

KIC 007970969

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})
007970969-01	OBS	No	369.009587	233.672087	1032.0	16.889	9.3	9.3	0.91	5941	3.00	0.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007970969-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—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.

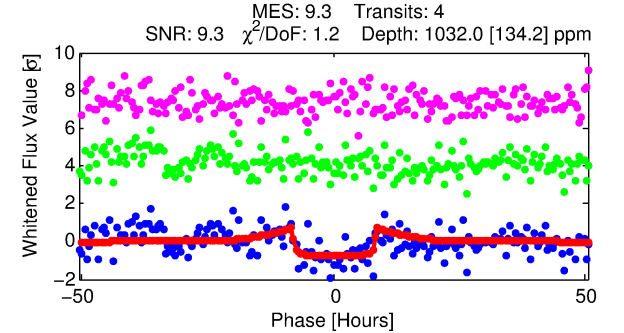
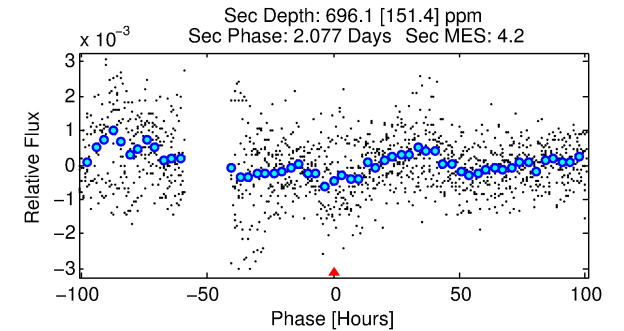
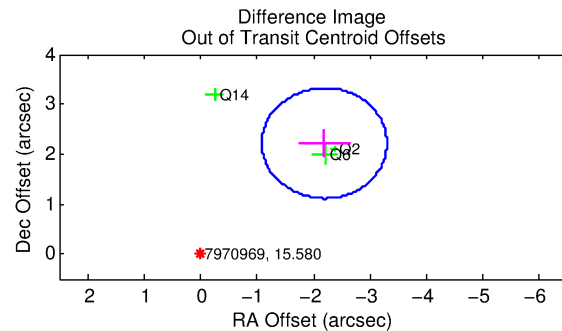
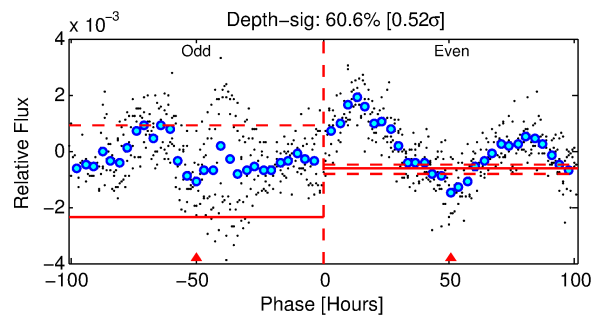
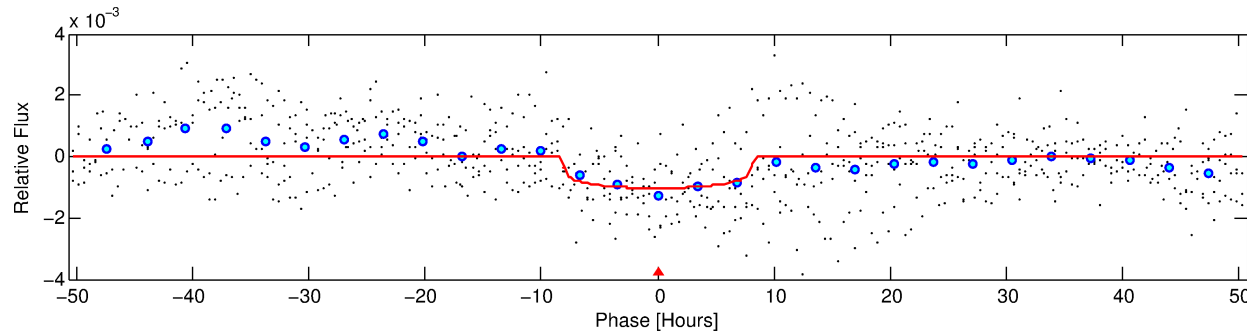
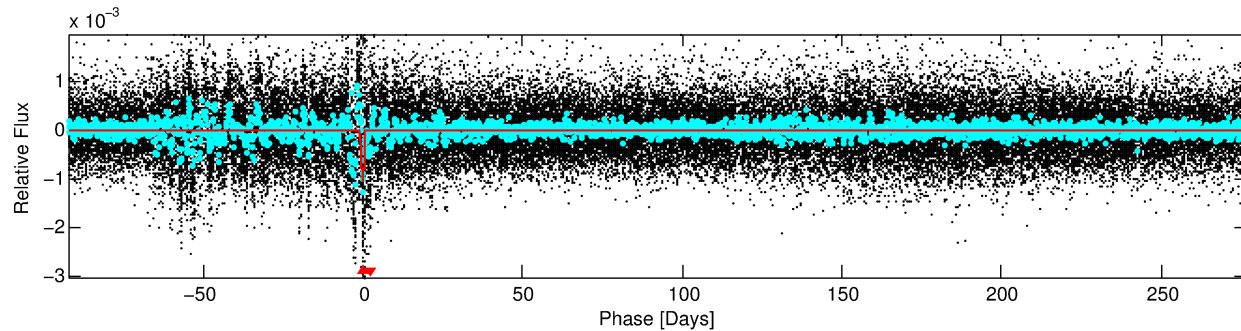
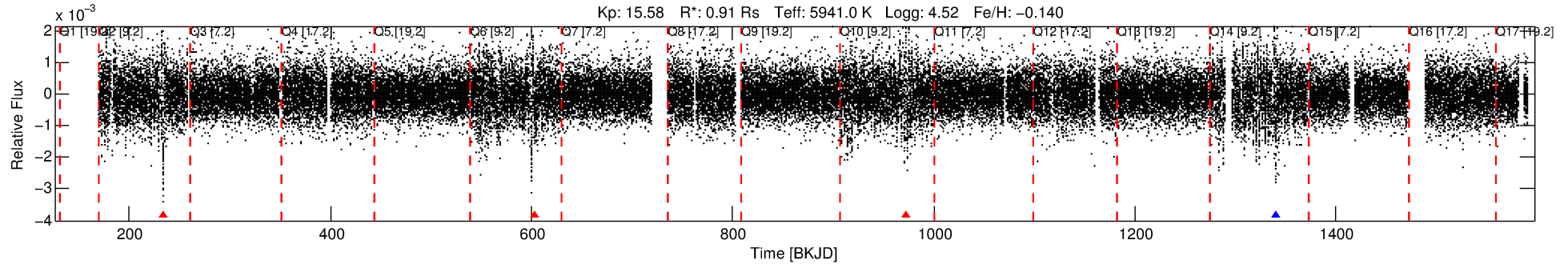
Ephemeris Match Information For 007970969-01

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
007970969-01	7970969	007970972-01	7970972	1:1	68.7	9	-15	15.85	15.58	2.30	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: 7970969 Candidate: 1 of 1 Period: 369.010 d



DV Fit Results:

Period = 369.00959 [0.00826] d
Epoch = 233.6721 [0.0151] BKJD
Rp/R* = 0.0302 [0.0163]
a/R* = 151.08 [373.64]
b = 0.49 [3.83]
Seff = 0.91 [0.38]
Teq = 249 [26] K
Rp = 3.00 [1.86] Re
a = 1.0071 [0.2679] AU
Ag = 43223.96 [50667.69] [0.85 σ]
Teffp = 5557 [1544] K [3.44 σ]

