

KIC 008374423

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})
008374423-01	OBS	No	367.150950	237.967999	958.3	15.656	8.2	8.4	1.16	6435	4.23	1.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008374423-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—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.

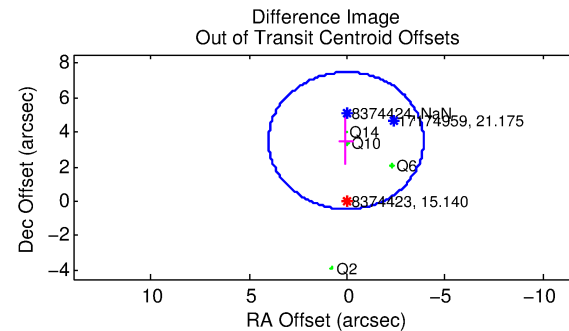
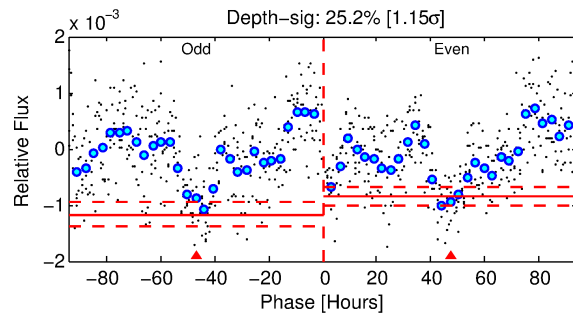
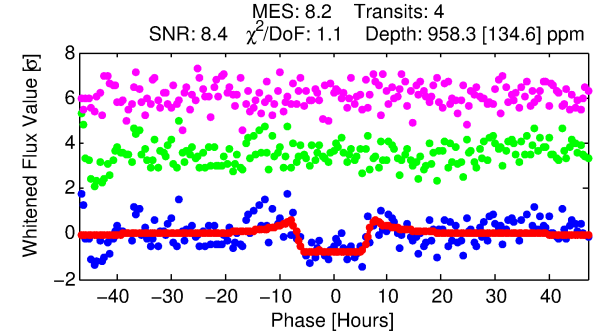
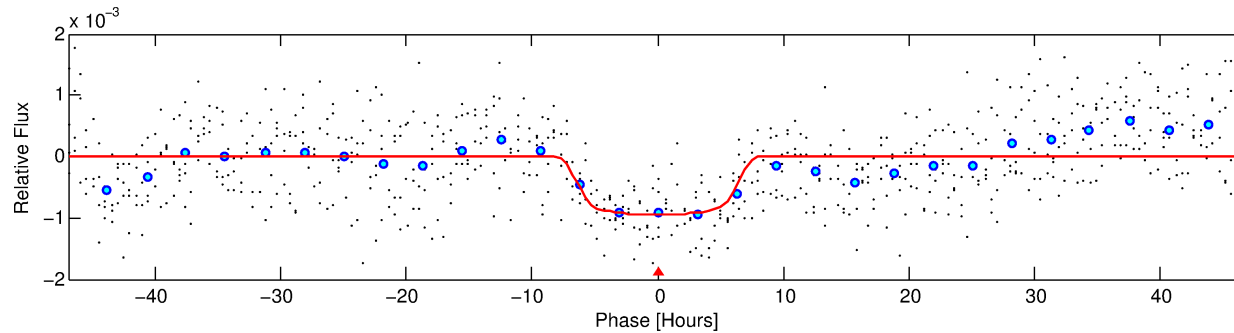
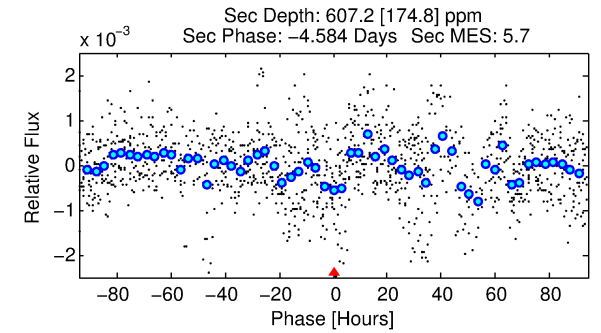
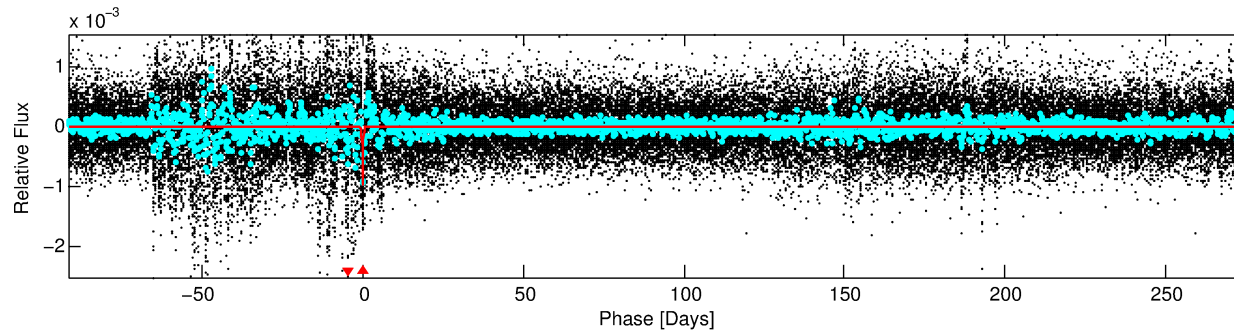
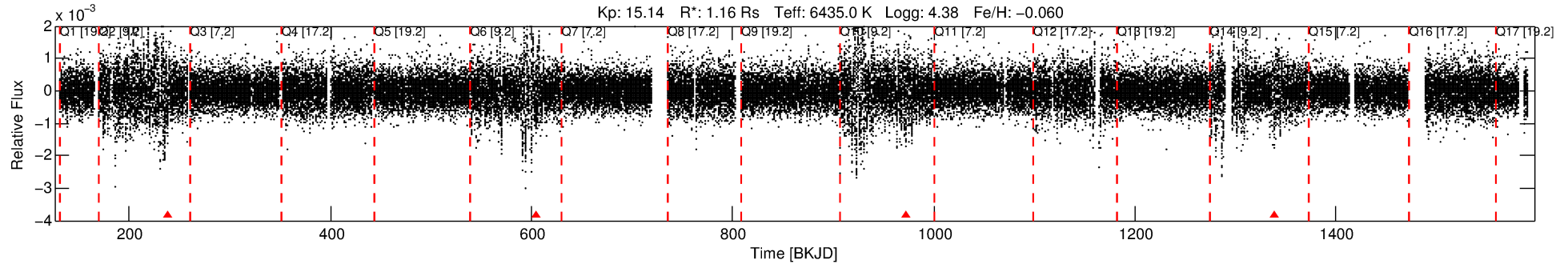
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008374423-01

No Significant Match Found

DV One-Page Summary

KIC: 8374423 Candidate: 1 of 1 Period: 367.151 d



DV Fit Results:

Period = 367.15095 [0.01147] d
Epoch = 237.9680 [0.0226] BKJD
Rp/R* = 0.0335 [0.0030]
a/R* = 88.20 [20.63]
b = 0.91 [0.05]
Seff = 1.82 [0.68]
Teq = 296 [28] K
Rp = 4.23 [1.31] Re
a = 1.0621 [0.2609] AU
Ag = 21095.20 [10264.85] [2.05σ]
Teffp = 5521 [500] K [10.44σ]

DV Diagnostic Results:

