

KIC 007970972

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})
007970972-01	OBS	No	369.140577	233.654391	2375.8	22.898	12.1	11.9	0.88	5815	7.92	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007970972-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH

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.

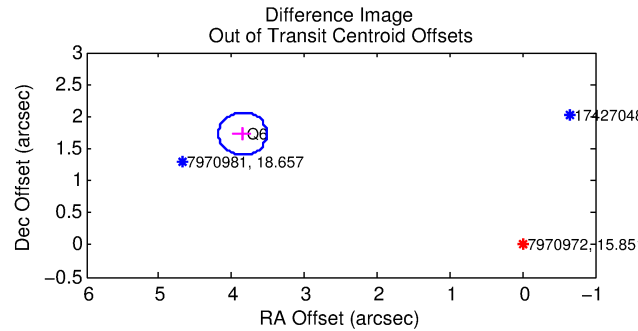
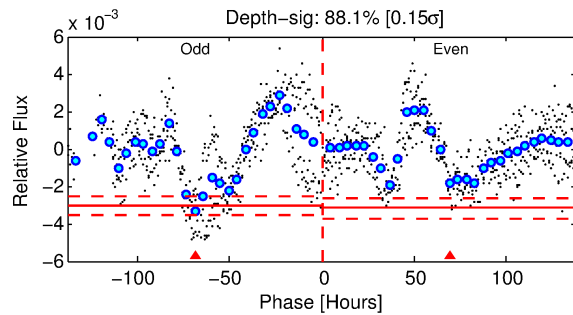
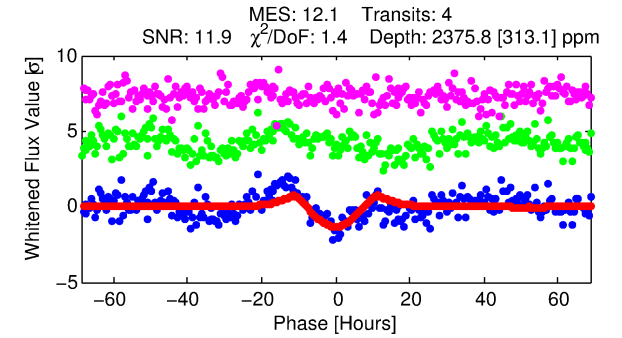
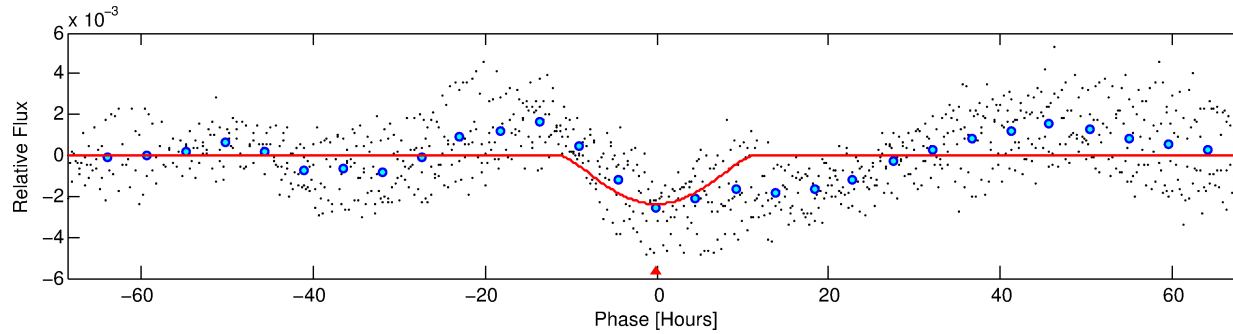
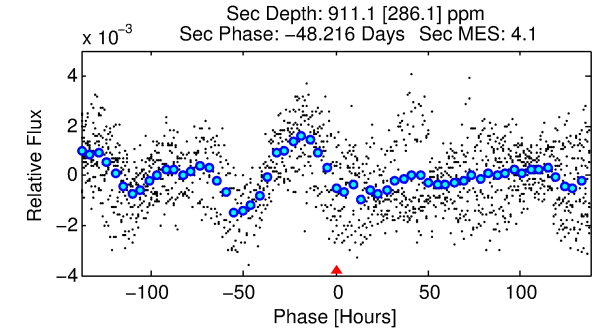
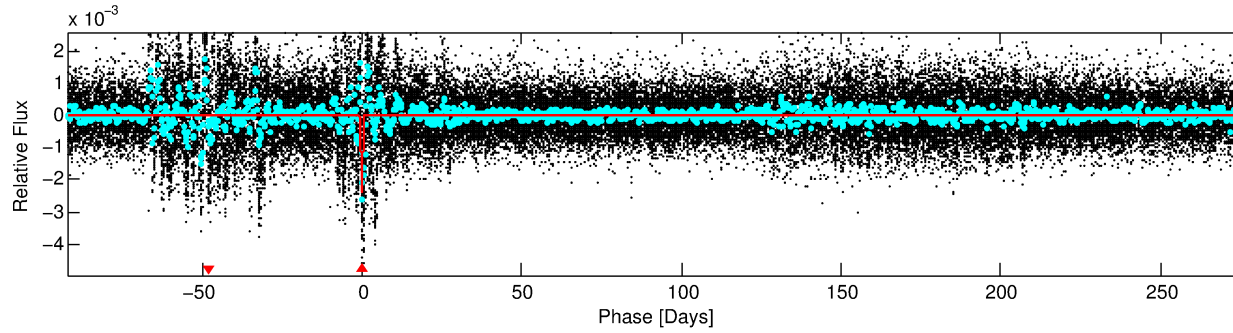
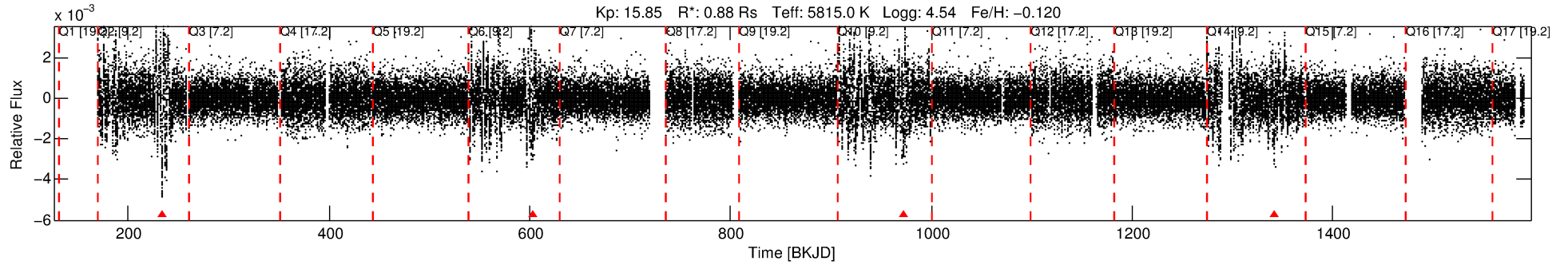
Ephemeris Match Information For 007970972-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007970972-01	7970972	007970969-01	7970969	1:1	68.7	-9	15	15.58	15.85	0.43	Direct-PRF	1	3.50	0.15

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7970972 Candidate: 1 of 1 Period: 369.141 d



DV Fit Results:

Period = 369.14058 [0.01614] d
Epoch = 233.6544 [0.0299] BKJD
Rp/R* = 0.0827 [0.1621]
a/R* = 51.80 [21.87]
b = 1.00 [0.24]
Seff = 0.79 [0.32]
Teq = 240 [25] K
Rp = 7.92 [15.71] Re
a = 0.9981 [0.2662] AU
Ag = 7962.21 [31443.84] [0.25σ]
Teff = 3512 [3453] K [0.95σ]