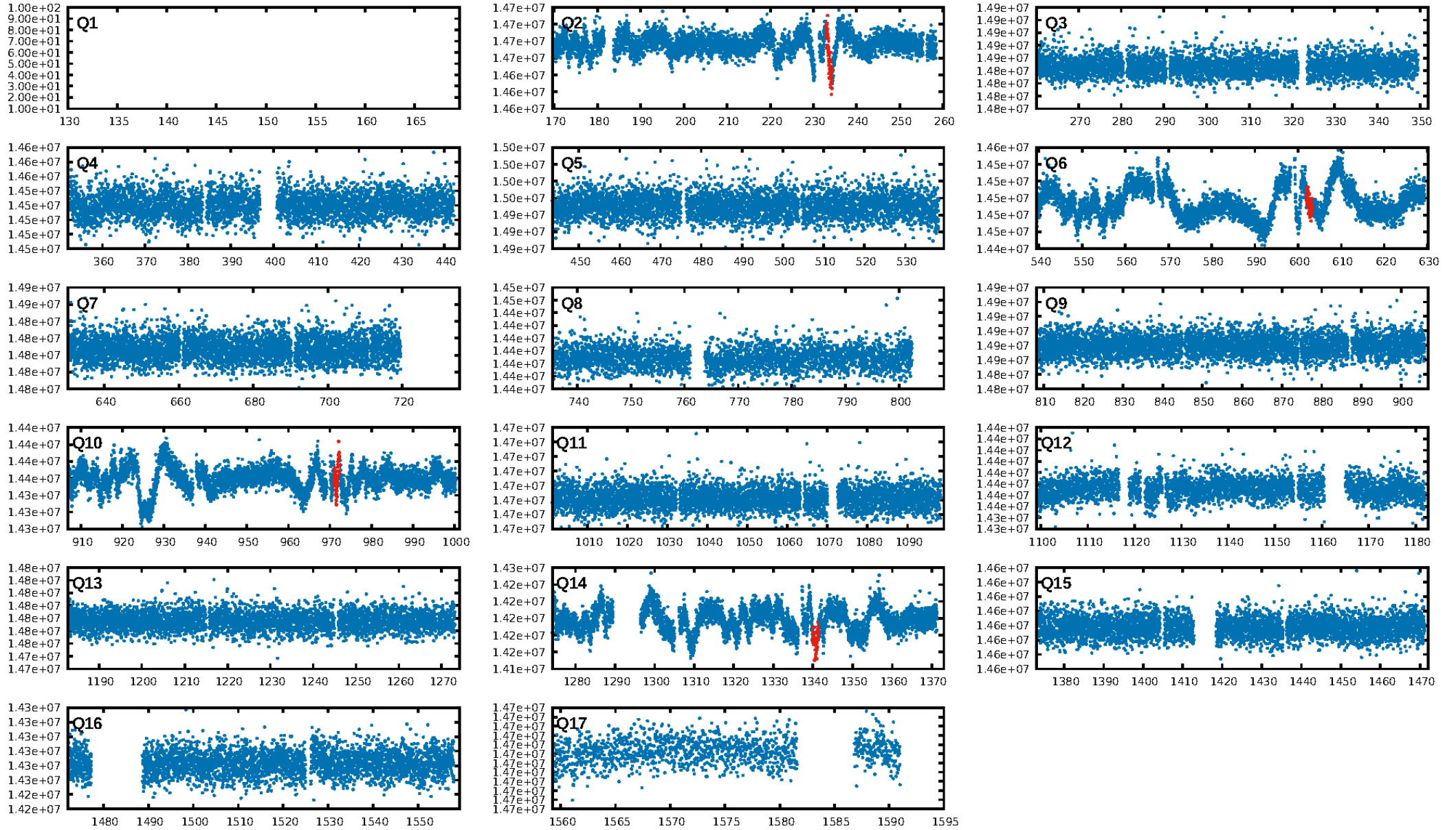
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 23.2%
ModelChiSquareGof-sig: 77.2%
Bootstrap-pfa: 4.26e-11
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 4.189
Centroid-sig: 1.1%
Centroid-so: 6.931 arcsec [2.31 σ]
OotOffset-rm: 3.118 arcsec [8.45 σ]
KicOffset-rm: 3.098 arcsec [8.40 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

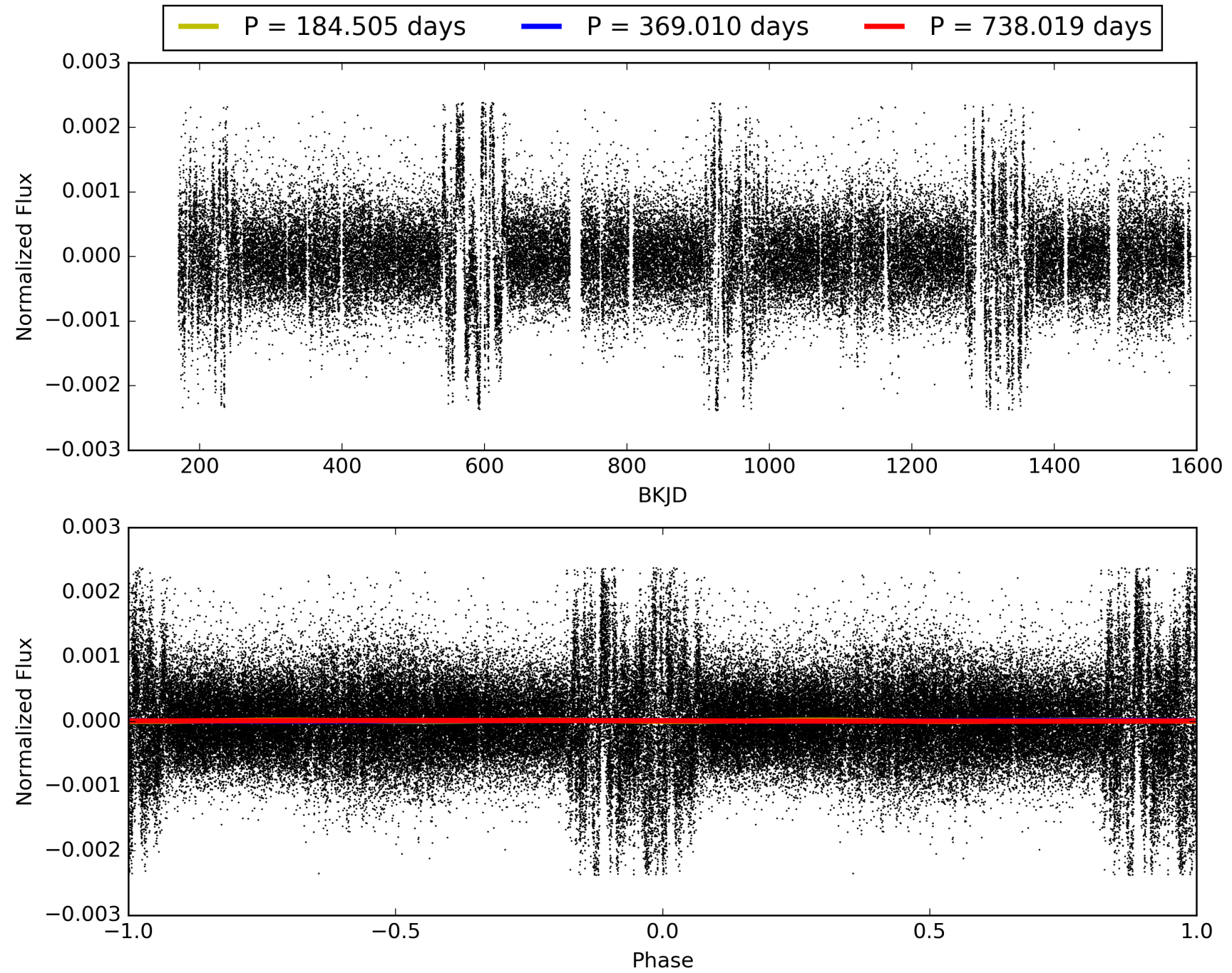
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:32:37 Z

