

KIC 006678472

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})
006678472-01	OBS	No	414.326920	411.751101	591.6	2.498	8.2	6.4	5.65	4927	16.74	12.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006678472-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

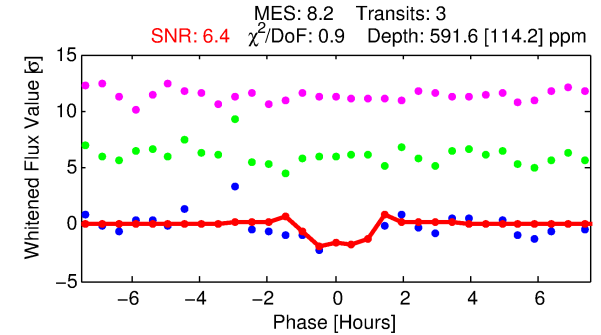
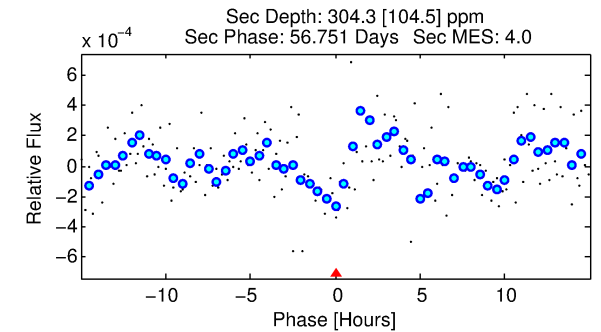
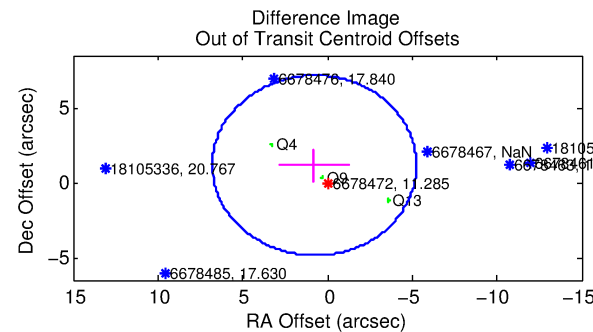
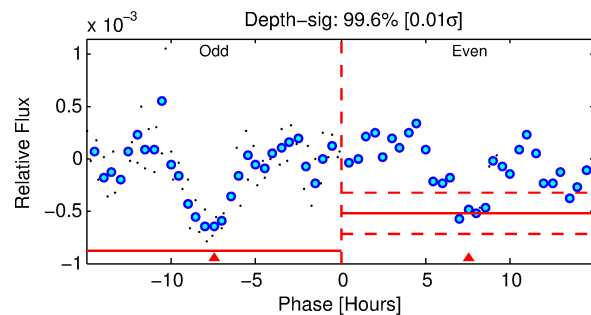
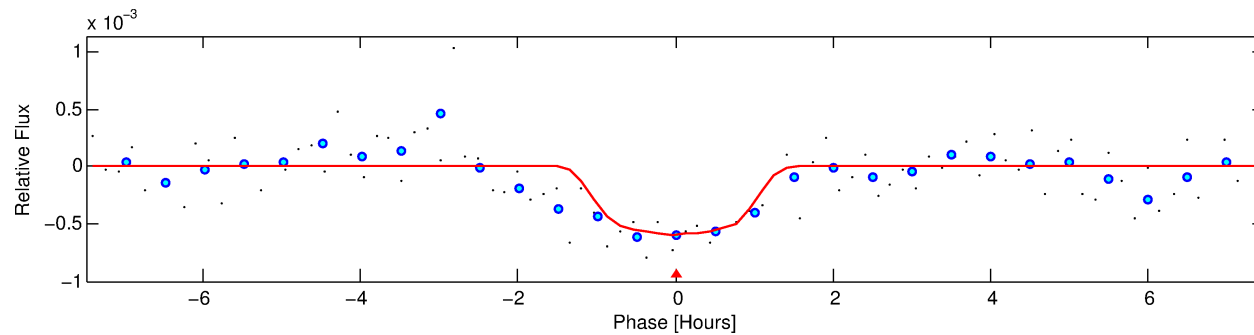
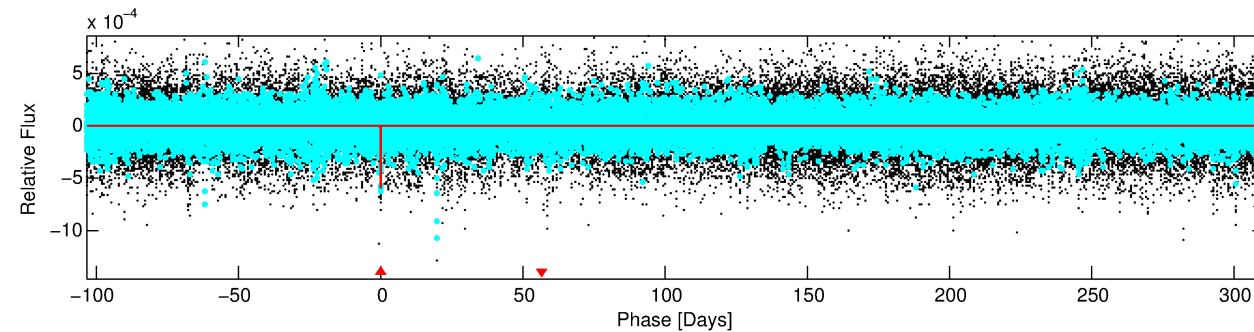
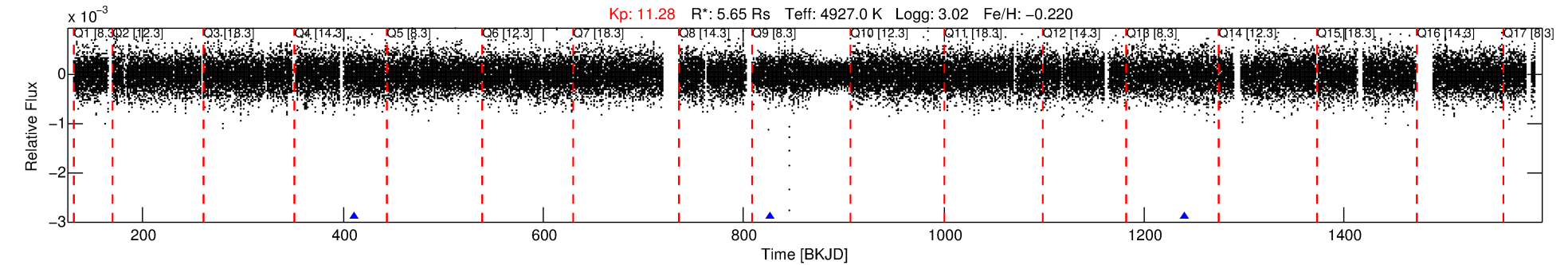
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006678472-01

No Significant Match Found

DV One-Page Summary

KIC: 6678472 Candidate: 1 of 1 Period: 414.327 d



DV Fit Results:

Period = 414.32692 [0.00382] d
Epoch = 411.7511 [0.0059] BKJD
Rp/R* = 0.0272 [0.0114]
a/R* = 627.18 [971.89]
b = 0.90 [0.33]
Seff = 12.46 [1.22]
Teff = 479 [12] K
Rp = 16.74 [7.28] Re
a = 1.1630 [0.0874] AU
Ag = 807.92 [738.58] [1.09σ]
Teffp = 3949 [900] K [3.86σ]

