

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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

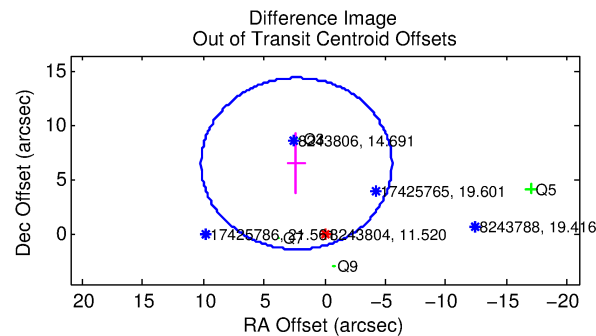
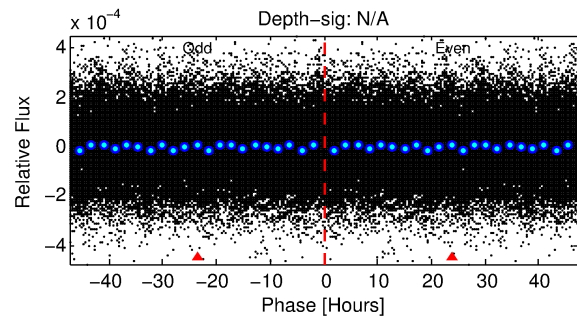
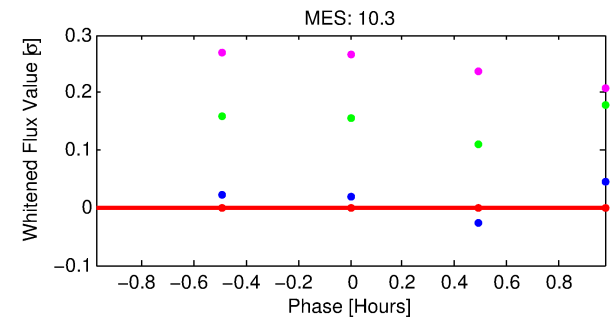
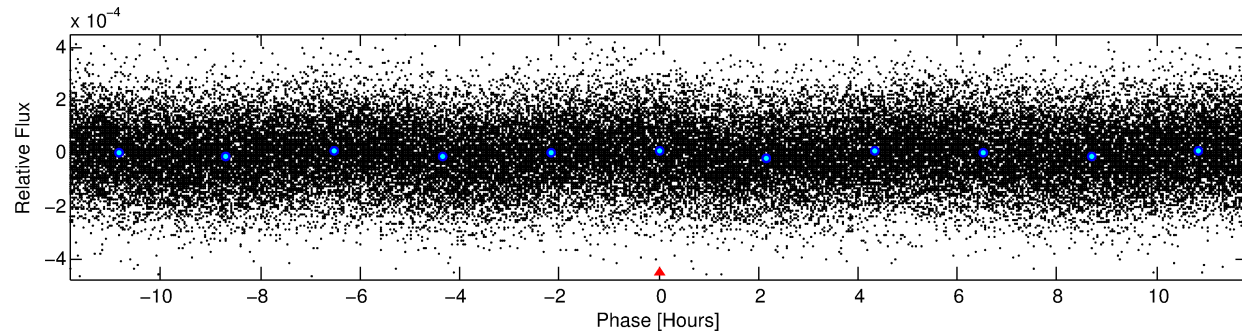
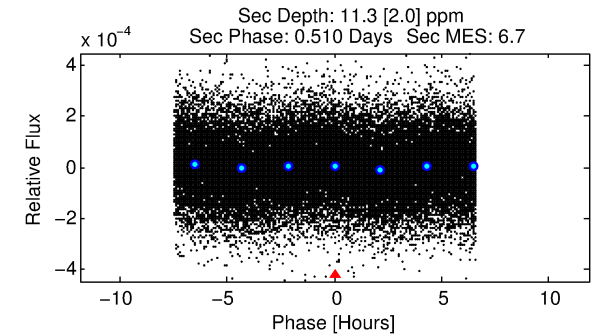
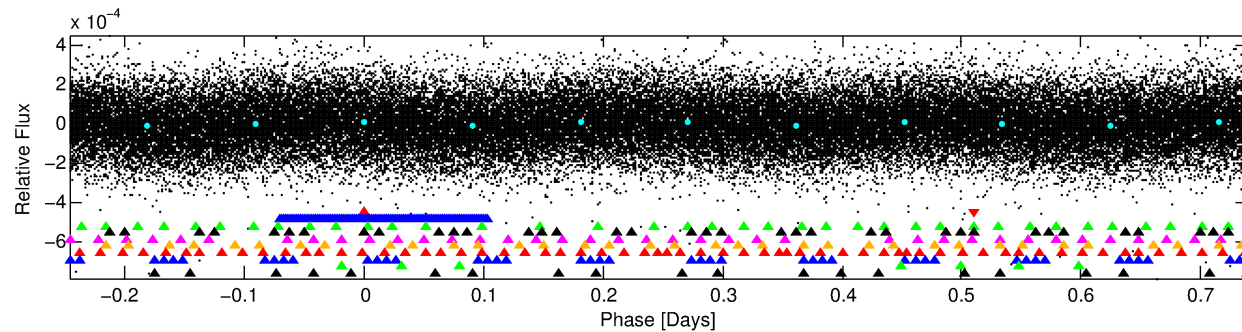
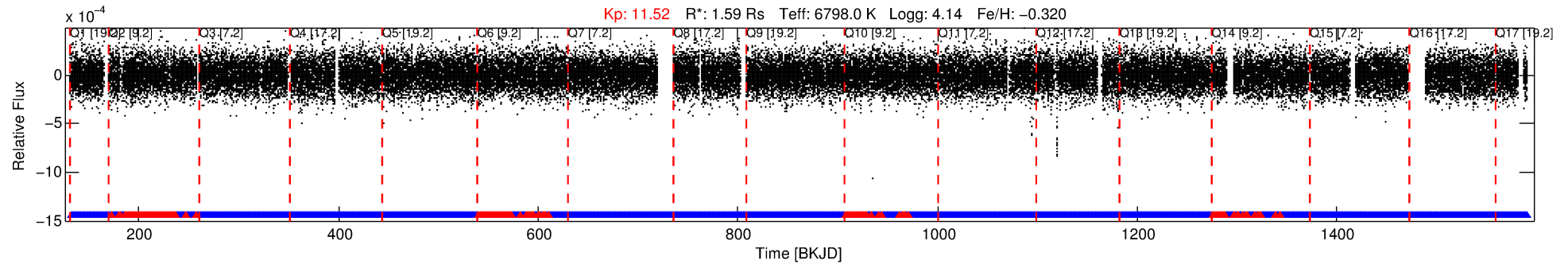
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-01

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 1 of 10 Period: 0.986 d



TPS TCE Results:

Period = 0.98618 d
Epoch = 131.8547 BKJD

DV fit results are unavailable

DV Diagnostic Results:

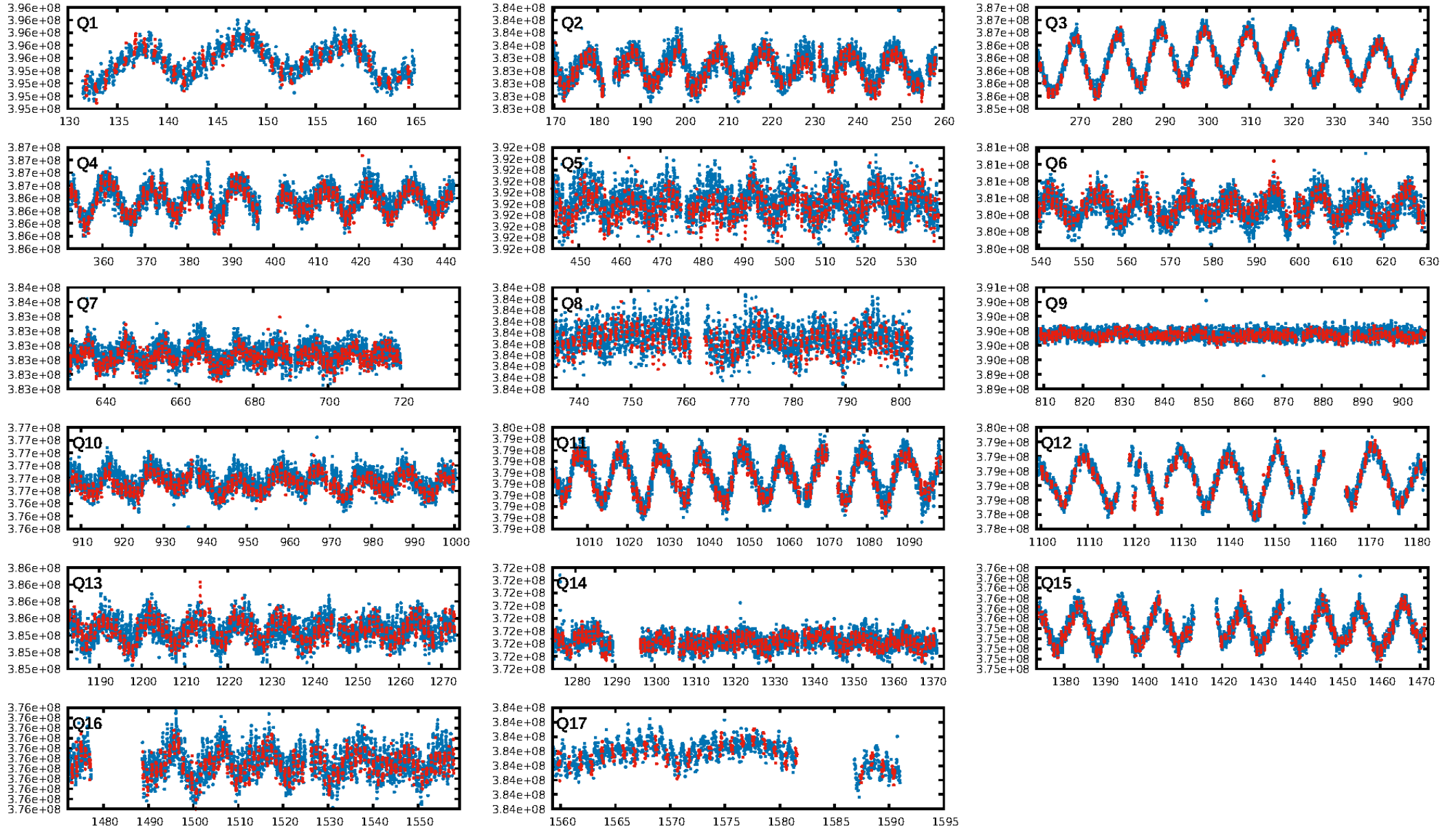
ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [99.96σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.48e-11
RollingBand-fgt: 0.88 [1163/1320]
GhostDiagnostic-chr: 3.796

Centroid-sig: 16.1%
Centroid-so: 1.497 arcsec [0.71σ]
OotOffset-rm: 6.962 arcsec [2.65σ]
KicOffset-rm: 7.015 arcsec [2.66σ]
OotOffset-st: 0/2/0/2 [4]
KicOffset-st: 0/2/0/2 [4]
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DiffImageOverlap-fno: 0.00 [0/17]

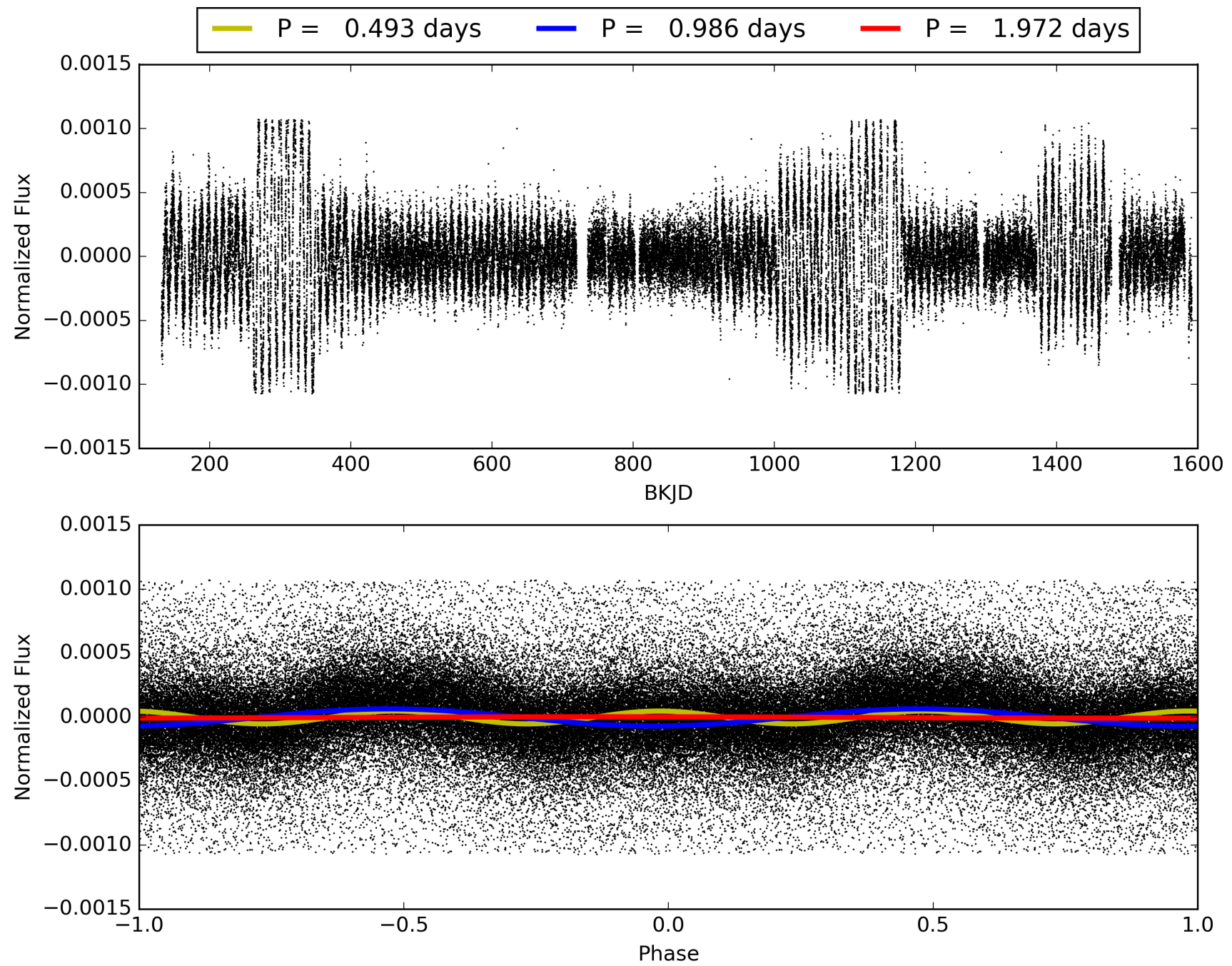
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008243804-01, PDC Light Curves

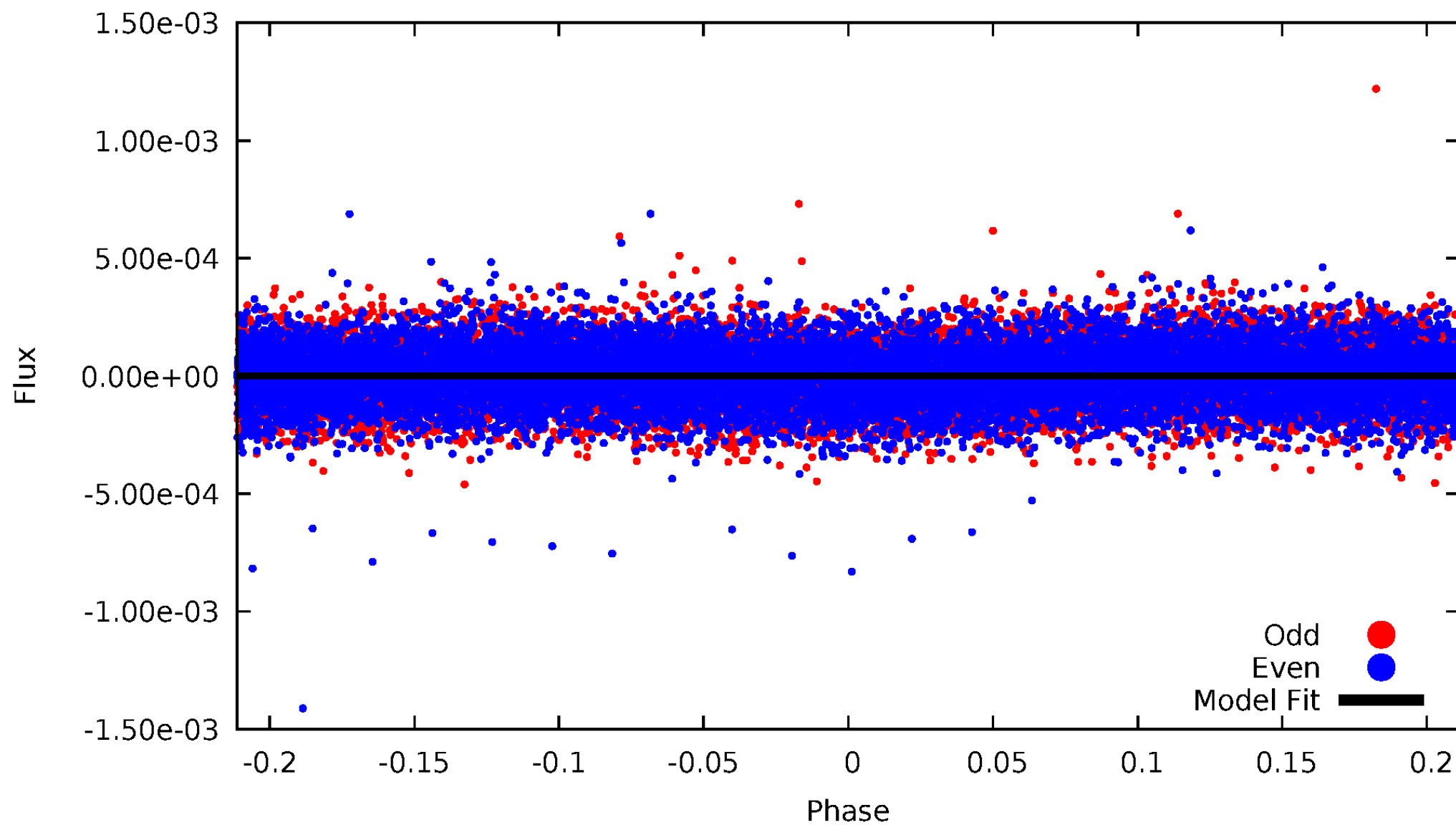


TCE 008243804-01



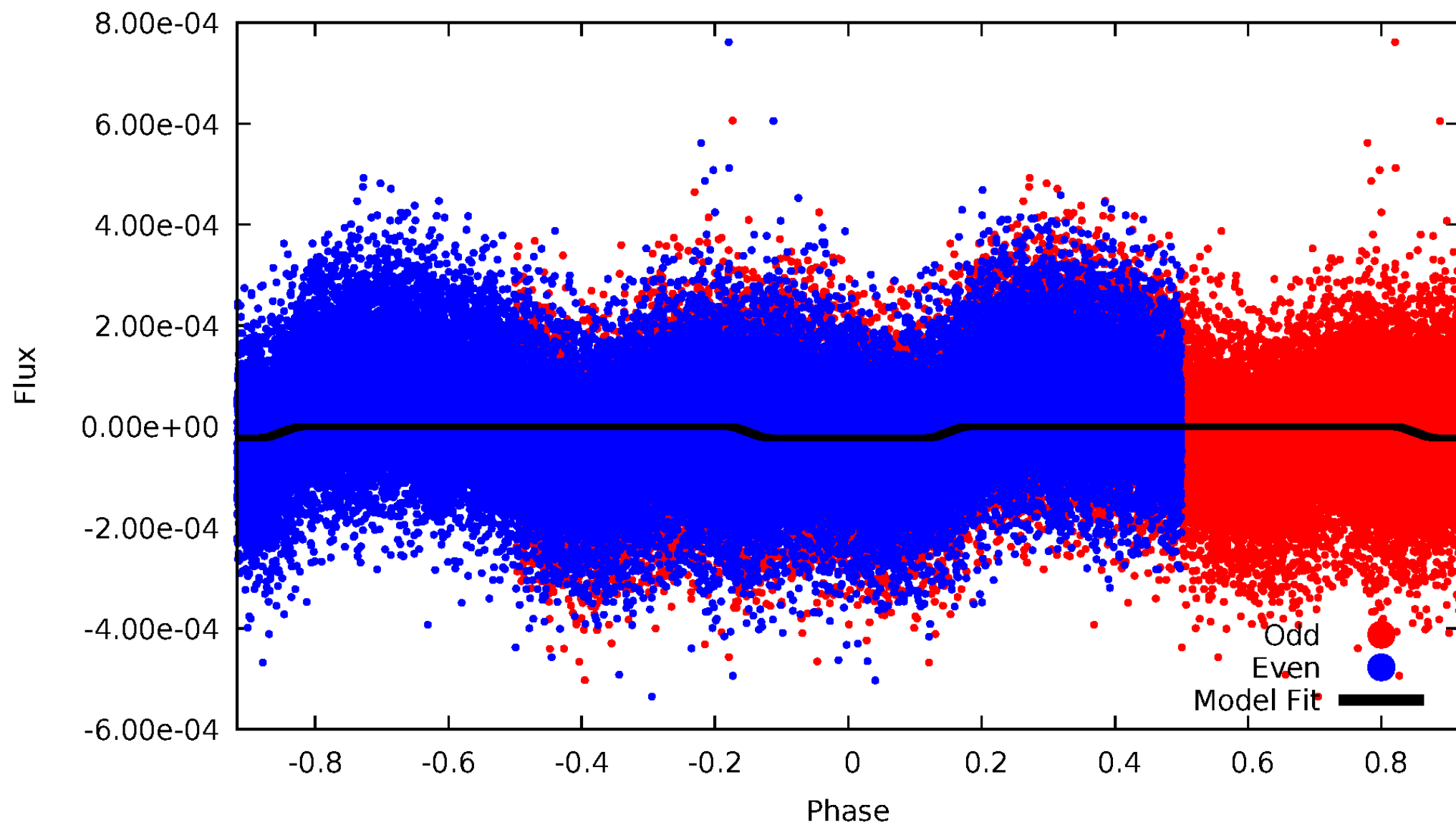
DV Odd/Even

TCE 008243804-01

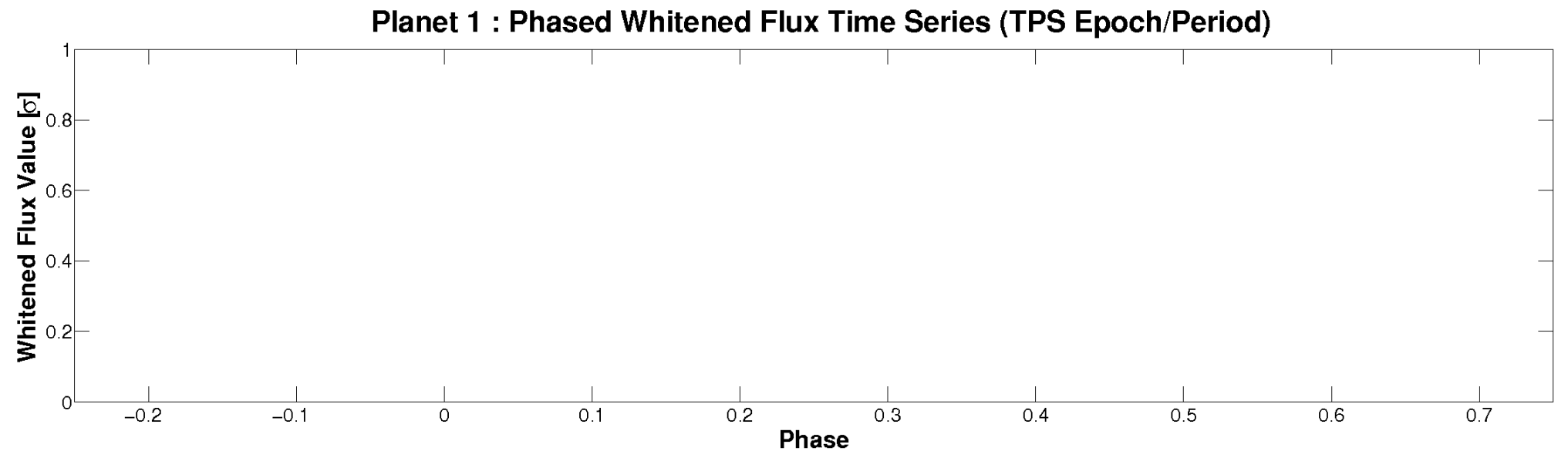
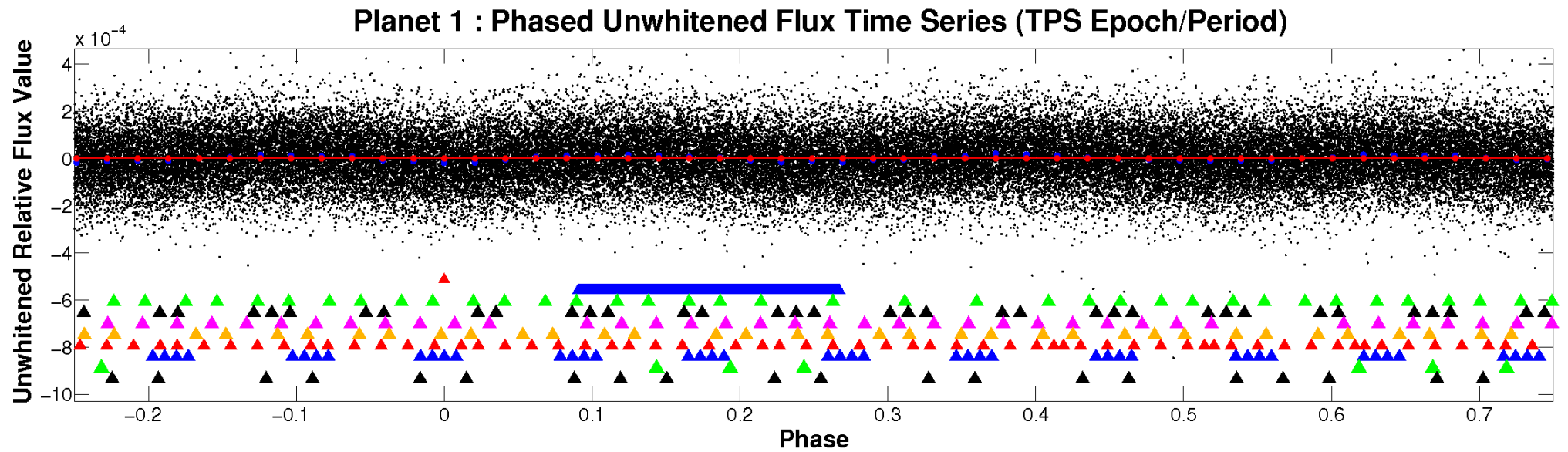


