

KIC 002018642

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})
002018642-01	OBS	No	114.624571	215.588163	1050.9	2.051	9.8	5.7	18.48	4732	68.32	310.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002018642-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

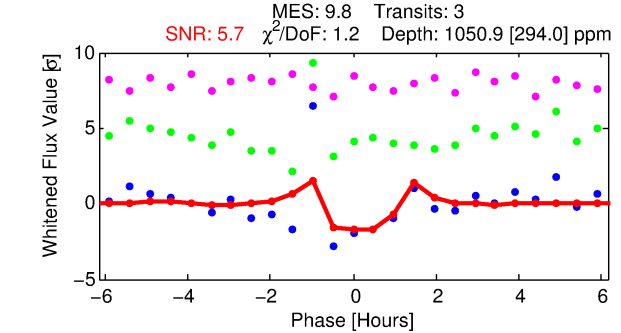
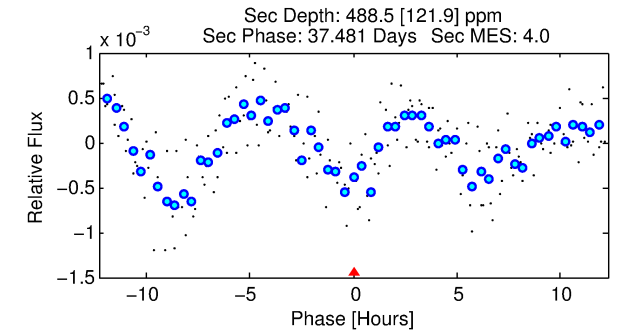
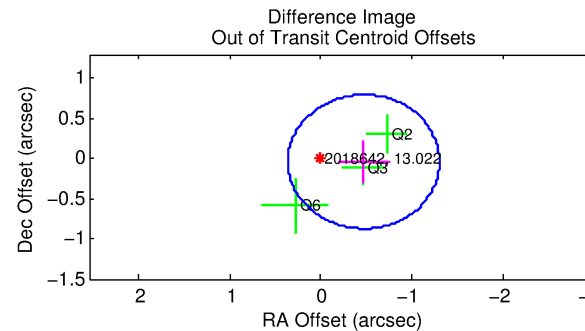
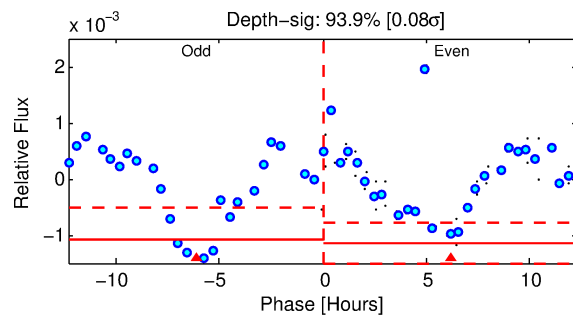
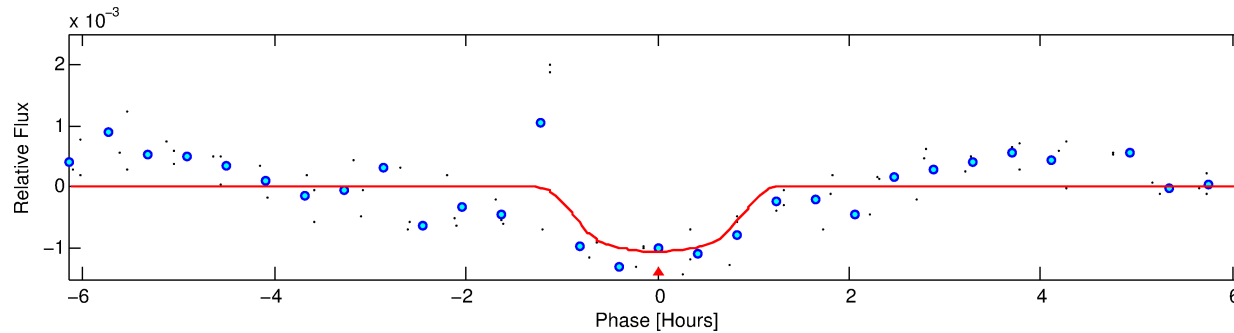
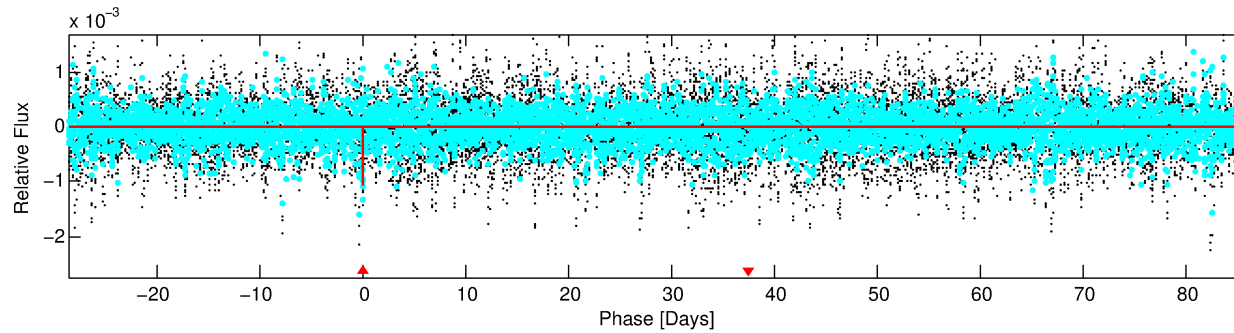
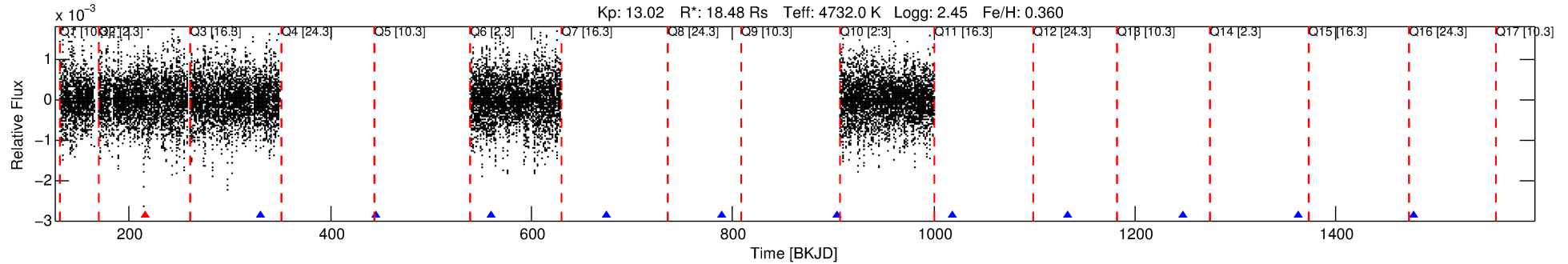
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018642-01

No Significant Match Found

DV One-Page Summary

KIC: 2018642 Candidate: 1 of 1 Period: 114.625 d



DV Fit Results:

Period = 114.62457 [0.00306] d
Epoch = 215.5882 [0.0053] BKJD
Rp/R* = 0.0339 [0.0499]
a/R* = 271.58 [1263.11]
b = 0.81 [1.97]
Seff = 310.38 [91.38]
Teq = 1070 [79] K
Rp = 68.32 [103.82] Re
a = 0.7032 [0.1742] AU
Ag = 28.47 [84.55] [0.32 σ]
Teffp = 3823 [2831] K [0.97 σ]