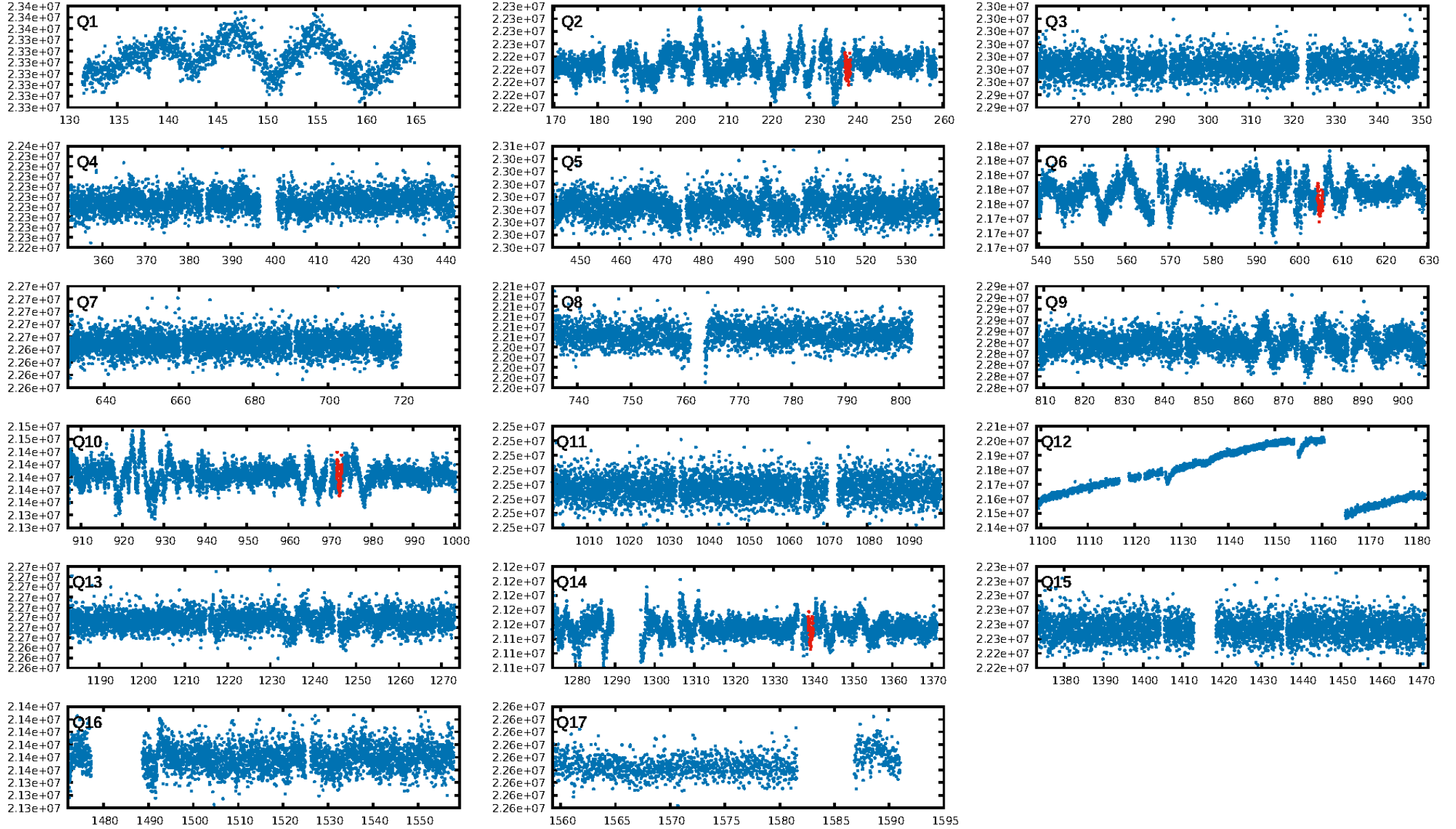
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 41.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.40e-10
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 0.7759

Centroid-sig: 12.4%
Centroid-so: 2.842 arcsec [1.26σ]
OotOffset-rm: 3.507 arcsec [2.65σ]
KicOffset-rm: 3.325 arcsec [2.29σ]
OotOffset-st: 4/0/0/0 [4]
KicOffset-st: 4/0/0/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

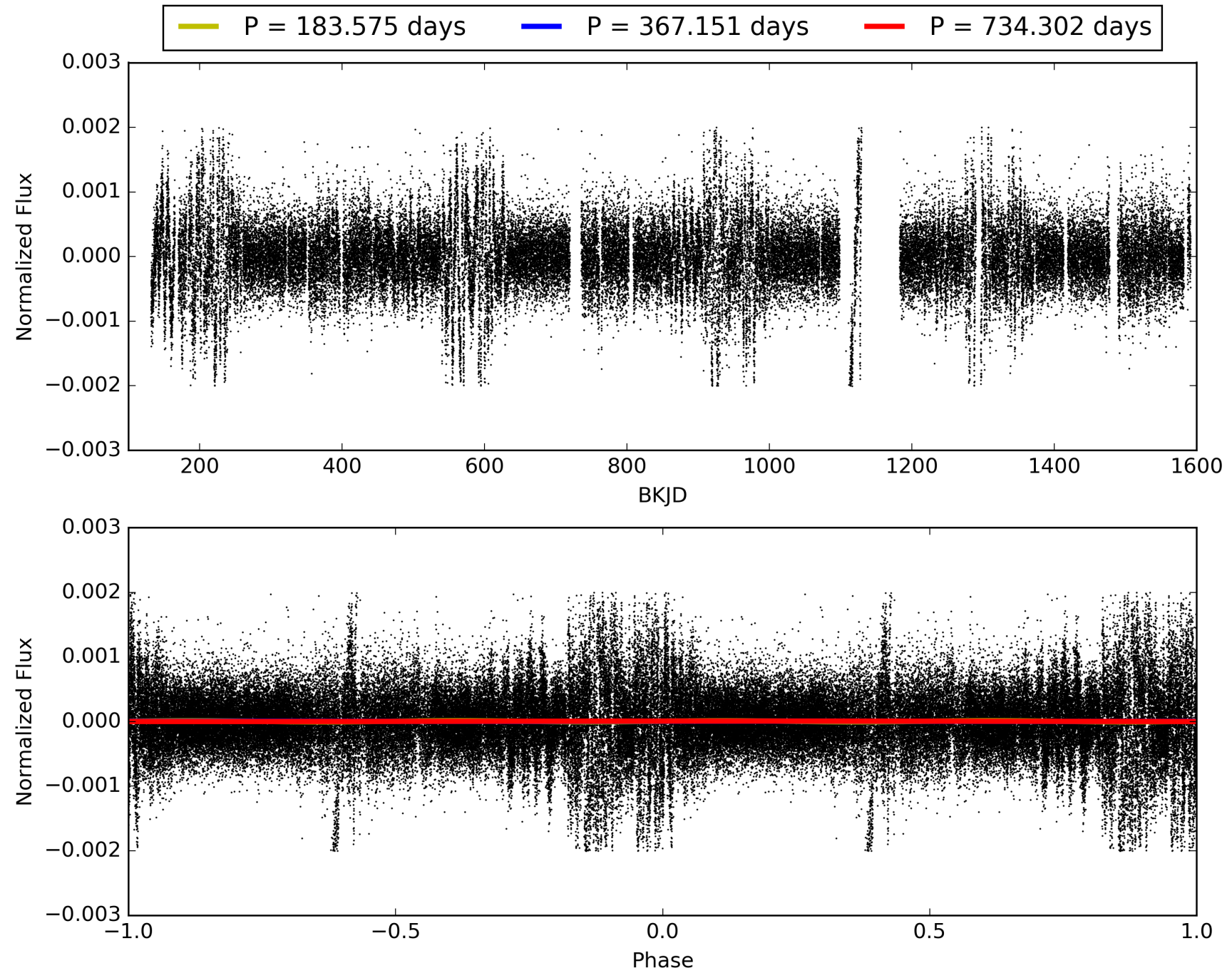
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:51:15 Z

