

KIC 010123064

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})
010123064-01	OBS	0472.01	4.243743	135.370211	1359.4	3.421	107.5	116.6	0.84	5873	3.30	302.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010123064-01	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.

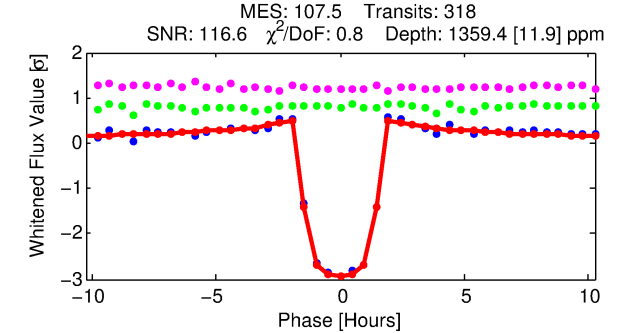
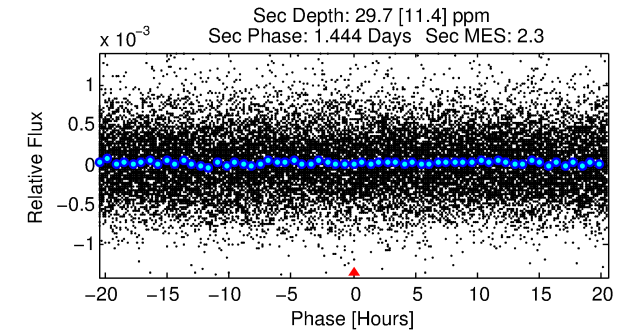
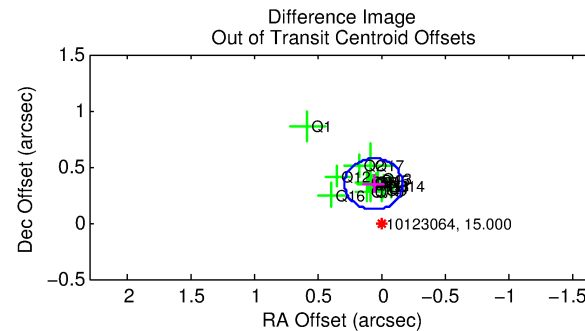
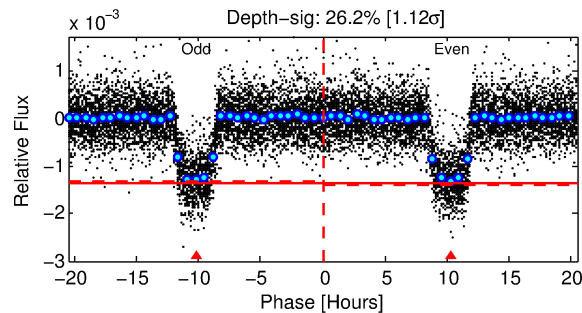
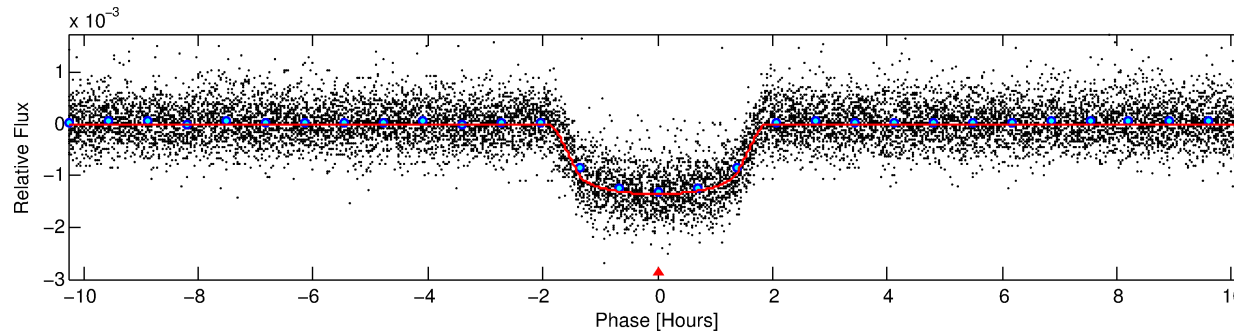
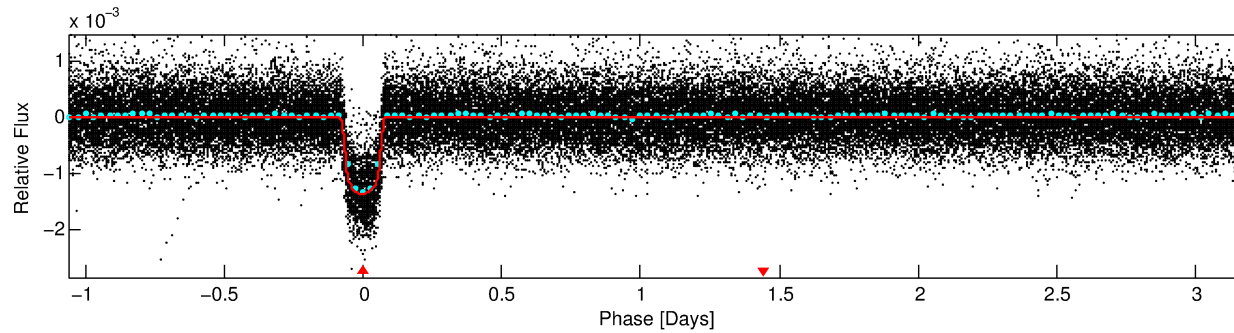
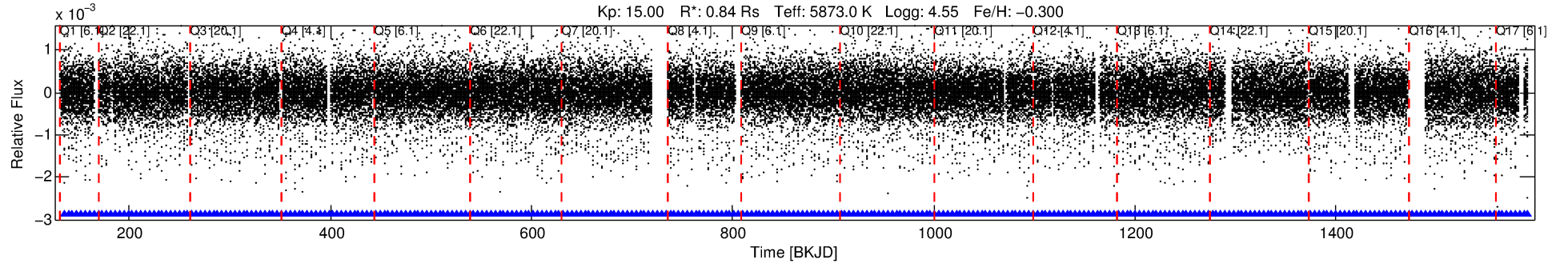
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010123064-01

No Significant Match Found

DV One-Page Summary

KIC: 10123064 Candidate: 1 of 1 Period: 4.244 d
KOI: K00472.01 Corr: 0.992



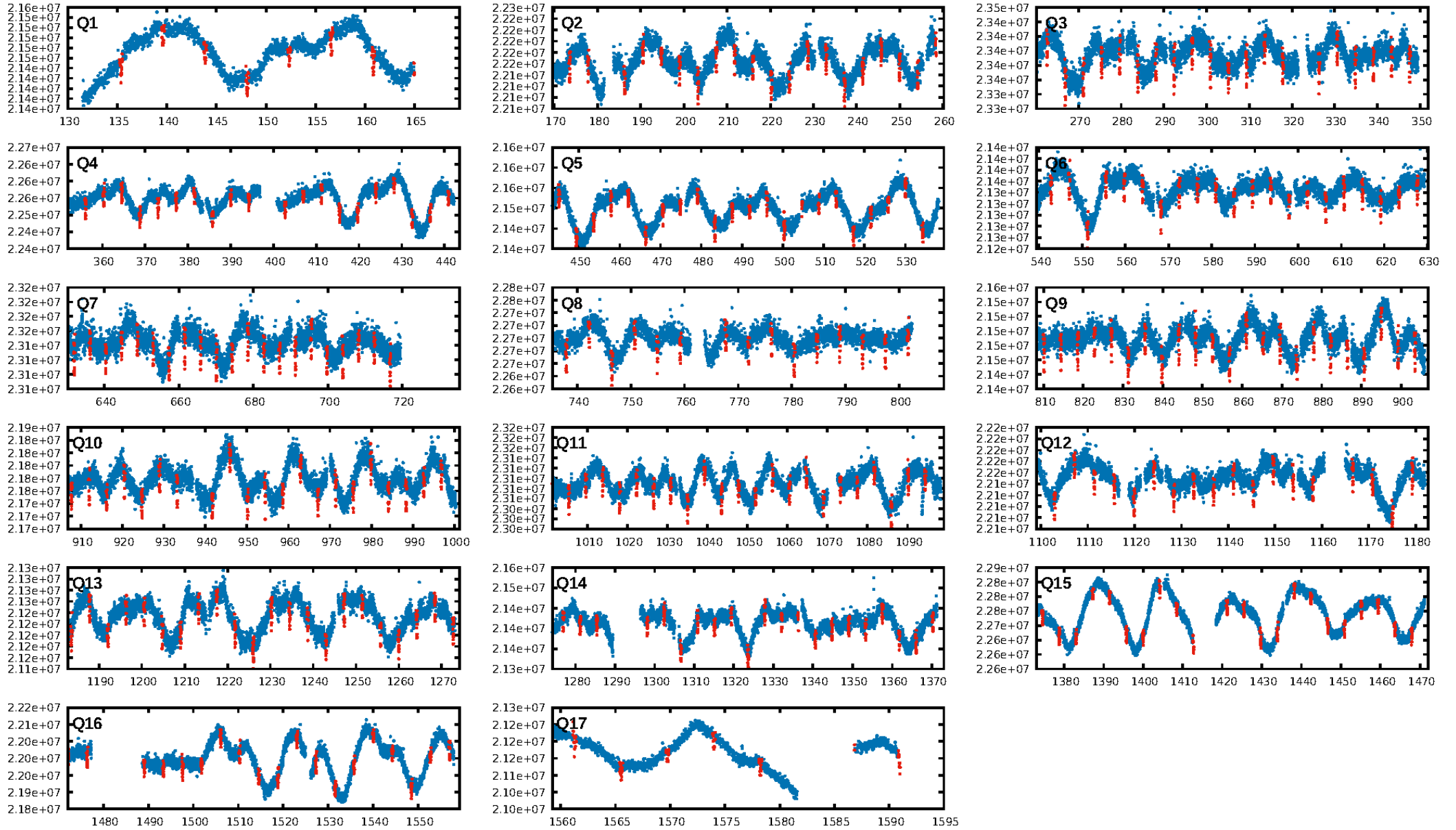
DV Fit Results:

Period = 4.24374 [0.00000] d
Epoch = 135.3702 [0.0004] BKJD
Rp/R* = 0.0358 [0.0022]
a/R* = 7.53 [2.12]
b = 0.67 [0.24]
Seff = 302.38 [116.37]
Teff = 1063 [102] K
Rp = 3.30 [0.99] Re
a = 0.0501 [0.0126] AU
Ag = 3.77 [2.06] [1.34 σ]
Teffp = 2290 [239] K [4.72 σ]

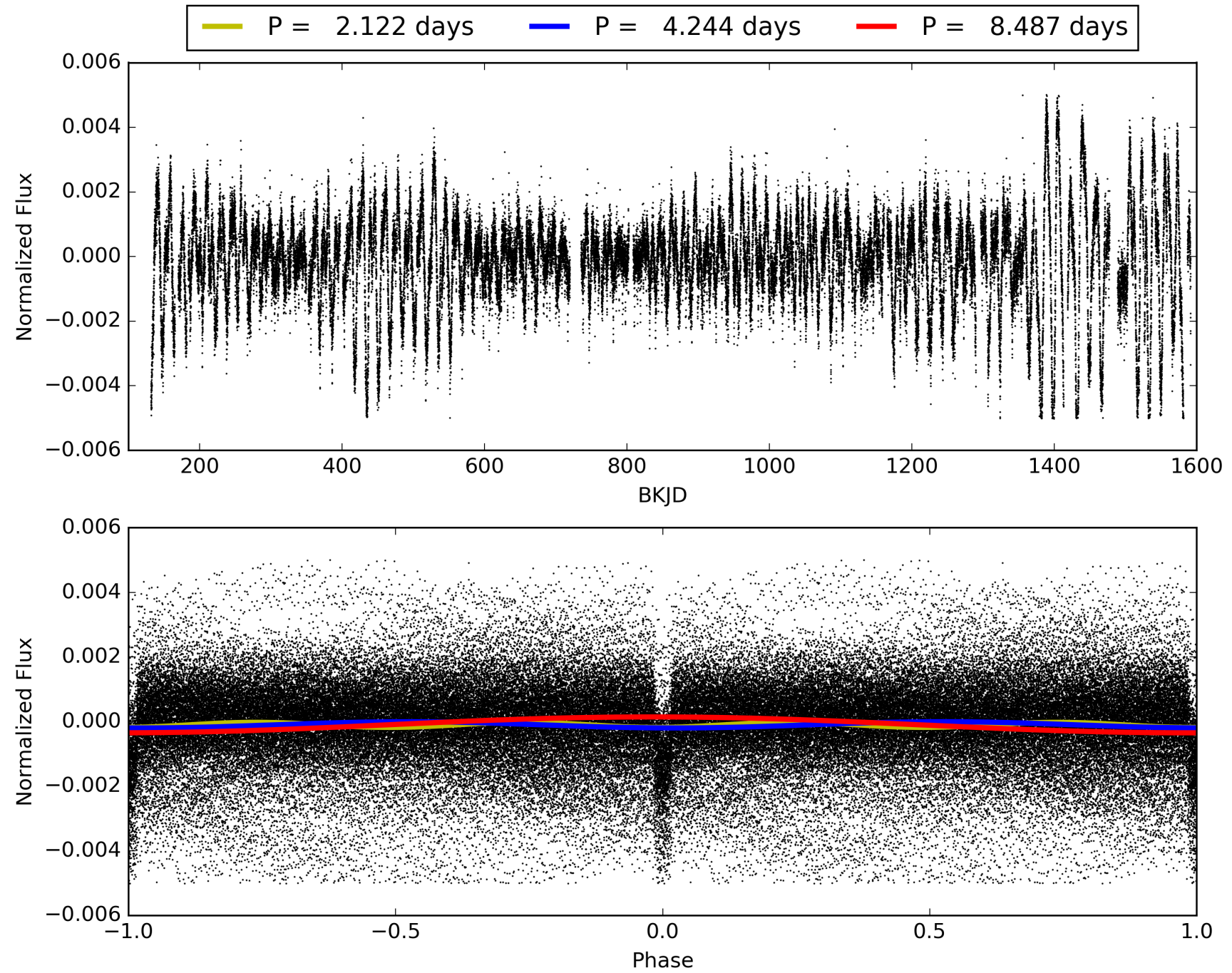
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [305/305]
GhostDiagnostic-chr: 3.574
Centroid-sig: 0.0%
Centroid-so: 0.865 arcsec [8.63 σ]
OotOffset-rm: 0.351 arcsec [4.62 σ]
KicOffset-rm: 0.569 arcsec [6.78 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]