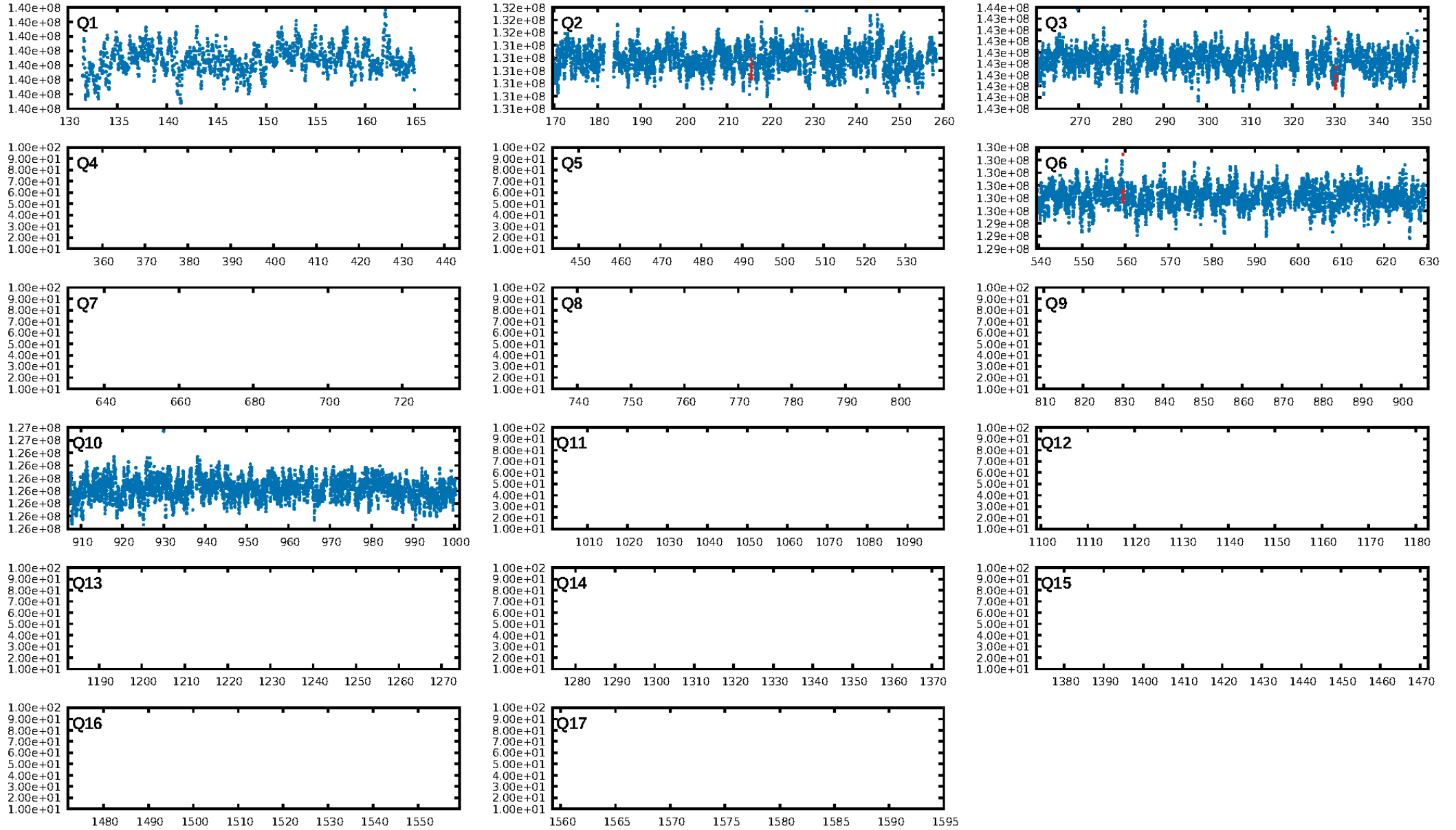
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 23.9%
ModelChiSquareGof-sig: 85.4%
Bootstrap-pfa: 5.11e-18
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 1.573
Centroid-sig: 77.3%
Centroid-so: 0.106 arcsec [0.14 σ]
OotOffset-rm: 0.473 arcsec [1.70 σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-rm: 0.515 arcsec [1.60 σ]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

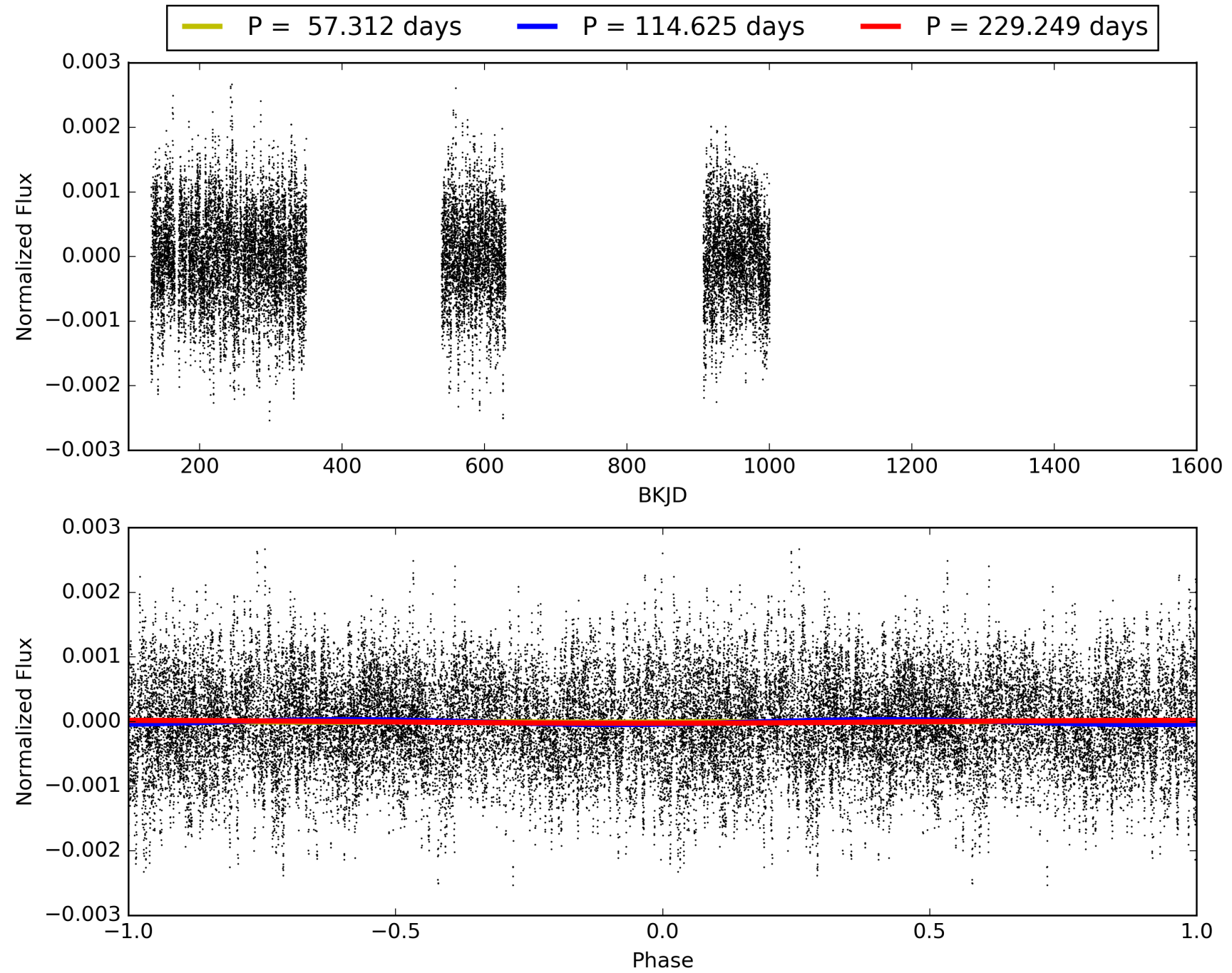
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:11:57 Z

