

KIC 008463118

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})
008463118-01	OBS	No	4.191929	134.592647	29.6	18.538	13.9	15.7	0.71	4723	0.37	110.07
008463118-02	OBS	No	216.737326	147.902576	253.2	1.847	8.9	7.2	0.71	4723	1.36	0.57
008463118-03	OBS	No	133.114393	241.116426	159.7	4.035	8.7	6.7	0.71	4723	1.04	1.09
008463118-04	OBS	No	164.129374	293.388742	332.0	4.235	8.4	8.0	0.71	4723	1.54	0.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008463118-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
008463118-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

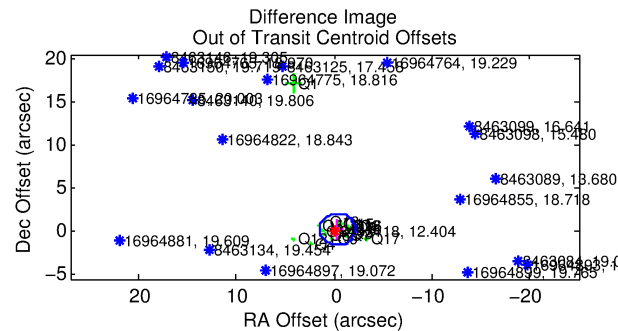
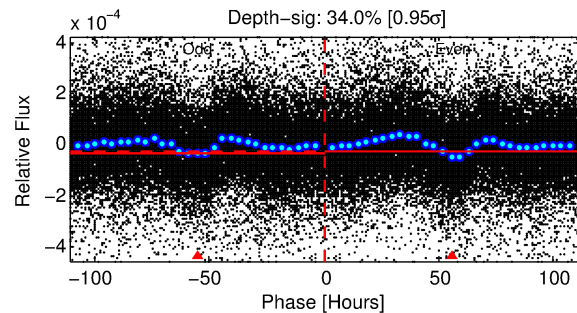
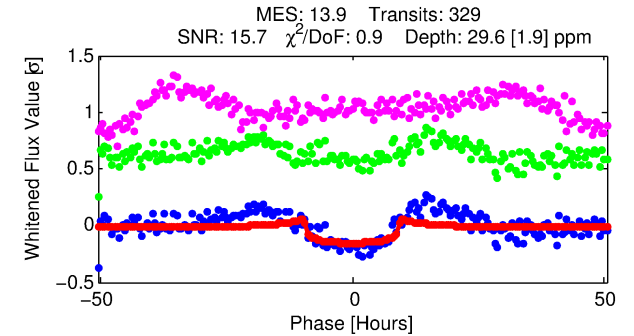
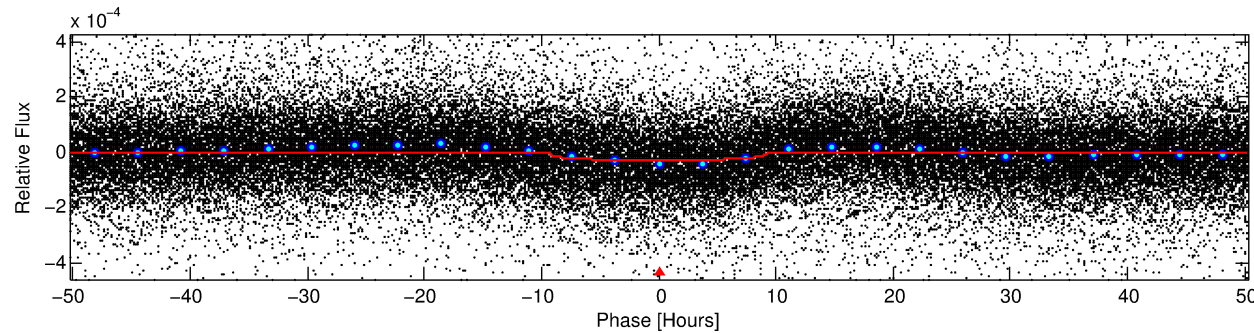
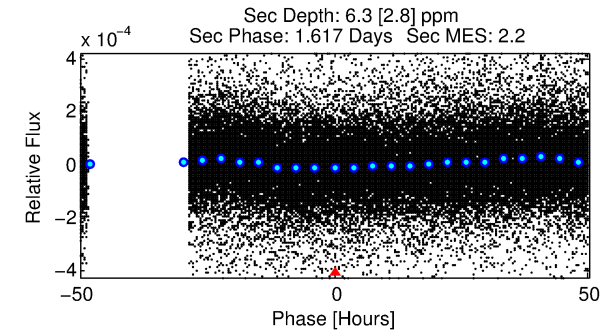
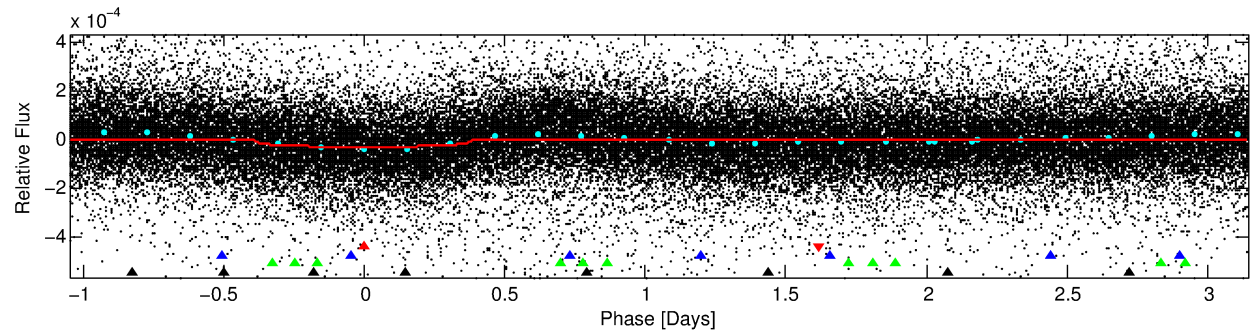
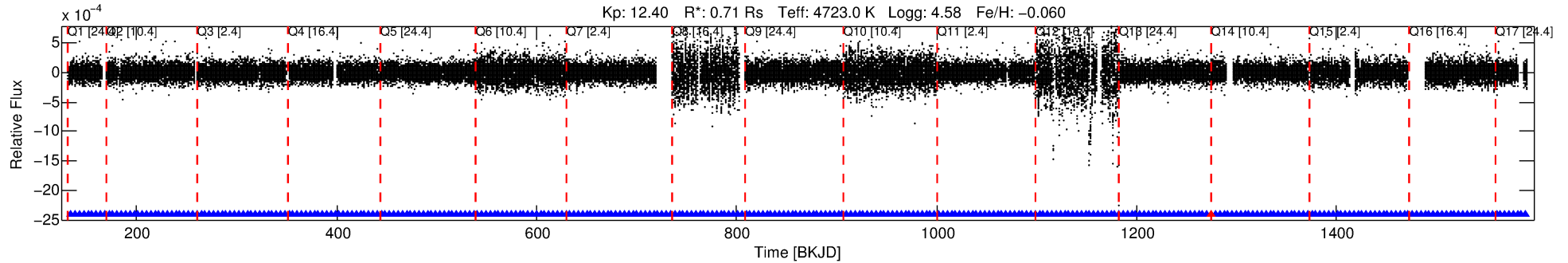
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008463118-01

No Significant Match Found

DV One-Page Summary

KIC: 8463118 Candidate: 1 of 4 Period: 4.192 d



DV Fit Results:

Period = 4.19193 [0.00005] d
Epoch = 134.5926 [0.0084] BKJD
Rp/R* = 0.0048 [0.0019]
a/R* = 1.83 [1.63]
b = 0.08 [15.84]
Seff = 110.07 [19.08]
Teq = 826 [36] K
Rp = 0.37 [0.15] Re
a = 0.0454 [0.0033] AU
Ag = 51.70 [47.81] [1.06σ]
Teffp = 3424 [796] K [3.26σ]

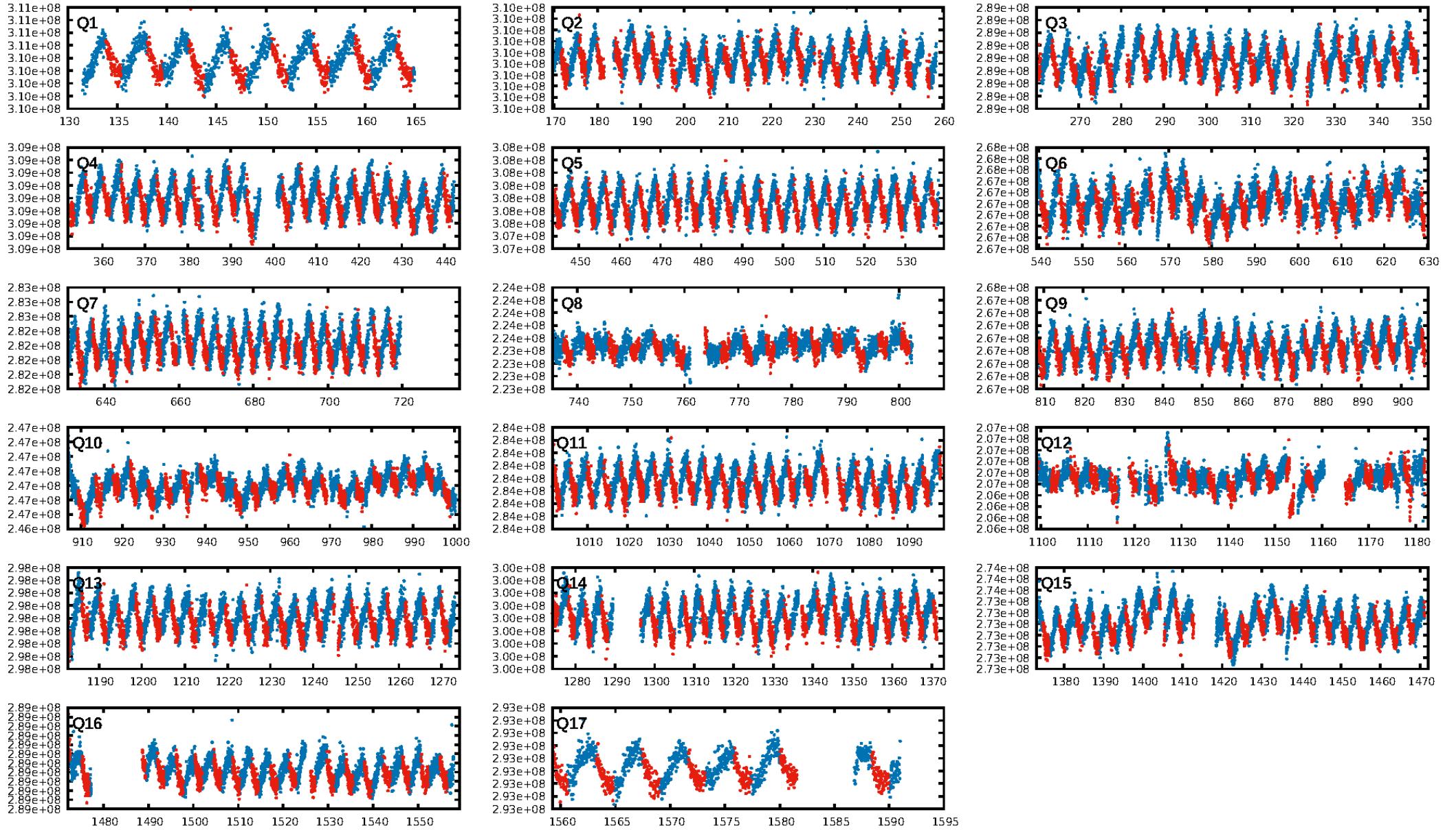
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [163.08σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.02e-26
RollingBand-fgt: 1.00 [313/314]
GhostDiagnostic-chr: 0.6759
Centroid-sig: 0.4%
Centroid-so: 3.401 arcsec [3.24σ]
OotOffset-rm: 0.387 arcsec [0.64σ]
KicOffset-rm: 1.786 arcsec [2.16σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 1.00 [17/17]

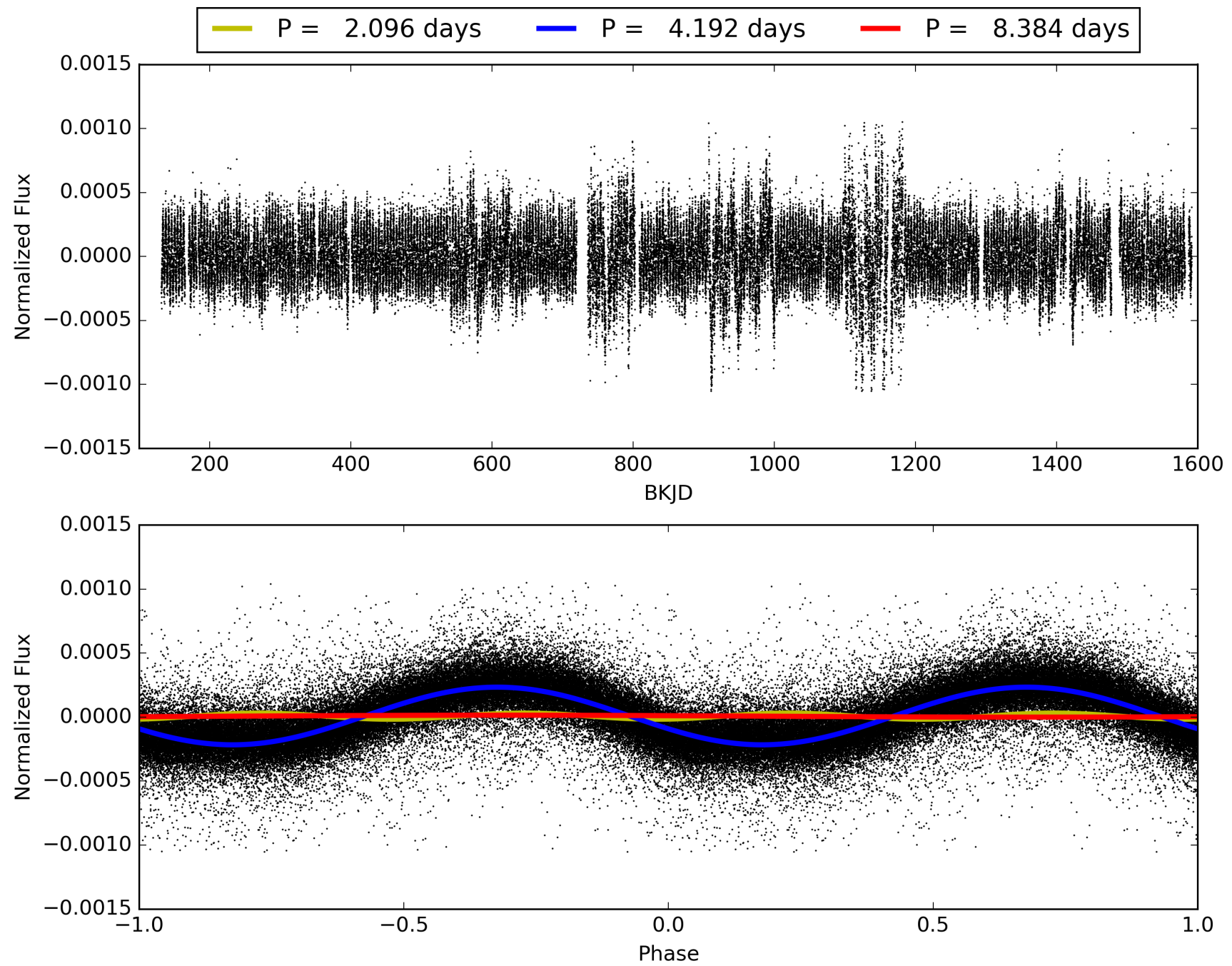
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008463118-01, PDC Light Curves

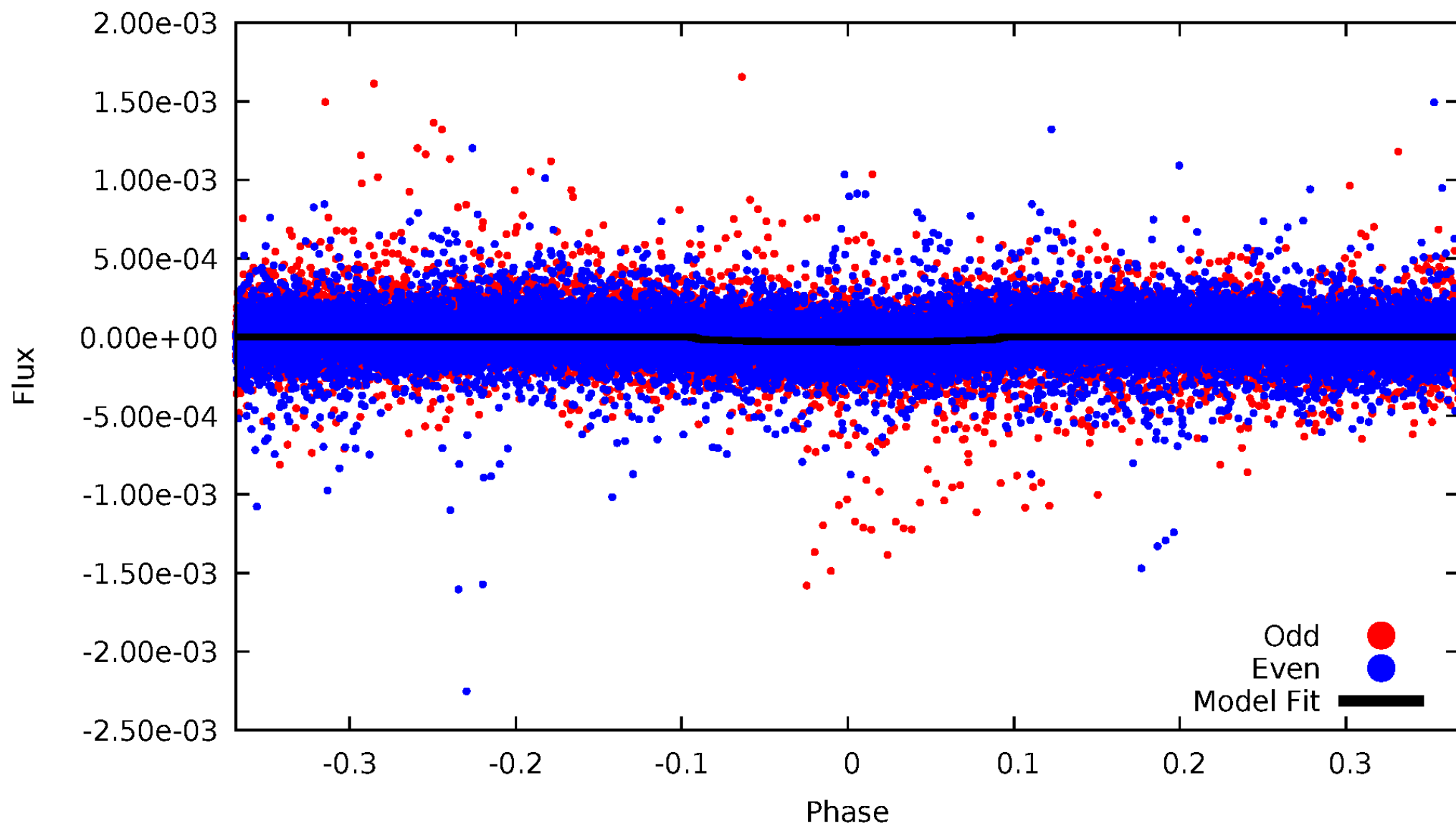


TCE 008463118-01



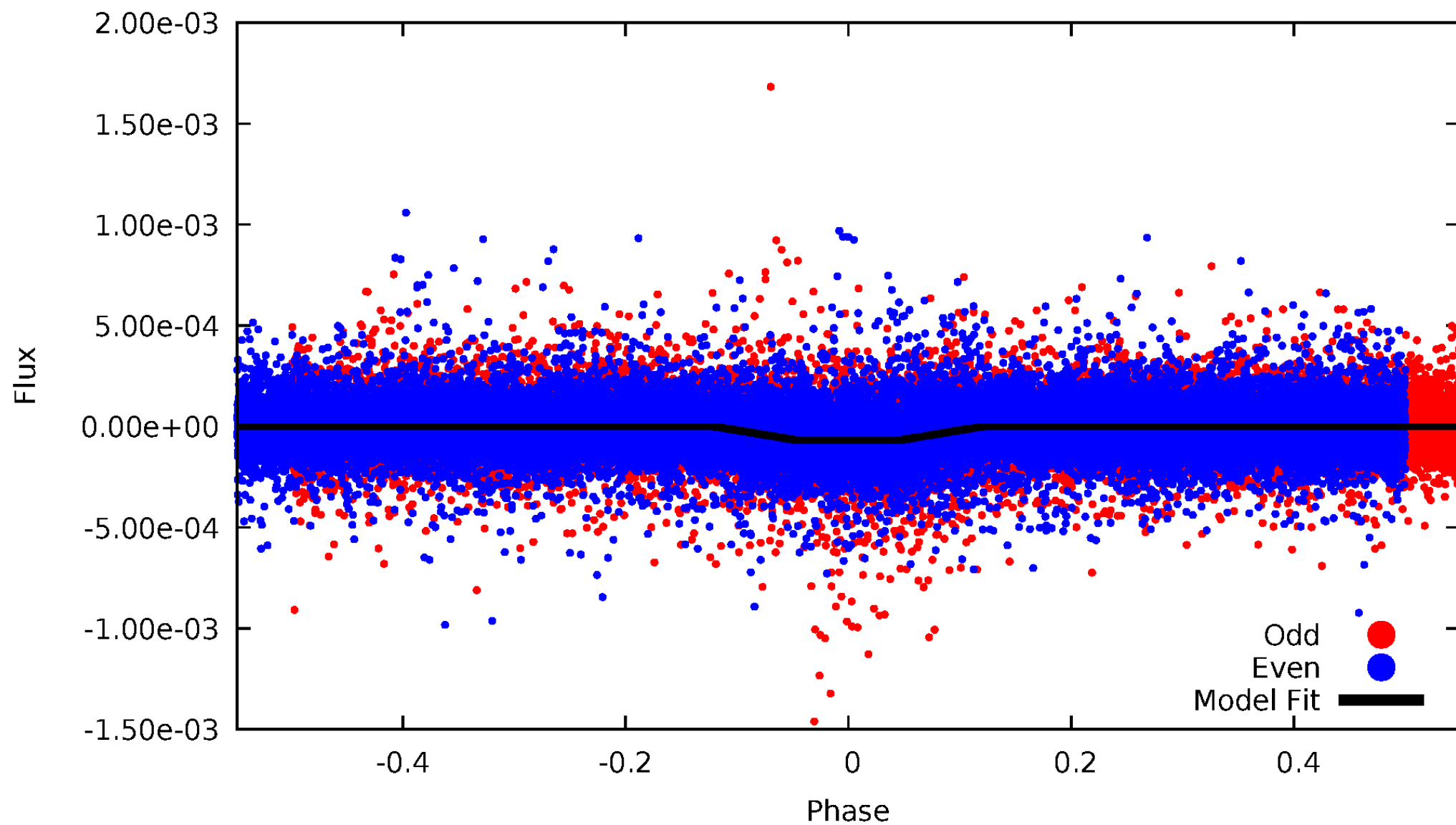
DV Odd/Even

TCE 008463118-01

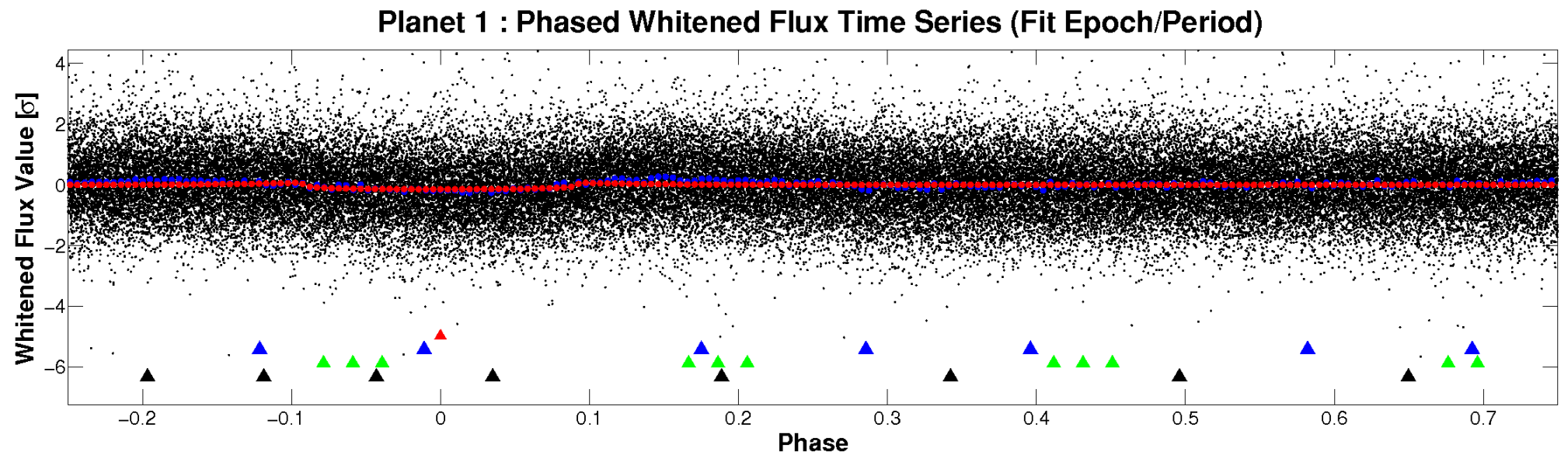
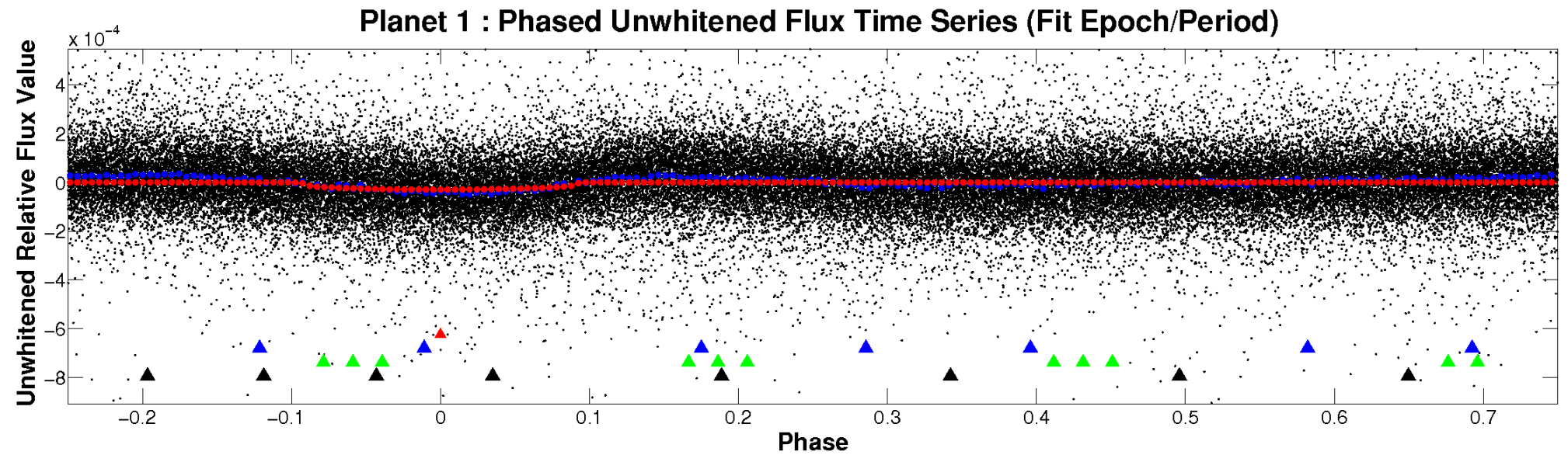


ALT Odd/Even

TCE 008463118-01

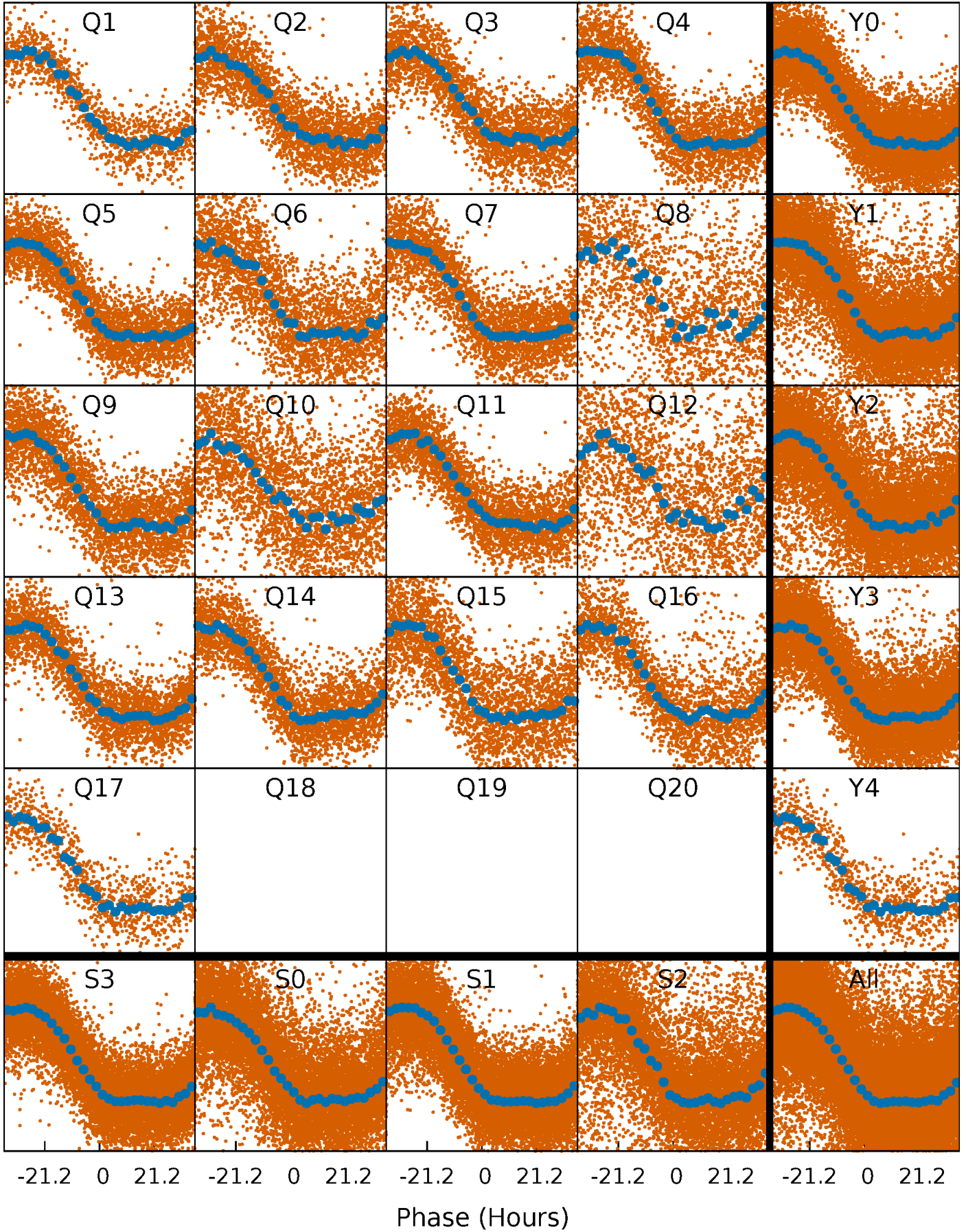


Non-Whitened Vs. Whitened Light Curve



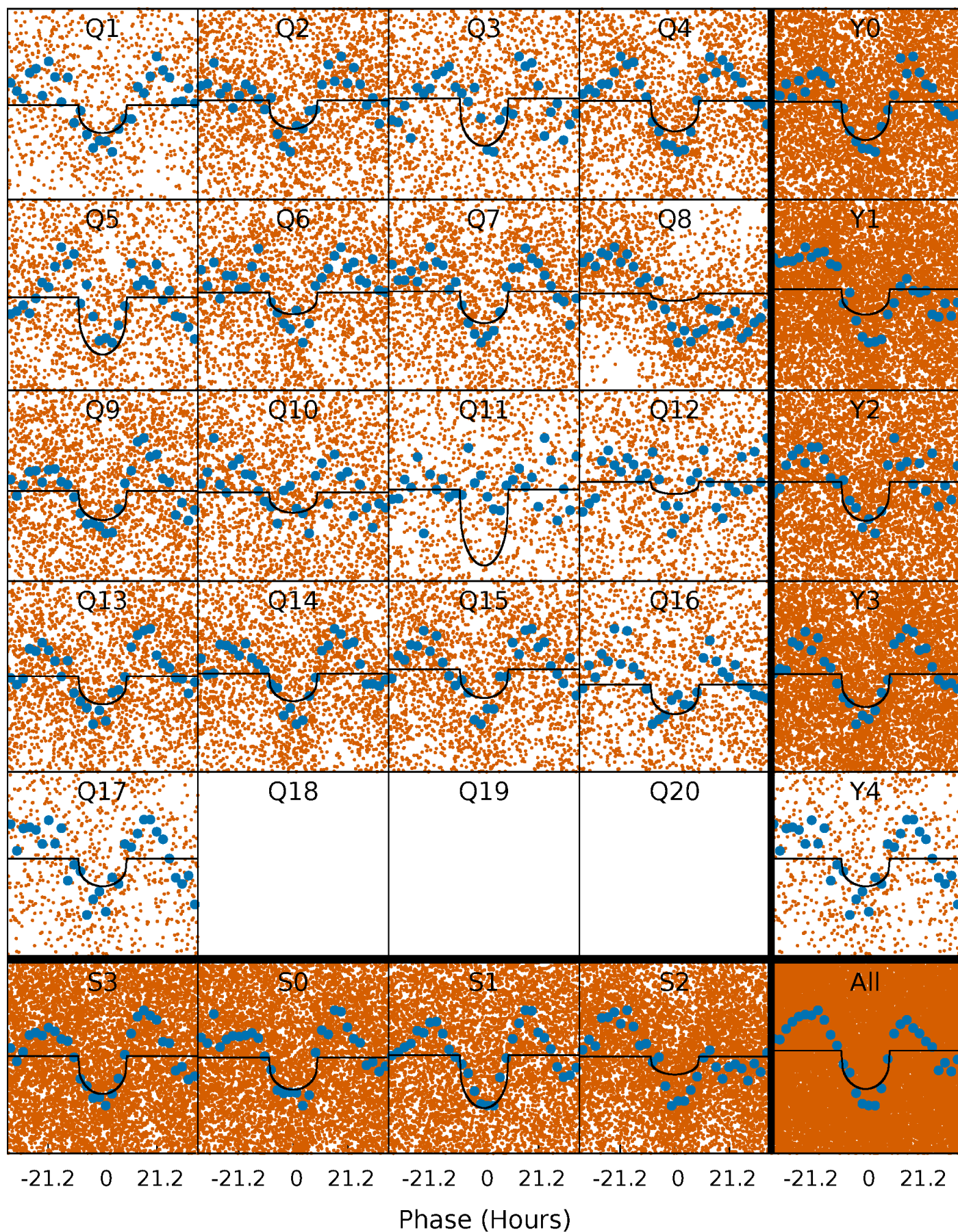
PDC Quarter-Phased Transit Curves

TCE 008463118-01 P= 4.191929 Days $T_0=134.592647$ (BKJD)



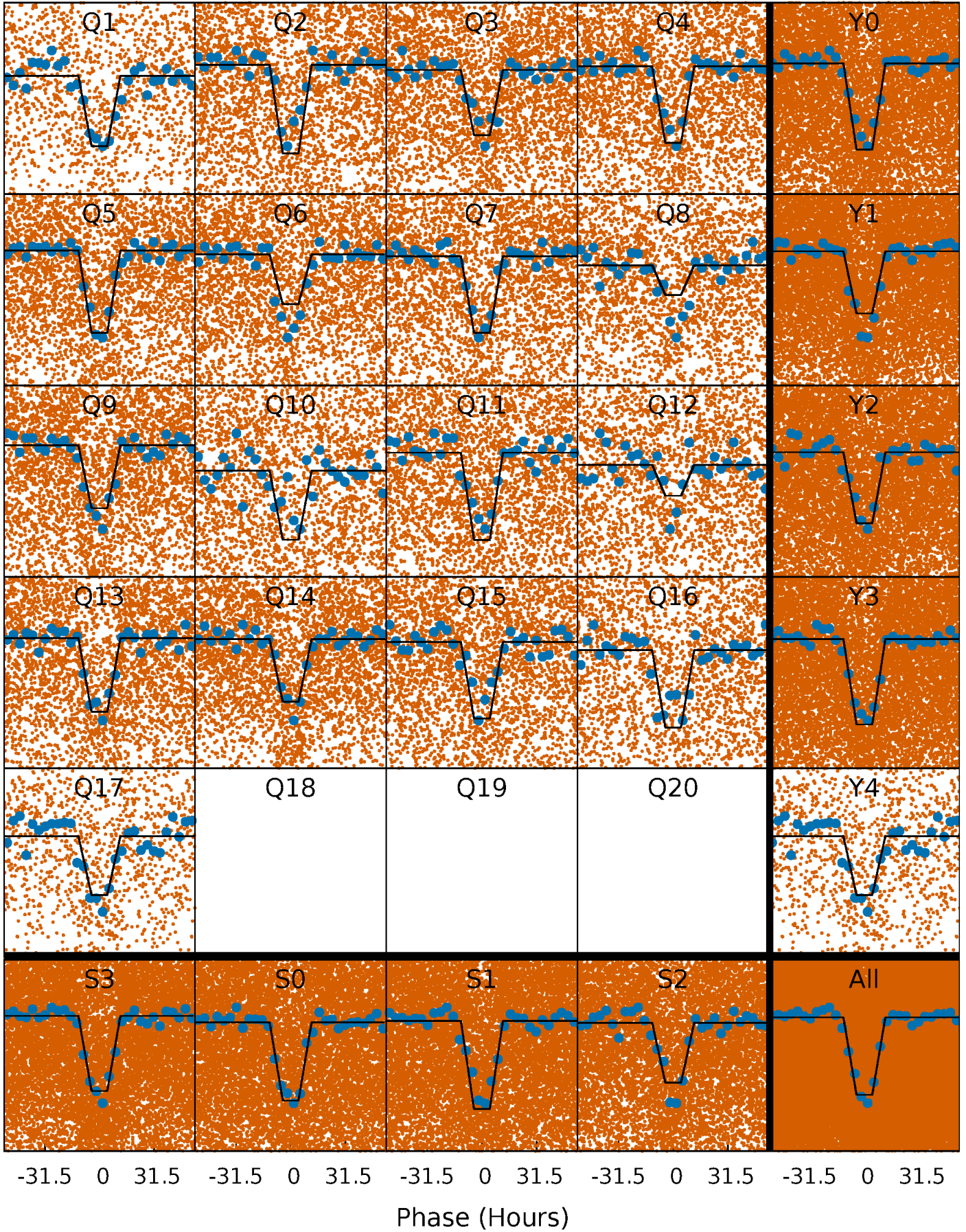
DV Quarter-Phased Transit Curves

TCE 008463118-01 P= 4.191929 Days $T_0=134.592647$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