ALT Odd/Even

TCE 008243804-01

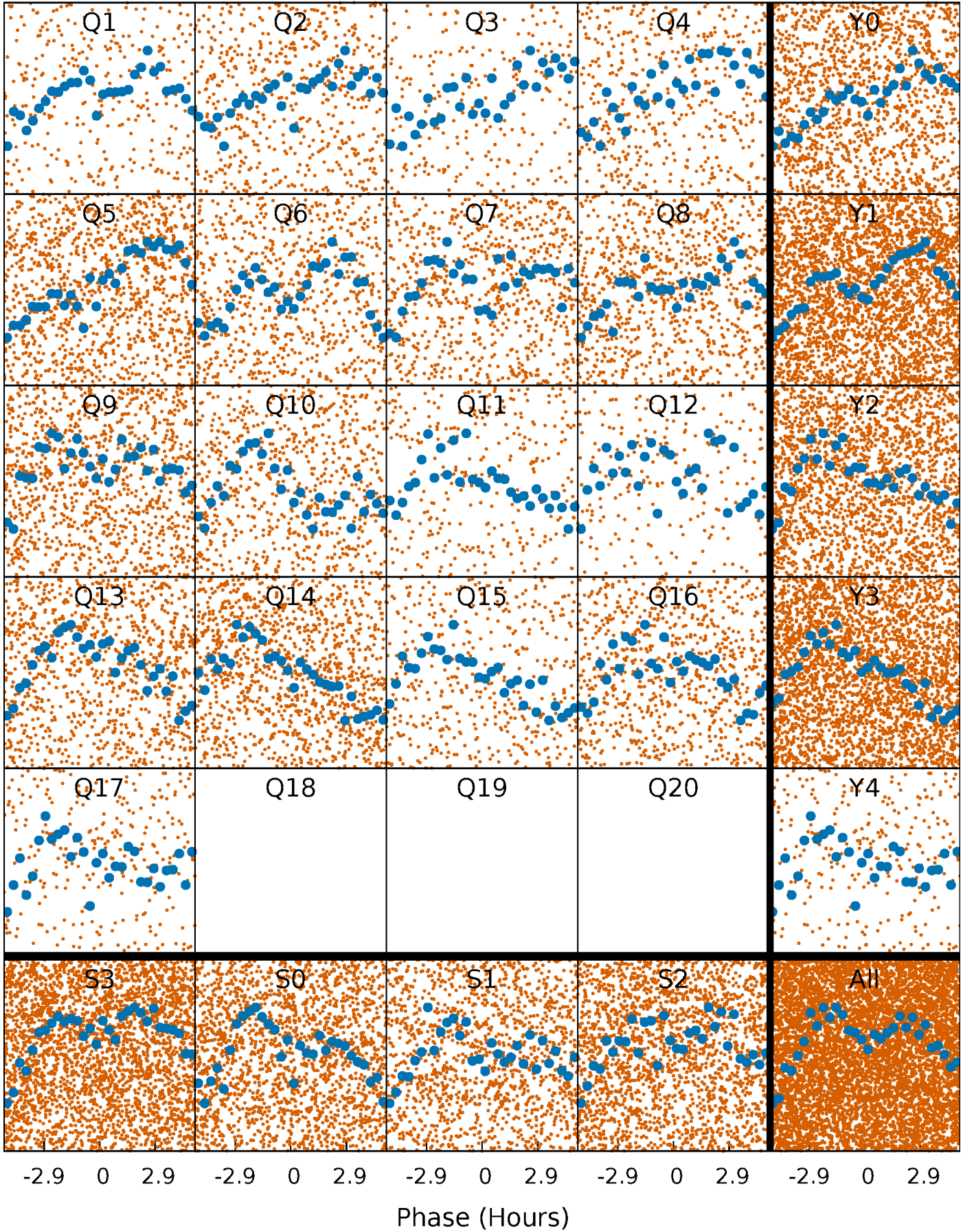


Non-Whitened Vs. Whitened Light Curve



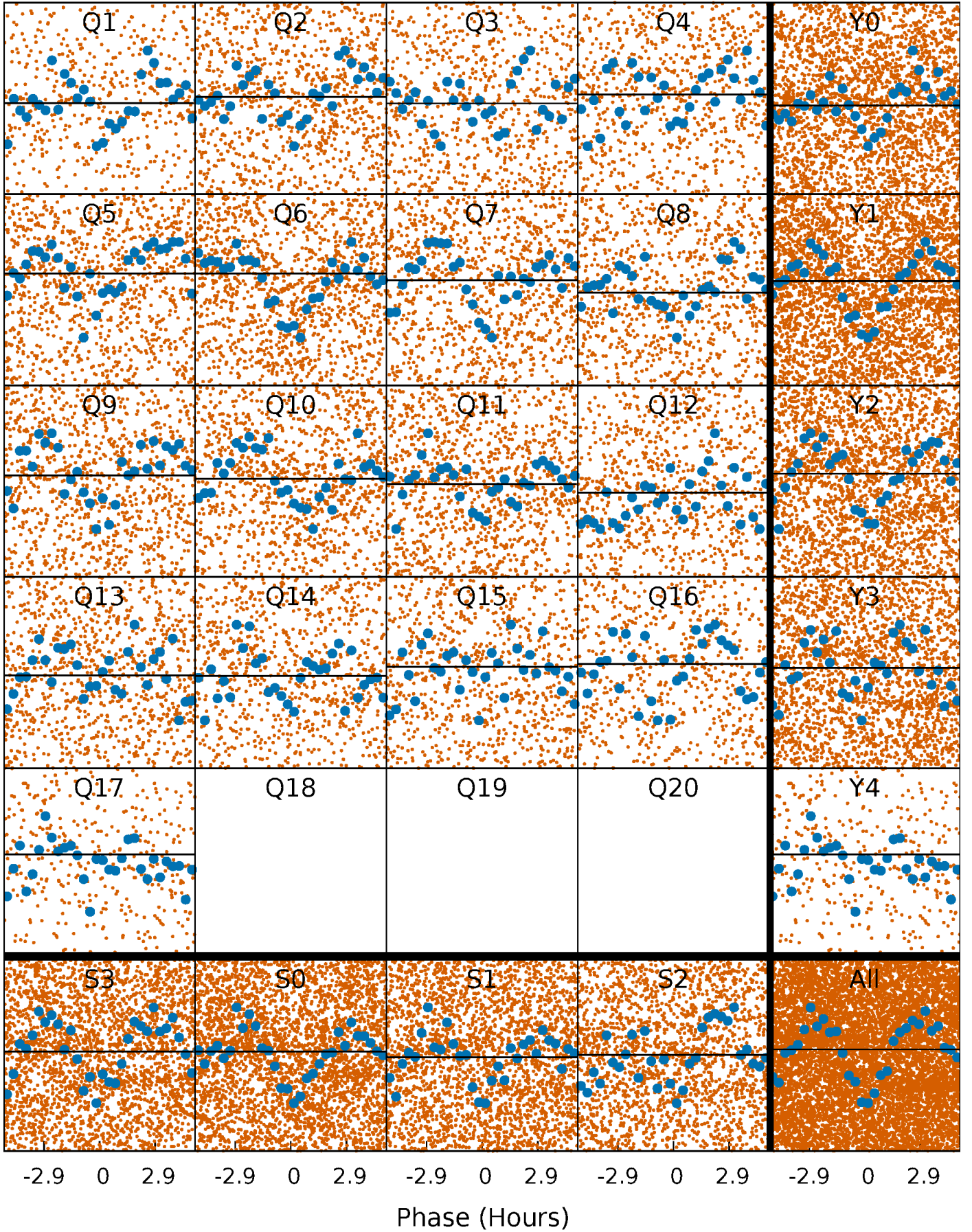
PDC Quarter-Phased Transit Curves

TCE 008243804-01 P= 0.986177 Days $T_0=131.854744$ (BKJD)



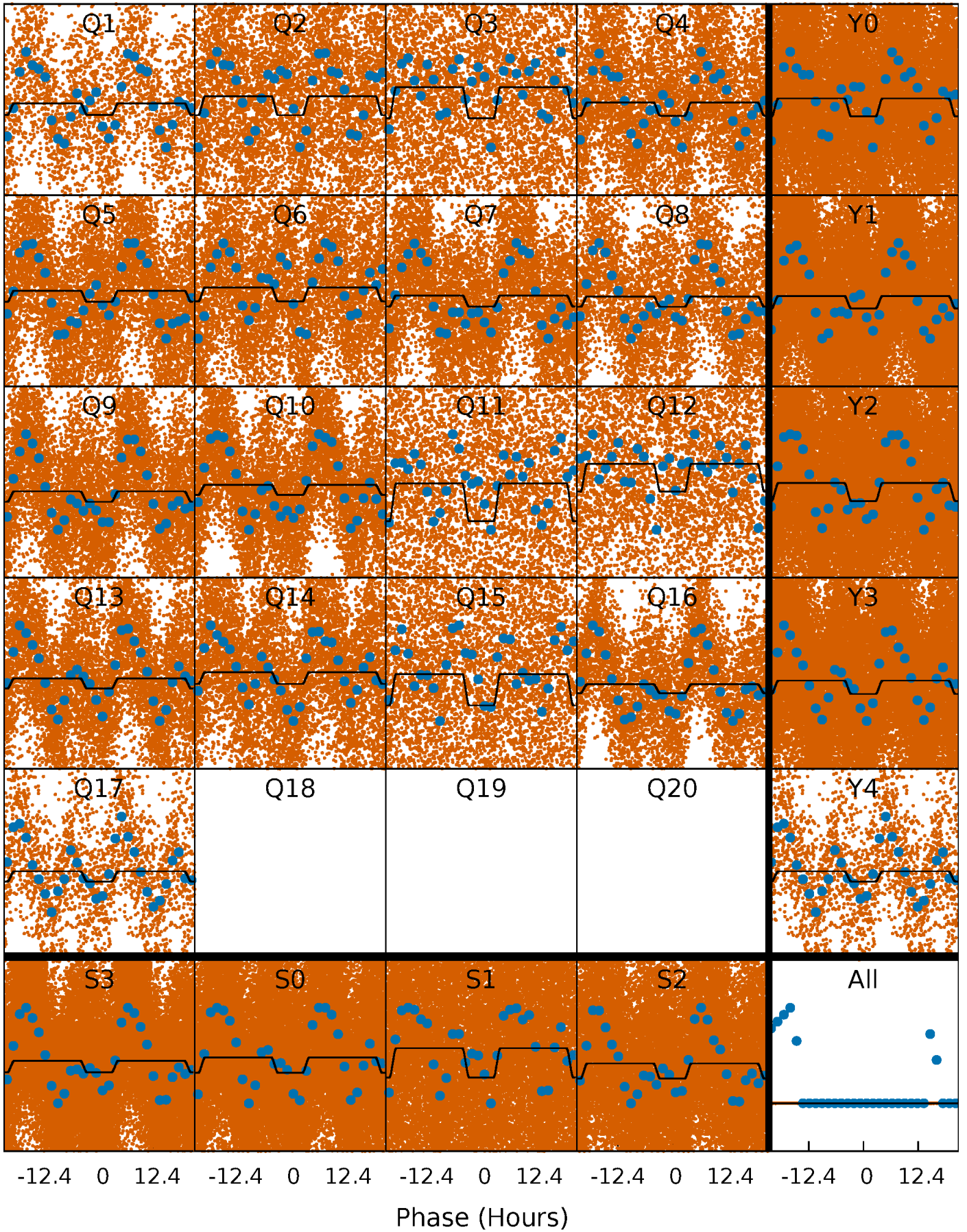
DV Quarter-Phased Transit Curves

TCE 008243804-01 P= 0.986177 Days $T_0=131.854744$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

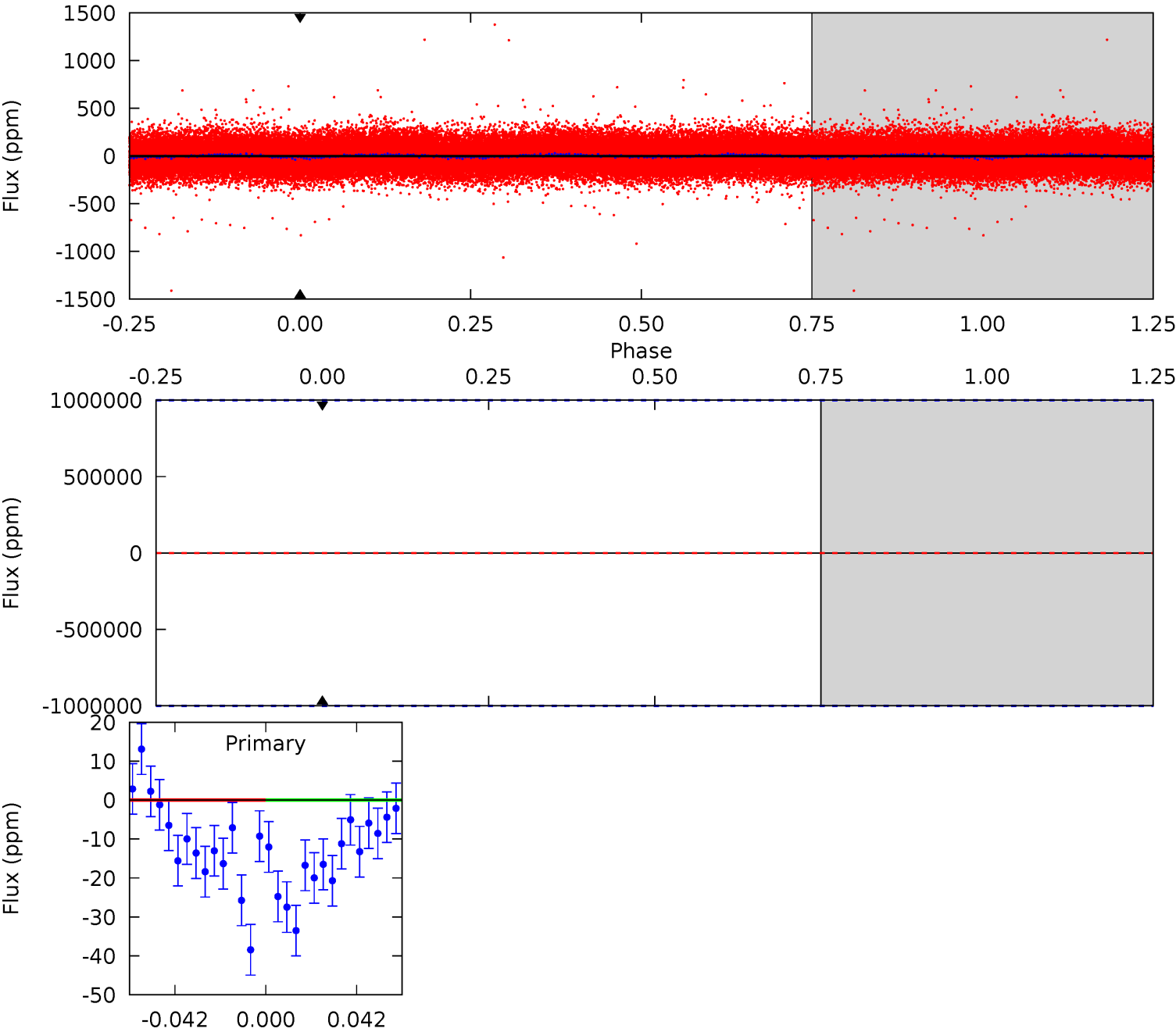
TCE 008243804-01 P= 0.986177 Days $T_0=132.014898$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-01, P = 0.986177 Days, E = 130.868567 Days

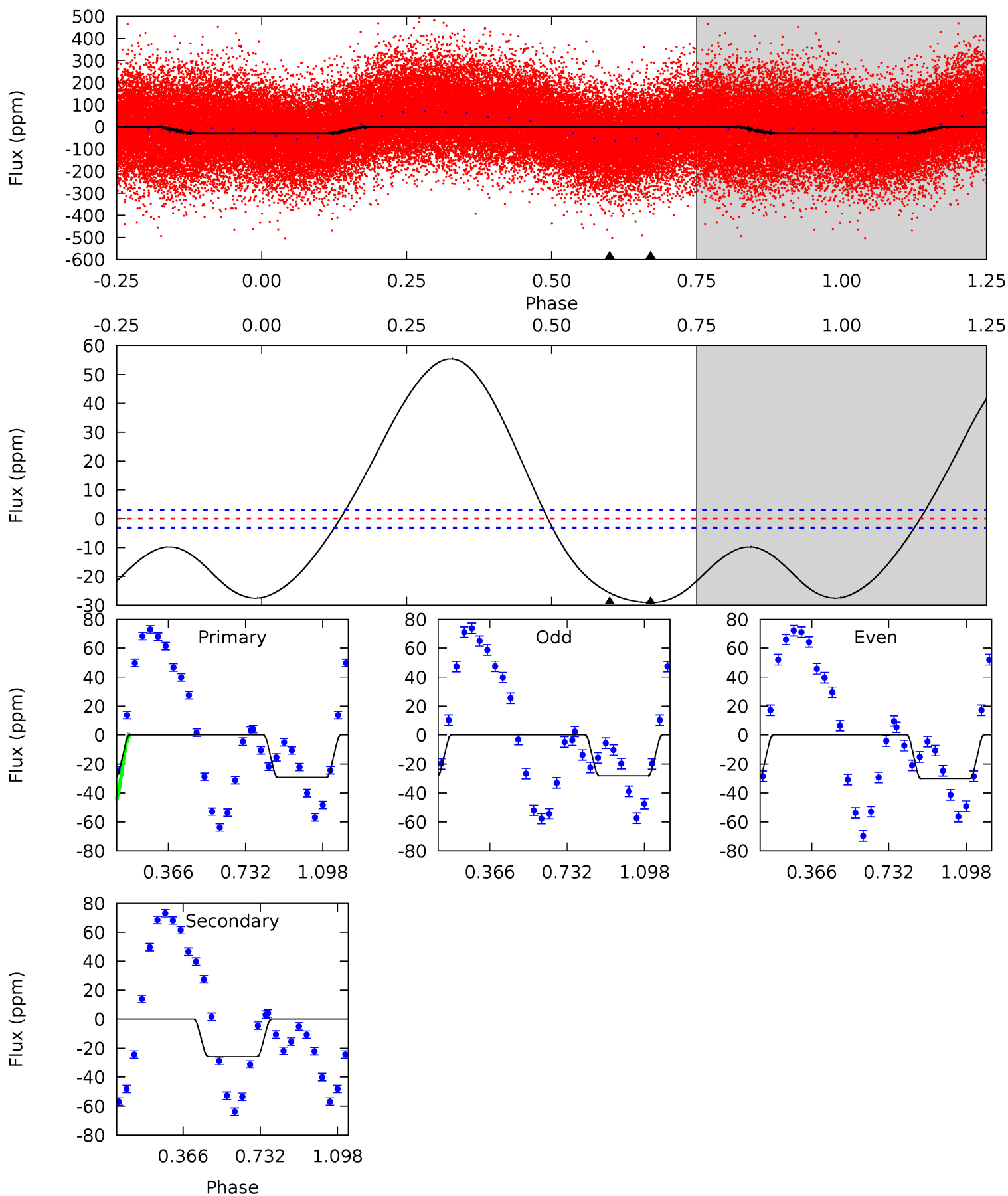
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008243804-01, P = 0.986177 Days, E = 131.028721 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.5	35.8	0	0	4.28	0.90	25.1	40.5	40.5	35.8	35.8	1.26	1.20	0.66	18.7



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$12.62^{+13.01}_{-9.68}$	3659^{+271}_{-298}	5580^{+30564}_{-37782}	$3.883^{+346.519}_{-274.327}$
Alt.	-26 ± 1	$11.24^{+13.74}_{-7.79}$	3612^{+306}_{-259}	-3290^{+6574}_{-244}	$0.050^{+0.480}_{-0.040}$

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

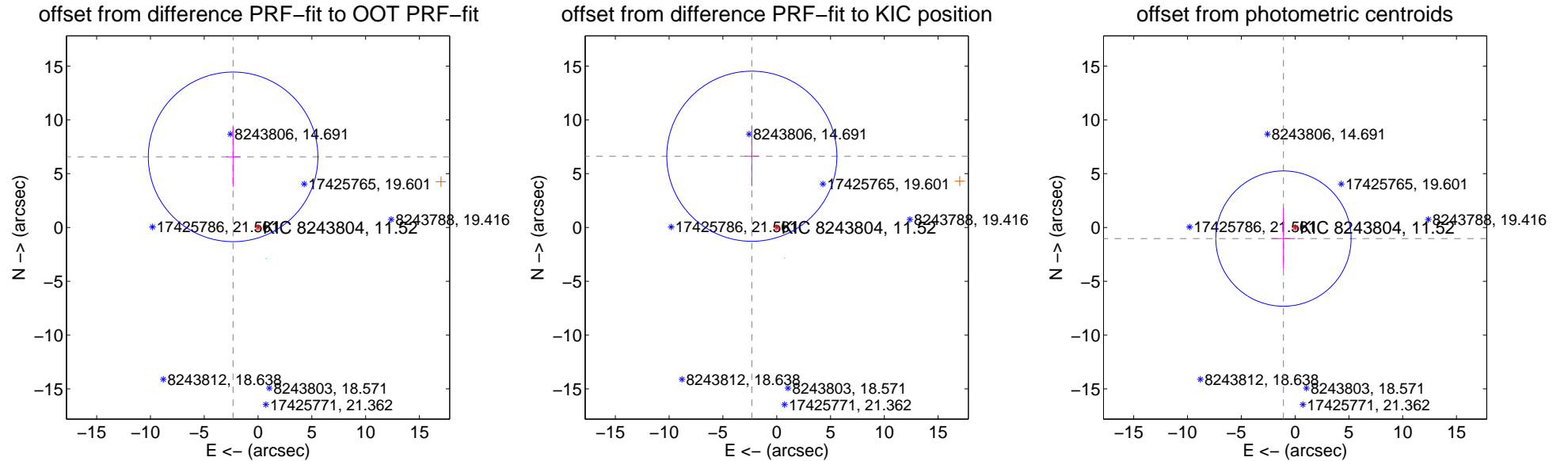
DV Centroid Data

Supplemental centroid analysis for 008243804-01. **Kepler magnitude: 11.52.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

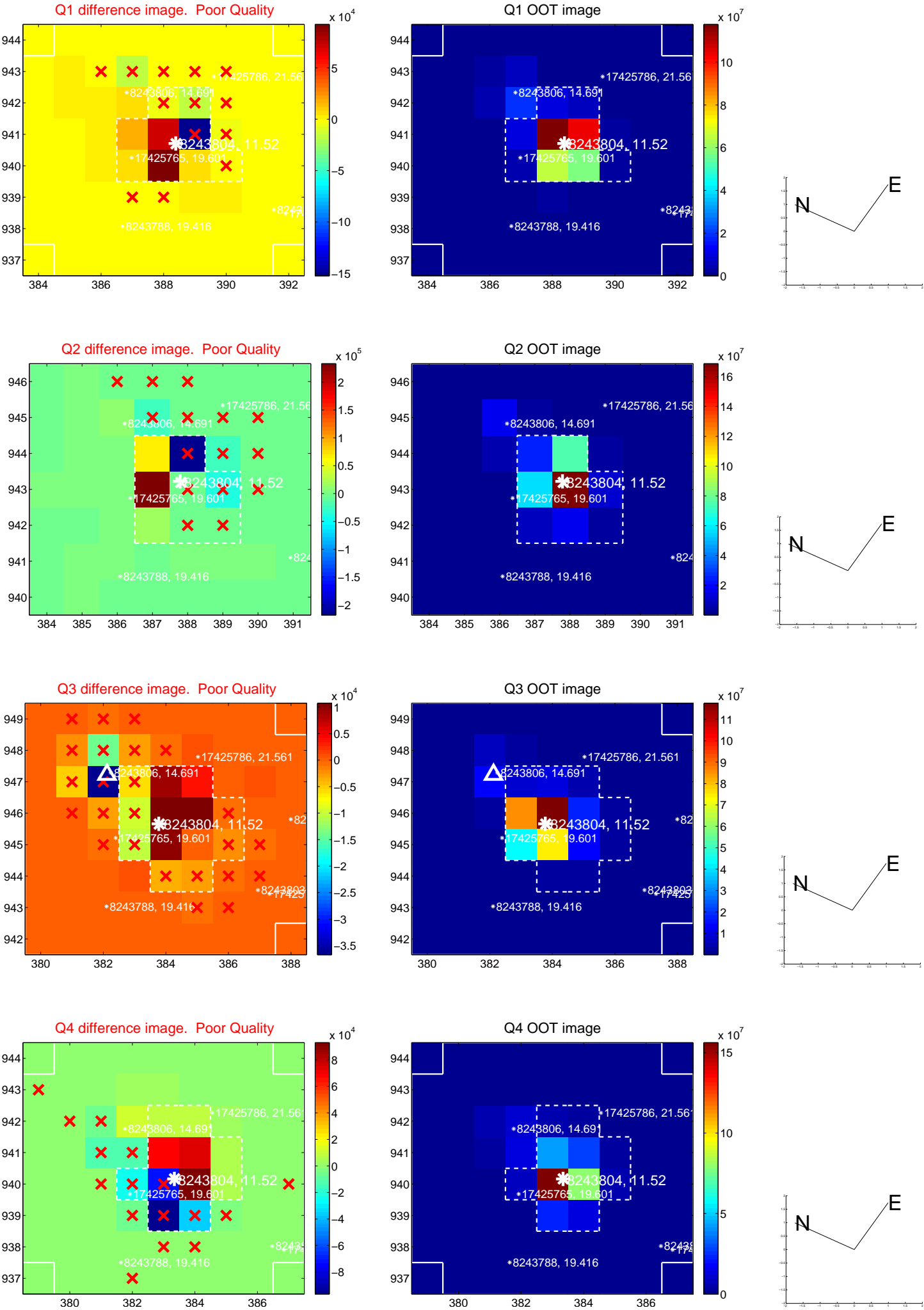
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.962 ± 2.628	2.65	2.319 ± 0.644	6.565 ± 2.778
PRF-fit source offset from KIC position	7.015 ± 2.636	2.66	2.313 ± 0.640	6.622 ± 2.783
photometric centroid source offset	1.50 ± 2.10	0.71	1.08 ± 1.10	-1.03 ± 2.81

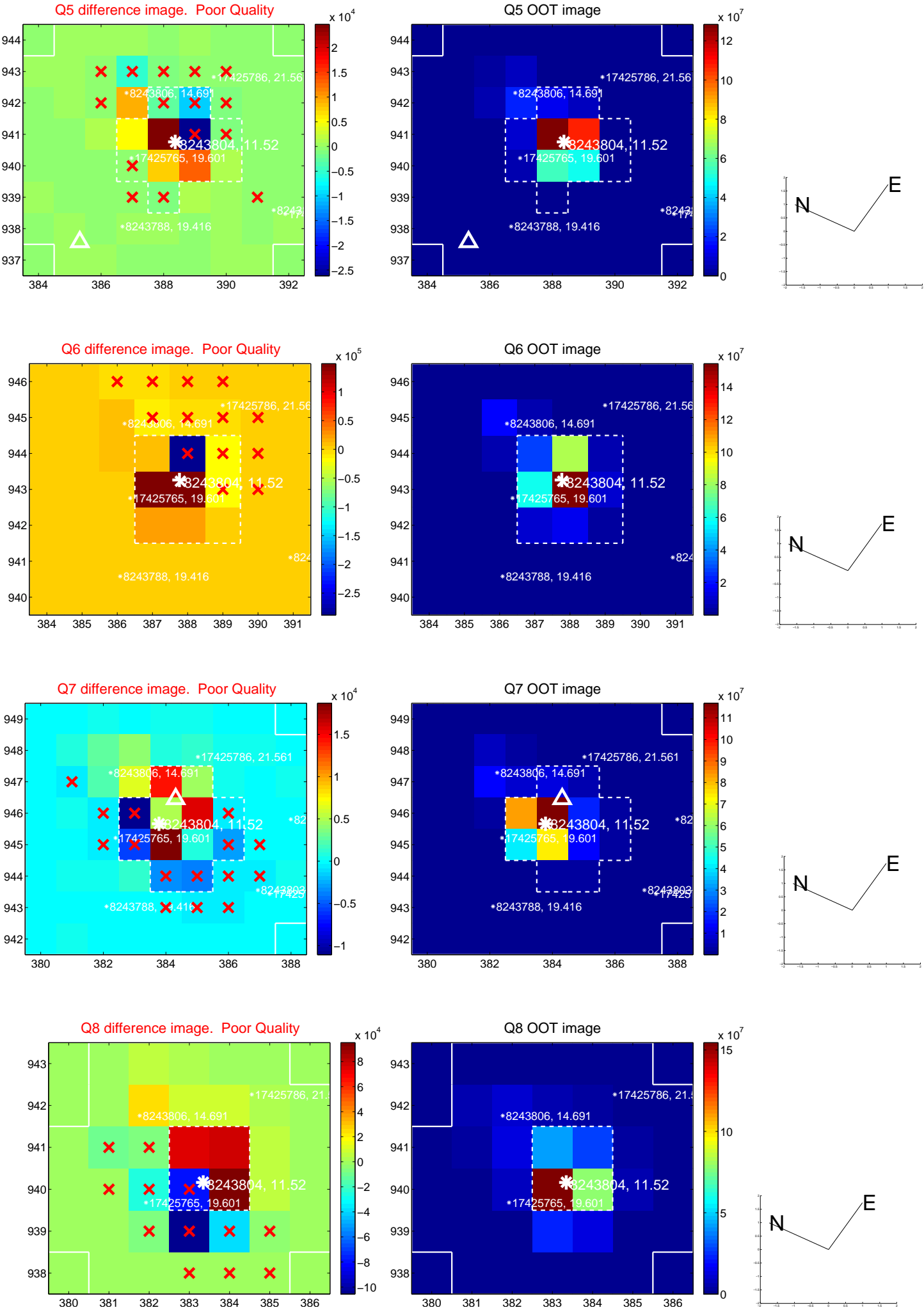


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

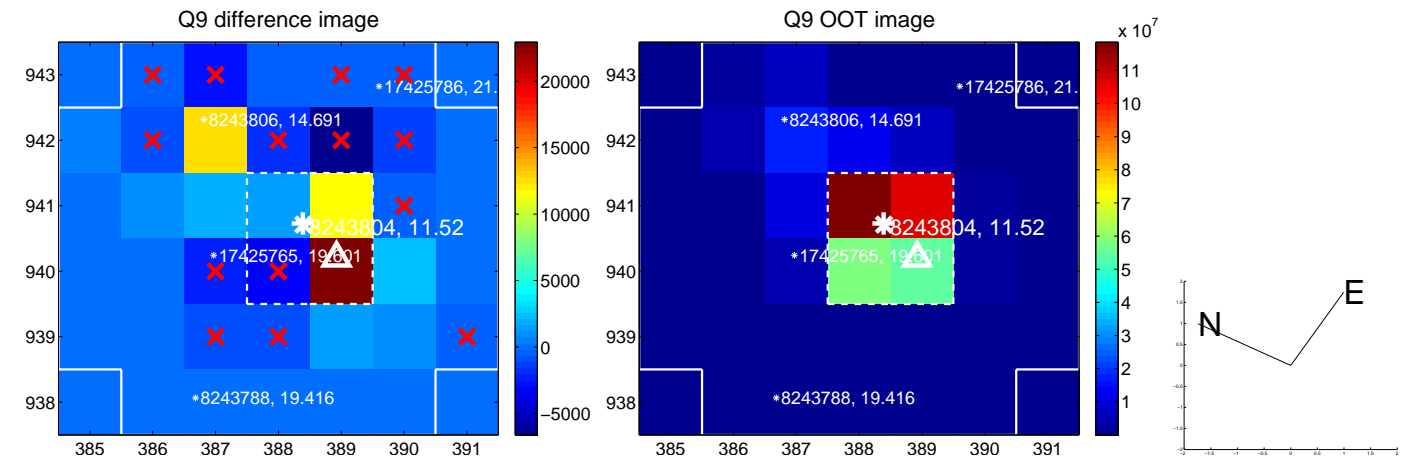
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



