

KIC 007972926

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})
007972926-01	OBS	No	420.980296	334.302684	401.9	15.698	7.7	8.1	1.11	6486	2.36	1.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007972926-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

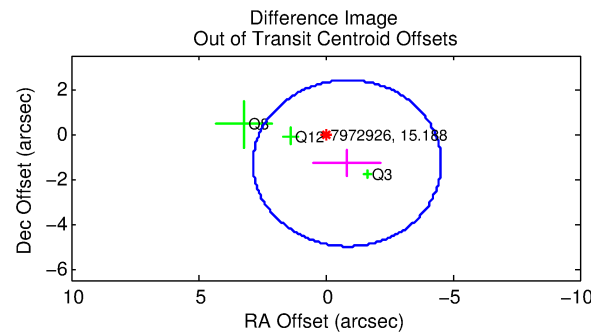
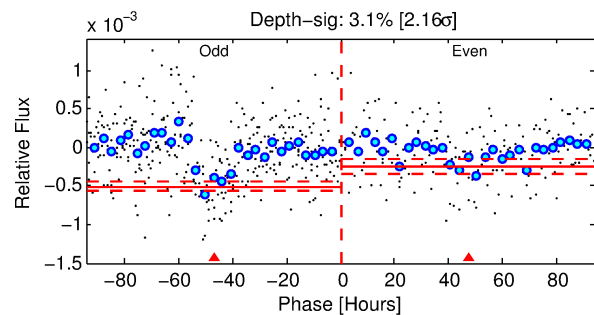
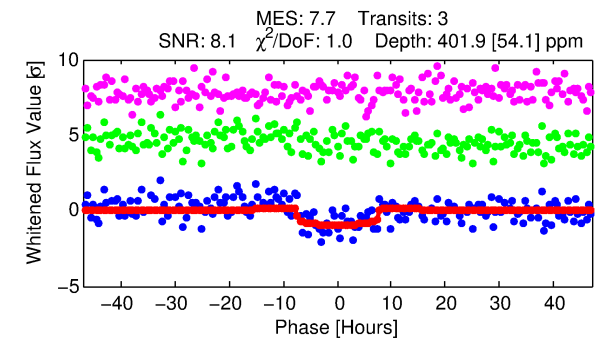
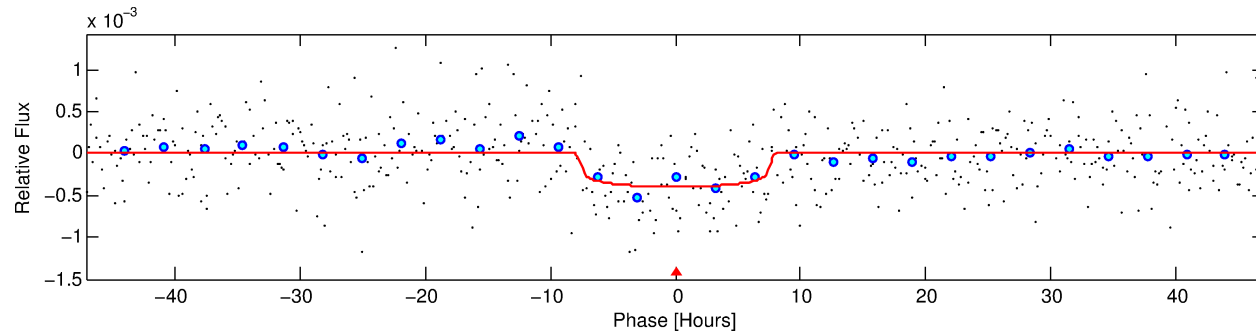
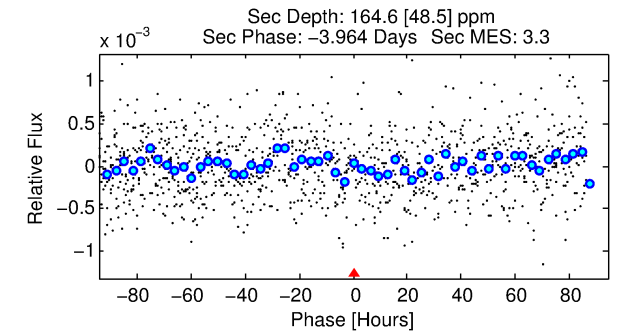
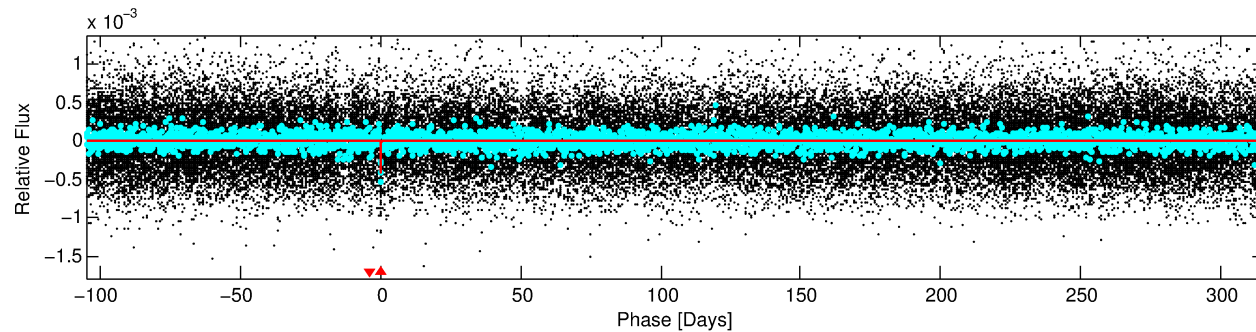
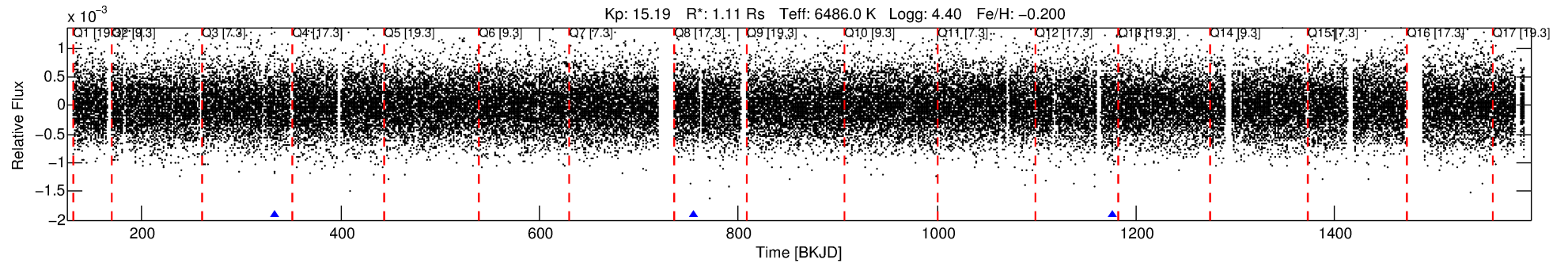
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007972926-01

No Significant Match Found

DV One-Page Summary

KIC: 7972926 Candidate: 1 of 1 Period: 420.980 d



DV Fit Results:

Period = 420.98030 [0.01709] d
Epoch = 334.3027 [0.0209] BKJD
Rp/R* = 0.0194 [0.0084]
a/R* = 160.89 [371.32]
b = 0.65 [2.06]
Seff = 1.49 [0.57]
Teff = 282 [27] K
Rp = 2.36 [1.24] Re
a = 1.1509 [0.2856] AU
Ag = 21451.58 [21053.30] [1.02 σ]
Teffp = 5270 [1216] K [4.10 σ]

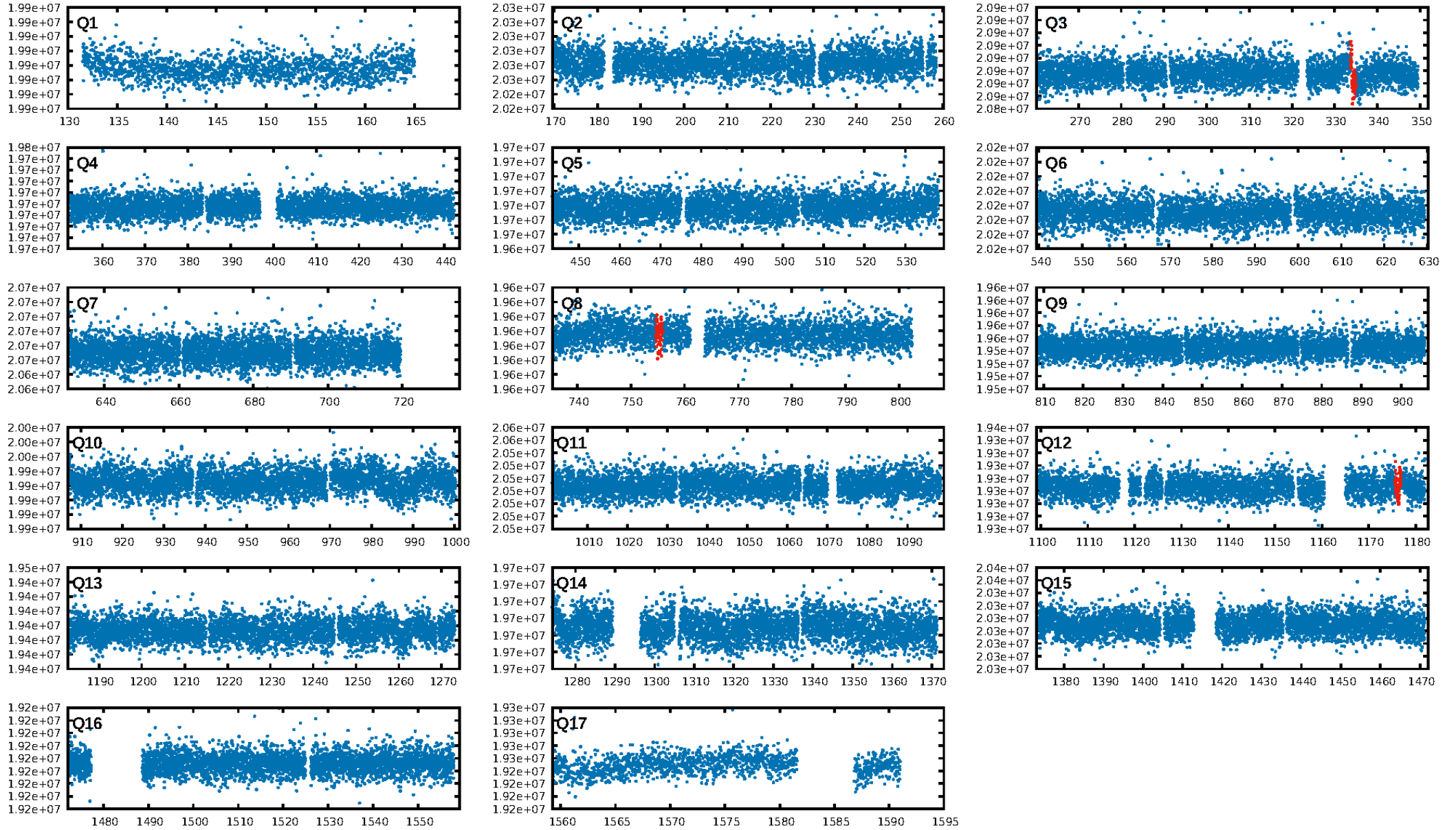
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.6%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 1.14e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 153
Centroid-sig: 3.3%
Centroid-so: 2.244 arcsec [1.40 σ]
OotOffset-rm: 1.561 arcsec [1.27 σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-rm: 1.745 arcsec [1.95 σ]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

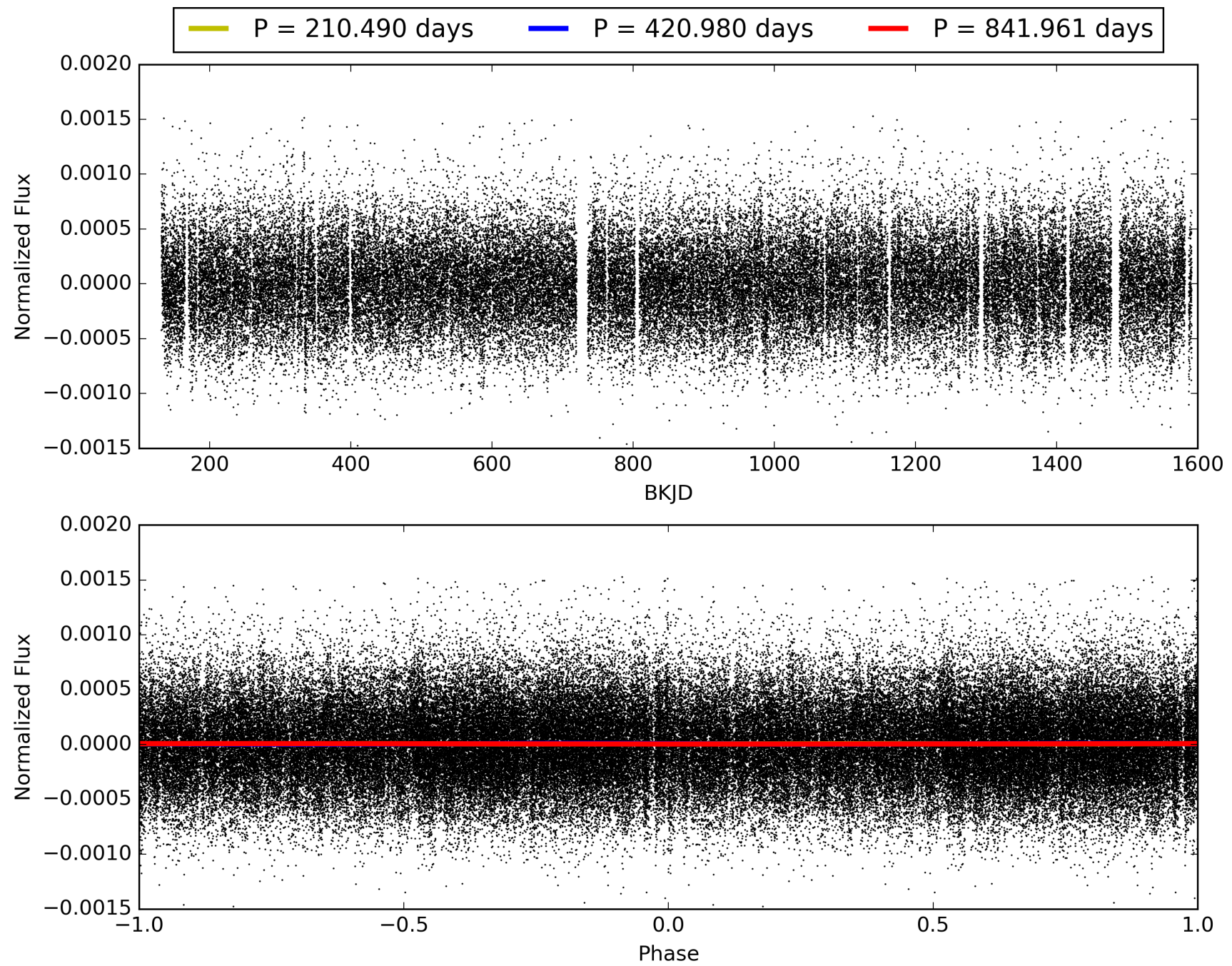
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:31:07 Z

