

KIC 005957334

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})
005957334-01	OBS	No	361.091195	166.966731	1631.6	17.807	8.1	8.6	0.91	5236	4.50	0.65
005957334-02	OBS	No	240.328161	282.278044	1381.5	19.176	7.5	9.1	0.91	5236	3.38	1.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005957334-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005957334-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

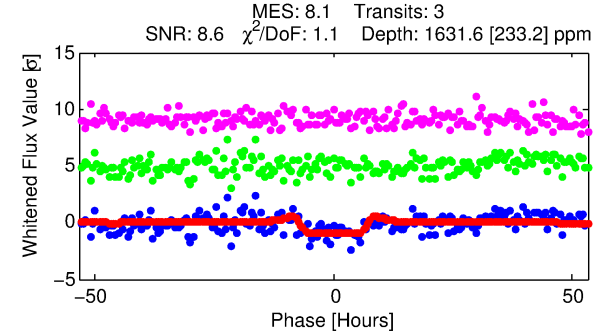
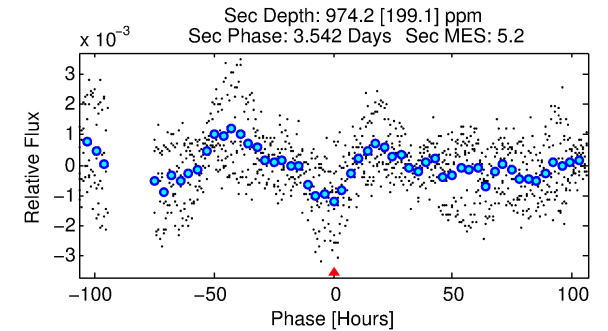
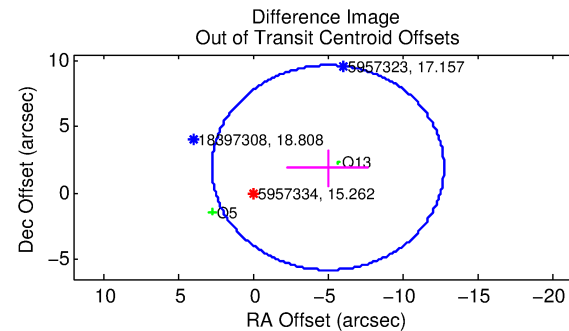
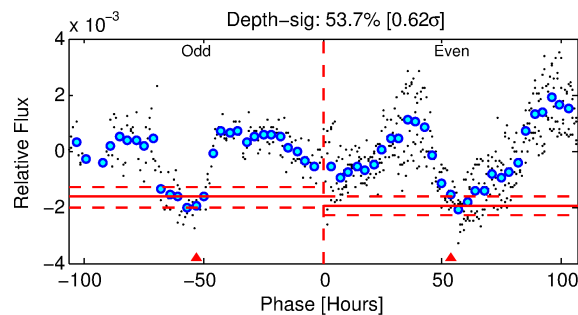
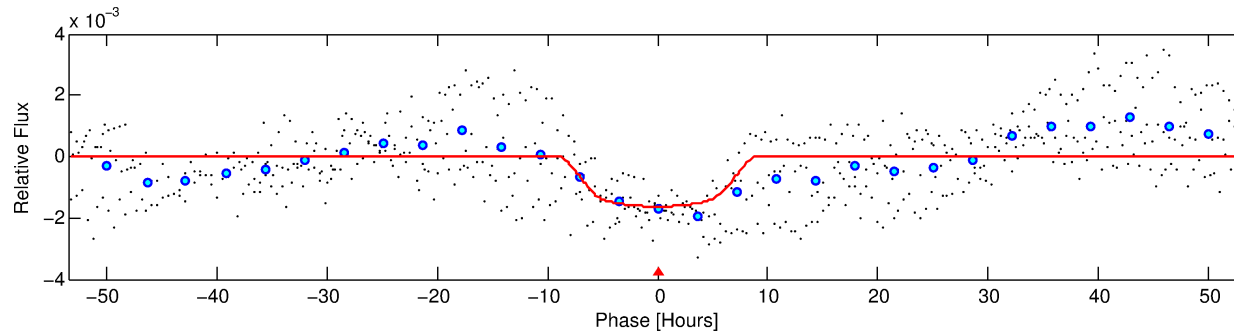
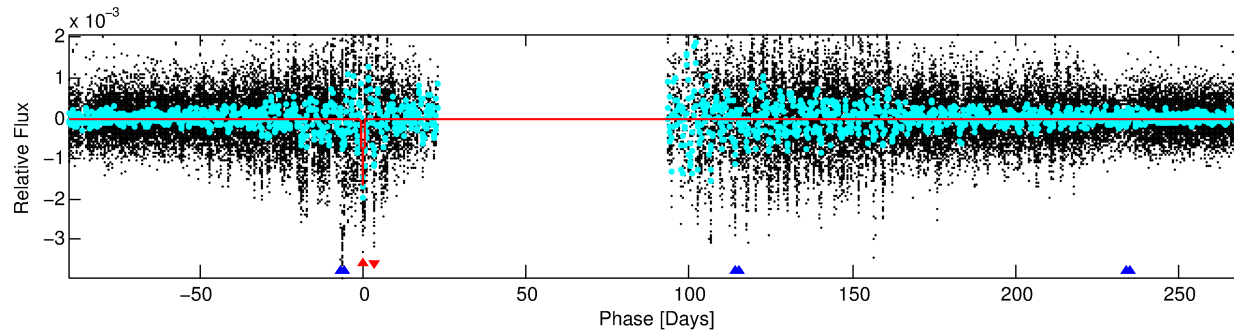
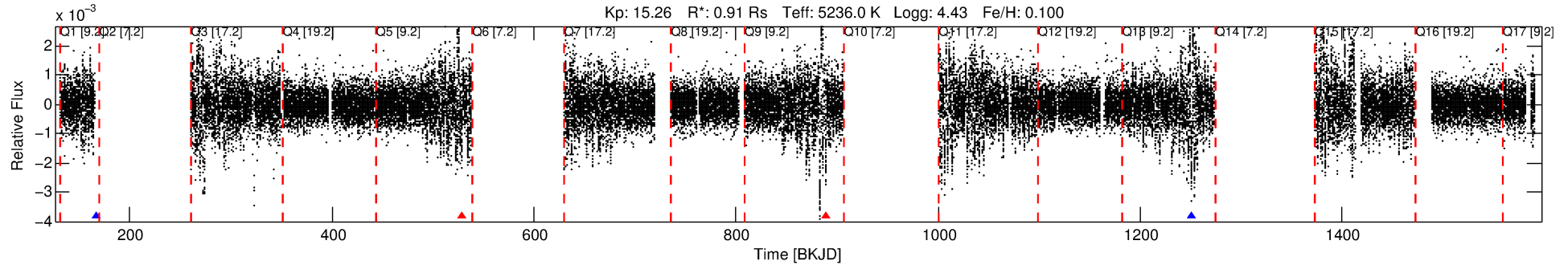
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005957334-01

No Significant Match Found

DV One-Page Summary

KIC: 5957334 Candidate: 1 of 2 Period: 361.091 d



DV Fit Results:

Period = 361.09119 [0.01903] d
Epoch = 166.9667 [0.0426] BKJD
Rp/R* = 0.0452 [0.0041]
a/R* = 80.65 [14.33]
b = 0.91 [0.04]
Seff = 0.65 [0.23]
Teq = 229 [20] K
Rp = 4.50 [1.05] Re
a = 0.9320 [0.1884] AU
Ag = 22964.89 [9642.77] [2.38σ]
Teff = 4351 [334] K [12.33σ]

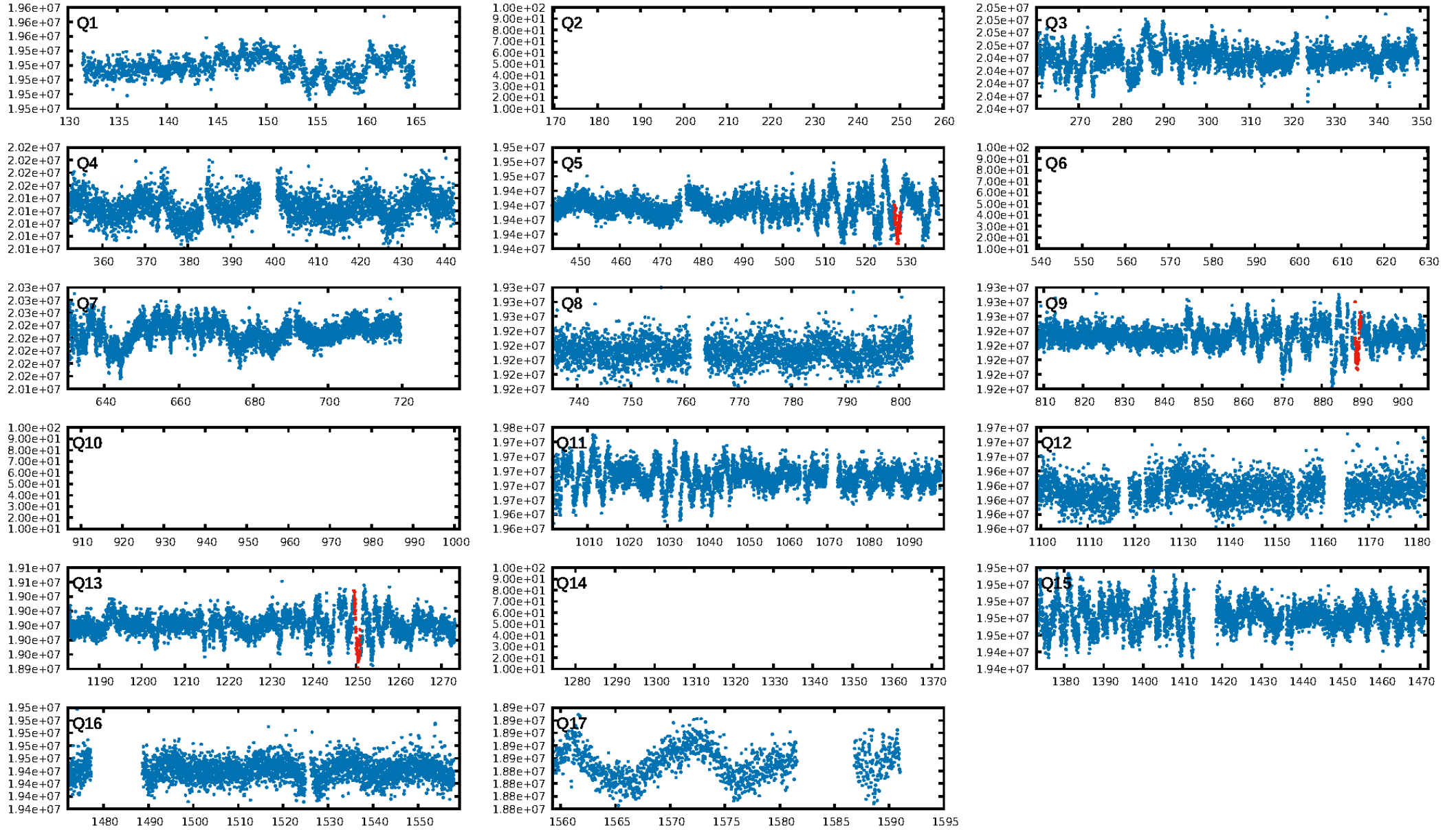
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [110.75σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.6%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.04e-08
RollingBand-fgt: 0.33 [1/3]
GhostDiagnostic-chr: -11.57
Centroid-sig: 0.7%
Centroid-so: 4.548 arcsec [1.89σ]
OotOffset-rm: 5.383 arcsec [2.08σ]
KicOffset-rm: 5.803 arcsec [1.53σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

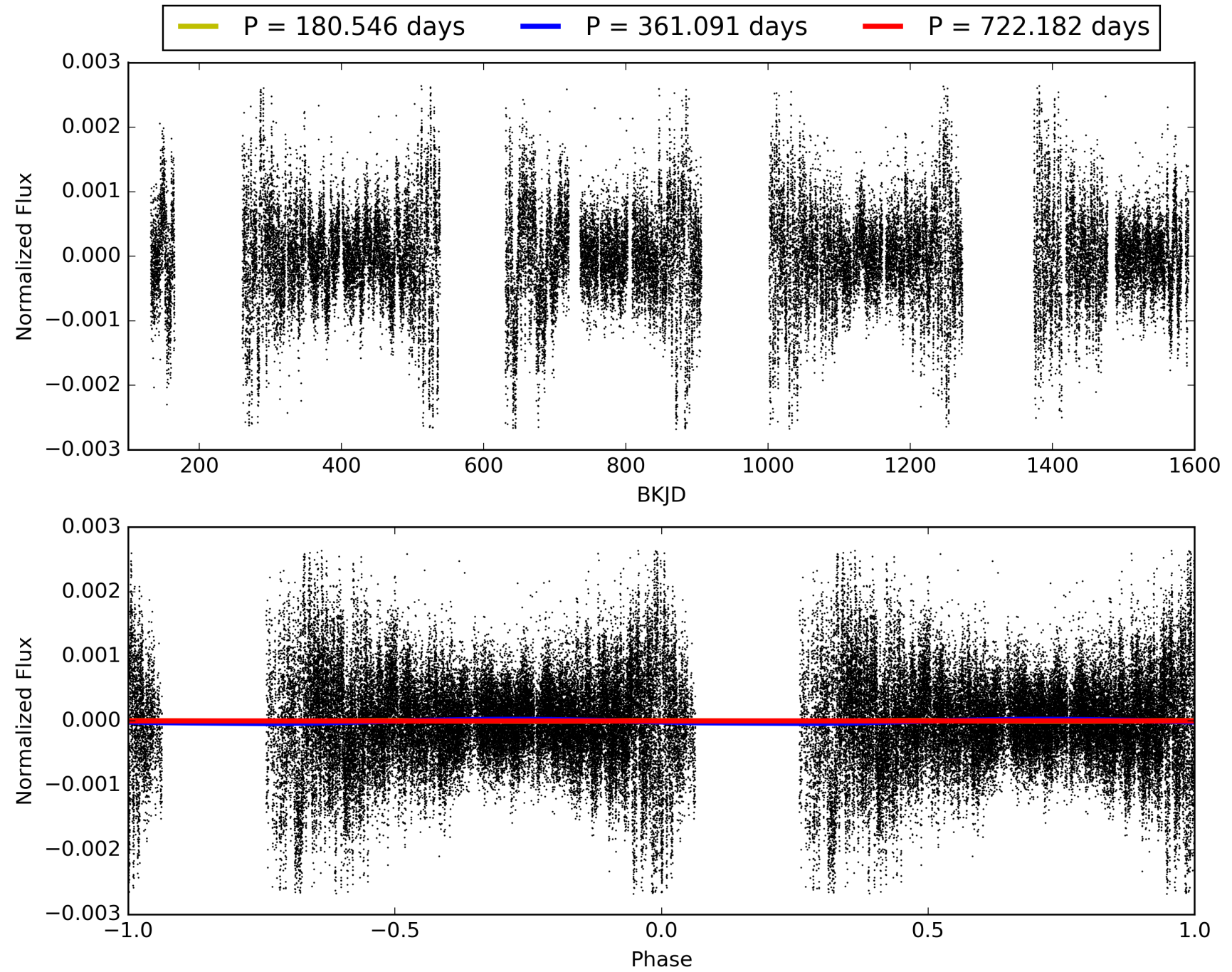
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:33:27 Z