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

TCE 008374423-01, PDC Light Curves

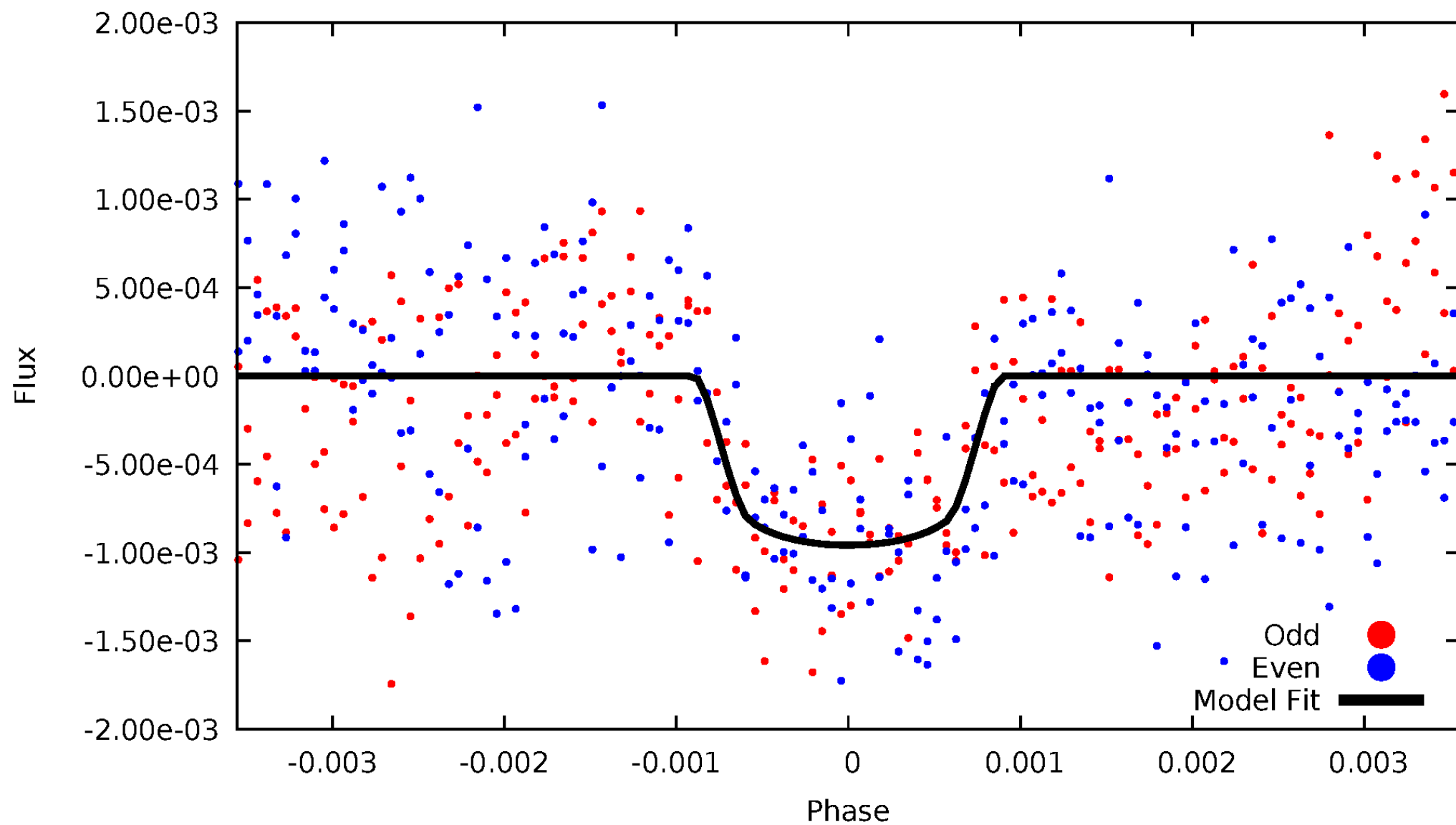


TCE 008374423-01



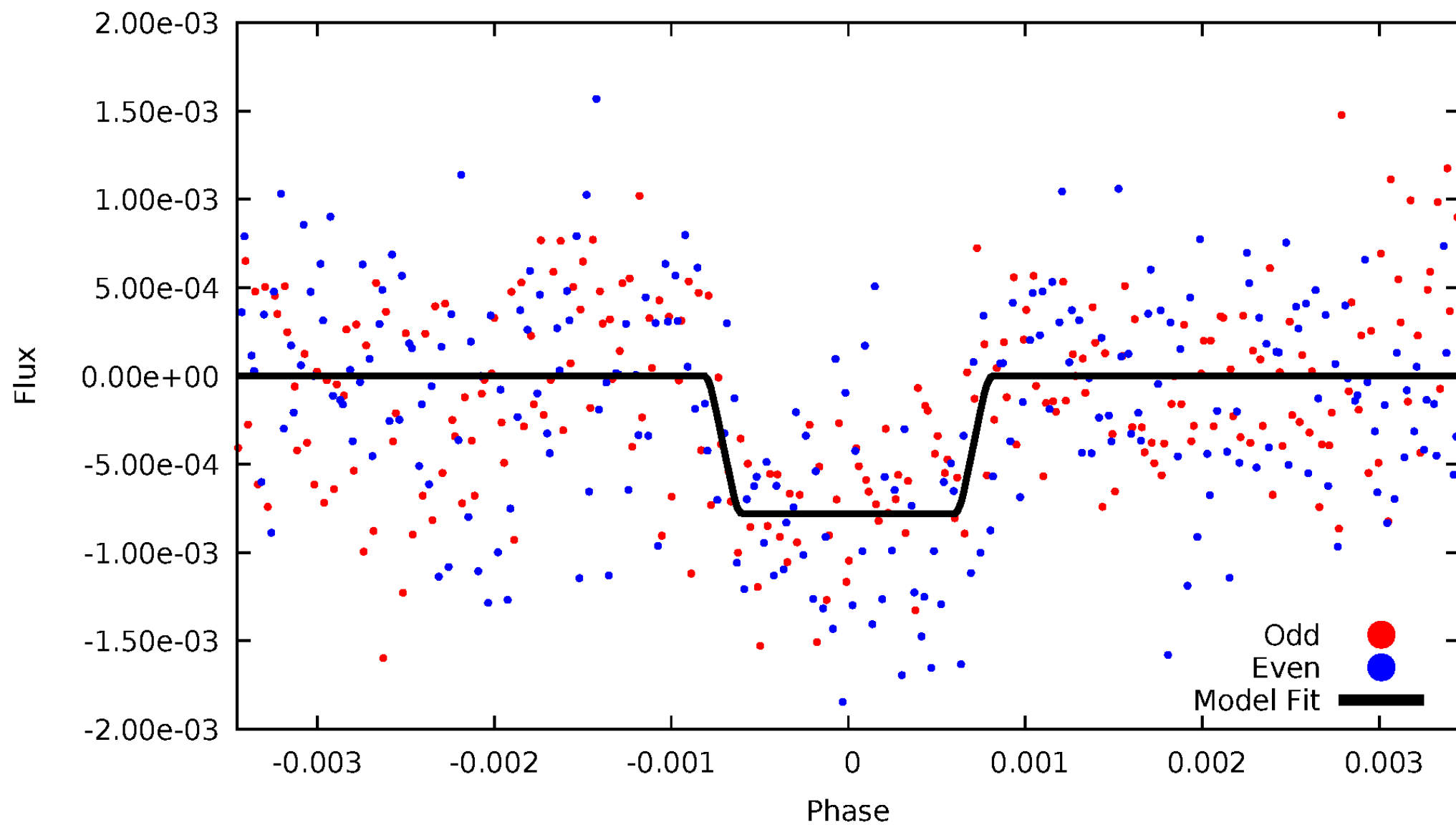
DV Odd/Even

TCE 008374423-01



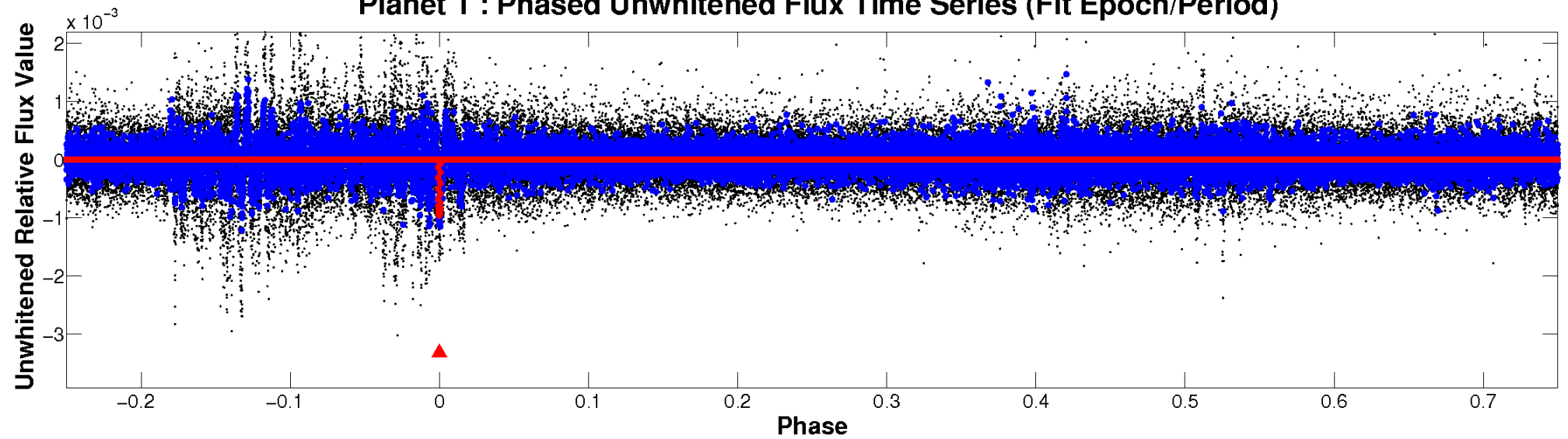
ALT Odd/Even

TCE 008374423-01

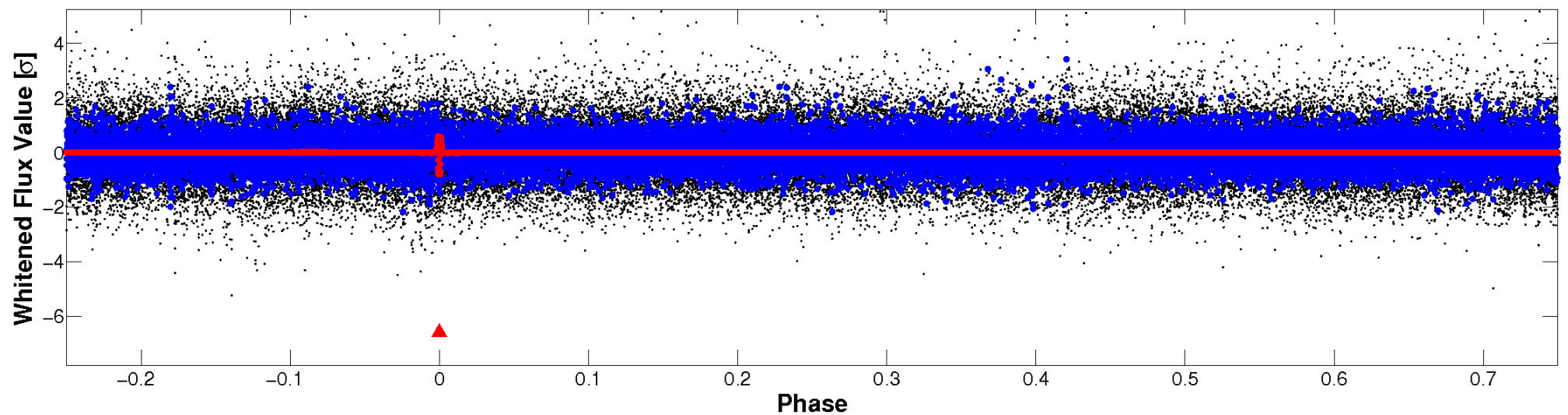


Non-Whitened Vs. Whitened Light Curve