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

TCE 007970969-01, PDC Light Curves

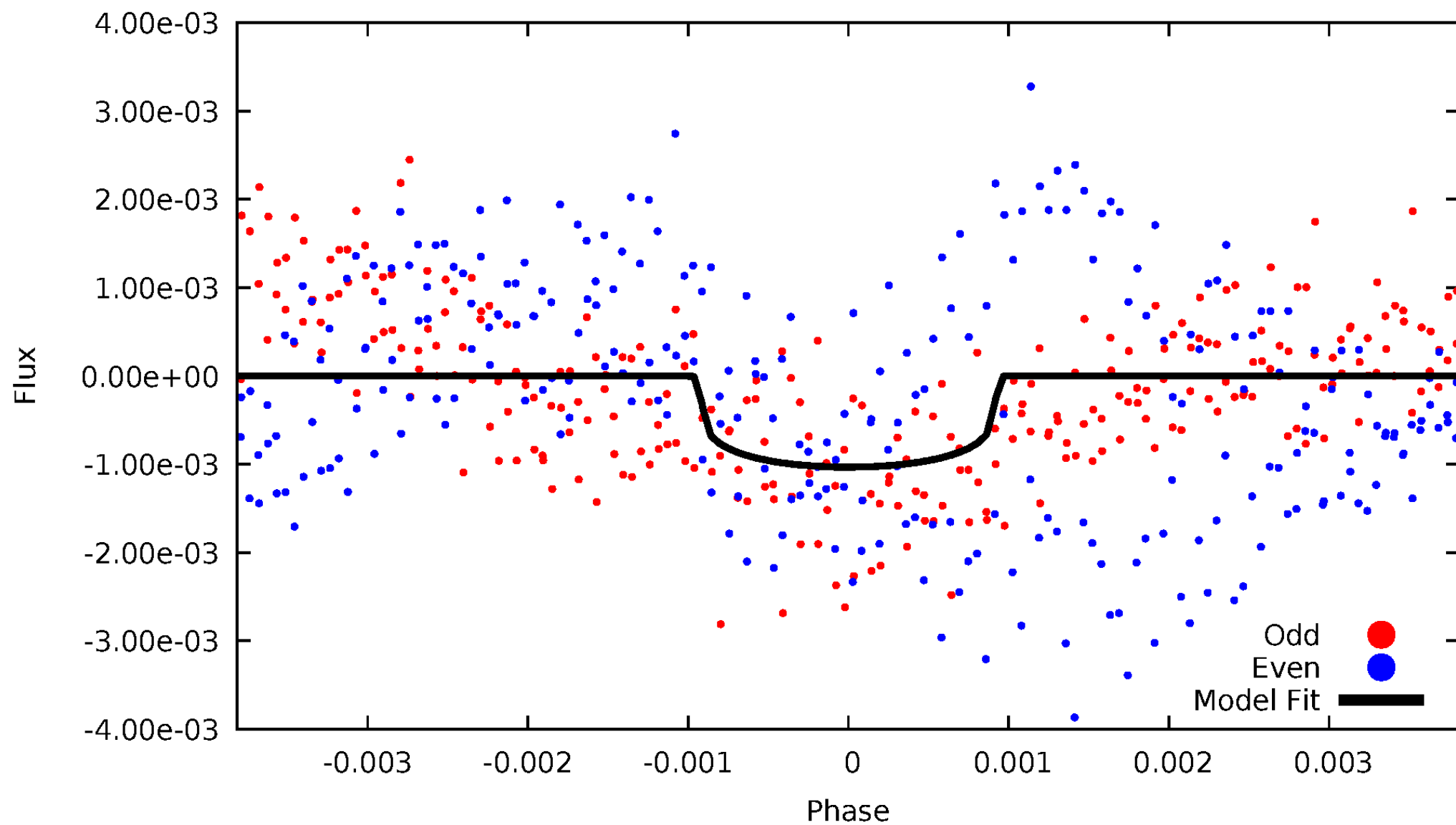


TCE 007970969-01



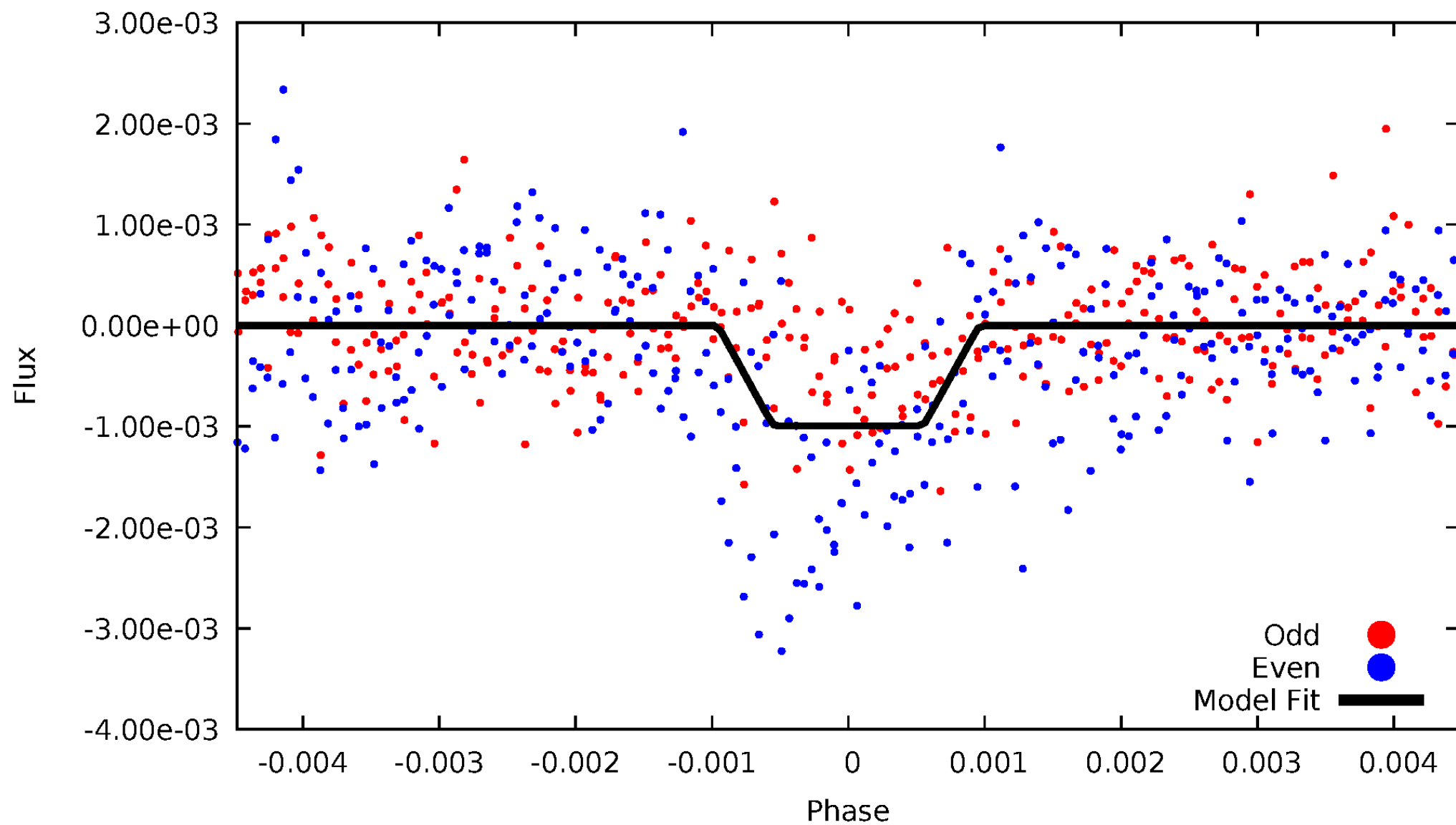
DV Odd/Even

TCE 007970969-01



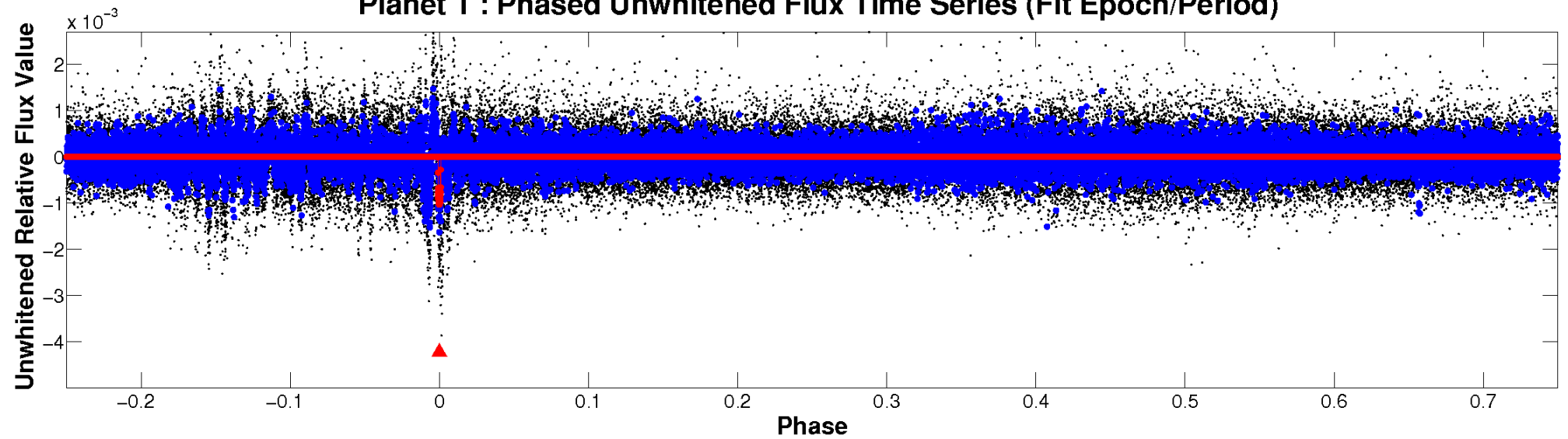
ALT Odd/Even

TCE 007970969-01

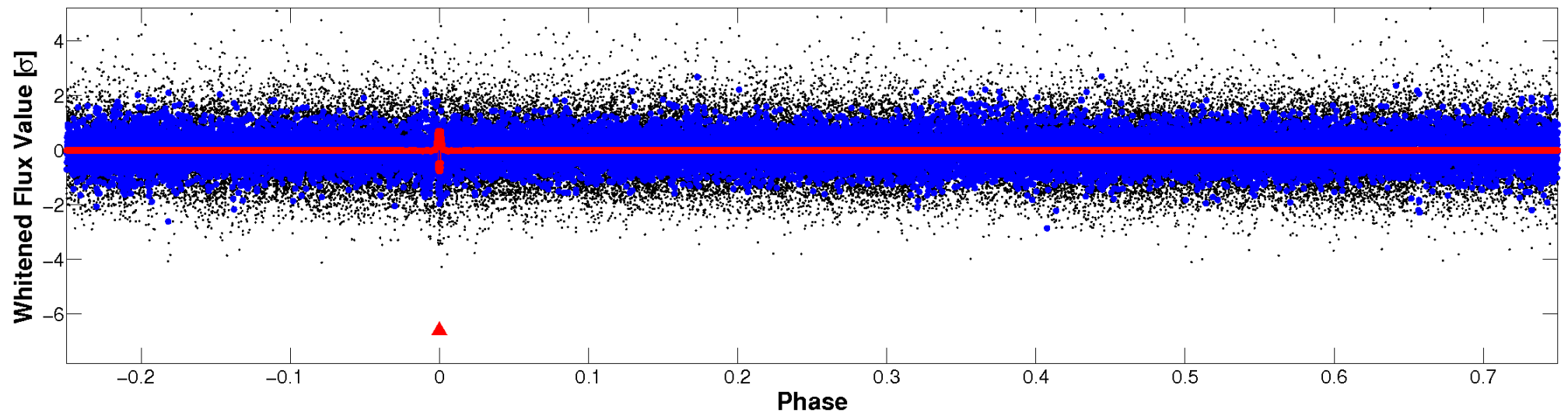


