

KIC 004740780

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})
004740780-01	OBS	No	548.036569	237.381221	393.1	8.174	7.7	7.7	0.99	6170	2.08	0.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004740780-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—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.

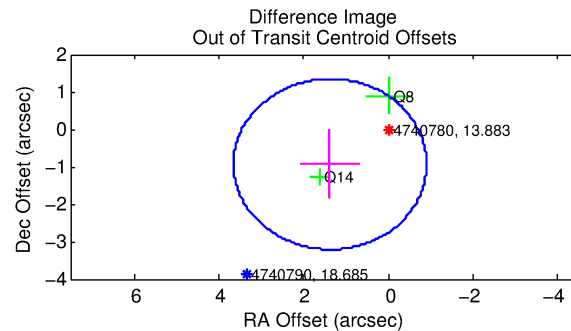
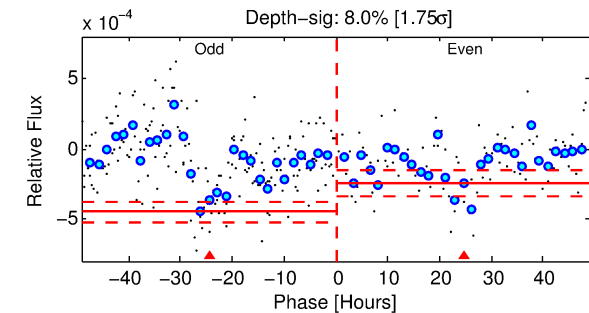
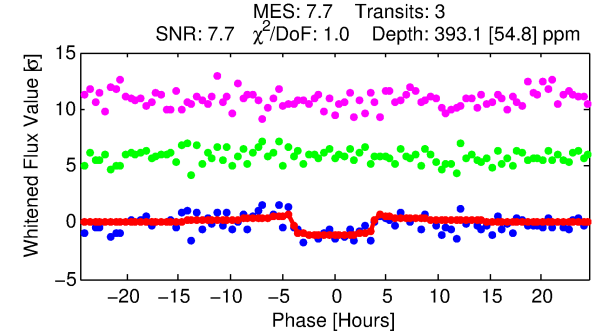
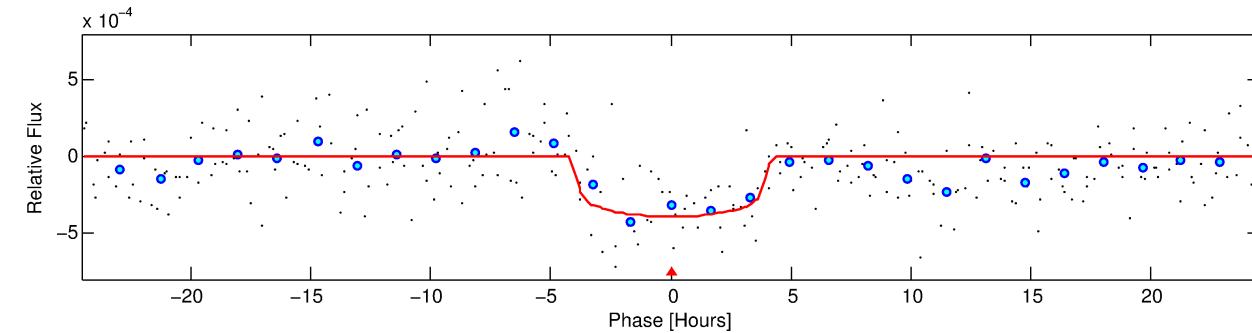
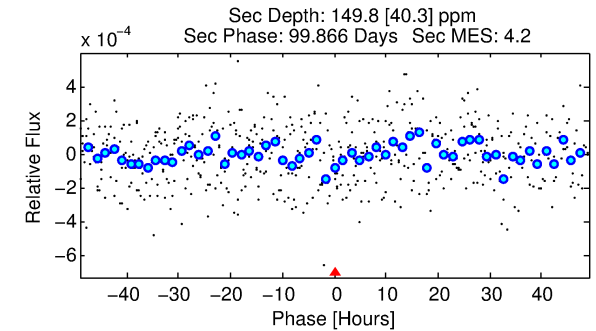
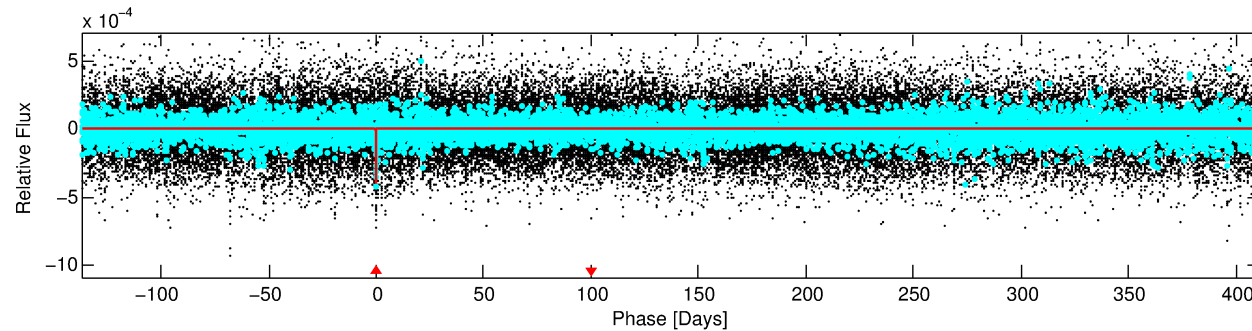
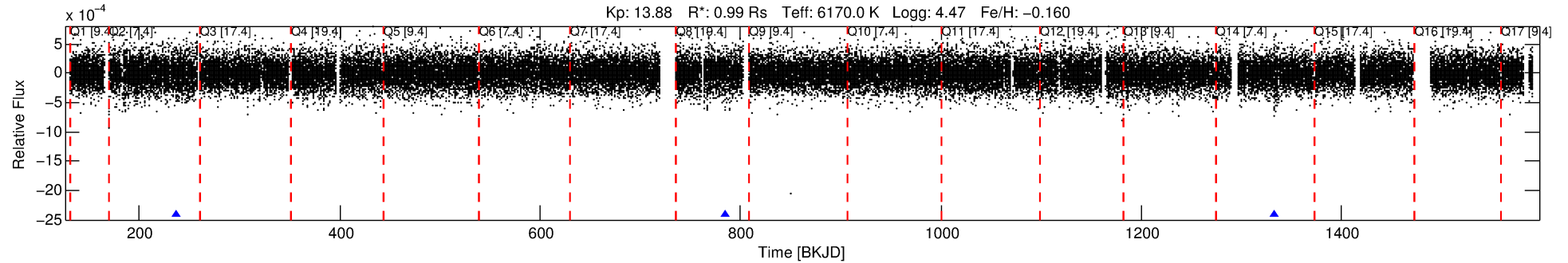
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004740780-01

No Significant Match Found

DV One-Page Summary

KIC: 4740780 Candidate: 1 of 1 Period: 548.037 d



DV Fit Results:

Period = 548.03657 [0.00745] d
Epoch = 237.3812 [0.0093] BKJD
Rp/R* = 0.0192 [0.0133]
a/R* = 400.22 [1394.73]
b = 0.65 [3.06]
Seff = 0.71 [0.28]
Teq = 234 [23] K
Rp = 2.08 [1.58] Re
a = 1.3384 [0.3456] AU
Ag = 34149.03 [49984.68] [0.68σ]
Teffp = 4925 [1751] K [2.68σ]

