

KIC 008960684

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})
008960684-01	OBS	No	681.094949	212.226475	233.9	10.252	10.2	9.5	1.08	6274	1.82	0.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008960684-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

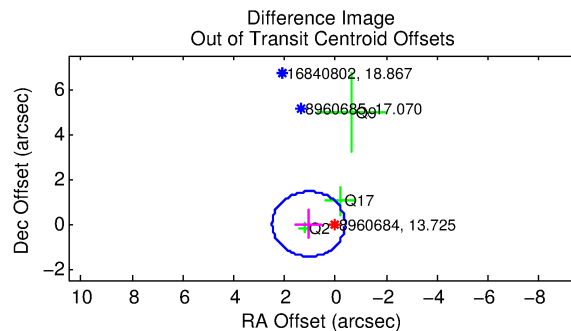
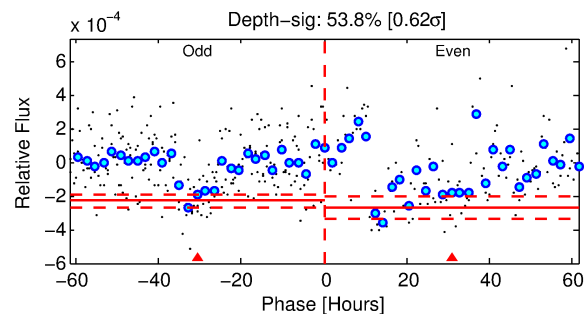
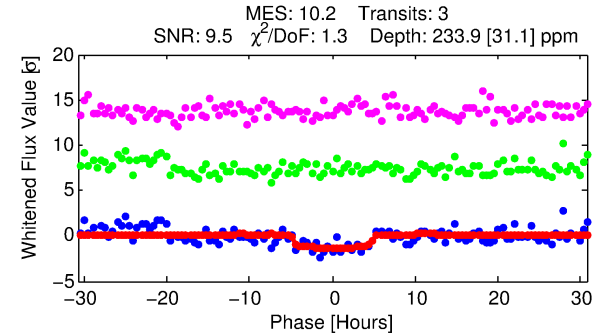
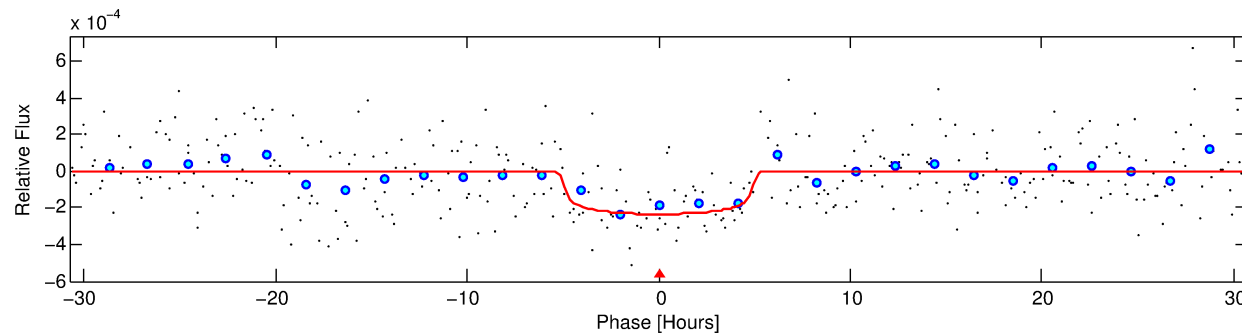
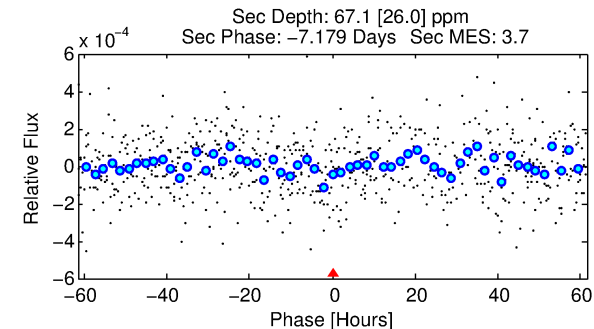
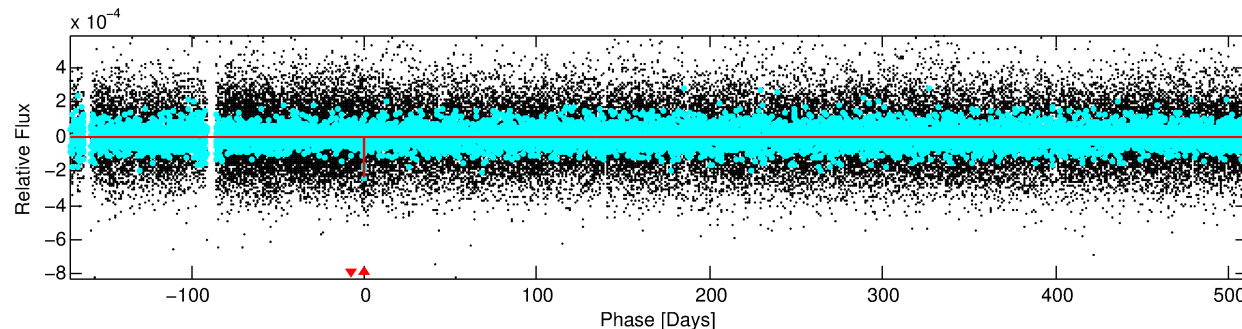
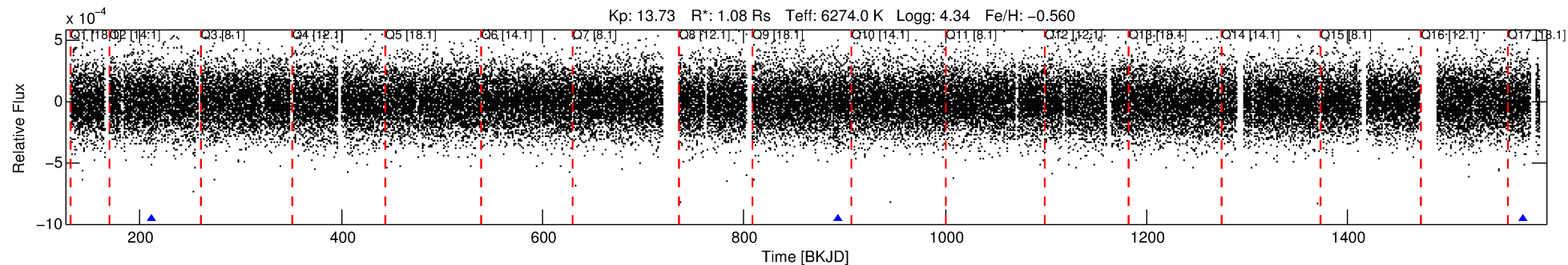
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008960684-01

No Significant Match Found

DV One-Page Summary

KIC: 8960684 Candidate: 1 of 1 Period: 681.095 d



DV Fit Results:

Period = 681.09495 [0.01395] d
Epoch = 212.2265 [0.0165] BKJD
Rp/R* = 0.0155 [0.0081]
a/R* = 315.64 [905.14]
b = 0.80 [1.28]
Seff = 0.74 [0.26]
Teq = 237 [21] K
Rp = 1.82 [1.07] Re
a = 1.4763 [0.3304] AU
Ag = 24176.03 [28164.85] [0.86σ]
Teffp = 4562 [1282] K [3.37σ]

