

KIC 006021740

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})
006021740-01	OBS	No	276.008996	186.125859	1090.1	10.410	9.5	8.5	0.79	5320	2.73	0.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006021740-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

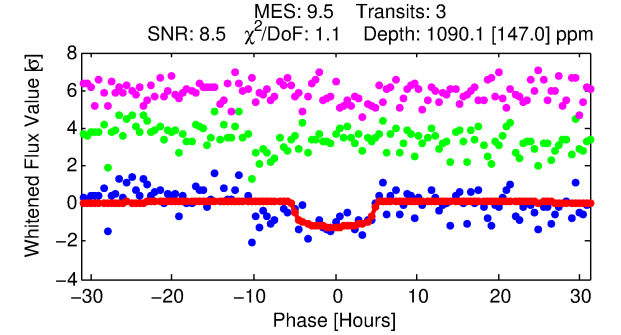
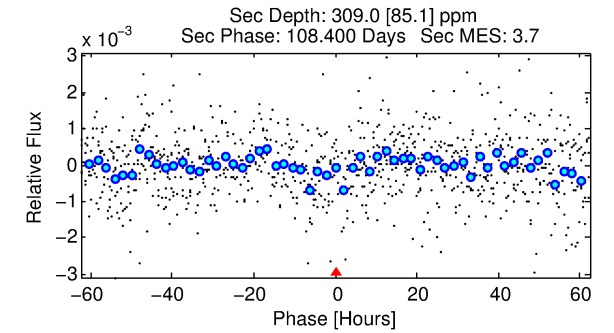
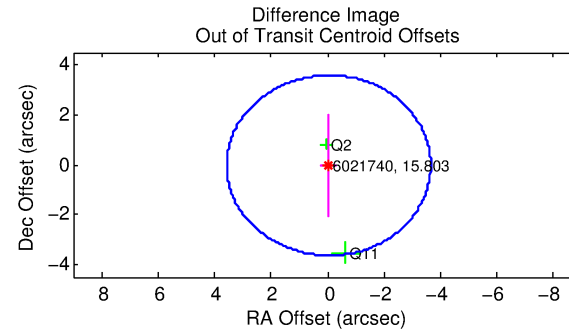
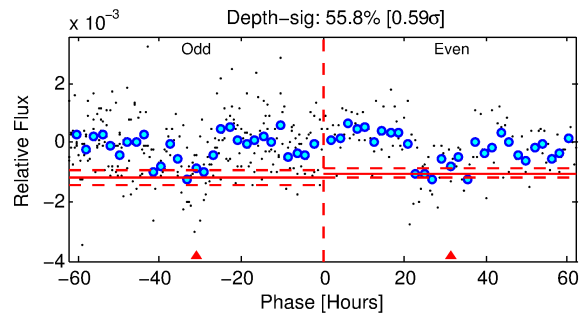
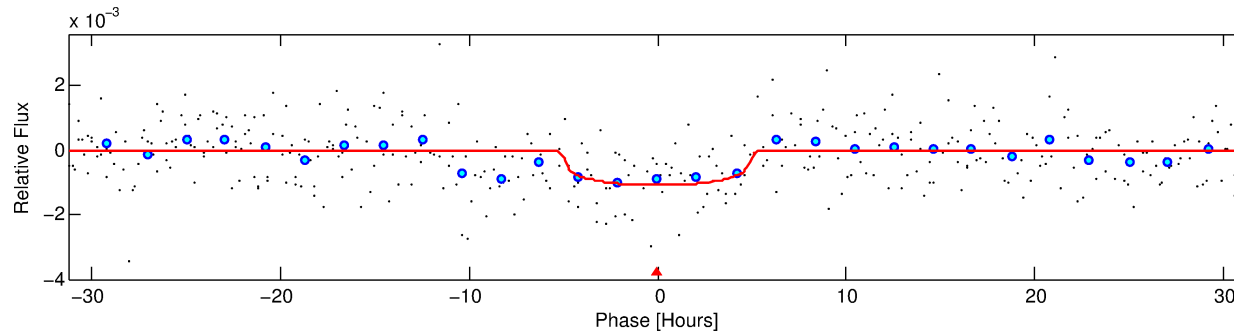
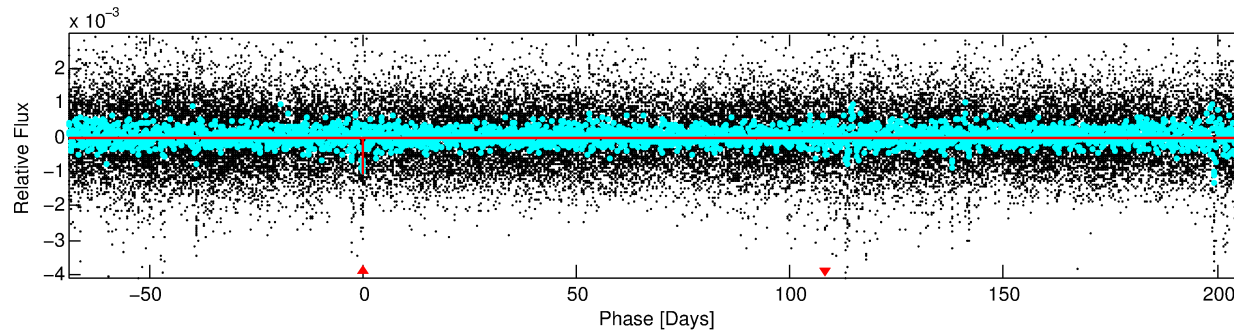
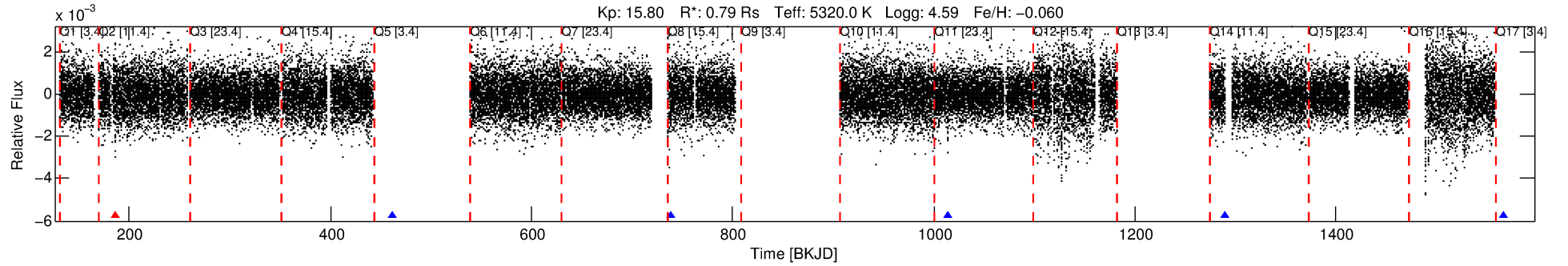
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006021740-01

No Significant Match Found

DV One-Page Summary

KIC: 6021740 Candidate: 1 of 1 Period: 276.009 d



DV Fit Results:

Period = 276.00900 [0.01143] d
Epoch = 186.1259 [0.0235] BKJD
Rp/R* = 0.0319 [0.0229]
a/R* = 159.99 [440.41]
b = 0.66 [2.34]
Seff = 0.70 [0.16]
Teq = 234 [13] K
Rp = 2.73 [2.02] Re
a = 0.7936 [0.1095] AU
Ag = 14314.39 [21155.56] [0.68 σ]
Teffp = 3950 [1451] K [2.56 σ]