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 008374423-01 P=367.150950 Days $T_0=237.967998$ (BKJD)



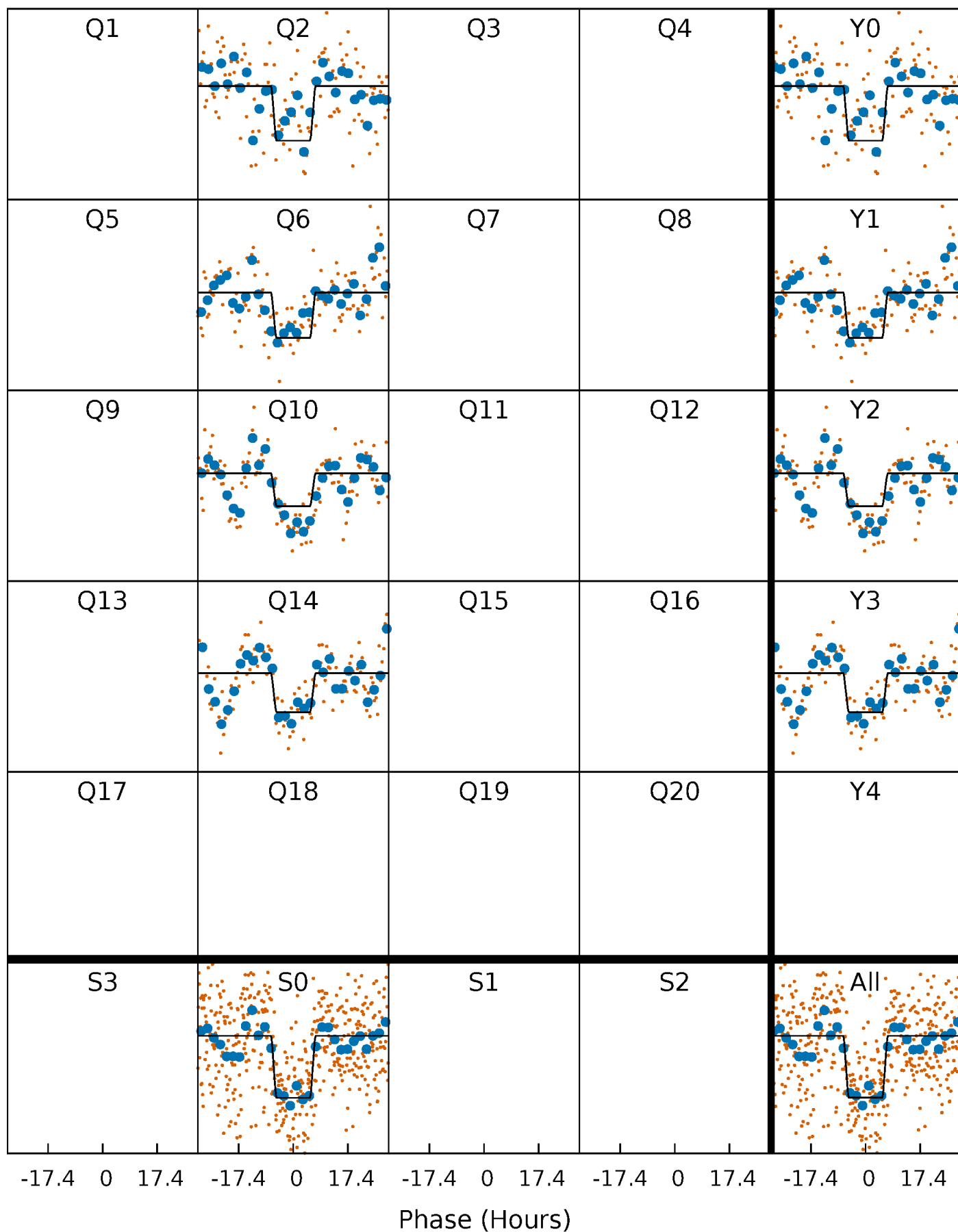
DV Quarter-Phased Transit Curves

TCE 008374423-01 P=367.150950 Days $T_0=237.967998$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

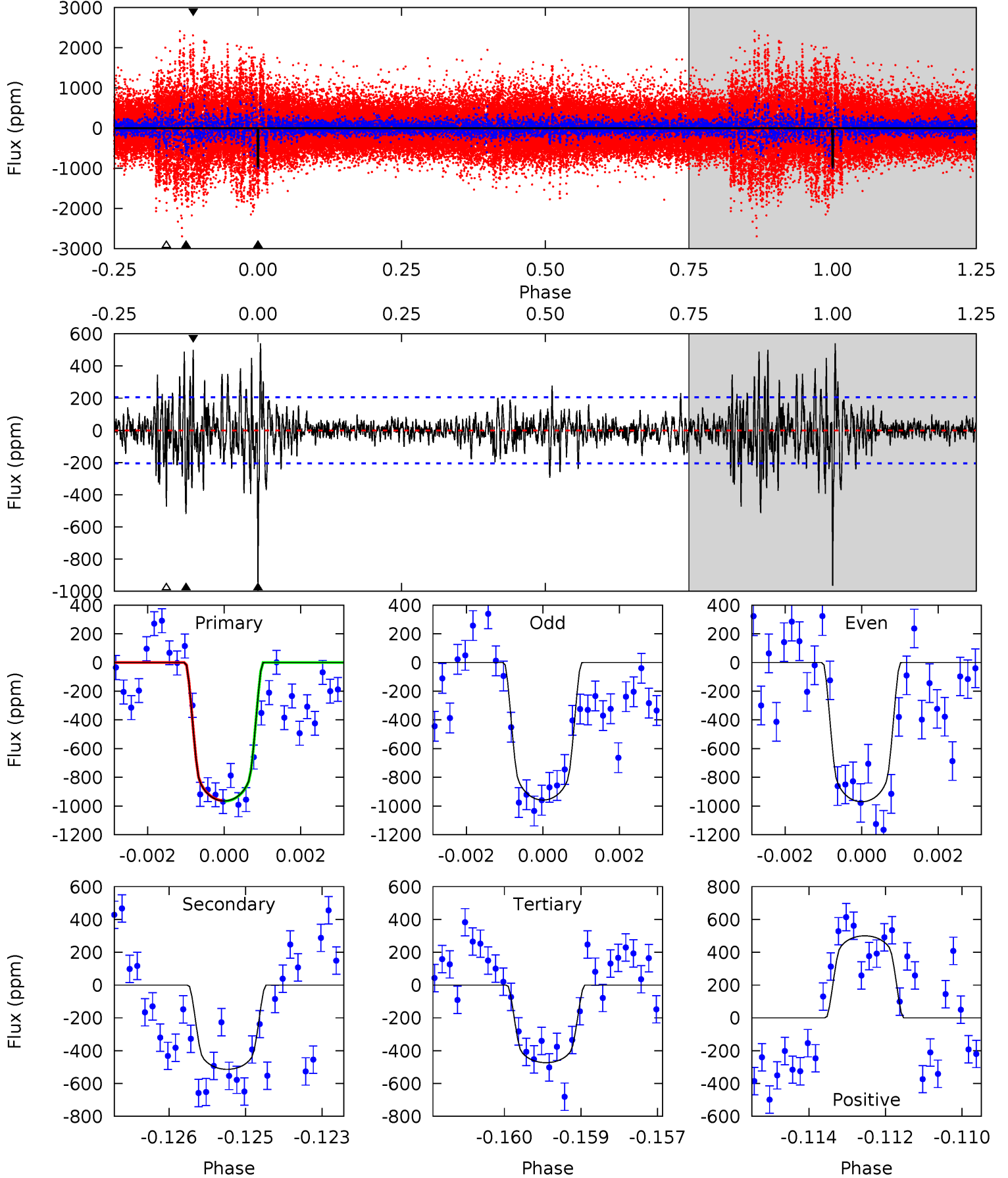
TCE 008374423-01 P=367.143395 Days $T_0=237.979527$ (BKJD)



