

KIC 009569162

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})
009569162-01	OBS	No	663.853364	186.800717	445.0	8.902	8.0	7.2	4.93	4945	12.10	4.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009569162-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

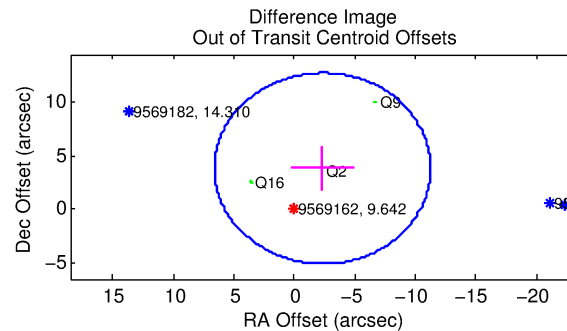
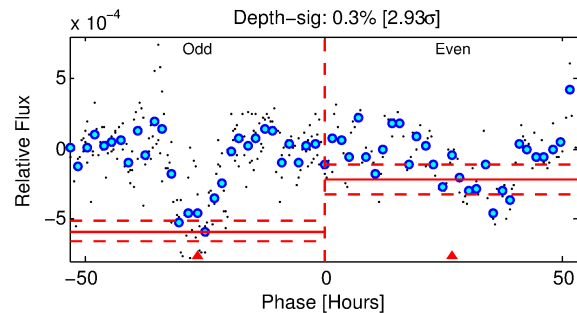
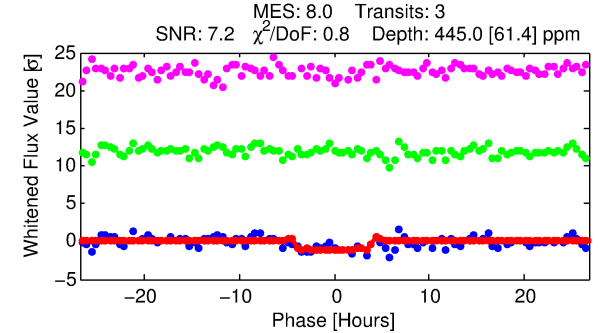
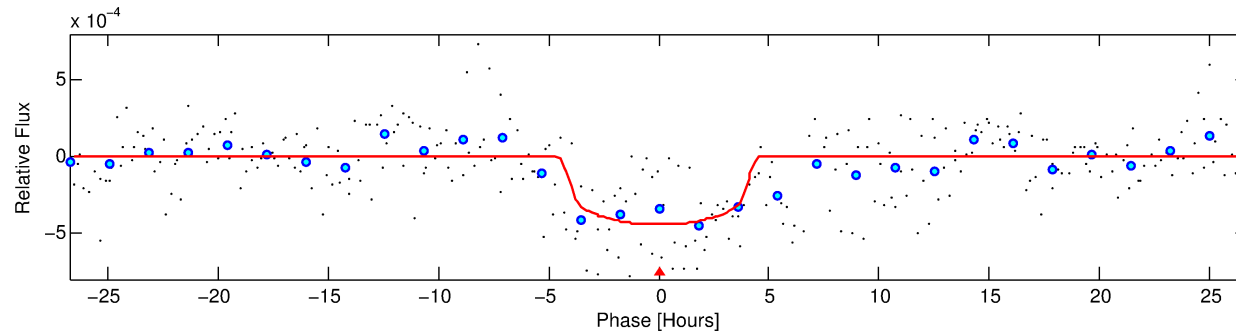
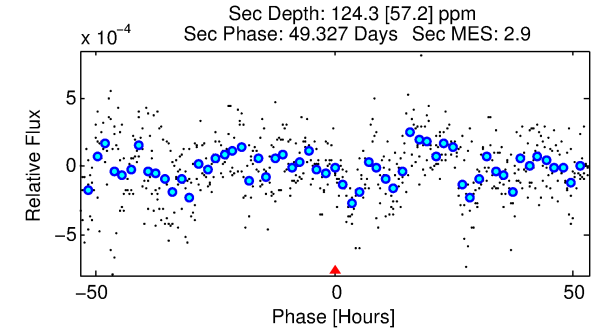
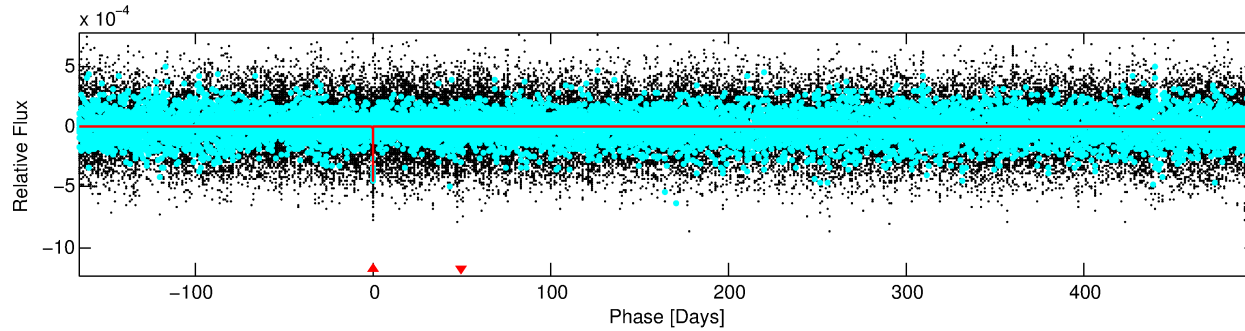
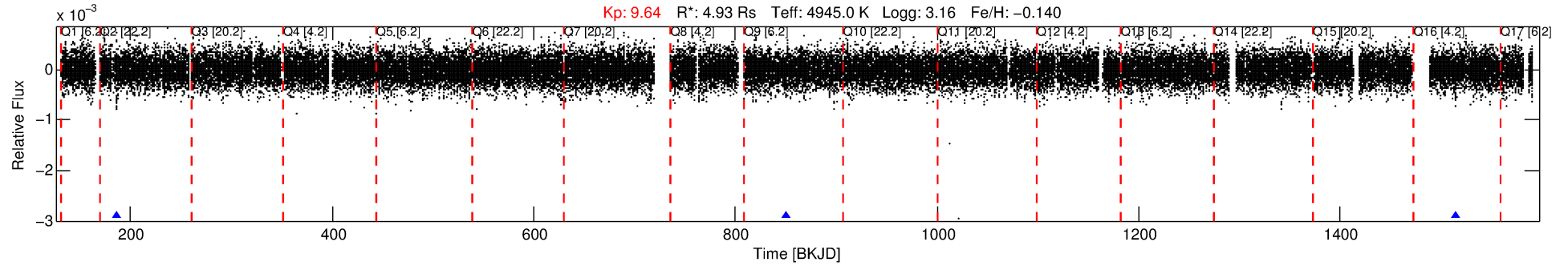
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009569162-01

No Significant Match Found

DV One-Page Summary

KIC: 9569162 Candidate: 1 of 1 Period: 663.853 d



DV Fit Results:

Period = 663.85336 [0.00735] d
Epoch = 186.8007 [0.0093] BKJD
Rp/R* = 0.0225 [0.0034]
a/R* = 319.67 [157.80]
b = 0.85 [0.16]
Seff = 4.97 [0.52]
Teq = 381 [10] K
Rp = 12.10 [2.32] Re
a = 1.6182 [0.1312] AU
Ag = 1223.25 [683.52] [1.79σ]
Teffp = 3482 [482] K [6.43σ]

