

KIC 008308516

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})
008308516-02	OBS	7880.01	623.712042	303.352234	245.9	7.127	7.2	7.3	1.13	6626	2.06	1.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008308516-02	OBS	PC	0.11	0	0	0	0	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.

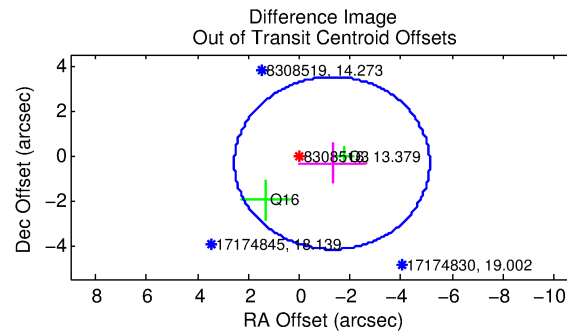
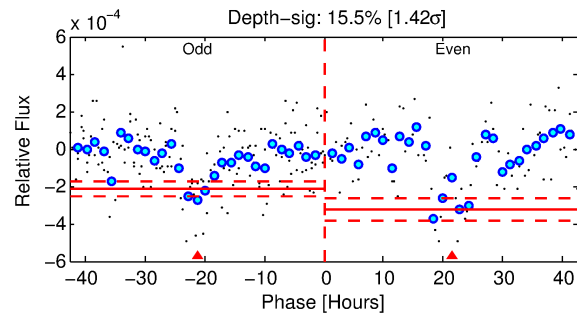
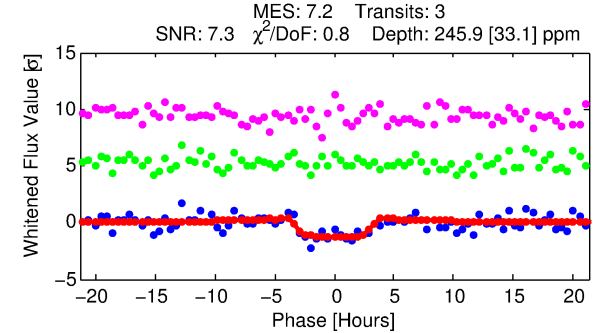
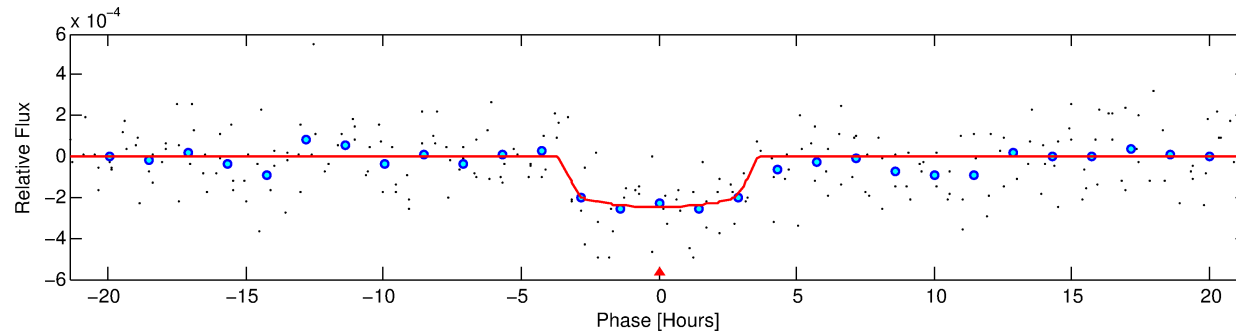
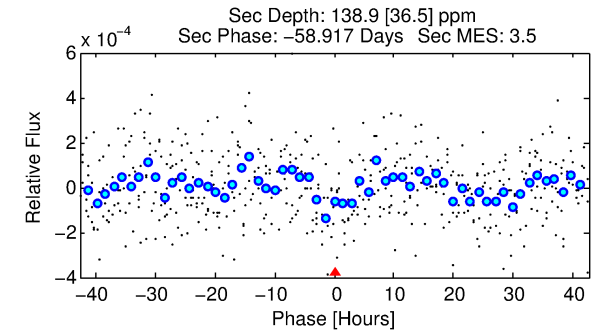
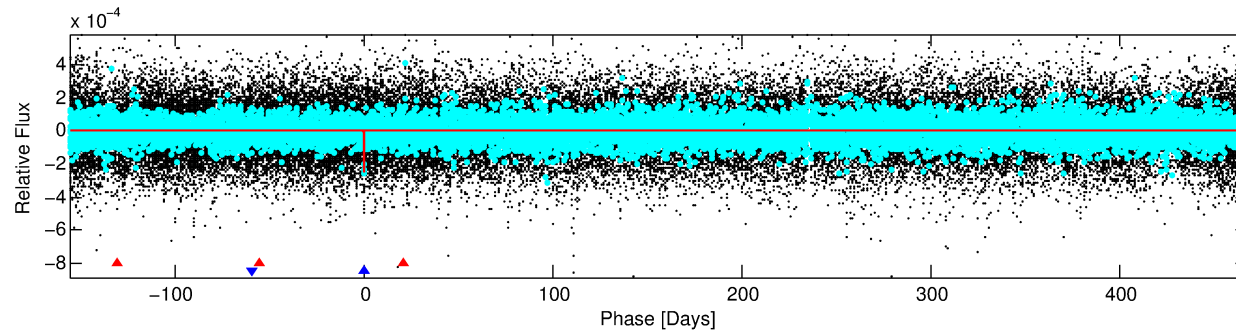
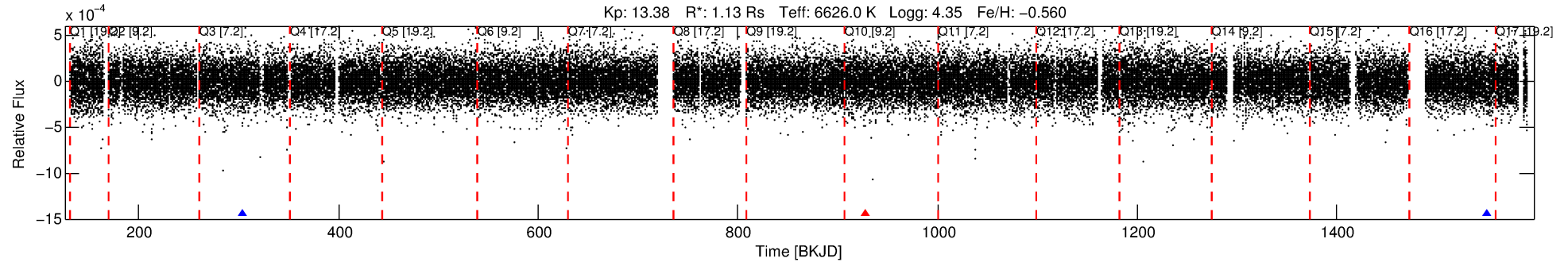
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008308516-02

No Significant Match Found

DV One-Page Summary

KIC: 8308516 Candidate: 2 of 2 Period: 623.712 d



DV Fit Results:

Period = 623.71204 [0.00932] d
Epoch = 303.3522 [0.0125] BKJD
Rp/R* = 0.0167 [0.0050]
a/R* = 318.76 [547.67]
b = 0.90 [0.37]
Seff = 1.06 [0.37]
Teq = 259 [23] K
Rp = 2.07 [0.82] Re
a = 1.4474 [0.3247] AU
Ag = 37522.31 [27285.91] [1.38σ]
Teffp = 5563 [919] K [5.77σ]

