

KIC 008938245

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})
008938245-01	OBS	No	606.948686	314.557501	1042.2	16.183	10.9	10.4	0.77	5218	2.48	0.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008938245-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—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.

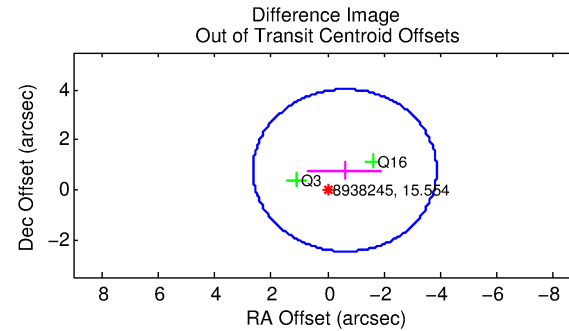
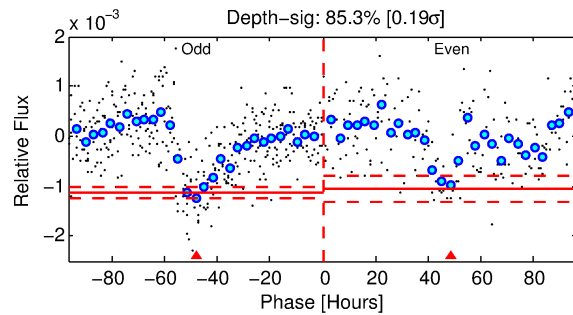
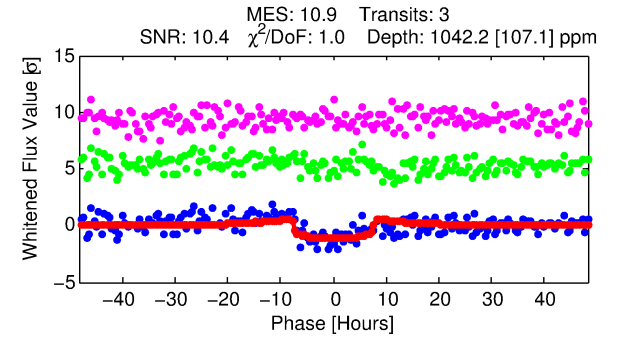
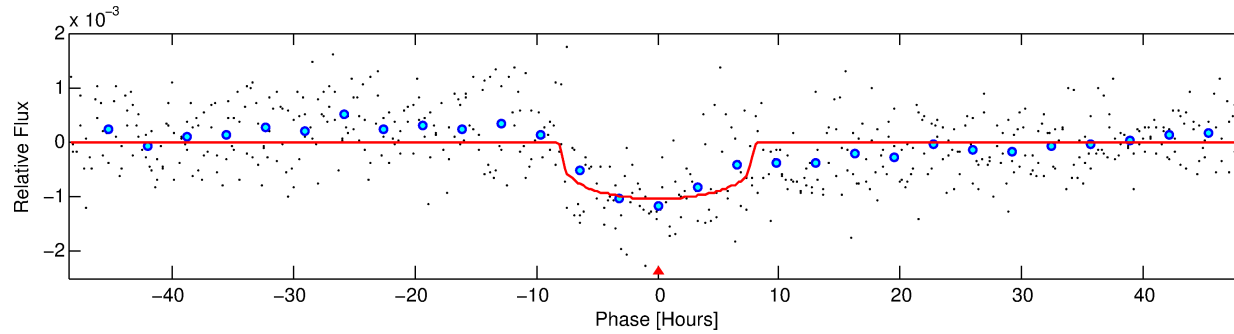
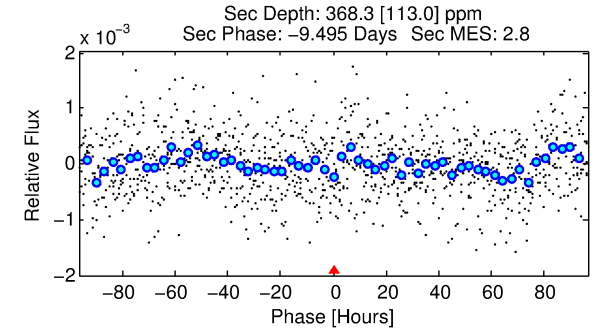
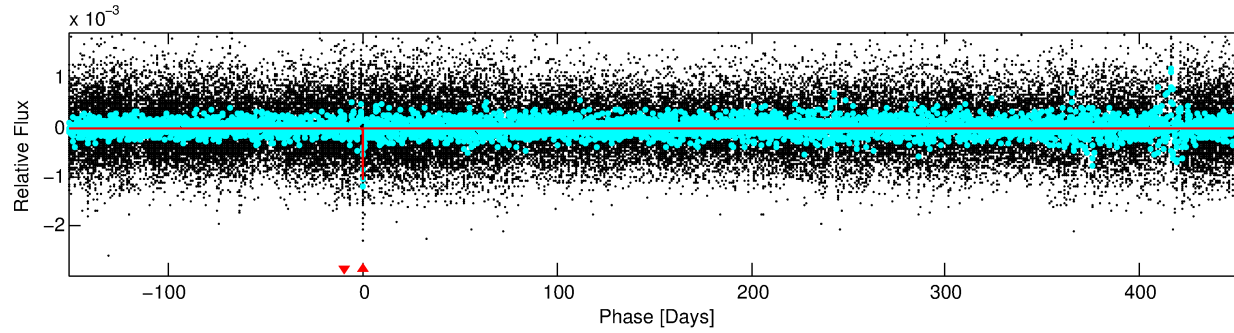
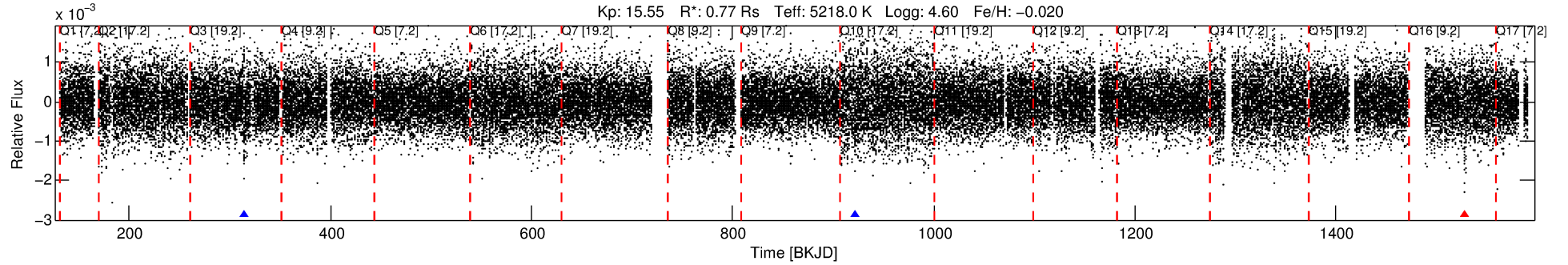
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008938245-01

No Significant Match Found

DV One-Page Summary

KIC: 8938245 Candidate: 1 of 1 Period: 606.949 d



DV Fit Results:

Period = 606.94869 [0.01035] d
Epoch = 314.5575 [0.0141] BKJD
Rp/R* = 0.0294 [0.0177]
a/R* = 273.34 [597.68]
b = 0.39 [4.86]
Seff = 0.22 [0.05]
Teq = 175 [10] K
Rp = 2.48 [1.55] Re
a = 1.3331 [0.1762] AU
Ag = 58578.66 [73742.29] [0.79σ]
Teffp = 4214 [1318] K [3.06σ]

