

KIC 008309164

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})
008309164-01	OBS	No	601.439059	359.556583	296.5	16.084	8.0	8.5	1.21	6310	2.27	0.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008309164-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_POS_DV—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.

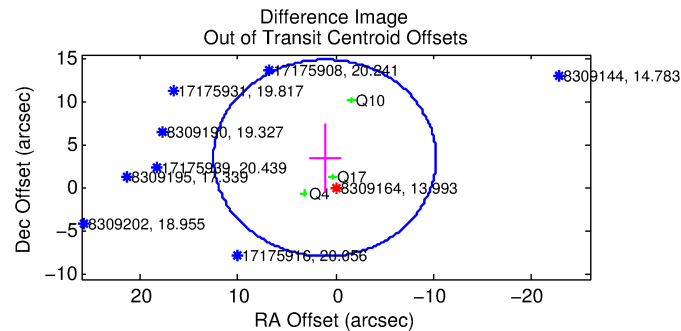
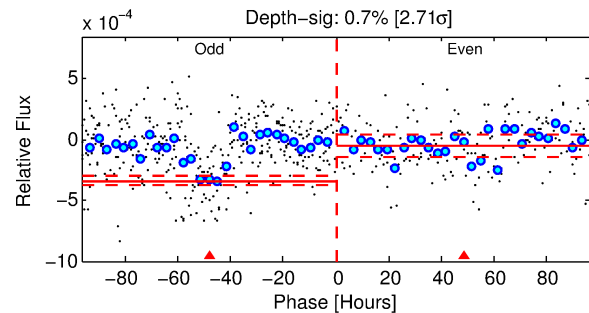
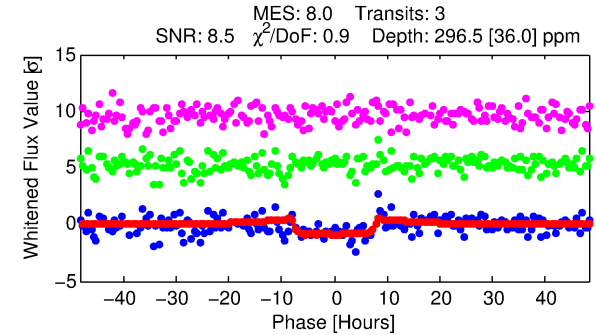
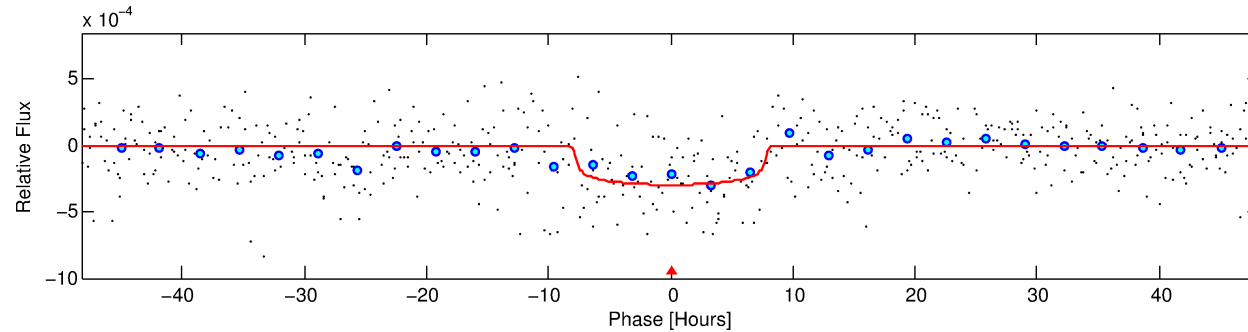
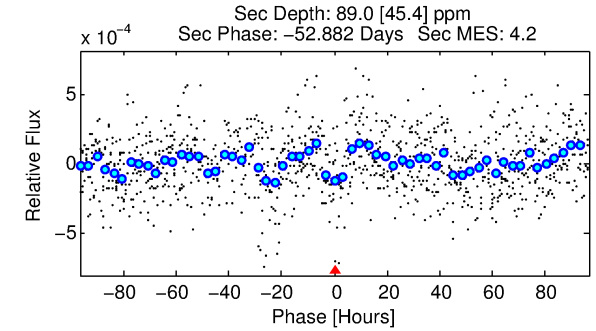
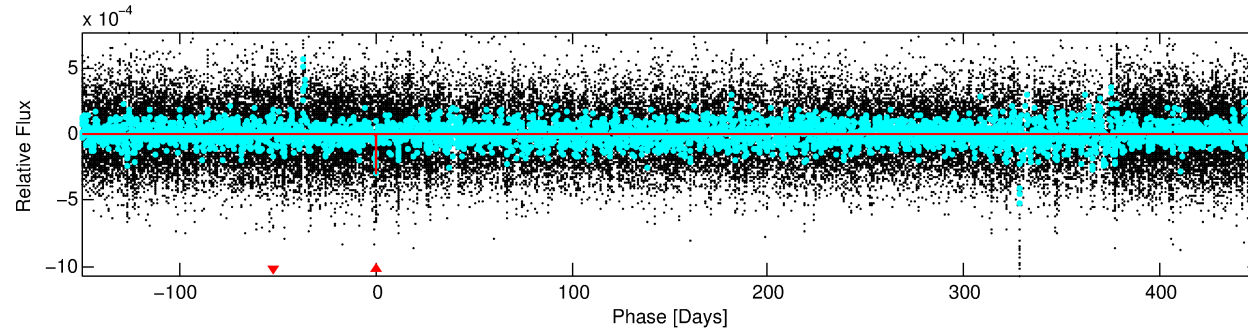
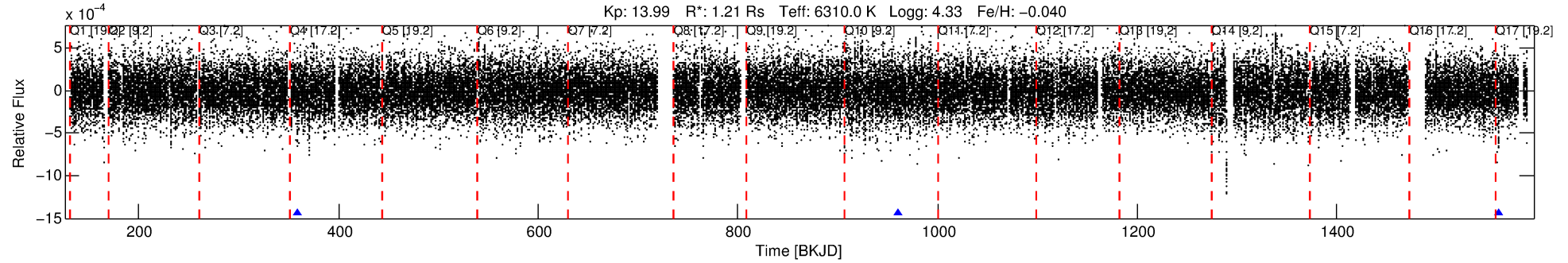
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008309164-01

No Significant Match Found

DV One-Page Summary

KIC: 8309164 Candidate: 1 of 1 Period: 601.439 d



DV Fit Results:

Period = 601.43906 [0.01256] d
Epoch = 359.5566 [0.0171] BKJD
Rp/R* = 0.0171 [0.0039]
a/R* = 196.92 [222.52]
b = 0.75 [0.67]
Seff = 0.99 [0.40]
Teq = 254 [26] K
Rp = 2.27 [0.93] Re
a = 1.4557 [0.4008] AU
Ag = 20212.60 [15901.56] [1.27σ]
Teffp = 4685 [819] K [5.41σ]

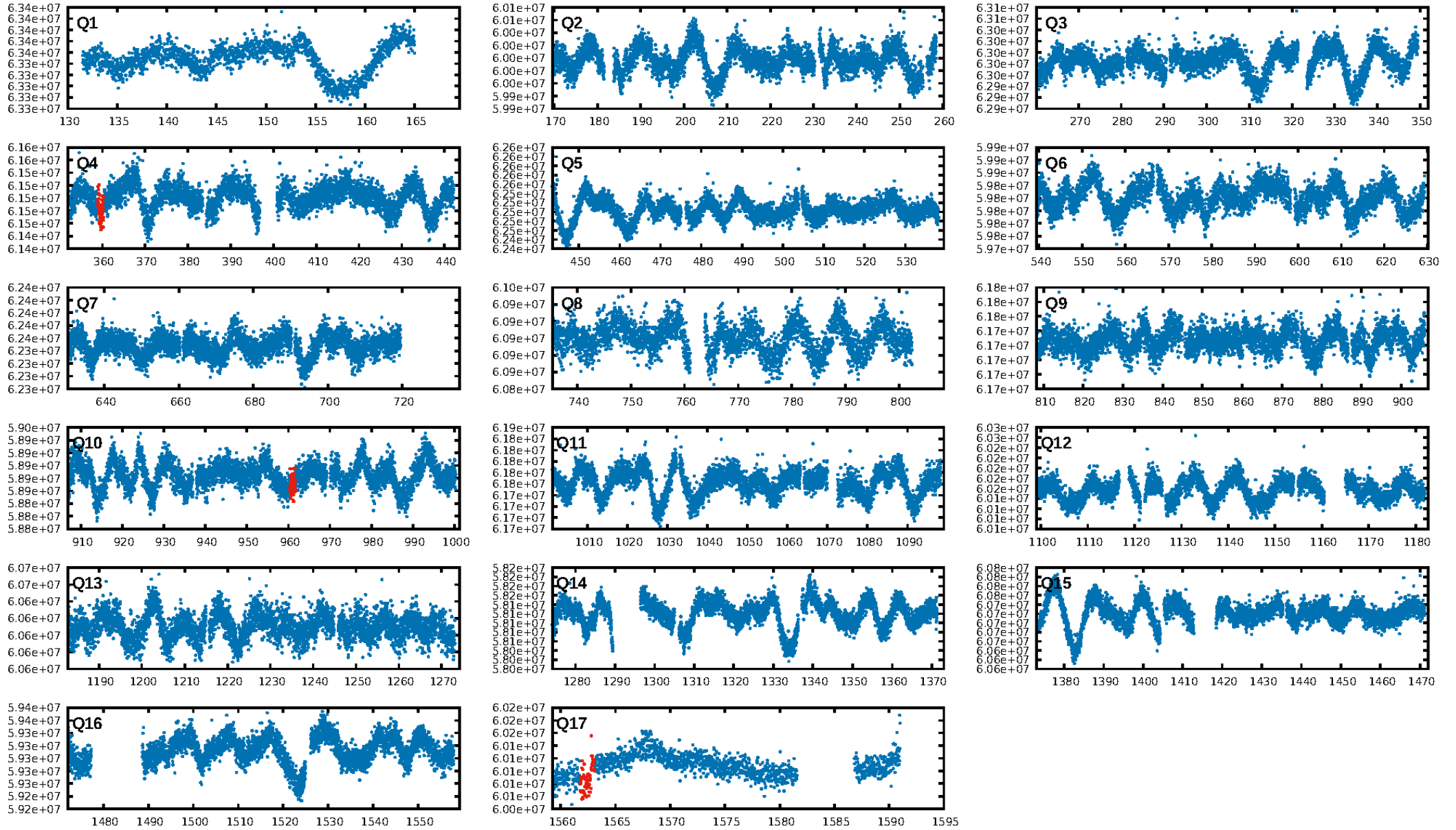
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 28.1%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 3.98e-11
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.916
Centroid-sig: 20.9%
Centroid-so: 1.562 arcsec [1.10σ]
OotOffset-rm: 3.671 arcsec [0.97σ]
KicOffset-rm: 3.410 arcsec [0.86σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

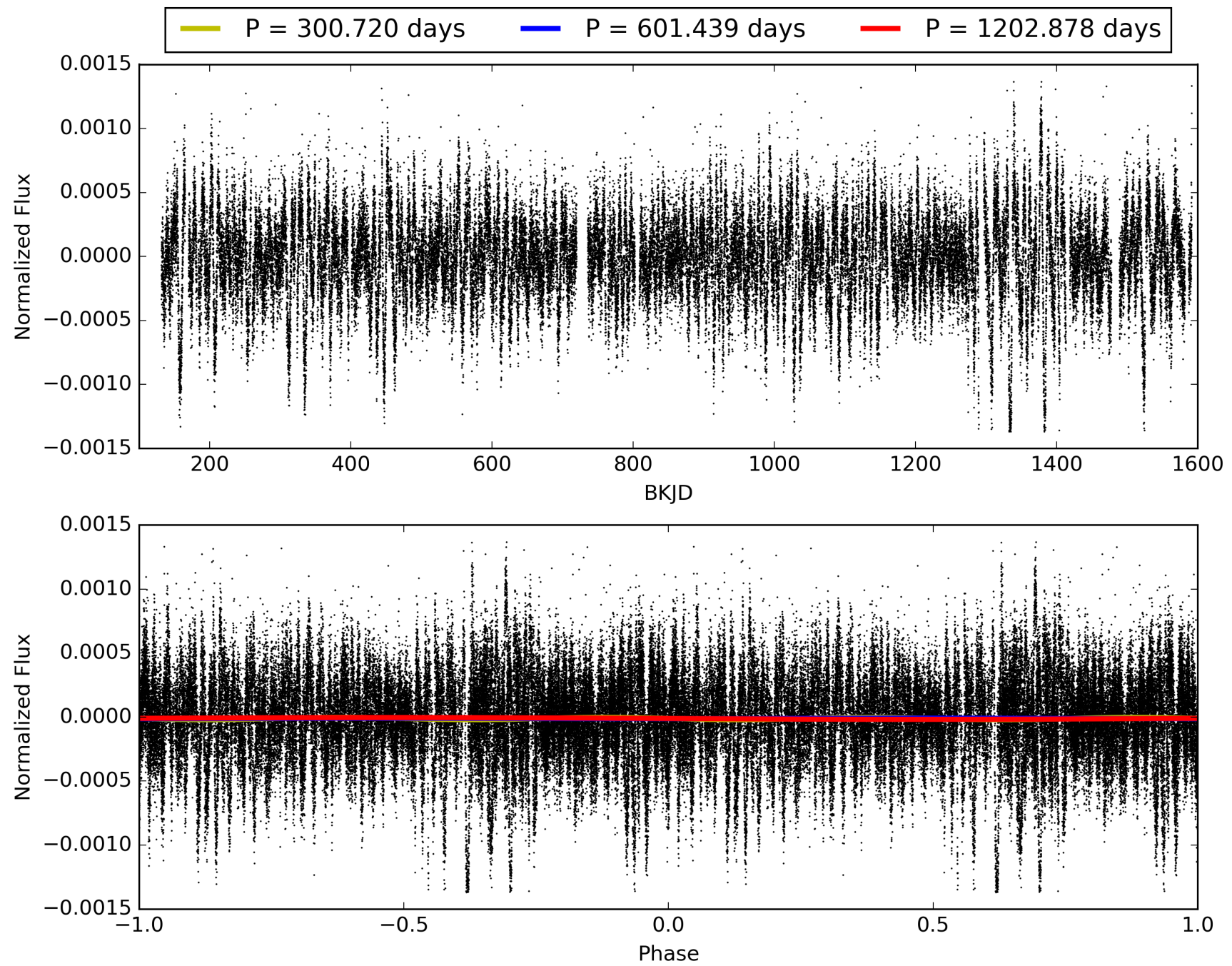
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:19:55 Z