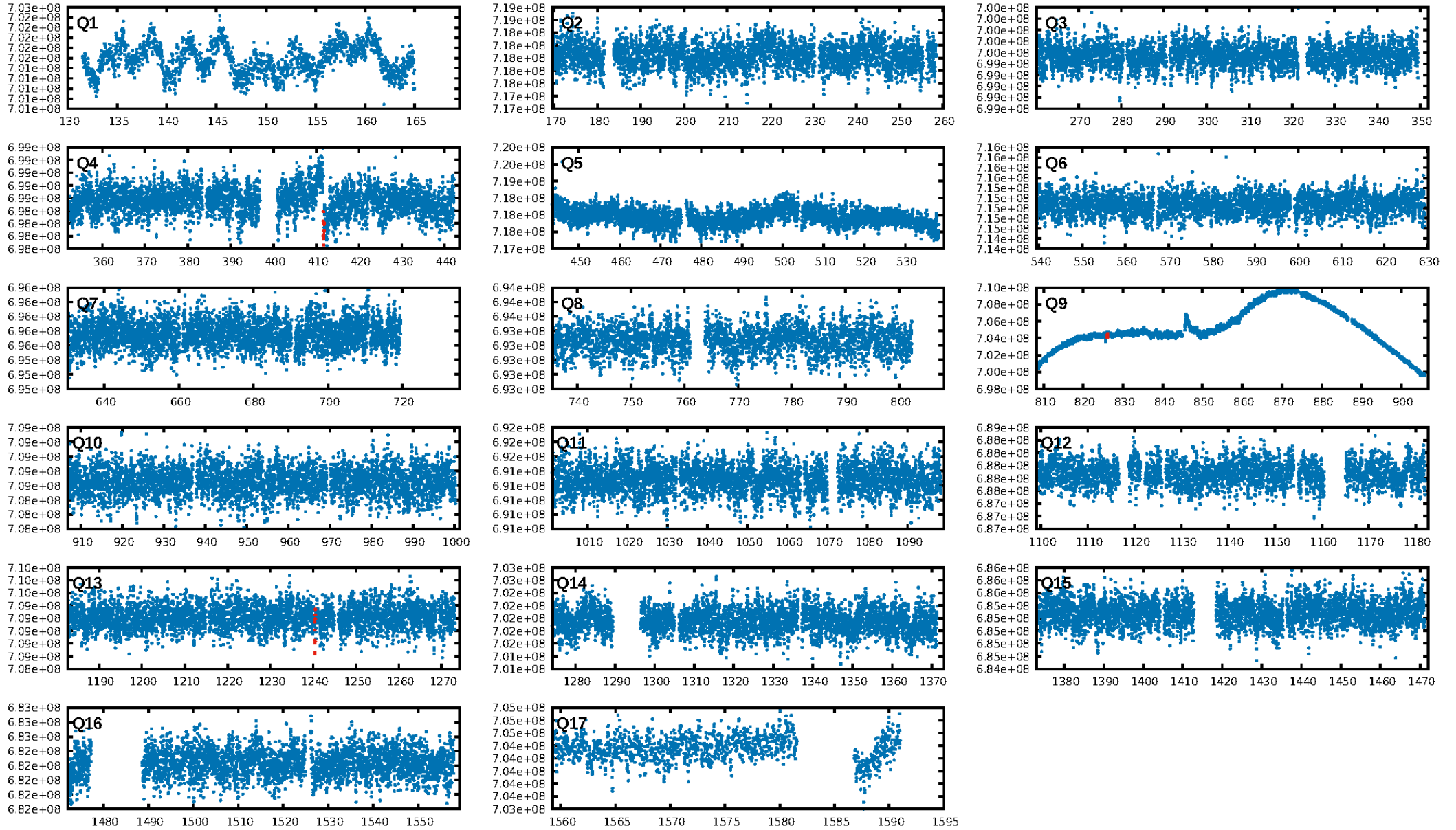
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 68.4%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 6.07e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.954
Centroid-sig: 36.9%
Centroid-so: 0.507 arcsec [0.97σ]
OotOffset-rm: 1.385 arcsec [0.69σ]
KicOffset-rm: 1.200 arcsec [0.86σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

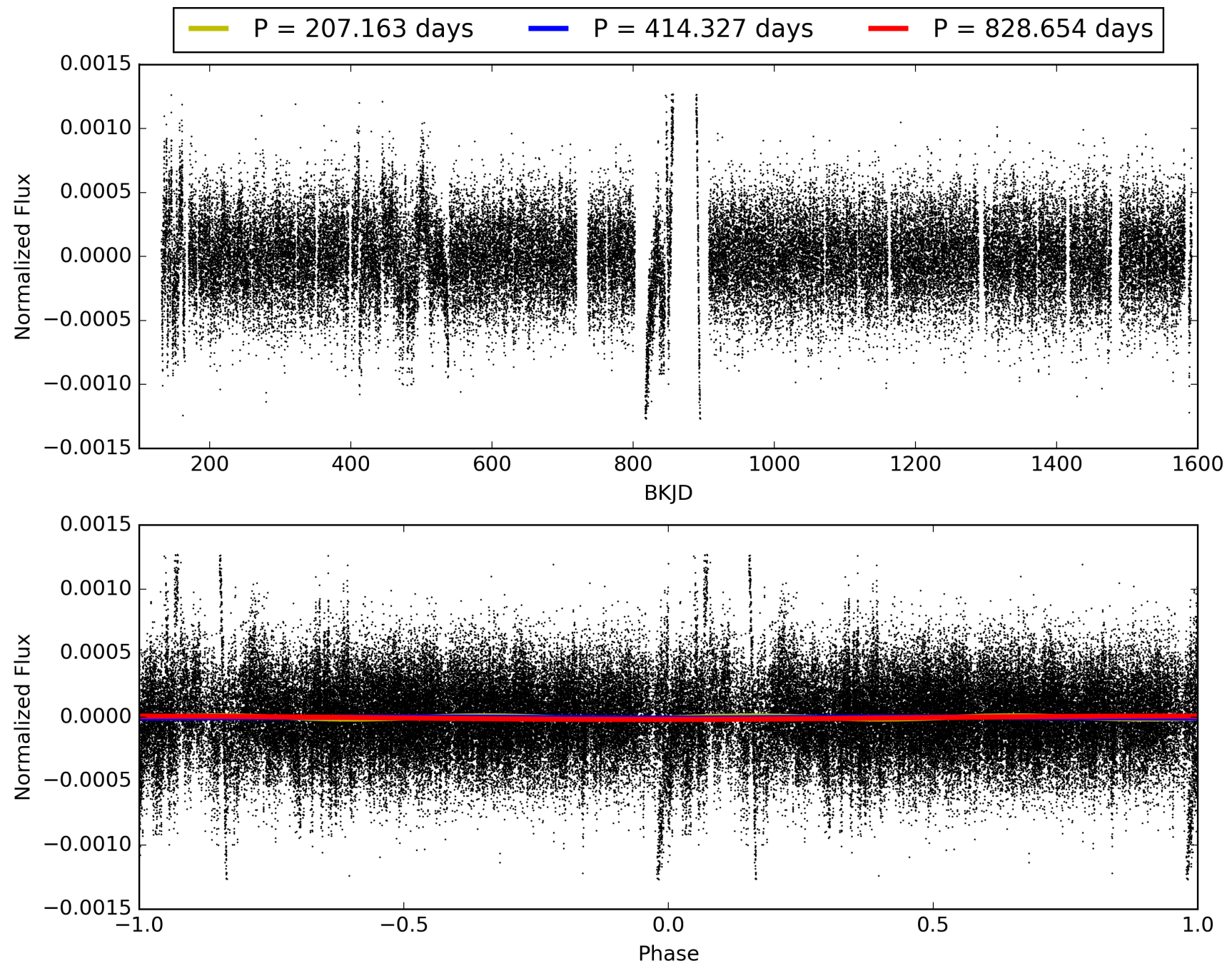
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:30:40 Z