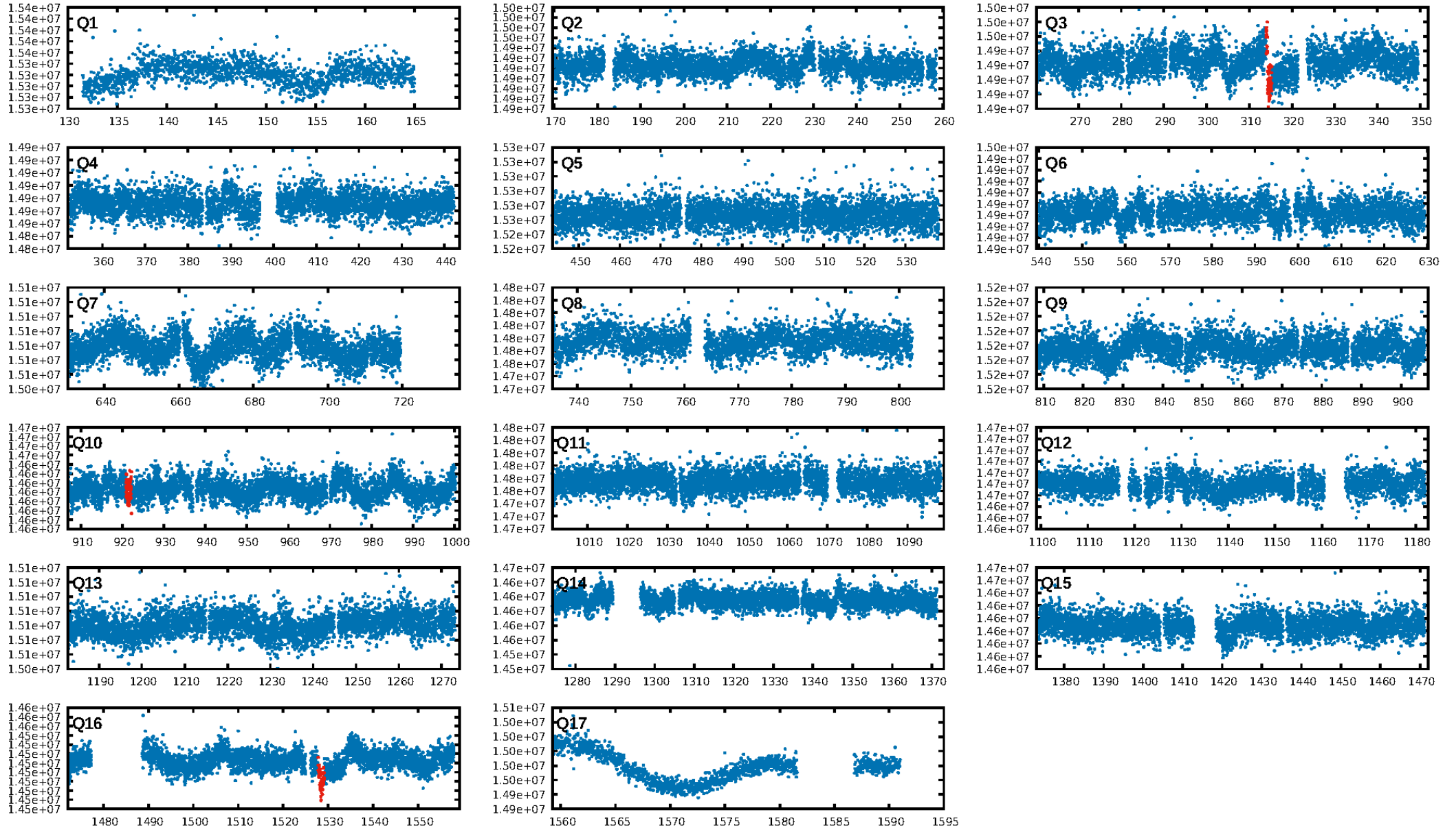
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 43.7%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 1.78e-16
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 6.107
Centroid-sig: 15.1%
Centroid-so: 1.871 arcsec [1.05σ]
OotOffset-rm: 0.984 arcsec [0.91σ]
KicOffset-rm: 0.832 arcsec [0.82σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

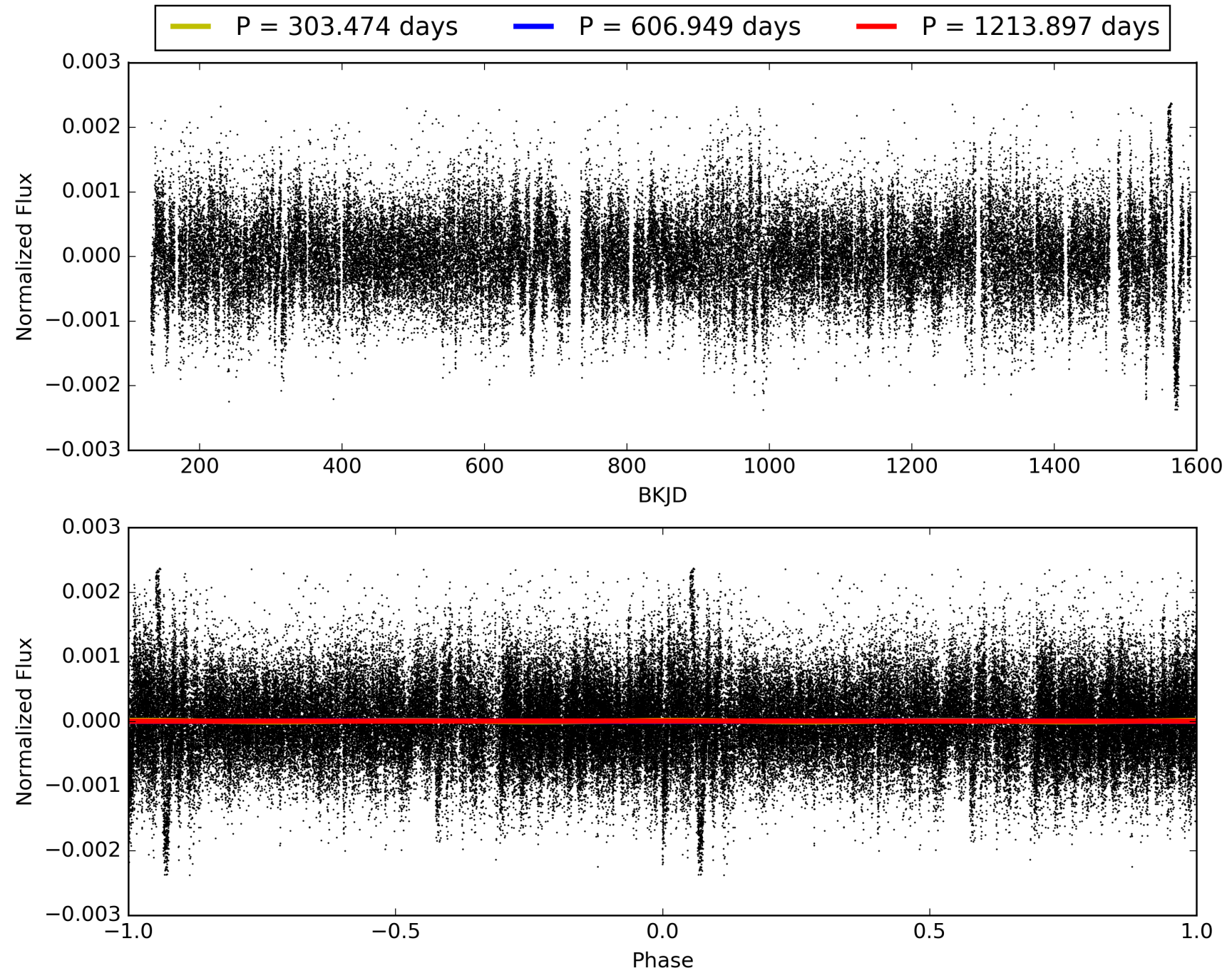
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:07:52 Z