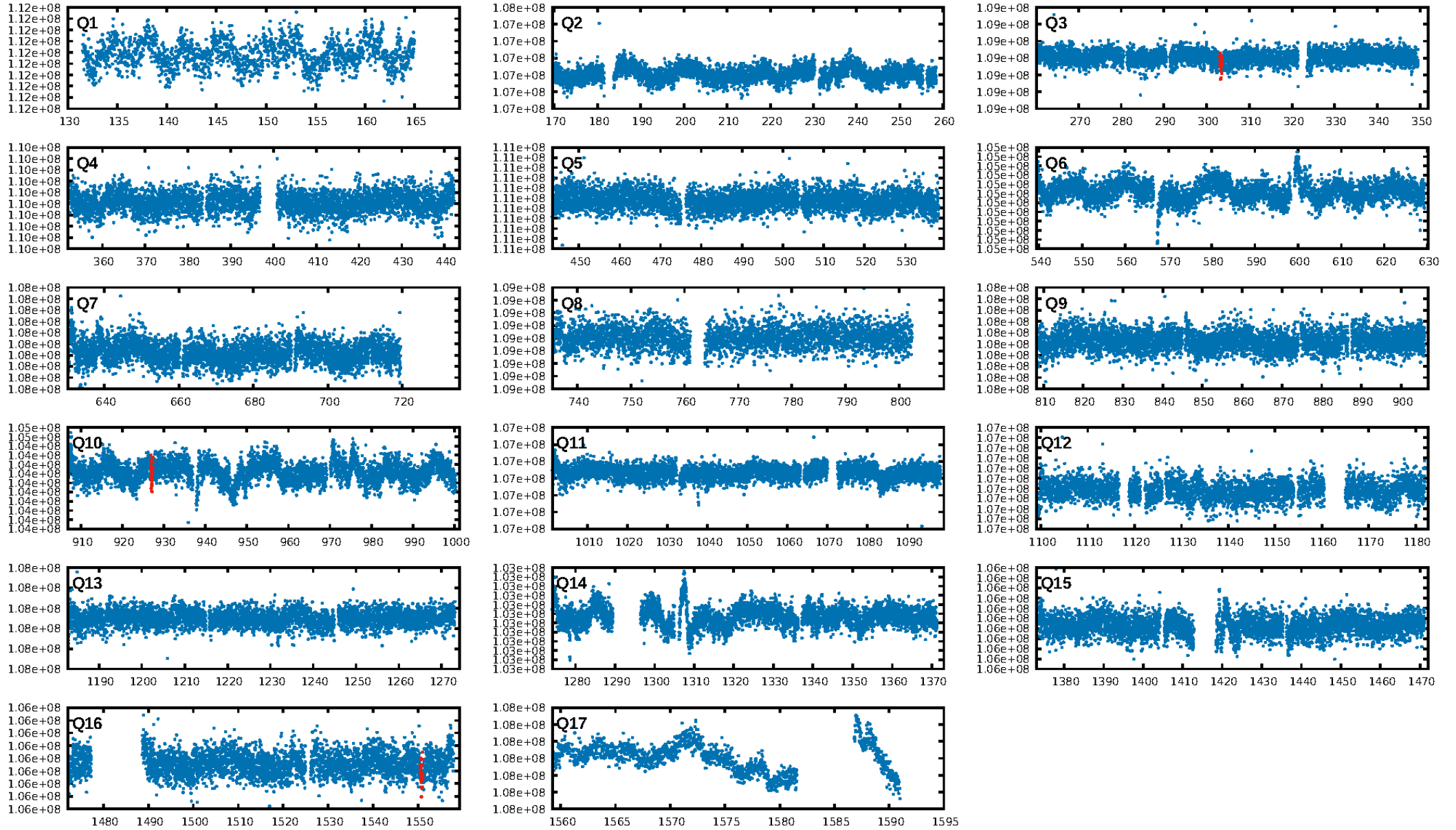
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [128.23σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 59.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 9.42e-09
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 16.34
Centroid-sig: 74.4%
Centroid-so: 0.848 arcsec [0.74σ]
OotOffset-rm: 1.339 arcsec [1.05σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 1.041 arcsec [0.56σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

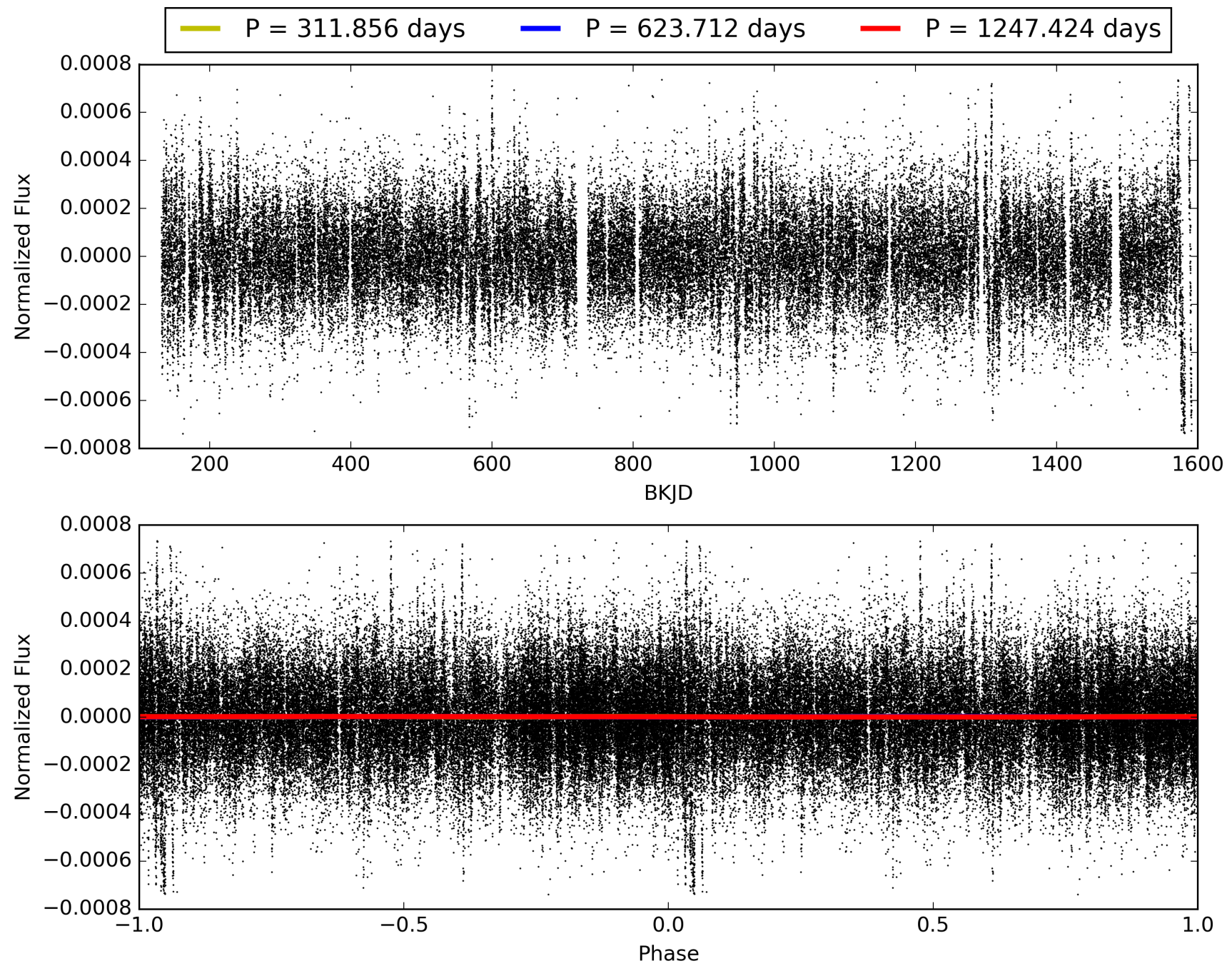
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:39:35 Z