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

TCE 006678472-01, PDC Light Curves

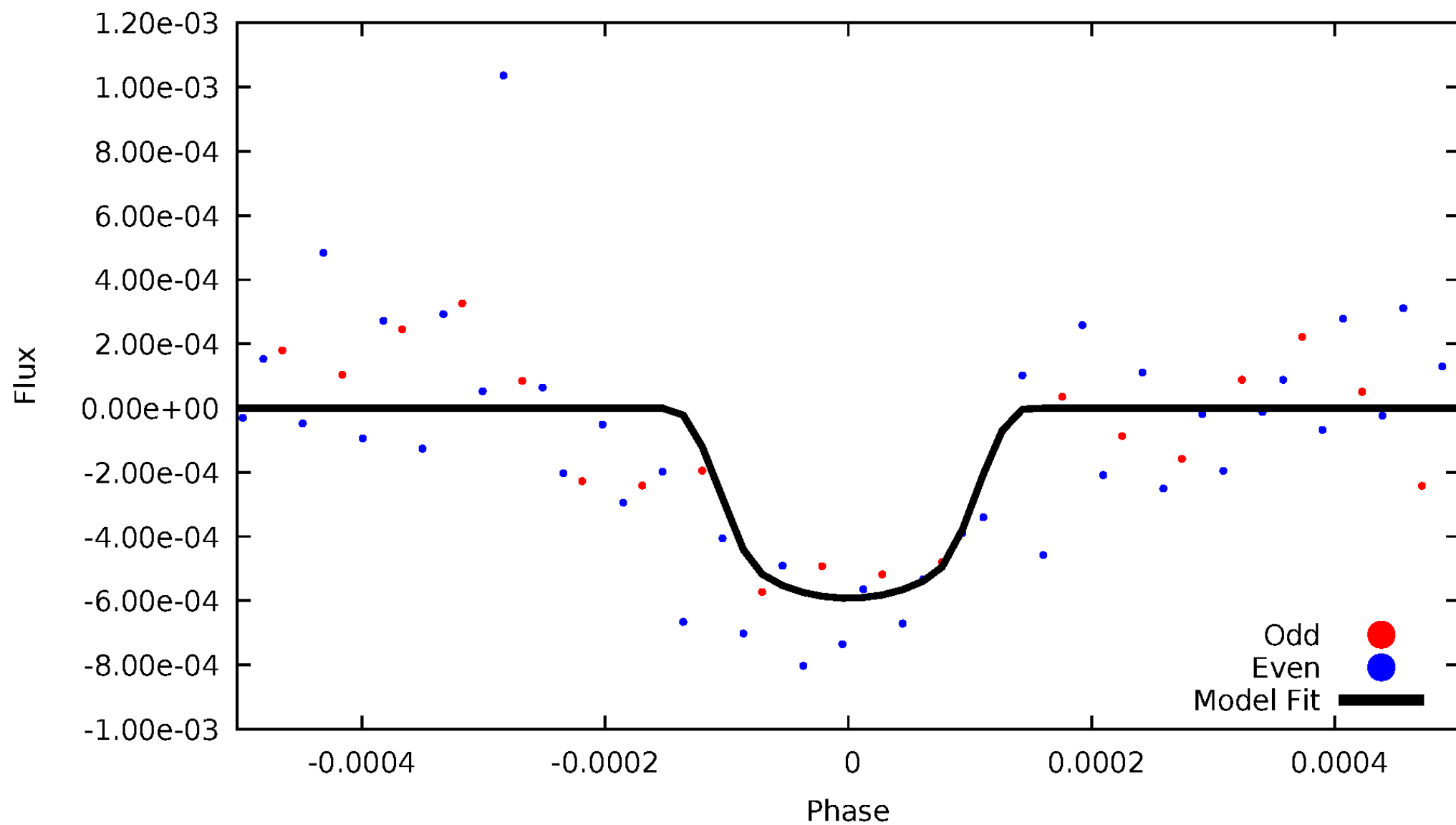


TCE 006678472-01



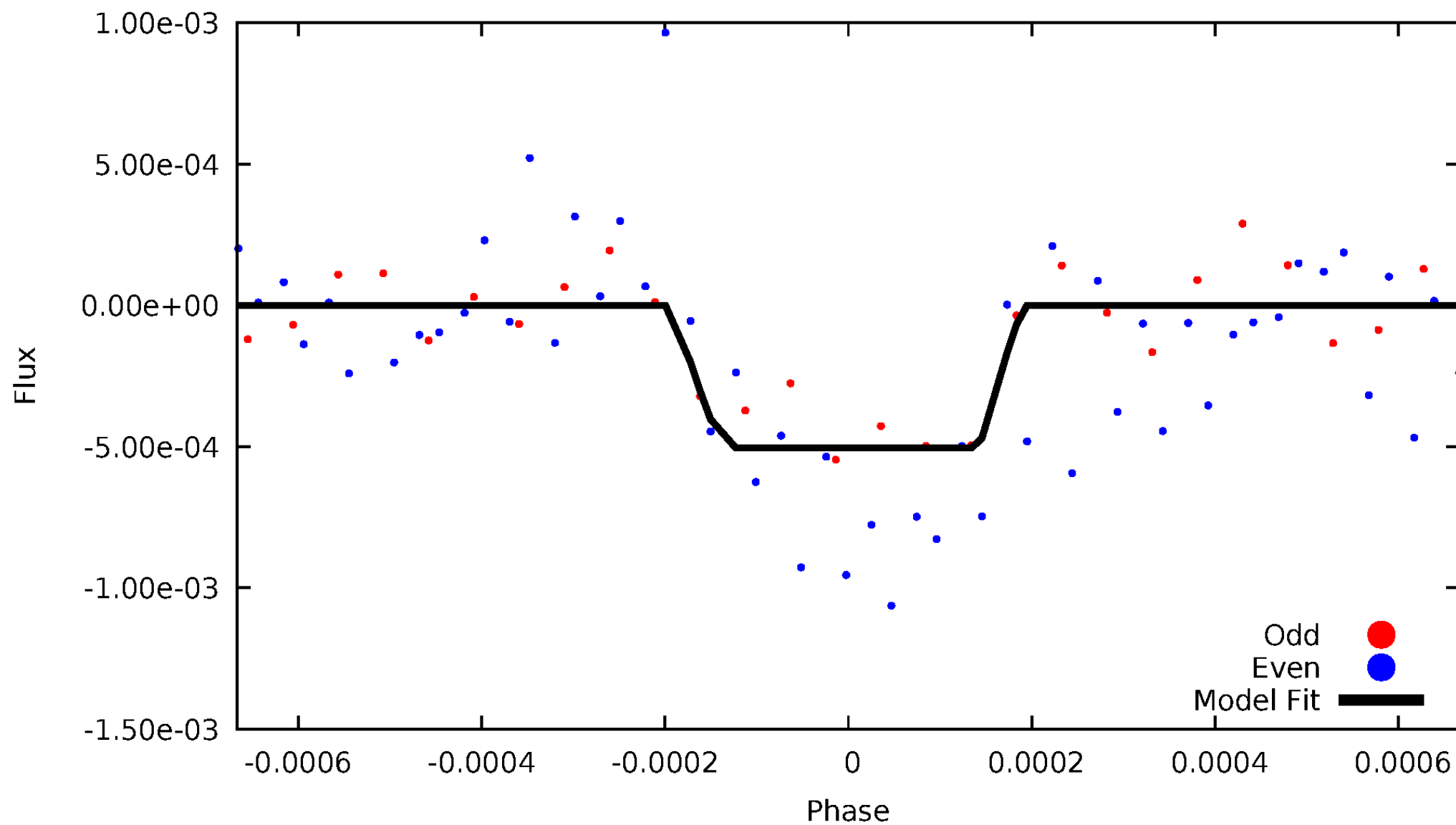
DV Odd/Even

TCE 006678472-01



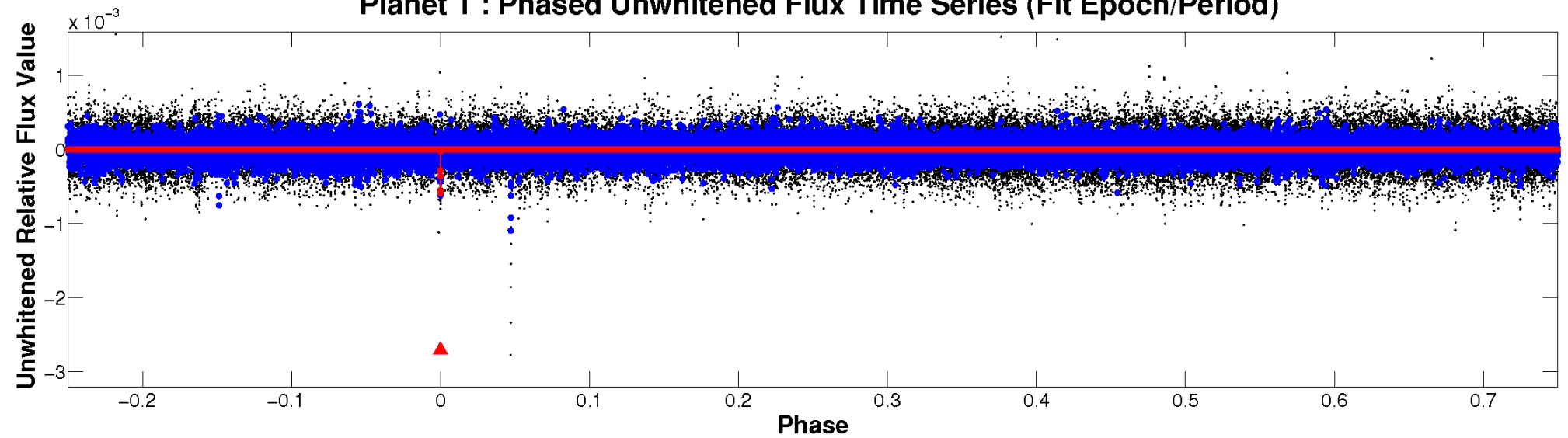
ALT Odd/Even

TCE 006678472-01

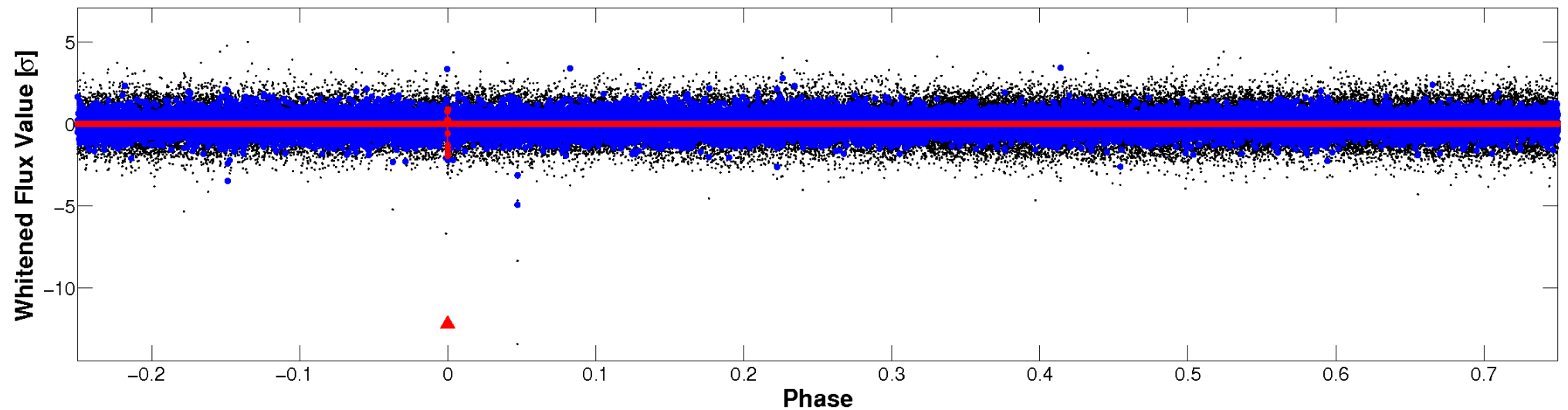