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

TCE 002018642-01, PDC Light Curves

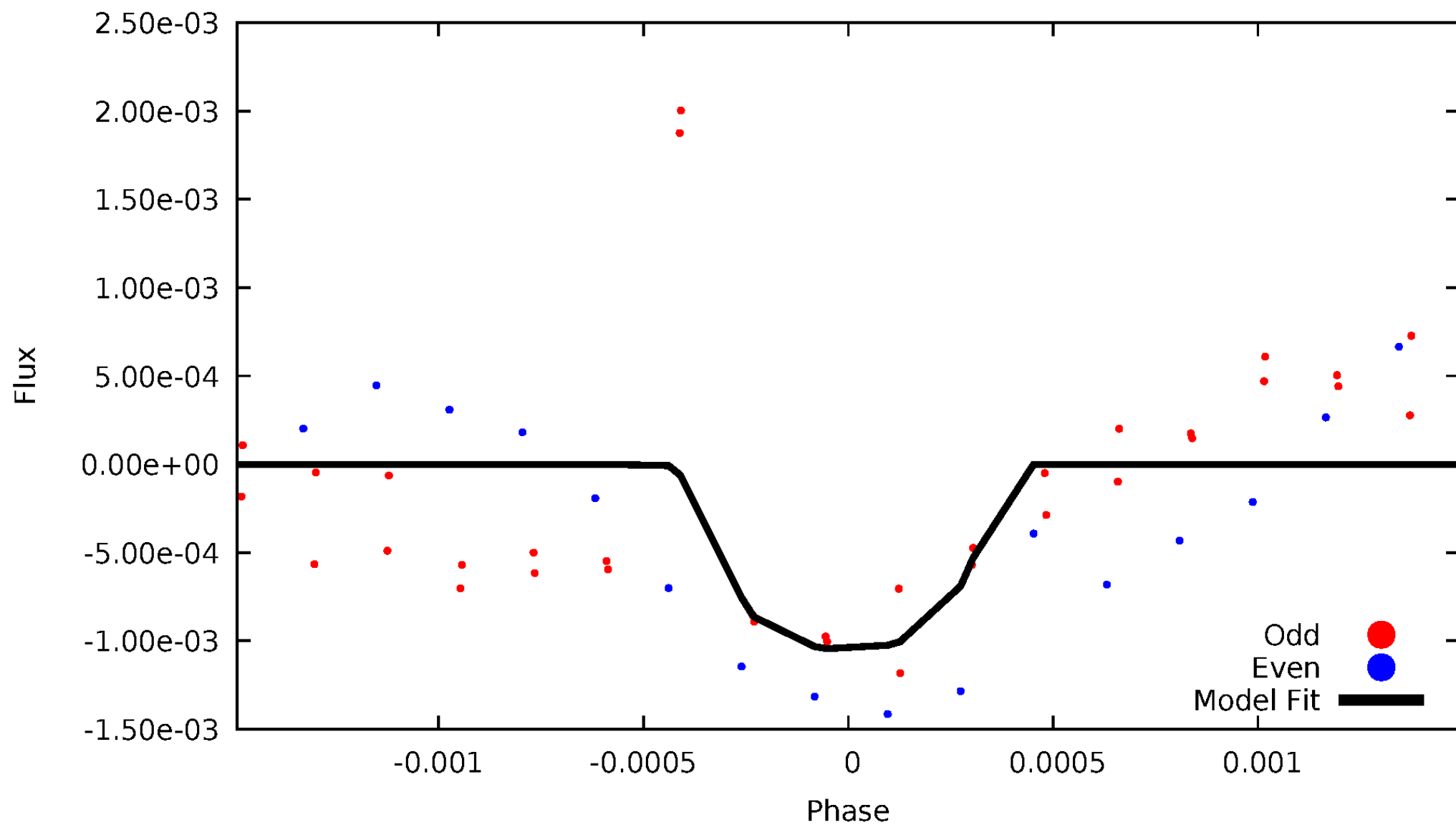


TCE 002018642-01