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

TCE 008308516-02, PDC Light Curves

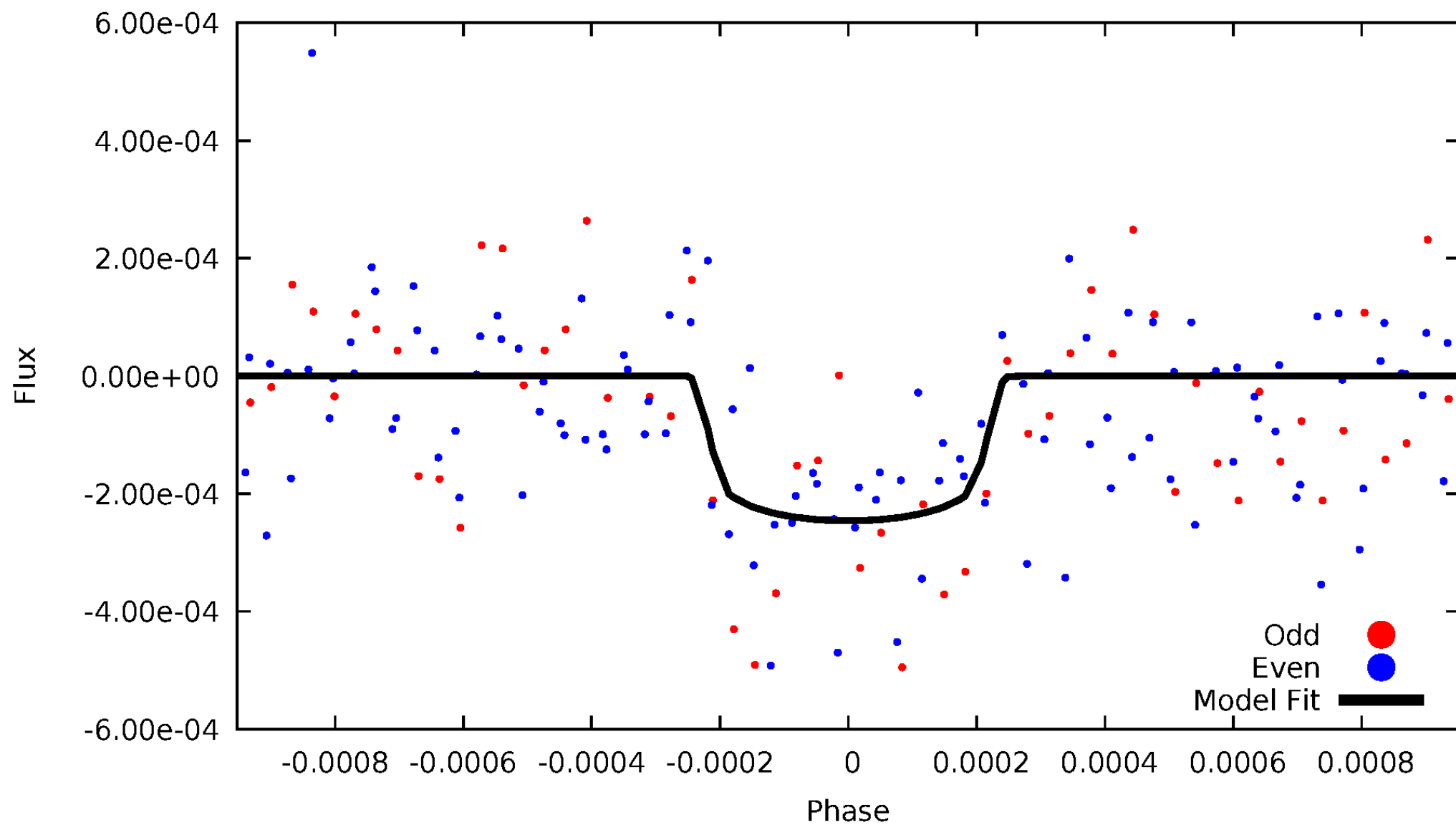


TCE 008308516-02



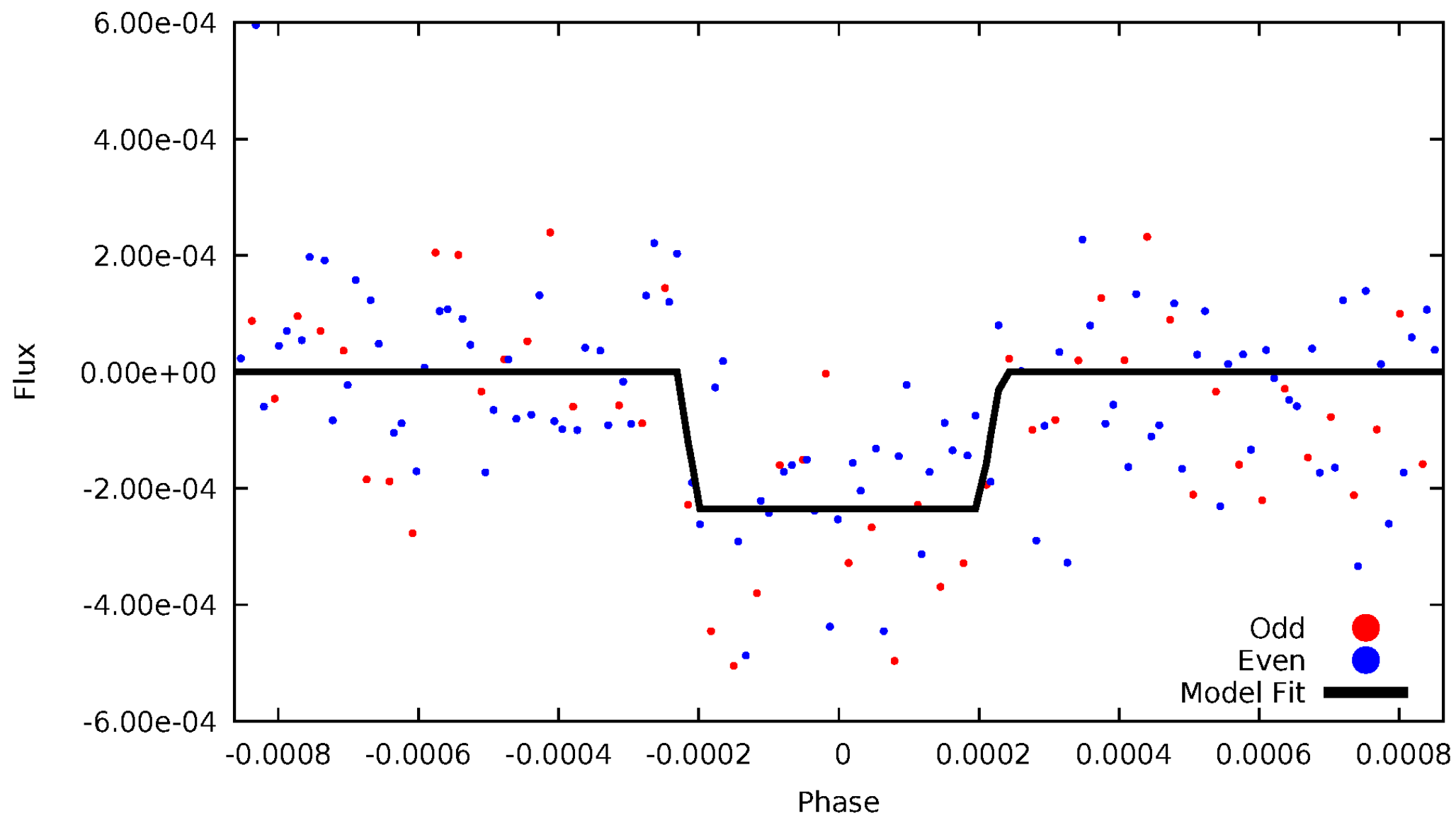
DV Odd/Even

TCE 008308516-02



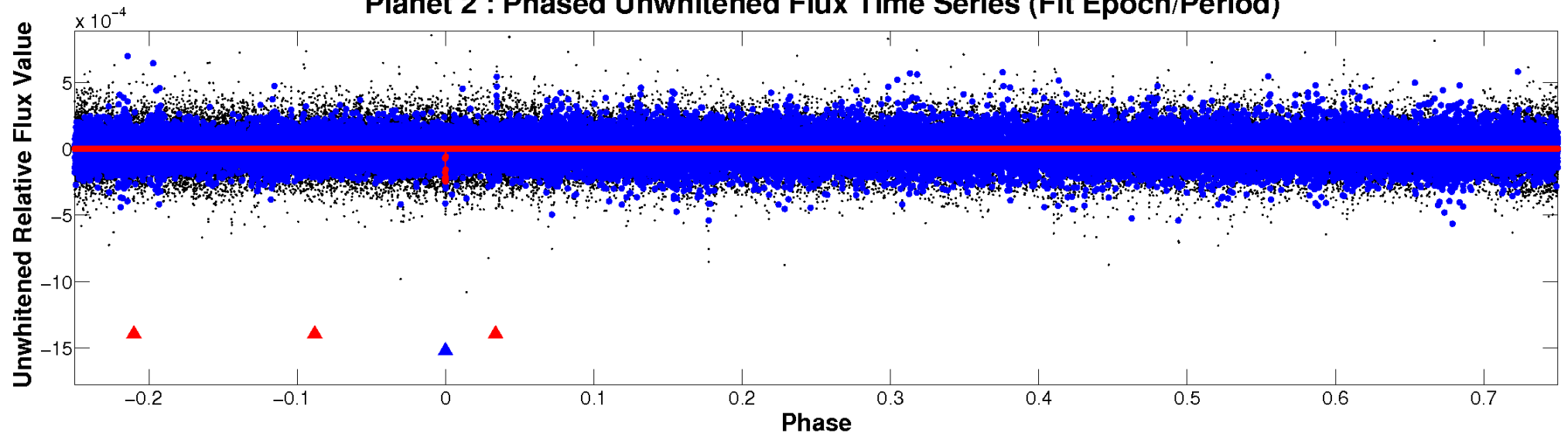
ALT Odd/Even

TCE 008308516-02