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

TCE 007972926-01, PDC Light Curves

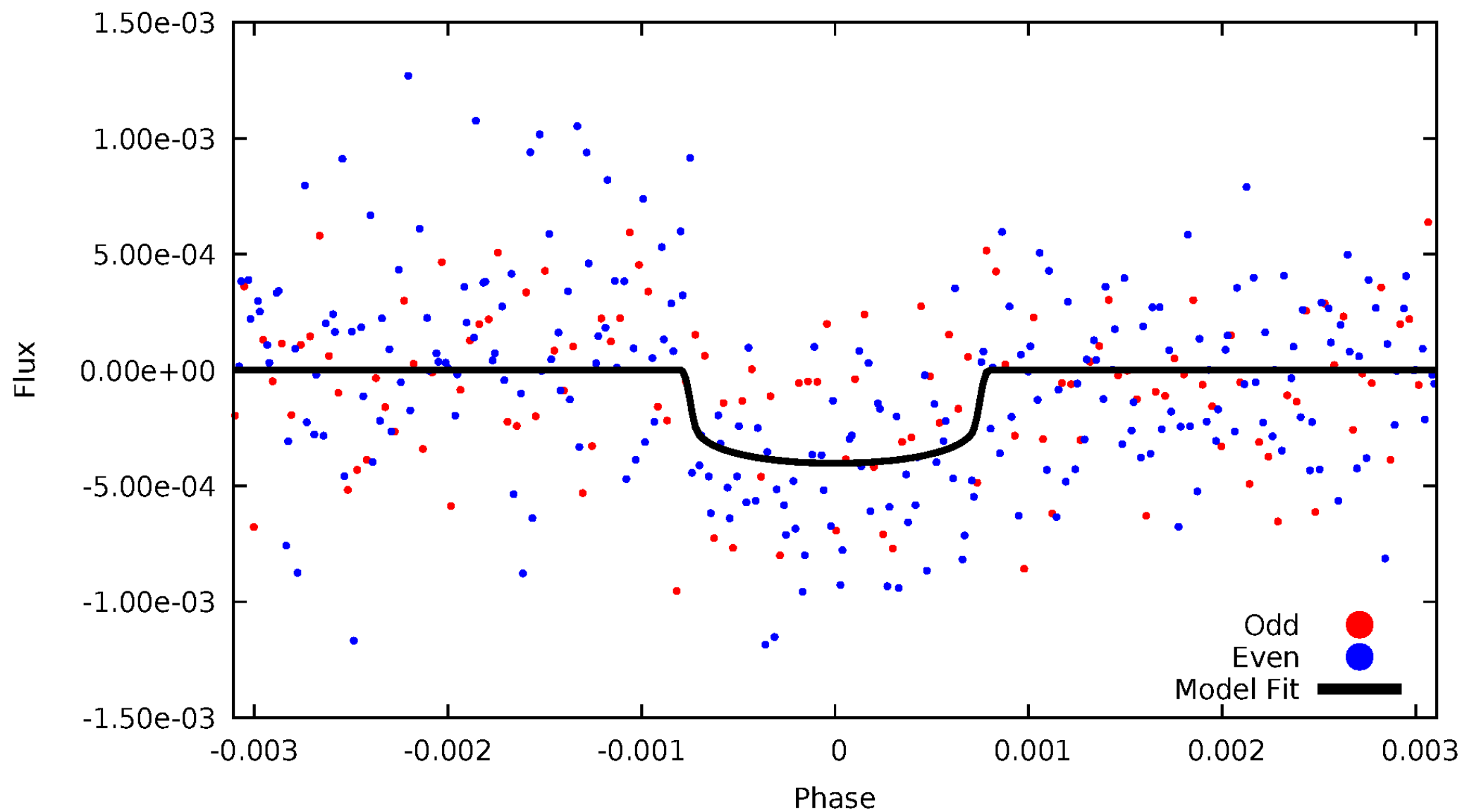


TCE 007972926-01



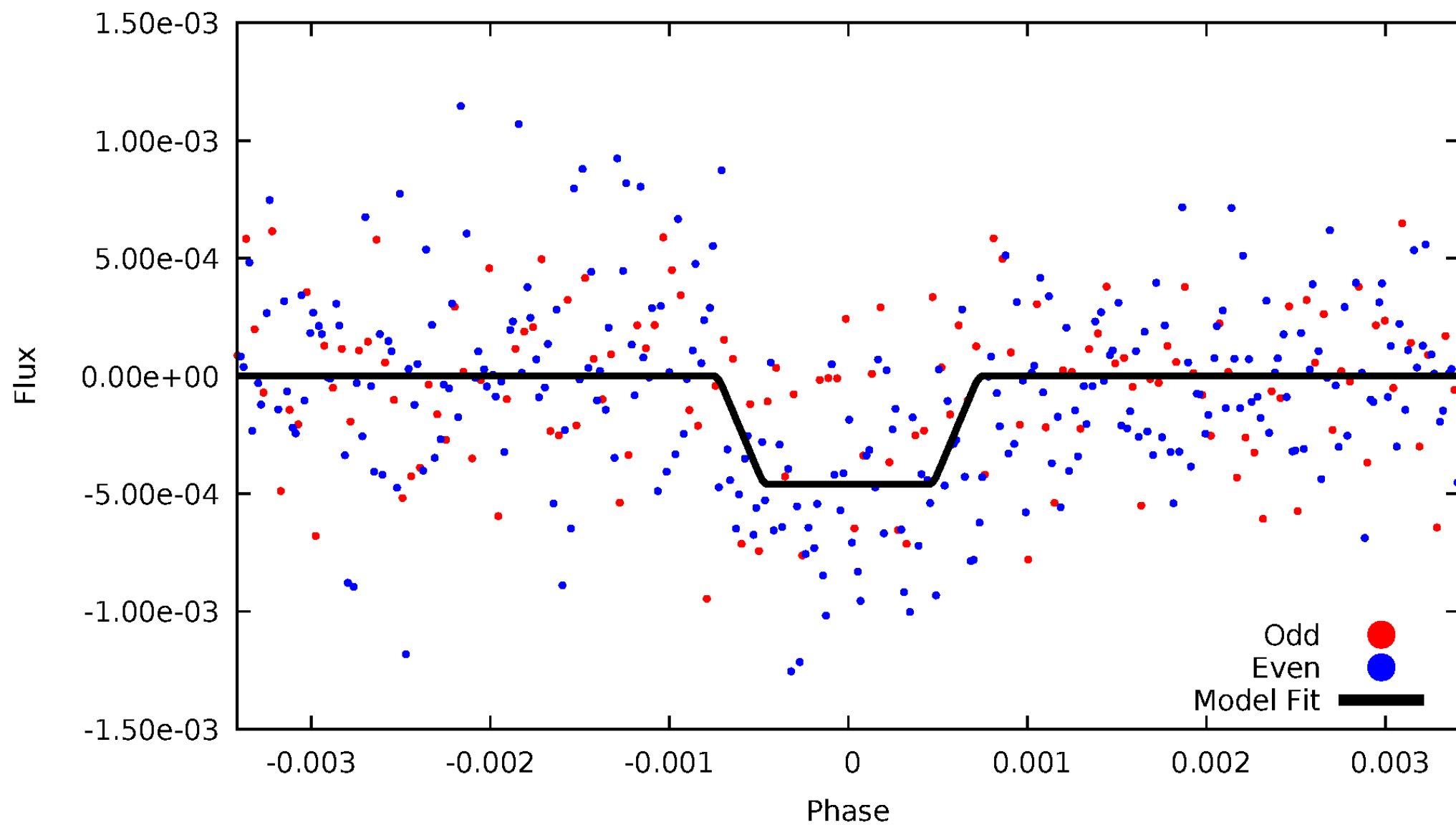
DV Odd/Even

TCE 007972926-01



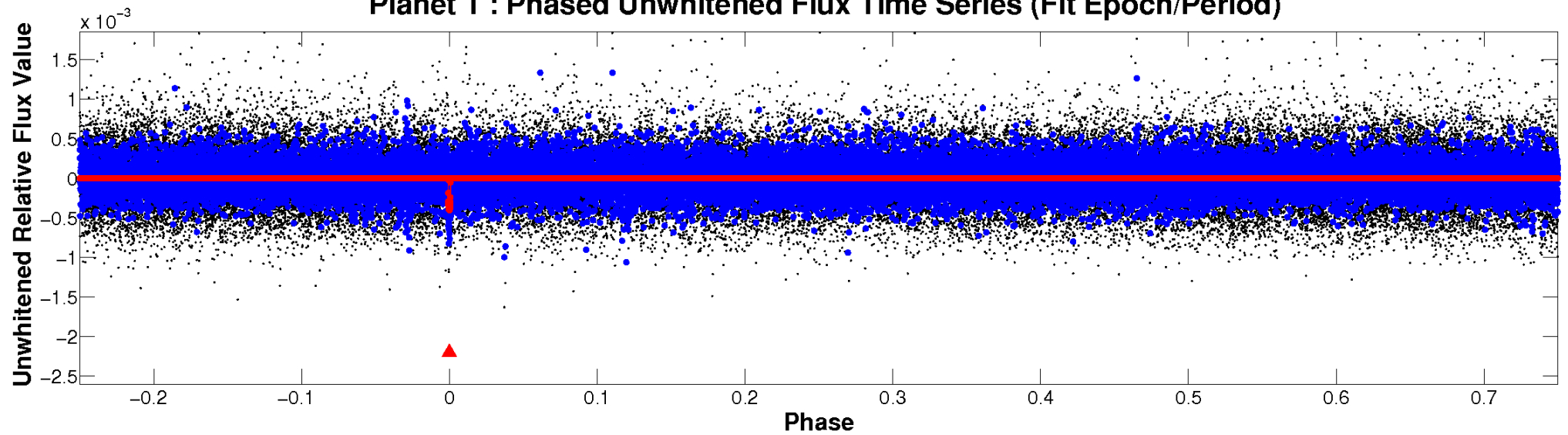
ALT Odd/Even

TCE 007972926-01

