

KIC 008743244

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})
008743244-01	OBS	8166.01	346.357586	246.996974	1134.2	16.857	8.0	8.4	1.07	6060	3.69	1.42
008743244-02	OBS	No	362.850735	404.470441	832.2	40.321	9.6	9.4	1.07	6060	5.72	1.33
008743244-03	OBS	8166.02	365.593366	185.507449	1369.8	16.467	8.1	8.3	1.07	6060	4.67	1.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008743244-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008743244-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008743244-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

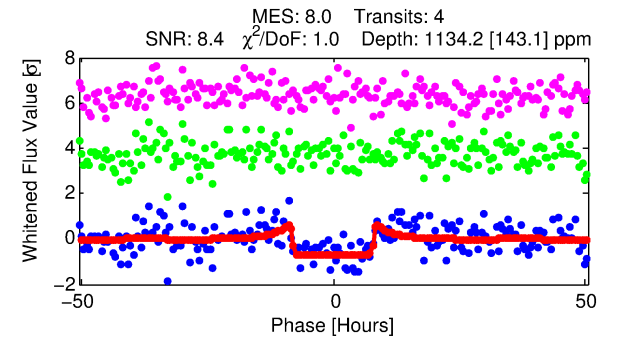
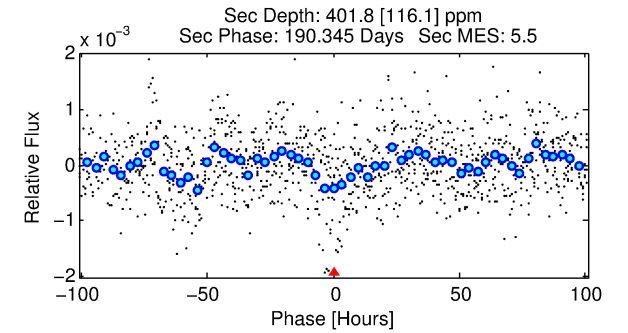
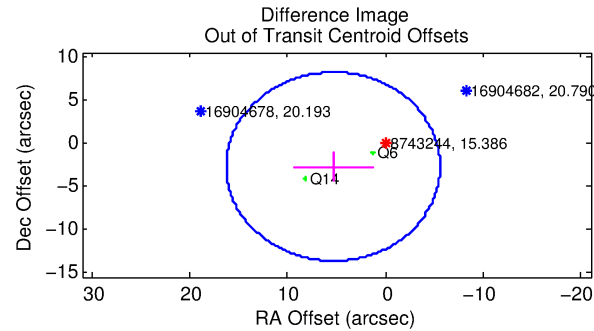
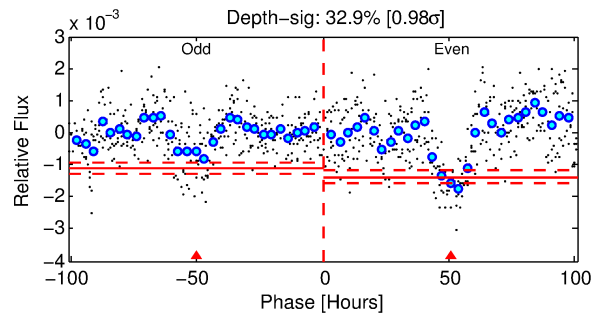
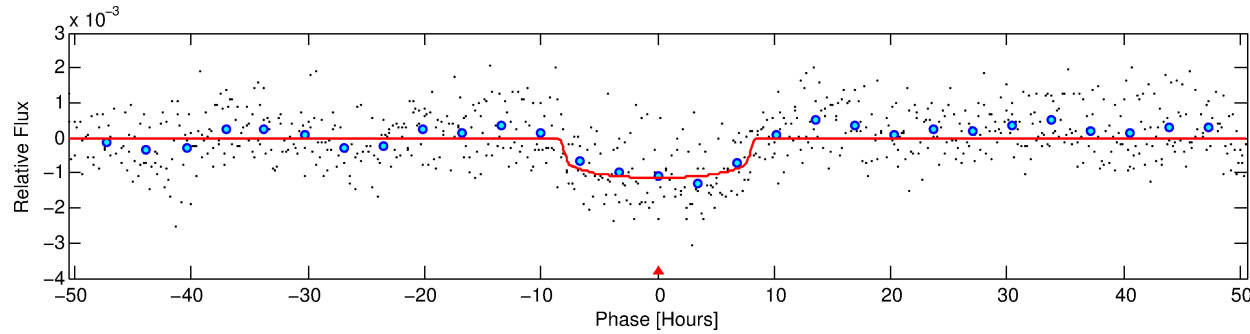
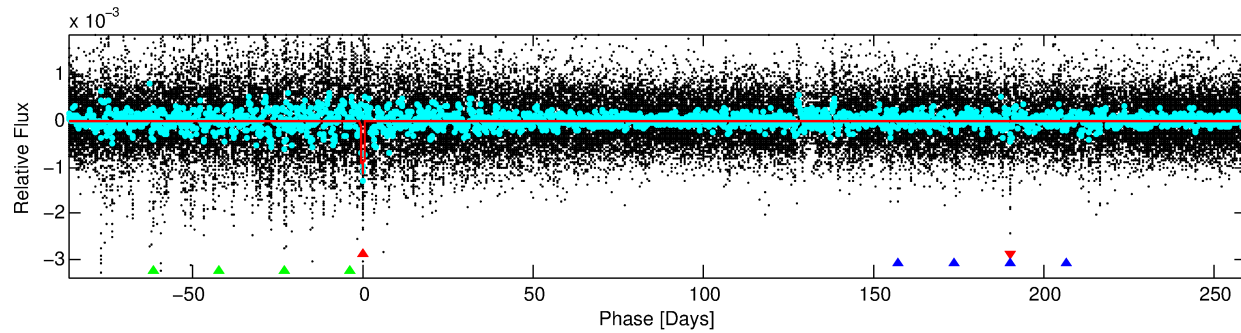
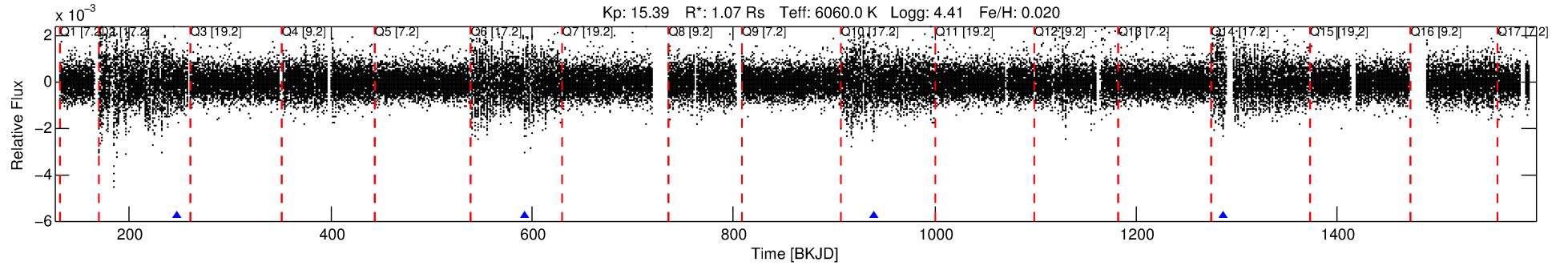
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008743244-01

No Significant Match Found

DV One-Page Summary

KIC: 8743244 Candidate: 1 of 3 Period: 346.358 d



DV Fit Results:

Period = 346.35759 [0.00714] d
Epoch = 246.9970 [0.0128] BKJD
Rp/R* = 0.0317 [0.0065]
a/R* = 141.85 [126.41]
b = 0.50 [1.35]
Seff = 1.42 [0.57]
Teq = 278 [28] K
Rp = 3.69 [1.39] Re
a = 0.9857 [0.2580] AU
Ag = 15784.01 [9908.22] [1.59 σ]
Teffp = 4822 [629] K [7.22 σ]

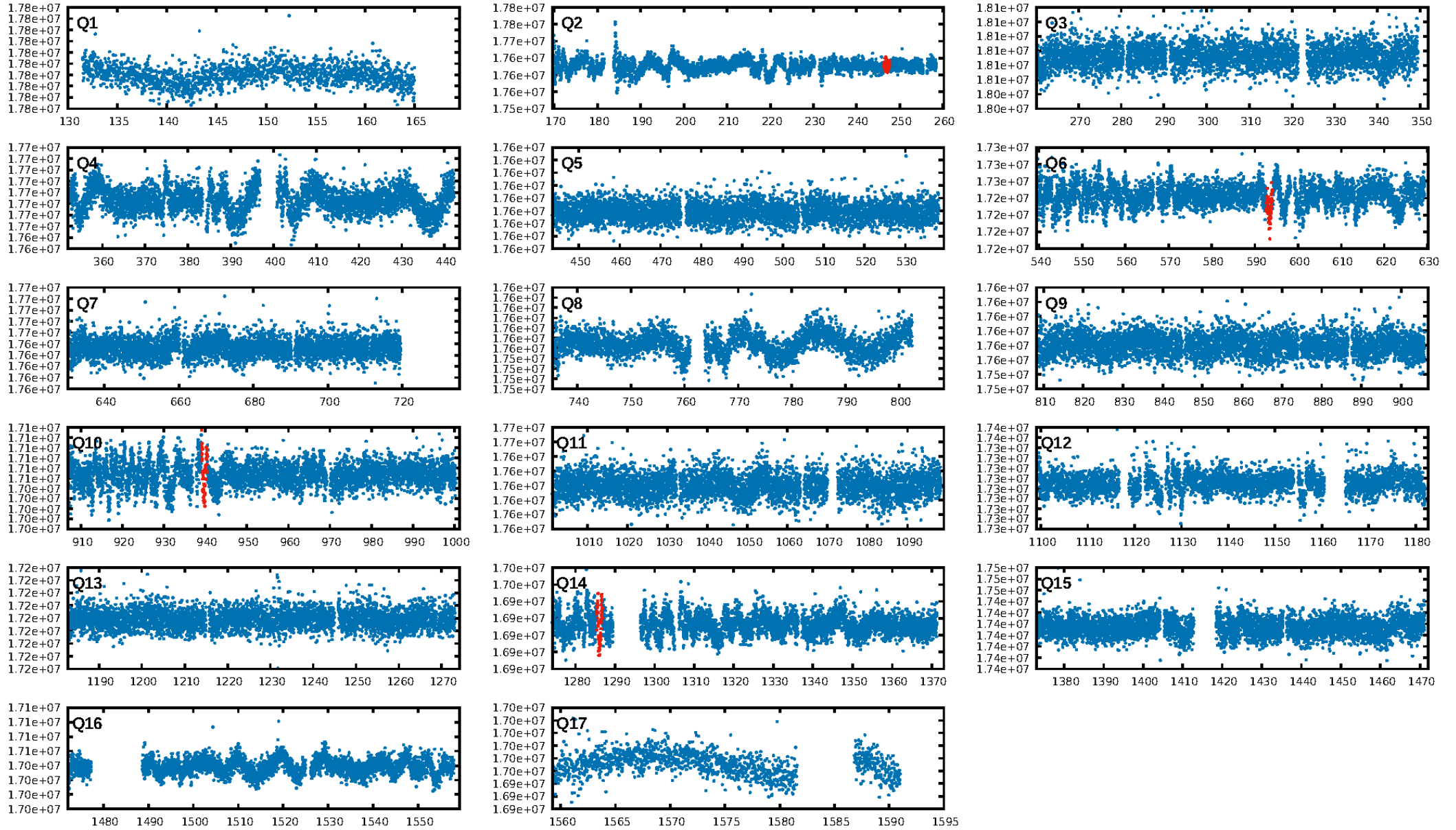
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [9.06 σ]
ModelChiSquare2-sig: 44.6%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 2.45e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 47.01
Centroid-sig: 1.4%
Centroid-so: 3.378 arcsec [1.48 σ]
OotOffset-rm: 6.002 arcsec [1.65 σ]
KicOffset-rm: 5.690 arcsec [1.50 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

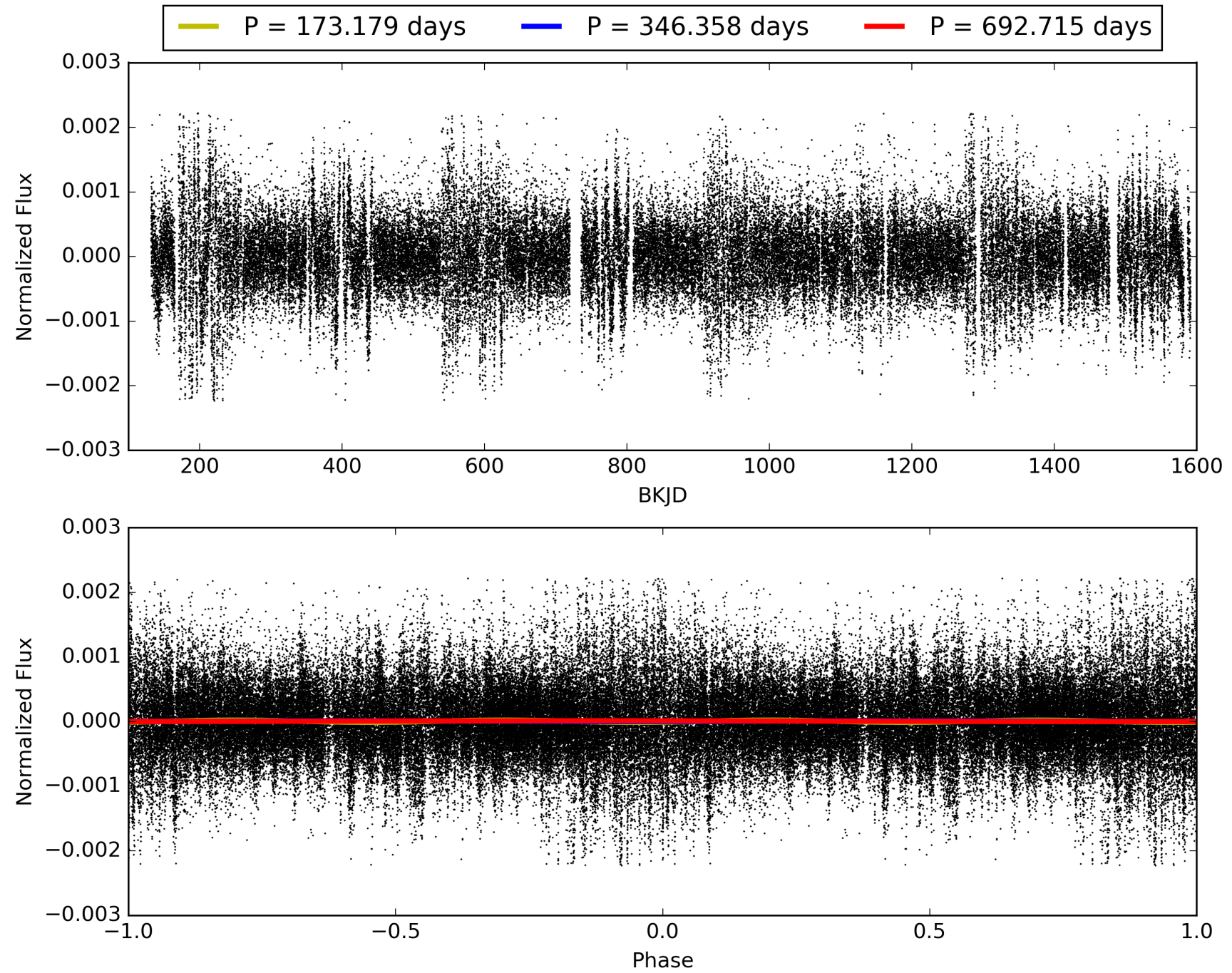
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:50:28 Z

