

KIC 003540952

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})
003540952-01	OBS	No	462.038020	360.946266	2491.2	16.029	10.8	4.2	1.67	7055	9.62	3.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003540952-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS

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

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

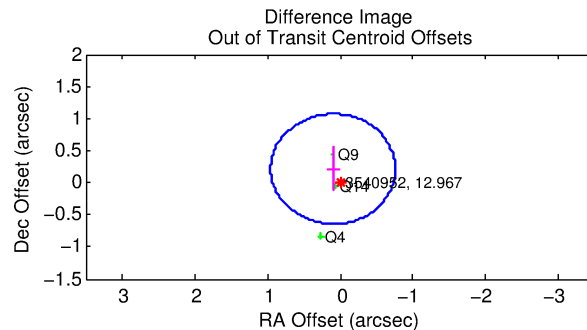
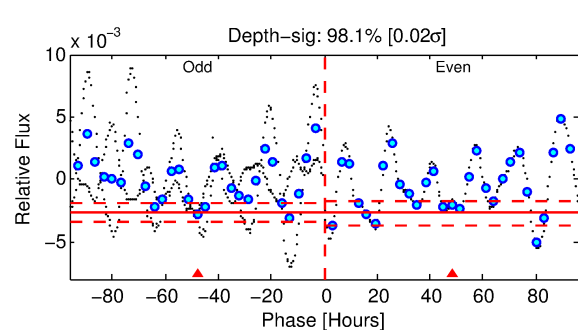
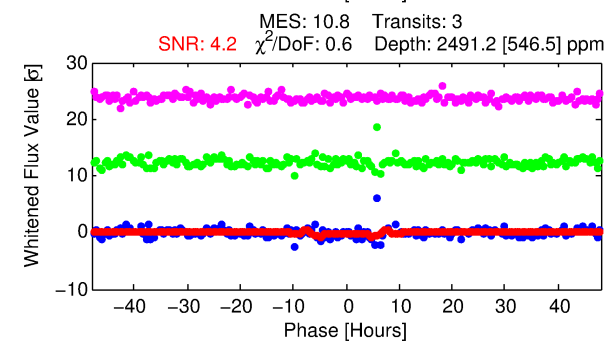
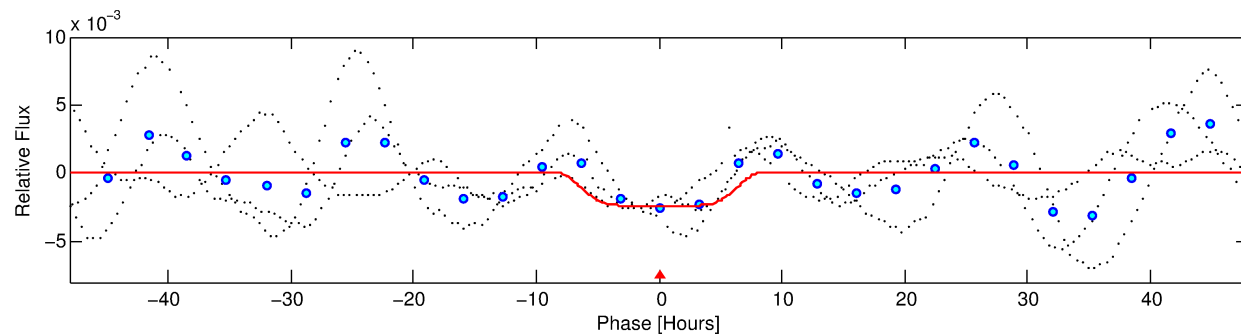
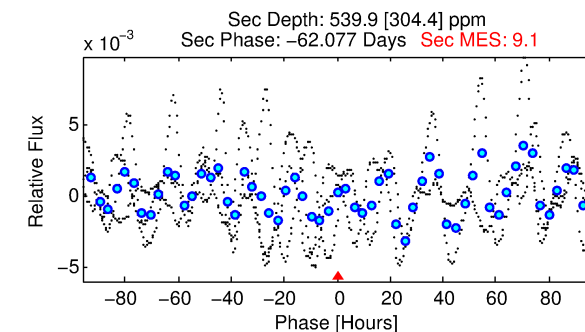
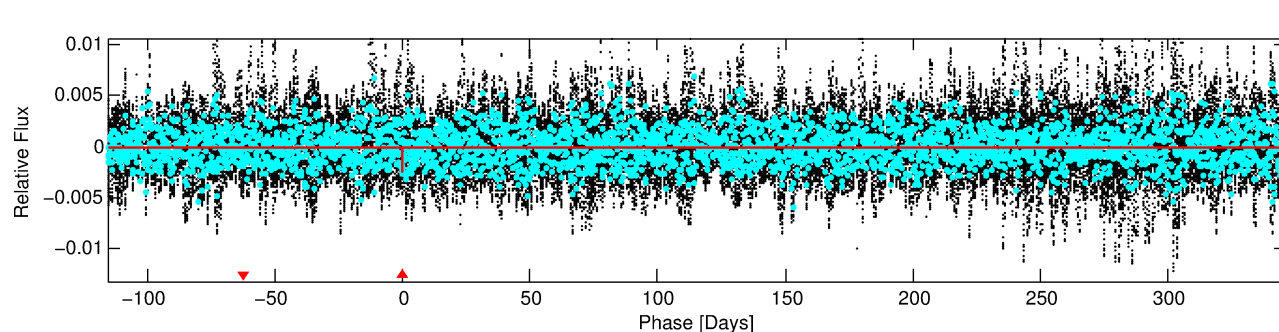
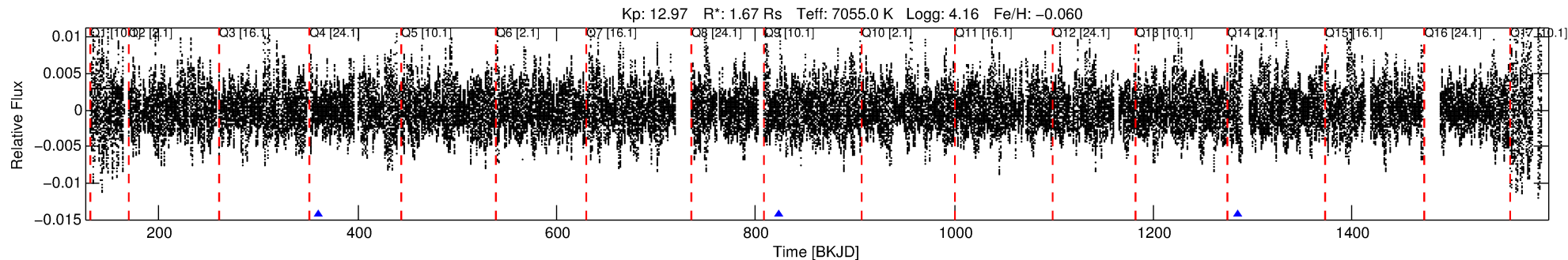
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003540952-01

No Significant Match Found

DV One-Page Summary

KIC: 3540952 Candidate: 1 of 1 Period: 462.038 d



DV Fit Results:

Period = 462.03802 [0.00905] d
Epoch = 360.9463 [0.0106] BKJD
Rp/R* = 0.0529 [0.0056]
a/R* = 123.43 [6.89]
b = 0.89 [0.01]
Seff = 3.52 [1.40]
Teq = 349 [35] K
Rp = 9.62 [3.15] Re
a = 1.3252 [0.3359] AU
Ag = 5631.29 [3952.56] [1.42σ]
Teff = 4677 [731] K [5.91σ]

