

KIC 009395024

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})
009395024-01	OBS	2383.01	4.370297	131.934444	178.3	2.907	15.3	17.1	1.18	5657	1.88	476.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009395024-01	OBS	PC	1.00	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.

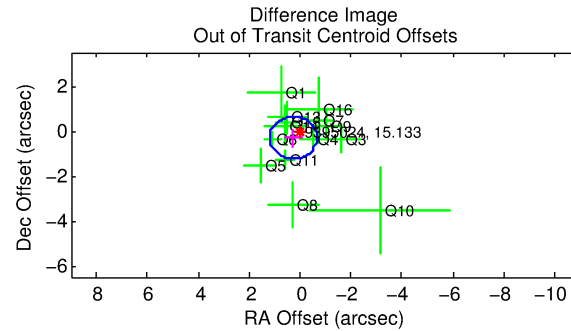
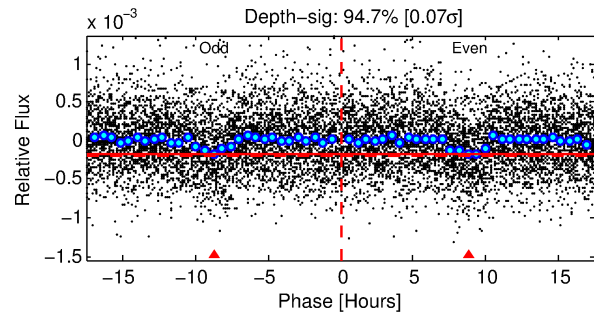
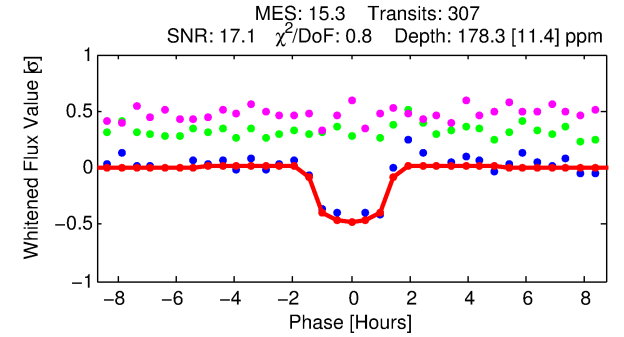
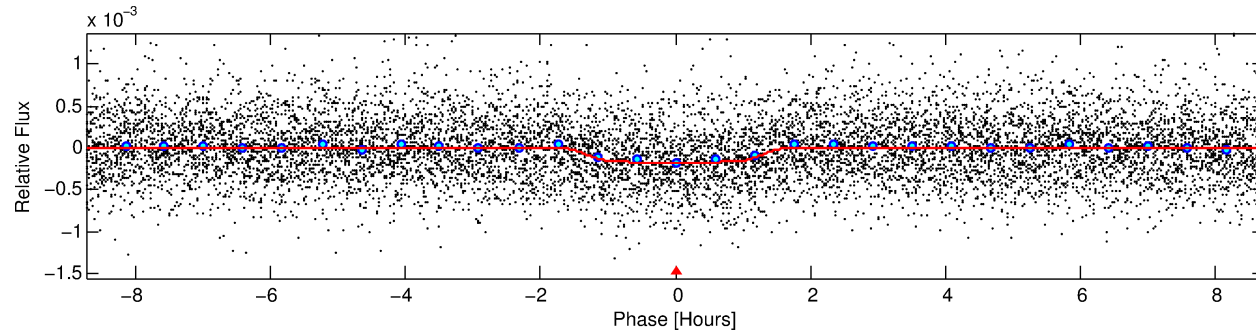
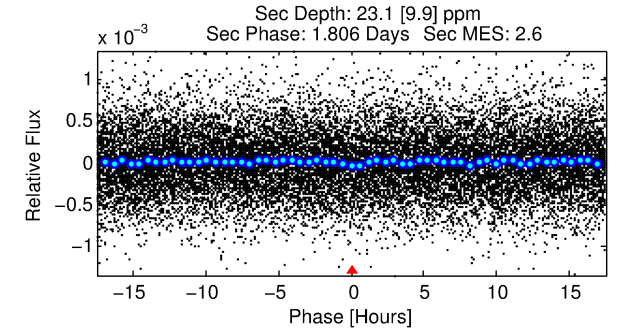
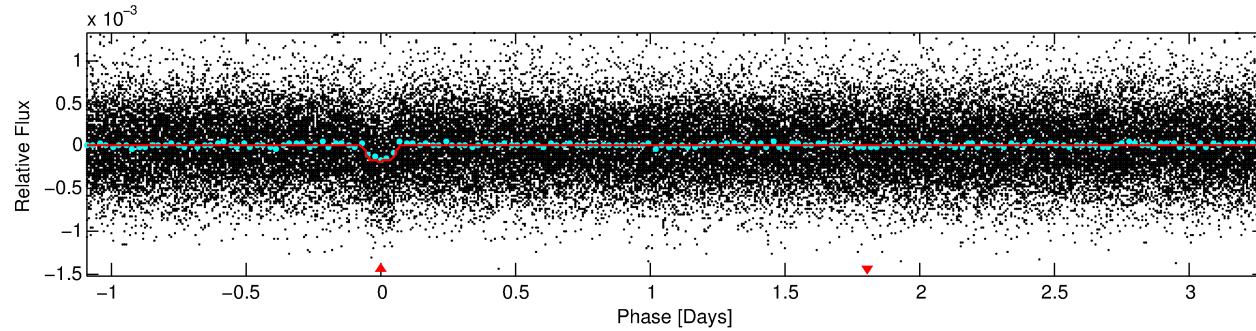
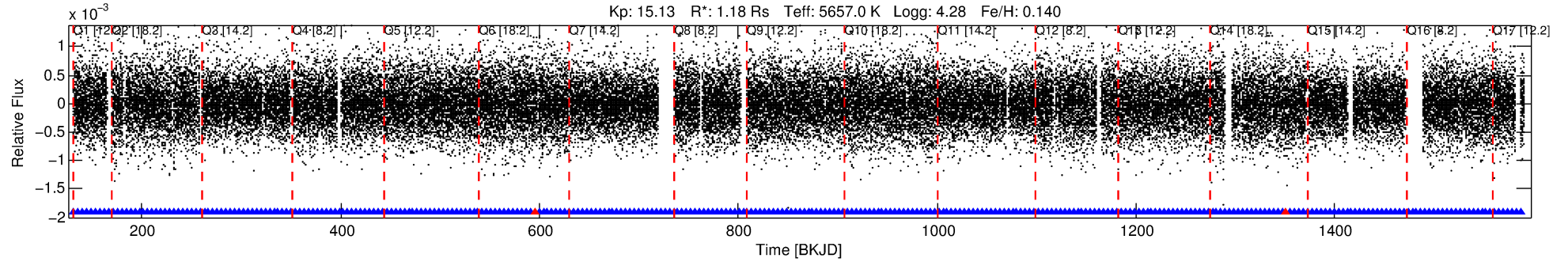
Ephemeris Match Information For 009395024-01

No Significant Match Found

DV One-Page Summary

KIC: 9395024 Candidate: 1 of 1 Period: 4.370 d

KOI: K02383.01 Corr: 0.963



DV Fit Results:

Period = 4.37030 [0.00002] d
Epoch = 131.9344 [0.0030] BKJD
Rp/R* = 0.0146 [0.0061]
a/R* = 5.57 [10.36]
b = 0.89 [0.44]
Seff = 476.03 [126.64]
Teff = 1191 [79] K
Rp = 1.88 [0.84] Re
a = 0.0519 [0.0082] AU
Ag = 9.70 [9.50] [0.92σ]
Teffp = 3250 [768] K [2.67σ]

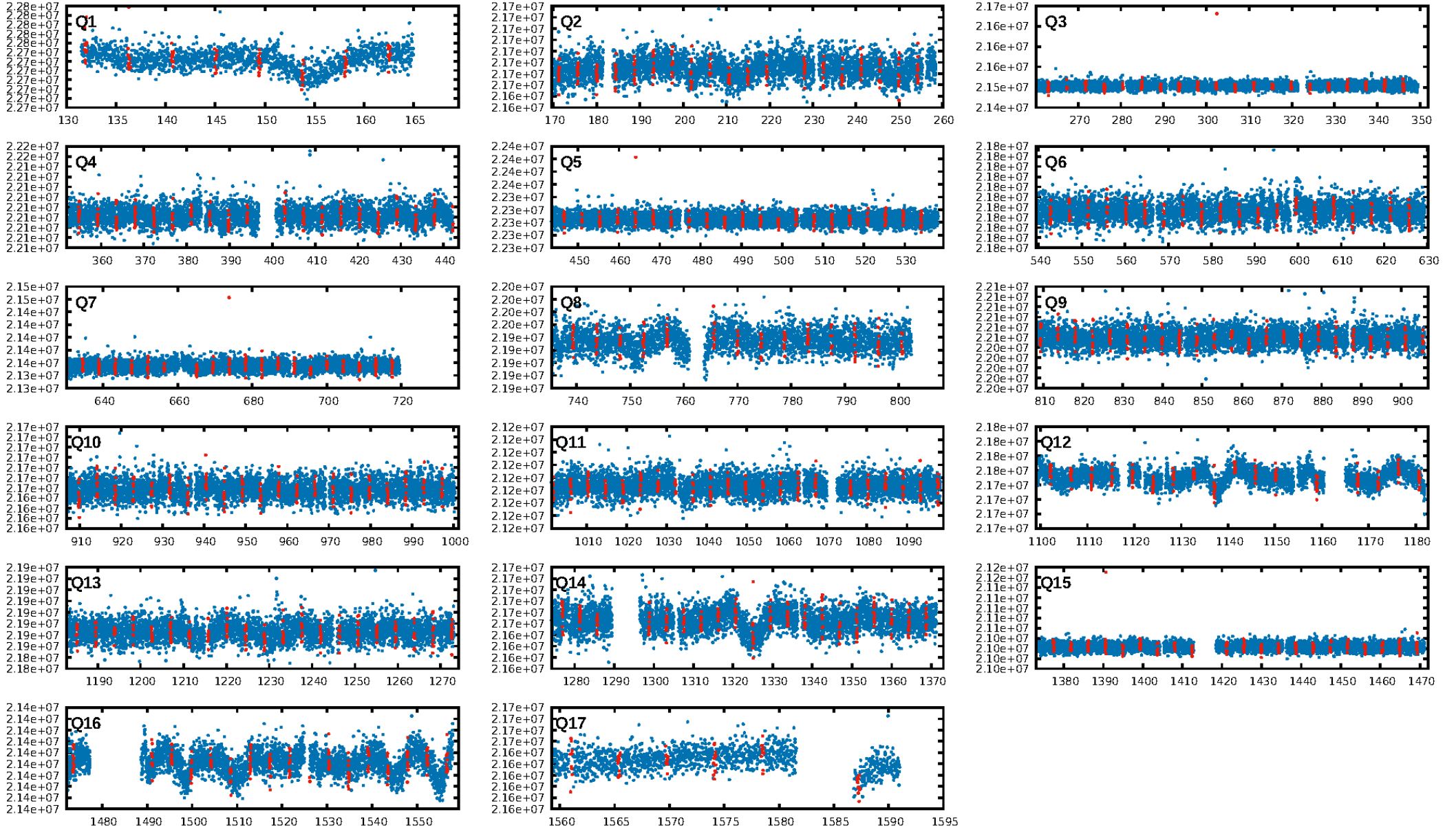
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.79e-51
RollingBand-fgt: 0.99 [291/293]
GhostDiagnostic-chr: -19.98
Centroid-sig: 15.0%
Centroid-so: 0.688 arcsec [0.80σ]
OotOffset-rm: 0.409 arcsec [1.31σ]
KicOffset-rm: 0.413 arcsec [1.17σ]
OotOffset-st: 3/4/3/4 [14]
KicOffset-st: 3/4/3/4 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [17/17]

