

KIC 009075982

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})
009075982-01	OBS	No	551.524443	236.478595	515.8	4.763	7.4	7.7	0.51	3997	1.29	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009075982-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—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.

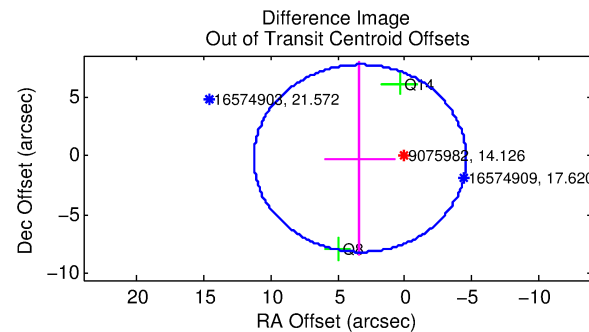
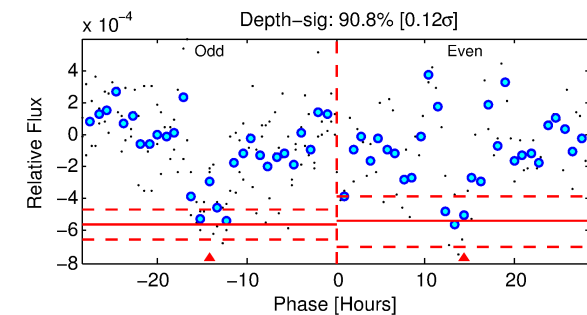
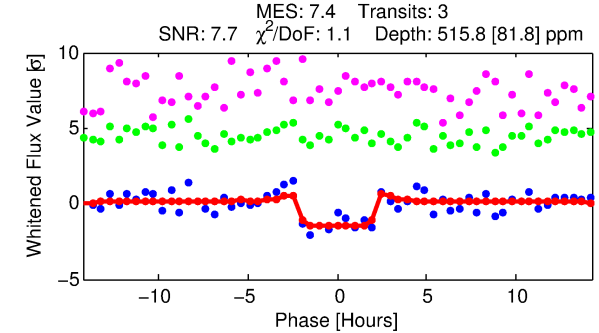
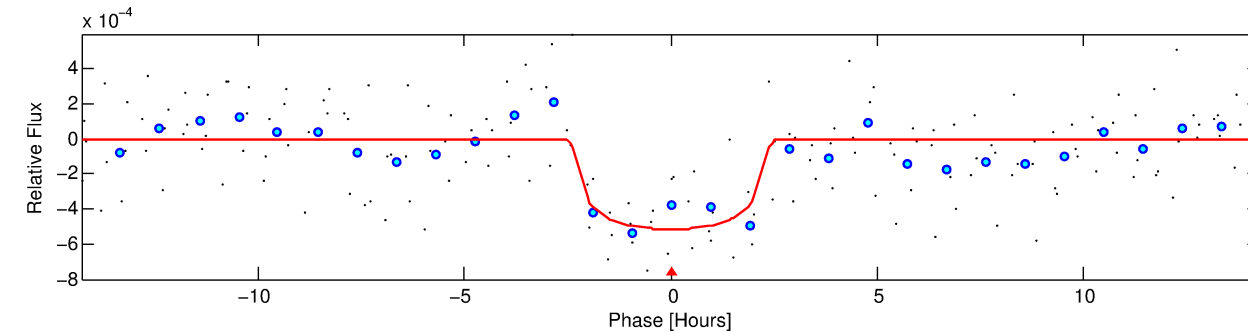
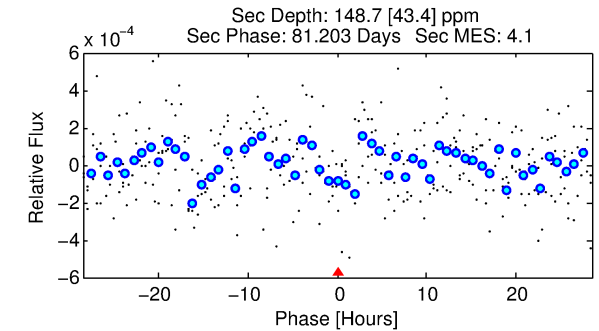
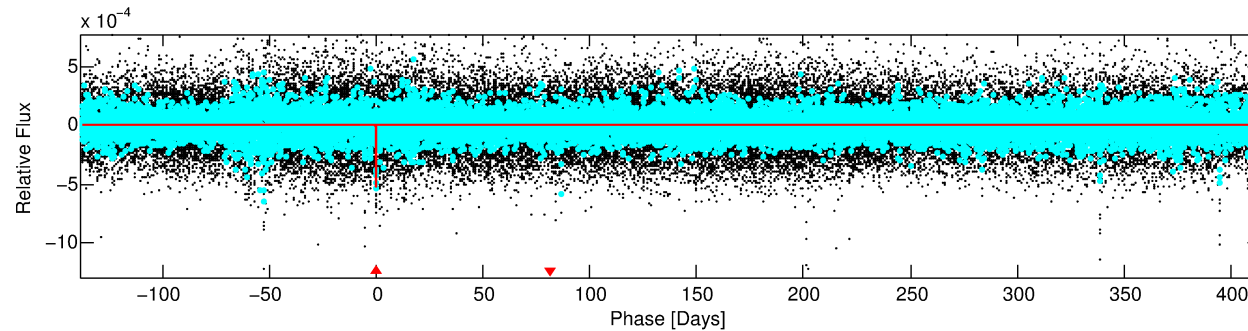
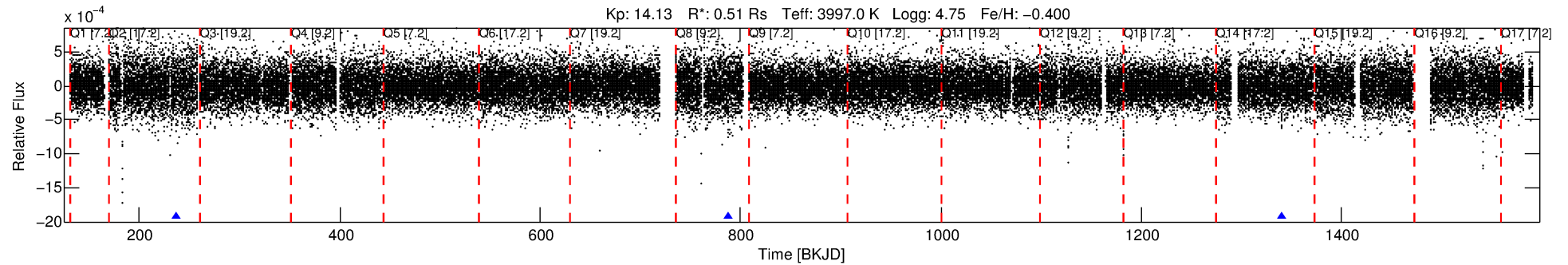
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009075982-01

No Significant Match Found

DV One-Page Summary

KIC: 9075982 Candidate: 1 of 1 Period: 551.524 d



DV Fit Results:

Period = 551.52444 [0.00716] d
Epoch = 236.4786 [0.0100] BKJD
Rp/R* = 0.0233 [0.0066]
a/R* = 533.84 [666.67]
b = 0.83 [0.48]
Seff = 0.05 [0.01]
Teq = 121 [5] K
Rp = 1.29 [0.39] Re
a = 1.0648 [0.0931] AU
Ag = 56056.60 [36056.06] [1.55σ]
Teffp = 2889 [465] K [5.95σ]

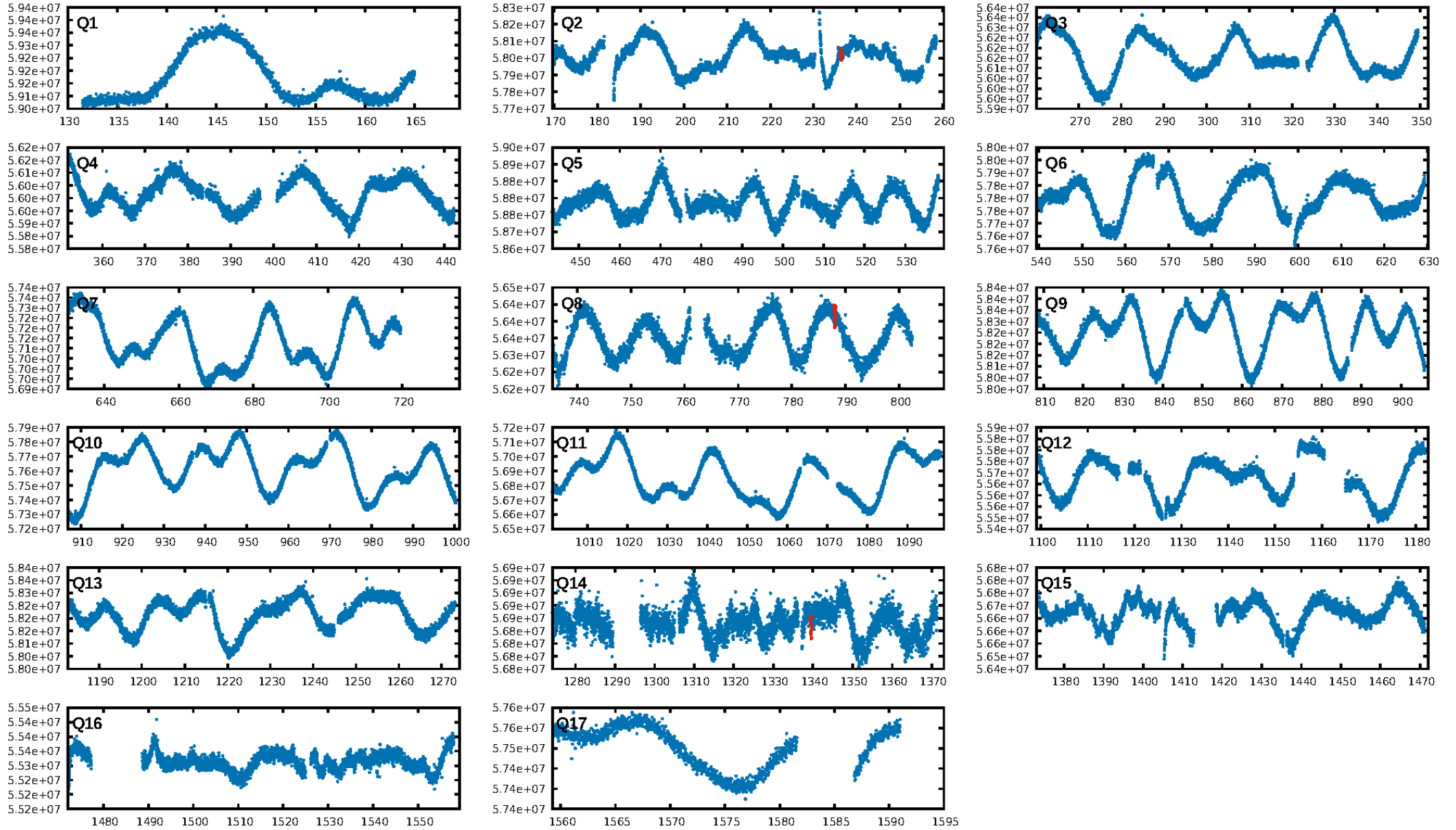
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.3%
ModelChiSquareGof-sig: 89.5%
Bootstrap-pfa: 7.74e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.108
Centroid-sig: 14.9%
Centroid-so: 1.464 arcsec [0.97σ]
OotOffset-rm: 3.332 arcsec [1.26σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 2.878 arcsec [0.88σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