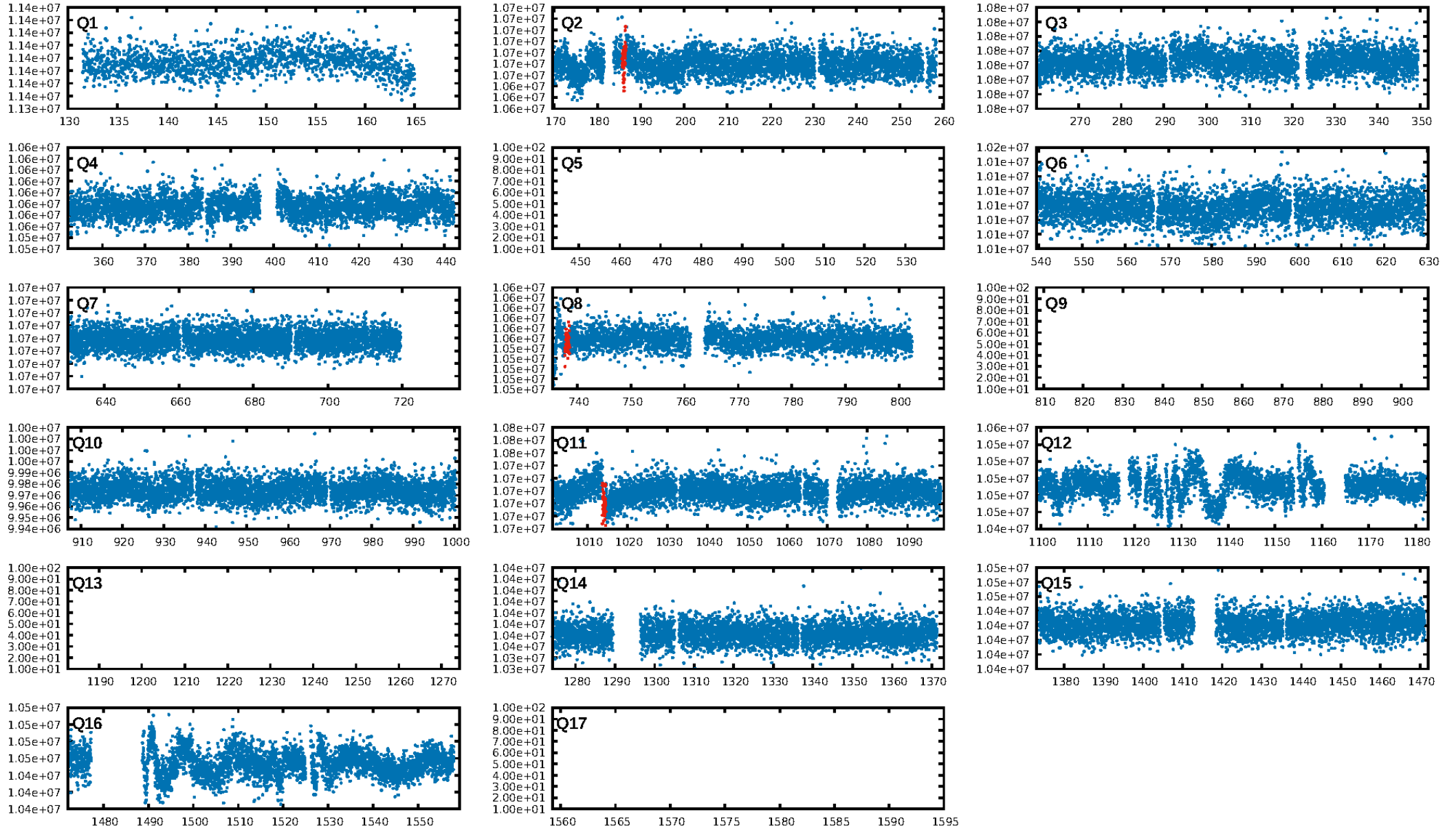
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 4.91e-13
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -9.115
Centroid-sig: 57.1%
Centroid-so: 1.371 arcsec [0.72 σ]
OotOffset-rm: 0.052 arcsec [0.04 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 0.179 arcsec [0.09 σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

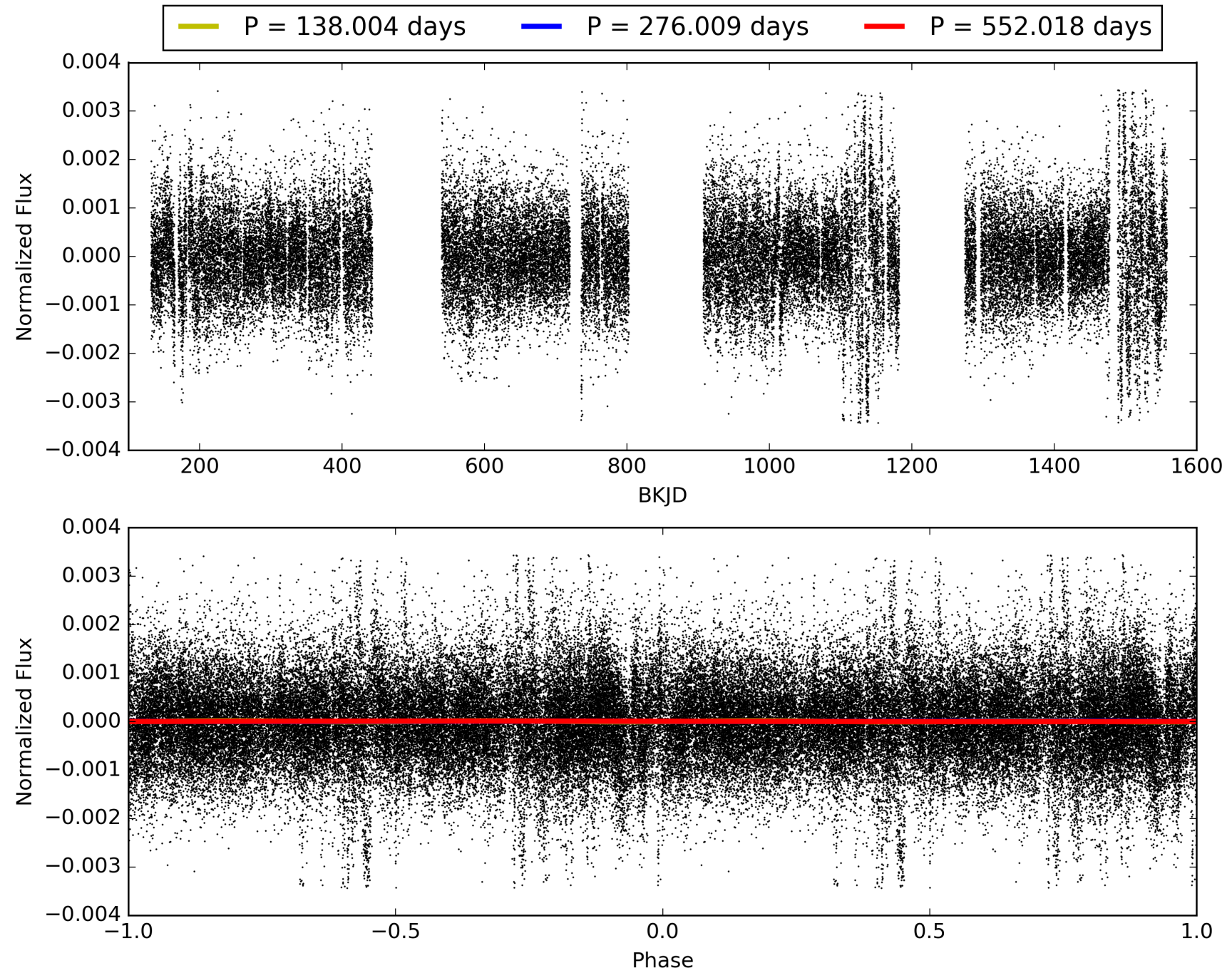
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:47:48 Z

