

KIC 008738545

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})
008738545-01	OBS	No	506.641225	238.129415	410.2	7.840	7.3	6.9	3.26	5294	7.22	3.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008738545-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

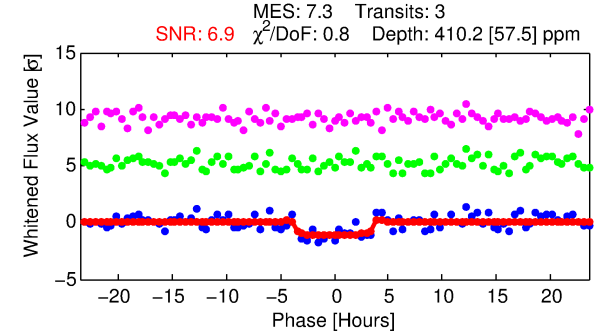
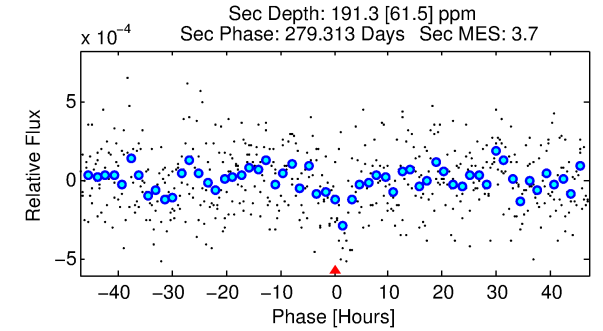
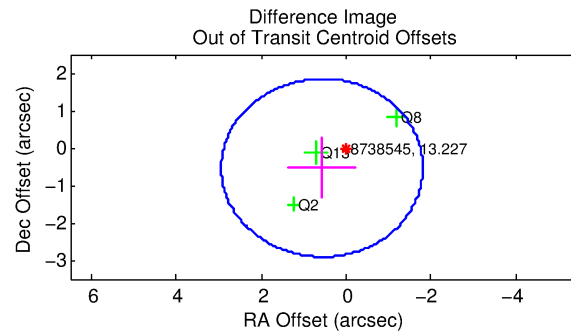
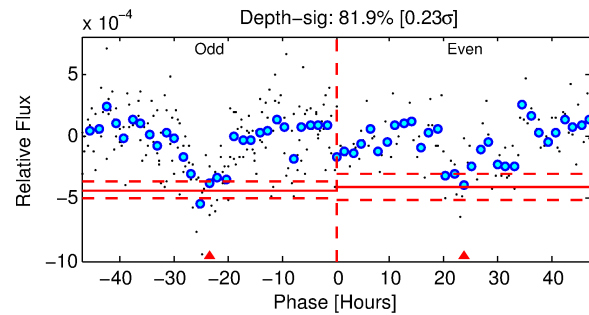
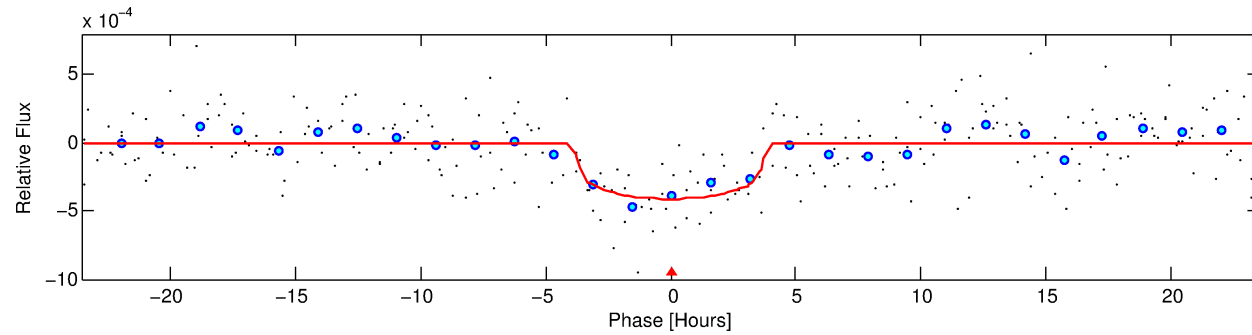
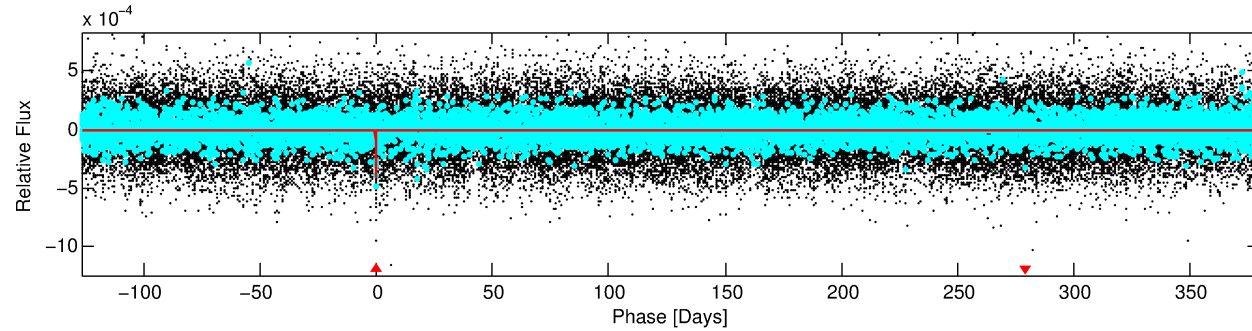
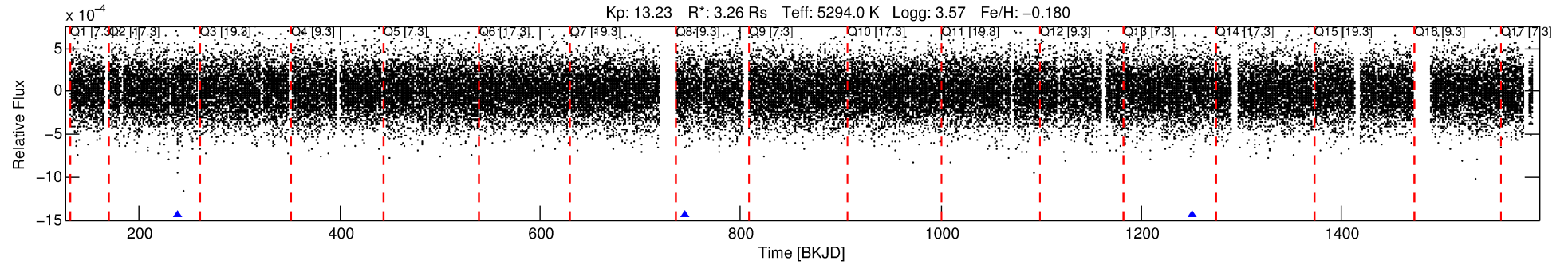
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008738545-01

No Significant Match Found

DV One-Page Summary

KIC: 8738545 Candidate: 1 of 1 Period: 506.641 d



DV Fit Results:

Period = 506.64122 [0.00764] d
Epoch = 238.1294 [0.0105] BKJD
Rp/R* = 0.0203 [0.0118]
a/R* = 334.00 [788.29]
b = 0.76 [1.29]
Seff = 3.78 [5.57]
Teq = 356 [131] K
Rp = 7.22 [6.64] Re
a = 1.4054 [1.1828] AU
Ag = 3988.35 [7564.13] [0.53σ]
Teffp = 4369 [1321] K [3.02σ]