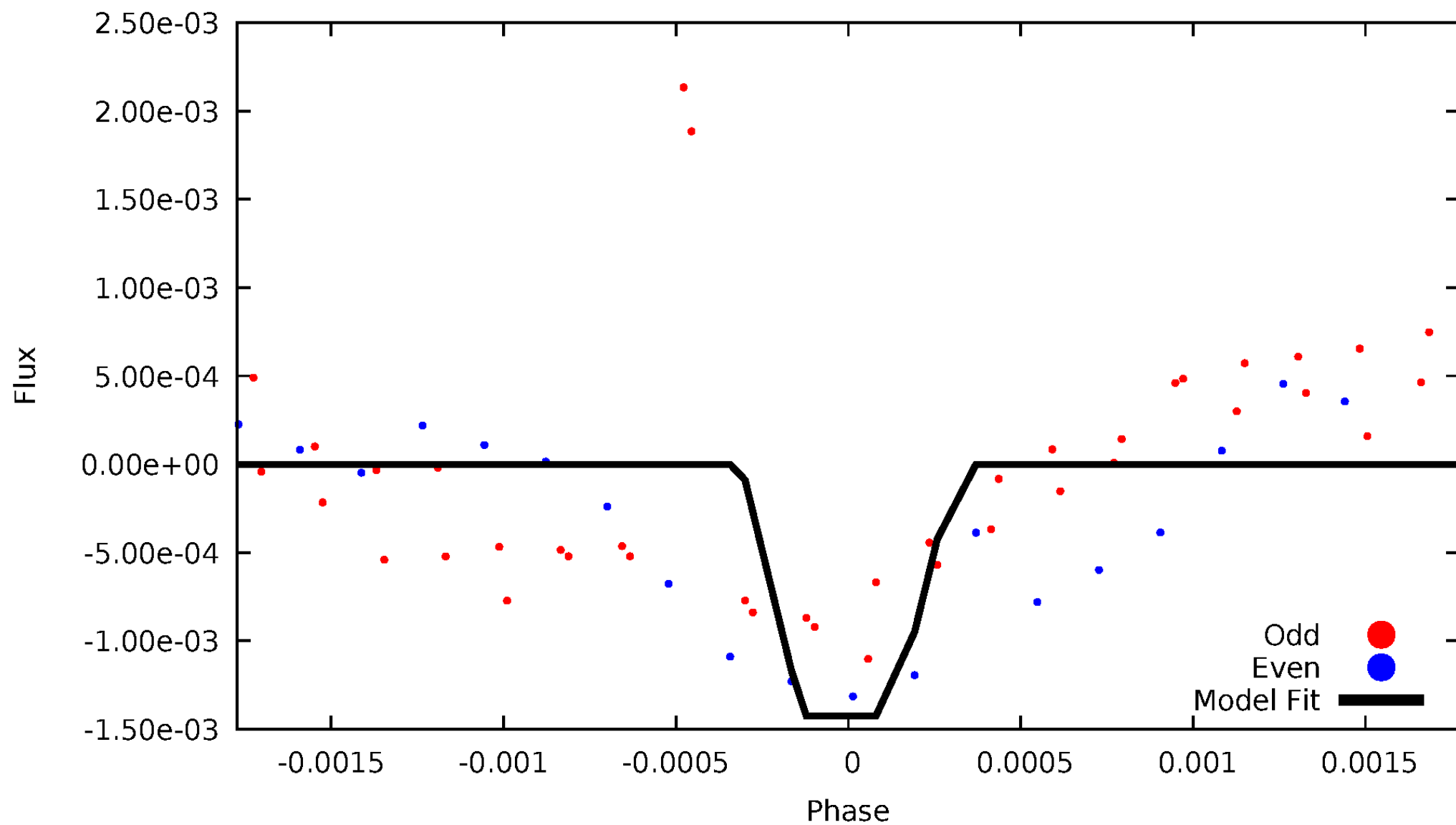
DV Odd/Even

TCE 002018642-01

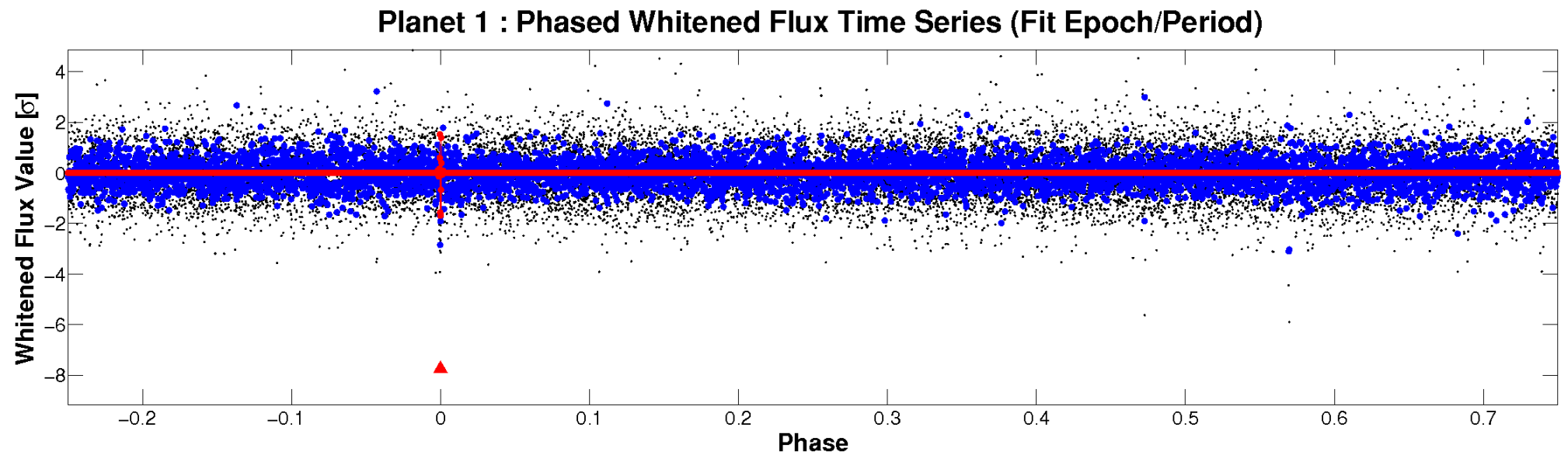
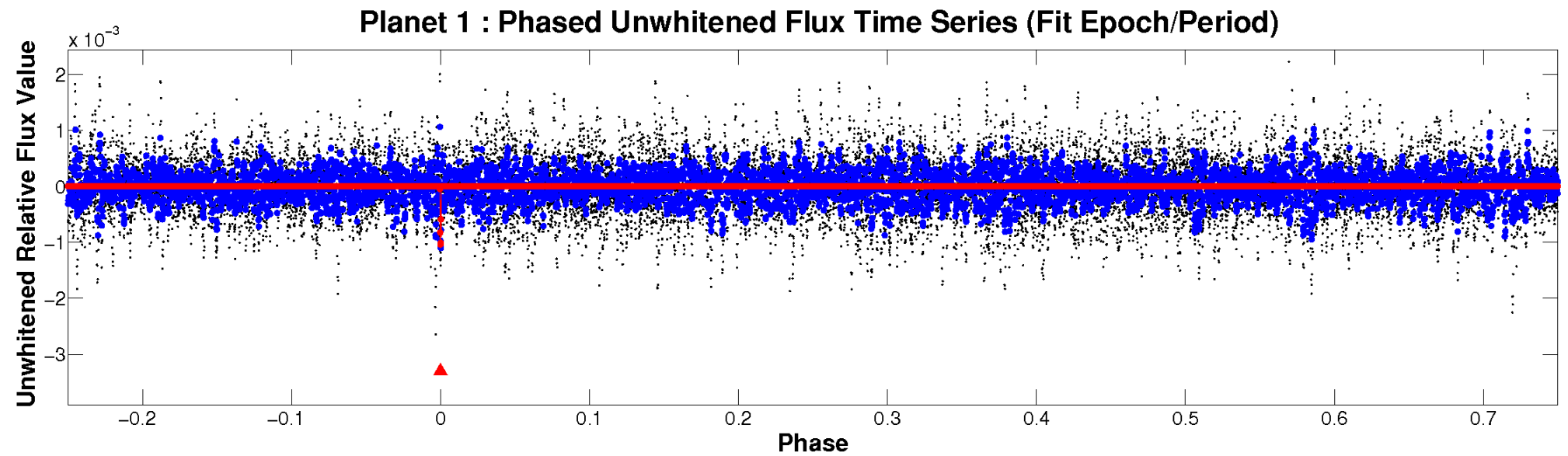