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

TCE 006021740-01, PDC Light Curves

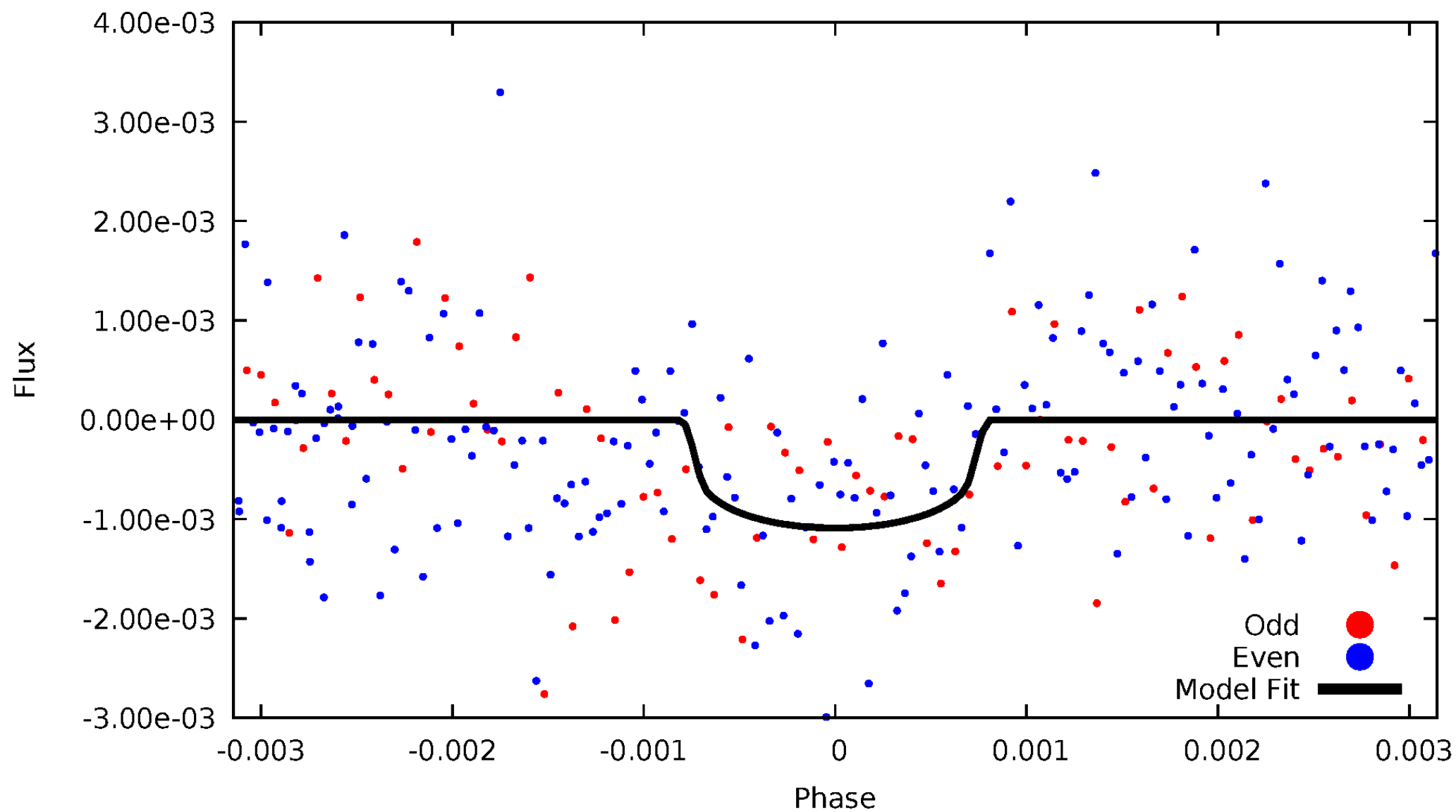


TCE 006021740-01



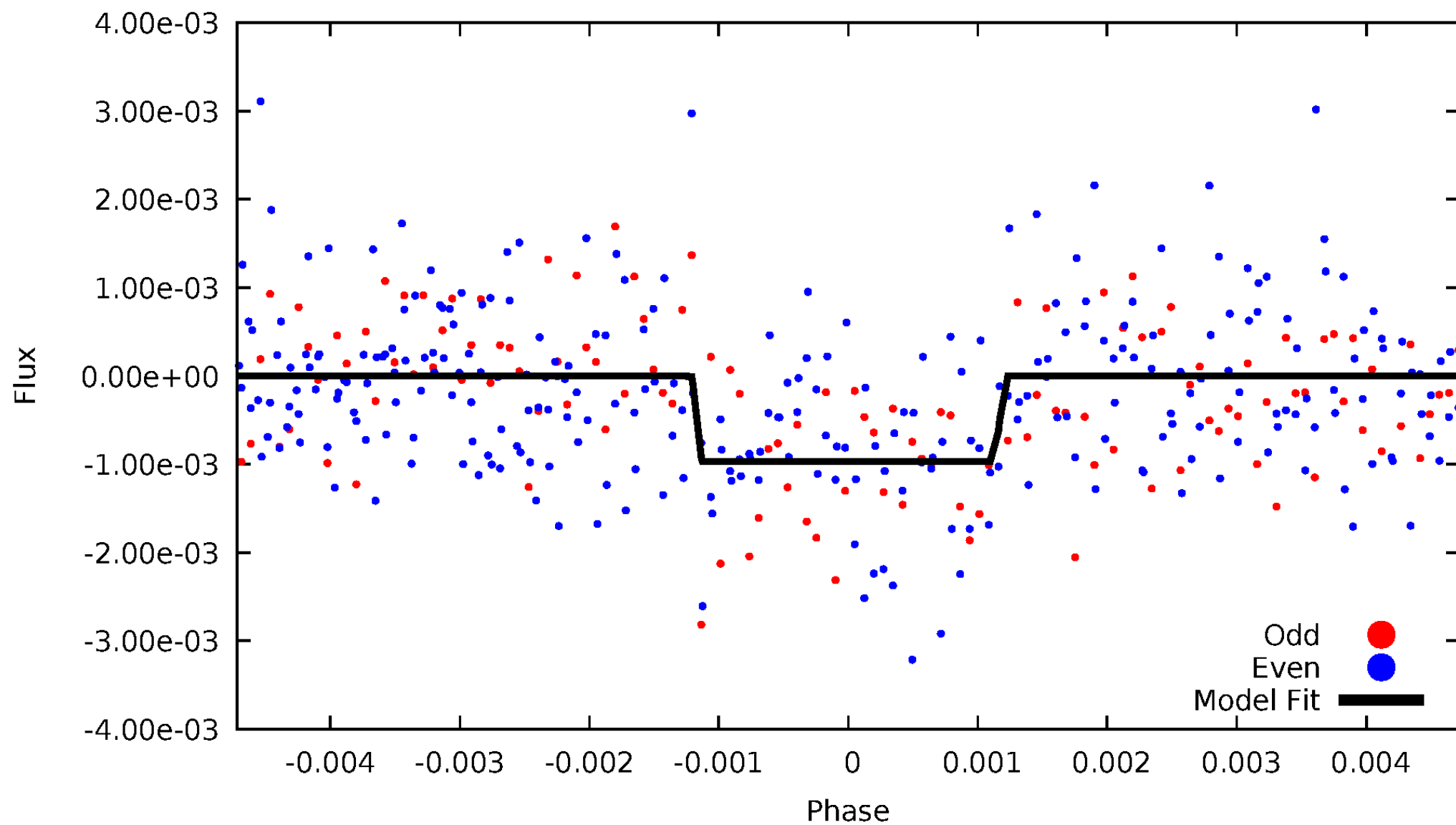
DV Odd/Even

TCE 006021740-01



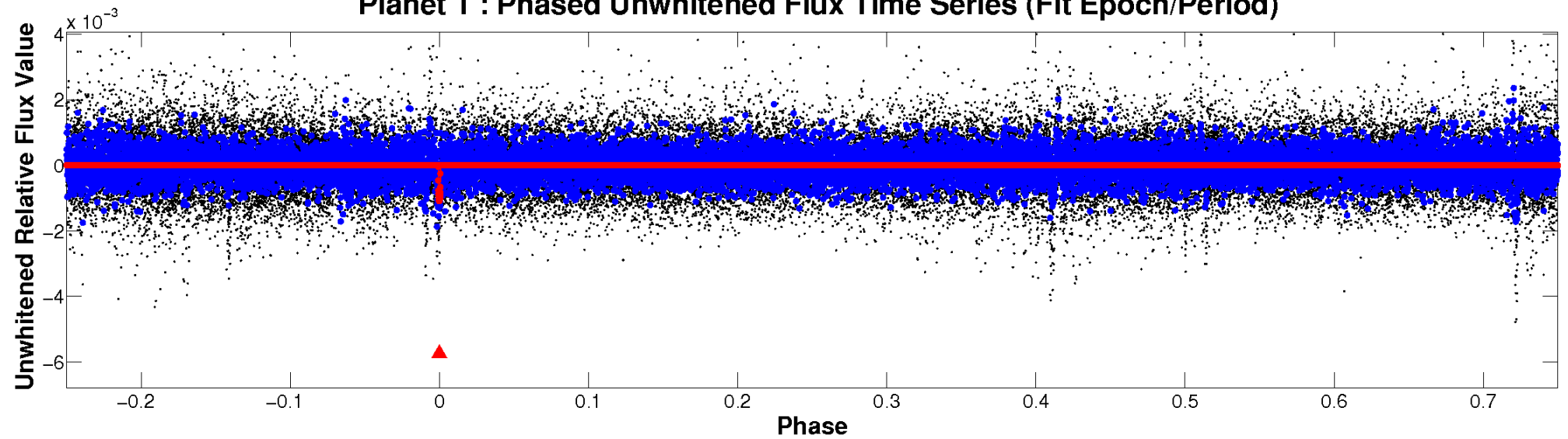
ALT Odd/Even

TCE 006021740-01

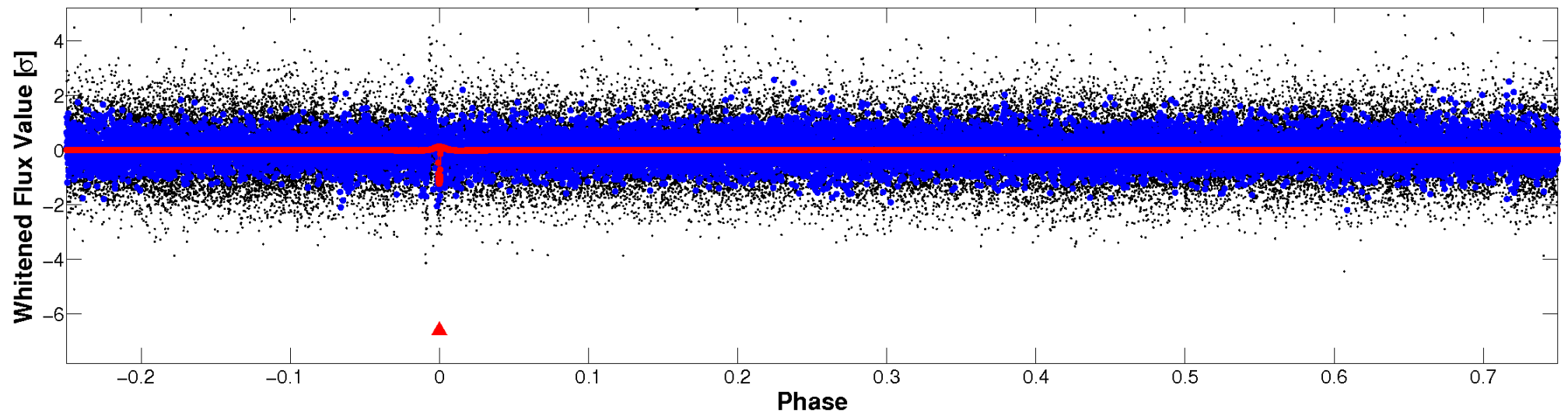