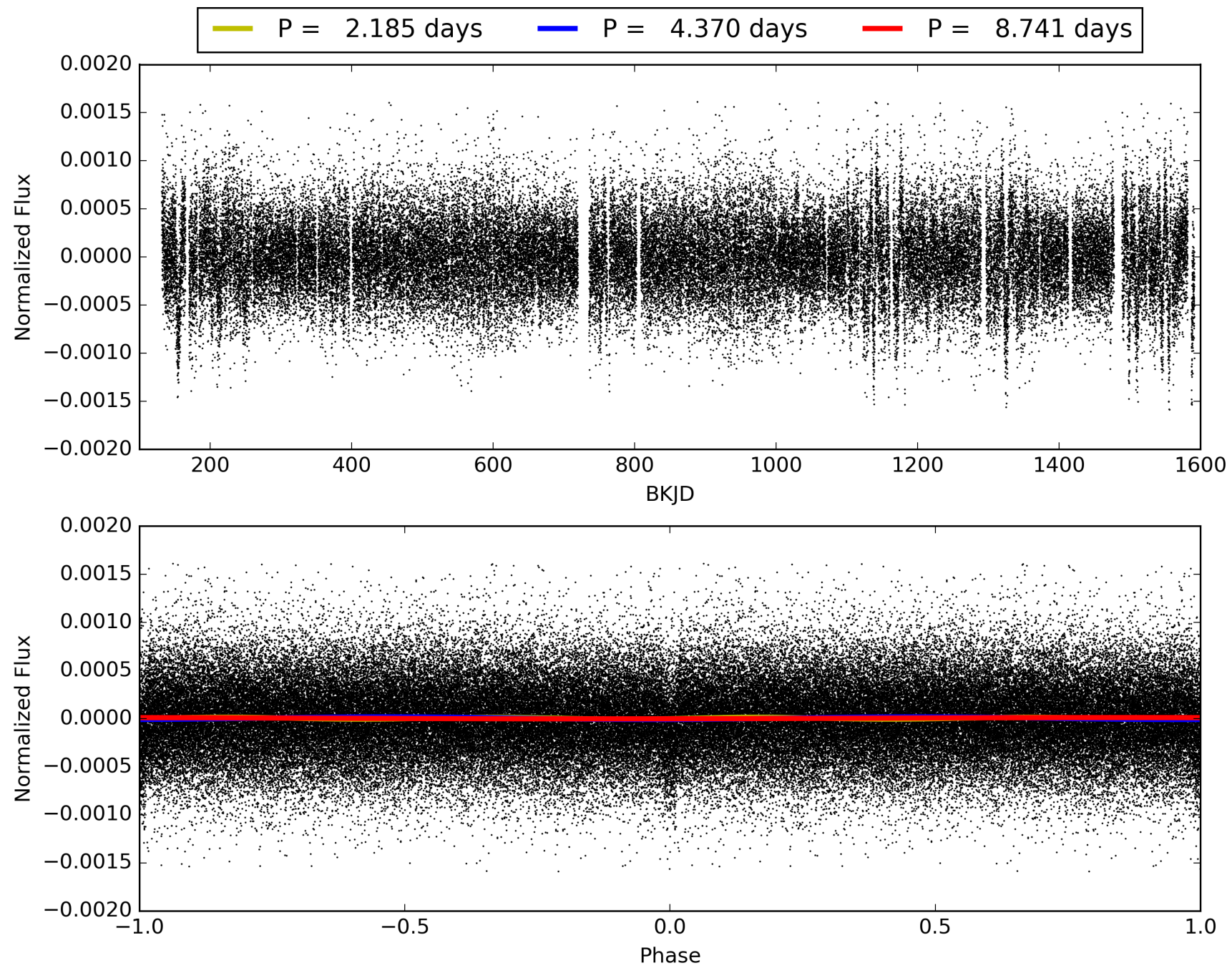
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:02:58 Z

