

KIC 006365080

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})
006365080-01	OBS	No	452.728596	527.365814	358.2	3.924	18.2	2.5	1.25	6202	2.42	1.56
006365080-02	OBS	No	513.868880	438.142586	376.6	3.248	15.8	3.4	1.25	6202	2.50	1.32
006365080-03	OBS	No	460.937368	470.426006	385.3	5.286	14.9	3.3	1.25	6202	2.68	1.53
006365080-04	OBS	No	321.740737	403.624712	226.5	3.500	14.6	-1.0	1.25	6202	1.89	2.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006365080-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006365080-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006365080-03	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—MOD_POS_ALT—CENT_SATURATED
006365080-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED

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

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

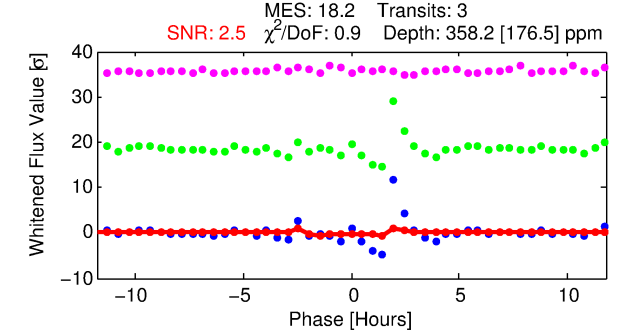
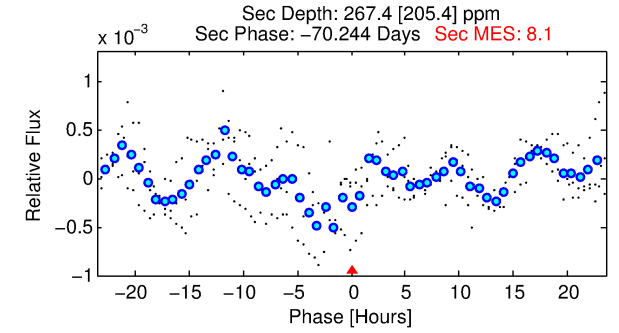
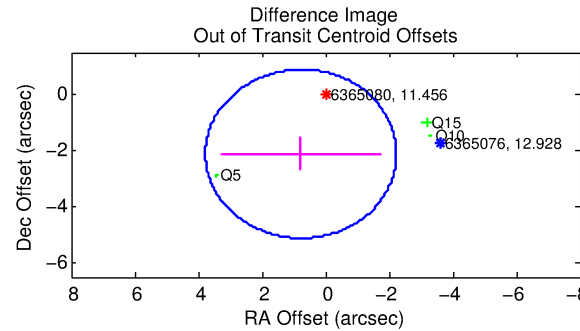
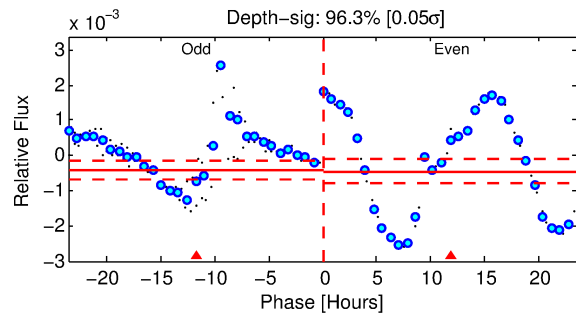
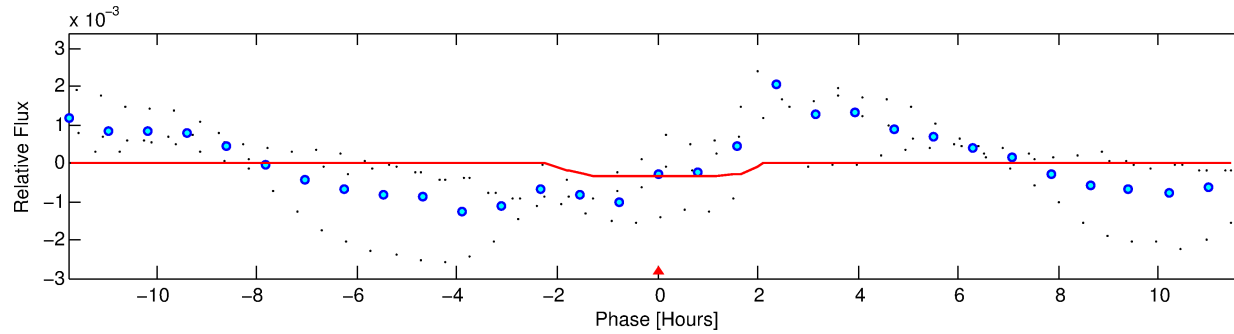
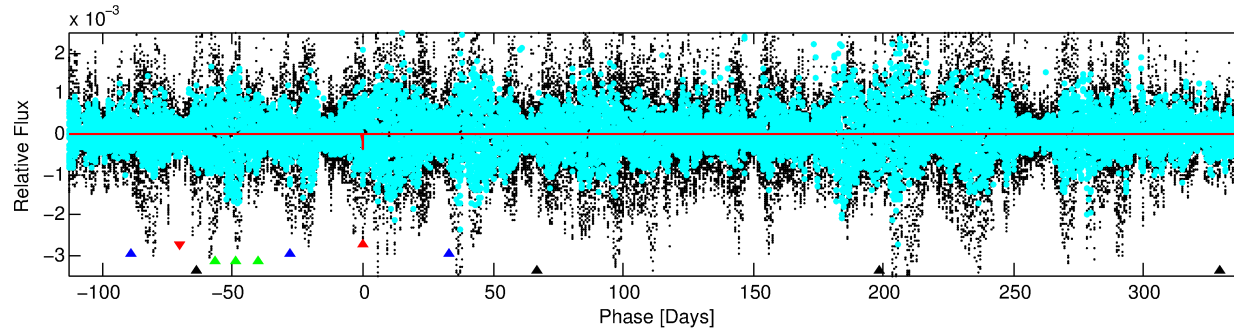
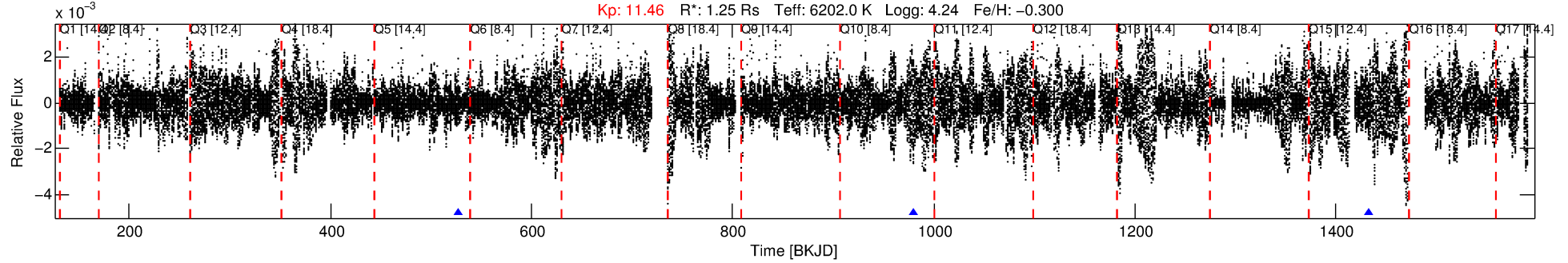
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006365080-01

No Significant Match Found

DV One-Page Summary

KIC: 6365080 Candidate: 1 of 4 Period: 452.729 d



DV Fit Results:

Period = 452.72860 [0.00871] d
Epoch = 527.3658 [0.0118] BKJD
Rp/R* = 0.0177 [0.0275]
a/R* = 817.30 [6276.52]
b = 0.42 [15.18]
Seff = 1.56 [0.58]
Teq = 285 [26] K
Rp = 2.42 [3.82] Re
a = 1.1547 [0.2793] AU
Ag = 33388.33 [107264.02] [0.31σ]
Teffp = 5959 [4761] K [1.19σ]

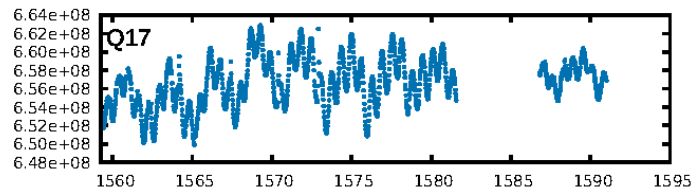
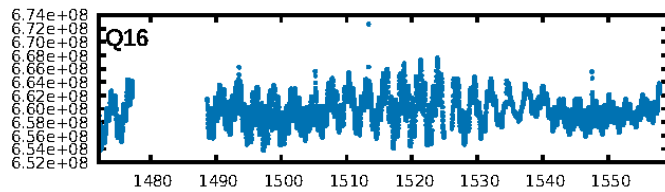
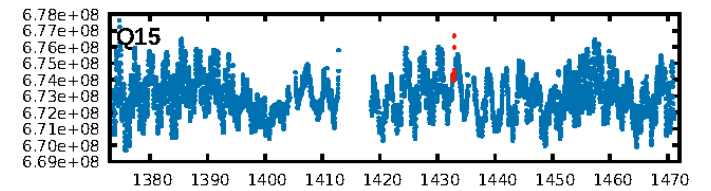
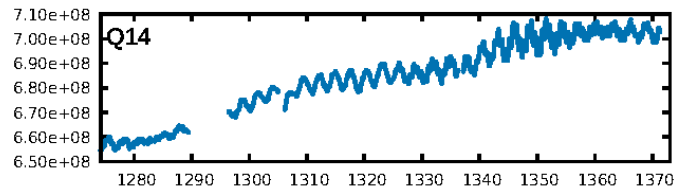
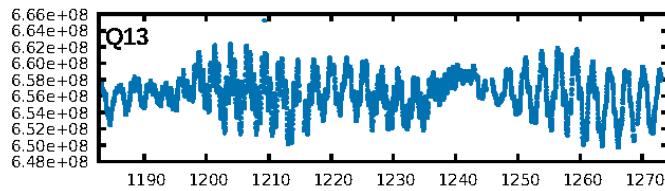
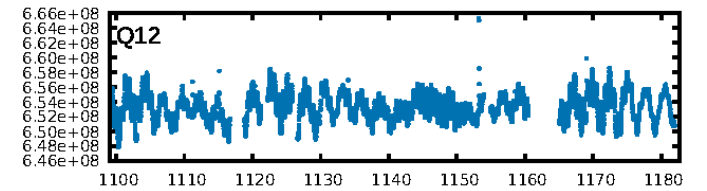
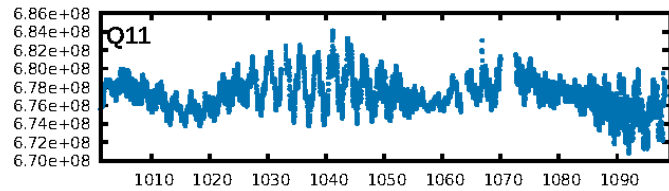
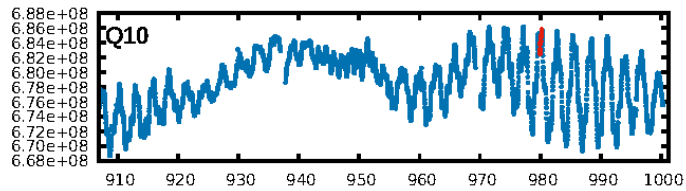
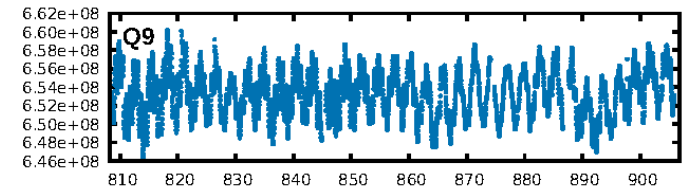
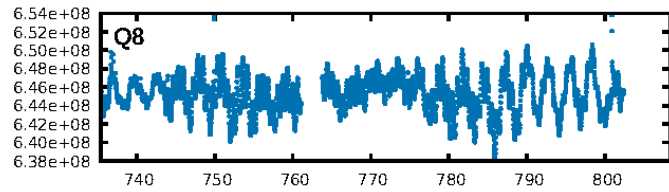
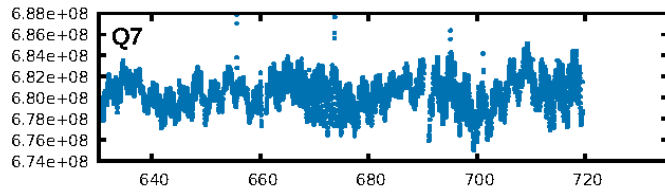
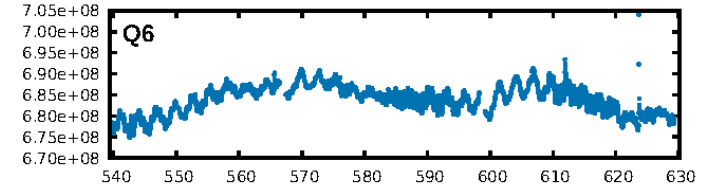
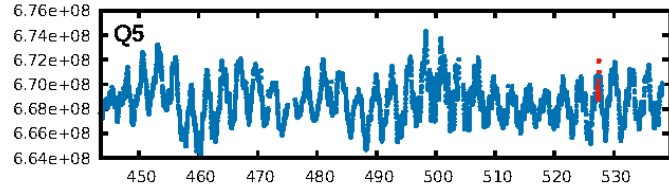
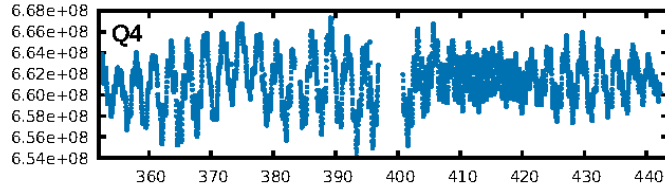
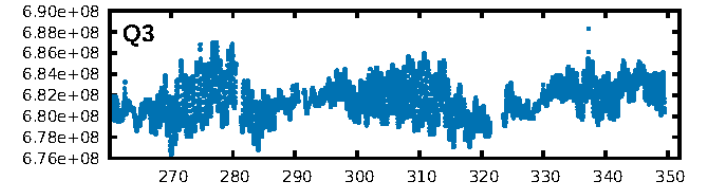
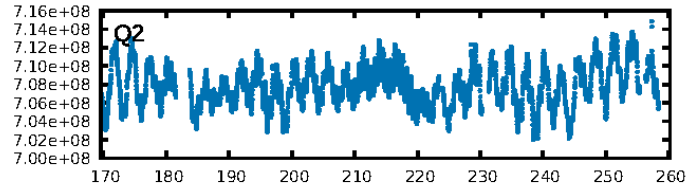
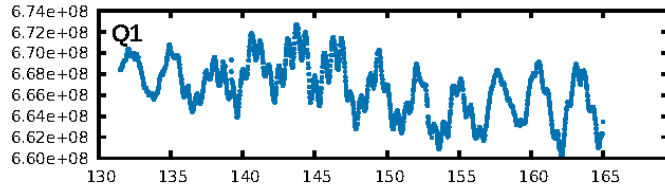
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [597.89σ]
LongPeriod-sig: 100.0% [29.92σ]
ModelChiSquare2-sig: 58.6%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.566
Centroid-sig: 87.8%
Centroid-so: 0.577 arcsec [0.20σ]
OotOffset-rm: 2.252 arcsec [2.25σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 2.242 arcsec [3.44σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

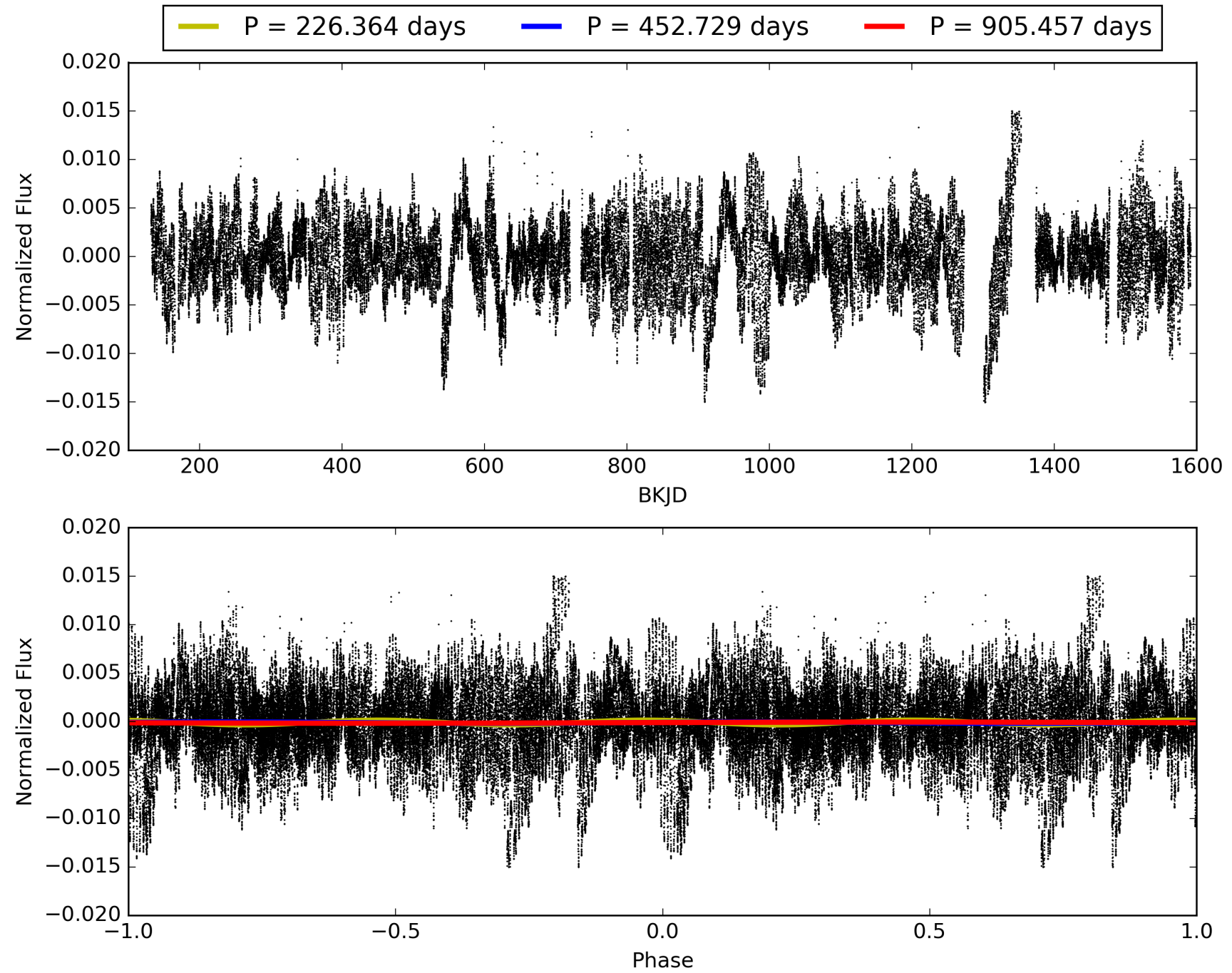
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:54:05 Z

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

TCE 006365080-01, PDC Light Curves

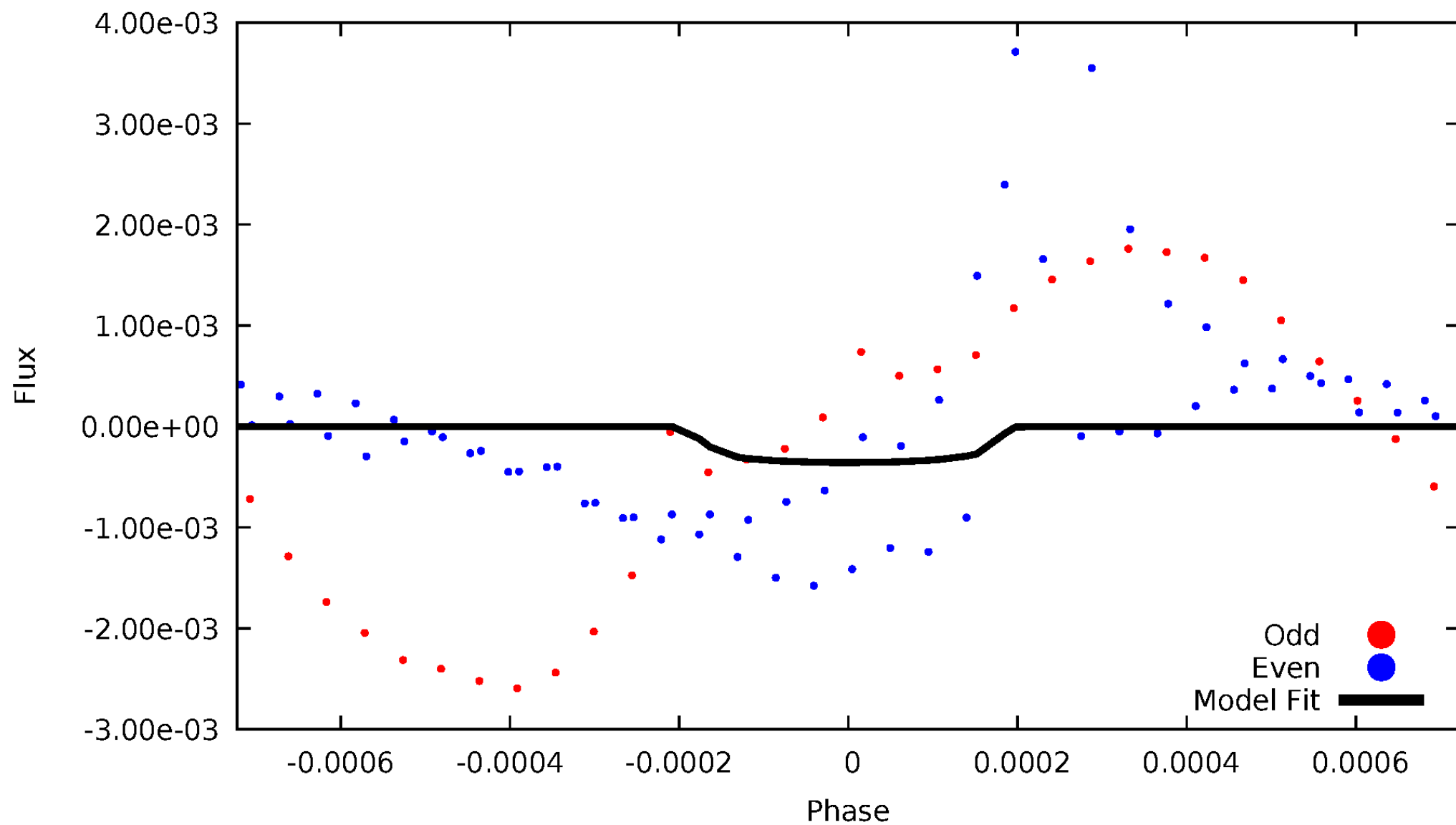


TCE 006365080-01



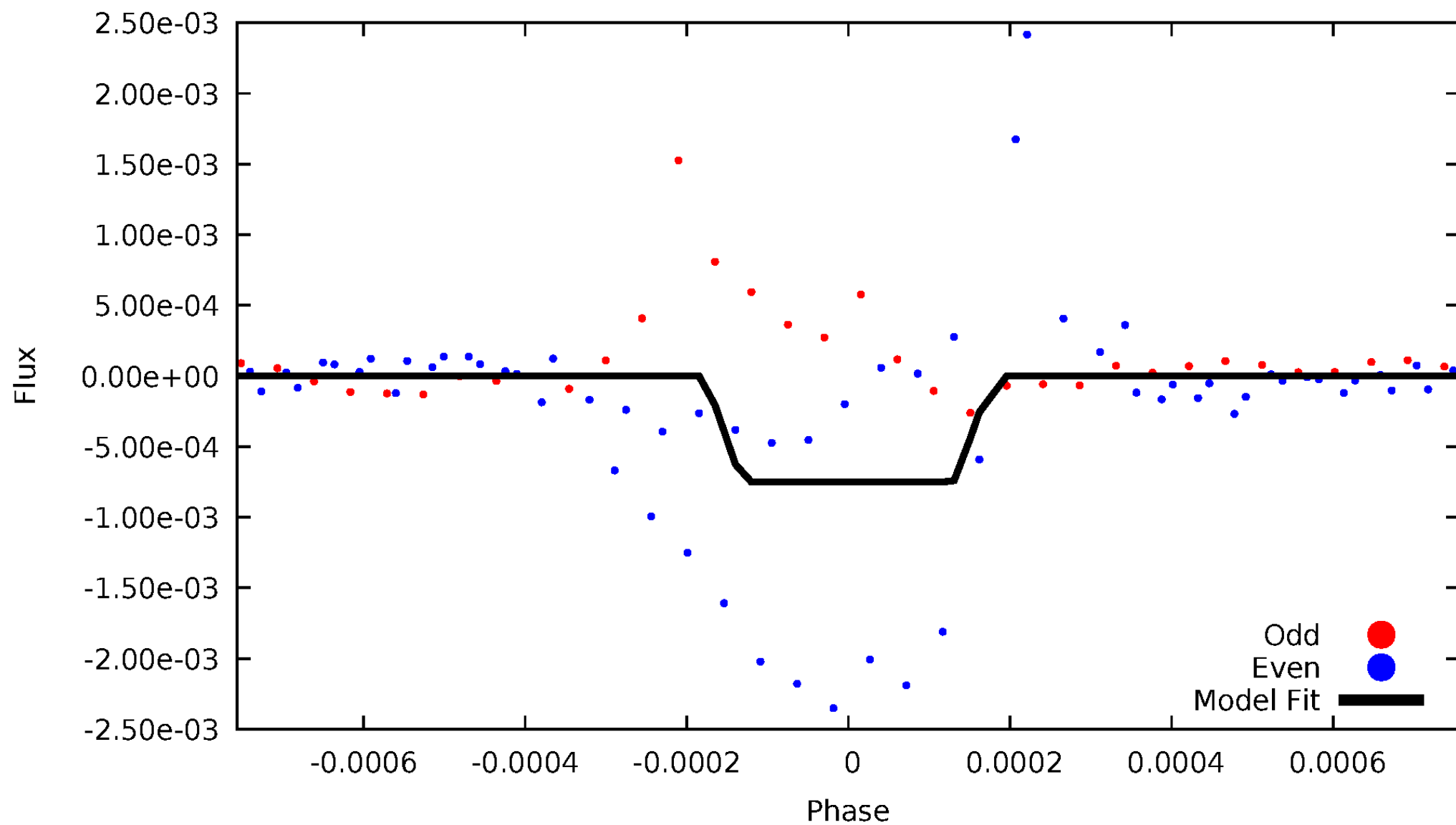
DV Odd/Even

TCE 006365080-01



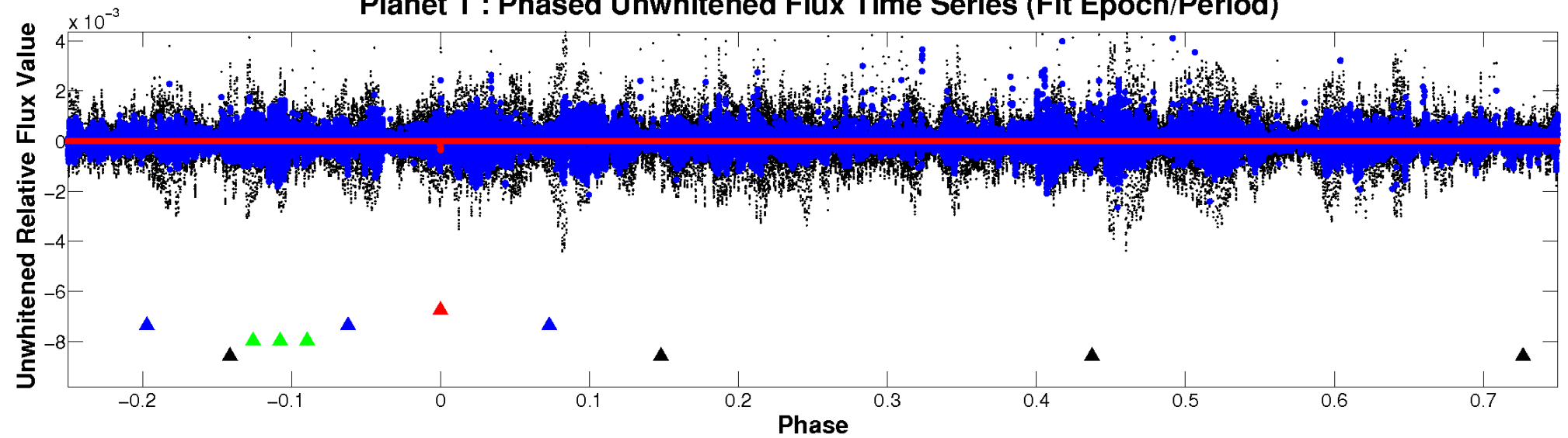
ALT Odd/Even

TCE 006365080-01

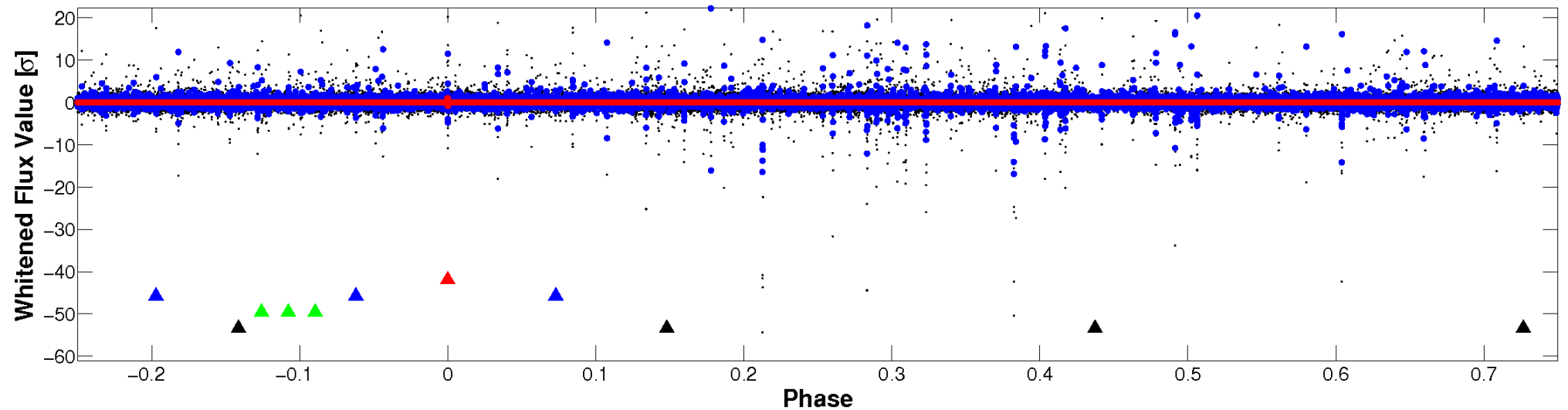


Non-Whitened Vs. Whitened Light Curve

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

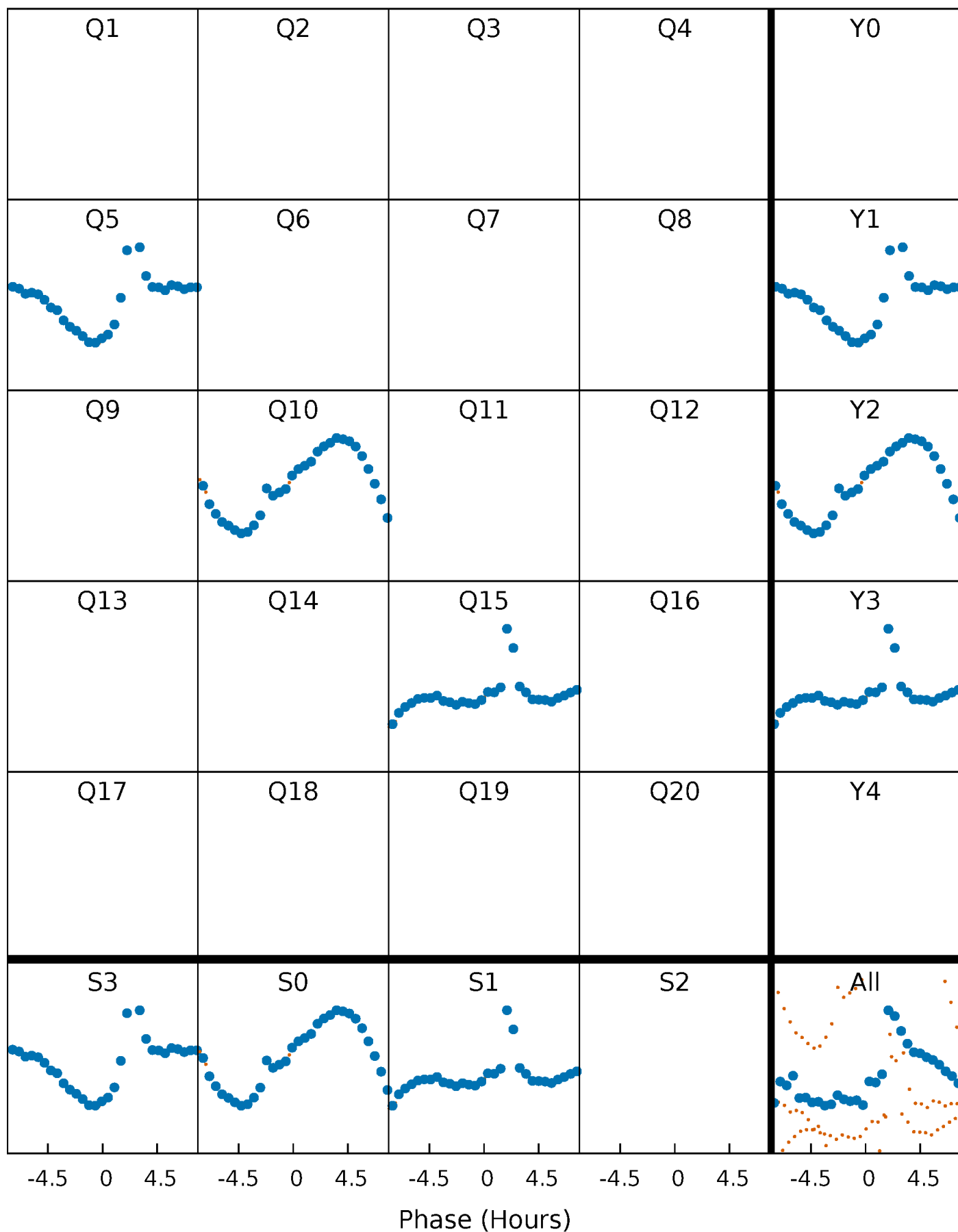


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



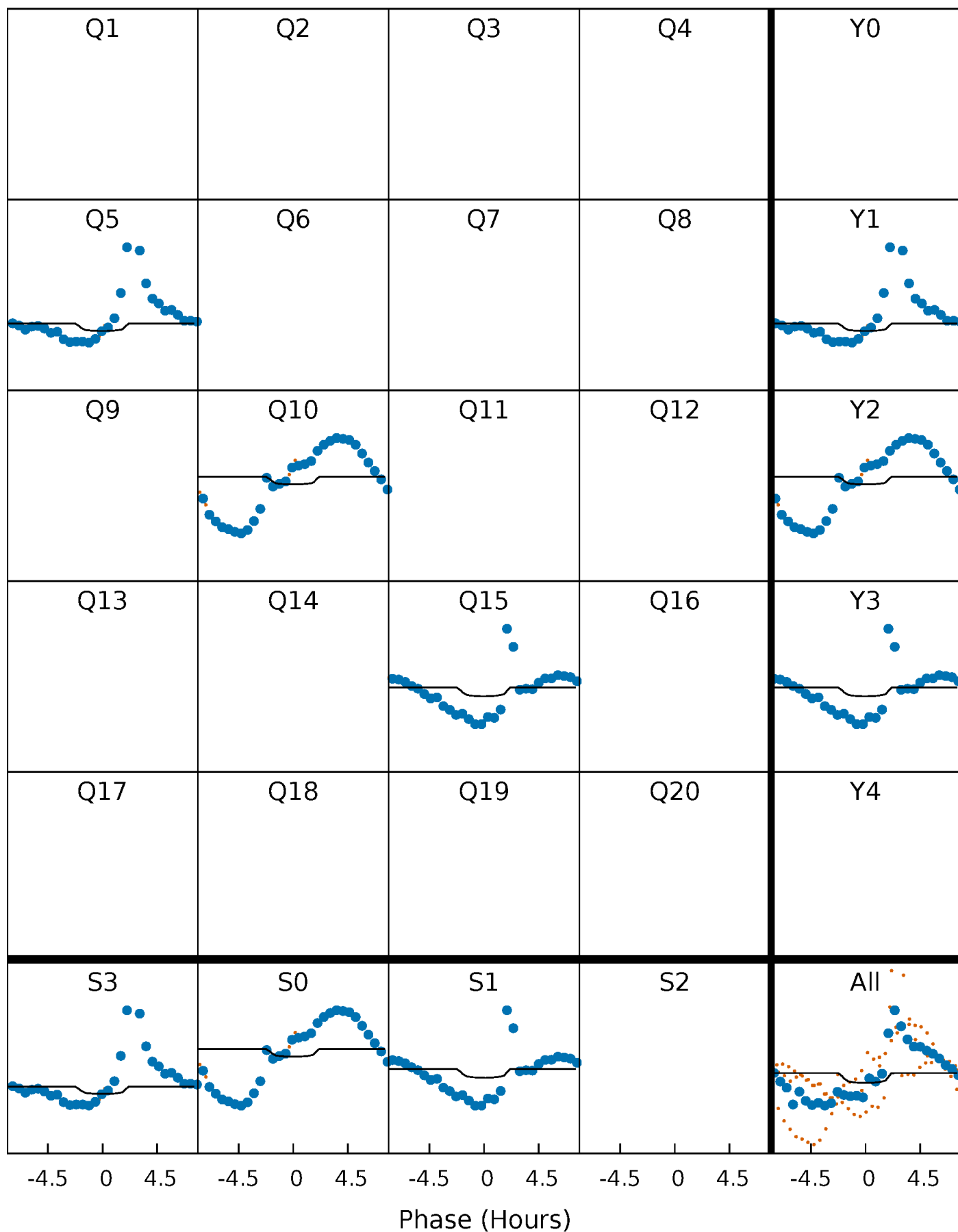
PDC Quarter-Phased Transit Curves

TCE 006365080-01 P=452.728596 Days $T_0=527.365814$ (BKJD)



