

KIC 008439949

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})
008439949-01	OBS	8156.01	364.975312	188.633705	441.2	10.927	7.2	7.1	1.12	6429	2.49	1.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008439949-01	OBS	PC	0.27	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.

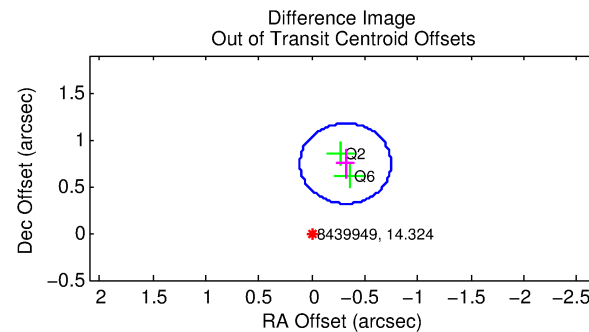
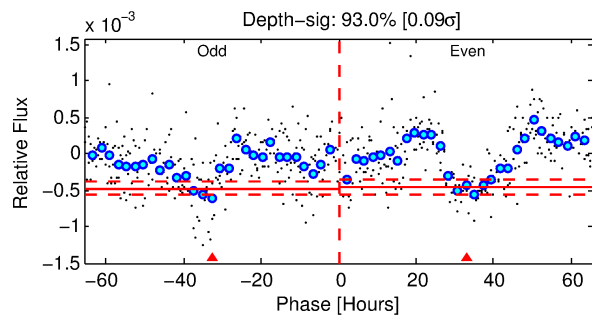
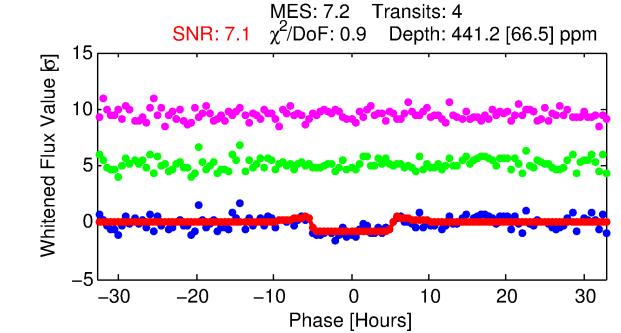
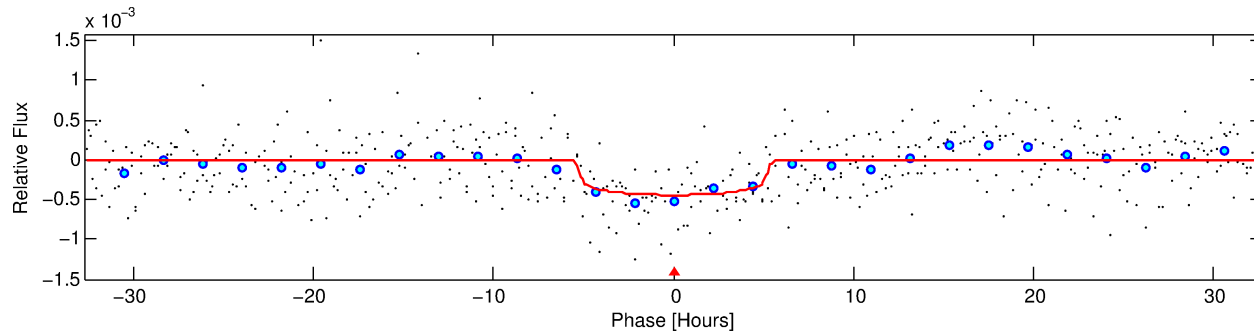
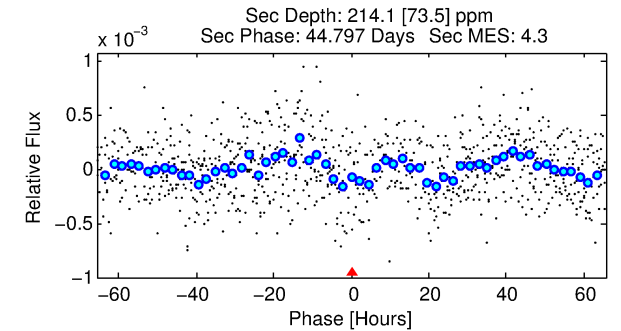
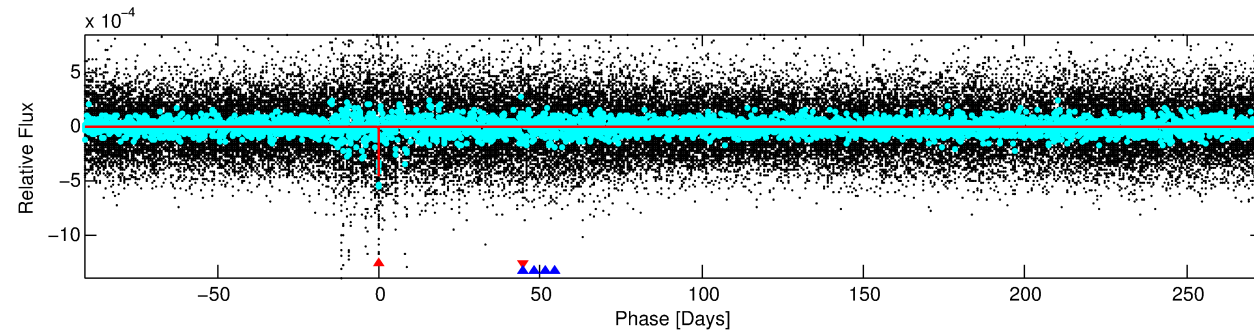
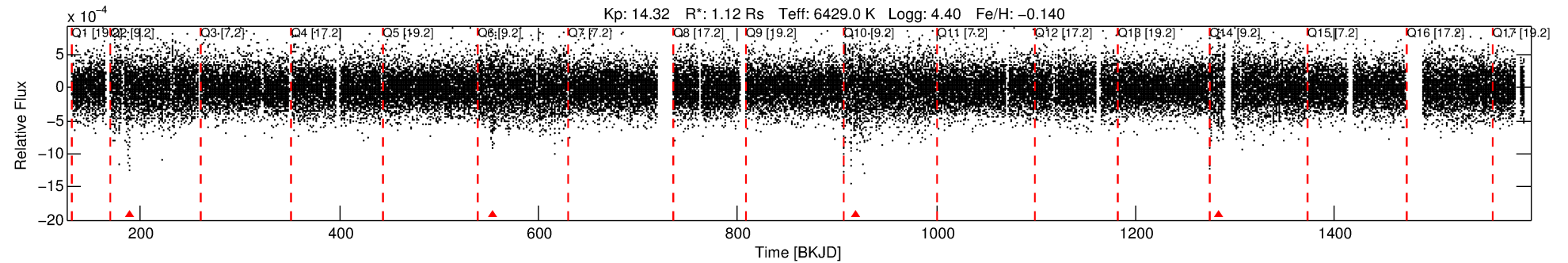
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008439949-01

No Significant Match Found

DV One-Page Summary

KIC: 8439949 Candidate: 1 of 2 Period: 364.975 d



DV Fit Results:

Period = 364.97531 [0.00678] d
Epoch = 188.6337 [0.0124] BKJD
Rp/R* = 0.0205 [0.0083]
a/R* = 195.10 [405.17]
b = 0.68 [1.68]
Seff = 1.74 [0.73]
Teq = 293 [31] K
Rp = 2.49 [1.30] Re
a = 1.0479 [0.2895] AU
Ag = 20809.19 [20093.17] [1.04 σ]
Teffp = 5435 [1208] K [4.25 σ]