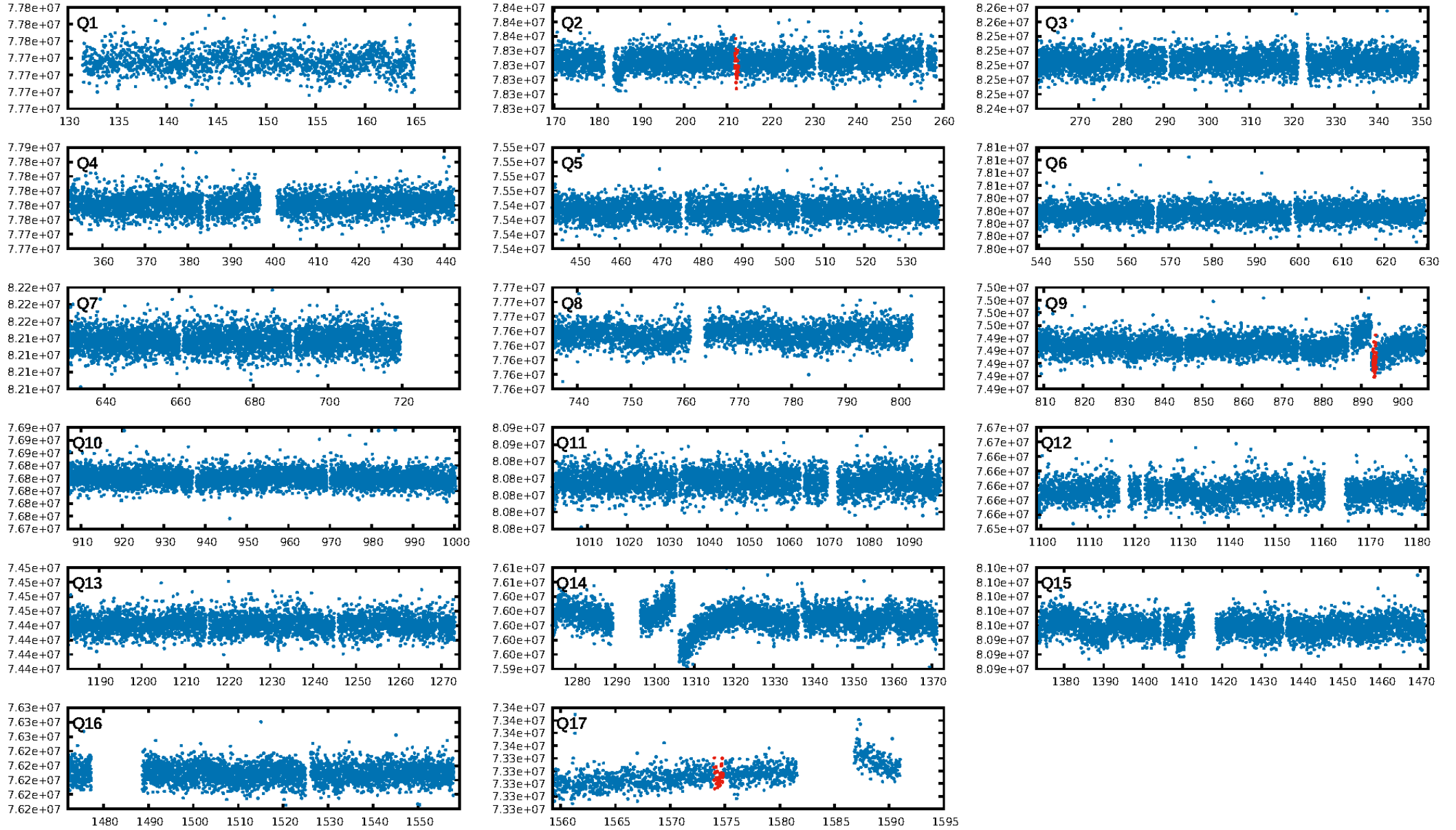
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 4.13e-20
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.851
Centroid-sig: 9.1%
Centroid-so: 1.878 arcsec [1.34σ]
OotOffset-rm: 1.050 arcsec [2.19σ]
KicOffset-rm: 1.041 arcsec [2.16σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

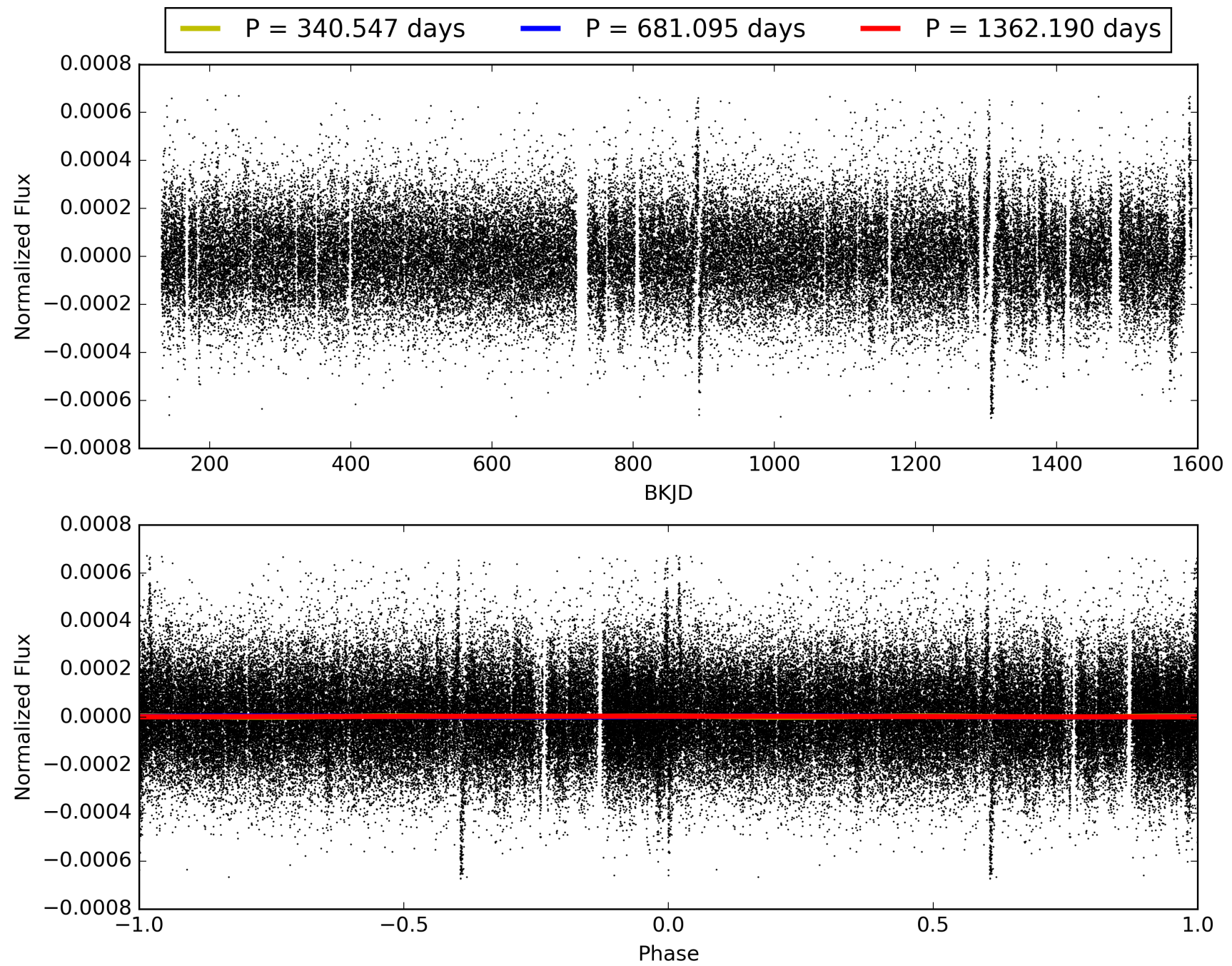
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:25:44 Z