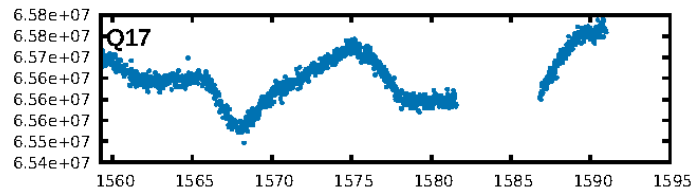
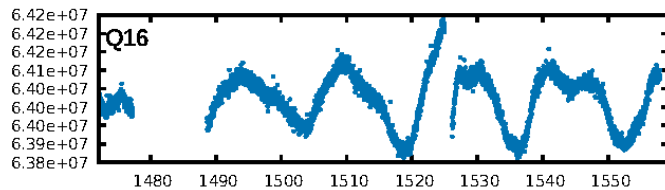
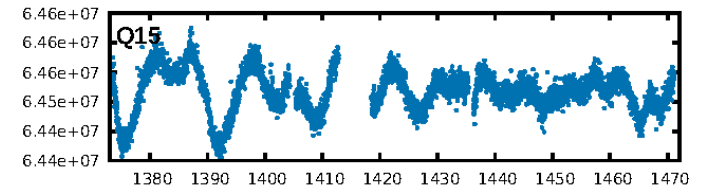
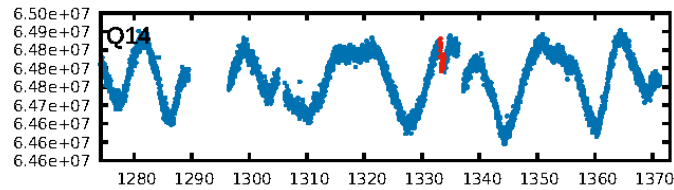
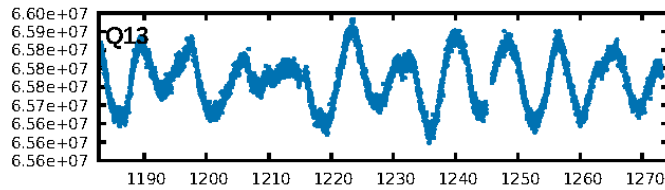
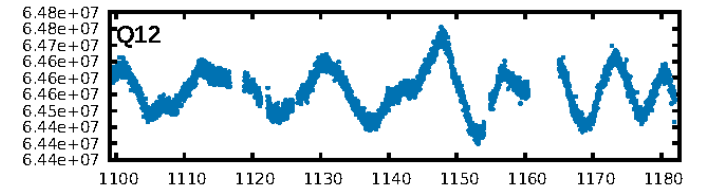
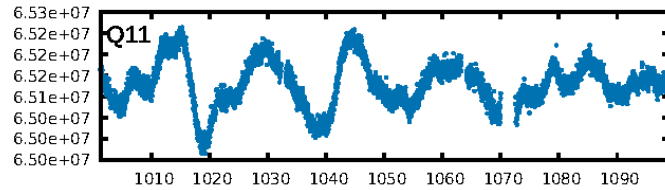
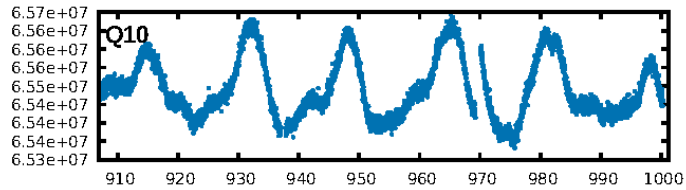
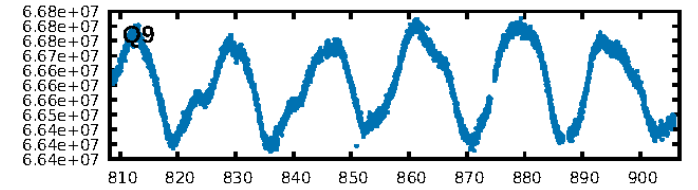
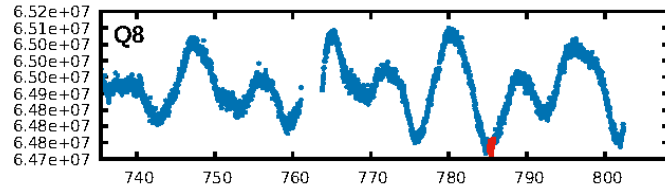
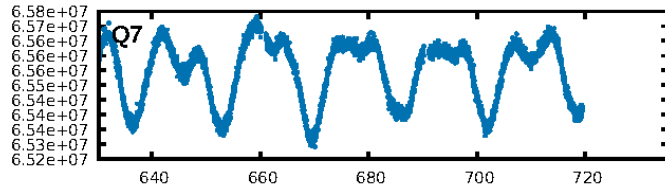
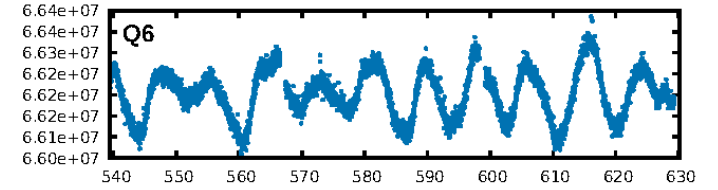
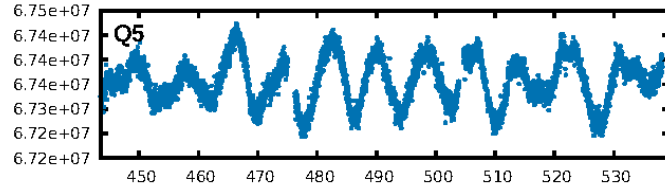
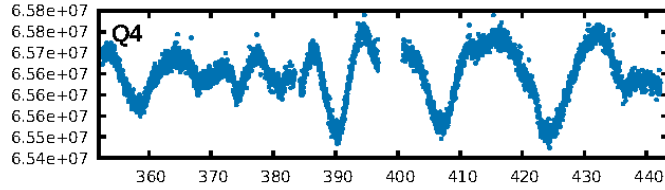
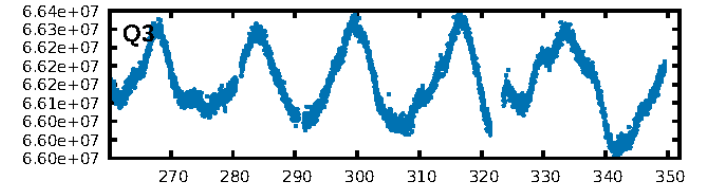
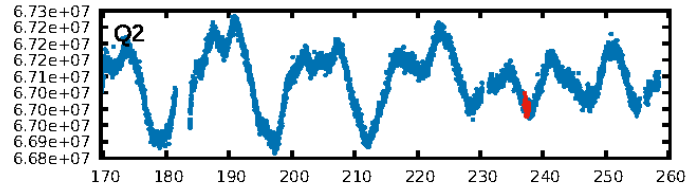
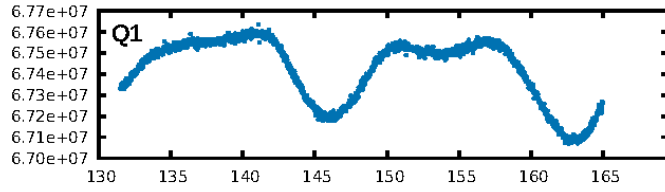
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 29.3%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 8.77e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.497
Centroid-sig: 0.5%
Centroid-so: 2.078 arcsec [2.17σ]
OotOffset-rm: 1.660 arcsec [2.19σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 1.570 arcsec [1.50σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

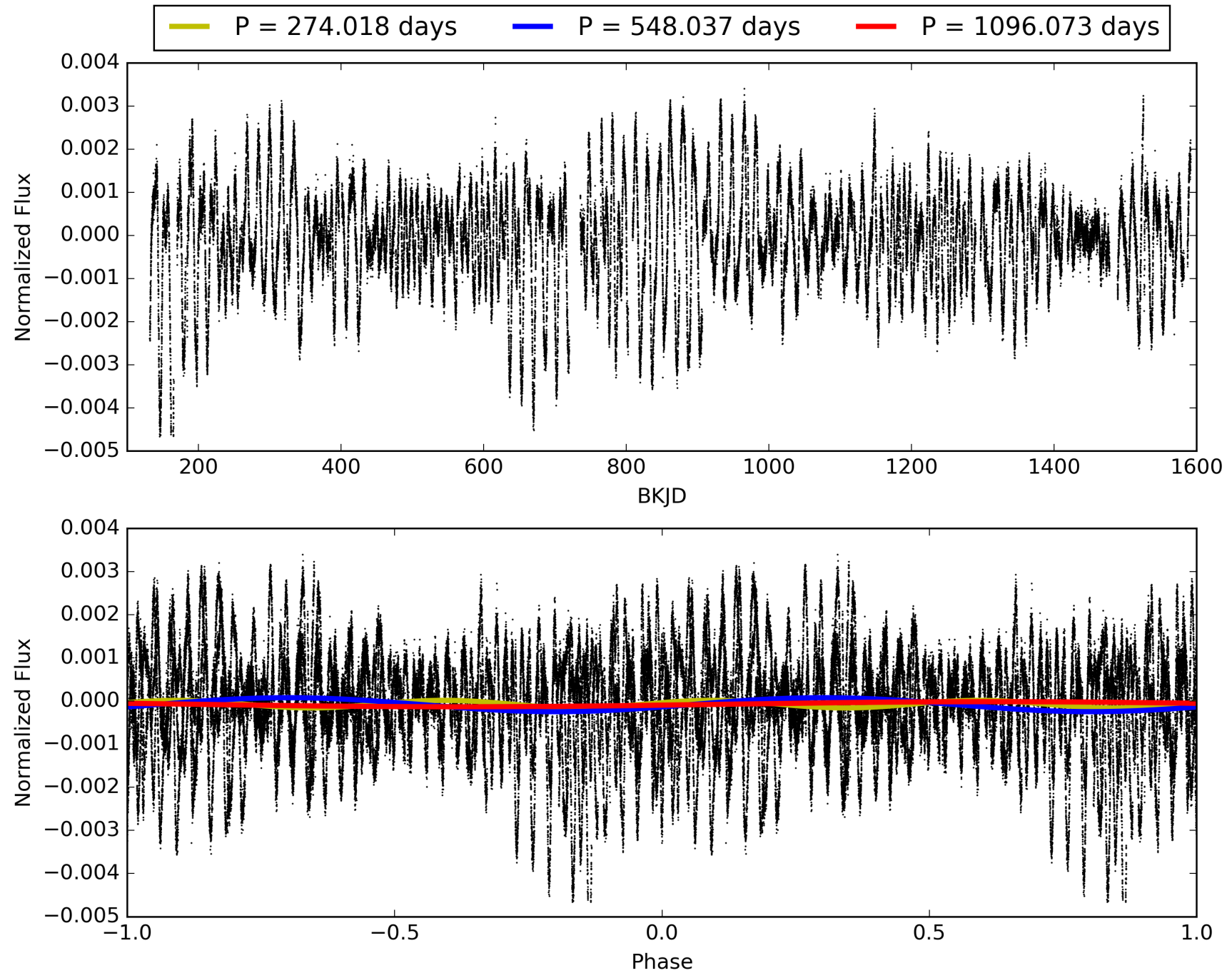
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:37:36 Z