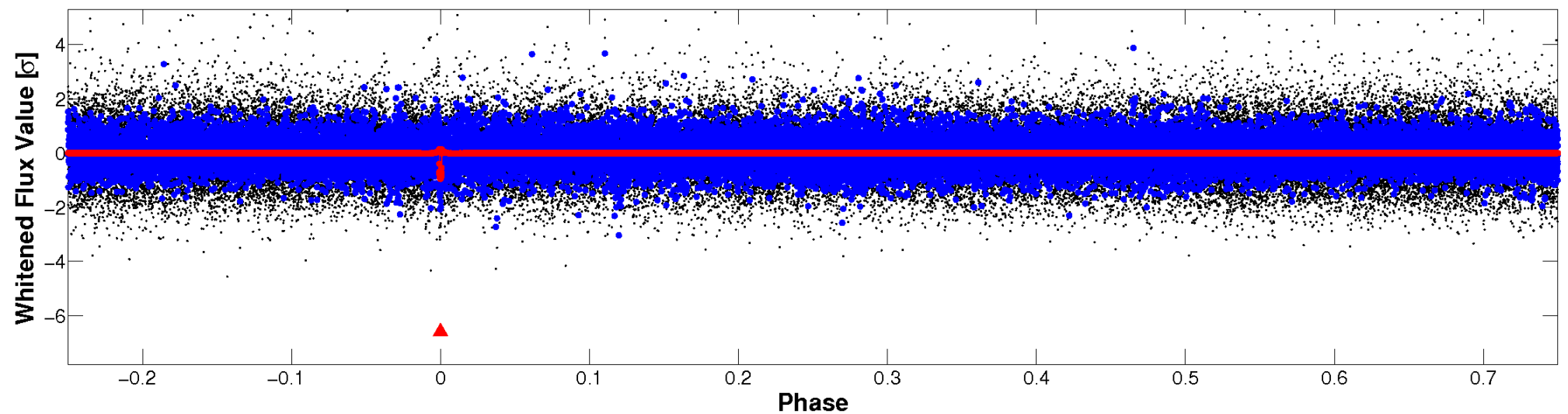


Non-Whitened Vs. Whitened Light Curve

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



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



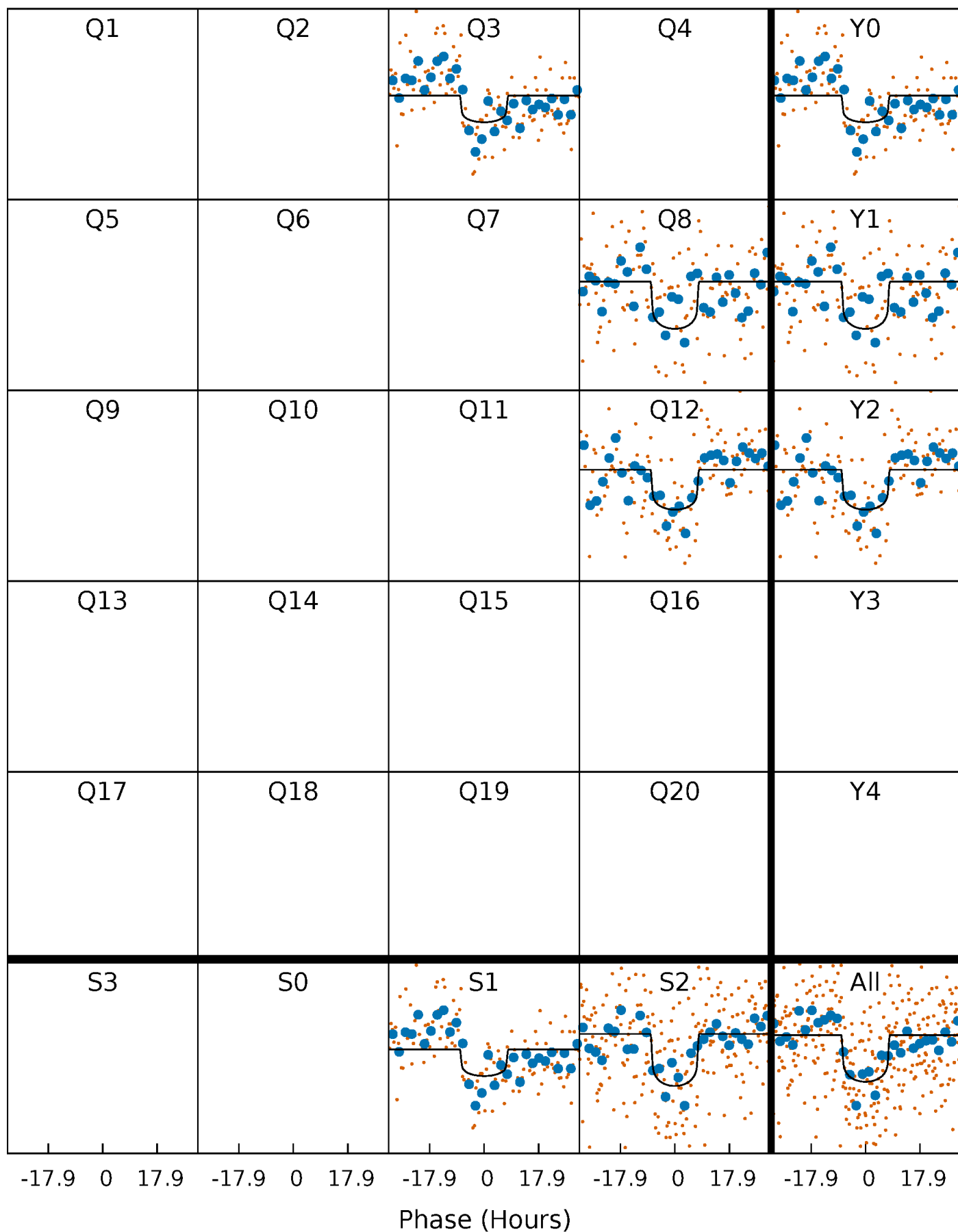
PDC Quarter-Phased Transit Curves