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

TCE 008309164-01, PDC Light Curves

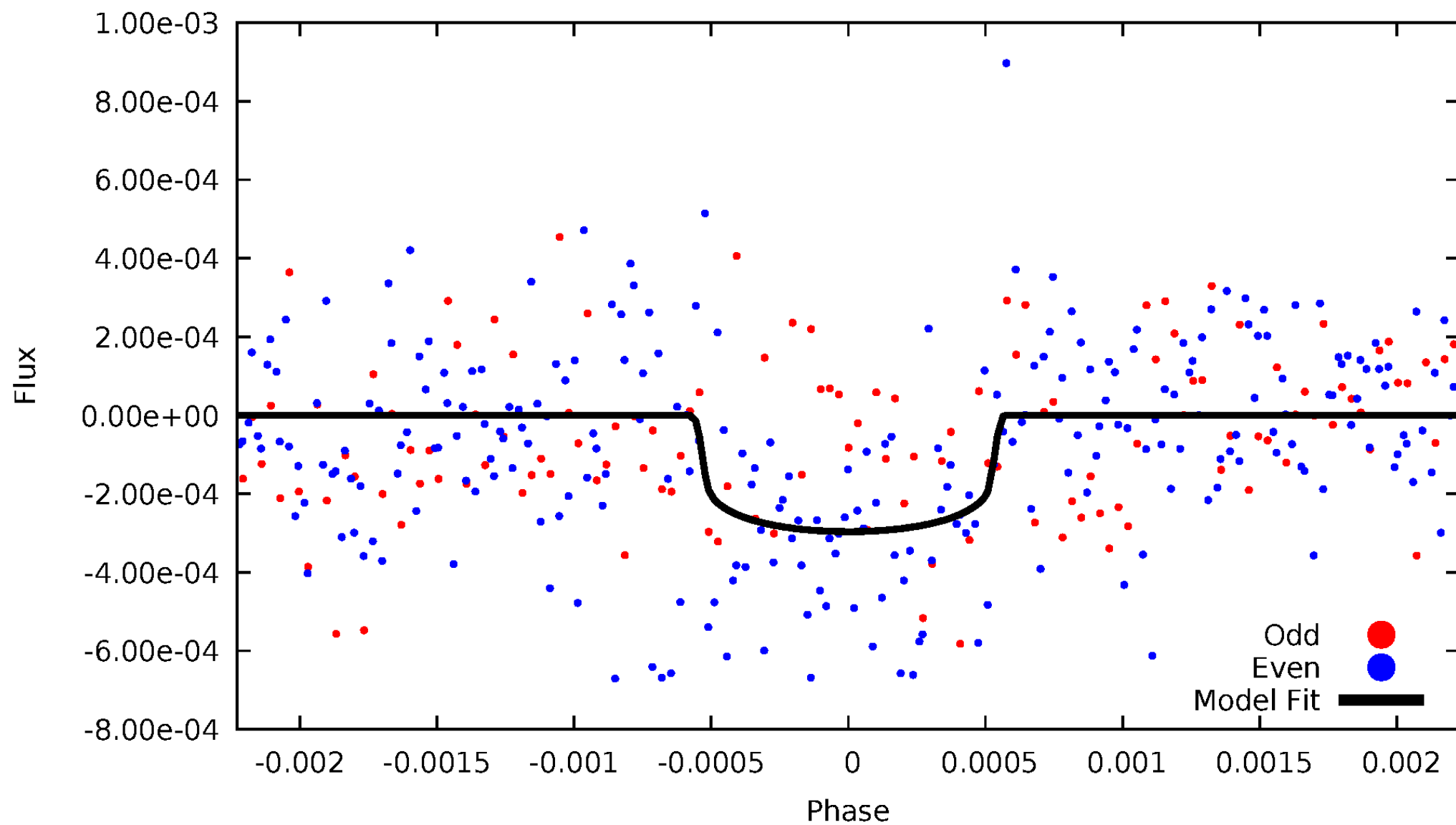


TCE 008309164-01