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

TCE 004740780-01, PDC Light Curves

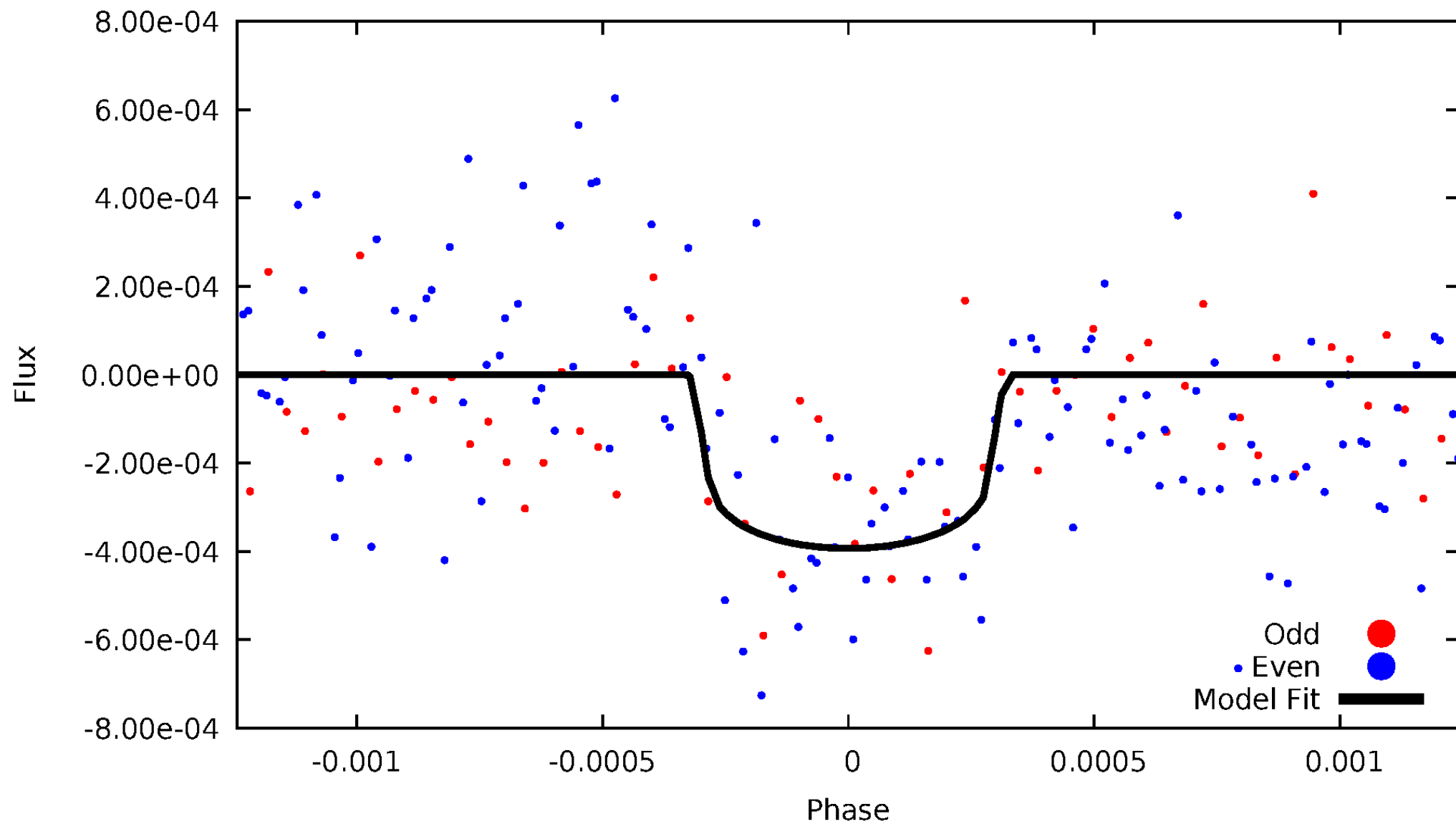


TCE 004740780-01



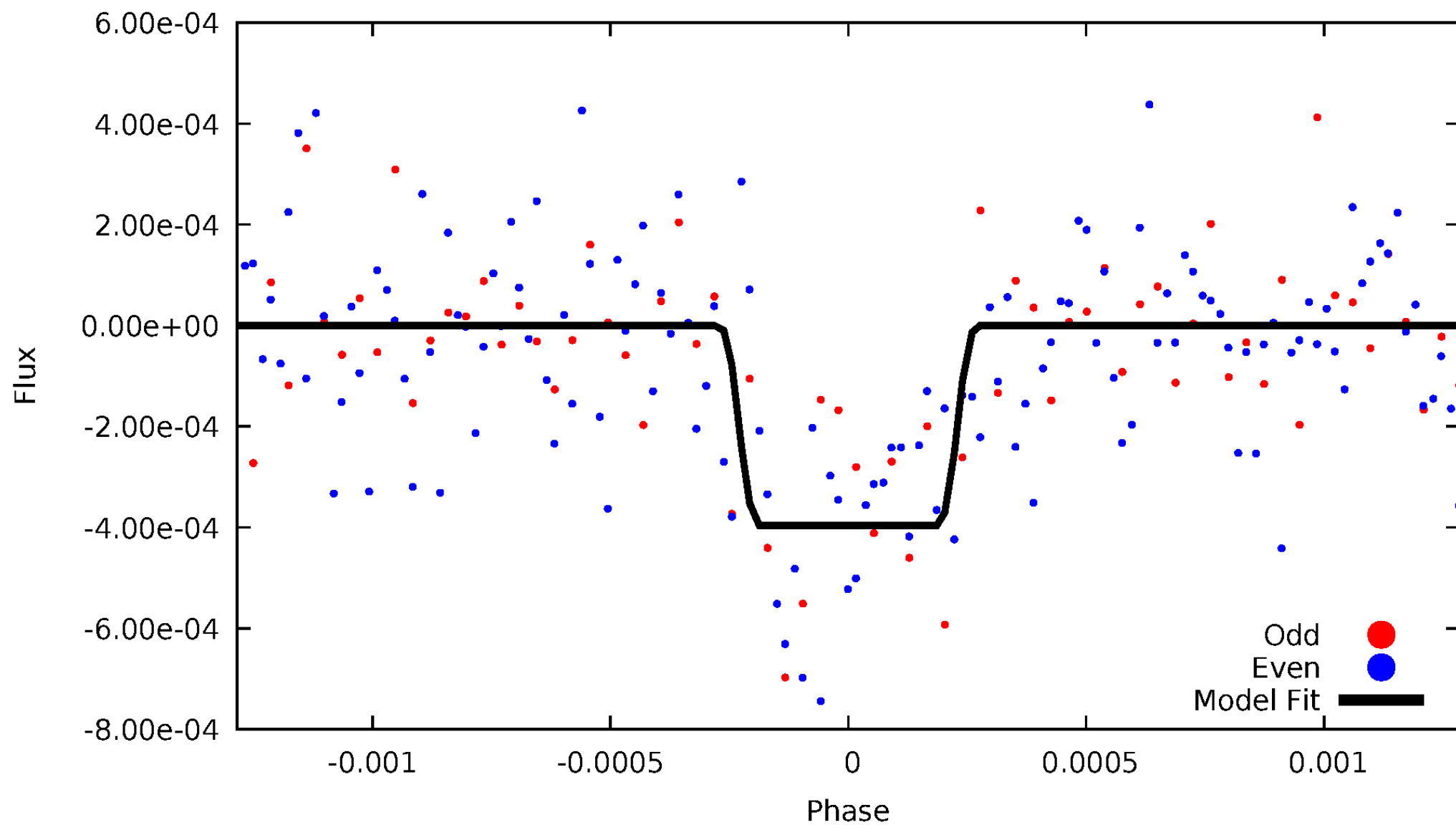
DV Odd/Even

TCE 004740780-01



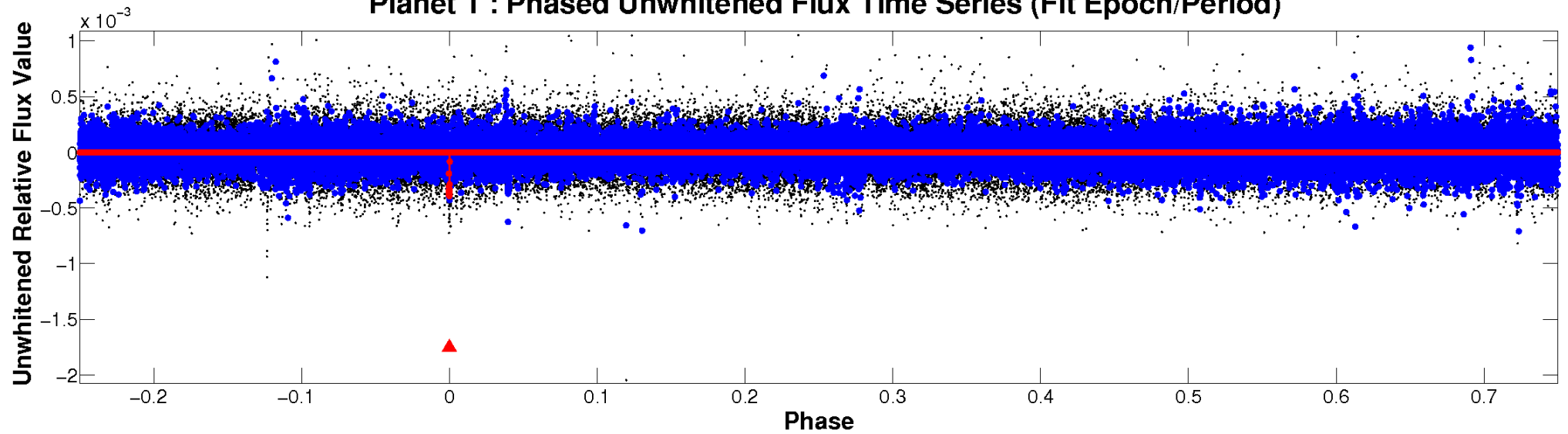
ALT Odd/Even

TCE 004740780-01

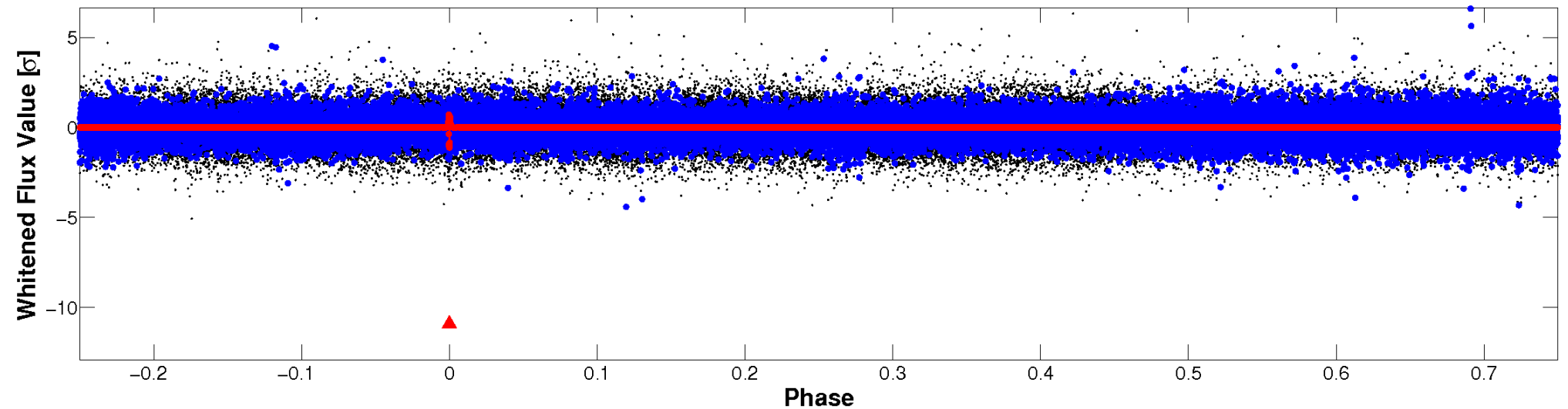


