

KIC 008618120

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})
008618120-01	OBS	No	503.544827	172.061374	648.8	11.819	7.9	7.4	1.00	6058	2.56	0.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008618120-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_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.

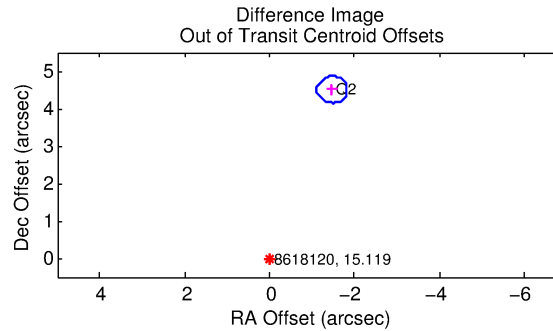
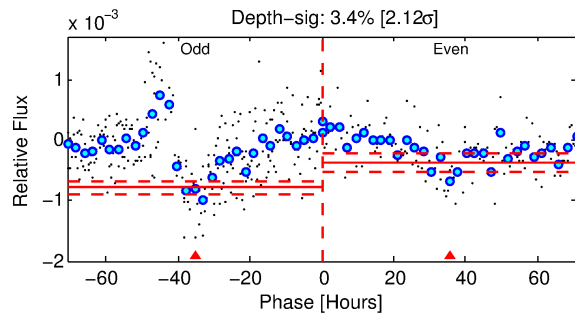
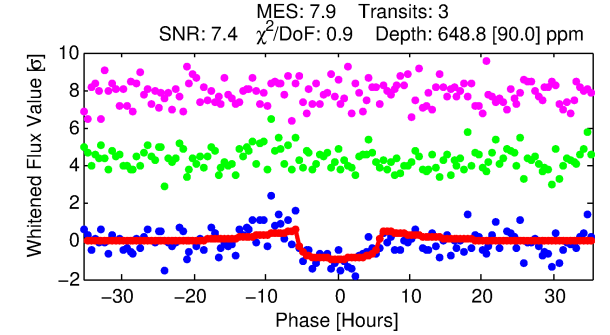
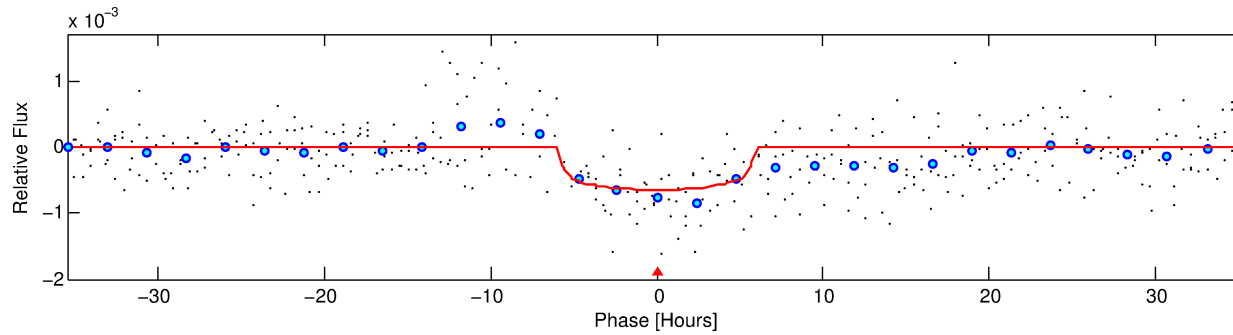
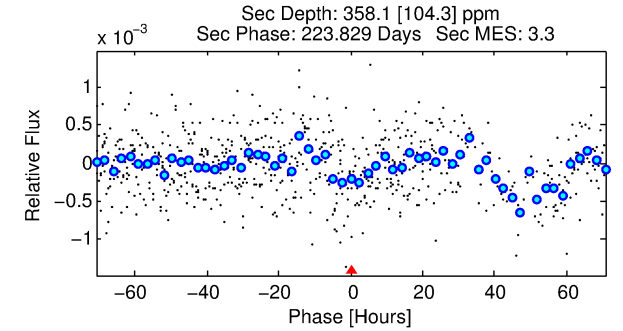
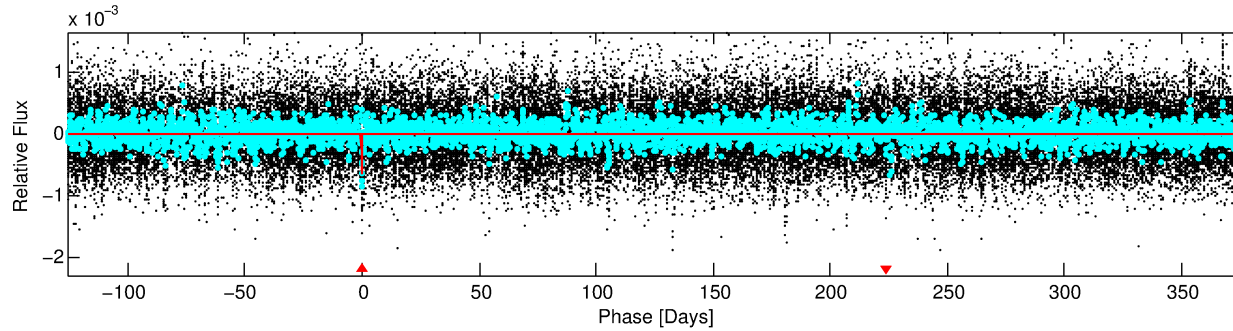
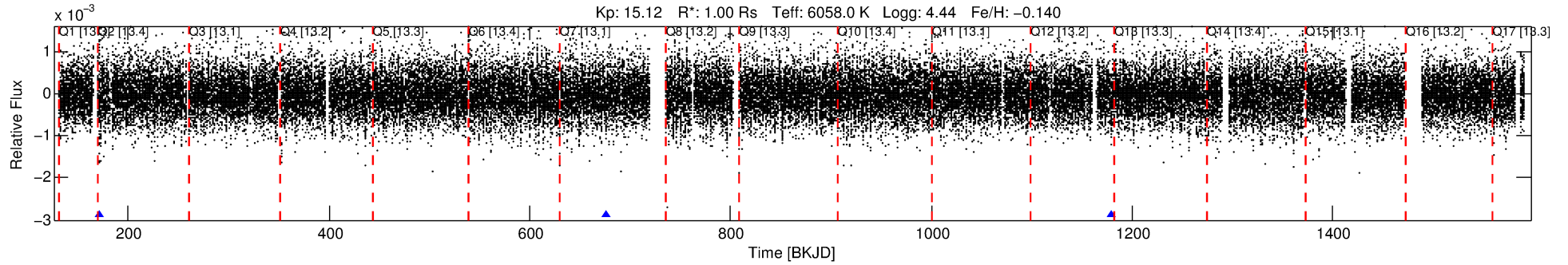
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008618120-01

No Significant Match Found

DV One-Page Summary

KIC: 8618120 Candidate: 1 of 1 Period: 503.545 d



DV Fit Results:

Period = 503.54483 [0.01241] d
Epoch = 172.0614 [0.0146] BKJD
Rp/R* = 0.0234 [0.0408]
a/R* = 324.38 [2726.61]
b = 0.23 [34.33]
Seff = 0.78 [0.32]
Teq = 240 [25] K
Rp = 2.56 [4.54] Re
a = 1.2443 [0.3387] AU
Ag = 46454.11 [163432.50] [0.28σ]
Teff = 5446 [4764] K [1.09σ]