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

TCE 005957334-01, PDC Light Curves

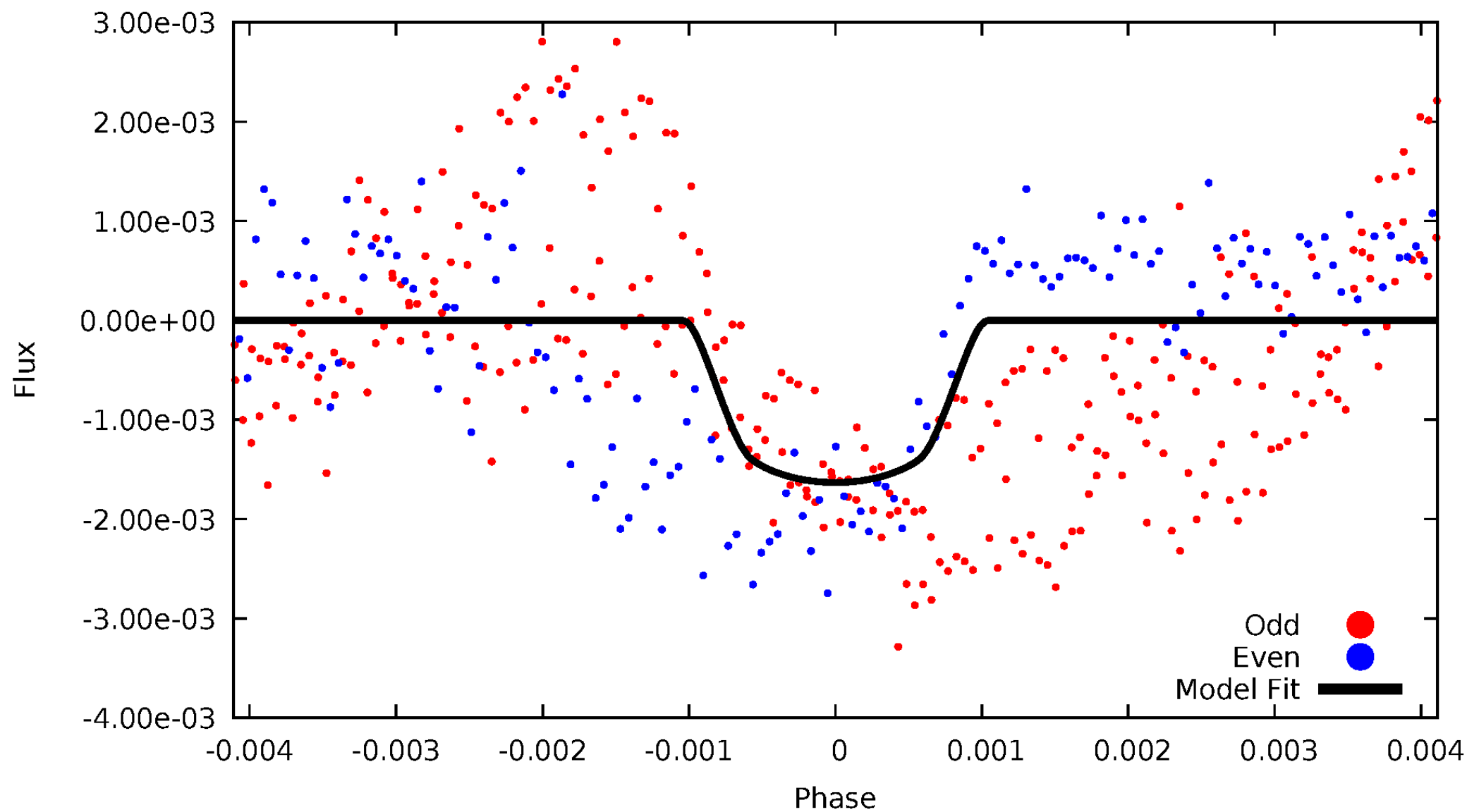


TCE 005957334-01



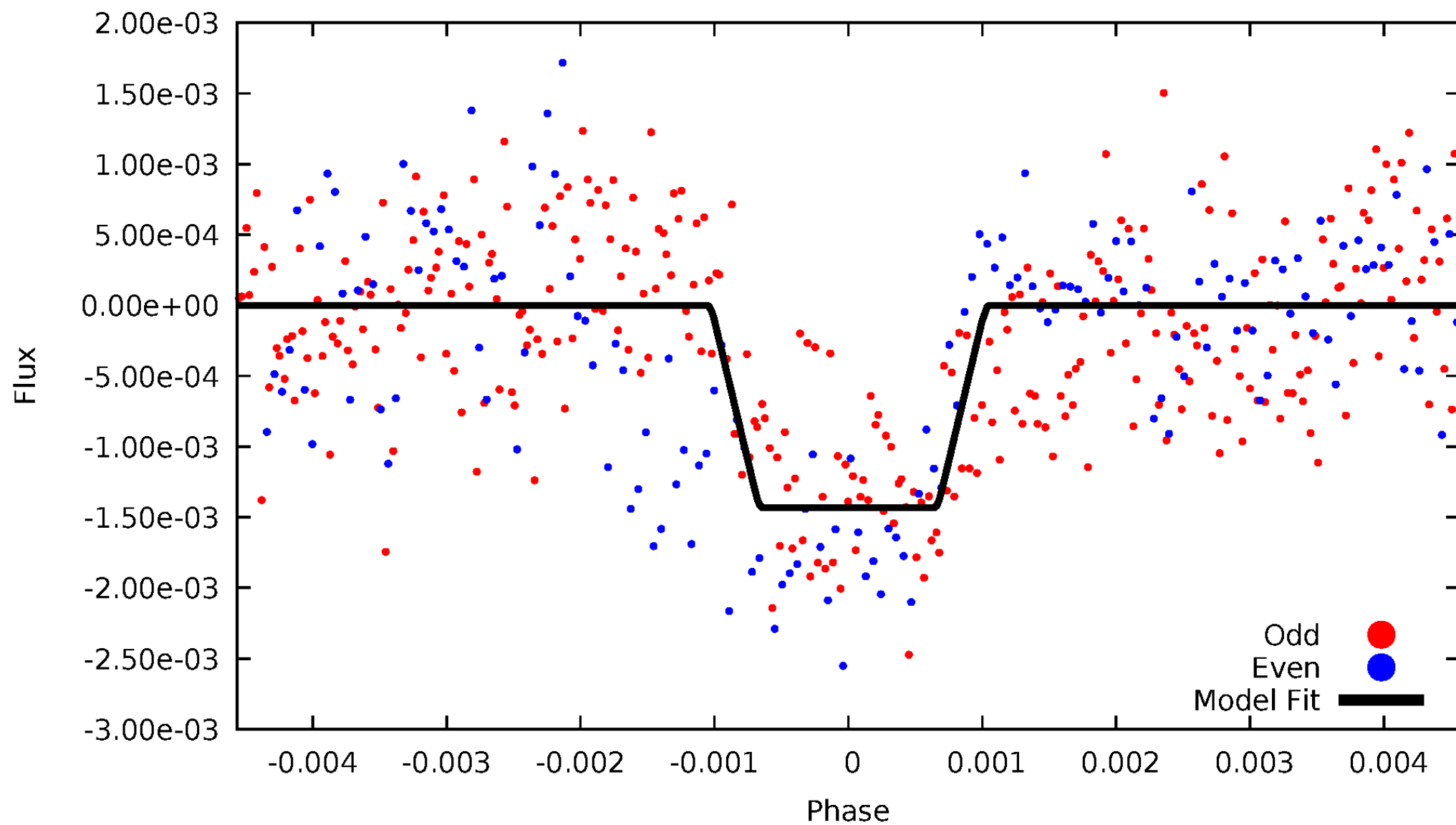
DV Odd/Even

TCE 005957334-01



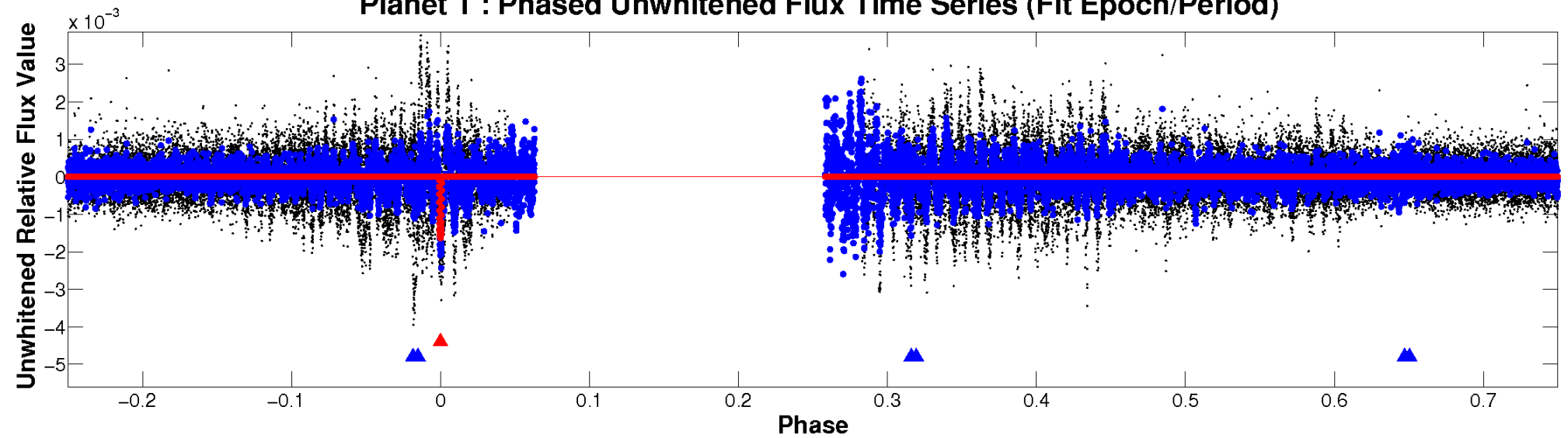
ALT Odd/Even

TCE 005957334-01

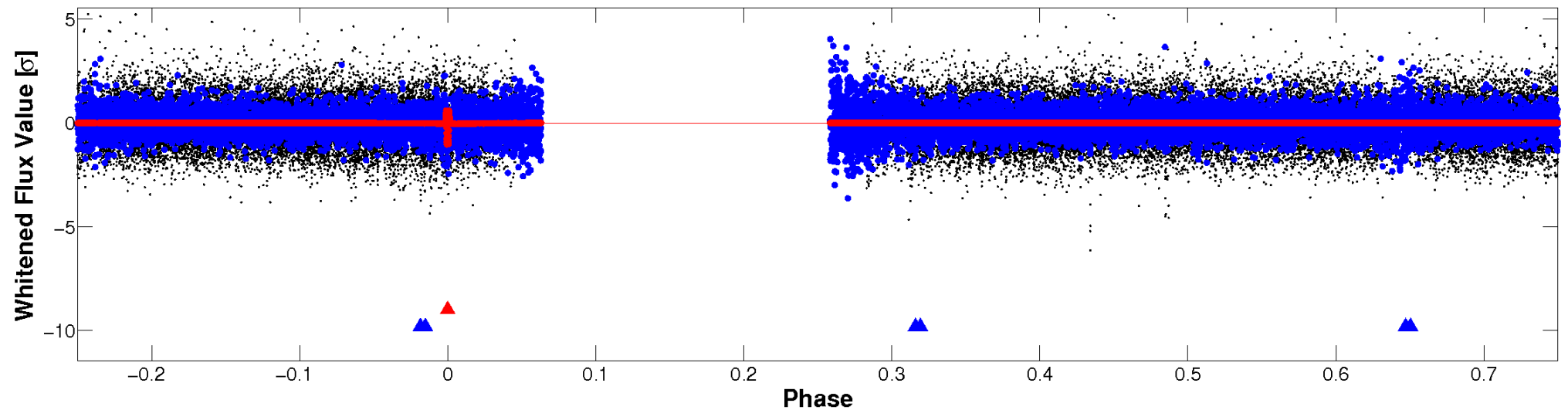


Non-Whitened Vs. Whitened Light Curve

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

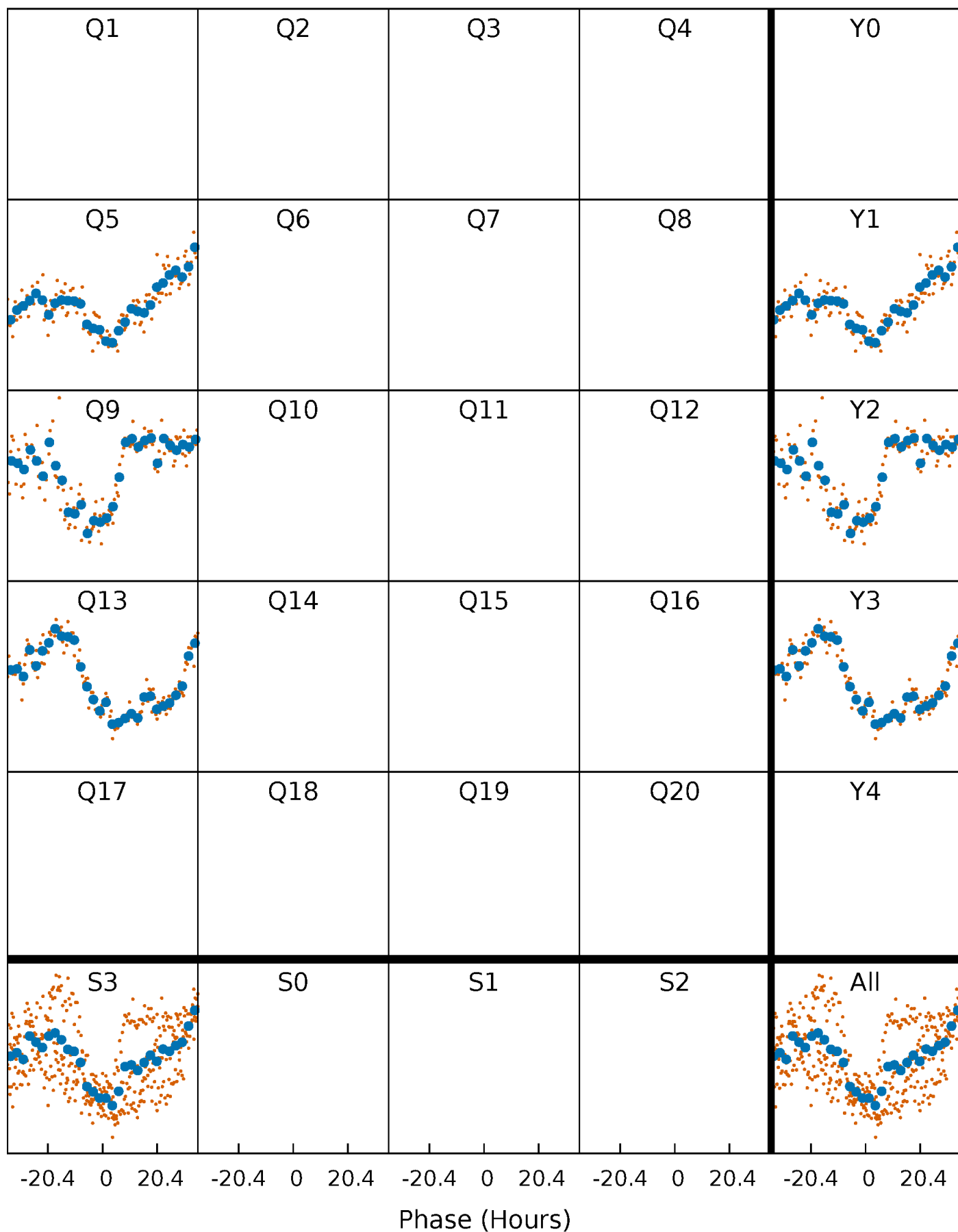


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



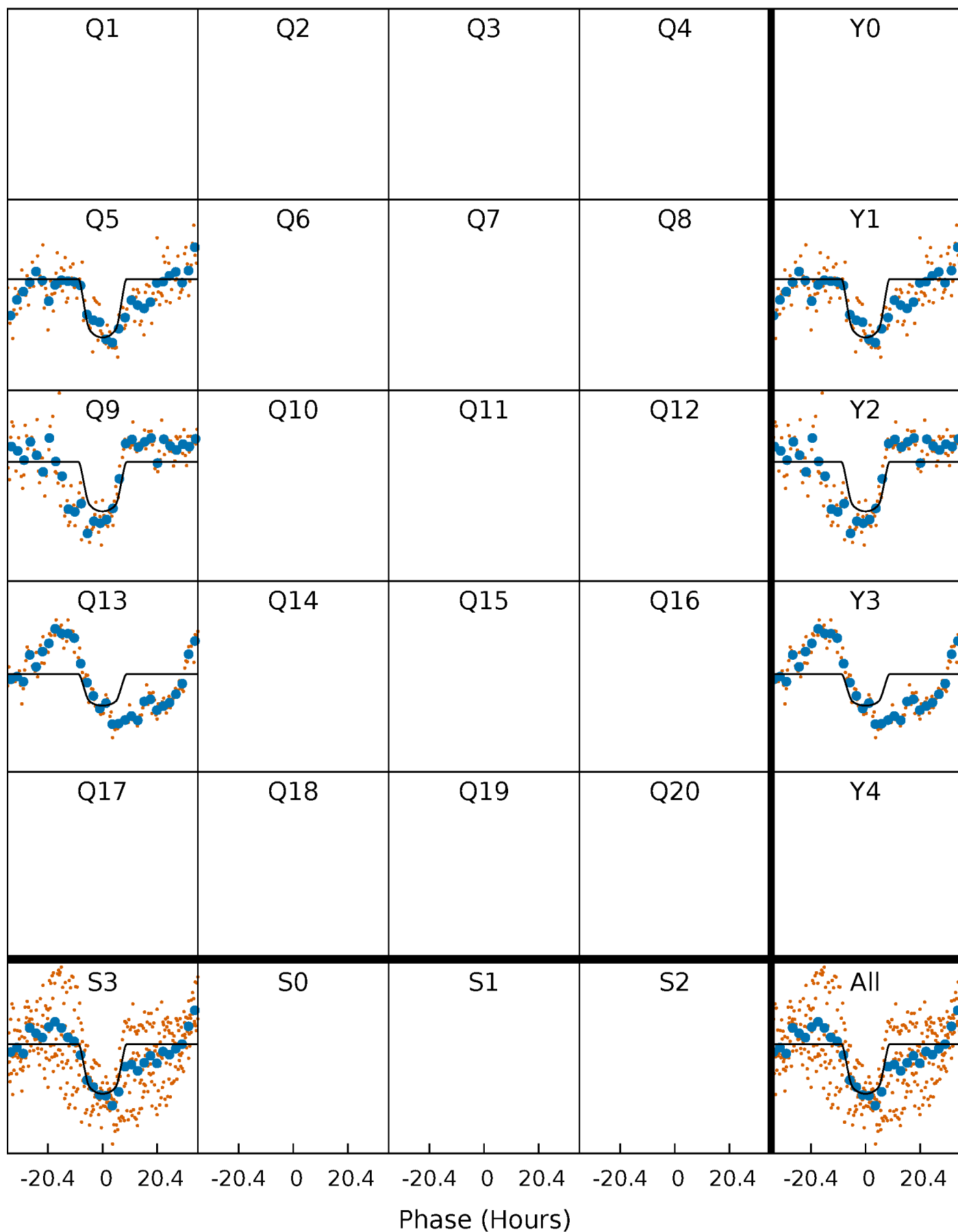
PDC Quarter-Phased Transit Curves

TCE 005957334-01 P=361.091195 Days $T_0=166.966731$ (BKJD)