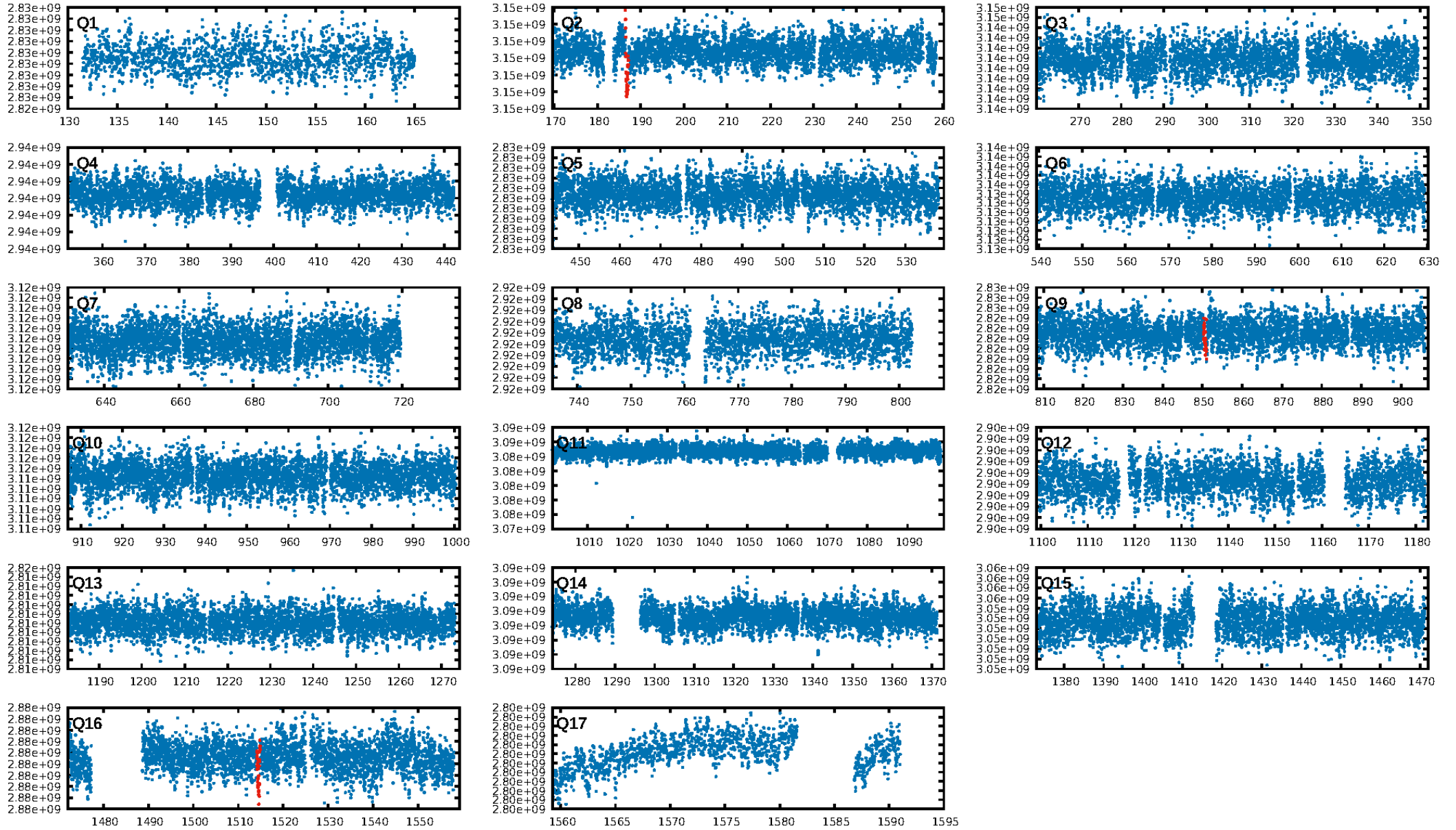
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.3%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 5.25e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 48.4%
Centroid-so: 0.616 arcsec [1.23σ]
OotOffset-rm: 4.483 arcsec [1.51σ]
KicOffset-rm: 5.524 arcsec [4.11σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

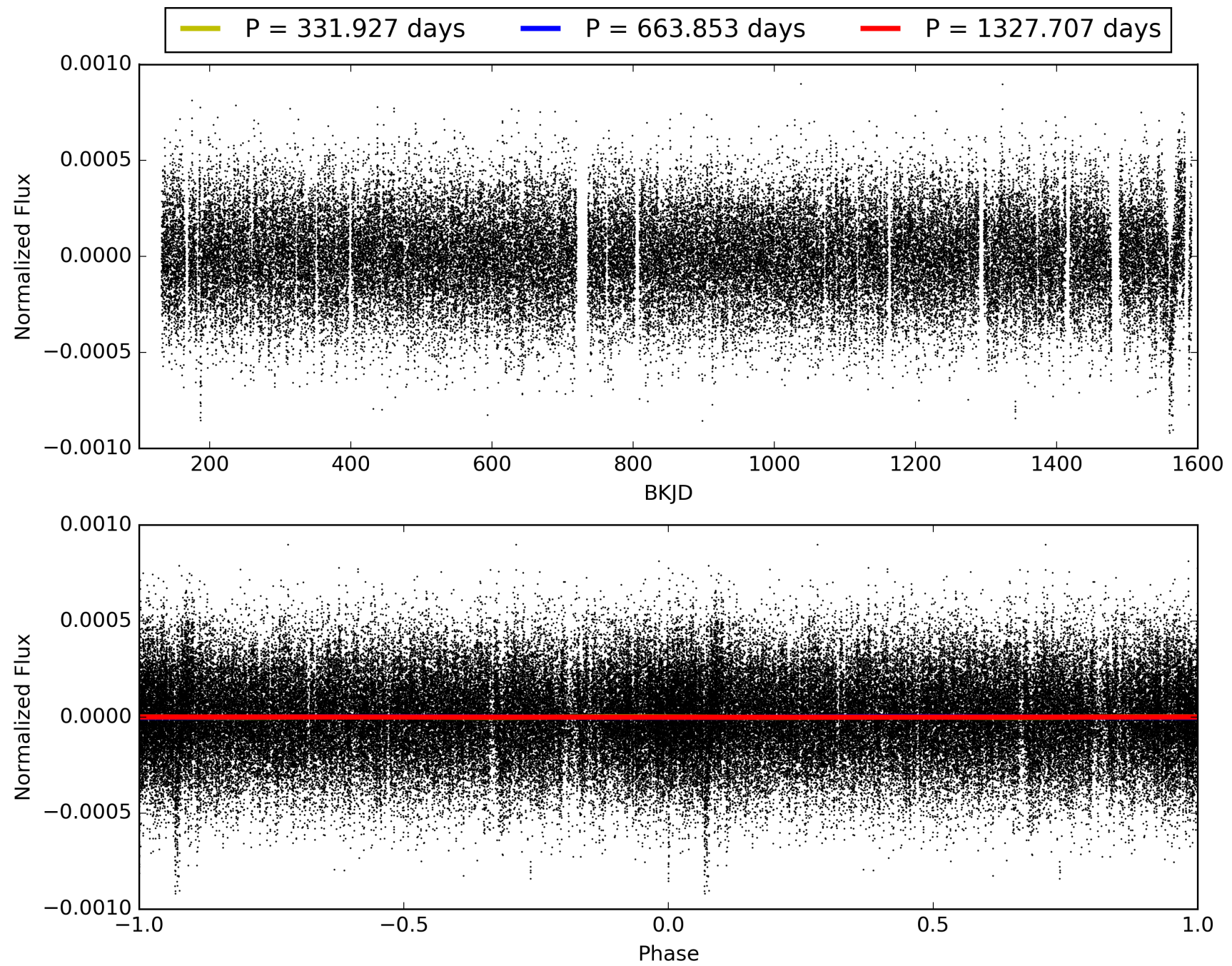
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:48:20 Z