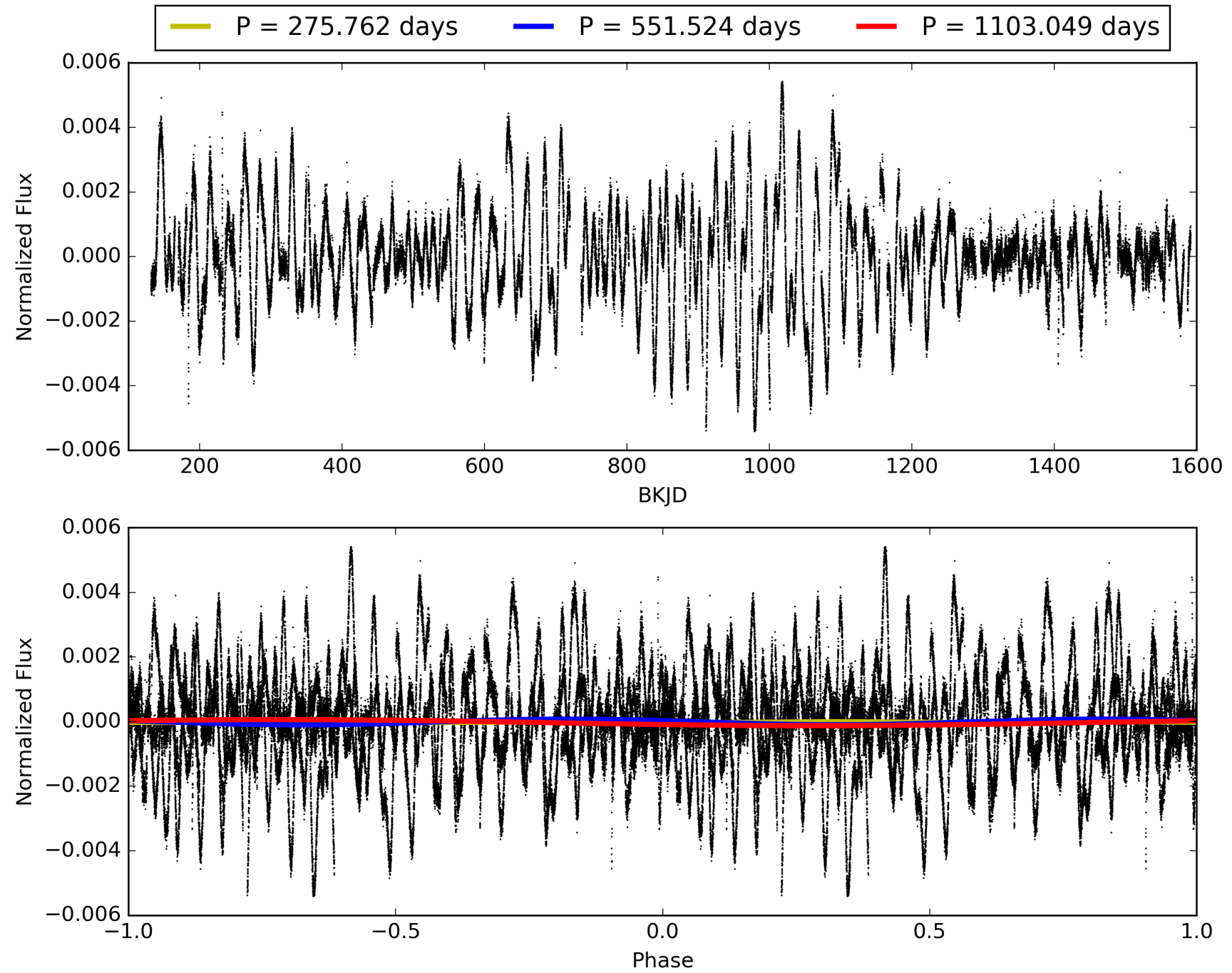
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:26:52 Z