TCE 010123064-01, PDC Light Curves

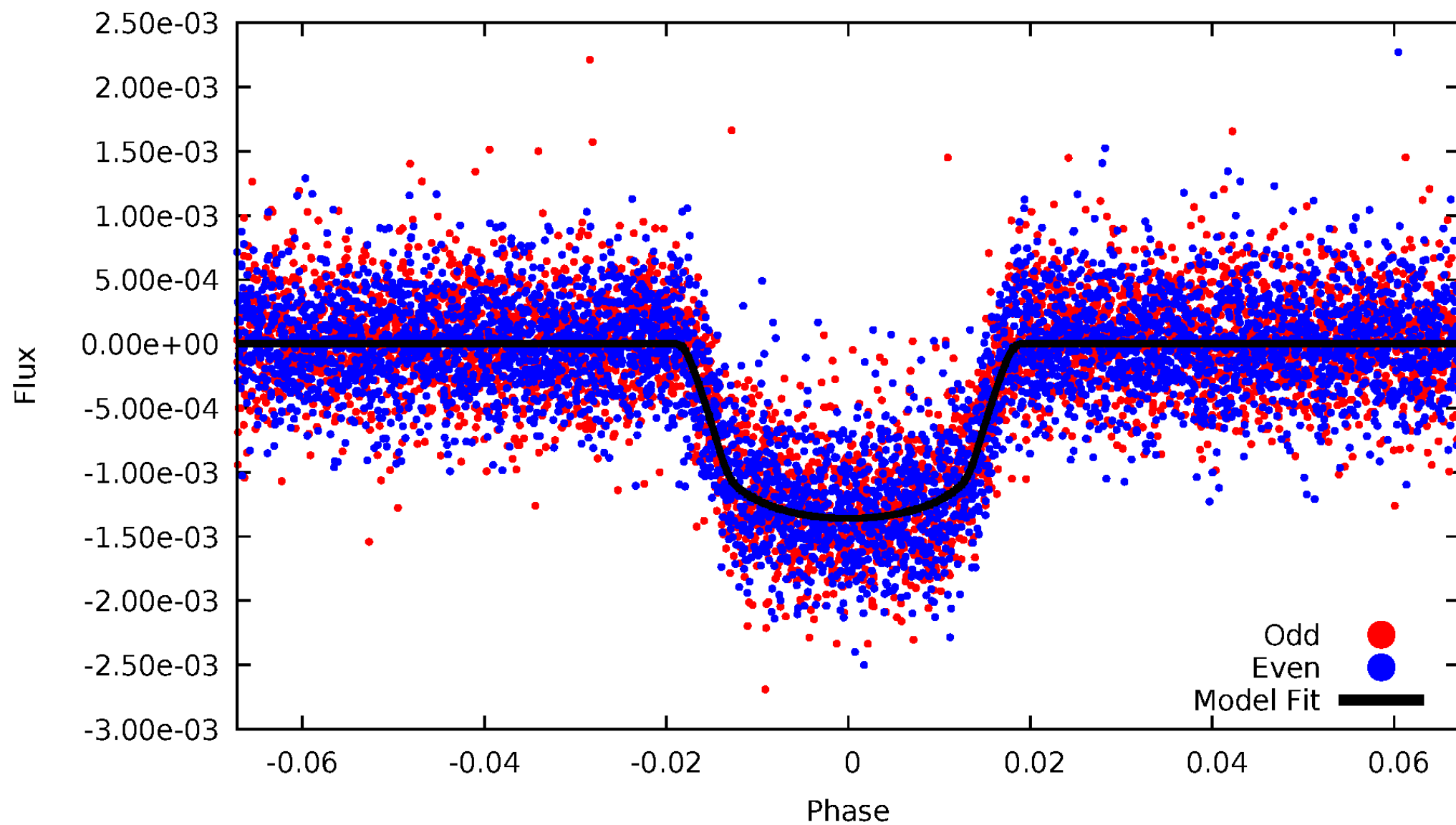


TCE 010123064-01



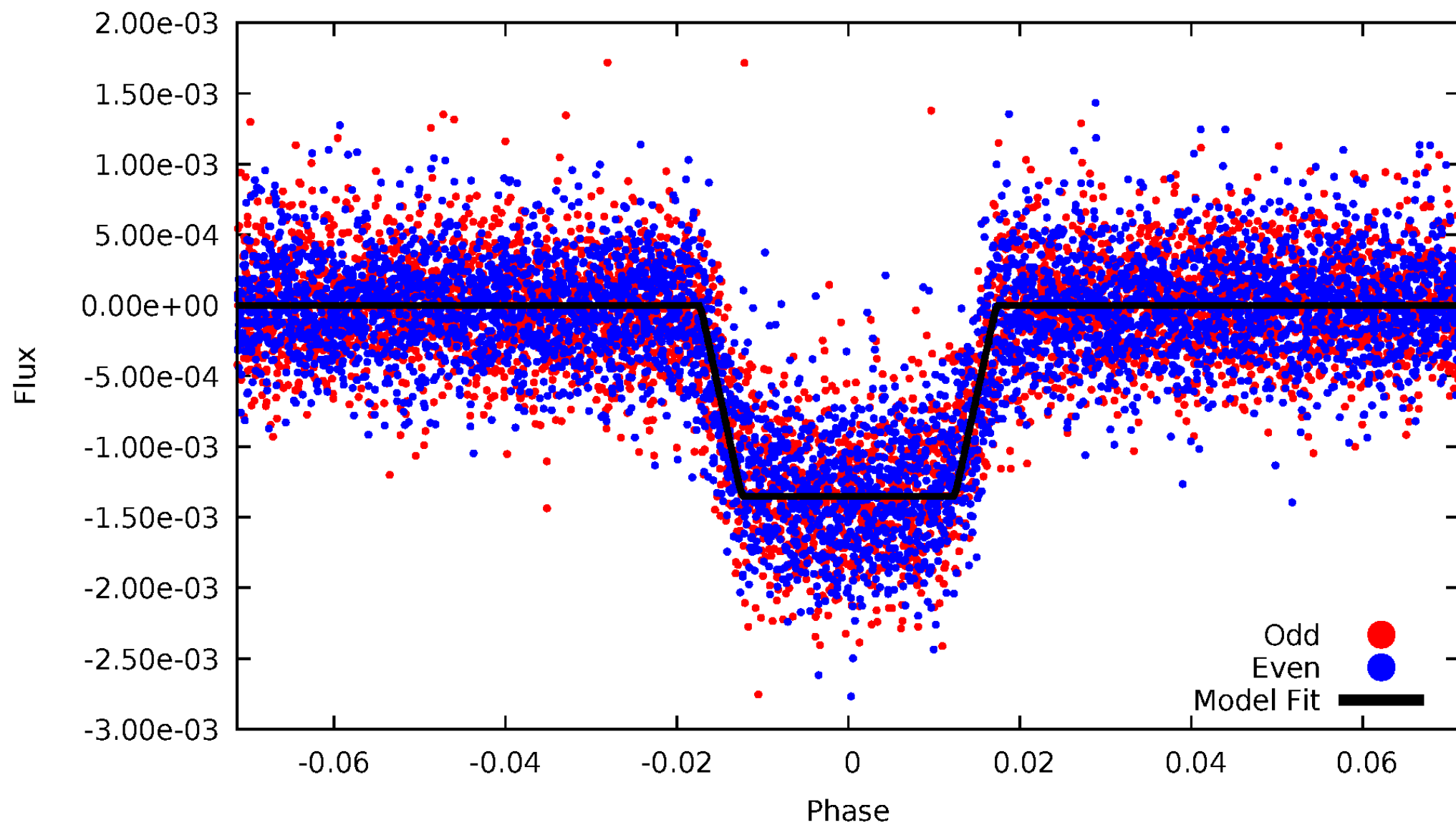
DV Odd/Even

TCE 010123064-01



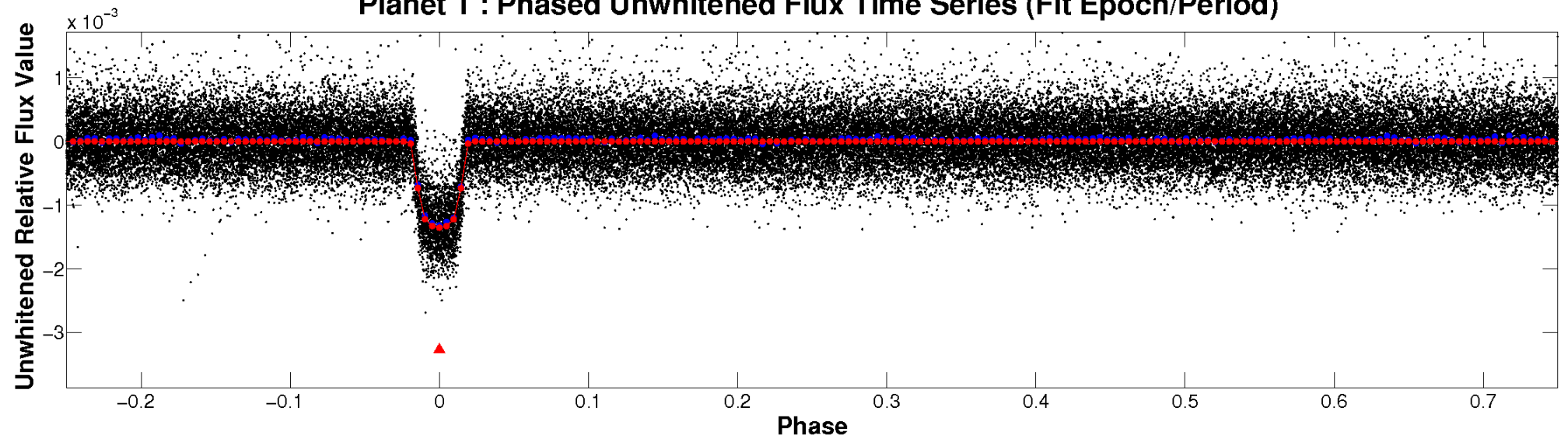
ALT Odd/Even

TCE 010123064-01

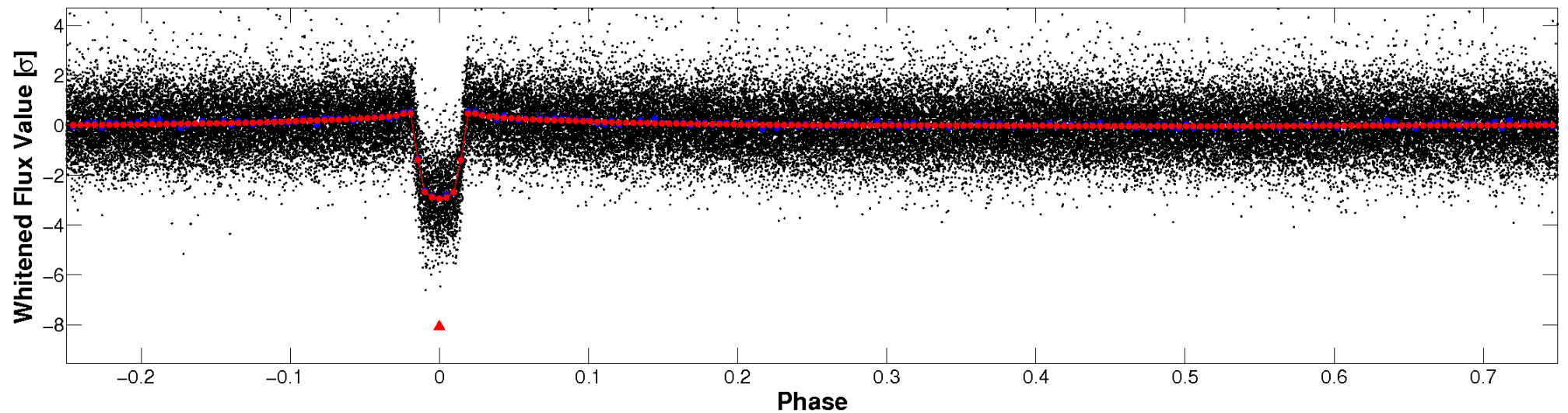


Non-Whitened Vs. Whitened Light Curve

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

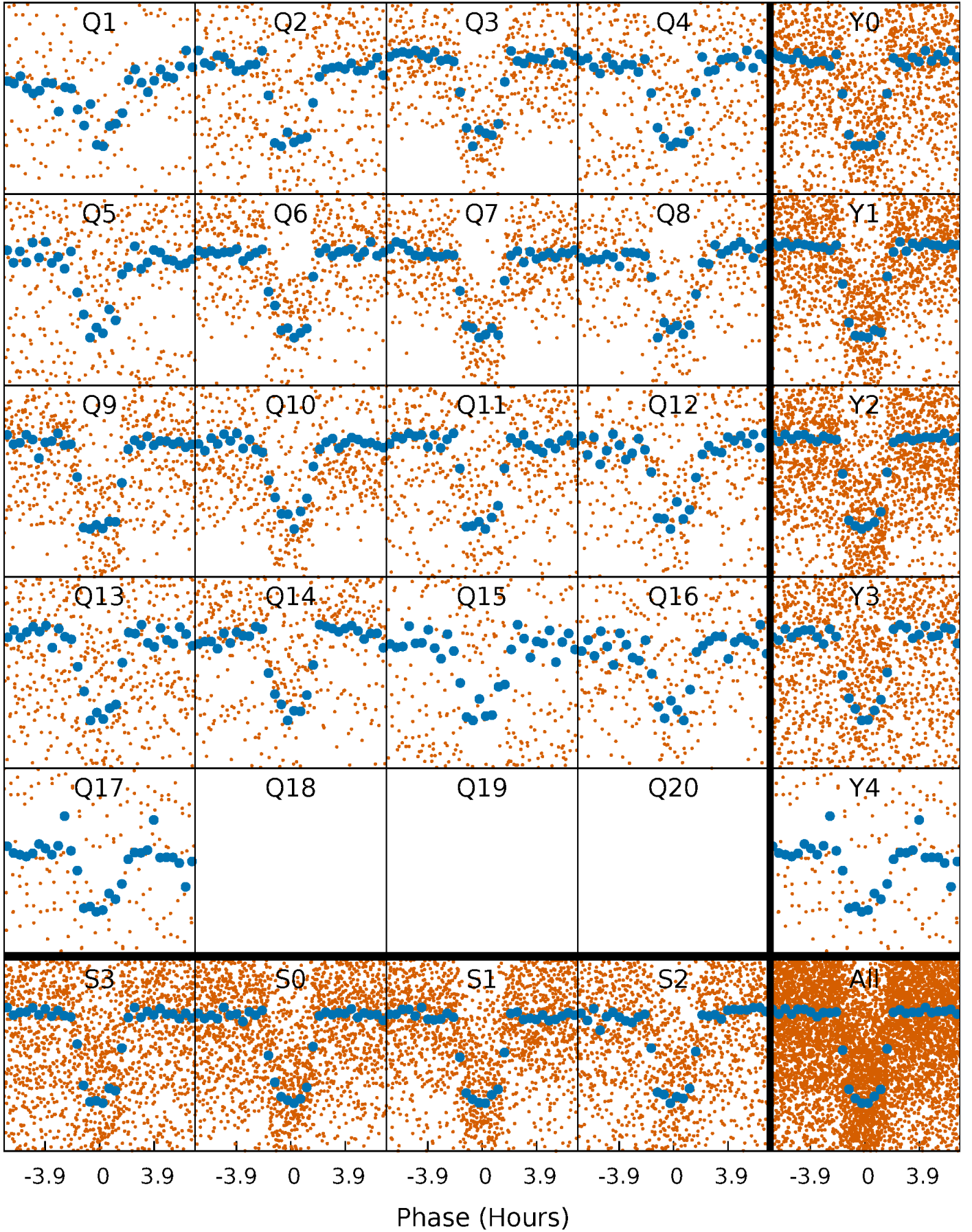