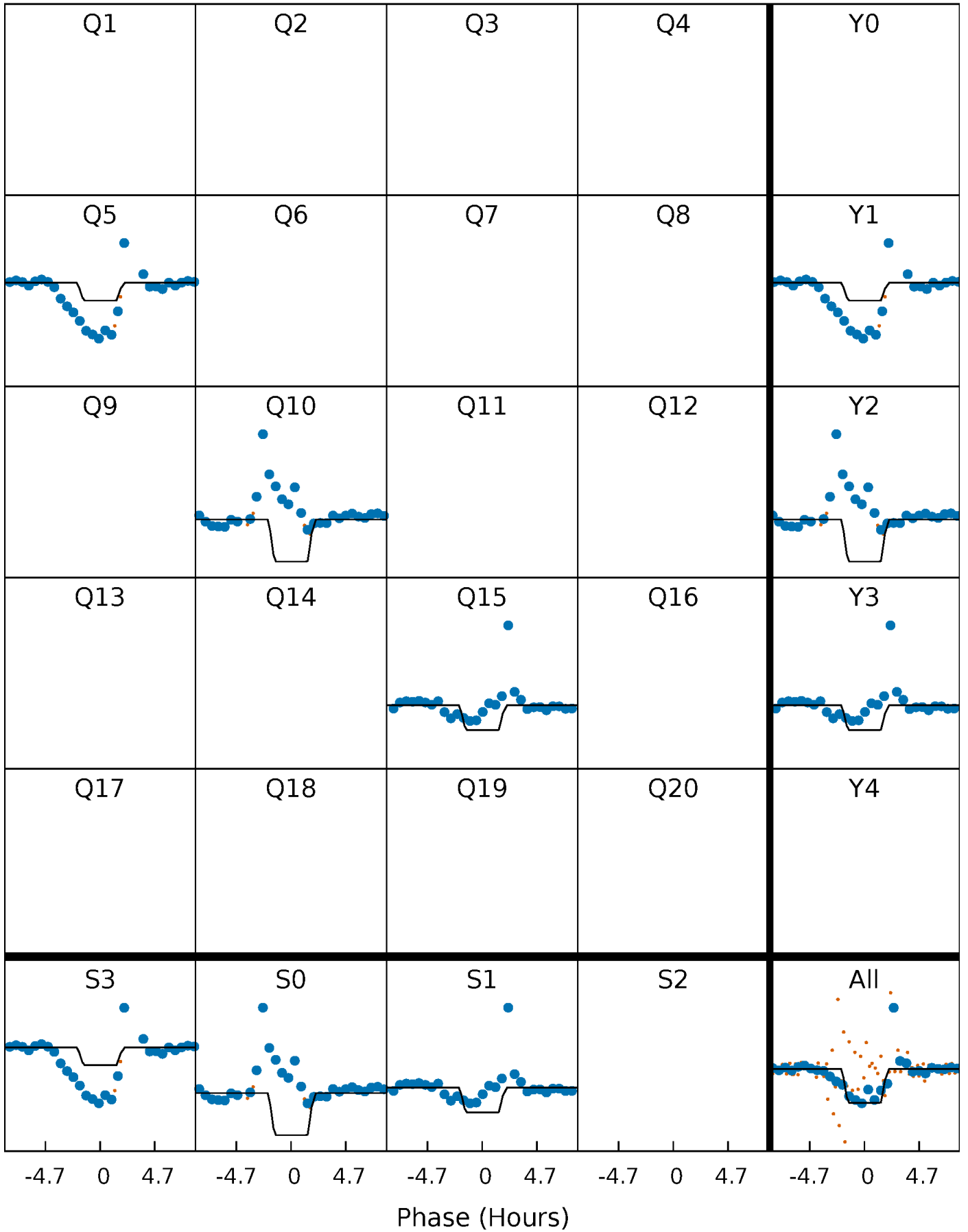
DV Quarter-Phased Transit Curves

TCE 006365080-01 P=452.728596 Days $T_0=527.365814$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

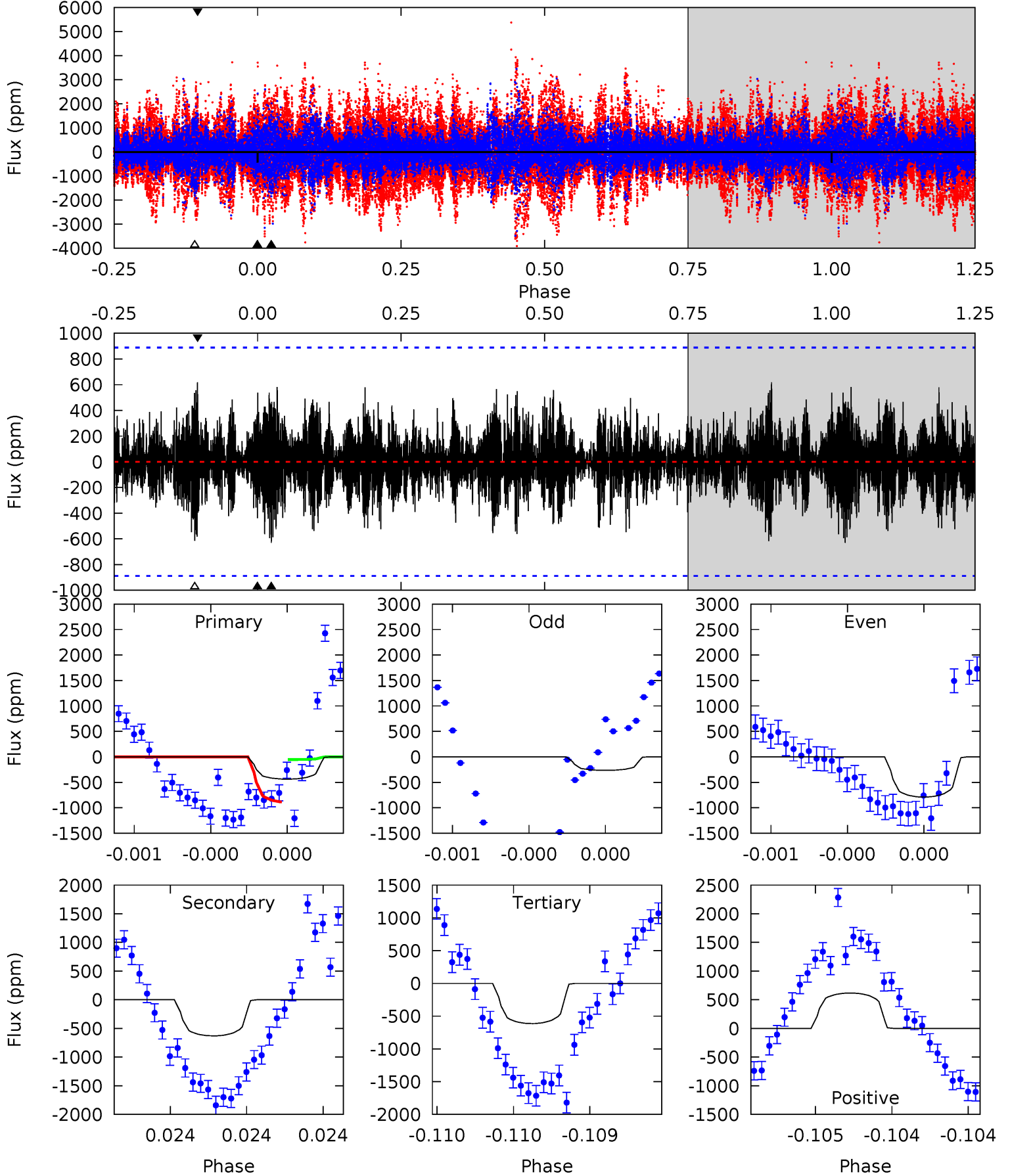
TCE 006365080-01 P=452.732767 Days $T_0=527.361467$ (BKJD)



DV Model-Shift Uniqueness Test

006365080-01, P = 452.728596 Days, E = 74.637218 Days

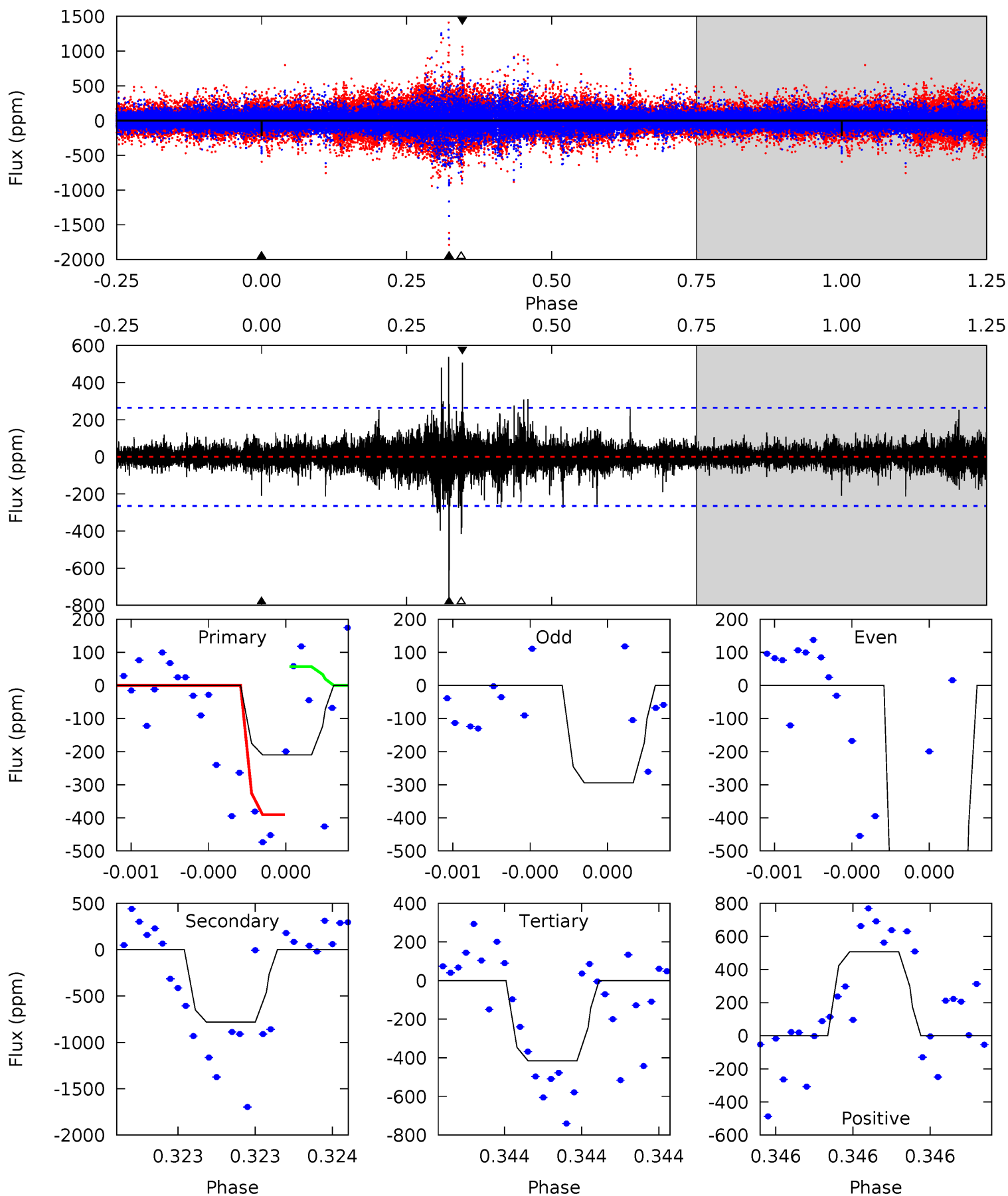
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.76	3.98	3.88	3.90	5.61	3.54	1.08	-1.11	-1.14	0.10	0.08	1.55	1.85	0.50	2.65



Alt Model-Shift Uniqueness Test

006365080-01, P = 452.732767 Days, E = 74.628700 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.49	16.7	8.89	10.9	5.65	3.60	1.07	-4.40	-6.38	7.82	5.84	10.1	4.05	0.41	3.79



Stellar Parameters For KIC 006365080

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6202^{+156}_{-188}	$4.242^{+0.190}_{-0.190}$	$-0.300^{+0.300}_{-0.300}$	$1.254^{+0.363}_{-0.297}$	$1.002^{+0.158}_{-0.115}$	$0.715^{+0.727}_{-0.360}$
	+3%/-3%	+4%/-4%	+100%/-100%	+29%/-24%	+16%/-11%	+102%/-50%
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 006365080-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-630 ± 158	$3.48^{+3.34}_{-2.30}$	400^{+30}_{-28}	6137^{+5876}_{-1575}	$37468^{+286774}_{-27783}$
Alt.	-780 ± 47	$4.52^{+3.60}_{-2.80}$	401^{+31}_{-28}	5693^{+4265}_{-1211}	$27480^{+165011}_{-18675}$

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

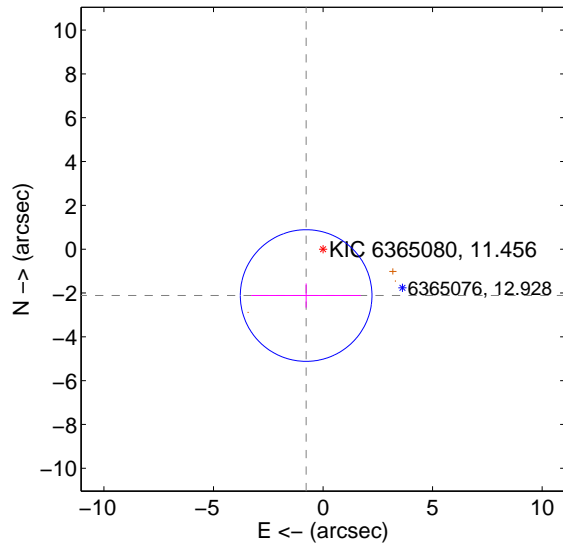
Supplemental centroid analysis for 006365080-01. **Kepler magnitude: 11.46.** Transit SNR 2.51

There are 0 quarters with good PRF difference image offsets

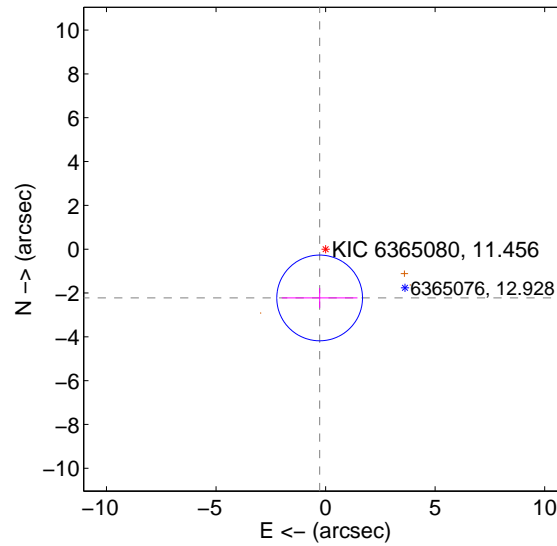
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.252 ± 1.001	2.25	0.771 ± 2.501	-2.116 ± 0.552
PRF-fit source offset from KIC position	2.242 ± 0.652	3.44	0.271 ± 1.728	-2.225 ± 0.454
photometric centroid source offset	0.58 ± 2.88	0.20	-0.48 ± 3.20	0.31 ± 1.89

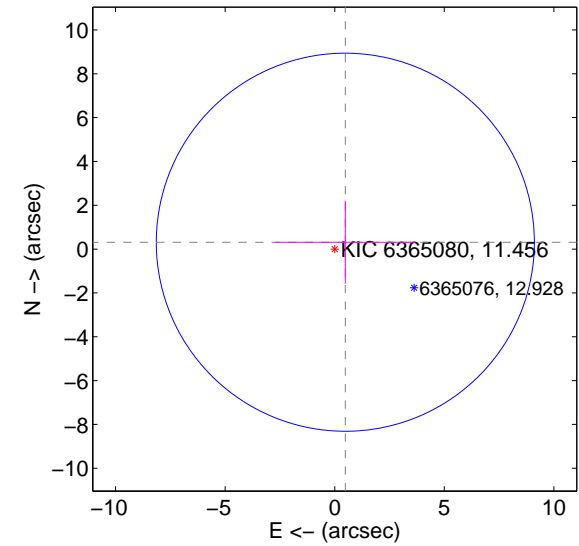
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

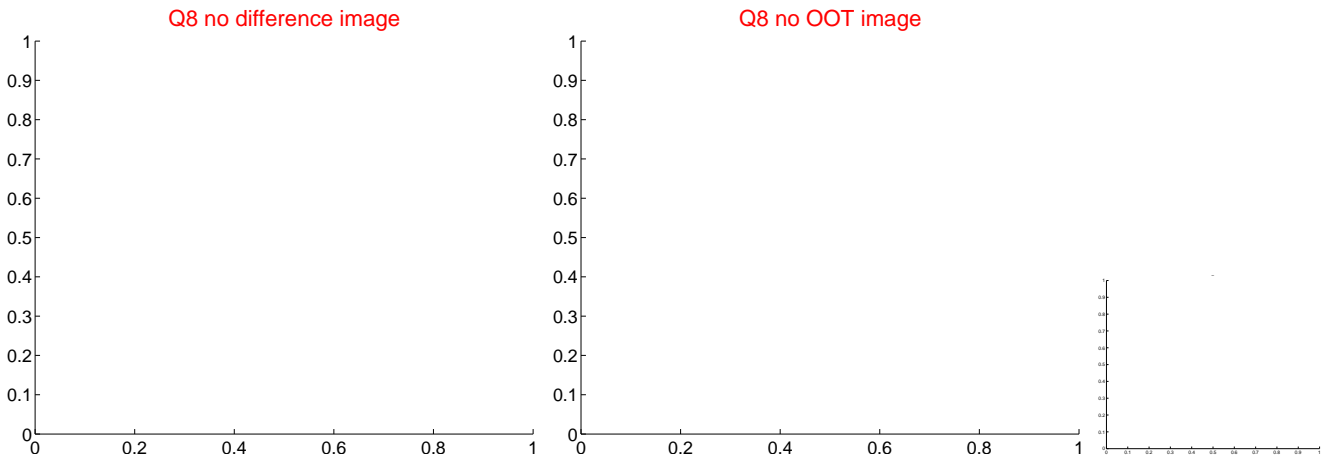
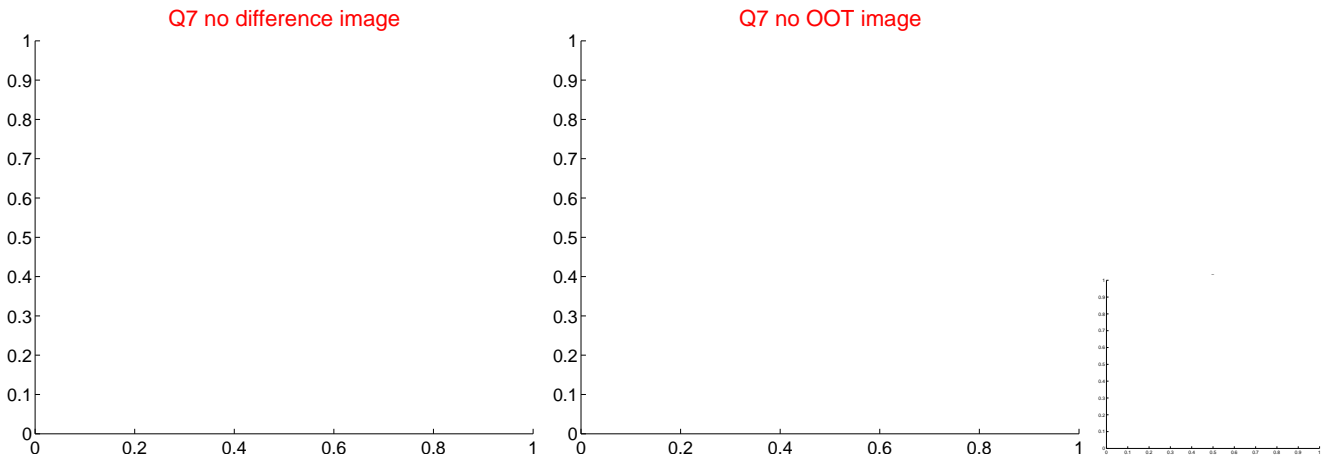
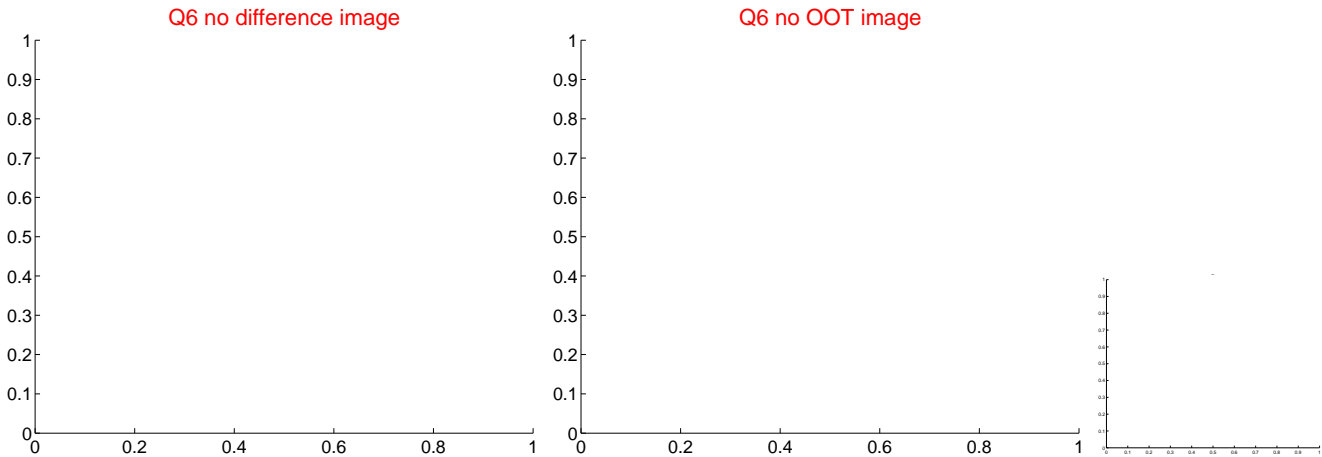
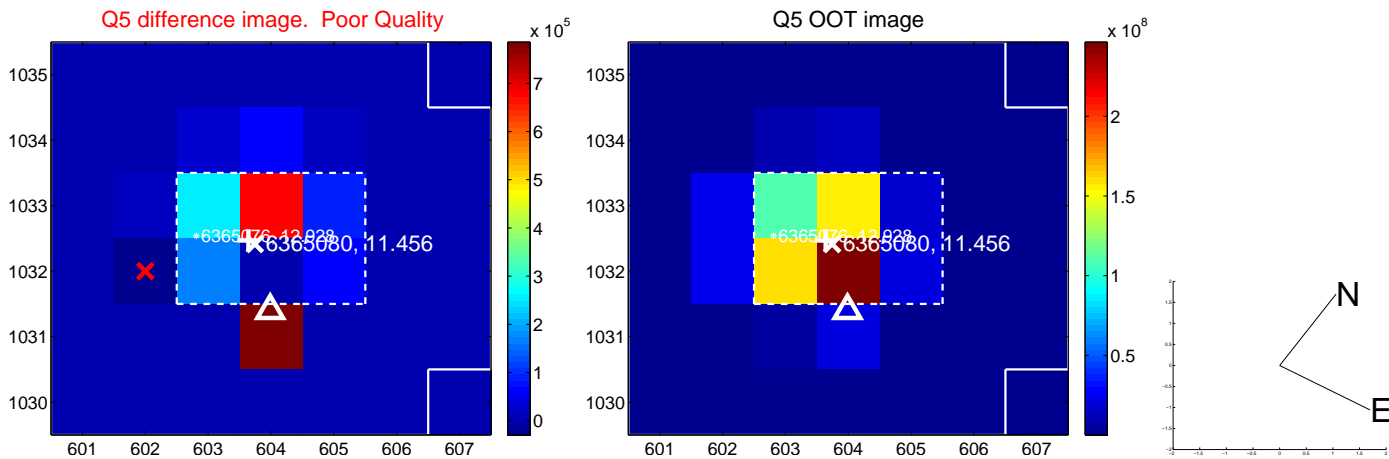


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

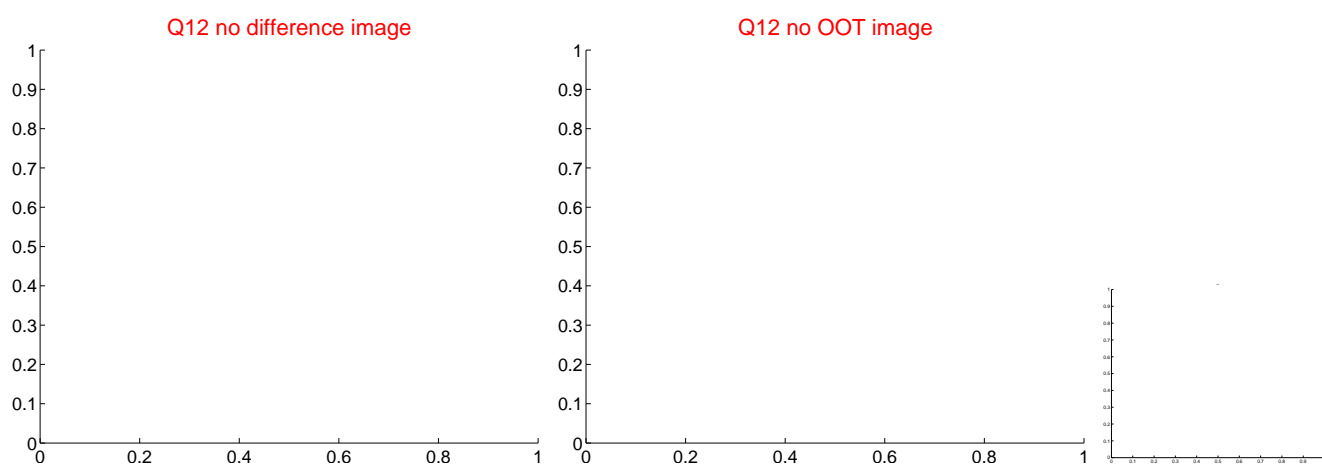
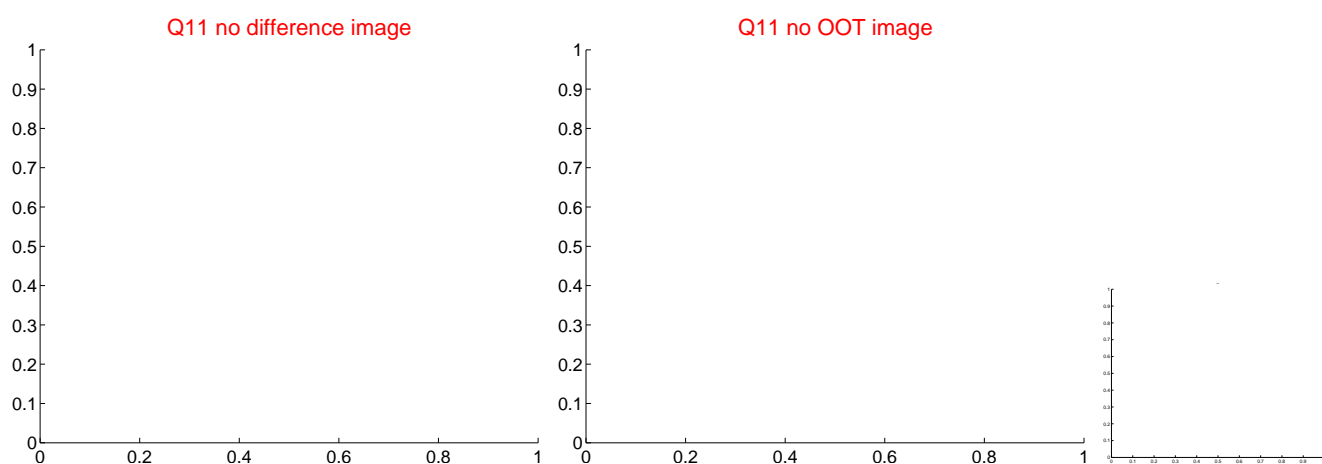
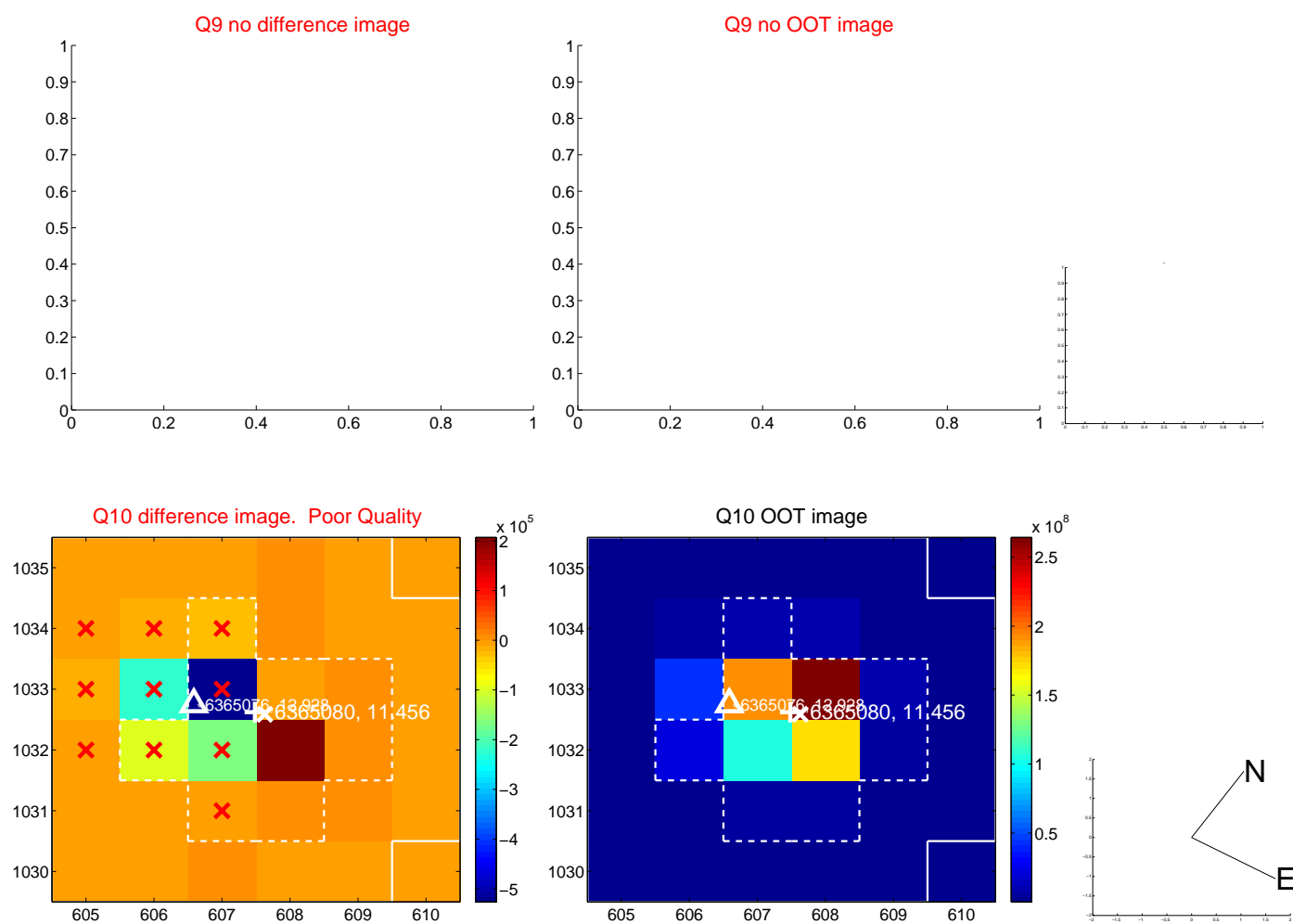
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