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

TCE 009075982-01, PDC Light Curves

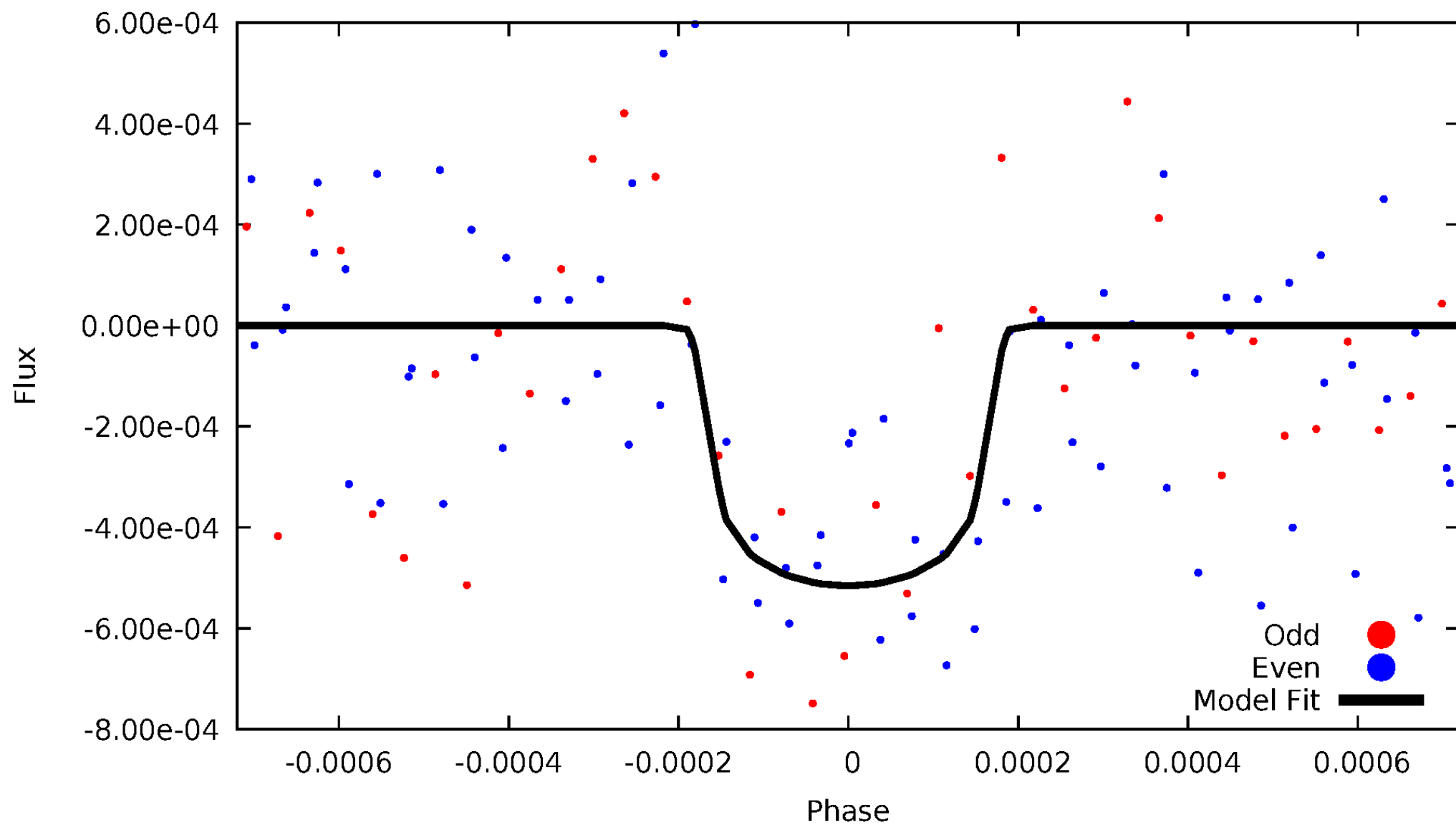


TCE 009075982-01



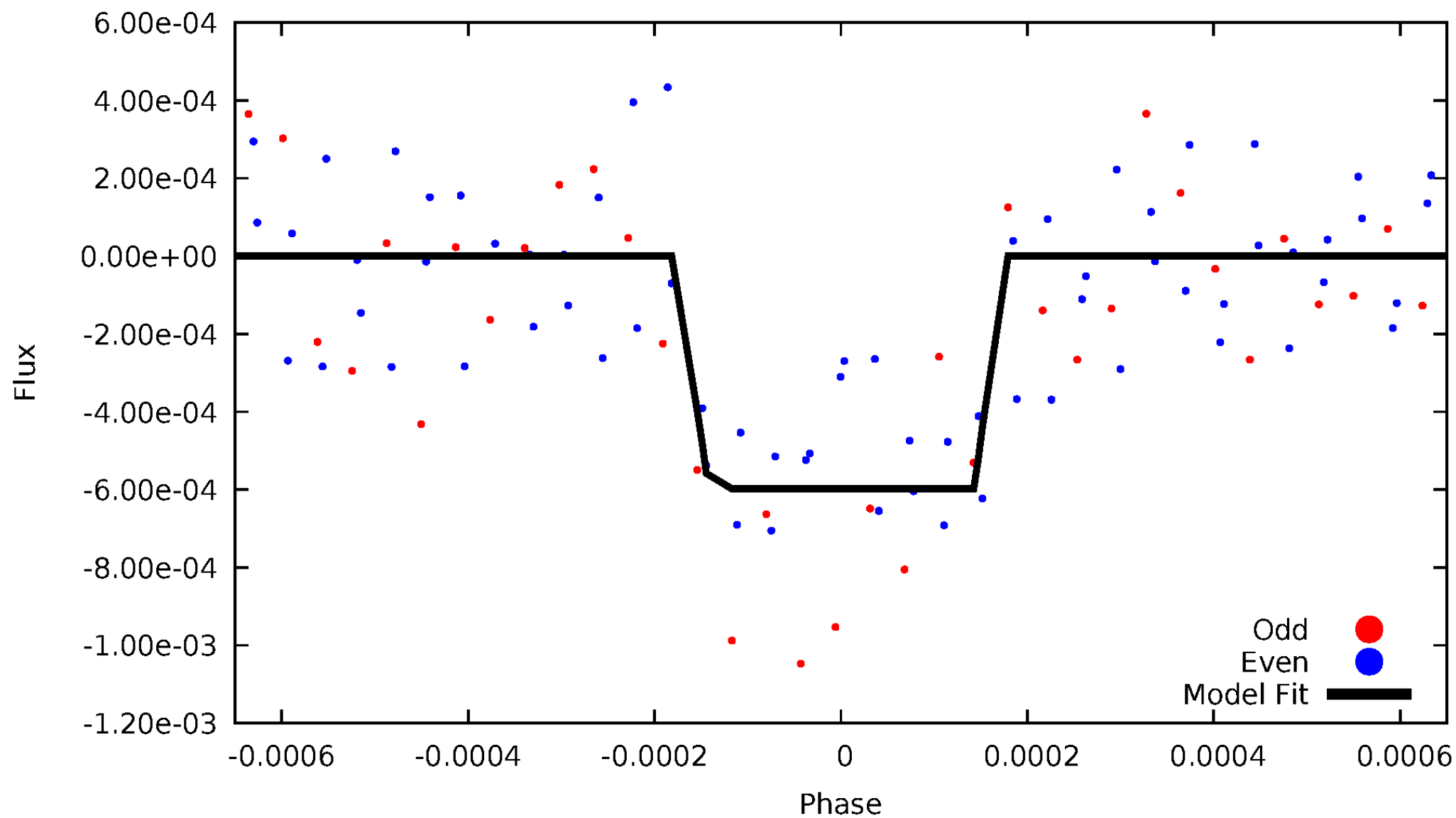
DV Odd/Even

TCE 009075982-01



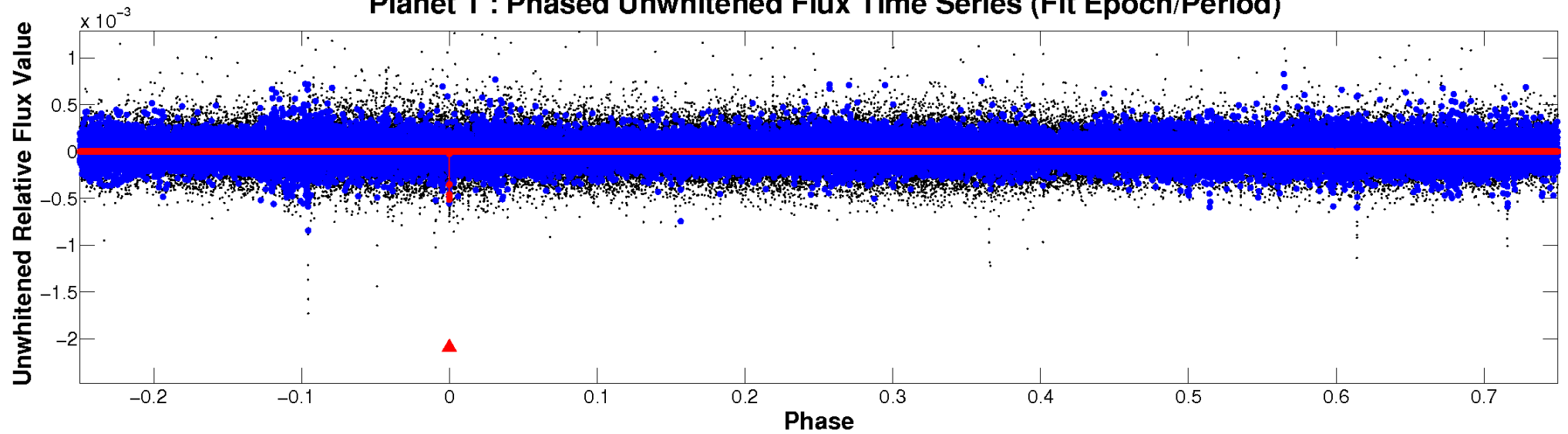
ALT Odd/Even

TCE 009075982-01

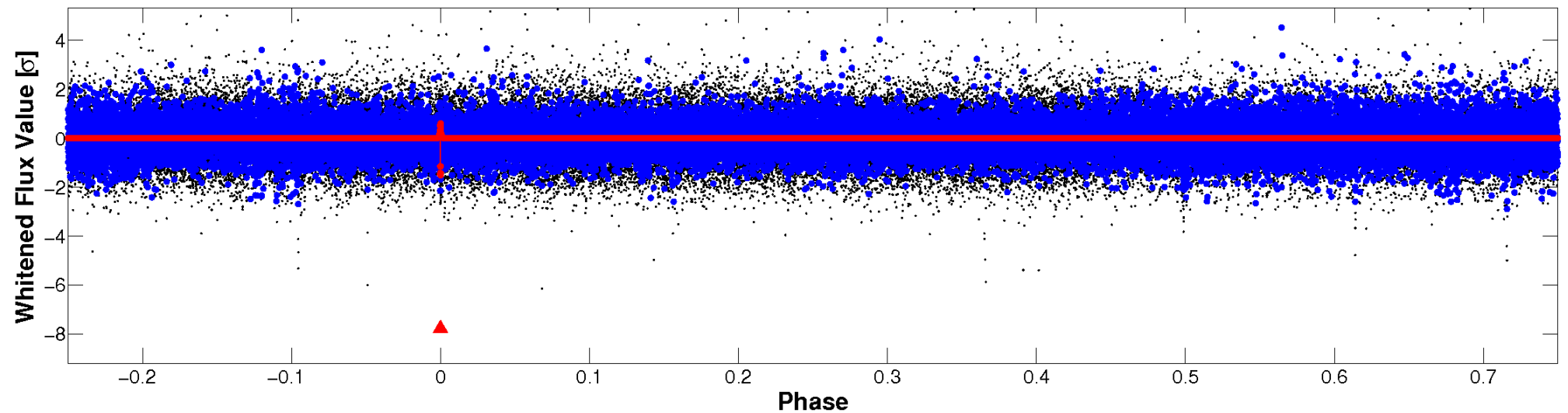


Non-Whitened Vs. Whitened Light Curve

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

