

KIC 001872340

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})
001872340-01	OBS	No	378.353738	306.937774	585.1	3.747	19.4	5.8	2.80	5059	7.34	4.94
001872340-04	OBS	No	416.101017	478.617681	1086.2	16.327	16.7	7.7	2.80	5059	9.17	4.35
001872340-05	OBS	No	444.621874	304.104253	386.4	3.893	15.3	3.8	2.80	5059	5.39	3.99
001872340-06	OBS	No	398.776551	278.655664	856.3	3.395	15.1	9.2	2.80	5059	16.57	4.61
001872340-07	OBS	No	543.908949	314.512718	1466.3	12.212	14.2	13.7	2.80	5059	11.38	3.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001872340-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
001872340-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
001872340-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_NOFITS

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

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

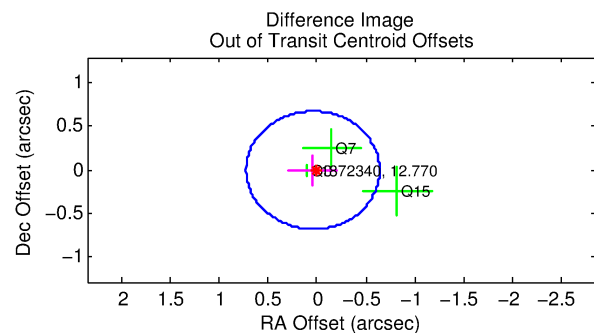
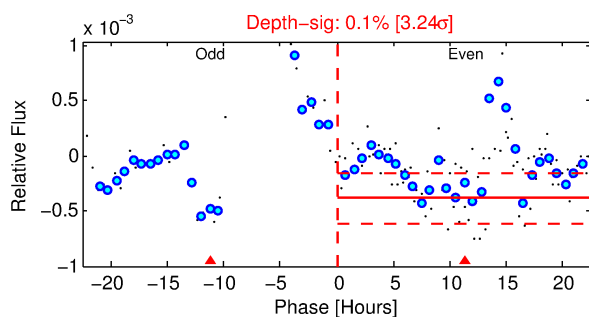
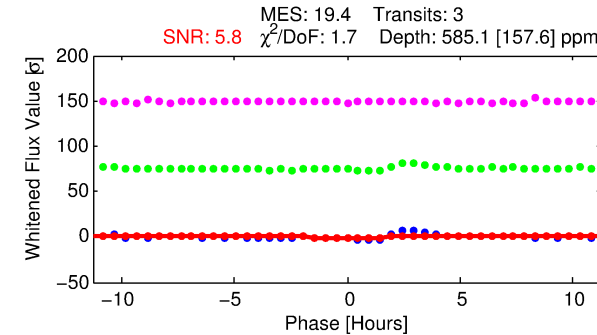
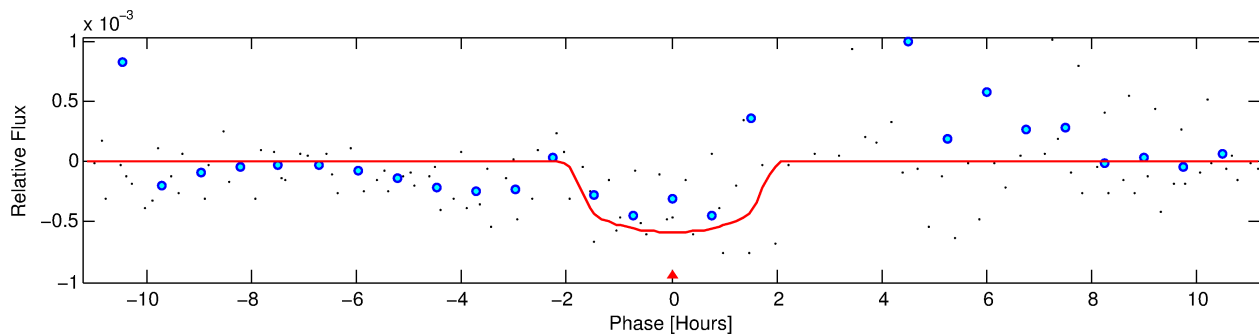
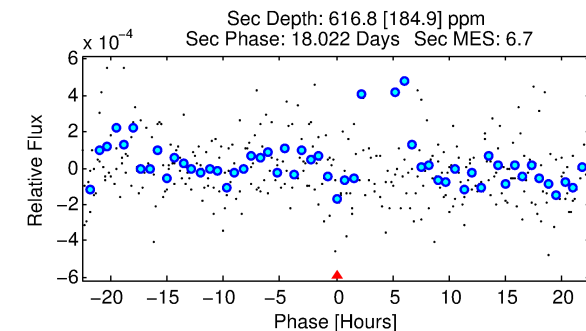
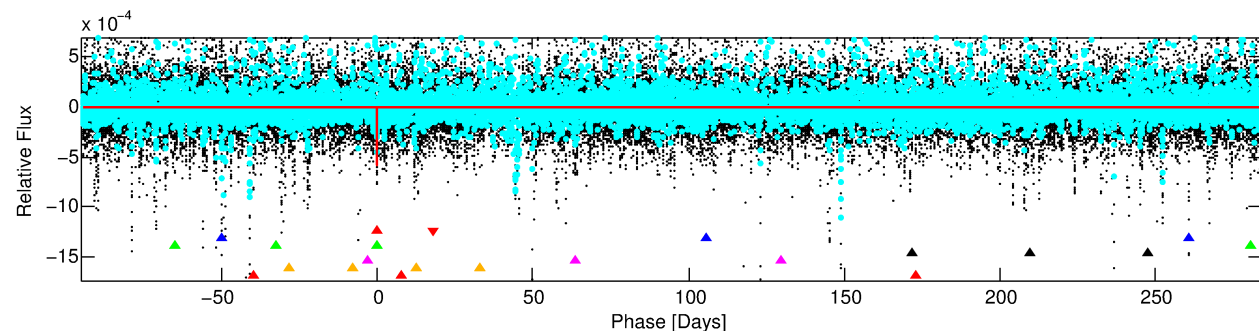
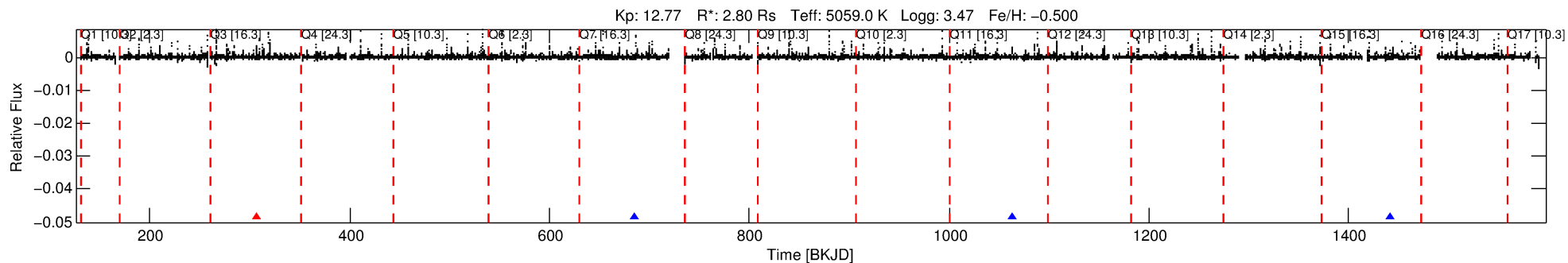
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001872340-01

No Significant Match Found

DV One-Page Summary

KIC: 1872340 Candidate: 1 of 7 Period: 378.354 d



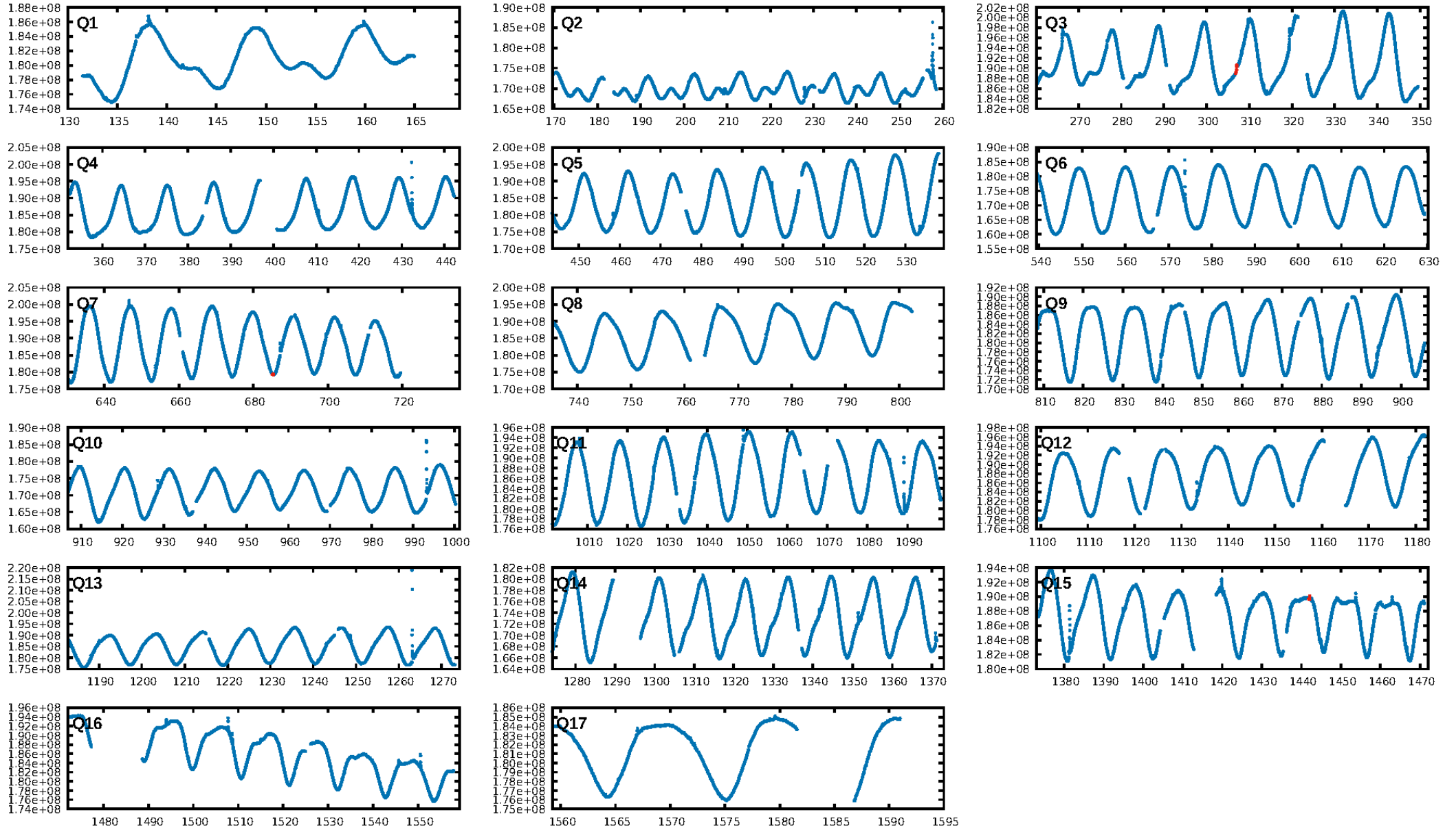
DV Fit Results:

Period = 378.35374 [0.00586] d
Epoch = 306.9378 [0.0083] BKJD
Rp/R* = 0.0240 [0.0298]
a/R* = 544.40 [2543.27]
b = 0.74 [2.88]
Seff = 4.94 [4.05]
Teq = 380 [78] K
Rp = 7.34 [10.49] Re
a = 0.9645 [0.5552] AU
Ag = 5854.85 [15394.44] [0.38σ]
Teffp = 5142 [3218] K [1.48σ]

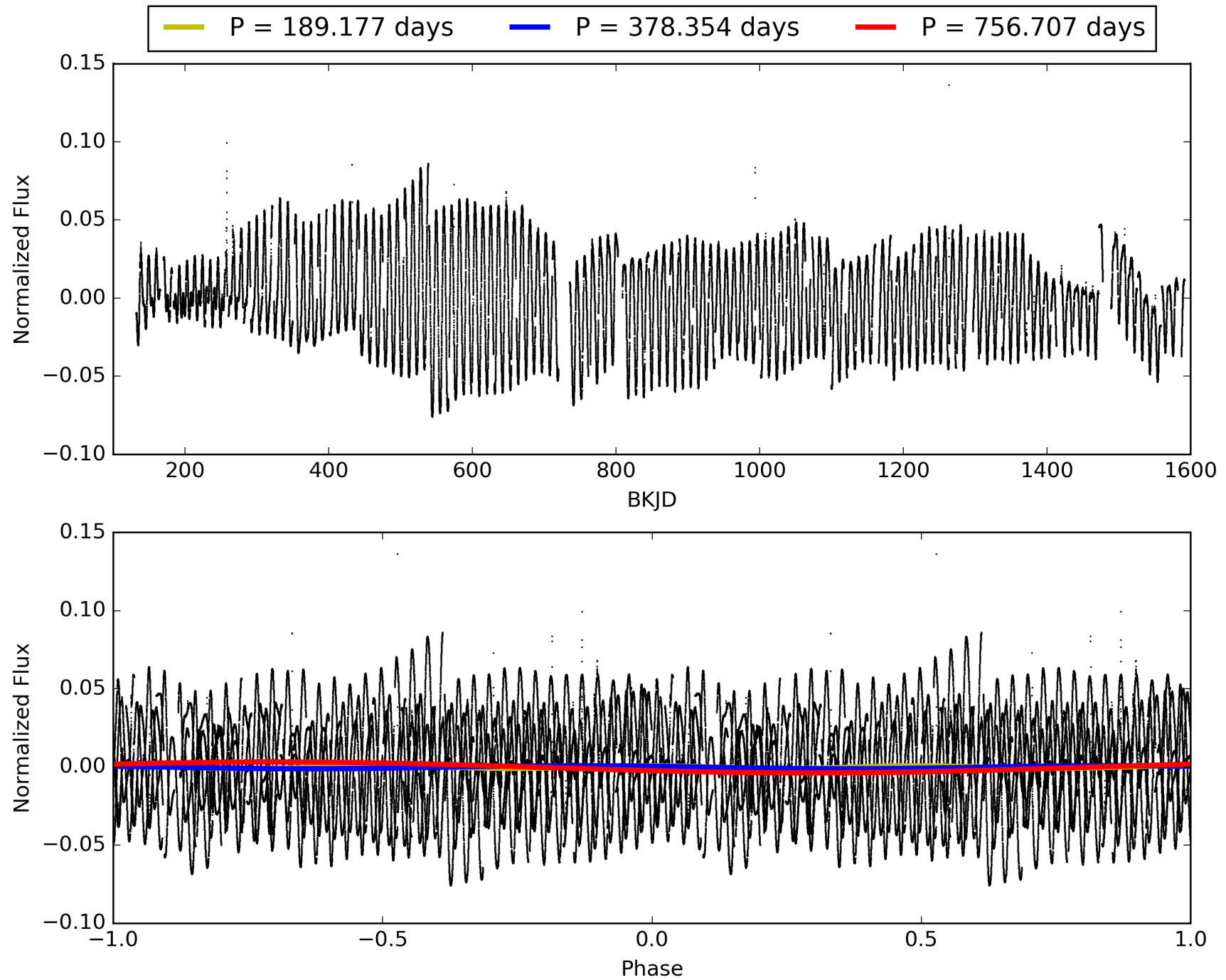
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [96.94σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 25.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 0.484
Centroid-sig: 10.8%
Centroid-so: 1.240 arcsec [1.13σ]
OotOffset-rm: 0.044 arcsec [0.19σ]
KicOffset-rm: 0.193 arcsec [1.26σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

TCE 001872340-01, PDC Light Curves

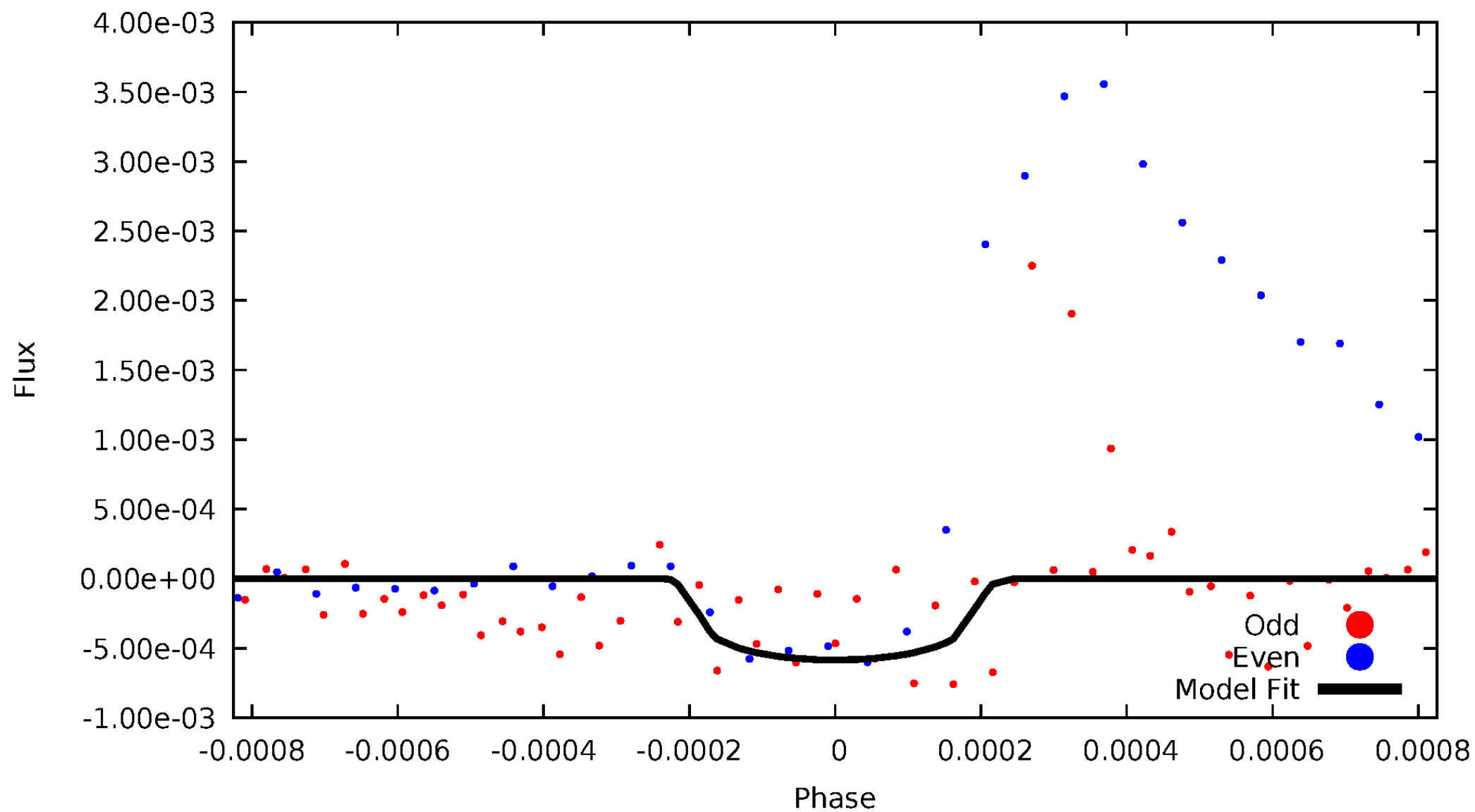


TCE 001872340-01



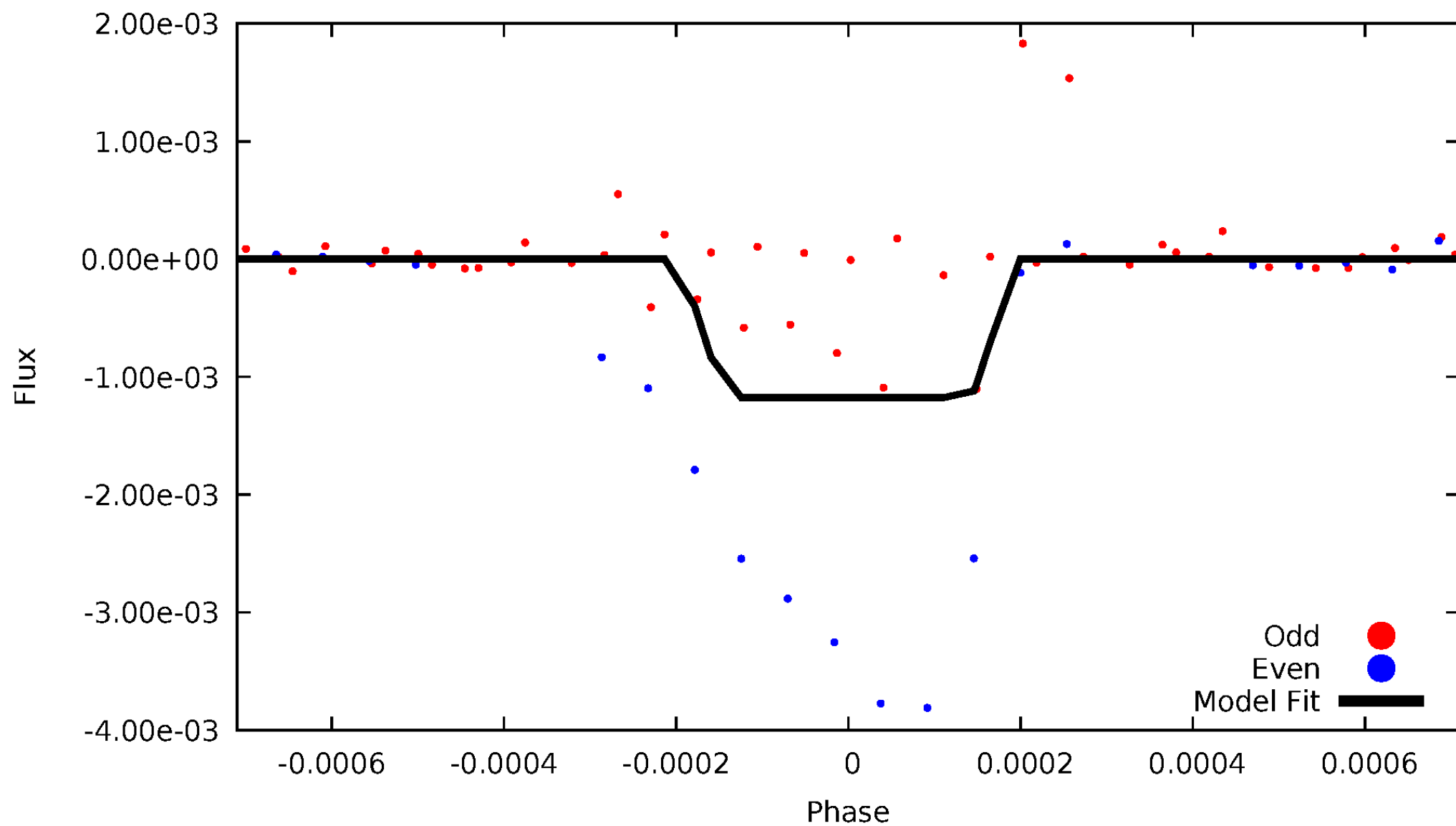
DV Odd/Even

TCE 001872340-01



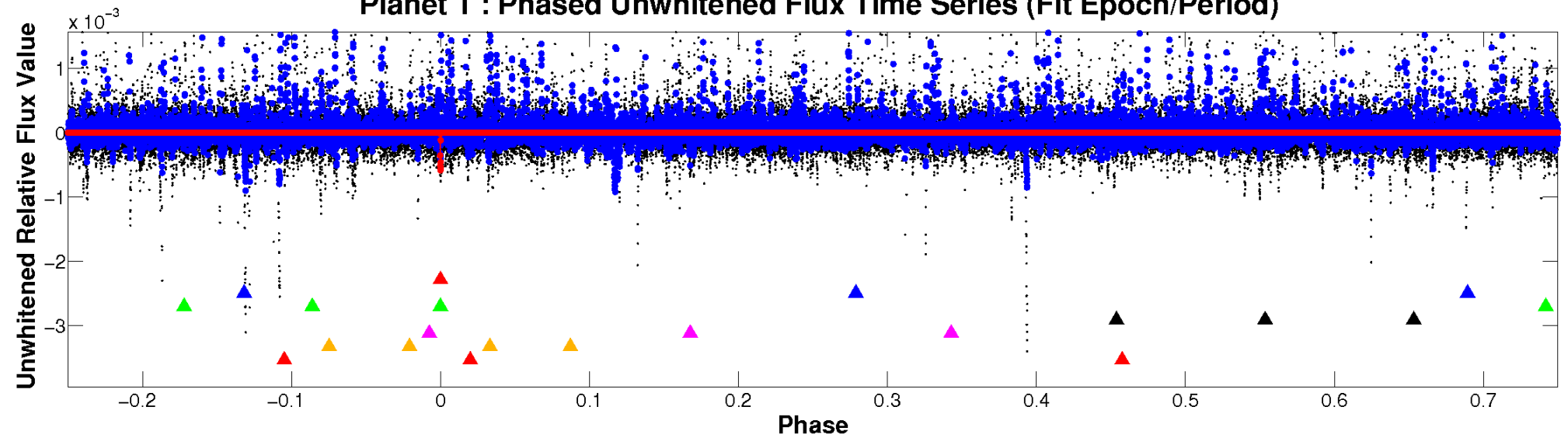
ALT Odd/Even

TCE 001872340-01

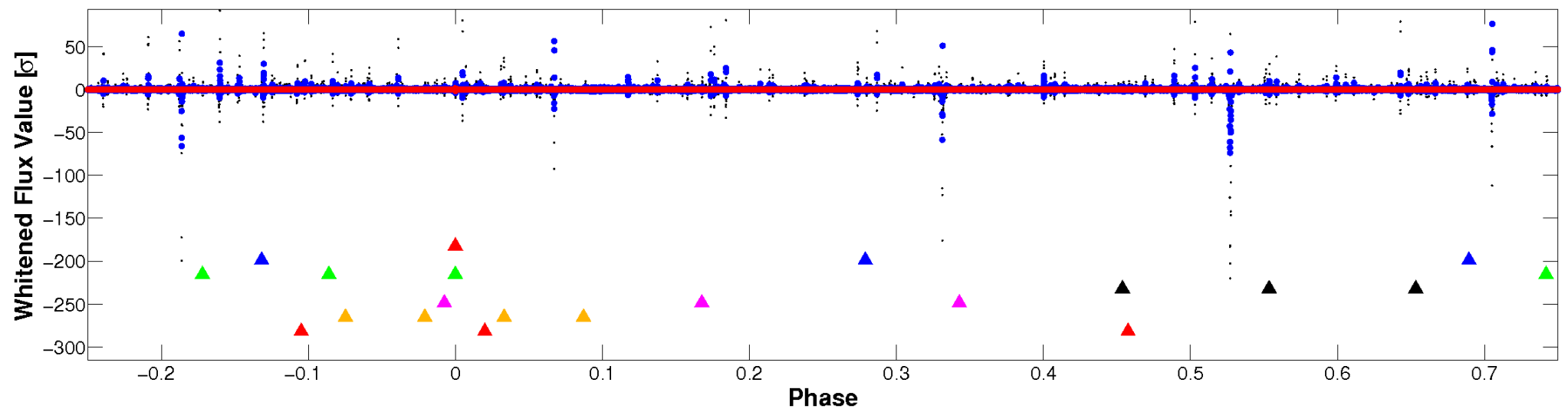


Non-Whitened Vs. Whitened Light Curve

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

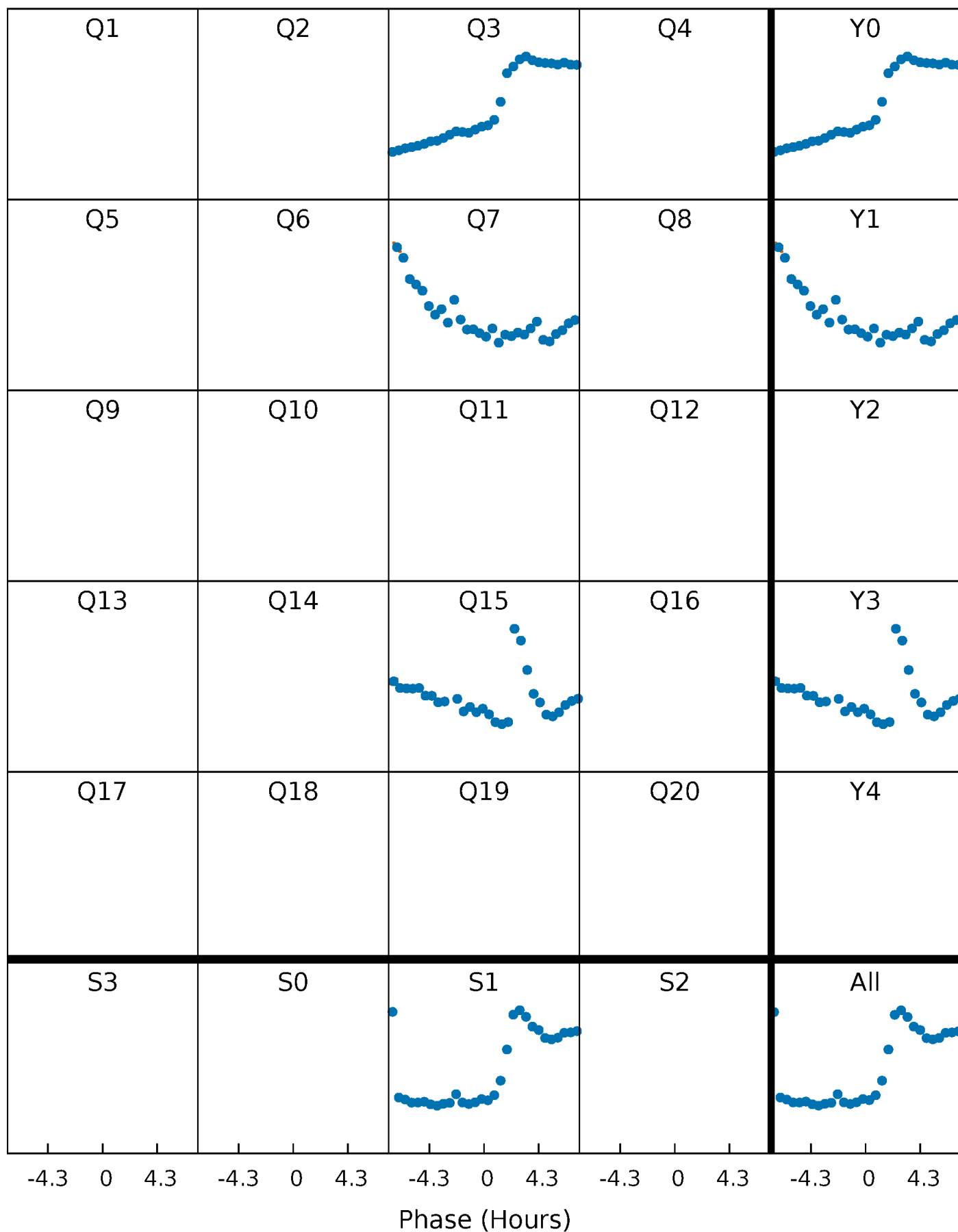


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



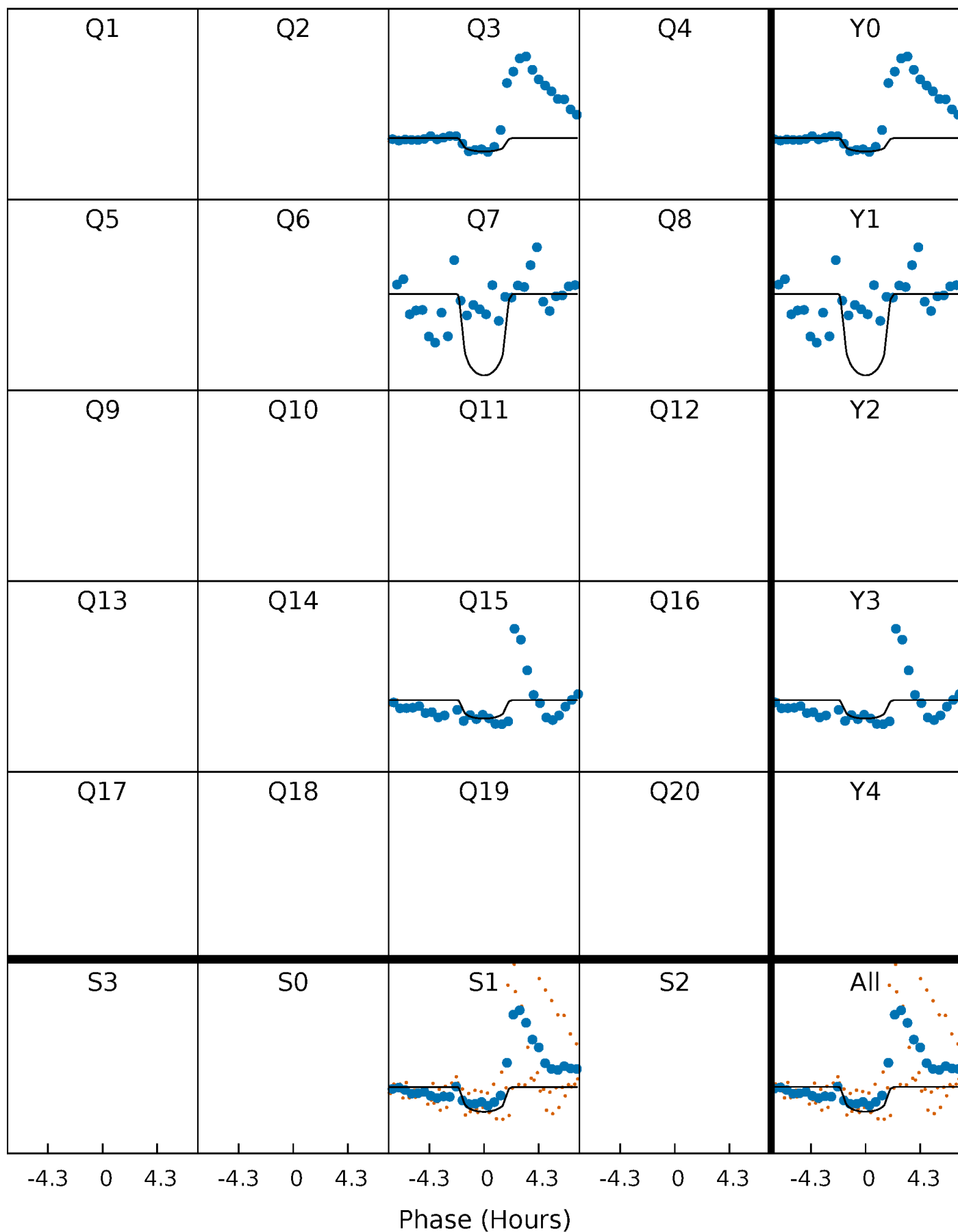
PDC Quarter-Phased Transit Curves

TCE 001872340-01 P=378.353738 Days $T_0=306.937774$ (BKJD)



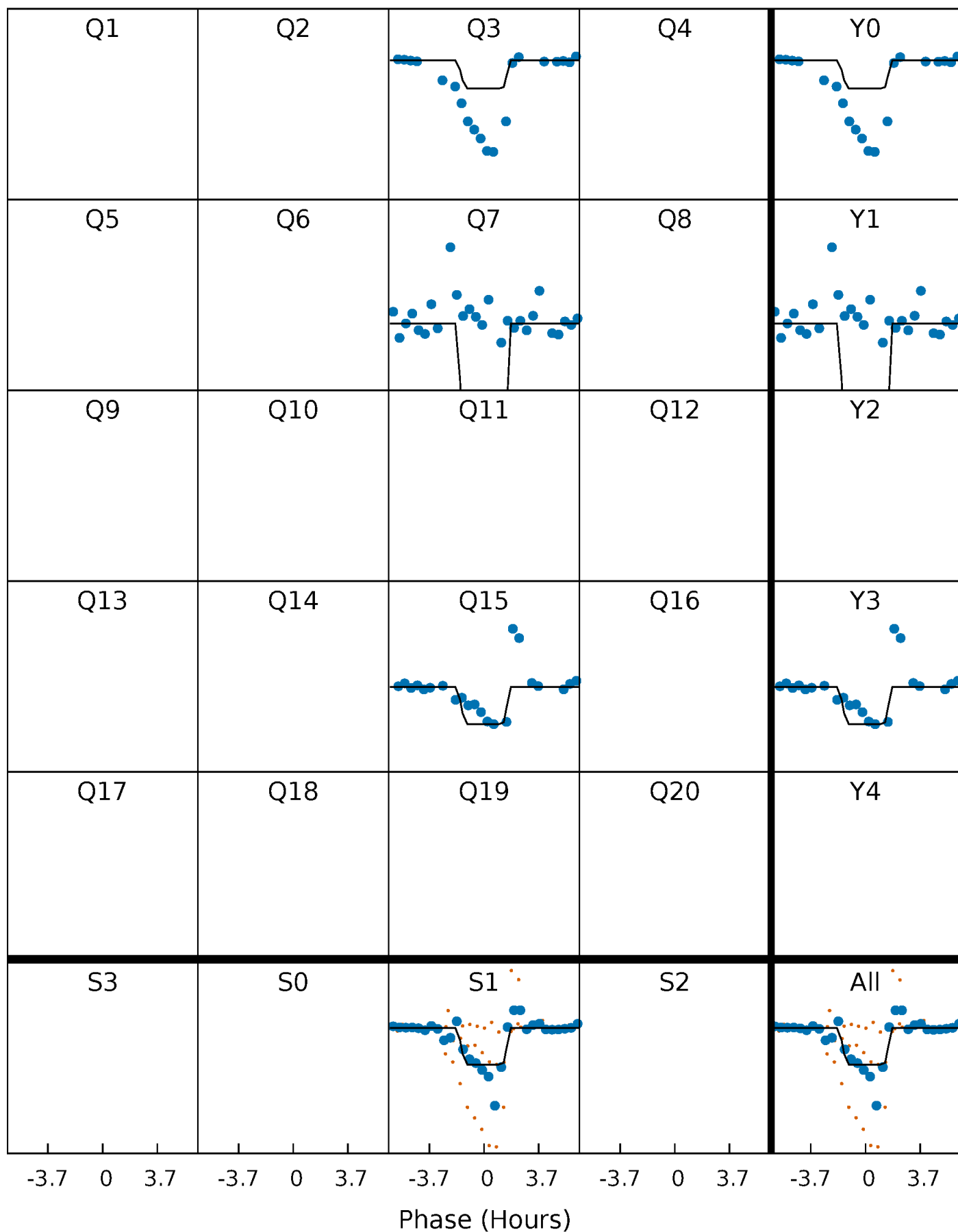
DV Quarter-Phased Transit Curves

TCE 001872340-01 P=378.353738 Days $T_0=306.937774$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

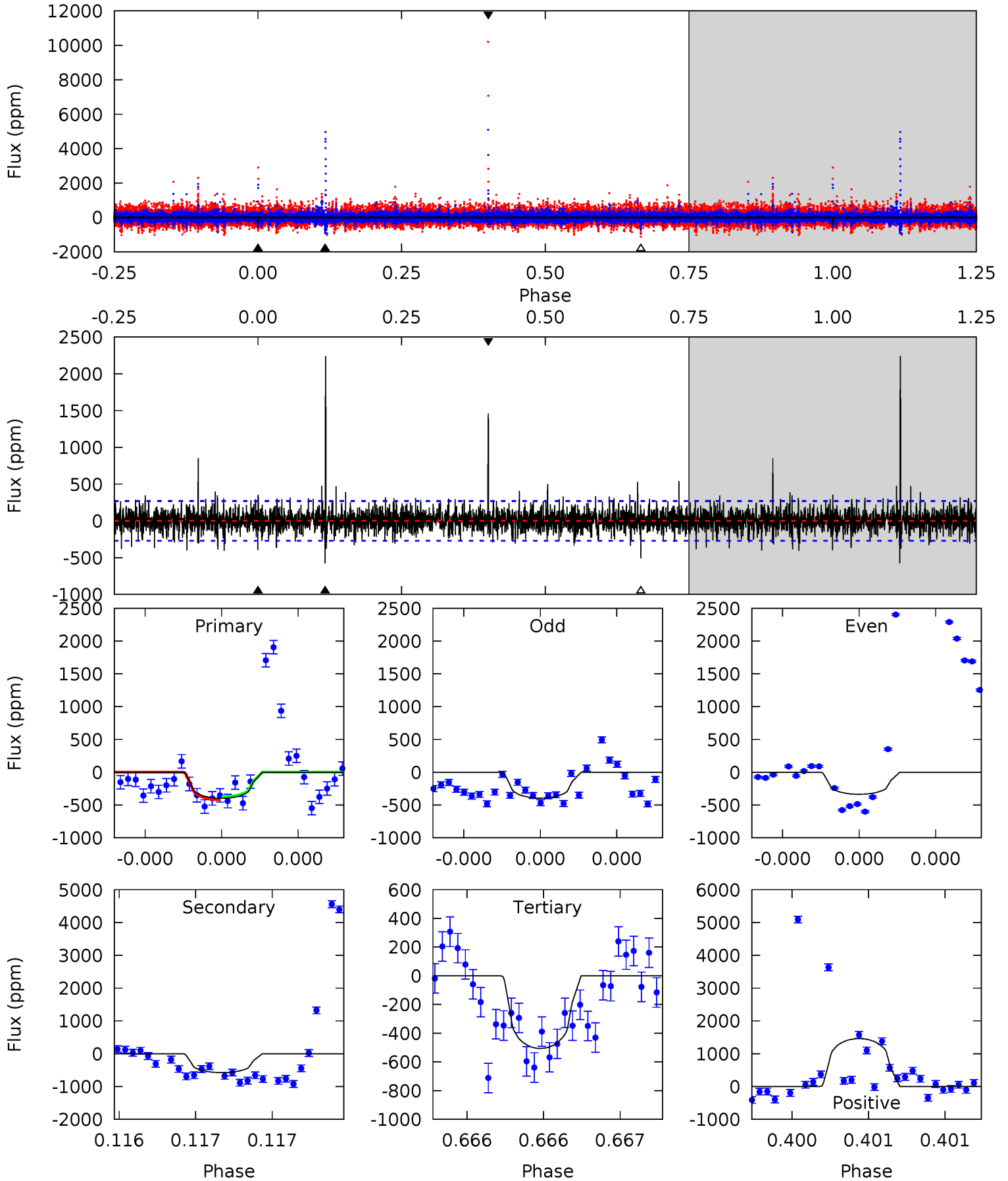
TCE 001872340-01 P=378.361419 Days $T_0=306.940274$ (BKJD)



