

KIC 009814152

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})
009814152-01	OBS	No	603.616647	133.757066	480.5	6.138	8.2	7.9	1.06	6158	2.39	0.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009814152-01	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.

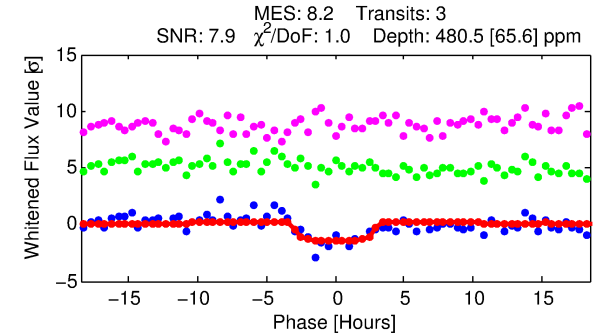
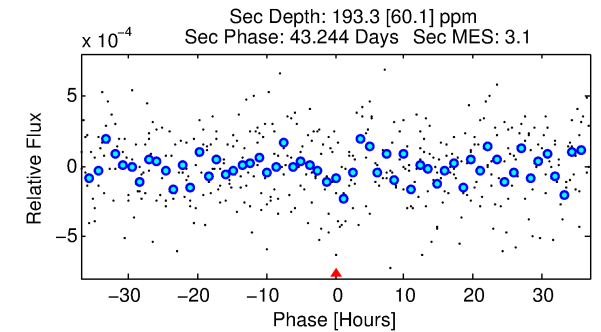
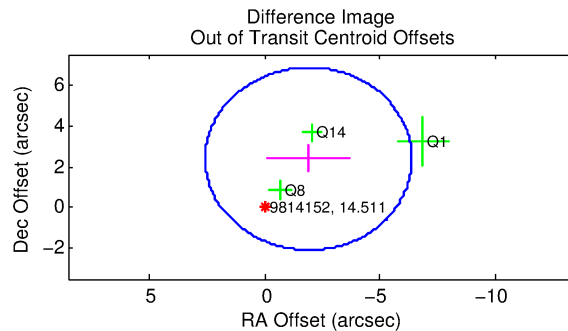
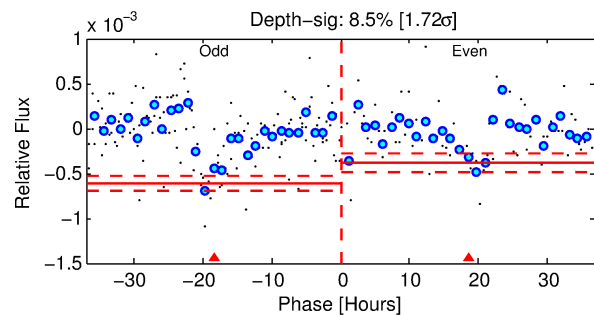
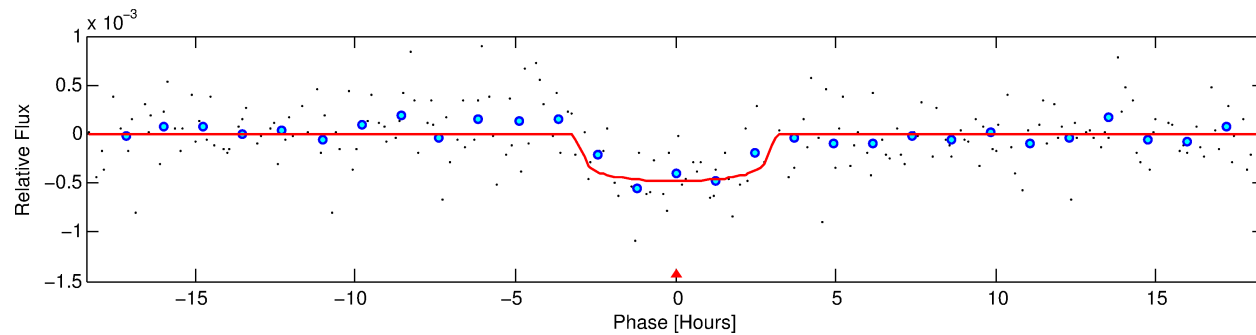
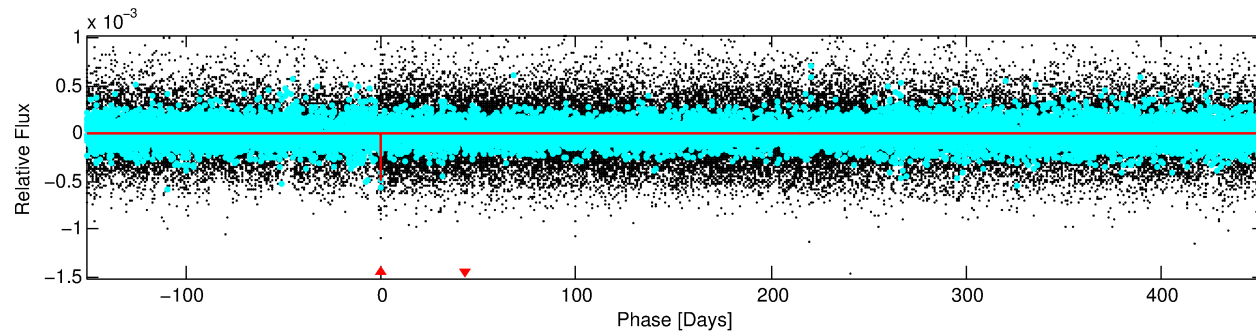
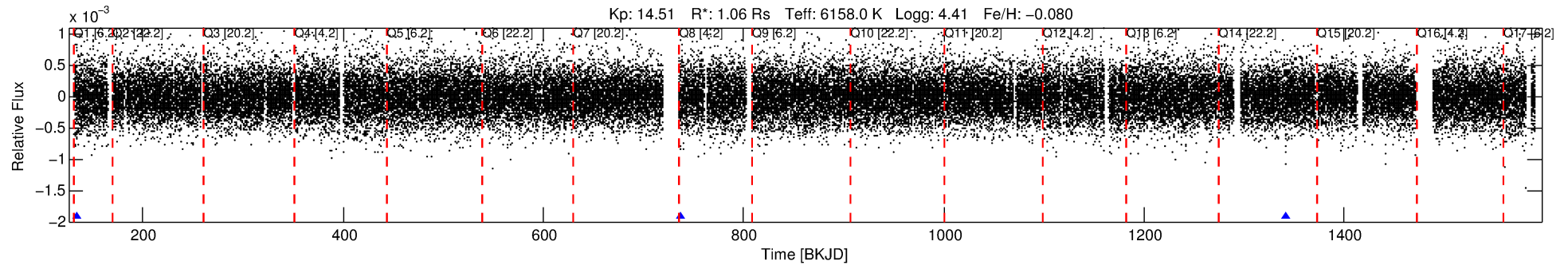
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009814152-01

No Significant Match Found

DV One-Page Summary

KIC: 9814152 Candidate: 1 of 1 Period: 603.617 d



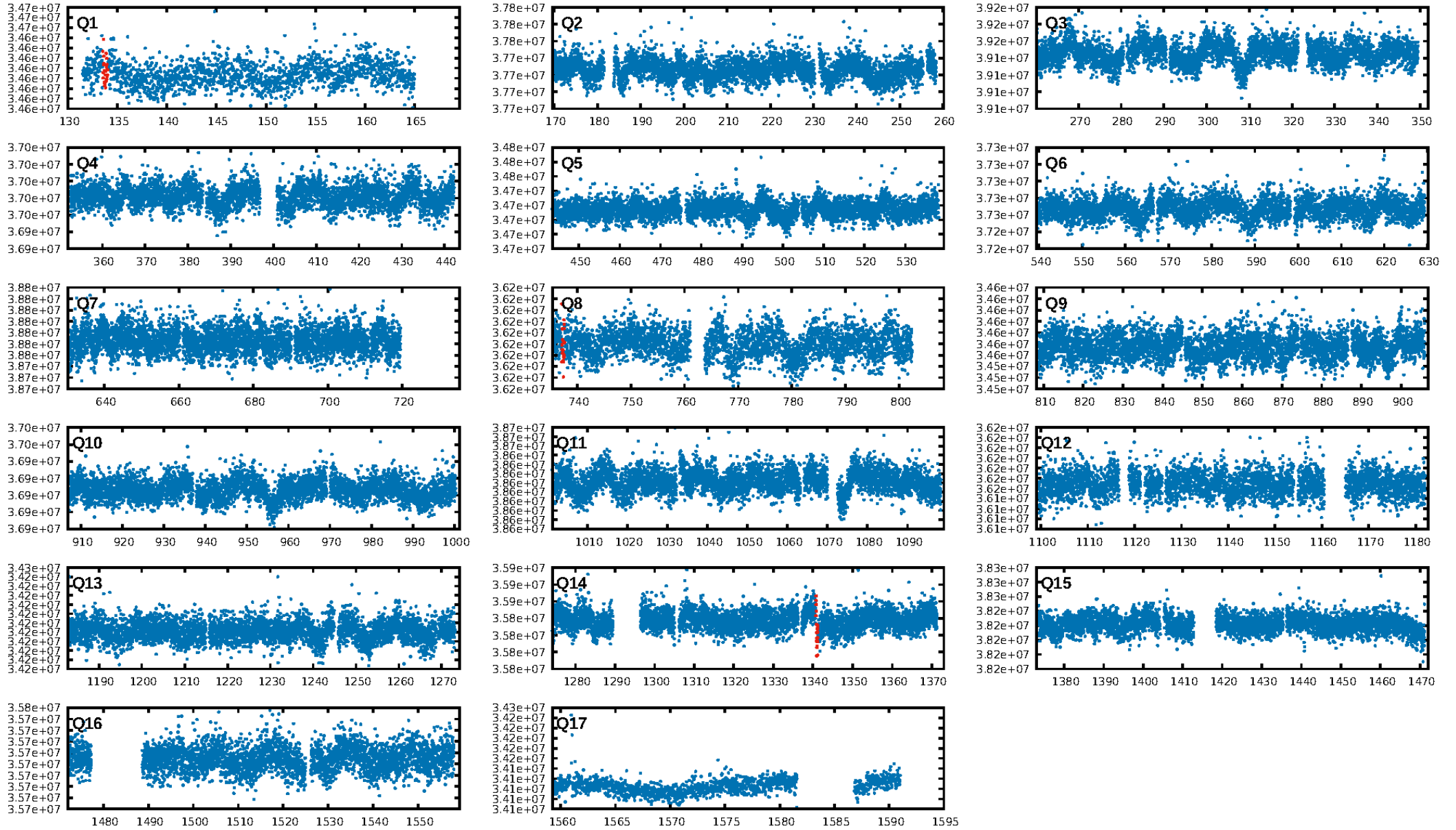
DV Fit Results:

Period = 603.61665 [0.00962] d
Epoch = 133.7571 [0.0135] BKJD
Rp/R* = 0.0206 [0.0241]
a/R* = 676.96 [3873.80]
b = 0.48 [9.28]
Seff = 0.72 [0.30]
Teq = 235 [25] K
Rp = 2.39 [2.91] Re
a = 1.4260 [0.3924] AU
Ag = 37718.20 [90312.31] [0.42σ]
Teffp = 5059 [2991] K [1.61σ]

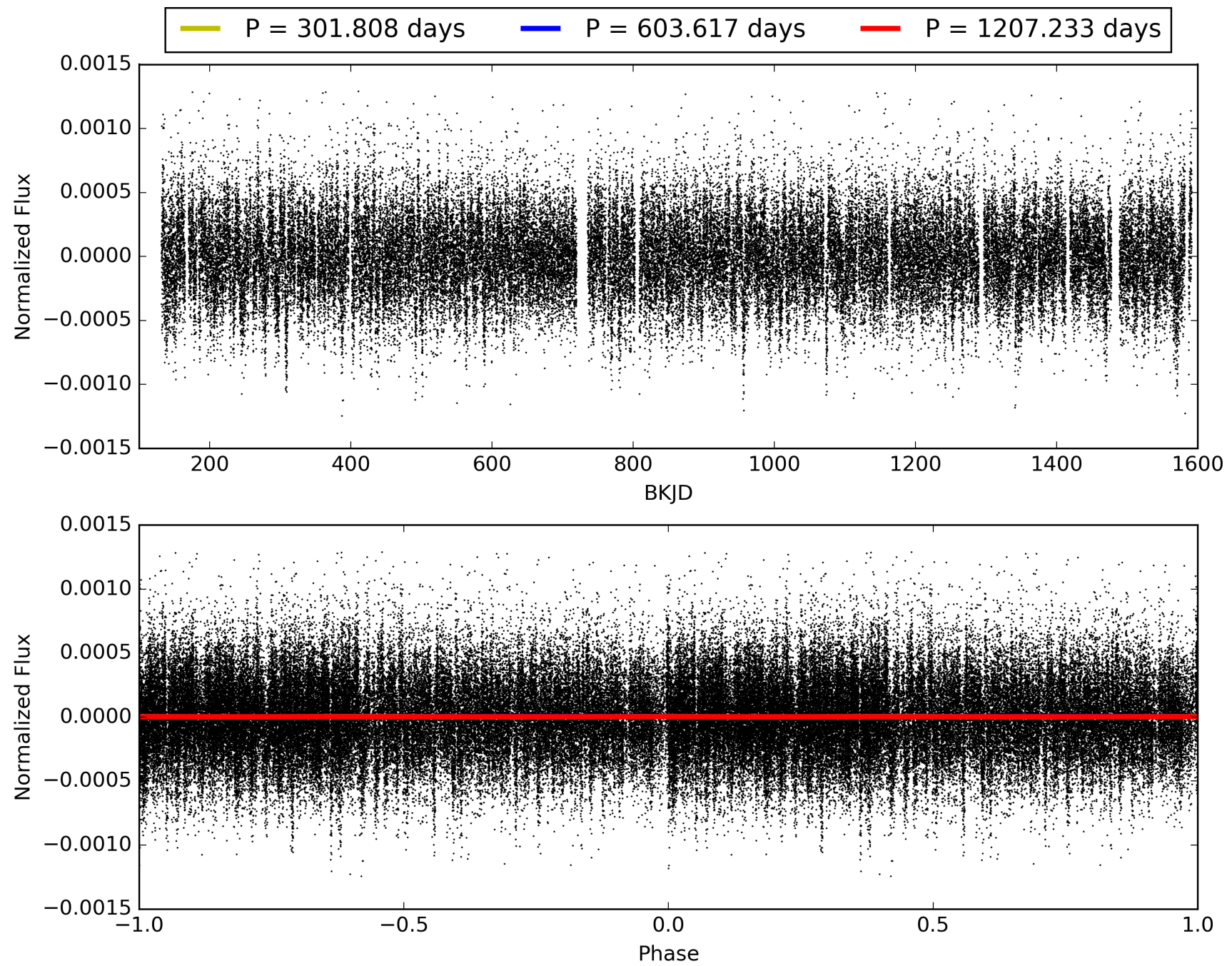
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.3%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 1.28e-14
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.4101
Centroid-sig: 16.4%
Centroid-so: 1.402 arcsec [0.92σ]
OotOffset-rm: 3.050 arcsec [2.05σ]
KicOffset-rm: 2.870 arcsec [2.48σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 009814152-01, PDC Light Curves