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



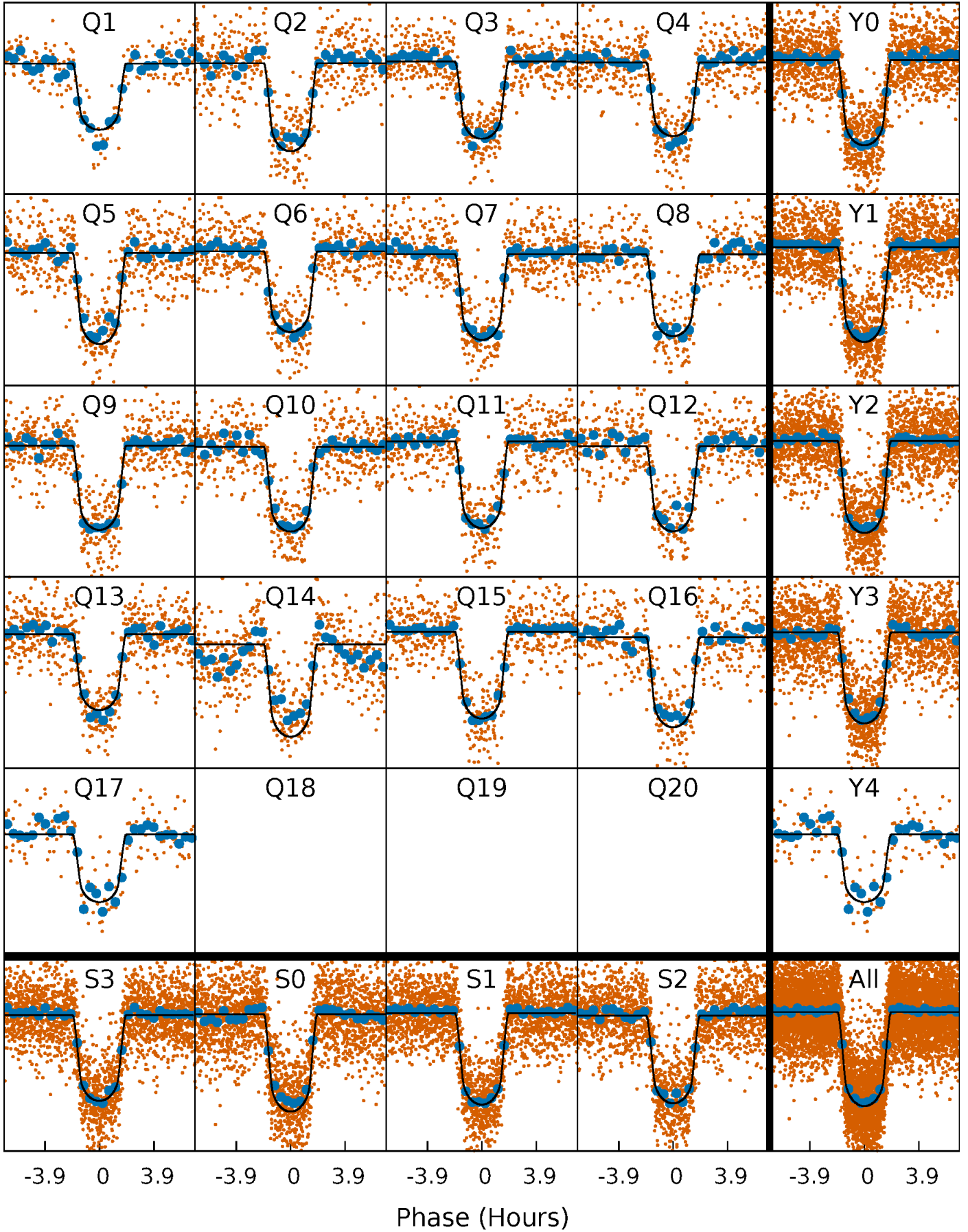
PDC Quarter-Phased Transit Curves

TCE 010123064-01 P= 4.243743 Days $T_0=135.370211$ (BKJD)



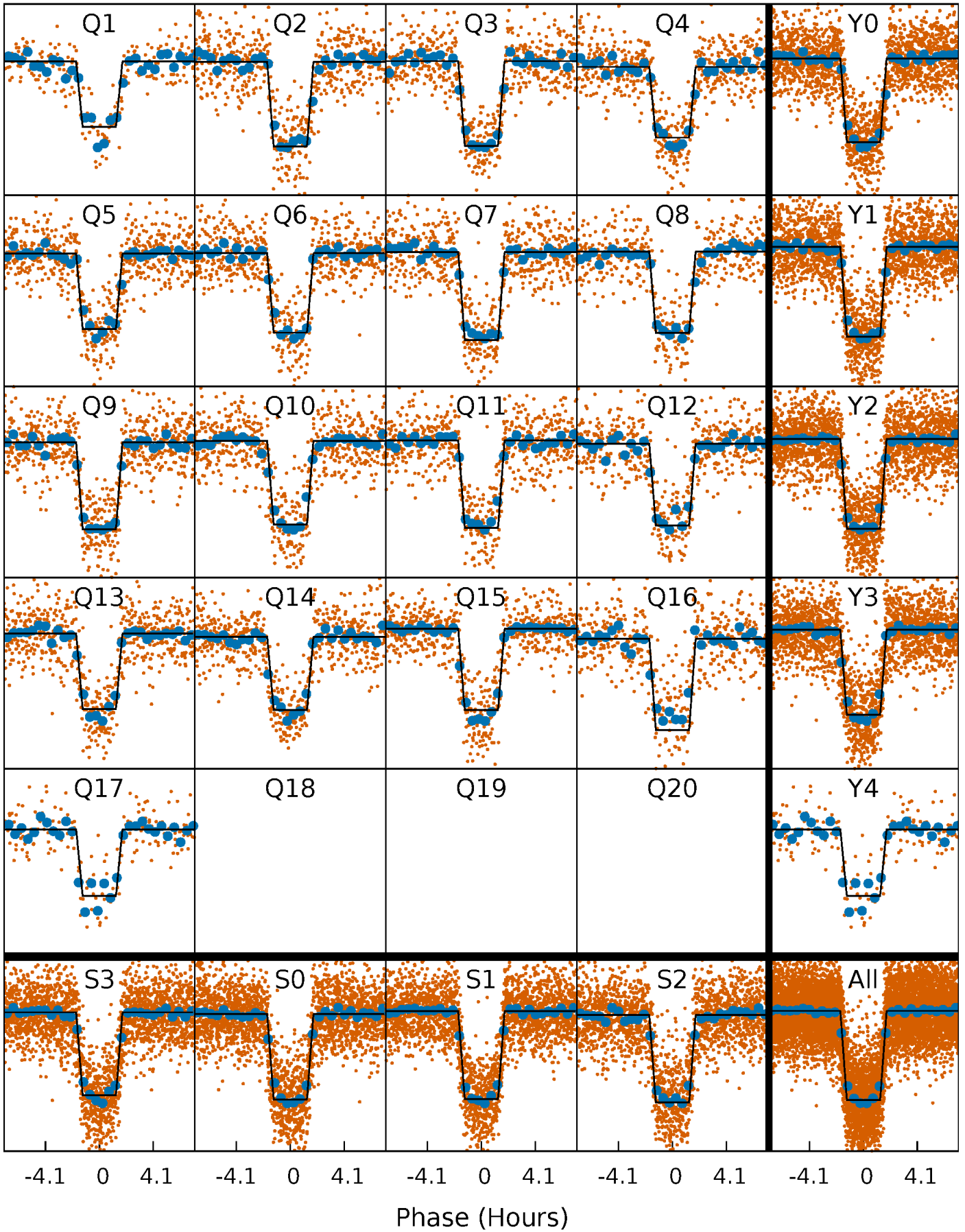
DV Quarter-Phased Transit Curves

TCE 010123064-01 P= 4.243743 Days $T_0=135.370211$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

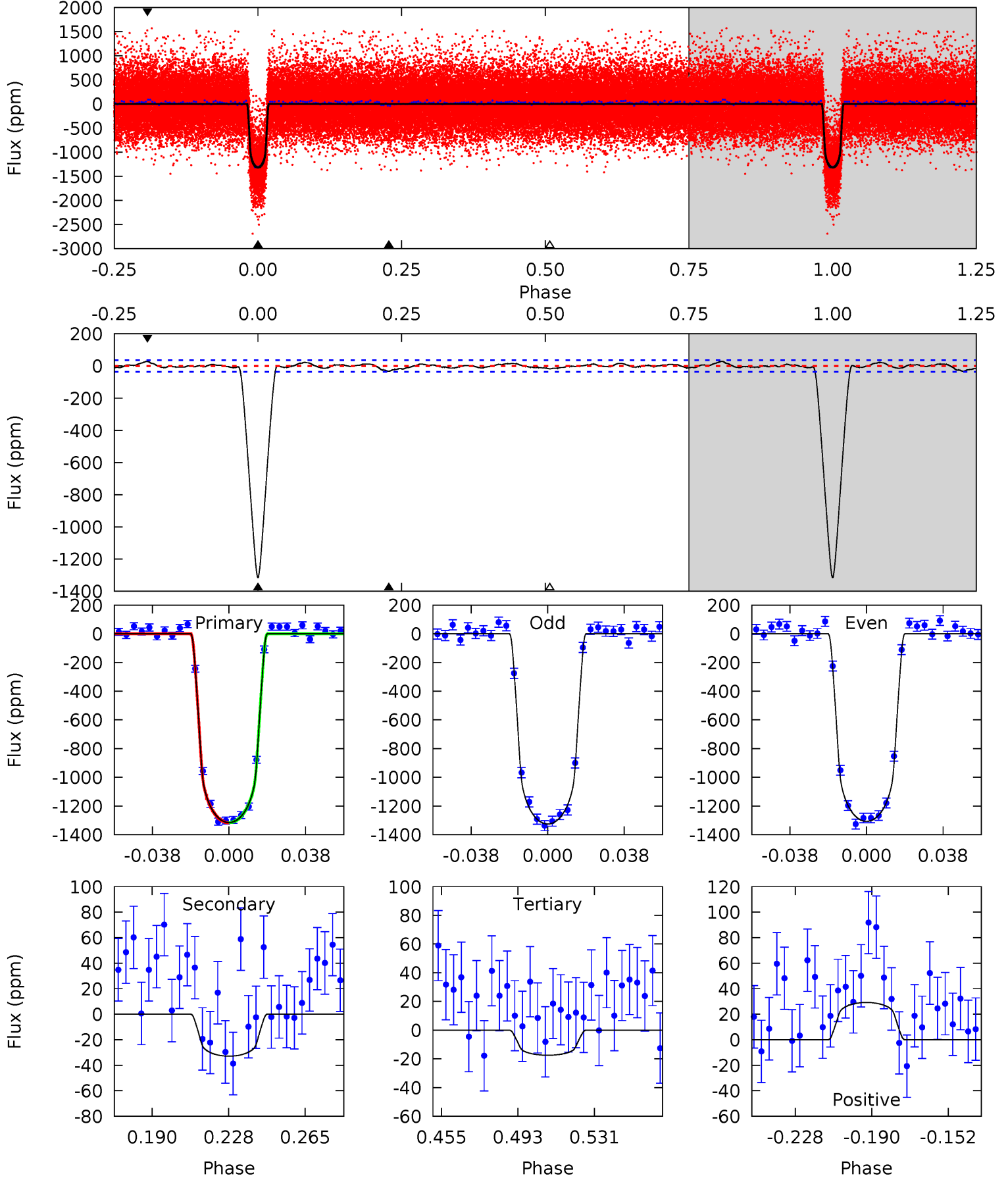
TCE 010123064-01 P= 4.243778 Days $T_0=135.364220$ (BKJD)