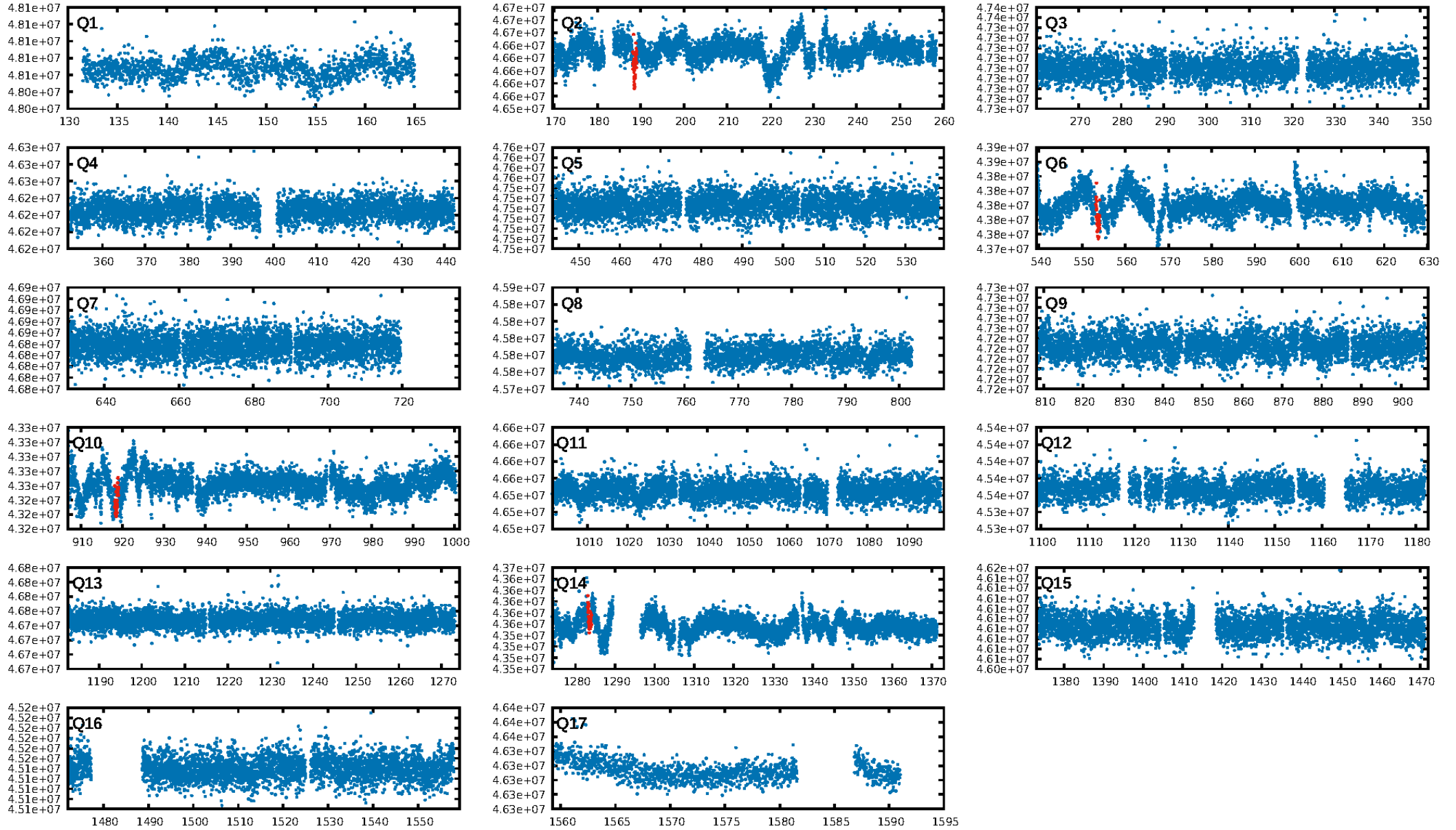
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.18 σ]
ModelChiSquare2-sig: 70.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.30e-09
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: -2.455
Centroid-sig: 17.2%
Centroid-so: 2.256 arcsec [1.03 σ]
OotOffset-rm: 0.809 arcsec [5.65 σ]
KicOffset-rm: 0.998 arcsec [6.57 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

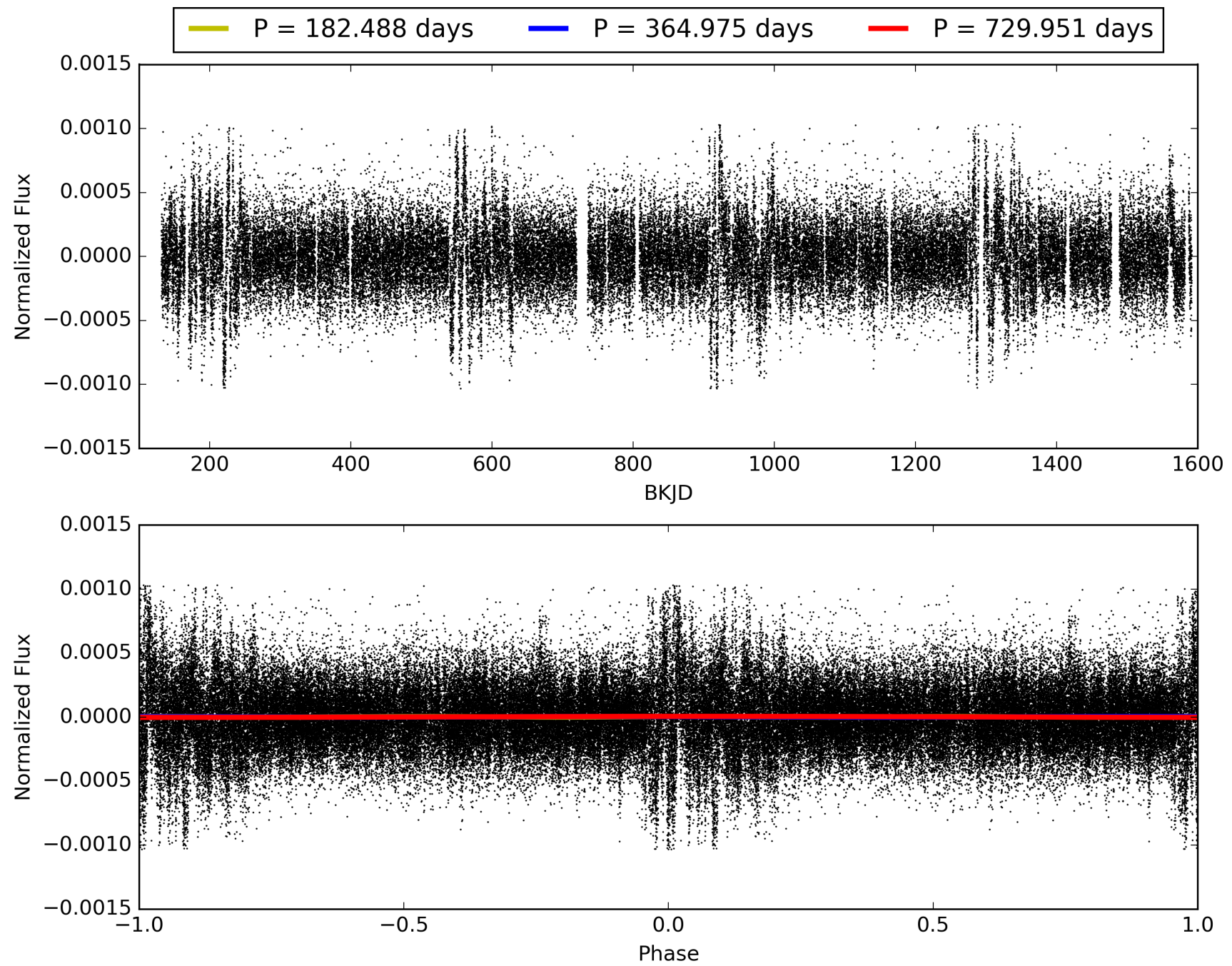
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:26:29 Z