Non-Whitened Vs. Whitened Light Curve

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

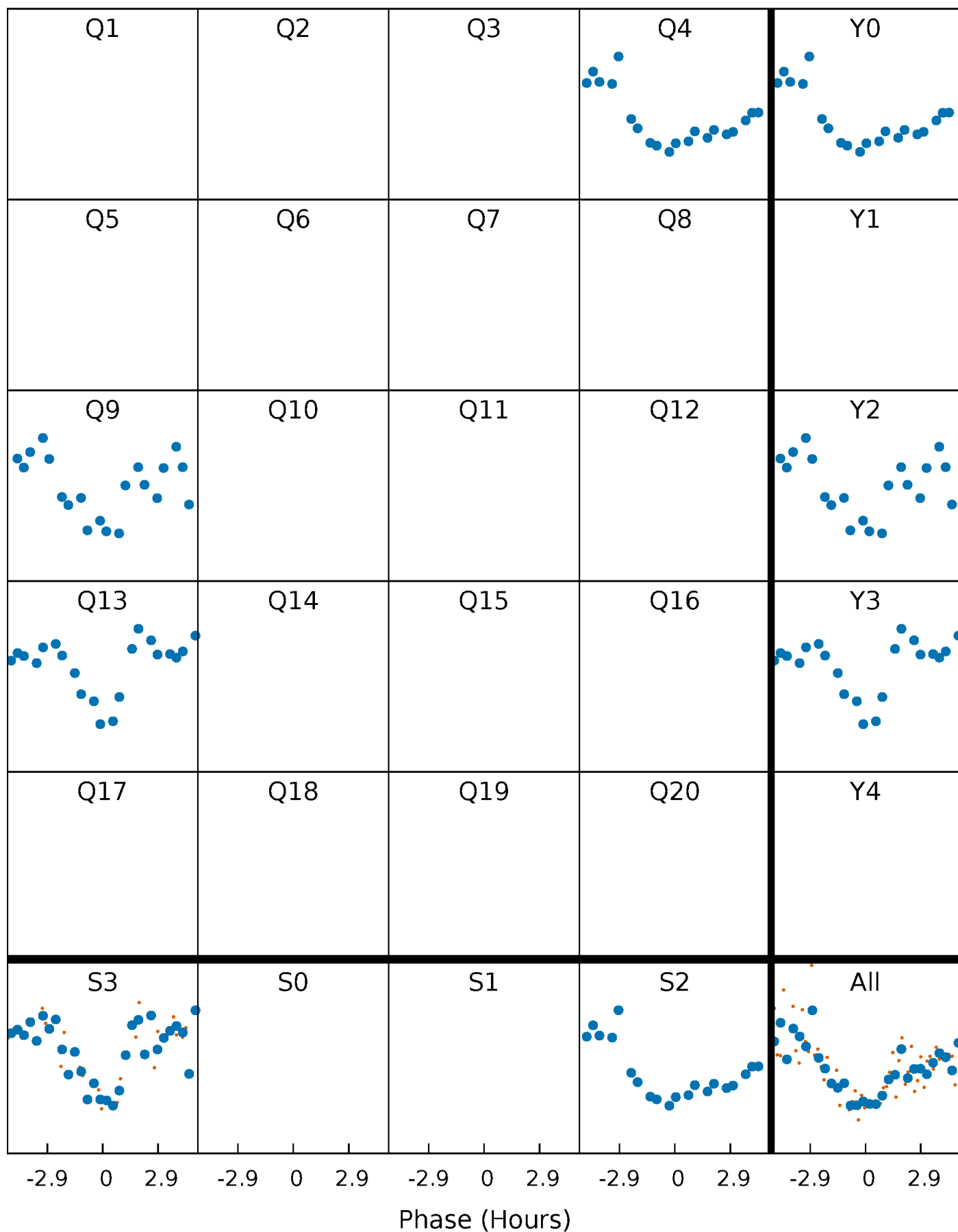


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



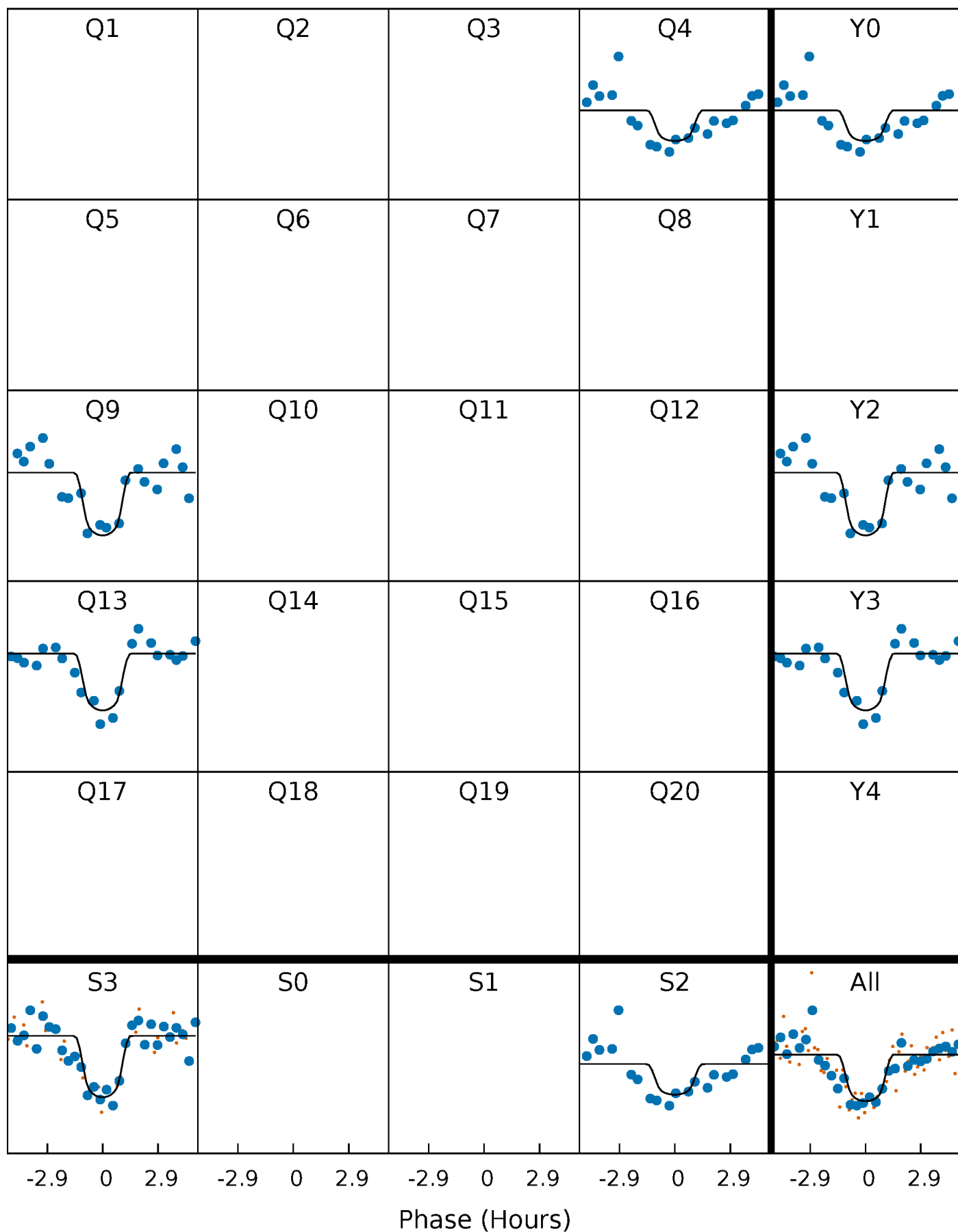
PDC Quarter-Phased Transit Curves

TCE 006678472-01 P=414.326920 Days $T_0=411.751101$ (BKJD)