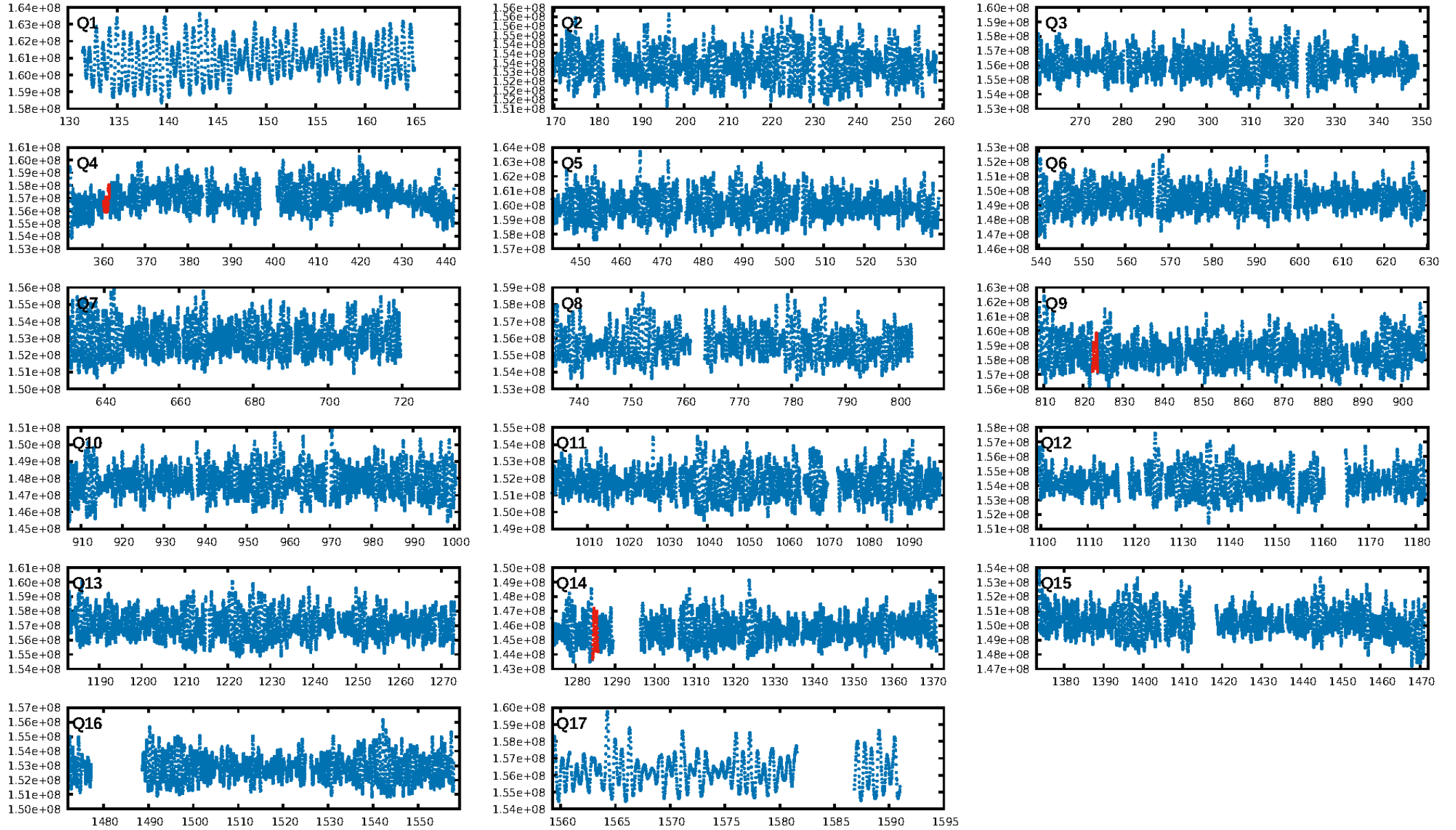
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 83.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.54e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.091
Centroid-sig: 17.3%
Centroid-so: 0.151 arcsec [1.32σ]
OotOffset-rm: 0.236 arcsec [0.82σ]
KicOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

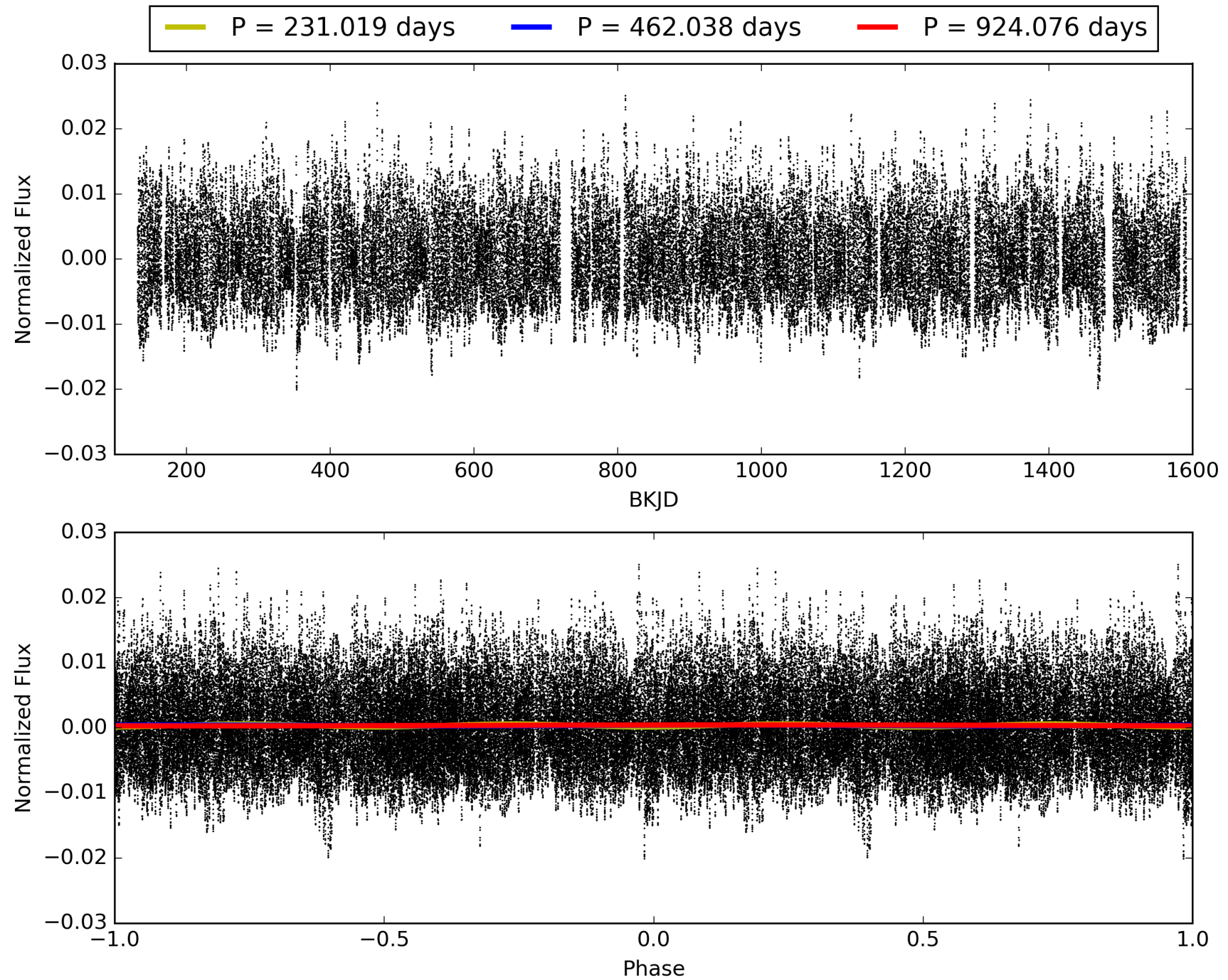
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:44:35 Z