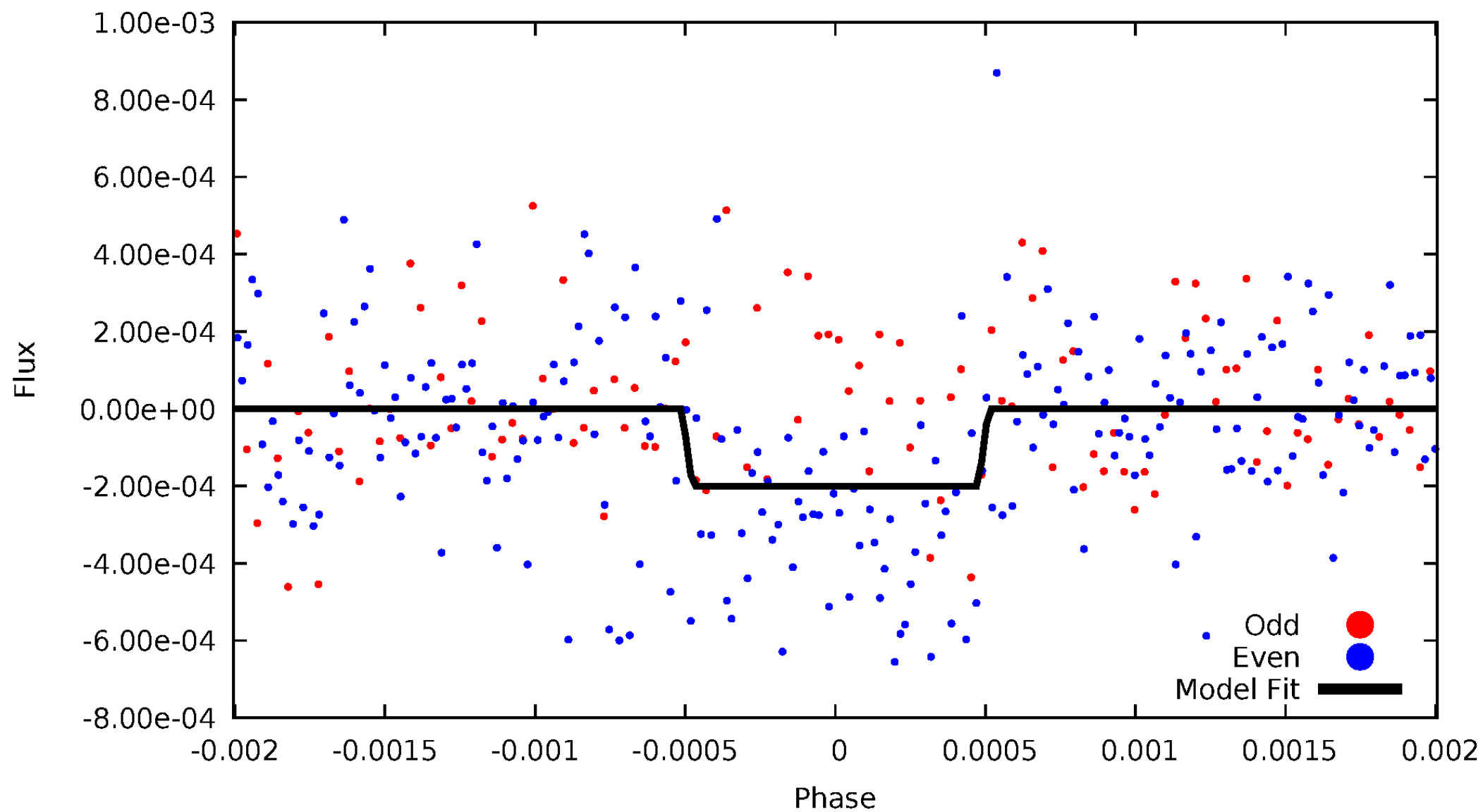
DV Odd/Even

TCE 008309164-01

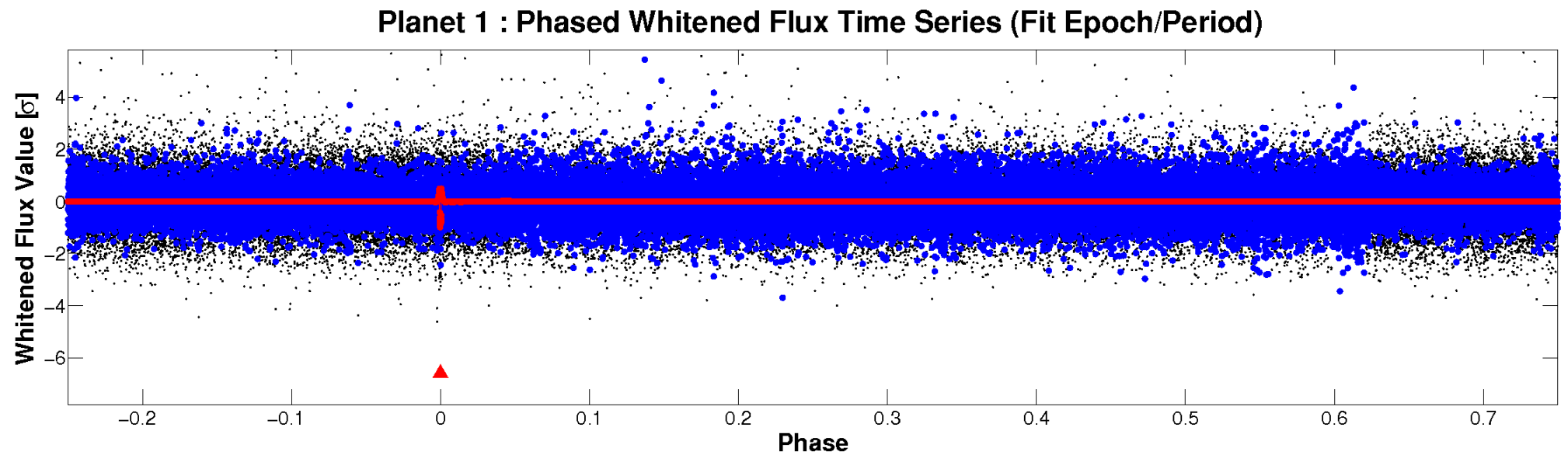
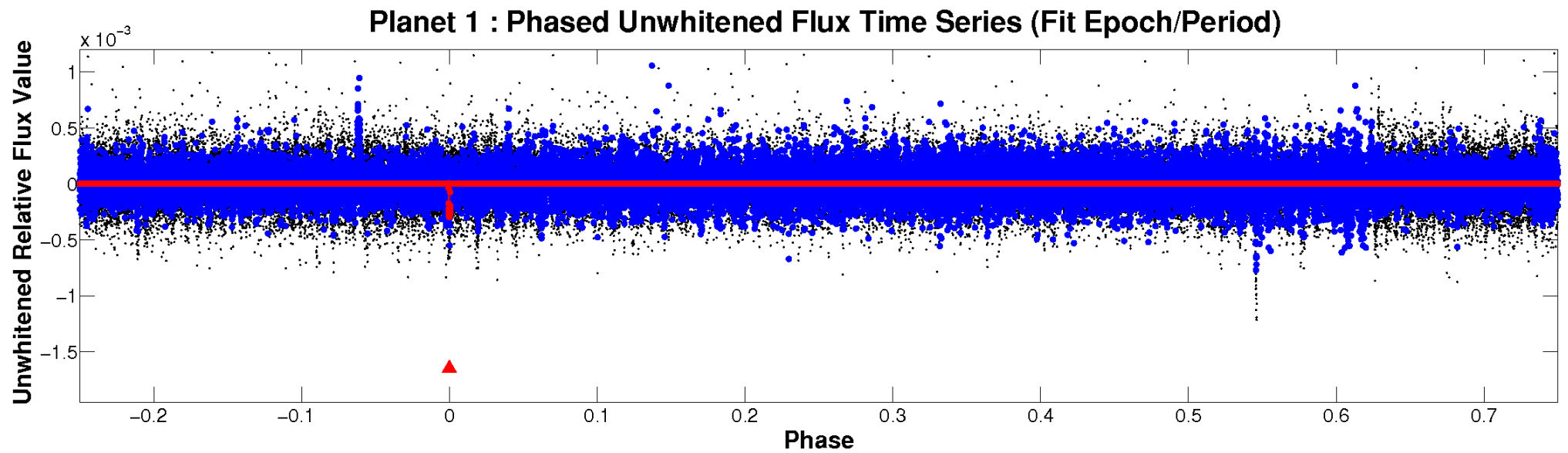