Non-Whitened Vs. Whitened Light Curve

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

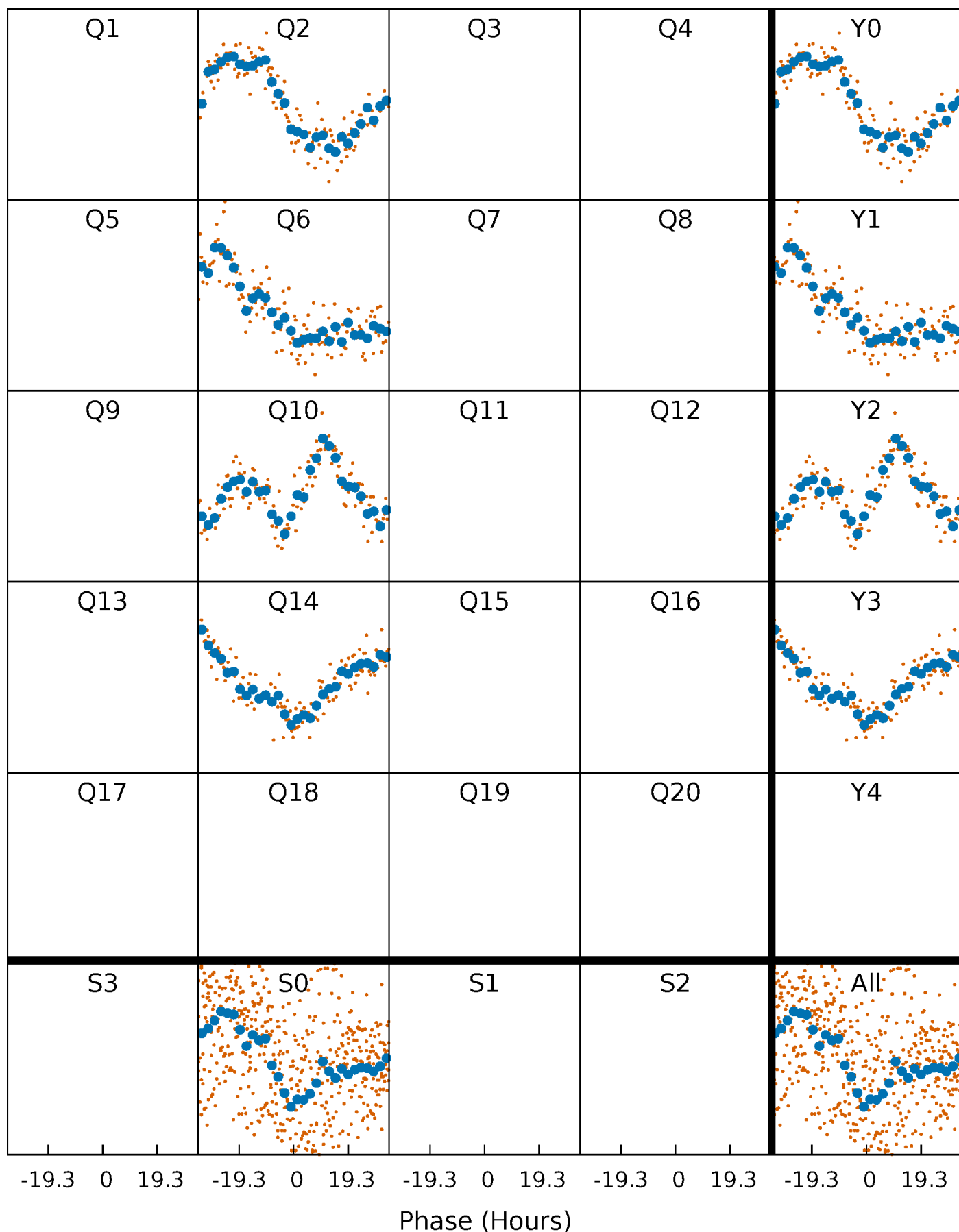


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



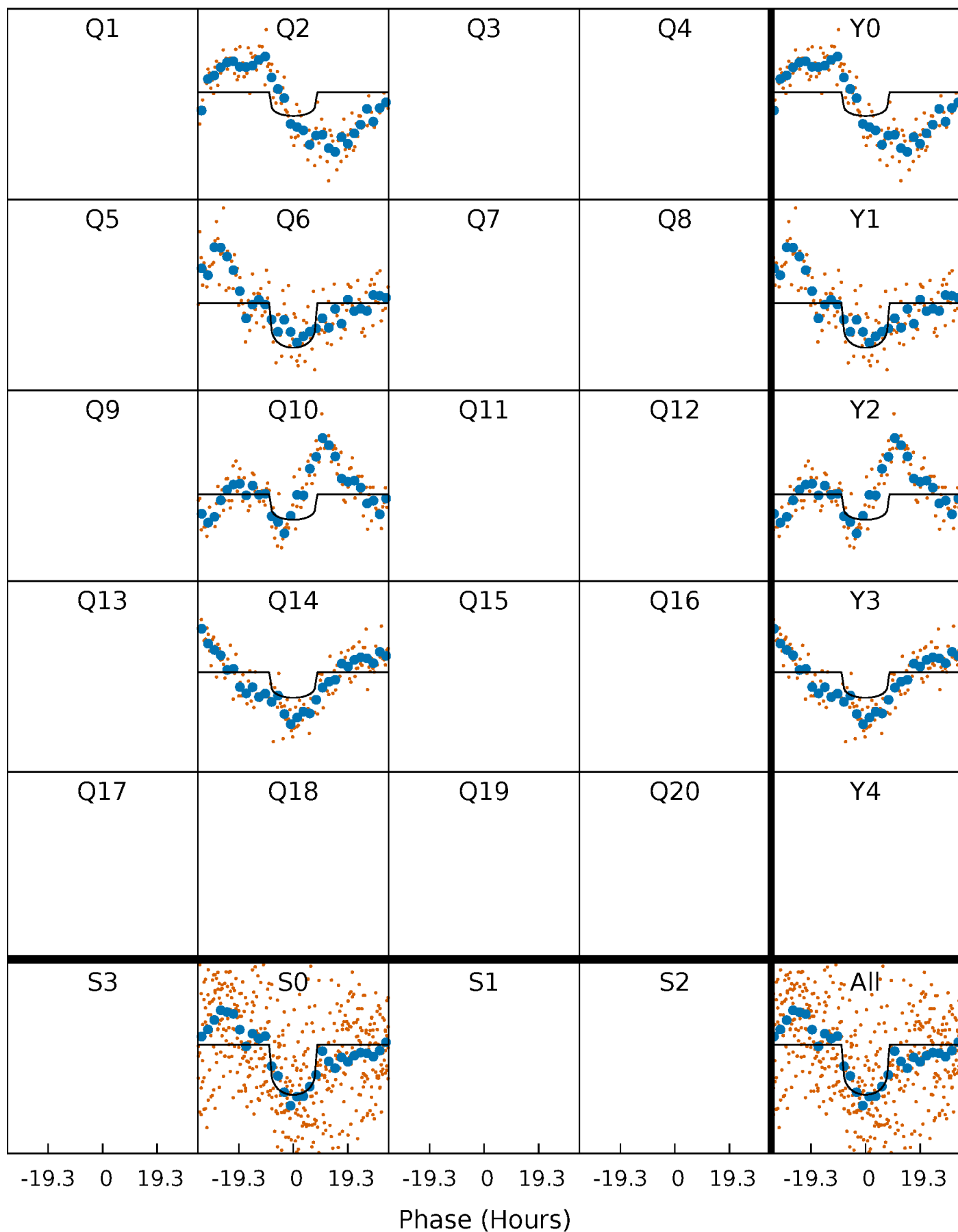
PDC Quarter-Phased Transit Curves

TCE 007970969-01 P=369.009587 Days $T_0=233.672087$ (BKJD)