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

TCE 003540952-01, PDC Light Curves

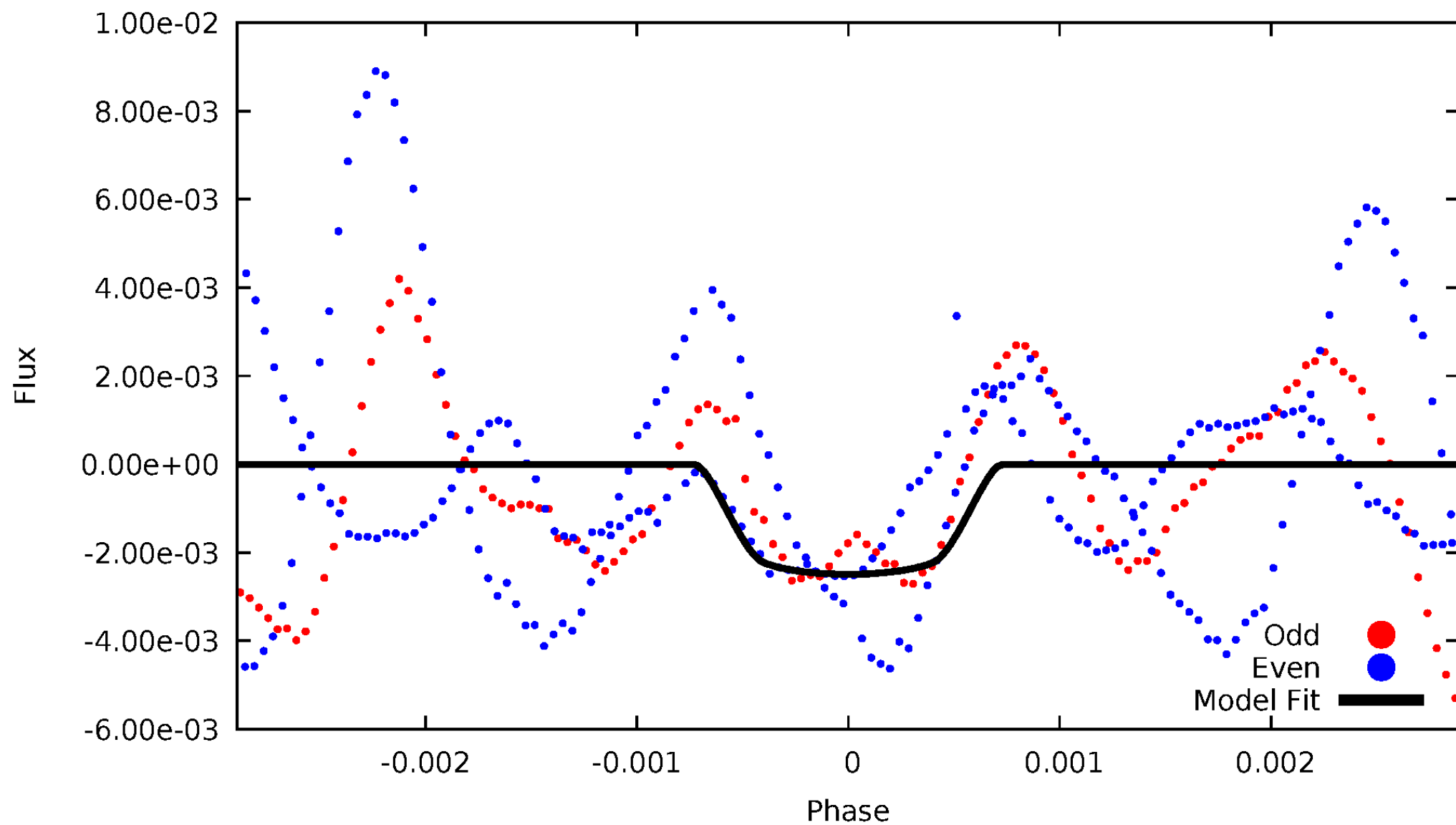


TCE 003540952-01



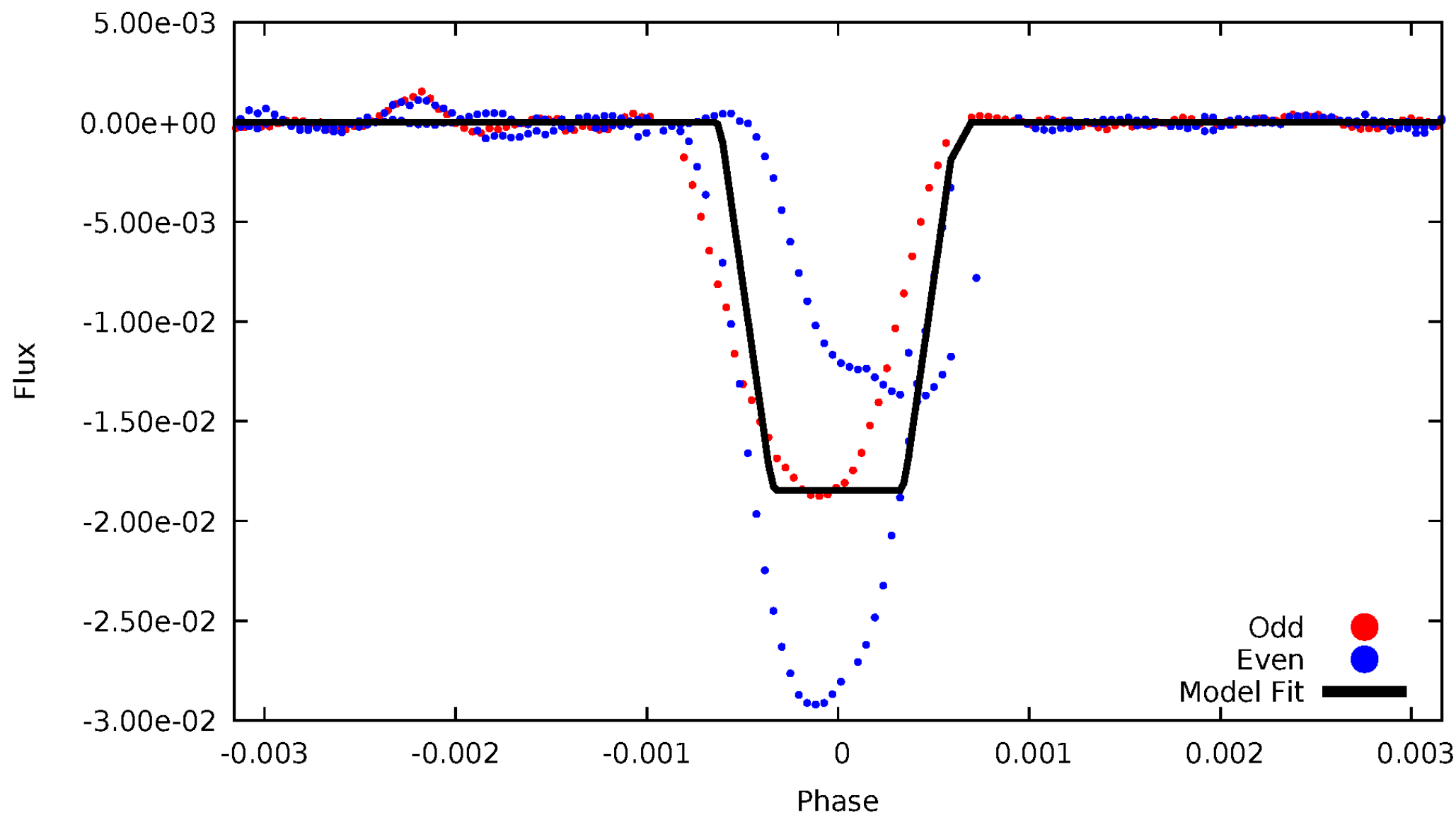
DV Odd/Even

TCE 003540952-01



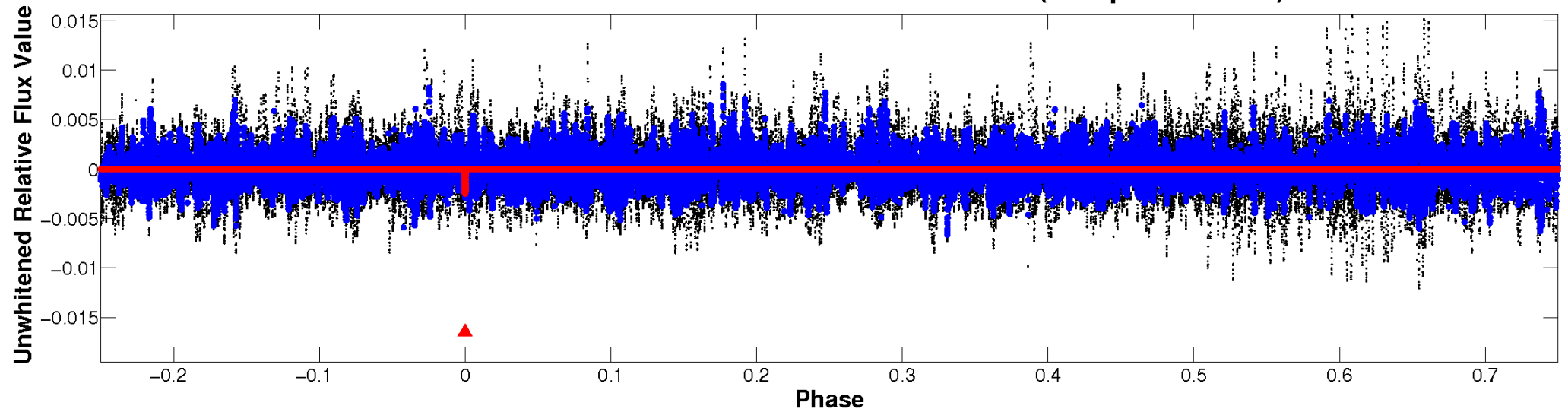
ALT Odd/Even

TCE 003540952-01