Non-Whitened Vs. Whitened Light Curve

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

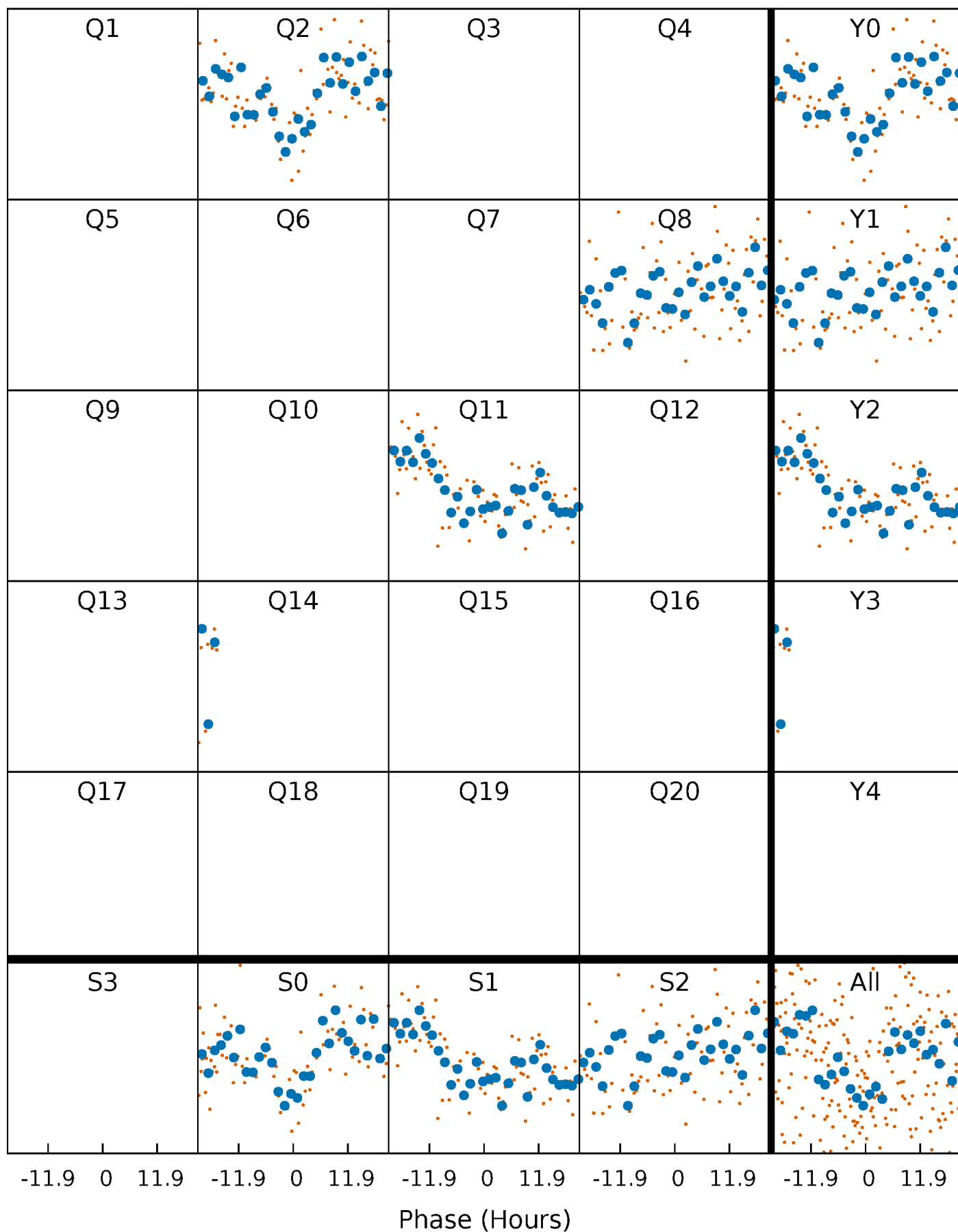


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



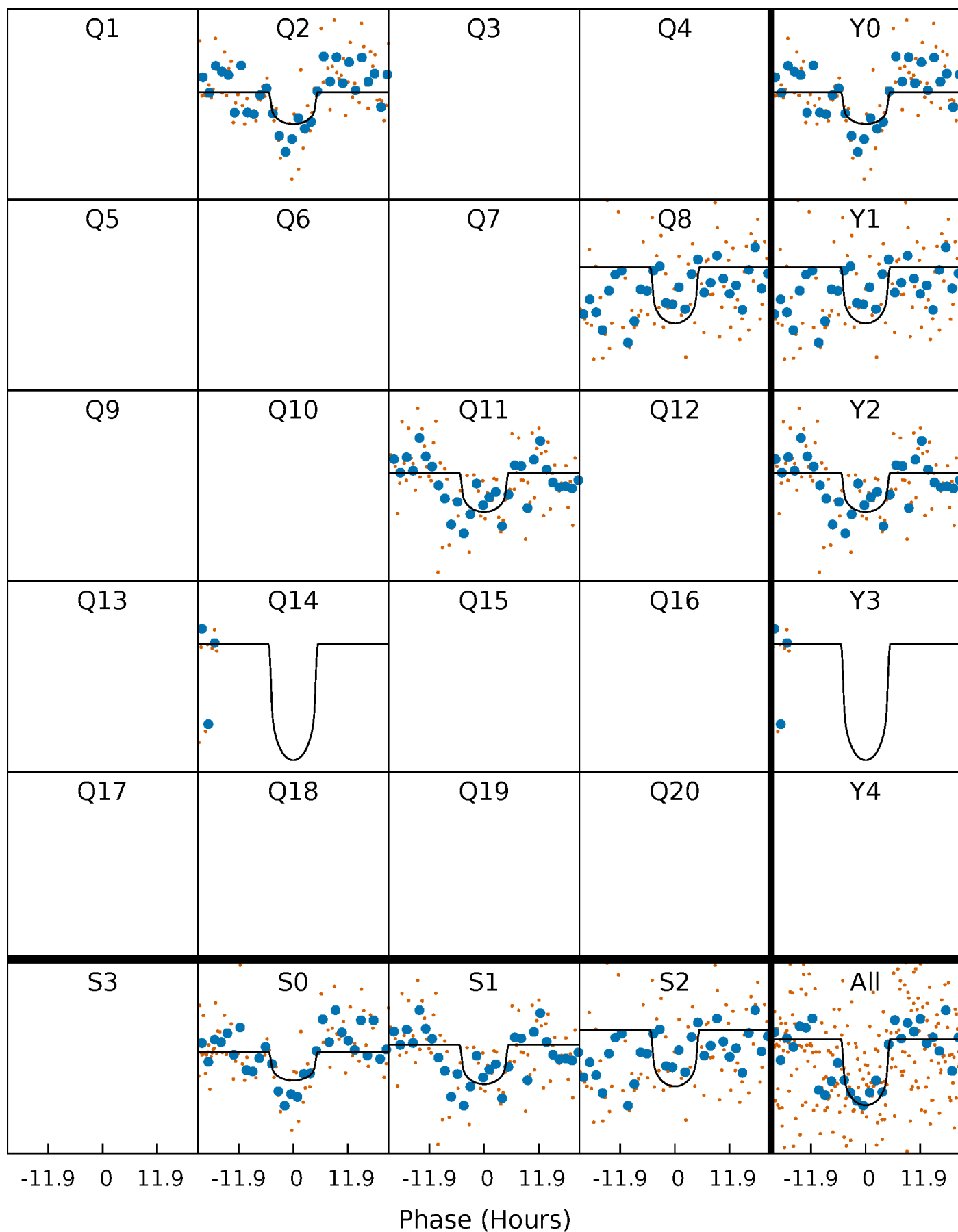
PDC Quarter-Phased Transit Curves

TCE 006021740-01 P=276.008996 Days $T_0=186.125859$ (BKJD)