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

TCE 008960684-01, PDC Light Curves

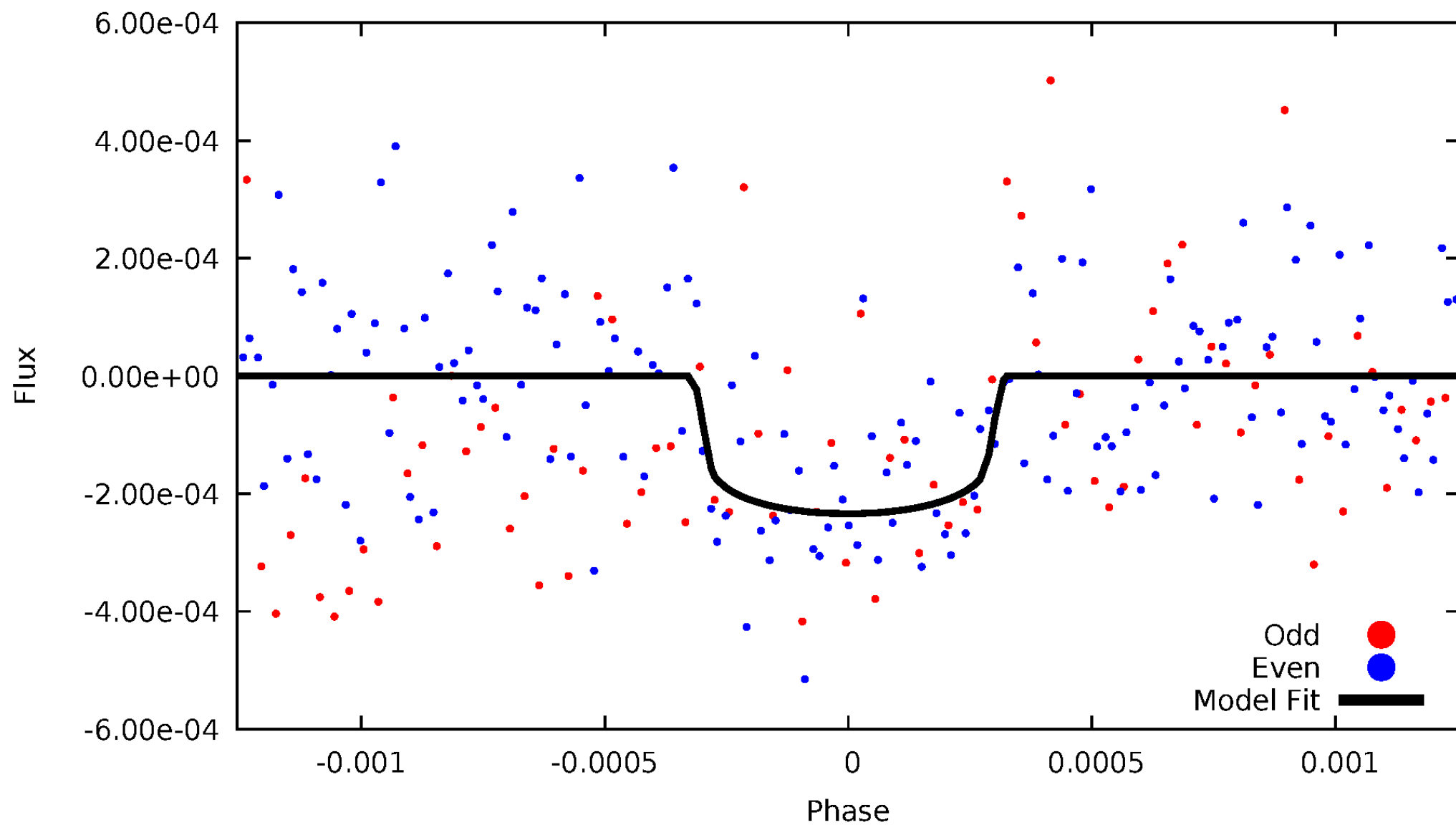


TCE 008960684-01