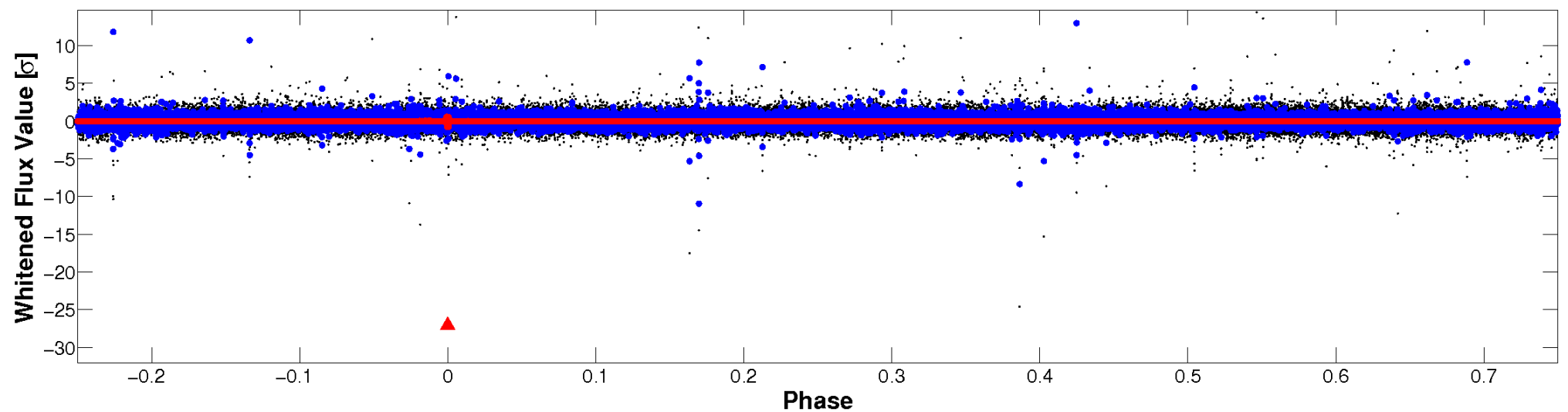


Non-Whitened Vs. Whitened Light Curve

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

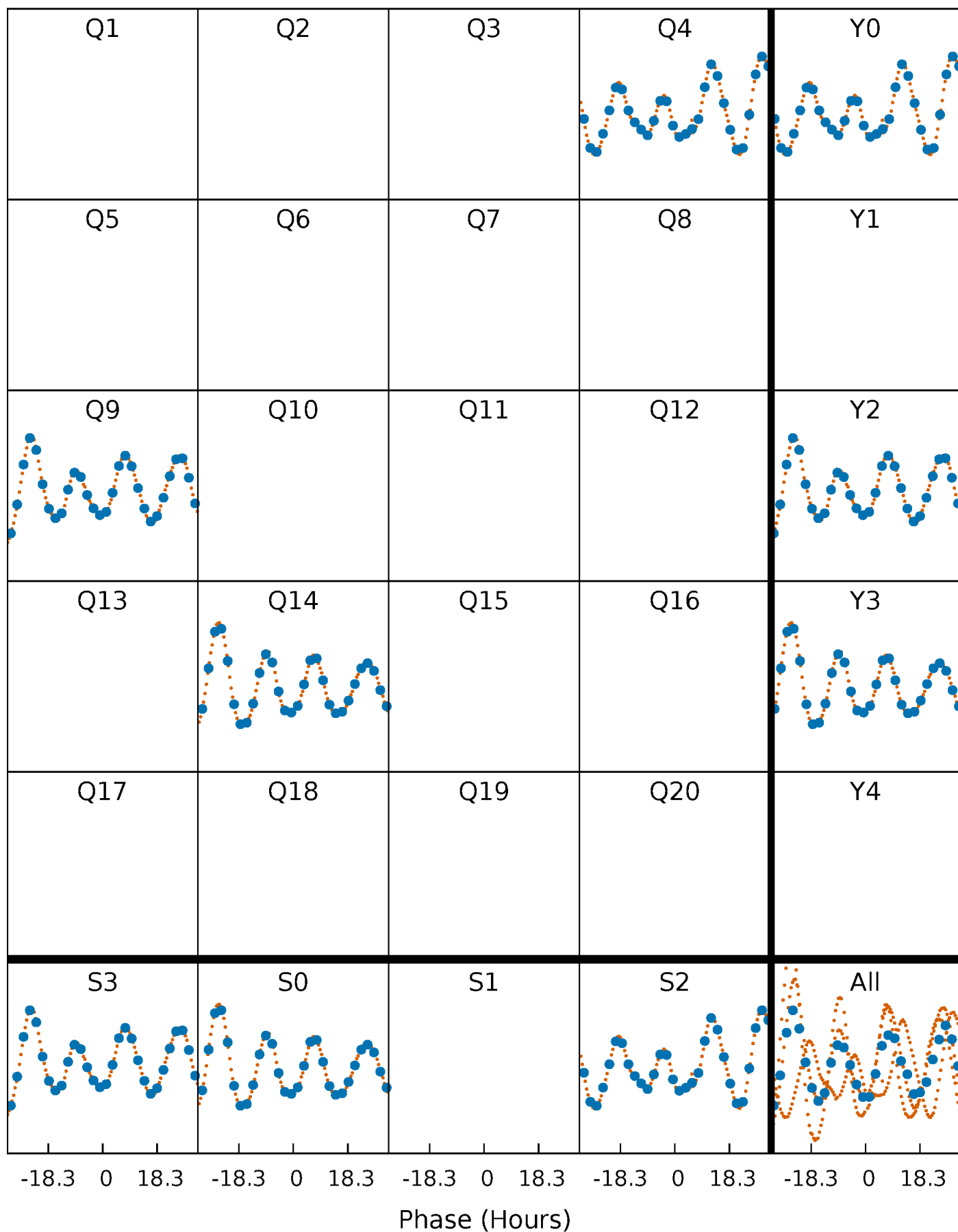


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 003540952-01 P=462.038020 Days $T_0=360.946266$ (BKJD)