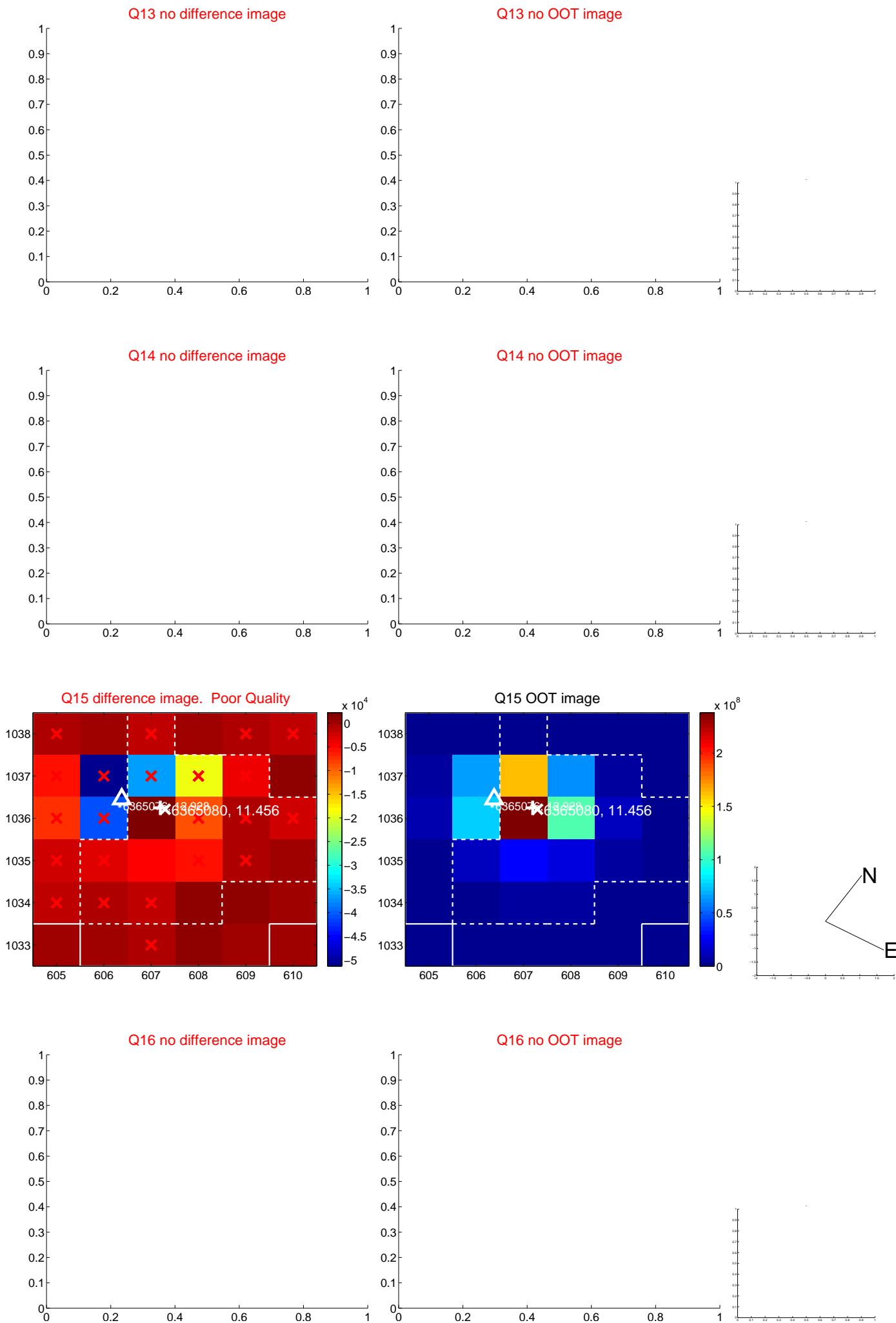
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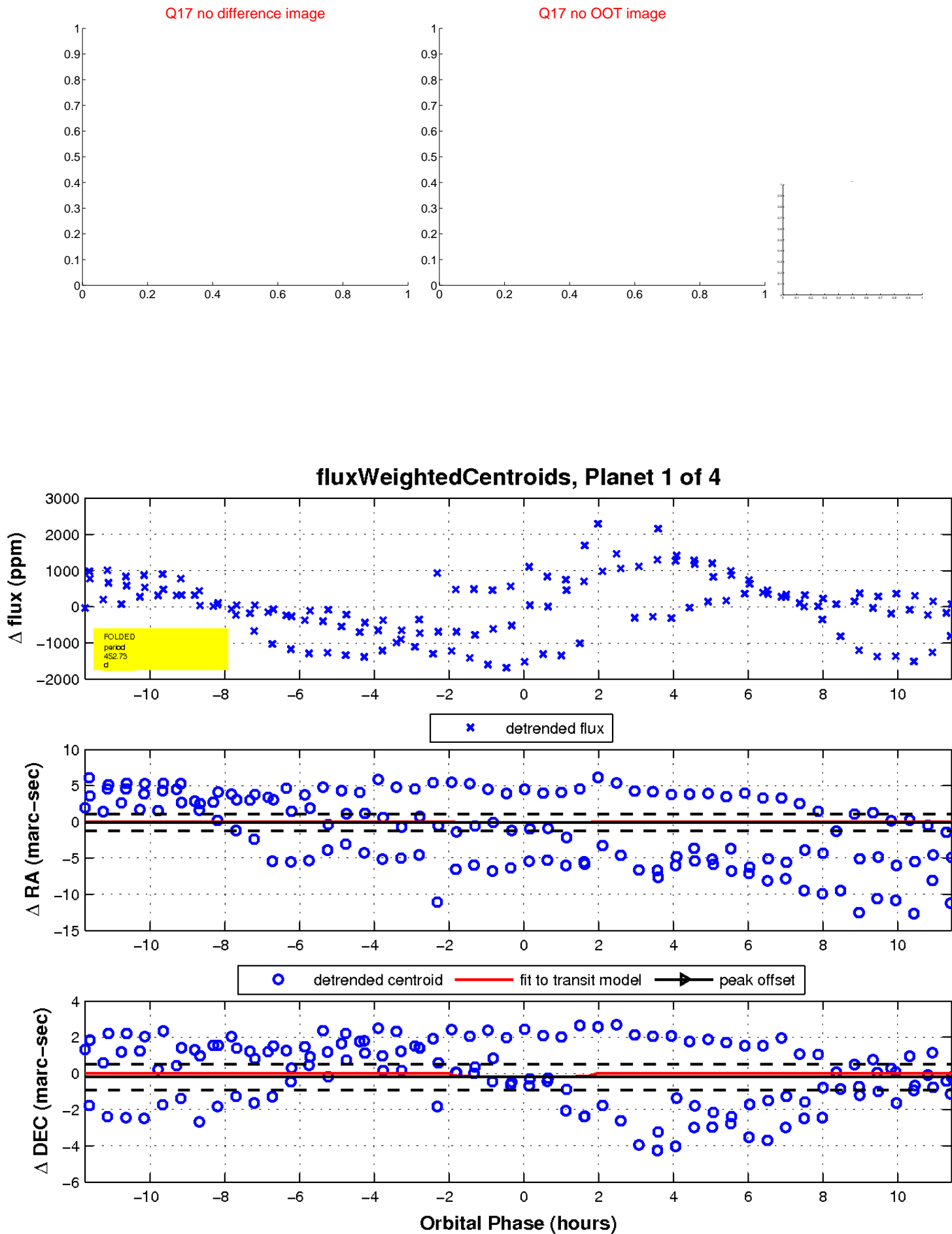
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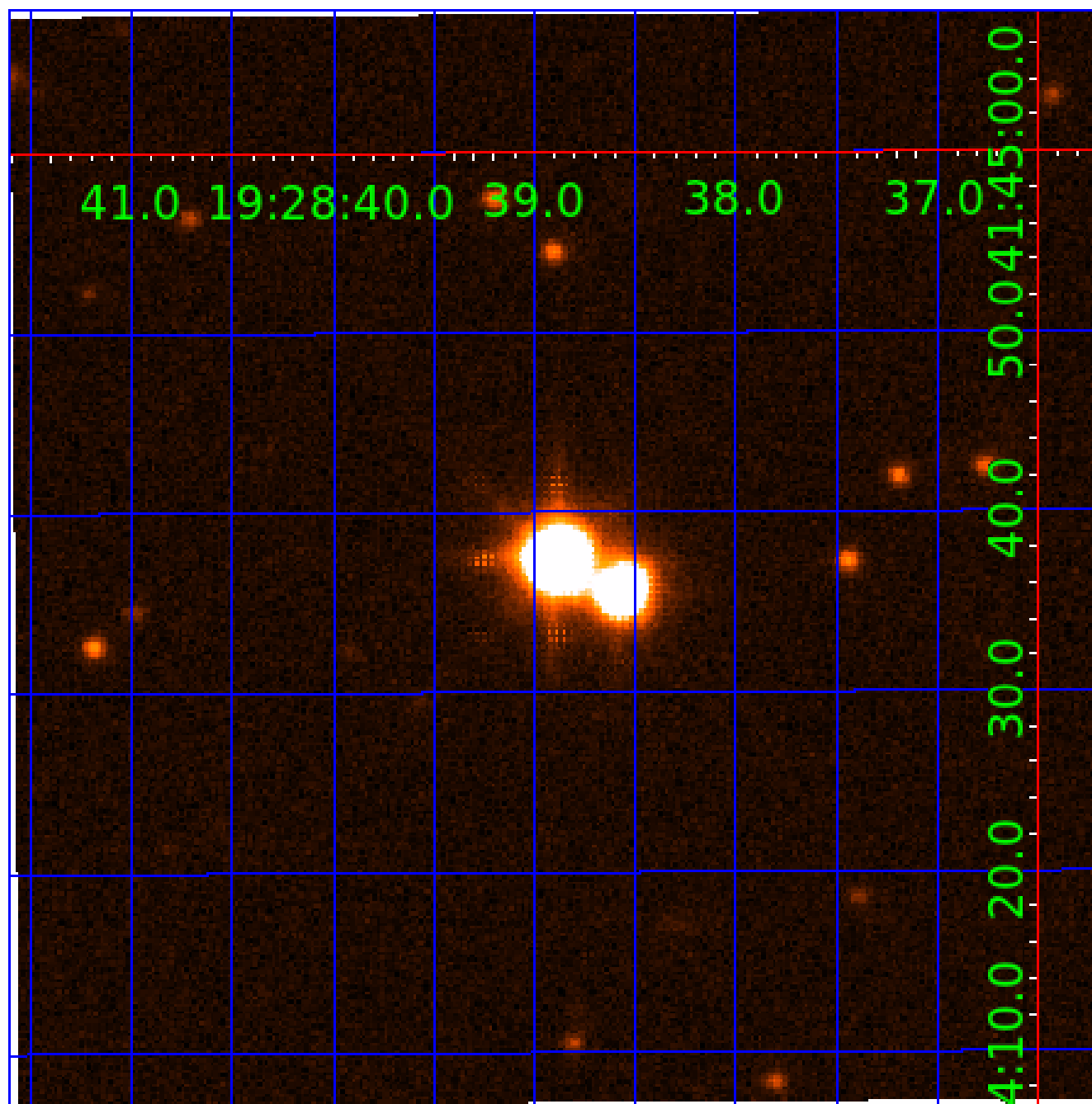


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006365080

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})
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006365080-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006365080-03	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—MOD_POS_ALT—CENT_SATURATED
006365080-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED

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

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

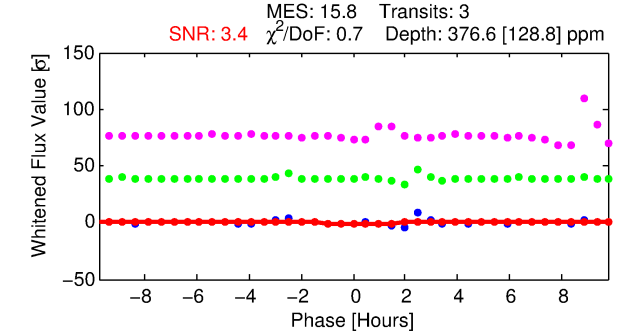
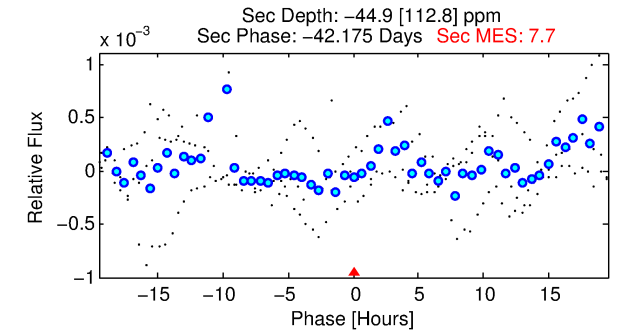
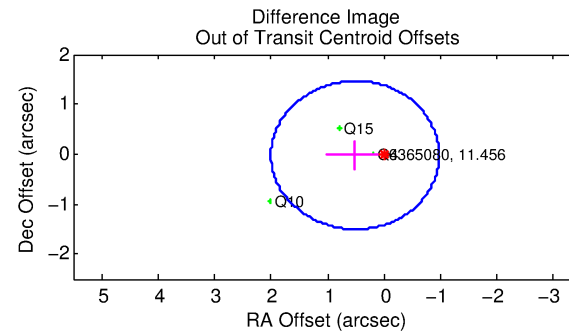
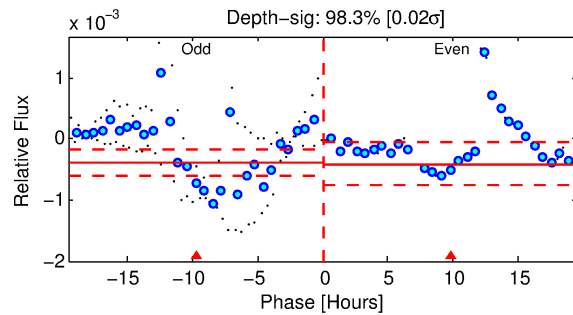
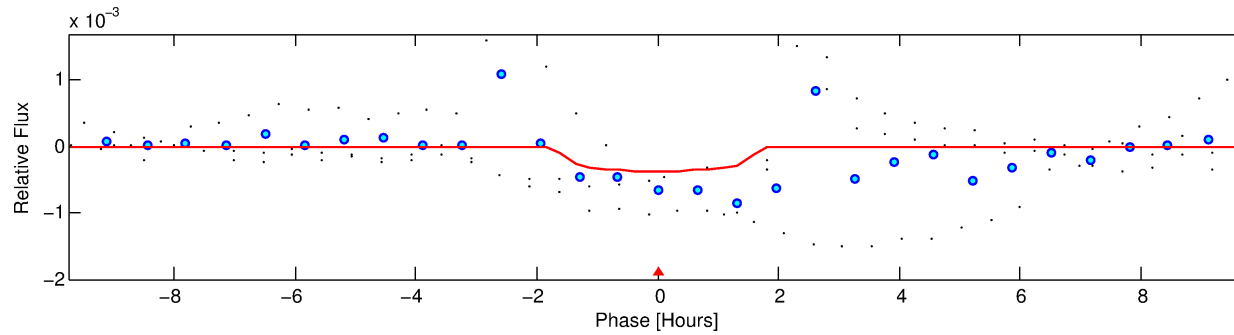
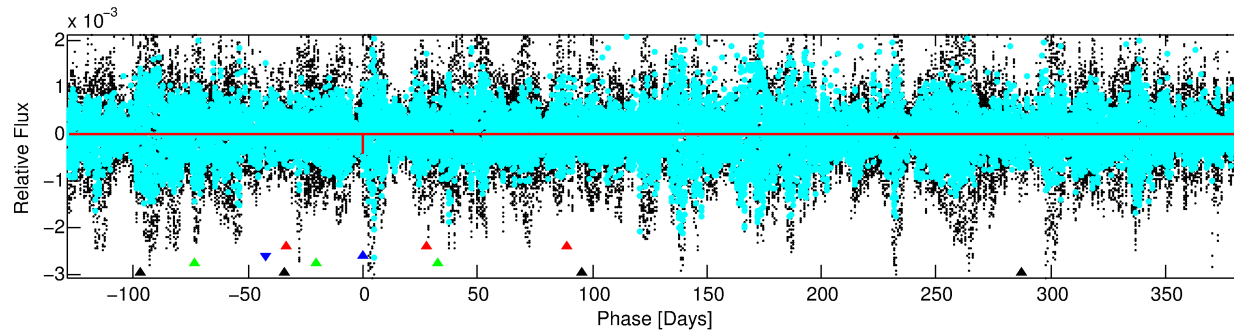
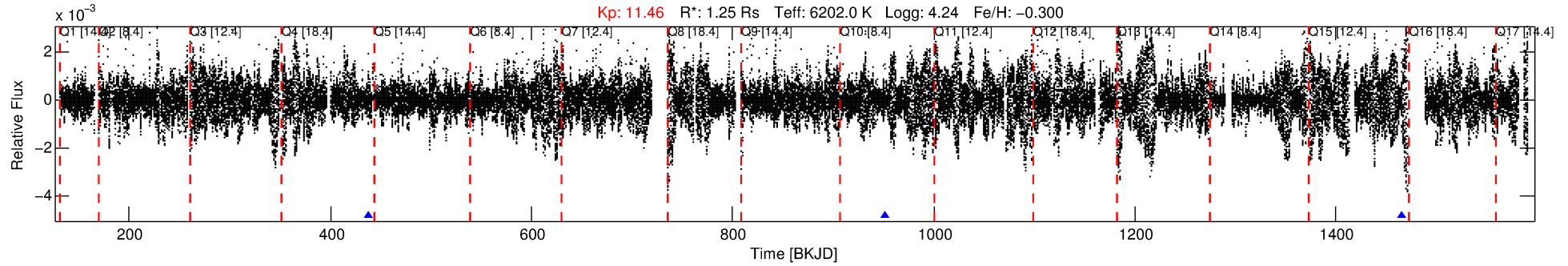
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006365080-02

No Significant Match Found

DV One-Page Summary

KIC: 6365080 Candidate: 2 of 4 Period: 513.869 d



DV Fit Results:

Period = 513.86888 [0.00718] d
Epoch = 438.1426 [0.0083] BKJD
 $R_p/R^* = 0.0182$ [0.0401]
 $a/R^* = 1099.25$ [12123.79]
 $b = 0.46$ [19.21]
 $\text{Seff} = 1.32$ [0.49]
 $T_{\text{eq}} = 273$ [25] K
 $R_p = 2.50$ [5.54] R_e
 $a = 1.2564$ [0.3039] AU
 $\text{Ag} = \text{N/A}$
 $T_{\text{eff}} = \text{N/A}$

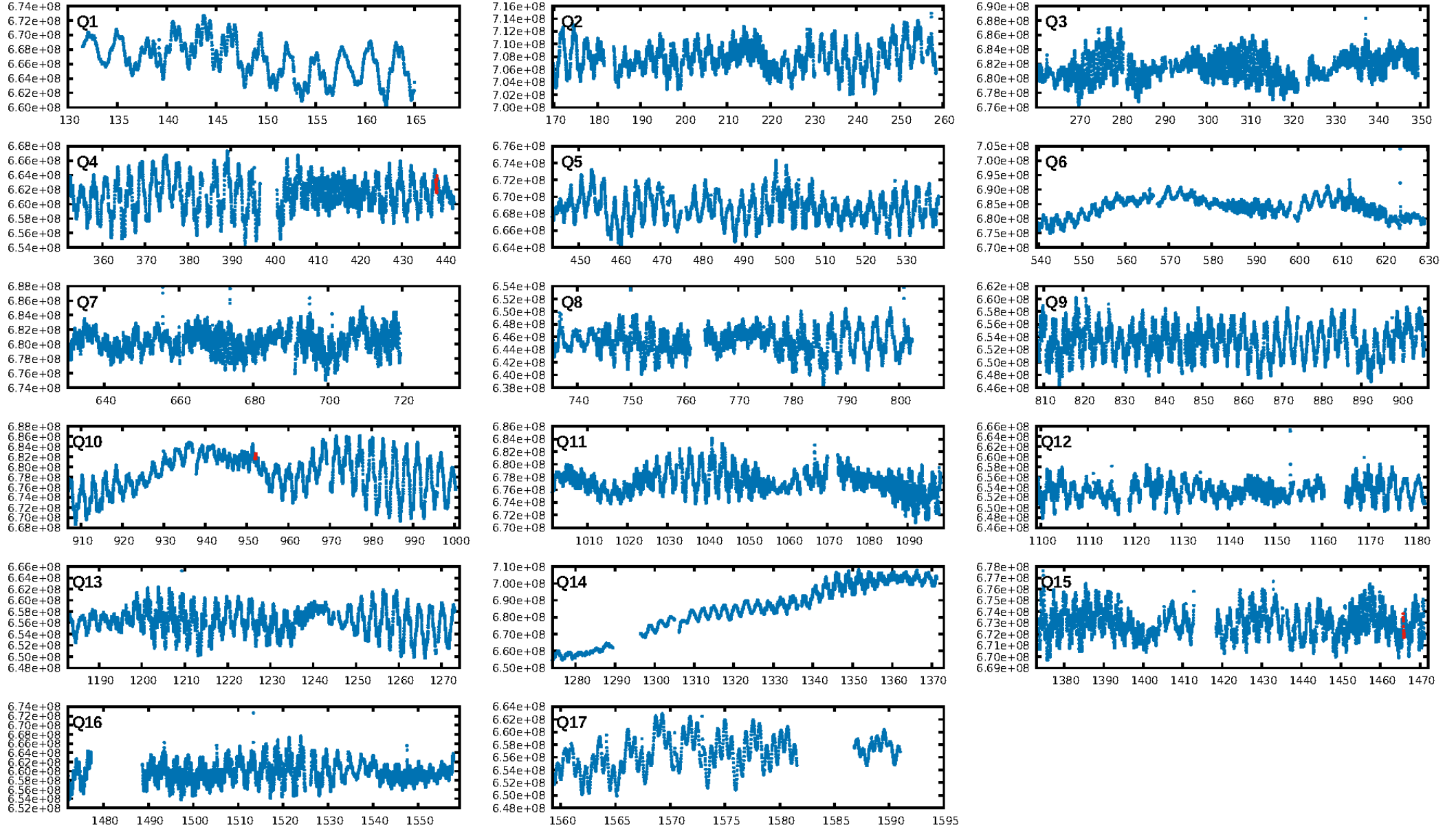
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [204.74 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.6679
Centroid-sig: 2.5%
Centroid-so: 5.982 arcsec [2.01 σ]
OotOffset-rm: 0.513 arcsec [1.04 σ]
KicOffset-rm: 0.195 arcsec [0.25 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

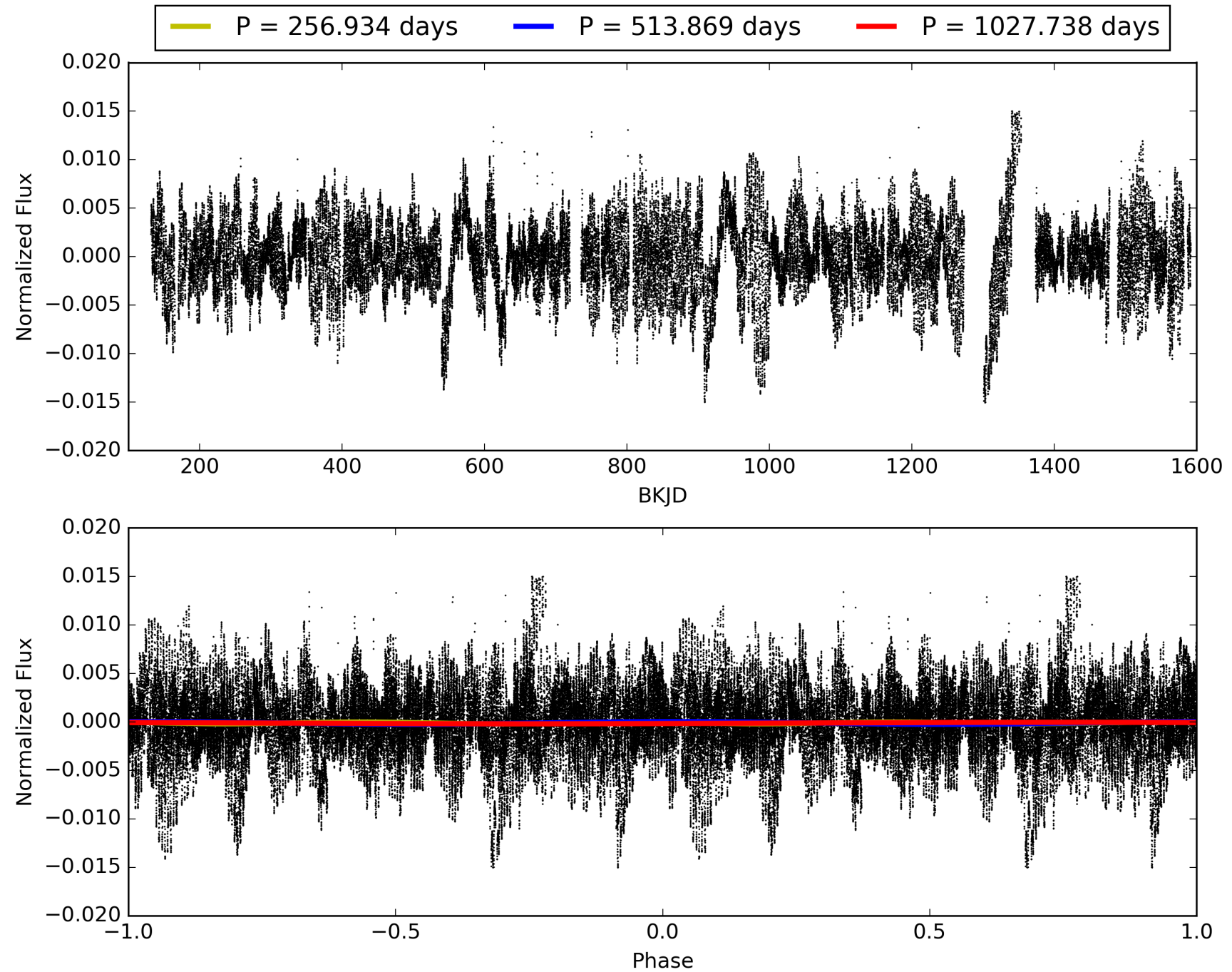
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:54:27 Z

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

TCE 006365080-02, PDC Light Curves

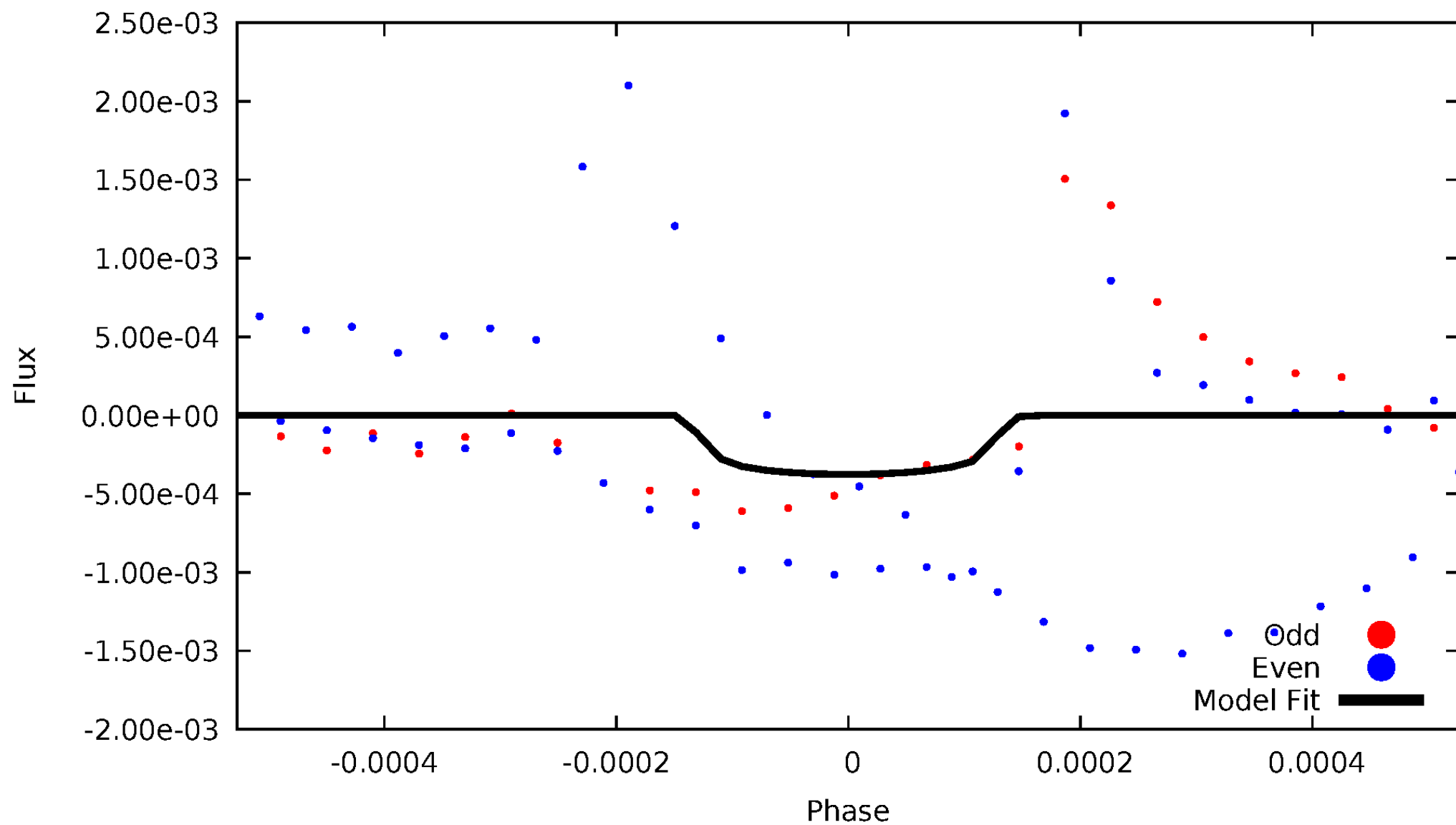


TCE 006365080-02



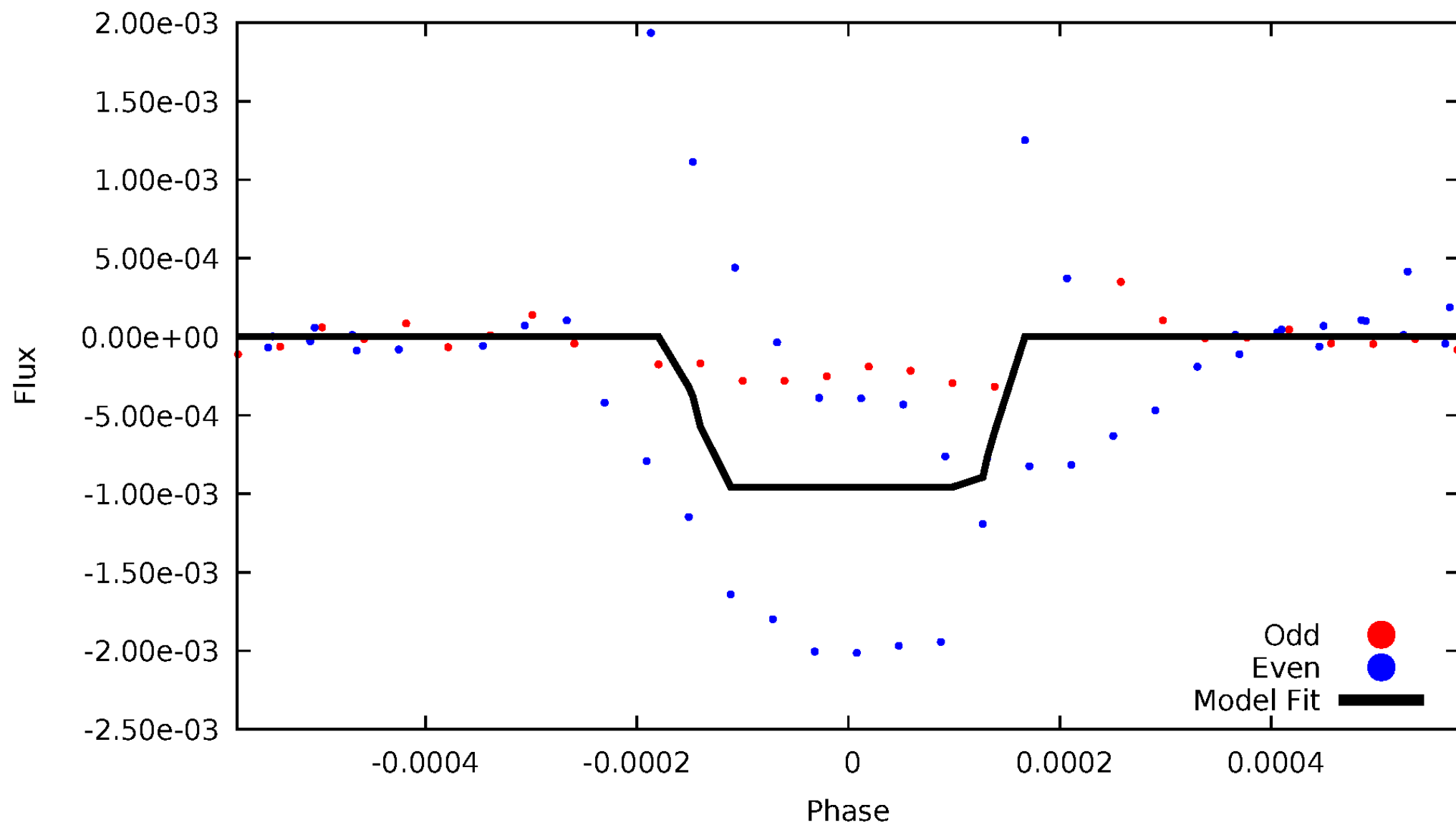
DV Odd/Even

TCE 006365080-02



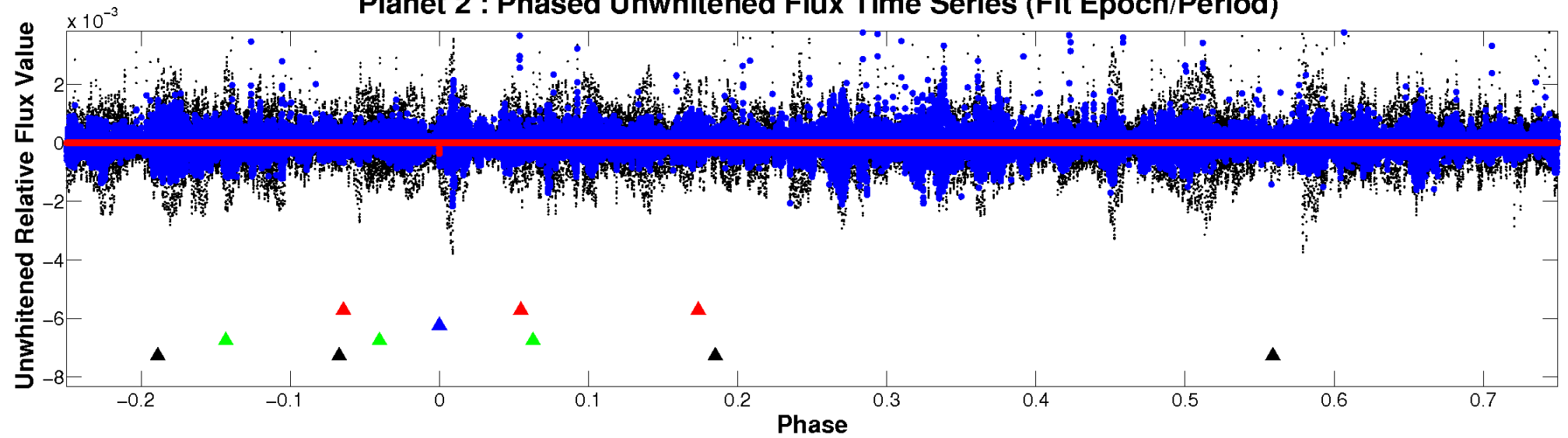
ALT Odd/Even

TCE 006365080-02

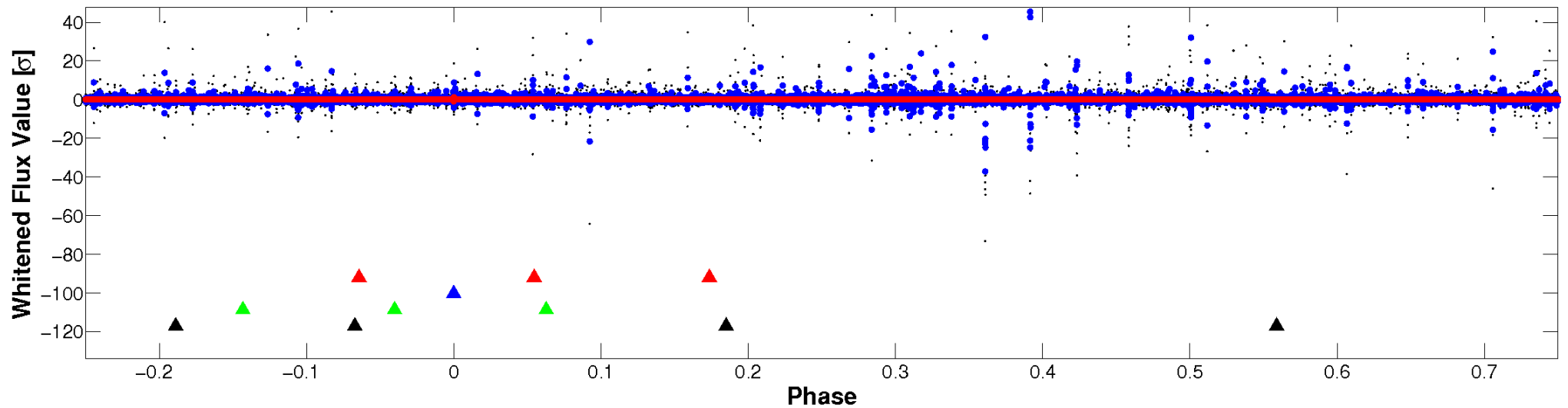


Non-Whitened Vs. Whitened Light Curve

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

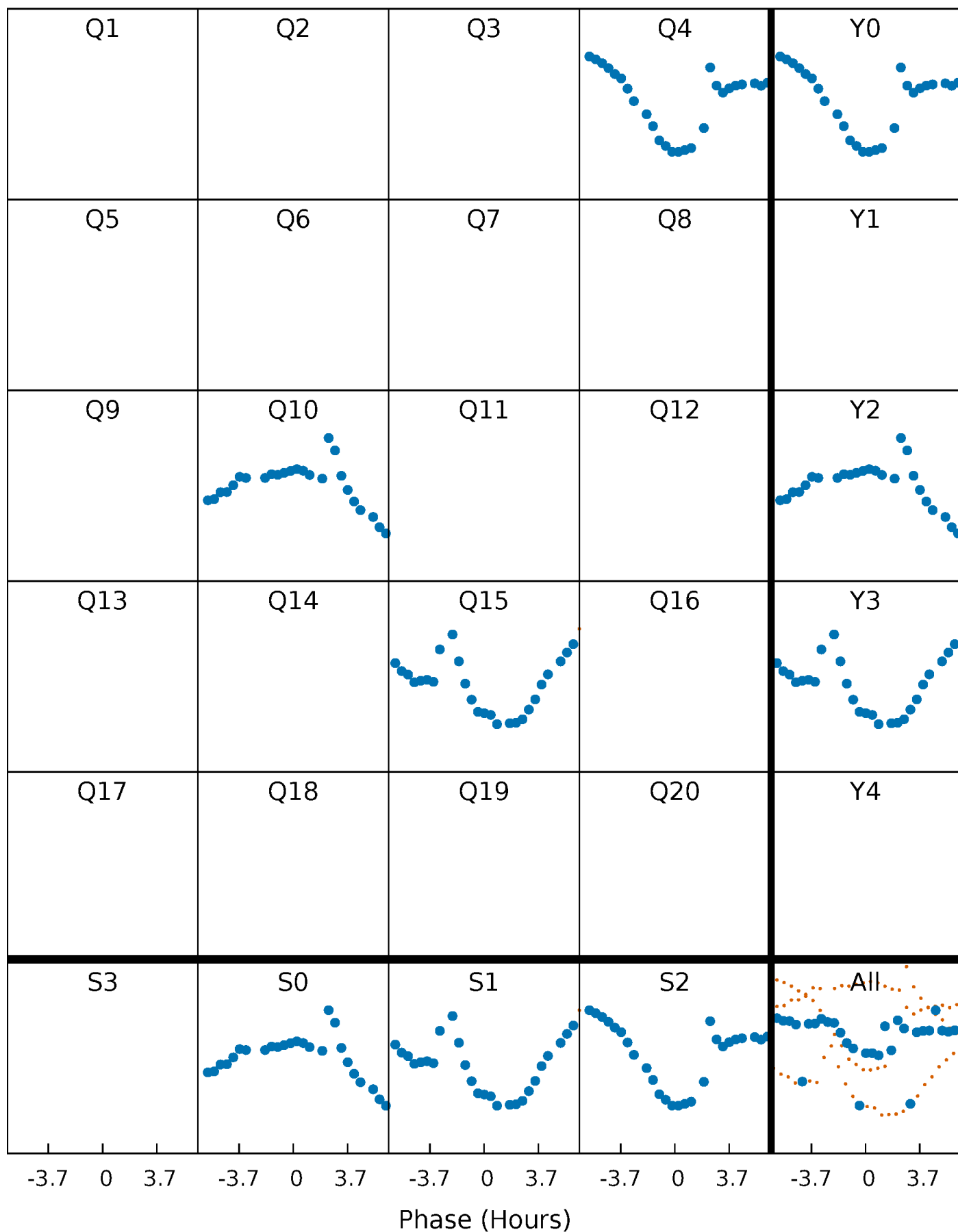


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



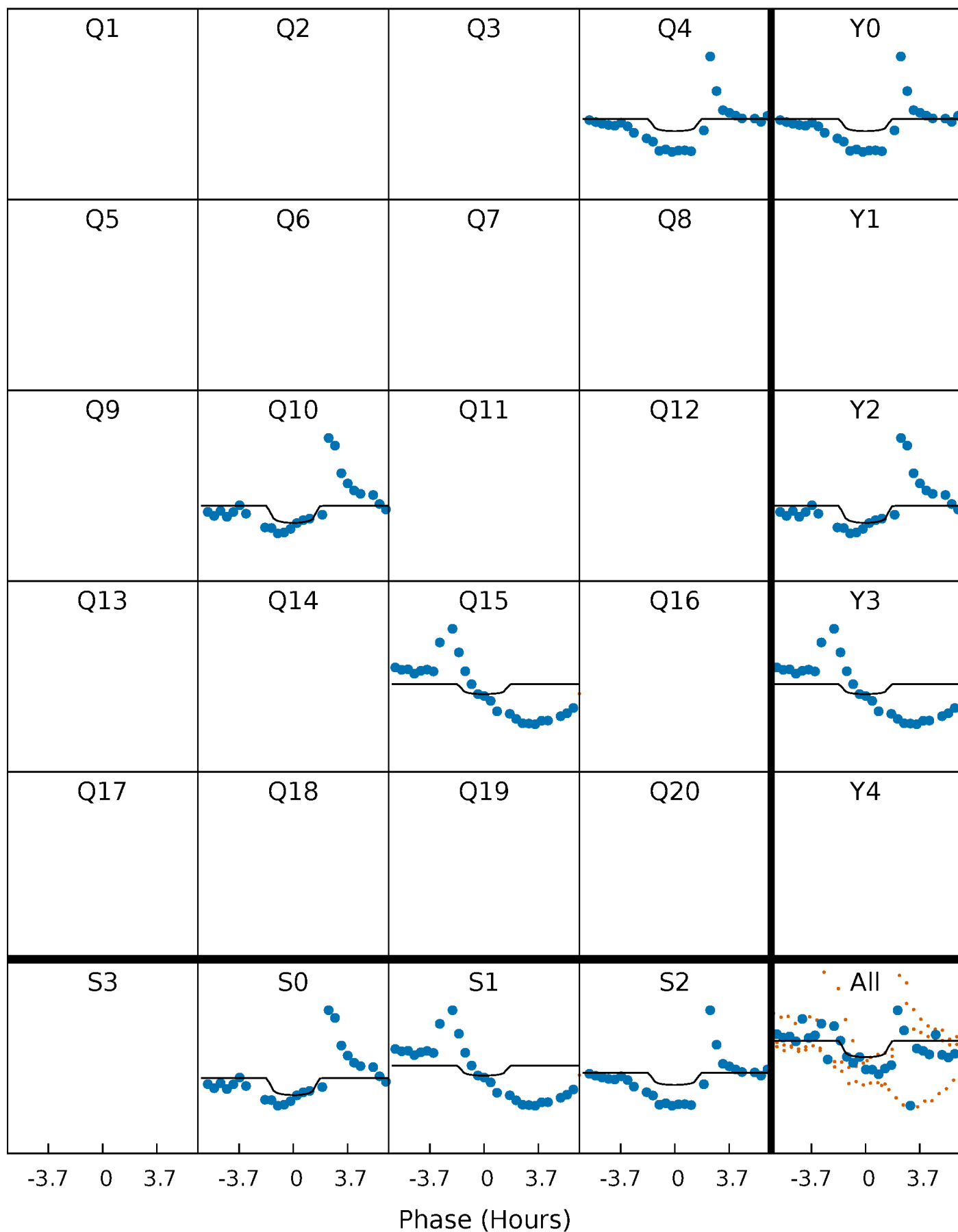
PDC Quarter-Phased Transit Curves

TCE 006365080-02 P=513.868880 Days $T_0=438.142586$ (BKJD)