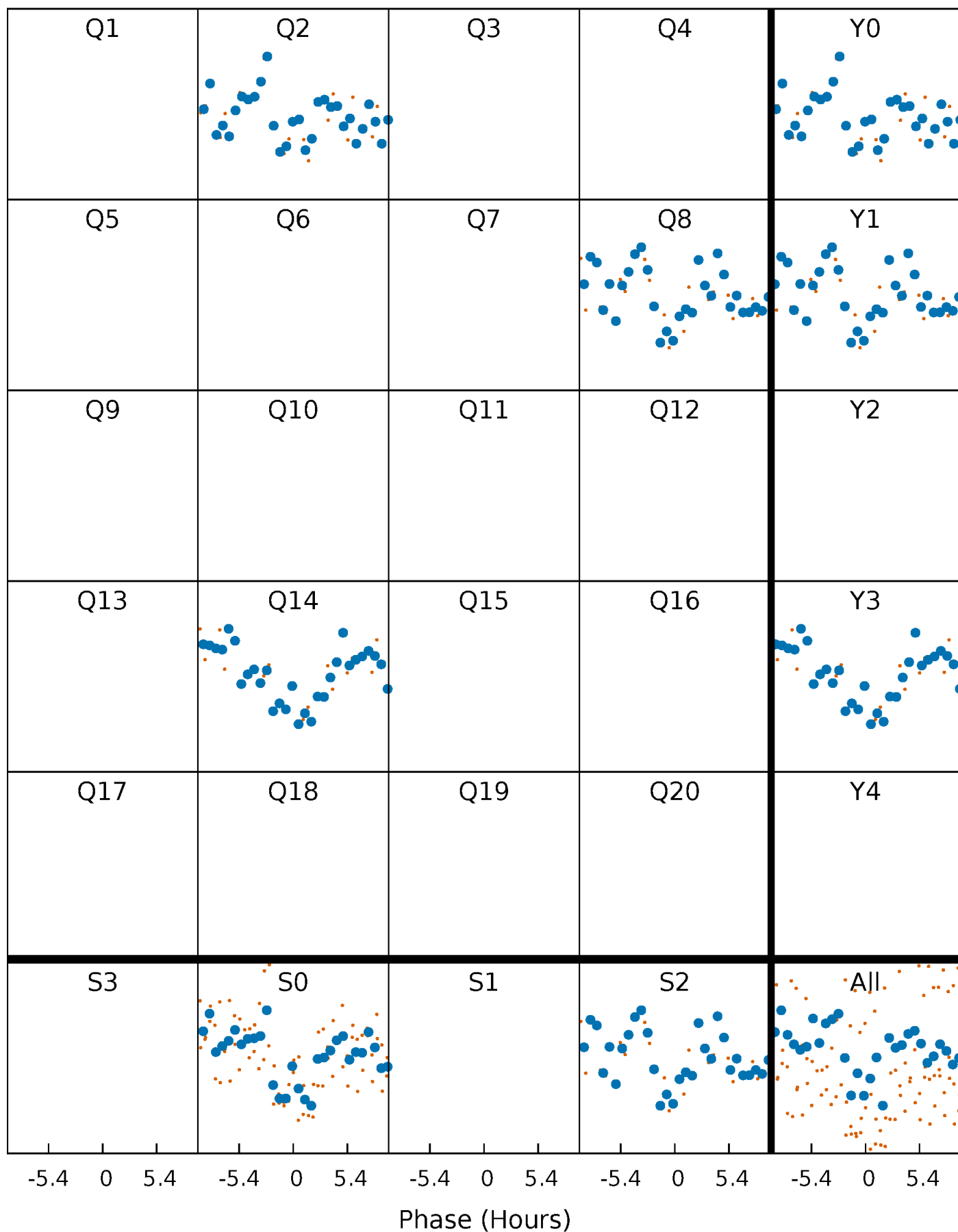


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



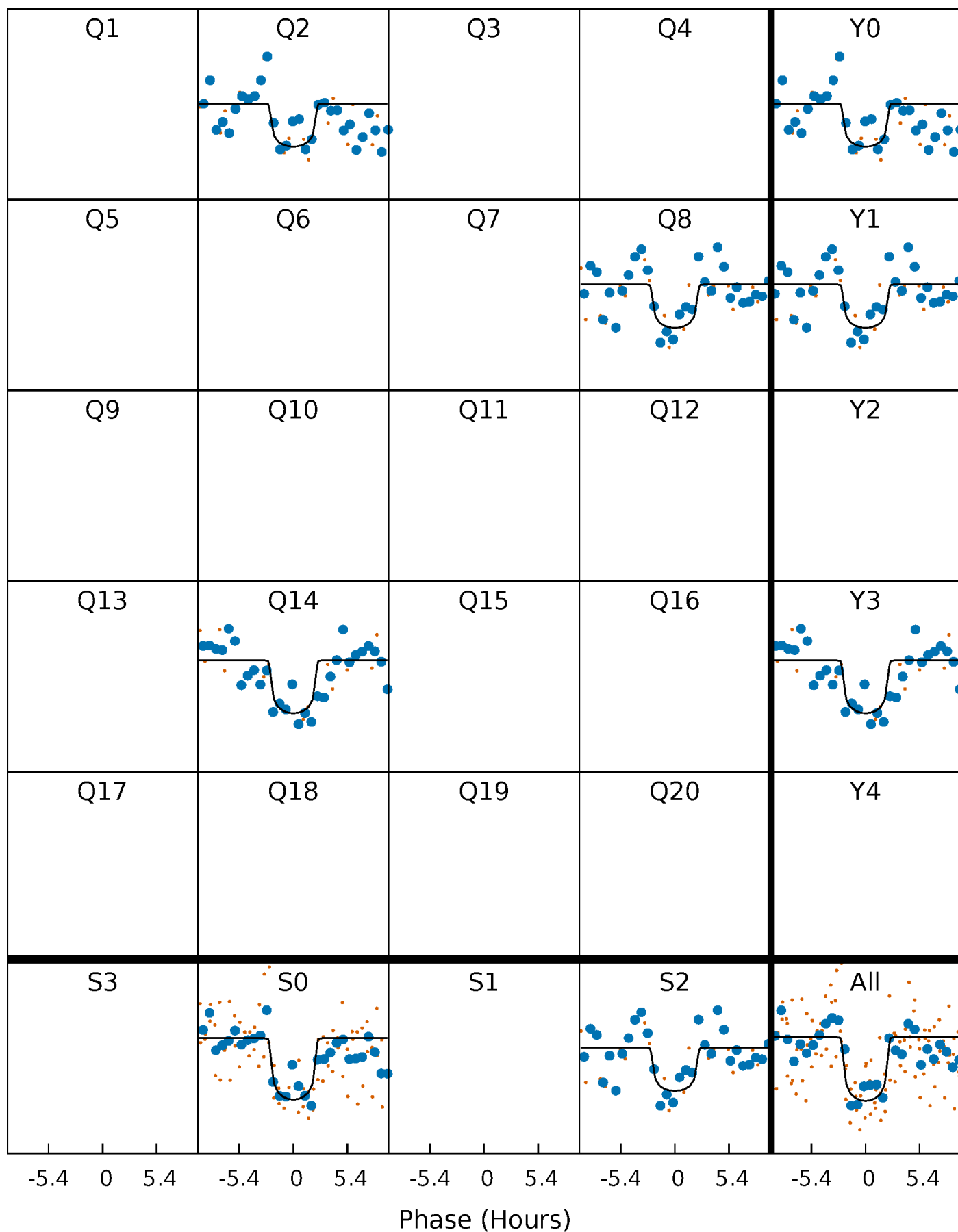
PDC Quarter-Phased Transit Curves

TCE 009075982-01 P=551.524443 Days $T_0=236.478596$ (BKJD)



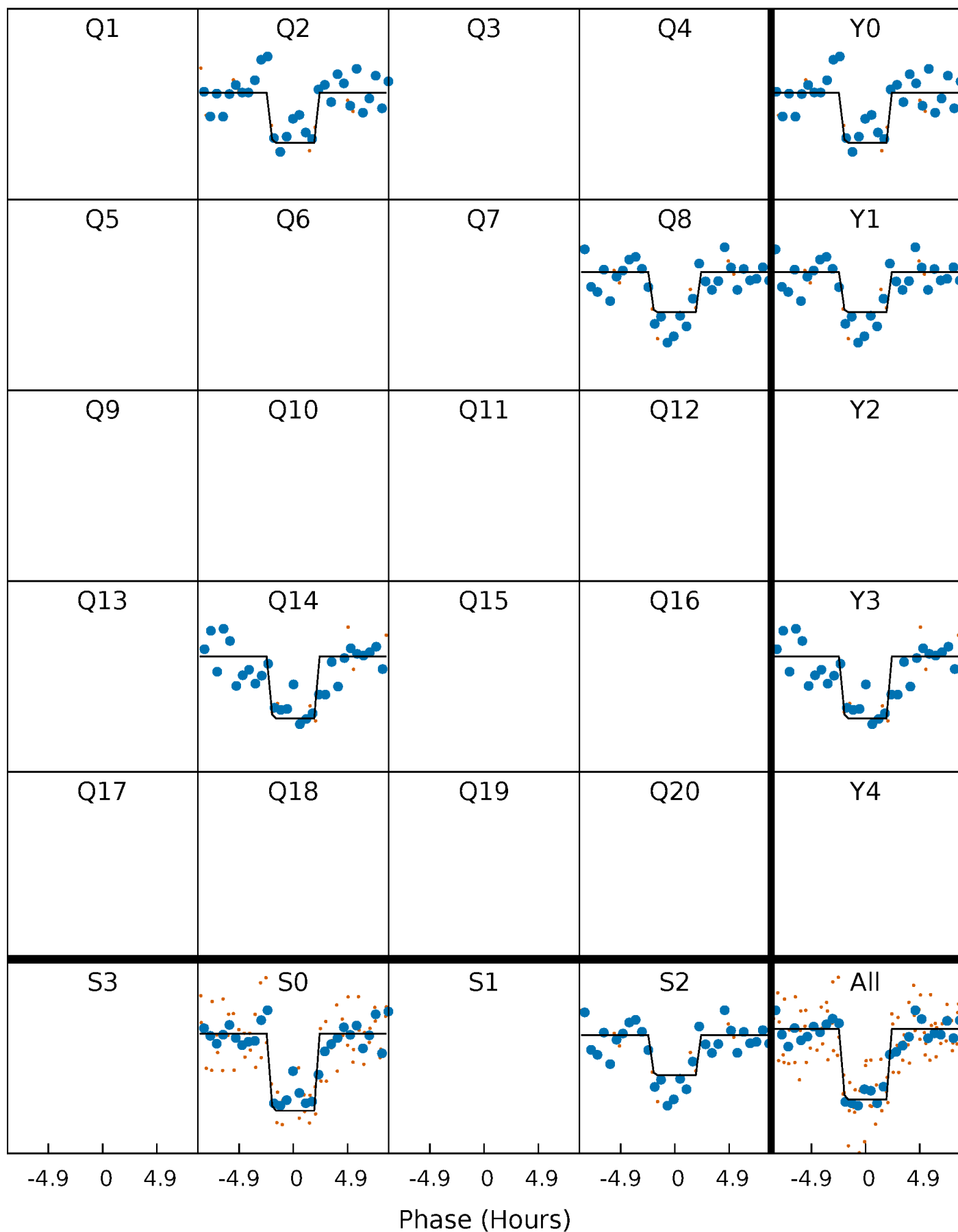
DV Quarter-Phased Transit Curves

TCE 009075982-01 P=551.524443 Days $T_0=236.478596$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