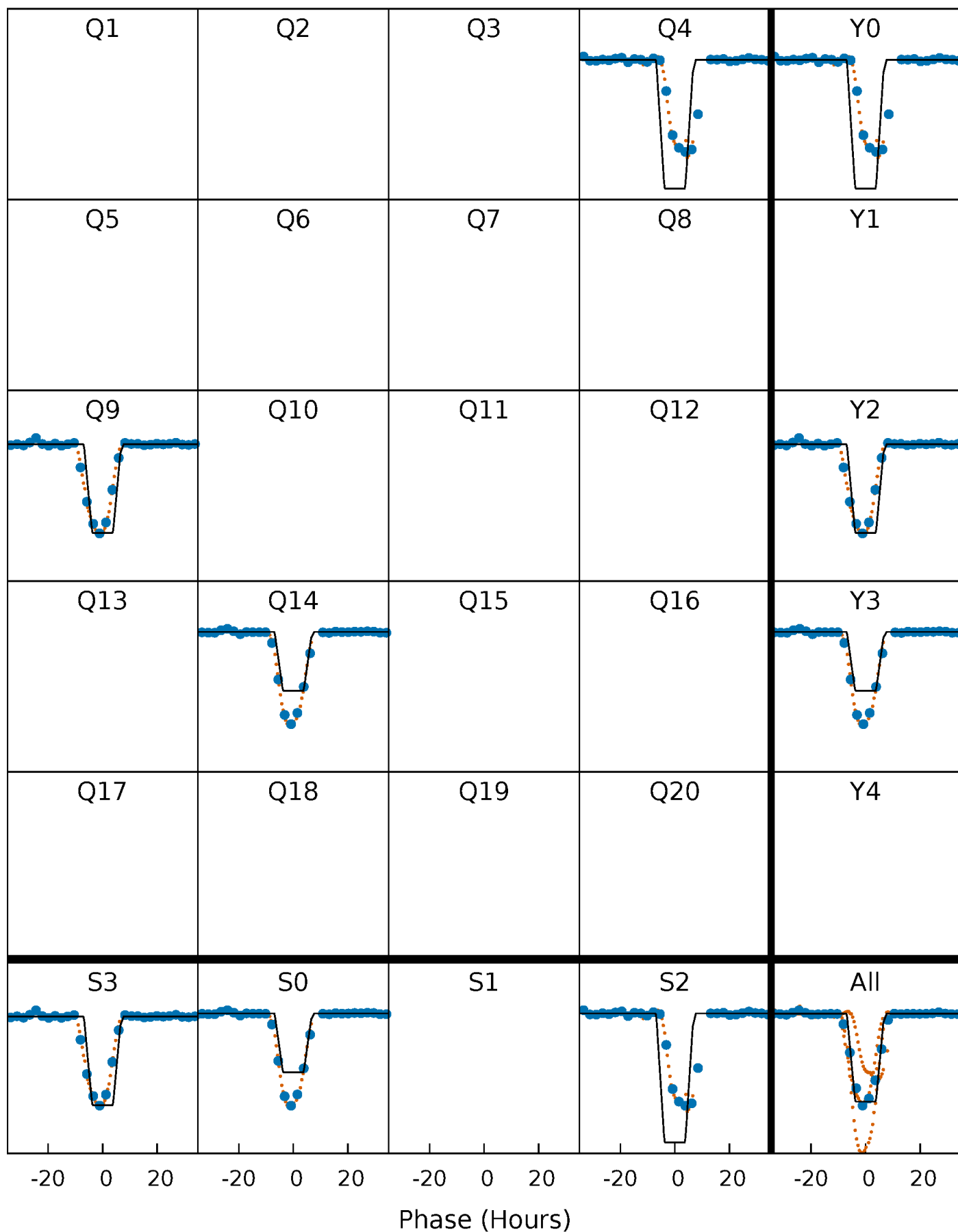
DV Quarter-Phased Transit Curves

TCE 003540952-01 P=462.038020 Days $T_0=360.946266$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

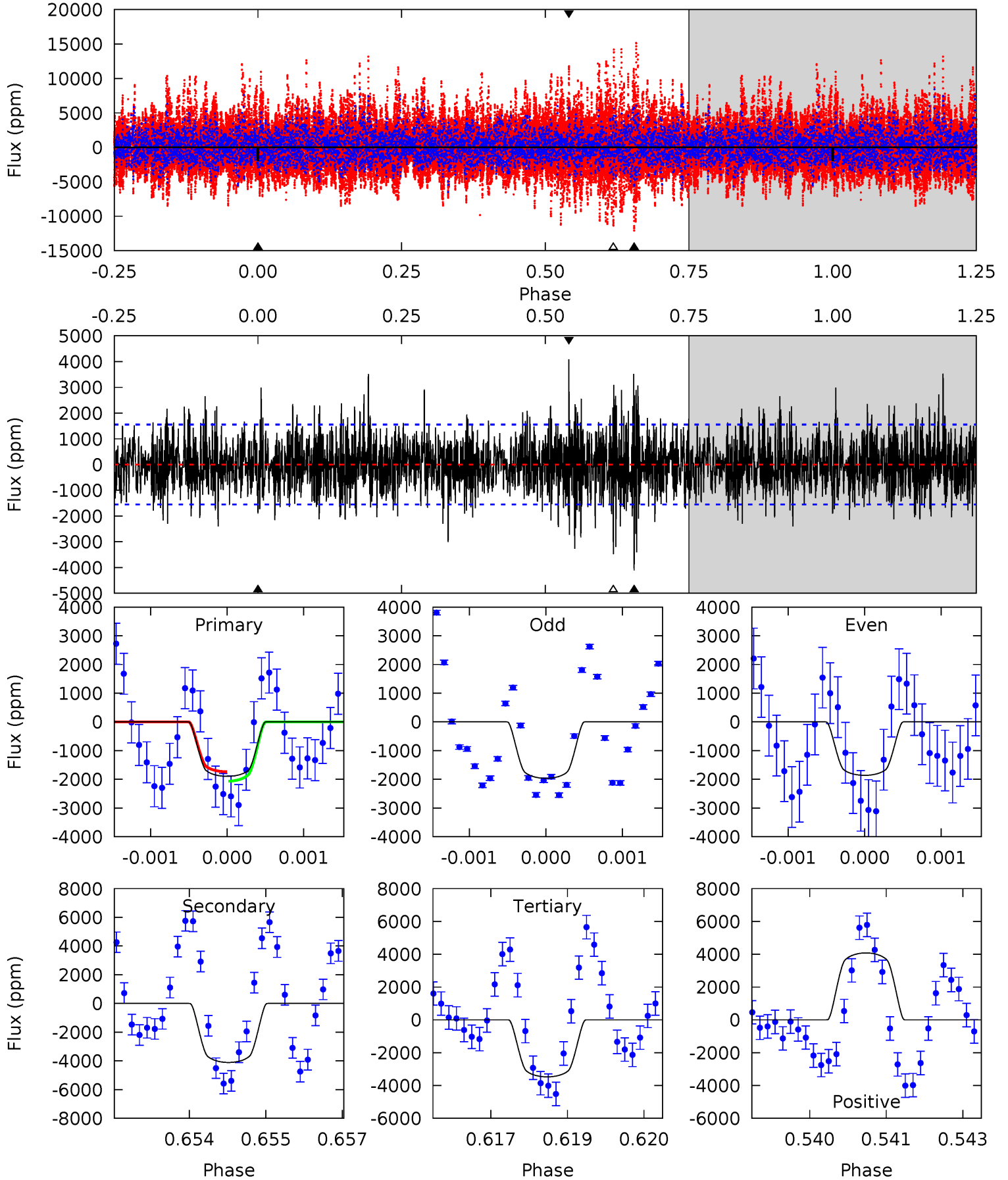
TCE 003540952-01 P=461.995980 Days $T_0=361.012183$ (BKJD)



DV Model-Shift Uniqueness Test

003540952-01, P = 462.038020 Days, E = 360.946266 Days

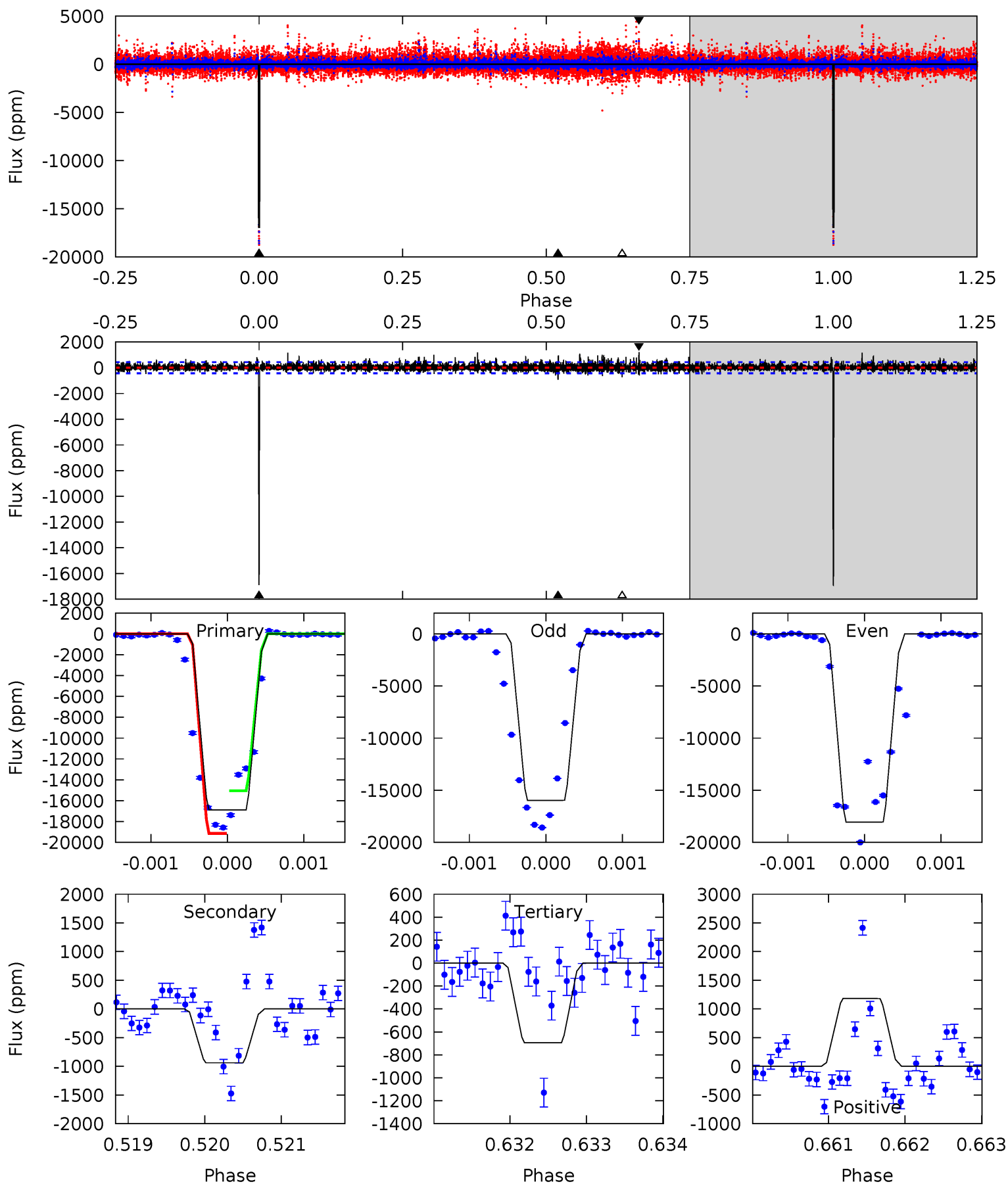
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.59	14.3	12.1	14.2	5.38	3.18	2.94	-5.48	-7.59	2.21	0.10	0.17	0.97	0.50	0.57