DV Model-Shift Uniqueness Test

001872340-01, P = 378.353738 Days, E = 306.937774 Days

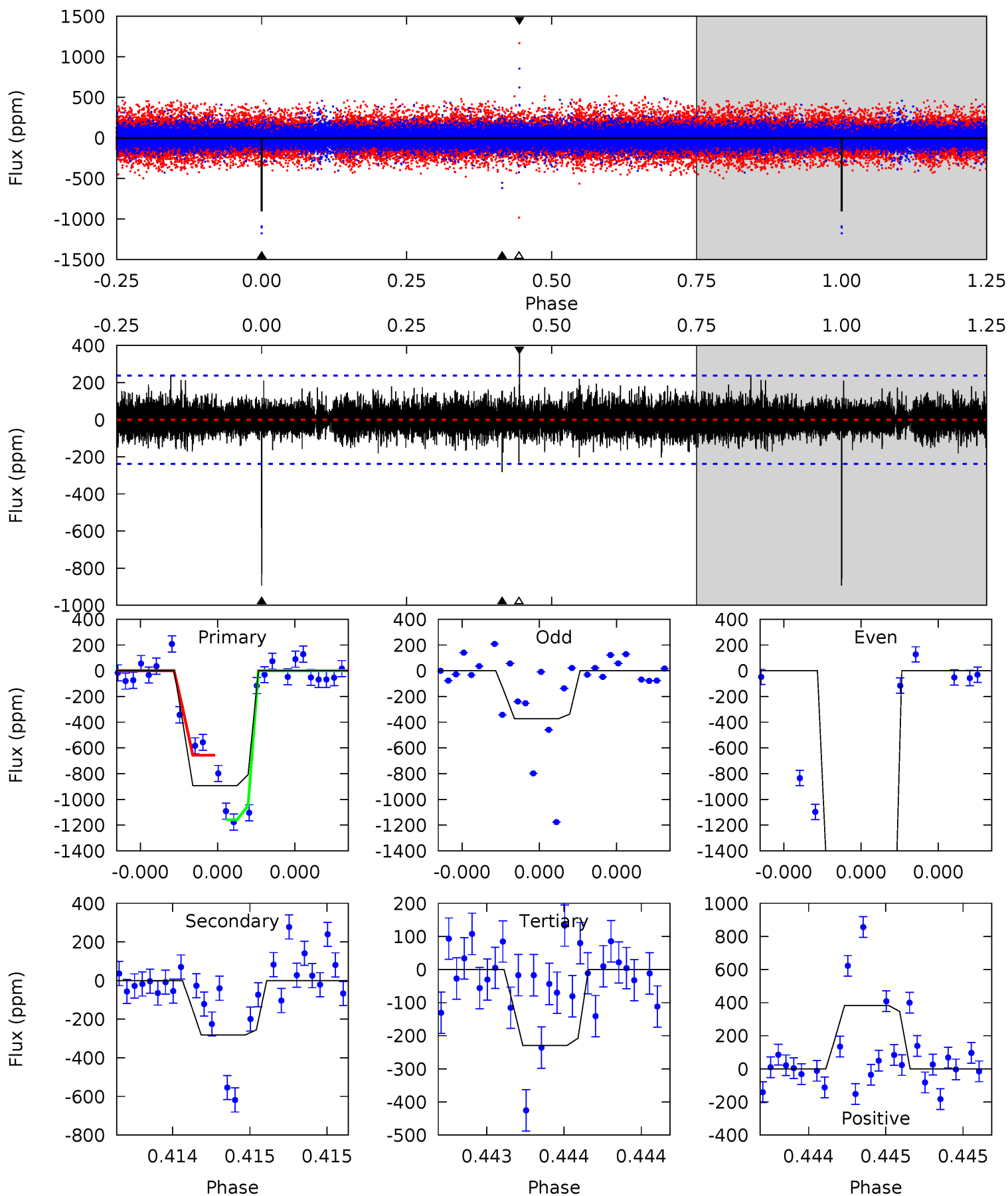
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.24	11.9	10.5	30.2	5.59	3.50	2.17	-2.22	-21.9	1.43	-18.3	0.39	1.11	0.80	0.49



Alt Model-Shift Uniqueness Test

001872340-01, P = 378.361419 Days, E = 306.940274 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	6.67	5.43	9.06	5.62	3.55	1.05	15.7	12.1	1.24	-2.39	47.6	1.51	0.30	5.94



Stellar Parameters For KIC 001872340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5059^{+140}_{-102}	$3.466^{+0.431}_{-0.308}$	$-0.500^{+0.300}_{-0.200}$	$2.799^{+1.618}_{-1.978}$	$0.834^{+0.293}_{-0.158}$	$0.054^{+1.888}_{-0.036}$
	+3%/-2%	+12%/-9%	+60%/-40%	+58%/-71%	+35%/-19%	+3523%/-68%
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 001872340-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-576 ± 48	$9.69^{+10.91}_{-6.22}$	543^{+69}_{-70}	4592^{+2576}_{-941}	3259^{+21472}_{-2494}
Alt.	-282 ± 42	$12.15^{+10.97}_{-7.62}$	541^{+68}_{-67}	3665^{+1583}_{-558}	967^{+6100}_{-678}

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 $A_{obs} \gg 1.0$

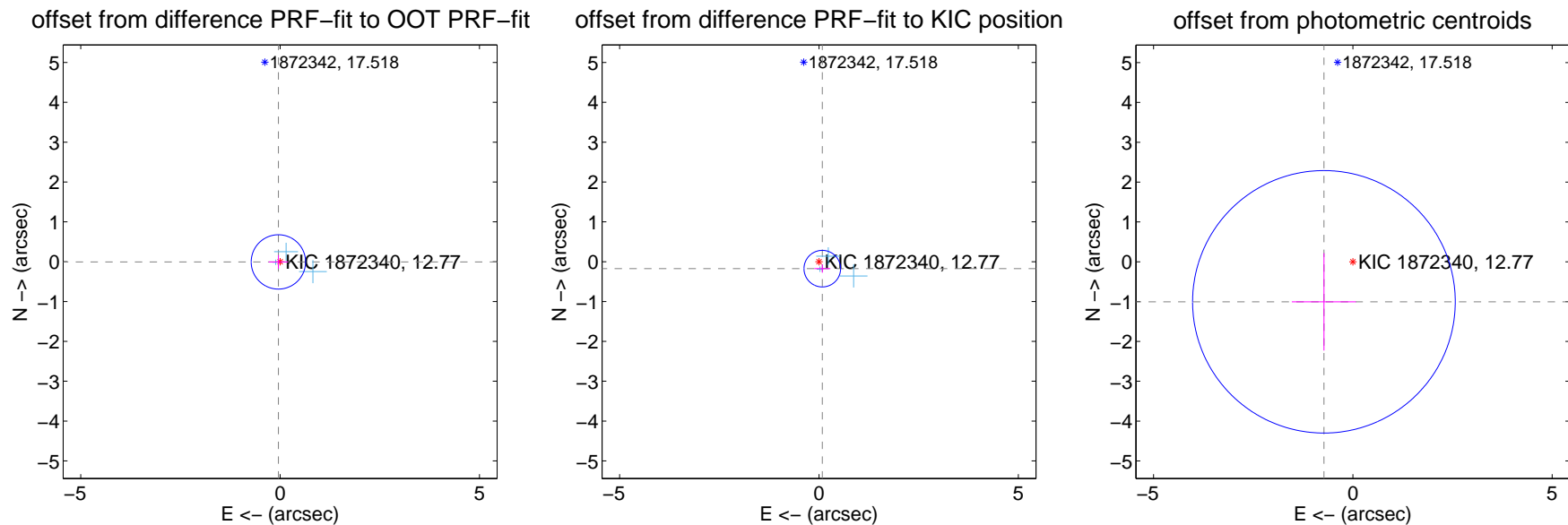
DV Centroid Data

Supplemental centroid analysis for 001872340-01. Kepler magnitude: 12.77. Transit SNR 5.84

There are 3 quarters with good PRF difference image offsets

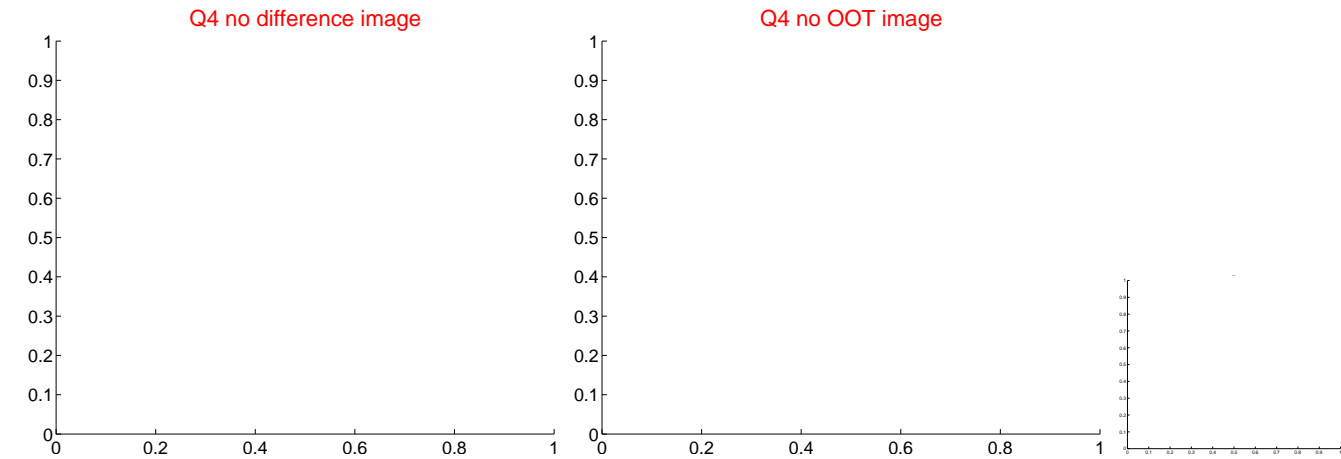
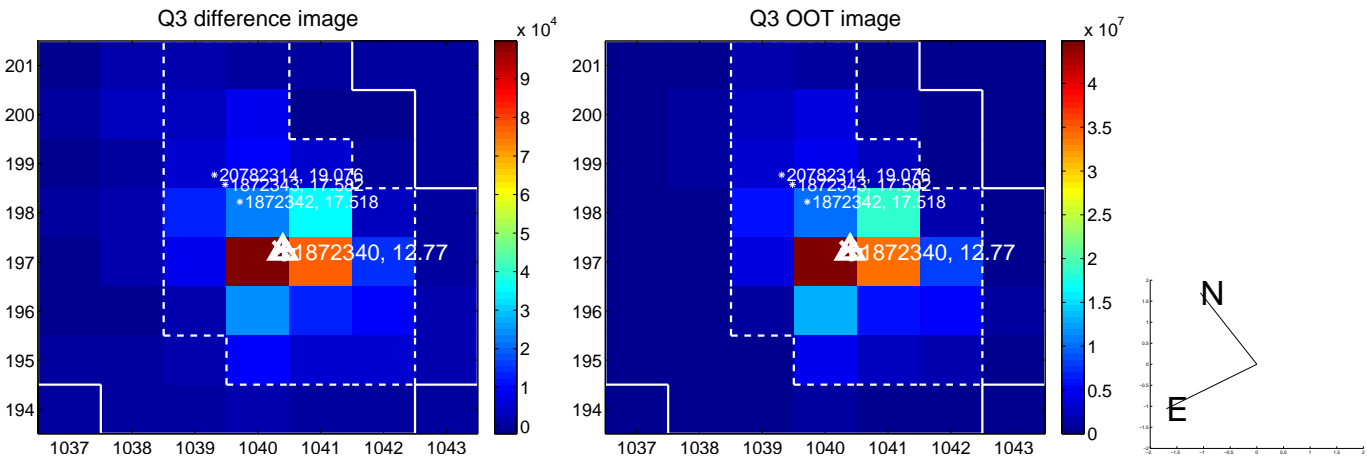
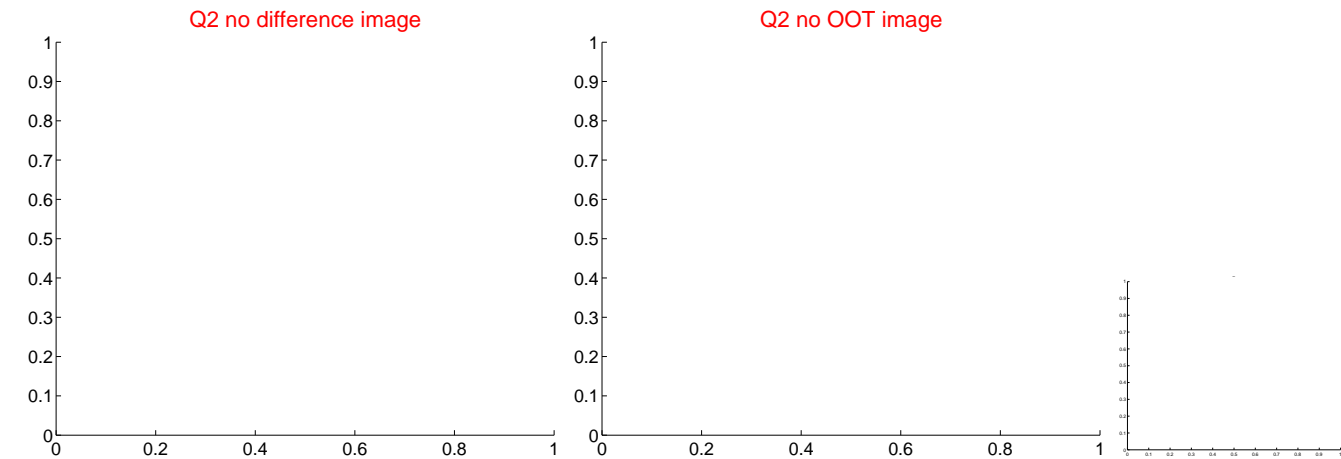
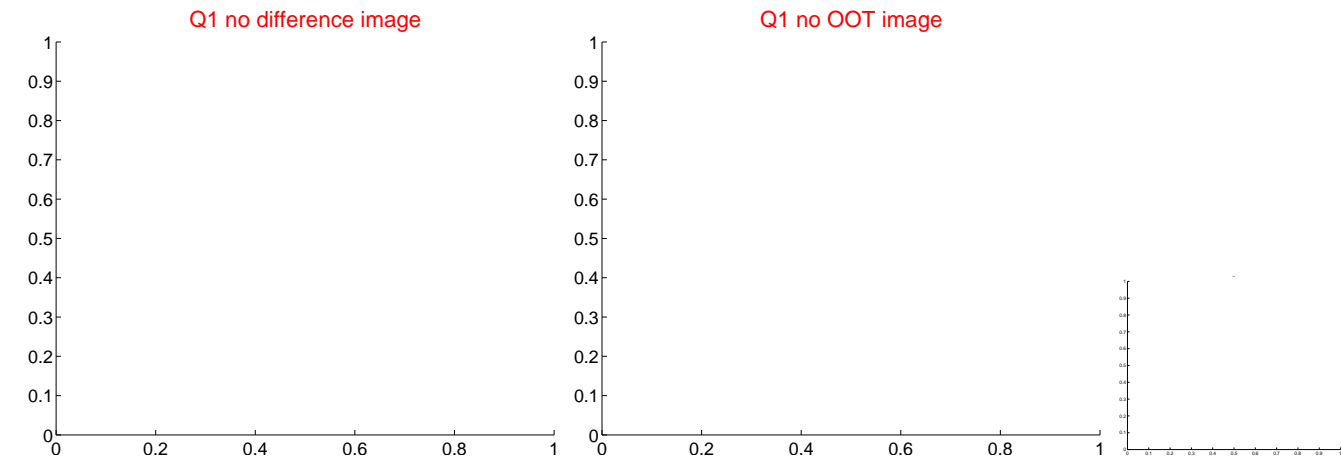
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.227	0.19	0.043 ± 0.243	-0.006 ± 0.171
PRF-fit source offset from KIC position	0.193 ± 0.153	1.26	-0.083 ± 0.201	-0.175 ± 0.103
photometric centroid source offset	1.24 ± 1.10	1.13	0.73 ± 0.81	-1.01 ± 1.22



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.

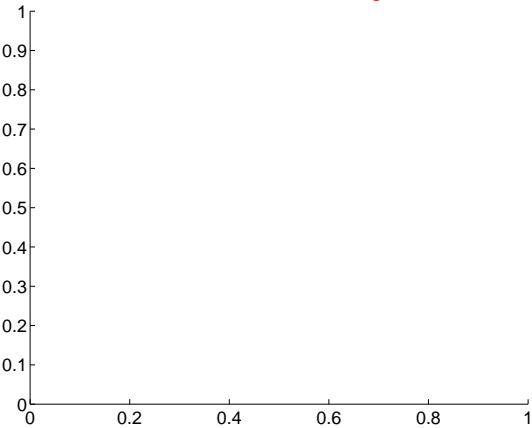
Q5 no difference image



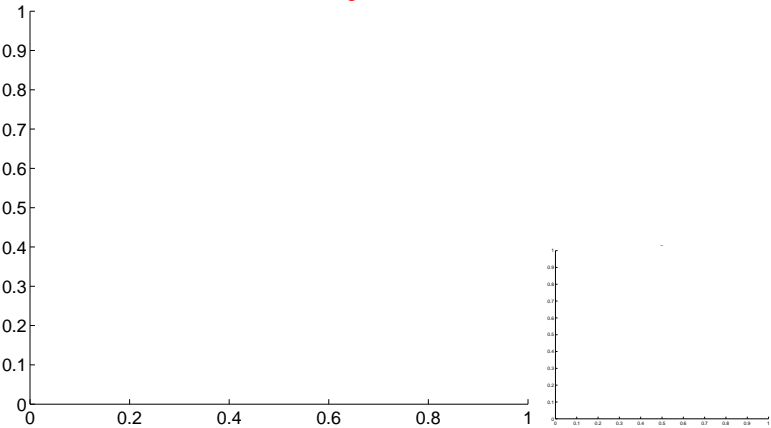
Q5 no OOT image



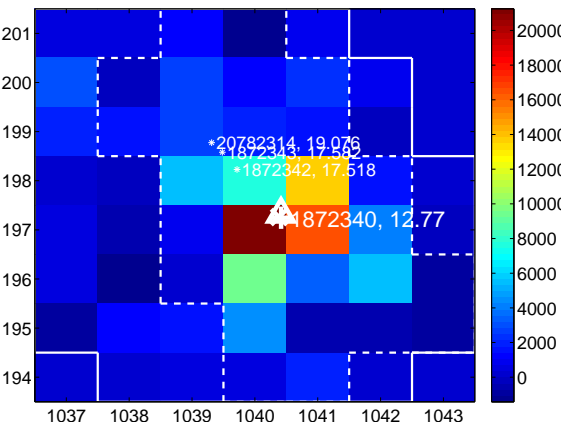
Q6 no difference image



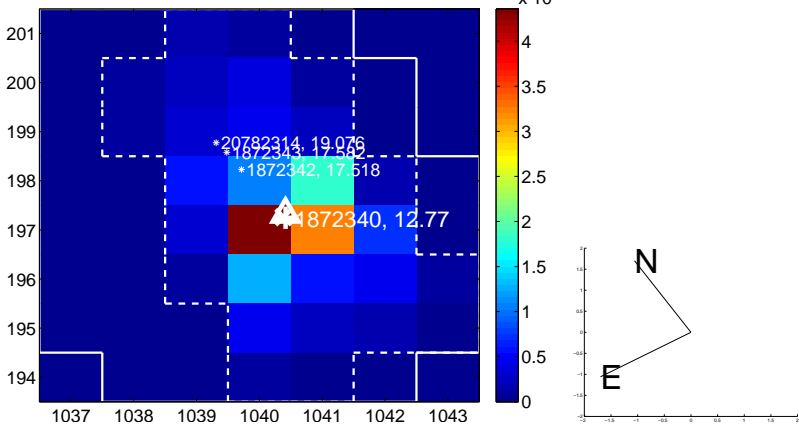
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 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.

Q13 no difference image



Q13 no OOT image



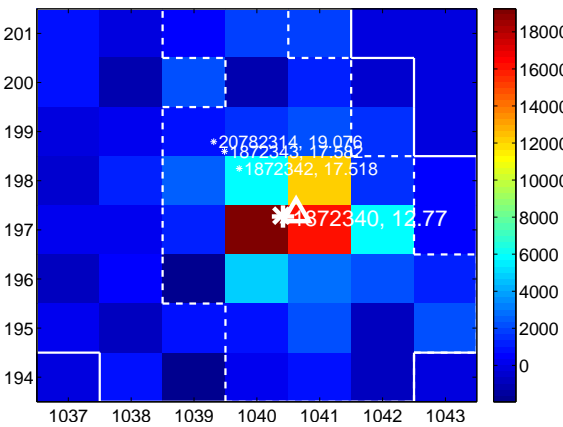
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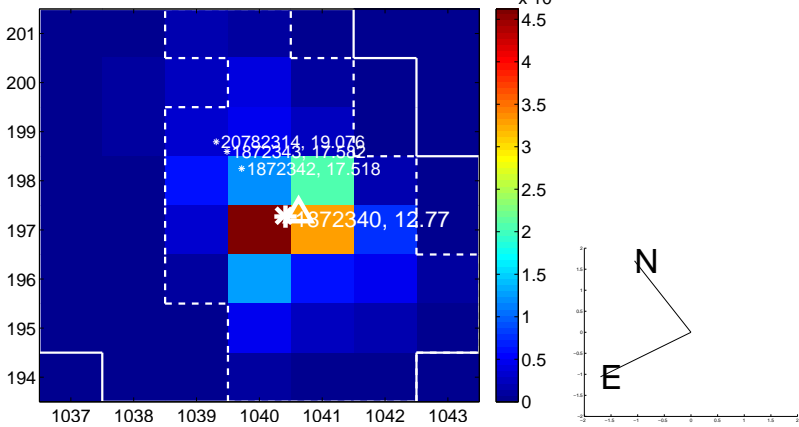
Q14 no OOT image



Q15 difference image



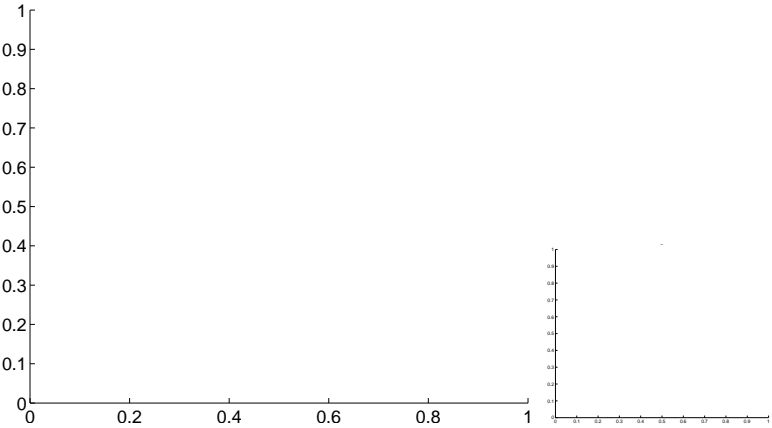
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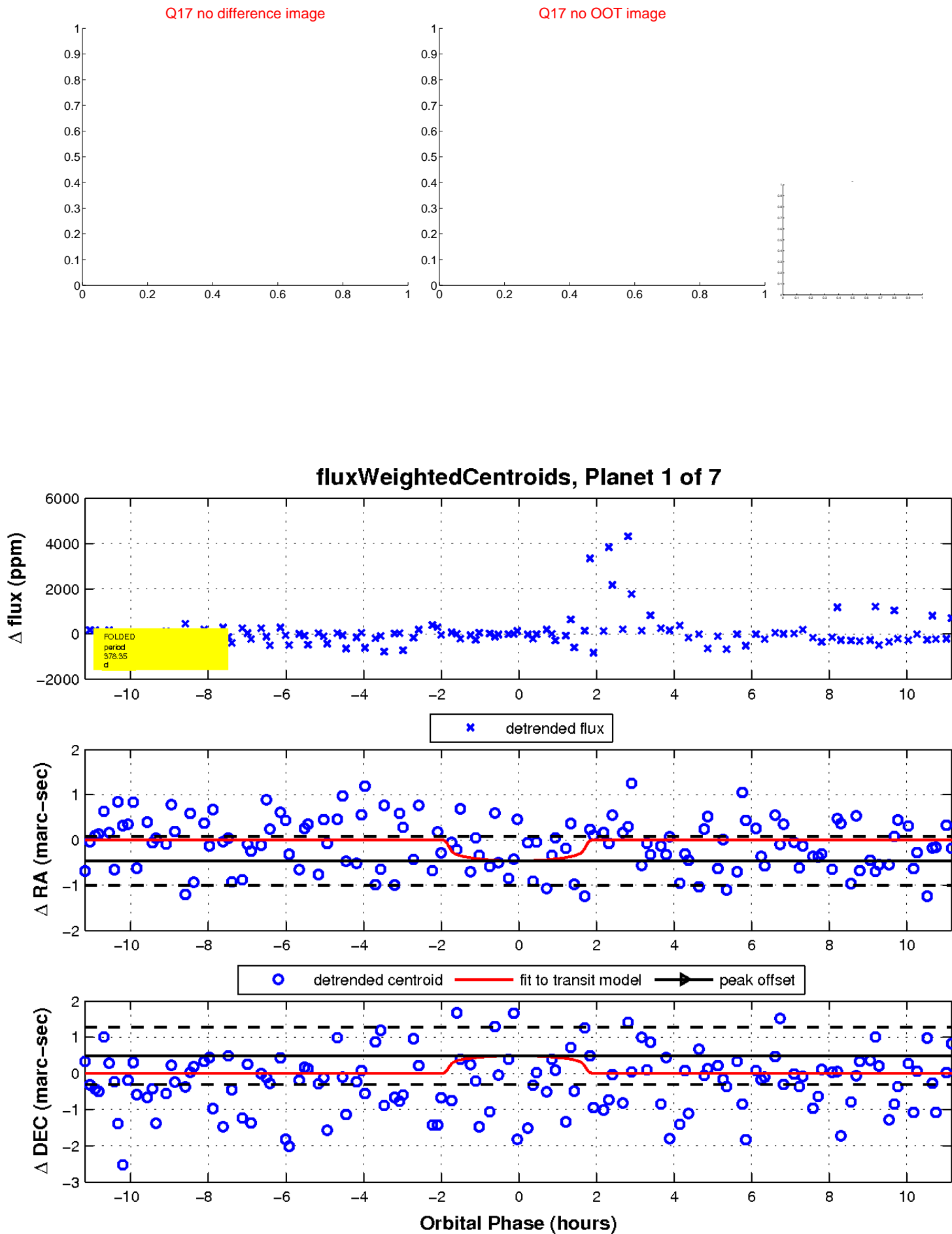
Q16 no difference image



Q16 no OOT image

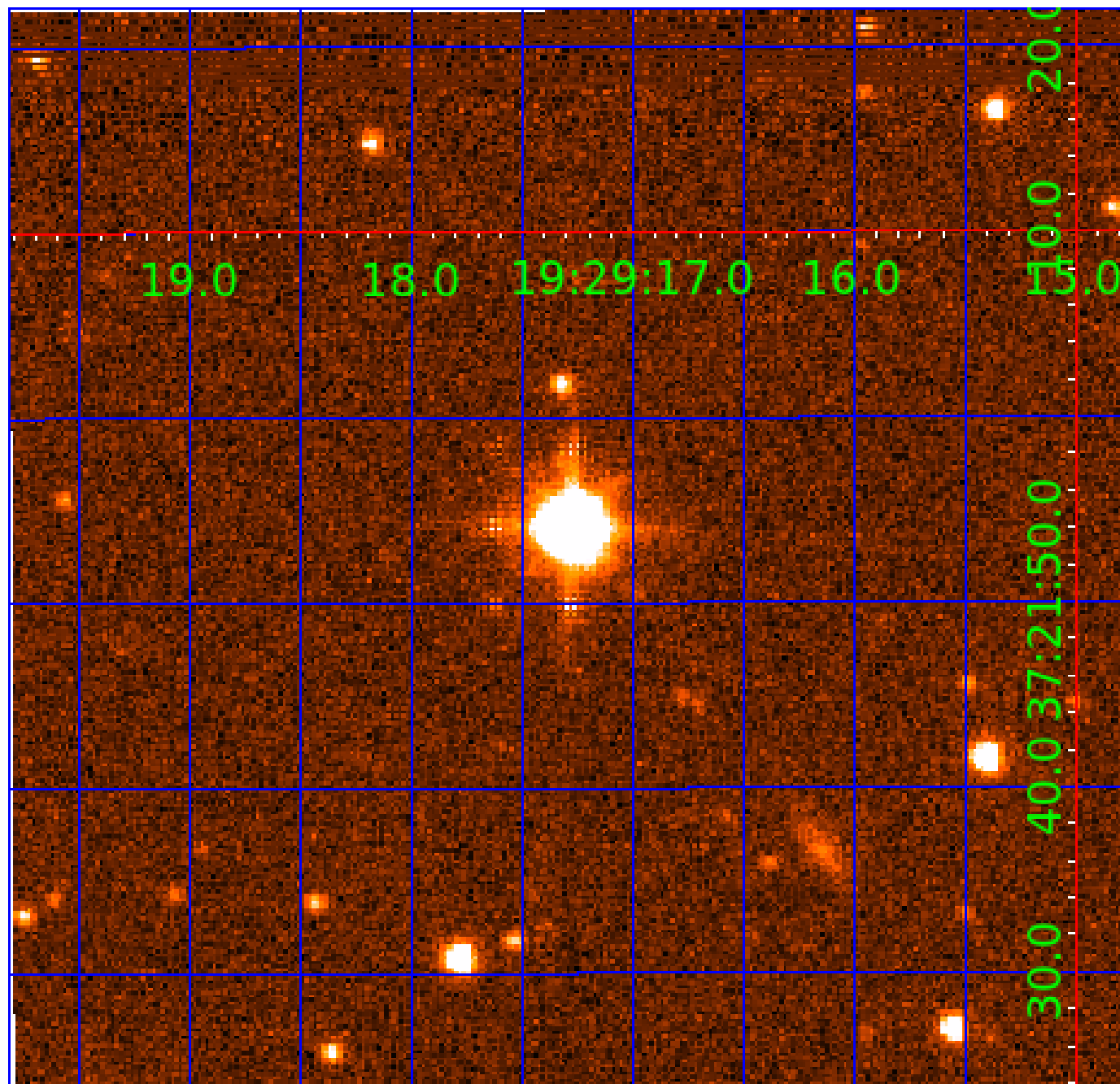


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001872340

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})
001872340-01	OBS	No	378.353738	306.937774	585.1	3.747	19.4	5.8	2.80	5059	7.34	4.94
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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001872340-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
001872340-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_NOFITS

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

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

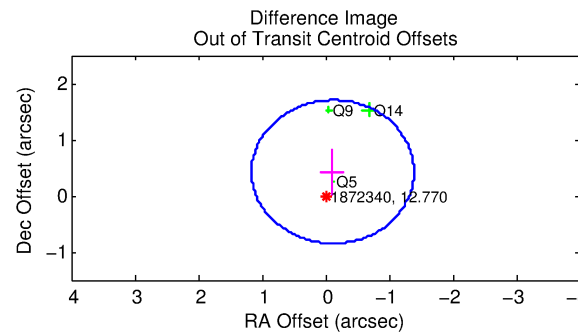
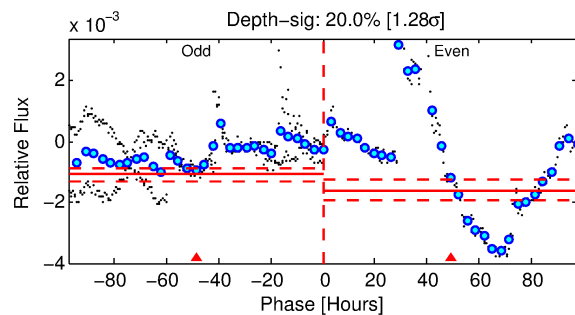
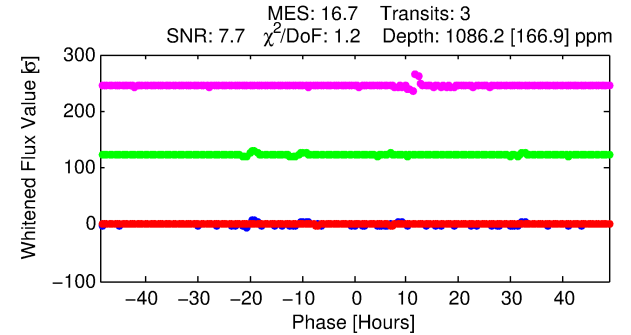
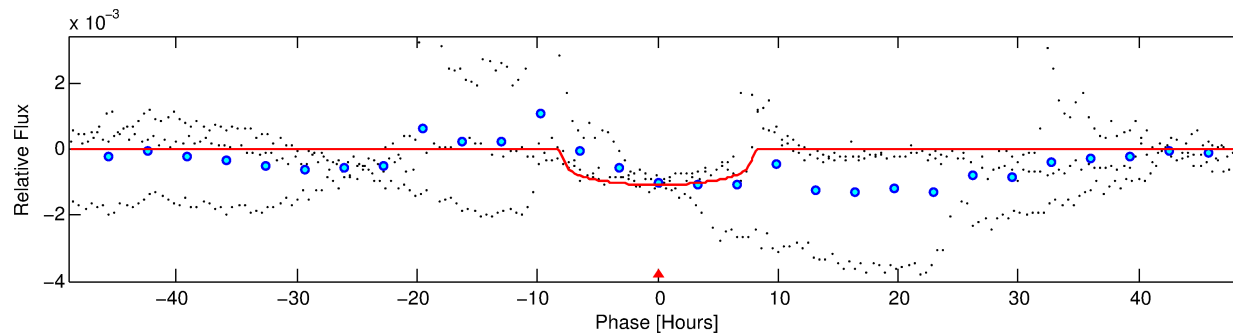
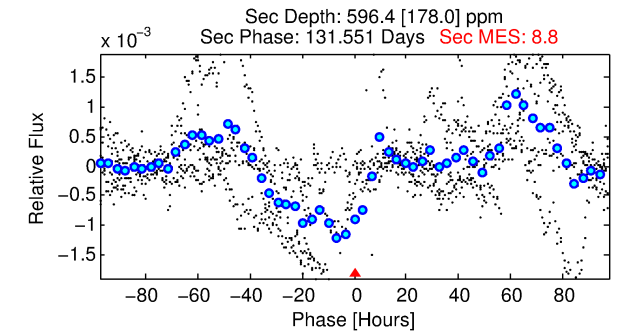
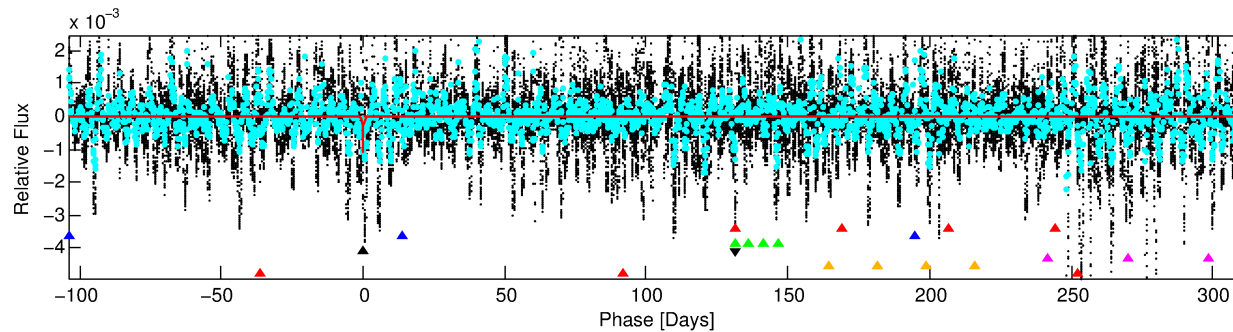
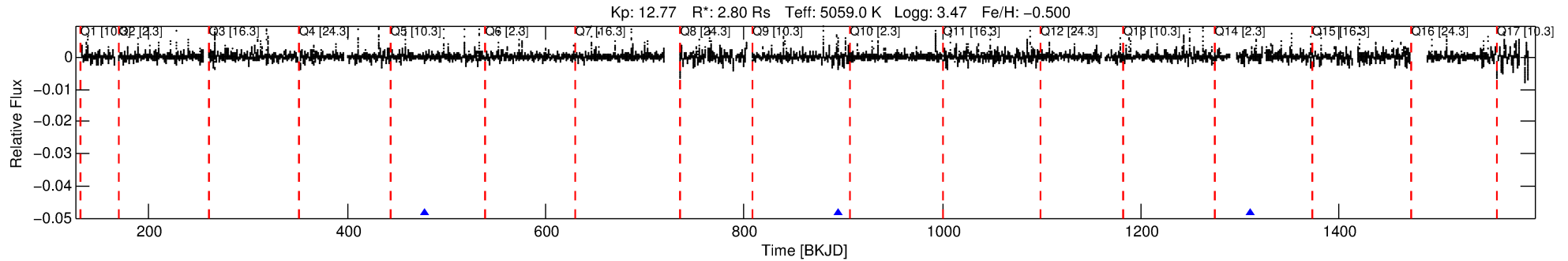
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001872340-04

No Significant Match Found

DV One-Page Summary

KIC: 1872340 Candidate: 4 of 7 Period: 416.101 d



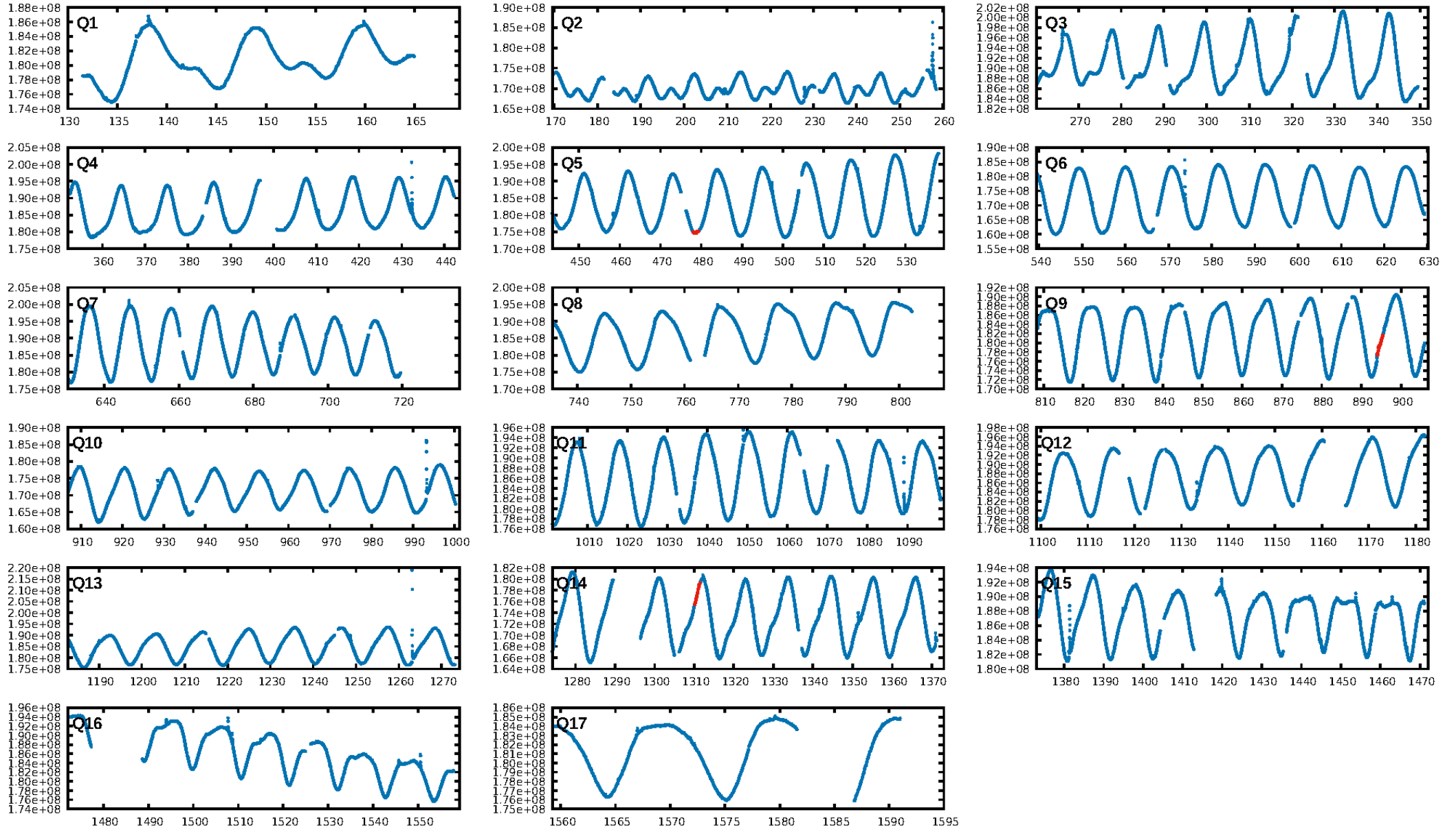
DV Fit Results:

Period = 416.10102 [0.00430] d
Epoch = 478.6177 [0.0058] BKJD
Rp/R* = 0.0300 [0.0074]
a/R* = 187.68 [159.04]
b = 0.36 [2.04]
Seff = 4.35 [3.57]
Teq = 368 [75] K
Rp = 9.17 [6.86] Re
a = 1.0276 [0.5916] AU
Ag = 4121.27 [4106.60] [1.00 σ]
Teffp = 4563 [670] K [6.22 σ]

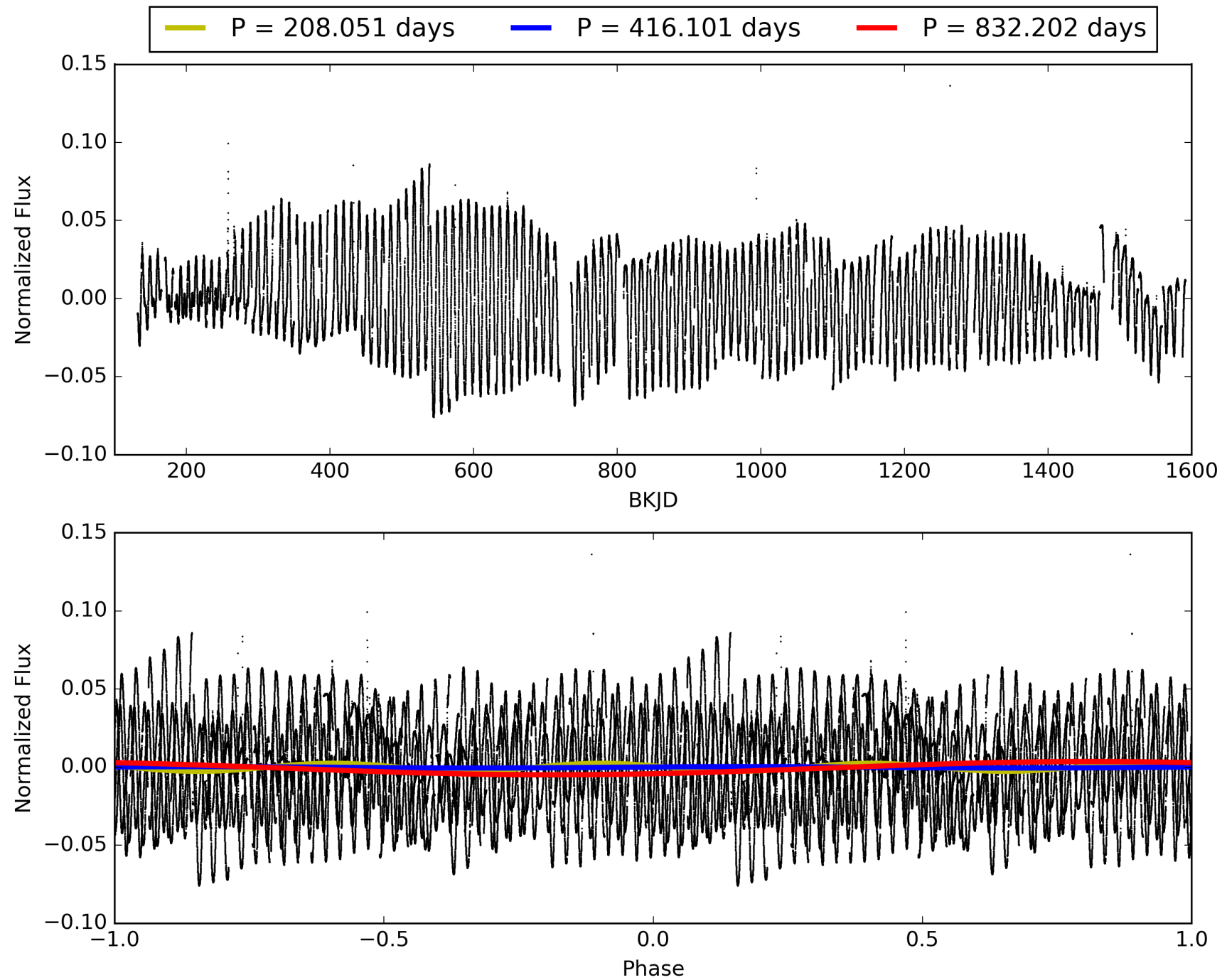
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.44 σ]
LongPeriod-sig: 100.0% [40.78 σ]
ModelChiSquare2-sig: 47.3%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.5
Centroid-sig: 50.2%
Centroid-so: 0.387 arcsec [1.04 σ]
OotOffset-rm: 0.441 arcsec [1.04 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 0.422 arcsec [0.86 σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 001872340-04, PDC Light Curves

