

KIC 007024674

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})
007024674-01	OBS	No	397.382956	191.162175	167.4	2.996	7.1	6.6	0.72	4971	1.11	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007024674-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

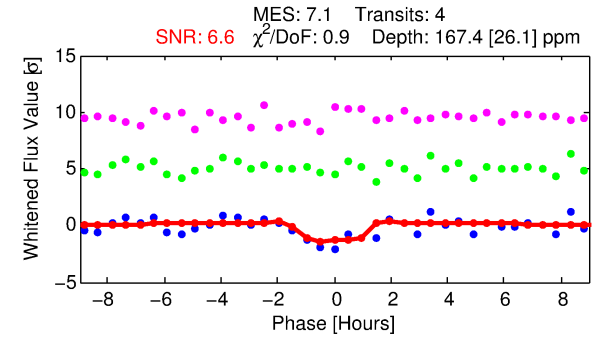
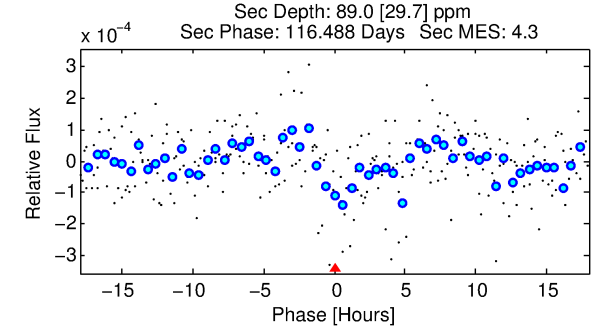
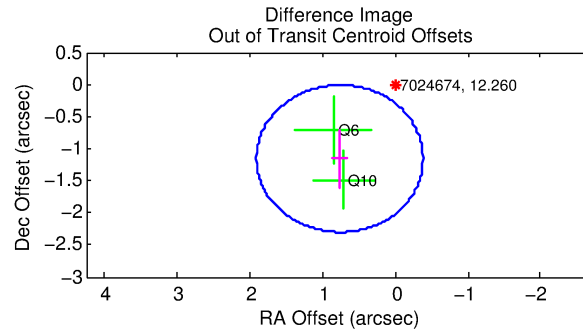
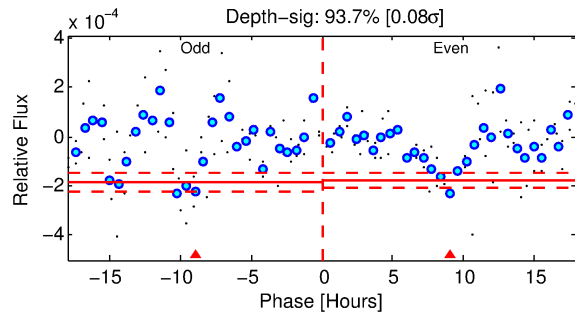
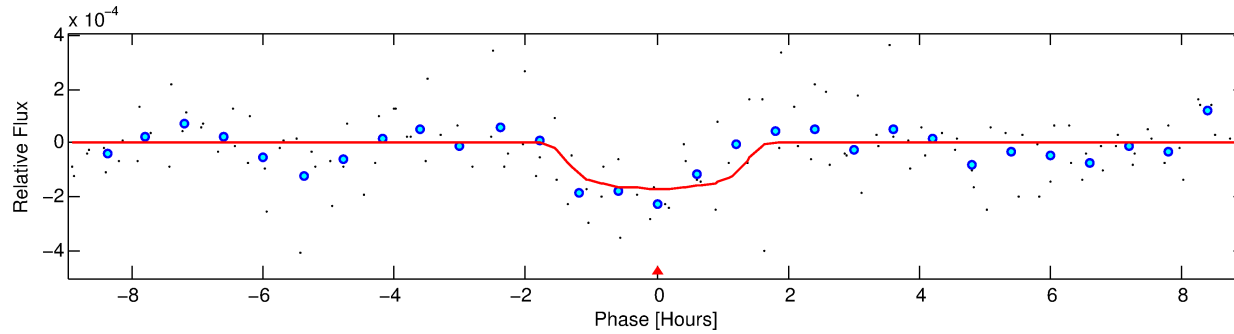
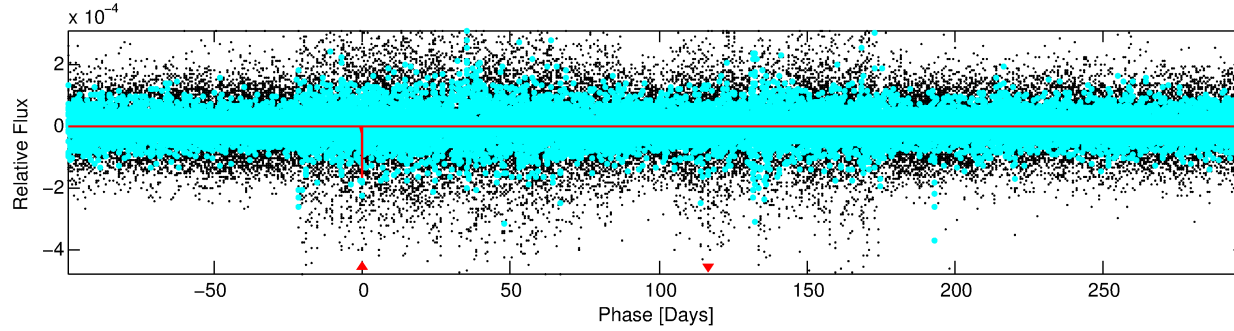
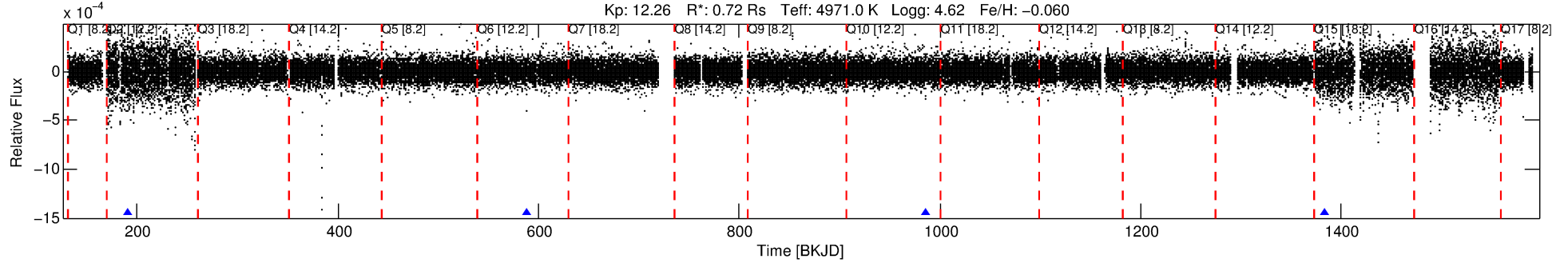
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007024674-01