Alt Model-Shift Uniqueness Test

003540952-01, P = 461.995980 Days, E = 361.012183 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
211.6	11.8	8.70	14.8	5.40	3.21	2.47	202.9	196.8	3.06	-3.03	9.22	1.09	0.07	25.8



Stellar Parameters For KIC 003540952

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7055^{+172}_{-296}	$4.156^{+0.128}_{-0.192}$	$-0.060^{+0.250}_{-0.350}$	$1.668^{+0.516}_{-0.344}$	$1.457^{+0.220}_{-0.242}$	$0.442^{+0.286}_{-0.236}$
	+2%/-4%	+3%/-5%	+417%/-583%	+31%/-21%	+15%/-17%	+65%/-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 003540952-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4111 ± 288	$9.73^{+1.79}_{-1.48}$	490^{+35}_{-31}	7866^{+694}_{-522}	41518^{+16406}_{-11871}
Alt.	-939 ± 80	$25.35^{+3.71}_{-3.19}$	492^{+36}_{-34}	3725^{+104}_{-109}	1401^{+431}_{-330}

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 $A_{obs} \gg 1.0$

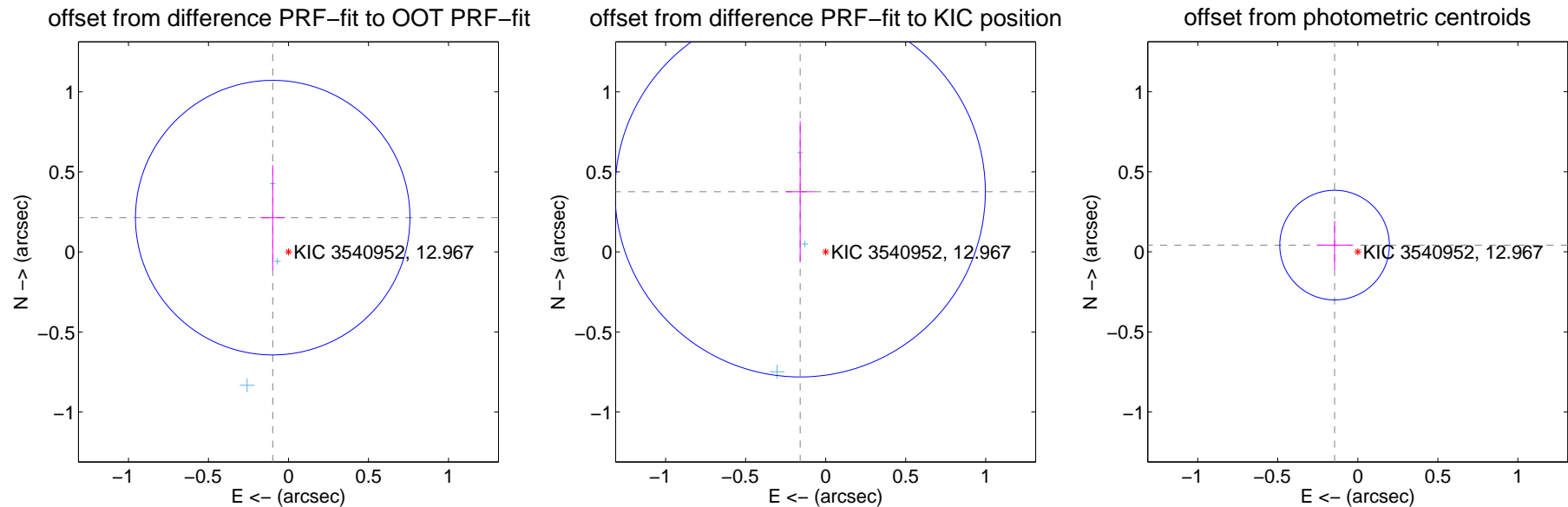
DV Centroid Data

Supplemental centroid analysis for 003540952-01. Kepler magnitude: 12.97. Transit SNR 4.19

There are 3 quarters with good PRF difference image offsets

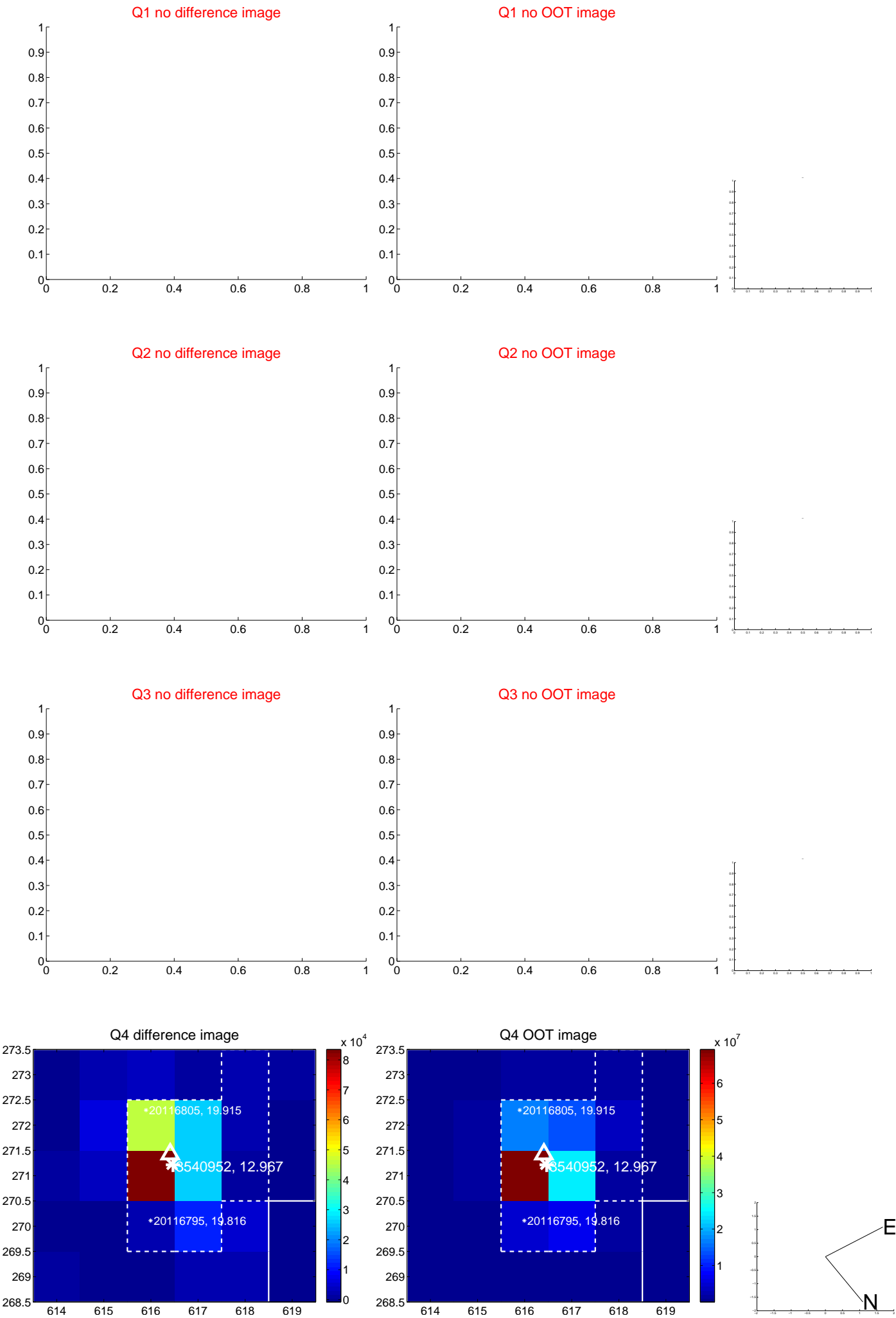
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.236 ± 0.286	0.82	0.099 ± 0.077	0.214 ± 0.328
PRF-fit source offset from KIC position	0.408 ± 0.386	1.06	0.159 ± 0.088	0.376 ± 0.440
photometric centroid source offset	0.15 ± 0.11	1.32	0.15 ± 0.11	0.04 ± 0.15



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.