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

TCE 008938245-01, PDC Light Curves

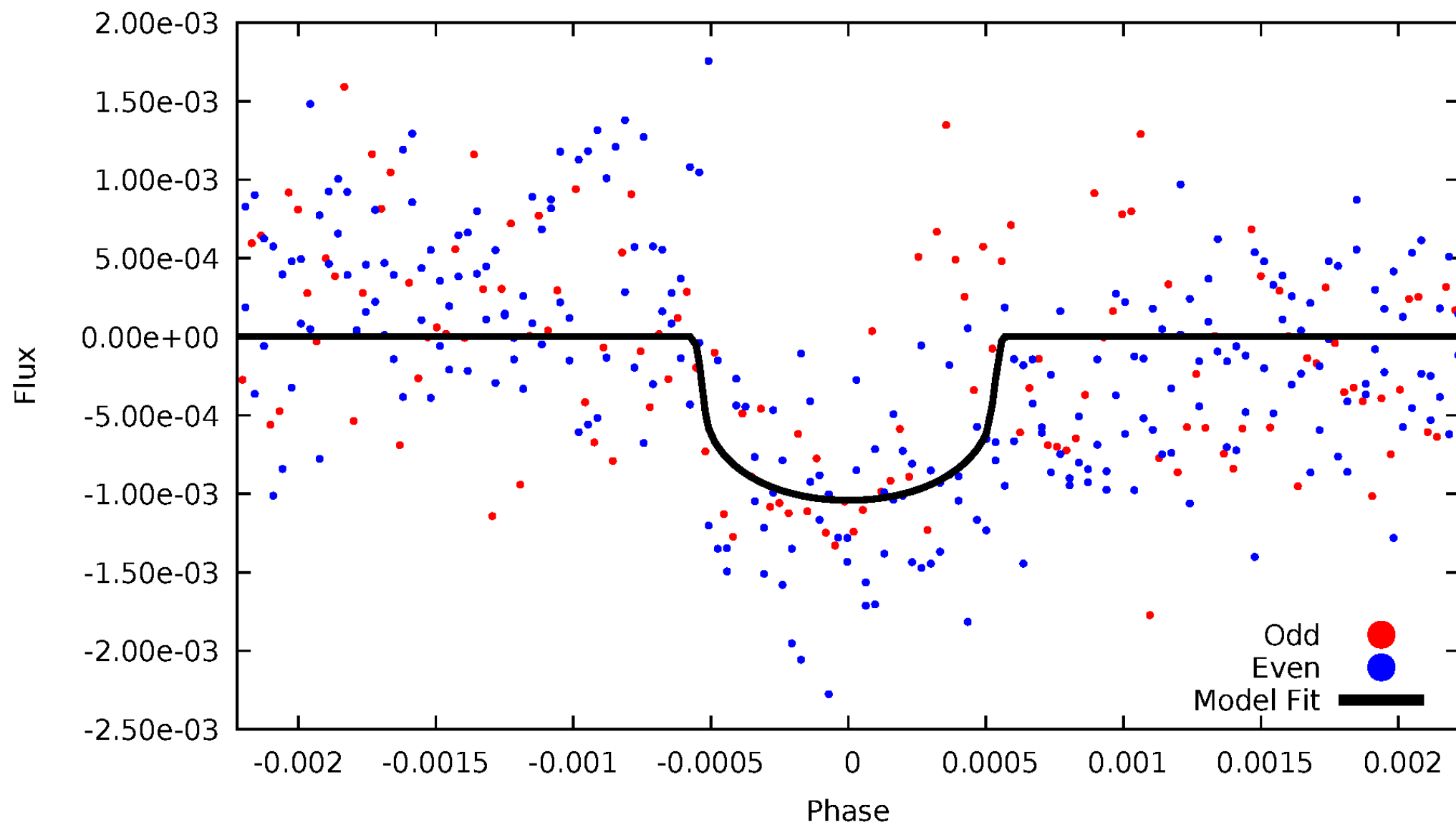


TCE 008938245-01



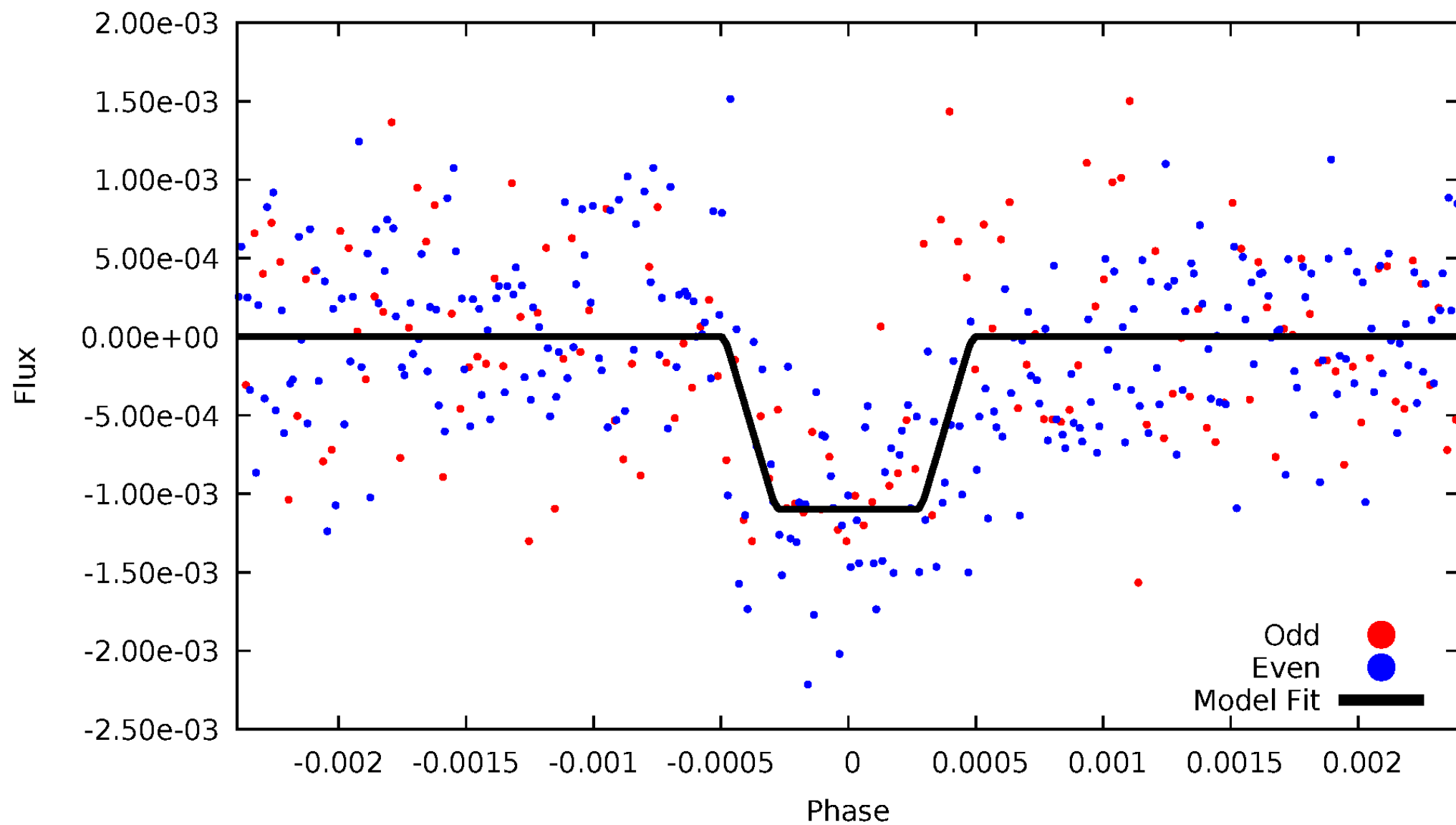
DV Odd/Even

TCE 008938245-01



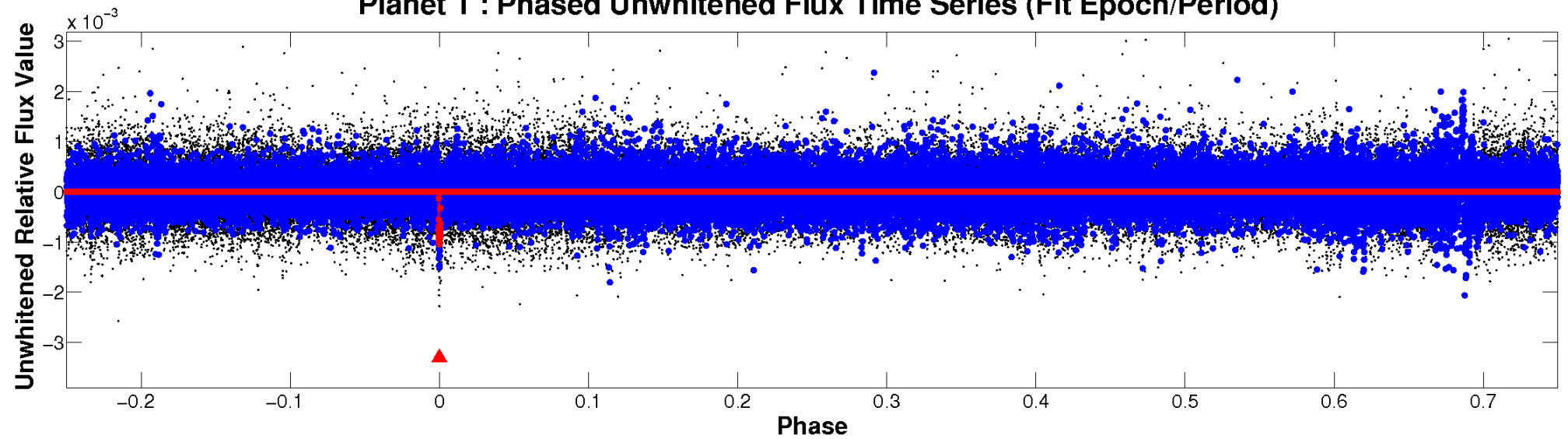
ALT Odd/Even

TCE 008938245-01