TCE 007972926-01 P=420.980296 Days $T_0=334.302684$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007972926-01 P=420.980296 Days $T_0=334.302684$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

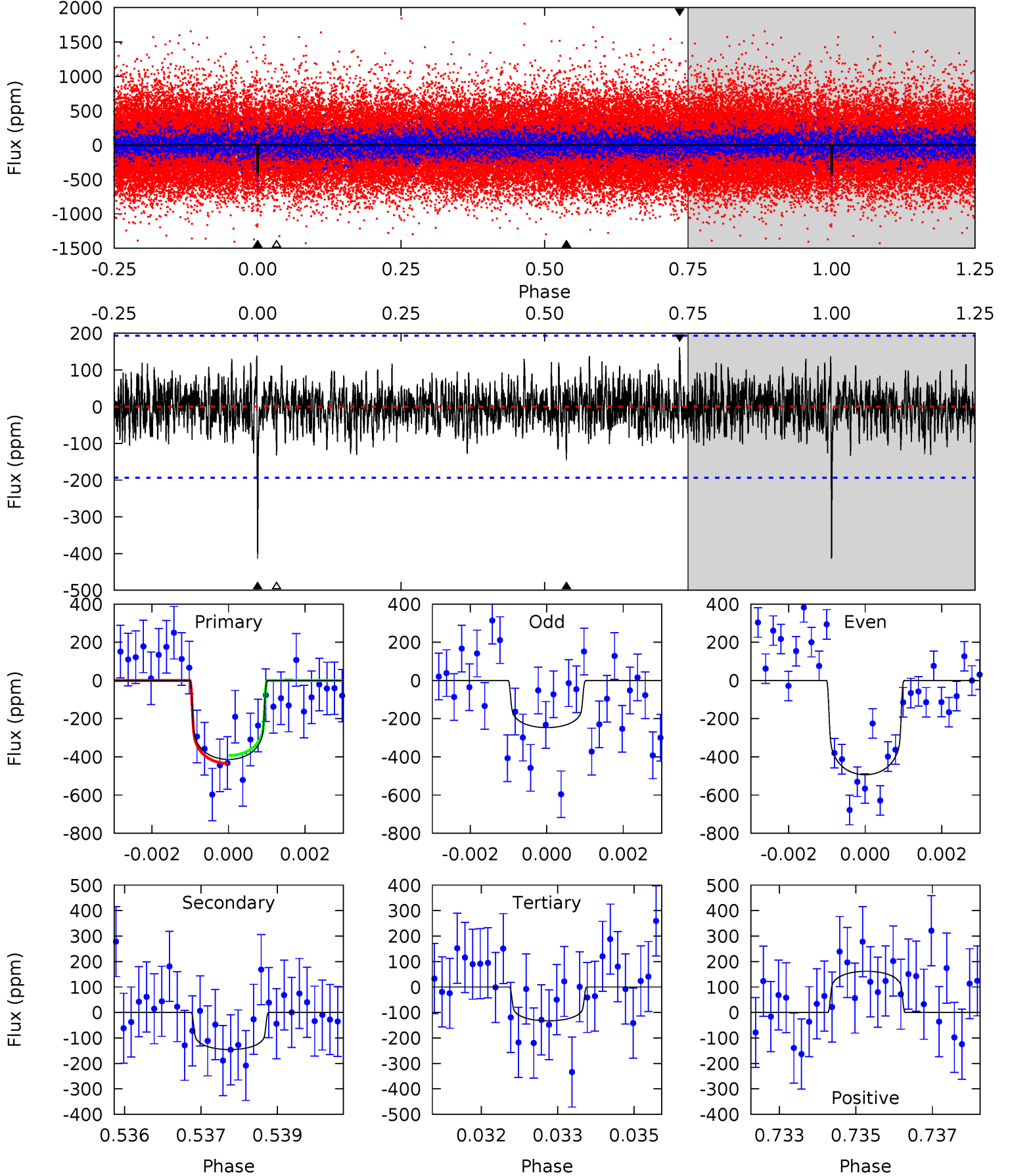
TCE 007972926-01 $P=420.985825$ Days $T_0=334.285423$ (BKJD)