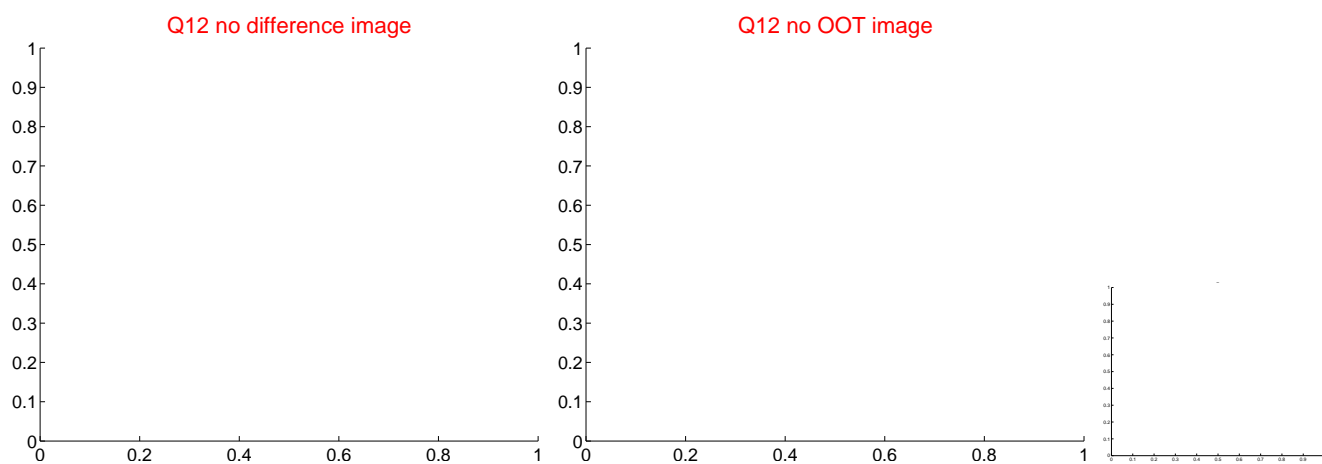
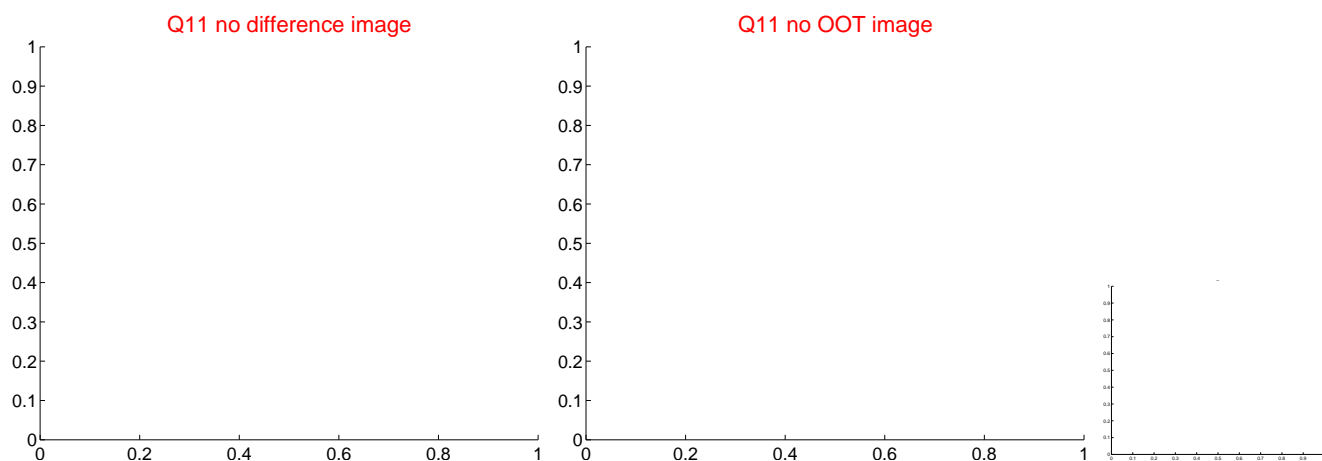
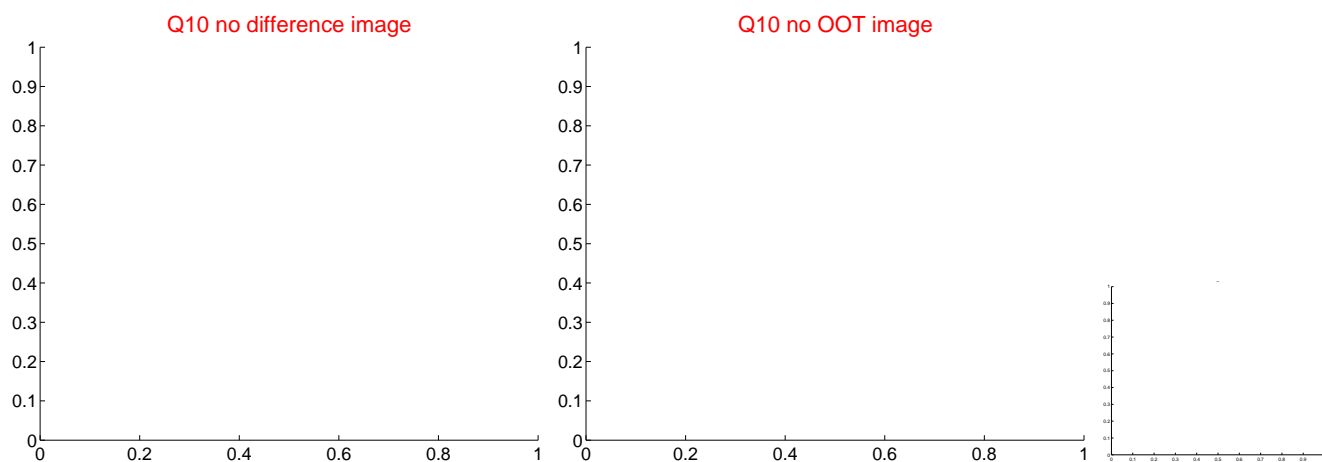
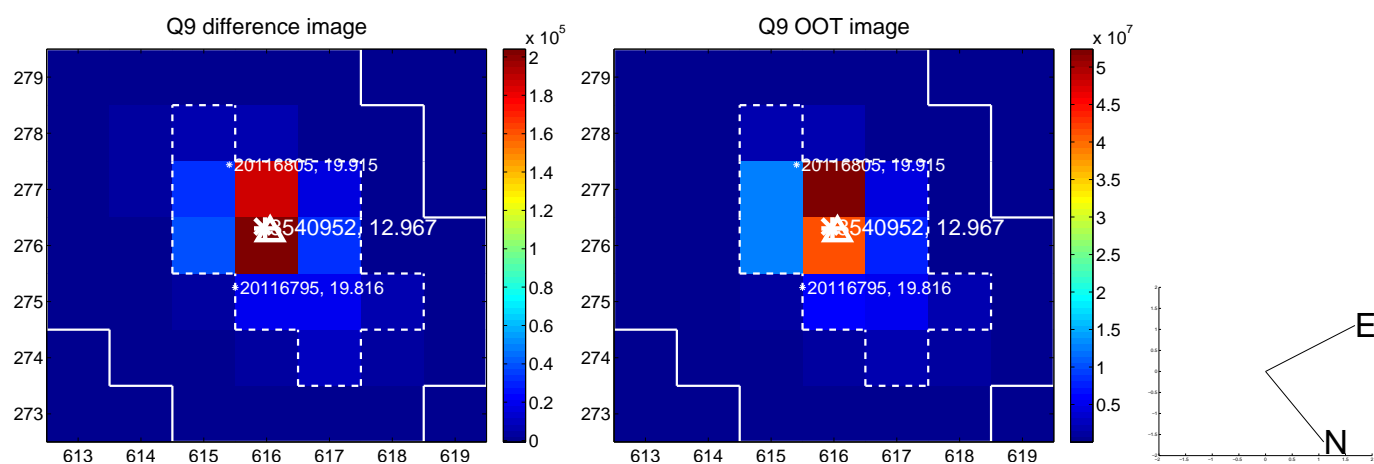
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