ALT Odd/Even

TCE 002018642-01

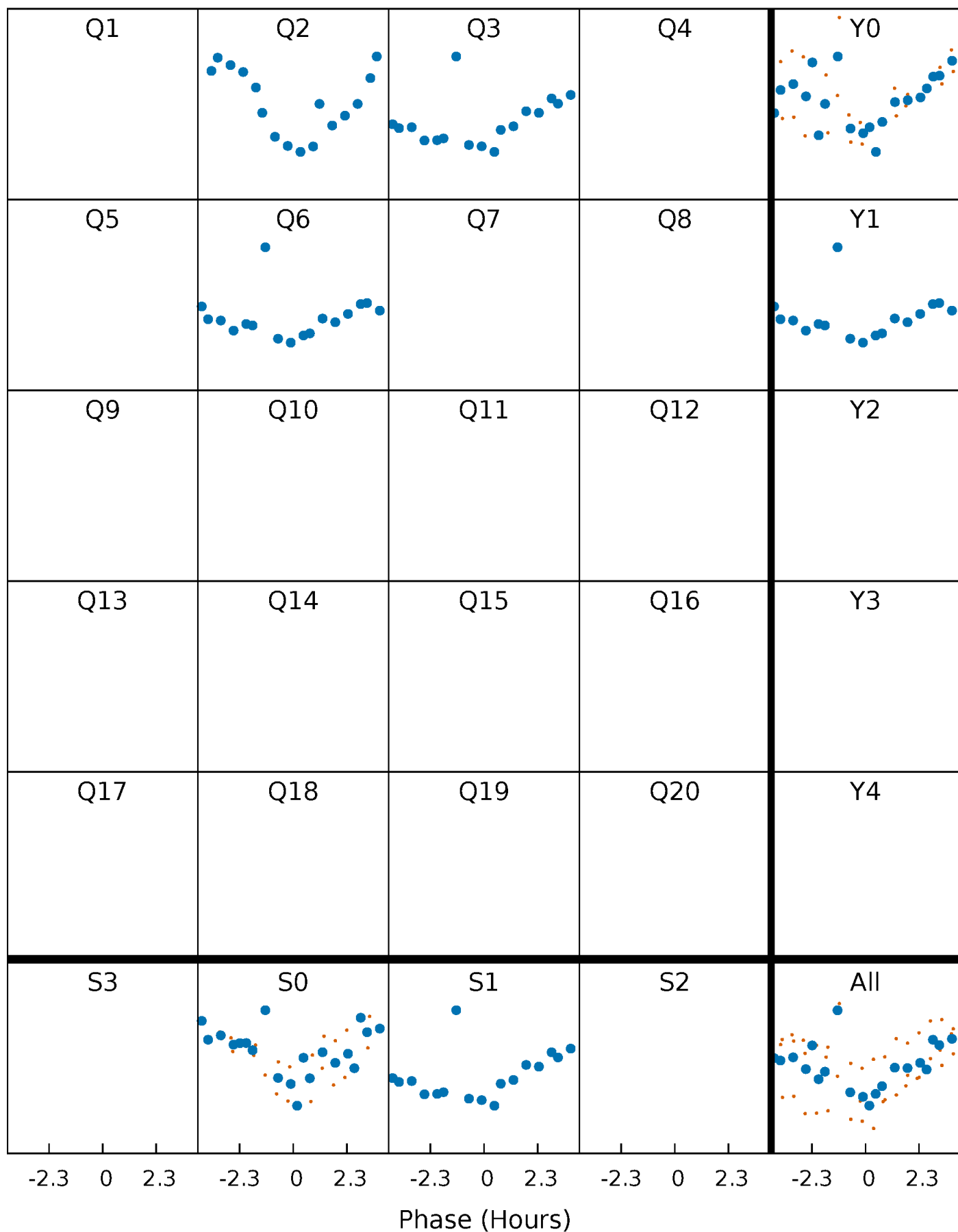


Non-Whitened Vs. Whitened Light Curve



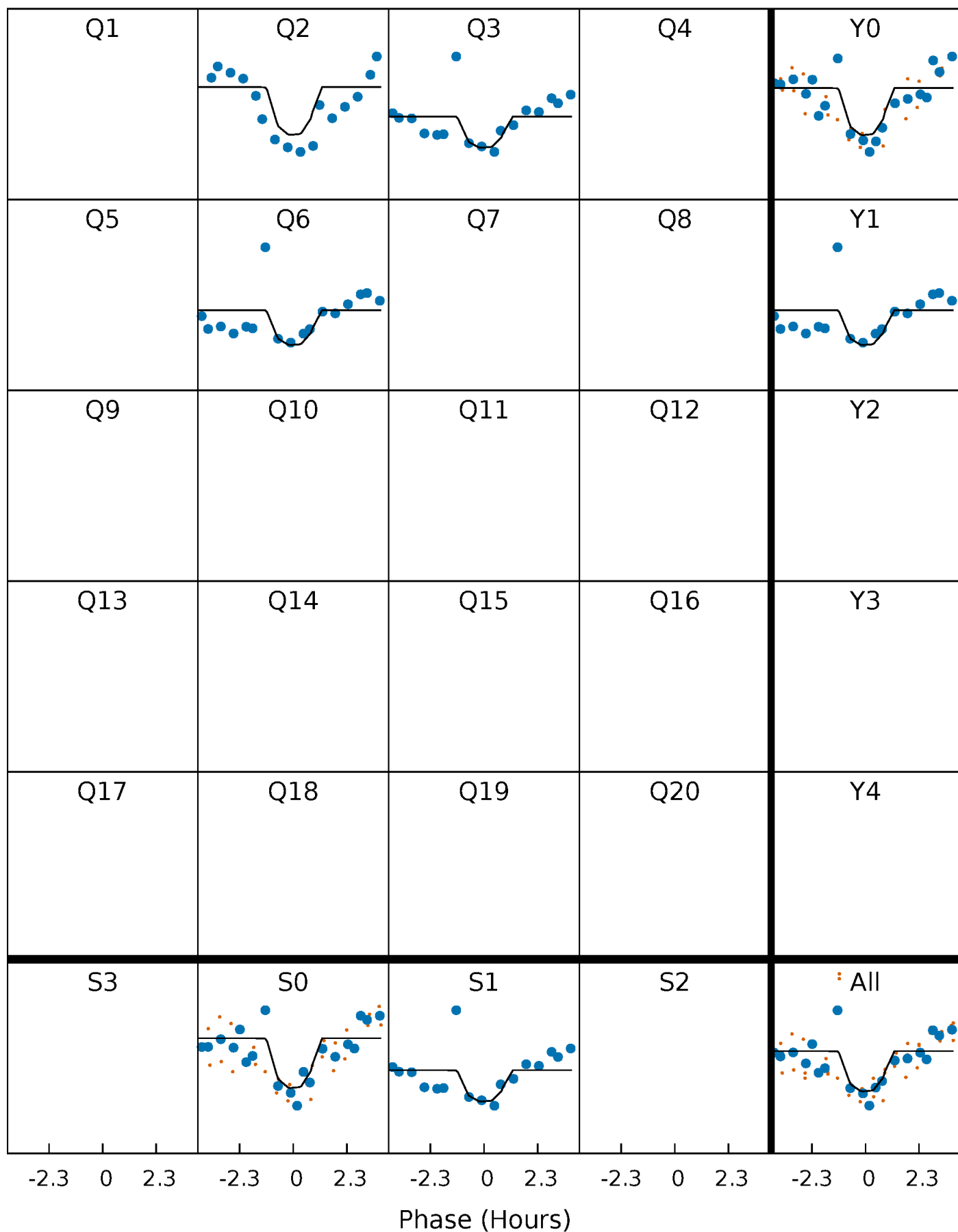
PDC Quarter-Phased Transit Curves

TCE 002018642-01 P=114.624571 Days $T_0=215.588163$ (BKJD)



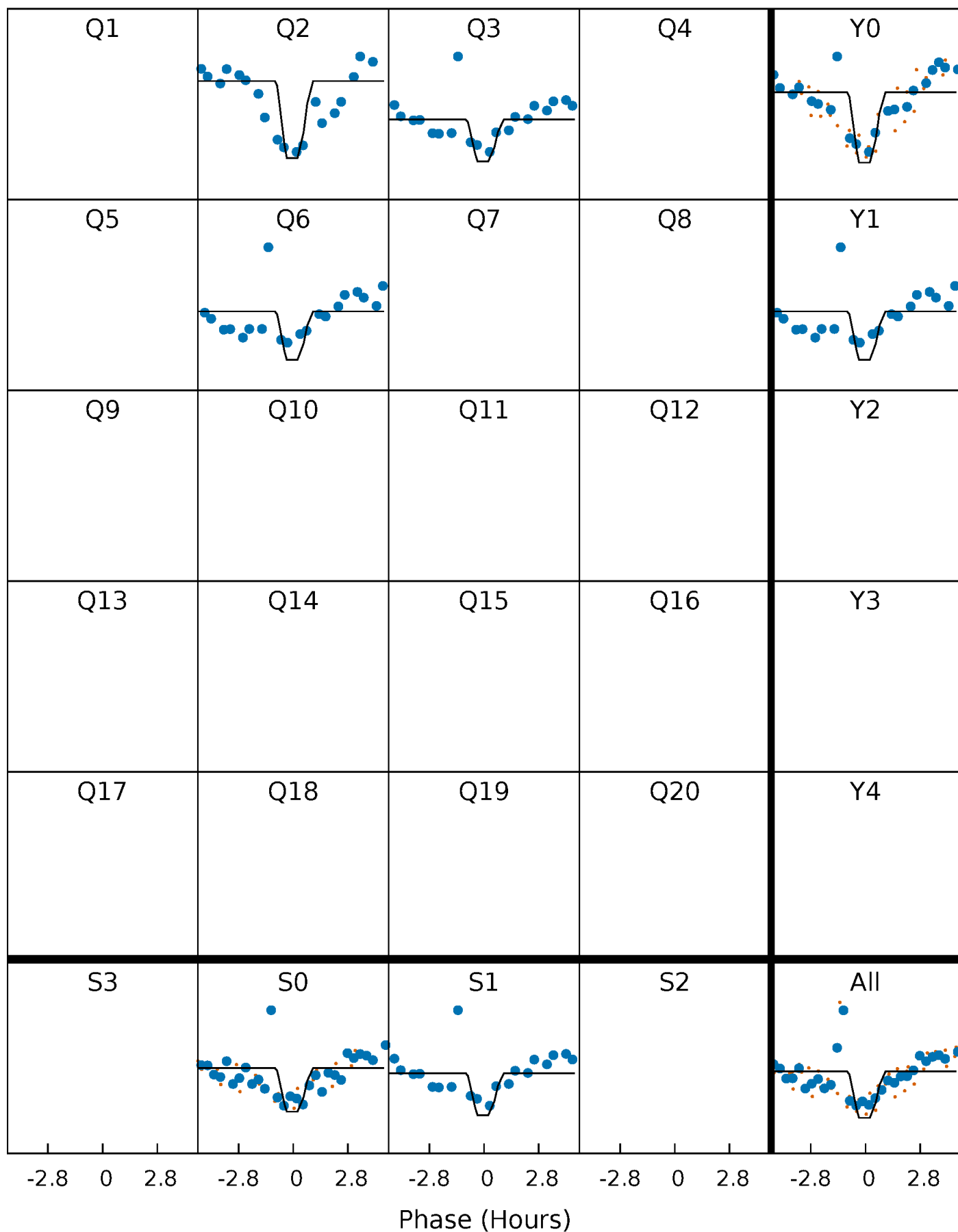
DV Quarter-Phased Transit Curves

TCE 002018642-01 P=114.624571 Days $T_0=215.588163$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