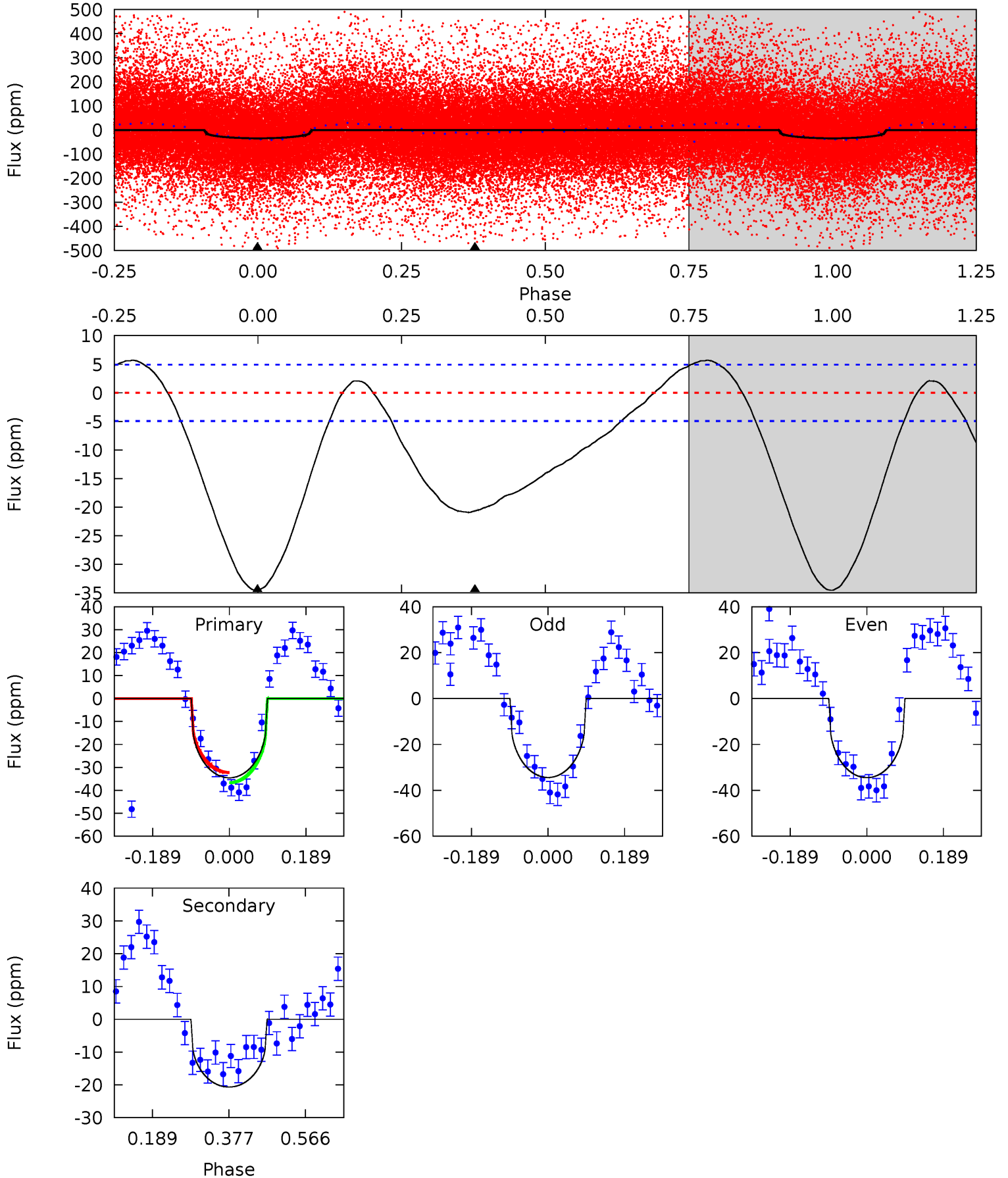
TCE 008463118-01 P= 4.191816 Days $T_0=134.644958$ (BKJD)



DV Model-Shift Uniqueness Test

008463118-01, P = 4.191929 Days, E = 130.400718 Days

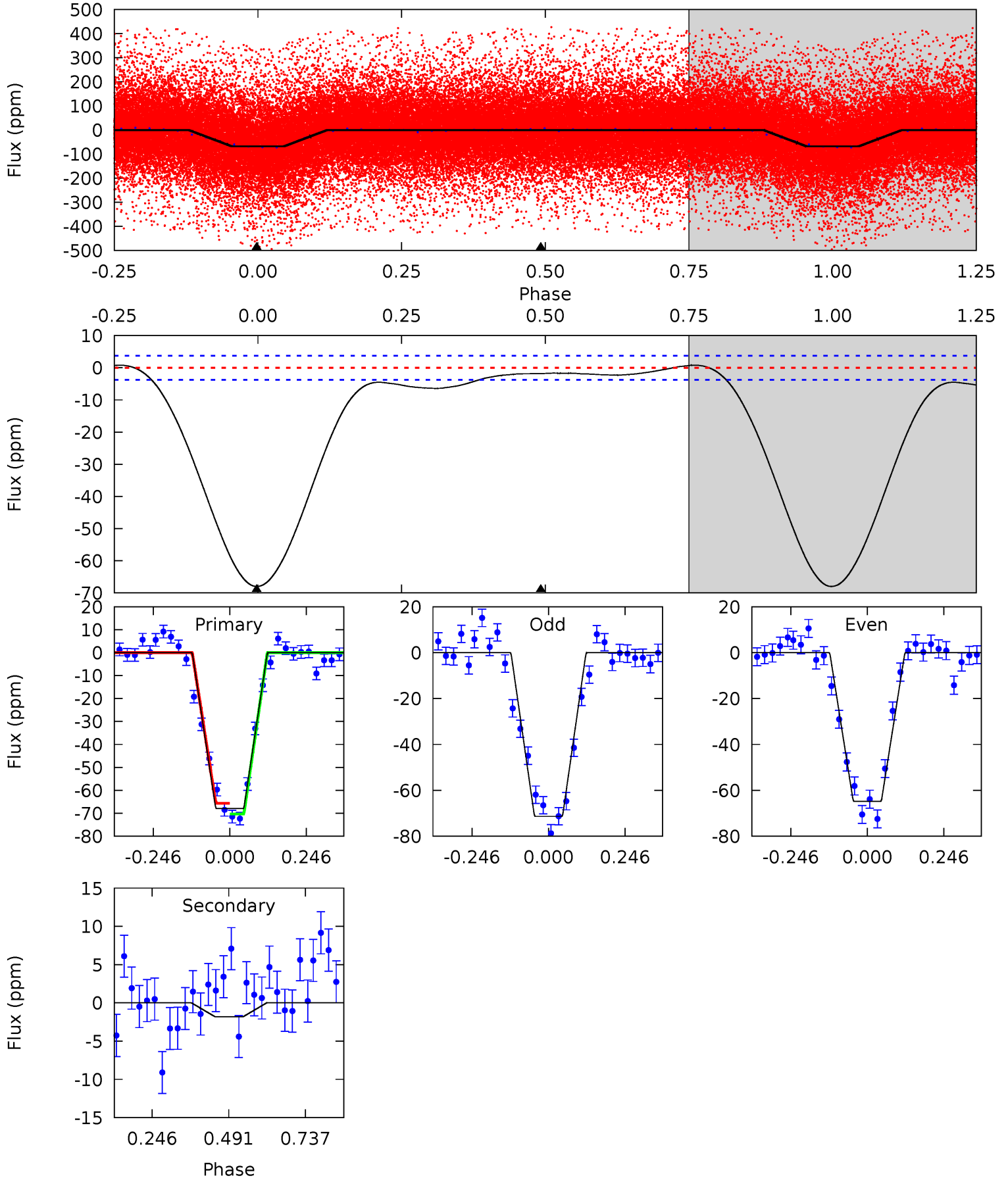
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.1	18.6	0	0	4.43	1.31	4.64	31.1	31.1	18.6	18.6	0.04	1.15	0.14	2.02



Alt Model-Shift Uniqueness Test

008463118-01, P = 4.191816 Days, E = 130.453142 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
79.4	2.12	0	0	4.37	1.16	3.36	79.4	79.4	2.12	2.12	3.85	1.15	0.01	0



Stellar Parameters For KIC 008463118

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4723^{+167}_{-167}	$4.583^{+0.052}_{-0.032}$	$-0.060^{+0.300}_{-0.300}$	$0.714^{+0.052}_{-0.065}$	$0.712^{+0.079}_{-0.058}$	$2.754^{+0.635}_{-0.356}$
	+4%/-4%	+1%/-1%	+500%/-500%	+7%/-9%	+11%/-8%	+23%/-13%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008463118-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 1	$0.36^{+0.15}_{-0.13}$	1152^{+41}_{-48}	4644^{+1055}_{-574}	178^{+269}_{-89}
Alt.	-2 ± 1	$0.65^{+0.15}_{-0.16}$	1150^{+47}_{-44}	2624^{+248}_{-249}	$4.959^{+4.333}_{-2.527}$

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 $A_{obs} \gg 1.0$

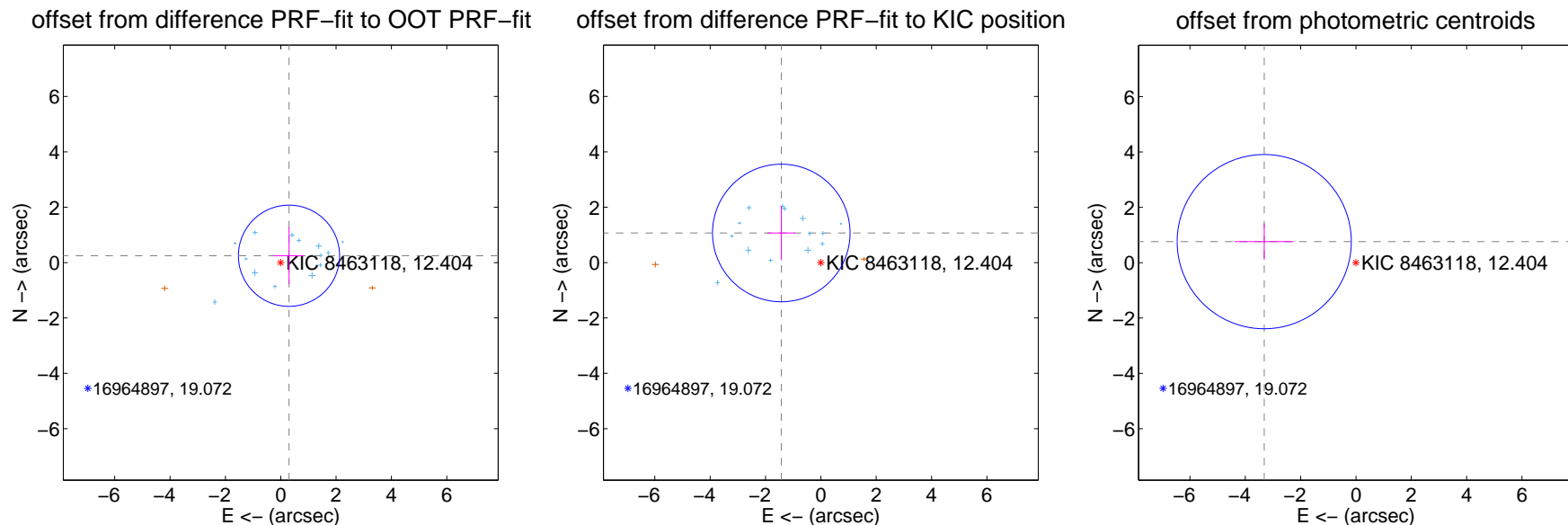
DV Centroid Data

Supplemental centroid analysis for 008463118-01. Kepler magnitude: 12.40. Transit SNR 15.70

There are 14 quarters with good PRF difference image offsets

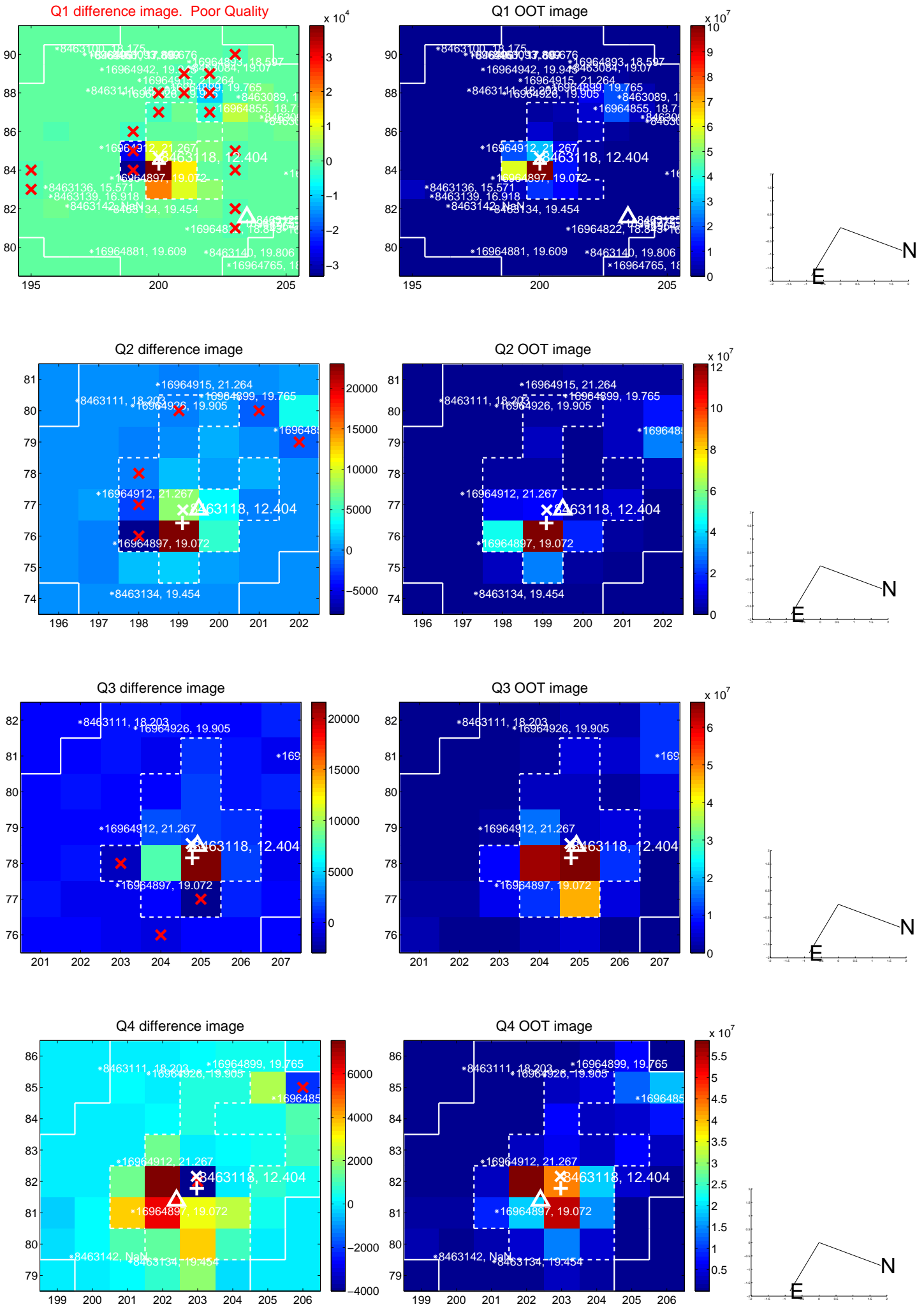
The OOT PRF centroid is offset from the target star catalog position by about 2.03 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.387 ± 0.609	0.64	-0.298 ± 0.529	0.247 ± 1.035
PRF-fit source offset from KIC position	1.786 ± 0.828	2.16	1.430 ± 0.499	1.070 ± 0.983
photometric centroid source offset	3.40 ± 1.05	3.24	3.32 ± 1.07	0.76 ± 0.66

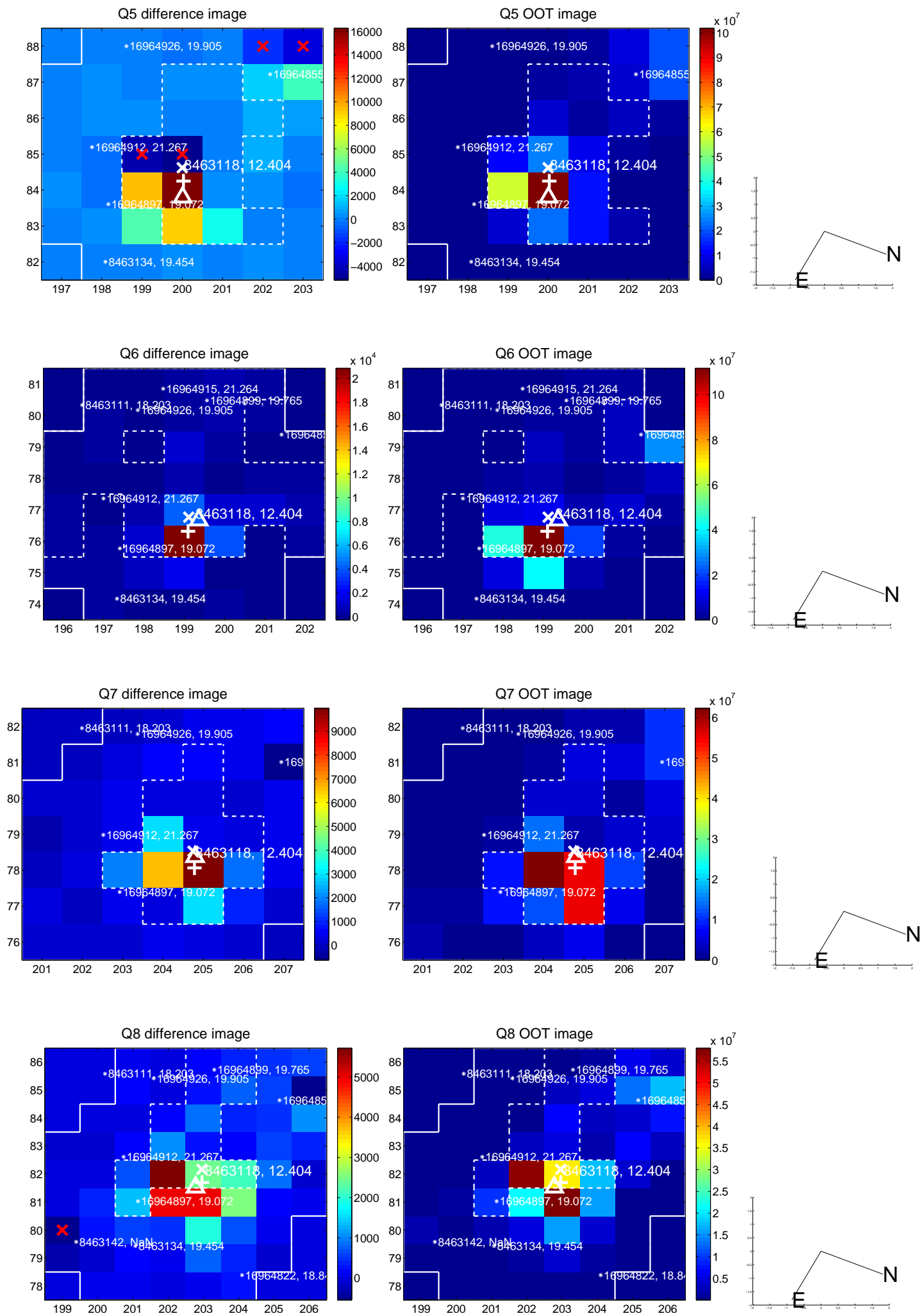


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

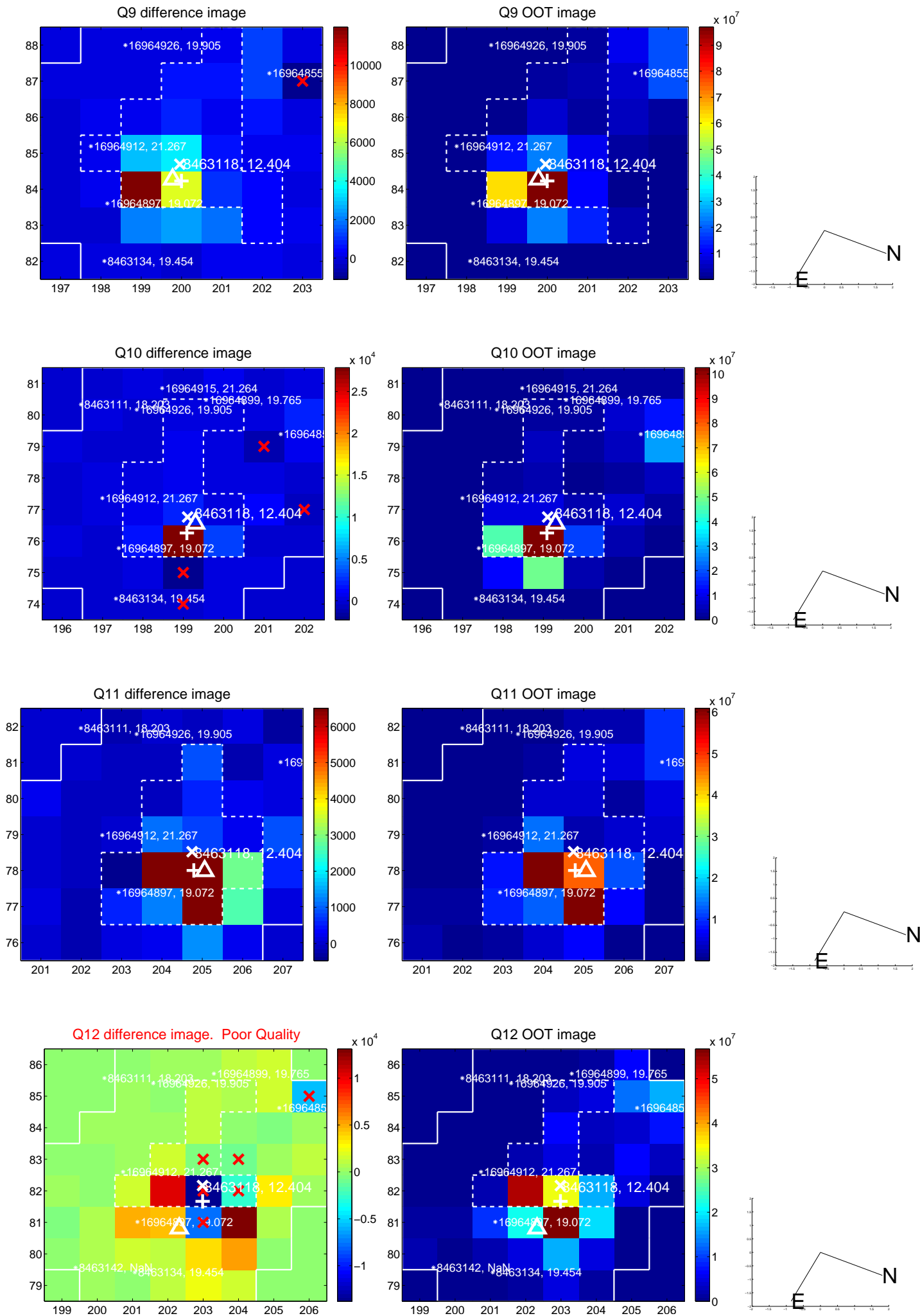
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



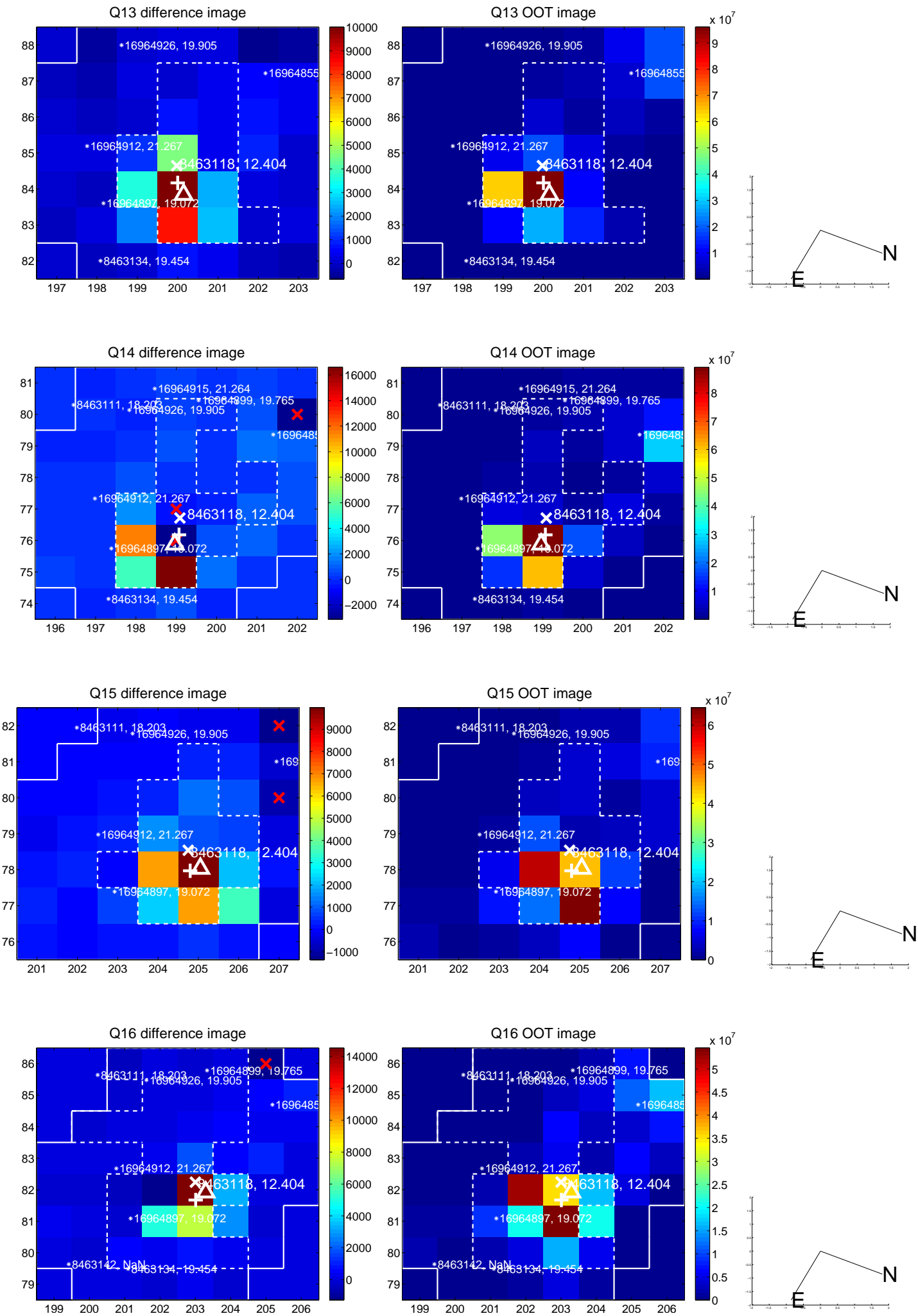
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



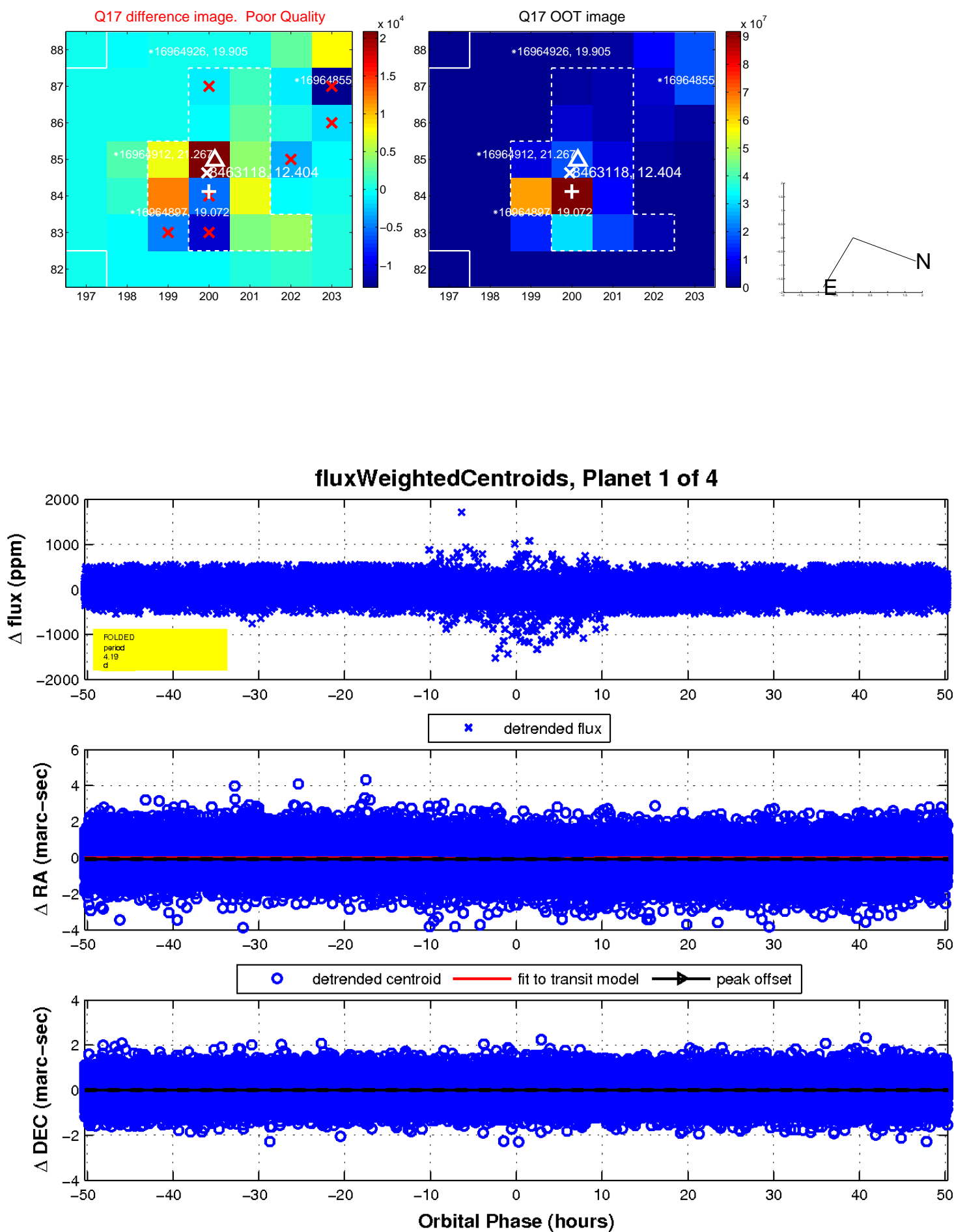
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

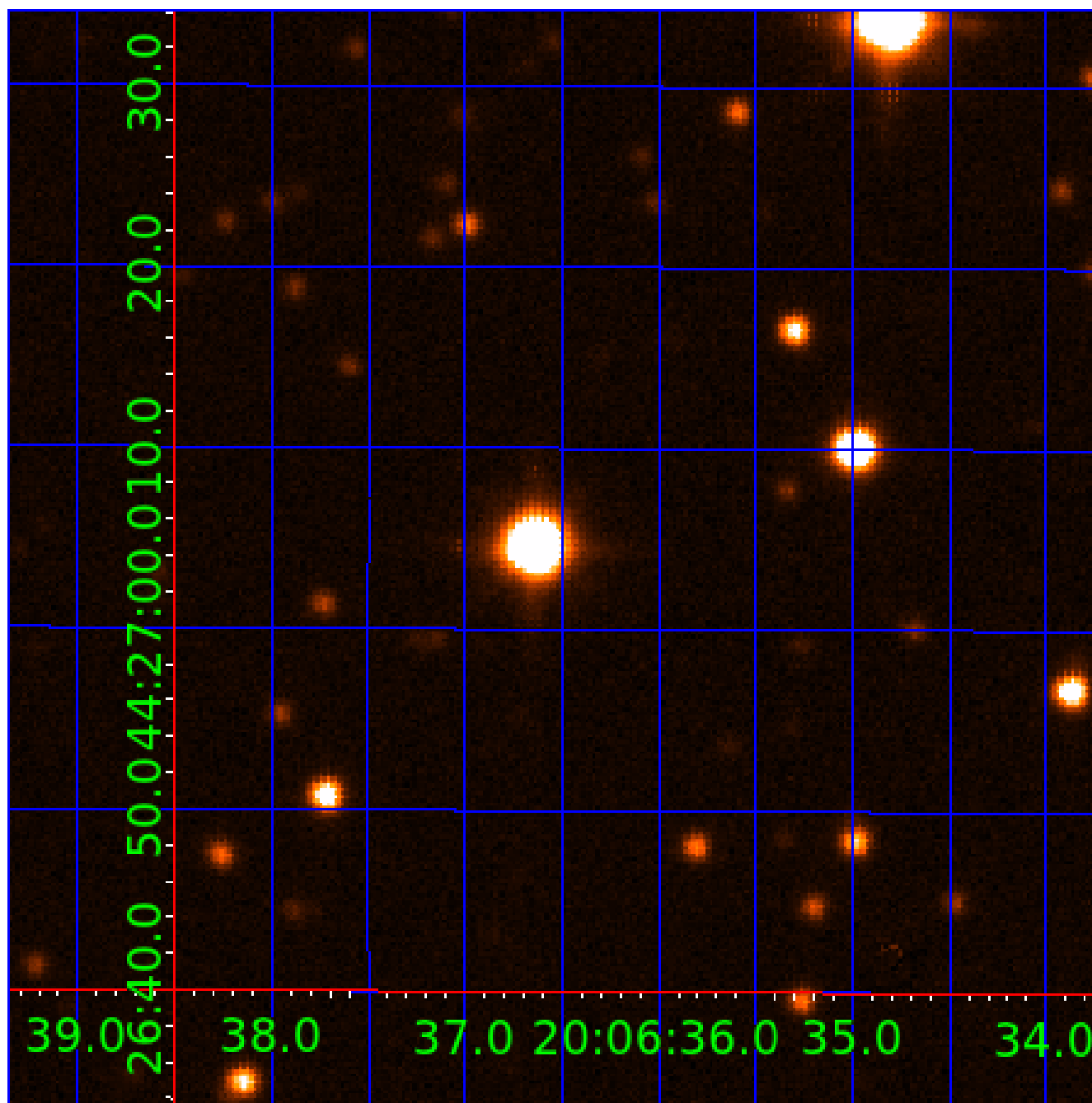


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008463118

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})
008463118-01	OBS	No	4.191929	134.592647	29.6	18.538	13.9	15.7	0.71	4723	0.37	110.07
008463118-02	OBS	No	216.737326	147.902576	253.2	1.847	8.9	7.2	0.71	4723	1.36	0.57
008463118-03	OBS	No	133.114393	241.116426	159.7	4.035	8.7	6.7	0.71	4723	1.04	1.09
008463118-04	OBS	No	164.129374	293.388742	332.0	4.235	8.4	8.0	0.71	4723	1.54	0.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008463118-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
008463118-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

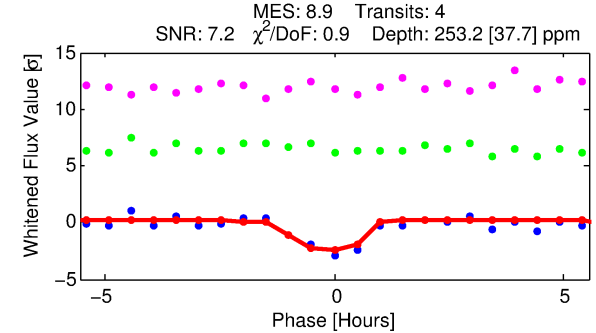
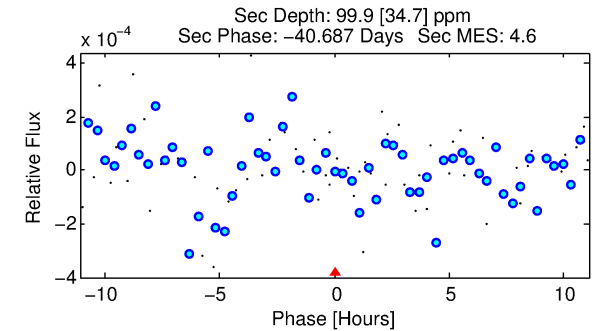
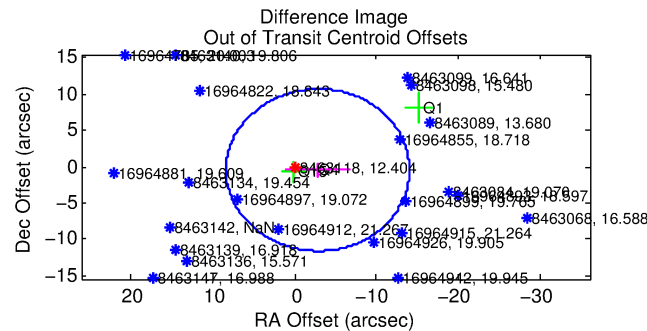
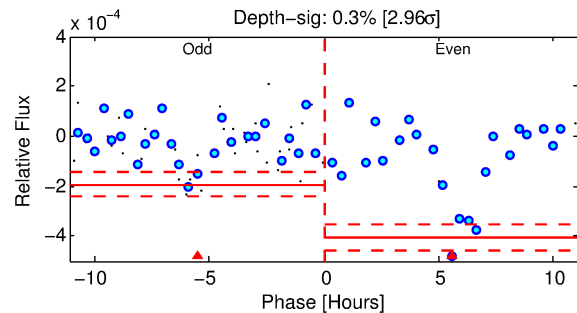
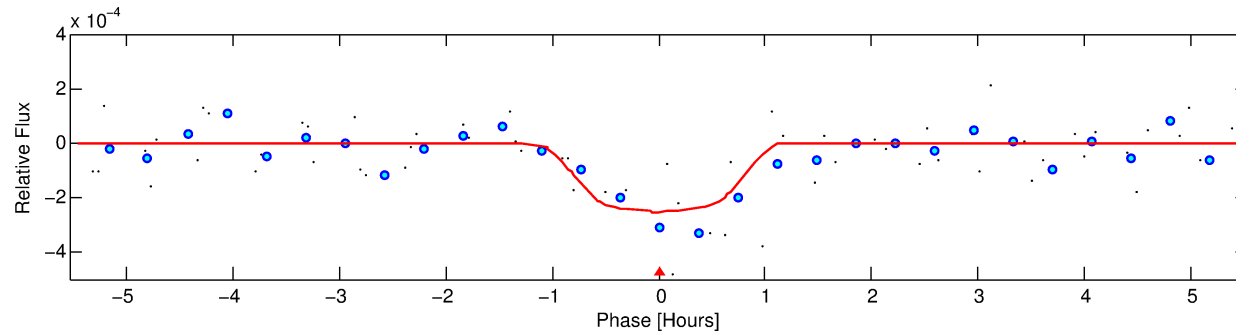
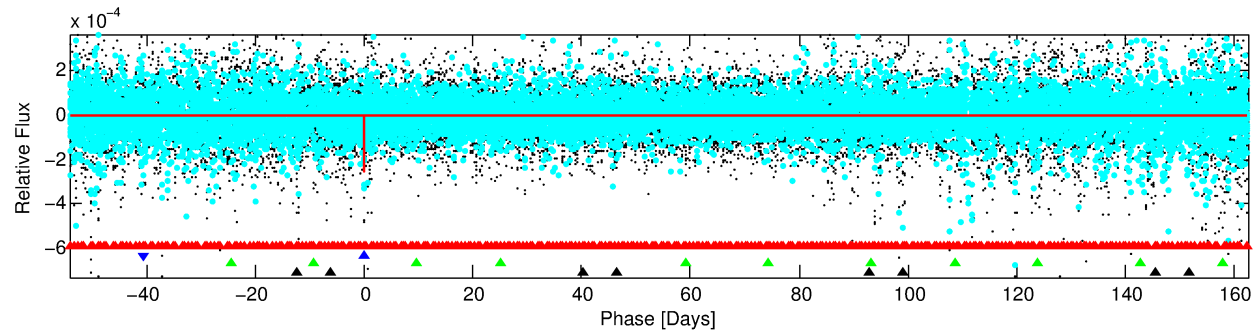
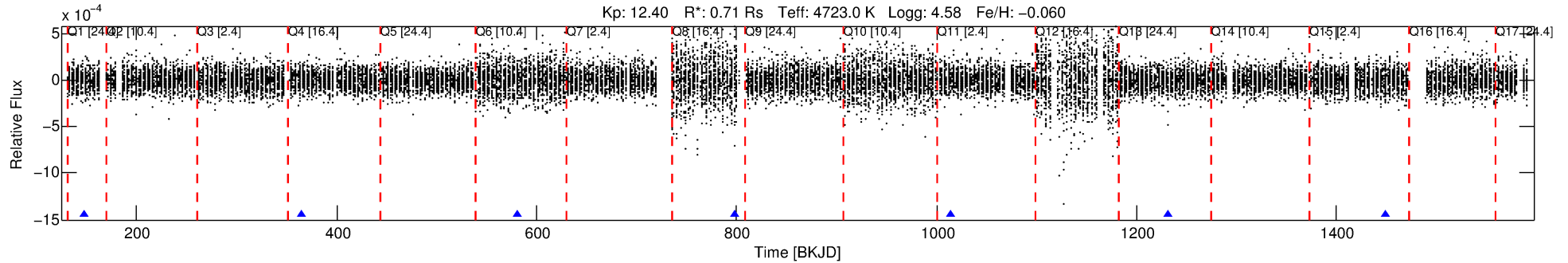
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008463118-02