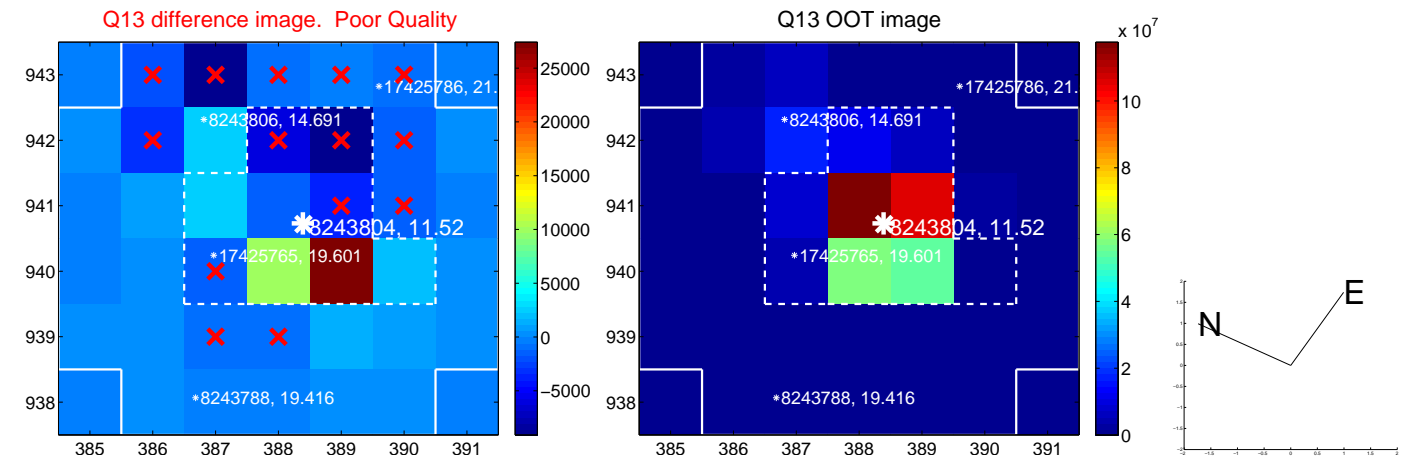
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



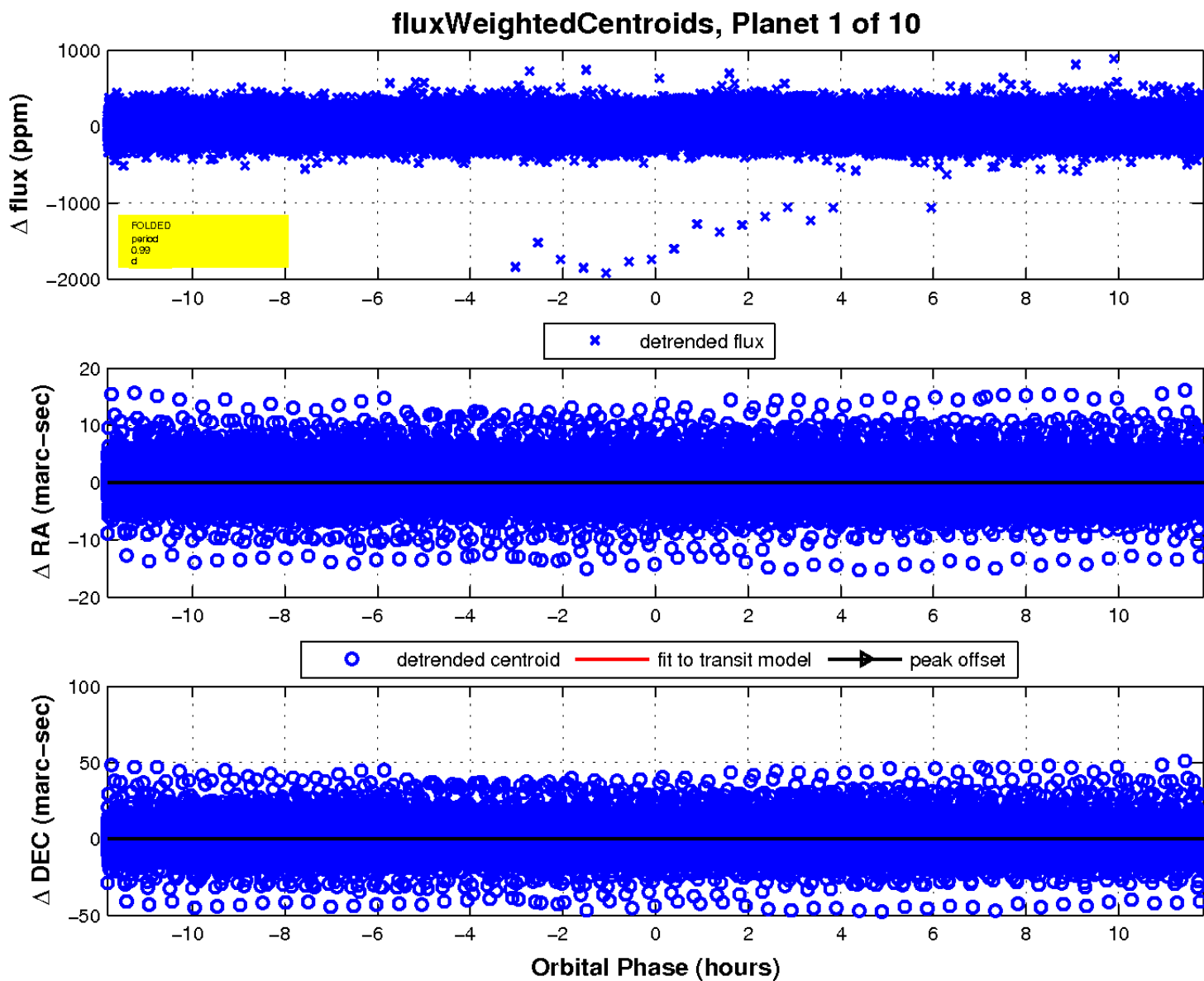
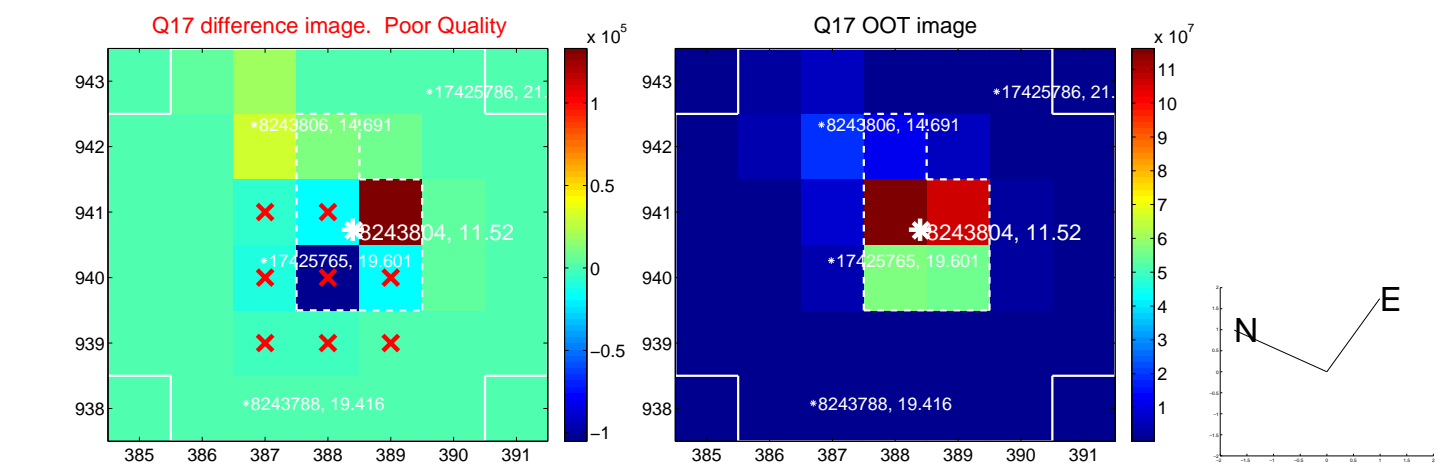
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

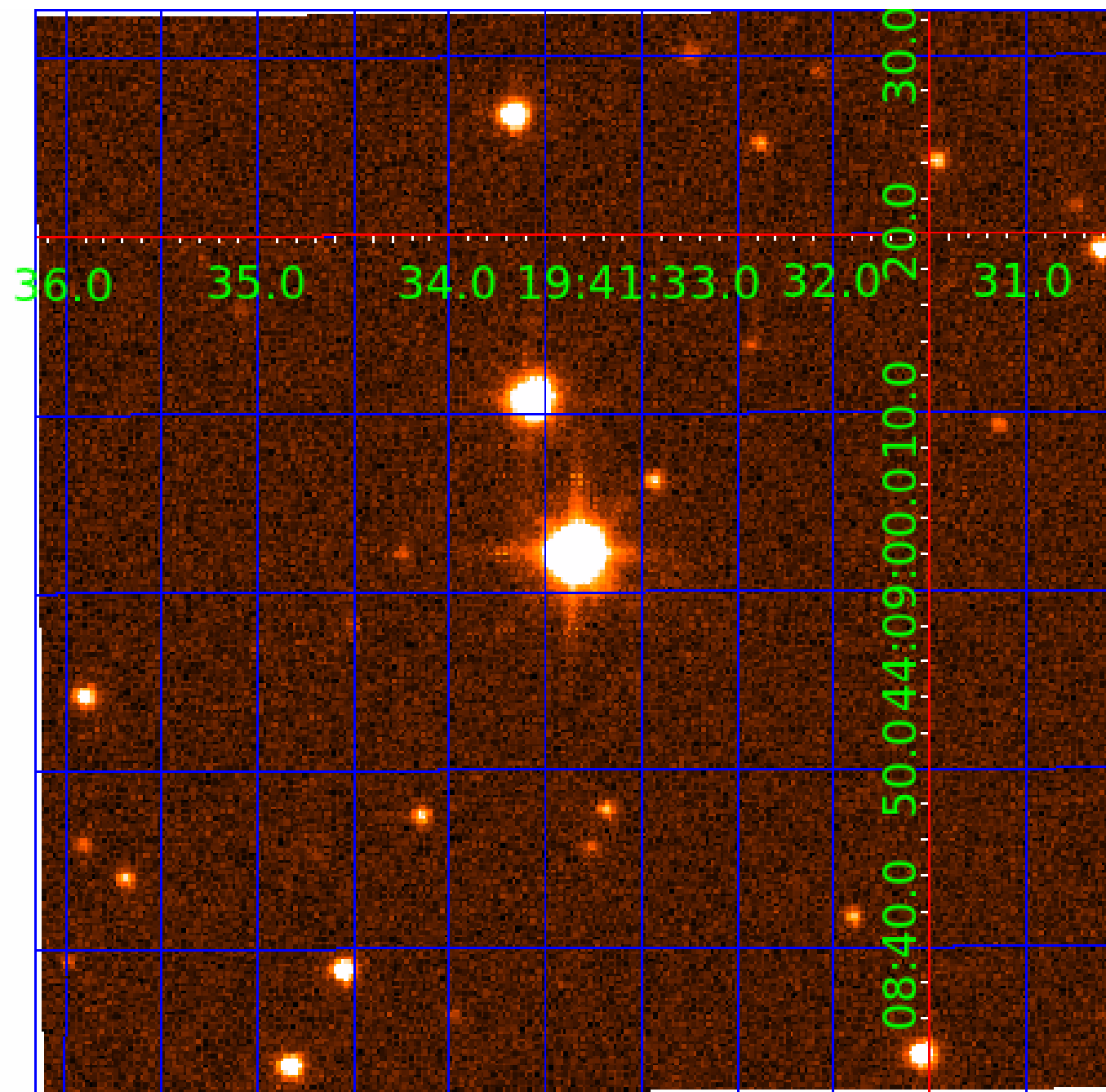


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008243804

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

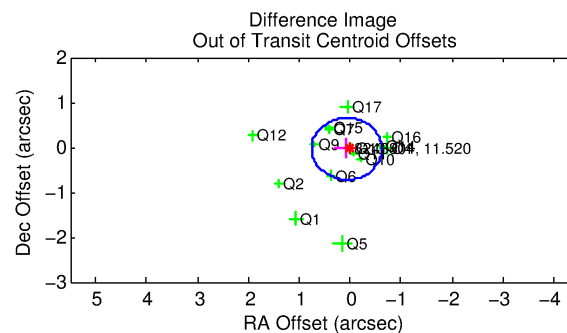
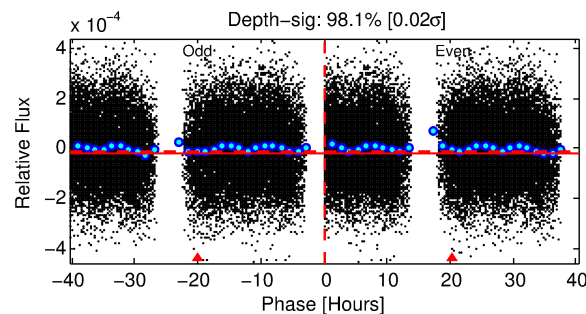
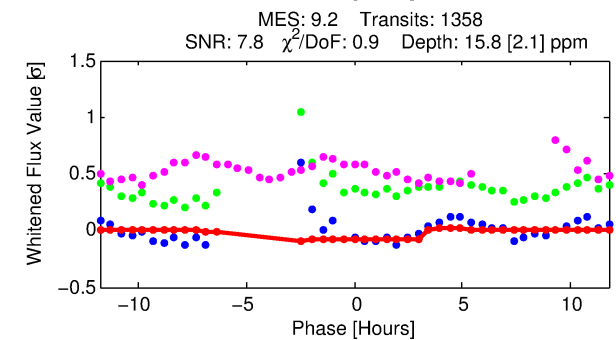
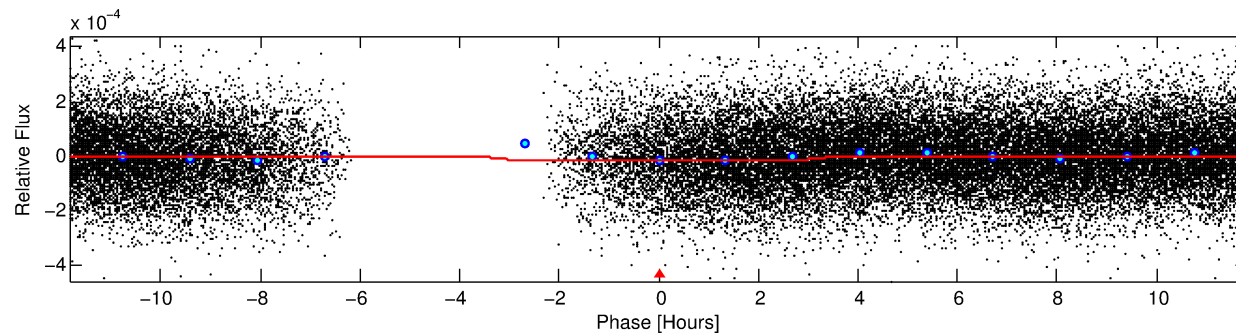
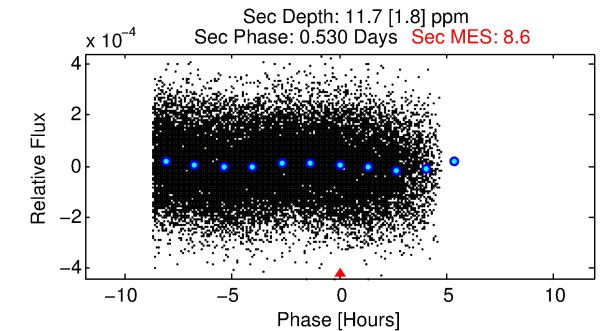
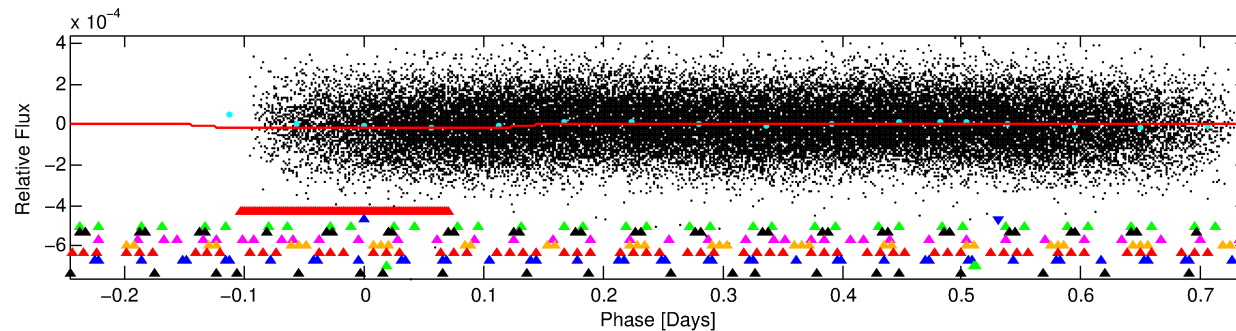
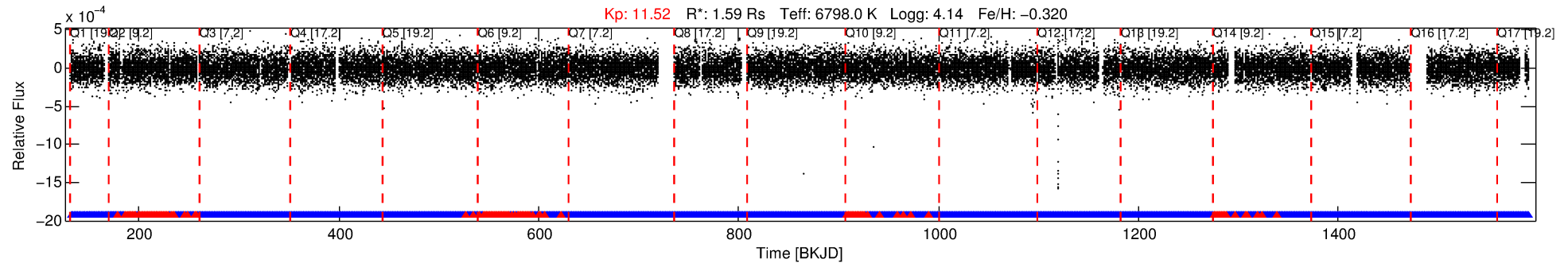
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-02

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 2 of 10 Period: 0.986 d



DV Fit Results:

Period = 0.98606 [0.00002] d
Epoch = 132.1184 [0.0161] BKJD
Rp/R* = 0.0039 [0.0023]
a/R* = 1.16 [1.05]
b = 0.70 [2.58]
Seff = 10930.28 [4257.78]
Teq = 2607 [254] K
Rp = 0.68 [0.45] Re
a = 0.0210 [0.0051] AU
Ag = 6.22 [7.84] [0.67σ]
Teffp = 6366 [1945] K [1.92σ]

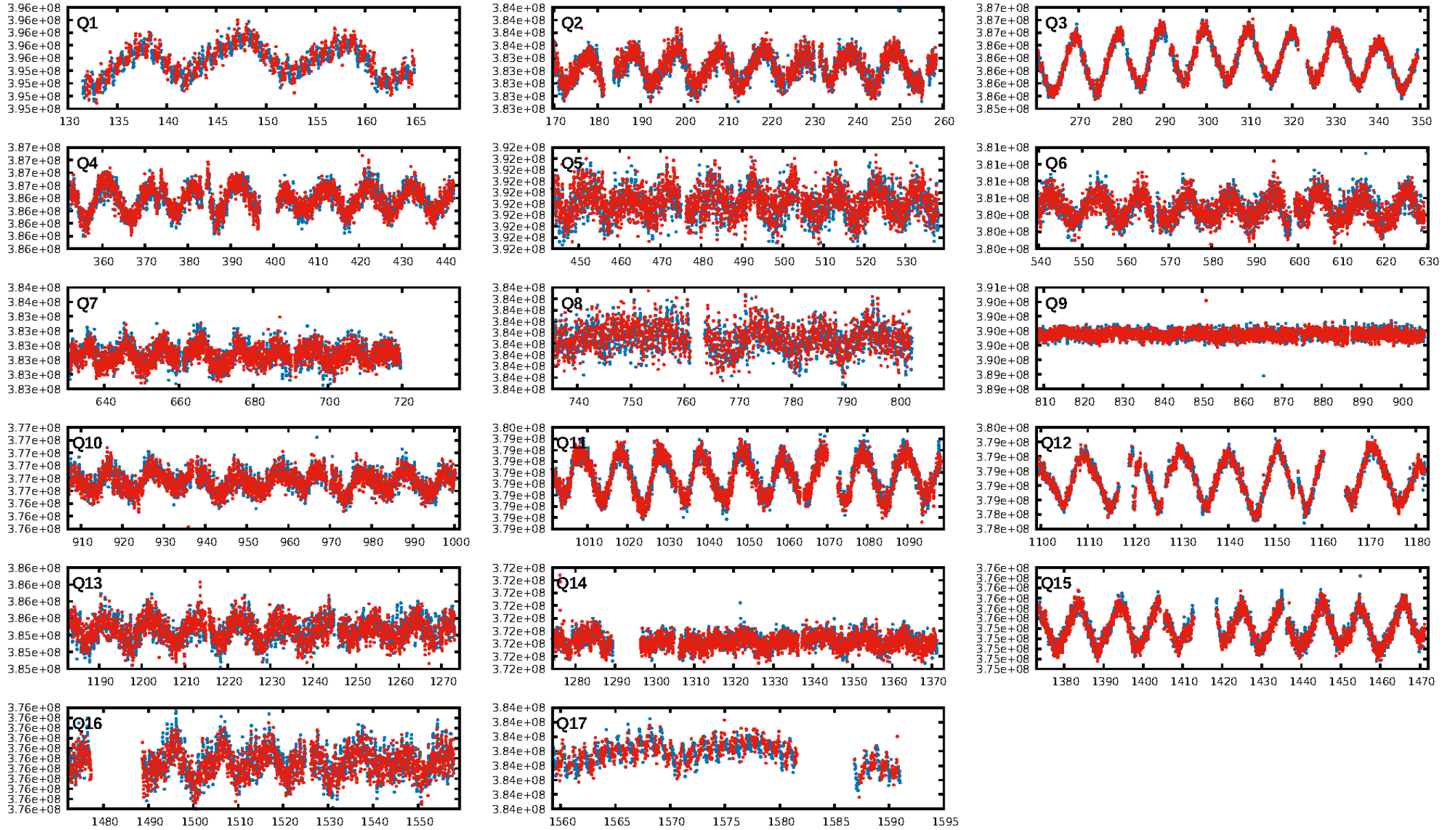
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.16e-10
RollingBand-fgt: 0.88 [1147/1298]
GhostDiagnostic-chr: -0.3613
Centroid-sig: 55.7%
Centroid-so: 2.161 arcsec [0.53σ]
OotOffset-rm: 0.078 arcsec [0.34σ]
KicOffset-rm: 0.107 arcsec [0.57σ]
OotOffset-st: 4/3/3/5 [15]
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DiffImageOverlap-fno: 0.00 [0/17]

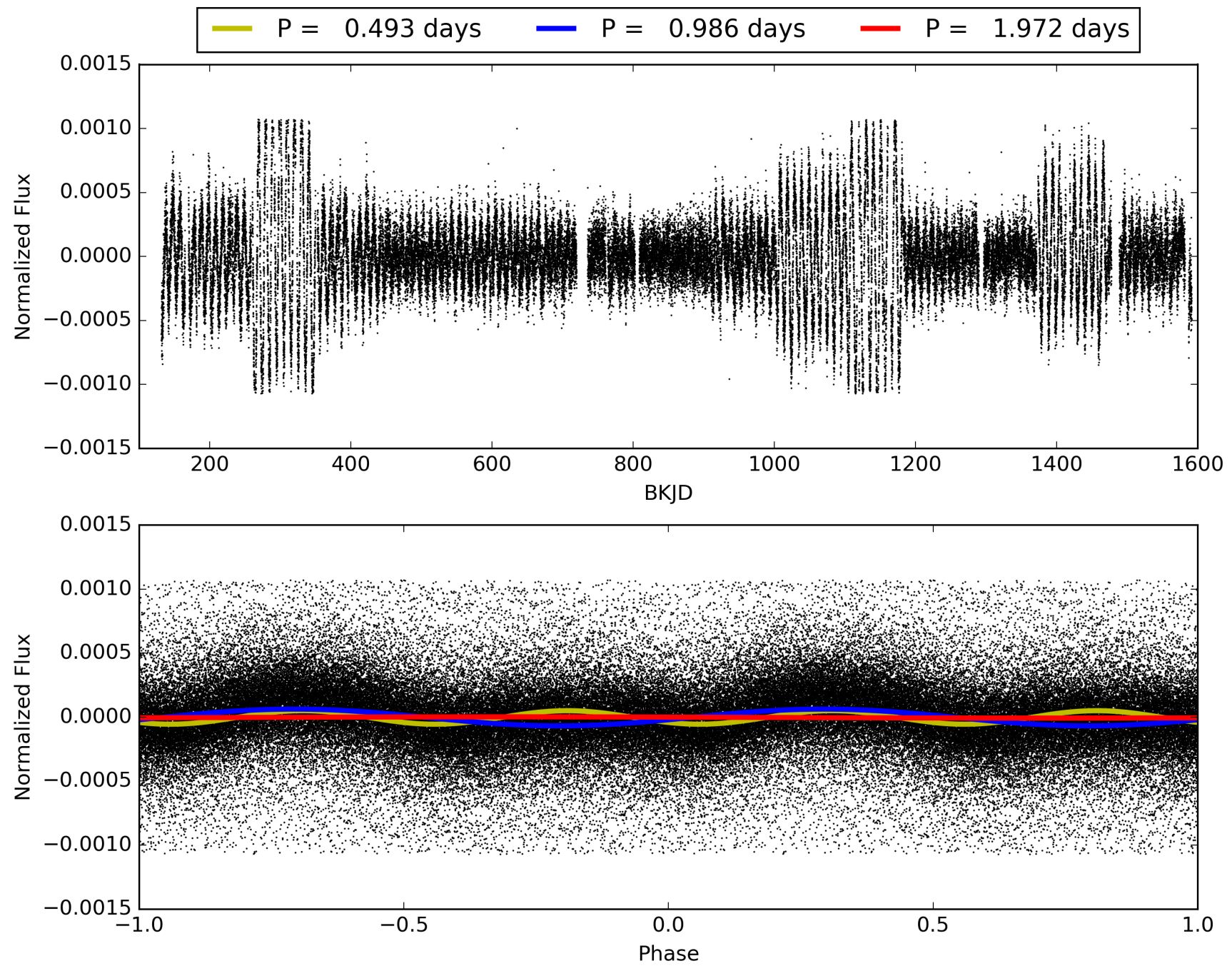
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:15 Z