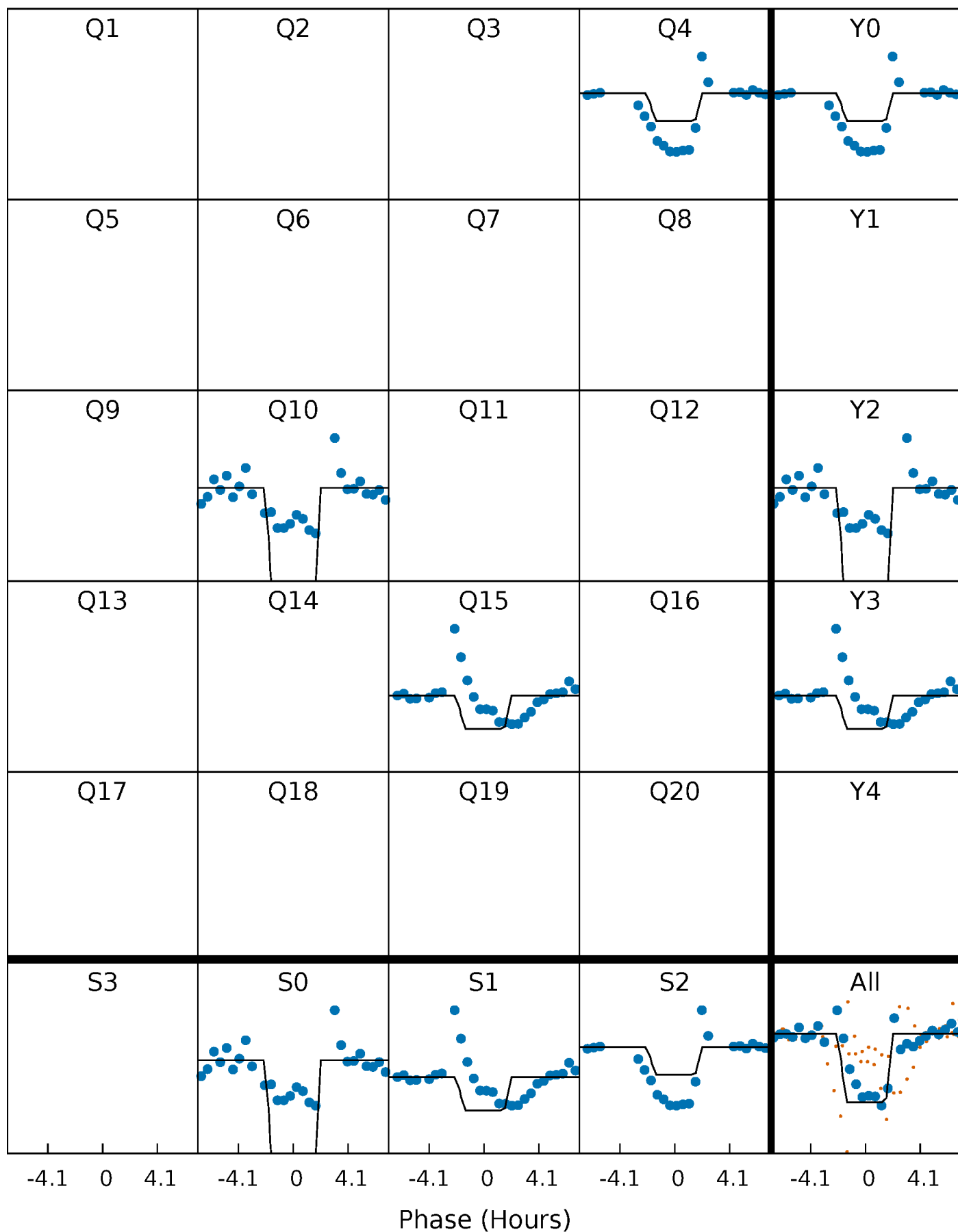
DV Quarter-Phased Transit Curves

TCE 006365080-02 P=513.868880 Days $T_0=438.142586$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

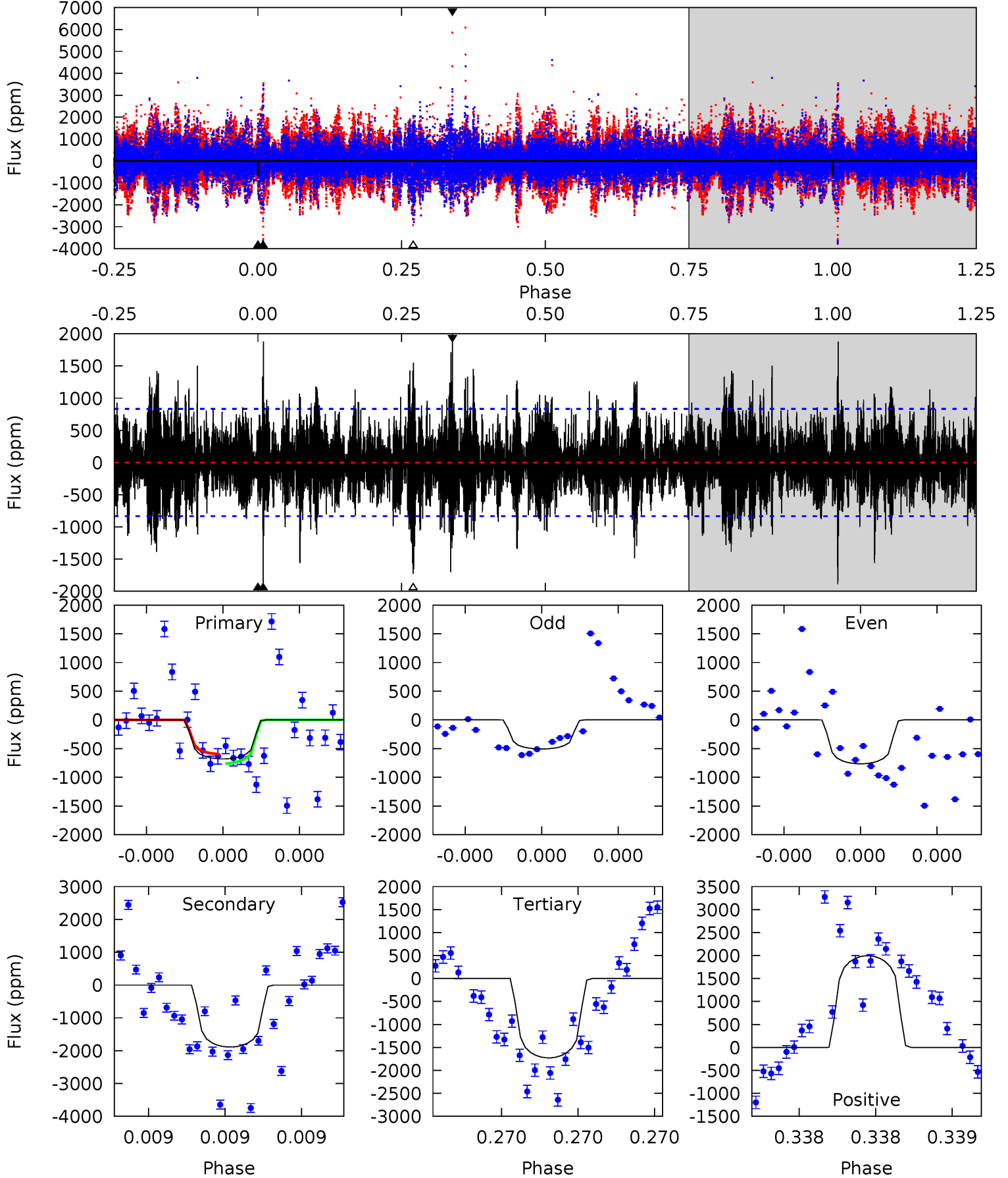
TCE 006365080-02 P=513.863167 Days $T_0=438.152638$ (BKJD)



DV Model-Shift Uniqueness Test

006365080-02, P = 513.868880 Days, E = 438.142586 Days

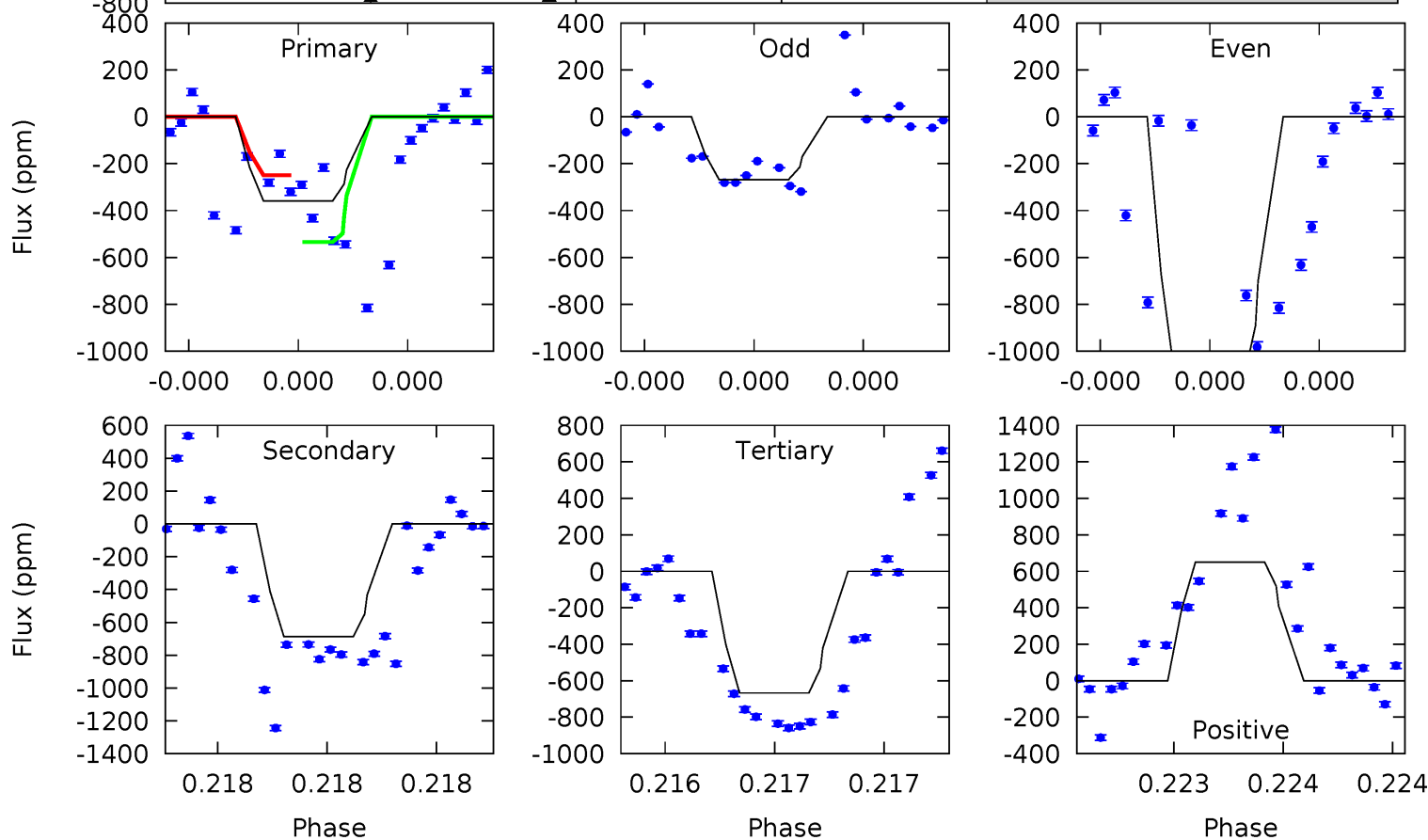
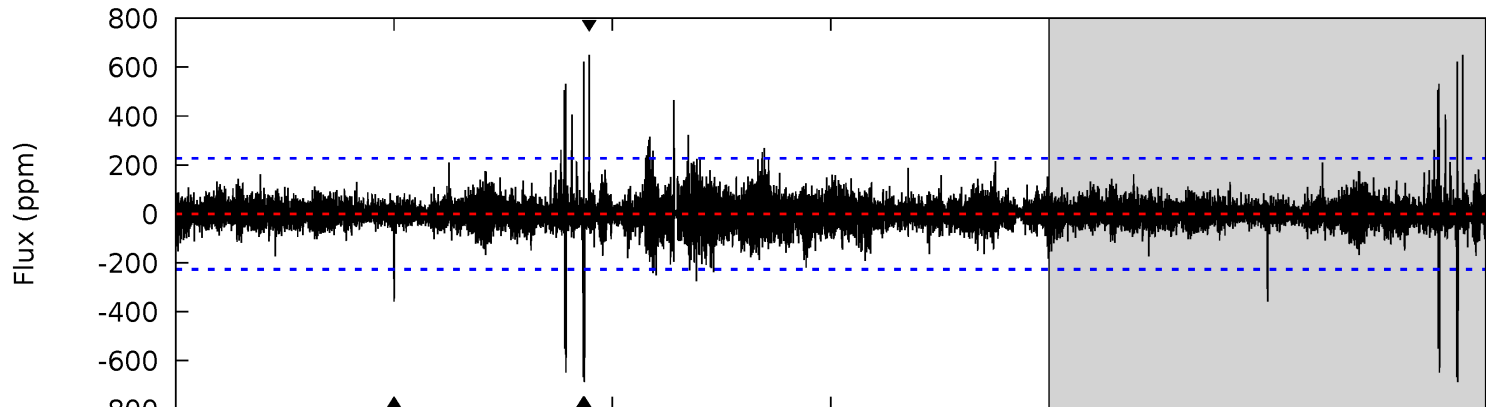
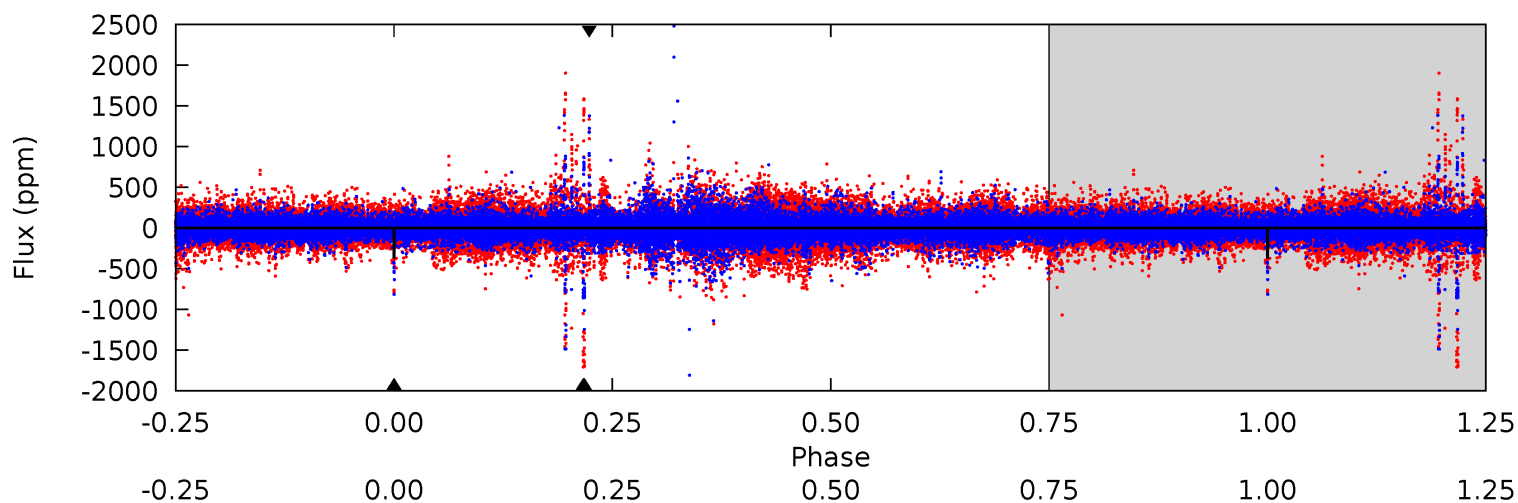
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.61	12.8	11.7	13.5	5.66	3.62	2.72	-7.12	-8.93	1.09	-0.72	0.75	1.34	0.51	0.56



Alt Model-Shift Uniqueness Test

006365080-02, P = 513.863167 Days, E = 438.152638 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.92	17.1	16.6	16.2	5.65	3.60	1.35	-7.68	-7.24	0.50	0.93	9.73	2.94	0.49	3.64



Stellar Parameters For KIC 006365080

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6202^{+156}_{-188}	$4.242^{+0.190}_{-0.190}$	$-0.300^{+0.300}_{-0.300}$	$1.254^{+0.363}_{-0.297}$	$1.002^{+0.158}_{-0.115}$	$0.715^{+0.727}_{-0.360}$
	+3%/-3%	+4%/-4%	+100%/-100%	+29%/-24%	+16%/-11%	+102%/-50%
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 006365080-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1888 ± 147	$4.81^{+4.57}_{-3.30}$	379^{+31}_{-26}	6845^{+9224}_{-1806}	$72004^{+646824}_{-53236}$
Alt.	-687 ± 40	$6.21^{+4.74}_{-4.07}$	382^{+29}_{-28}	4868^{+3362}_{-964}	$15737^{+113765}_{-10655}$

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 $A_{obs} \gg 1.0$

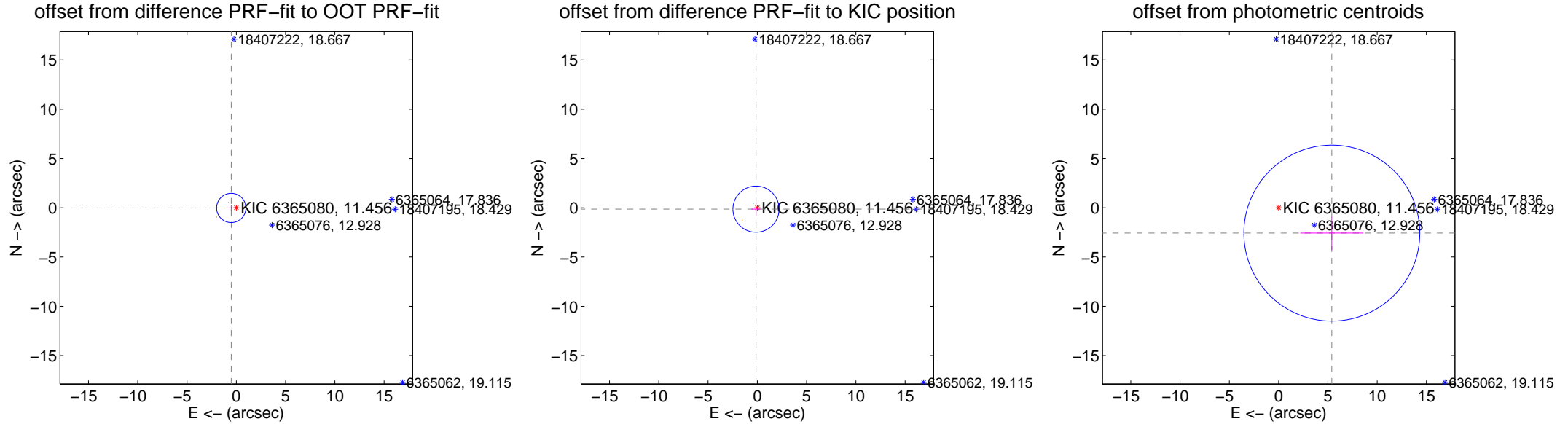
DV Centroid Data

Supplemental centroid analysis for 006365080-02. **Kepler magnitude: 11.46.** Transit SNR 3.37

There are 2 quarters with good PRF difference image offsets

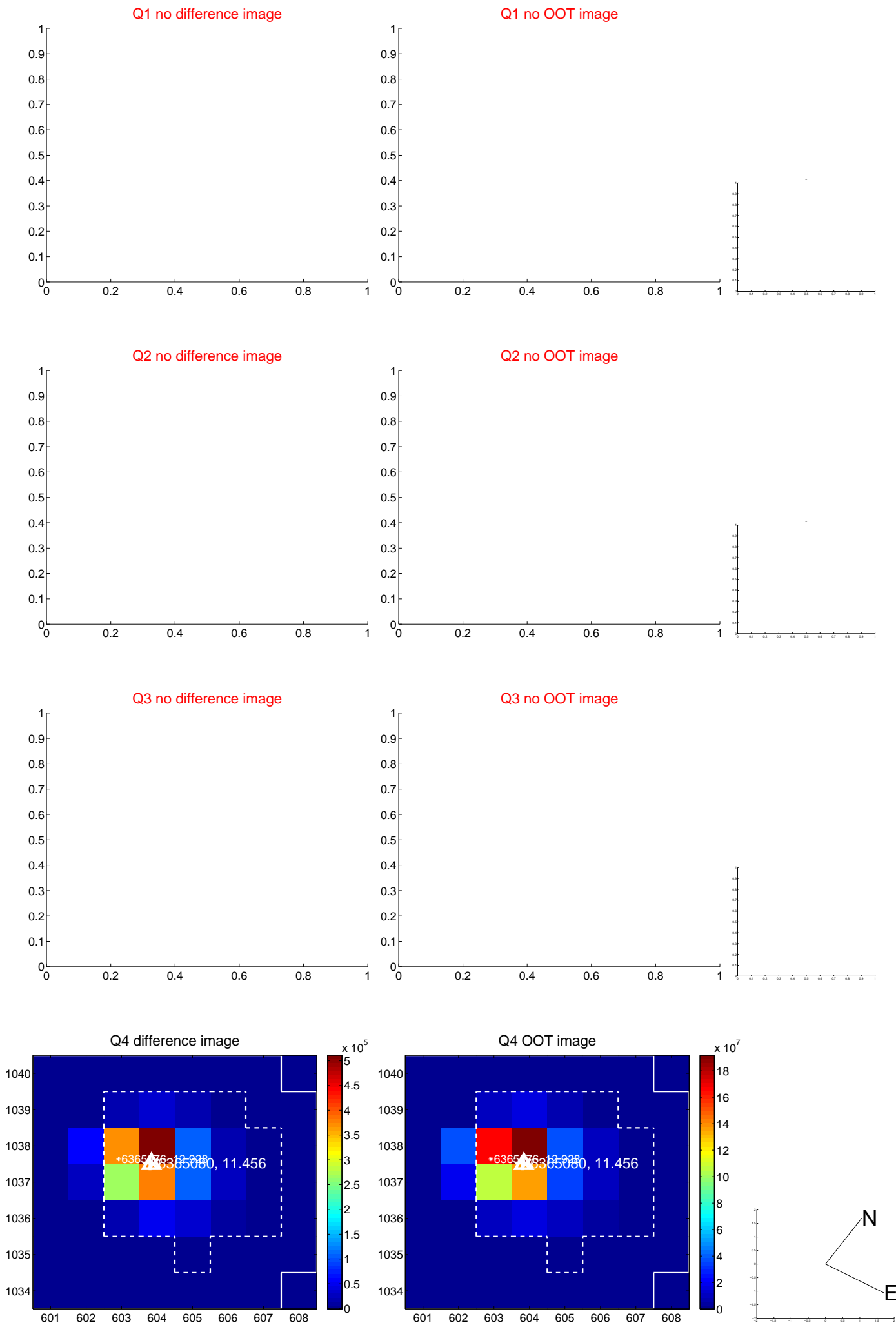
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.513 ± 0.495	1.04	0.512 ± 0.495	-0.021 ± 0.289
PRF-fit source offset from KIC position	0.195 ± 0.781	0.25	0.133 ± 0.446	-0.143 ± 0.662
photometric centroid source offset	5.98 ± 2.98	2.01	-5.40 ± 3.19	-2.57 ± 1.73



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

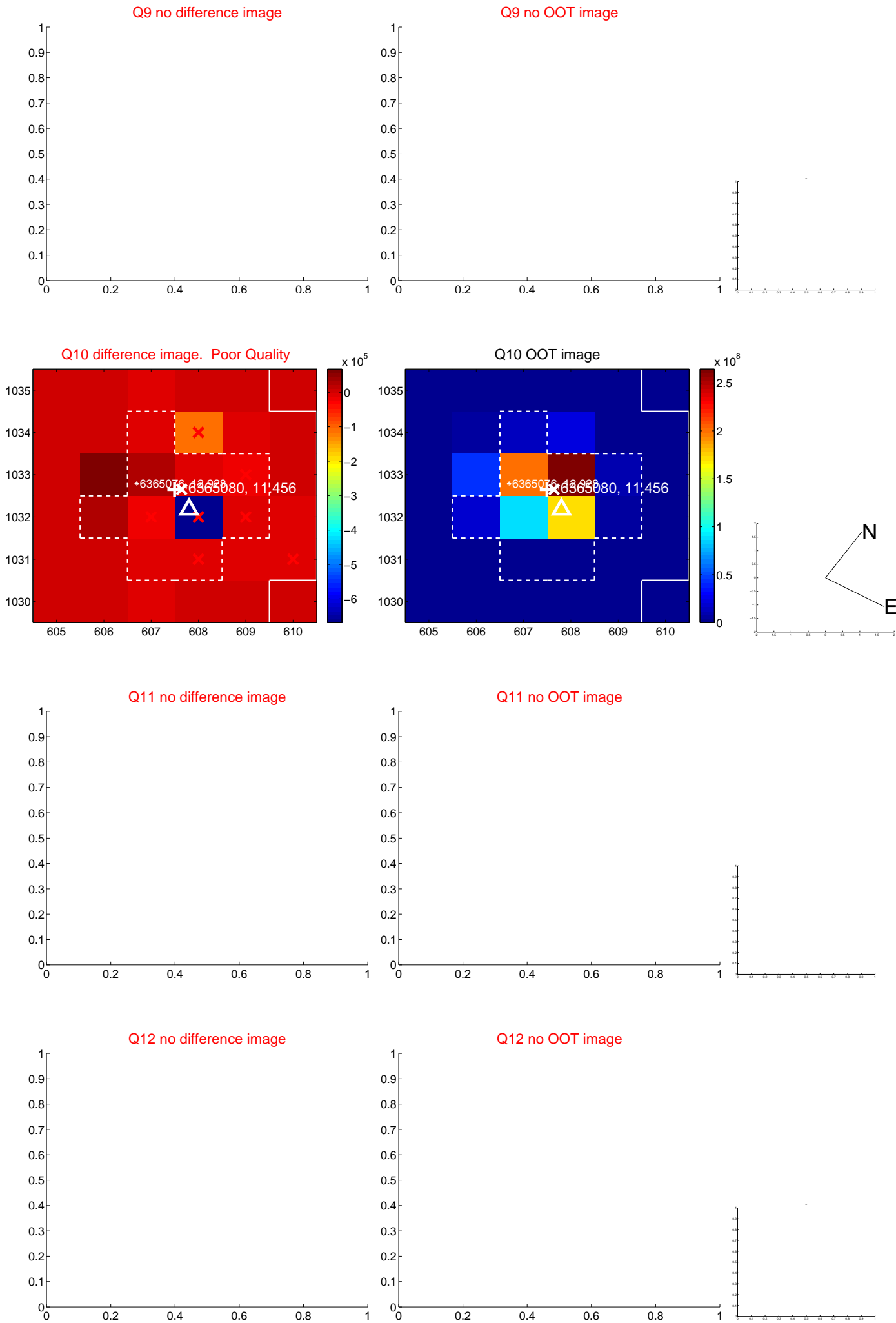
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



