

KIC 008373837

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})
008373837-01	OBS	No	365.590037	241.826433	2671.5	11.500	12.1	12.5	1.09	6246	6.76	1.46
008373837-02	OBS	No	368.744290	234.175141	1648.0	9.692	8.6	9.4	1.09	6246	4.45	1.44
008373837-03	OBS	No	352.978541	258.500260	1815.4	3.666	7.6	7.9	1.09	6246	5.05	1.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008373837-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008373837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008373837-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—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.

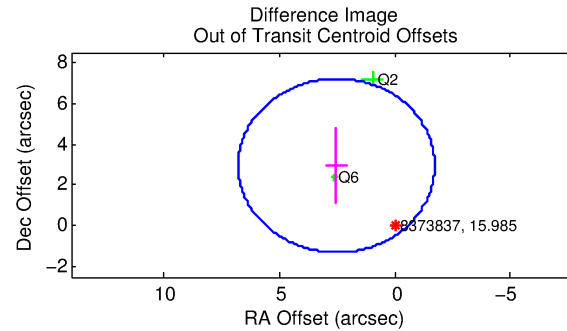
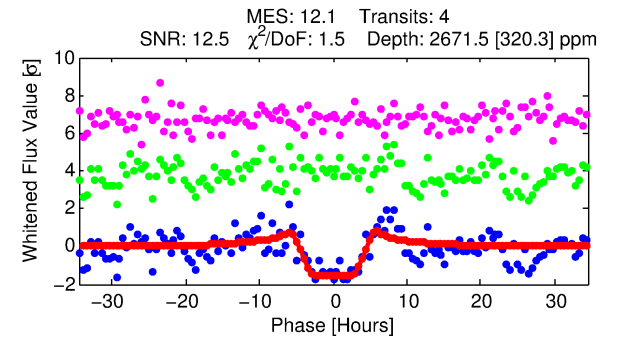
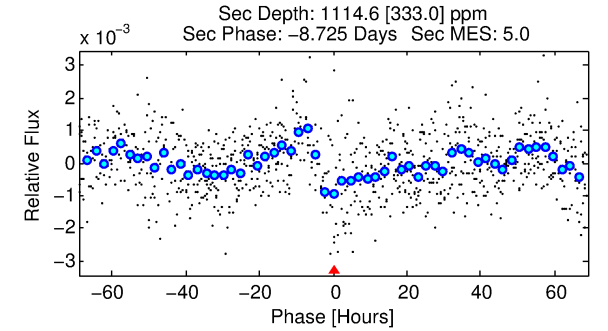
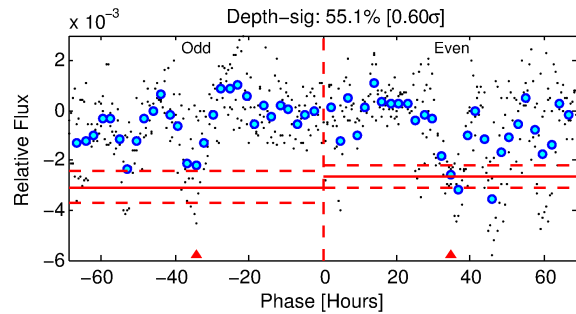
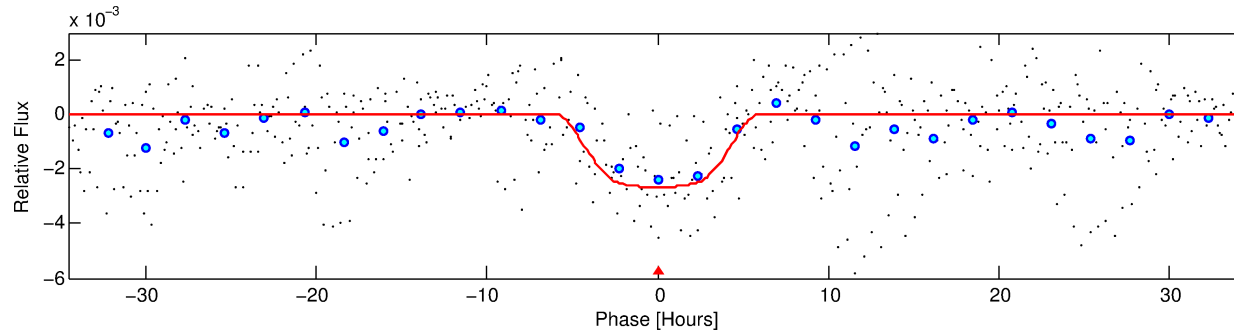
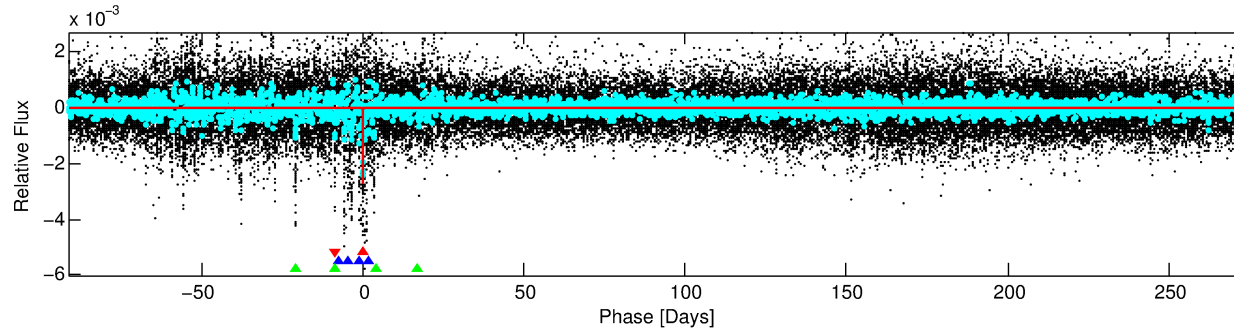
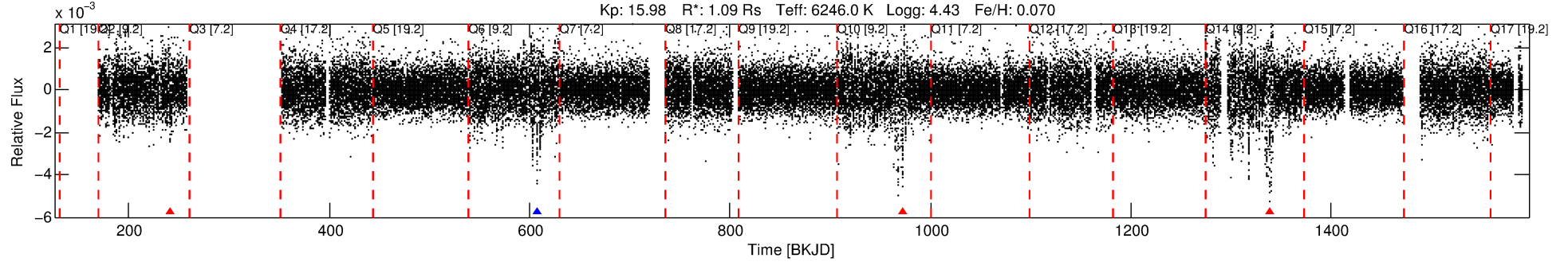
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008373837-01

No Significant Match Found

DV One-Page Summary

KIC: 8373837 Candidate: 1 of 3 Period: 365.590 d



DV Fit Results:

Period = 365.59004 [0.00924] d
Epoch = 241.8264 [0.0168] BKJD
Rp/R* = 0.0567 [0.0044]
a/R* = 128.30 [20.30]
b = 0.92 [0.03]
Seff = 1.45 [0.62]
Teq = 280 [30] K
Rp = 6.76 [2.25] Re
a = 1.0572 [0.2875] AU
Ag = 14993.85 [7779.05] [1.93 σ]
Teffp = 4791 [449] K [10.02 σ]

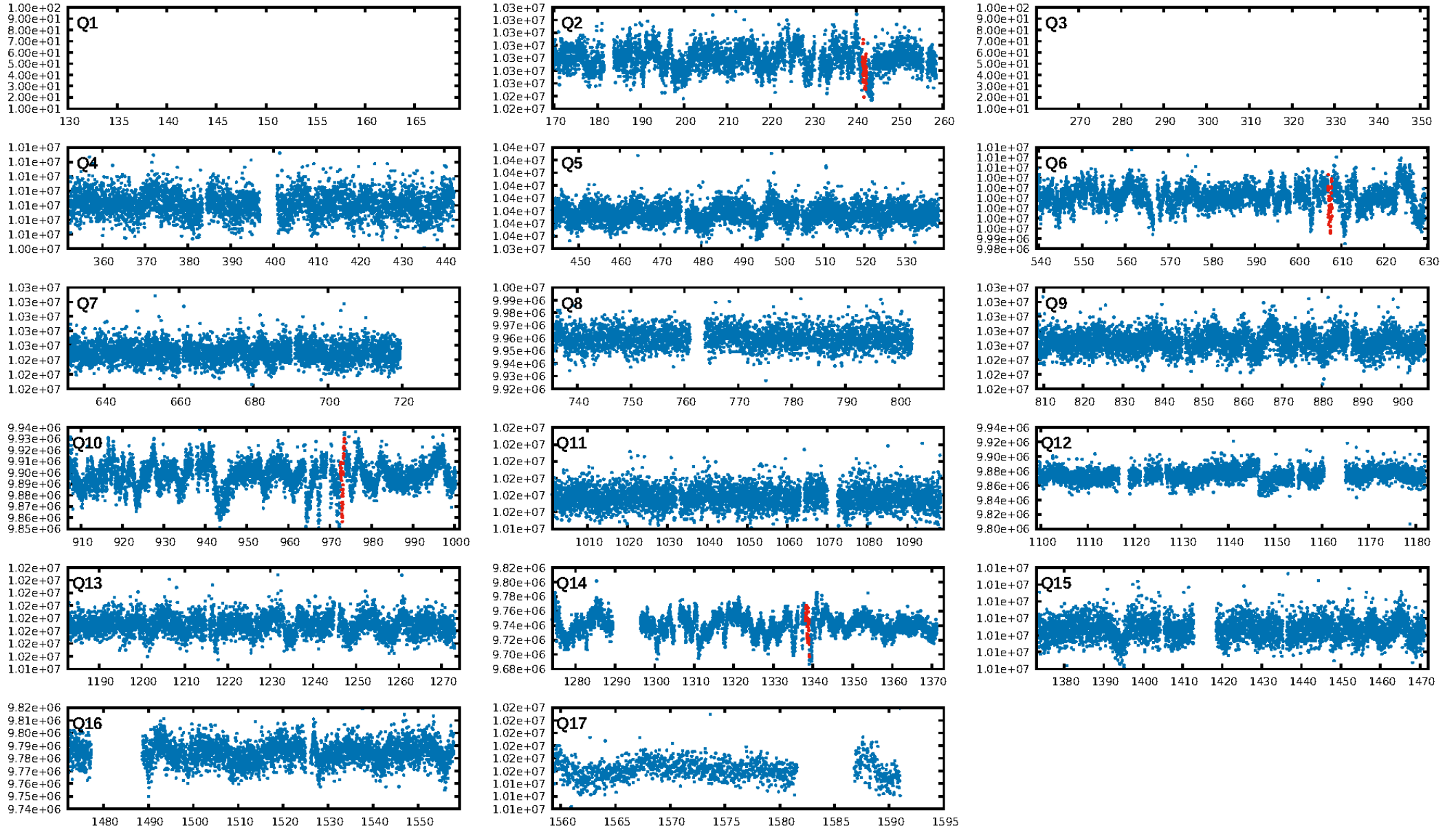
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.08 σ]
LongPeriod-sig: 100.0% [5.03 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 55.0%
Bootstrap-pfa: 3.02e-25
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 3.991
Centroid-sig: 0.0%
Centroid-so: 6.118 arcsec [3.53 σ]
OotOffset-rm: 3.888 arcsec [2.74 σ]
KicOffset-rm: 3.778 arcsec [2.72 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 [3/3]

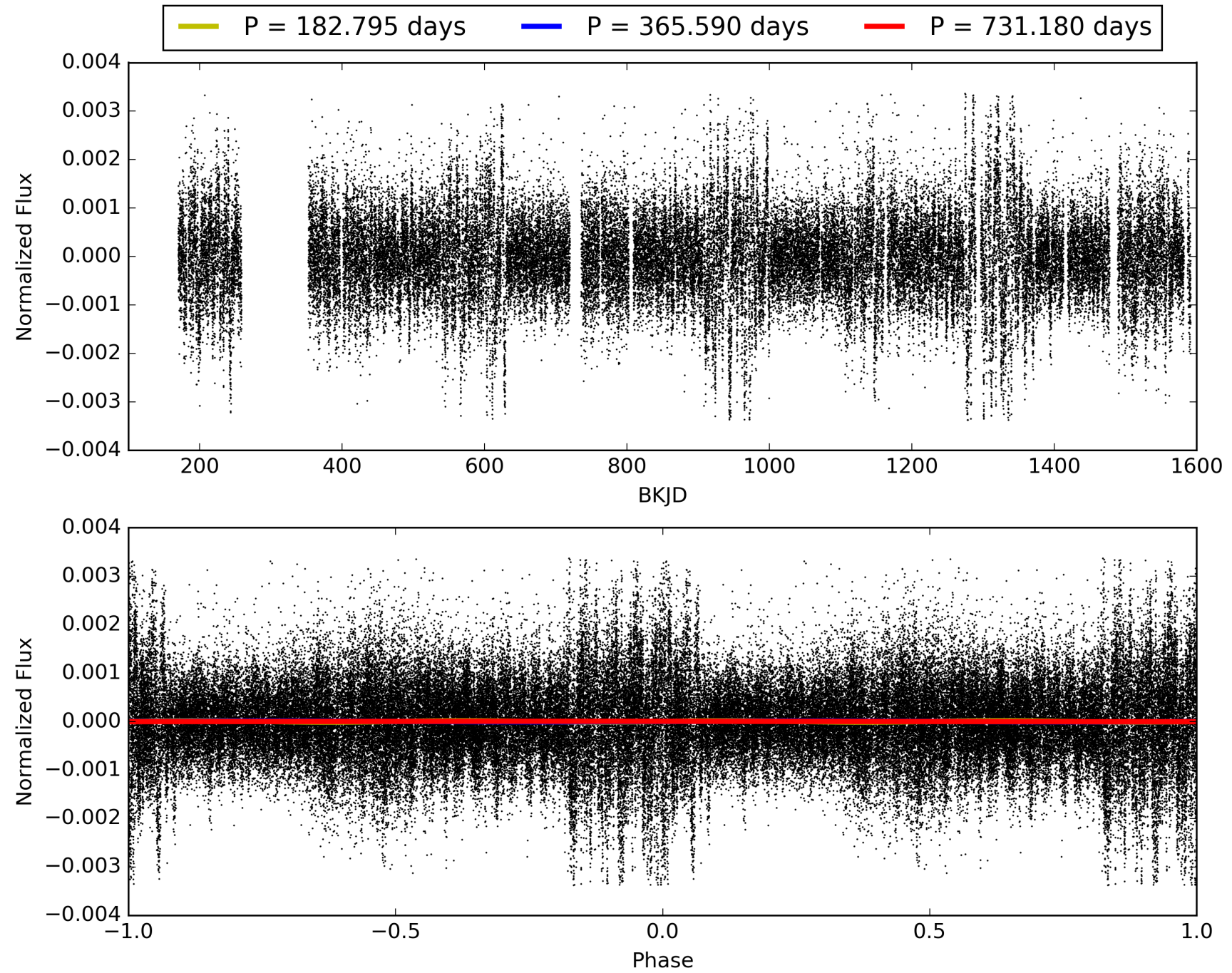
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:58:59 Z