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

TCE 008243804-02, PDC Light Curves

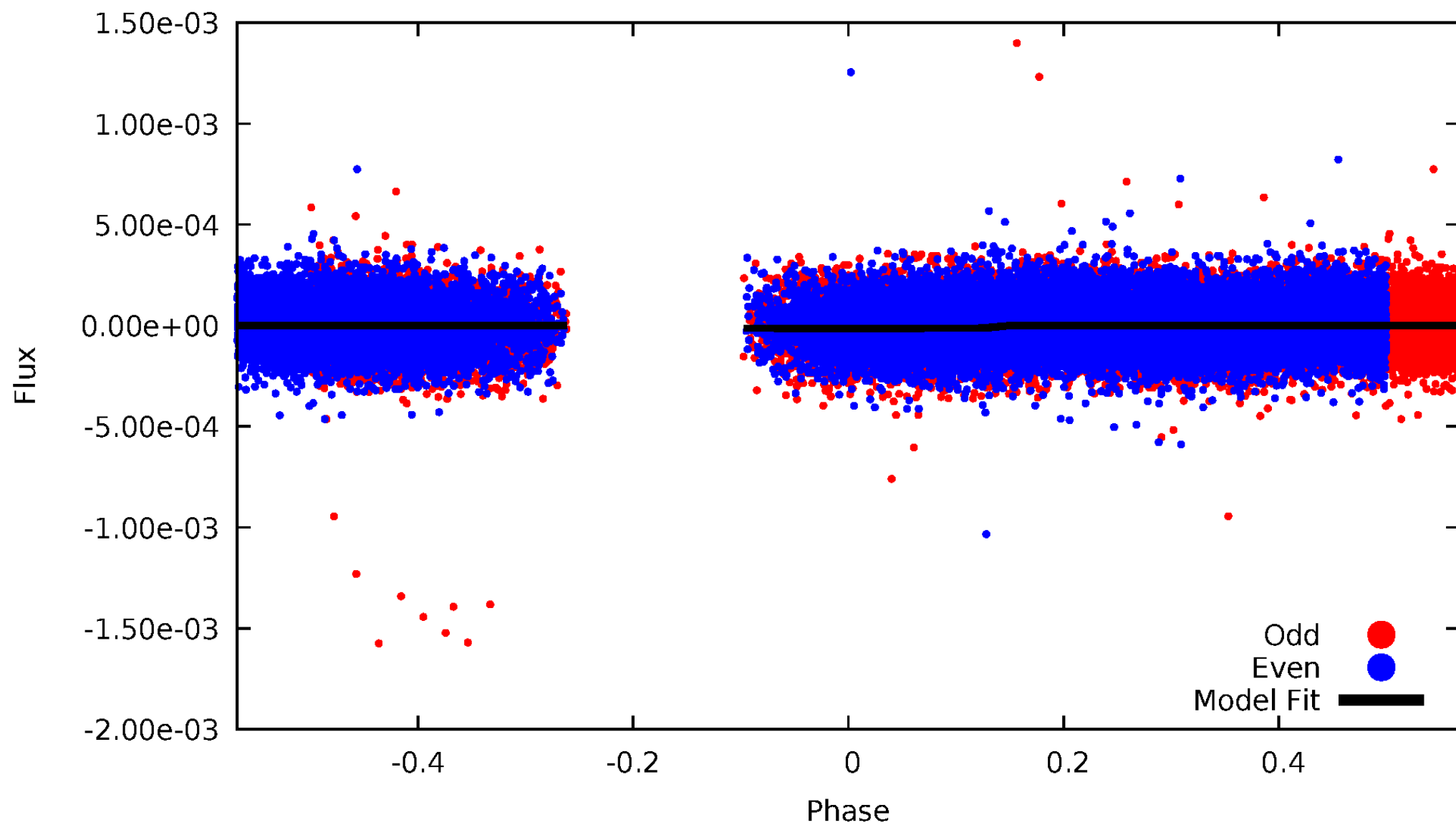


TCE 008243804-02



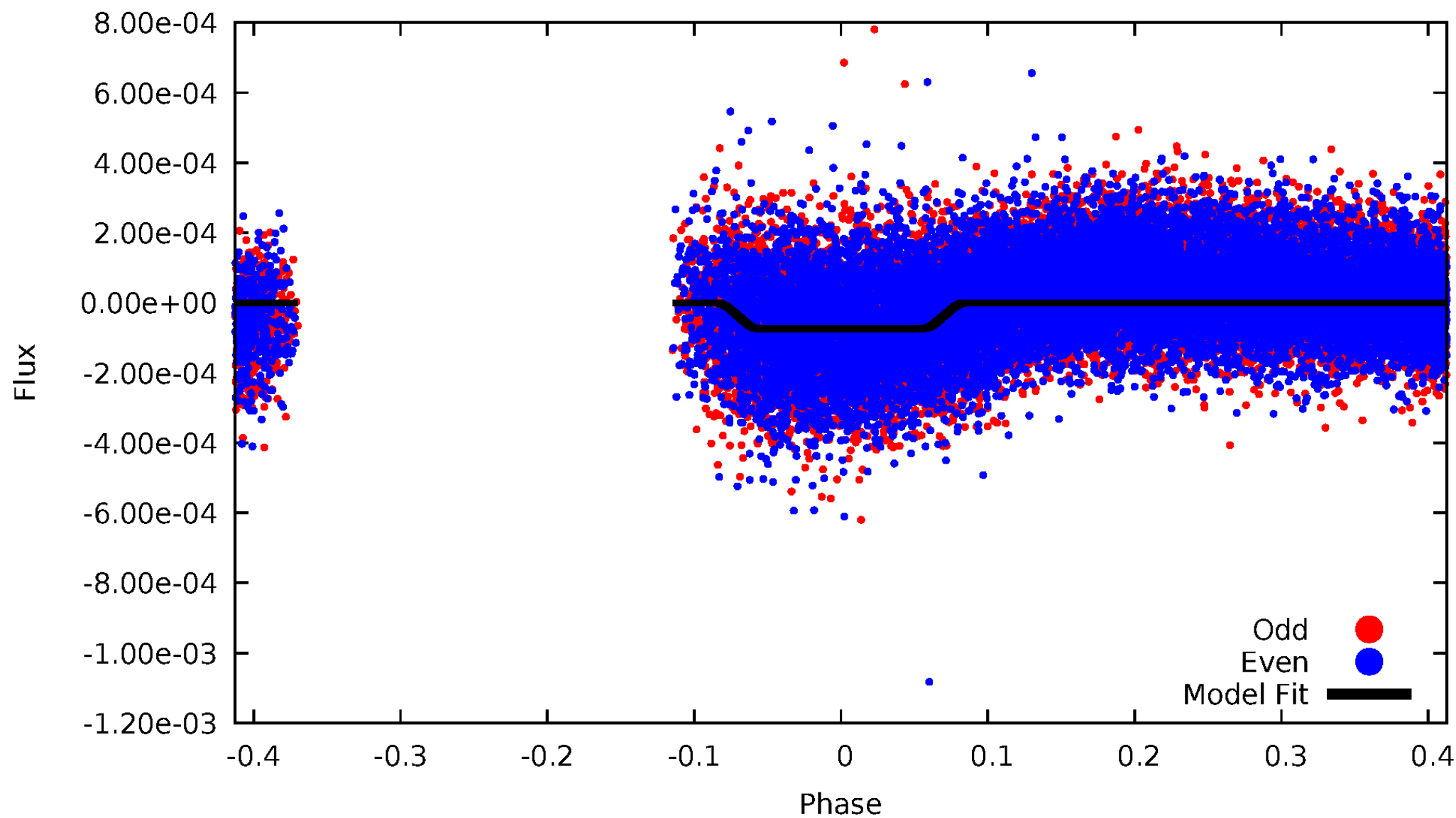
DV Odd/Even

TCE 008243804-02



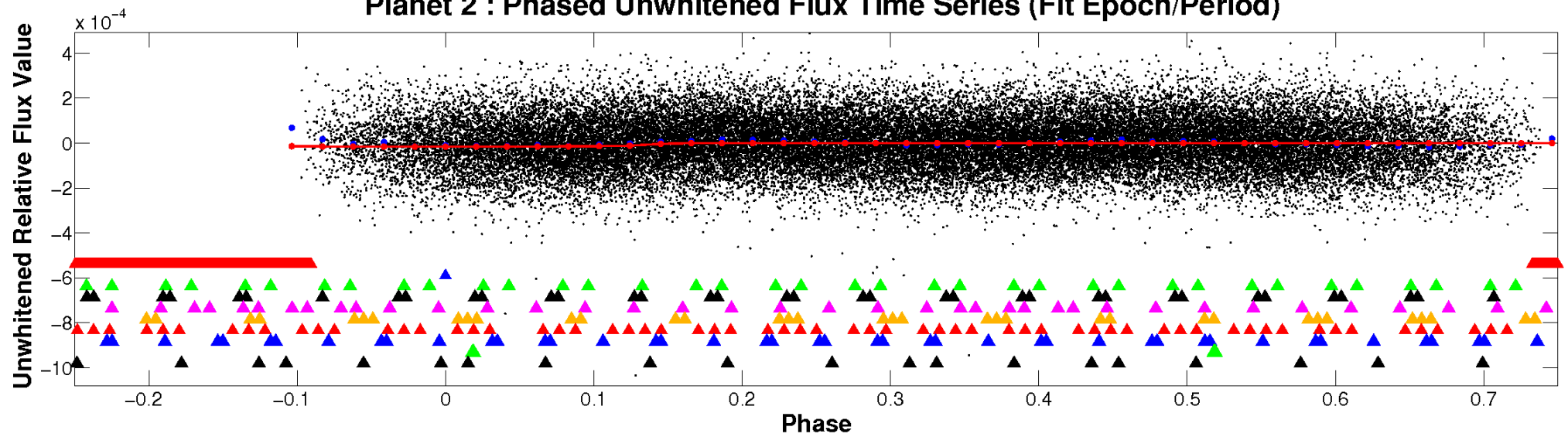
ALT Odd/Even

TCE 008243804-02

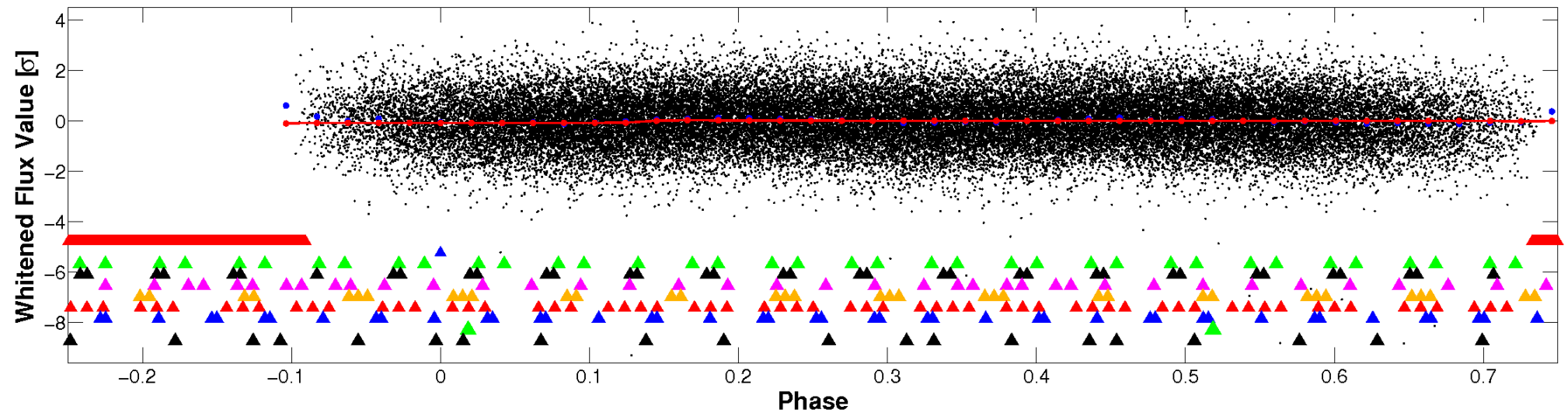


Non-Whitened Vs. Whitened Light Curve

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

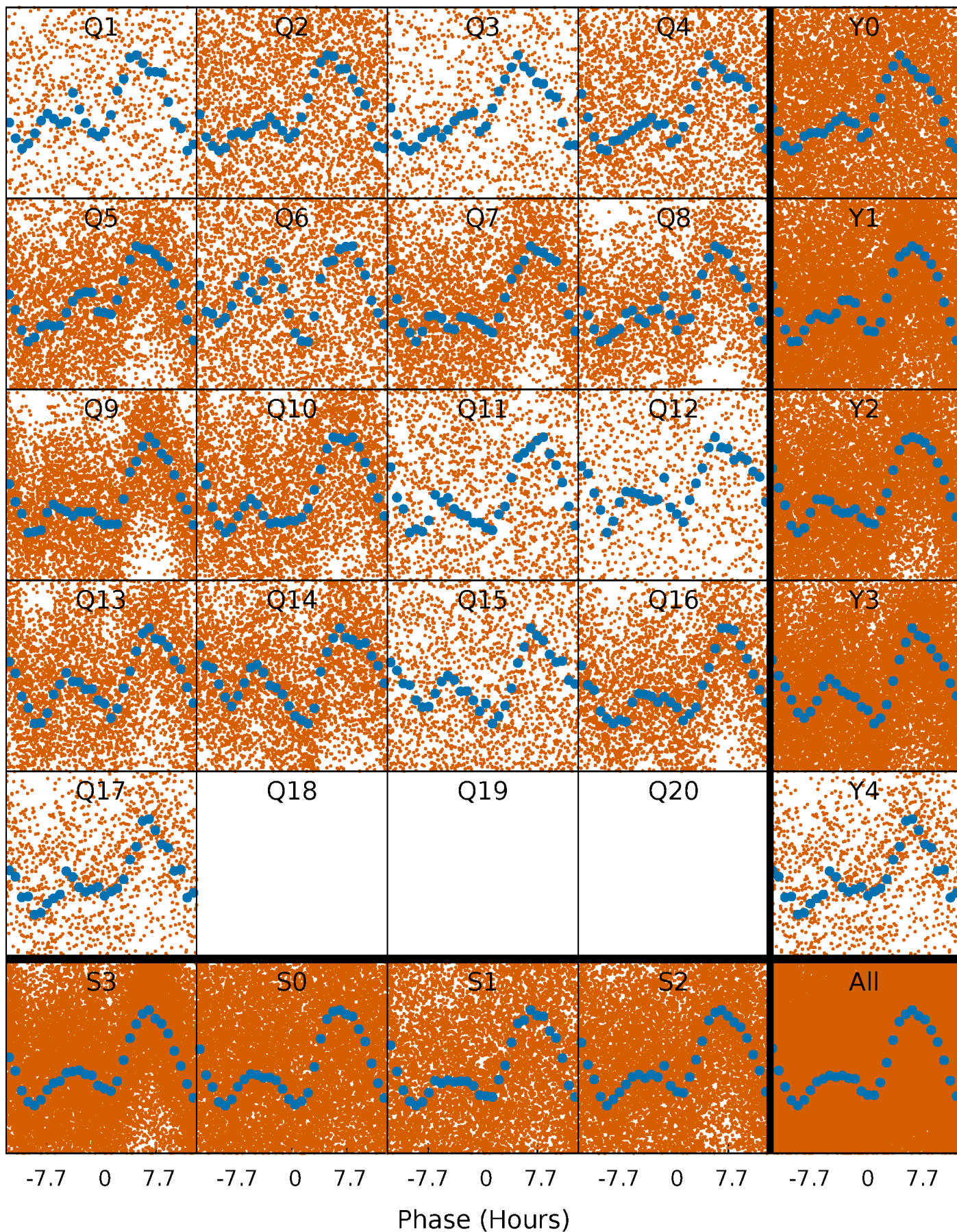


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



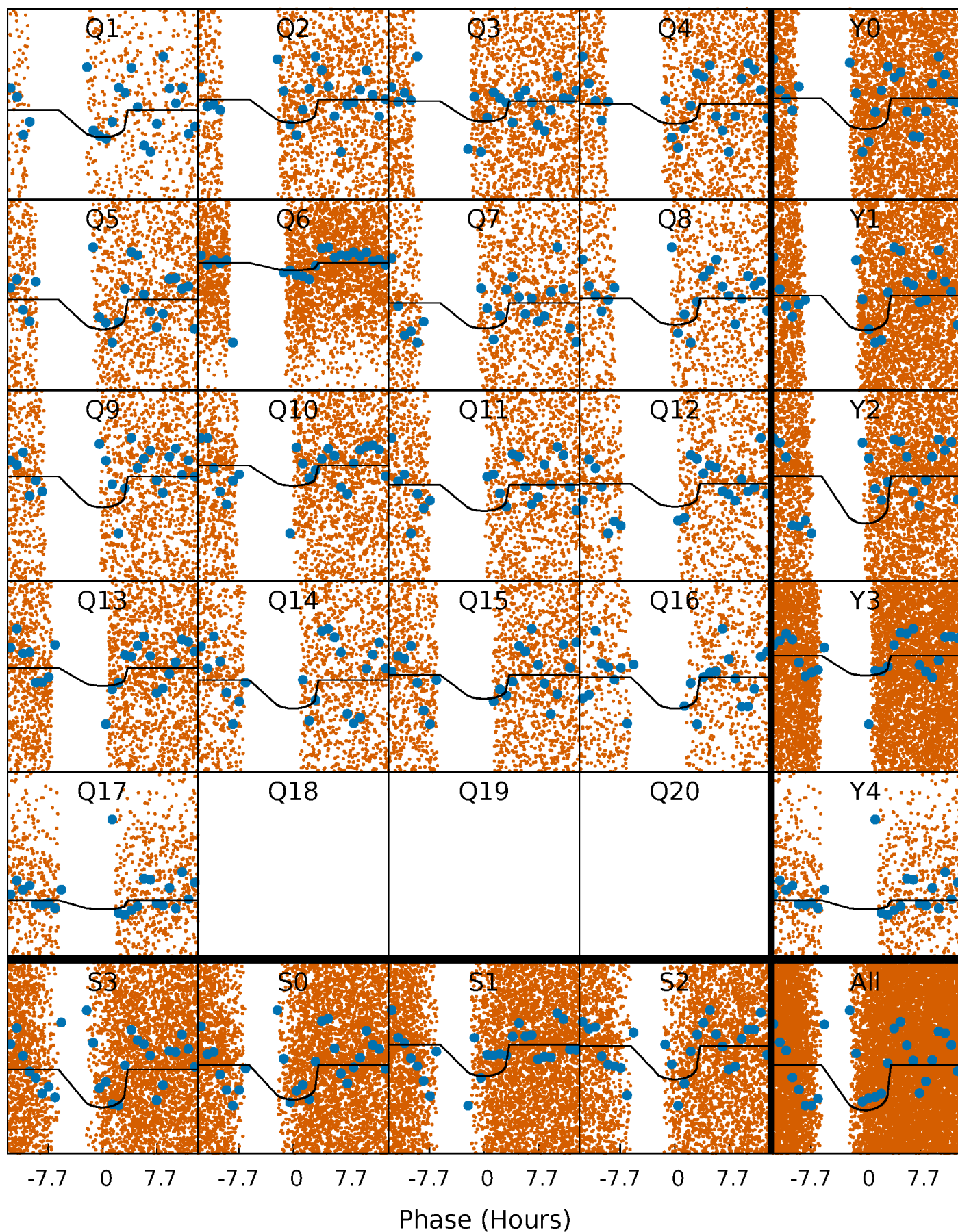
PDC Quarter-Phased Transit Curves

TCE 008243804-02 P= 0.986059 Days $T_0=132.118390$ (BKJD)



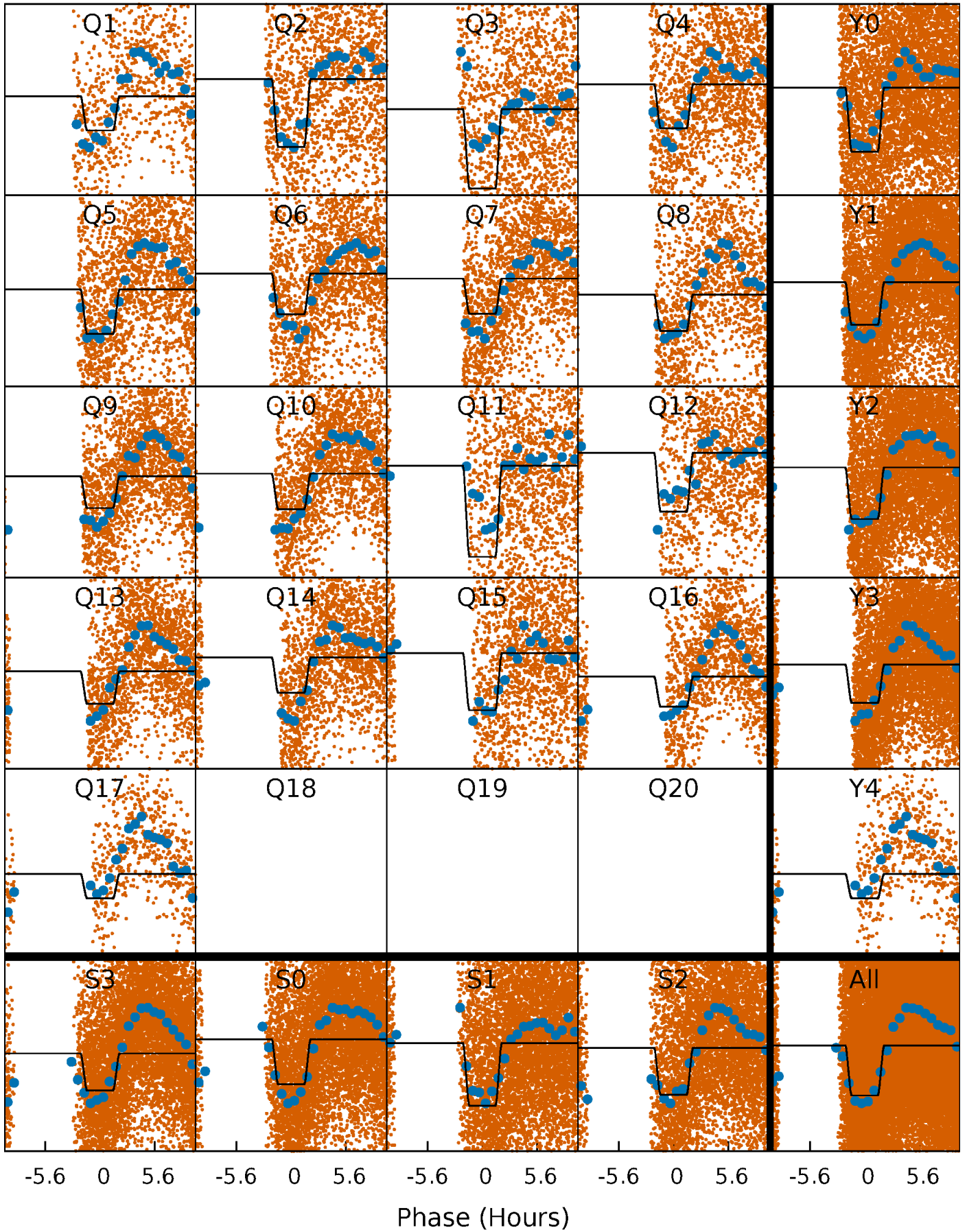
DV Quarter-Phased Transit Curves

TCE 008243804-02 P= 0.986059 Days $T_0=132.118390$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

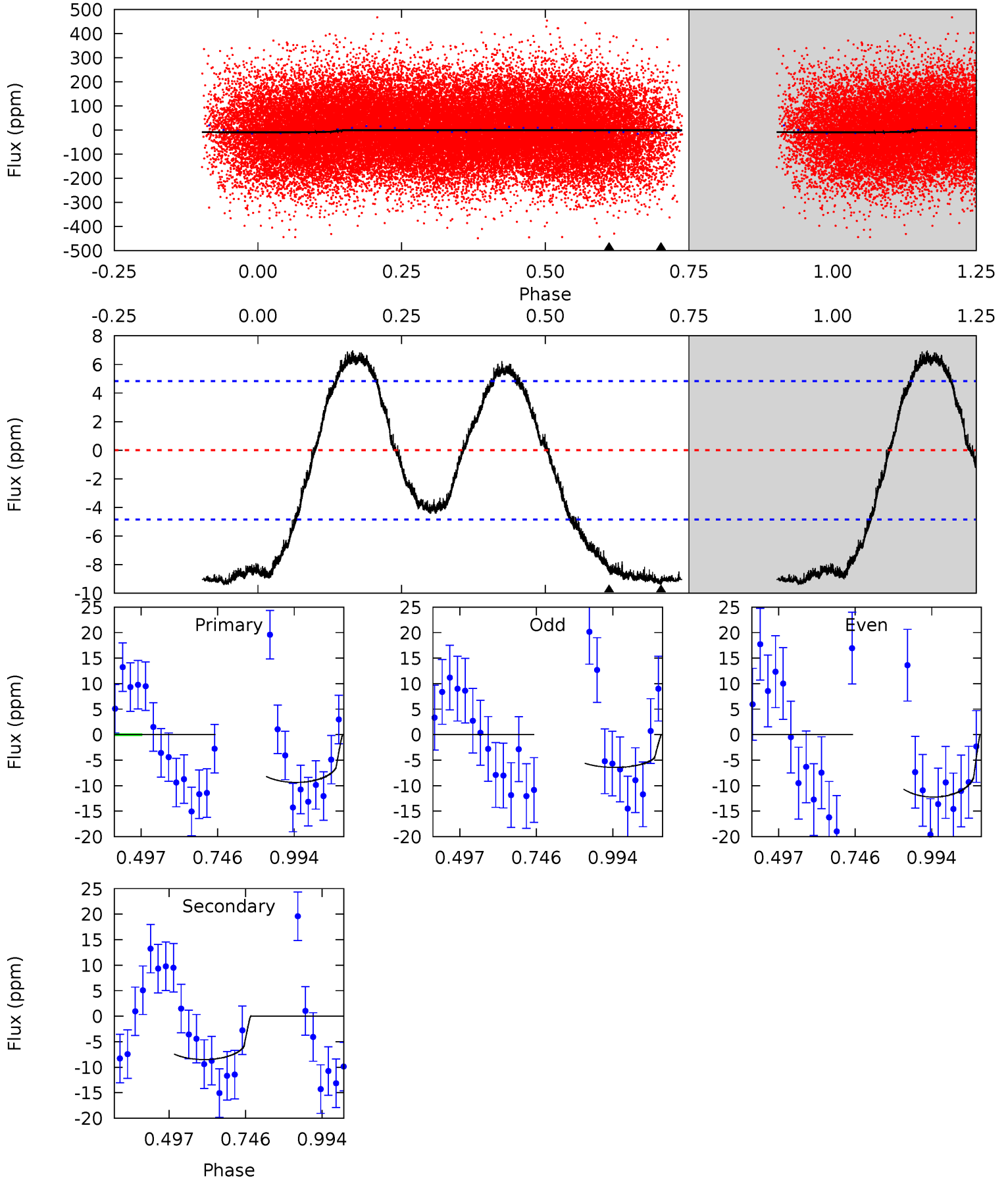
TCE 008243804-02 P= 0.986120 Days $T_0=132.135432$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-02, P = 0.986059 Days, E = 131.132331 Days

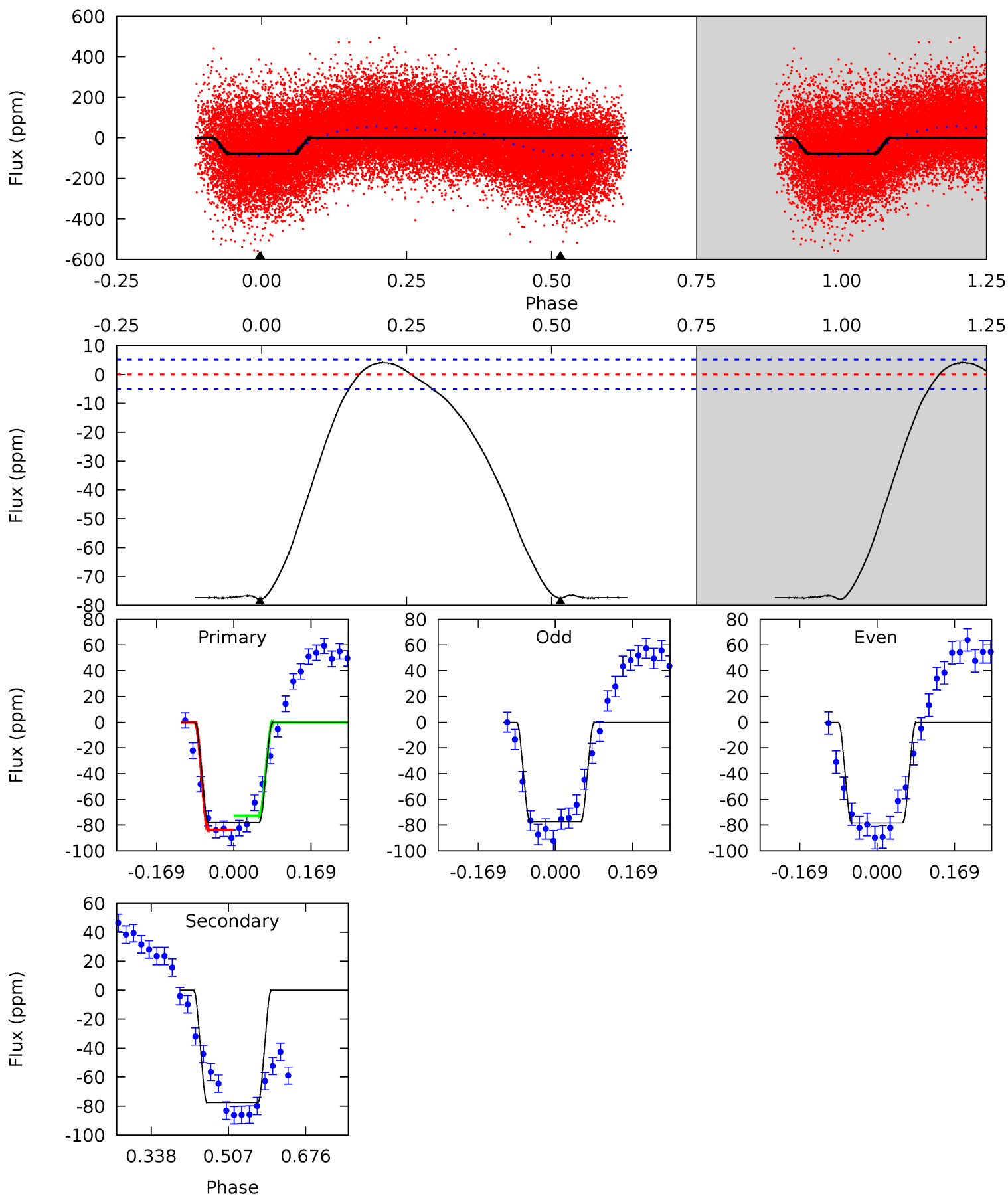
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.46	7.67	0	0	4.37	1.15	3.97	8.46	8.46	7.67	7.67	2.67	0.96	0.43	1.55



Alt Model-Shift Uniqueness Test

008243804-02, P = 0.986120 Days, E = 131.149312 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.6	66.3	0	0	4.45	1.38	4.85	66.6	66.6	66.3	66.3	0.49	1.01	0.05	4.10



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 1	$0.70^{+0.45}_{-0.39}$	3641^{+308}_{-266}	5589^{+3054}_{-1101}	$4.030^{+15.662}_{-2.547}$
Alt.	-78 ± 1	$1.49^{+0.50}_{-0.43}$	3636^{+270}_{-280}	6788^{+1384}_{-867}	$8.431^{+8.105}_{-3.599}$

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

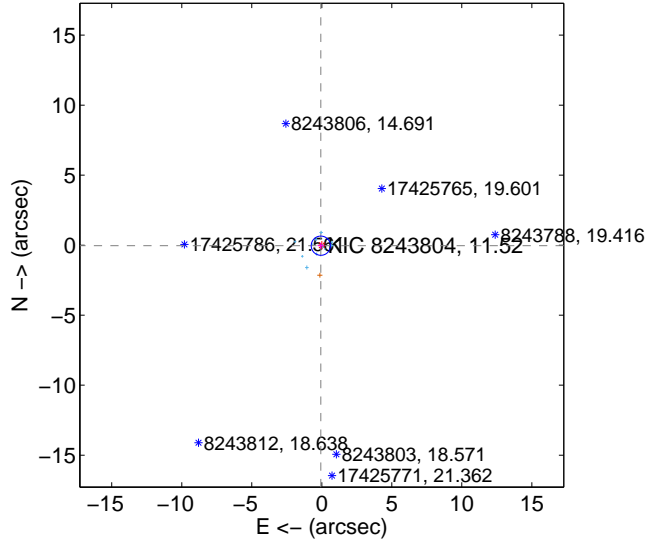
Supplemental centroid analysis for 008243804-02. **Kepler magnitude: 11.52**. Transit SNR 7.80