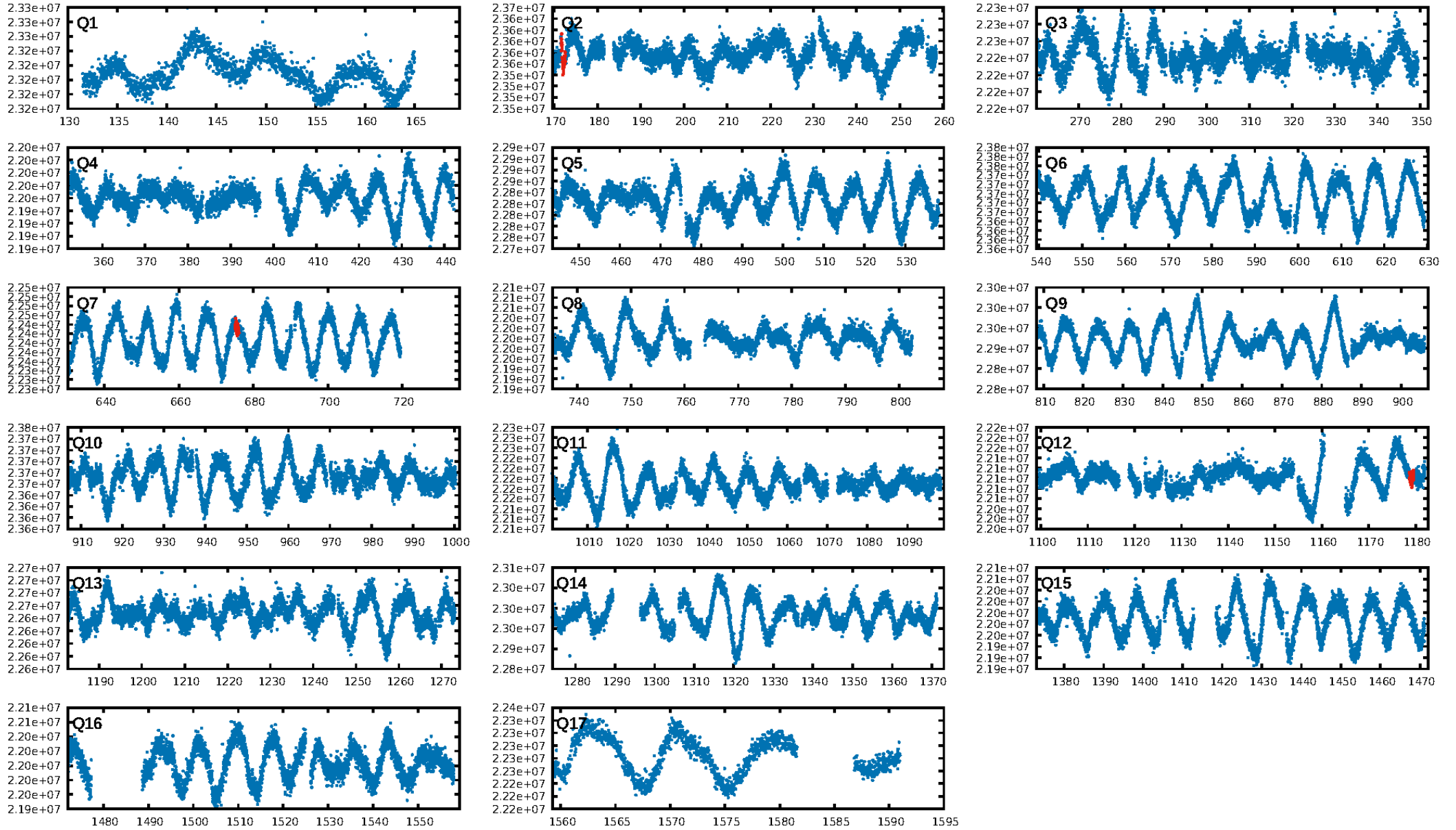
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.3%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 7.05e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.03
Centroid-sig: 66.0%
Centroid-so: 0.559 arcsec [0.47σ]
OotOffset-rm: 4.742 arcsec [40.00σ]
KicOffset-rm: 4.708 arcsec [39.74σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

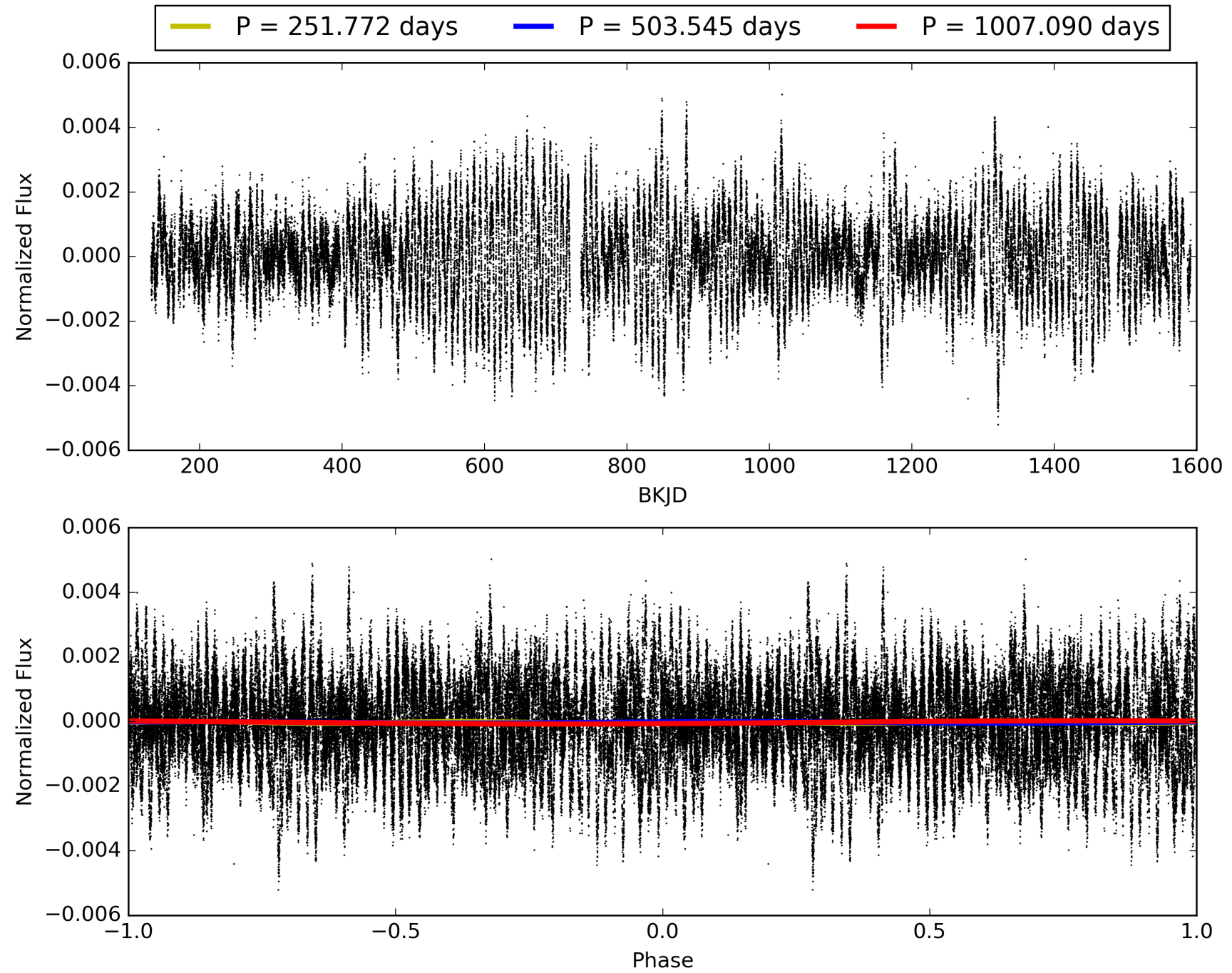
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:42:37 Z