No Significant Match Found

DV One-Page Summary

KIC: 7024674 Candidate: 1 of 1 Period: 397.383 d



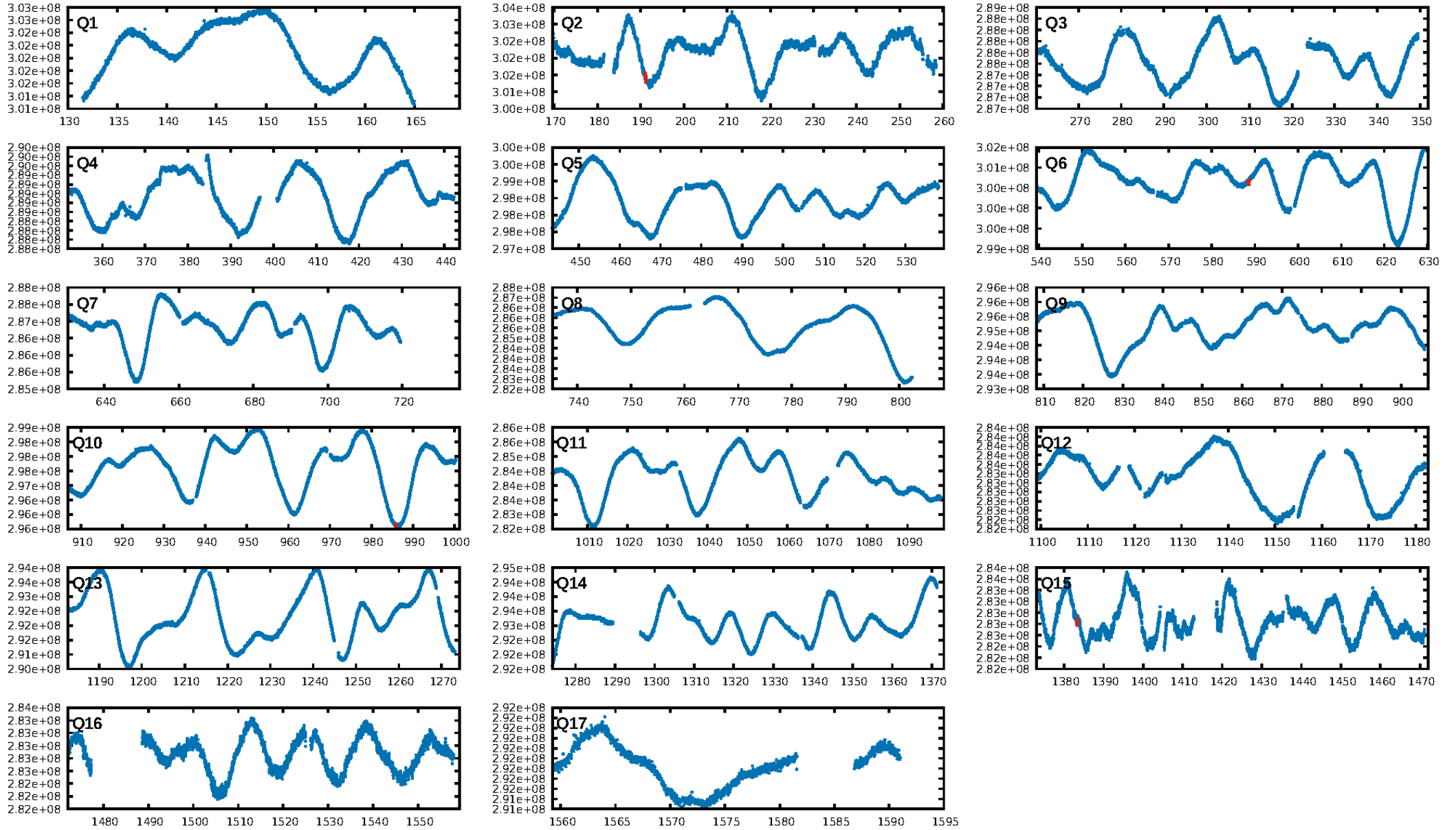
DV Fit Results:

Period = 397.38296 [0.00509] d
Epoch = 191.1622 [0.0094] BKJD
Rp/R* = 0.0141 [0.0169]
a/R* = 511.12 [2380.68]
b = 0.88 [1.23]
Seff = 0.30 [0.03]
Teq = 188 [5] K
Rp = 1.11 [1.33] Re
a = 0.9748 [0.0611] AU
Ag = 37908.79 [91753.36] [0.41 σ]
Teffp = 4060 [2456] K [1.58 σ]

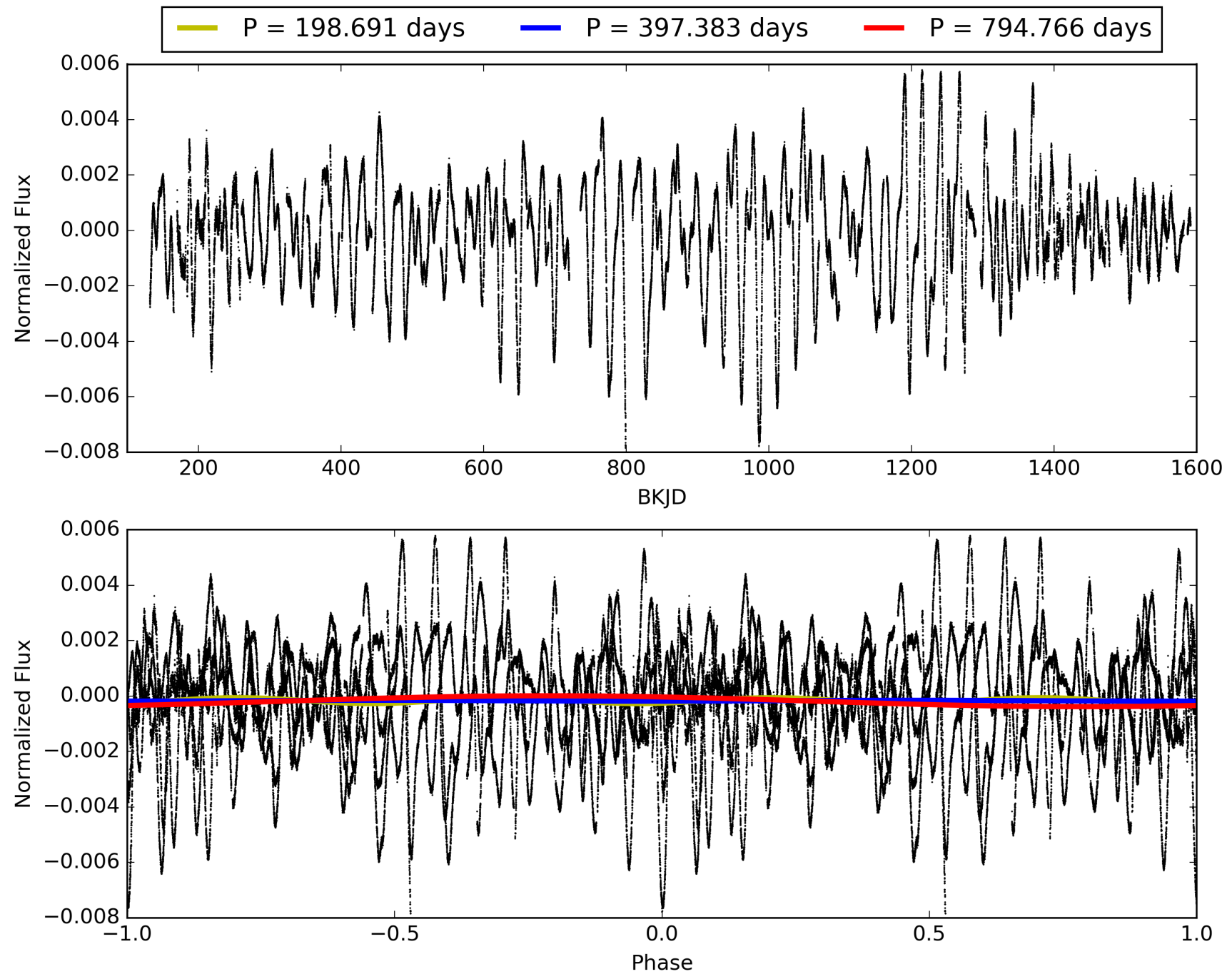
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 74.7%
ModelChiSquareGof-sig: 96.0%
Bootstrap-pfa: 3.00e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.2527
Centroid-sig: 34.9%
Centroid-so: 1.647 arcsec [0.86 σ]
OotOffset-rm: 1.384 arcsec [3.62 σ]
OotOffset-st: 2/0/0 [2]
KicOffset-rm: 1.099 arcsec [3.14 σ]
KicOffset-st: 2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 007024674-01, PDC Light Curves