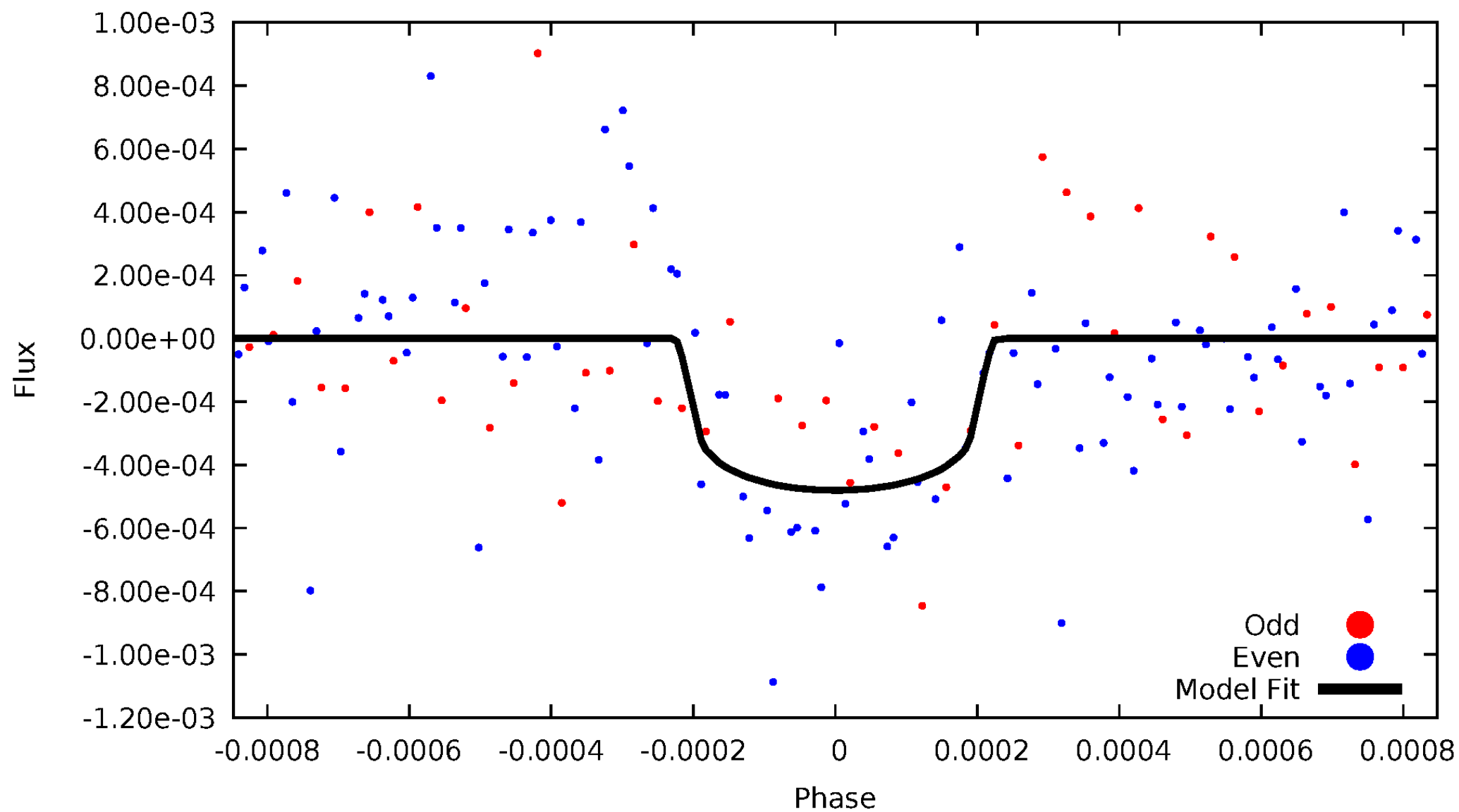


TCE 009814152-01



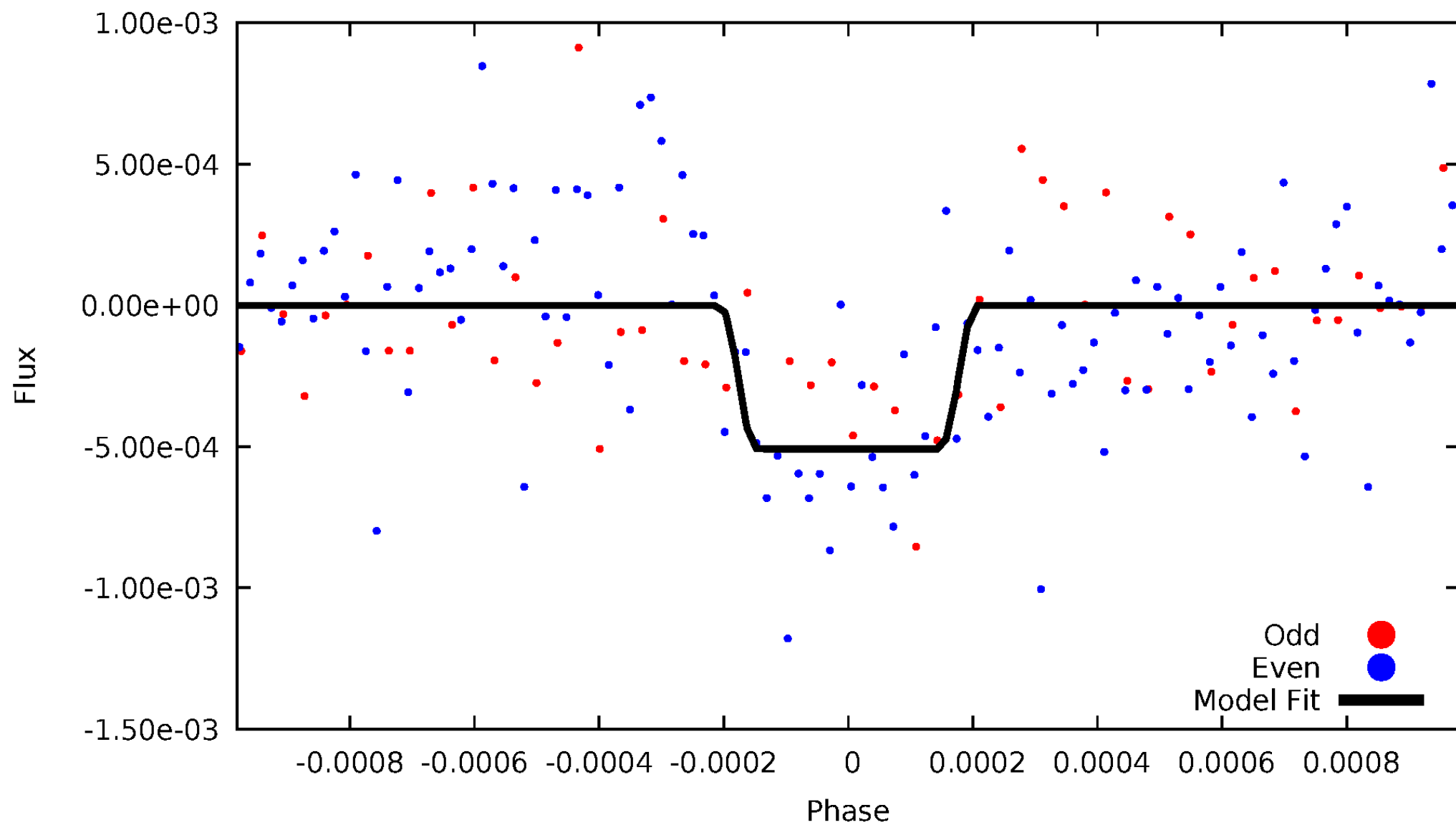
DV Odd/Even

TCE 009814152-01

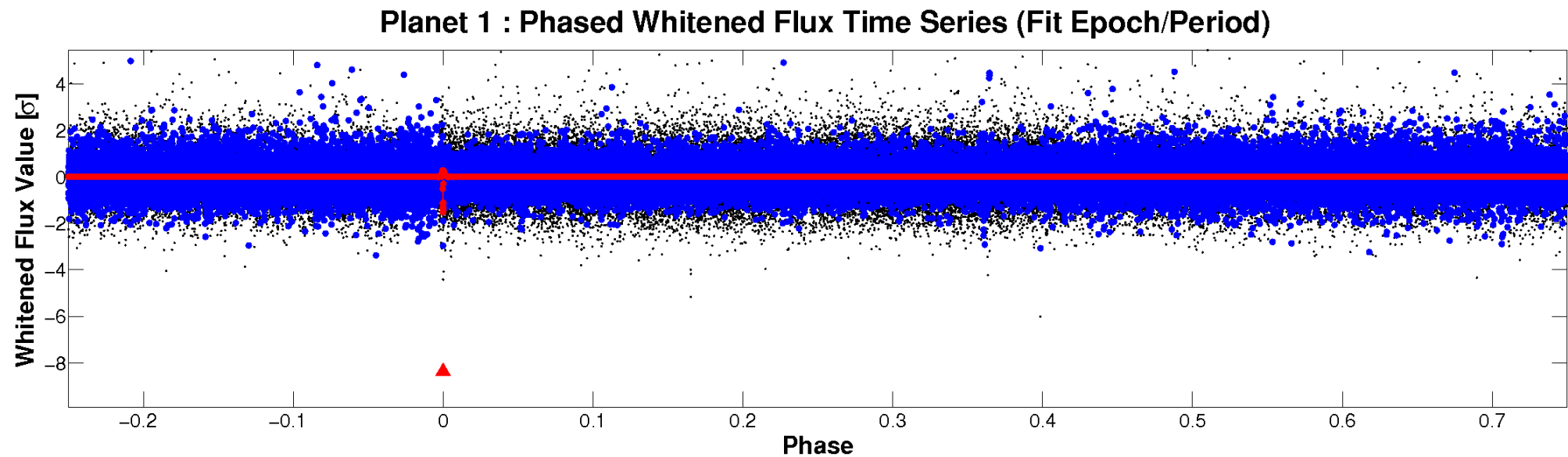
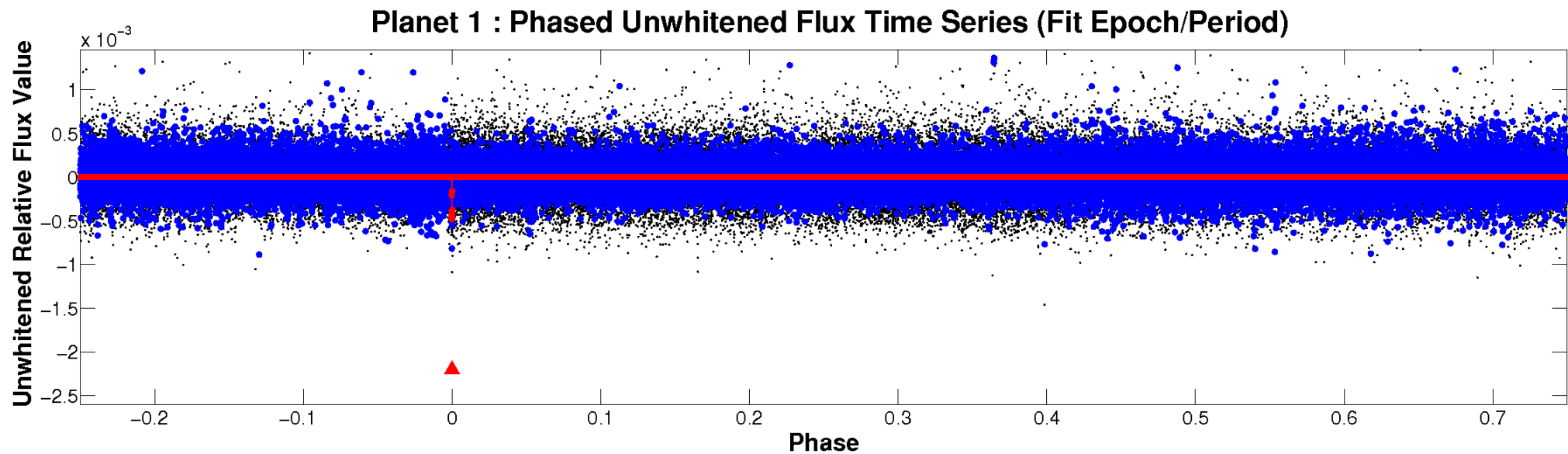