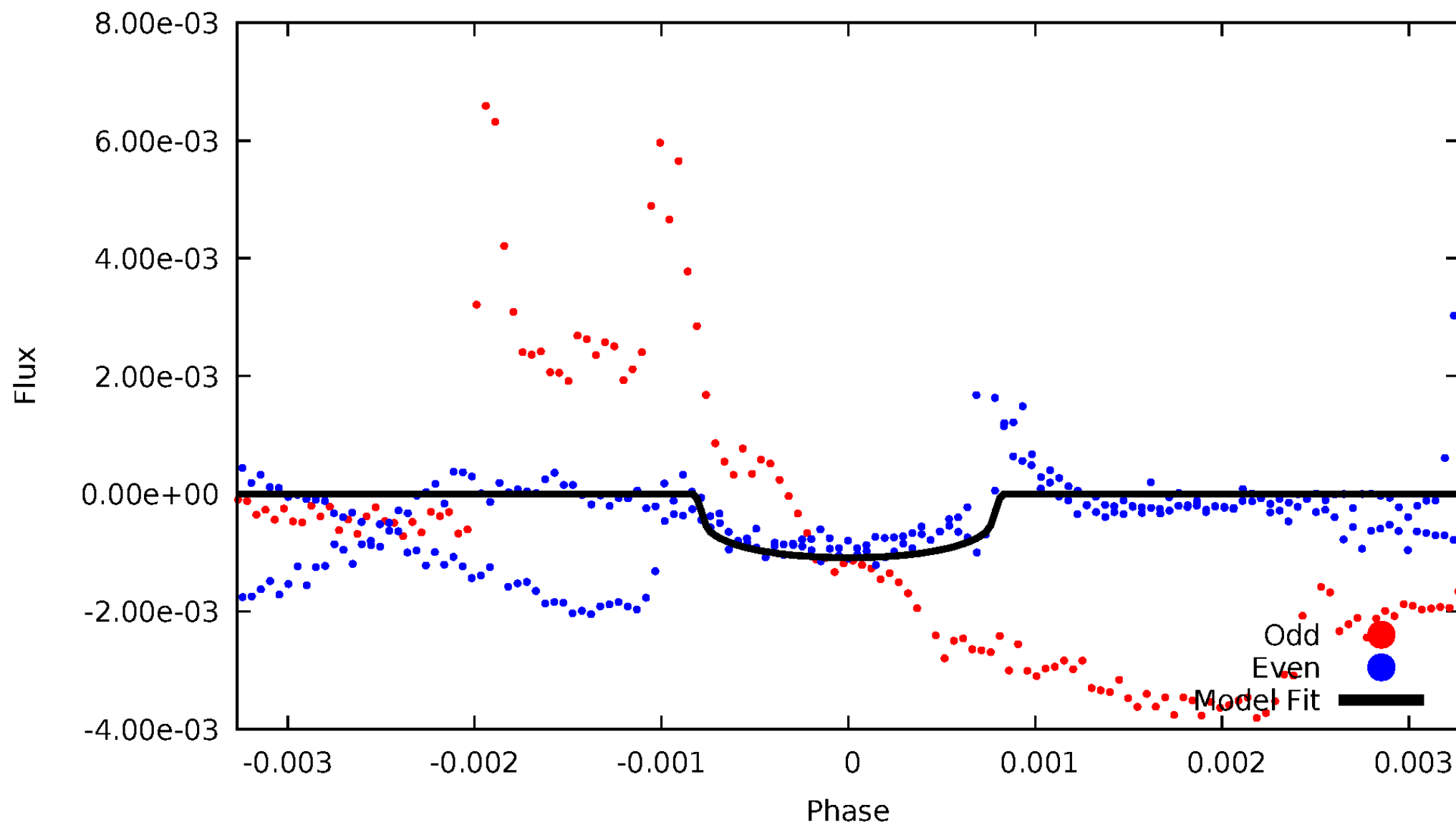


TCE 001872340-04



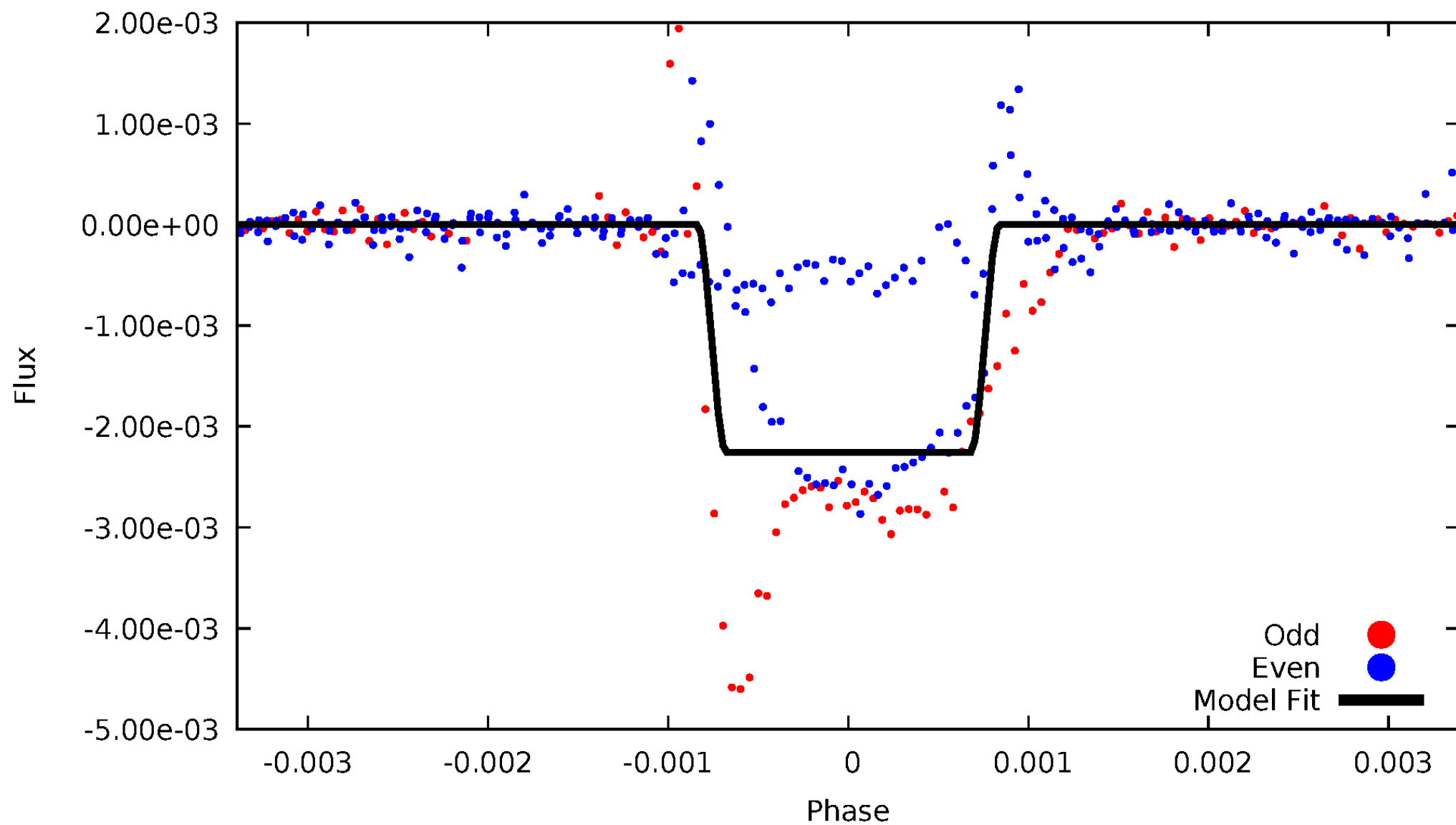
DV Odd/Even

TCE 001872340-04



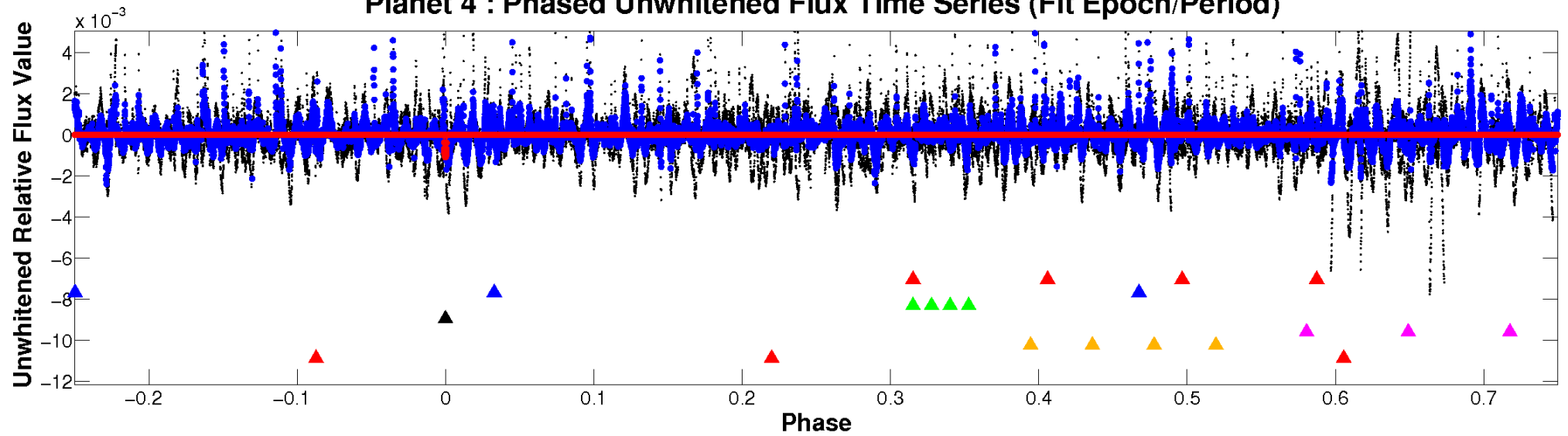
ALT Odd/Even

TCE 001872340-04

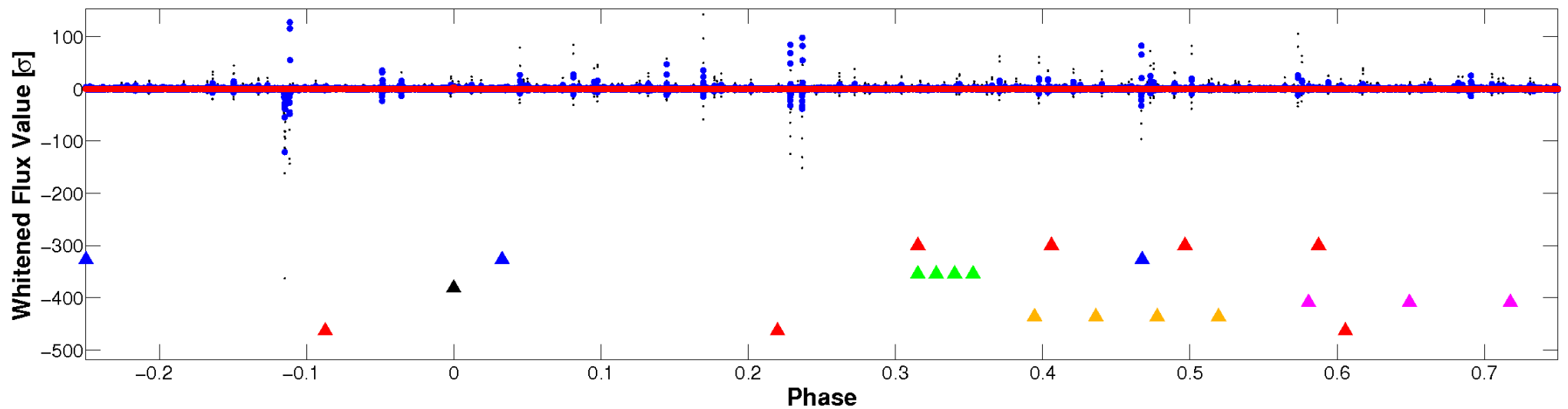


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

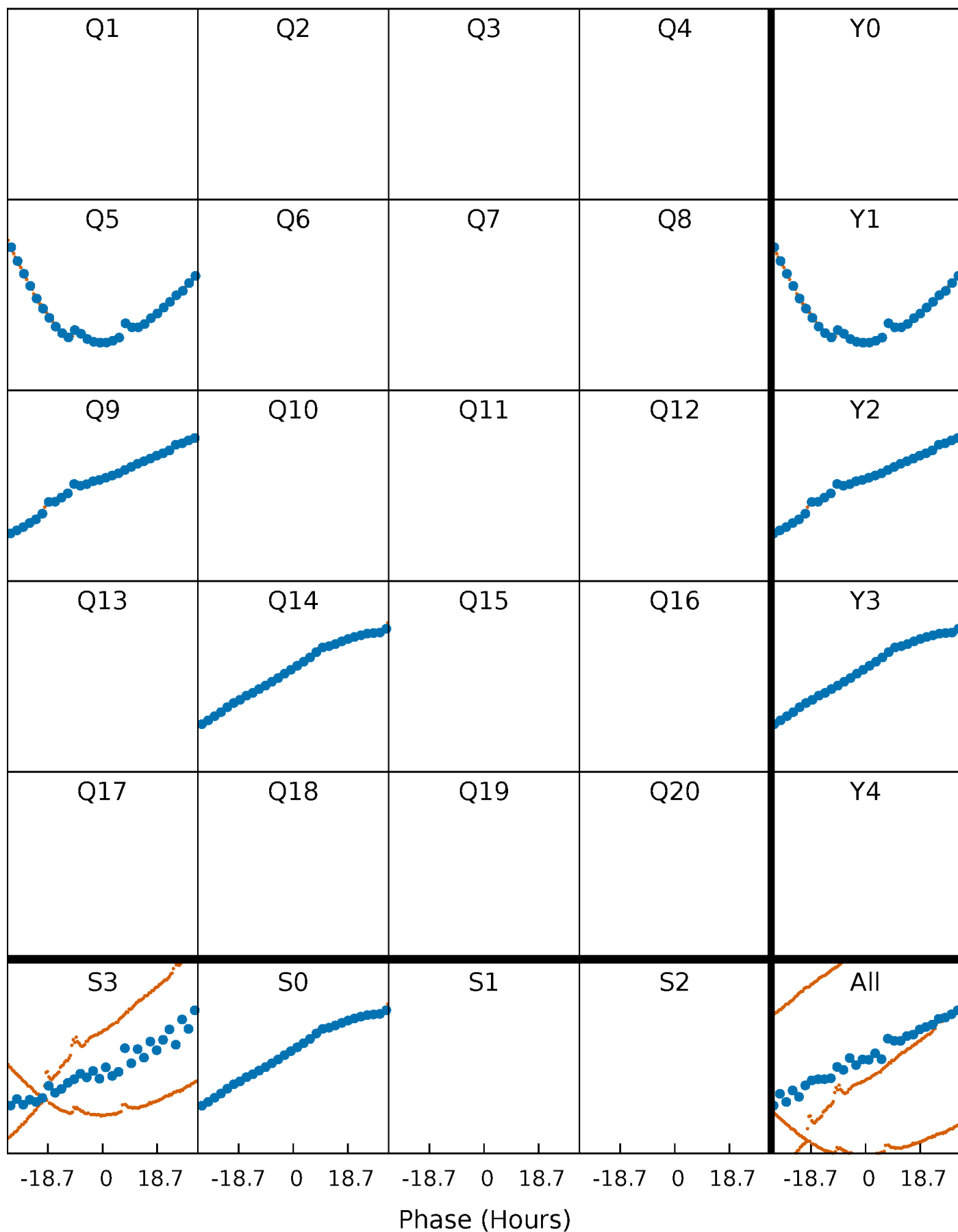


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



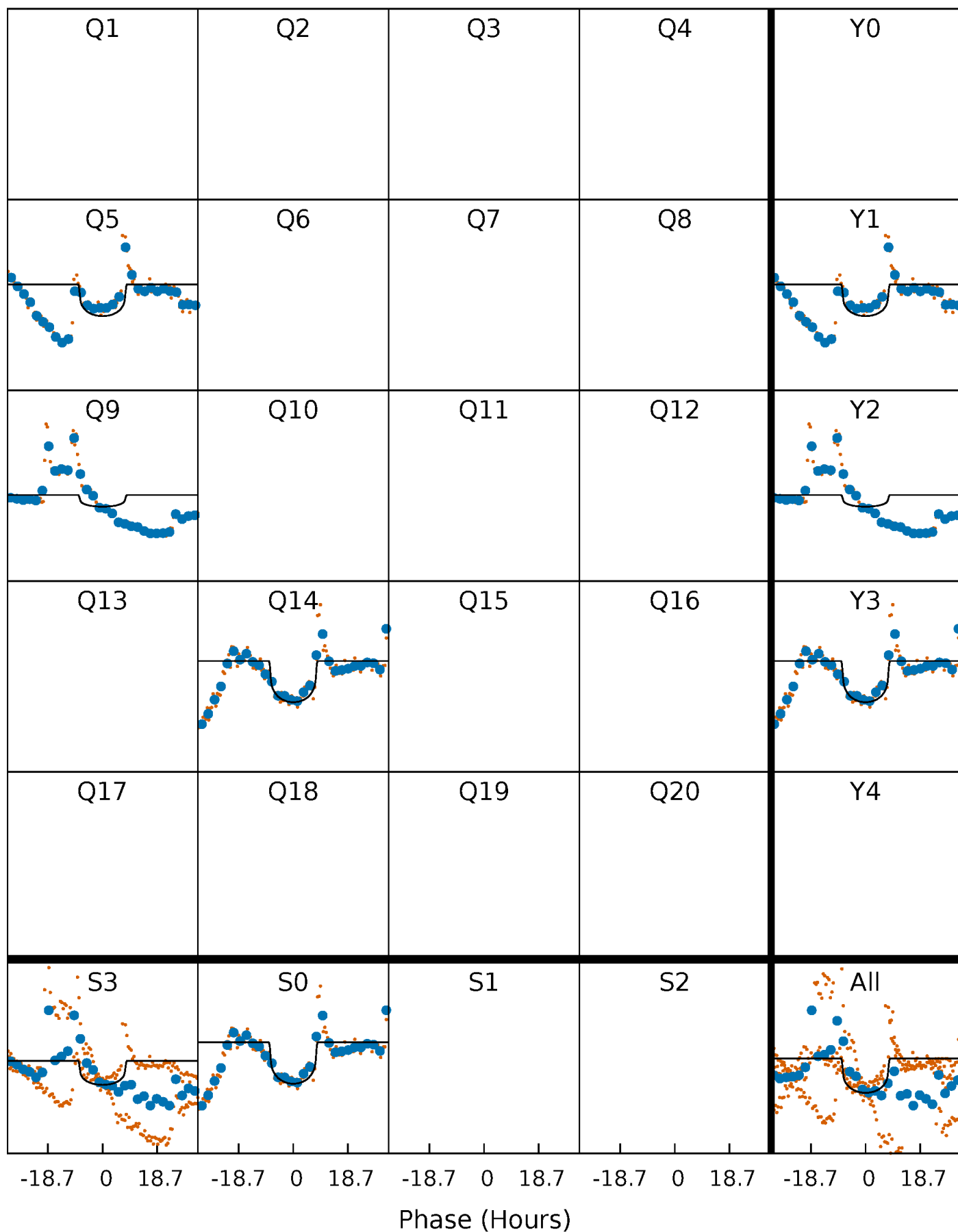
PDC Quarter-Phased Transit Curves

TCE 001872340-04 P=416.101017 Days $T_0=478.617681$ (BKJD)



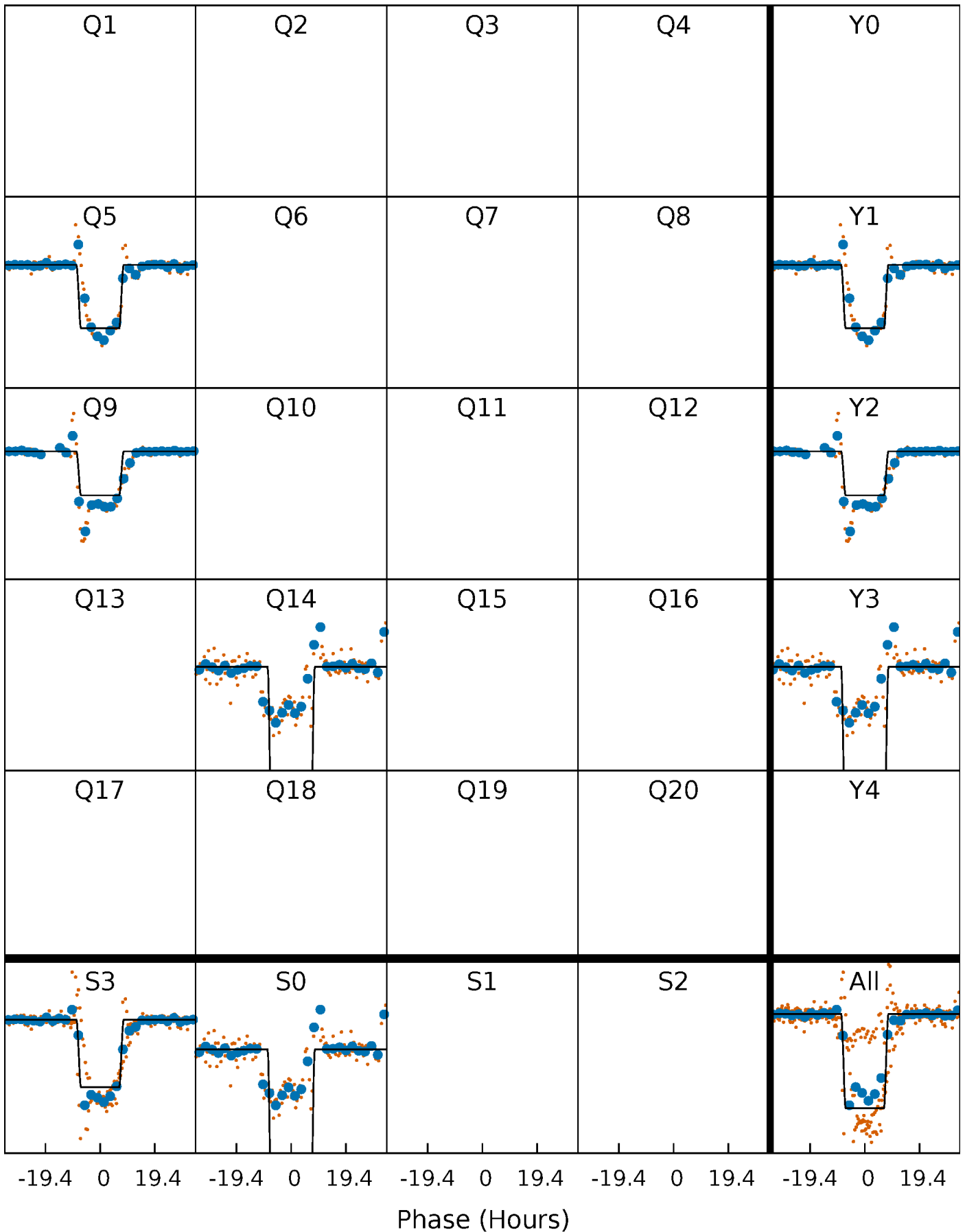
DV Quarter-Phased Transit Curves

TCE 001872340-04 $P=416.101017$ Days $T_0=478.617681$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

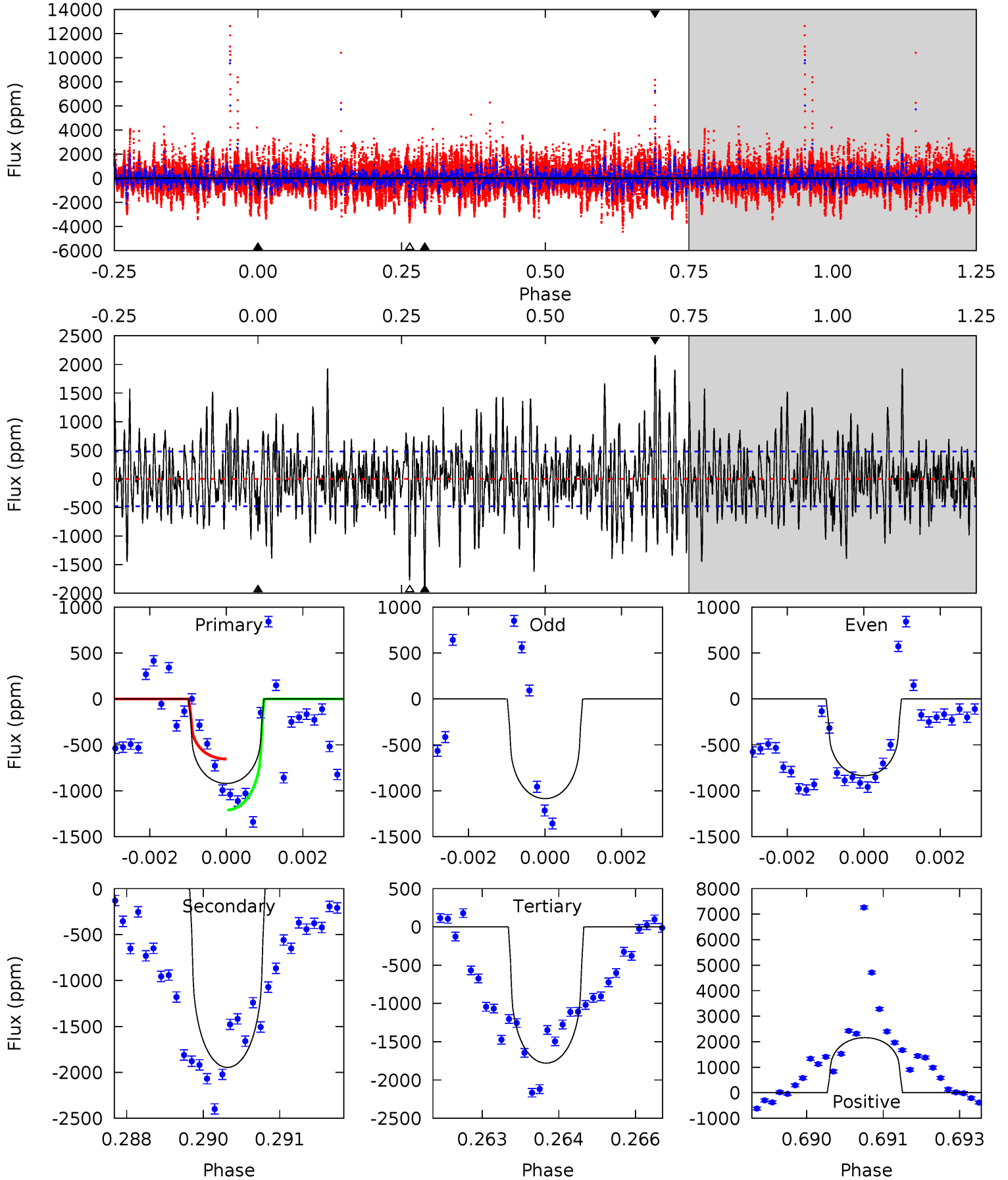
TCE 001872340-04 $P=416.122638$ Days $T_0=478.568837$ (BKJD)



DV Model-Shift Uniqueness Test

001872340-04, P = 416.101017 Days, E = 62.516664 Days

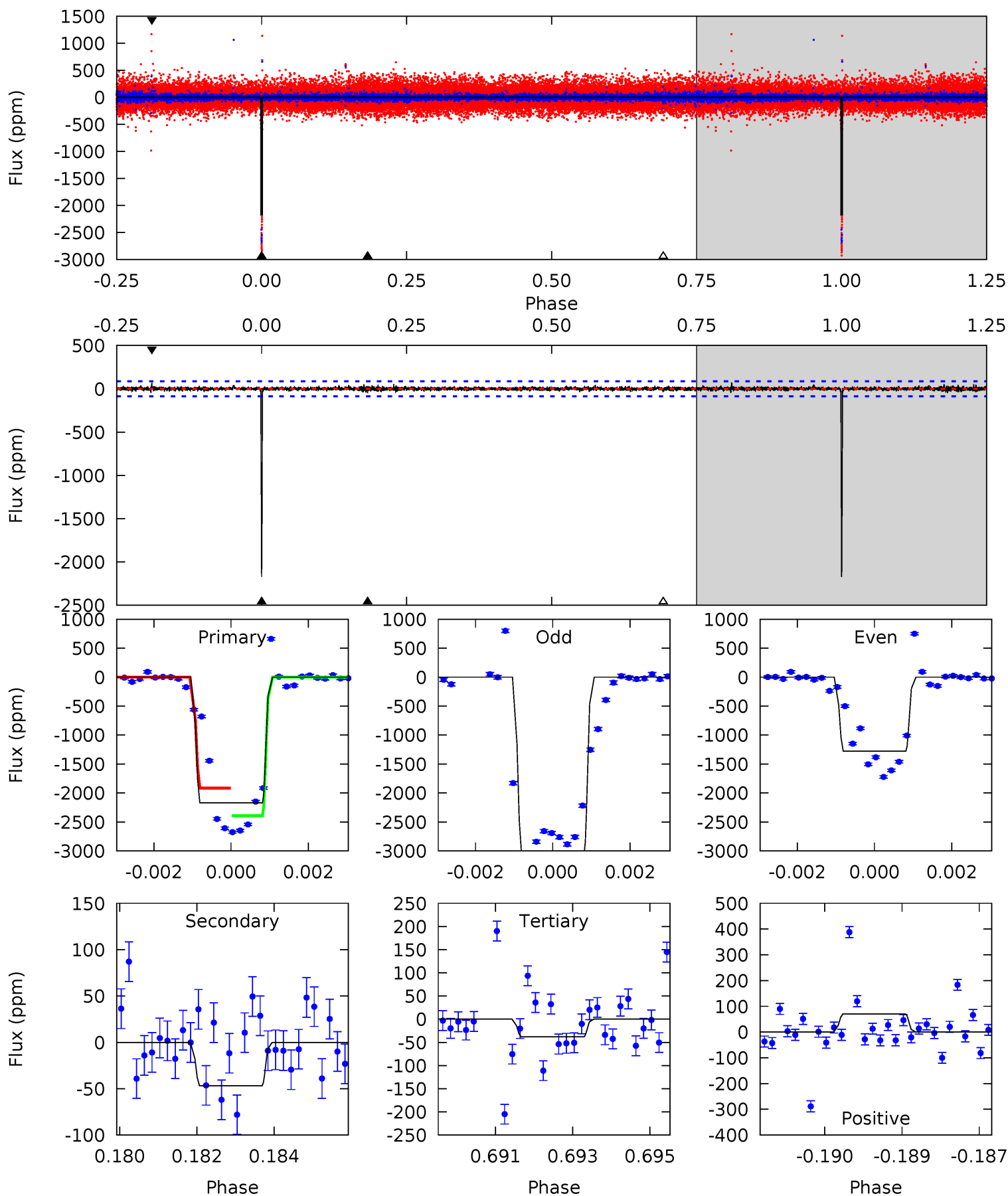
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	21.8	19.9	24.2	5.36	3.14	5.69	-9.62	-13.9	1.87	-2.38	1.04	0.93	0.53	3.14



Alt Model-Shift Uniqueness Test

001872340-04, P = 416.122638 Days, E = 62.446199 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
134.5	2.90	2.37	4.35	5.36	3.14	0.55	132.1	130.2	0.54	-1.45	66.0	0.92	0.03	14.5



Stellar Parameters For KIC 001872340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5059^{+140}_{-102}	$3.466^{+0.431}_{-0.308}$	$-0.500^{+0.300}_{-0.200}$	$2.799^{+1.618}_{-1.978}$	$0.834^{+0.293}_{-0.158}$	$0.054^{+1.888}_{-0.036}$
	+3%/-2%	+12%/-9%	+60%/-40%	+58%/-71%	+35%/-19%	+3523%/-68%
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 001872340-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1946 ± 89	$9.27^{+4.10}_{-3.05}$	522^{+67}_{-67}	6073^{+975}_{-599}	13935^{+17102}_{-7004}
Alt.	-47 ± 16	$14.97^{+5.21}_{-4.51}$	520^{+72}_{-70}	2675^{+180}_{-170}	124^{+146}_{-66}

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

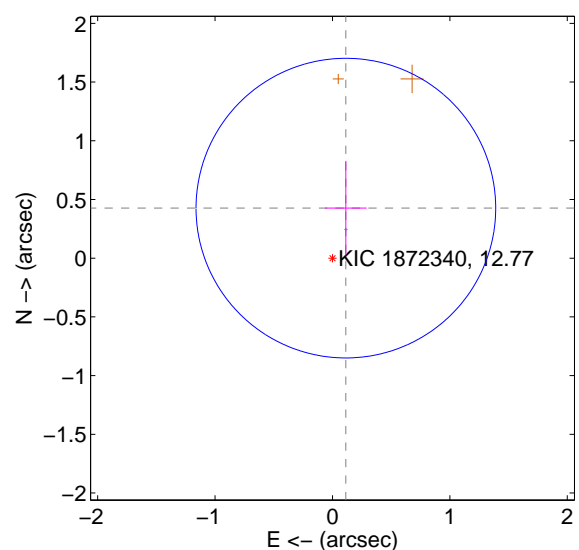
Supplemental centroid analysis for 001872340-04. Kepler magnitude: 12.77. Transit SNR 7.68

There are 1 quarters with good PRF difference image offsets

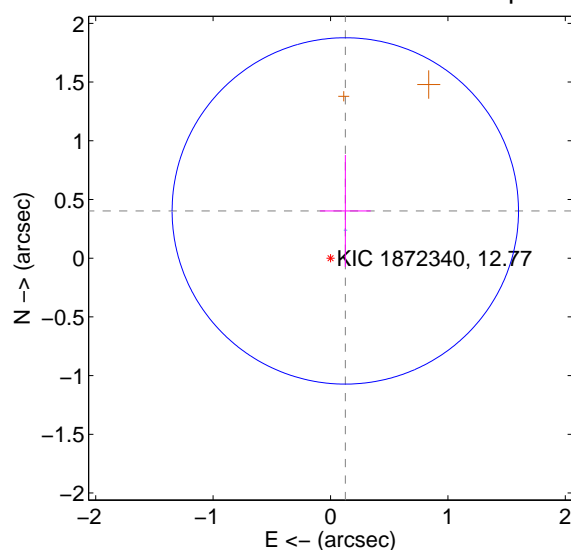
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.441 ± 0.425	1.04	-0.114 ± 0.177	0.426 ± 0.402
PRF-fit source offset from KIC position	0.422 ± 0.492	0.86	-0.126 ± 0.217	0.402 ± 0.477
photometric centroid source offset	0.39 ± 0.37	1.04	0.01 ± 0.27	-0.39 ± 0.37

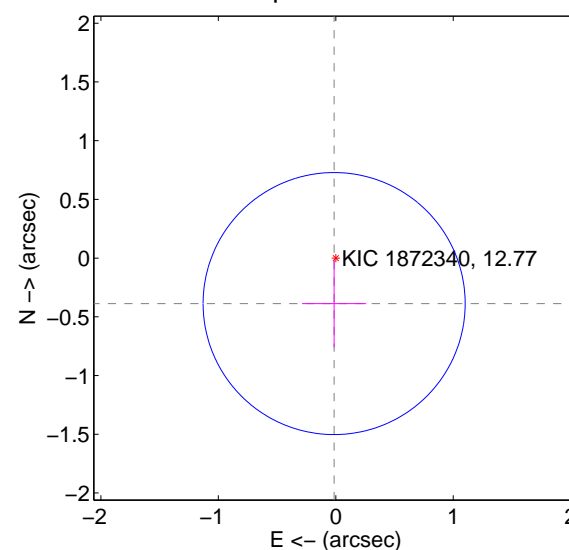
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

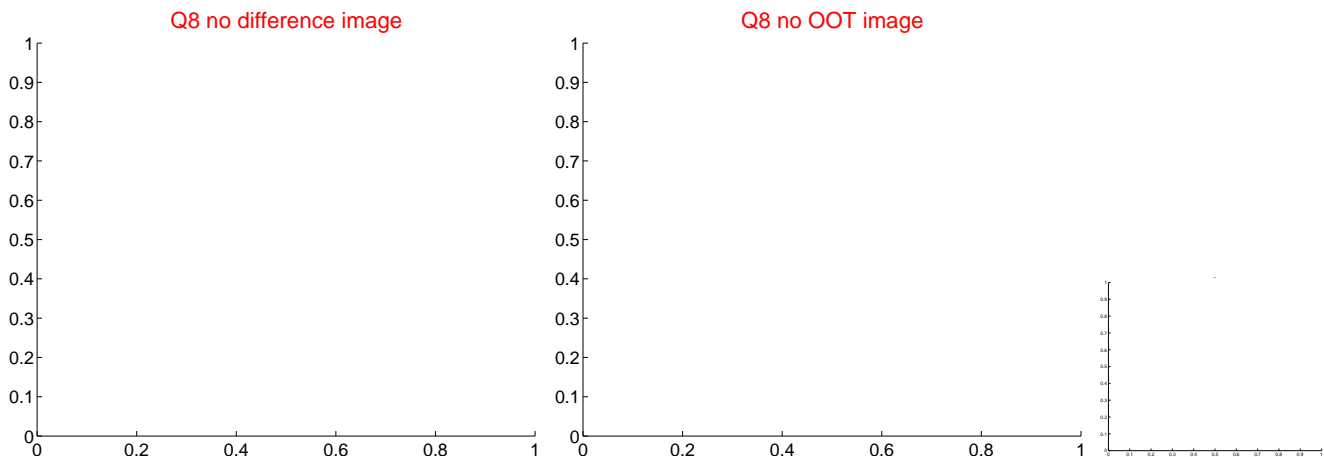
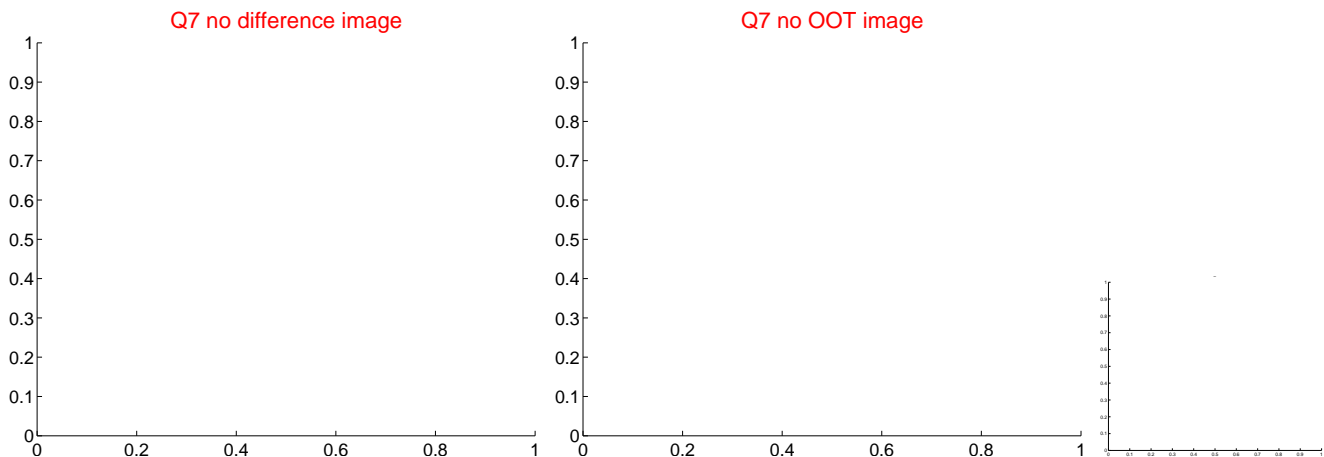
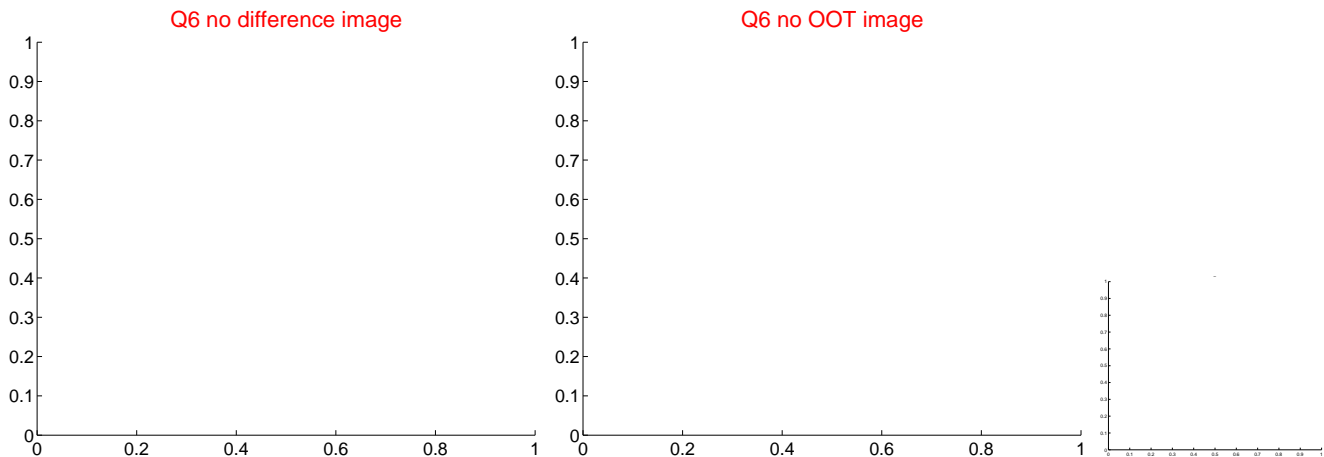
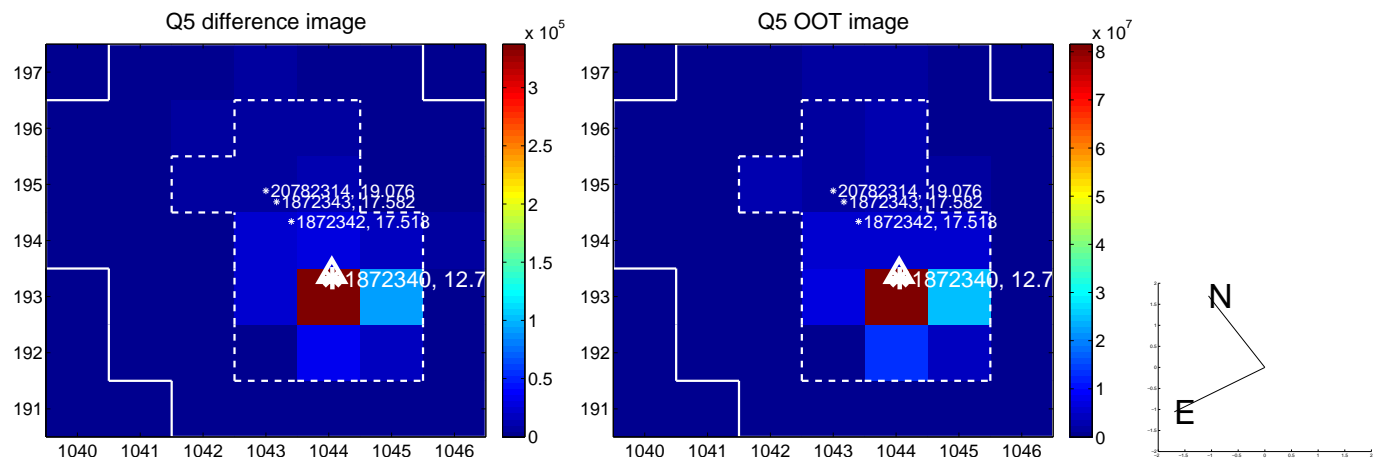


