

KIC 008240831

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})
008240831-01	OBS	No	236.202032	338.303141	102.5	24.374	7.1	4.5	1.38	6624	1.52	5.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008240831-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—INCONSISTENT_TRANS

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

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

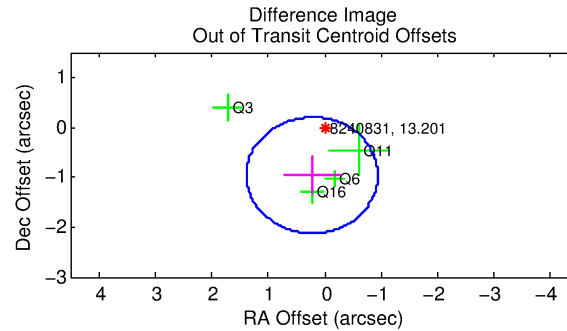
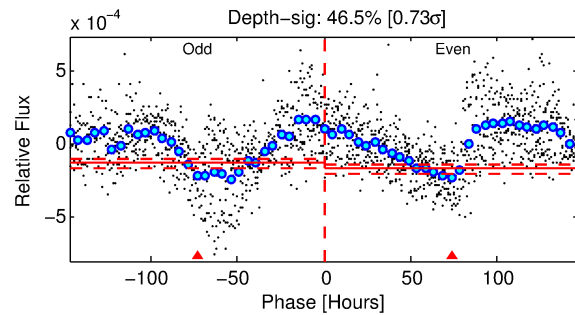
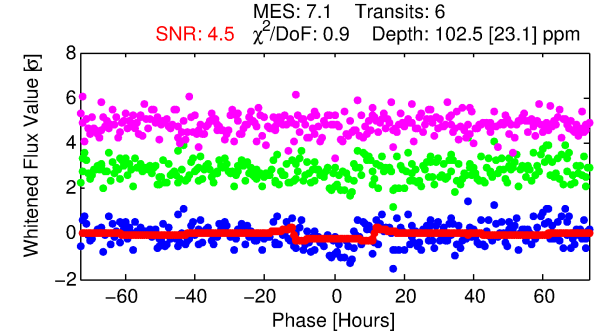
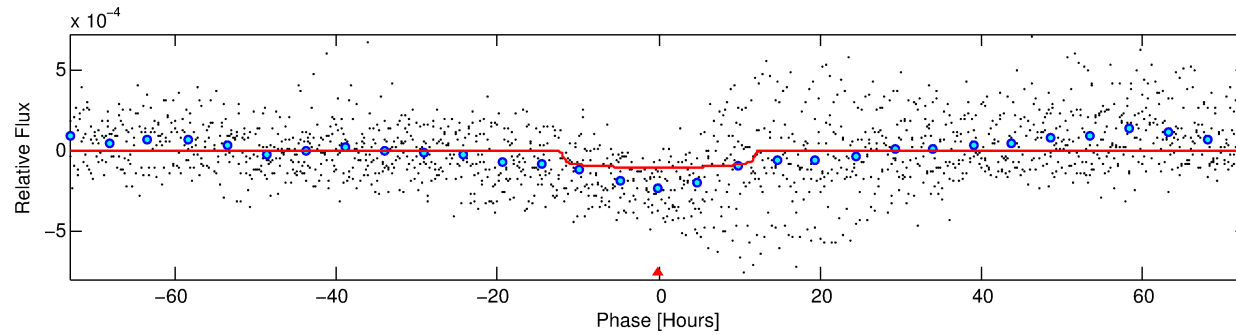
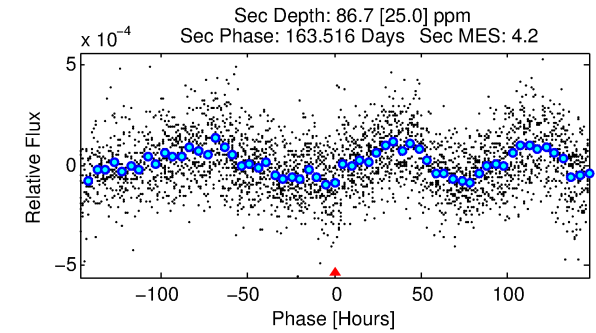
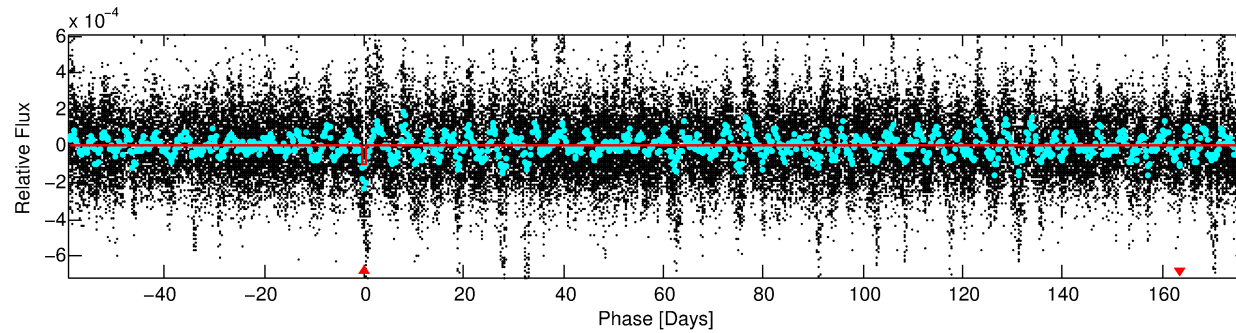
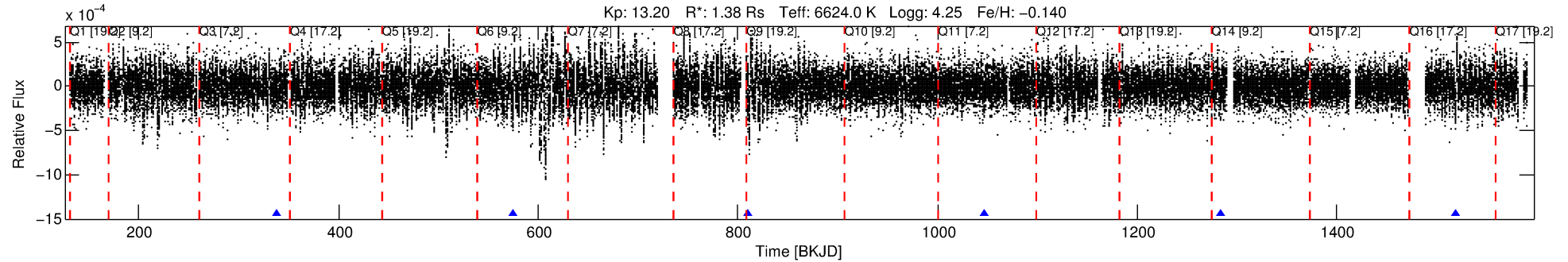
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008240831-01

No Significant Match Found

DV One-Page Summary

KIC: 8240831 Candidate: 1 of 1 Period: 236.202 d



DV Fit Results:

Period = 236.20203 [0.00820] d
Epoch = 338.3031 [0.0251] BKJD
Rp/R* = 0.0101 [0.0021]
a/R* = 49.24 [46.41]
b = 0.76 [0.53]
Seff = 5.12 [1.47]
Teq = 384 [27] K
Rp = 1.53 [0.46] Re
a = 0.8035 [0.1427] AU
Ag = 13238.97 [7562.60] [1.75σ]
Teffp = 6361 [839] K [7.12σ]