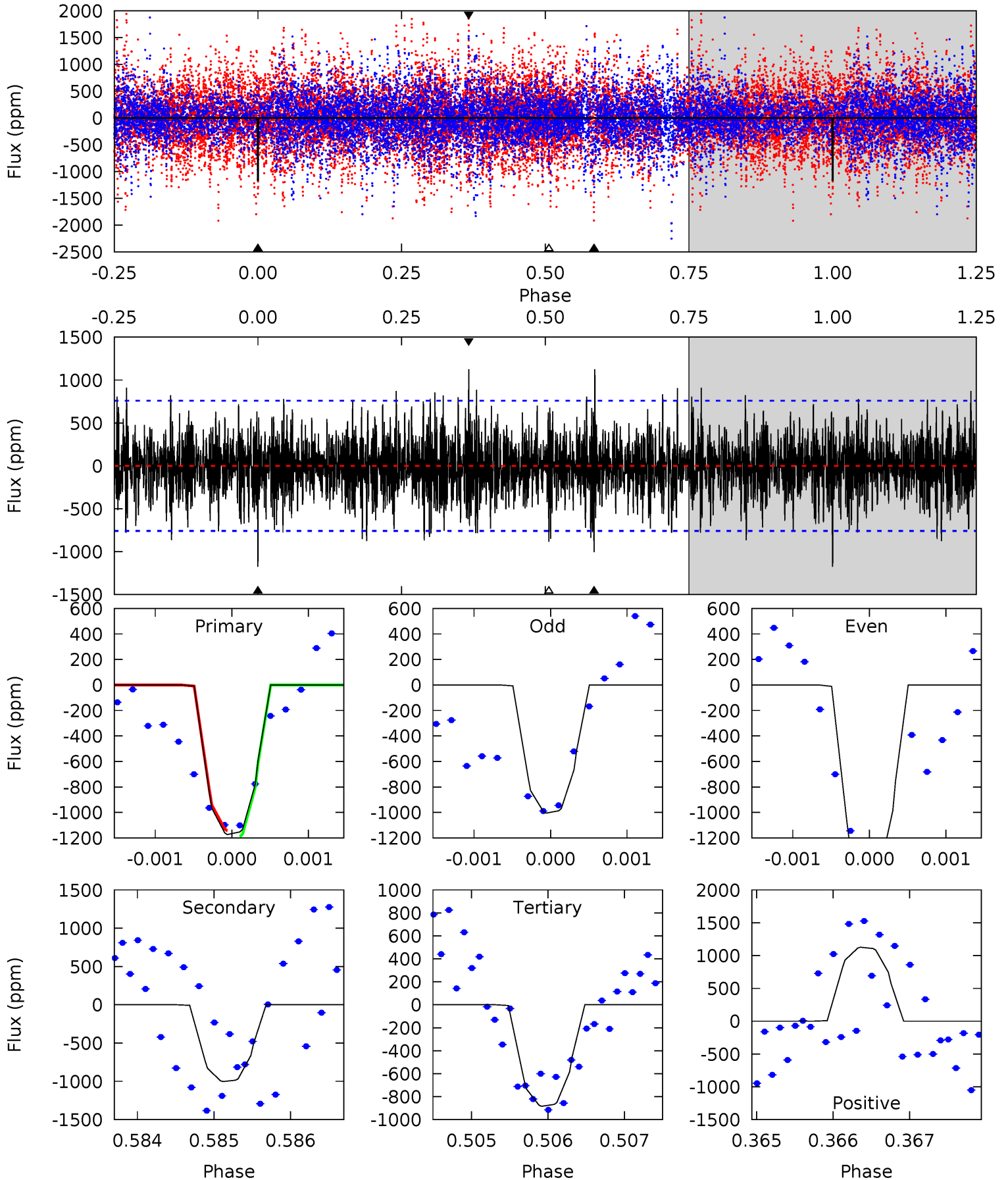
TCE 002018642-01 P=114.623086 Days $T_0=215.597574$ (BKJD)



DV Model-Shift Uniqueness Test

002018642-01, P = 114.624571 Days, E = 100.963592 Days

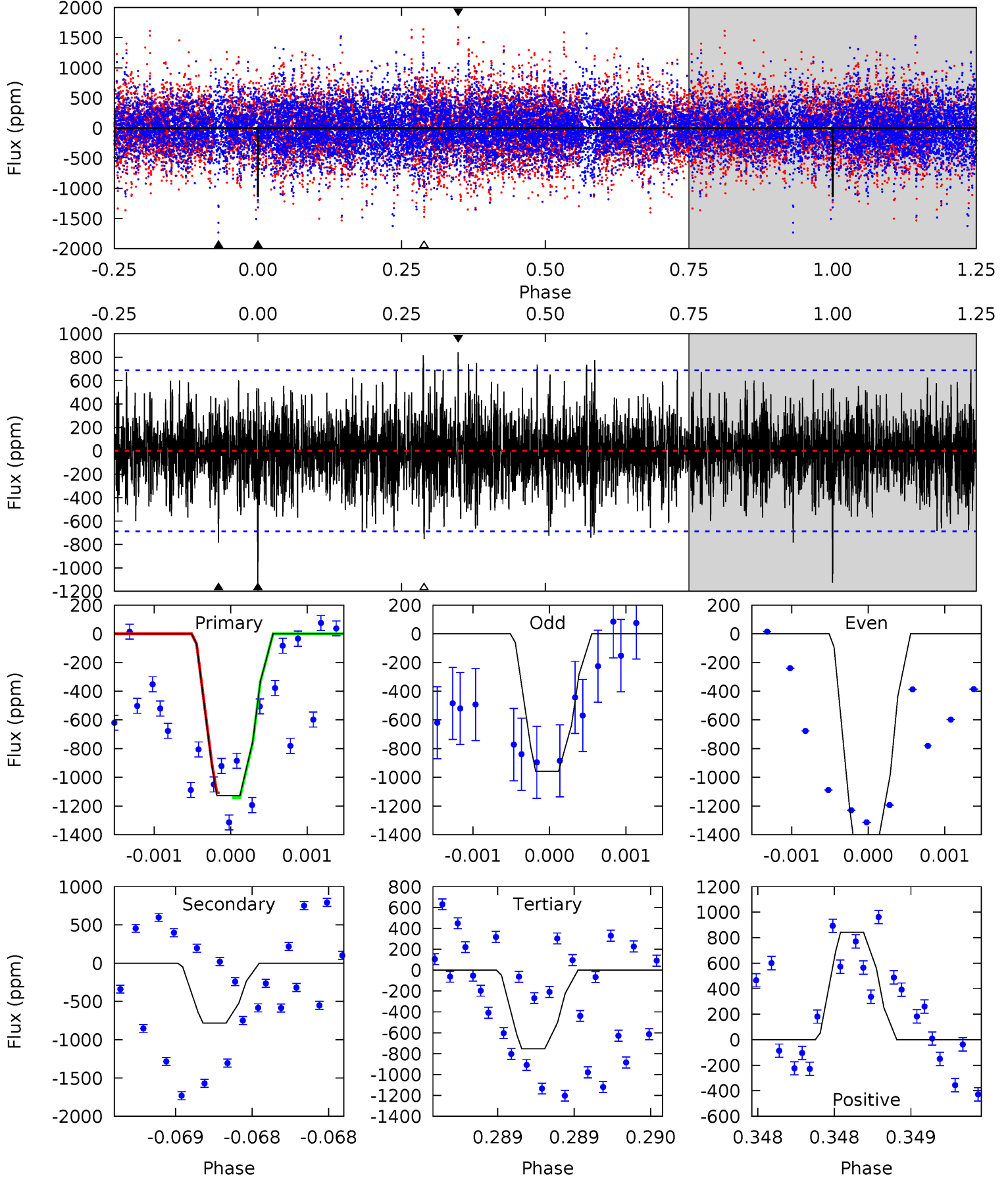
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.45	7.23	6.37	8.12	5.47	3.32	2.00	2.08	0.33	0.86	-0.89	1.63	1.10	0.49	0.17