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

TCE 008618120-01, PDC Light Curves

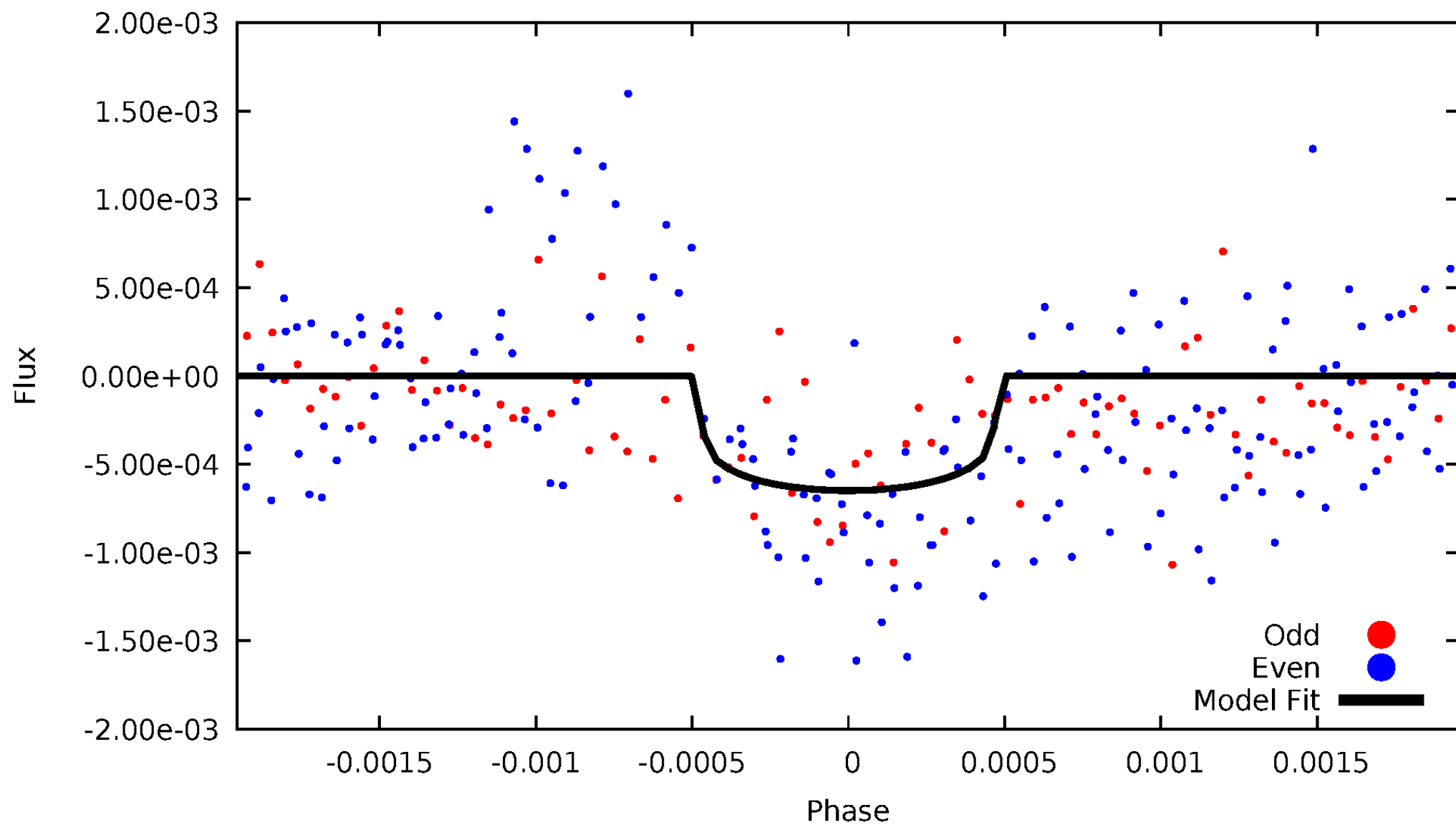


TCE 008618120-01



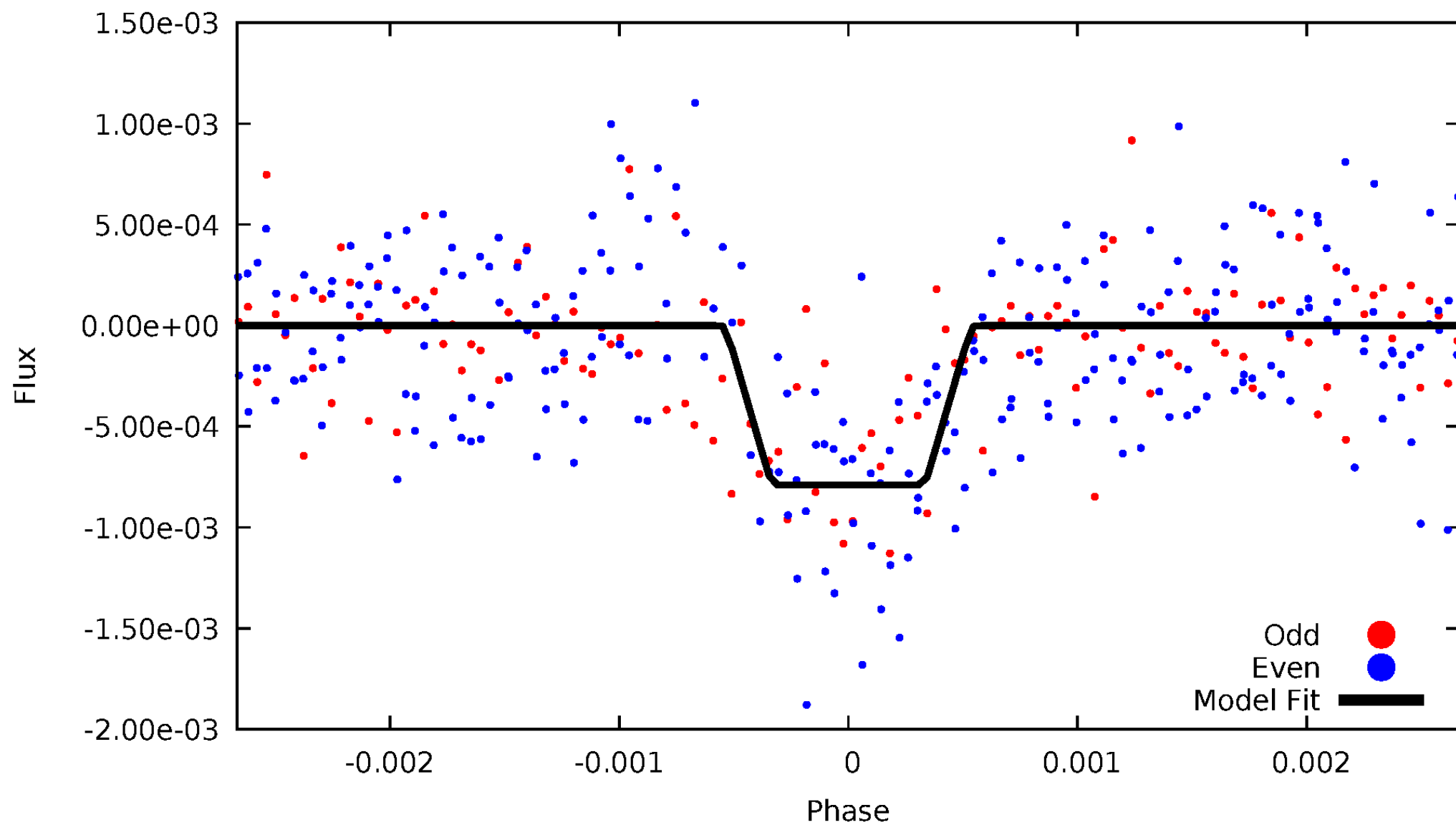
DV Odd/Even

TCE 008618120-01



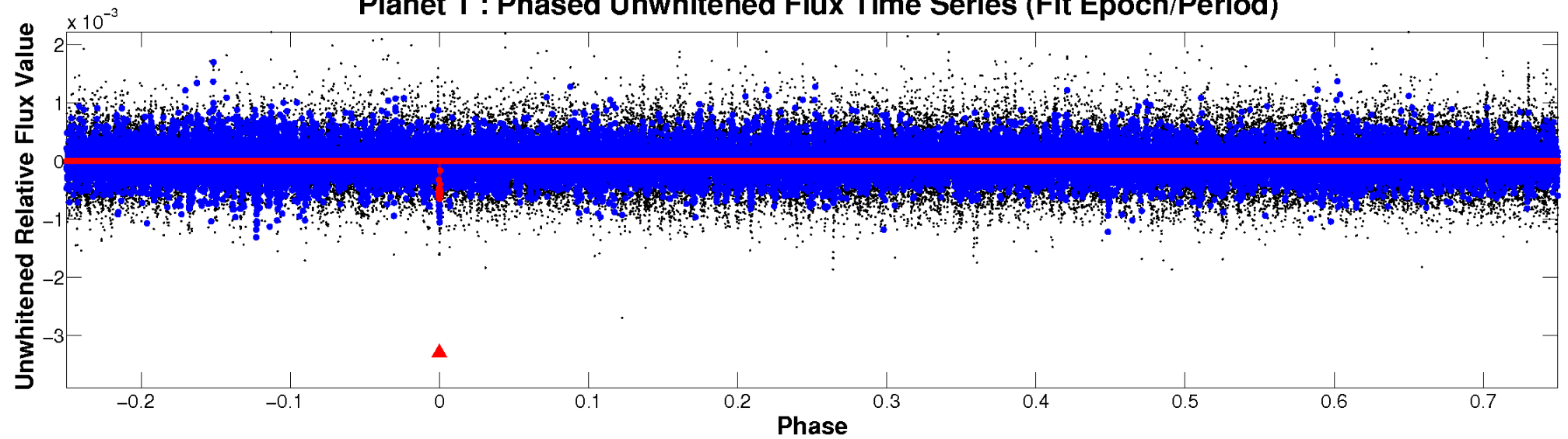
ALT Odd/Even

TCE 008618120-01

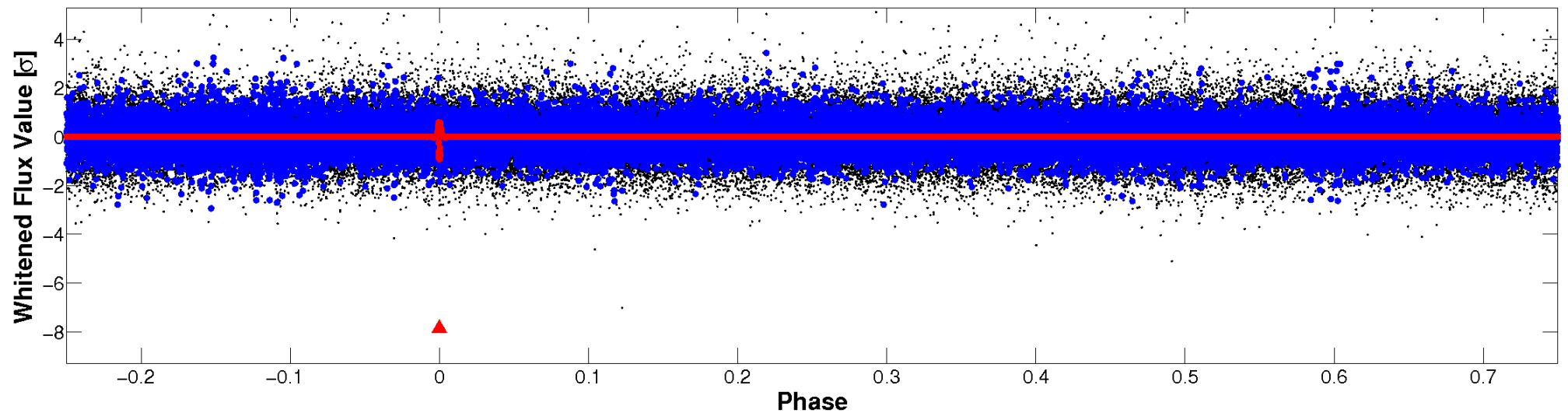


