

KIC 004825614

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})
004825614-01	OBS	No	438.623109	551.469032	500.1	17.686	8.4	8.2	2.40	5978	5.86	4.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004825614-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

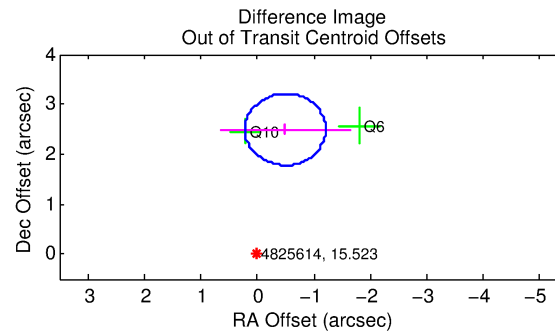
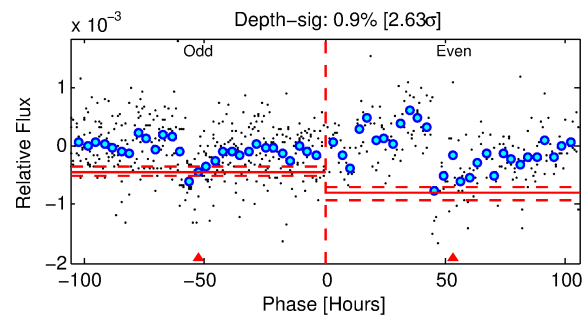
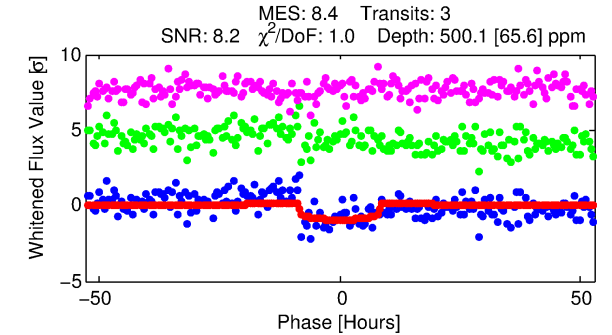
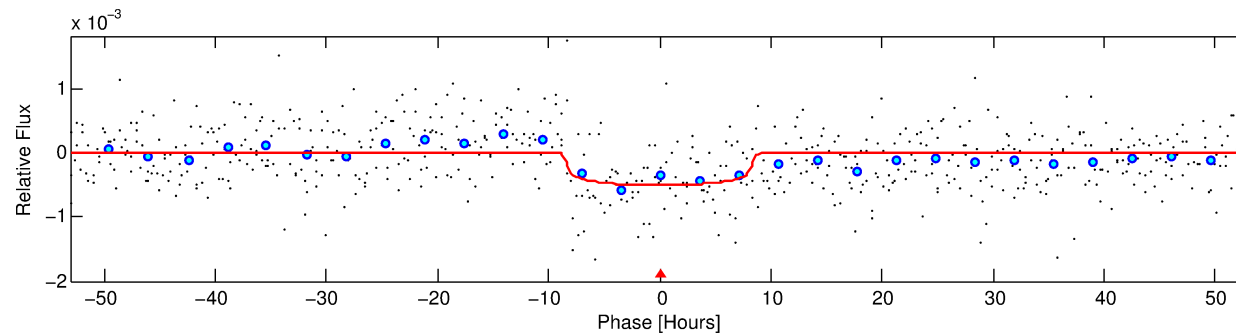
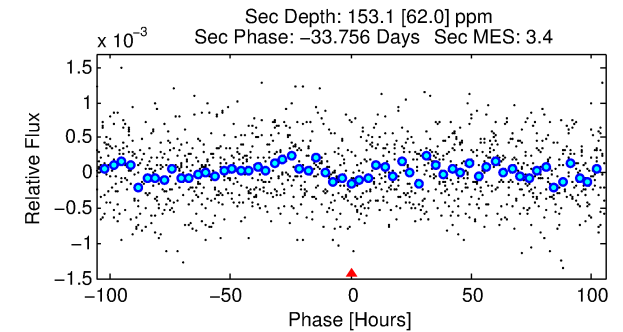
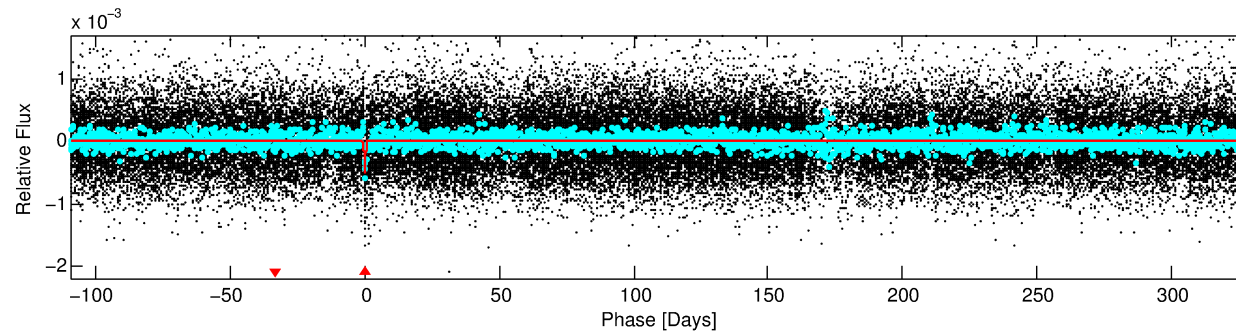
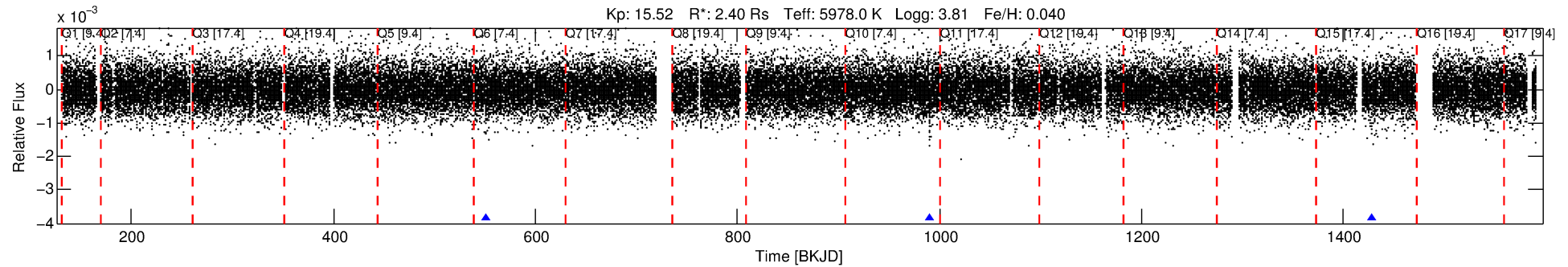
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004825614-01

No Significant Match Found

DV One-Page Summary

KIC: 4825614 Candidate: 1 of 1 Period: 438.623 d



DV Fit Results:

Period = 438.62311 [0.02032] d
Epoch = 551.4690 [0.0262] BKJD
Rp/R* = 0.0224 [0.0068]
a/R* = 128.04 [180.48]
b = 0.77 [0.76]
Seff = 4.24 [1.83]
Teq = 366 [39] K
Rp = 5.86 [2.46] Re
a = 1.2464 [0.3378] AU
Ag = 3813.03 [3227.95] [1.18σ]
Teff = 4444 [815] K [5.00σ]