DV Model-Shift Uniqueness Test

010123064-01, P = 4.243743 Days, E = 131.126468 Days

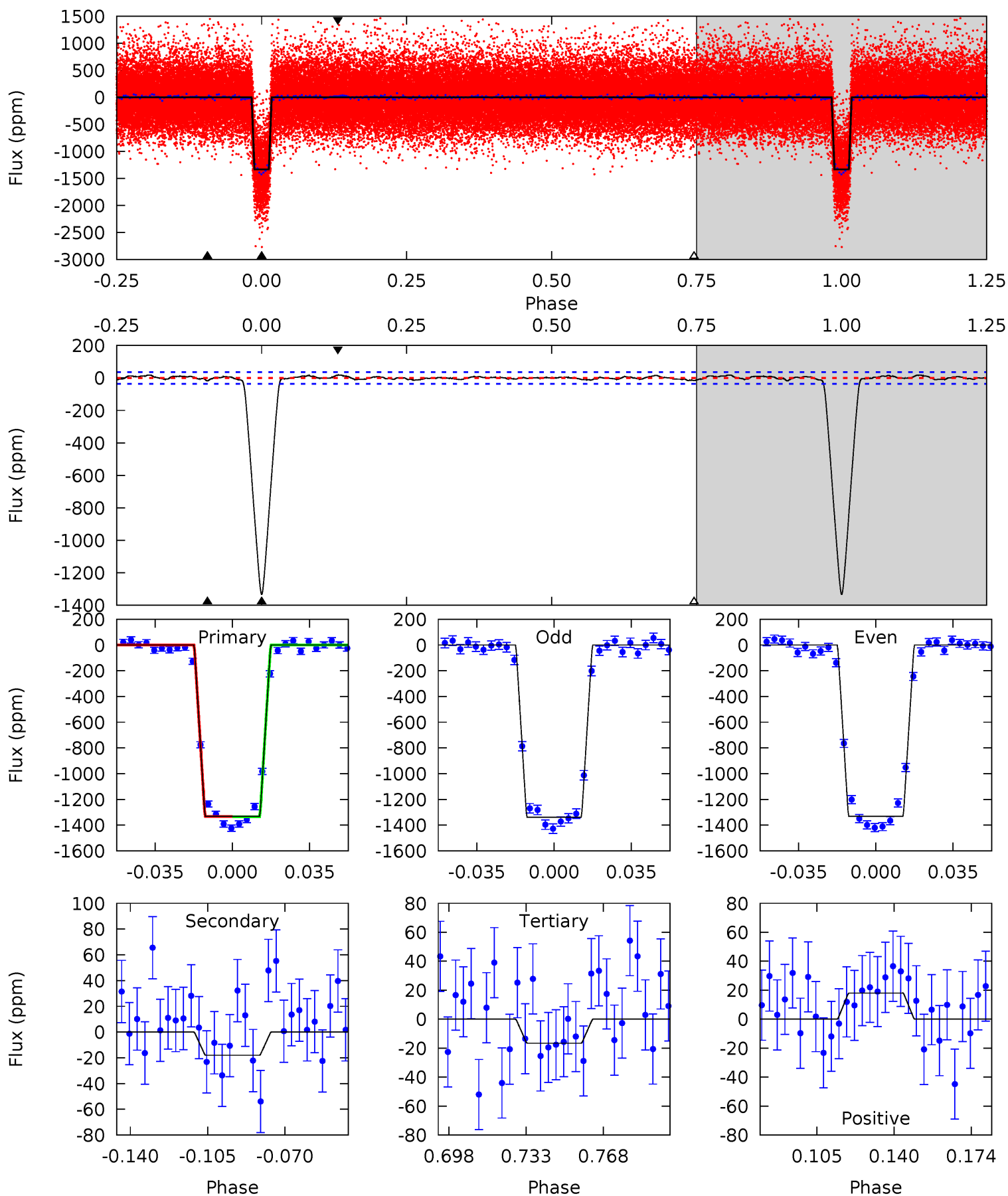
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
175.1	4.38	2.32	3.89	4.76	2.08	1.18	172.8	171.2	2.05	0.49	1.23	0.98	0.02	0.09



Alt Model-Shift Uniqueness Test

010123064-01, P = 4.243778 Days, E = 131.120442 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
178.7	2.42	2.22	2.42	4.78	2.11	0.98	176.4	176.2	0.19	-0.00	0.38	1.00	0.01	0.06



Stellar Parameters For KIC 010123064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5873^{+158}_{-158}	$4.554^{+0.036}_{-0.204}$	$-0.300^{+0.300}_{-0.300}$	$0.843^{+0.248}_{-0.083}$	$0.930^{+0.108}_{-0.108}$	$2.183^{+0.420}_{-1.094}$
	+3%/-3%	+1%/-4%	+100%/-100%	+29%/-10%	+12%/-12%	+19%/-50%
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 010123064-01 / KOI 0472.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-33 ± 8	$3.44^{+0.58}_{-0.32}$	1526^{+101}_{-66}	2975^{+115}_{-134}	$3.644^{+1.209}_{-1.109}$
Alt.	-18 ± 7	$3.55^{+0.55}_{-0.33}$	1531^{+100}_{-71}	2690^{+151}_{-240}	$1.848^{+0.904}_{-0.854}$

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

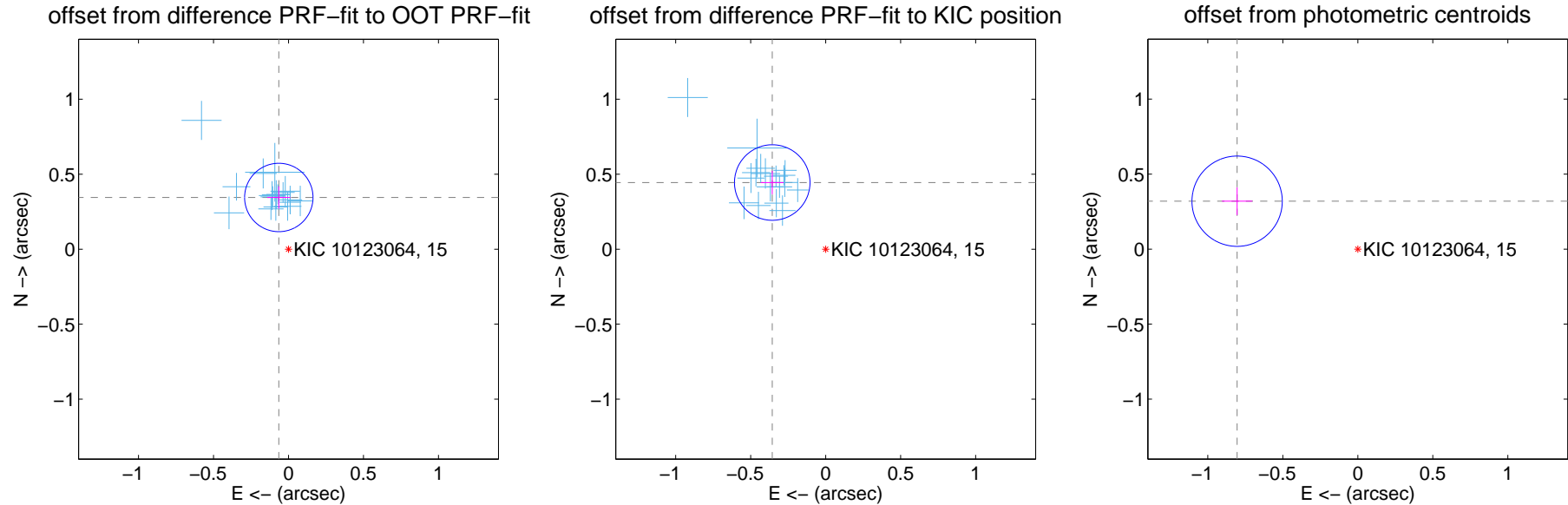
DV Centroid Data

Supplemental centroid analysis for 010123064-01. Kepler magnitude: 15.00. Transit SNR 116.60

There are 17 quarters with good PRF difference image offsets

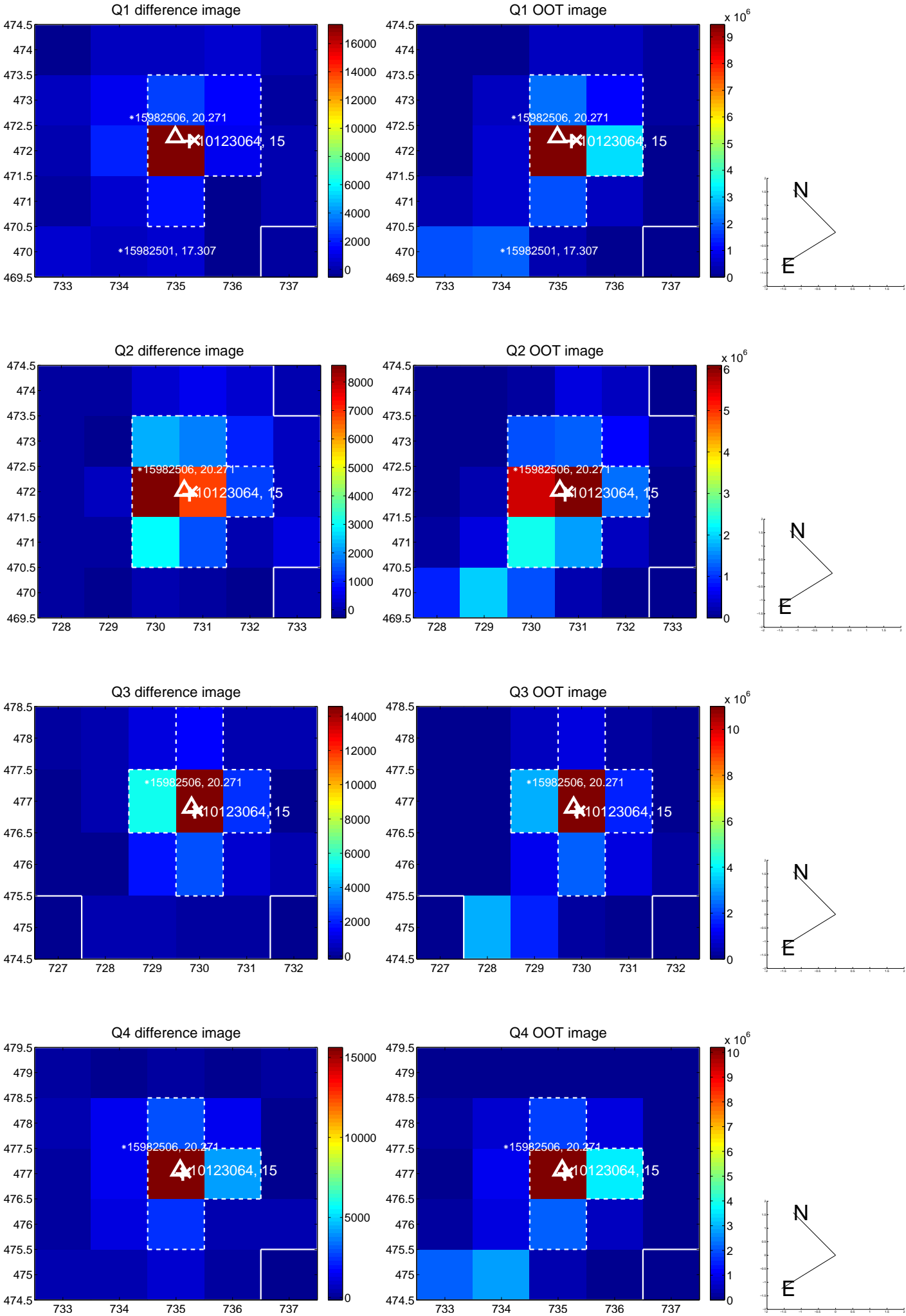
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.351 \pm 0.076	4.62	0.065 \pm 0.078	0.345 \pm 0.074
PRF-fit source offset from KIC position	0.569 \pm 0.084	6.78	0.356 \pm 0.077	0.444 \pm 0.078
photometric centroid source offset	0.87 \pm 0.10	8.63	0.80 \pm 0.10	0.32 \pm 0.09