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

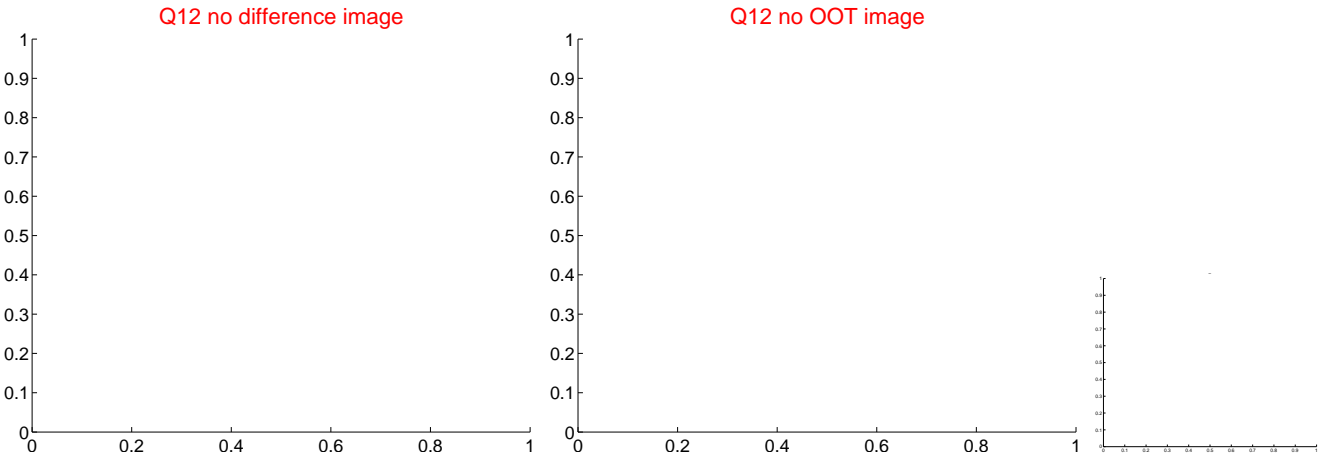
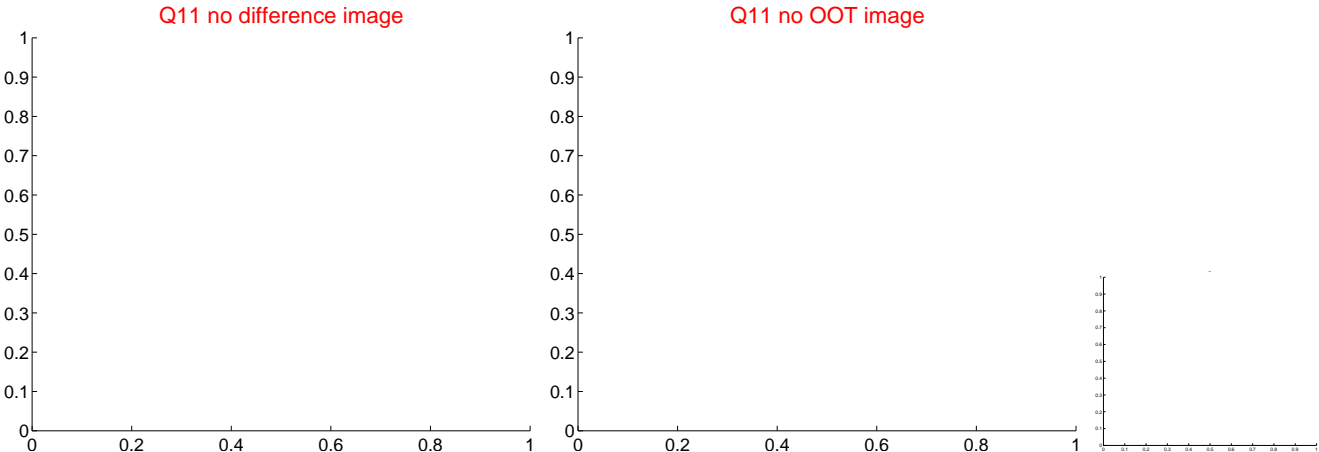
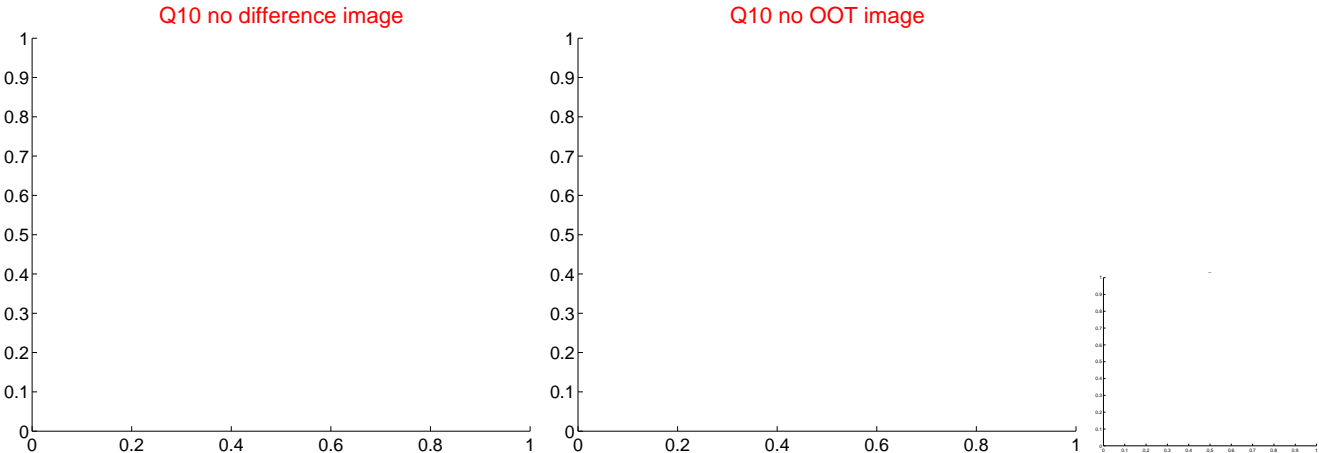
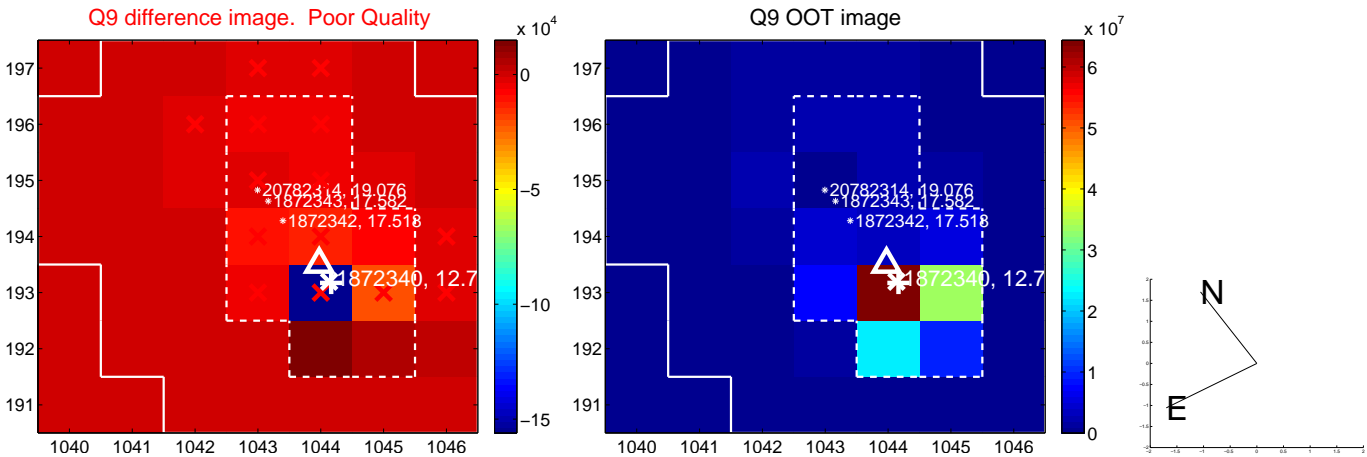
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



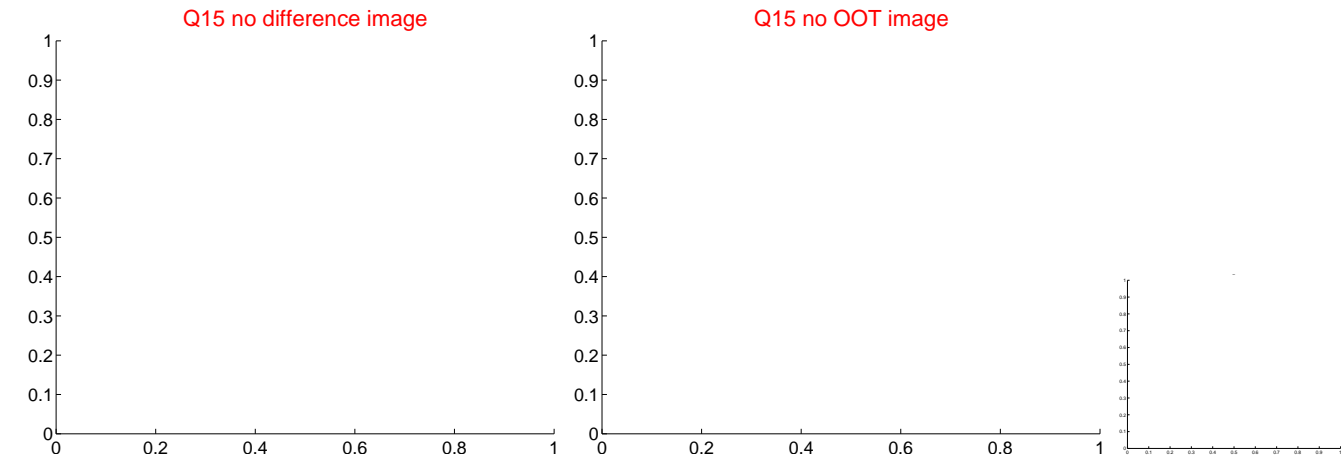
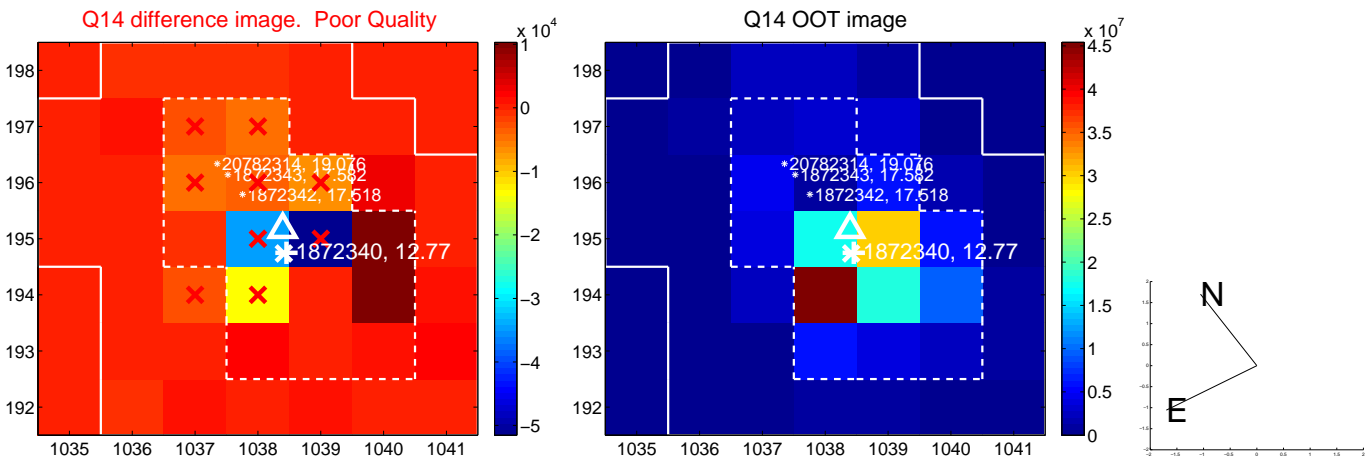
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



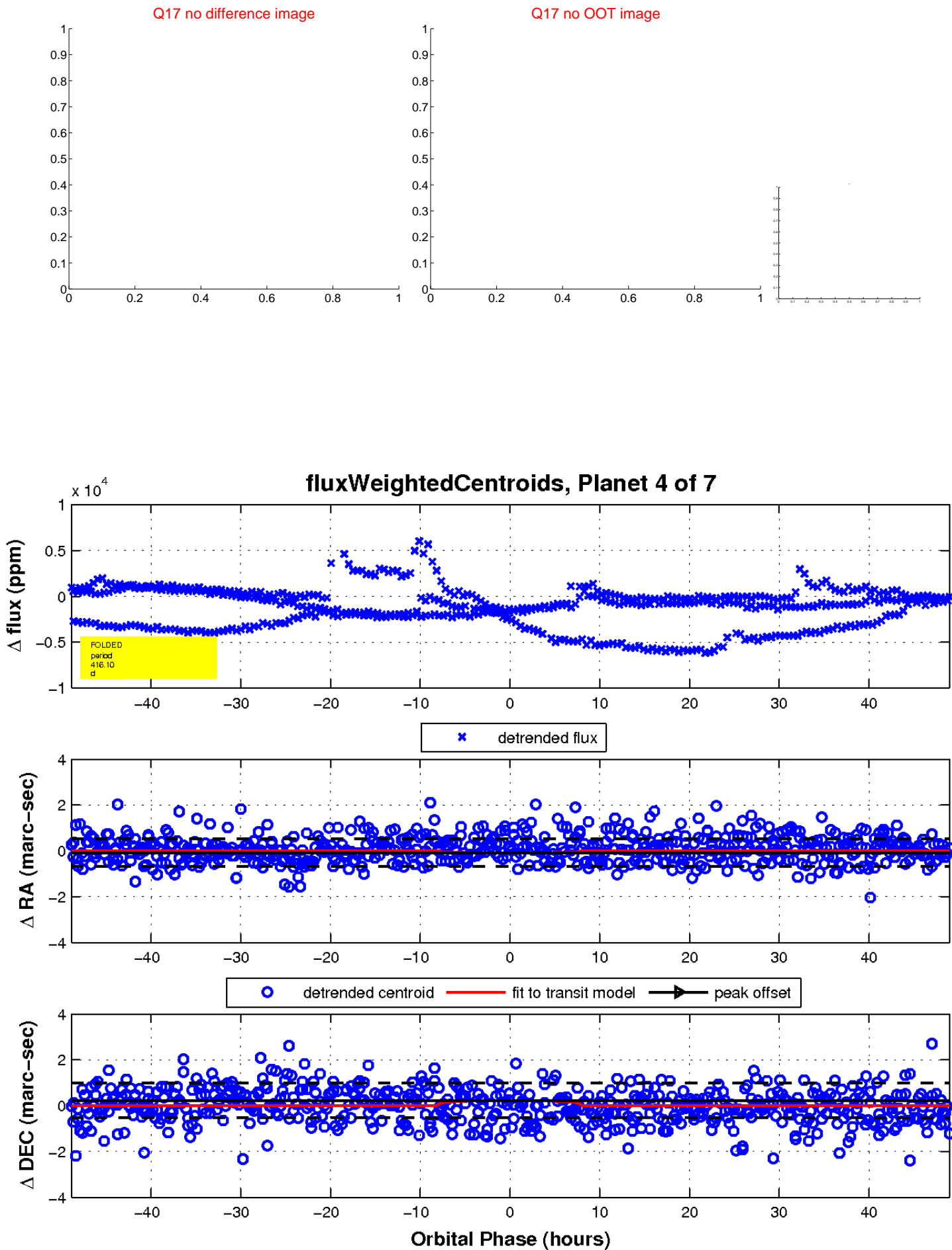
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

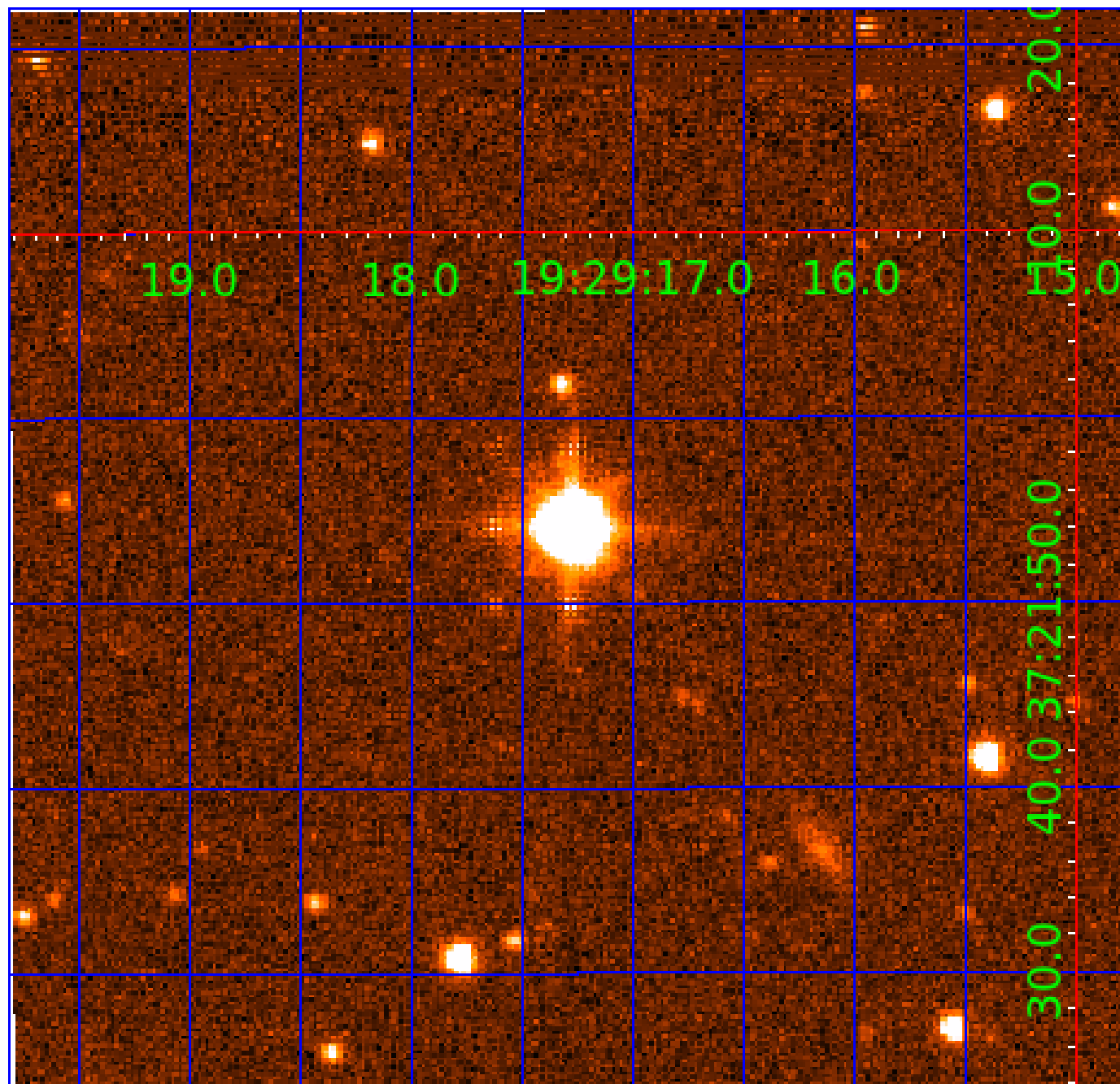


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001872340

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})
001872340-01	OBS	No	378.353738	306.937774	585.1	3.747	19.4	5.8	2.80	5059	7.34	4.94
001872340-04	OBS	No	416.101017	478.617681	1086.2	16.327	16.7	7.7	2.80	5059	9.17	4.35
001872340-05	OBS	No	444.621874	304.104253	386.4	3.893	15.3	3.8	2.80	5059	5.39	3.99
001872340-06	OBS	No	398.776551	278.655664	856.3	3.395	15.1	9.2	2.80	5059	16.57	4.61
001872340-07	OBS	No	543.908949	314.512718	1466.3	12.212	14.2	13.7	2.80	5059	11.38	3.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001872340-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
001872340-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
001872340-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_NOFITS

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

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

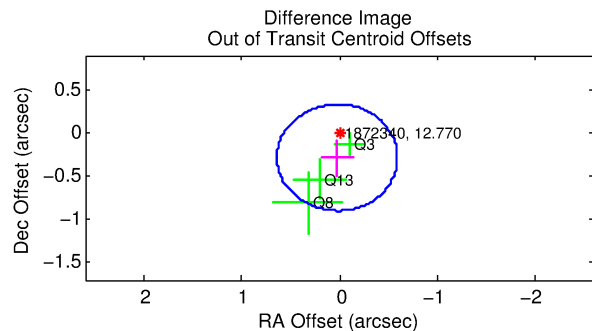
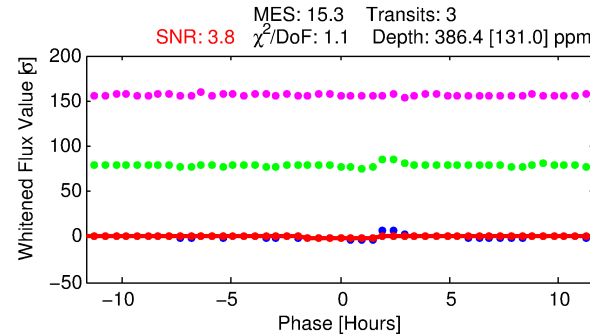
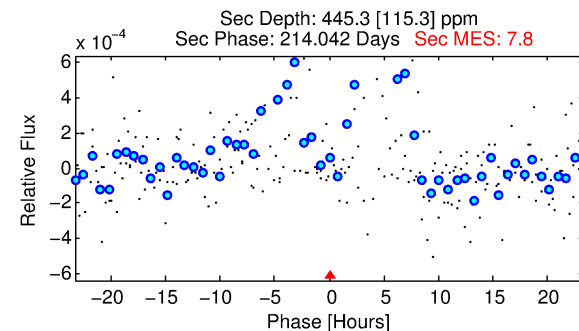
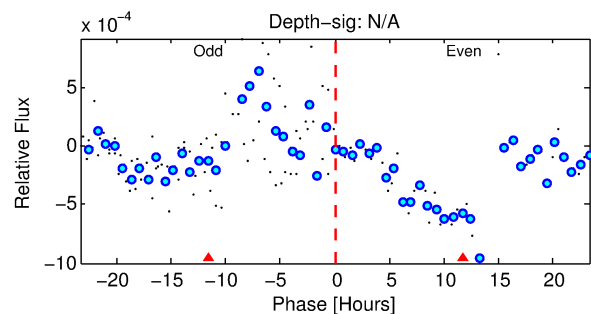
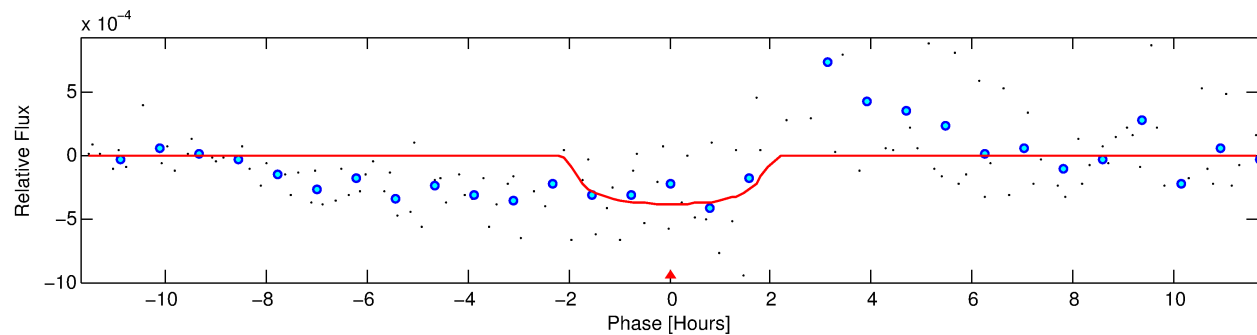
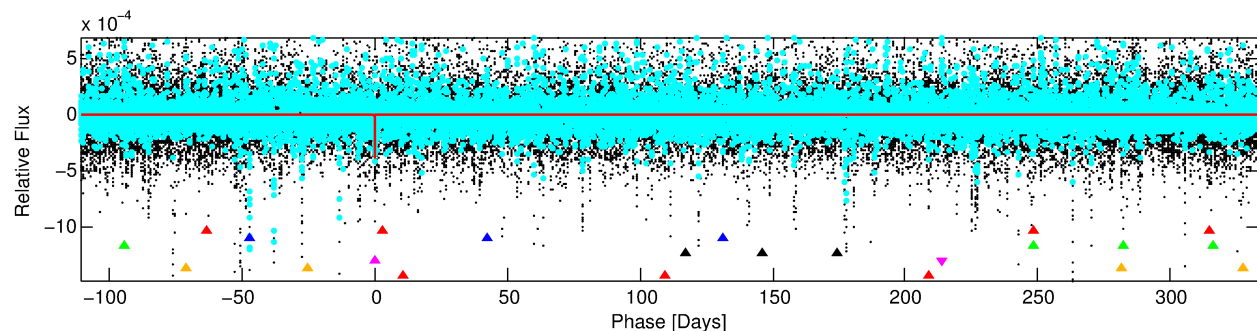
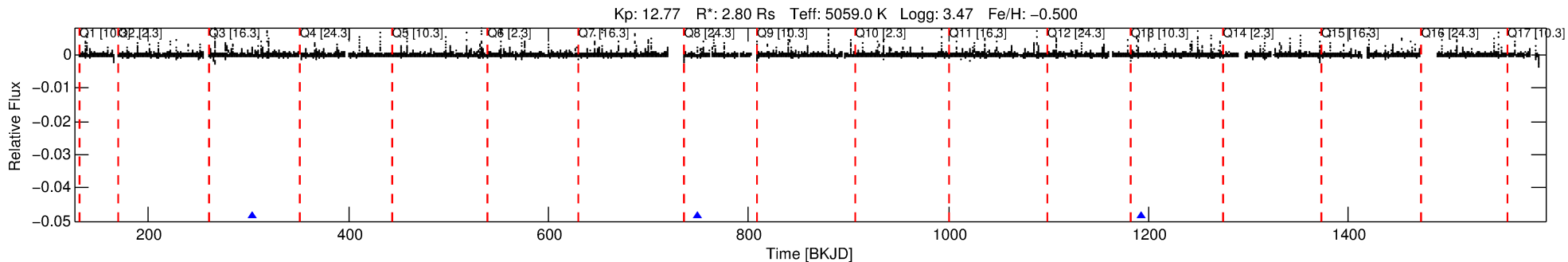
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001872340-05

No Significant Match Found

DV One-Page Summary

KIC: 1872340 Candidate: 5 of 7 Period: 444.622 d



DV Fit Results:

Period = 444.62187 [0.01023] d
Epoch = 304.1043 [0.0109] BKJD
Rp/R* = 0.0177 [0.0982]
a/R* = 875.58 [18297.81]
b = 0.17 [121.92]
Seff = 3.99 [3.27]
Teff = 360 [74] K
Rp = 5.39 [30.24] Re
a = 1.0741 [0.6183] AU
Ag = 9720.04 [108470.37] [0.09σ]
Teffp = 5531 [15391] K [0.34σ]

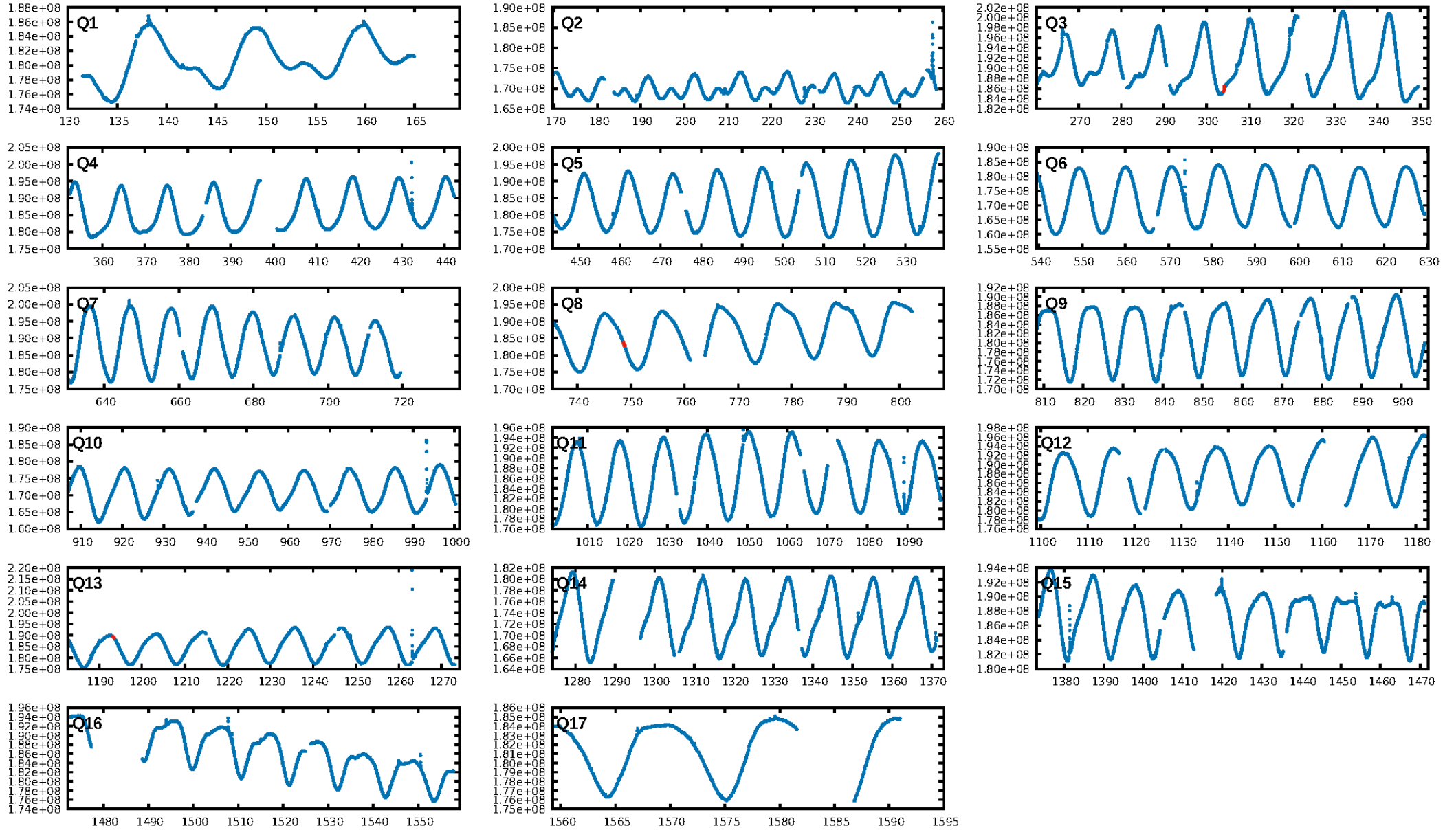
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.78σ]
LongPeriod-sig: 100.0% [88.80σ]
ModelChiSquare2-sig: 1.9%
ModelChiSquareGof-sig: 91.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.67
Centroid-sig: 1.0%
Centroid-so: 2.412 arcsec [1.64σ]
OotOffset-rm: 0.284 arcsec [1.39σ]
KicOffset-rm: 0.444 arcsec [2.48σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

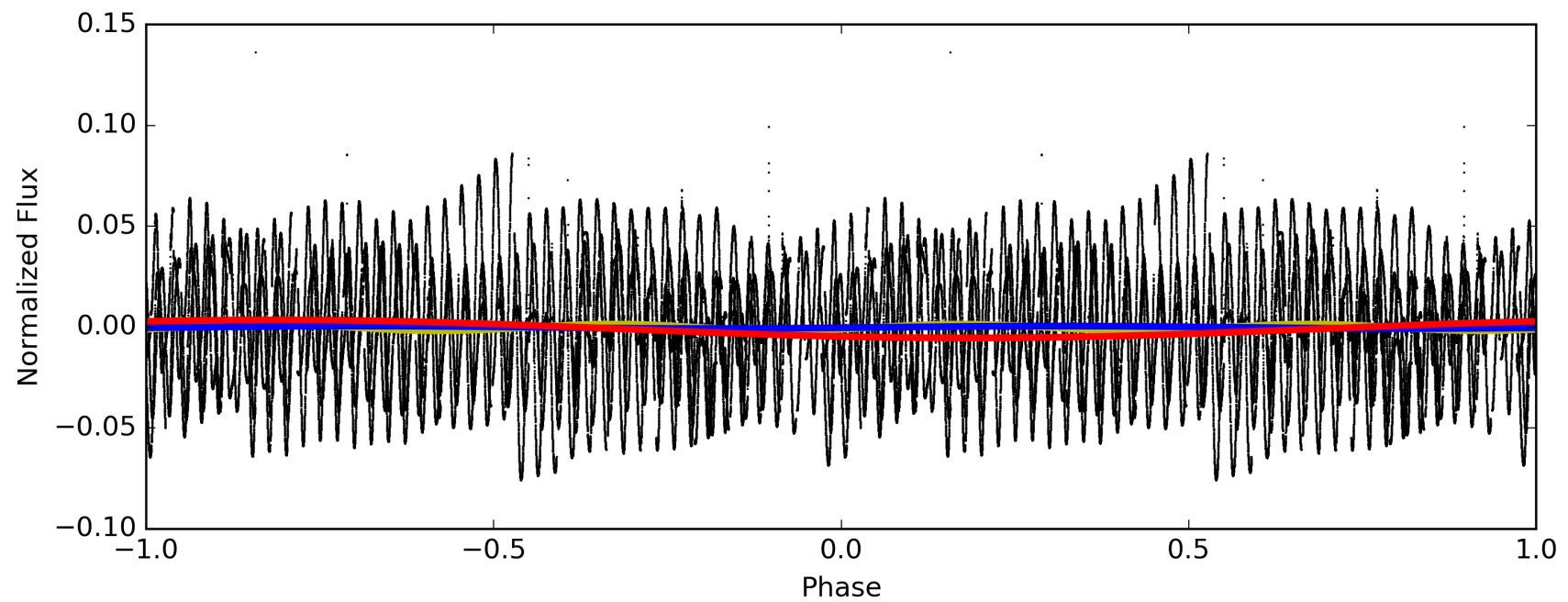
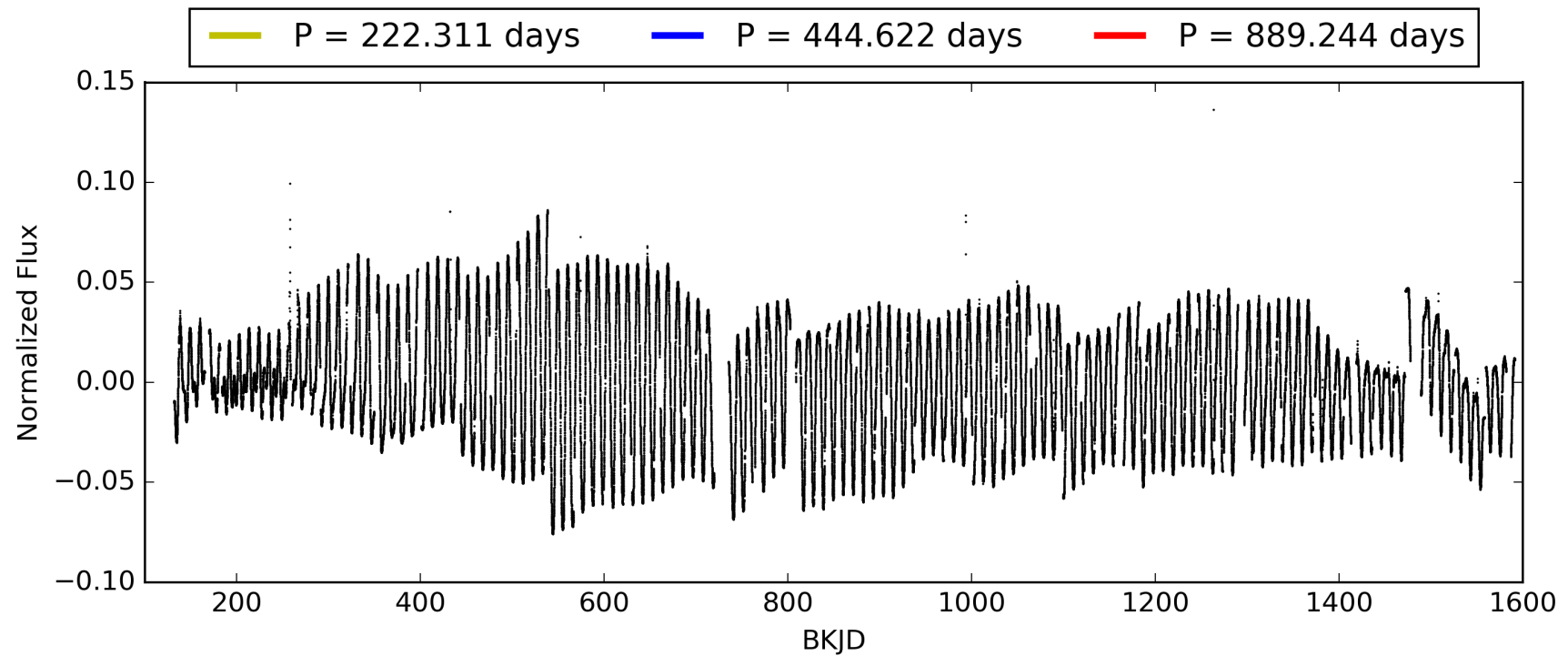
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:28:20 Z