ALT Odd/Even

TCE 008309164-01

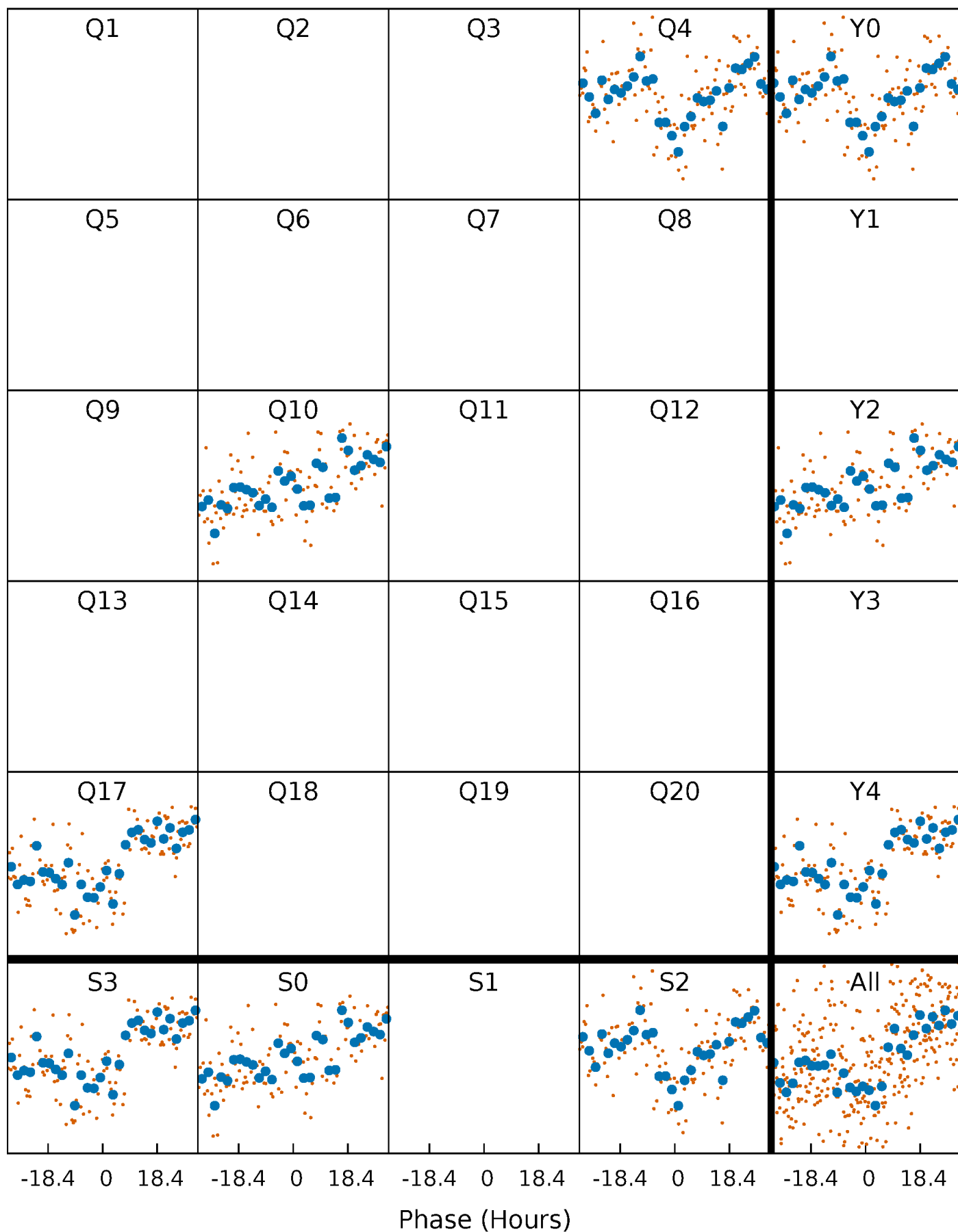


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008309164-01 P=601.439059 Days $T_0=359.556583$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008309164-01 P=601.439059 Days $T_0=359.556583$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

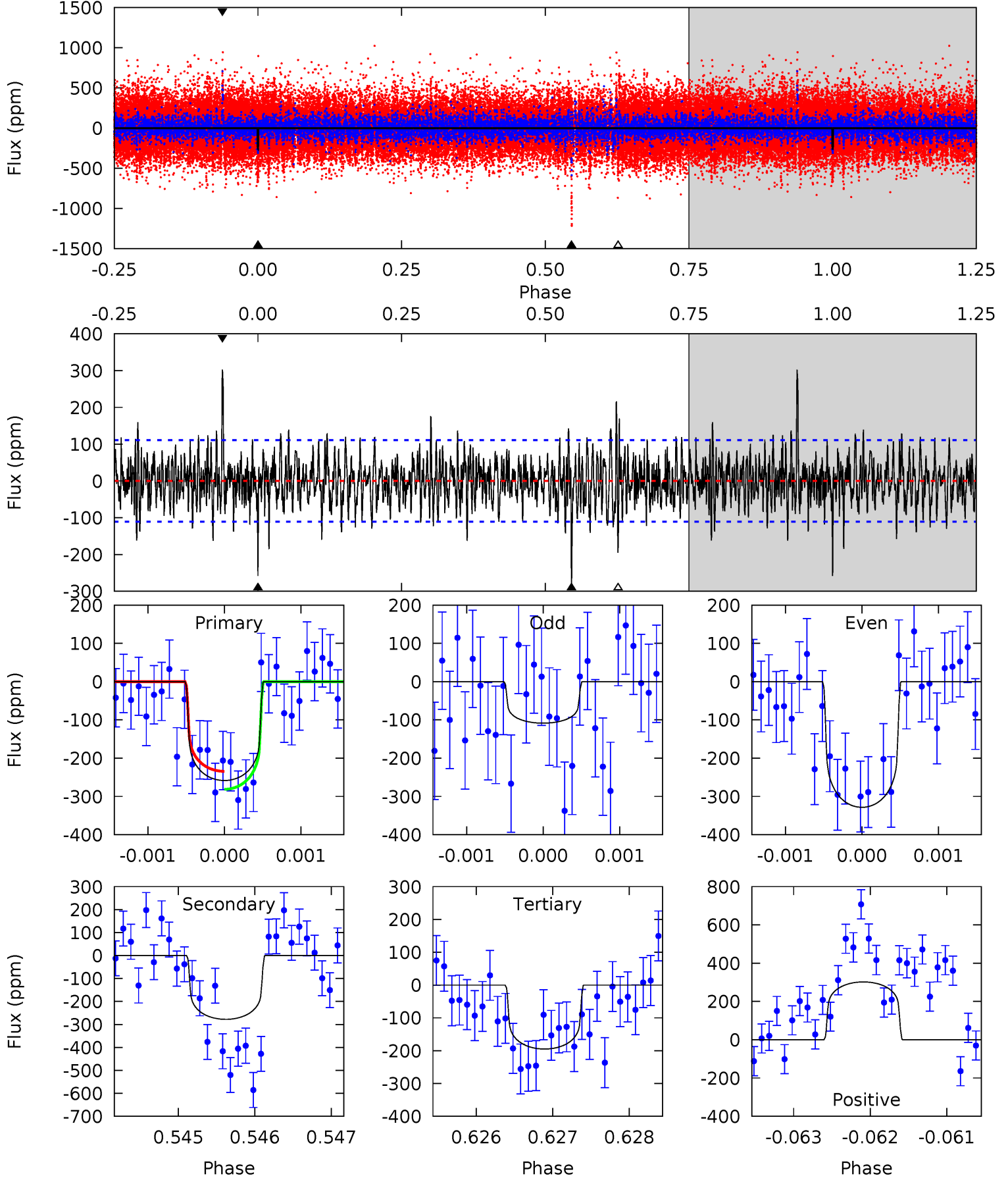
TCE 008309164-01 P=601.489083 Days $T_0=359.479653$ (BKJD)