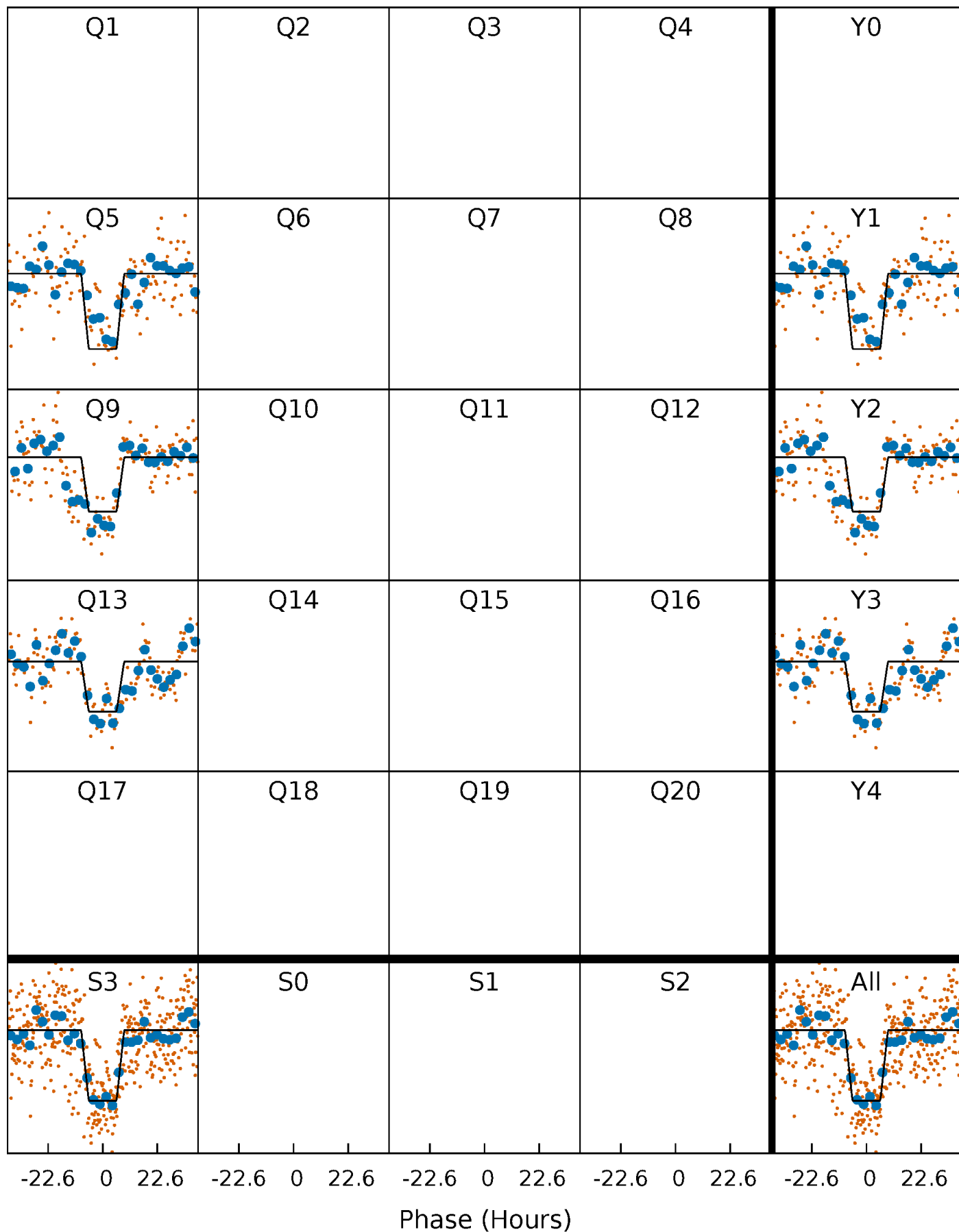
DV Quarter-Phased Transit Curves

TCE 005957334-01 P=361.091195 Days $T_0=166.966731$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

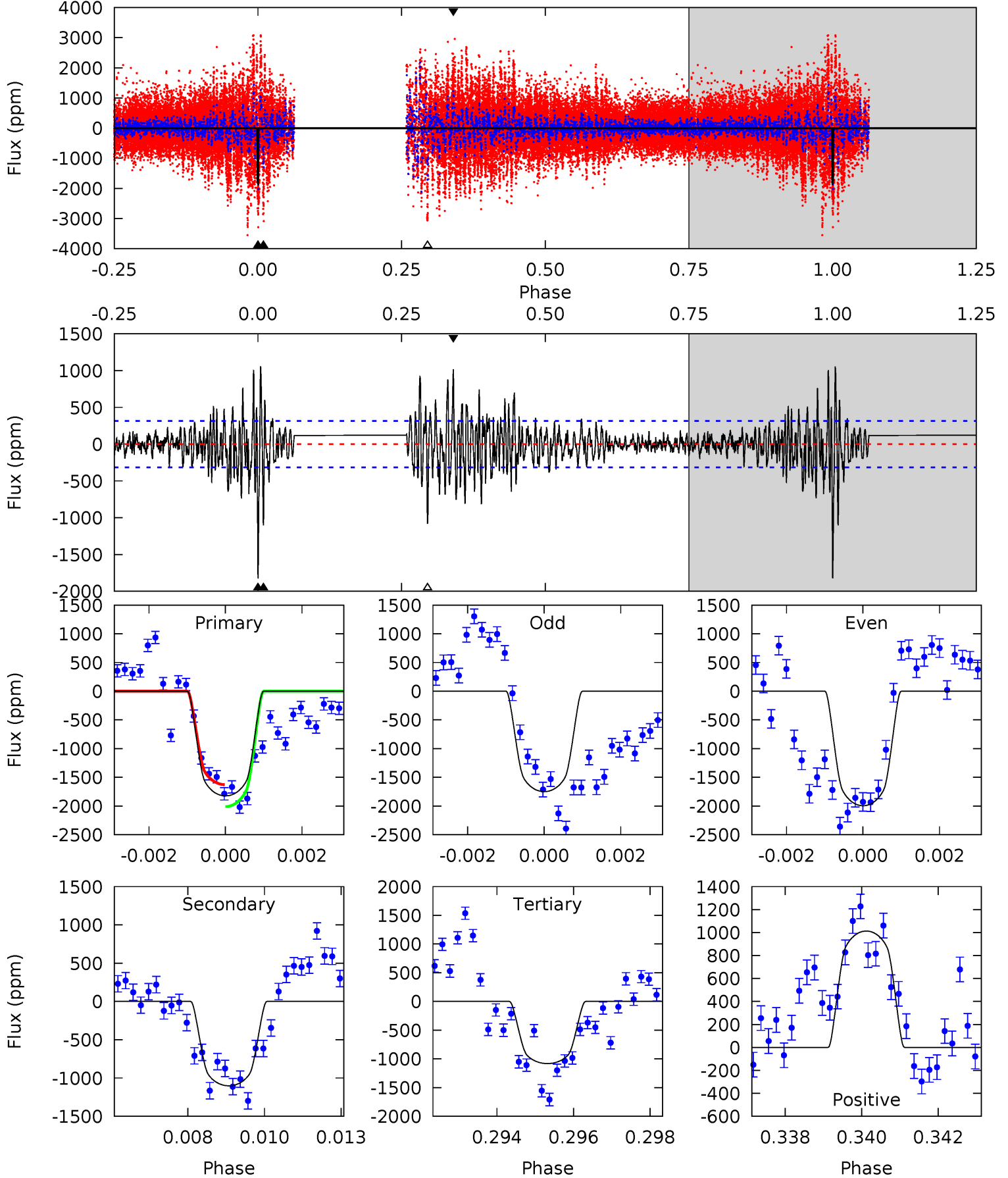
TCE 005957334-01 P=361.088250 Days $T_0=166.967491$ (BKJD)



DV Model-Shift Uniqueness Test

005957334-01, P = 361.091195 Days, E = 166.966731 Days

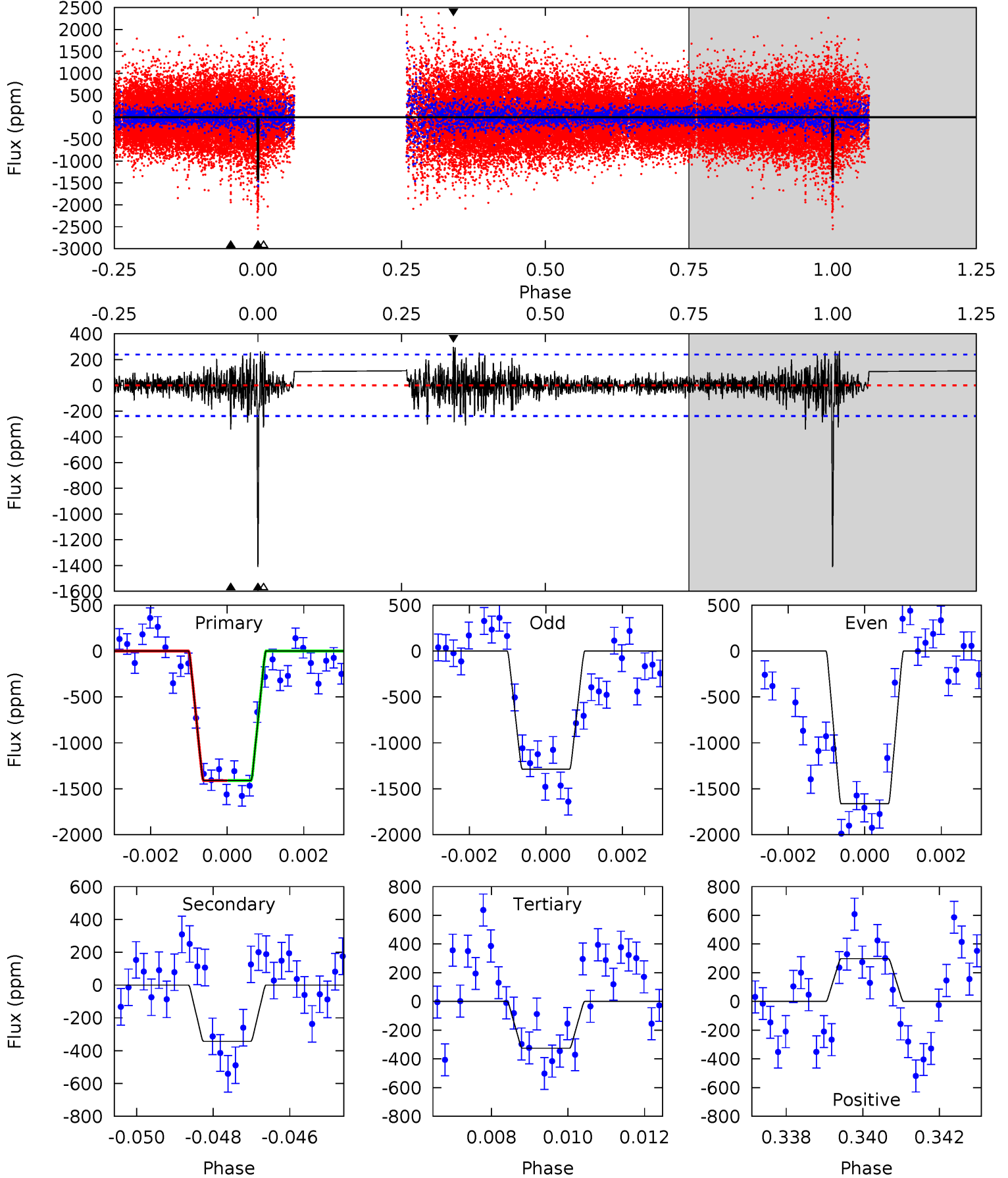
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.8	18.6	18.3	17.1	5.32	3.08	4.01	12.5	13.7	0.33	1.50	1.90	0.96	0.37	3.00



Alt Model-Shift Uniqueness Test

005957334-01, P = 361.088250 Days, E = 166.967491 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	7.65	7.27	6.66	5.32	3.08	1.49	24.2	24.8	0.38	1.00	3.96	0.90	0.17	0.01



Stellar Parameters For KIC 005957334

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5236^{+184}_{-184}	$4.435^{+0.124}_{-0.186}$	$0.100^{+0.250}_{-0.250}$	$0.913^{+0.196}_{-0.130}$	$0.827^{+0.098}_{-0.066}$	$1.529^{+0.803}_{-0.679}$
	+4%/-4%	+3%/-4%	+250%/-250%	+21%/-14%	+12%/-8%	+53%/-44%
Source	KIC0	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 005957334-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1102 ± 59	$4.61^{+0.72}_{-0.63}$	323^{+22}_{-19}	4610^{+241}_{-222}	25004^{+8417}_{-6046}
Alt.	-343 ± 45	$3.84^{+0.57}_{-0.58}$	321^{+22}_{-17}	3975^{+202}_{-207}	11370^{+4267}_{-3327}

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

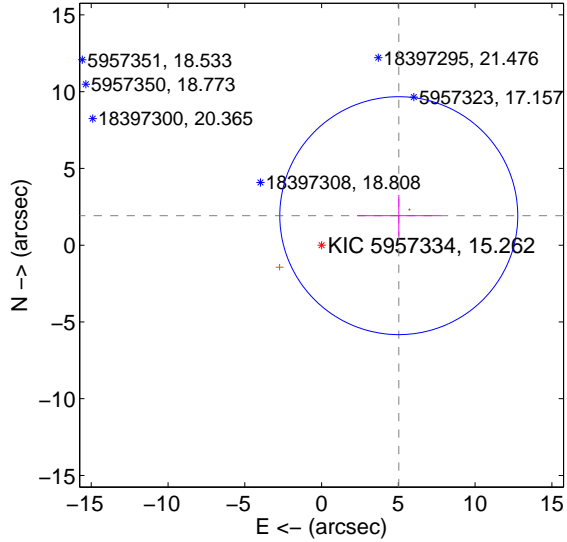
Supplemental centroid analysis for 005957334-01. Kepler magnitude: 15.26. Transit SNR 8.59

There are 0 quarters with good PRF difference image offsets

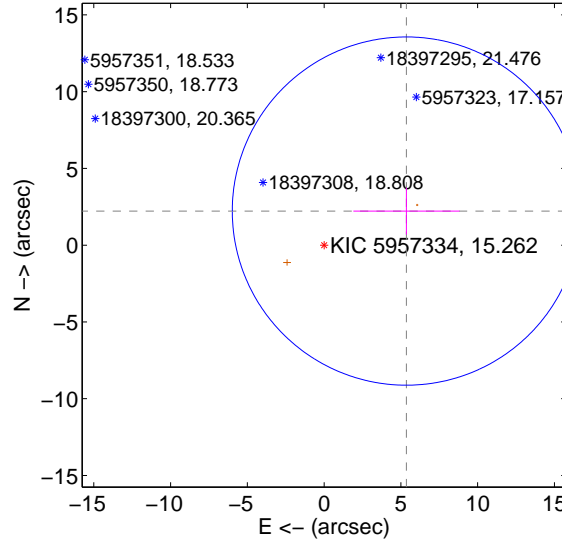
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.383 ± 2.583	2.08	-5.029 ± 2.716	1.922 ± 1.348
PRF-fit source offset from KIC position	5.803 ± 3.780	1.53	-5.361 ± 3.459	2.221 ± 1.530
photometric centroid source offset	4.55 ± 2.41	1.89	-2.59 ± 2.58	3.74 ± 2.32

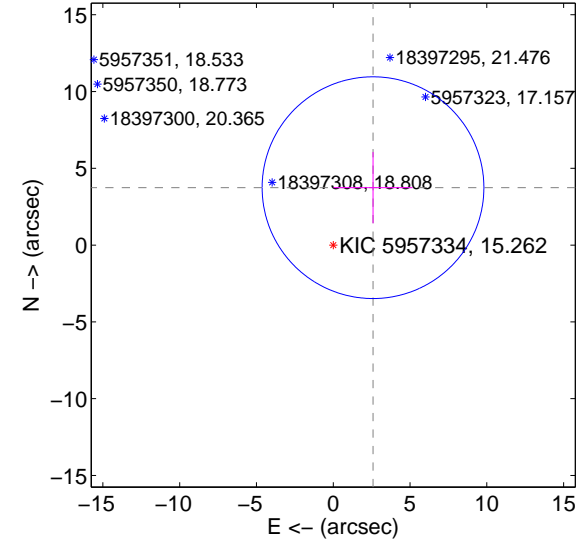
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