No Significant Match Found

DV One-Page Summary

KIC: 8463118 Candidate: 2 of 4 Period: 216.737 d



DV Fit Results:

Period = 216.73733 [0.00202] d
Epoch = 147.9026 [0.0104] BKJD
Rp/R* = 0.0174 [0.0380]
a/R* = 470.94 [3766.38]
b = 0.87 [2.26]
Seff = 0.57 [0.10]
Teq = 222 [10] K
Rp = 1.36 [2.96] Re
a = 0.6306 [0.0458] AU
Ag = 11897.48 [52153.27] [0.23σ]
Teffp = 3580 [3924] K [0.86σ]

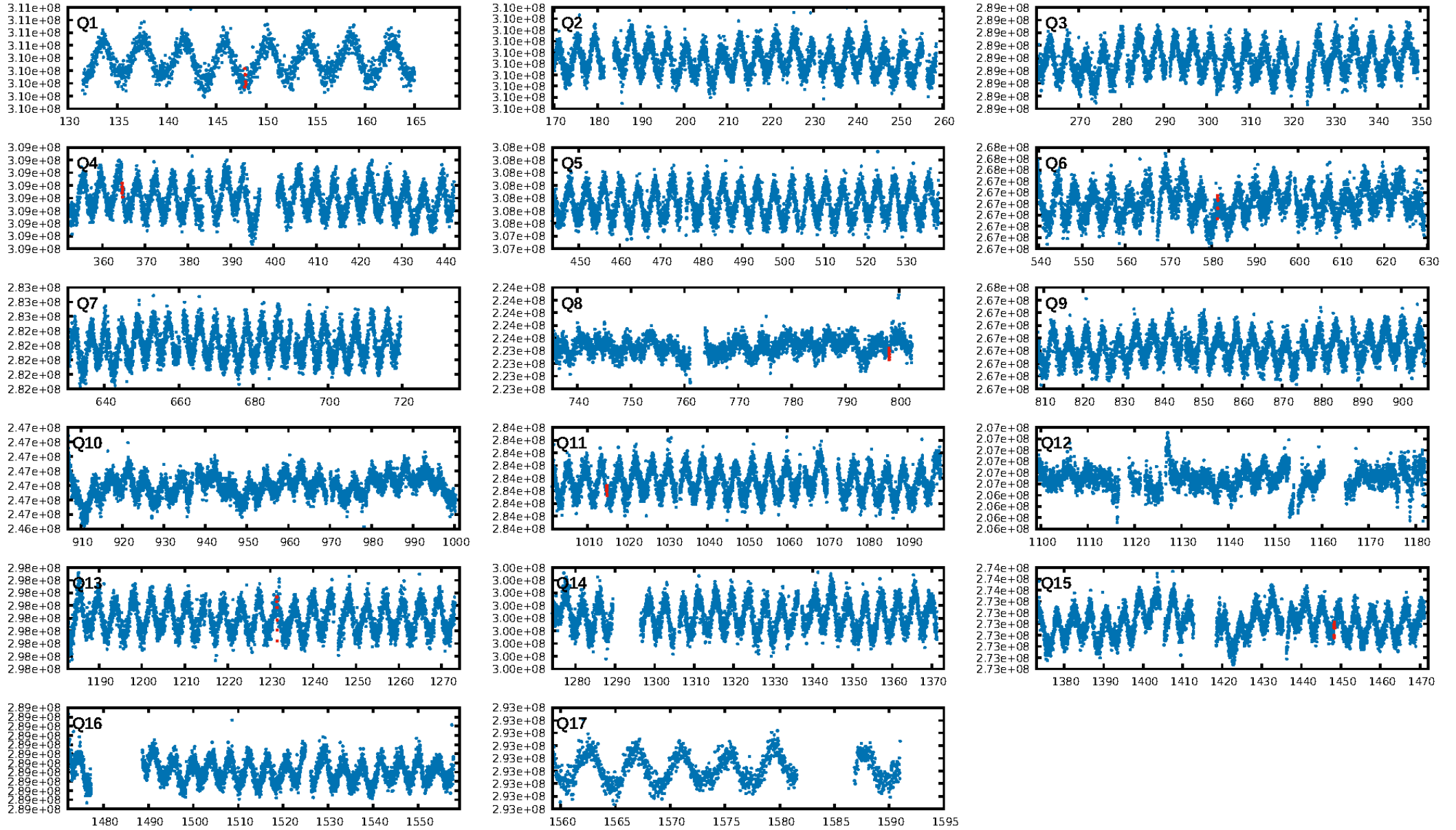
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [273.30σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.0%
ModelChiSquareGof-sig: 93.6%
Bootstrap-pfa: 3.14e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.317
Centroid-sig: 98.7%
Centroid-so: 1.318 arcsec [0.84σ]
OotOffset-rm: 2.866 arcsec [0.77σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 1.925 arcsec [0.43σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.67 [4/6]

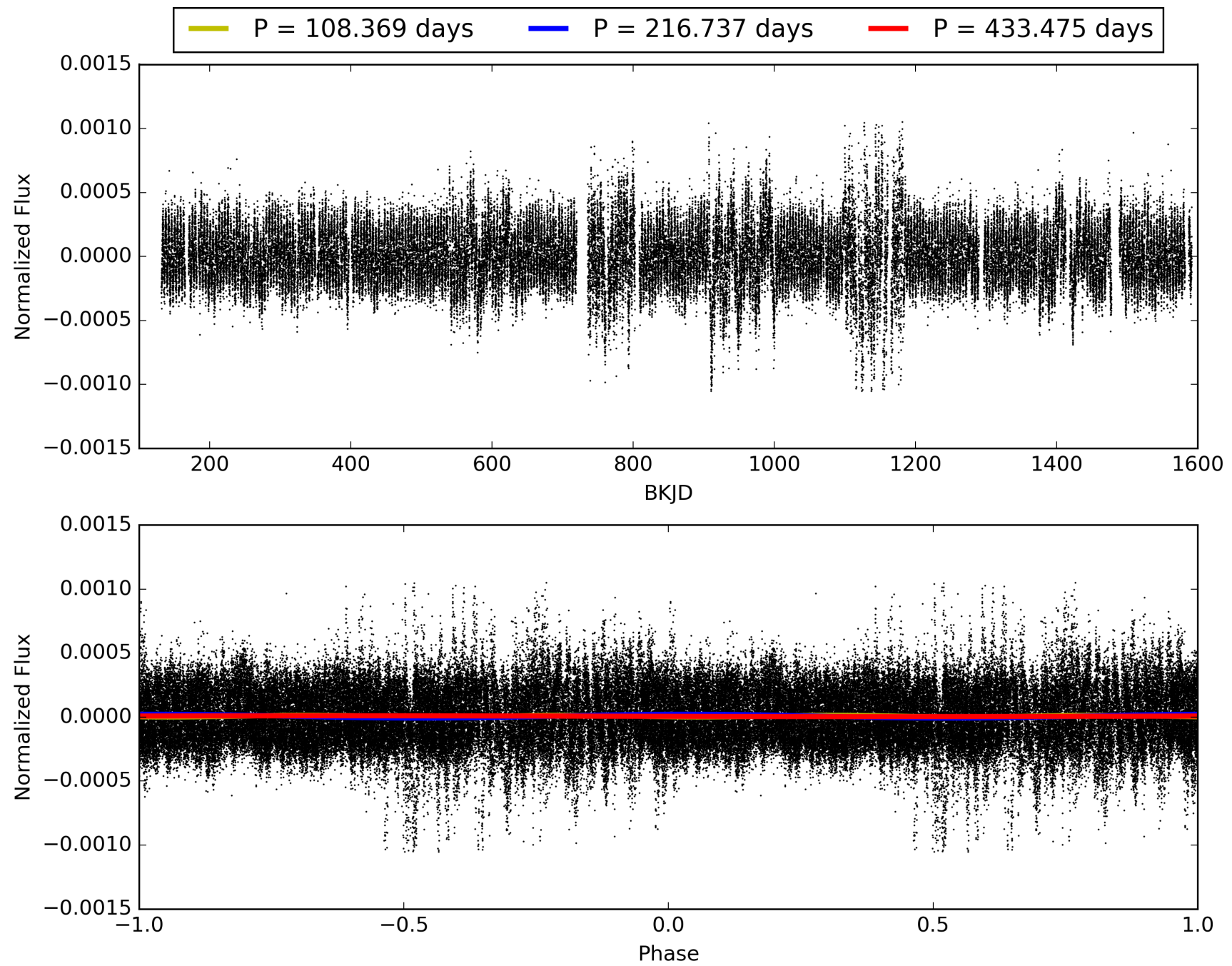
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:47:18 Z

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

TCE 008463118-02, PDC Light Curves

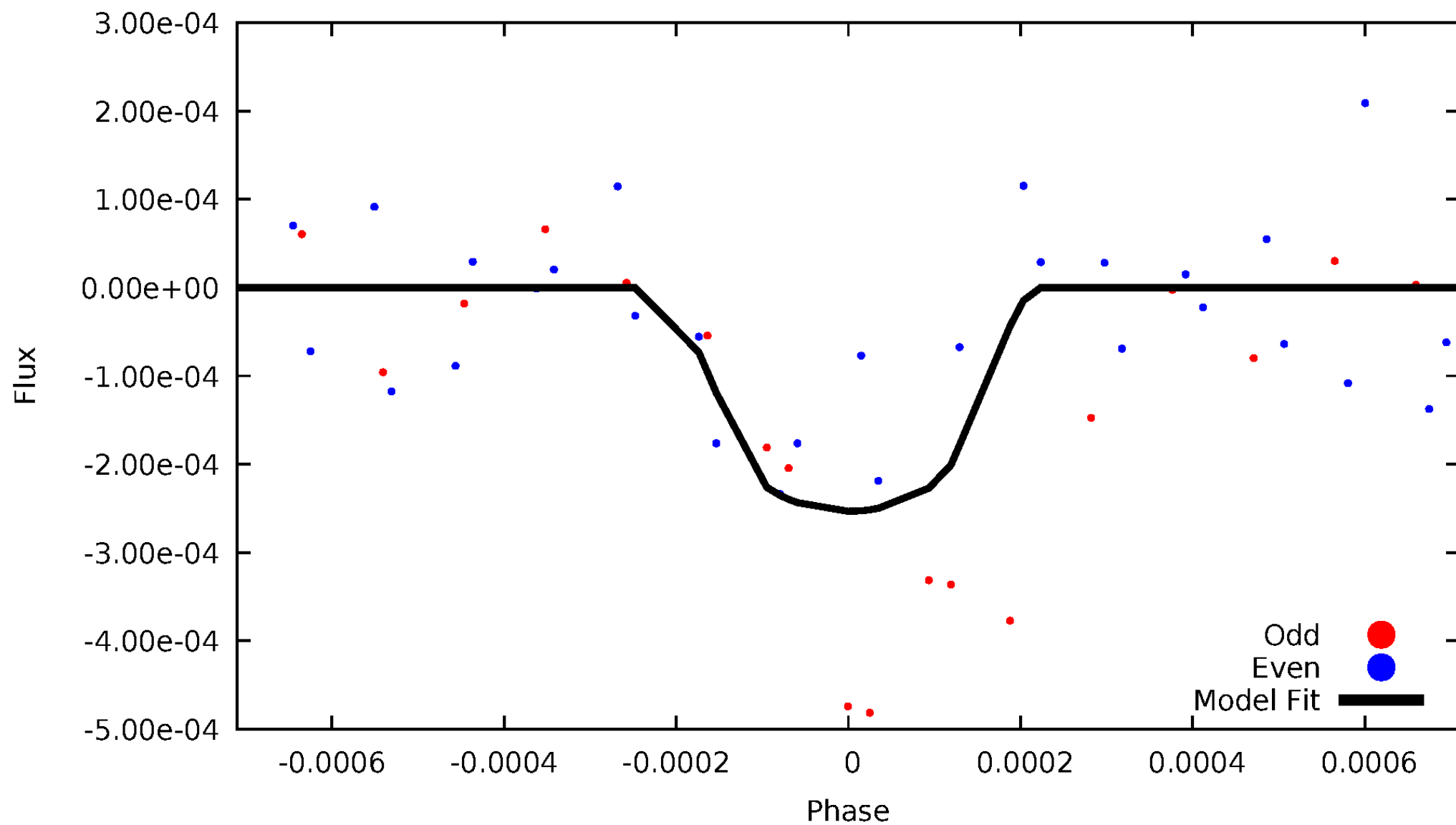


TCE 008463118-02



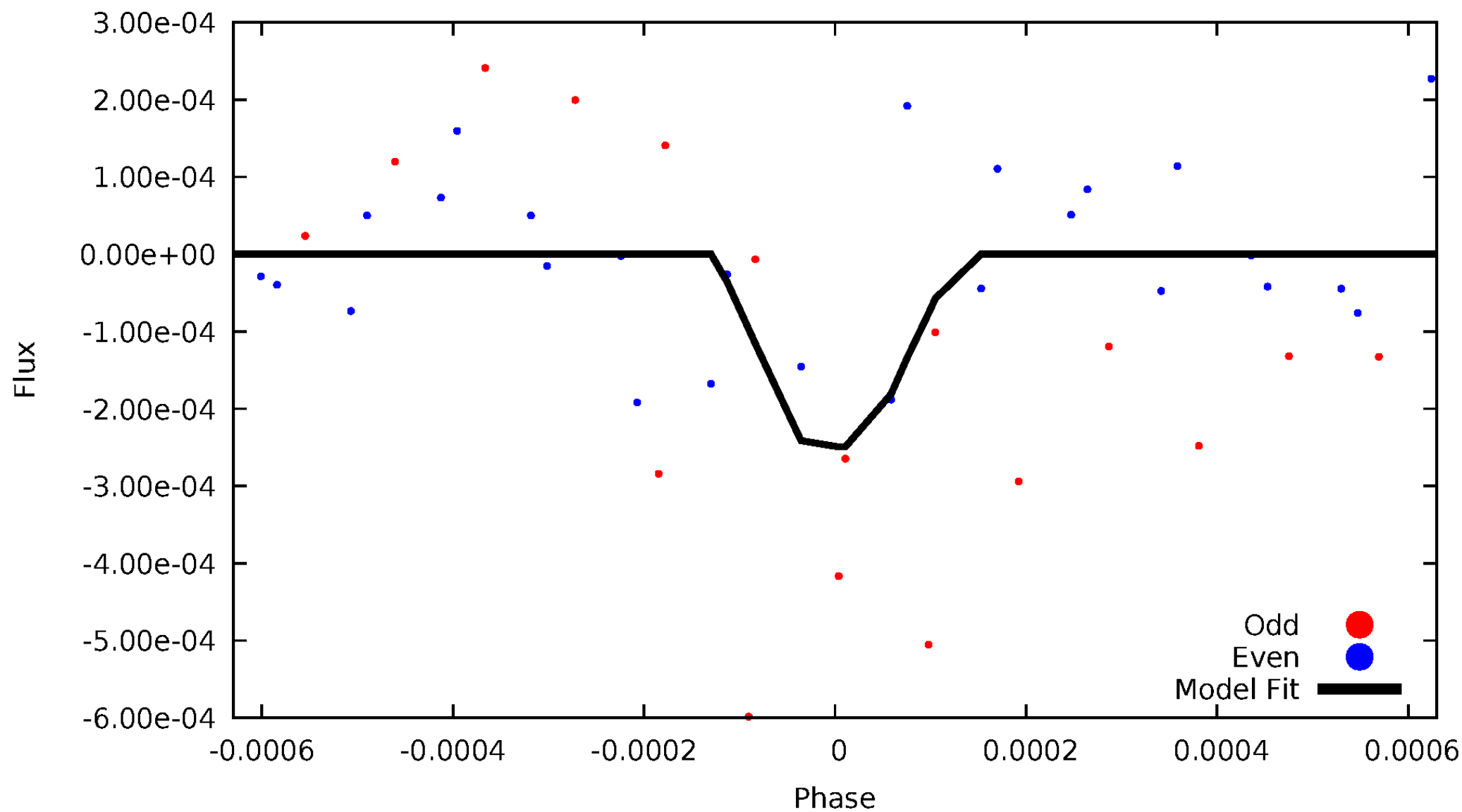
DV Odd/Even

TCE 008463118-02



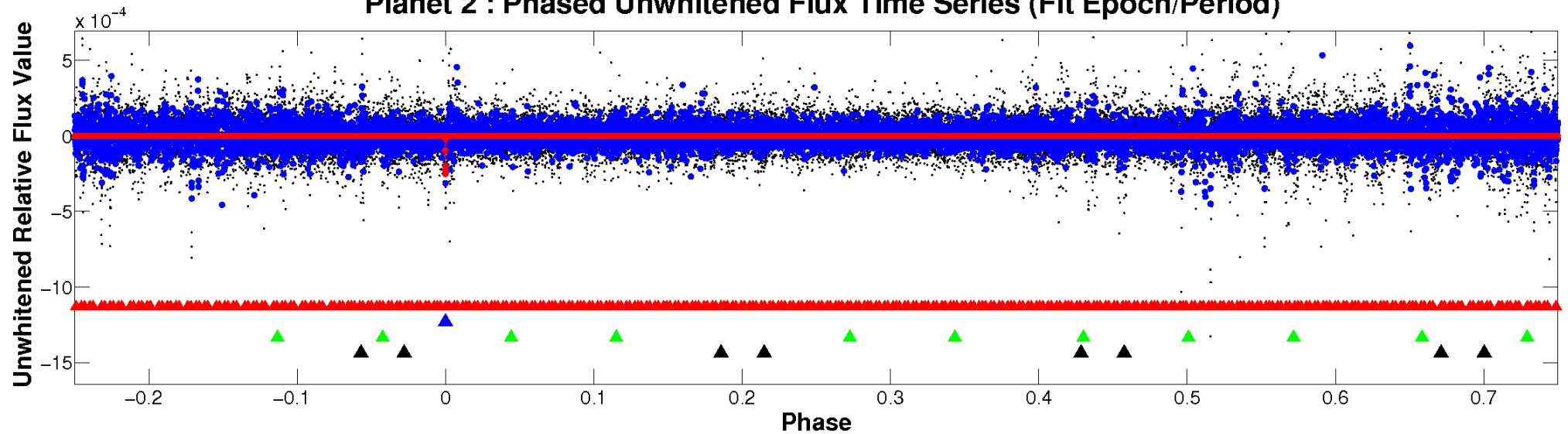
ALT Odd/Even

TCE 008463118-02

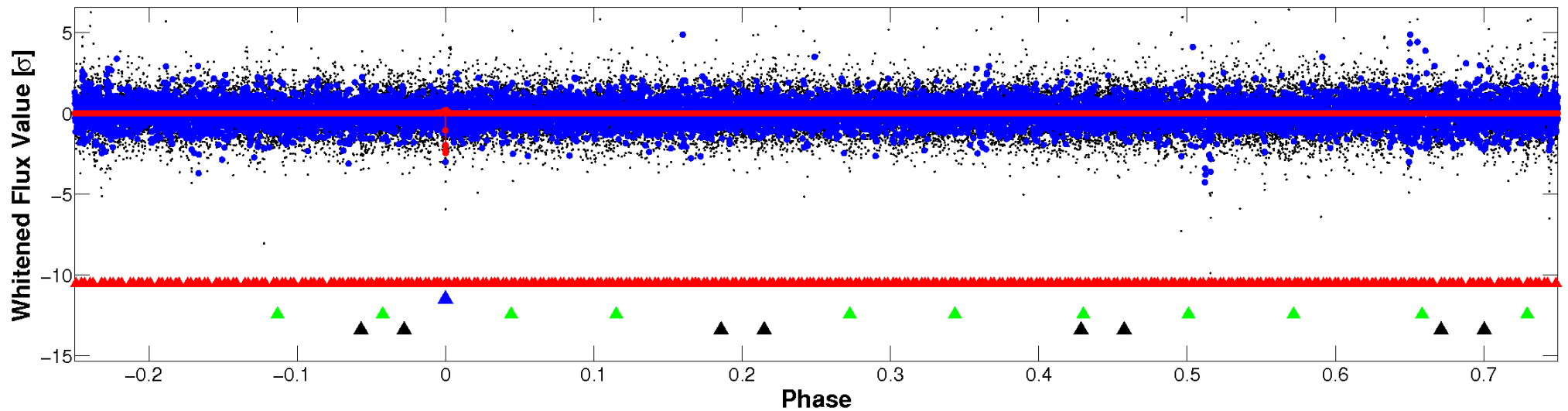


Non-Whitened Vs. Whitened Light Curve

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

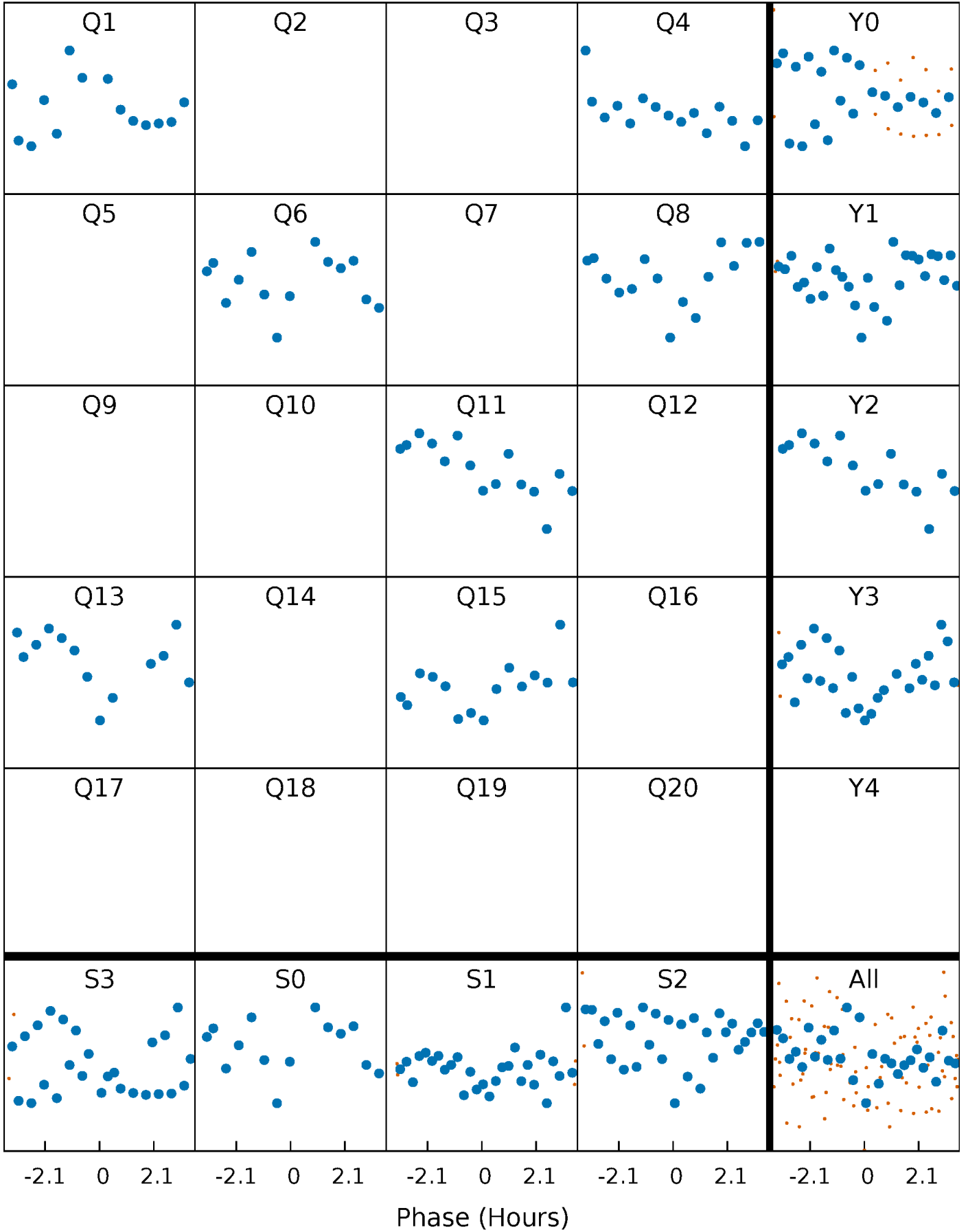


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



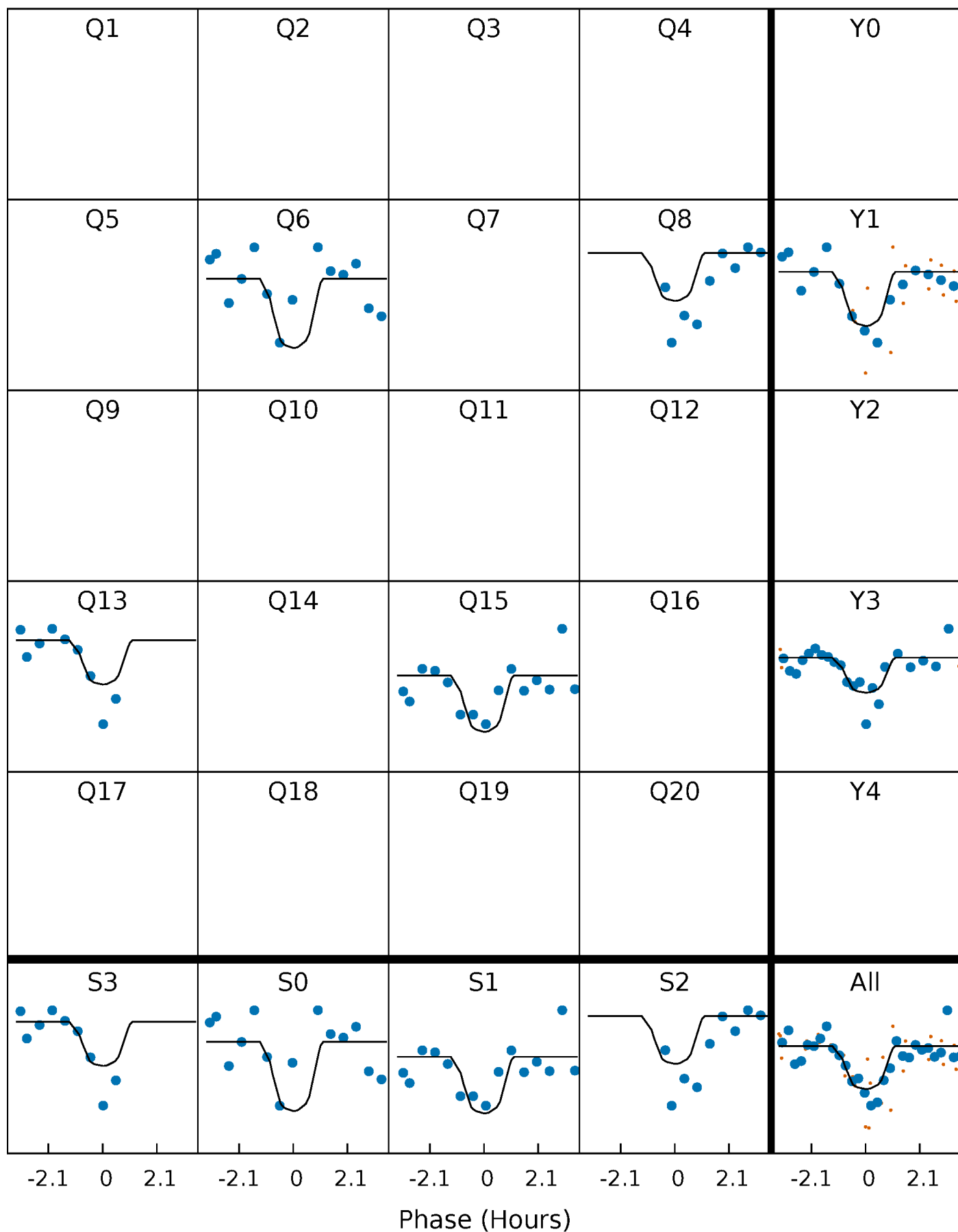
PDC Quarter-Phased Transit Curves

TCE 008463118-02 P=216.737326 Days $T_0=147.902576$ (BKJD)



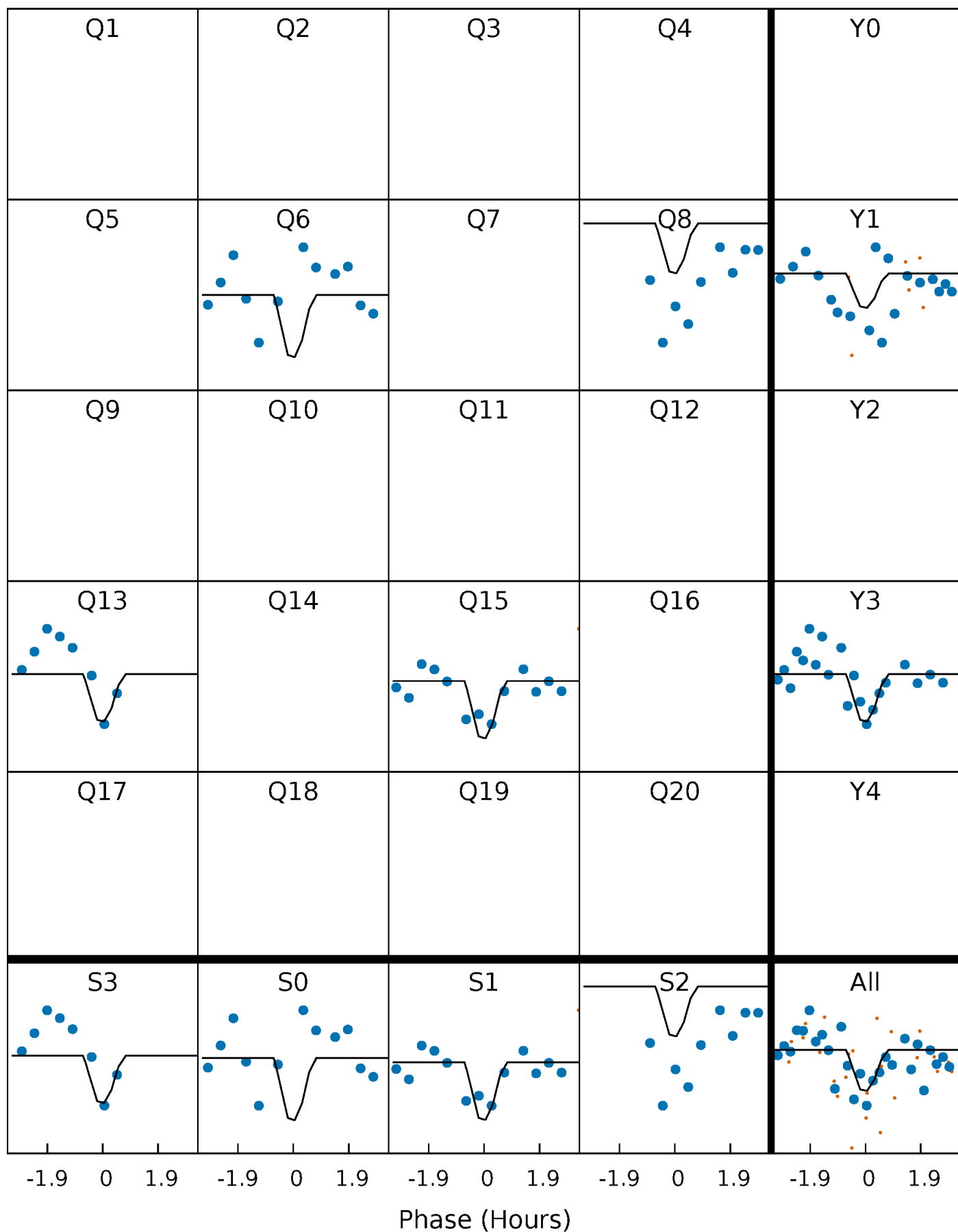
DV Quarter-Phased Transit Curves

TCE 008463118-02 P=216.737326 Days $T_0=147.902576$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

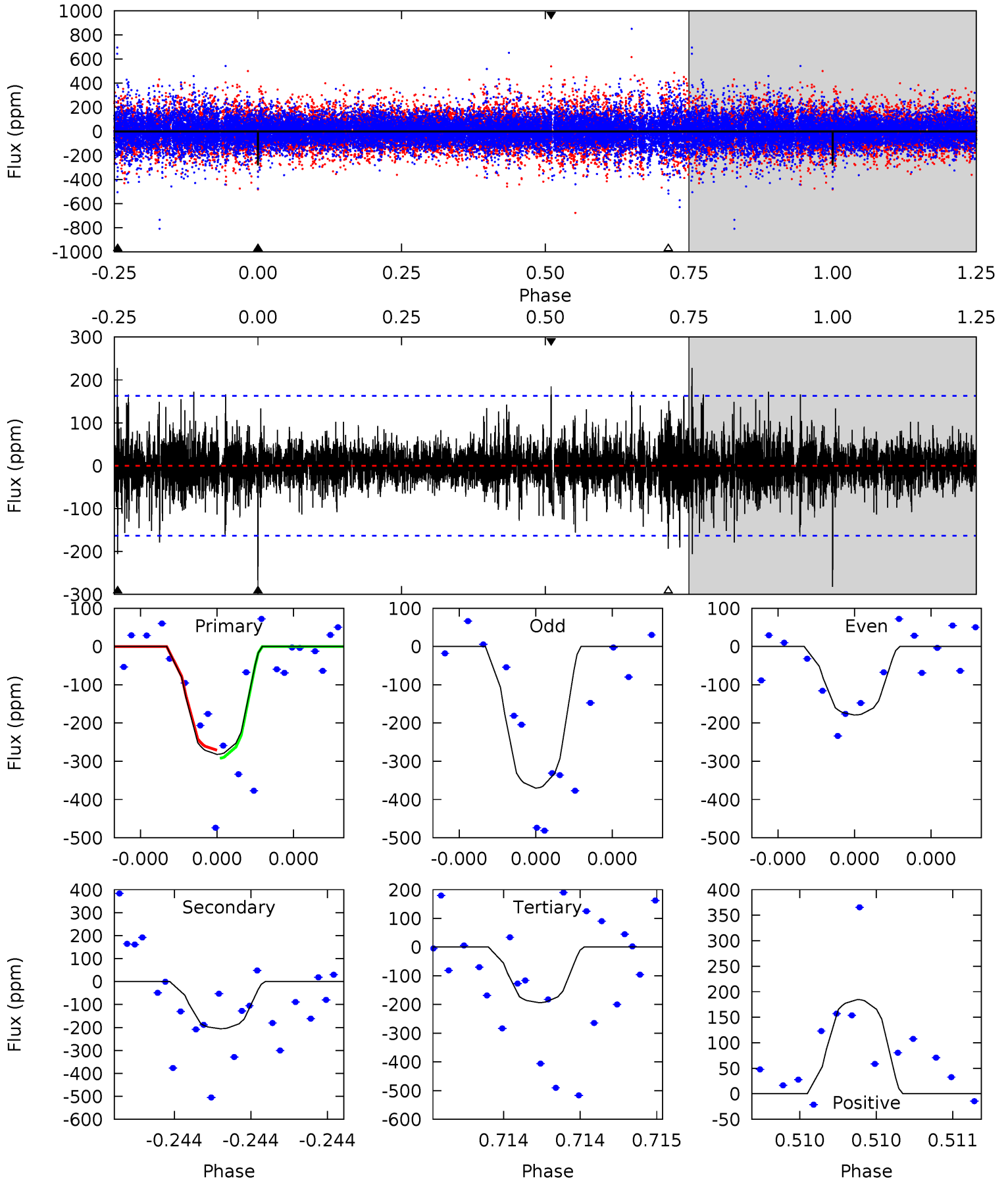
TCE 008463118-02 P=216.729123 Days $T_0=147.946658$ (BKJD)



DV Model-Shift Uniqueness Test

008463118-02, P = 216.737326 Days, E = 147.902576 Days

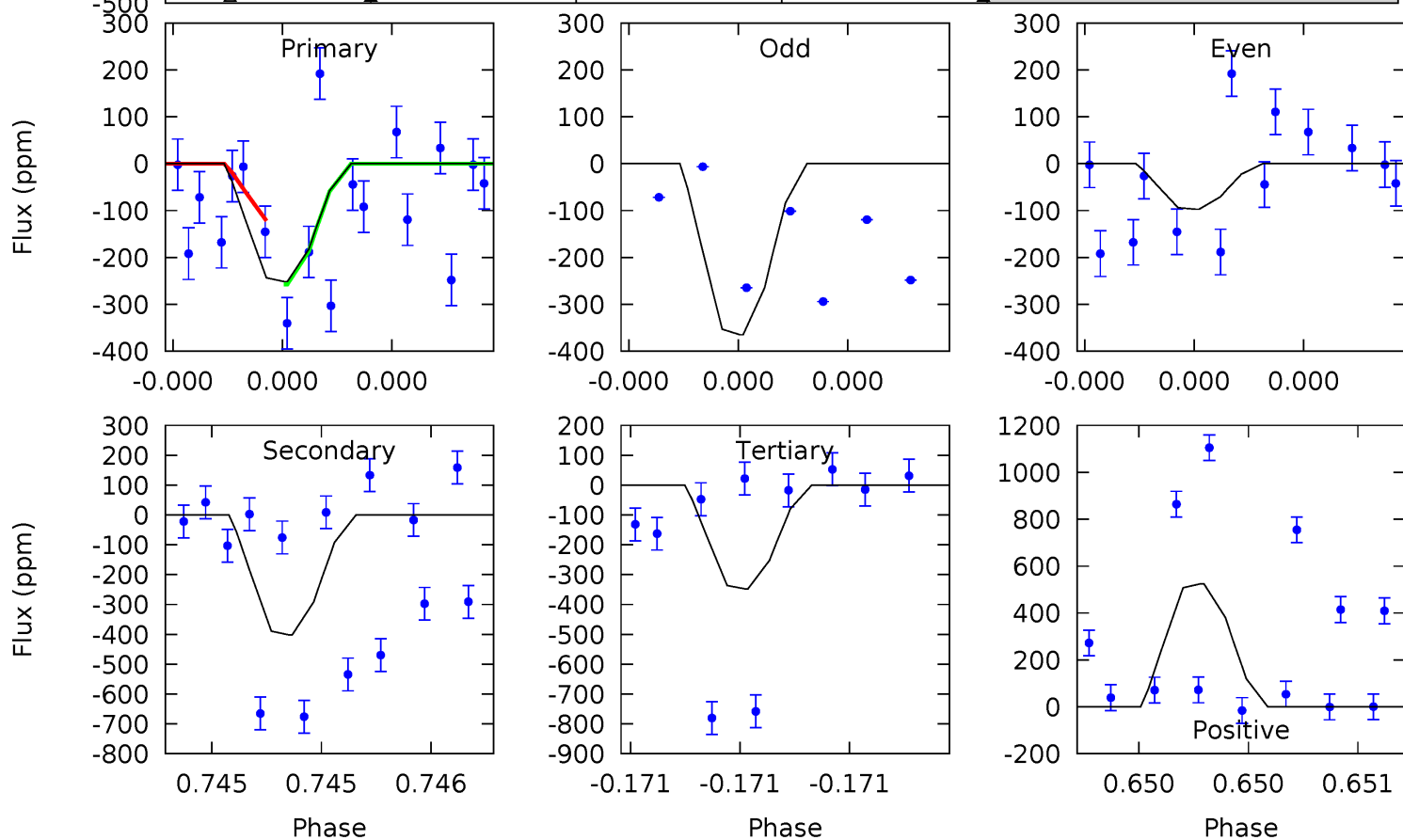
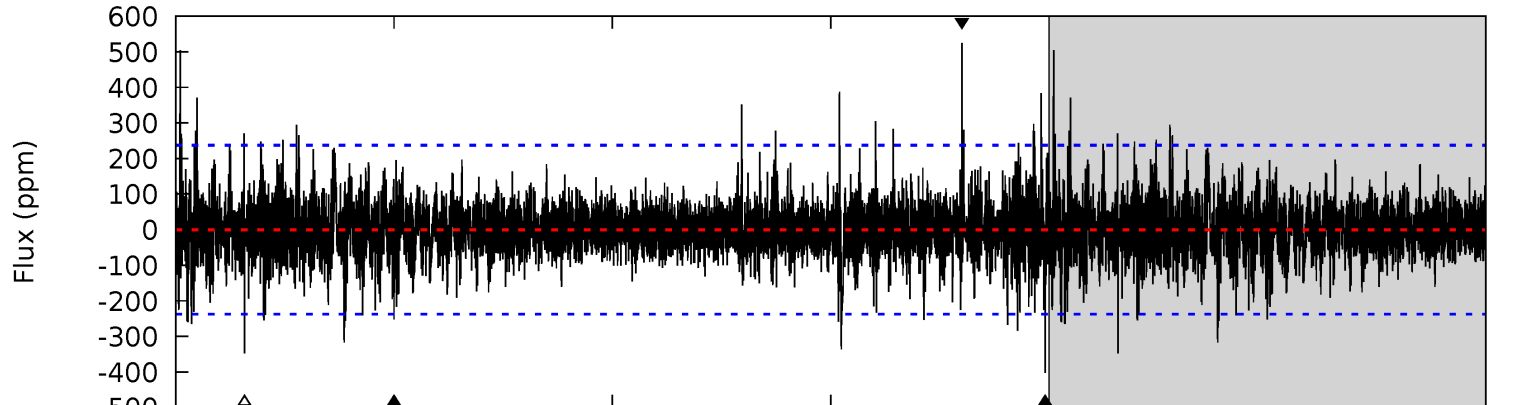
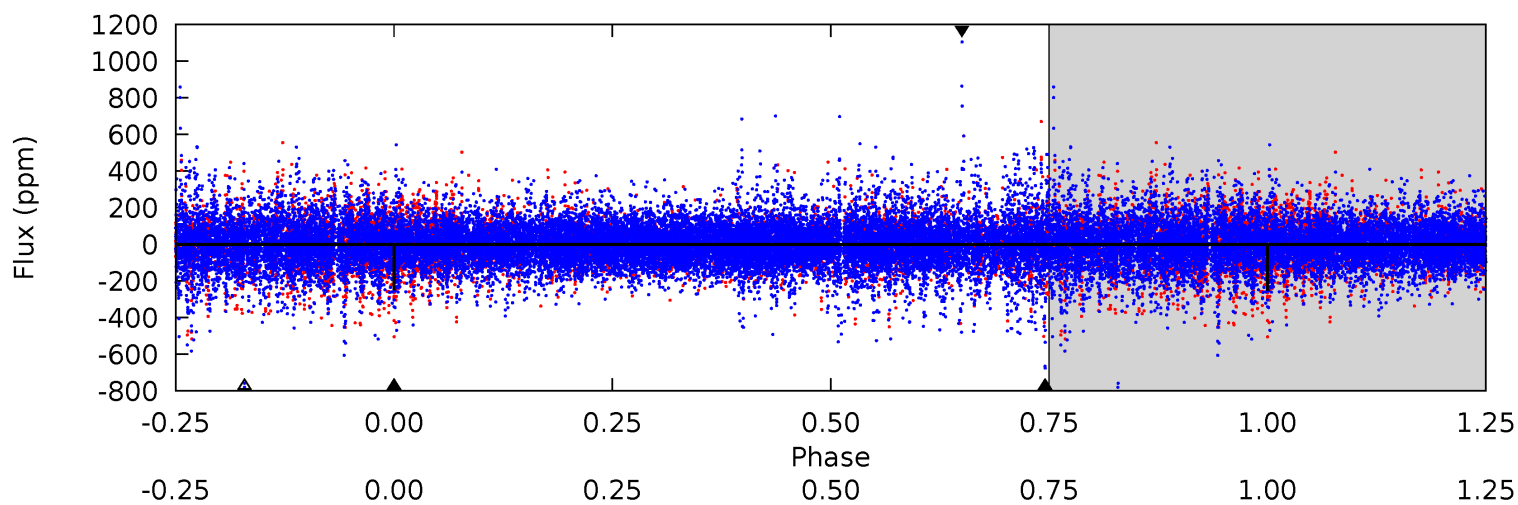
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.72	7.09	6.67	6.37	5.62	3.56	1.30	3.05	3.35	0.42	0.72	3.17	0.98	0.45	0.37