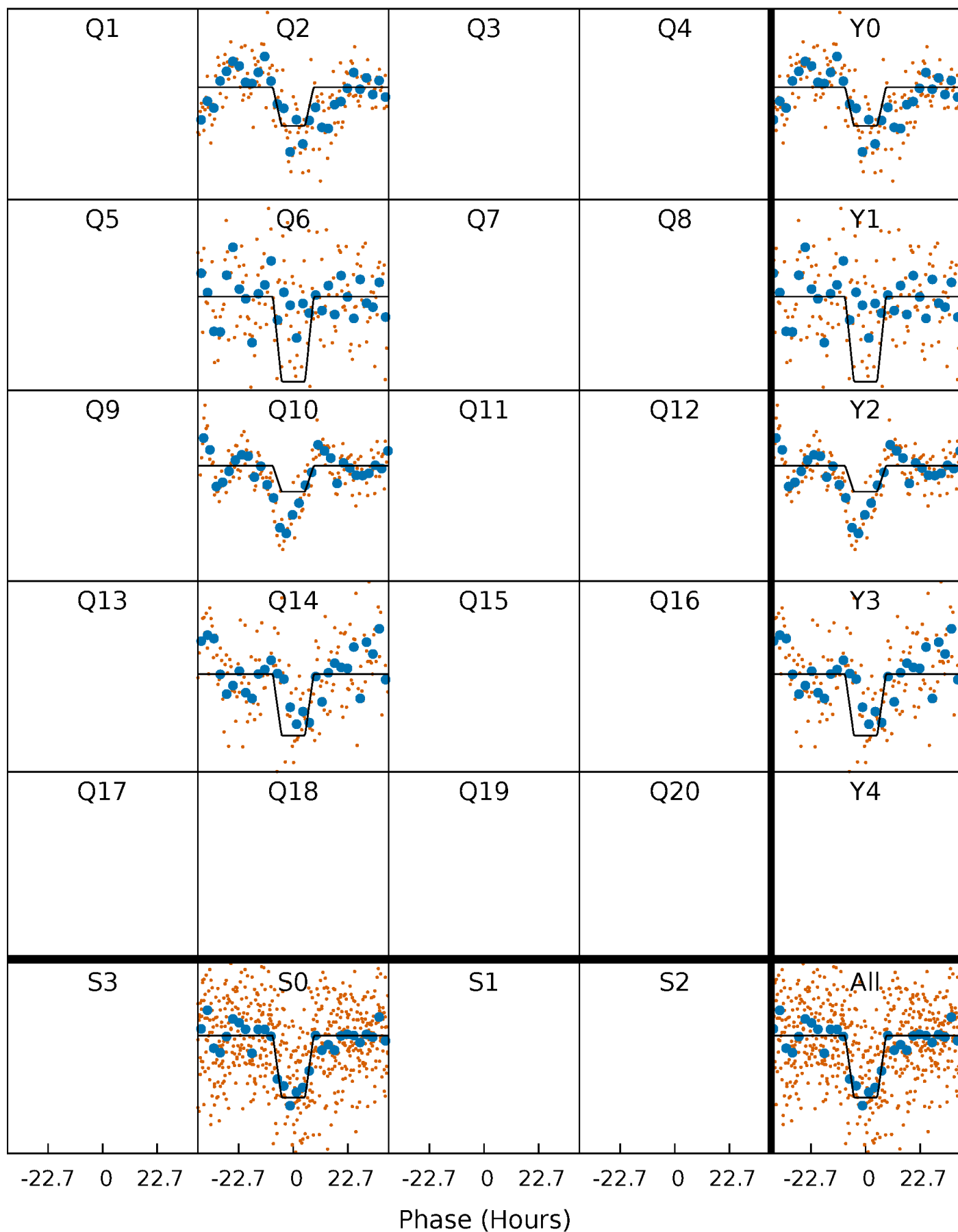
DV Quarter-Phased Transit Curves

TCE 007970969-01 P=369.009587 Days $T_0=233.672087$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

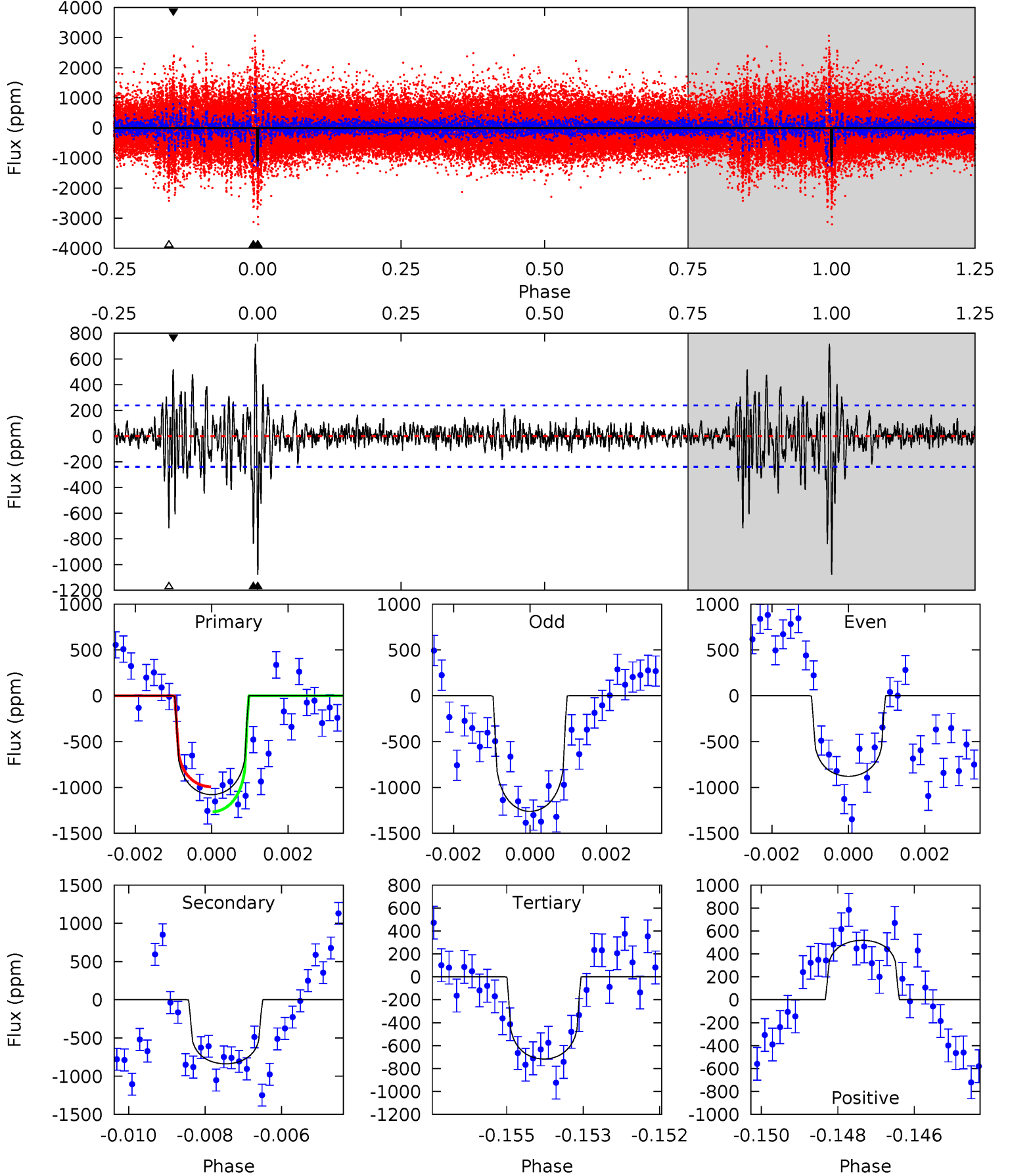
TCE 007970969-01 P=368.989226 Days $T_0=233.721289$ (BKJD)



DV Model-Shift Uniqueness Test

007970969-01, P = 369.009587 Days, E = 233.672087 Days

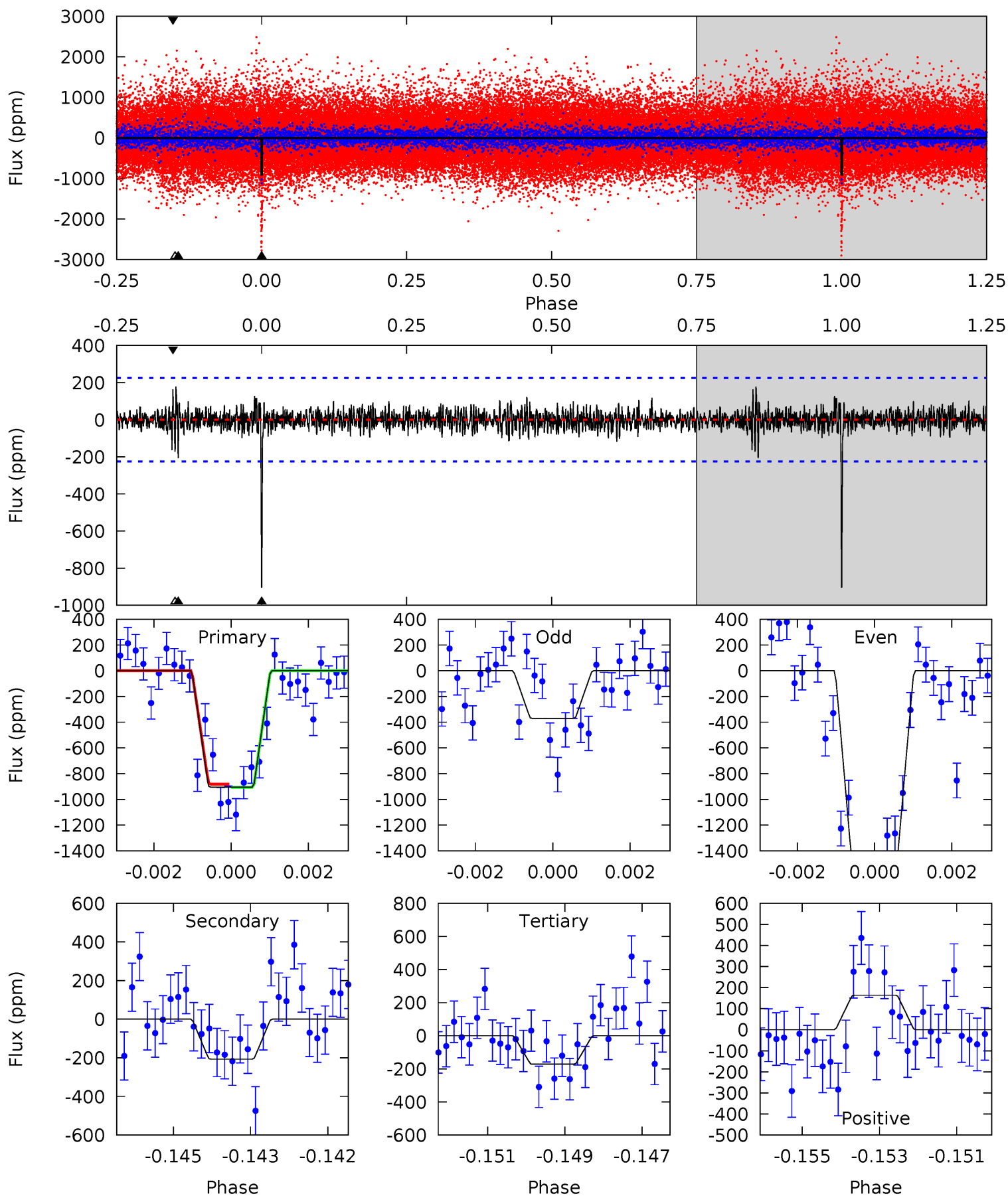
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	18.7	16.0	11.6	5.33	3.09	2.45	8.07	12.5	2.71	7.13	4.31	1.09	0.40	3.00