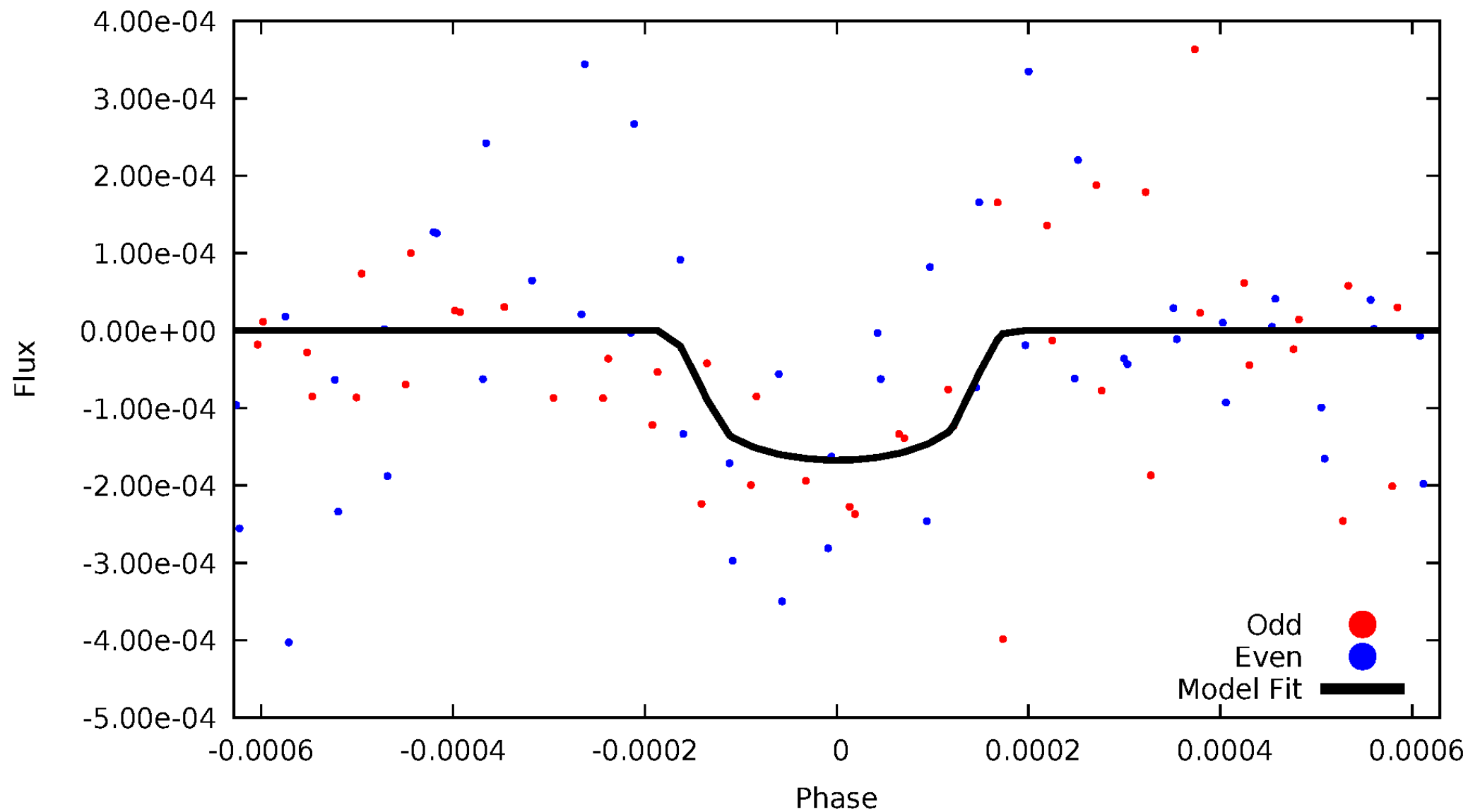


TCE 007024674-01



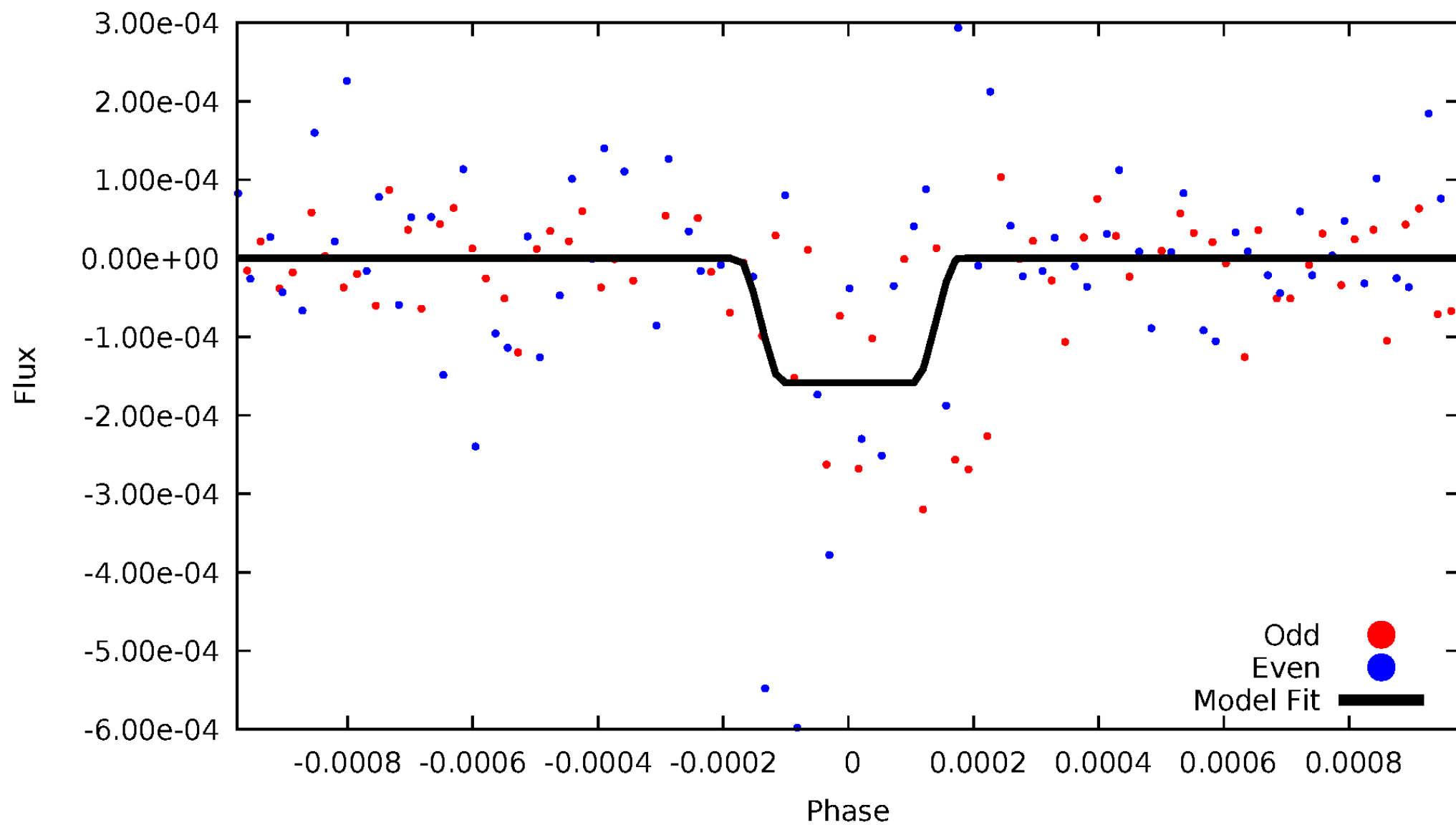
DV Odd/Even

TCE 007024674-01

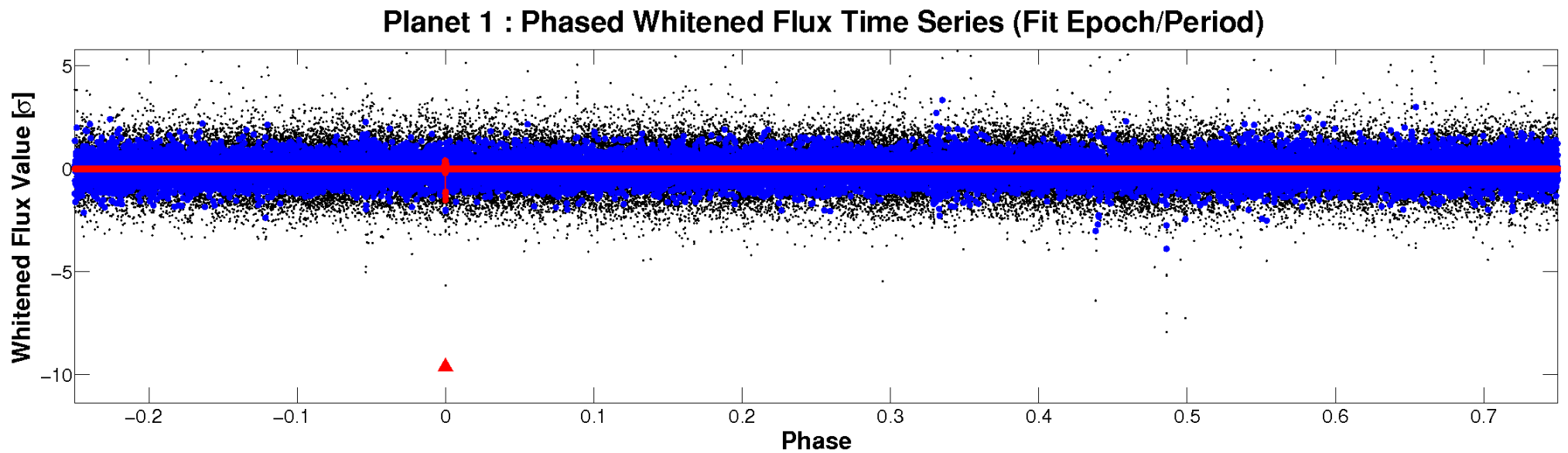
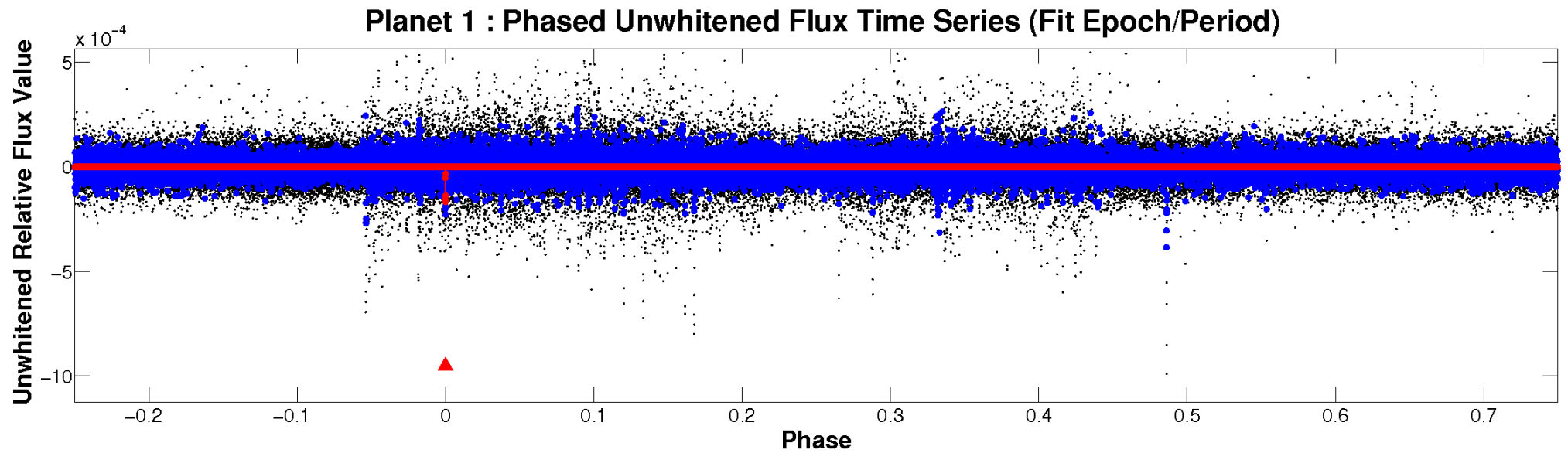


ALT Odd/Even