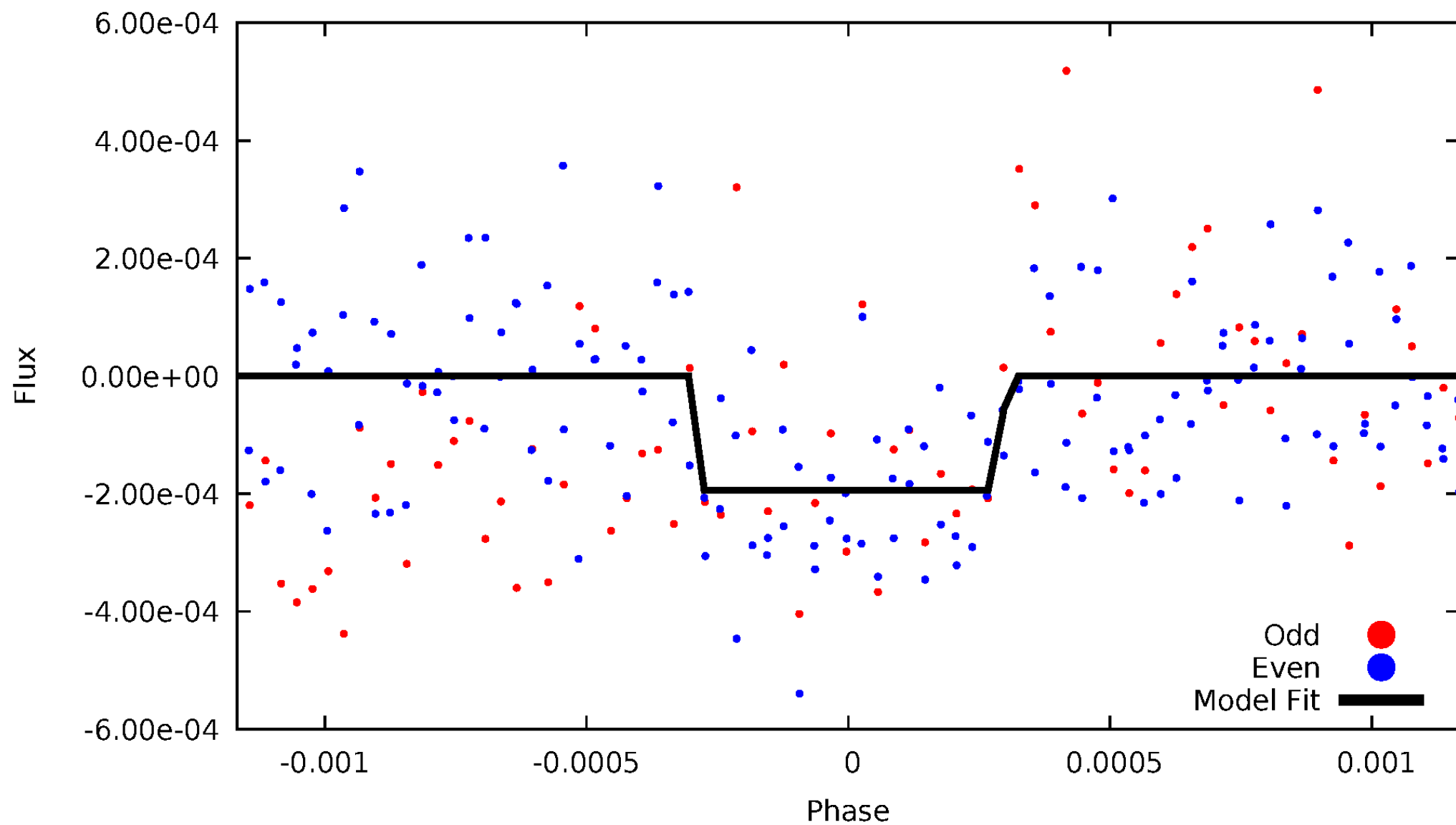
DV Odd/Even

TCE 008960684-01

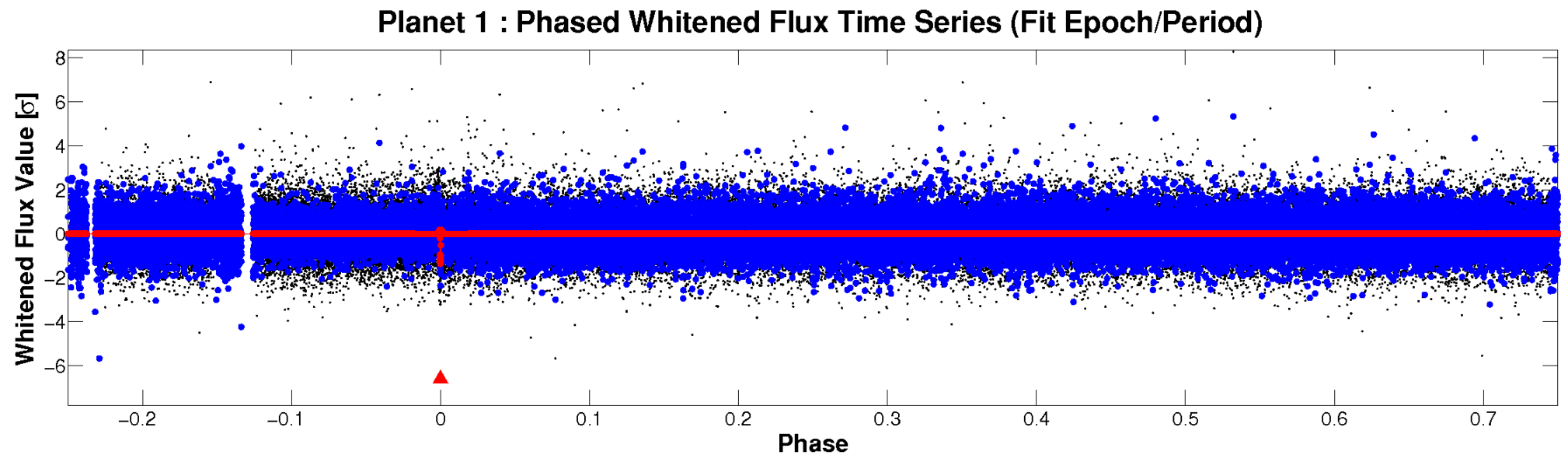
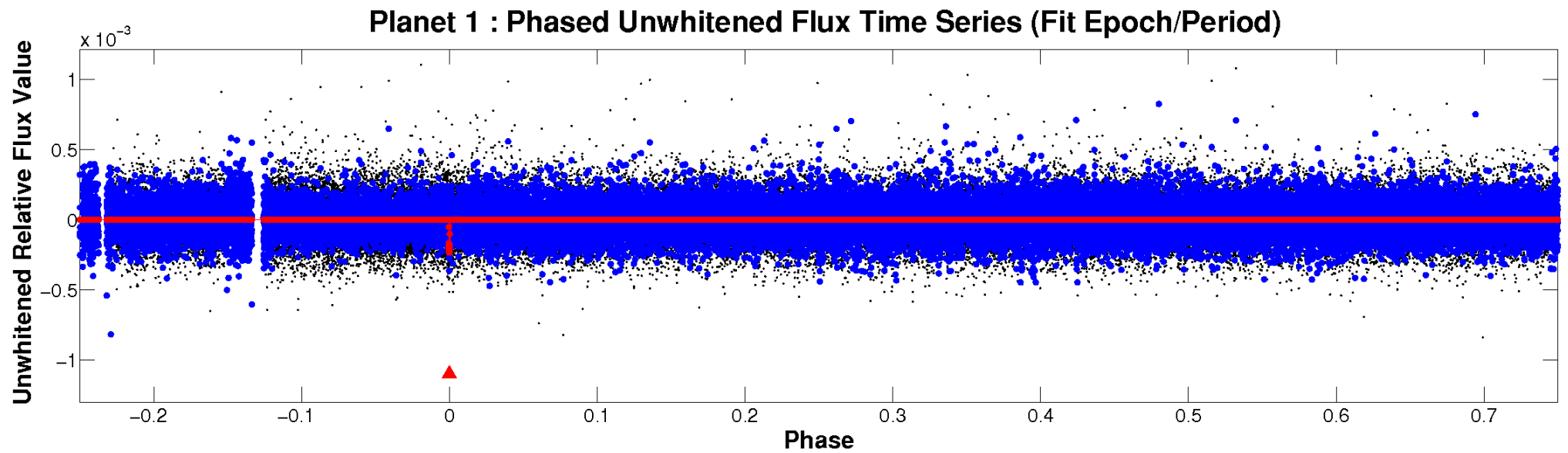