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

TCE 009569162-01, PDC Light Curves

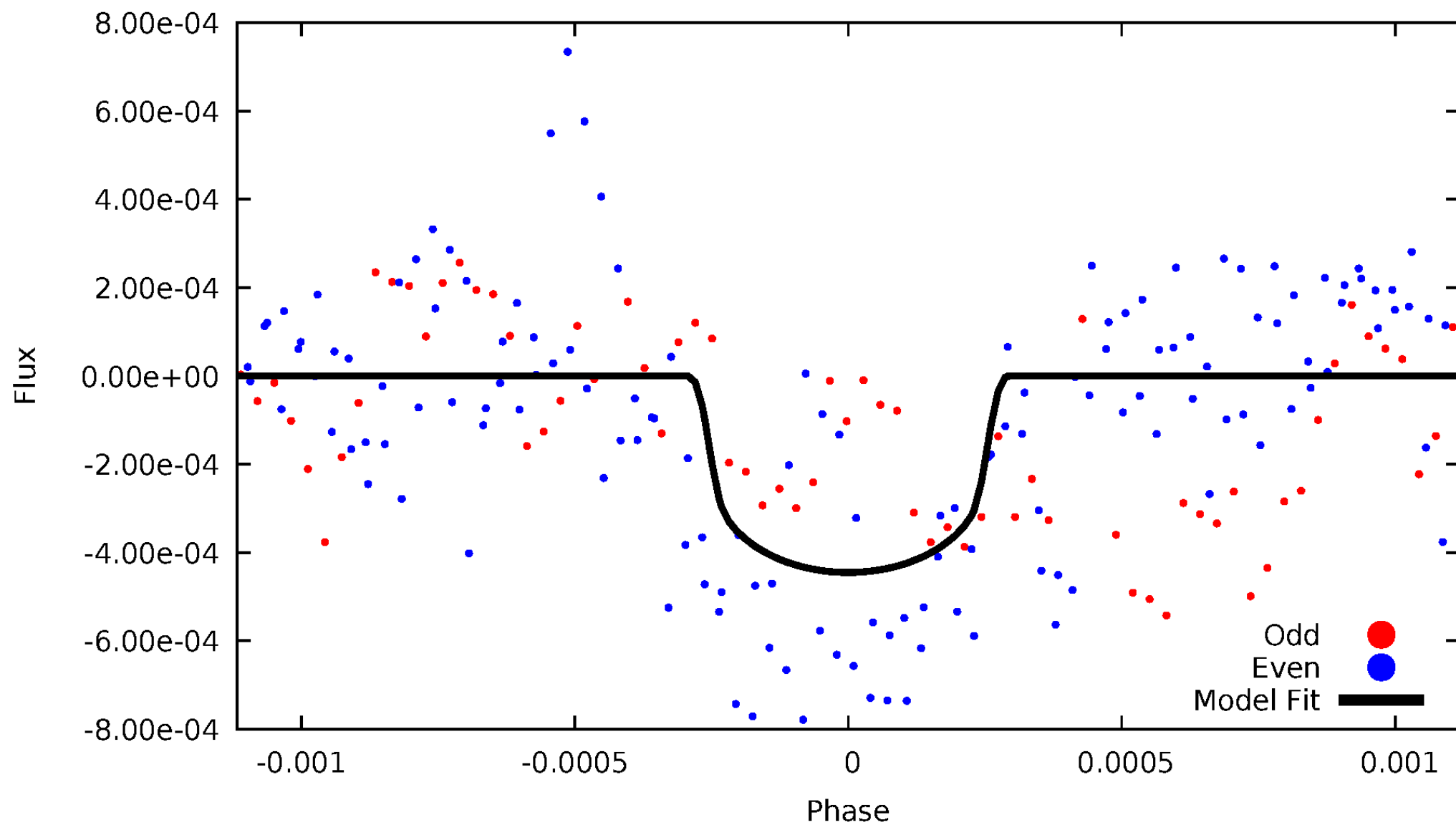


TCE 009569162-01