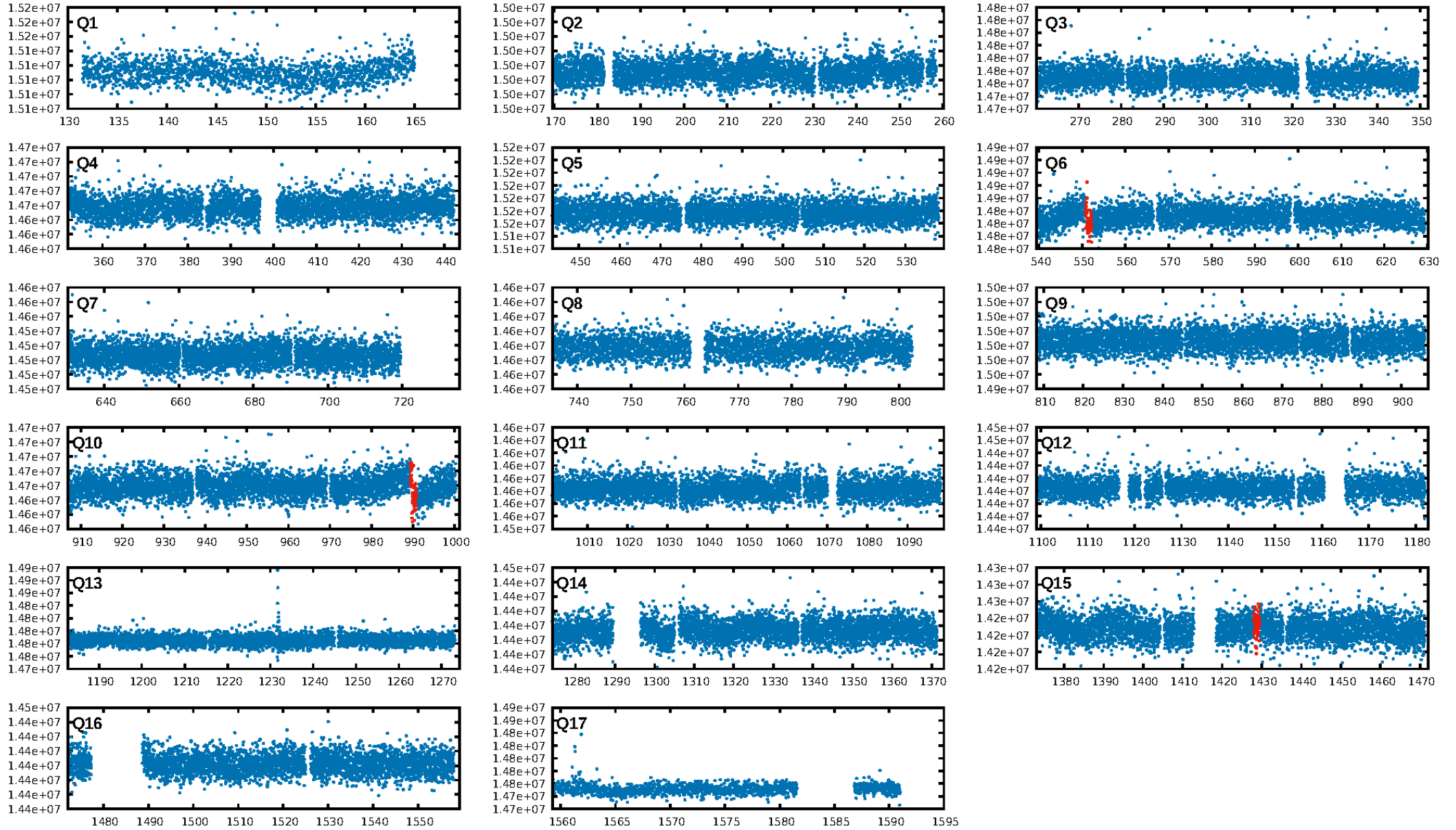
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.87e-20
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.457
Centroid-sig: 50.7%
Centroid-so: 1.123 arcsec [0.76σ]
OotOffset-rm: 2.544 arcsec [10.66σ]
KicOffset-rm: 2.583 arcsec [10.55σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

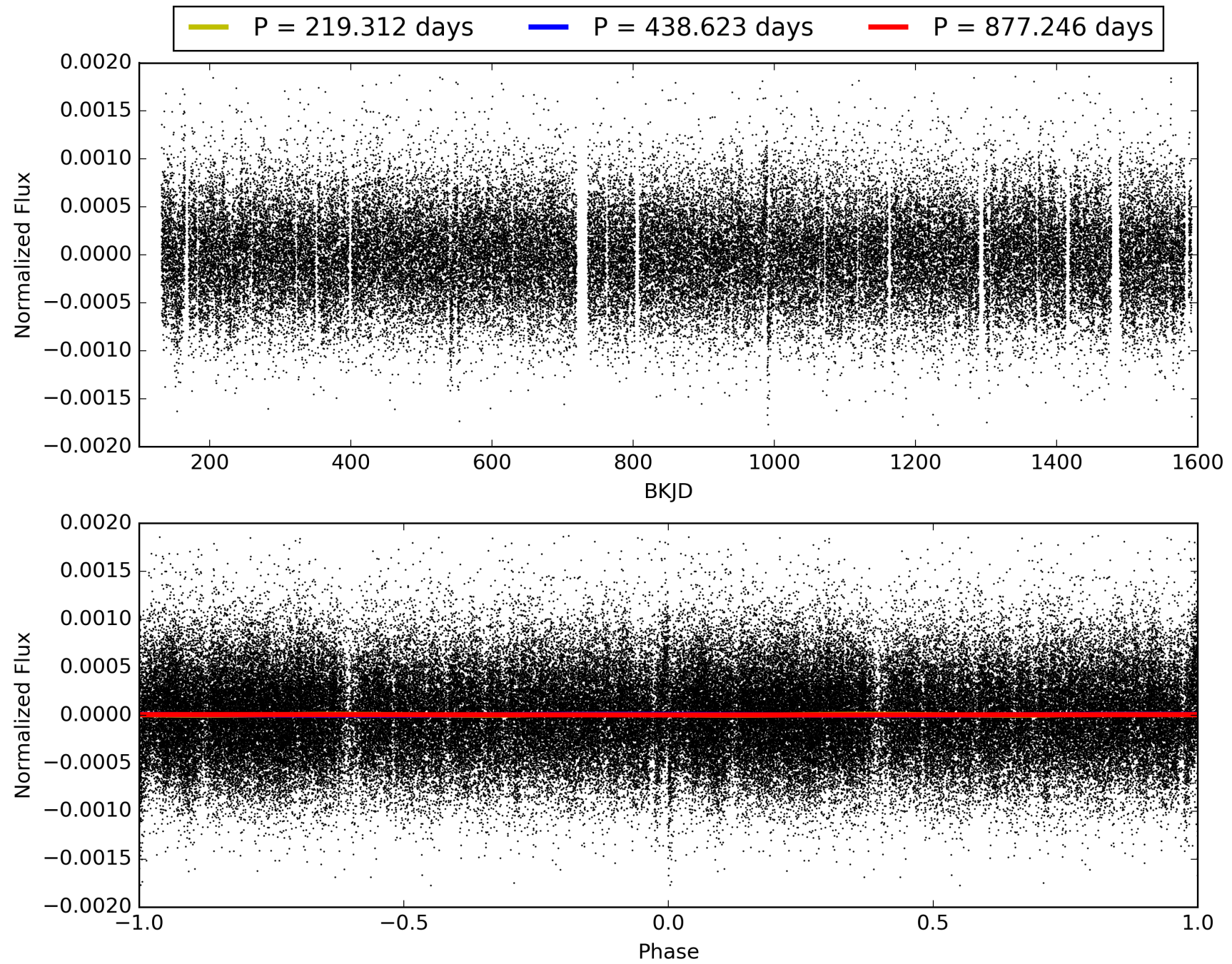
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:27:22 Z