DV Model-Shift Uniqueness Test

007972926-01, P = 420.980296 Days, E = 334.302684 Days

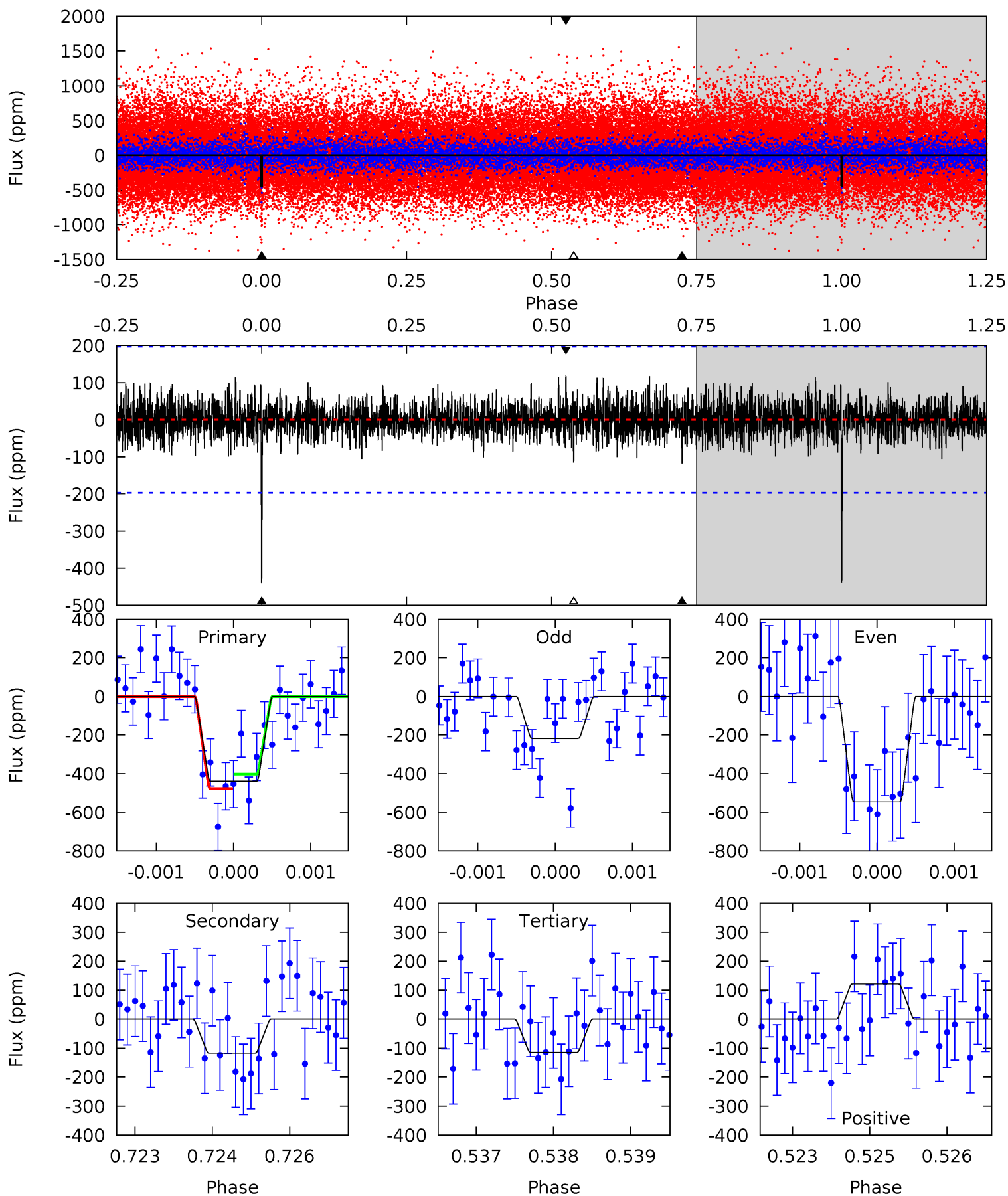
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	4.04	3.69	4.49	5.37	3.16	1.17	7.79	6.98	0.35	-0.45	3.21	0.86	0.28	0.58



Alt Model-Shift Uniqueness Test

007972926-01, P = 420.985825 Days, E = 334.285423 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	3.20	3.12	3.31	5.38	3.18	0.93	8.86	8.68	0.07	-0.11	4.20	0.81	0.22	1.01



Stellar Parameters For KIC 007972926

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6486^{+175}_{-214}	$4.403^{+0.065}_{-0.195}$	$-0.200^{+0.250}_{-0.300}$	$1.115^{+0.331}_{-0.142}$	$1.147^{+0.170}_{-0.155}$	$1.164^{+0.331}_{-0.618}$
	+3%/-3%	+1%/-4%	+125%/-150%	+30%/-13%	+15%/-14%	+28%/-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 007972926-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-145 ± 36	$2.47^{+1.18}_{-1.09}$	401^{+26}_{-21}	5101^{+1693}_{-716}	16906^{+38222}_{-9519}
Alt.	-117 ± 37	$2.72^{+1.20}_{-1.12}$	402^{+27}_{-20}	4693^{+1302}_{-634}	10725^{+21233}_{-5873}

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

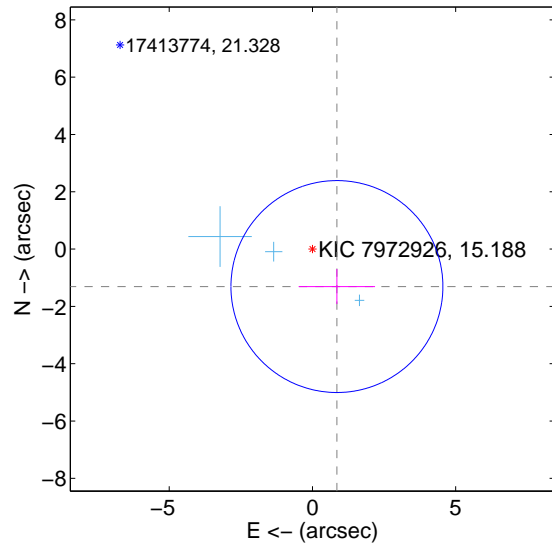
Supplemental centroid analysis for 007972926-01. Kepler magnitude: 15.19. Transit SNR 8.08

There are 3 quarters with good PRF difference image offsets

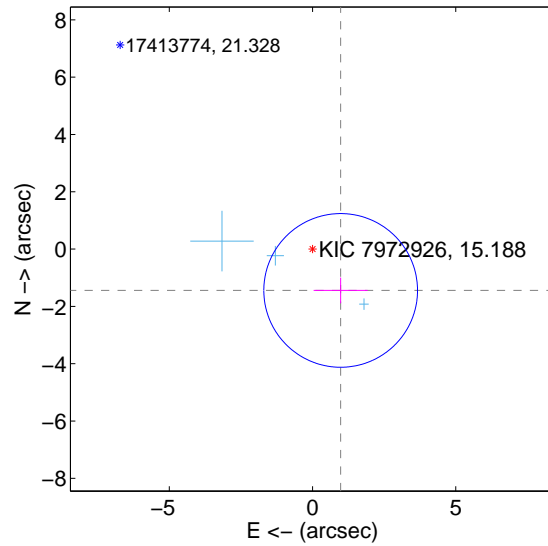
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.561 ± 1.233	1.27	-0.854 ± 1.331	-1.307 ± 0.608
PRF-fit source offset from KIC position	1.745 ± 0.894	1.95	-0.982 ± 0.943	-1.442 ± 0.449
photometric centroid source offset	2.24 ± 1.60	1.40	-0.54 ± 1.56	-2.18 ± 1.60

