

KIC 011415243

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})
011415243-01	OBS	4036.01	168.811077	211.437964	580.0	7.397	14.8	15.5	0.71	4798	2.19	0.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011415243-01	OBS	PC	0.96	0	0	0	0	CENT_KIC_POS

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

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

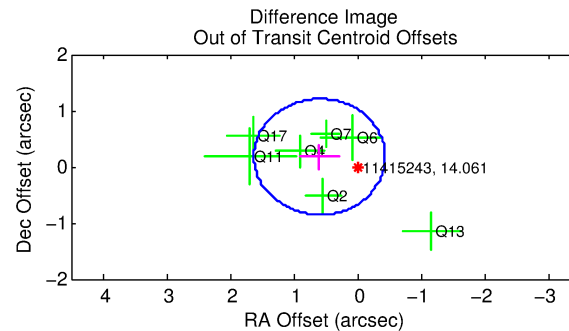
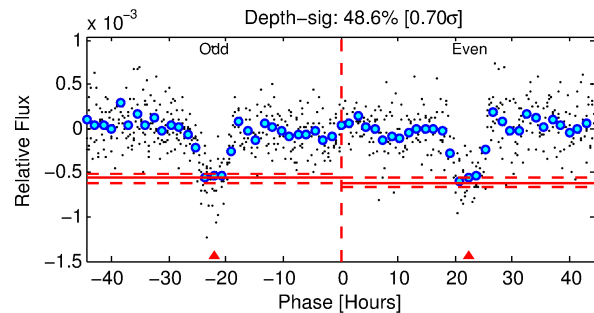
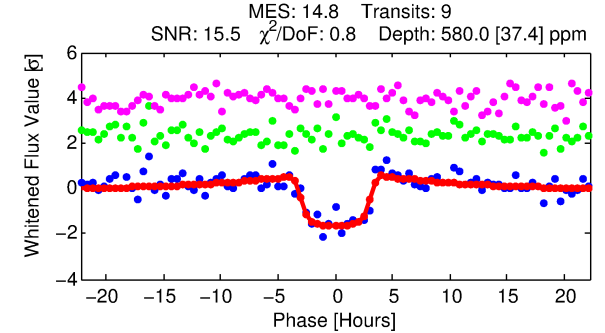
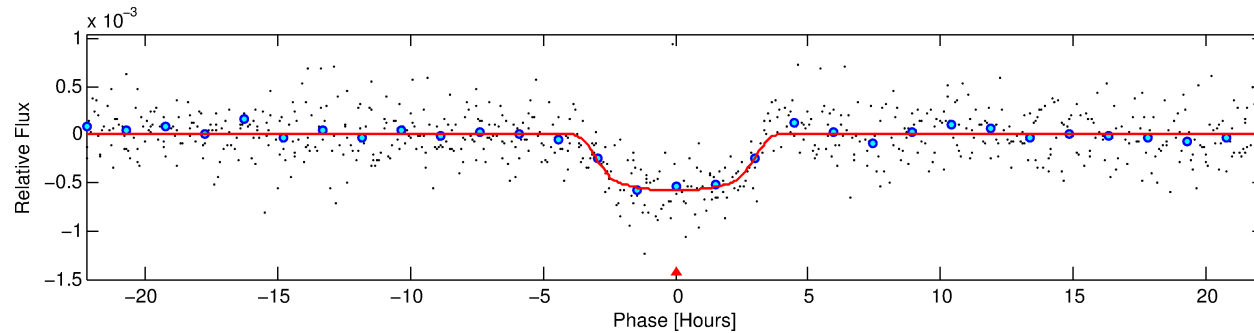
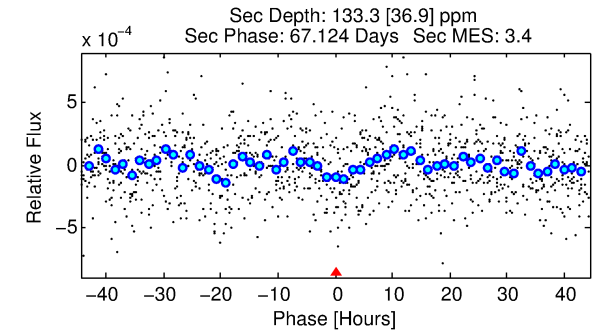
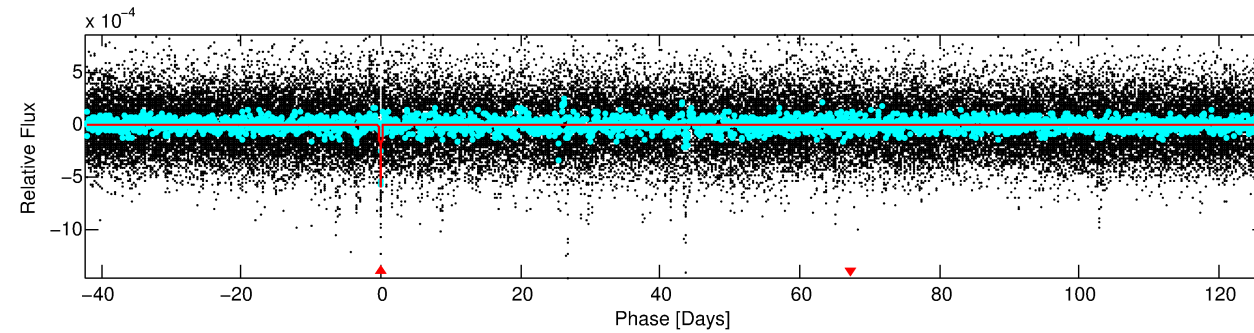
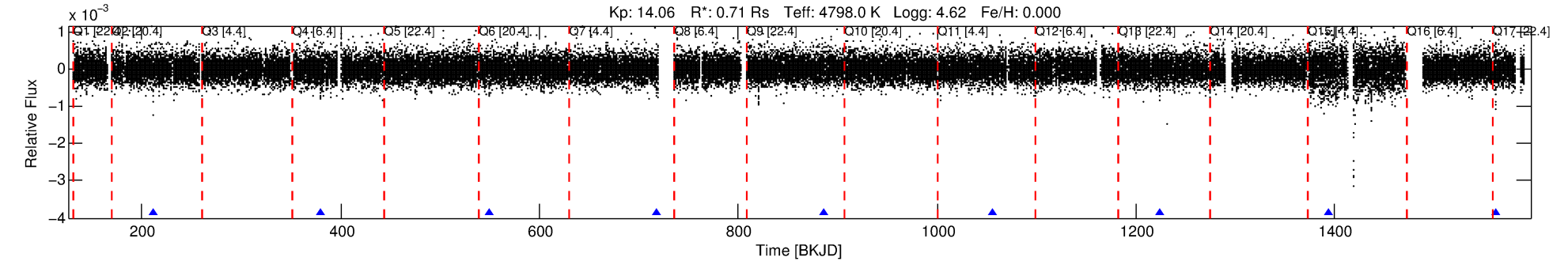
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011415243-01

