

KIC 008241940

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})
008241940-01	OBS	No	411.024165	375.176911	188.1	9.274	8.5	5.7	1.02	5903	1.59	1.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008241940-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

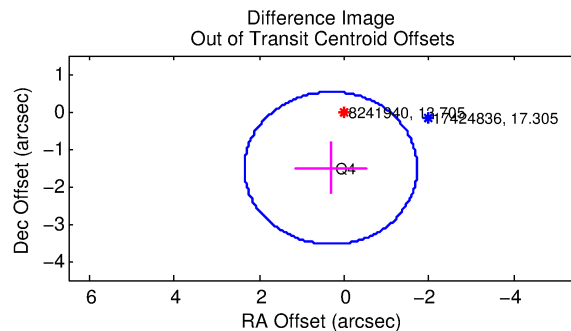
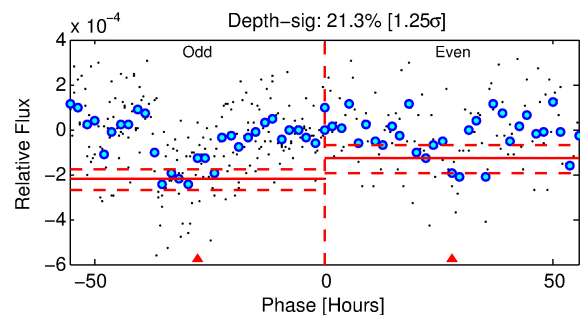
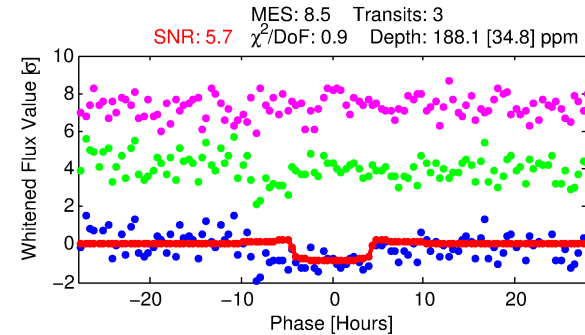
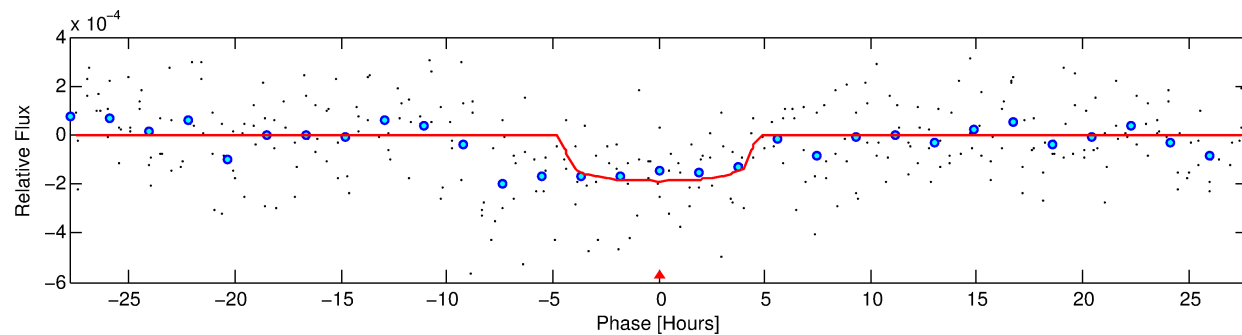
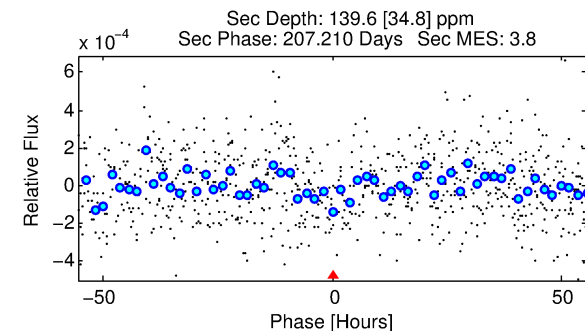
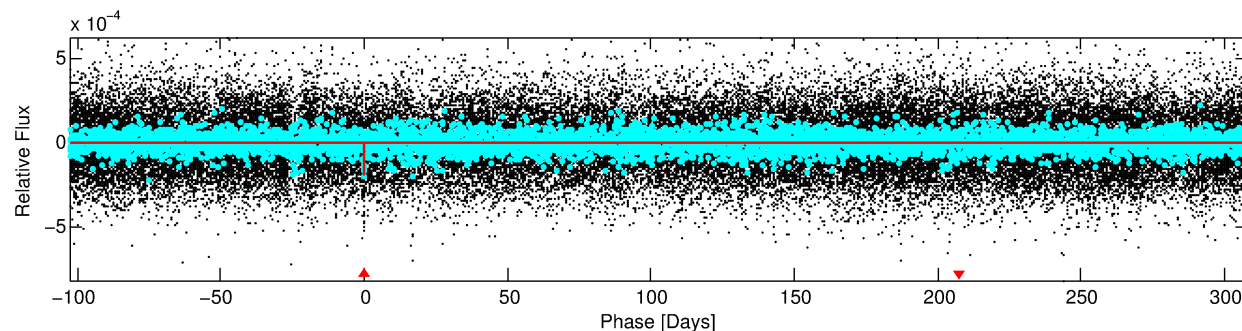
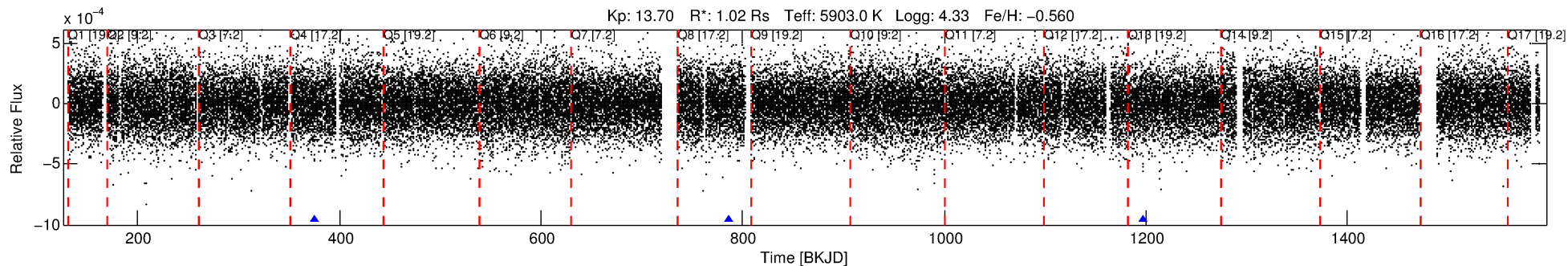
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008241940-01

No Significant Match Found

DV One-Page Summary

KIC: 8241940 Candidate: 1 of 1 Period: 411.024 d



DV Fit Results:

Period = 411.02416 [0.01638] d
Epoch = 375.1769 [0.0238] BKJD
Rp/R* = 0.0143 [0.0154]
a/R* = 183.17 [1019.04]
b = 0.86 [1.73]
Seff = 1.11 [0.42]
Teq = 262 [25] K
Rp = 1.59 [1.77] Re
a = 1.0080 [0.2467] AU
Ag = 30816.11 [67469.10] [0.46σ]
Teffp = 5361 [2898] K [1.76σ]