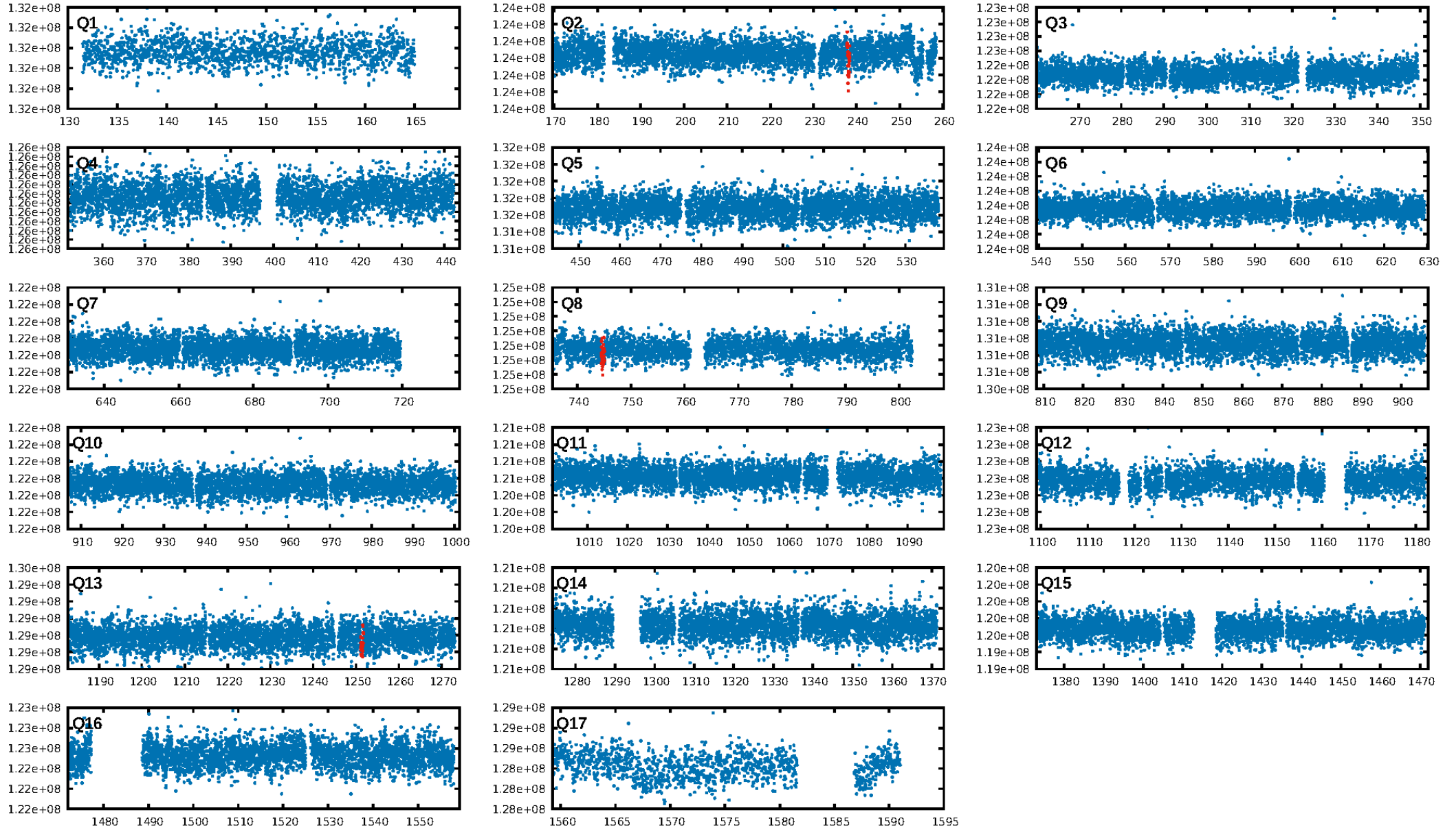
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 41.3%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 2.00e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -7.454
Centroid-sig: 0.1%
Centroid-so: 1.571 arcsec [2.44σ]
OotOffset-rm: 0.774 arcsec [0.98σ]
KicOffset-rm: 0.905 arcsec [1.04σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

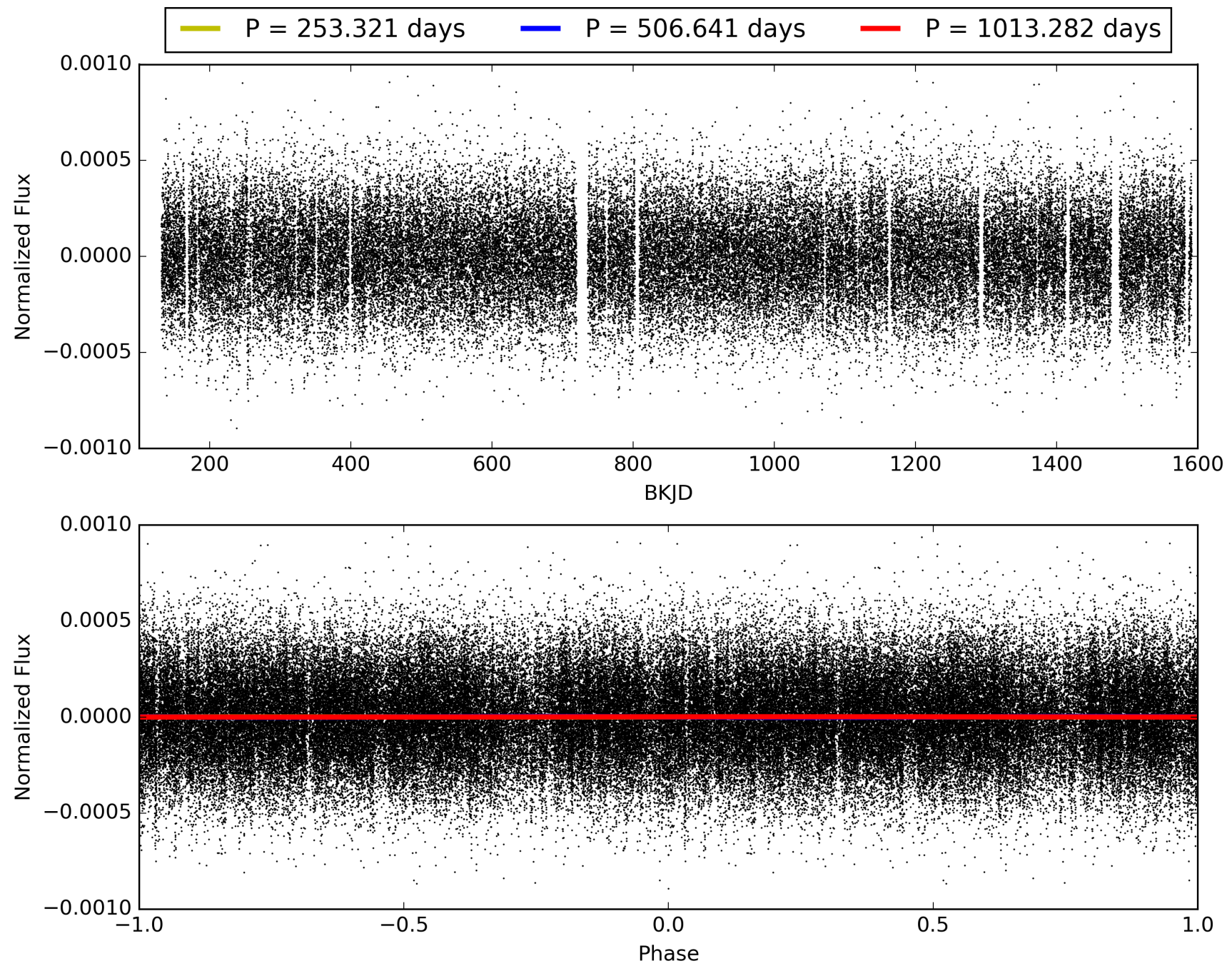
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:40:45 Z