No Significant Match Found

DV One-Page Summary

KIC: 11415243 Candidate: 1 of 1 Period: 168.811 d
KOI: K04036.01 Corr: 0.937



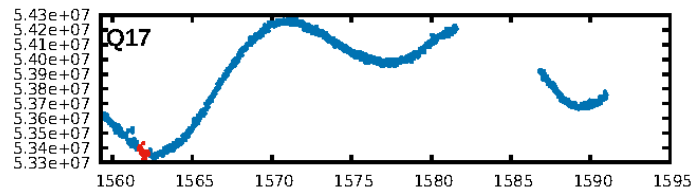
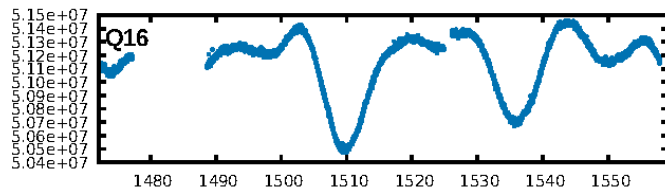
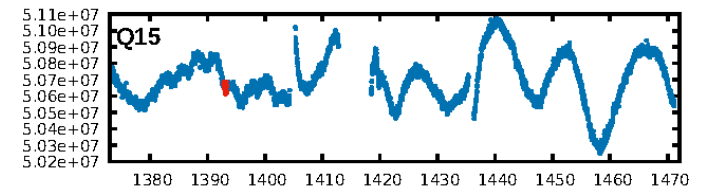
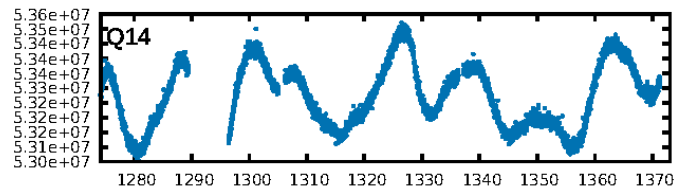
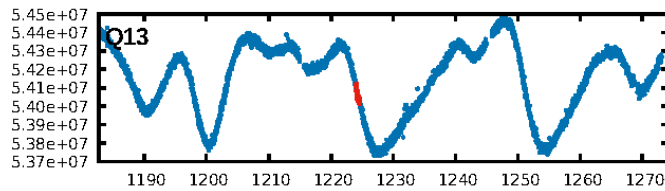
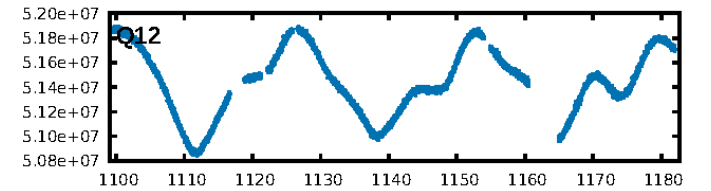
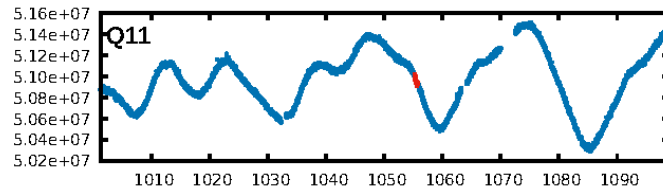
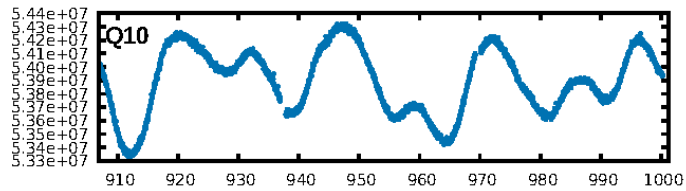
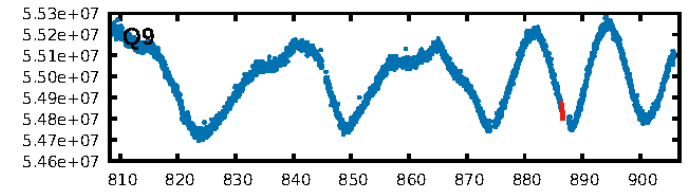
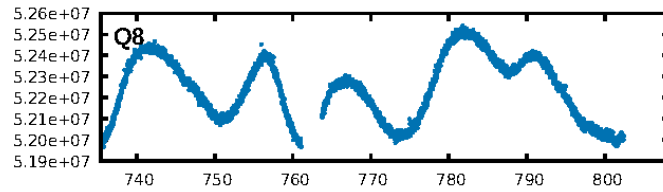
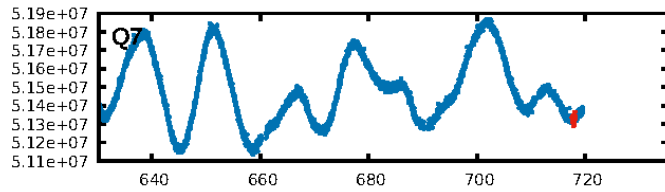
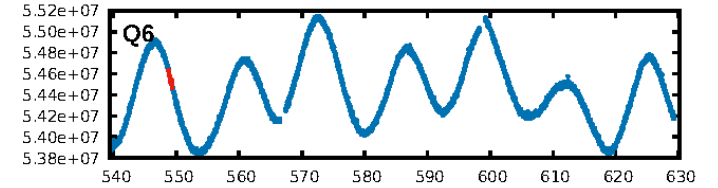
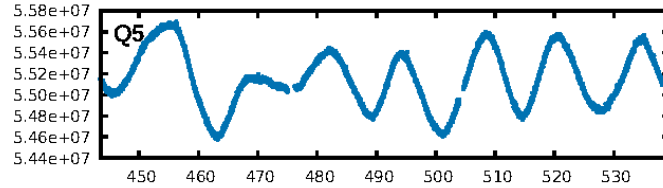
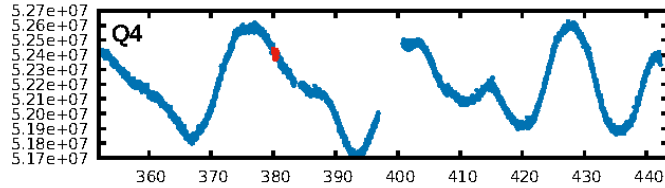
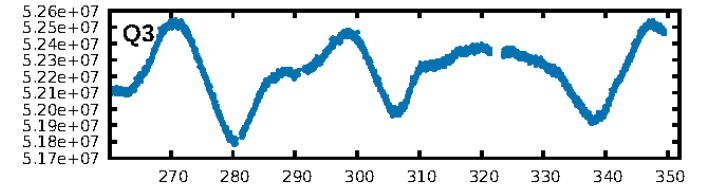
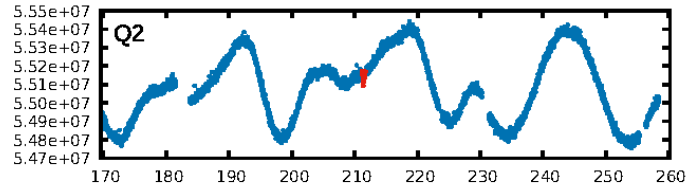
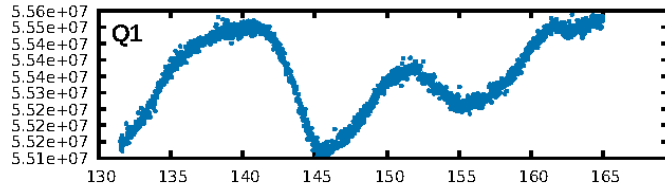
DV Fit Results:

Period = 168.81108 [0.00157] d
Epoch = 211.4380 [0.0073] BKJD
Rp/R* = 0.0284 [0.0017]
a/R* = 75.47 [13.98]
b = 0.93 [0.03]
Seff = 0.80 [0.09]
Teq = 241 [7] K
Rp = 2.19 [0.19] Re
a = 0.5456 [0.0291] AU
Ag = 4556.08 [1427.03] [3.19 σ]
Teffp = 3061 [239] K [11.77 σ]

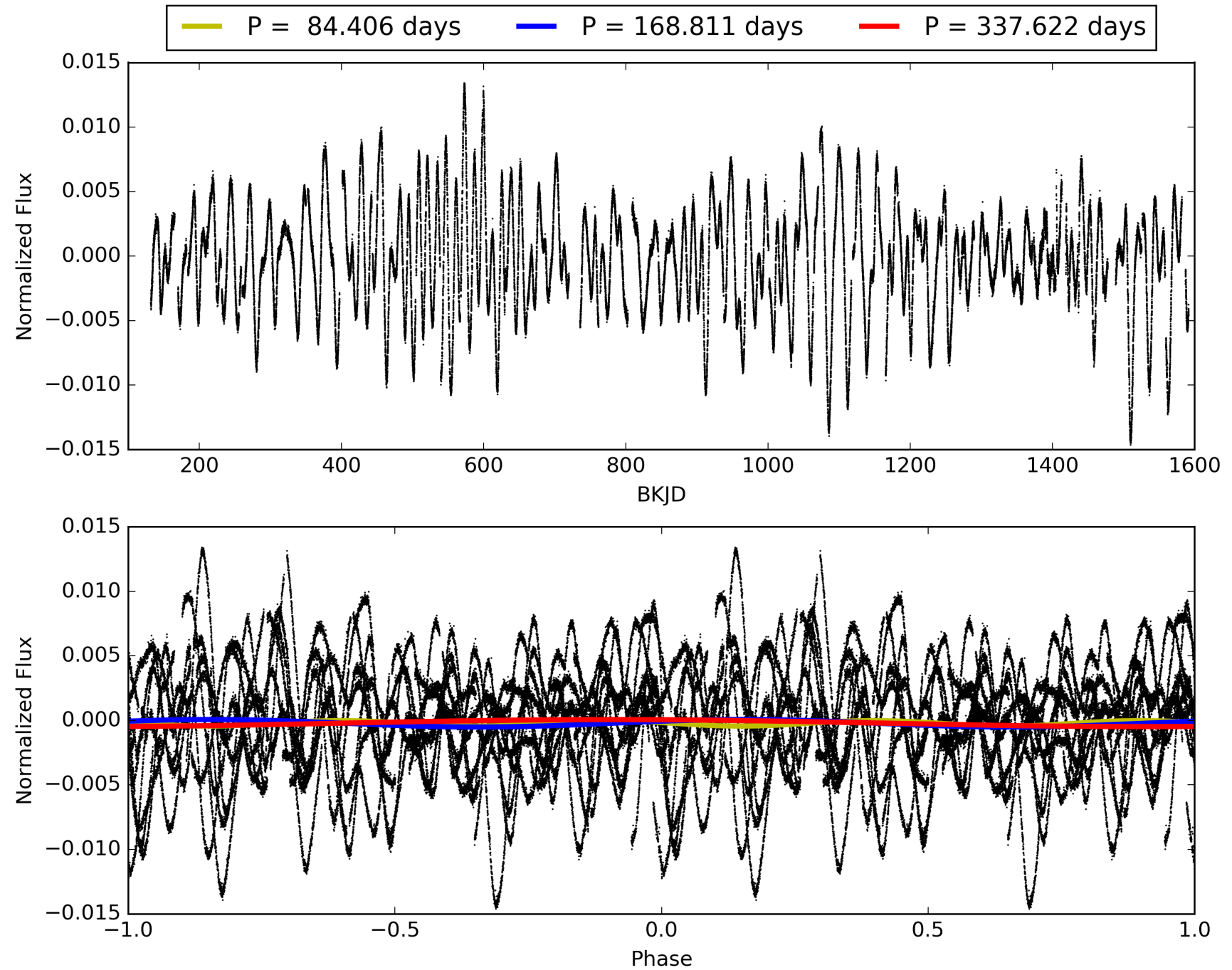
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 65.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.18e-40
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -2.578
Centroid-sig: 69.1%
Centroid-so: 0.655 arcsec [1.04 σ]
OotOffset-rm: 0.618 arcsec [1.80 σ]
KicOffset-rm: 1.056 arcsec [2.57 σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