Alt Model-Shift Uniqueness Test

007970969-01, P = 368.989226 Days, E = 233.721289 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	4.92	4.09	3.89	5.34	3.11	0.89	17.4	17.6	0.83	1.02	13.4	1.14	0.16	0.28



Stellar Parameters For KIC 007970969

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5941^{+178}_{-196}	$4.519^{+0.039}_{-0.221}$	$-0.140^{+0.300}_{-0.300}$	$0.911^{+0.280}_{-0.093}$	$1.001^{+0.122}_{-0.122}$	$1.865^{+0.406}_{-1.024}$
	+3%/-3%	+1%/-5%	+214%/-214%	+31%/-10%	+12%/-12%	+22%/-55%
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 007970969-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-838 ± 45	$3.21^{+1.79}_{-1.66}$	360^{+24}_{-18}	5850^{+2622}_{-1054}	$45089^{+145345}_{-25996}$
Alt.	-207 ± 42	$3.41^{+1.82}_{-1.69}$	358^{+26}_{-18}	4226^{+1345}_{-598}	9860^{+27493}_{-5861}

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 $A_{obs} \gg 1.0$

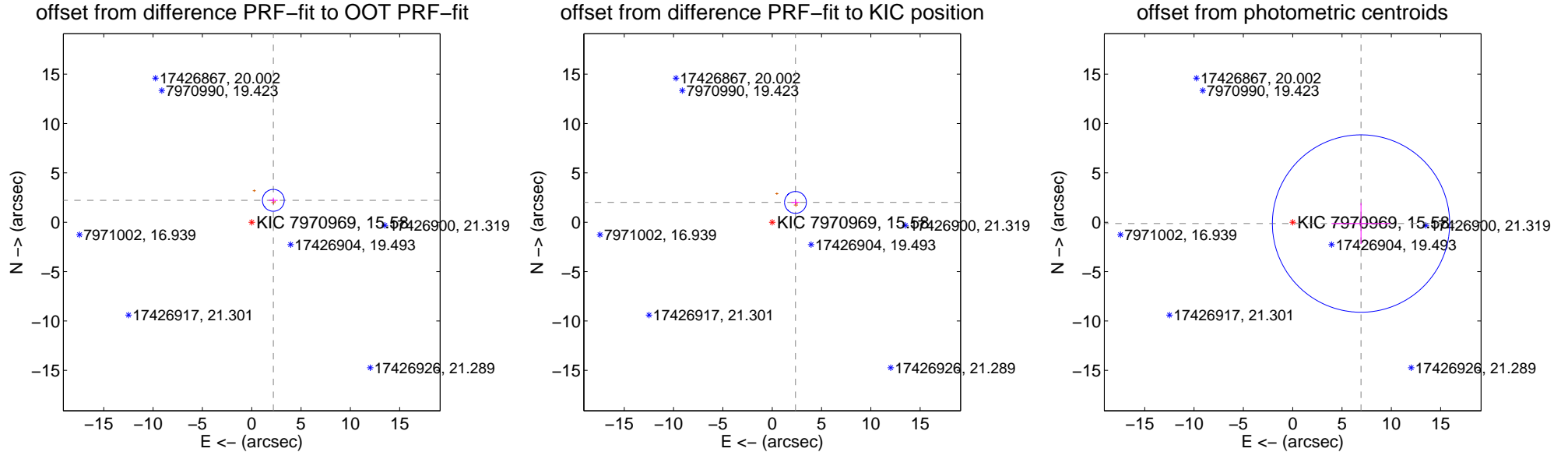
DV Centroid Data

Supplemental centroid analysis for 007970969-01. Kepler magnitude: 15.58. Transit SNR 9.27

There are 0 quarters with good PRF difference image offsets

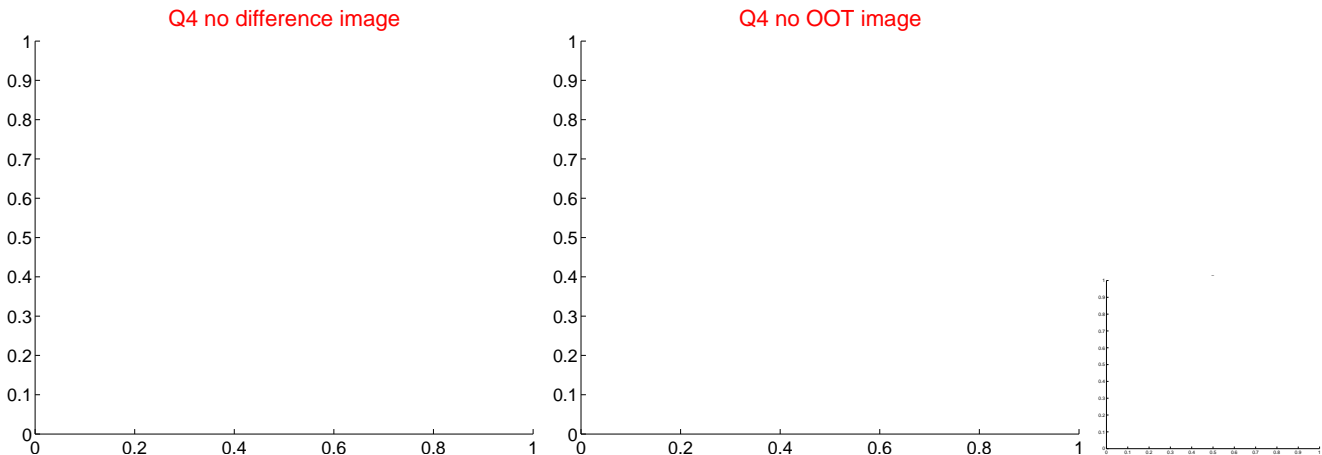
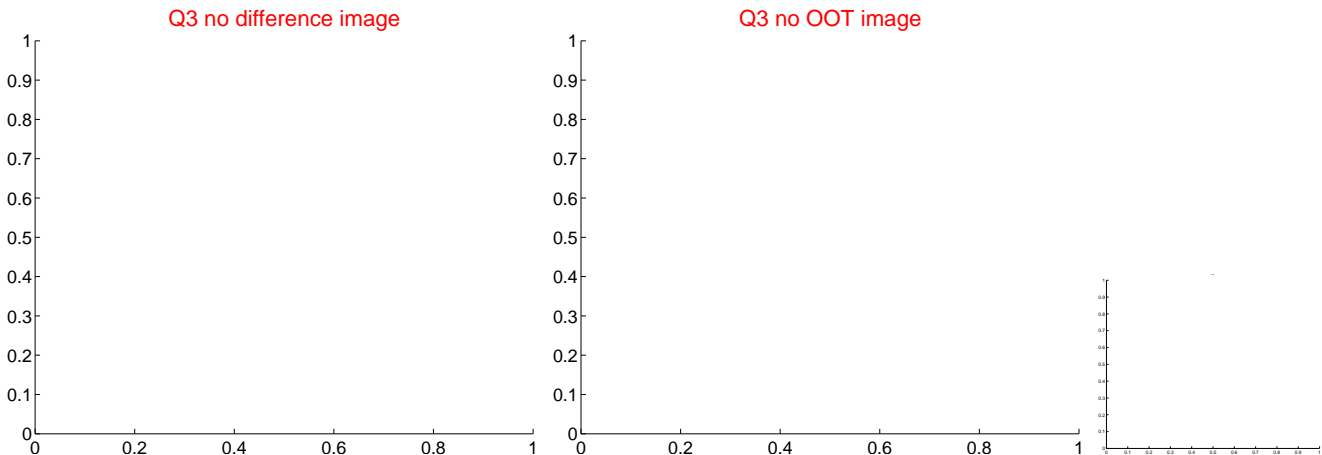
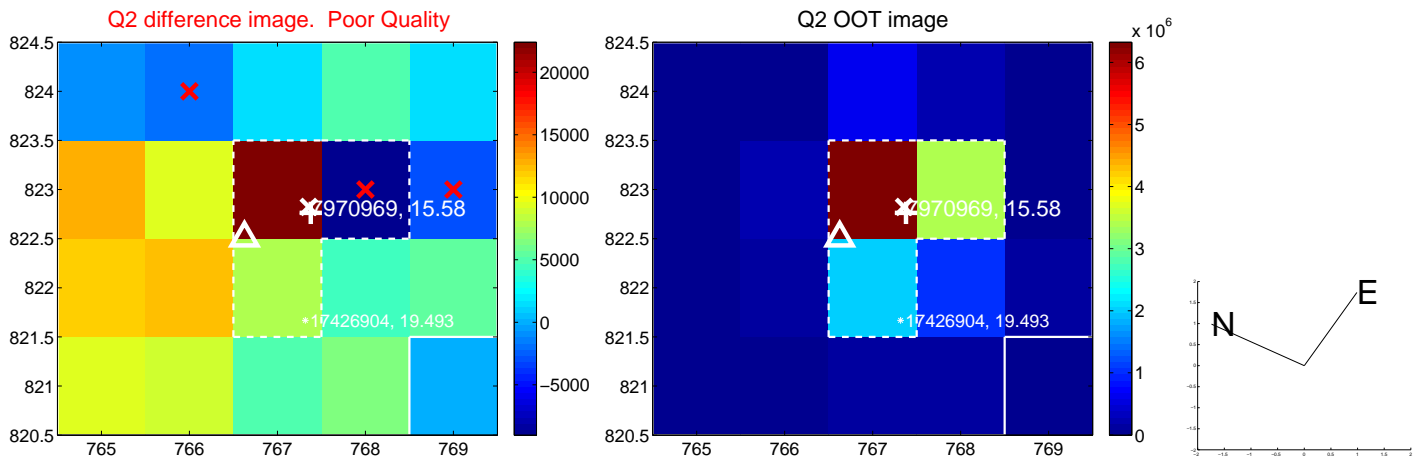
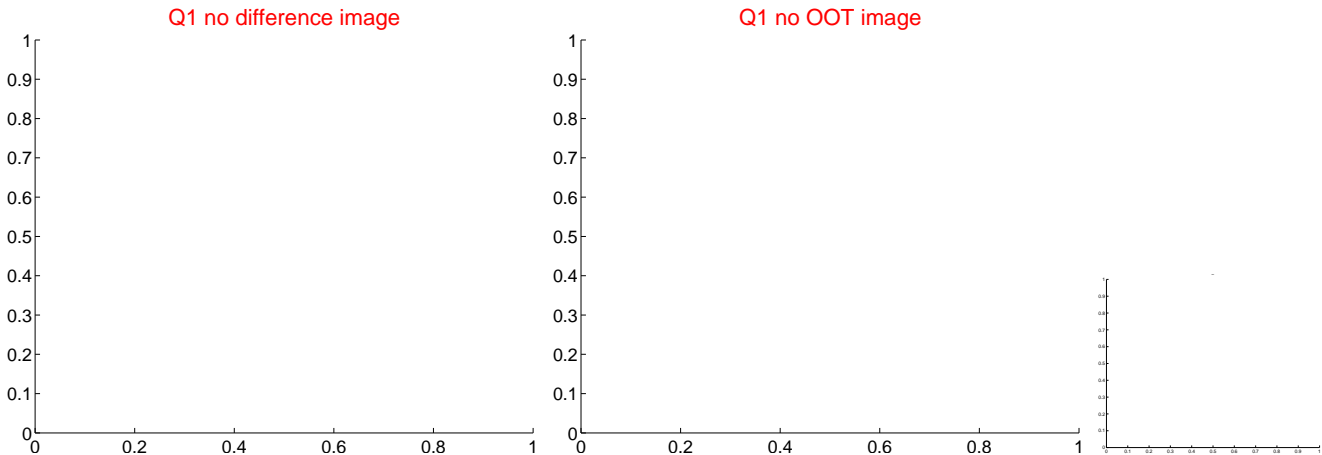
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.118 ± 0.369	8.45	-2.191 ± 0.445	2.218 ± 0.274
PRF-fit source offset from KIC position	3.098 ± 0.369	8.40	-2.360 ± 0.434	2.008 ± 0.253
photometric centroid source offset	6.93 ± 3.00	2.31	-6.93 ± 3.00	-0.13 ± 2.08