There are 14 quarters with good PRF difference image offsets

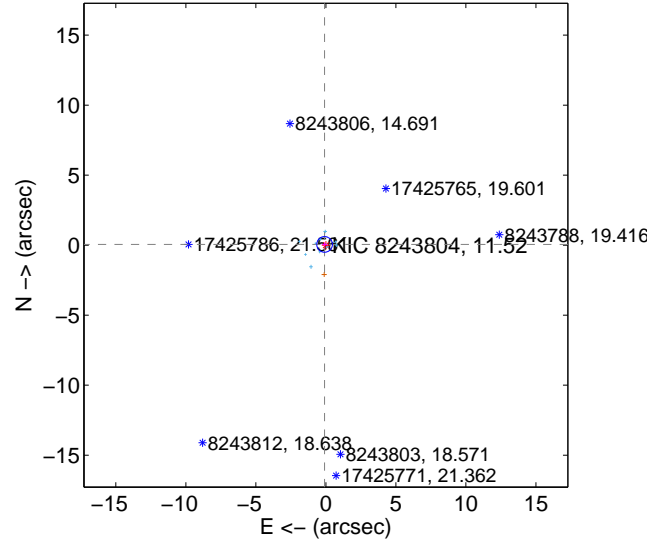
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.229	0.34	0.068 ± 0.221	-0.038 ± 0.208
PRF-fit source offset from KIC position	0.107 ± 0.186	0.57	0.092 ± 0.200	0.054 ± 0.138
photometric centroid source offset	2.16 ± 4.08	0.53	-0.37 ± 1.64	2.13 ± 4.13

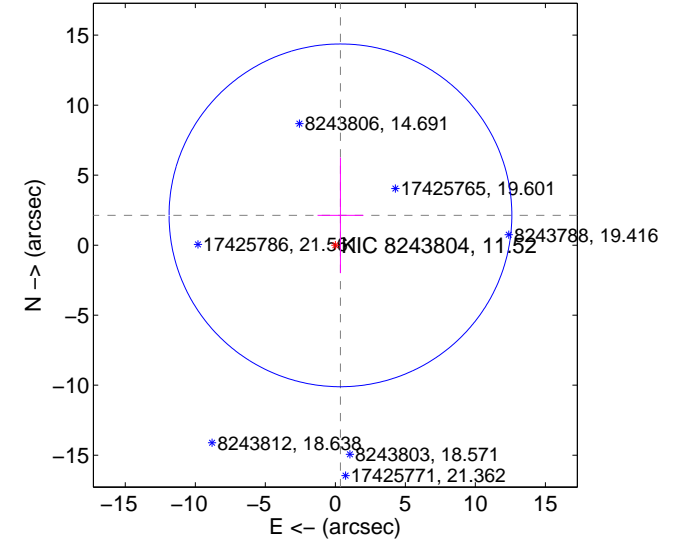
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

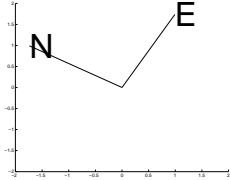
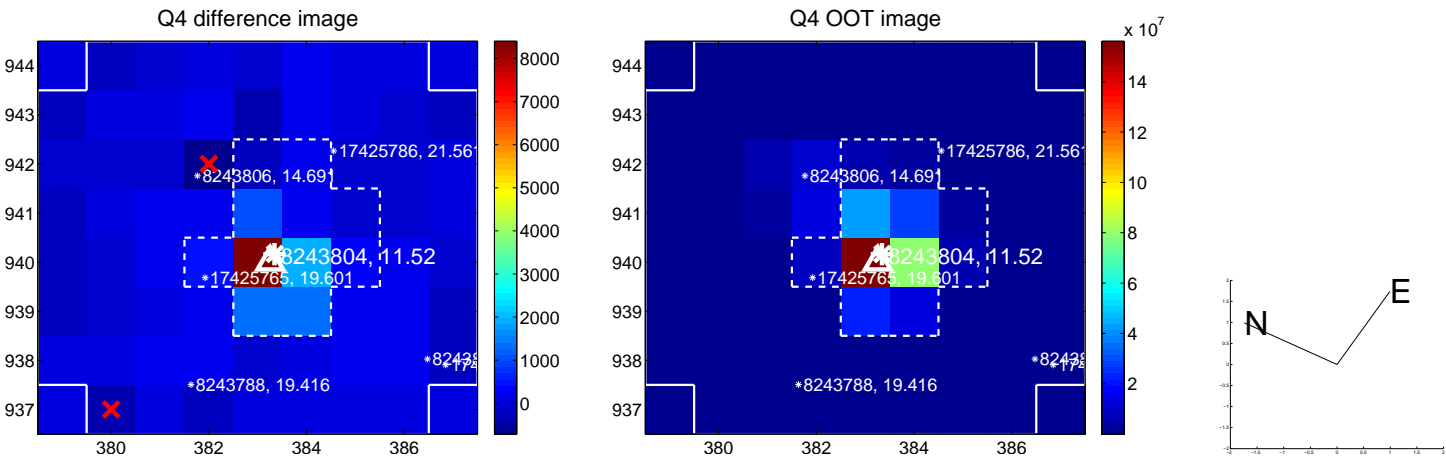
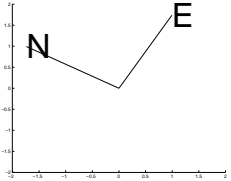
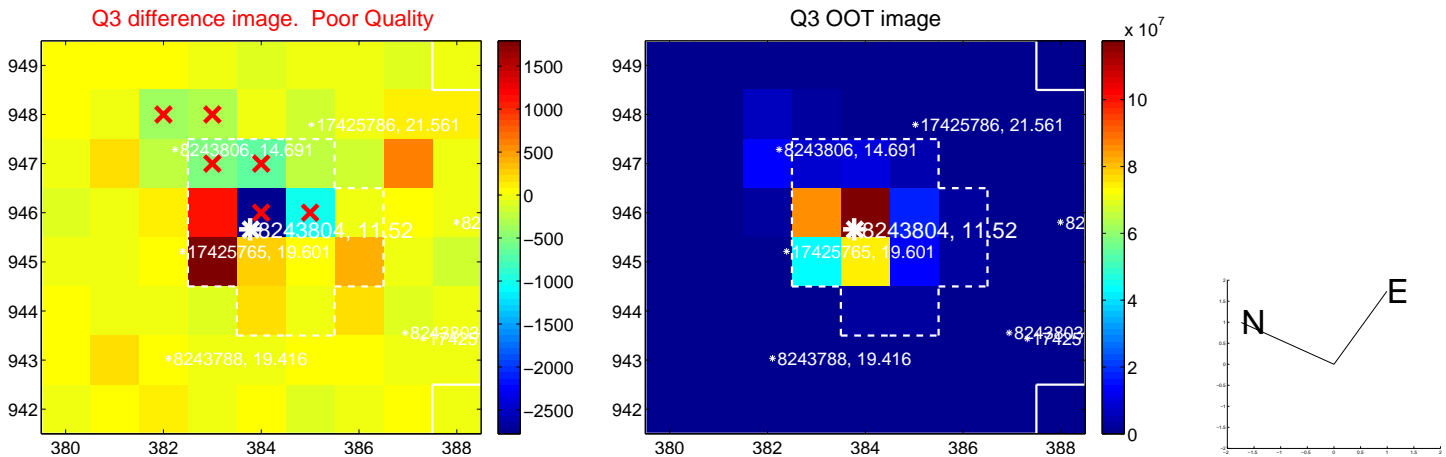
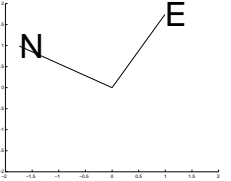
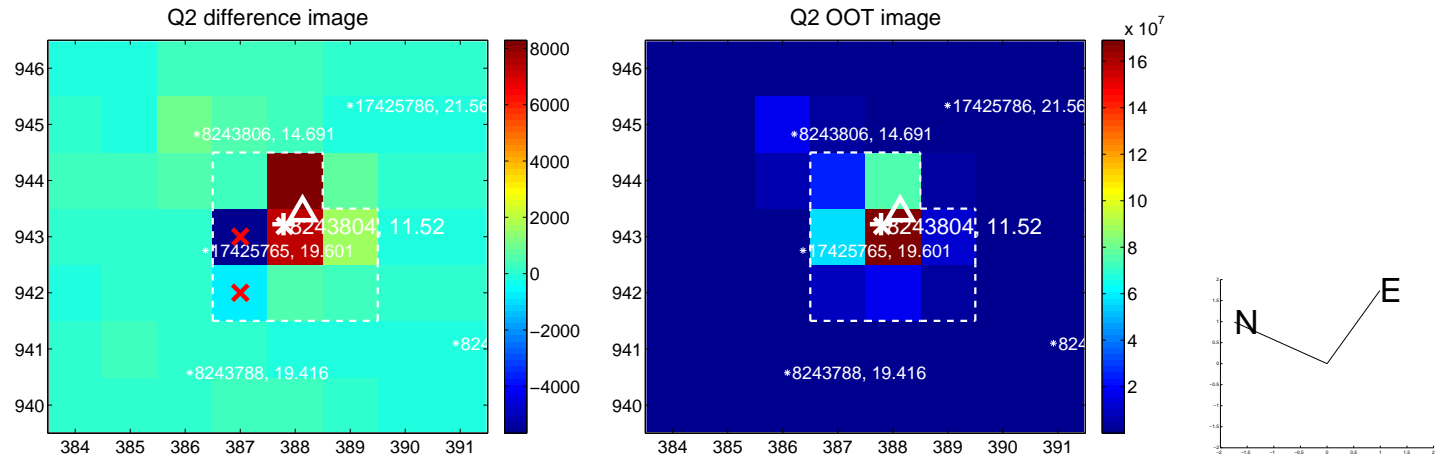
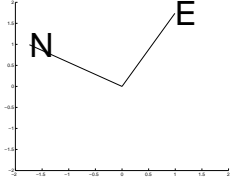
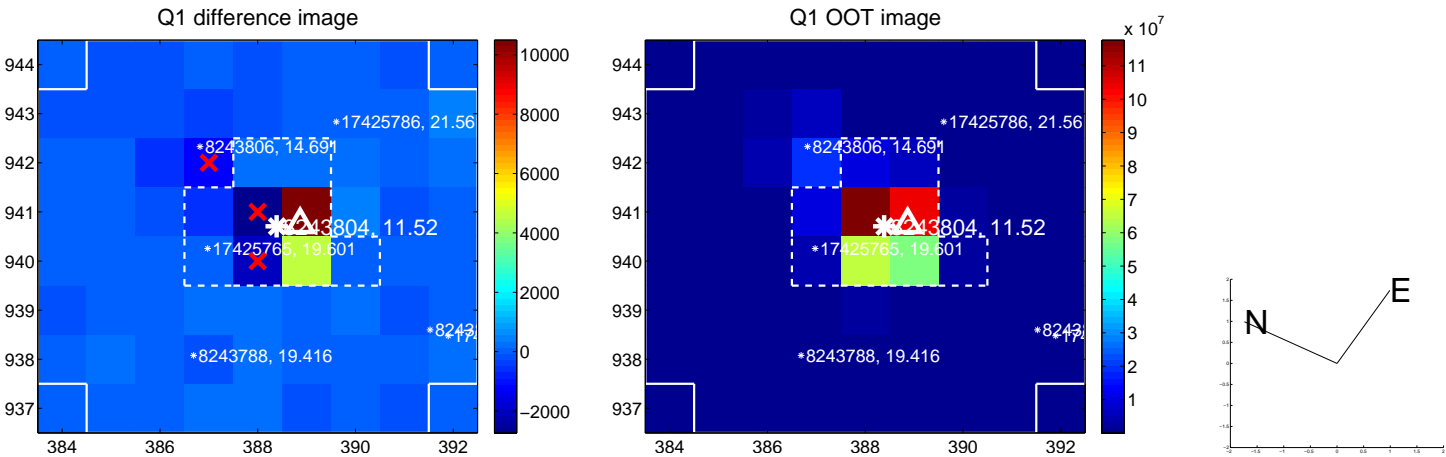


offset from photometric centroids

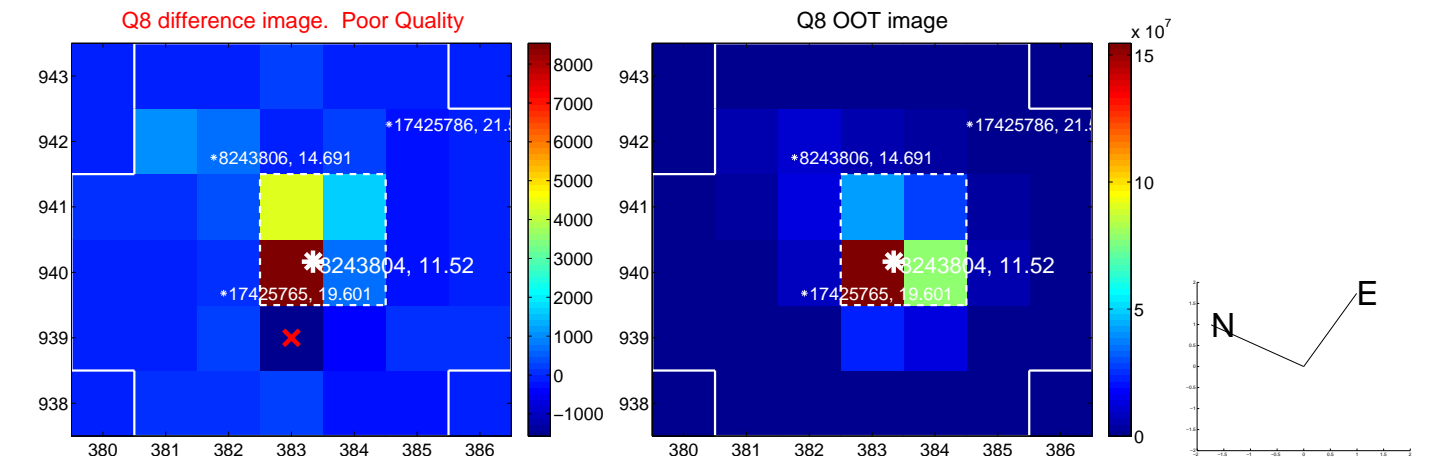
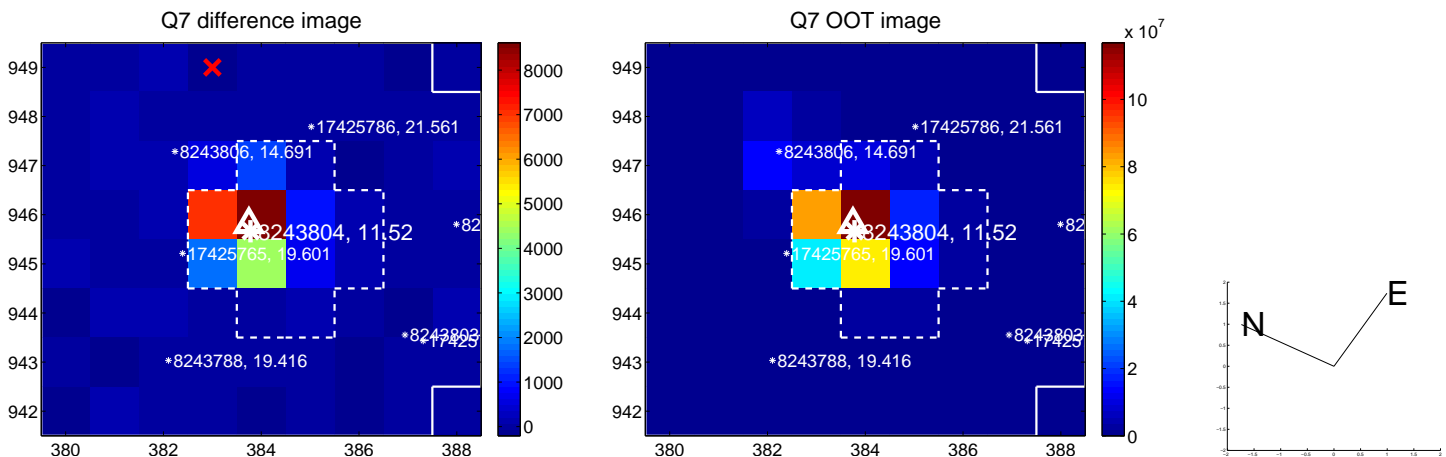
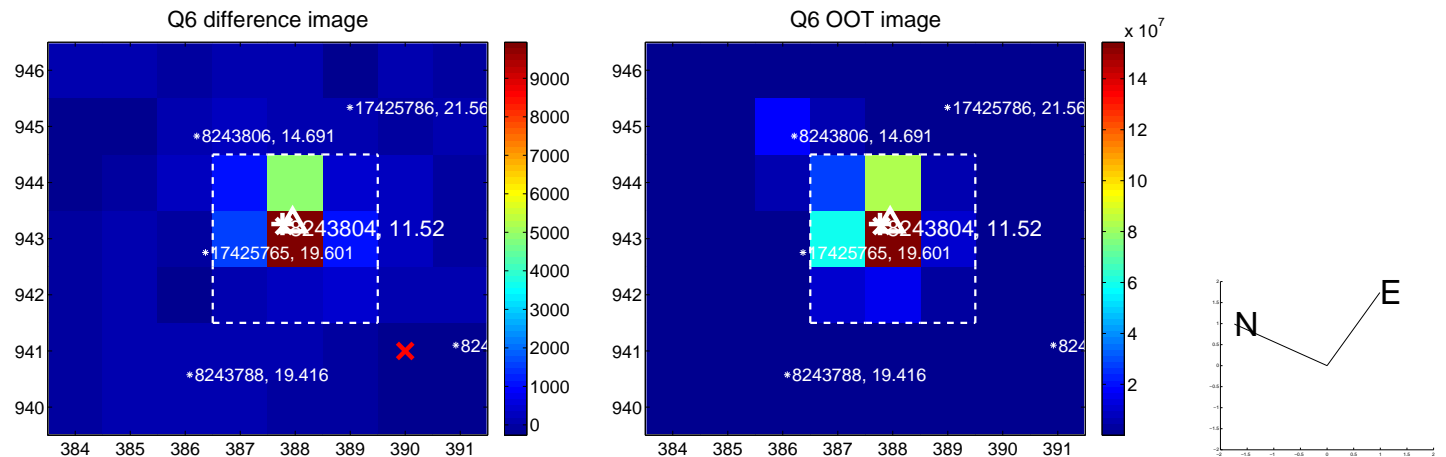
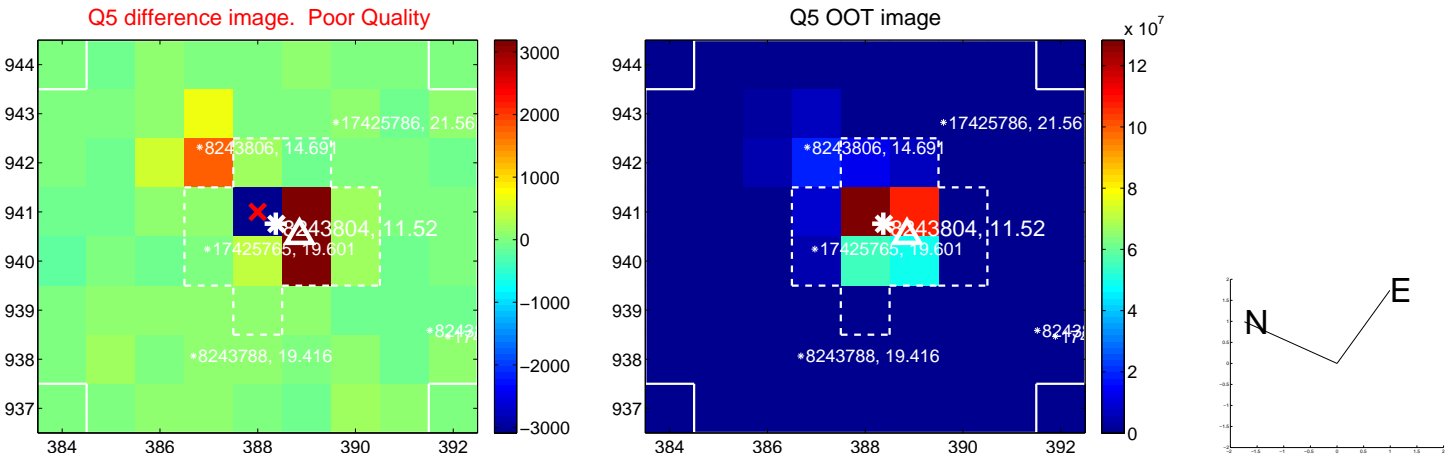


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

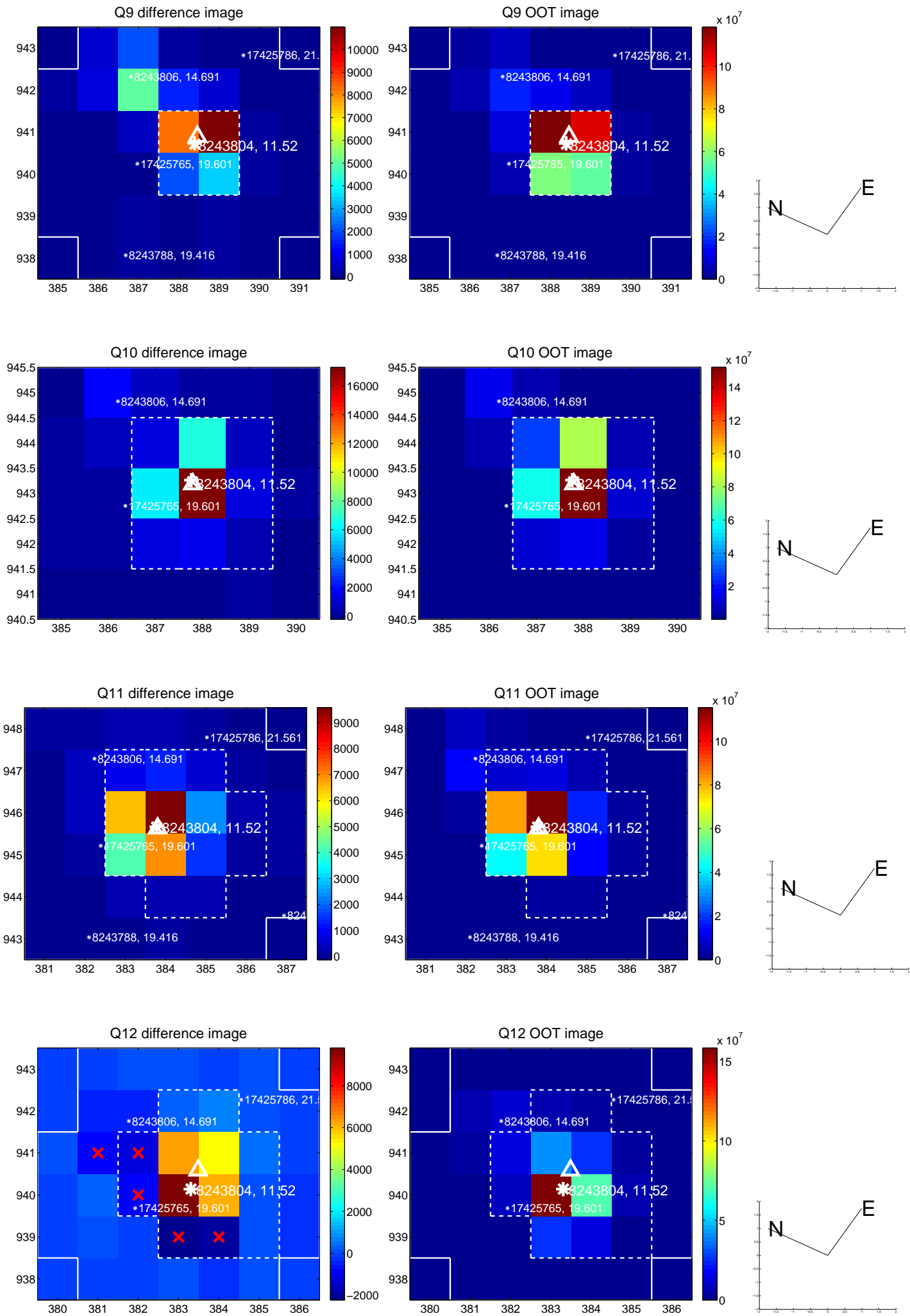
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



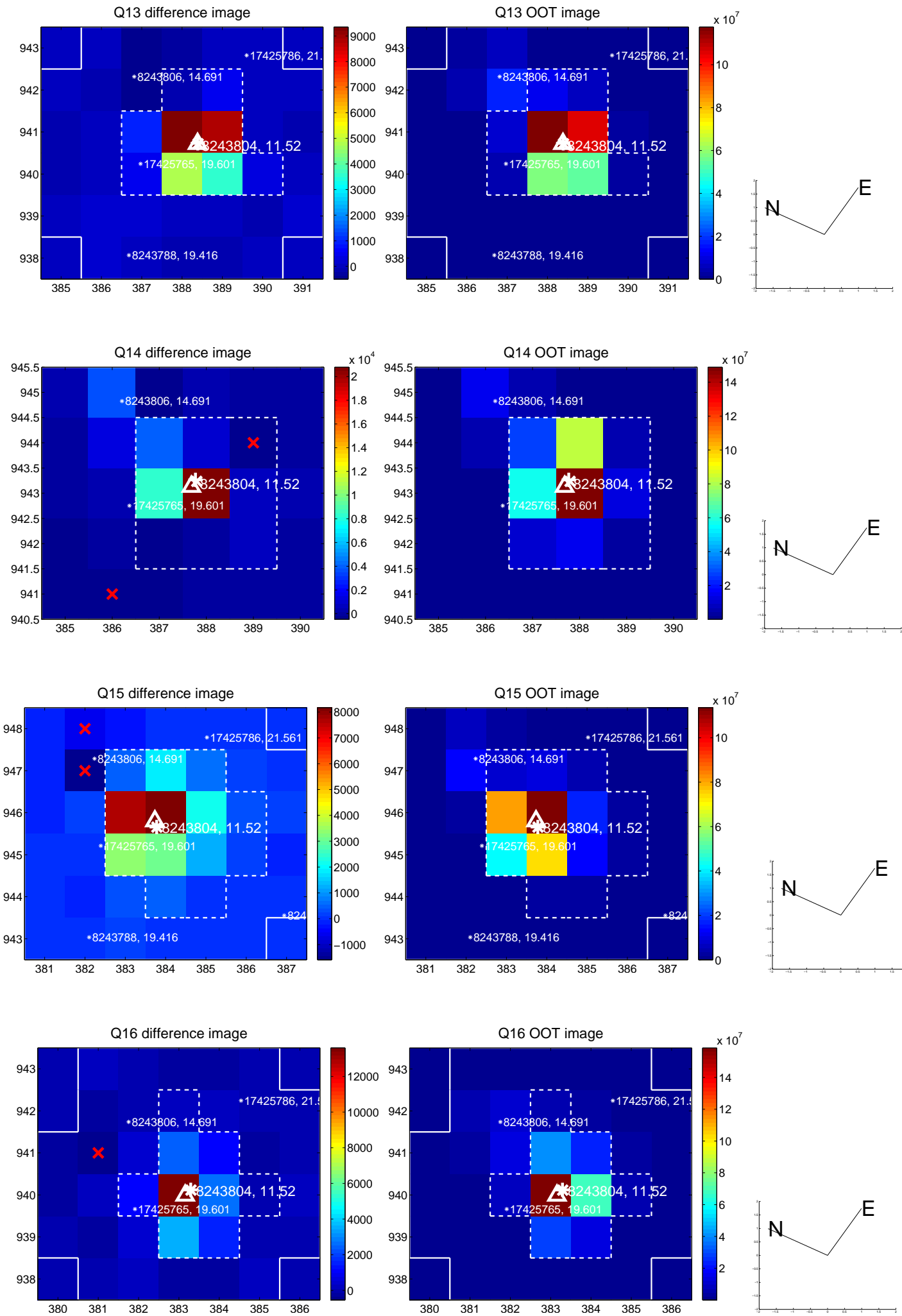
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