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

TCE 008743244-01, PDC Light Curves

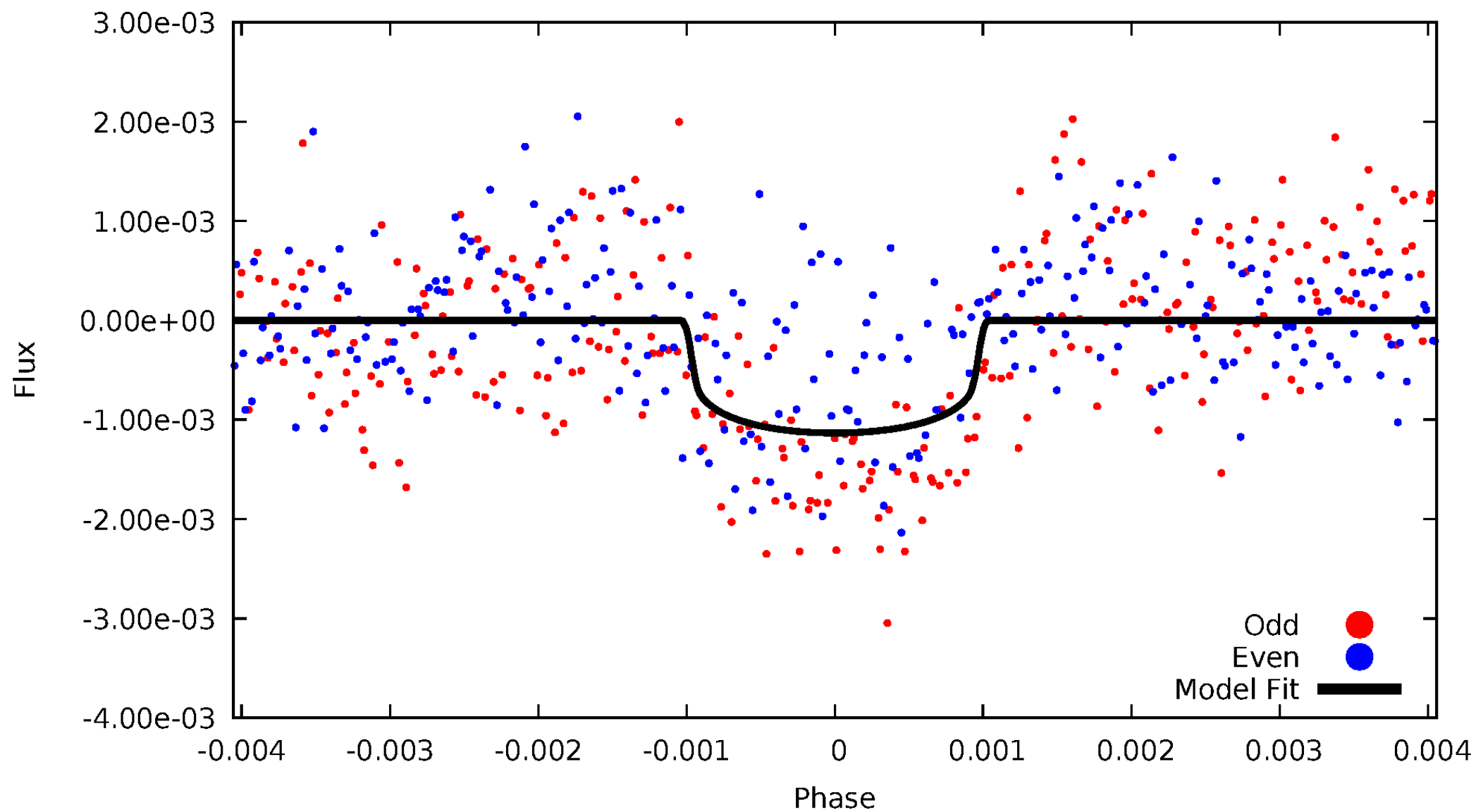


TCE 008743244-01



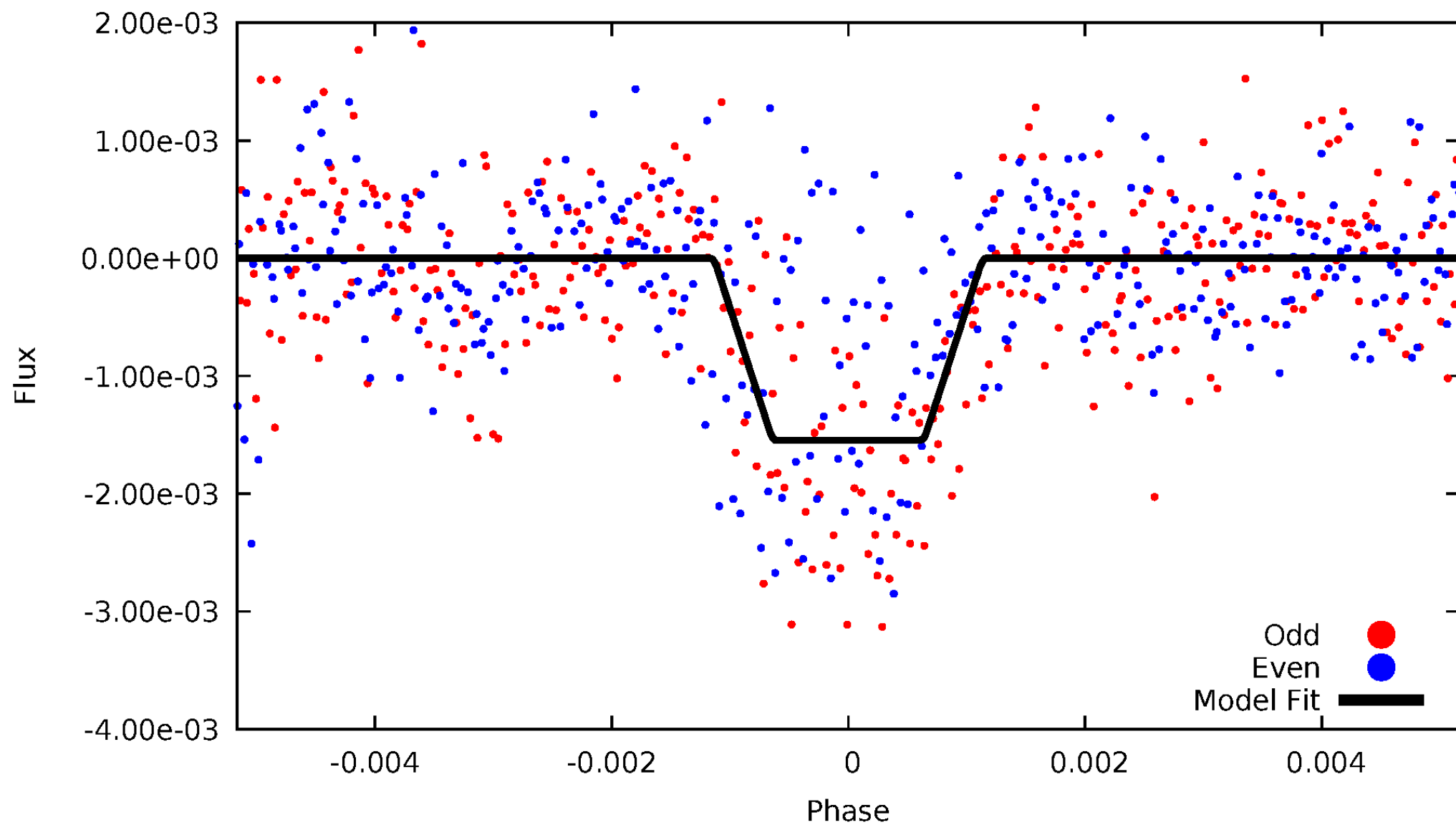
DV Odd/Even

TCE 008743244-01



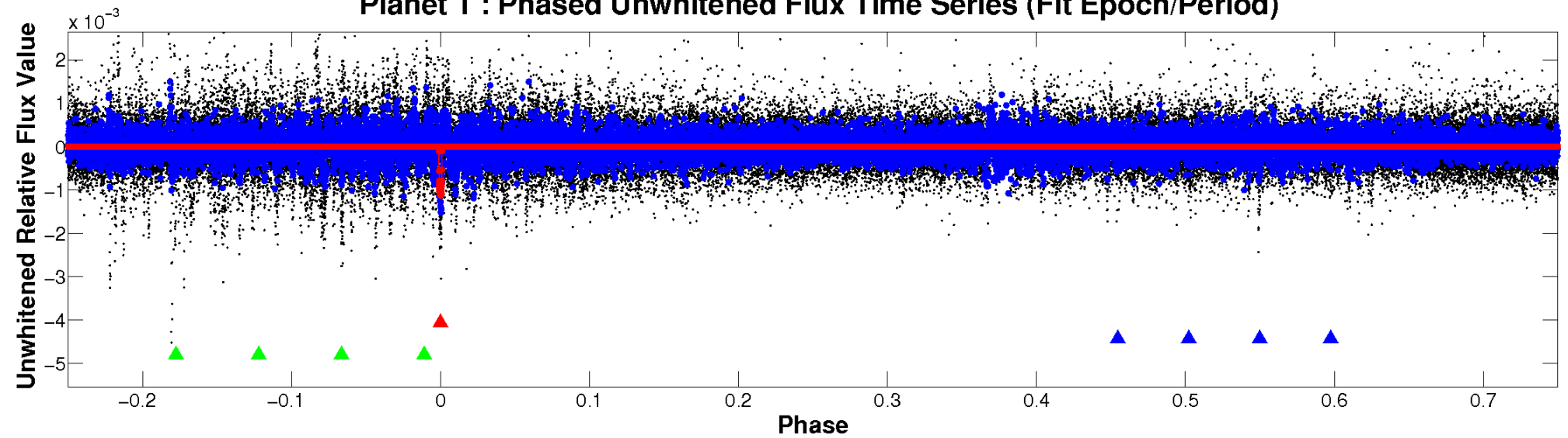
ALT Odd/Even

TCE 008743244-01

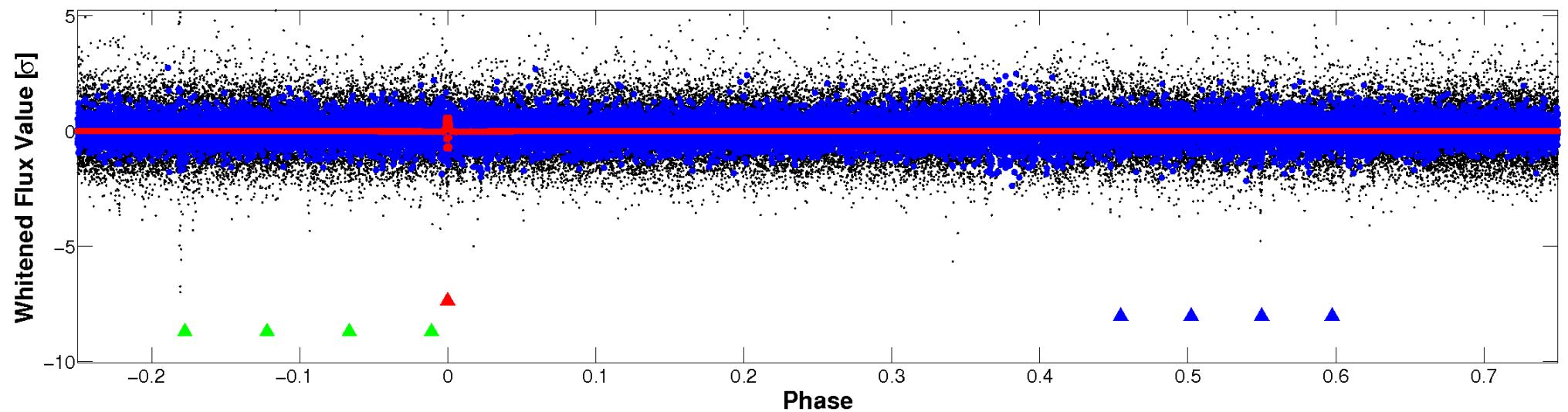


Non-Whitened Vs. Whitened Light Curve

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

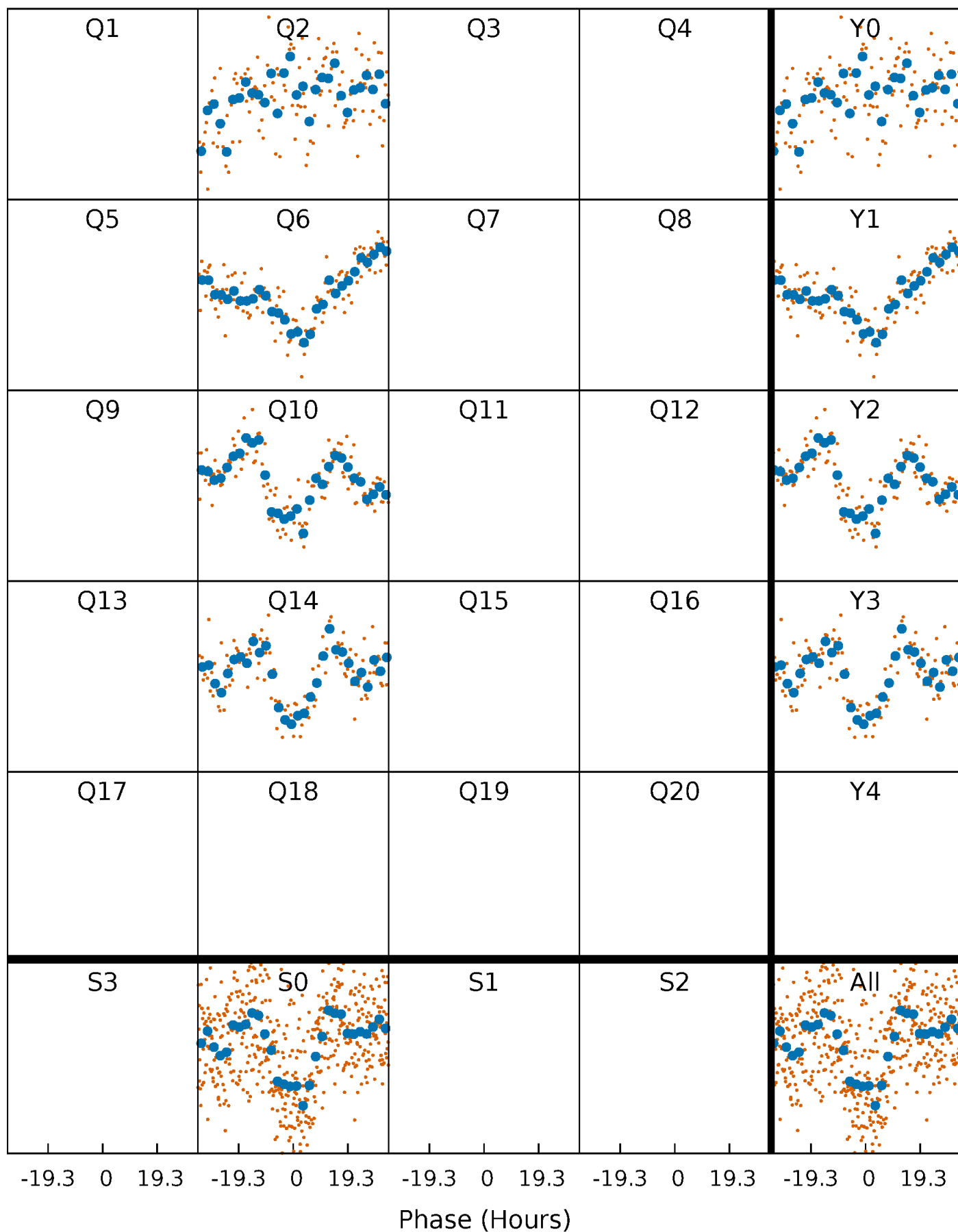


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



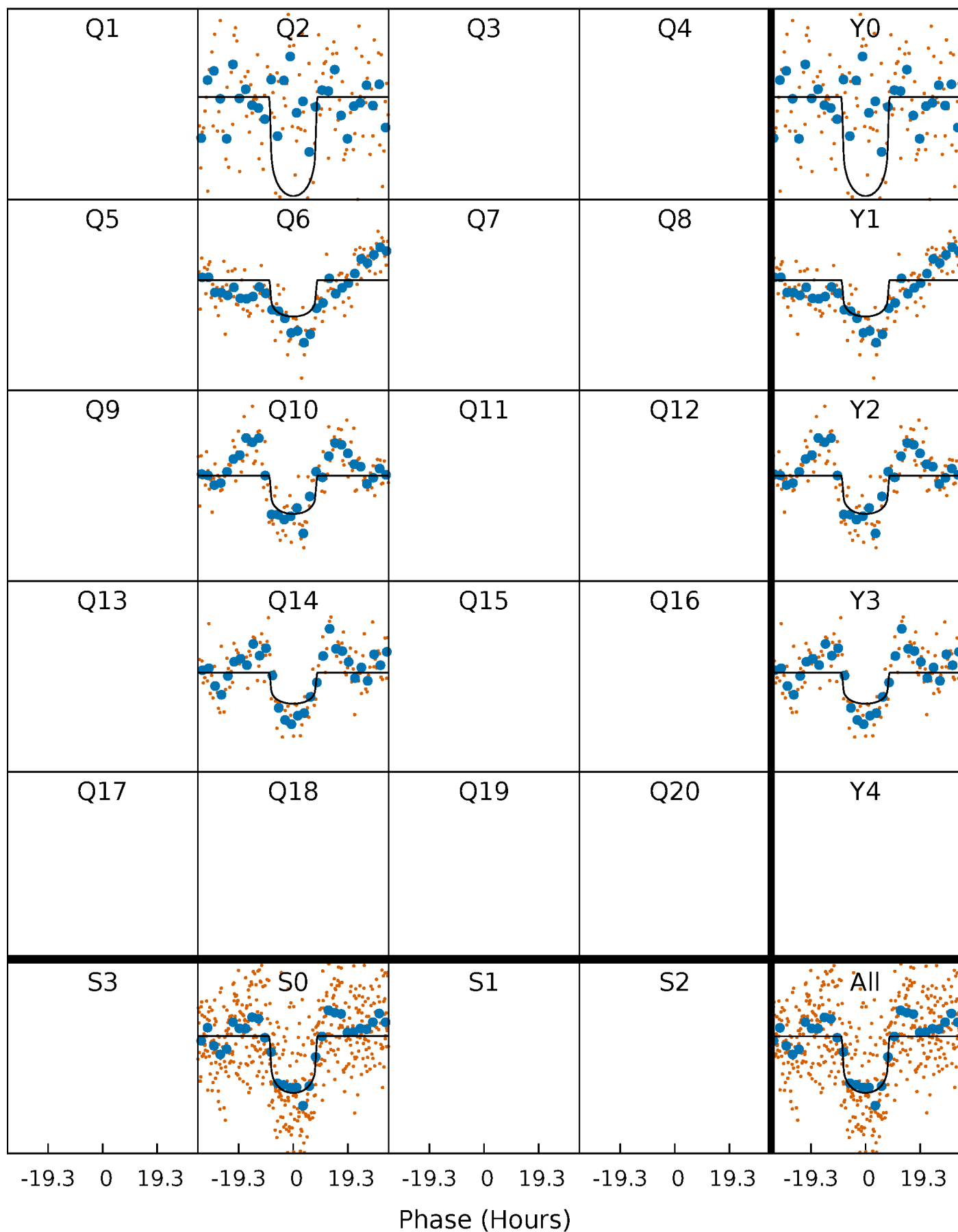
PDC Quarter-Phased Transit Curves

TCE 008743244-01 P=346.357586 Days $T_0=246.996974$ (BKJD)



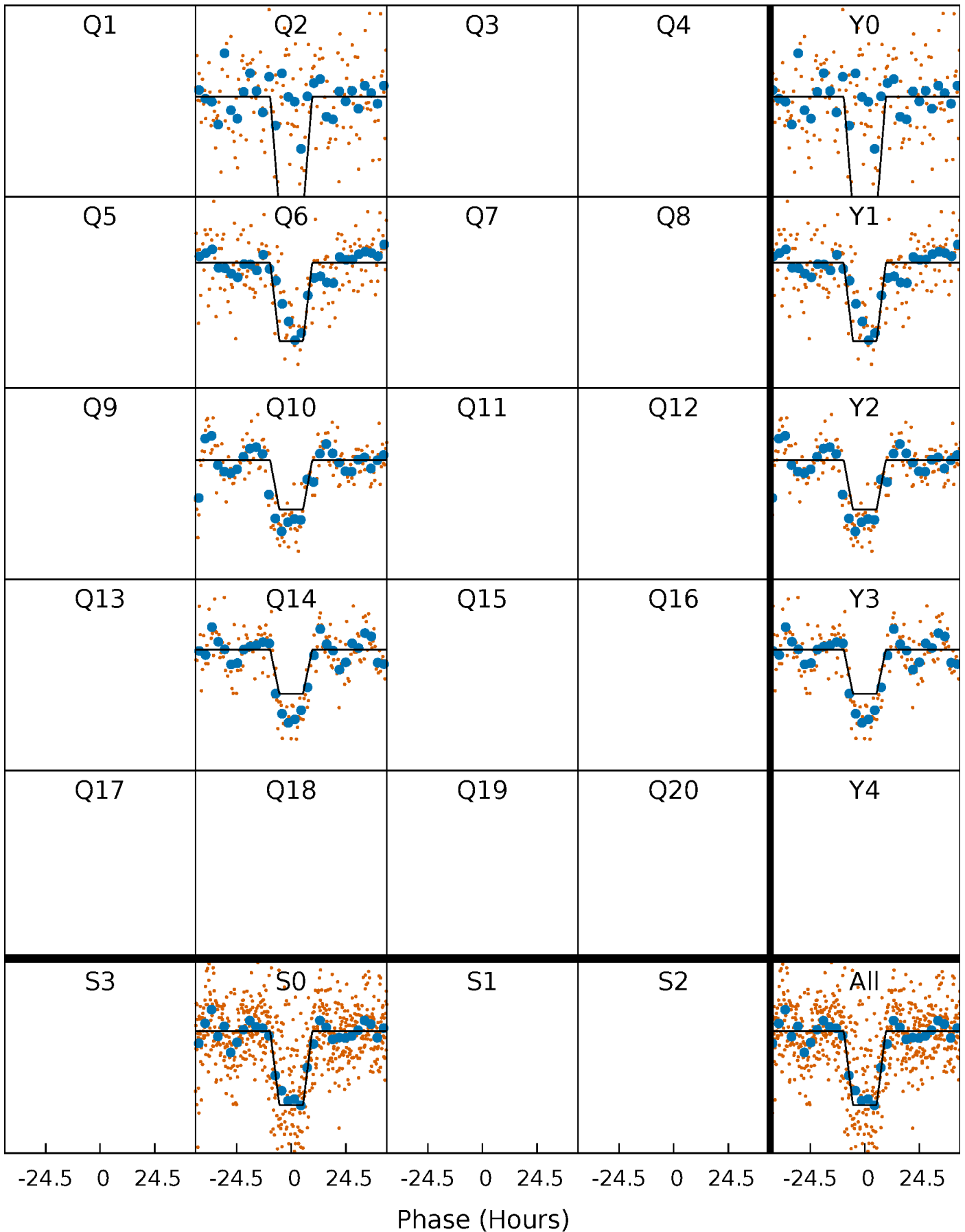
DV Quarter-Phased Transit Curves

TCE 008743244-01 P=346.357586 Days $T_0=246.996974$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

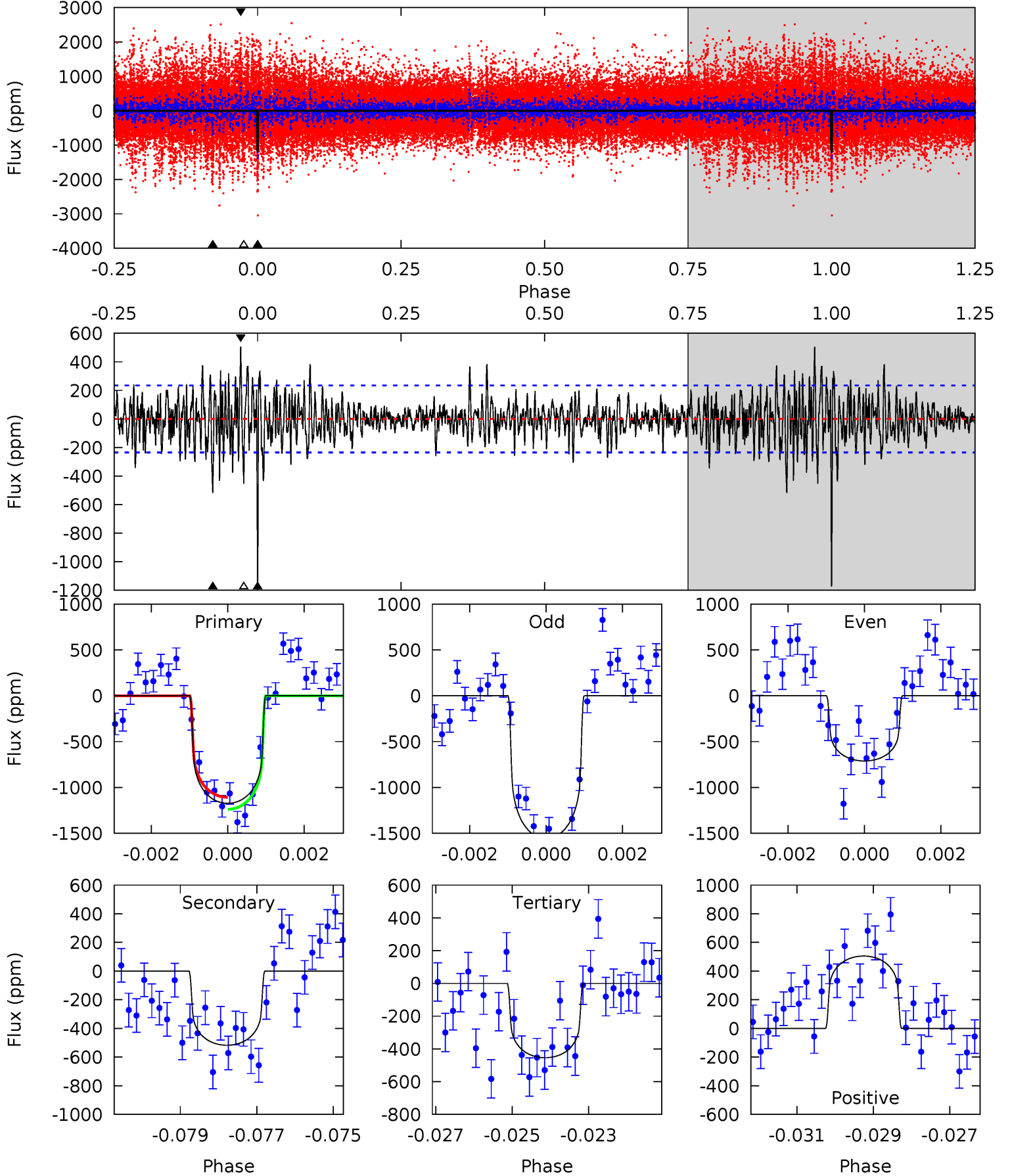
TCE 008743244-01 P=346.342031 Days $T_0=247.050133$ (BKJD)



DV Model-Shift Uniqueness Test

008743244-01, P = 346.357586 Days, E = 246.996974 Days

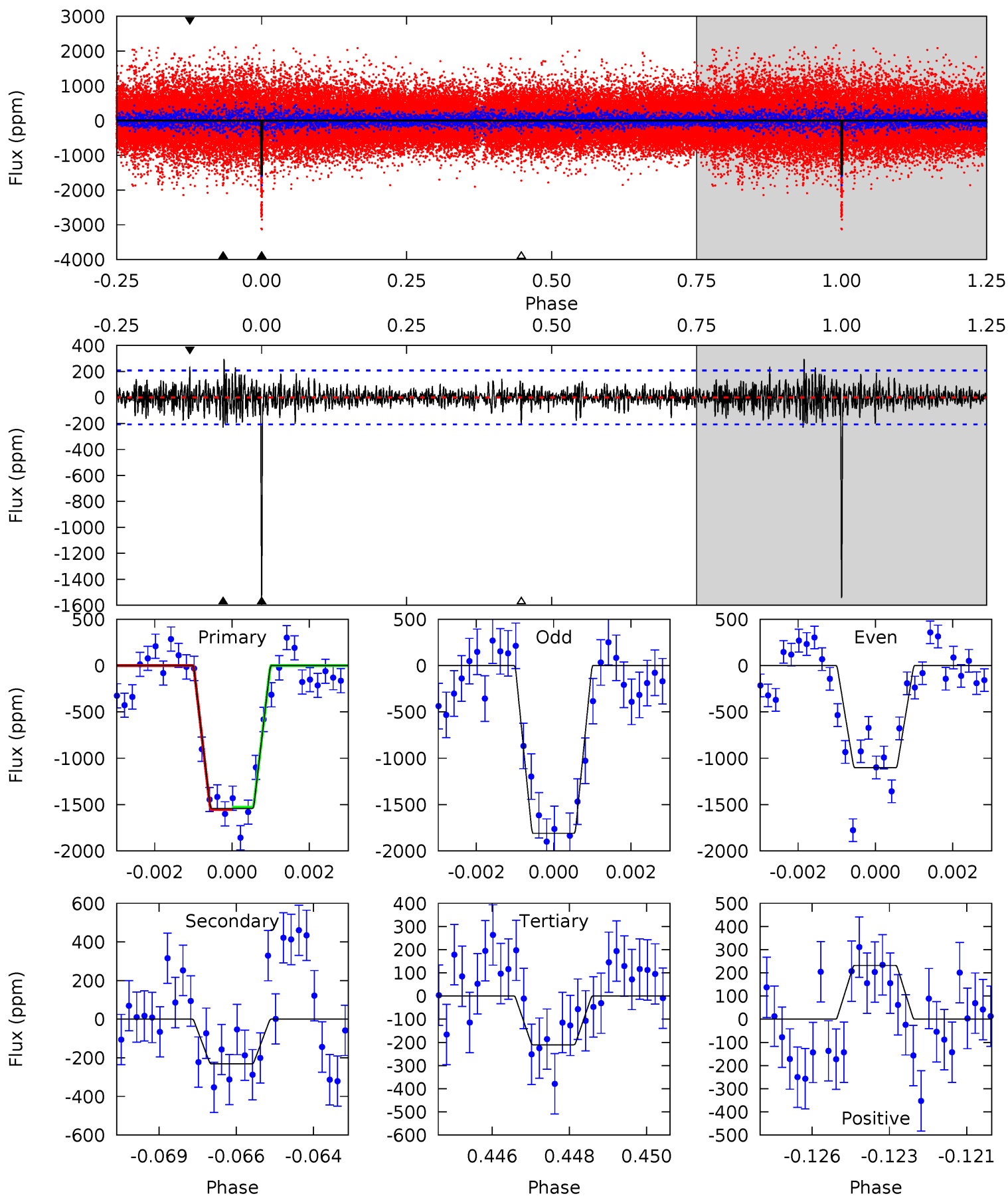
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.6	11.7	10.3	11.4	5.32	3.08	2.45	16.3	15.1	1.44	0.28	9.63	0.82	0.30	1.49



Alt Model-Shift Uniqueness Test

008743244-01, P = 346.342031 Days, E = 247.050133 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.5	5.91	5.39	5.93	5.30	3.05	1.37	34.1	33.5	0.52	-0.02	9.24	0.90	0.16	0.32



Stellar Parameters For KIC 008743244

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6060^{+191}_{-212}	$4.408^{+0.087}_{-0.203}$	$0.020^{+0.250}_{-0.300}$	$1.068^{+0.337}_{-0.144}$	$1.061^{+0.162}_{-0.132}$	$1.226^{+0.472}_{-0.653}$
	+3%/-3%	+2%/-5%	+1250%/-1500%	+32%/-13%	+15%/-12%	+38%/-53%
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 008743244-01 / KOI 8166.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-517 ± 44	$3.78^{+1.03}_{-0.82}$	394^{+31}_{-20}	5191^{+559}_{-431}	19136^{+11074}_{-7167}
Alt.	-231 ± 39	$4.71^{+1.14}_{-0.84}$	395^{+30}_{-21}	4070^{+325}_{-259}	5483^{+2797}_{-2017}

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

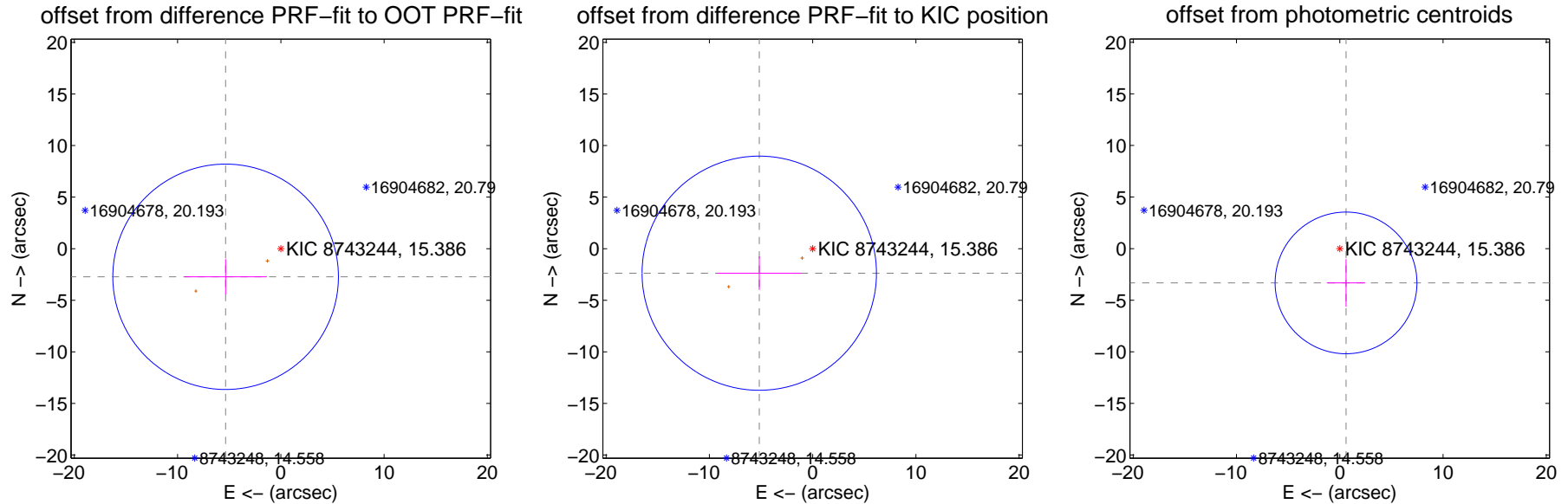
DV Centroid Data

Supplemental centroid analysis for 008743244-01. Kepler magnitude: 15.39. Transit SNR 8.40

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.002 ± 3.642	1.65	5.348 ± 3.993	-2.725 ± 1.709
PRF-fit source offset from KIC position	5.690 ± 3.784	1.50	5.170 ± 4.097	-2.375 ± 1.622
photometric centroid source offset	3.38 ± 2.29	1.48	-0.61 ± 1.86	-3.32 ± 2.30



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.