DV Model-Shift Uniqueness Test

008309164-01, P = 601.439059 Days, E = 359.556583 Days

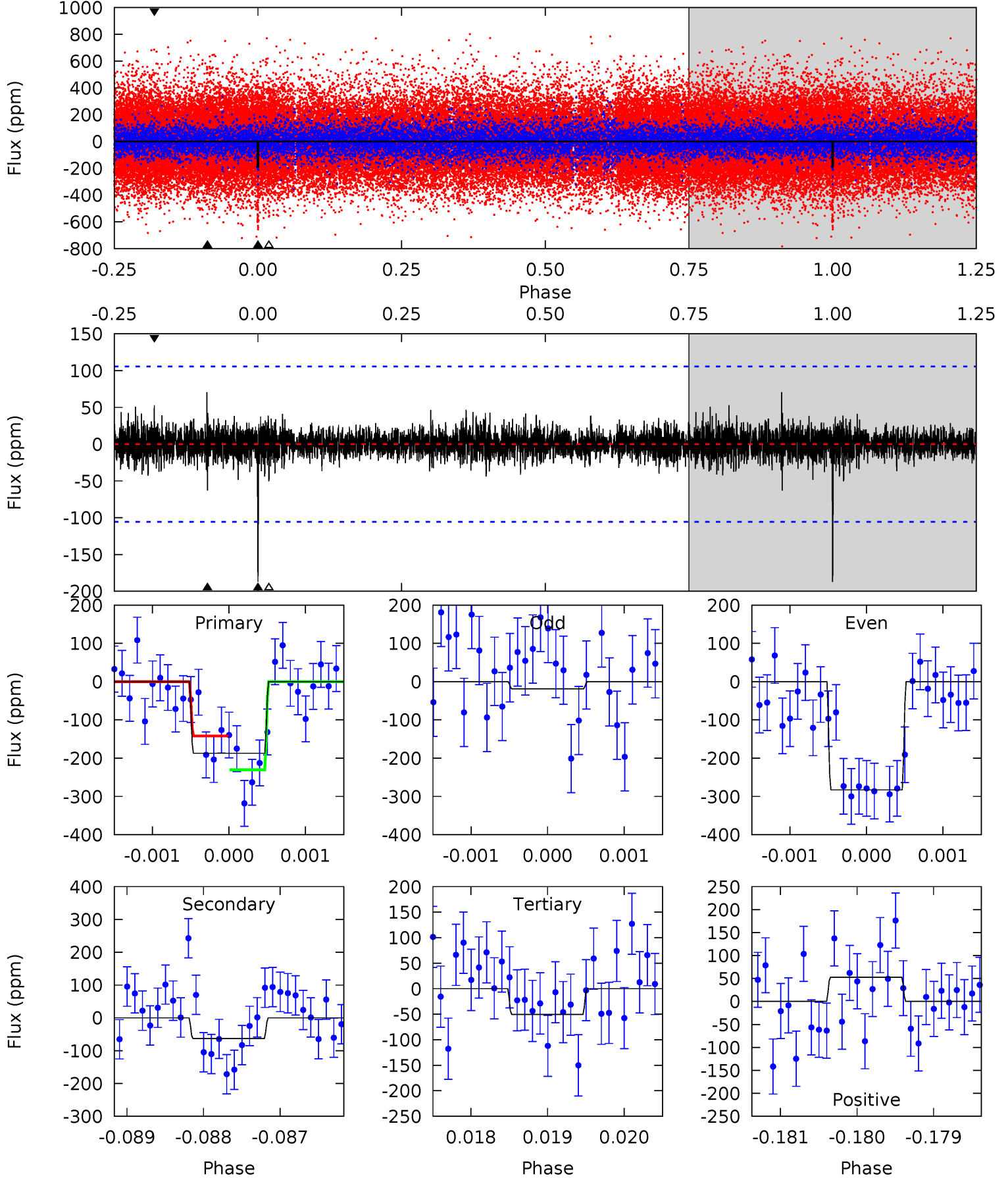
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	13.6	9.55	14.8	5.43	3.26	2.56	3.10	-2.14	4.05	-1.19	5.07	0.87	0.52	1.15



Alt Model-Shift Uniqueness Test

008309164-01, P = 601.489083 Days, E = 359.479653 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.66	3.25	2.60	2.72	5.45	3.29	0.63	7.06	6.94	0.66	0.54	6.32	0.76	0.27	2.29



Stellar Parameters For KIC 008309164

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6310^{+170}_{-208}	$4.326^{+0.093}_{-0.201}$	$-0.040^{+0.250}_{-0.300}$	$1.213^{+0.415}_{-0.178}$	$1.137^{+0.182}_{-0.136}$	$0.897^{+0.454}_{-0.482}$
	+3%/-3%	+2%/-5%	+625%/-750%	+34%/-15%	+16%/-12%	+51%/-54%
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 008309164-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-278 ± 20	$2.36^{+0.64}_{-0.59}$	360^{+26}_{-20}	6203^{+926}_{-614}	57854^{+45126}_{-21544}
Alt.	-63 ± 19	$1.97^{+0.58}_{-0.60}$	360^{+27}_{-19}	4773^{+859}_{-548}	18552^{+21592}_{-8994}

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 $A_{obs} \gg 1.0$

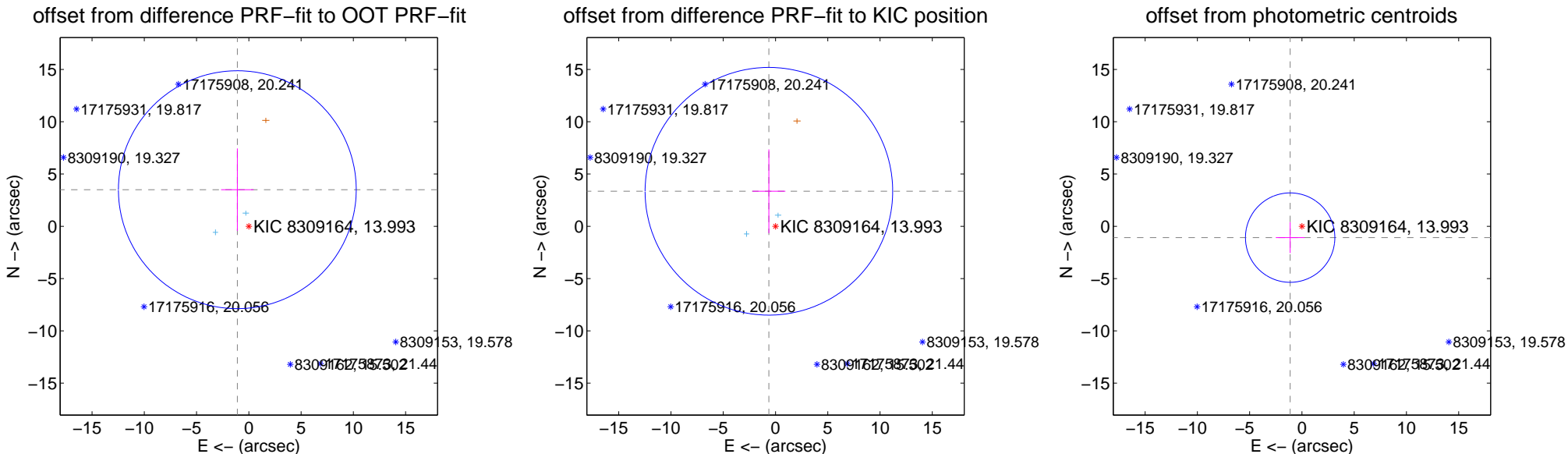
DV Centroid Data

Supplemental centroid analysis for 008309164-01. Kepler magnitude: 13.99. Transit SNR 8.48