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

TCE 008373837-01, PDC Light Curves

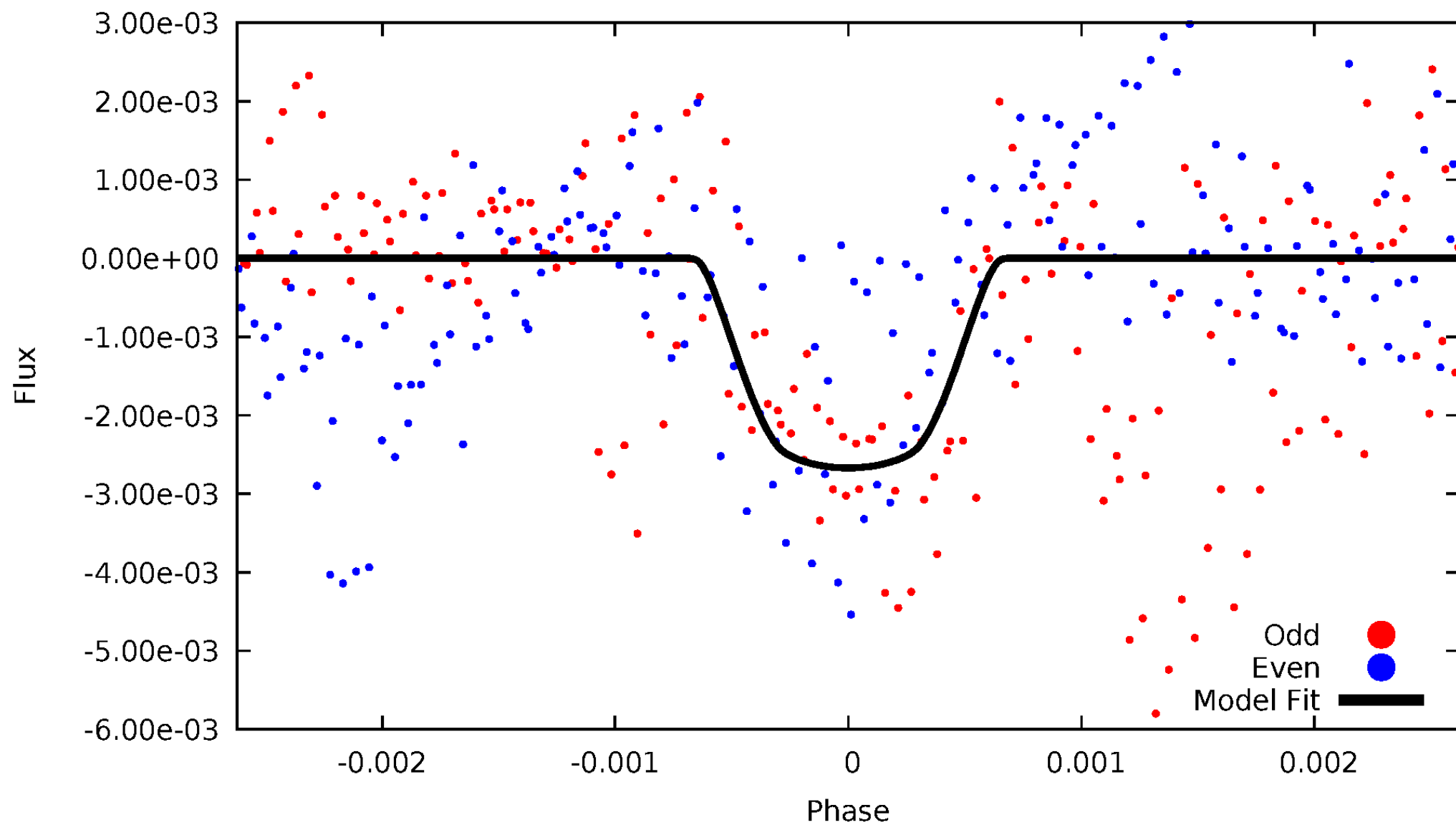


TCE 008373837-01



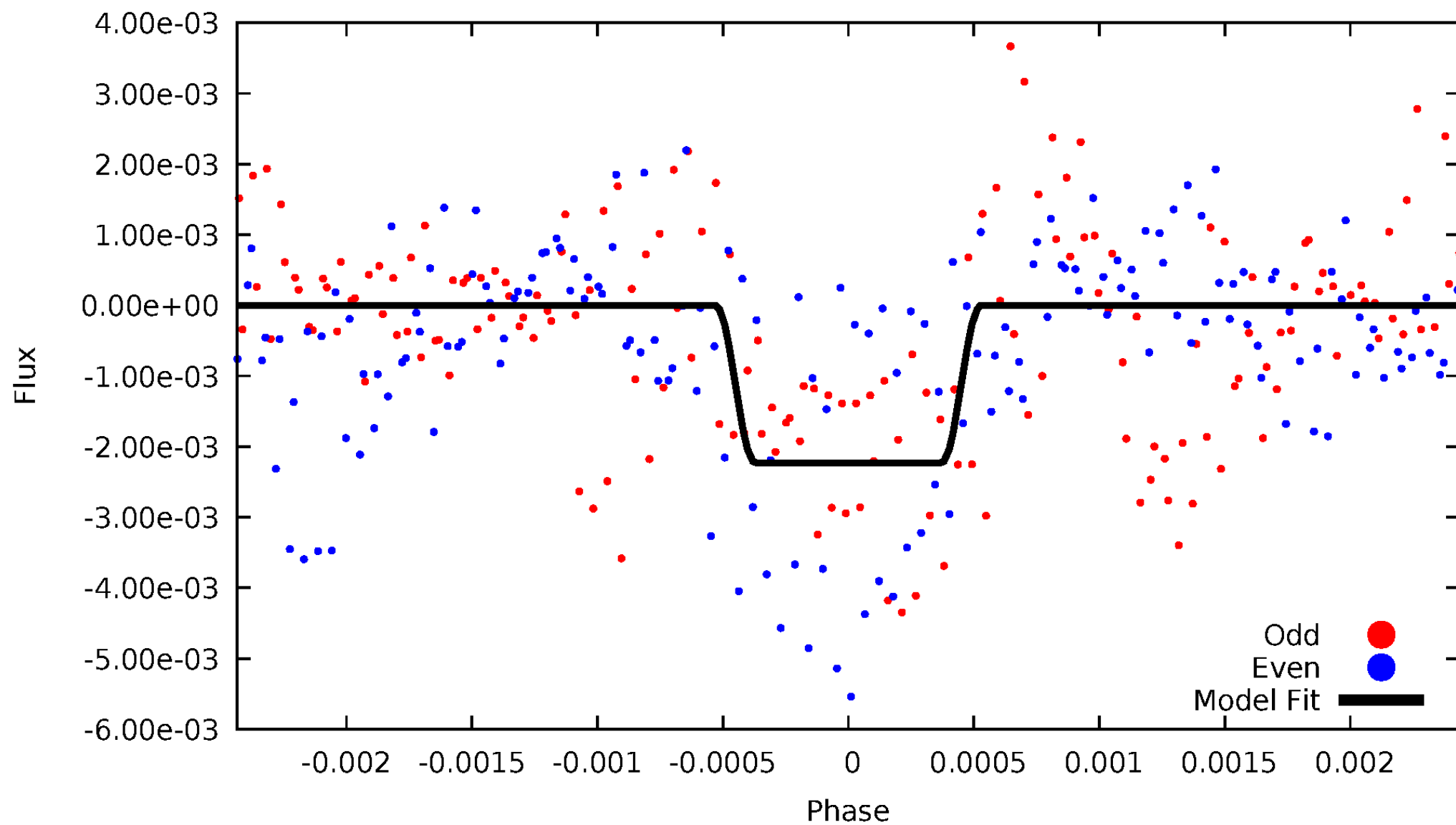
DV Odd/Even

TCE 008373837-01



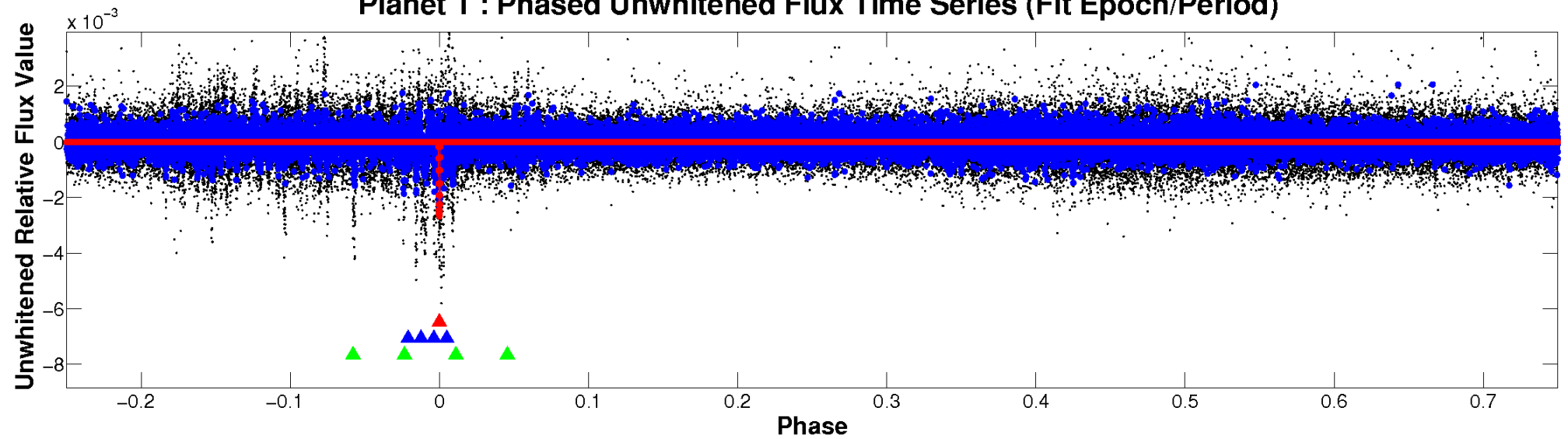
ALT Odd/Even

TCE 008373837-01

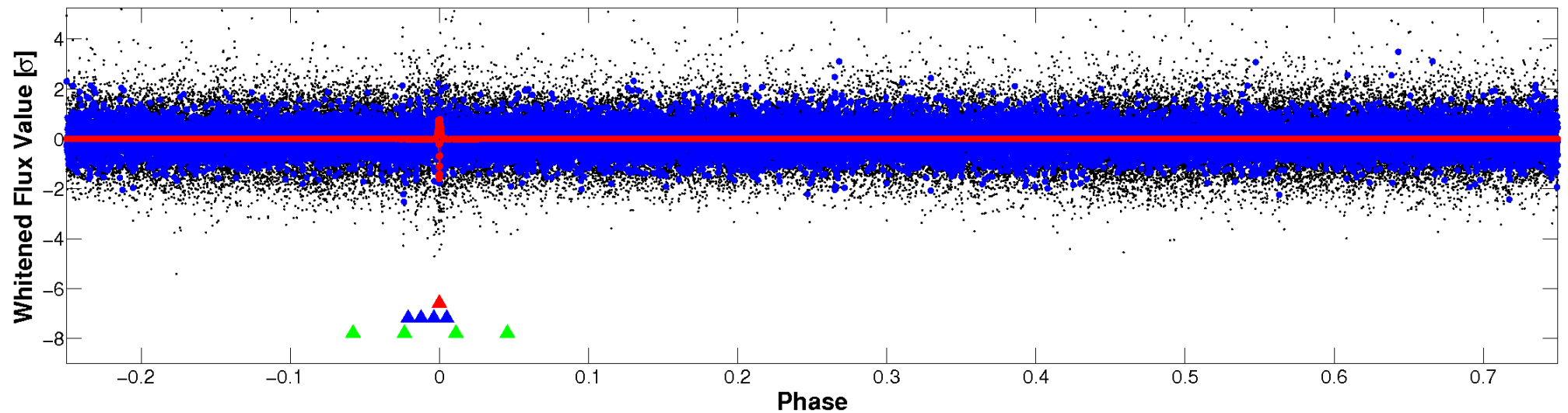


Non-Whitened Vs. Whitened Light Curve

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

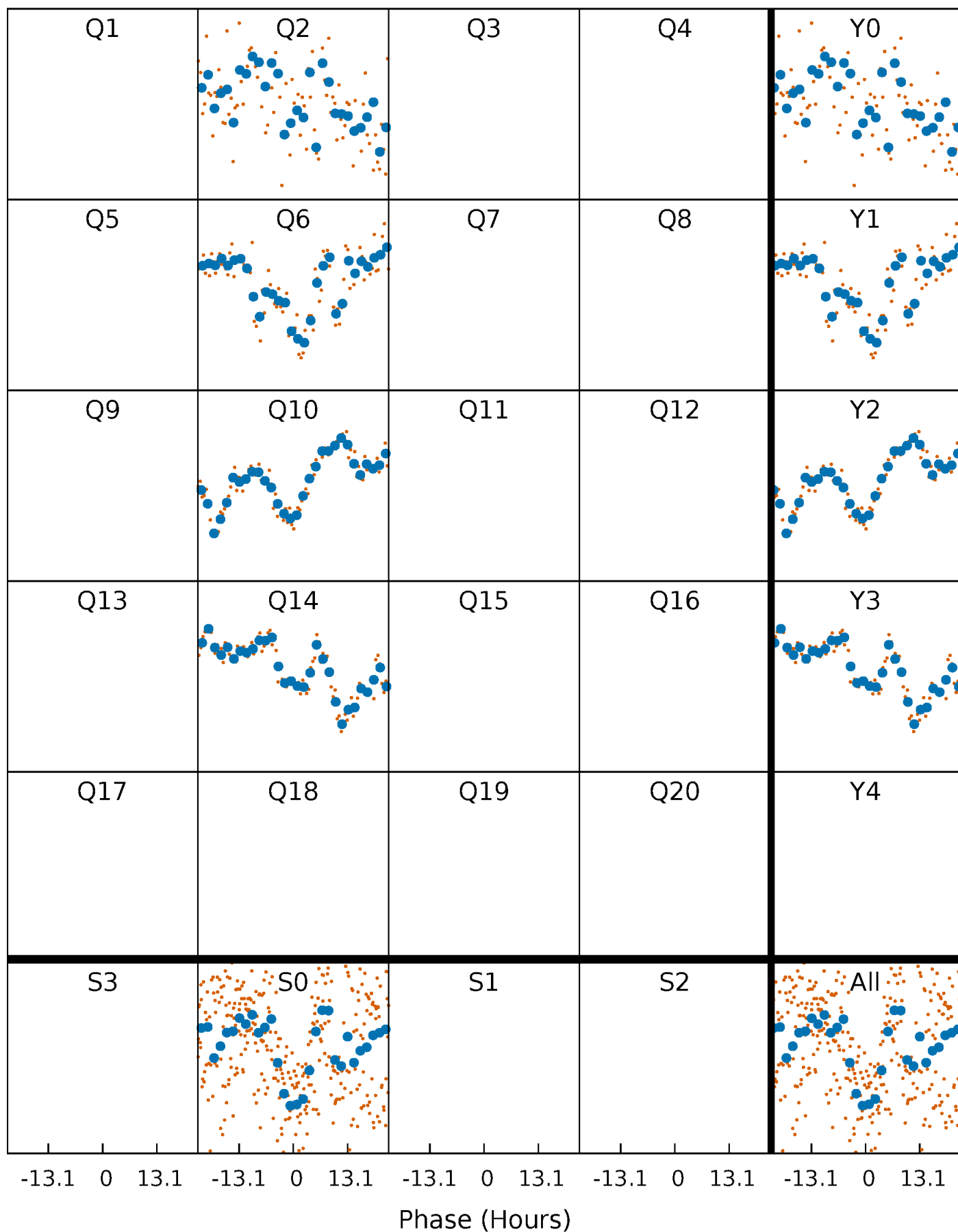


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



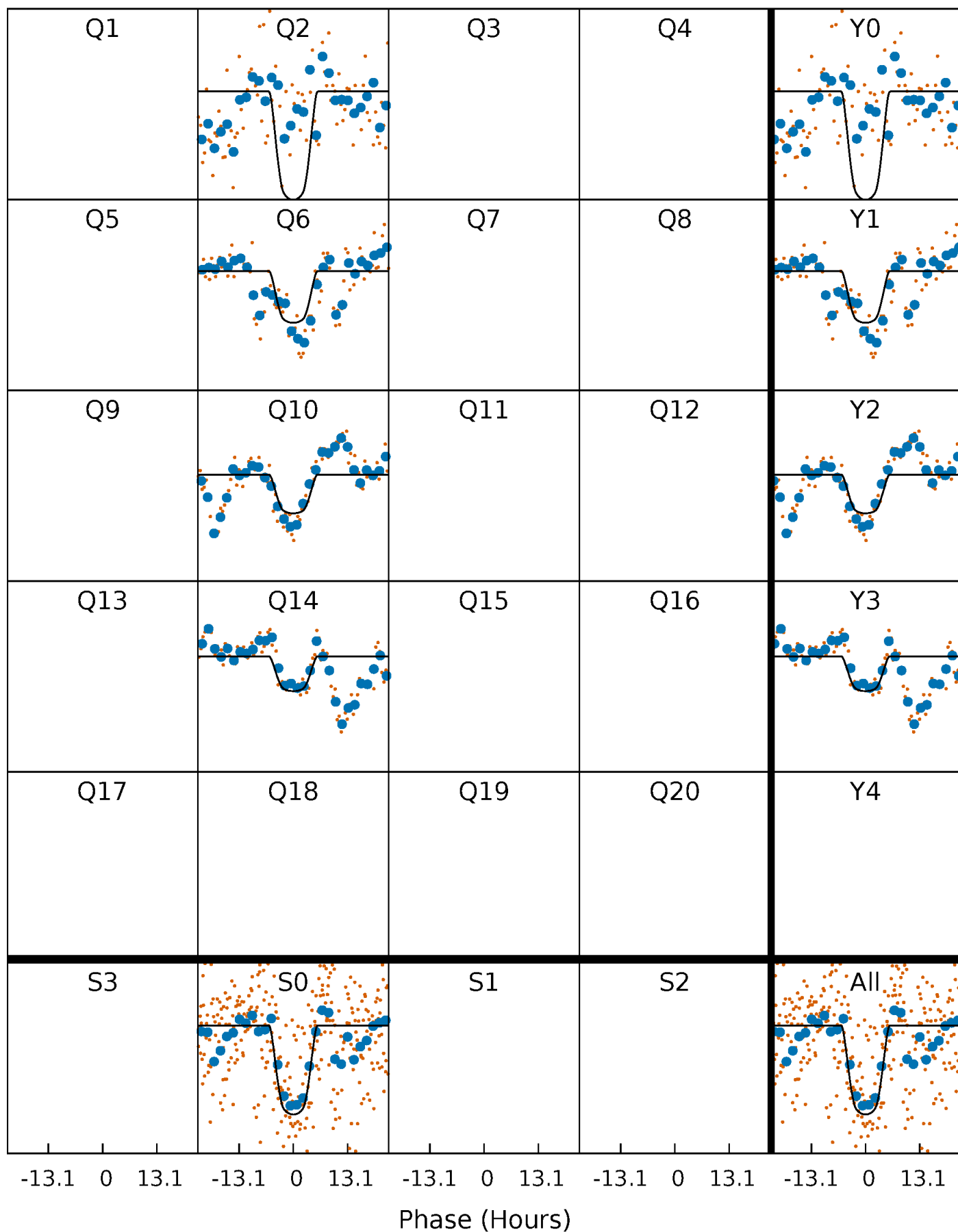
PDC Quarter-Phased Transit Curves

TCE 008373837-01 P=365.590036 Days $T_0=241.826433$ (BKJD)



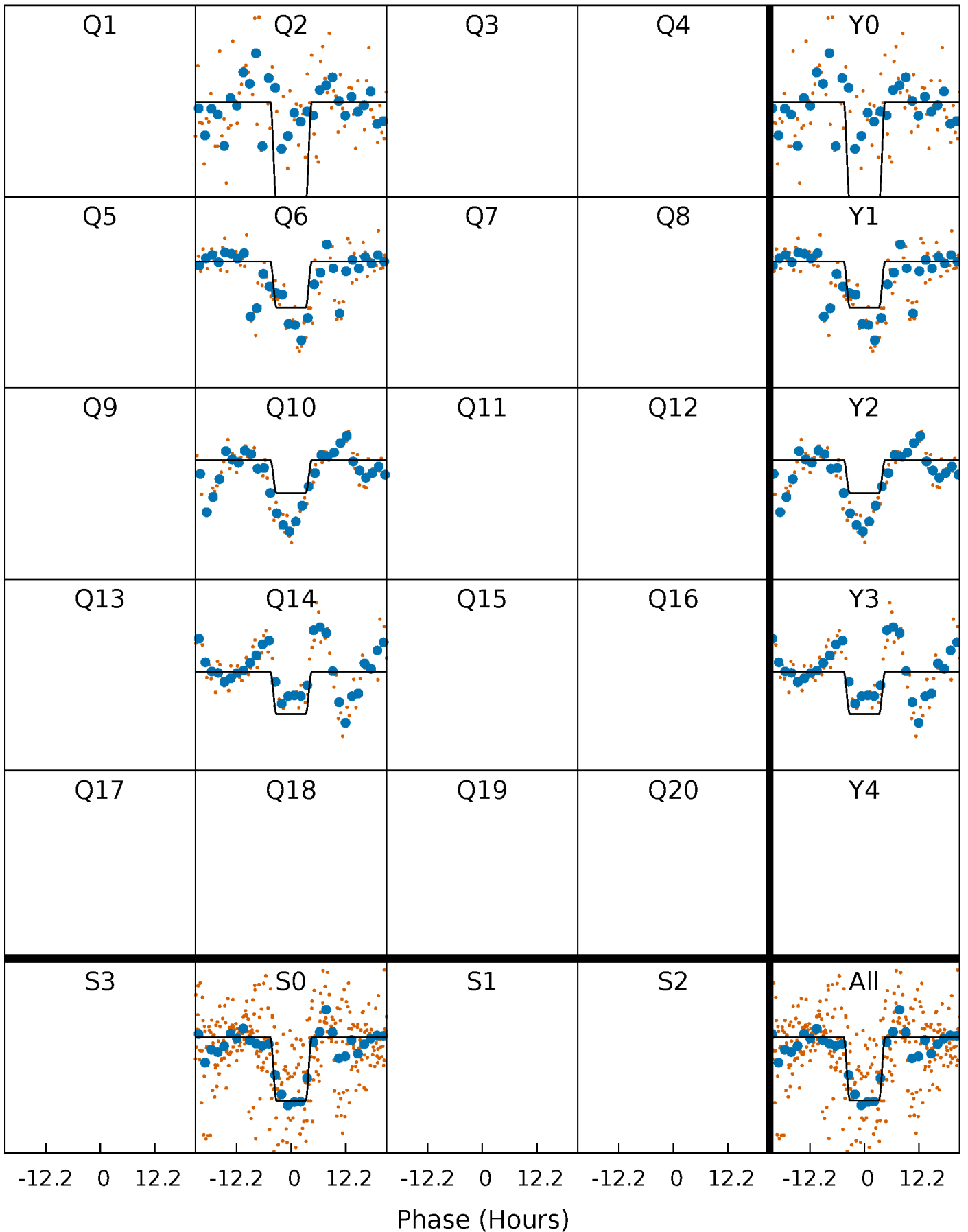
DV Quarter-Phased Transit Curves

TCE 008373837-01 P=365.590036 Days $T_0=241.826433$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

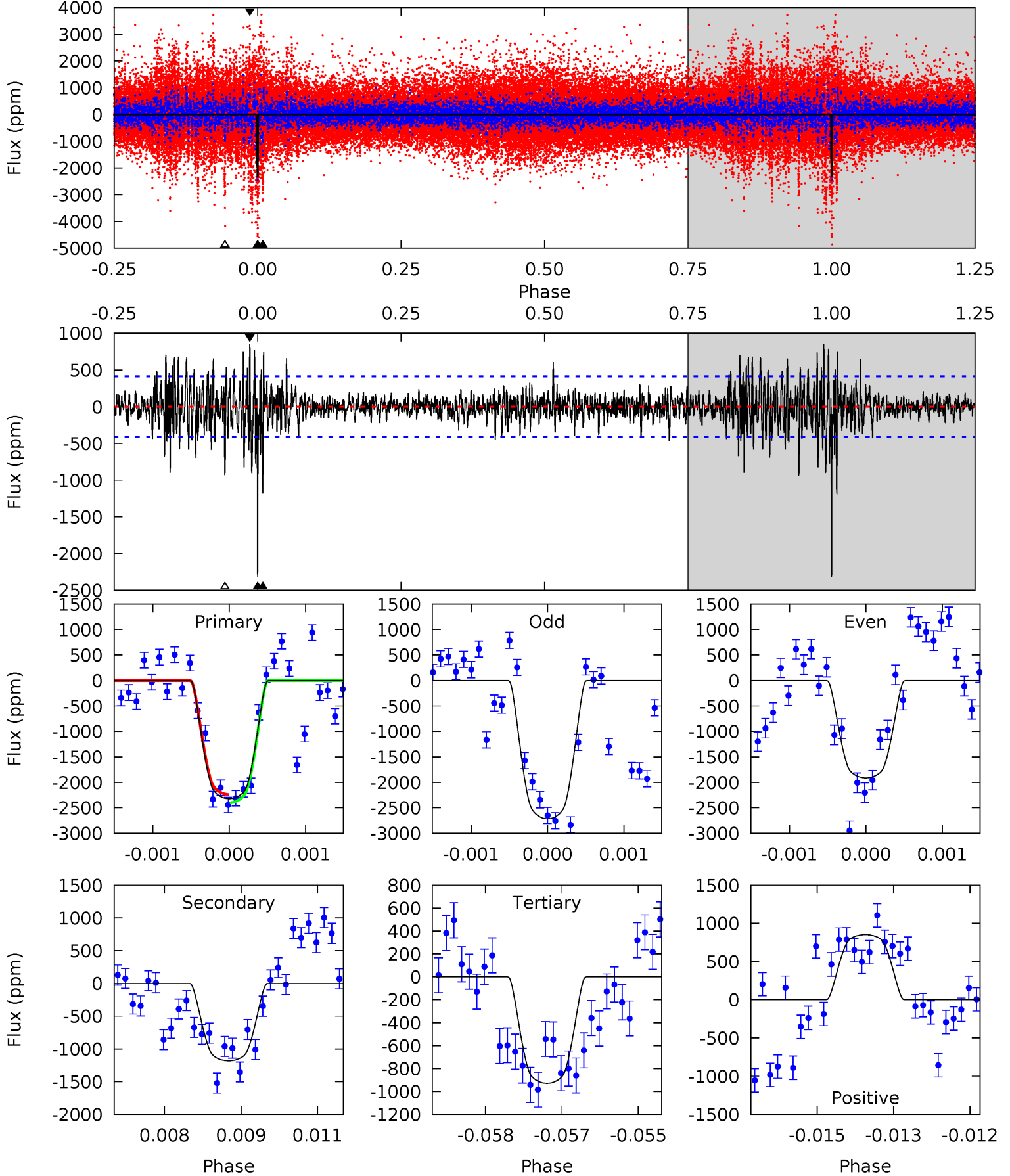
TCE 008373837-01 P=365.590444 Days $T_0=241.826045$ (BKJD)



DV Model-Shift Uniqueness Test

008373837-01, P = 365.590036 Days, E = 241.826433 Days

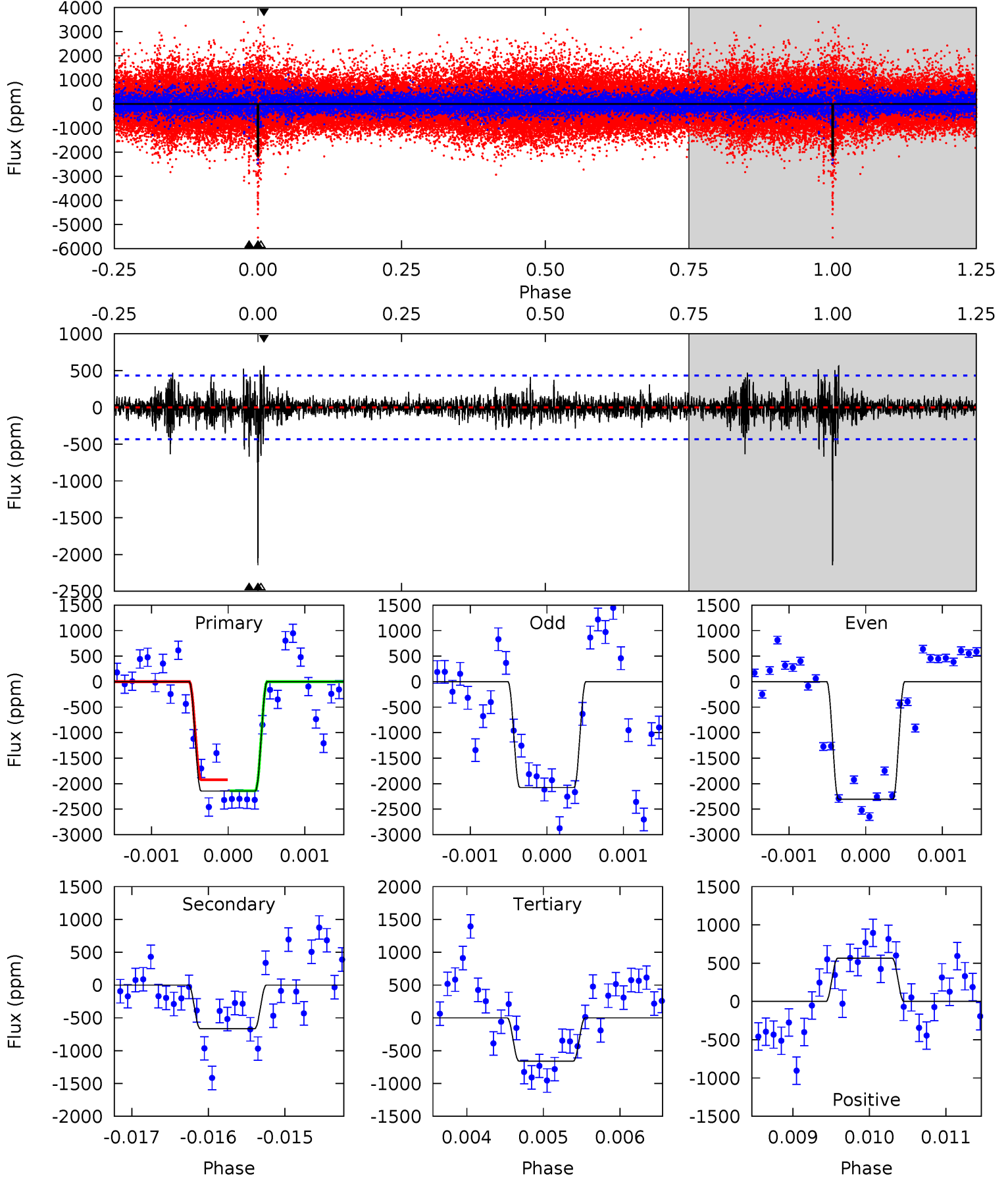
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	15.5	12.2	11.2	5.40	3.21	2.38	18.2	19.2	3.31	4.32	5.22	0.84	0.27	1.06



Alt Model-Shift Uniqueness Test

008373837-01, P = 365.590444 Days, E = 241.826045 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	8.37	8.28	7.11	5.44	3.28	1.29	18.6	19.8	0.08	1.26	1.46	1.04	0.21	1.33



Stellar Parameters For KIC 008373837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6246^{+174}_{-261}	$4.433^{+0.054}_{-0.216}$	$0.070^{+0.250}_{-0.300}$	$1.092^{+0.353}_{-0.118}$	$1.180^{+0.157}_{-0.173}$	$1.276^{+0.361}_{-0.667}$
	+3%/-4%	+1%/-5%	+357%/-429%	+32%/-11%	+13%/-15%	+28%/-52%
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 008373837-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1182 ± 76	$7.00^{+1.14}_{-0.88}$	399^{+27}_{-21}	4960^{+217}_{-222}	14493^{+4075}_{-3446}
Alt.	-666 ± 80	$5.78^{+1.08}_{-0.71}$	397^{+31}_{-22}	4733^{+251}_{-239}	11842^{+3636}_{-3323}

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

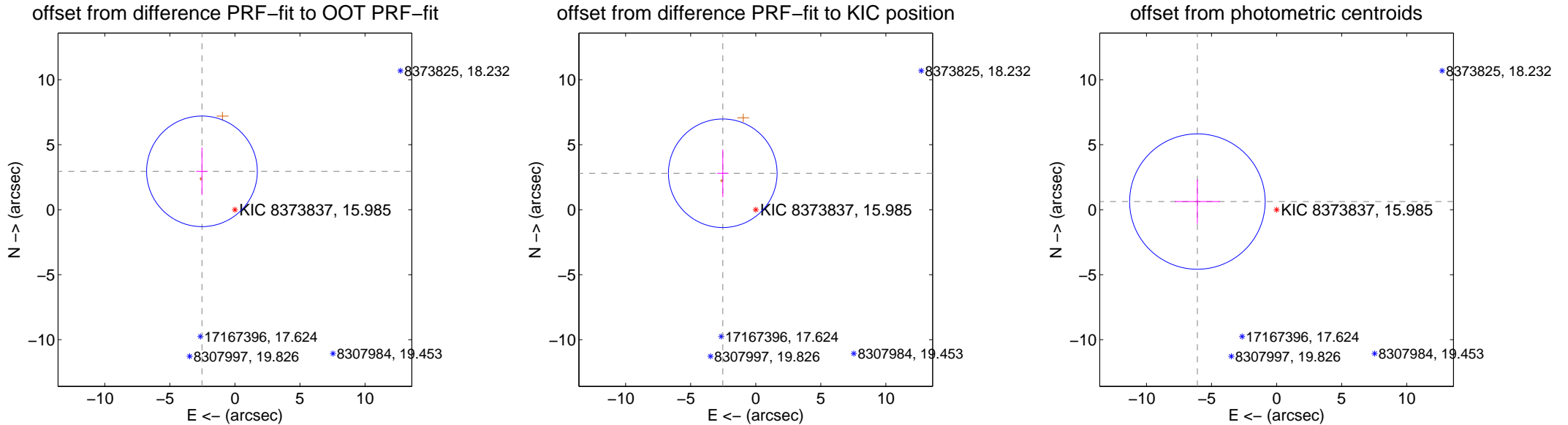
DV Centroid Data

Supplemental centroid analysis for 008373837-01. Kepler magnitude: 15.98. Transit SNR 12.48

There are 0 quarters with good PRF difference image offsets

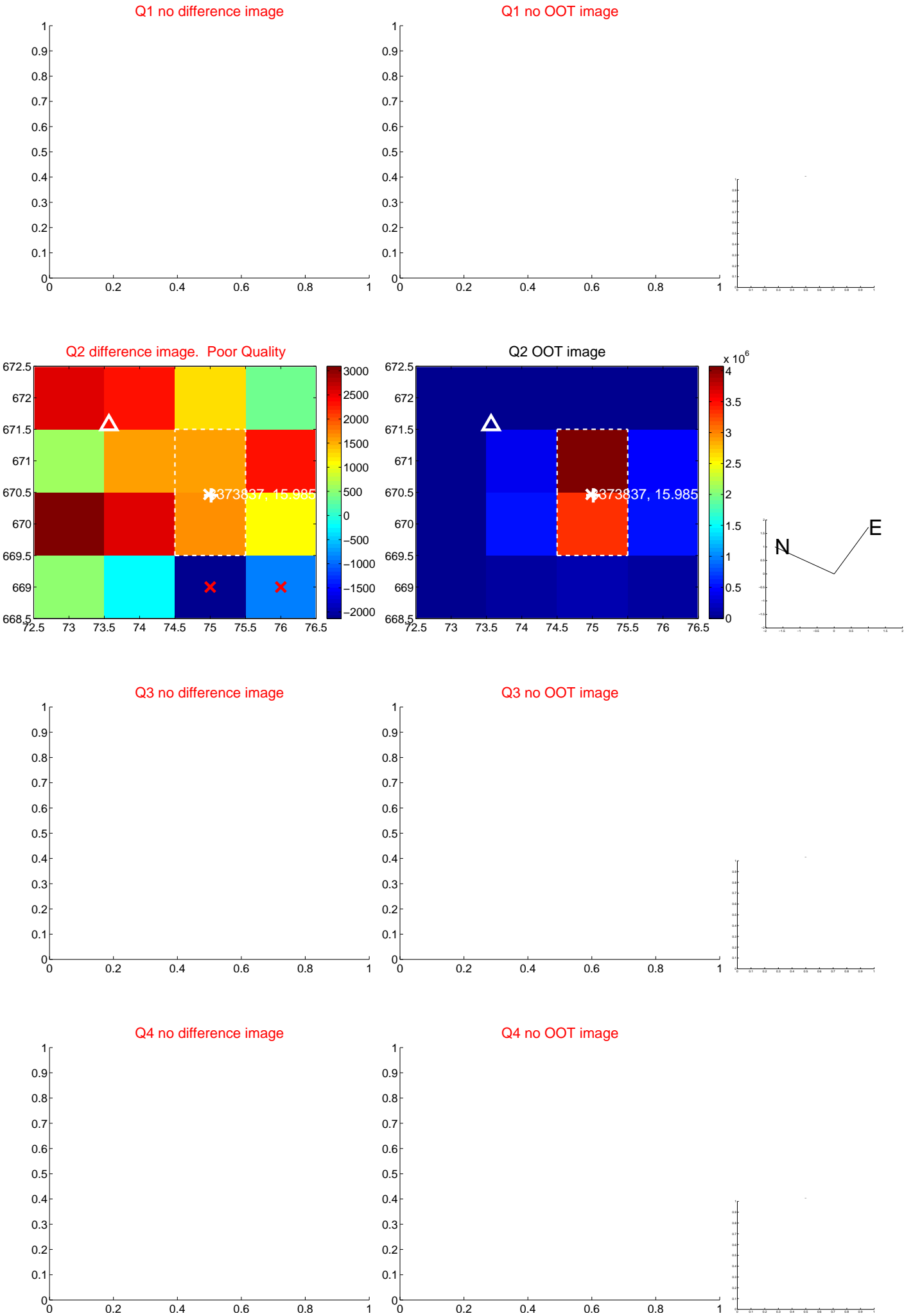
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.888 ± 1.418	2.74	2.531 ± 0.443	2.952 ± 1.829
PRF-fit source offset from KIC position	3.778 ± 1.392	2.72	2.534 ± 0.441	2.803 ± 1.833
photometric centroid source offset	6.12 ± 1.74	3.53	6.09 ± 1.74	0.63 ± 1.70