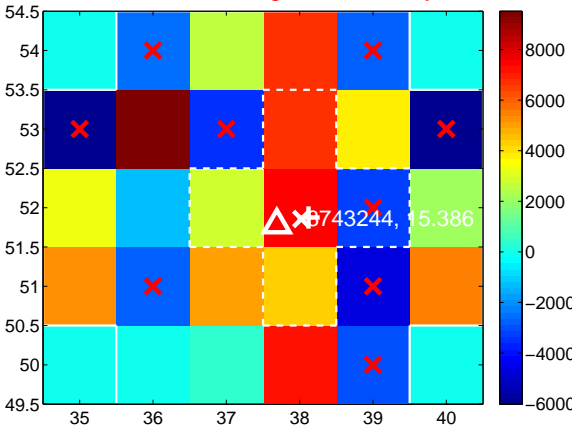
Q5 no difference image



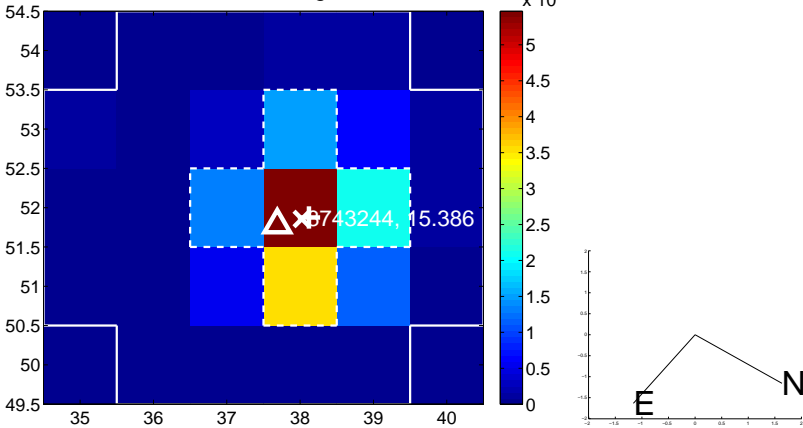
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



Q8 no difference image



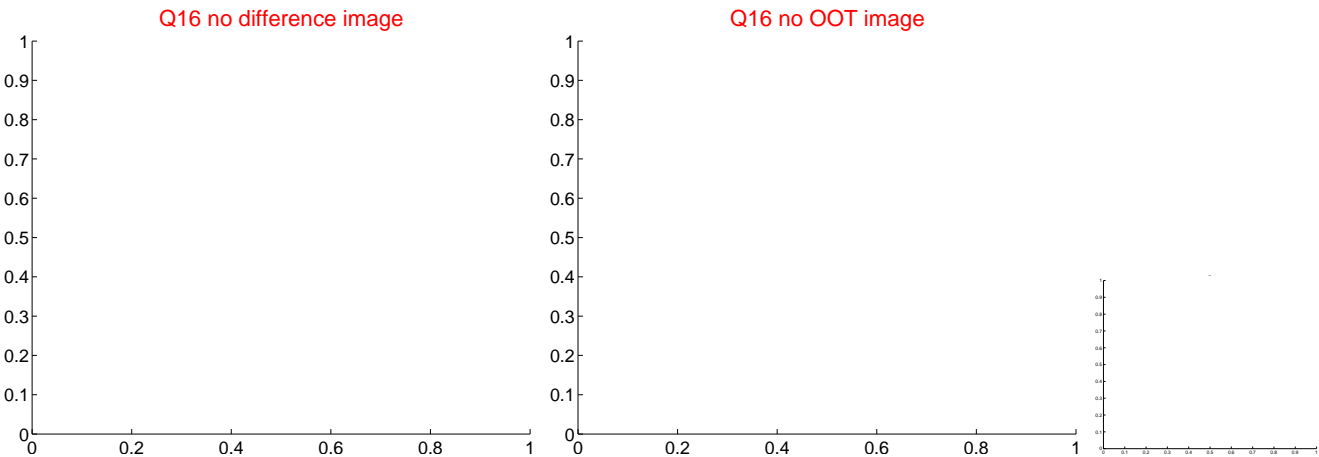
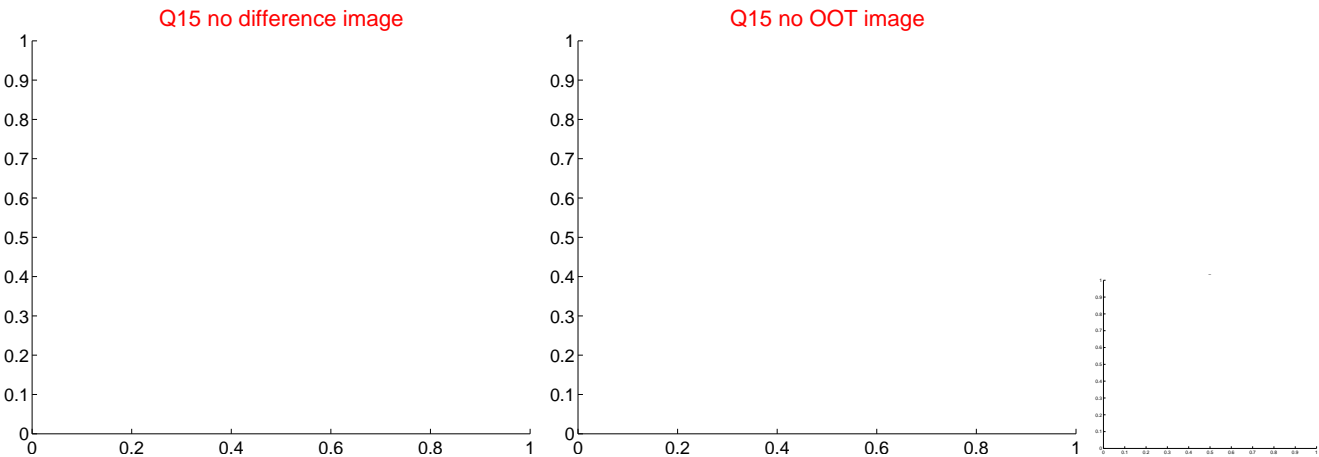
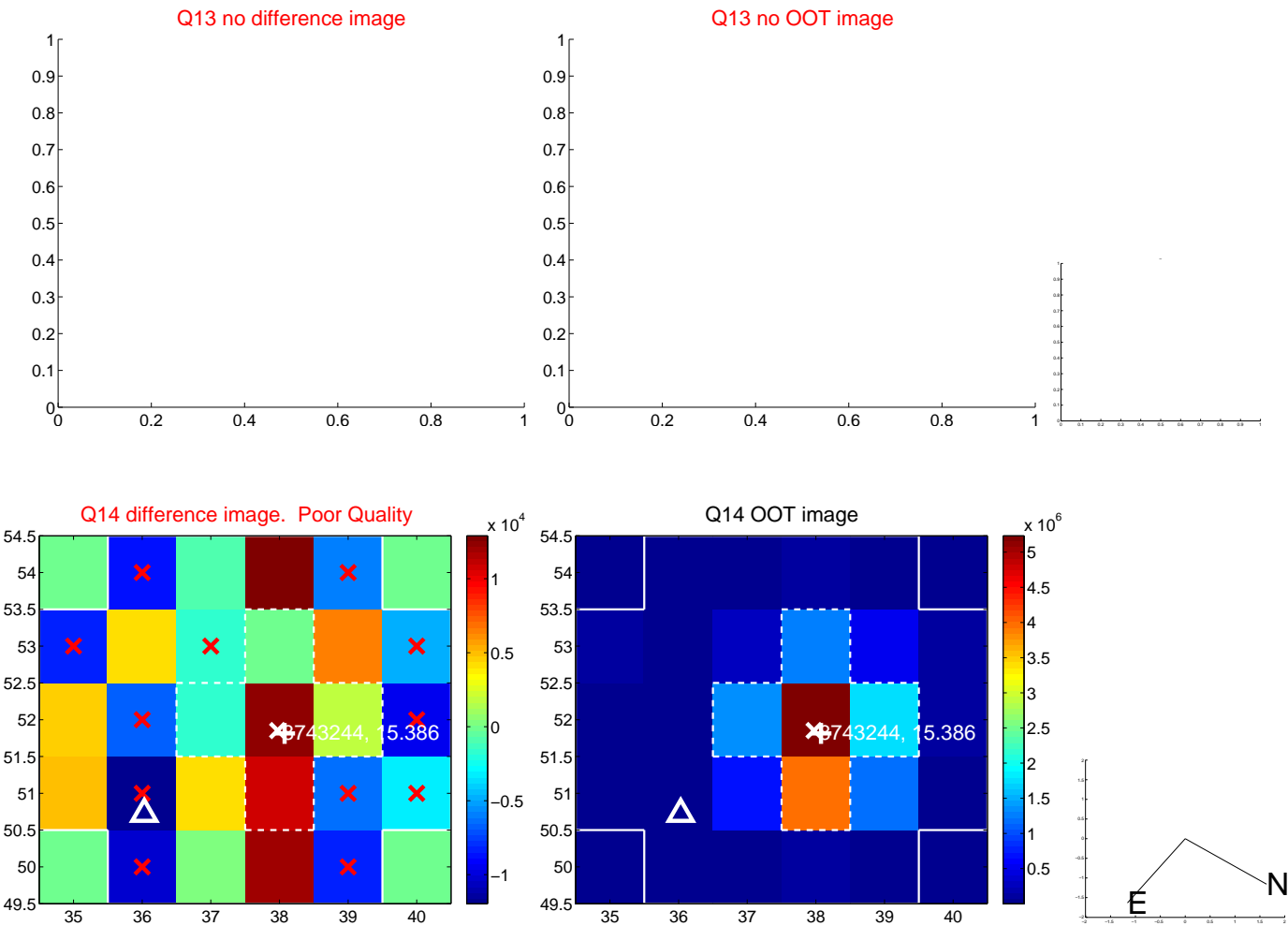
Q8 no OOT image



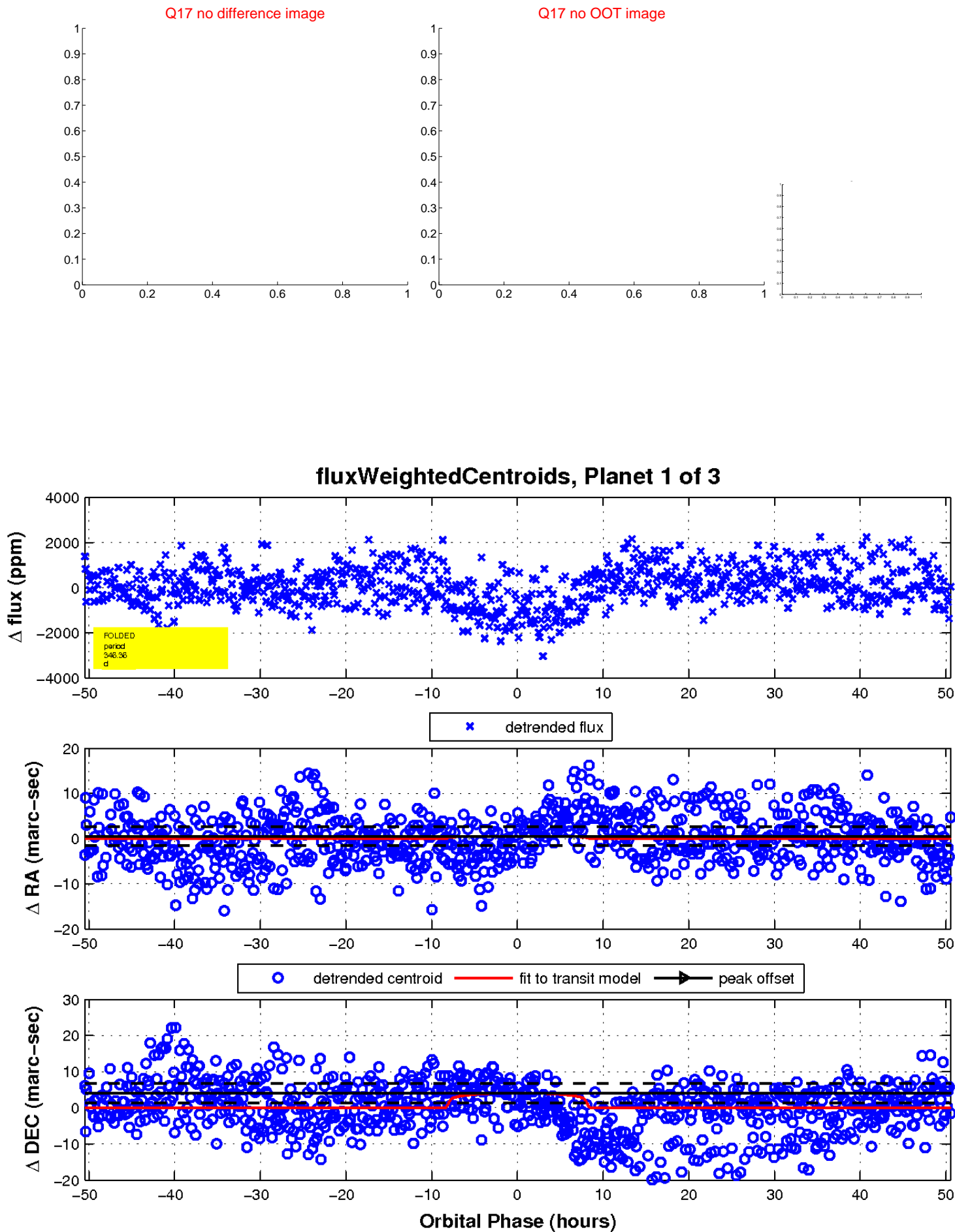
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

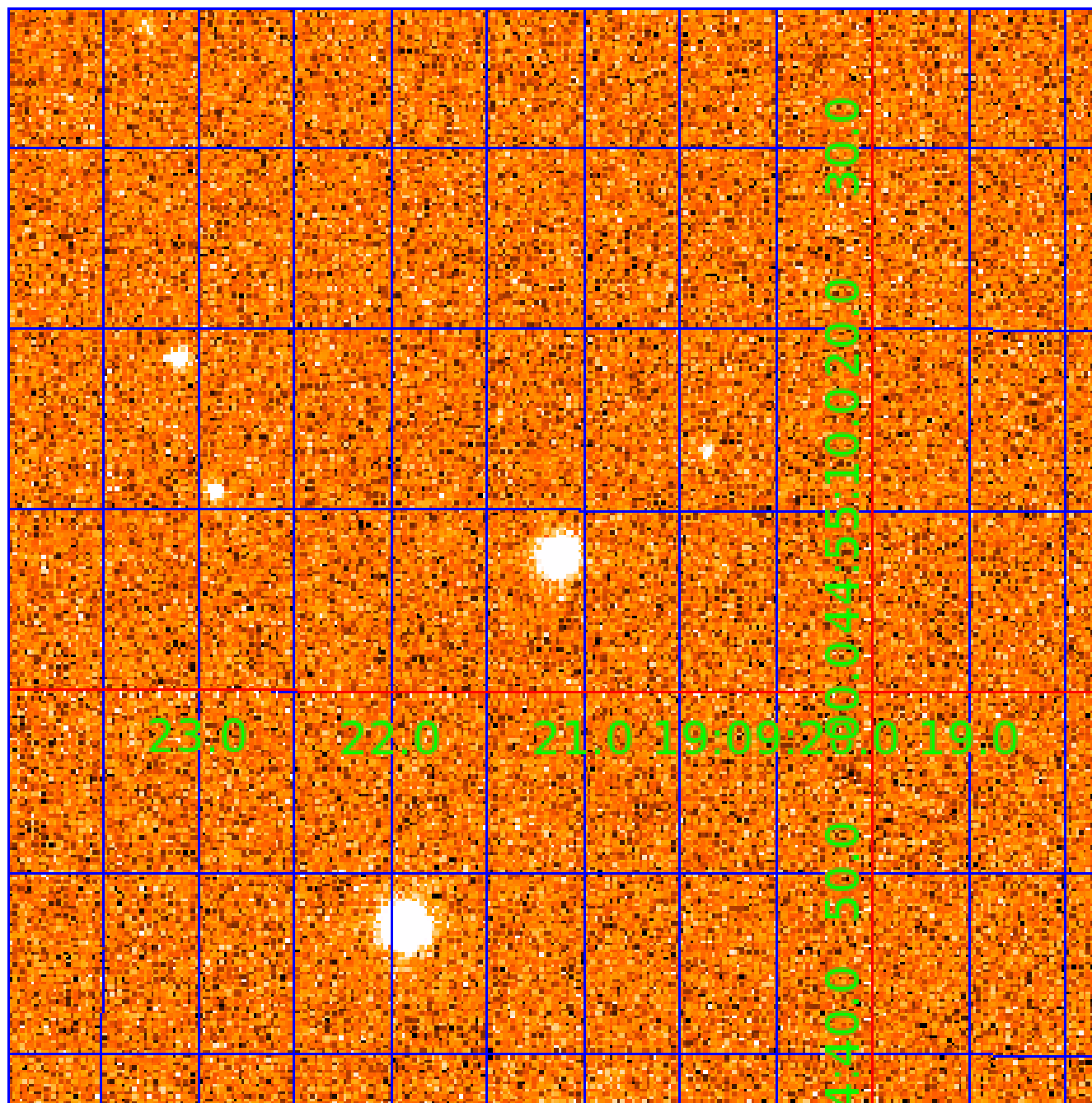


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008743244

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})
008743244-01	OBS	8166.01	346.357586	246.996974	1134.2	16.857	8.0	8.4	1.07	6060	3.69	1.42
008743244-02	OBS	No	362.850735	404.470441	832.2	40.321	9.6	9.4	1.07	6060	5.72	1.33
008743244-03	OBS	8166.02	365.593366	185.507449	1369.8	16.467	8.1	8.3	1.07	6060	4.67	1.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008743244-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008743244-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008743244-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

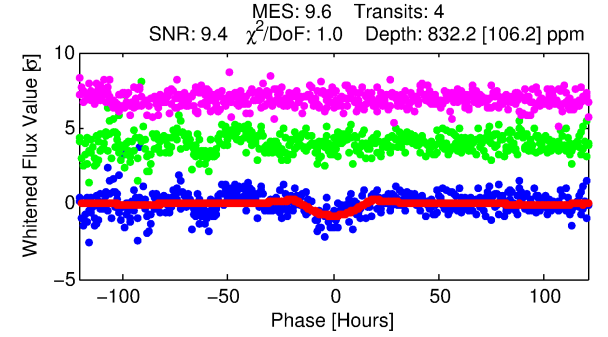
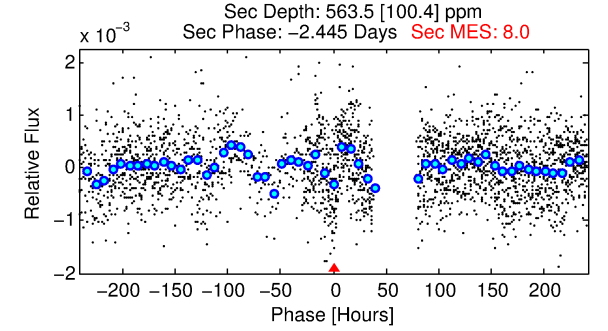
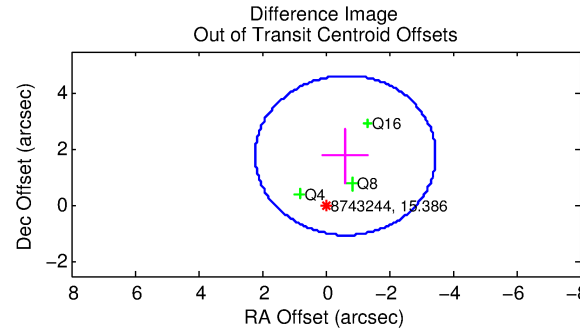
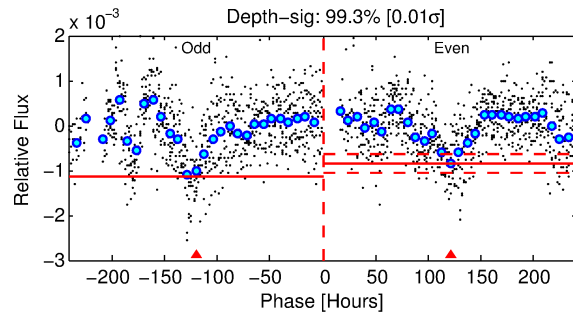
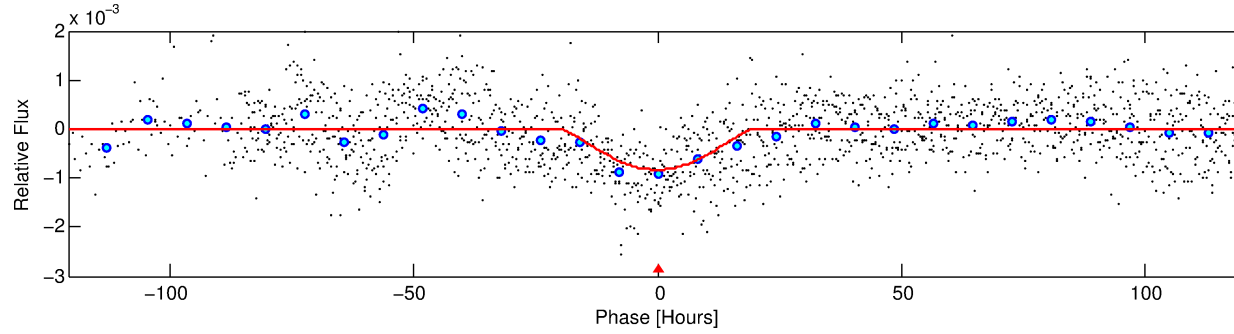
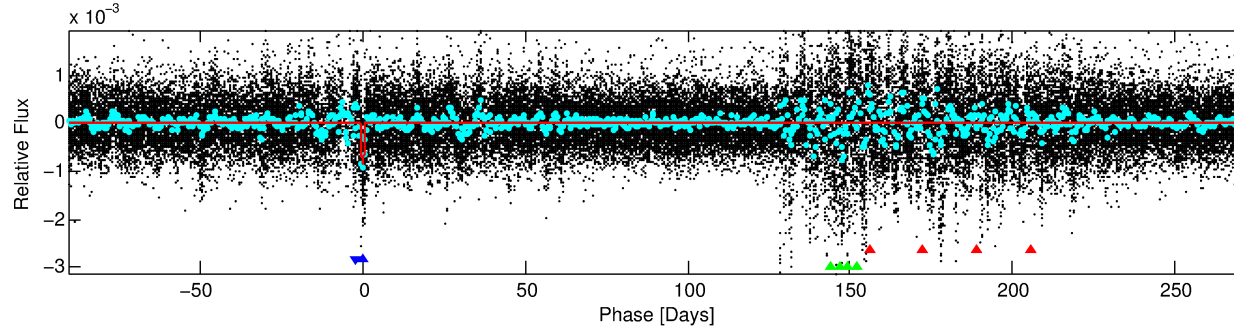
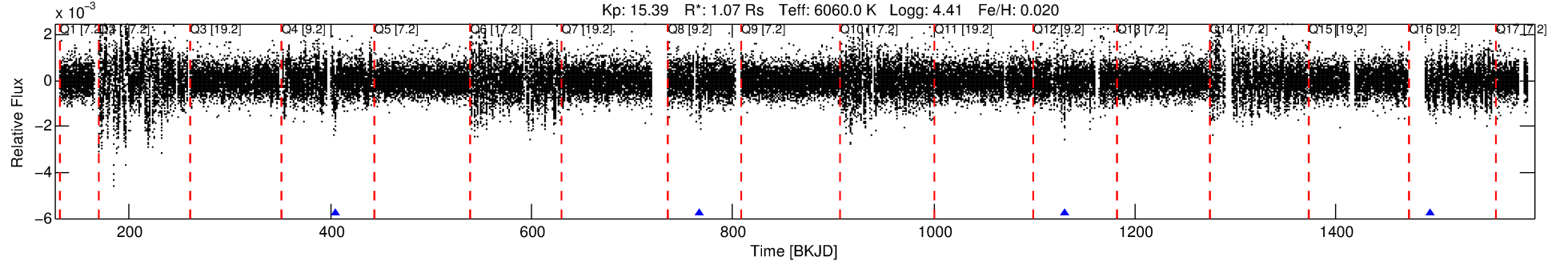
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008743244-02