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

Q13 no difference image



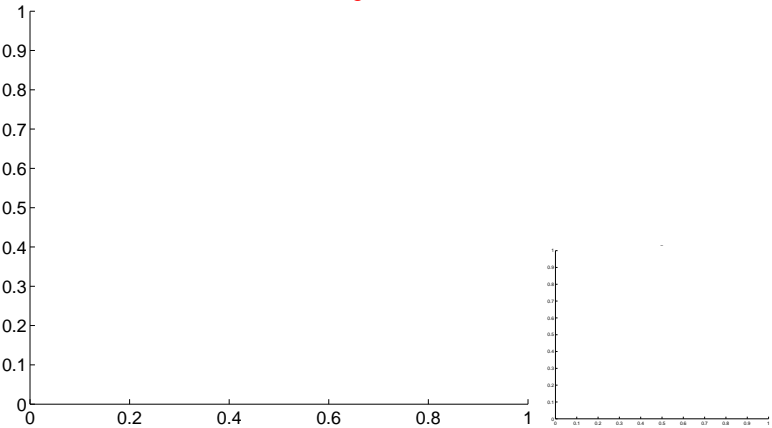
Q13 no OOT image



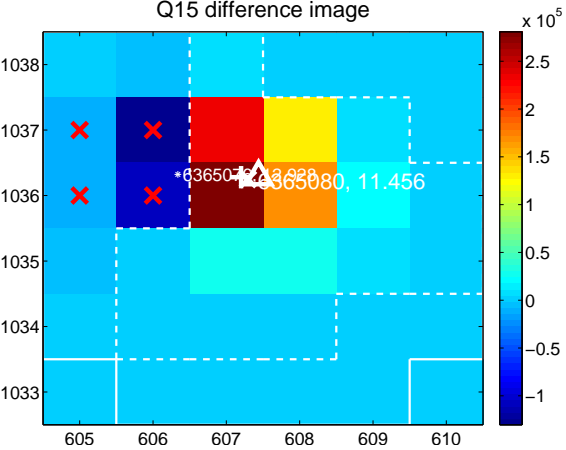
Q14 no difference image



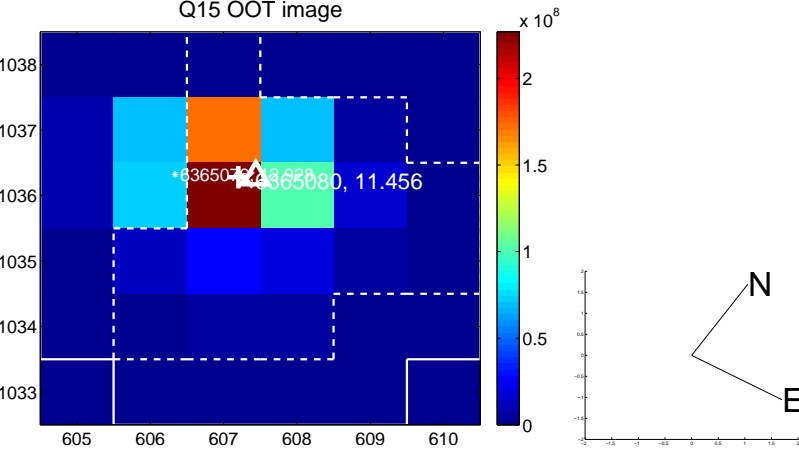
Q14 no OOT image



Q15 difference image



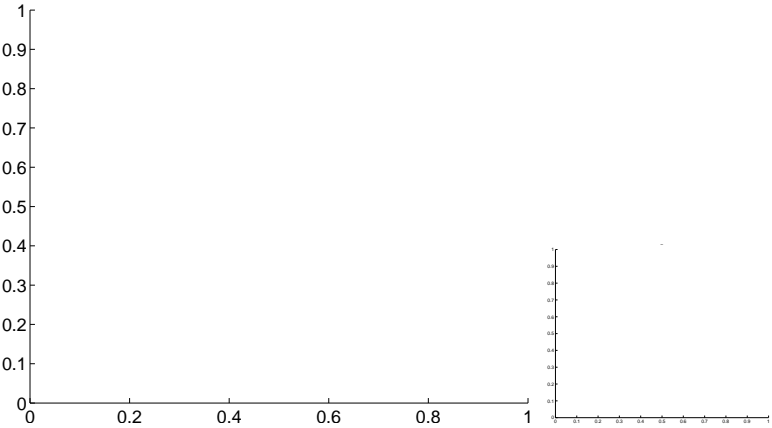
Q15 OOT image



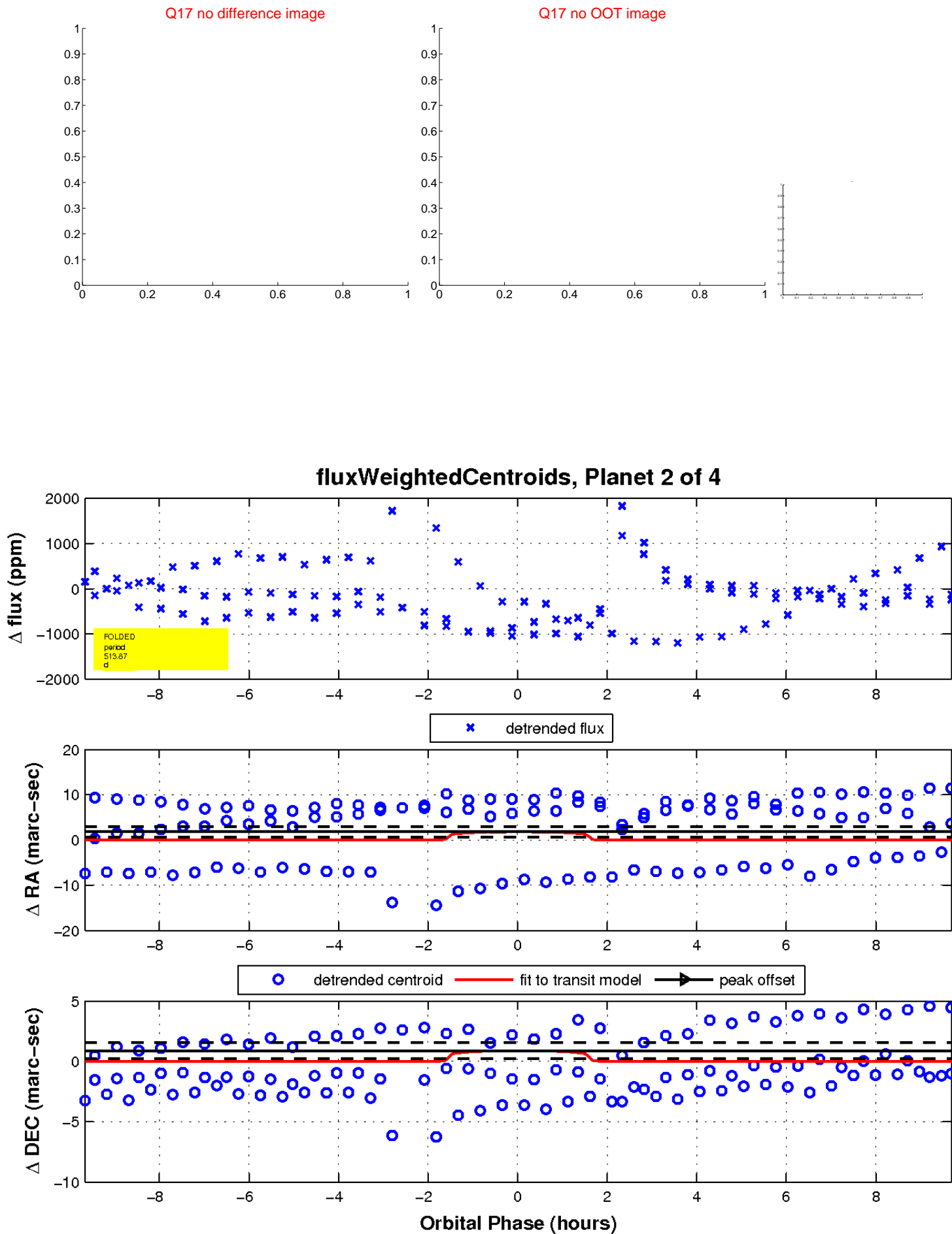
Q16 no difference image



Q16 no OOT image

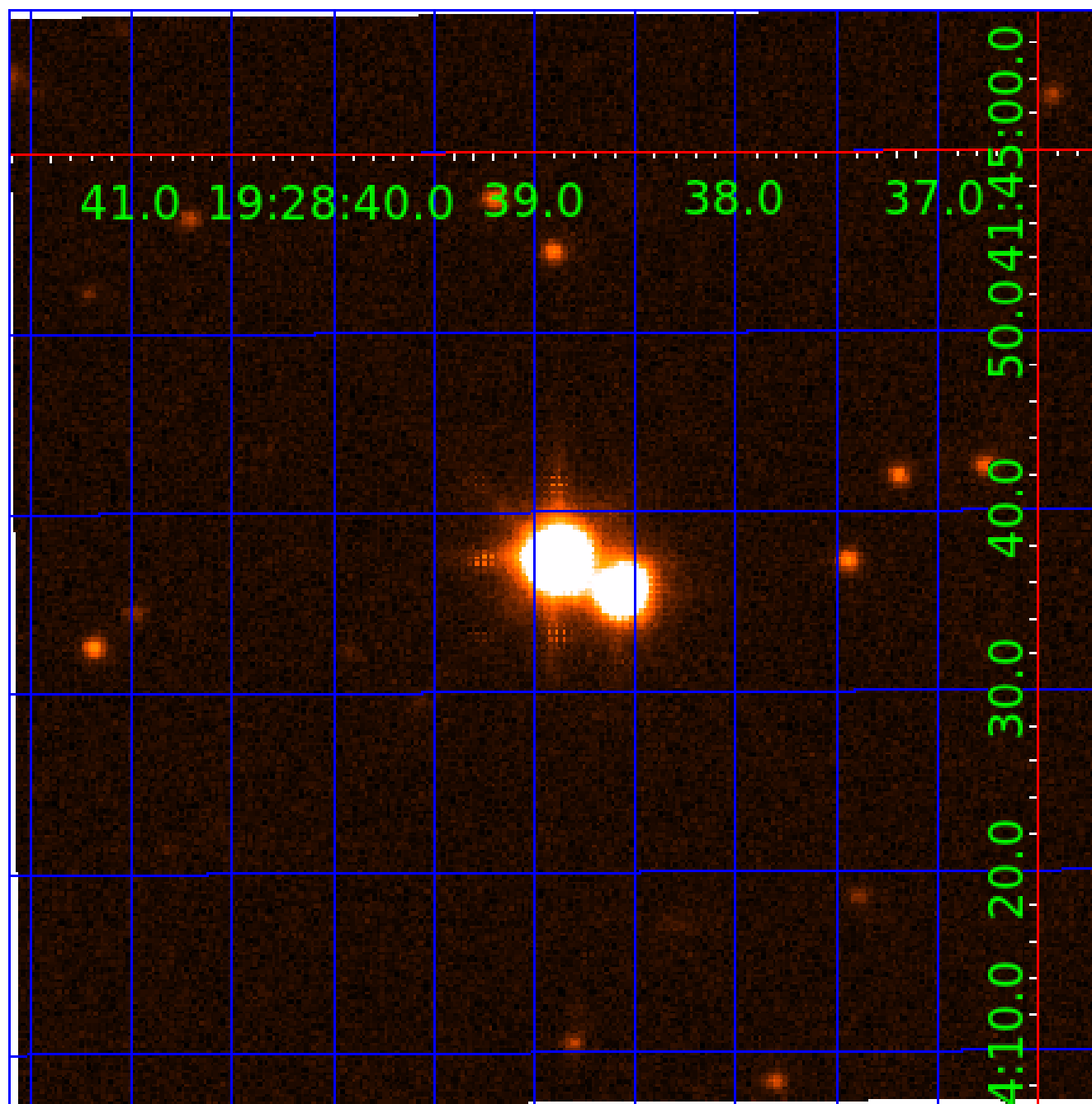


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006365080

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})
006365080-01	OBS	No	452.728596	527.365814	358.2	3.924	18.2	2.5	1.25	6202	2.42	1.56
006365080-02	OBS	No	513.868880	438.142586	376.6	3.248	15.8	3.4	1.25	6202	2.50	1.32
006365080-03	OBS	No	460.937368	470.426006	385.3	5.286	14.9	3.3	1.25	6202	2.68	1.53
006365080-04	OBS	No	321.740737	403.624712	226.5	3.500	14.6	-1.0	1.25	6202	1.89	2.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006365080-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006365080-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006365080-03	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—MOD_POS_ALT—CENT_SATURATED
006365080-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED

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

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

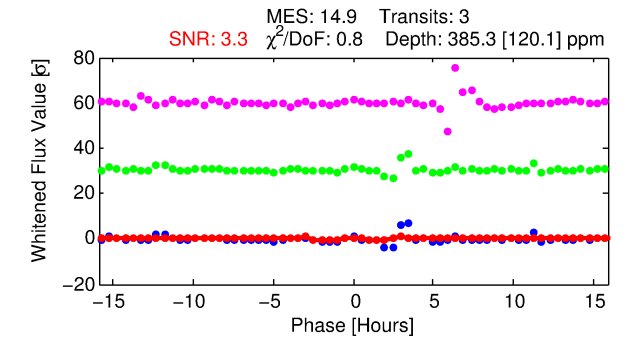
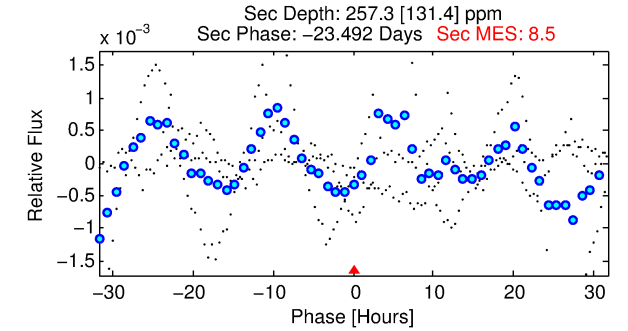
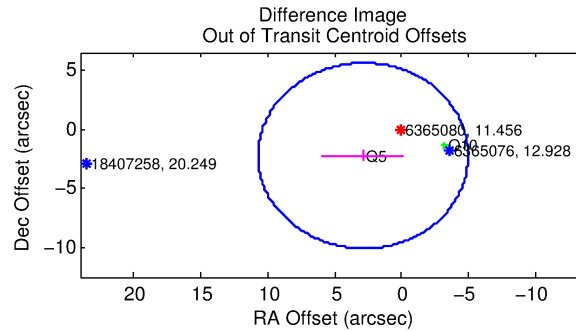
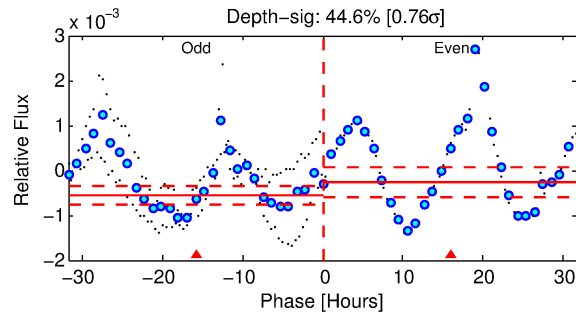
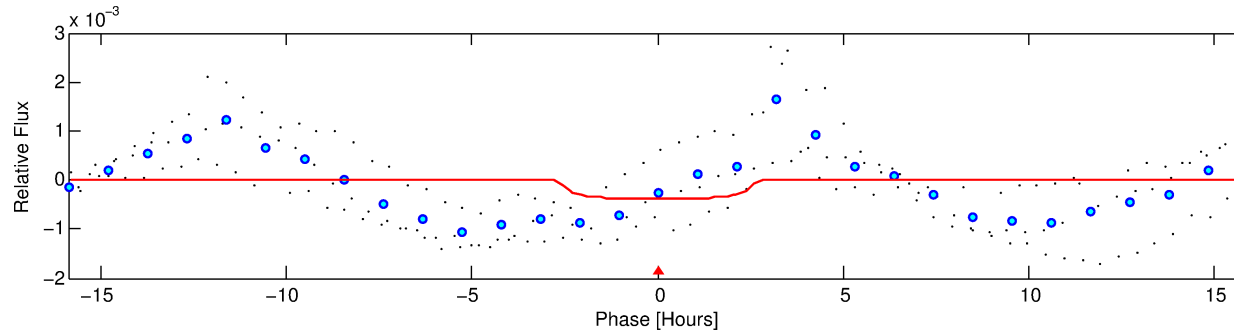
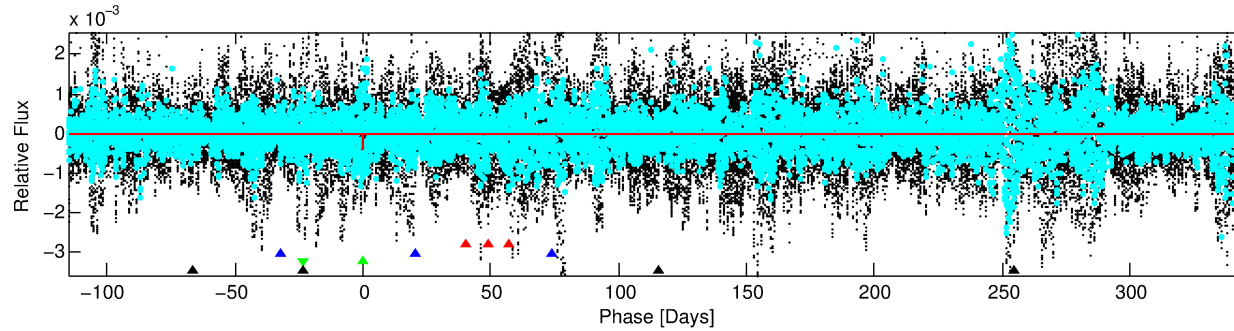
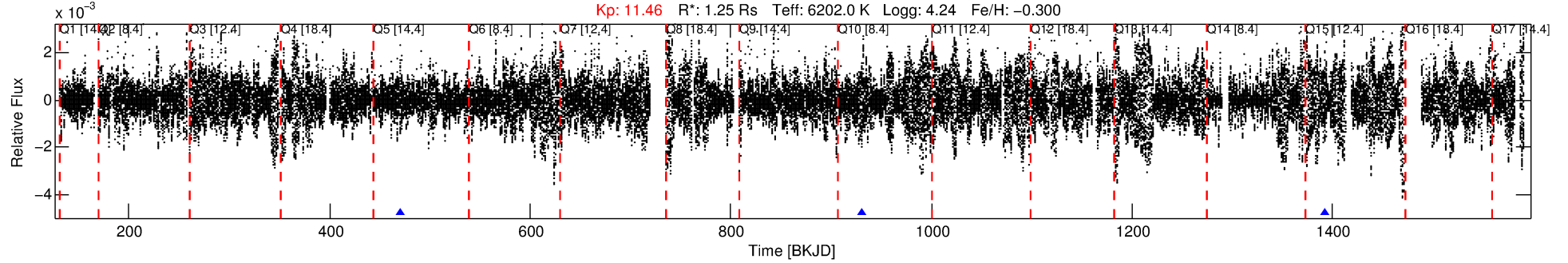
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006365080-03

No Significant Match Found

DV One-Page Summary

KIC: 6365080 Candidate: 3 of 4 Period: 460.937 d



DV Fit Results:

Period = 460.93737 [0.00672] d
Epoch = 470.4260 [0.0074] BKJD
Rp/R* = 0.0196 [0.0117]
a/R* = 456.04 [1302.12]
b = 0.76 [1.63]
Seff = 1.53 [0.57]
Teq = 283 [26] K
Rp = 2.68 [1.78] Re
a = 1.1686 [0.2827] AU
Ag = 26976.45 [36397.50] [0.74 σ]
Teffp = 5616 [1838] K [2.90 σ]

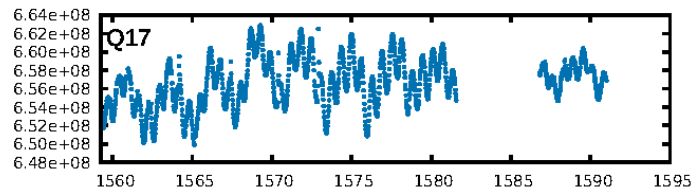
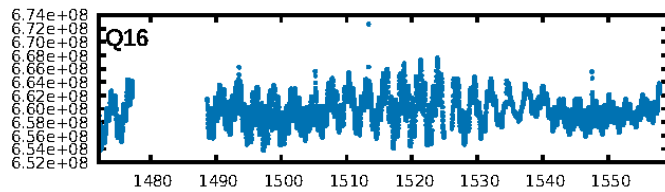
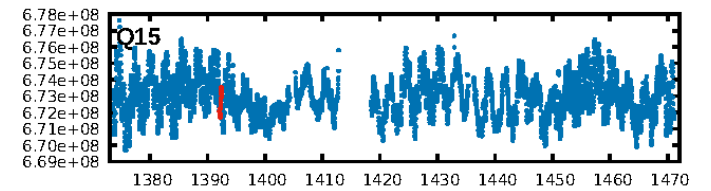
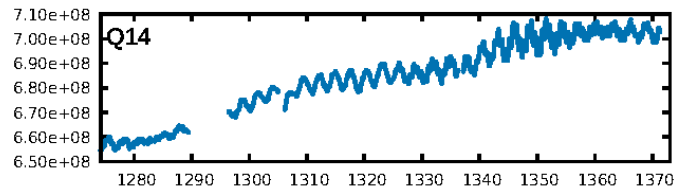
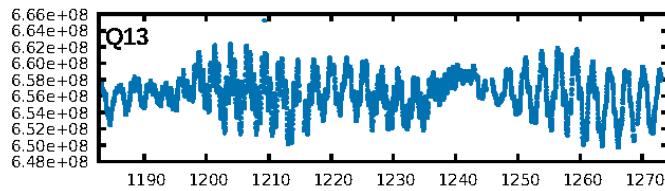
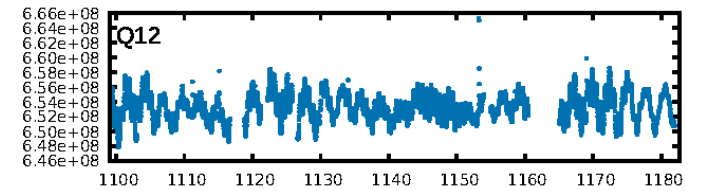
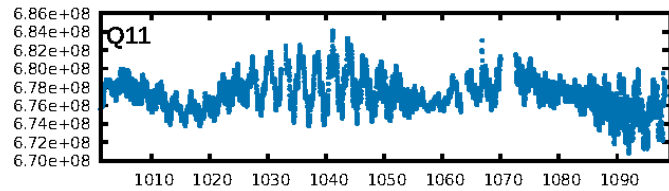
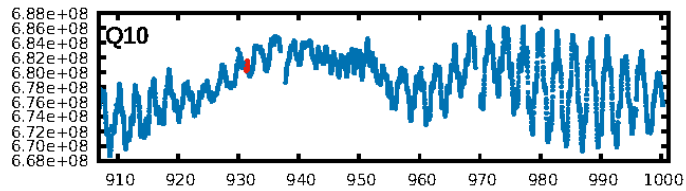
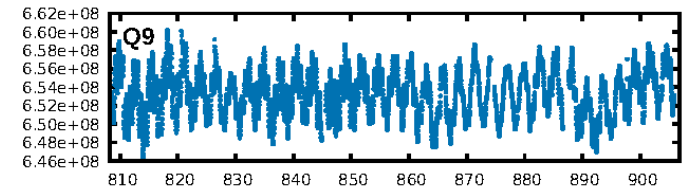
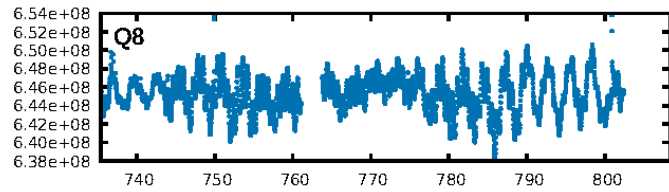
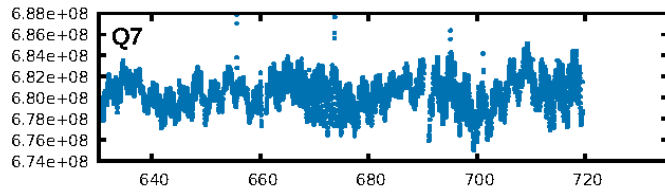
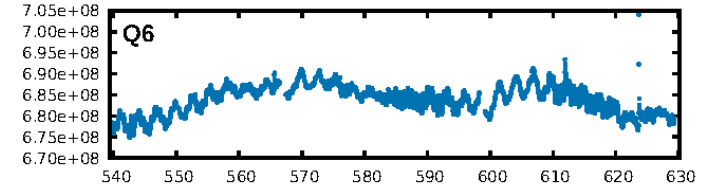
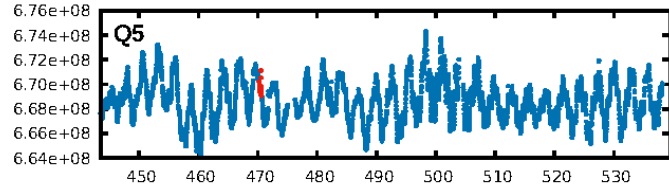
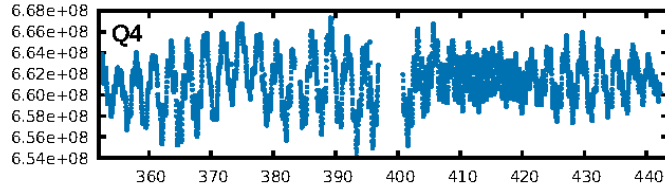
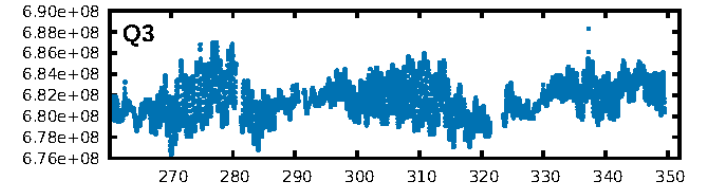
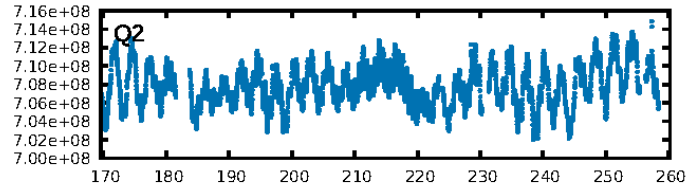
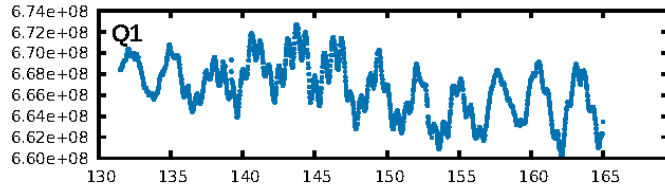
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.92 σ]
LongPeriod-sig: 100.0% [204.74 σ]
ModelChiSquare2-sig: 12.9%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.806
Centroid-sig: 56.4%
Centroid-so: 3.065 arcsec [1.01 σ]
OotOffset-rm: 3.637 arcsec [1.39 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 3.318 arcsec [1.66 σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

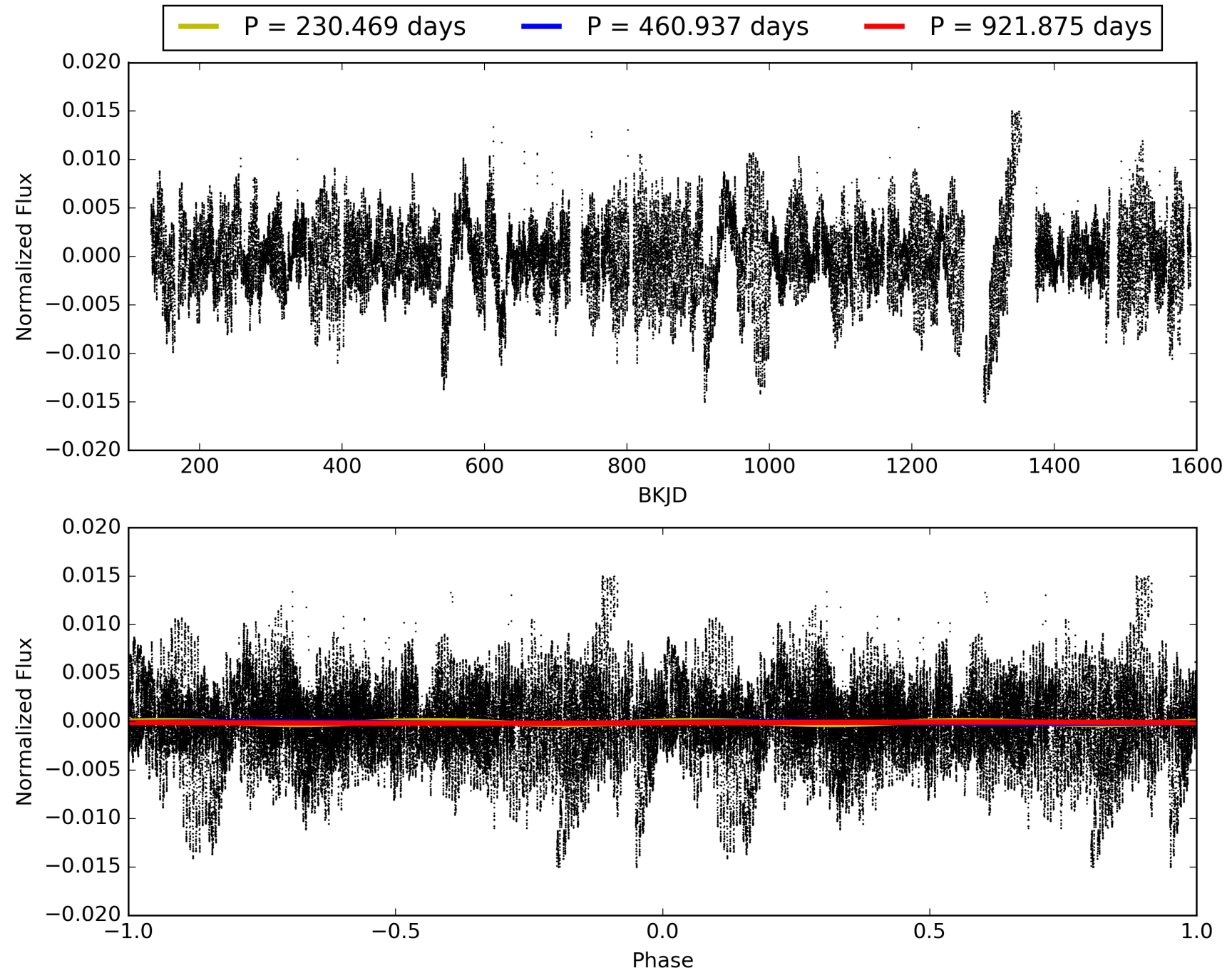
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:54:42 Z