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

TCE 008738545-01, PDC Light Curves

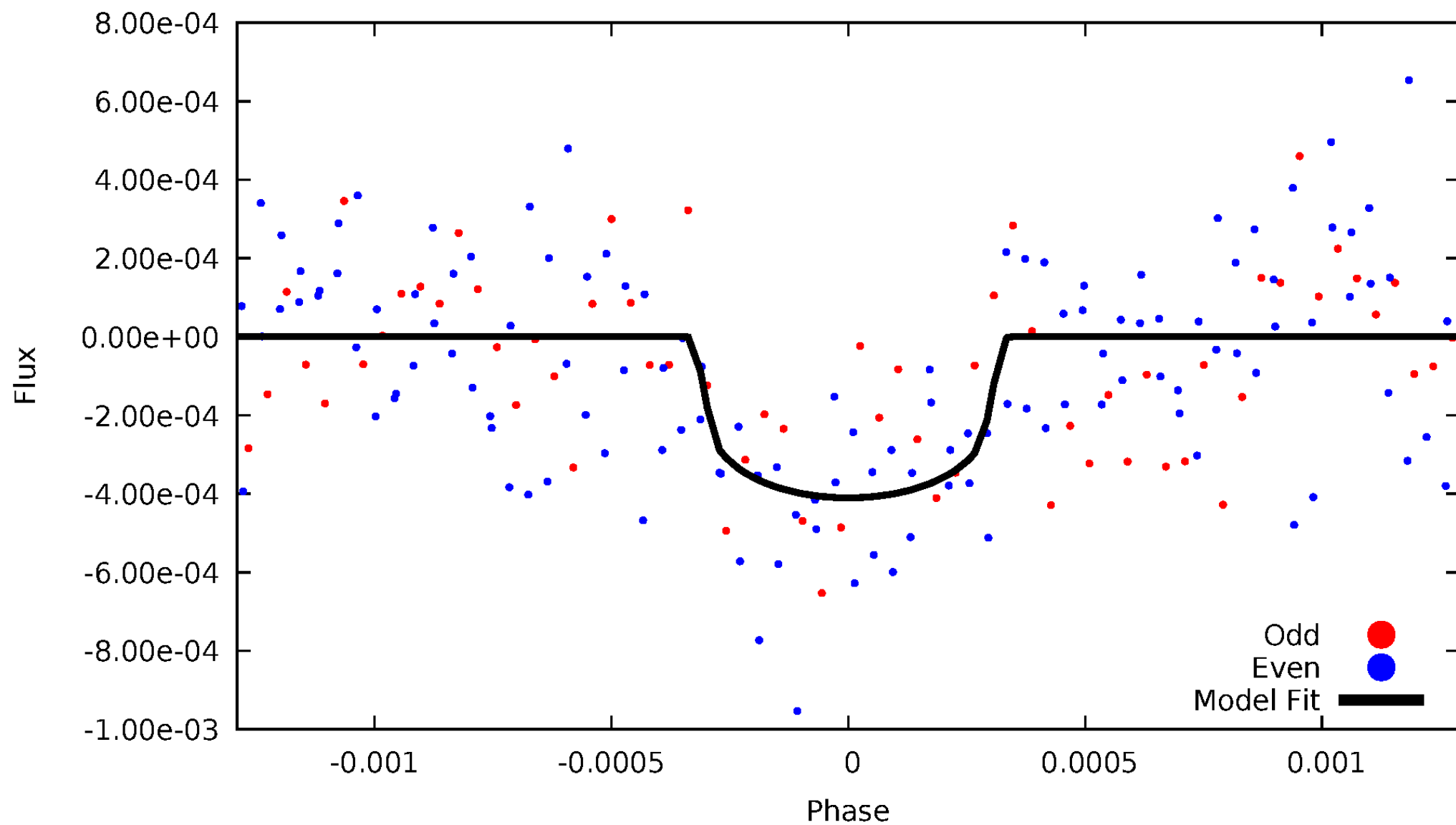


TCE 008738545-01



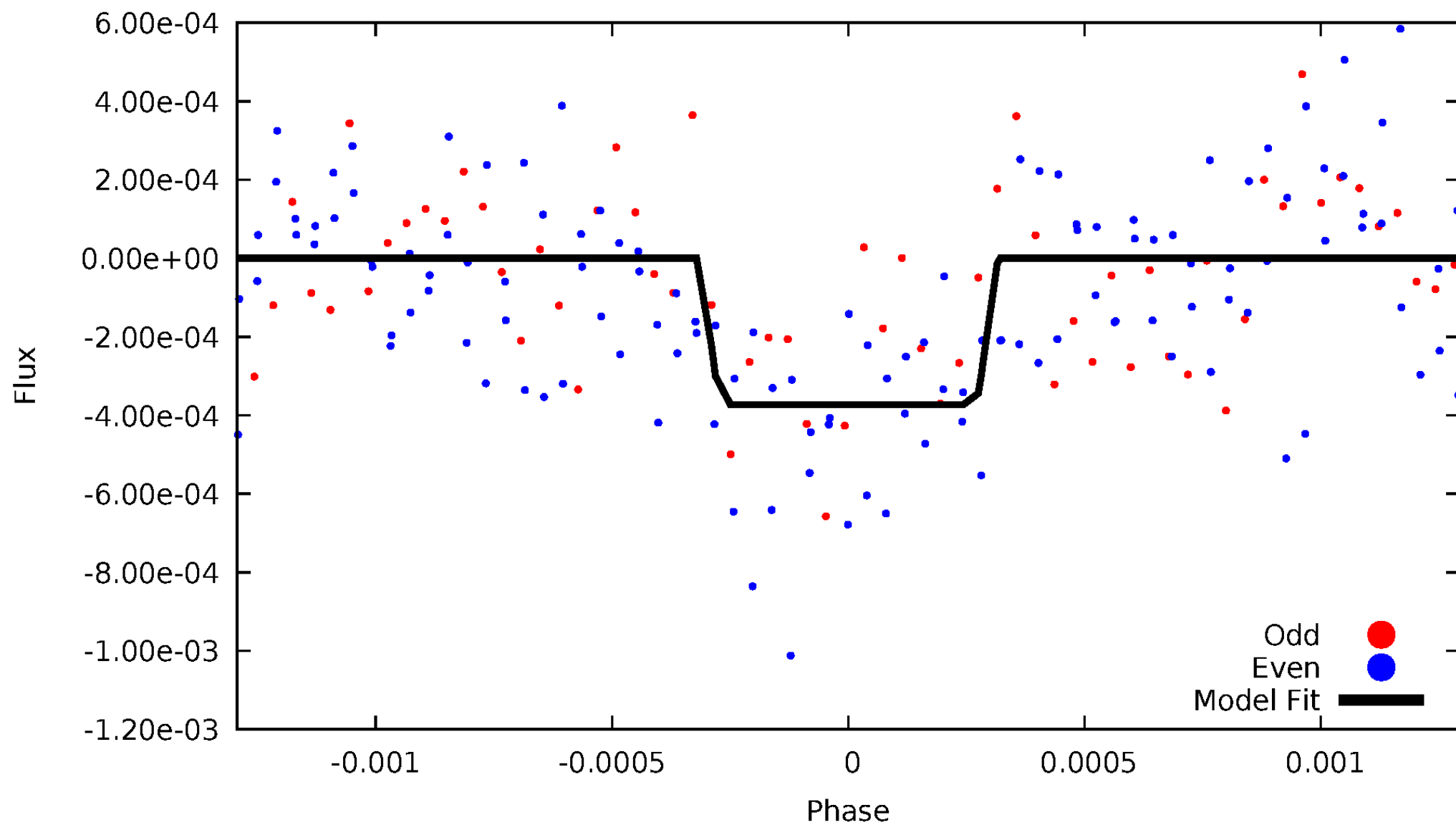
DV Odd/Even

TCE 008738545-01



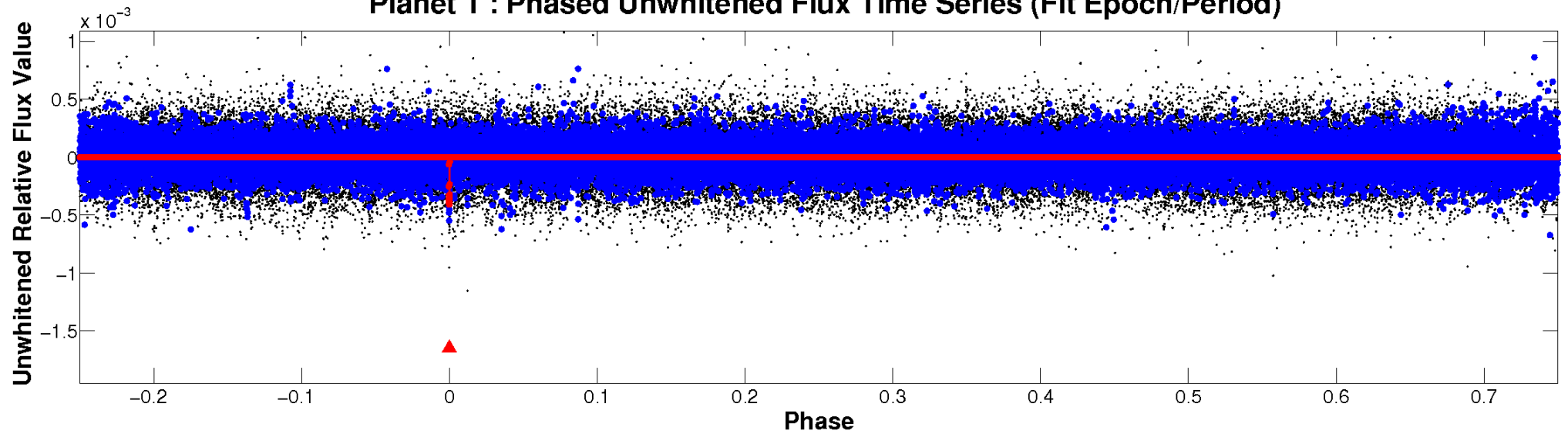
ALT Odd/Even

TCE 008738545-01