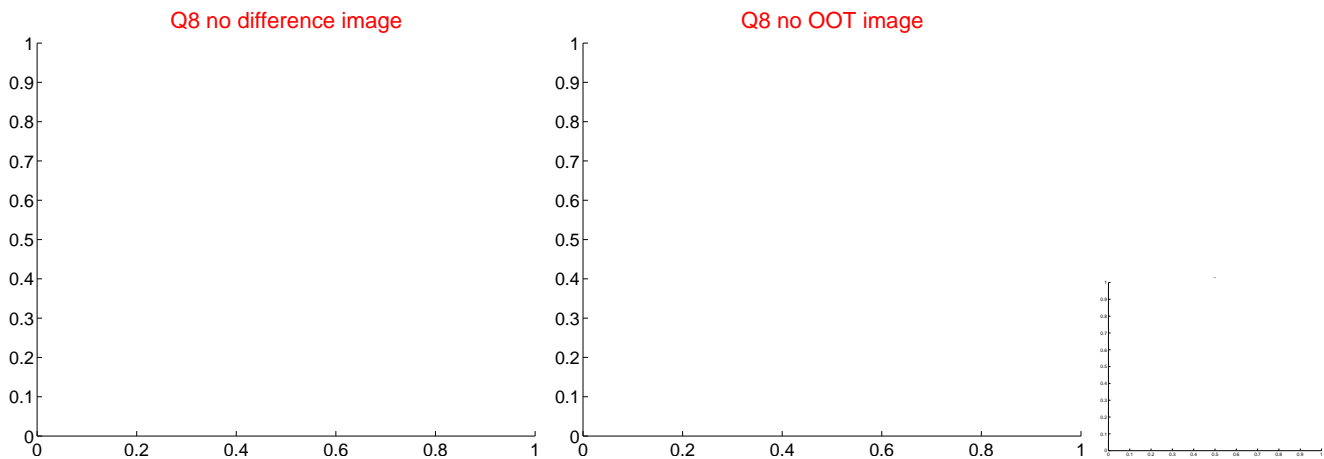
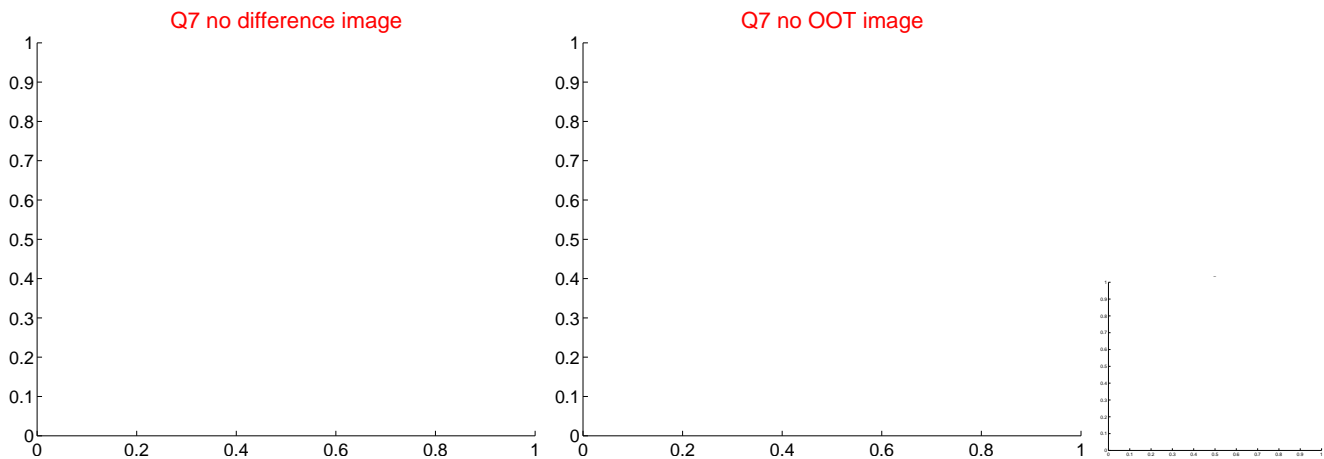
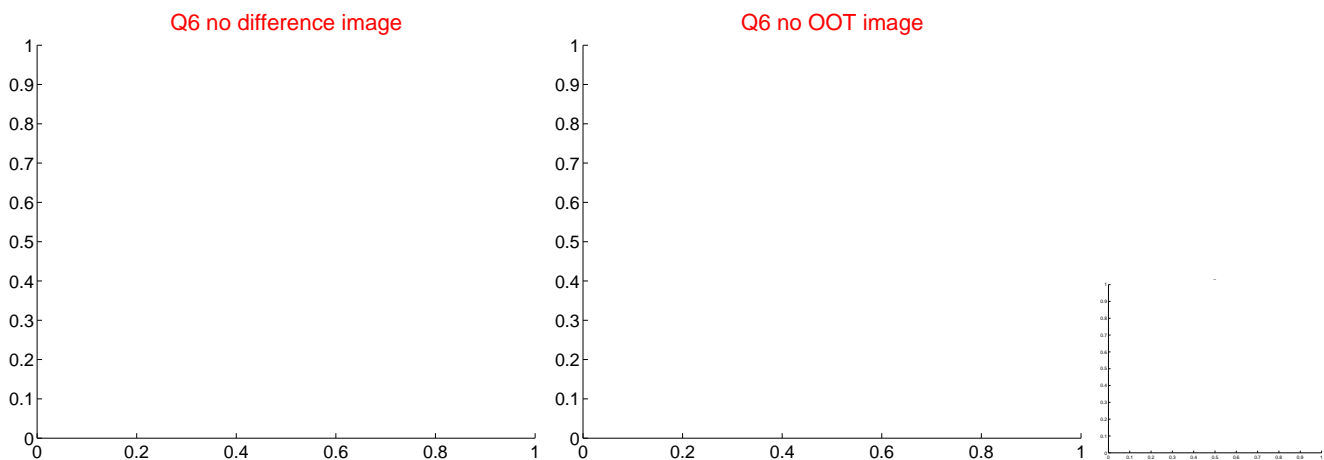
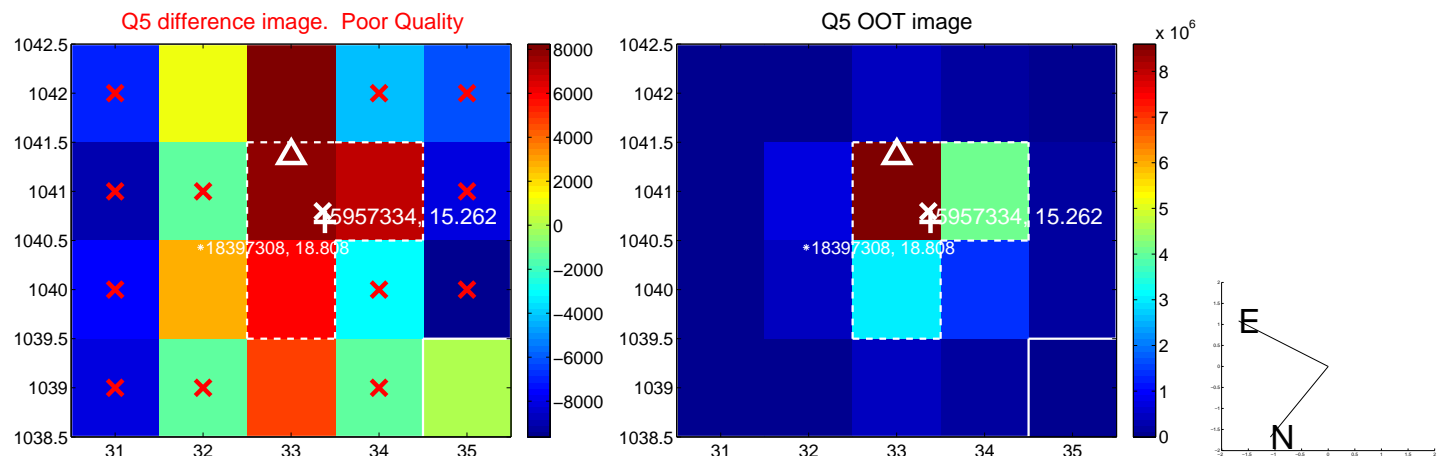


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

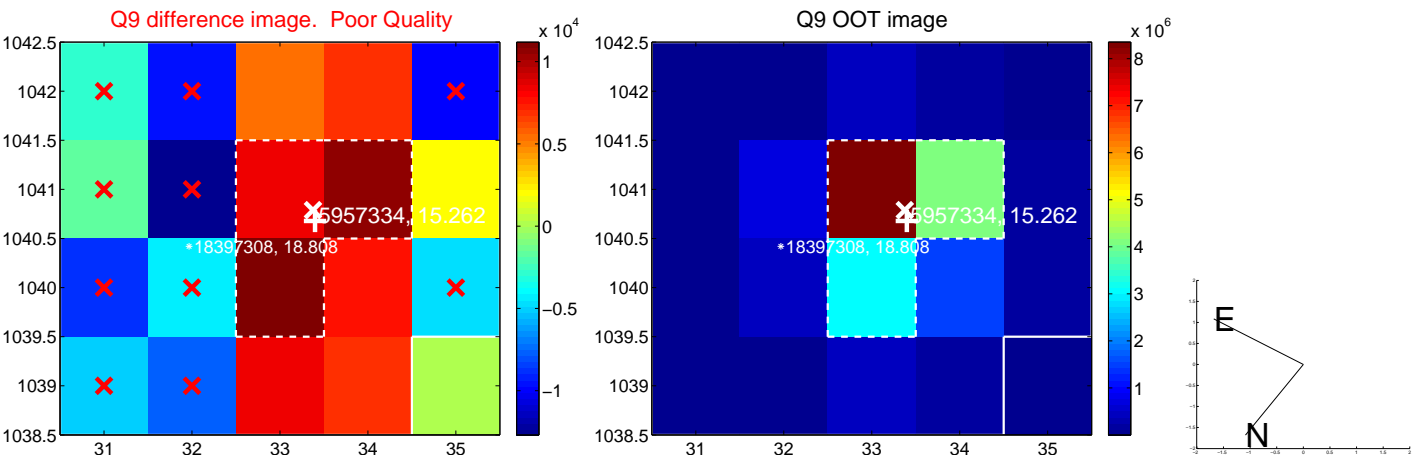
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



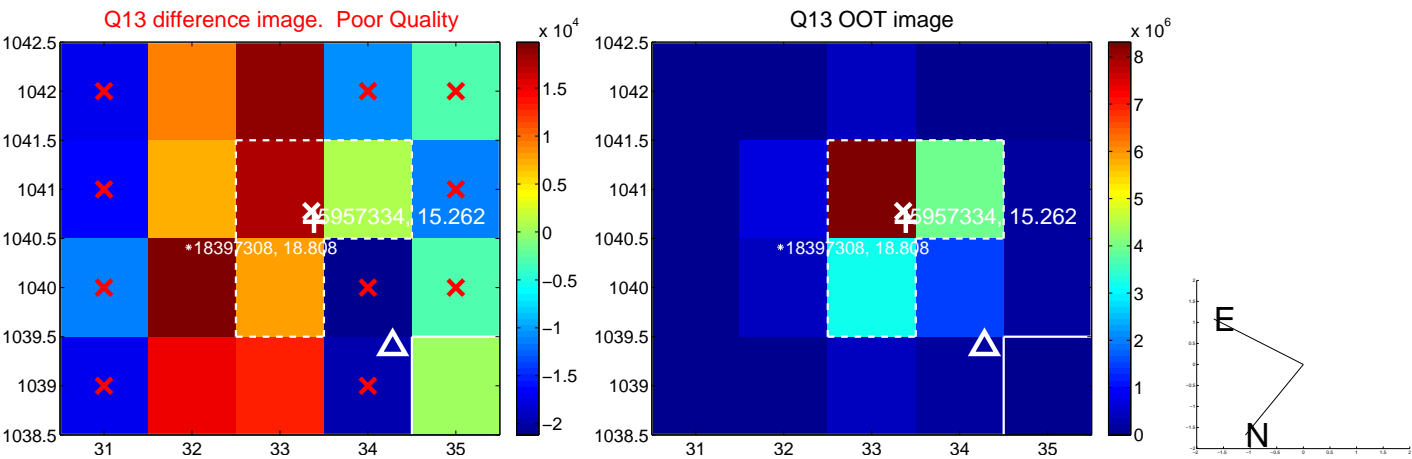
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



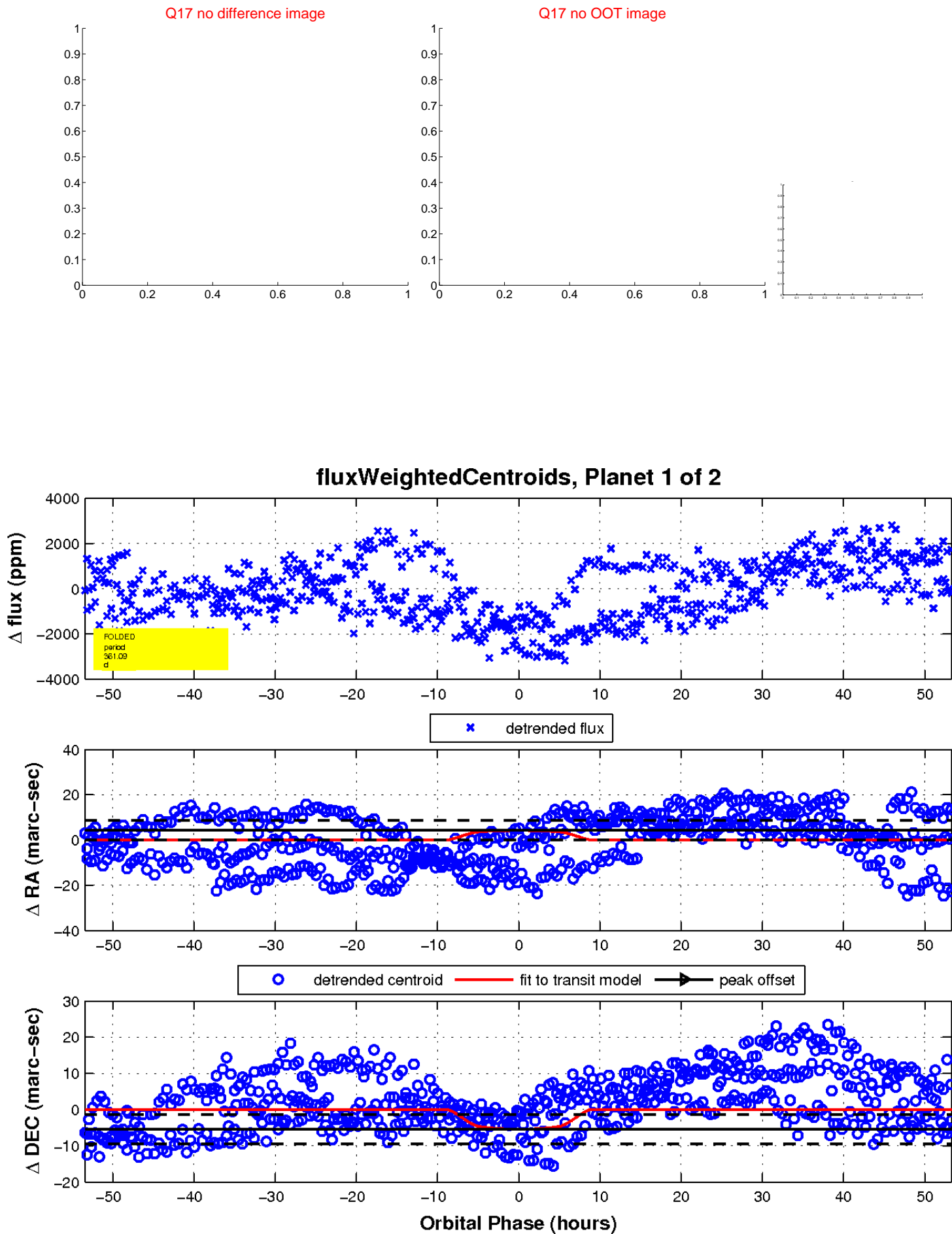
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