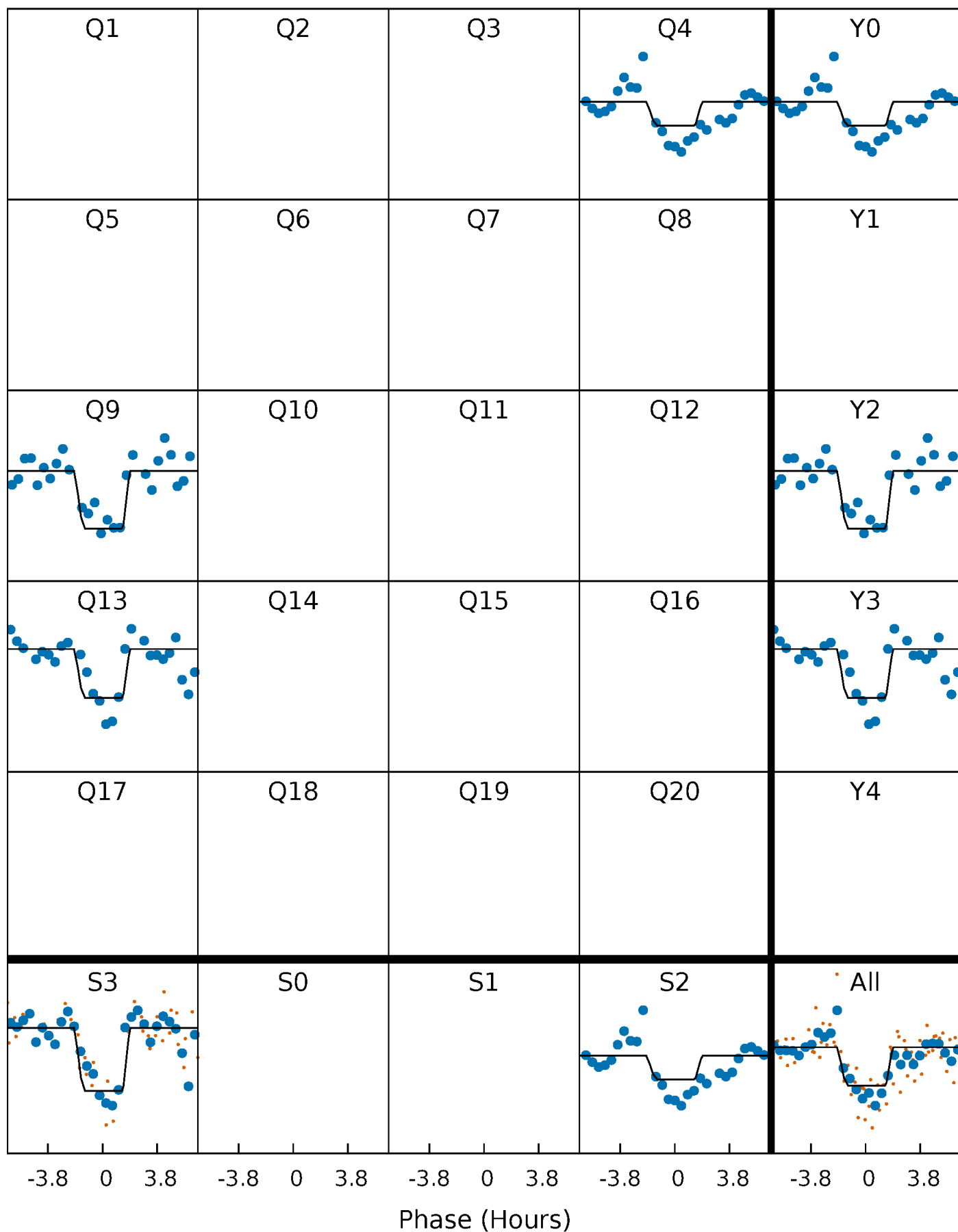
DV Quarter-Phased Transit Curves

TCE 006678472-01 P=414.326920 Days $T_0=411.751101$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

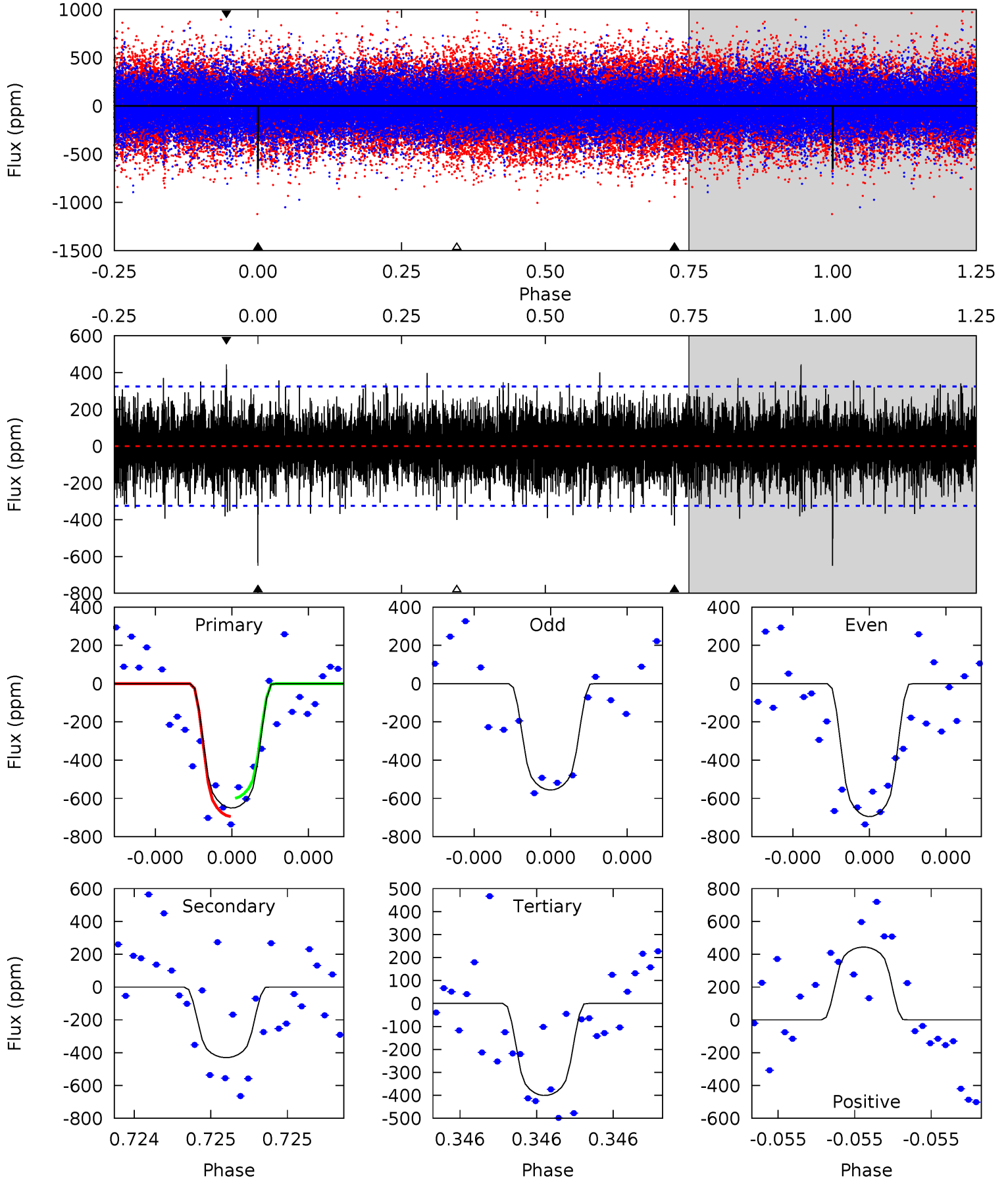
TCE 006678472-01 P=414.338107 Days $T_0=411.716269$ (BKJD)