Alt Model-Shift Uniqueness Test

002018642-01, P = 114.623086 Days, E = 100.974488 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.05	6.28	6.05	6.75	5.52	3.40	1.83	3.00	2.29	0.23	-0.47	1.90	1.12	0.43	0.13



Stellar Parameters For KIC 002018642

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4732^{+55}_{-180}	$2.452^{+0.035}_{-0.031}$	$0.360^{+0.100}_{-0.450}$	$18.484^{+0.379}_{-6.828}$	$3.530^{+0.109}_{-2.175}$	$0.001^{+0.001}_{-0.000}$
	+1%/-4%	+1%/-1%	+28%/-125%	+2%/-37%	+3%/-62%	+70%/-9%
Source	PHO1	AST9	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 002018642-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1003 ± 139	$96.38^{+86.81}_{-61.97}$	1493^{+25}_{-60}	3994^{+2161}_{-772}	30^{+196}_{-22}
Alt.	-783 ± 125	$113.67^{+87.48}_{-74.00}$	1489^{+28}_{-55}	3594^{+1754}_{-577}	16^{+114}_{-11}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

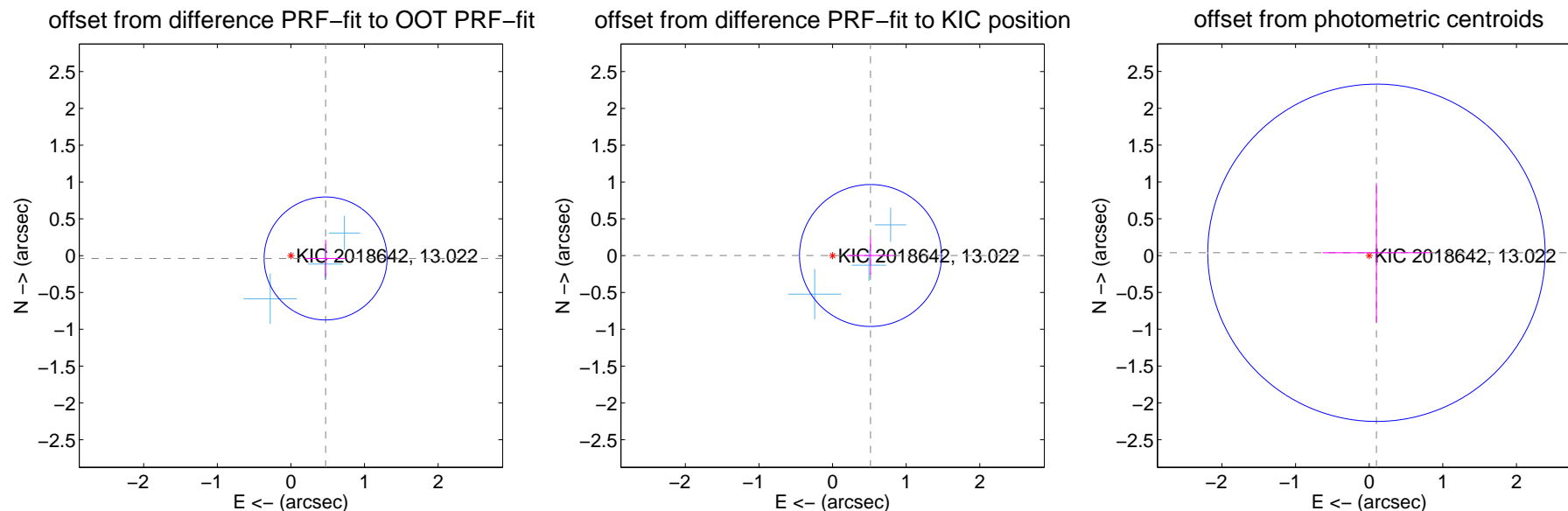
DV Centroid Data

Supplemental centroid analysis for 002018642-01. Kepler magnitude: 13.02. Transit SNR 5.69

There are 3 quarters with good PRF difference image offsets

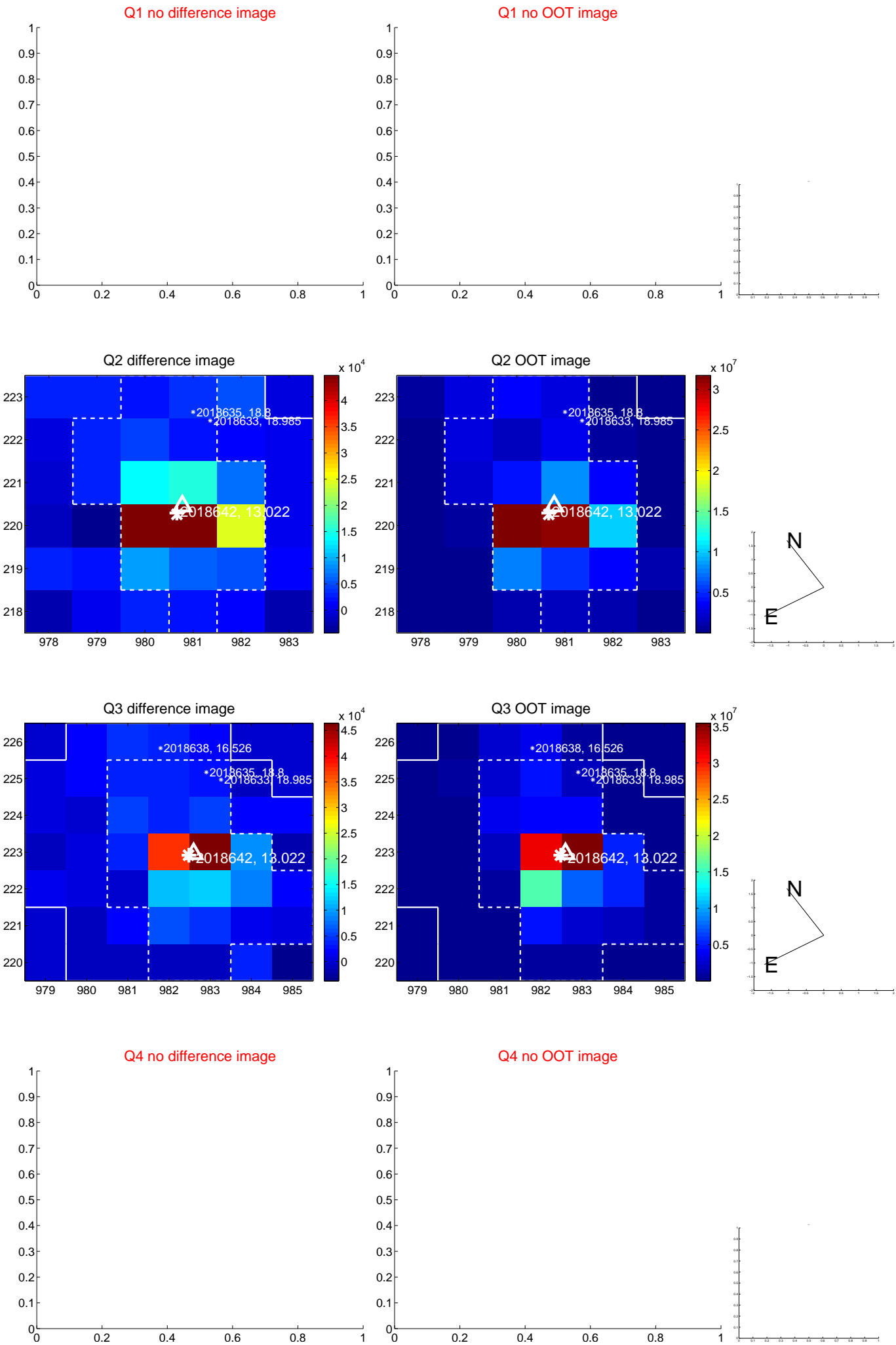
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.473 ± 0.278	1.70	-0.471 ± 0.278	-0.038 ± 0.252
PRF-fit source offset from KIC position	0.515 ± 0.321	1.60	-0.515 ± 0.320	0.002 ± 0.257
photometric centroid source offset	0.11 ± 0.76	0.14	-0.10 ± 0.73	0.04 ± 0.95