TCE 011415243-01, PDC Light Curves

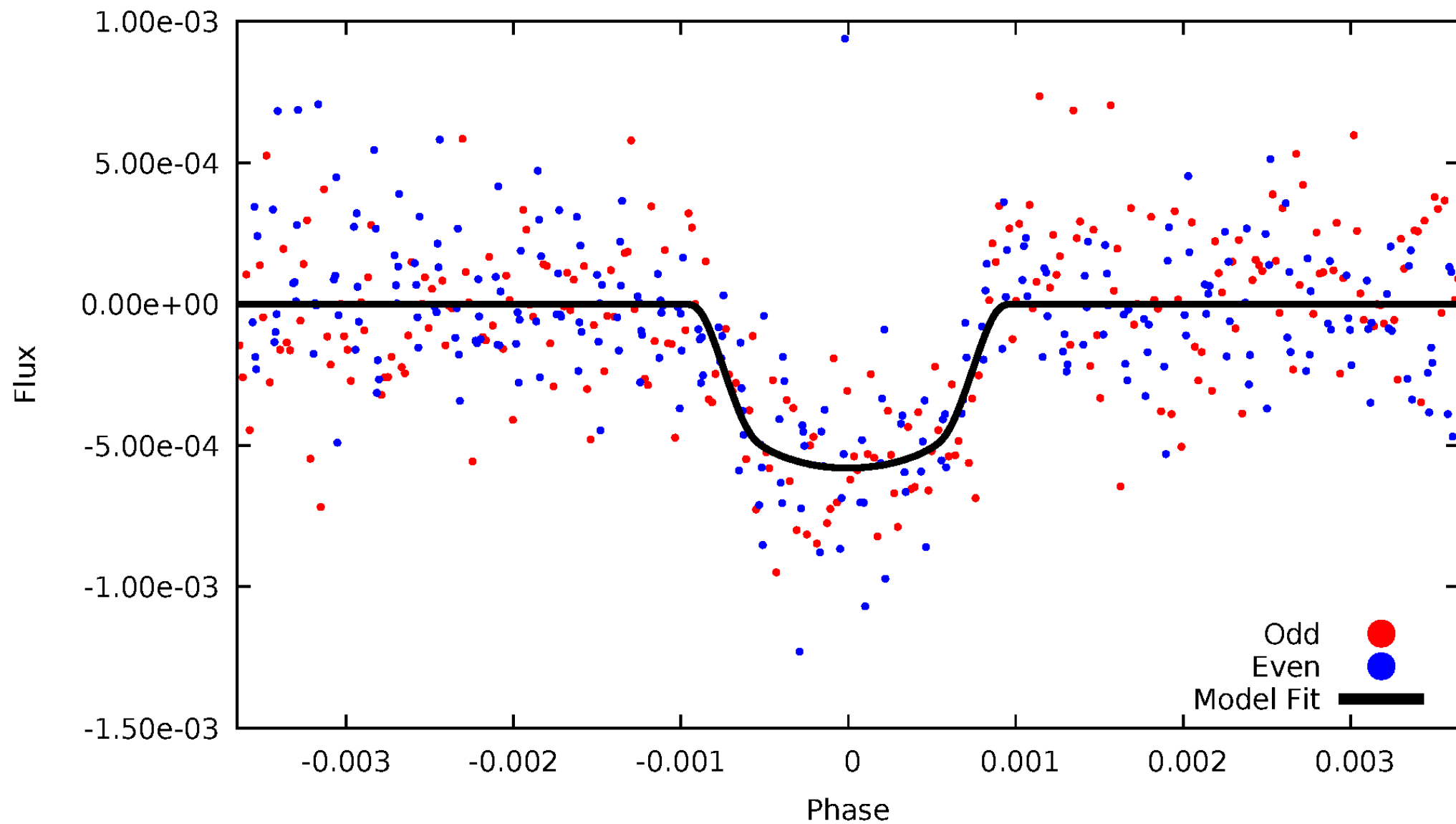


TCE 011415243-01



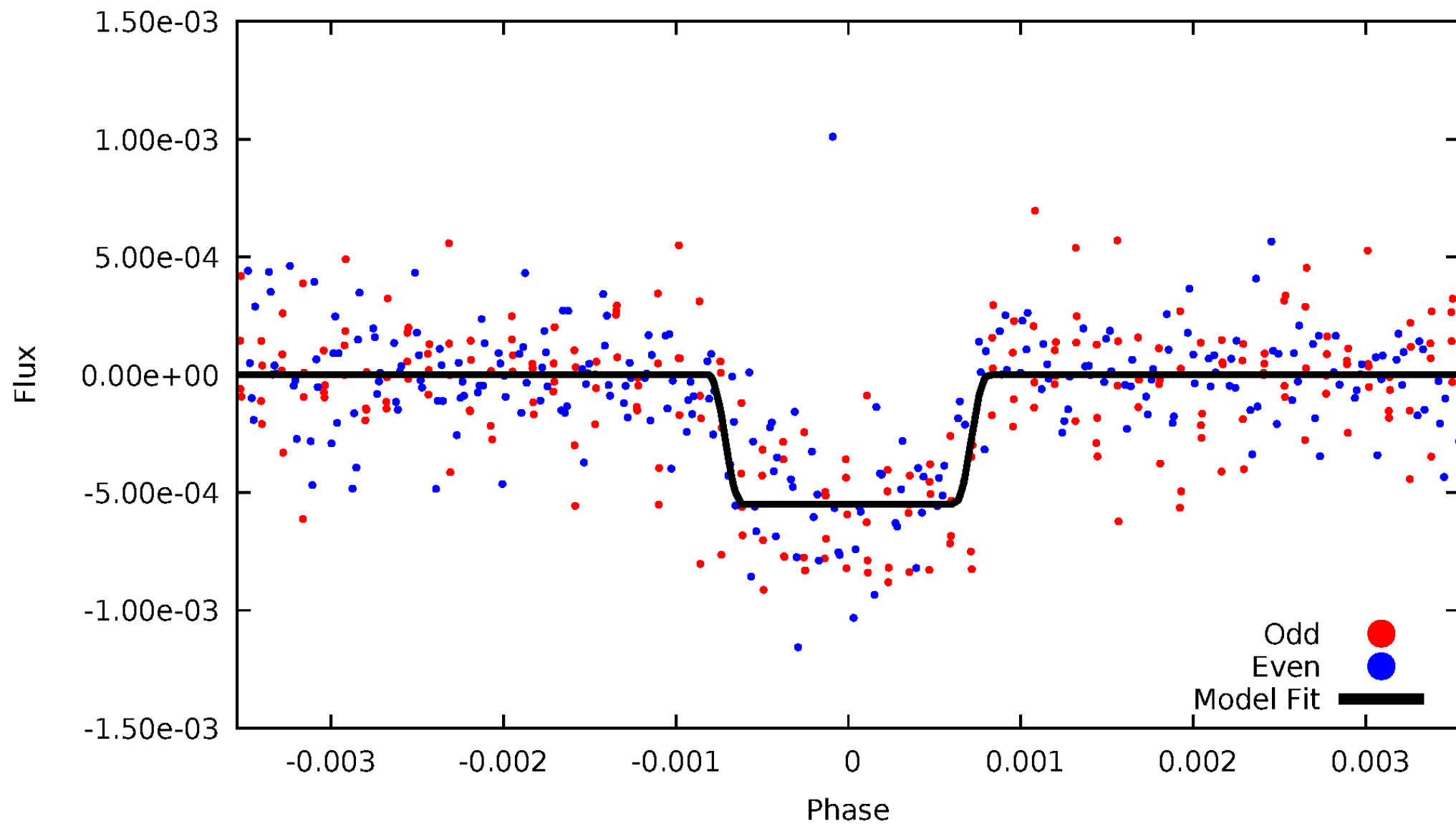
DV Odd/Even

TCE 011415243-01



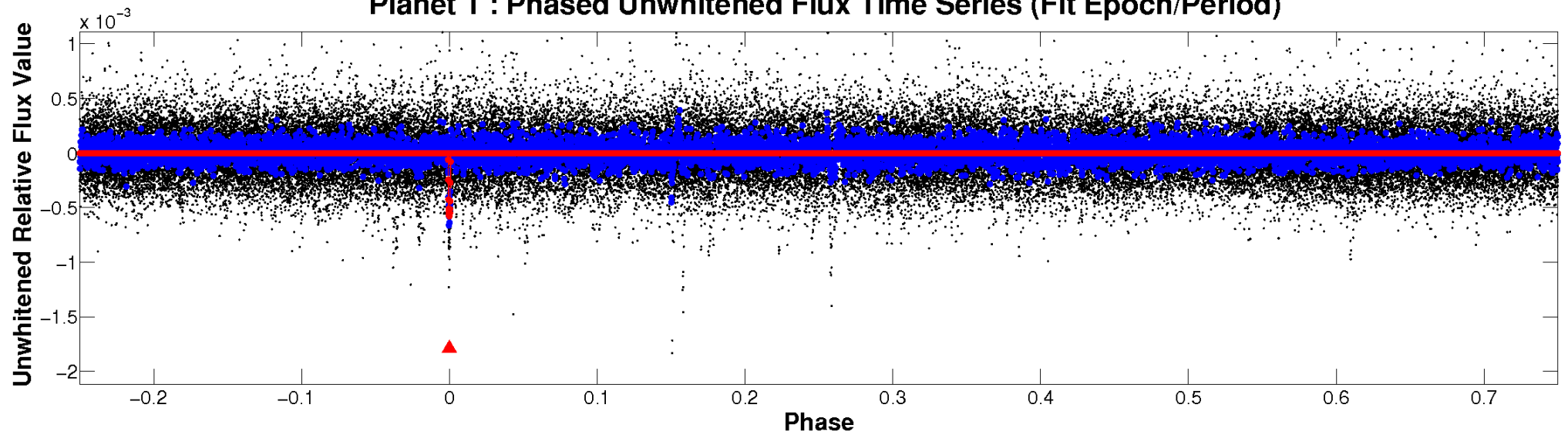
ALT Odd/Even

TCE 011415243-01

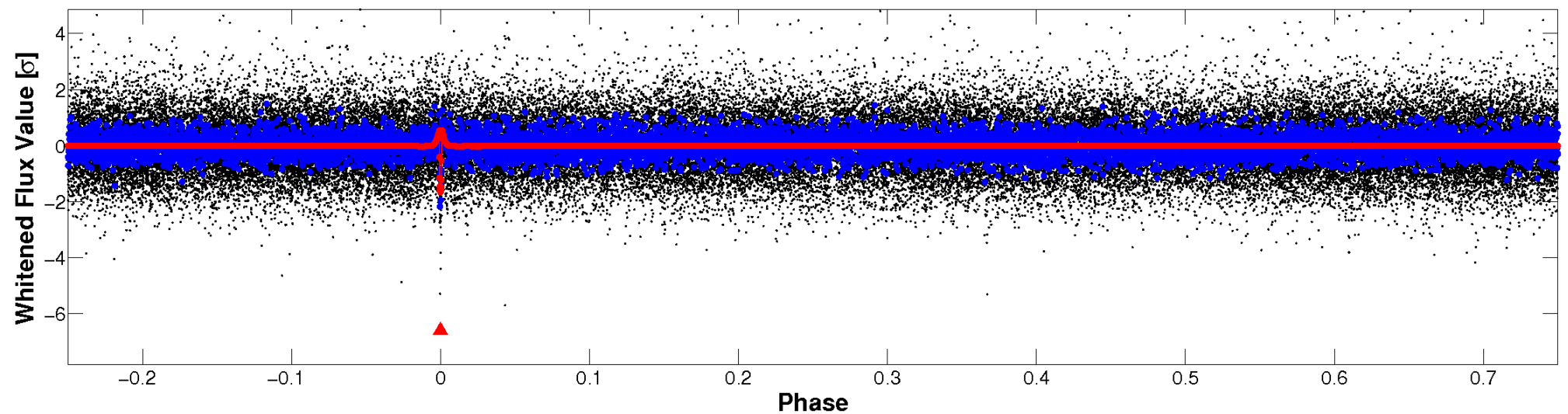


Non-Whitened Vs. Whitened Light Curve