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

TCE 004825614-01, PDC Light Curves

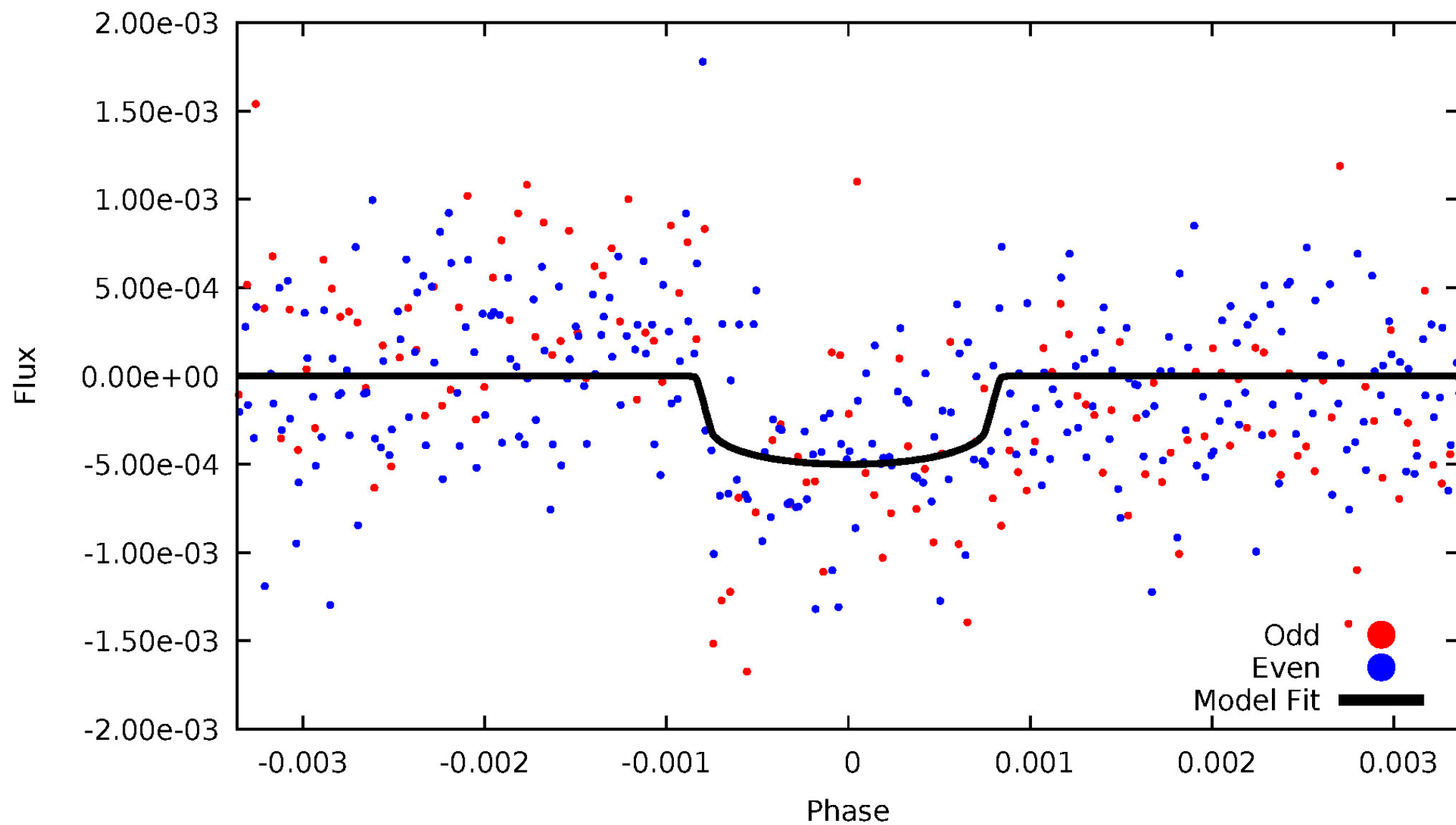


TCE 004825614-01



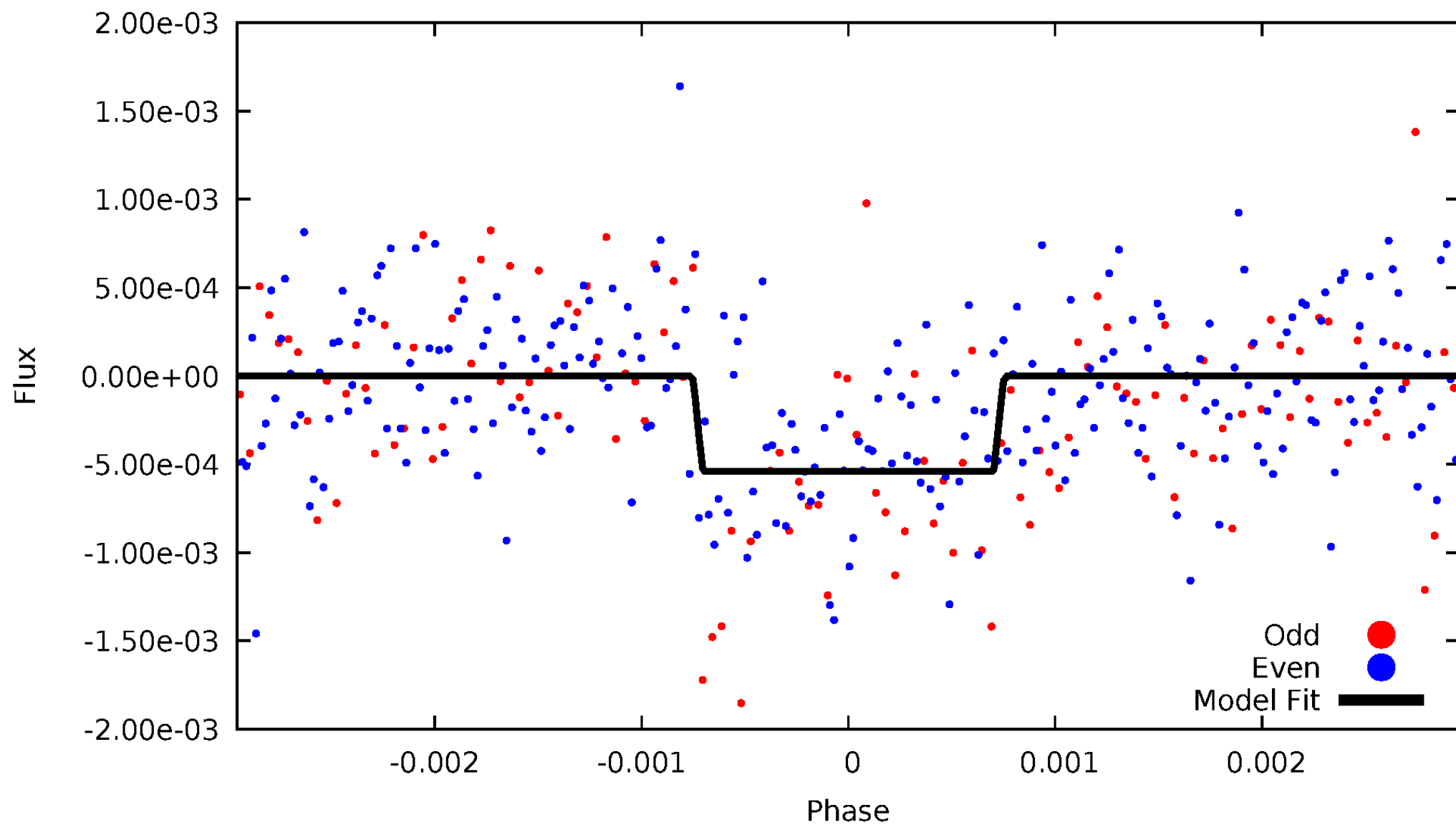
DV Odd/Even

TCE 004825614-01



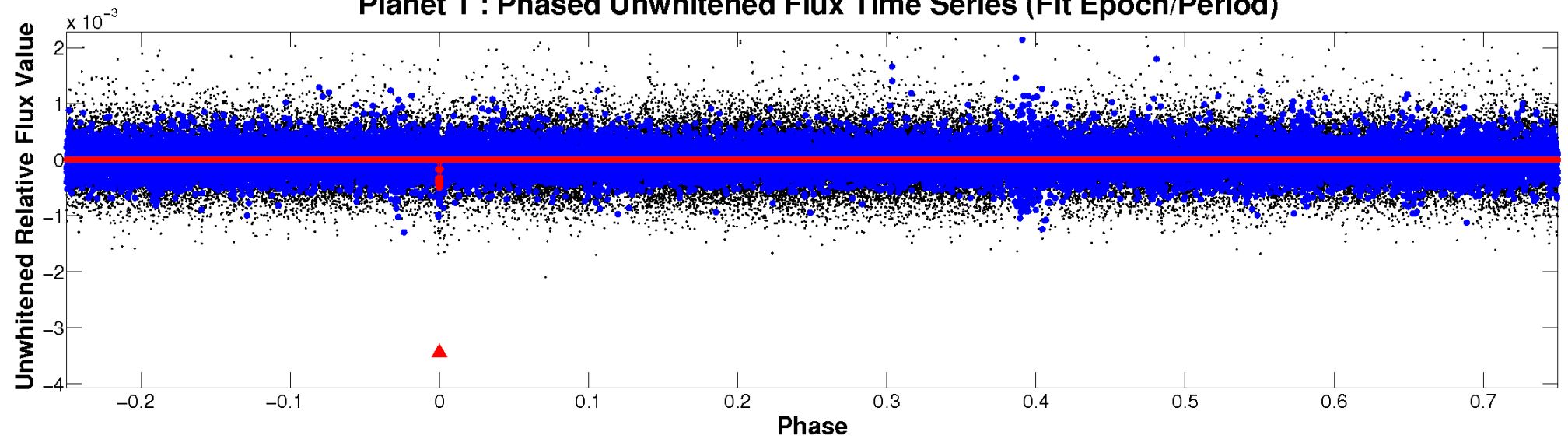
ALT Odd/Even

TCE 004825614-01