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

TCE 008439949-01, PDC Light Curves

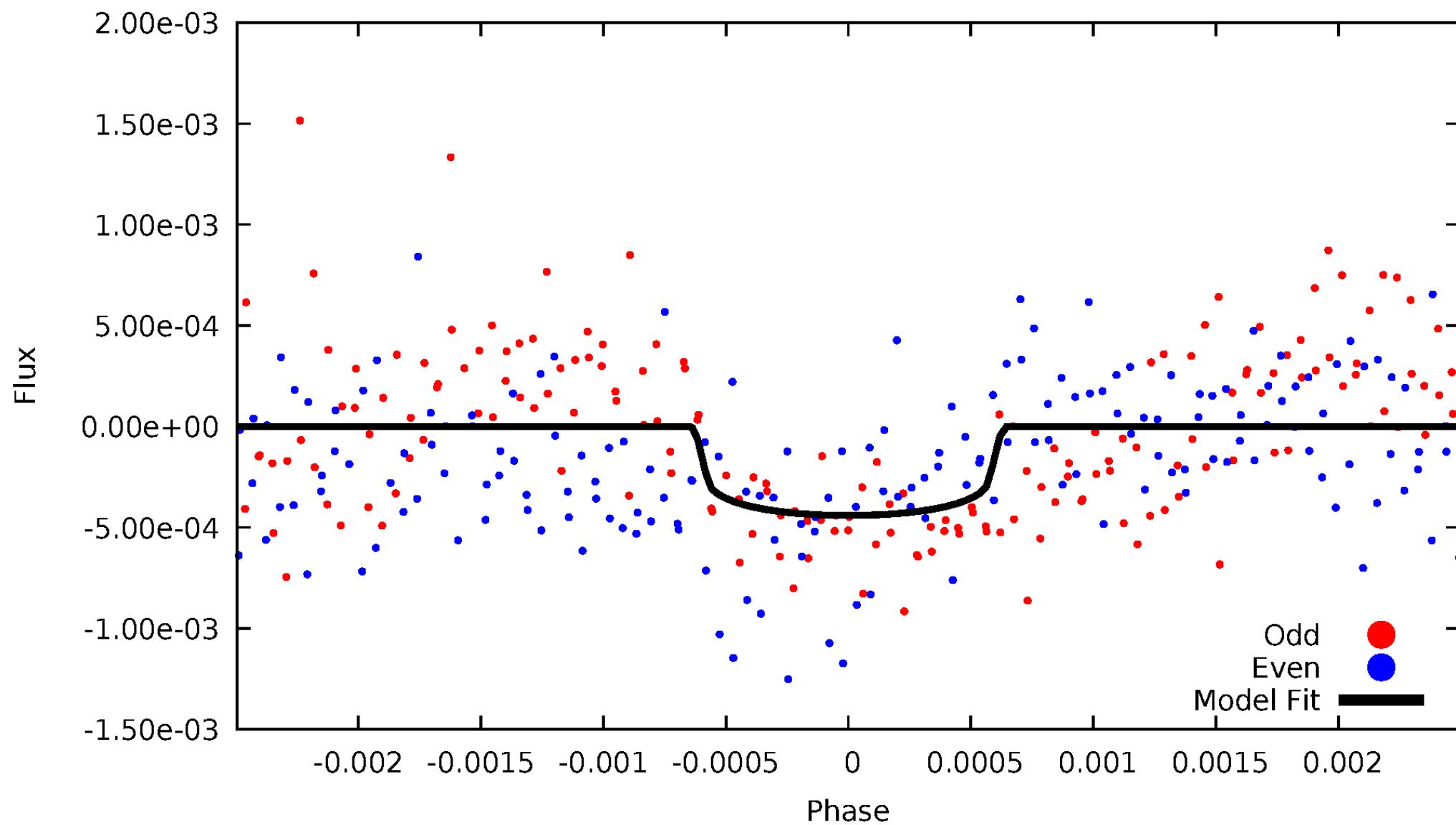


TCE 008439949-01



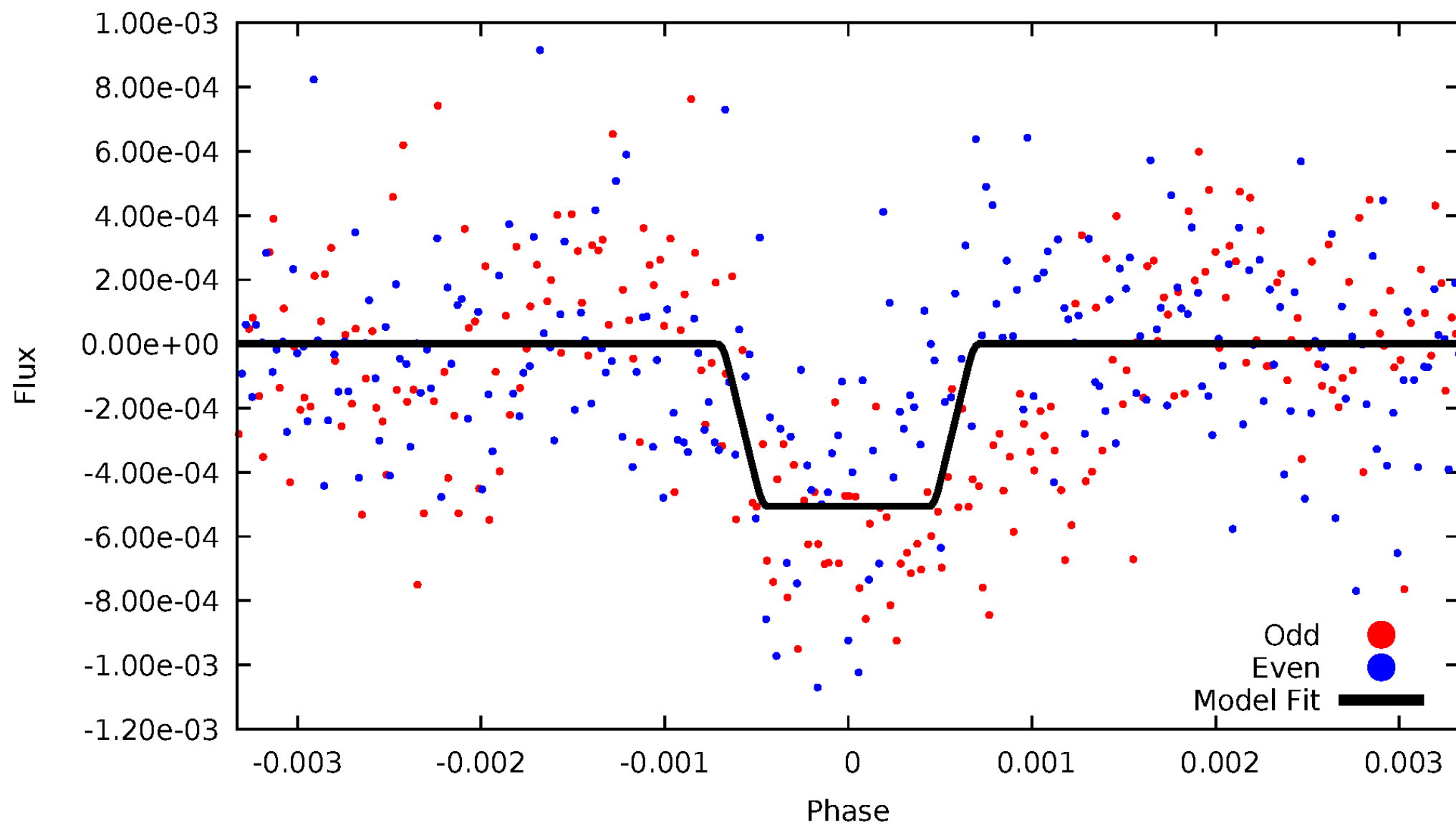
DV Odd/Even

TCE 008439949-01



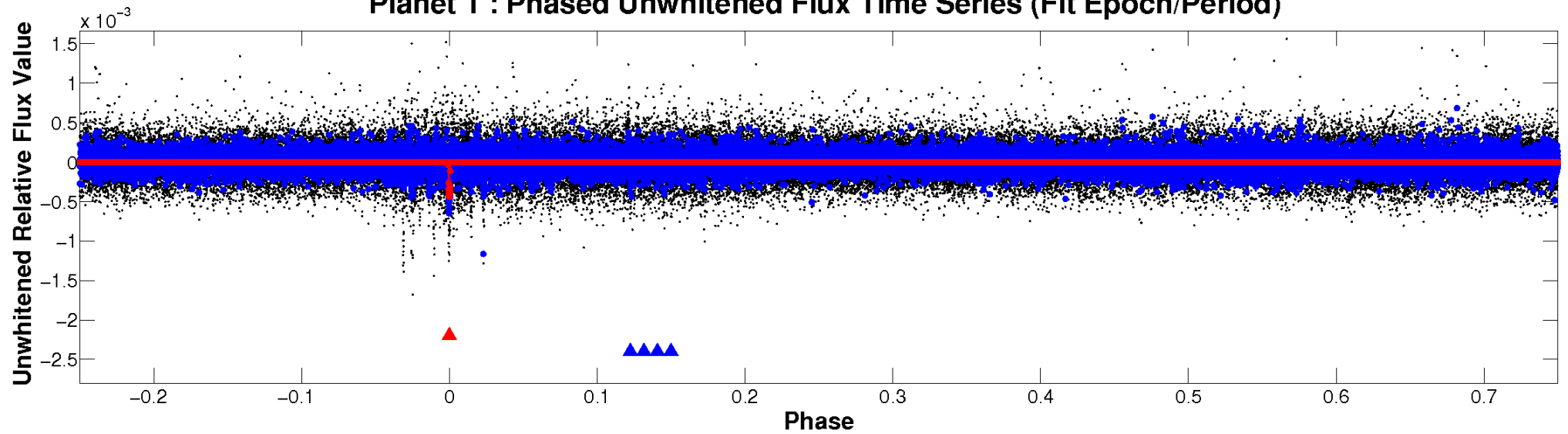
ALT Odd/Even

TCE 008439949-01

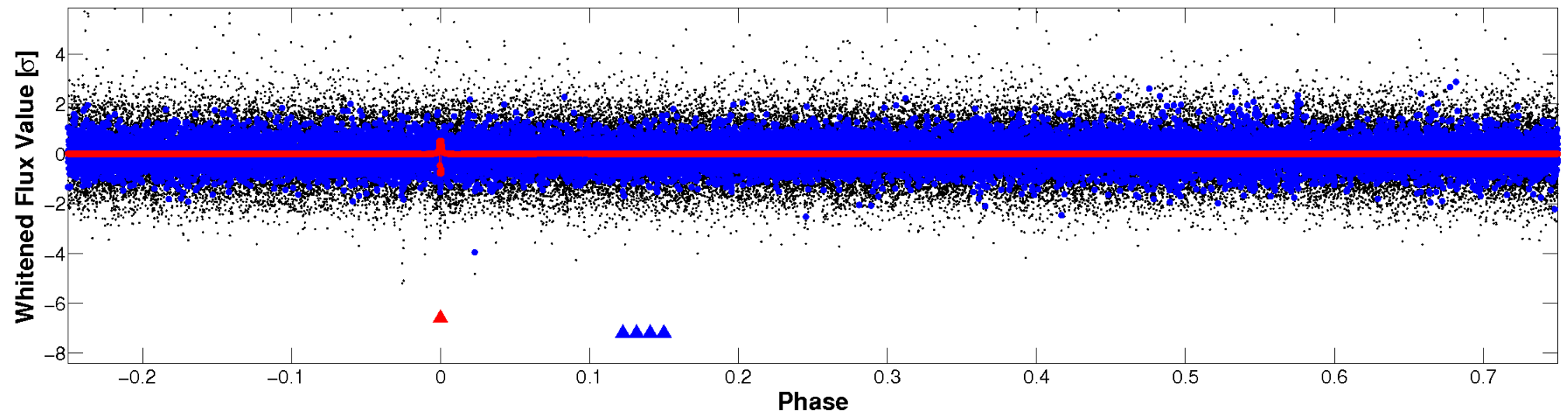