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

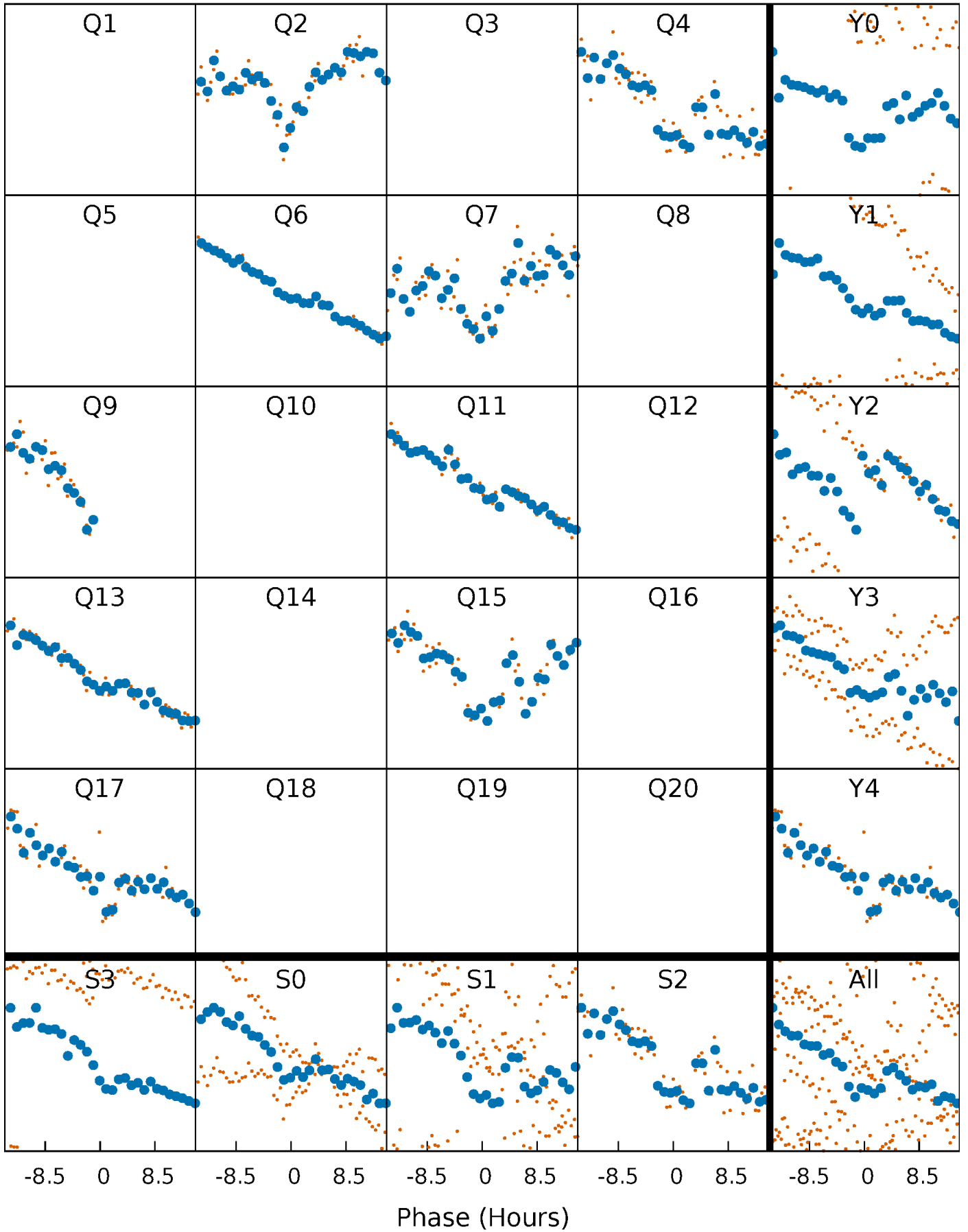


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



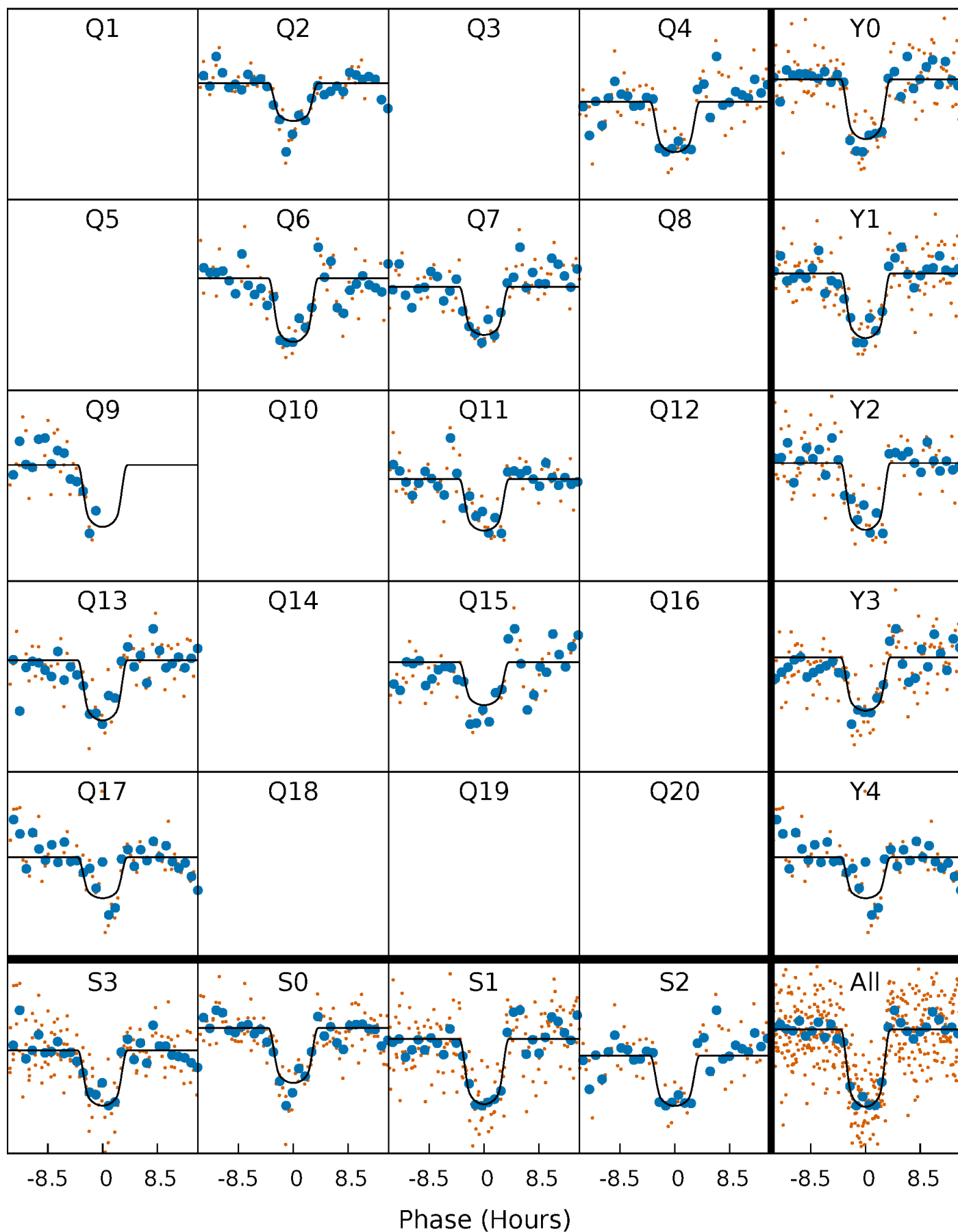
PDC Quarter-Phased Transit Curves

TCE 011415243-01 P=168.811077 Days $T_0=211.437964$ (BKJD)



