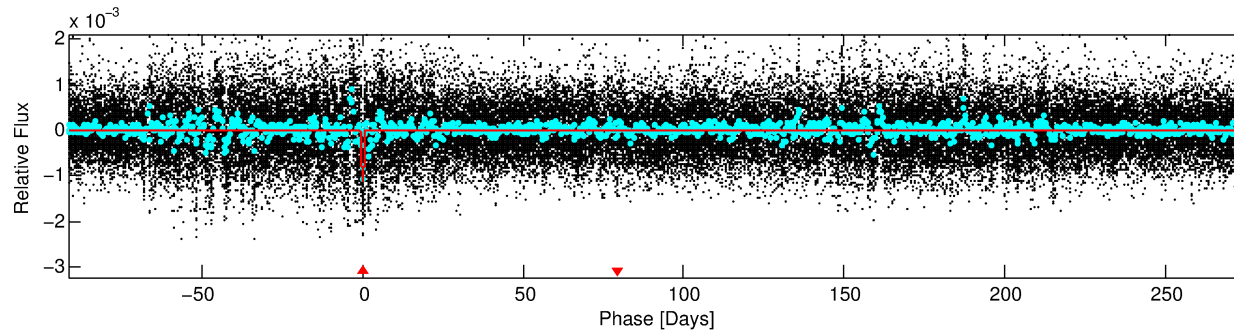
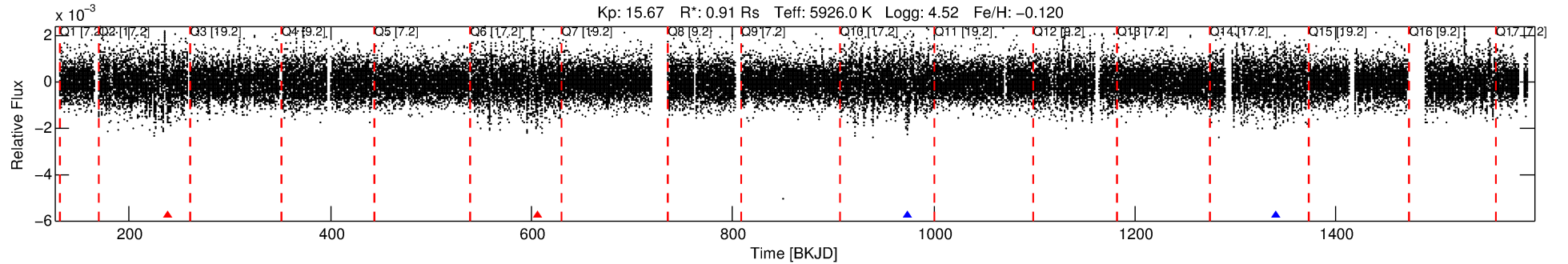
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008870564-01

No Significant Match Found

DV One-Page Summary

KIC: 8870564 Candidate: 1 of 1 Period: 367.362 d



DV Fit Results:

Period = 367.36242 [0.03027] d
Epoch = 238.6256 [0.0593] BKJD
Rp/R* = 0.0581 [0.1359]
a/R* = 30.82 [17.08]
b = 1.00 [0.20]
Seff = 0.91 [0.37]
Teq = 249 [25] K
Rp = 5.79 [13.66] Re
a = 1.0056 [0.2638] AU
Ag = 2808.50 [13225.40] [0.21 σ]
Teffp = 2804 [3291] K [0.78 σ]

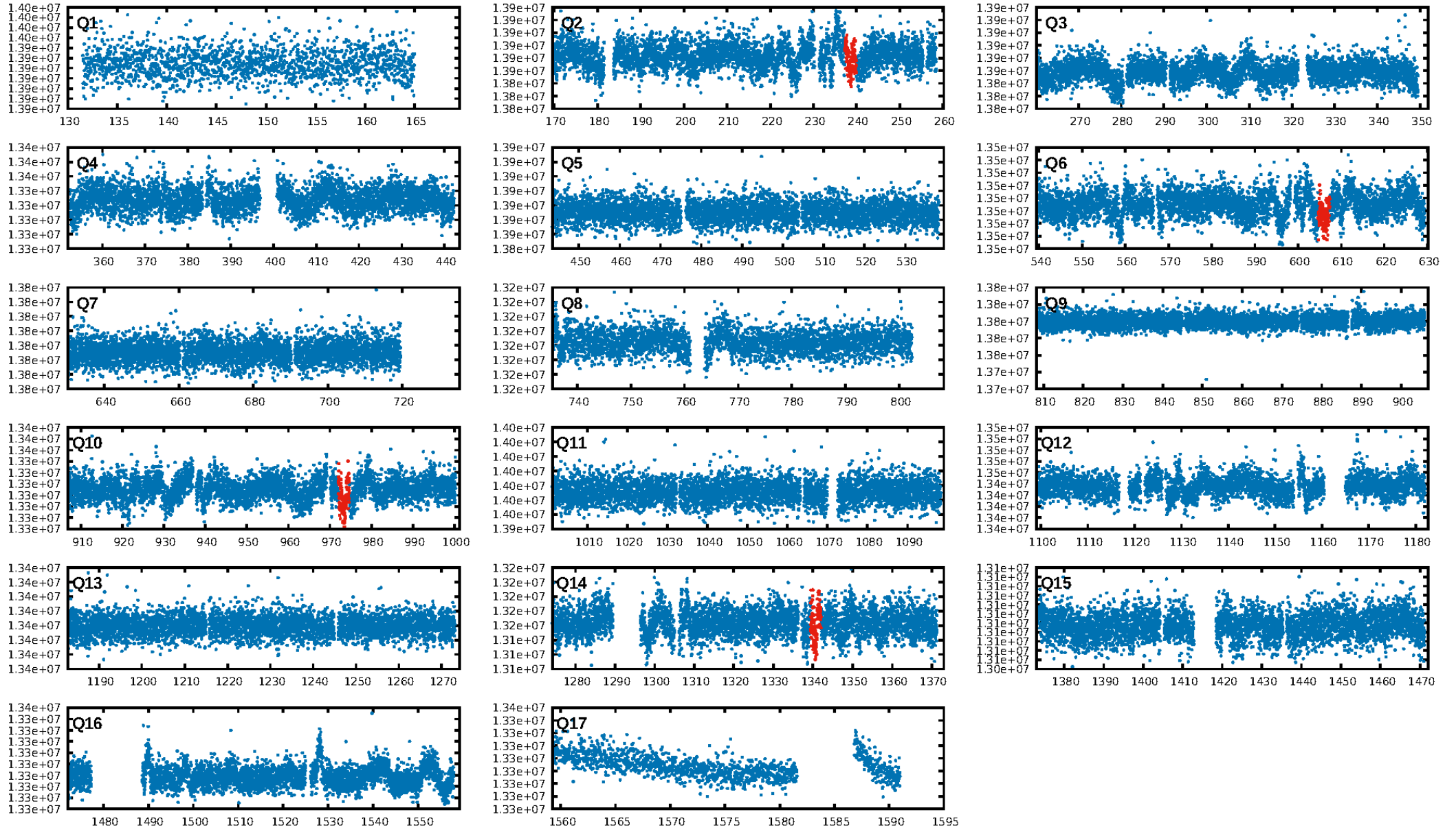
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.19e-09
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 2.34
Centroid-sig: 3.0%
Centroid-so: 3.333 arcsec [1.51 σ]
OotOffset-rm: 1.562 arcsec [5.63 σ]
KicOffset-rm: 1.581 arcsec [5.63 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [4/4]

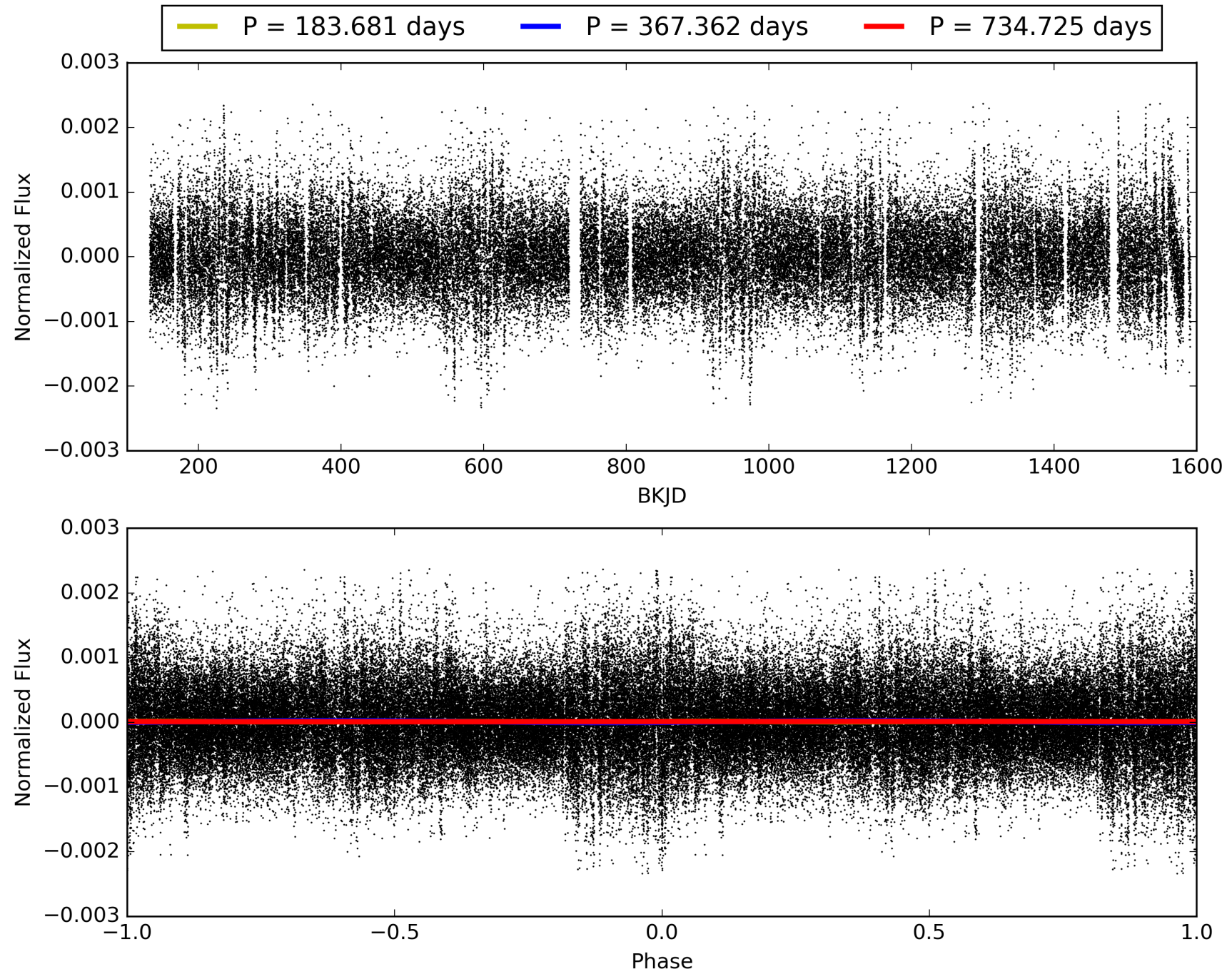
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:13:49 Z