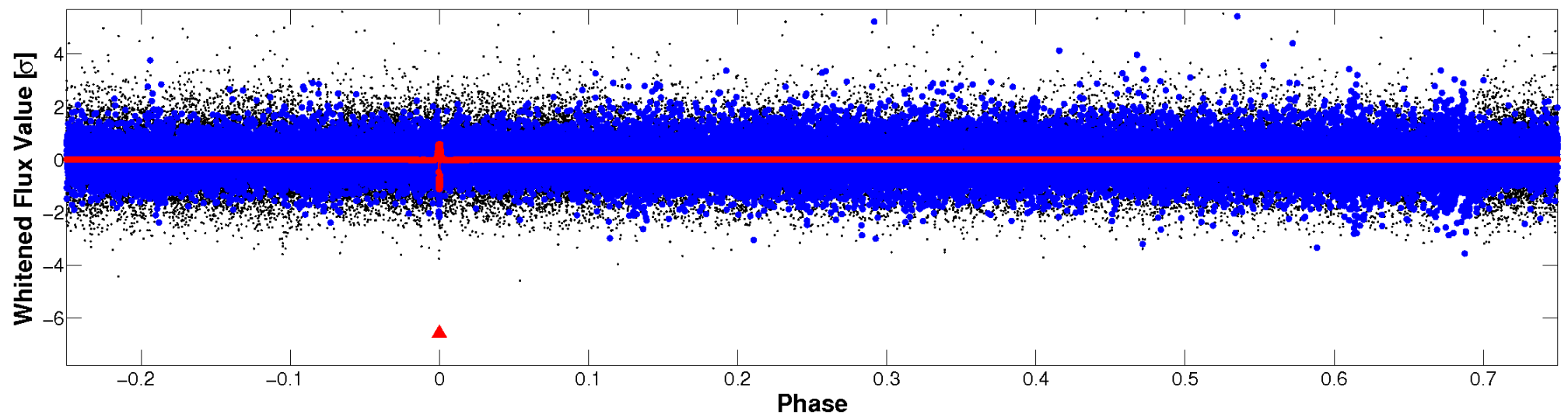


Non-Whitened Vs. Whitened Light Curve

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



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



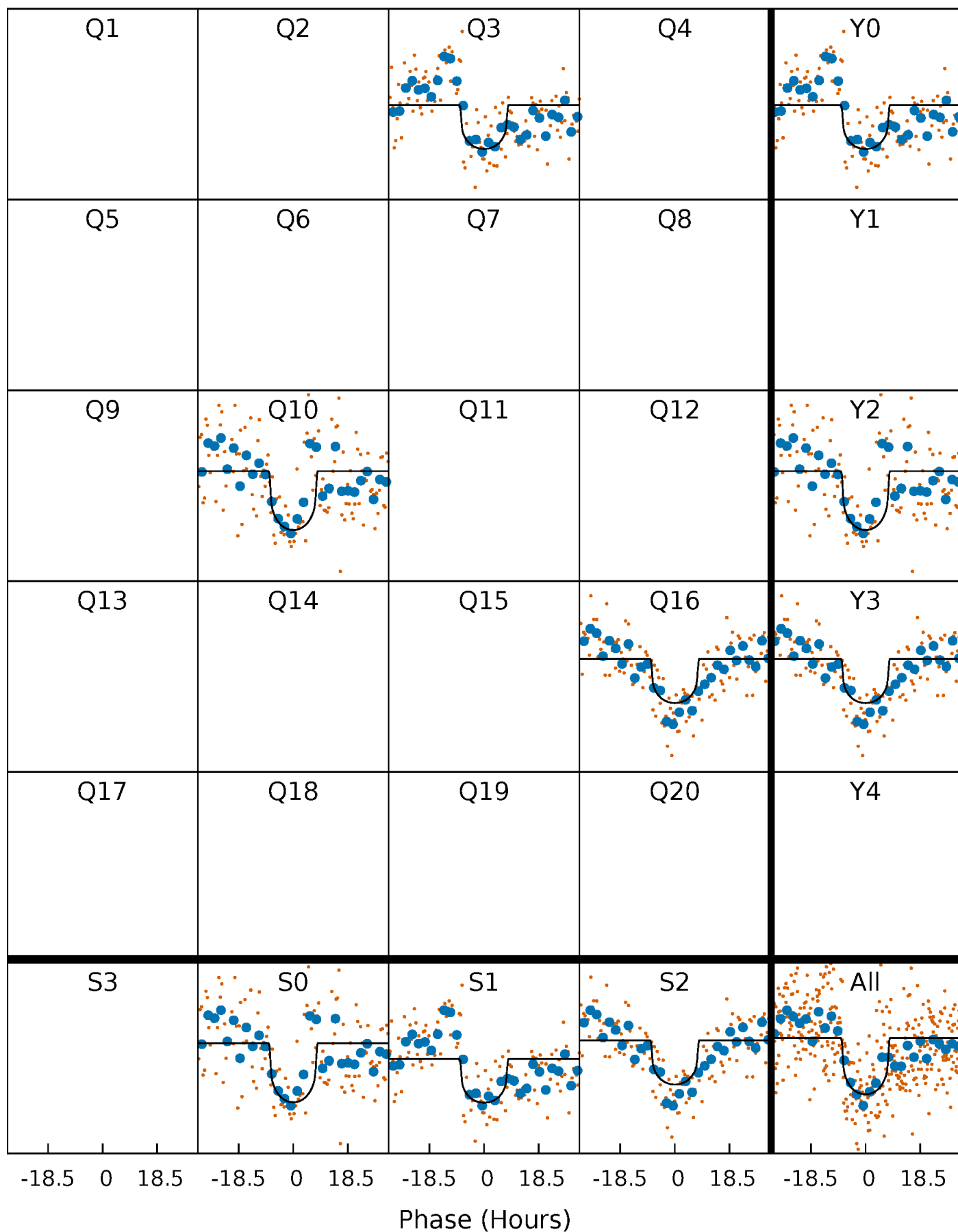
PDC Quarter-Phased Transit Curves

TCE 008938245-01 P=606.948686 Days $T_0=314.557501$ (BKJD)