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

TCE 001872340-05, PDC Light Curves

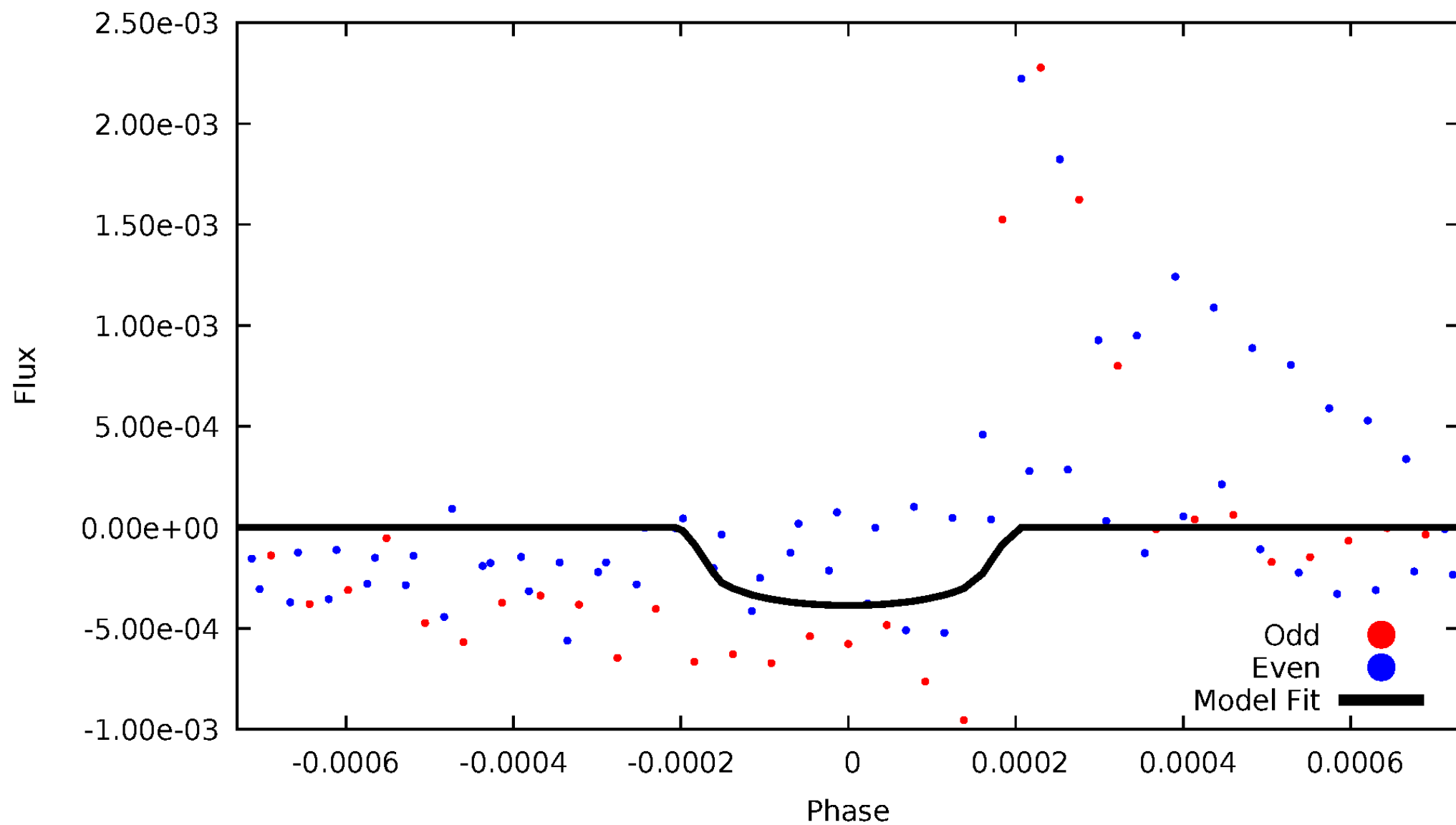


TCE 001872340-05



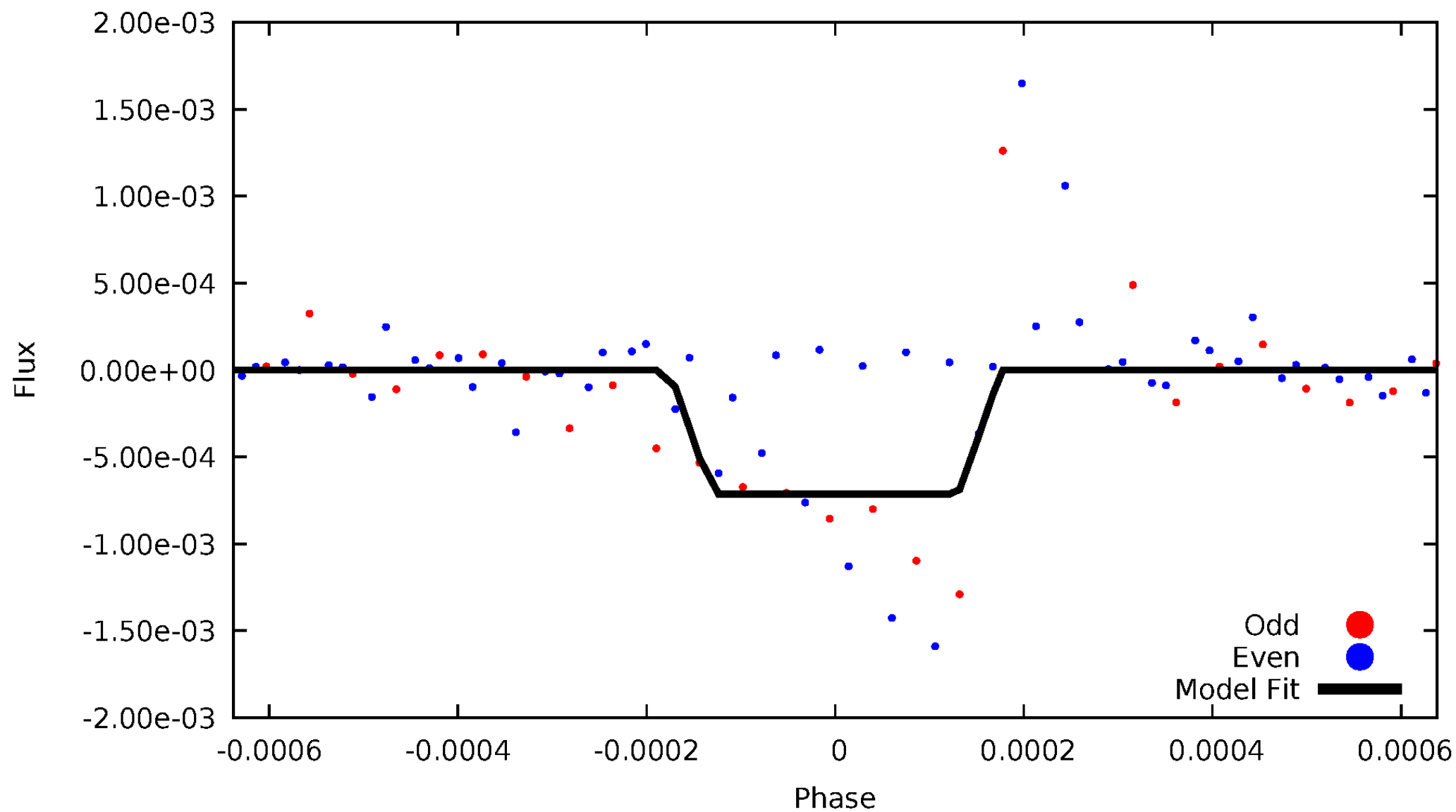
DV Odd/Even

TCE 001872340-05



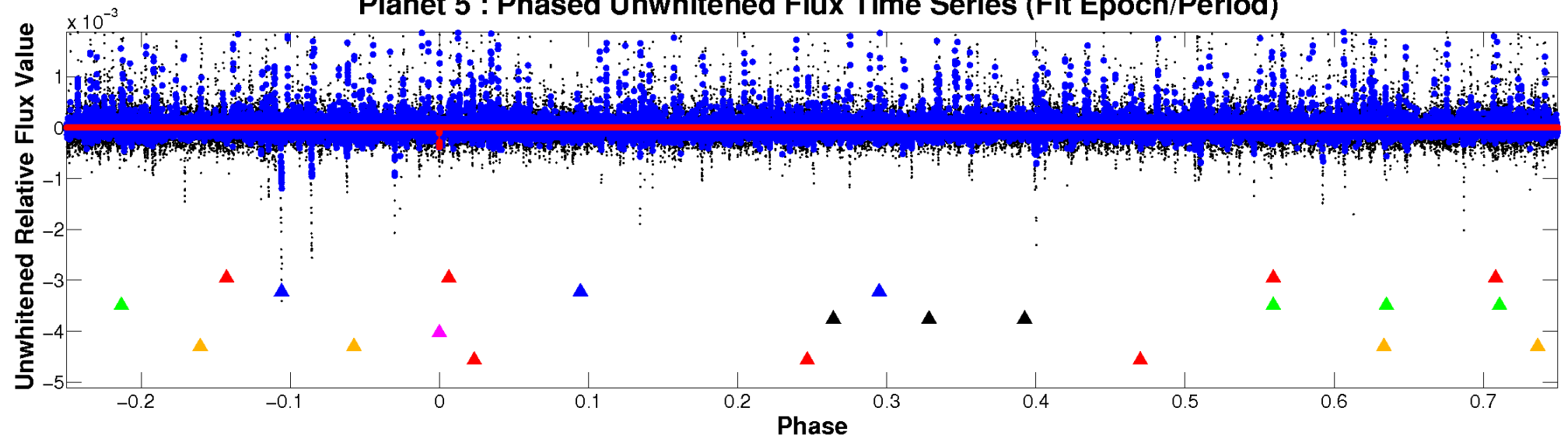
ALT Odd/Even

TCE 001872340-05

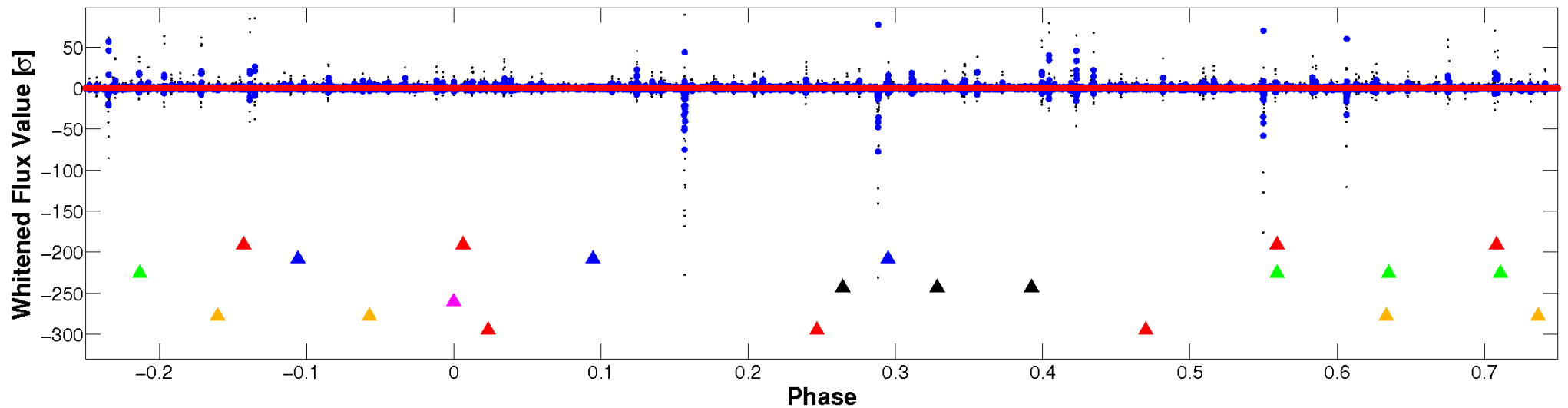


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



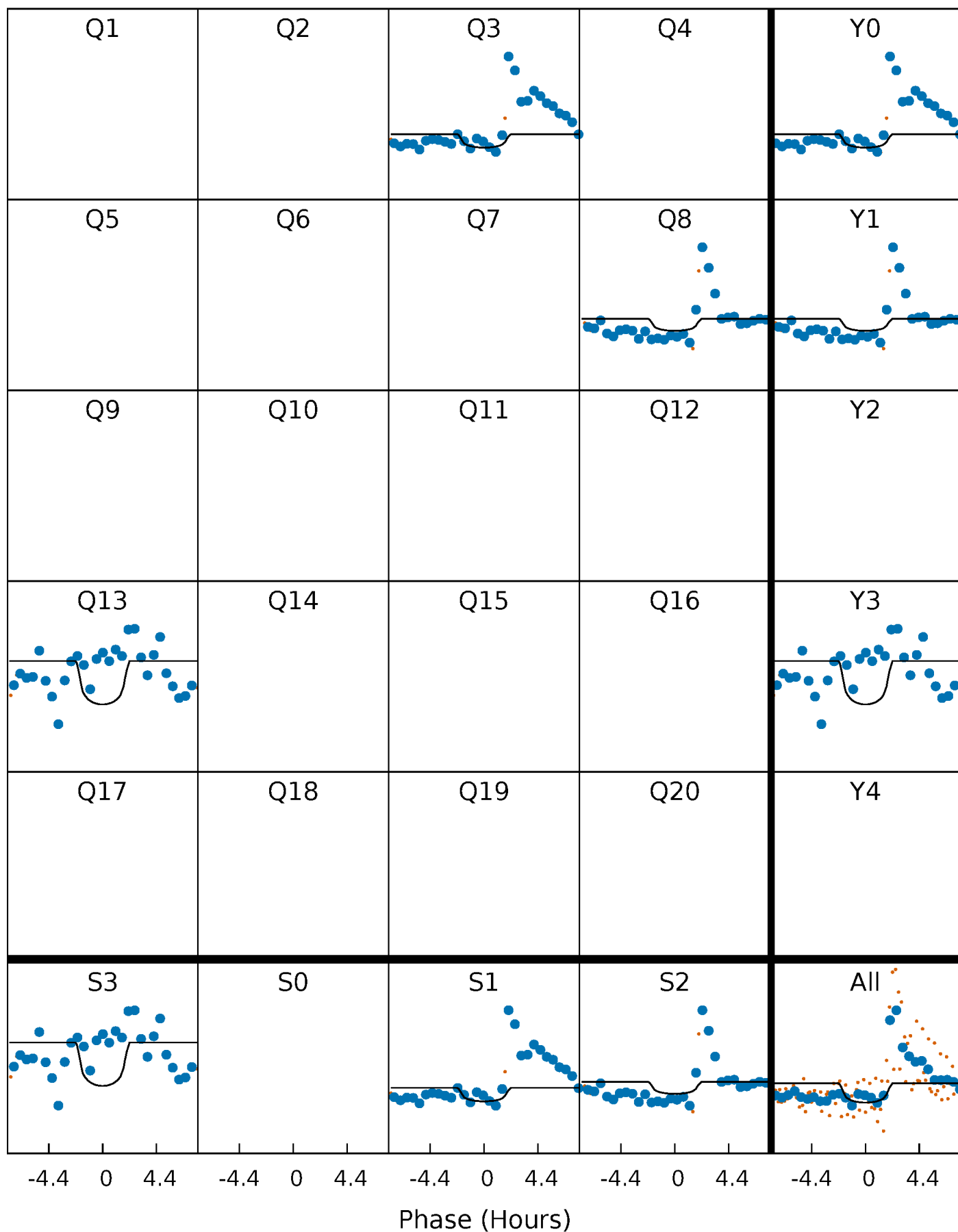
PDC Quarter-Phased Transit Curves

TCE 001872340-05 $P=444.621874$ Days $T_0=304.104253$ (BKJD)



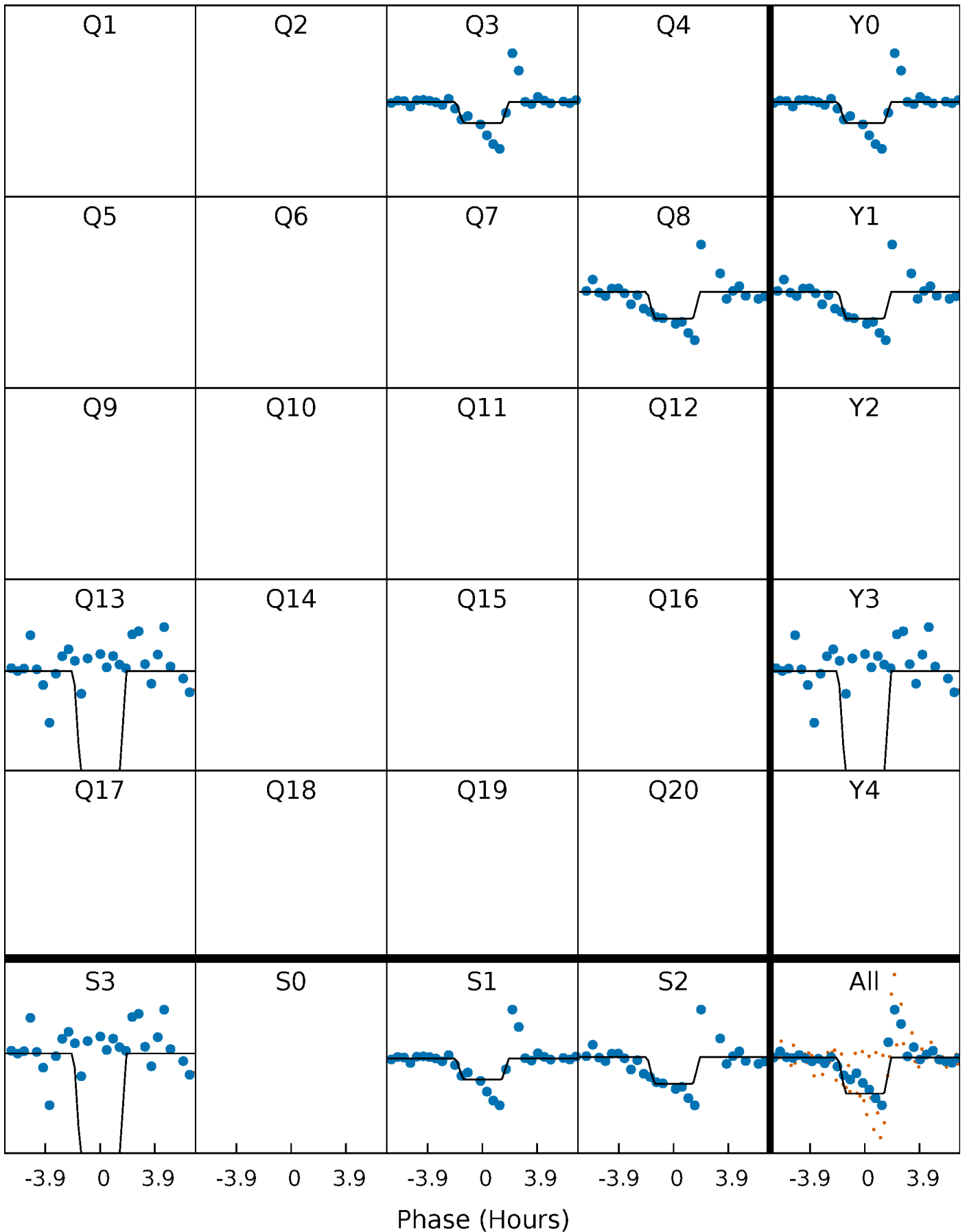
DV Quarter-Phased Transit Curves

TCE 001872340-05 $P=444.621874$ Days $T_0=304.104253$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

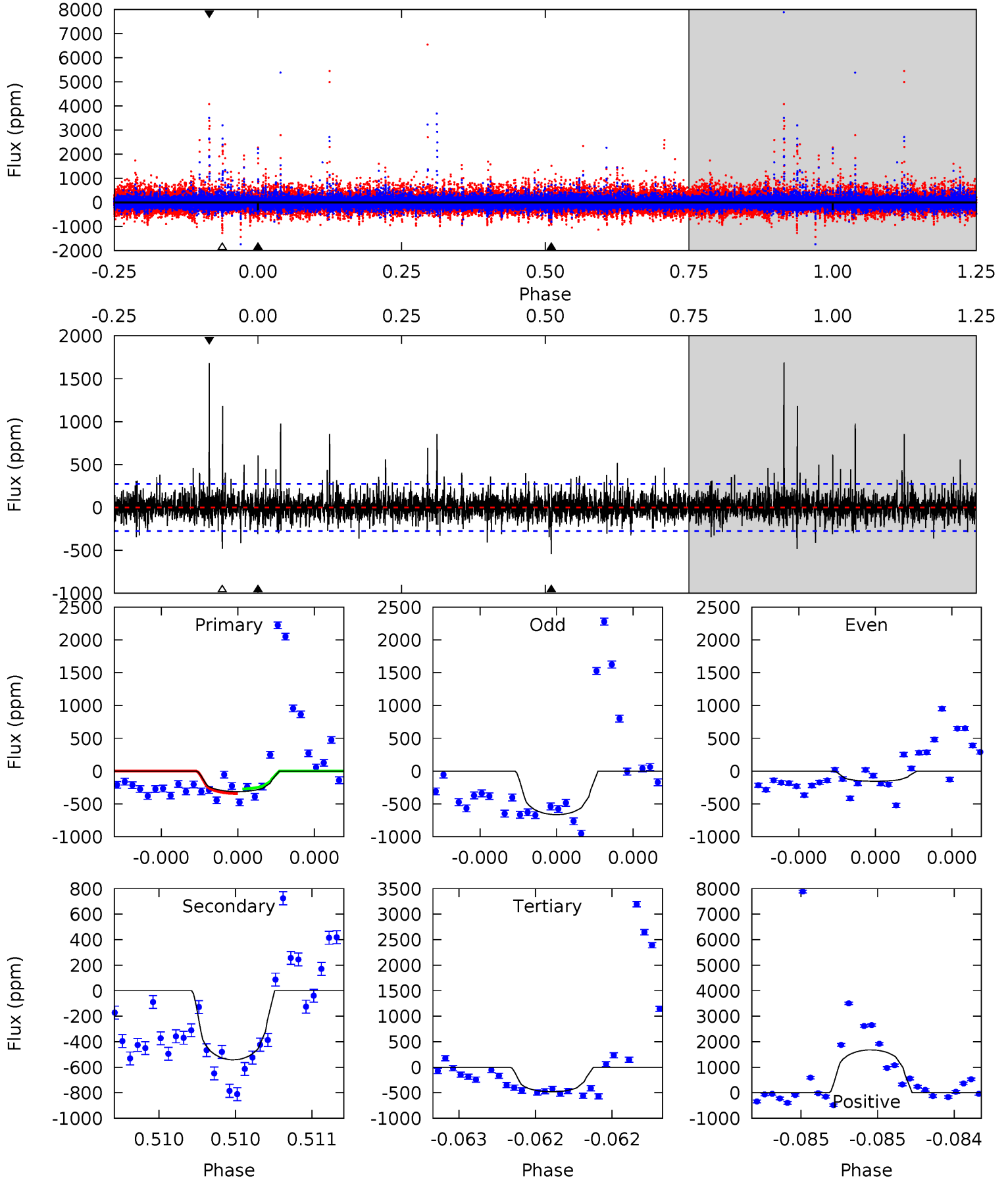
TCE 001872340-05 $P=444.620643$ Days $T_0=304.108108$ (BKJD)



DV Model-Shift Uniqueness Test

001872340-05, P = 444.621874 Days, E = 304.104253 Days

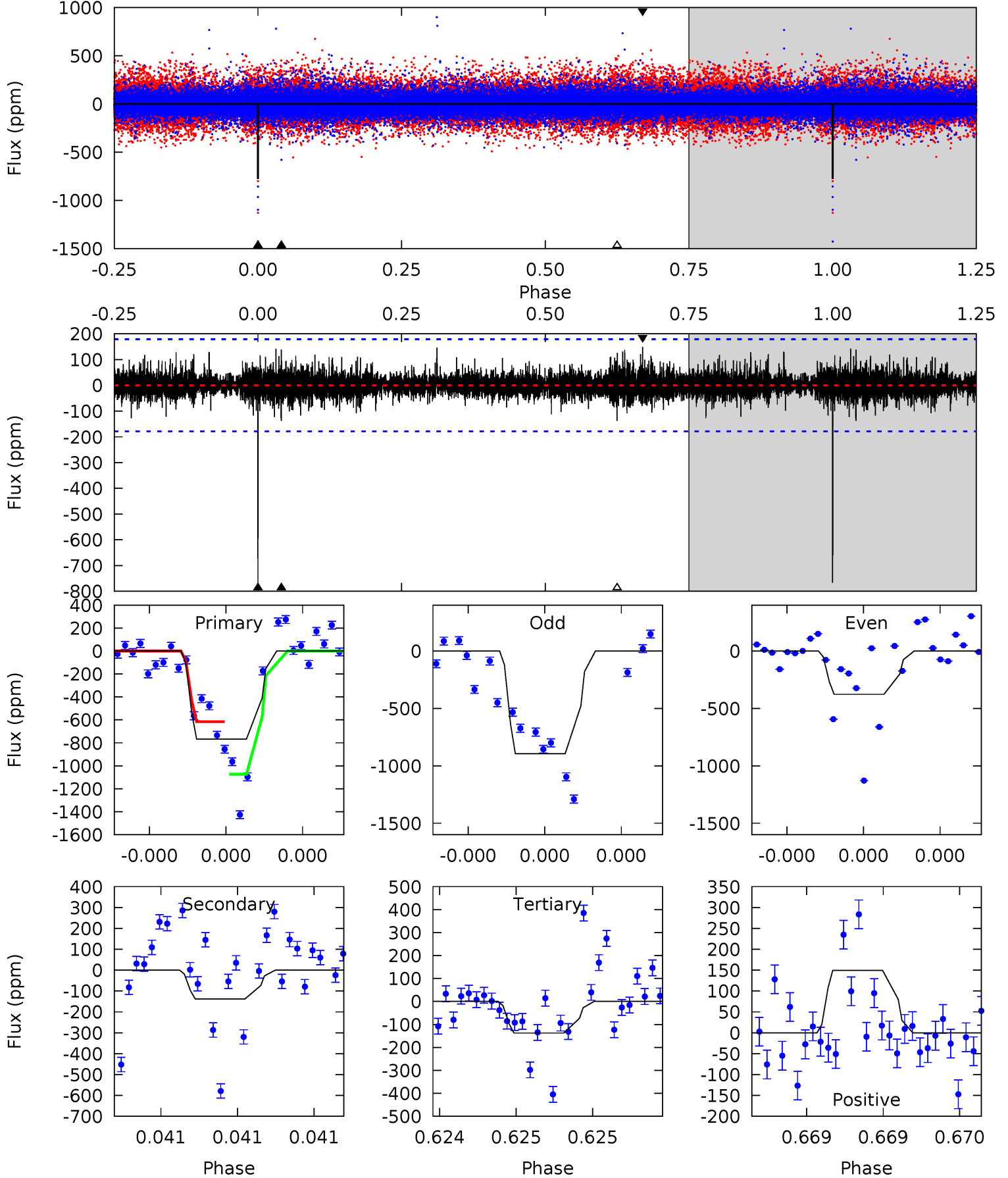
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.39	11.1	9.82	34.3	5.62	3.55	2.07	-3.43	-28.0	1.26	-23.3	2.19	1.05	0.76	0.72



Alt Model-Shift Uniqueness Test

001872340-05, P = 444.620643 Days, E = 304.108108 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	4.36	4.34	4.72	5.65	3.60	0.85	19.9	19.5	0.02	-0.36	5.79	0.69	0.16	7.10



Stellar Parameters For KIC 001872340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5059^{+140}_{-102}	$3.466^{+0.431}_{-0.308}$	$-0.500^{+0.300}_{-0.200}$	$2.799^{+1.618}_{-1.978}$	$0.834^{+0.293}_{-0.158}$	$0.054^{+1.888}_{-0.036}$
	+3%/-2%	+12%/-9%	+60%/-40%	+58%/-71%	+35%/-19%	+3523%/-68%
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 001872340-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-542 ± 49	$22.79^{+26.30}_{-16.00}$	517^{+65}_{-70}	3351^{+1931}_{-596}	720^{+7190}_{-571}
Alt.	-138 ± 32	$25.04^{+27.35}_{-17.85}$	511^{+64}_{-69}	2681^{+1142}_{-418}	144^{+1472}_{-113}

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 $A_{\text{obs}} \gg 1.0$

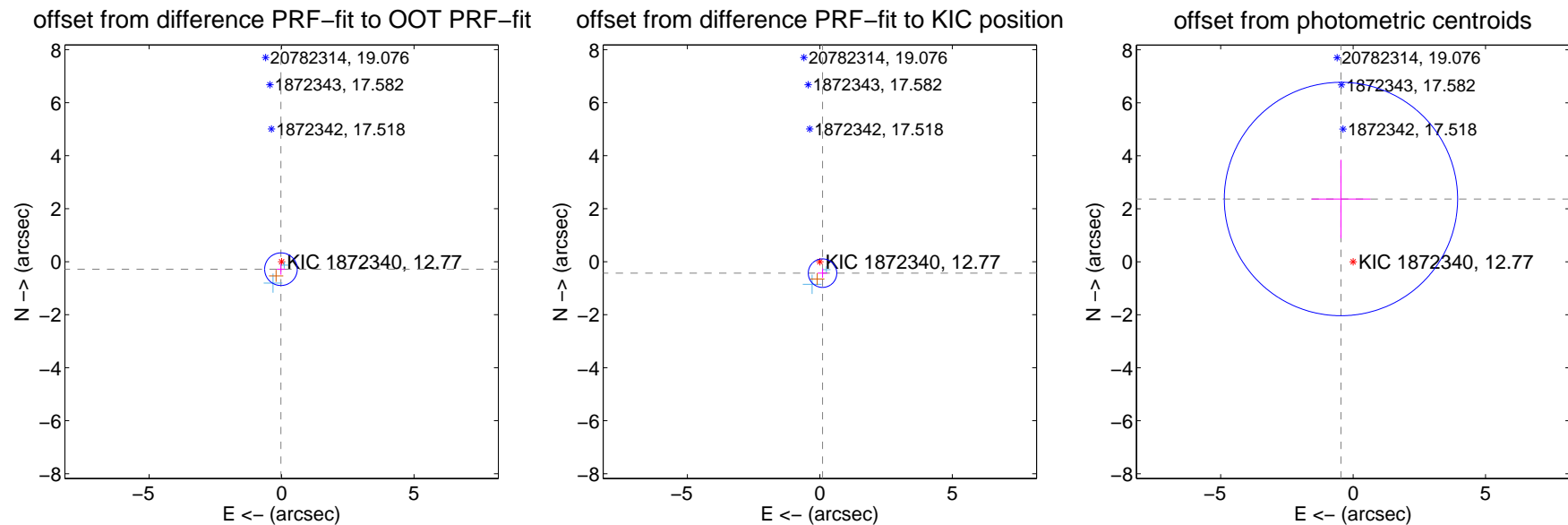
DV Centroid Data

Supplemental centroid analysis for 001872340-05. Kepler magnitude: 12.77. Transit SNR 3.83

There are 2 quarters with good PRF difference image offsets

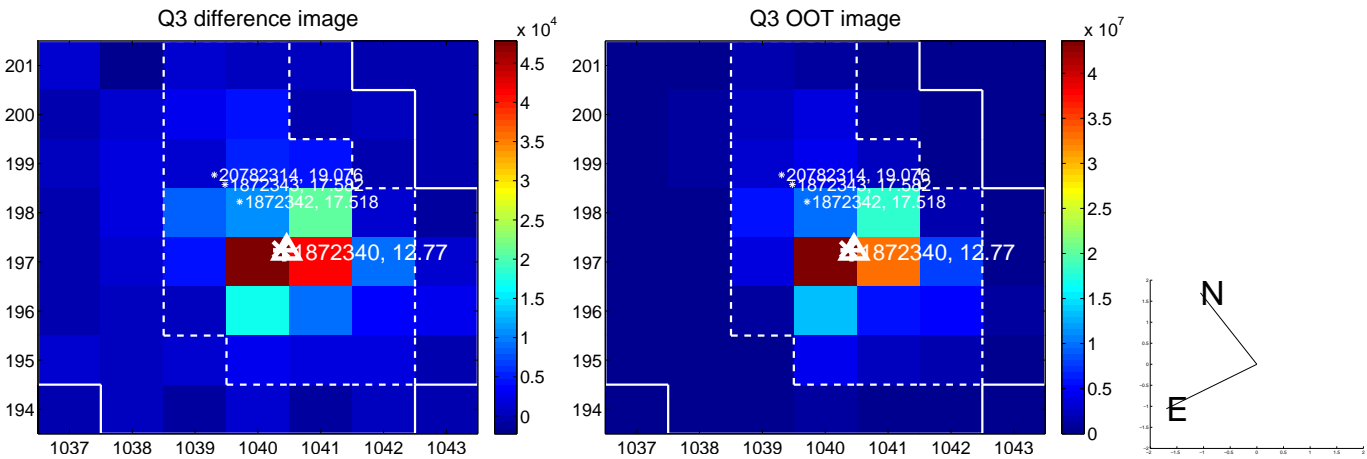
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.284 ± 0.205	1.39	0.024 ± 0.158	-0.283 ± 0.206
PRF-fit source offset from KIC position	0.444 ± 0.179	2.48	-0.101 ± 0.180	-0.432 ± 0.179
photometric centroid source offset	2.41 ± 1.47	1.64	0.46 ± 1.11	2.37 ± 1.48

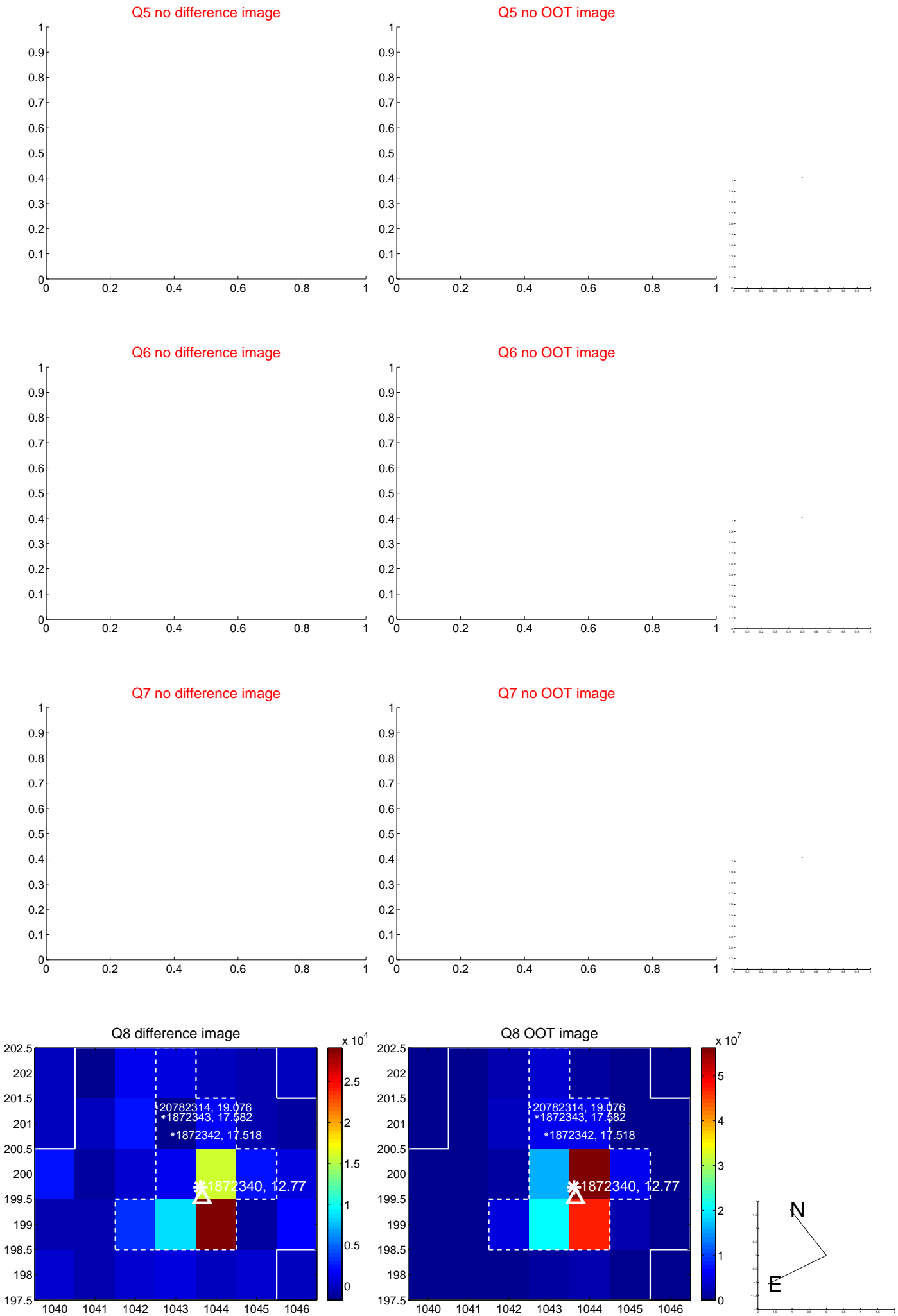


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



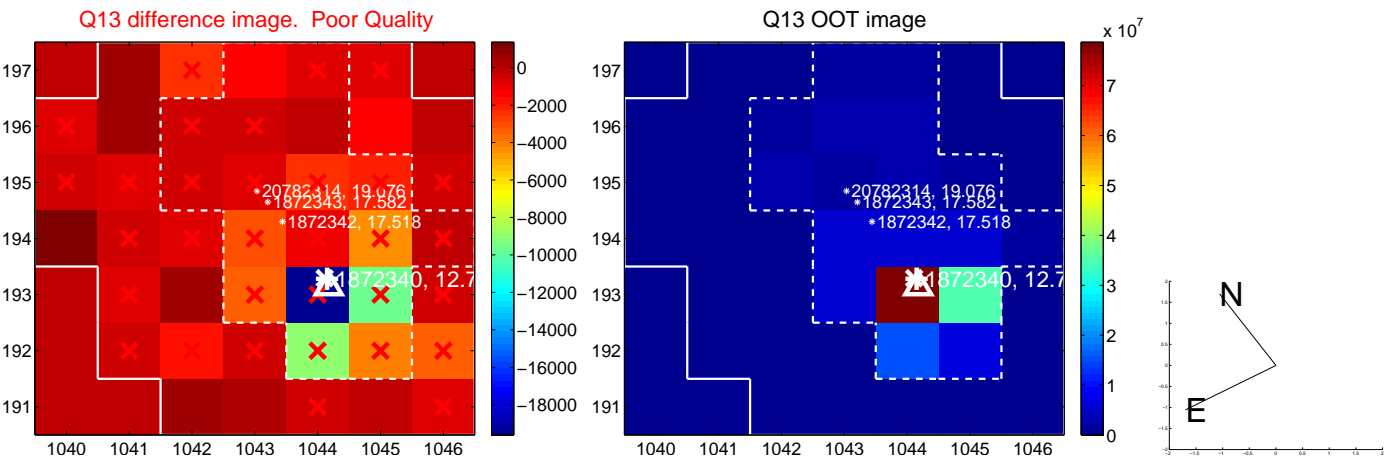
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



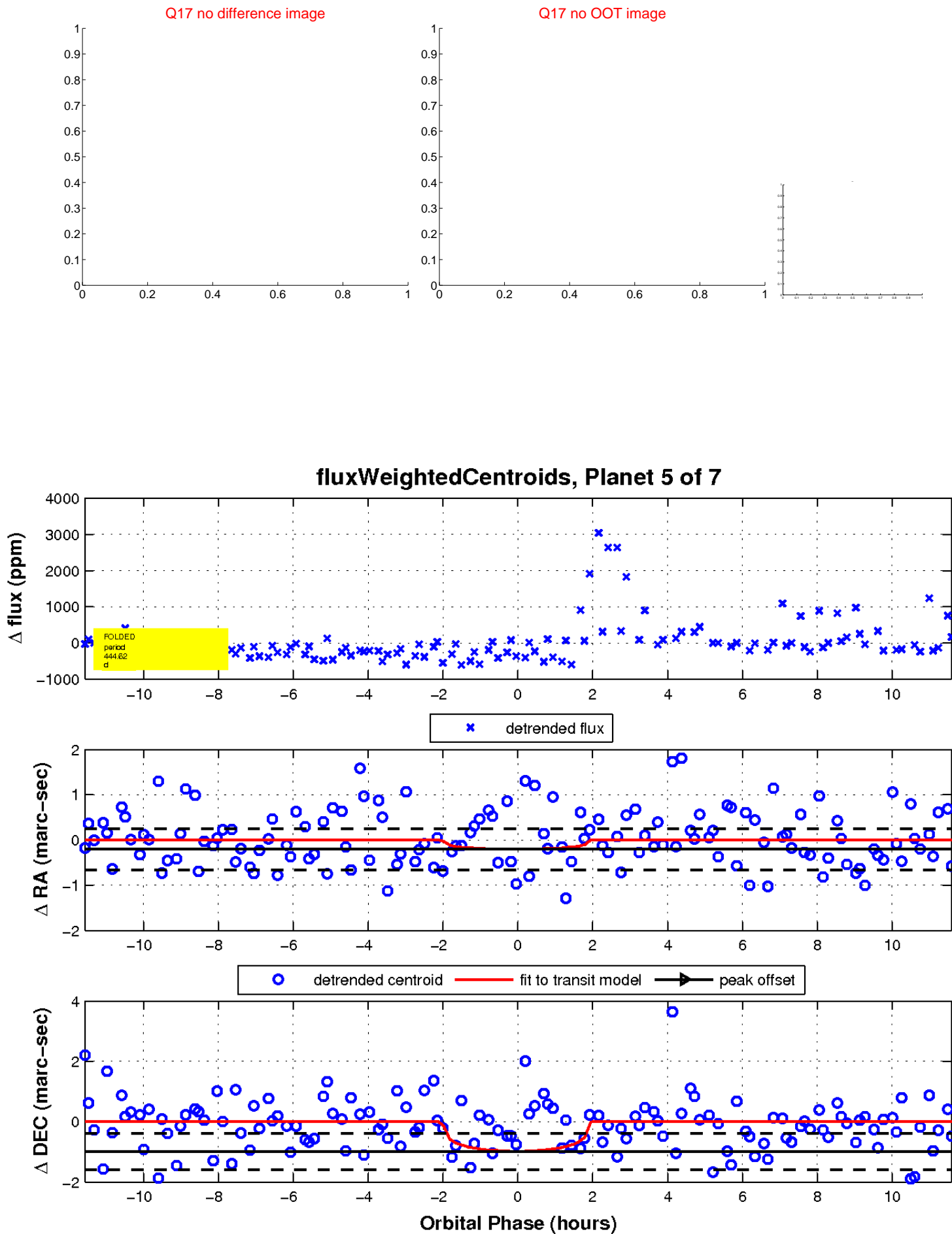
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

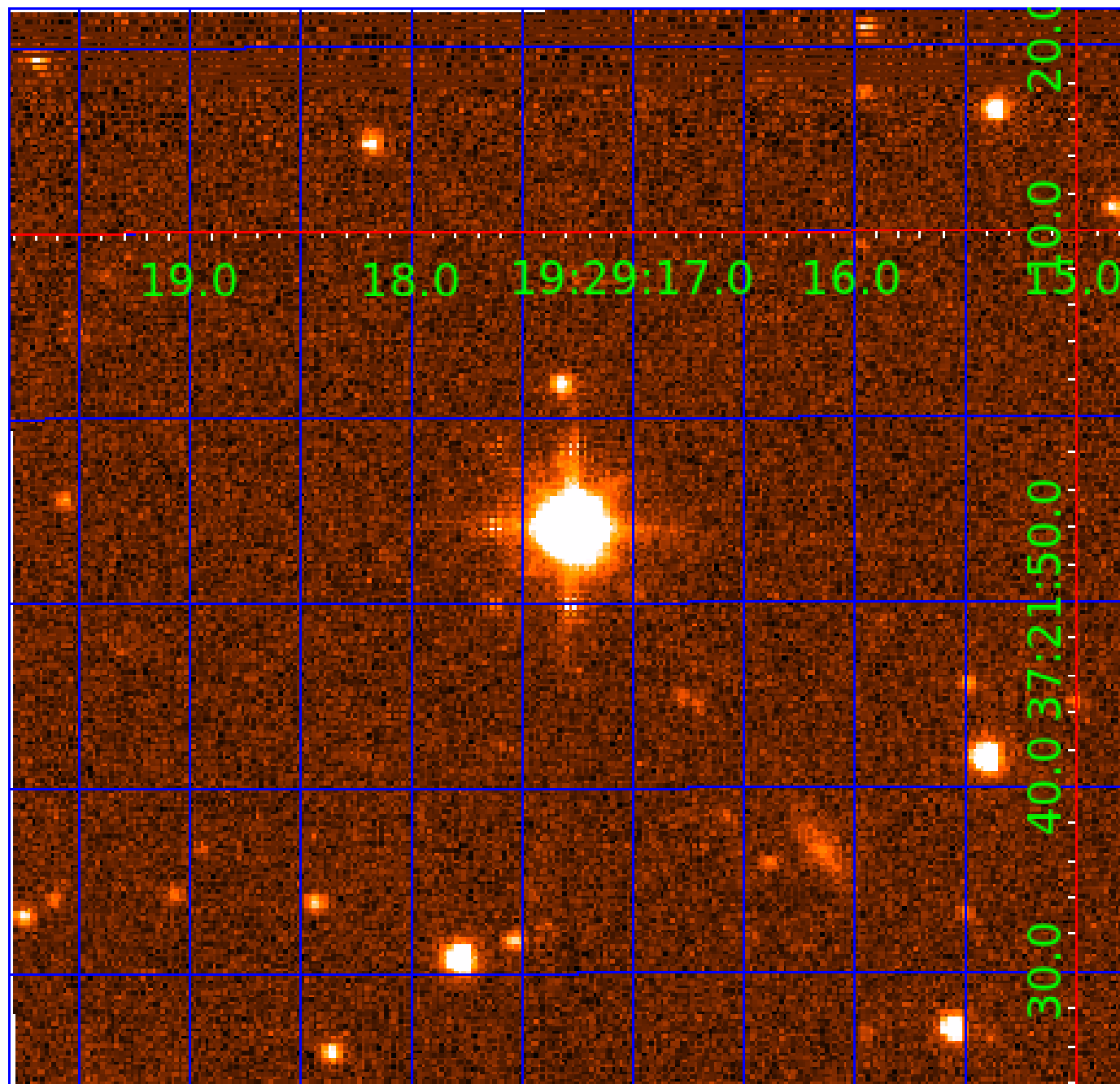


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001872340

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})
001872340-01	OBS	No	378.353738	306.937774	585.1	3.747	19.4	5.8	2.80	5059	7.34	4.94
001872340-04	OBS	No	416.101017	478.617681	1086.2	16.327	16.7	7.7	2.80	5059	9.17	4.35
001872340-05	OBS	No	444.621874	304.104253	386.4	3.893	15.3	3.8	2.80	5059	5.39	3.99
001872340-06	OBS	No	398.776551	278.655664	856.3	3.395	15.1	9.2	2.80	5059	16.57	4.61
001872340-07	OBS	No	543.908949	314.512718	1466.3	12.212	14.2	13.7	2.80	5059	11.38	3.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001872340-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
001872340-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
001872340-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_NOFITS