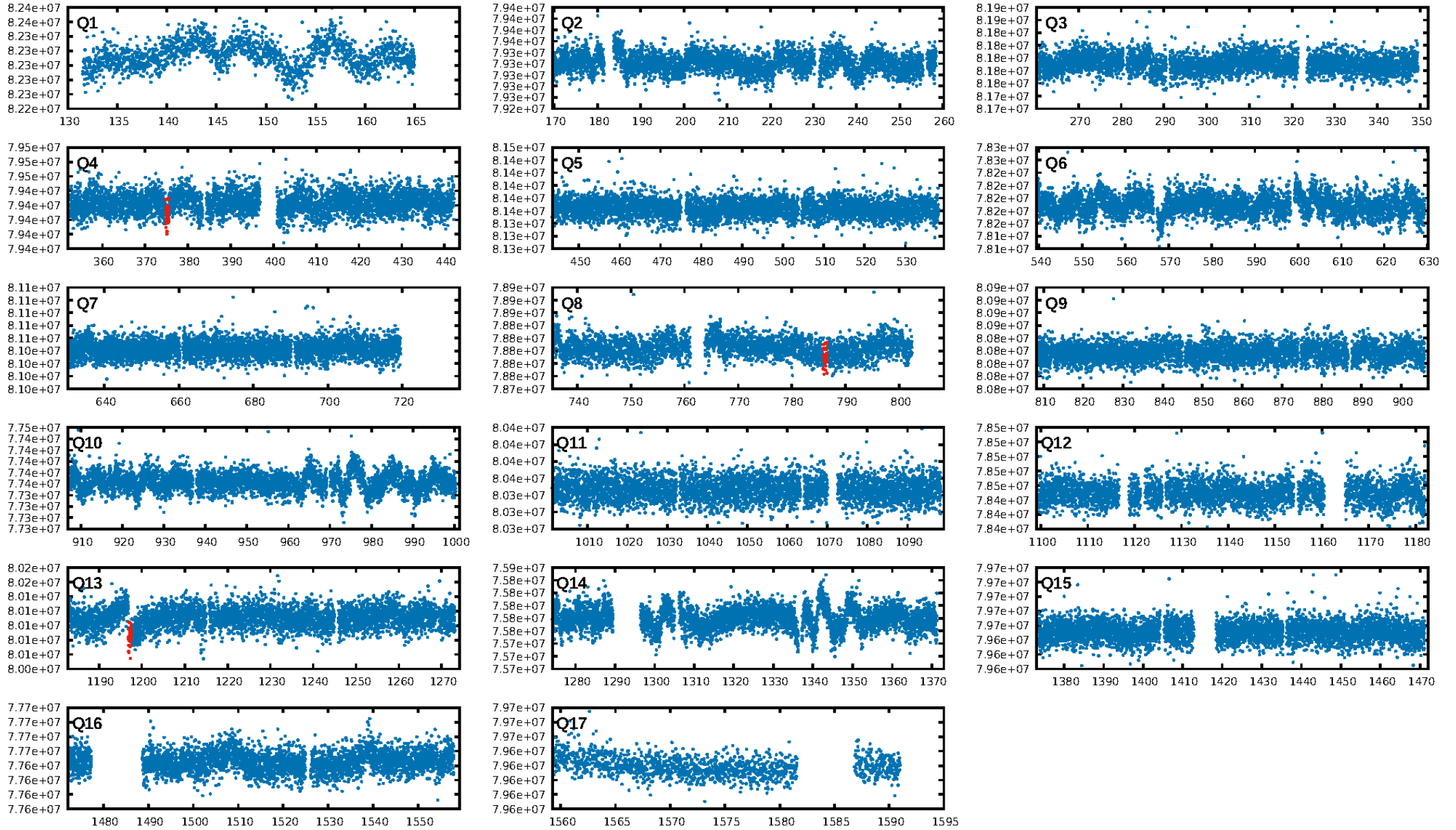
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 25.3%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.18e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.619
Centroid-sig: 96.3%
Centroid-so: 0.271 arcsec [0.12σ]
OotOffset-rm: 1.544 arcsec [2.27σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 1.550 arcsec [2.29σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

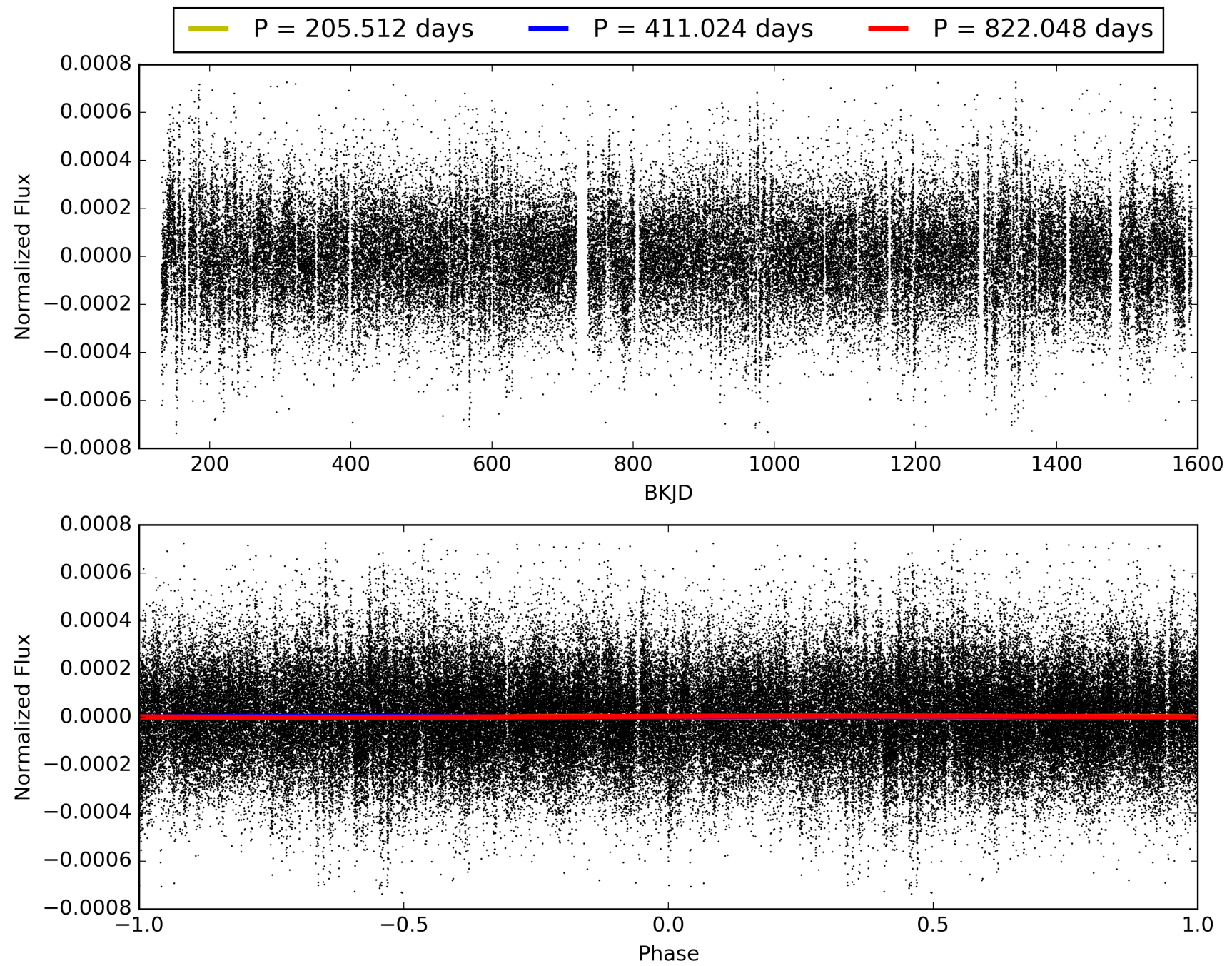
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:36:08 Z