ALT Odd/Even

TCE 009814152-01

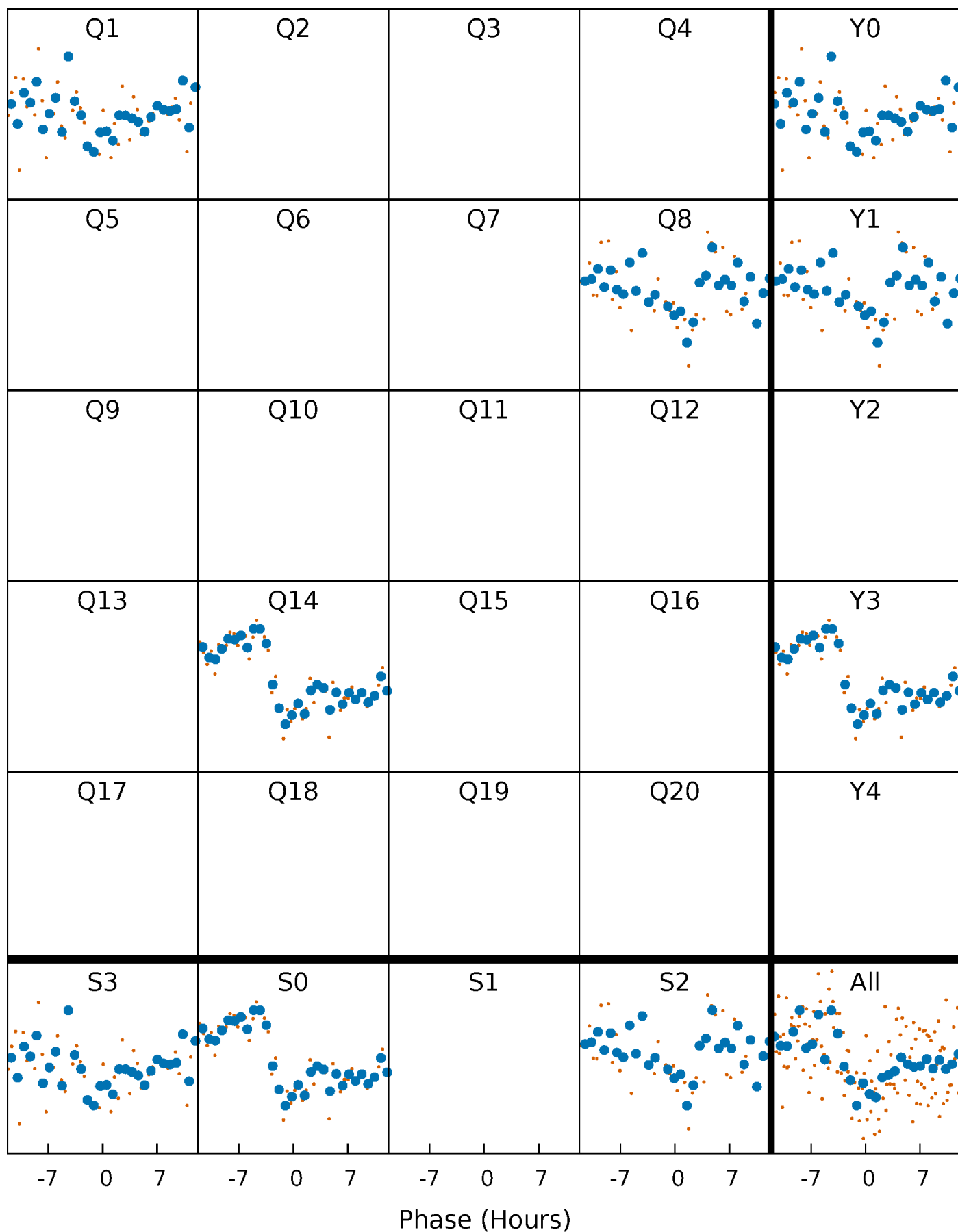


Non-Whitened Vs. Whitened Light Curve



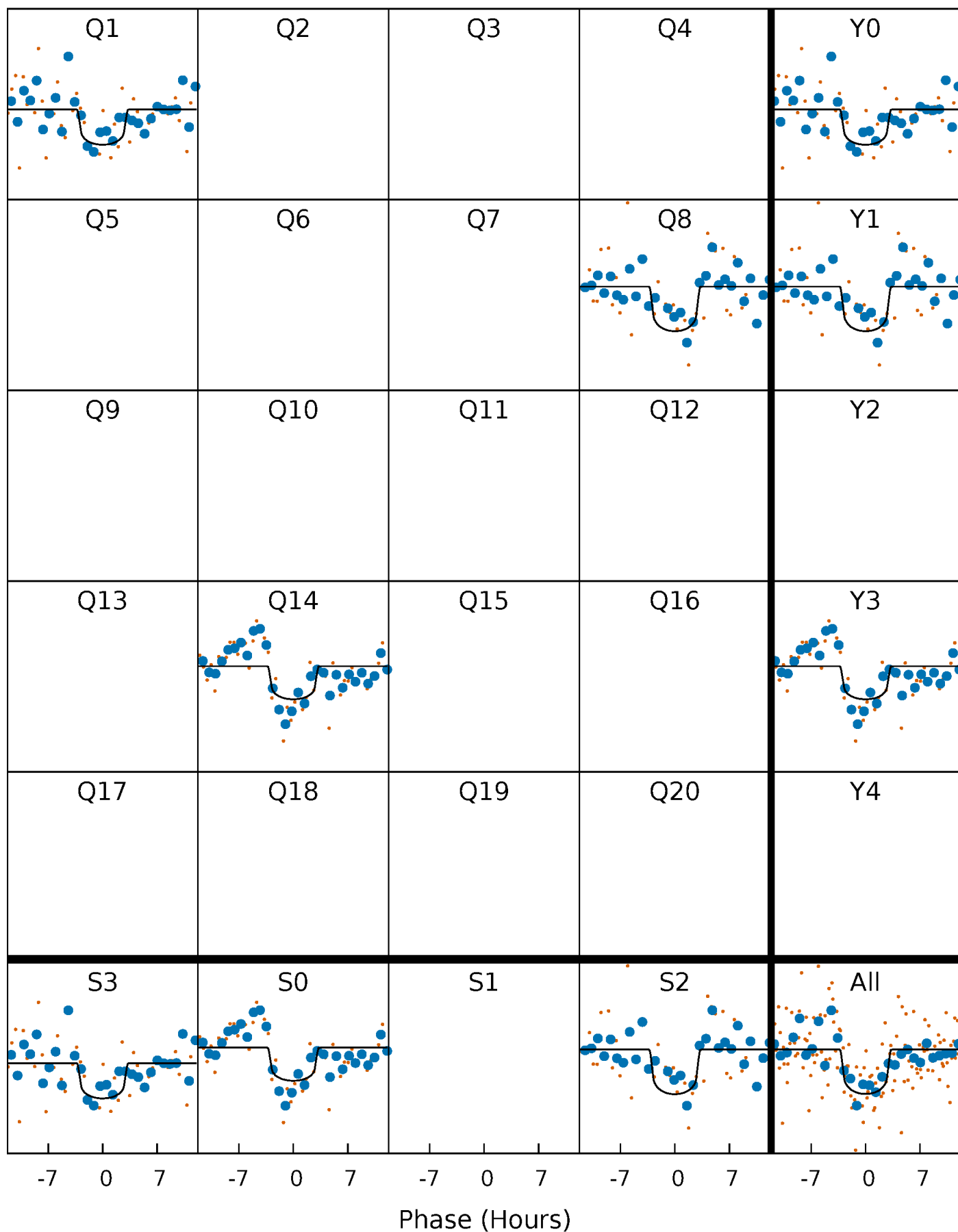
PDC Quarter-Phased Transit Curves

TCE 009814152-01 P=603.616647 Days $T_0=133.757066$ (BKJD)