TCE 007024674-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 007024674-01 P=397.382956 Days $T_0=191.162175$ (BKJD)



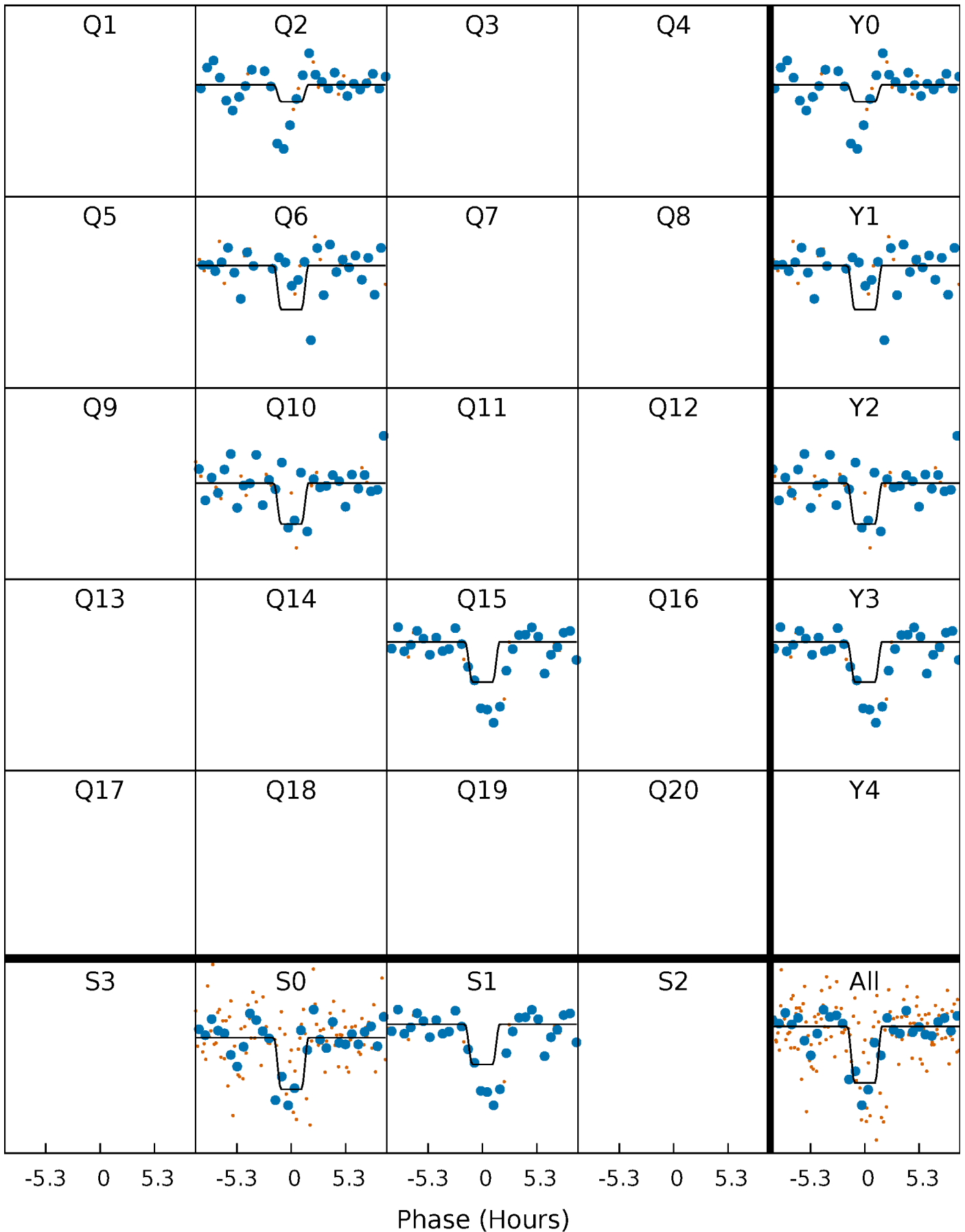
DV Quarter-Phased Transit Curves

TCE 007024674-01 P=397.382956 Days $T_0=191.162175$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