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

TCE 008241940-01, PDC Light Curves

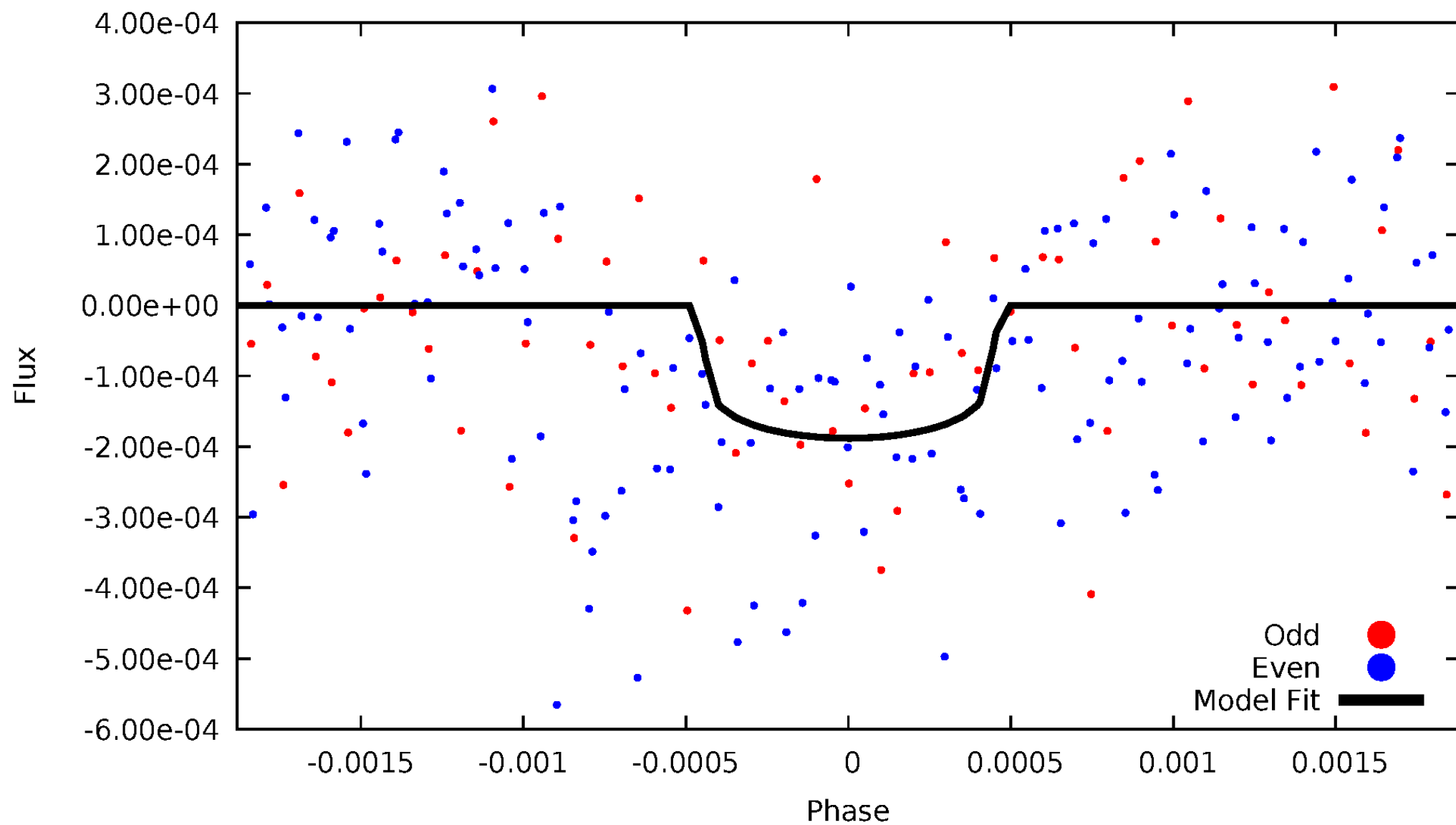


TCE 008241940-01



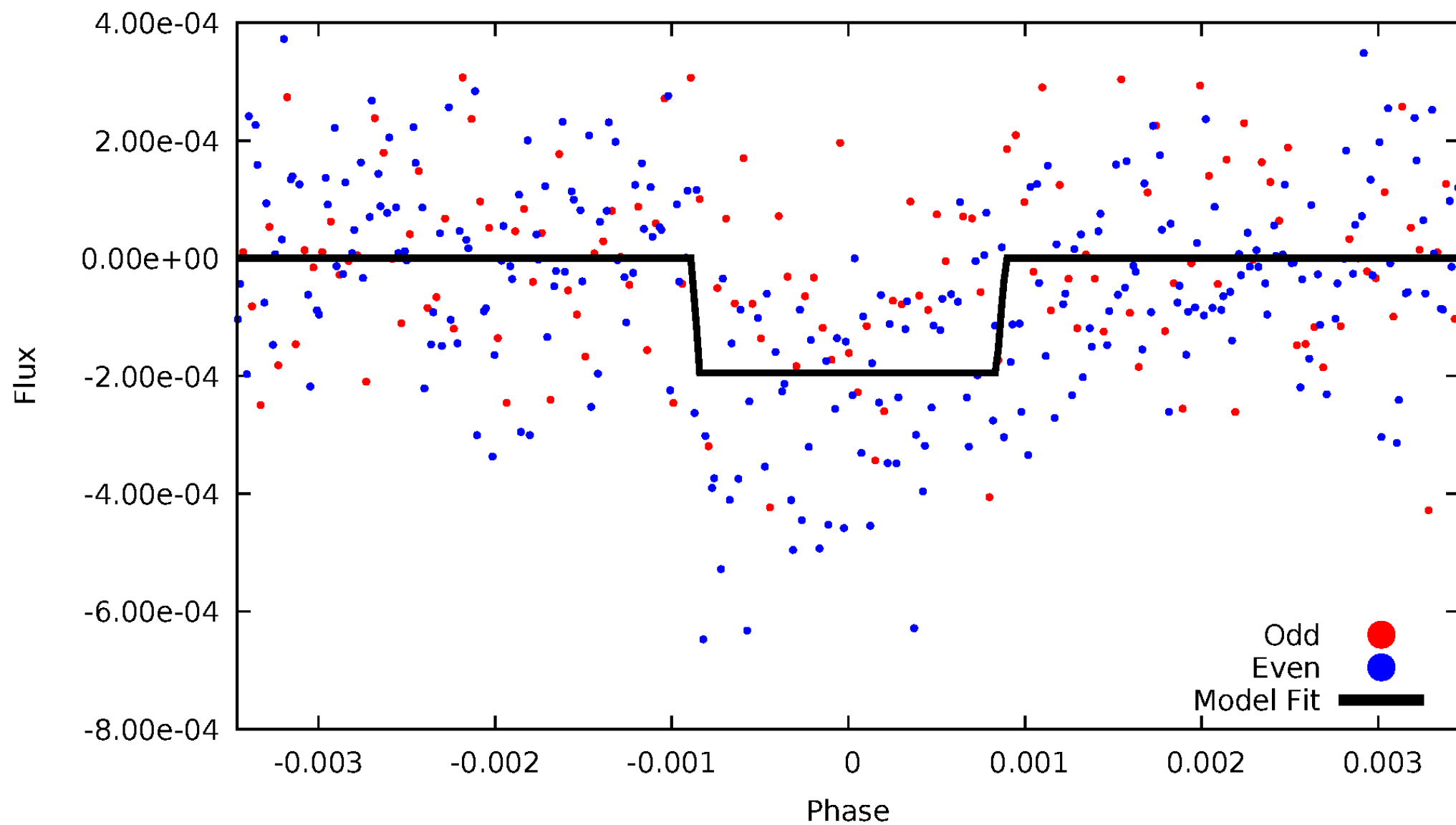
DV Odd/Even

TCE 008241940-01



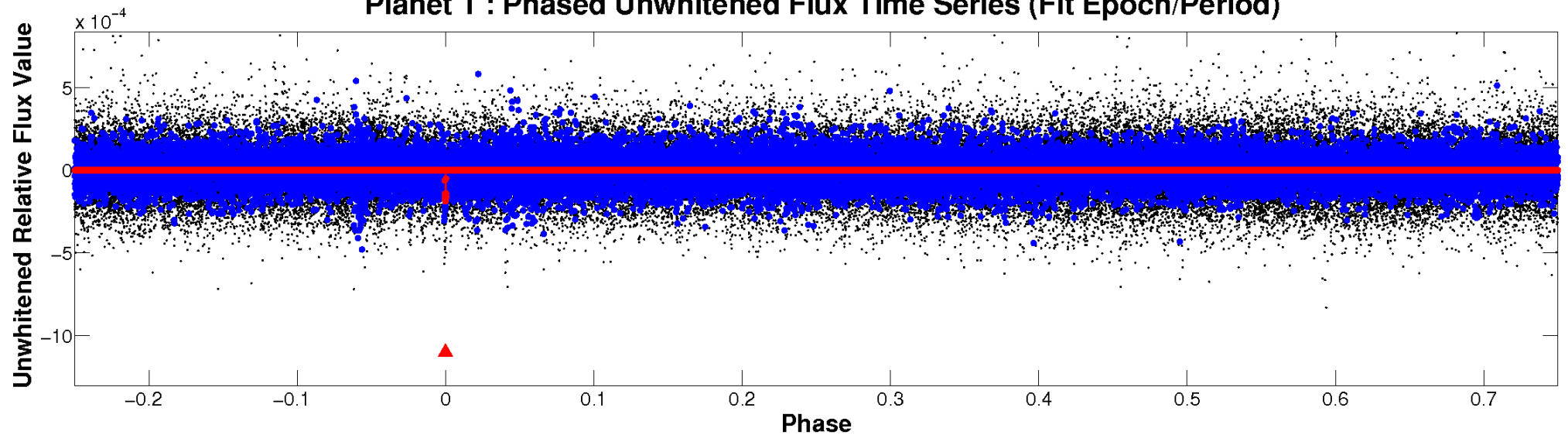
ALT Odd/Even

TCE 008241940-01

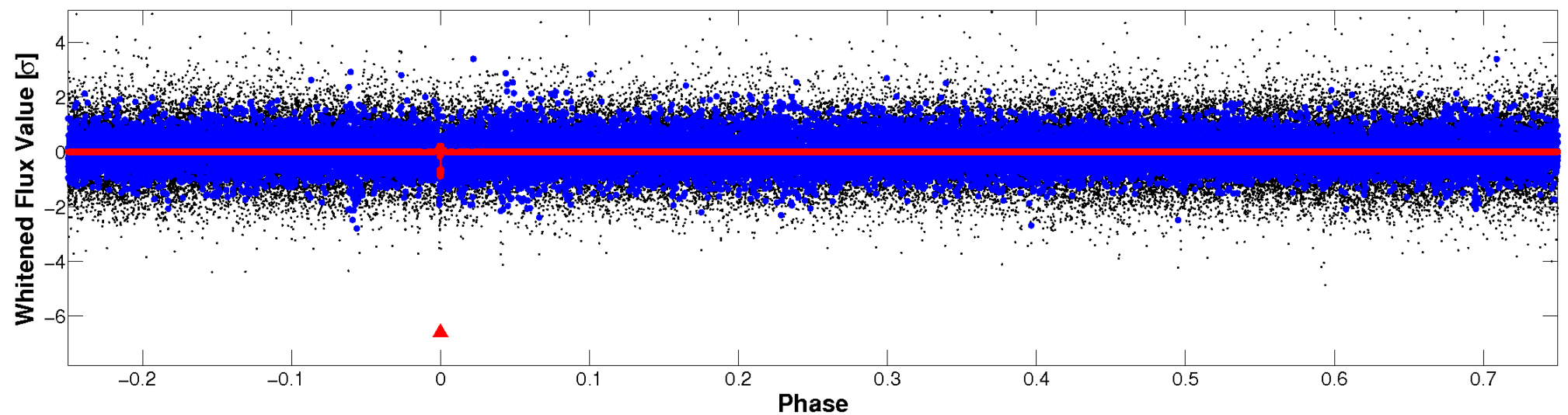