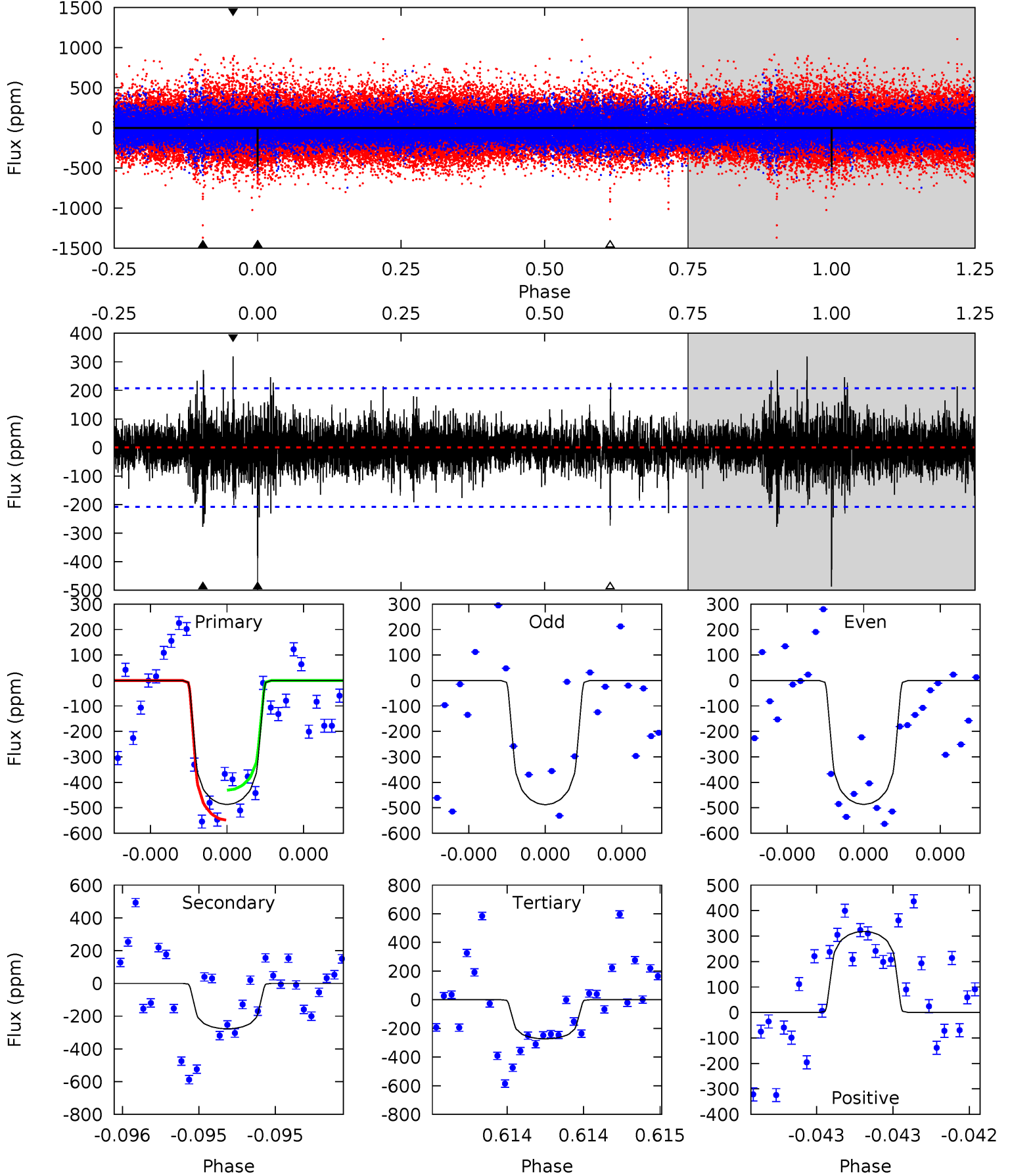
TCE 009075982-01 P=551.522218 Days $T_0=236.481438$ (BKJD)



DV Model-Shift Uniqueness Test

009075982-01, P = 551.524443 Days, E = 236.478596 Days

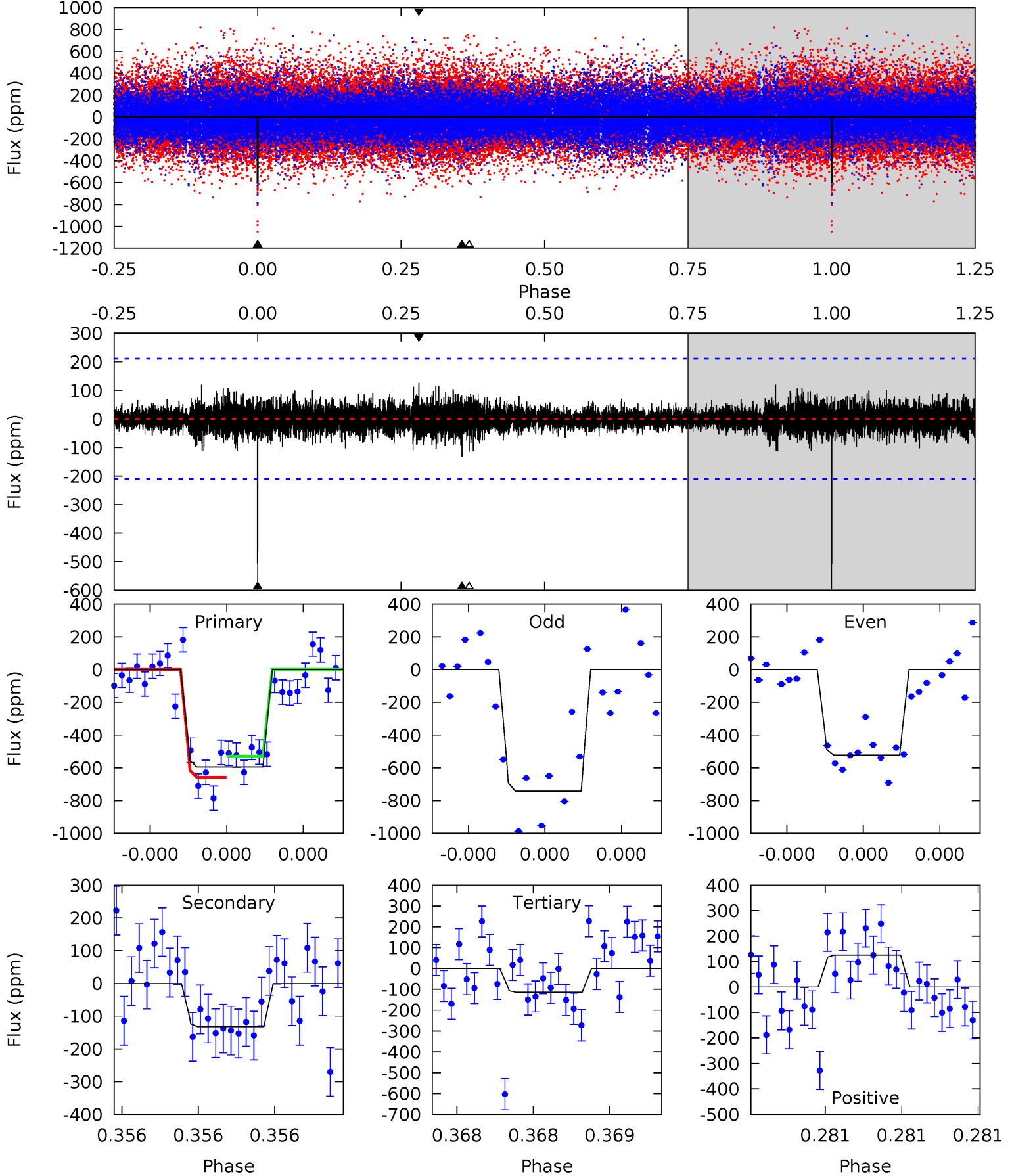
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	7.51	7.39	8.62	5.62	3.56	1.38	5.80	4.57	0.12	-1.10	0.01	1.00	0.40	1.59



Alt Model-Shift Uniqueness Test

009075982-01, P = 551.522218 Days, E = 236.481438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	3.55	3.06	3.37	5.66	3.61	0.70	12.9	12.6	0.49	0.18	2.85	1.13	0.17	1.75



Stellar Parameters For KIC 009075982

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3997^{+100}_{-120}	$4.755^{+0.055}_{-0.055}$	$-0.400^{+0.300}_{-0.300}$	$0.505^{+0.058}_{-0.053}$	$0.530^{+0.049}_{-0.060}$	$5.784^{+1.507}_{-1.197}$
	+3%/-3%	+1%/-1%	+75%/-75%	+11%/-10%	+9%/-11%	+26%/-21%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009075982-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-277 ± 37	$1.28^{+0.35}_{-0.33}$	169^{+6}_{-6}	3564^{+371}_{-272}	105227^{+88826}_{-40473}
Alt.	-132 ± 37	$1.35^{+0.37}_{-0.35}$	169^{+6}_{-6}	3129^{+317}_{-241}	46193^{+39727}_{-21004}

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

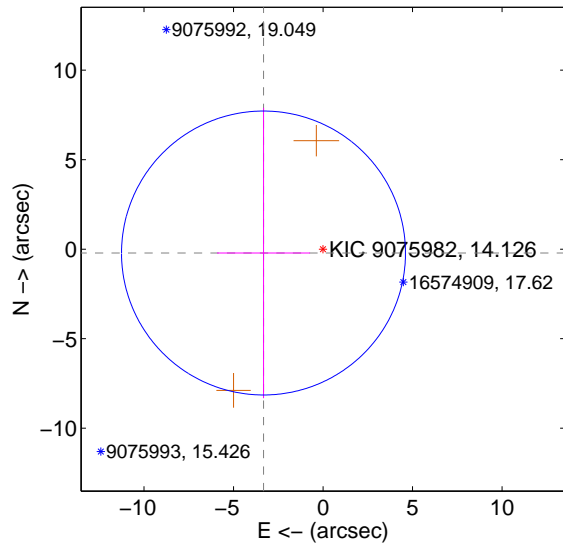
Supplemental centroid analysis for 009075982-01. Kepler magnitude: 14.13. Transit SNR 7.66