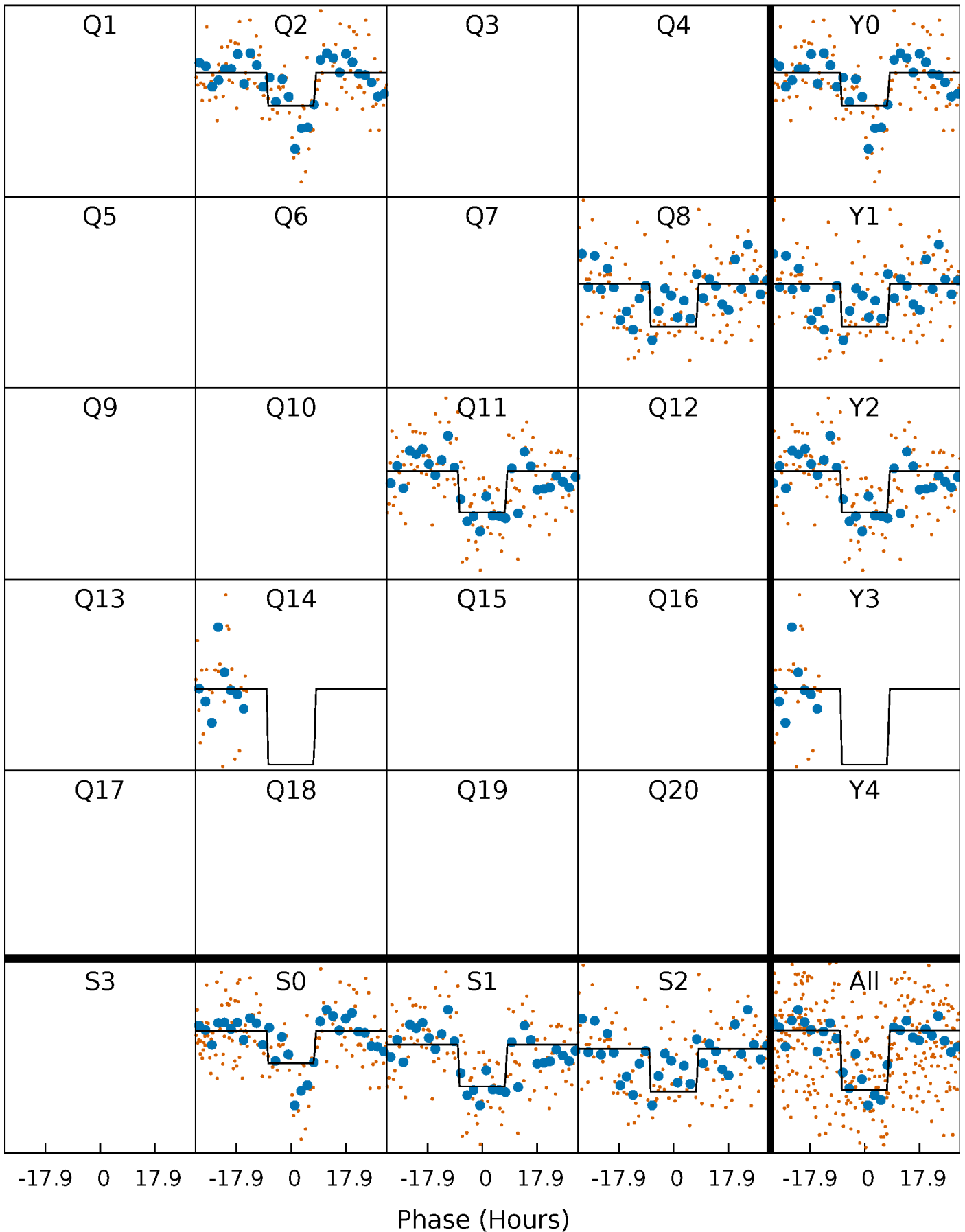
DV Quarter-Phased Transit Curves

TCE 006021740-01 P=276.008996 Days $T_0=186.125859$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

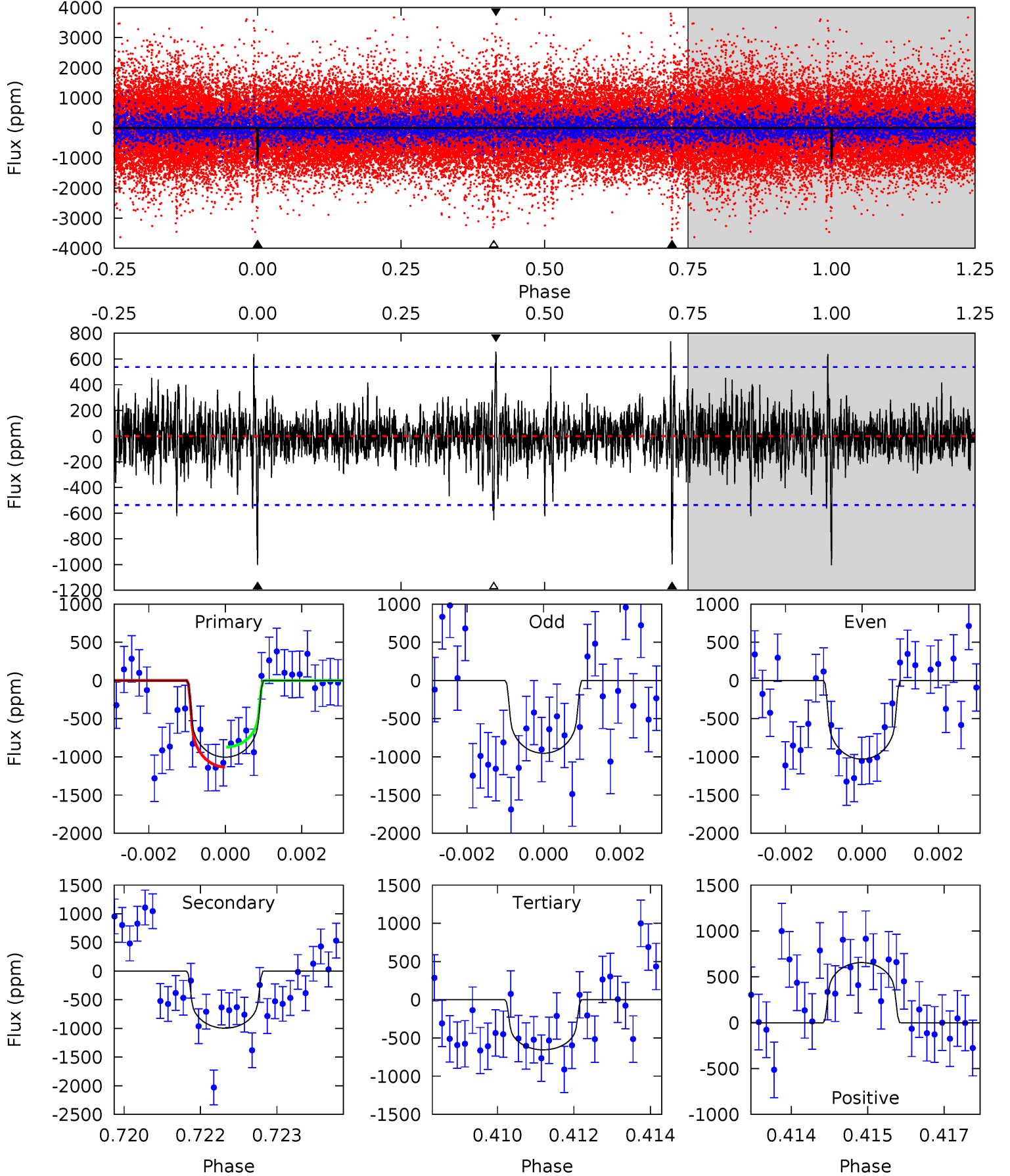
TCE 006021740-01 P=276.023340 Days $T_0=185.976808$ (BKJD)