Non-Whitened Vs. Whitened Light Curve

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

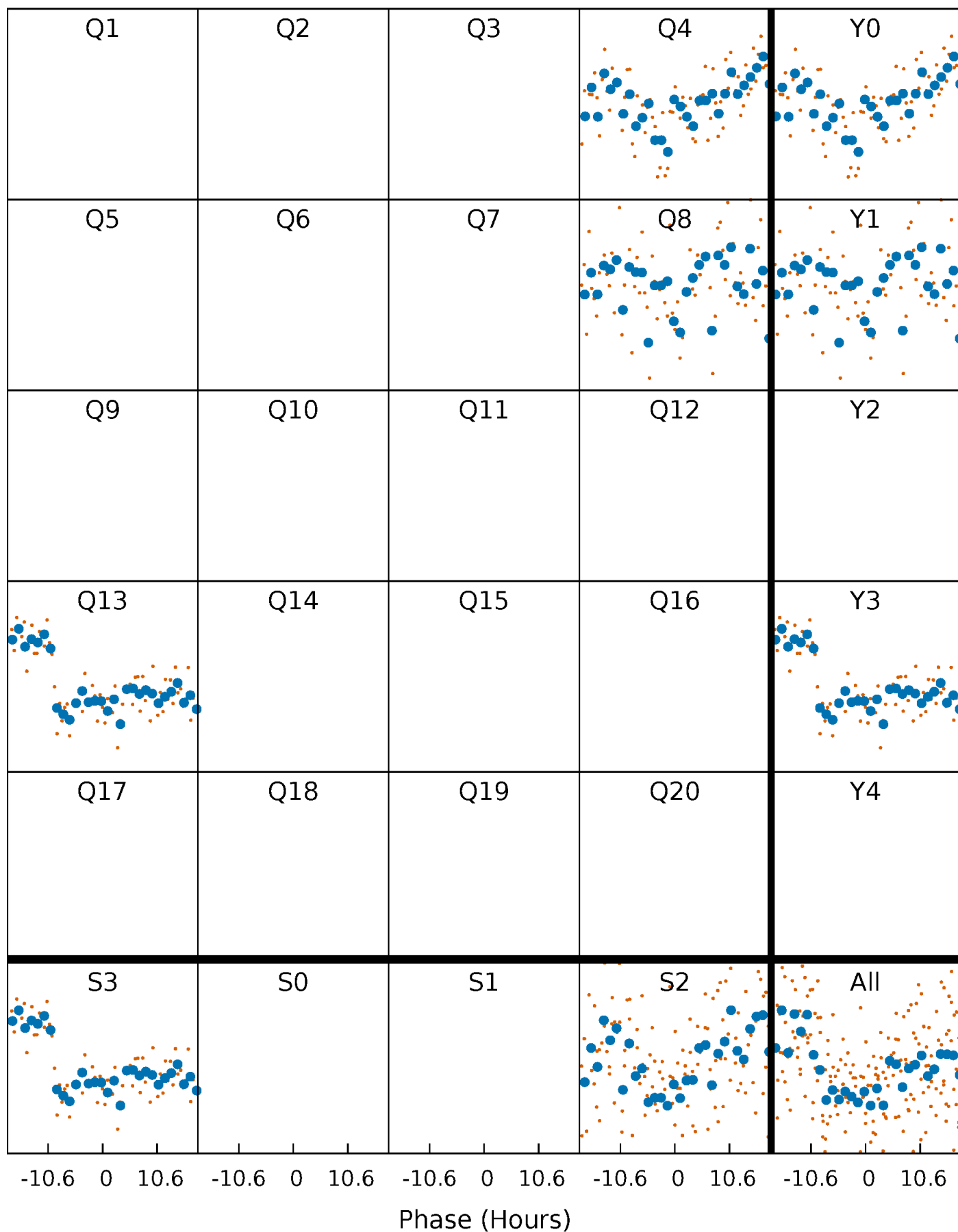


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



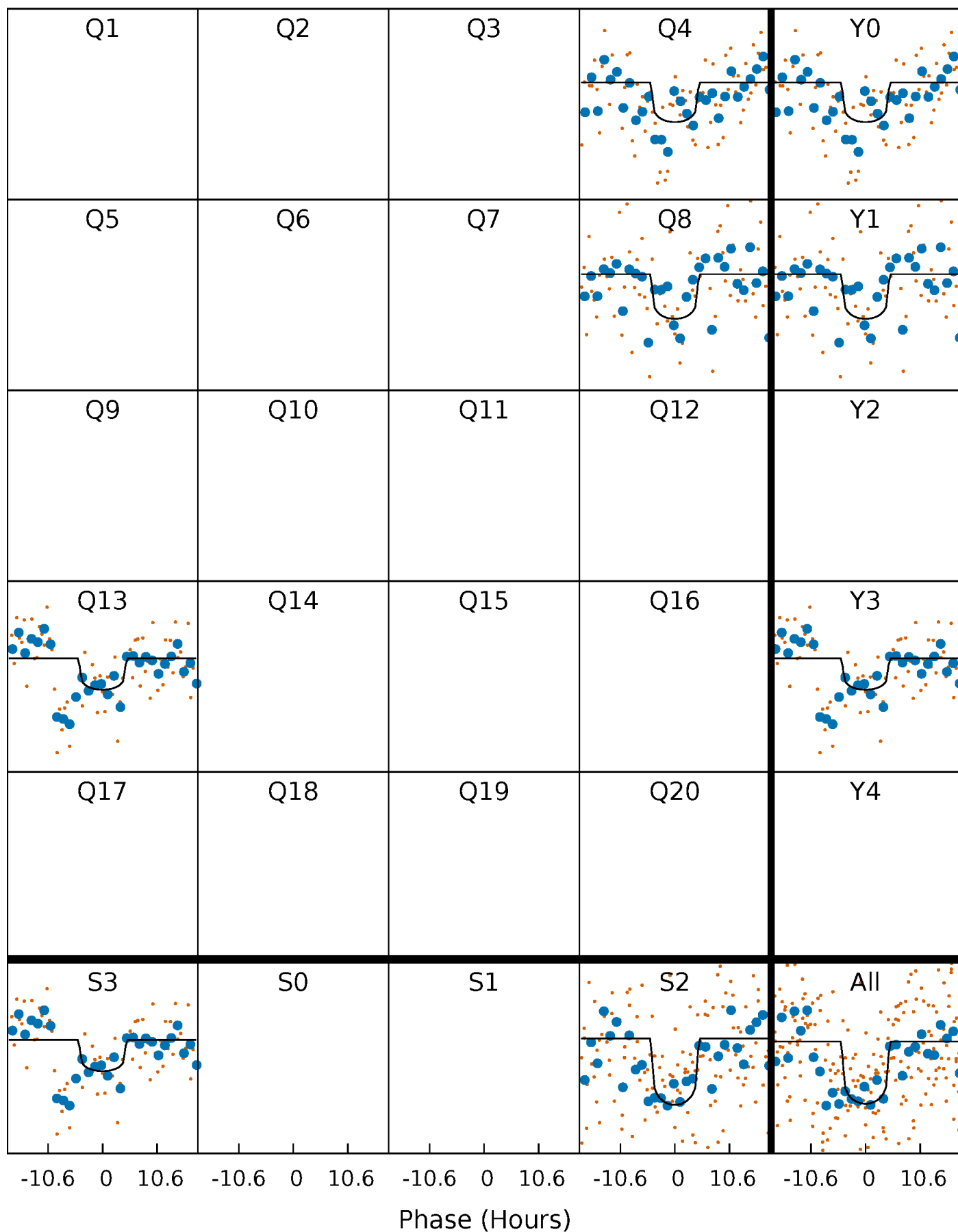
PDC Quarter-Phased Transit Curves

TCE 008241940-01 P=411.024165 Days $T_0=375.176911$ (BKJD)