There are 0 quarters with good PRF difference image offsets

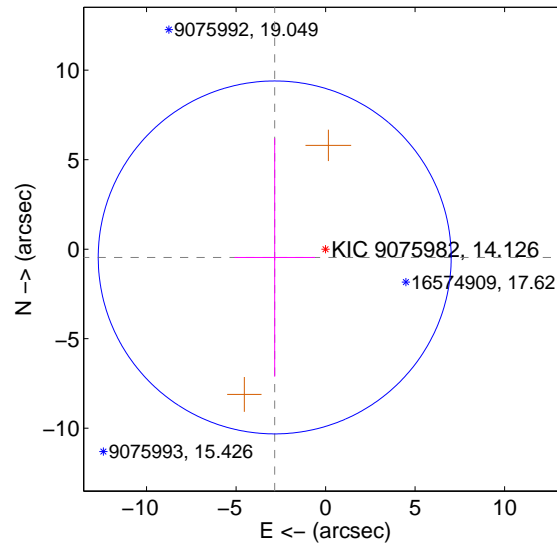
The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.332 ± 2.643	1.26	3.325 ± 2.597	-0.214 ± 8.107
PRF-fit source offset from KIC position	2.878 ± 3.285	0.88	2.841 ± 2.248	-0.461 ± 6.660
photometric centroid source offset	1.46 ± 1.51	0.97	1.08 ± 1.55	0.98 ± 1.46

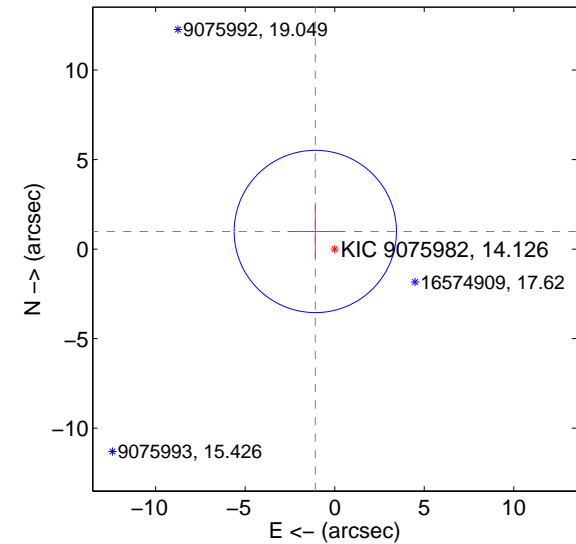
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

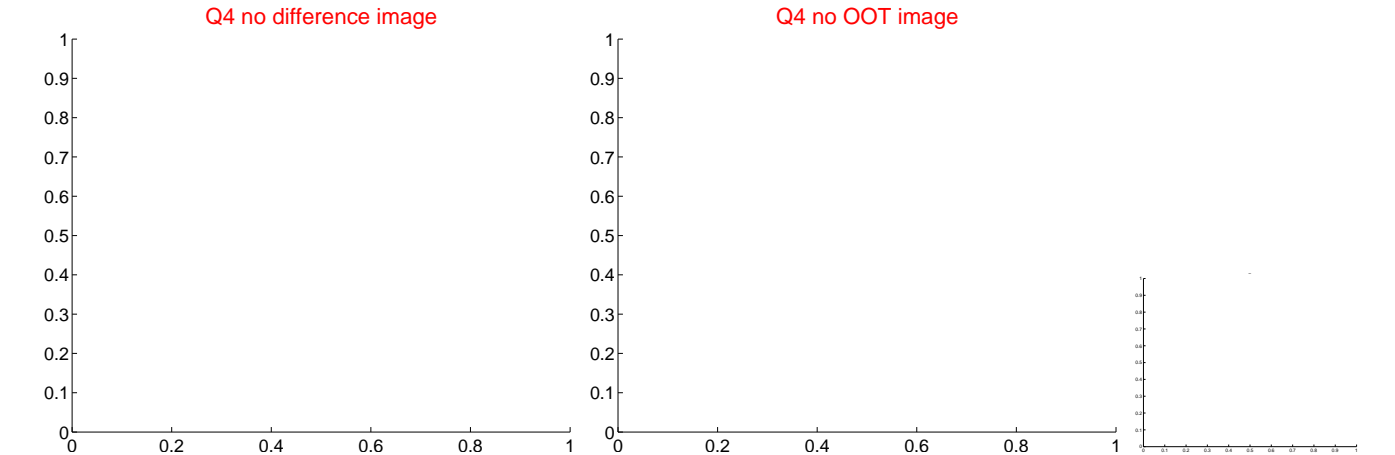
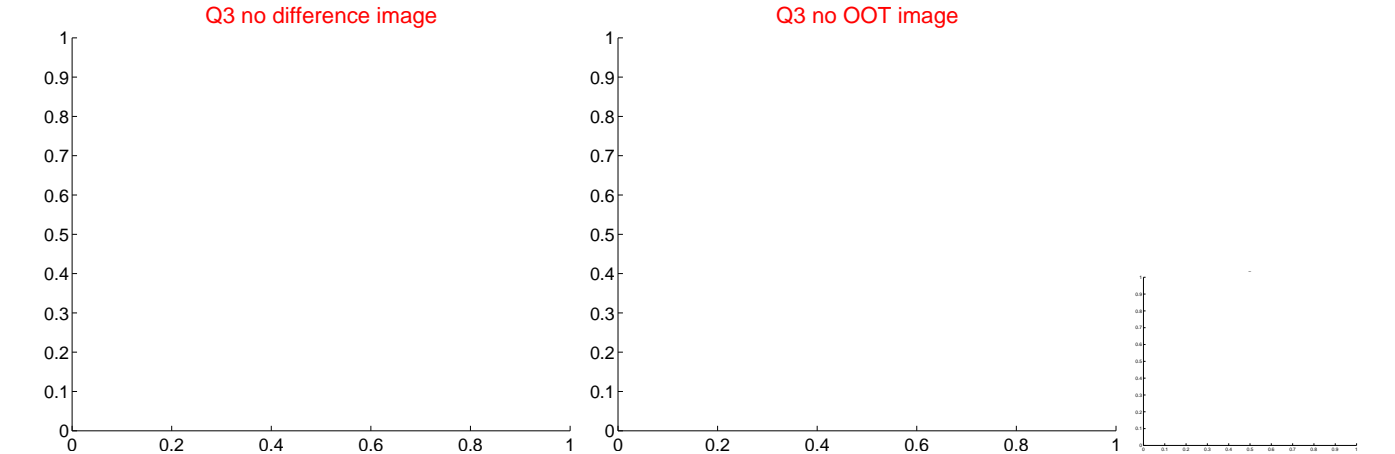
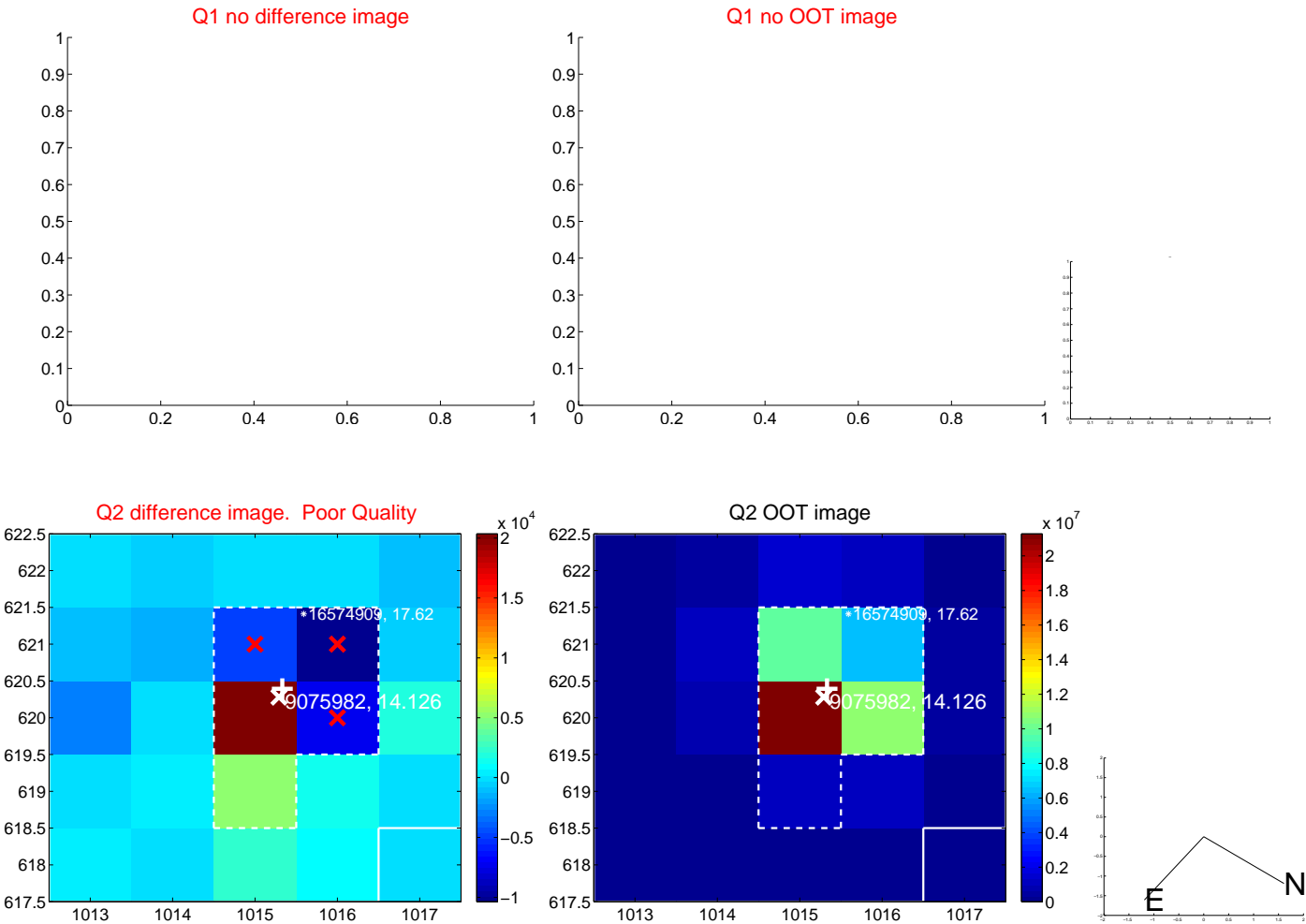