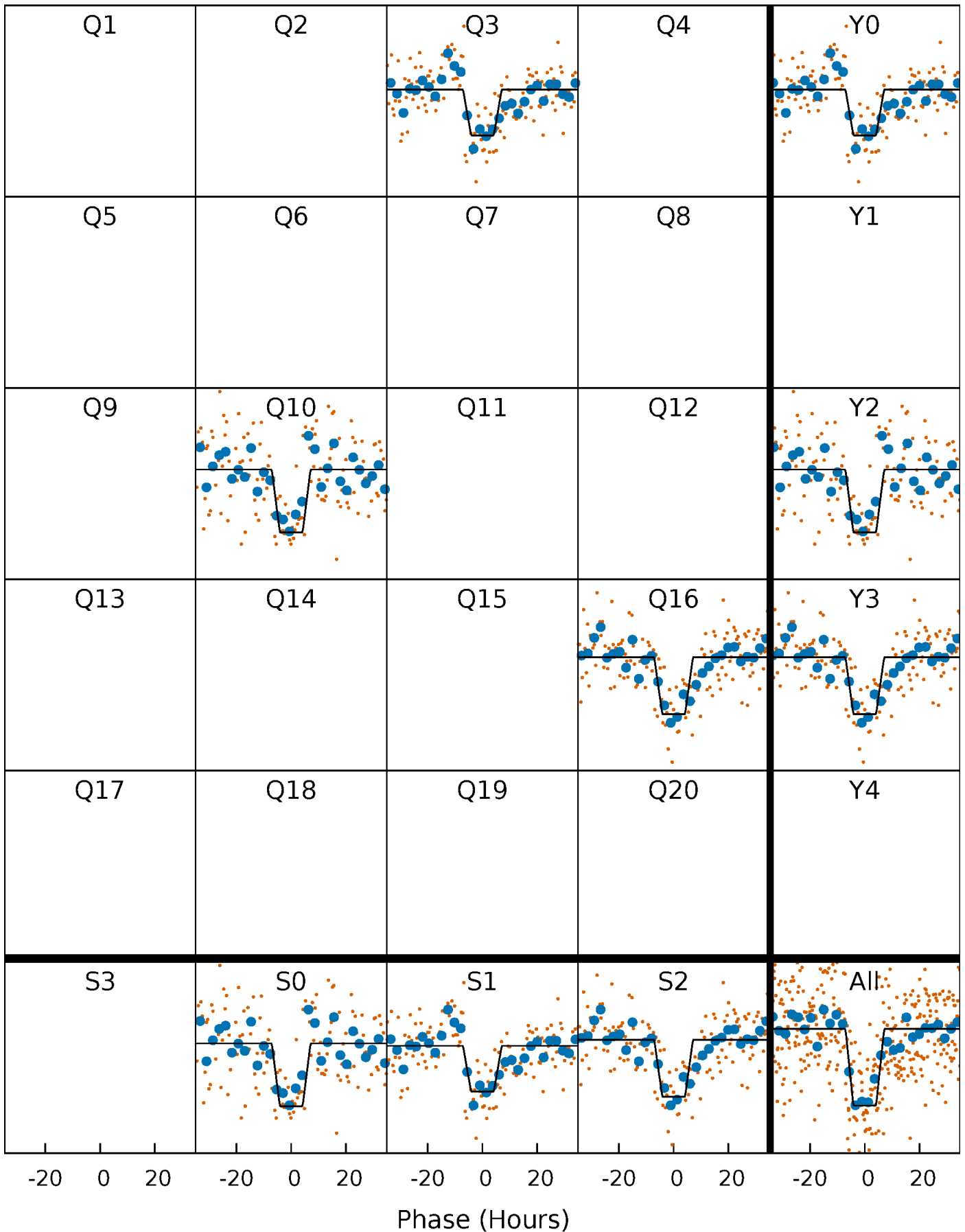
DV Quarter-Phased Transit Curves

TCE 008938245-01 P=606.948686 Days $T_0=314.557501$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

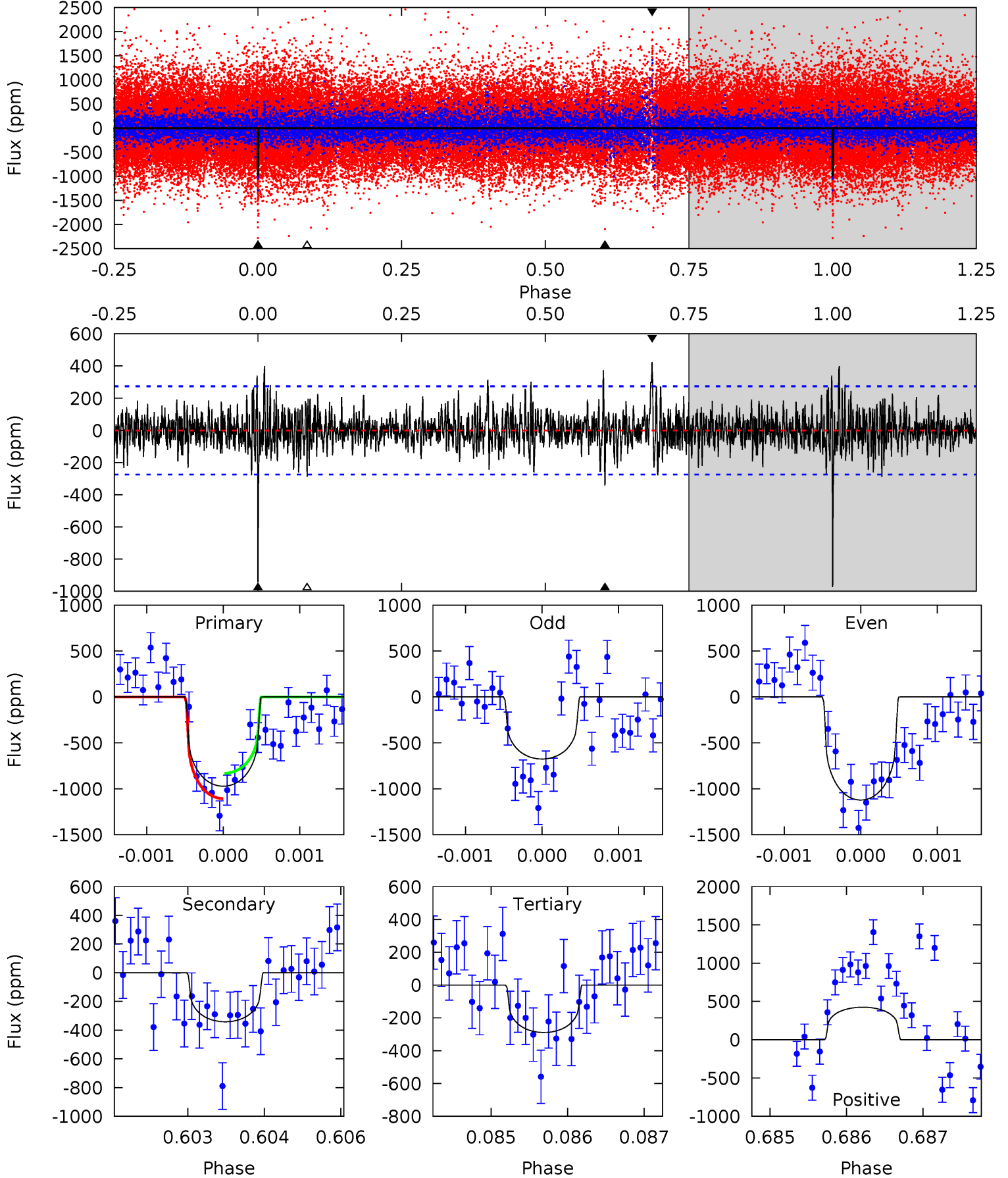
TCE 008938245-01 P=606.951655 Days $T_0=314.529533$ (BKJD)



DV Model-Shift Uniqueness Test

008938245-01, P = 606.948686 Days, E = 314.557501 Days

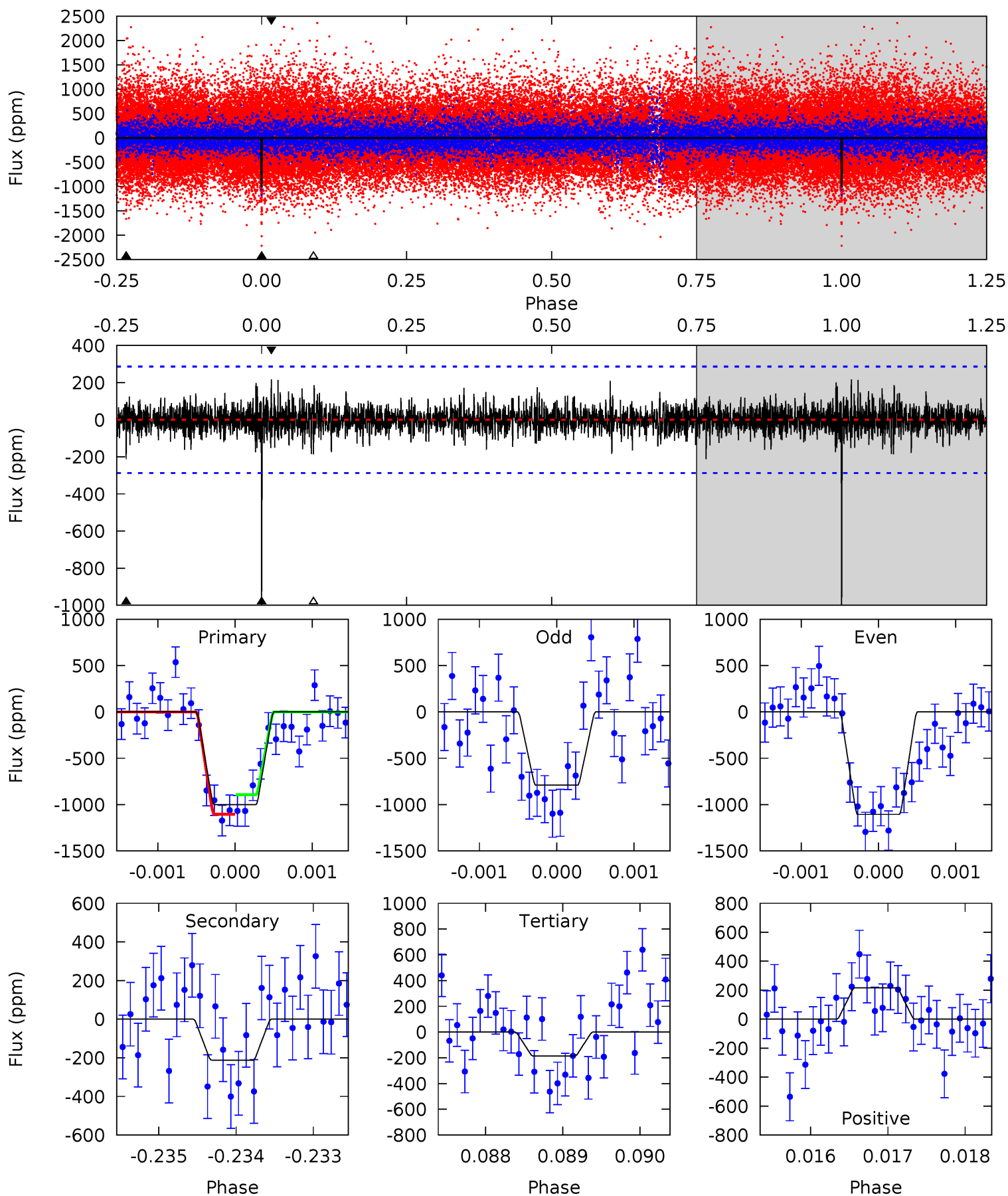
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	6.75	5.72	8.40	5.43	3.25	1.71	13.5	10.8	1.03	-1.64	4.18	1.03	0.30	2.72