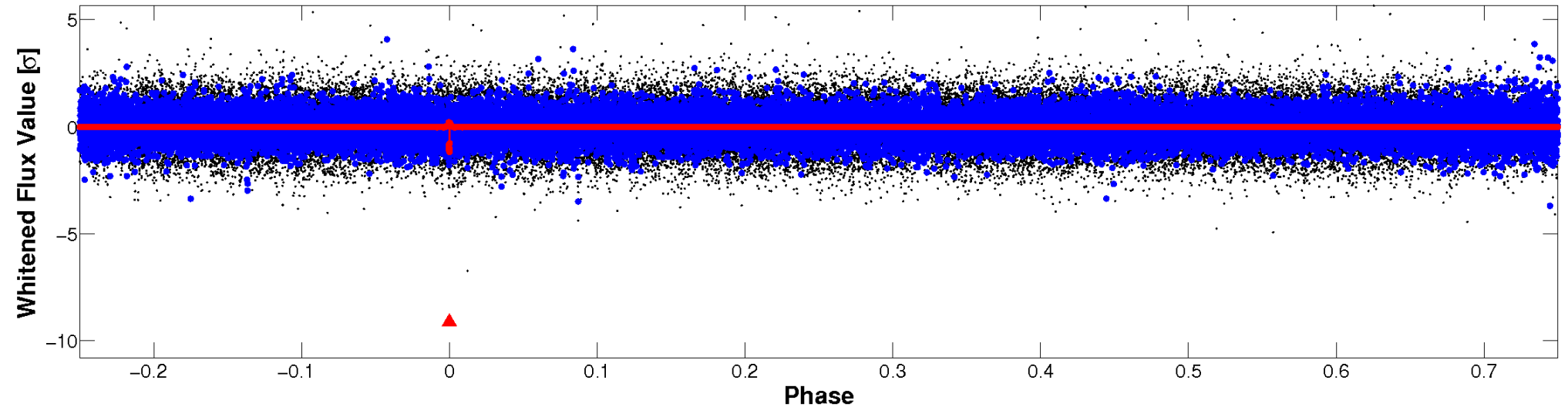


Non-Whitened Vs. Whitened Light Curve

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

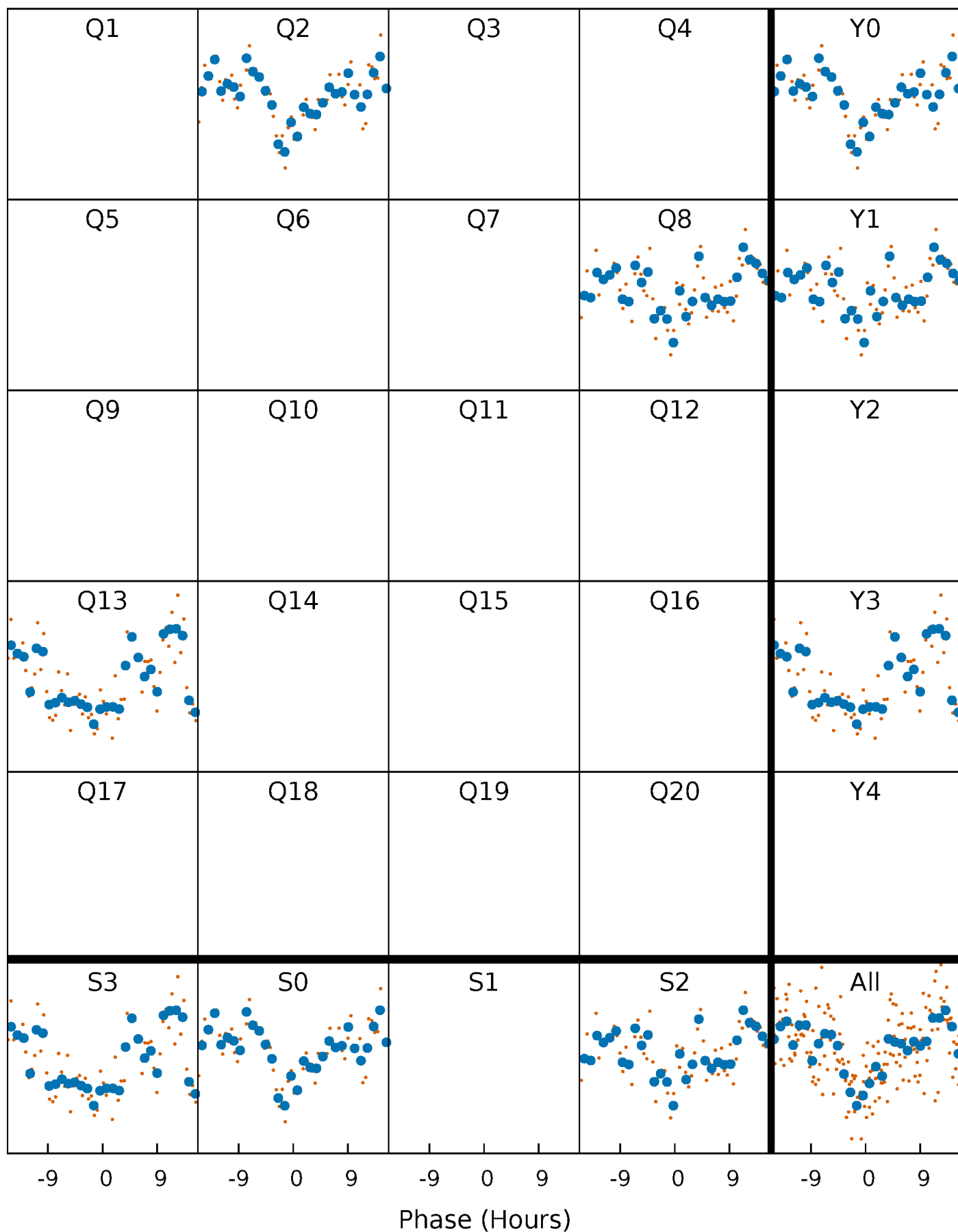


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



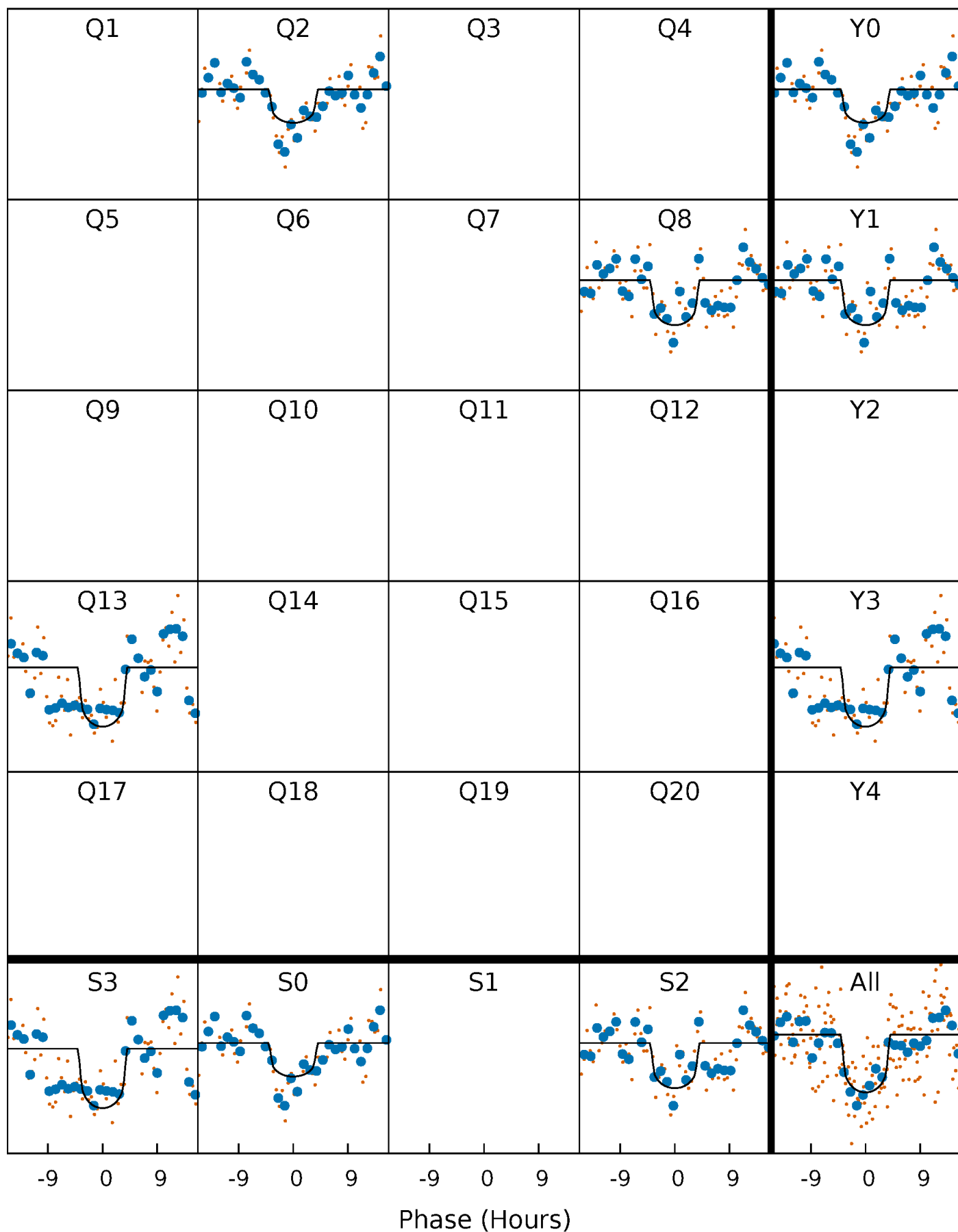
PDC Quarter-Phased Transit Curves