DV Model-Shift Uniqueness Test

006678472-01, P = 414.326920 Days, E = 411.751101 Days

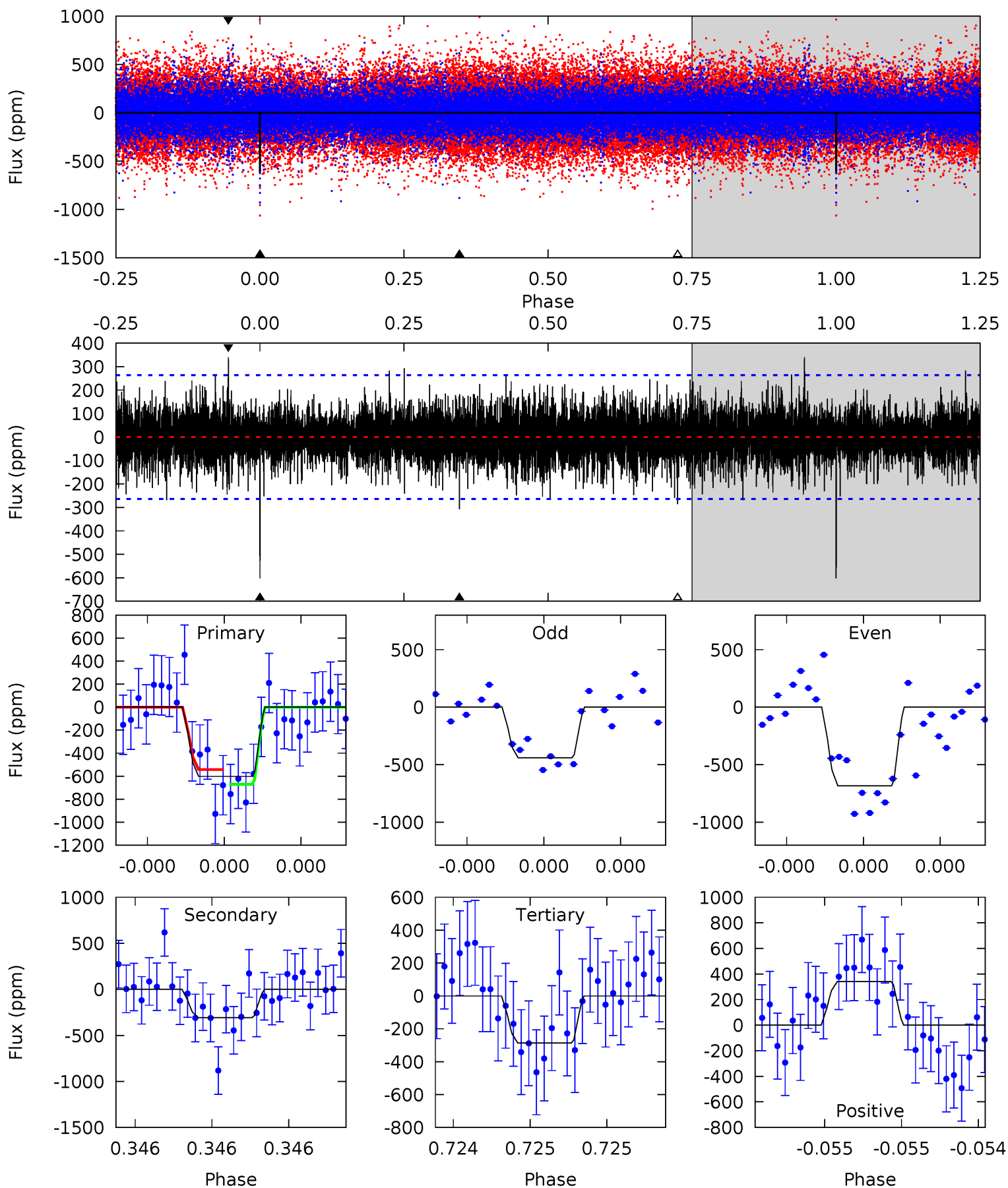
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	7.53	7.01	7.77	5.67	3.63	1.85	4.36	3.61	0.52	-0.24	1.18	0.98	0.41	0.84



Alt Model-Shift Uniqueness Test

006678472-01, P = 414.338107 Days, E = 411.716269 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	6.55	6.10	7.25	5.63	3.56	1.61	6.74	5.59	0.46	-0.69	2.56	1.15	0.36	1.37



Stellar Parameters For KIC 006678472

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4927^{+59}_{-59}	$3.021^{+0.027}_{-0.030}$	$-0.220^{+0.150}_{-0.100}$	$5.649^{+0.545}_{-0.606}$	$1.220^{+0.210}_{-0.257}$	$0.010^{+0.001}_{-0.001}$
	+1%/-1%	+1%/-1%	+68%/-45%	+10%/-11%	+17%/-21%	+15%/-13%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006678472-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-430 ± 57	$16.76^{+7.19}_{-6.52}$	671^{+13}_{-13}	4451^{+957}_{-575}	1160^{+1779}_{-607}
Alt.	-308 ± 47	$14.59^{+6.40}_{-6.84}$	670^{+13}_{-12}	4381^{+1350}_{-554}	1068^{+2898}_{-559}

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

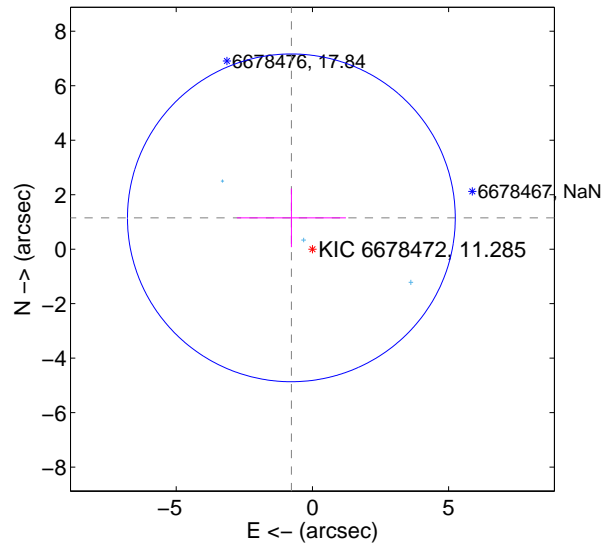
Supplemental centroid analysis for 006678472-01. **Kepler magnitude: 11.29.** Transit SNR 6.39

There are 3 quarters with good PRF difference image offsets

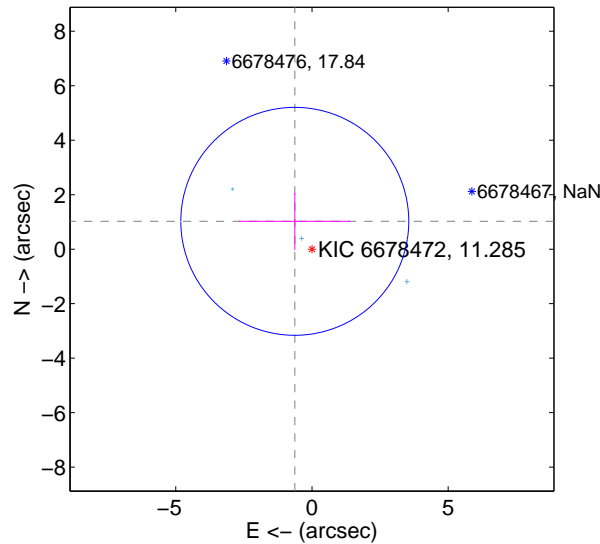
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.385 ± 2.005	0.69	0.772 ± 2.000	1.150 ± 1.077
PRF-fit source offset from KIC position	1.200 ± 1.394	0.86	0.630 ± 2.039	1.022 ± 1.050
photometric centroid source offset	0.51 ± 0.52	0.97	0.43 ± 0.56	-0.26 ± 0.41

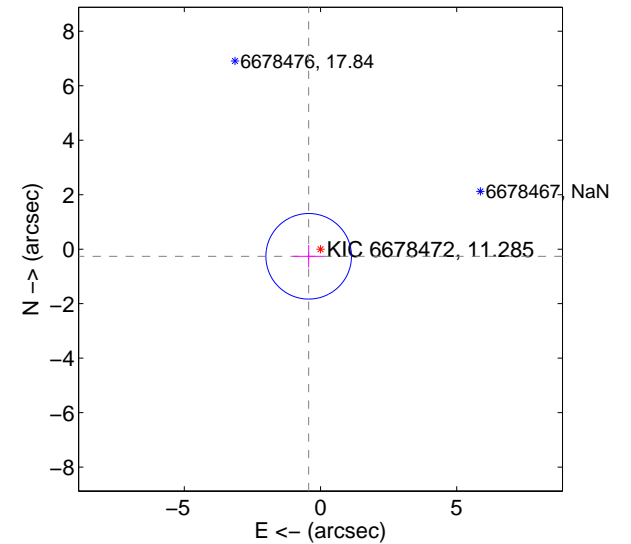
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