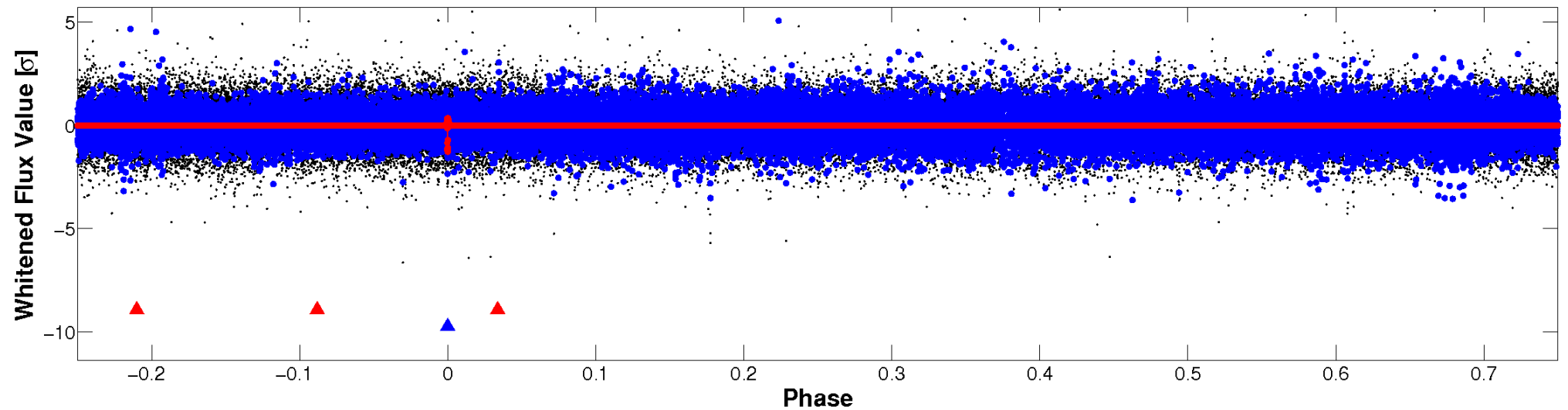


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

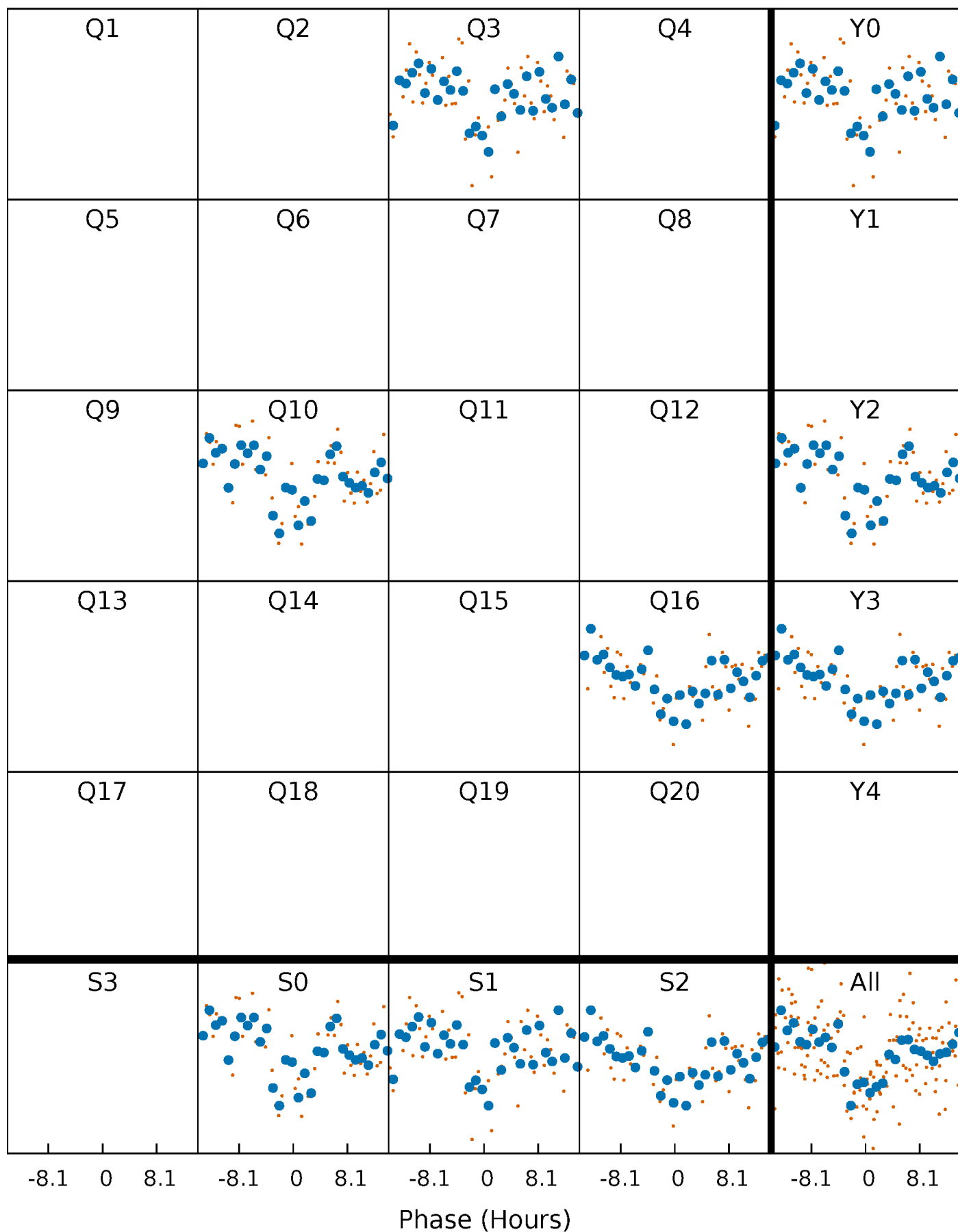


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



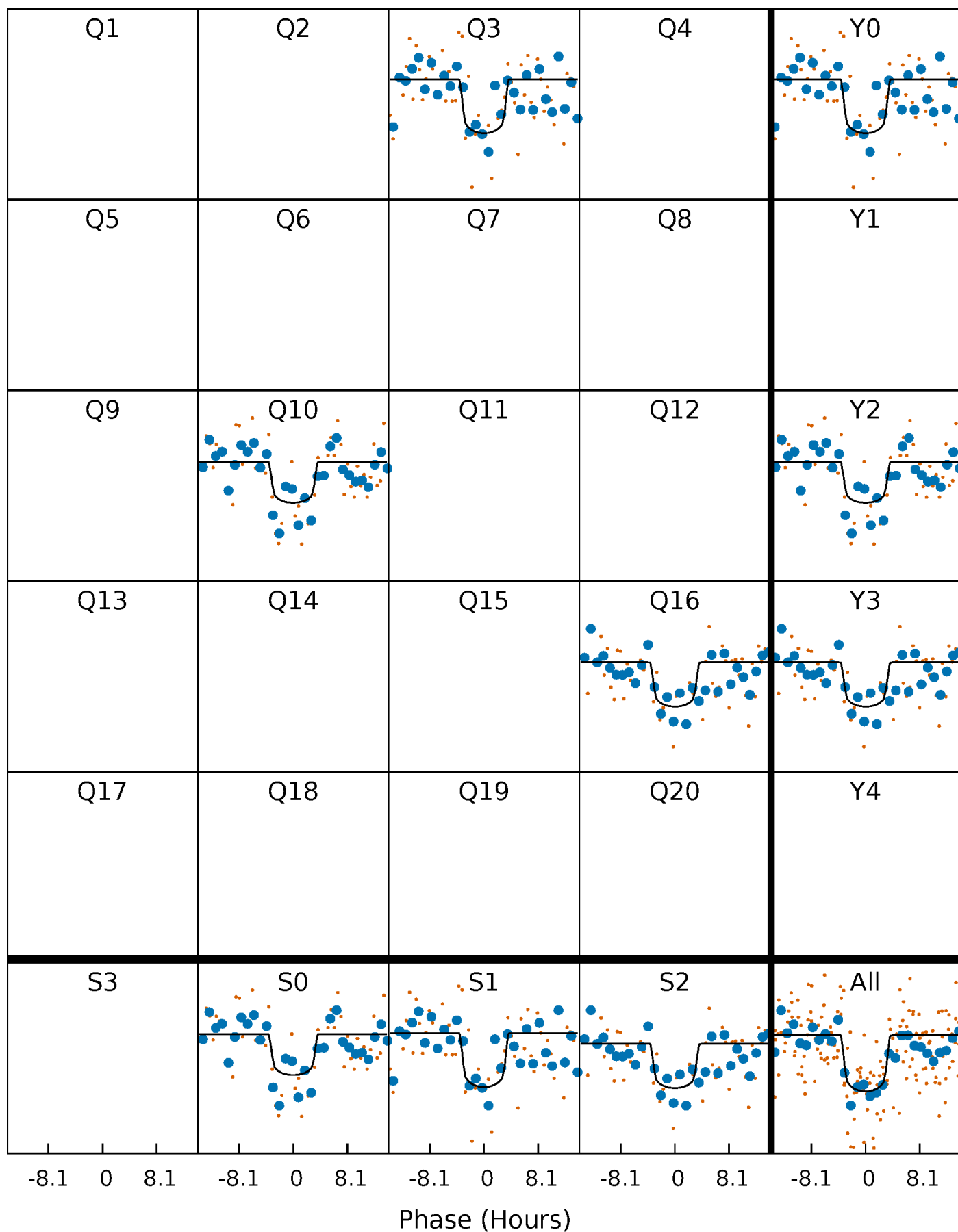
PDC Quarter-Phased Transit Curves

TCE 008308516-02 P=623.712042 Days $T_0=303.352234$ (BKJD)