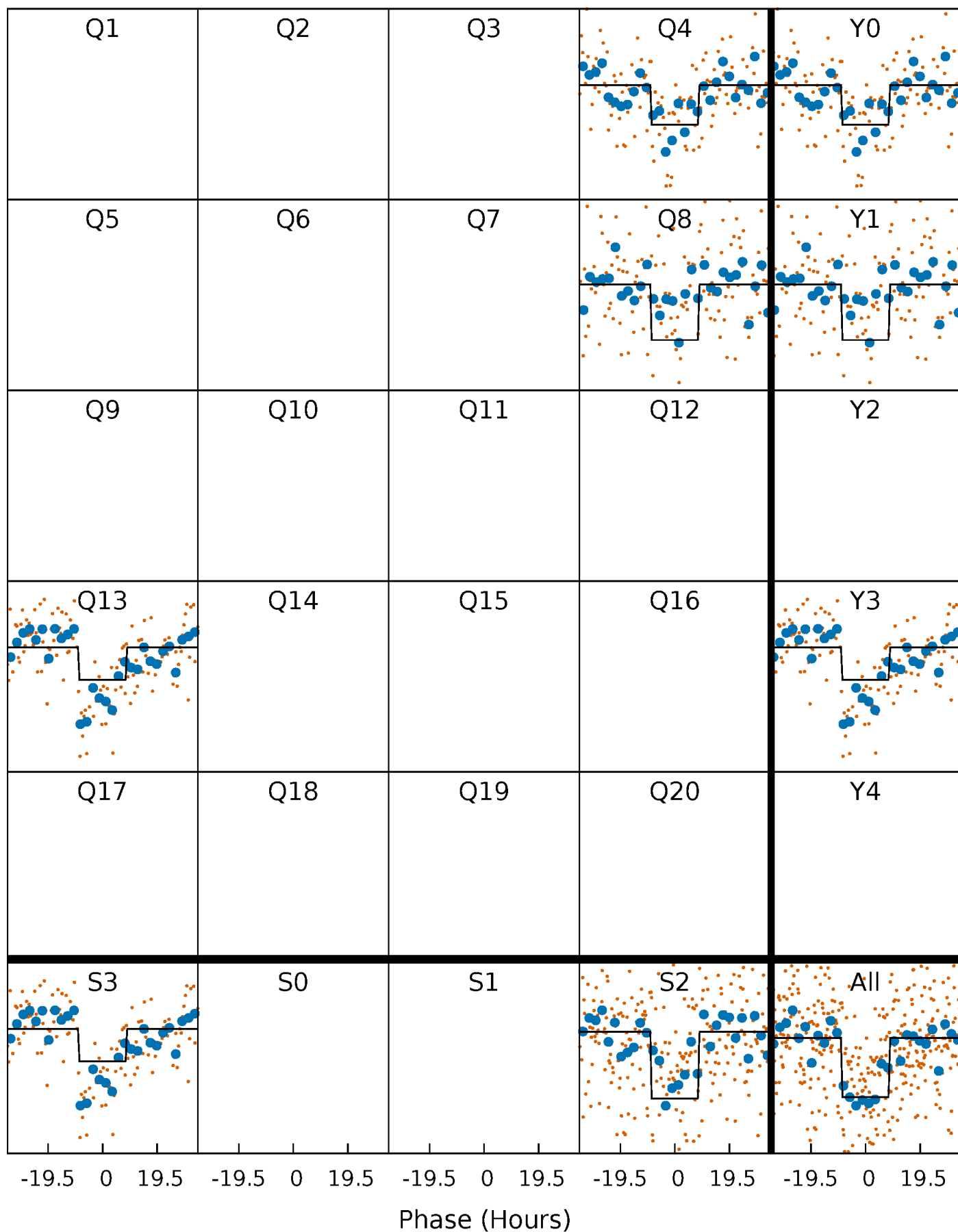
DV Quarter-Phased Transit Curves

TCE 008241940-01 P=411.024165 Days $T_0=375.176911$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

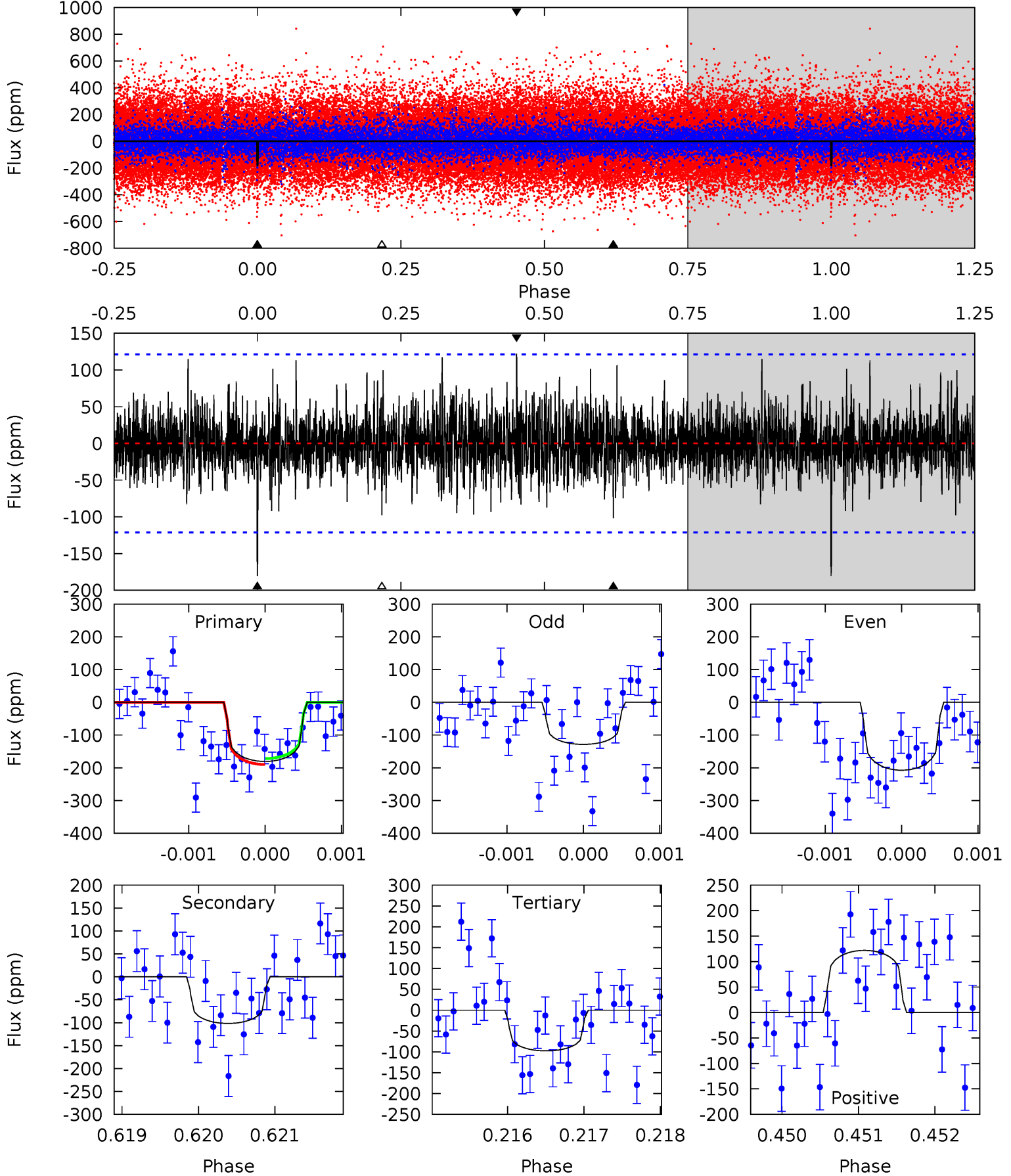
TCE 008241940-01 P=411.014248 Days $T_0=375.165587$ (BKJD)