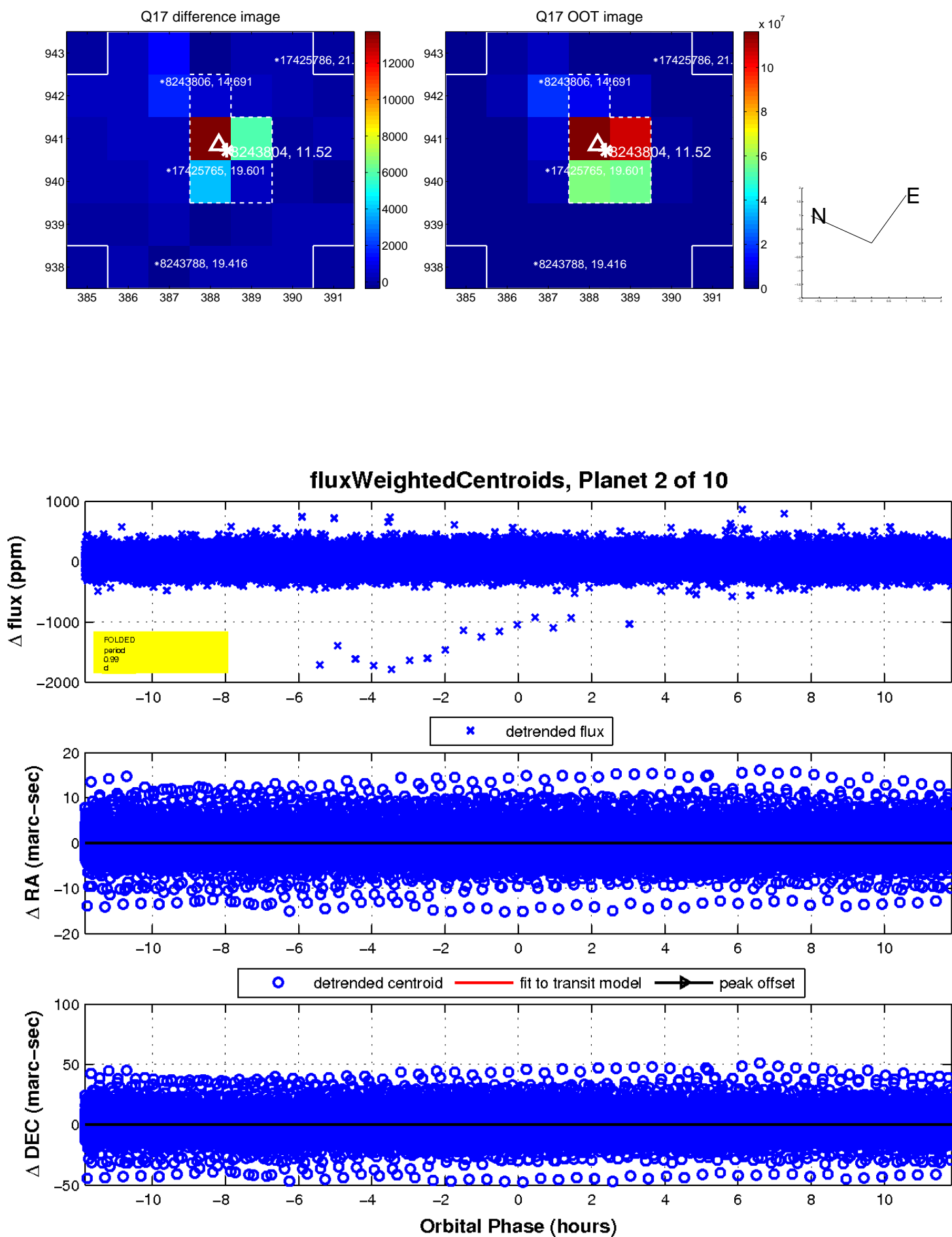
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

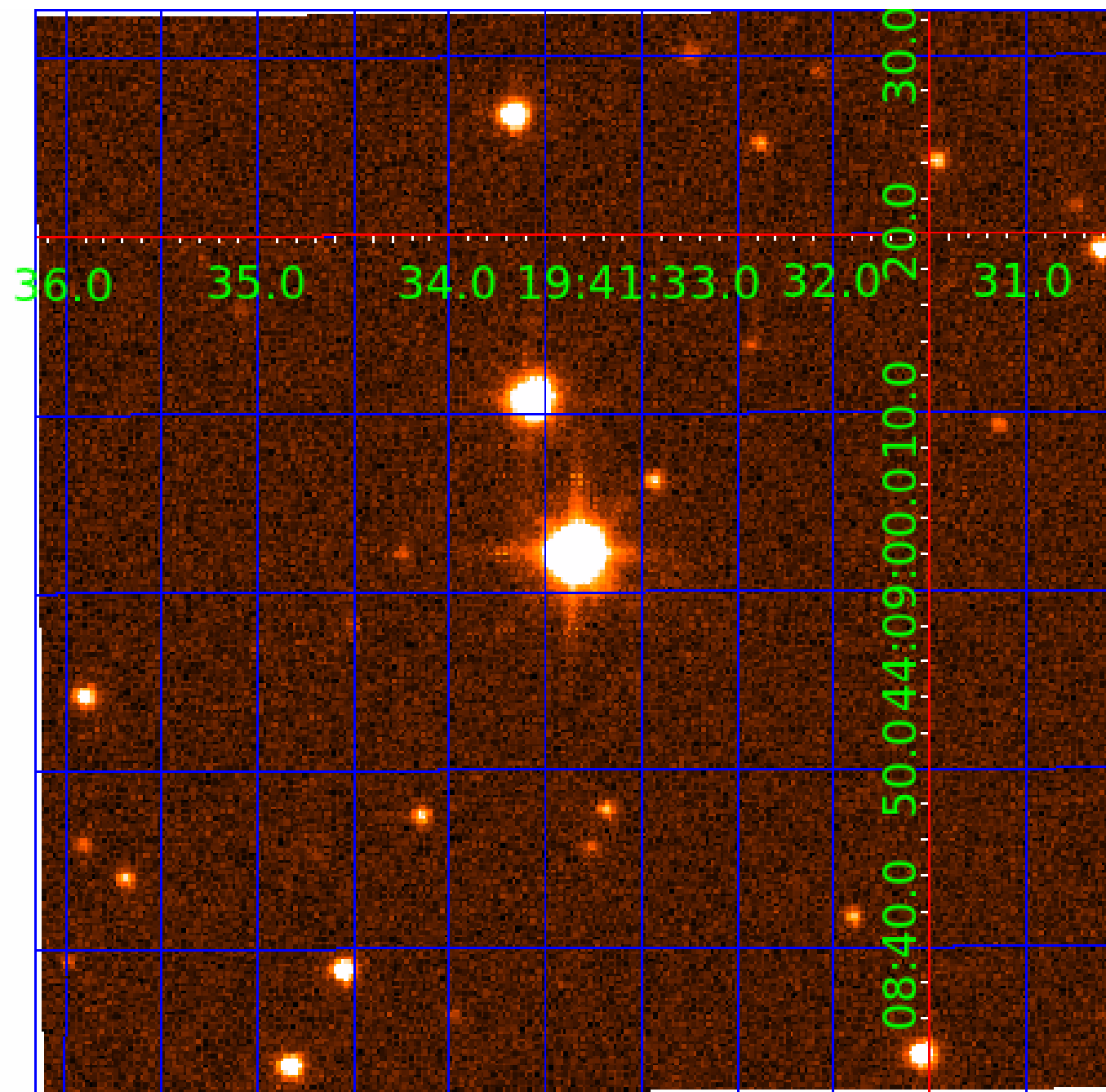


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008243804

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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

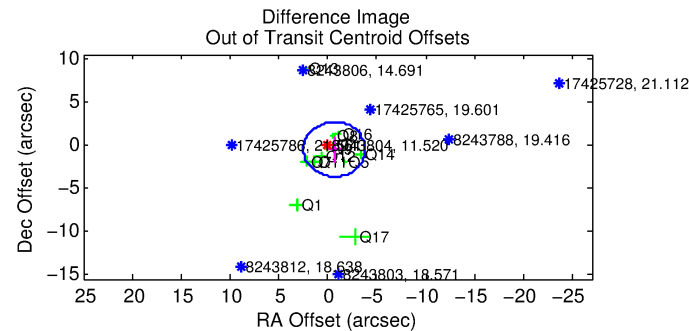
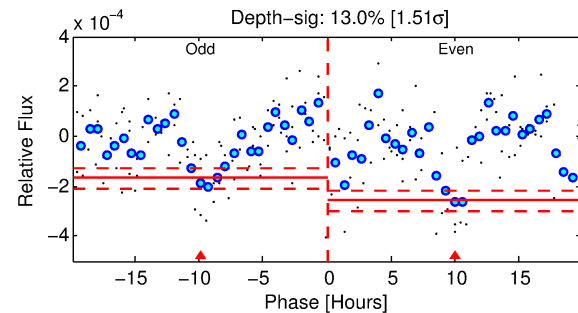
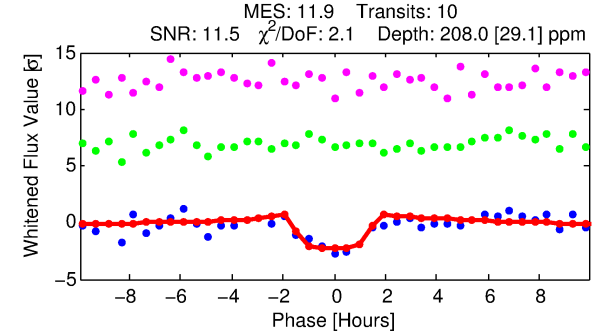
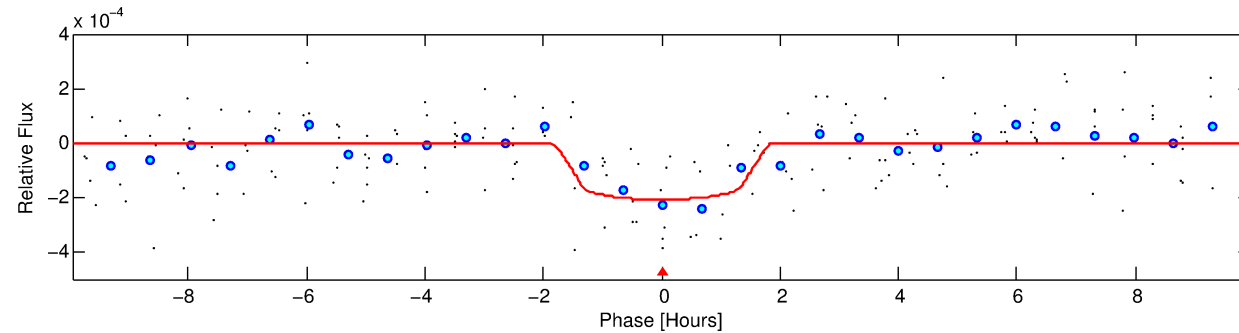
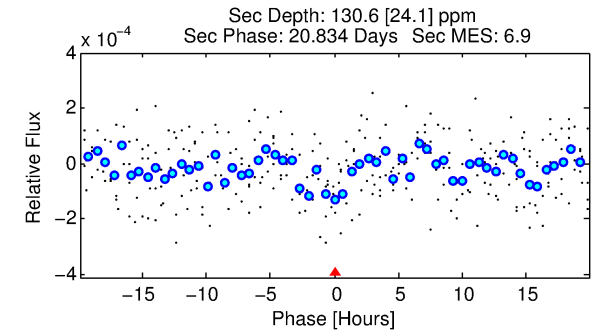
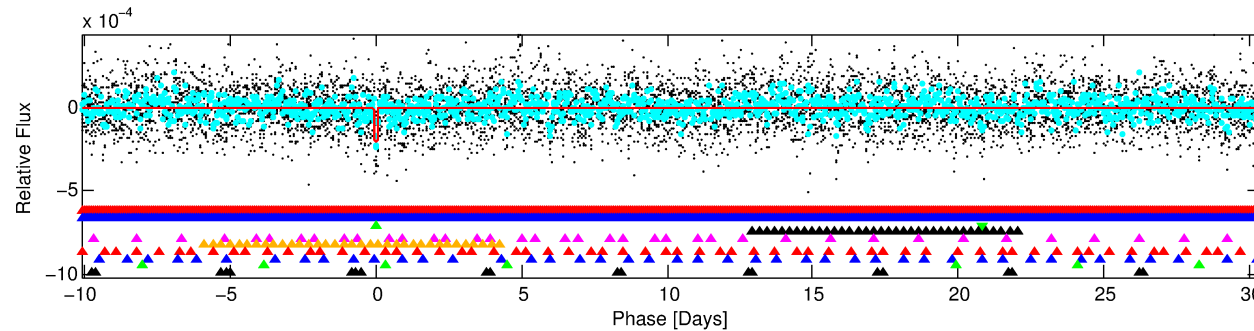
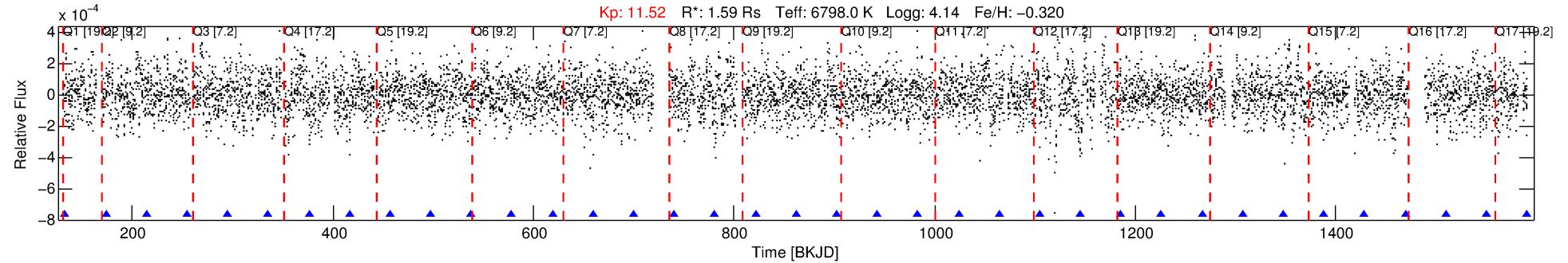
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-03

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 3 of 10 Period: 40.481 d



DV Fit Results:

Period = 40.48120 [0.00045] d
Epoch = 133.2712 [0.0084] BKJD
Rp/R* = 0.0148 [0.0290]
a/R* = 53.96 [632.99]
b = 0.83 [4.33]
Seff = 77.18 [30.06]
Teq = 756 [74] K
Rp = 2.56 [5.09] Re
a = 0.2502 [0.0612] AU
Ag = 683.92 [2698.20] [0.25 σ]
Teffp = 5976 [5876] K [0.89 σ]

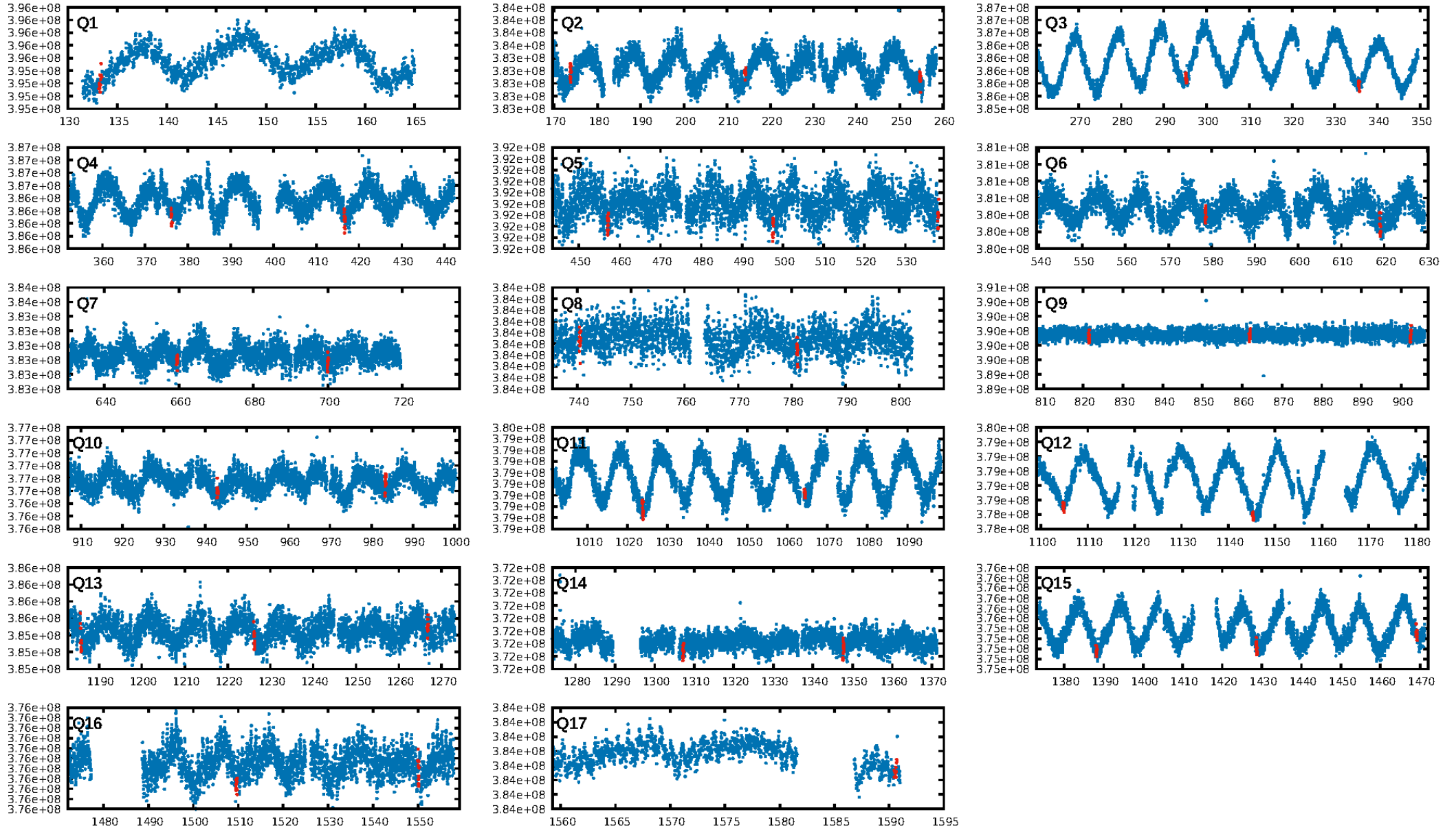
DV Diagnostic Results:

ShortPeriod-sig: 63.8% [0.91 σ]
LongPeriod-sig: 94.8% [1.94 σ]
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 2.07e-12
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 1.947
Centroid-sig: 0.3%
Centroid-so: 3.274 arcsec [2.29 σ]
OotOffset-rm: 0.822 arcsec [0.78 σ]
KicOffset-rm: 0.799 arcsec [0.84 σ]
OotOffset-st: 1/2/4/5 [12]
KicOffset-st: 1/2/4/5 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 0.00 [0/17]

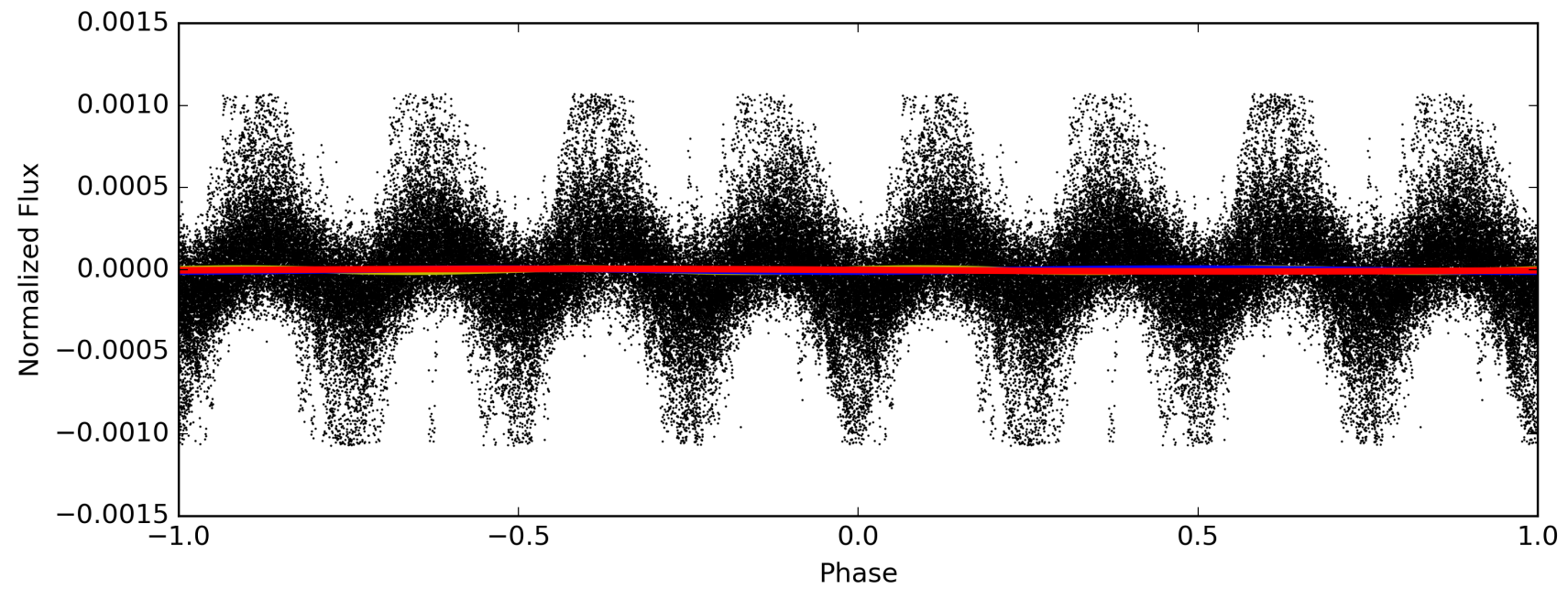
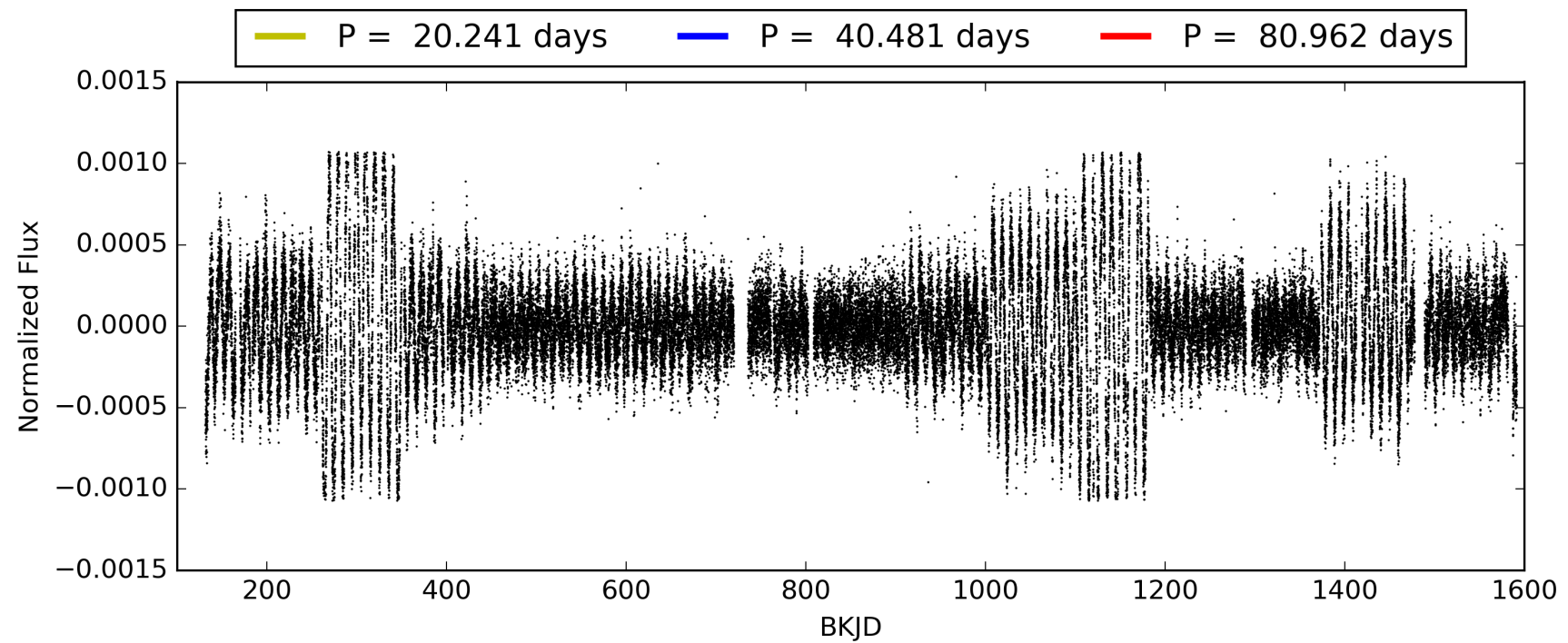
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:24 Z