Non-Whitened Vs. Whitened Light Curve

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

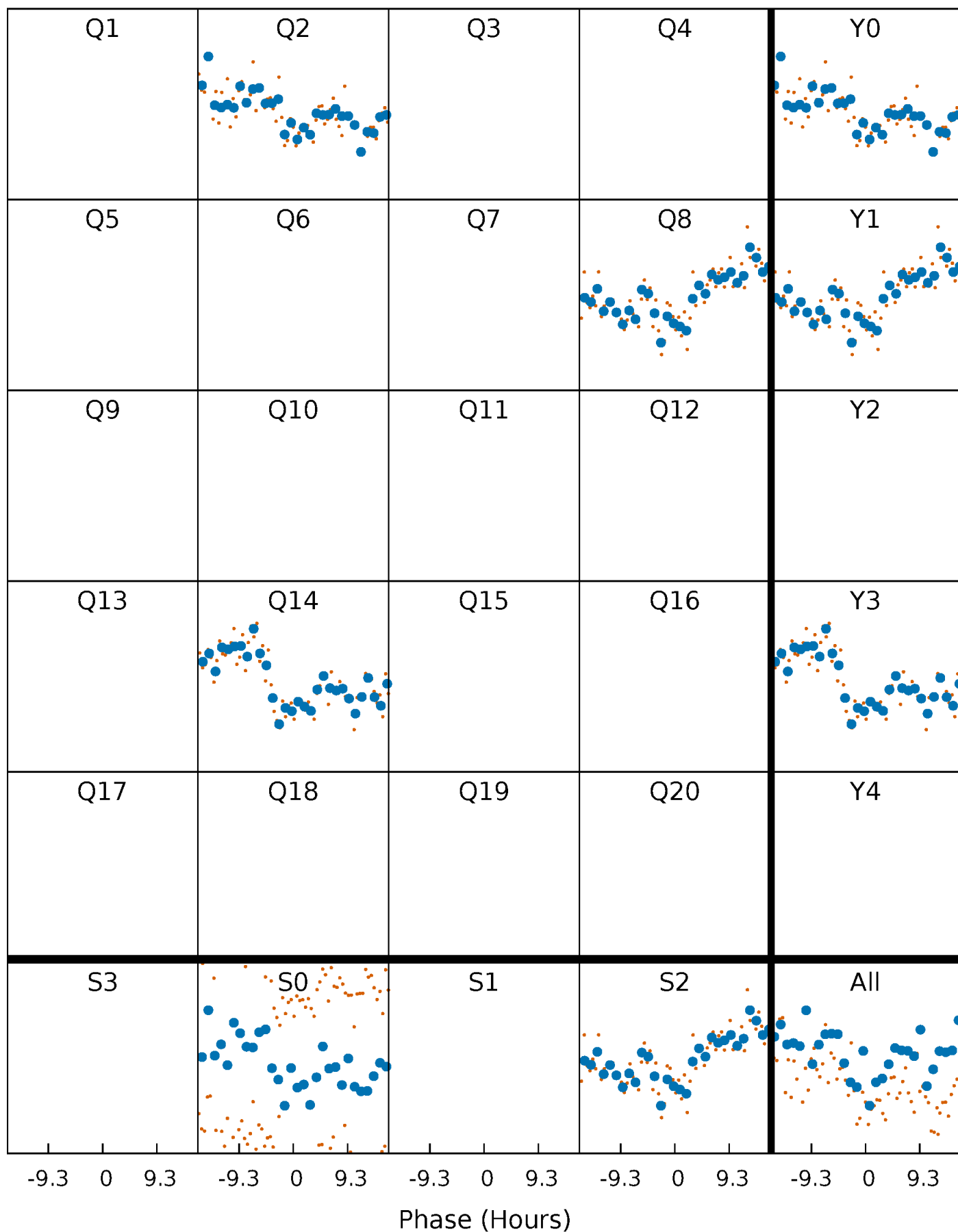


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



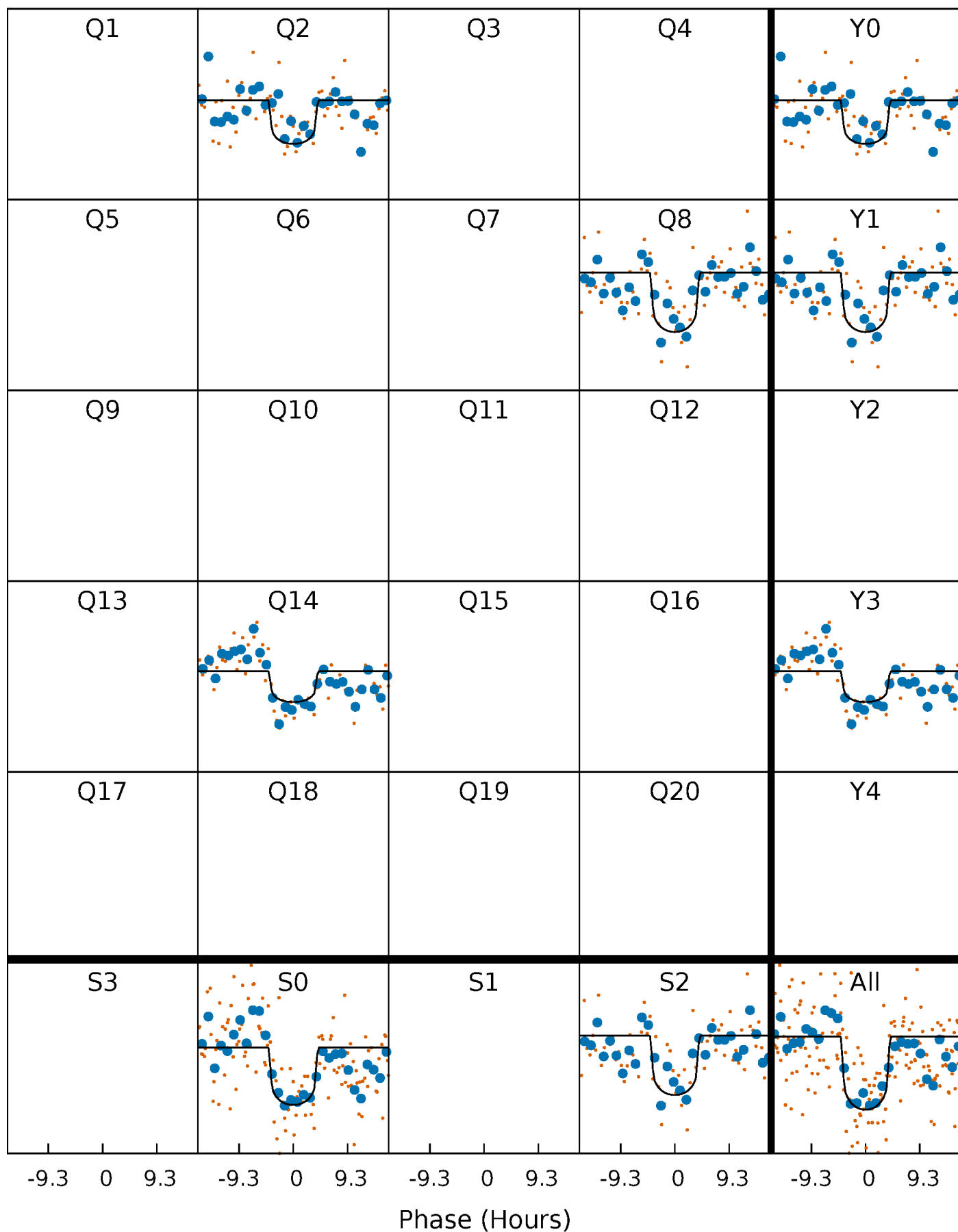
PDC Quarter-Phased Transit Curves

TCE 004740780-01 P=548.036569 Days $T_0=237.381221$ (BKJD)