DV Model-Shift Uniqueness Test

008374423-01, P = 367.150950 Days, E = 237.967998 Days

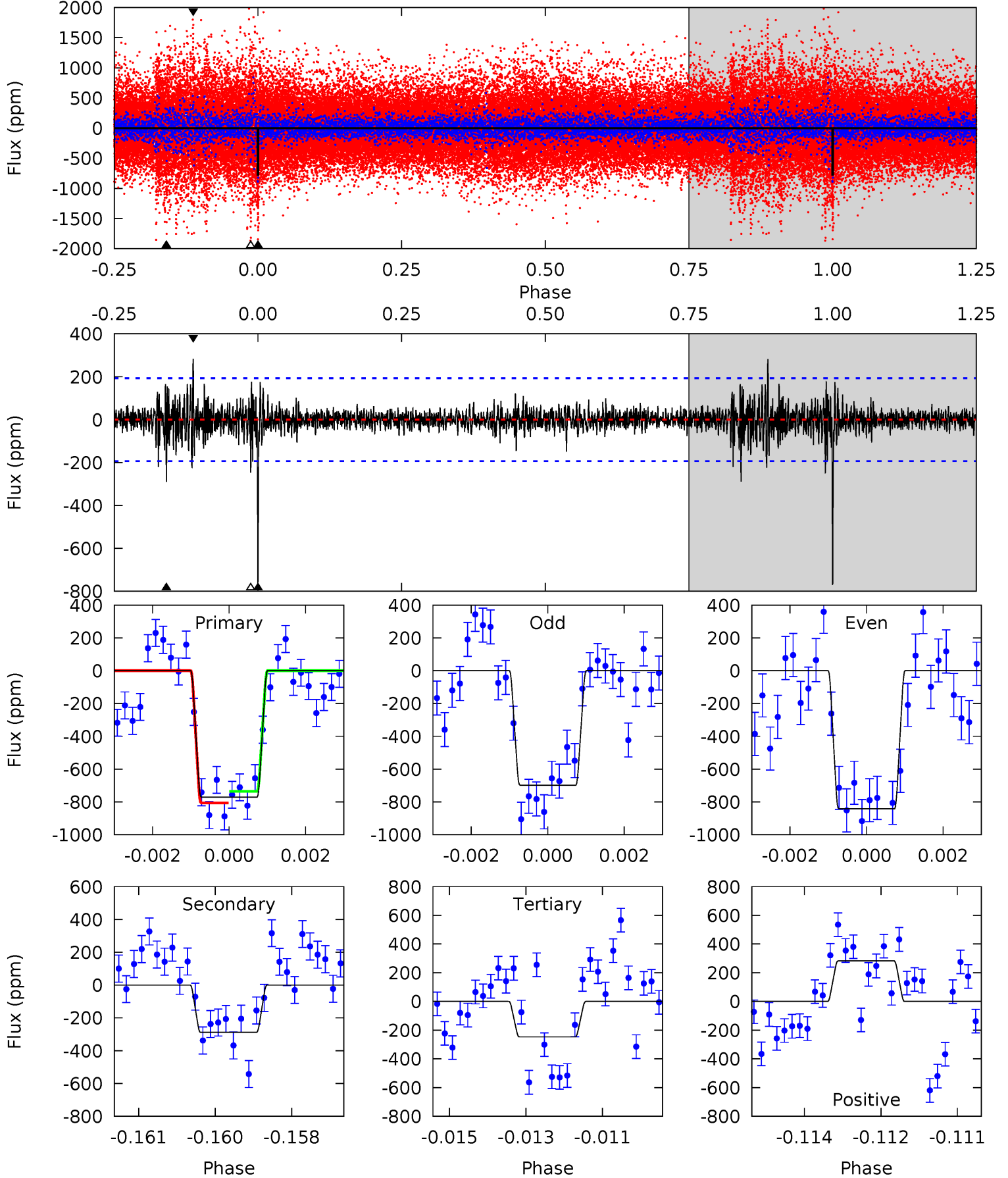
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	13.4	12.3	13.0	5.35	3.12	2.44	12.8	12.1	1.06	0.36	0.15	1.01	0.36	0.05



Alt Model-Shift Uniqueness Test

008374423-01, P = 367.143395 Days, E = 237.979527 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	8.01	6.86	7.84	5.36	3.15	1.12	14.5	13.5	1.15	0.17	1.99	1.10	0.27	0.97



Stellar Parameters For KIC 008374423

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6435^{+153}_{-211}	$4.385^{+0.062}_{-0.188}$	$-0.060^{+0.250}_{-0.300}$	$1.157^{+0.345}_{-0.148}$	$1.186^{+0.169}_{-0.152}$	$1.078^{+0.363}_{-0.531}$
	+2%/-3%	+1%/-4%	+417%/-500%	+30%/-13%	+14%/-13%	+34%/-49%
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 008374423-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-514 ± 38	$4.38^{+0.75}_{-0.55}$	421^{+30}_{-19}	5327^{+295}_{-264}	16612^{+4494}_{-4682}
Alt.	-289 ± 36	$3.67^{+0.59}_{-0.57}$	421^{+30}_{-21}	5079^{+322}_{-300}	13163^{+4930}_{-3764}

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

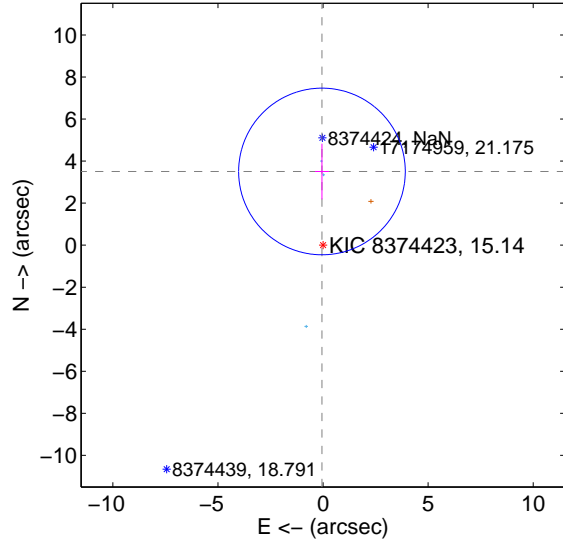
Supplemental centroid analysis for 008374423-01. Kepler magnitude: 15.14. Transit SNR 8.36