Alt Model-Shift Uniqueness Test

008463118-02, P = 216.729123 Days, E = 147.946658 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.04	9.65	8.35	12.6	5.70	3.67	1.55	-2.31	-6.55	1.31	-2.93	3.26	0.89	0.57	1.28



Stellar Parameters For KIC 008463118

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4723^{+167}_{-167}	$4.583^{+0.052}_{-0.032}$	$-0.060^{+0.300}_{-0.300}$	$0.714^{+0.052}_{-0.065}$	$0.712^{+0.079}_{-0.058}$	$2.754^{+0.635}_{-0.356}$
	+4%/-4%	+1%/-1%	+500%/-500%	+7%/-9%	+11%/-8%	+23%/-13%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008463118-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-206 ± 29	$2.50^{+2.47}_{-1.65}$	309^{+13}_{-12}	3531^{+1742}_{-635}	7264^{+55385}_{-5441}
Alt.	-402 ± 42	$2.42^{+2.50}_{-1.73}$	309^{+12}_{-13}	3992^{+2812}_{-826}	$14611^{+178001}_{-10991}$

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 $A_{obs} \gg 1.0$

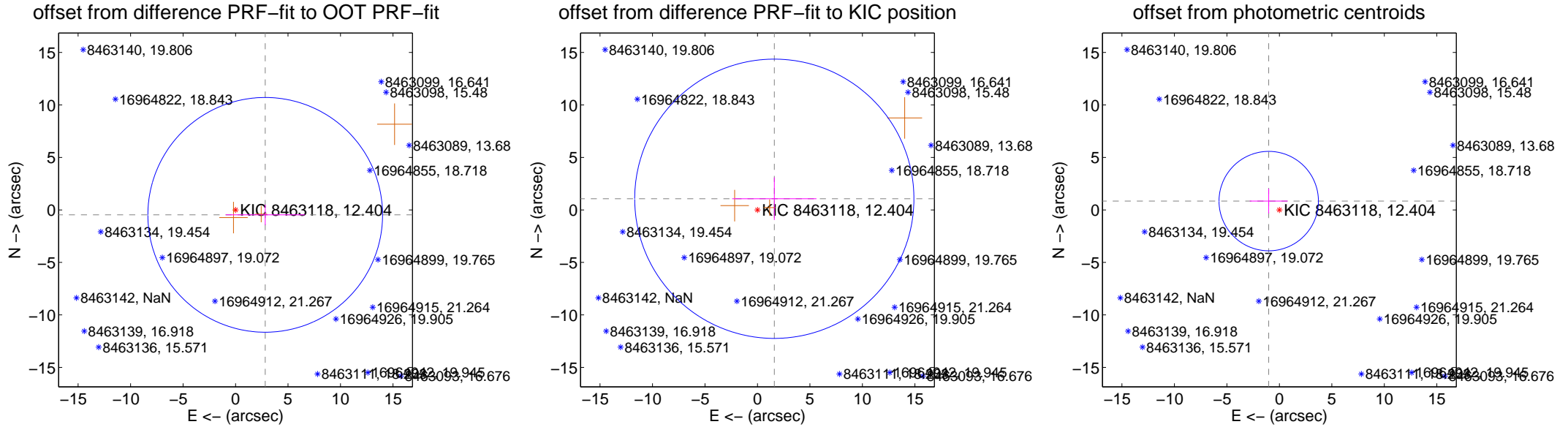
DV Centroid Data

Supplemental centroid analysis for 008463118-02. Kepler magnitude: 12.40. Transit SNR 7.22

There are 0 quarters with good PRF difference image offsets

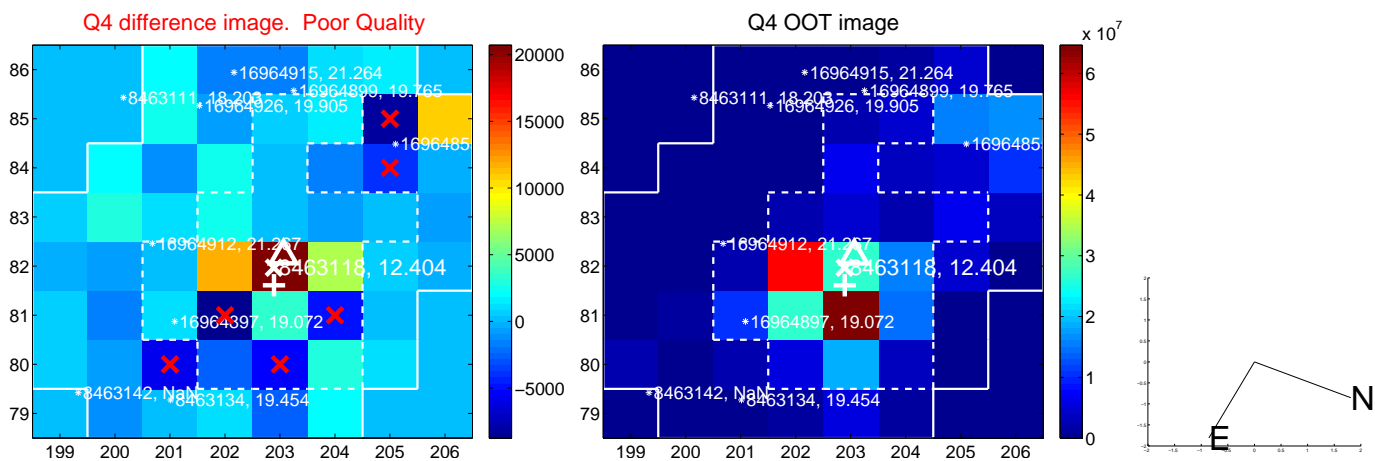
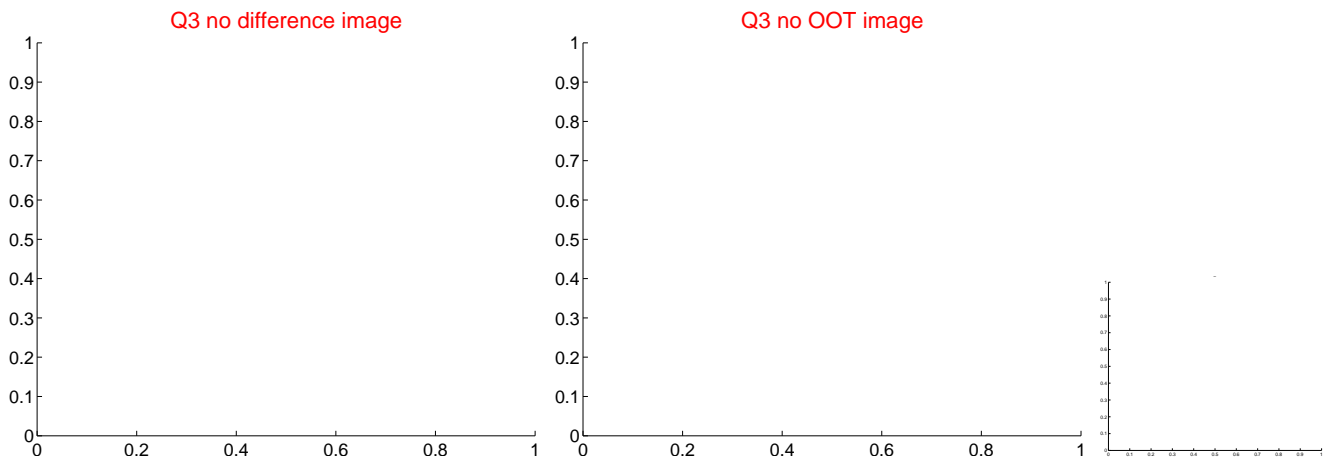
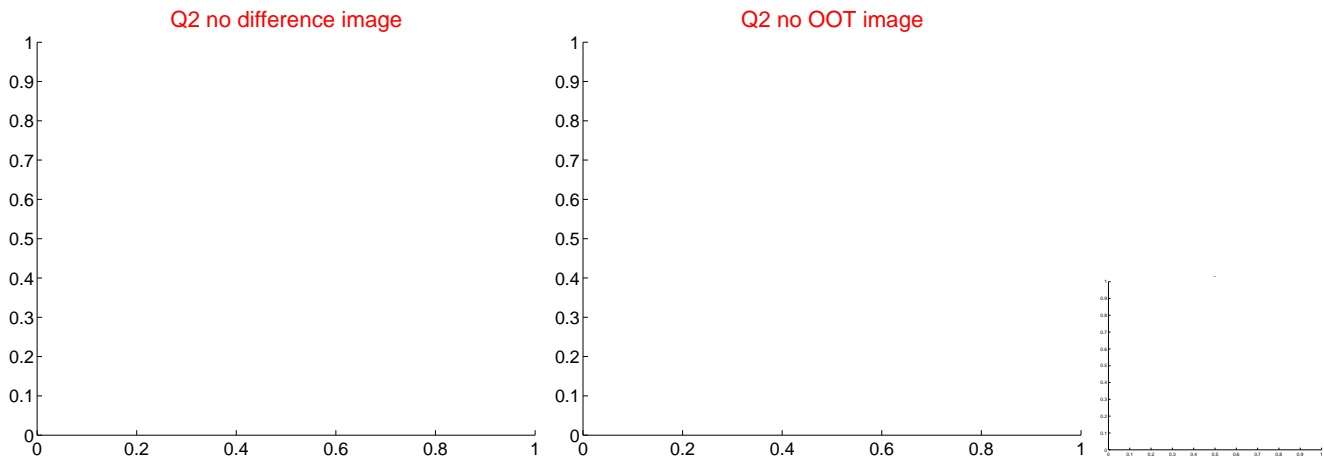
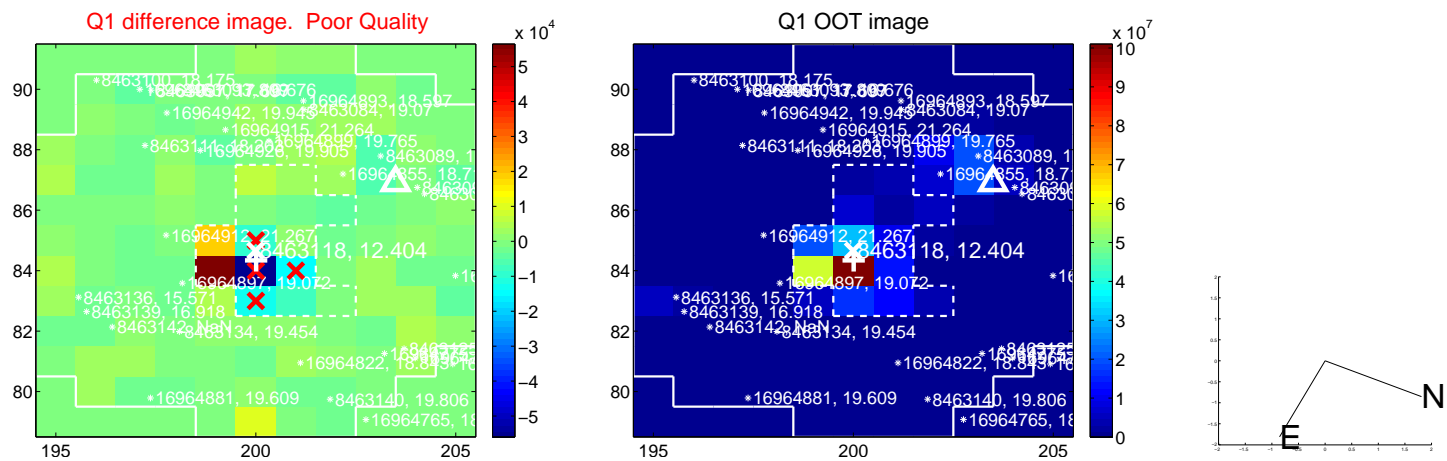
The OOT PRF centroid is offset from the target star catalog position by about 2.28 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.866 ± 3.726	0.77	-2.827 ± 3.774	-0.470 ± 0.964
PRF-fit source offset from KIC position	1.925 ± 4.433	0.43	-1.606 ± 4.010	1.062 ± 2.025
photometric centroid source offset	1.32 ± 1.58	0.84	1.02 ± 1.80	0.84 ± 1.18

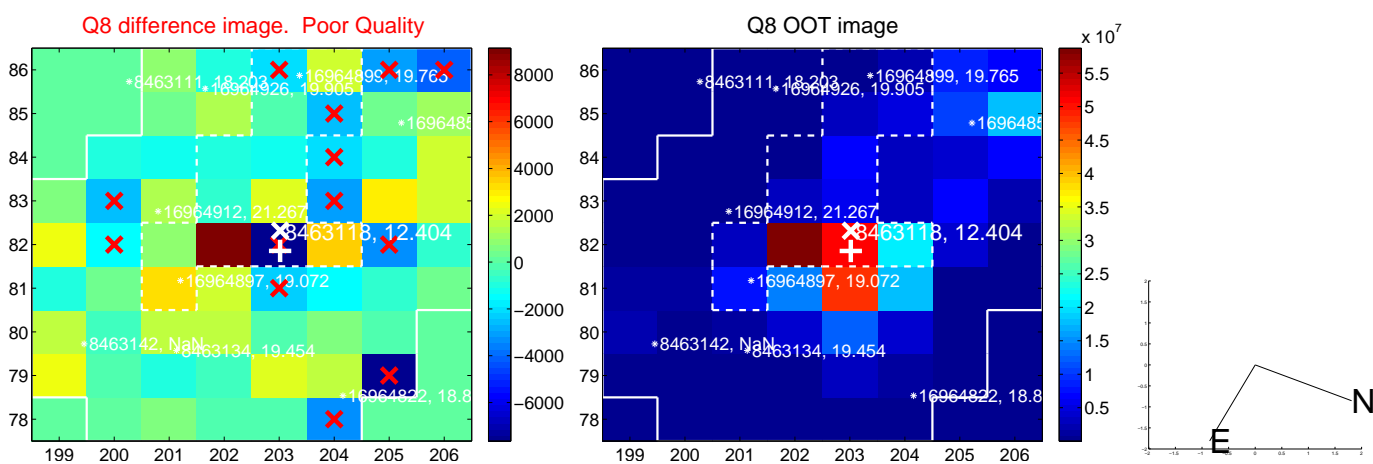
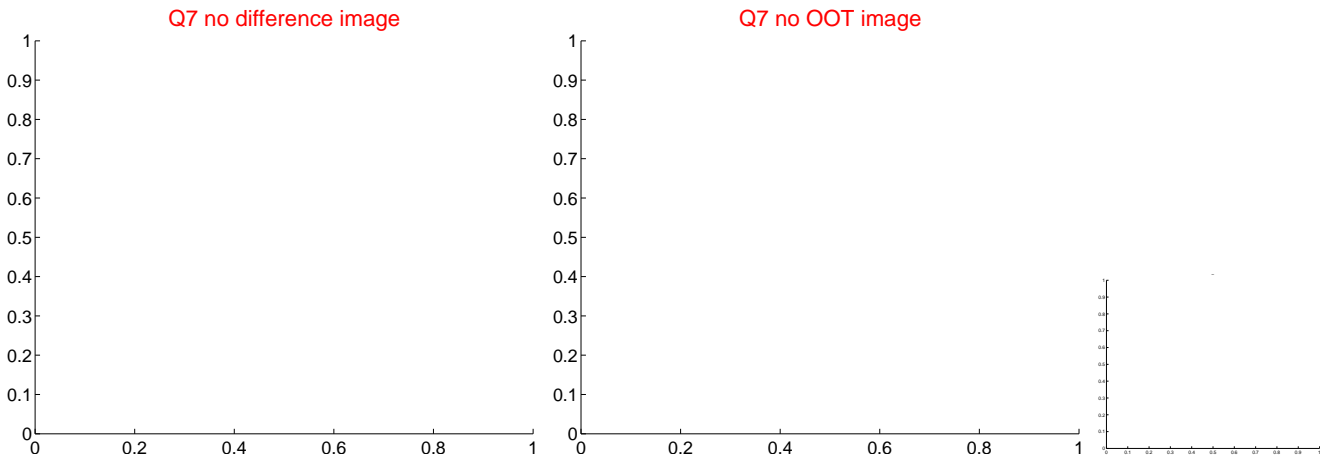
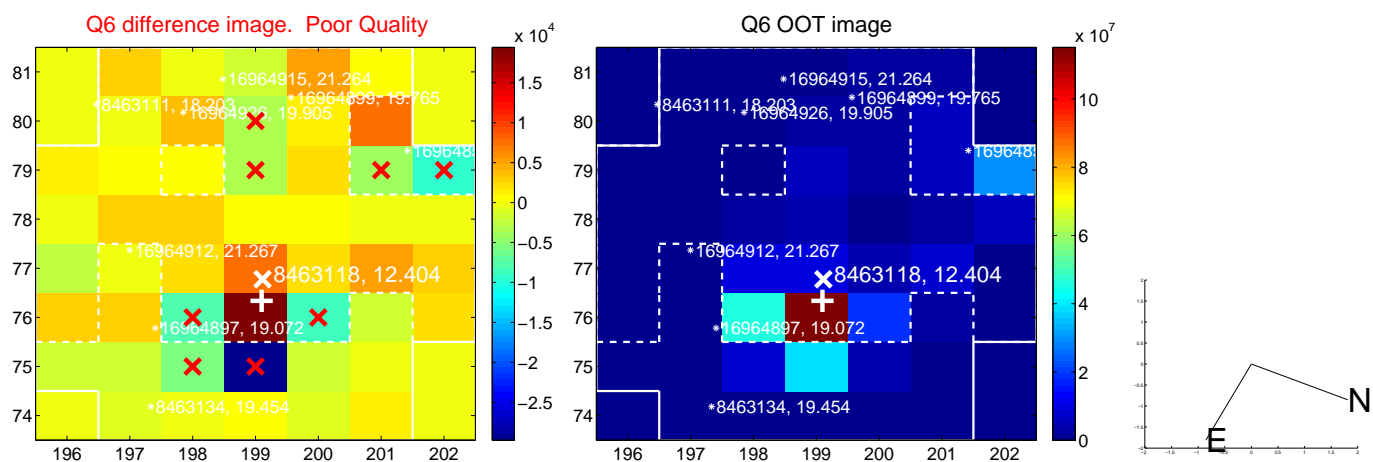
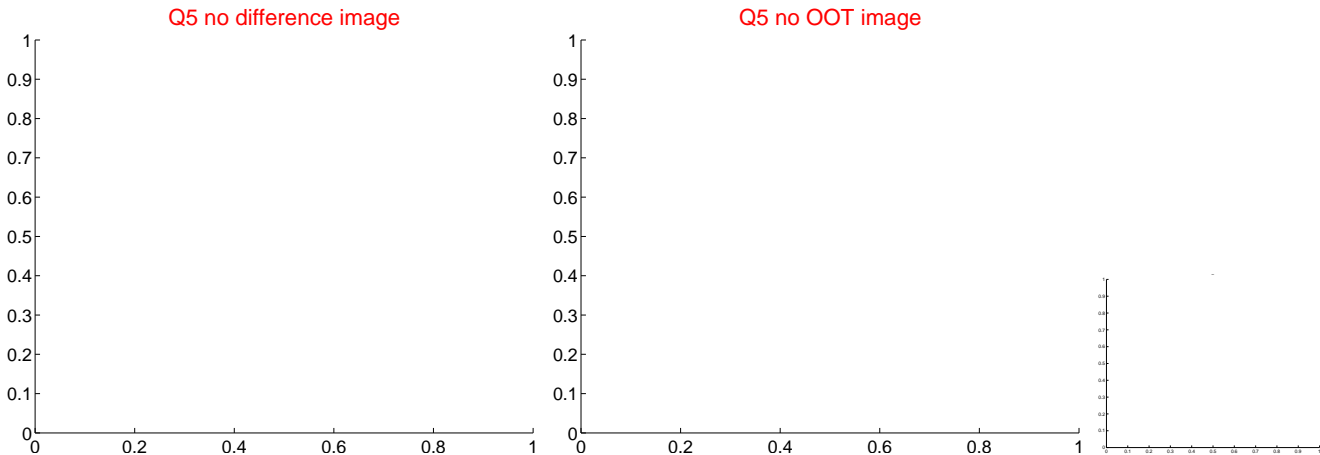


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

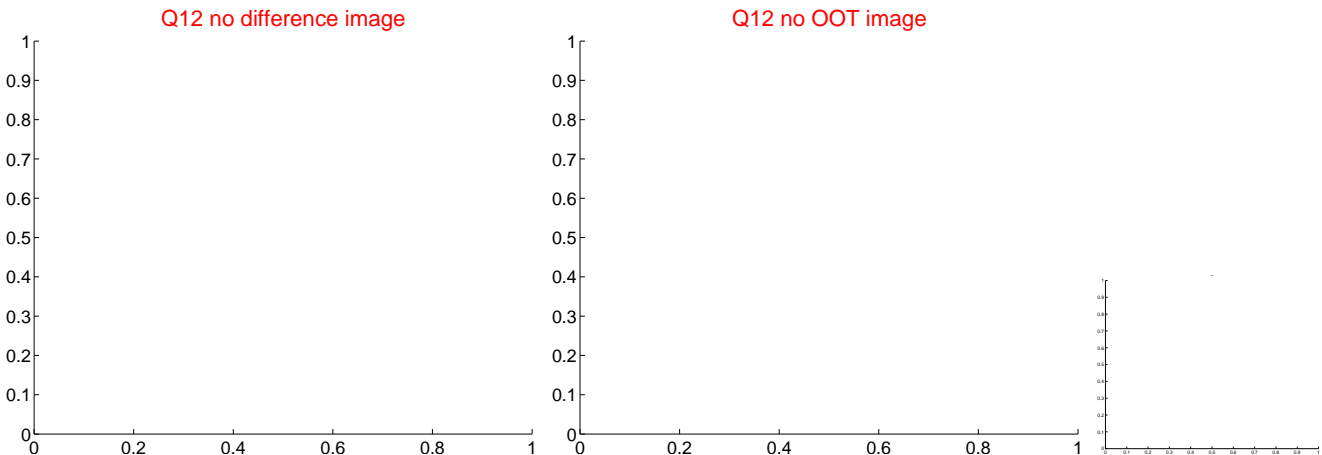
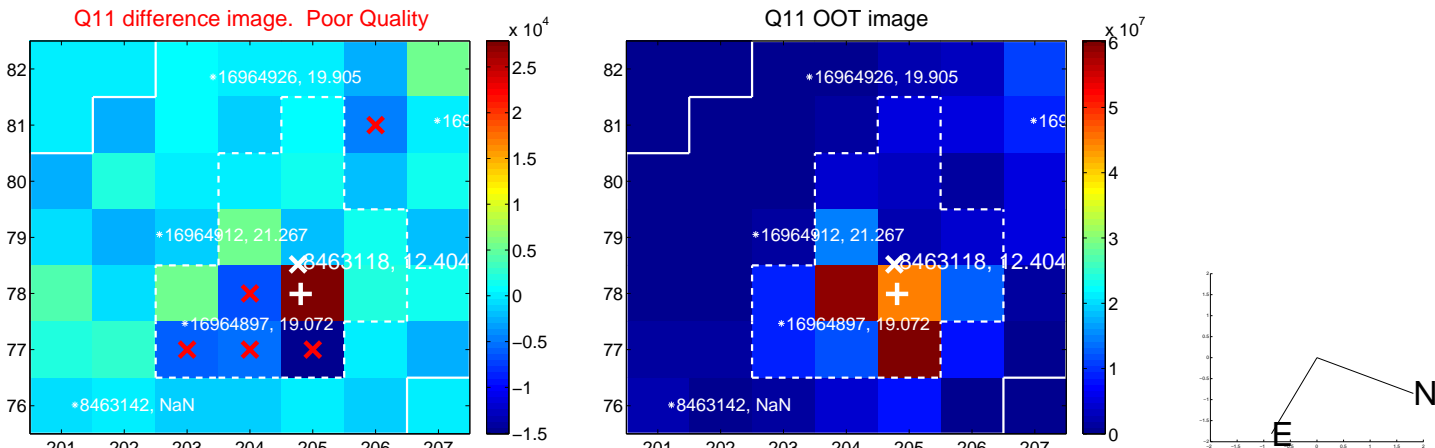
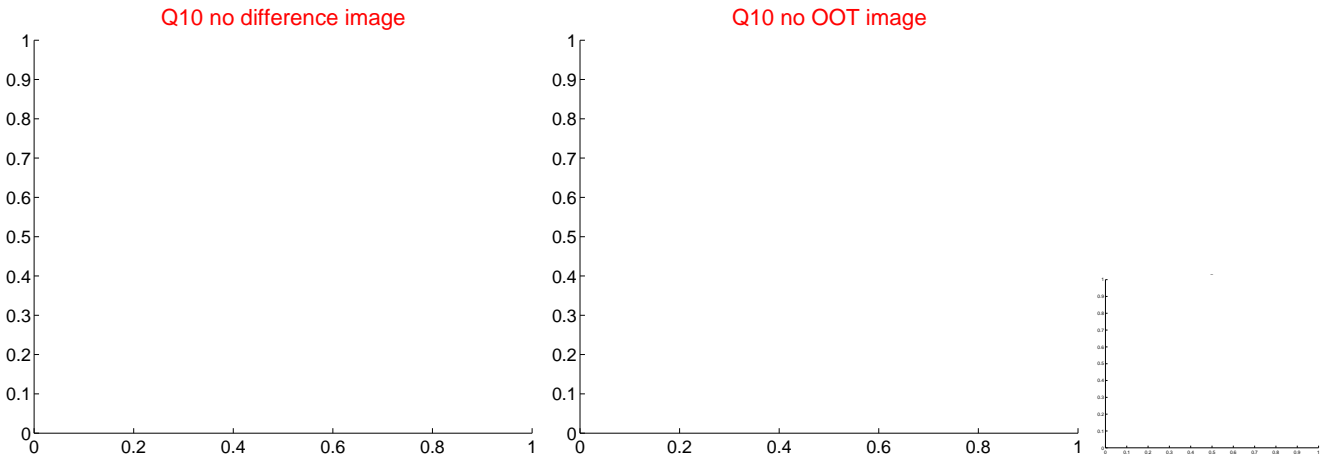
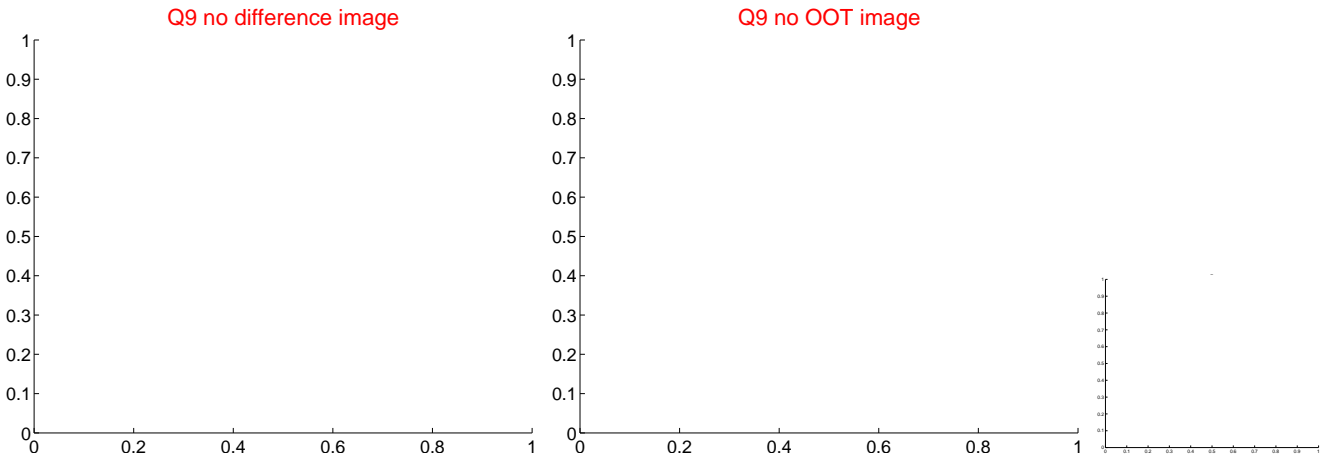
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

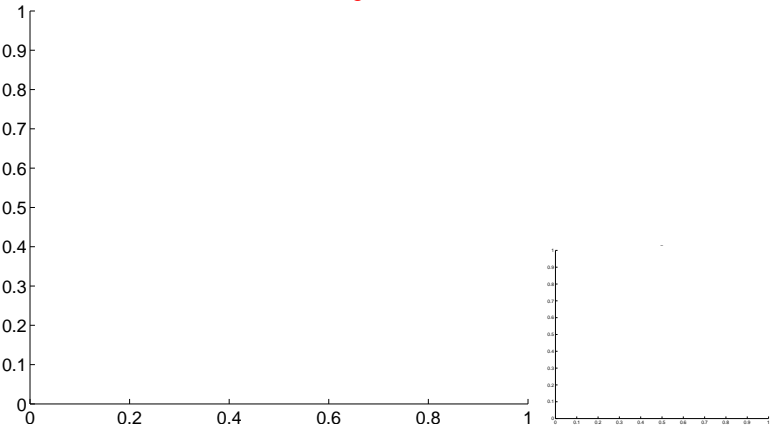


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q13 no difference image



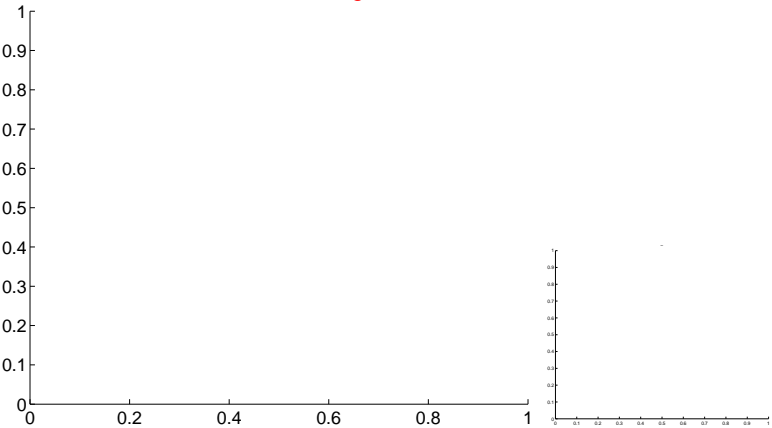
Q13 no OOT image



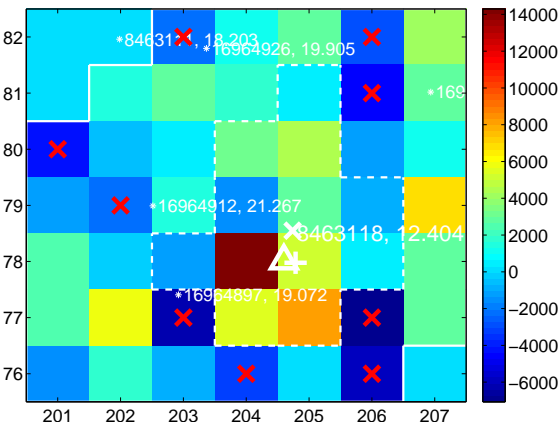
Q14 no difference image



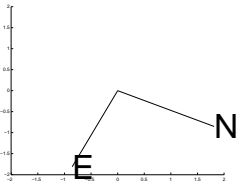
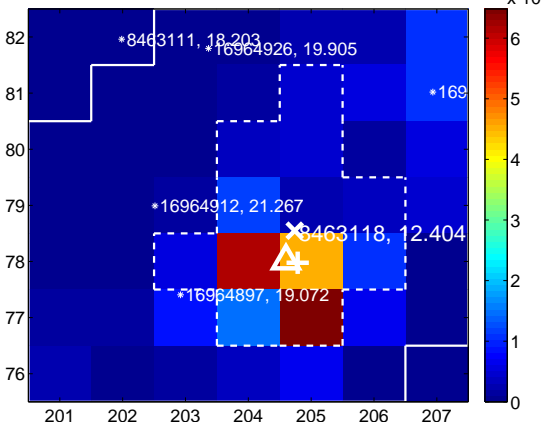
Q14 no OOT image



Q15 difference image. Poor Quality



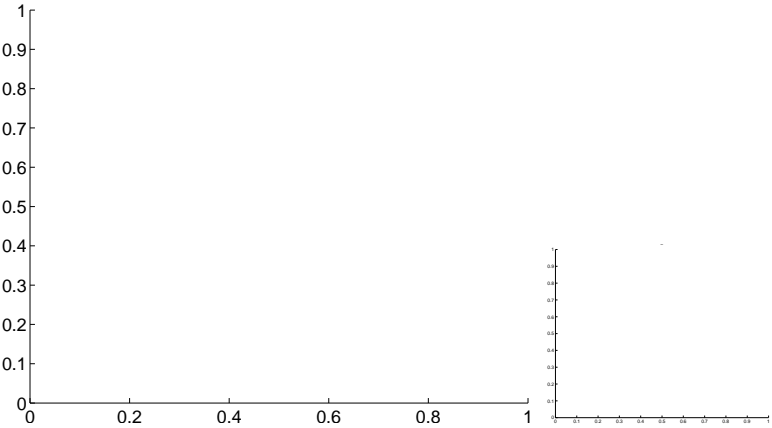
Q15 OOT image



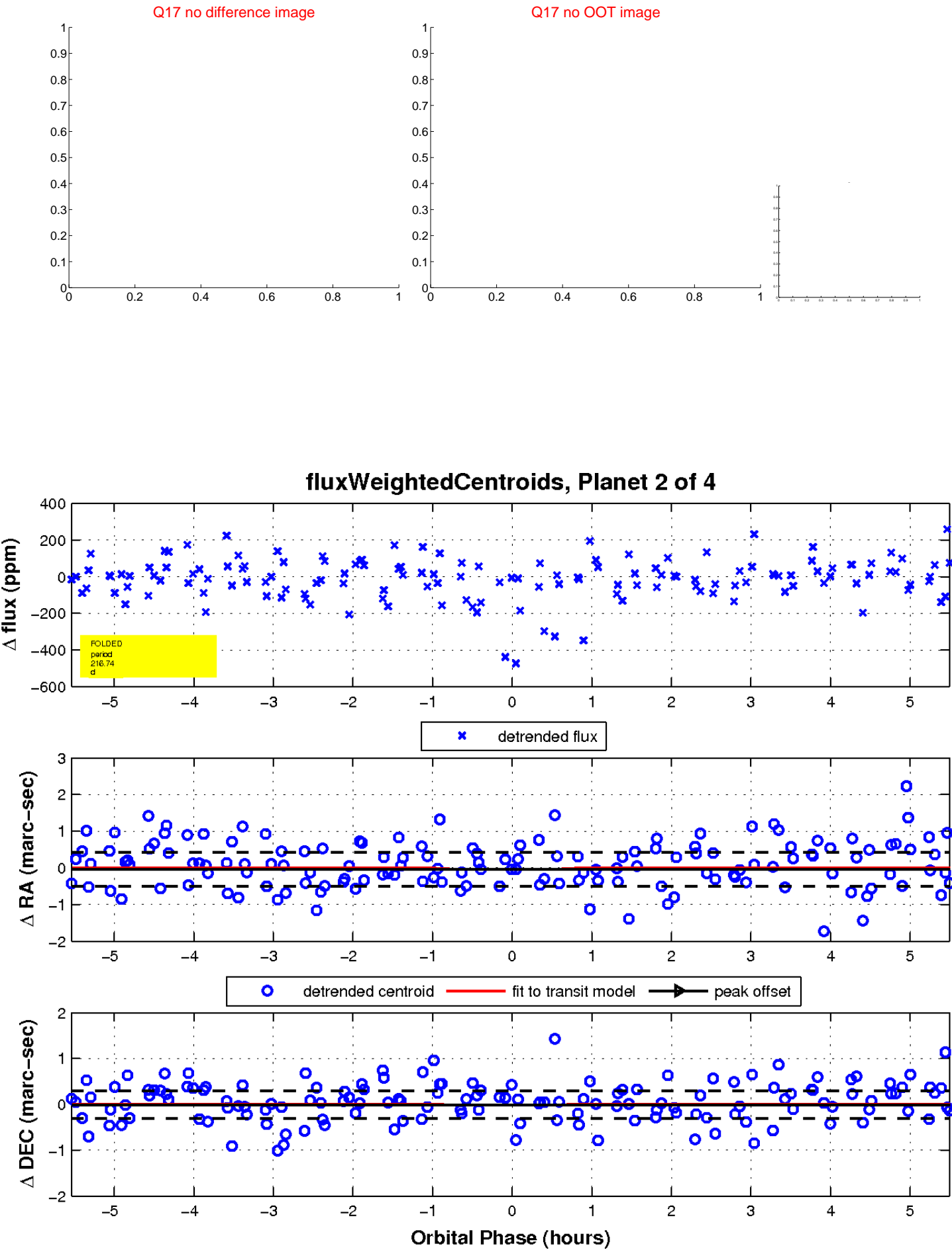
Q16 no difference image



Q16 no OOT image

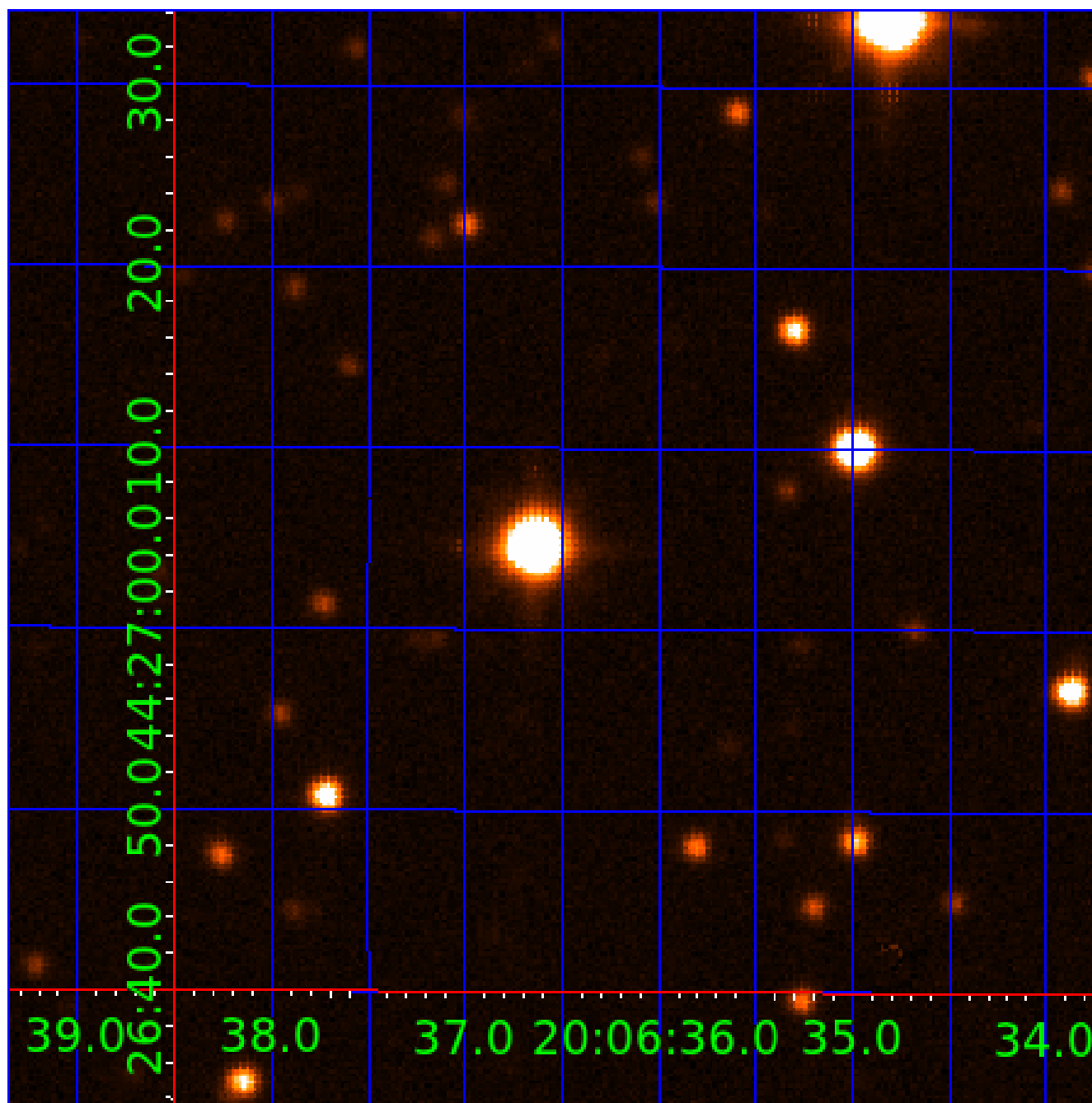


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008463118

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})
008463118-01	OBS	No	4.191929	134.592647	29.6	18.538	13.9	15.7	0.71	4723	0.37	110.07
008463118-02	OBS	No	216.737326	147.902576	253.2	1.847	8.9	7.2	0.71	4723	1.36	0.57
008463118-03	OBS	No	133.114393	241.116426	159.7	4.035	8.7	6.7	0.71	4723	1.04	1.09
008463118-04	OBS	No	164.129374	293.388742	332.0	4.235	8.4	8.0	0.71	4723	1.54	0.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008463118-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
008463118-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