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

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

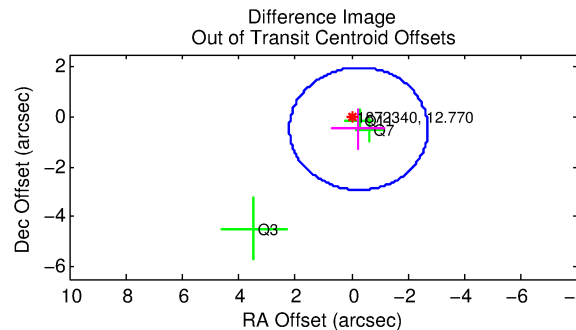
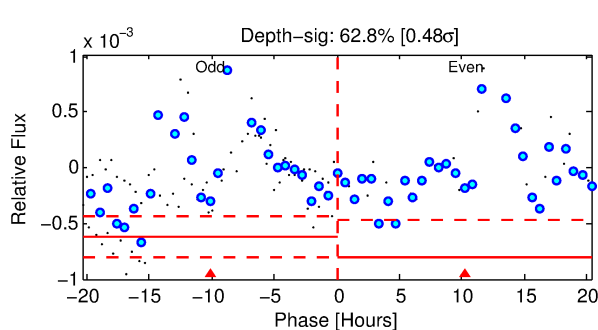
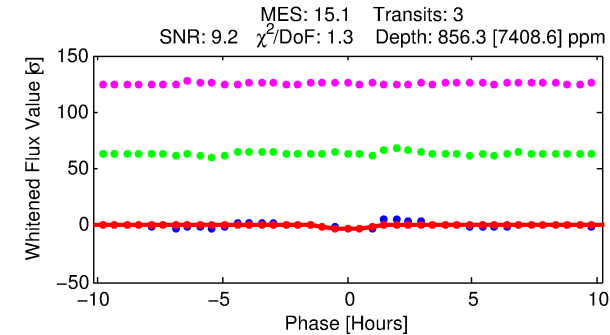
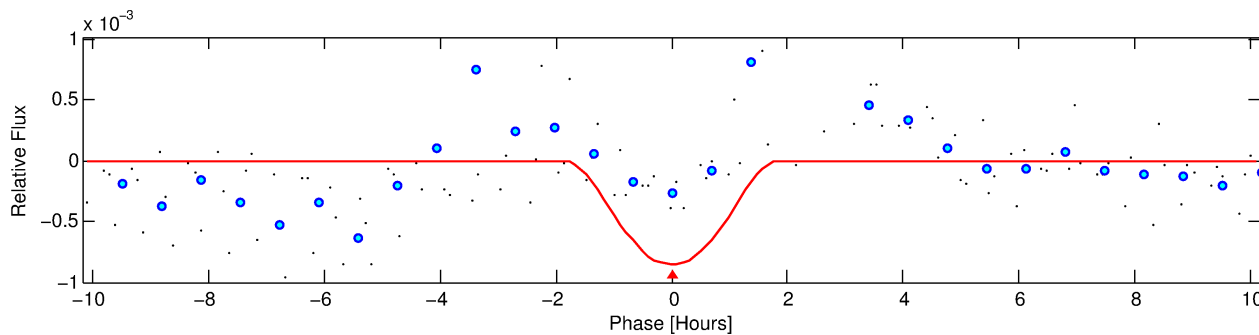
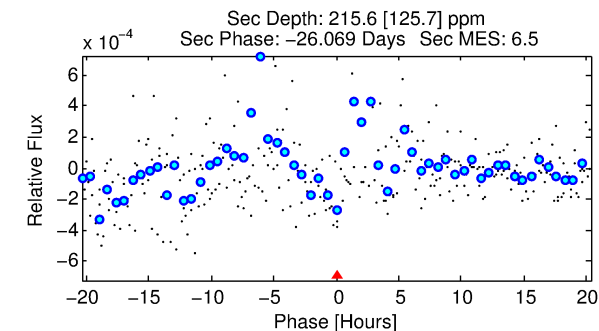
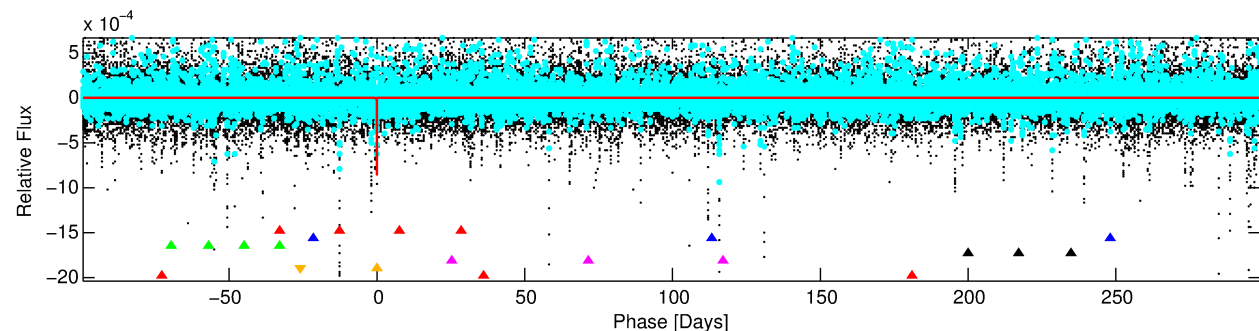
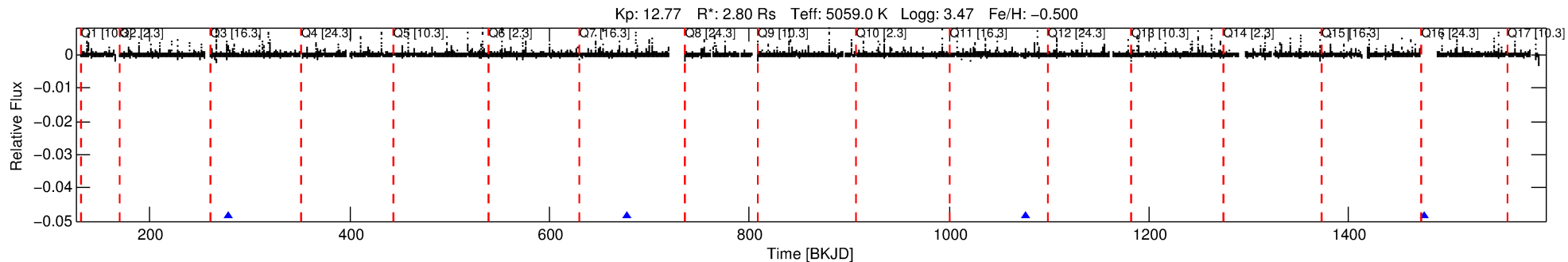
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001872340-06

No Significant Match Found

DV One-Page Summary

KIC: 1872340 Candidate: 6 of 7 Period: 398.777 d



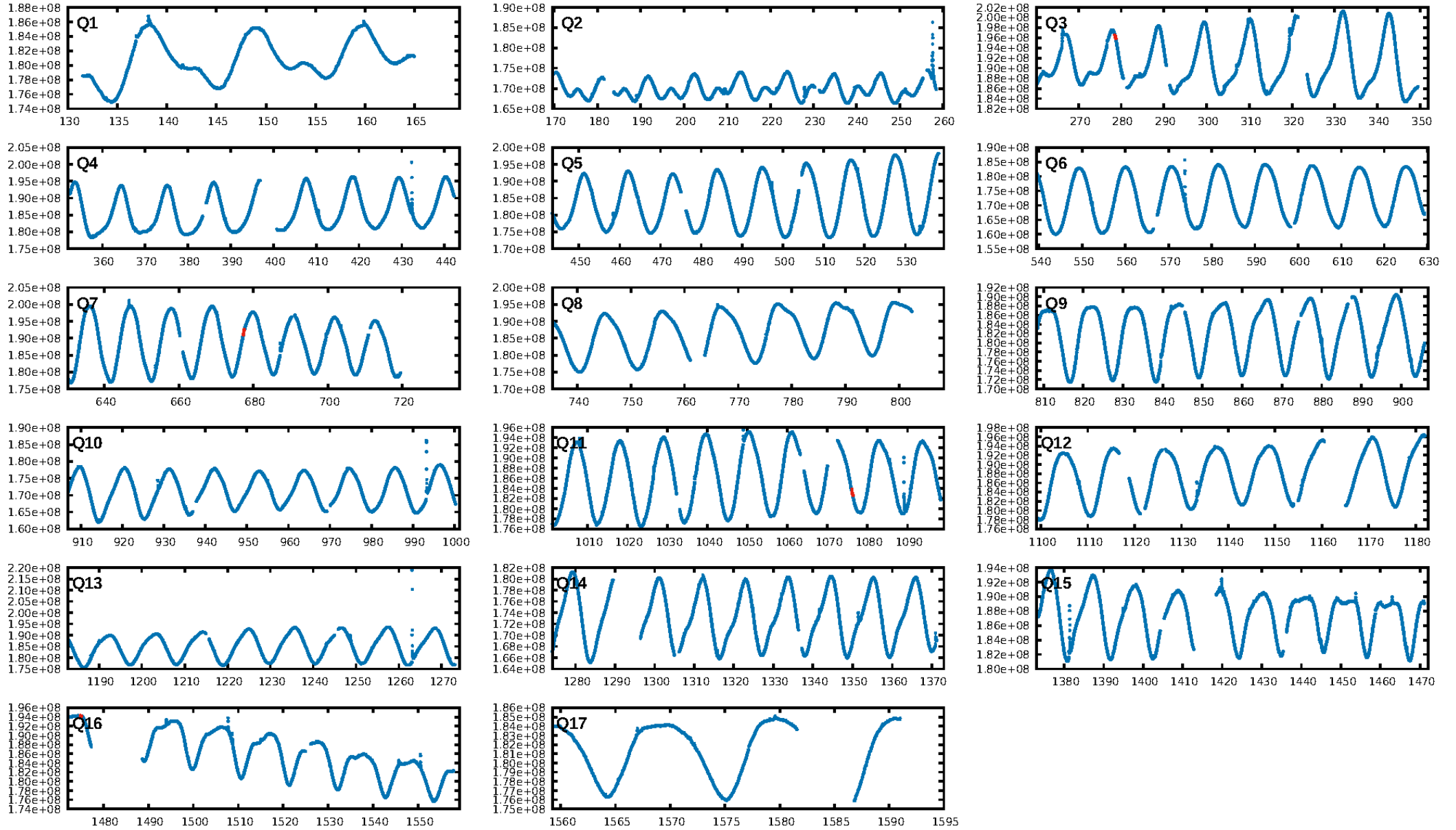
DV Fit Results:

Period = 398.77655 [0.00635] d
Epoch = 278.6557 [0.0076] BKJD
Rp/R* = 0.0543 [0.2580]
a/R* = 299.64 [336.26]
b = 1.00 [0.06]
Seff = 4.61 [3.78]
Teq = 374 [77] K
Rp = 16.58 [79.67] Re
a = 0.9989 [0.5750] AU
Ag = 430.77 [4118.79] [0.10σ]
Teffp = 2632 [6268] K [0.36σ]

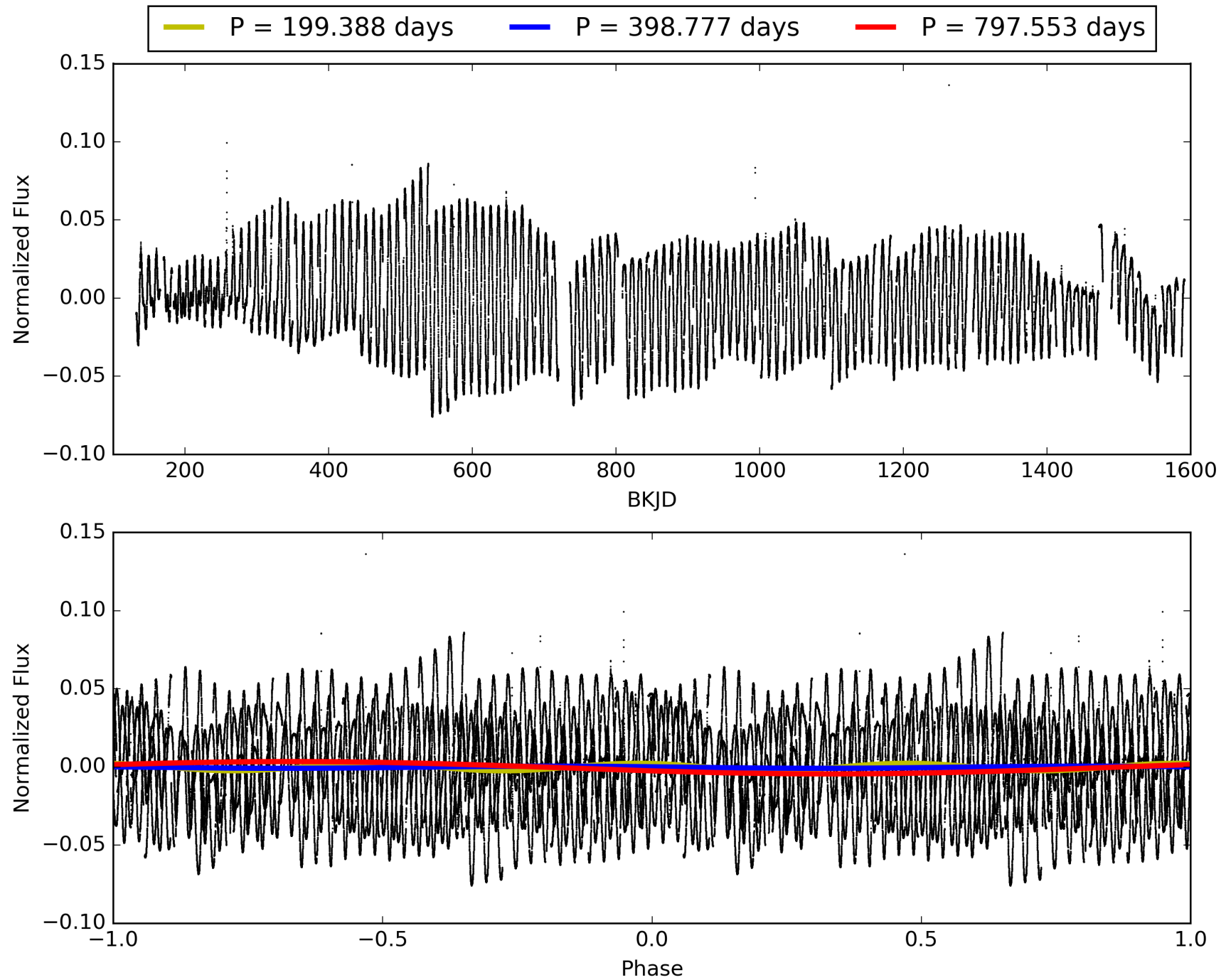
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [96.94σ]
LongPeriod-sig: 100.0% [55.95σ]
ModelChiSquare2-sig: 98.5%
ModelChiSquareGof-sig: 81.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.433
Centroid-sig: 64.2%
Centroid-so: 0.750 arcsec [0.72σ]
OotOffset-rm: 0.537 arcsec [0.66σ]
KicOffset-rm: 0.681 arcsec [0.84σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 001872340-06, PDC Light Curves

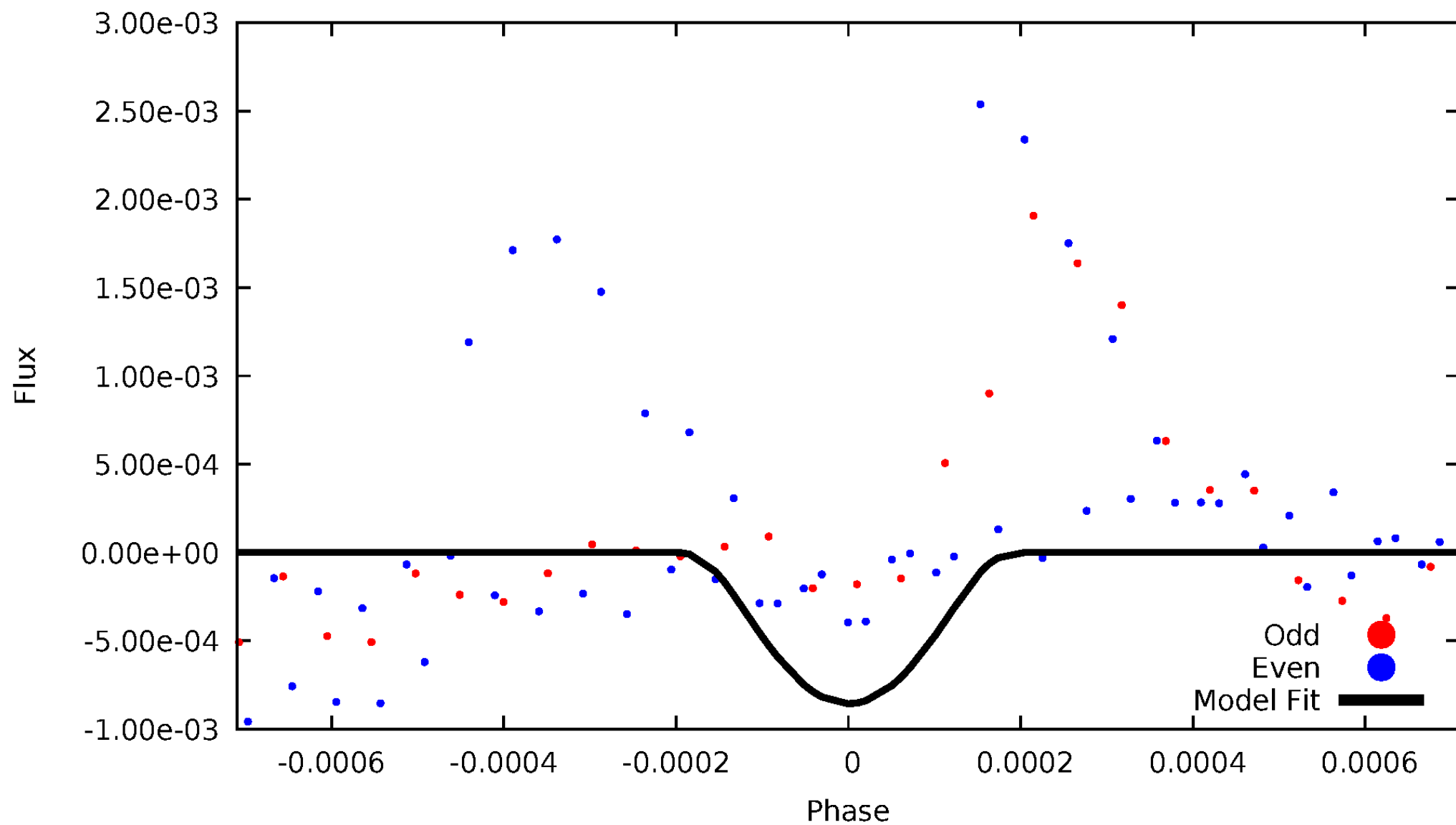


TCE 001872340-06



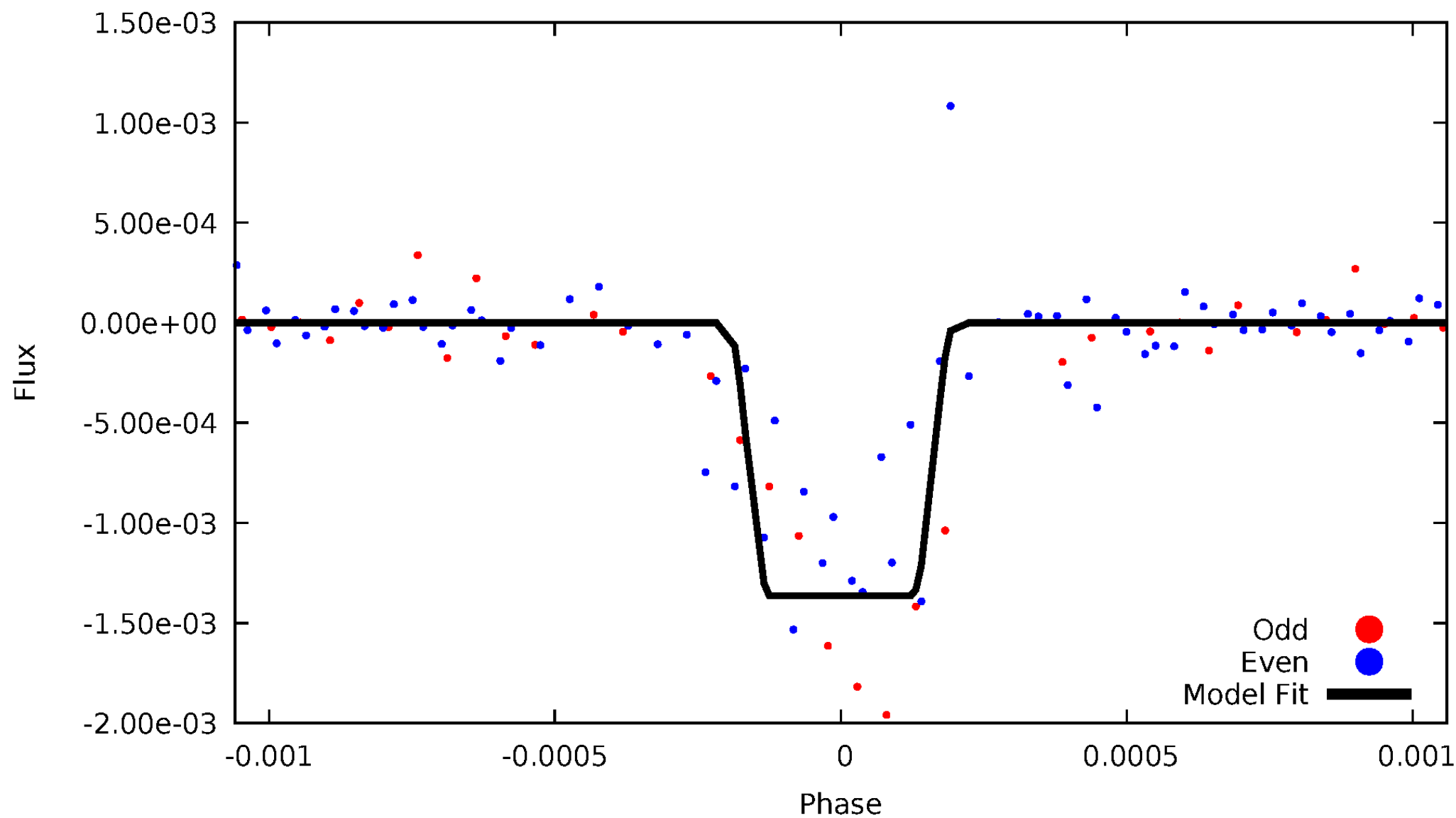
DV Odd/Even

TCE 001872340-06



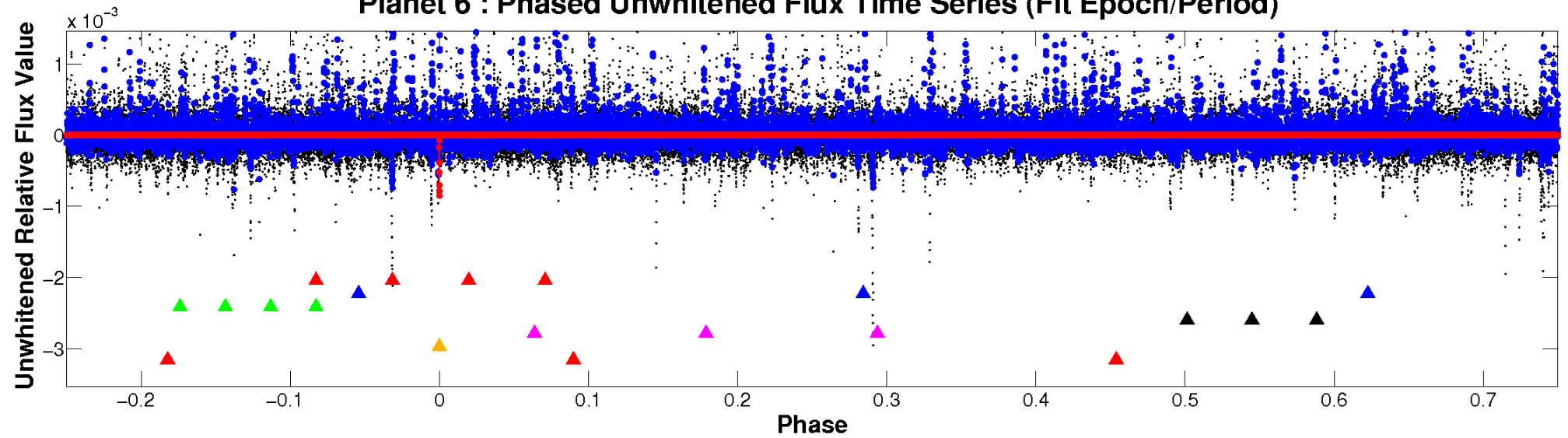
ALT Odd/Even

TCE 001872340-06

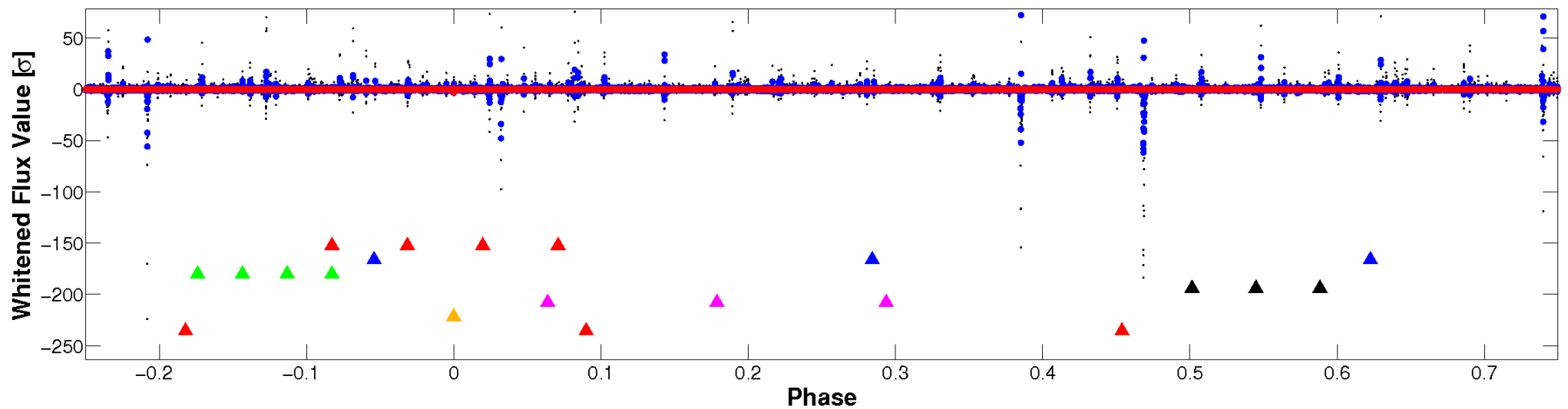


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

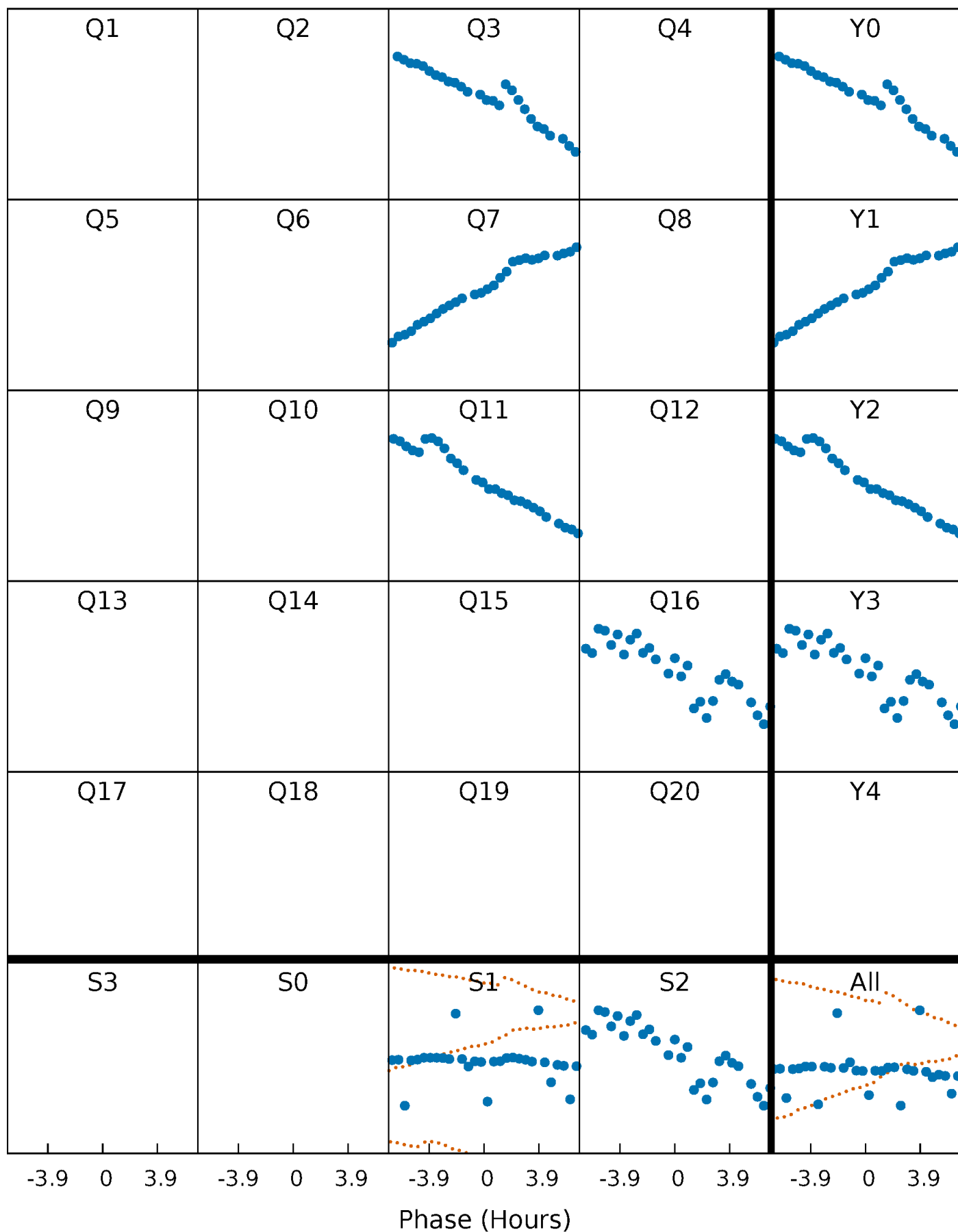


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



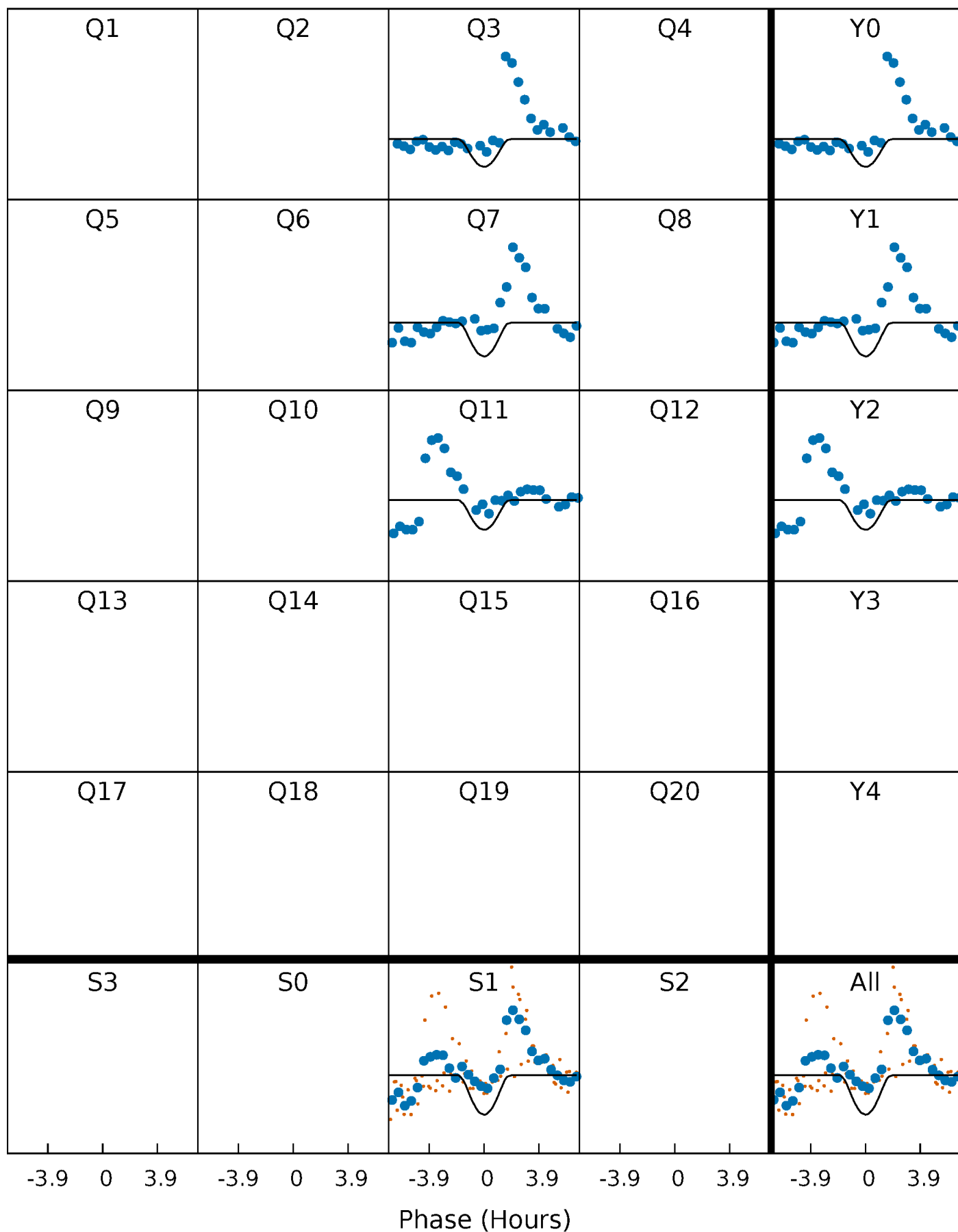
PDC Quarter-Phased Transit Curves

TCE 001872340-06 $P=398.776551$ Days $T_0=278.655664$ (BKJD)



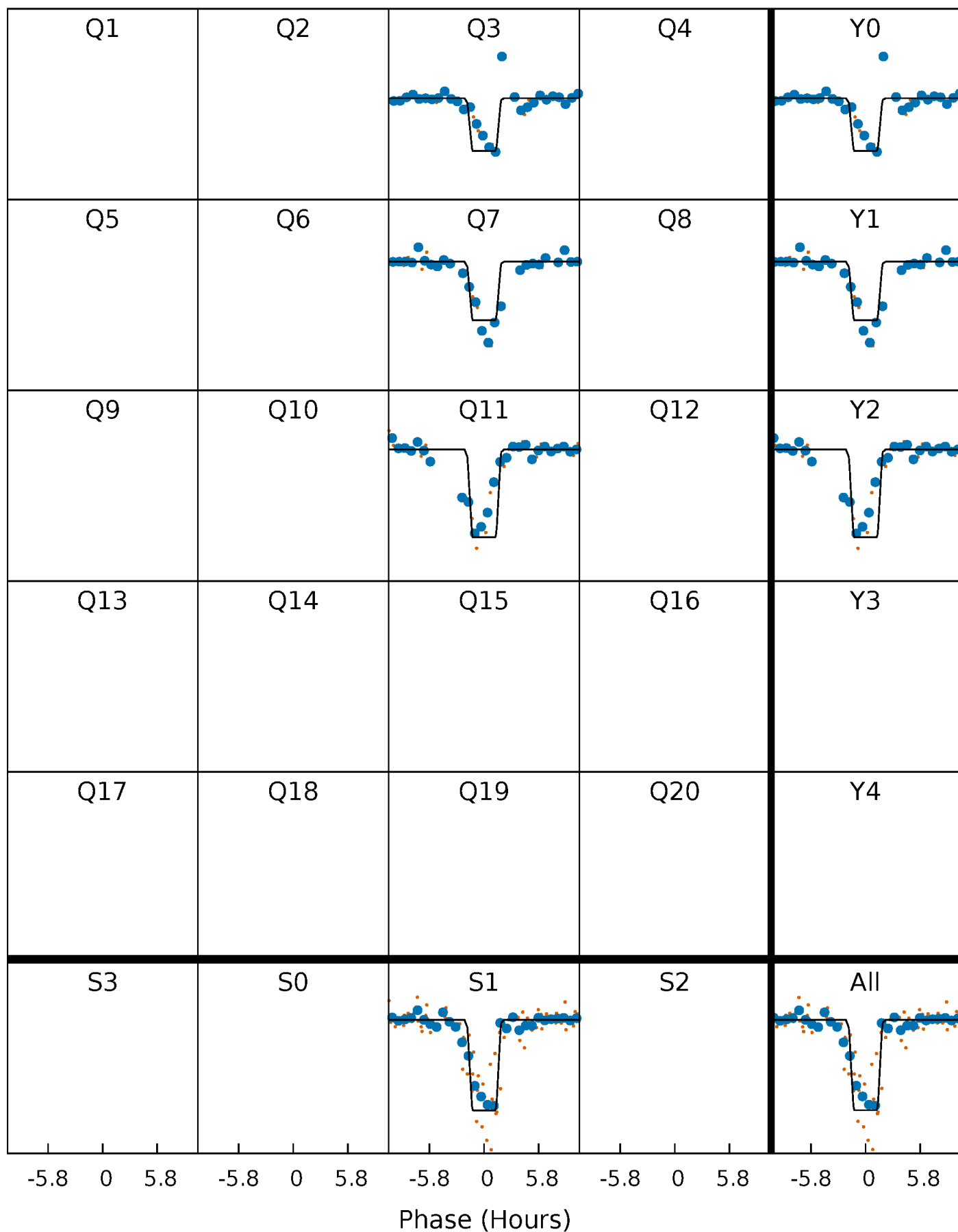
DV Quarter-Phased Transit Curves

TCE 001872340-06 $P=398.776551$ Days $T_0=278.655664$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

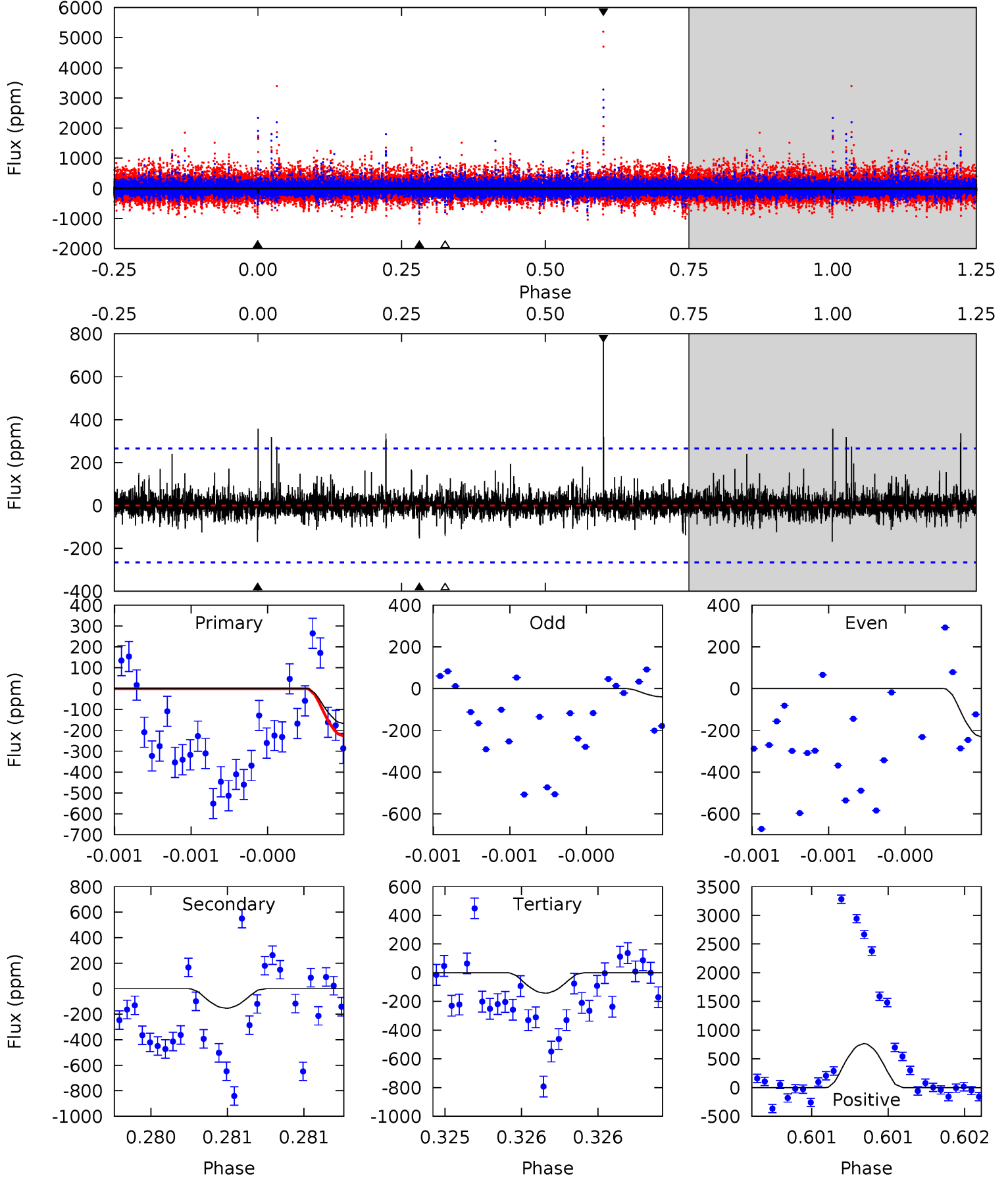
TCE 001872340-06 P=398.784445 Days $T_0=278.640277$ (BKJD)