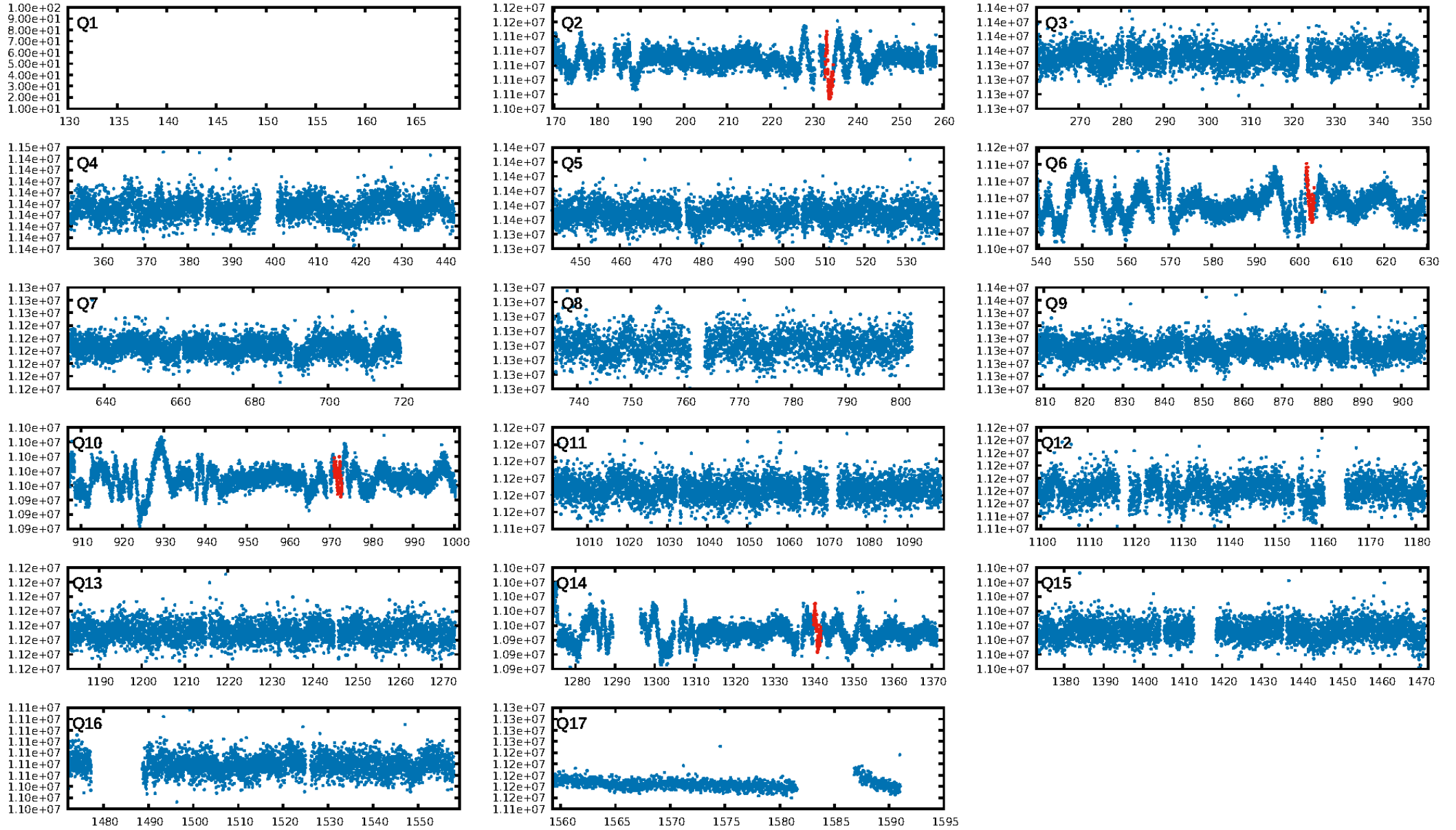
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 80.5%
Bootstrap-pfa: 1.39e-16
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 0.4847
Centroid-sig: 0.1%
Centroid-so: 3.709 arcsec [2.27σ]
OotOffset-rm: 4.224 arcsec [37.99σ]
KicOffset-rm: 4.239 arcsec [38.12σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

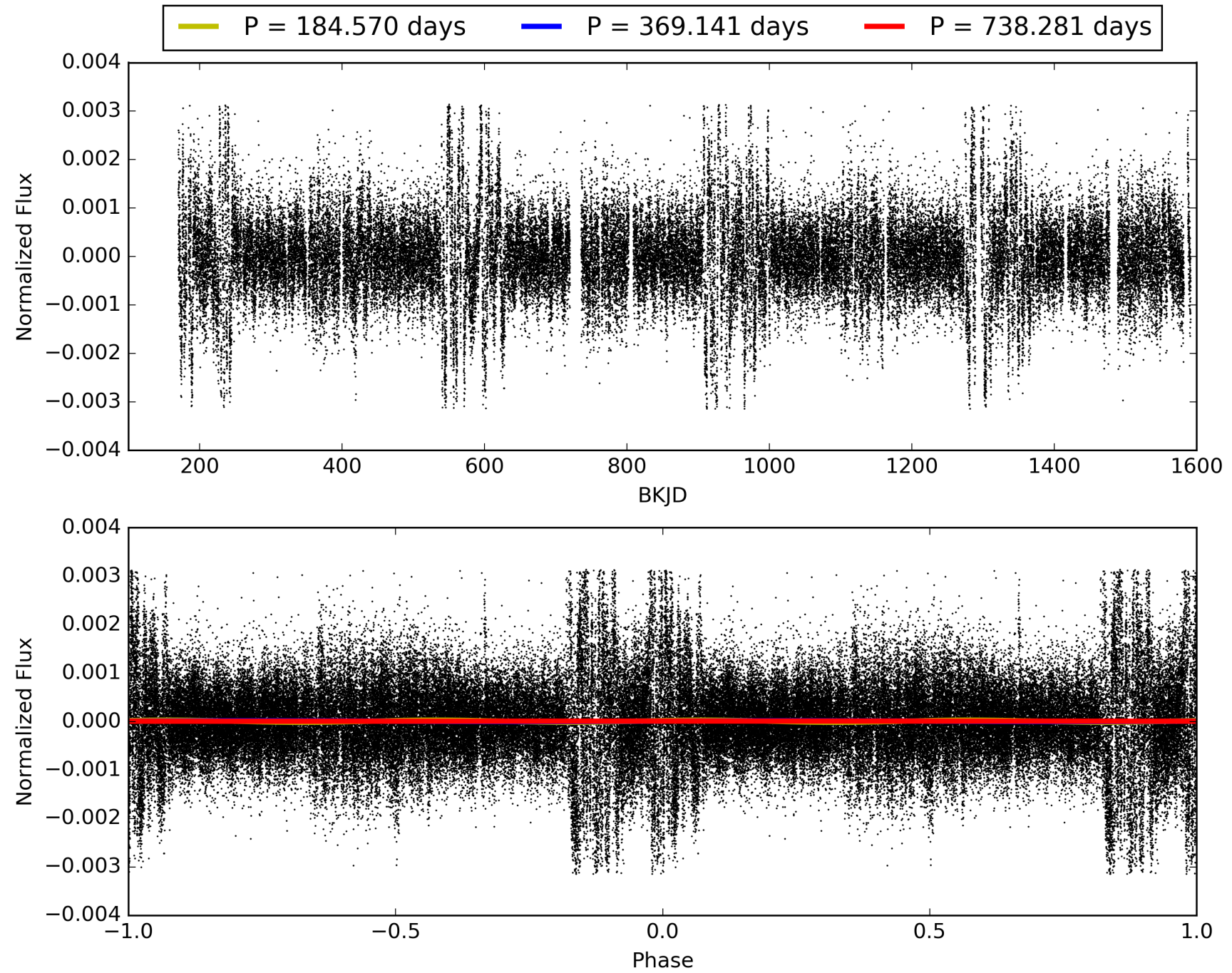
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:56:05 Z