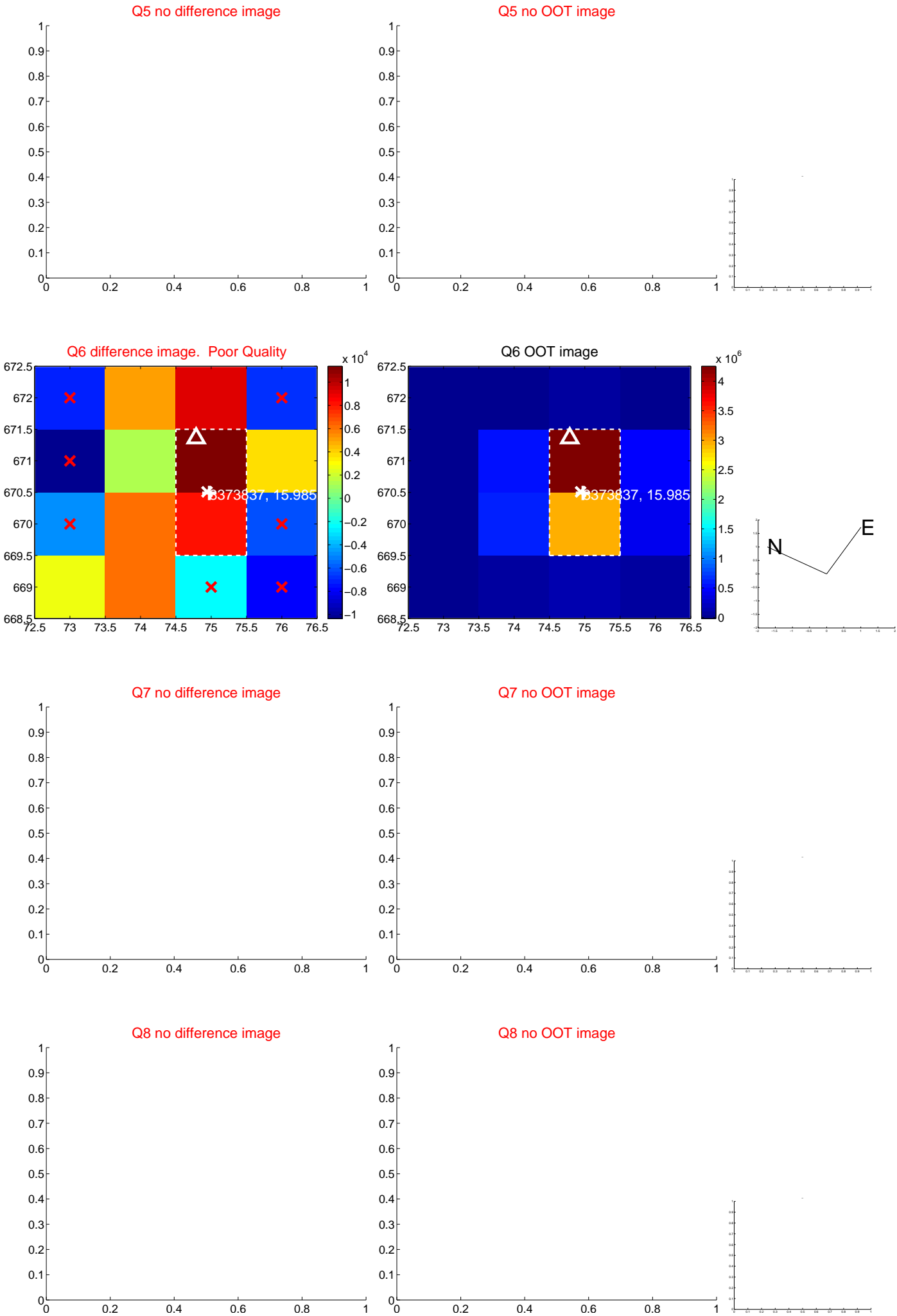


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

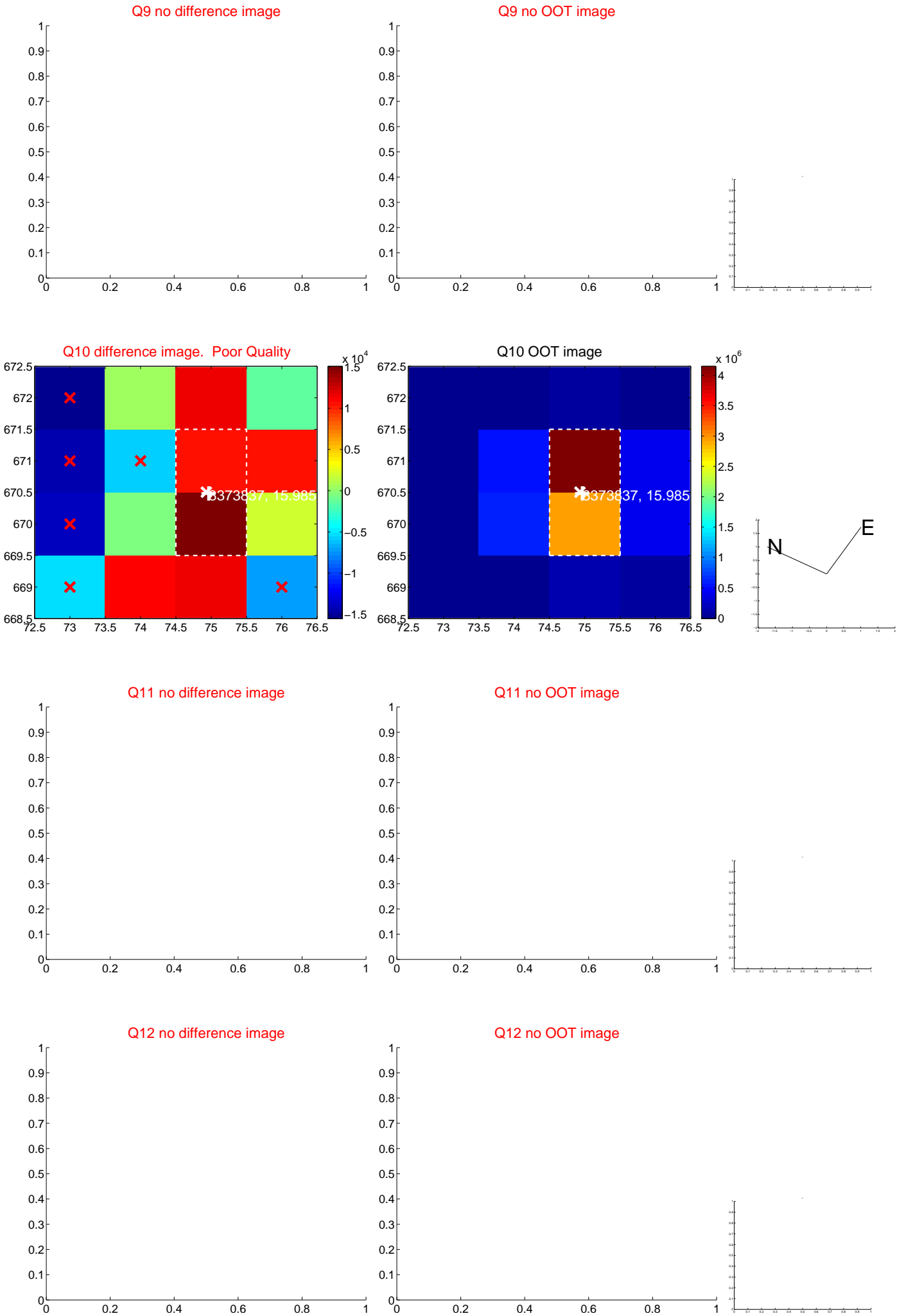
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



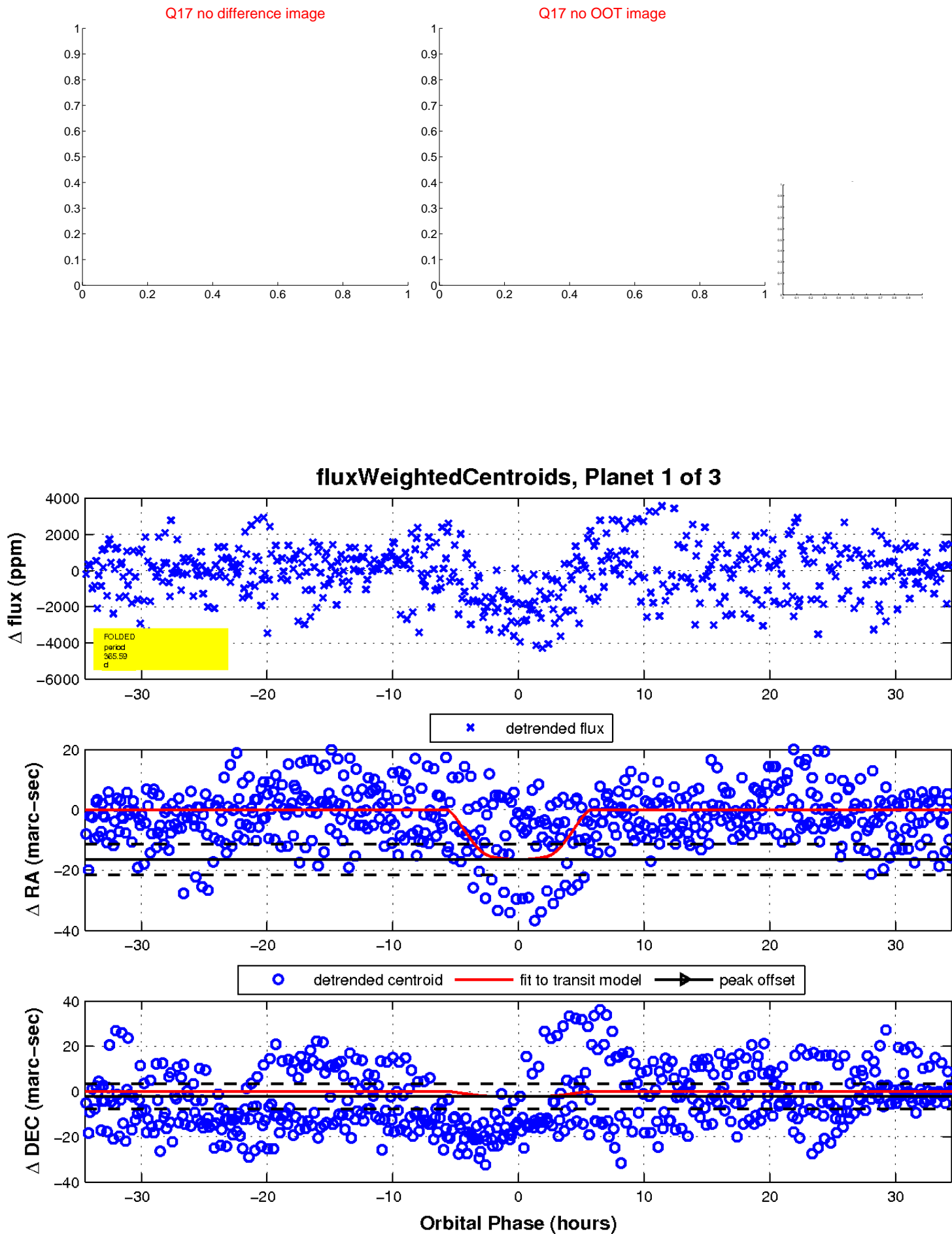
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

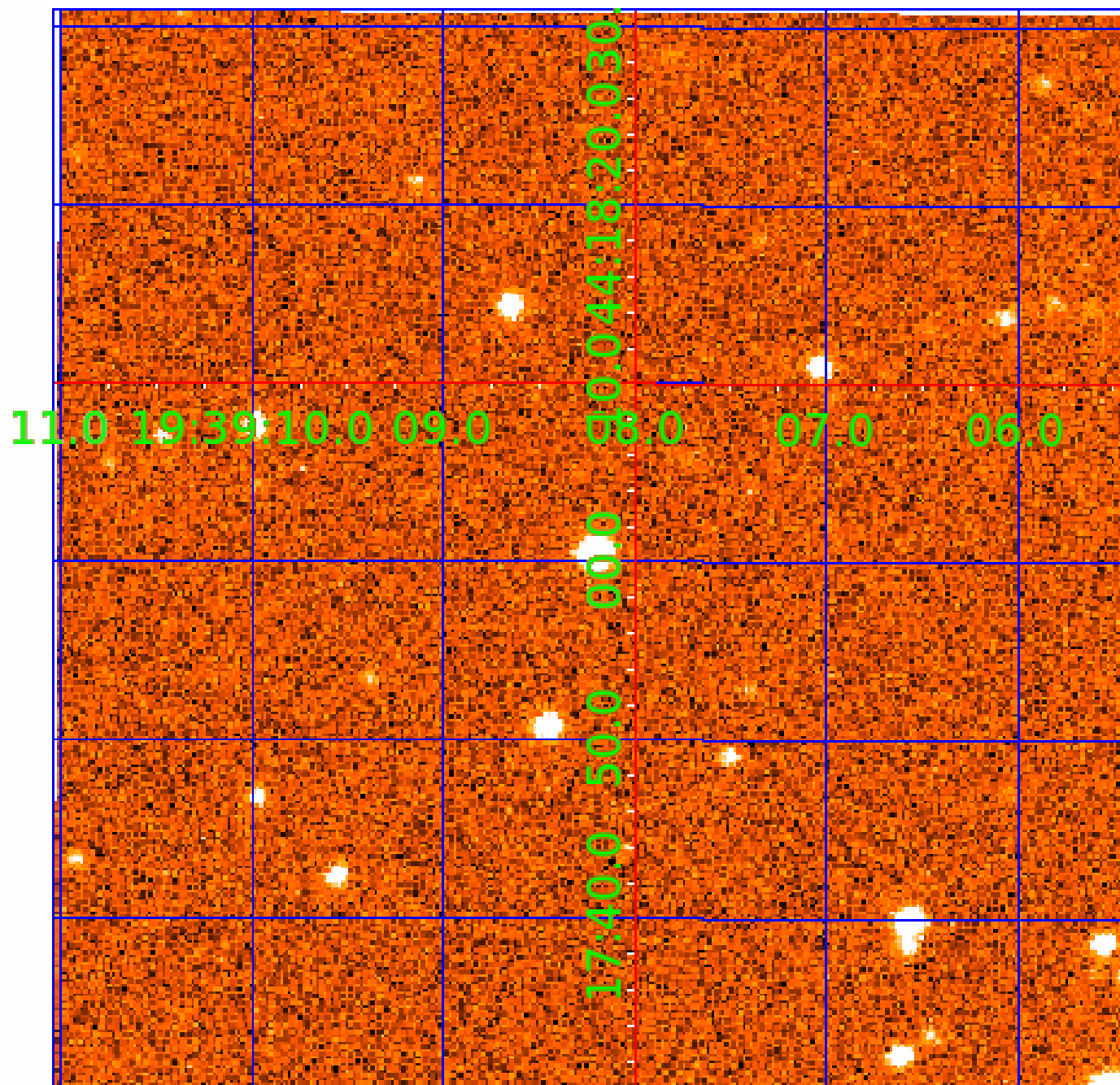


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008373837

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})
008373837-01	OBS	No	365.590037	241.826433	2671.5	11.500	12.1	12.5	1.09	6246	6.76	1.46
008373837-02	OBS	No	368.744290	234.175141	1648.0	9.692	8.6	9.4	1.09	6246	4.45	1.44
008373837-03	OBS	No	352.978541	258.500260	1815.4	3.666	7.6	7.9	1.09	6246	5.05	1.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008373837-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008373837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008373837-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—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.

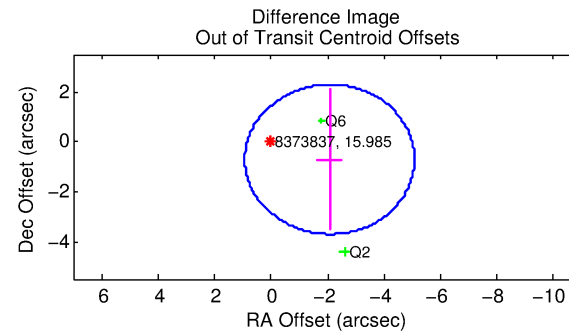
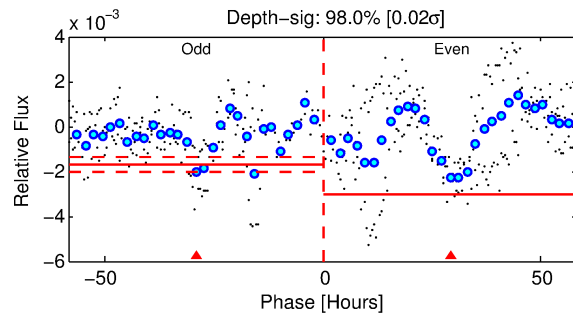
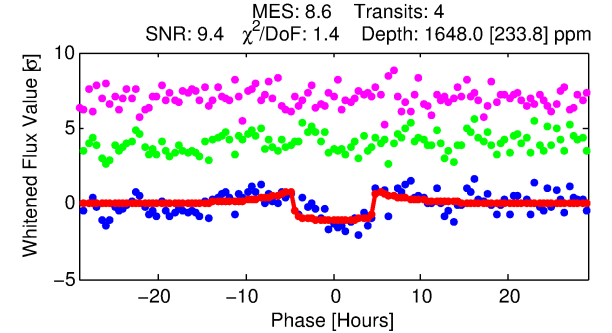
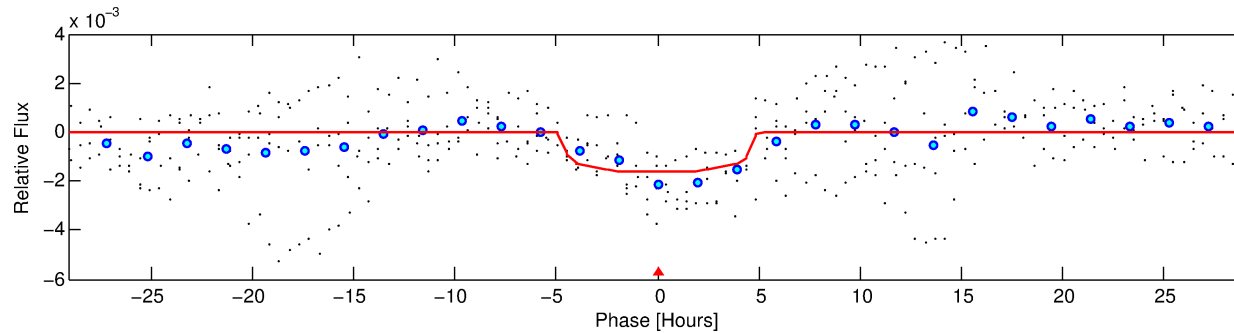
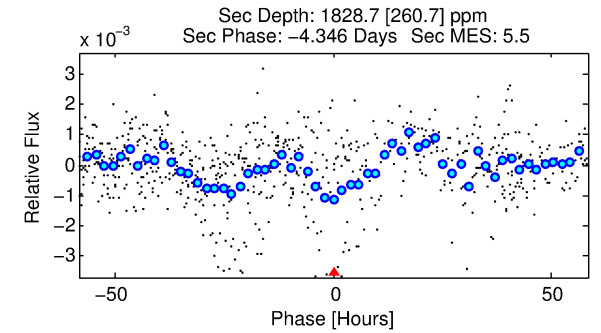
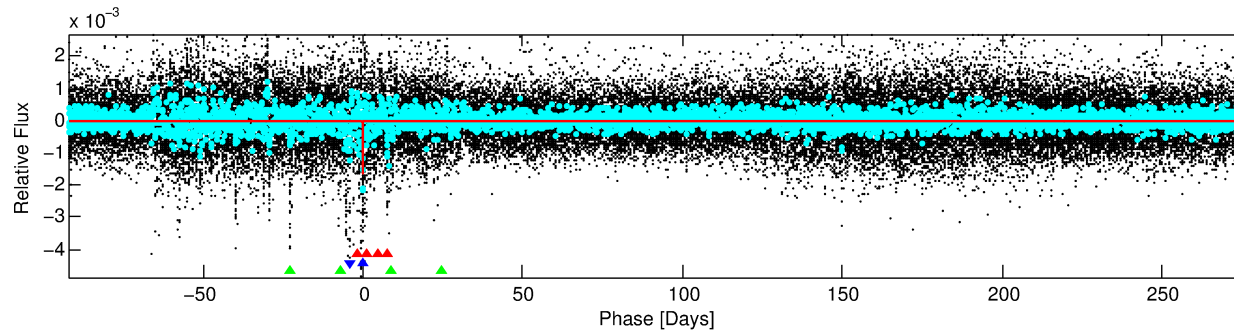
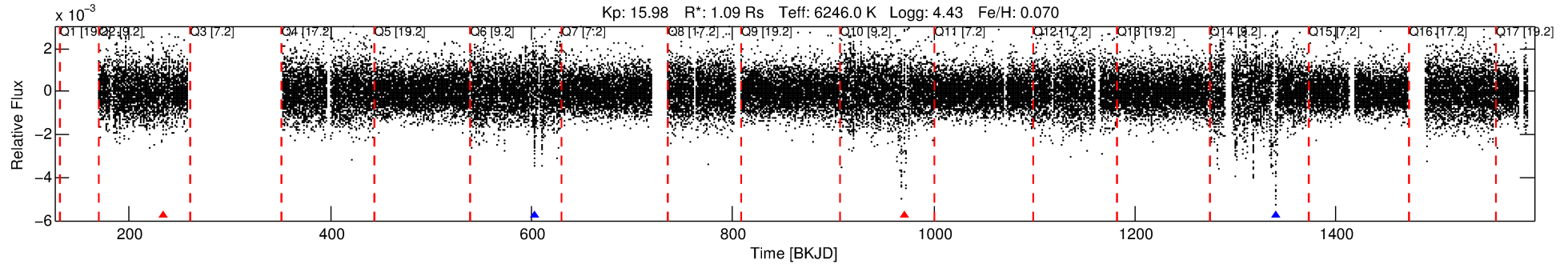
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008373837-02

No Significant Match Found

DV One-Page Summary

KIC: 8373837 Candidate: 2 of 3 Period: 368.744 d



DV Fit Results:

Period = 368.74429 [0.00681] d
Epoch = 234.1751 [0.0124] BKJD
Rp/R* = 0.0373 [0.0157]
a/R* = 296.20 [586.57]
b = 0.19 [9.89]
Seff = 1.44 [0.62]
Teq = 279 [30] K
Rp = 4.44 [2.36] Re
a = 1.0633 [0.2891] AU
Ag = 57575.62 [54217.91] [1.06σ]
Teffp = 6688 [1456] K [4.40σ]