DV Model-Shift Uniqueness Test

008241940-01, P = 411.024165 Days, E = 375.176911 Days

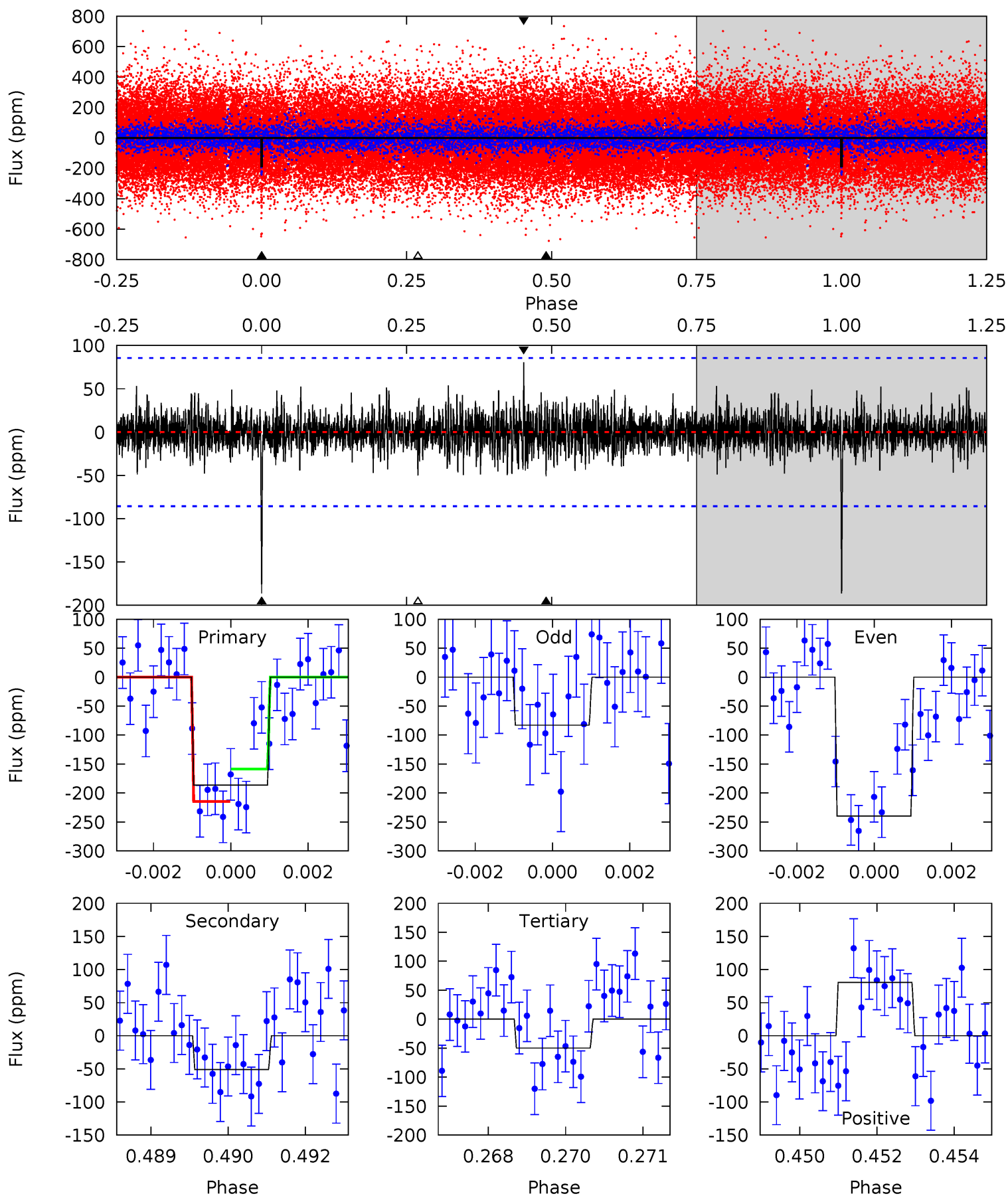
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.15	4.59	4.41	5.50	5.47	3.32	1.29	3.75	2.65	0.18	-0.91	1.72	0.91	0.40	0.41



Alt Model-Shift Uniqueness Test

008241940-01, P = 411.014248 Days, E = 375.165587 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	3.19	3.12	5.03	5.35	3.13	0.93	8.53	6.61	0.07	-1.84	4.68	1.07	0.30	1.75



Stellar Parameters For KIC 008241940

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5903^{+159}_{-159}	$4.330^{+0.200}_{-0.200}$	$-0.560^{+0.300}_{-0.300}$	$1.018^{+0.291}_{-0.218}$	$0.807^{+0.110}_{-0.055}$	$1.078^{+1.082}_{-0.542}$
	+3%/-3%	+5%/-5%	+54%/-54%	+29%/-21%	+14%/-7%	+100%/-50%
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 008241940-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-102 ± 22	$1.93^{+1.64}_{-1.14}$	366^{+30}_{-26}	4683^{+2356}_{-974}	15645^{+76229}_{-11403}
Alt.	-51 ± 16	$1.93^{+1.68}_{-1.16}$	366^{+29}_{-26}	4043^{+2051}_{-728}	7321^{+41374}_{-5295}

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

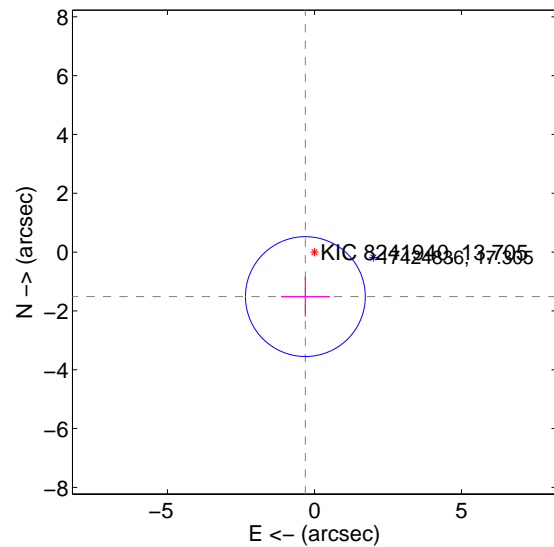
Supplemental centroid analysis for 008241940-01. Kepler magnitude: 13.71. Transit SNR 5.74

There are 0 quarters with good PRF difference image offsets

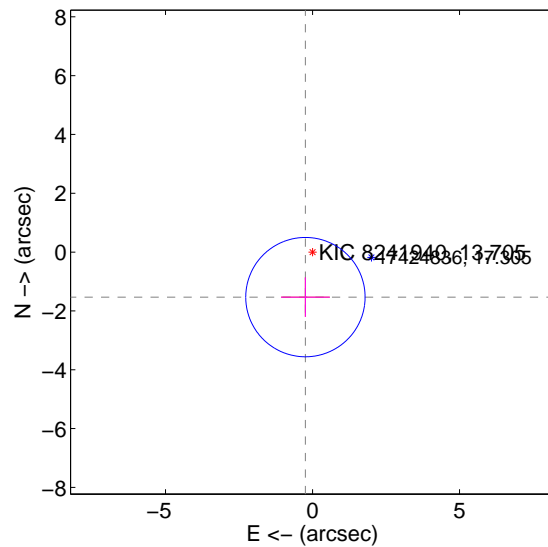
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.544 ± 0.679	2.27	0.308 ± 0.831	-1.513 ± 0.672
PRF-fit source offset from KIC position	1.550 ± 0.676	2.29	0.242 ± 0.831	-1.531 ± 0.672
photometric centroid source offset	0.27 ± 2.20	0.12	0.21 ± 2.11	0.17 ± 2.34

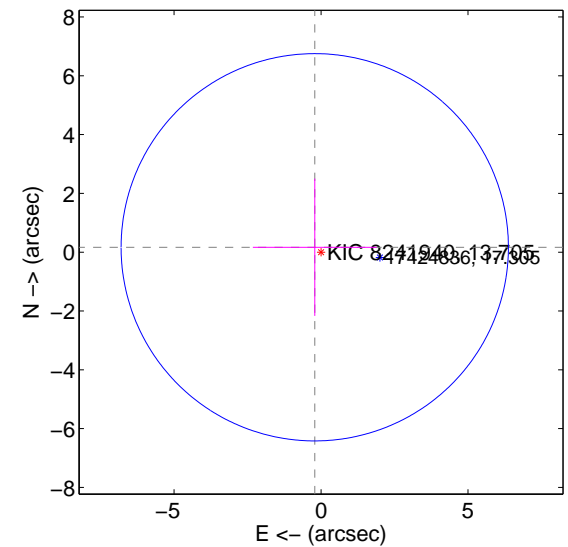
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