DV Model-Shift Uniqueness Test

001872340-06, P = 398.776551 Days, E = 278.655664 Days

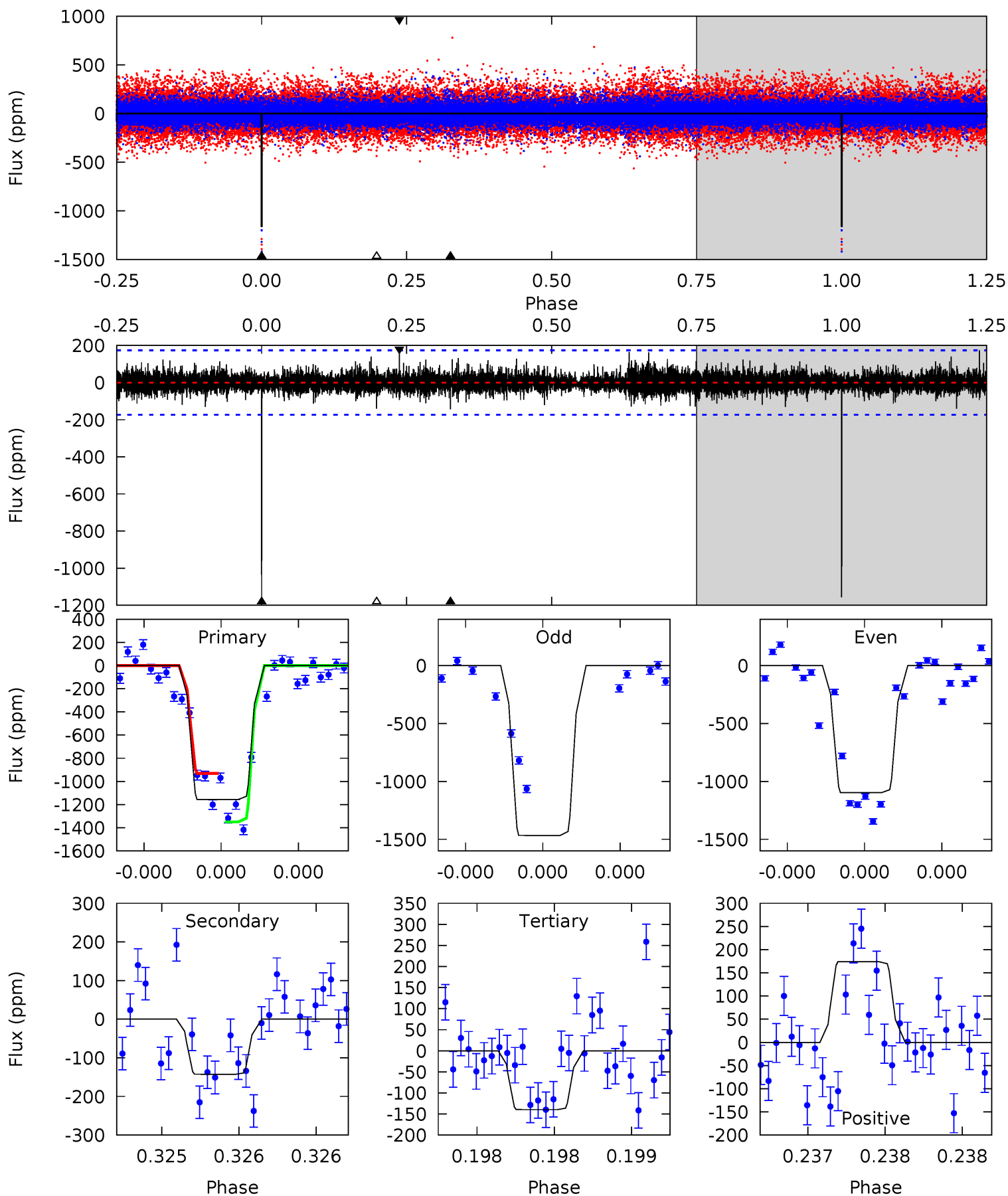
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.56	3.24	3.01	16.2	5.61	3.54	0.75	0.56	-12.6	0.23	-13.0	0.83	0.82	0.82	1.29



Alt Model-Shift Uniqueness Test

001872340-06, P = 398.784445 Days, E = 278.640277 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.3	4.60	4.51	5.62	5.61	3.54	0.93	32.8	31.7	0.09	-1.01	6.18	1.12	0.13	7.01



Stellar Parameters For KIC 001872340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5059^{+140}_{-102}	$3.466^{+0.431}_{-0.308}$	$-0.500^{+0.300}_{-0.200}$	$2.799^{+1.618}_{-1.978}$	$0.834^{+0.293}_{-0.158}$	$0.054^{+1.888}_{-0.036}$
	+3%/-2%	+12%/-9%	+60%/-40%	+58%/-71%	+35%/-19%	+3523%/-68%
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 001872340-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-153 ± 47	$59.15^{+72.42}_{-40.72}$	531^{+67}_{-68}	2198^{+735}_{-322}	24^{+246}_{-19}
Alt.	-142 ± 31	$57.04^{+67.06}_{-40.92}$	528^{+73}_{-68}	2196^{+806}_{-313}	25^{+297}_{-20}

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 $A_{\text{obs}} \gg 1.0$

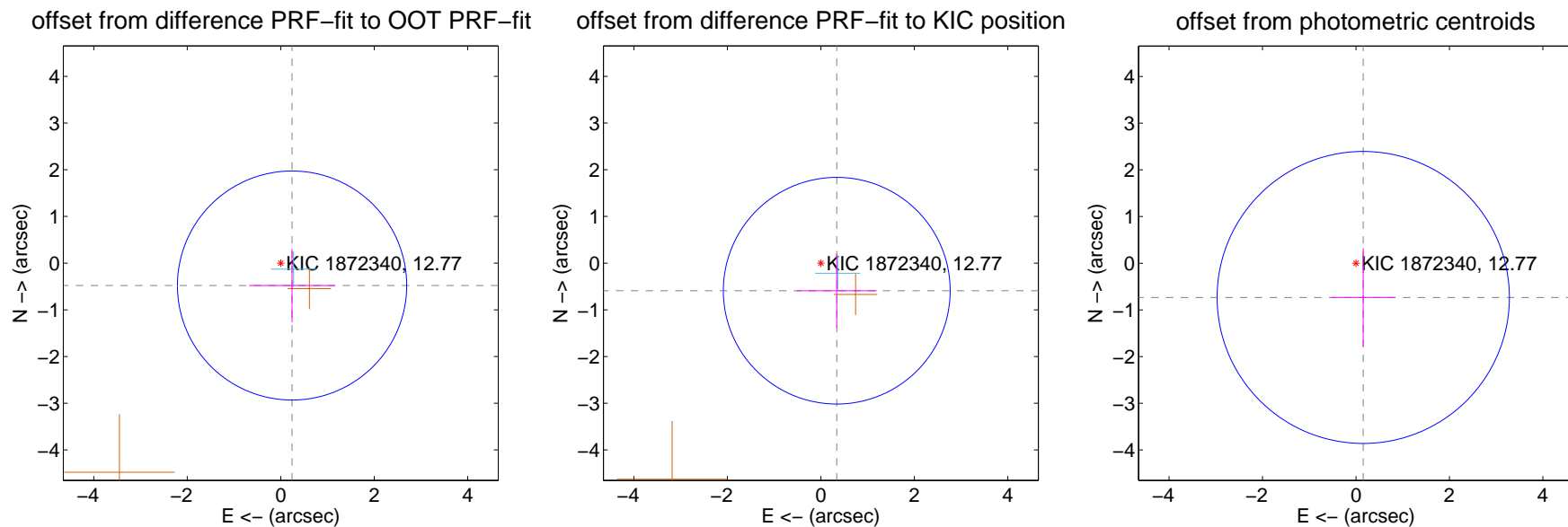
DV Centroid Data

Supplemental centroid analysis for 001872340-06. Kepler magnitude: 12.77. Transit SNR 9.23

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.537 ± 0.817	0.66	-0.242 ± 0.919	-0.479 ± 0.789
PRF-fit source offset from KIC position	0.681 ± 0.809	0.84	-0.340 ± 0.855	-0.590 ± 0.793
photometric centroid source offset	0.75 ± 1.04	0.72	-0.16 ± 0.69	-0.73 ± 1.06



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



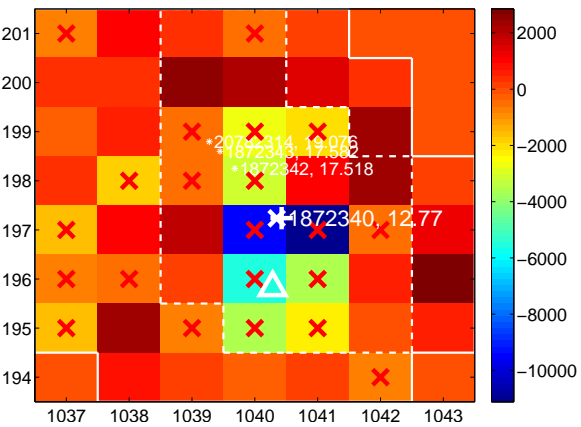
Q2 no difference image



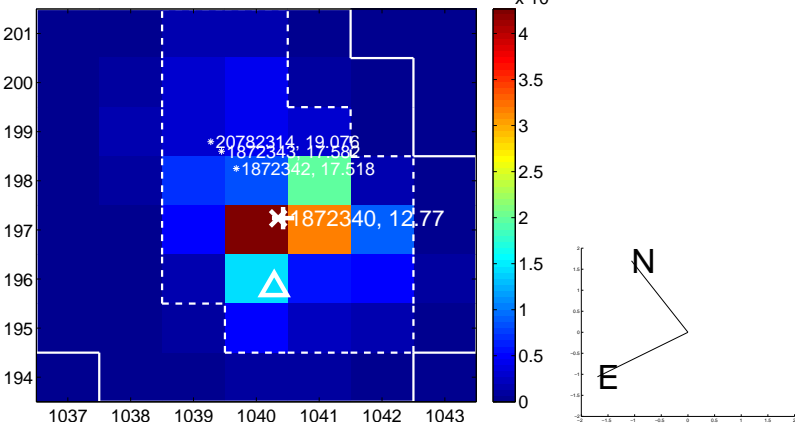
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image

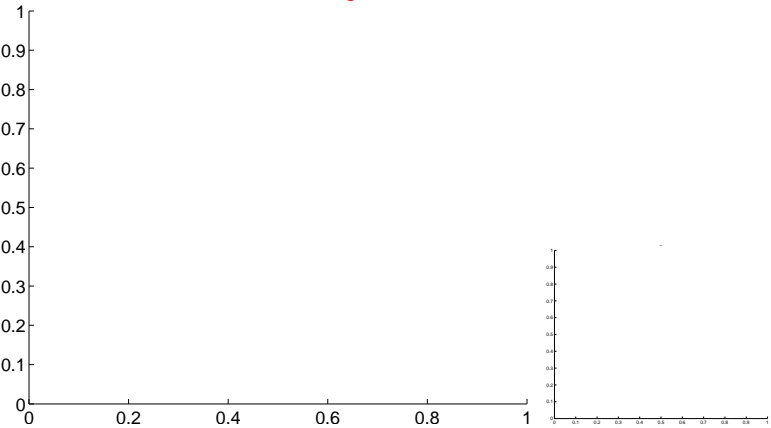


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q5 no difference image



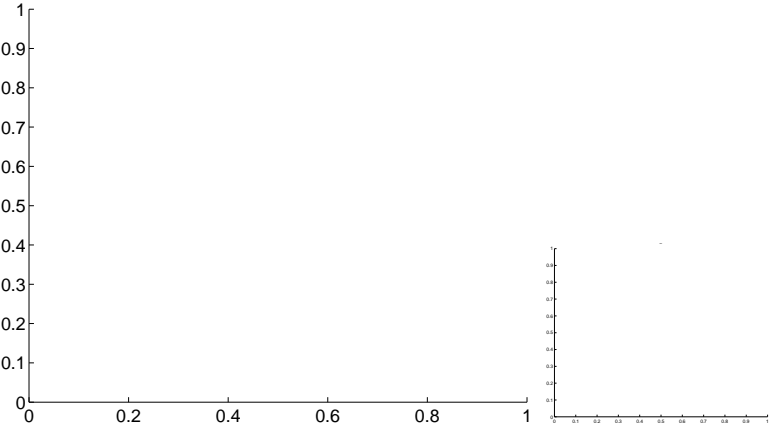
Q5 no OOT image



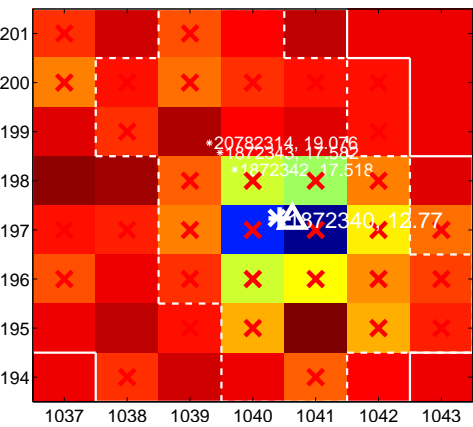
Q6 no difference image



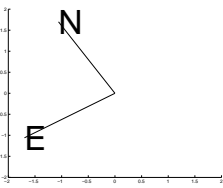
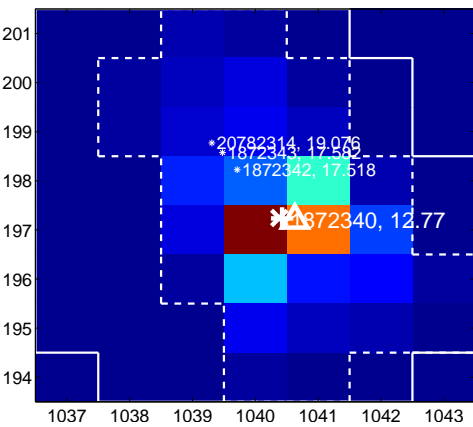
Q6 no OOT image



Q7 difference image. Poor Quality



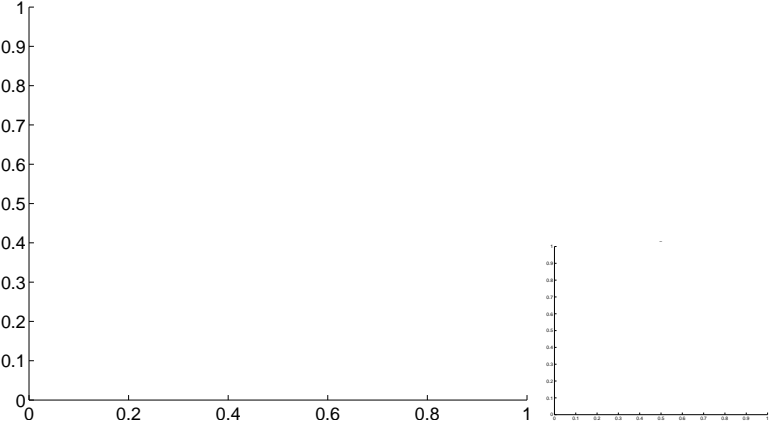
Q7 OOT image



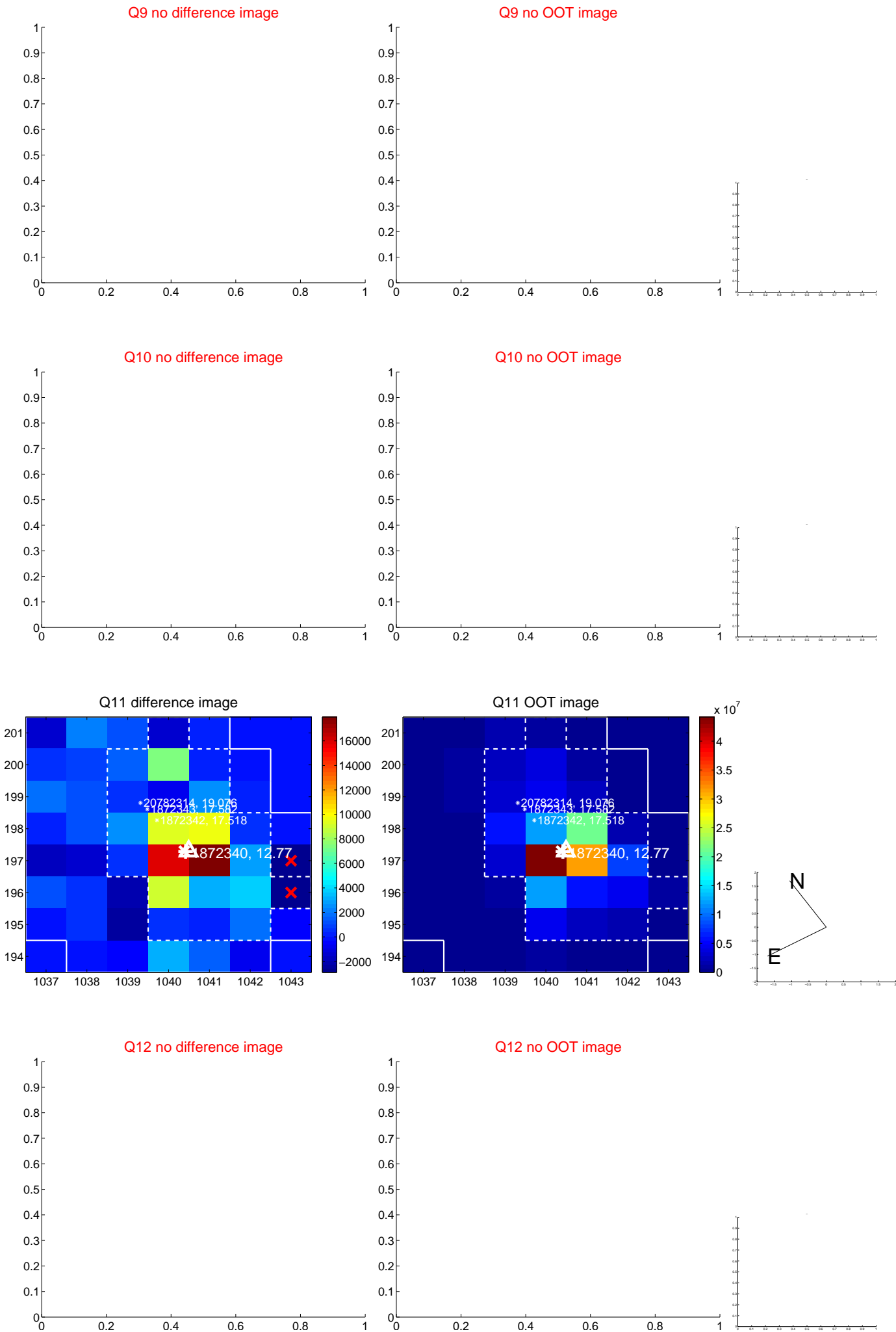
Q8 no difference image



Q8 no OOT image



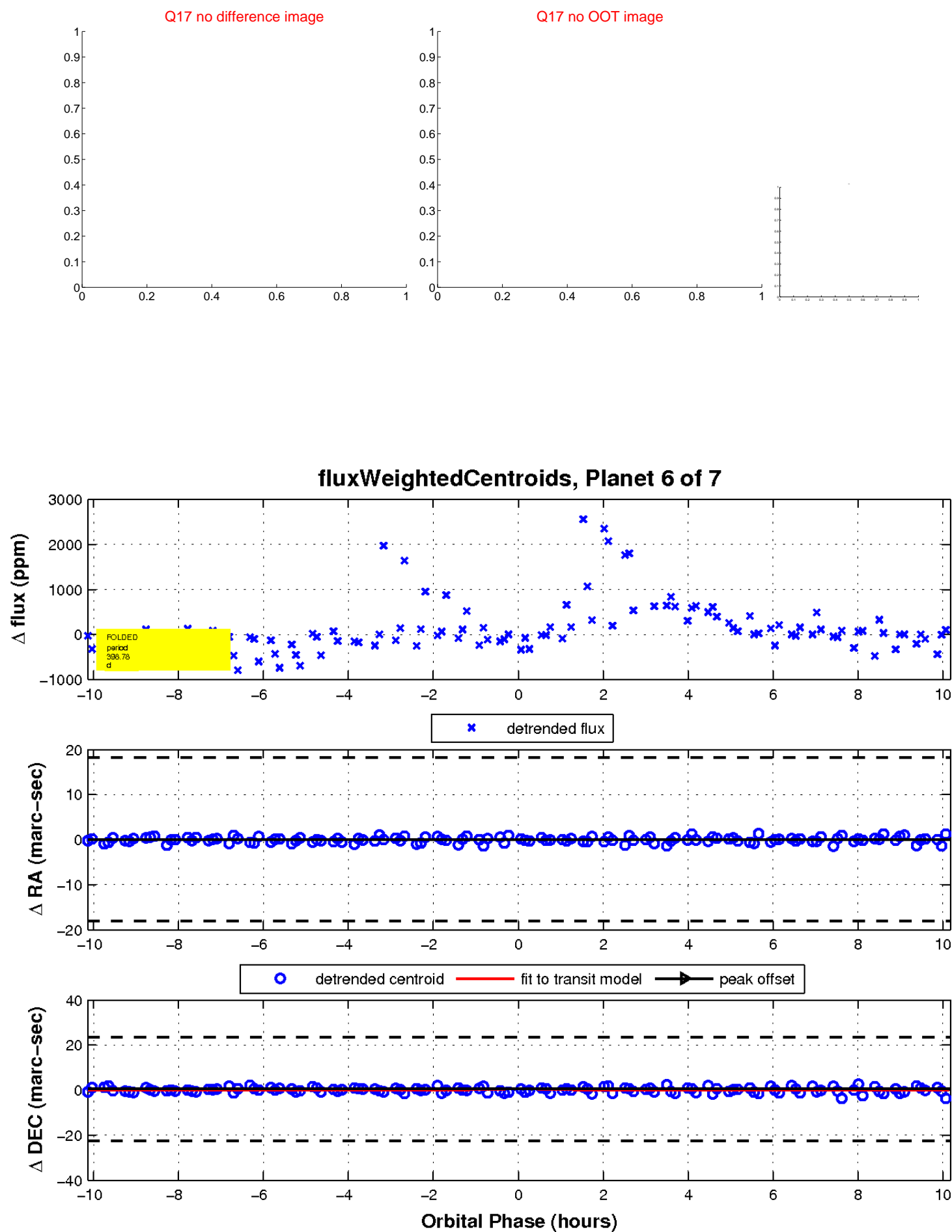
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

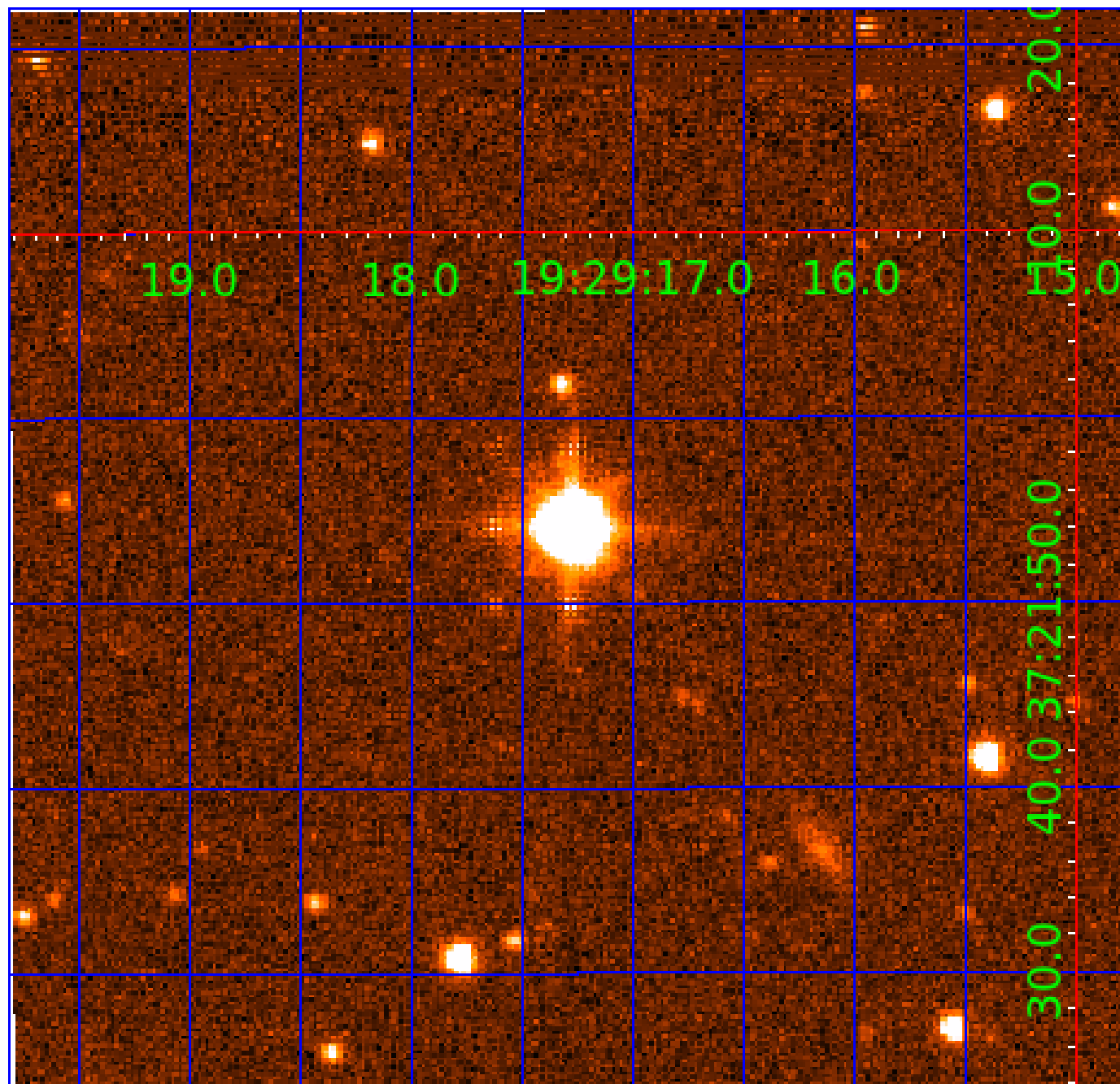


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001872340

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})
001872340-01	OBS	No	378.353738	306.937774	585.1	3.747	19.4	5.8	2.80	5059	7.34	4.94
001872340-04	OBS	No	416.101017	478.617681	1086.2	16.327	16.7	7.7	2.80	5059	9.17	4.35
001872340-05	OBS	No	444.621874	304.104253	386.4	3.893	15.3	3.8	2.80	5059	5.39	3.99
001872340-06	OBS	No	398.776551	278.655664	856.3	3.395	15.1	9.2	2.80	5059	16.57	4.61
001872340-07	OBS	No	543.908949	314.512718	1466.3	12.212	14.2	13.7	2.80	5059	11.38	3.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001872340-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
001872340-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
001872340-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
001872340-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_NOFITS

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

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

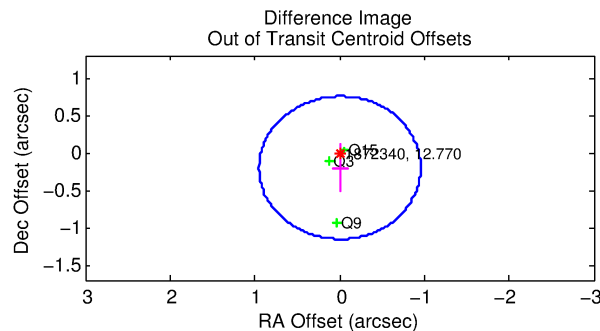
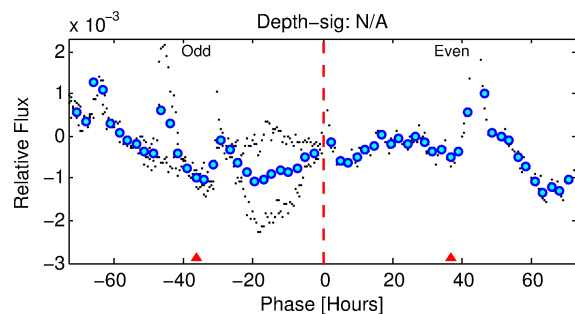
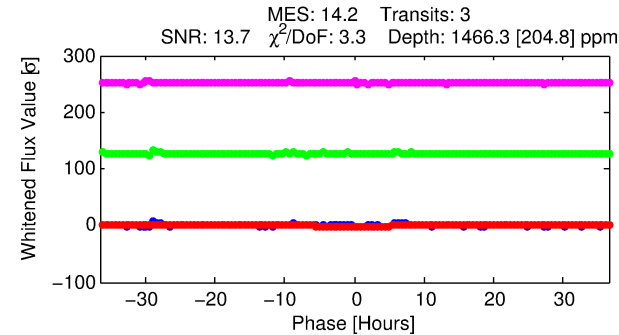
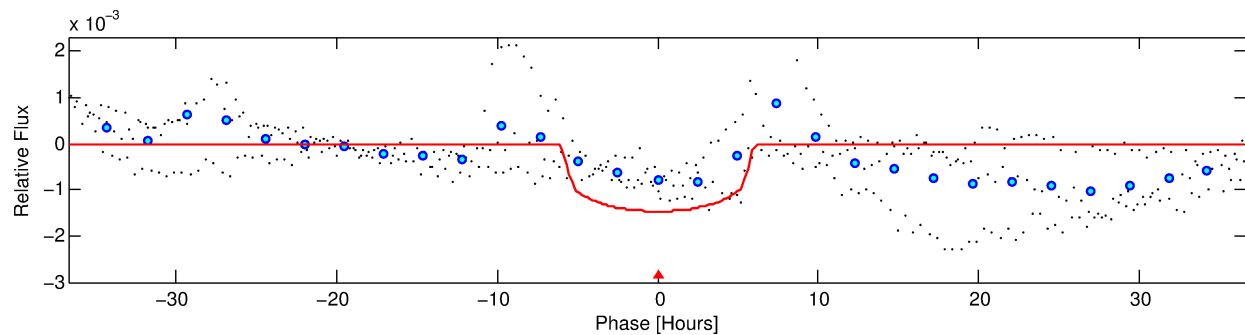
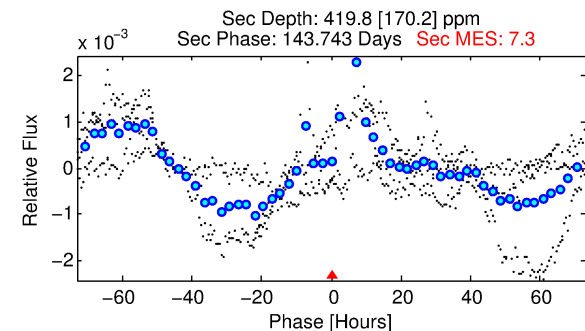
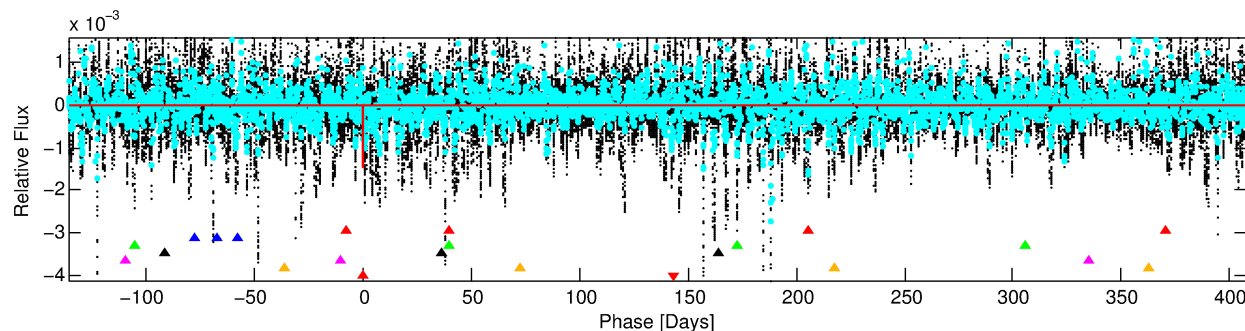
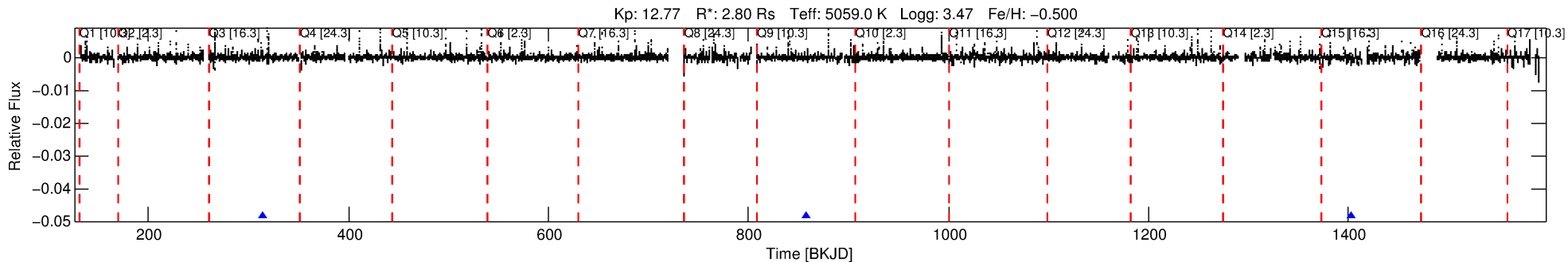
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001872340-07

No Significant Match Found

DV One-Page Summary

KIC: 1872340 Candidate: 7 of 7 Period: 543.909 d



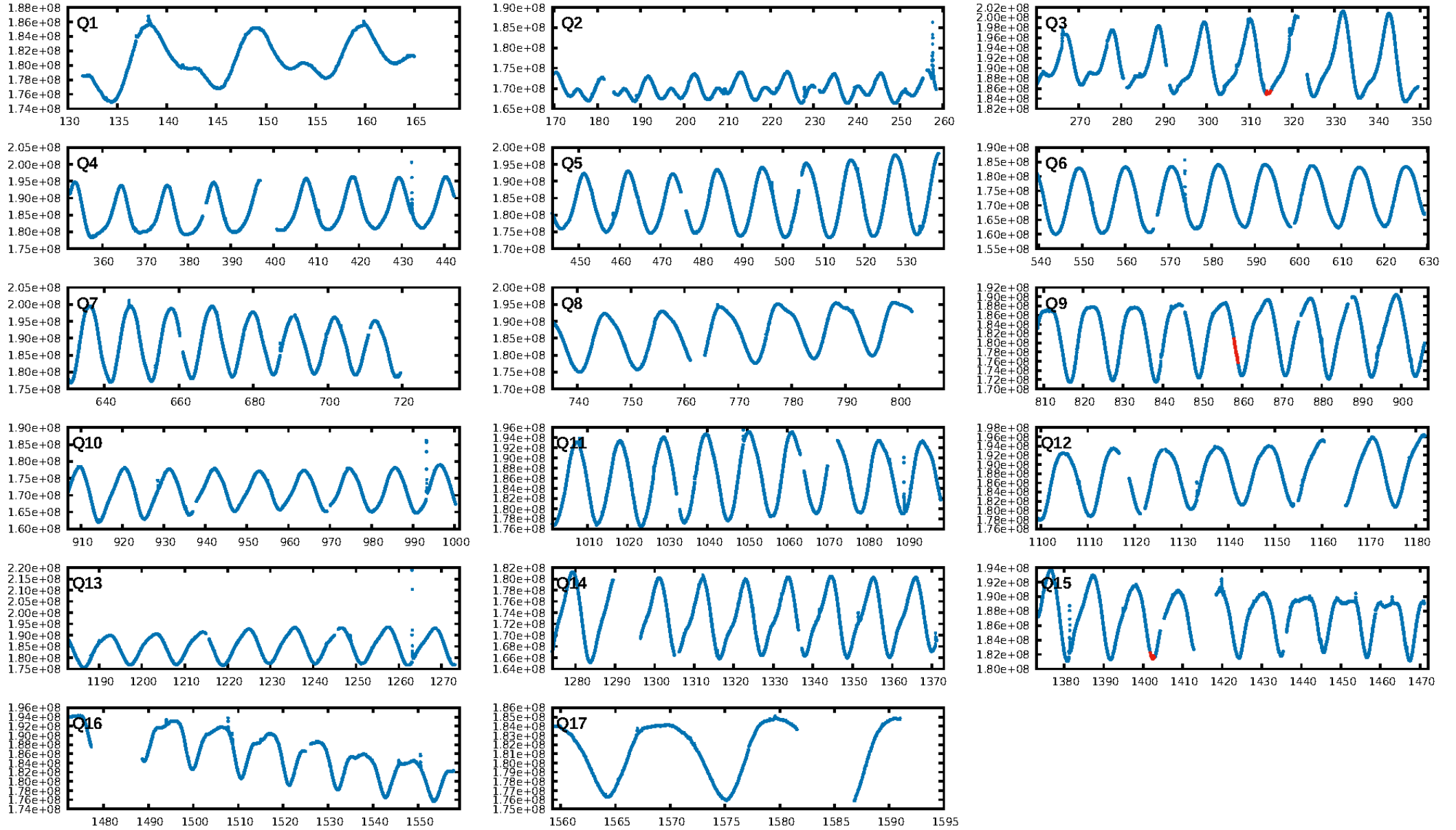
DV Fit Results:

Period = 543.90895 [0.00525] d
Epoch = 314.5127 [0.0070] BKJD
Rp/R* = 0.0373 [0.0043]
a/R* = 263.85 [77.47]
b = 0.69 [0.23]
Seff = 3.05 [2.50]
Teq = 337 [69] K
Rp = 11.38 [8.15] Re
a = 1.2285 [0.7072] AU
Ag = 2689.90 [2518.44] [1.07 σ]
Teffp = 3751 [449] K [7.52 σ]

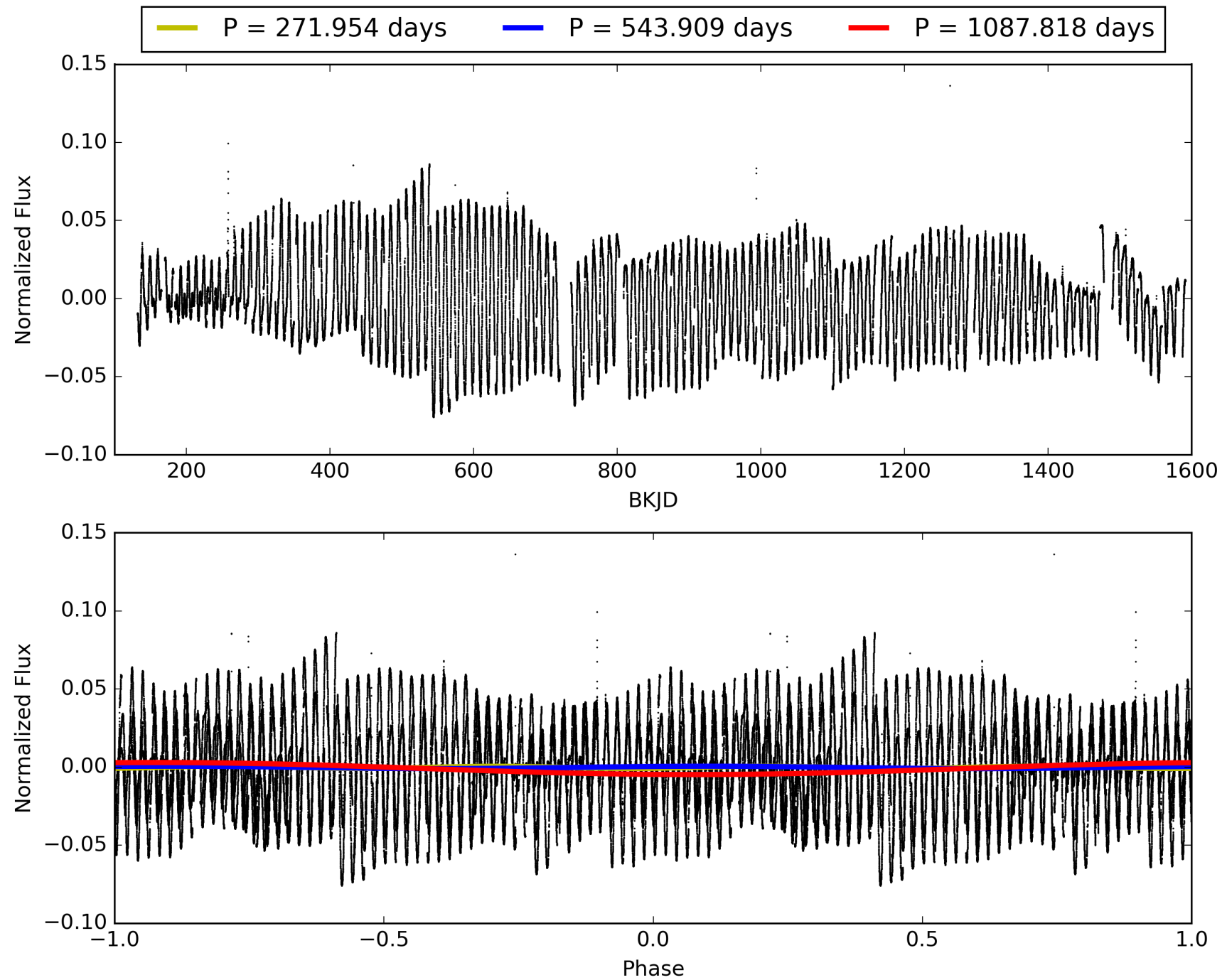
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.16 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.6%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.277
Centroid-sig: 81.3%
Centroid-so: 0.162 arcsec [0.54 σ]
OotOffset-rm: 0.201 arcsec [0.63 σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-rm: 0.370 arcsec [1.33 σ]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 001872340-07, PDC Light Curves