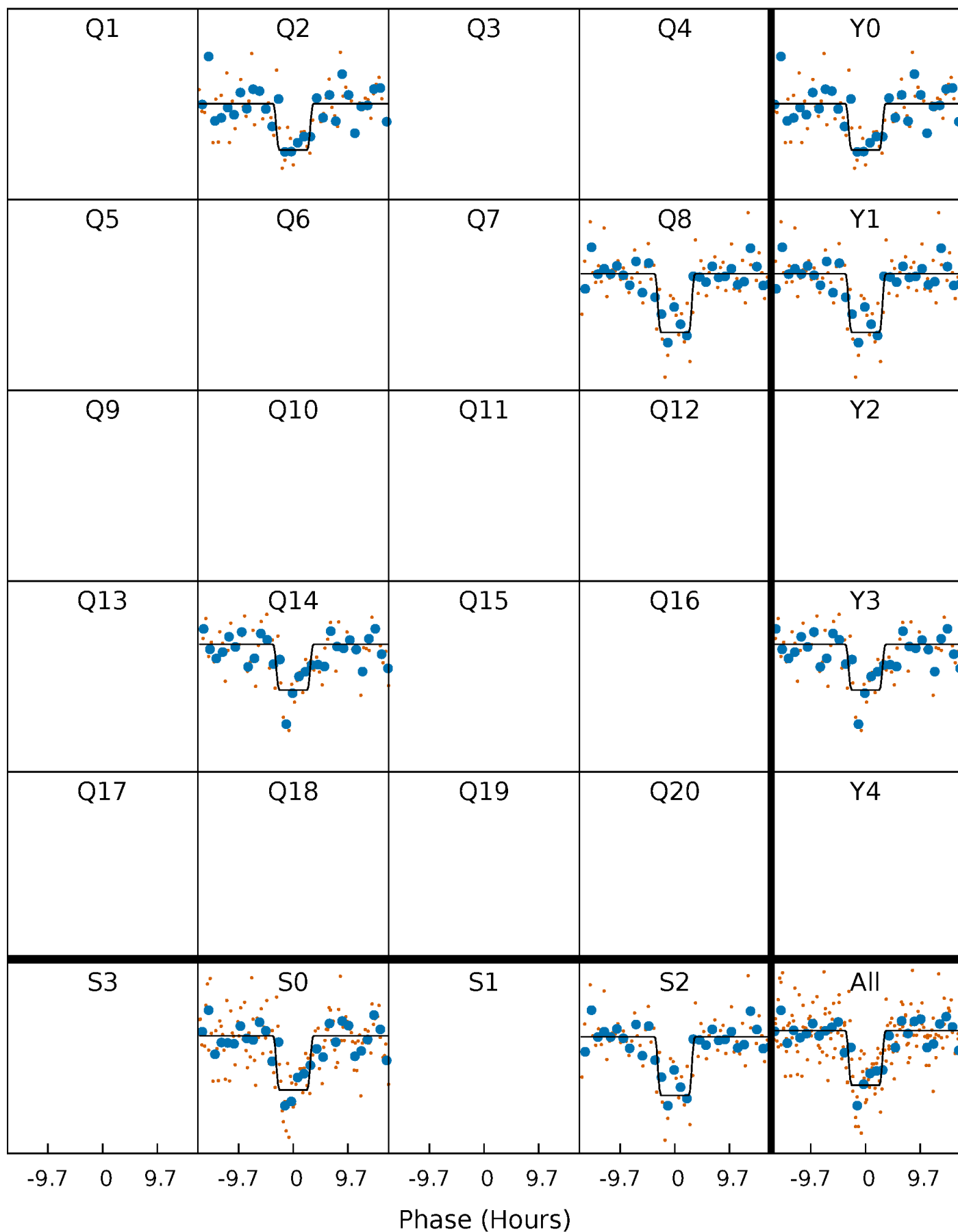
DV Quarter-Phased Transit Curves

TCE 004740780-01 P=548.036569 Days $T_0=237.381221$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

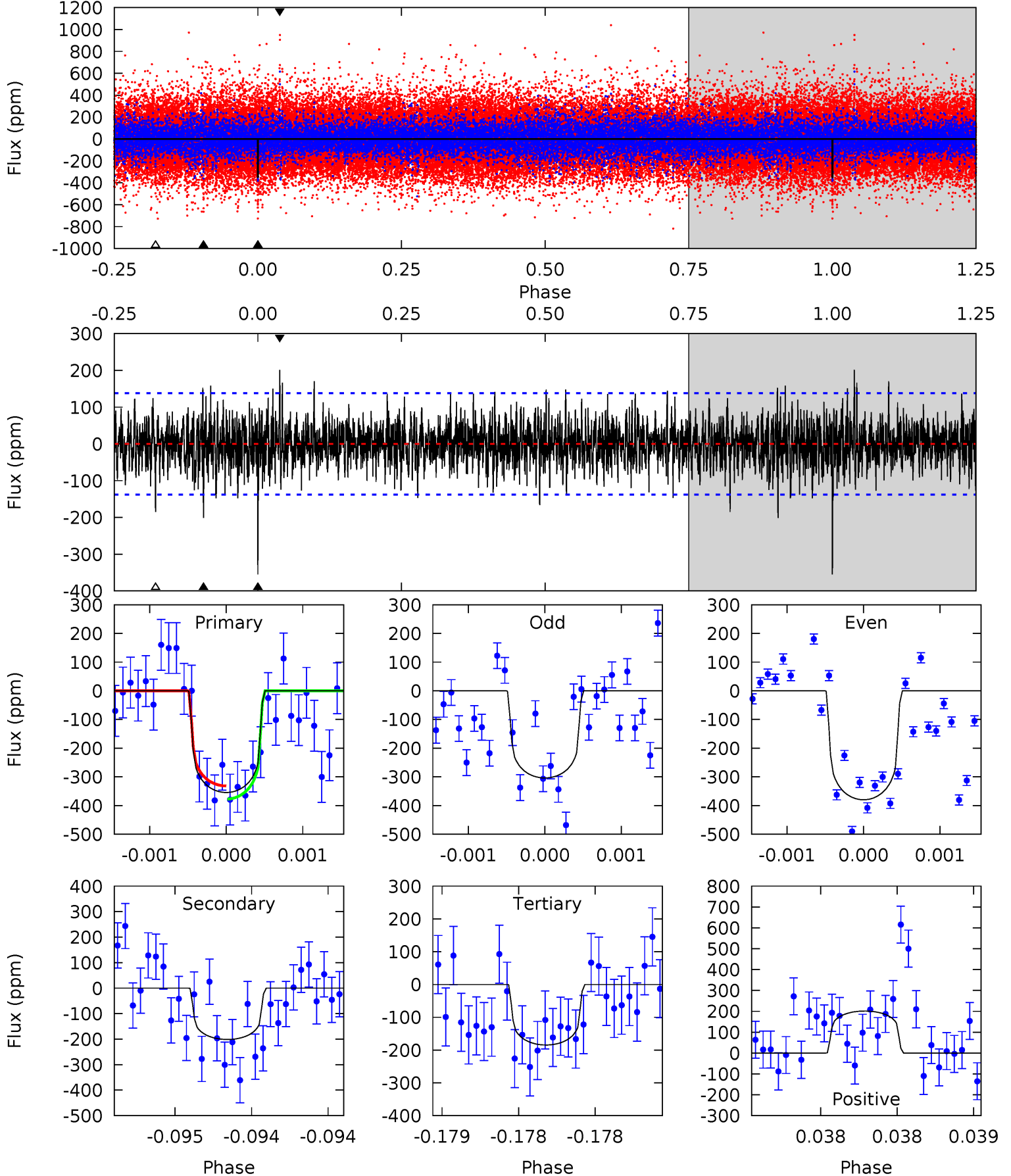
TCE 004740780-01 P=547.994023 Days $T_0=237.401644$ (BKJD)



DV Model-Shift Uniqueness Test

004740780-01, P = 548.036569 Days, E = 237.381221 Days

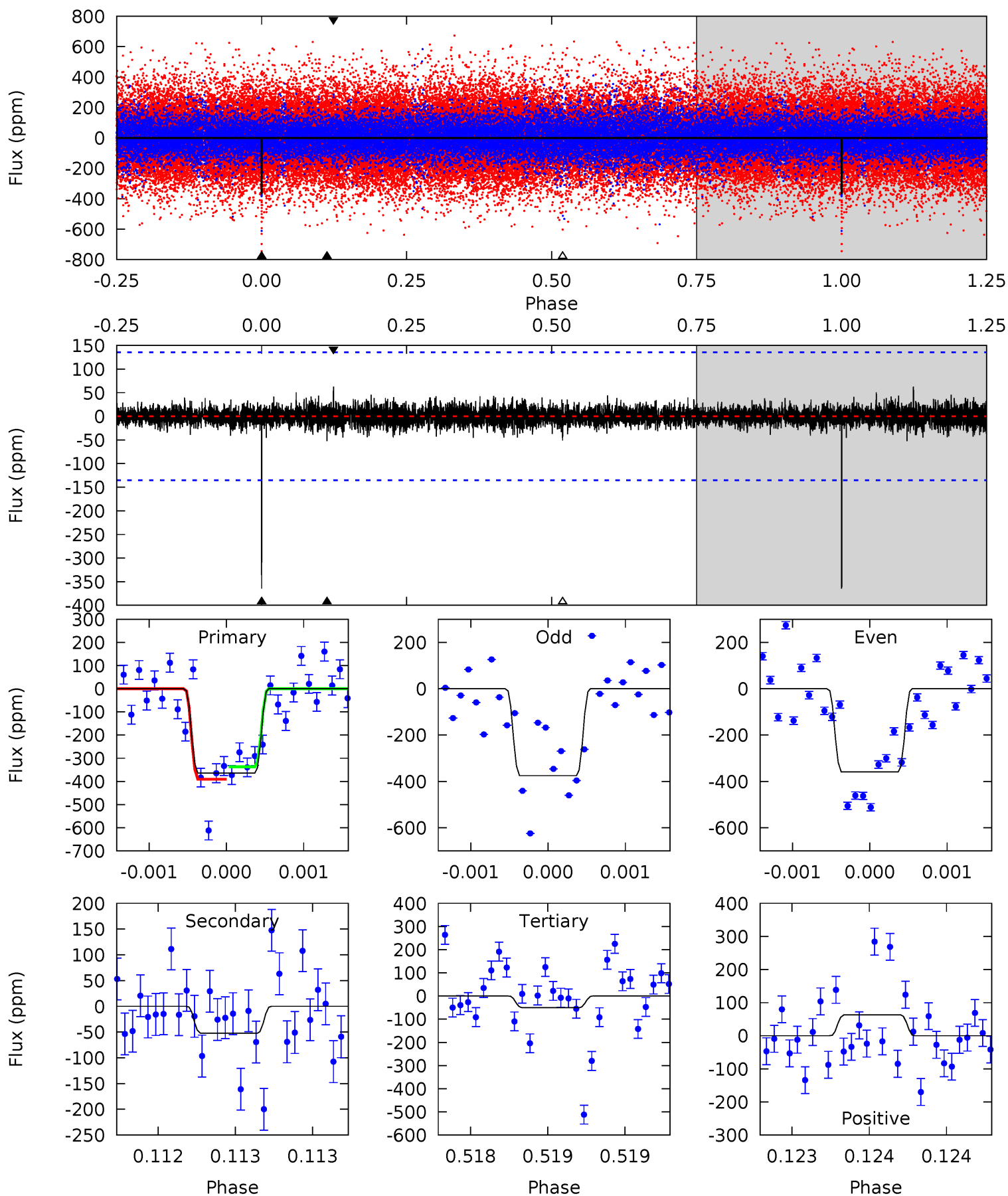
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	8.07	7.39	8.06	5.52	3.41	1.82	6.81	6.14	0.68	0.01	1.47	1.17	0.36	0.92