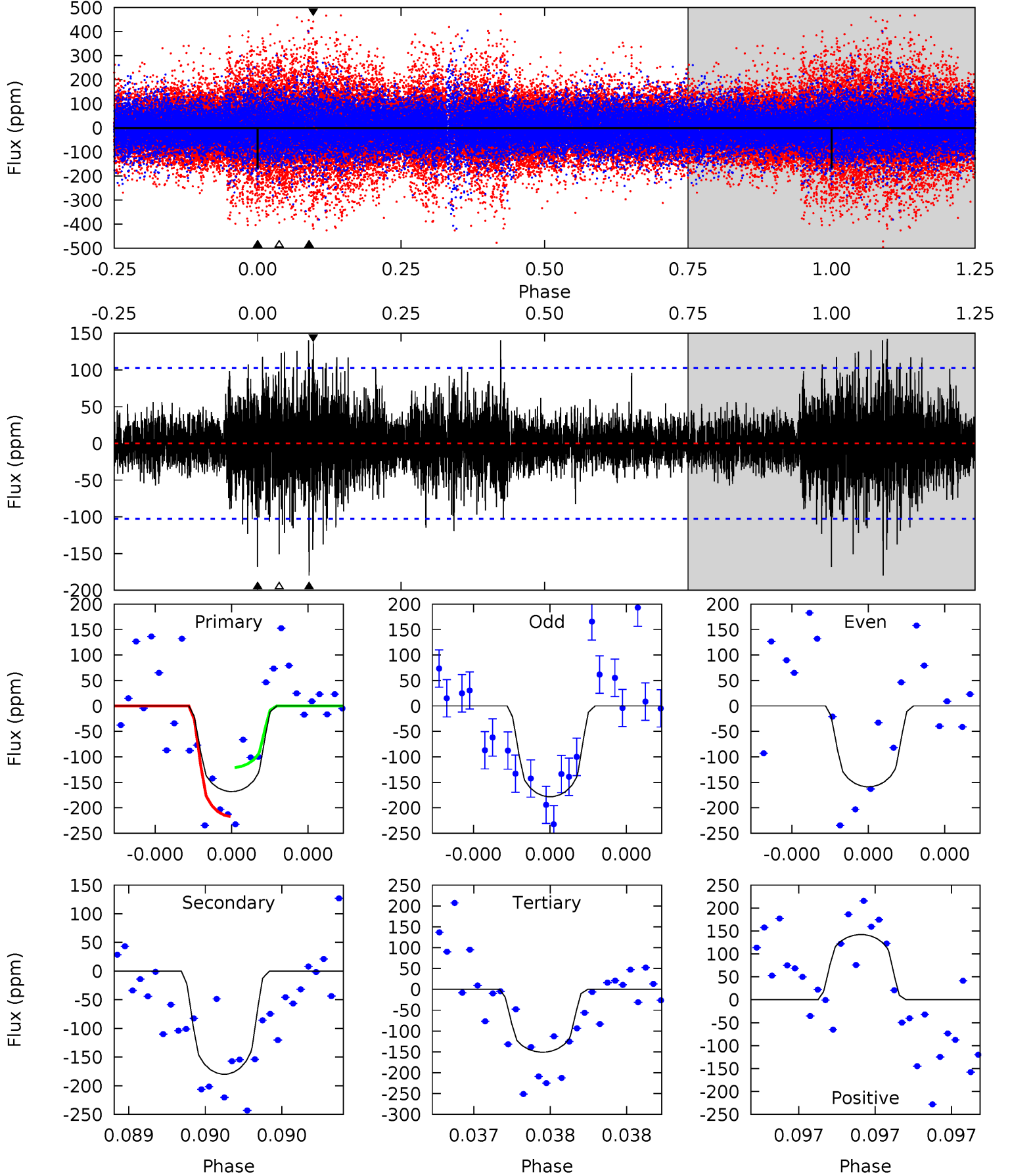
TCE 007024674-01 P=397.365695 Days $T_0=191.171902$ (BKJD)



DV Model-Shift Uniqueness Test

007024674-01, P = 397.382956 Days, E = 191.162175 Days

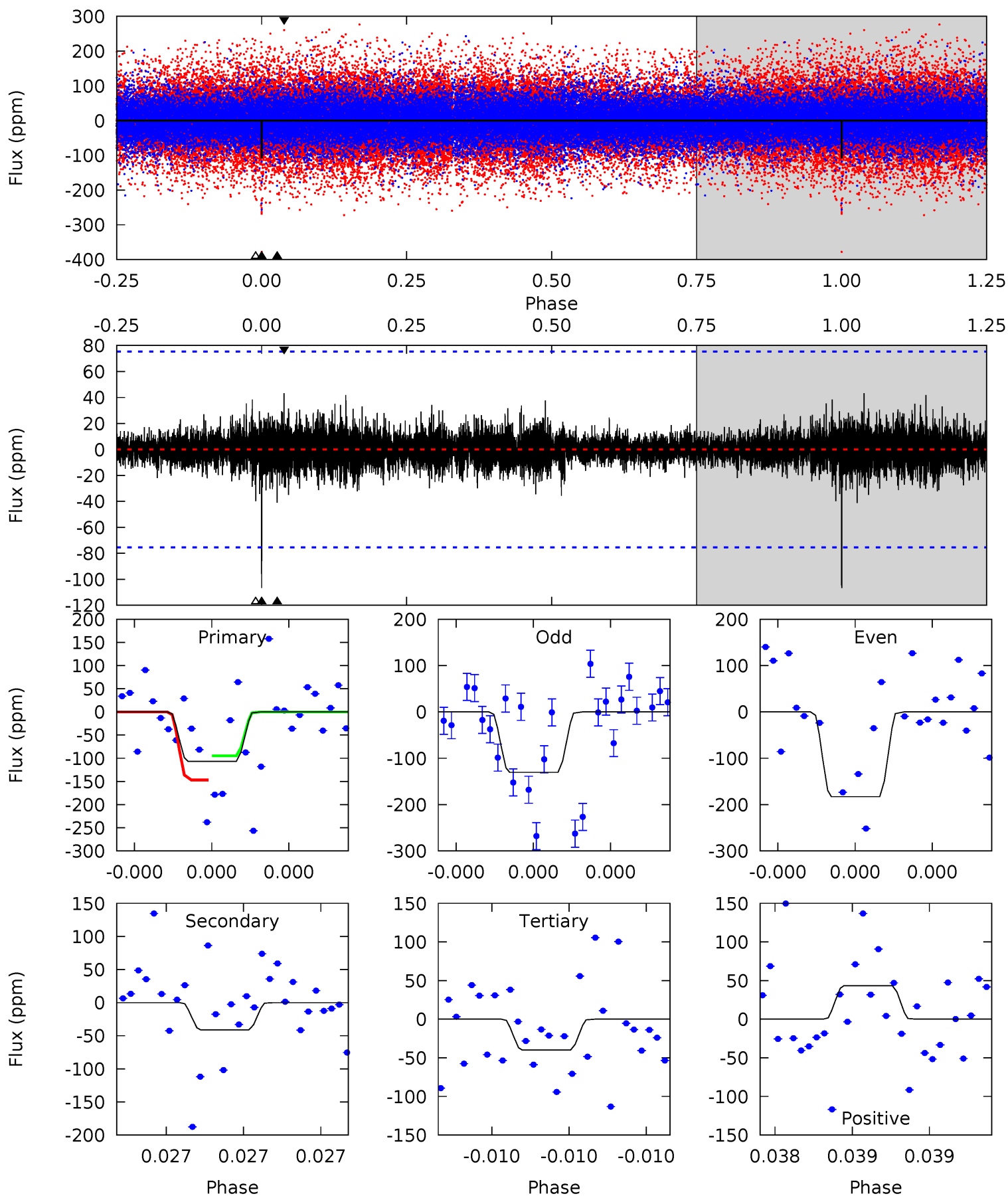
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.26	9.91	8.30	7.82	5.64	3.59	1.56	0.96	1.43	1.61	2.08	0.51	1.04	0.44	2.67



Alt Model-Shift Uniqueness Test

007024674-01, P = 397.365695 Days, E = 191.171902 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.99	3.07	2.99	3.24	5.65	3.59	0.60	5.00	4.75	0.09	-0.17	1.92	1.00	0.29	1.90



Stellar Parameters For KIC 007024674

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4971^{+80}_{-80}	$4.619^{+0.010}_{-0.052}$	$-0.060^{+0.150}_{-0.150}$	$0.718^{+0.052}_{-0.022}$	$0.806^{+0.028}_{-0.056}$	$3.074^{+0.174}_{-0.575}$
	+2%/-2%	+0%/-1%	+250%/-250%	+7%/-3%	+3%/-7%	+6%/-19%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007024674-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-180 ± 18	$1.48^{+1.13}_{-0.92}$	265^{+6}_{-5}	4380^{+2350}_{-805}	$43630^{+245434}_{-30370}$
Alt.	-41 ± 13	$1.46^{+1.14}_{-0.96}$	265^{+6}_{-5}	3390^{+1686}_{-581}	9643^{+81441}_{-7038}