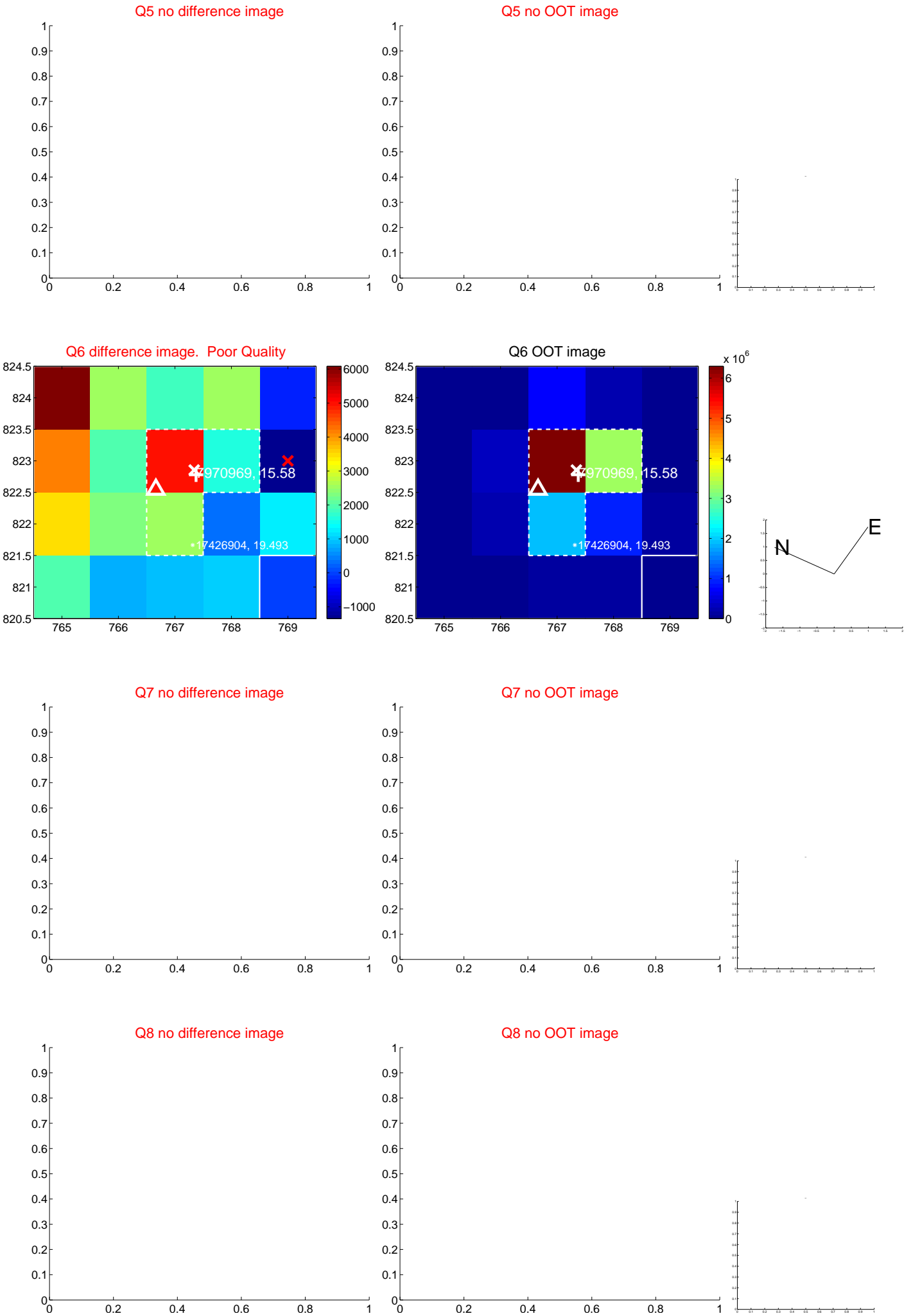


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



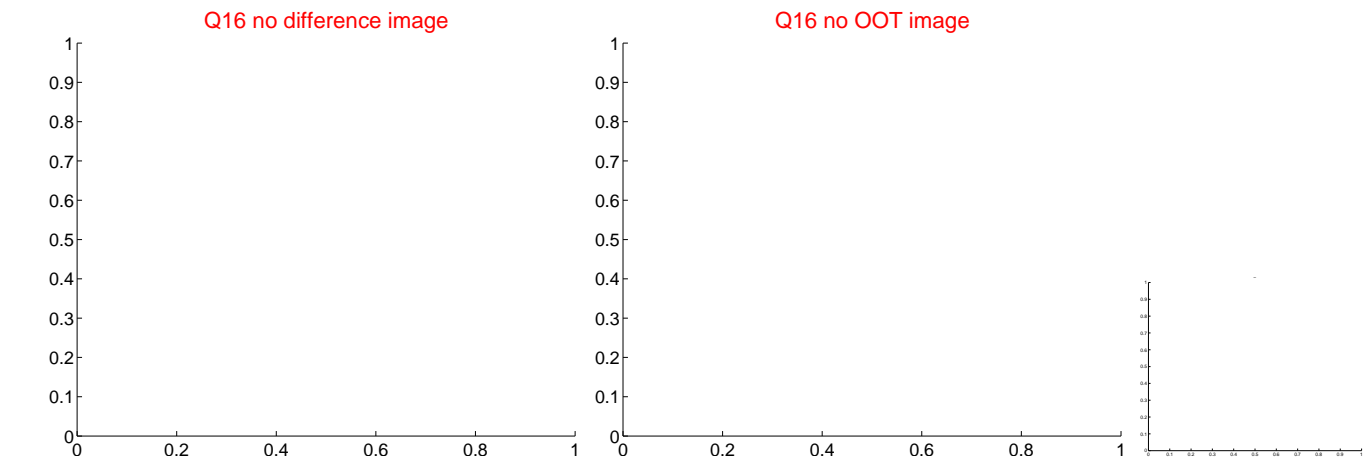
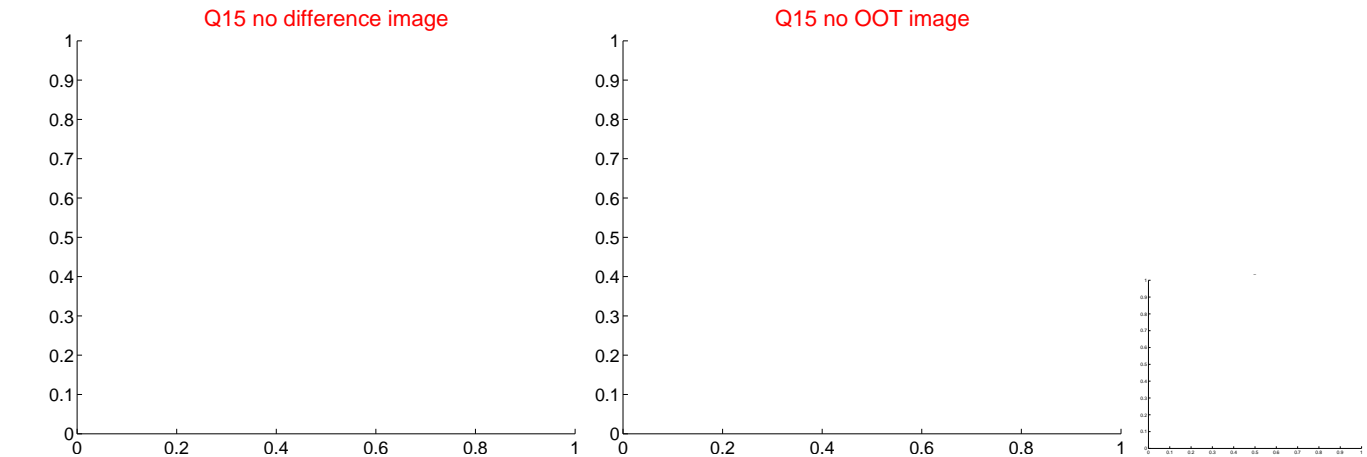
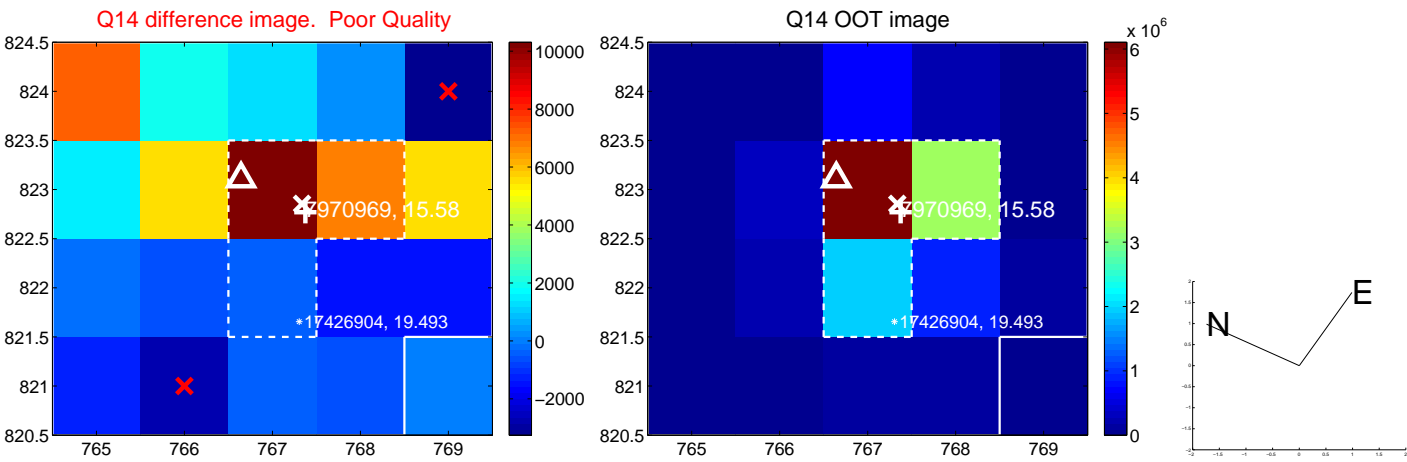