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

TCE 008870564-01, PDC Light Curves

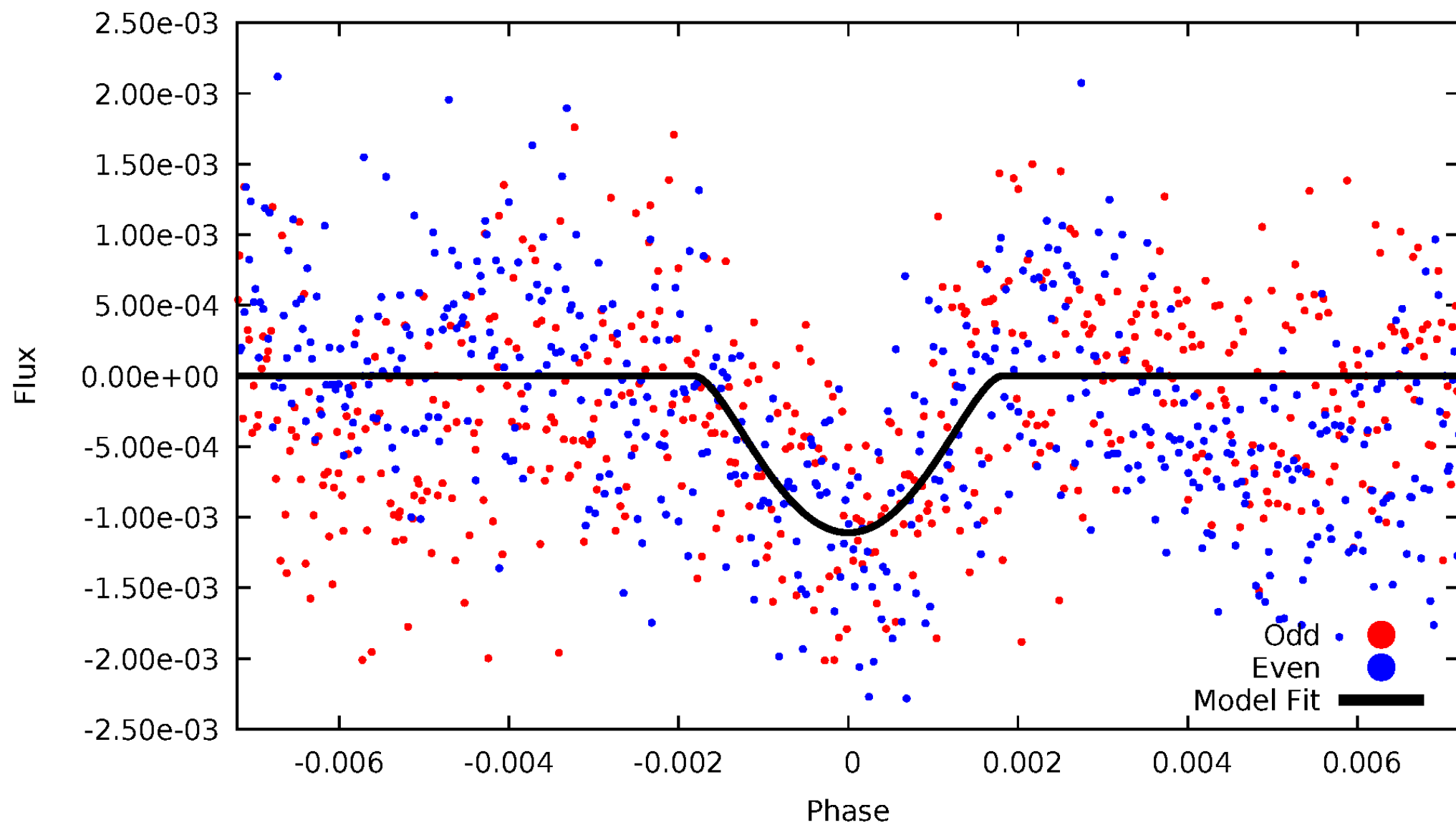


TCE 008870564-01



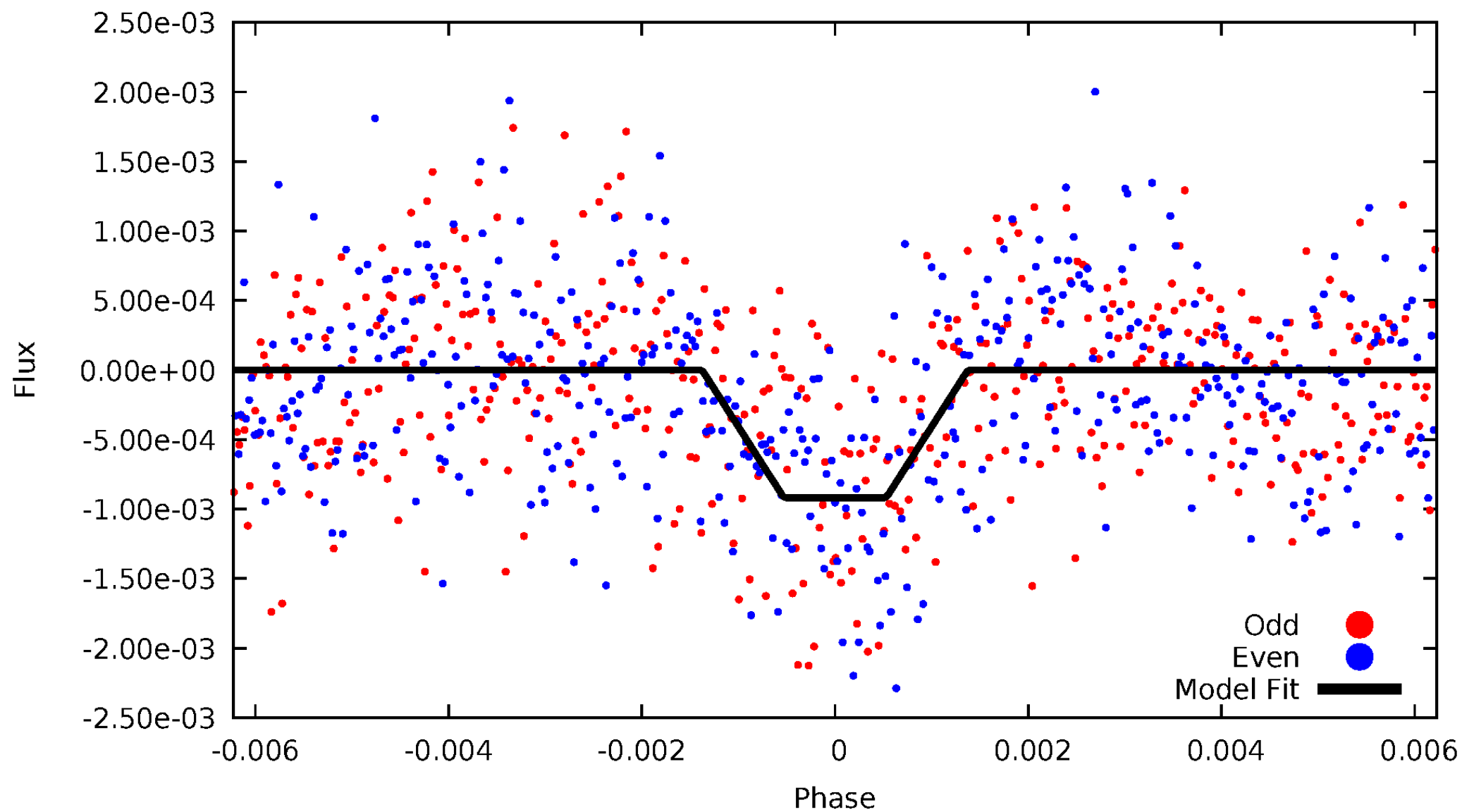
DV Odd/Even

TCE 008870564-01



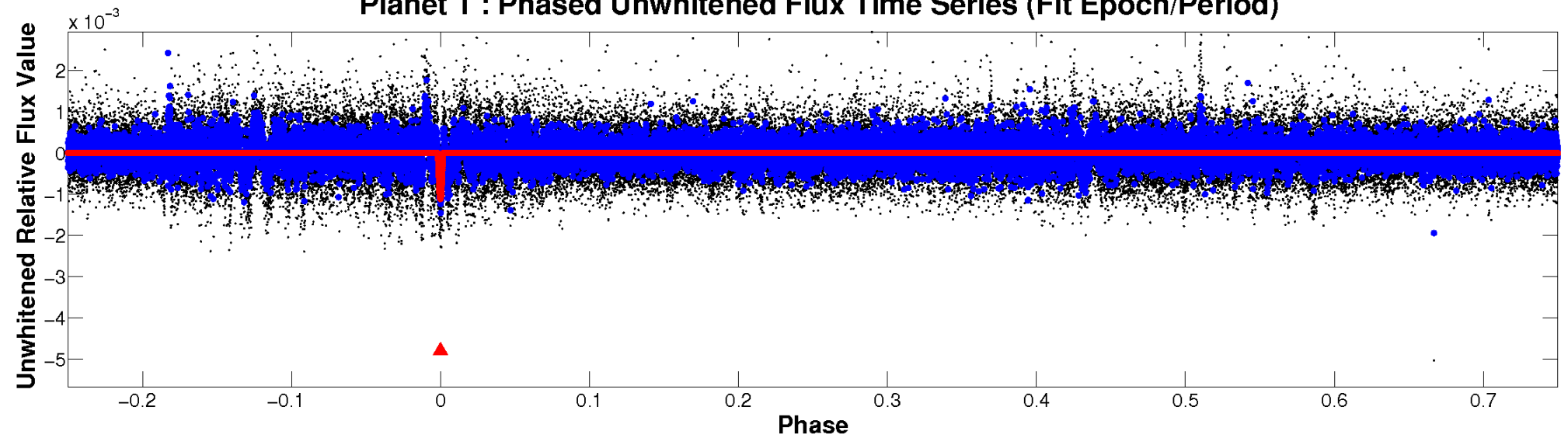
ALT Odd/Even

TCE 008870564-01