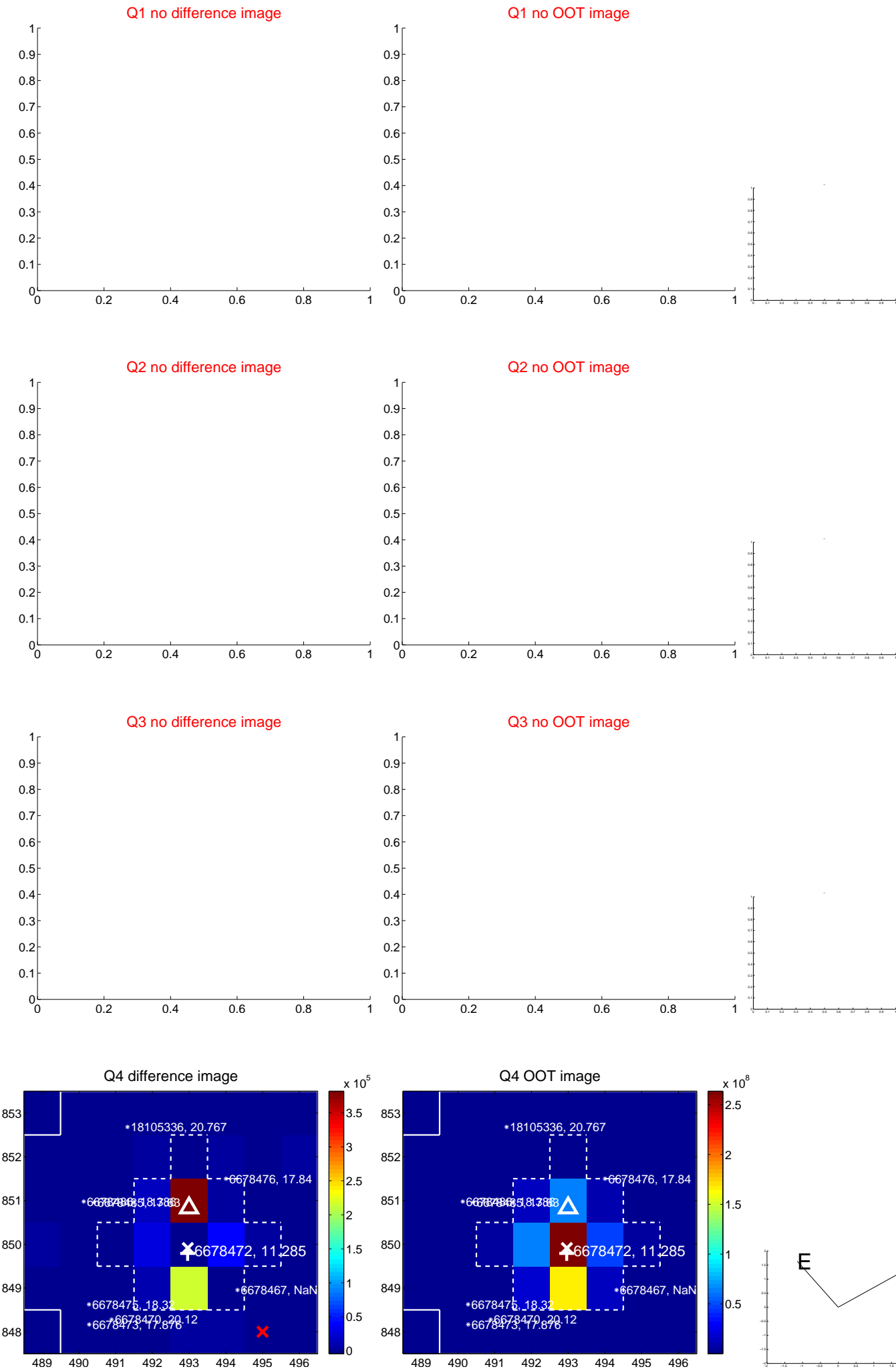


offset from photometric centroids



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.

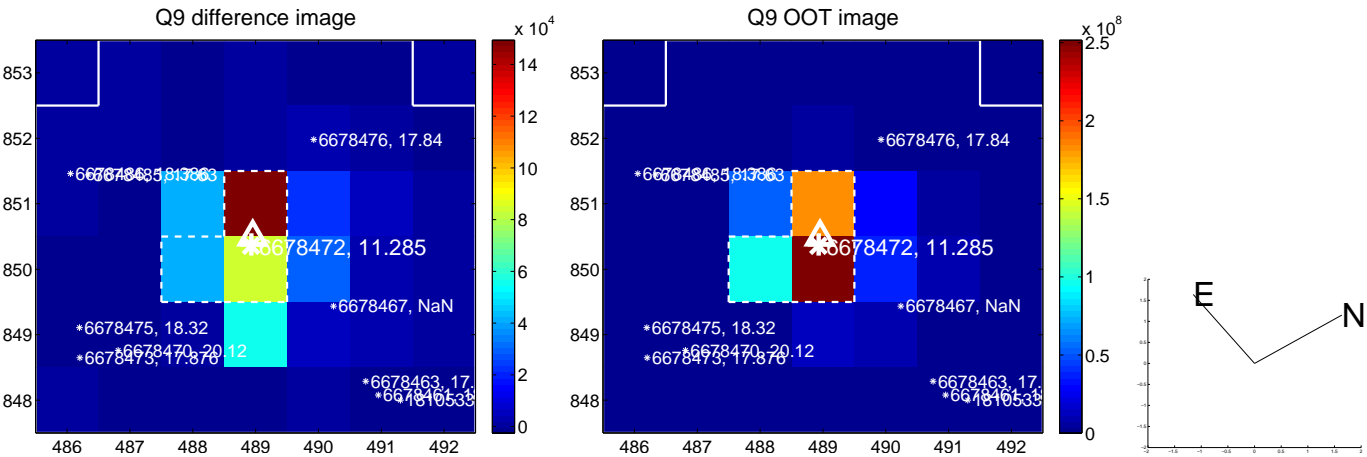
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



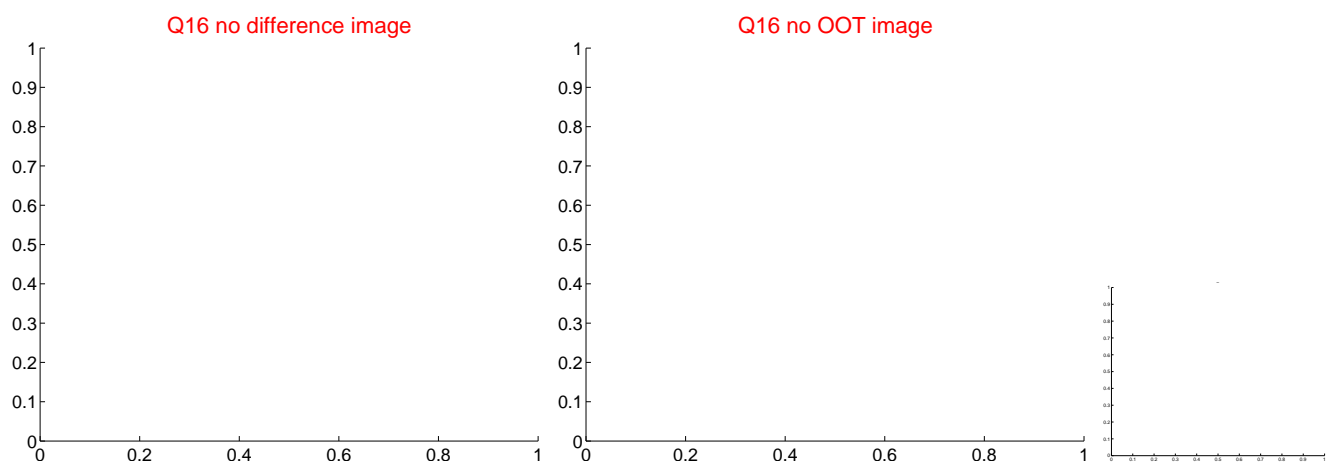
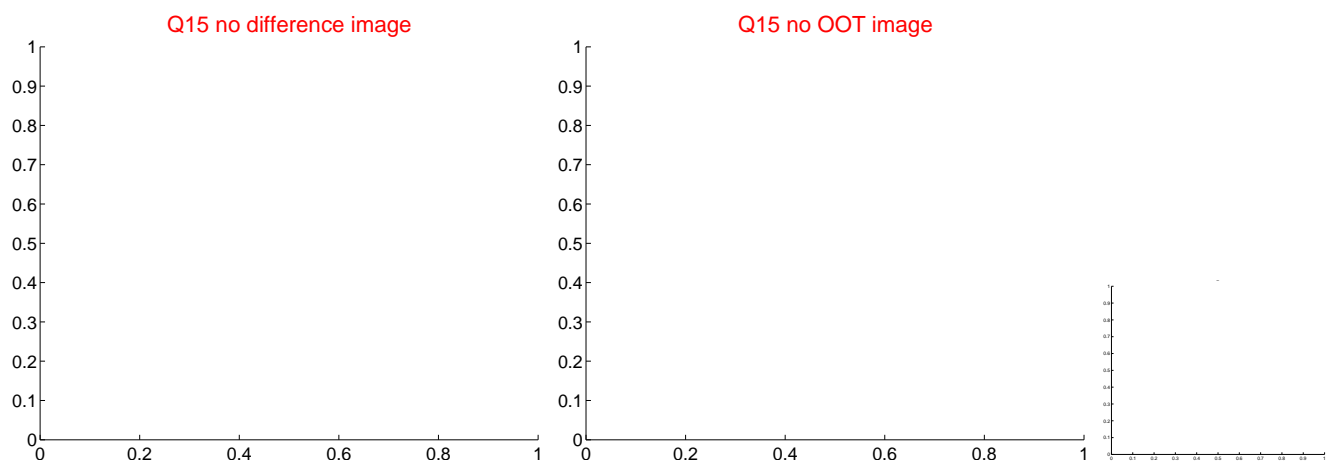
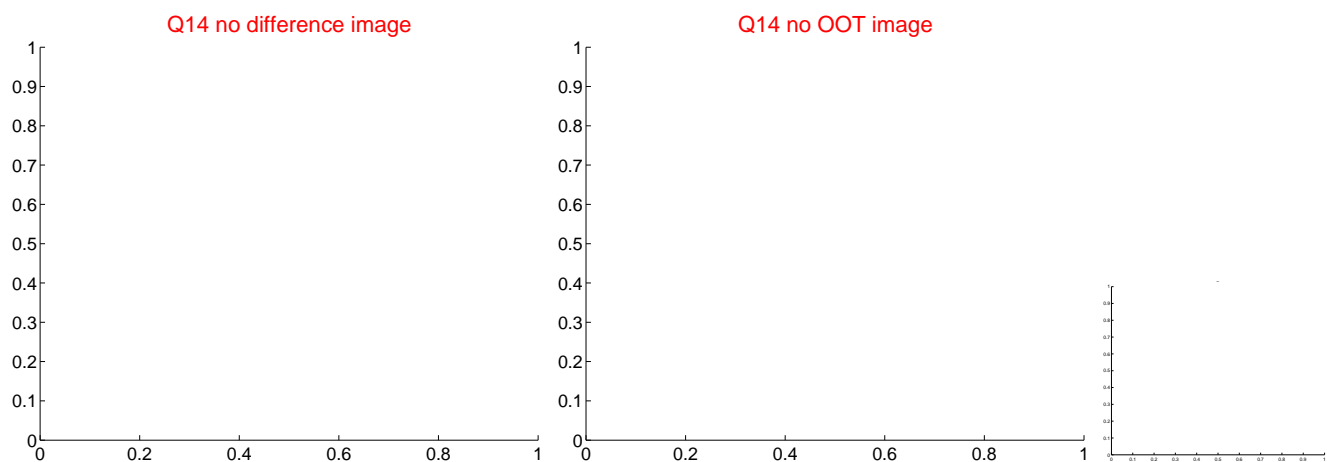
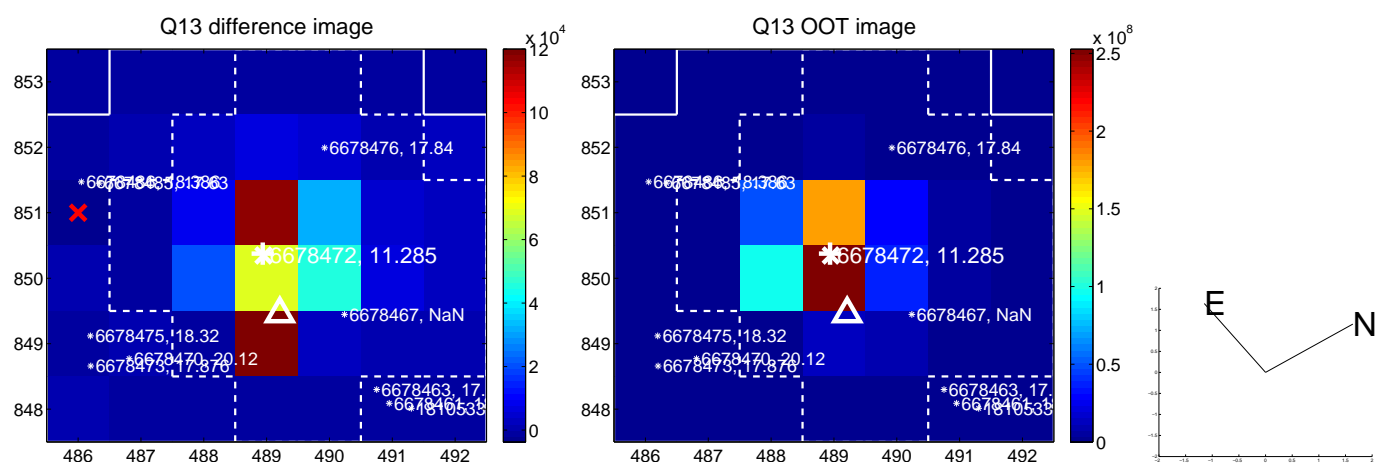
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