Alt Model-Shift Uniqueness Test

004740780-01, P = 547.994023 Days, E = 237.401644 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	2.16	2.09	2.58	5.57	3.48	0.48	12.9	12.4	0.07	-0.42	0.33	0.97	0.15	1.11



Stellar Parameters For KIC 004740780

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+165}_{-202}	$4.472^{+0.050}_{-0.200}$	$-0.160^{+0.250}_{-0.300}$	$0.992^{+0.309}_{-0.097}$	$1.063^{+0.139}_{-0.139}$	$1.535^{+0.406}_{-0.775}$
	+3%/-3%	+1%/-4%	+156%/-188%	+31%/-10%	+13%/-13%	+26%/-50%
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 004740780-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-201 ± 25	$2.28^{+1.53}_{-1.29}$	334^{+22}_{-16}	5227^{+2600}_{-973}	$36830^{+150752}_{-23616}$
Alt.	-52 ± 24	$2.32^{+1.56}_{-1.23}$	333^{+24}_{-14}	3946^{+1391}_{-703}	8744^{+32927}_{-6156}

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

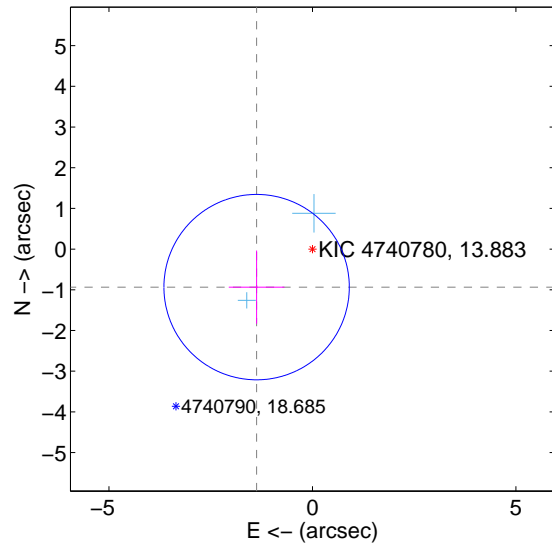
Supplemental centroid analysis for 004740780-01. Kepler magnitude: 13.88. Transit SNR 7.65

There are 2 quarters with good PRF difference image offsets

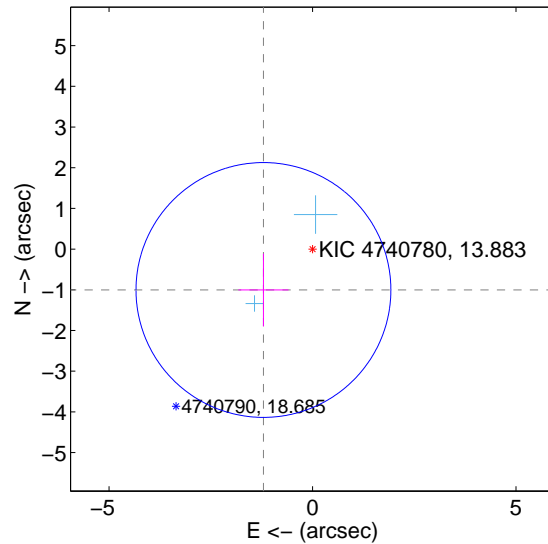
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.660 ± 0.759	2.19	1.372 ± 0.684	-0.935 ± 0.901
PRF-fit source offset from KIC position	1.570 ± 1.044	1.50	1.206 ± 0.616	-1.005 ± 0.895
photometric centroid source offset	2.08 ± 0.96	2.17	1.75 ± 0.97	-1.11 ± 0.94

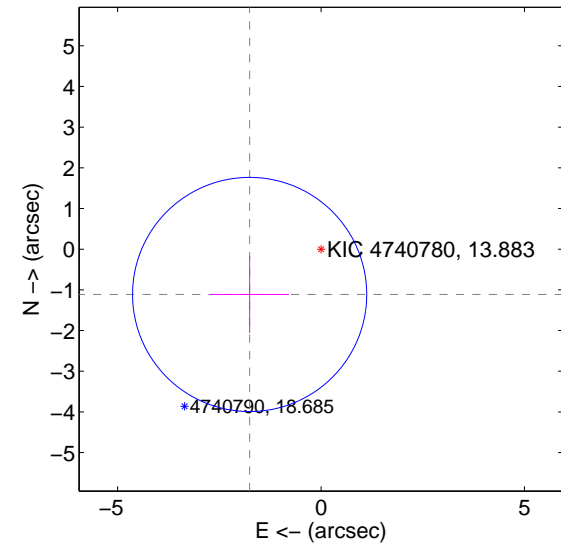
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