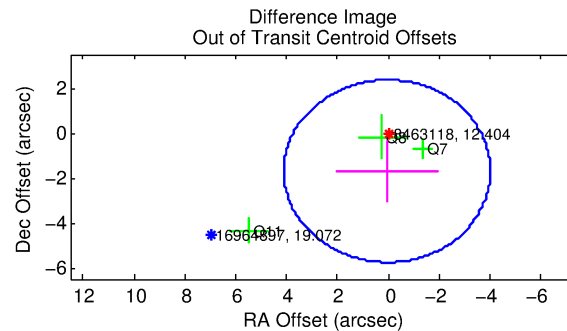
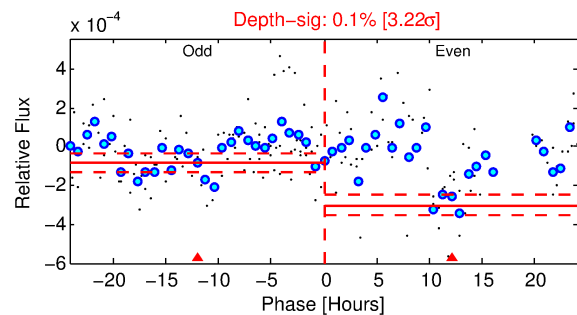
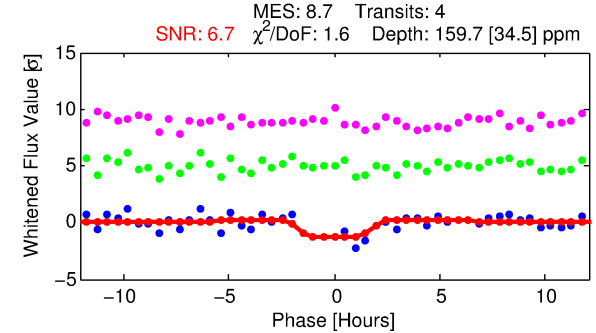
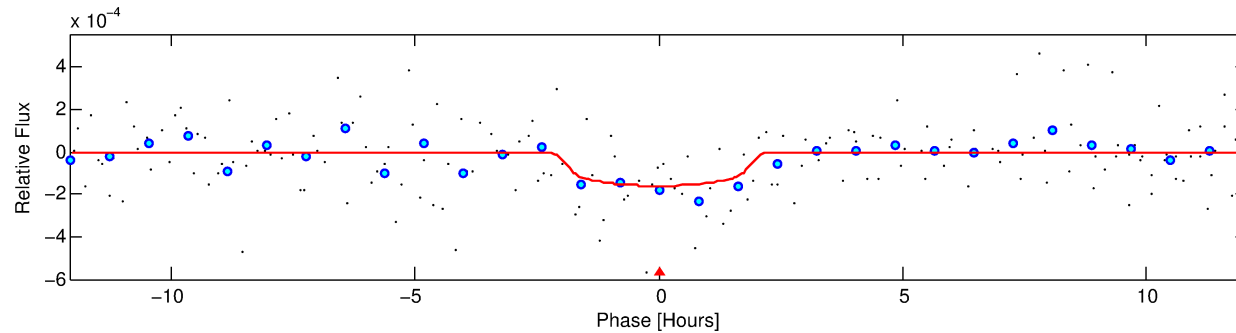
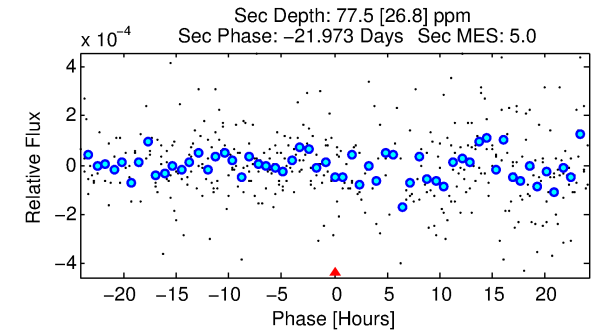
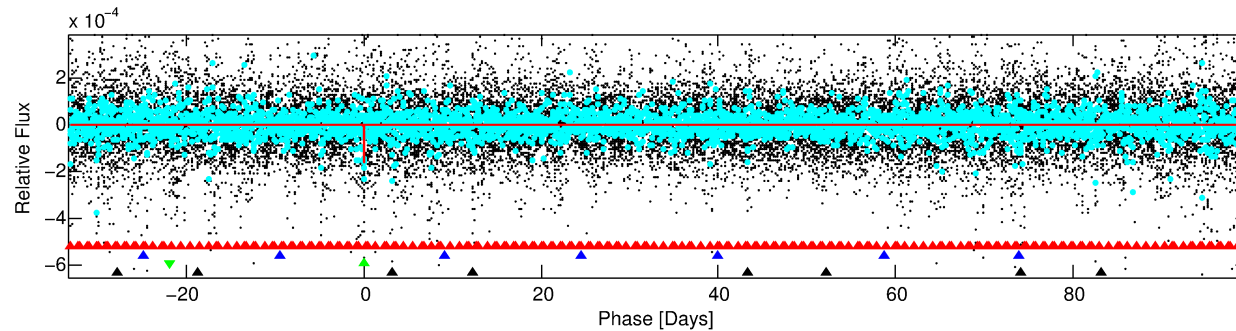
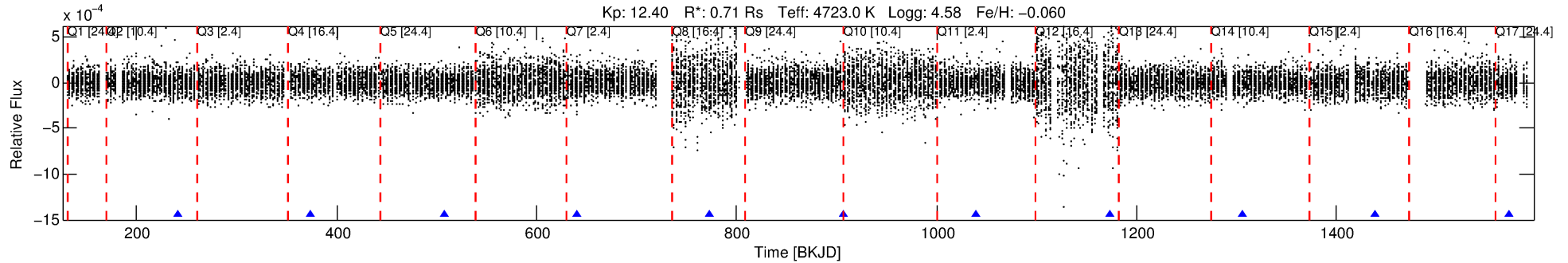
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008463118-03

No Significant Match Found

DV One-Page Summary

KIC: 8463118 Candidate: 3 of 4 Period: 133.114 d



DV Fit Results:

Period = 133.11439 [0.00388] d
Epoch = 241.1164 [0.0128] BKJD
Rp/R* = 0.0133 [0.0256]
a/R* = 144.89 [972.75]
b = 0.83 [2.53]
Seff = 1.09 [0.19]
Teff = 261 [11] K
Rp = 1.04 [1.99] Re
a = 0.4557 [0.0331] AU
Ag = 8194.00 [31537.96] [0.26σ]
Teffp = 3837 [3693] K [0.97σ]

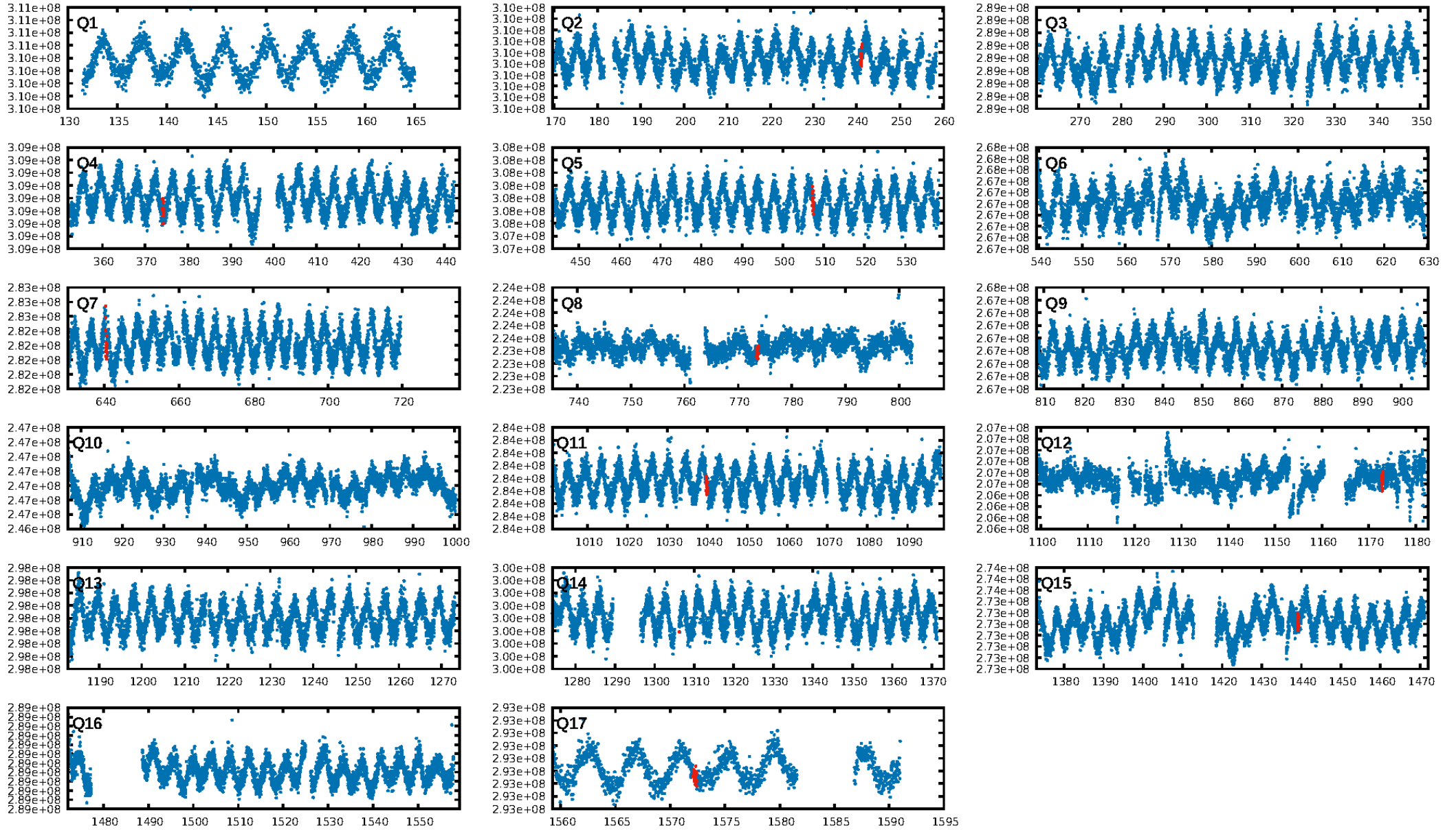
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [163.08σ]
LongPeriod-sig: 100.0% [127.25σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 10.4%
Bootstrap-pfa: 8.45e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.8721
Centroid-sig: 10.9%
Centroid-so: 3.184 arcsec [1.83σ]
OotOffset-rm: 1.701 arcsec [1.26σ]
KicOffset-rm: 1.870 arcsec [0.58σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.56 [5/9]

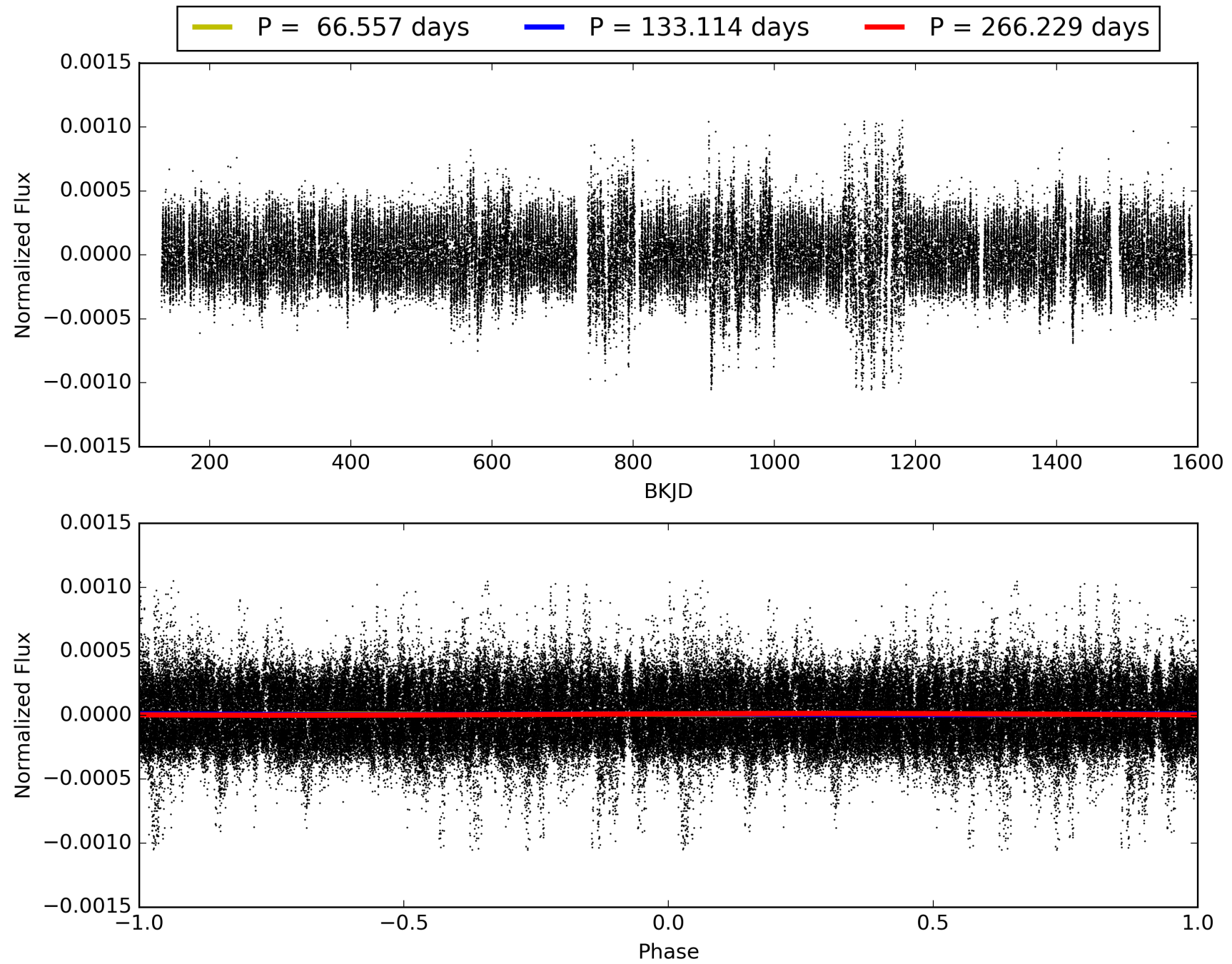
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:47:24 Z

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

TCE 008463118-03, PDC Light Curves

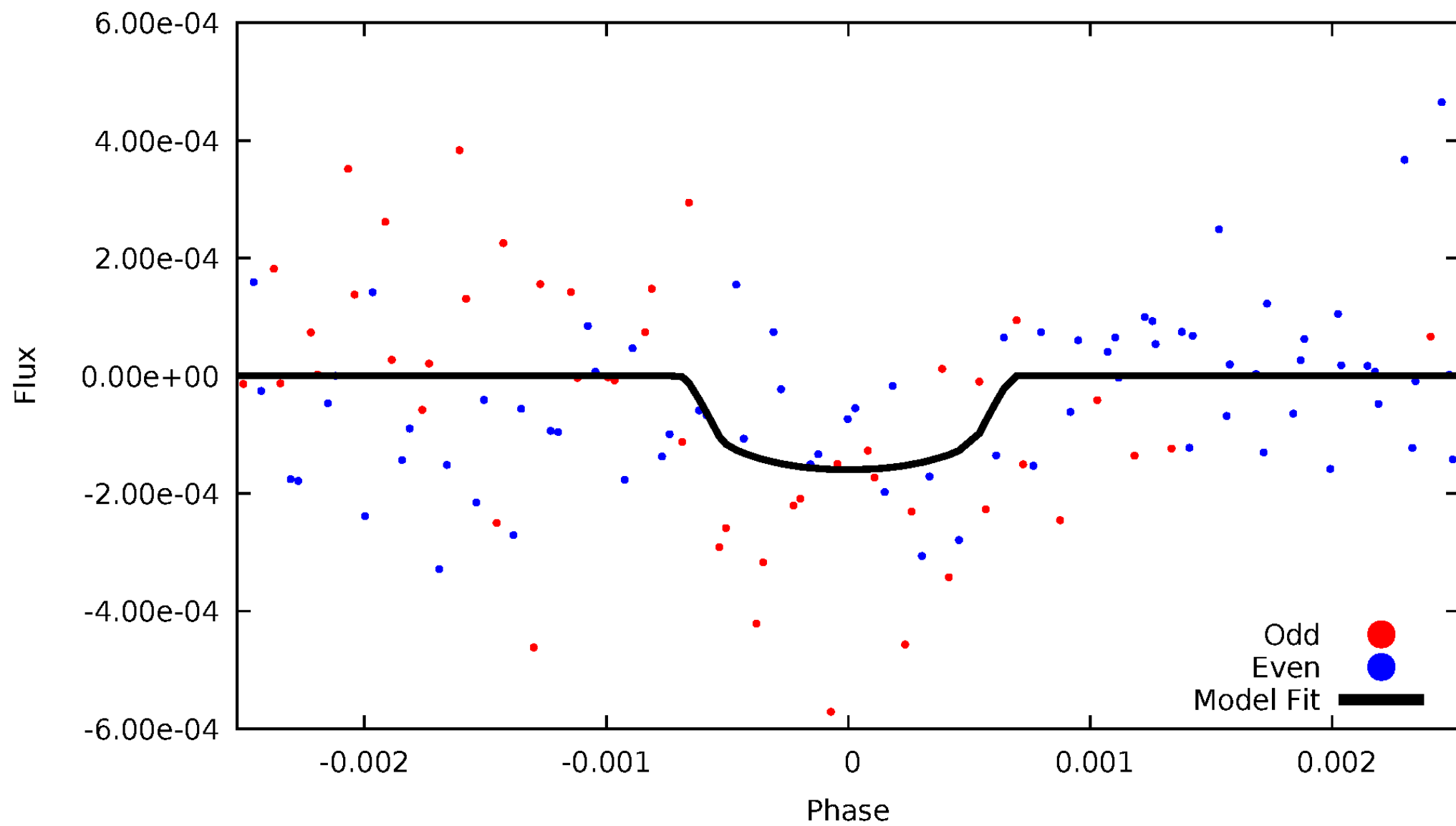


TCE 008463118-03



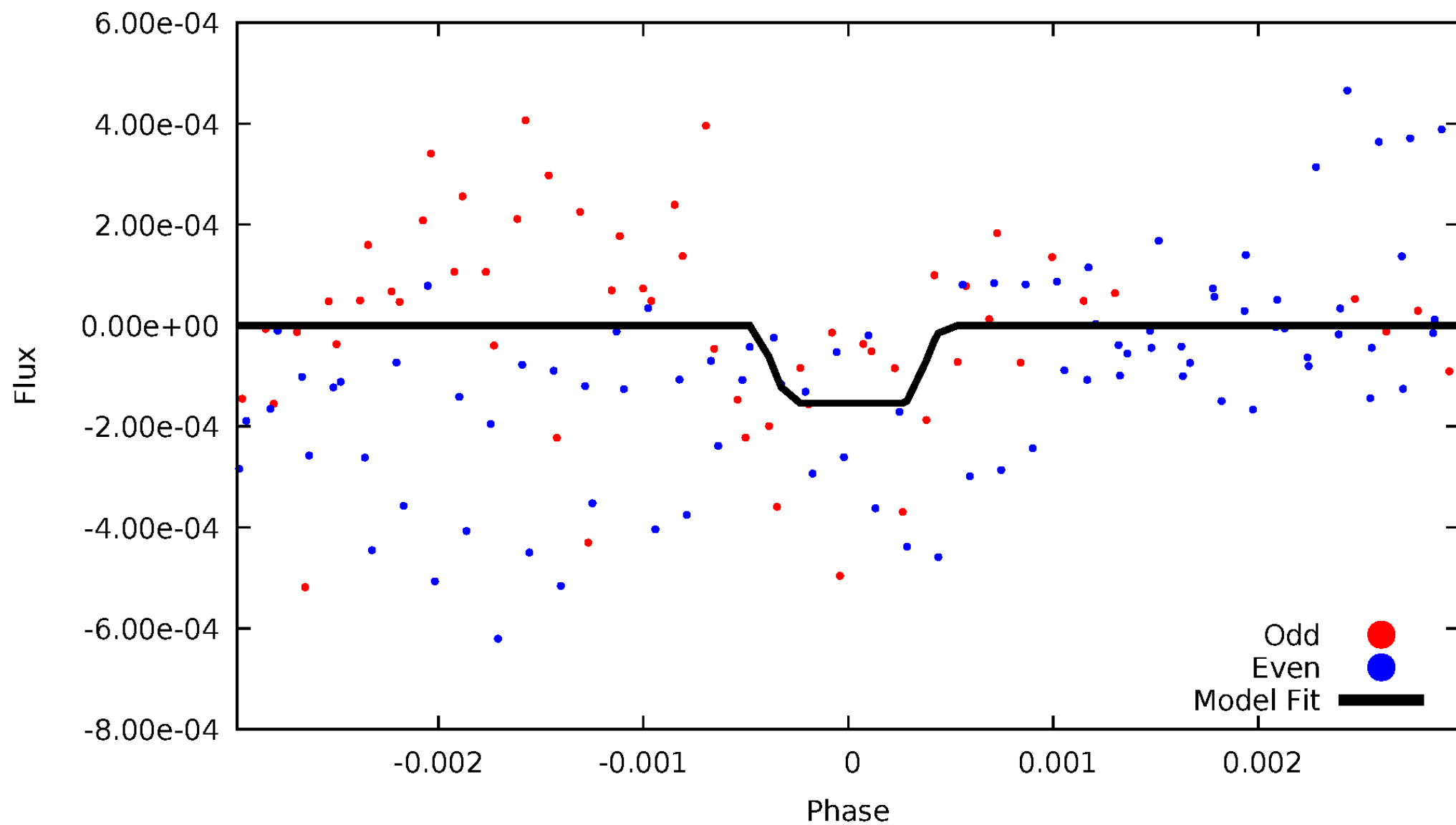
DV Odd/Even

TCE 008463118-03



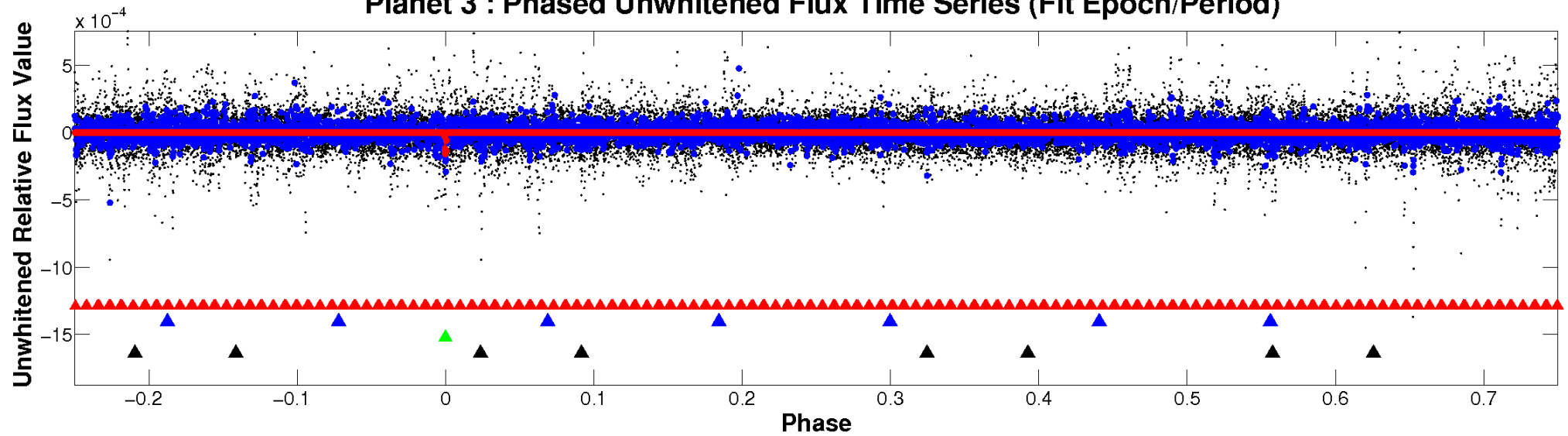
ALT Odd/Even

TCE 008463118-03

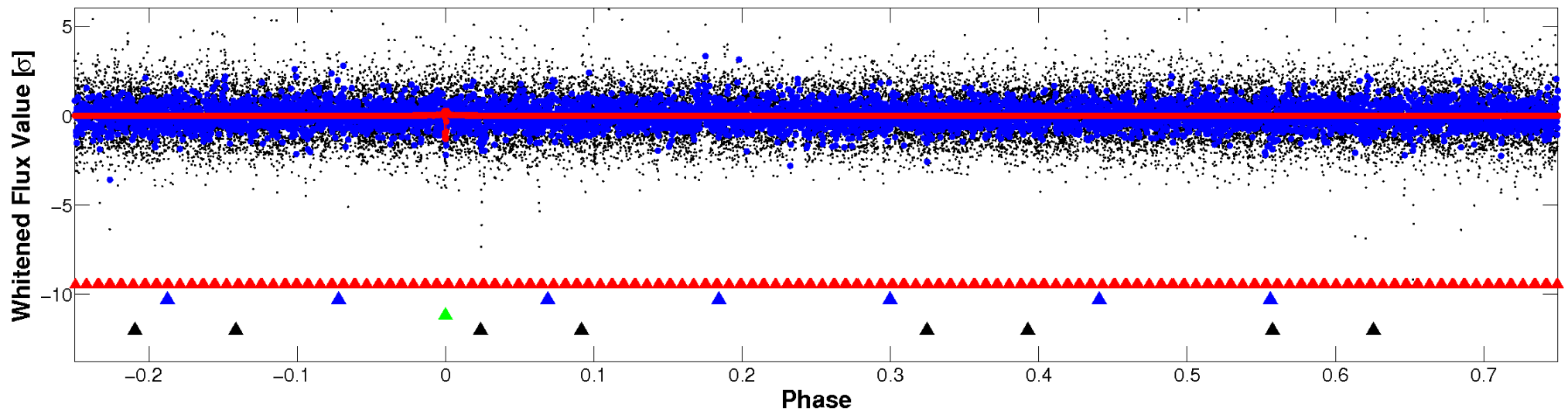


Non-Whitened Vs. Whitened Light Curve

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

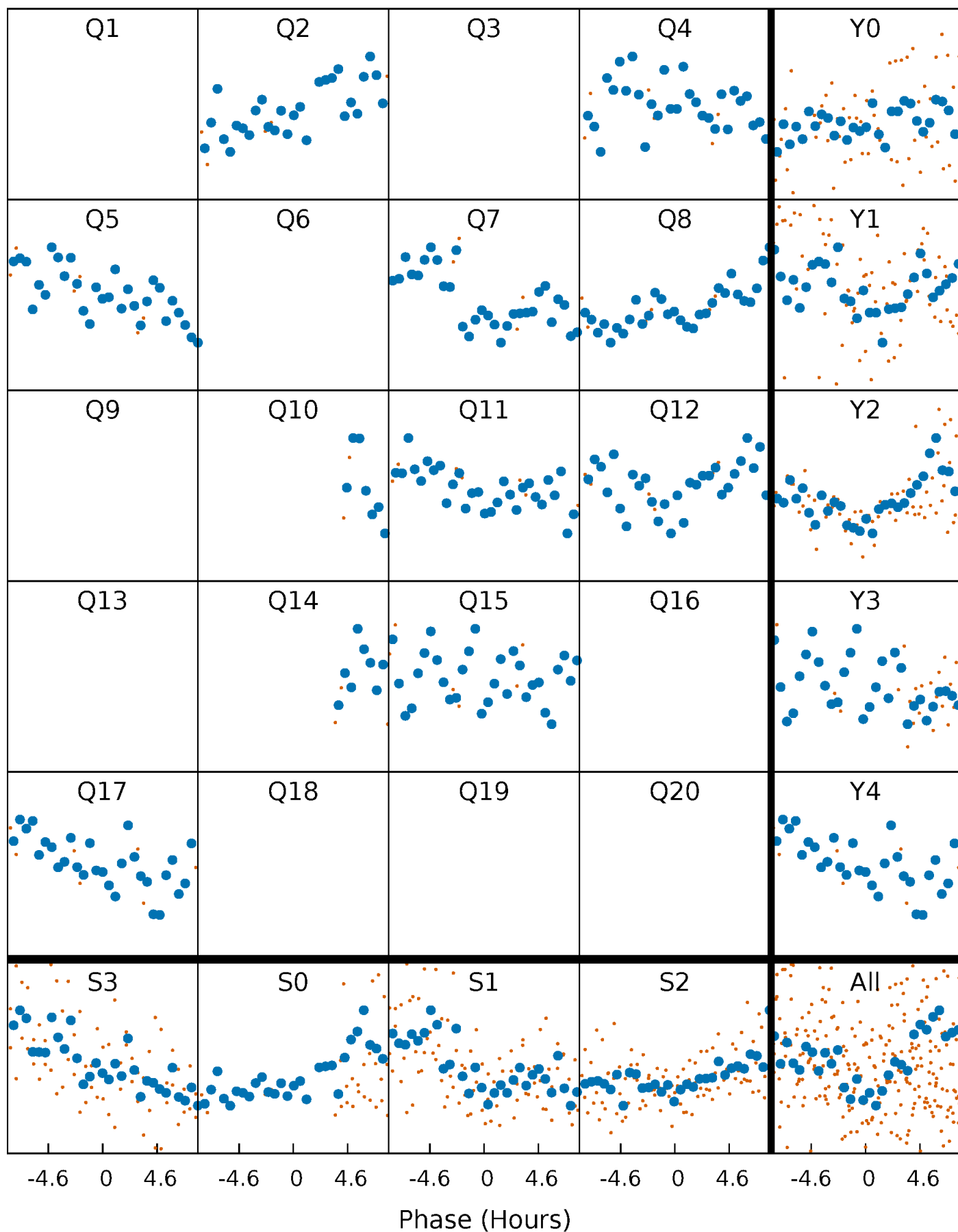


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



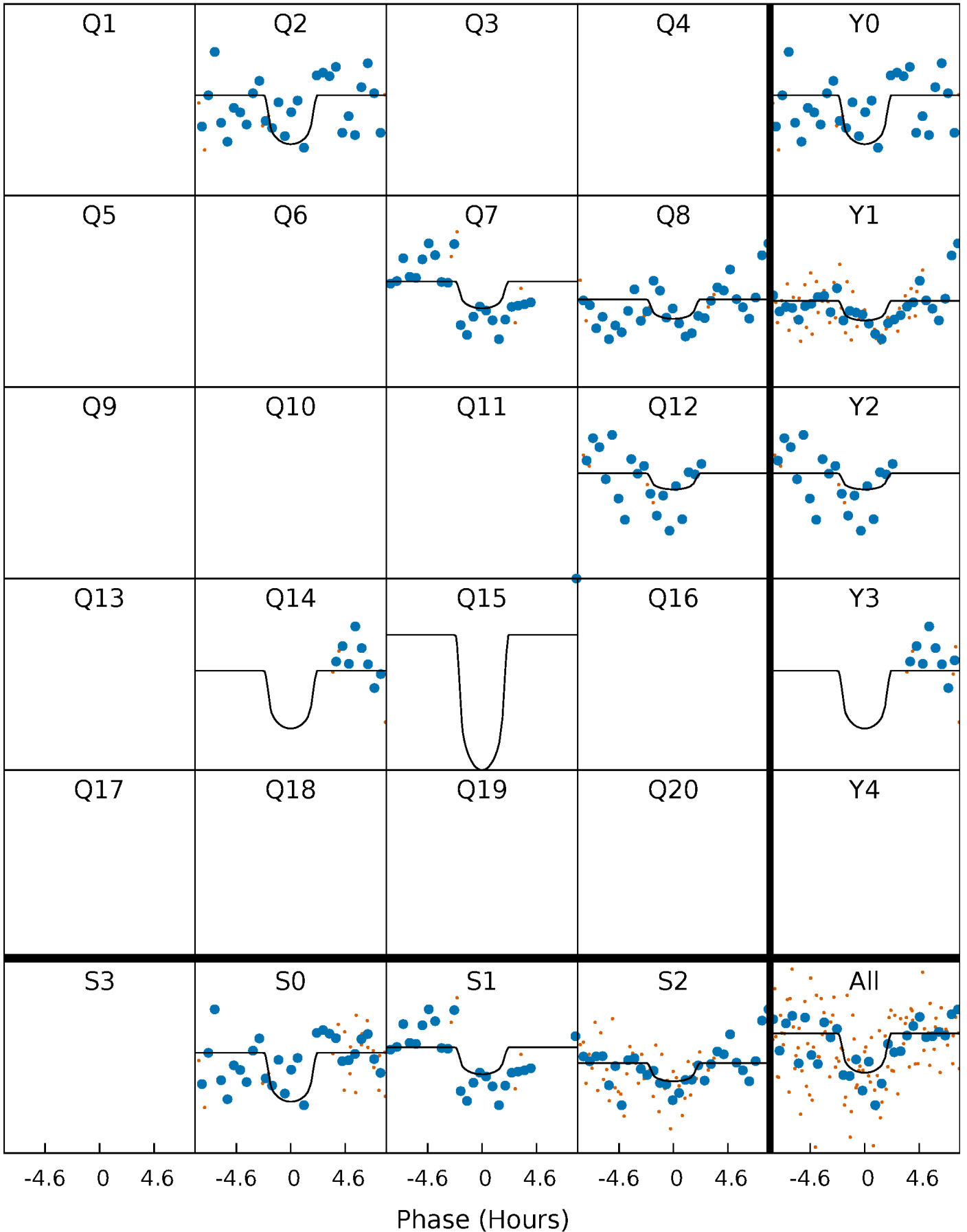
PDC Quarter-Phased Transit Curves

TCE 008463118-03 P=133.114393 Days $T_0=241.116426$ (BKJD)