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

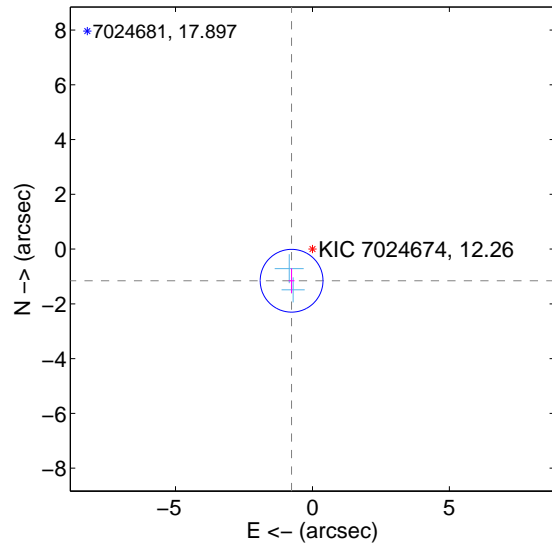
Supplemental centroid analysis for 007024674-01. Kepler magnitude: 12.26. Transit SNR 6.56

There are 2 quarters with good PRF difference image offsets

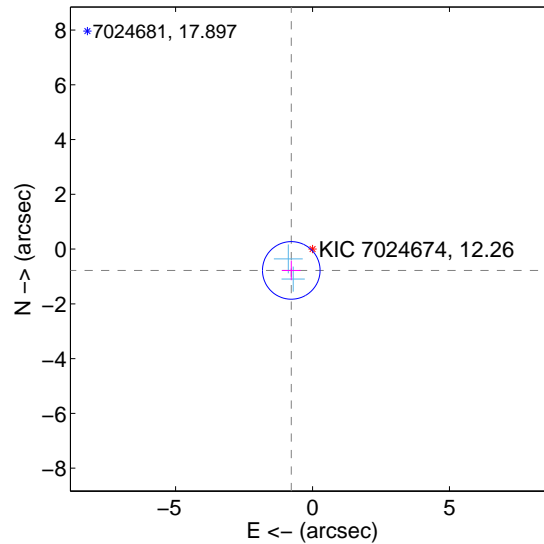
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.384 ± 0.382	3.62	0.762 ± 0.106	-1.156 ± 0.452
PRF-fit source offset from KIC position	1.099 ± 0.351	3.14	0.776 ± 0.345	-0.779 ± 0.356
photometric centroid source offset	1.65 ± 1.91	0.86	-1.63 ± 1.91	-0.24 ± 1.63

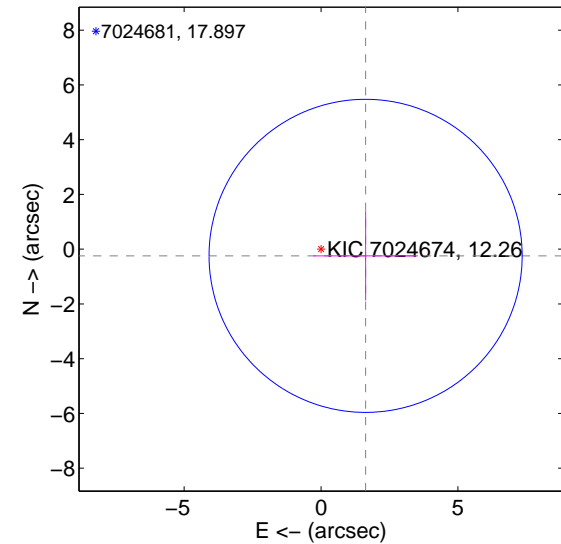
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

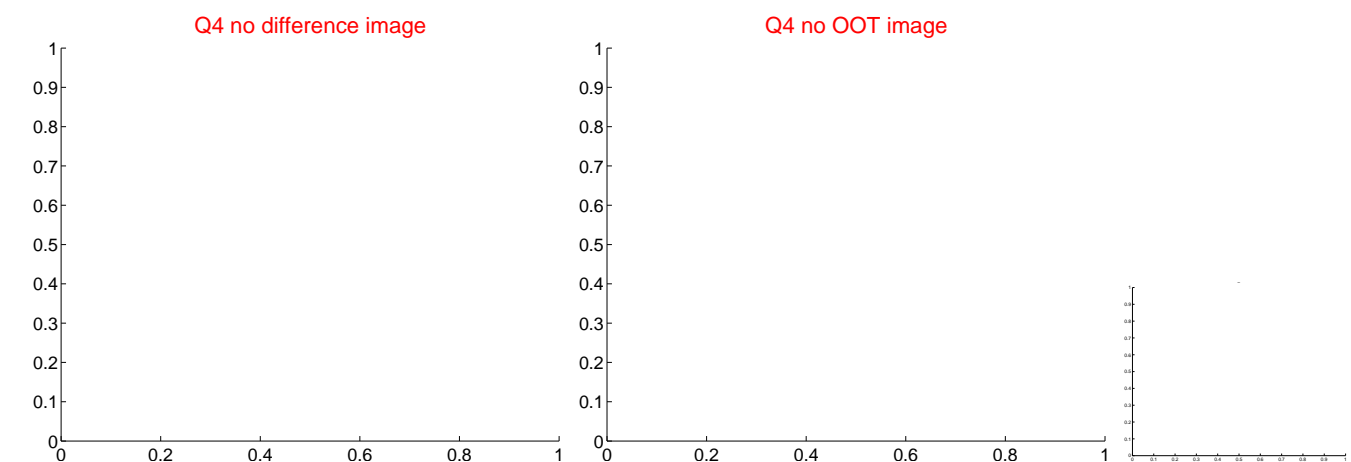
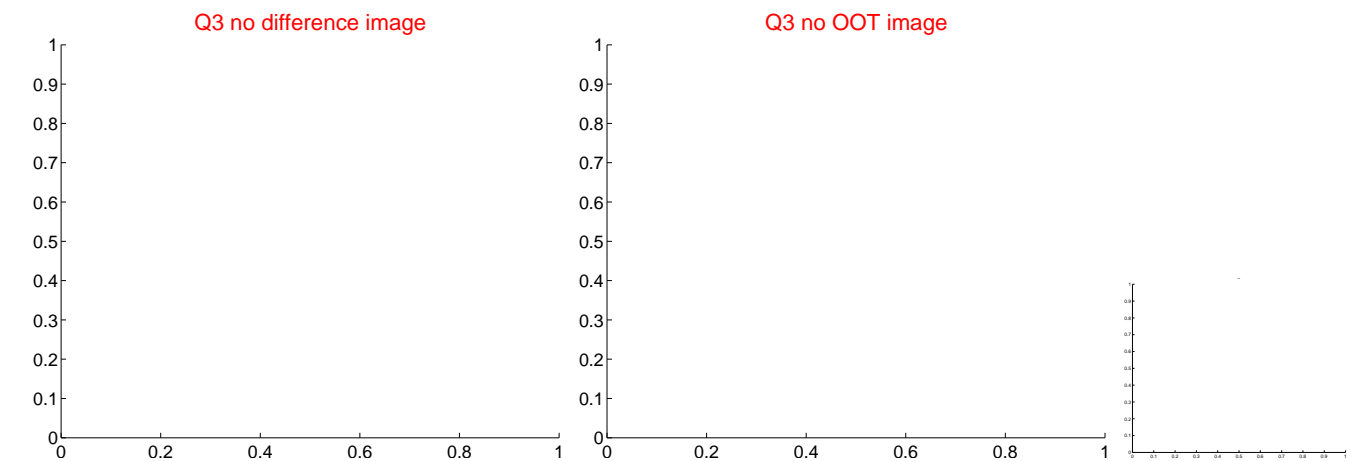
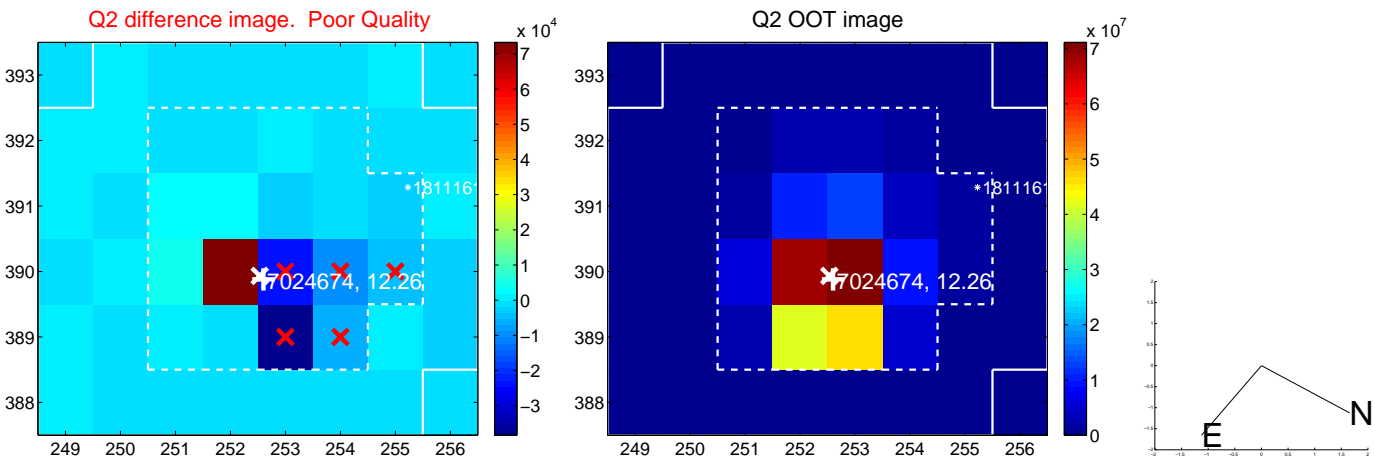
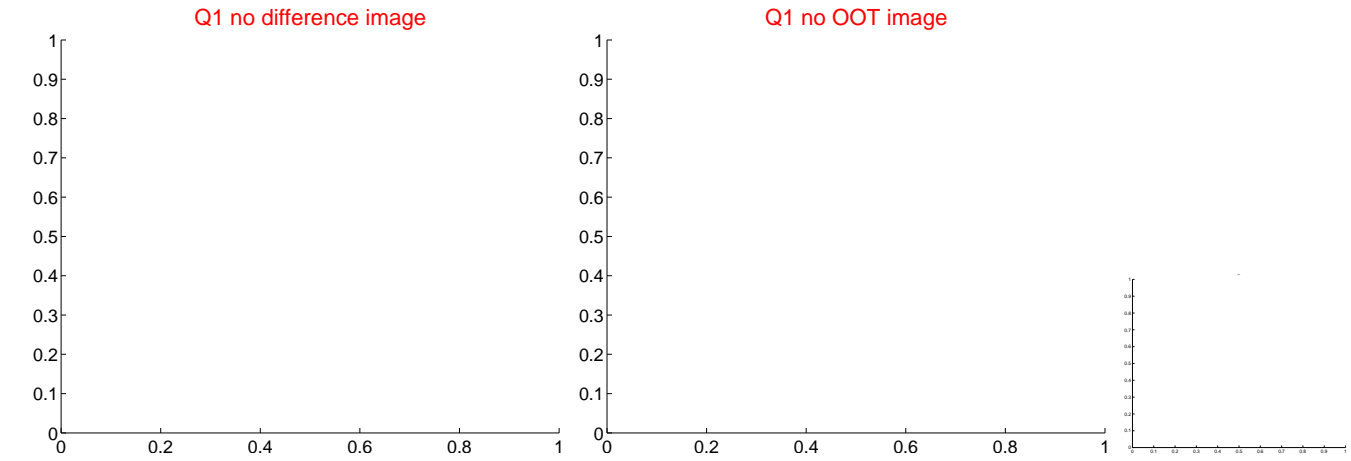