Non-Whitened Vs. Whitened Light Curve

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

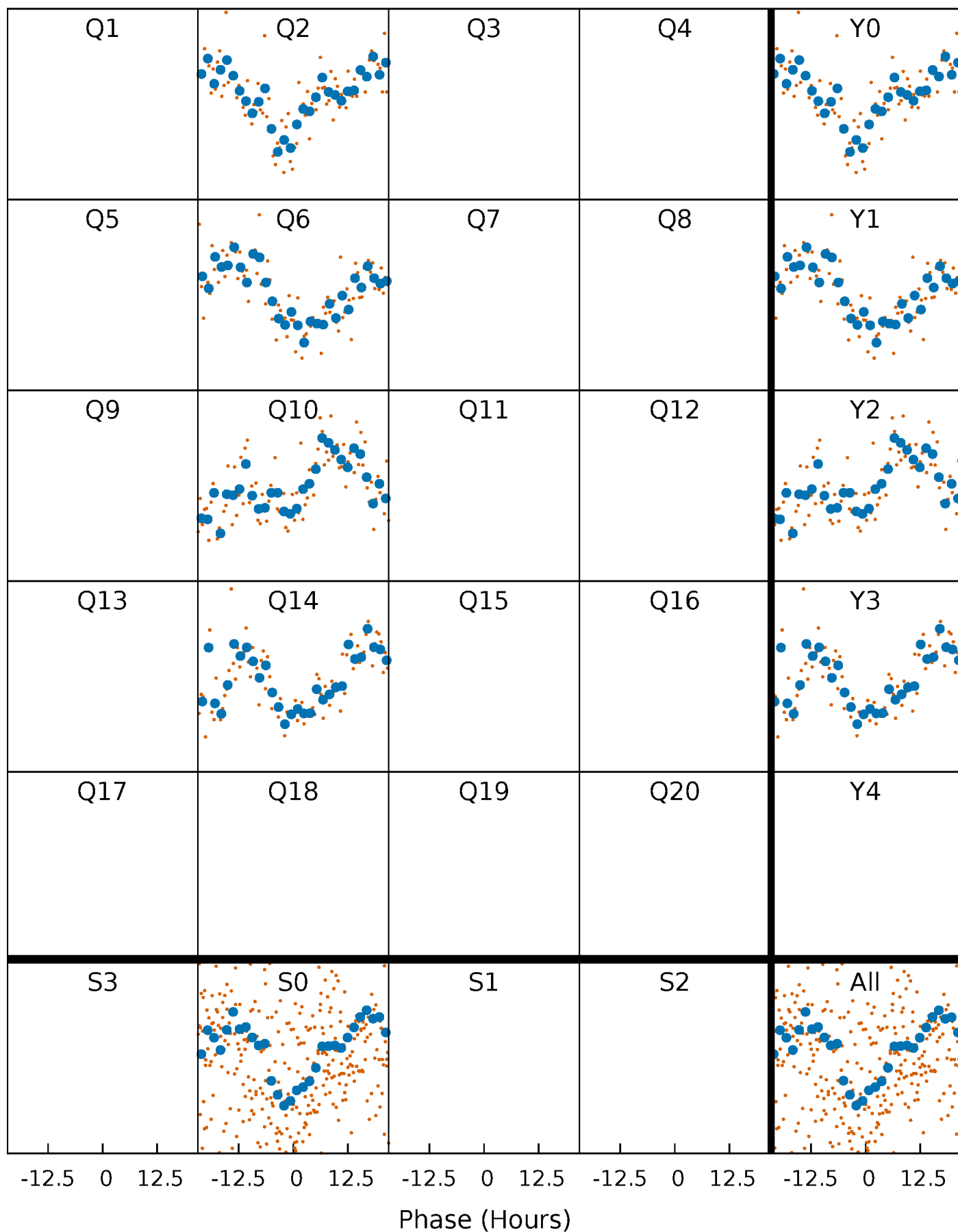


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



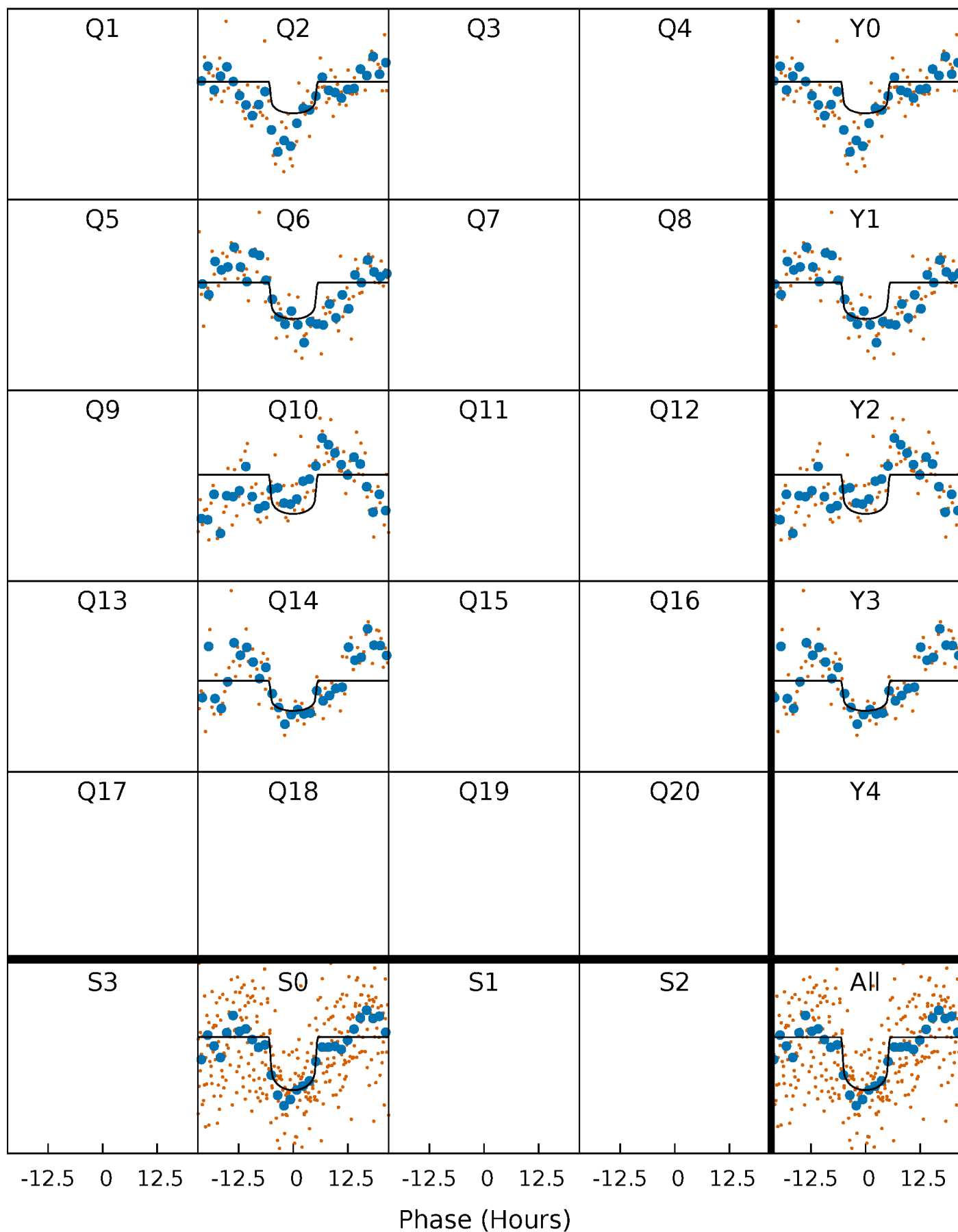
PDC Quarter-Phased Transit Curves

TCE 008439949-01 P=364.975312 Days $T_0=188.633705$ (BKJD)