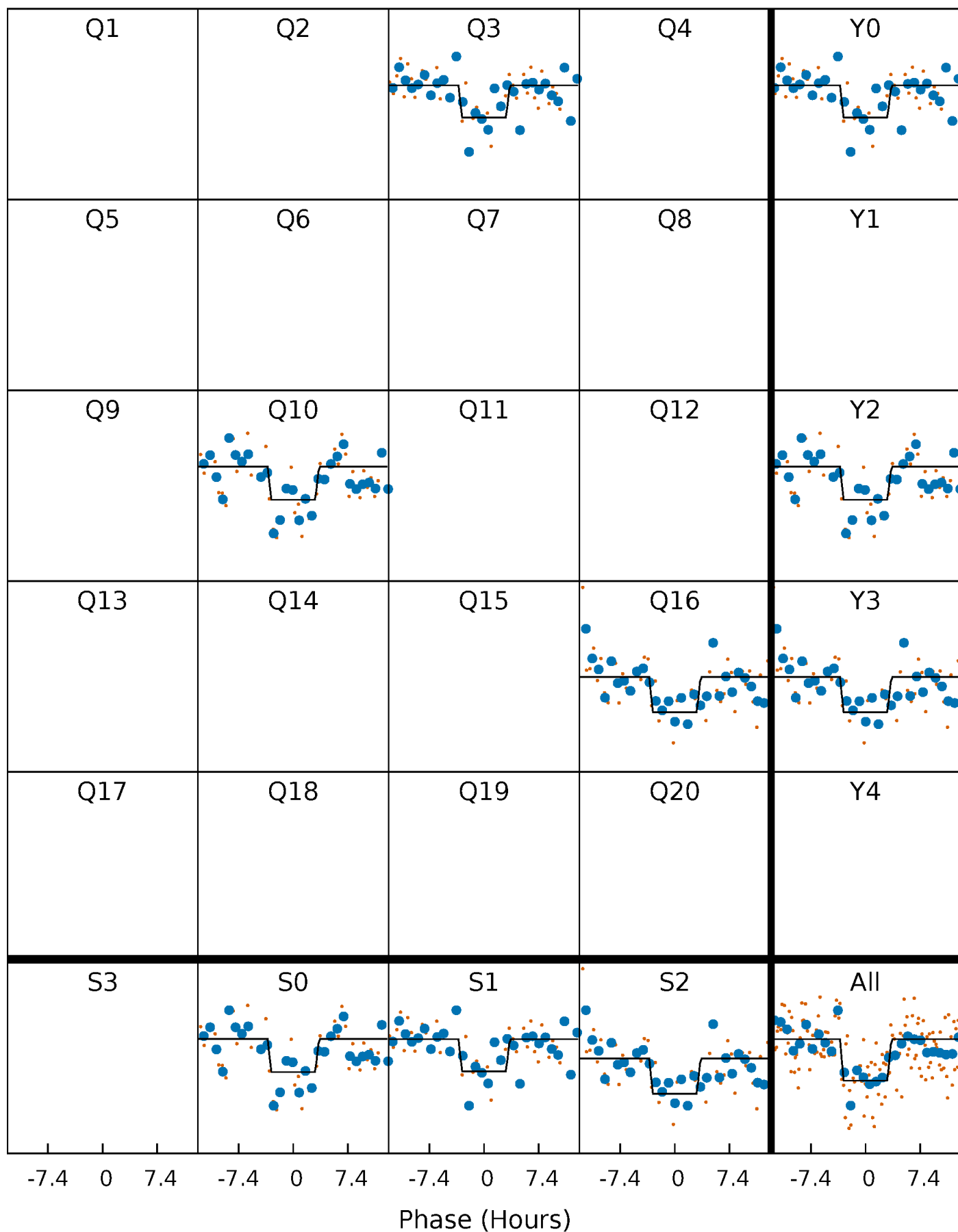
DV Quarter-Phased Transit Curves

TCE 008308516-02 P=623.712042 Days $T_0=303.352234$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

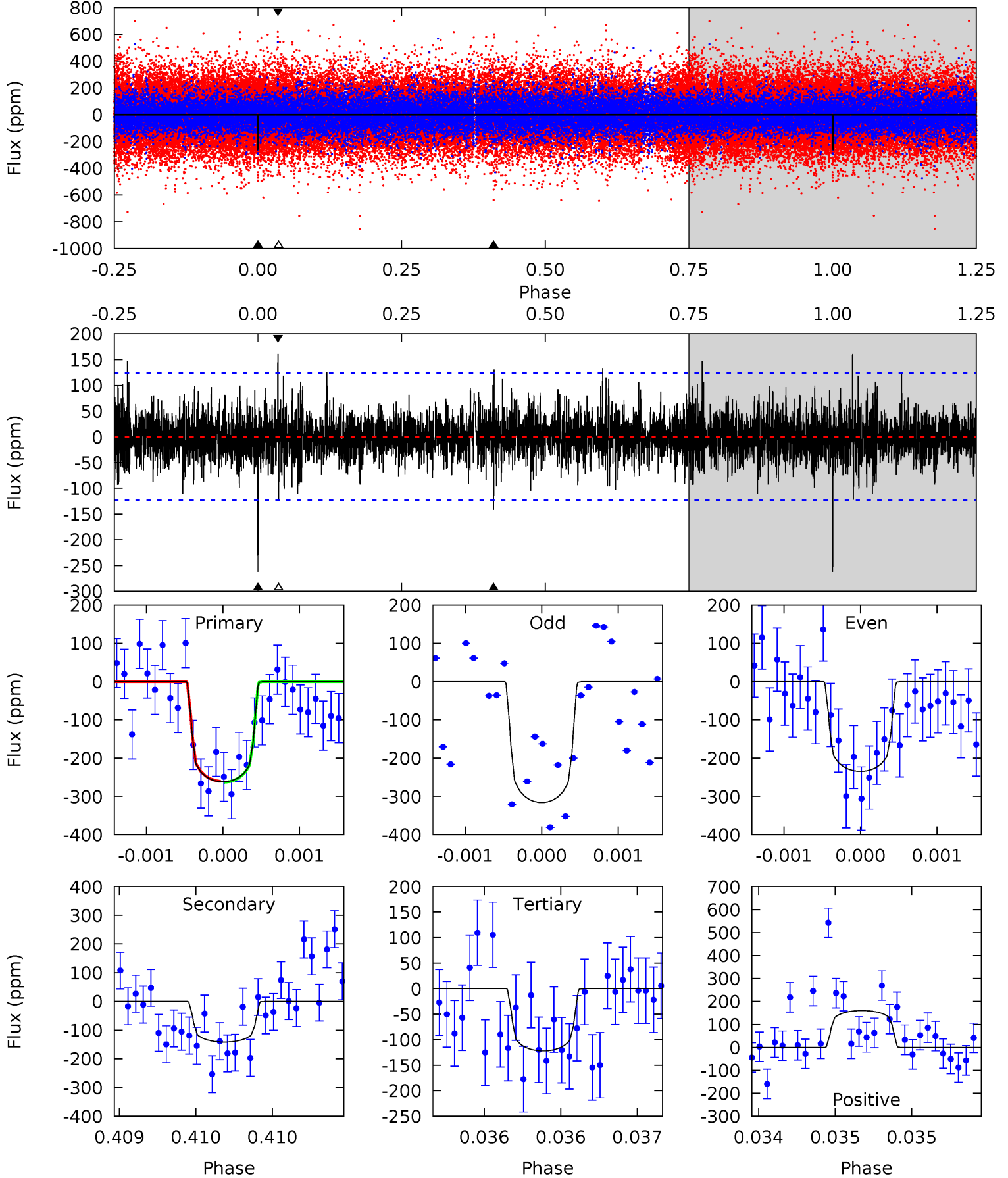
TCE 008308516-02 P=623.707174 Days $T_0=303.359709$ (BKJD)