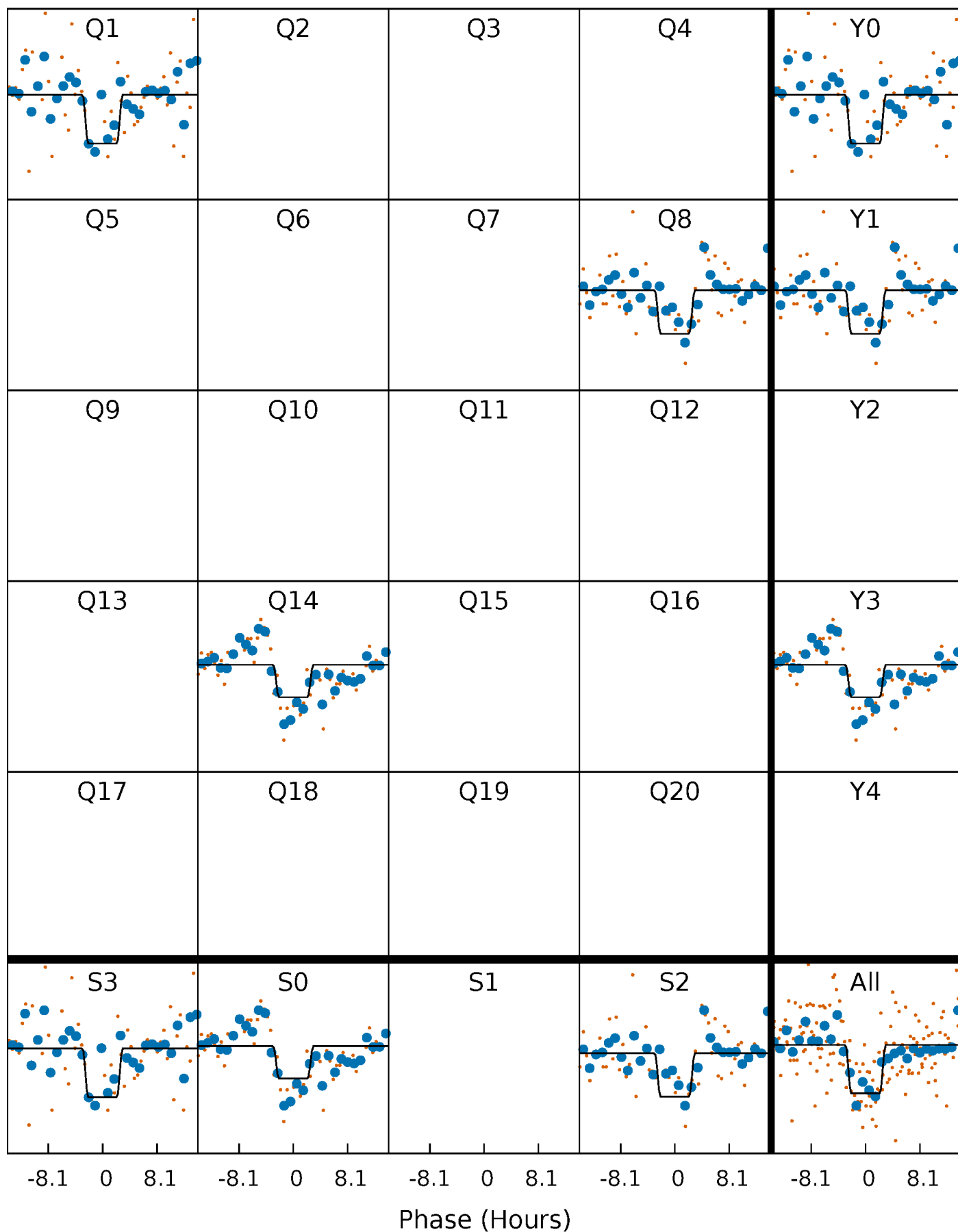
DV Quarter-Phased Transit Curves

TCE 009814152-01 P=603.616647 Days $T_0=133.757066$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

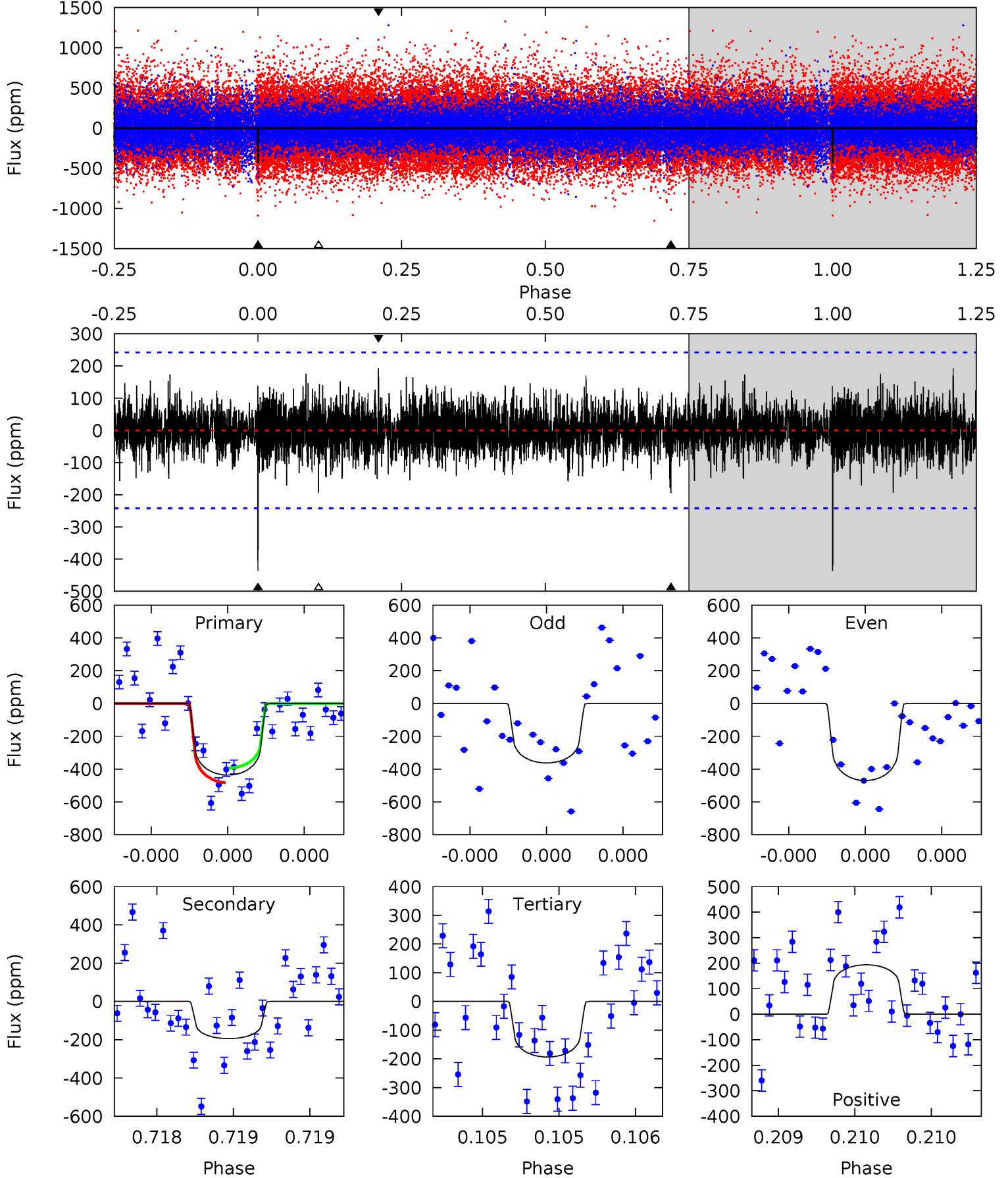
TCE 009814152-01 P=603.614174 Days $T_0=133.767799$ (BKJD)