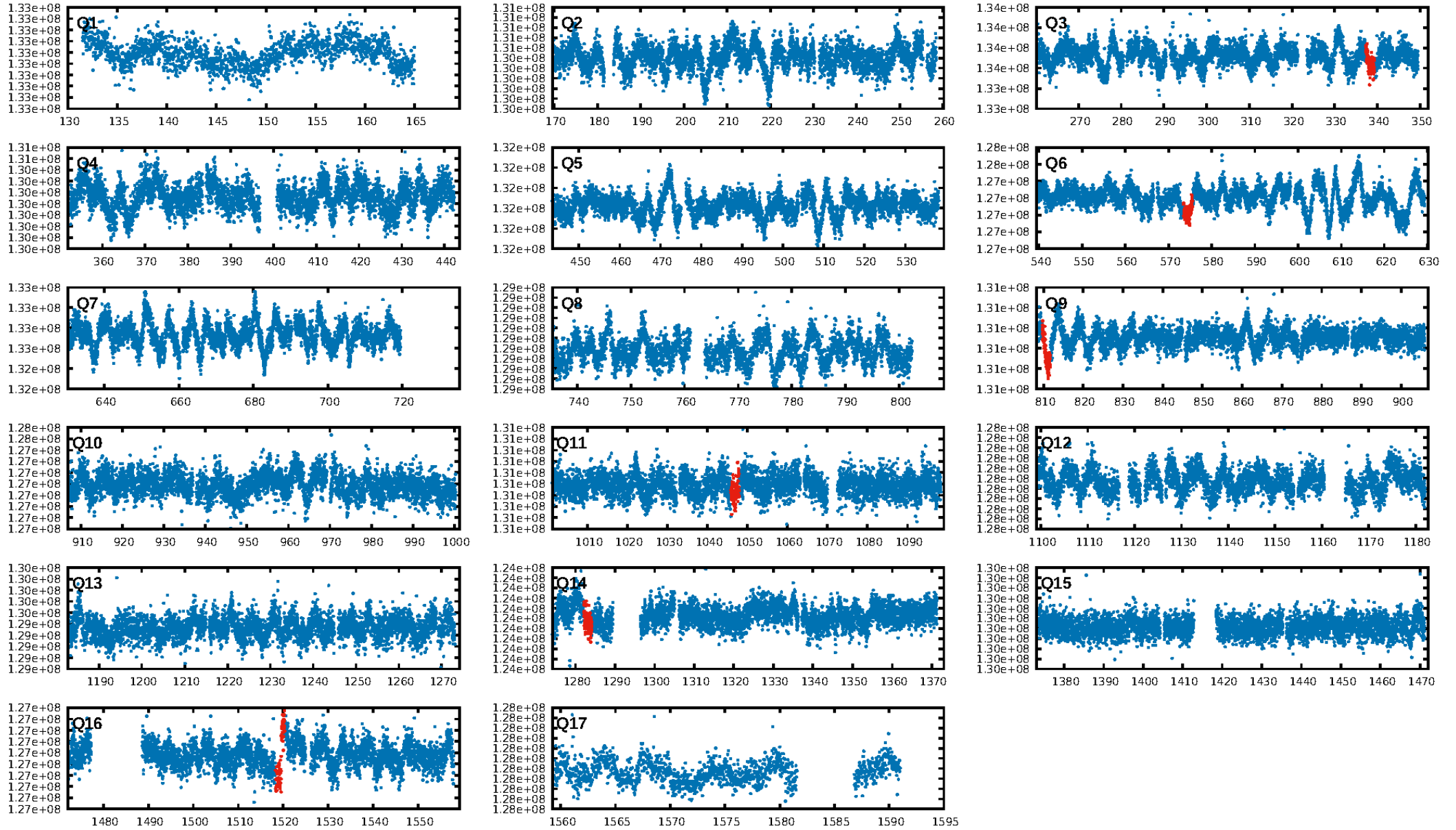
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.94e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.8368
Centroid-sig: 10.0%
Centroid-so: 1.756 arcsec [1.06σ]
OotOffset-rm: 0.988 arcsec [2.55σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-rm: 1.264 arcsec [3.49σ]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

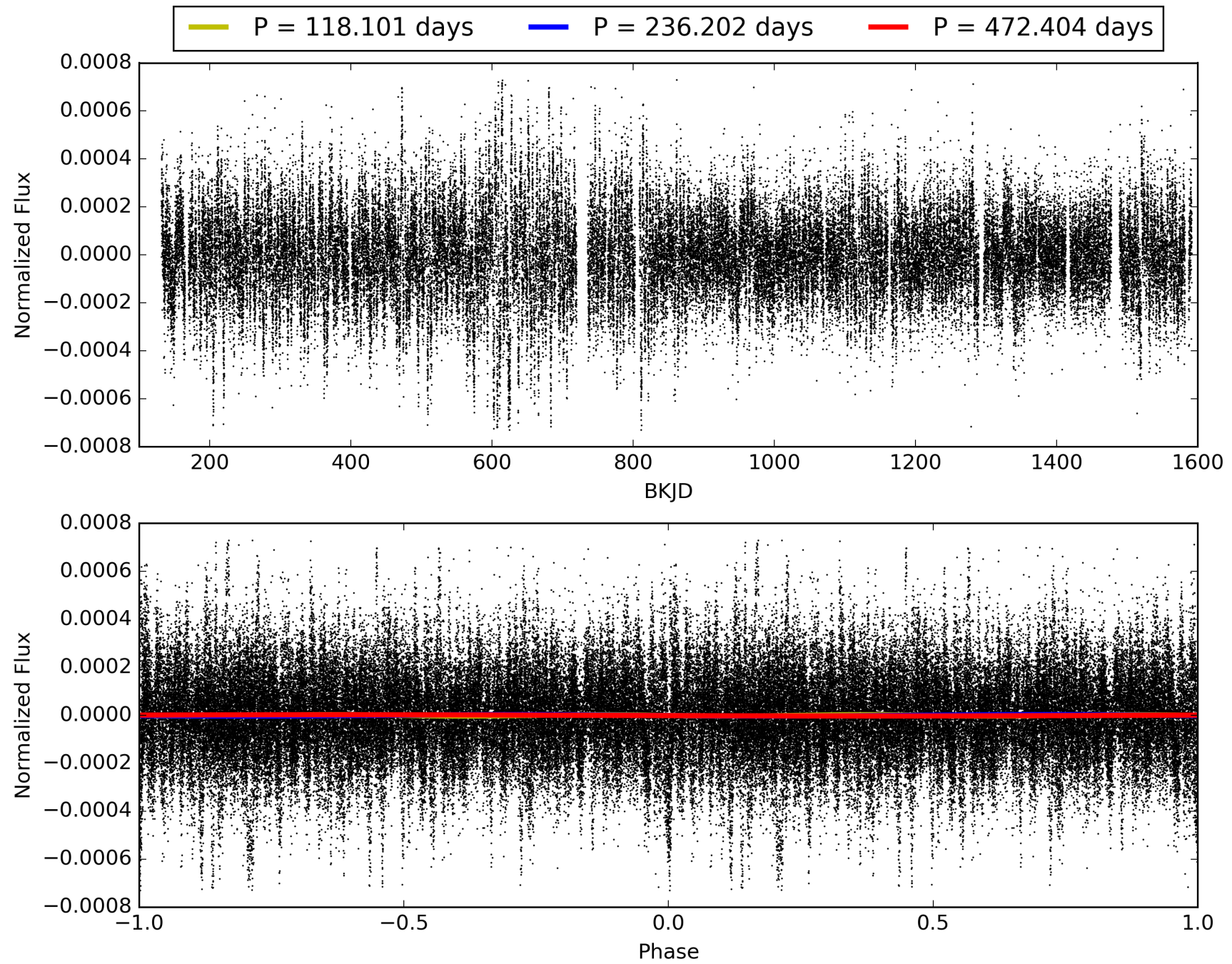
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:47:53 Z