ALT Odd/Even

TCE 008960684-01

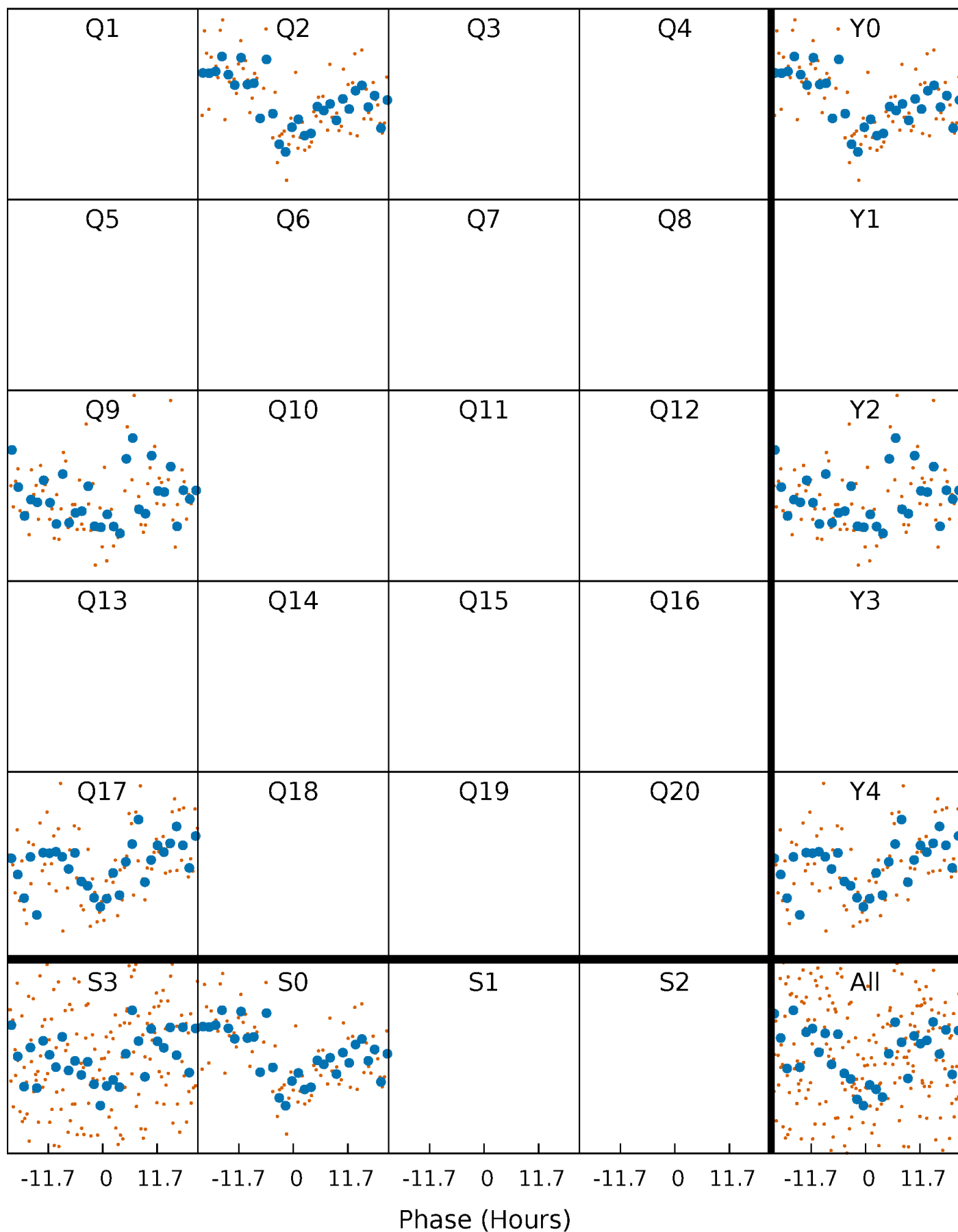


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008960684-01 P=681.094949 Days $T_0=212.226475$ (BKJD)



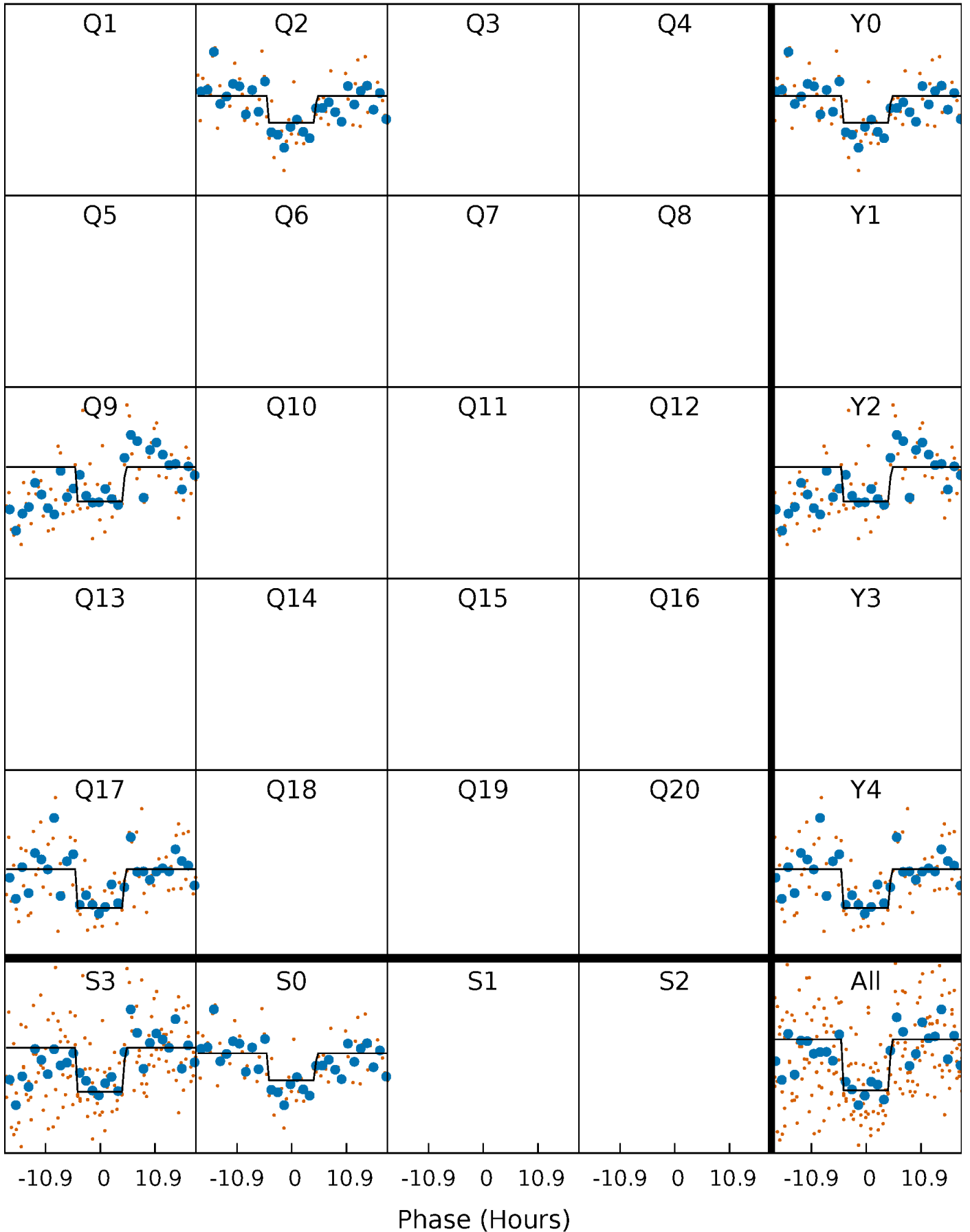
DV Quarter-Phased Transit Curves

TCE 008960684-01 P=681.094949 Days $T_0=212.226475$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