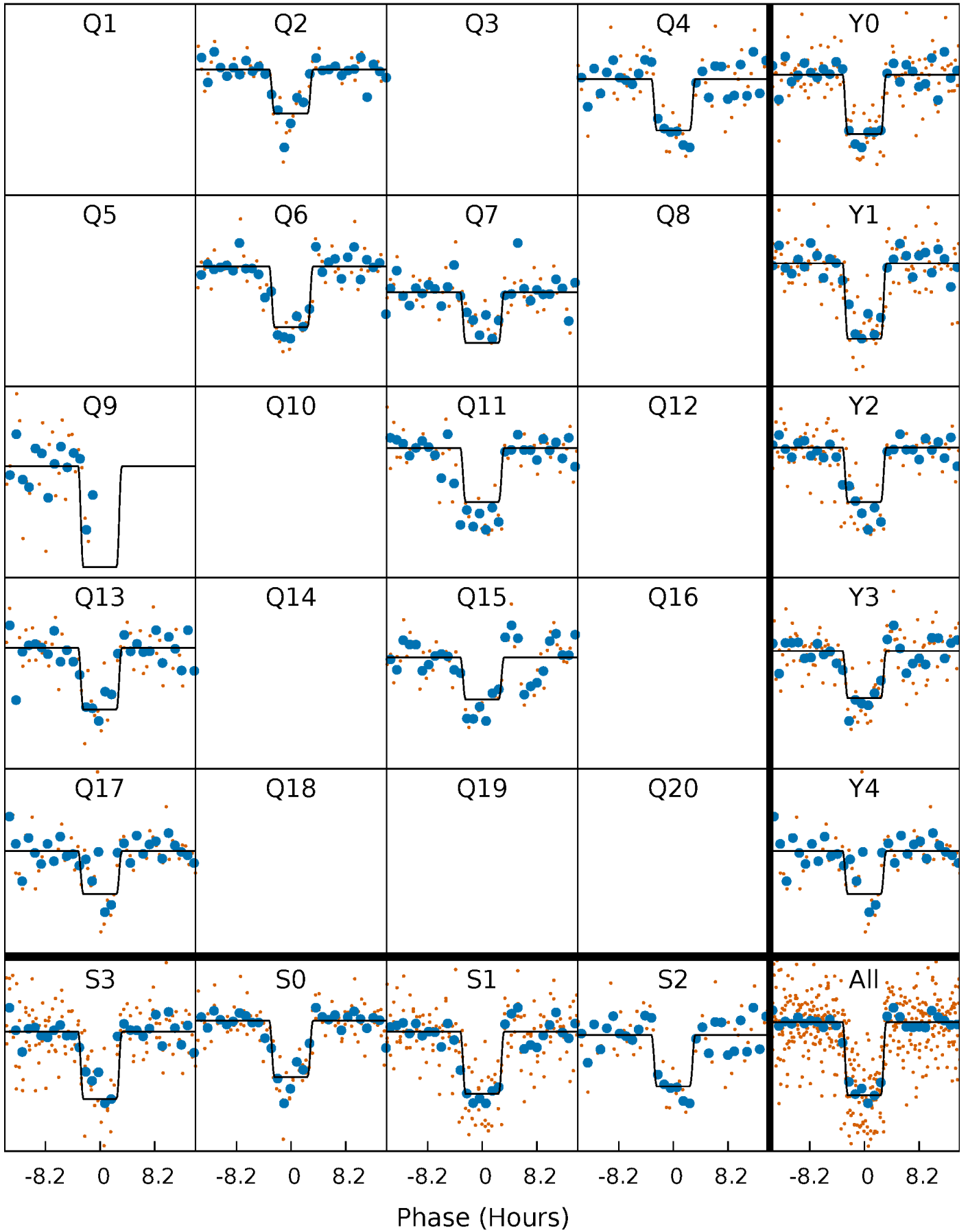
DV Quarter-Phased Transit Curves

TCE 011415243-01 P=168.811077 Days $T_0=211.437964$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

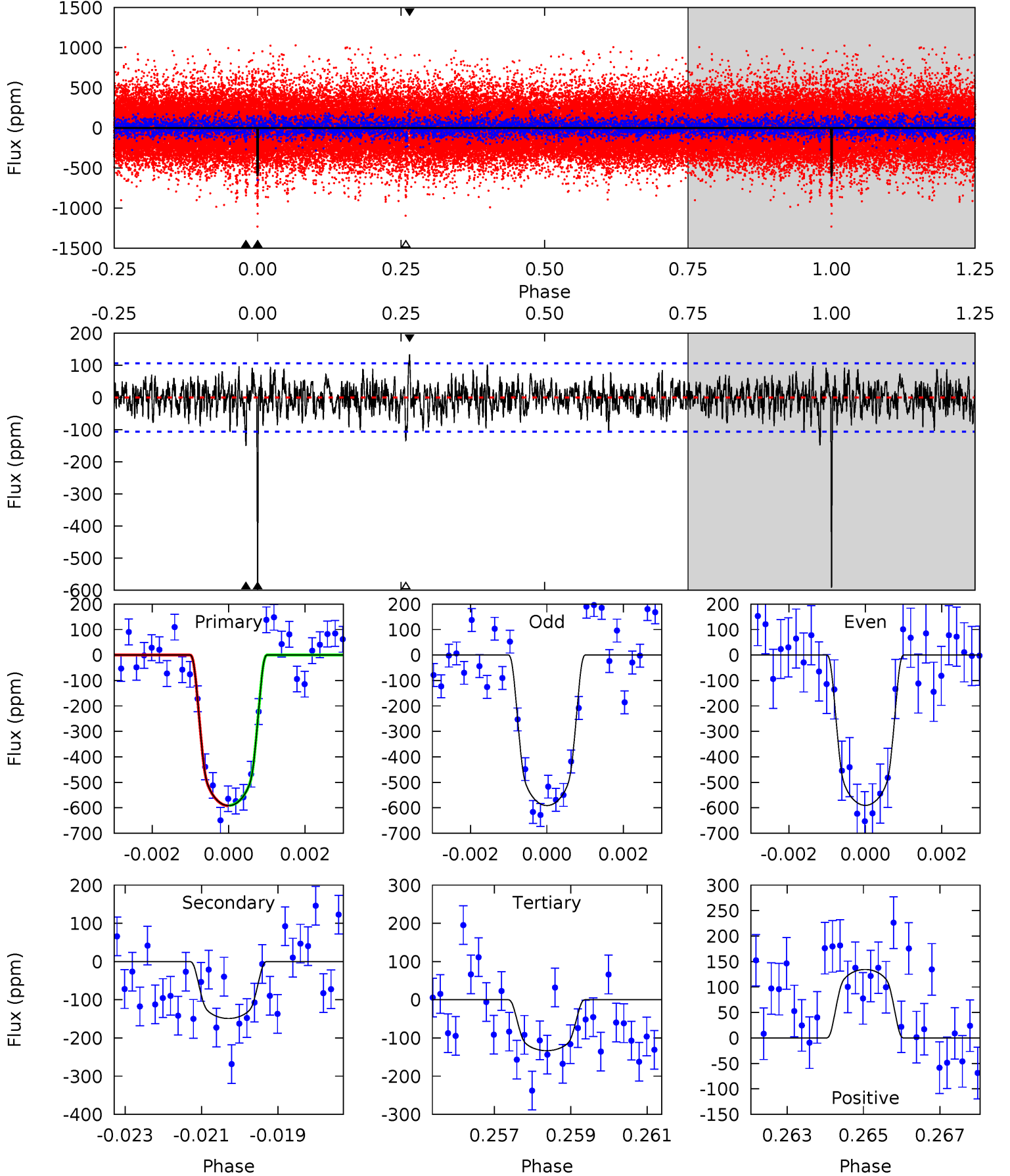
TCE 011415243-01 P=168.812536 Days $T_0=211.438059$ (BKJD)



DV Model-Shift Uniqueness Test

011415243-01, $P = 168.811077$ Days, $E = 42.626887$ Days

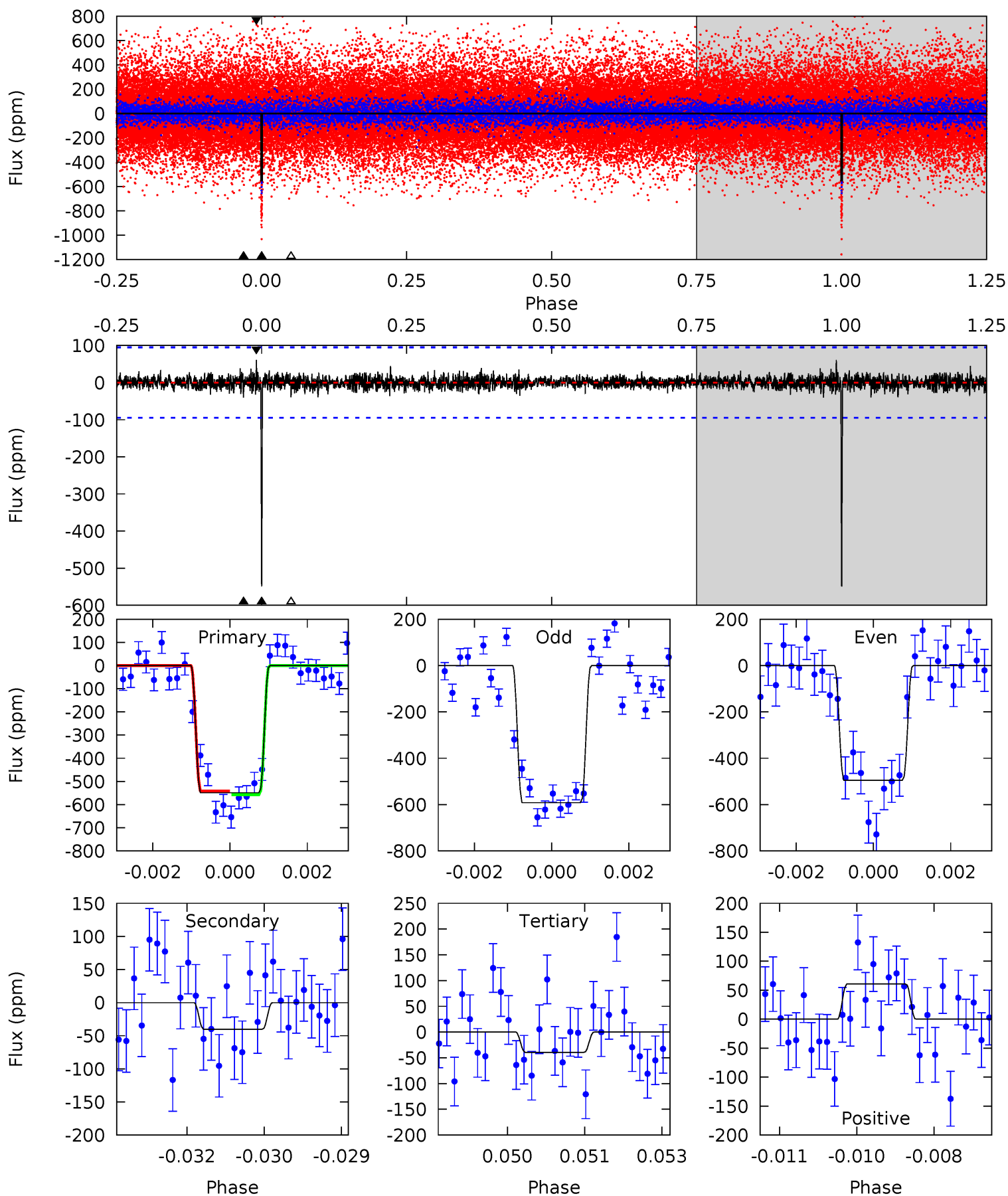
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	7.46	6.67	6.73	5.33	3.10	1.70	22.9	22.9	0.79	0.73	0.02	1.01	0.19	0.04