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

TCE 008240831-01, PDC Light Curves

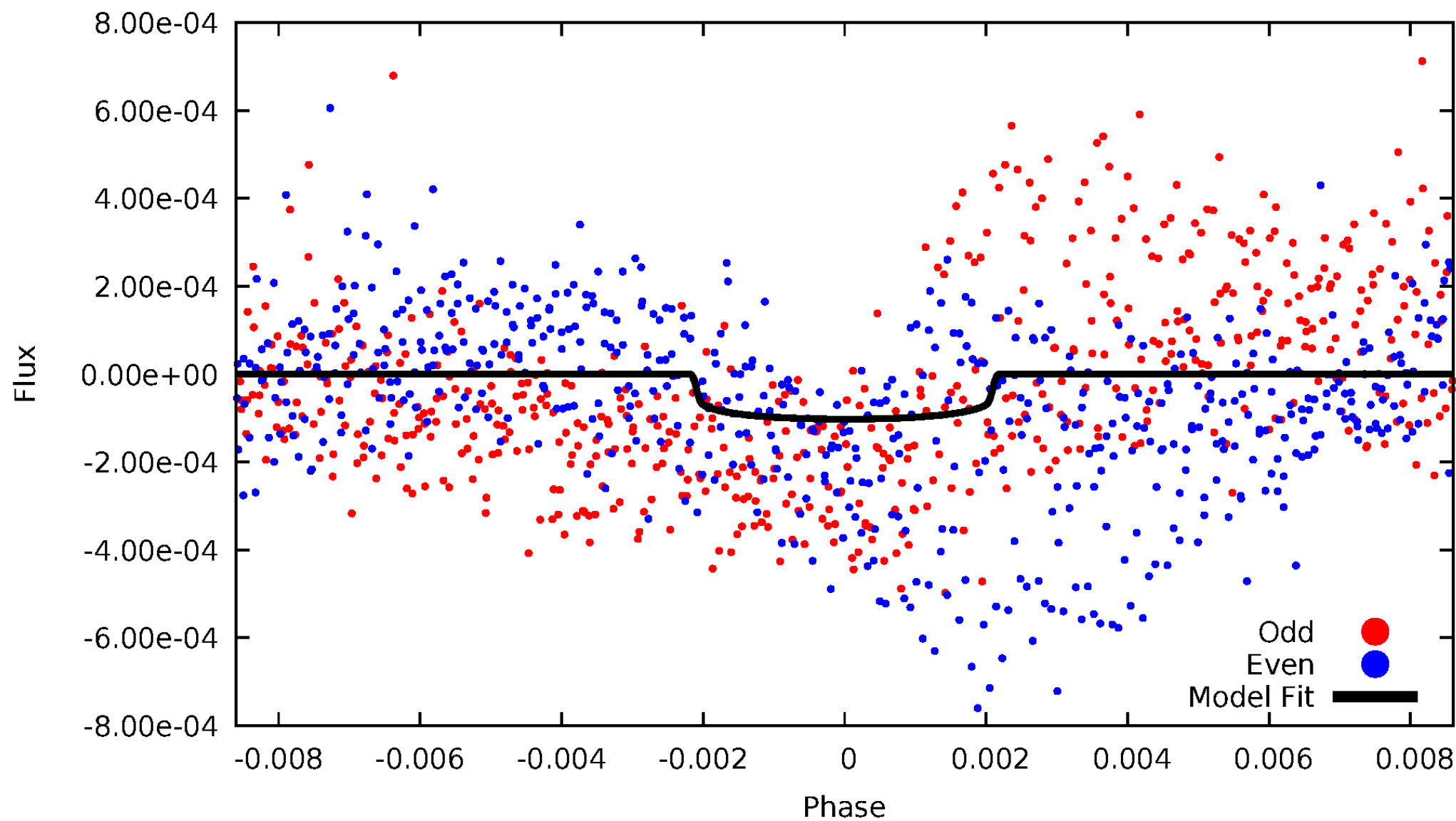


TCE 008240831-01



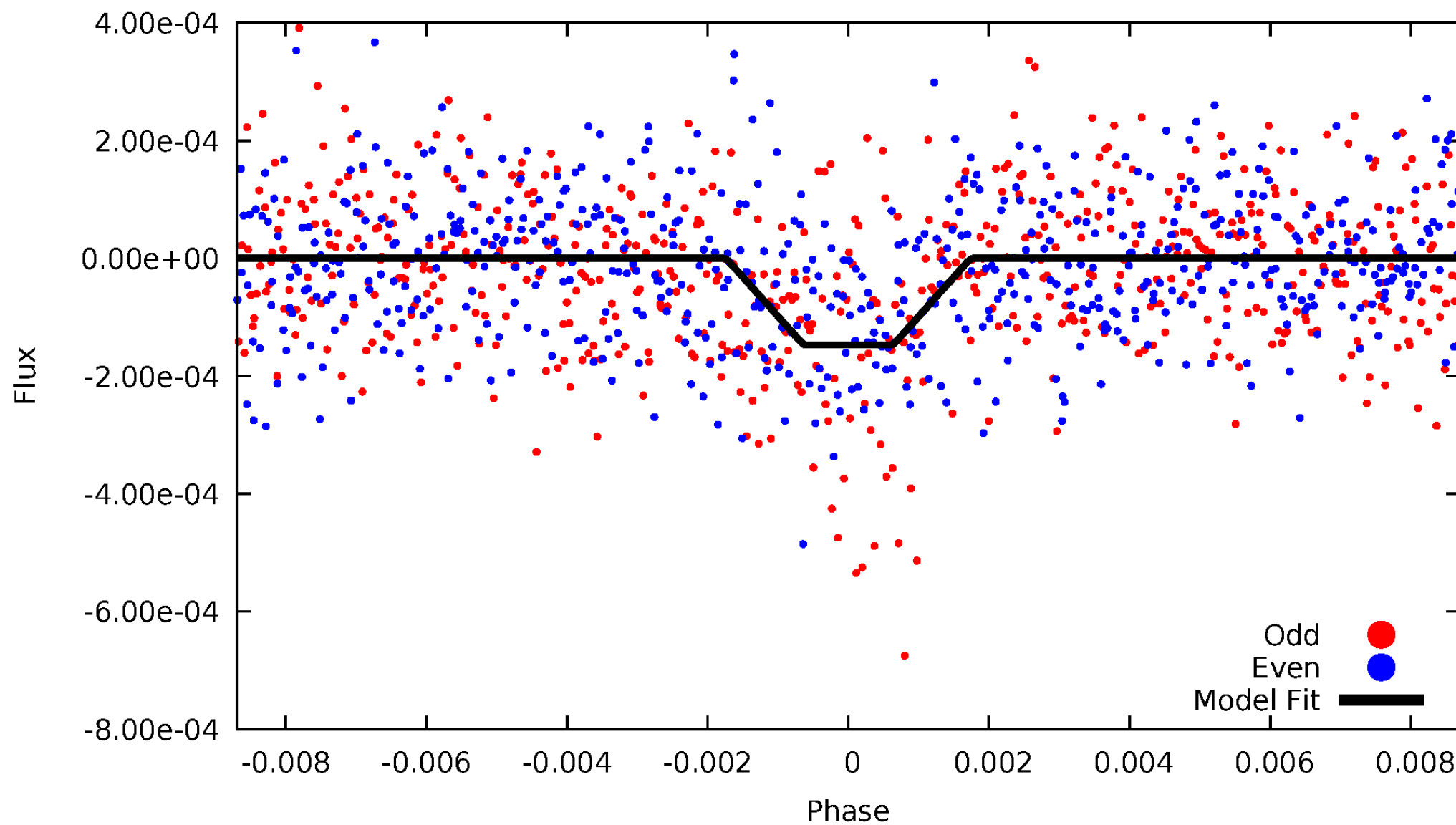
DV Odd/Even

TCE 008240831-01



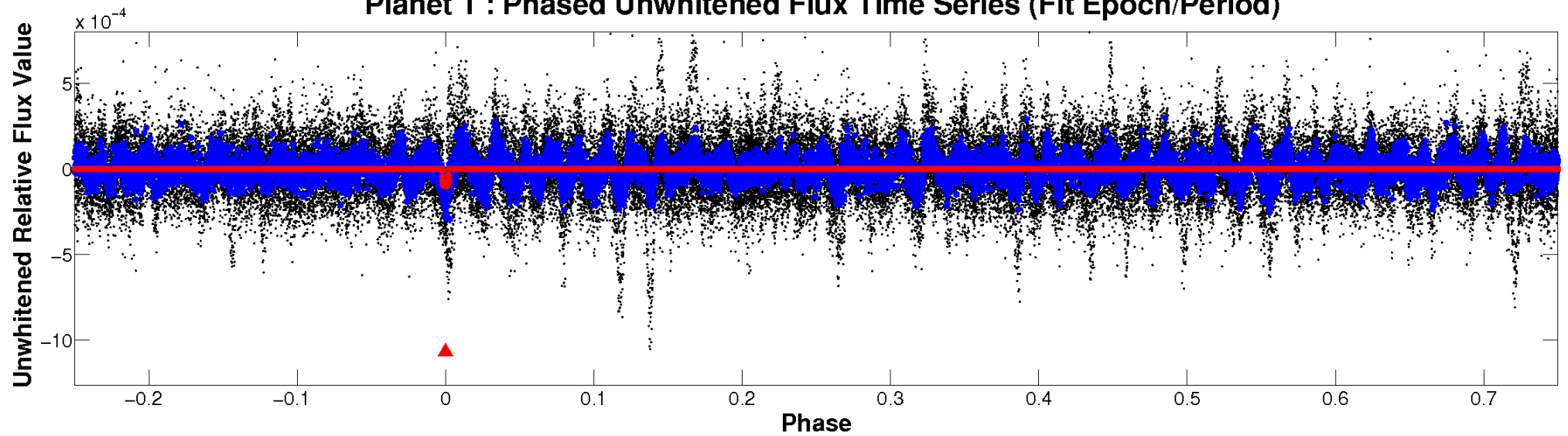
ALT Odd/Even

TCE 008240831-01

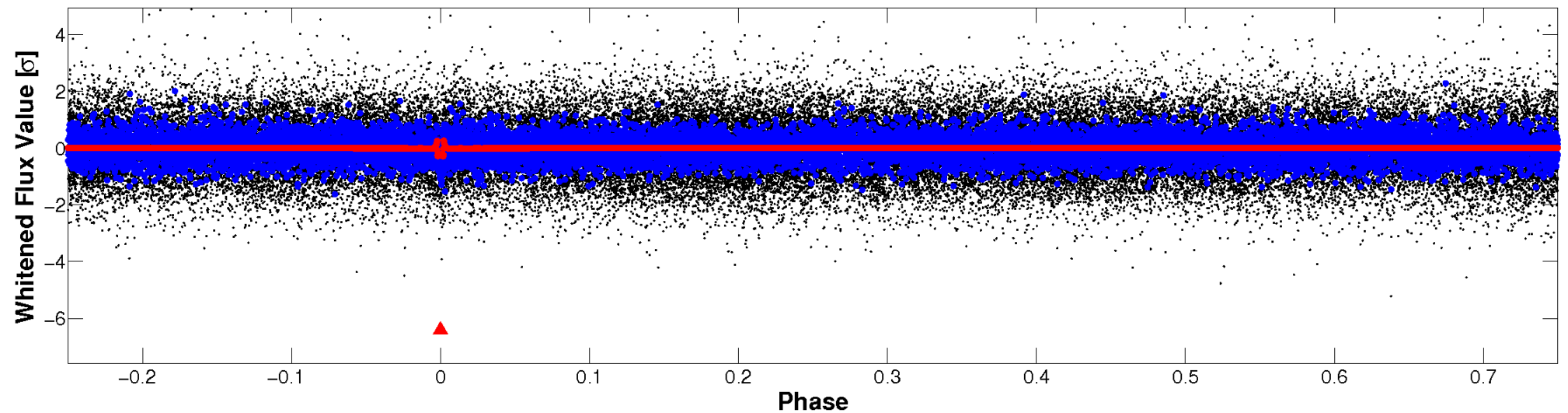