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

TCE 009395024-01, PDC Light Curves

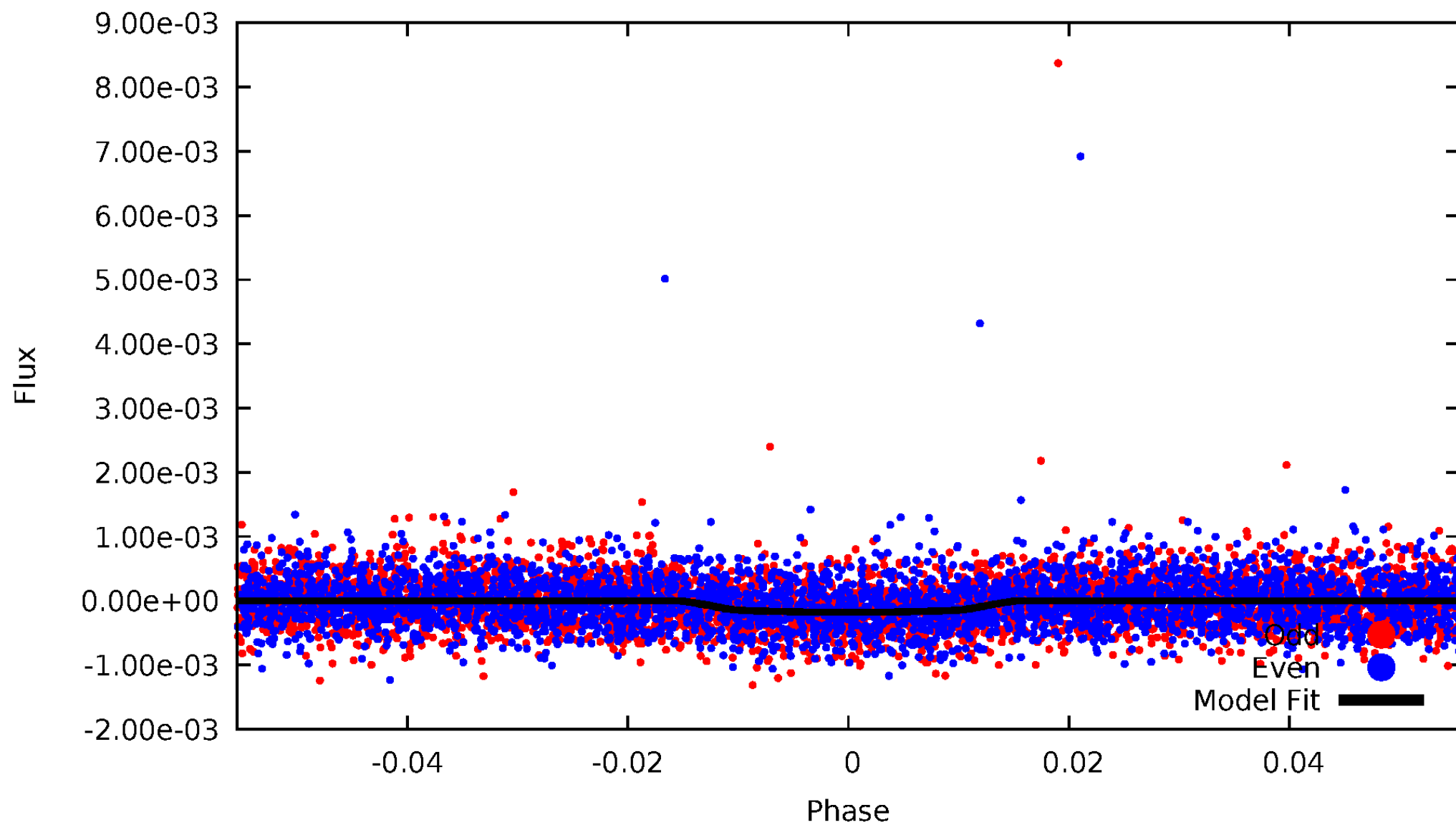


TCE 009395024-01



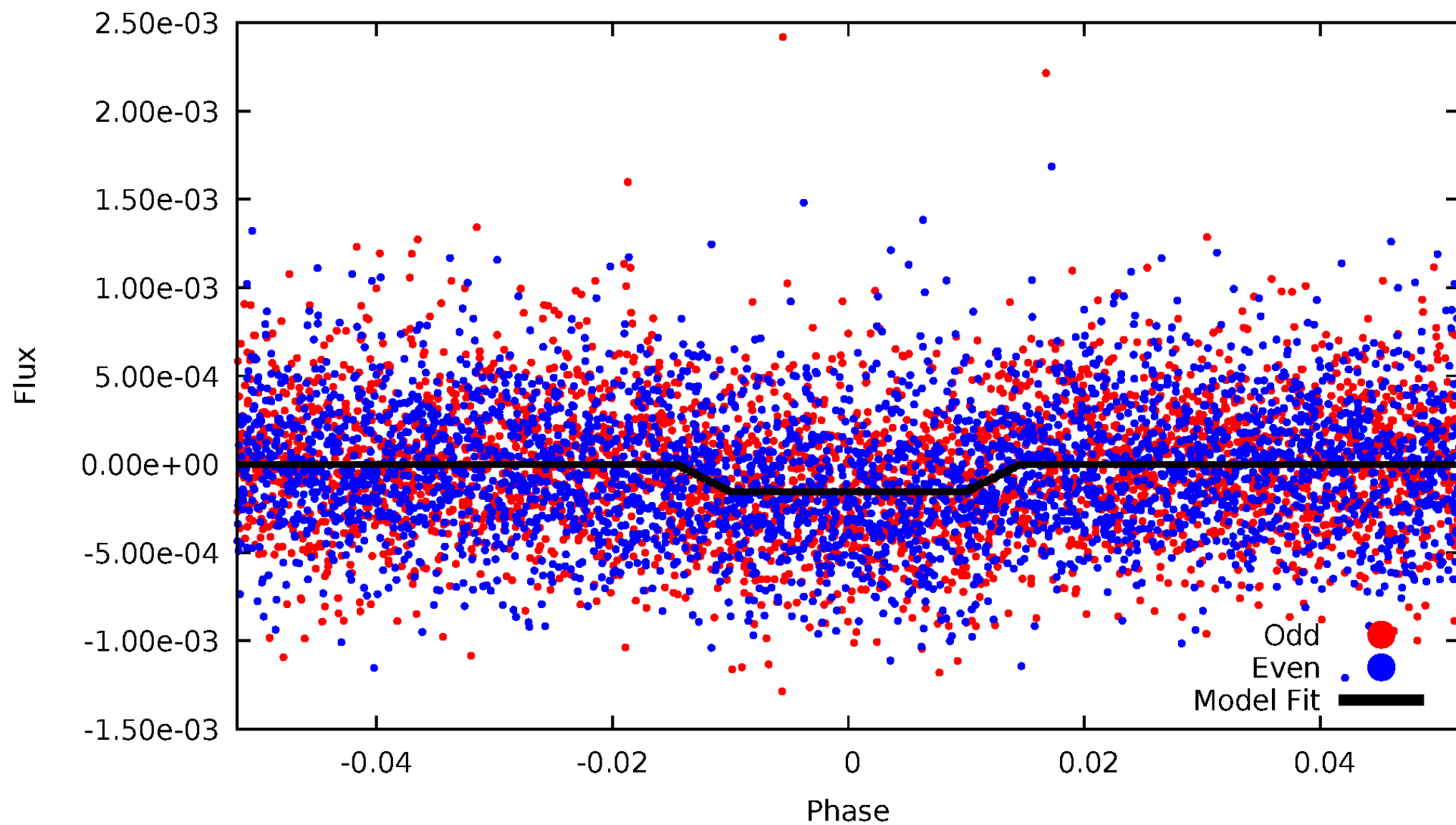
DV Odd/Even

TCE 009395024-01



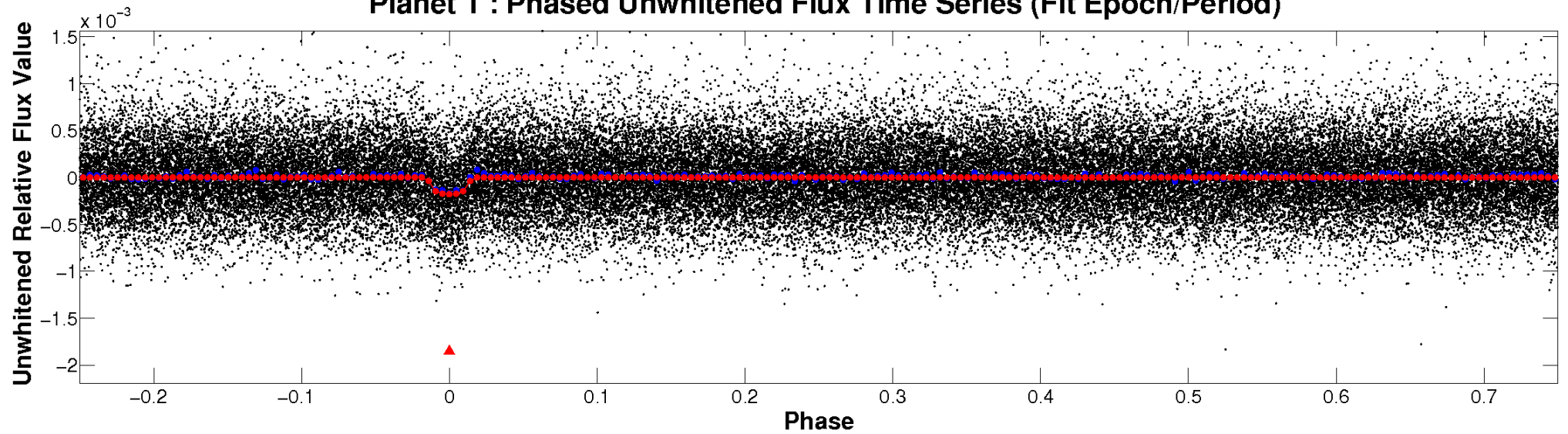
ALT Odd/Even

TCE 009395024-01

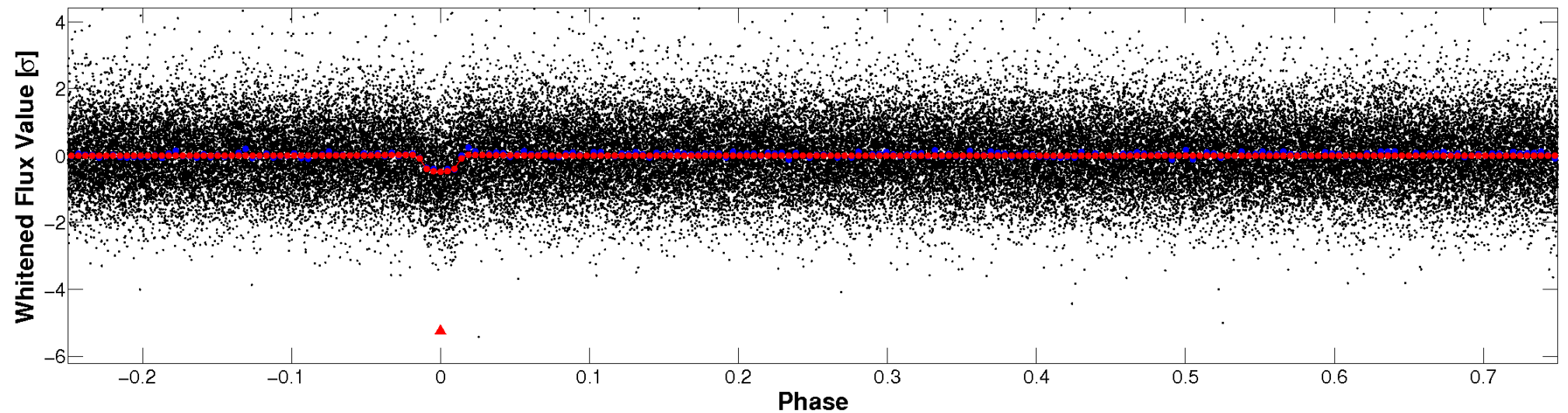


Non-Whitened Vs. Whitened Light Curve

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

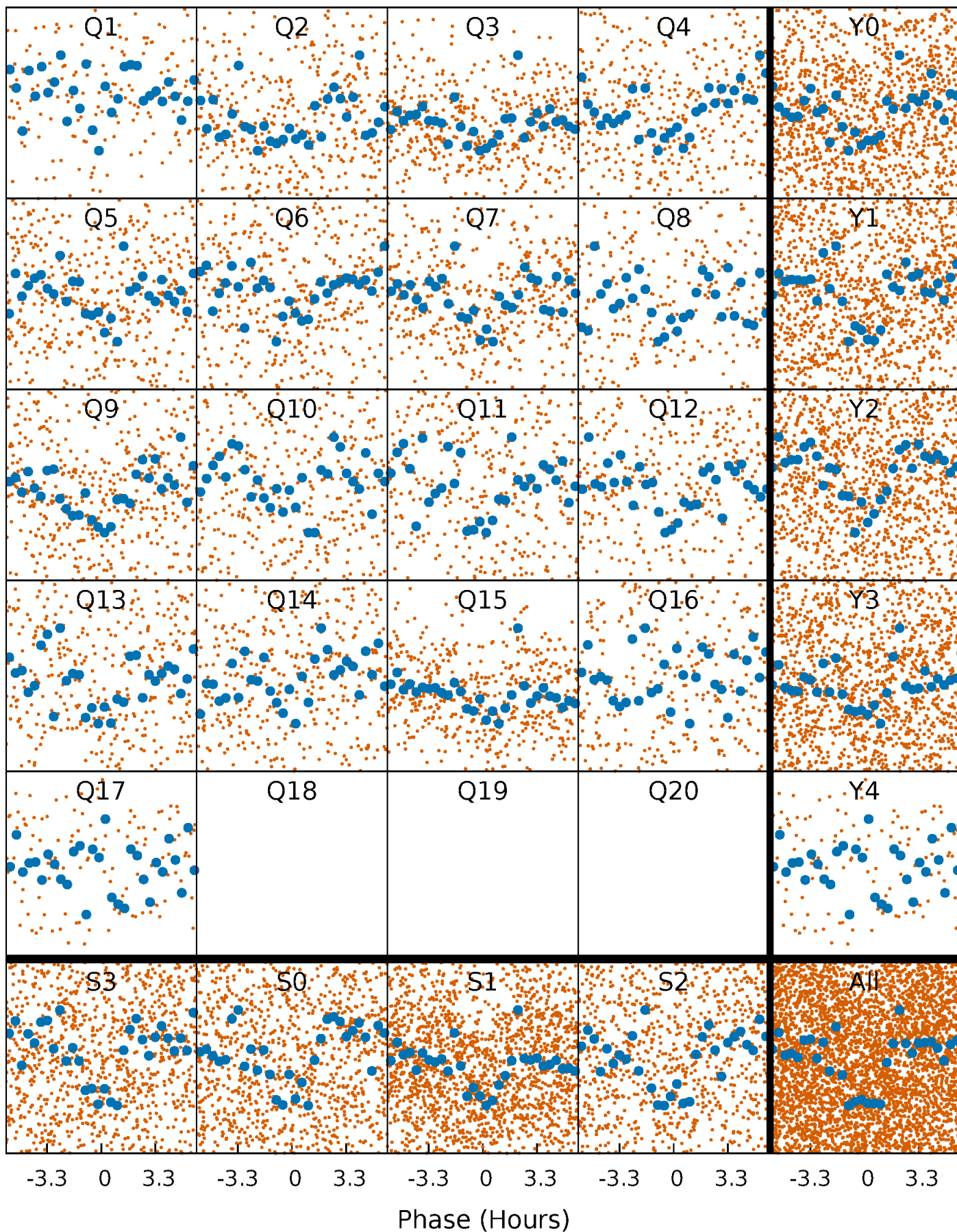