Alt Model-Shift Uniqueness Test

011415243-01, $P = 168.812536$ Days, $E = 42.625523$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.0	2.27	2.23	3.44	5.37	3.16	0.57	28.8	27.6	0.04	-1.17	2.70	0.91	0.10	0.46



Stellar Parameters For KIC 011415243

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4798^{+95}_{-95}	$4.620^{+0.015}_{-0.045}$	$0.000^{+0.150}_{-0.150}$	$0.707^{+0.043}_{-0.025}$	$0.771^{+0.030}_{-0.048}$	$3.076^{+0.244}_{-0.501}$
	+2%/-2%	+0%/-1%	+inf%/-inf%	+6%/-4%	+4%/-6%	+8%/-16%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 011415243-01 / KOI 4036.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-149 ± 20	$2.20^{+0.16}_{-0.14}$	339^{+7}_{-8}	3546^{+112}_{-118}	4960^{+1061}_{-818}
Alt.	-40 ± 18	$1.83^{+0.14}_{-0.14}$	339^{+8}_{-8}	3078^{+175}_{-237}	1978^{+880}_{-874}

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

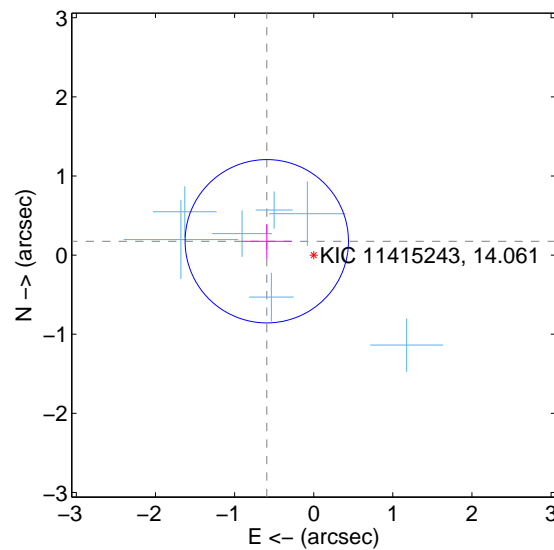
Supplemental centroid analysis for 011415243-01. Kepler magnitude: 14.06. Transit SNR 15.48

There are 7 quarters with good PRF difference image offsets

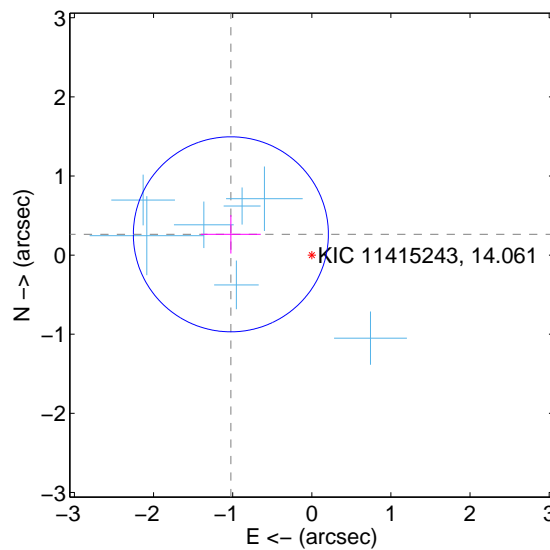
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.618 ± 0.344	1.80	0.593 ± 0.315	0.175 ± 0.217
PRF-fit source offset from KIC position	1.056 ± 0.411	2.57	1.022 ± 0.378	0.263 ± 0.244
photometric centroid source offset	0.65 ± 0.63	1.04	0.51 ± 0.64	0.41 ± 0.61

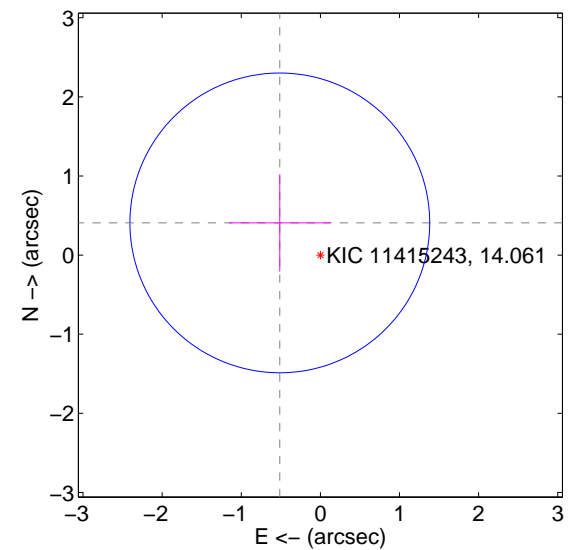
offset from difference PRF-fit to OOT PRF-fit



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.

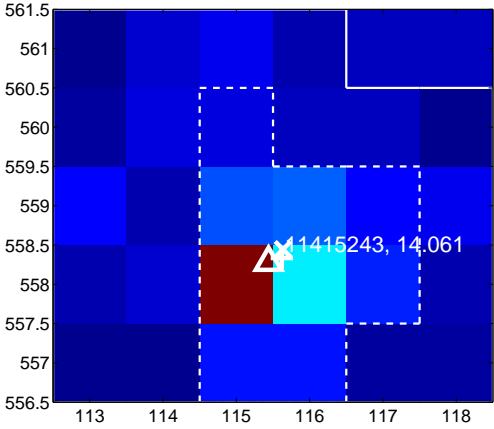
Q1 no difference image



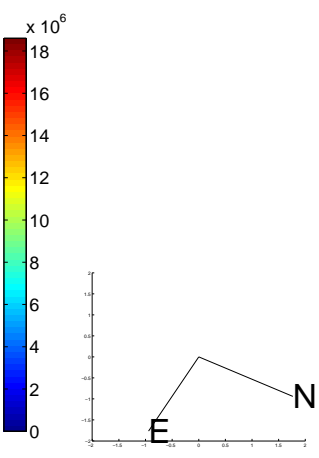
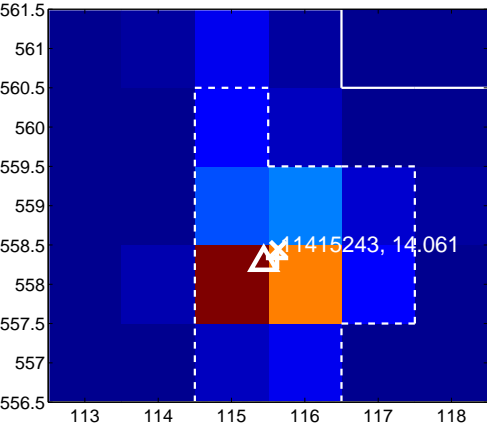
Q1 no OOT image



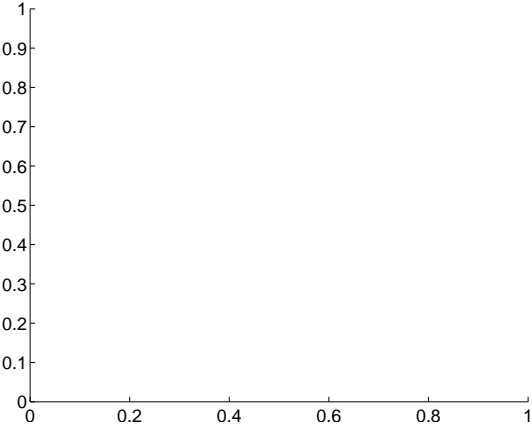
Q2 difference image



Q2 OOT image



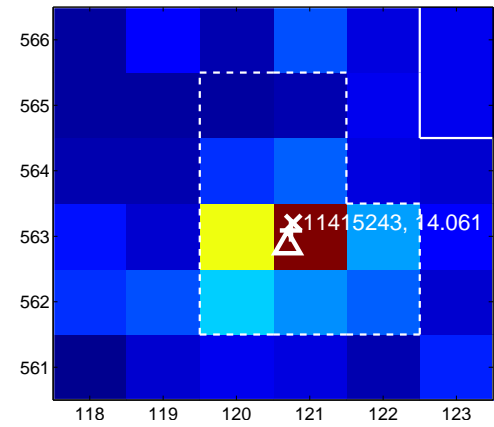
Q3 no difference image



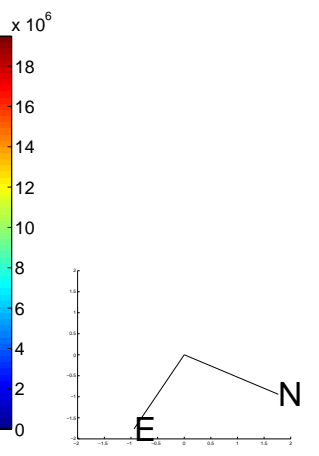
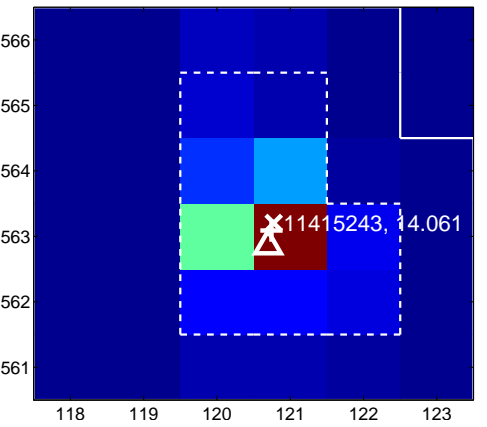
Q3 no OOT image