There are 3 quarters with good PRF difference image offsets

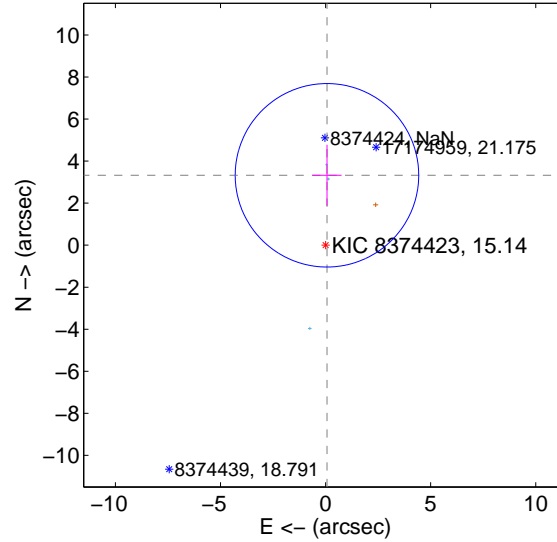
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.507 ± 1.321	2.65	0.051 ± 0.333	3.506 ± 1.323
PRF-fit source offset from KIC position	3.325 ± 1.455	2.29	-0.065 ± 0.696	3.324 ± 1.452
photometric centroid source offset	2.84 ± 2.25	1.26	-0.75 ± 1.87	2.74 ± 2.28

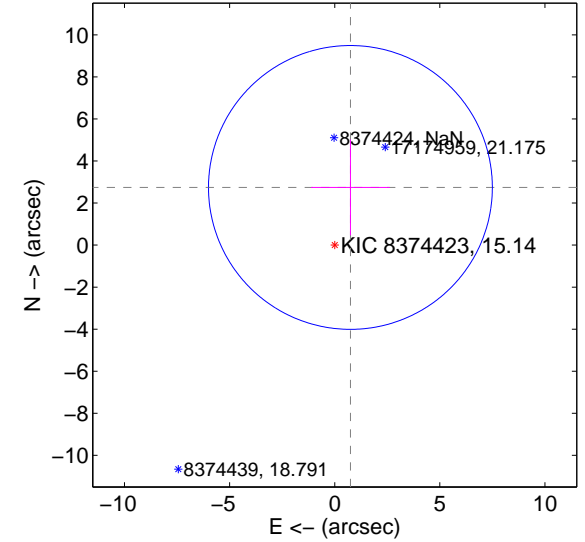
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