DV Model-Shift Uniqueness Test

008308516-02, P = 623.712042 Days, E = 303.352234 Days

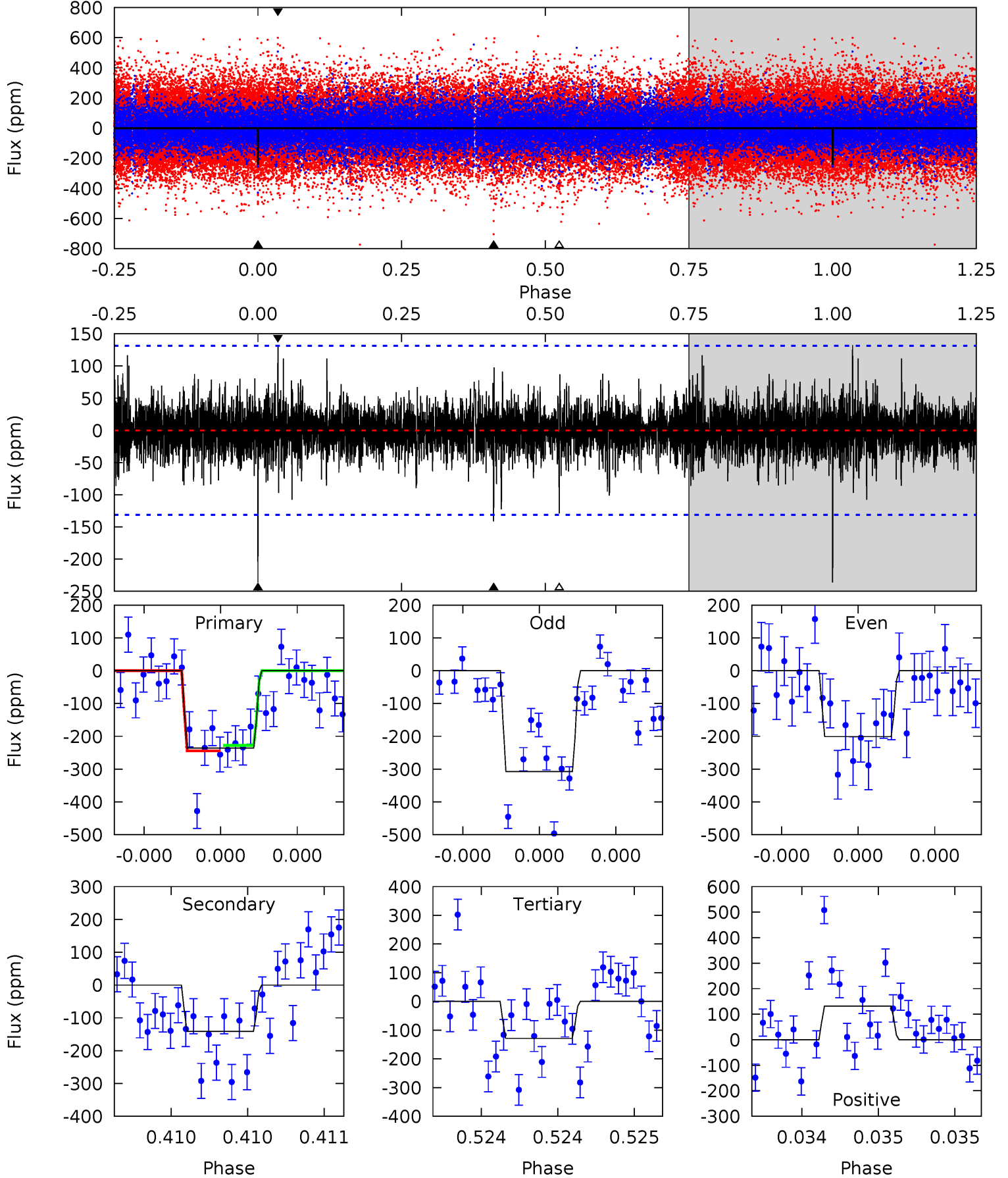
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	6.37	5.49	7.22	5.57	3.47	1.44	6.30	4.57	0.88	-0.85	1.76	1.07	0.38	0.06



Alt Model-Shift Uniqueness Test

008308516-02, P = 623.707174 Days, E = 303.359709 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	6.02	5.48	5.62	5.59	3.51	1.10	4.57	4.43	0.54	0.40	2.12	1.15	0.36	0.35



Stellar Parameters For KIC 008308516

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6626^{+158}_{-217}	$4.347^{+0.112}_{-0.182}$	$-0.560^{+0.300}_{-0.300}$	$1.132^{+0.298}_{-0.161}$	$1.039^{+0.137}_{-0.112}$	$1.008^{+0.521}_{-0.497}$
	+2%/-3%	+3%/-4%	+54%/-54%	+26%/-14%	+13%/-11%	+52%/-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 008308516-02 / KOI 7880.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-141 ± 22	$2.08^{+0.66}_{-0.59}$	363^{+24}_{-19}	5560^{+1179}_{-598}	36647^{+39126}_{-15756}
Alt.	-141 ± 23	$1.89^{+0.78}_{-0.67}$	363^{+27}_{-19}	5916^{+1509}_{-873}	45422^{+65351}_{-23267}

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

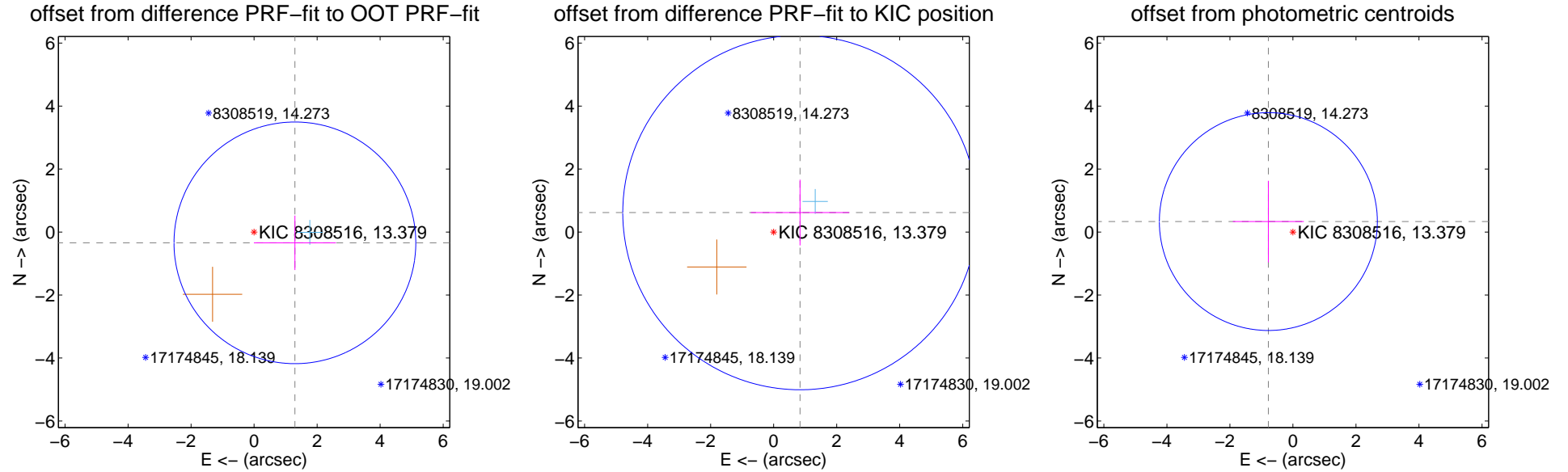
DV Centroid Data

Supplemental centroid analysis for 008308516-02. Kepler magnitude: 13.38. Transit SNR 7.35