No Significant Match Found

DV One-Page Summary

KIC: 8743244 Candidate: 2 of 3 Period: 362.851 d



DV Fit Results:

Period = 362.85074 [0.04184] d
Epoch = 404.4704 [0.0709] BKJD
Rp/R* = 0.0491 [0.1013]
a/R* = 22.51 [11.83]
b = 1.00 [0.15]
Seff = 1.33 [0.53]
Teq = 274 [27] K
Rp = 5.72 [11.94] Re
a = 1.0168 [0.2662] AU
Ag = 9805.19 [40690.17] [0.24 σ]
Teffp = 4215 [4358] K [0.90 σ]

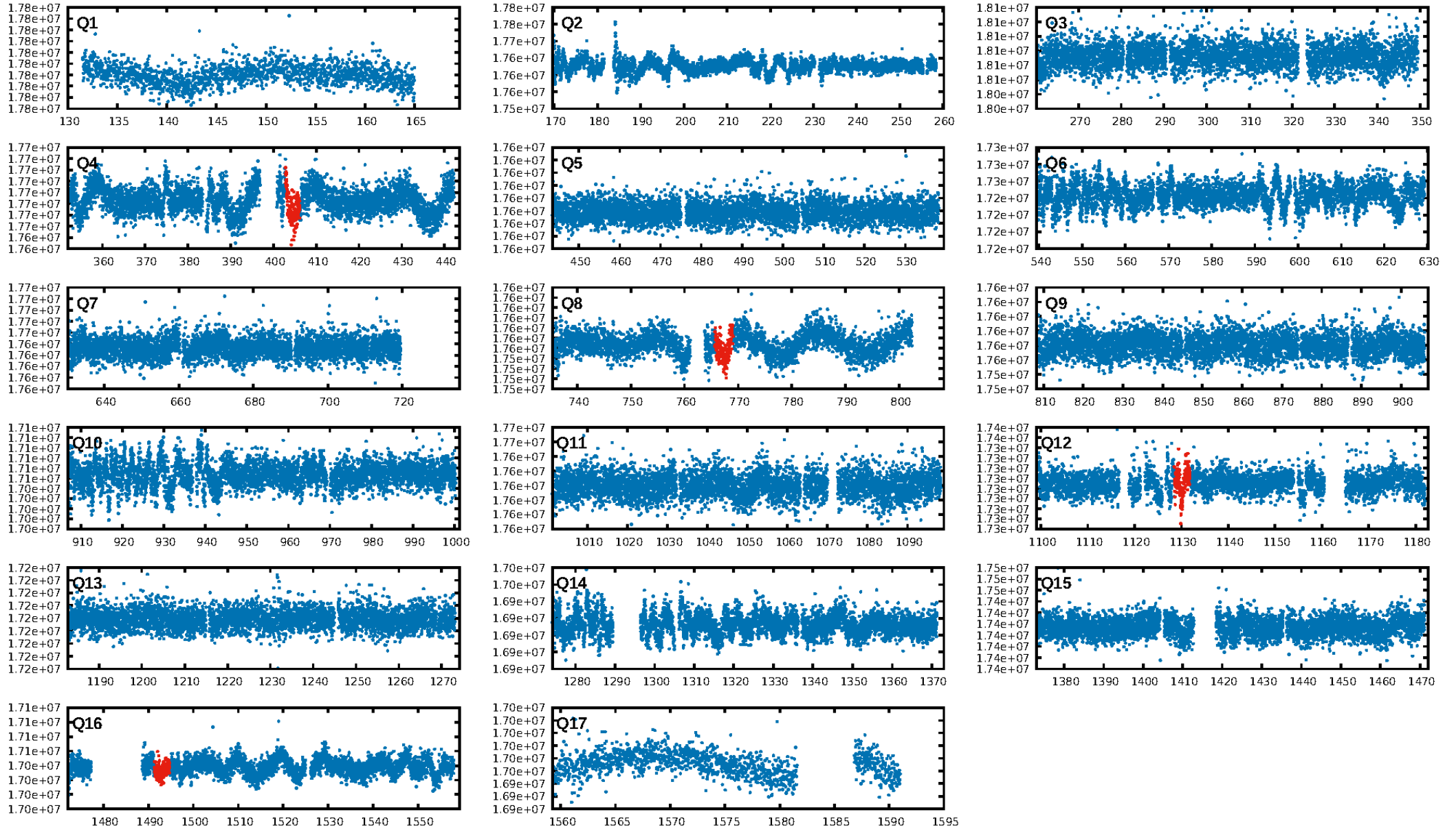
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.06 σ]
LongPeriod-sig: 86.9% [1.51 σ]
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.78e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.2524
Centroid-sig: 4.0%
Centroid-so: 3.005 arcsec [1.65 σ]
OotOffset-rm: 1.900 arcsec [2.01 σ]
KicOffset-rm: 2.244 arcsec [2.52 σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-st: 0/0/3/0 [3]
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DiffImageOverlap-fno: 1.00 [3/3]

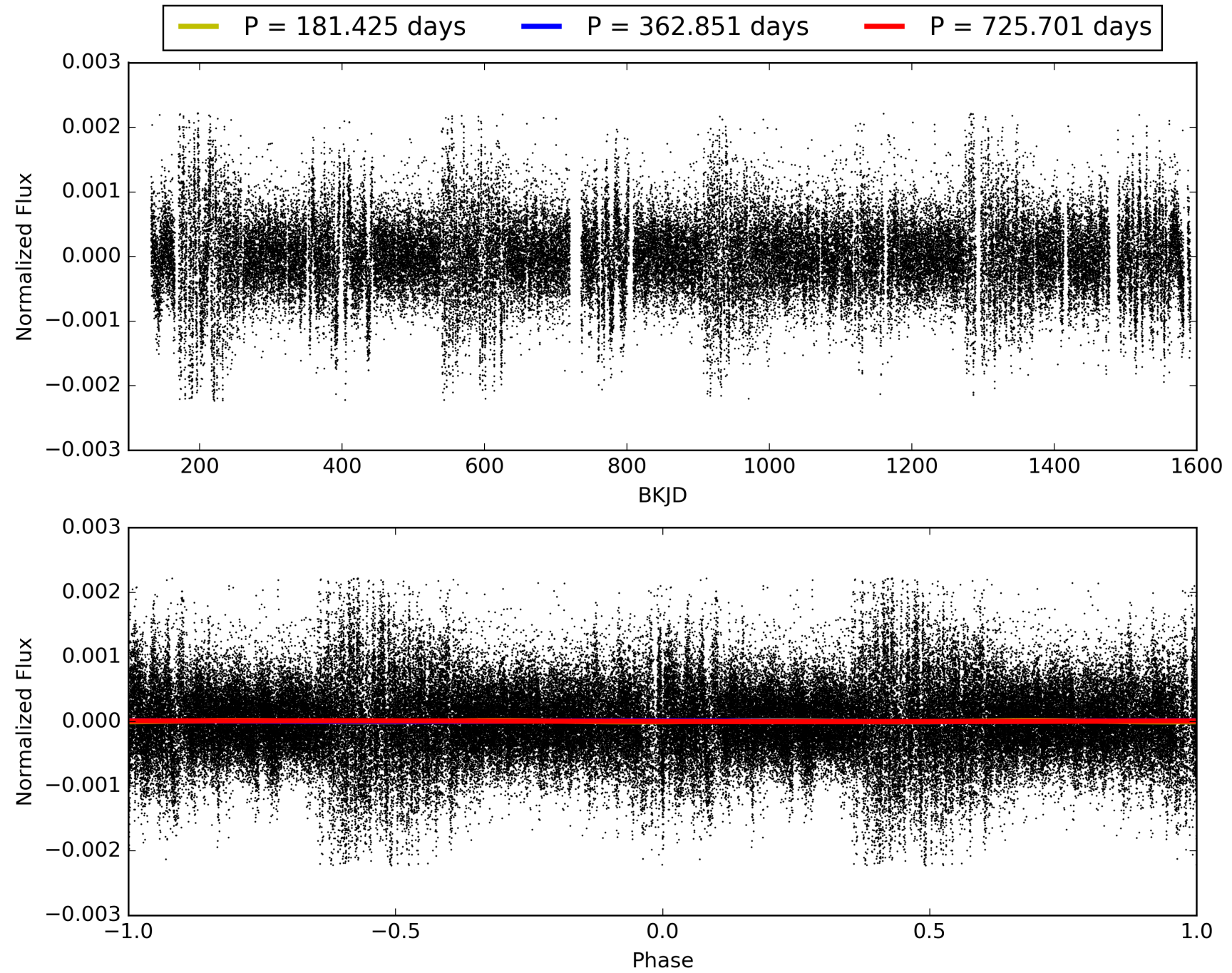
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:50:36 Z

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

TCE 008743244-02, PDC Light Curves

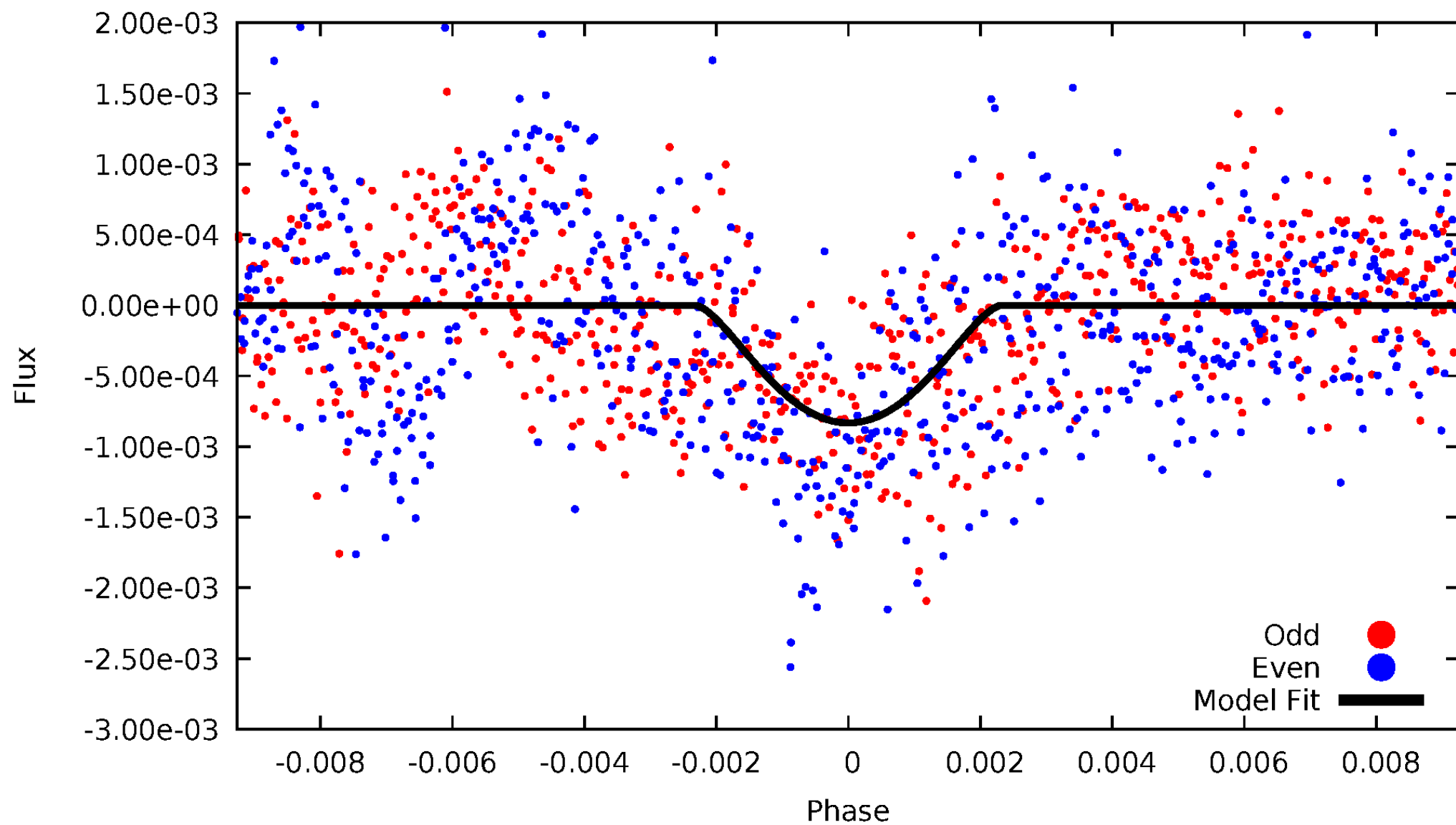


TCE 008743244-02



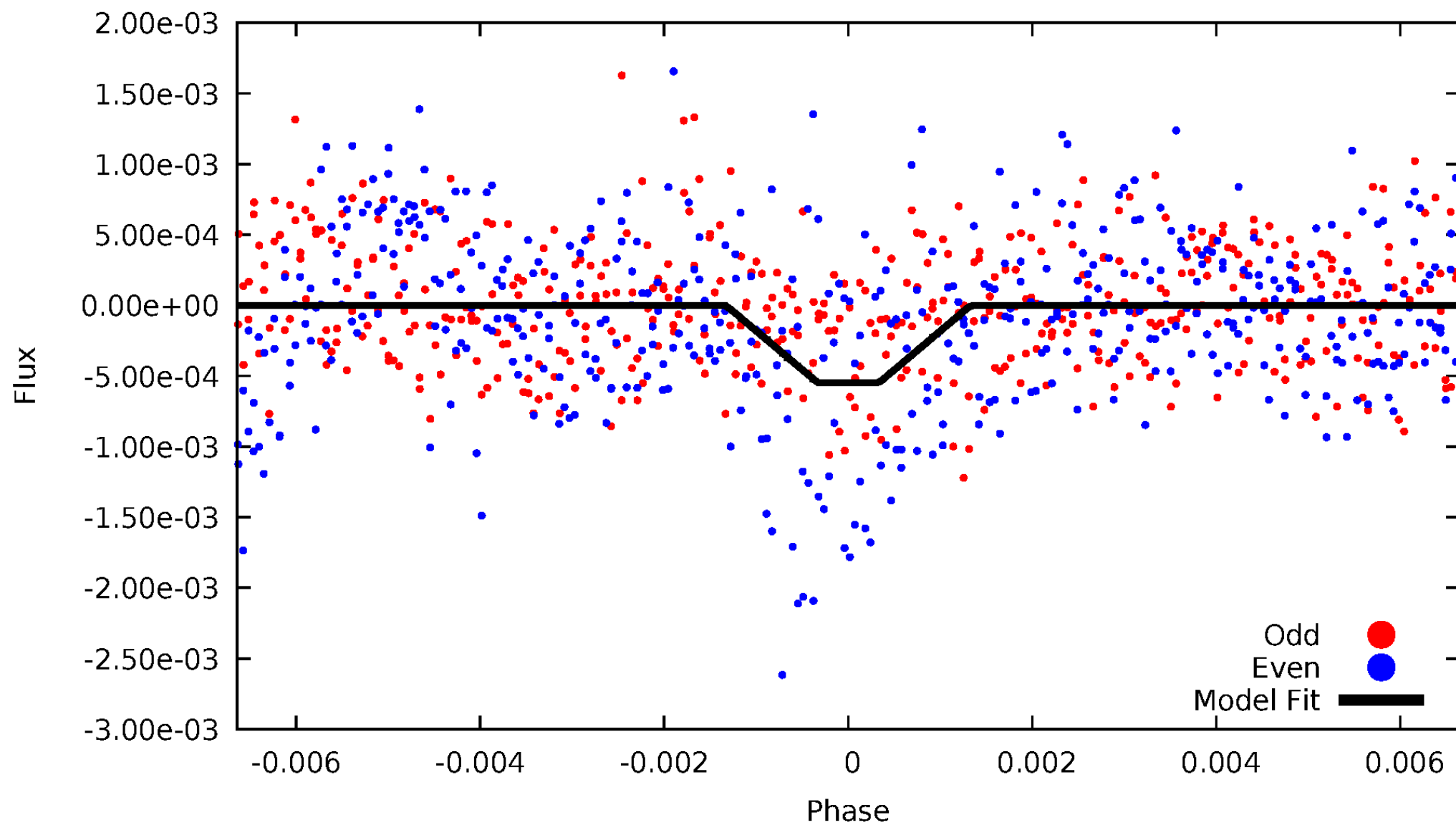
DV Odd/Even

TCE 008743244-02



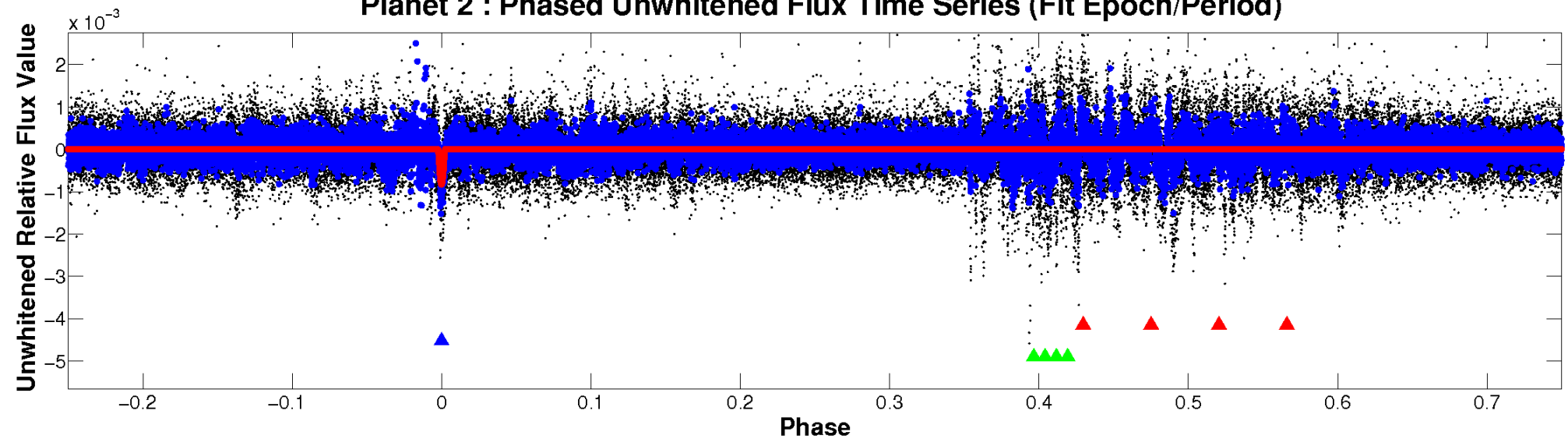
ALT Odd/Even

TCE 008743244-02

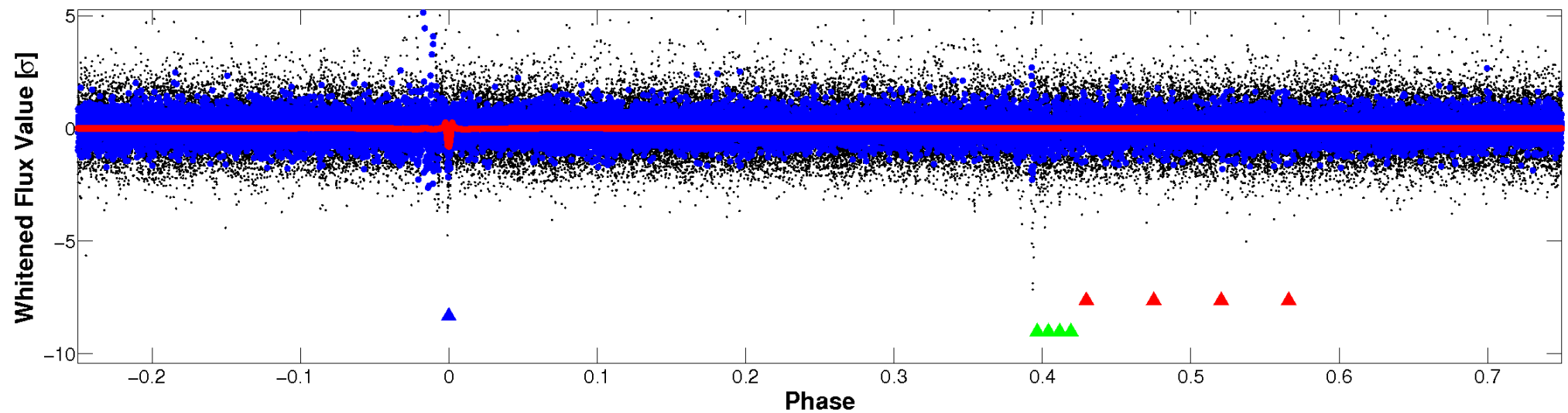


Non-Whitened Vs. Whitened Light Curve

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



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



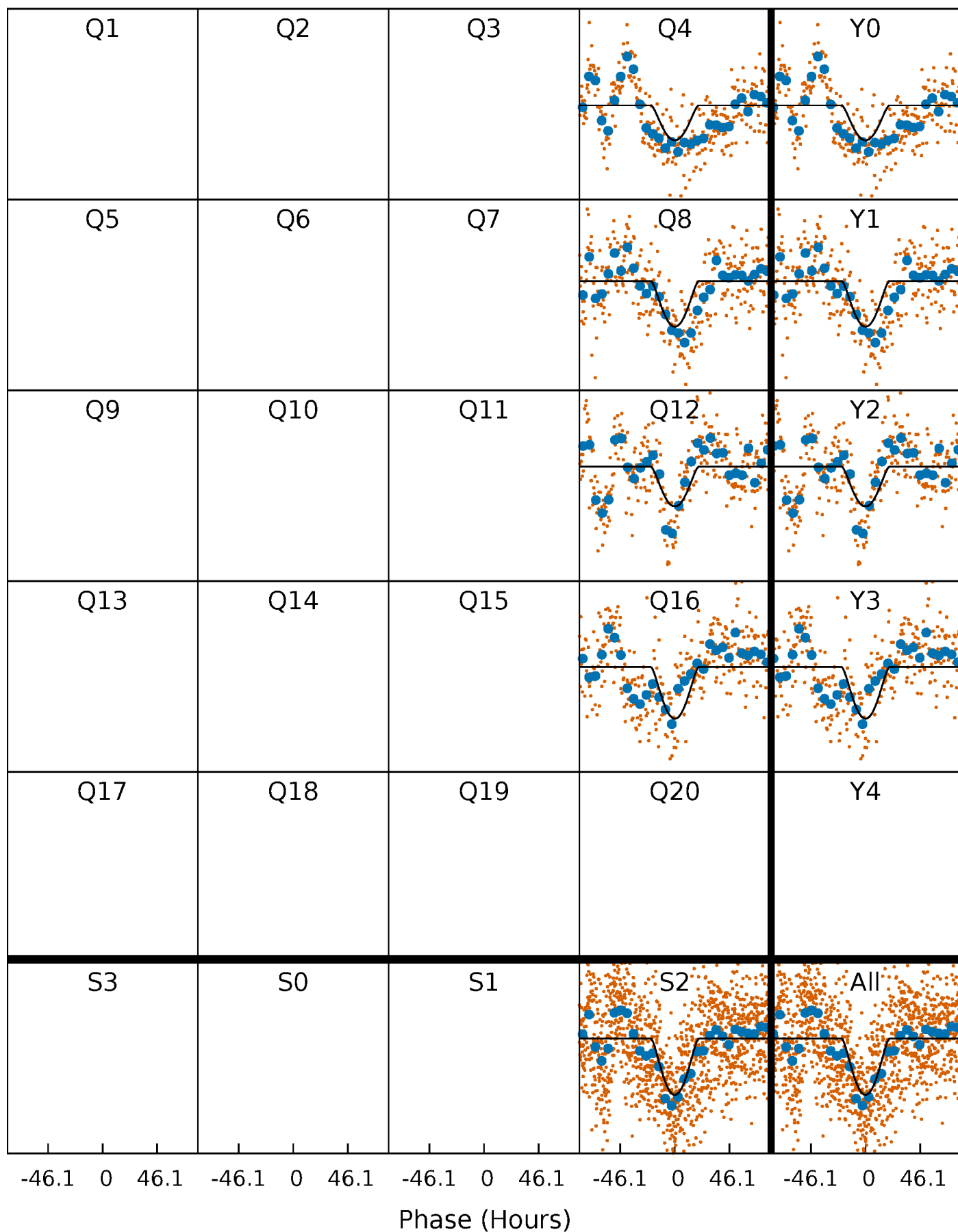
PDC Quarter-Phased Transit Curves

TCE 008743244-02 P=362.850735 Days $T_0=404.470441$ (BKJD)