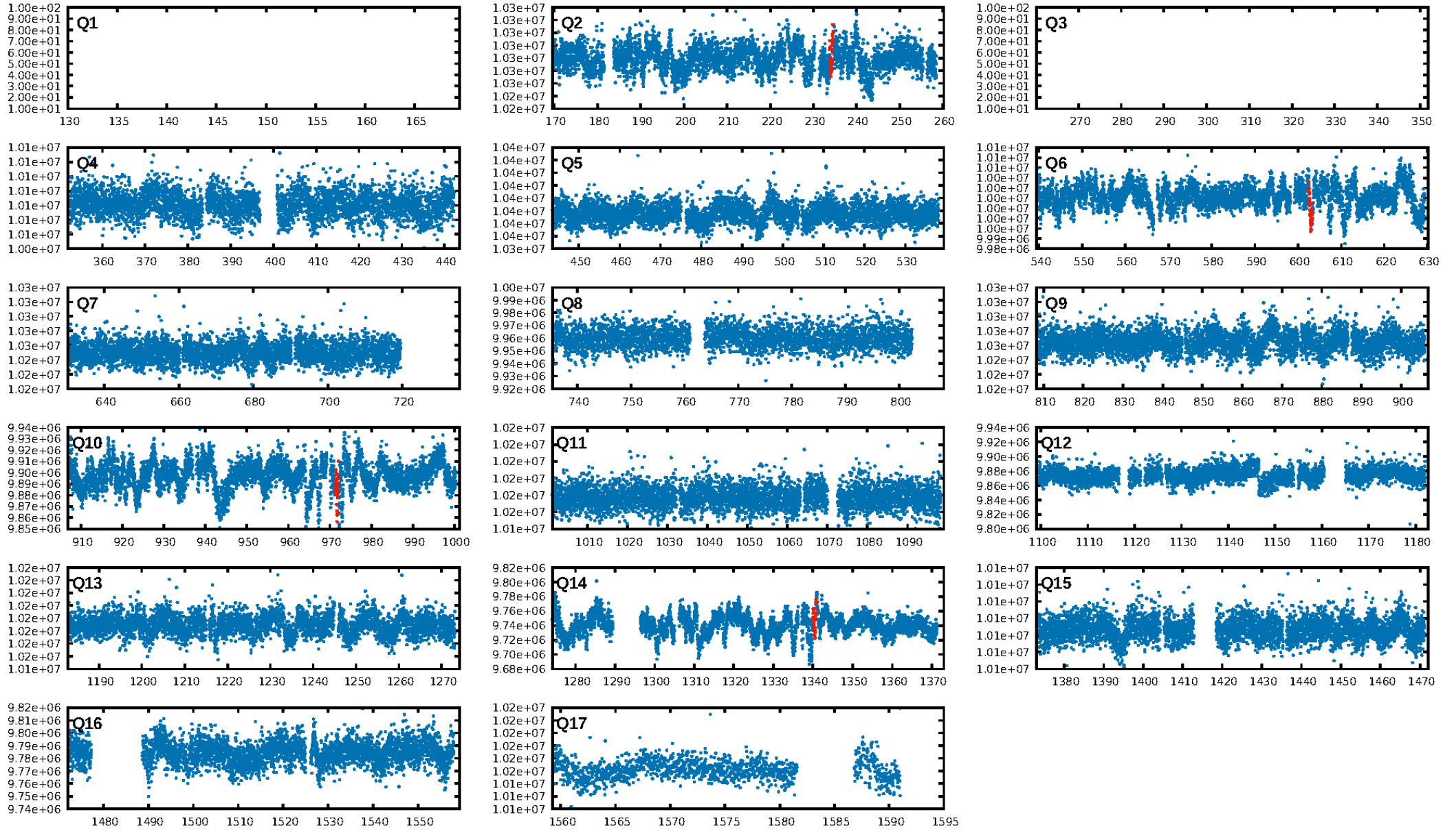
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.03σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.8%
ModelChiSquareGof-sig: 88.2%
Bootstrap-pfa: 4.40e-12
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 0.3507
Centroid-sig: 0.0%
Centroid-so: 7.730 arcsec [3.20σ]
OotOffset-rm: 2.191 arcsec [2.19σ]
KicOffset-rm: 2.238 arcsec [1.97σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

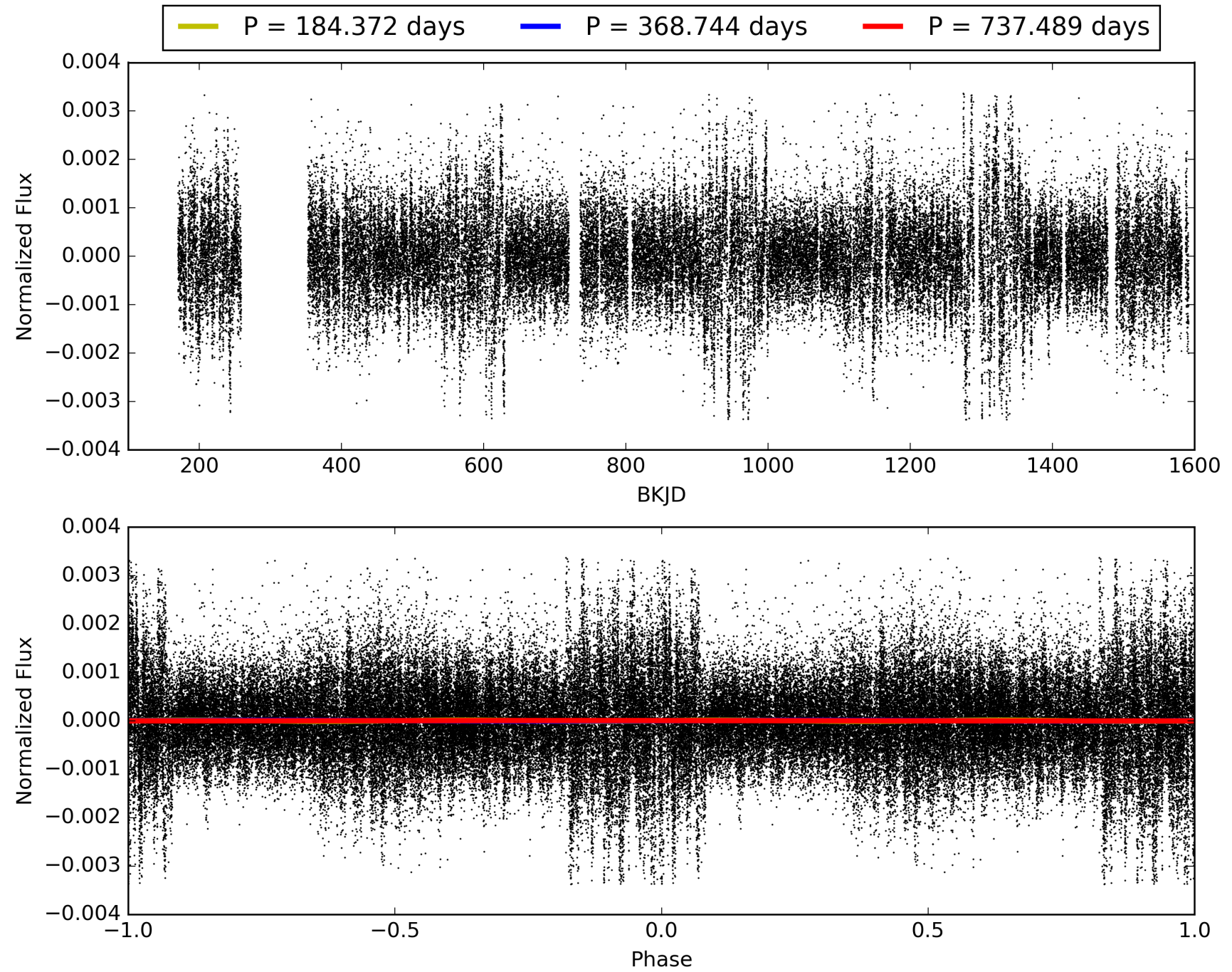
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:59:08 Z

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

TCE 008373837-02, PDC Light Curves

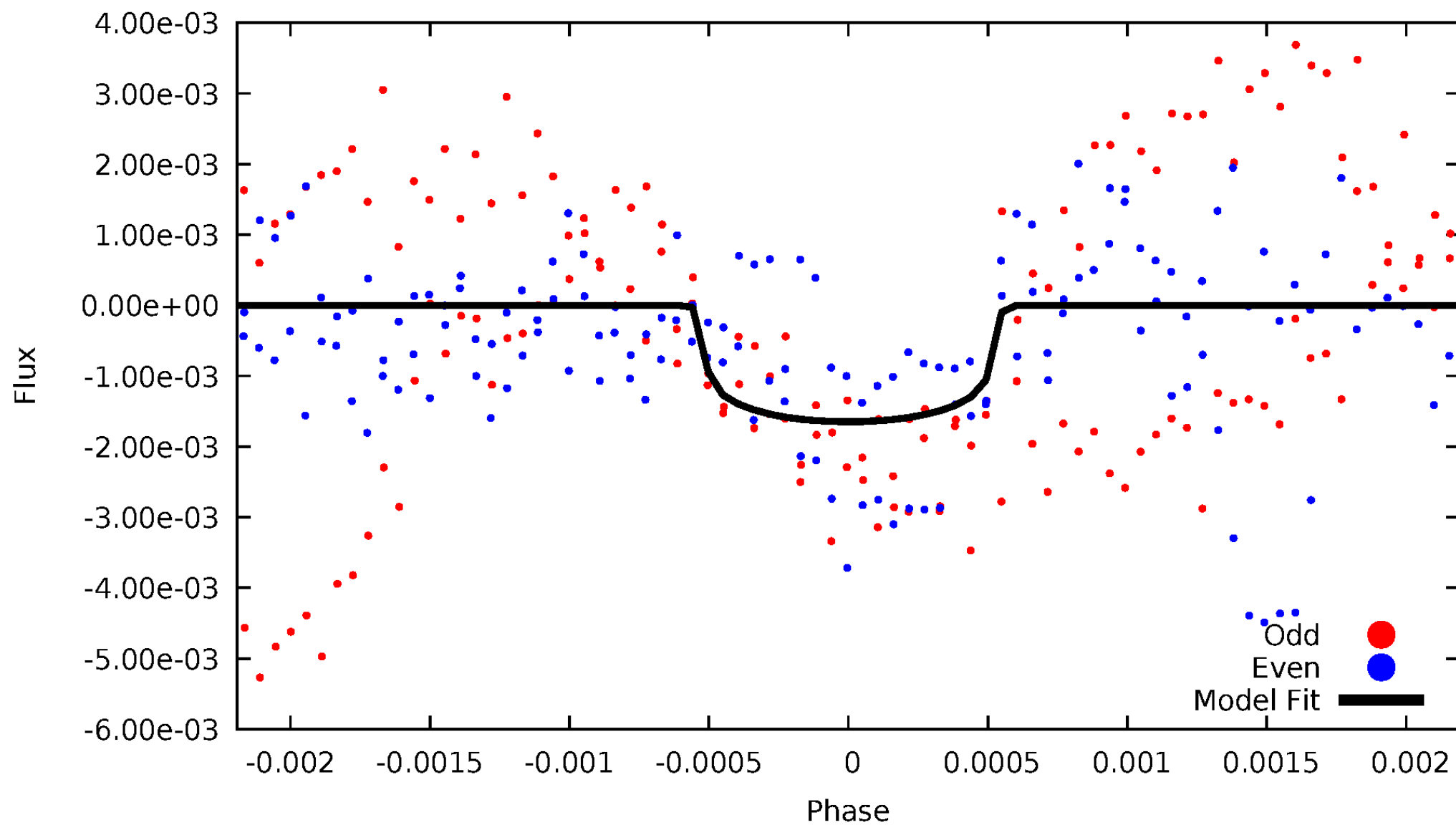


TCE 008373837-02



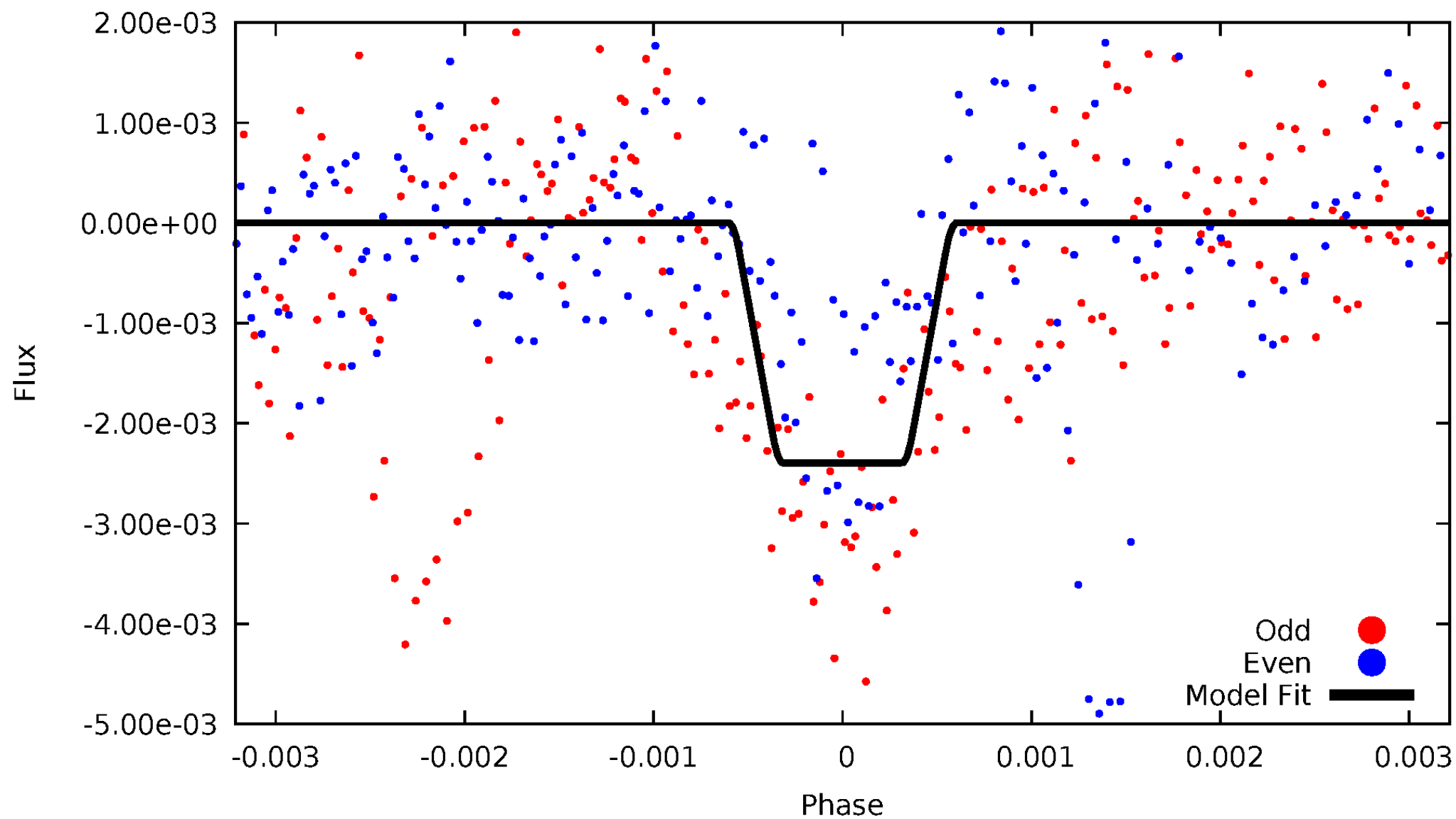
DV Odd/Even

TCE 008373837-02



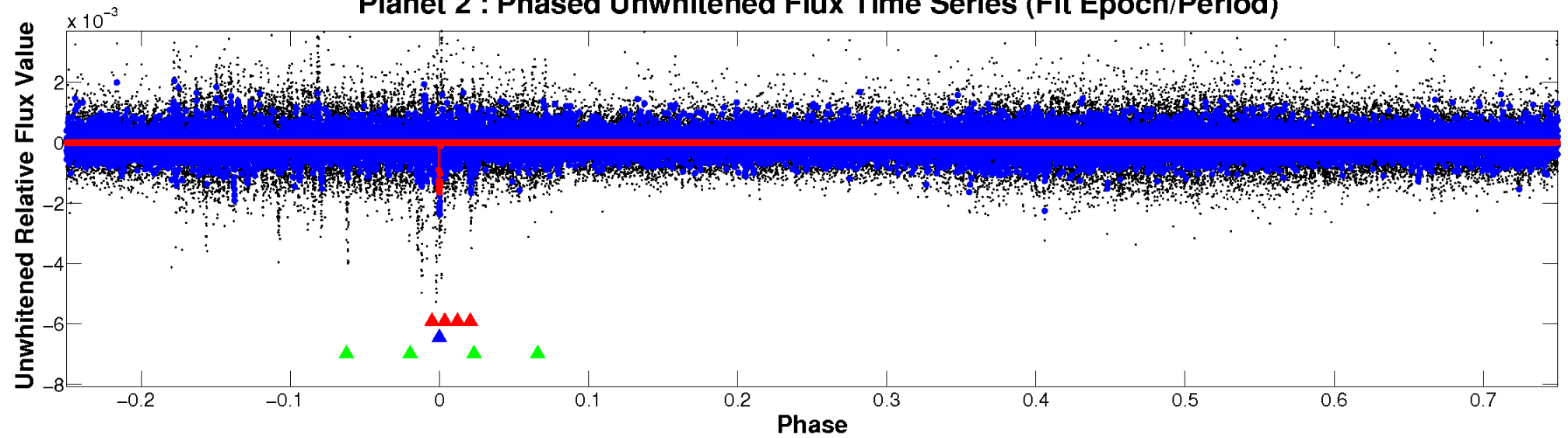
ALT Odd/Even

TCE 008373837-02

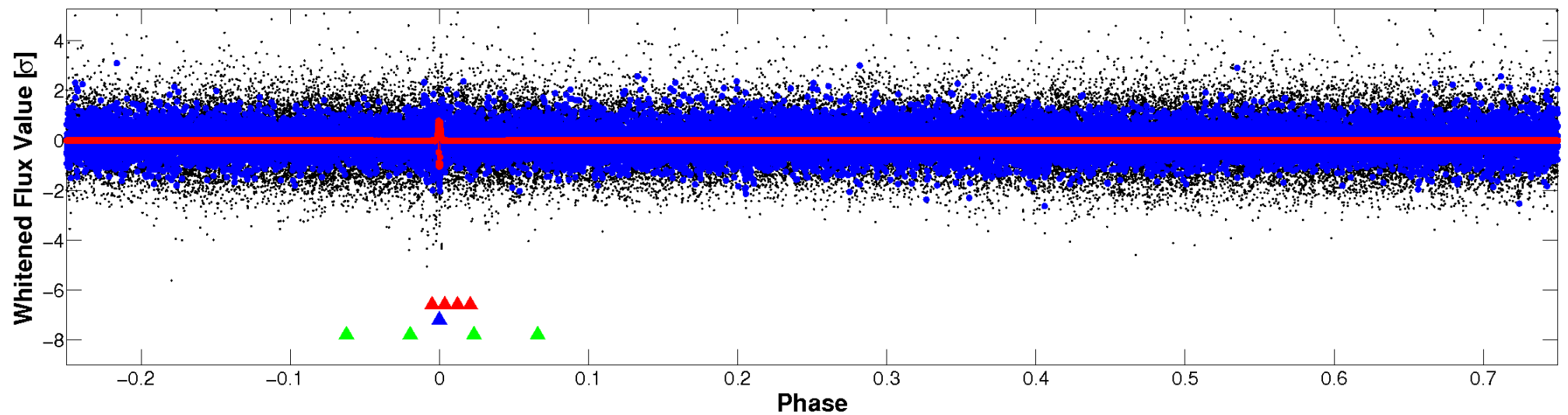


Non-Whitened Vs. Whitened Light Curve

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

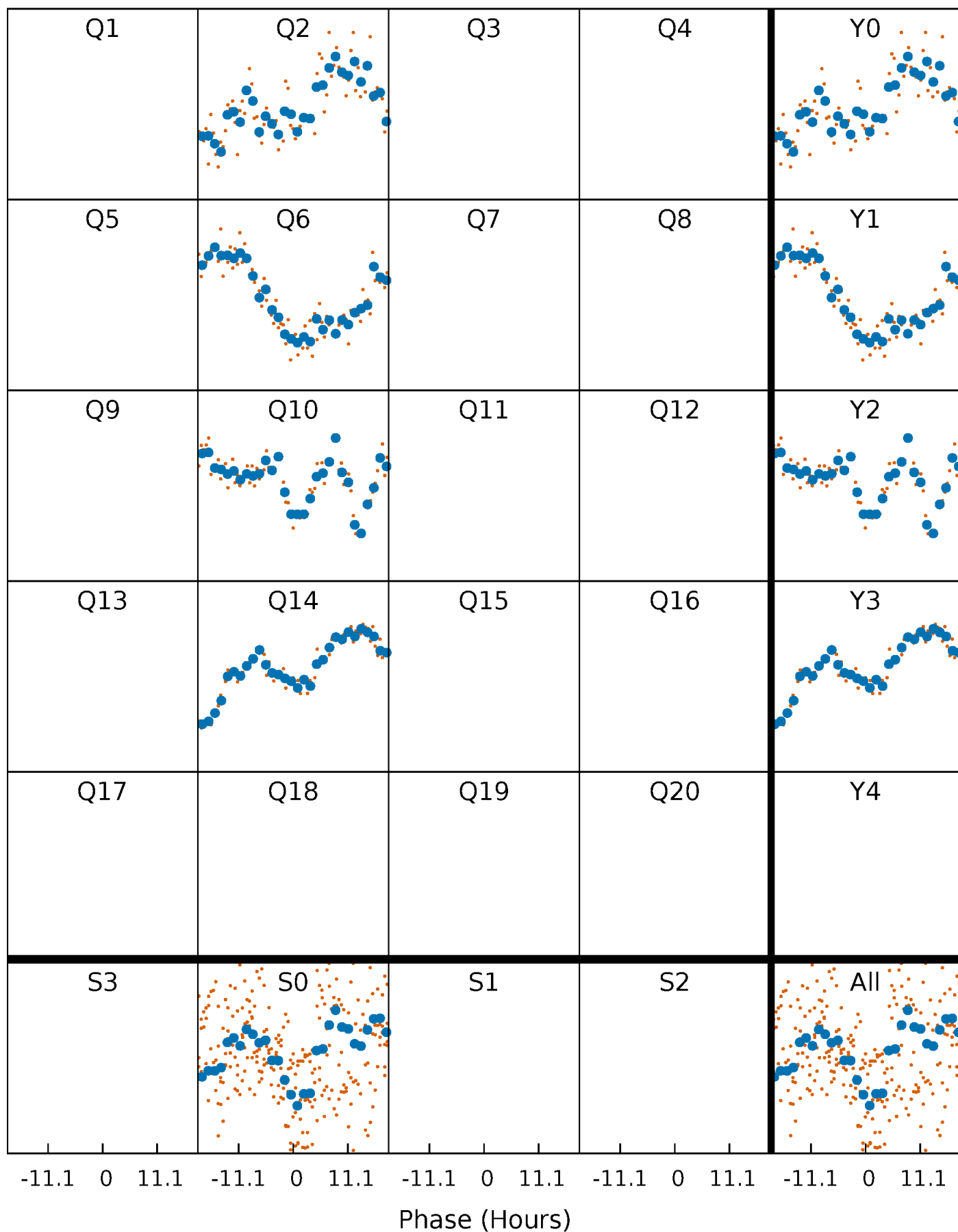


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



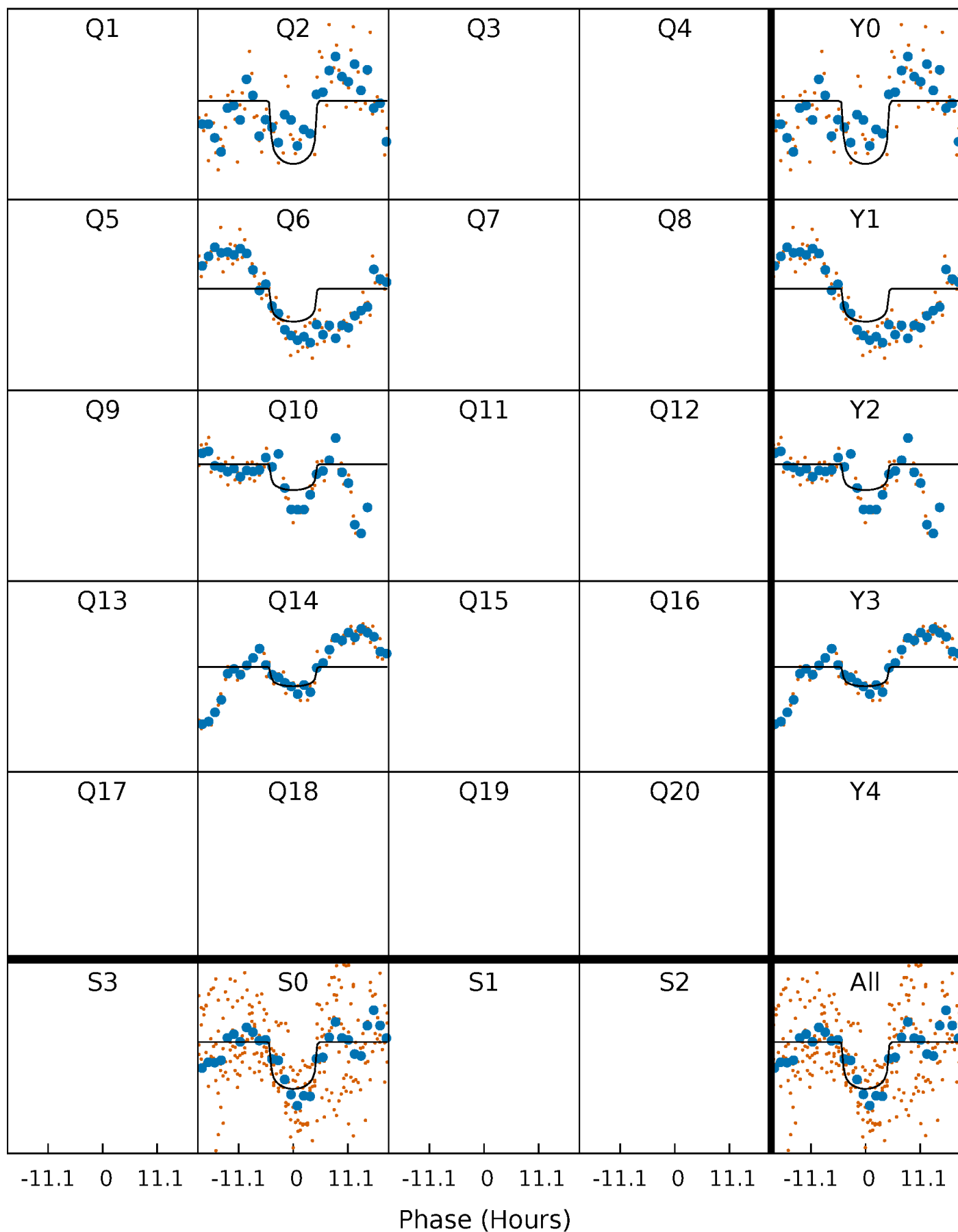
PDC Quarter-Phased Transit Curves

TCE 008373837-02 $P=368.744290$ Days $T_0=234.175141$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008373837-02 $P=368.744290$ Days $T_0=234.175141$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