DV Model-Shift Uniqueness Test

009814152-01, P = 603.616647 Days, E = 133.757066 Days

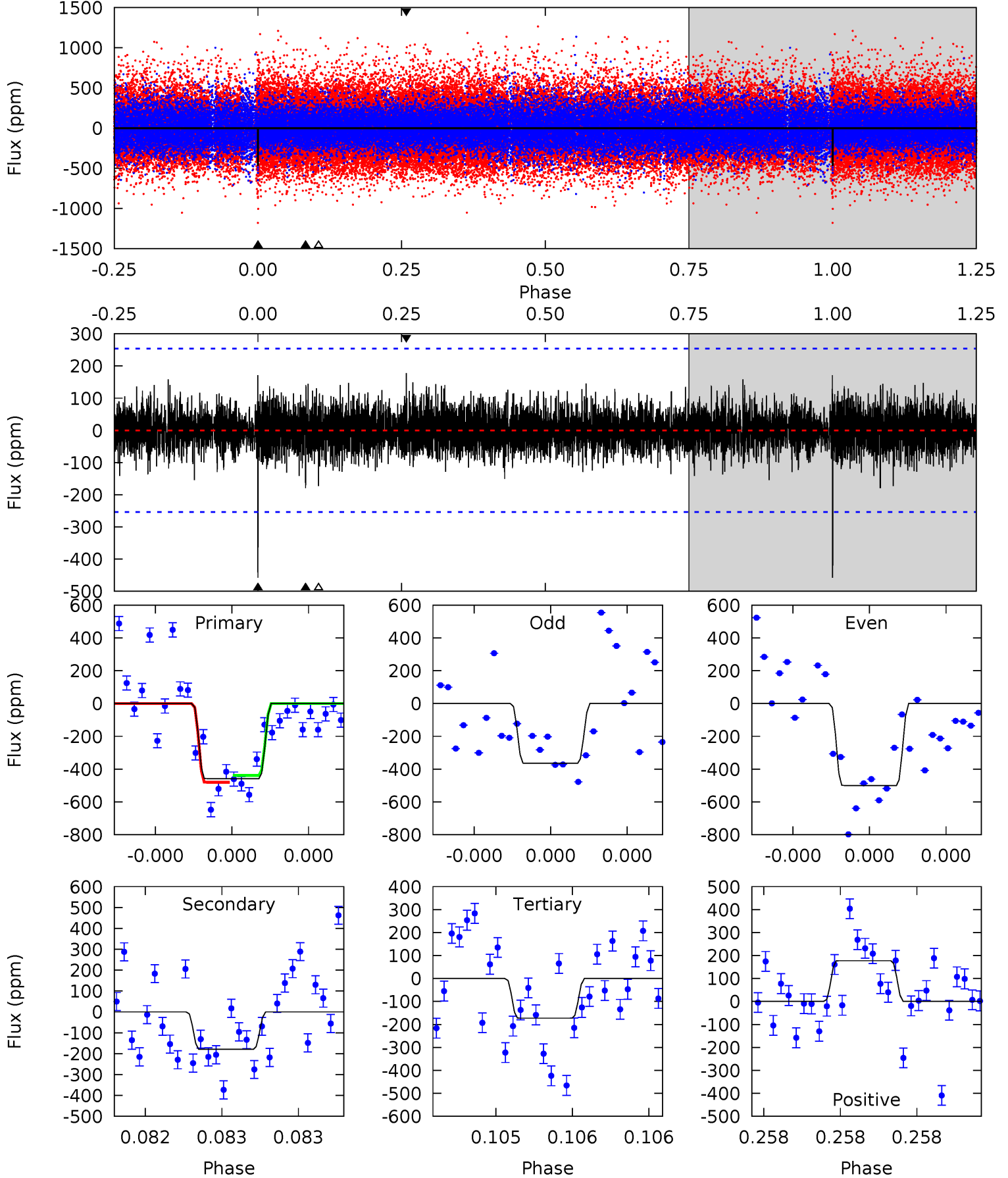
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	4.49	4.47	4.47	5.59	3.51	1.10	5.61	5.61	0.02	0.01	1.16	1.15	0.31	1.03



Alt Model-Shift Uniqueness Test

009814152-01, P = 603.614174 Days, E = 133.767799 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	3.96	3.82	3.92	5.61	3.54	0.96	6.30	6.20	0.15	0.05	1.41	1.25	0.28	0.47



Stellar Parameters For KIC 009814152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6158^{+171}_{-214}	$4.409^{+0.072}_{-0.217}$	$-0.080^{+0.250}_{-0.300}$	$1.065^{+0.350}_{-0.125}$	$1.057^{+0.167}_{-0.125}$	$1.233^{+0.472}_{-0.653}$
	+3%/-3%	+2%/-5%	+312%/-375%	+33%/-12%	+16%/-12%	+38%/-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 009814152-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-194 ± 43	$3.11^{+3.01}_{-1.97}$	334^{+27}_{-18}	4665^{+2796}_{-968}	$21591^{+141529}_{-15918}$
Alt.	-179 ± 45	$3.37^{+2.89}_{-2.24}$	333^{+25}_{-17}	4395^{+3088}_{-854}	$16841^{+140110}_{-11865}$

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

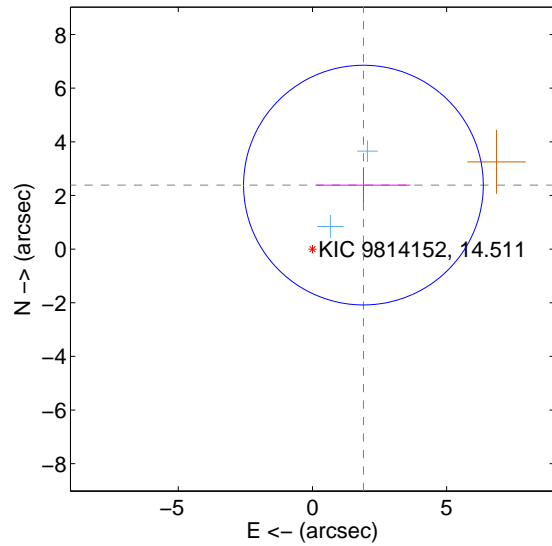
Supplemental centroid analysis for 009814152-01. Kepler magnitude: 14.51. Transit SNR 7.94

There are 2 quarters with good PRF difference image offsets

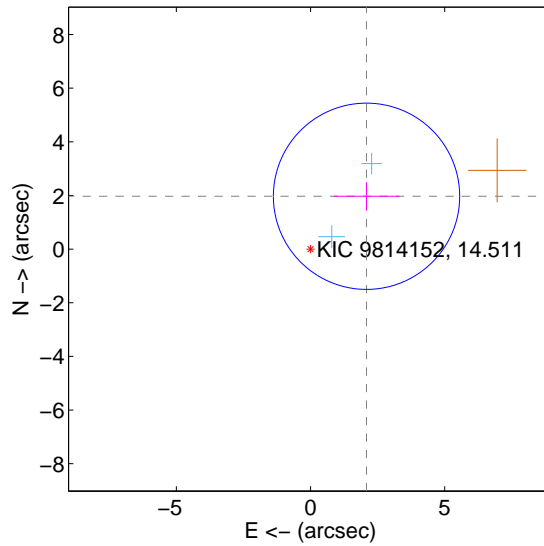
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.050 ± 1.489	2.05	-1.901 ± 1.752	2.386 ± 0.659
PRF-fit source offset from KIC position	2.870 ± 1.157	2.48	-2.088 ± 1.232	1.970 ± 0.521
photometric centroid source offset	1.40 ± 1.52	0.92	-0.86 ± 1.53	1.10 ± 1.52

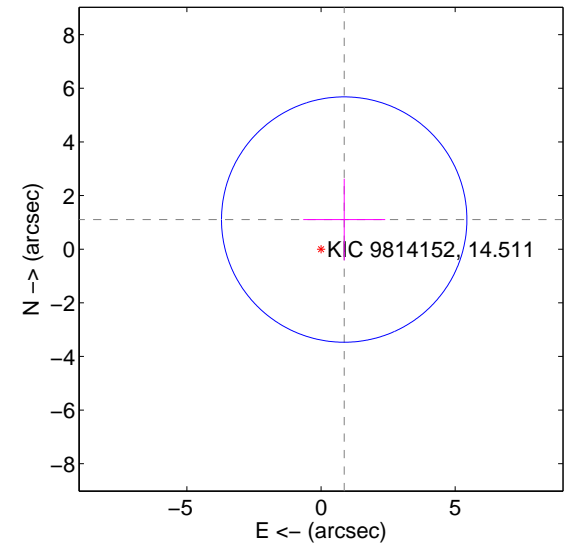
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