Q4 difference image



Q4 OOT image



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

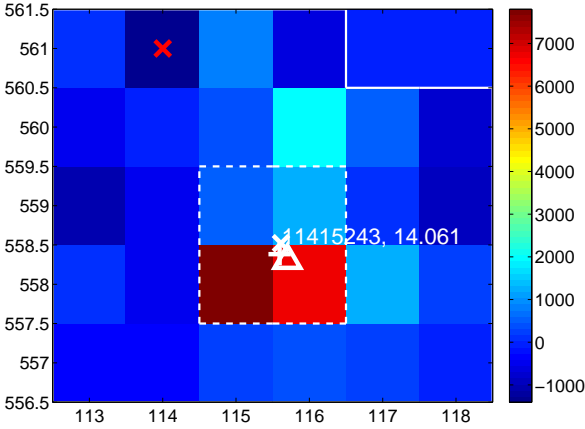
Q5 no difference image



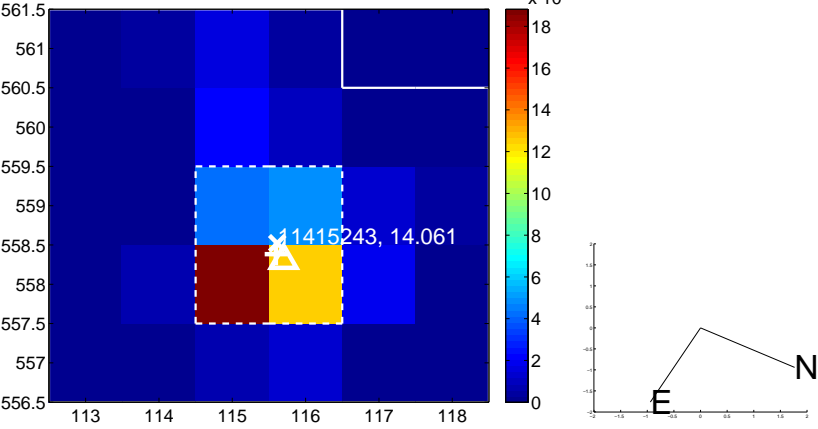
Q5 no OOT image



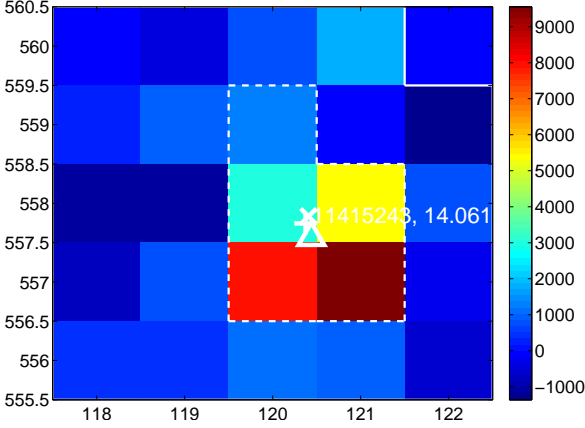
Q6 difference image



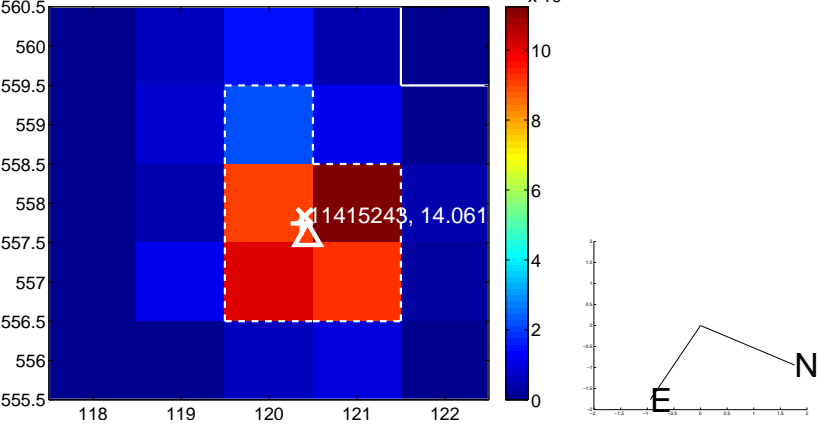
Q6 OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