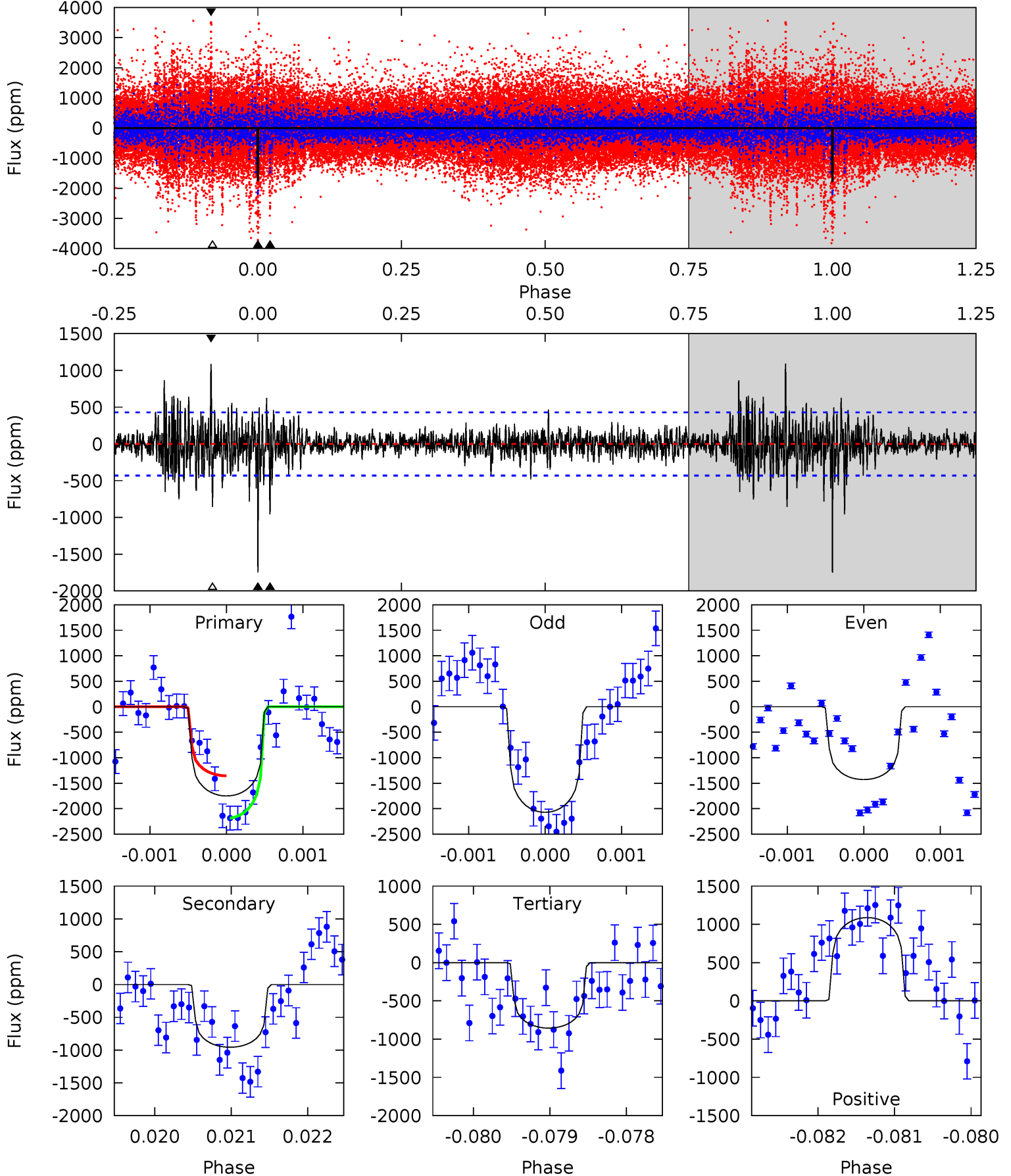
TCE 008373837-02 P=368.771269 Days $T_0=234.170269$ (BKJD)



DV Model-Shift Uniqueness Test

008373837-02, P = 368.744290 Days, E = 234.175141 Days

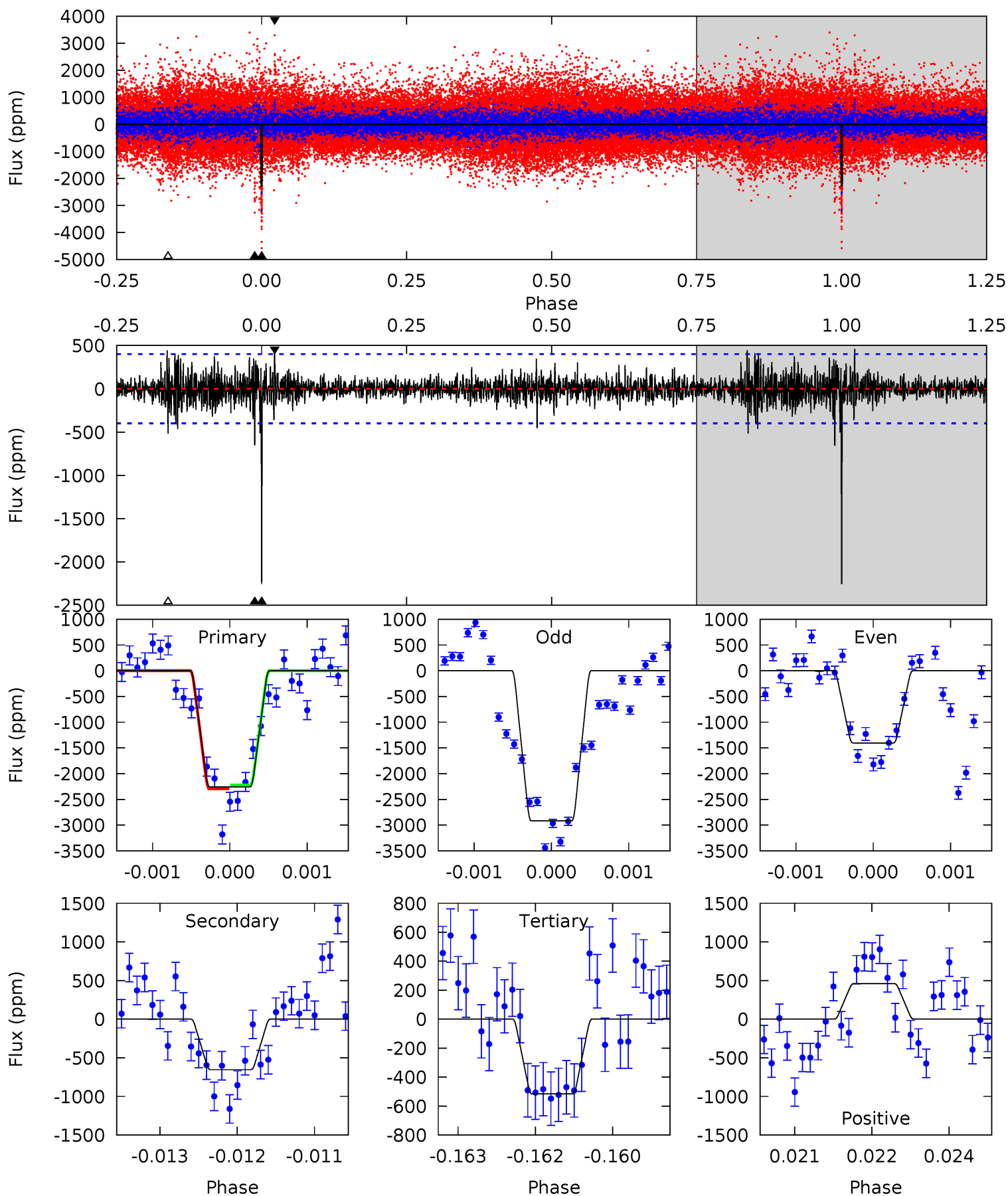
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	12.1	10.8	13.8	5.43	3.26	2.07	11.3	8.37	1.28	-1.66	4.04	0.94	0.38	5.28



Alt Model-Shift Uniqueness Test

008373837-02, $P = 368.771269$ Days, $E = 234.170269$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.6	8.88	7.00	6.25	5.42	3.24	1.34	23.6	24.4	1.87	2.62	10.4	0.94	0.17	0.53



Stellar Parameters For KIC 008373837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6246^{+174}_{-261}	$4.433^{+0.054}_{-0.216}$	$0.070^{+0.250}_{-0.300}$	$1.092^{+0.353}_{-0.118}$	$1.180^{+0.157}_{-0.173}$	$1.276^{+0.361}_{-0.667}$
	+3%/-4%	+1%/-5%	+357%/-429%	+32%/-11%	+13%/-15%	+28%/-52%
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 008373837-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-957 ± 79	$4.78^{+2.15}_{-2.06}$	398^{+33}_{-22}	5642^{+1857}_{-830}	25380^{+52669}_{-13417}
Alt.	-654 ± 74	$6.17^{+2.36}_{-2.07}$	398^{+30}_{-21}	4644^{+849}_{-532}	10479^{+12517}_{-5003}

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

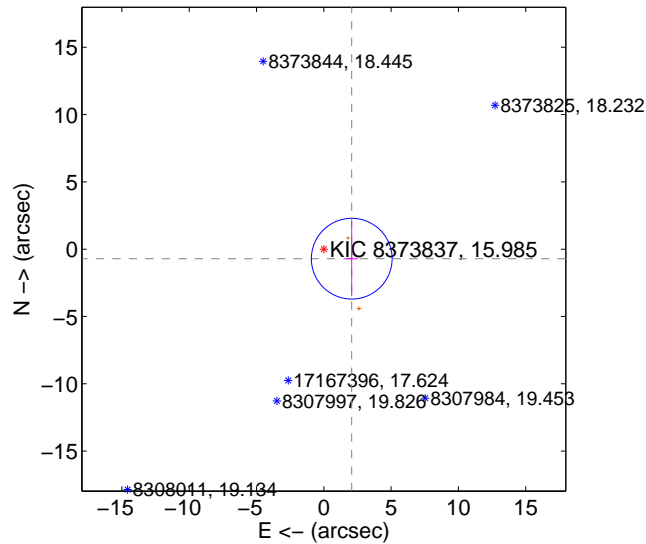
Supplemental centroid analysis for 008373837-02. Kepler magnitude: 15.98. Transit SNR 9.42

There are 0 quarters with good PRF difference image offsets

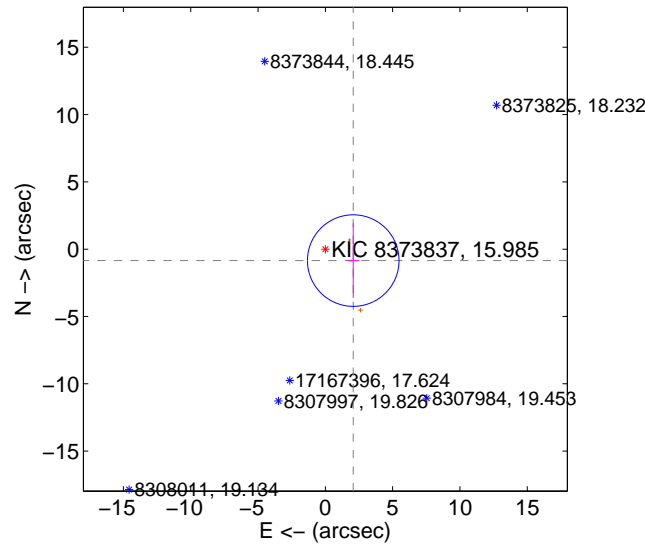
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.191 ± 0.999	2.19	-2.074 ± 0.454	-0.708 ± 2.794
PRF-fit source offset from KIC position	2.238 ± 1.133	1.97	-2.072 ± 0.454	-0.847 ± 2.781
photometric centroid source offset	7.73 ± 2.41	3.20	-2.79 ± 2.46	7.21 ± 2.41

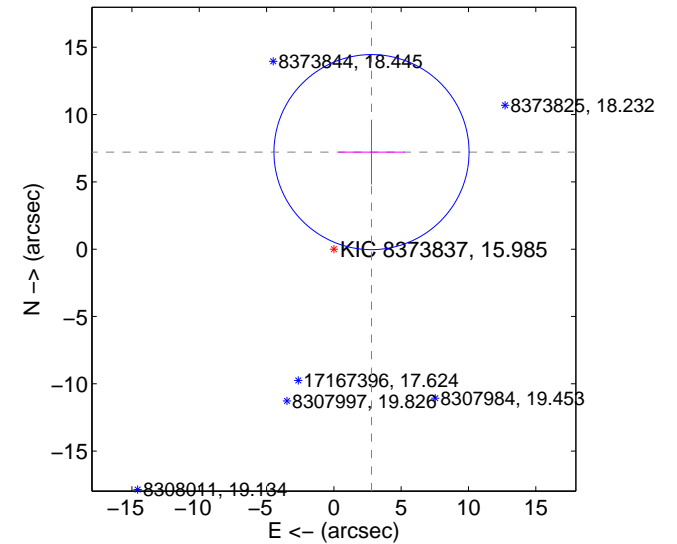
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

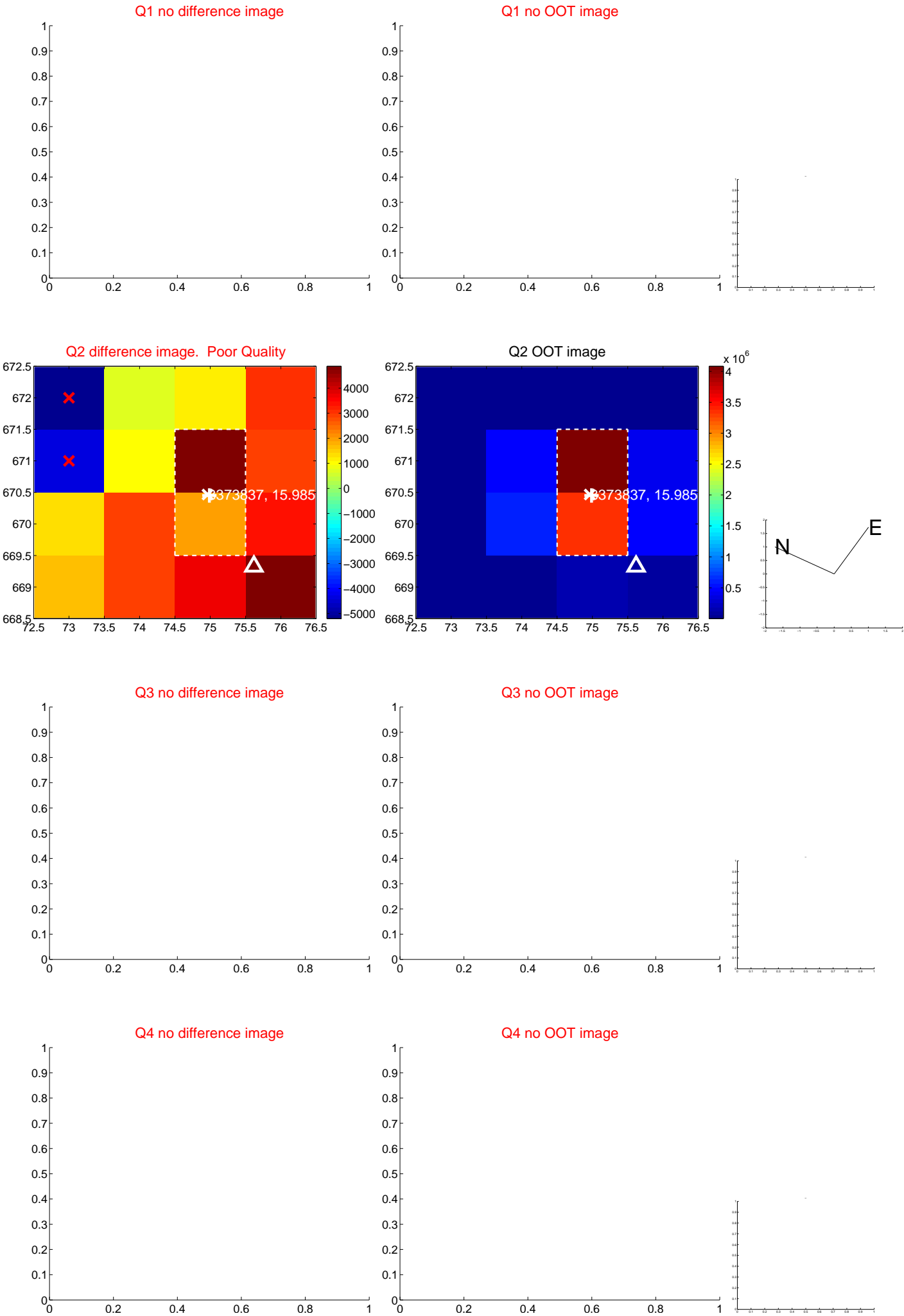


offset from photometric centroids

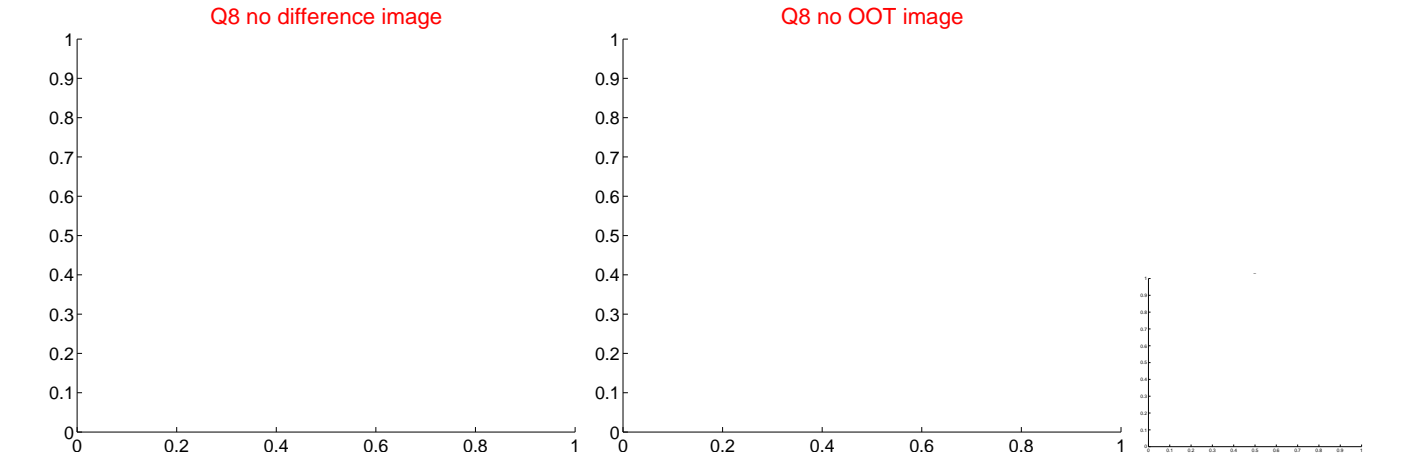
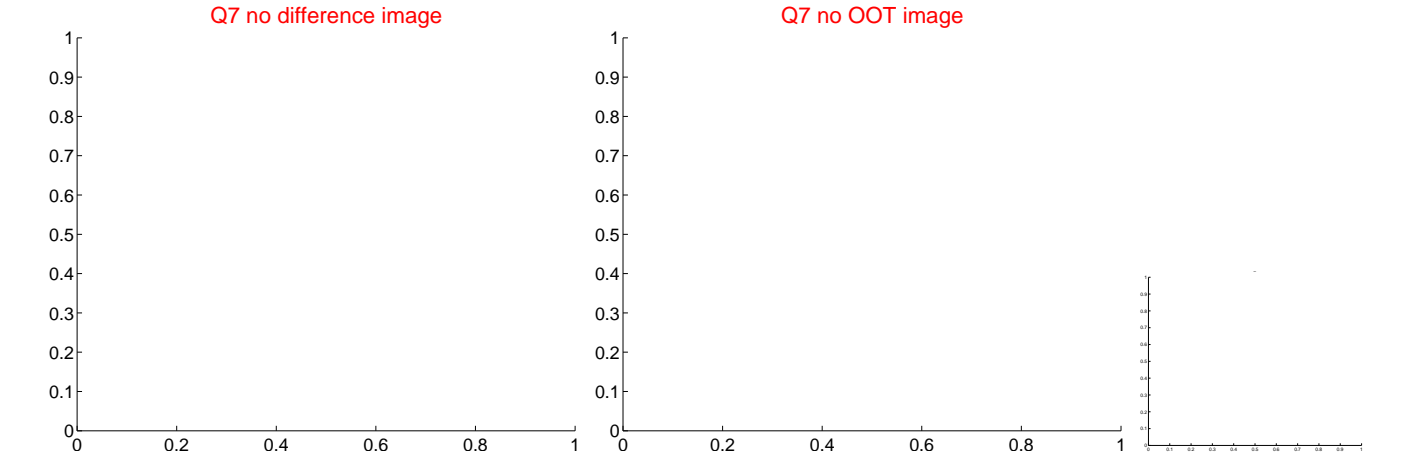
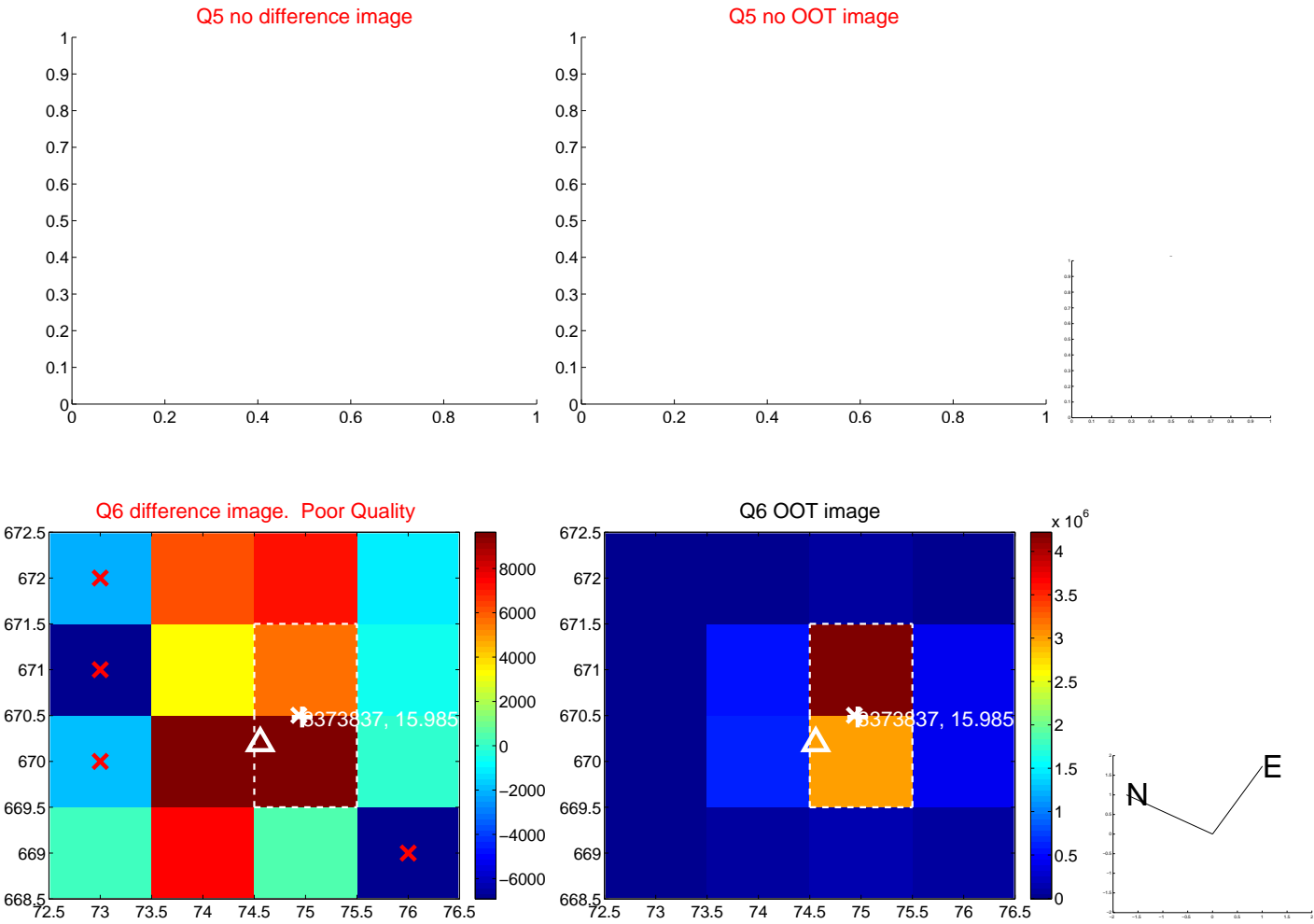


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



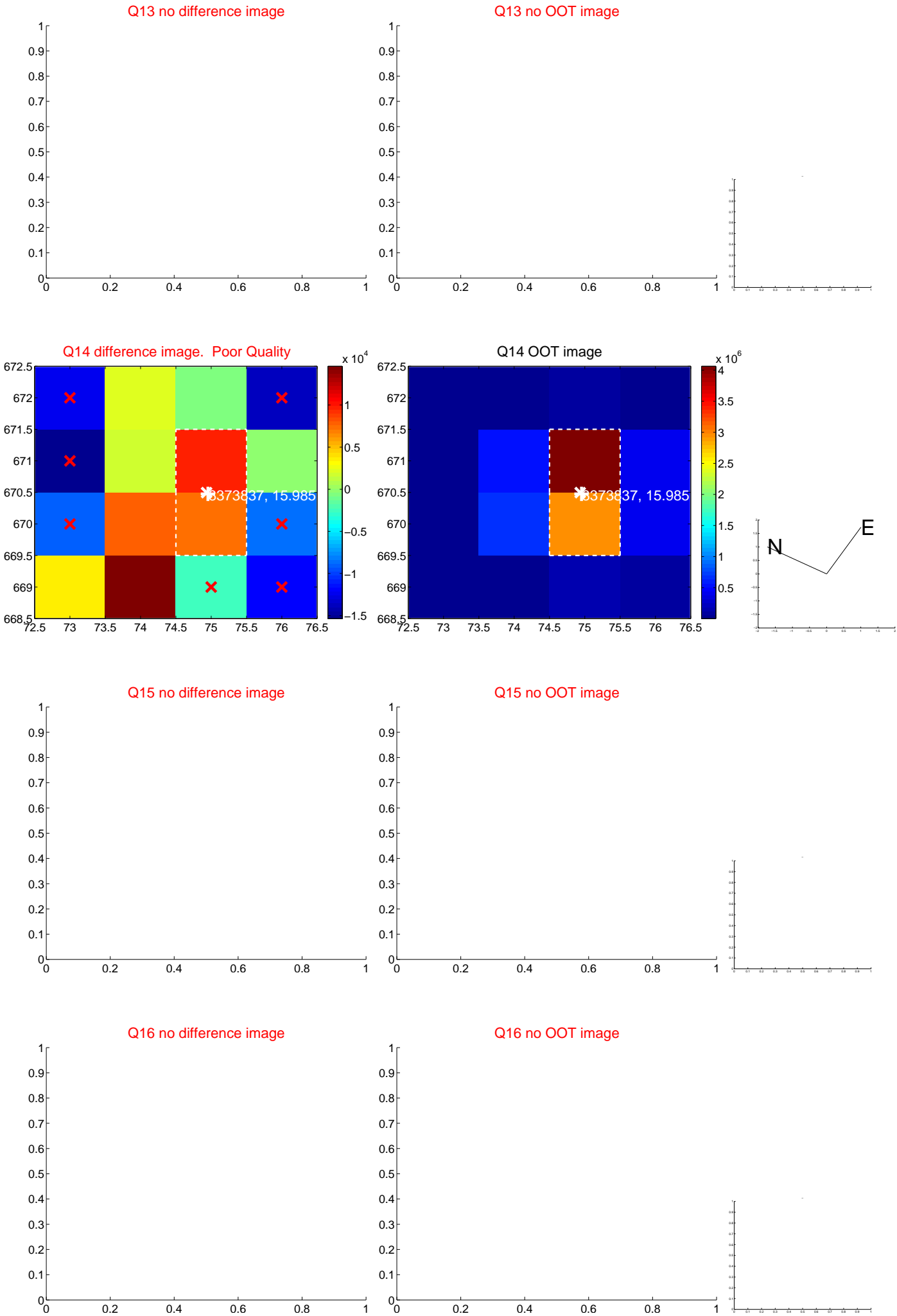
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