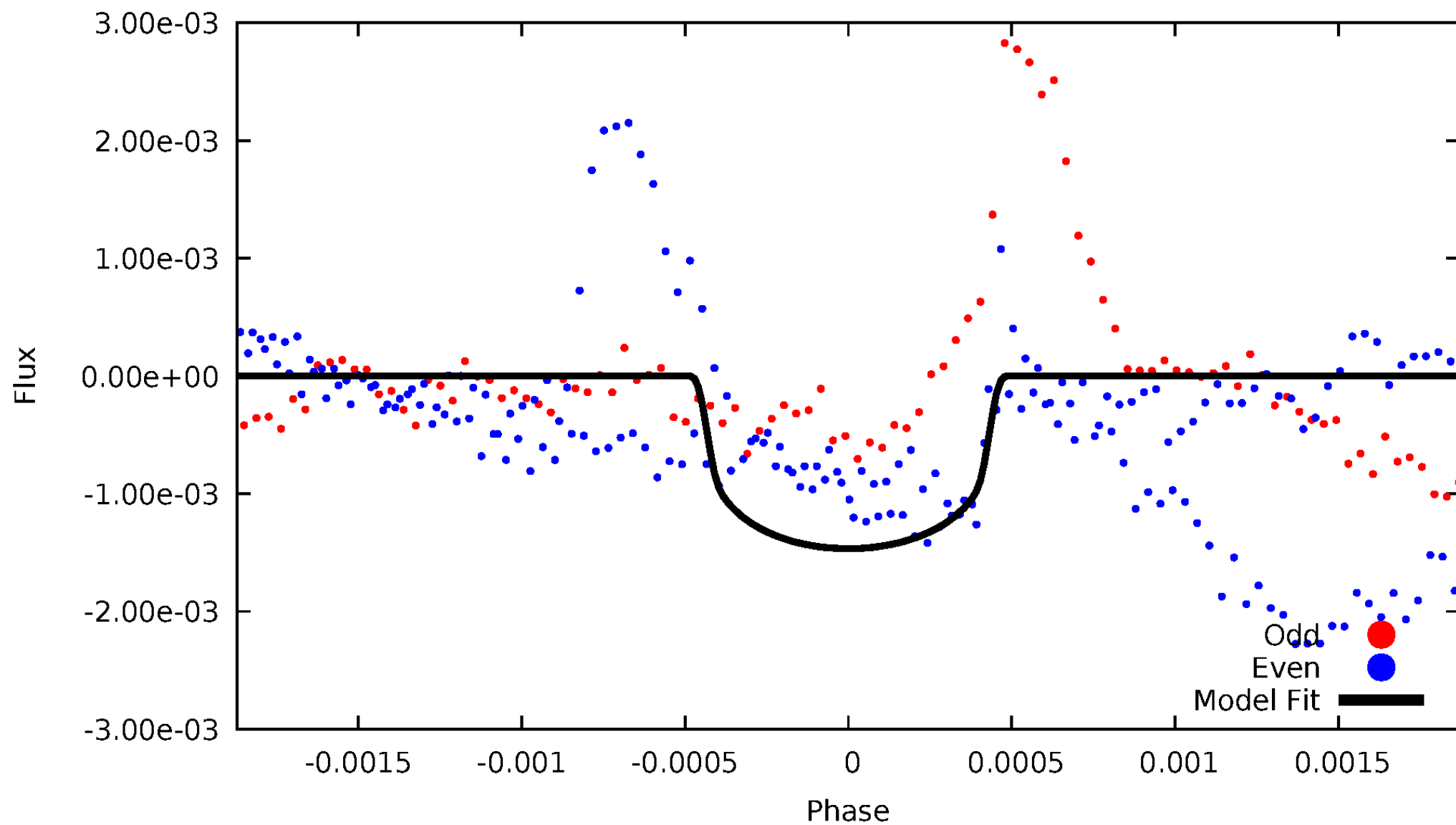


TCE 001872340-07



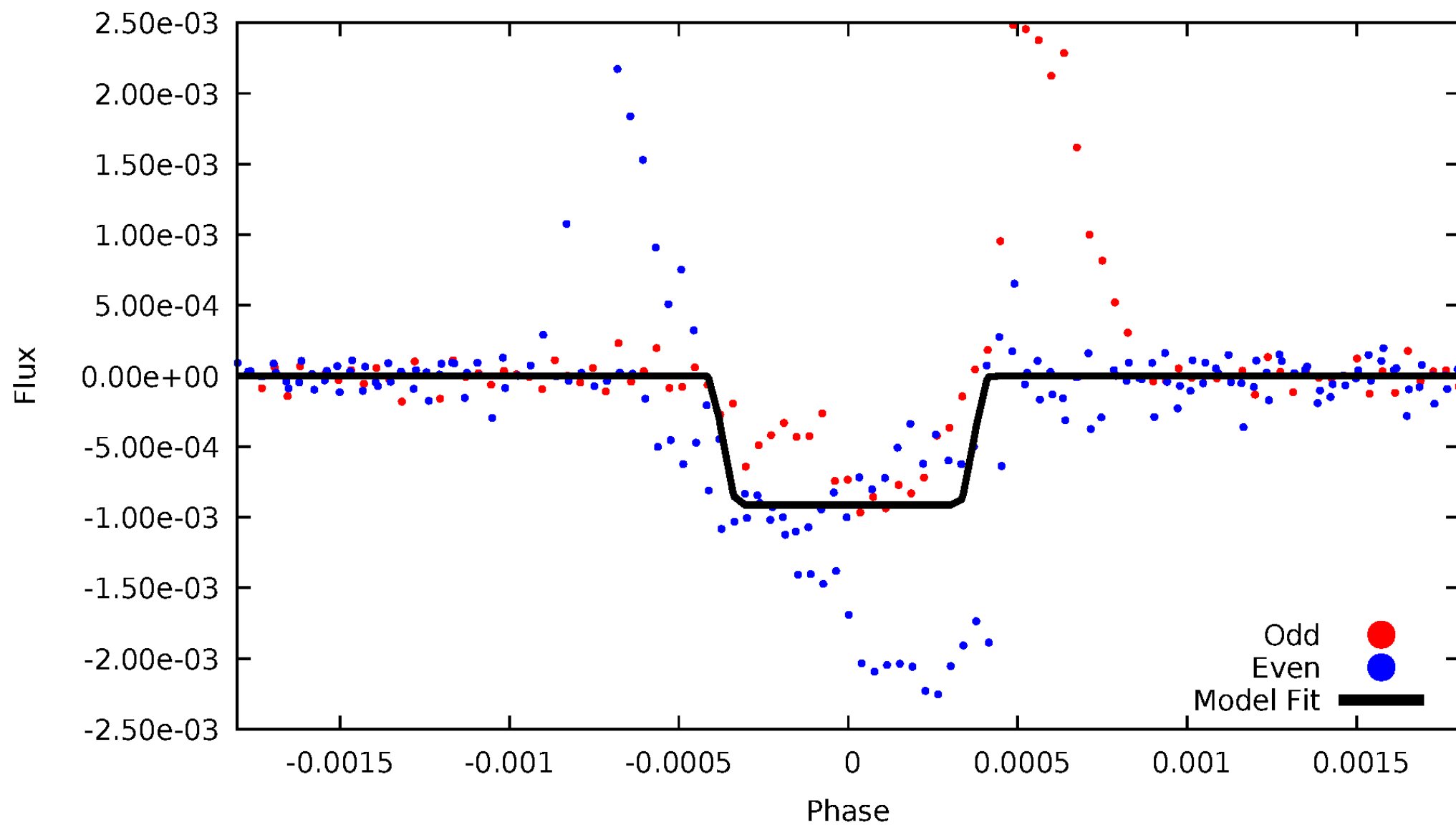
DV Odd/Even

TCE 001872340-07



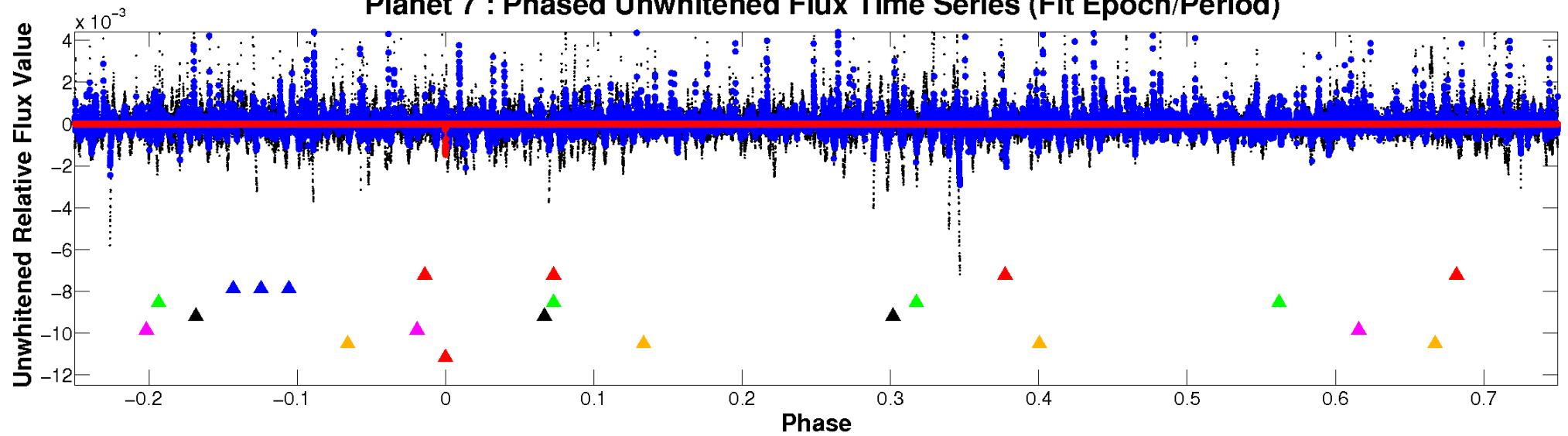
ALT Odd/Even

TCE 001872340-07

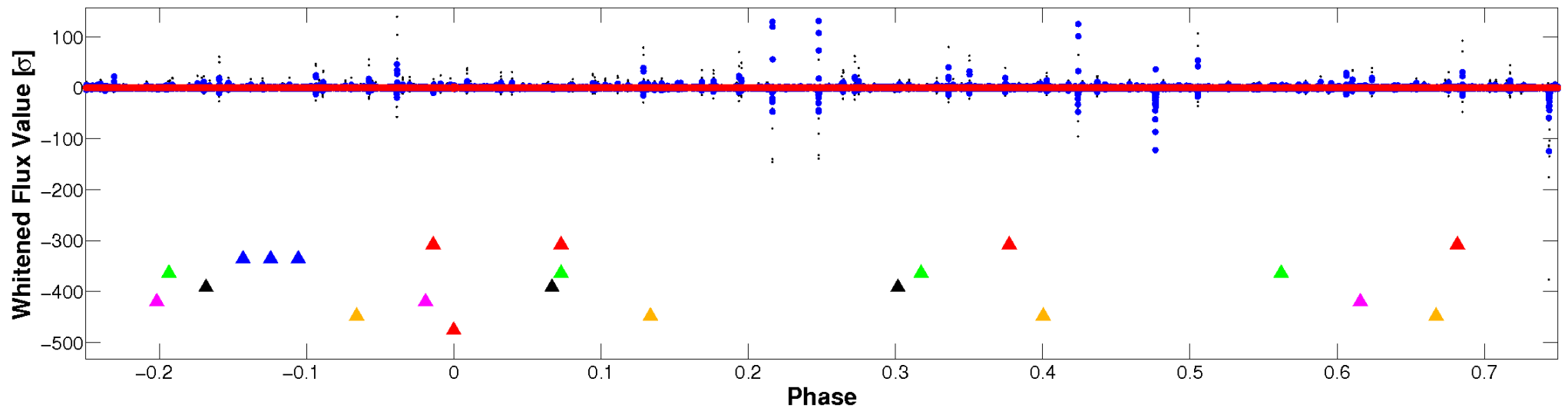


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

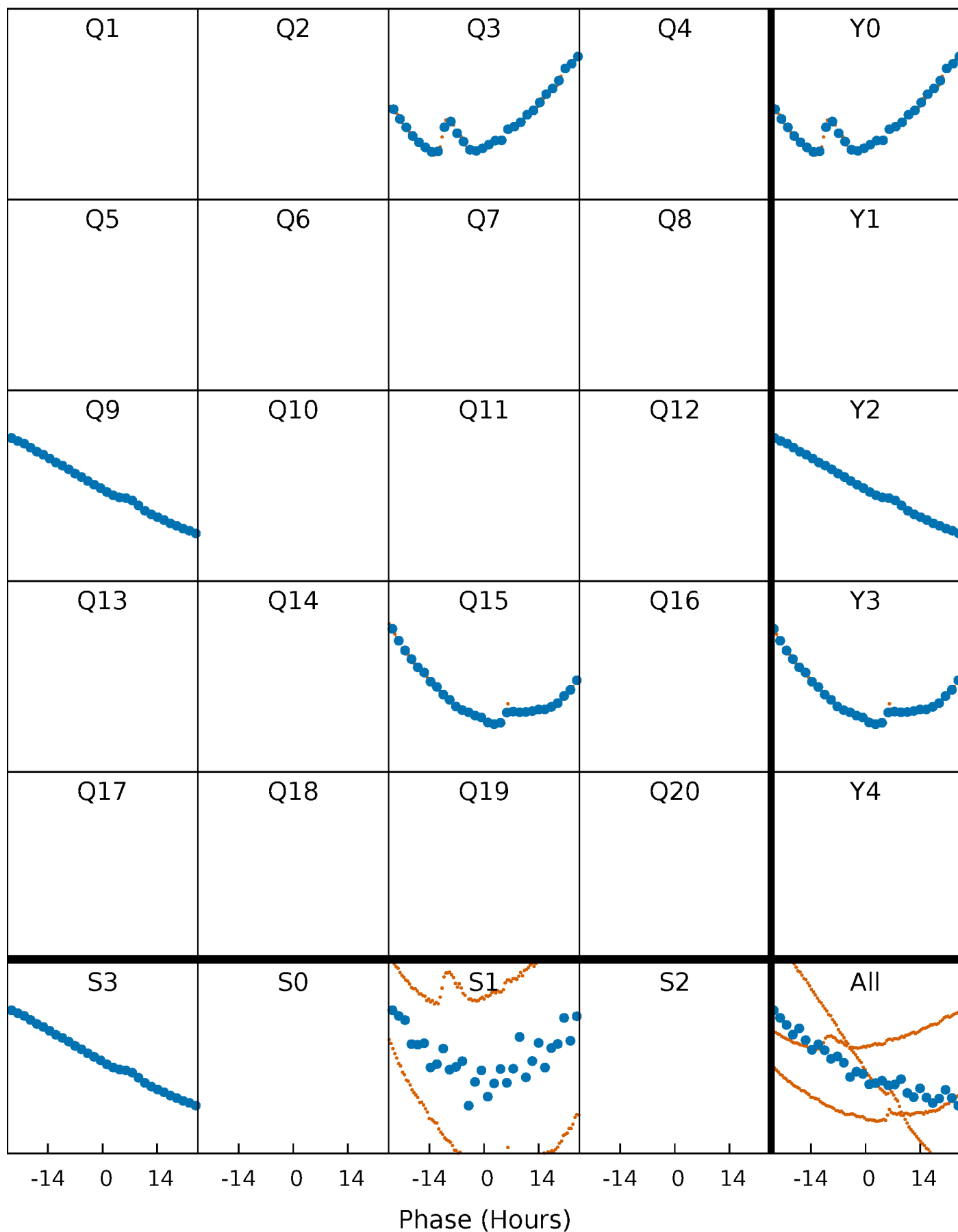


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



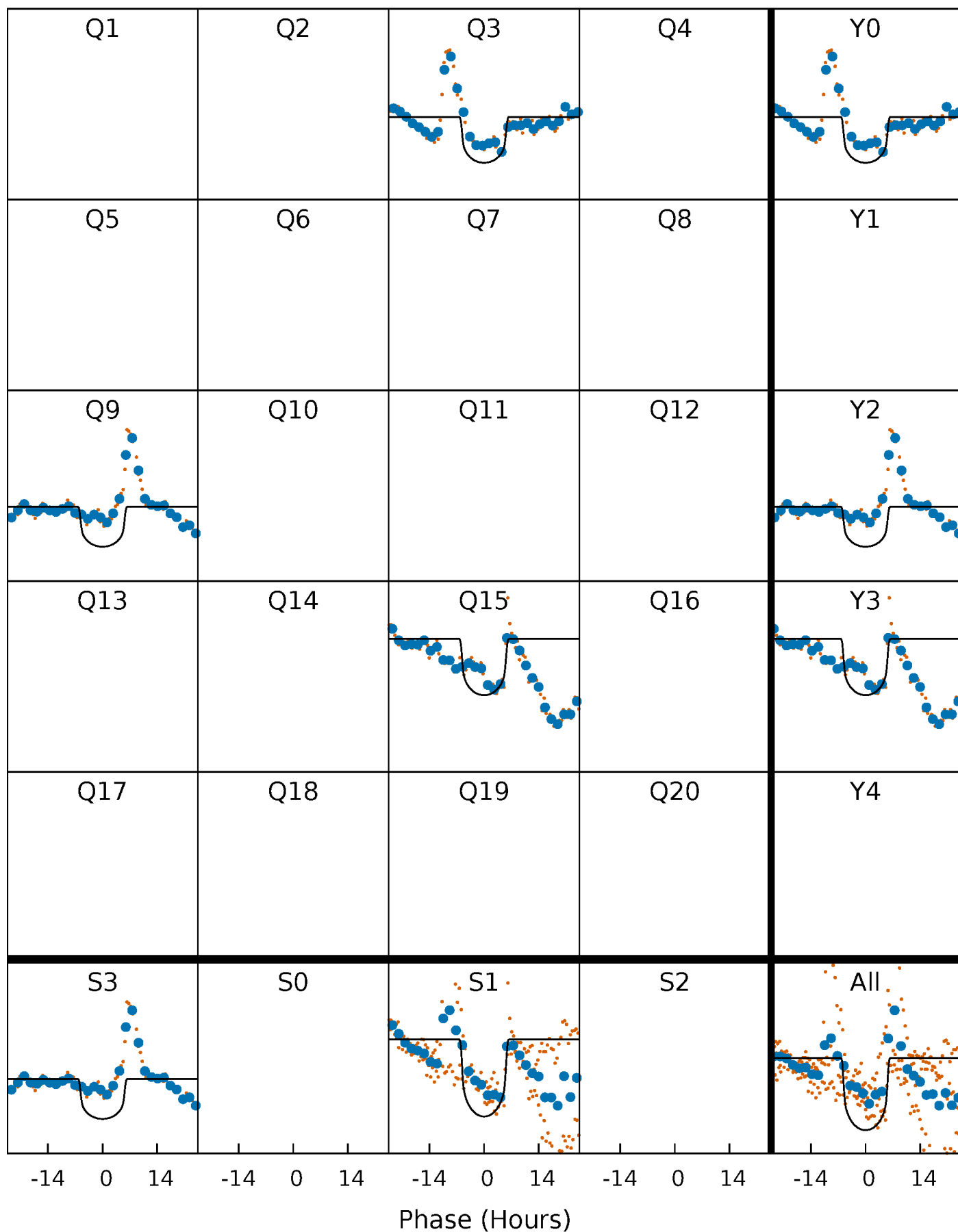
PDC Quarter-Phased Transit Curves

TCE 001872340-07 $P=543.908949$ Days $T_0=314.512718$ (BKJD)



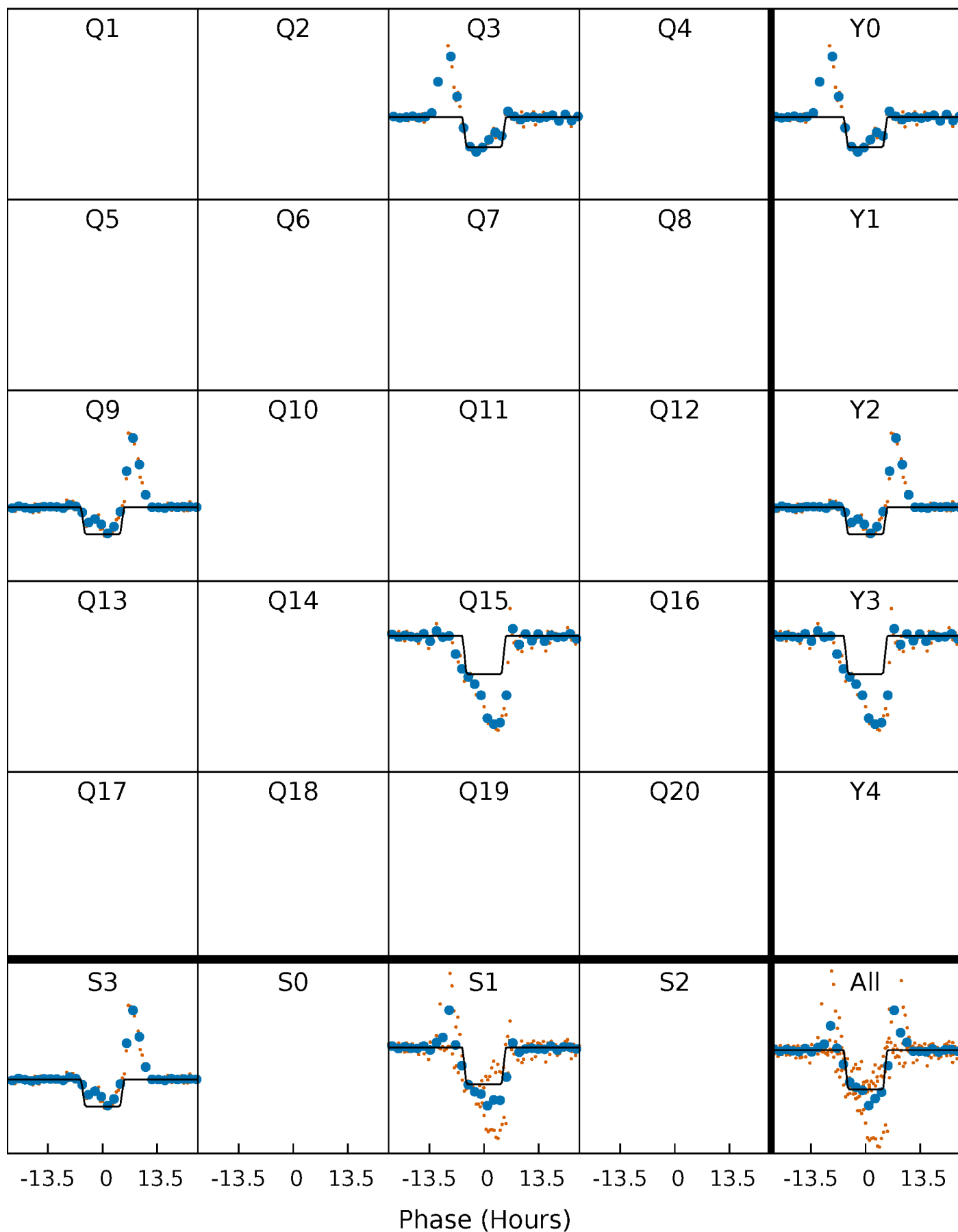
DV Quarter-Phased Transit Curves

TCE 001872340-07 $P=543.908949$ Days $T_0=314.512718$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

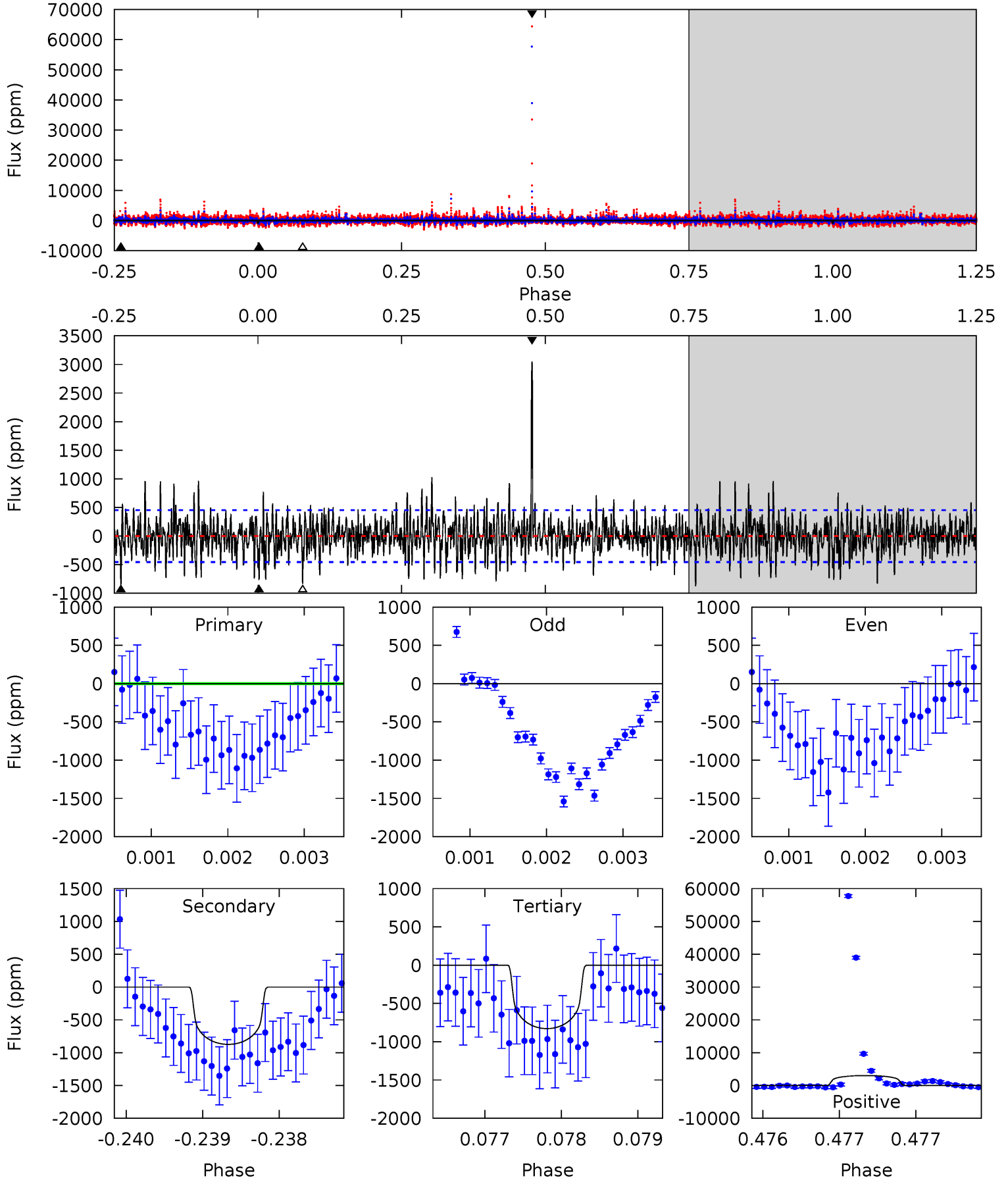
TCE 001872340-07 $P=543.900500$ Days $T_0=314.517276$ (BKJD)



DV Model-Shift Uniqueness Test

001872340-07, P = 543.908949 Days, E = 314.512718 Days

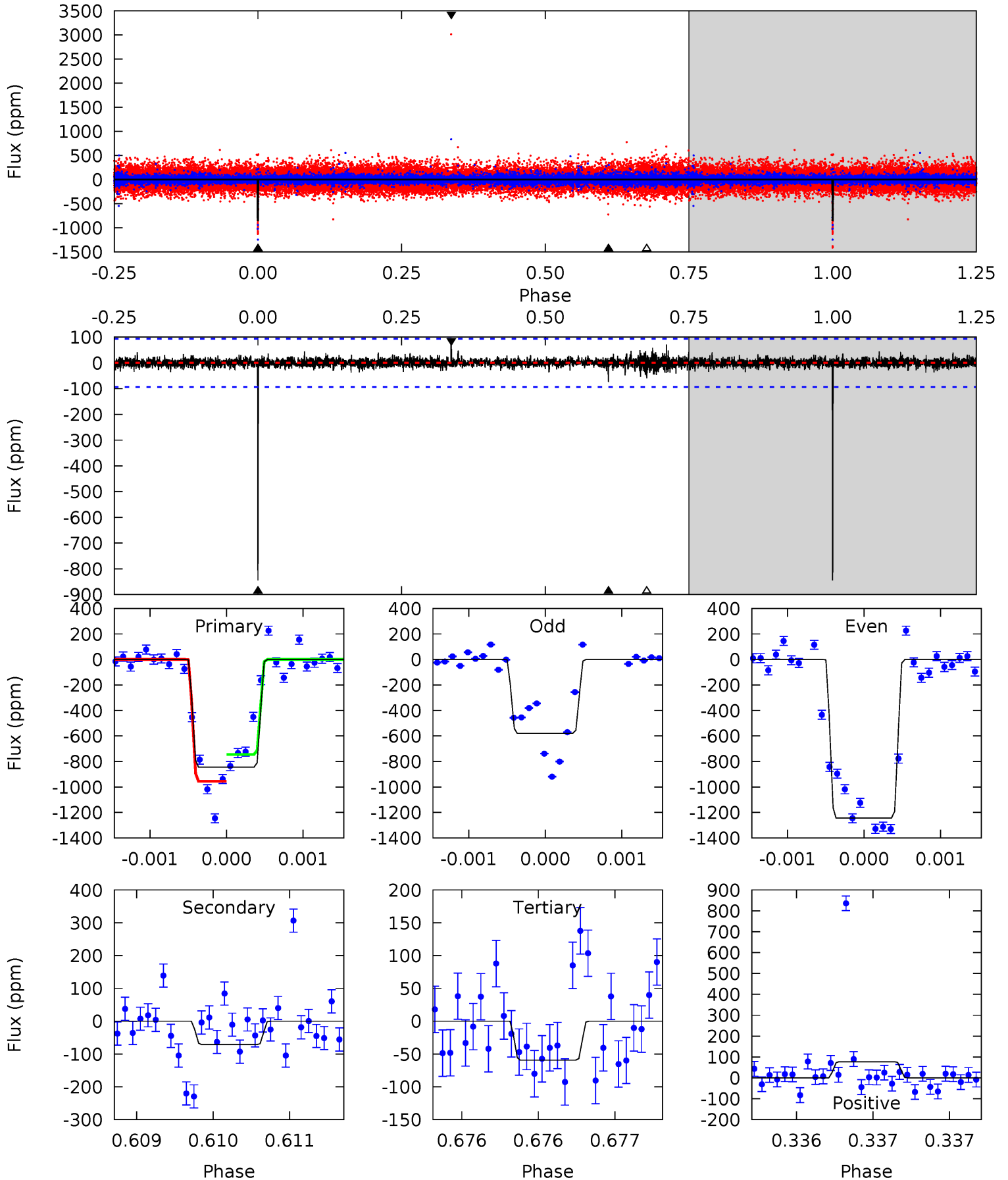
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	10.5	9.97	36.6	5.46	3.30	3.18	-0.93	-27.5	0.54	-26.1	2.34	0.85	0.78	1.21



Alt Model-Shift Uniqueness Test

001872340-07, P = 543.900500 Days, E = 314.517276 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.5	4.18	3.48	4.52	5.48	3.34	0.58	46.0	44.9	0.70	-0.34	16.0	1.29	0.08	6.12



Stellar Parameters For KIC 001872340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5059^{+140}_{-102}	$3.466^{+0.431}_{-0.308}$	$-0.500^{+0.300}_{-0.200}$	$2.799^{+1.618}_{-1.978}$	$0.834^{+0.293}_{-0.158}$	$0.054^{+1.888}_{-0.036}$
	+3%/-2%	+12%/-9%	+60%/-40%	+58%/-71%	+35%/-19%	+3523%/-68%
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 001872340-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-874 ± 83	$11.76^{+3.80}_{-3.31}$	479^{+57}_{-68}	4618^{+269}_{-228}	5348^{+5118}_{-2297}
Alt.	-71 ± 17	$9.78^{+3.53}_{-2.87}$	482^{+62}_{-62}	3210^{+198}_{-173}	618^{+633}_{-285}

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 $A_{obs} \gg 1.0$

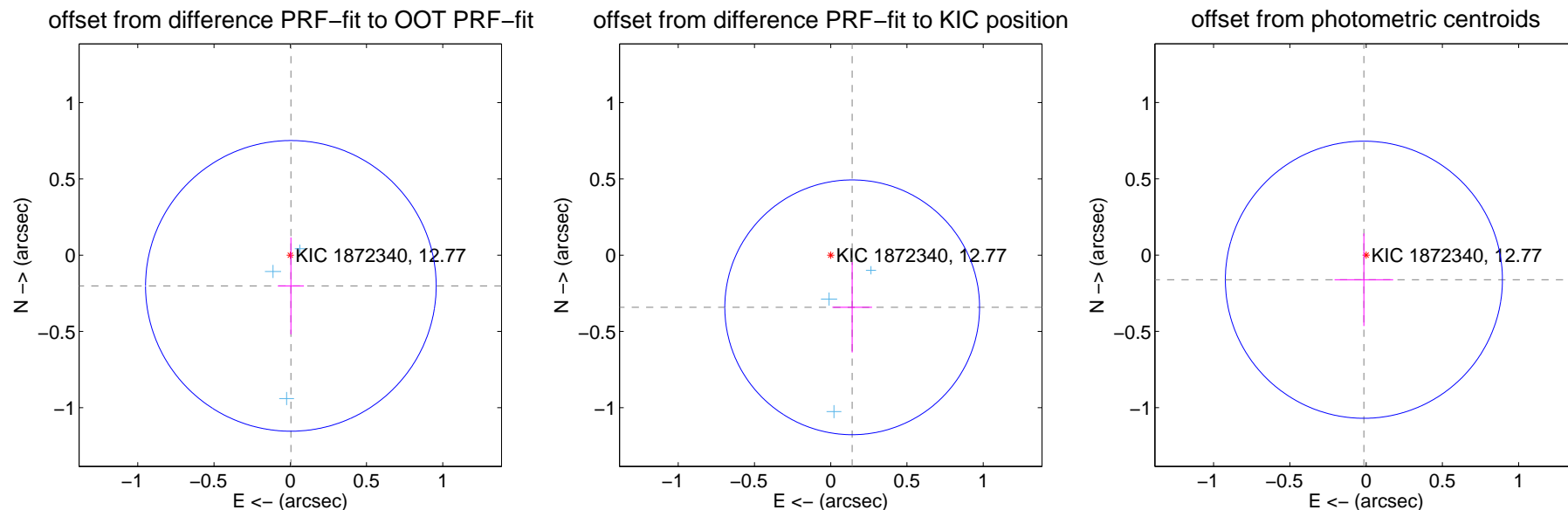
DV Centroid Data

Supplemental centroid analysis for 001872340-07. Kepler magnitude: 12.77. Transit SNR 13.66

There are 3 quarters with good PRF difference image offsets

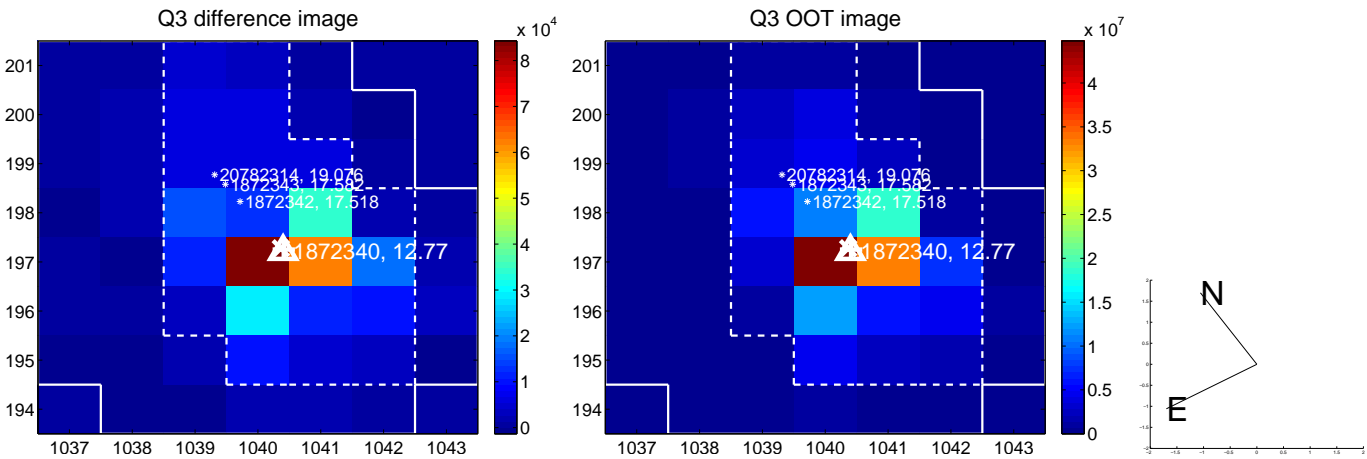
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.201 ± 0.318	0.63	-0.004 ± 0.086	-0.201 ± 0.318
PRF-fit source offset from KIC position	0.370 ± 0.278	1.33	-0.141 ± 0.130	-0.342 ± 0.296
photometric centroid source offset	0.16 ± 0.30	0.54	0.01 ± 0.19	-0.16 ± 0.30



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.

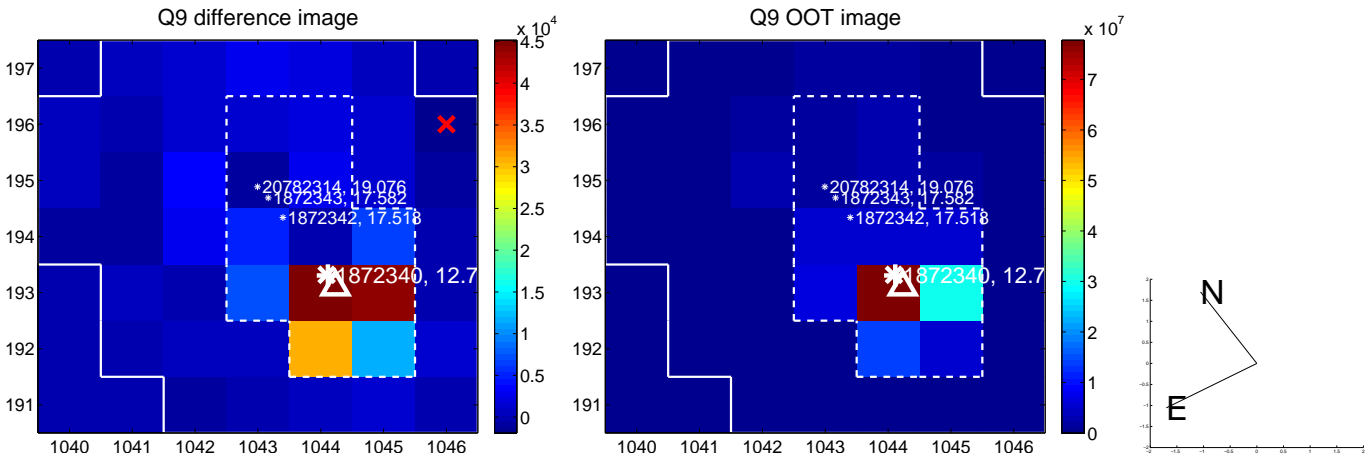
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



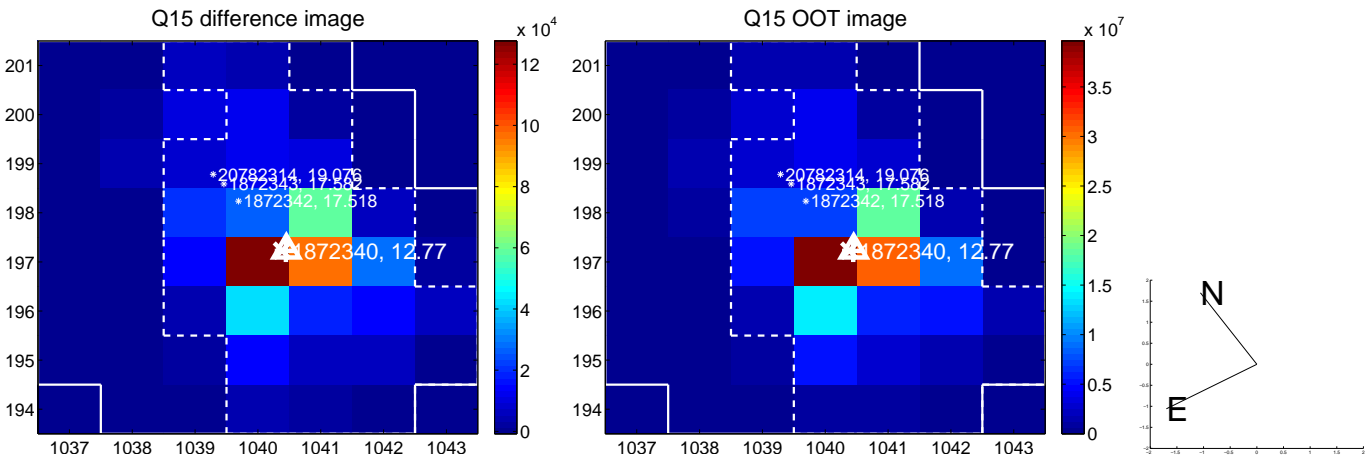
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



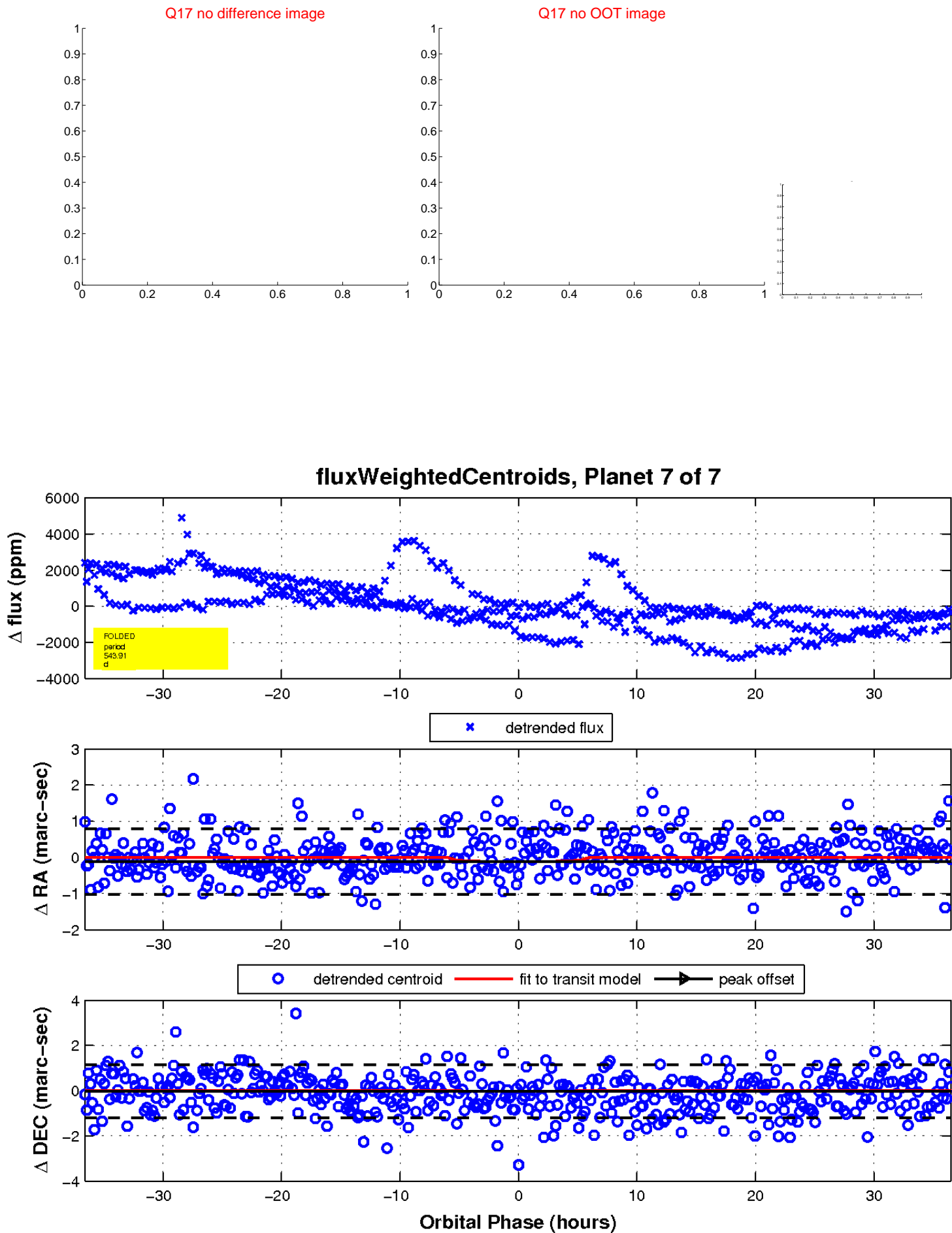
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