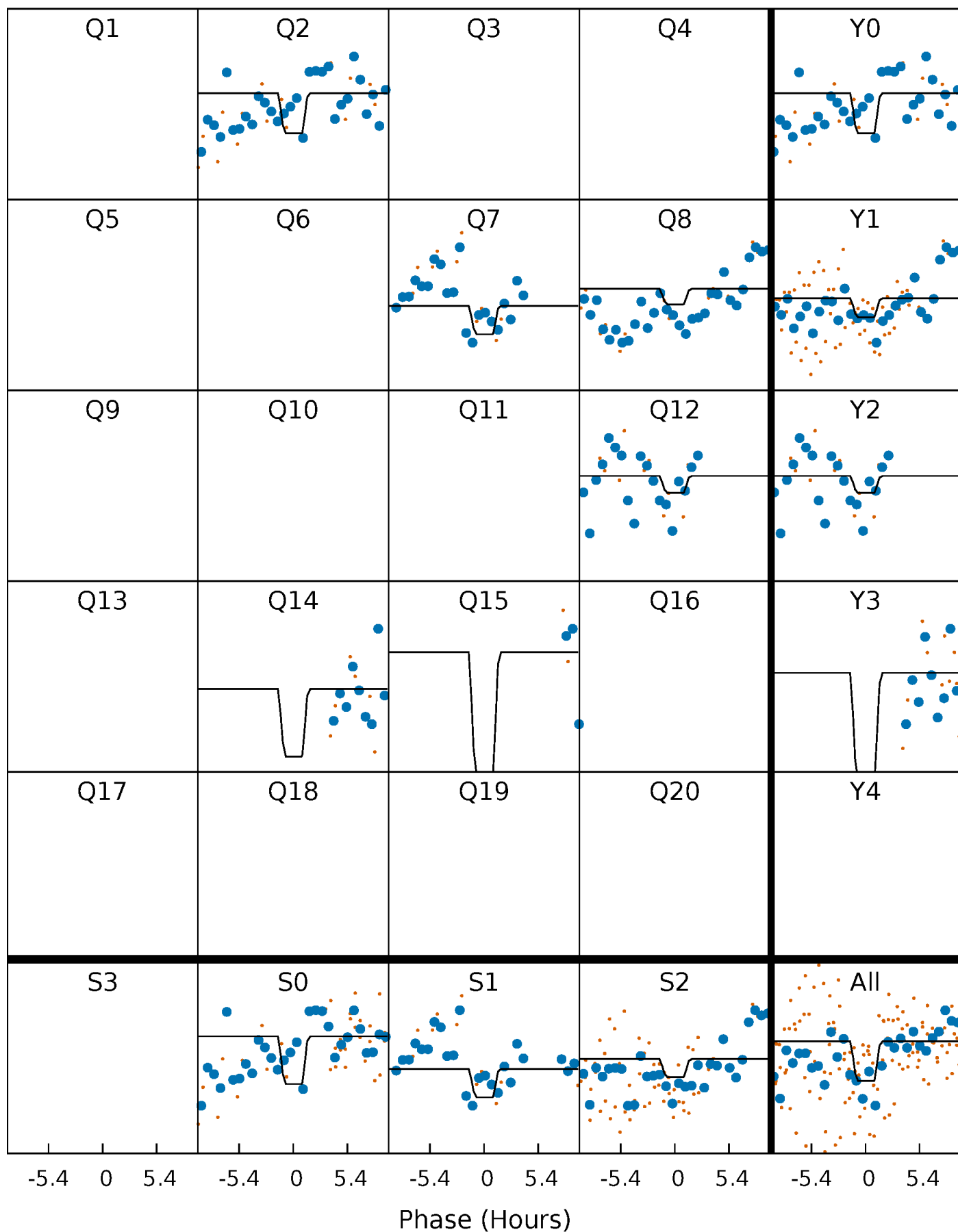
DV Quarter-Phased Transit Curves

TCE 008463118-03 $P=133.114393$ Days $T_0=241.116426$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

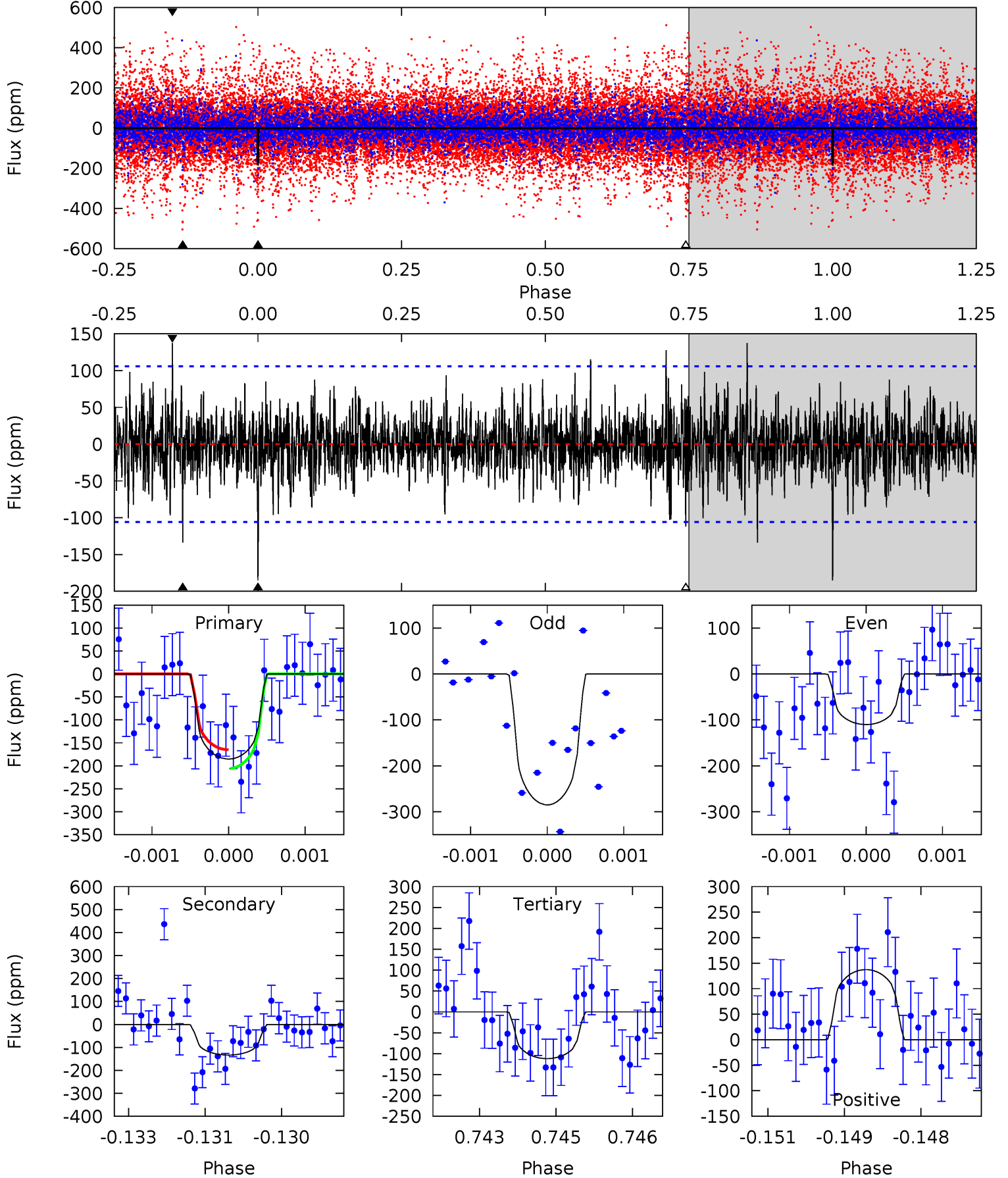
TCE 008463118-03 P=133.112174 Days $T_0=241.127741$ (BKJD)



DV Model-Shift Uniqueness Test

008463118-03, P = 133.114393 Days, E = 108.002033 Days

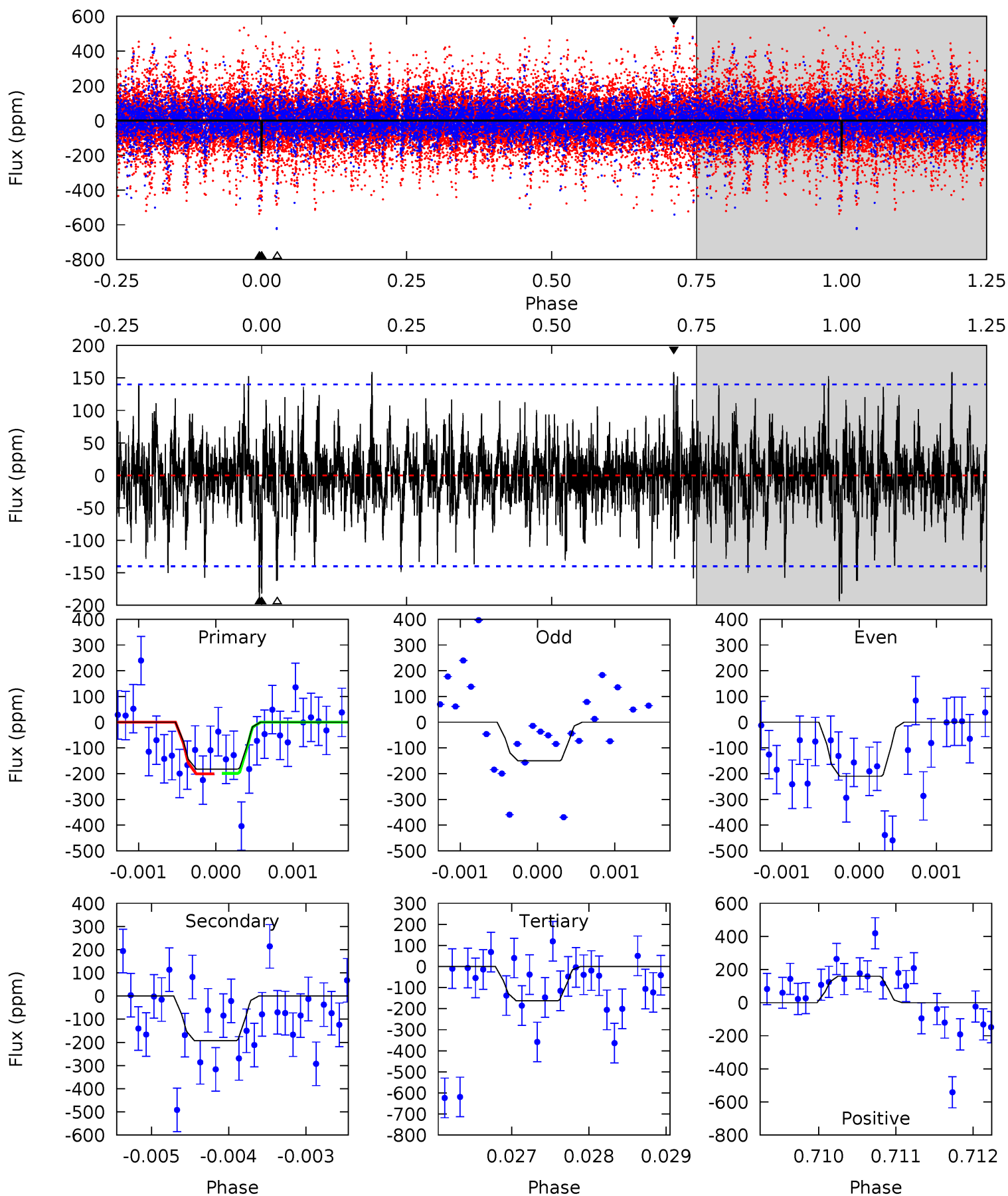
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.45	6.81	5.71	7.01	5.39	3.20	1.47	3.74	2.44	1.10	-0.20	4.44	1.01	0.43	1.05



Alt Model-Shift Uniqueness Test

008463118-03, P = 133.112174 Days, E = 108.015567 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.10	7.55	6.34	6.22	5.47	3.31	1.55	0.77	0.89	1.21	1.33	1.08	1.04	0.45	0.03



Stellar Parameters For KIC 008463118

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4723^{+167}_{-167}	$4.583^{+0.052}_{-0.032}$	$-0.060^{+0.300}_{-0.300}$	$0.714^{+0.052}_{-0.065}$	$0.712^{+0.079}_{-0.058}$	$2.754^{+0.635}_{-0.356}$
	+4%/-4%	+1%/-1%	+500%/-500%	+7%/-9%	+11%/-8%	+23%/-13%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008463118-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-134 ± 20	$1.81^{+1.65}_{-1.23}$	362^{+15}_{-14}	3652^{+1963}_{-669}	4679^{+40322}_{-3473}
Alt.	-193 ± 26	$1.73^{+1.66}_{-1.13}$	363^{+15}_{-14}	3946^{+2152}_{-782}	7652^{+56872}_{-5768}

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 $A_{obs} \gg 1.0$

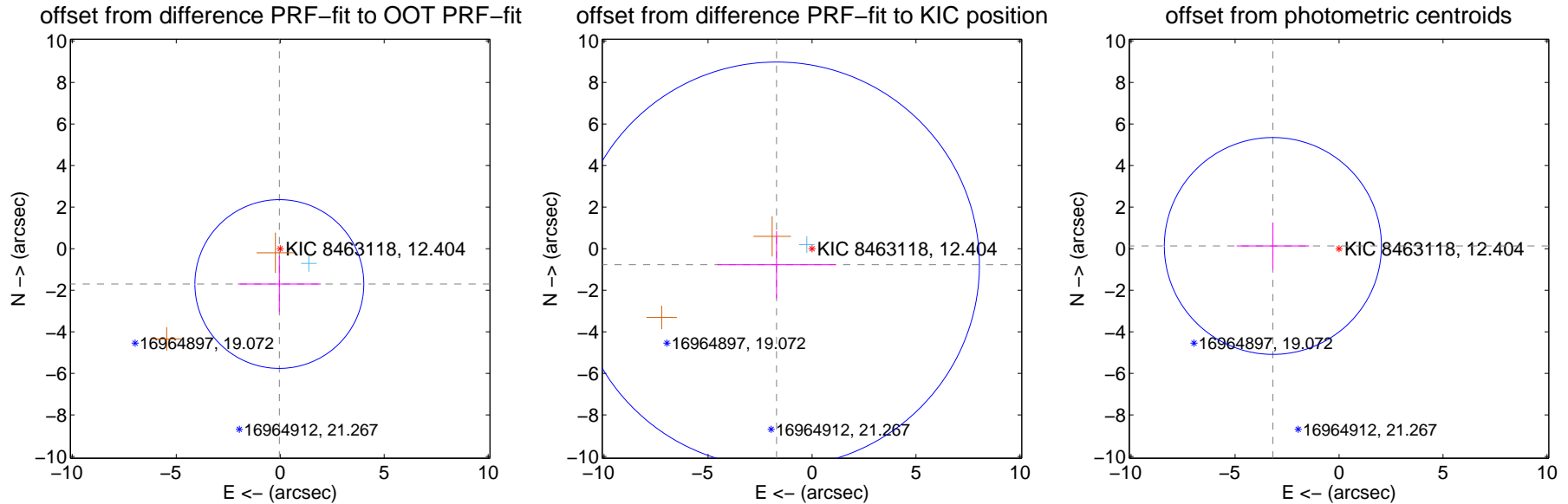
DV Centroid Data

Supplemental centroid analysis for 008463118-03. Kepler magnitude: 12.40. Transit SNR 6.69

There are 1 quarters with good PRF difference image offsets

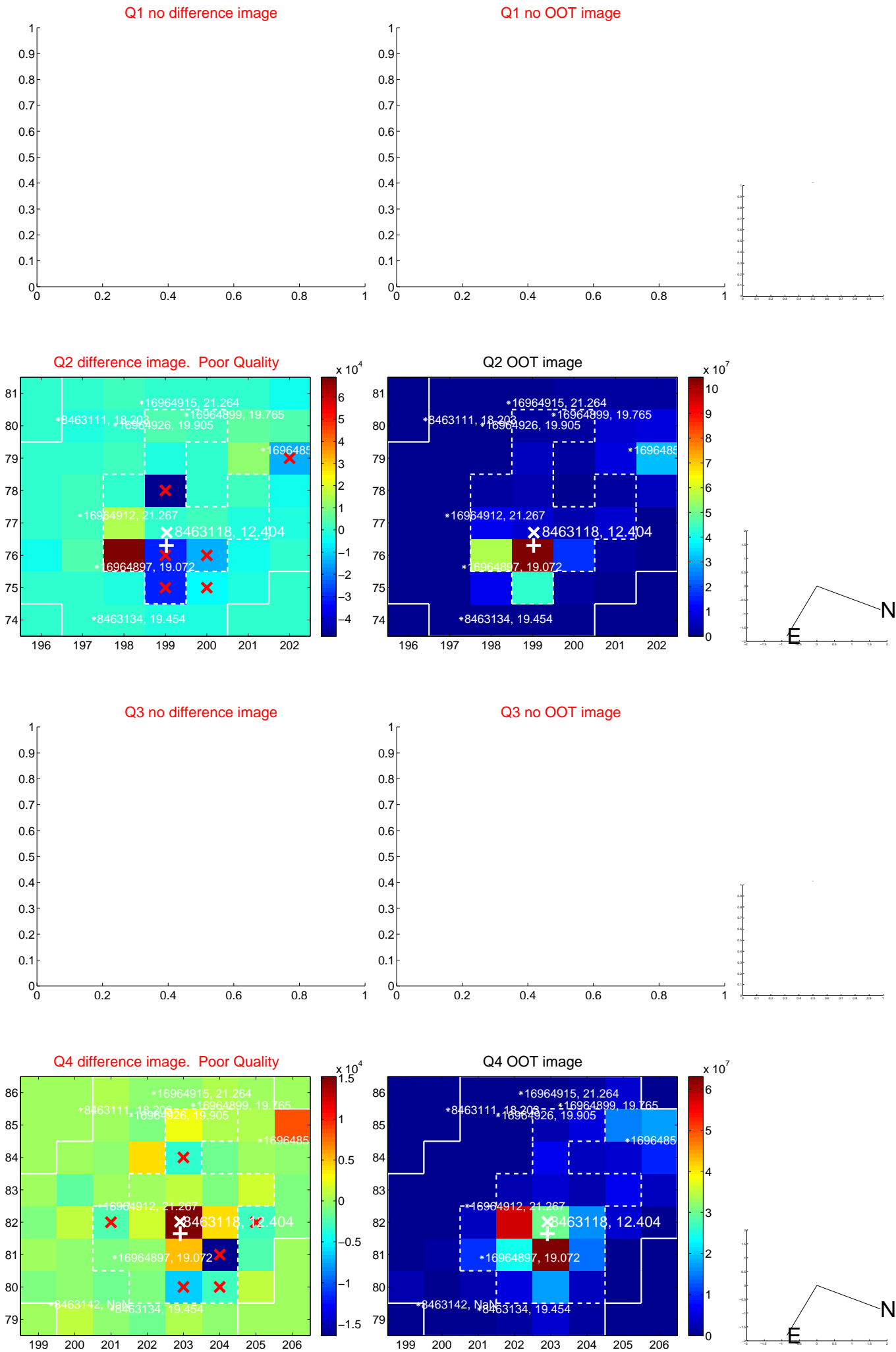
The OOT PRF centroid is offset from the target star catalog position by about 2.05 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.701 ± 1.354	1.26	0.041 ± 1.995	-1.701 ± 1.353
PRF-fit source offset from KIC position	1.870 ± 3.251	0.58	1.704 ± 2.854	-0.769 ± 1.615
photometric centroid source offset	3.18 ± 1.74	1.83	3.18 ± 1.74	0.13 ± 1.13

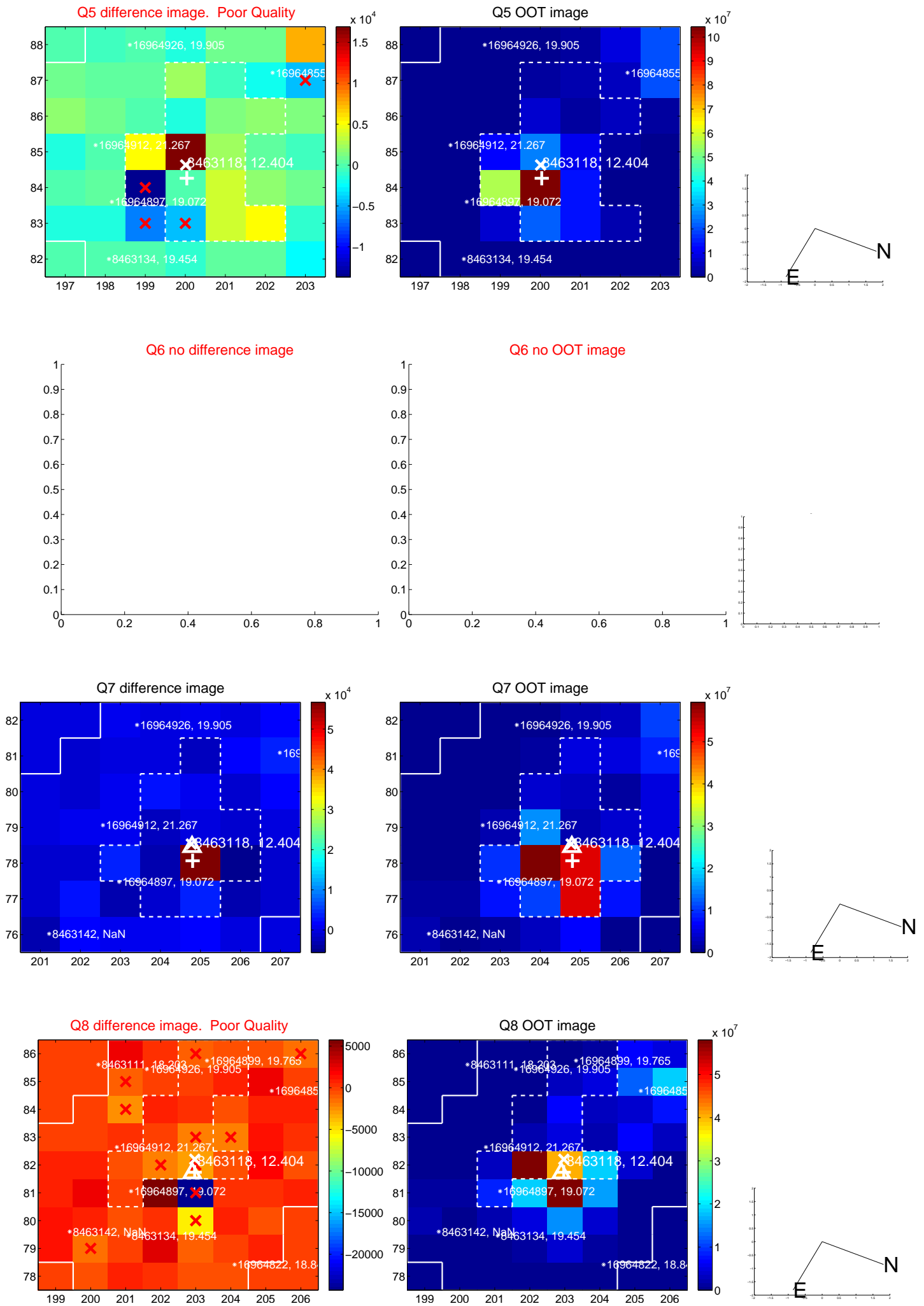


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

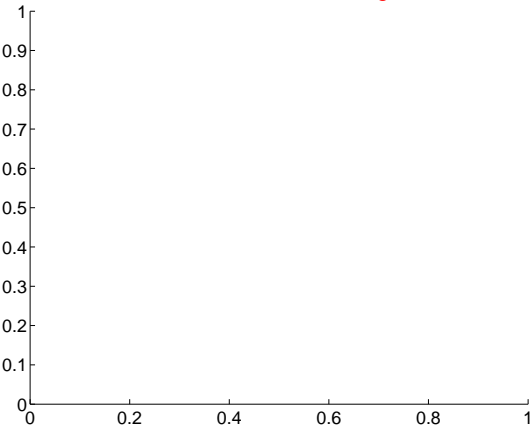
Q9 no difference image



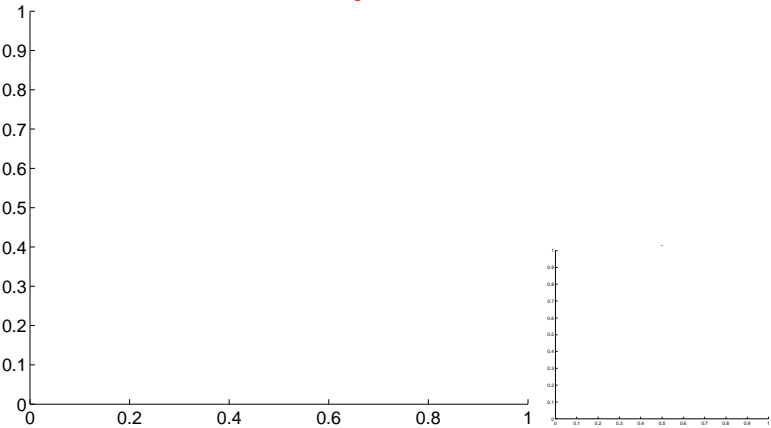
Q9 no OOT image



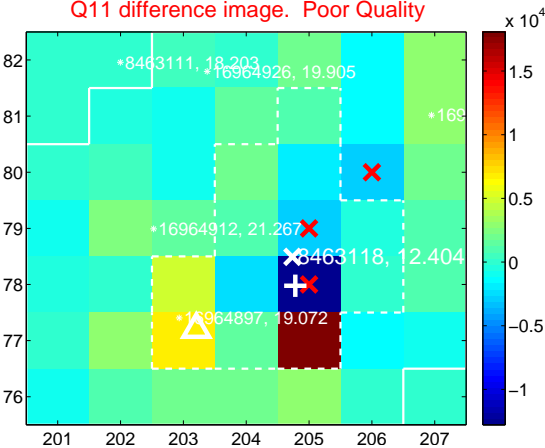
Q10 no difference image



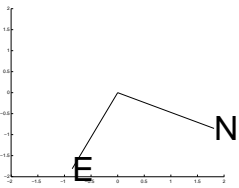
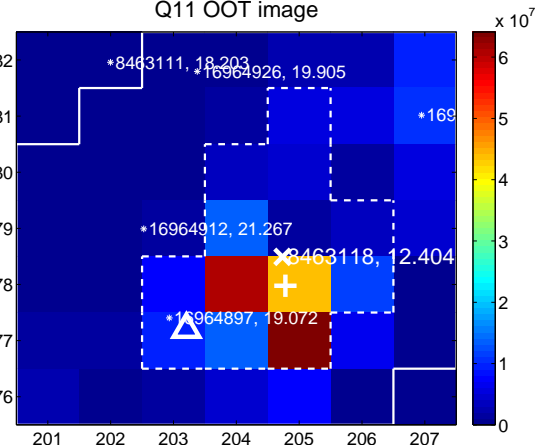
Q10 no OOT image



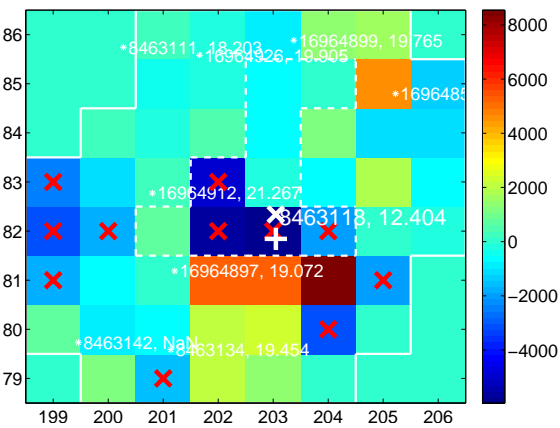
Q11 difference image. Poor Quality



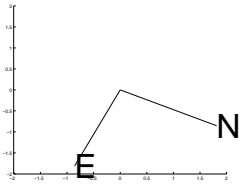
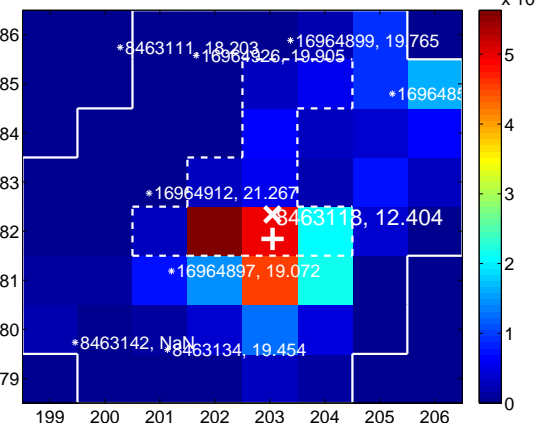
Q11 OOT image



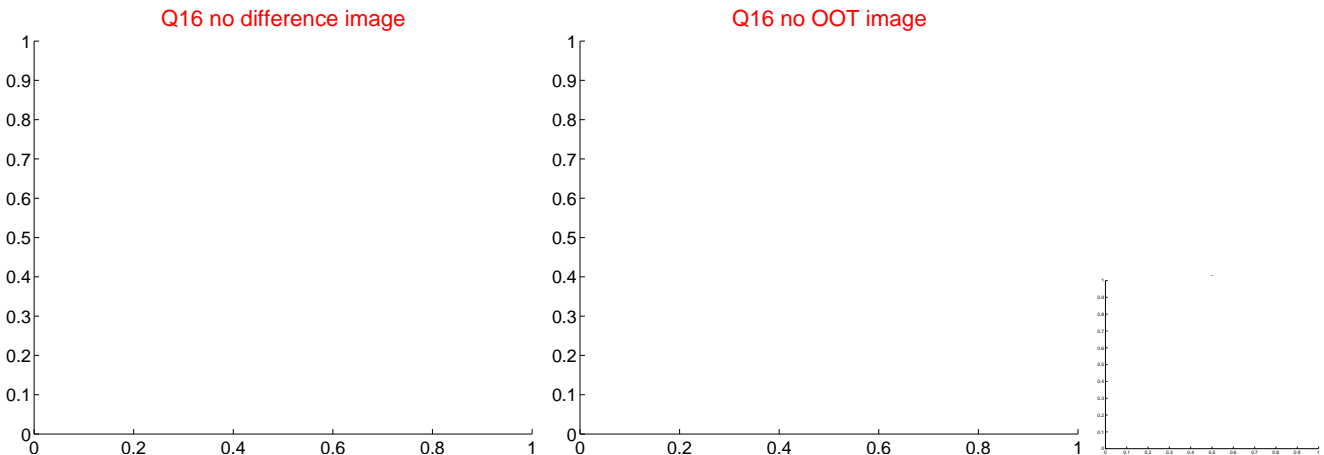
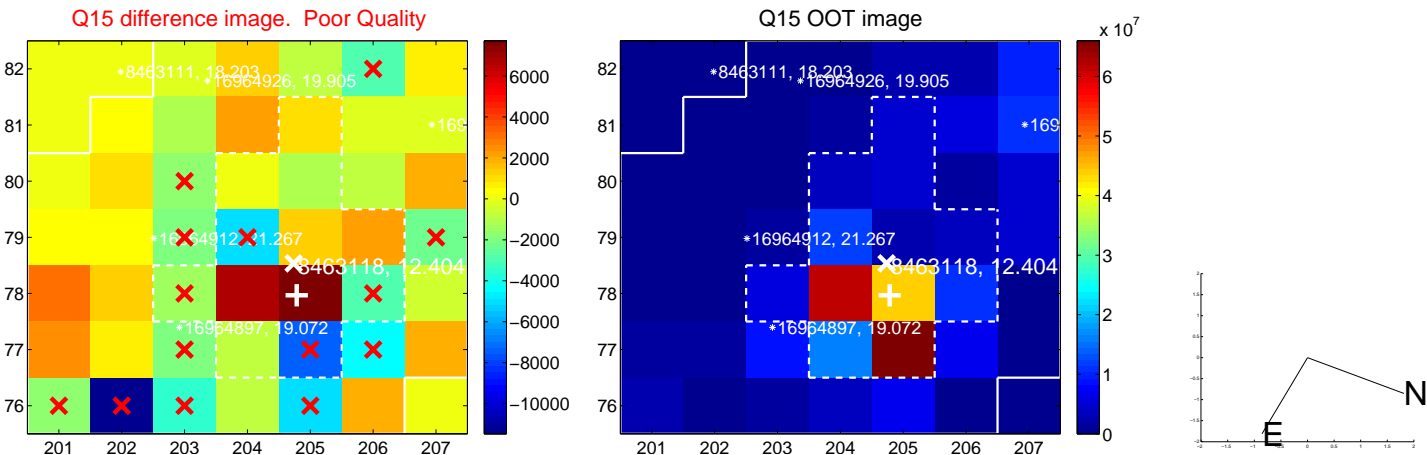
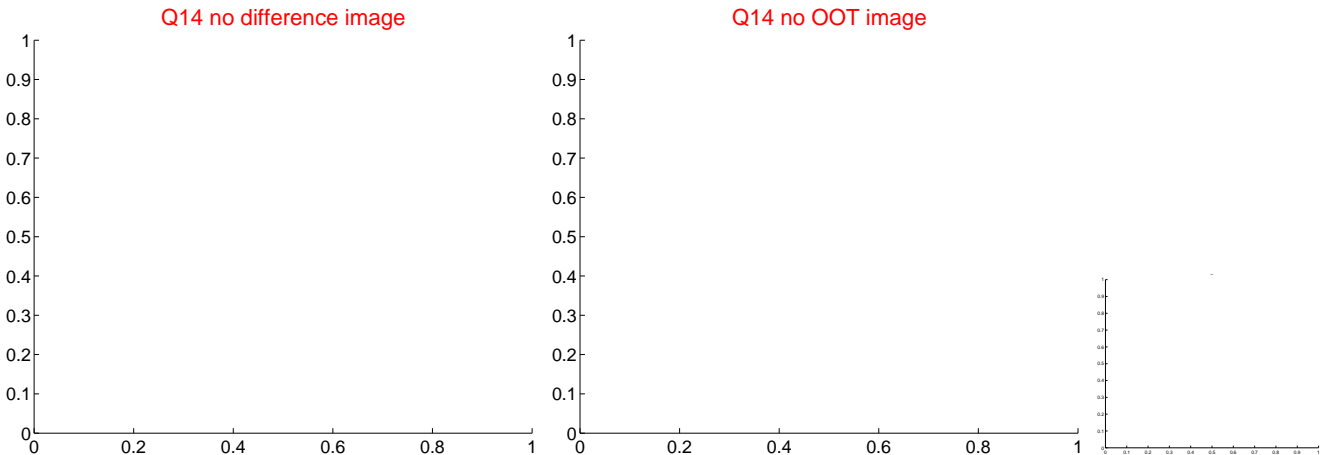
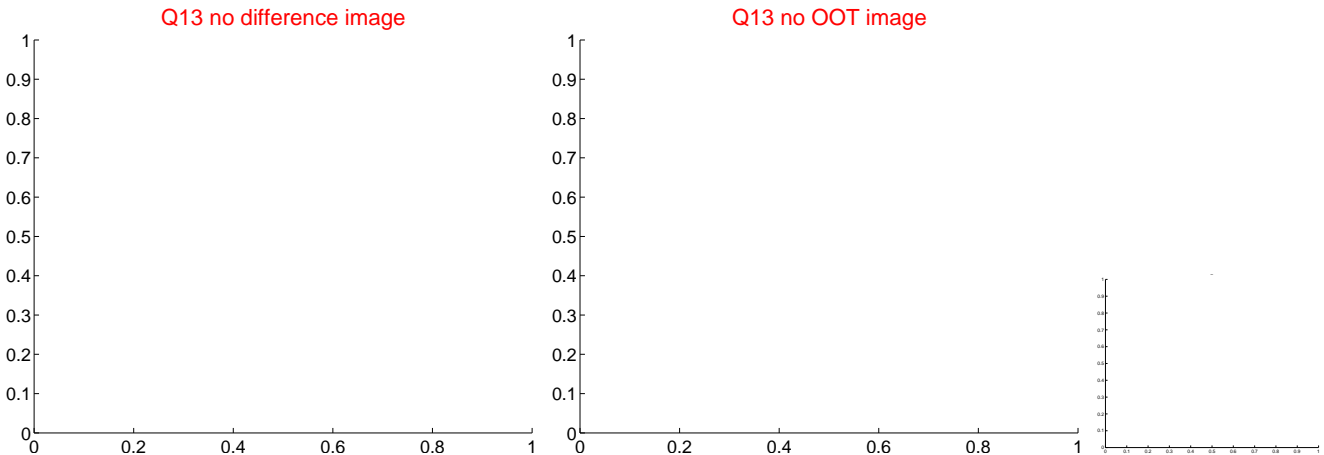
Q12 difference image. Poor Quality



Q12 OOT image

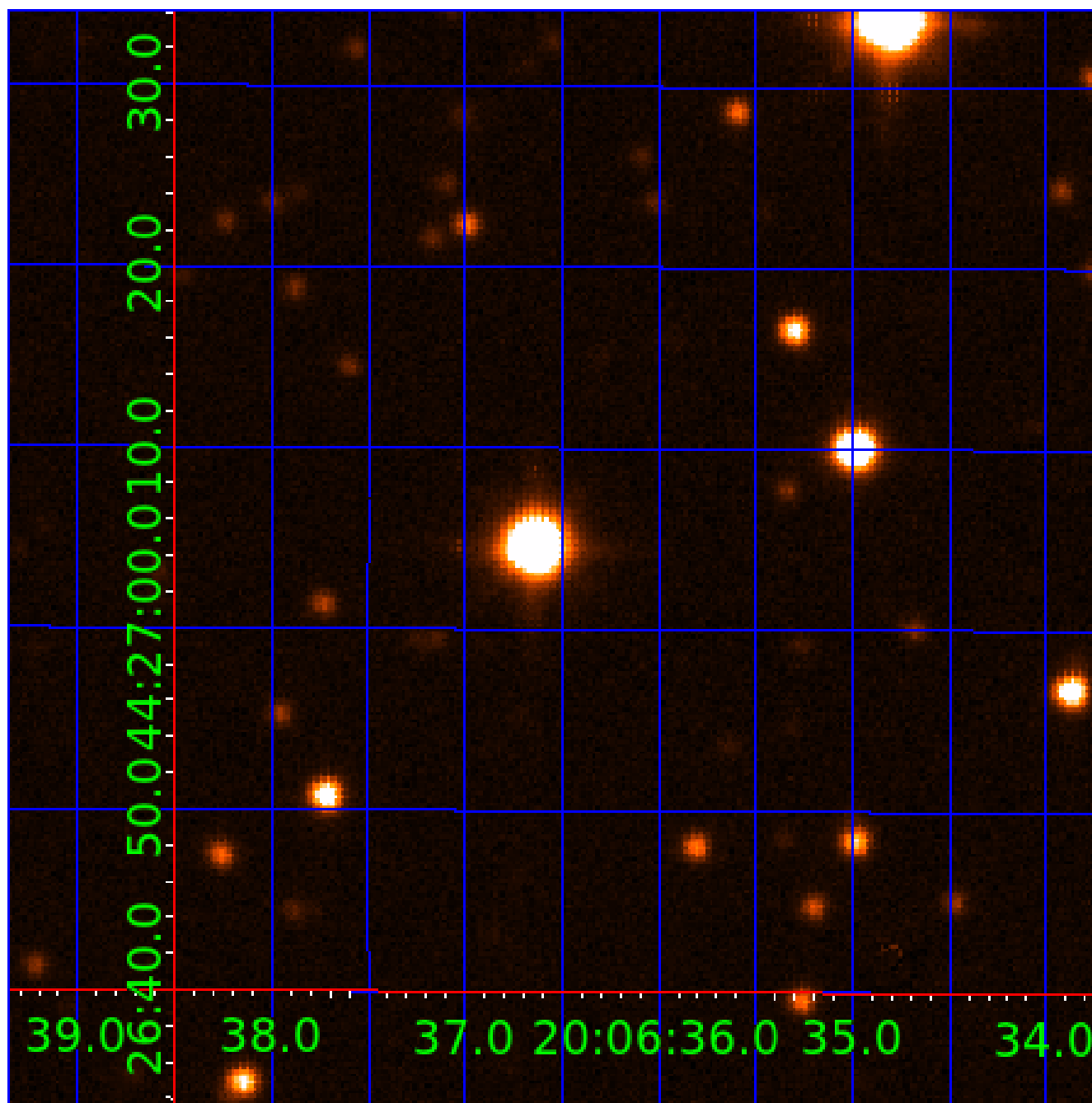


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



UKIRT Image

Declination



KIC 008463118

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})
008463118-01	OBS	No	4.191929	134.592647	29.6	18.538	13.9	15.7	0.71	4723	0.37	110.07
008463118-02	OBS	No	216.737326	147.902576	253.2	1.847	8.9	7.2	0.71	4723	1.36	0.57
008463118-03	OBS	No	133.114393	241.116426	159.7	4.035	8.7	6.7	0.71	4723	1.04	1.09
008463118-04	OBS	No	164.129374	293.388742	332.0	4.235	8.4	8.0	0.71	4723	1.54	0.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008463118-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
008463118-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008463118-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