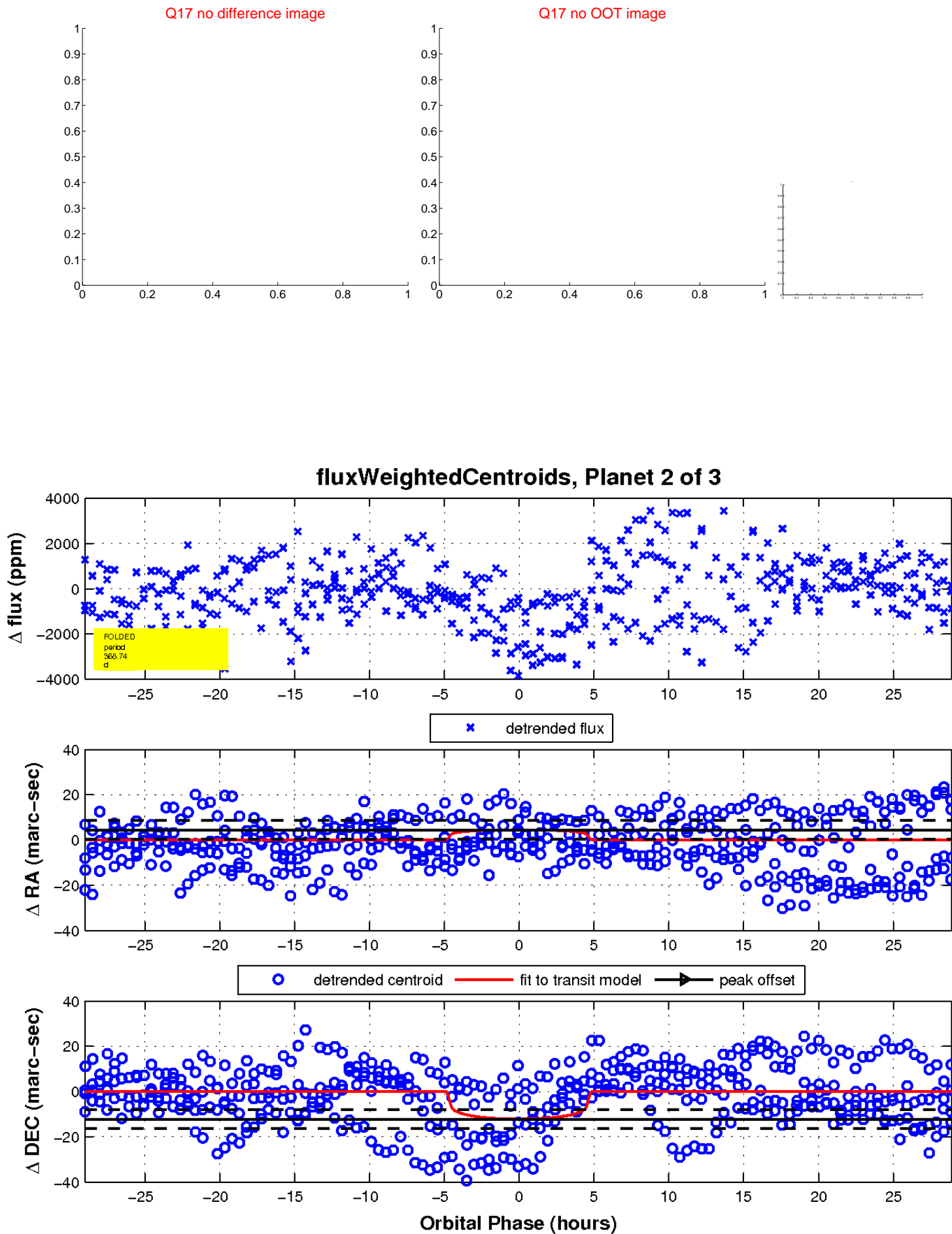
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

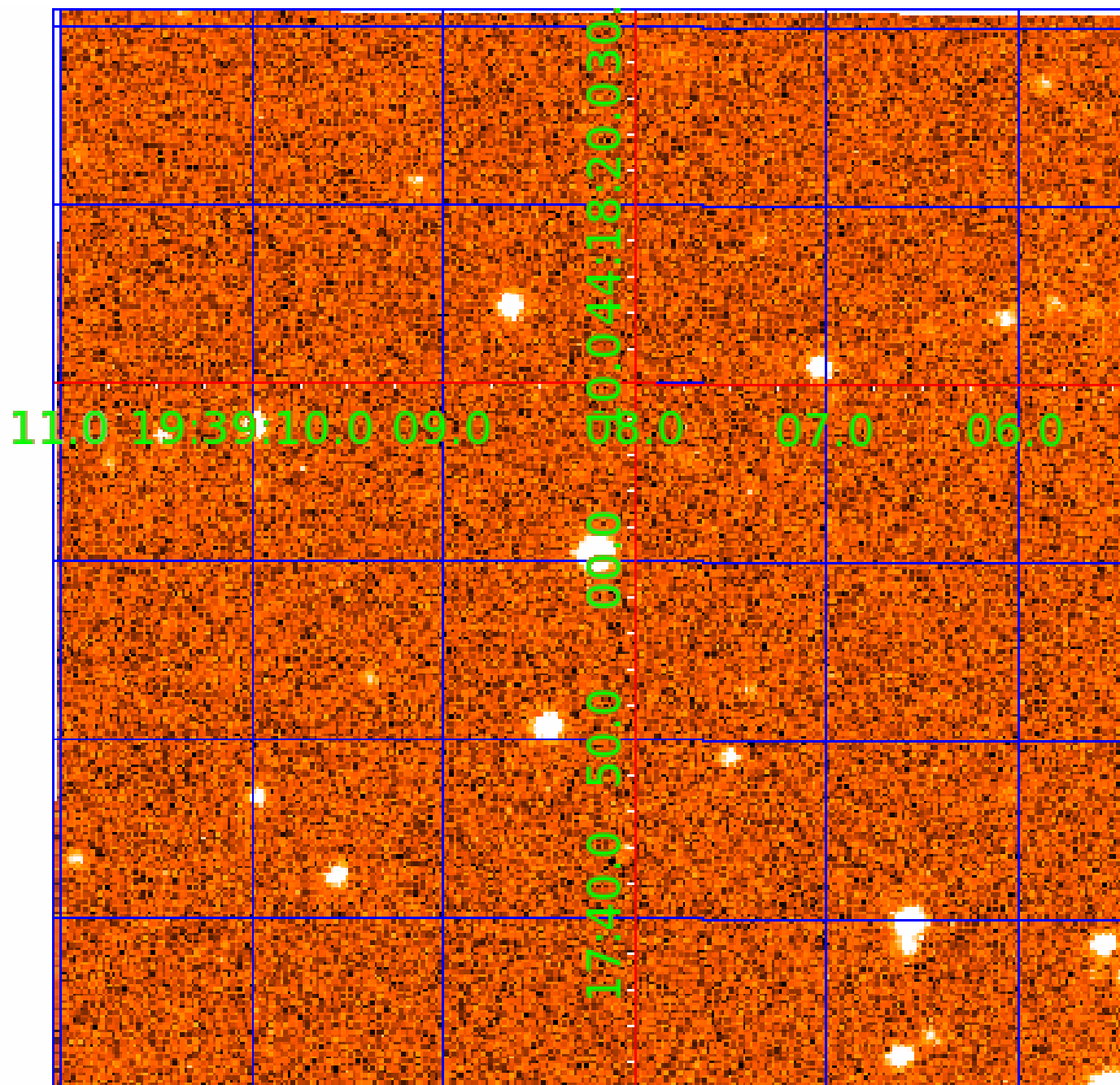


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008373837

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})
008373837-01	OBS	No	365.590037	241.826433	2671.5	11.500	12.1	12.5	1.09	6246	6.76	1.46
008373837-02	OBS	No	368.744290	234.175141	1648.0	9.692	8.6	9.4	1.09	6246	4.45	1.44
008373837-03	OBS	No	352.978541	258.500260	1815.4	3.666	7.6	7.9	1.09	6246	5.05	1.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008373837-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008373837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008373837-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—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.

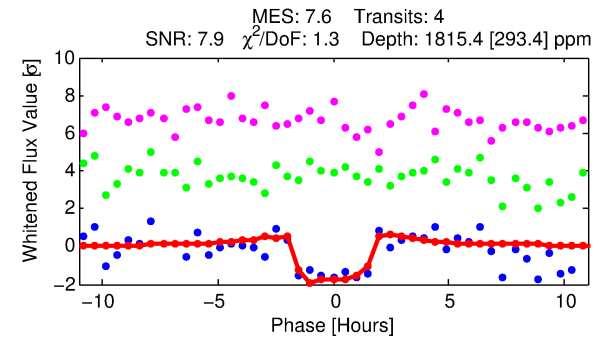
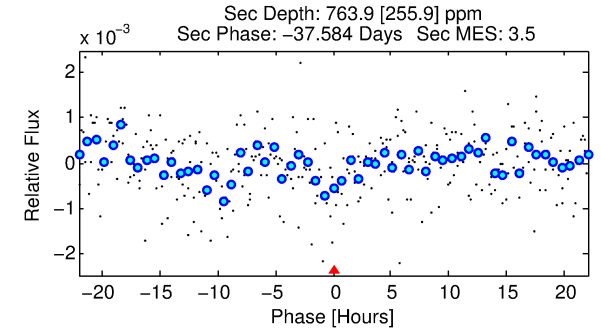
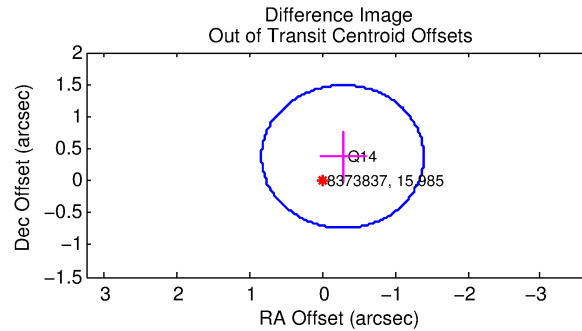
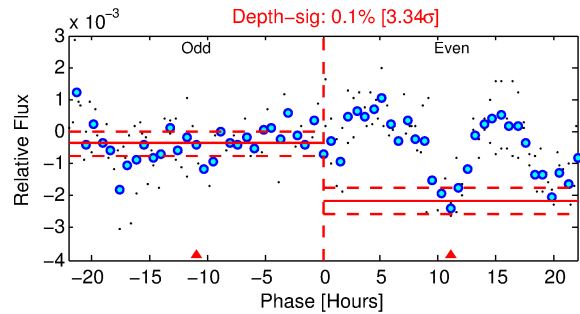
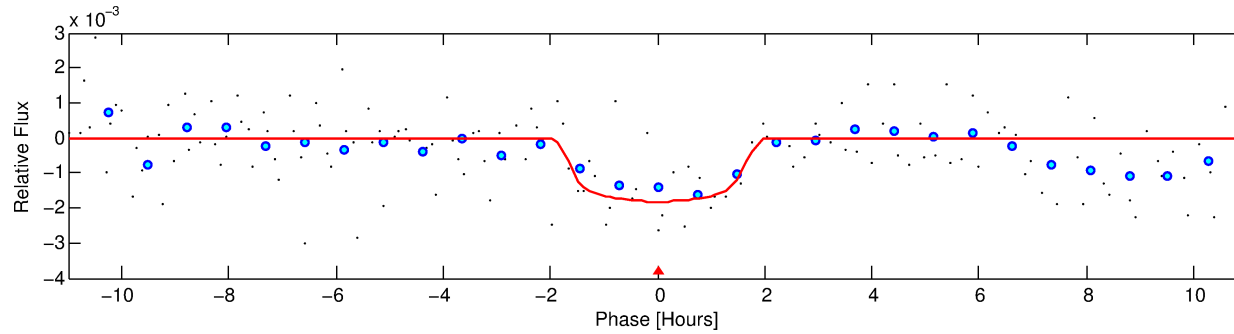
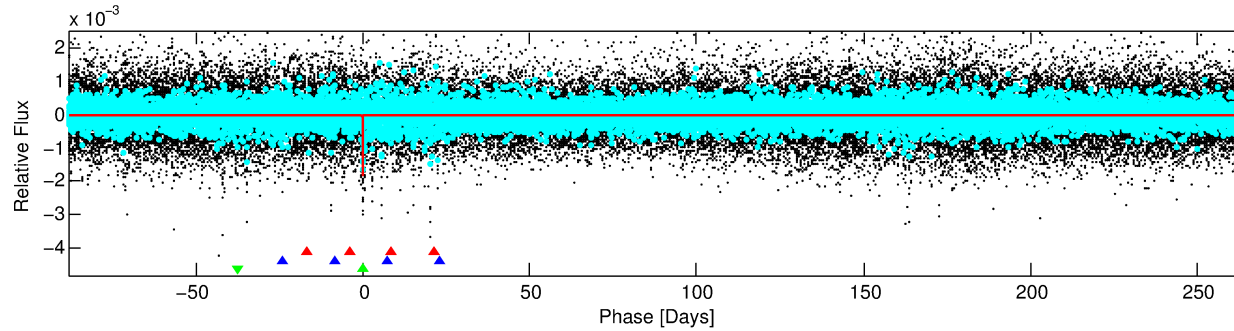
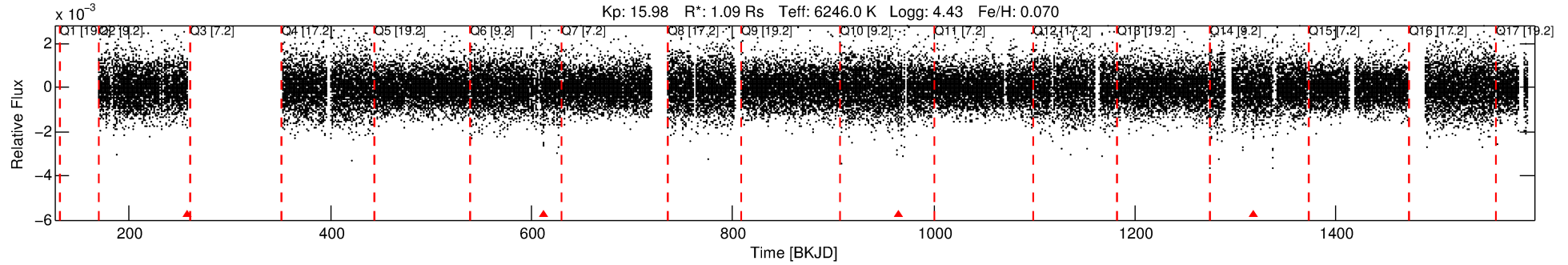
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008373837-03

No Significant Match Found

DV One-Page Summary

KIC: 8373837 Candidate: 3 of 3 Period: 352.979 d



DV Fit Results:

Period = 352.97854 [0.00506] d
Epoch = 258.5003 [0.0105] BKJD
Rp/R* = 0.0423 [0.0181]
a/R* = 535.99 [1078.00]
b = 0.75 [1.21]
Seff = 1.52 [0.65]
Teq = 283 [30] K
Rp = 5.05 [2.71] Re
a = 1.0328 [0.2808] AU
Ag = 17605.48 [17614.33] [1.00 σ]
Teffp = 5046 [1178] K [4.04 σ]

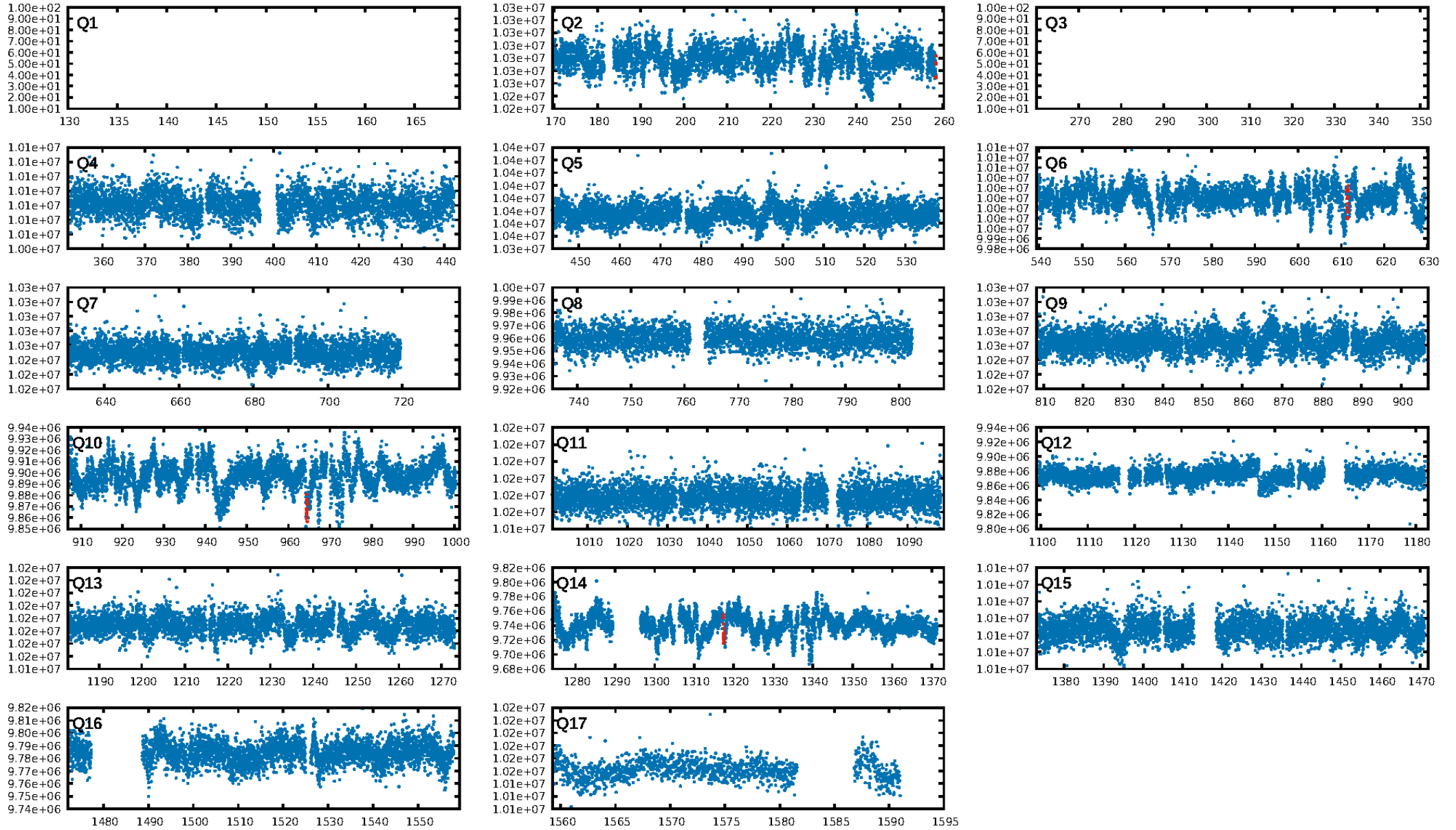
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [25.08 σ]
ModelChiSquare2-sig: 74.7%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.09e-10
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 0.7007
Centroid-sig: 13.3%
Centroid-so: 2.572 arcsec [1.03 σ]
OotOffset-rm: 0.467 arcsec [1.26 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-rm: 0.378 arcsec [1.08 σ]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

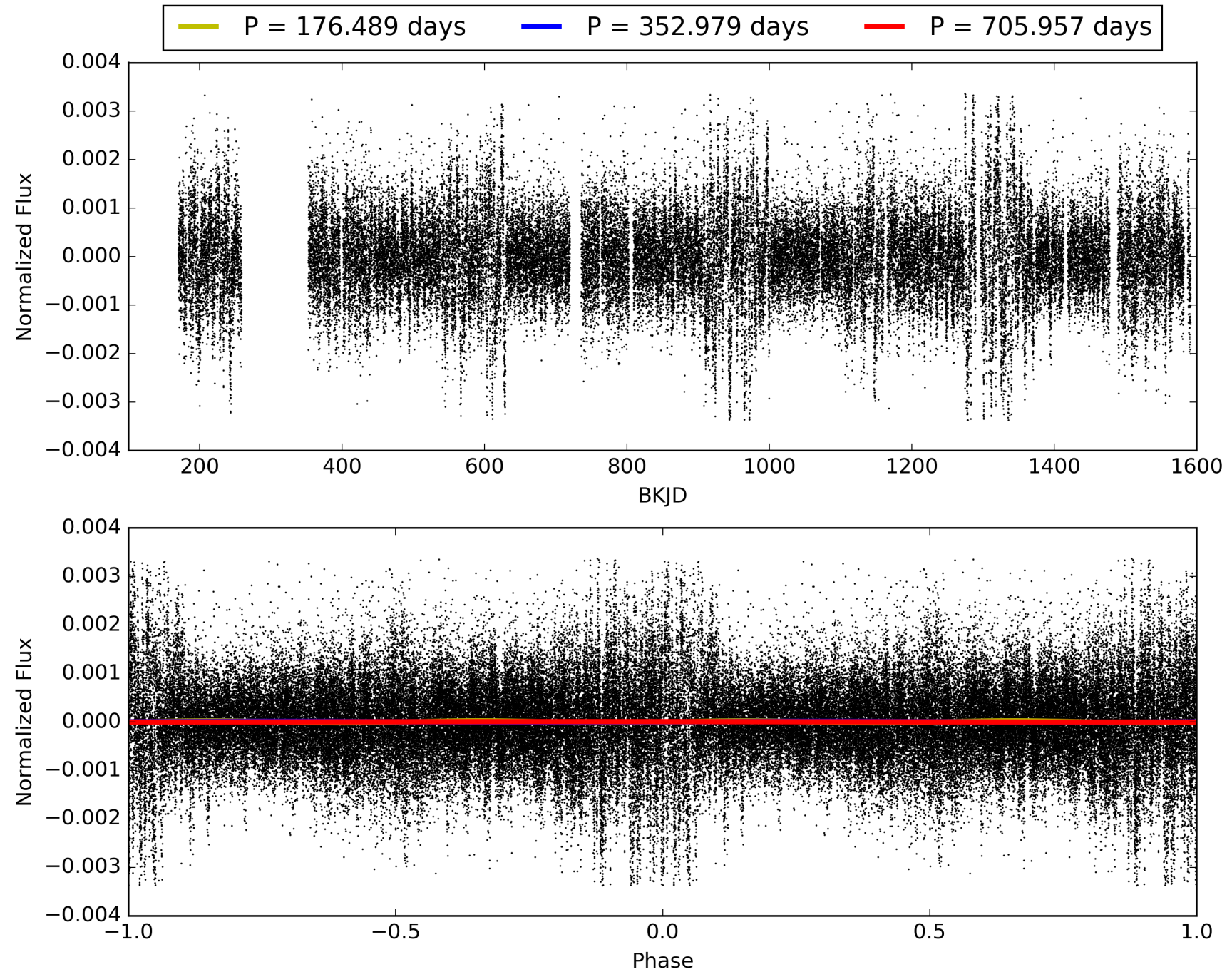
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:59:23 Z