Alt Model-Shift Uniqueness Test

008938245-01, P = 606.951655 Days, E = 314.529533 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	4.03	3.54	4.13	5.45	3.29	0.97	15.5	14.9	0.49	-0.10	2.85	0.99	0.18	2.01



Stellar Parameters For KIC 008938245

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5218^{+174}_{-158}	$4.596^{+0.026}_{-0.104}$	$-0.020^{+0.300}_{-0.300}$	$0.772^{+0.122}_{-0.056}$	$0.867^{+0.060}_{-0.095}$	$2.657^{+0.441}_{-0.849}$
	+3%/-3%	+1%/-2%	+1500%/-1500%	+16%/-7%	+7%/-11%	+17%/-32%
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 008938245-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-342 ± 51	$2.74^{+1.57}_{-1.45}$	248^{+11}_{-9}	4198^{+1556}_{-607}	$41747^{+145523}_{-23948}$
Alt.	-212 ± 53	$2.91^{+1.51}_{-1.41}$	249^{+11}_{-9}	3770^{+1078}_{-506}	23975^{+64982}_{-14368}

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

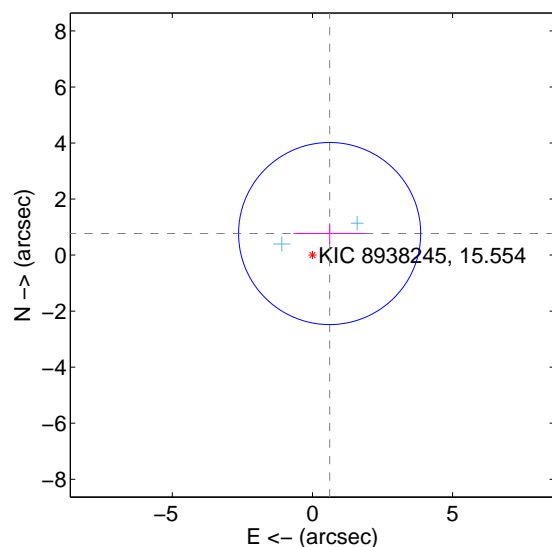
Supplemental centroid analysis for 008938245-01. Kepler magnitude: 15.55. Transit SNR 10.42

There are 2 quarters with good PRF difference image offsets

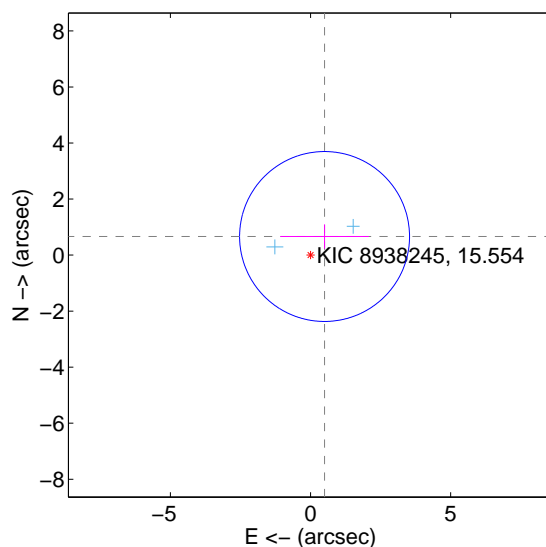
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.984 ± 1.083	0.91	-0.613 ± 1.290	0.770 ± 0.362
PRF-fit source offset from KIC position	0.832 ± 1.011	0.82	-0.501 ± 1.576	0.664 ± 0.434
photometric centroid source offset	1.87 ± 1.78	1.05	0.32 ± 1.70	1.84 ± 1.78

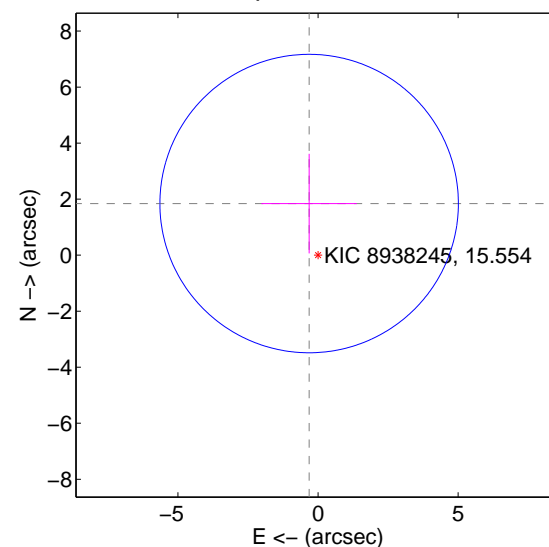
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

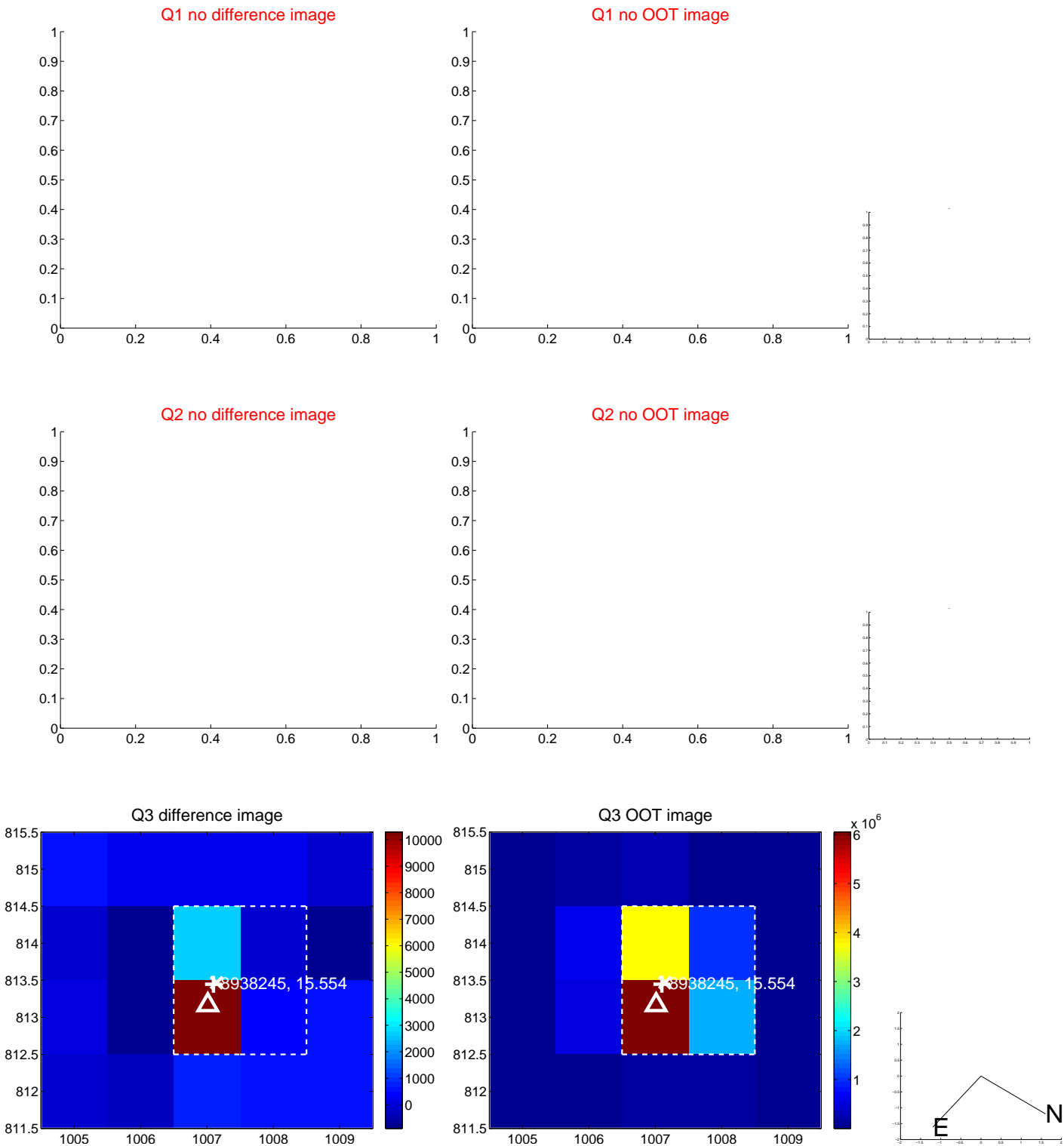


offset from photometric centroids



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.