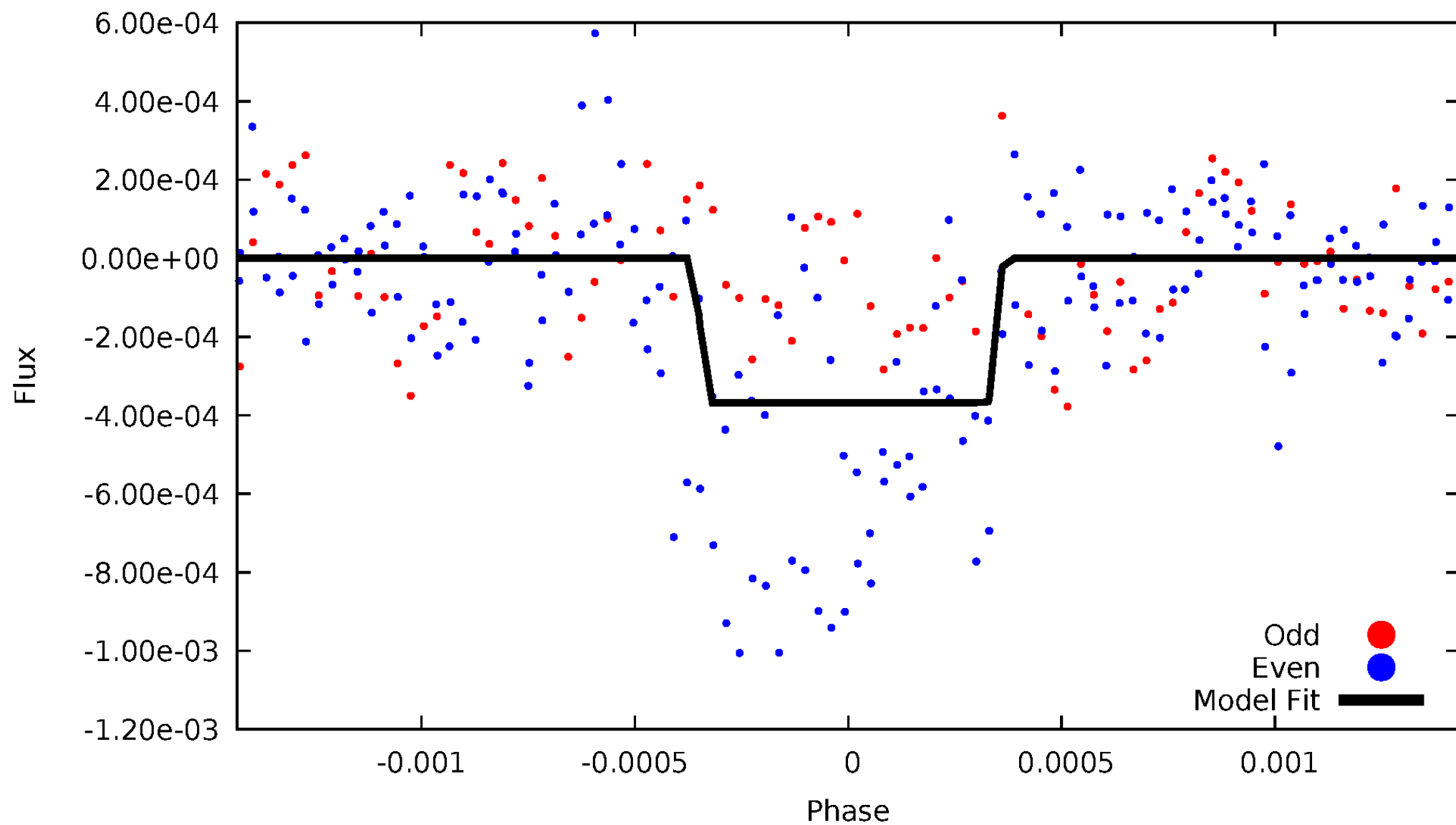
DV Odd/Even

TCE 009569162-01

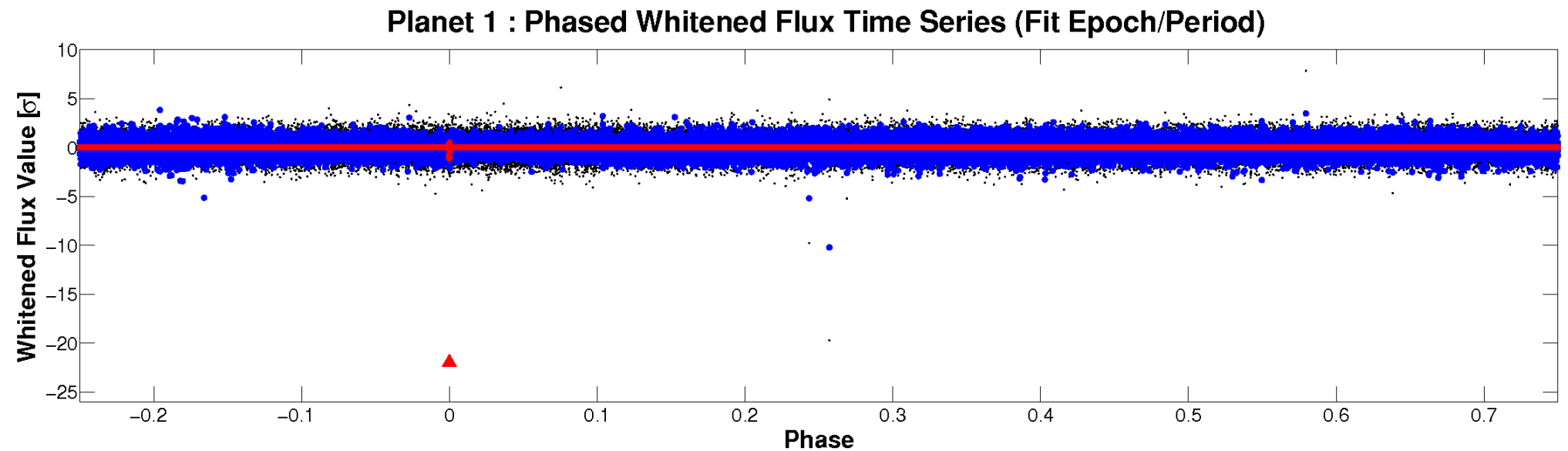
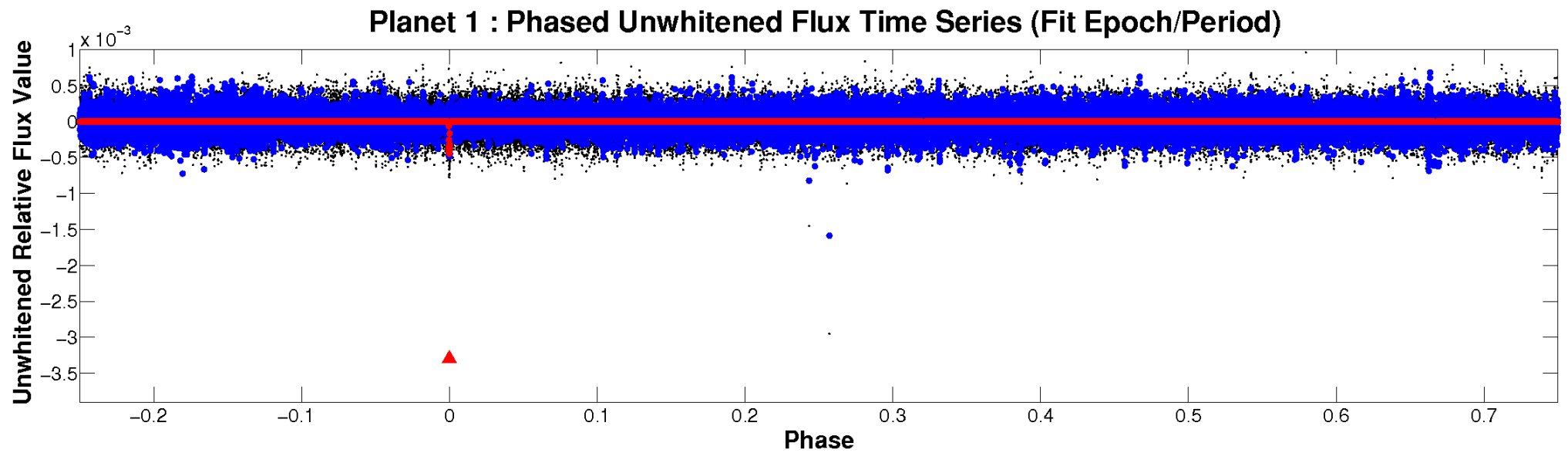