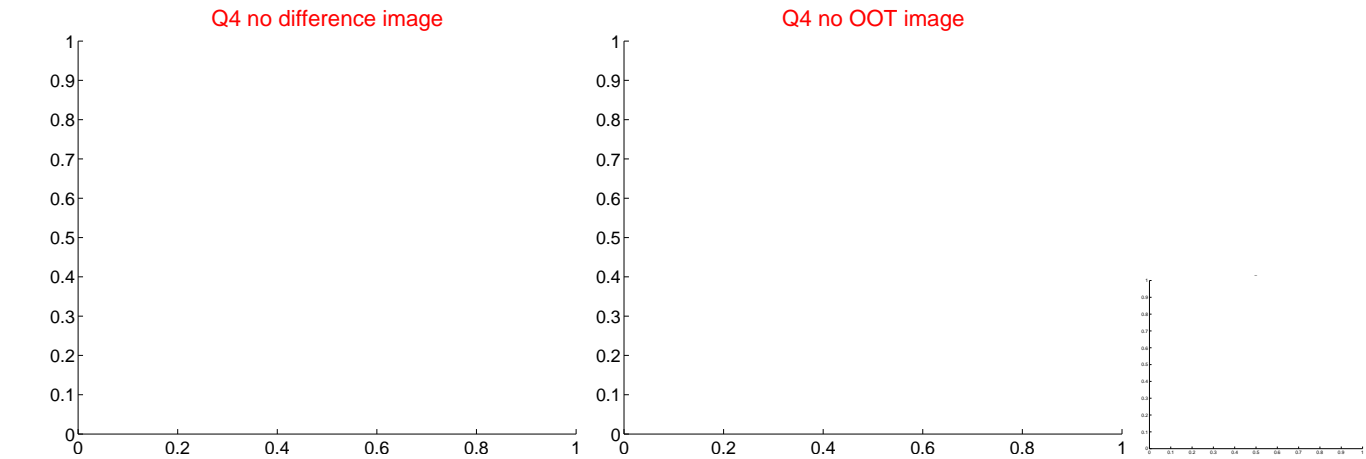
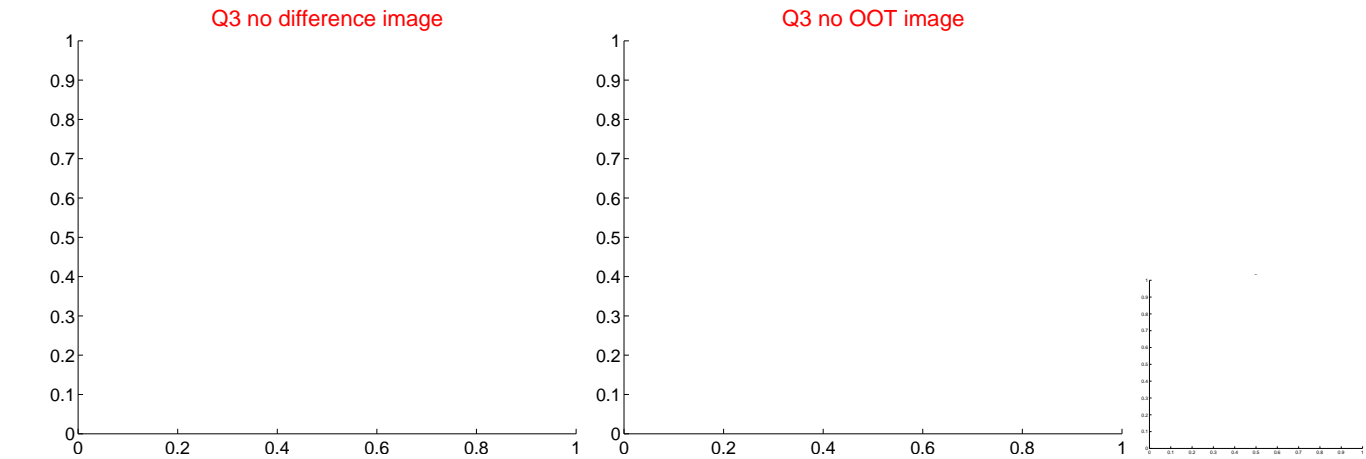
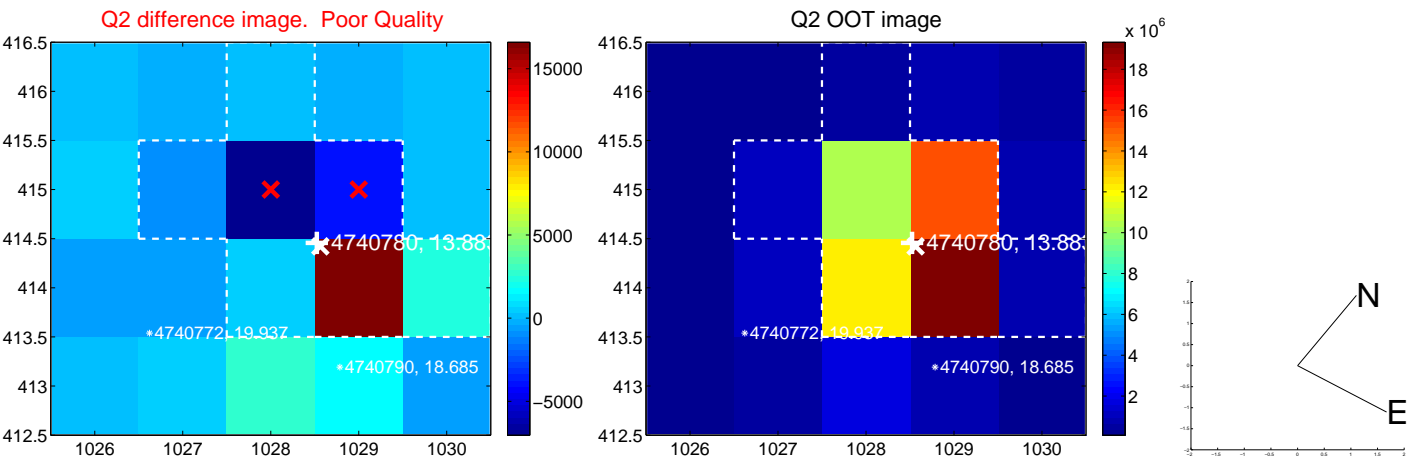
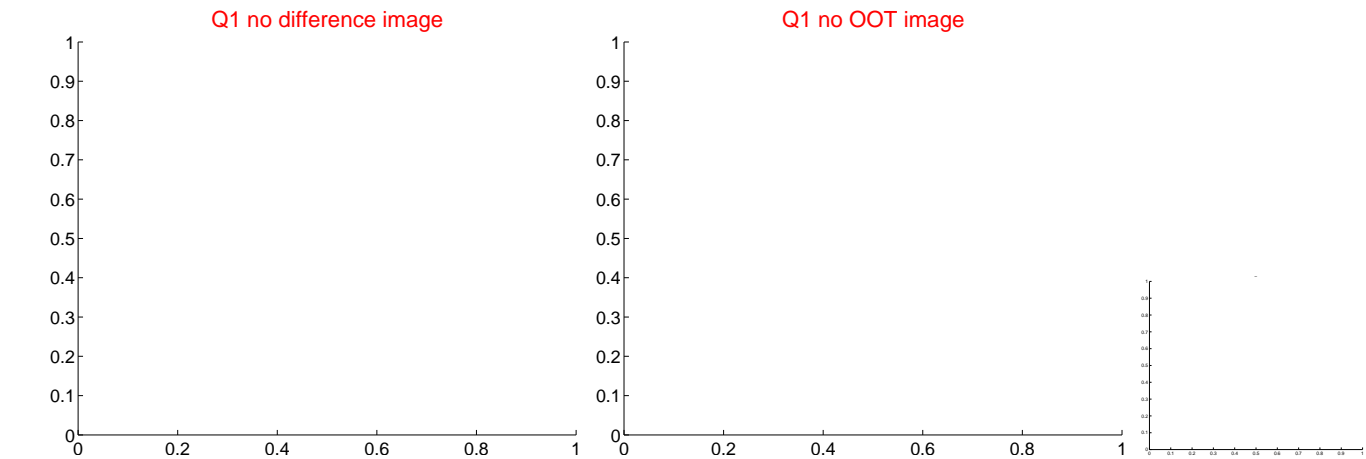