offset from photometric centroids



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.



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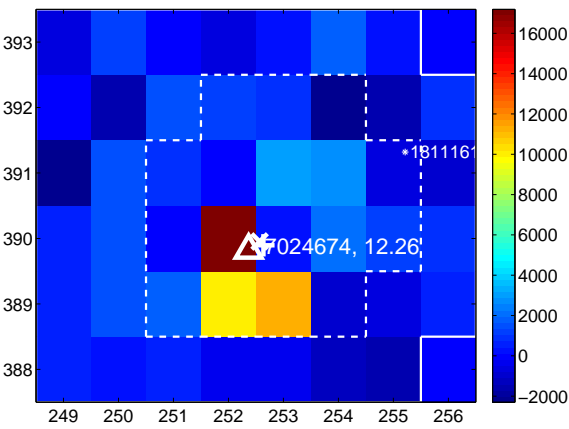
Q5 no difference image



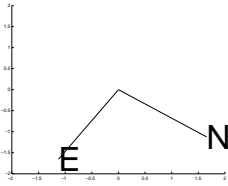
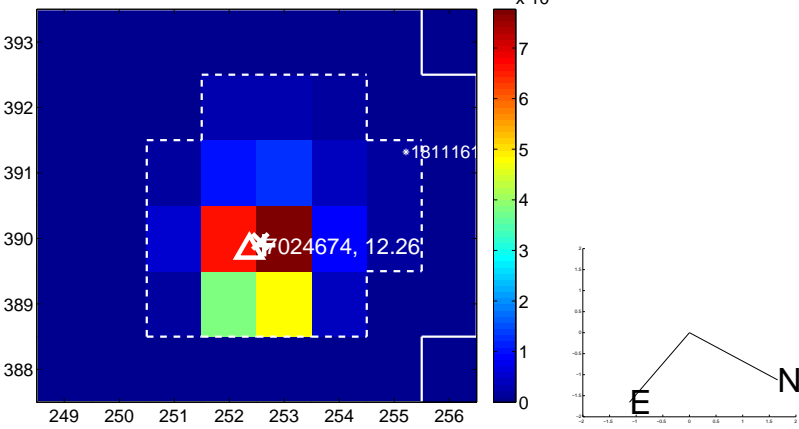
Q5 no OOT image