ALT Odd/Even

TCE 009569162-01

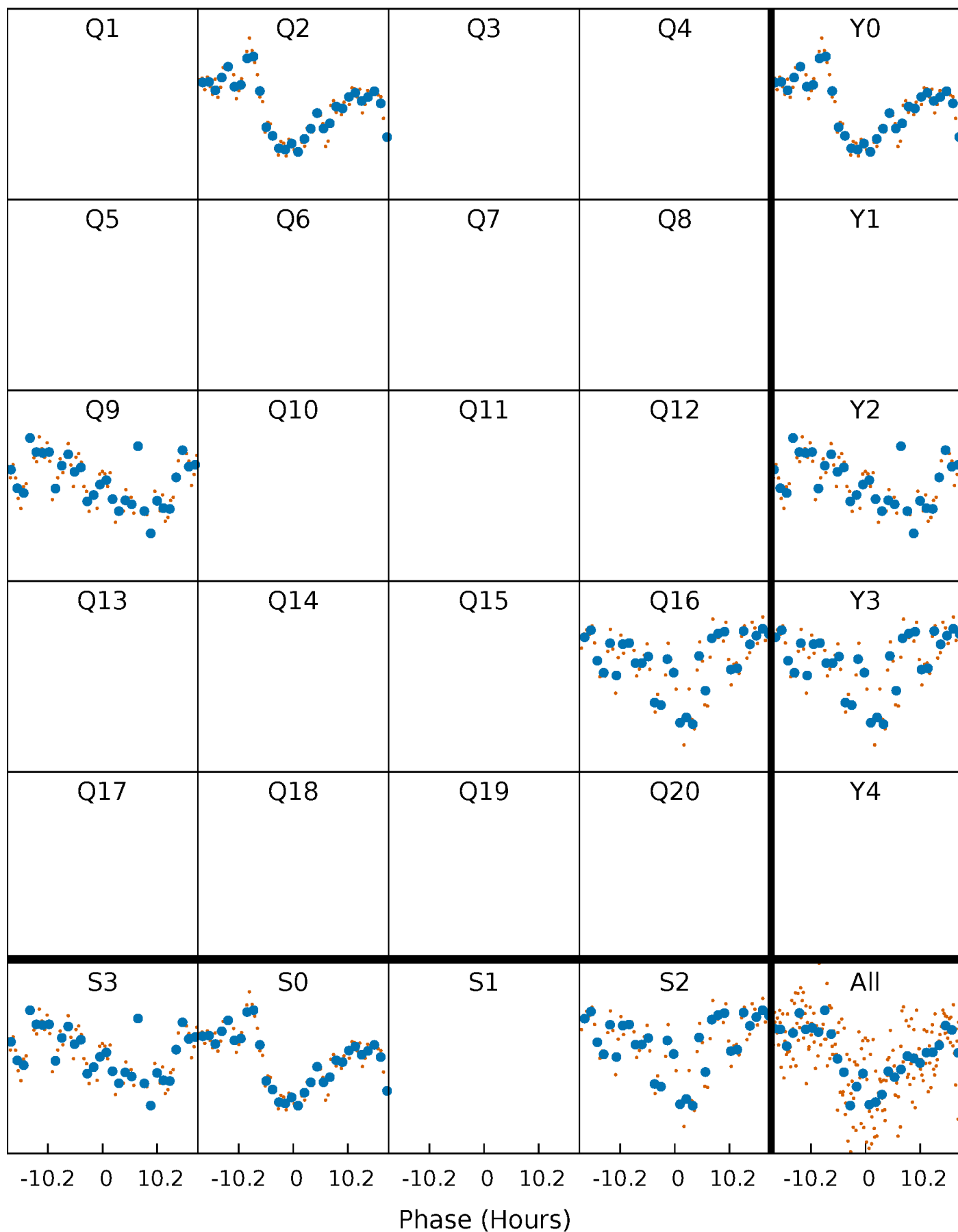


Non-Whitened Vs. Whitened Light Curve



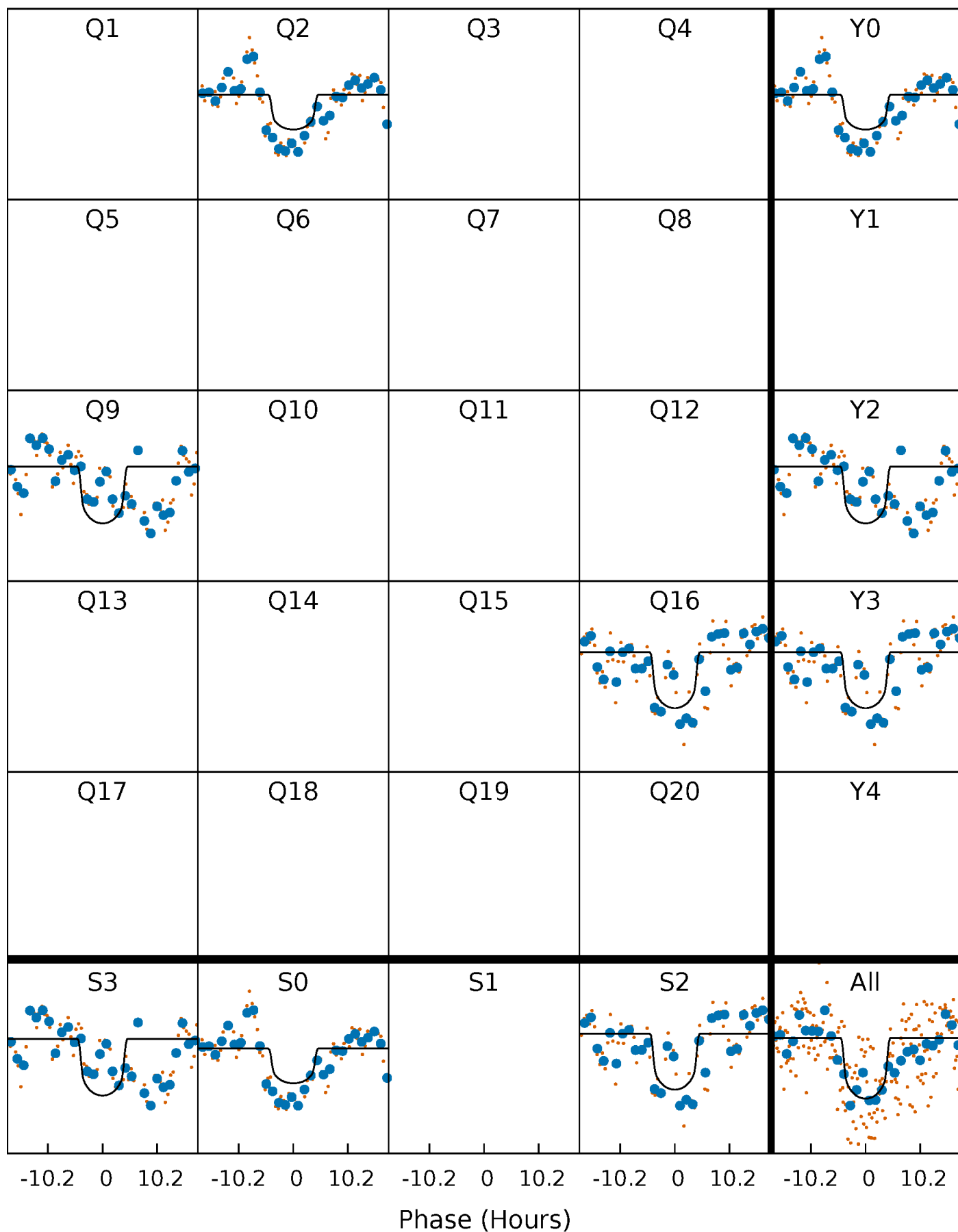
PDC Quarter-Phased Transit Curves

TCE 009569162-01 P=663.853364 Days $T_0=186.800717$ (BKJD)



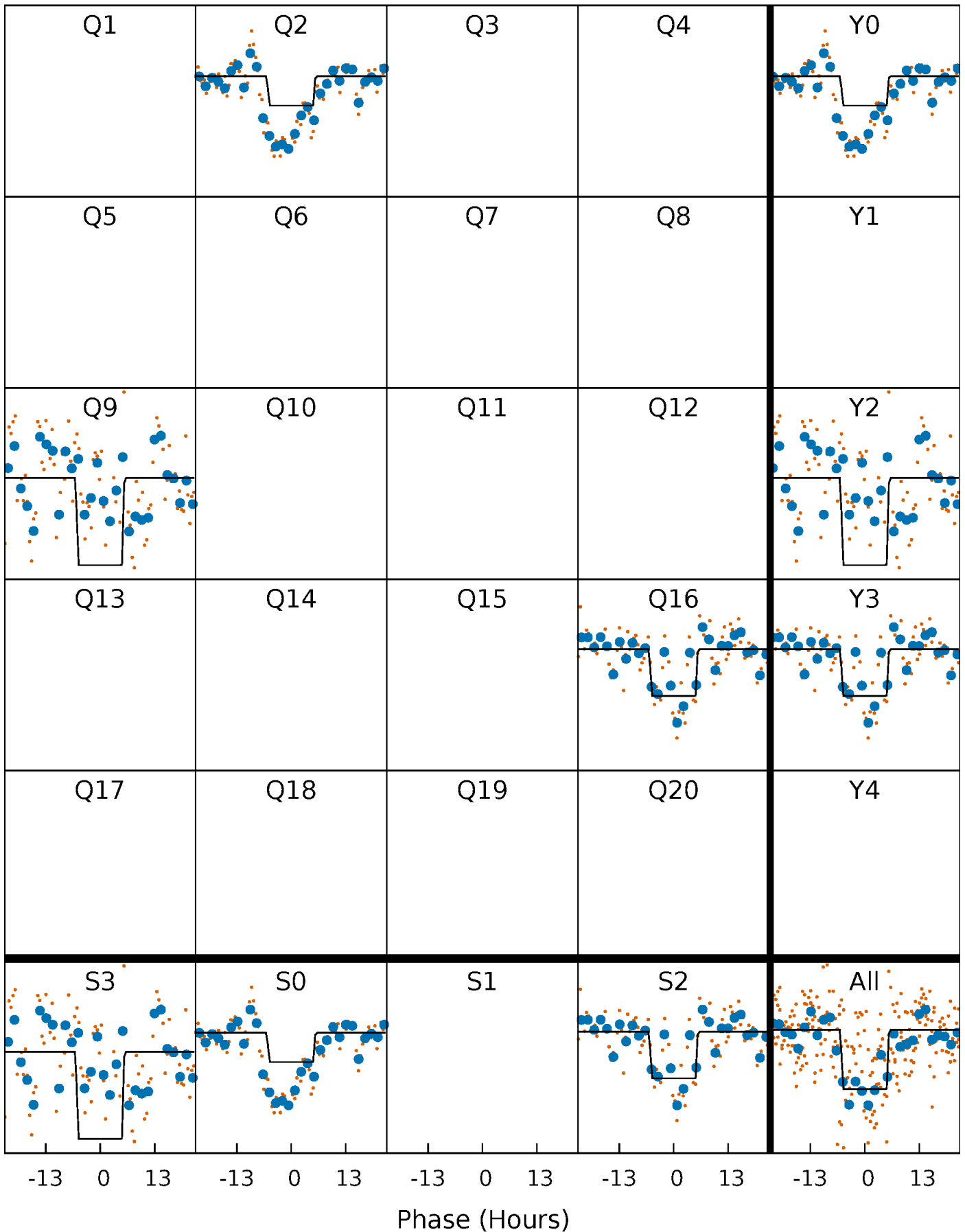
DV Quarter-Phased Transit Curves

TCE 009569162-01 P=663.853364 Days $T_0=186.800717$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