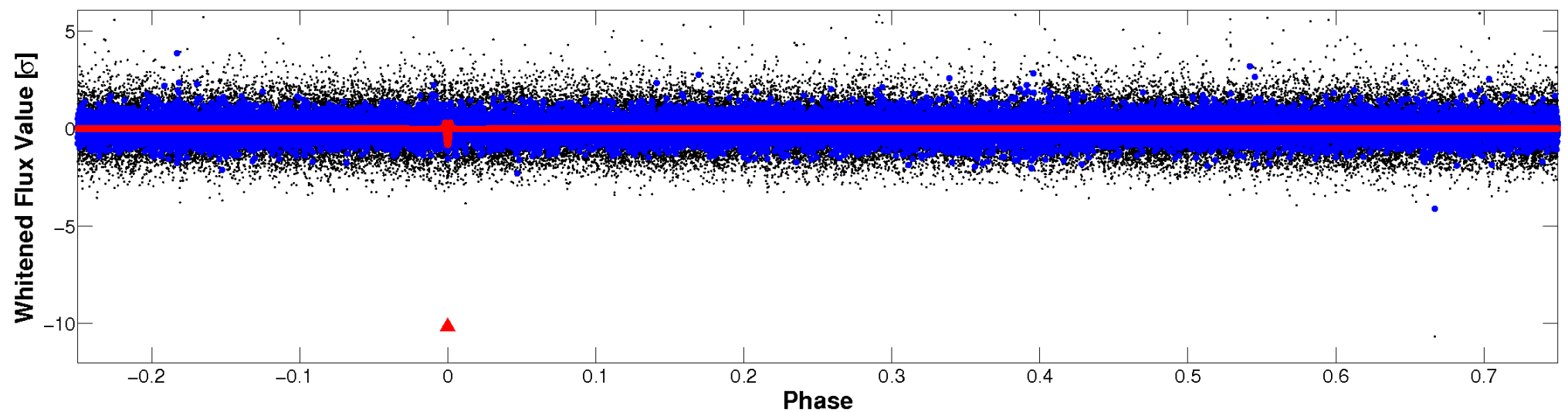


Non-Whitened Vs. Whitened Light Curve

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

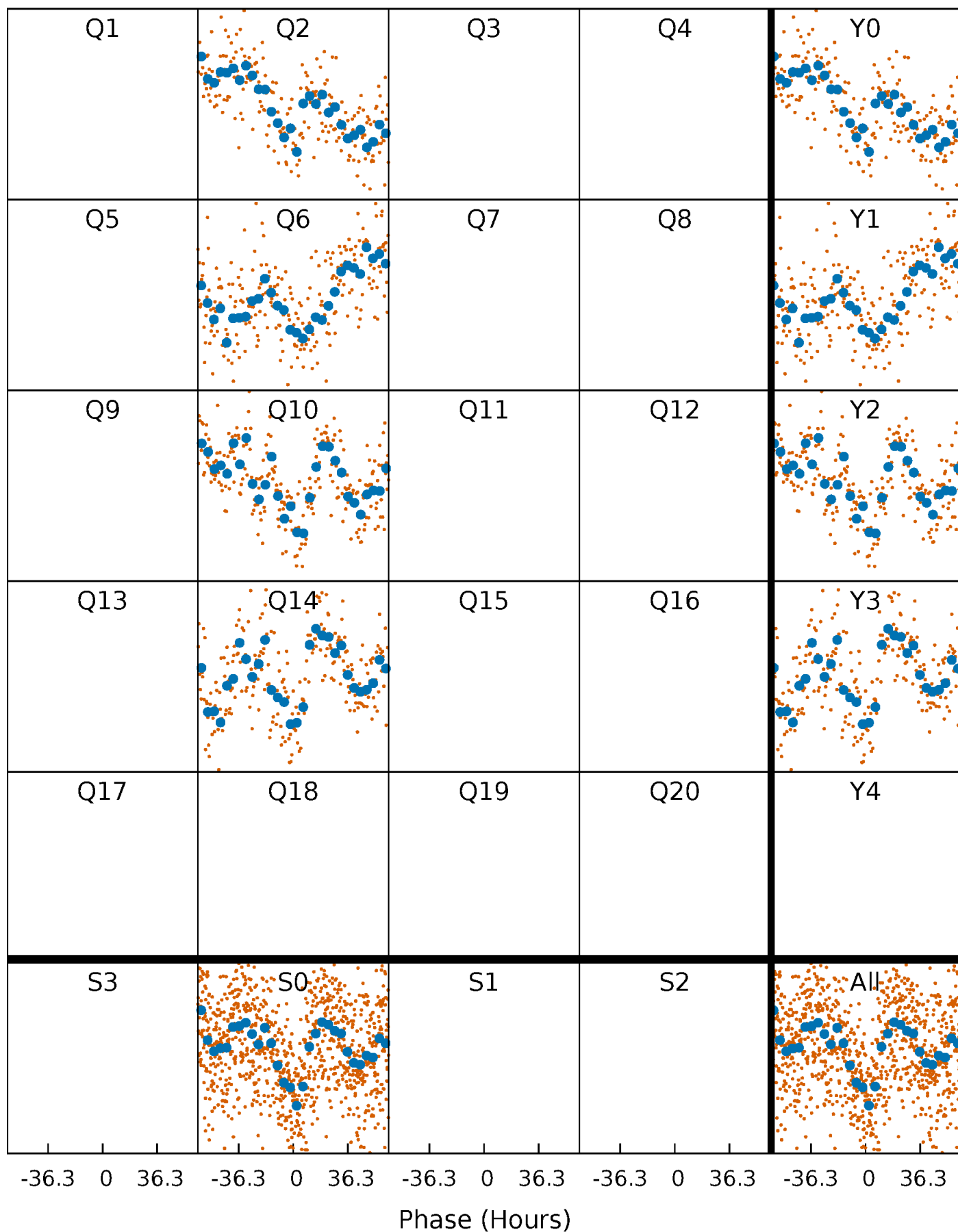


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



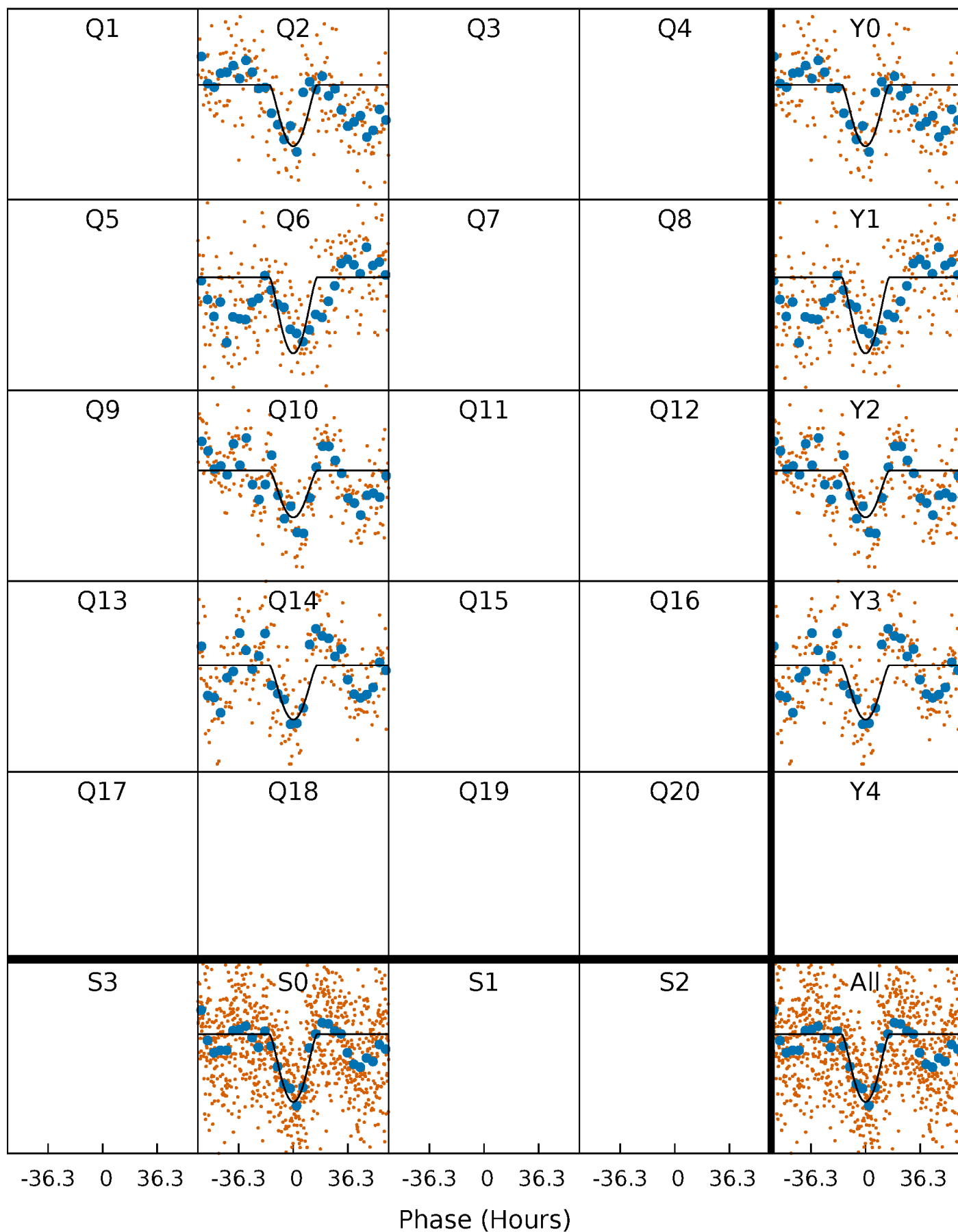
PDC Quarter-Phased Transit Curves