Non-Whitened Vs. Whitened Light Curve

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

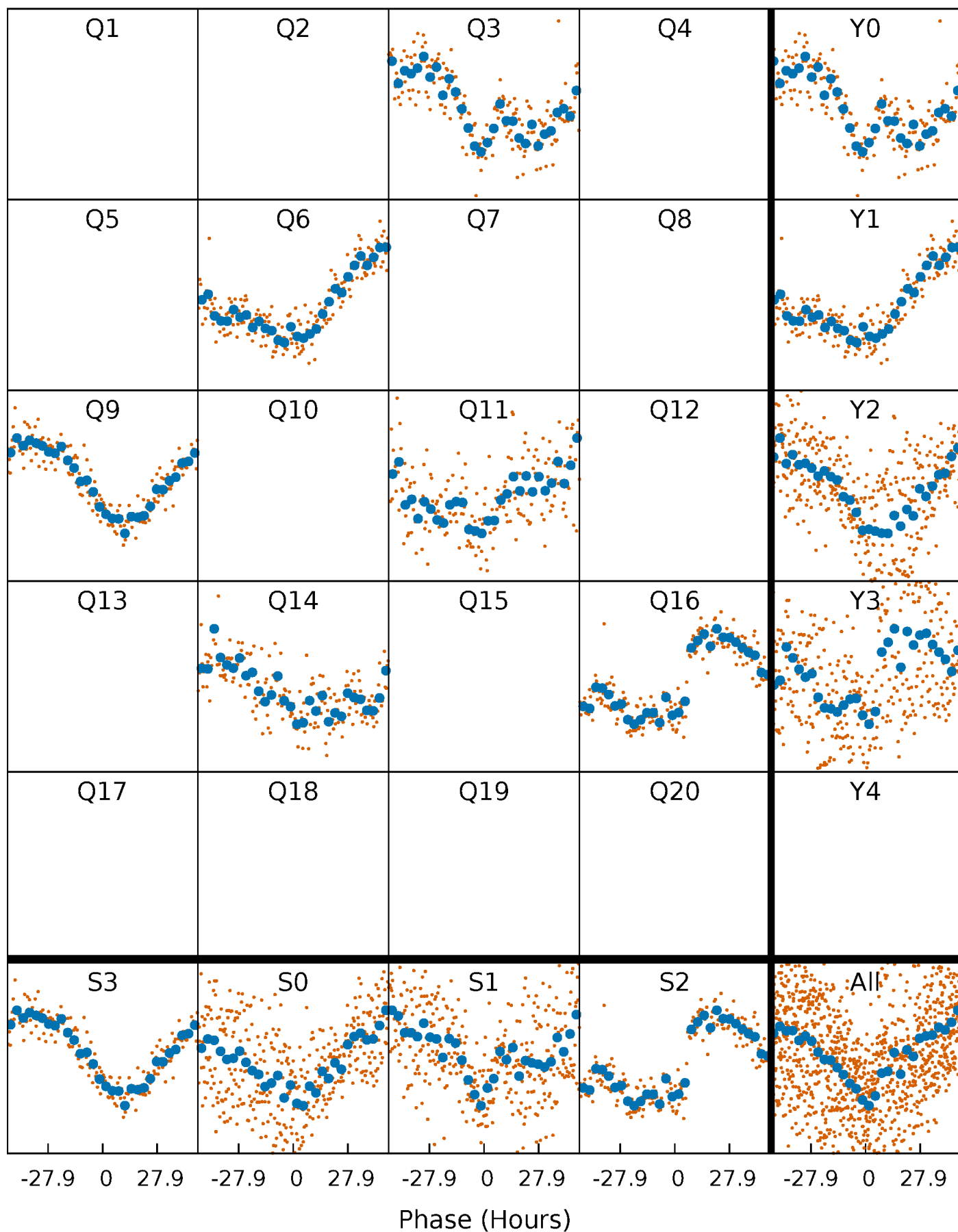


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



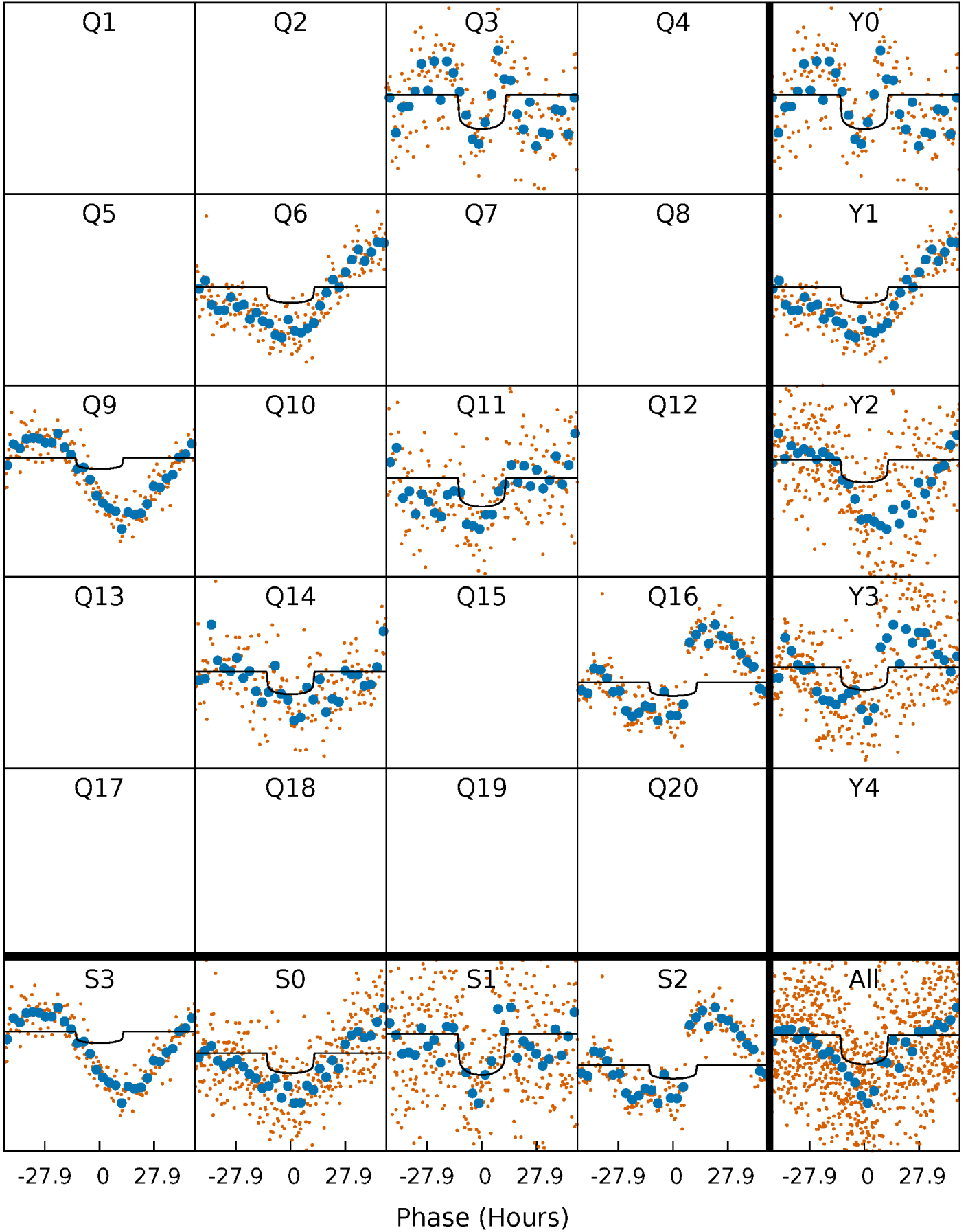
PDC Quarter-Phased Transit Curves

TCE 008240831-01 P=236.202032 Days $T_0=338.303141$ (BKJD)