There are 1 quarters with good PRF difference image offsets

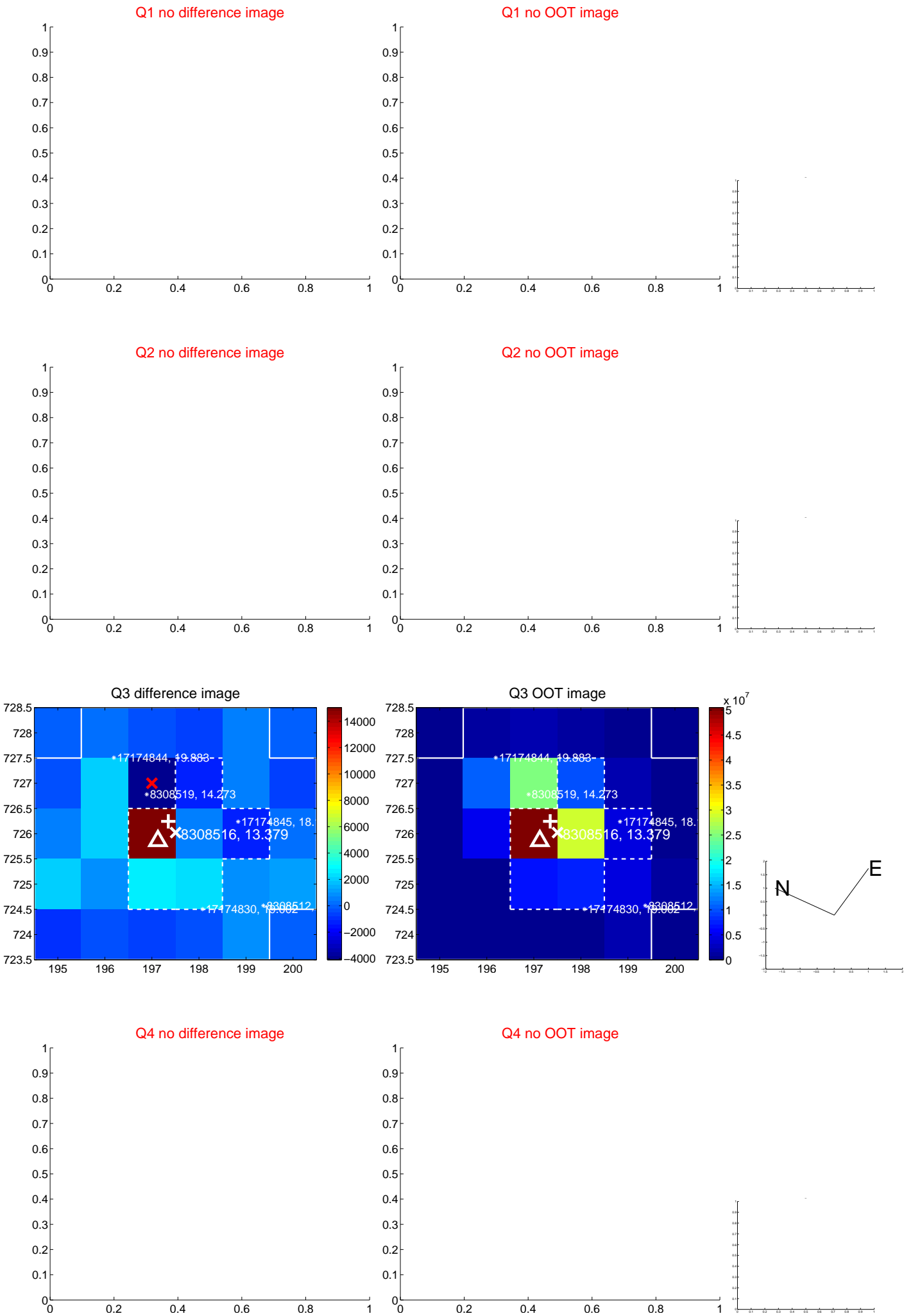
The direct PRF centroid is offset from the target star catalog position by about 0.99 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.339 ± 1.279	1.05	-1.294 ± 1.303	-0.343 ± 0.865
PRF-fit source offset from KIC position	1.041 ± 1.876	0.56	-0.838 ± 1.563	0.619 ± 1.043
photometric centroid source offset	0.85 ± 1.15	0.74	0.78 ± 1.13	0.33 ± 1.29



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.

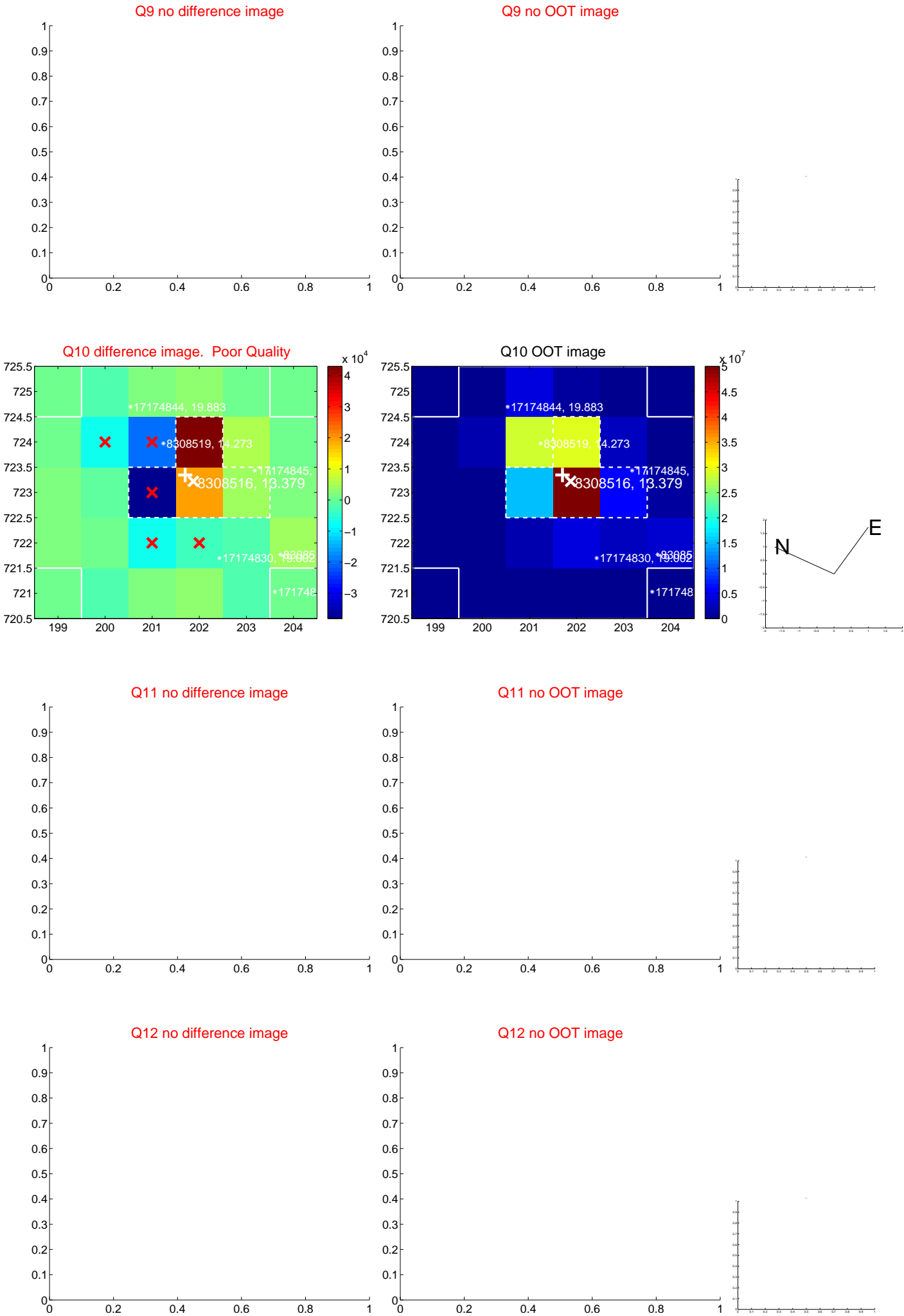
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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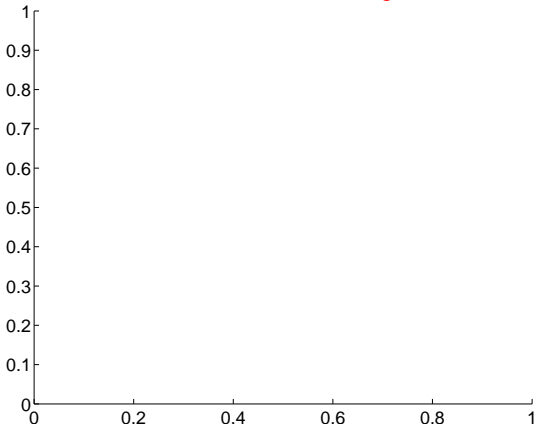


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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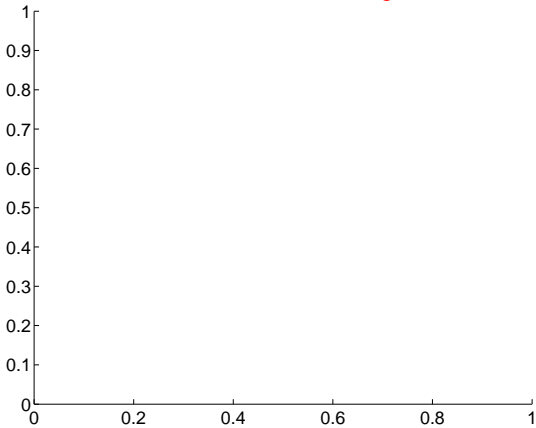
Q13 no difference image