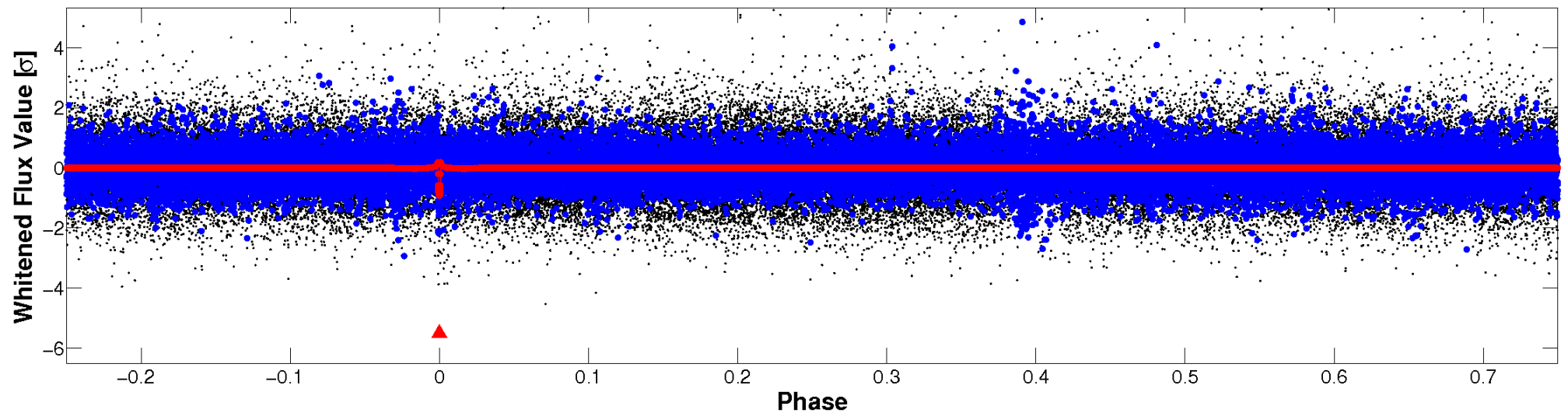


Non-Whitened Vs. Whitened Light Curve

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

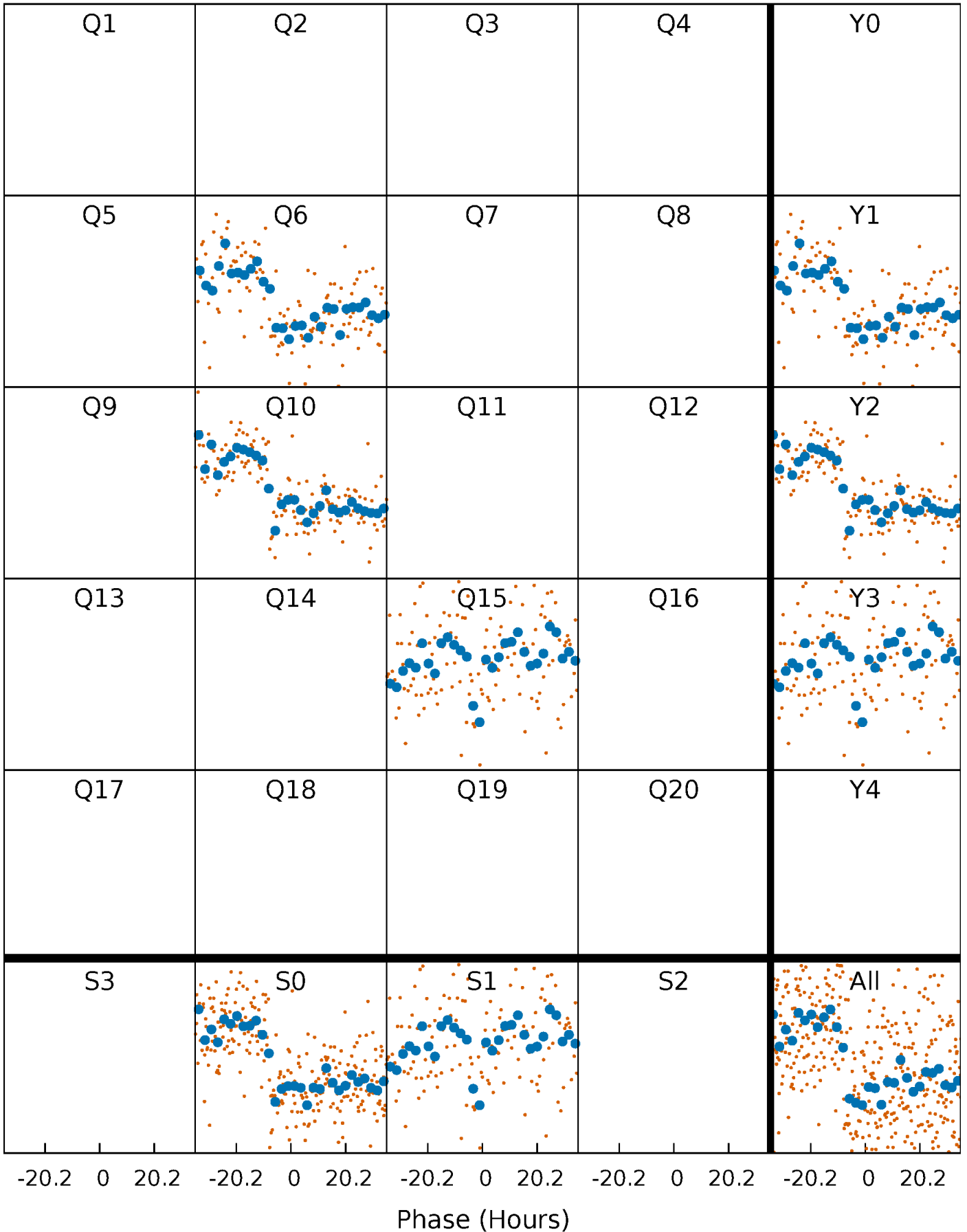


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



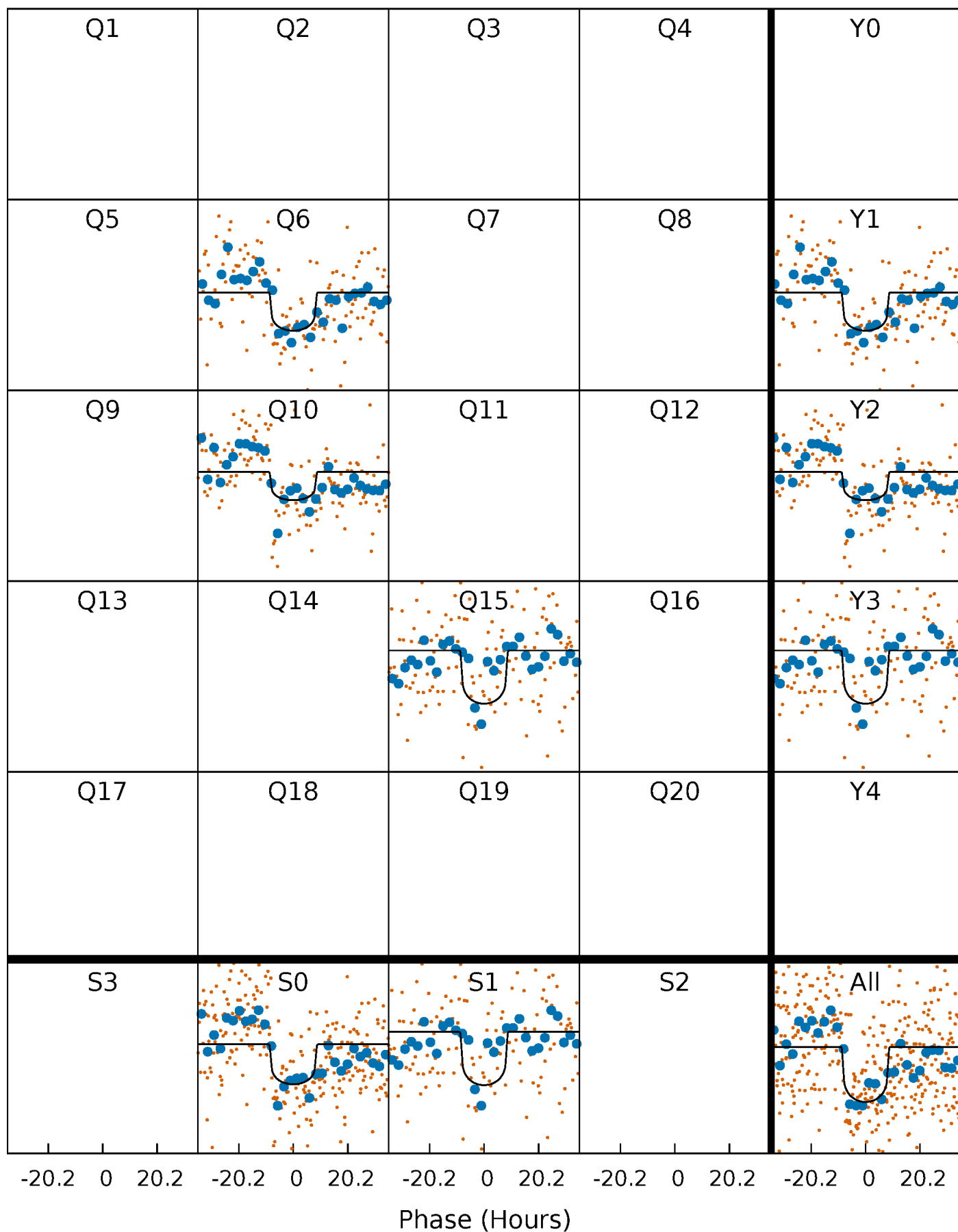
PDC Quarter-Phased Transit Curves