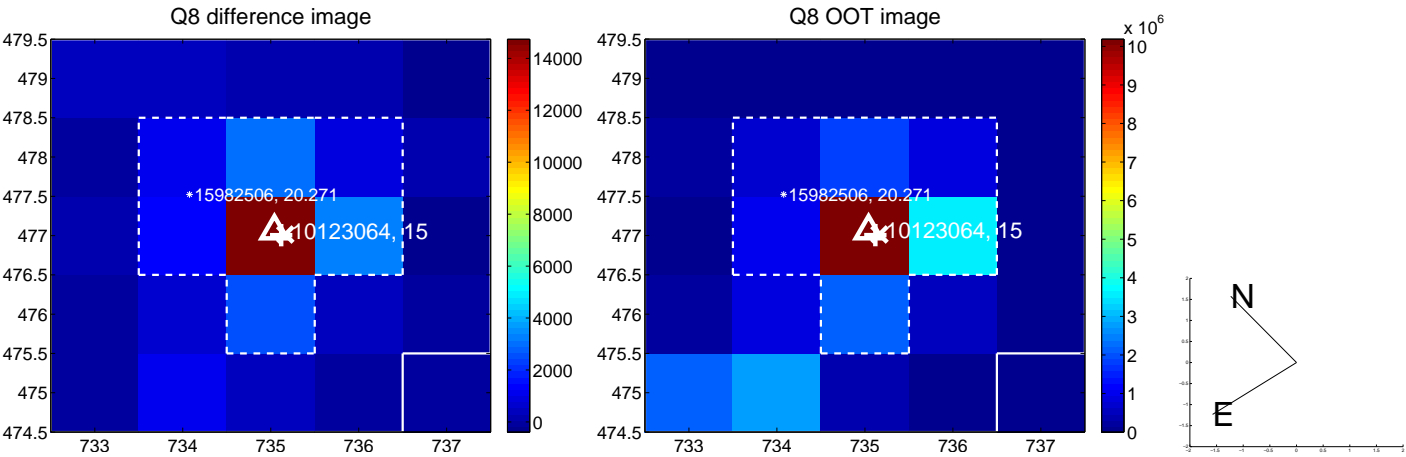
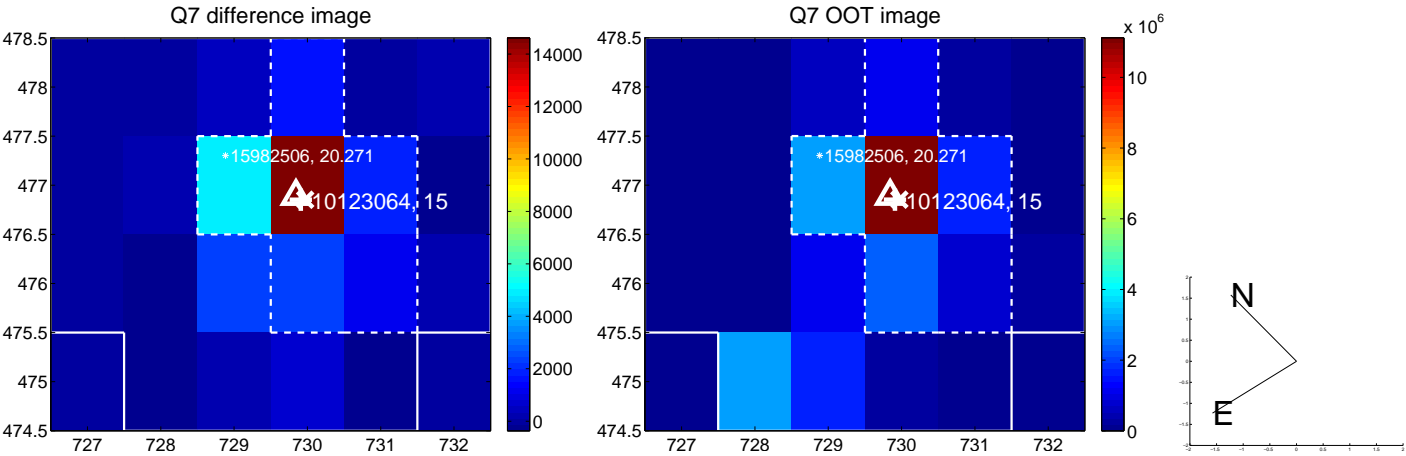
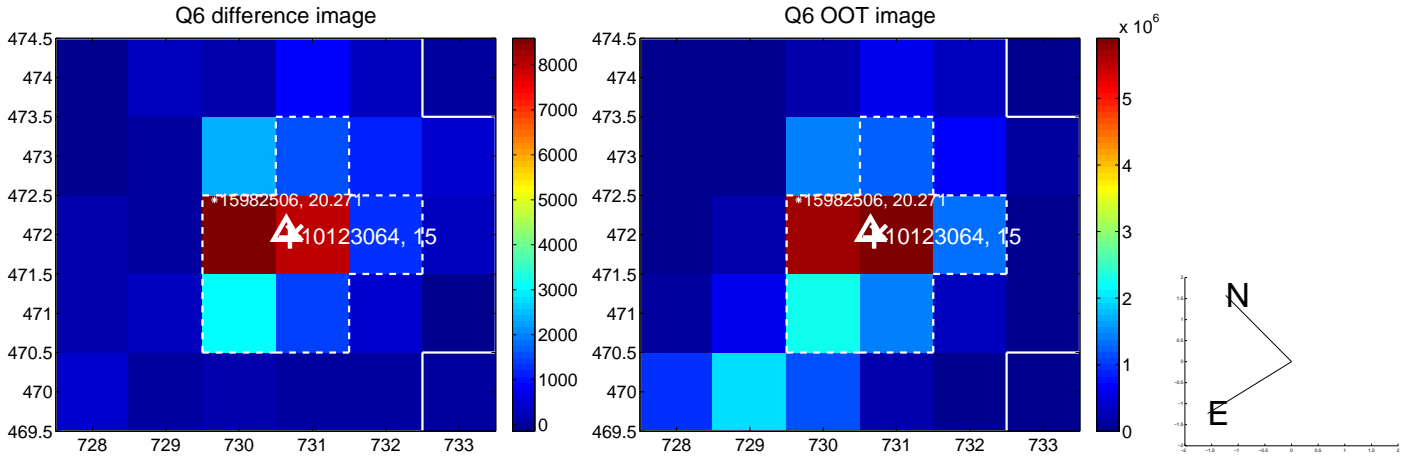
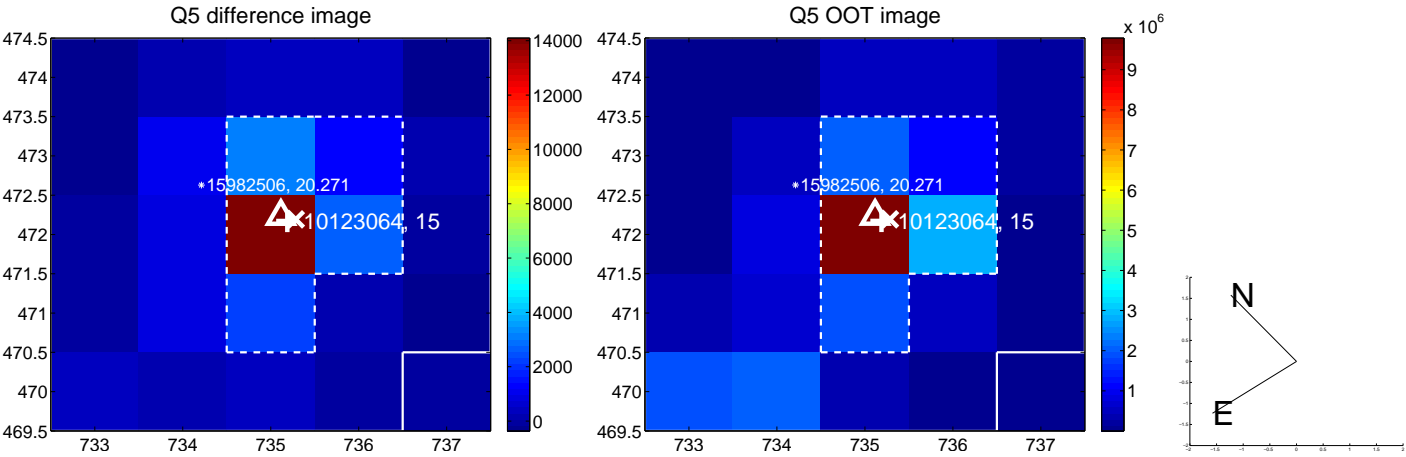