offset from photometric centroids

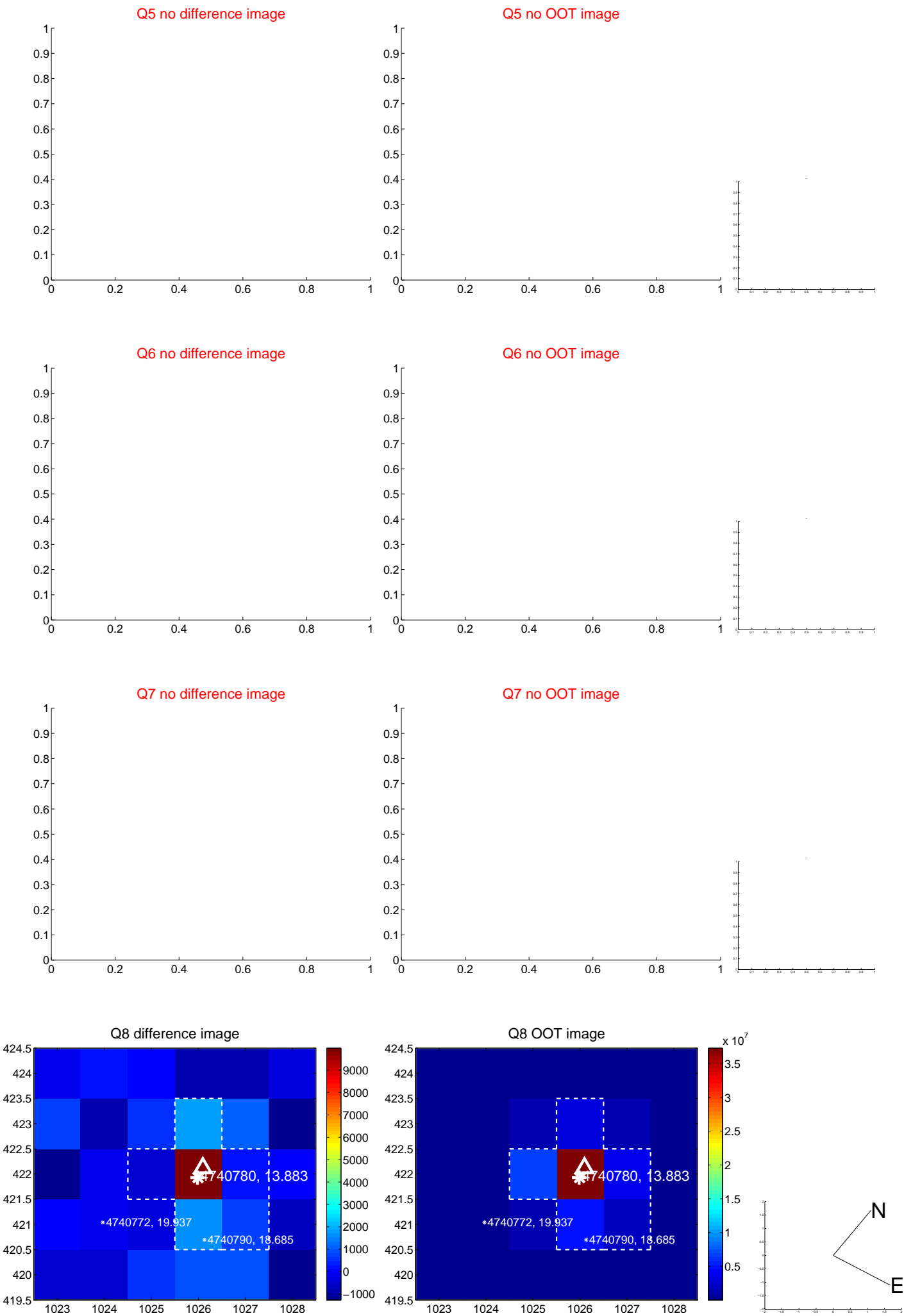


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

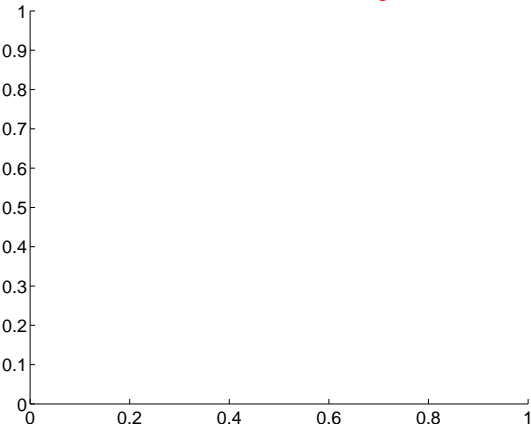


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

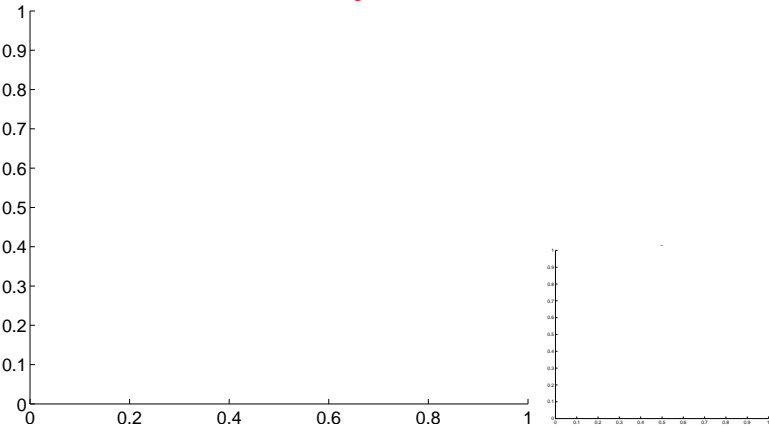


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

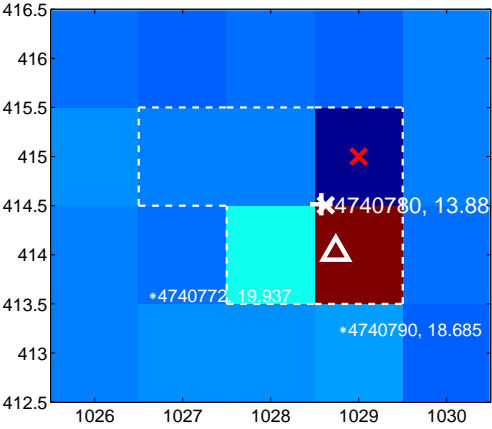
Q13 no difference image



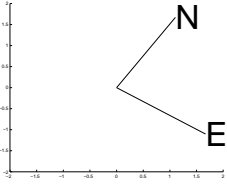
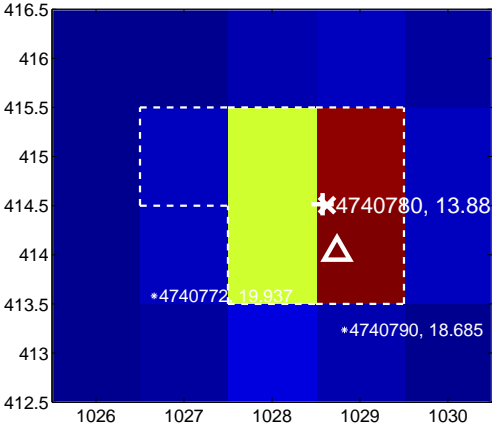
Q13 no OOT image



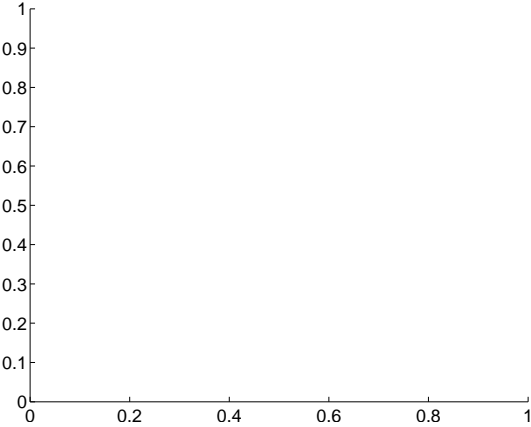
Q14 difference image



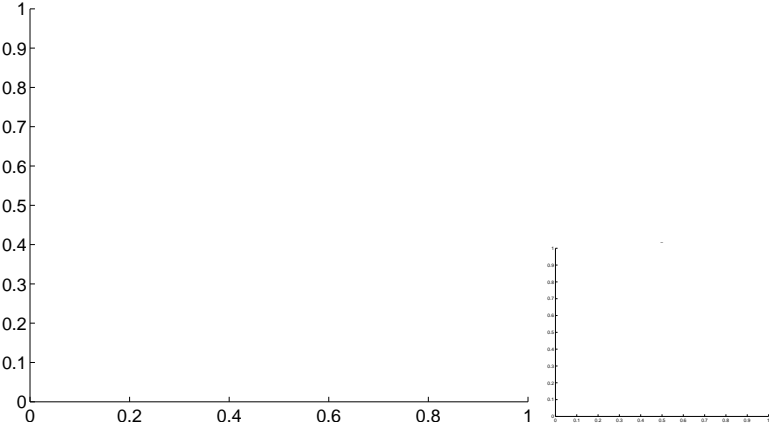
Q14 OOT image



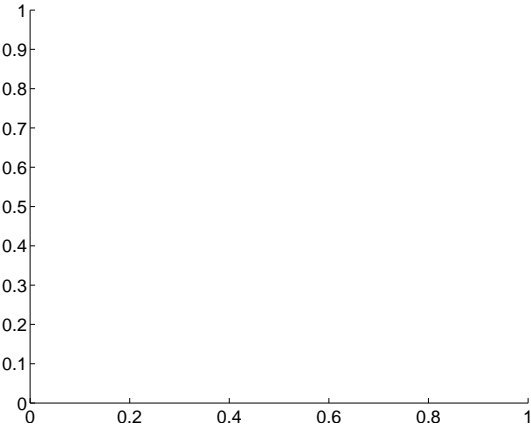
Q15 no difference image



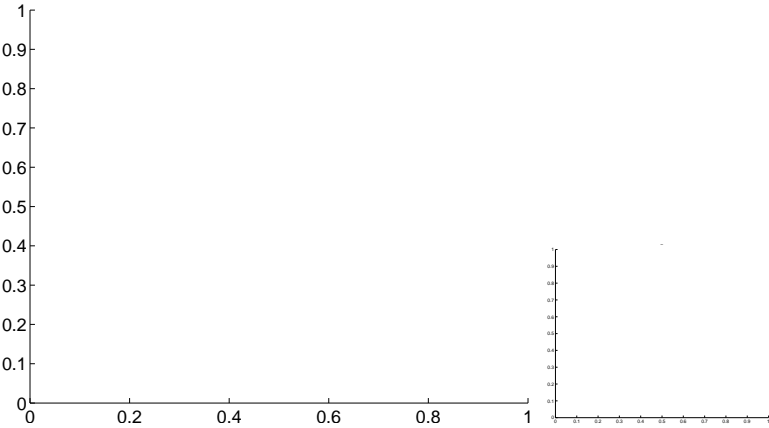
Q15 no OOT image



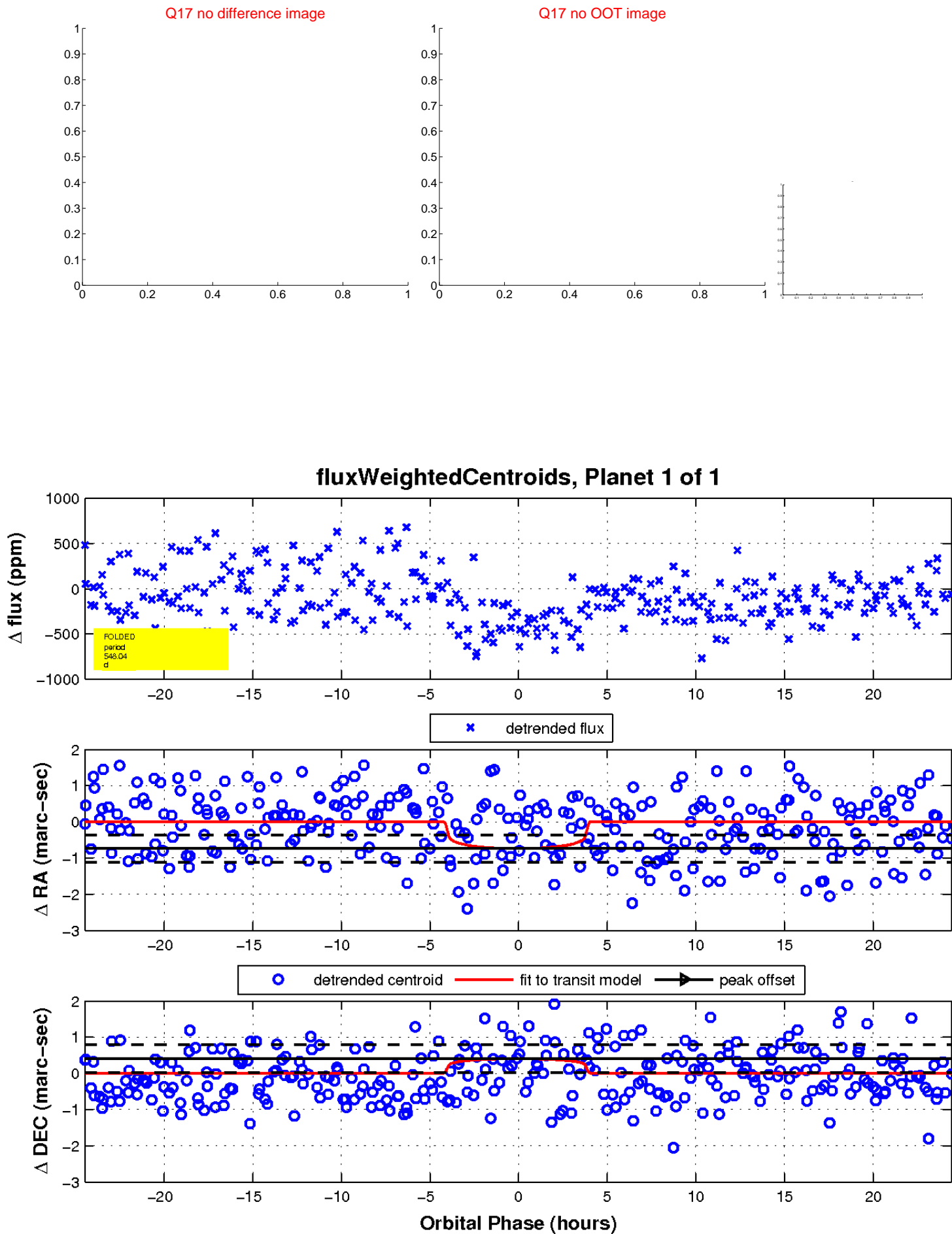
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