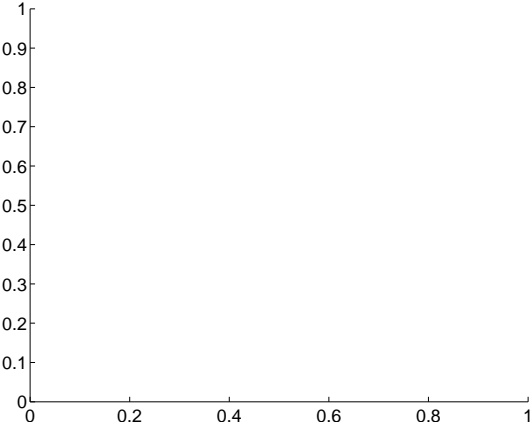
Q6 difference image



Q6 OOT image



Q7 no difference image



Q7 no OOT image



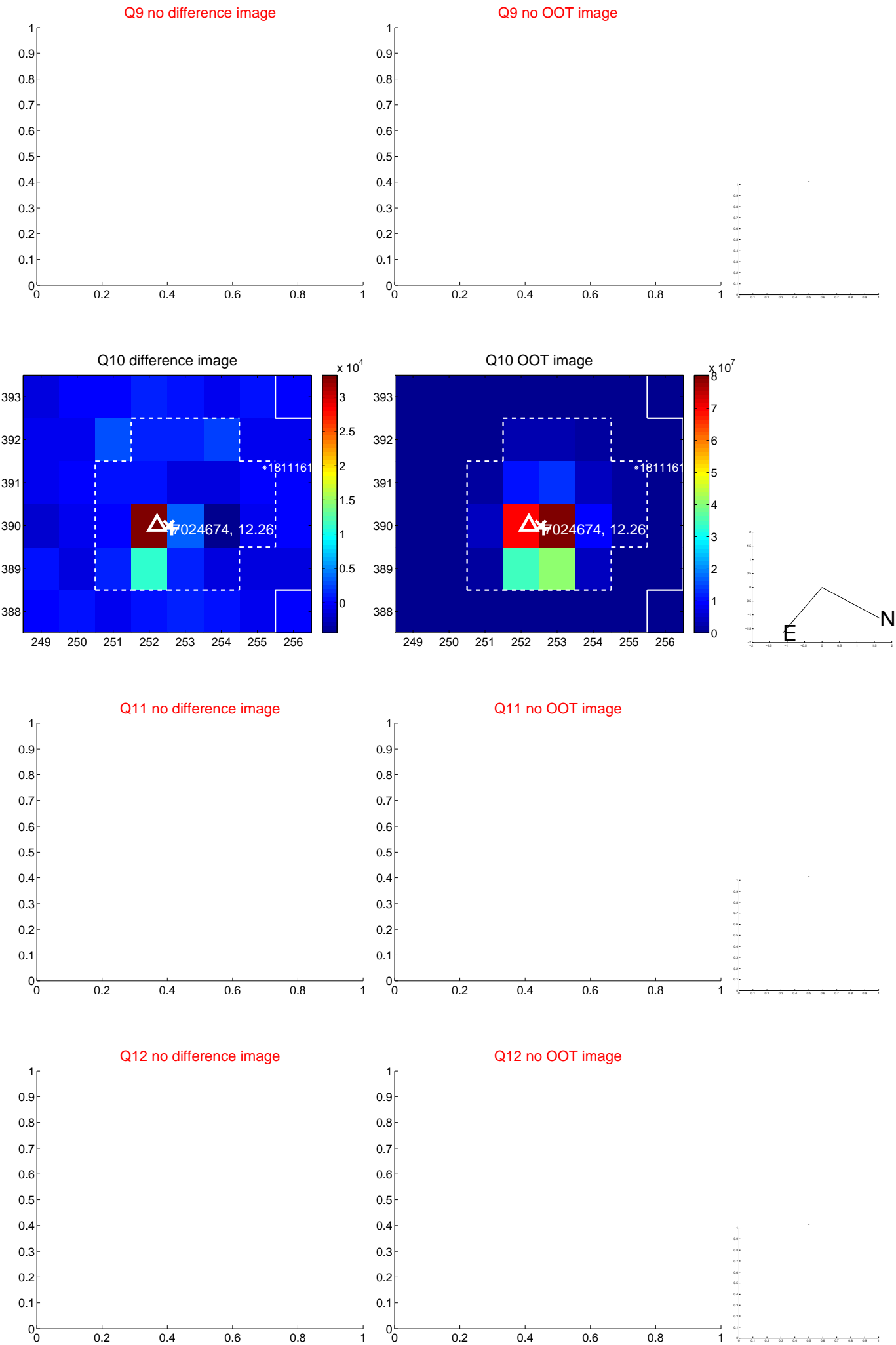
Q8 no difference image



Q8 no OOT image



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q13 no difference image



Q13 no OOT image



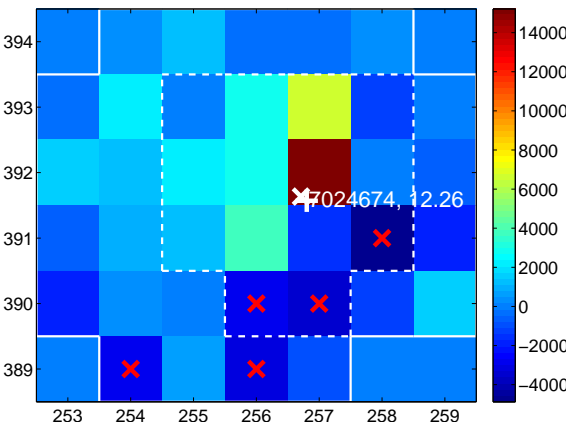
Q14 no difference image



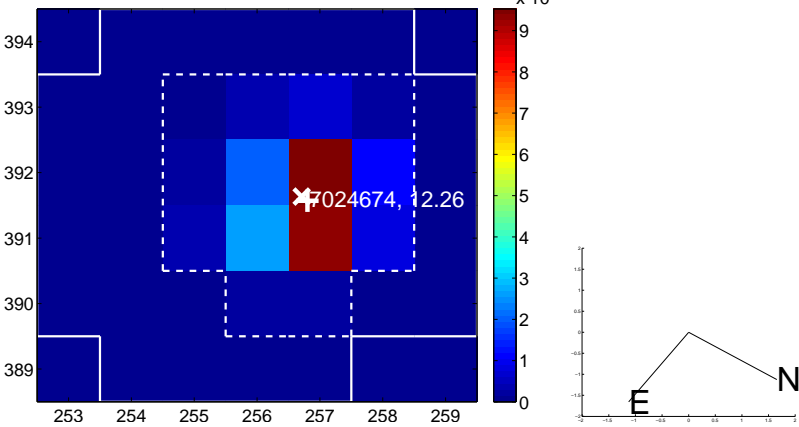
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



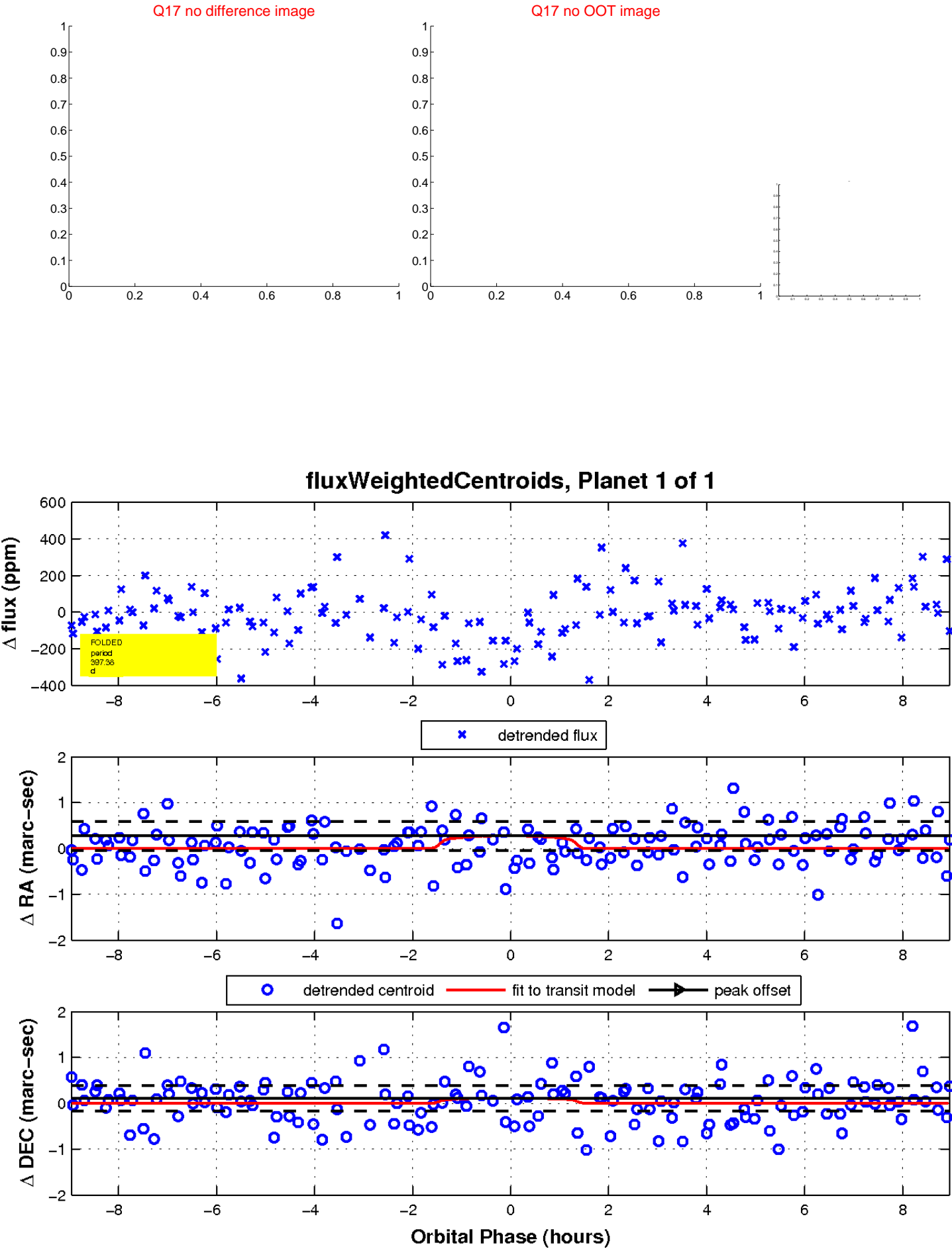
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