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

TCE 006365080-03, PDC Light Curves

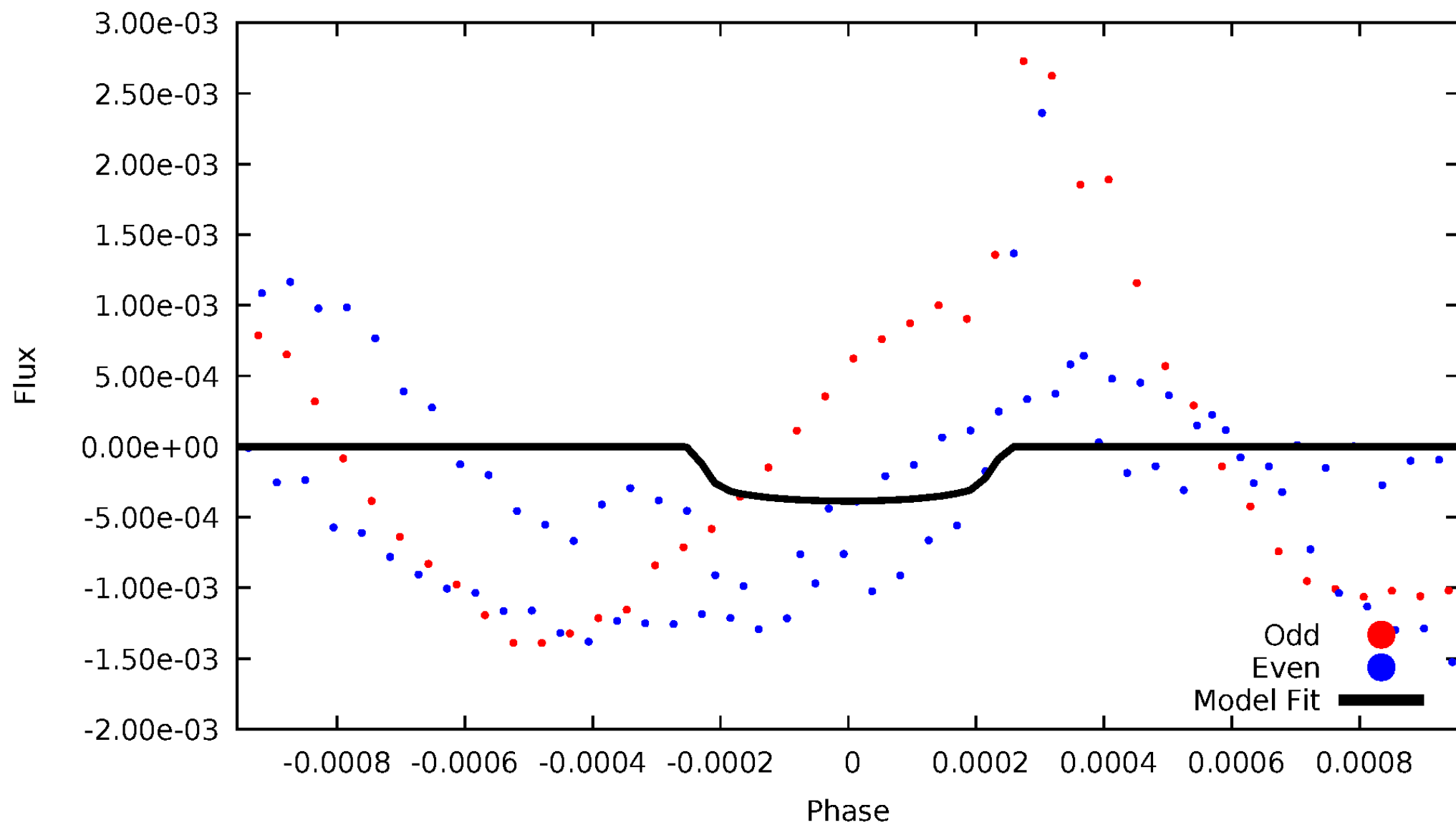


TCE 006365080-03



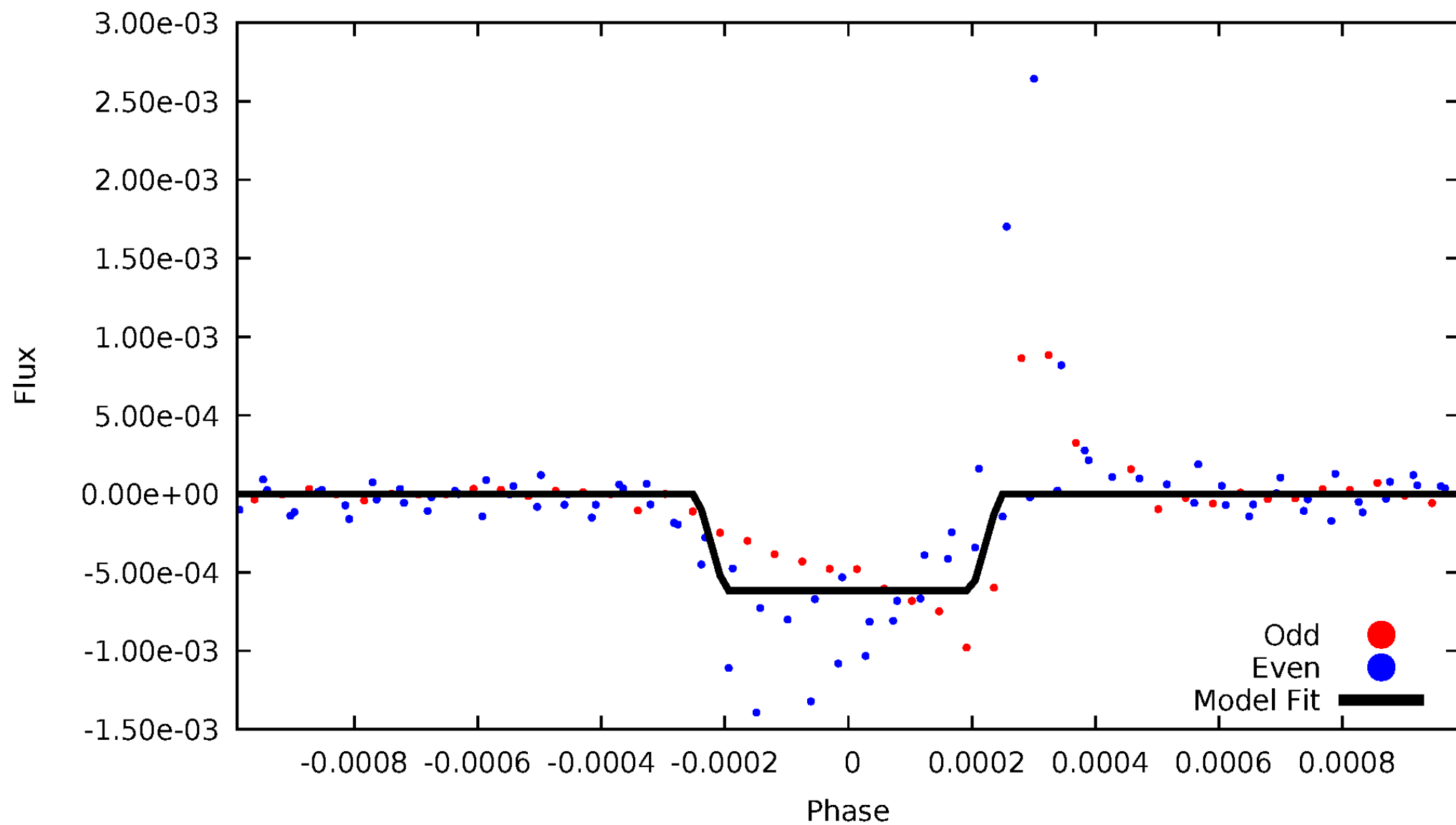
DV Odd/Even

TCE 006365080-03



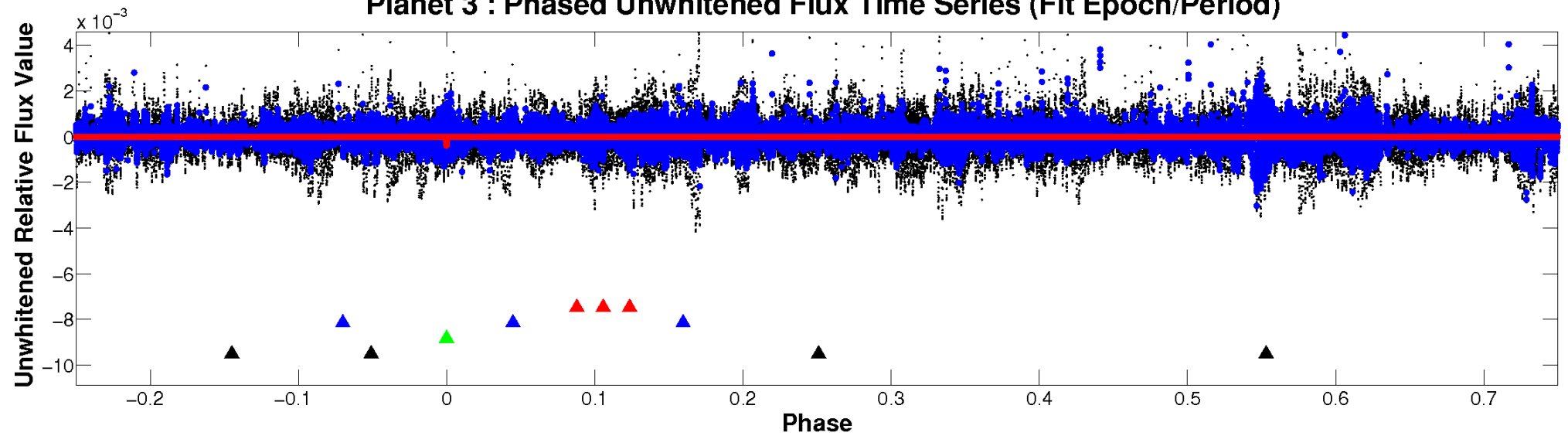
ALT Odd/Even

TCE 006365080-03

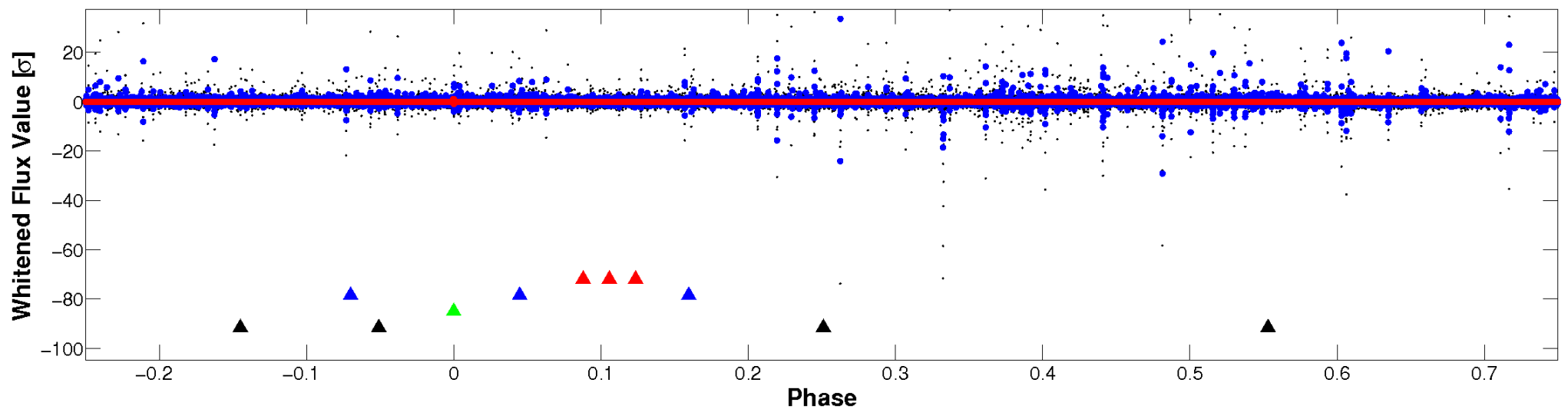


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

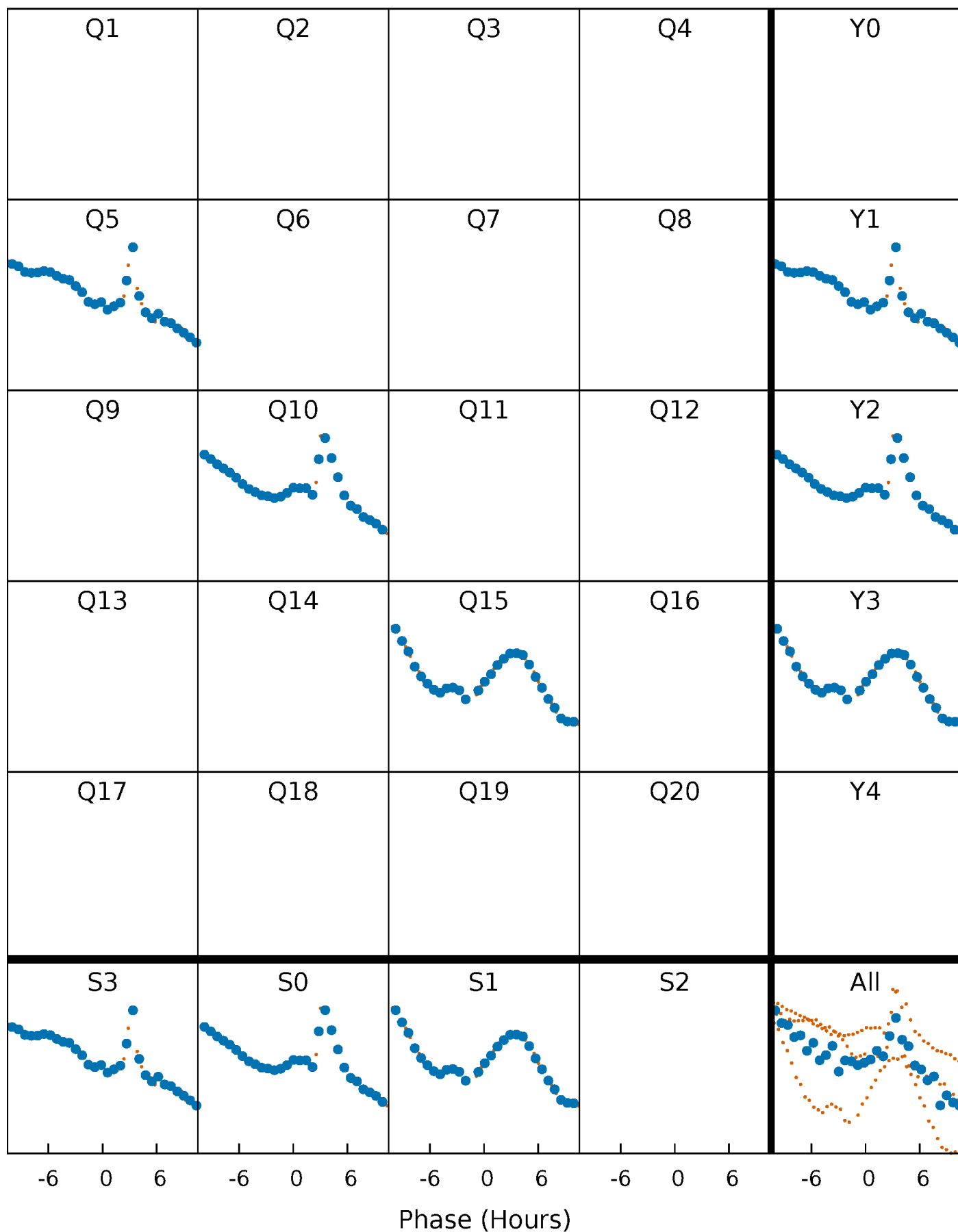


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



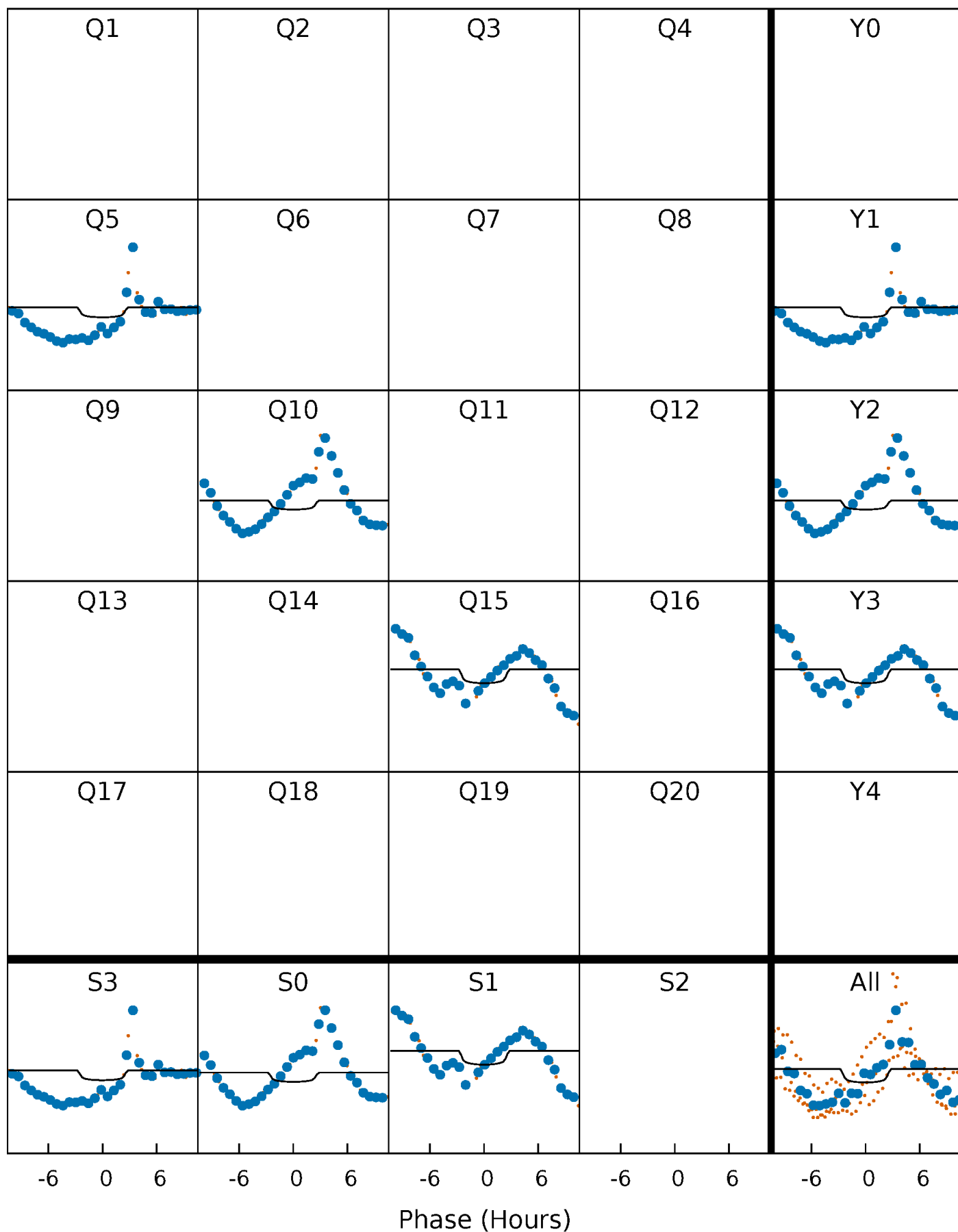
PDC Quarter-Phased Transit Curves

TCE 006365080-03 $P=460.937368$ Days $T_0=470.426007$ (BKJD)



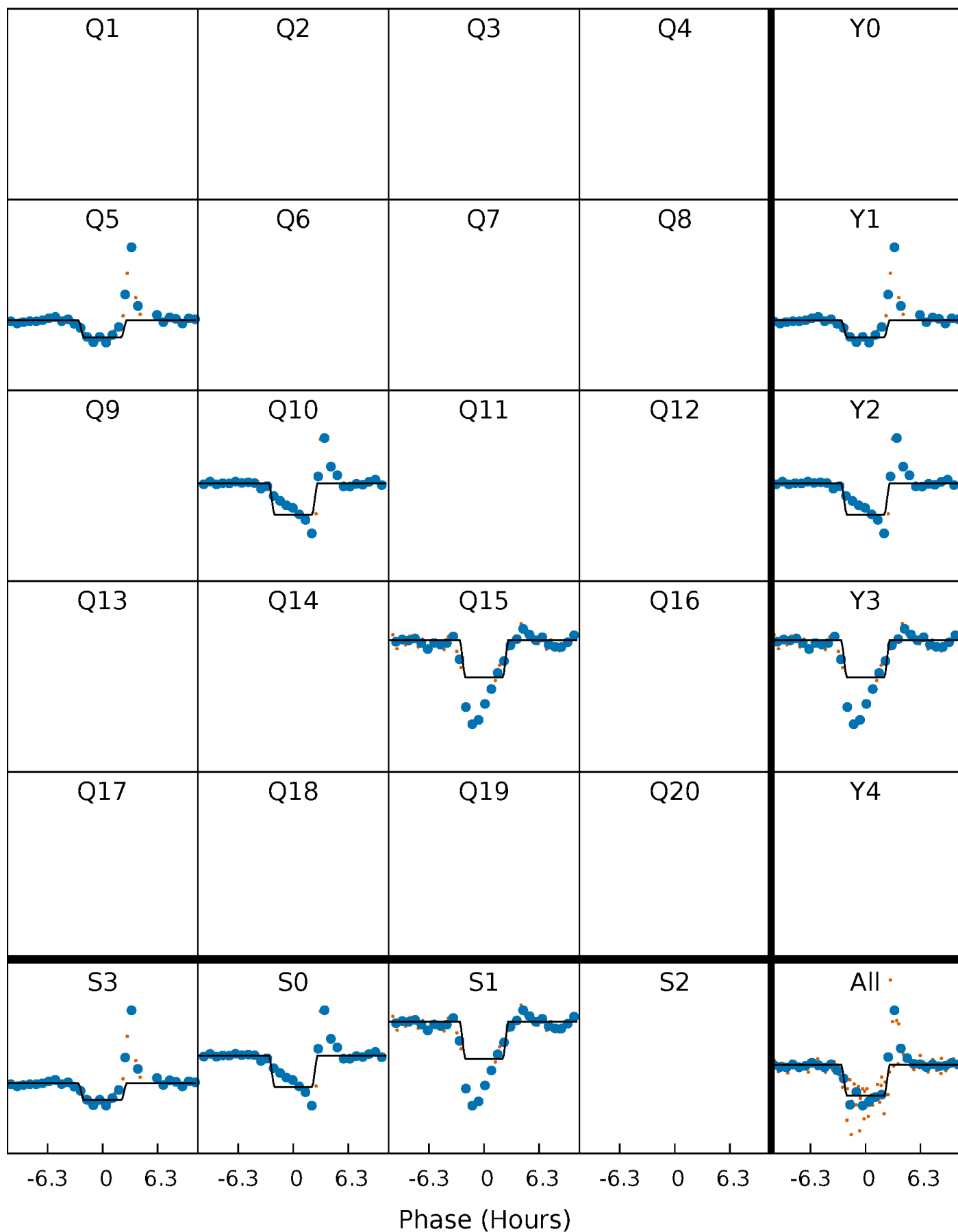
DV Quarter-Phased Transit Curves

TCE 006365080-03 $P=460.937368$ Days $T_0=470.426007$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

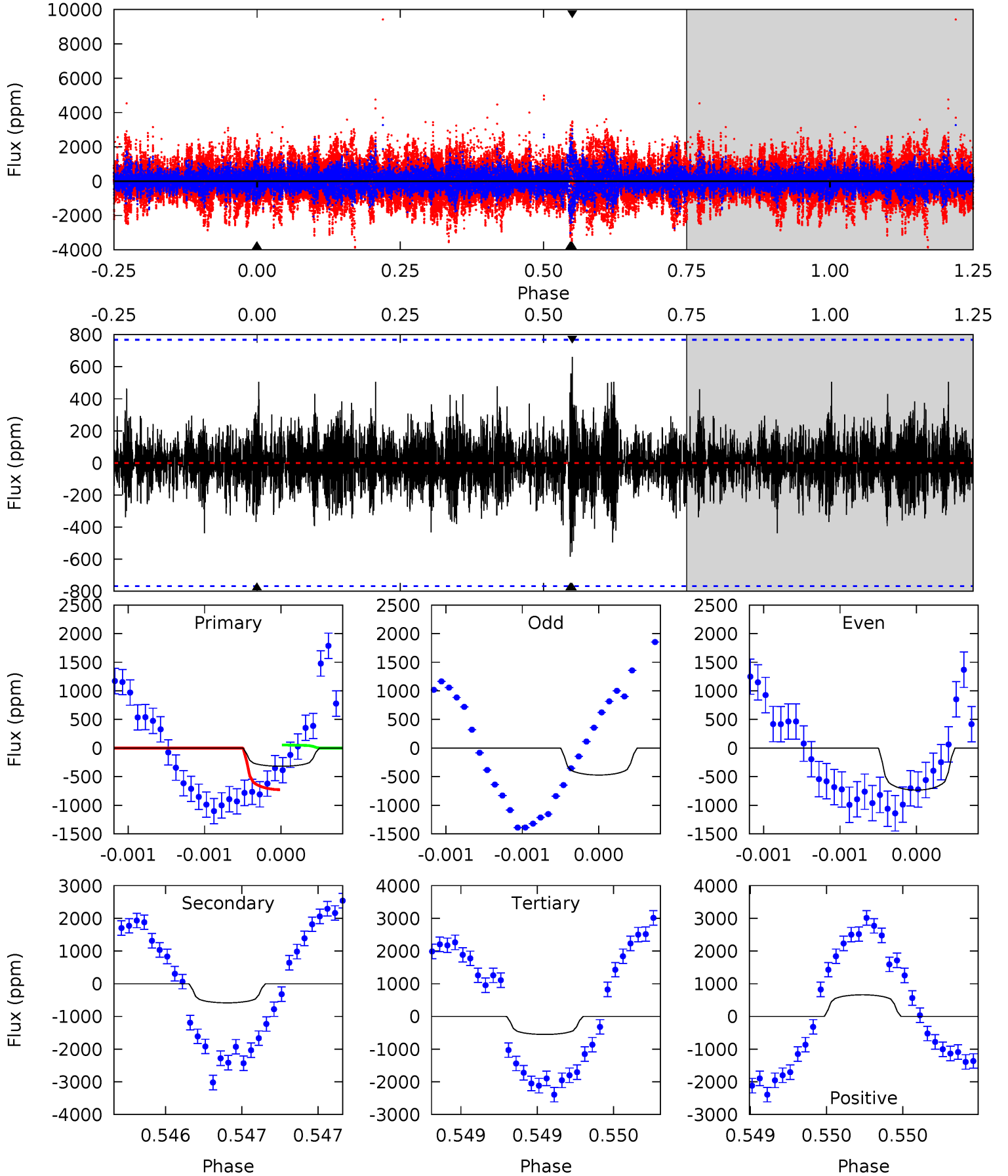
TCE 006365080-03 $P=460.933435$ Days $T_0=470.427202$ (BKJD)



DV Model-Shift Uniqueness Test

006365080-03, P = 460.937368 Days, E = 9.488639 Days

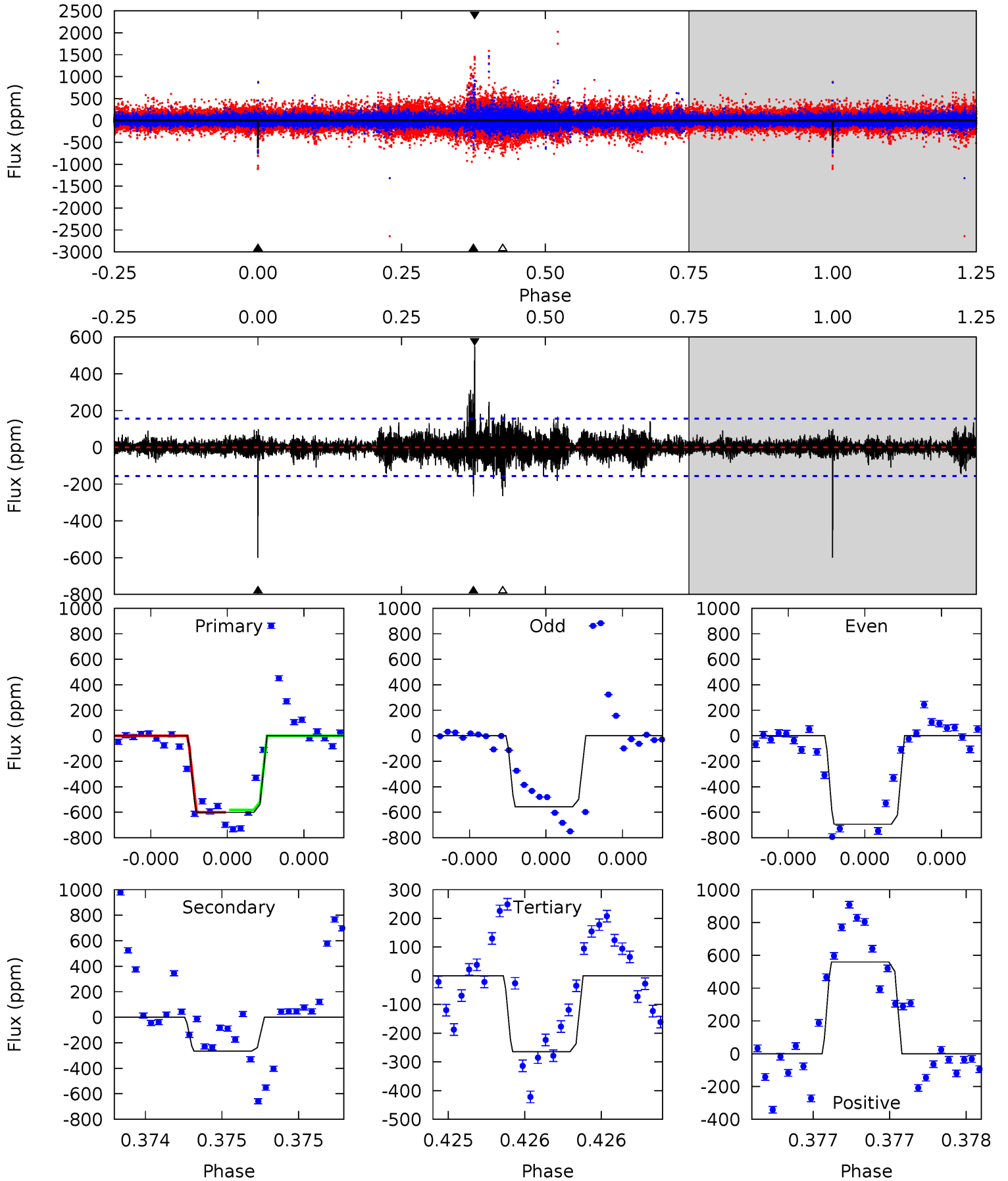
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.31	4.24	4.00	4.79	5.57	3.47	0.94	-1.69	-2.48	0.24	-0.55	0.90	0.77	0.53	2.45



Alt Model-Shift Uniqueness Test

006365080-03, P = 460.933435 Days, E = 9.493767 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	9.50	9.44	20.0	5.58	3.49	1.49	12.0	1.48	0.06	-10.5	1.94	1.22	0.48	0.34



Stellar Parameters For KIC 006365080

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6202^{+156}_{-188}	$4.242^{+0.190}_{-0.190}$	$-0.300^{+0.300}_{-0.300}$	$1.254^{+0.363}_{-0.297}$	$1.002^{+0.158}_{-0.115}$	$0.715^{+0.727}_{-0.360}$
	+3%/-3%	+4%/-4%	+100%/-100%	+29%/-24%	+16%/-11%	+102%/-50%
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 006365080-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-585 ± 138	$2.73^{+1.65}_{-1.46}$	395^{+32}_{-28}	6682^{+4540}_{-1302}	$57281^{+209736}_{-36447}$
Alt.	-266 ± 28	$3.44^{+1.73}_{-1.48}$	397^{+30}_{-27}	5084^{+1536}_{-765}	17580^{+34918}_{-10110}

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

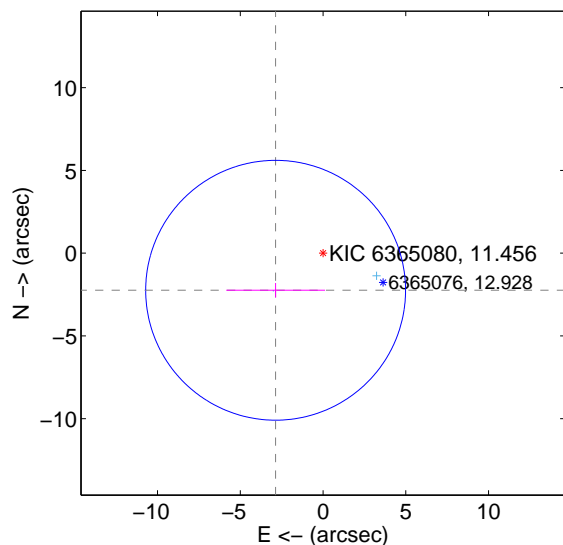
Supplemental centroid analysis for 006365080-03. **Kepler magnitude: 11.46.** Transit SNR 3.25

There are 2 quarters with good PRF difference image offsets

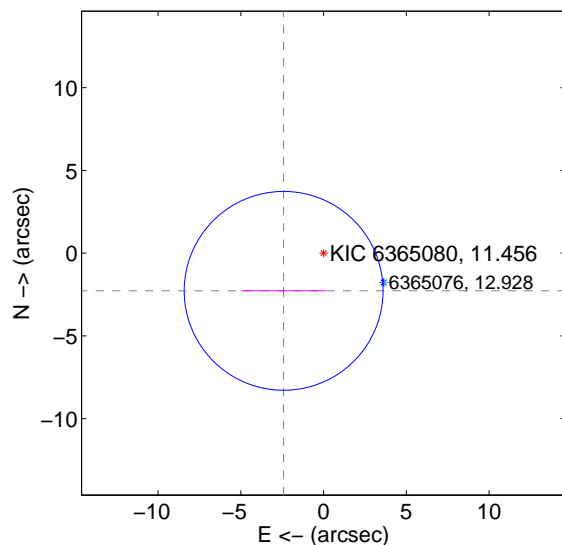
The direct PRF centroid is offset from the target star catalog position by about 0.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.637 ± 2.616	1.39	2.864 ± 2.984	-2.241 ± 0.436
PRF-fit source offset from KIC position	3.318 ± 2.002	1.66	2.414 ± 2.551	-2.276 ± 0.222
photometric centroid source offset	3.06 ± 3.04	1.01	-3.06 ± 3.04	-0.01 ± 2.13

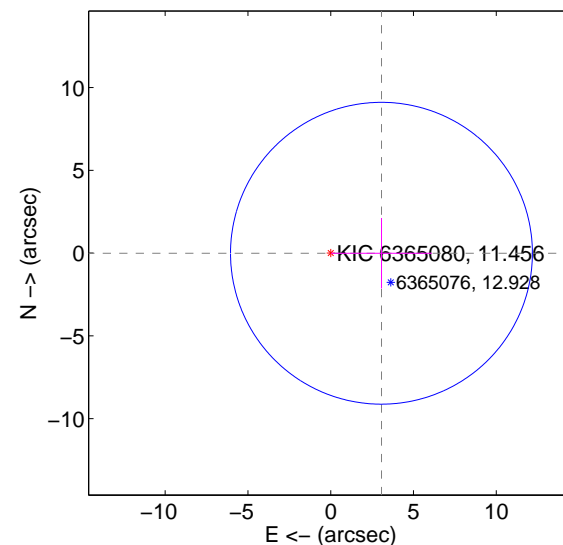
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

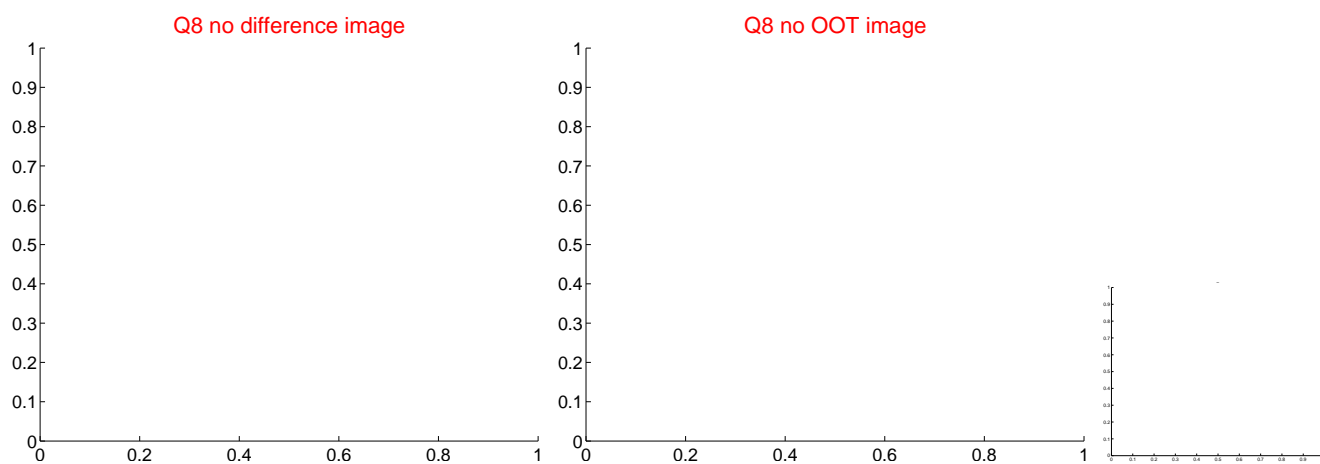
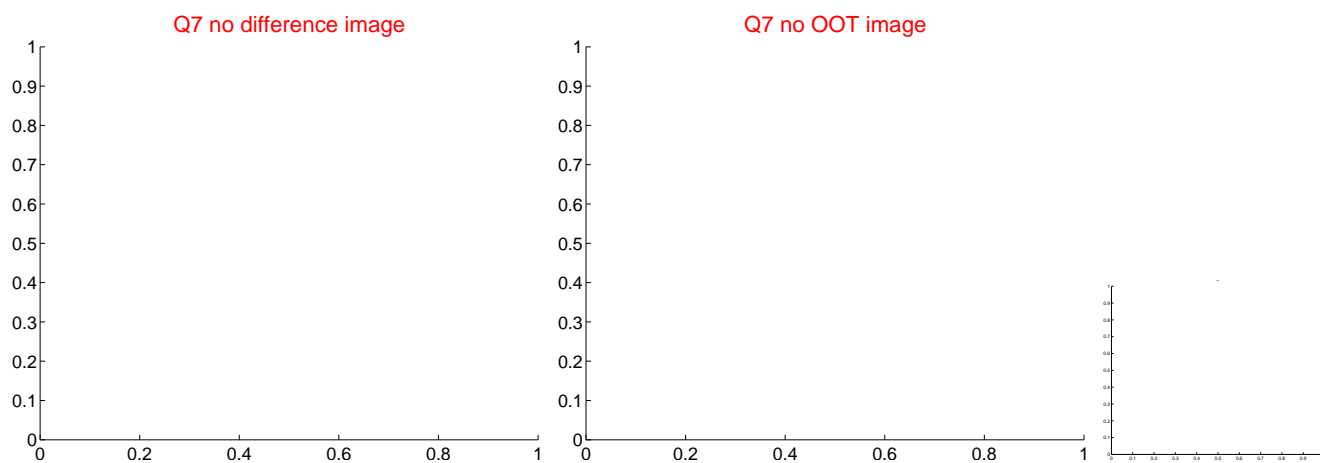
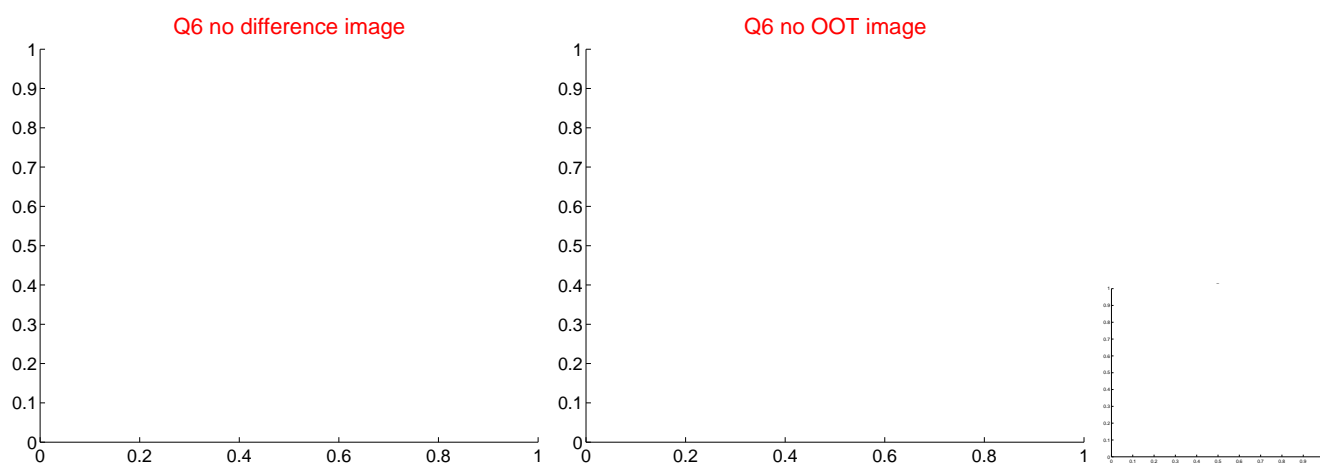
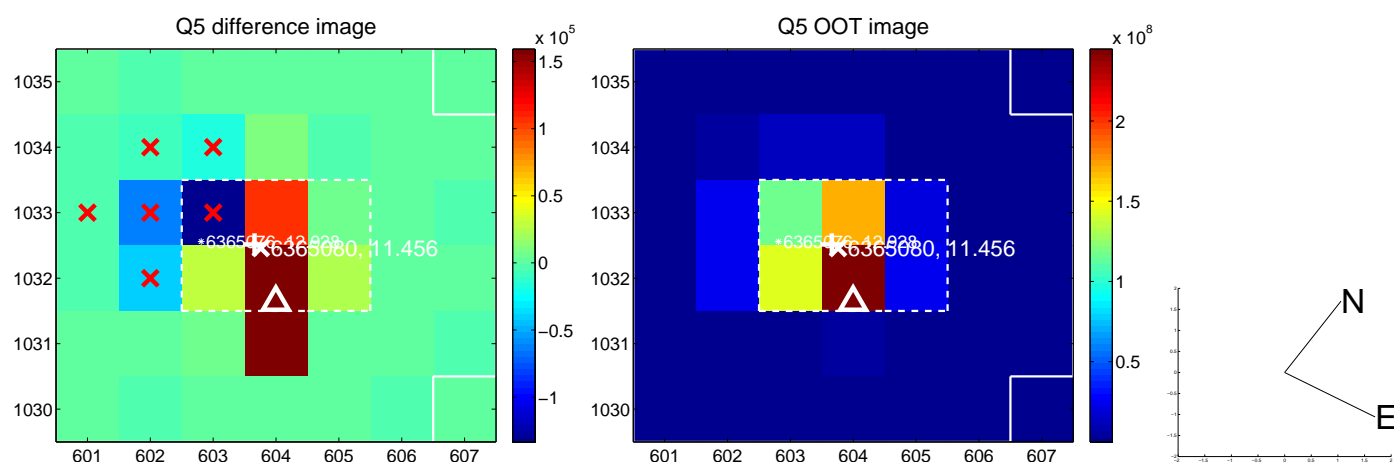


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

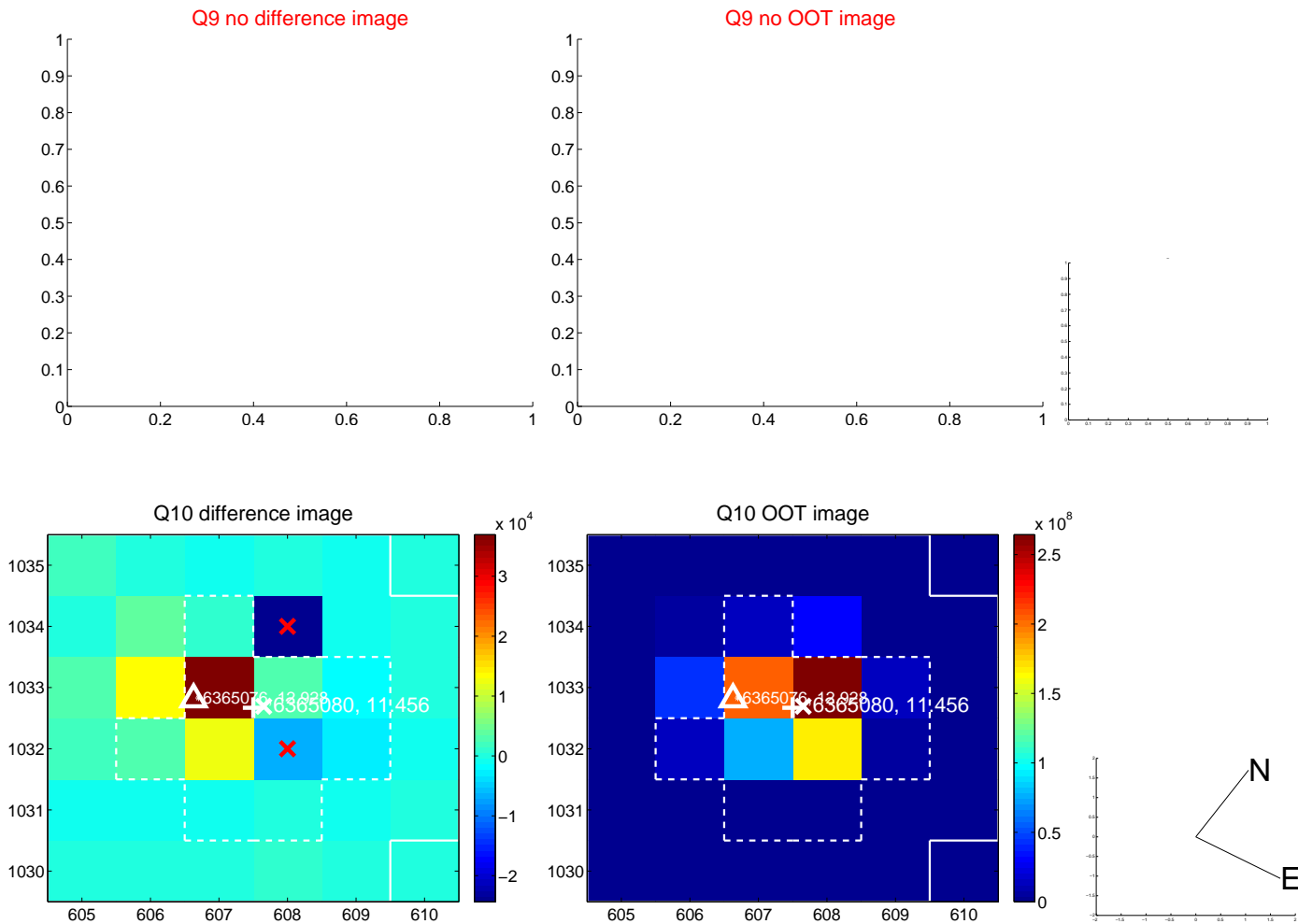
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