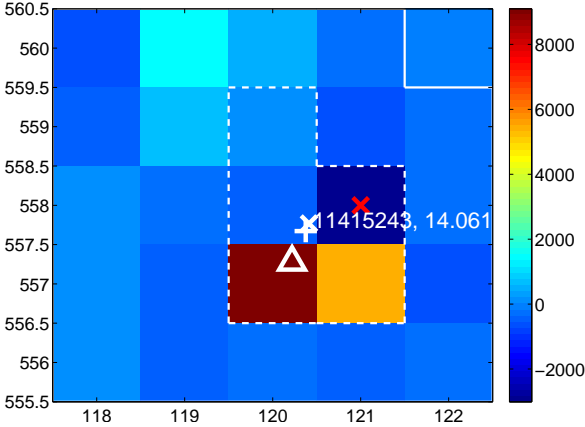
Q10 no difference image



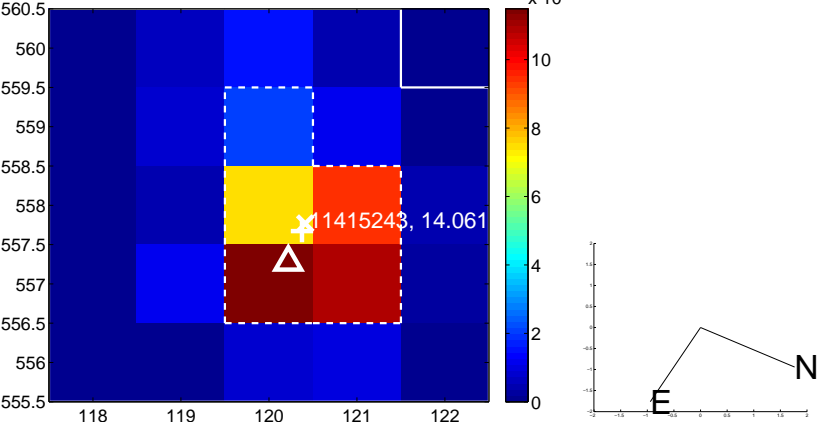
Q10 no OOT image



Q11 difference image



Q11 OOT image



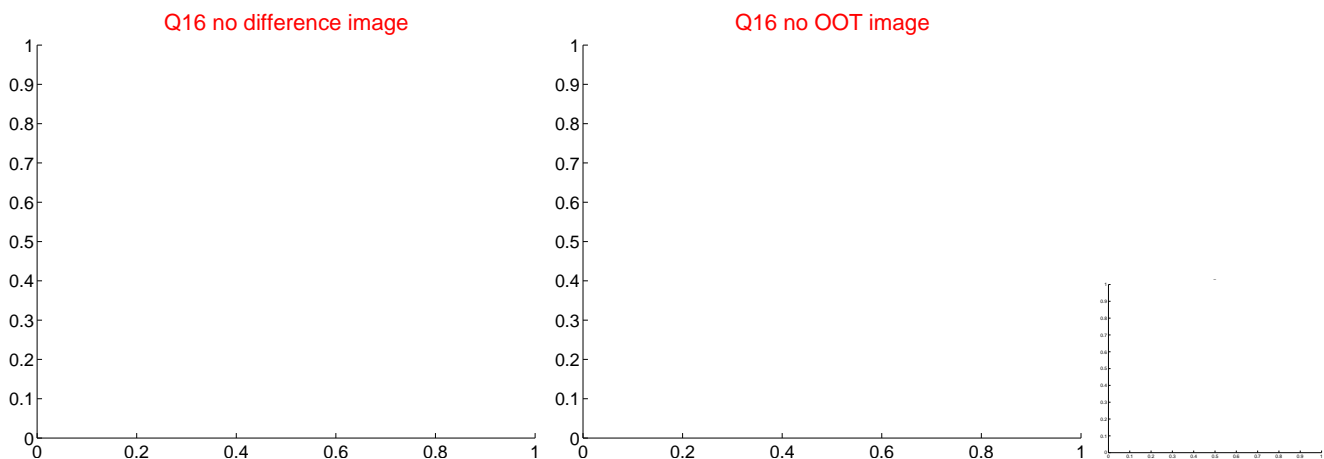
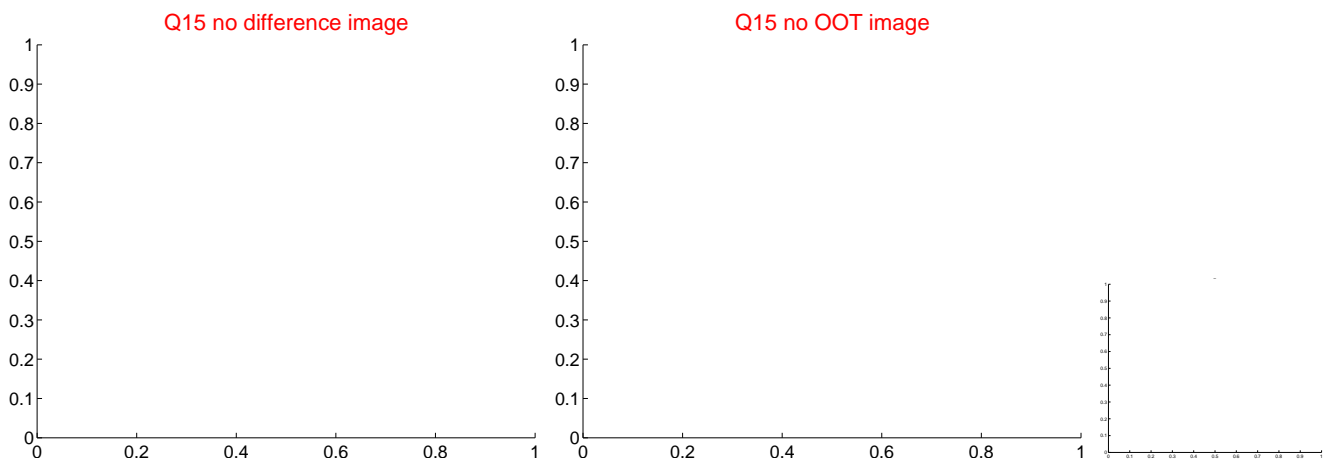
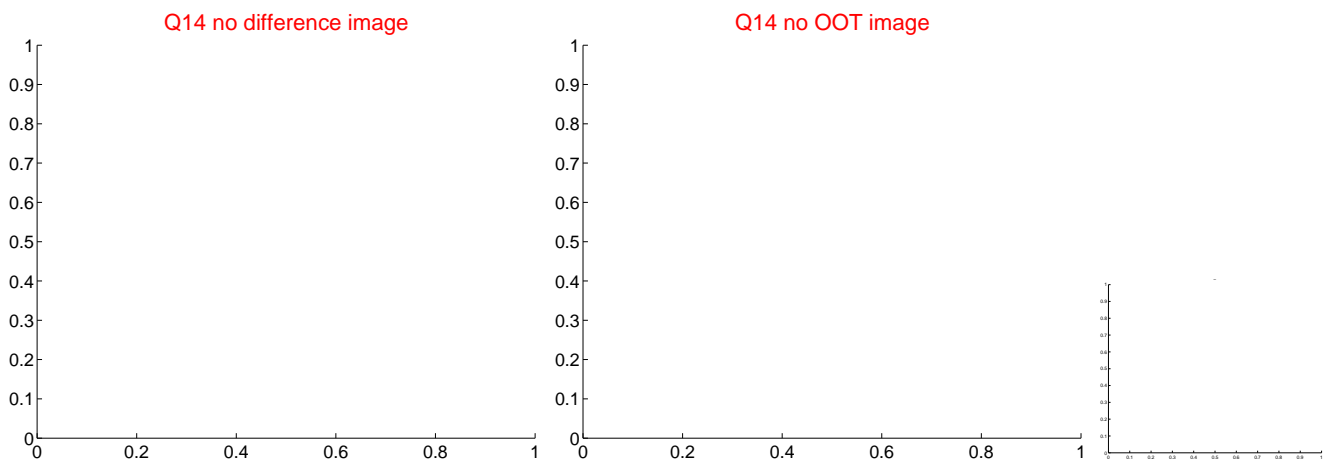
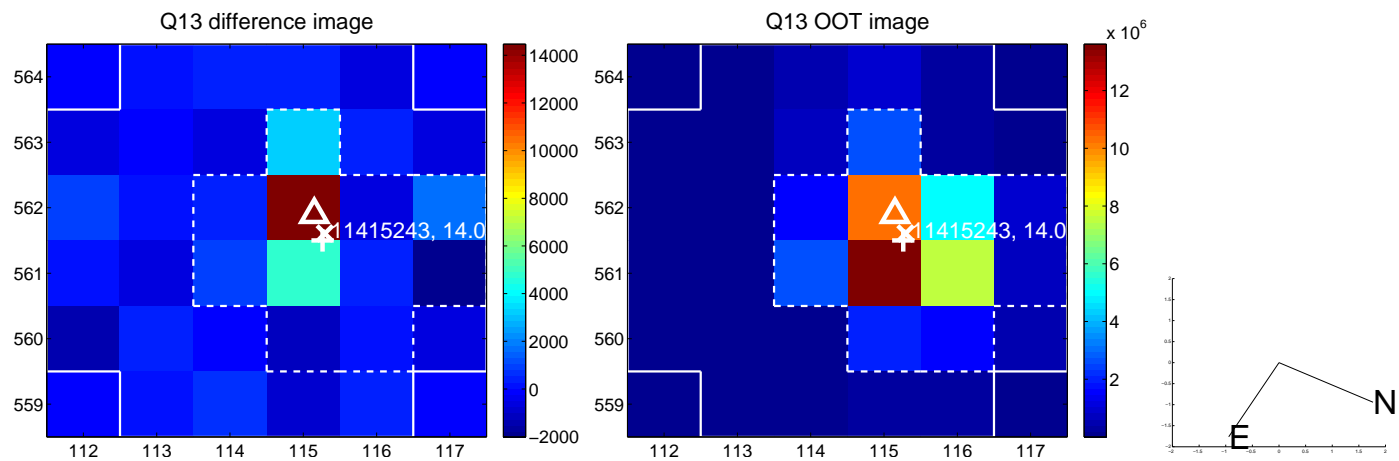
Q12 no difference image



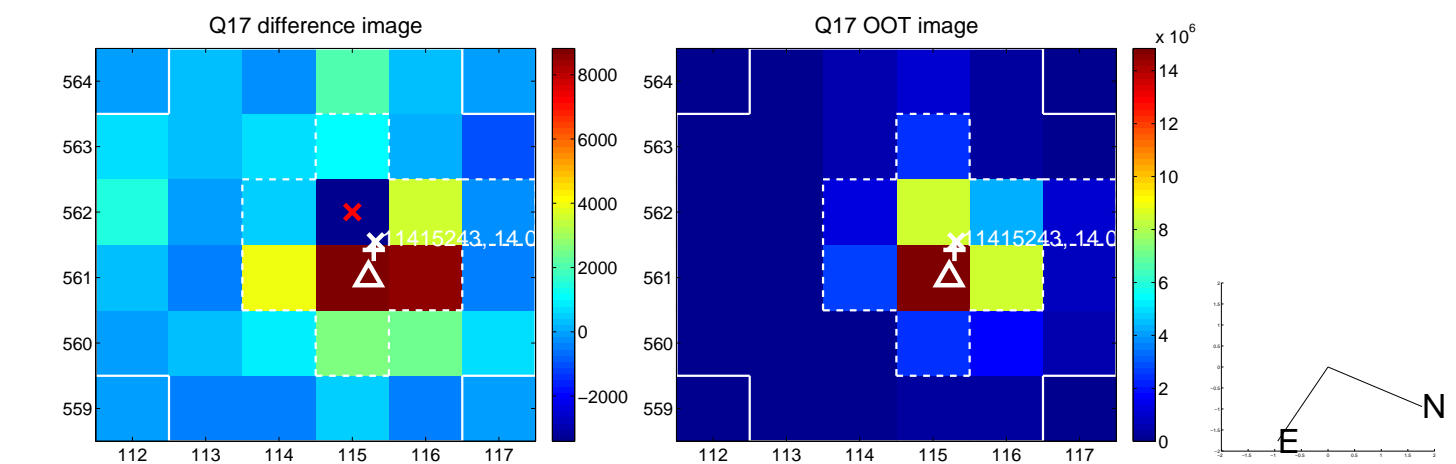
Q12 no OOT image



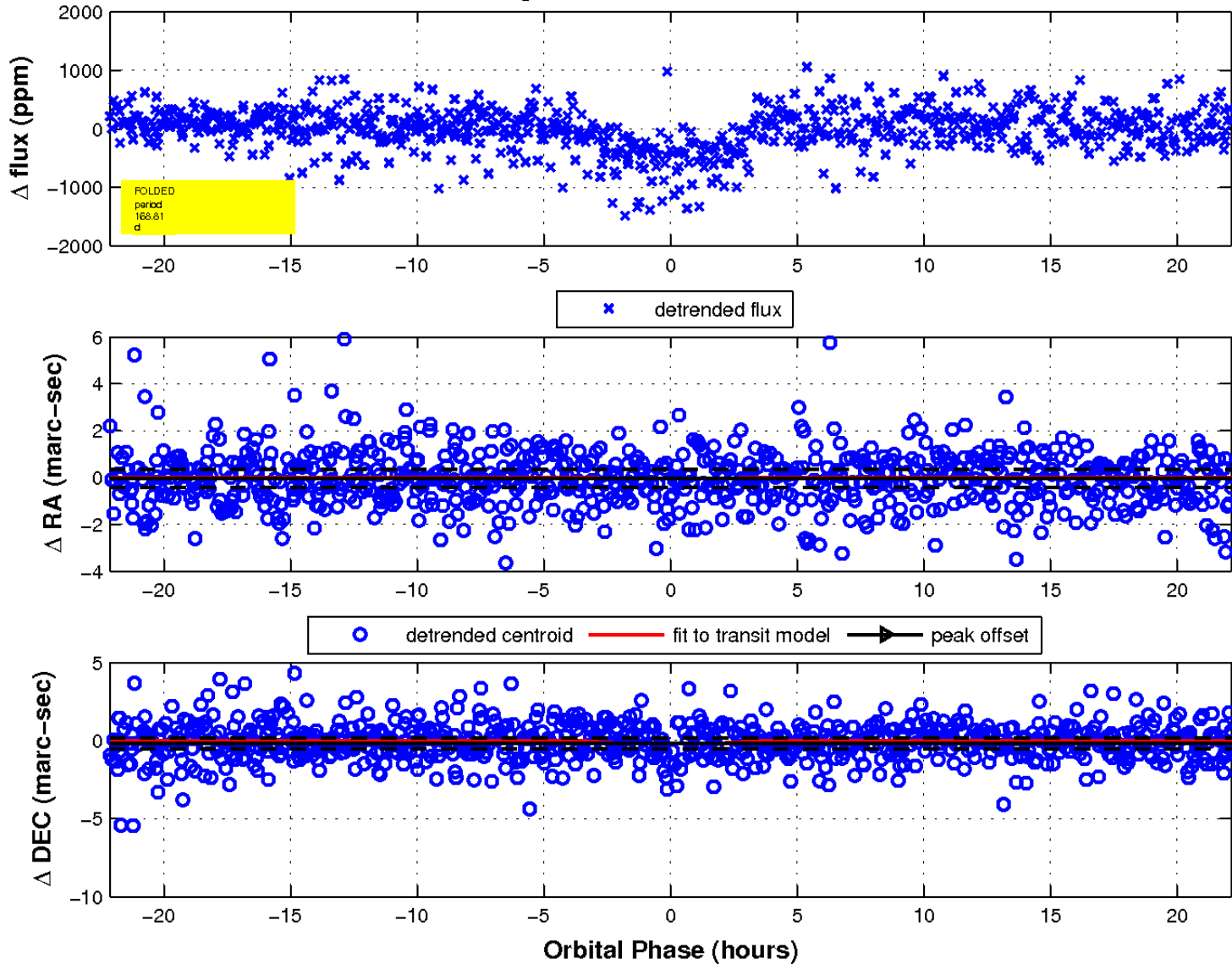
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