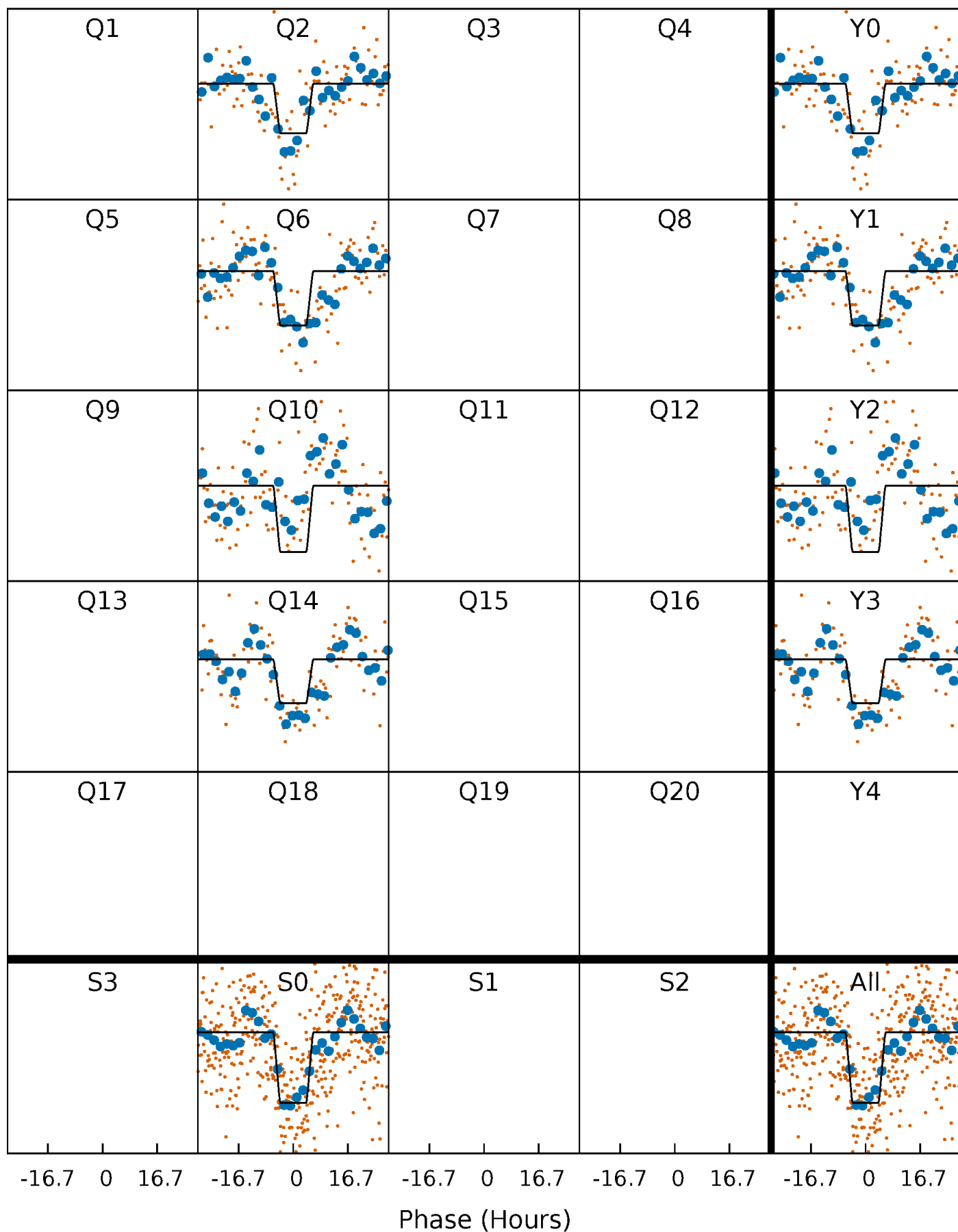
DV Quarter-Phased Transit Curves

TCE 008439949-01 P=364.975312 Days $T_0=188.633705$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

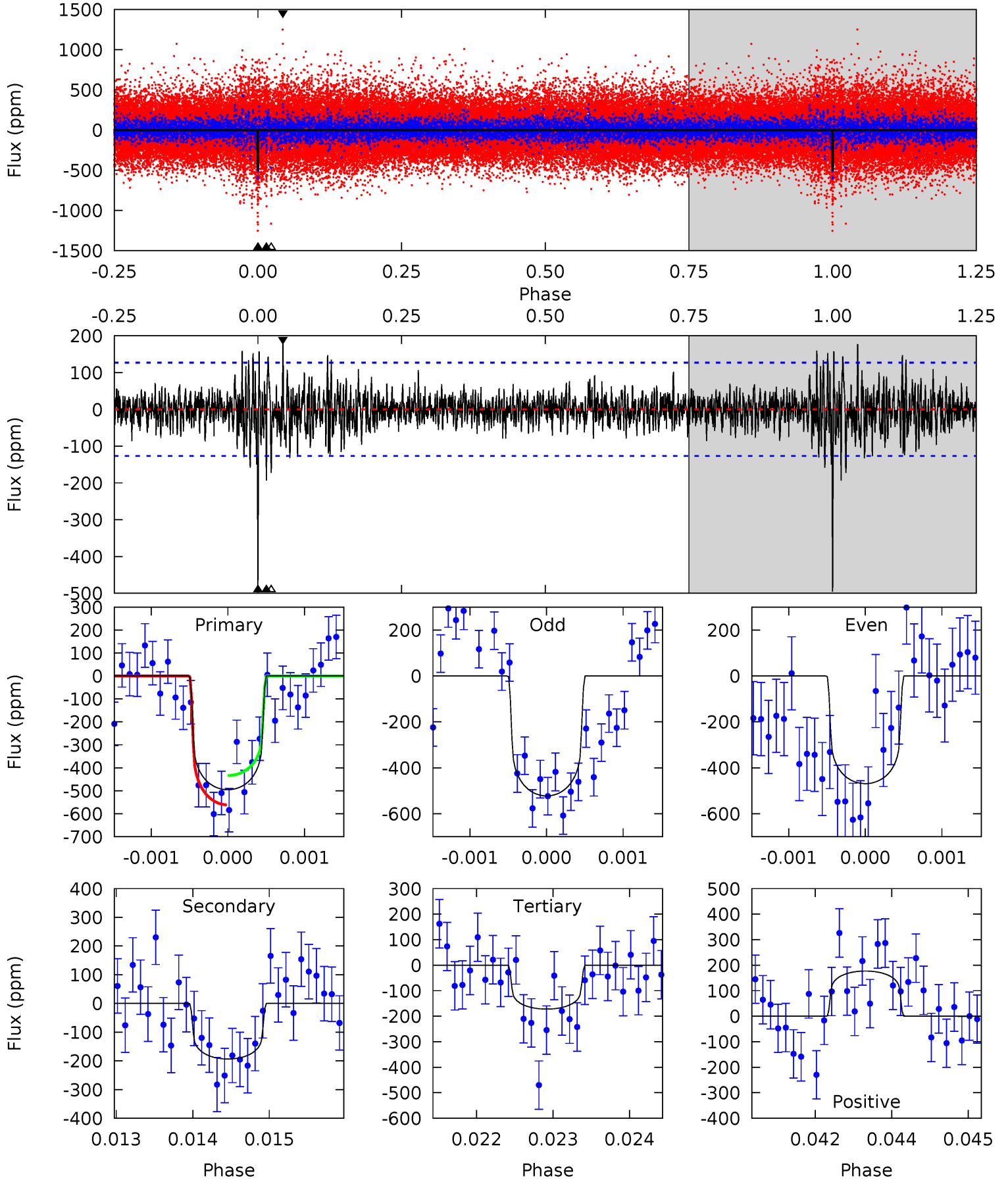
TCE 008439949-01 $P=364.991060$ Days $T_0=188.605288$ (BKJD)