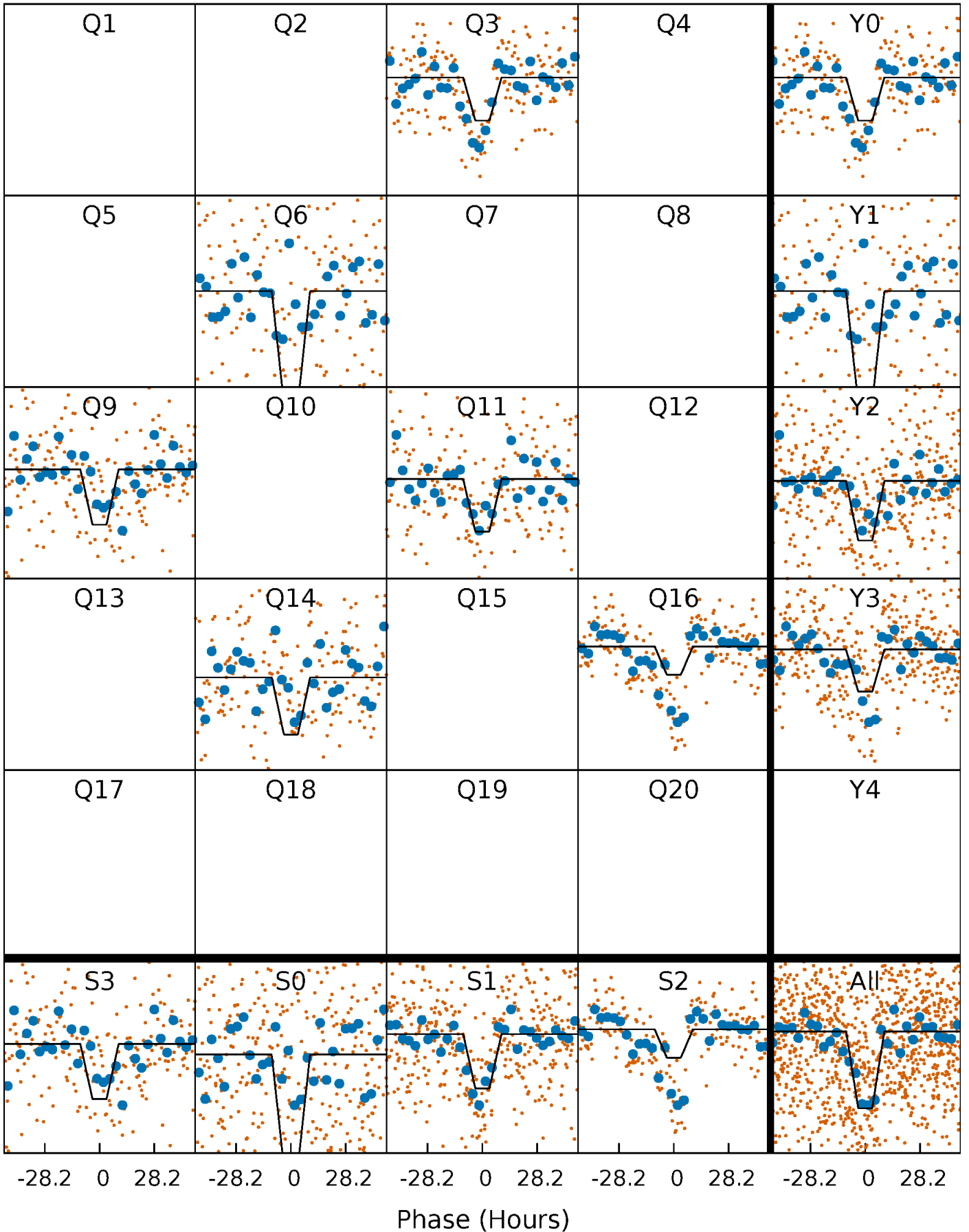
DV Quarter-Phased Transit Curves

TCE 008240831-01 $P=236.202032$ Days $T_0=338.303141$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

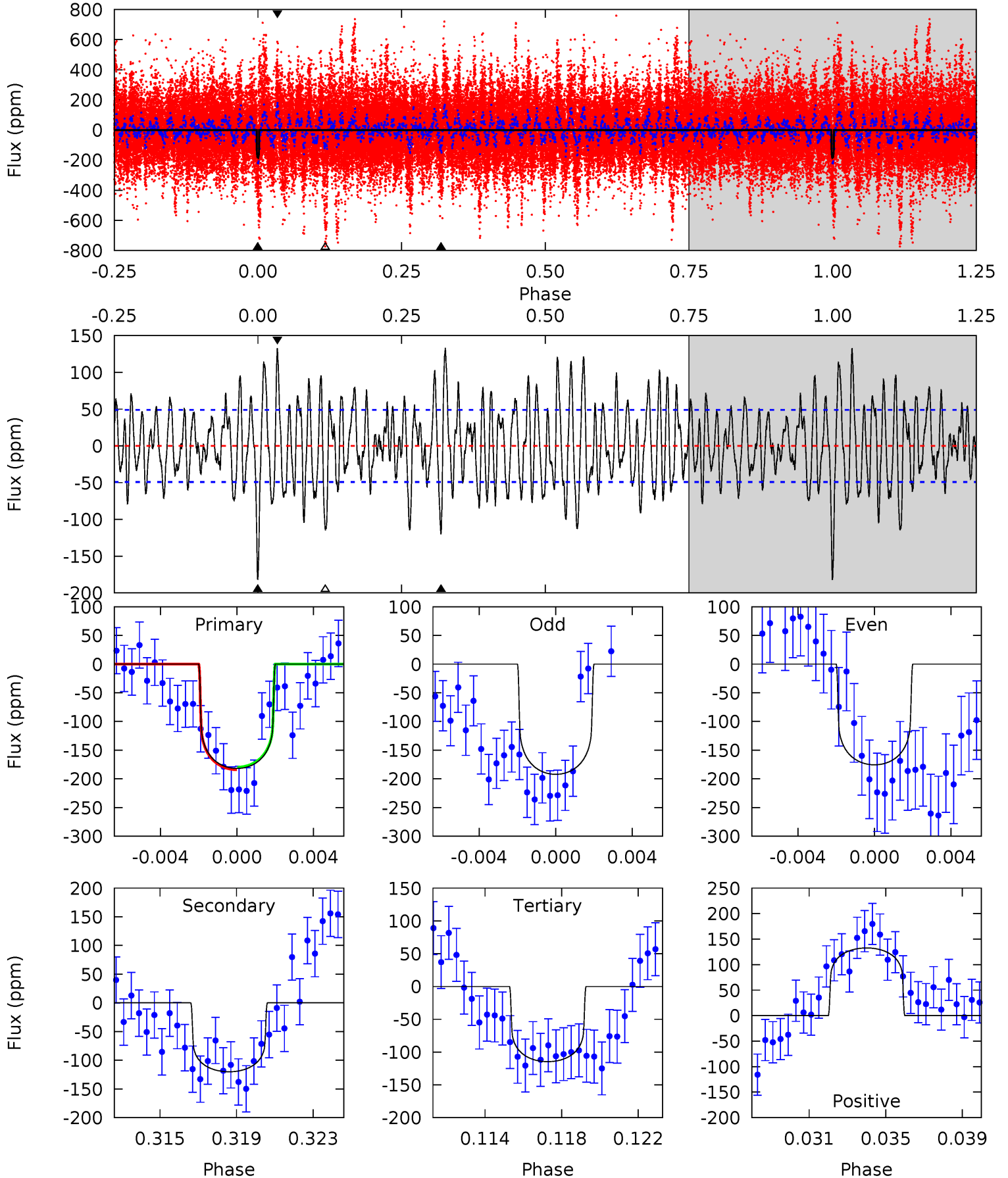
TCE 008240831-01 P=236.205142 Days $T_0=338.287046$ (BKJD)