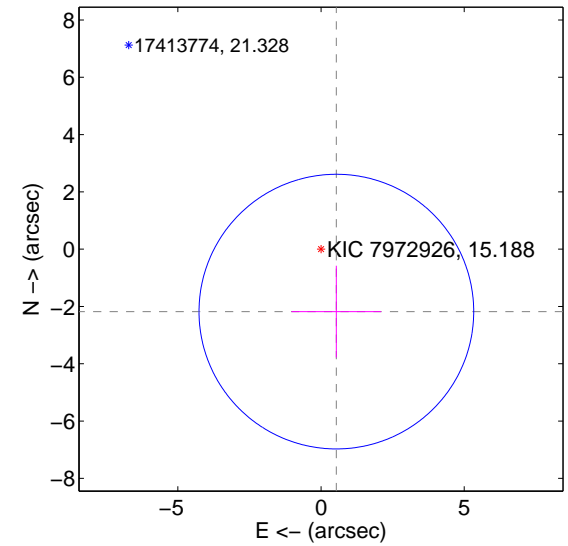
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

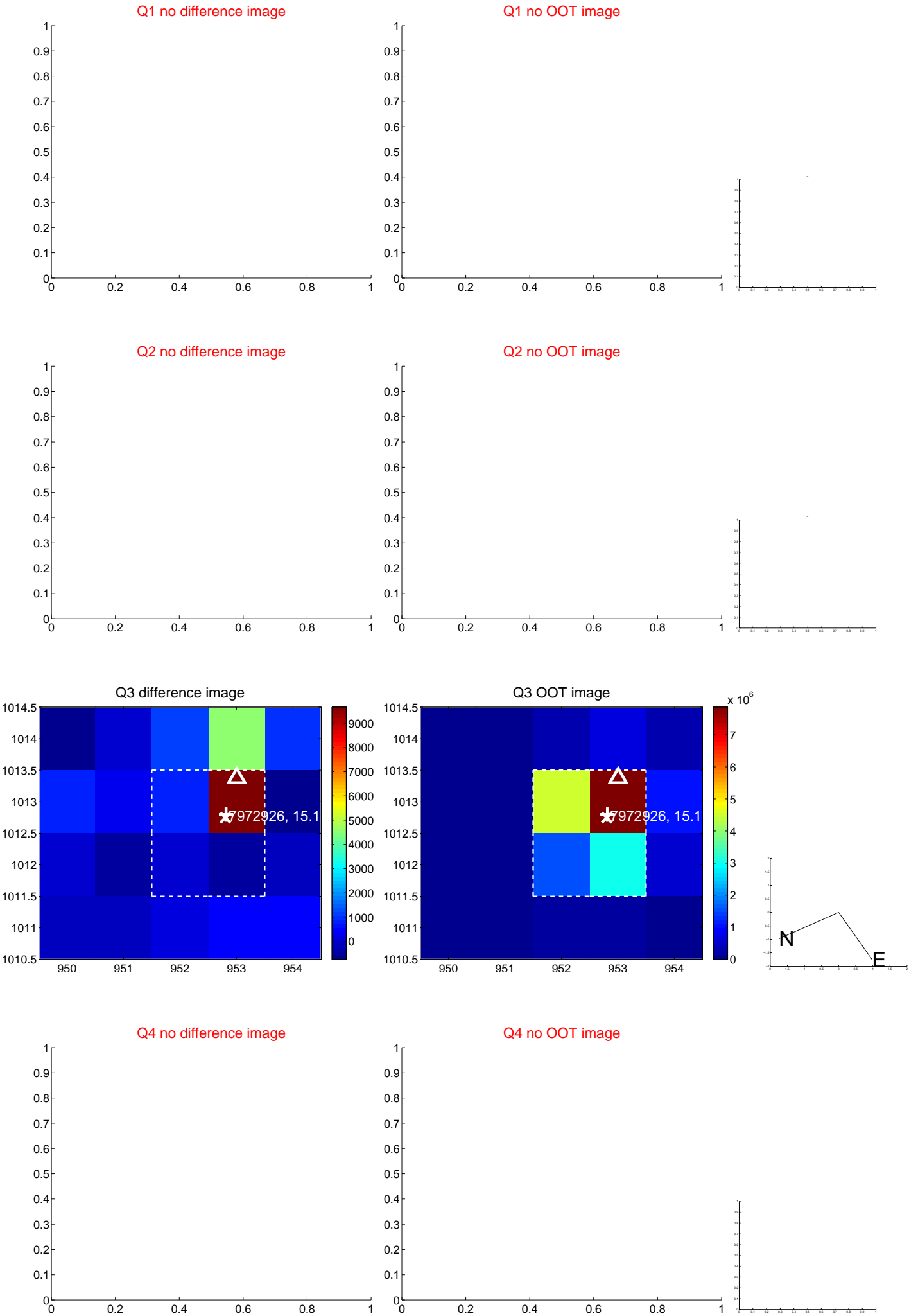


offset from photometric centroids

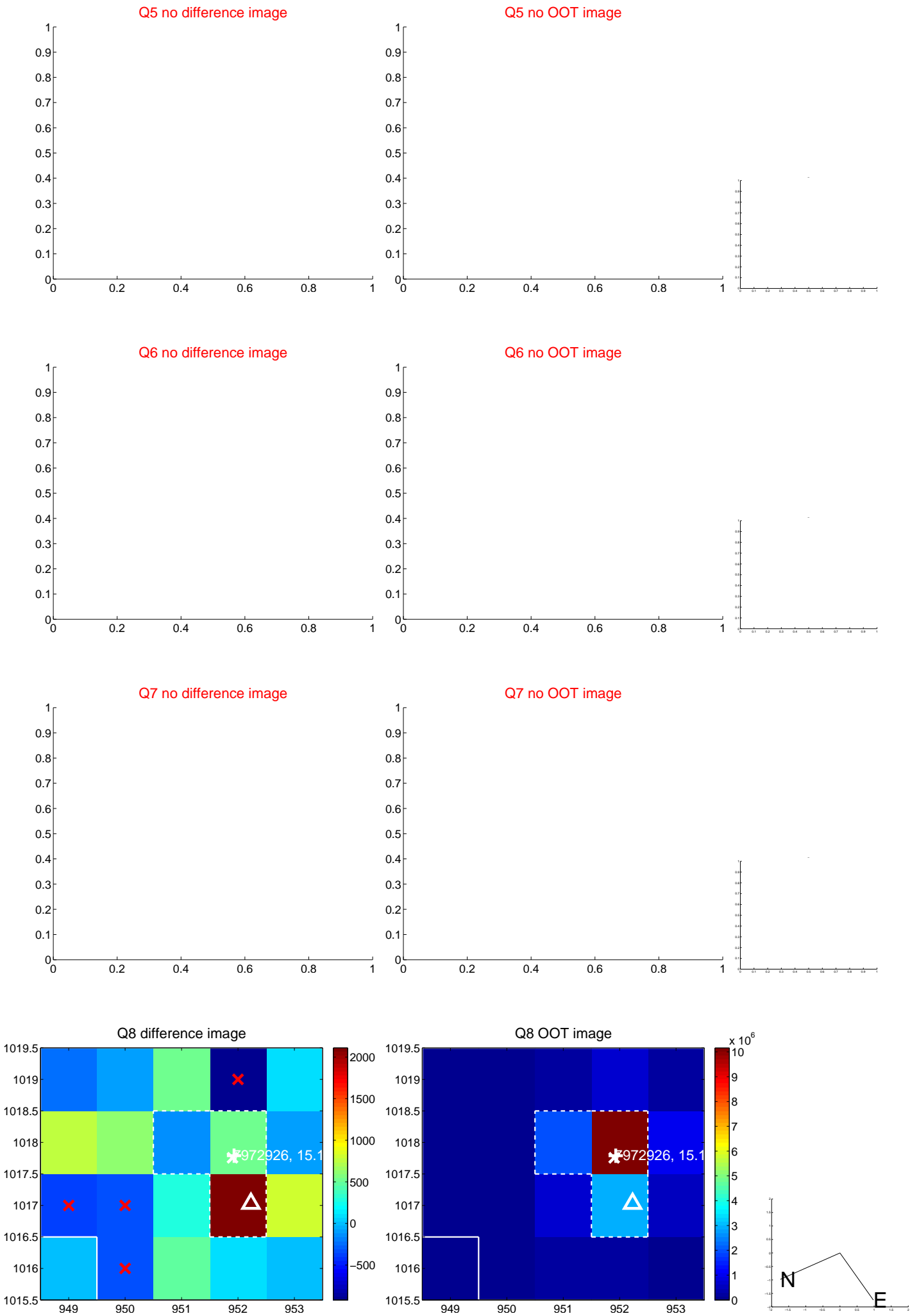


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q9 no difference image



Q9 no OOT image