TCE 004825614-01 P=438.623109 Days $T_0=551.469032$ (BKJD)



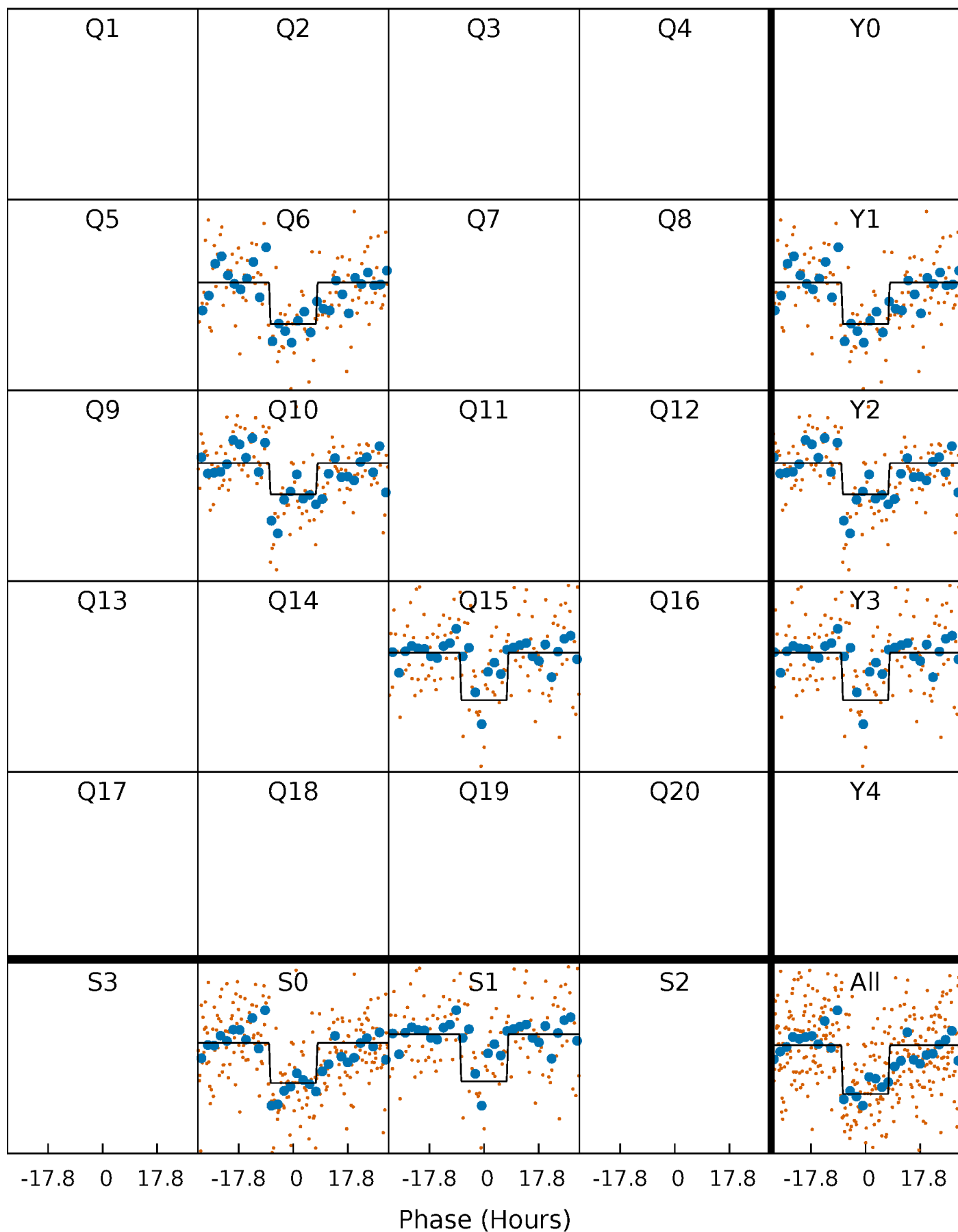
DV Quarter-Phased Transit Curves

TCE 004825614-01 P=438.623109 Days $T_0=551.469032$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

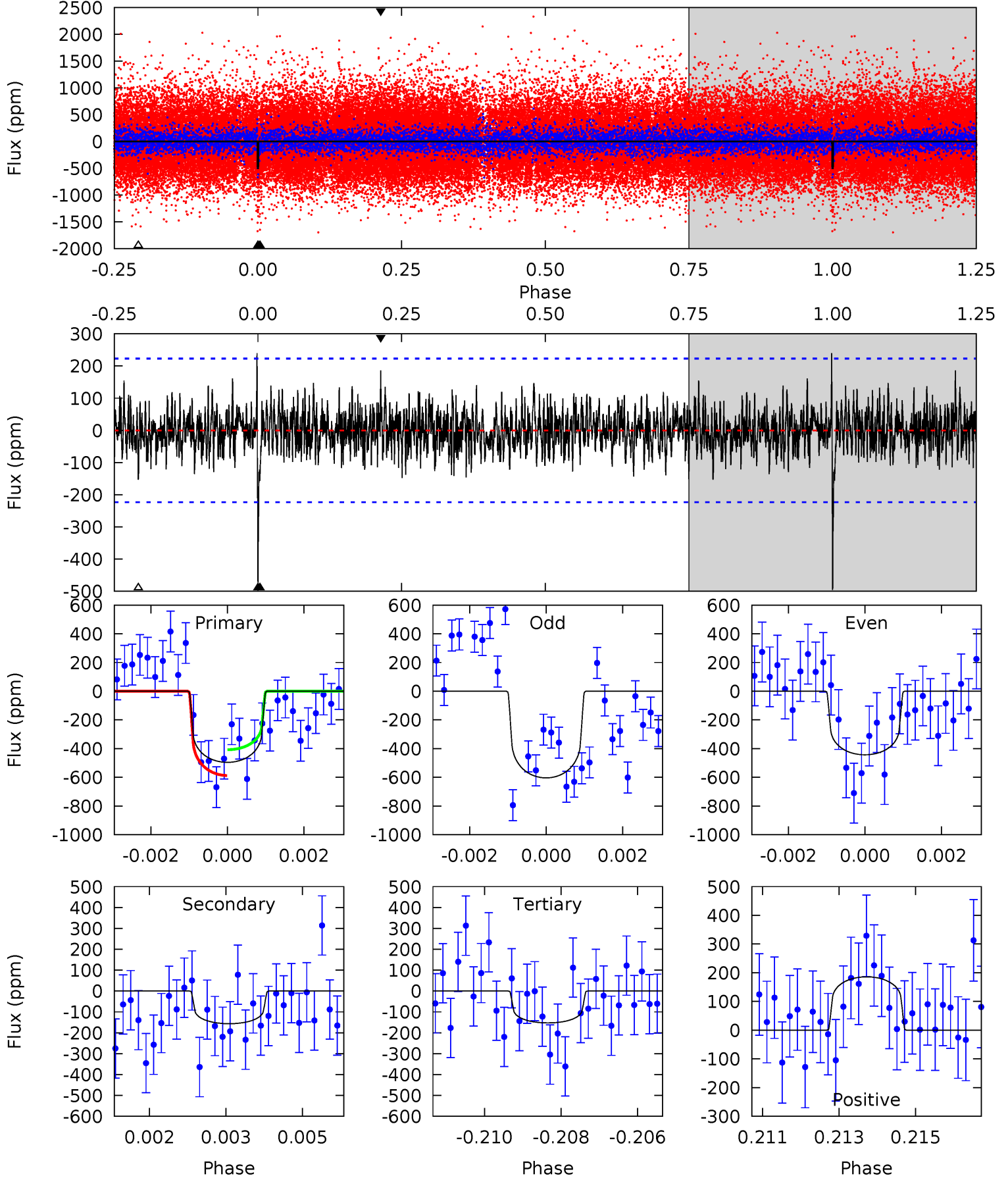
TCE 004825614-01 P=438.599554 Days $T_0=551.475707$ (BKJD)