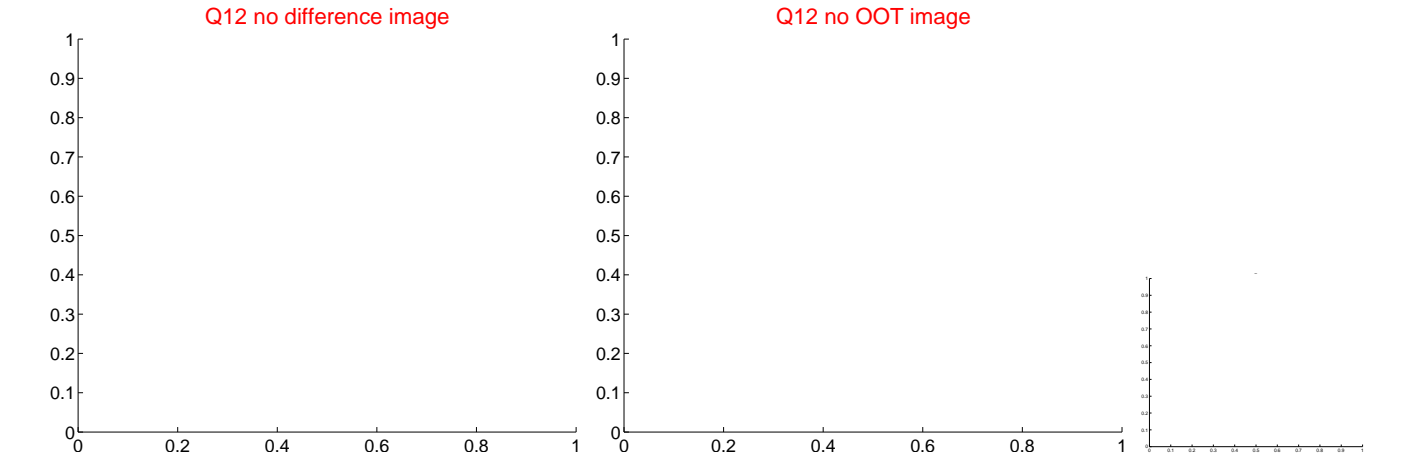
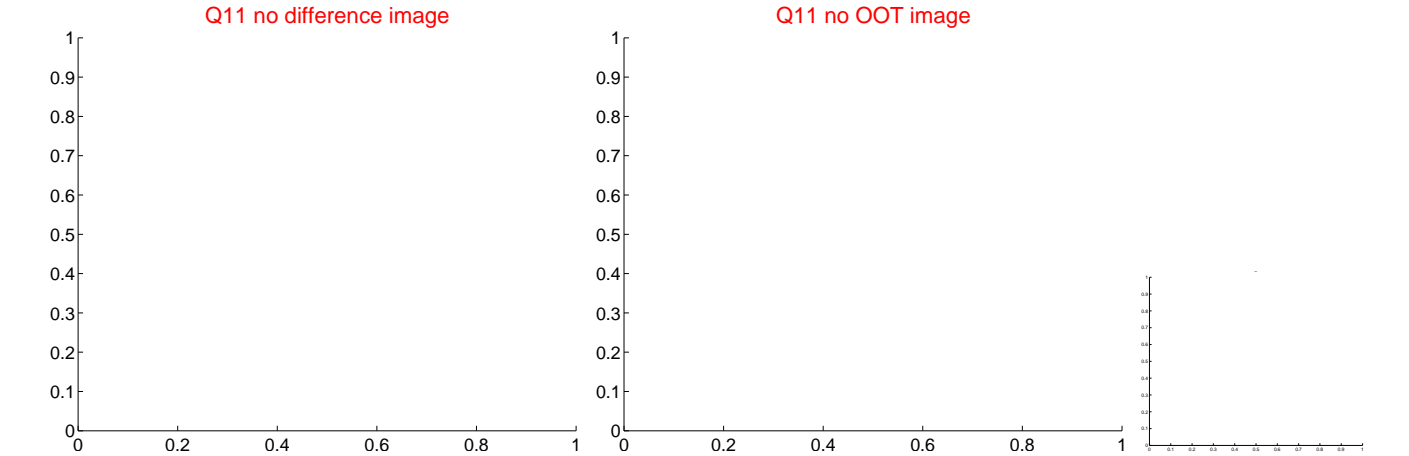
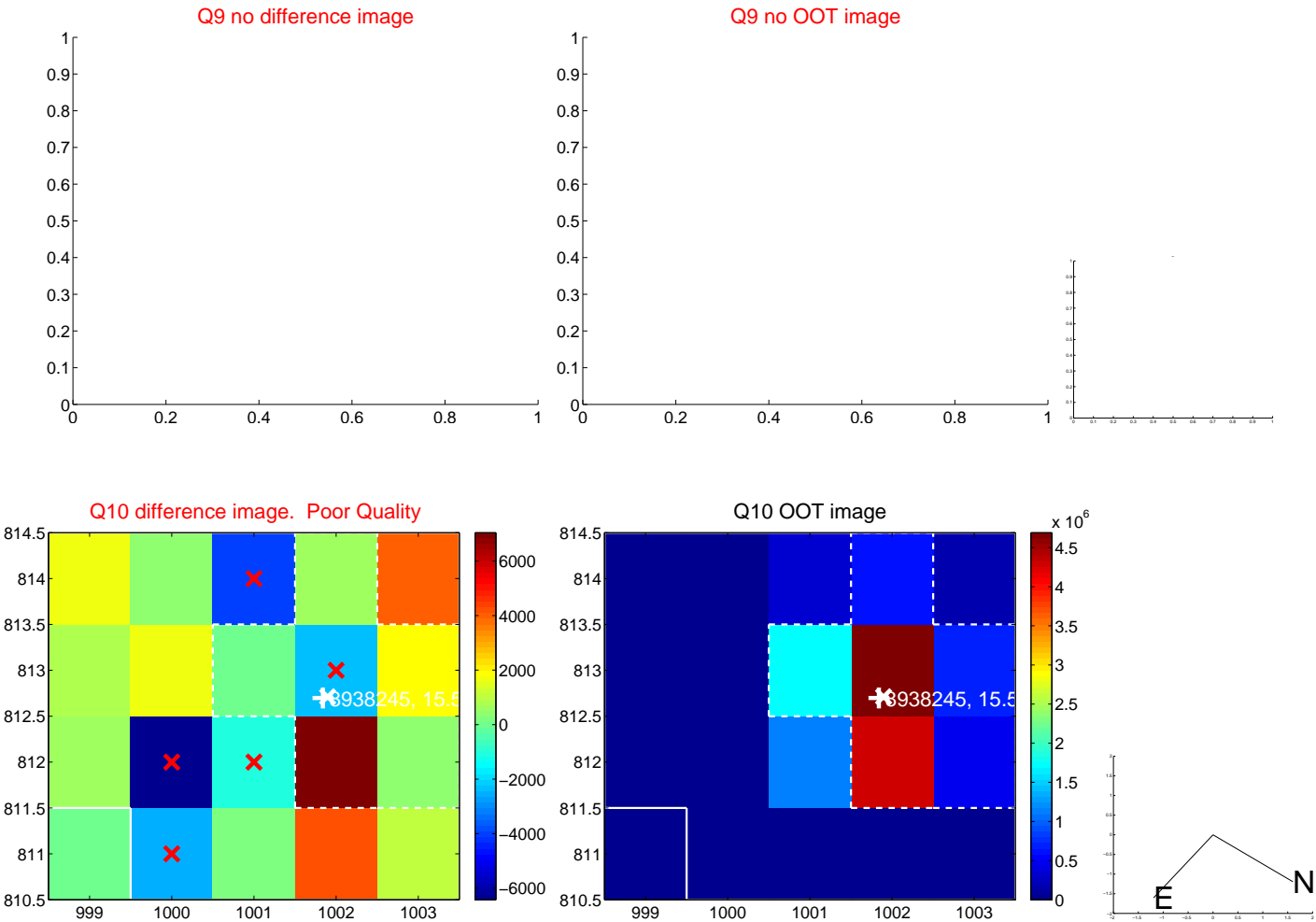
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