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



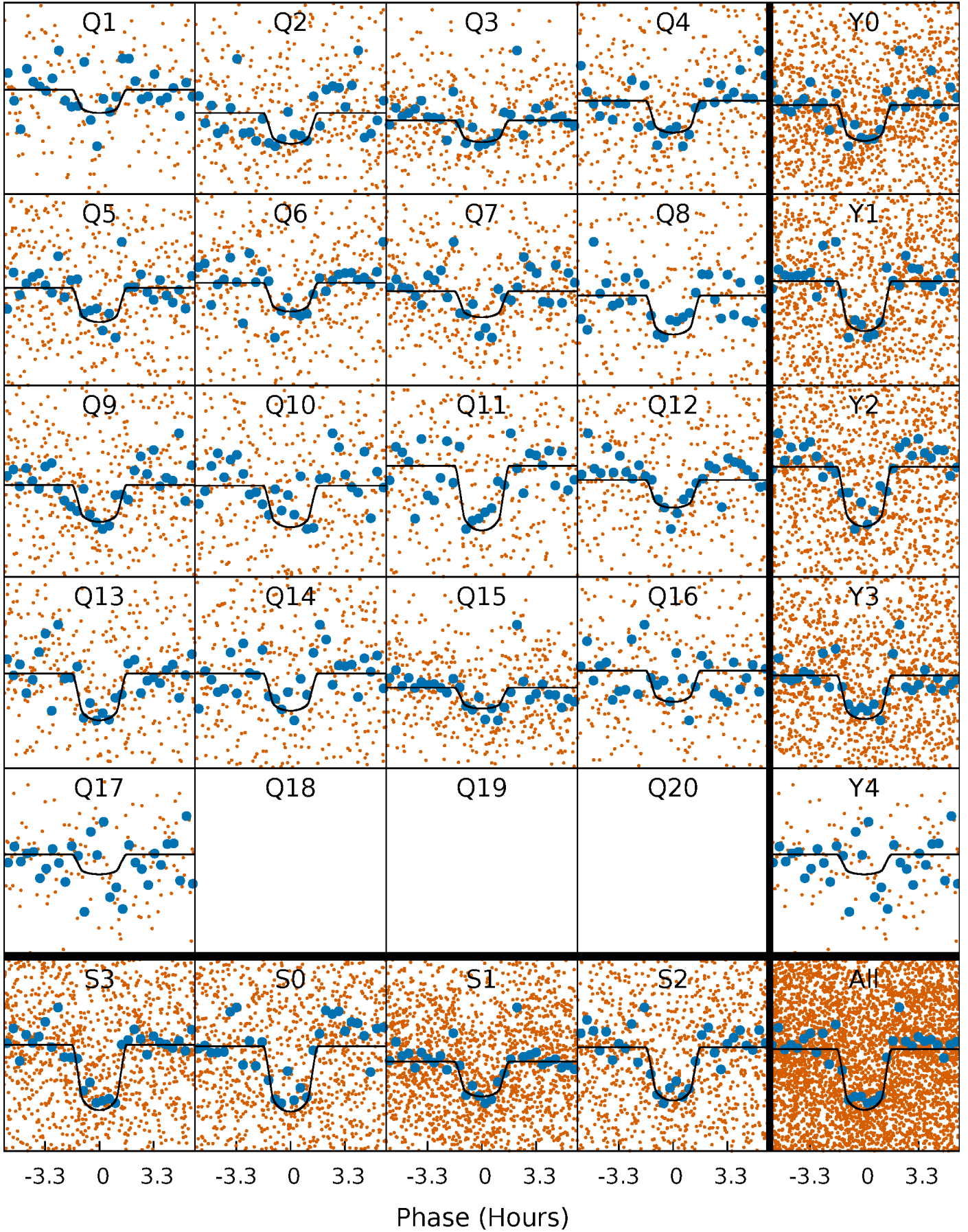
PDC Quarter-Phased Transit Curves

TCE 009395024-01 P= 4.370297 Days $T_0=131.934444$ (BKJD)



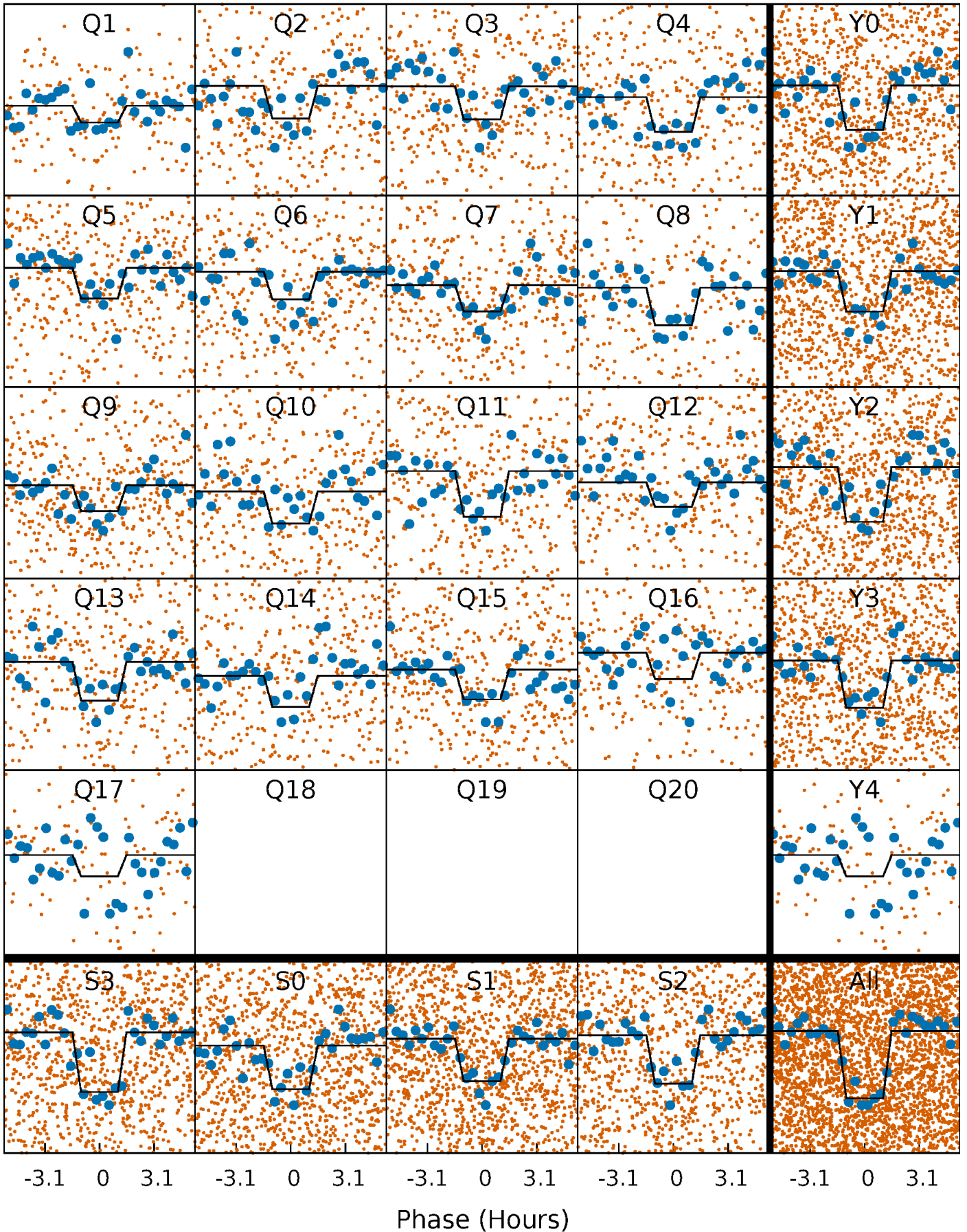
DV Quarter-Phased Transit Curves

TCE 009395024-01 P= 4.370297 Days $T_0=131.934444$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

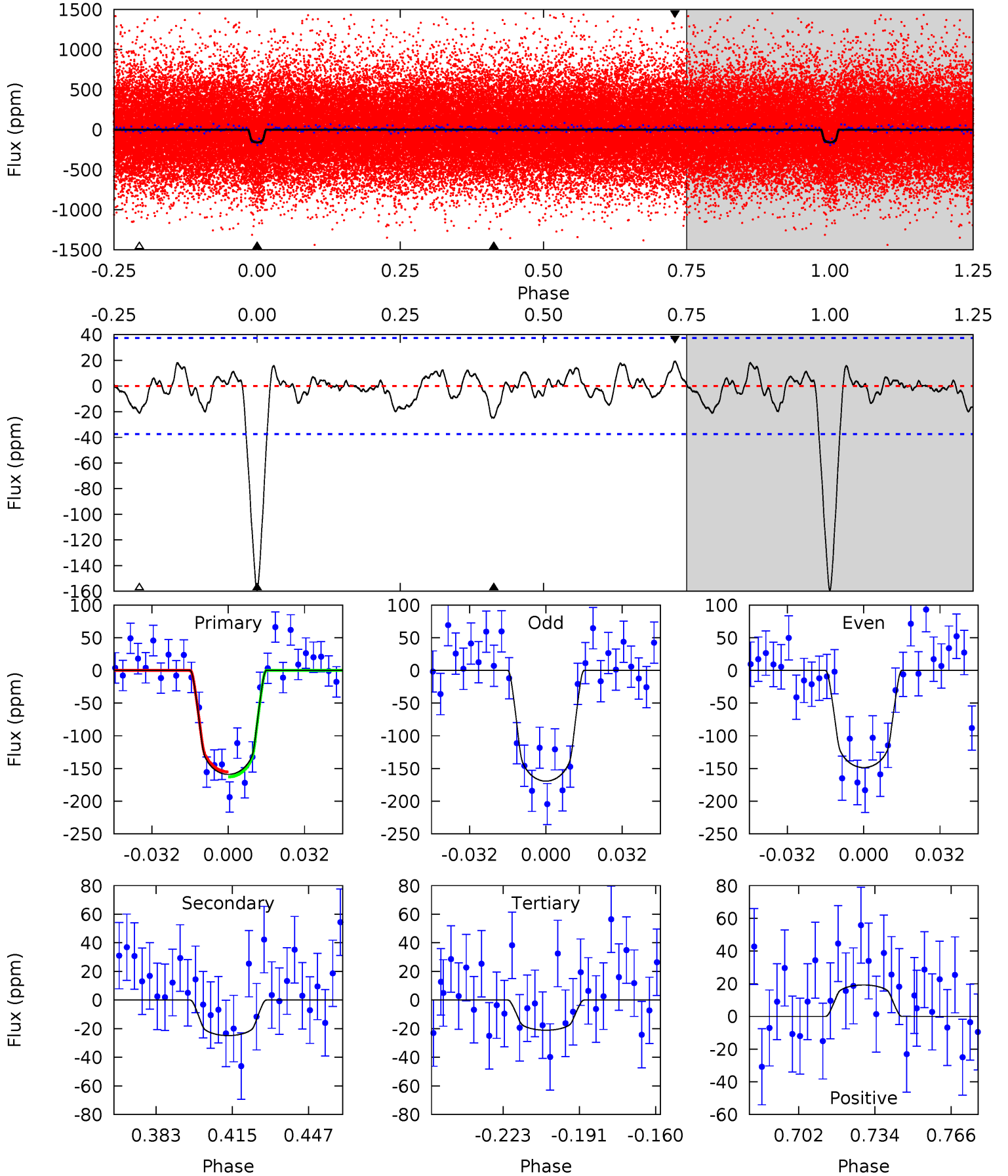
TCE 009395024-01 P= 4.370333 Days $T_0=131.927626$ (BKJD)