DV Model-Shift Uniqueness Test

008240831-01, P = 236.202032 Days, E = 102.101109 Days

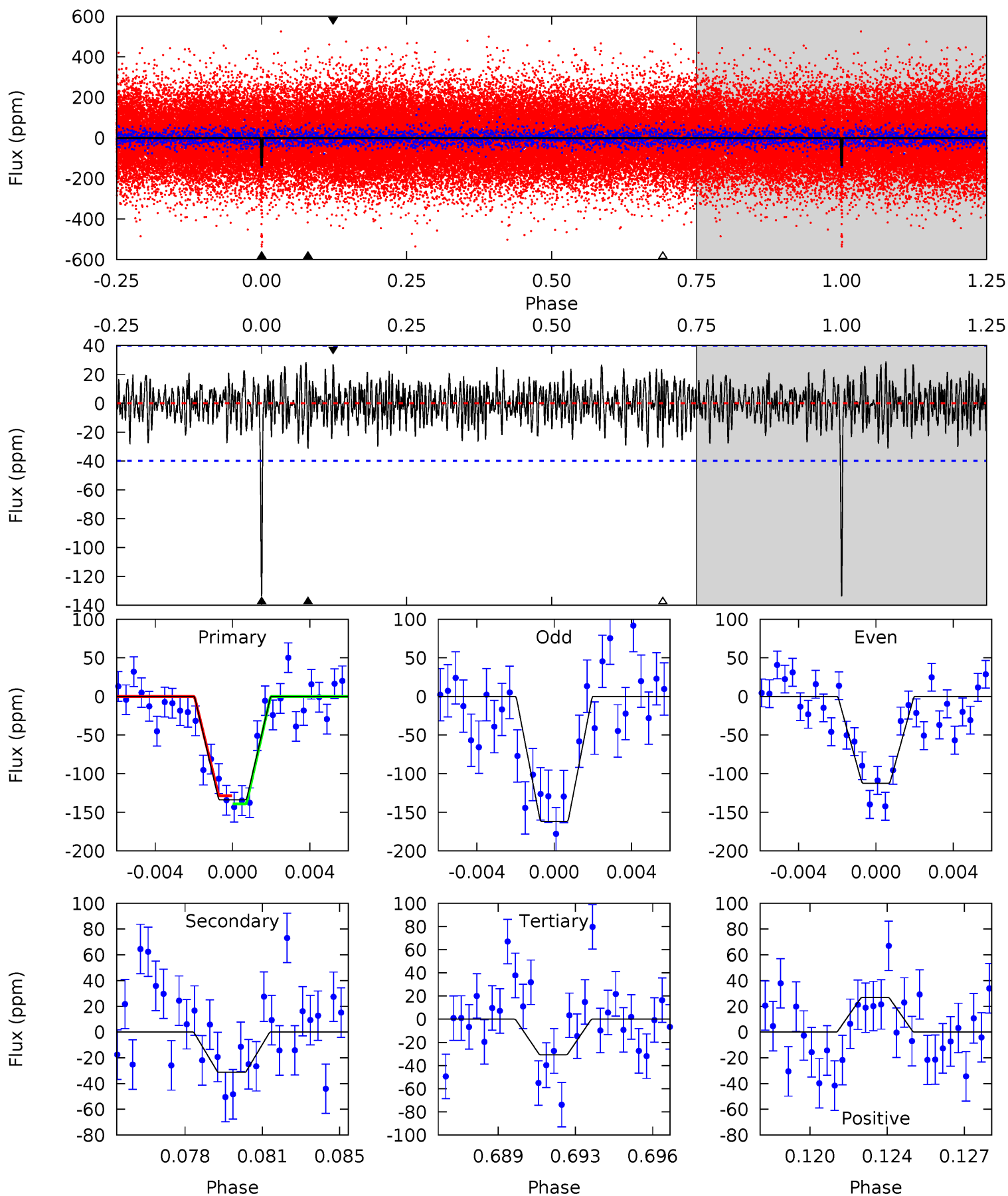
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	12.7	12.1	14.0	5.18	2.85	5.00	7.11	5.21	0.57	-1.33	0.88	1.41	0.42	0.22



Alt Model-Shift Uniqueness Test

008240831-01, P = 236.205142 Days, E = 102.081904 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	4.10	4.02	3.52	5.22	2.92	1.34	13.5	14.0	0.08	0.58	3.25	1.35	0.17	0.69



Stellar Parameters For KIC 008240831

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6624^{+149}_{-216}	$4.249^{+0.112}_{-0.138}$	$-0.140^{+0.250}_{-0.300}$	$1.384^{+0.296}_{-0.242}$	$1.244^{+0.139}_{-0.191}$	$0.660^{+0.342}_{-0.261}$
	+2%/-3%	+3%/-3%	+179%/-214%	+21%/-17%	+11%/-15%	+52%/-40%
Source	PHO1	FLK73	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 008240831-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-120 ± 9	$1.52^{+0.40}_{-0.34}$	535^{+30}_{-27}	6861^{+1042}_{-683}	18059^{+11752}_{-6623}
Alt.	-31 ± 8	$1.80^{+0.41}_{-0.33}$	537^{+30}_{-28}	4635^{+443}_{-356}	3295^{+2061}_{-1222}

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

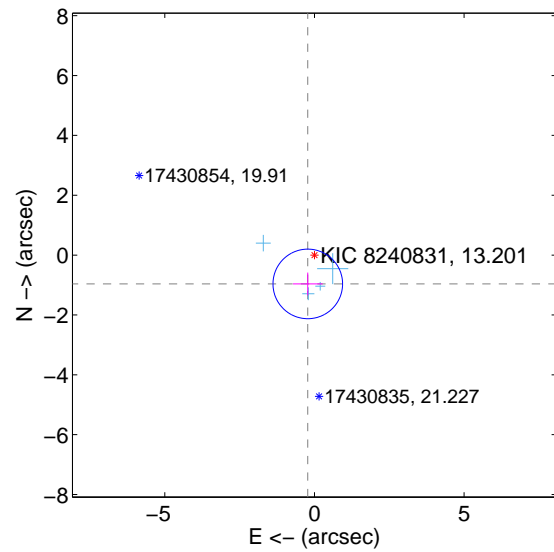
Supplemental centroid analysis for 008240831-01. Kepler magnitude: 13.20. Transit SNR 4.51

There are 4 quarters with good PRF difference image offsets

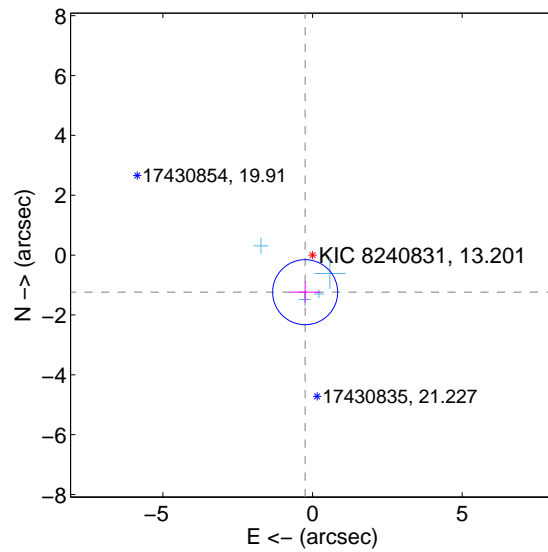
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.988 ± 0.388	2.55	0.222 ± 0.496	-0.963 ± 0.381
PRF-fit source offset from KIC position	1.264 ± 0.362	3.49	0.247 ± 0.501	-1.239 ± 0.356
photometric centroid source offset	1.76 ± 1.66	1.06	0.39 ± 1.41	1.71 ± 1.67

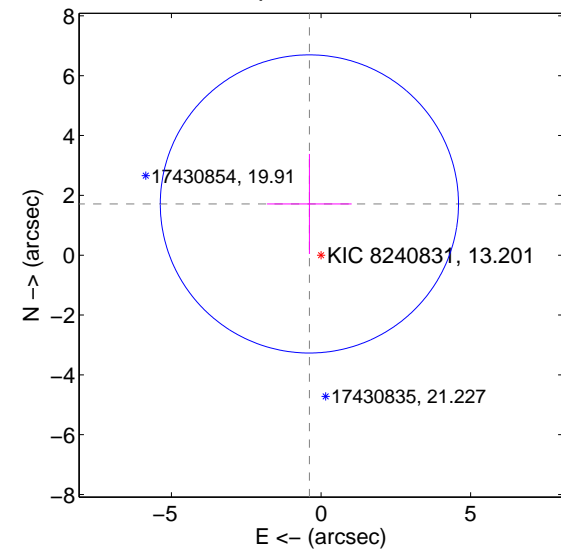
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