Non-Whitened Vs. Whitened Light Curve

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

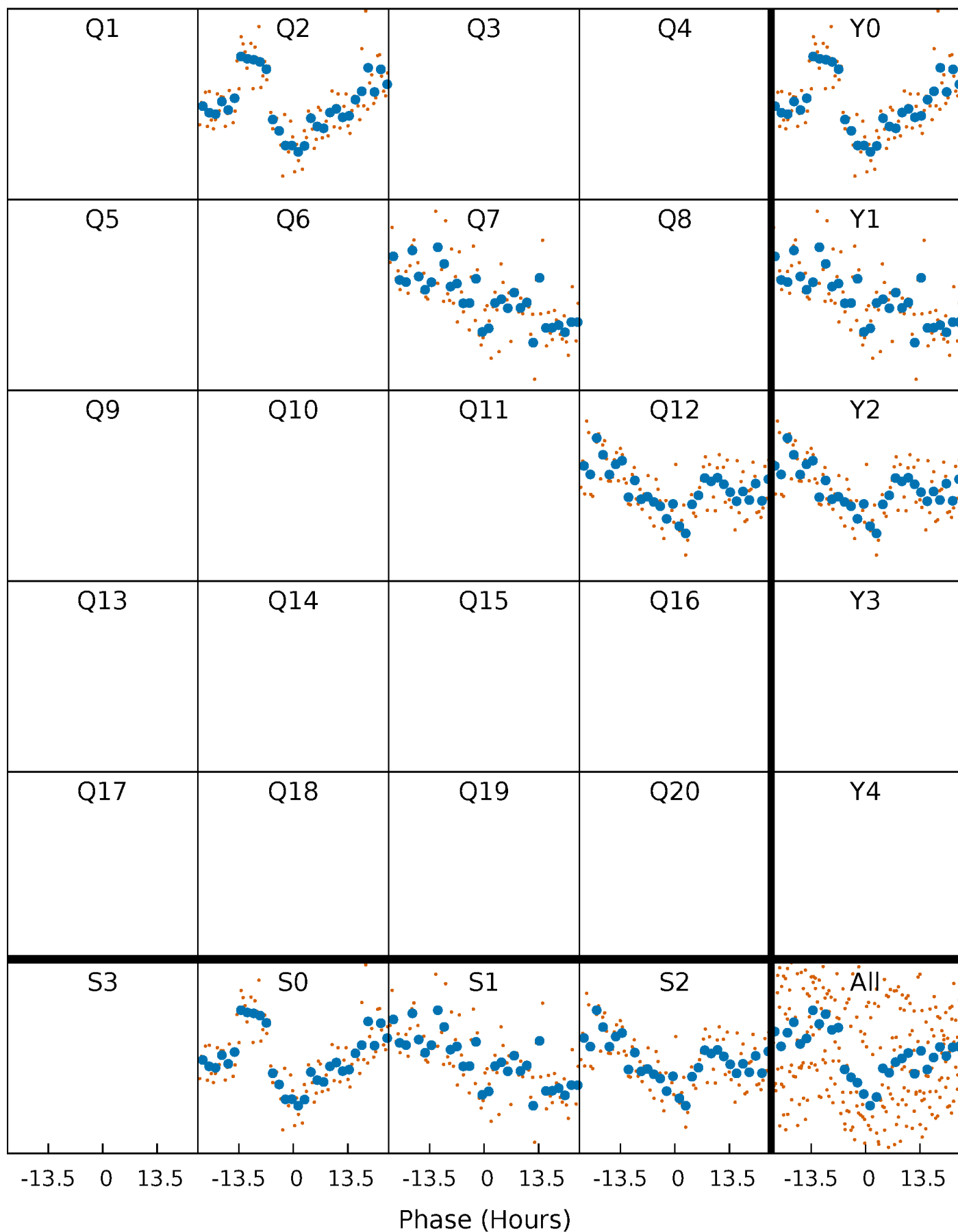


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



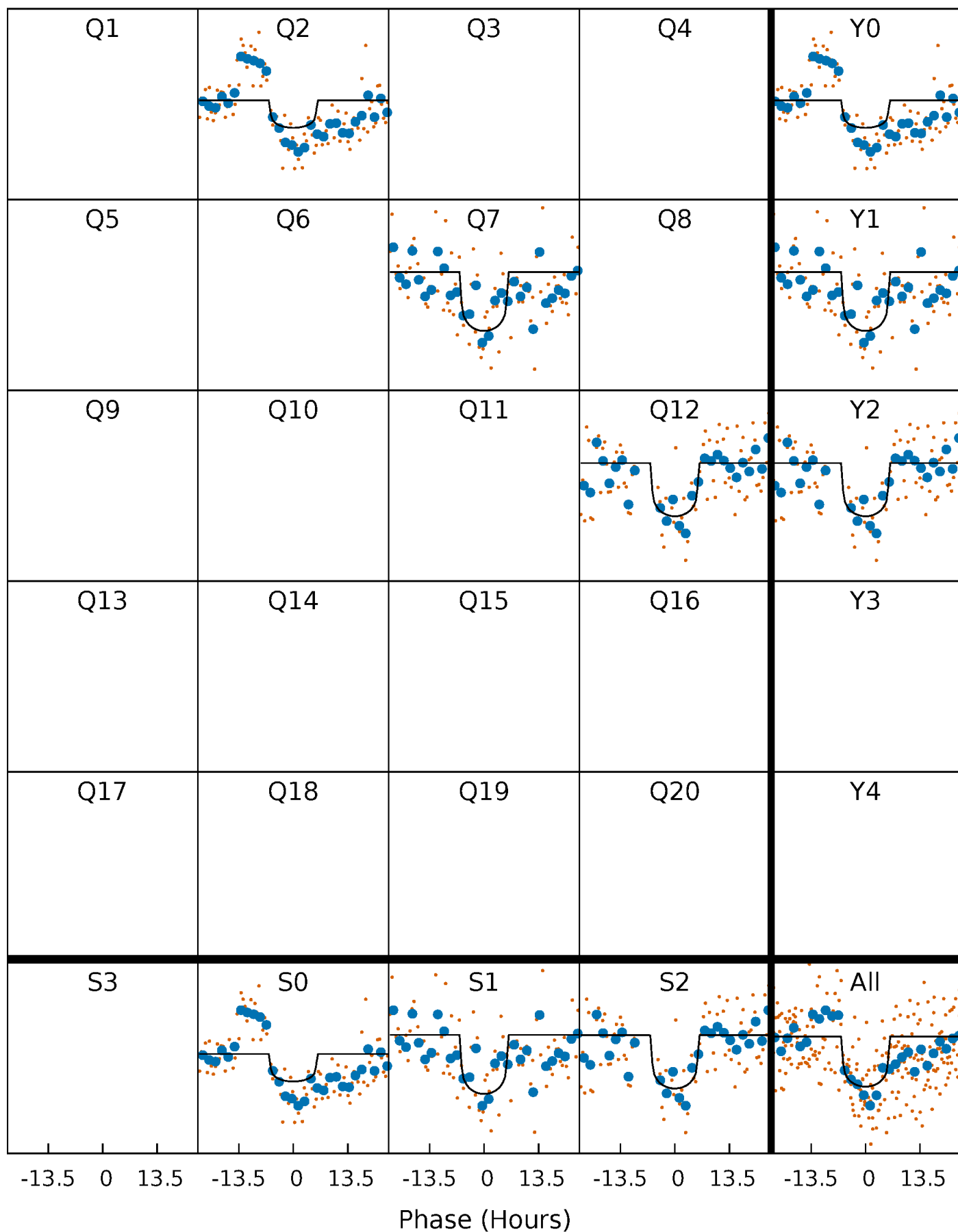
PDC Quarter-Phased Transit Curves

TCE 008618120-01 P=503.544827 Days $T_0=172.061374$ (BKJD)