DV Model-Shift Uniqueness Test

004825614-01, P = 438.623109 Days, E = 112.845923 Days

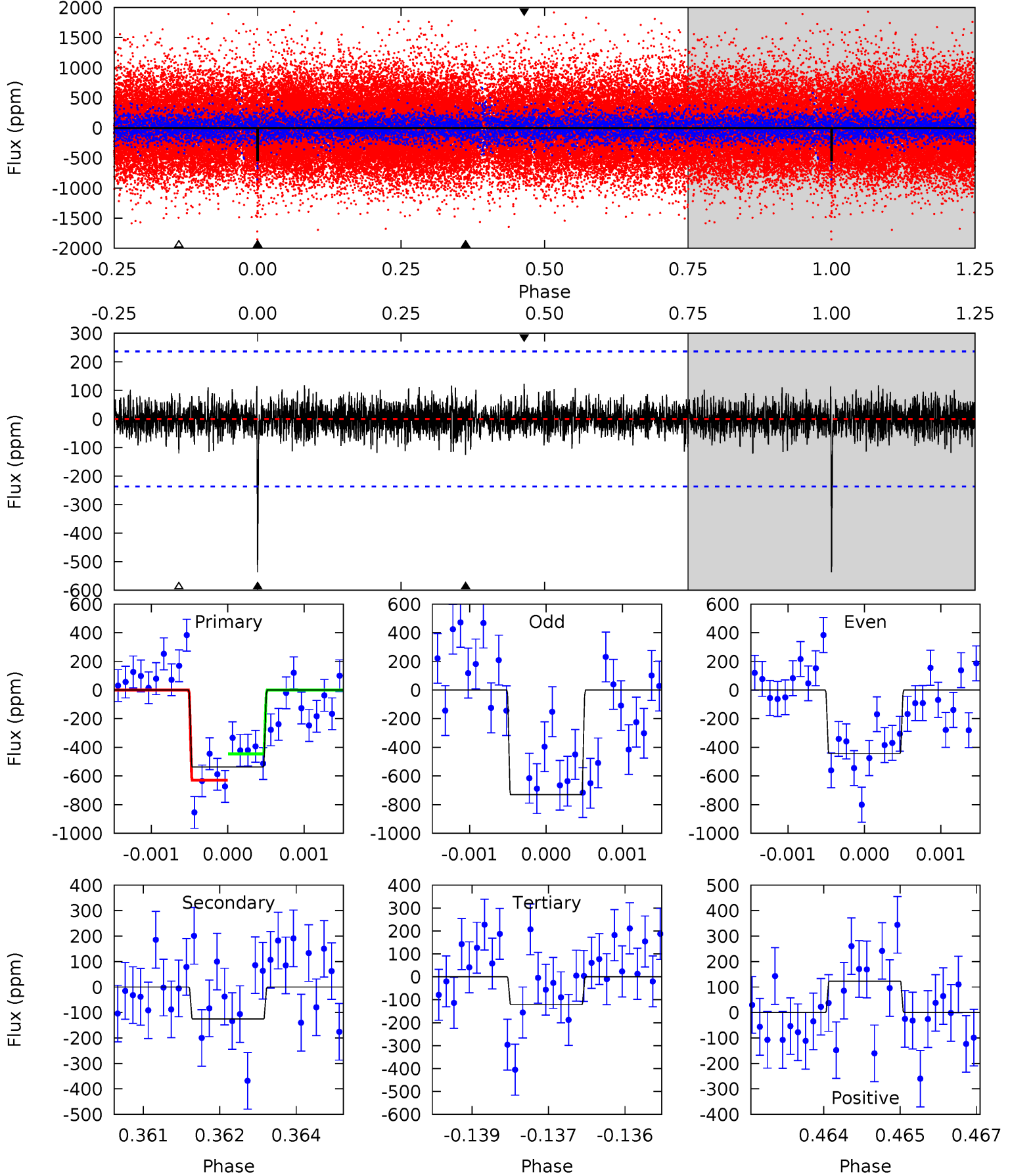
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	3.76	3.67	4.46	5.36	3.14	1.20	8.24	7.45	0.09	-0.70	1.83	0.88	0.33	2.17



Alt Model-Shift Uniqueness Test

004825614-01, P = 438.599554 Days, E = 112.876153 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	2.86	2.75	2.79	5.38	3.18	0.77	9.46	9.42	0.12	0.07	3.08	0.89	0.19	2.09



Stellar Parameters For KIC 004825614

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5978^{+80}_{-89}	$3.806^{+0.248}_{-0.099}$	$0.040^{+0.200}_{-0.150}$	$2.398^{+0.374}_{-0.694}$	$1.341^{+0.126}_{-0.235}$	$0.137^{+0.193}_{-0.043}$
	+1%/-1%	+7%/-3%	+500%/-375%	+16%/-29%	+9%/-18%	+141%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004825614-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-157 ± 42	$5.57^{+1.97}_{-1.81}$	505^{+26}_{-36}	4607^{+824}_{-497}	4335^{+5075}_{-2167}
Alt.	-126 ± 44	$5.78^{+1.97}_{-1.82}$	506^{+26}_{-37}	4368^{+765}_{-509}	3180^{+4168}_{-1671}

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 $A_{obs} \gg 1.0$

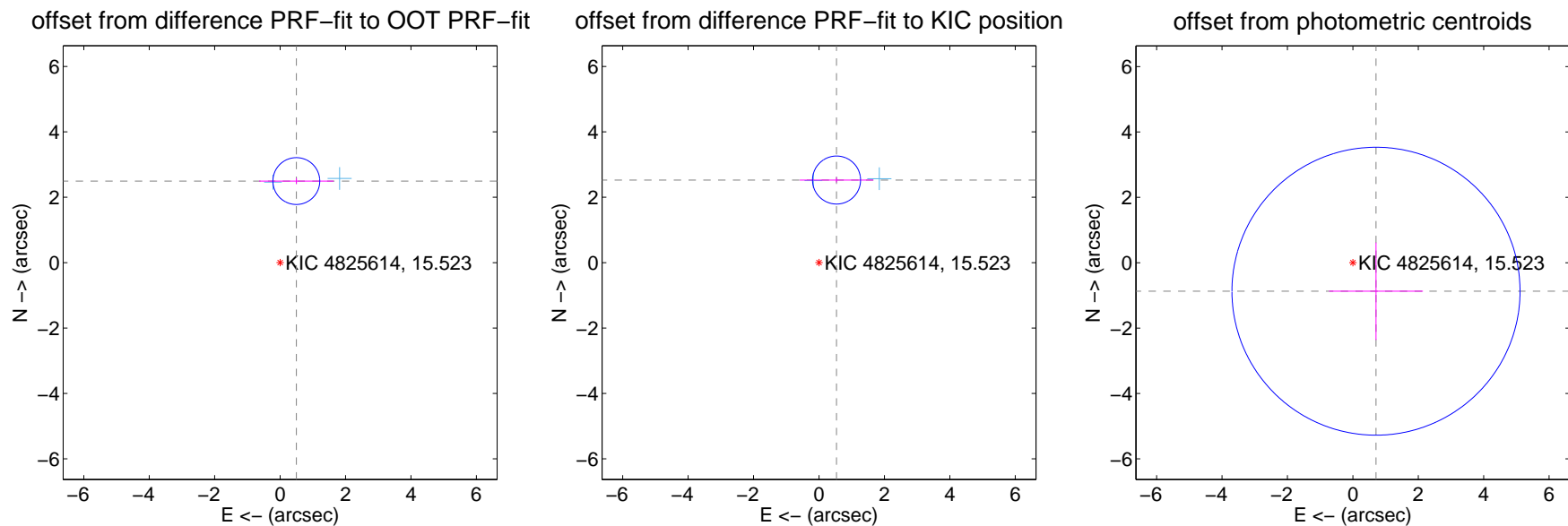
DV Centroid Data

Supplemental centroid analysis for 004825614-01. Kepler magnitude: 15.52. Transit SNR 8.24