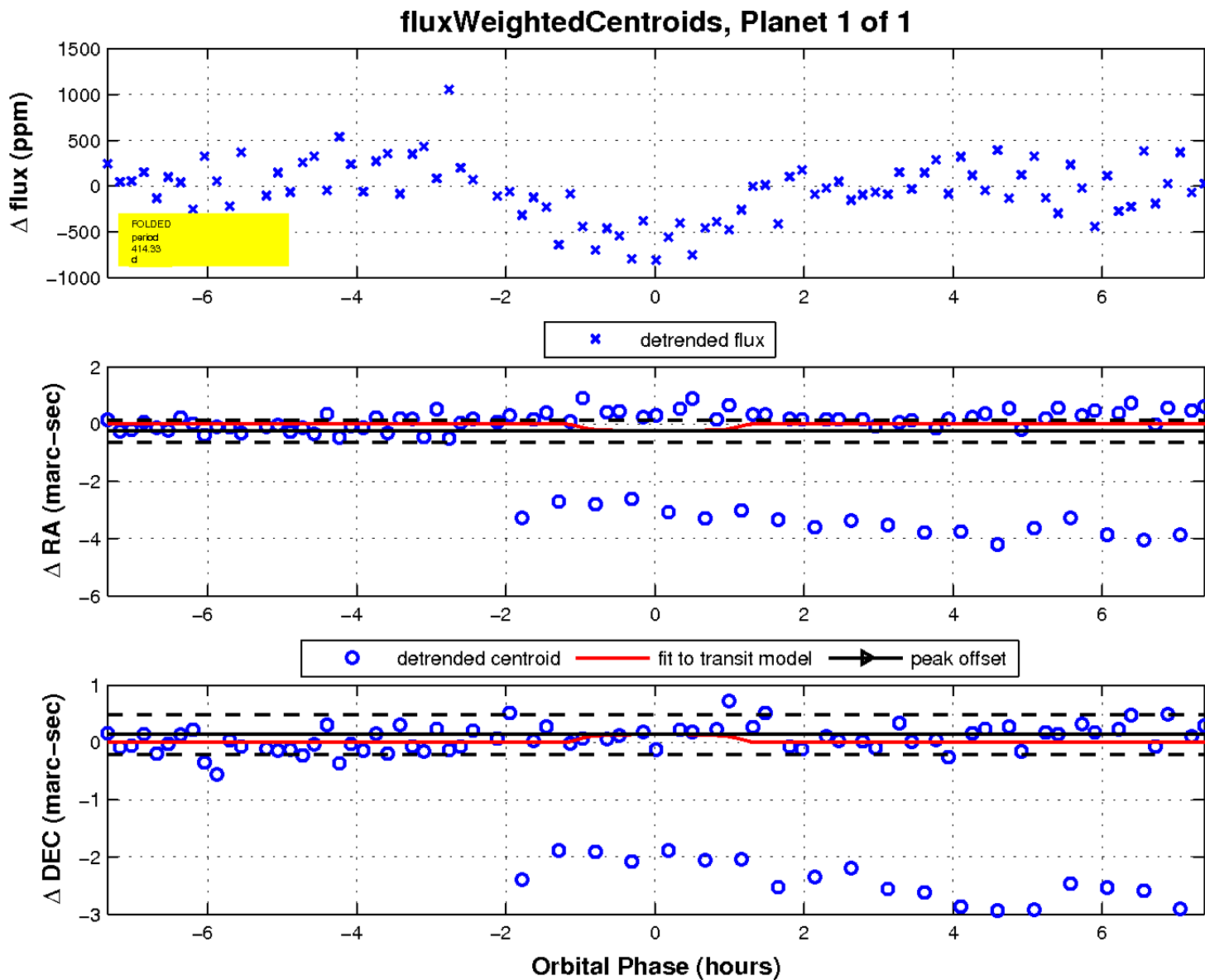
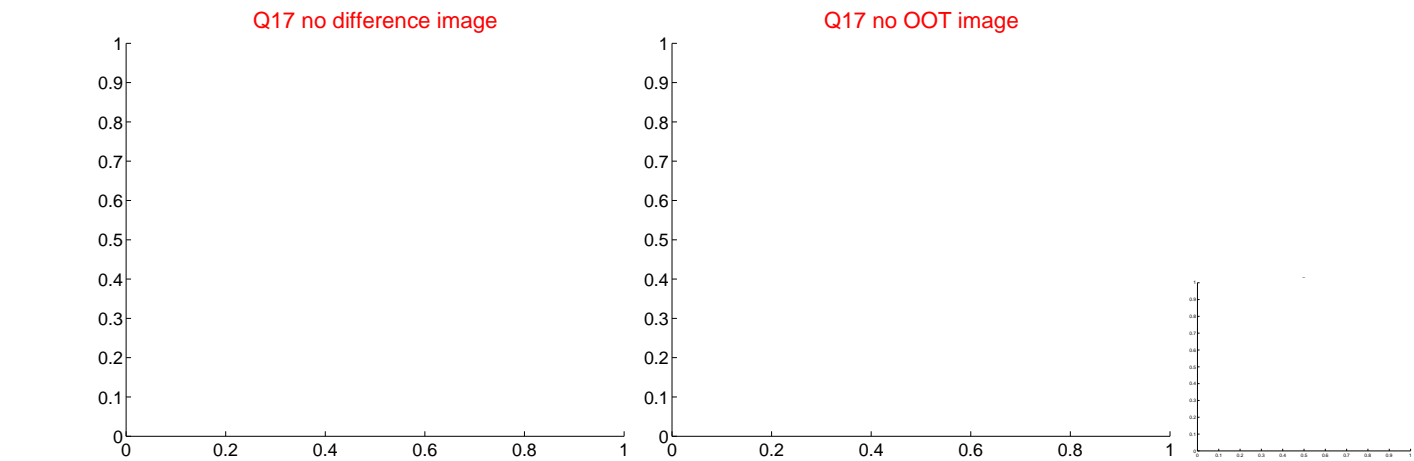
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