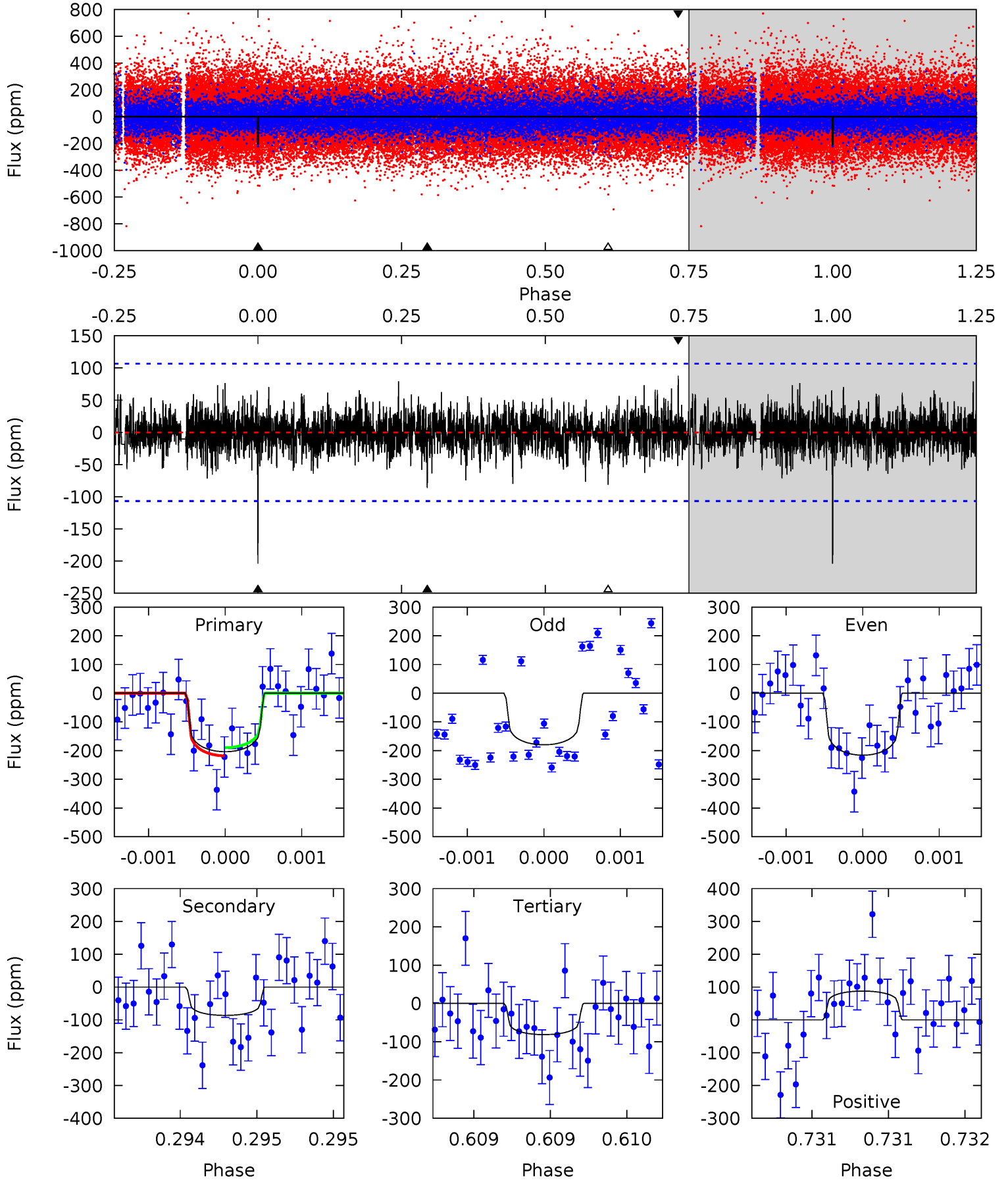
TCE 008960684-01 P=681.091422 Days $T_0=212.229190$ (BKJD)



DV Model-Shift Uniqueness Test

008960684-01, P = 681.094949 Days, E = 212.226475 Days

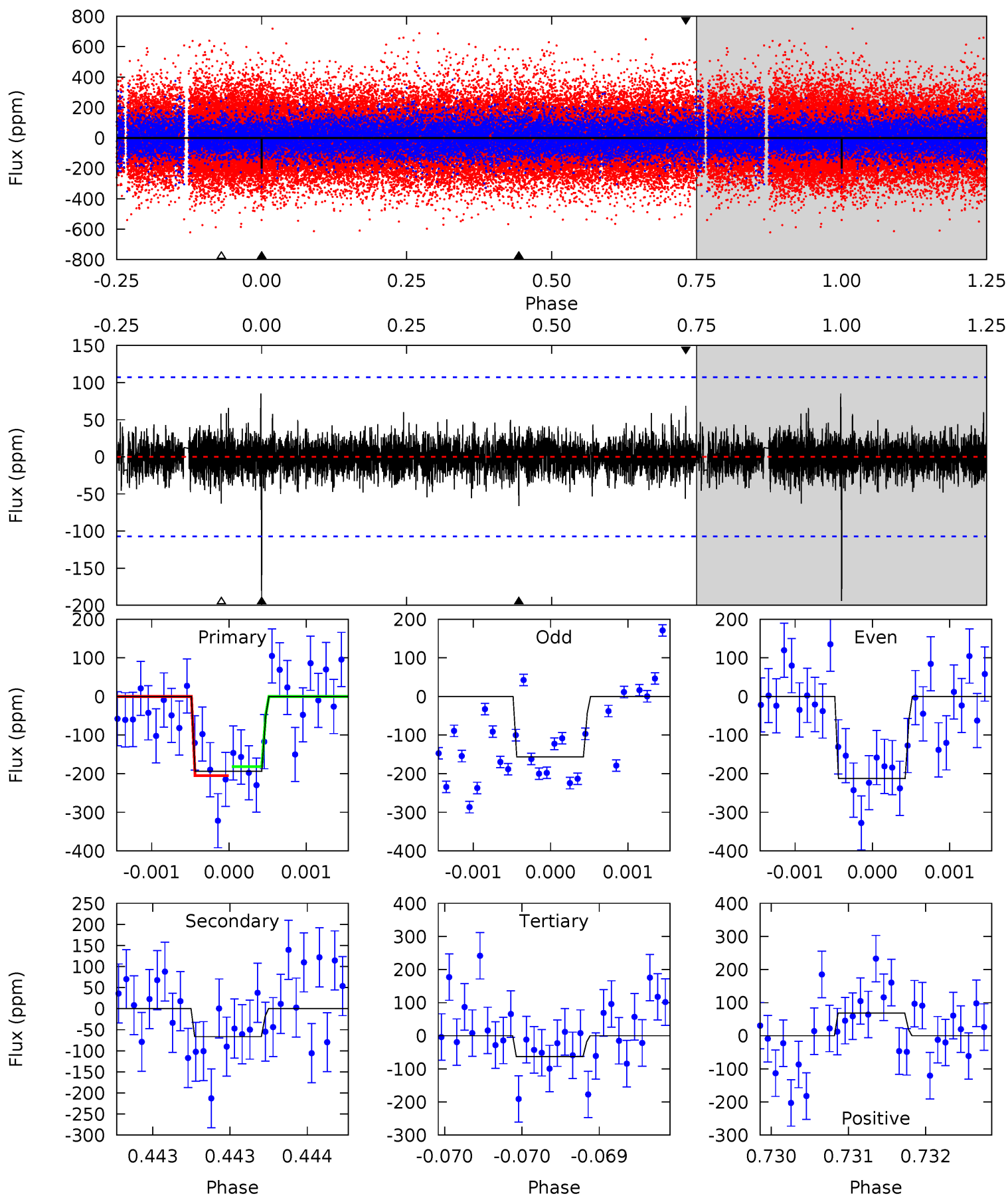
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	4.48	4.22	4.55	5.53	3.42	1.10	6.35	6.02	0.26	-0.07	0.88	1.13	0.30	0.74



Alt Model-Shift Uniqueness Test

008960684-01, P = 681.091422 Days, E = 212.229190 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	3.42	3.26	3.55	5.53	3.42	0.80	6.76	6.47	0.16	-0.13	1.37	1.18	0.30	0.60