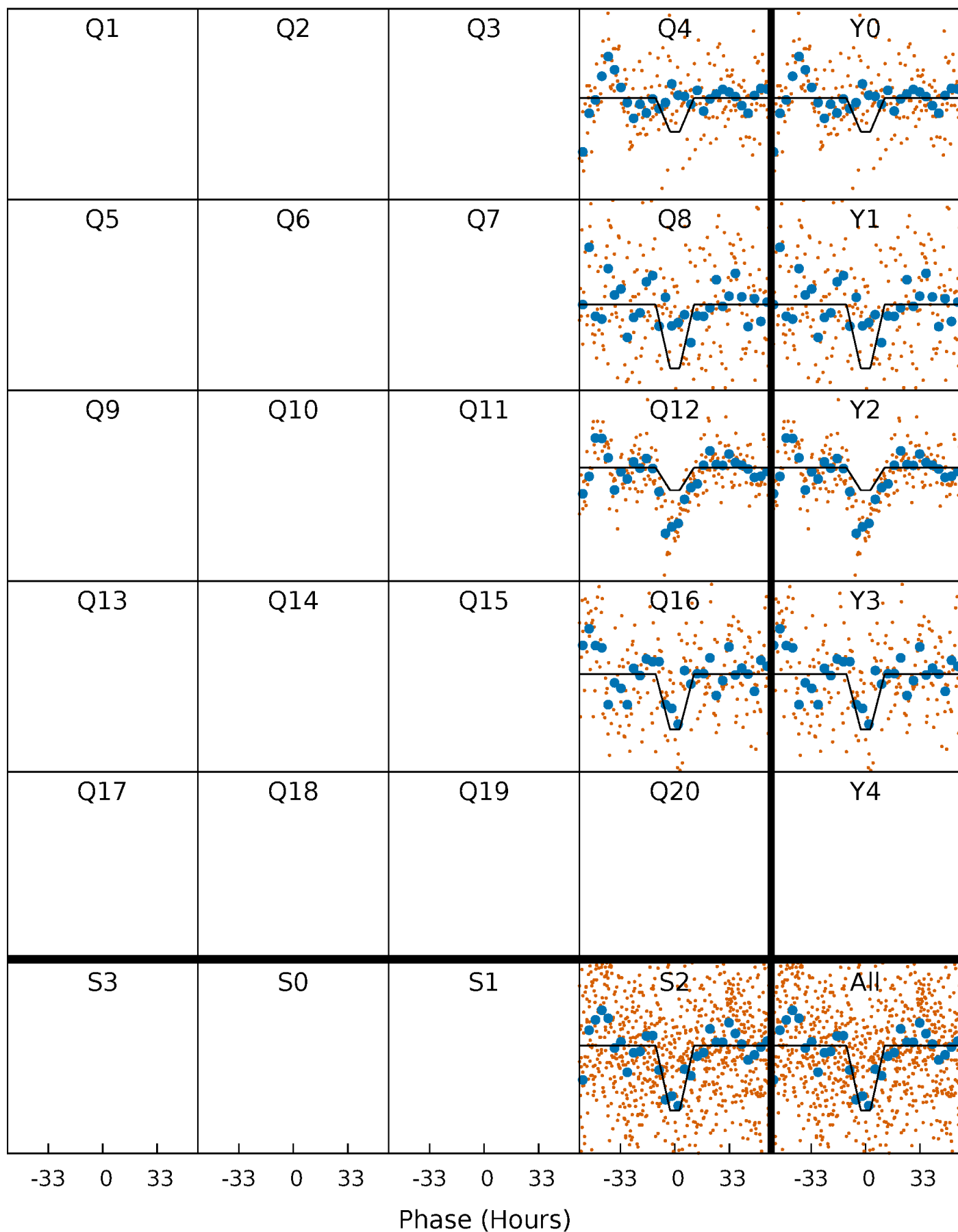
DV Quarter-Phased Transit Curves

TCE 008743244-02 P=362.850735 Days $T_0=404.470441$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

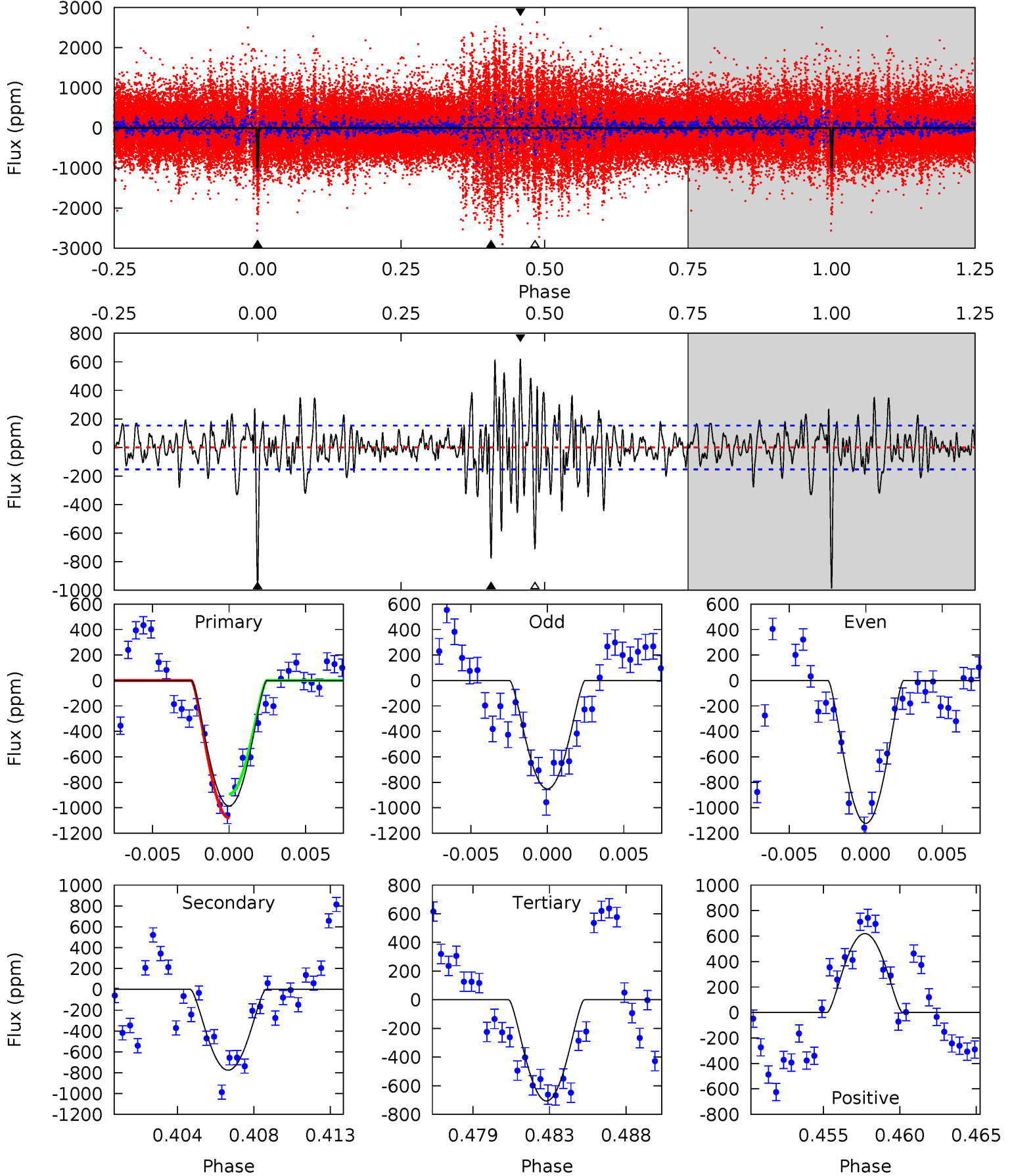
TCE 008743244-02 P=362.818291 Days $T_0=404.477600$ (BKJD)



DV Model-Shift Uniqueness Test

008743244-02, P = 362.850735 Days, E = 41.619706 Days

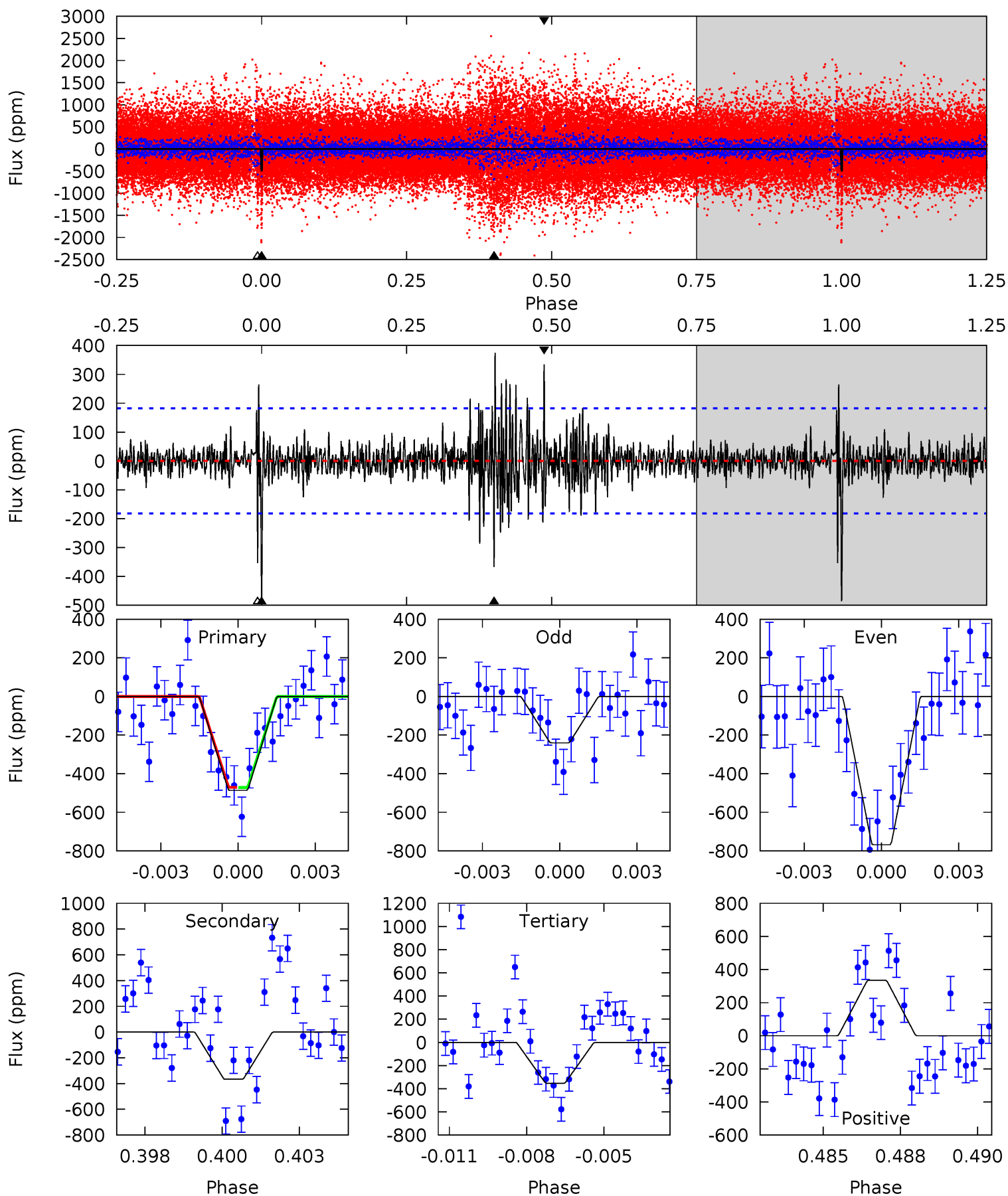
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.3	26.2	23.9	20.9	5.17	2.83	4.80	9.46	12.4	2.36	5.30	4.49	0.95	0.39	3.20



Alt Model-Shift Uniqueness Test

008743244-02, P = 362.818291 Days, E = 41.659309 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	10.6	10.2	9.70	5.28	3.01	1.63	3.85	4.39	0.39	0.93	7.58	2.09	0.43	0.02



Stellar Parameters For KIC 008743244

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6060^{+191}_{-212}	$4.408^{+0.087}_{-0.203}$	$0.020^{+0.250}_{-0.300}$	$1.068^{+0.337}_{-0.144}$	$1.061^{+0.162}_{-0.132}$	$1.226^{+0.472}_{-0.653}$
	+3%/-3%	+2%/-5%	+1250%/-1500%	+32%/-13%	+15%/-12%	+38%/-53%
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 008743244-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-776 ± 30	$10.48^{+11.21}_{-7.25}$	389^{+30}_{-21}	3828^{+2434}_{-765}	3882^{+38579}_{-2881}
Alt.	-367 ± 35	$9.50^{+9.83}_{-6.20}$	389^{+30}_{-21}	3483^{+1664}_{-647}	2256^{+17418}_{-1703}

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 $A_{obs} \gg 1.0$

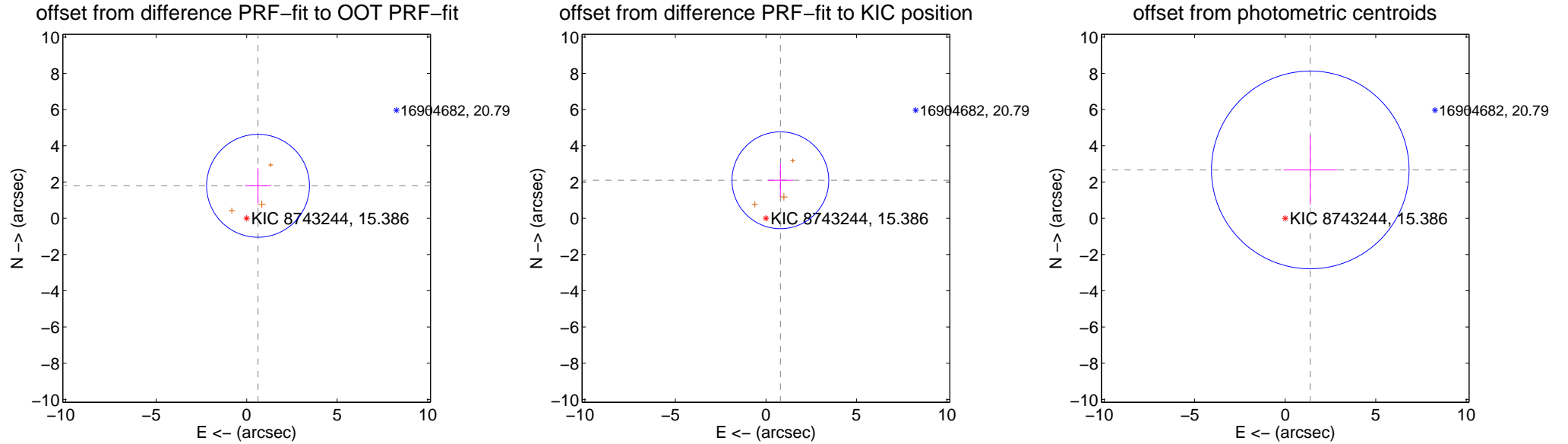
DV Centroid Data

Supplemental centroid analysis for 008743244-02. Kepler magnitude: 15.39. Transit SNR 9.42

There are 0 quarters with good PRF difference image offsets

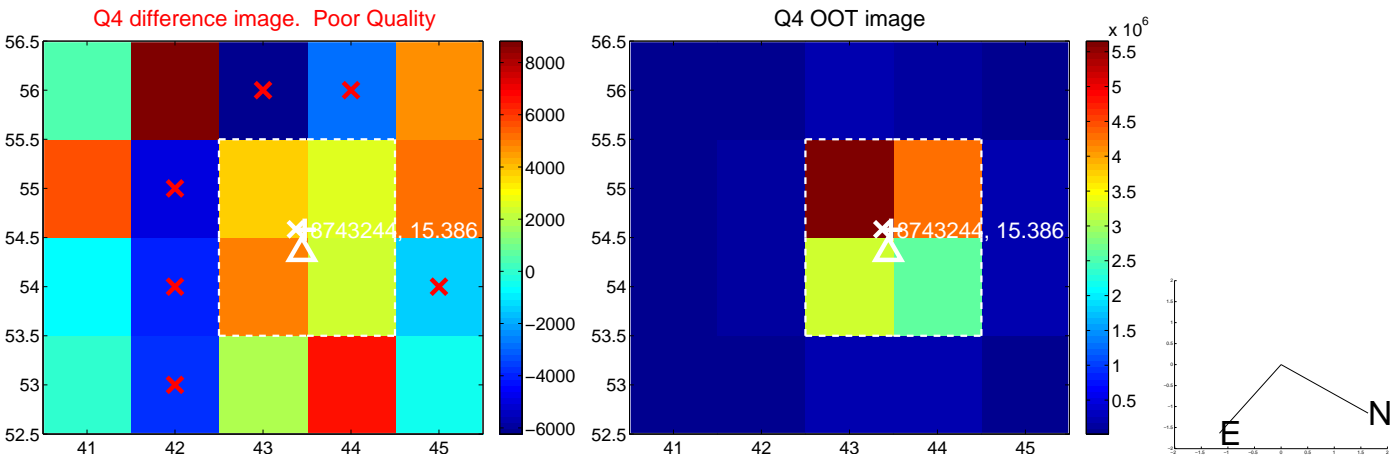
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.900 ± 0.947	2.01	-0.628 ± 0.724	1.793 ± 0.970
PRF-fit source offset from KIC position	2.244 ± 0.891	2.52	-0.798 ± 0.703	2.097 ± 0.915
photometric centroid source offset	3.01 ± 1.82	1.65	-1.38 ± 1.47	2.67 ± 1.90

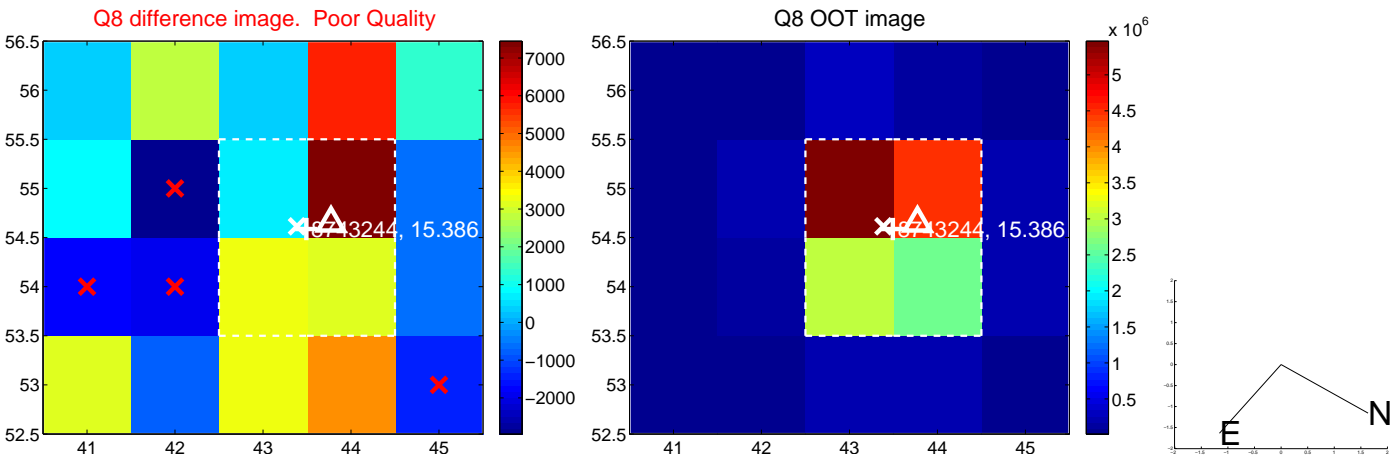
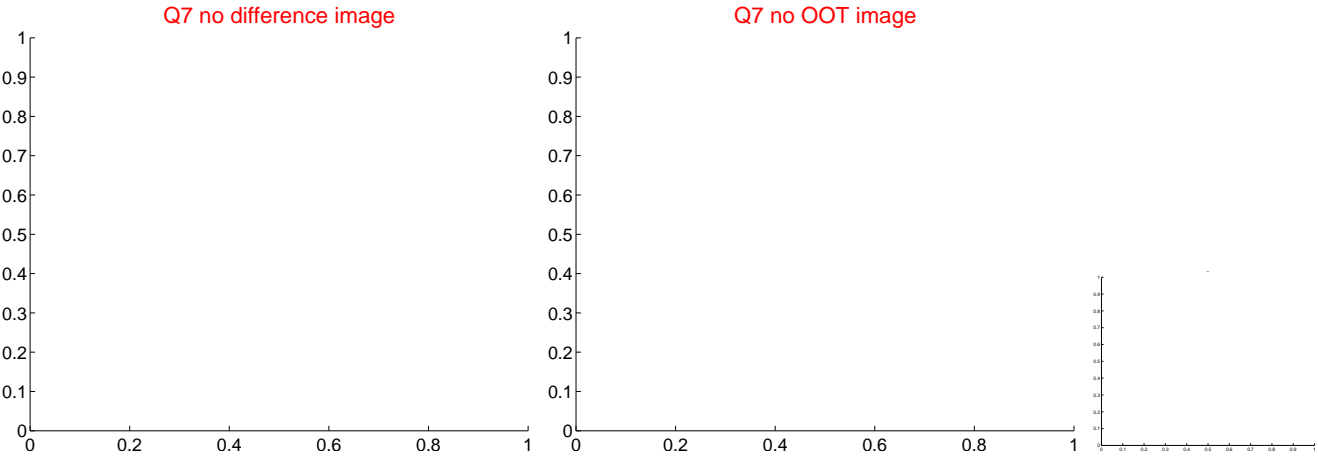
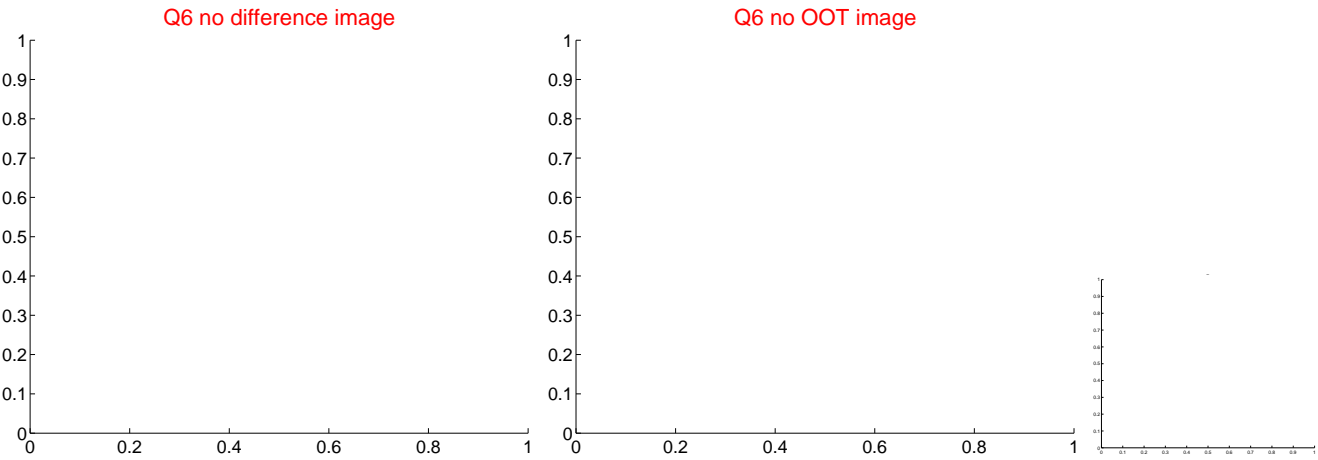
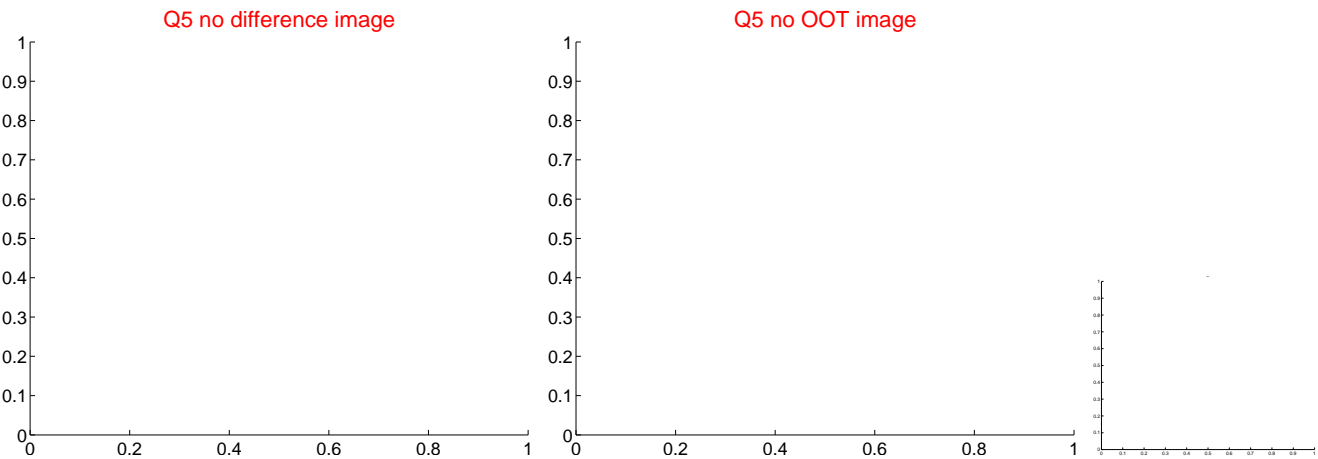