TCE 008870564-01 P=367.362419 Days $T_0=238.625632$ (BKJD)



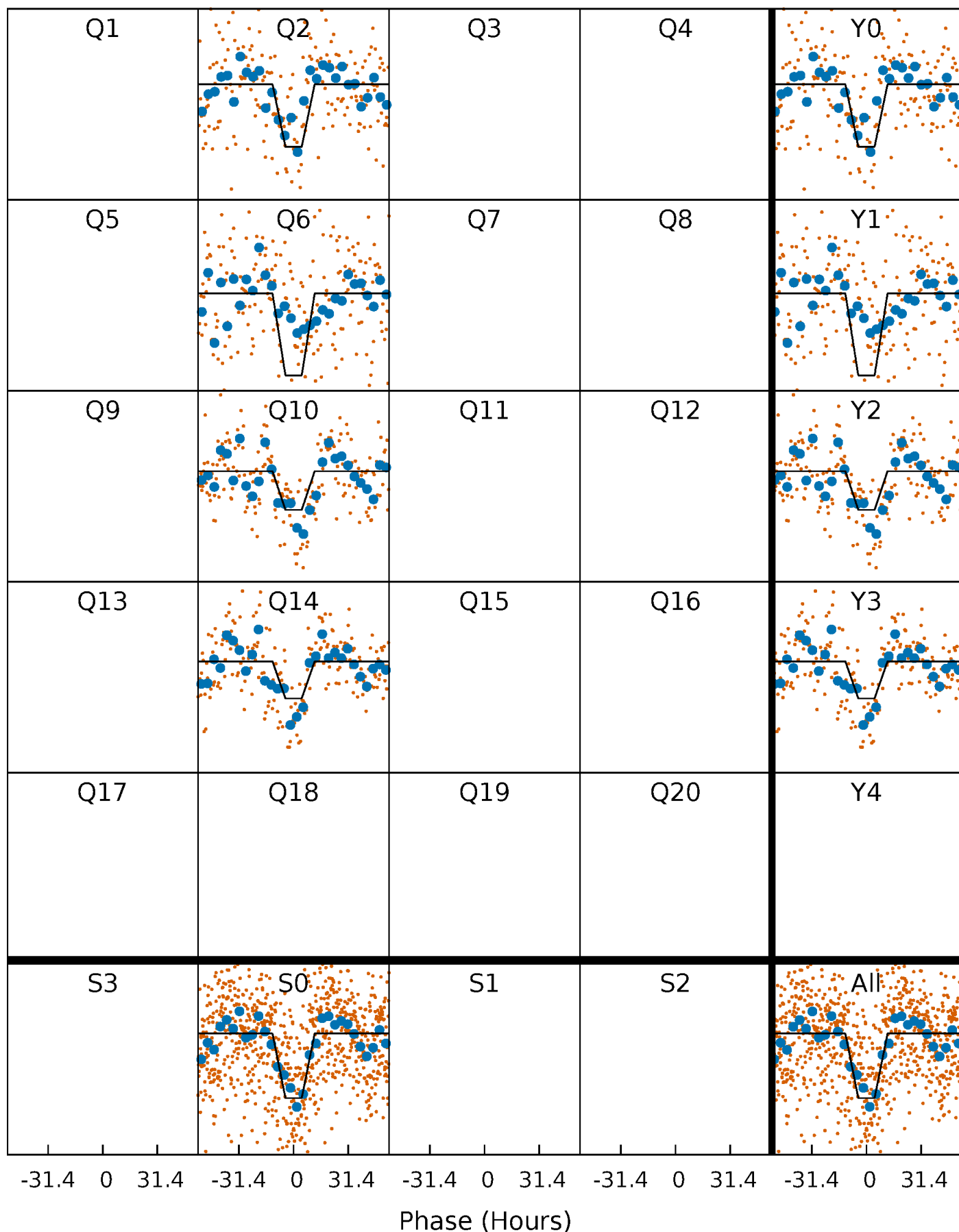
DV Quarter-Phased Transit Curves

TCE 008870564-01 P=367.362419 Days $T_0=238.625632$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

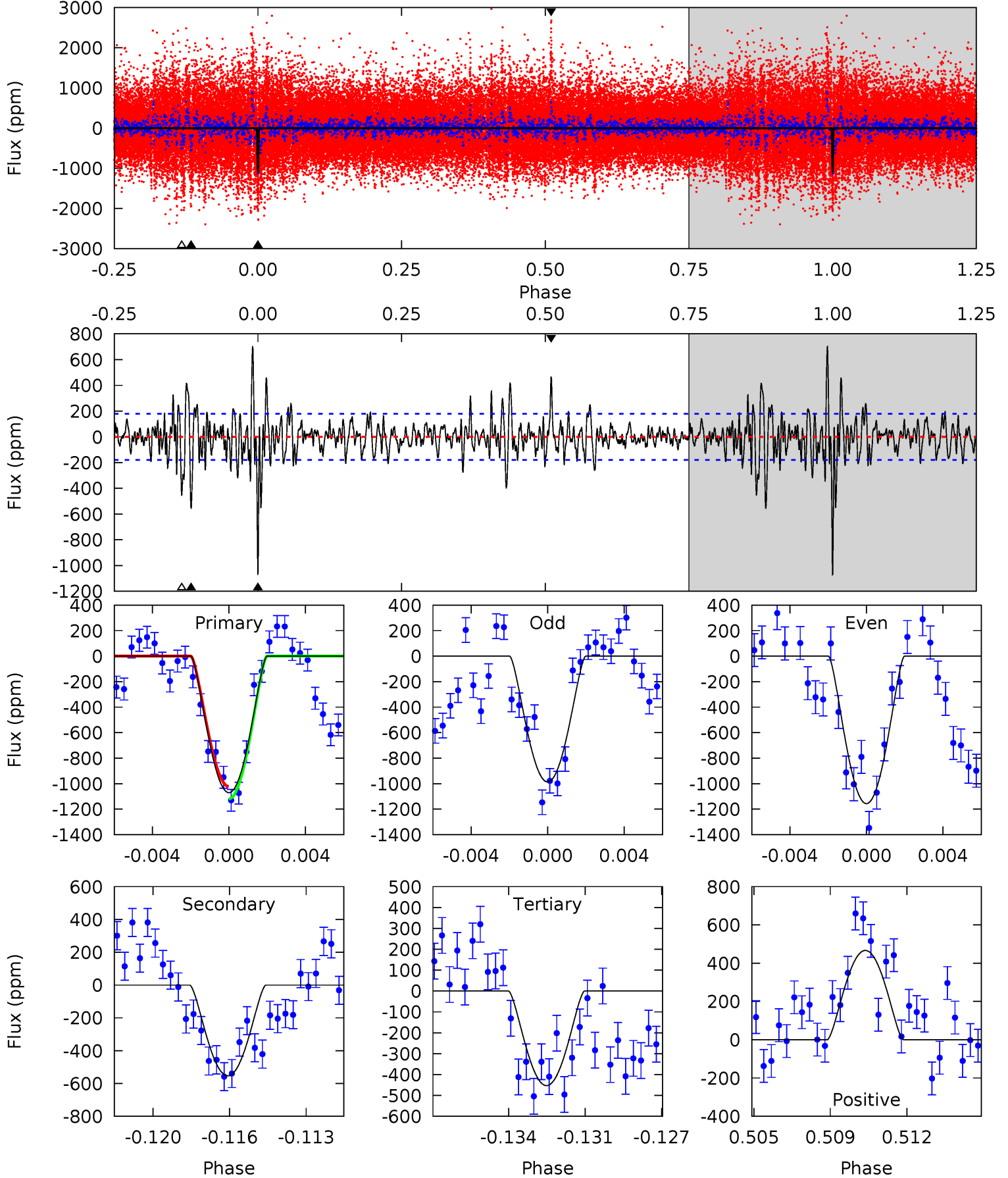
TCE 008870564-01 P=367.381786 Days $T_0=238.606110$ (BKJD)