Stellar Parameters For KIC 008960684

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6274^{+169}_{-188}	$4.338^{+0.149}_{-0.182}$	$-0.560^{+0.300}_{-0.300}$	$1.079^{+0.283}_{-0.189}$	$0.924^{+0.128}_{-0.085}$	$1.037^{+0.719}_{-0.491}$
	+3%/-3%	+3%/-4%	+54%/-54%	+26%/-18%	+14%/-9%	+69%/-47%
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 008960684-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-86 ± 19	$1.90^{+0.95}_{-0.96}$	331^{+24}_{-20}	4906^{+1762}_{-785}	28979^{+83135}_{-16725}
Alt.	-66 ± 19	$1.71^{+0.99}_{-0.82}$	332^{+25}_{-19}	4788^{+1912}_{-784}	26327^{+88570}_{-16458}

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

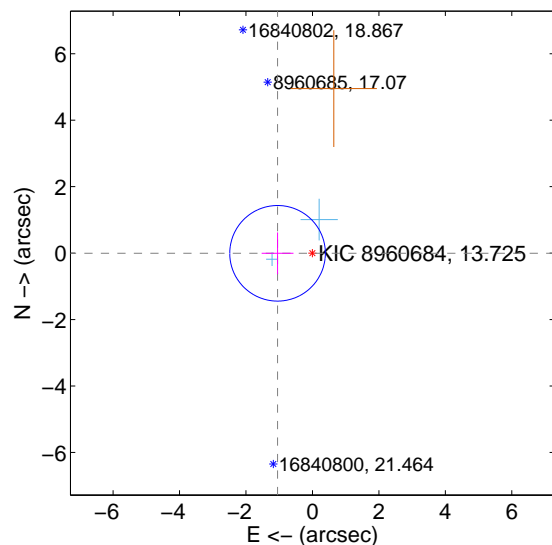
Supplemental centroid analysis for 008960684-01. Kepler magnitude: 13.72. Transit SNR 9.49

There are 2 quarters with good PRF difference image offsets

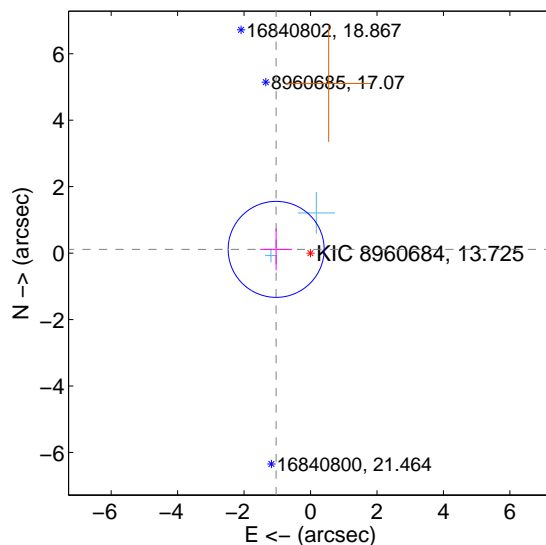
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.050 ± 0.480	2.19	1.050 ± 0.480	-0.006 ± 0.630
PRF-fit source offset from KIC position	1.041 ± 0.482	2.16	1.034 ± 0.480	0.112 ± 0.630
photometric centroid source offset	1.88 ± 1.40	1.34	0.88 ± 1.30	1.66 ± 1.42

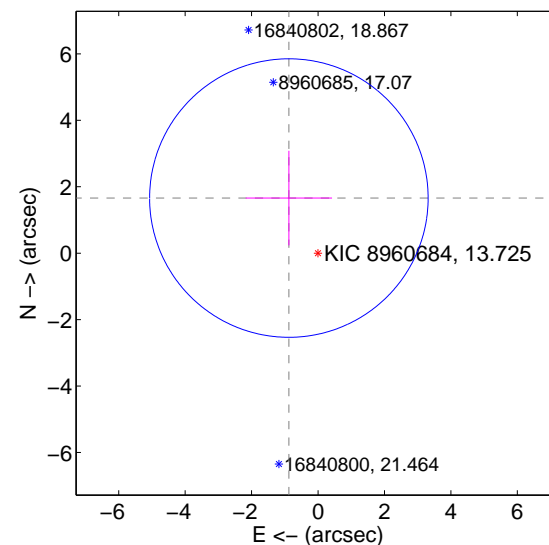
offset from difference PRF-fit to OOT PRF-fit



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.

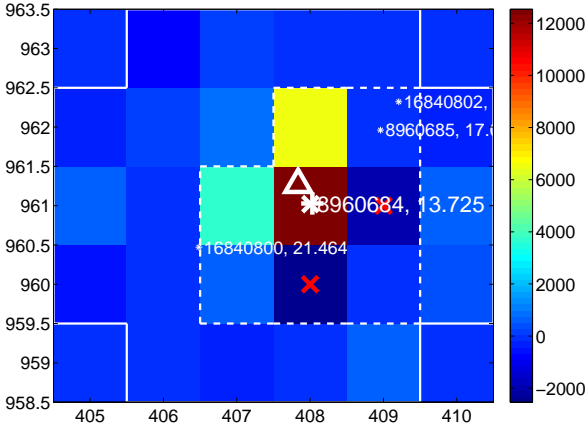
Q1 no difference image



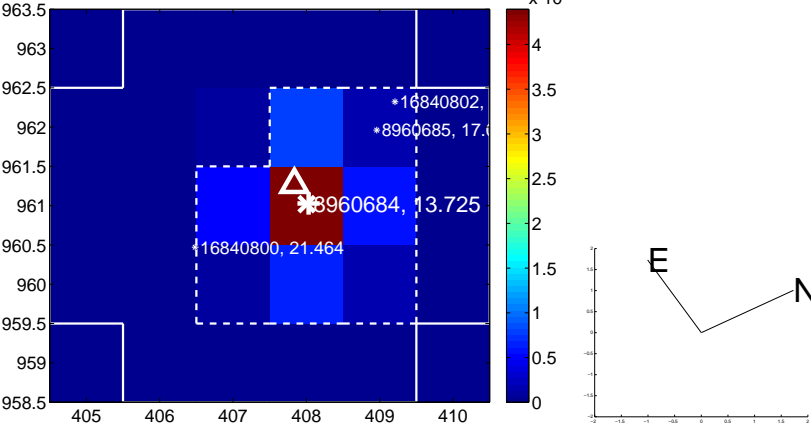
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