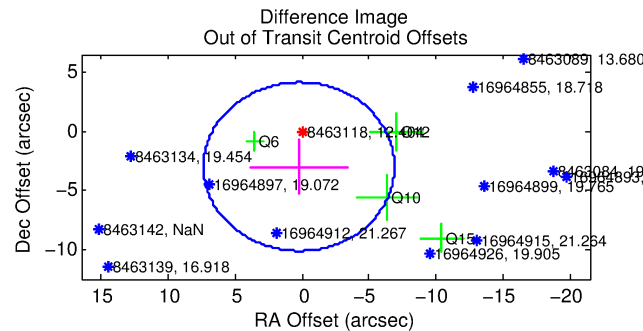
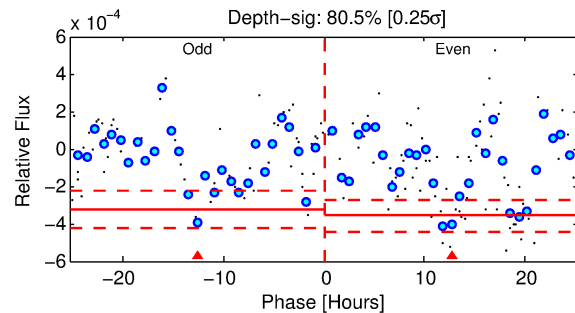
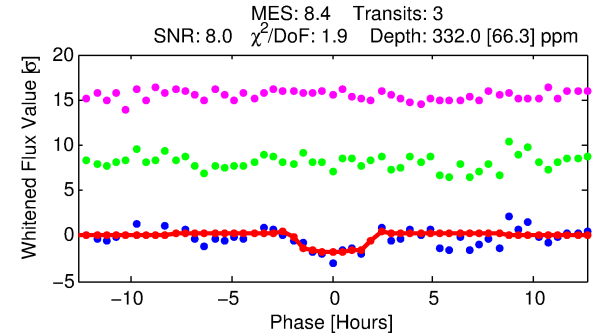
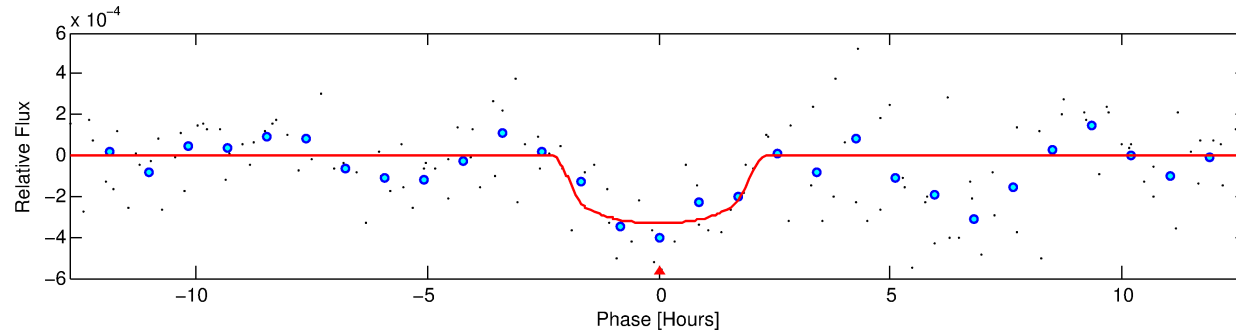
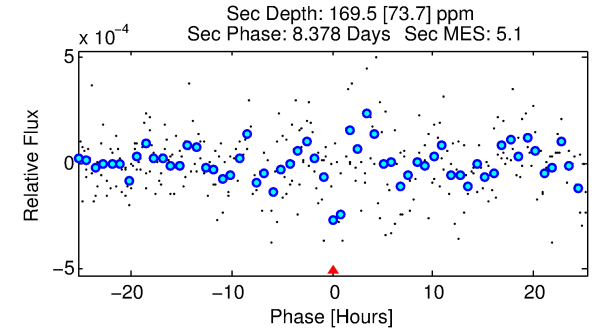
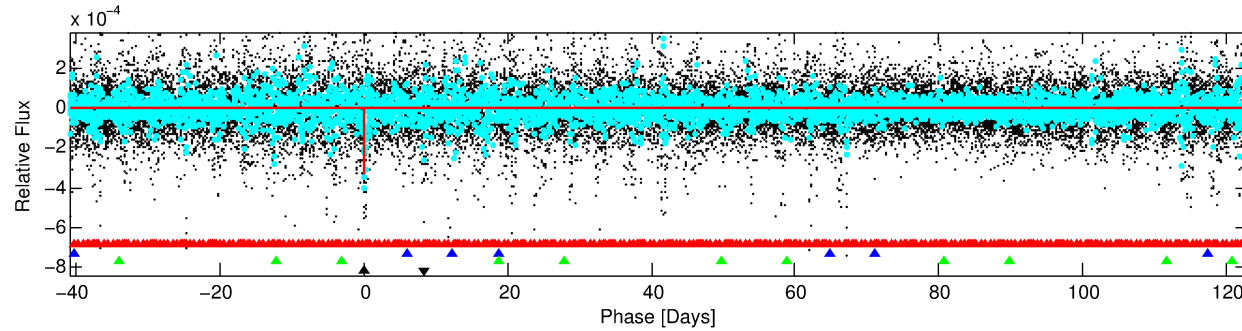
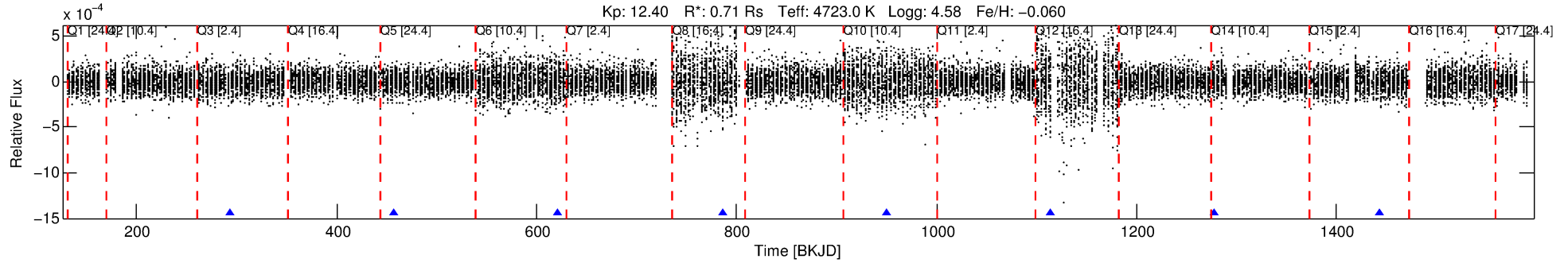
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008463118-04

No Significant Match Found

DV One-Page Summary

KIC: 8463118 Candidate: 4 of 4 Period: 164.129 d



DV Fit Results:

Period = 164.12937 [0.00793] d
Epoch = 293.3887 [0.0327] BKJD
Rp/R* = 0.0197 [0.0294]
a/R* = 160.19 [875.17]
b = 0.86 [1.64]
Seff = 0.83 [0.14]
Teq = 243 [11] K
Rp = 1.54 [2.30] Re
a = 0.5239 [0.0381] AU
Ag = 10832.42 [32667.82] [0.33 σ]
Teffp = 3837 [2894] K [1.24 σ]

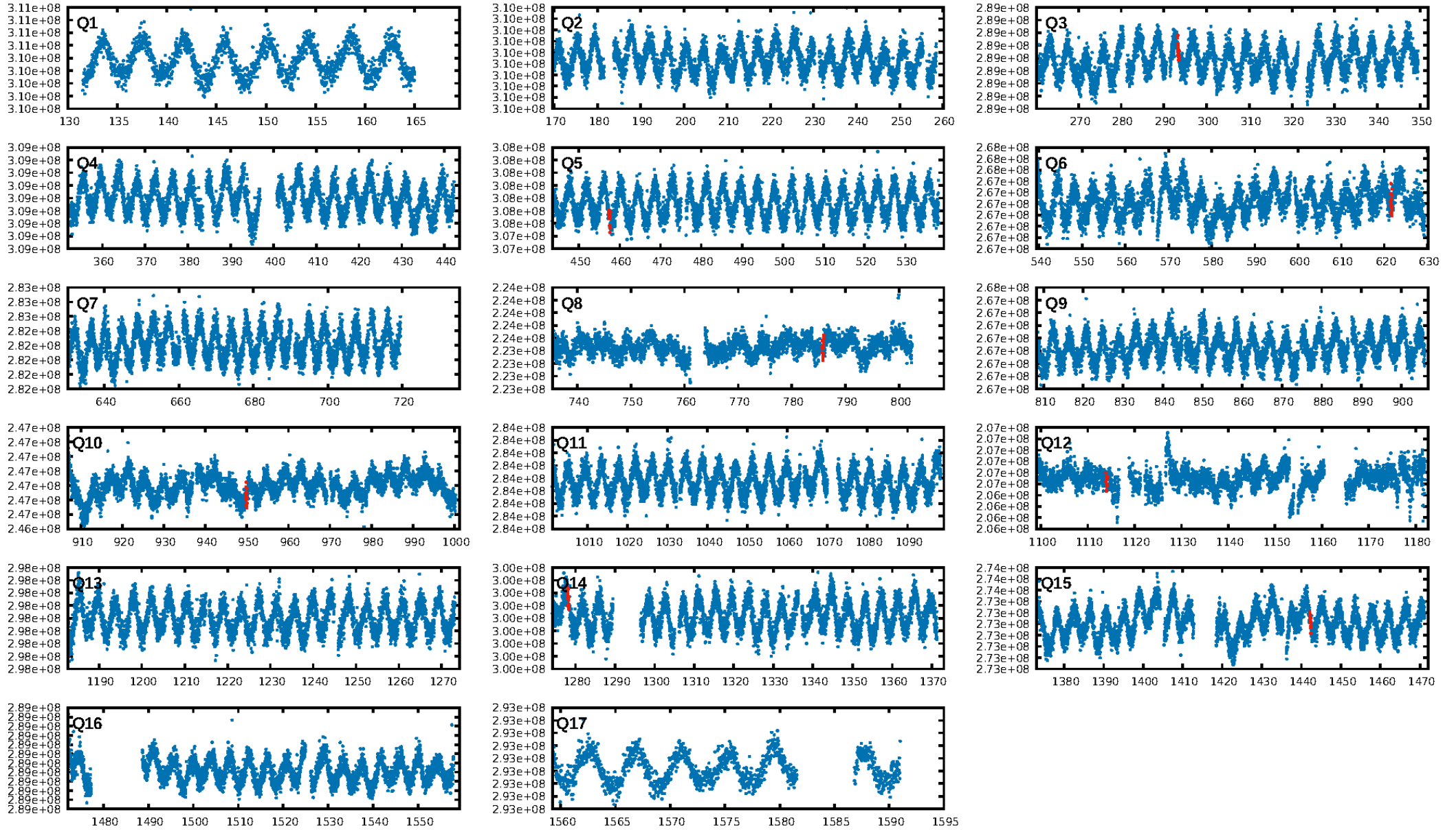
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [127.25 σ]
LongPeriod-sig: 100.0% [273.30 σ]
ModelChiSquare2-sig: 39.8%
ModelChiSquareGof-sig: 78.2%
Bootstrap-pfa: 7.70e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -7.979
Centroid-sig: 3.4%
Centroid-so: 0.478 arcsec [0.57 σ]
OotOffset-rm: 3.012 arcsec [1.27 σ]
OotOffset-st: 2/1/1/0 [4]
KicOffset-rm: 2.898 arcsec [1.01 σ]
KicOffset-st: 2/1/1/0 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.57 [4/7]

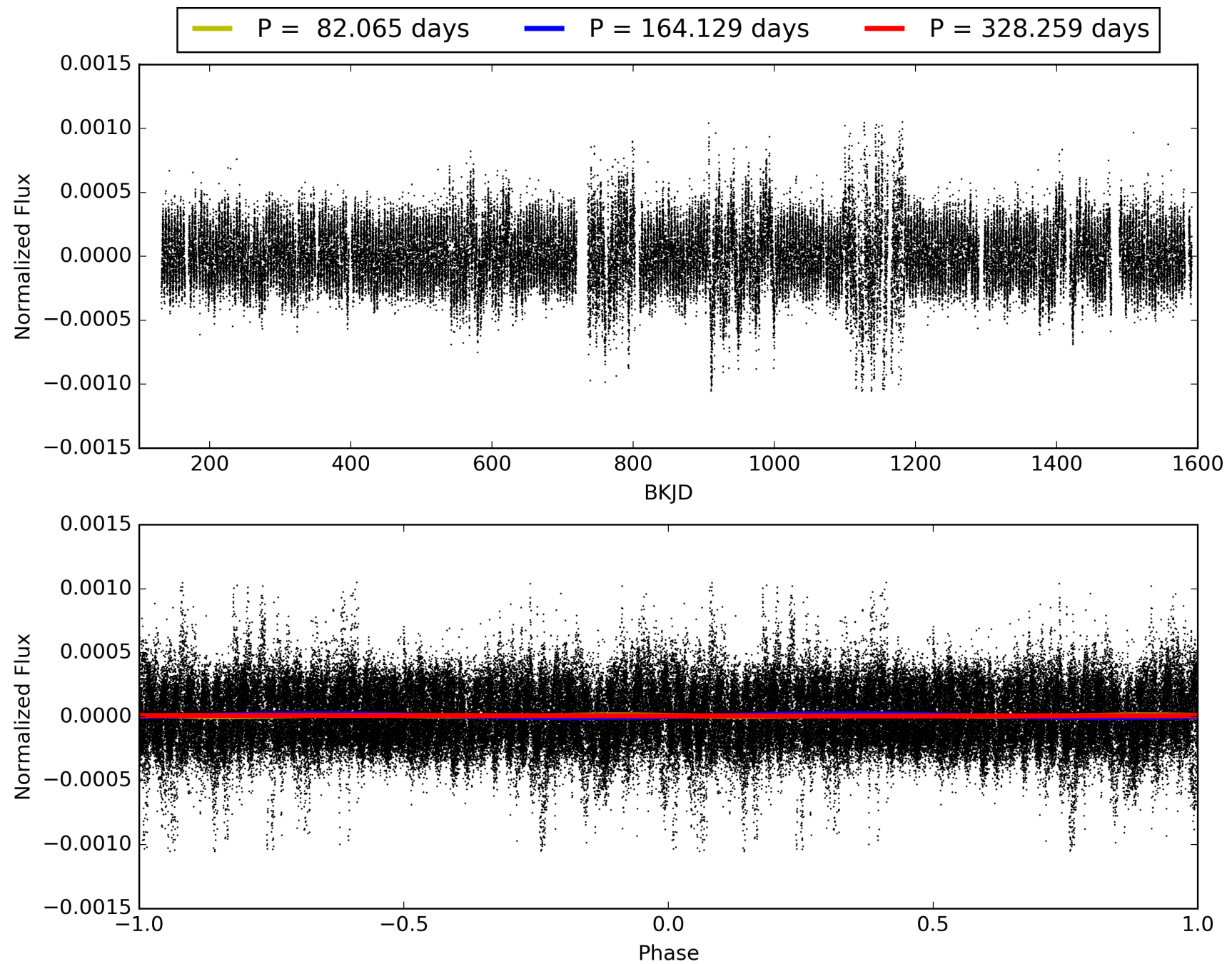
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:47:30 Z

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

TCE 008463118-04, PDC Light Curves

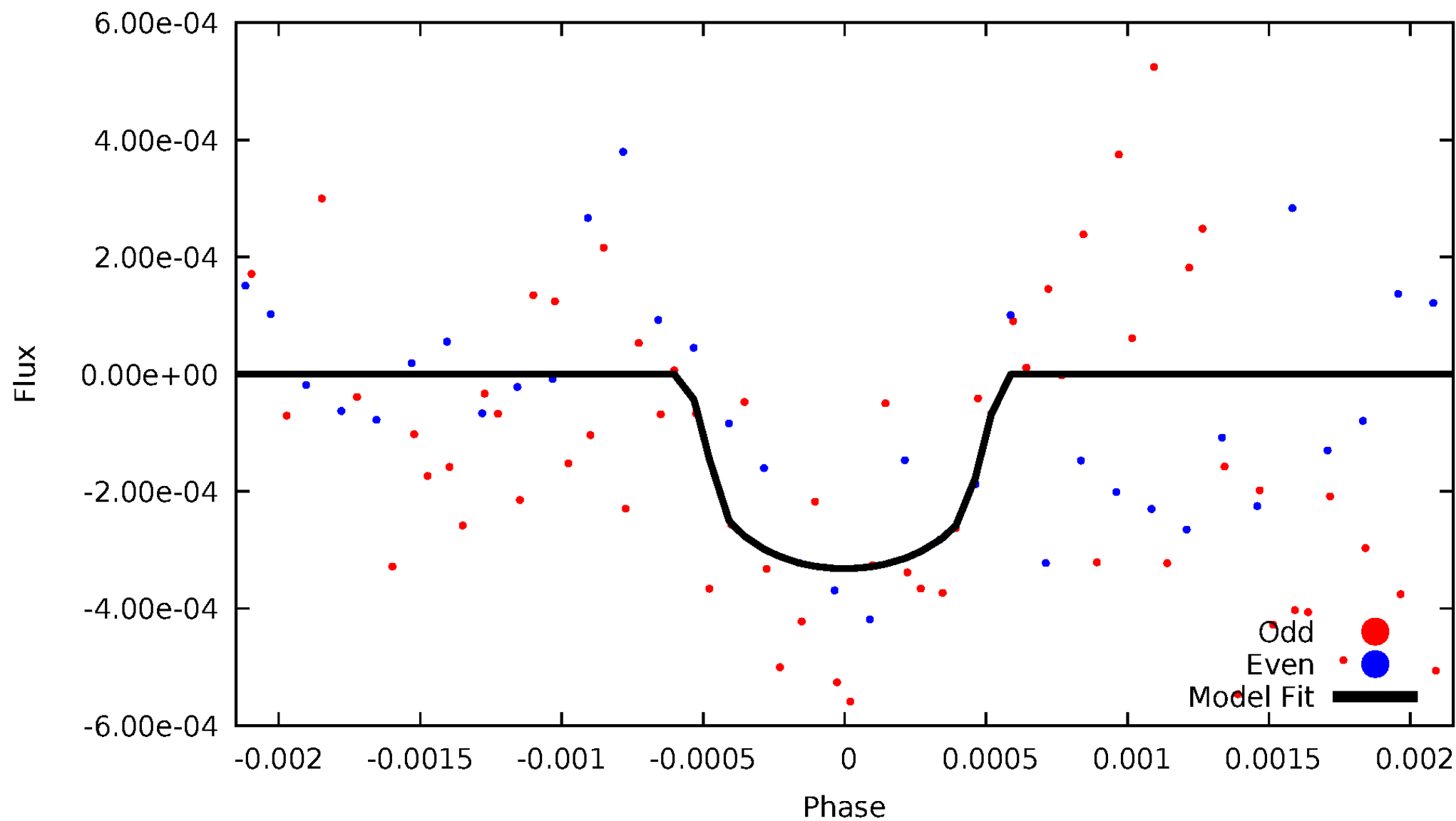


TCE 008463118-04



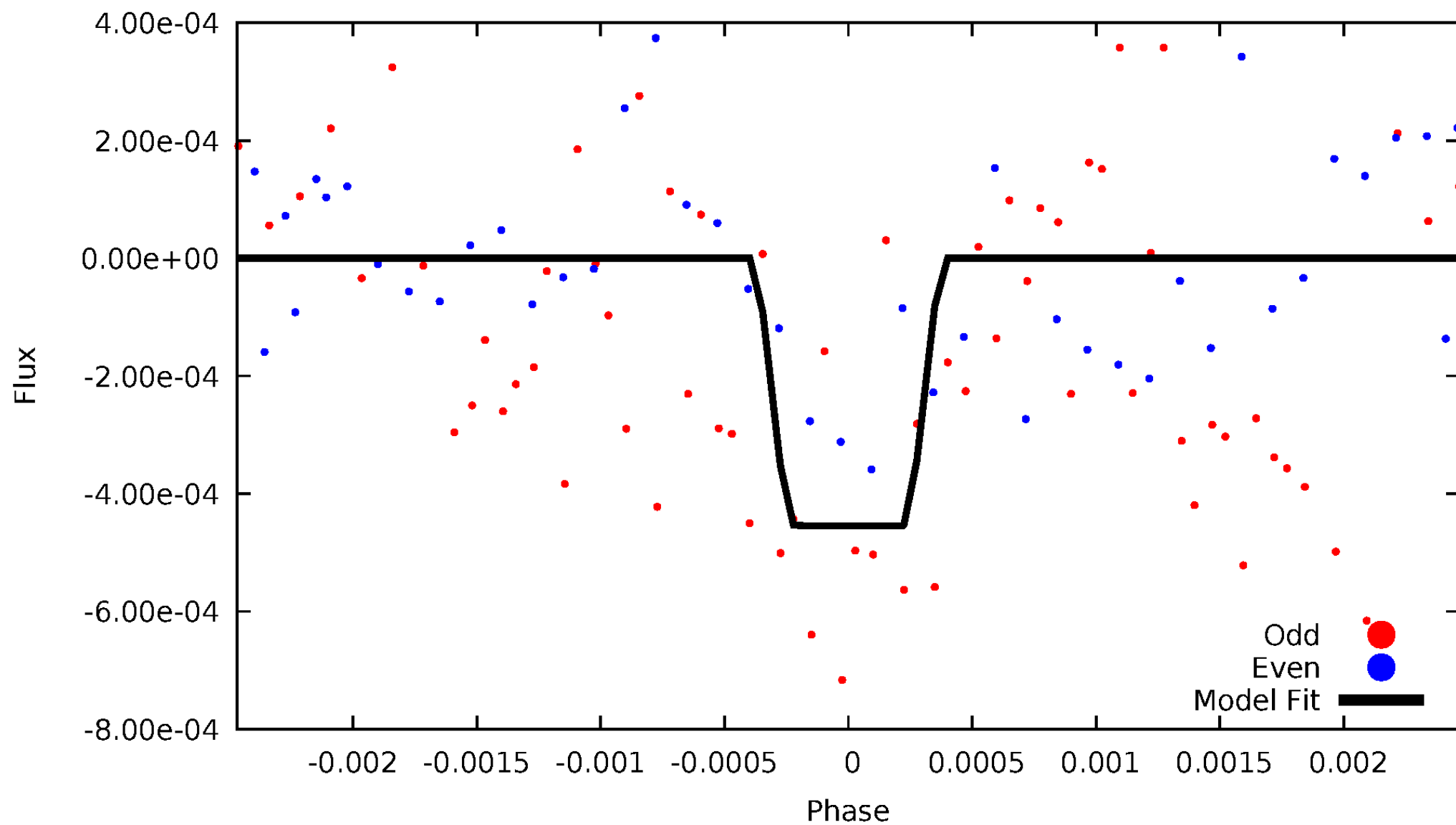
DV Odd/Even

TCE 008463118-04



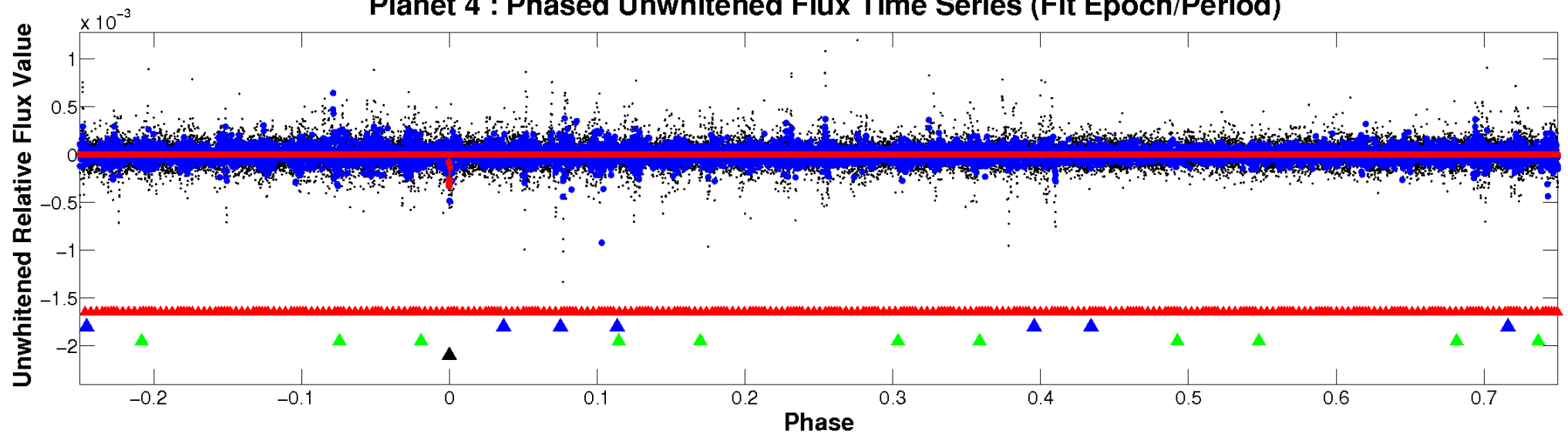
ALT Odd/Even

TCE 008463118-04

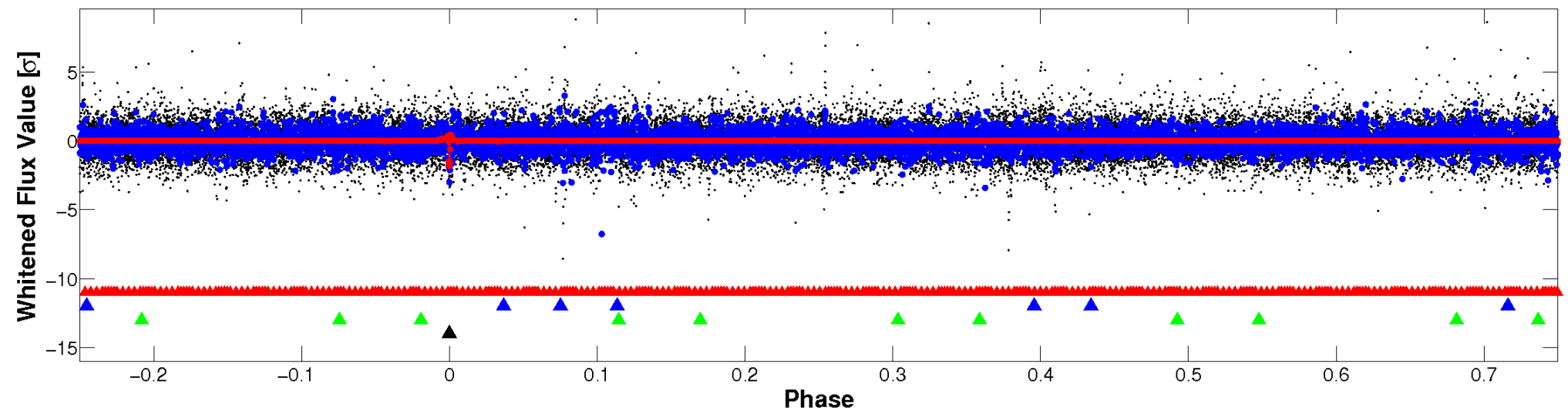


Non-Whitened Vs. Whitened Light Curve

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

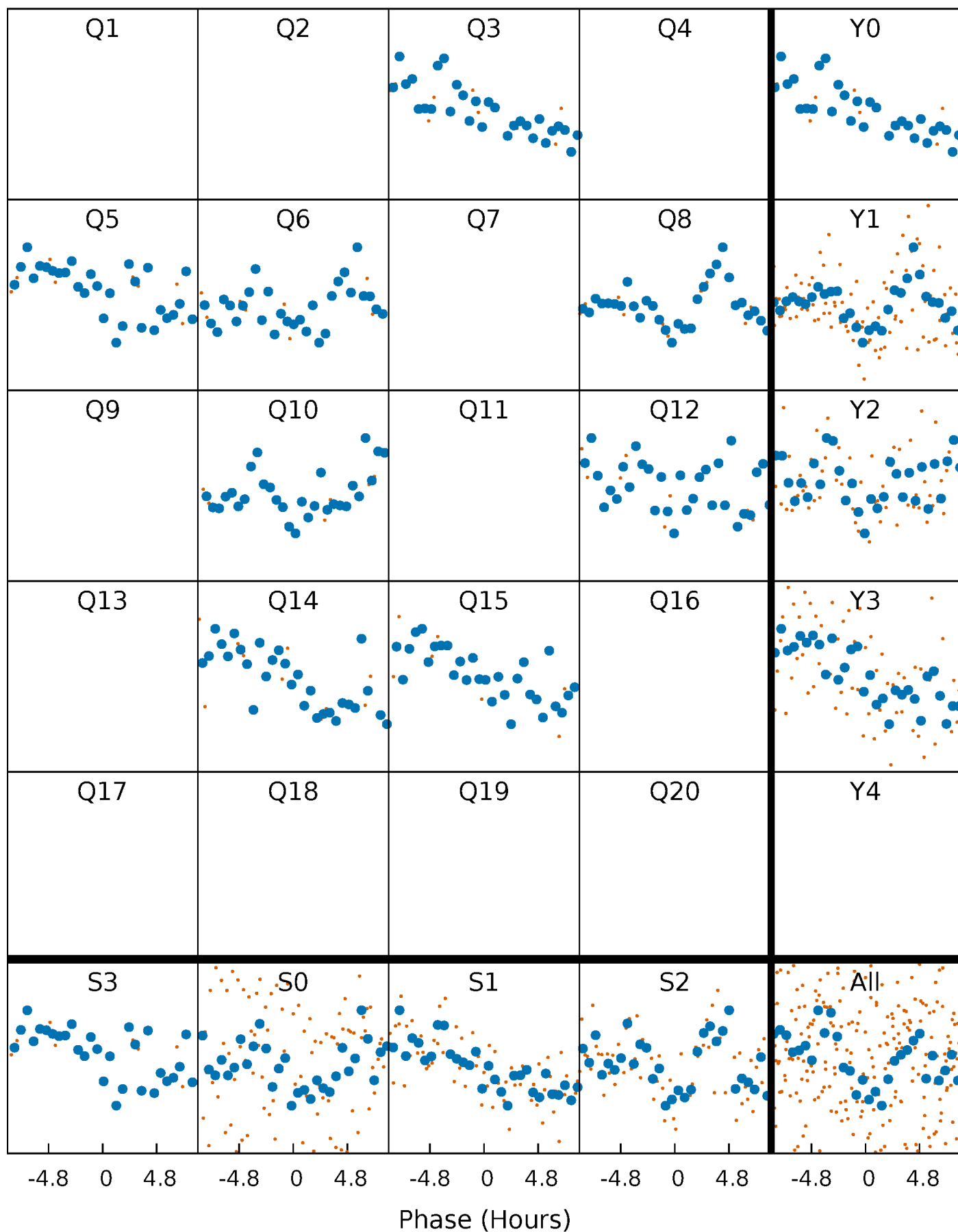


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



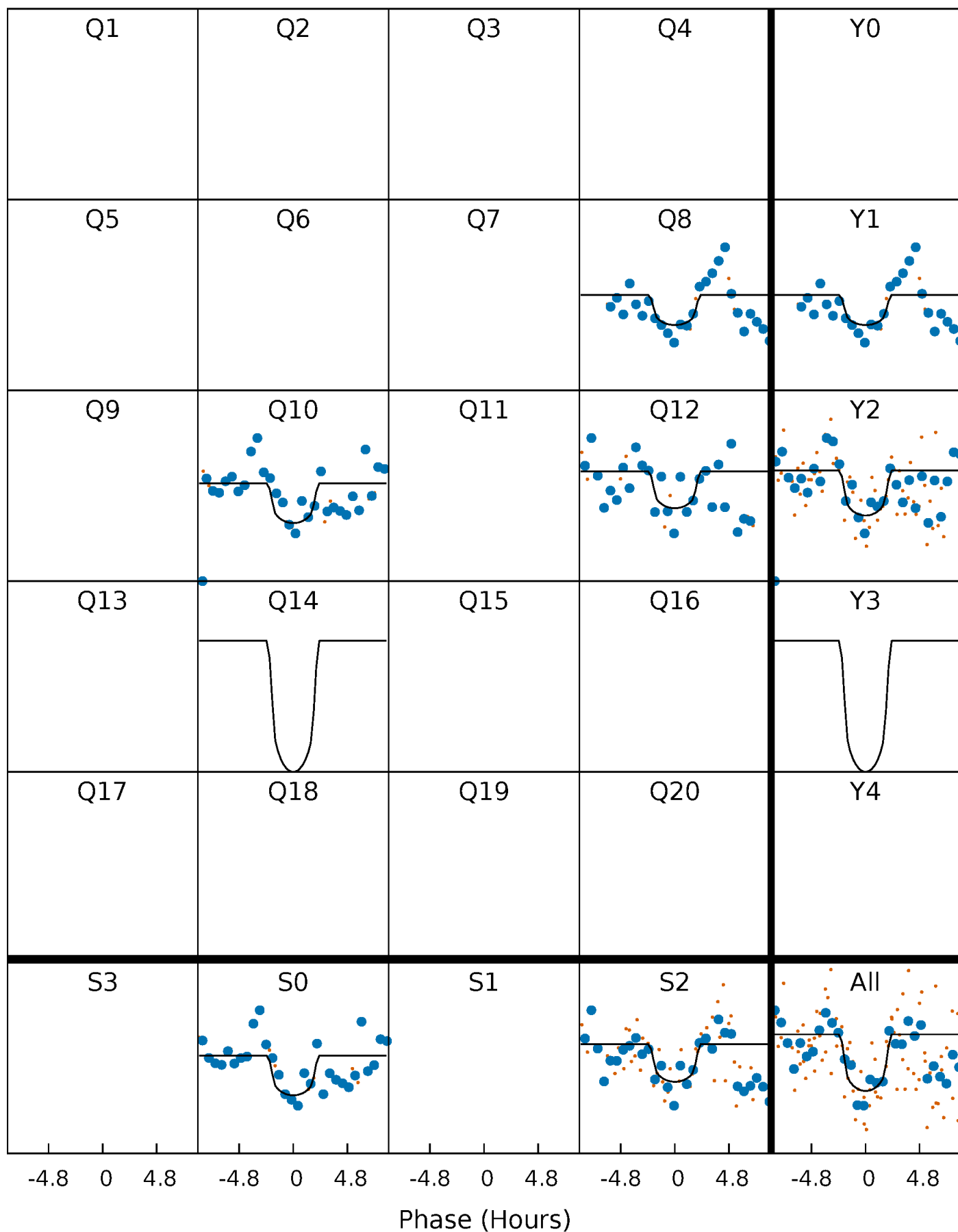
PDC Quarter-Phased Transit Curves

TCE 008463118-04 $P=164.129374$ Days $T_0=293.388742$ (BKJD)



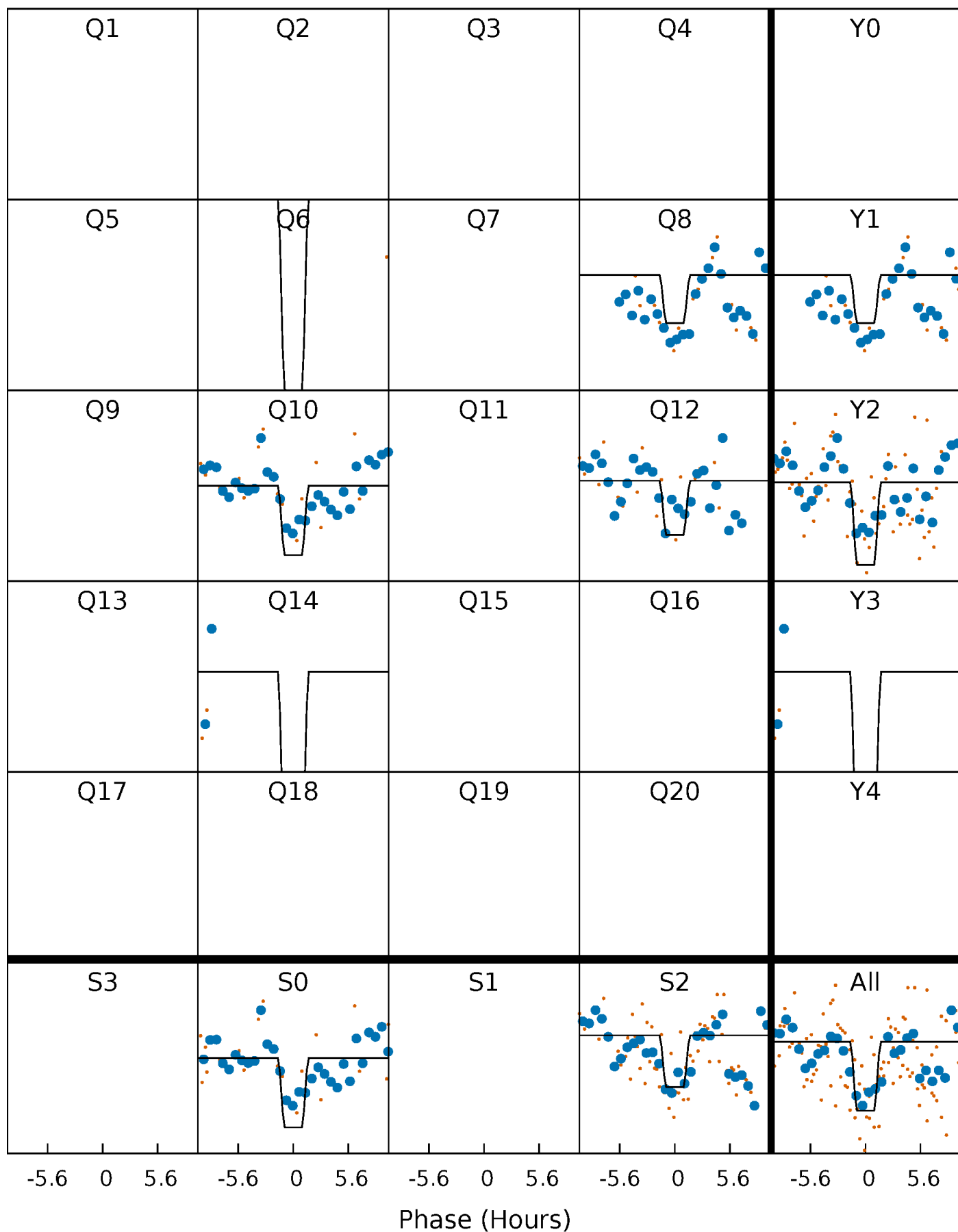
DV Quarter-Phased Transit Curves

TCE 008463118-04 P=164.129374 Days $T_0=293.388742$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

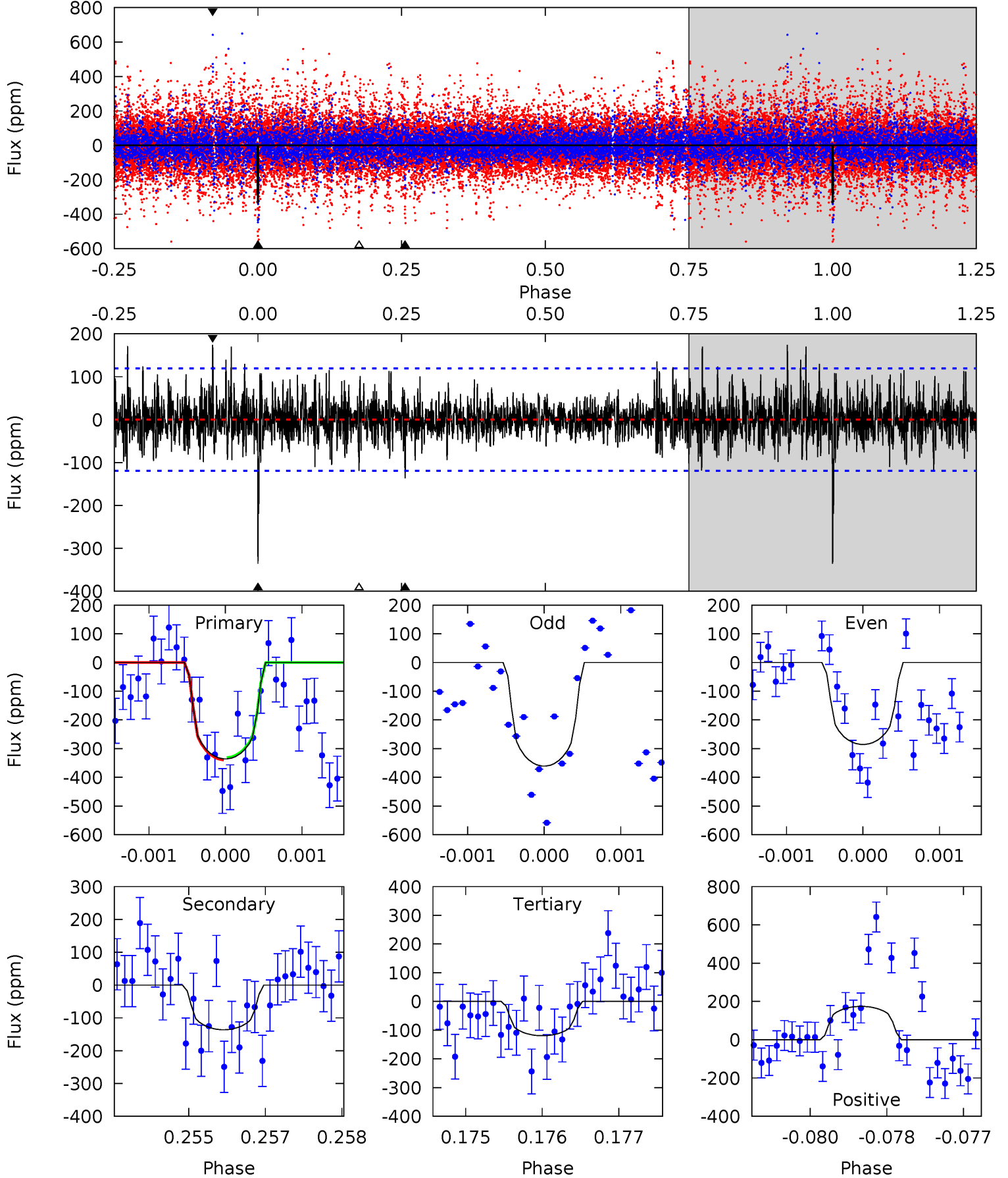
TCE 008463118-04 P=164.128951 Days $T_0=293.389606$ (BKJD)