DV Model-Shift Uniqueness Test

006021740-01, P = 276.008996 Days, E = 186.125859 Days

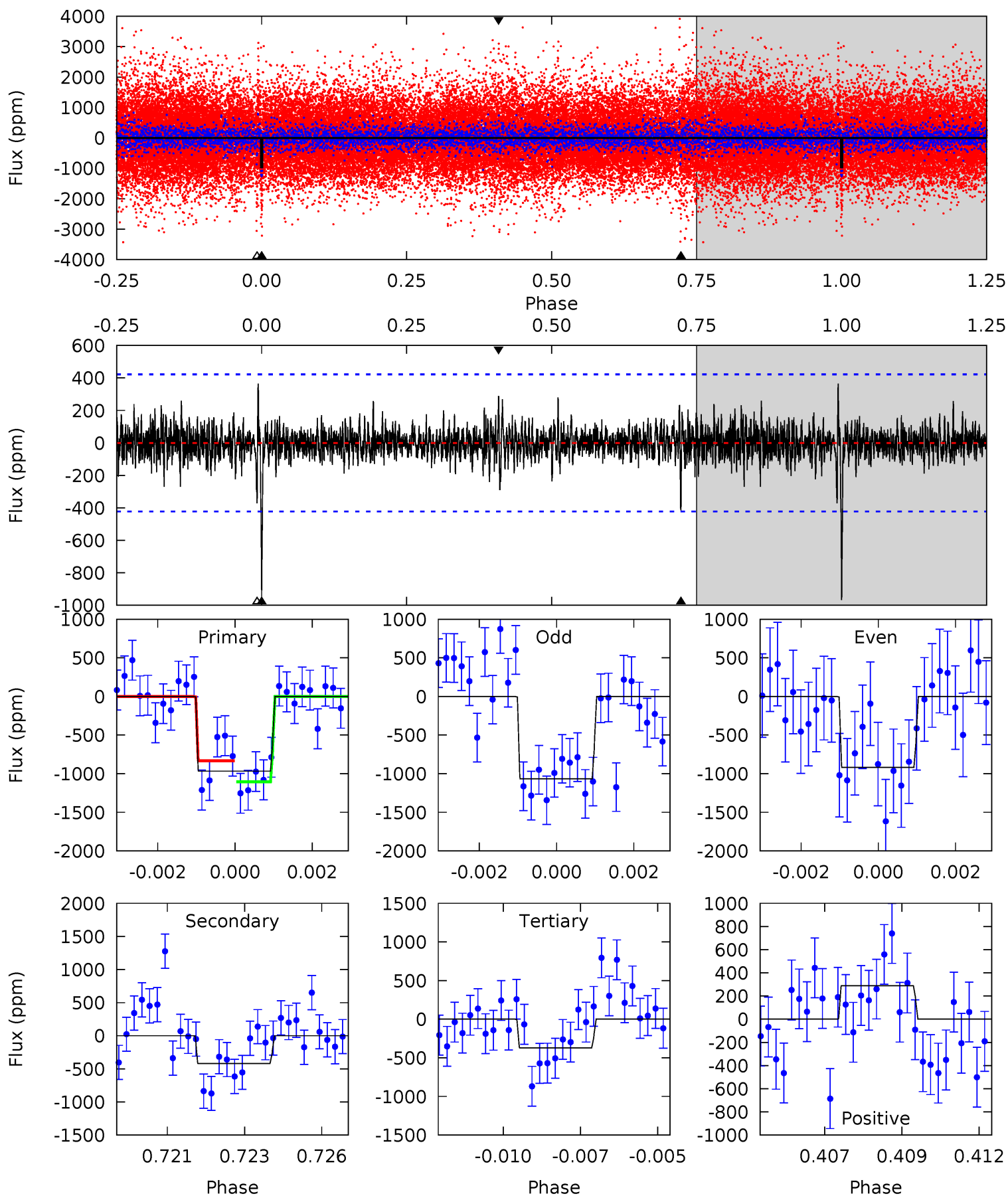
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	9.96	6.55	6.55	5.36	3.15	1.41	3.49	3.48	3.41	3.41	0.35	1.05	0.42	1.30



Alt Model-Shift Uniqueness Test

006021740-01, P = 276.023340 Days, E = 185.976808 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	5.25	4.66	3.62	5.30	3.04	0.89	7.46	8.50	0.59	1.63	0.84	0.91	0.27	1.71



Stellar Parameters For KIC 006021740

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5320^{+159}_{-159}	$4.589^{+0.035}_{-0.105}$	$-0.060^{+0.300}_{-0.300}$	$0.786^{+0.132}_{-0.066}$	$0.882^{+0.061}_{-0.104}$	$2.559^{+0.384}_{-0.879}$
	+3%/-3%	+1%/-2%	+500%/-500%	+17%/-8%	+7%/-12%	+15%/-34%
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 006021740-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-996 ± 100	$3.00^{+1.96}_{-1.76}$	331^{+14}_{-13}	5120^{+3110}_{-905}	$37898^{+182134}_{-24472}$
Alt.	-419 ± 80	$2.97^{+1.71}_{-1.80}$	330^{+16}_{-13}	4358^{+2202}_{-708}	16571^{+87626}_{-10253}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

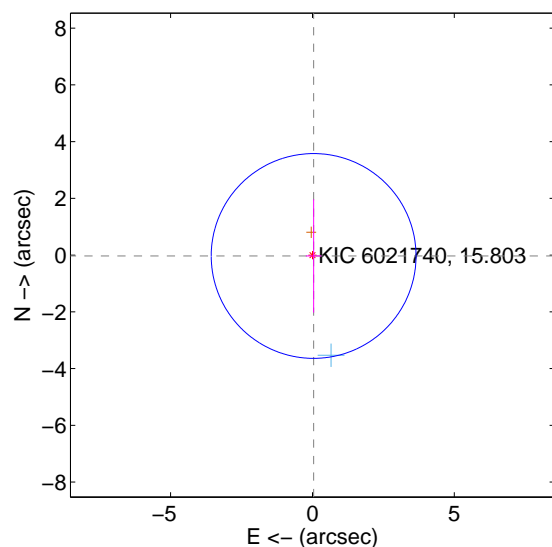
Supplemental centroid analysis for 006021740-01. Kepler magnitude: 15.80. Transit SNR 8.51

There are 1 quarters with good PRF difference image offsets

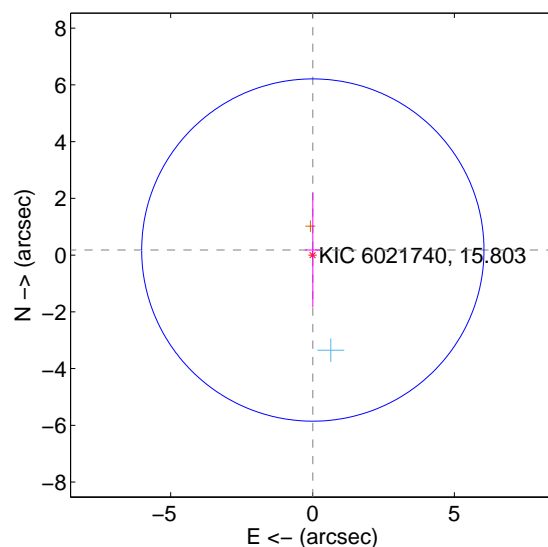
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 1.203	0.04	-0.042 ± 0.274	-0.031 ± 1.998
PRF-fit source offset from KIC position	0.179 ± 2.011	0.09	-0.011 ± 0.282	0.178 ± 2.014
photometric centroid source offset	1.37 ± 1.91	0.72	-1.22 ± 1.91	-0.63 ± 1.91

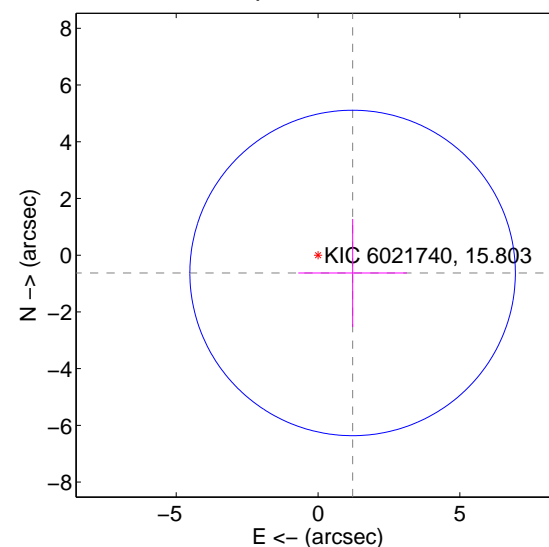
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