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

TCE 008243804-03, PDC Light Curves

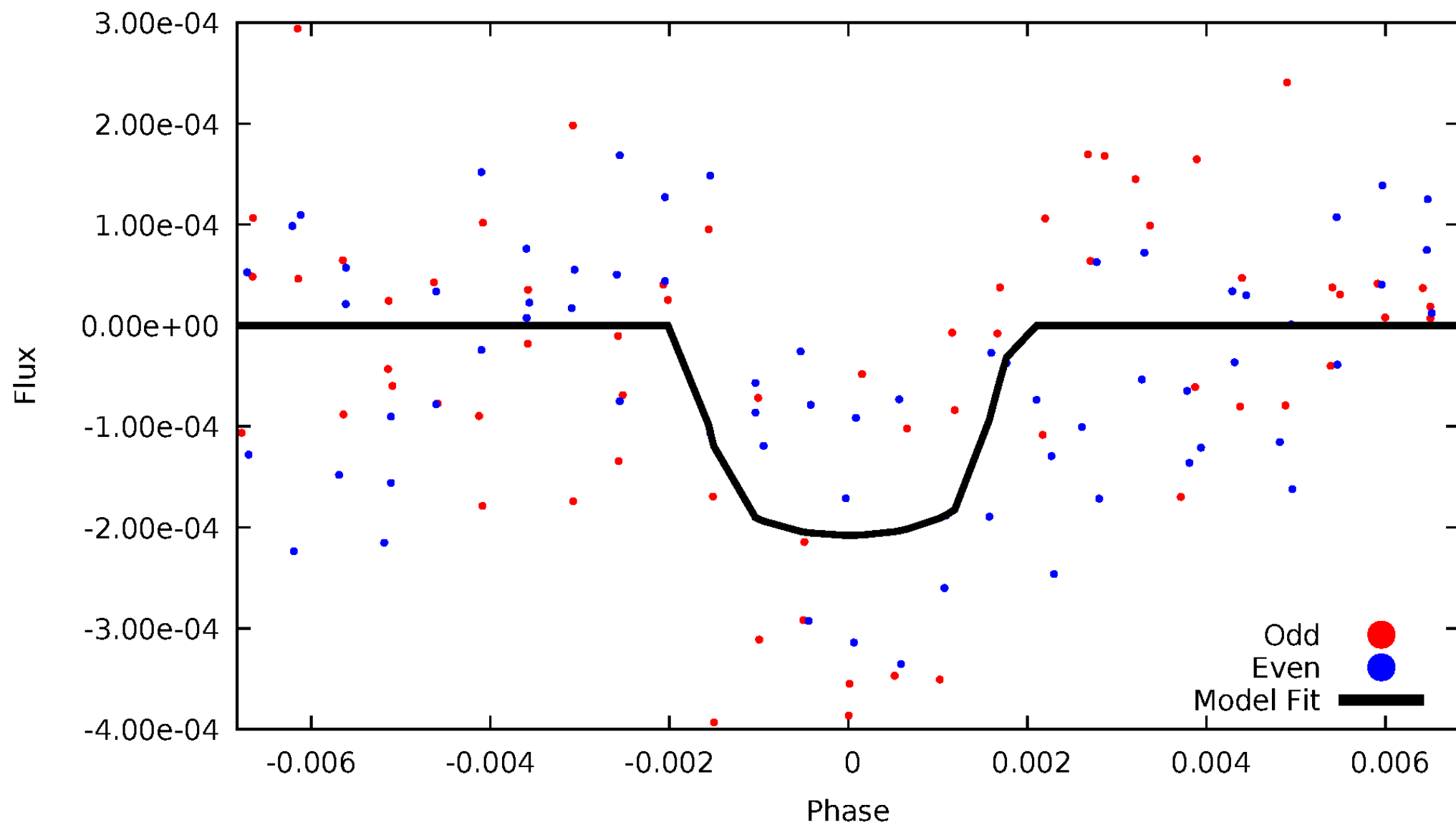


TCE 008243804-03



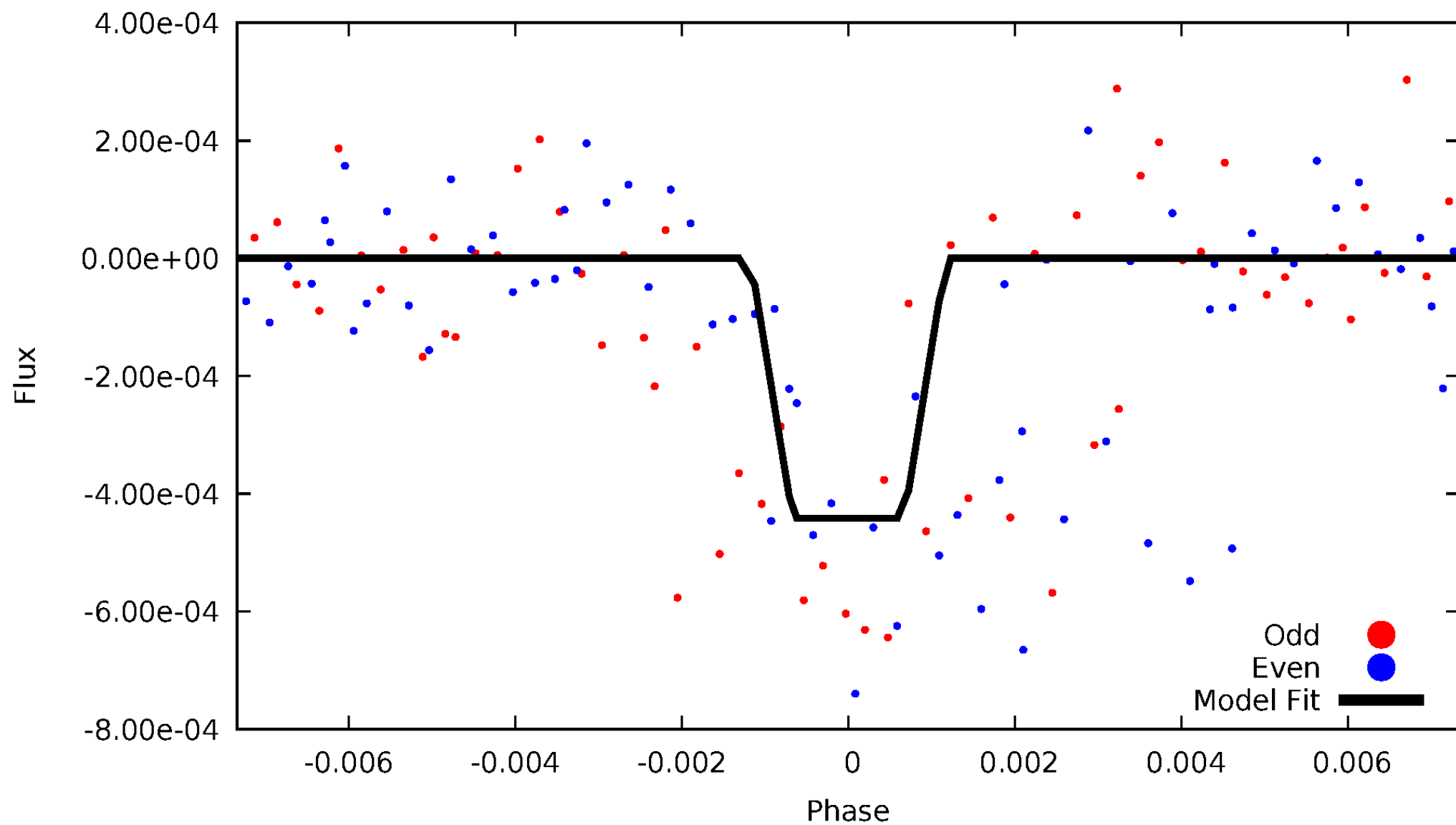
DV Odd/Even

TCE 008243804-03



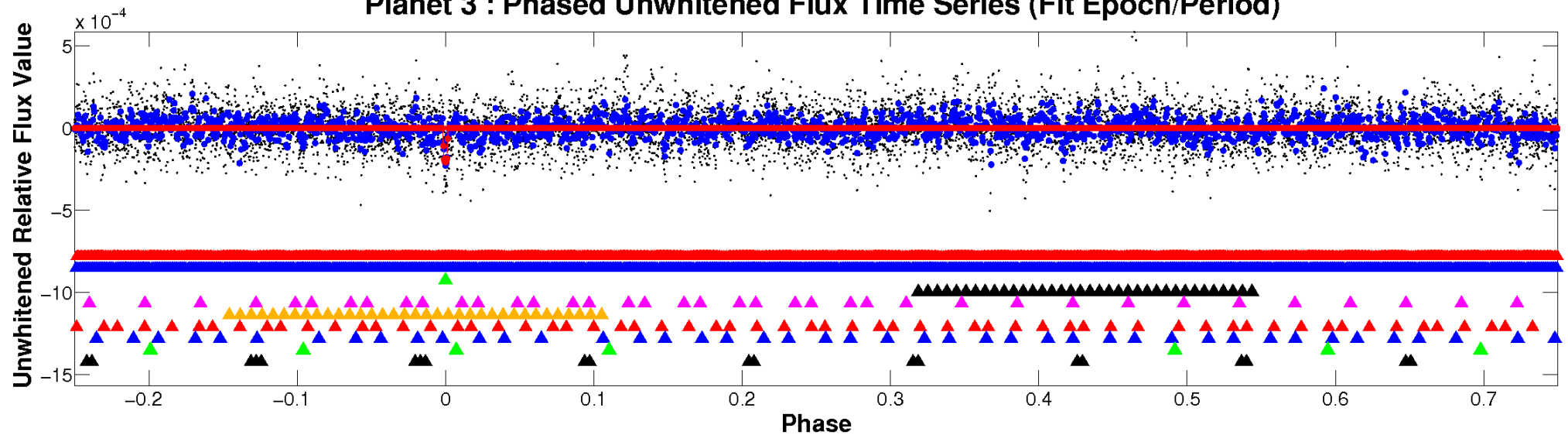
ALT Odd/Even

TCE 008243804-03

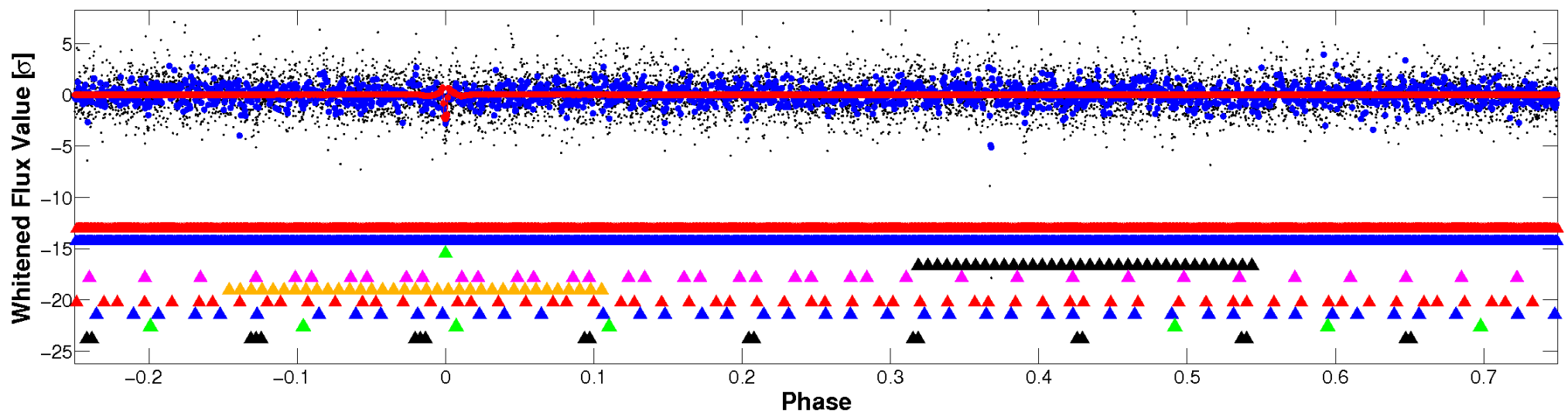


Non-Whitened Vs. Whitened Light Curve

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

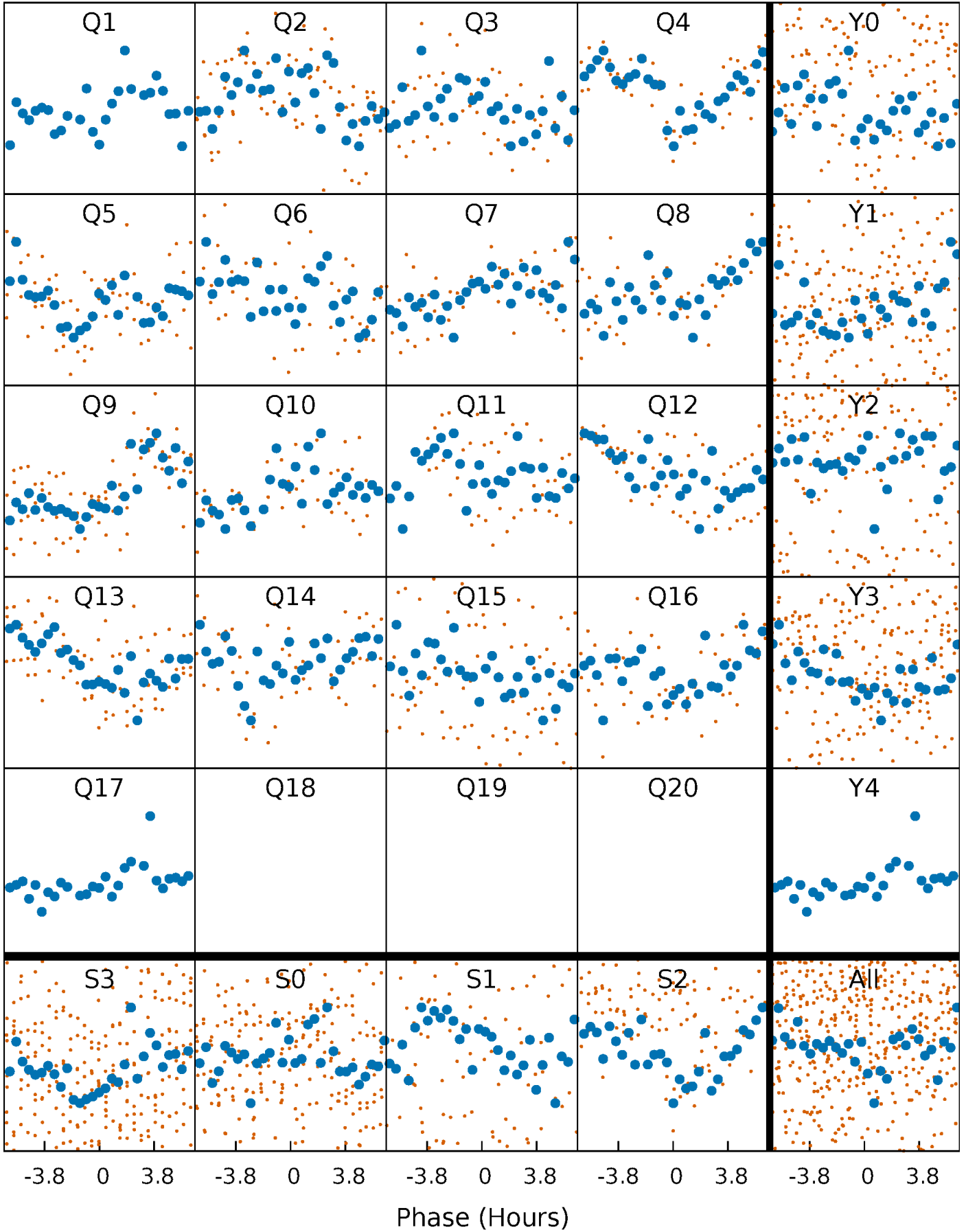


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



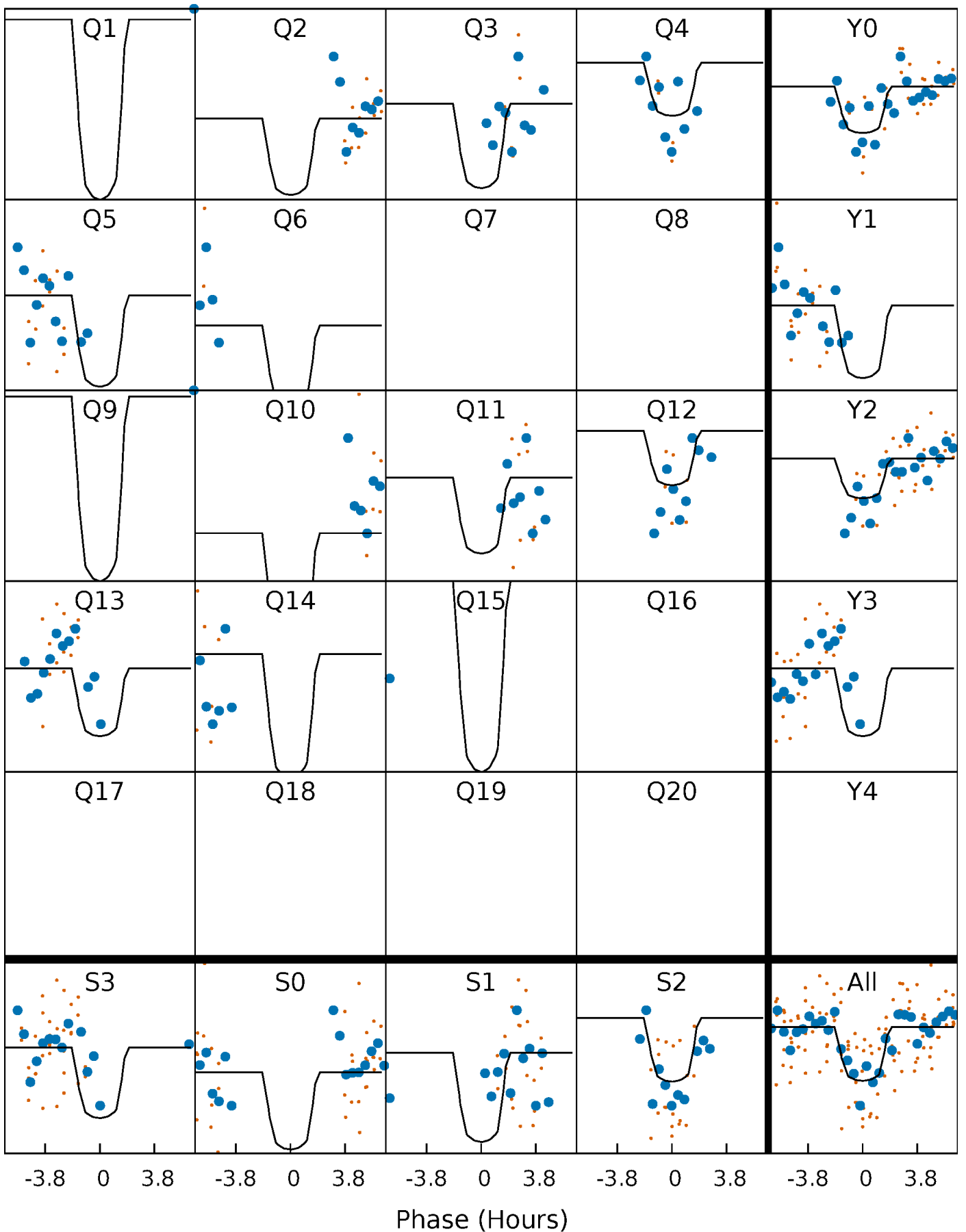
PDC Quarter-Phased Transit Curves

TCE 008243804-03 P= 40.481203 Days $T_0=133.271156$ (BKJD)



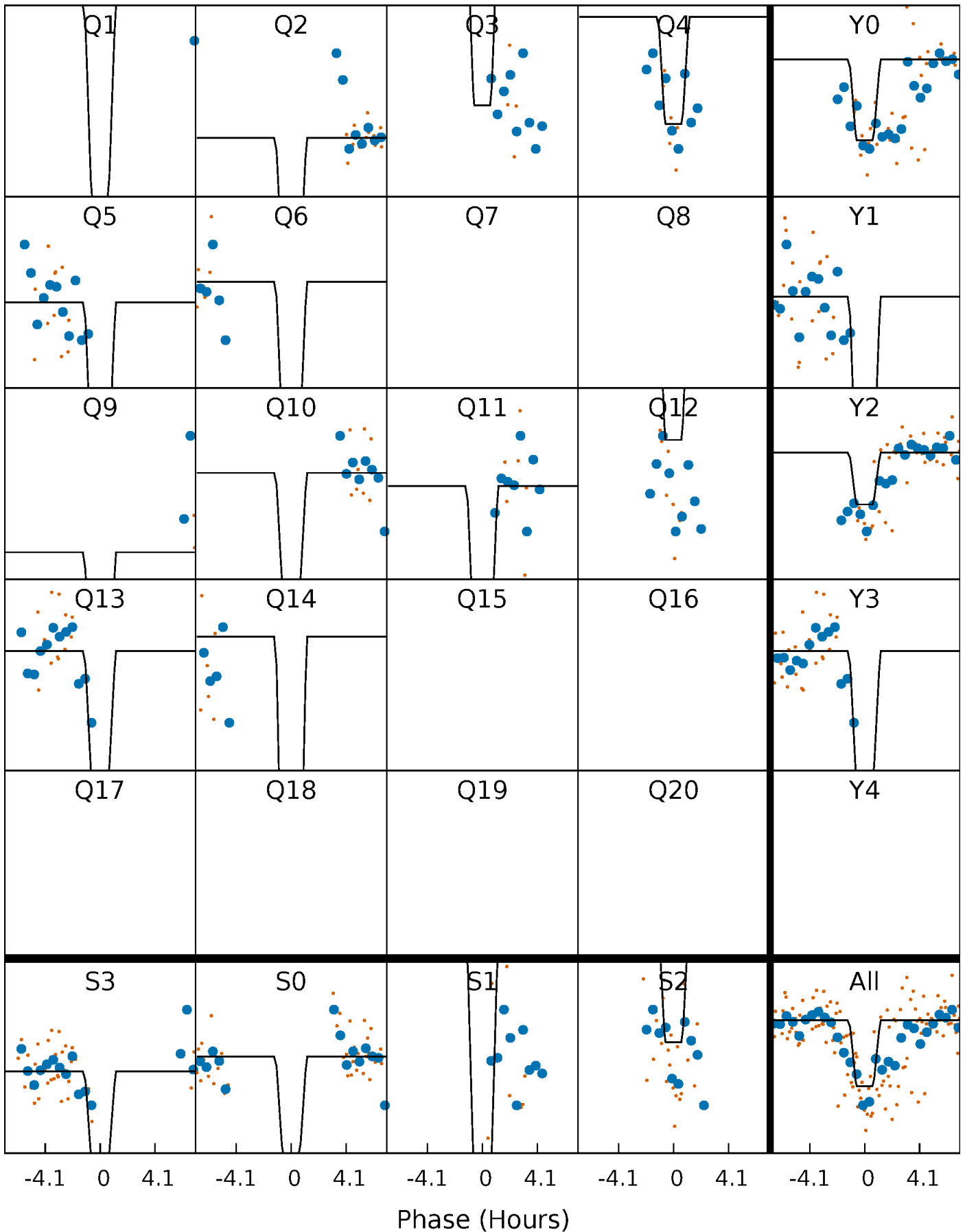
DV Quarter-Phased Transit Curves

TCE 008243804-03 P= 40.481203 Days $T_0=133.271156$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

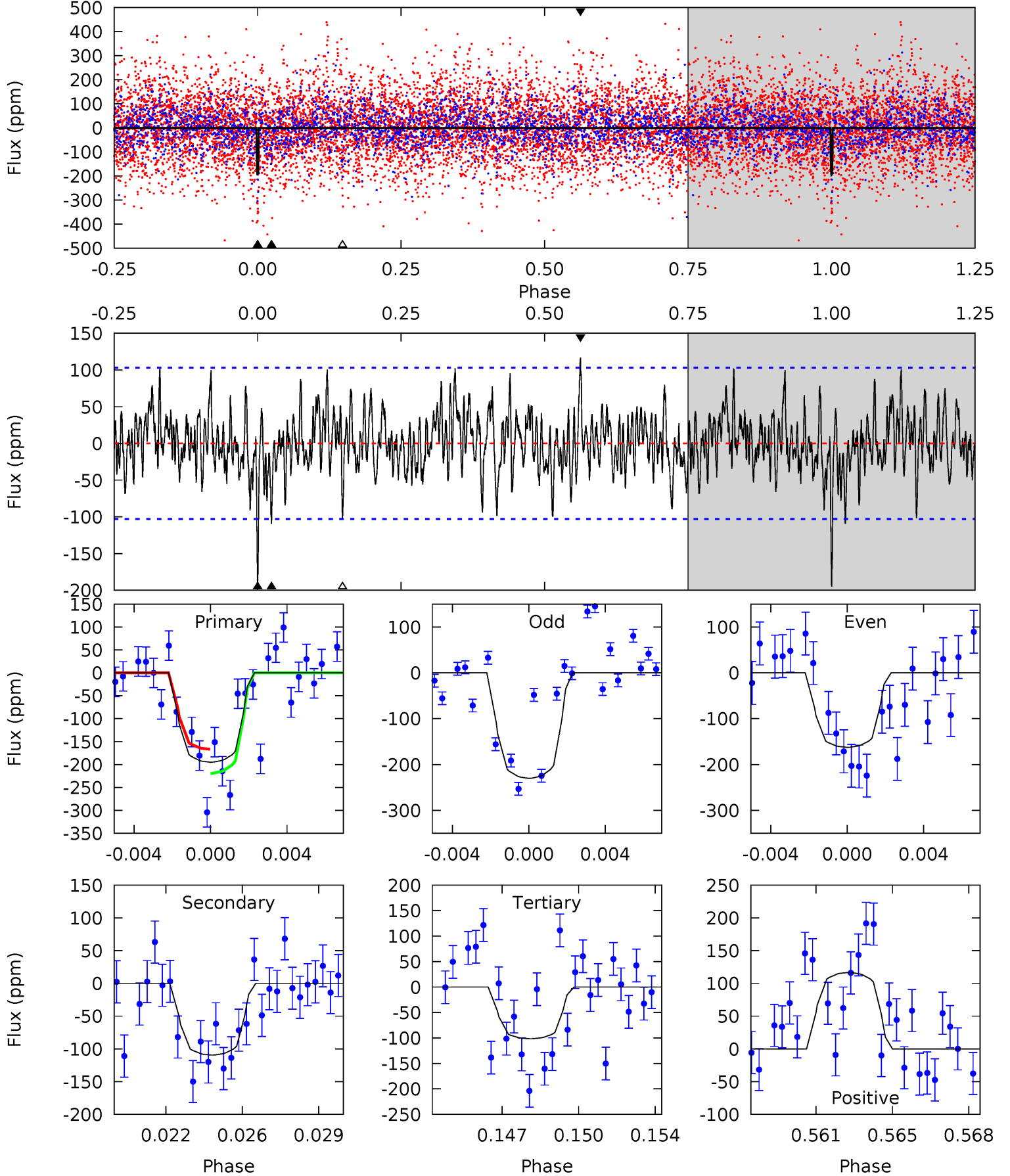
TCE 008243804-03 $P = 40.482876$ Days $T_0 = 133.251512$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-03, P = 40.481203 Days, E = 92.789953 Days

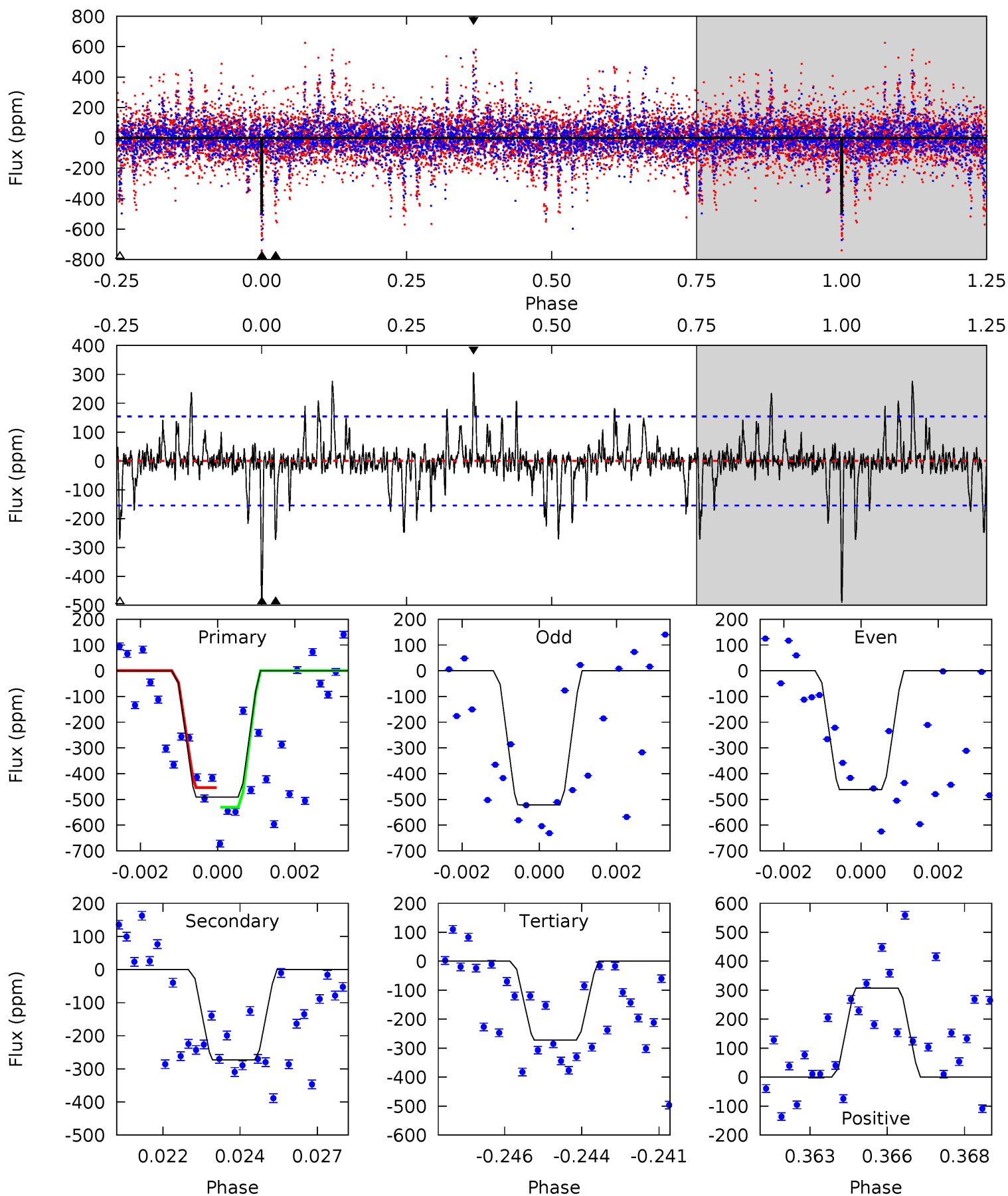
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.87	5.54	5.14	5.91	5.22	2.91	1.73	4.73	3.97	0.40	-0.37	1.71	1.13	0.37	1.32



Alt Model-Shift Uniqueness Test

008243804-03, P = 40.482876 Days, E = 92.768636 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	9.41	9.38	10.6	5.31	3.06	2.18	7.53	6.33	0.04	-1.16	0.98	0.95	0.38	1.29



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-109 ± 20	$4.62^{+4.50}_{-3.15}$	1057^{+82}_{-84}	4409^{+3232}_{-938}	176^{+1625}_{-132}
Alt.	-273 ± 29	$5.10^{+4.84}_{-3.18}$	1058^{+85}_{-82}	5046^{+3710}_{-1067}	355^{+2157}_{-258}

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 $A_{obs} \gg 1.0$

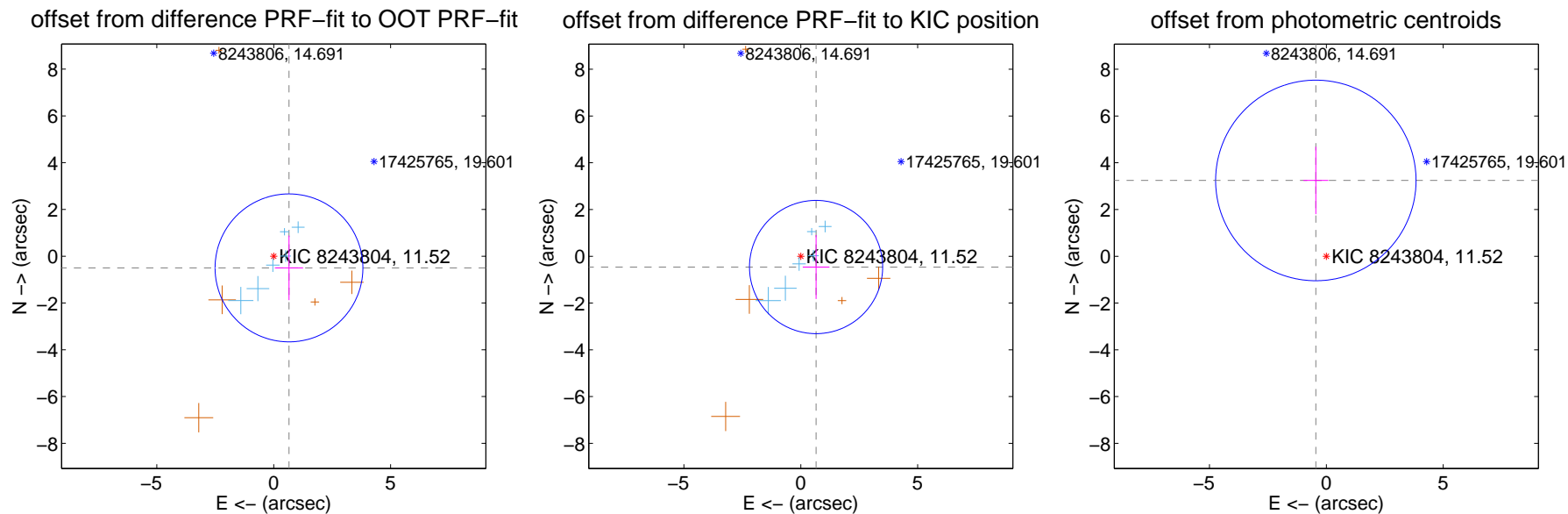
DV Centroid Data

Supplemental centroid analysis for 008243804-03. **Kepler magnitude: 11.52**. Transit SNR 11.53