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



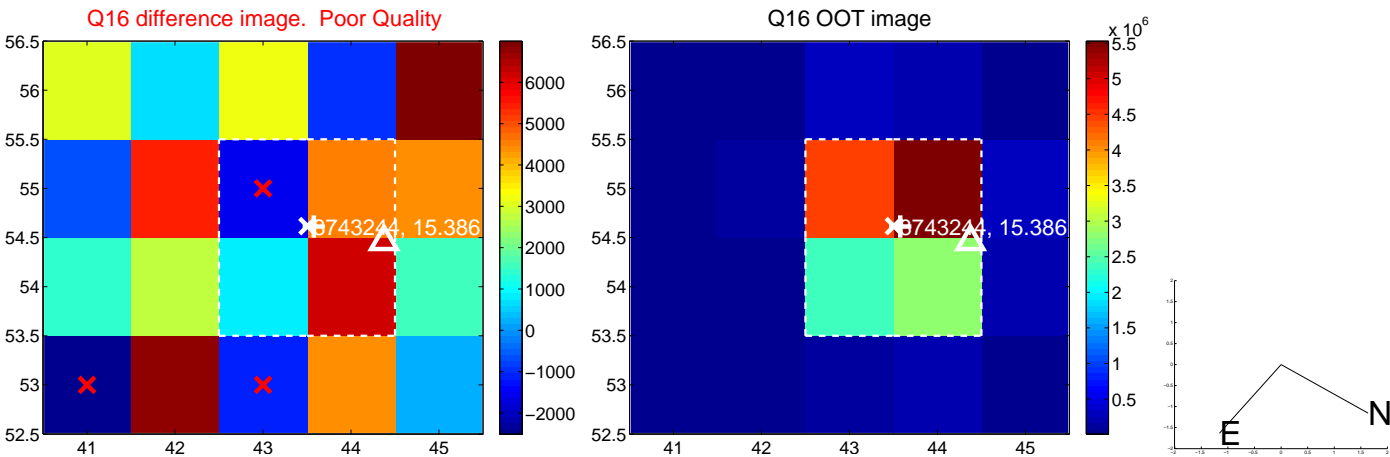
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



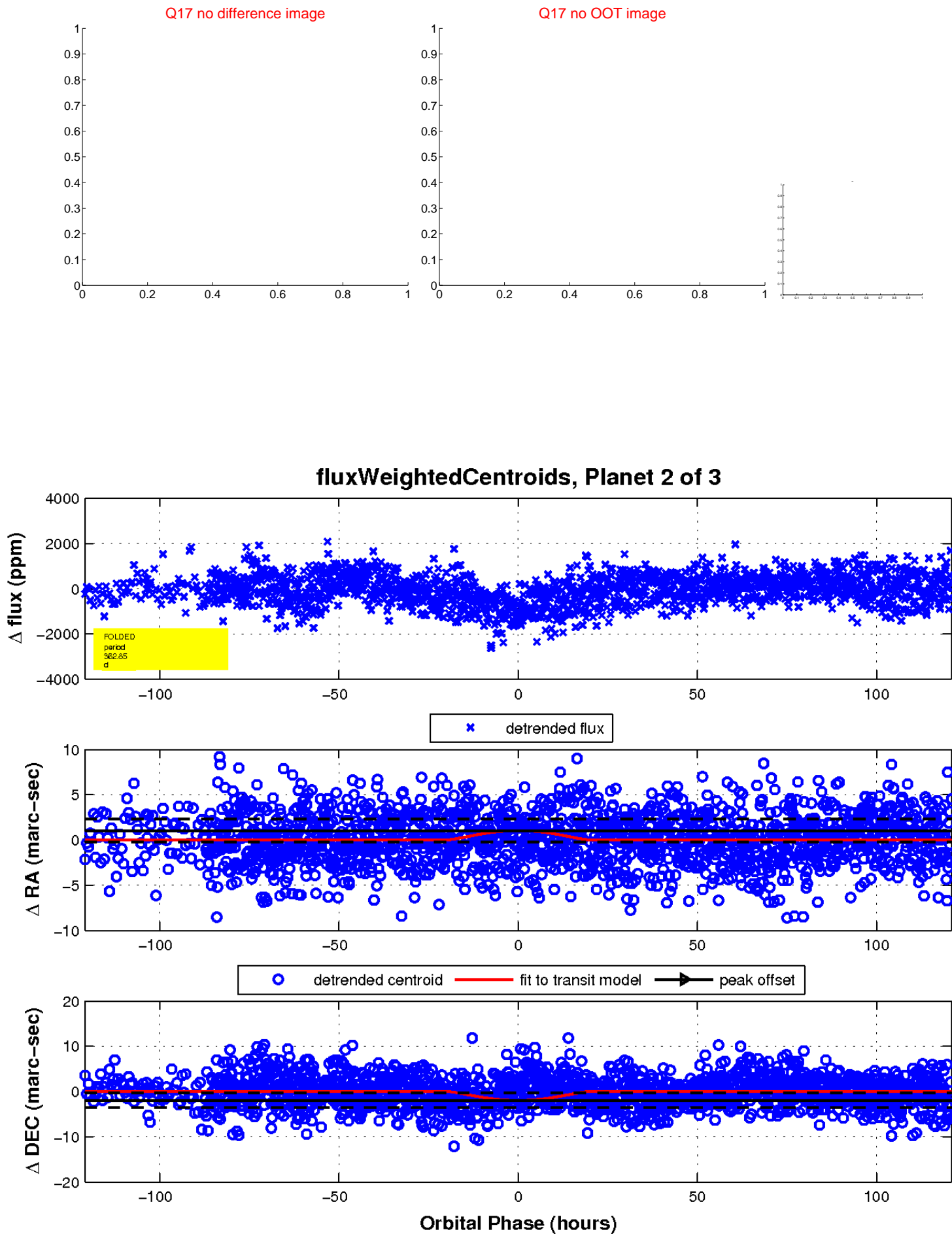
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

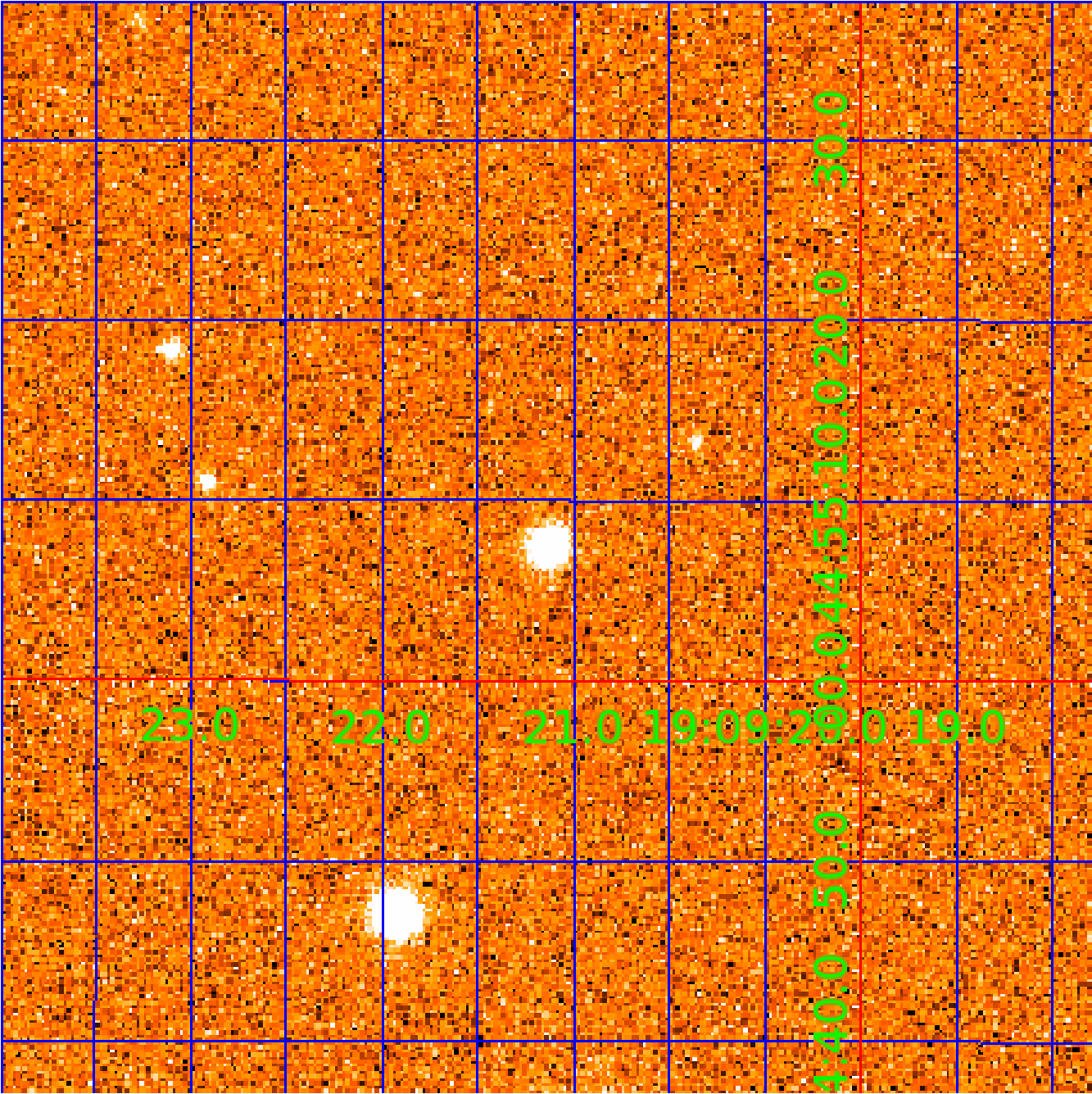


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008743244

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})
008743244-01	OBS	8166.01	346.357586	246.996974	1134.2	16.857	8.0	8.4	1.07	6060	3.69	1.42
008743244-02	OBS	No	362.850735	404.470441	832.2	40.321	9.6	9.4	1.07	6060	5.72	1.33
008743244-03	OBS	8166.02	365.593366	185.507449	1369.8	16.467	8.1	8.3	1.07	6060	4.67	1.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008743244-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008743244-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008743244-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

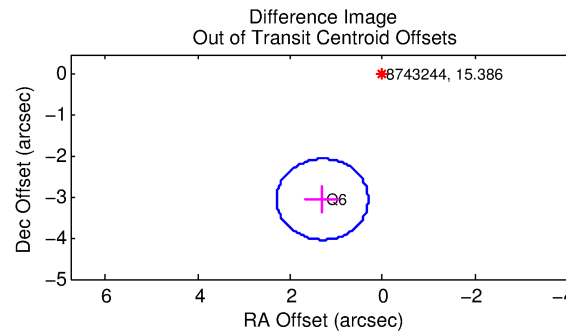
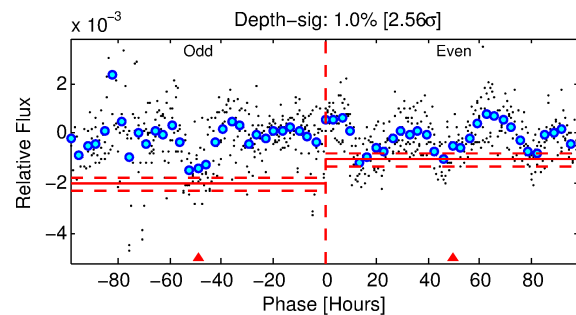
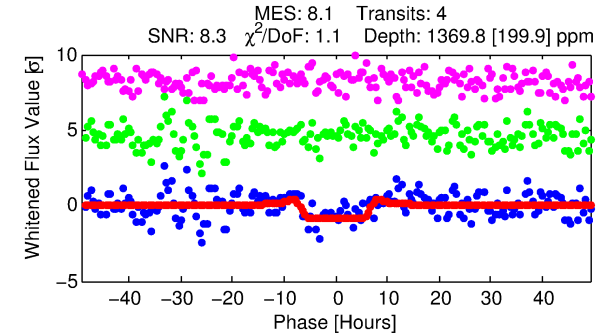
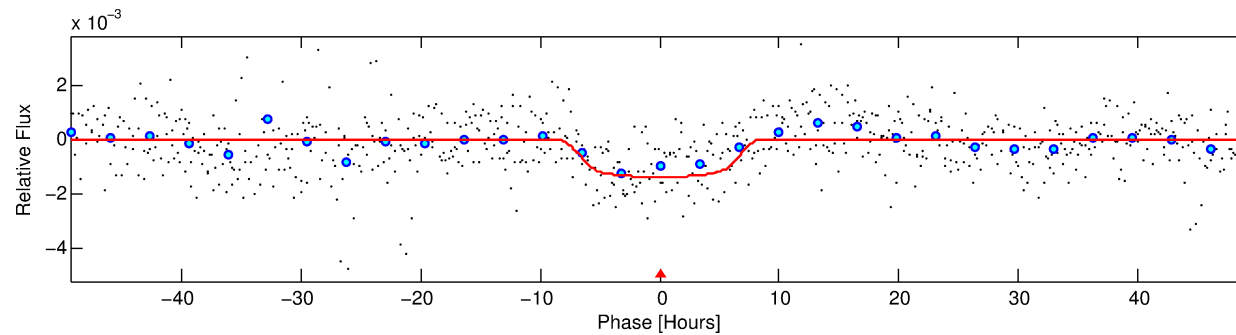
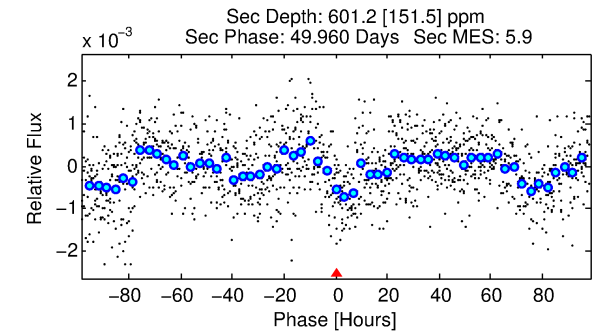
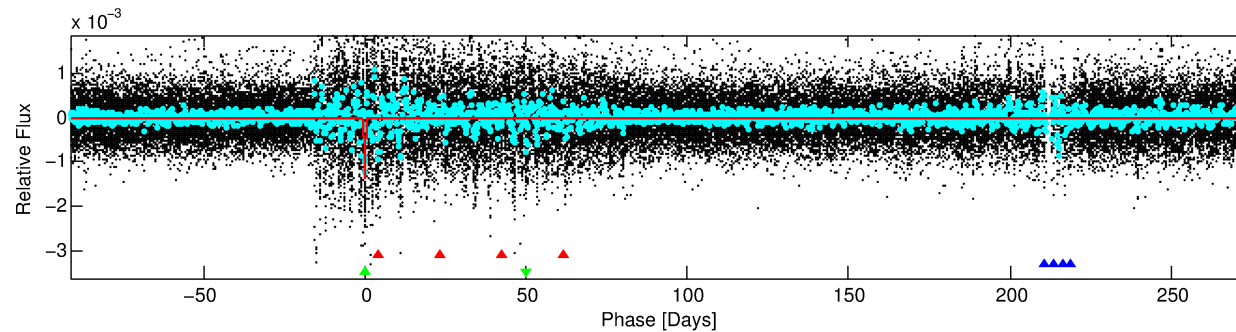
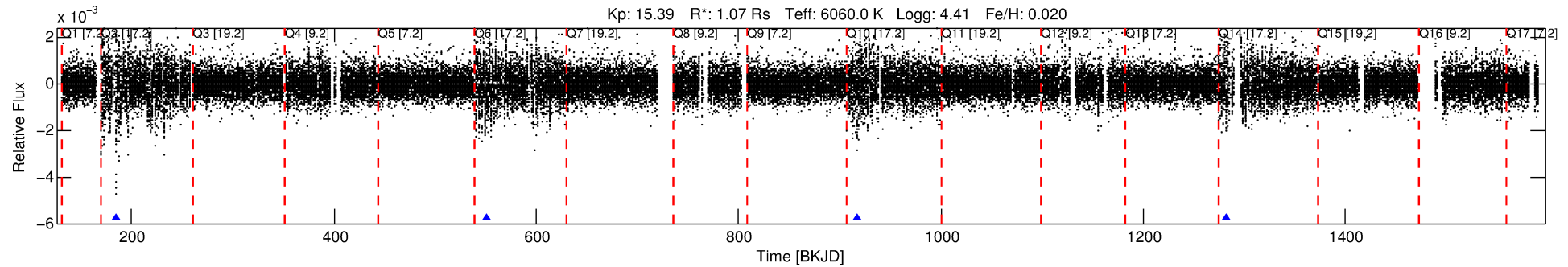
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008743244-03

No Significant Match Found

DV One-Page Summary

KIC: 8743244 Candidate: 3 of 3 Period: 365.593 d



DV Fit Results:

Period = 365.59337 [0.01385] d
Epoch = 185.5074 [0.0263] BKJD
Rp/R* = 0.0401 [0.0037]
a/R* = 88.21 [19.67]
b = 0.90 [0.05]
Seff = 1.32 [0.53]
Teq = 273 [27] K
Rp = 4.67 [1.54] Re
a = 1.0219 [0.2675] AU
Ag = 15813.60 [7727.70] [2.05σ]
Teff = 4739 [405] K [10.99σ]

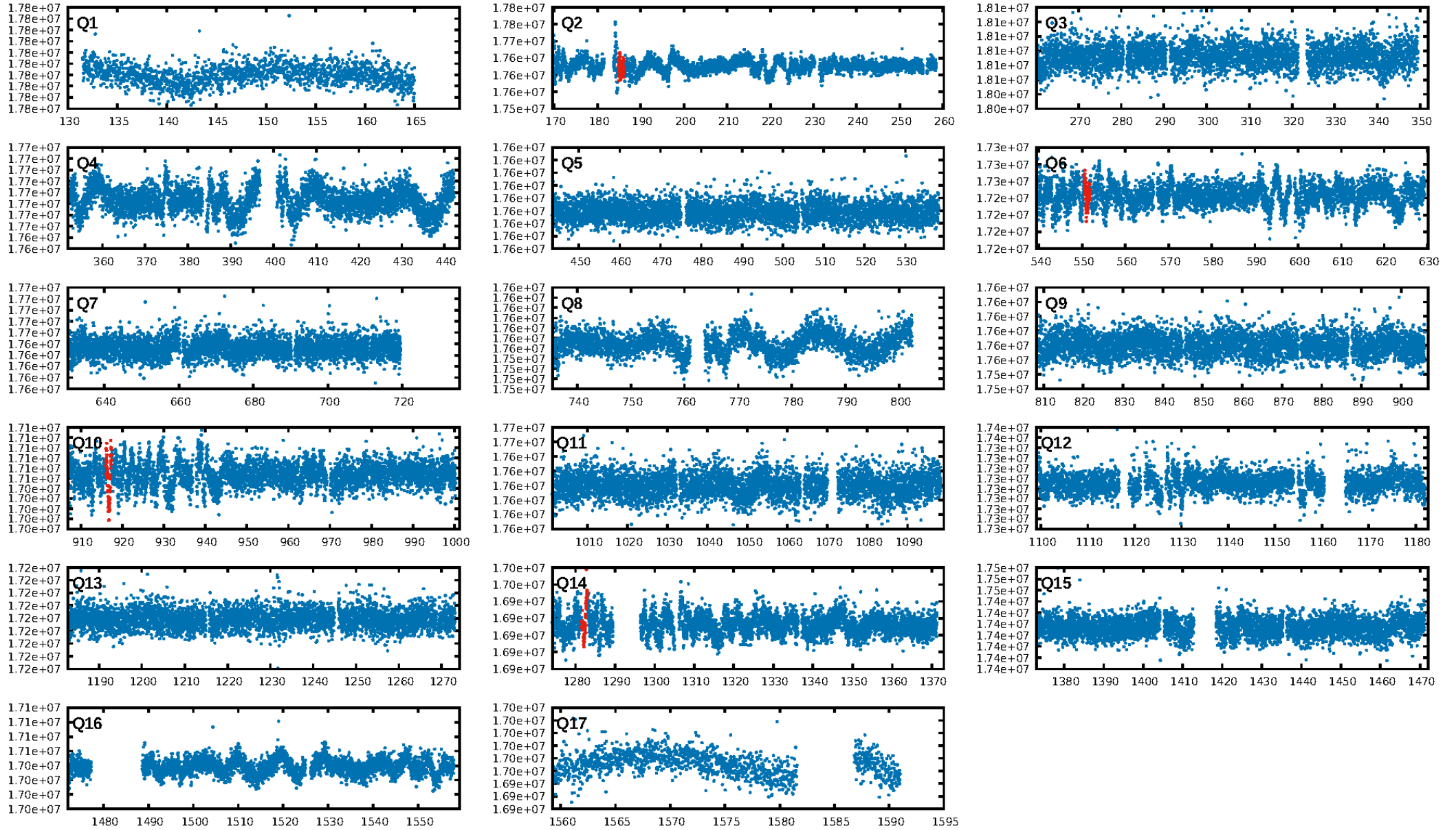
DV Diagnostic Results:

ShortPeriod-sig: 86.9% [1.51σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 37.7%
ModelChiSquareGoF-sig: 91.6%
Bootstrap-pfa: 2.02e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -2.608
Centroid-sig: 42.3%
Centroid-so: 1.155 arcsec [0.56σ]
OotOffset-rm: 3.318 arcsec [10.05σ]
KicOffset-rm: 2.986 arcsec [9.08σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

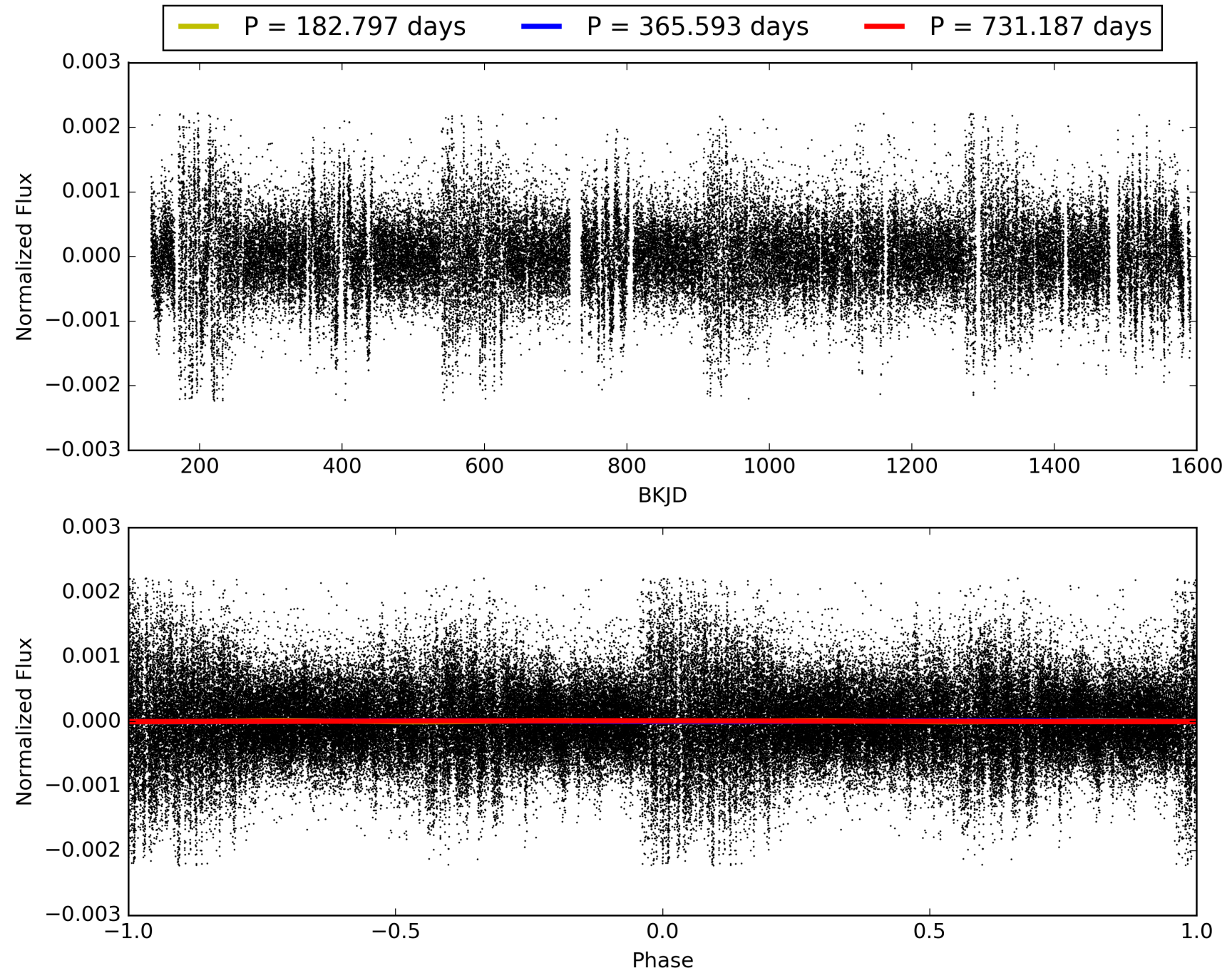
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:50:44 Z