DV Model-Shift Uniqueness Test

009395024-01, P = 4.370297 Days, E = 127.564147 Days

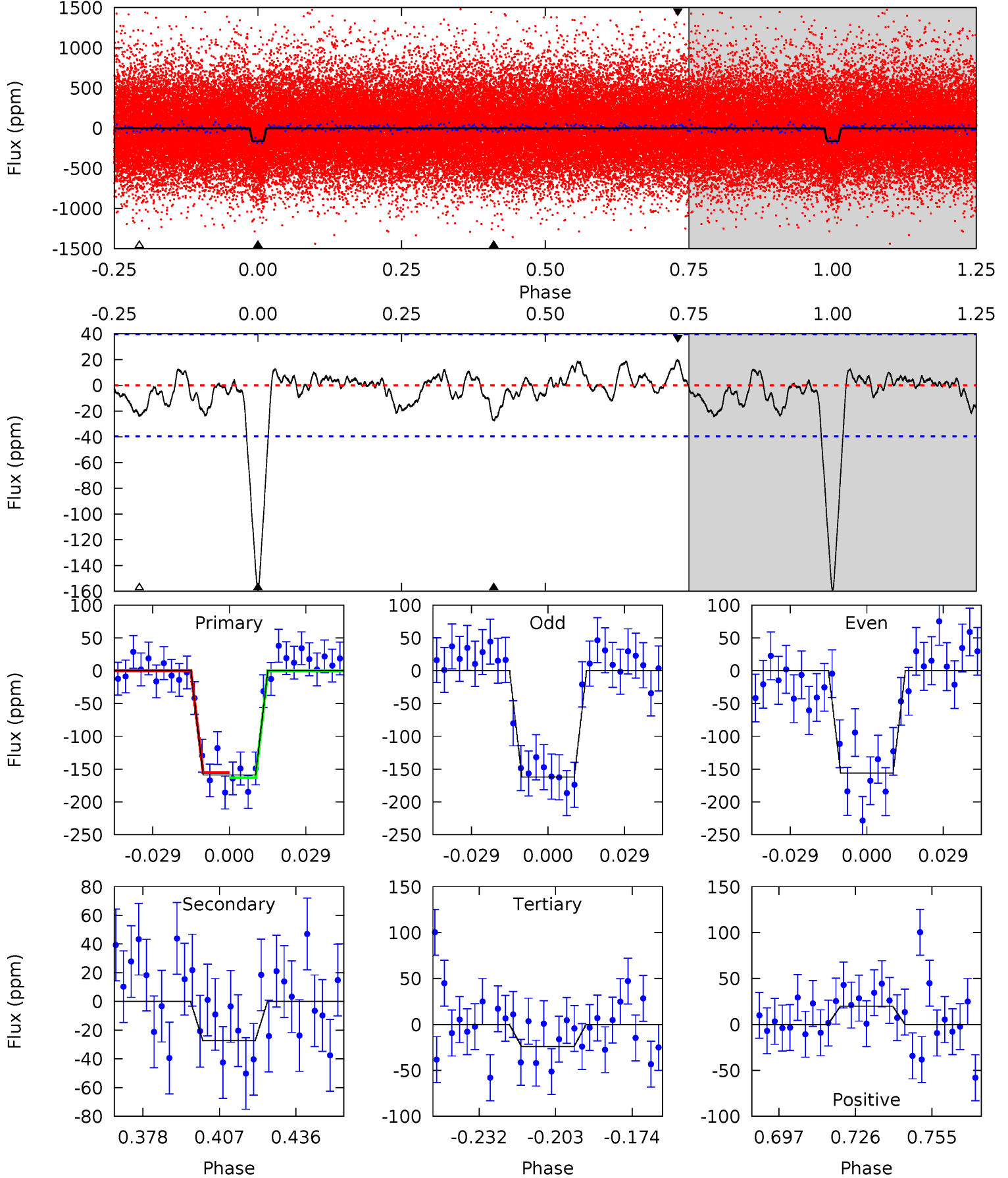
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	3.18	2.70	2.46	4.80	2.15	1.09	17.7	17.9	0.48	0.72	1.33	0.94	0.11	0.49



Alt Model-Shift Uniqueness Test

009395024-01, P = 4.370333 Days, E = 127.557293 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	3.31	2.92	2.41	4.82	2.18	1.10	16.4	16.9	0.39	0.91	0.37	0.95	0.11	0.47



Stellar Parameters For KIC 009395024

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5657^{+76}_{-76}	$4.282^{+0.156}_{-0.104}$	$0.140^{+0.150}_{-0.150}$	$1.182^{+0.182}_{-0.182}$	$0.975^{+0.076}_{-0.055}$	$0.832^{+0.537}_{-0.280}$
	+1%/-1%	+4%/-2%	+107%/-107%	+15%/-15%	+8%/-6%	+65%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009395024-01 / KOI 2383.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-25 ± 8	$1.85^{+0.88}_{-0.80}$	1662^{+69}_{-85}	3683^{+845}_{-479}	10^{+21}_{-6}
Alt.	-27 ± 8	$1.68^{+0.76}_{-0.79}$	1657^{+71}_{-81}	3900^{+1033}_{-520}	14^{+36}_{-8}

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

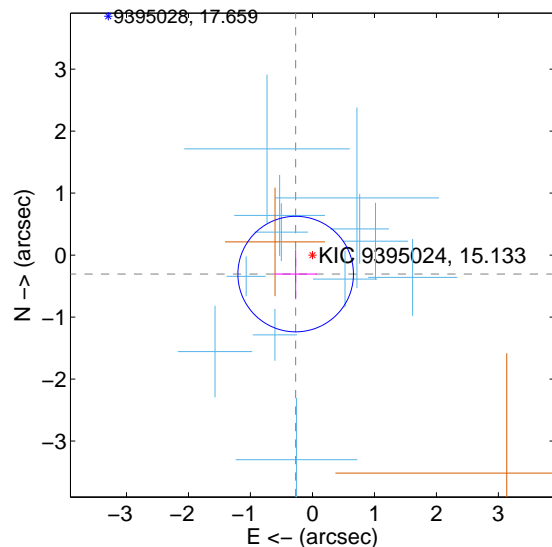
Supplemental centroid analysis for 009395024-01. Kepler magnitude: 15.13. Transit SNR 17.06

There are 12 quarters with good PRF difference image offsets

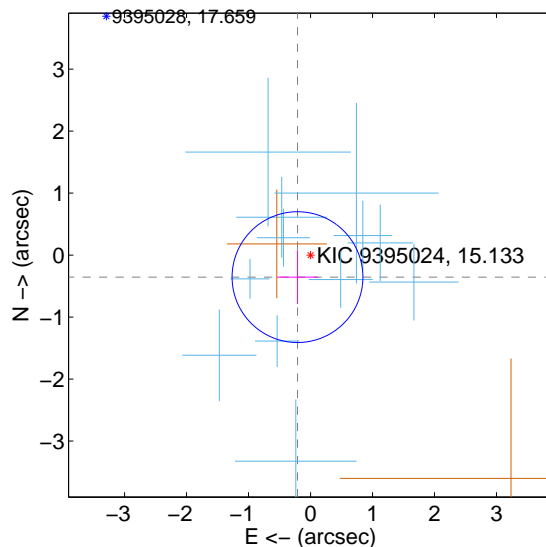
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.409 ± 0.311	1.31	0.270 ± 0.342	-0.306 ± 0.387
PRF-fit source offset from KIC position	0.413 ± 0.352	1.17	0.210 ± 0.329	-0.355 ± 0.434
photometric centroid source offset	0.69 ± 0.86	0.80	0.34 ± 0.86	0.60 ± 0.85

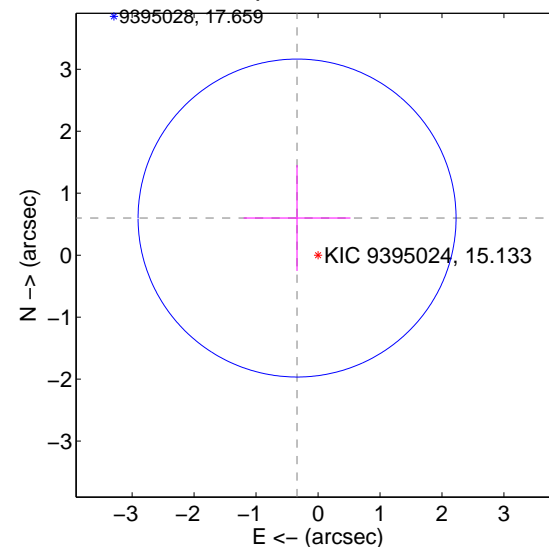
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