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

TCE 008373837-03, PDC Light Curves

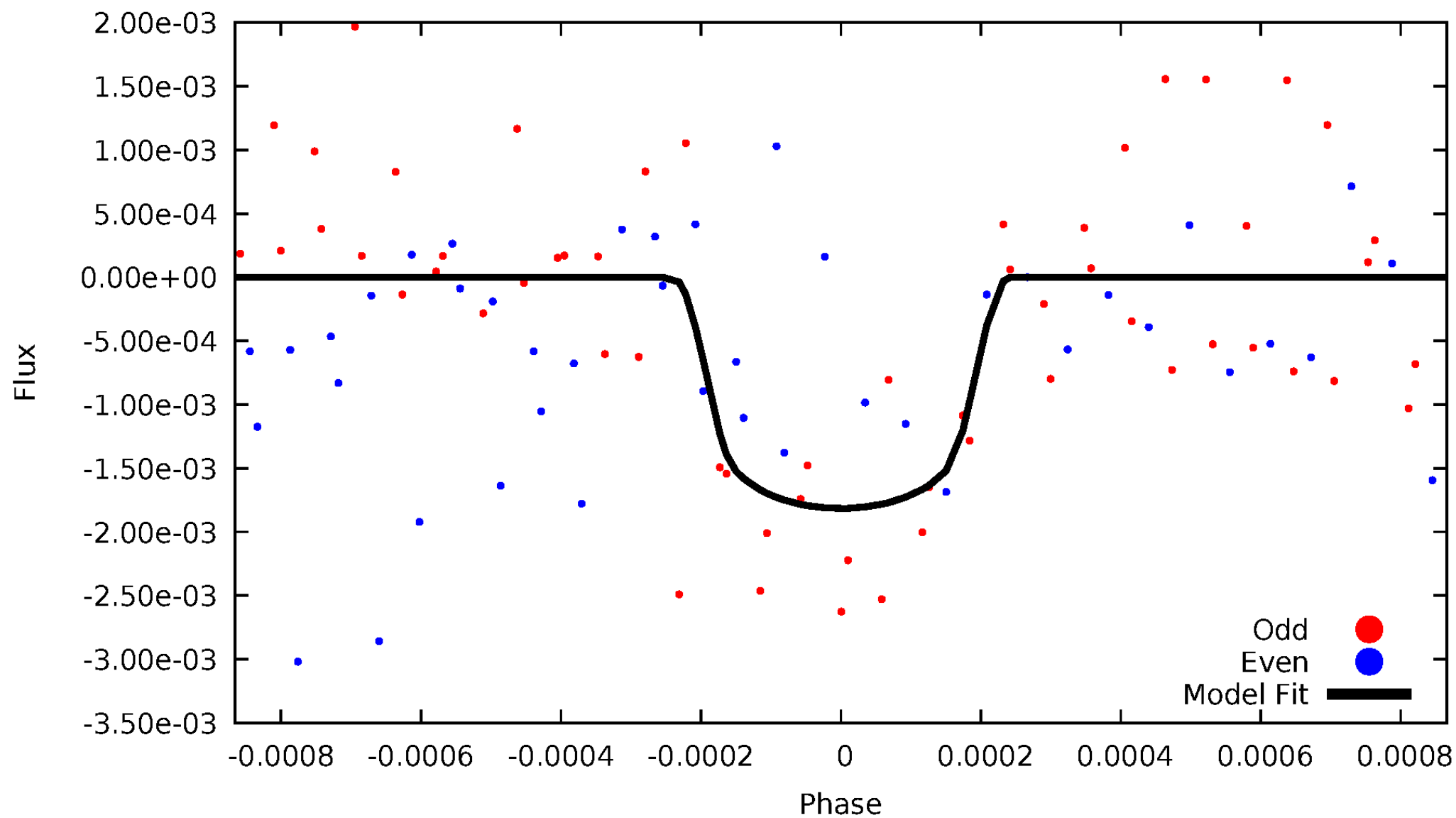


TCE 008373837-03



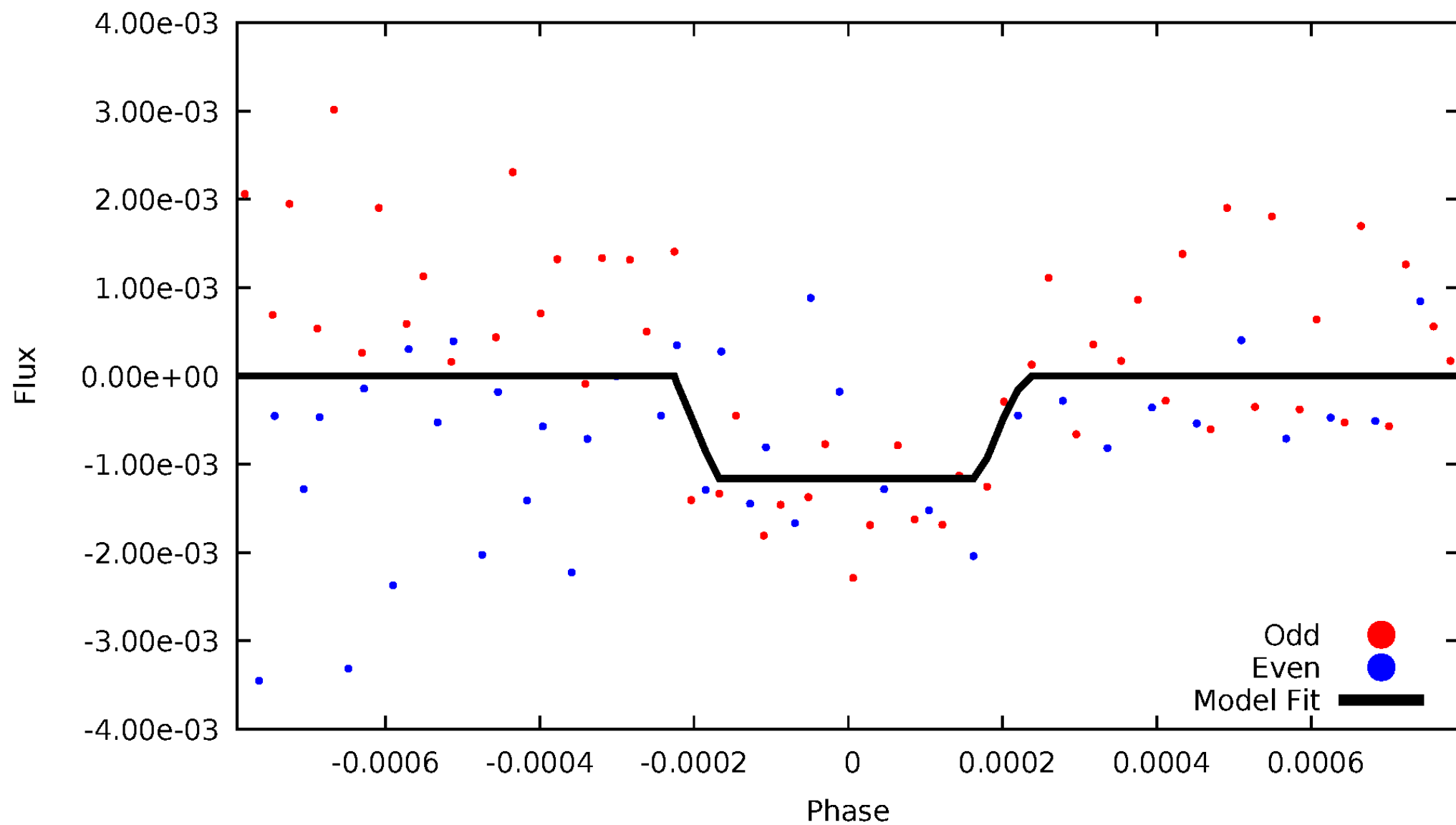
DV Odd/Even

TCE 008373837-03



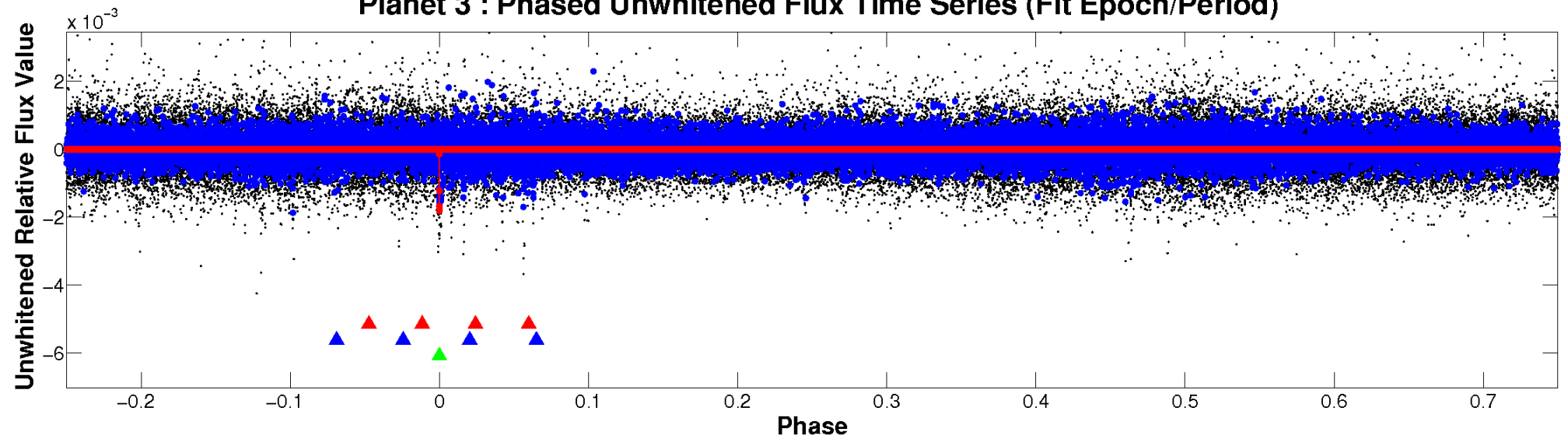
ALT Odd/Even

TCE 008373837-03

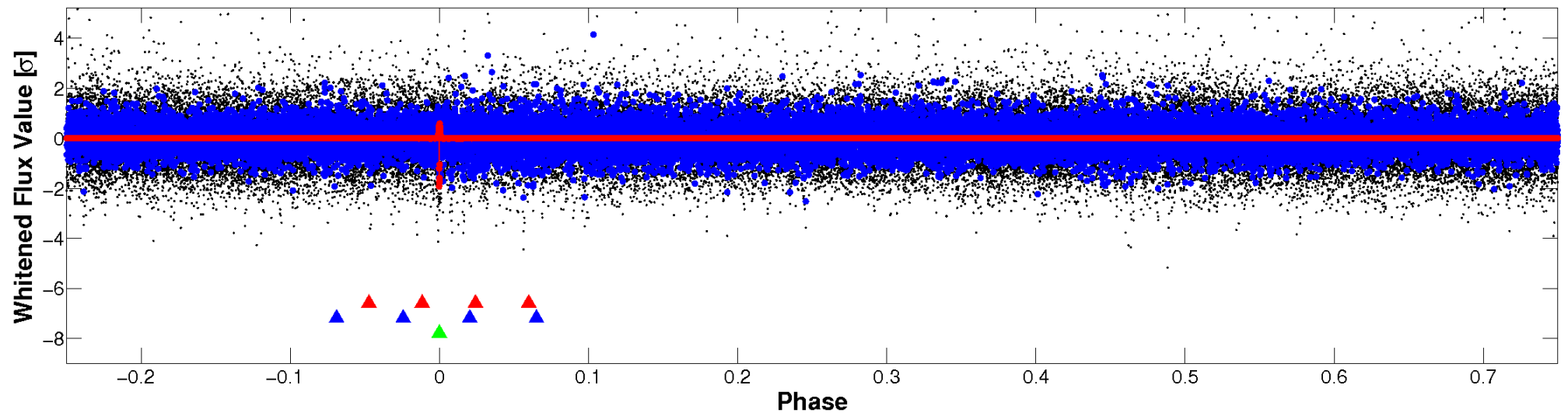


Non-Whitened Vs. Whitened Light Curve

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

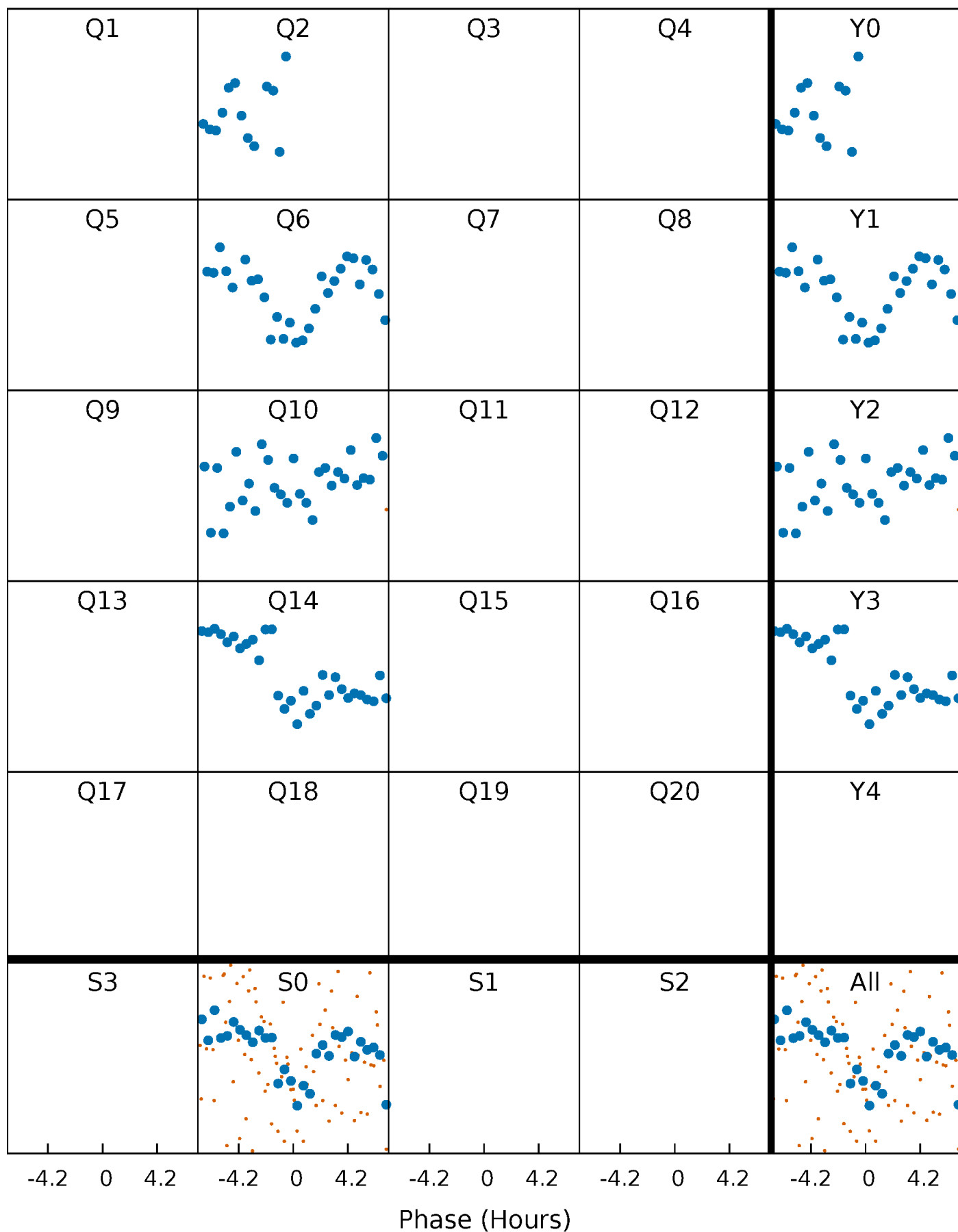


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



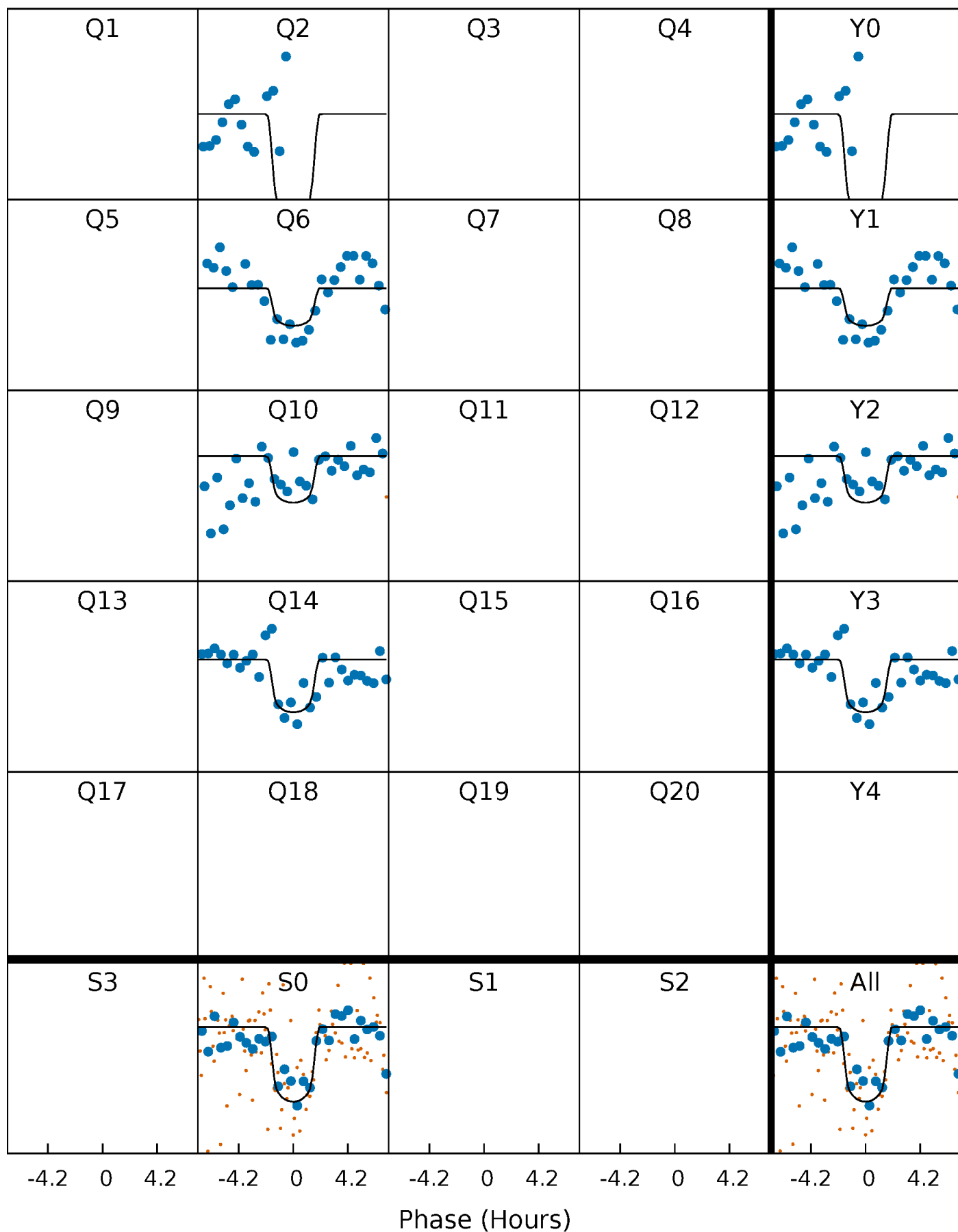
PDC Quarter-Phased Transit Curves

TCE 008373837-03 $P=352.978541$ Days $T_0=258.500260$ (BKJD)



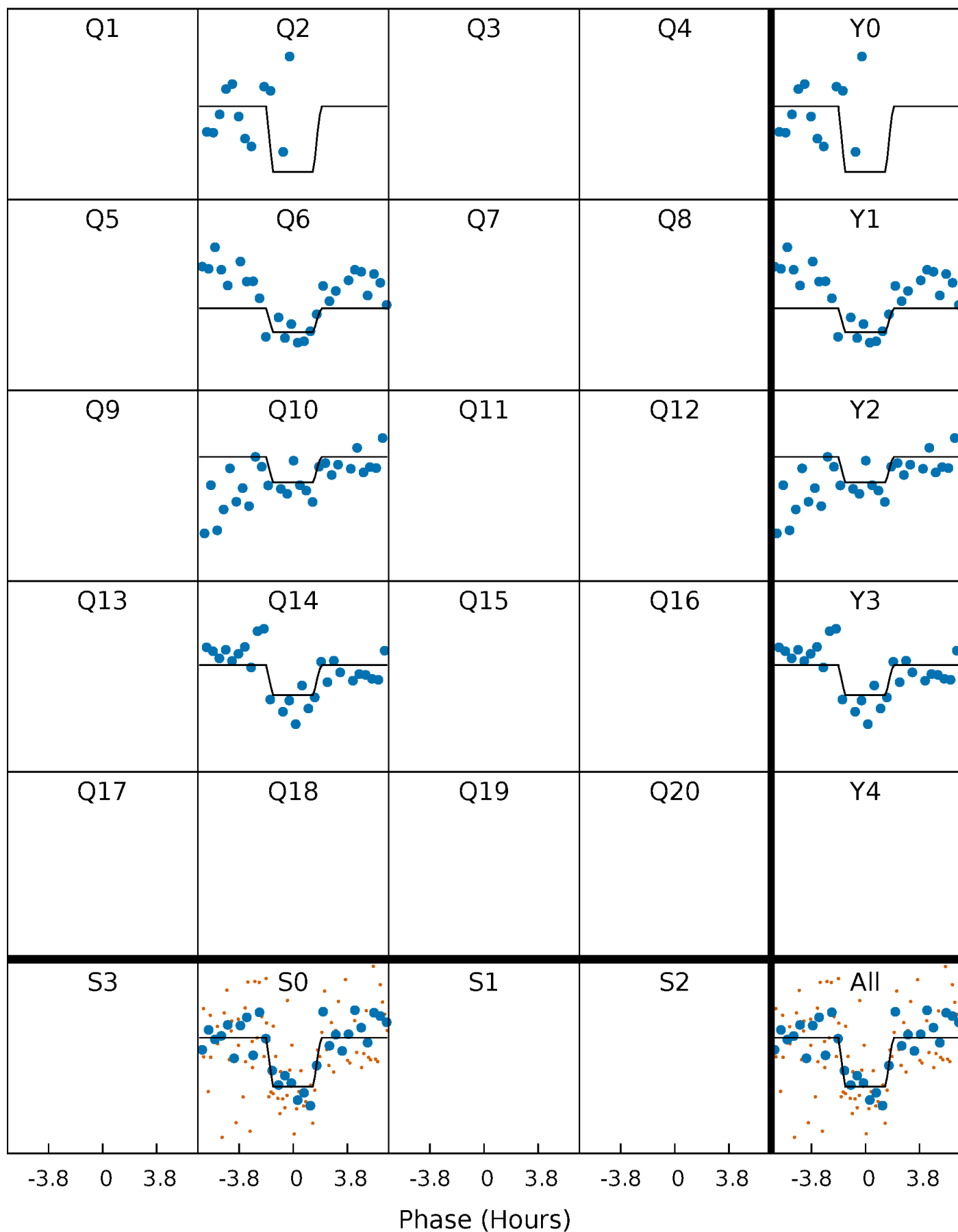
DV Quarter-Phased Transit Curves

TCE 008373837-03 P=352.978541 Days $T_0=258.500260$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

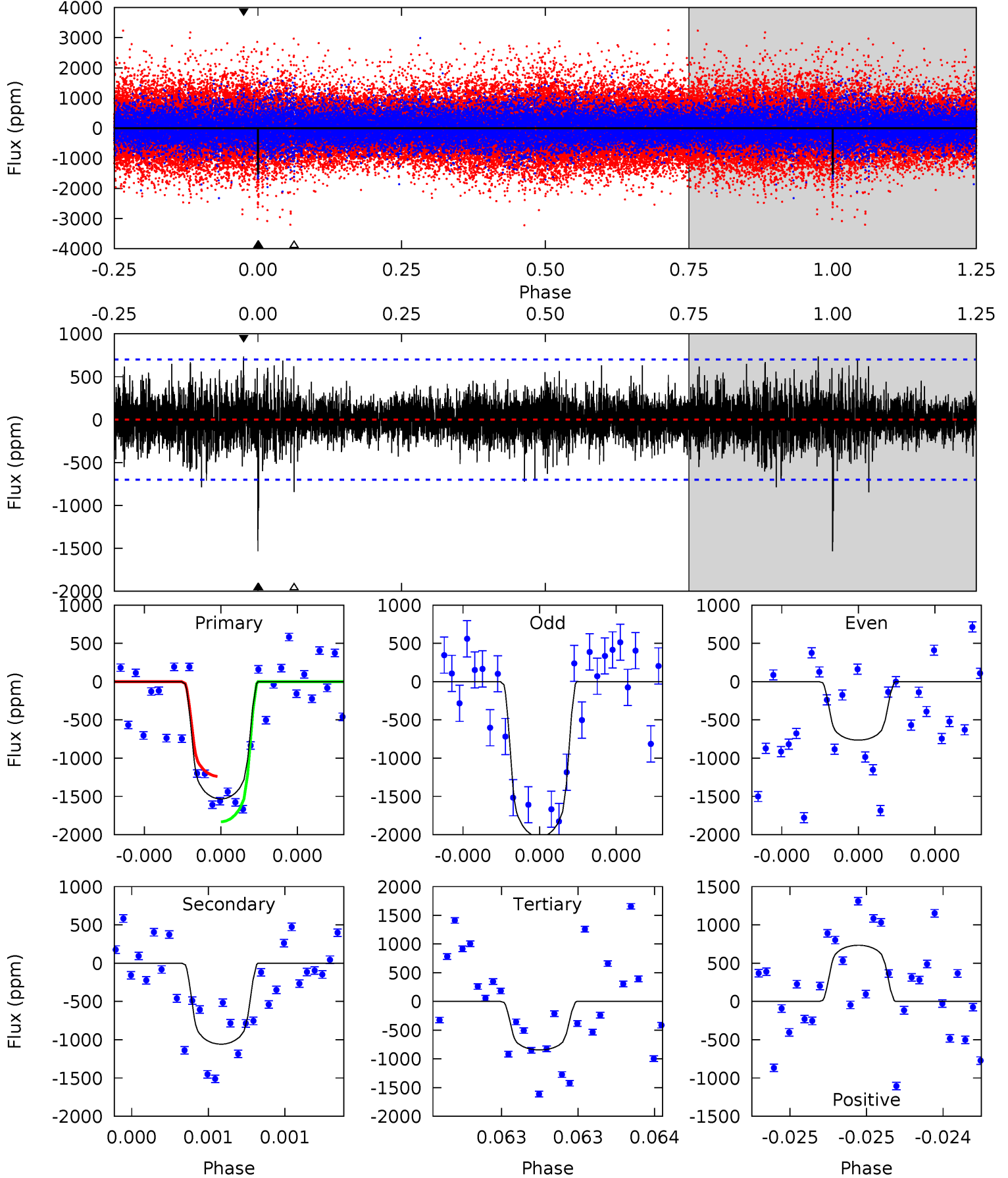
TCE 008373837-03 P=352.984077 Days $T_0=258.485039$ (BKJD)