Q13 no difference image



Q13 no OOT image



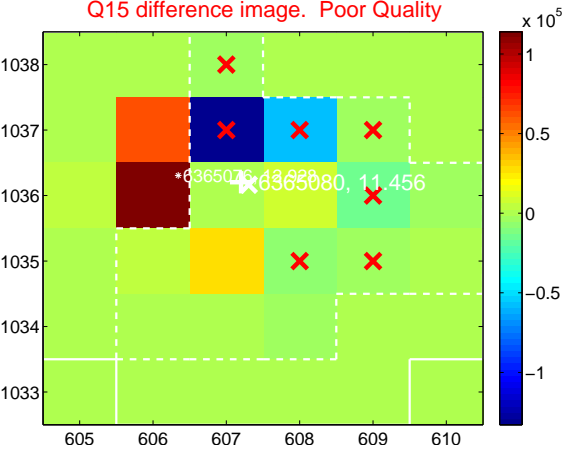
Q14 no difference image



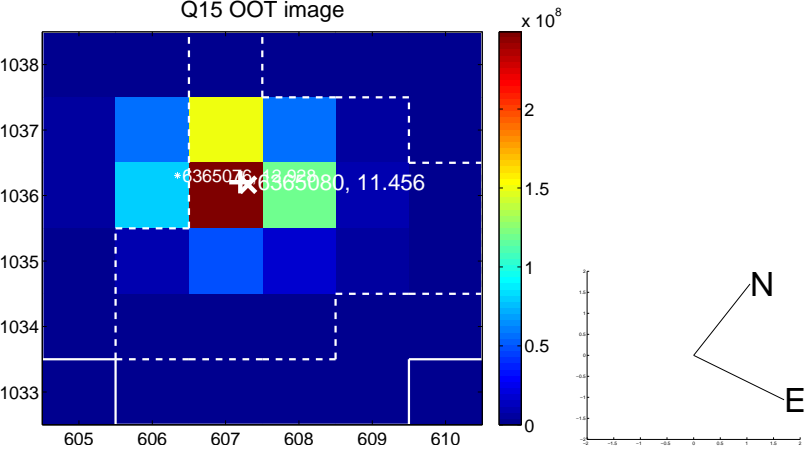
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



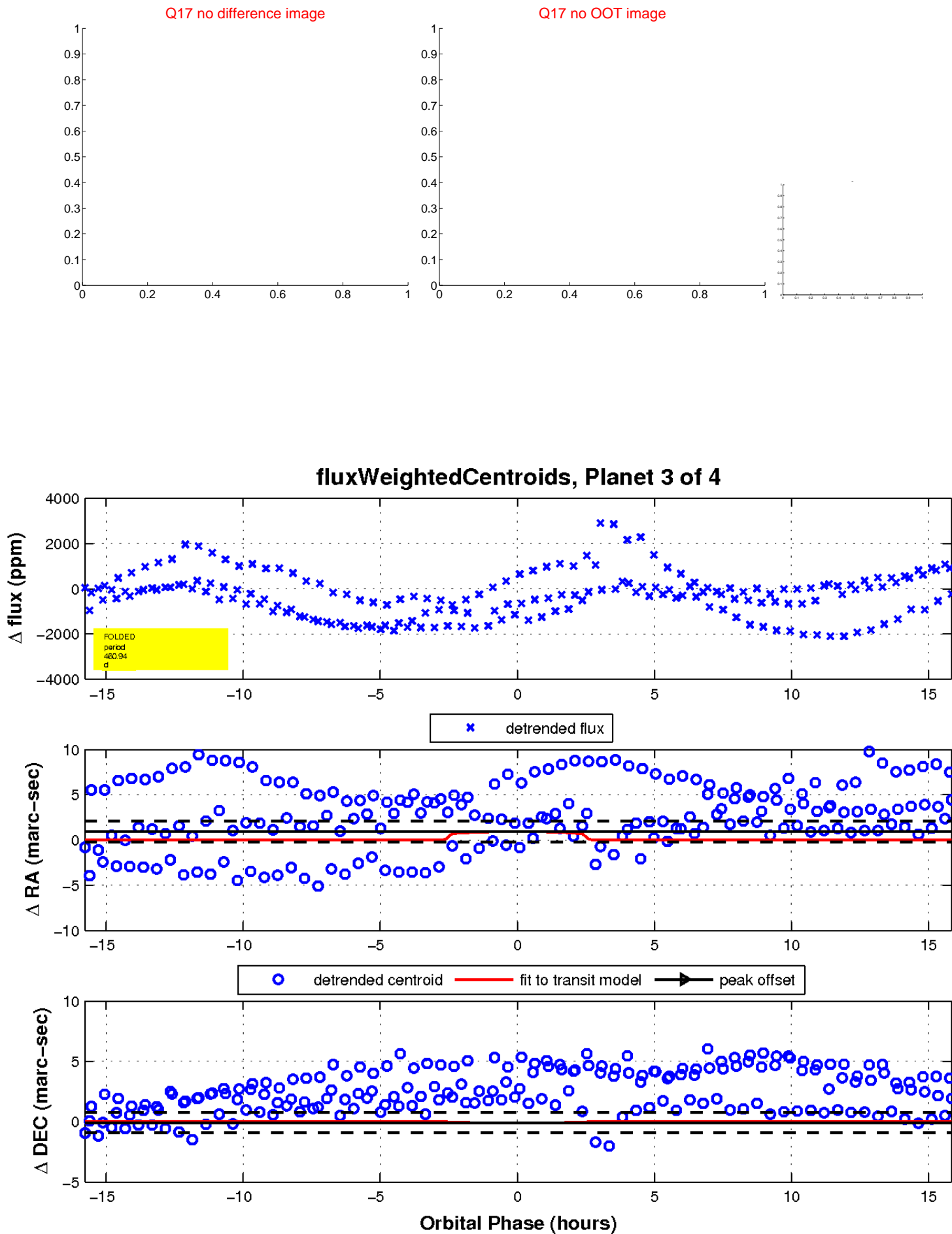
Q16 no difference image



Q16 no OOT image

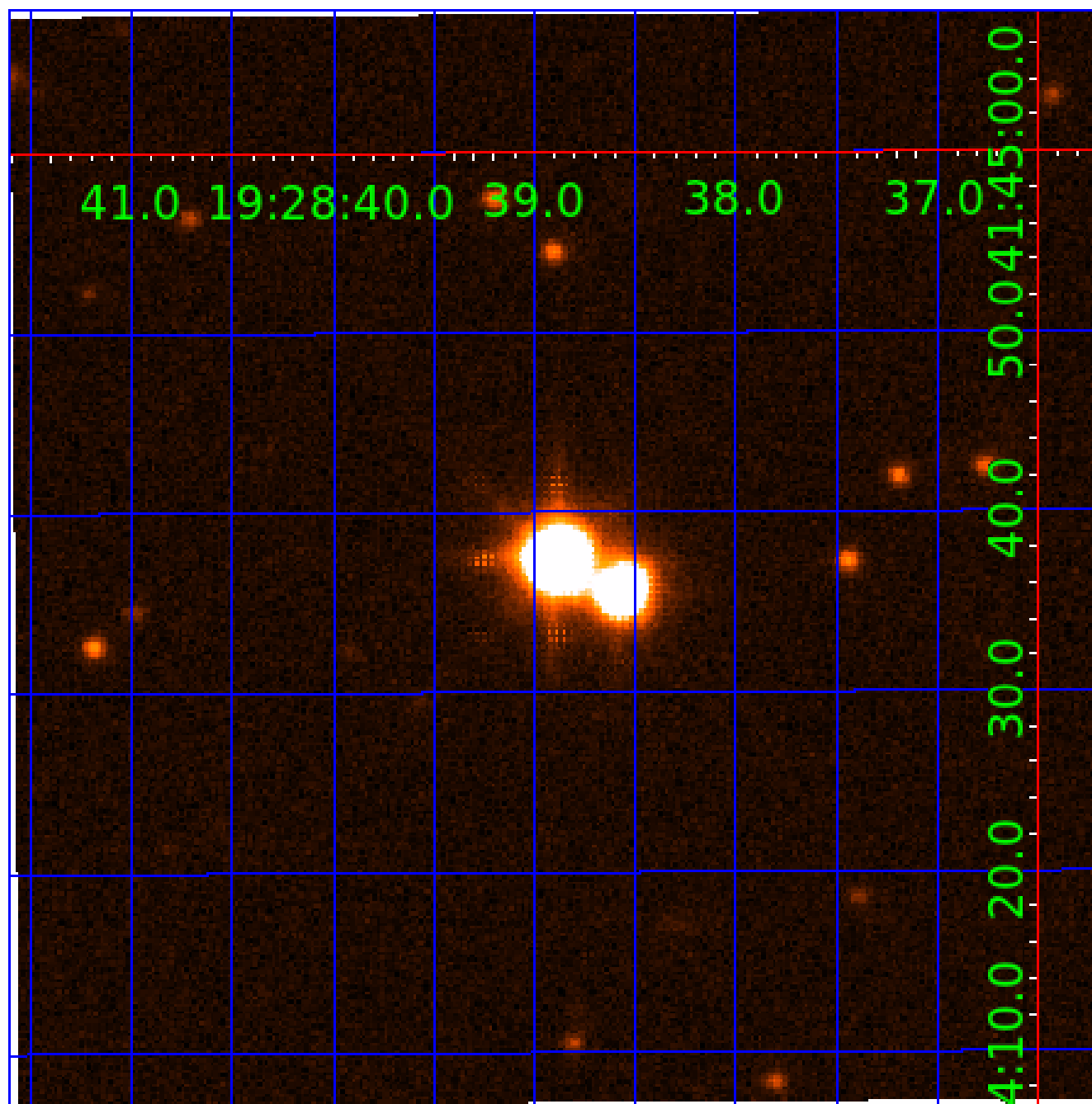


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006365080

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})
006365080-01	OBS	No	452.728596	527.365814	358.2	3.924	18.2	2.5	1.25	6202	2.42	1.56
006365080-02	OBS	No	513.868880	438.142586	376.6	3.248	15.8	3.4	1.25	6202	2.50	1.32
006365080-03	OBS	No	460.937368	470.426006	385.3	5.286	14.9	3.3	1.25	6202	2.68	1.53
006365080-04	OBS	No	321.740737	403.624712	226.5	3.500	14.6	-1.0	1.25	6202	1.89	2.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006365080-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006365080-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006365080-03	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—MOD_POS_ALT—CENT_SATURATED
006365080-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED

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

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

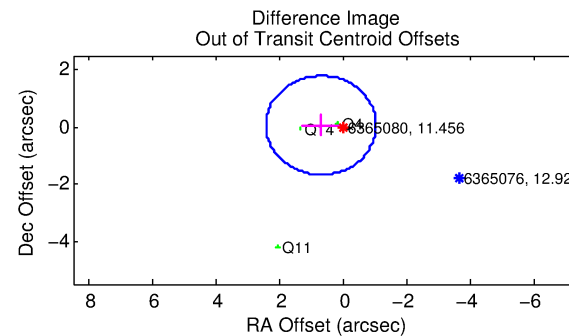
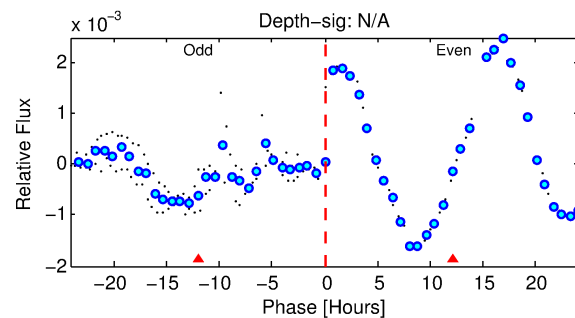
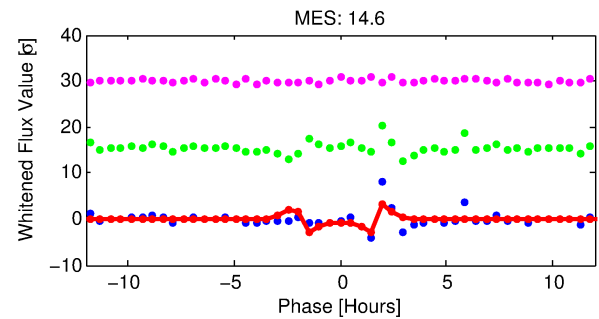
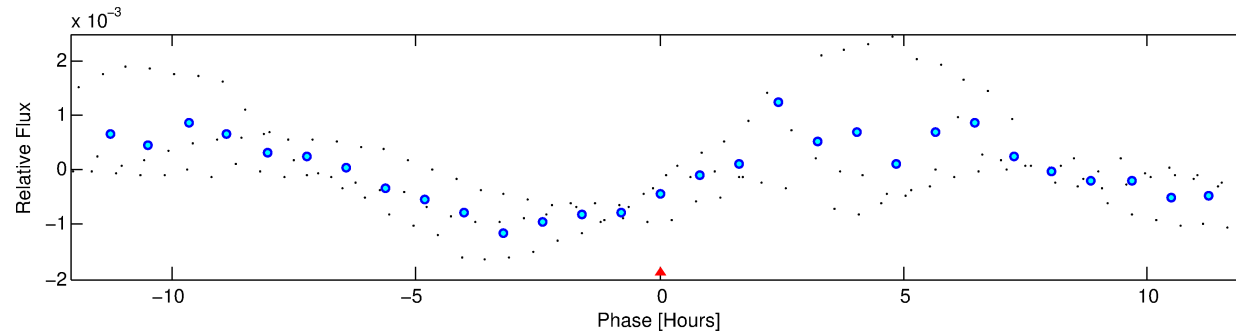
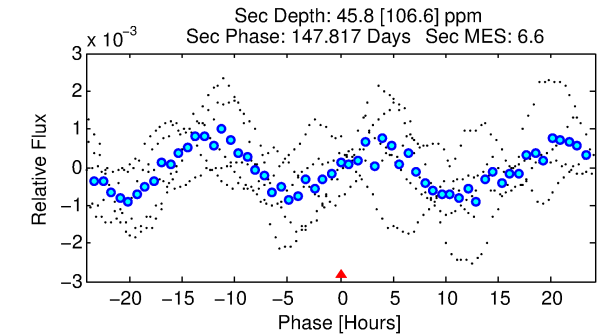
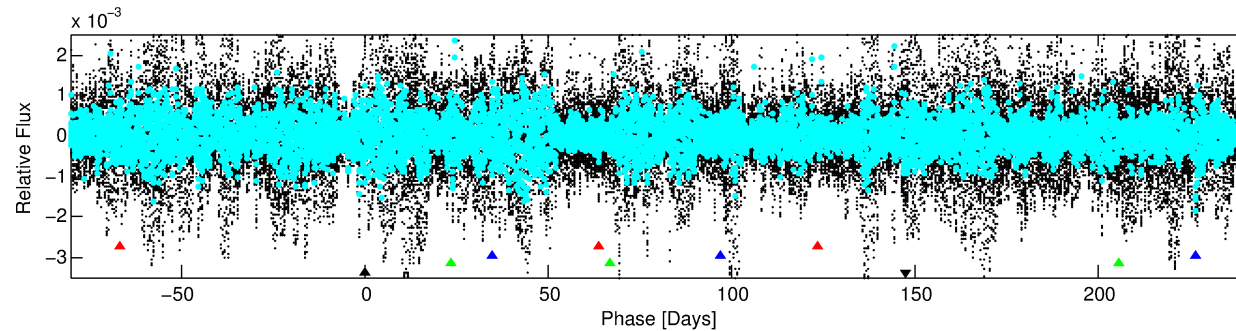
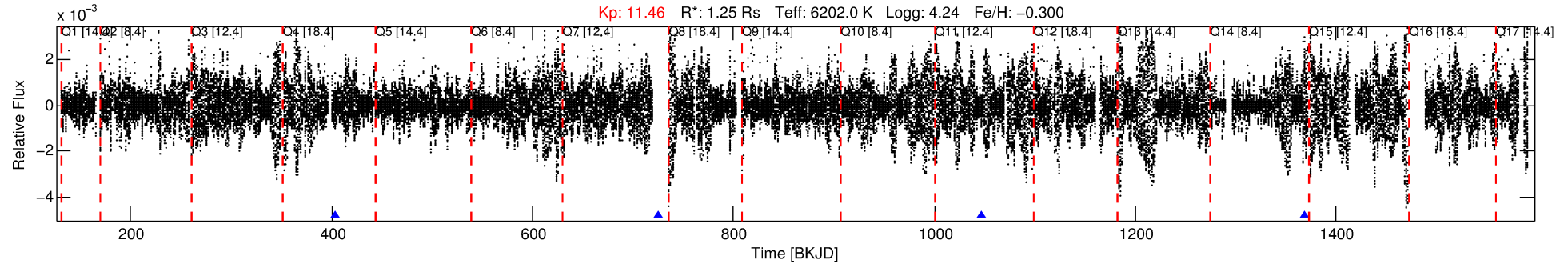
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006365080-04

No Significant Match Found

DV One-Page Summary

KIC: 6365080 Candidate: 4 of 4 Period: 321.741 d



TPS TCE Results:

Period = 321.74074 d
Epoch = 403.6247 BKJD

DV fit results are unavailable

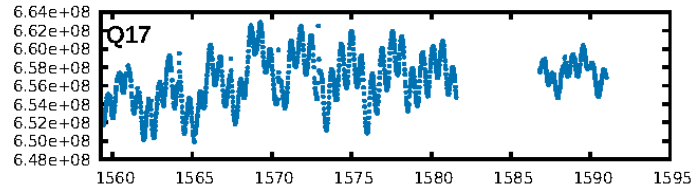
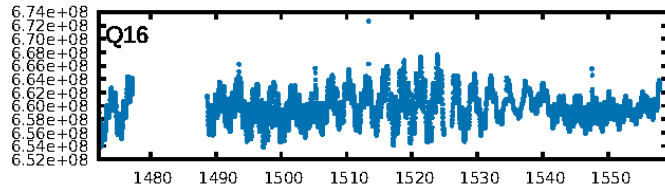
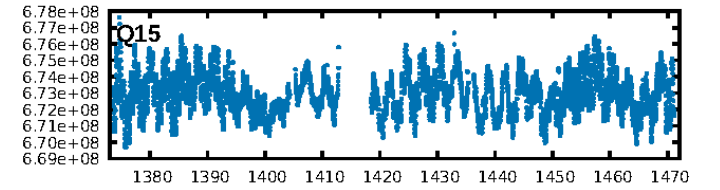
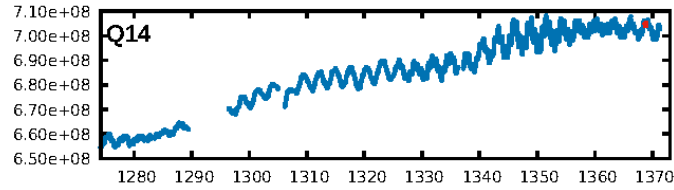
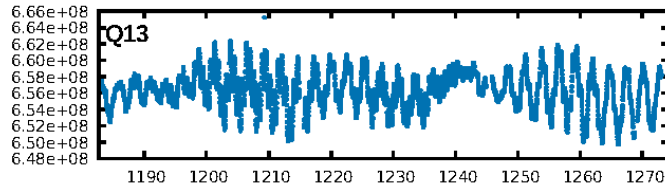
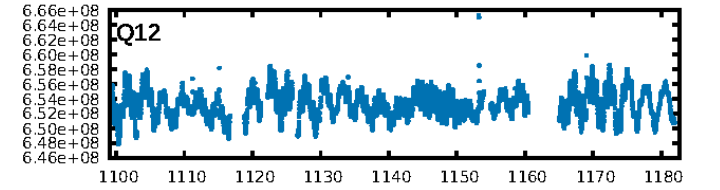
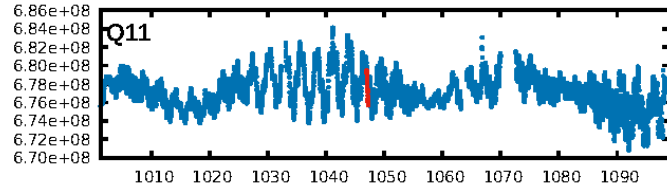
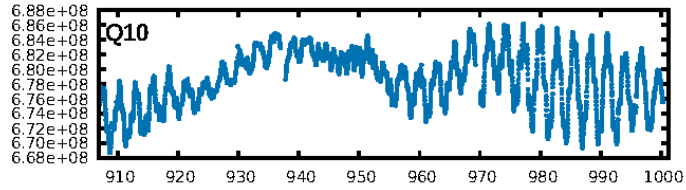
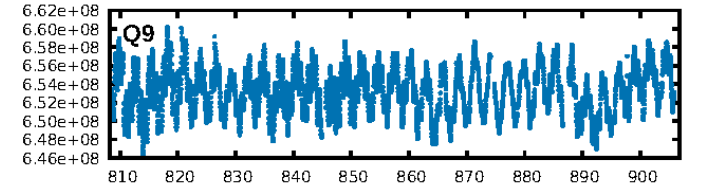
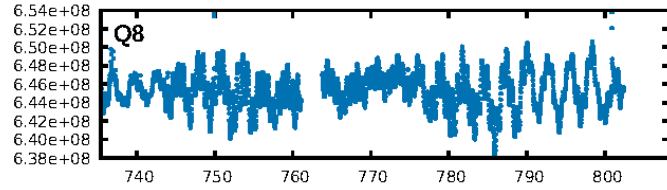
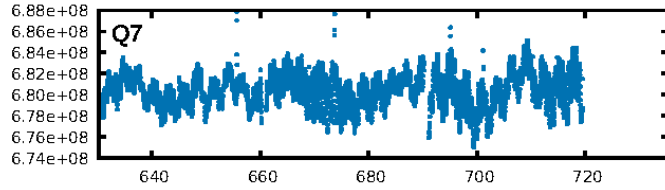
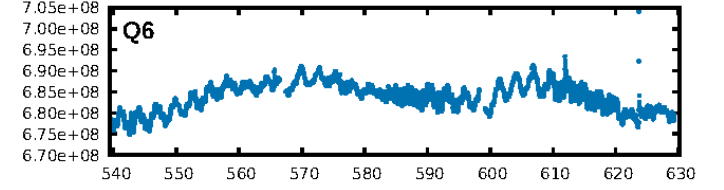
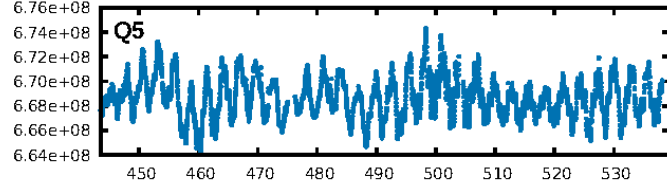
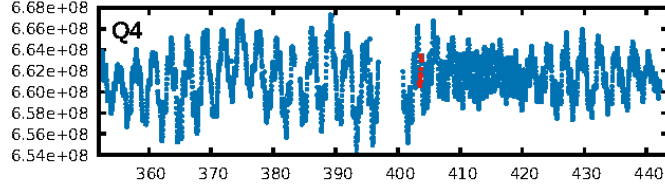
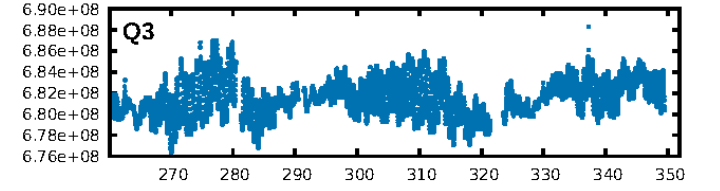
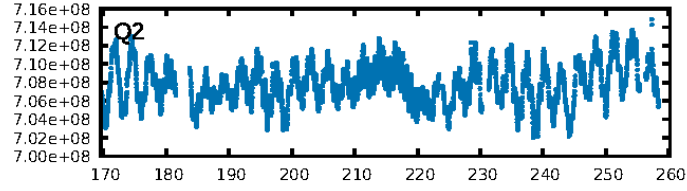
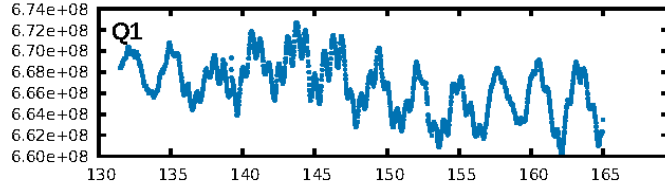
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [597.89σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.103
Centroid-sig: 10.4%
Centroid-so: 2.178 arcsec [0.96σ]
OotOffset-rm: 0.710 arcsec [1.23σ]
KicOffset-rm: 0.291 arcsec [0.60σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

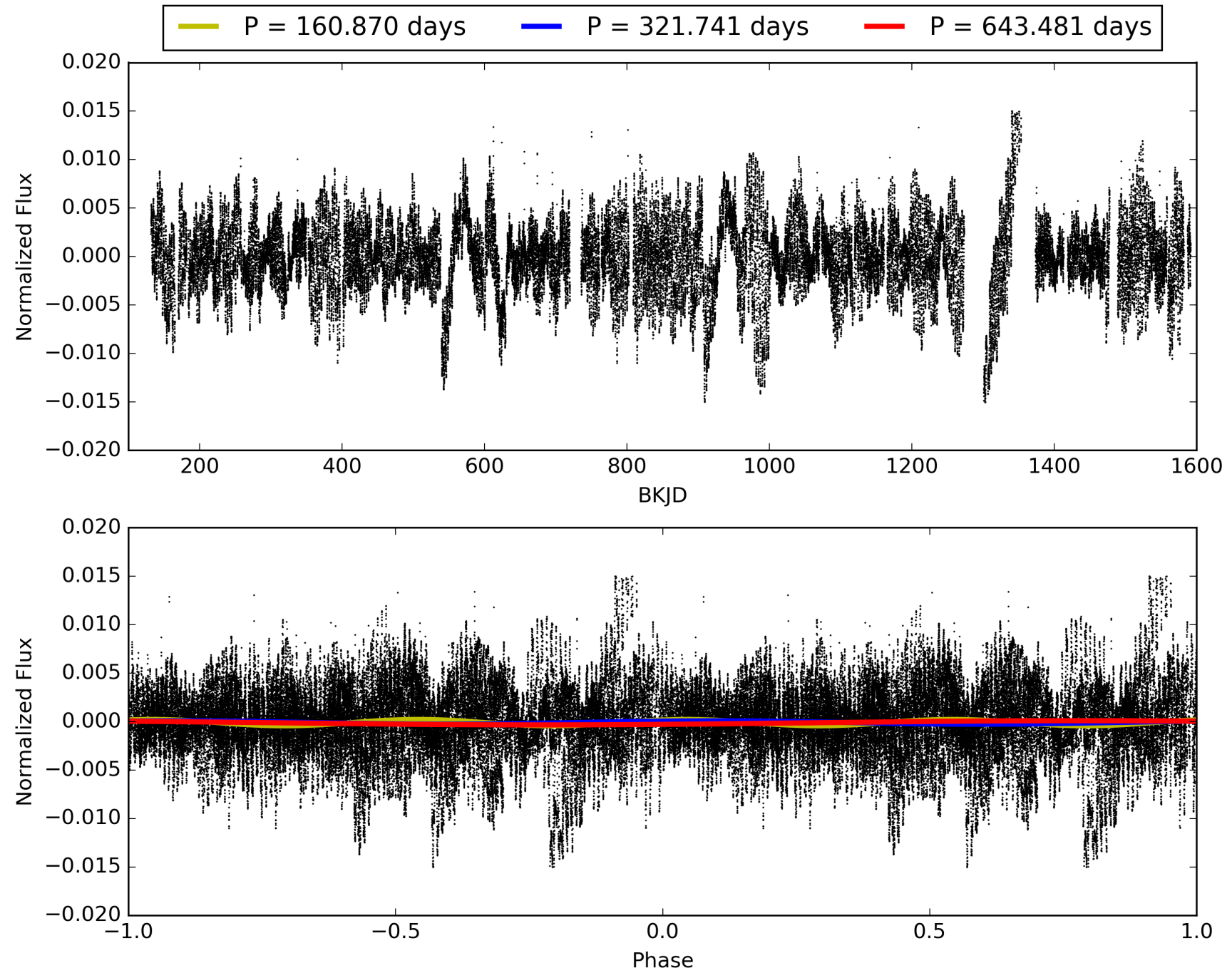
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:54:56 Z