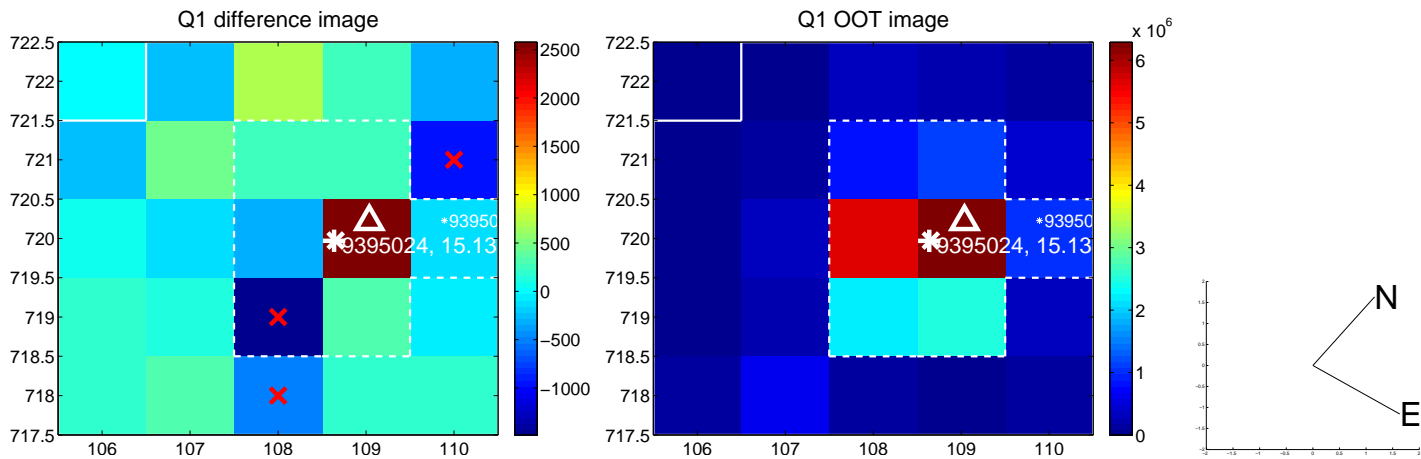


offset from photometric centroids

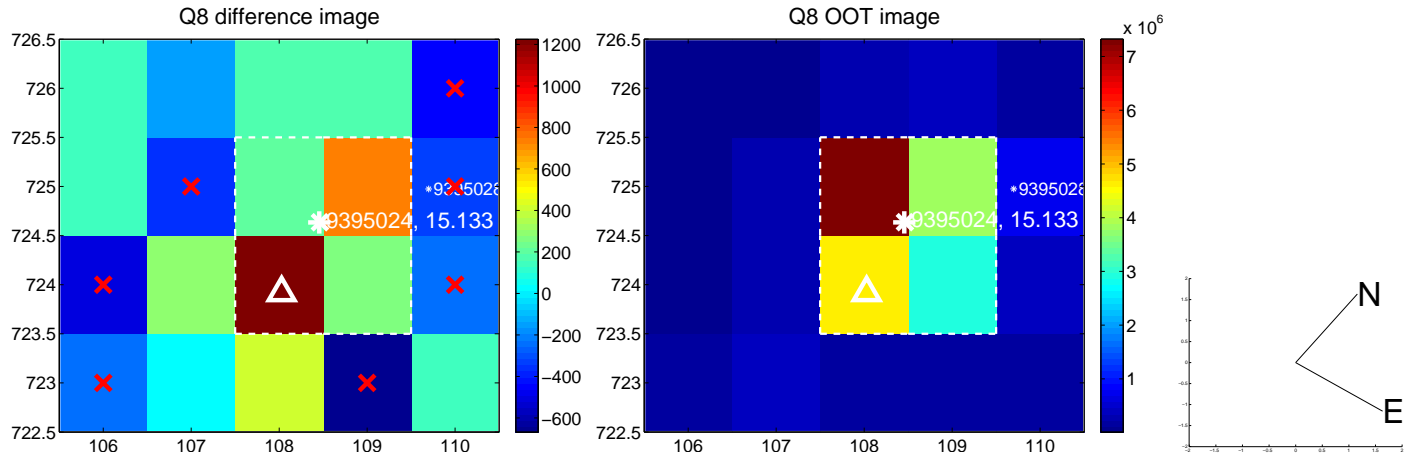
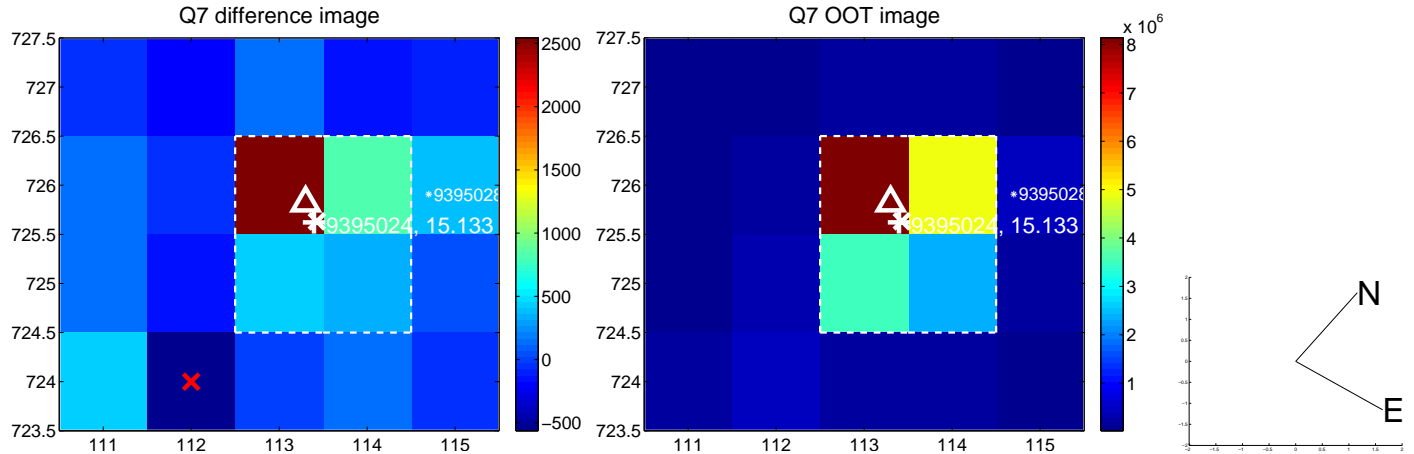
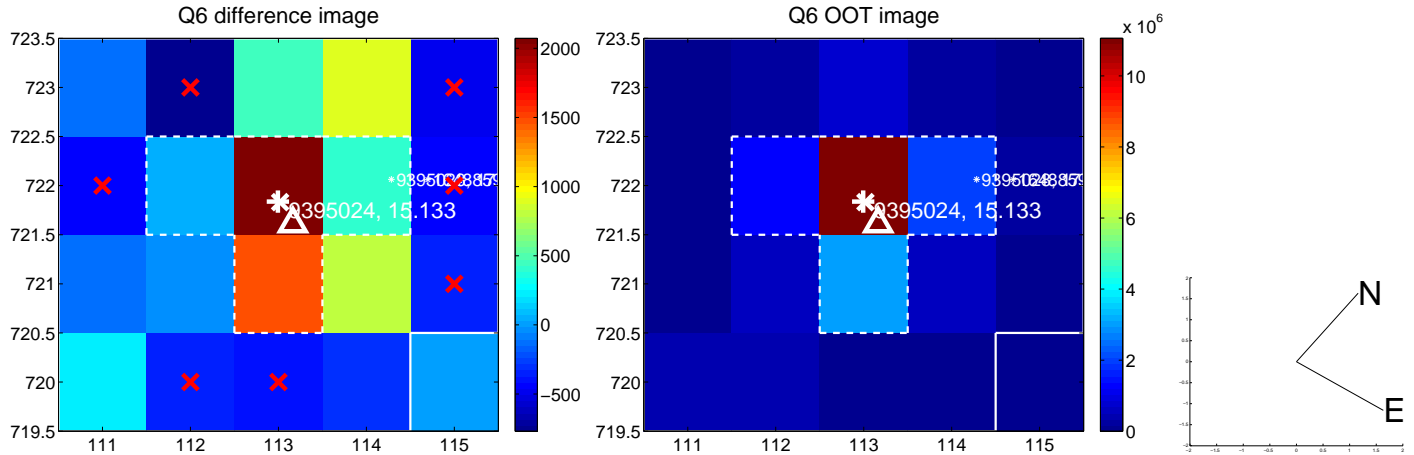
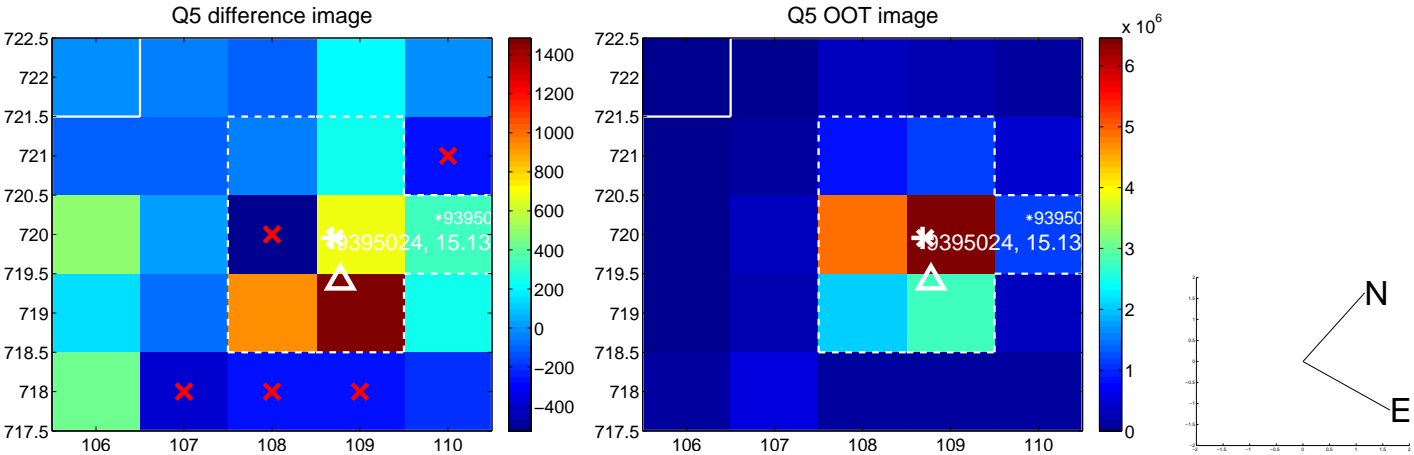