TCE 008738545-01 P=506.641225 Days $T_0=238.129415$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008738545-01 P=506.641225 Days $T_0=238.129415$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

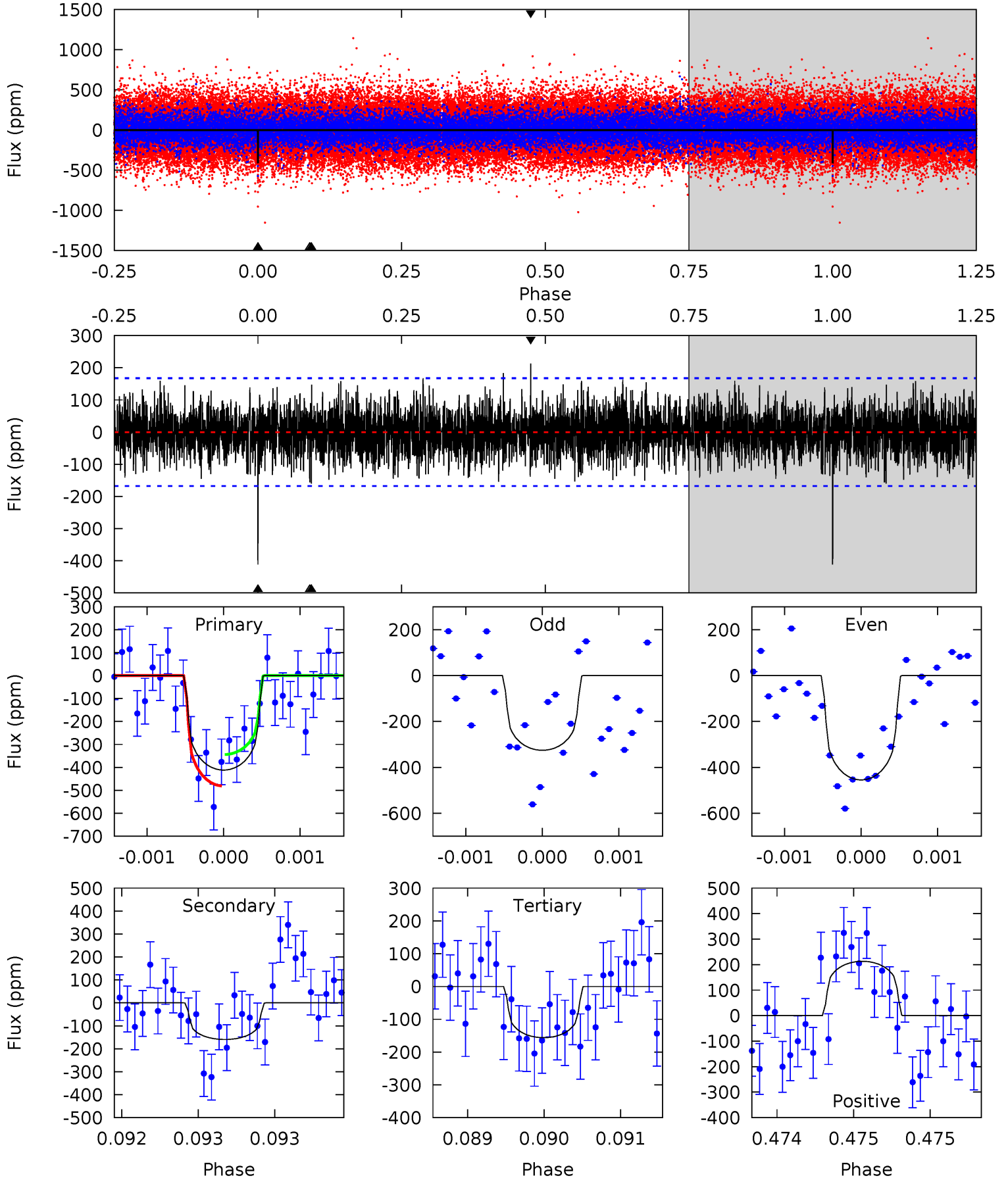
TCE 008738545-01 P=506.629687 Days $T_0=238.136750$ (BKJD)