offset from photometric centroids

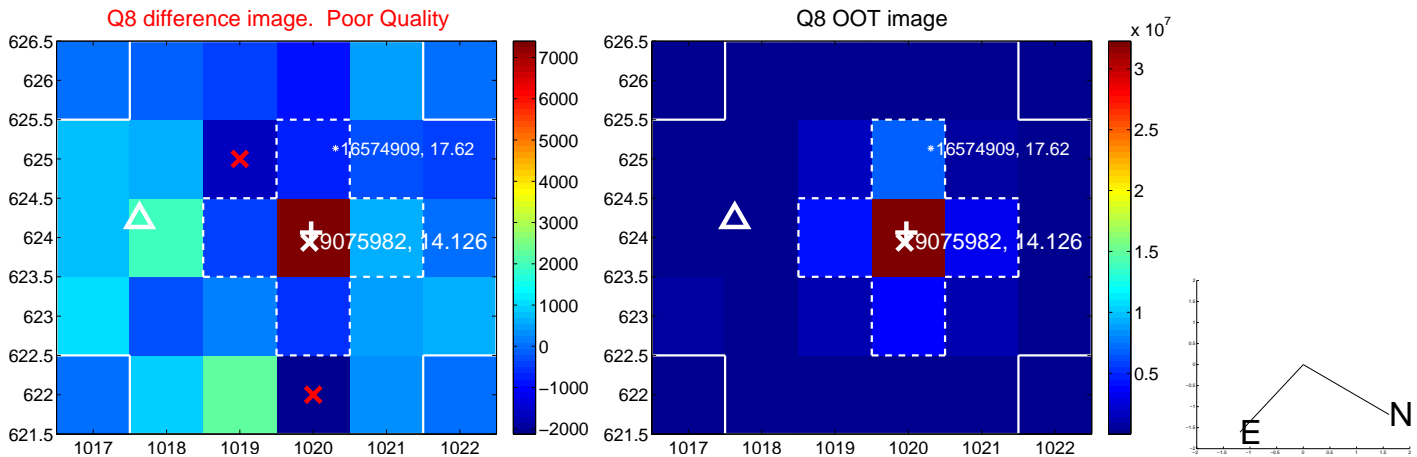
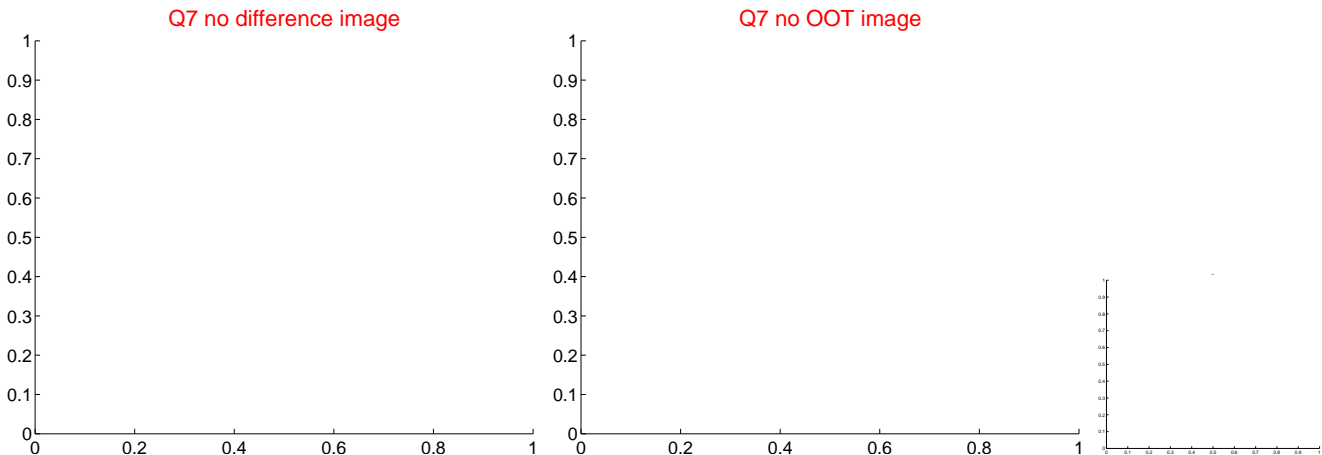
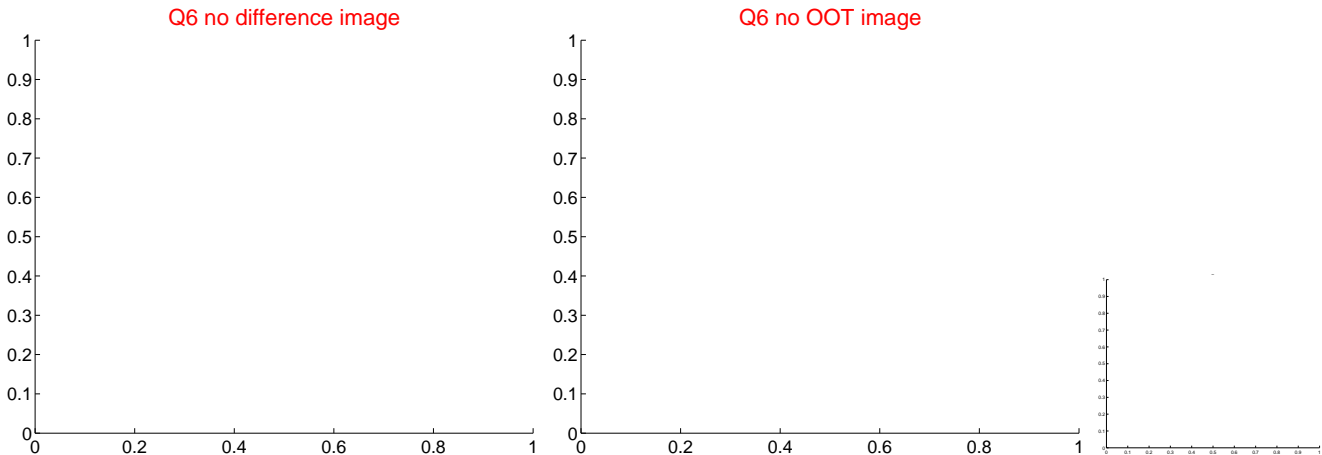
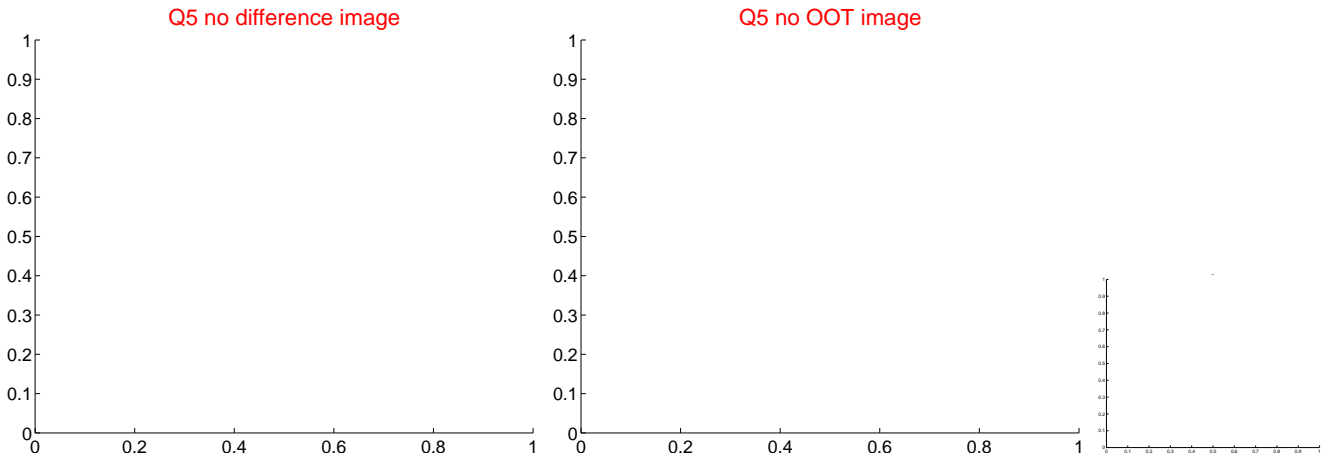