DV Model-Shift Uniqueness Test

008870564-01, P = 367.362419 Days, E = 238.625632 Days

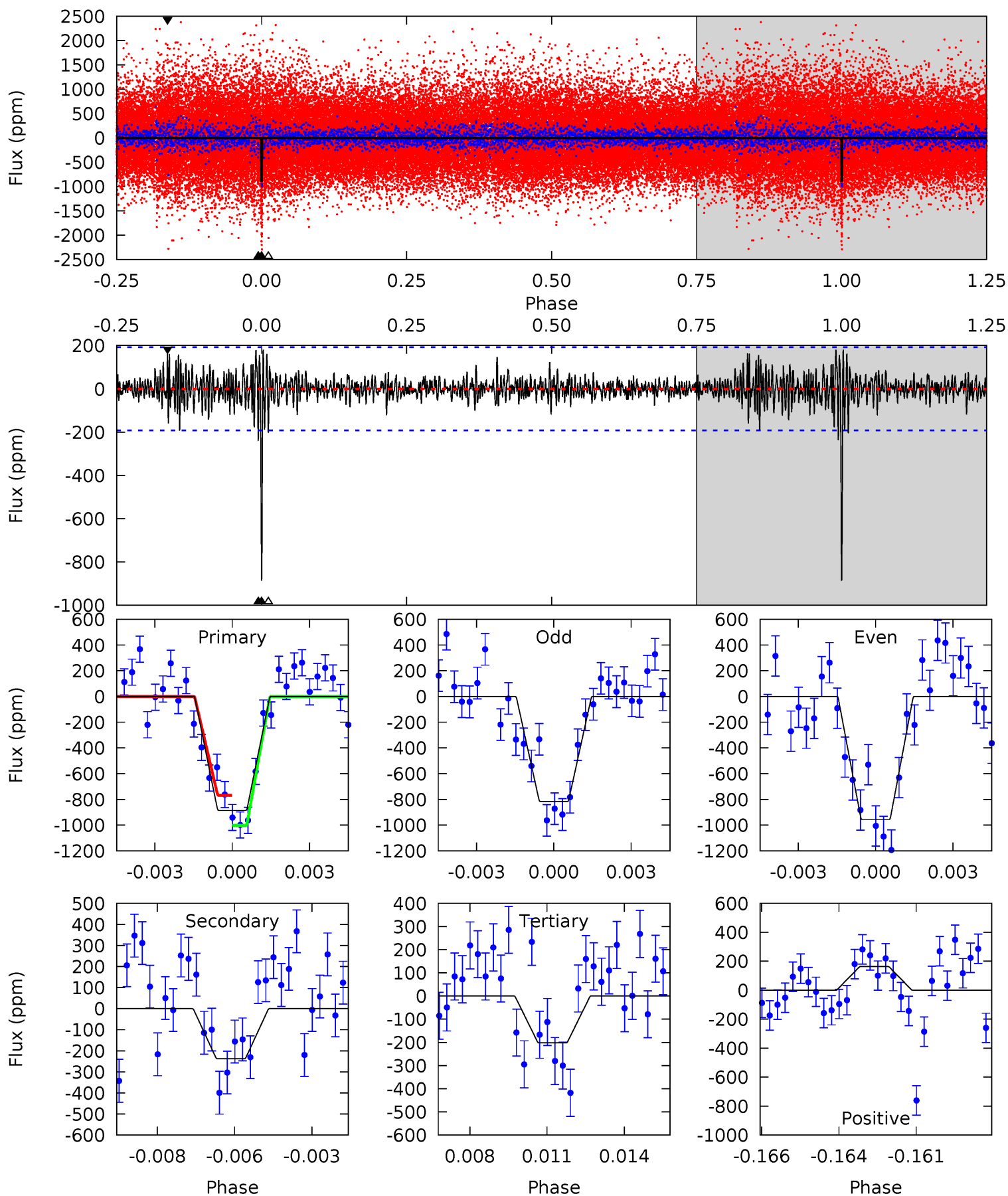
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.2	16.1	13.2	13.6	5.22	2.91	3.41	18.0	17.6	2.92	2.53	2.48	1.08	0.40	1.41



Alt Model-Shift Uniqueness Test

008870564-01, P = 367.381786 Days, E = 238.606110 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	6.51	5.54	4.48	5.26	2.99	1.15	18.7	19.8	0.97	2.03	1.91	0.93	0.17	3.19



Stellar Parameters For KIC 008870564

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5926^{+160}_{-196}	$4.519^{+0.050}_{-0.213}$	$-0.120^{+0.300}_{-0.300}$	$0.913^{+0.281}_{-0.094}$	$1.004^{+0.119}_{-0.132}$	$1.858^{+0.390}_{-0.996}$
	+3%/-3%	+1%/-5%	+250%/-250%	+31%/-10%	+12%/-13%	+21%/-54%
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 008870564-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-554 ± 34	$11.64^{+11.62}_{-8.27}$	356^{+25}_{-17}	3299^{+1761}_{-582}	2240^{+25019}_{-1681}
Alt.	-238 ± 37	$10.49^{+12.01}_{-7.00}$	355^{+26}_{-17}	2964^{+1277}_{-497}	1110^{+9298}_{-847}

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

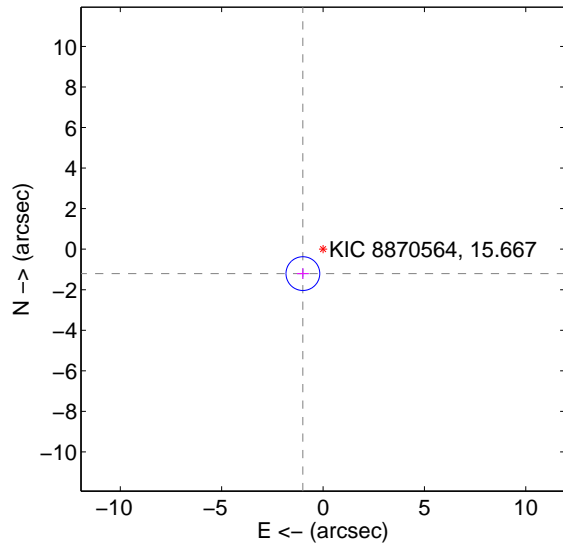
Supplemental centroid analysis for 008870564-01. Kepler magnitude: 15.67. Transit SNR 8.41

There are 1 quarters with good PRF difference image offsets

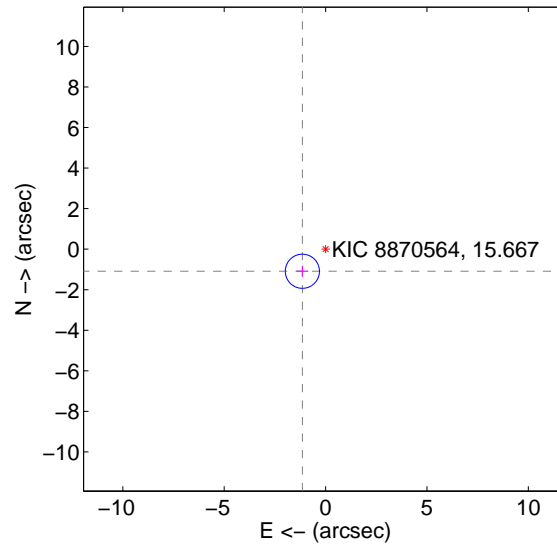
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.562 ± 0.278	5.63	0.994 ± 0.292	-1.205 ± 0.267
PRF-fit source offset from KIC position	1.581 ± 0.281	5.63	1.145 ± 0.292	-1.089 ± 0.267
photometric centroid source offset	3.33 ± 2.20	1.51	-0.32 ± 1.71	3.32 ± 2.21

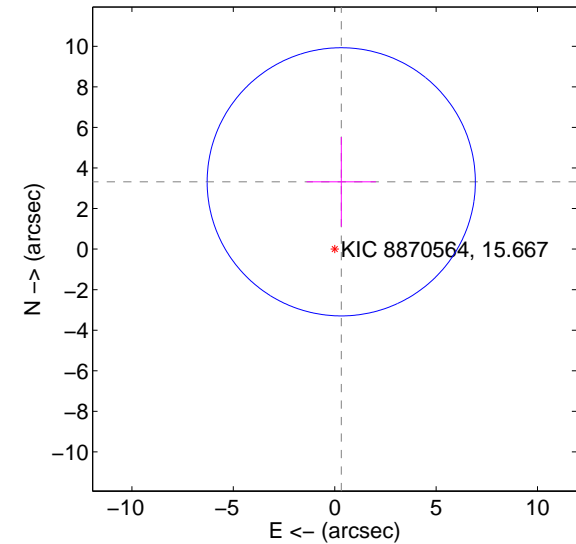
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