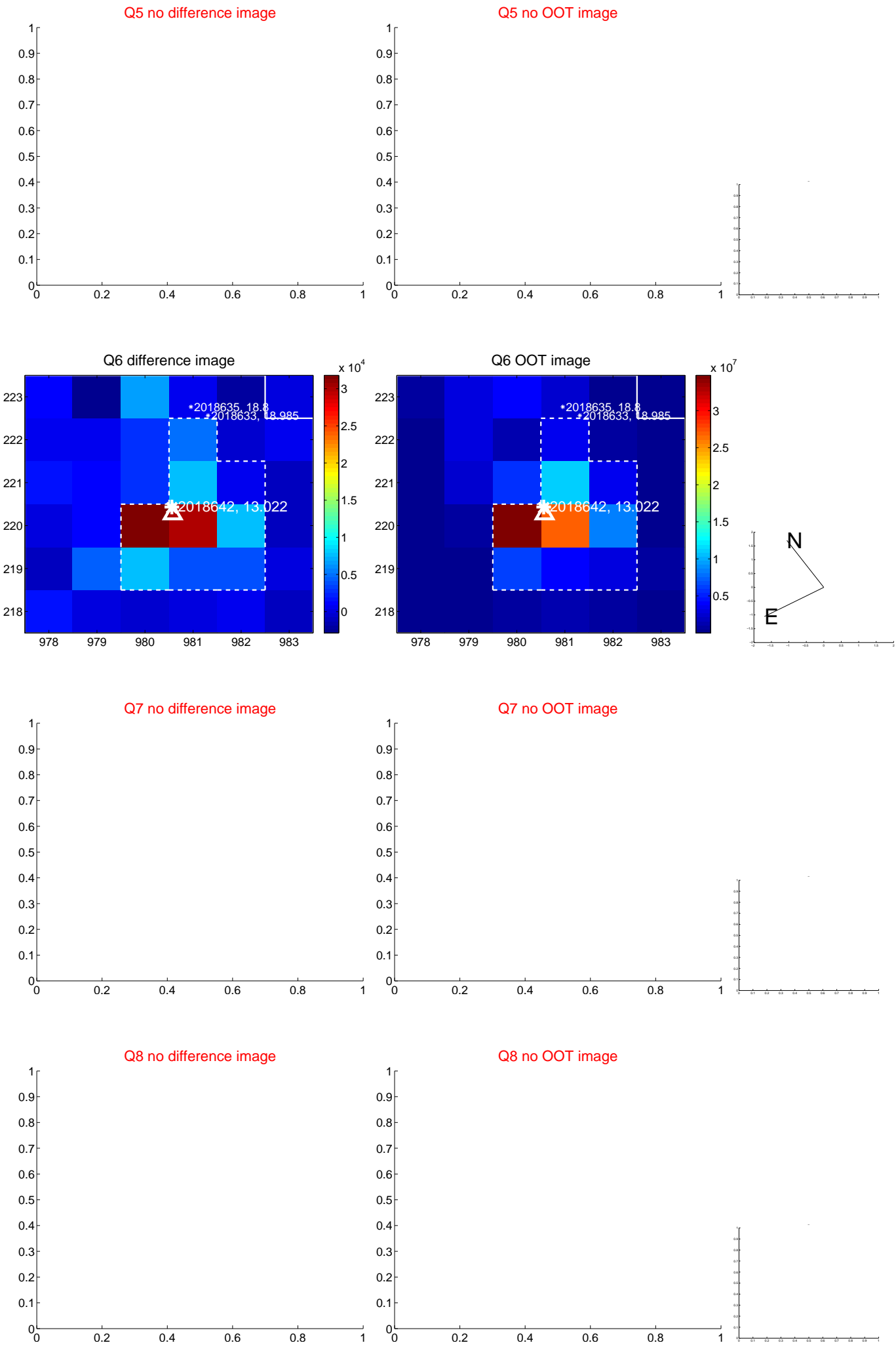


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



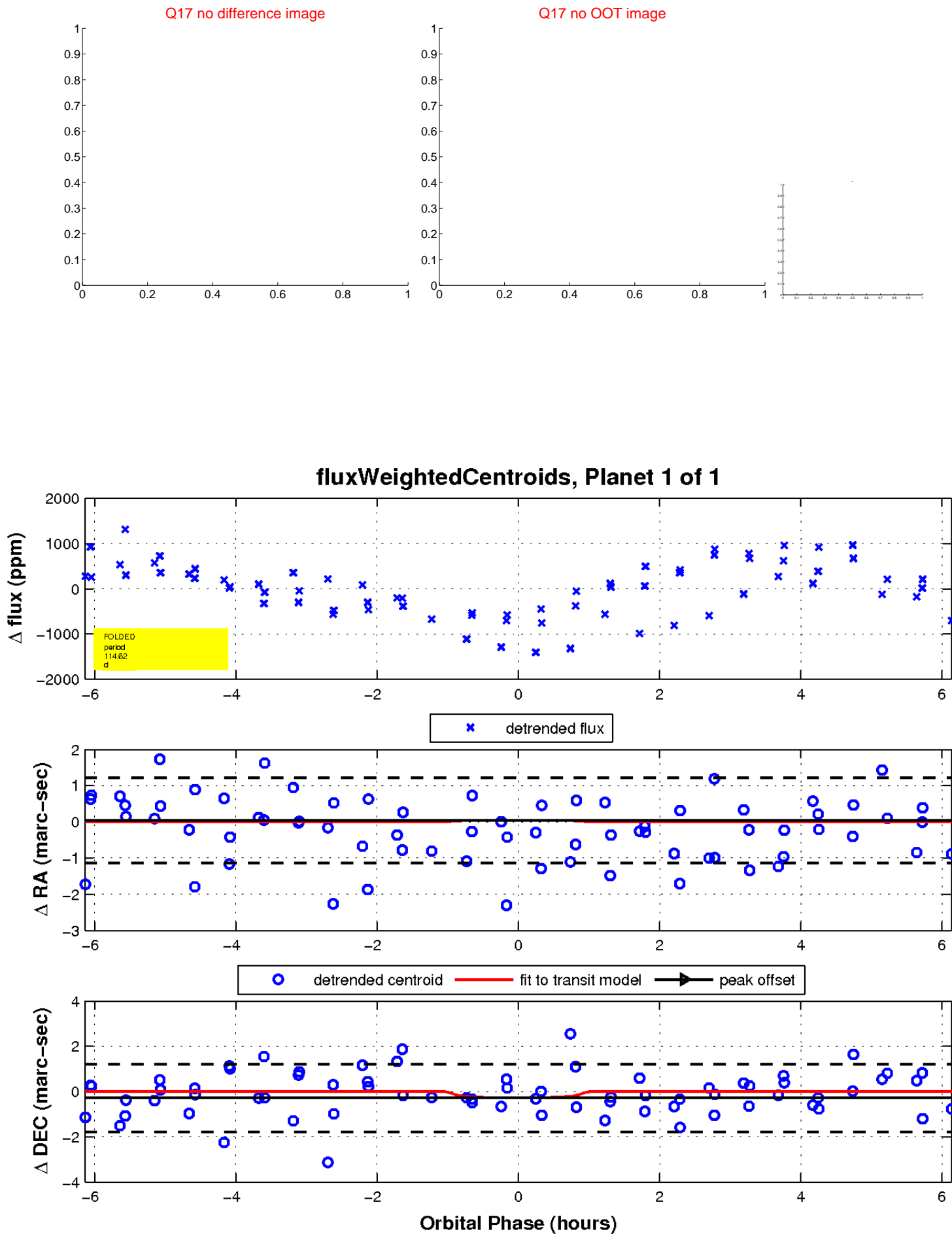
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