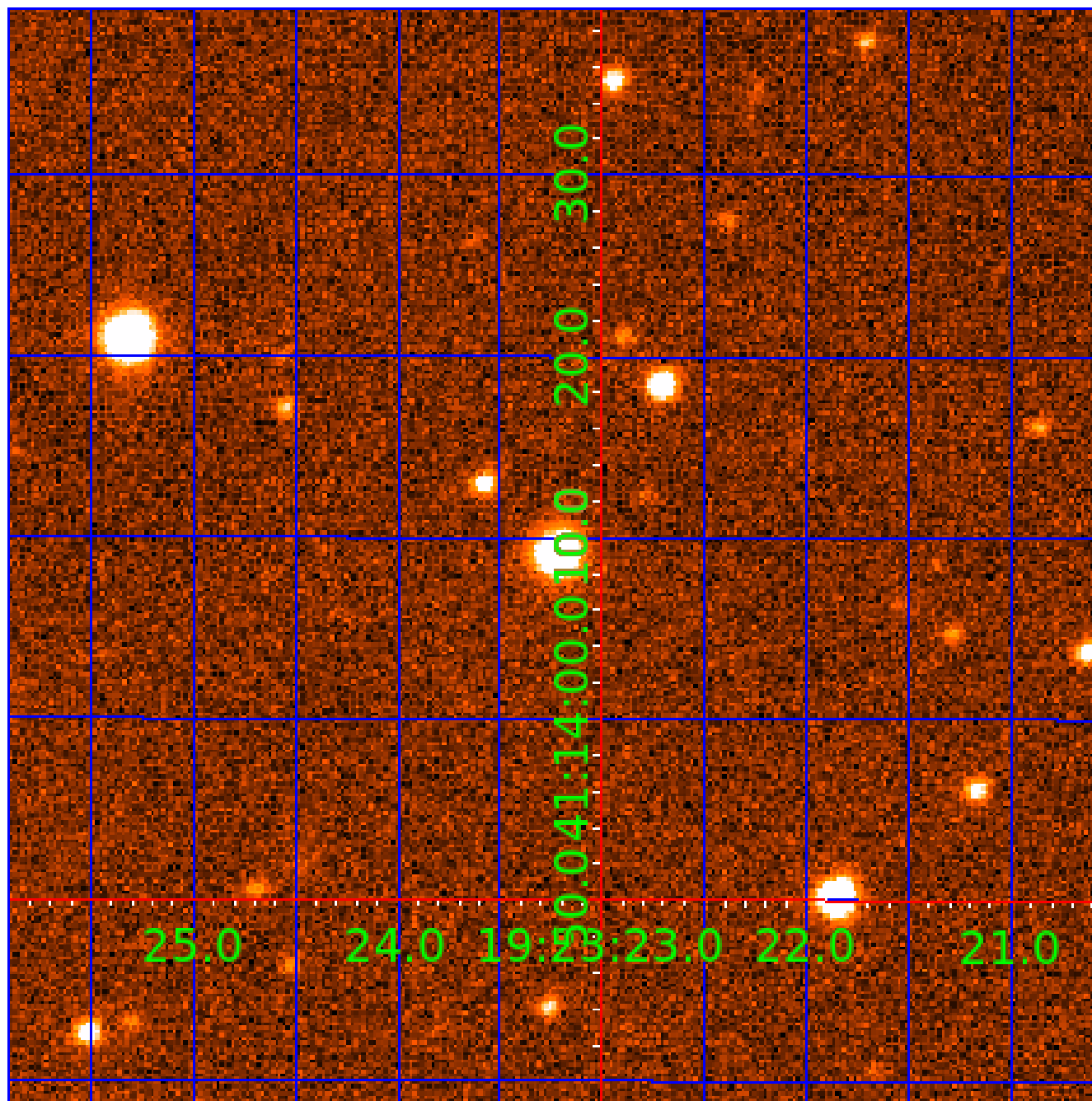


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005957334

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})
005957334-01	OBS	No	361.091195	166.966731	1631.6	17.807	8.1	8.6	0.91	5236	4.50	0.65
005957334-02	OBS	No	240.328161	282.278044	1381.5	19.176	7.5	9.1	0.91	5236	3.38	1.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005957334-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
005957334-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

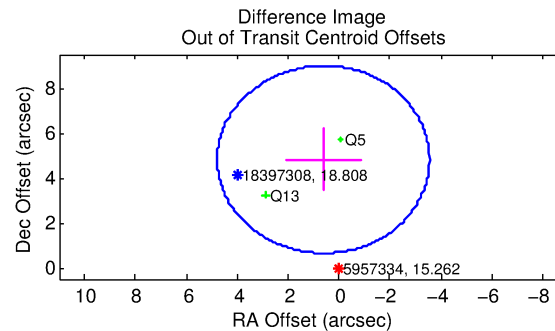
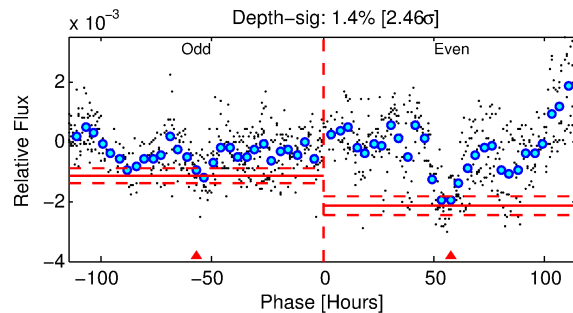
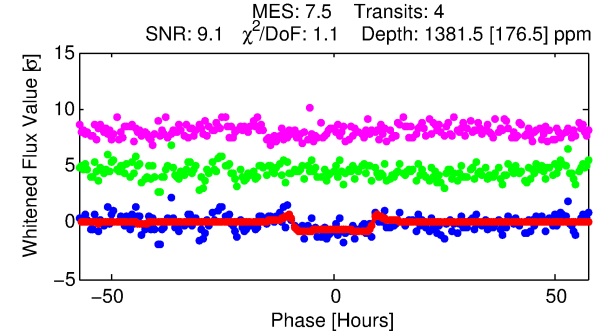
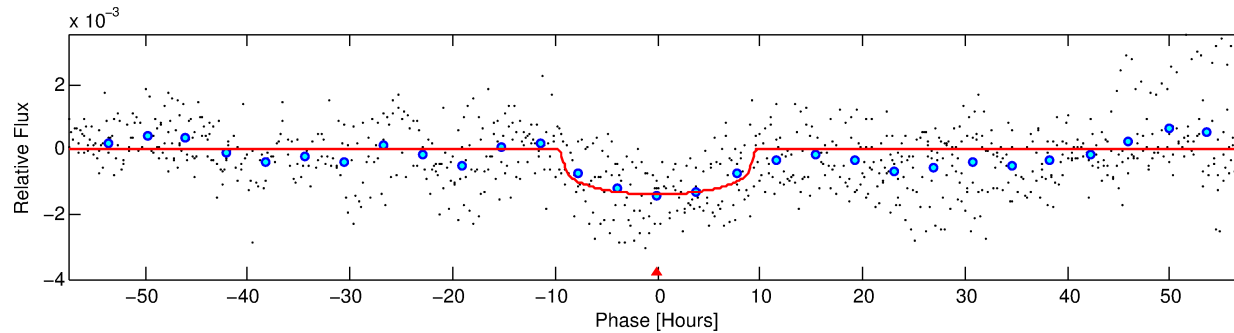
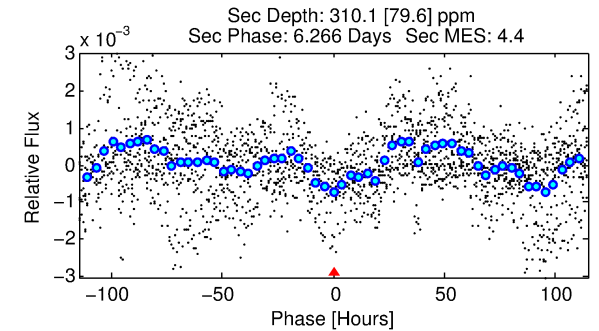
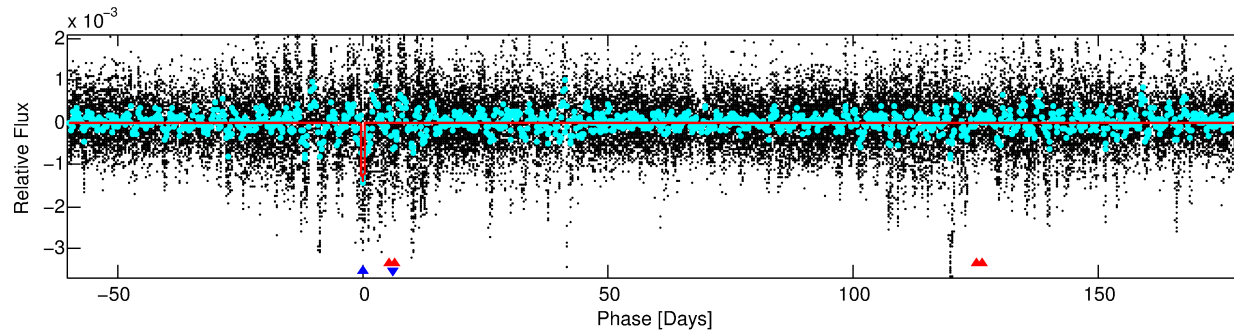
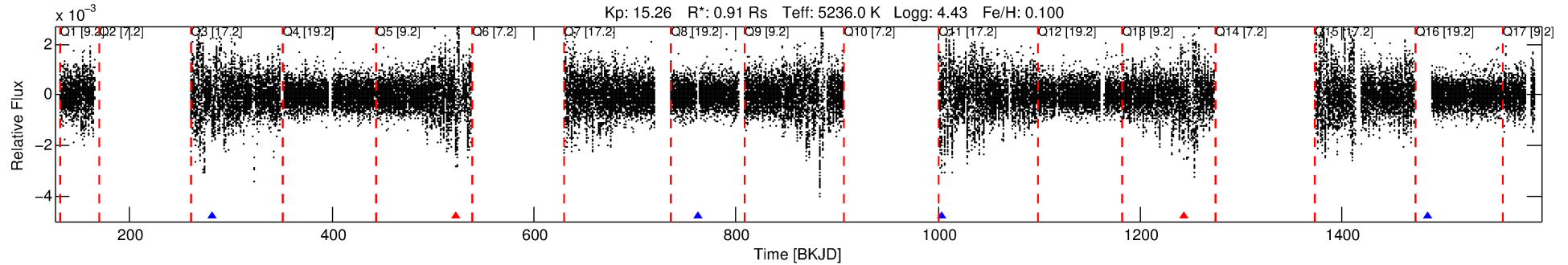
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005957334-02

No Significant Match Found

DV One-Page Summary

KIC: 5957334 Candidate: 2 of 2 Period: 240.328 d



DV Fit Results:

Period = 240.32816 [0.00510] d
Epoch = 282.2780 [0.0133] BKJD
Rp/R* = 0.0340 [0.0083]
a/R* = 90.84 [76.03]
b = 0.41 [1.71]
Seff = 1.11 [0.39]
Teq = 262 [23] K
Rp = 3.38 [1.10] Re
a = 0.7105 [0.1436] AU
Ag = 7516.86 [4788.80] [1.57σ]
Teffp = 3770 [536] K [6.54σ]

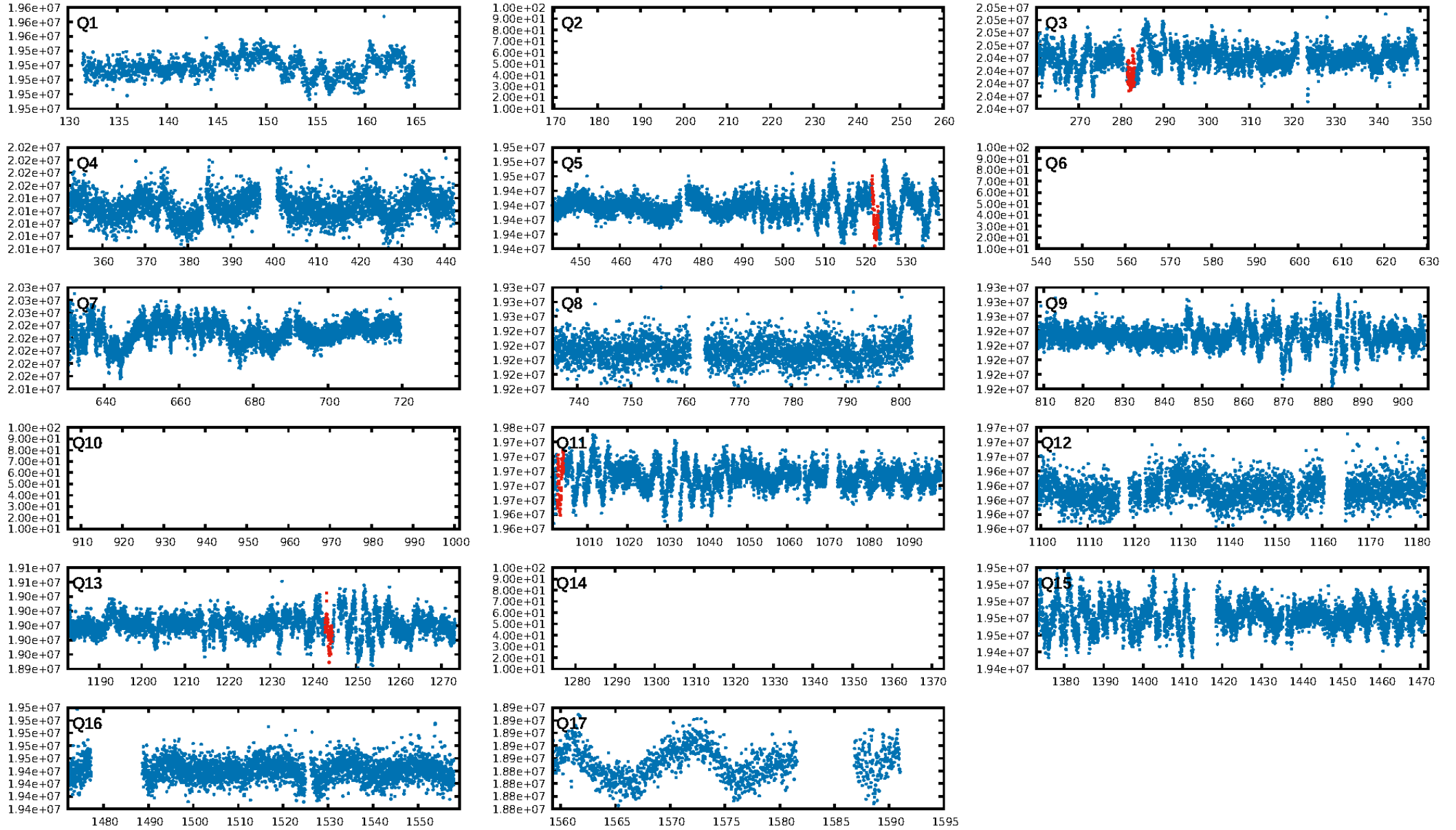
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [110.75σ]
ModelChiSquare2-sig: 28.3%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 7.84e-09
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 1.237
Centroid-sig: 33.2%
Centroid-so: 2.121 arcsec [1.04σ]
OotOffset-rm: 4.854 arcsec [3.49σ]
KicOffset-rm: 5.110 arcsec [3.67σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

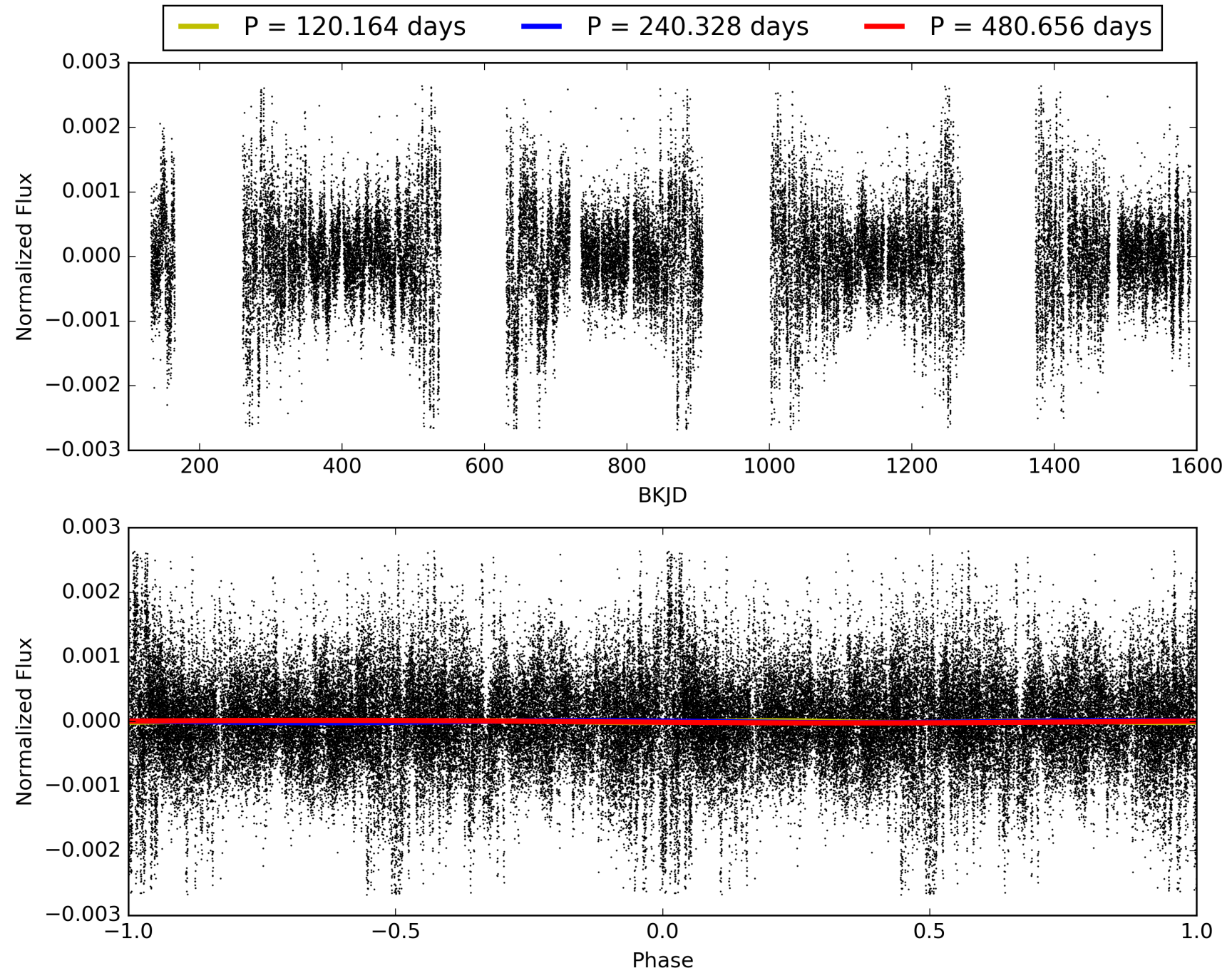
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:33:37 Z