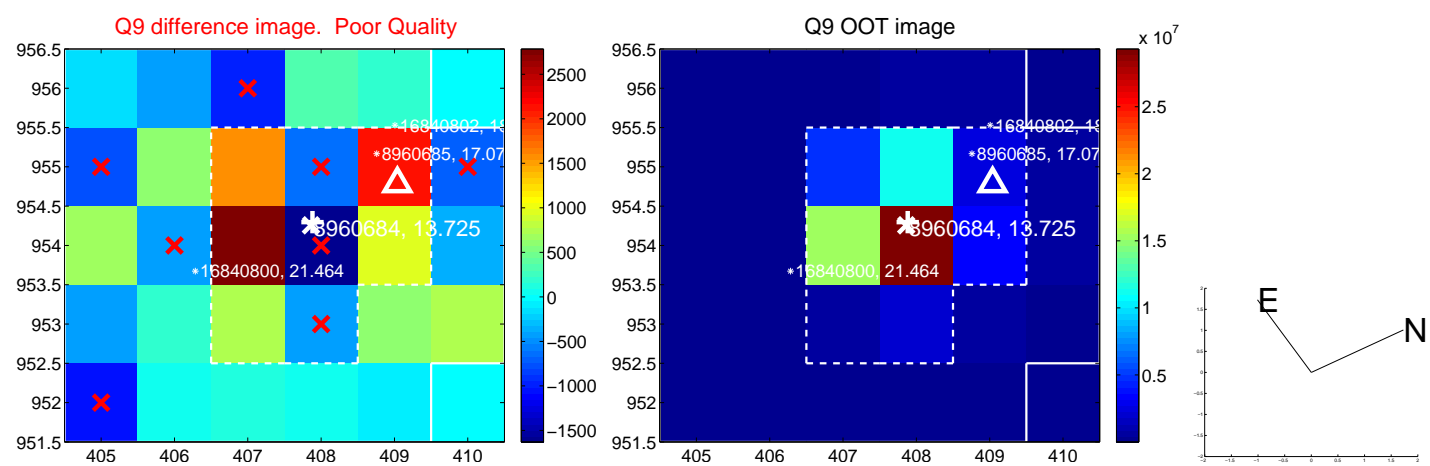
Q4 no OOT image



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



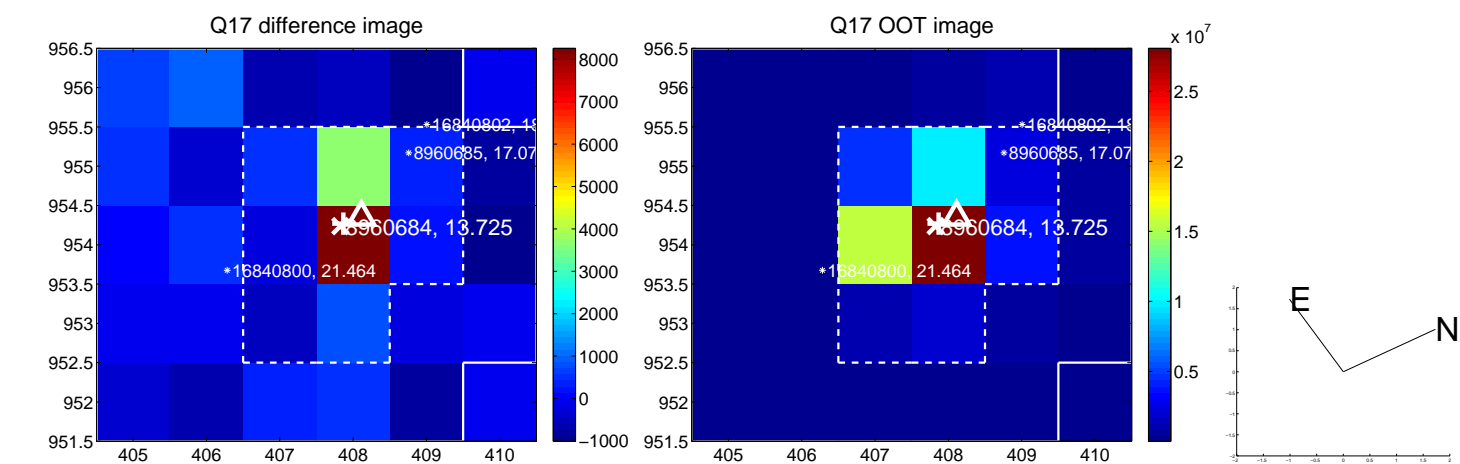
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



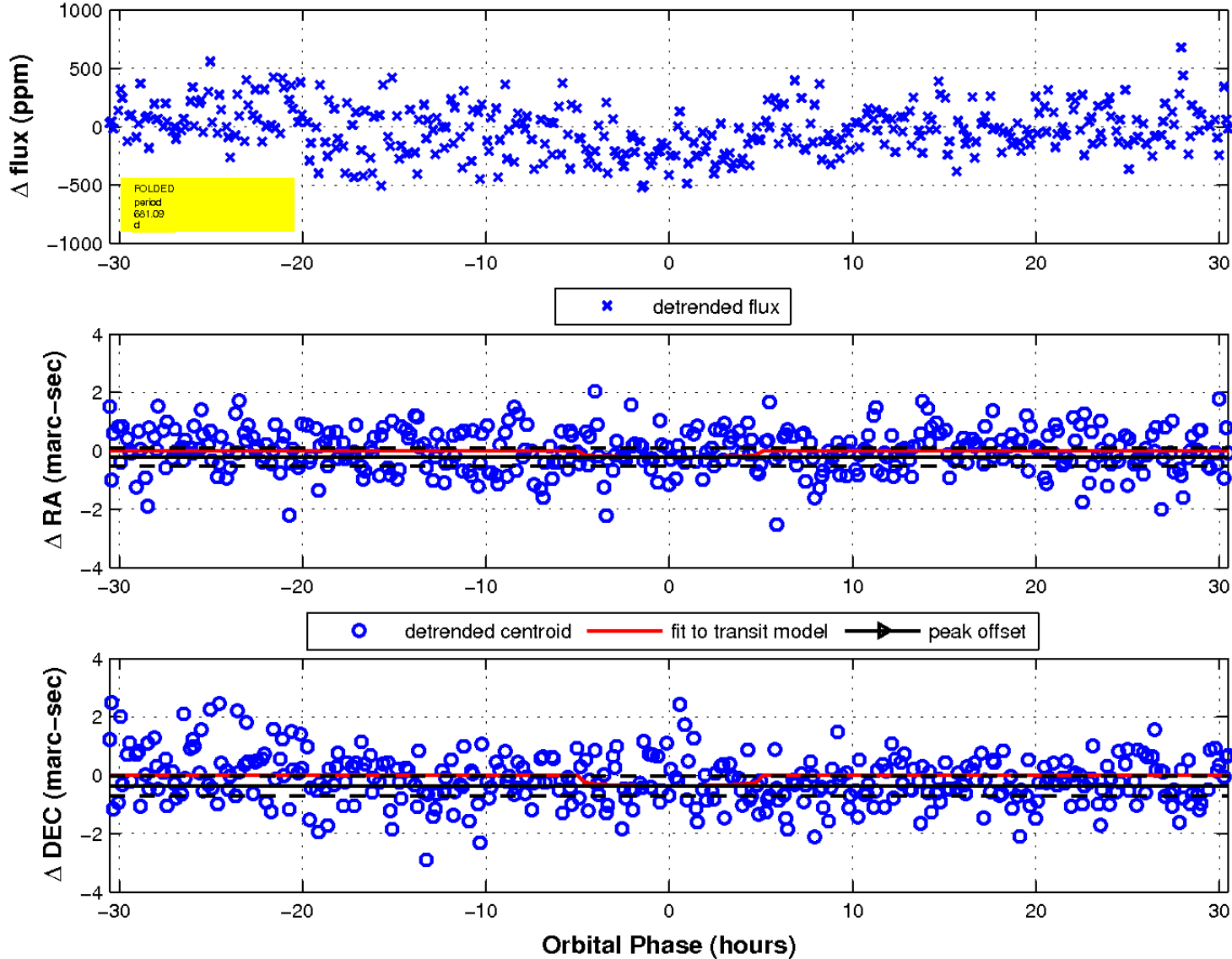
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