DV Model-Shift Uniqueness Test

008439949-01, P = 364.975312 Days, E = 188.633705 Days

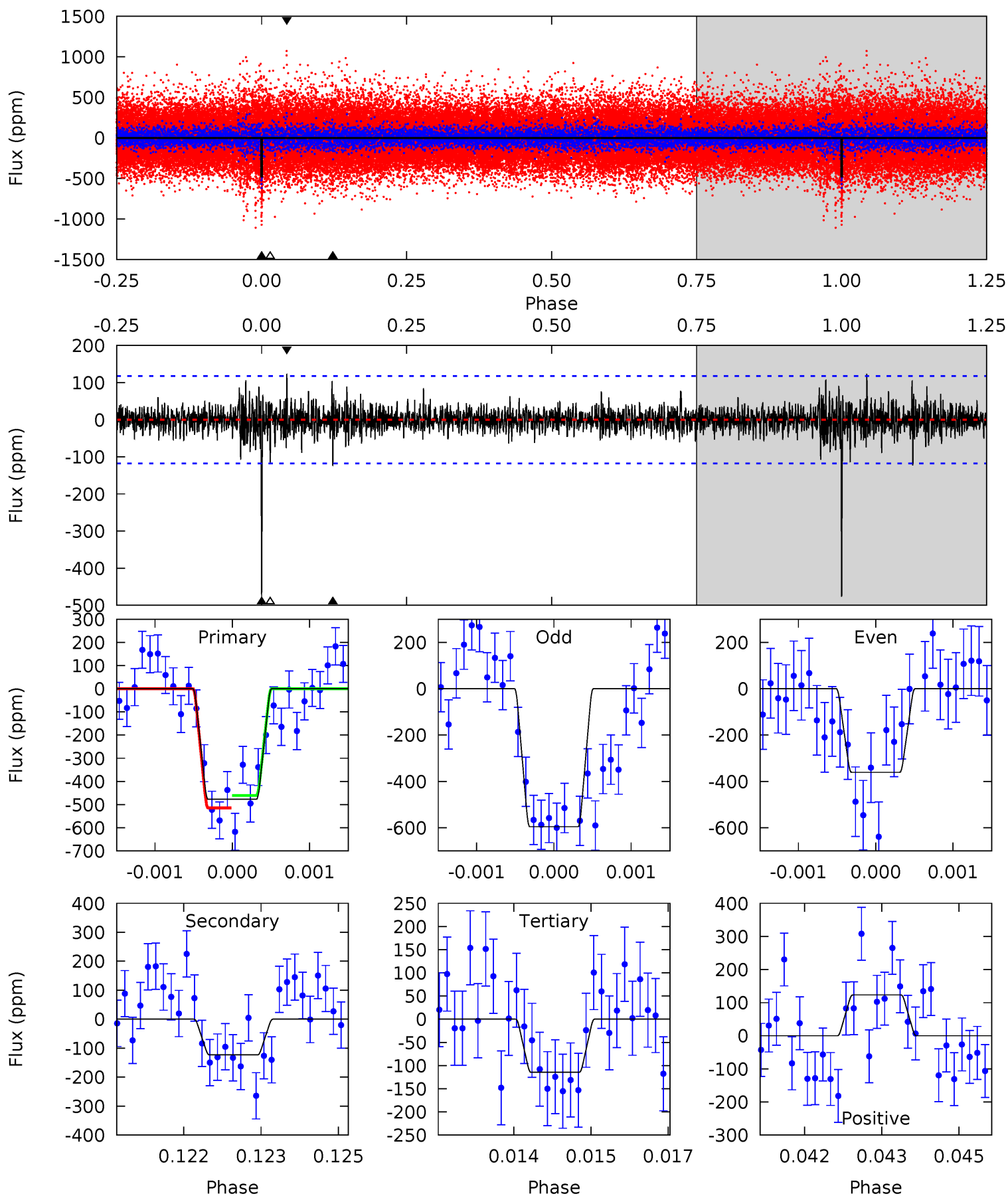
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	8.24	7.33	7.54	5.41	3.22	1.54	13.8	13.6	0.91	0.70	1.15	0.95	0.26	2.72



Alt Model-Shift Uniqueness Test

008439949-01, P = 364.991060 Days, E = 188.605288 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	5.64	5.24	5.64	5.39	3.19	1.09	16.6	16.2	0.39	-0.01	5.36	0.89	0.21	1.23



Stellar Parameters For KIC 008439949

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6429^{+153}_{-211}	$4.404^{+0.068}_{-0.216}$	$-0.140^{+0.250}_{-0.300}$	$1.116^{+0.370}_{-0.123}$	$1.152^{+0.172}_{-0.157}$	$1.167^{+0.340}_{-0.621}$
	+2%/-3%	+2%/-5%	+179%/-214%	+33%/-11%	+15%/-14%	+29%/-53%
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 008439949-01 / KOI 8156.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-194 ± 23	$2.60^{+1.20}_{-1.08}$	415^{+32}_{-20}	5297^{+1594}_{-707}	16701^{+32530}_{-8639}
Alt.	-123 ± 22	$2.90^{+1.18}_{-1.08}$	417^{+30}_{-22}	4625^{+1005}_{-547}	8637^{+13252}_{-4257}

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

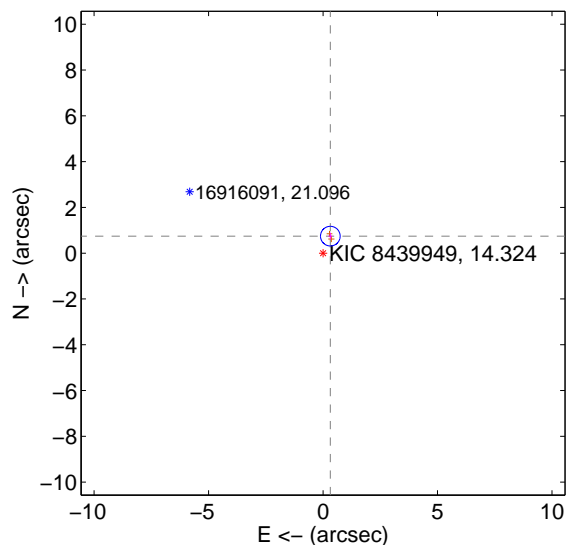
Supplemental centroid analysis for 008439949-01. Kepler magnitude: 14.32. Transit SNR 7.08

There are 0 quarters with good PRF difference image offsets

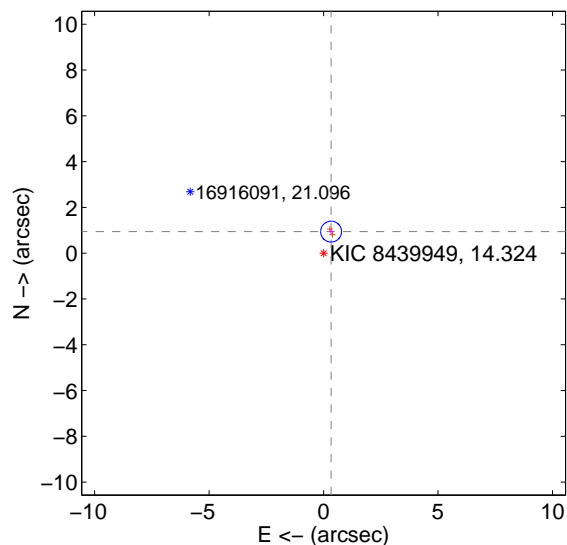
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.809 ± 0.143	5.65	-0.318 ± 0.082	0.744 ± 0.152
PRF-fit source offset from KIC position	0.998 ± 0.152	6.57	-0.328 ± 0.094	0.943 ± 0.158
photometric centroid source offset	2.26 ± 2.18	1.03	-0.55 ± 2.44	-2.19 ± 2.17

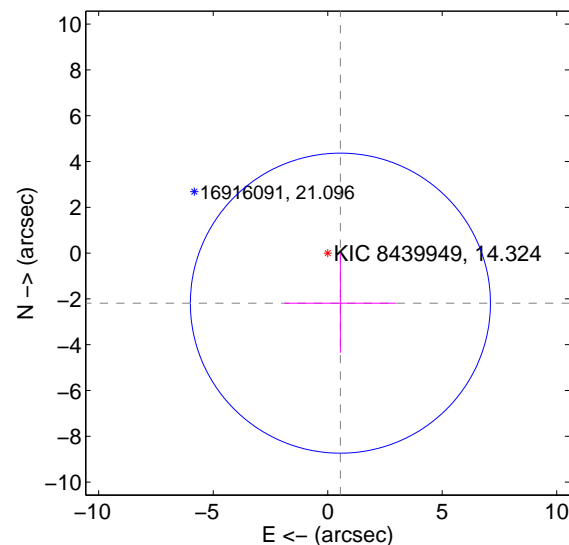
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