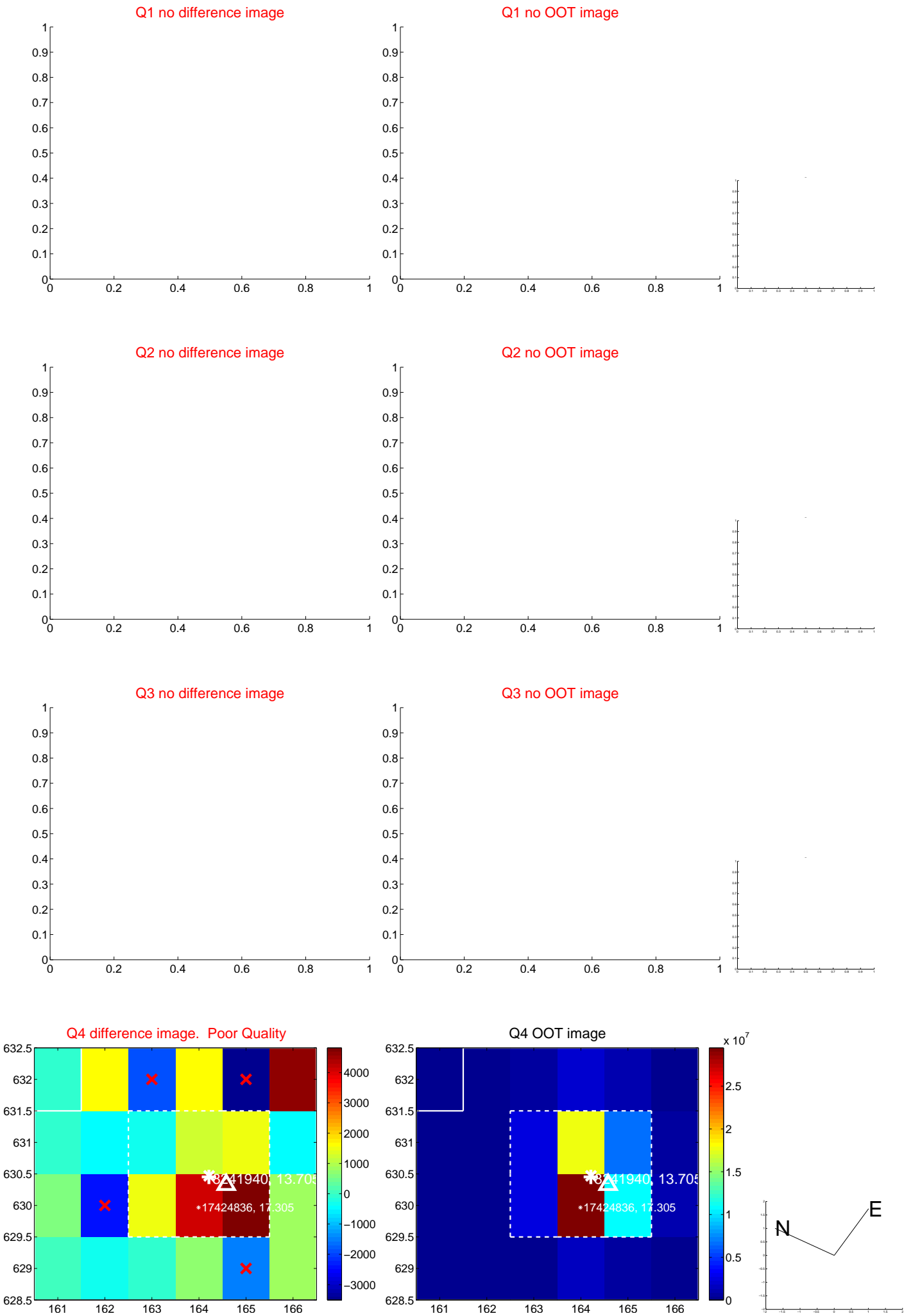


offset from photometric centroids

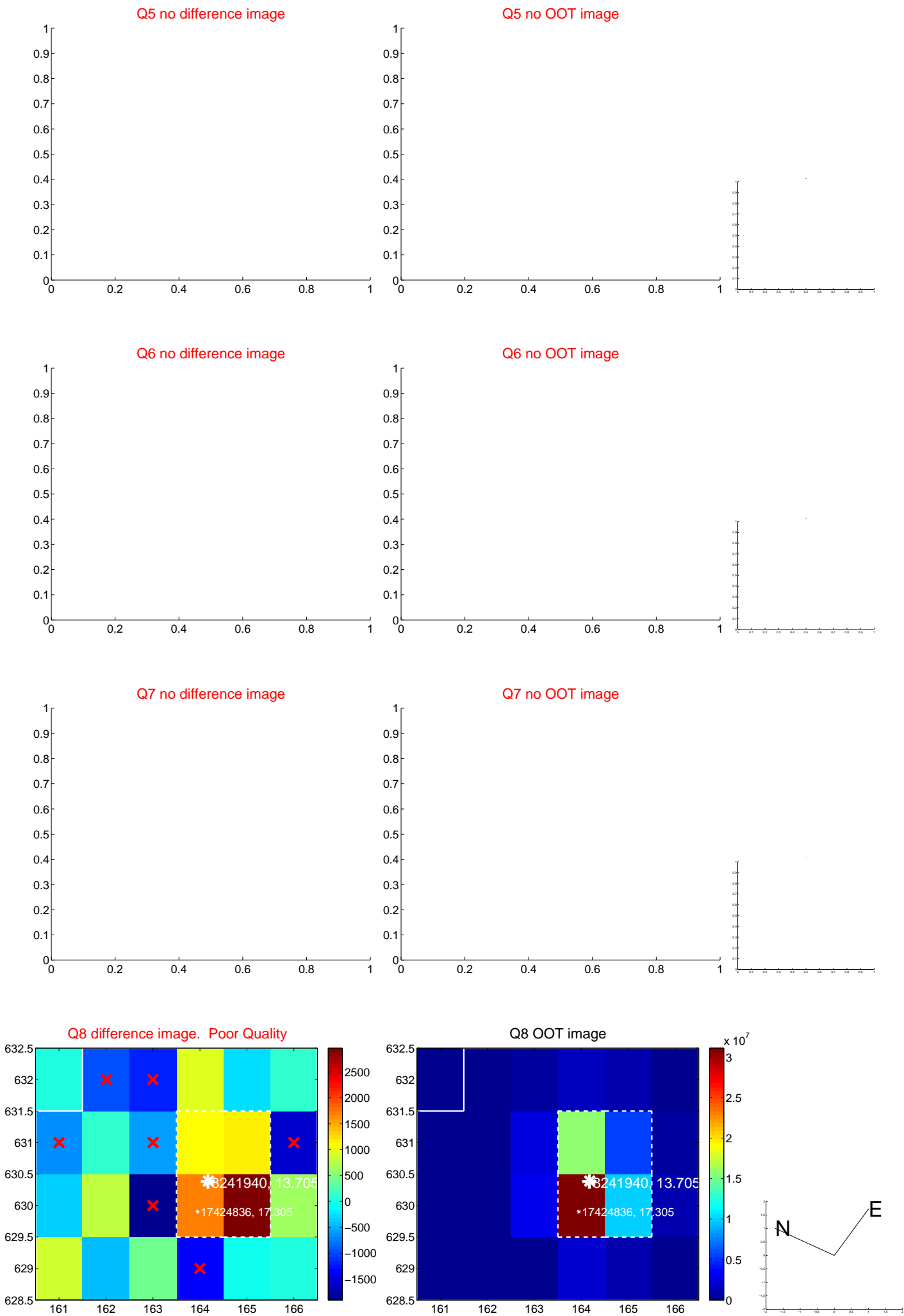


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

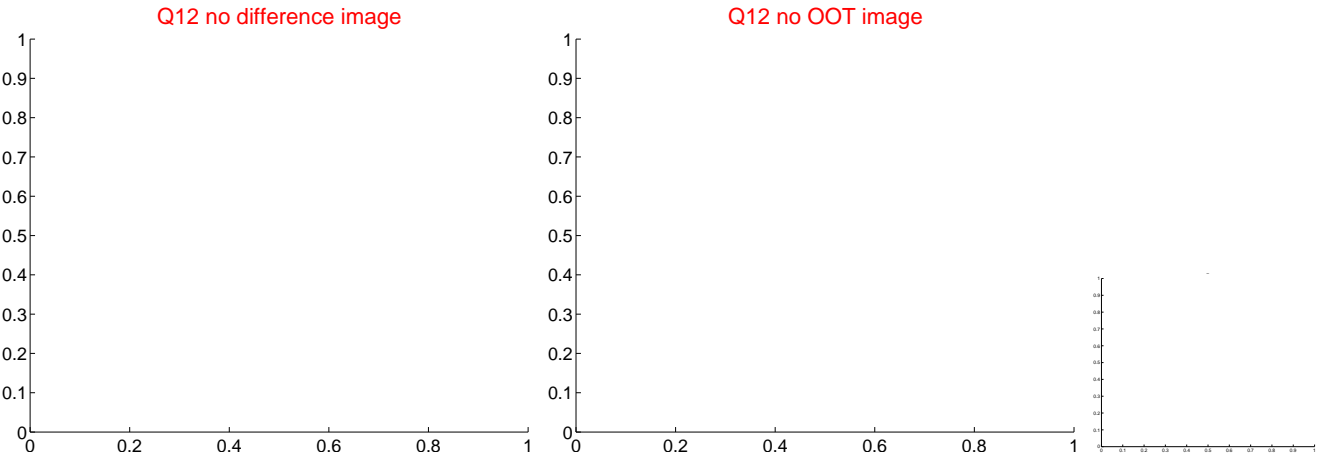
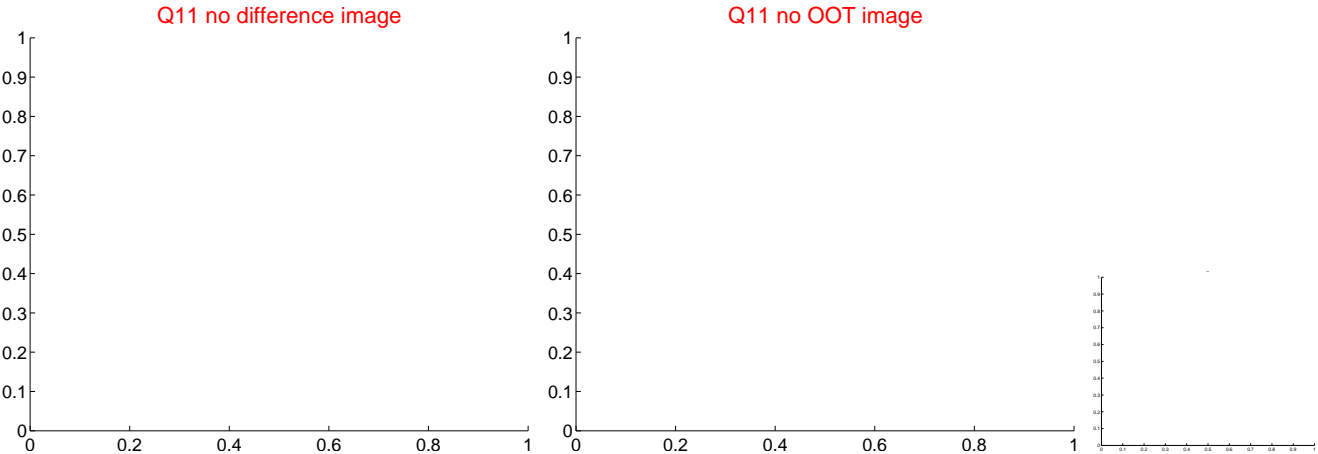