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

TCE 007970972-01, PDC Light Curves

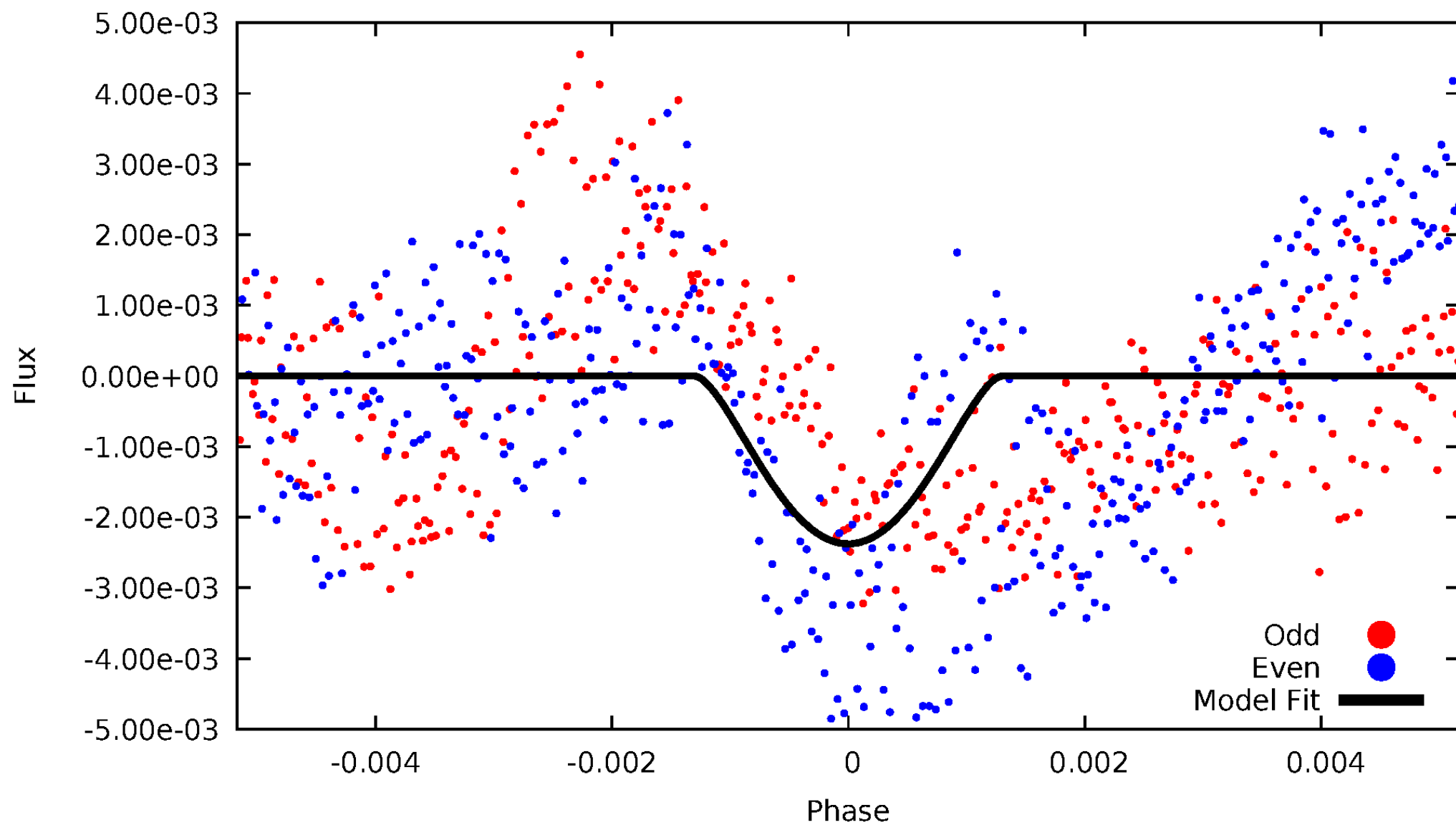


TCE 007970972-01



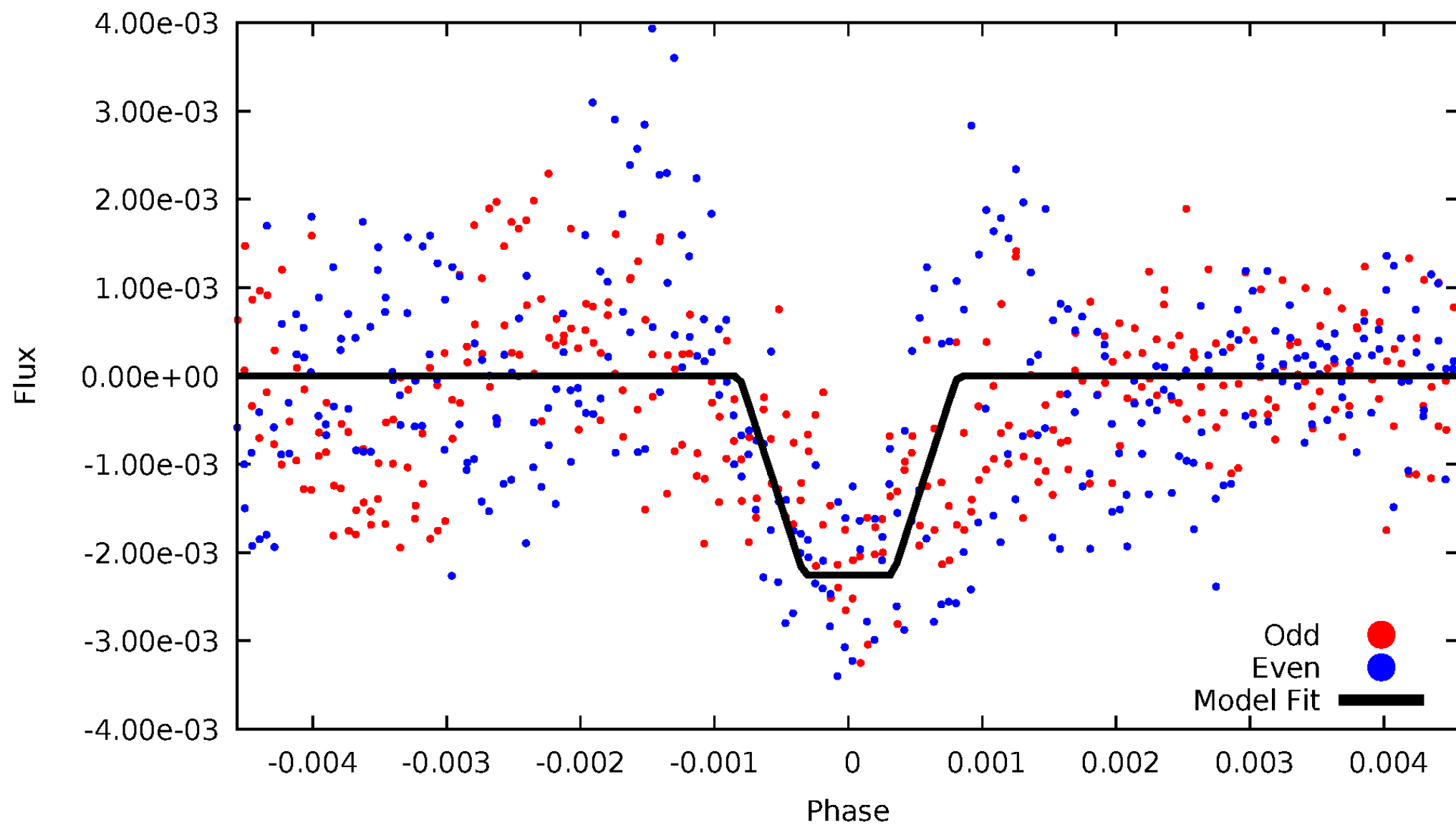
DV Odd/Even

TCE 007970972-01



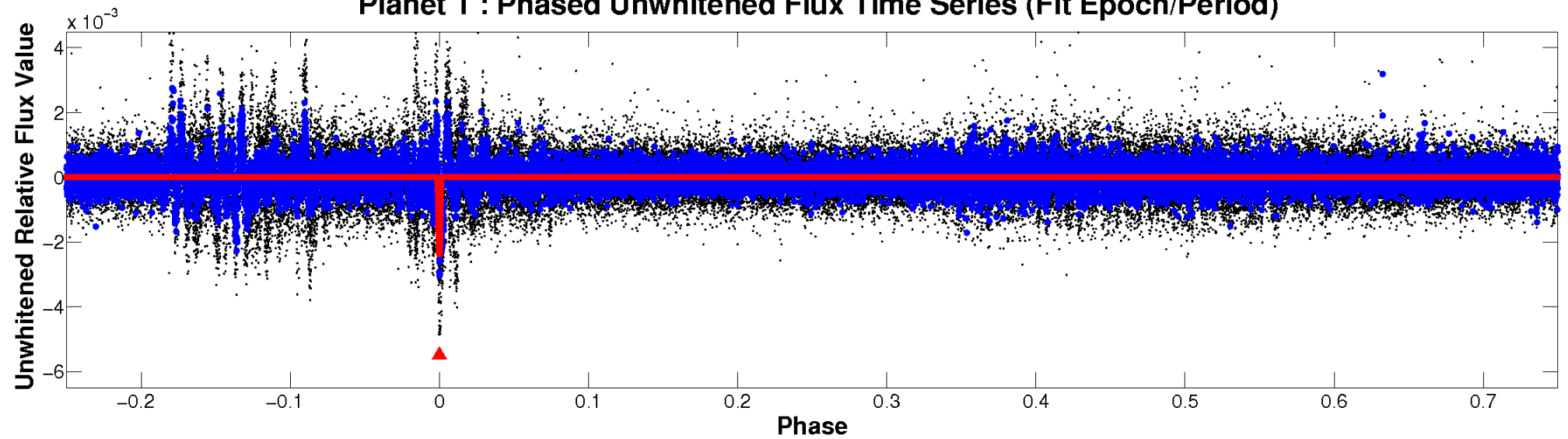
ALT Odd/Even

TCE 007970972-01

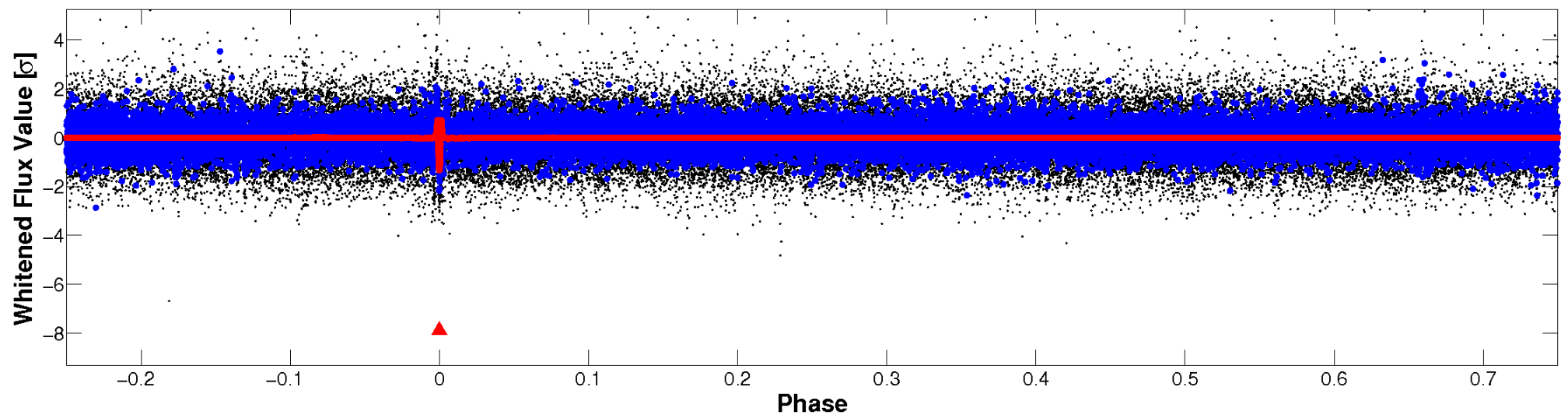