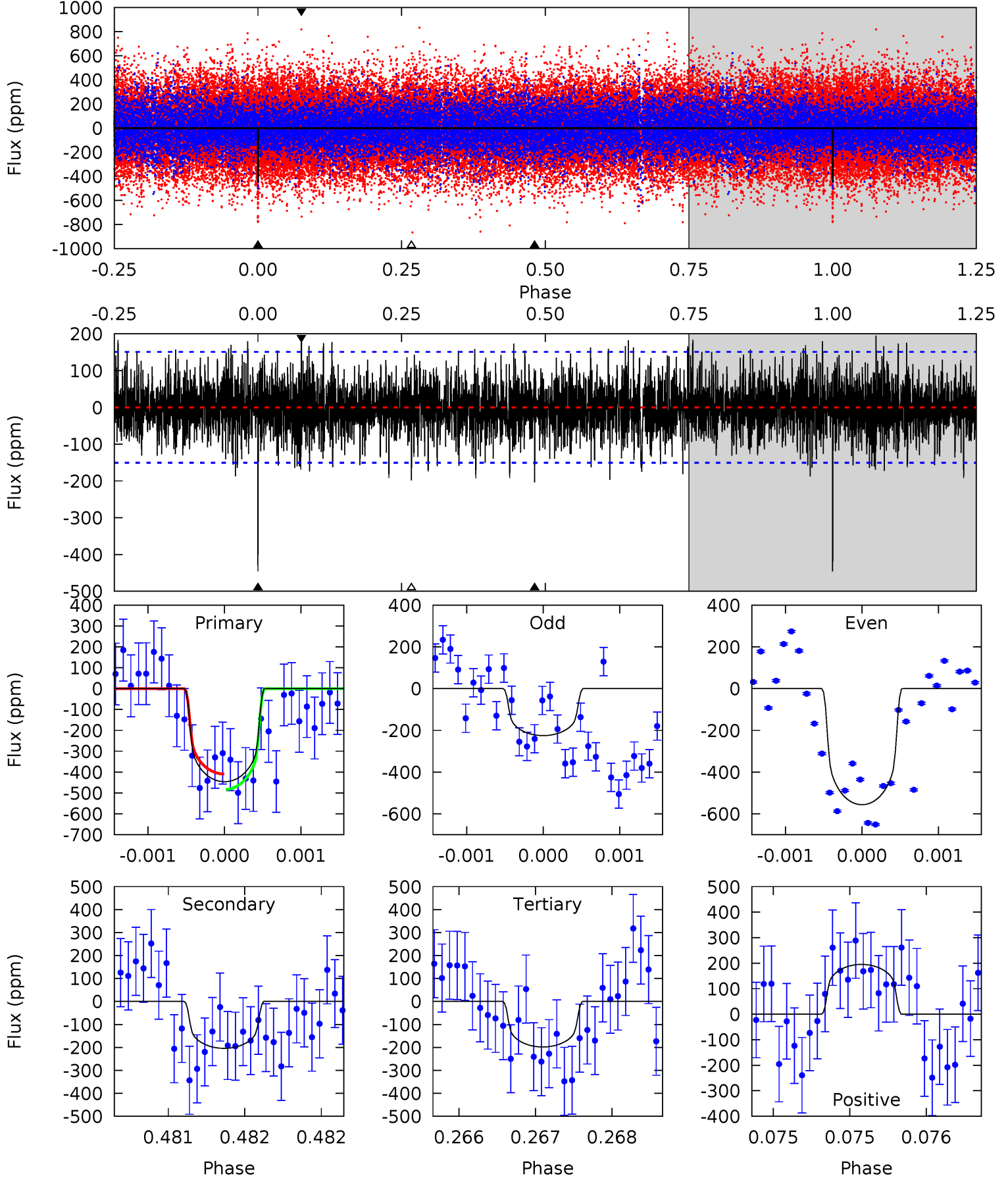
TCE 009569162-01 P=663.845497 Days $T_0=186.853728$ (BKJD)



DV Model-Shift Uniqueness Test

009569162-01, P = 663.853364 Days, E = 186.800717 Days

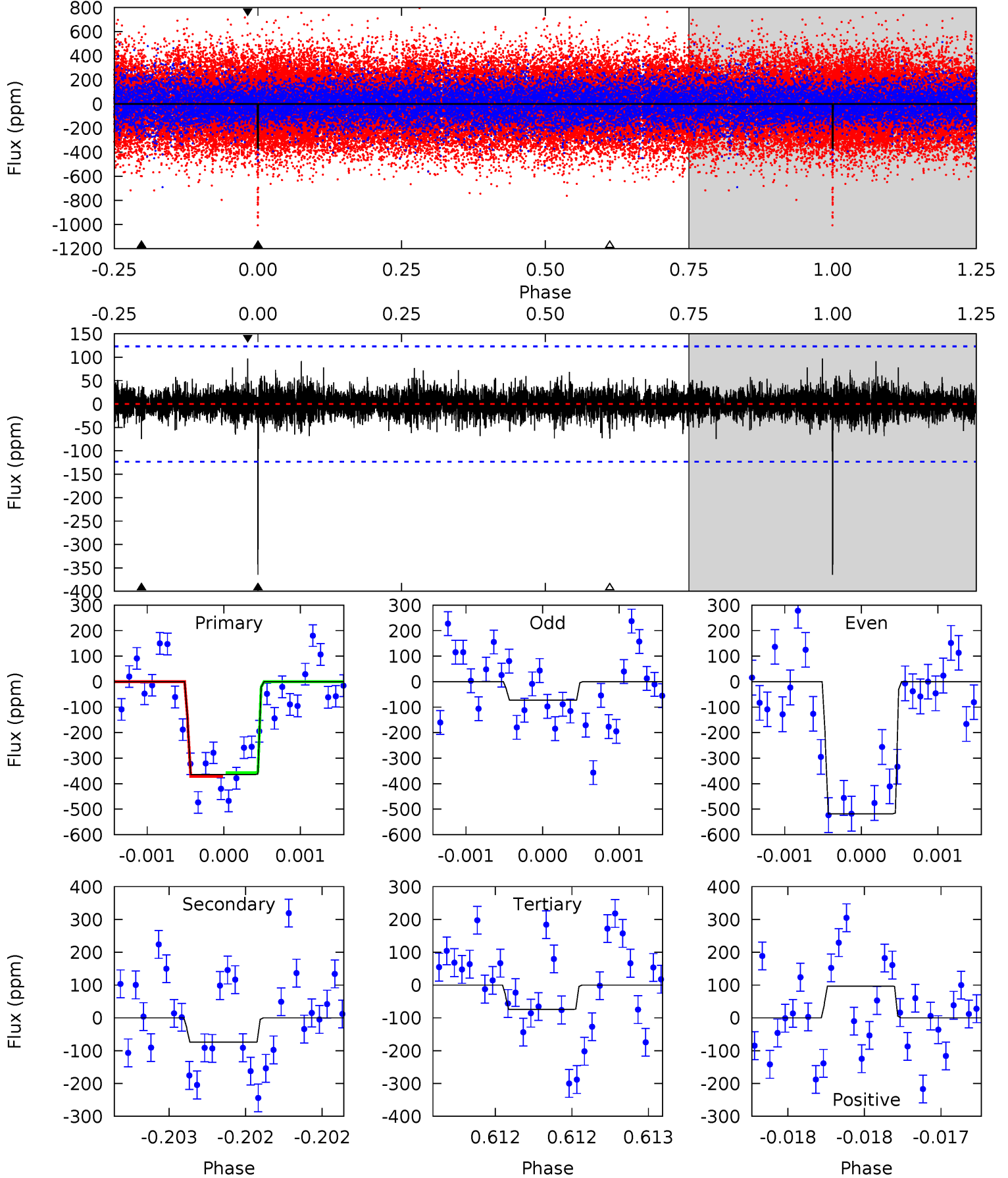
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	7.52	7.30	7.19	5.55	3.45	2.06	9.14	9.24	0.22	0.33	5.75	1.02	0.30	1.36



Alt Model-Shift Uniqueness Test

009569162-01, P = 663.845497 Days, E = 186.853728 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	3.32	3.31	4.32	5.50	3.37	0.86	13.0	12.0	0.01	-1.01	9.47	1.20	0.21	0.32