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



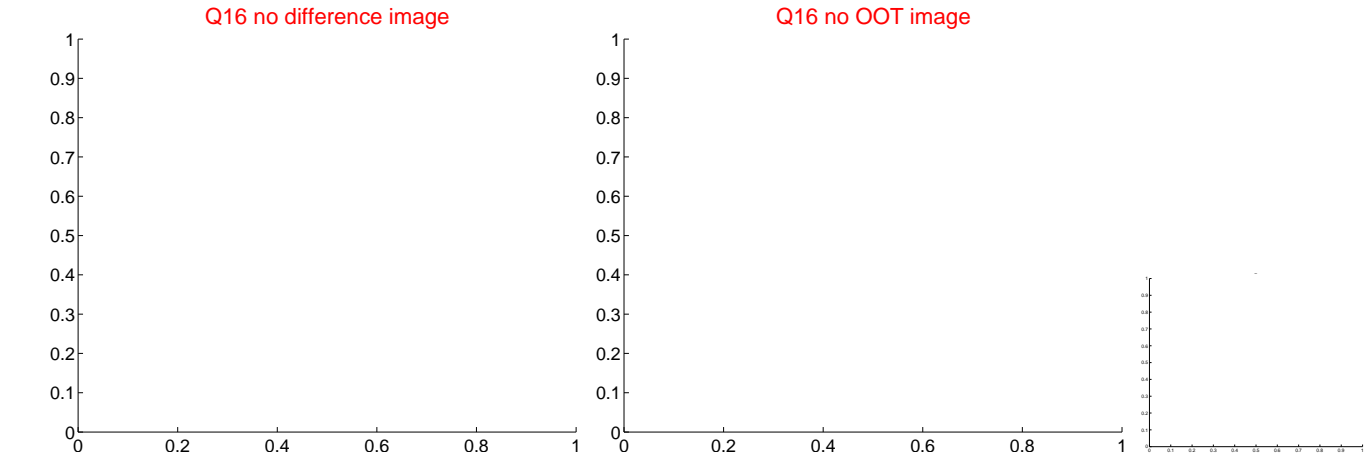
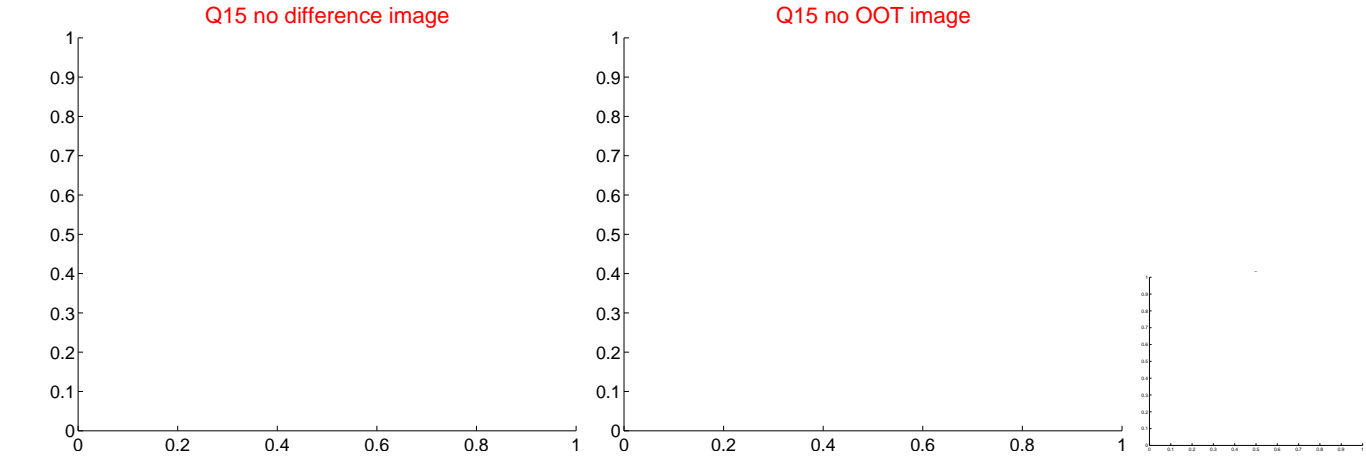
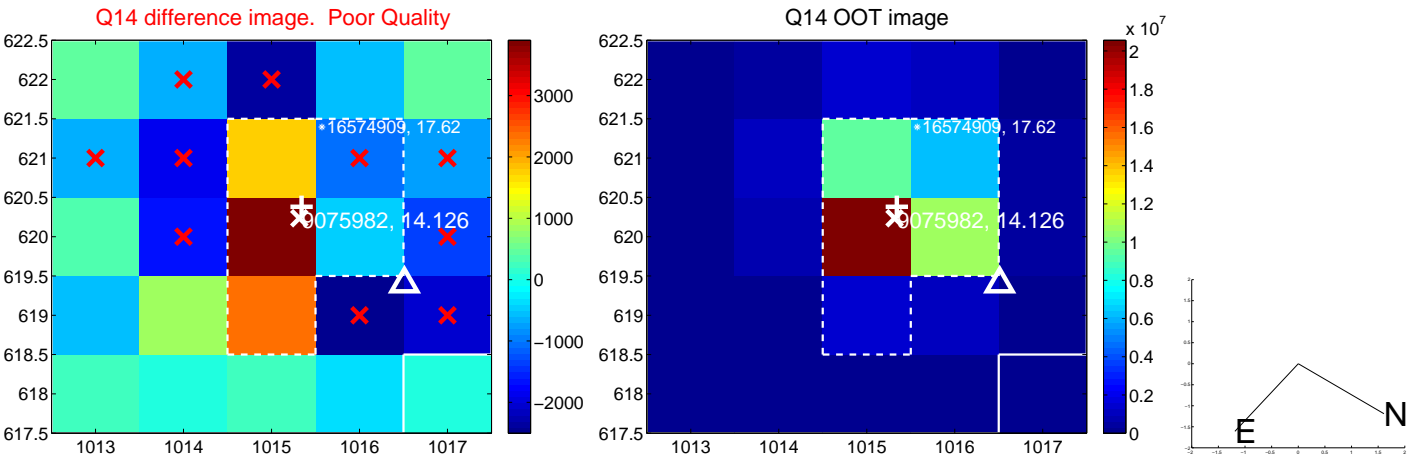
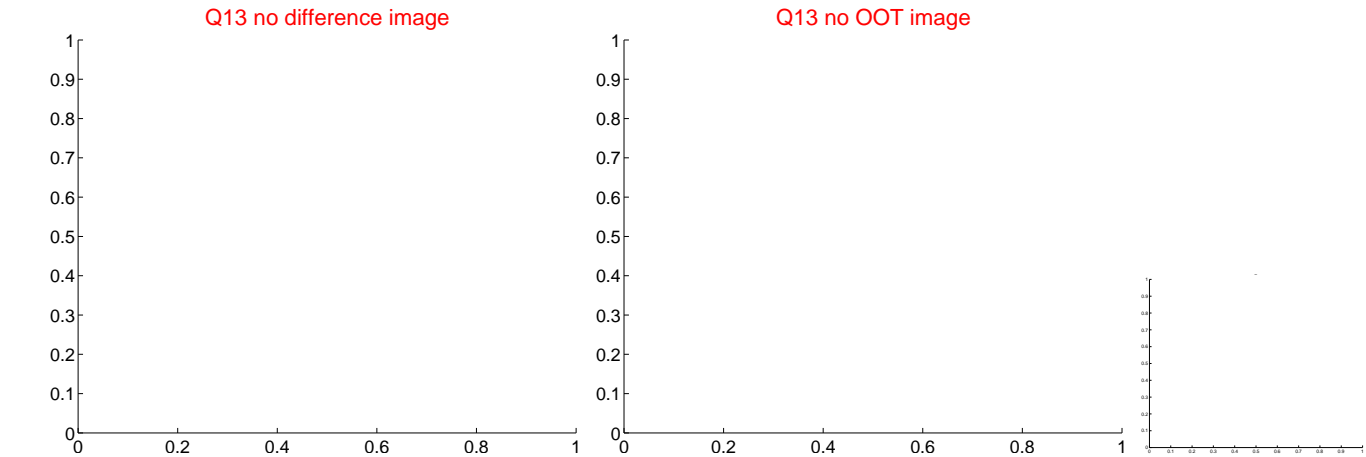
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



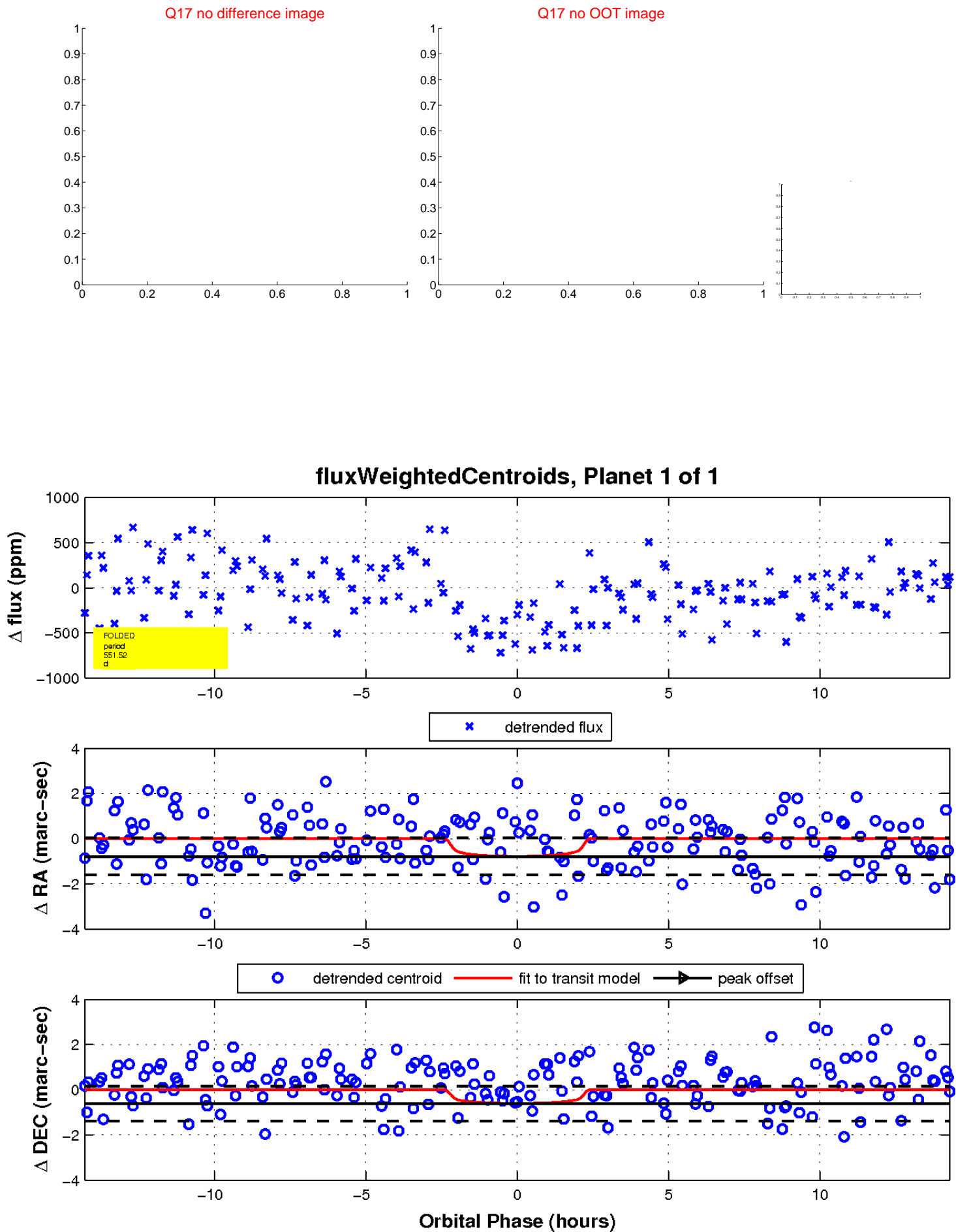
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