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

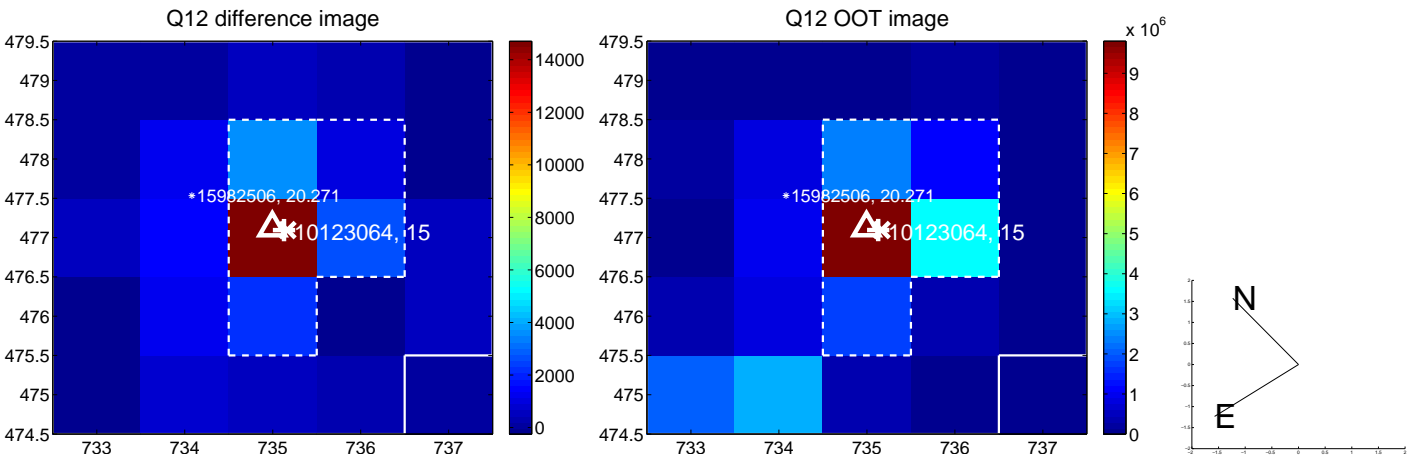
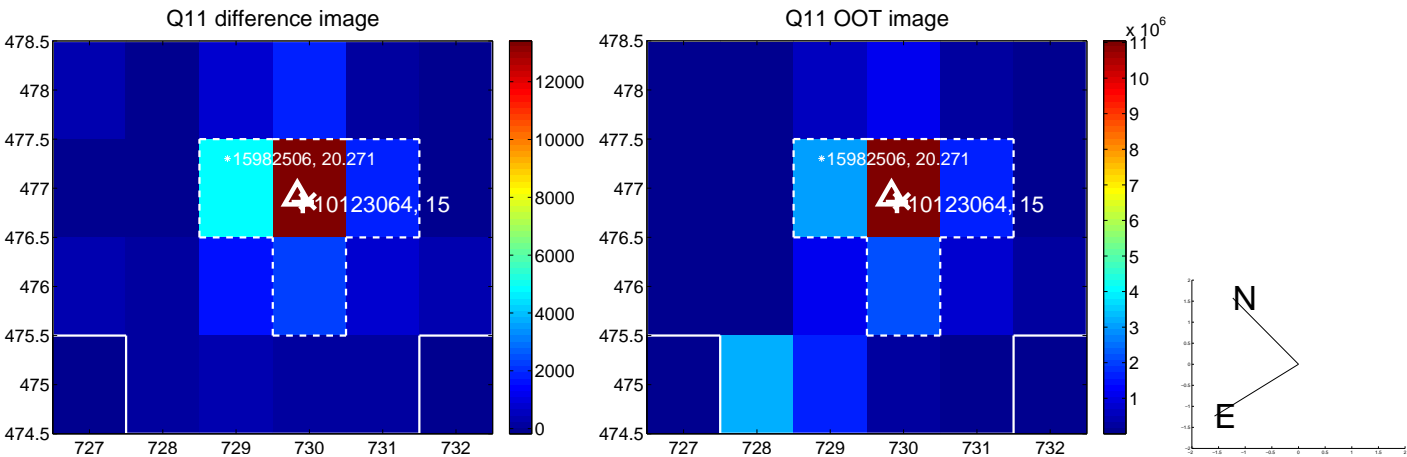
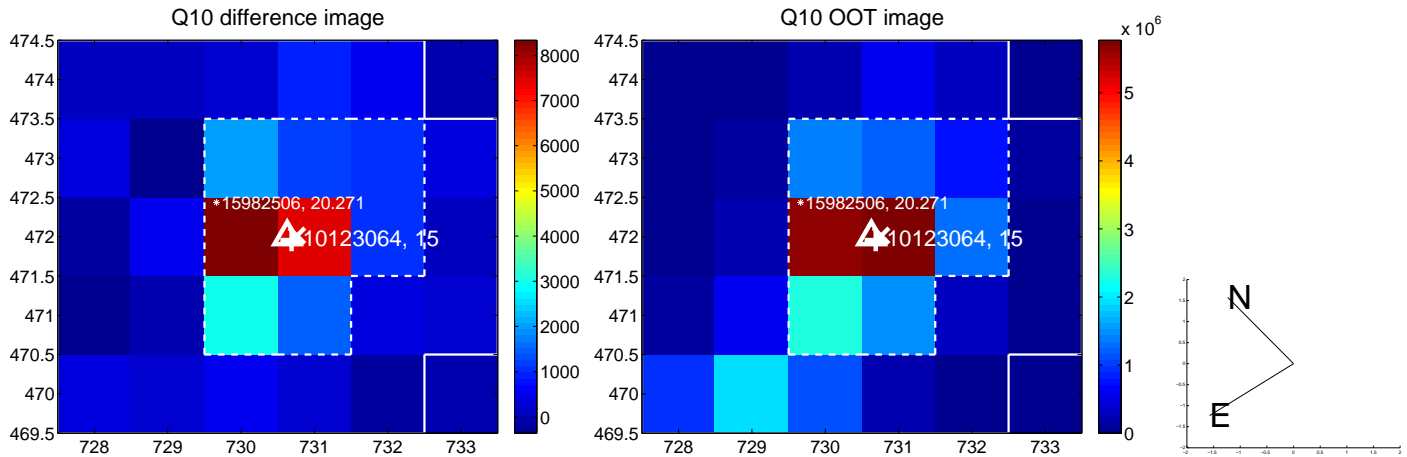
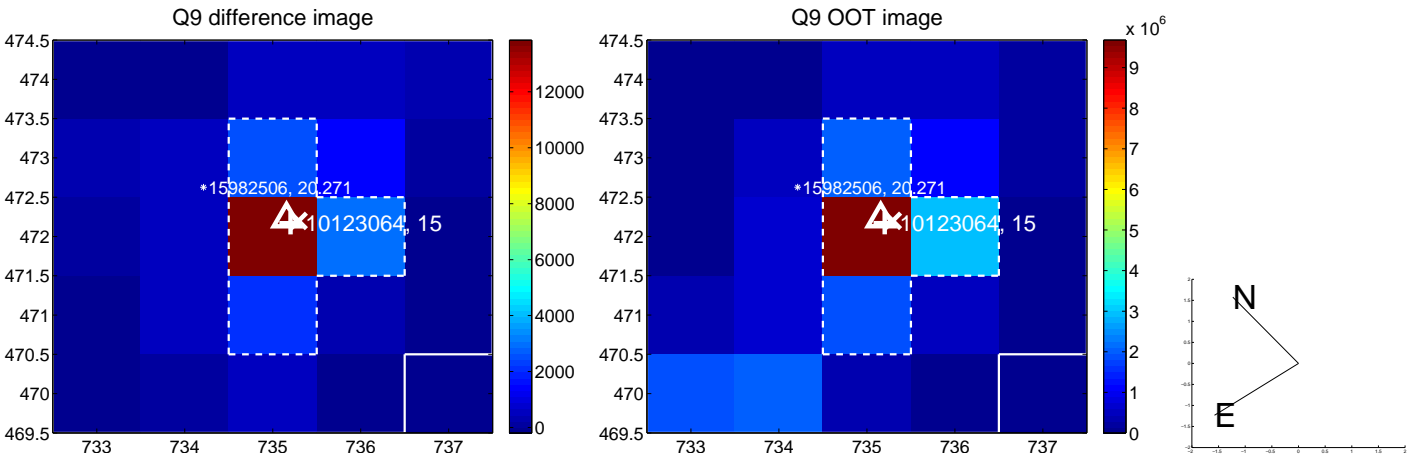
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