Stellar Parameters For KIC 009569162

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4945^{+59}_{-66}	$3.160^{+0.030}_{-0.030}$	$-0.140^{+0.150}_{-0.100}$	$4.931^{+0.383}_{-0.575}$	$1.282^{+0.175}_{-0.263}$	$0.015^{+0.002}_{-0.002}$
	+1%/-1%	+1%/-1%	+107%/-71%	+8%/-12%	+14%/-21%	+16%/-12%
Source	SPE74	AST9	SPE74	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009569162-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-204 ± 27	$12.14^{+2.06}_{-1.97}$	532^{+11}_{-10}	4135^{+281}_{-224}	1988^{+842}_{-528}
Alt.	-74 ± 22	$10.34^{+2.05}_{-1.97}$	533^{+11}_{-10}	3664^{+329}_{-277}	986^{+680}_{-389}

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

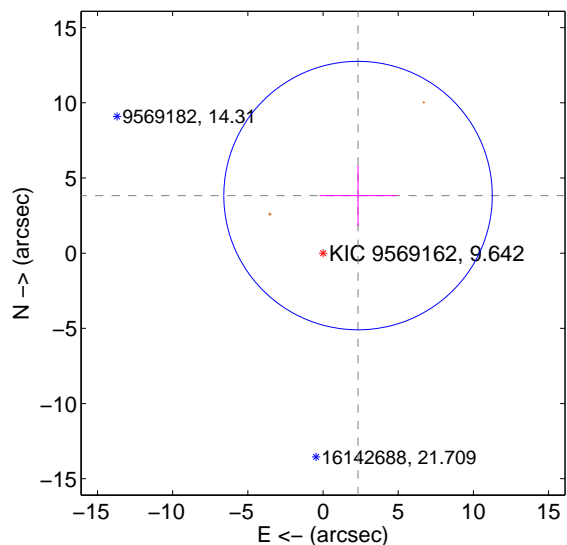
Supplemental centroid analysis for 009569162-01. **Kepler magnitude: 9.64.** Transit SNR 7.15

There are 0 quarters with good PRF difference image offsets

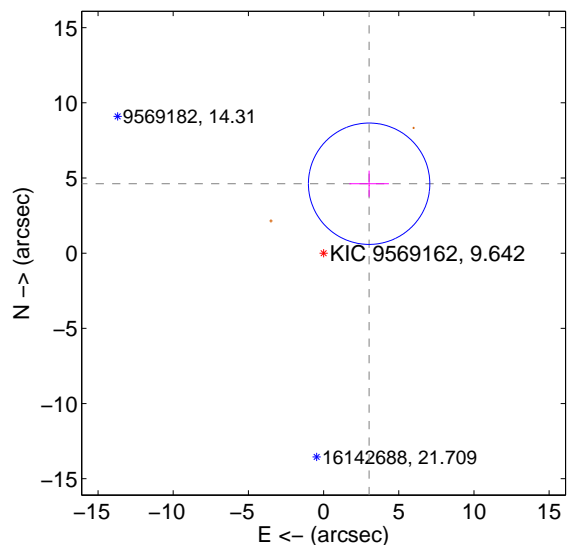
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.483 ± 2.976	1.51	-2.328 ± 2.569	3.831 ± 2.027
PRF-fit source offset from KIC position	5.524 ± 1.346	4.11	-3.028 ± 1.315	4.620 ± 0.870
photometric centroid source offset	0.62 ± 0.50	1.23	0.37 ± 0.50	-0.49 ± 0.50

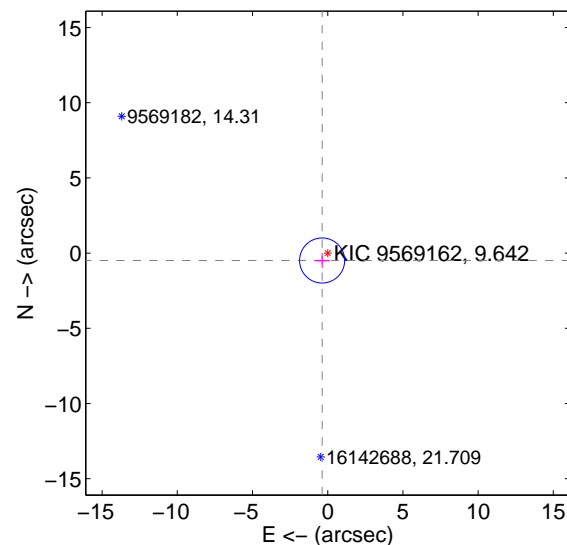
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

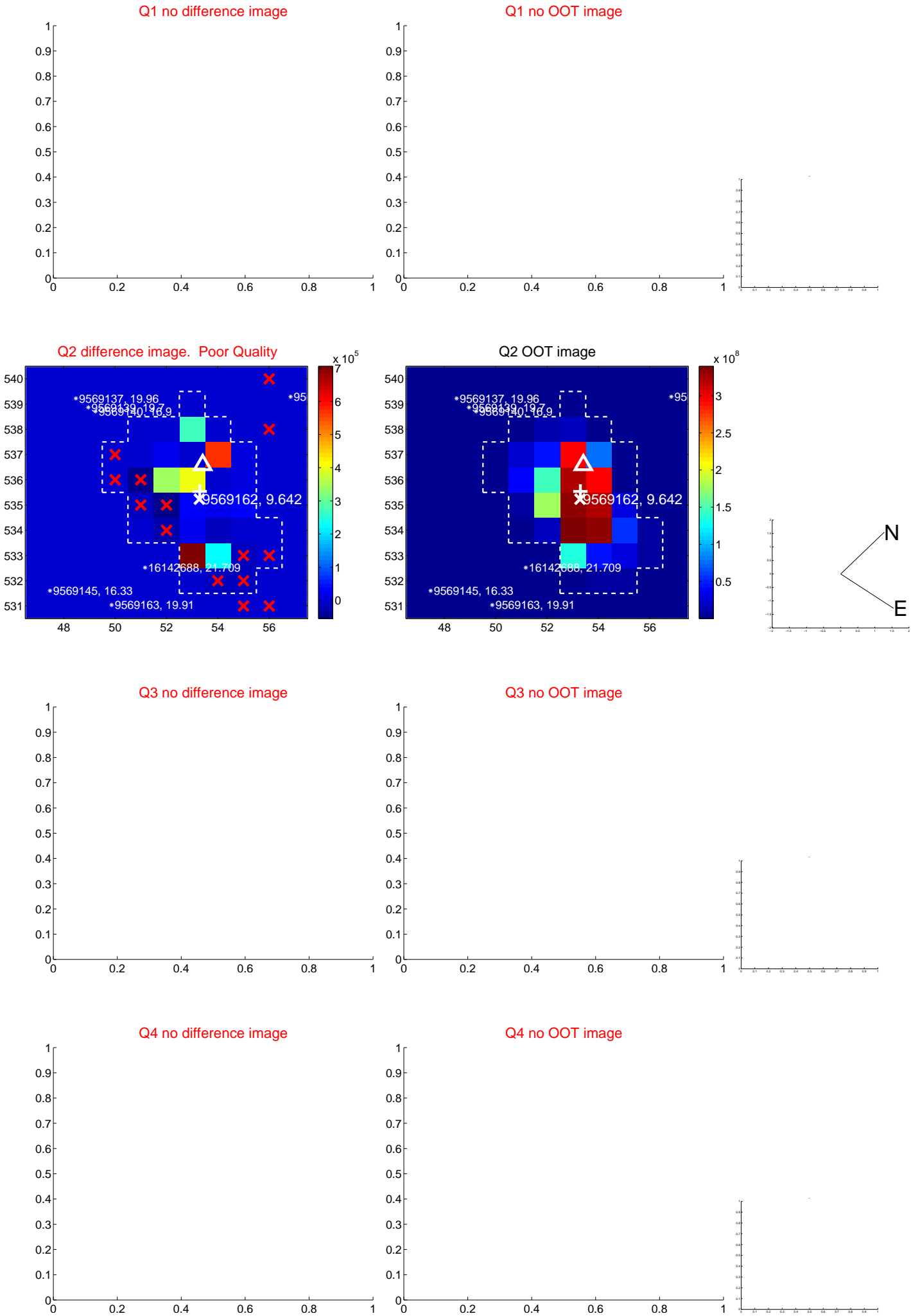


offset from photometric centroids



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.