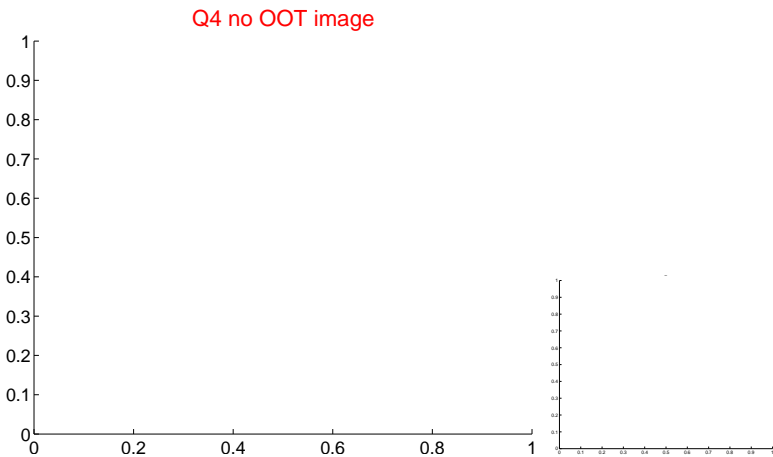
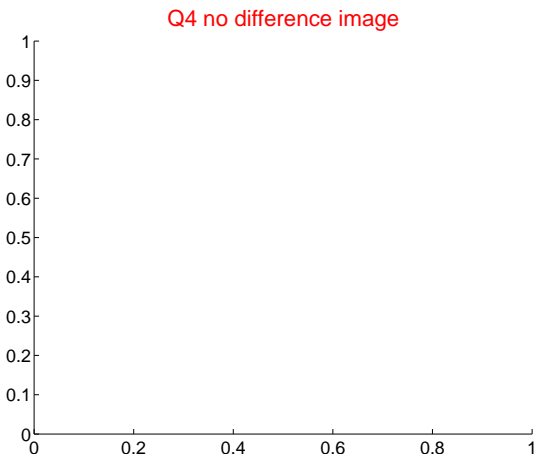
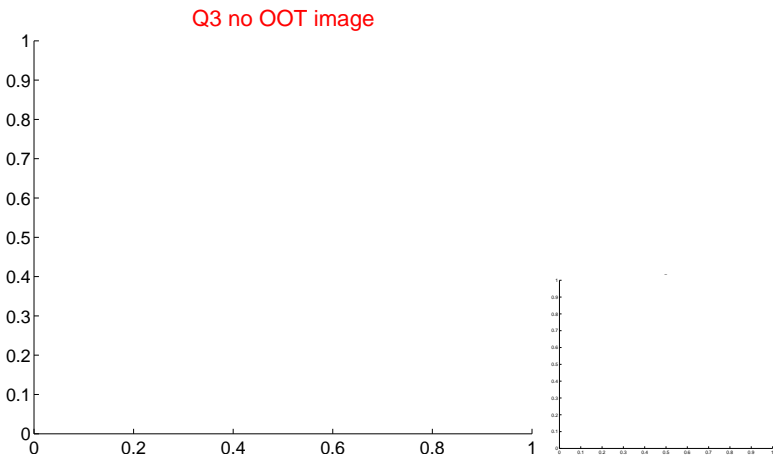
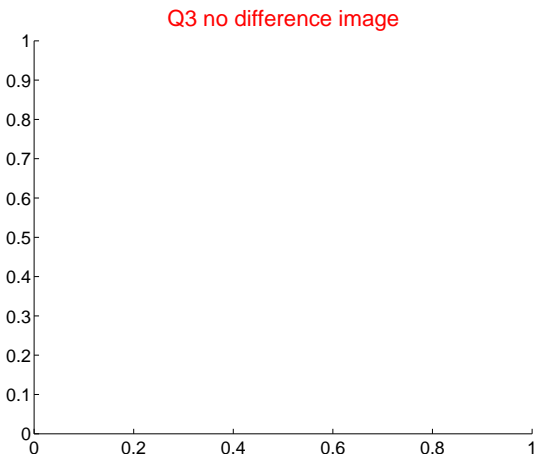
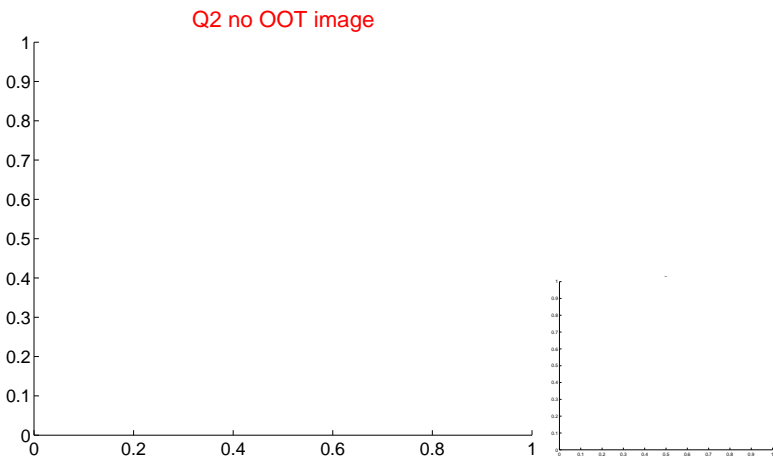
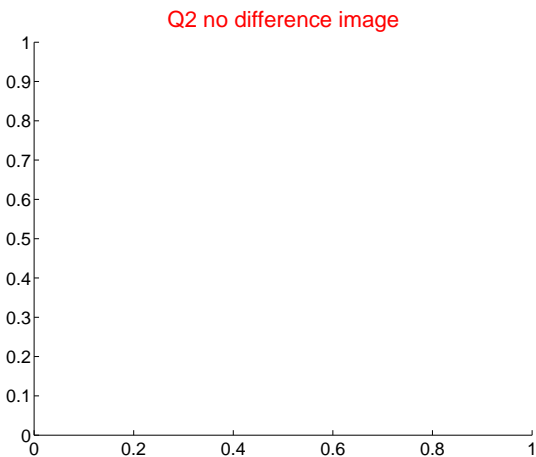
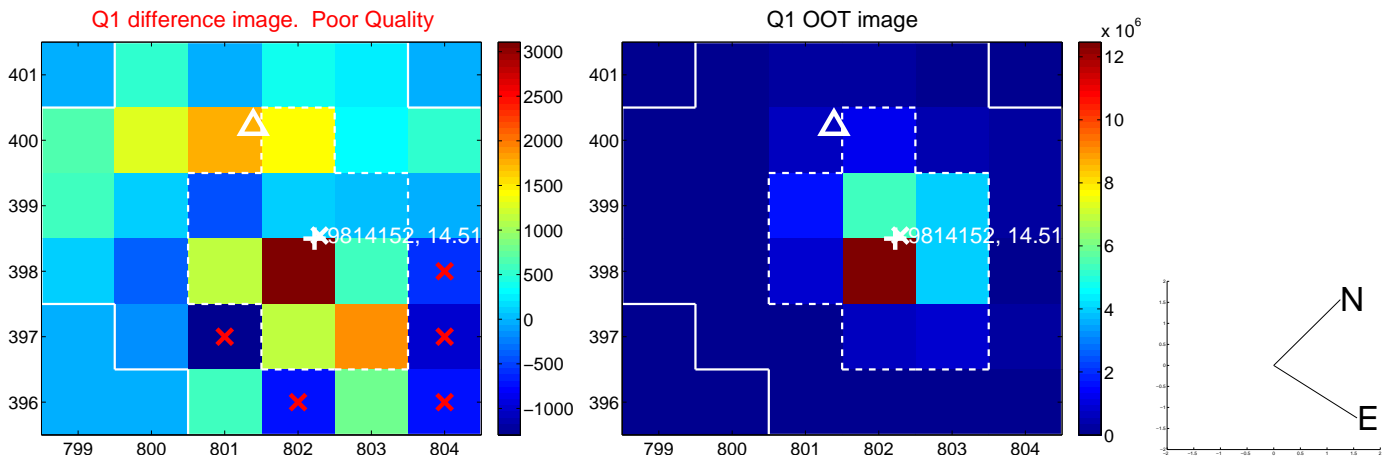