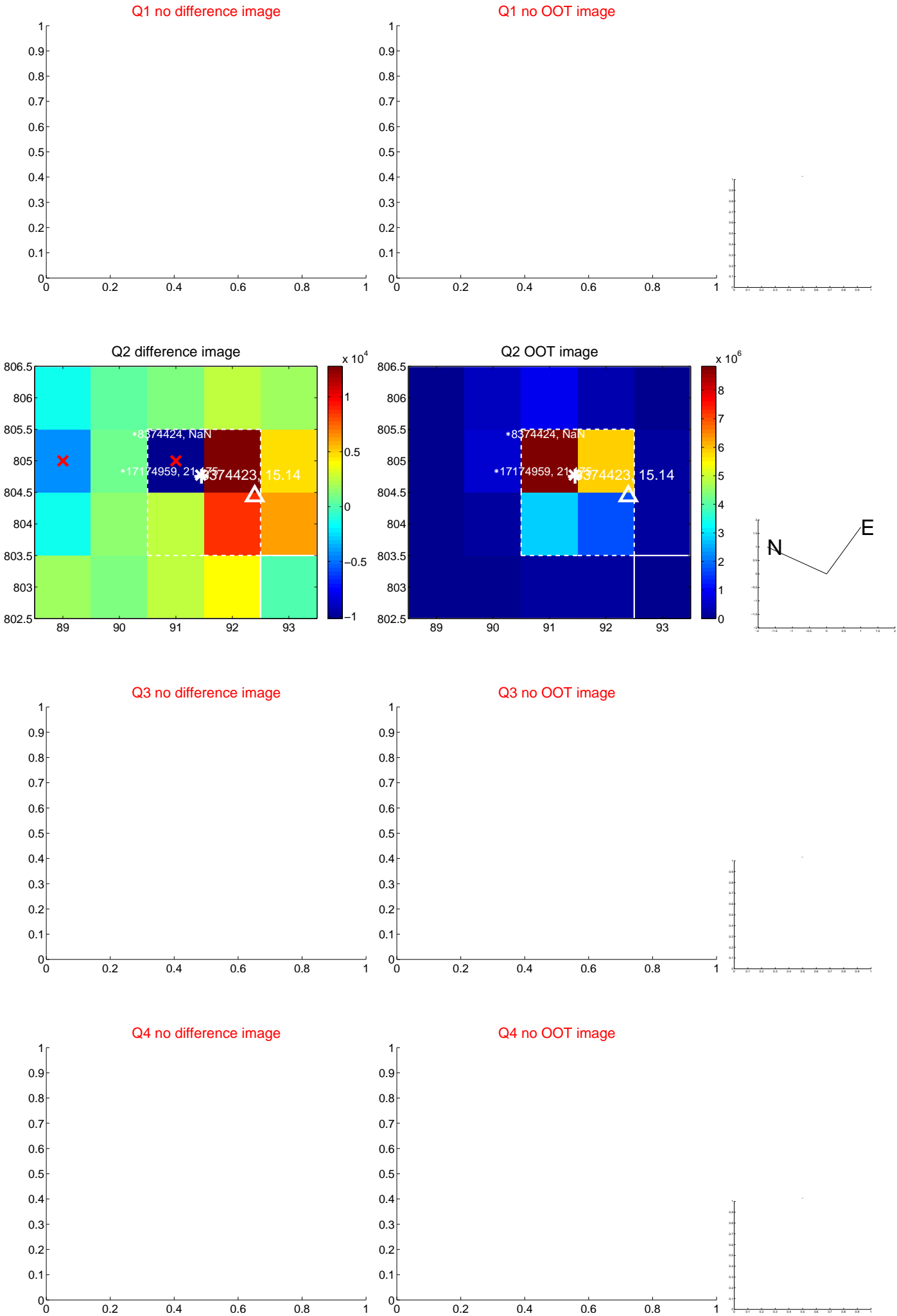


offset from photometric centroids

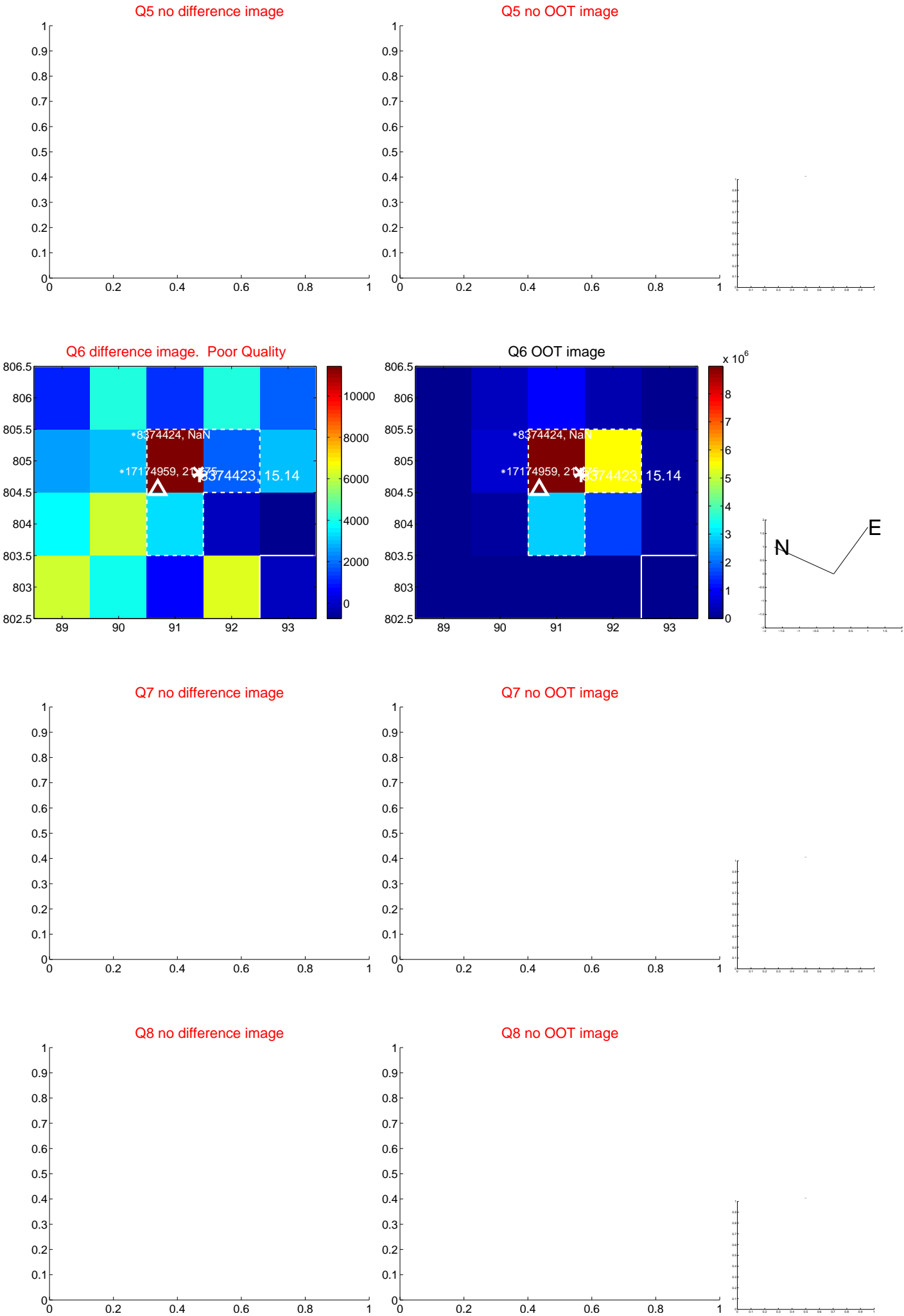


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

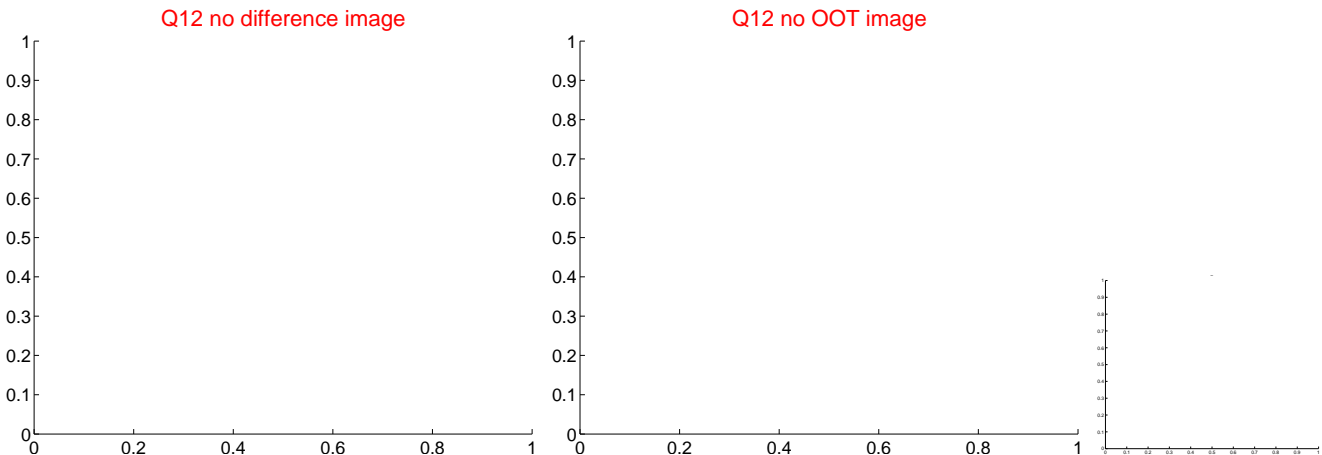
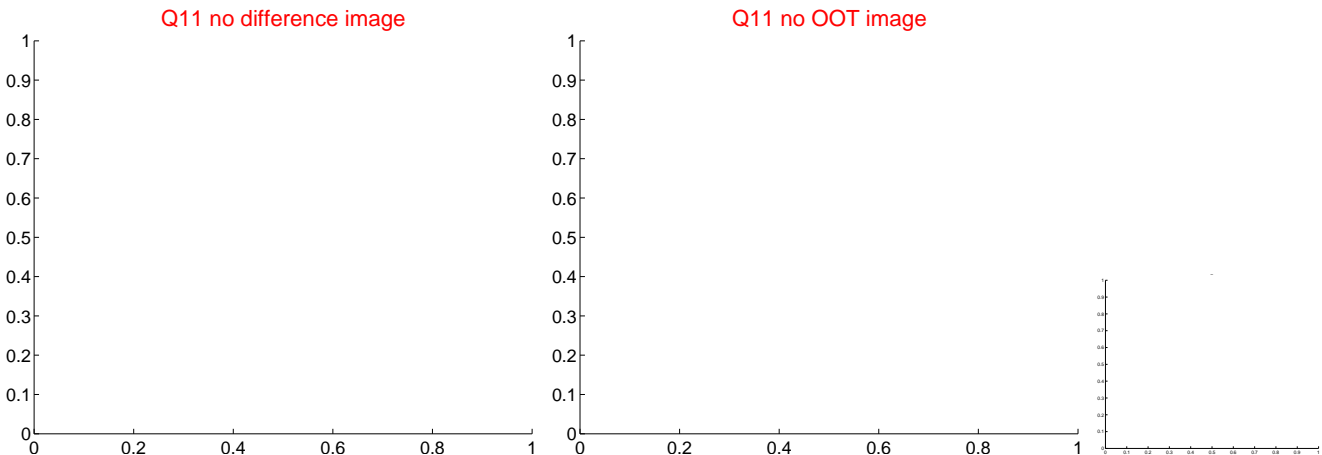
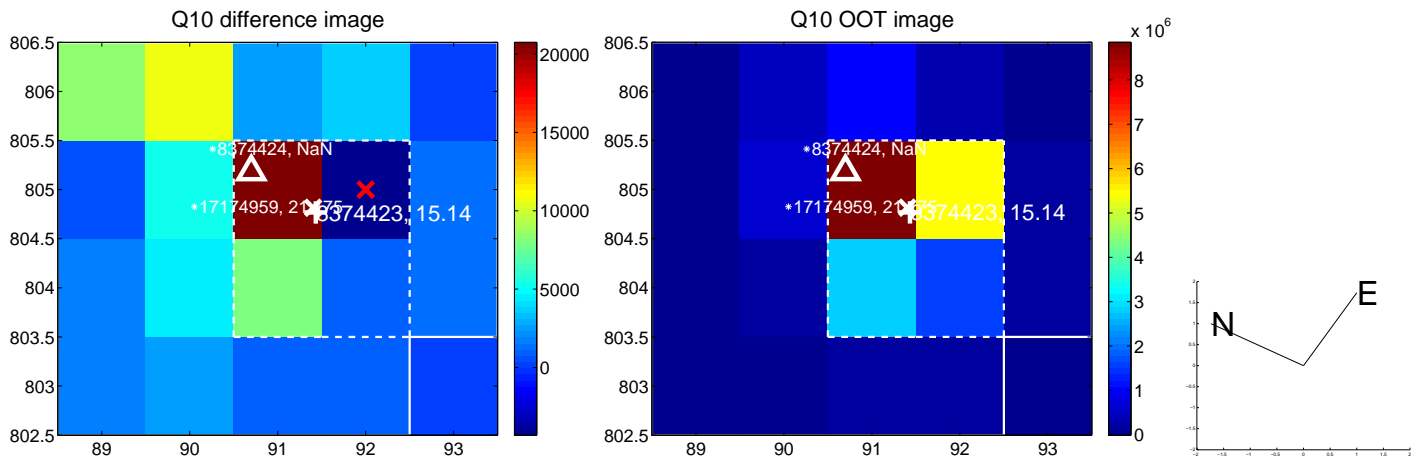
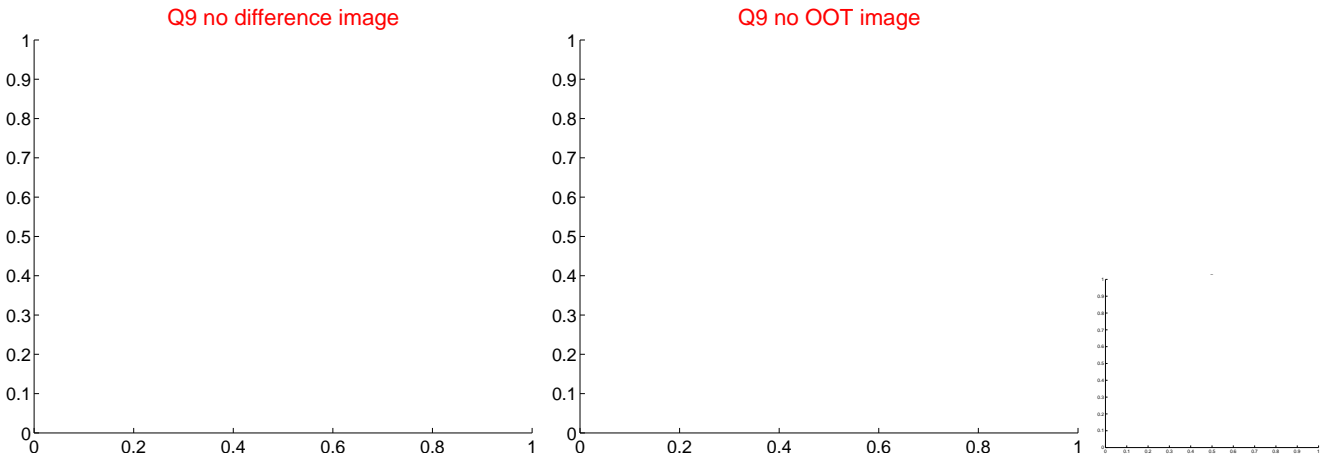
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