Non-Whitened Vs. Whitened Light Curve

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

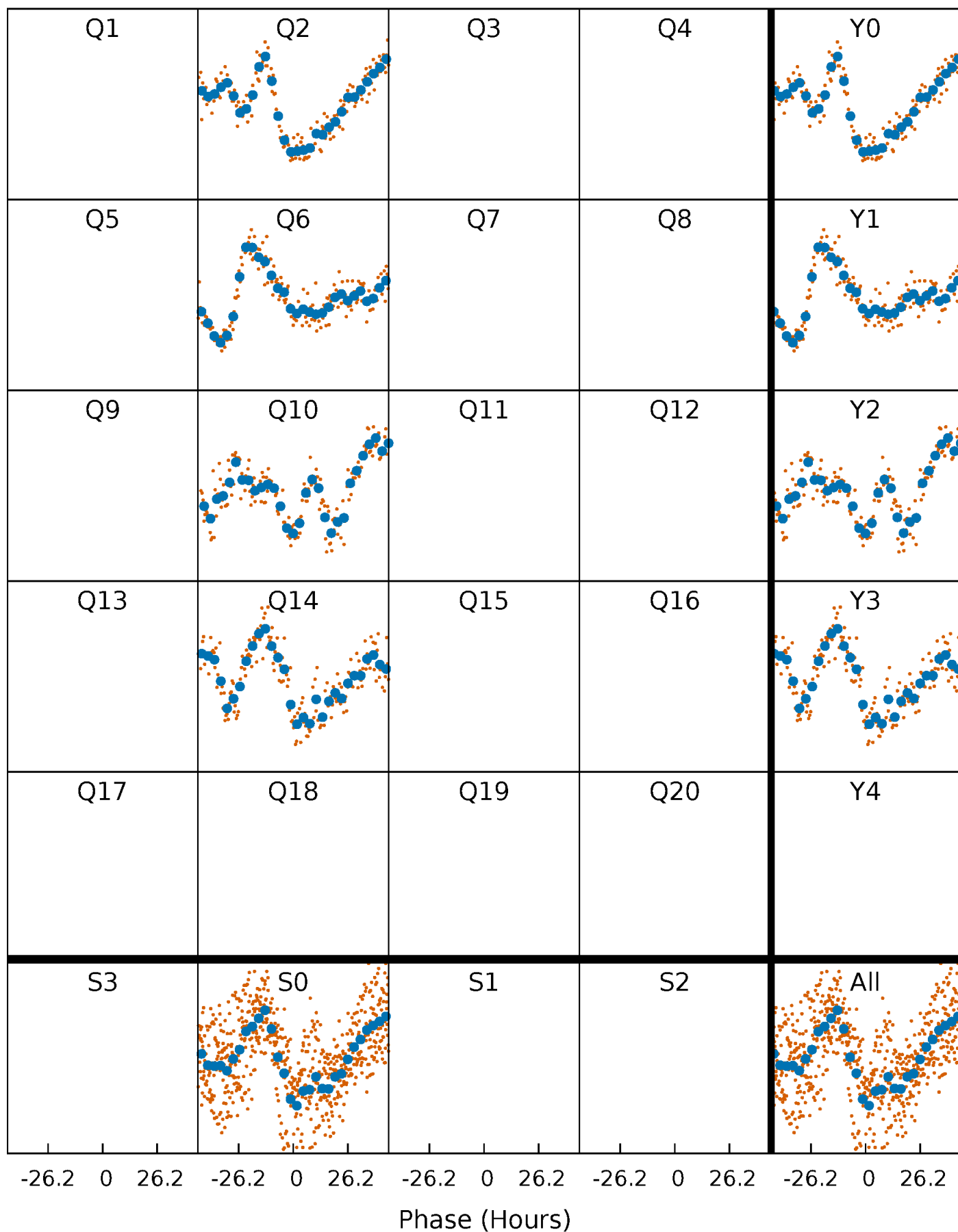


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



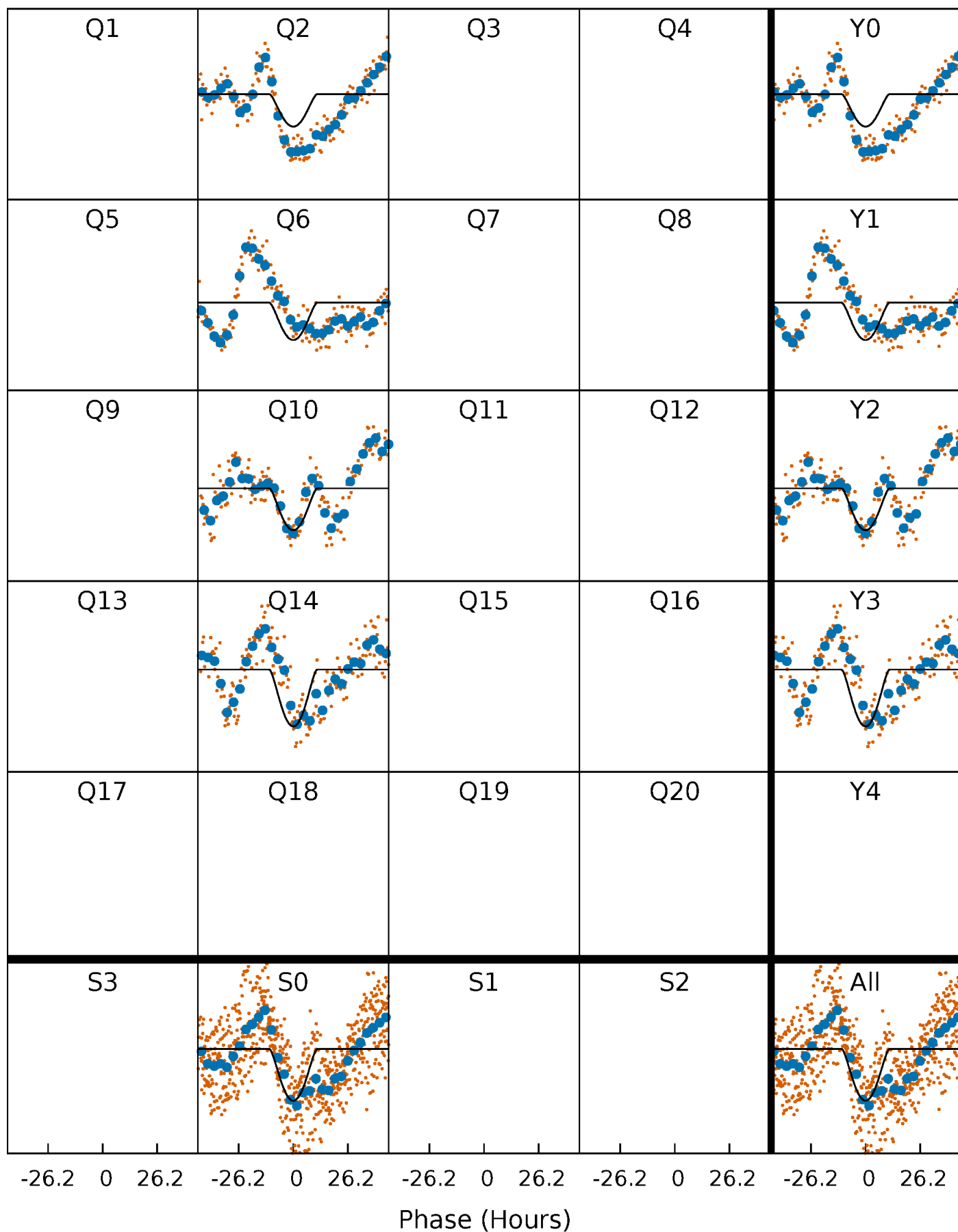
PDC Quarter-Phased Transit Curves

TCE 007970972-01 P=369.140577 Days $T_0=233.654391$ (BKJD)