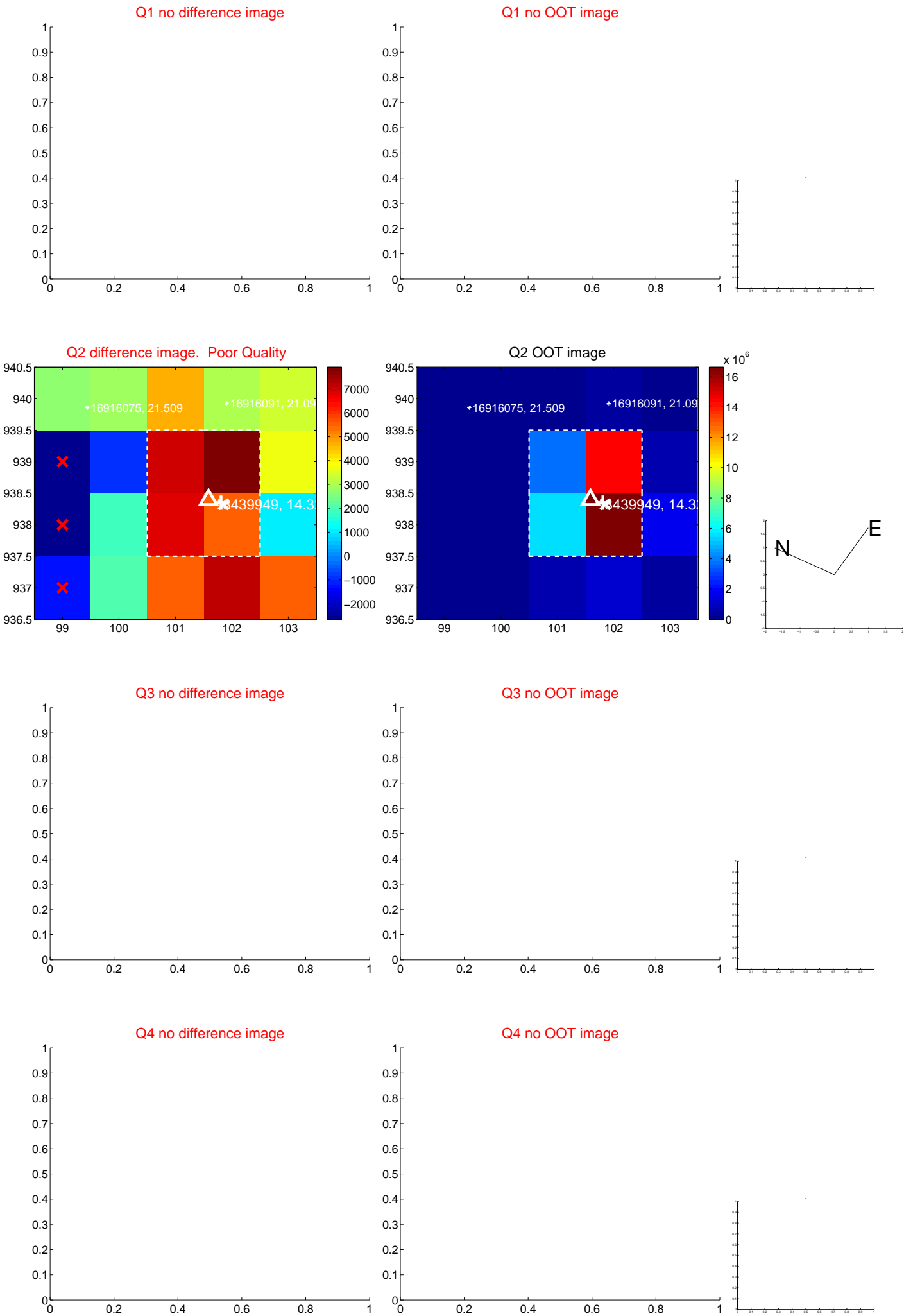


offset from photometric centroids

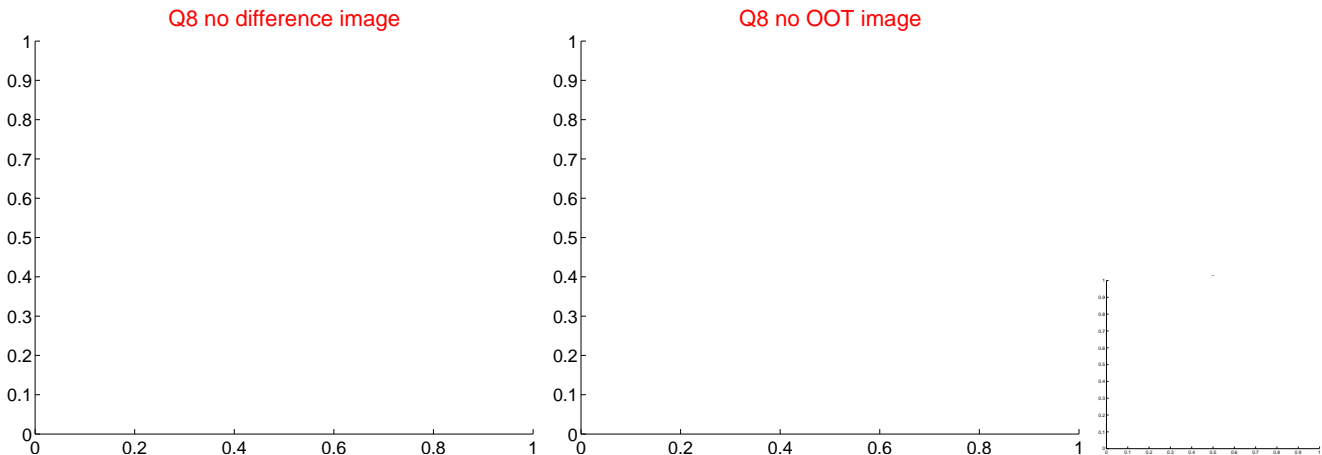
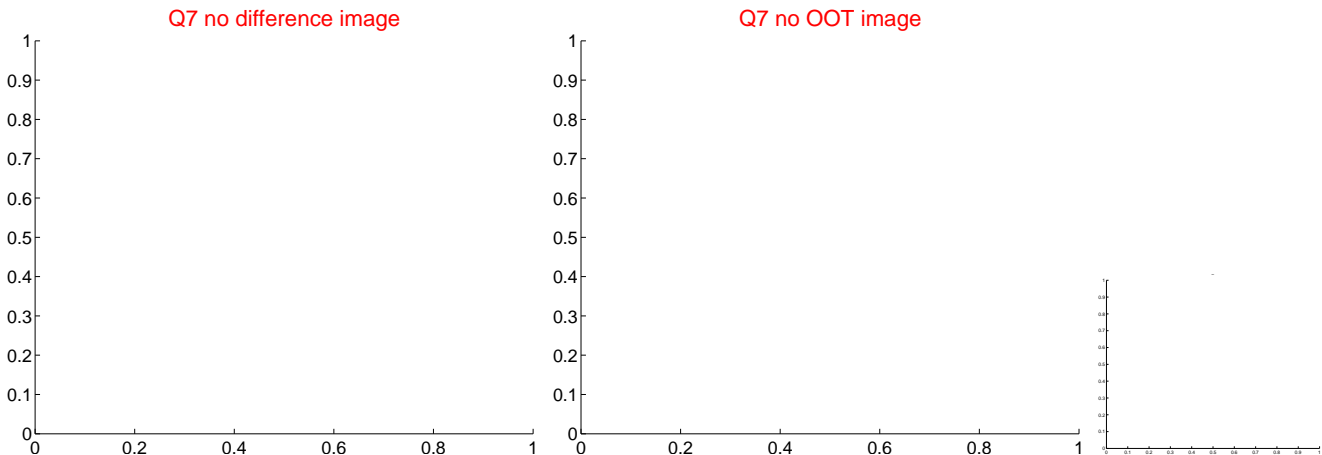
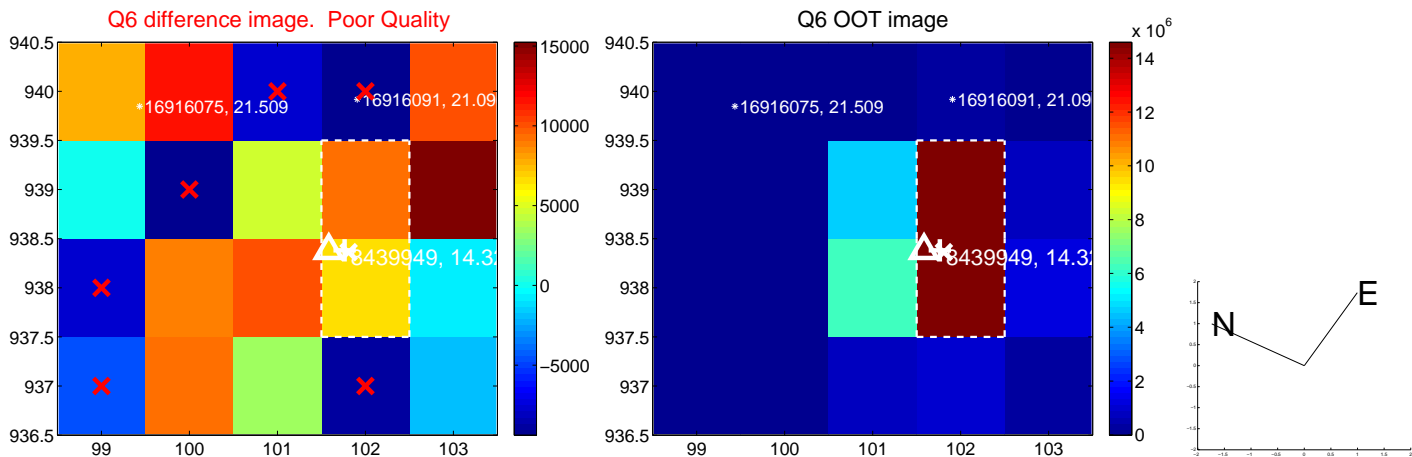
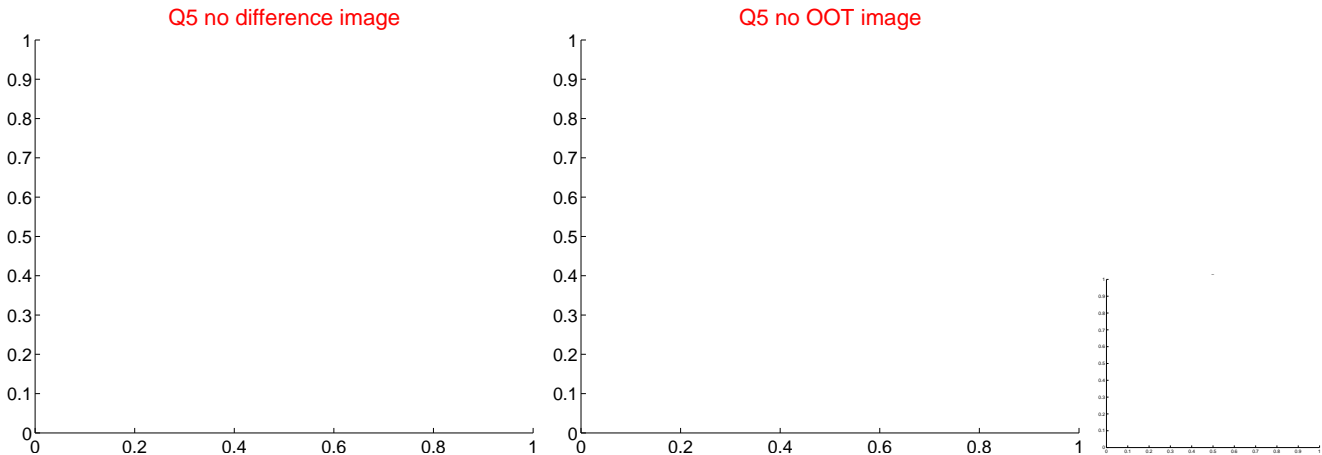