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

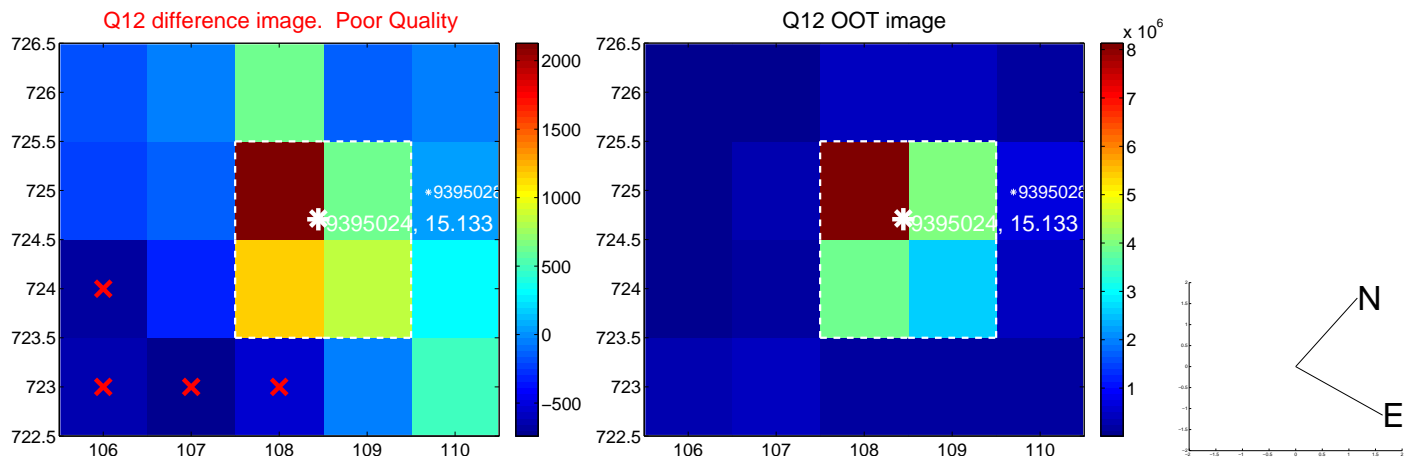
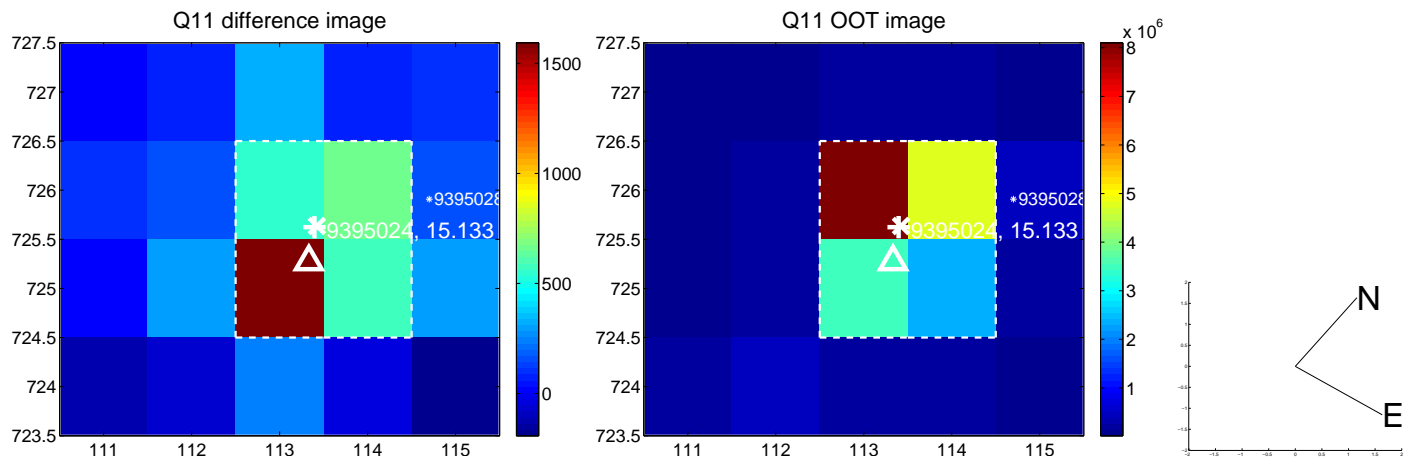
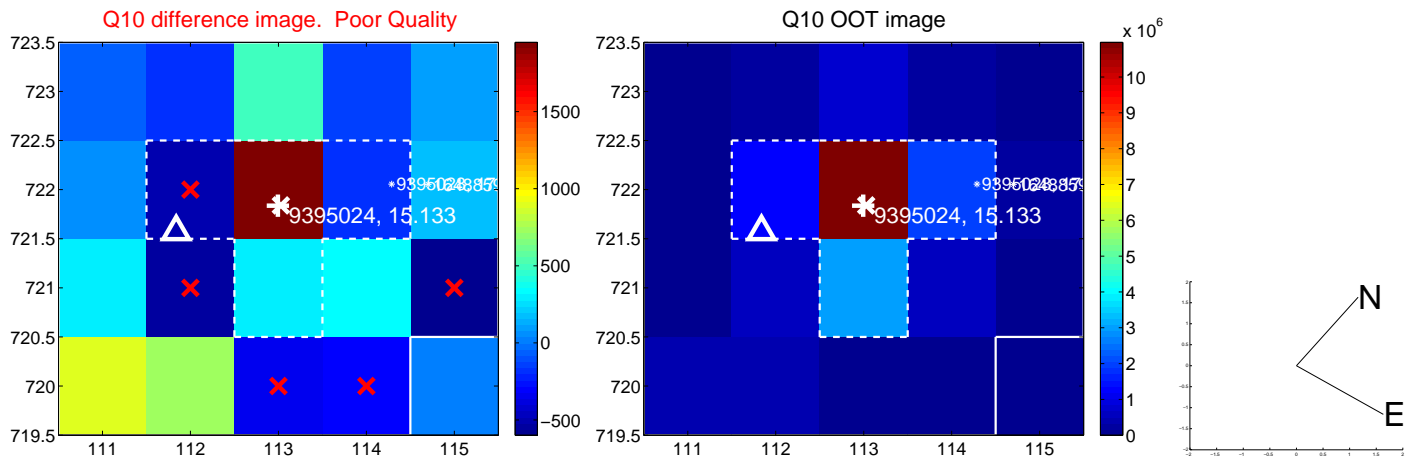
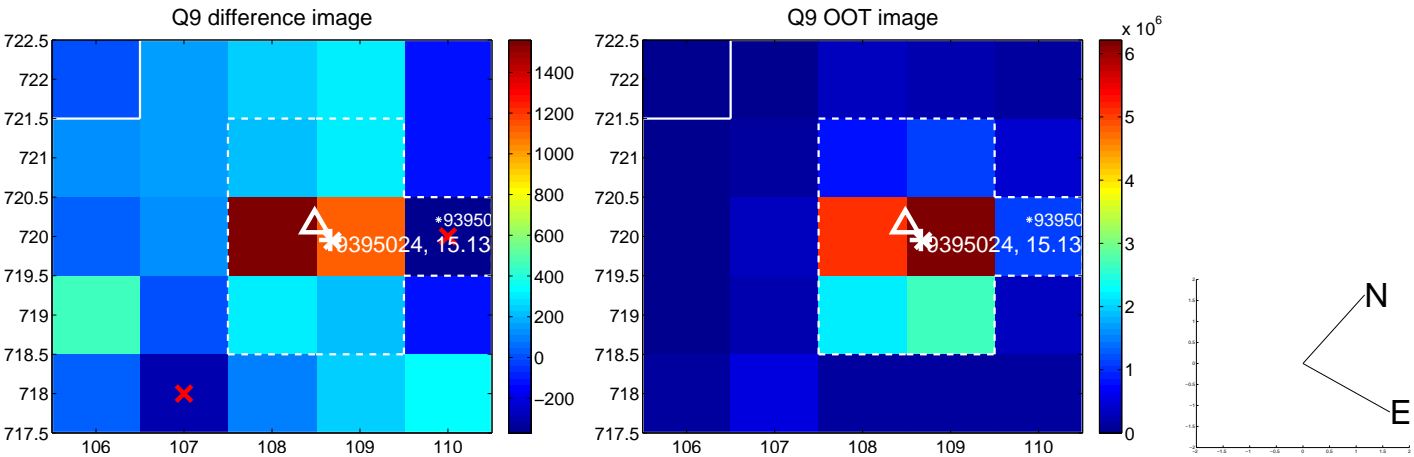
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