There are 2 quarters with good PRF difference image offsets

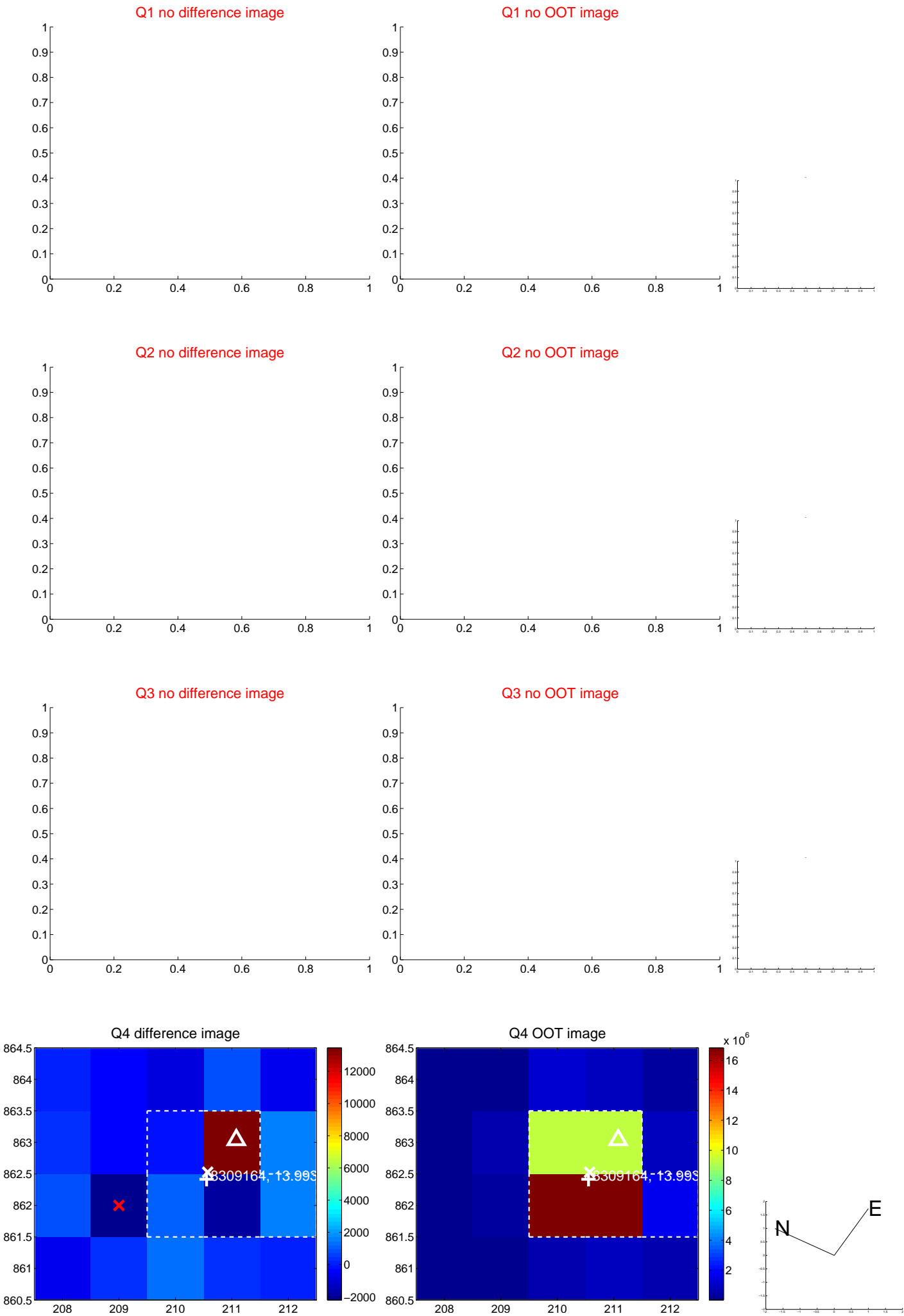
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.671 ± 3.793	0.97	1.101 ± 1.554	3.502 ± 3.946
PRF-fit source offset from KIC position	3.410 ± 3.949	0.86	0.634 ± 1.578	3.350 ± 4.008
photometric centroid source offset	1.56 ± 1.43	1.10	1.13 ± 1.37	-1.08 ± 1.48



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.

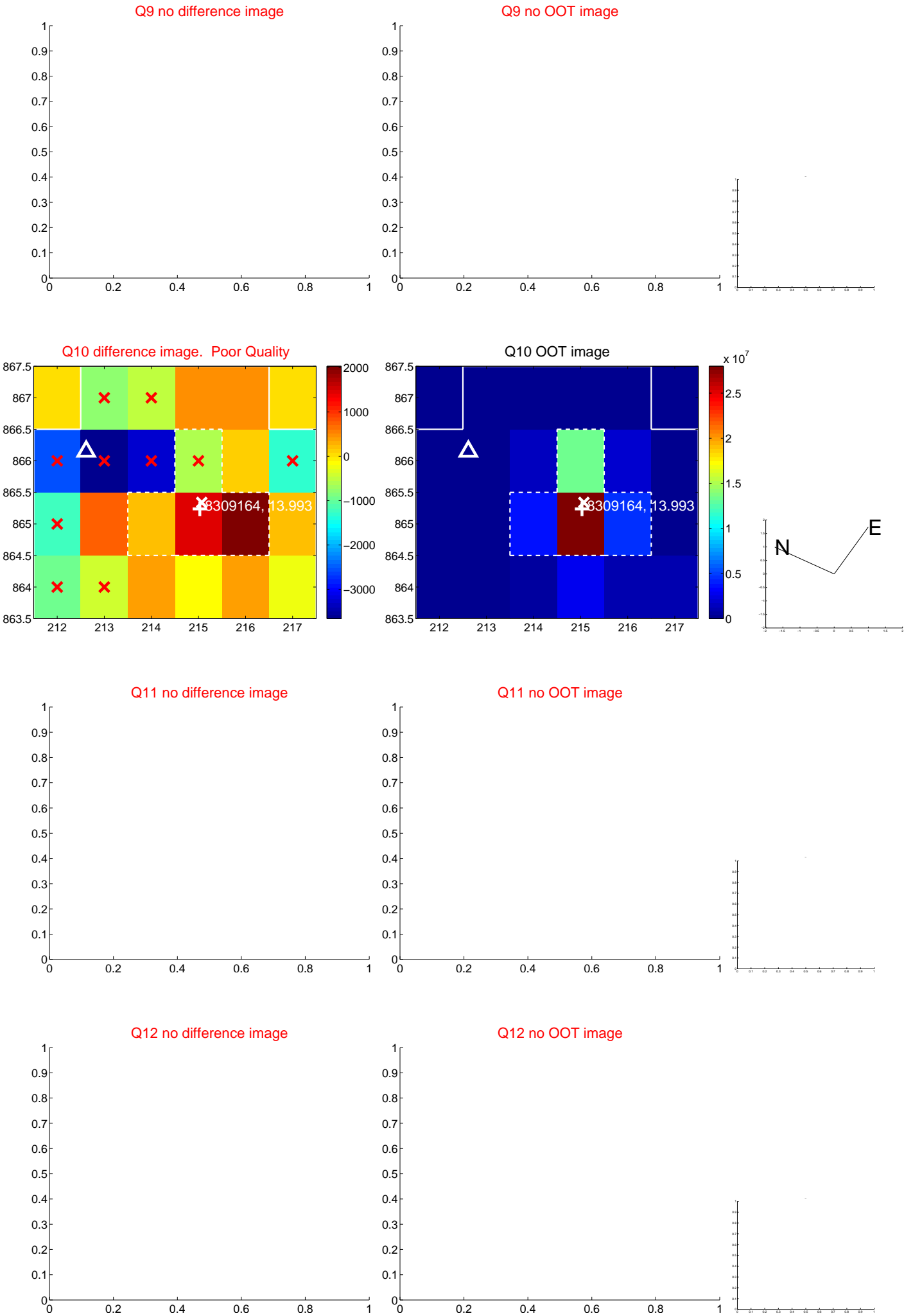
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