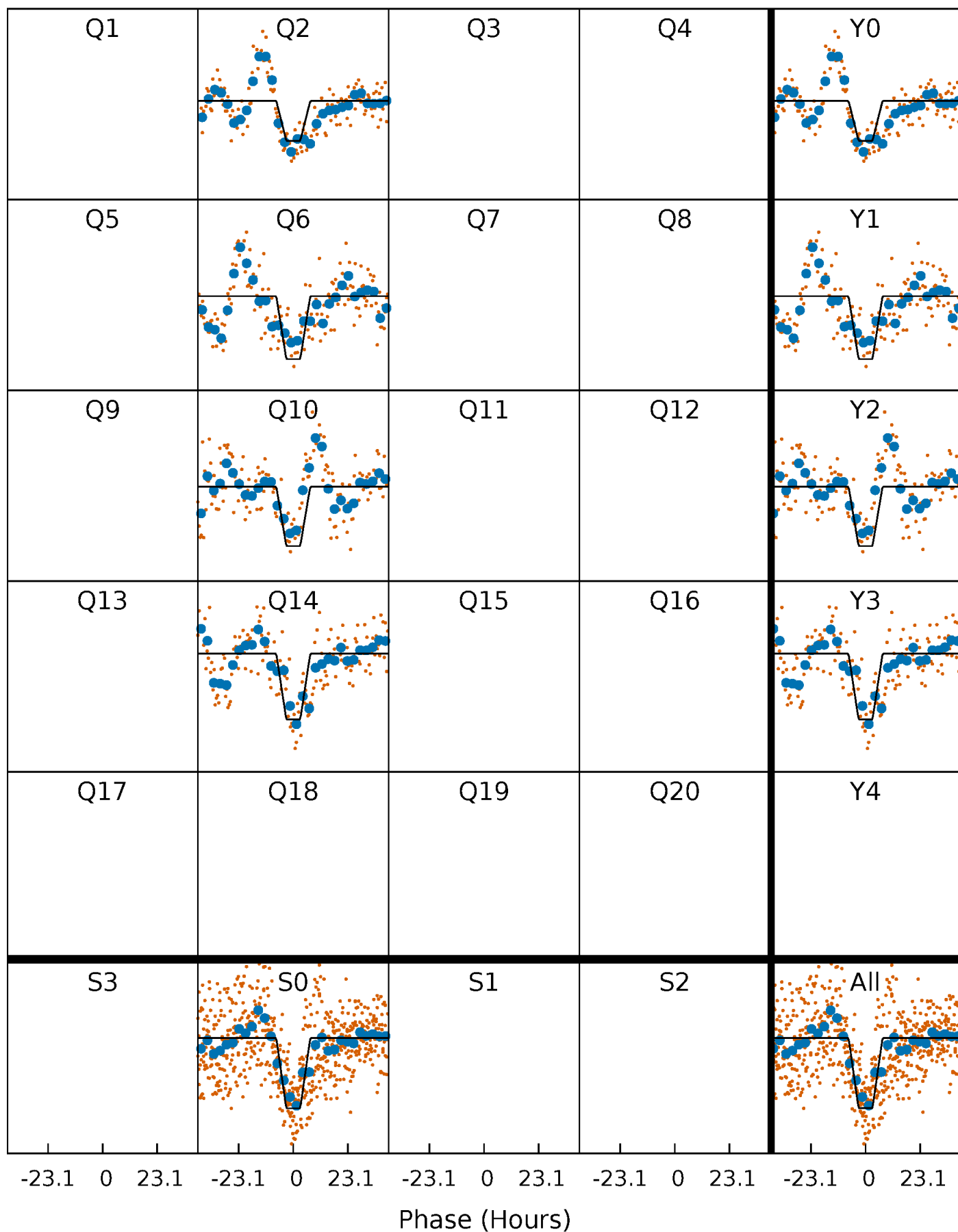
DV Quarter-Phased Transit Curves

TCE 007970972-01 P=369.140577 Days $T_0=233.654391$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

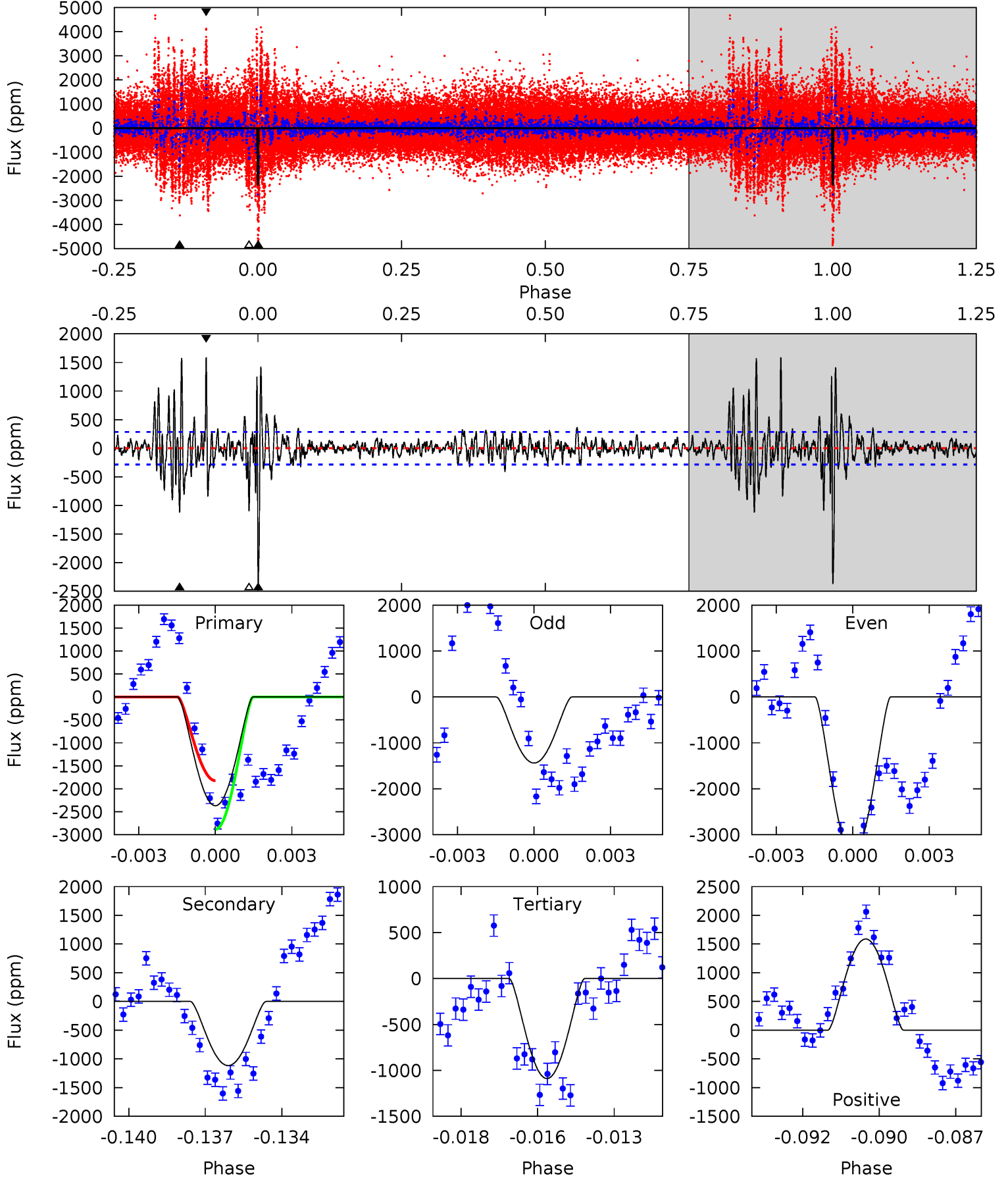
TCE 007970972-01 P=369.152695 Days $T_0=233.630643$ (BKJD)



DV Model-Shift Uniqueness Test

007970972-01, P = 369.140577 Days, E = 233.654391 Days

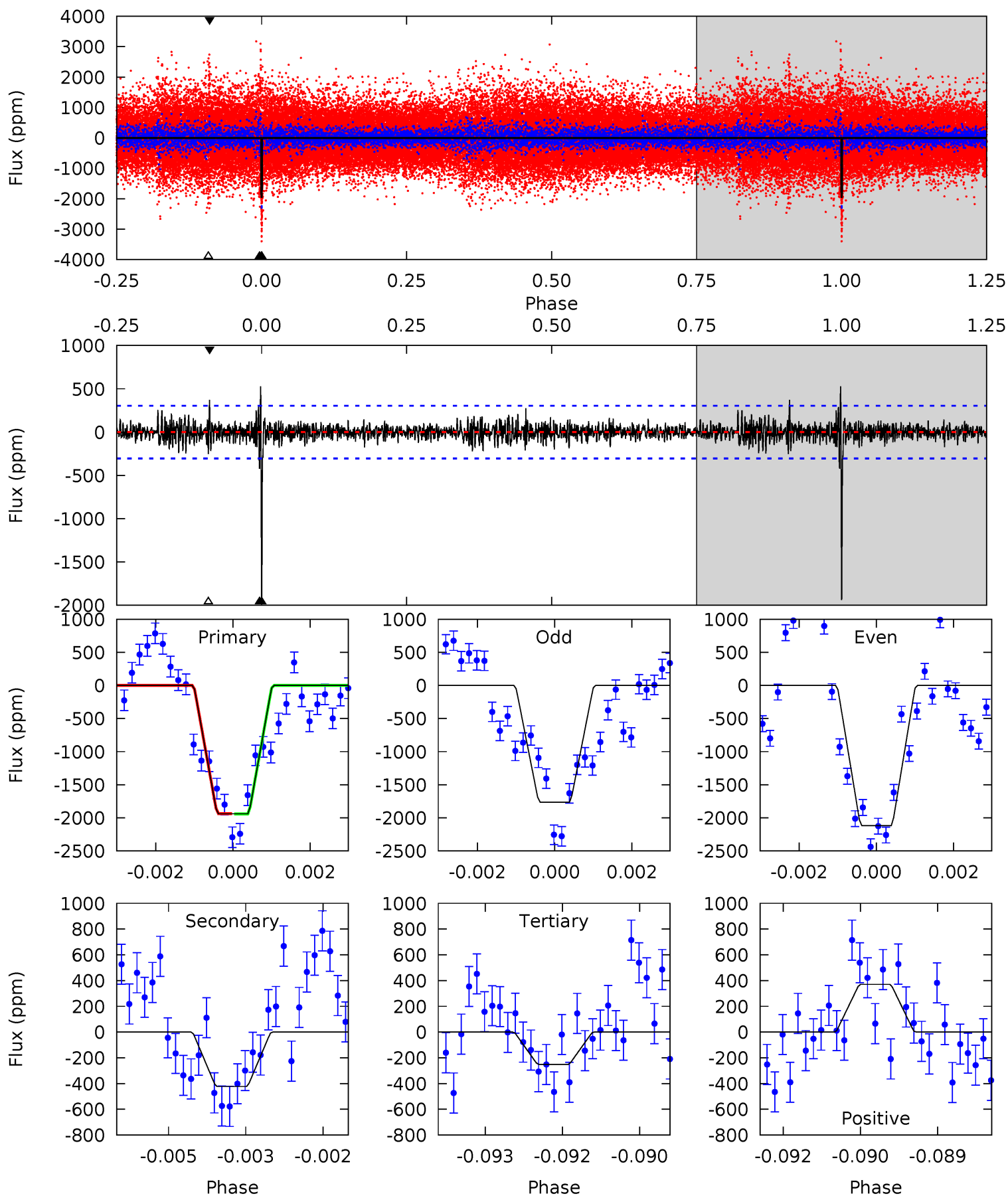
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.0	20.7	20.2	29.5	5.28	3.01	4.05	23.7	14.5	0.50	-8.75	18.2	1.30	0.40	9.76