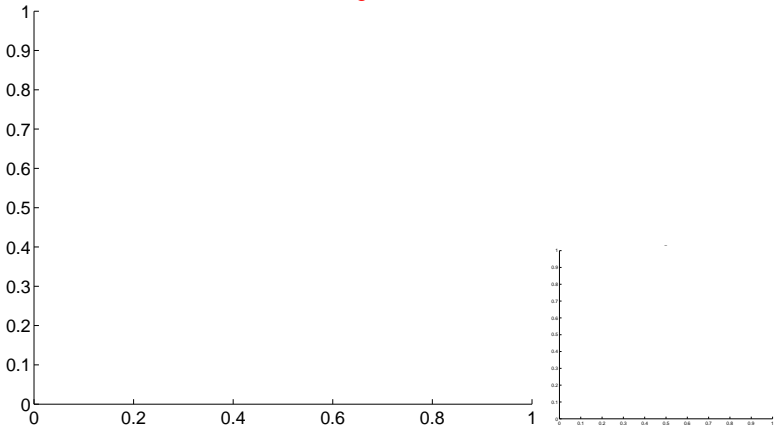
Q13 no OOT image



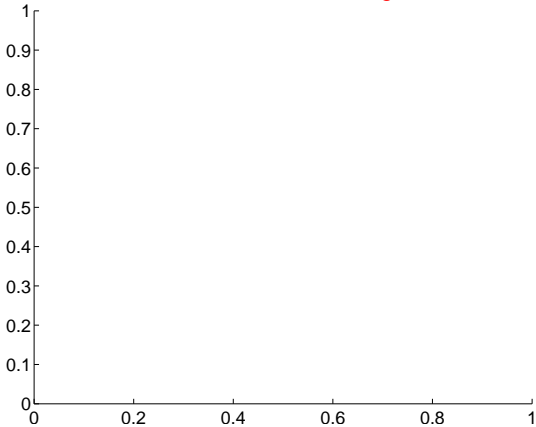
Q14 no difference image



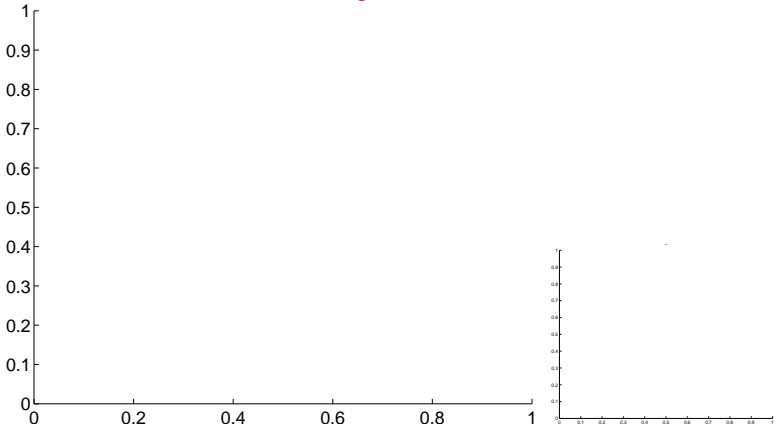
Q14 no OOT image



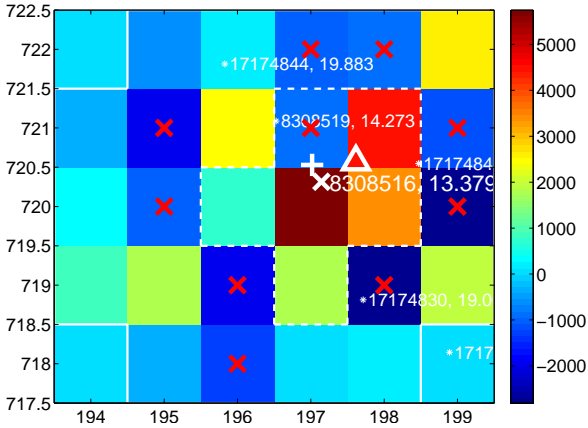
Q15 no difference image



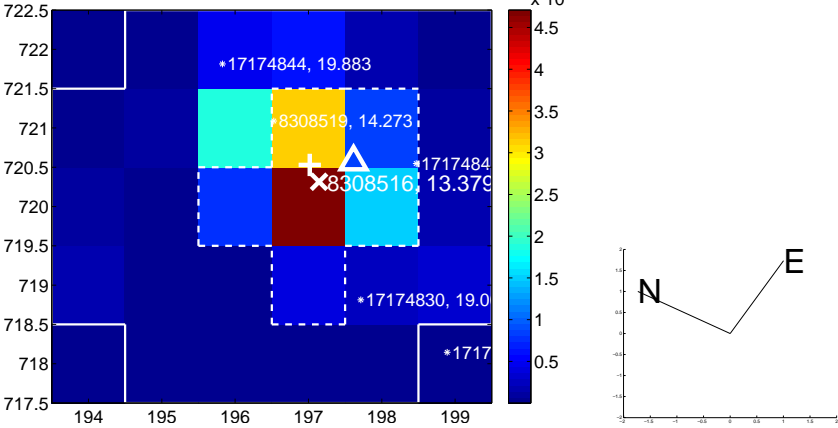
Q15 no OOT image



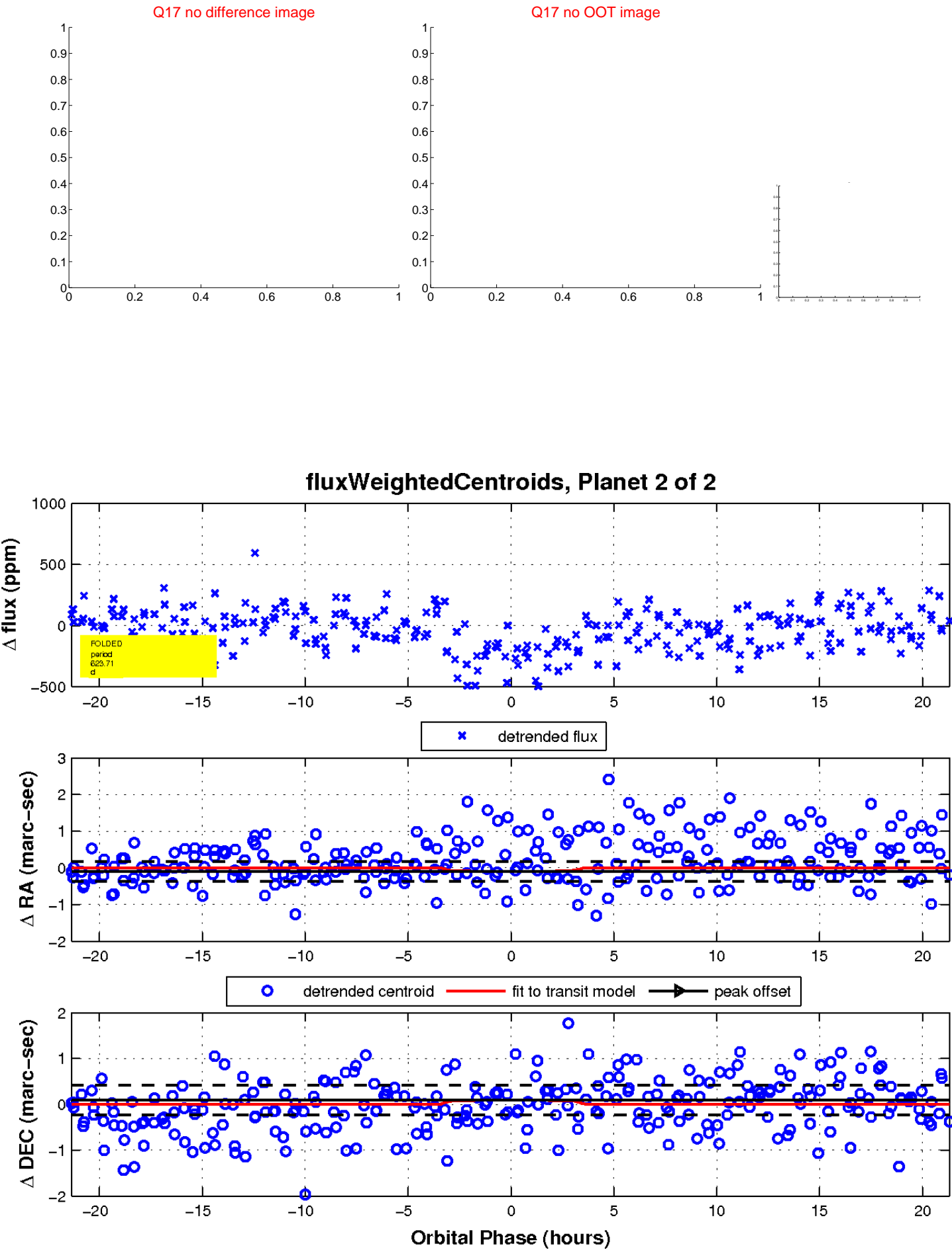
Q16 difference image. Poor Quality



Q16 OOT image



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



UKIRT Image

Declination