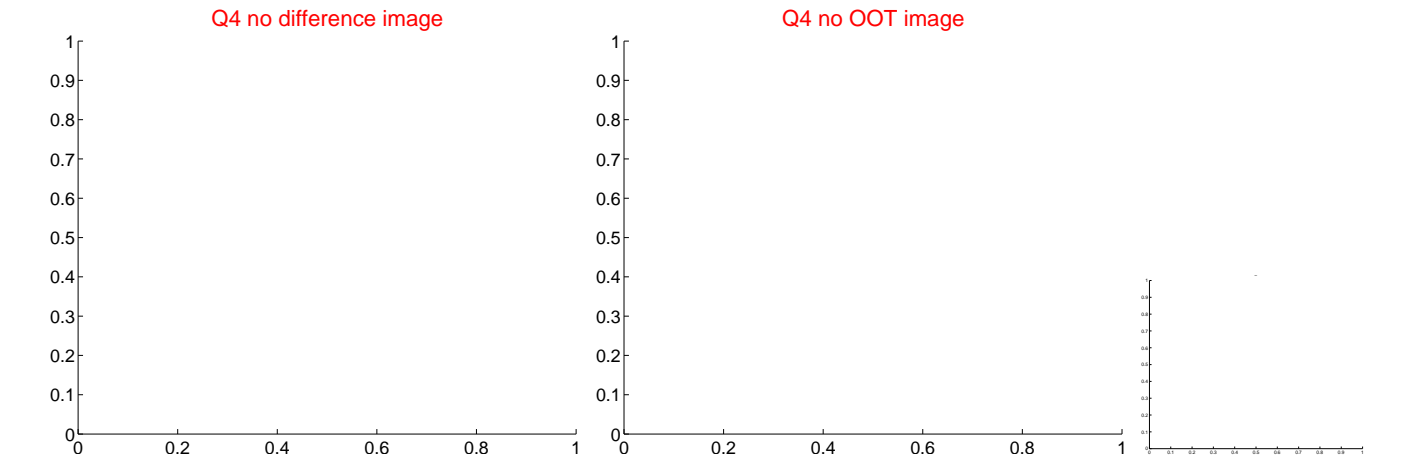
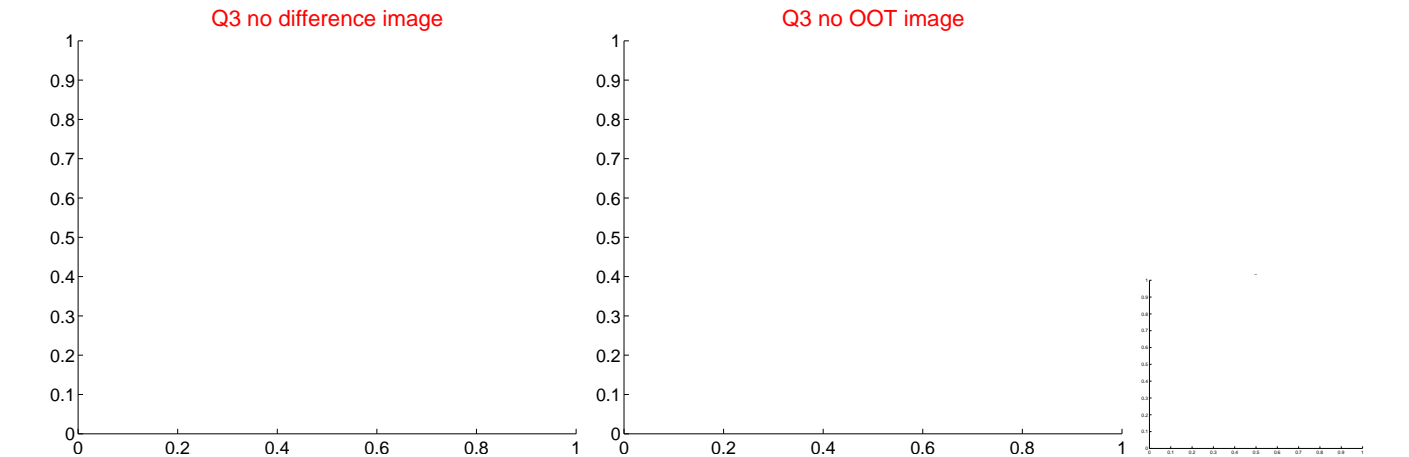
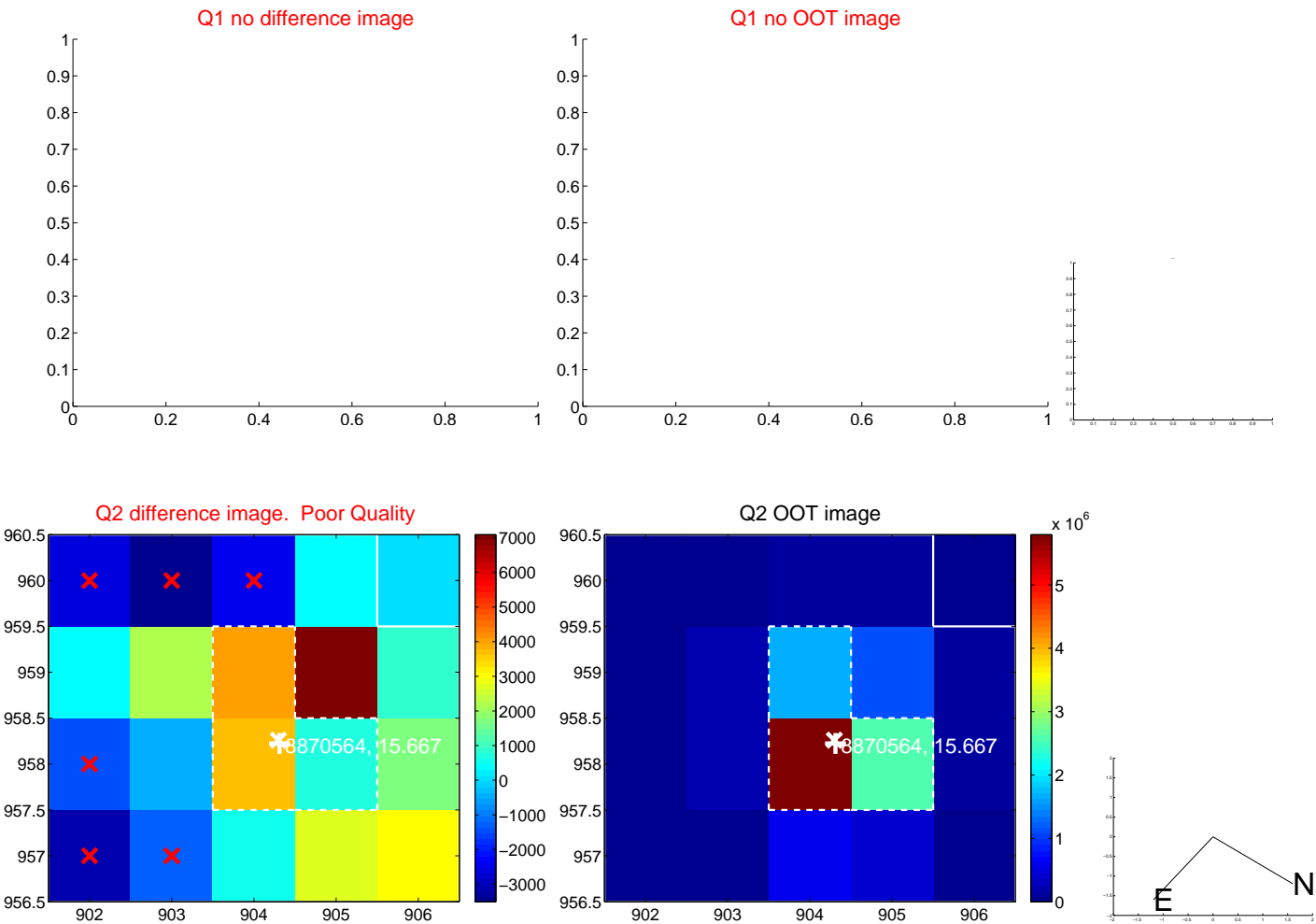