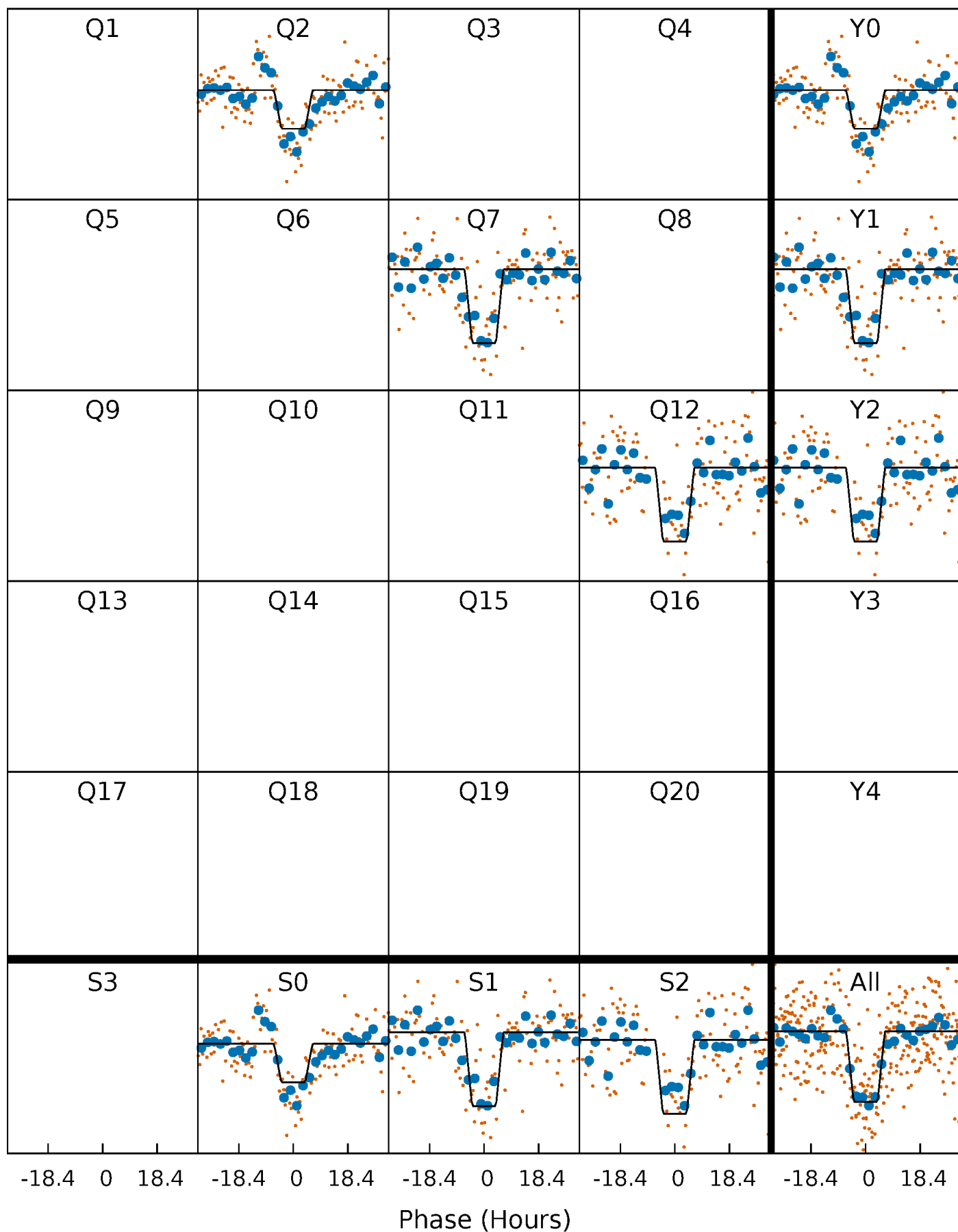
DV Quarter-Phased Transit Curves

TCE 008618120-01 P=503.544827 Days $T_0=172.061374$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

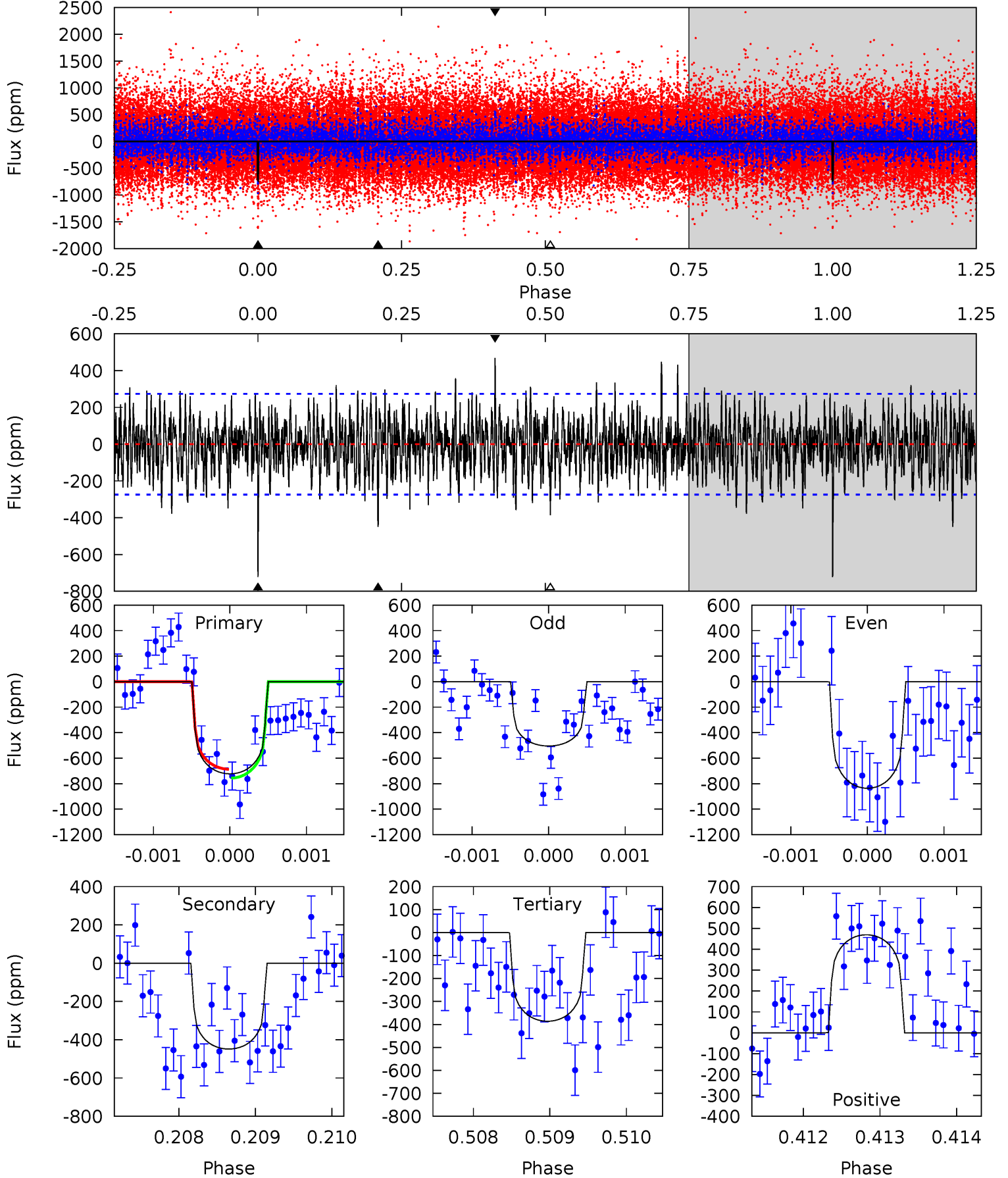
TCE 008618120-01 P=503.544219 Days $T_0=172.043457$ (BKJD)