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

TCE 006365080-04, PDC Light Curves

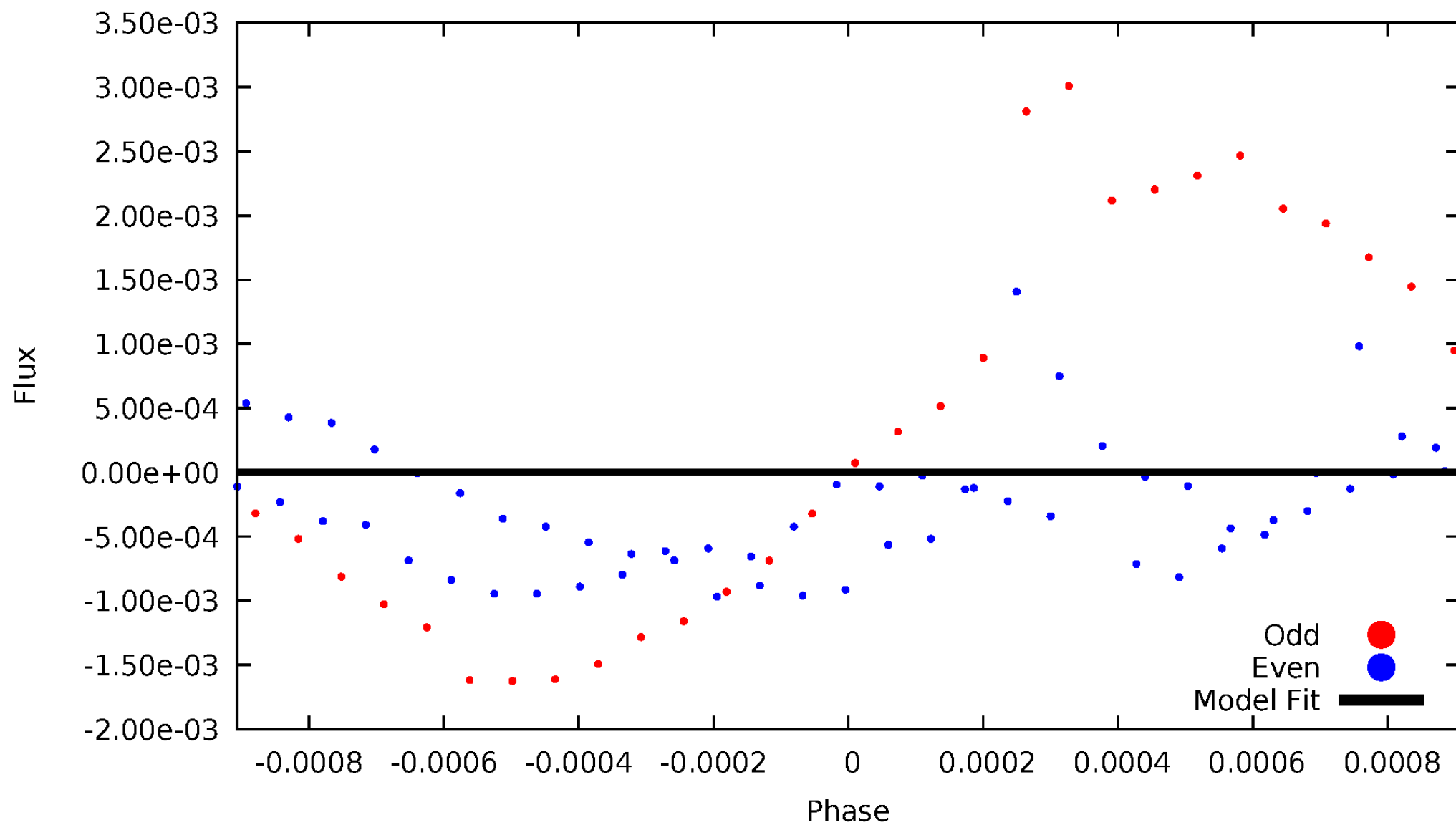


TCE 006365080-04



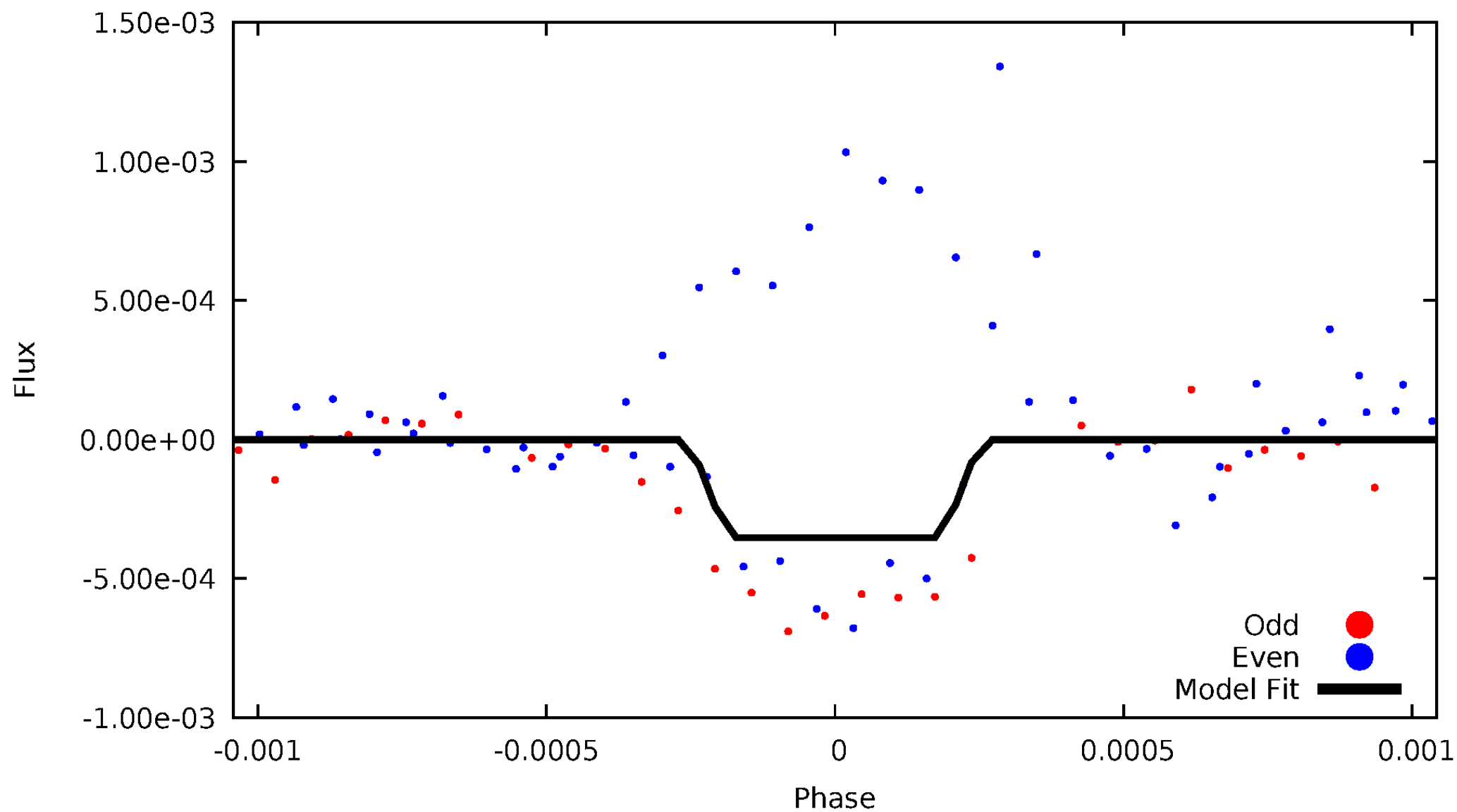
DV Odd/Even

TCE 006365080-04



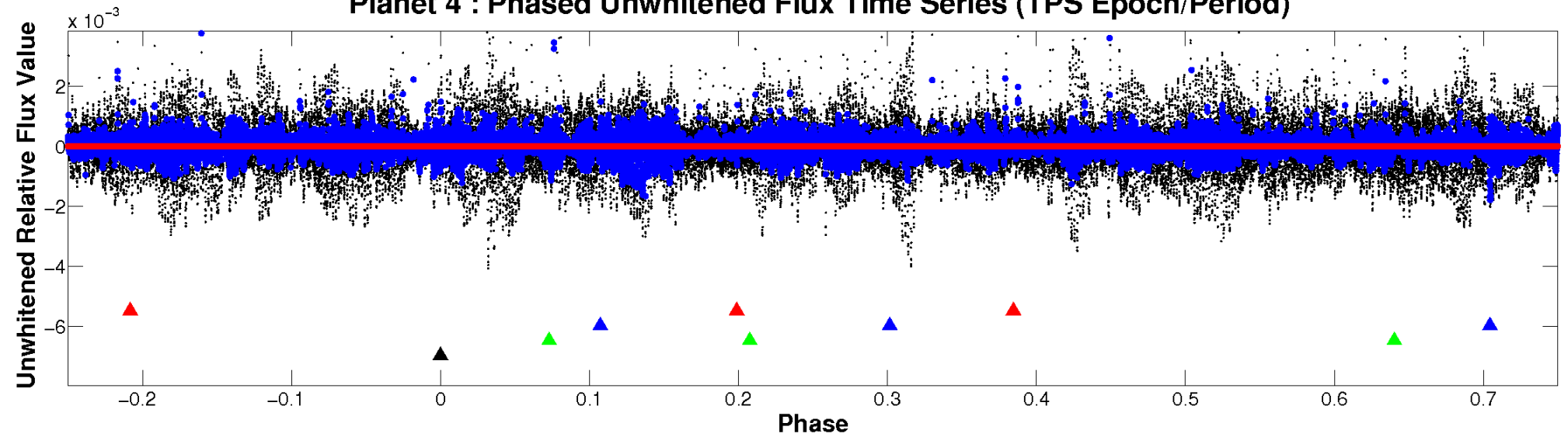
ALT Odd/Even

TCE 006365080-04



Non-Whitened Vs. Whitened Light Curve

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

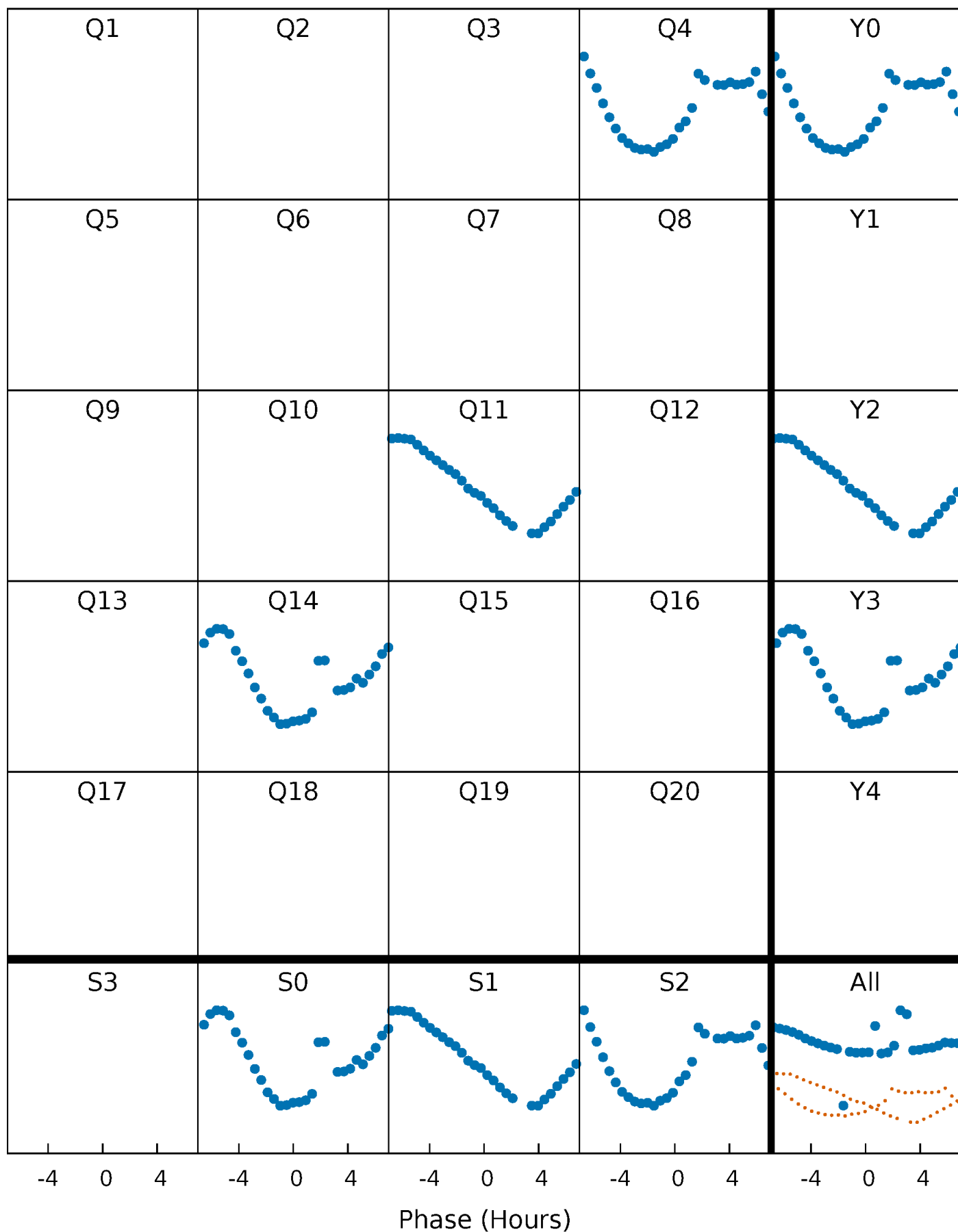


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



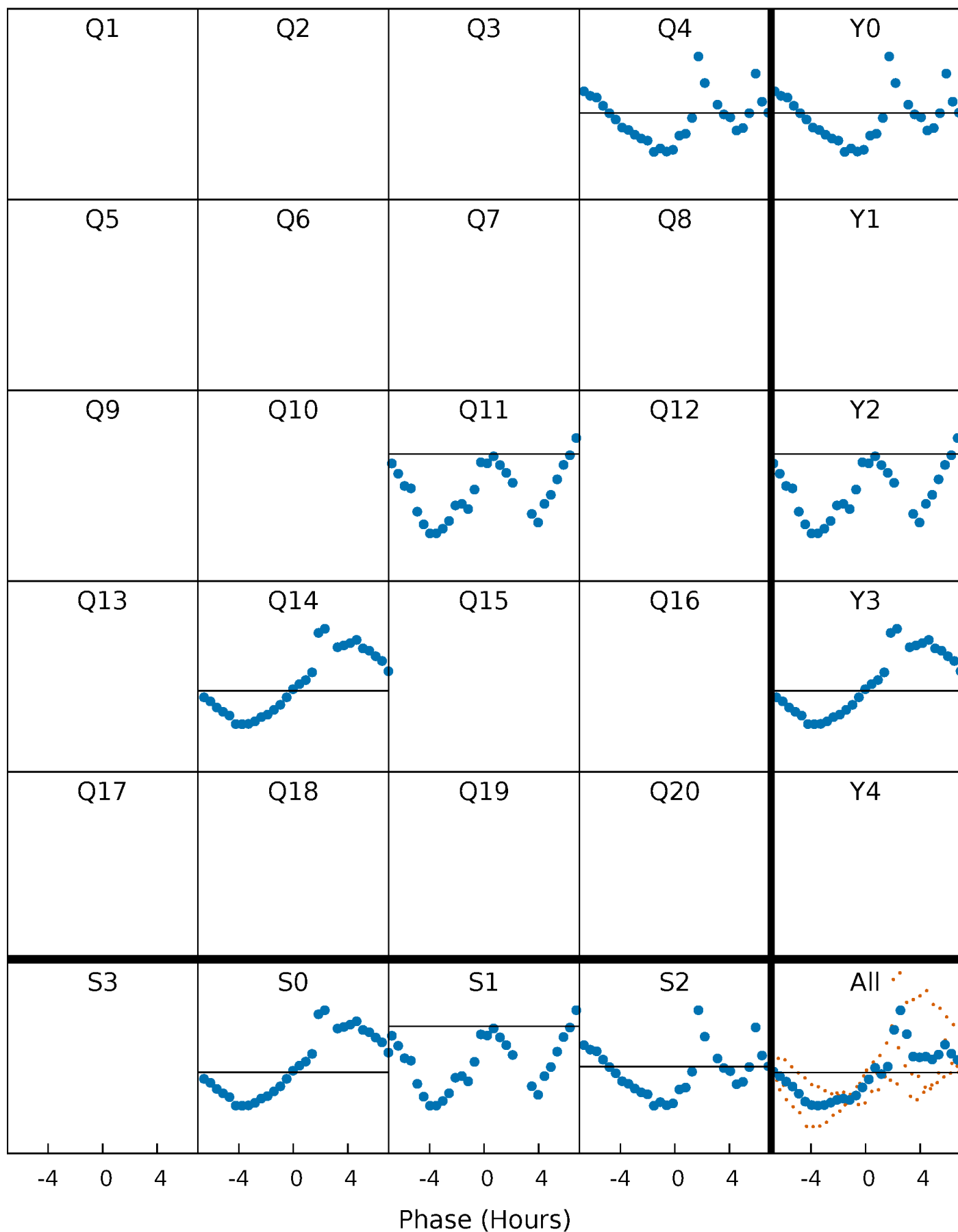
PDC Quarter-Phased Transit Curves

TCE 006365080-04 P=321.740737 Days $T_0=403.624712$ (BKJD)



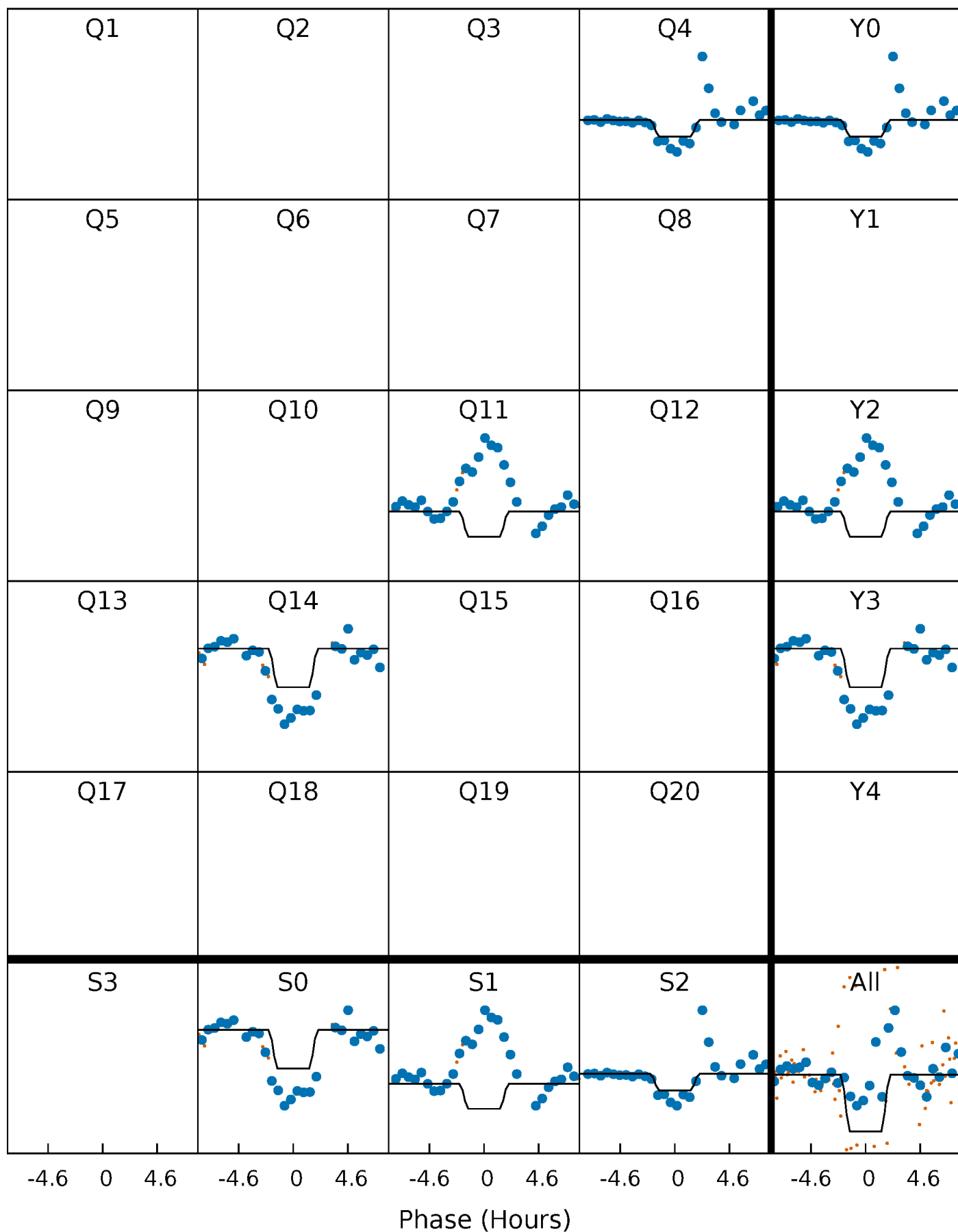
DV Quarter-Phased Transit Curves

TCE 006365080-04 $P=321.740737$ Days $T_0=403.624712$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

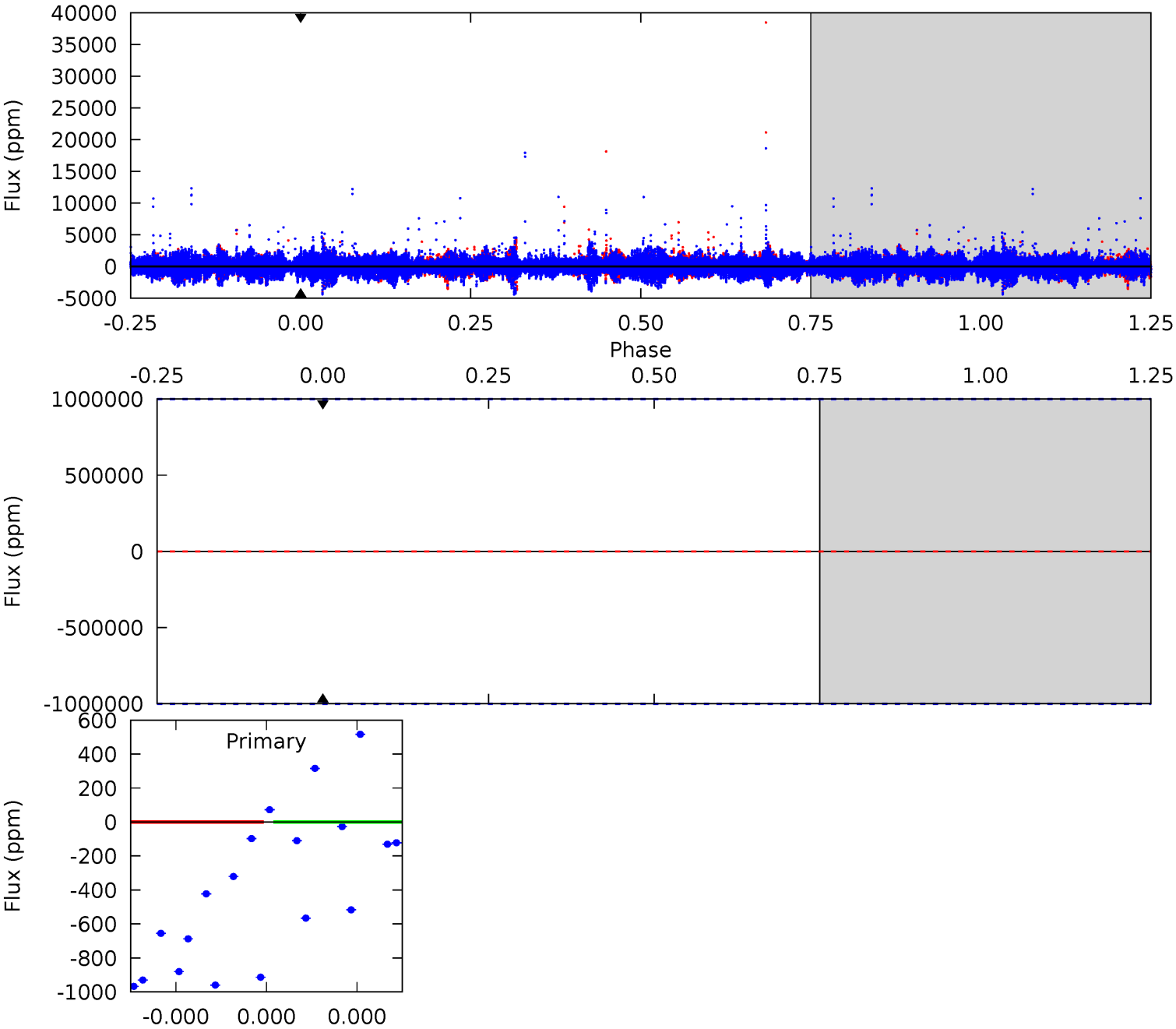
TCE 006365080-04 P=321.740737 Days $T_0=403.613046$ (BKJD)



DV Model-Shift Uniqueness Test

006365080-04, P = 321.740737 Days, E = 81.883975 Days

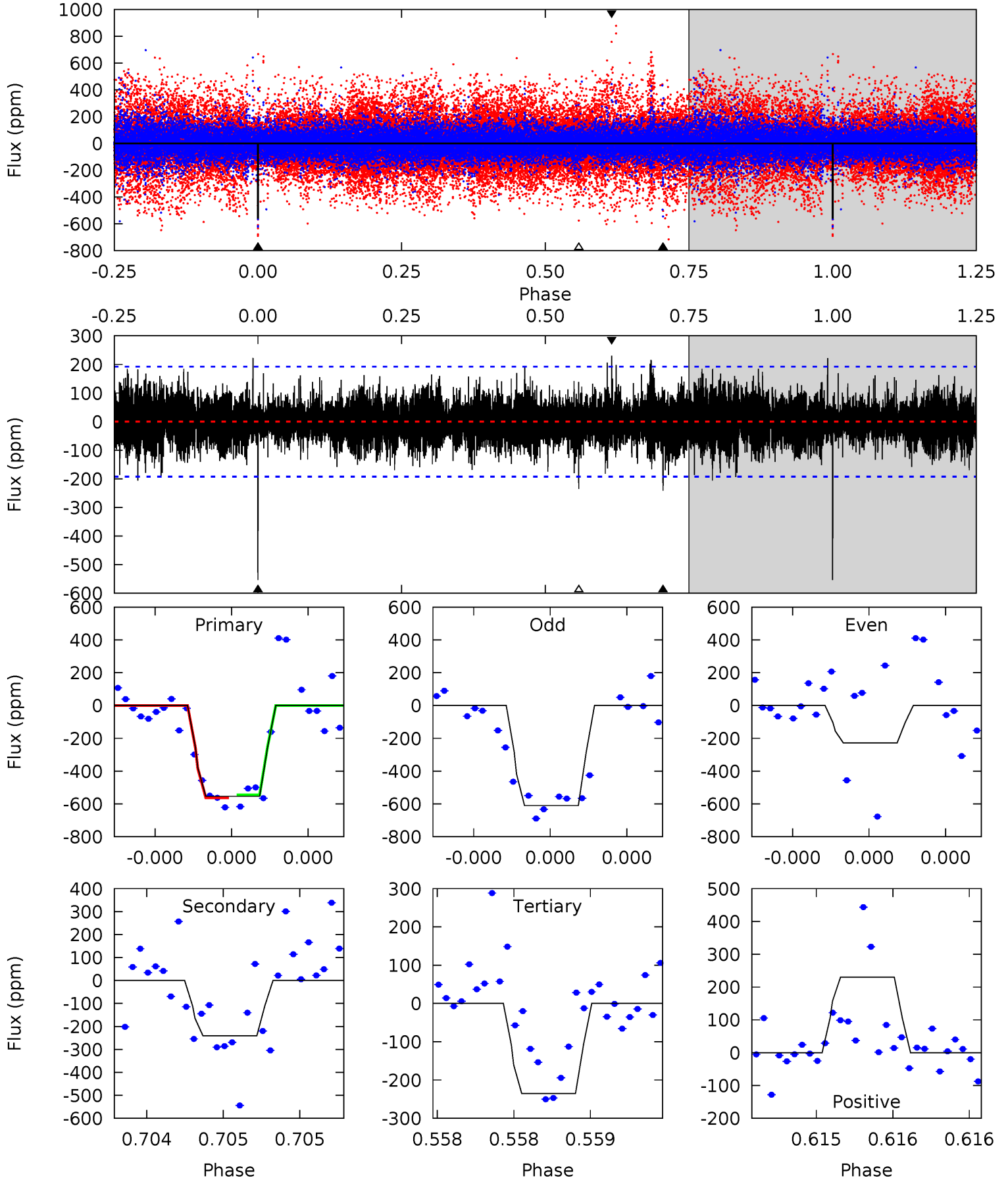
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006365080-04, $P = 321.740737$ Days, $E = 81.872309$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	7.01	6.83	6.68	5.58	3.50	1.52	9.27	9.42	0.18	0.33	5.32	0.19	0.29	0.25



Stellar Parameters For KIC 006365080

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6202^{+156}_{-188}	$4.242^{+0.190}_{-0.190}$	$-0.300^{+0.300}_{-0.300}$	$1.254^{+0.363}_{-0.297}$	$1.002^{+0.158}_{-0.115}$	$0.715^{+0.727}_{-0.360}$
	+3%/-3%	+4%/-4%	+100%/-100%	+29%/-24%	+16%/-11%	+102%/-50%
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 006365080-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$9.23^{+12.24}_{-6.19}$	449^{+34}_{-33}	-5035^{+31062}_{-22912}	$-9513.945^{+898893.892}_{-987409.647}$
Alt.	-241 ± 34	$10.11^{+10.78}_{-7.22}$	445^{+35}_{-30}	3364^{+1965}_{-616}	1082^{+11914}_{-829}

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

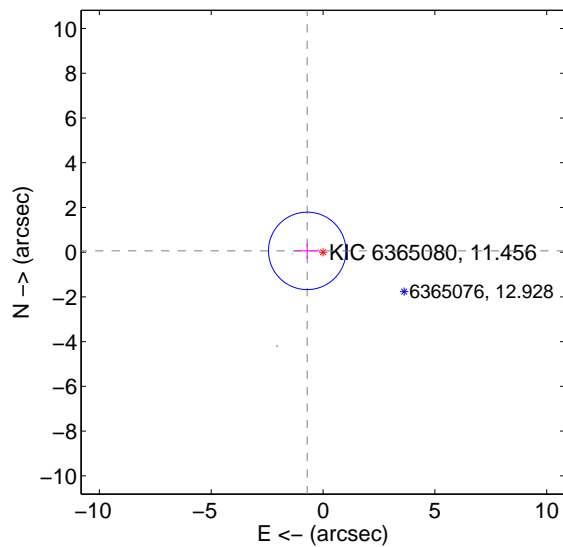
Supplemental centroid analysis for 006365080-04. **Kepler magnitude: 11.46.** Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

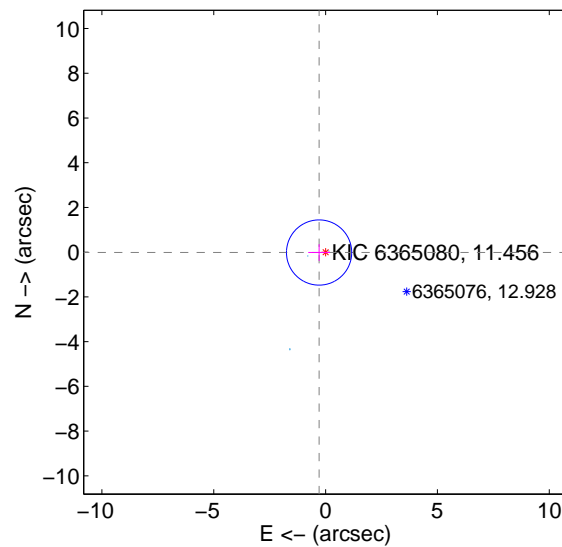
The direct PRF centroid is offset from the target star catalog position by about 0.56 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.710 ± 0.577	1.23	0.707 ± 0.578	0.058 ± 0.360
PRF-fit source offset from KIC position	0.291 ± 0.486	0.60	0.290 ± 0.486	-0.015 ± 0.373
photometric centroid source offset	2.18 ± 2.28	0.96	-1.26 ± 3.06	1.78 ± 1.77

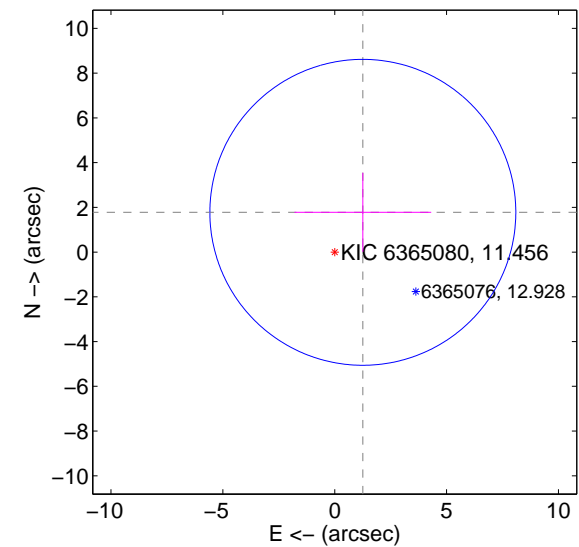
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

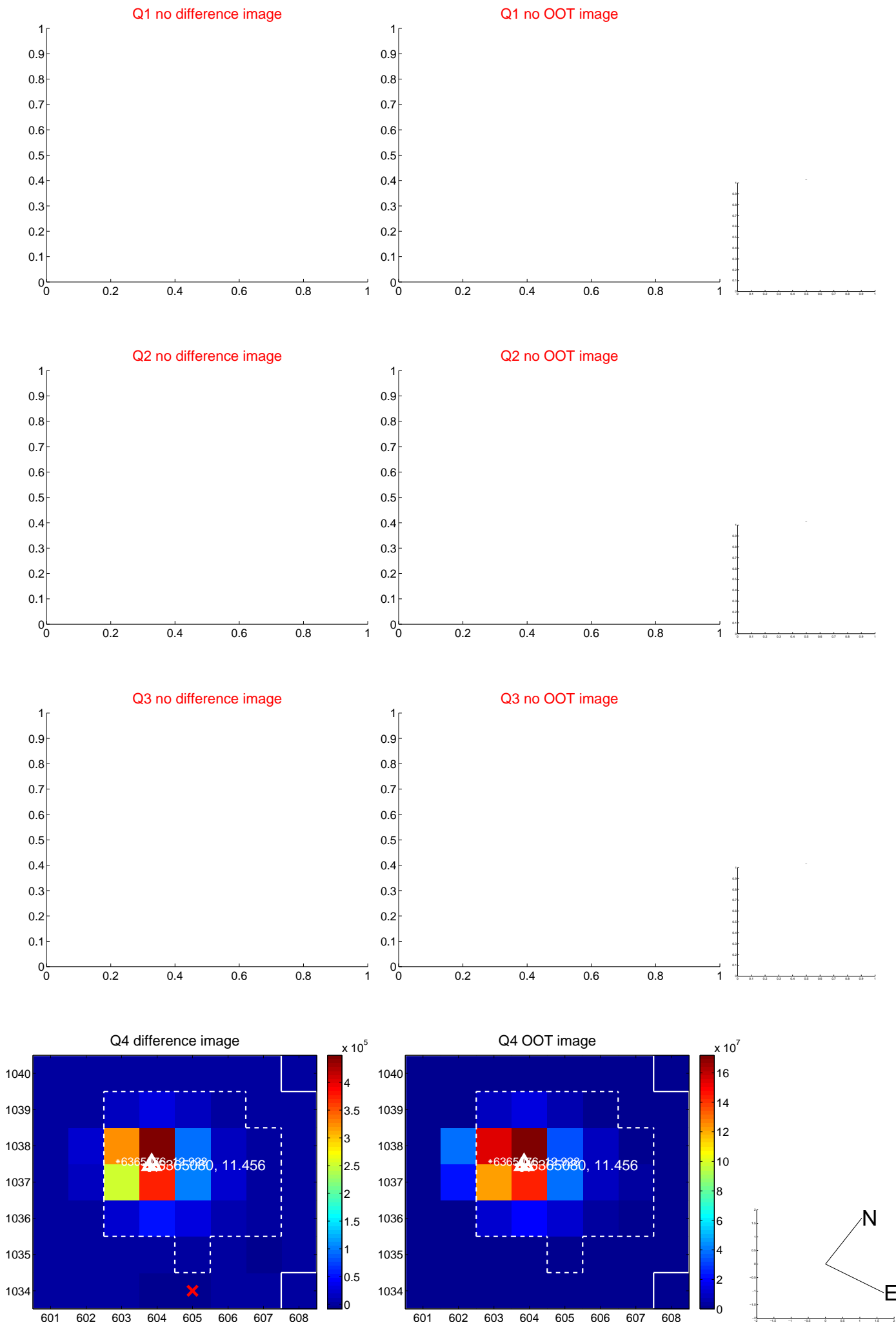


offset from photometric centroids



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.



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Q9 no difference image



Q9 no OOT image



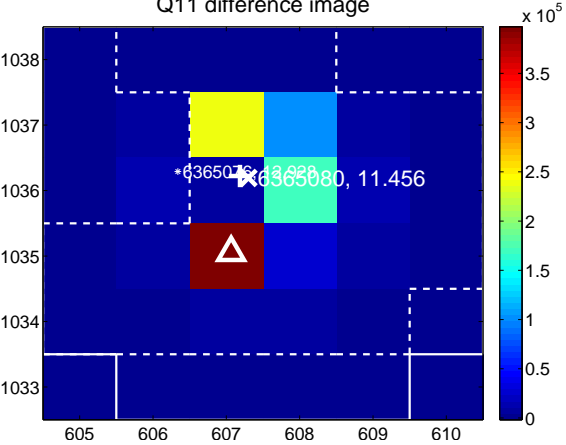
Q10 no difference image



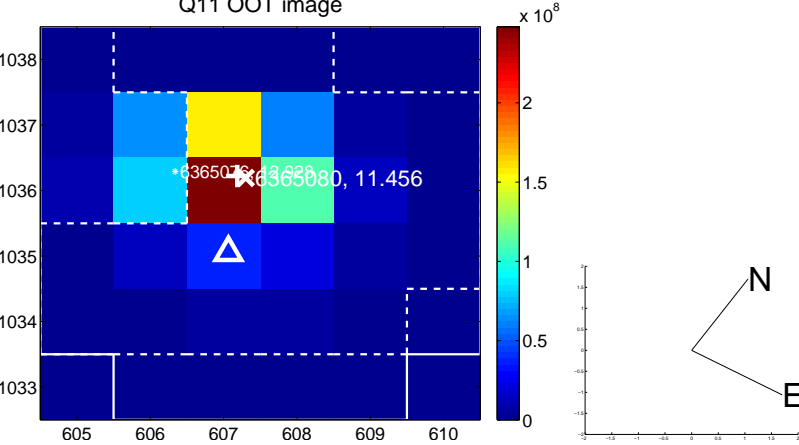
Q10 no OOT image



Q11 difference image



Q11 OOT image



Q12 no difference image



Q12 no OOT image



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

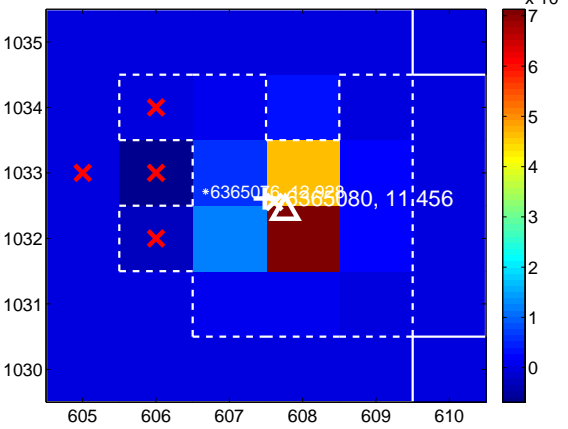
Q13 no difference image



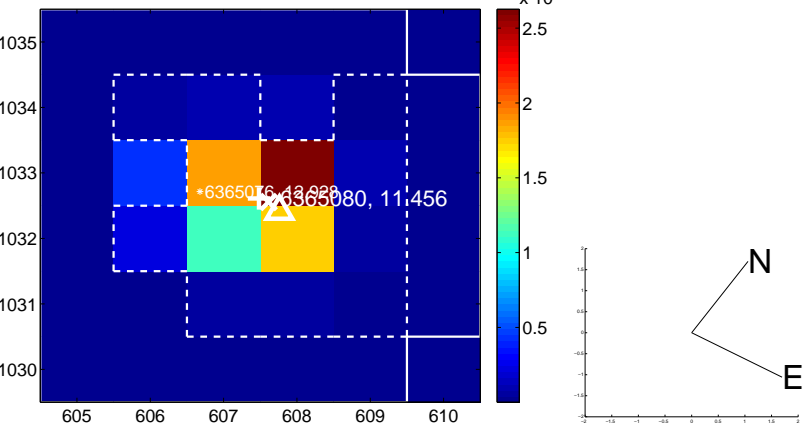
Q13 no OOT image



Q14 difference image



Q14 OOT image



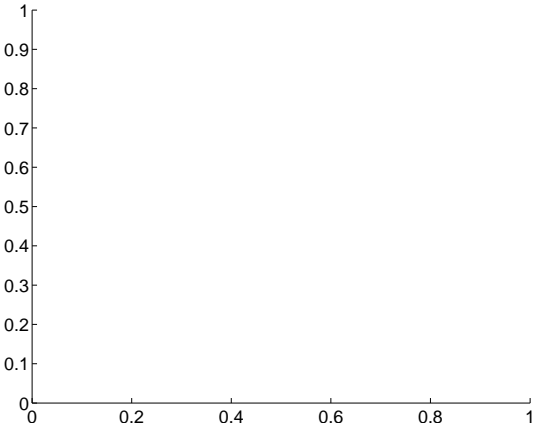
Q15 no difference image



Q15 no OOT image



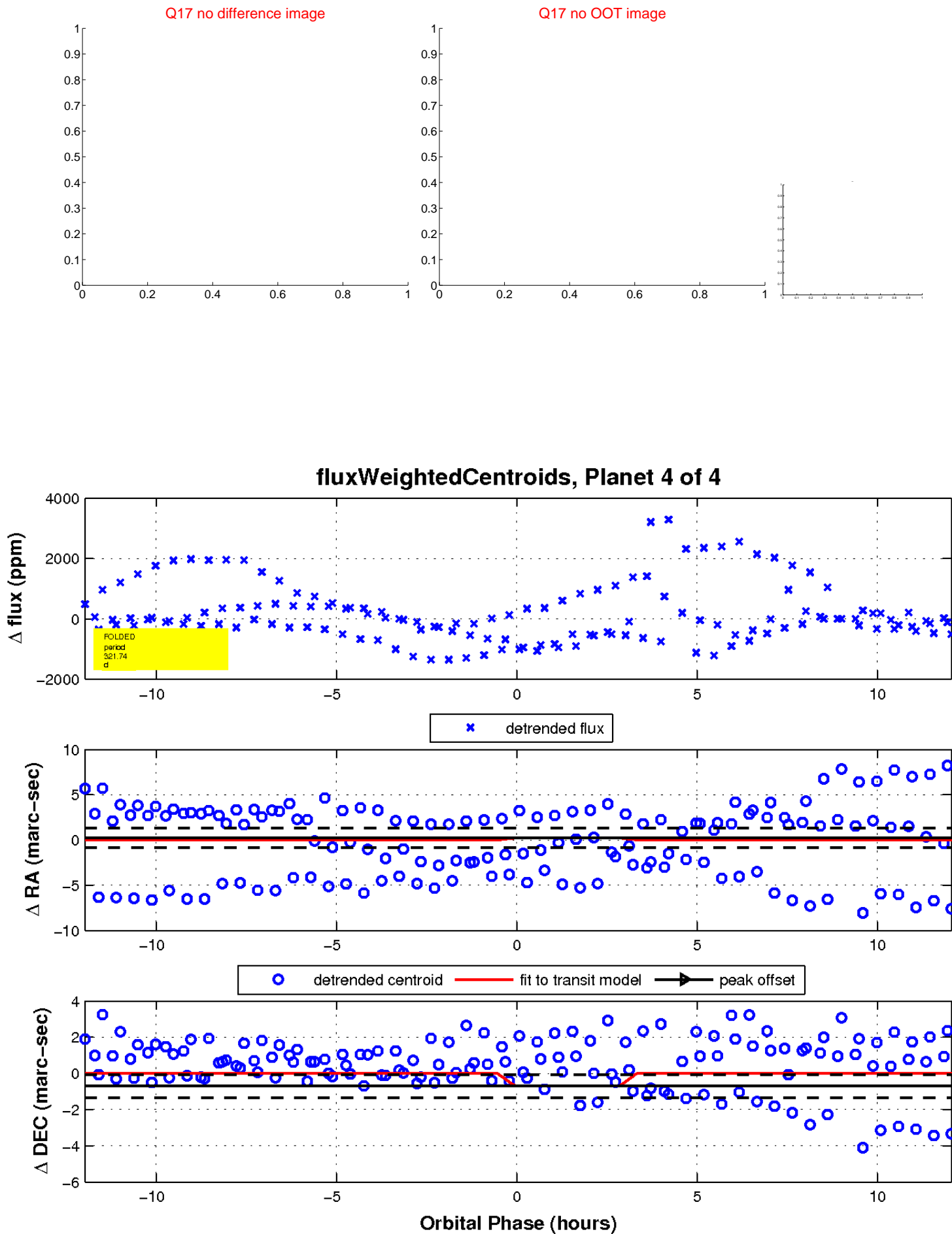
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