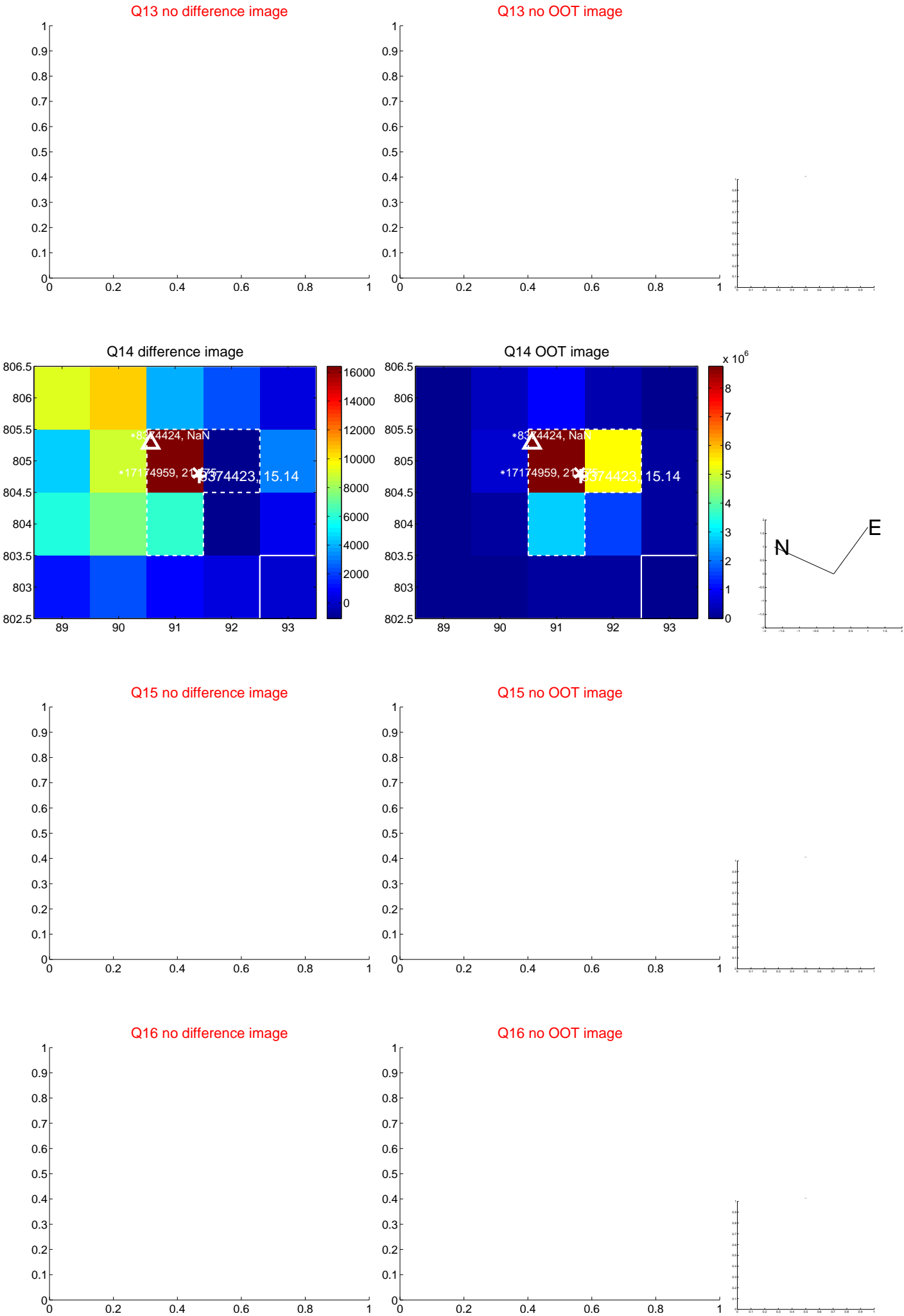
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



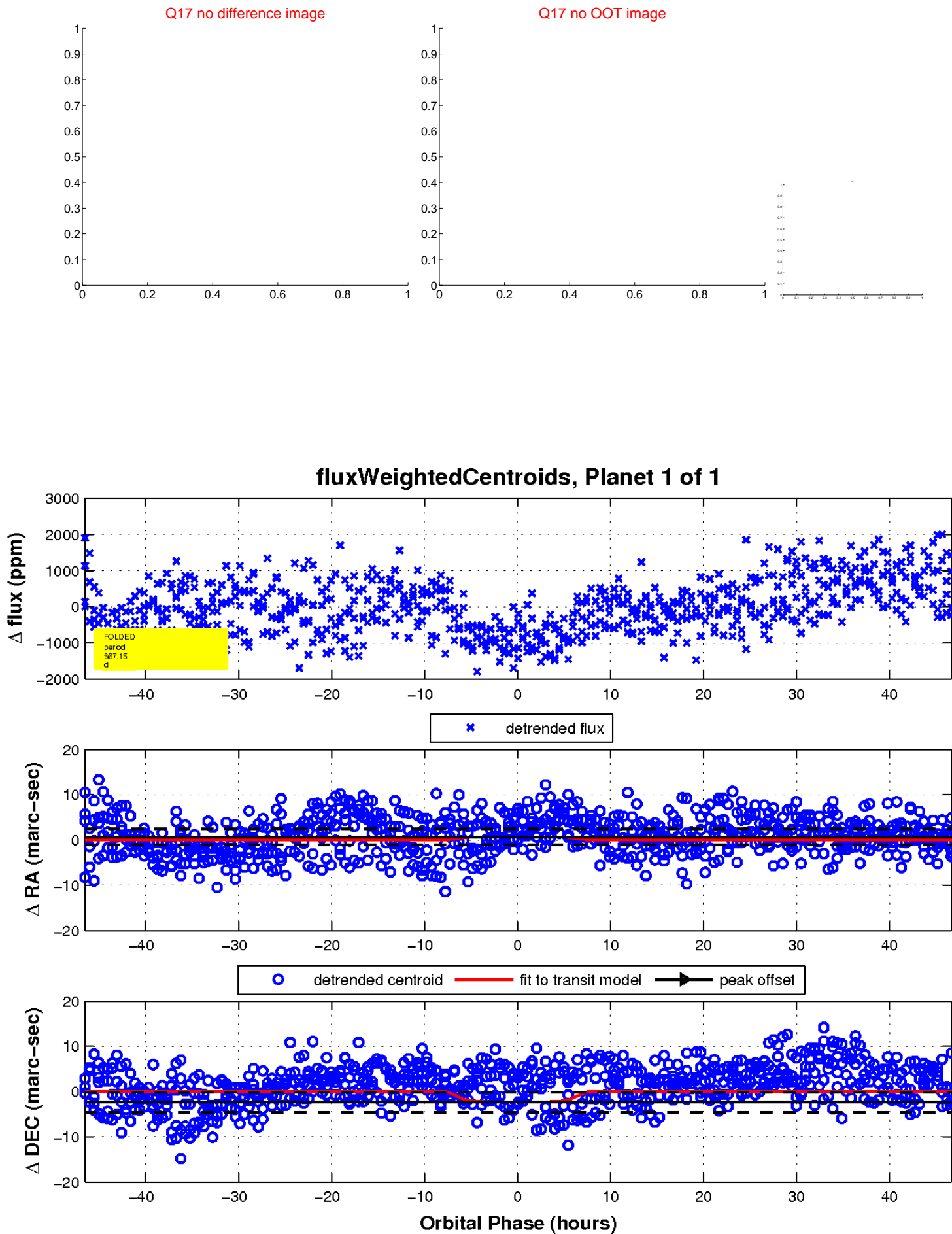
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