offset from photometric centroids

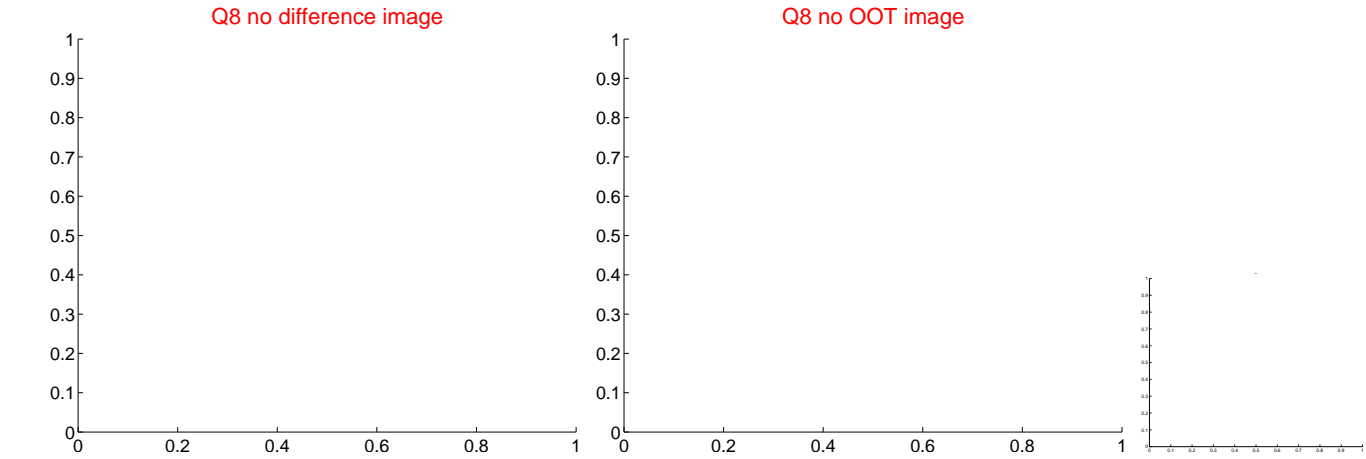
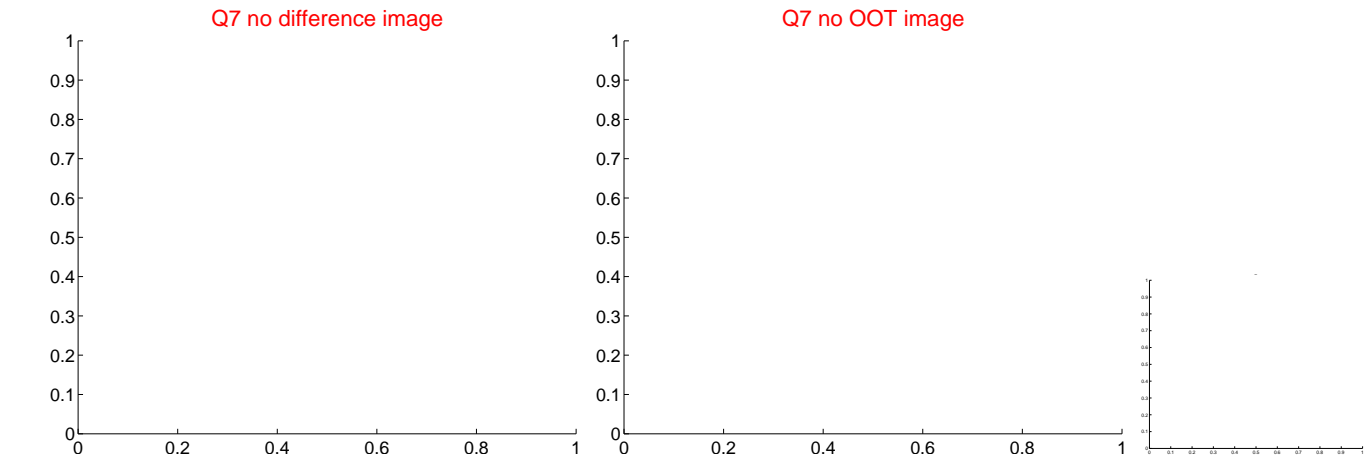
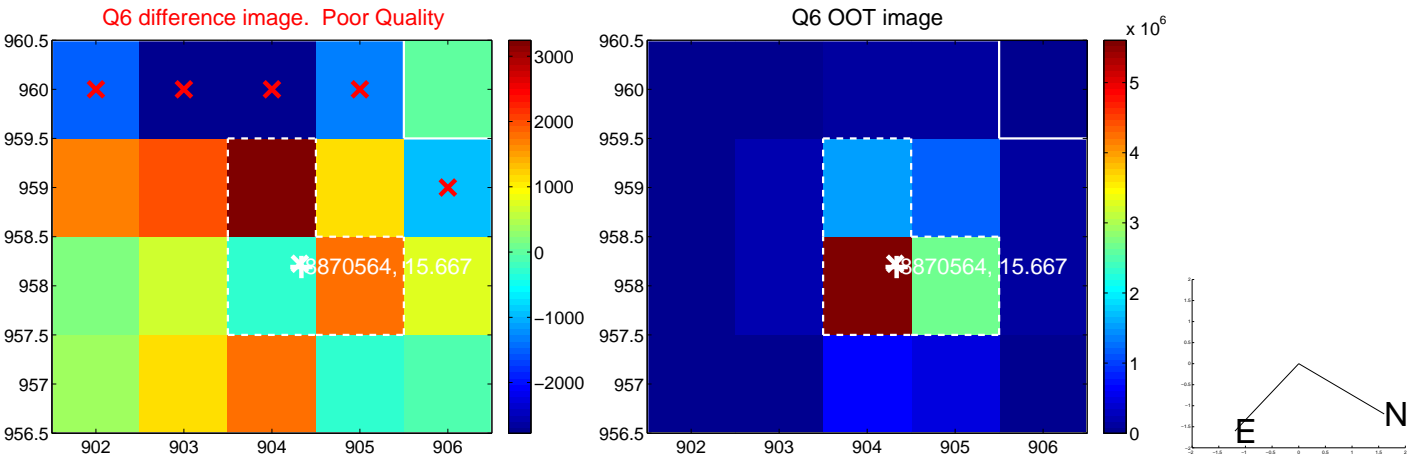
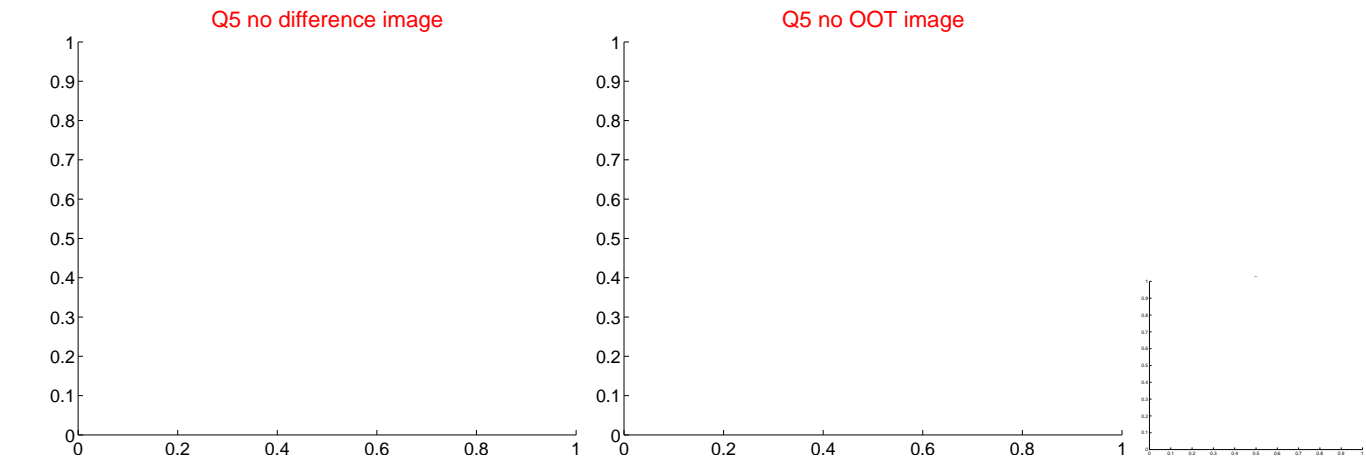


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

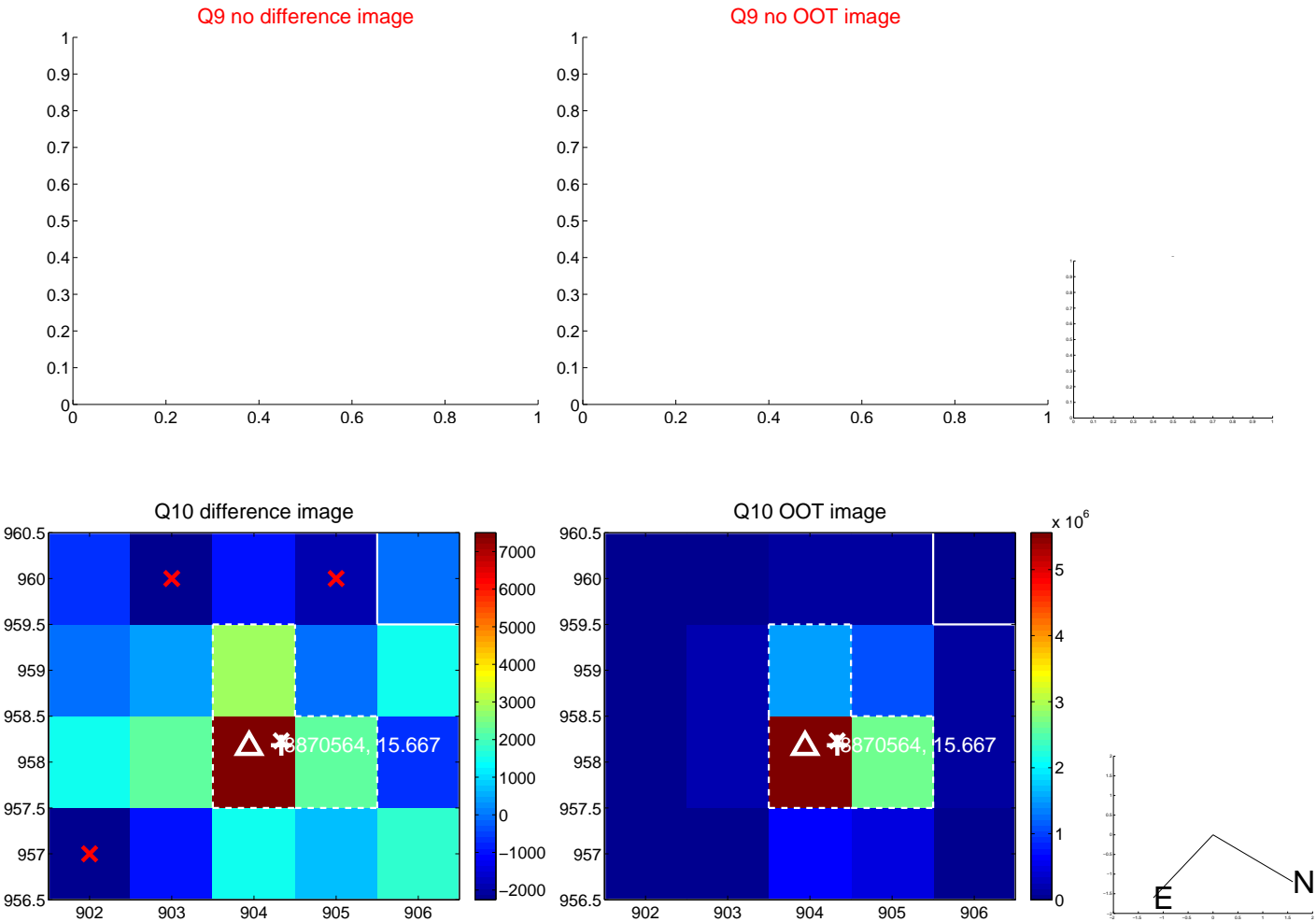
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