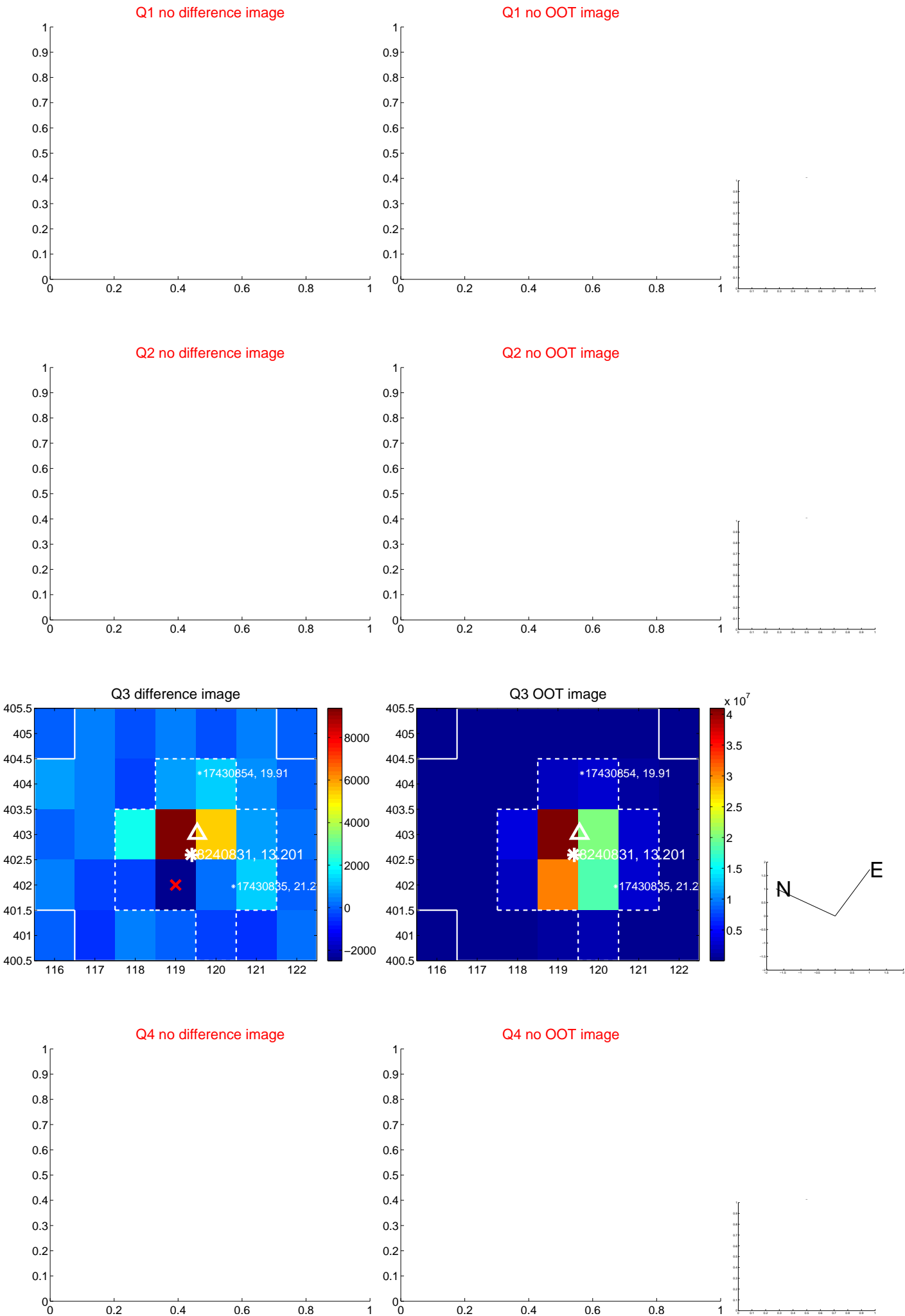


offset from photometric centroids

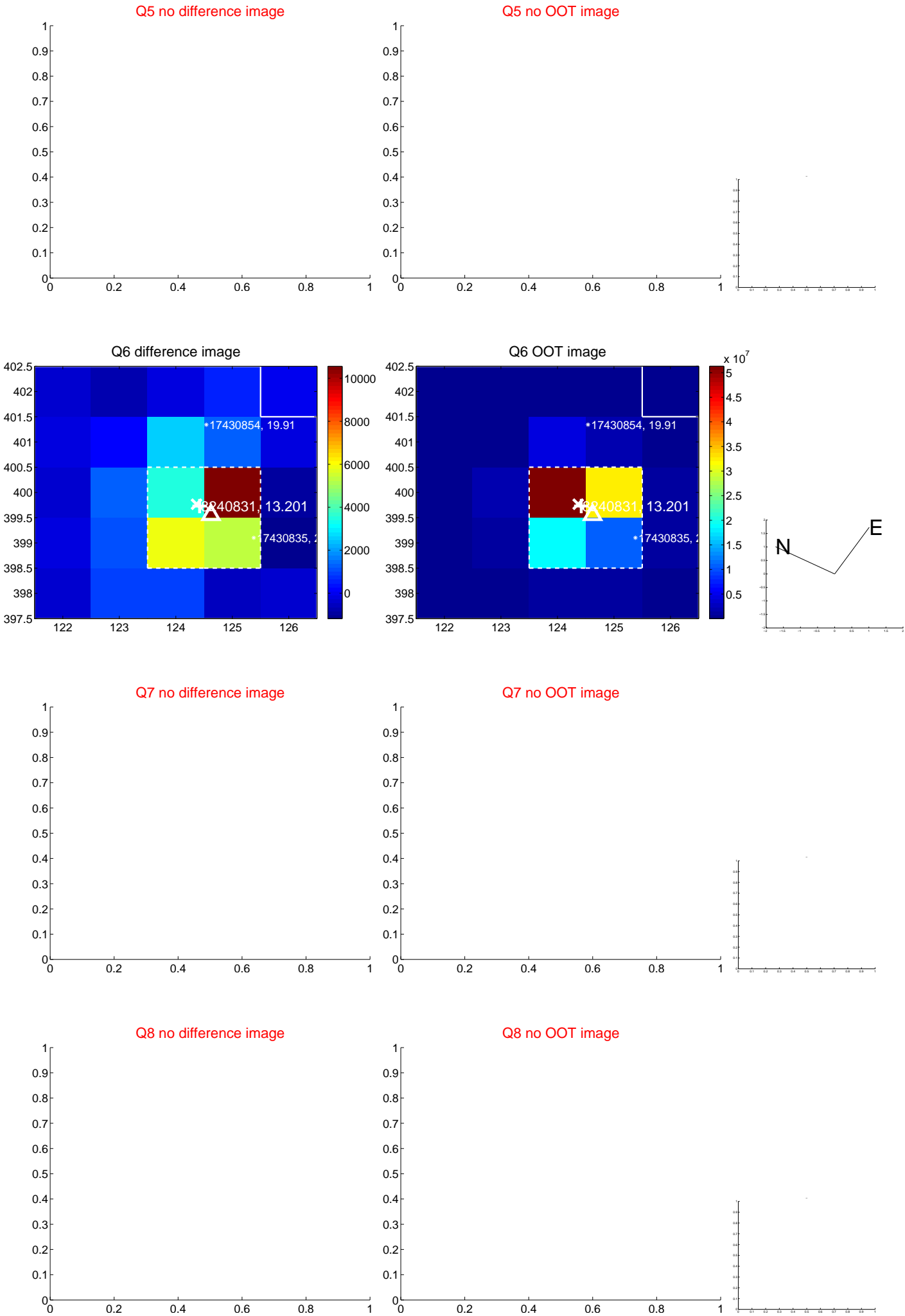


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

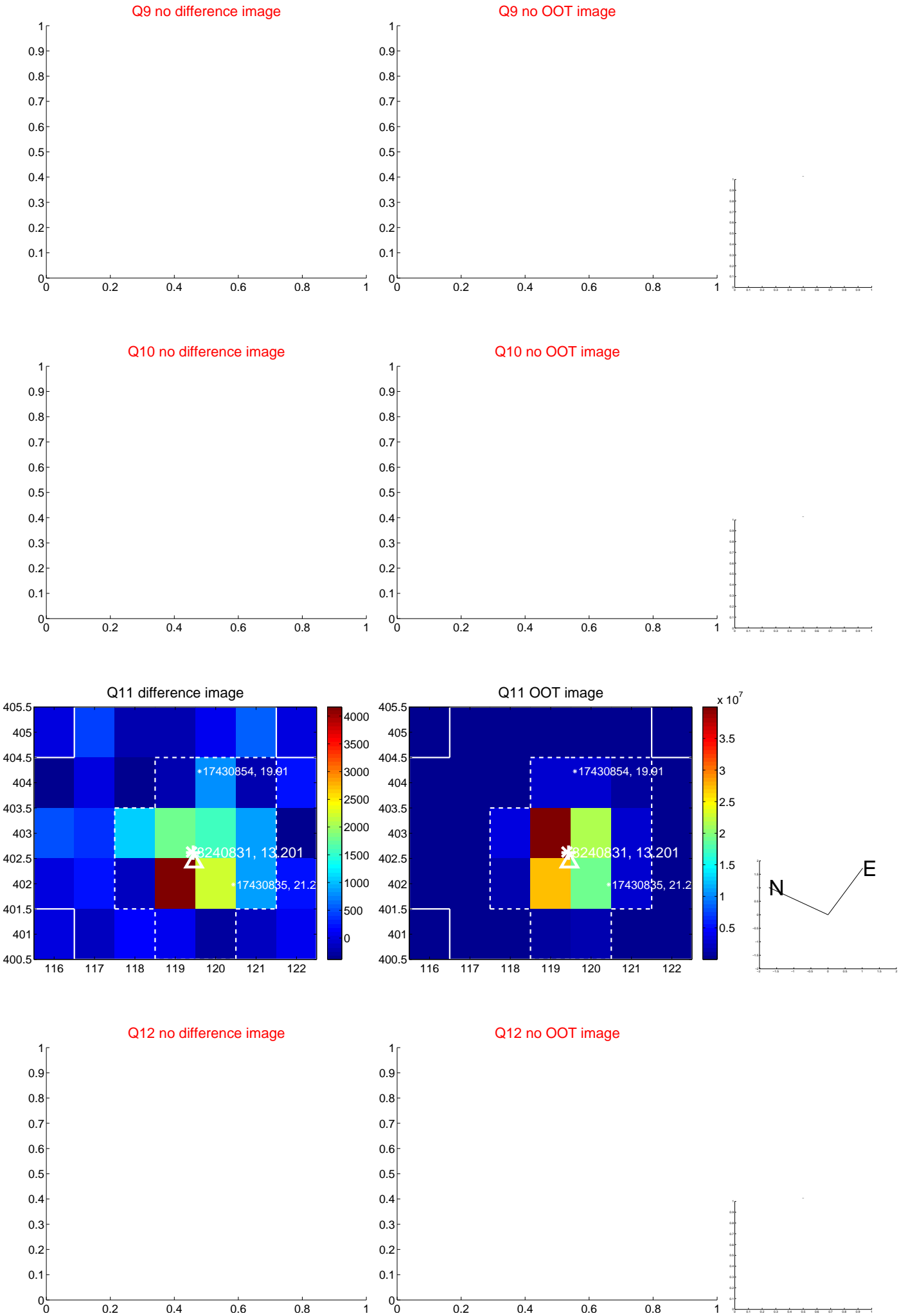
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