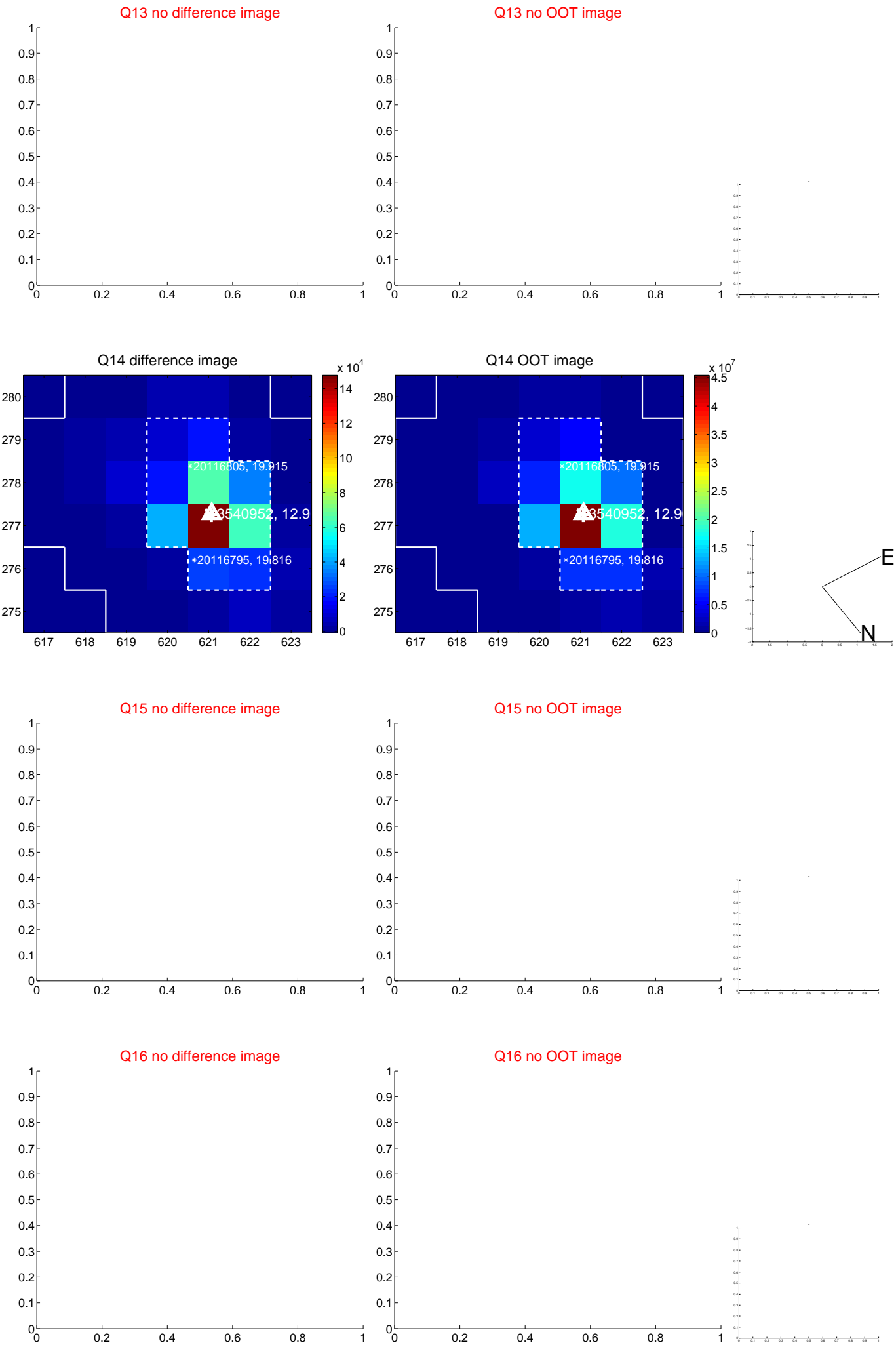
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



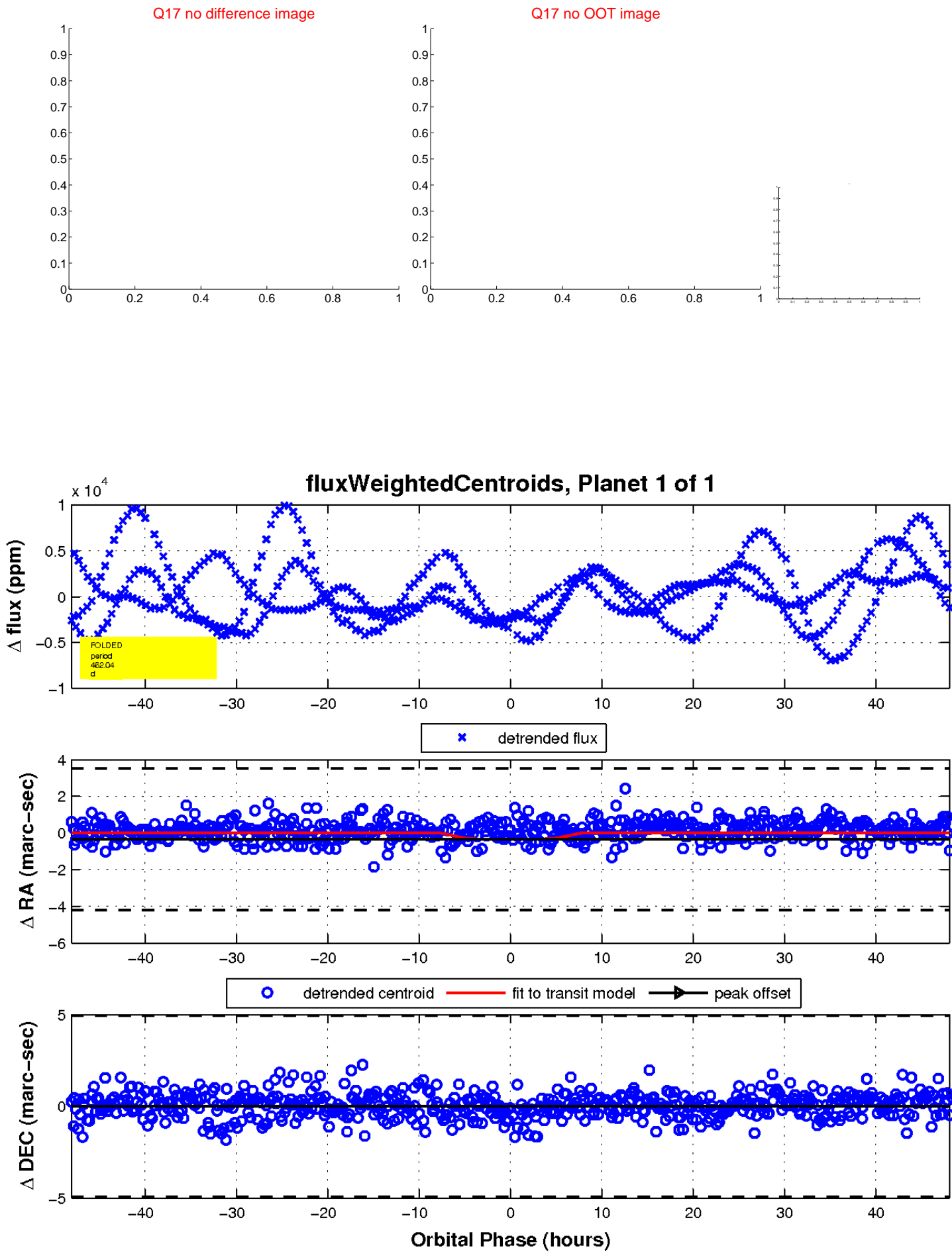
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