DV Model-Shift Uniqueness Test

008738545-01, P = 506.641225 Days, E = 238.129415 Days

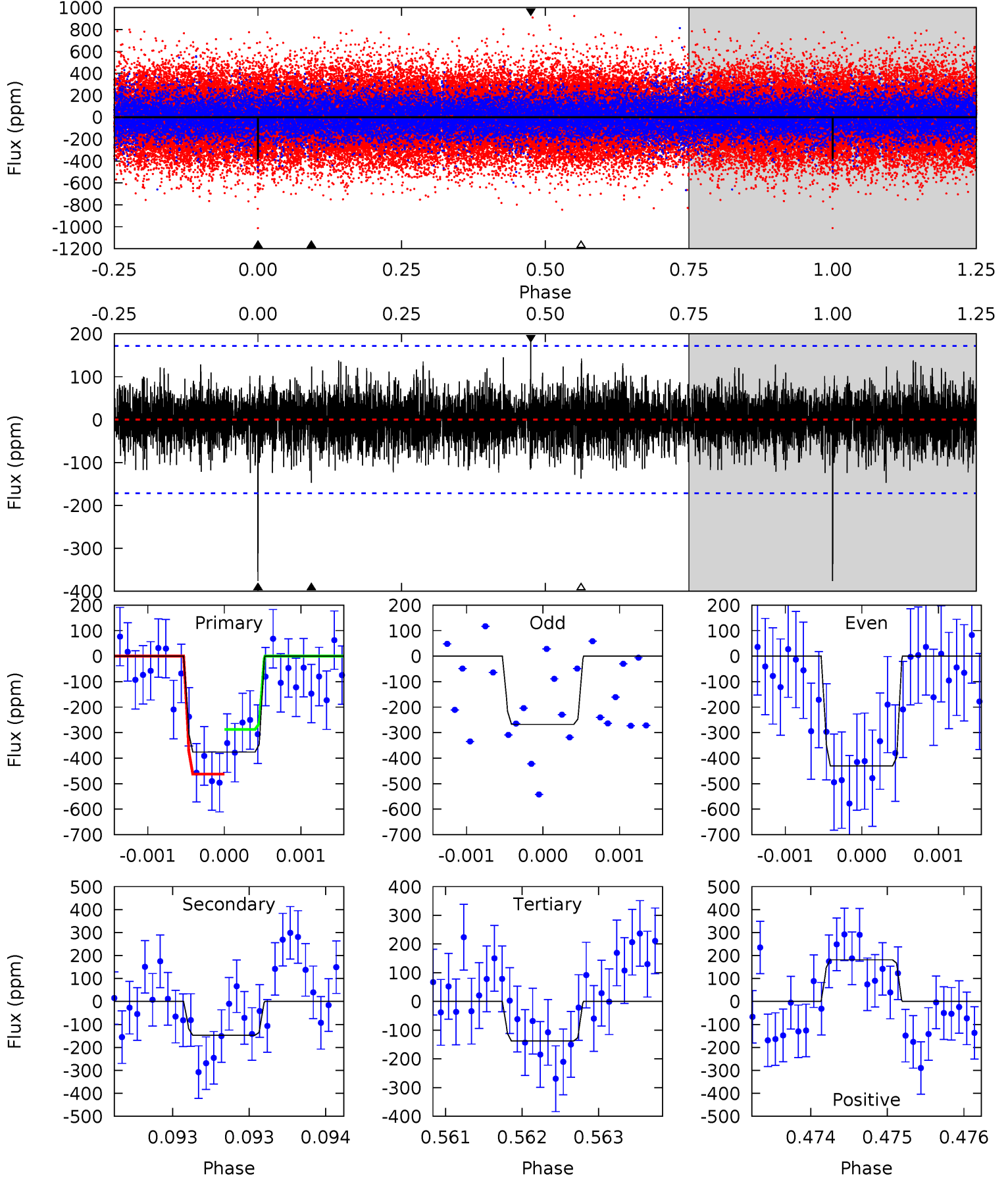
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	5.27	5.15	7.03	5.53	3.41	1.74	8.43	6.56	0.11	-1.76	2.01	1.19	0.34	2.25



Alt Model-Shift Uniqueness Test

008738545-01, P = 506.629687 Days, E = 238.136750 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	4.74	4.43	5.86	5.54	3.43	1.31	7.70	6.28	0.31	-1.12	2.45	1.32	0.33	2.82



Stellar Parameters For KIC 008738545

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5294^{+174}_{-174}	$3.571^{+0.904}_{-0.226}$	$-0.180^{+0.350}_{-0.300}$	$3.258^{+0.998}_{-2.328}$	$1.441^{+0.194}_{-0.543}$	$0.059^{+1.574}_{-0.034}$
	+3%/-3%	+25%/-6%	+194%/-167%	+31%/-71%	+13%/-38%	+2682%/-59%
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 008738545-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-160 ± 30	$6.37^{+4.64}_{-3.64}$	486^{+53}_{-98}	4310^{+1617}_{-644}	4111^{+17881}_{-2771}
Alt.	-147 ± 31	$6.15^{+4.53}_{-3.88}$	483^{+58}_{-97}	4328^{+1814}_{-667}	4233^{+23538}_{-2888}