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

TCE 005957334-02, PDC Light Curves

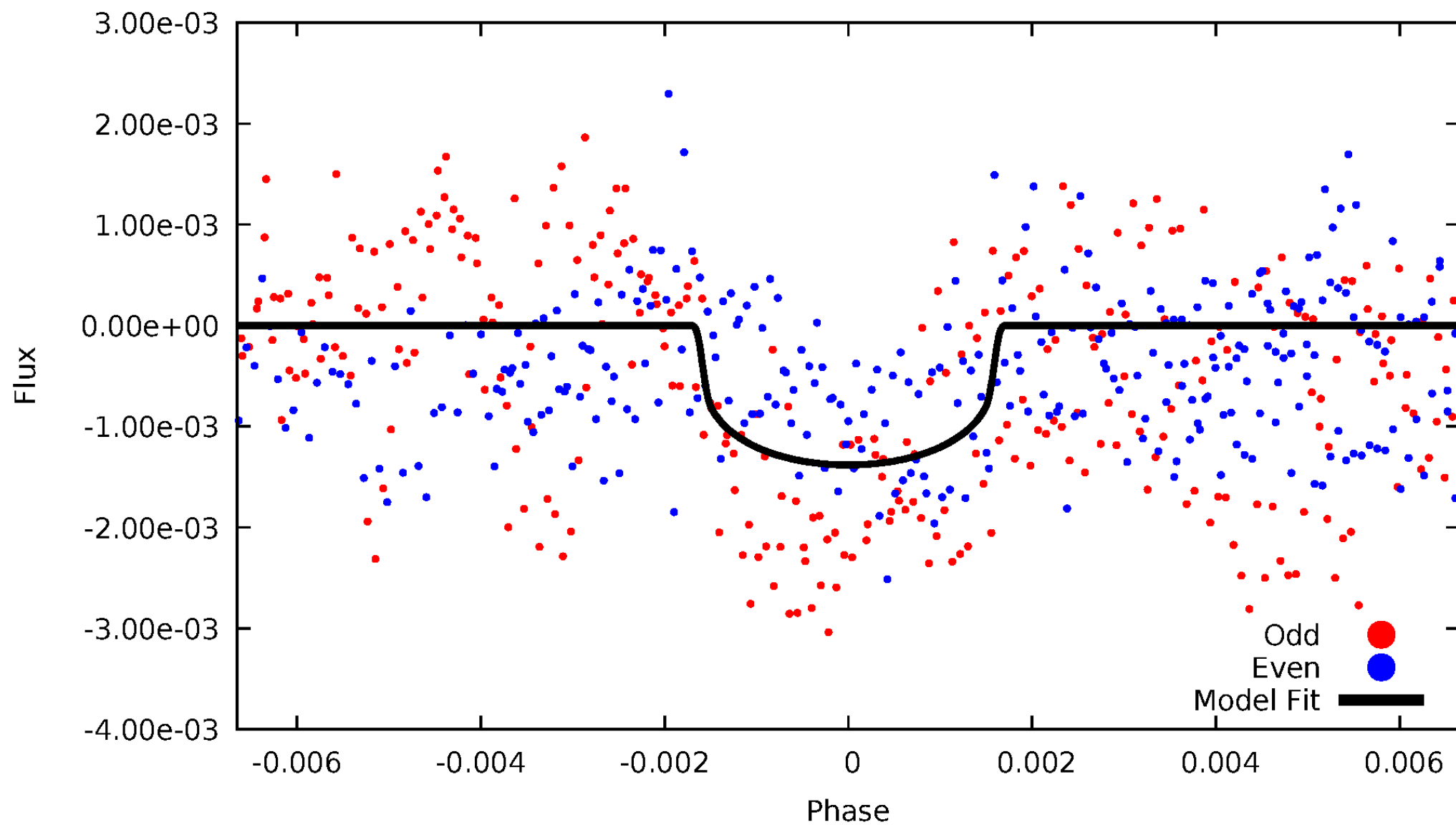


TCE 005957334-02



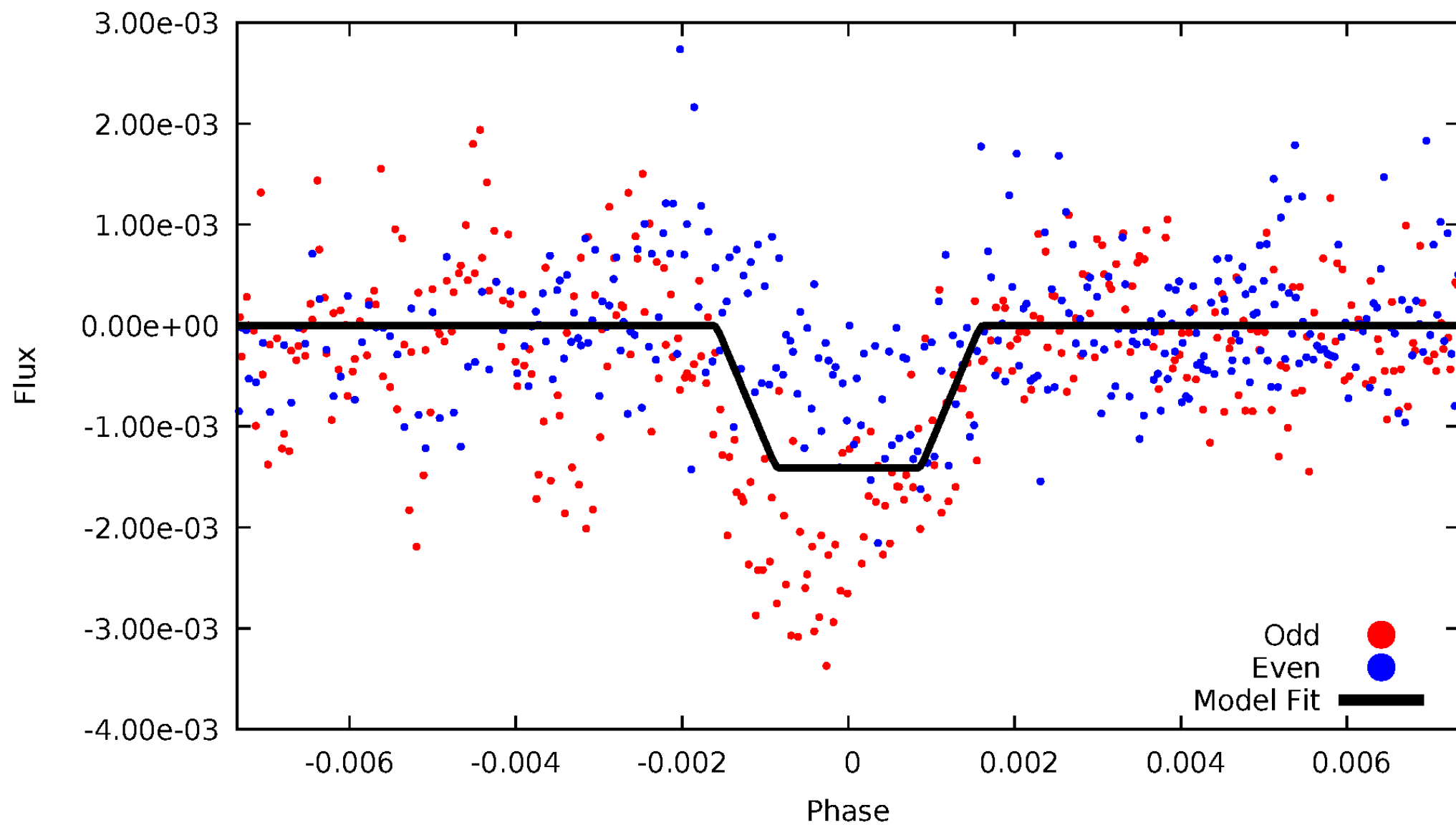
DV Odd/Even

TCE 005957334-02



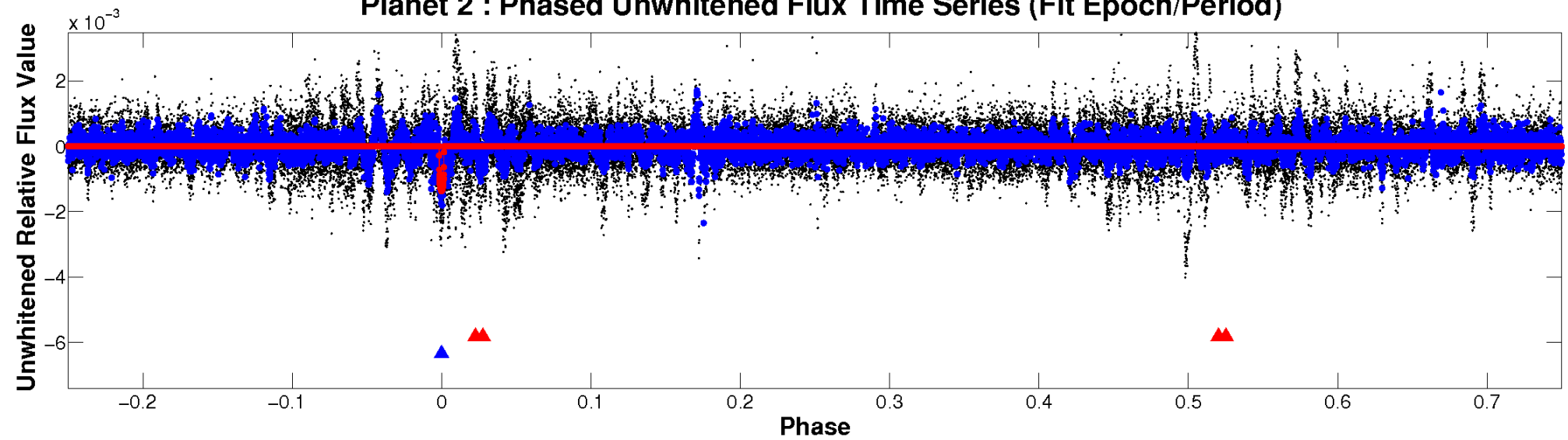
ALT Odd/Even

TCE 005957334-02

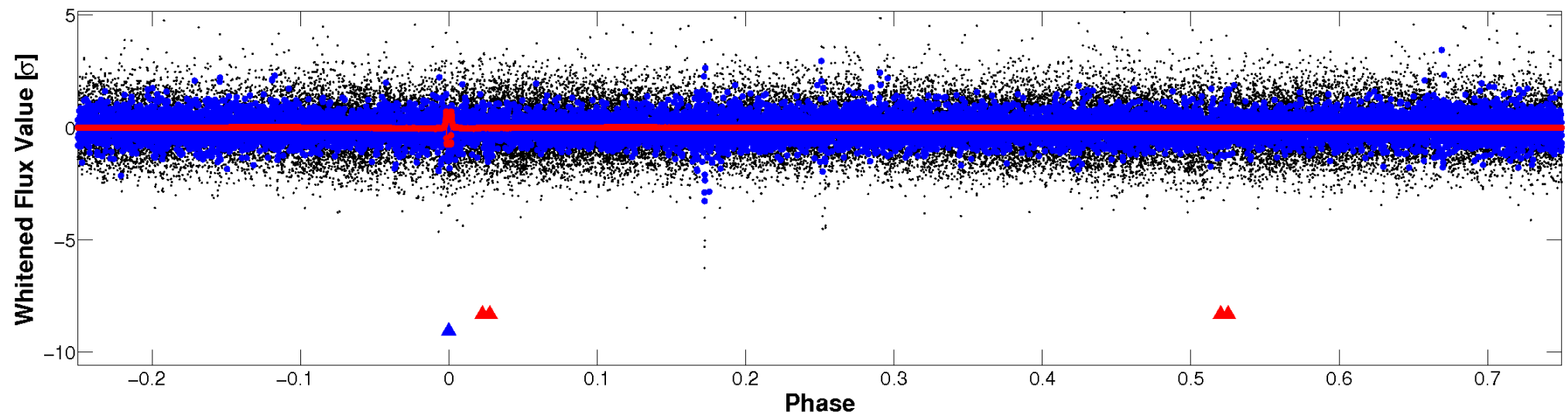


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

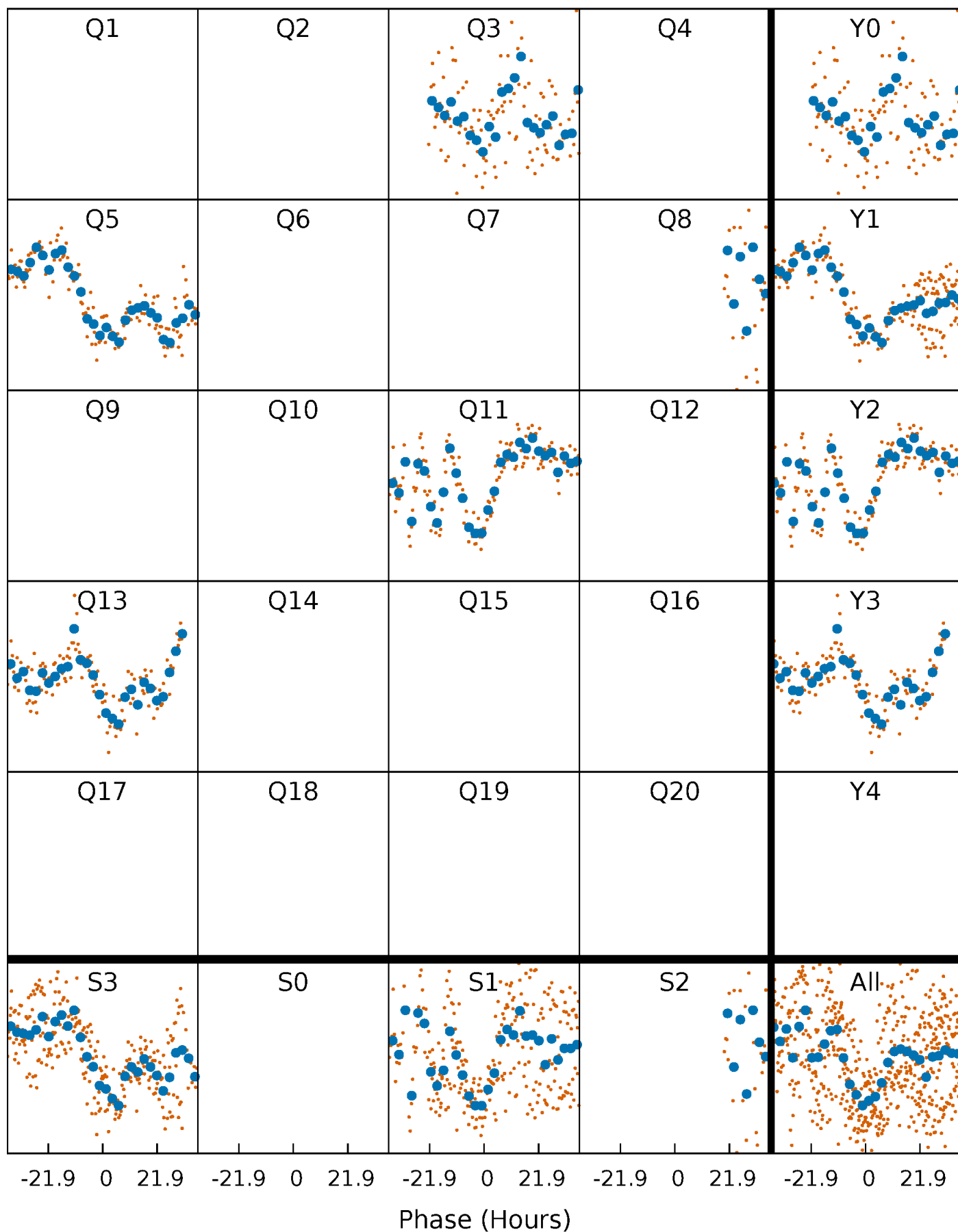


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 005957334-02 $P=240.328161$ Days $T_0=282.278044$ (BKJD)