Alt Model-Shift Uniqueness Test

007970972-01, P = 369.152695 Days, E = 233.630643 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.2	7.45	4.42	6.52	5.37	3.15	1.18	29.7	27.6	3.02	0.93	3.13	1.10	0.21	0.05



Stellar Parameters For KIC 007970972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5815^{+175}_{-192}	$4.540^{+0.037}_{-0.212}$	$-0.120^{+0.300}_{-0.300}$	$0.877^{+0.278}_{-0.087}$	$0.973^{+0.116}_{-0.116}$	$2.032^{+0.420}_{-1.071}$
	+3%/-3%	+1%/-5%	+250%/-250%	+32%/-10%	+12%/-12%	+21%/-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 007970972-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1116 ± 54	$14.96^{+13.77}_{-9.98}$	345^{+24}_{-16}	3345^{+1524}_{-604}	2705^{+21130}_{-1995}
Alt.	-423 ± 57	$13.05^{+13.58}_{-8.91}$	344^{+26}_{-16}	2987^{+1317}_{-492}	1316^{+11335}_{-989}

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 $A_{obs} \gg 1.0$

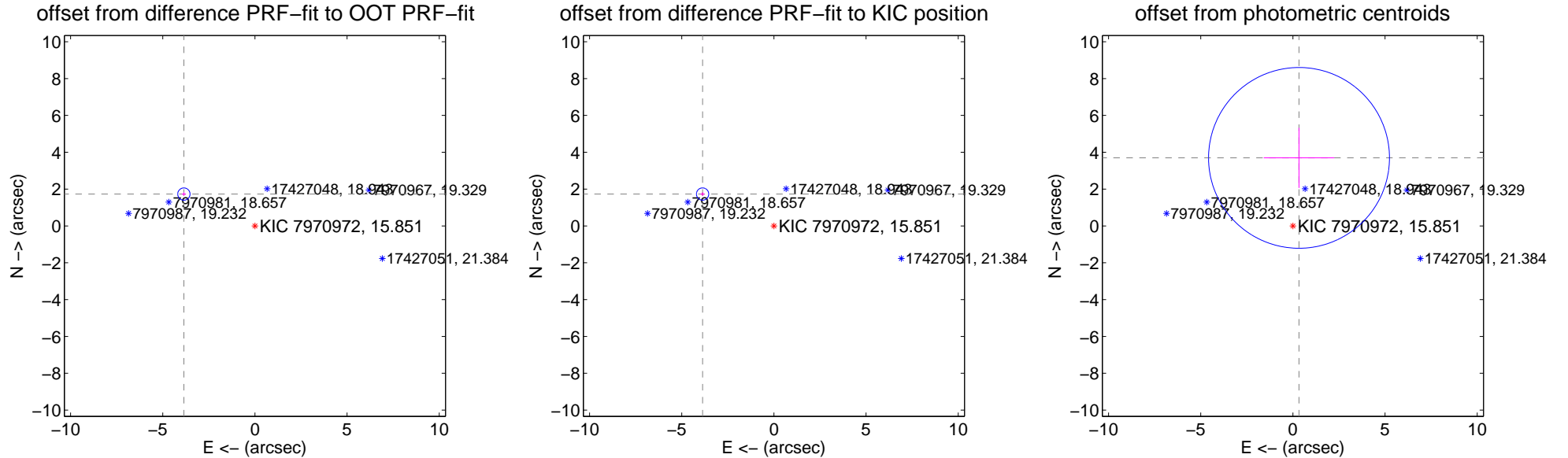
DV Centroid Data

Supplemental centroid analysis for 007970972-01. Kepler magnitude: 15.85. Transit SNR 11.93

There are 0 quarters with good PRF difference image offsets

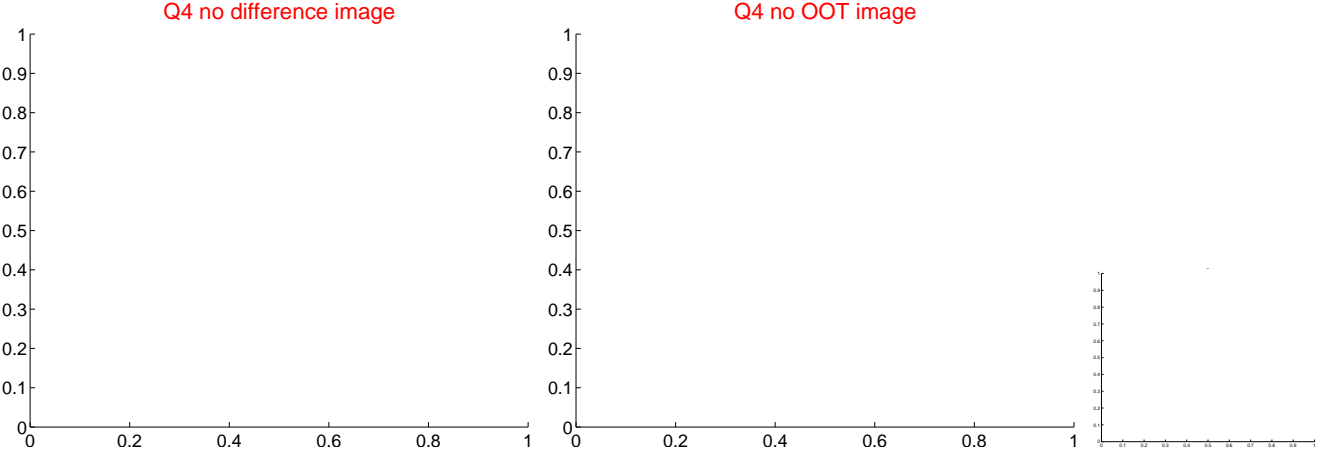
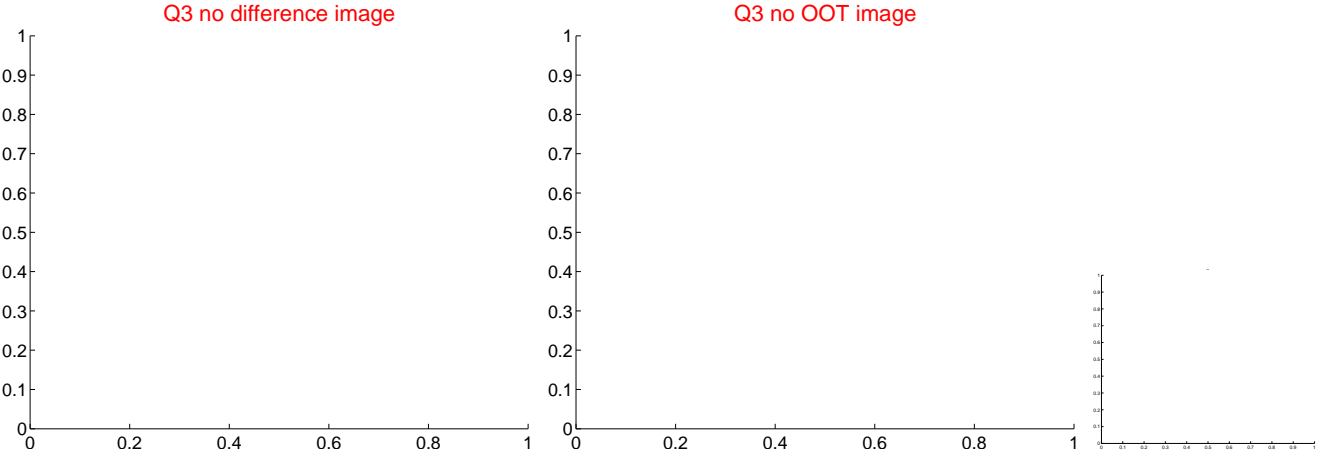
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.224 ± 0.111	37.99	3.853 ± 0.114	1.730 ± 0.095
PRF-fit source offset from KIC position	4.239 ± 0.111	38.12	3.869 ± 0.114	1.731 ± 0.095
photometric centroid source offset	3.71 ± 1.64	2.27	-0.33 ± 1.91	3.69 ± 1.63