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 $A_{obs} \gg 1.0$

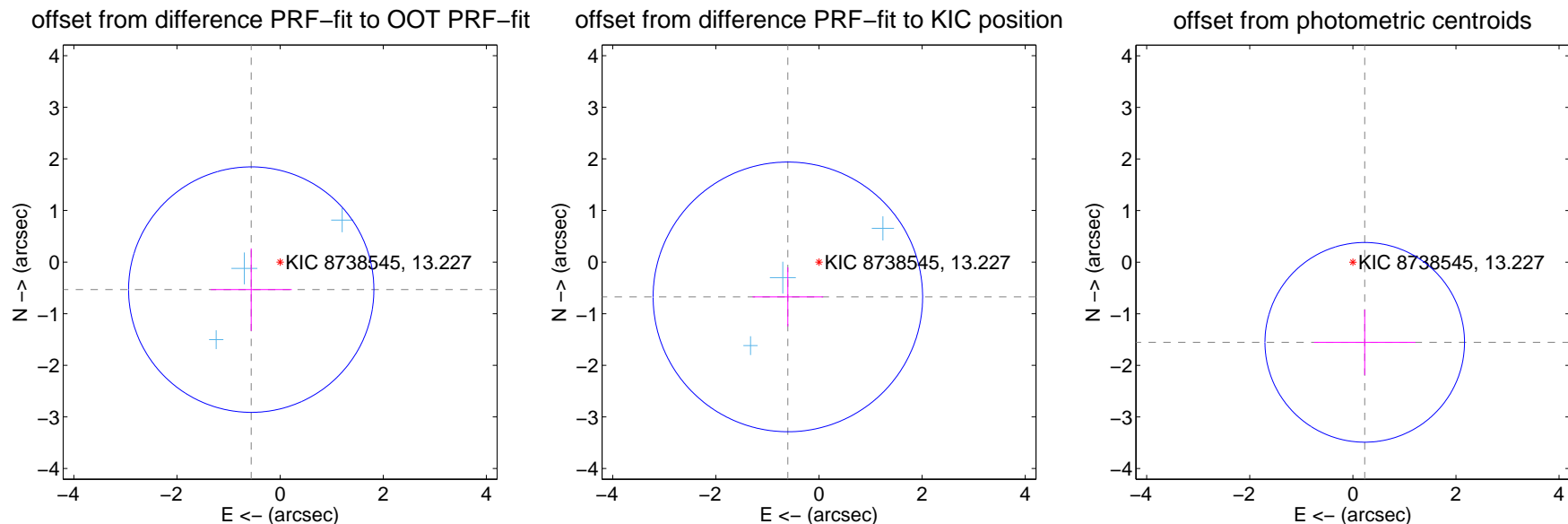
DV Centroid Data

Supplemental centroid analysis for 008738545-01. Kepler magnitude: 13.23. Transit SNR 6.86

There are 3 quarters with good PRF difference image offsets

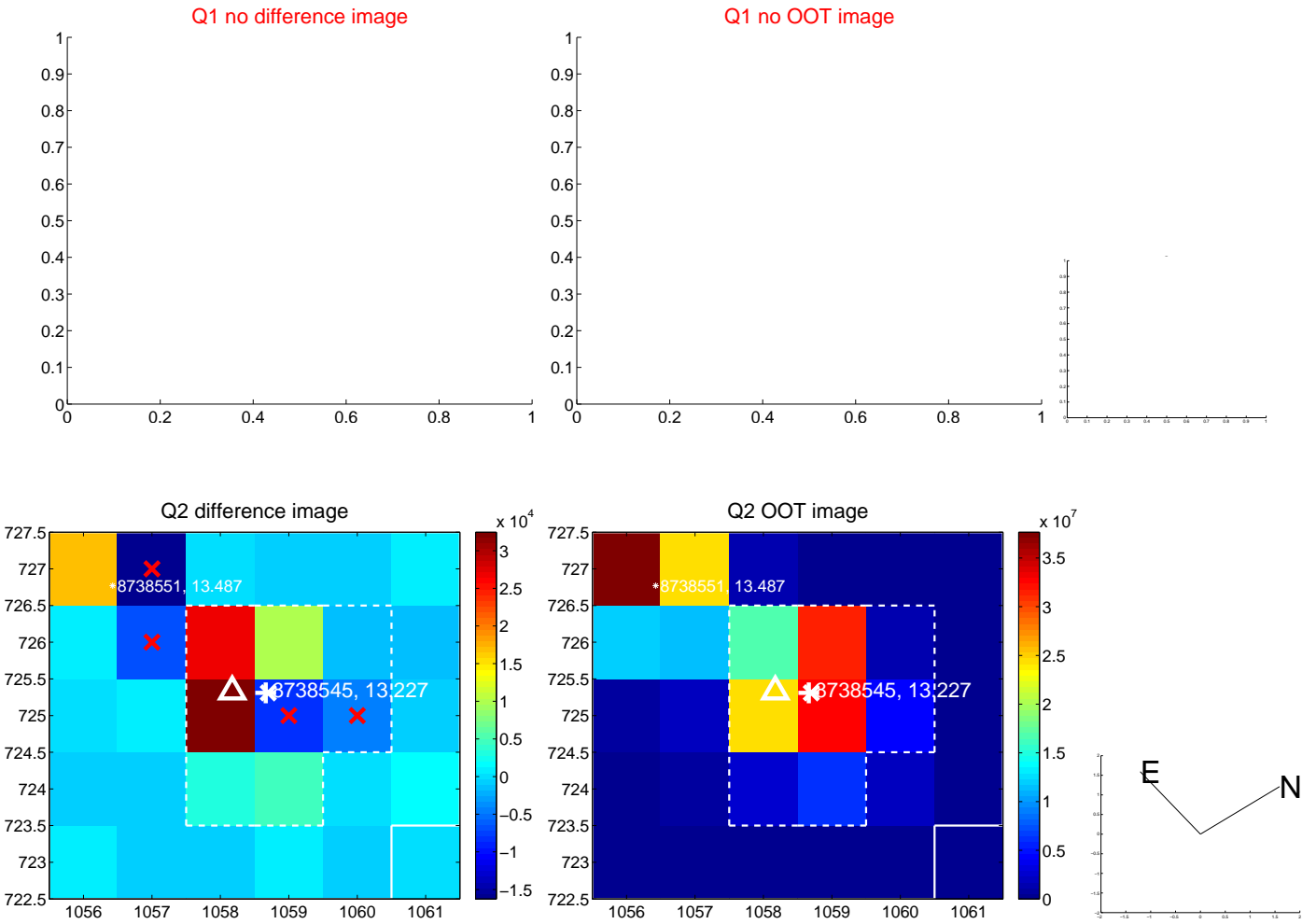
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.774 ± 0.793	0.98	0.560 ± 0.786	-0.534 ± 0.800
PRF-fit source offset from KIC position	0.905 ± 0.871	1.04	0.604 ± 0.685	-0.675 ± 0.571
photometric centroid source offset	1.57 ± 0.65	2.44	-0.23 ± 0.98	-1.55 ± 0.64