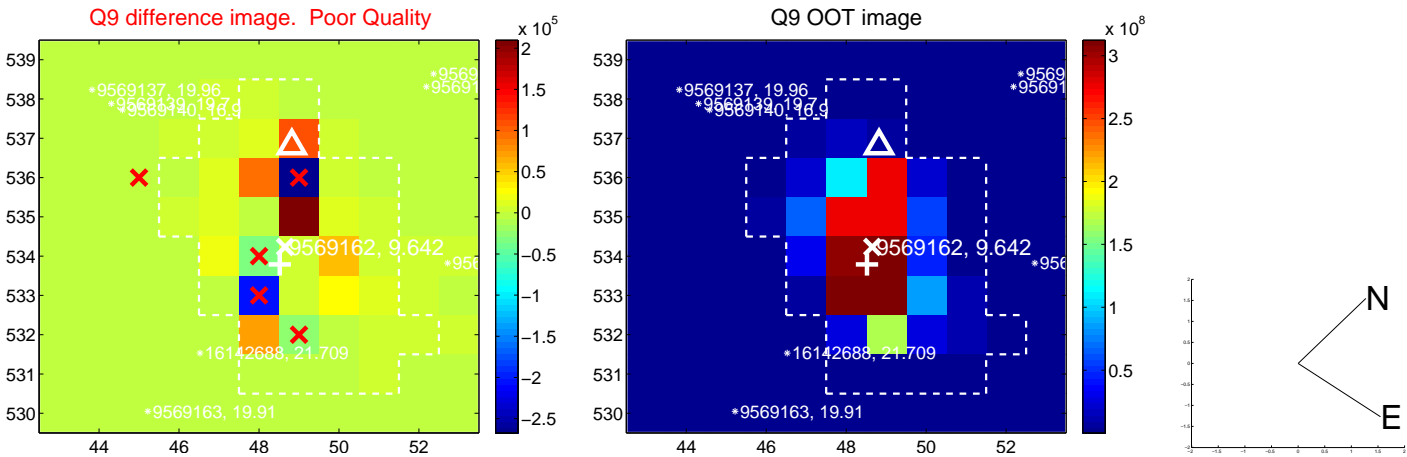
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



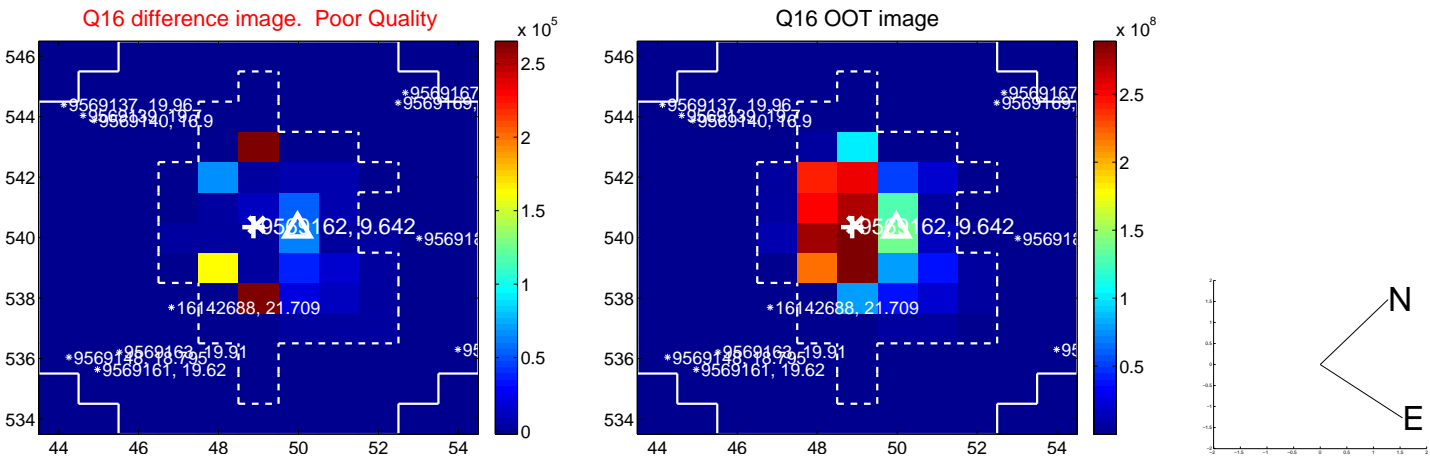
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



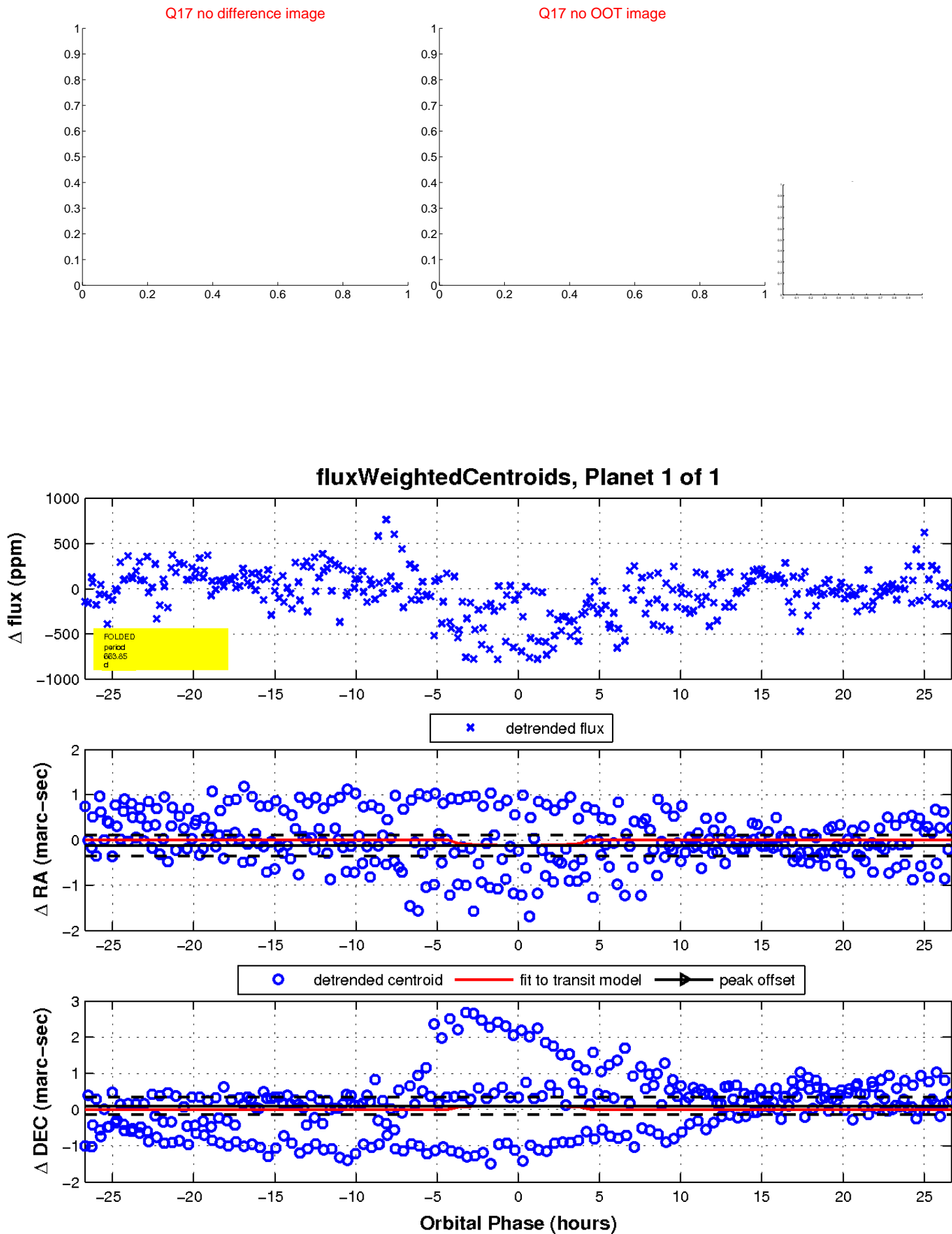
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