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

TCE 008743244-03, PDC Light Curves

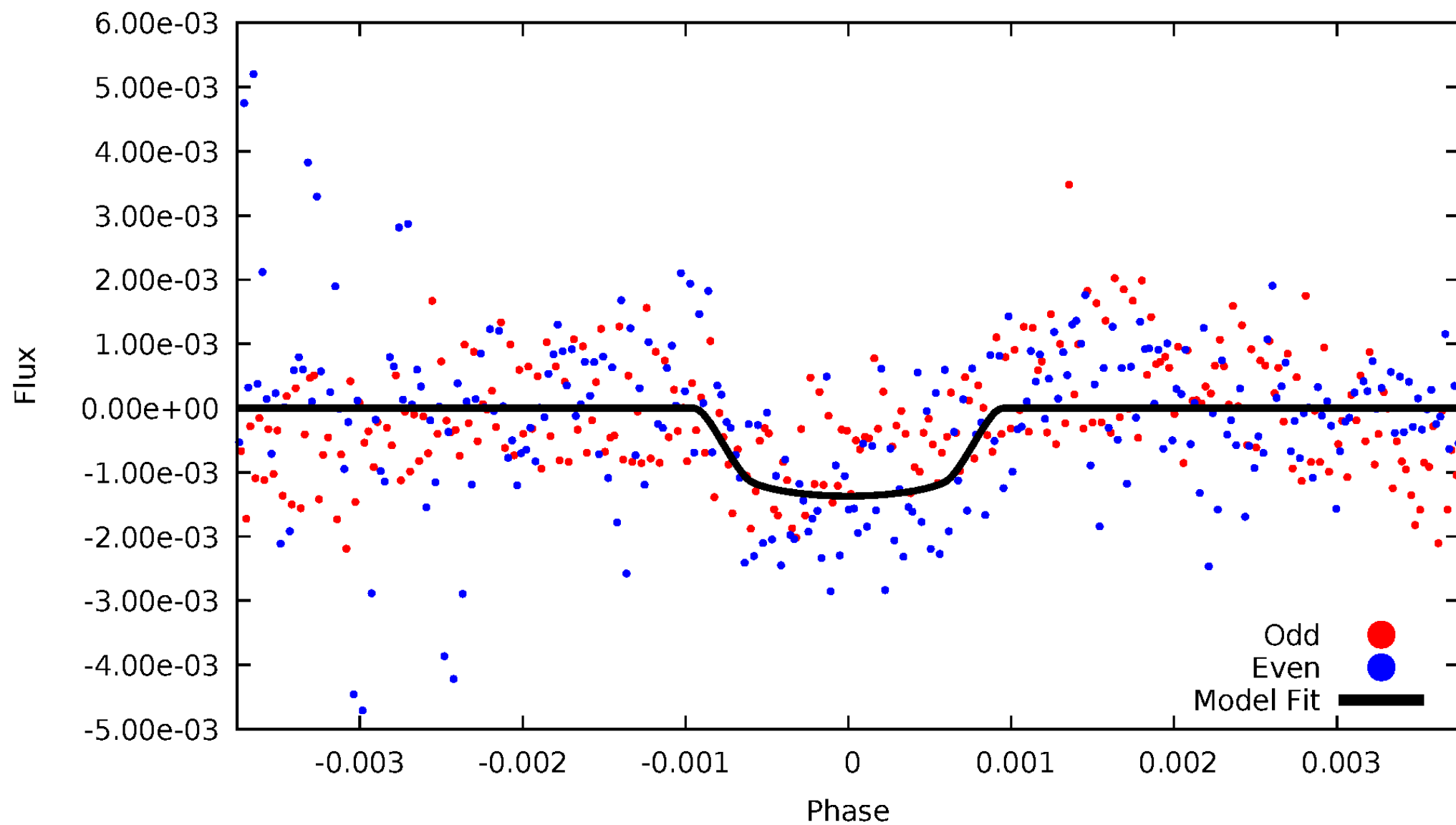


TCE 008743244-03



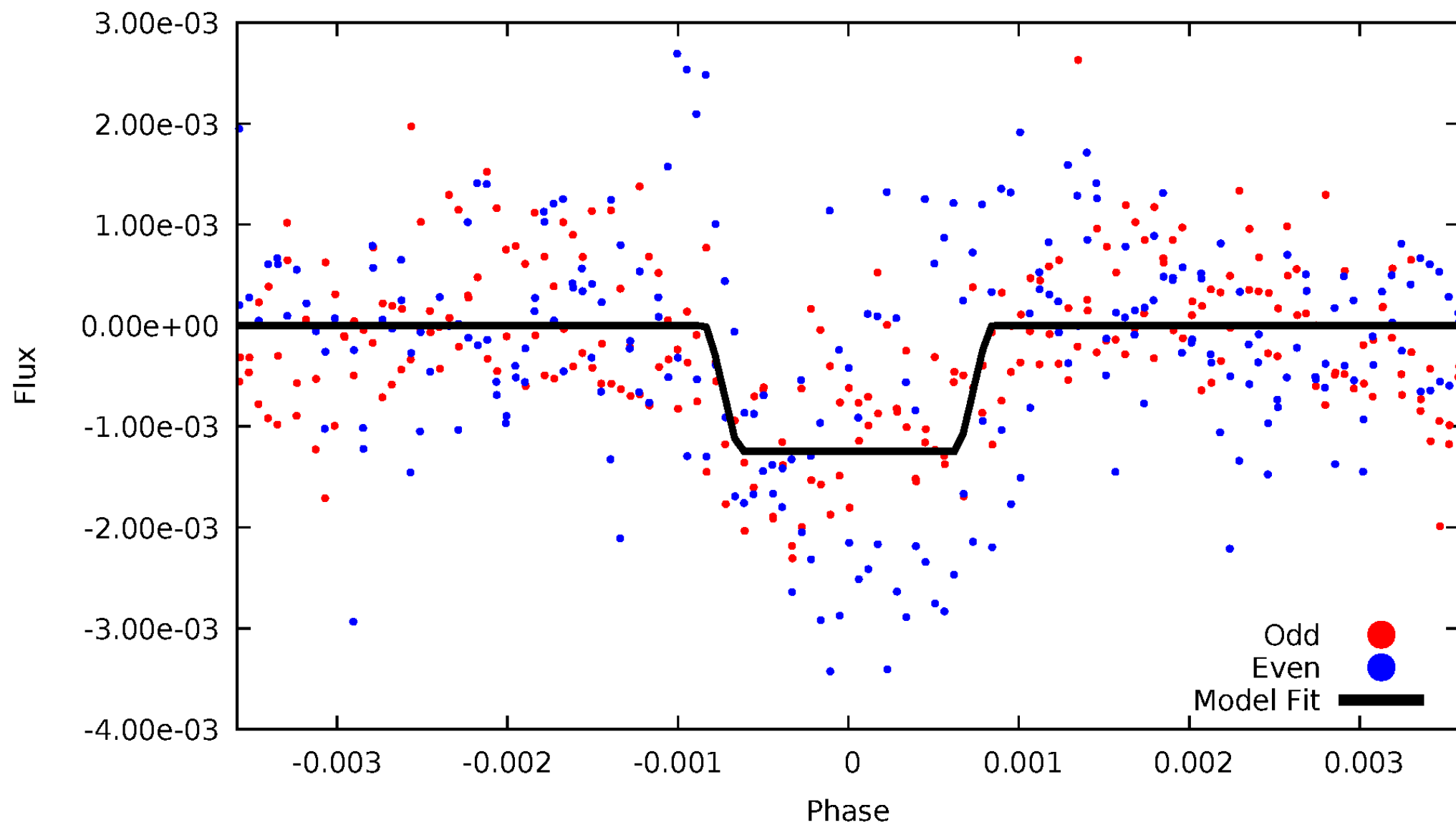
DV Odd/Even

TCE 008743244-03



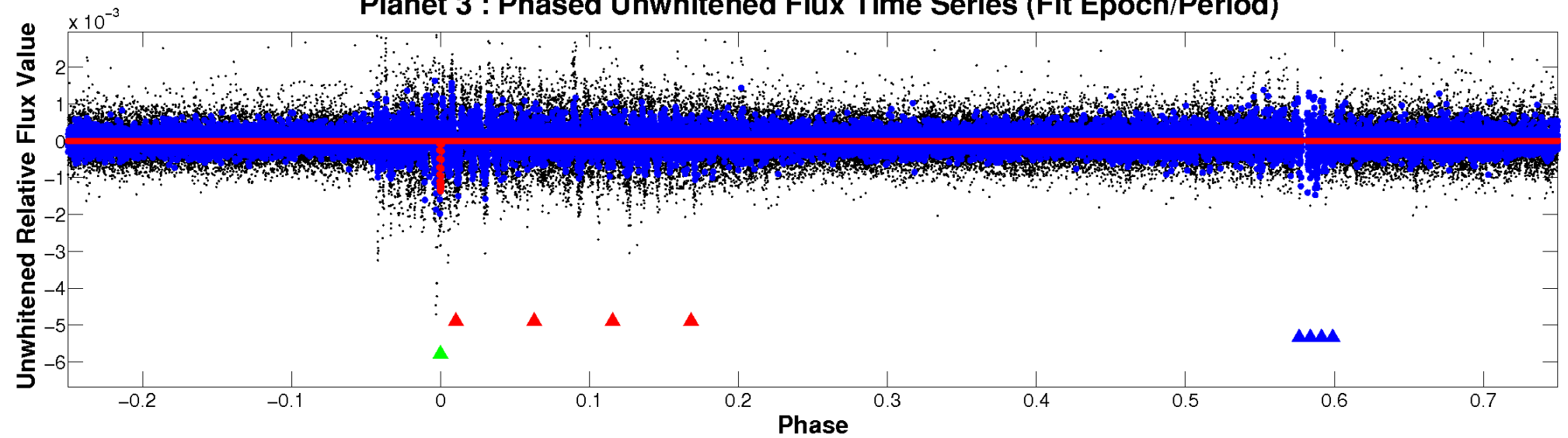
ALT Odd/Even

TCE 008743244-03

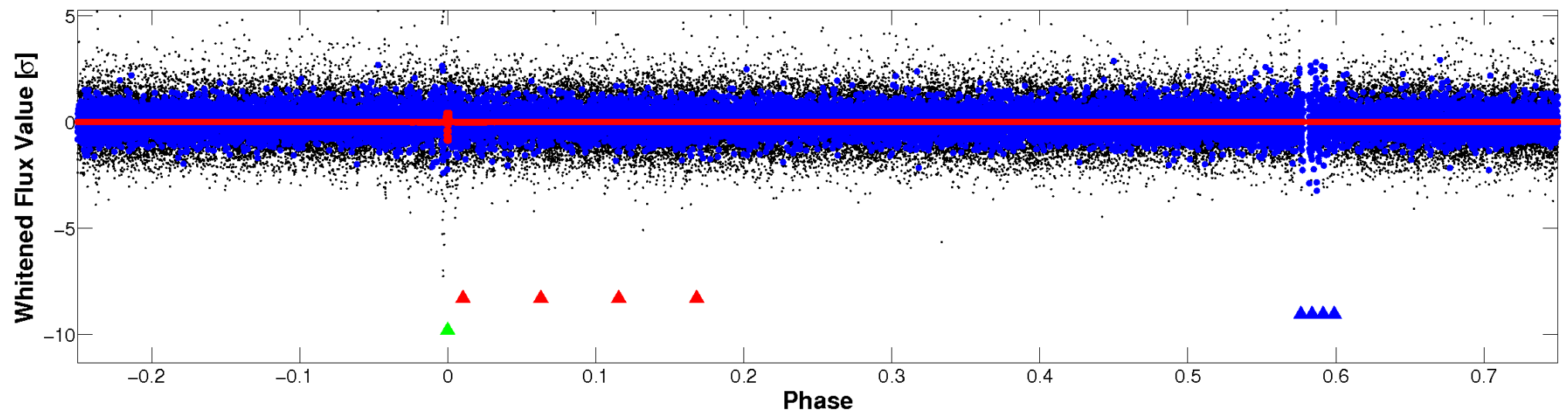


Non-Whitened Vs. Whitened Light Curve

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

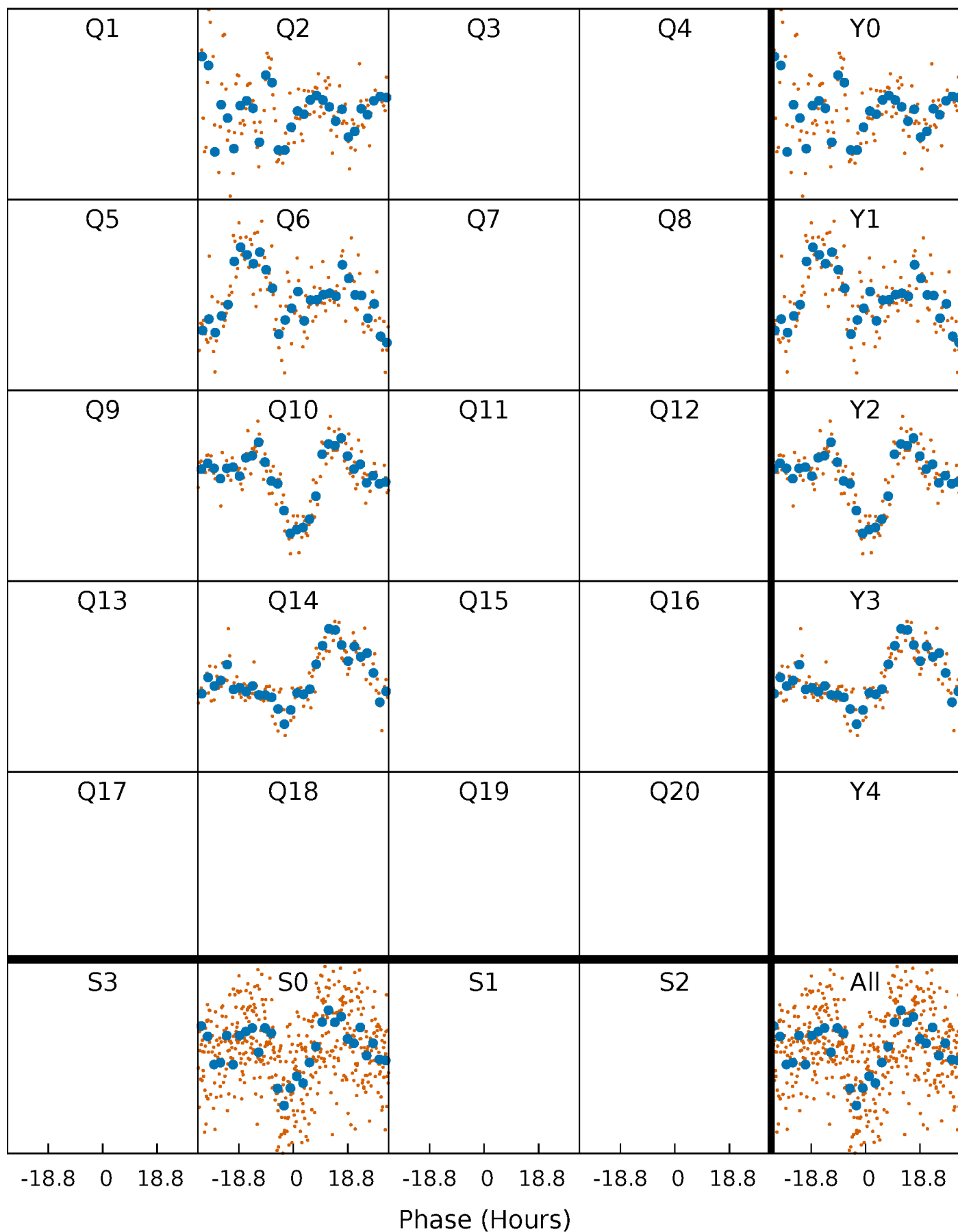


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



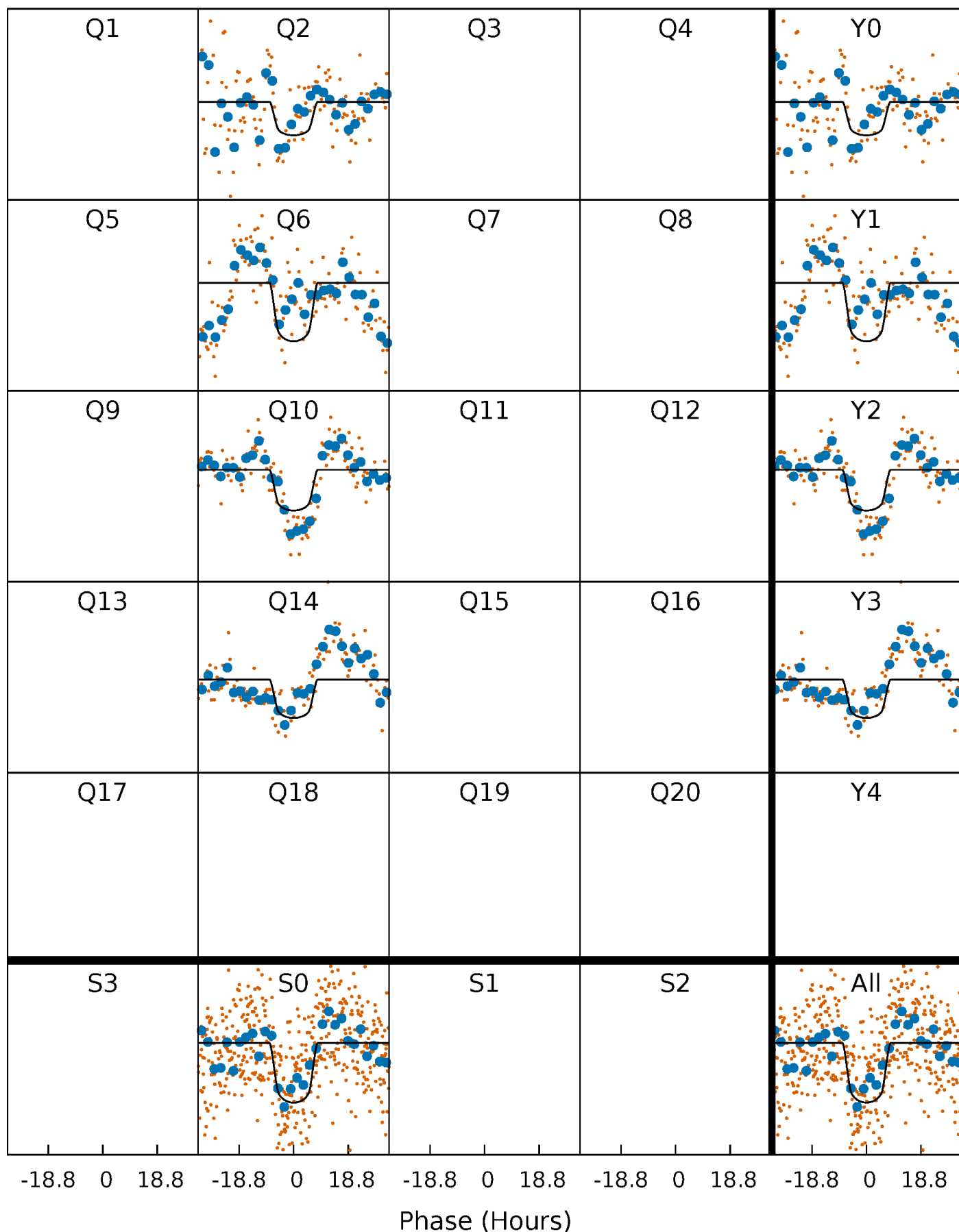
PDC Quarter-Phased Transit Curves

TCE 008743244-03 P=365.593366 Days $T_0=185.507449$ (BKJD)



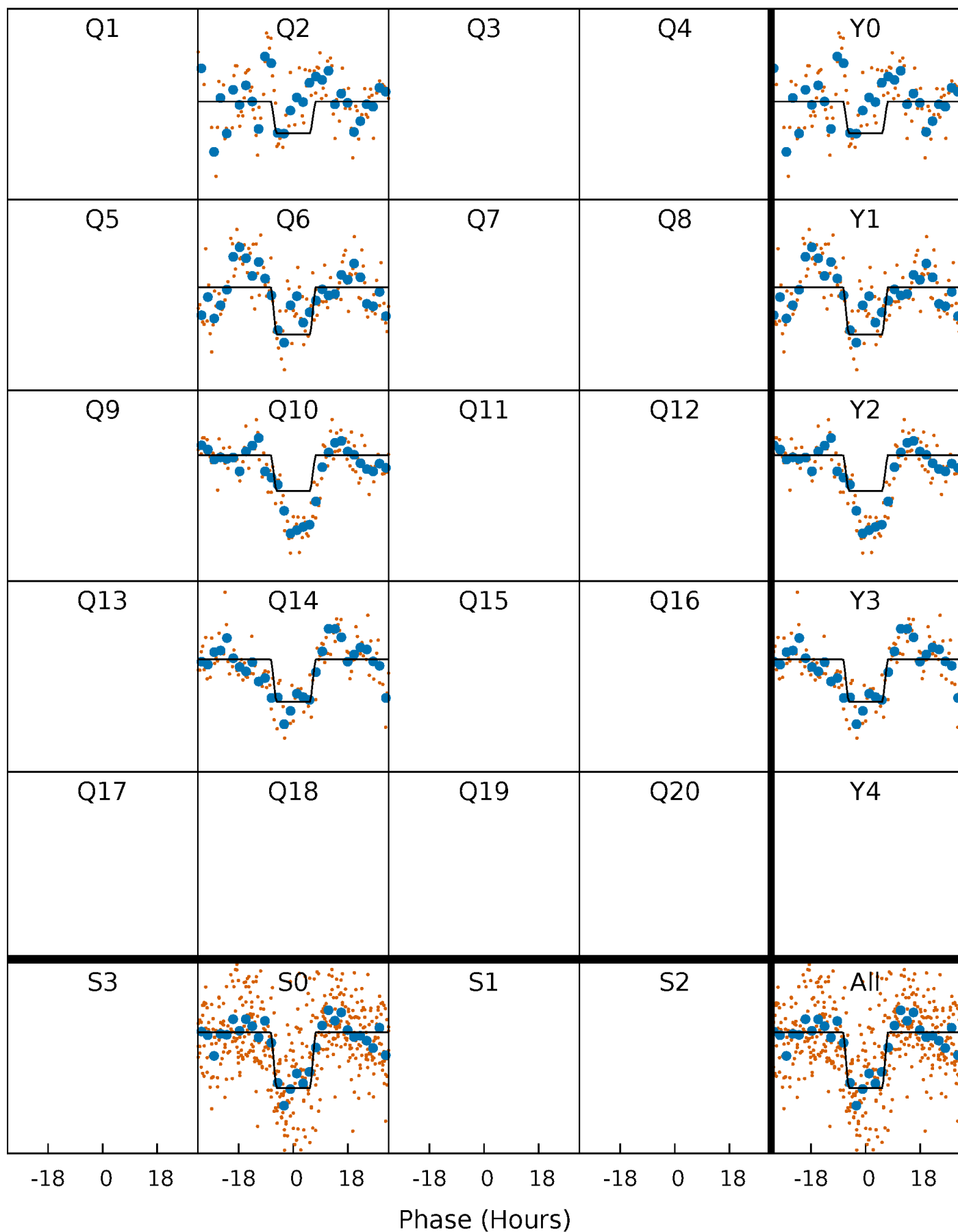
DV Quarter-Phased Transit Curves

TCE 008743244-03 $P=365.593366$ Days $T_0=185.507449$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