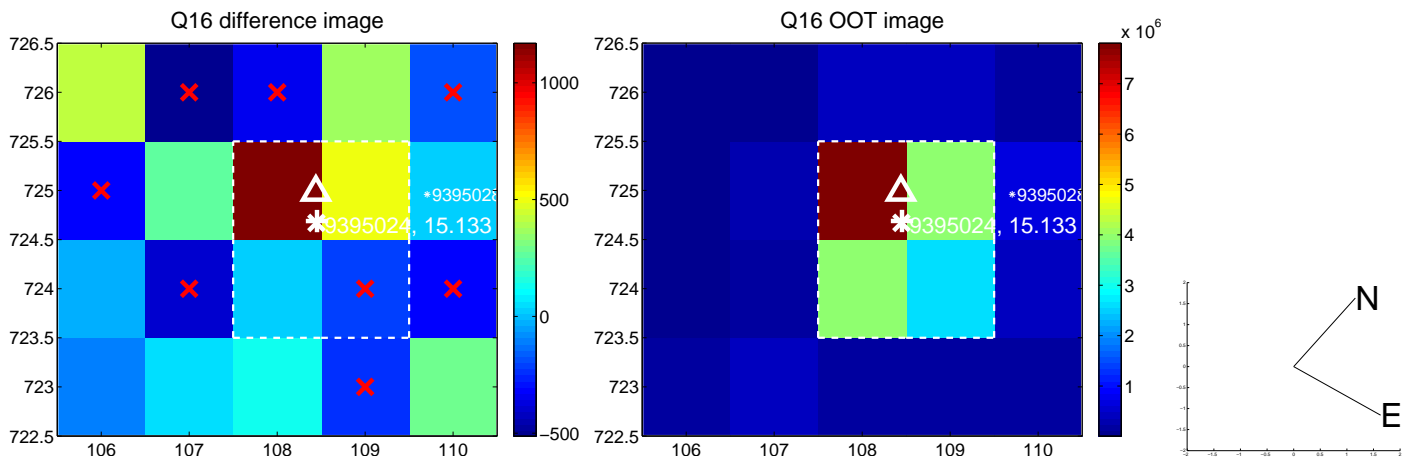
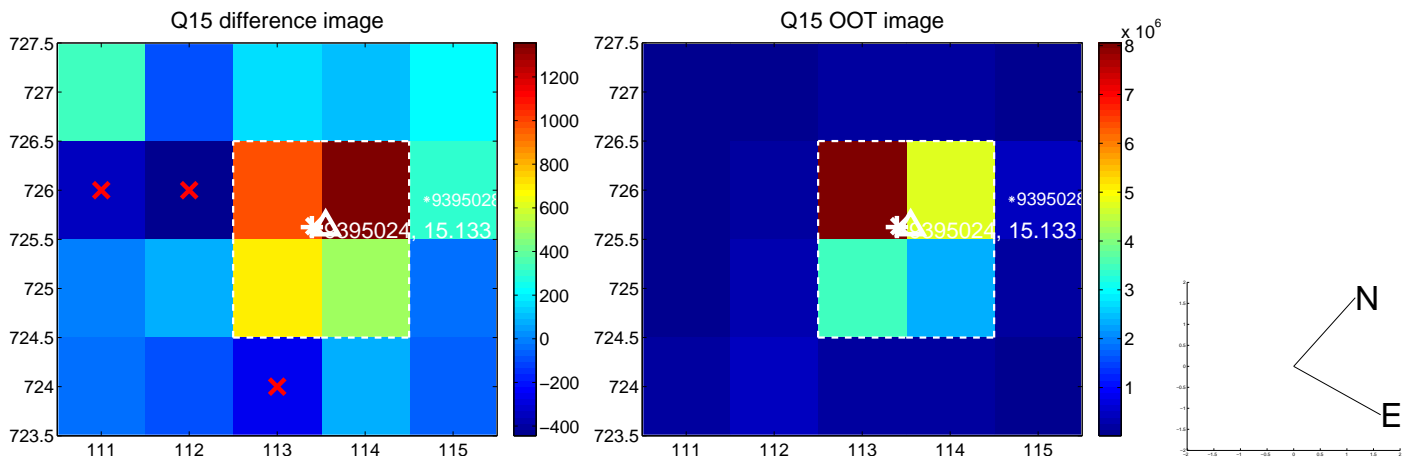
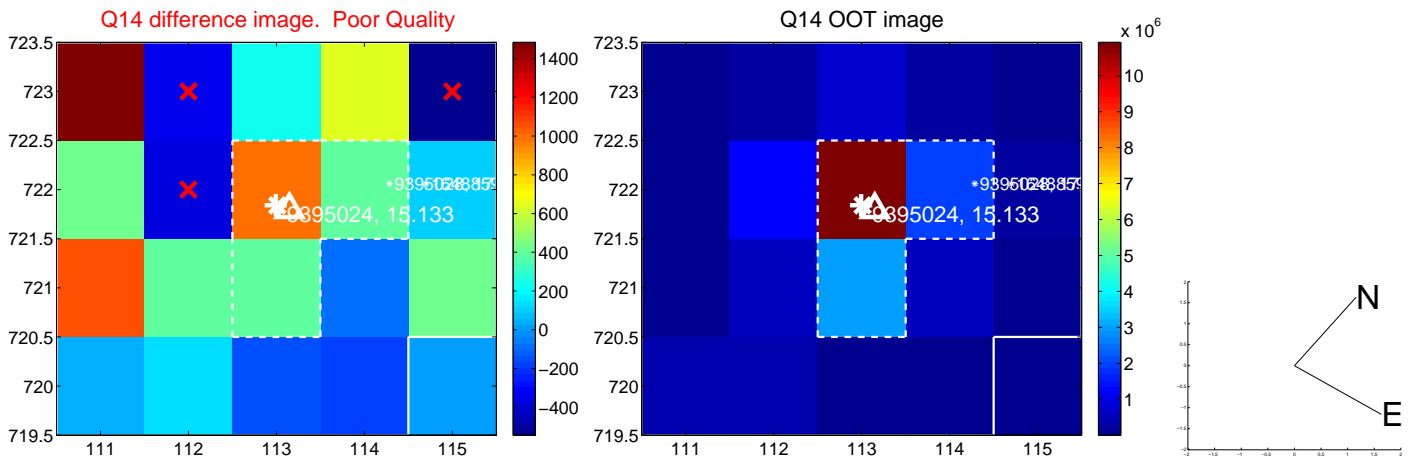
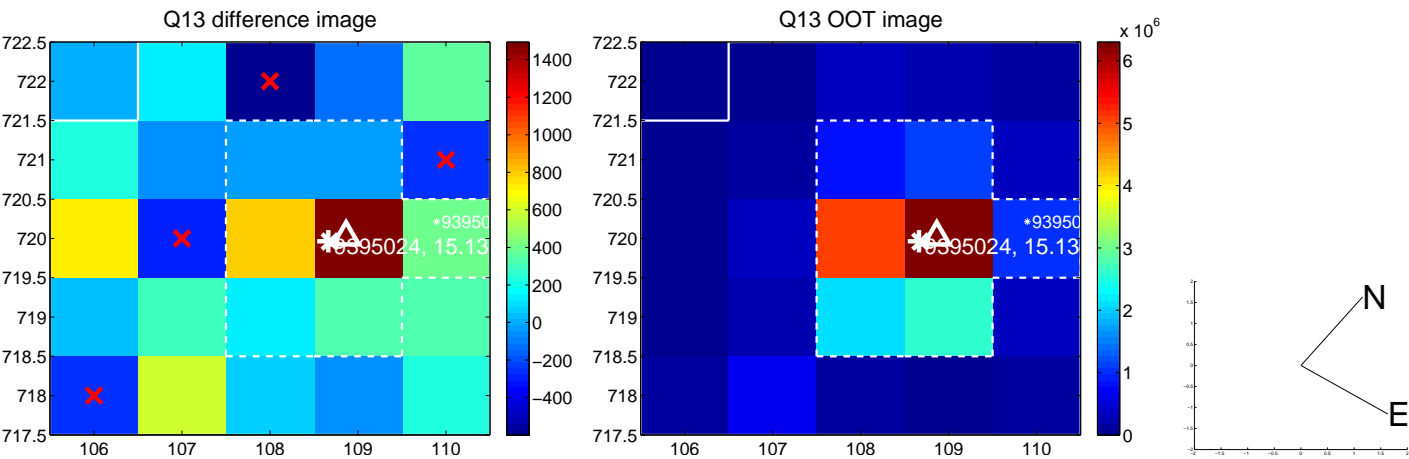
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



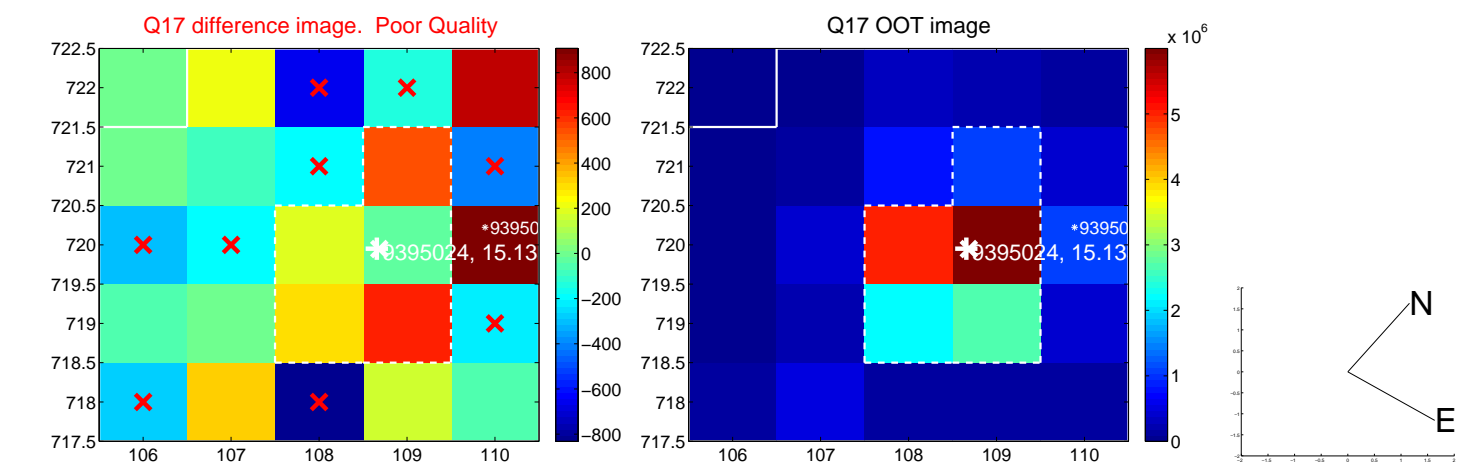
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



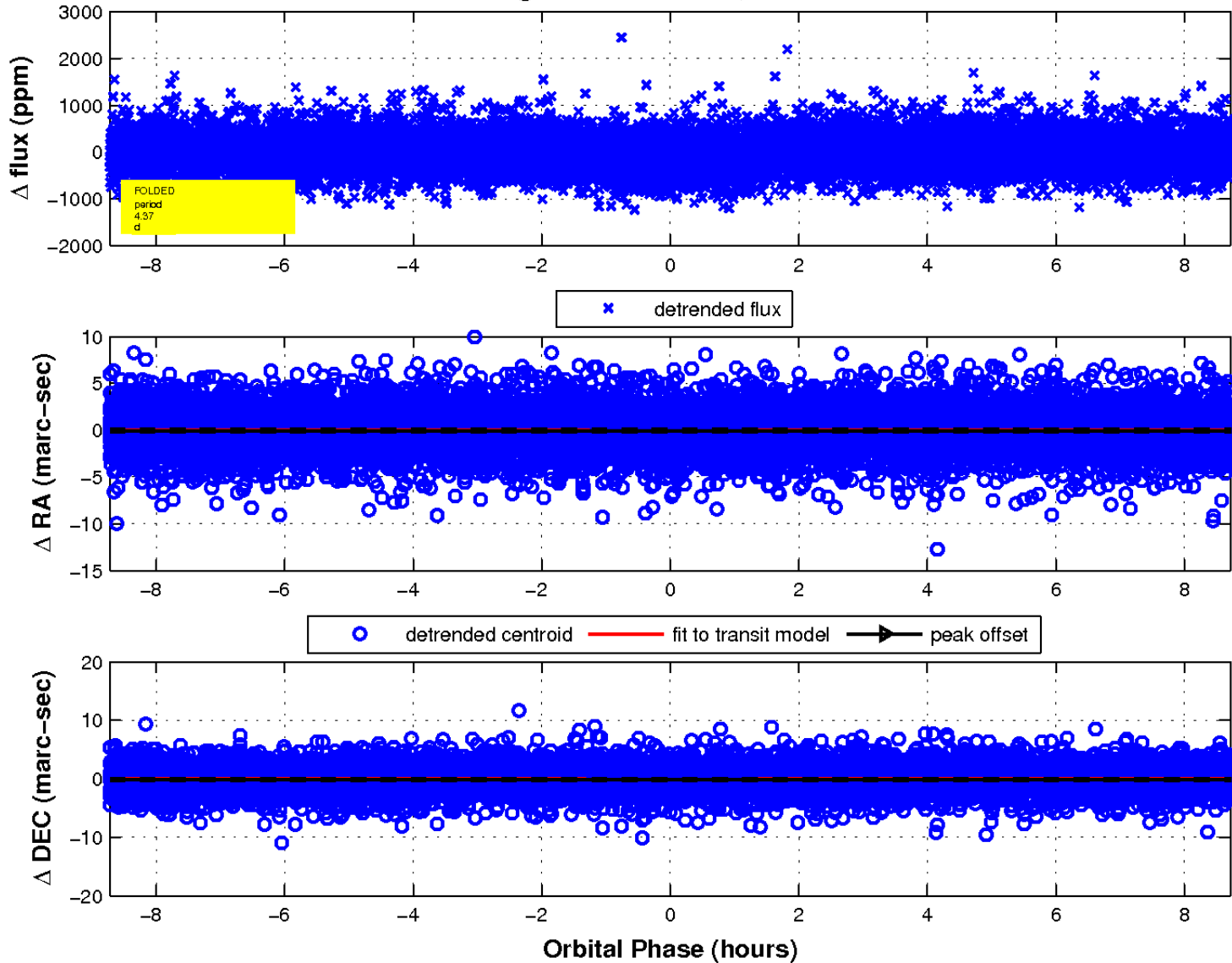
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