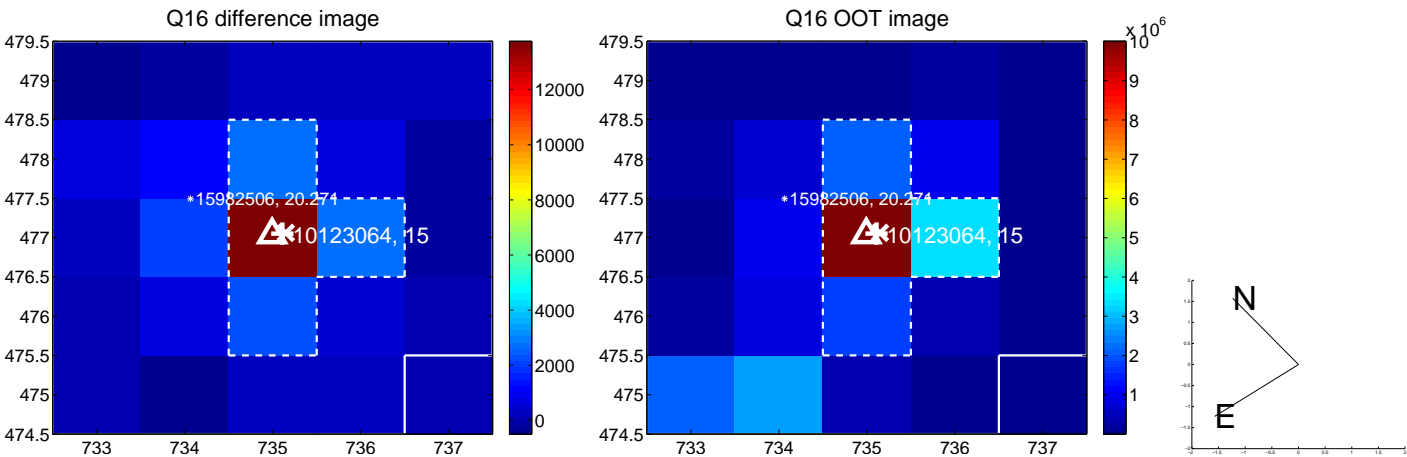
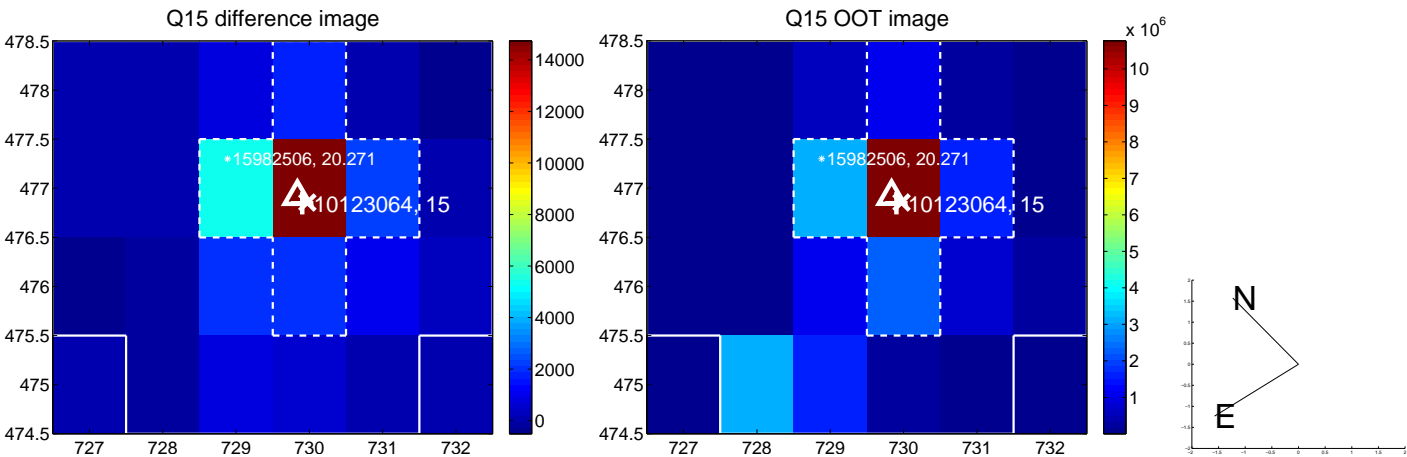
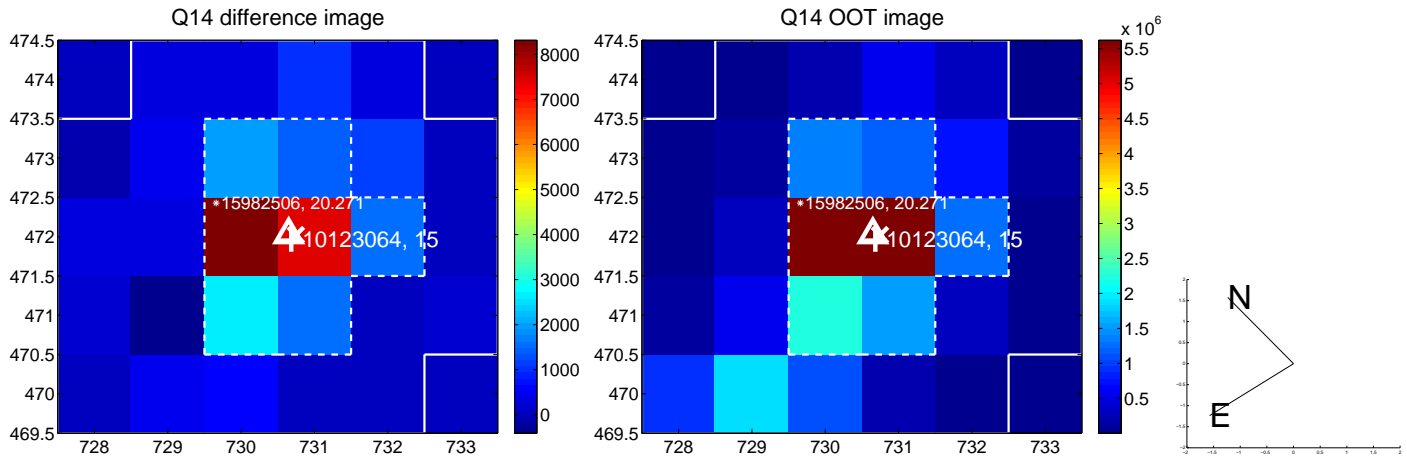
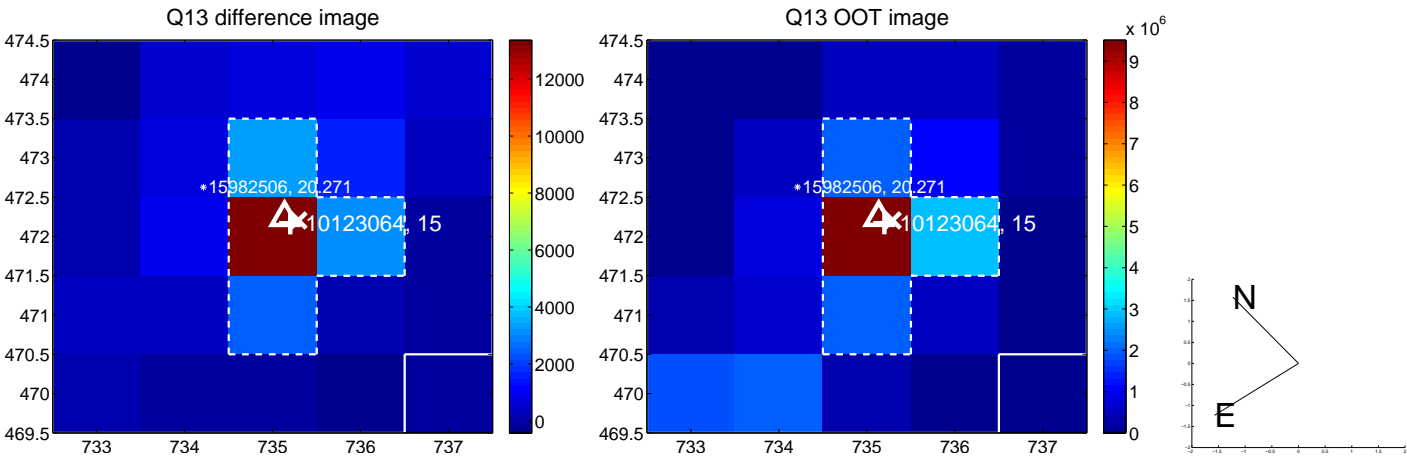
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



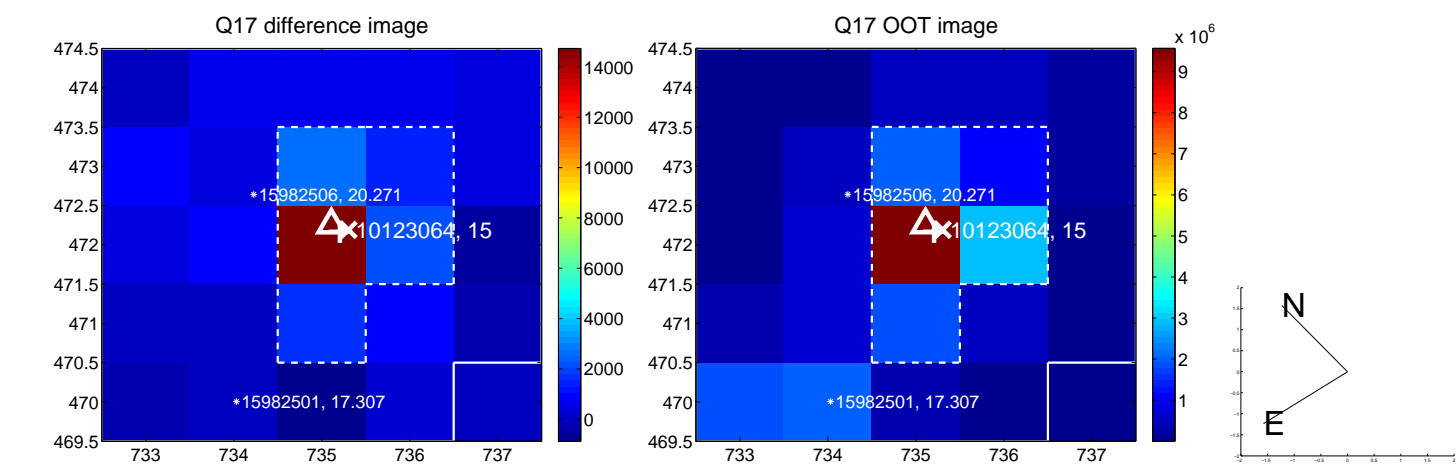
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



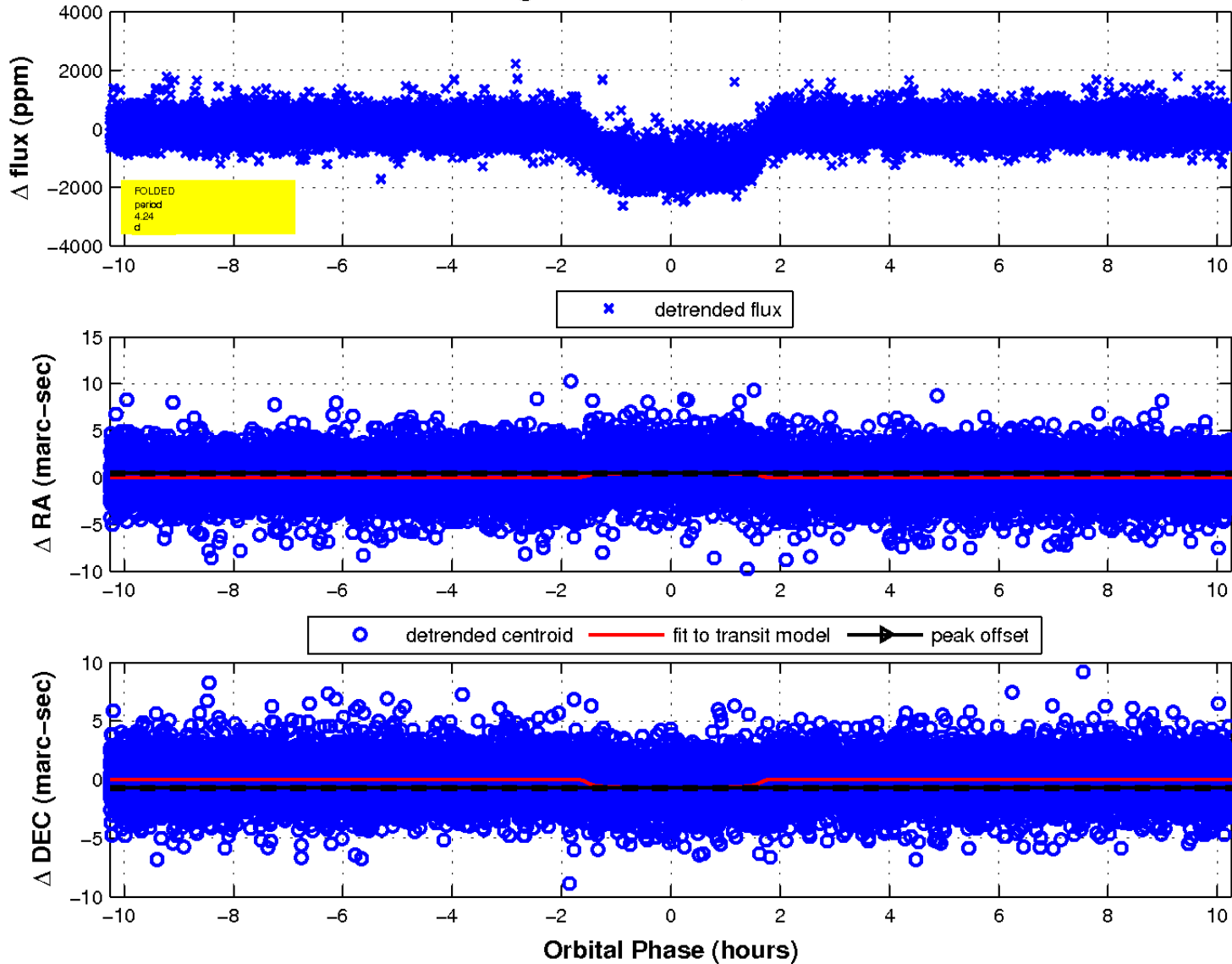
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