DV Model-Shift Uniqueness Test

008618120-01, P = 503.544827 Days, E = 172.061374 Days

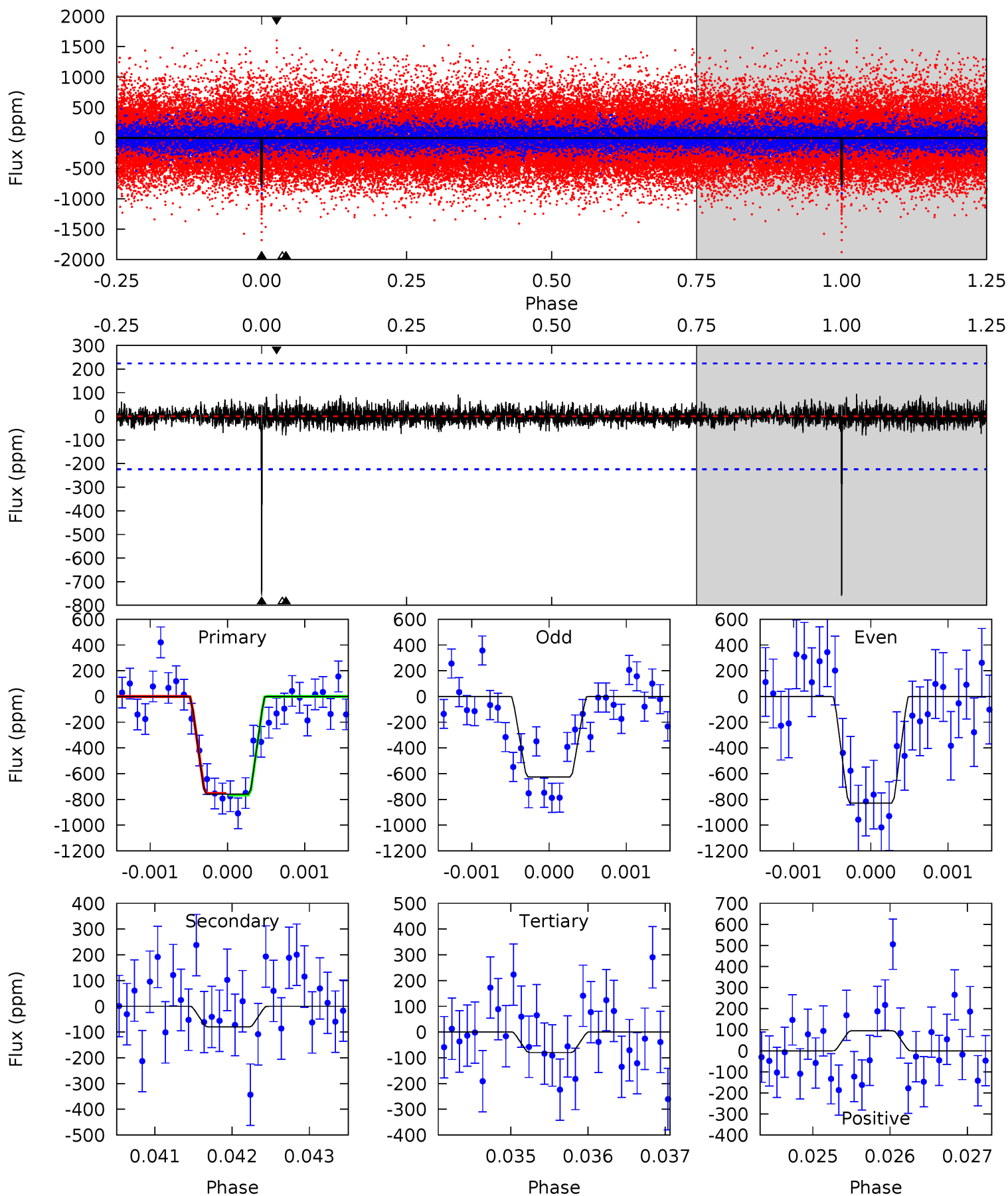
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	8.93	7.68	9.34	5.45	3.29	2.33	6.70	5.04	1.24	-0.41	3.11	1.11	0.39	0.70



Alt Model-Shift Uniqueness Test

008618120-01, P = 503.544219 Days, E = 172.043457 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	1.94	1.93	2.30	5.43	3.26	0.52	16.5	16.1	0.01	-0.36	2.38	1.20	0.11	0.16



Stellar Parameters For KIC 008618120

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6058^{+180}_{-198}	$4.441^{+0.070}_{-0.210}$	$-0.140^{+0.300}_{-0.300}$	$1.003^{+0.330}_{-0.110}$	$1.011^{+0.153}_{-0.126}$	$1.410^{+0.514}_{-0.761}$
	+3%/-3%	+2%/-5%	+214%/-214%	+33%/-11%	+15%/-12%	+36%/-54%
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 008618120-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-449 ± 50	$4.16^{+3.81}_{-2.78}$	341^{+26}_{-17}	4779^{+3434}_{-1062}	$21814^{+176167}_{-16136}$
Alt.	-80 ± 41	$4.73^{+4.31}_{-2.93}$	341^{+26}_{-18}	3289^{+1376}_{-591}	2588^{+17480}_{-1971}

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

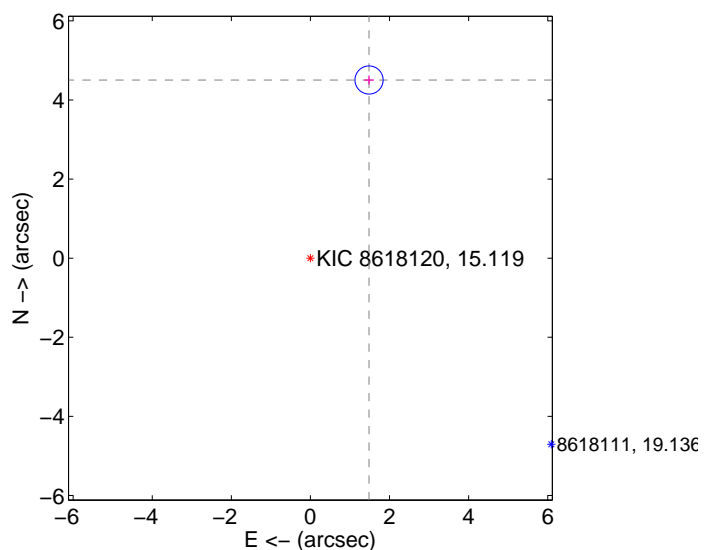
Supplemental centroid analysis for 008618120-01. Kepler magnitude: 15.12. Transit SNR 7.38

There are 0 quarters with good PRF difference image offsets

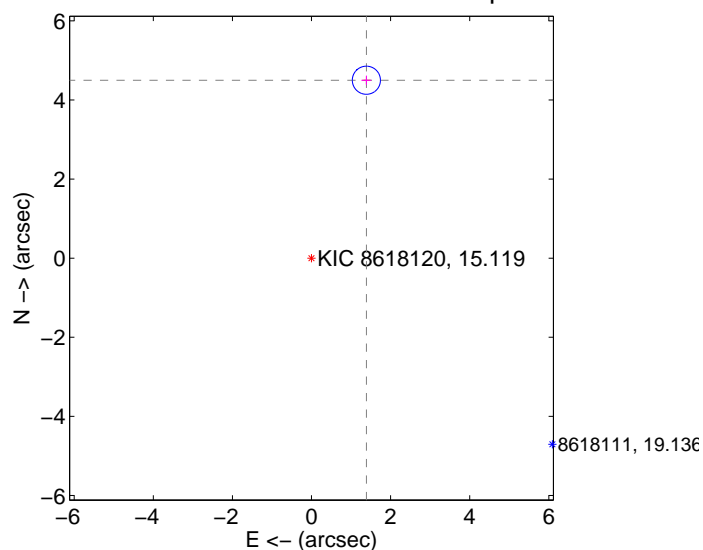
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.742 ± 0.119	40.00	-1.482 ± 0.126	4.505 ± 0.118
PRF-fit source offset from KIC position	4.708 ± 0.118	39.74	-1.387 ± 0.126	4.499 ± 0.118
photometric centroid source offset	0.56 ± 1.19	0.47	0.01 ± 1.22	0.56 ± 1.19