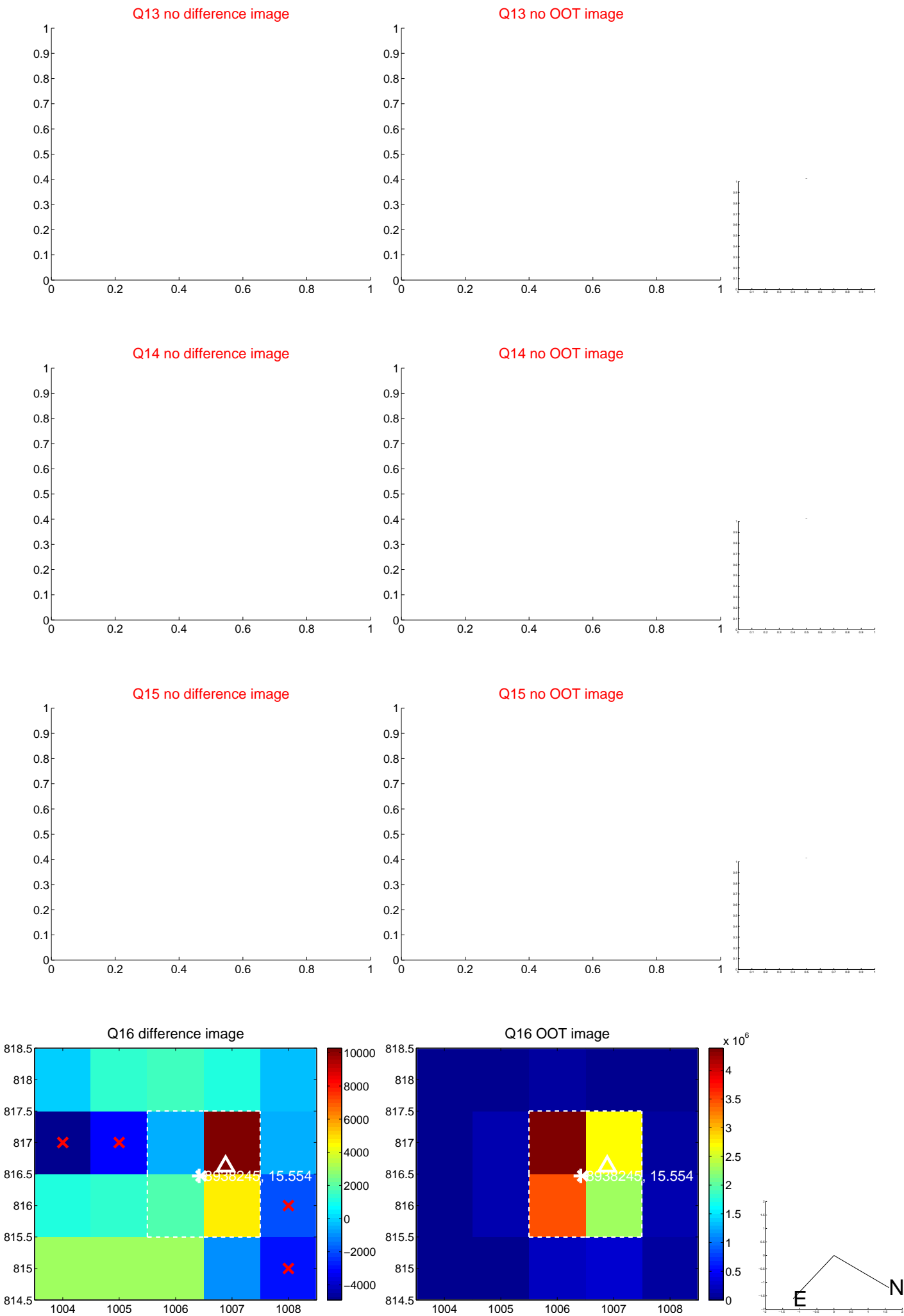
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



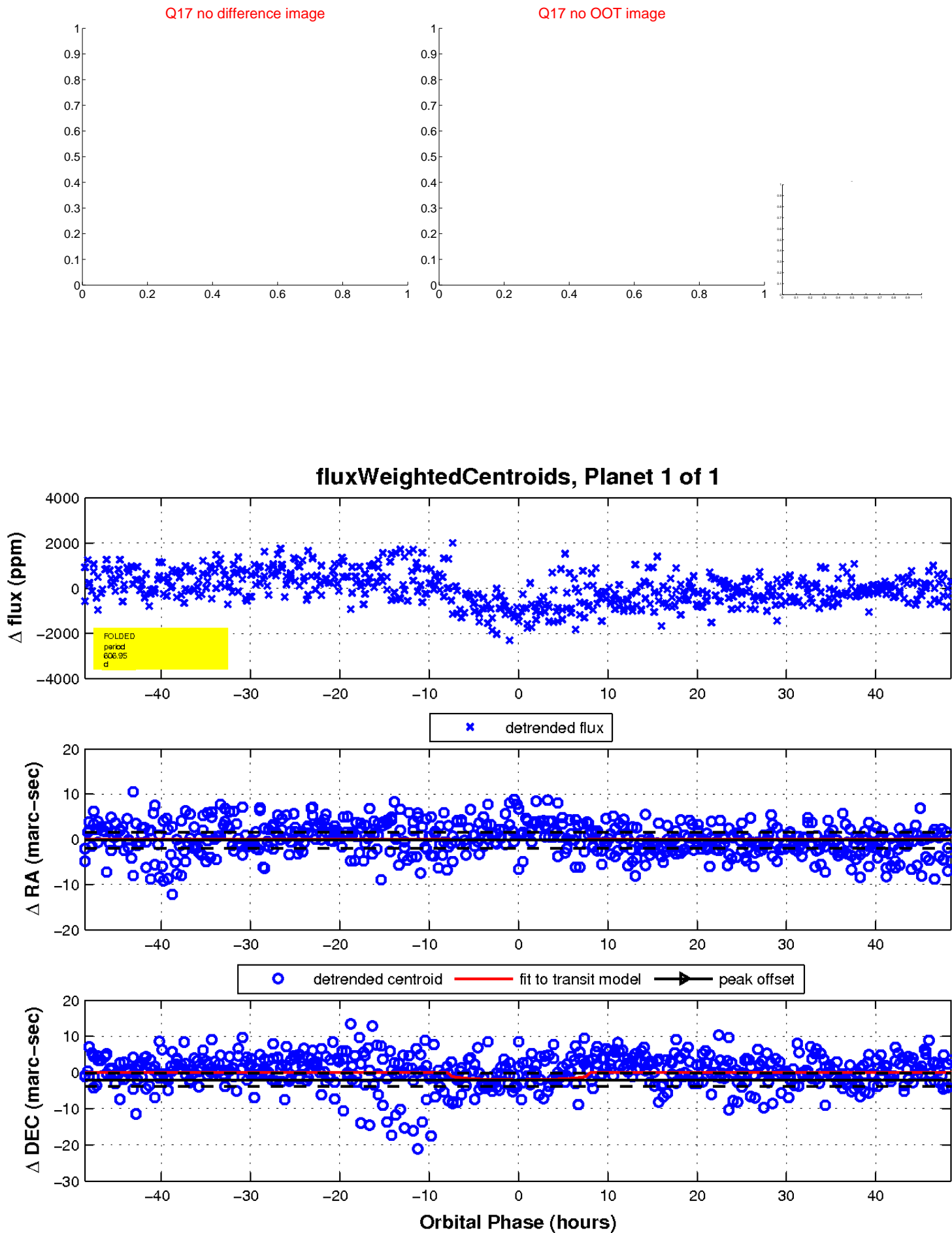
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