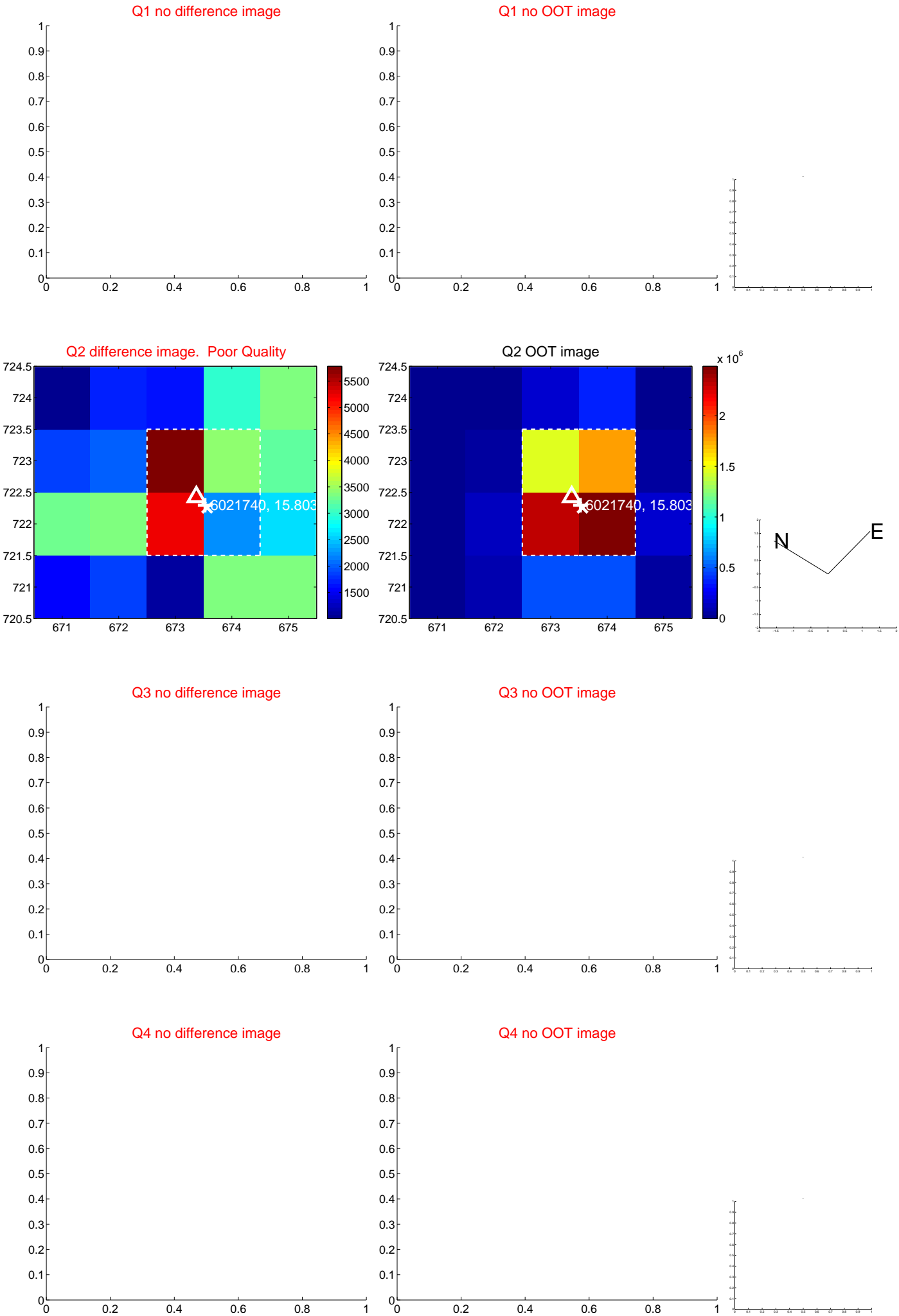


offset from photometric centroids

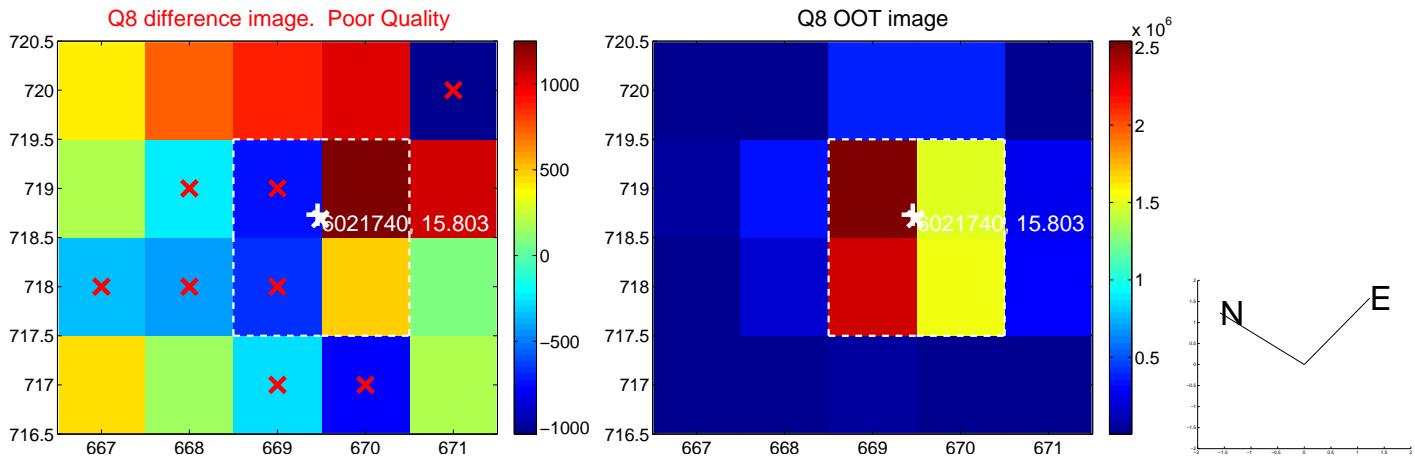
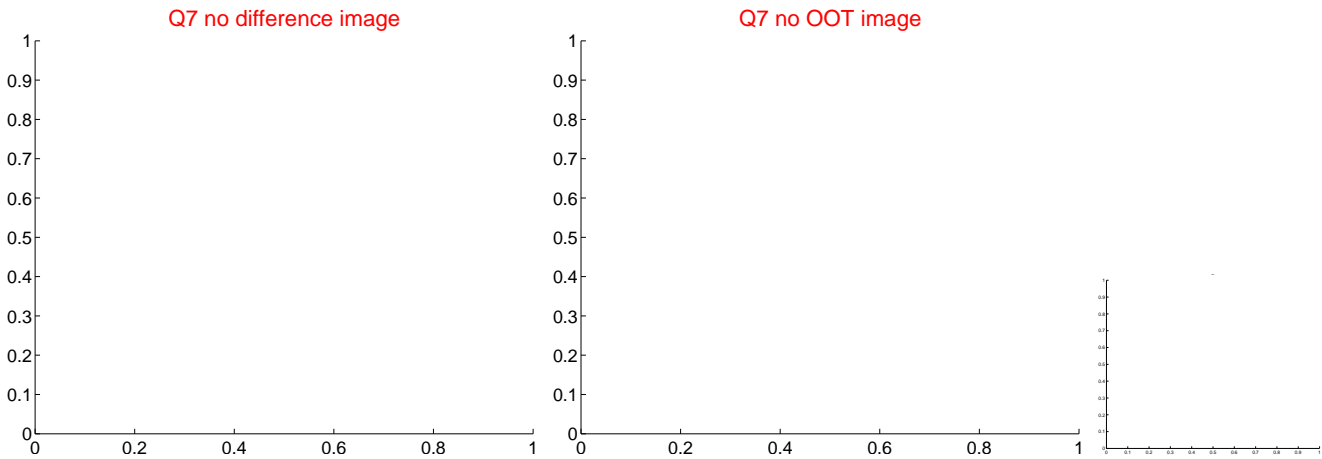
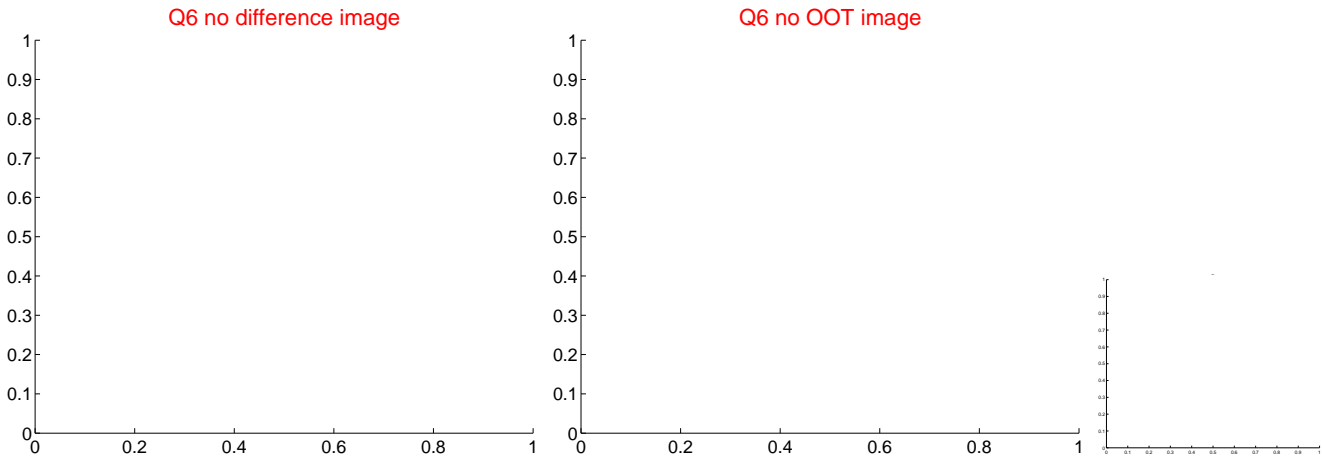
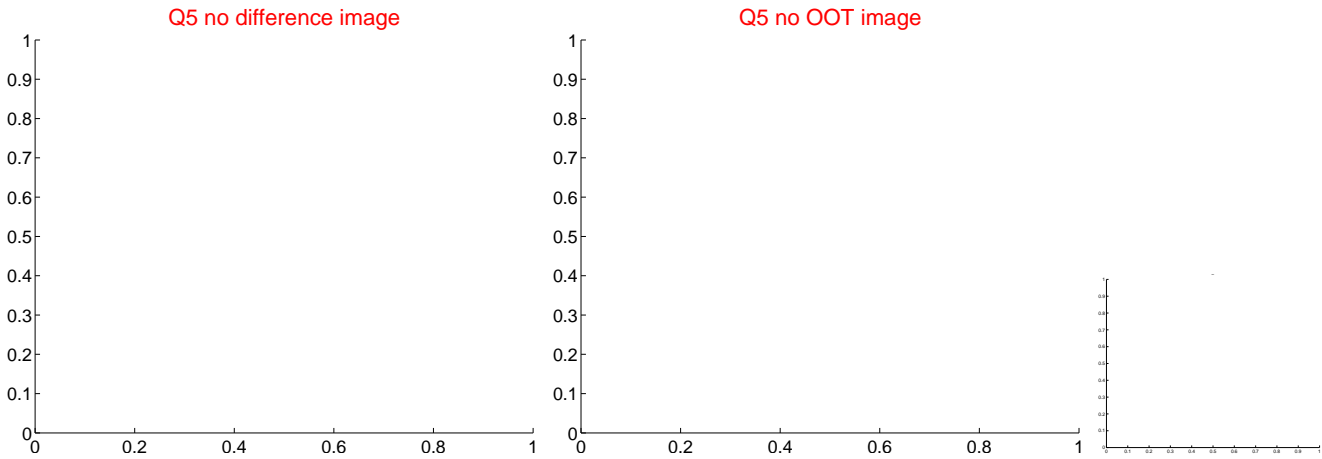