offset from photometric centroids

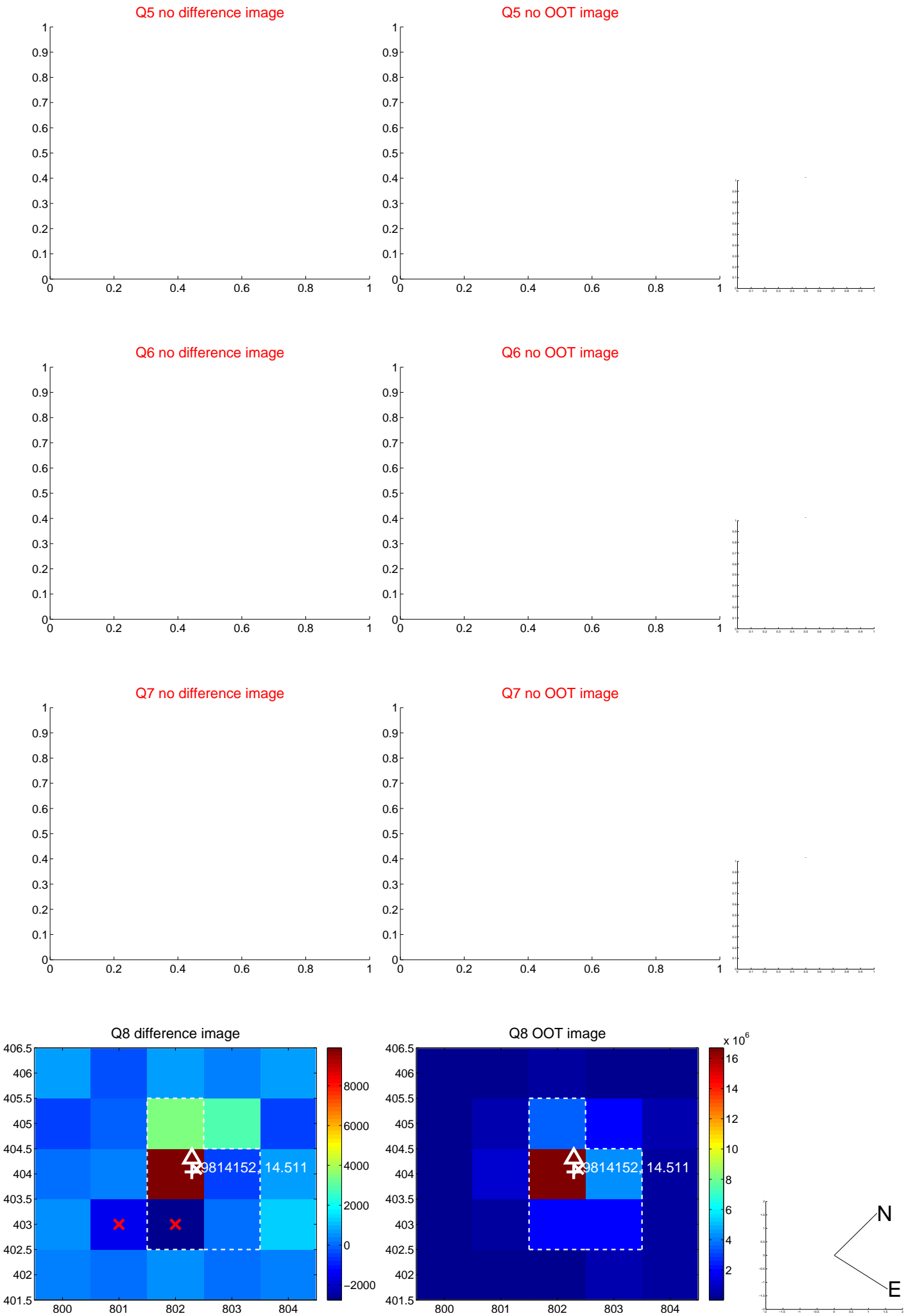


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

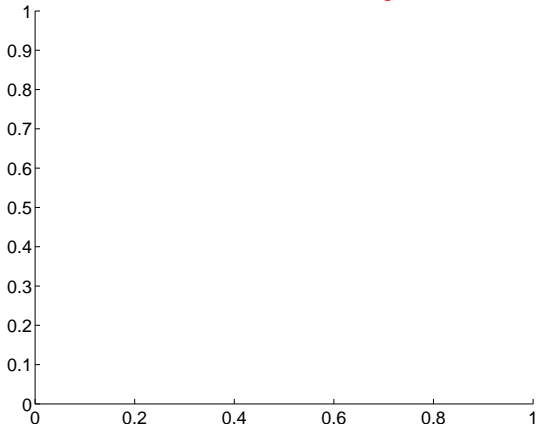


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

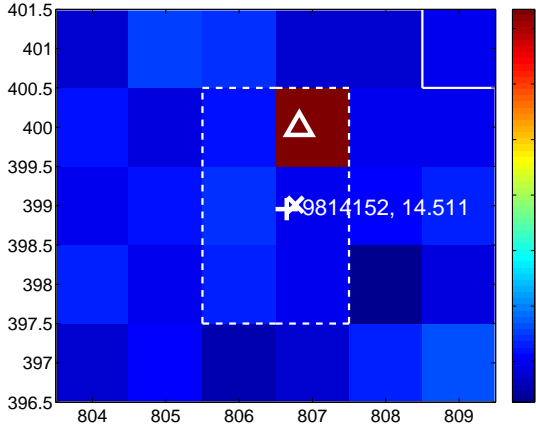
Q13 no difference image



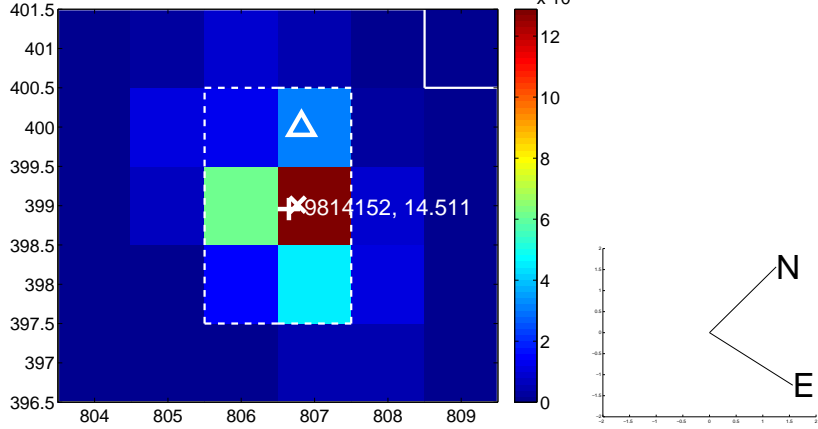
Q13 no OOT image



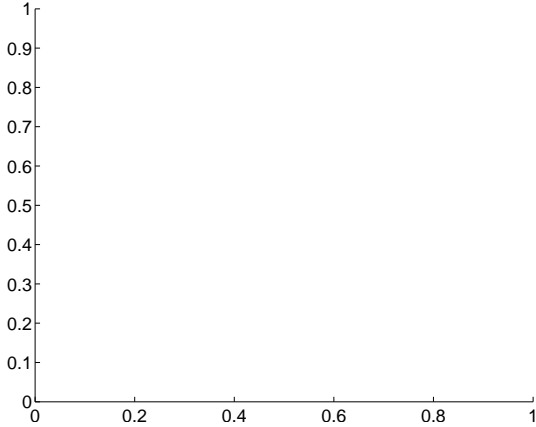
Q14 difference image



Q14 OOT image



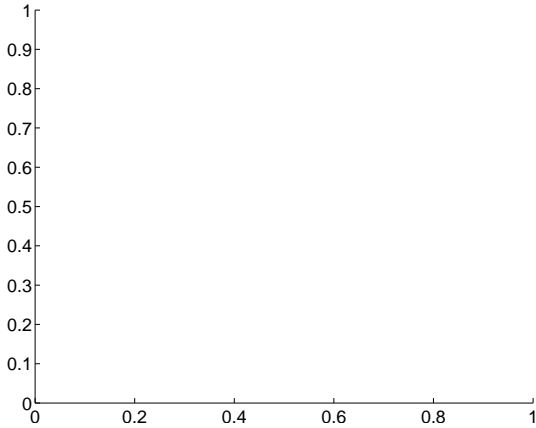
Q15 no difference image



Q15 no OOT image



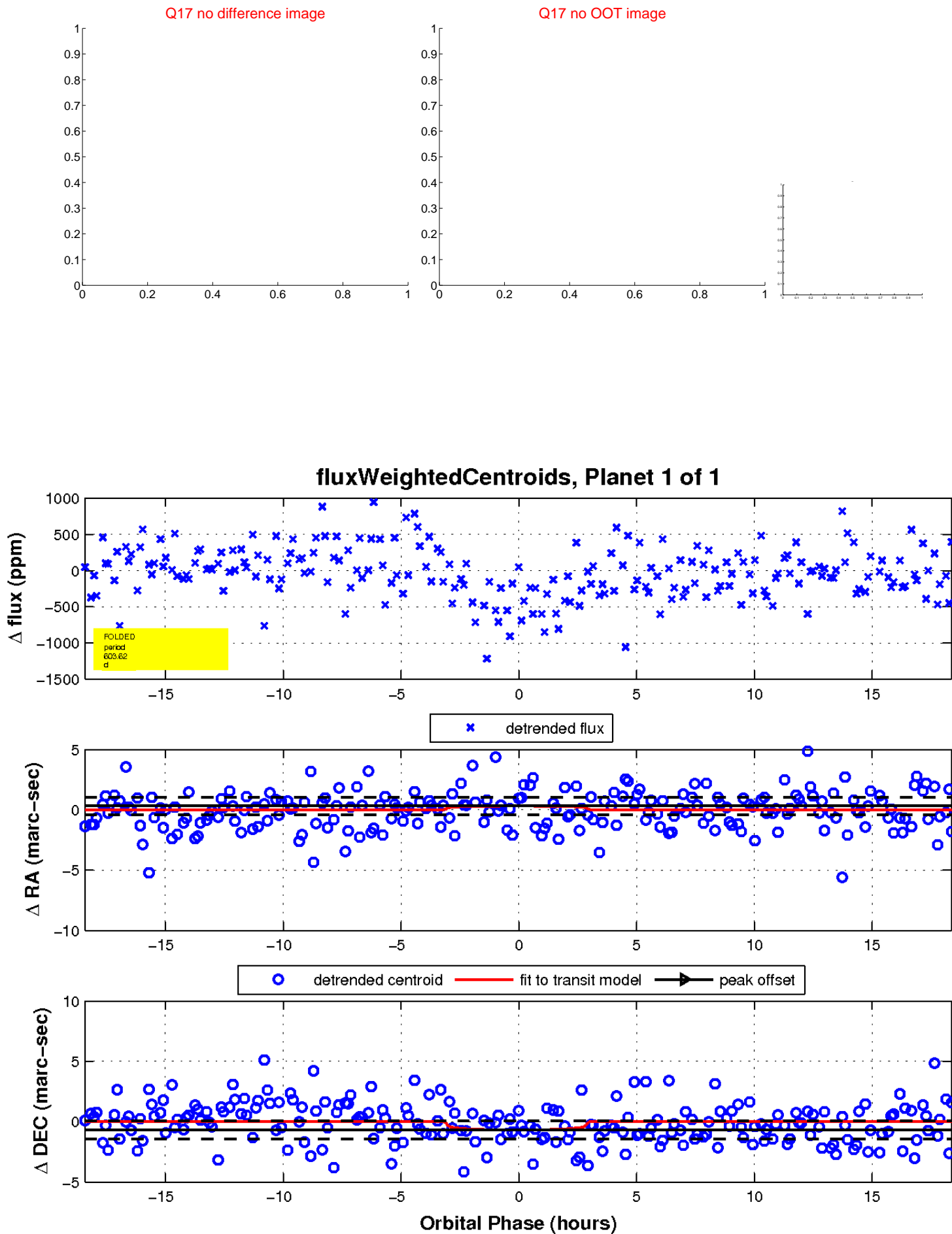
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