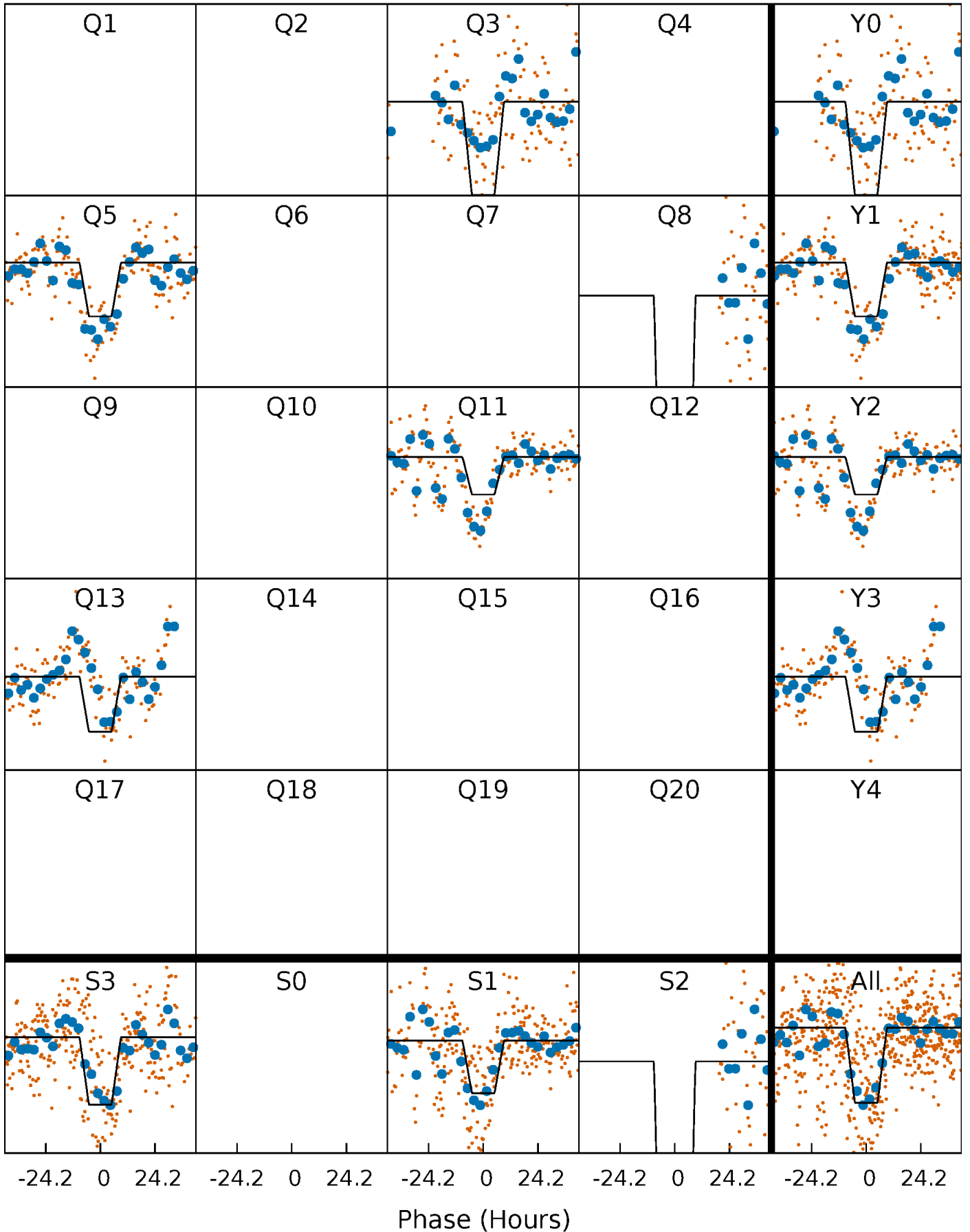
DV Quarter-Phased Transit Curves

TCE 005957334-02 $P=240.328161$ Days $T_0=282.278044$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

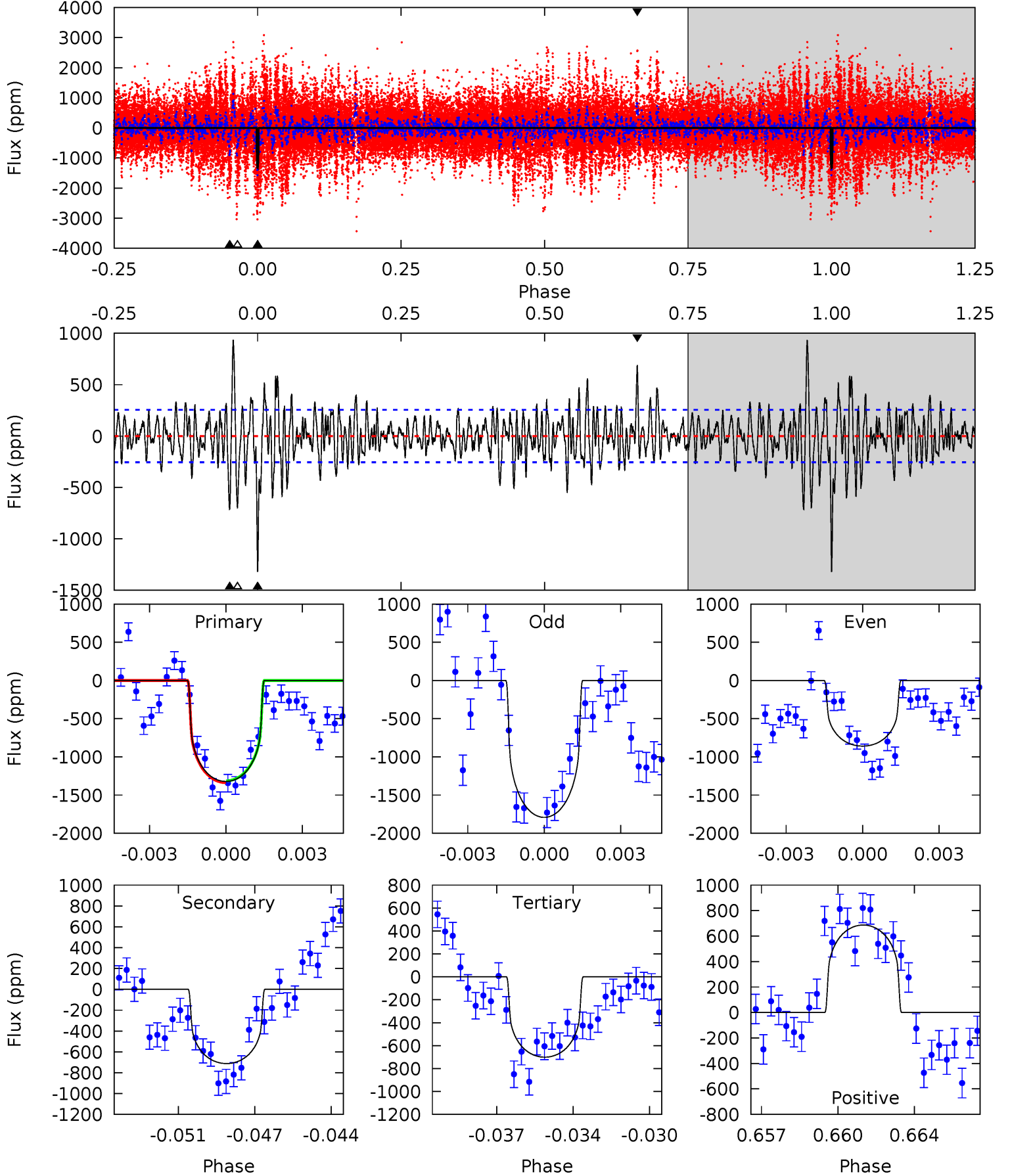
TCE 005957334-02 P=240.332721 Days $T_0=282.276248$ (BKJD)



DV Model-Shift Uniqueness Test

005957334-02, $P = 240.328161$ Days, $E = 41.949883$ Days

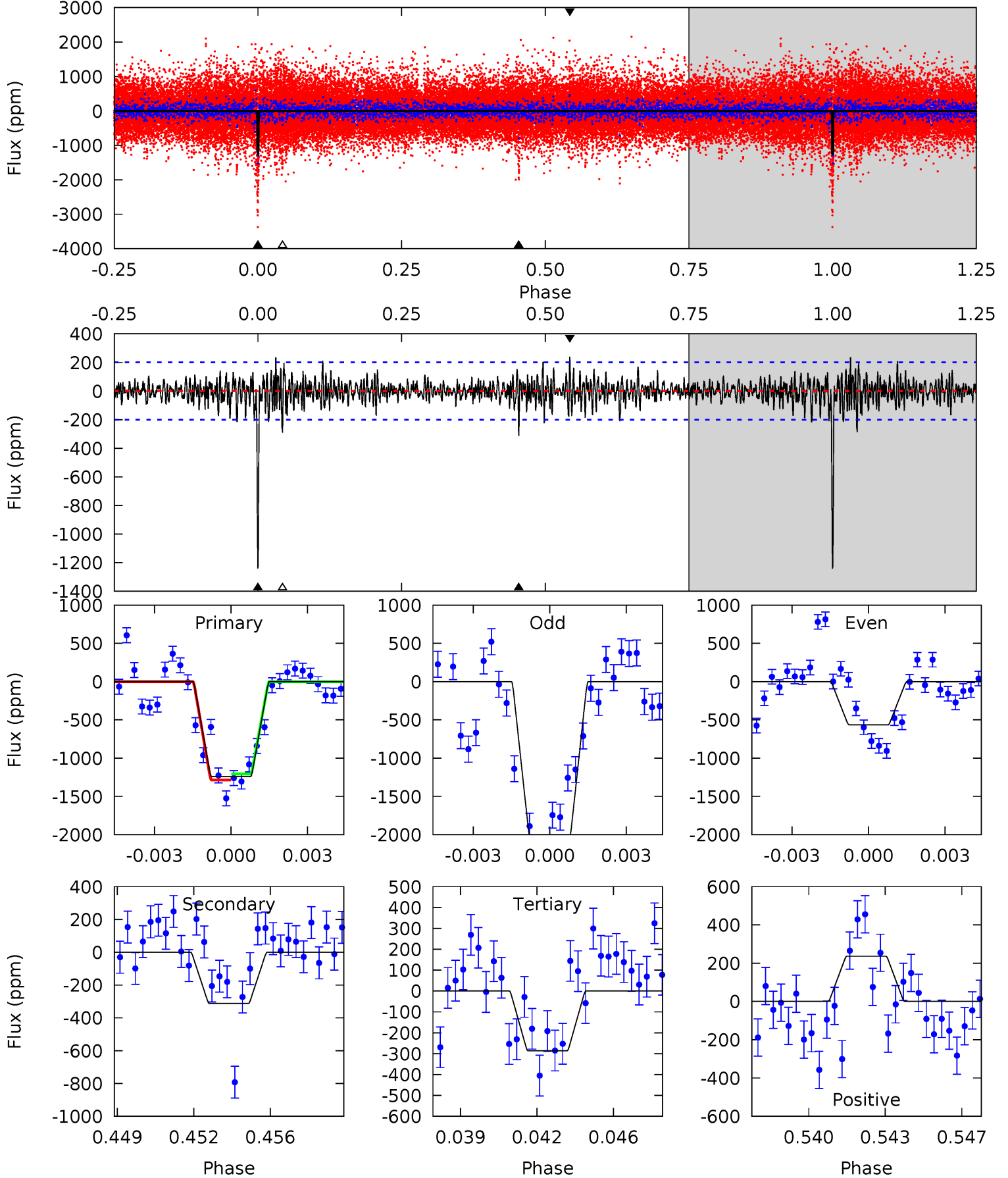
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.1	14.6	14.4	14.1	5.23	2.93	3.94	12.7	13.0	0.23	0.53	9.33	1.01	0.41	0.24



Alt Model-Shift Uniqueness Test

005957334-02, P = 240.332721 Days, E = 41.943527 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.4	8.15	7.48	6.17	5.24	2.94	1.65	24.9	26.2	0.67	1.98	19.6	1.05	0.16	1.02



Stellar Parameters For KIC 005957334

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5236^{+184}_{-184}	$4.435^{+0.124}_{-0.186}$	$0.100^{+0.250}_{-0.250}$	$0.913^{+0.196}_{-0.130}$	$0.827^{+0.098}_{-0.066}$	$1.529^{+0.803}_{-0.679}$
	+4%/-4%	+3%/-4%	+250%/-250%	+21%/-14%	+12%/-8%	+53%/-44%
Source	KIC0	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 005957334-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-712 ± 49	$3.47^{+0.93}_{-0.86}$	369^{+26}_{-22}	4726^{+607}_{-392}	16419^{+13404}_{-6120}
Alt.	-312 ± 38	$3.79^{+1.04}_{-0.85}$	367^{+26}_{-21}	3906^{+348}_{-292}	6077^{+3868}_{-2416}

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 $A_{obs} \gg 1.0$

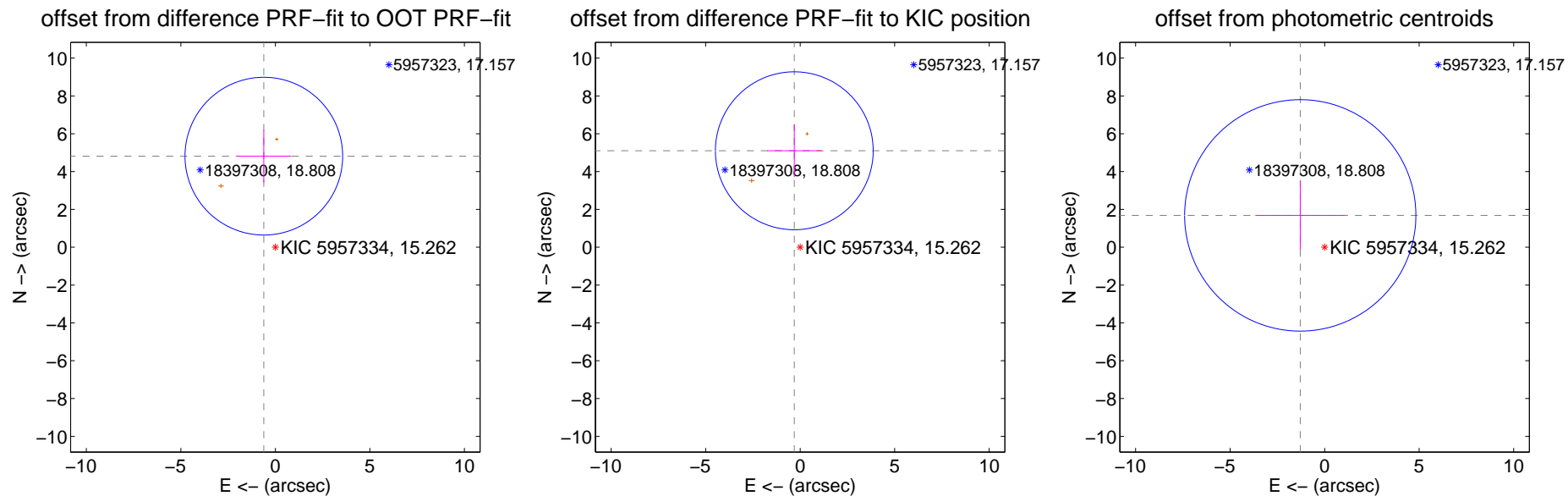
DV Centroid Data

Supplemental centroid analysis for 005957334-02. Kepler magnitude: 15.26. Transit SNR 9.06

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.854 ± 1.390	3.49	0.610 ± 1.455	4.815 ± 1.389
PRF-fit source offset from KIC position	5.110 ± 1.391	3.67	0.310 ± 1.446	5.100 ± 1.391
photometric centroid source offset	2.12 ± 2.04	1.04	1.29 ± 2.37	1.68 ± 1.81