Q10 no difference image



Q10 no OOT image



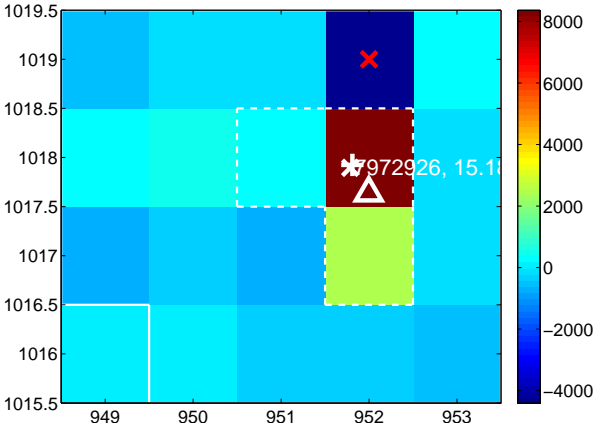
Q11 no difference image



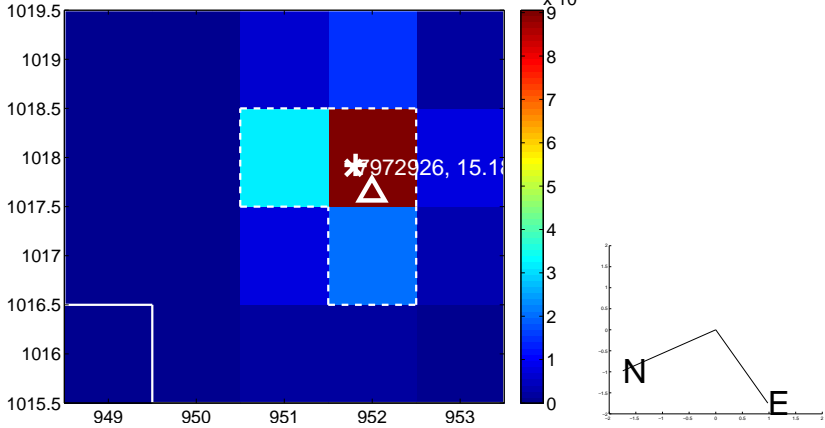
Q11 no OOT image



Q12 difference image



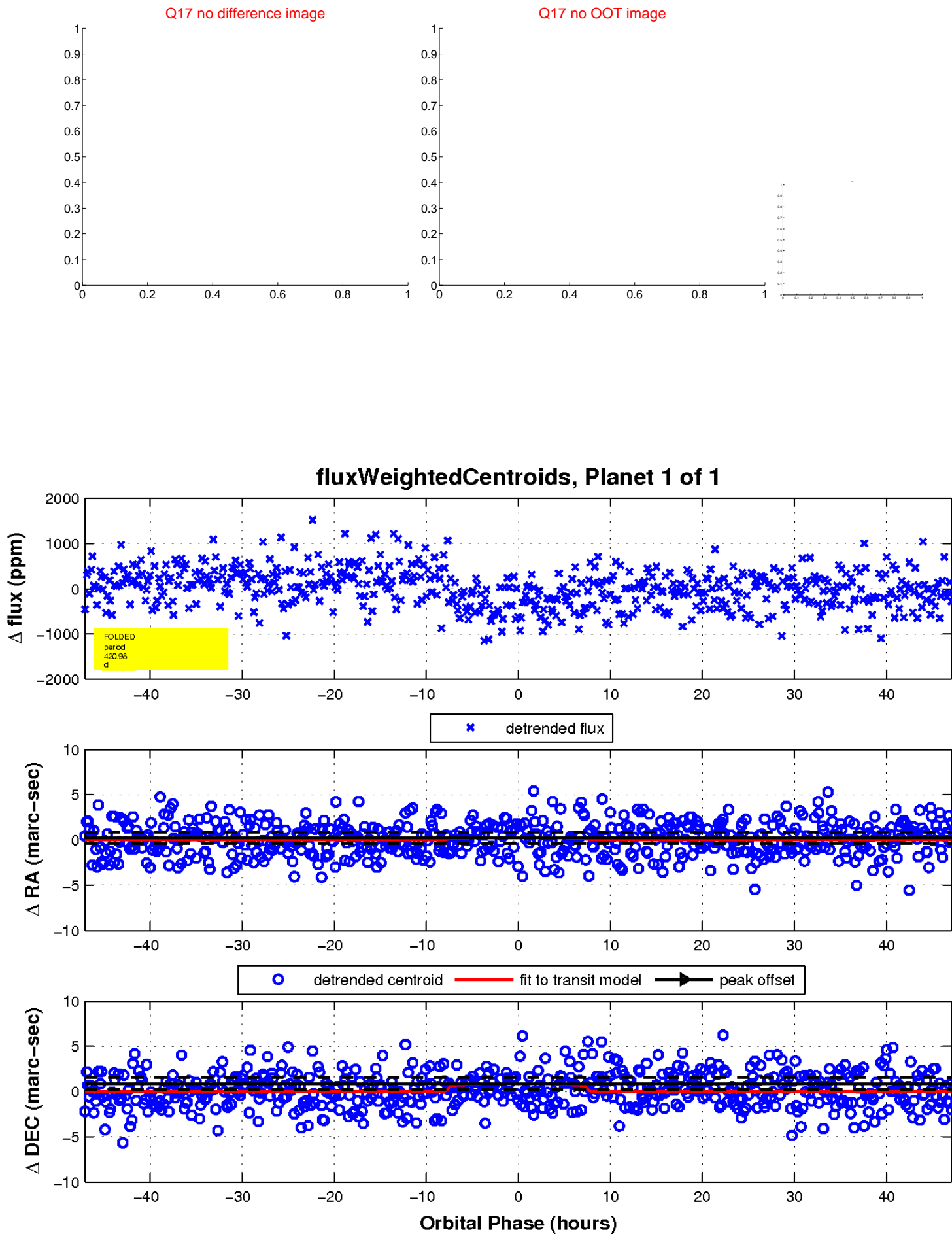
Q12 OOT image



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