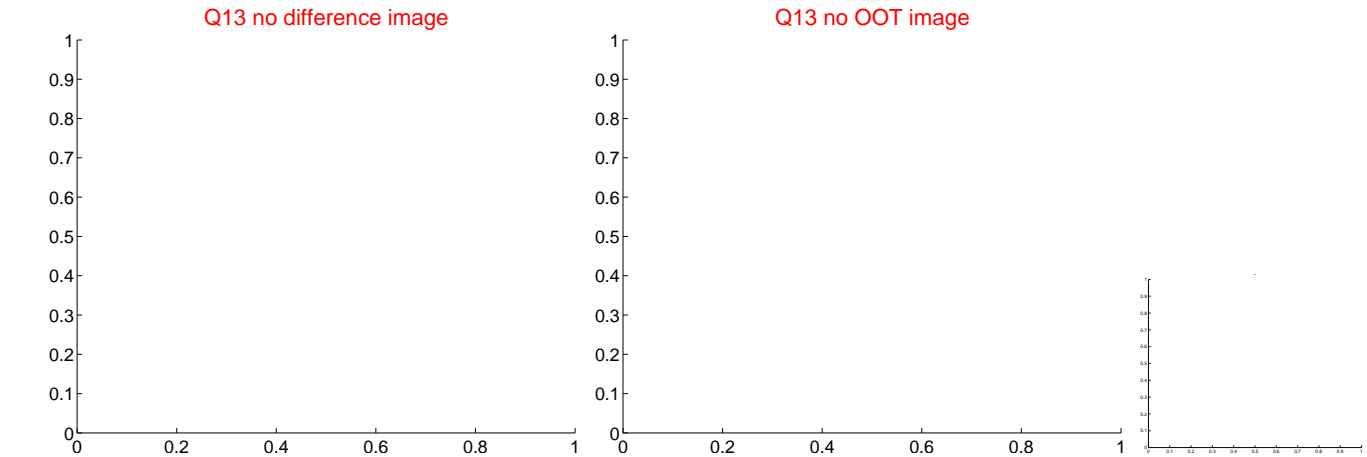
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



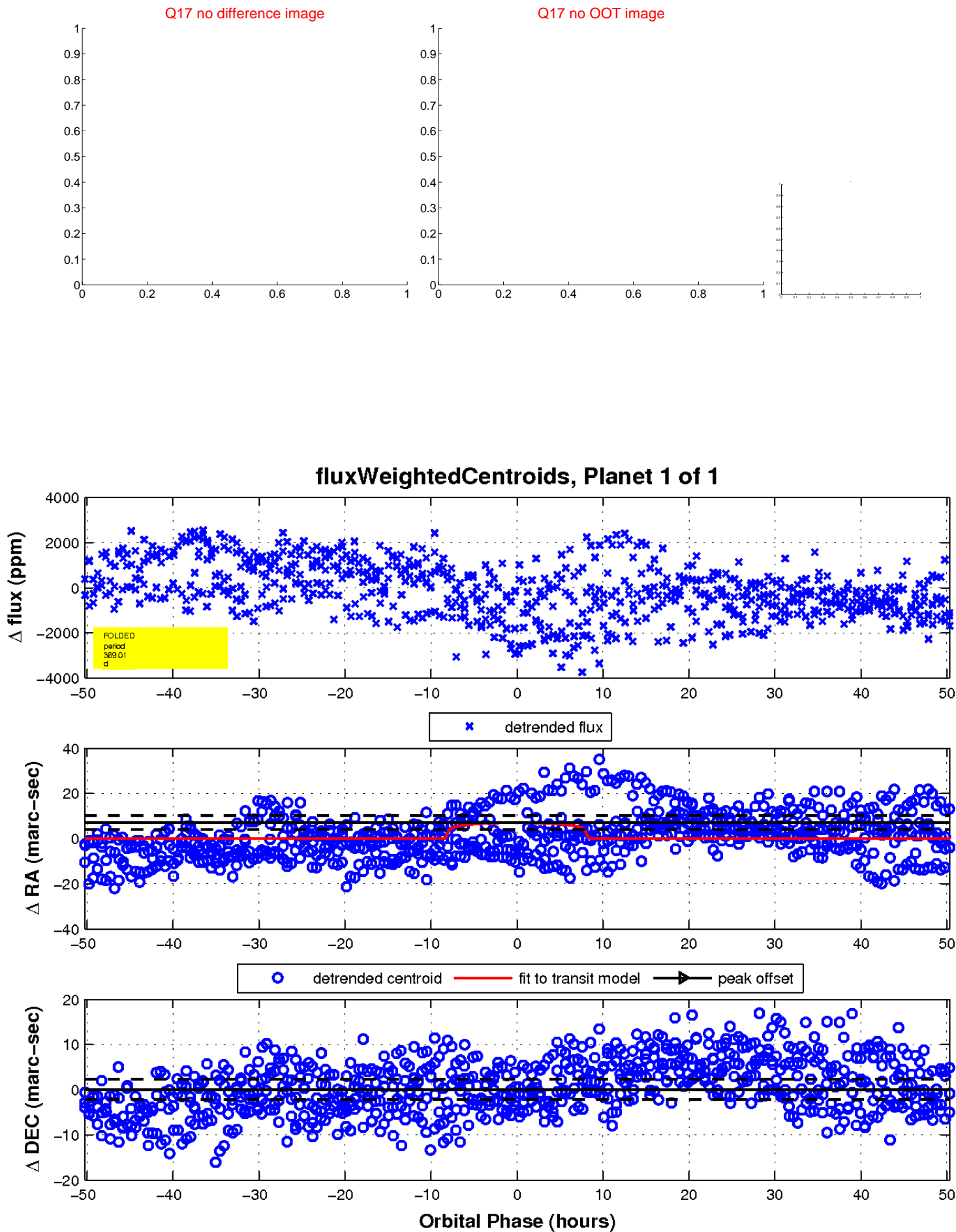
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