DV Model-Shift Uniqueness Test

008373837-03, P = 352.978541 Days, E = 258.500260 Days

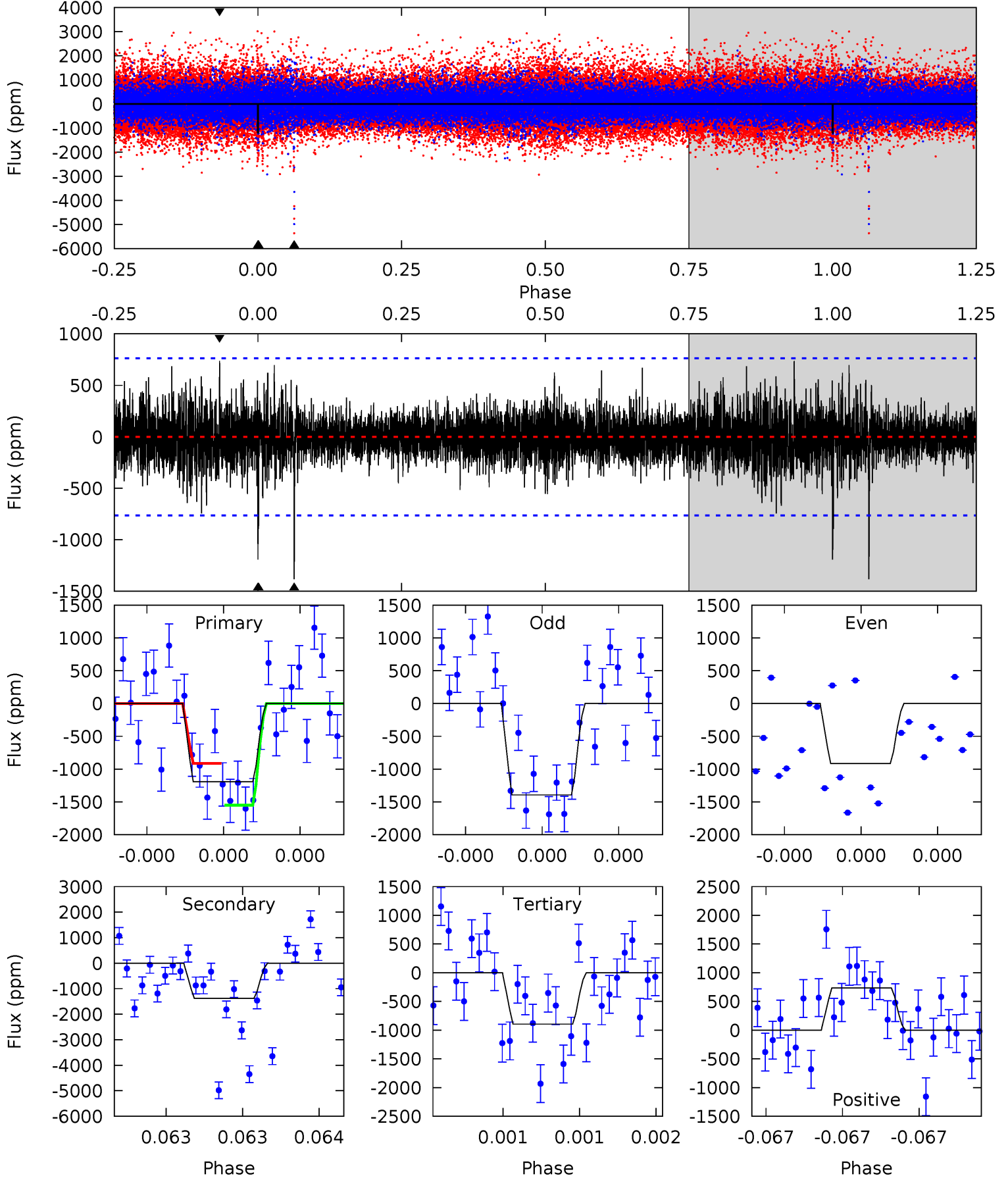
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	8.42	6.72	5.85	5.57	3.48	1.35	5.48	6.35	1.70	2.58	5.02	0.85	0.32	2.36



Alt Model-Shift Uniqueness Test

008373837-03, P = 352.984077 Days, E = 258.485039 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.75	10.2	6.57	5.40	5.60	3.52	1.17	2.18	3.35	3.58	4.76	1.72	0.77	0.35	2.34



Stellar Parameters For KIC 008373837

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6246^{+174}_{-261}	$4.433^{+0.054}_{-0.216}$	$0.070^{+0.250}_{-0.300}$	$1.092^{+0.353}_{-0.118}$	$1.180^{+0.157}_{-0.173}$	$1.276^{+0.361}_{-0.667}$
	+3%/-4%	+1%/-5%	+357%/-429%	+32%/-11%	+13%/-15%	+28%/-52%
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 008373837-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1059±126	$5.33^{+2.45}_{-2.18}$	405^{+30}_{-22}	5473^{+1751}_{-812}	21660^{+39880}_{-11787}
Alt.	-1383±136	$4.16^{+2.46}_{-1.95}$	404^{+30}_{-21}	6520^{+3378}_{-1214}	$45212^{+118707}_{-26579}$

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

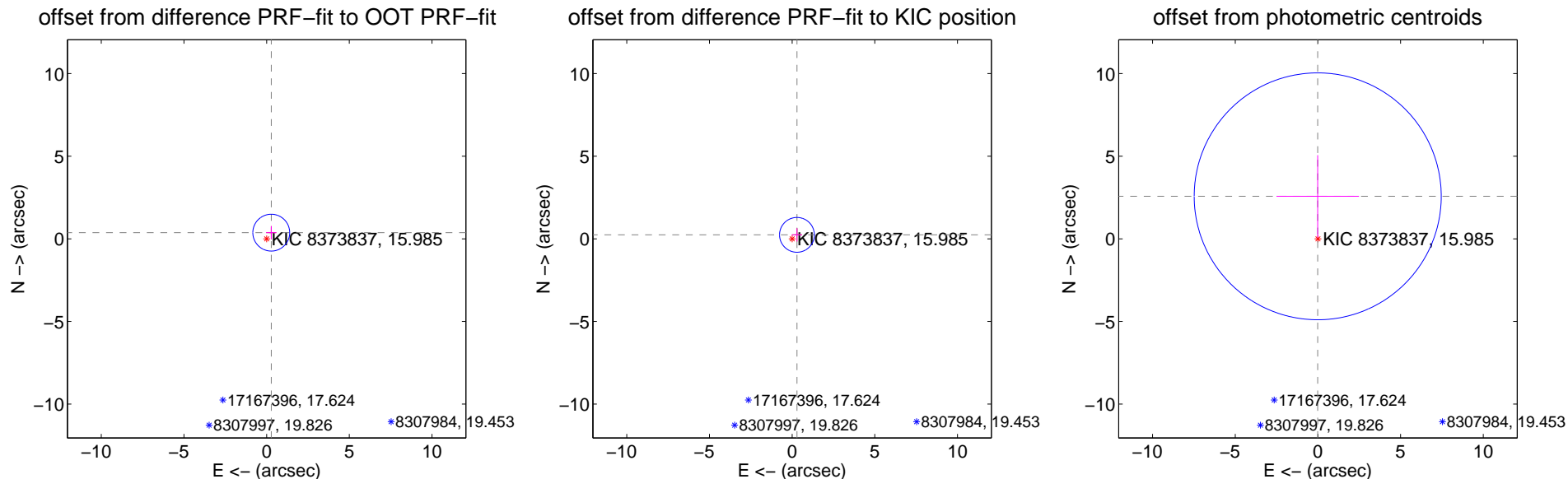
DV Centroid Data

Supplemental centroid analysis for 008373837-03. Kepler magnitude: 15.98. Transit SNR 7.89

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.467 ± 0.372	1.26	-0.280 ± 0.312	0.373 ± 0.401
PRF-fit source offset from KIC position	0.378 ± 0.351	1.08	-0.292 ± 0.312	0.240 ± 0.401
photometric centroid source offset	2.57 ± 2.49	1.03	0.01 ± 2.49	2.57 ± 2.49

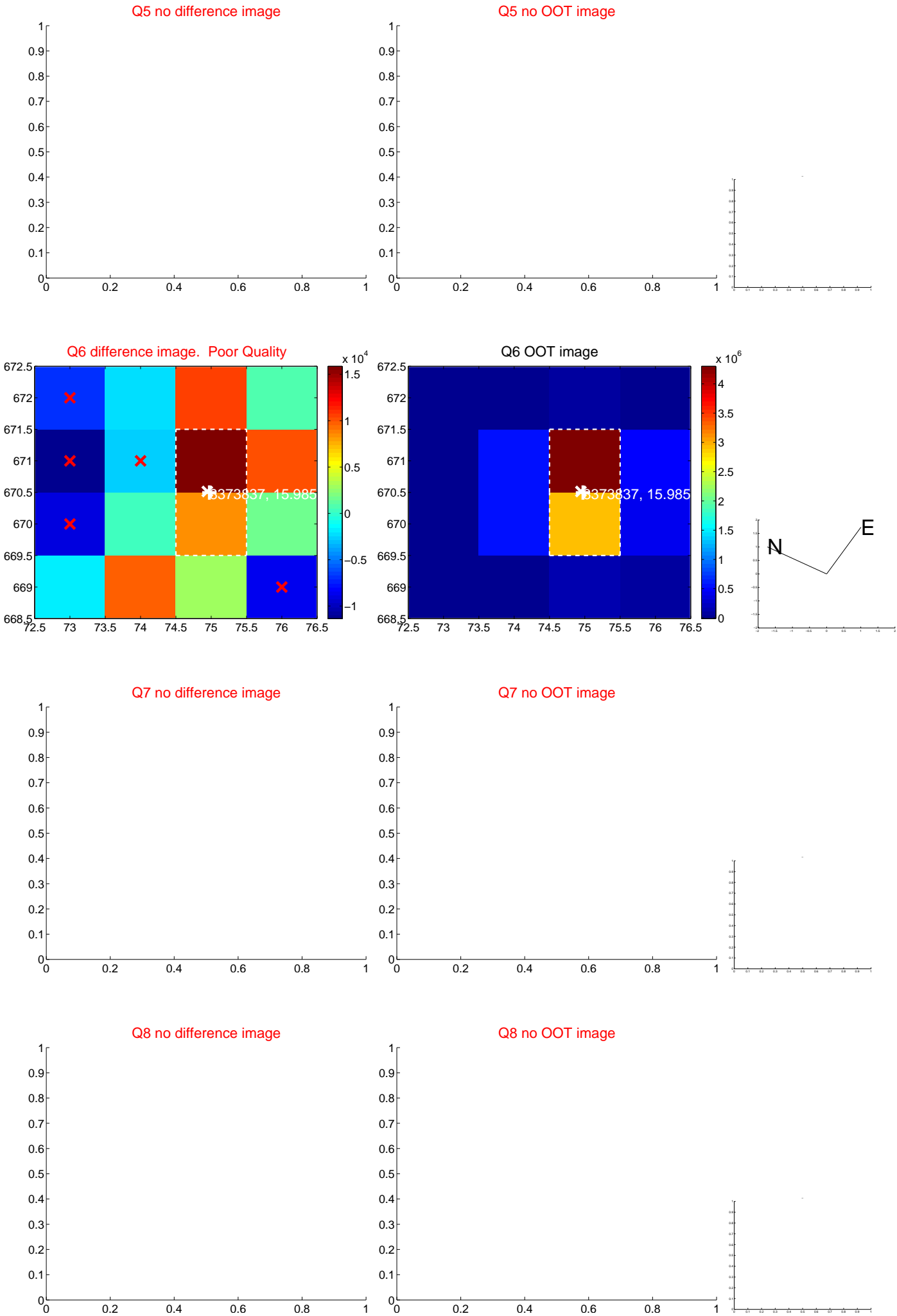


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

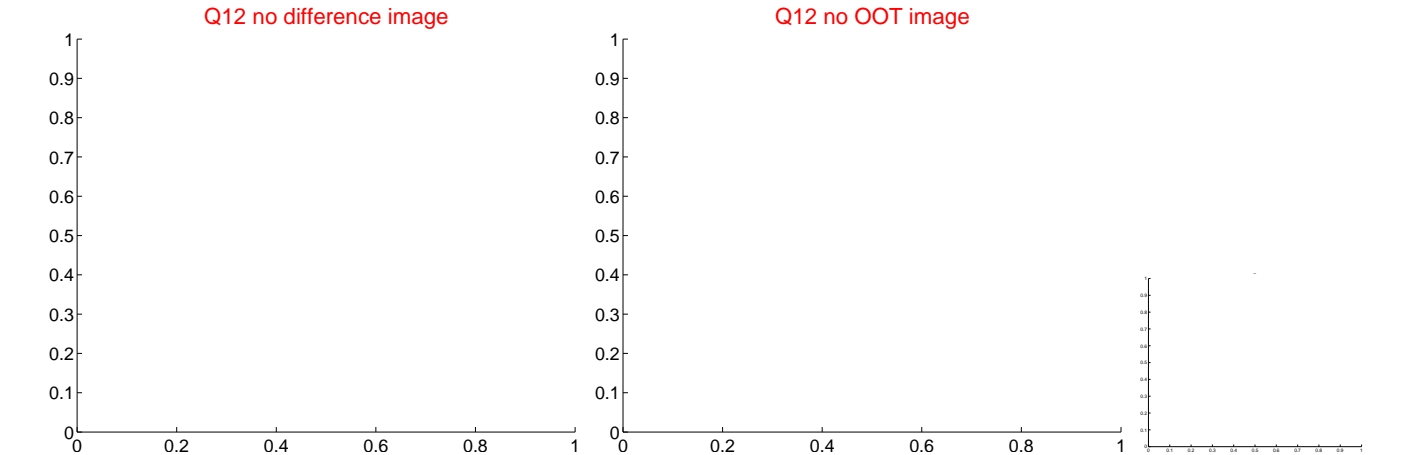
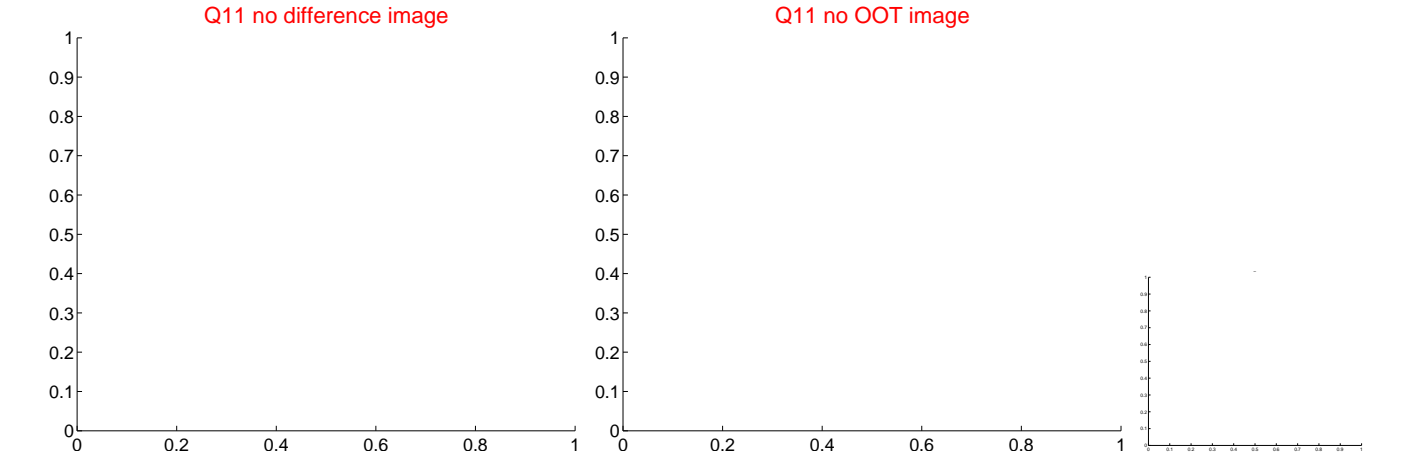
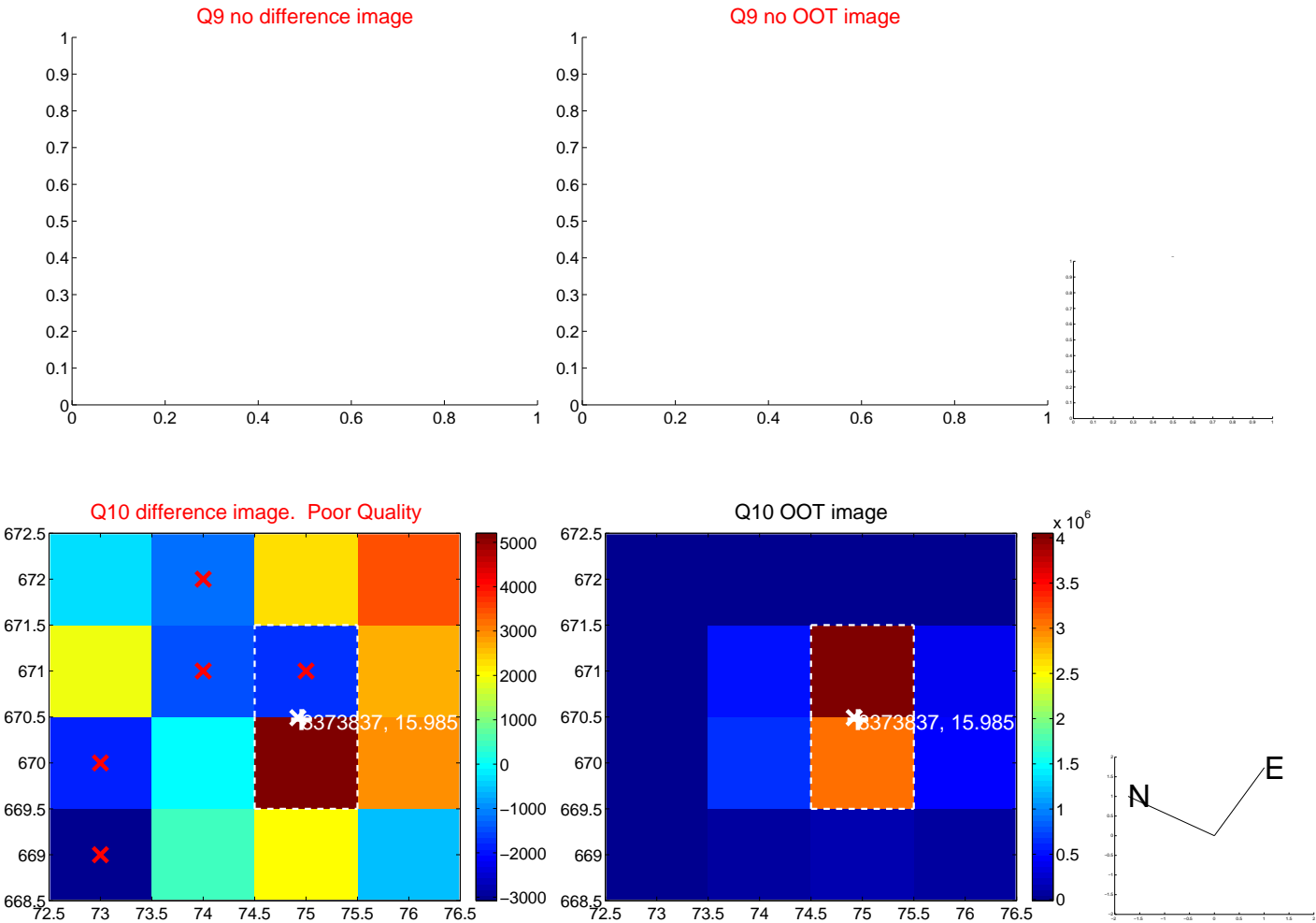
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



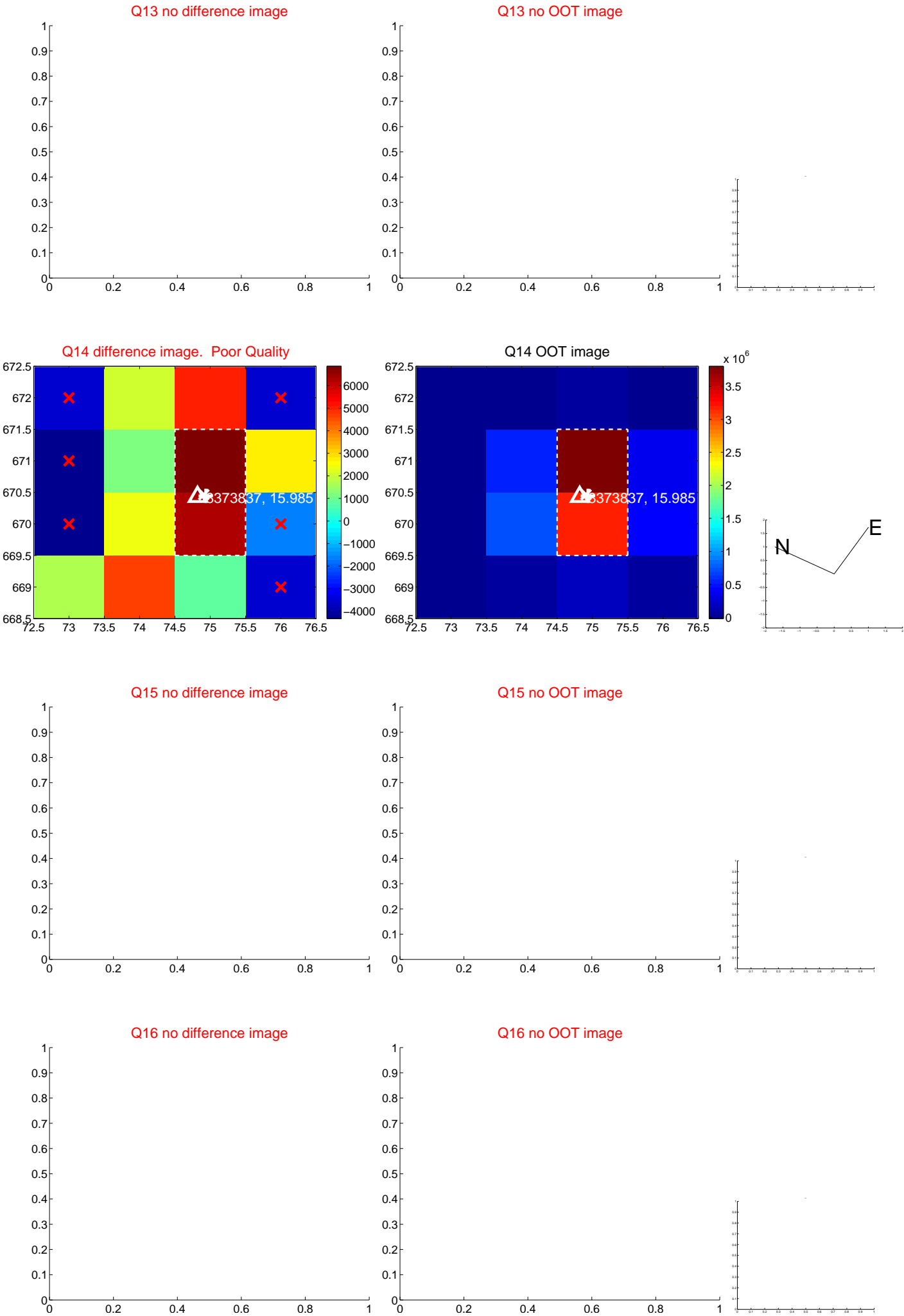
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



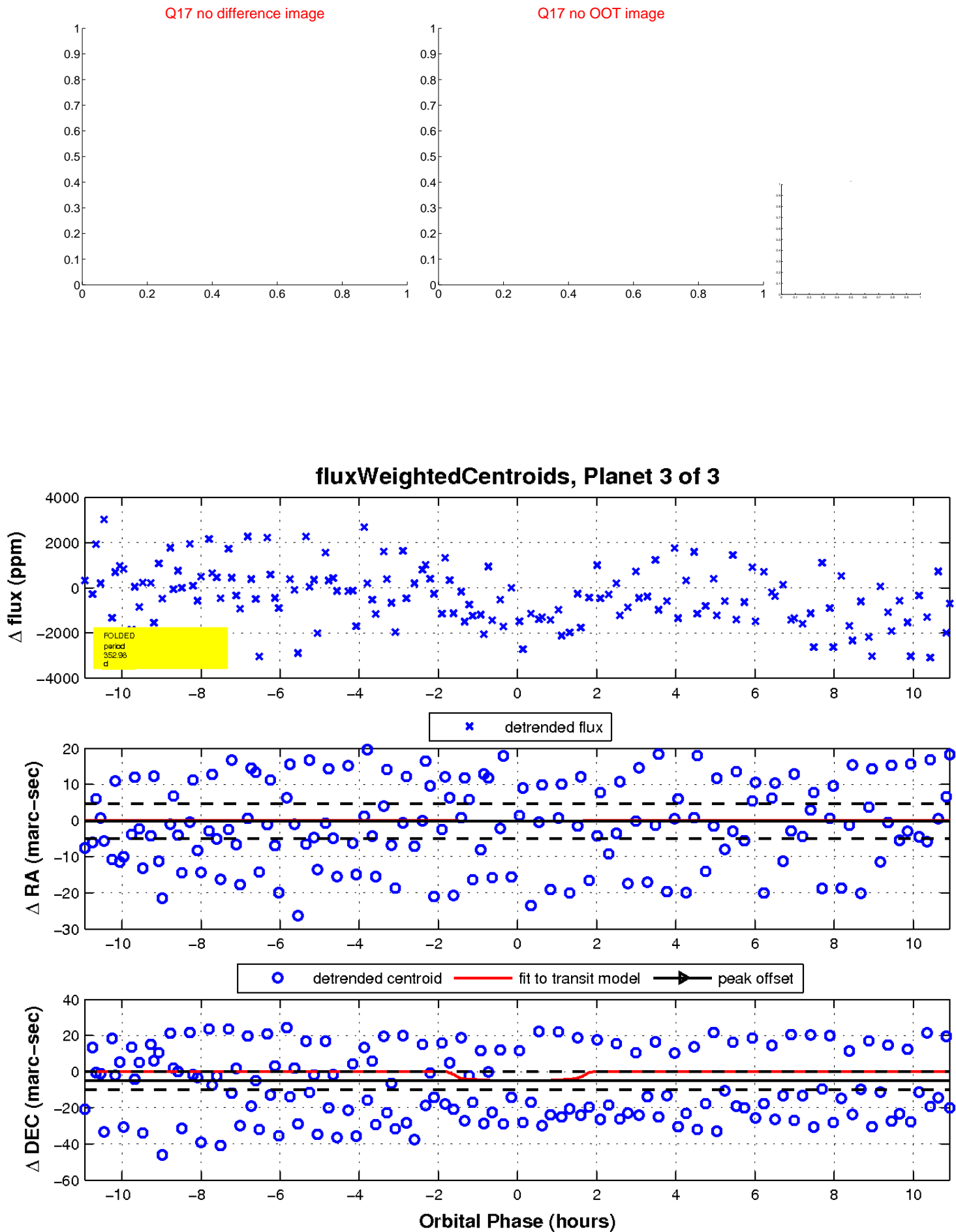
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: 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.



UKIRT Image

Declination