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

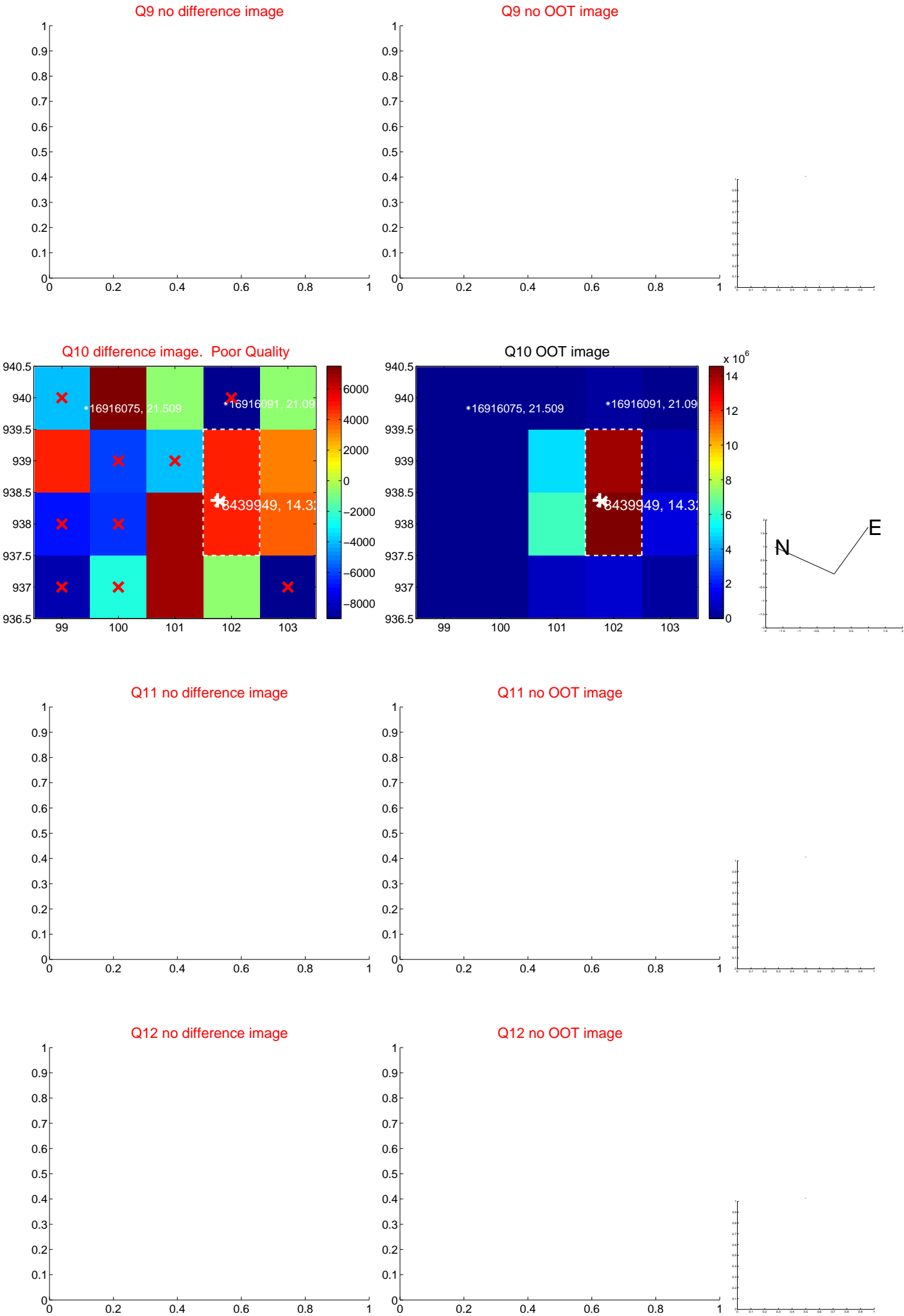
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



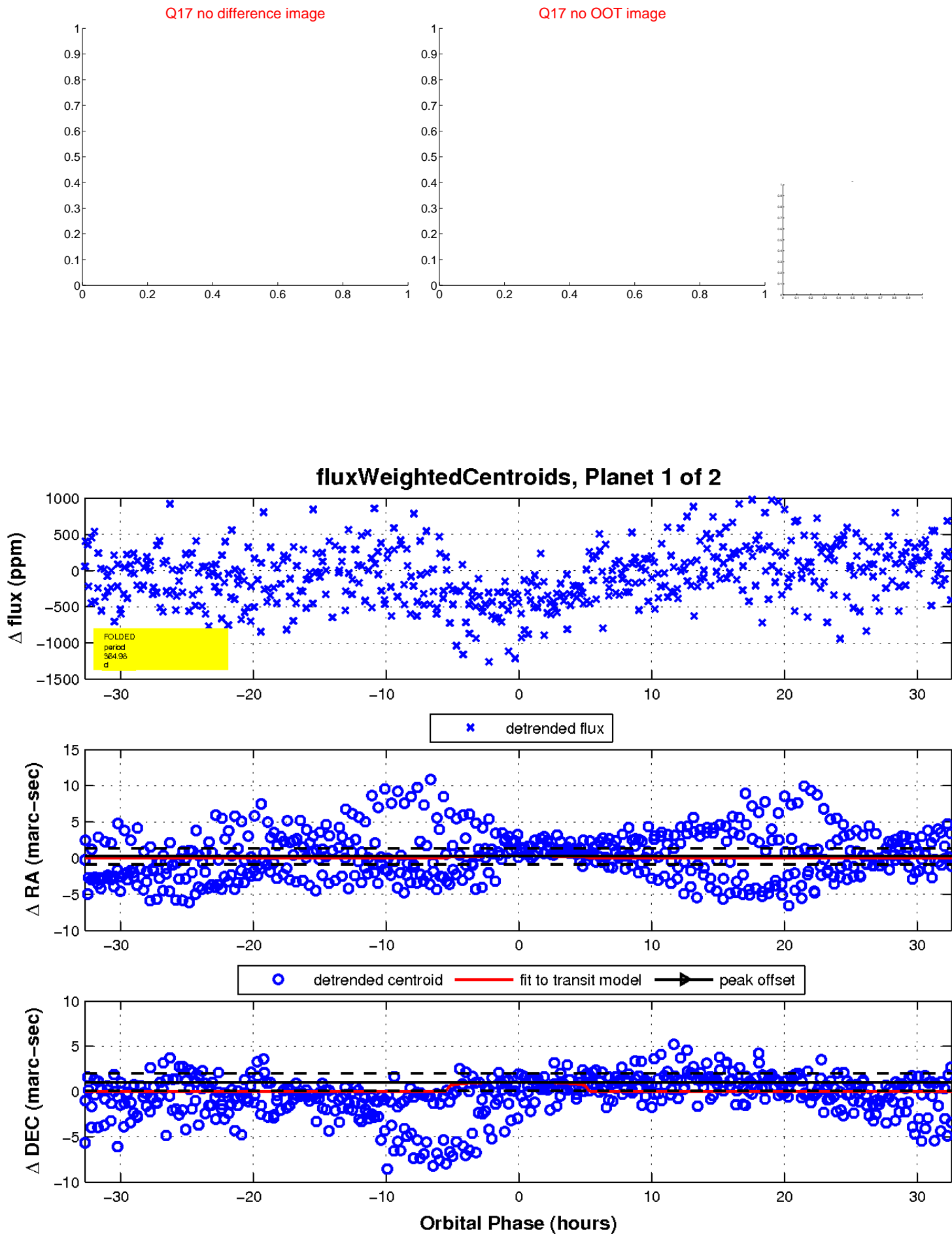
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