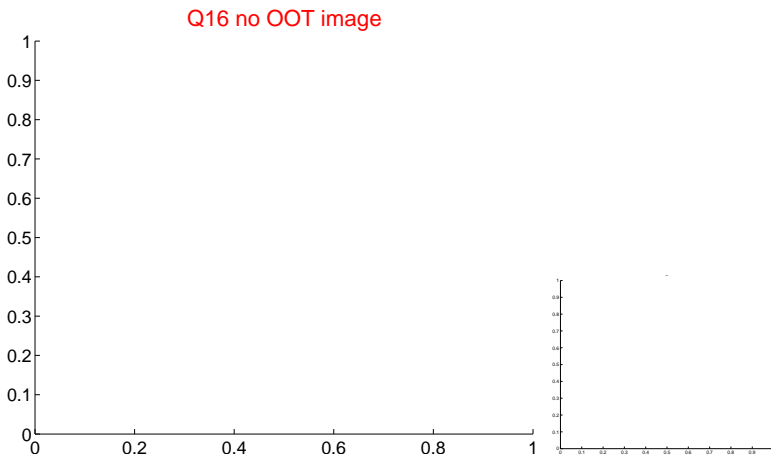
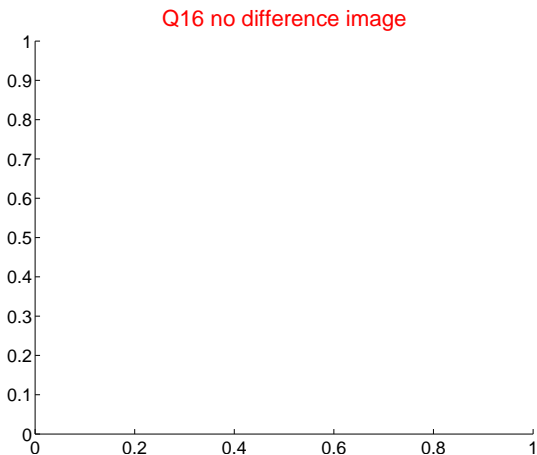
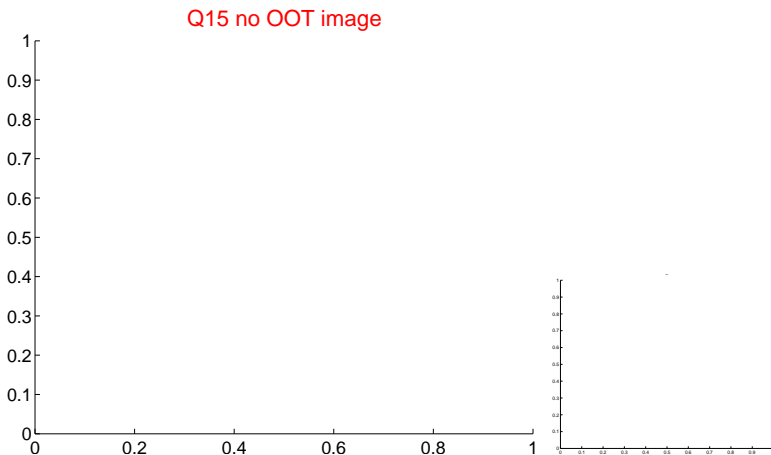
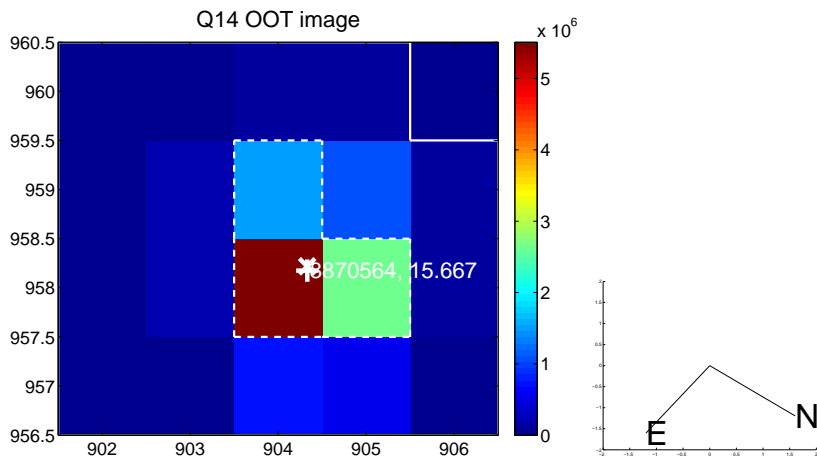
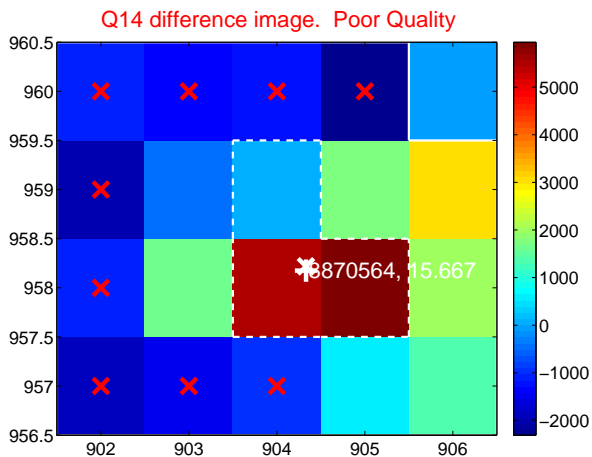
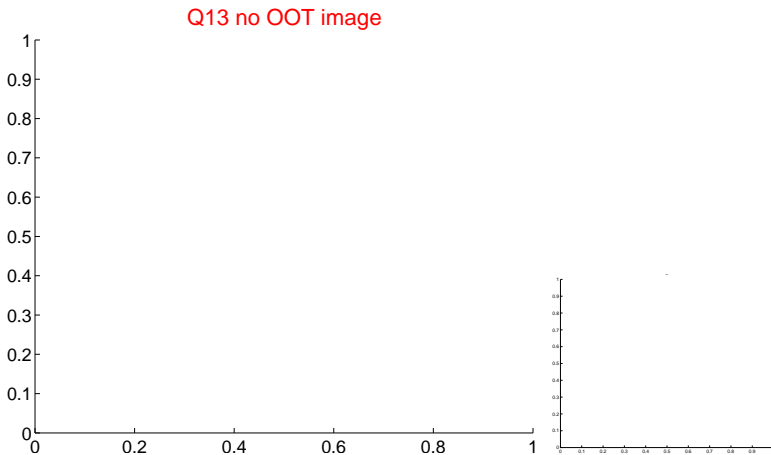
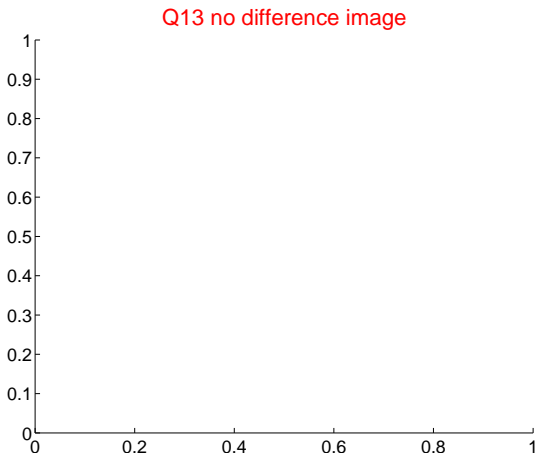
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



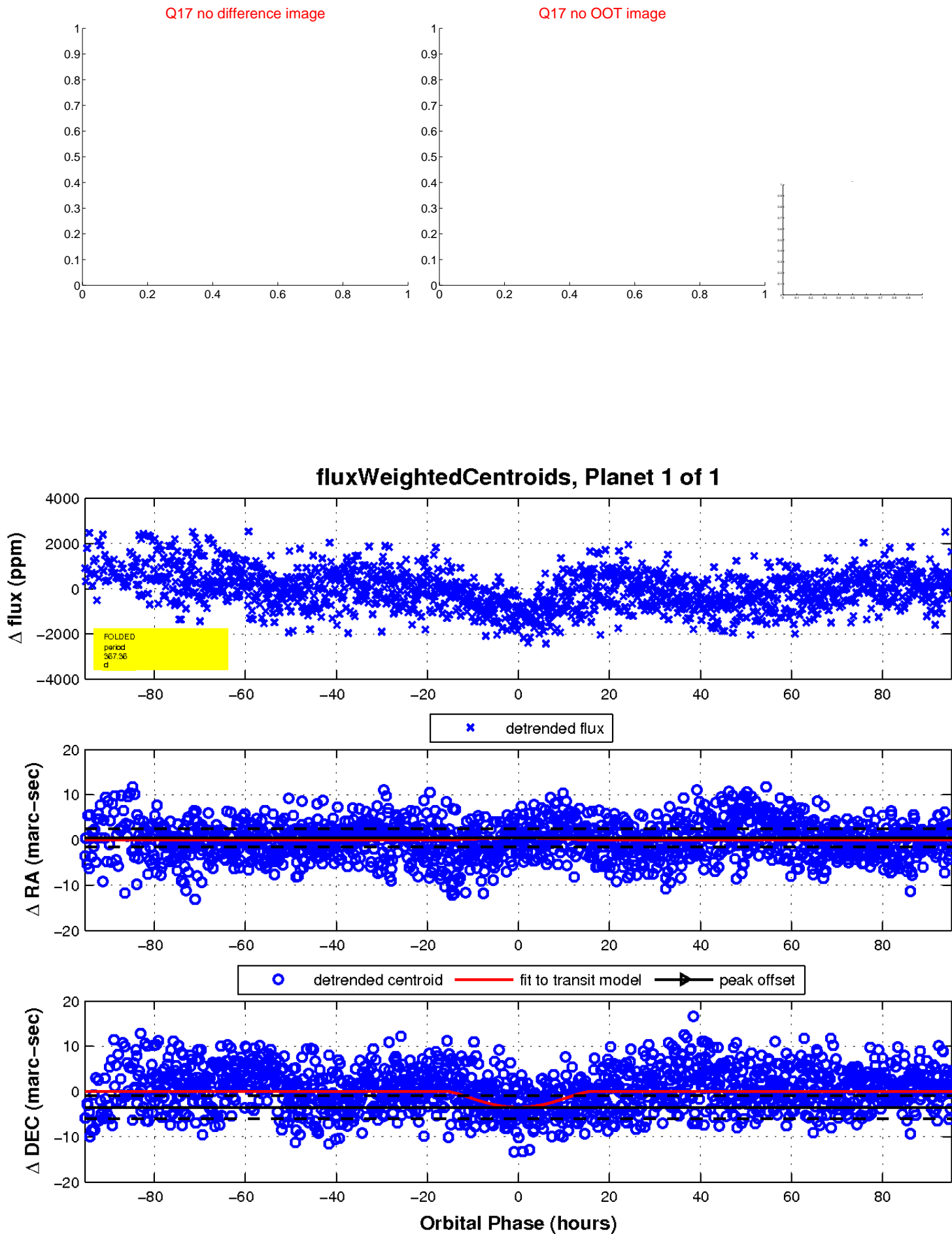
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