DV Model-Shift Uniqueness Test

008463118-04, P = 164.129374 Days, E = 129.259368 Days

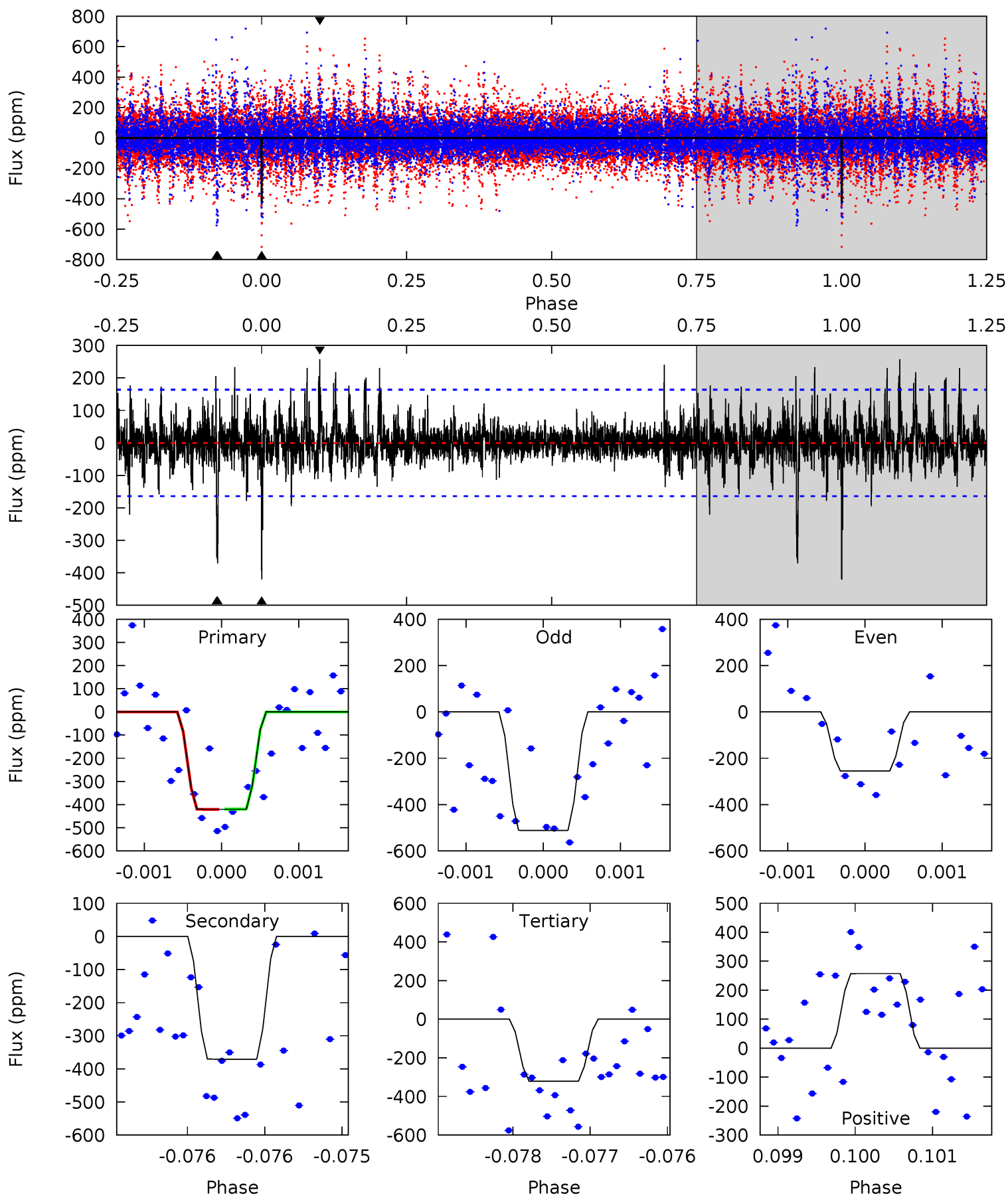
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	6.20	5.44	7.94	5.43	3.26	1.48	9.86	7.35	0.77	-1.74	1.65	1.02	0.34	0.18



Alt Model-Shift Uniqueness Test

008463118-04, P = 164.128951 Days, E = 129.260655 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	12.5	10.8	8.66	5.52	3.39	1.44	3.31	5.48	1.65	3.82	4.10	1.40	0.38	0.02



Stellar Parameters For KIC 008463118

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4723^{+167}_{-167}	$4.583^{+0.052}_{-0.032}$	$-0.060^{+0.300}_{-0.300}$	$0.714^{+0.052}_{-0.065}$	$0.712^{+0.079}_{-0.058}$	$2.754^{+0.635}_{-0.356}$
	+4%/-4%	+1%/-1%	+500%/-500%	+7%/-9%	+11%/-8%	+23%/-13%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008463118-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-136 ± 22	$2.28^{+1.92}_{-1.45}$	339^{+13}_{-13}	3427^{+1518}_{-585}	3933^{+25336}_{-2763}
Alt.	-371 ± 30	$2.20^{+2.19}_{-1.39}$	340^{+13}_{-14}	4086^{+2307}_{-852}	11688^{+77730}_{-8800}

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

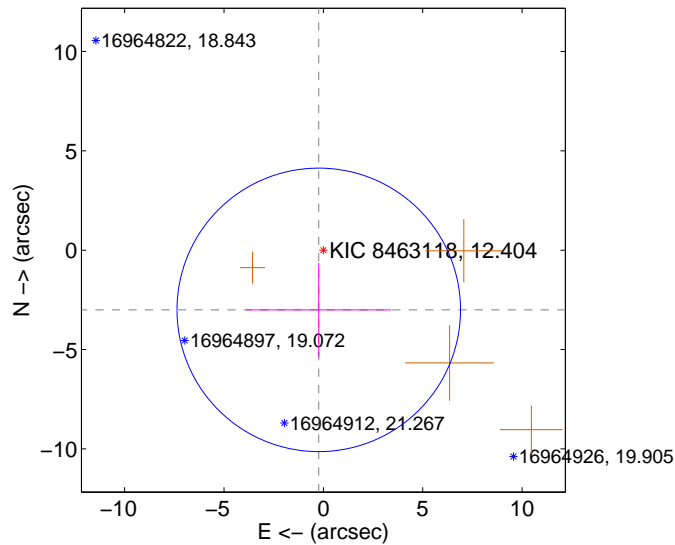
Supplemental centroid analysis for 008463118-04. Kepler magnitude: 12.40. Transit SNR 8.03

There are 0 quarters with good PRF difference image offsets

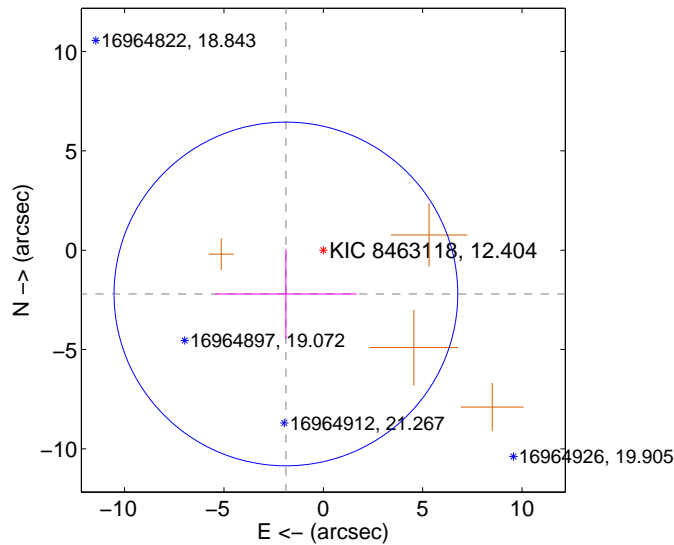
The OOT PRF centroid is offset from the target star catalog position by about 2.27 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.012 ± 2.377	1.27	0.232 ± 3.654	-3.003 ± 2.367
PRF-fit source offset from KIC position	2.898 ± 2.882	1.01	1.882 ± 3.565	-2.204 ± 2.257
photometric centroid source offset	0.48 ± 0.84	0.57	-0.40 ± 0.93	0.26 ± 0.58

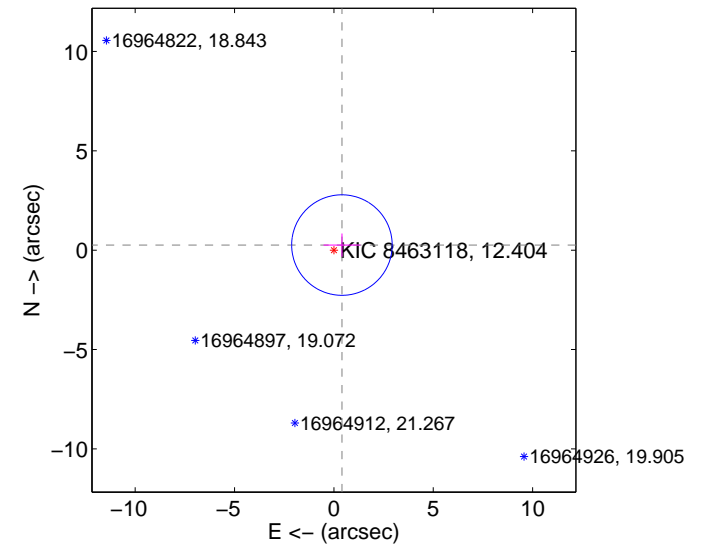
offset from difference PRF-fit to OOT PRF-fit



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.

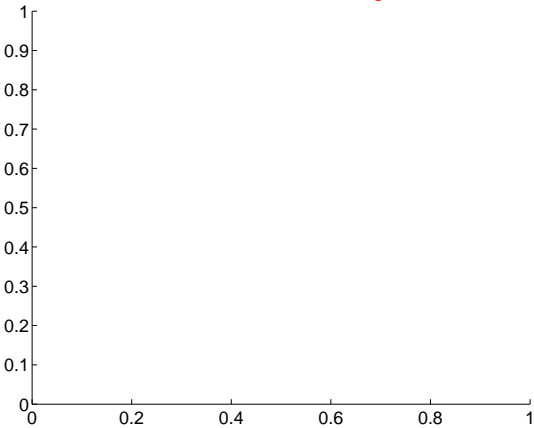
Q1 no difference image



Q1 no OOT image



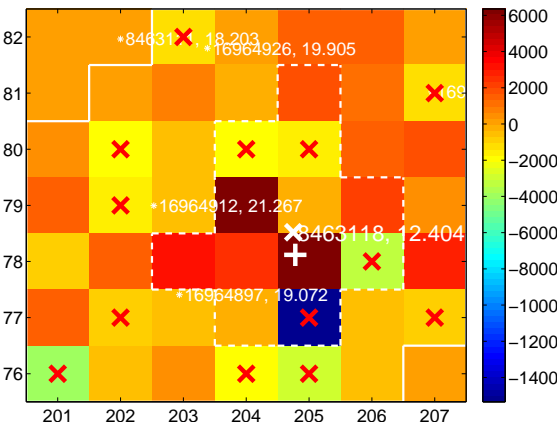
Q2 no difference image



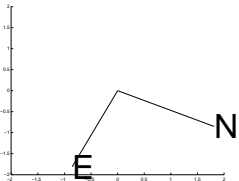
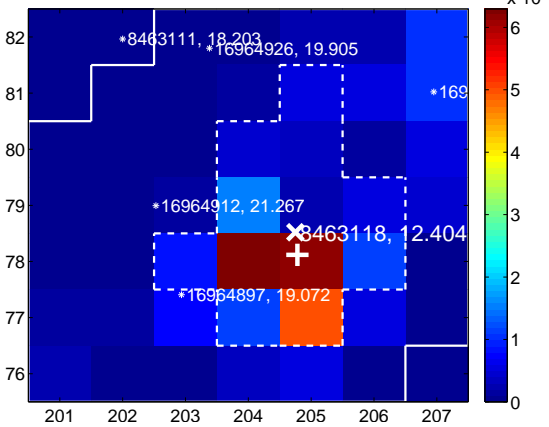
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



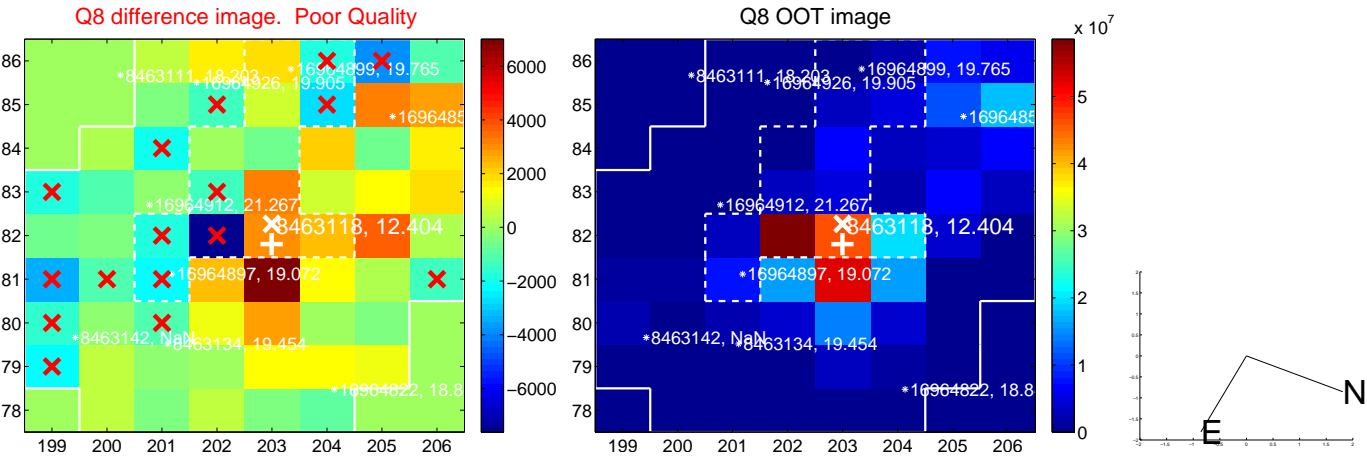
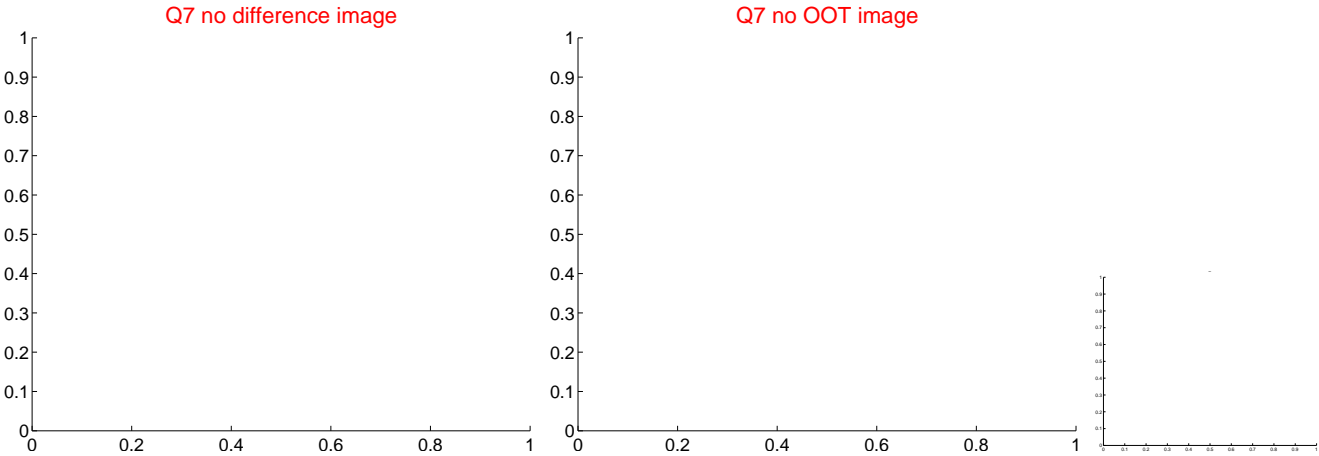
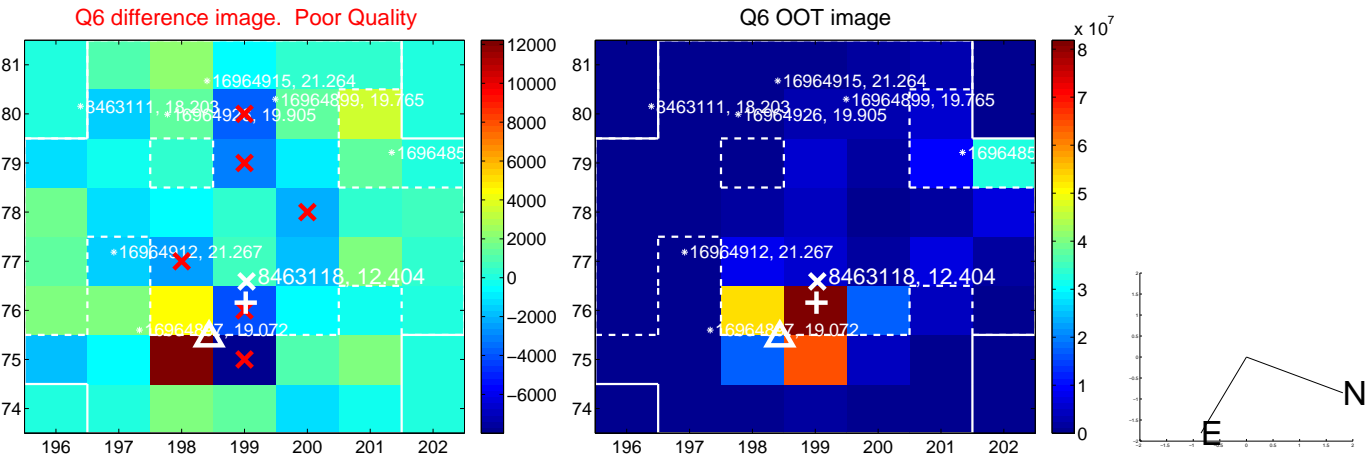
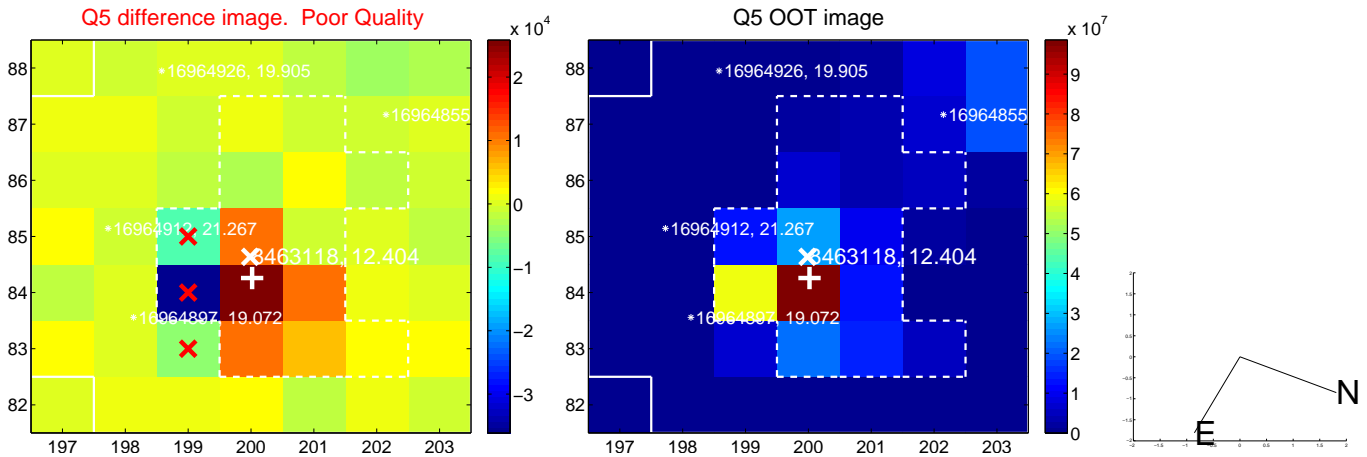
Q4 no difference image



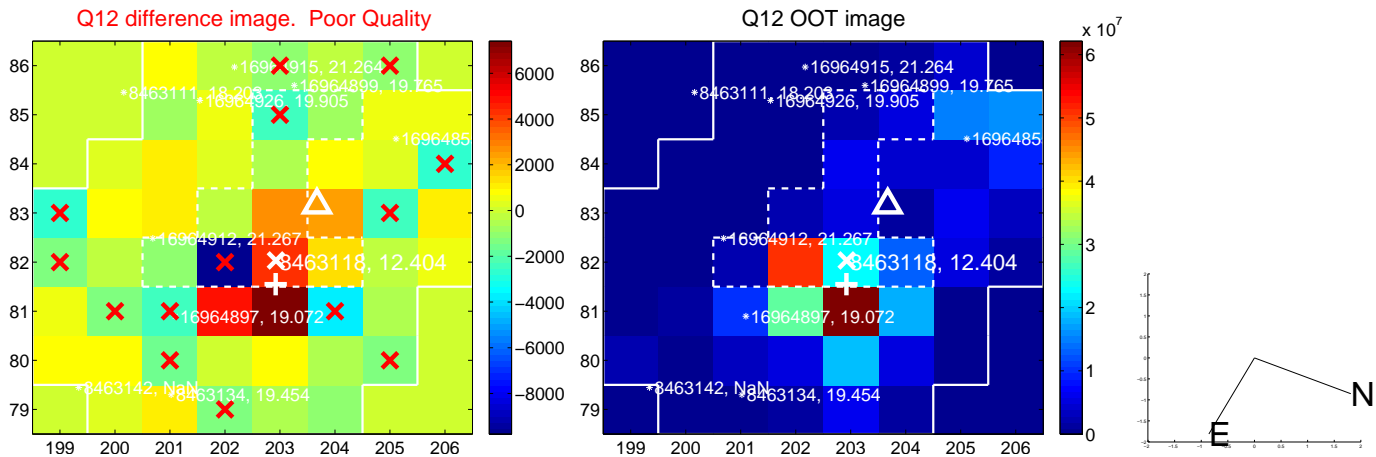
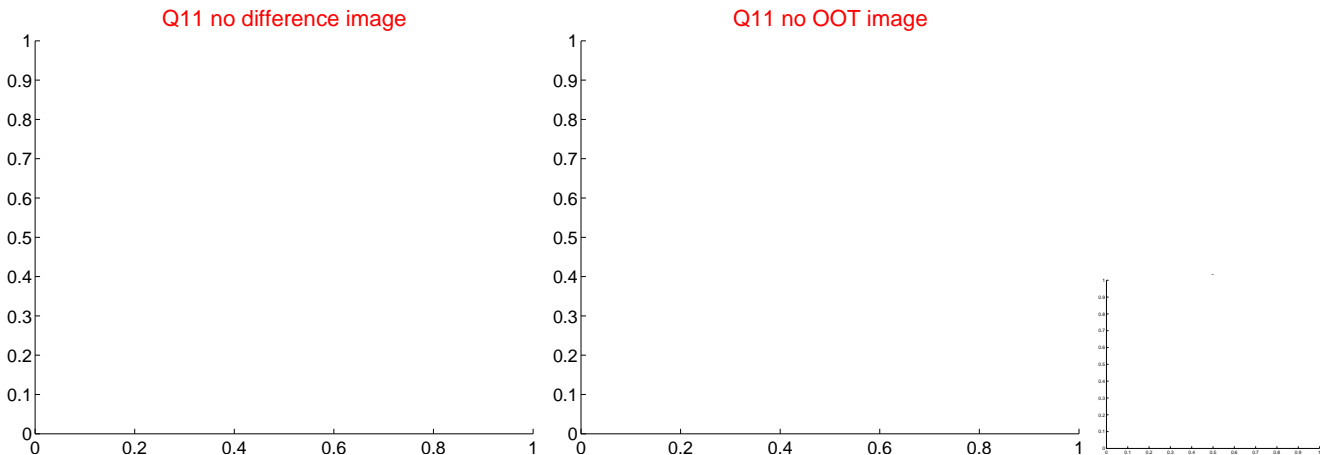
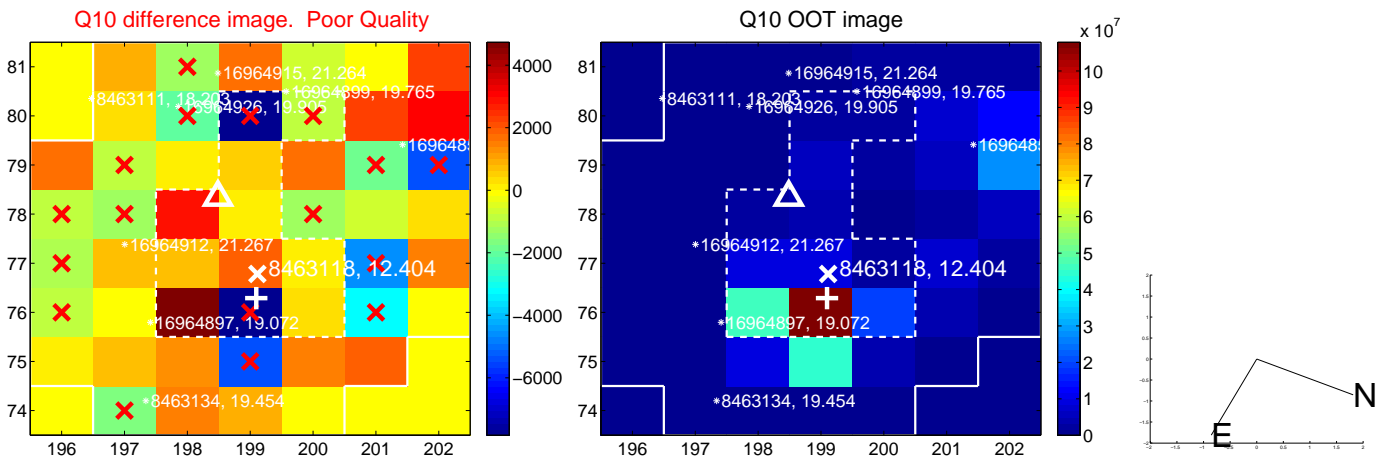
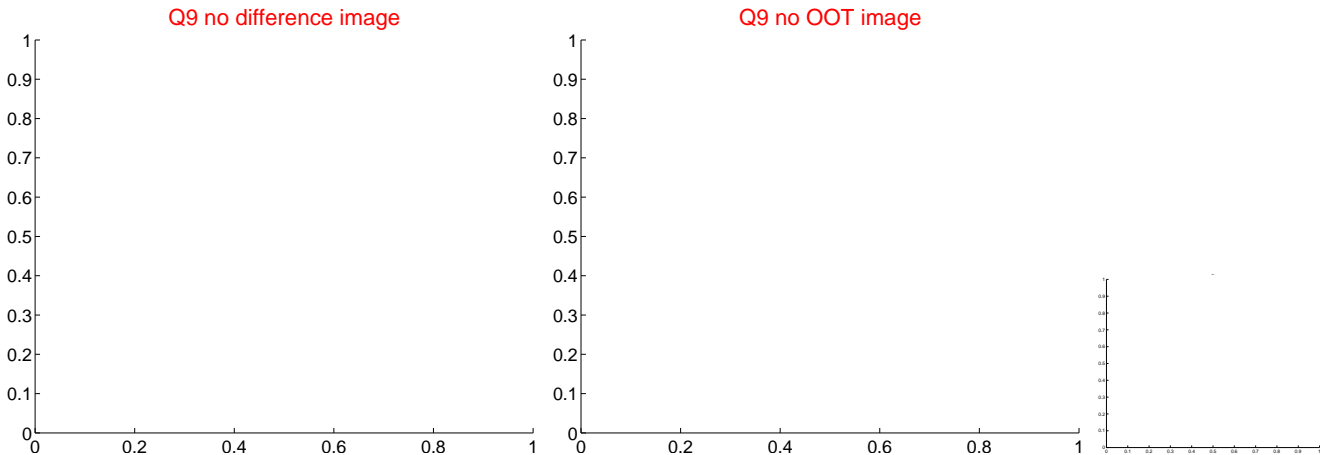
Q4 no OOT image



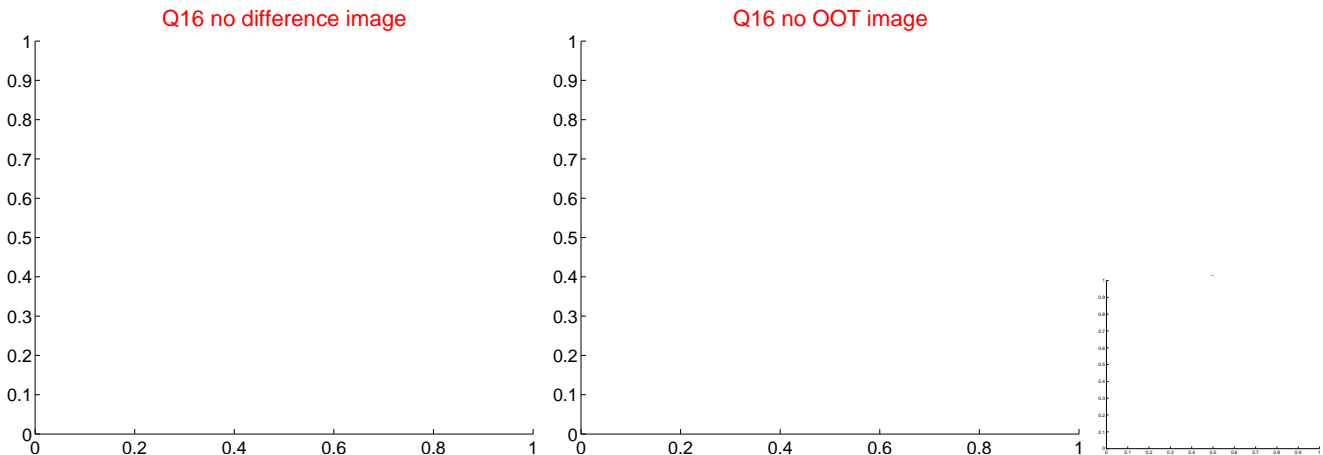
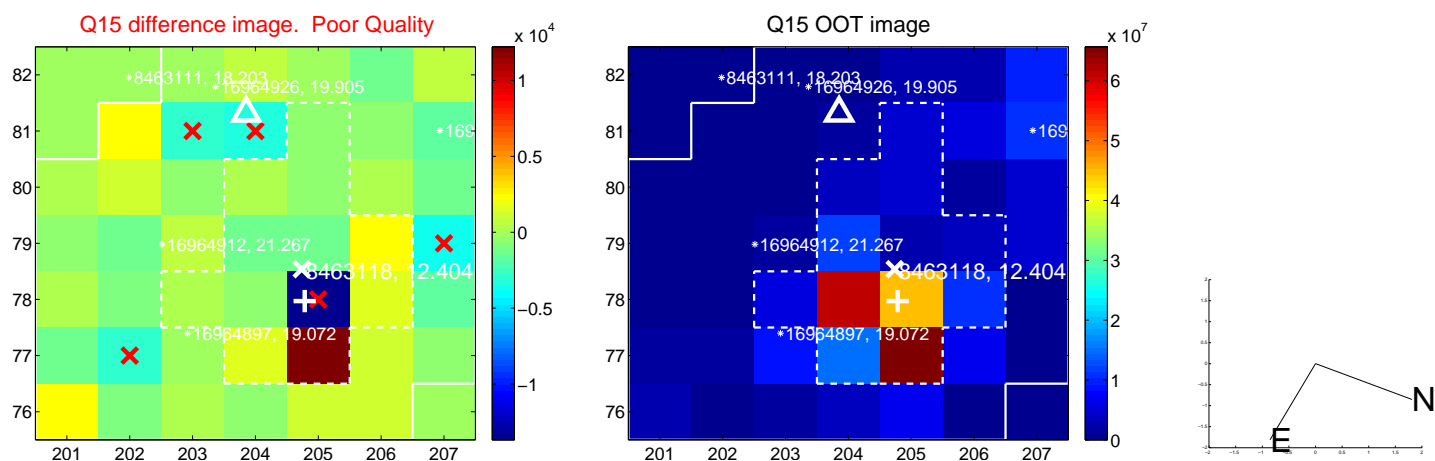
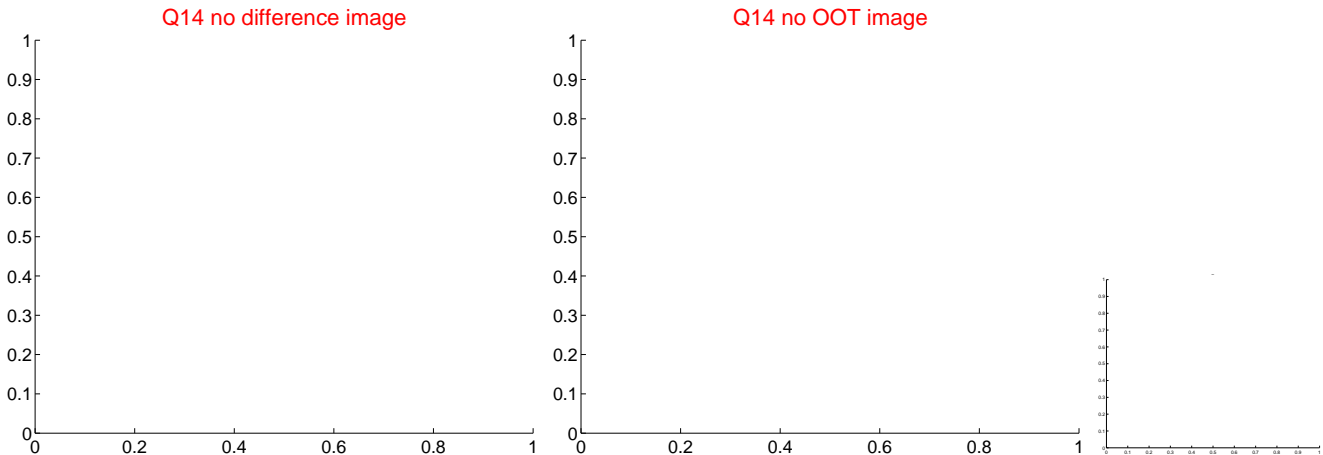
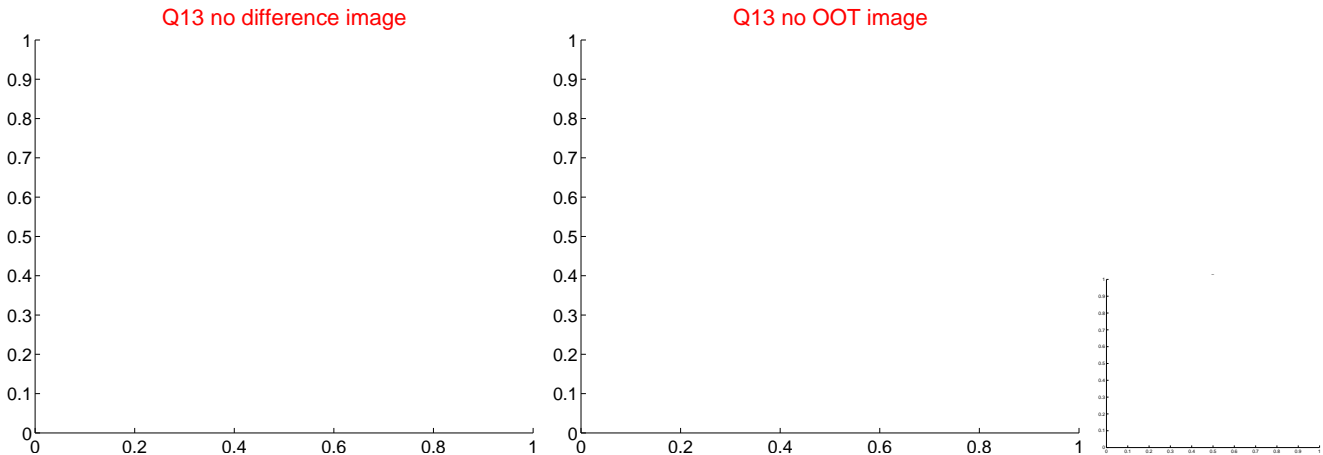
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



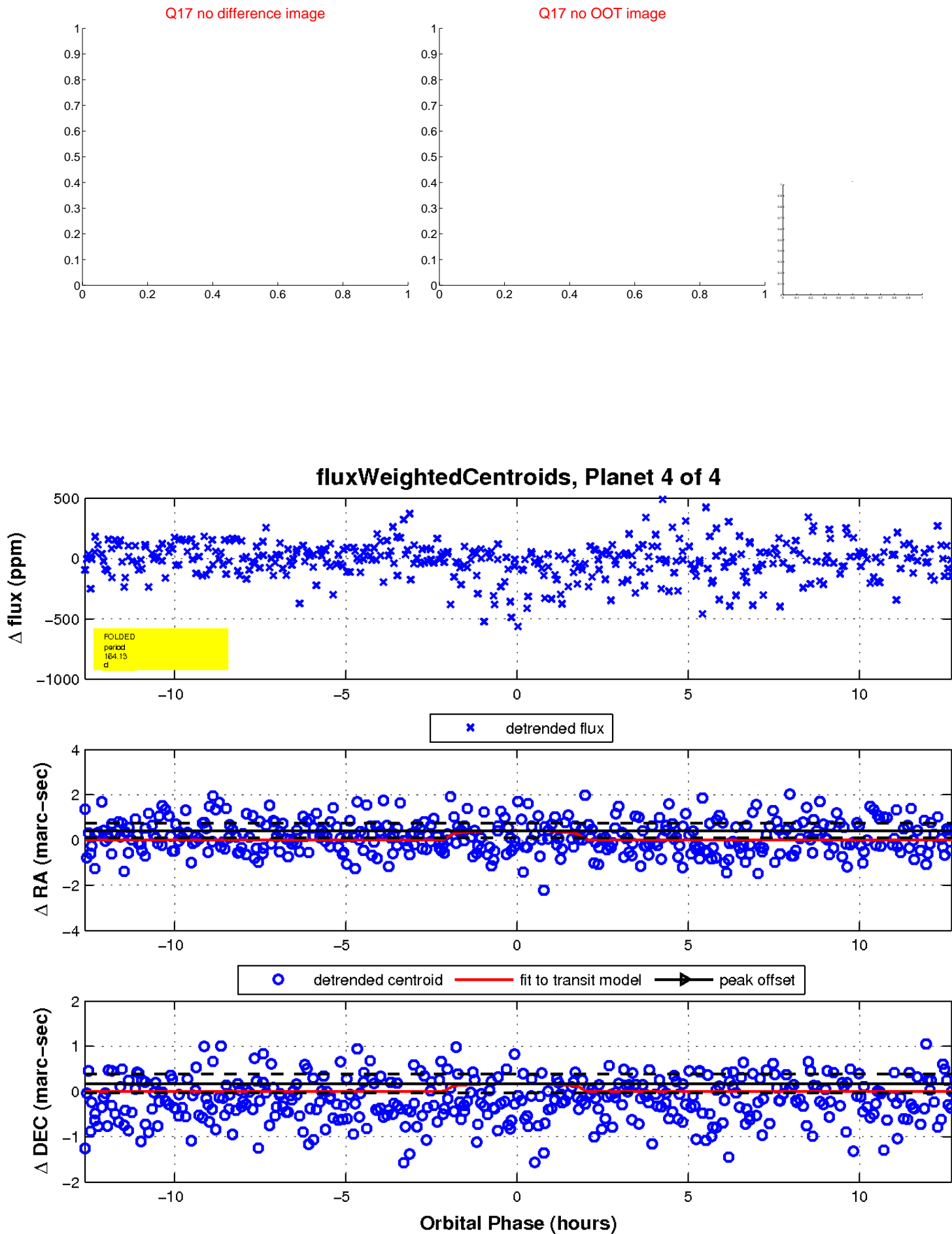
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