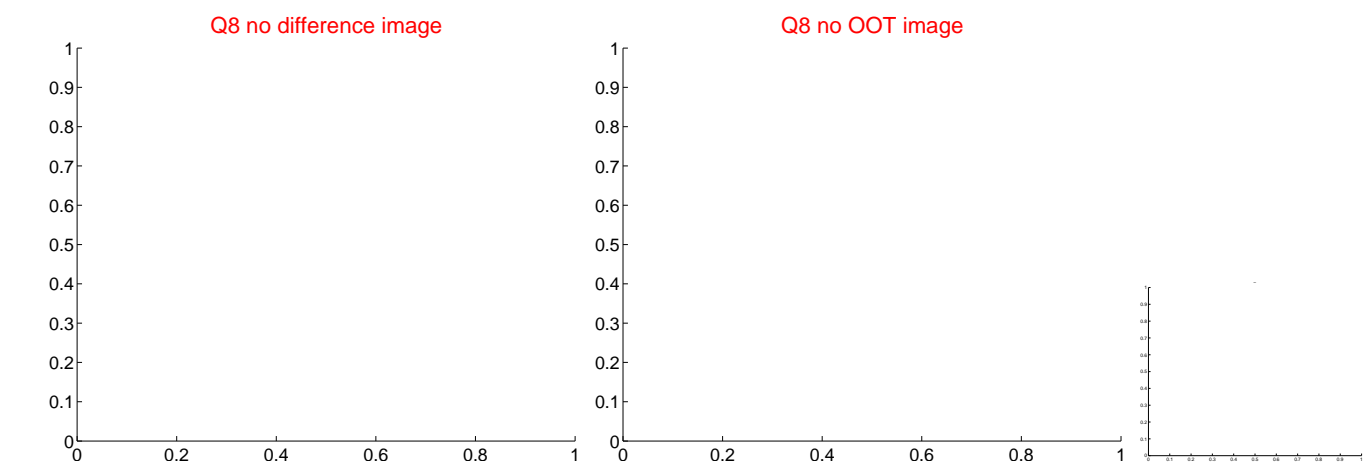
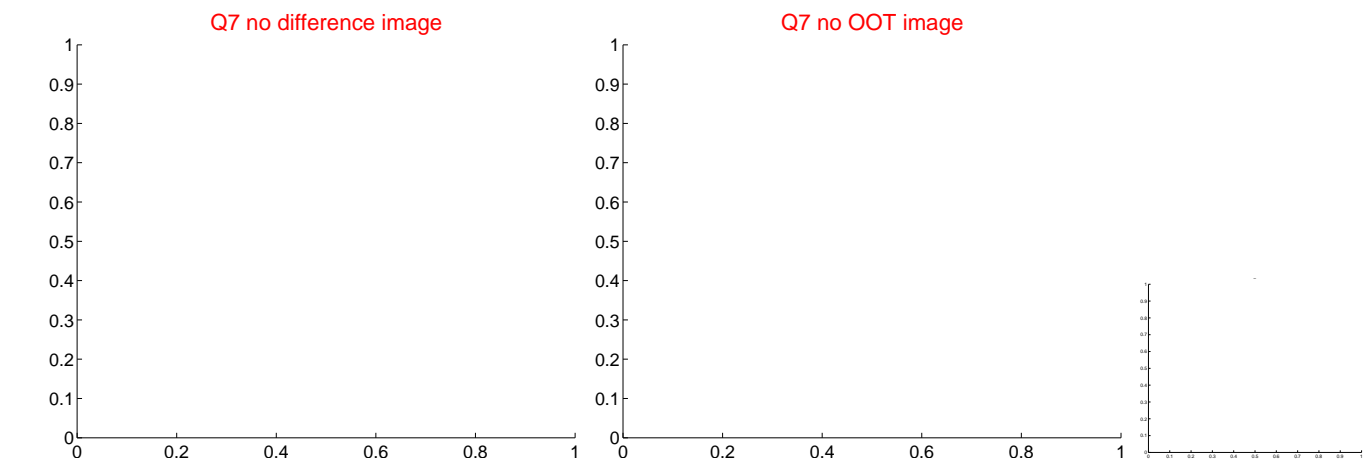
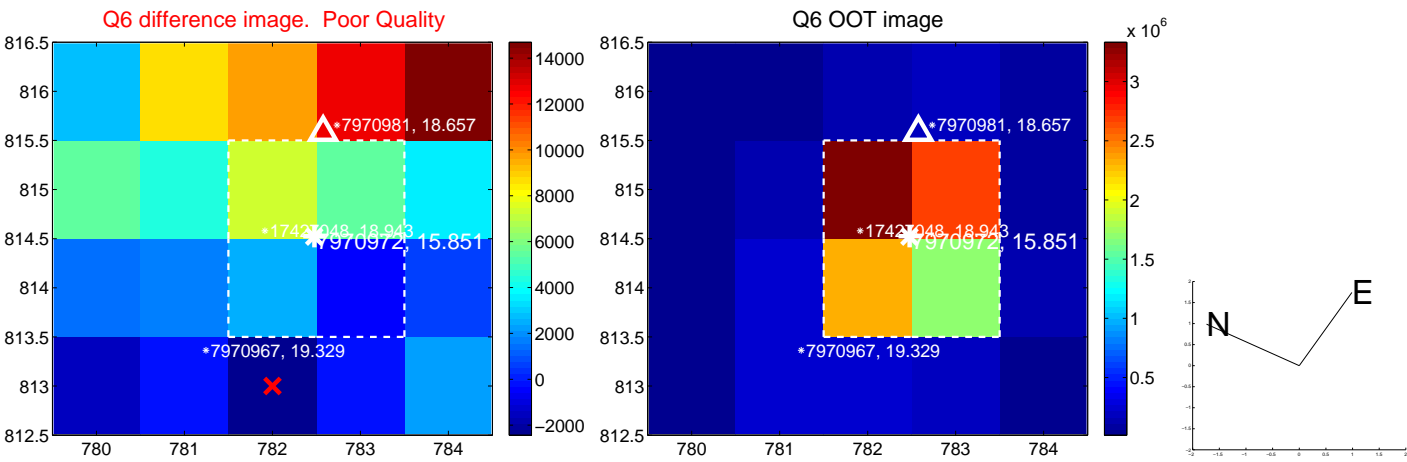
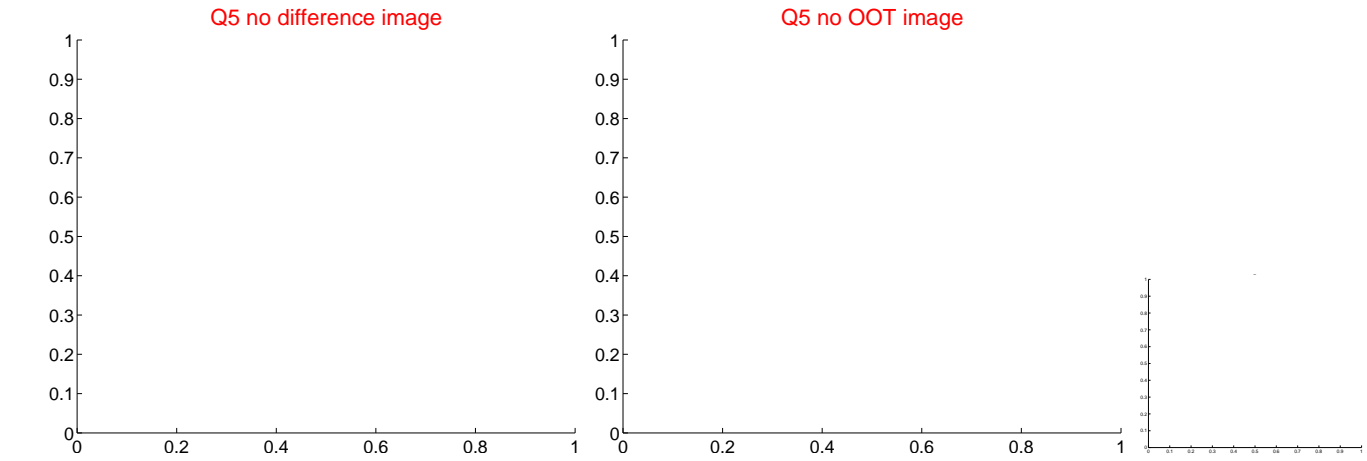