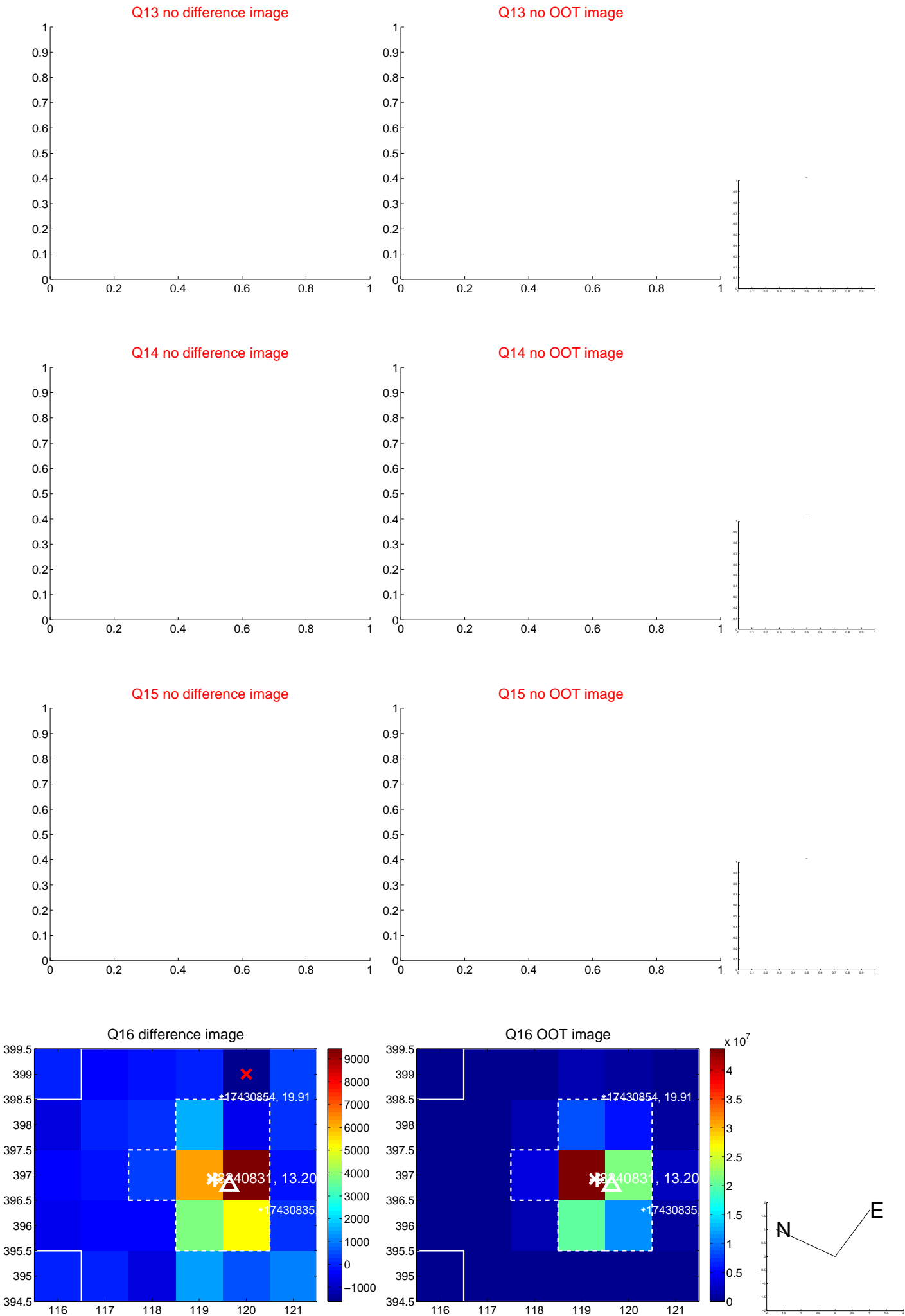
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



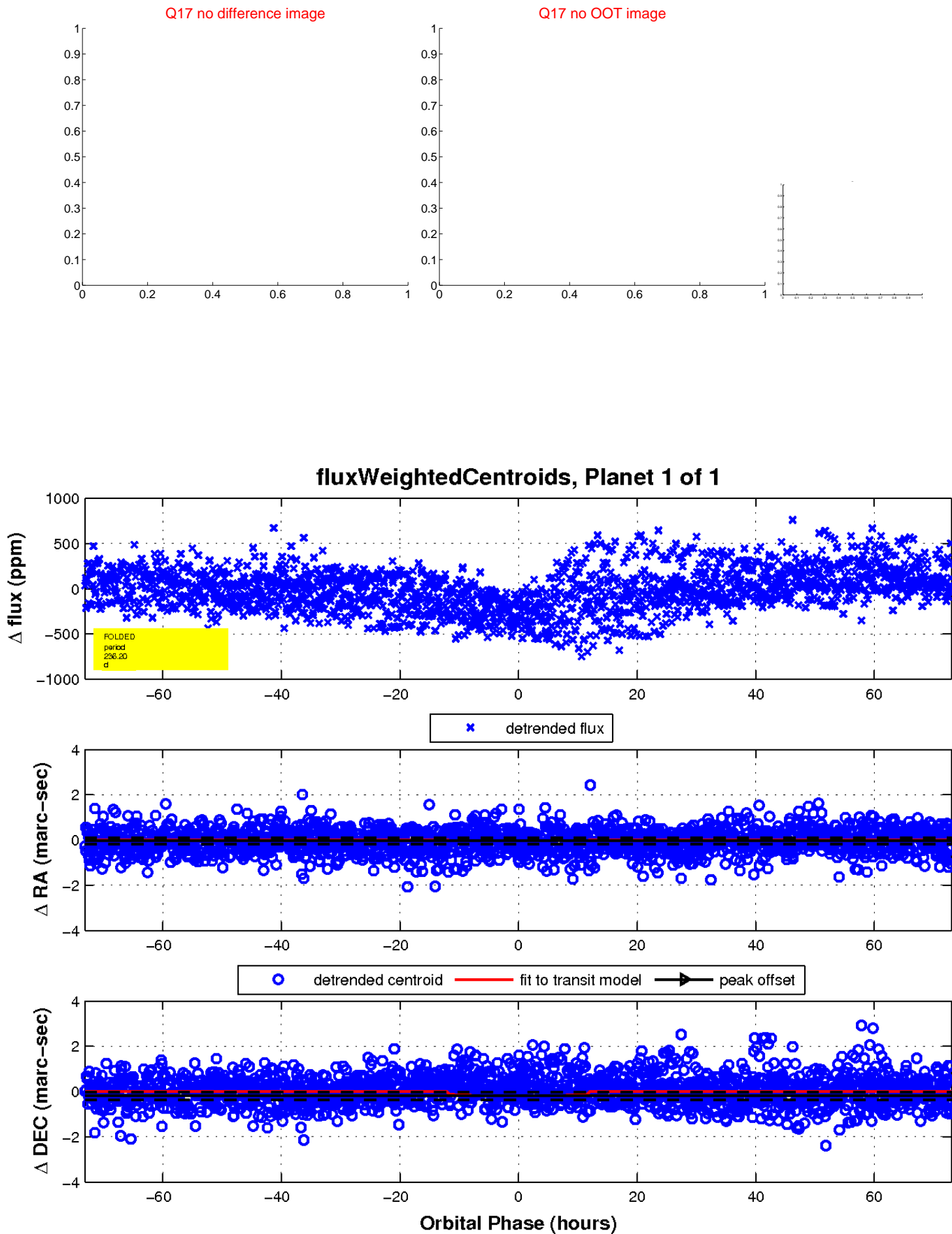
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