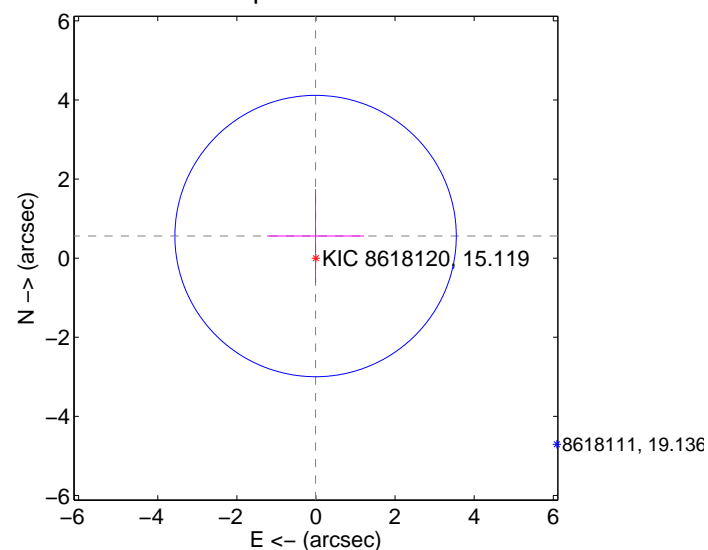
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