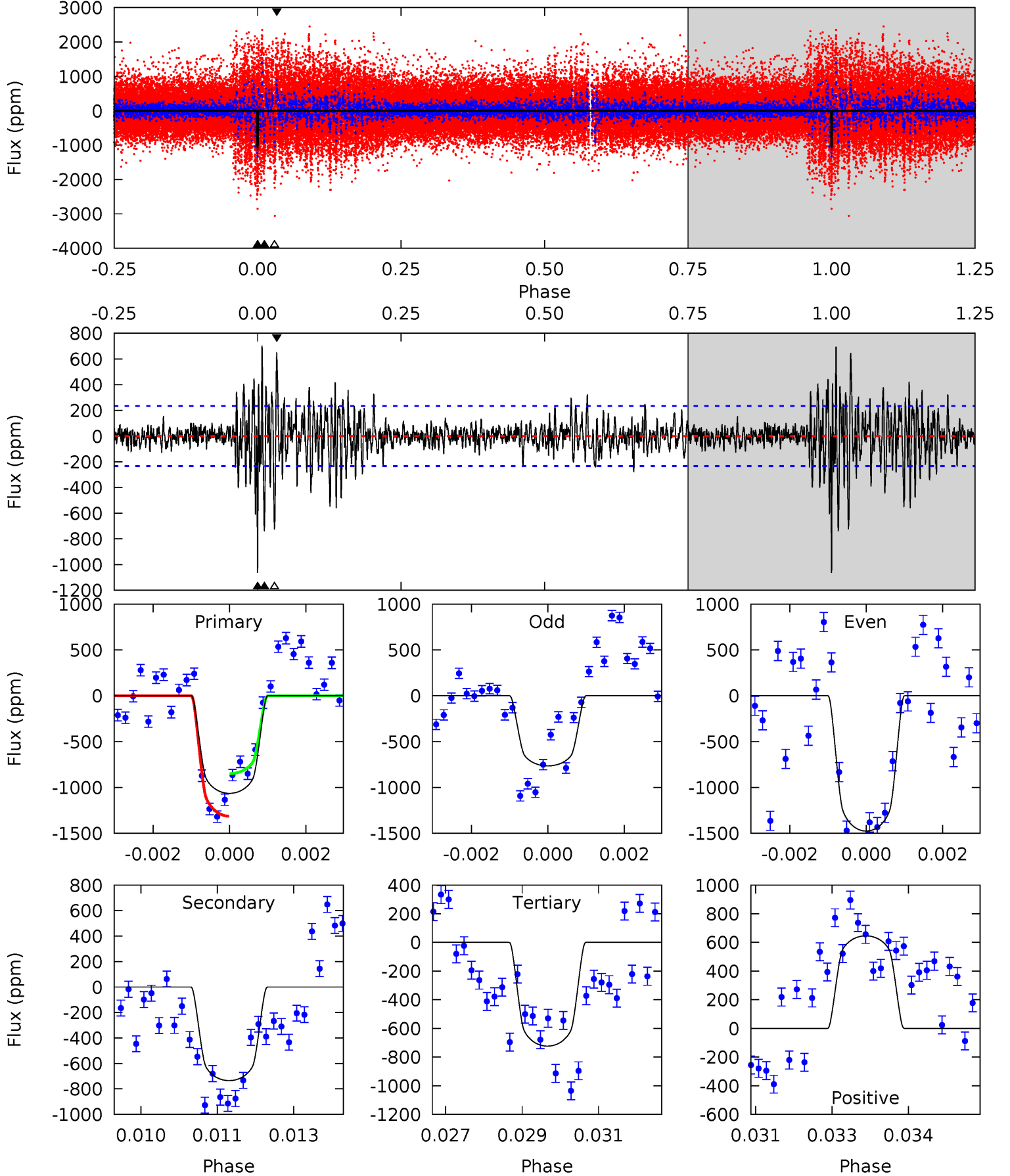
TCE 008743244-03 P=365.597256 Days $T_0=185.498744$ (BKJD)



DV Model-Shift Uniqueness Test

008743244-03, P = 365.593366 Days, E = 185.507449 Days

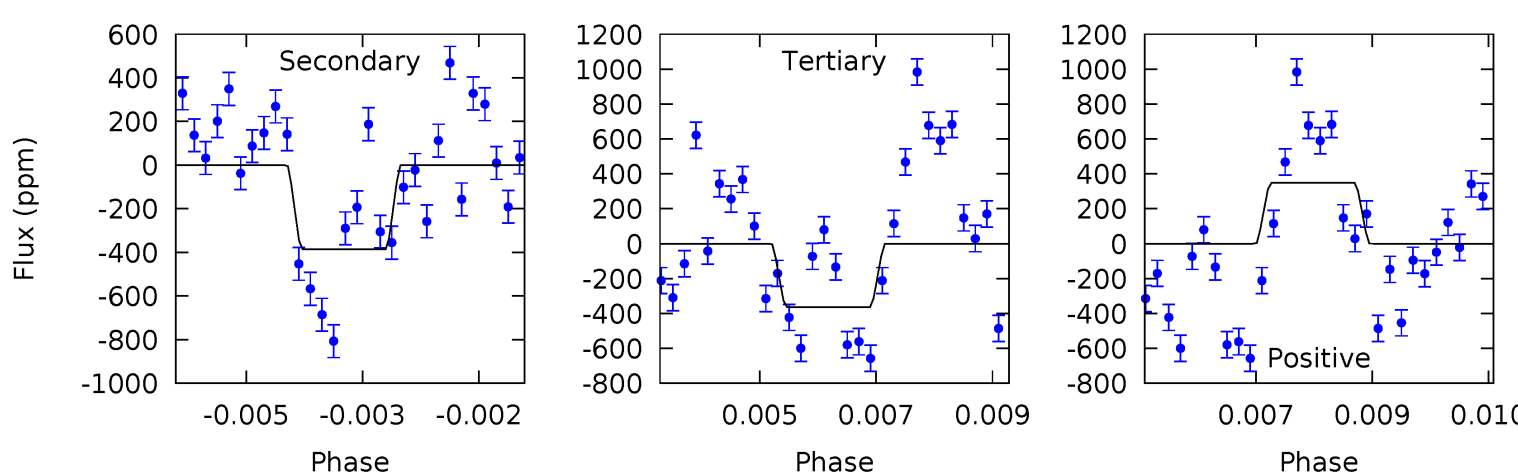
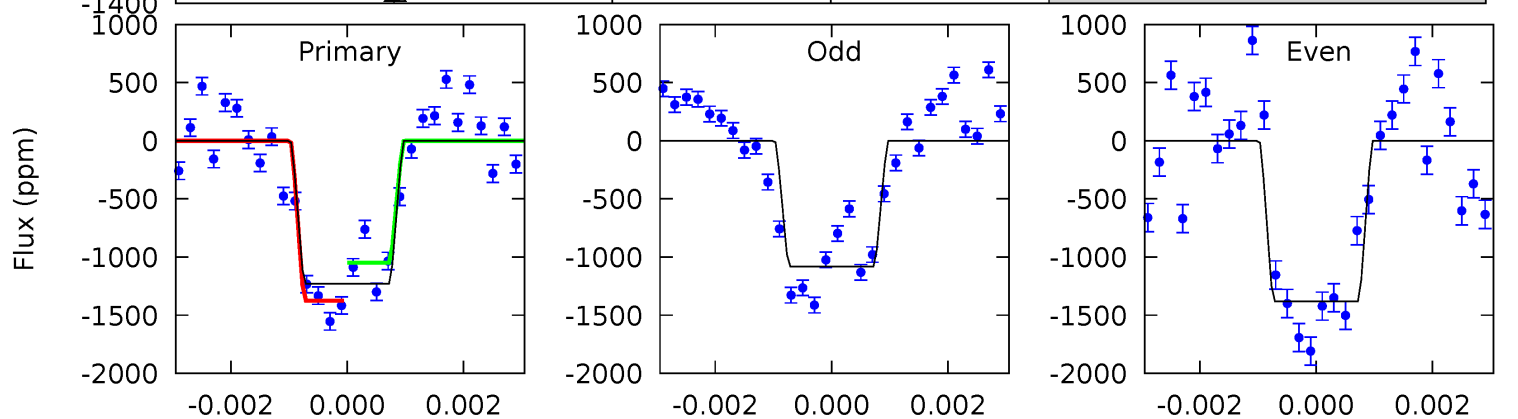
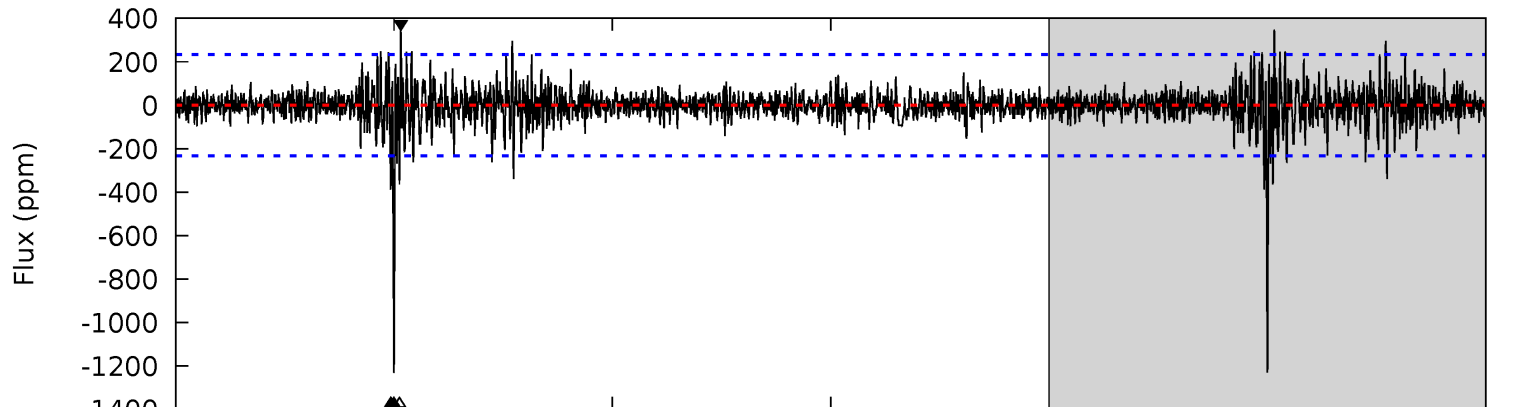
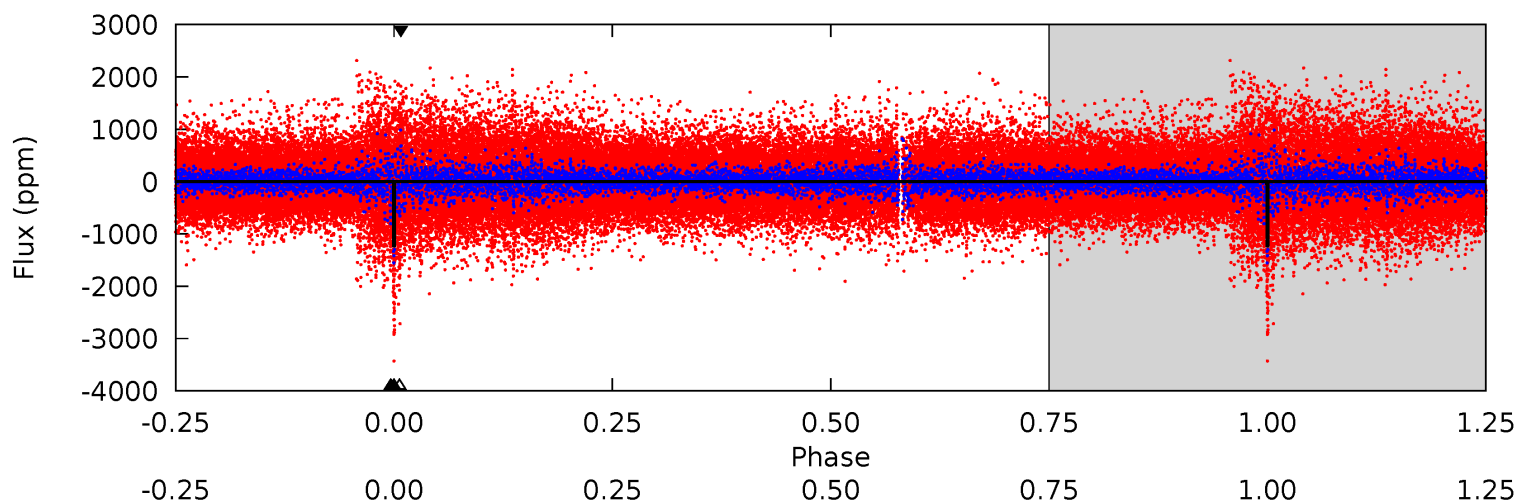
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	16.7	16.5	14.7	5.33	3.10	2.71	7.76	9.52	0.26	2.02	7.97	1.11	0.40	5.28



Alt Model-Shift Uniqueness Test

008743244-03, P = 365.597256 Days, E = 185.498744 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.3	8.89	8.37	8.02	5.35	3.13	1.31	19.9	20.3	0.52	0.87	3.44	1.08	0.22	3.73



Stellar Parameters For KIC 008743244

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6060^{+191}_{-212}	$4.408^{+0.087}_{-0.203}$	$0.020^{+0.250}_{-0.300}$	$1.068^{+0.337}_{-0.144}$	$1.061^{+0.162}_{-0.132}$	$1.226^{+0.472}_{-0.653}$
	+3%/-3%	+2%/-5%	+1250%/-1500%	+32%/-13%	+15%/-12%	+38%/-53%
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 008743244-03 / KOI 8166.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-735 ± 44	$4.78^{+0.95}_{-0.62}$	388^{+31}_{-22}	5067^{+275}_{-239}	18229^{+5698}_{-5165}
Alt.	-386 ± 43	$4.22^{+0.74}_{-0.60}$	388^{+28}_{-22}	4671^{+283}_{-243}	12304^{+4601}_{-3497}

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

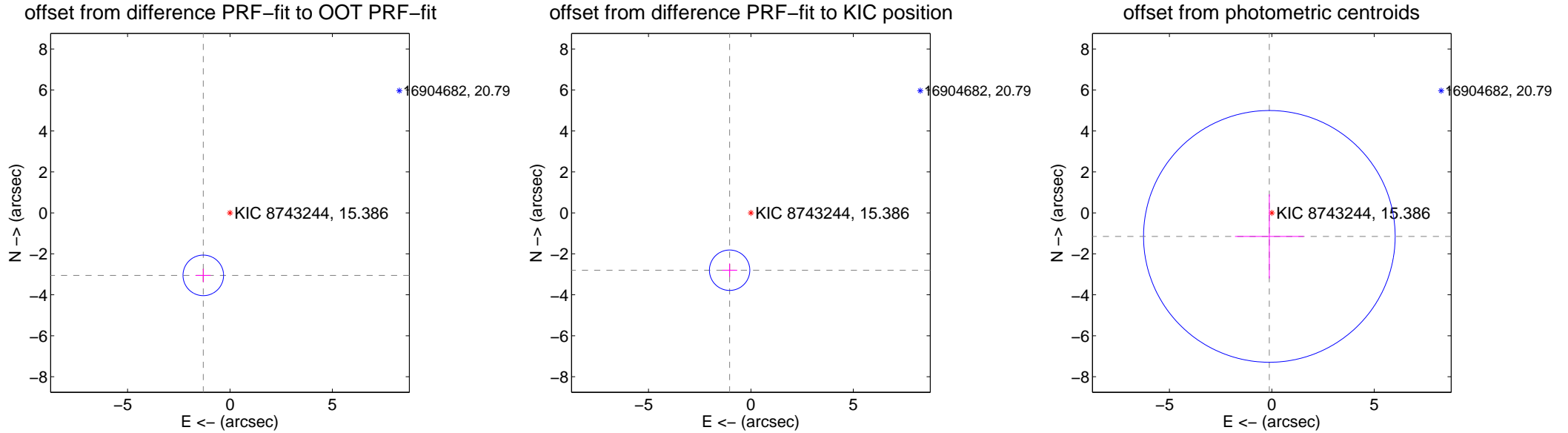
DV Centroid Data

Supplemental centroid analysis for 008743244-03. Kepler magnitude: 15.39. Transit SNR 8.28

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.318 ± 0.330	10.05	1.303 ± 0.365	-3.051 ± 0.324
PRF-fit source offset from KIC position	2.986 ± 0.329	9.08	1.039 ± 0.365	-2.800 ± 0.324
photometric centroid source offset	1.15 ± 2.05	0.56	0.12 ± 1.68	-1.15 ± 2.05



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.

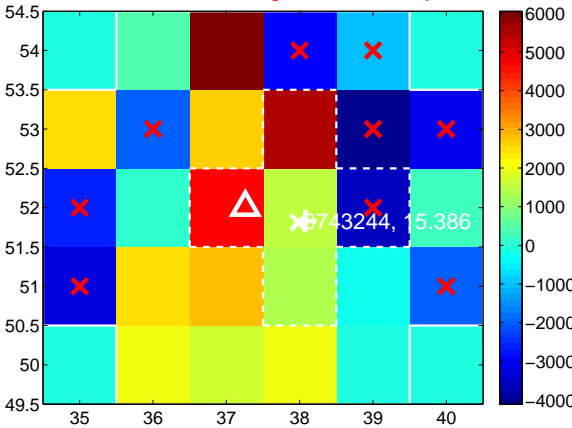
Q5 no difference image



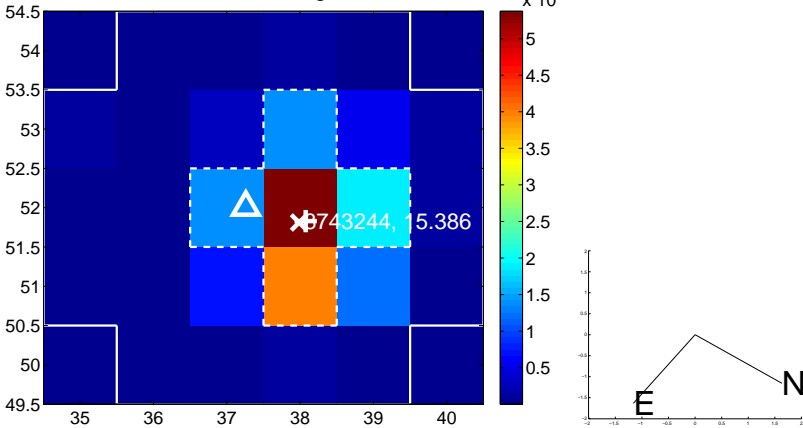
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



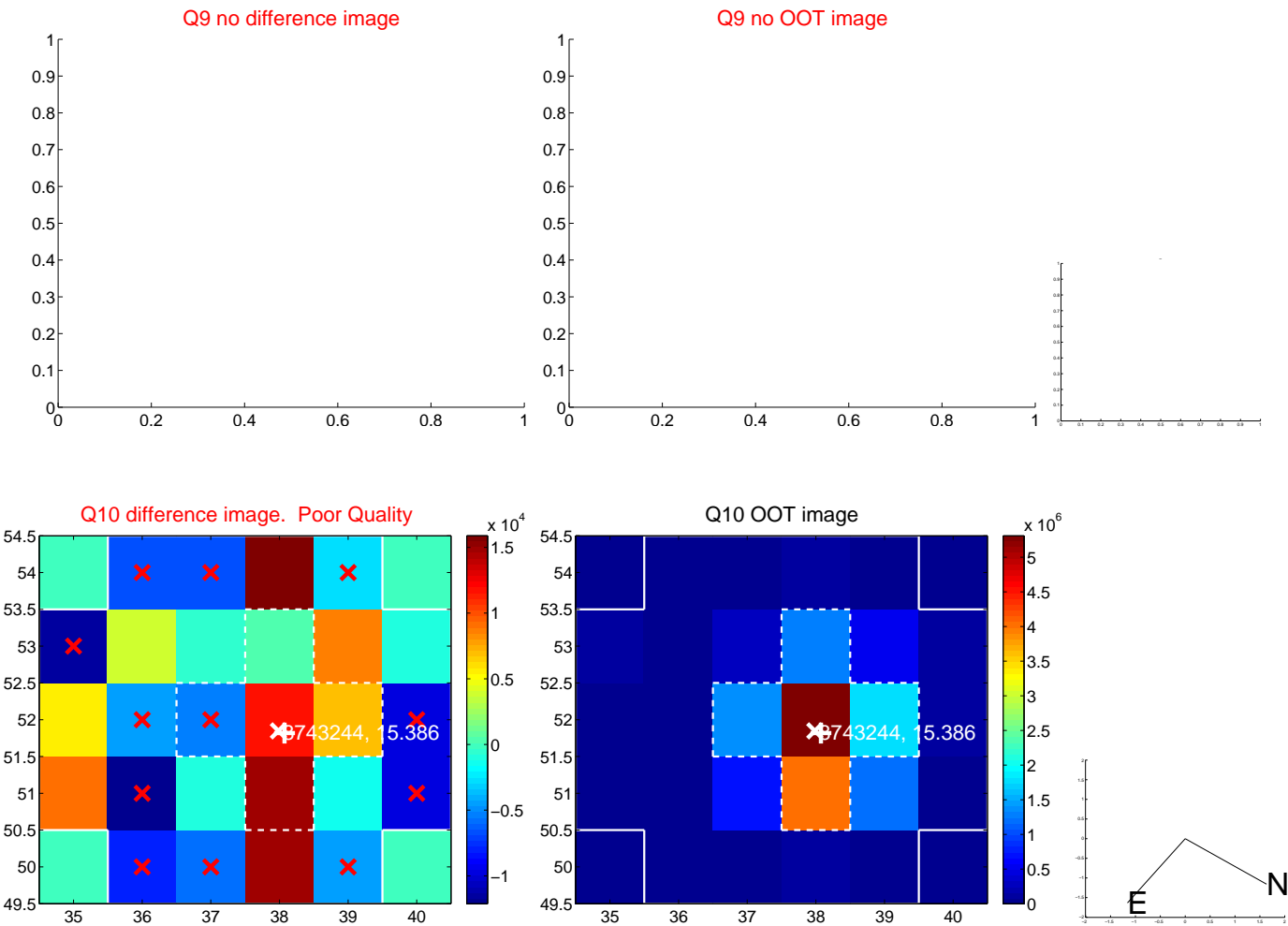
Q8 no difference image



Q8 no OOT image



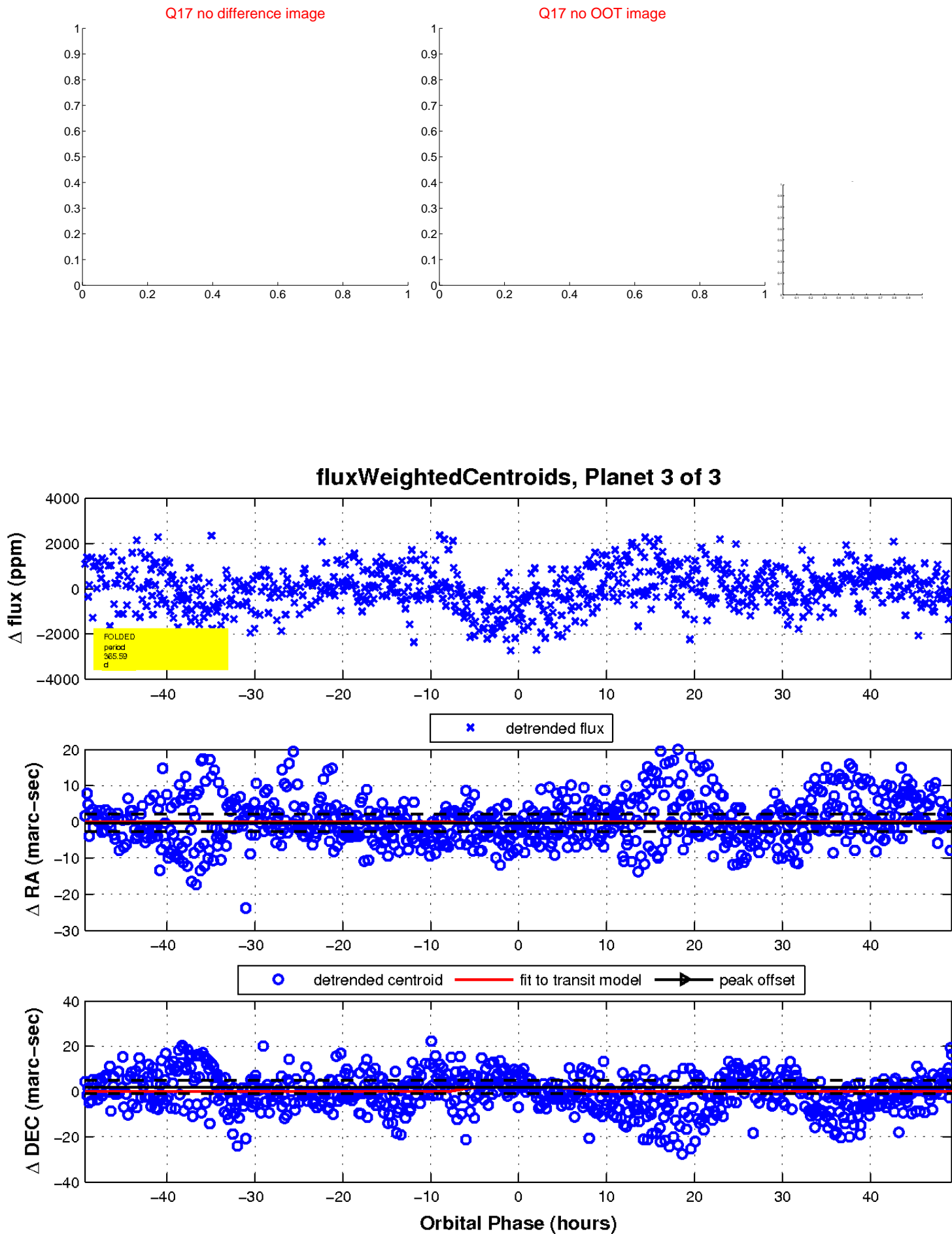
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