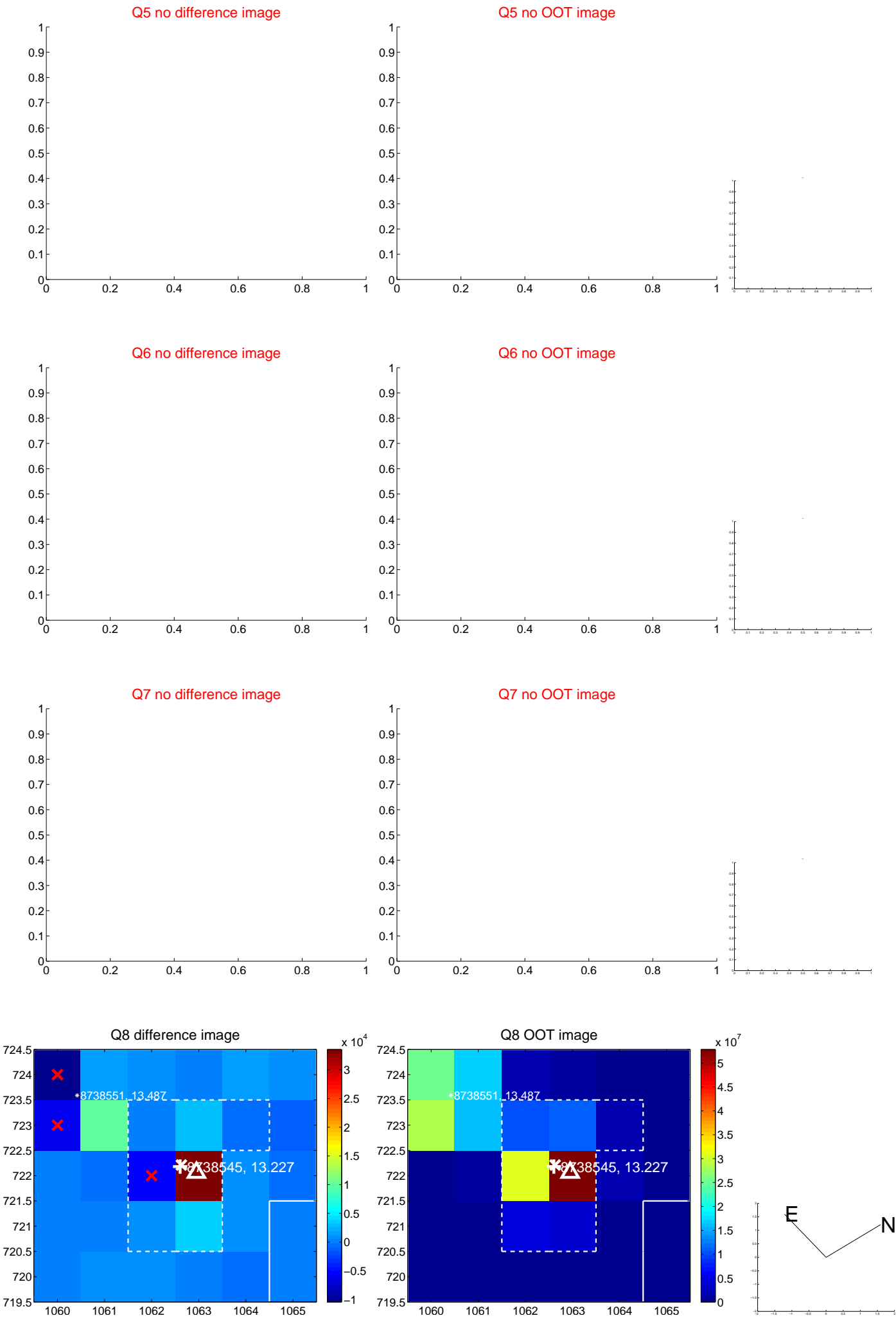


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



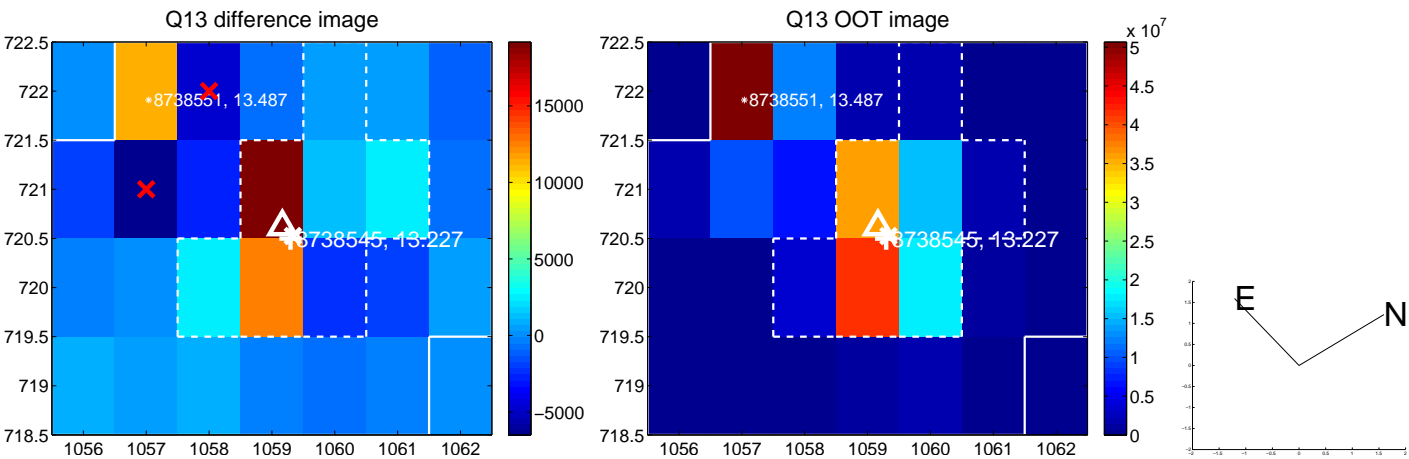
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



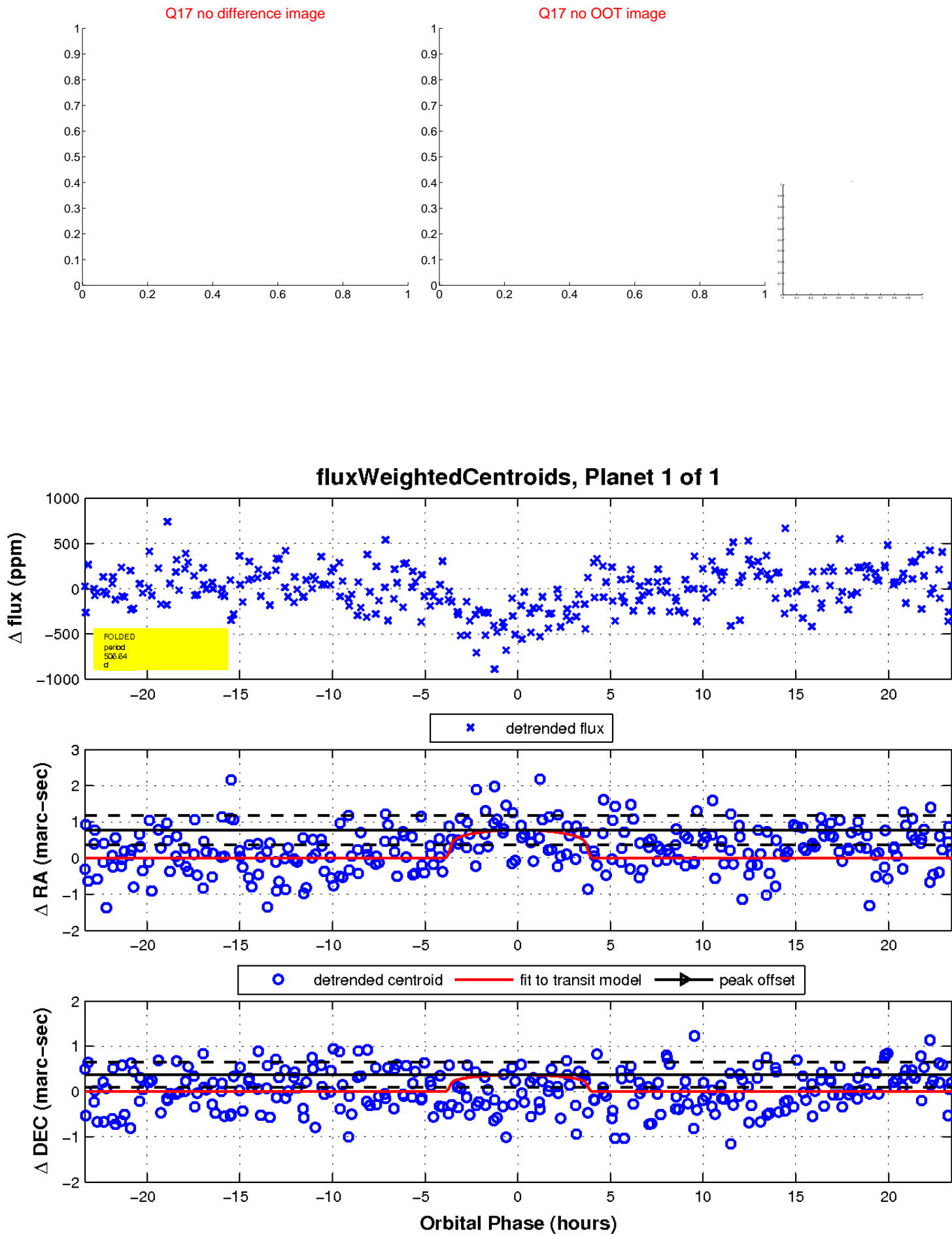
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