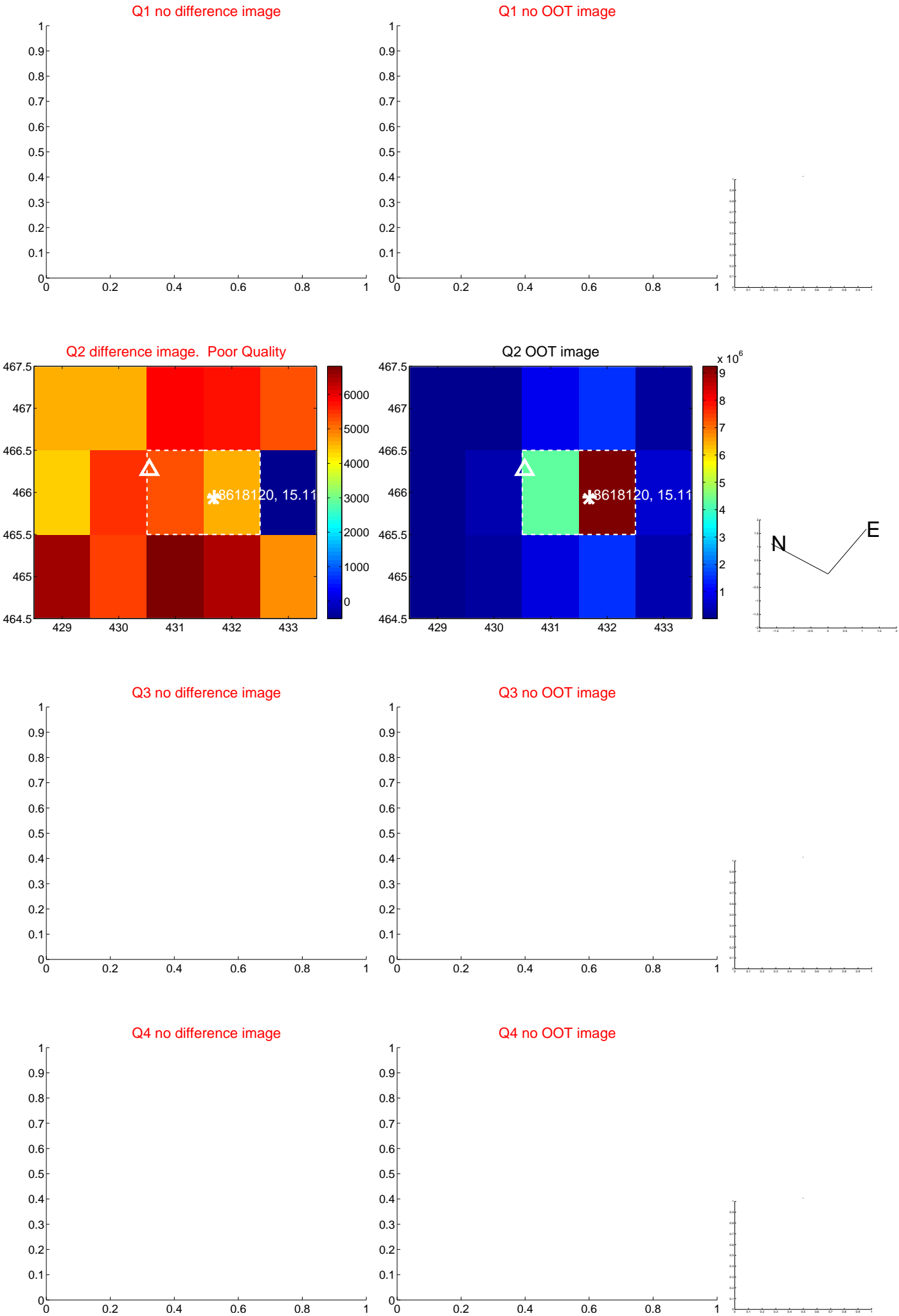


offset from photometric centroids

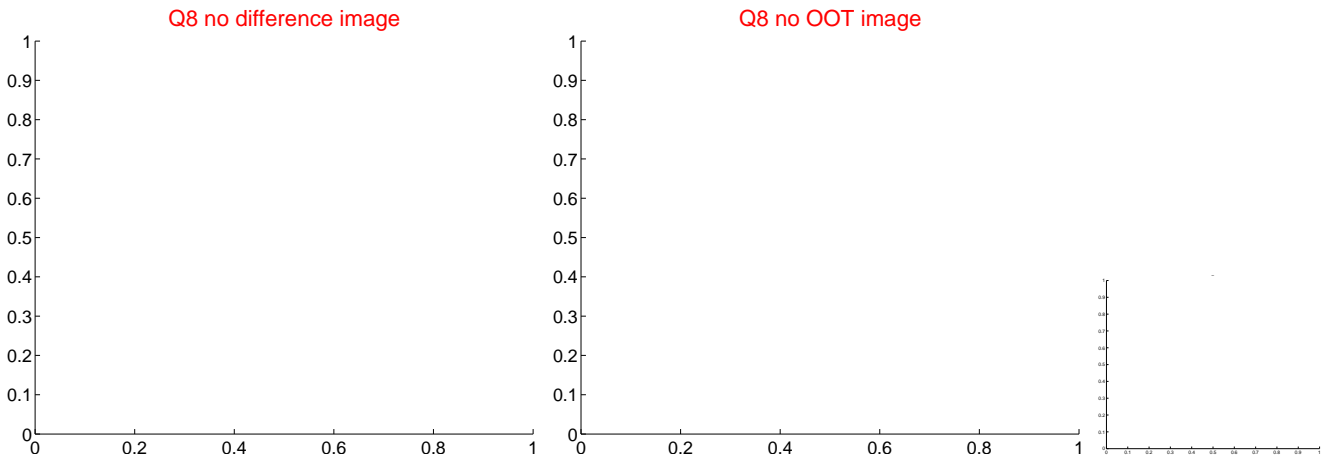
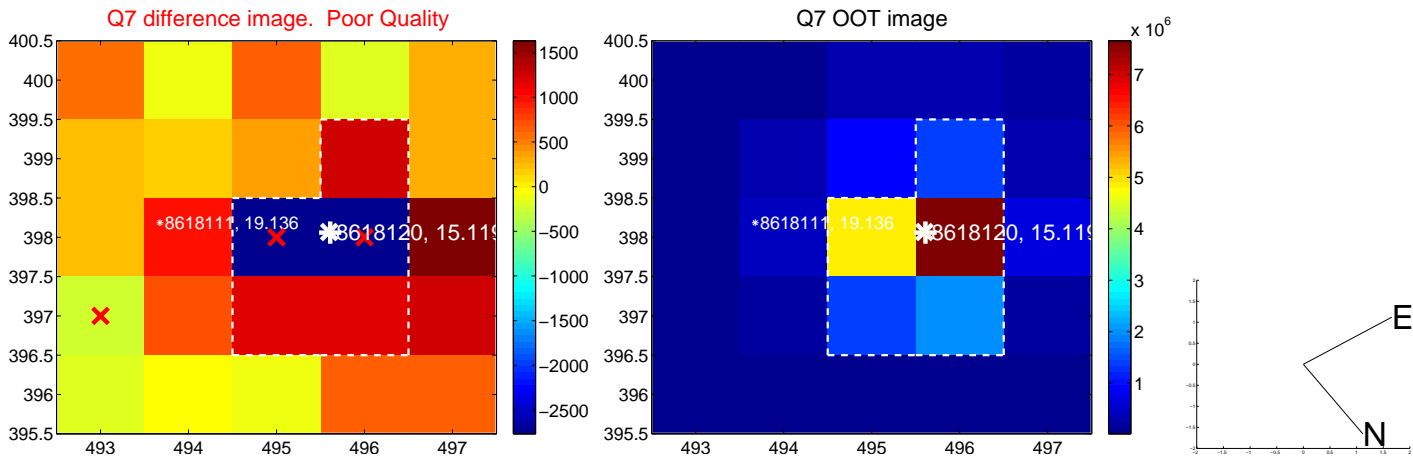
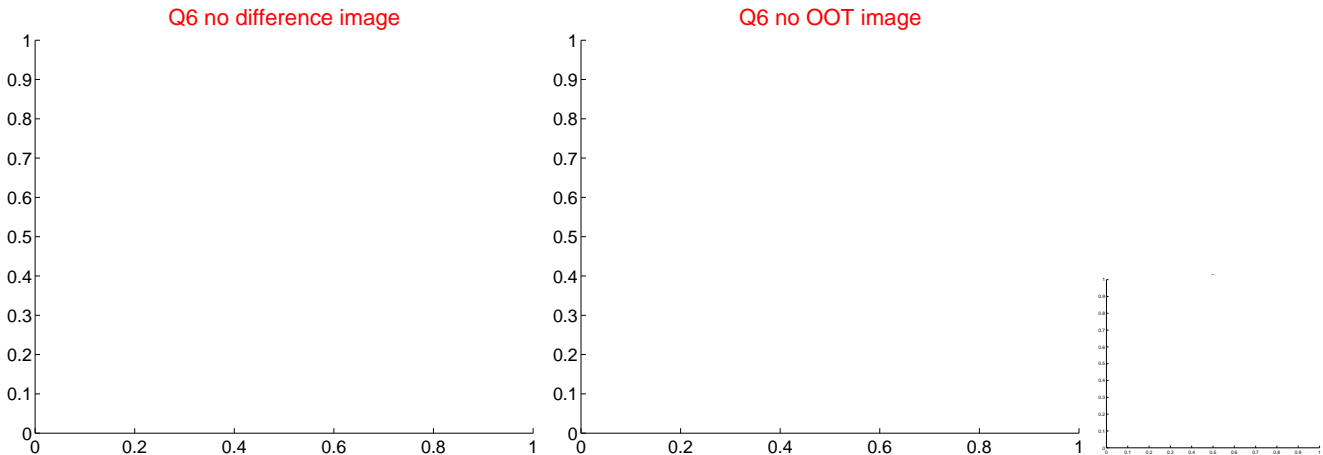
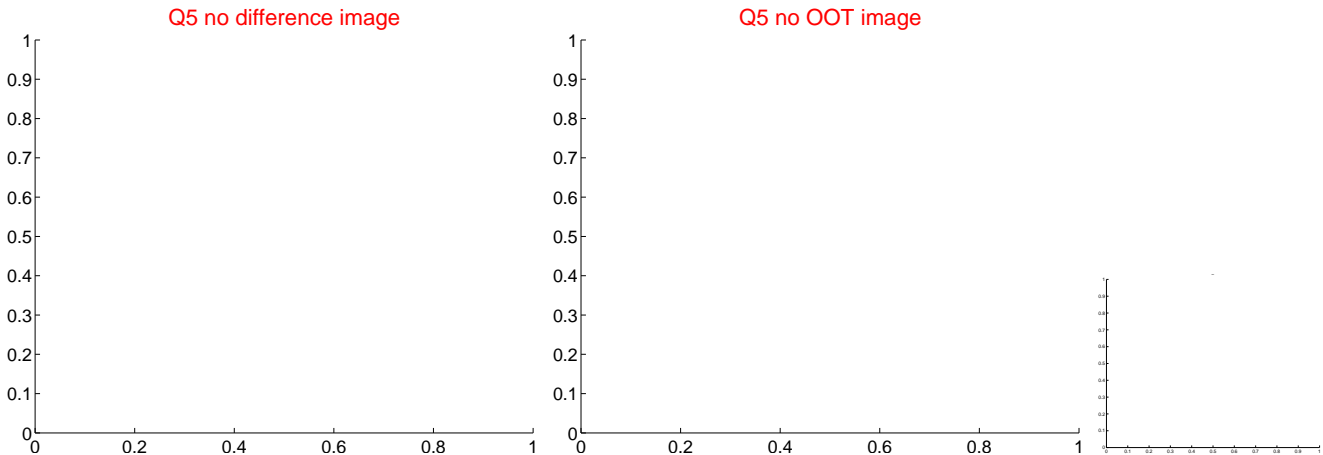


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



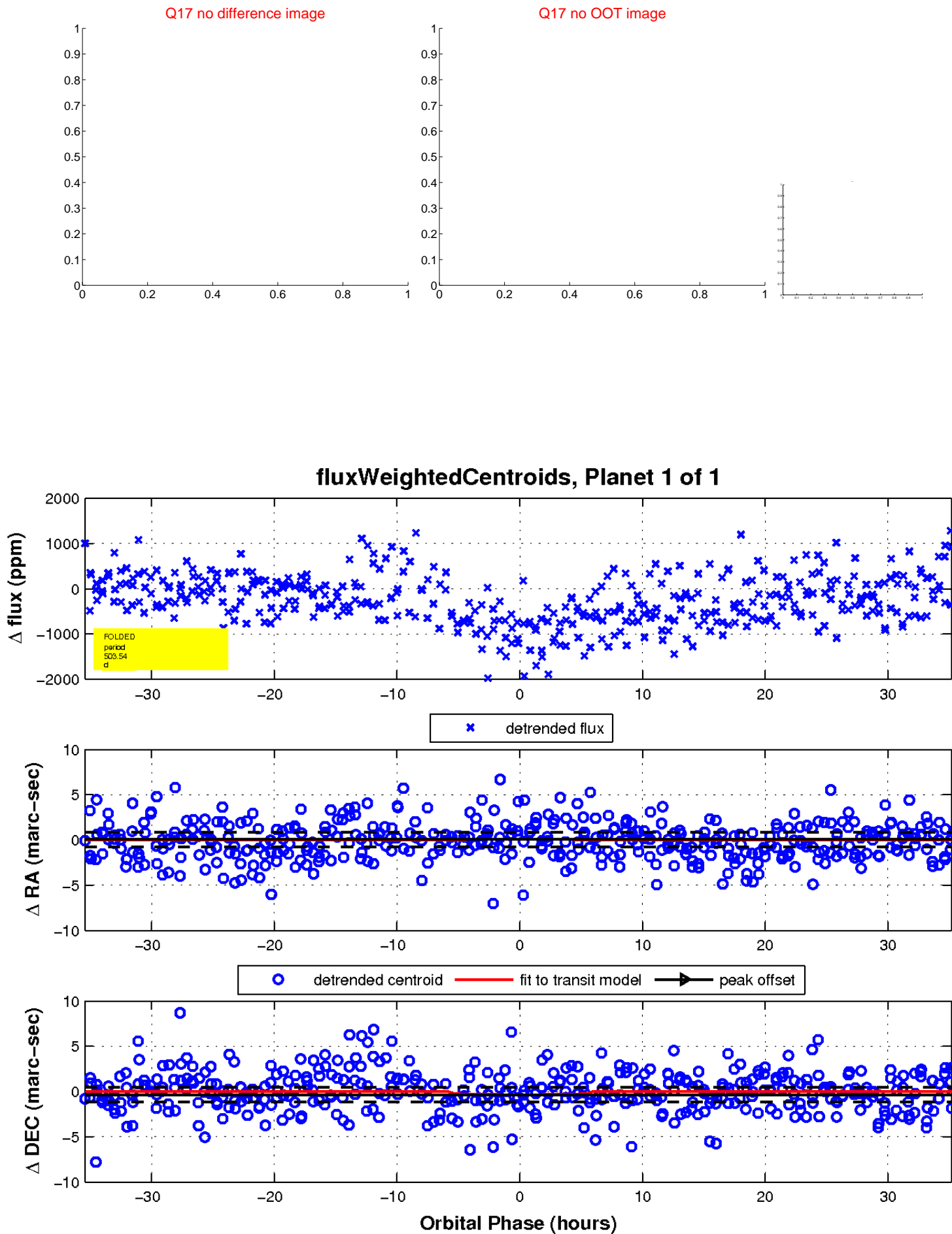
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