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.544 ± 0.239	10.66	-0.496 ± 1.137	2.495 ± 0.090
PRF-fit source offset from KIC position	2.583 ± 0.245	10.55	-0.537 ± 1.126	2.526 ± 0.074
photometric centroid source offset	1.12 ± 1.47	0.76	-0.71 ± 1.44	-0.87 ± 1.49

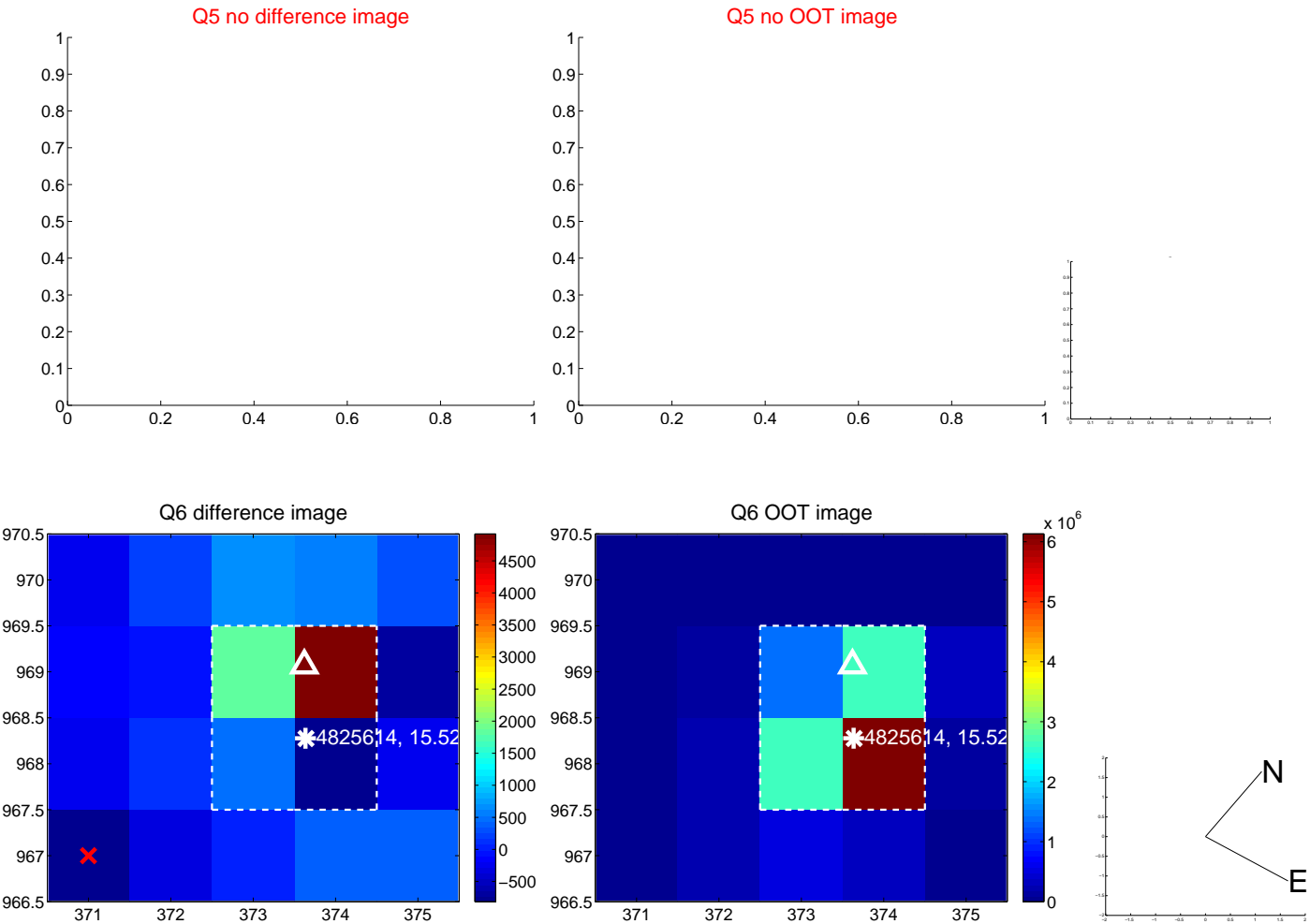


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

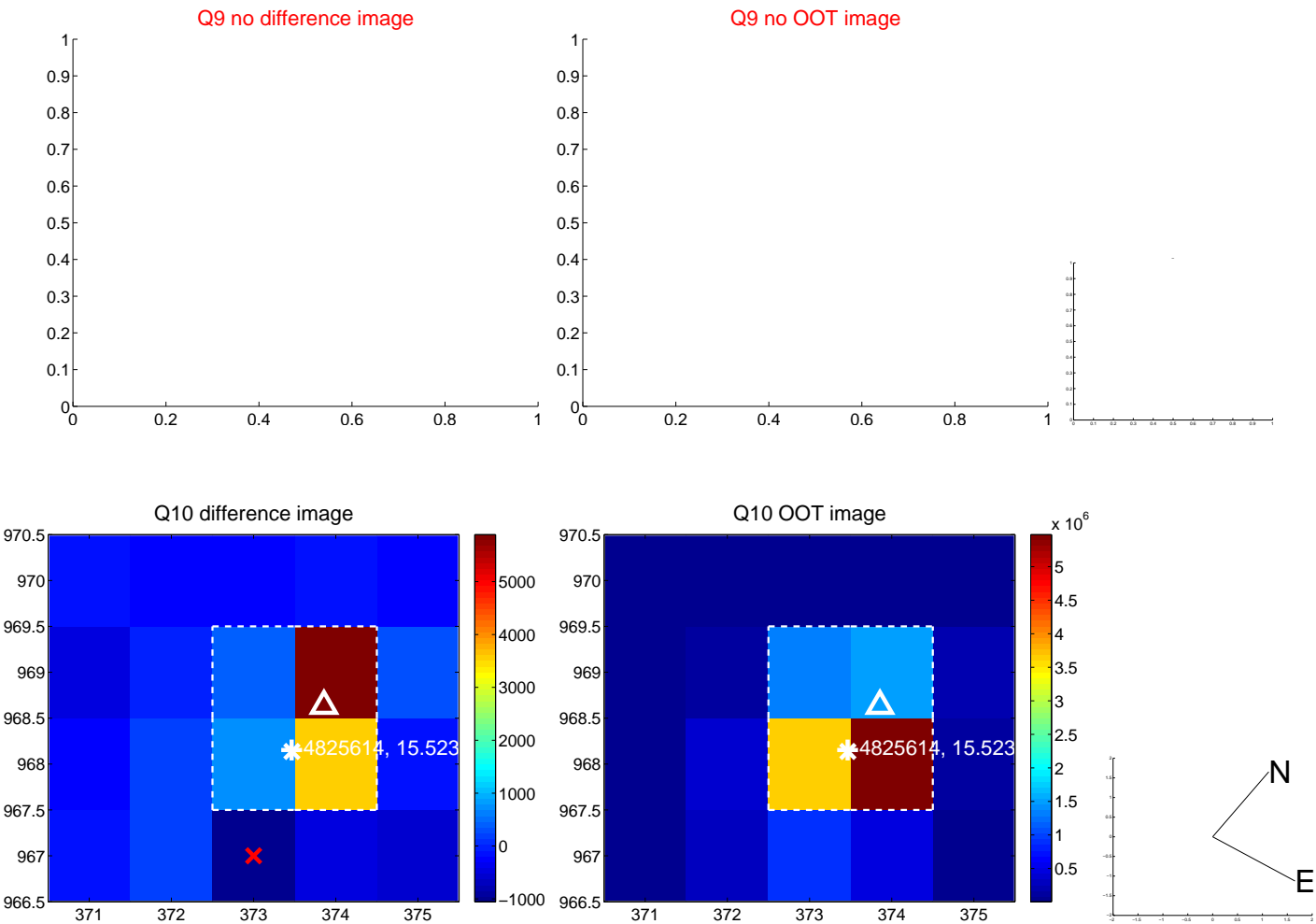
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