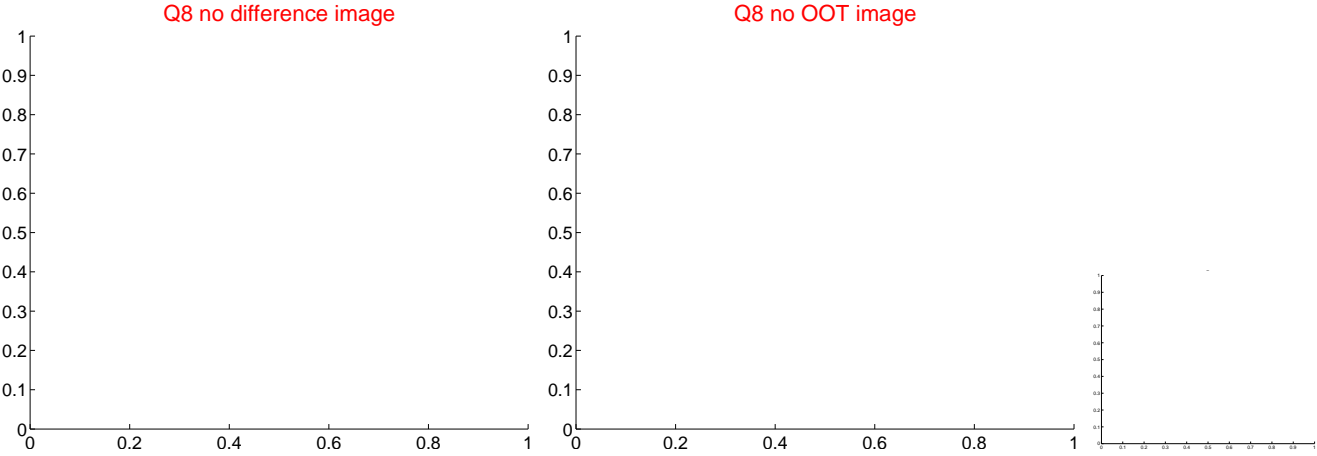
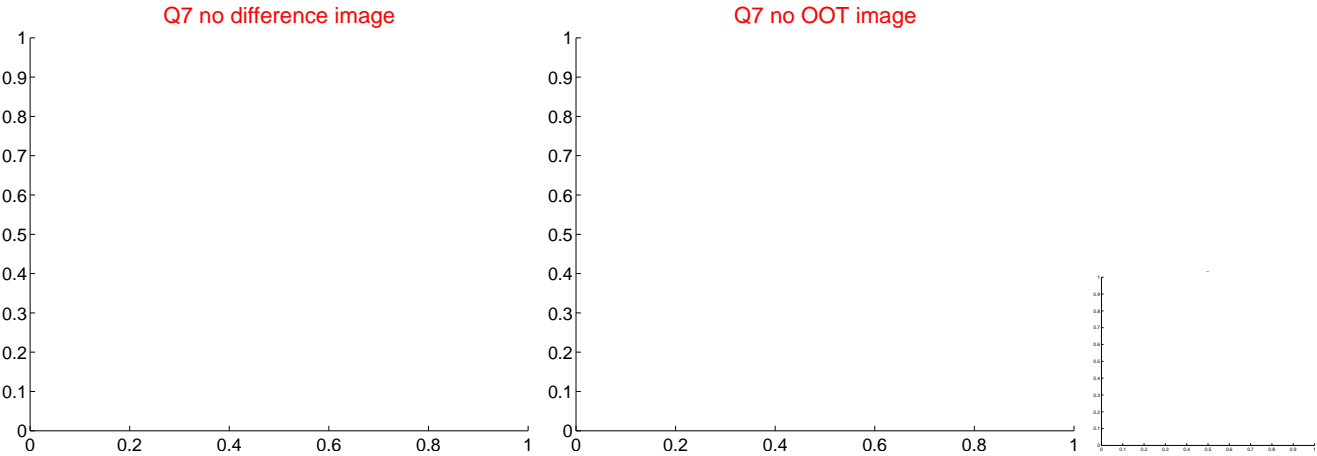
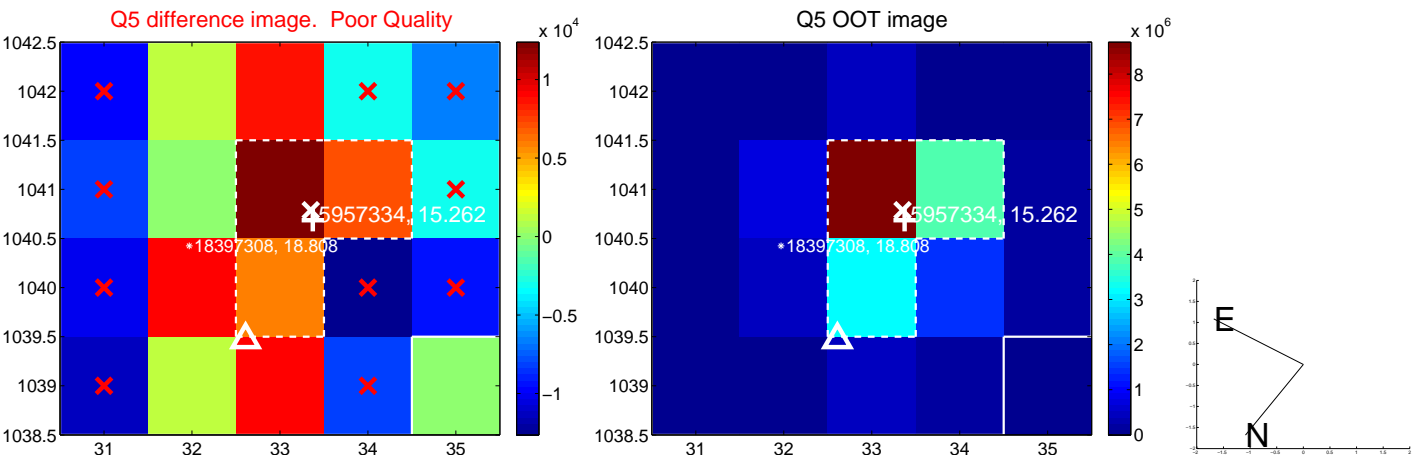


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



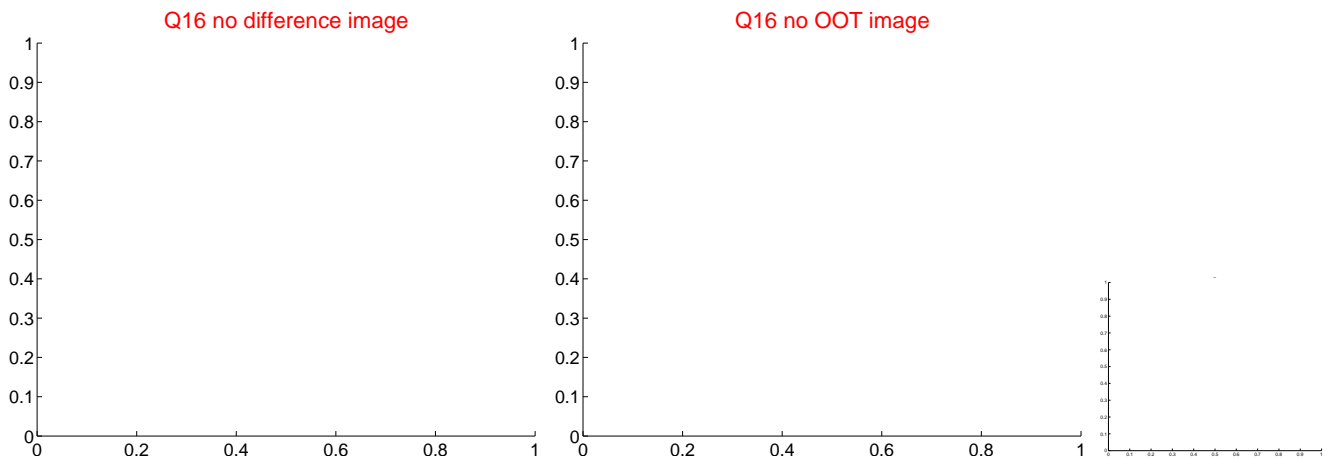
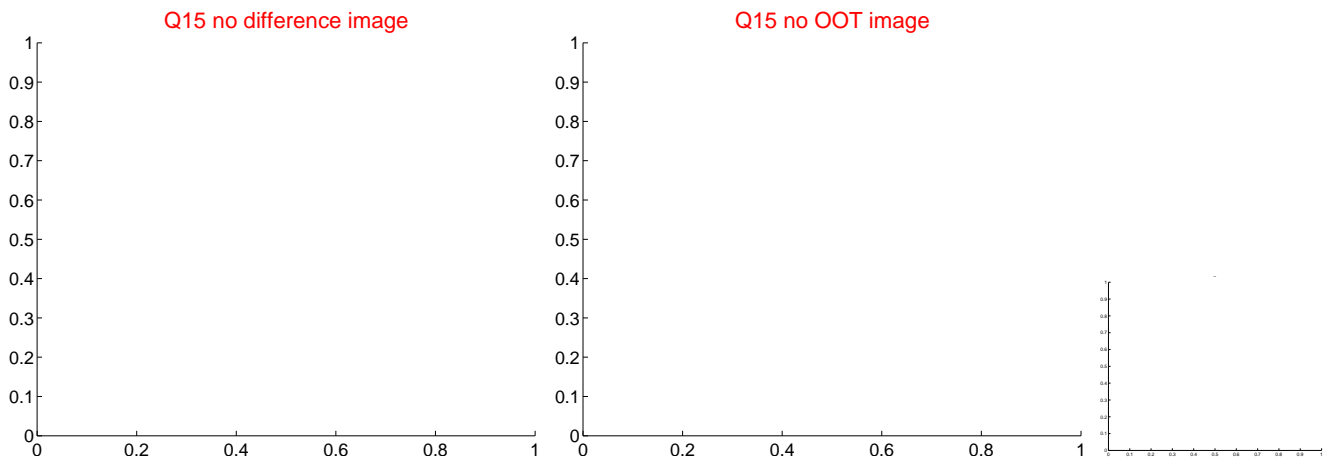
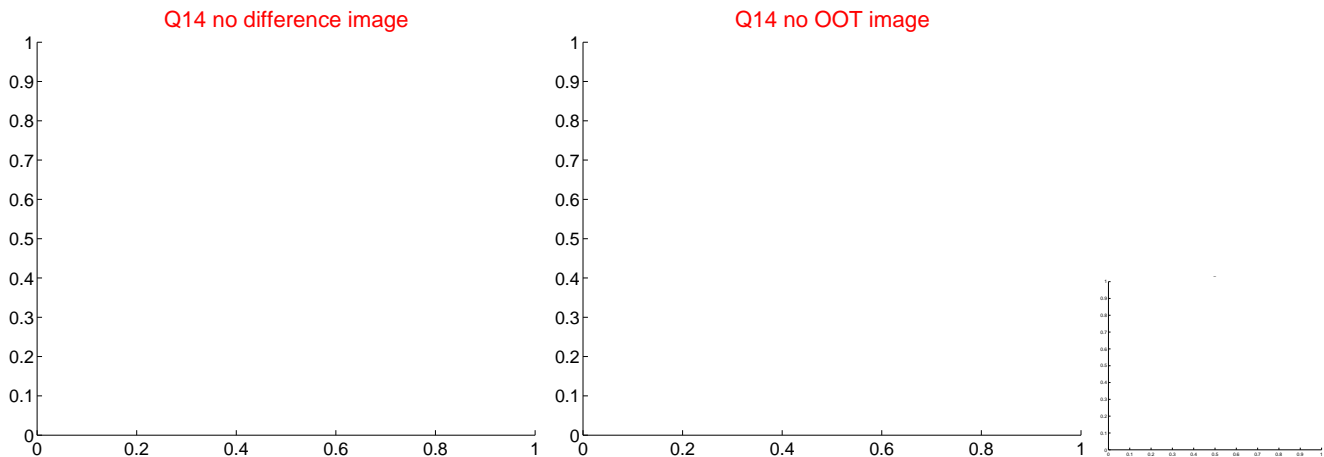
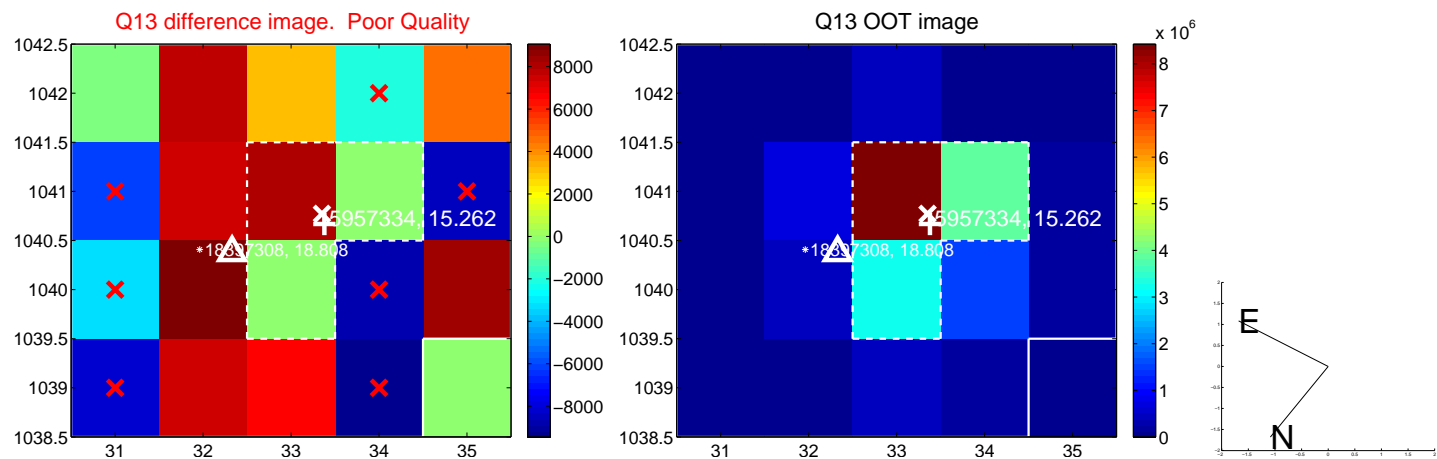
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



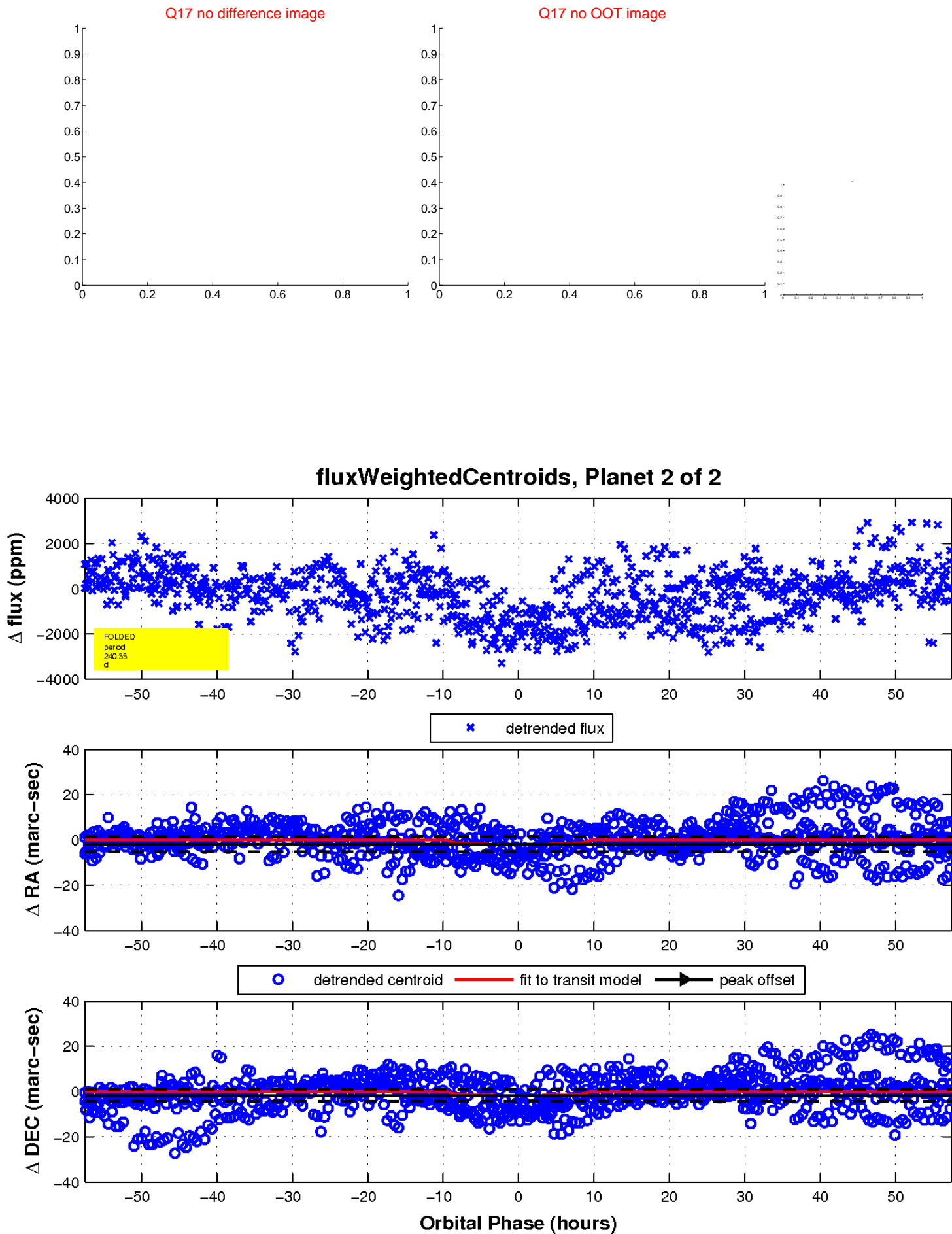
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