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

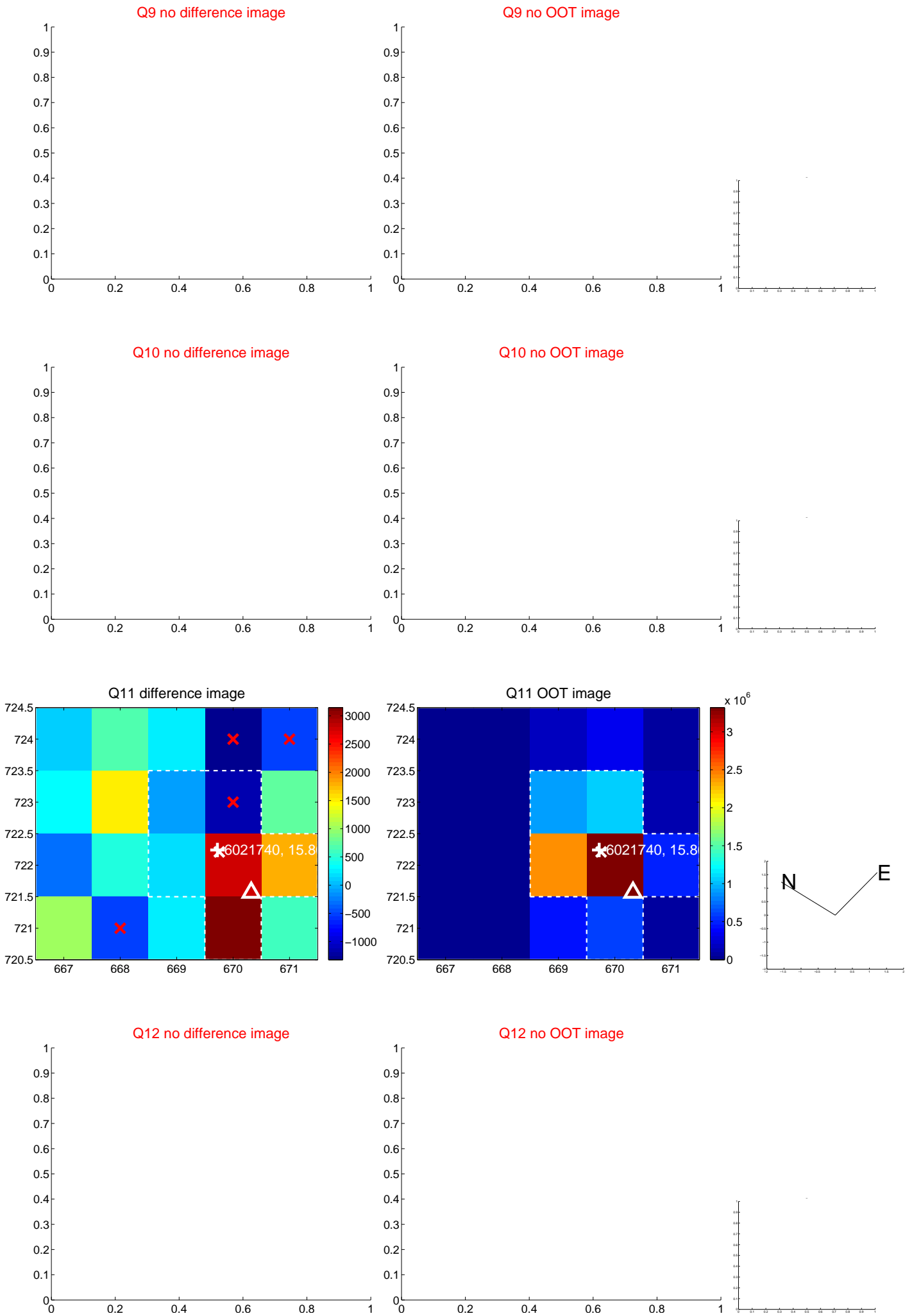
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



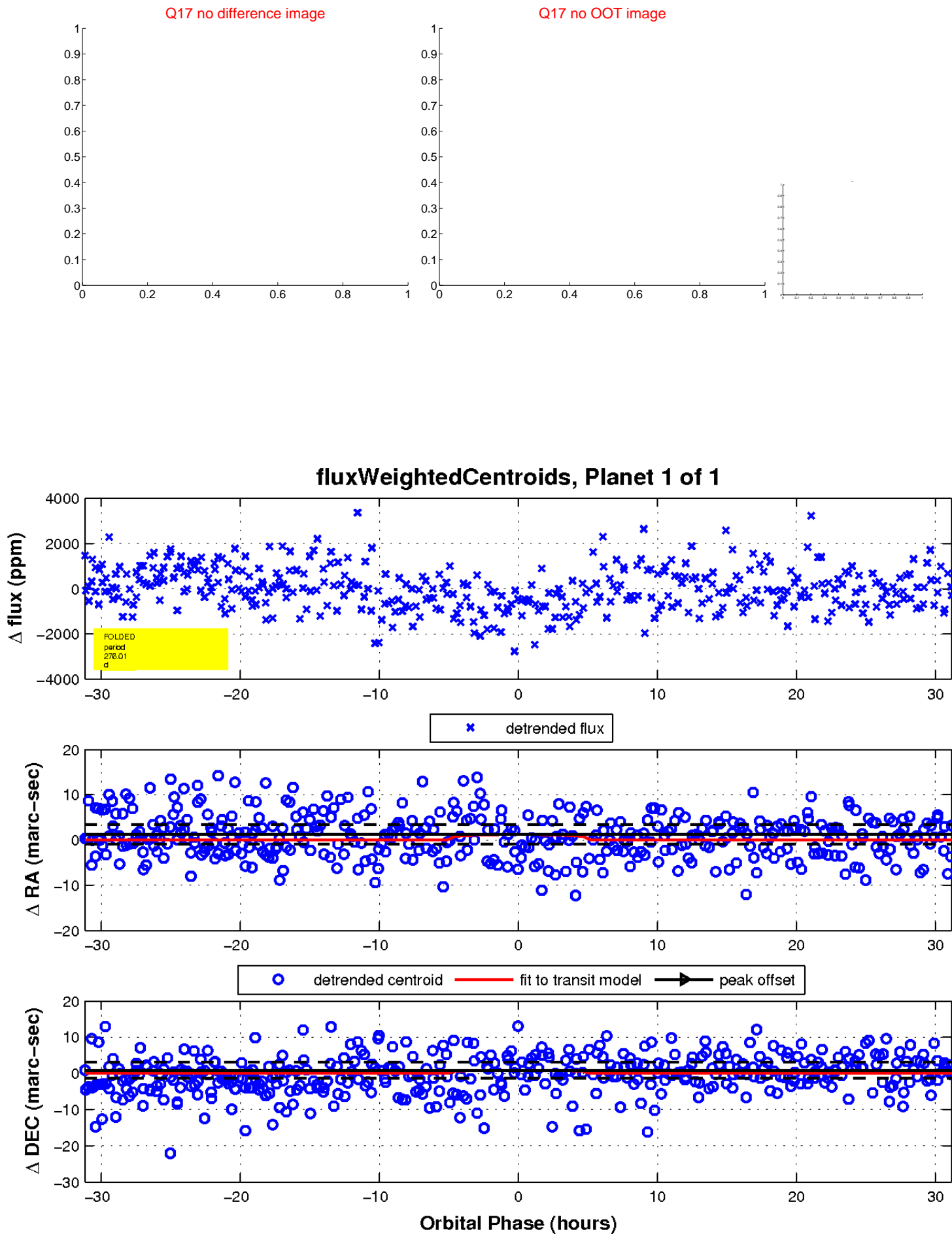
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