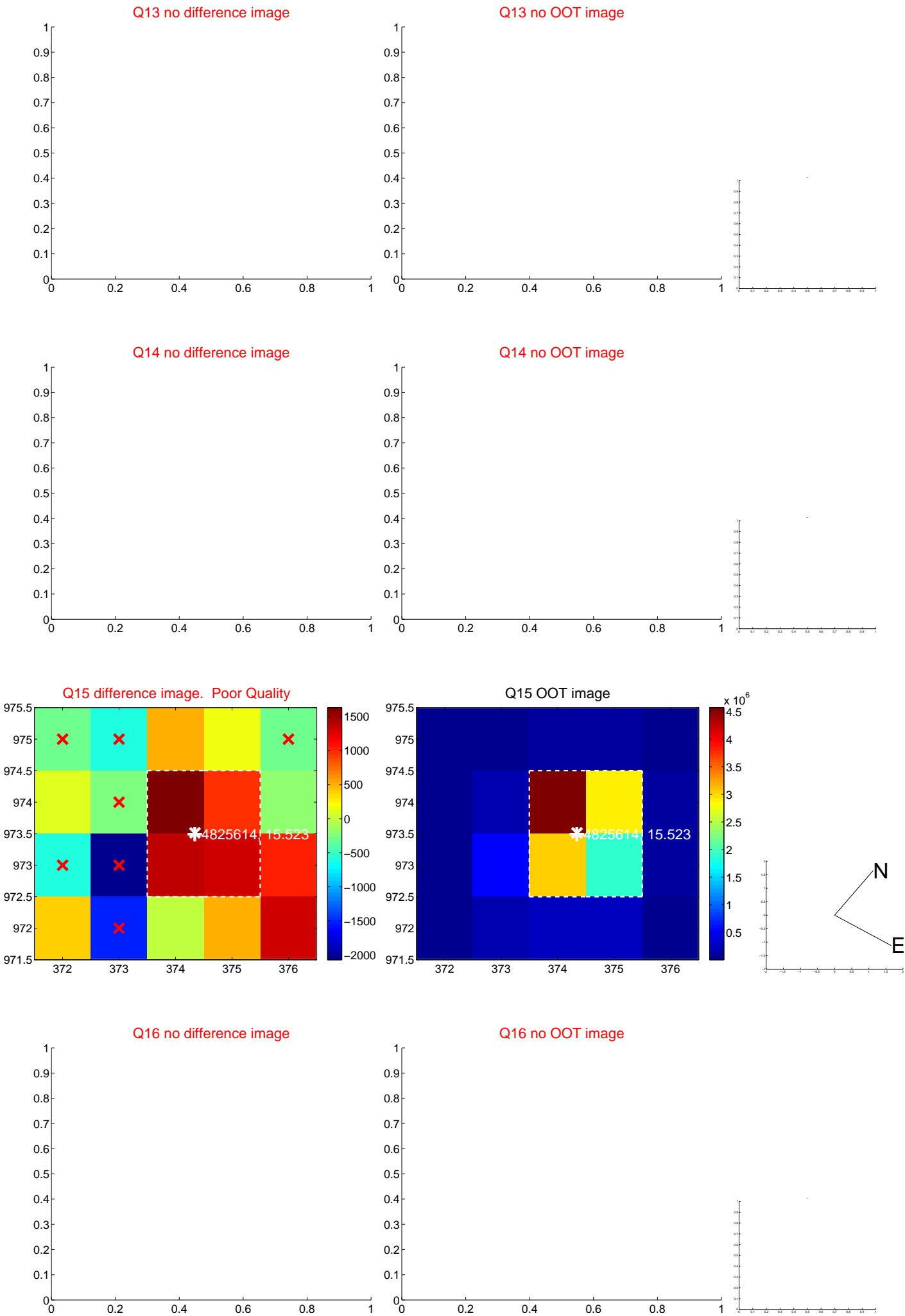
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



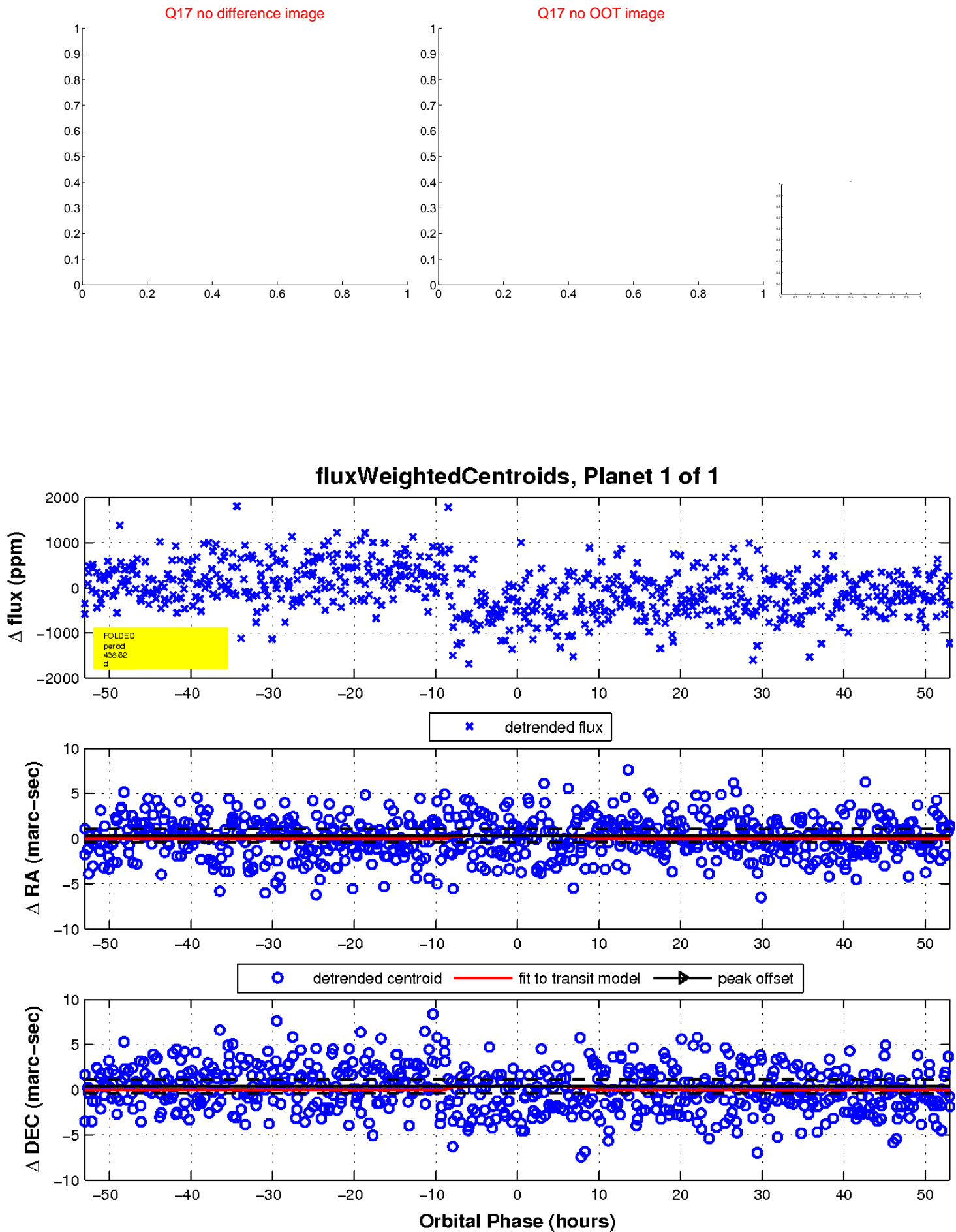
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