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



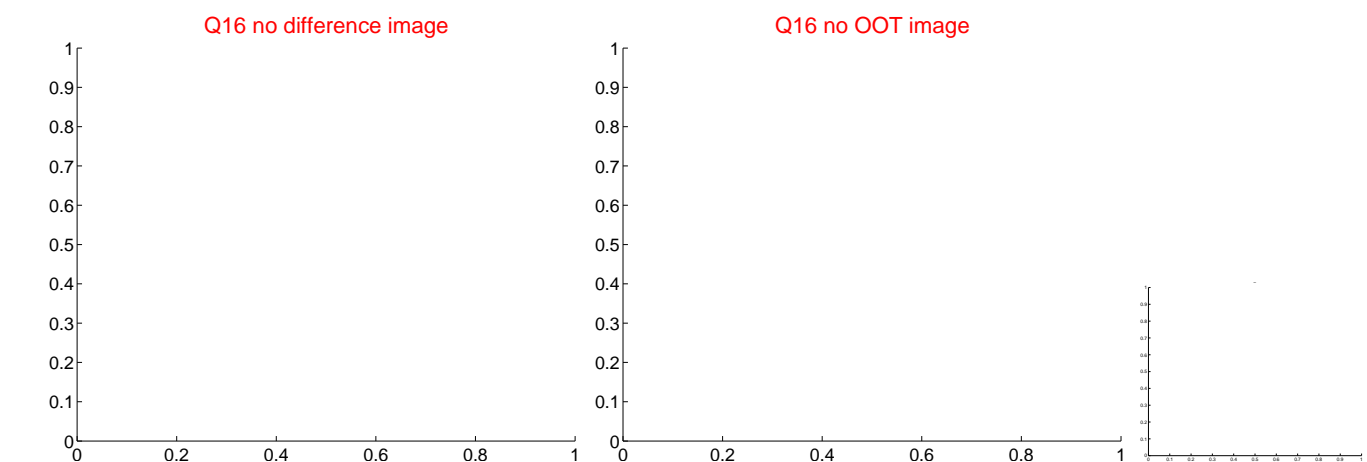
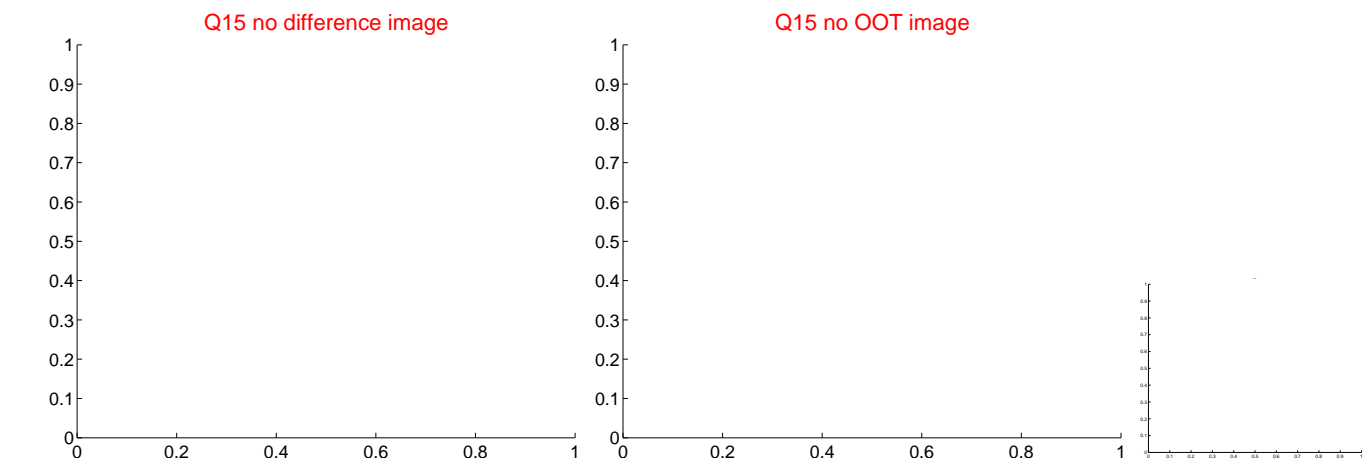
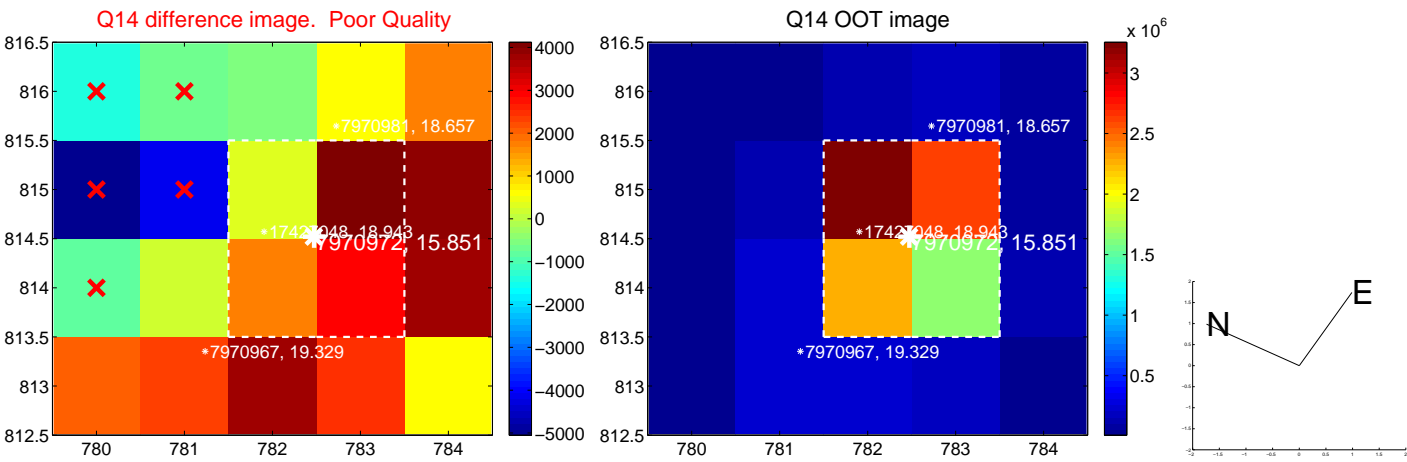
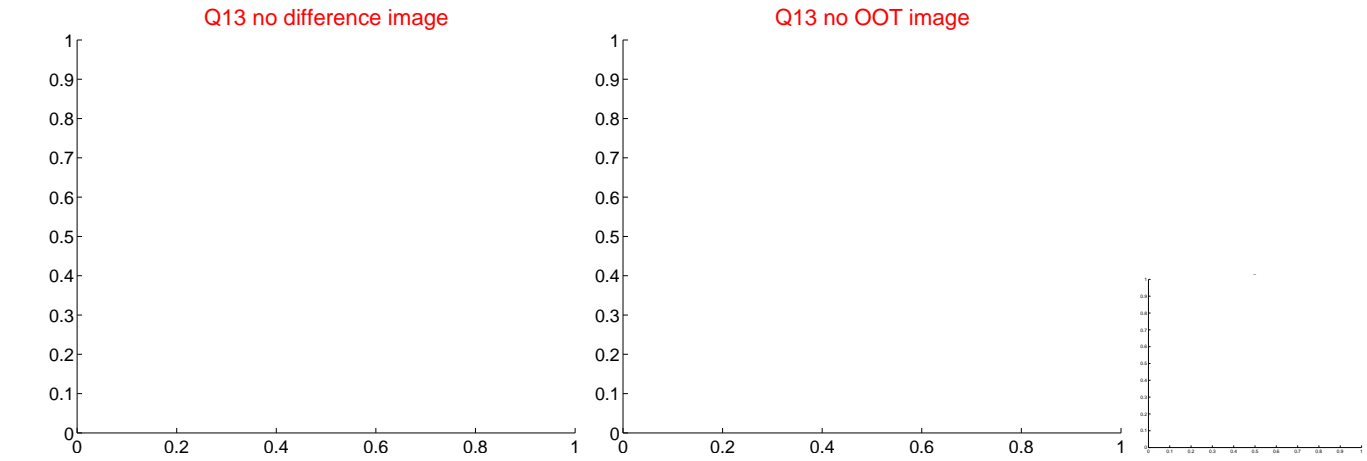
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



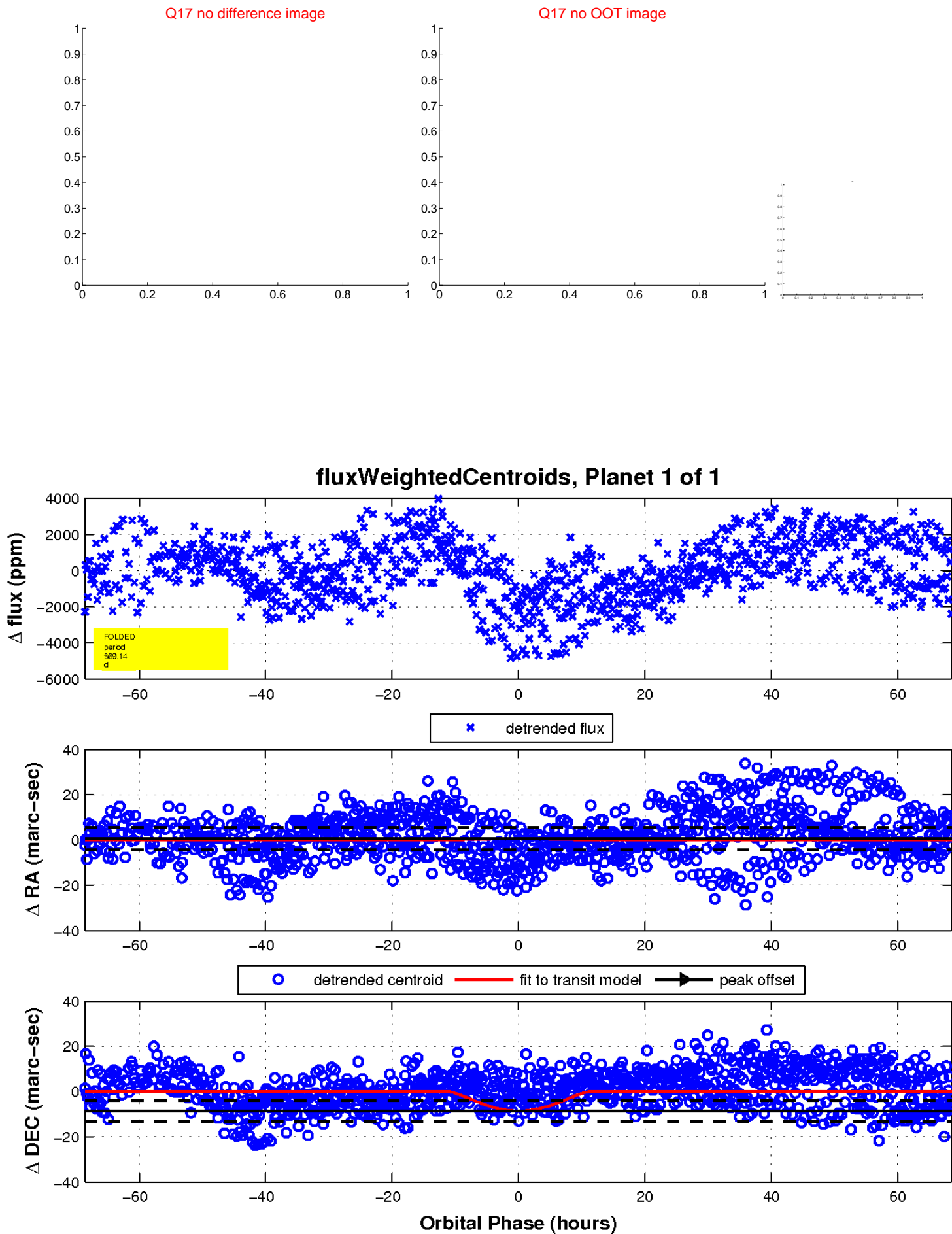
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