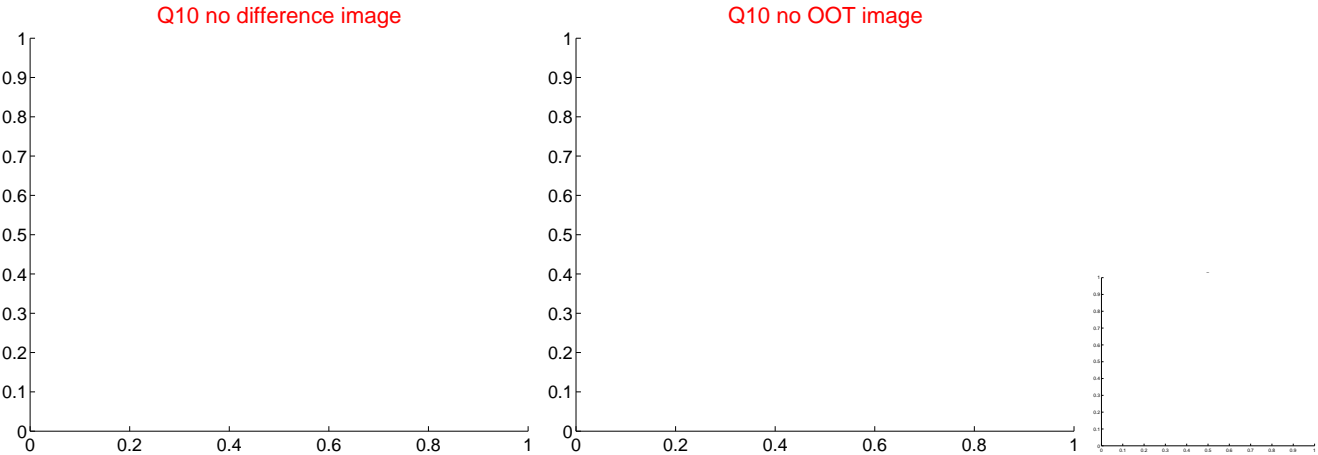
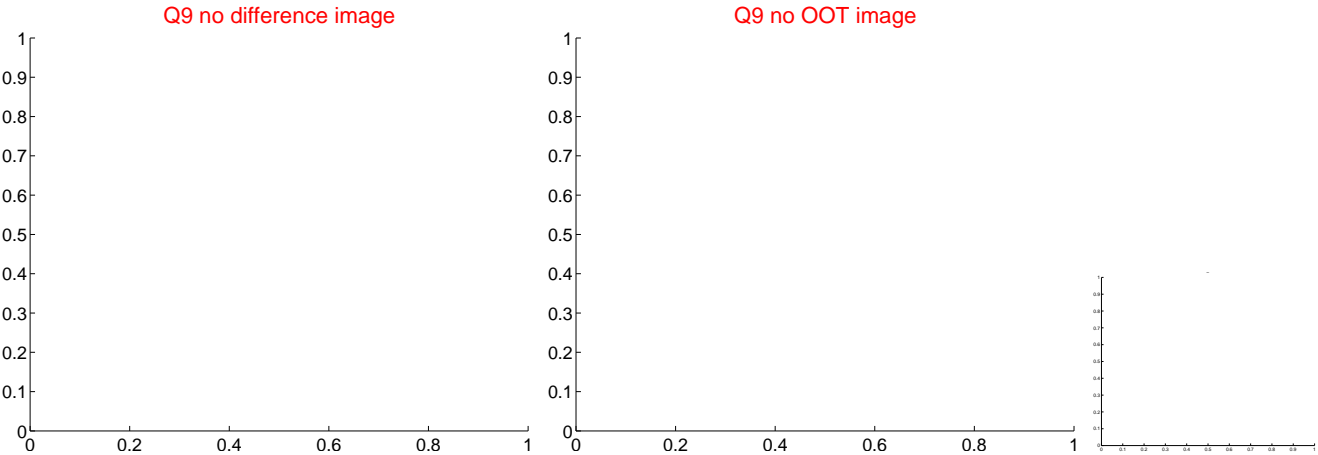
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



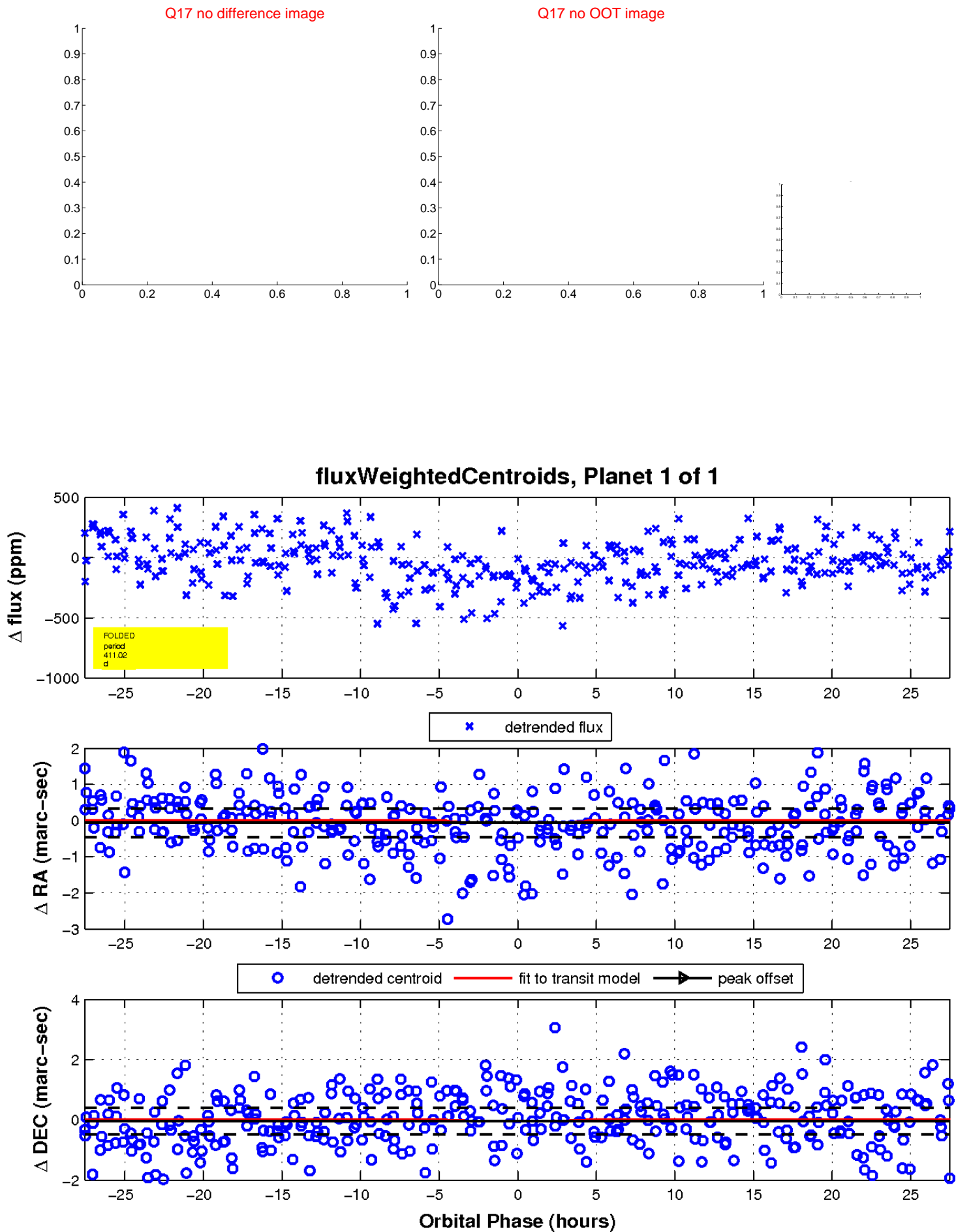
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