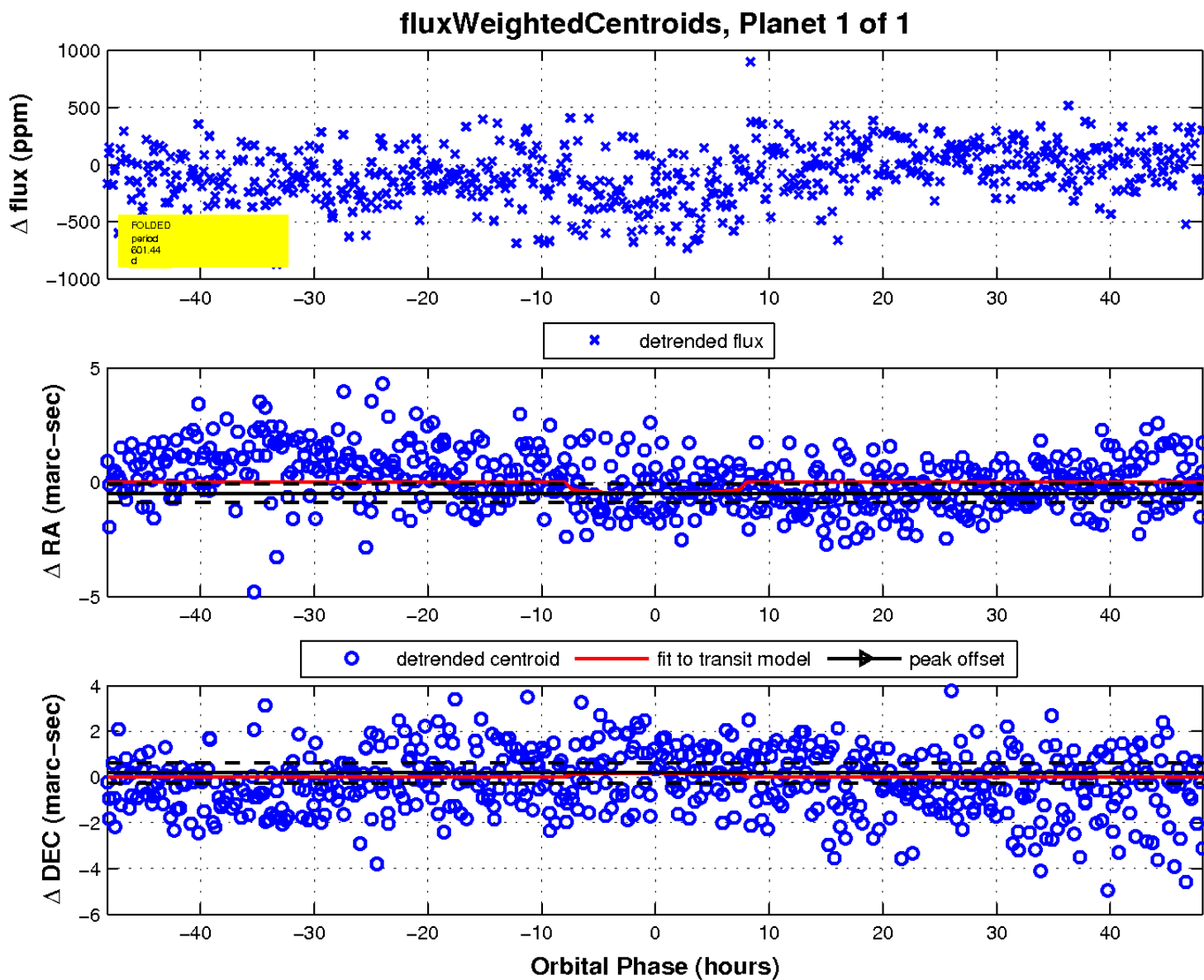
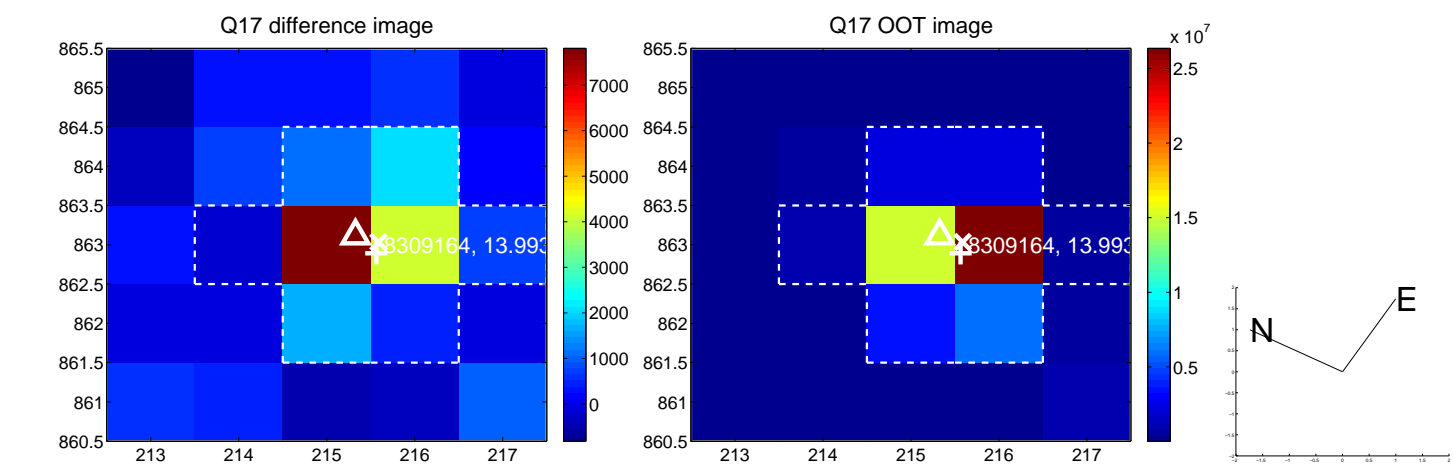
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



UKIRT Image

Declination