There are 6 quarters with good PRF difference image offsets

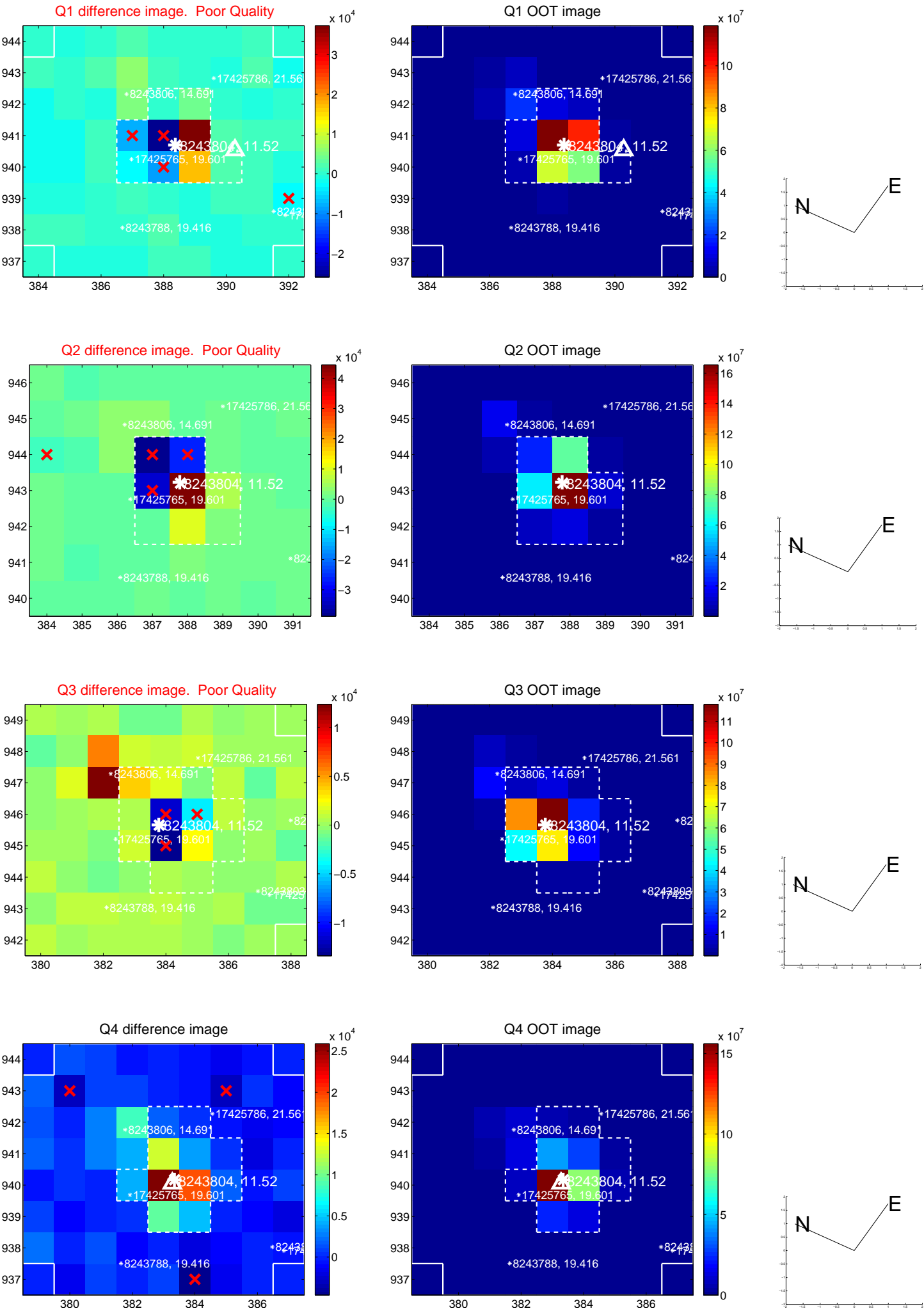
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.822 ± 1.054	0.78	-0.654 ± 0.603	-0.499 ± 1.379
PRF-fit source offset from KIC position	0.799 ± 0.950	0.84	-0.654 ± 0.572	-0.460 ± 1.369
photometric centroid source offset	3.27 ± 1.43	2.29	0.45 ± 0.53	3.24 ± 1.44

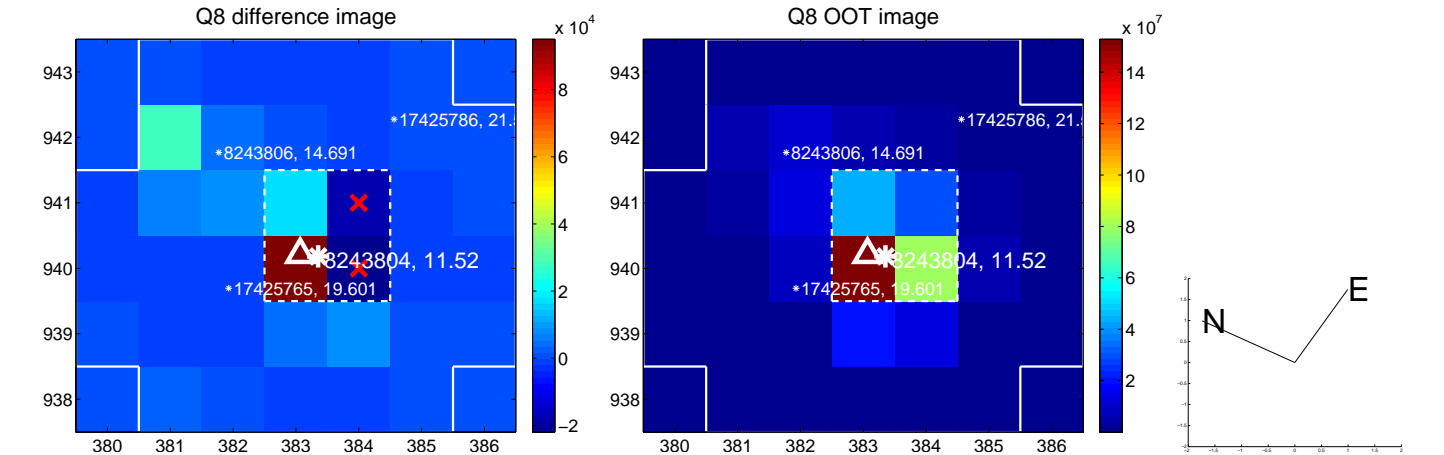
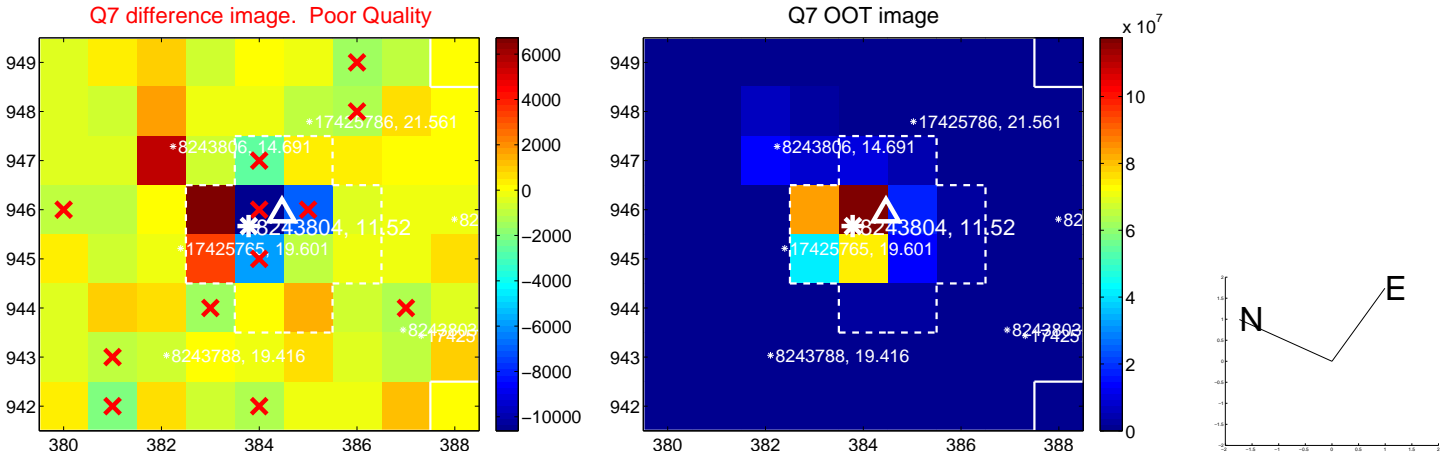
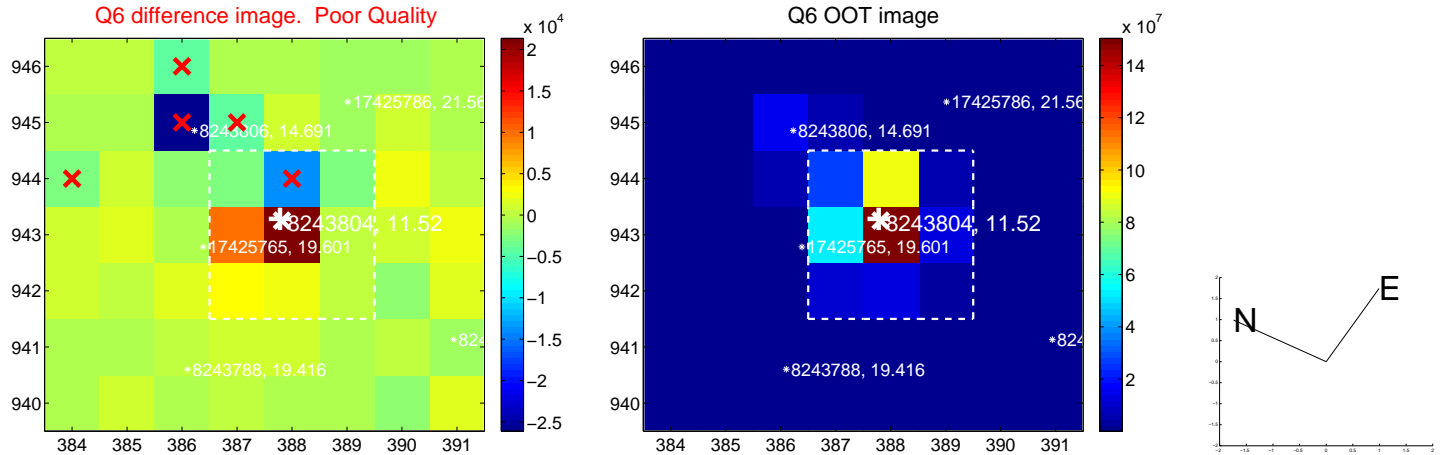
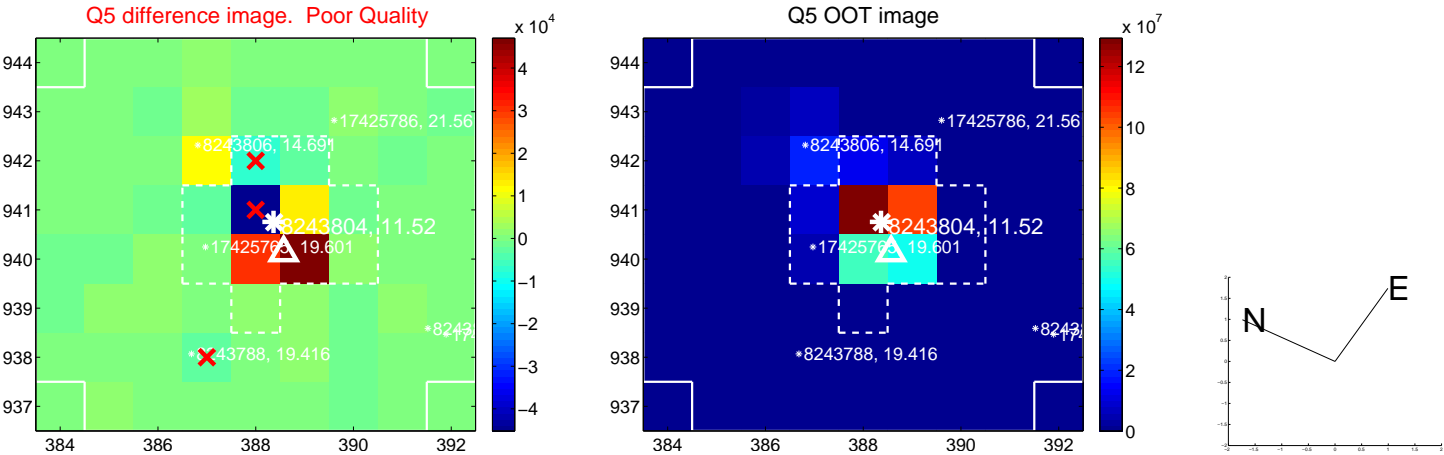


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

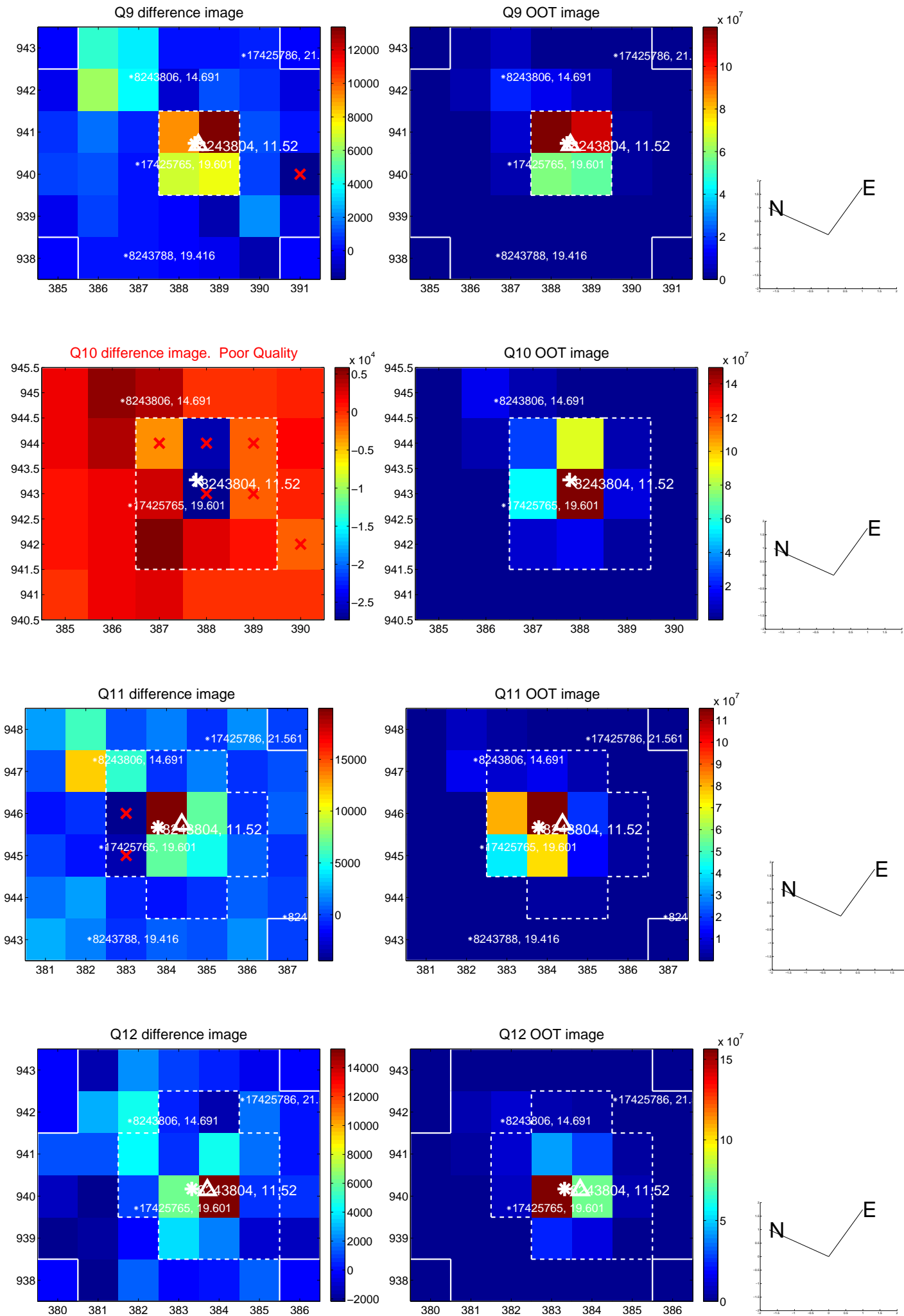
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



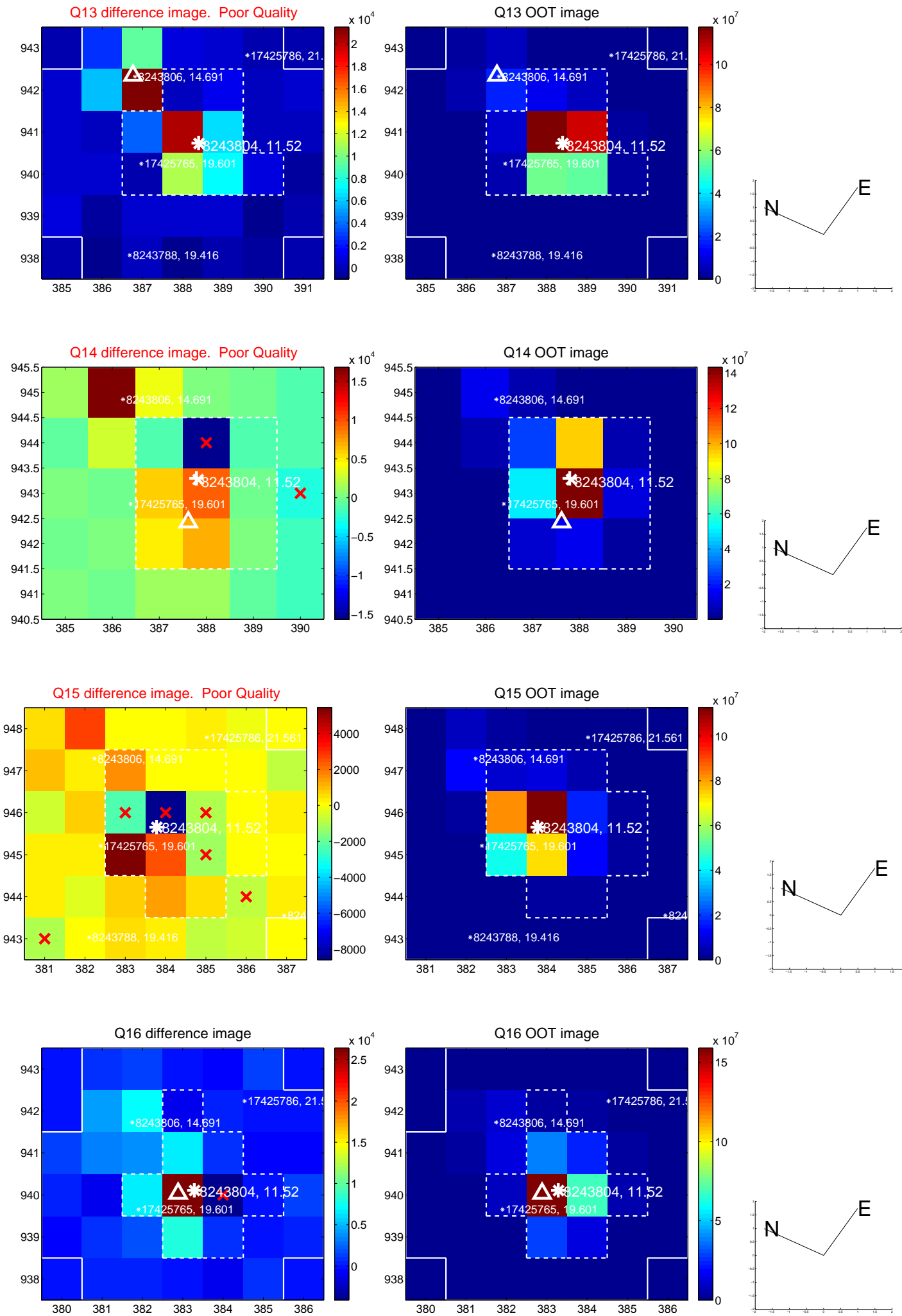
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



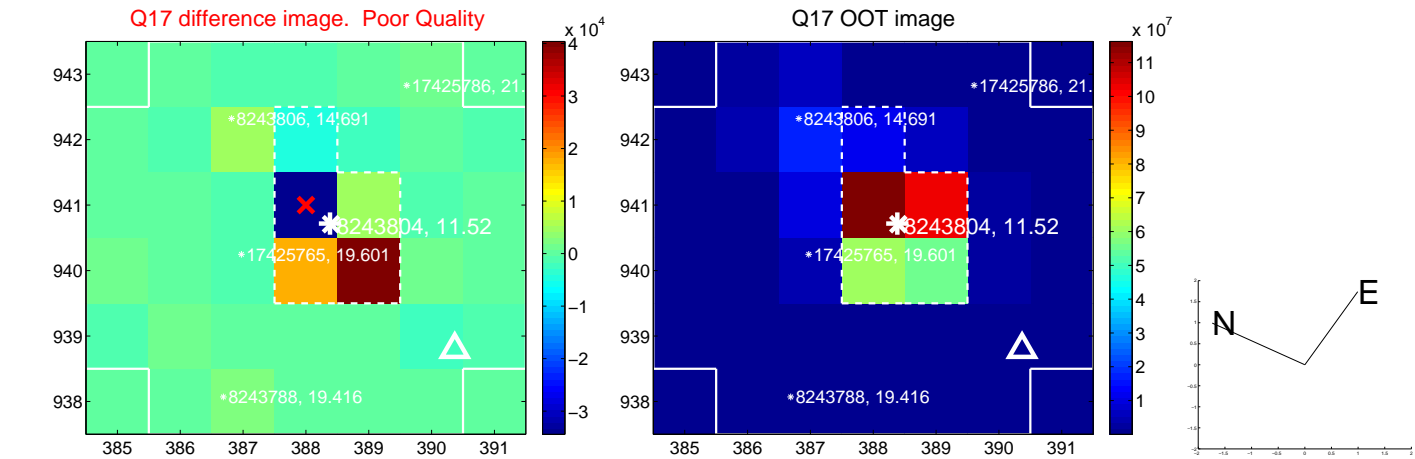
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



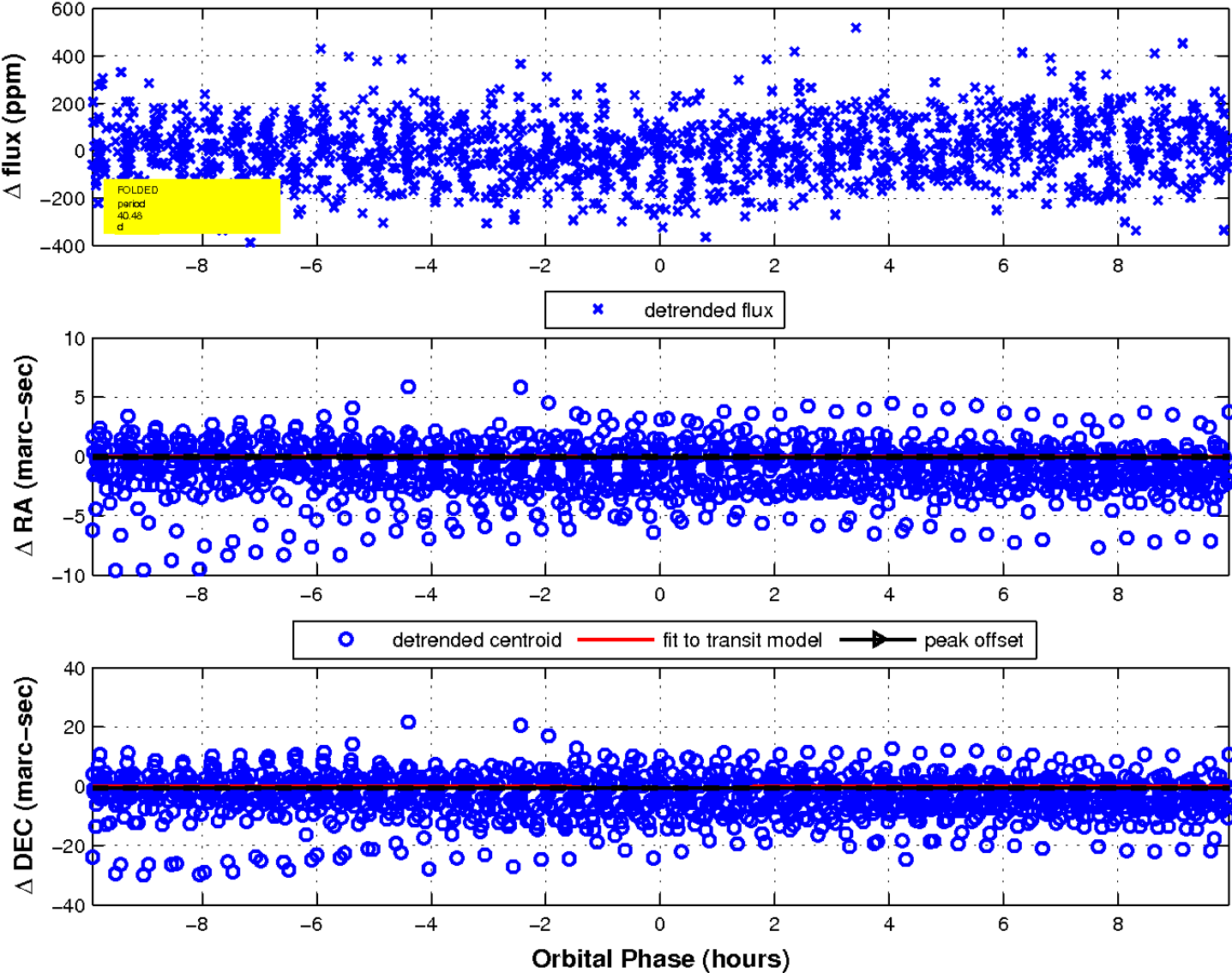
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



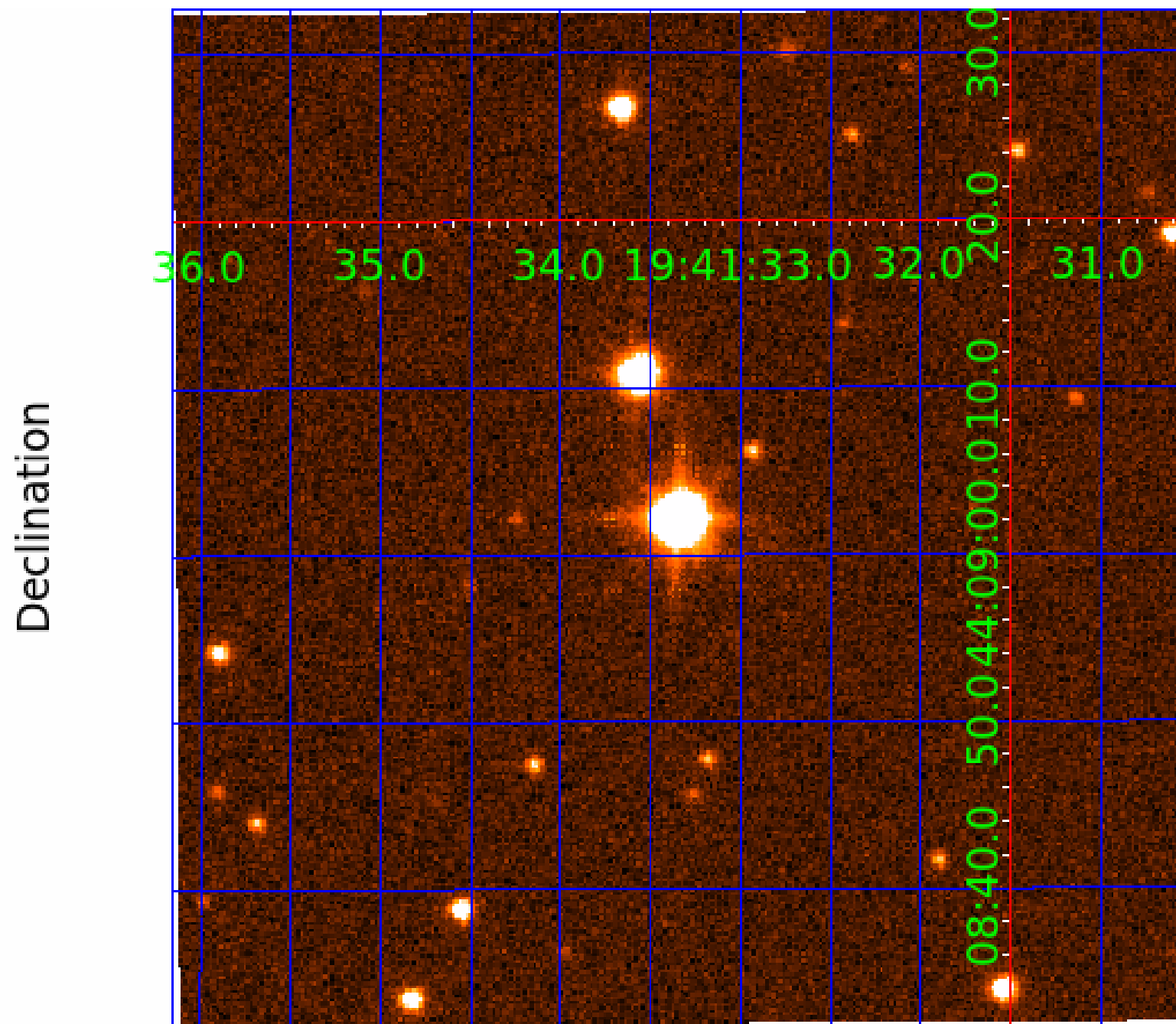
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 10



UKIRT Image



KIC 008243804

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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

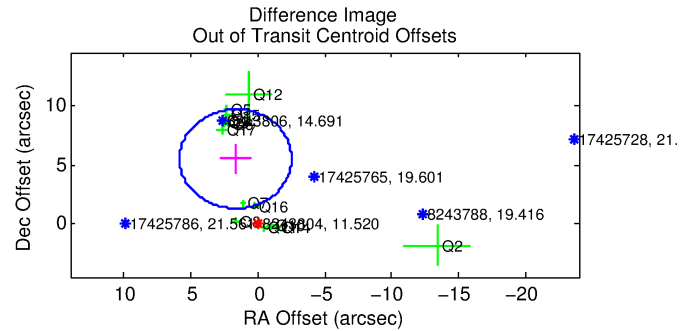
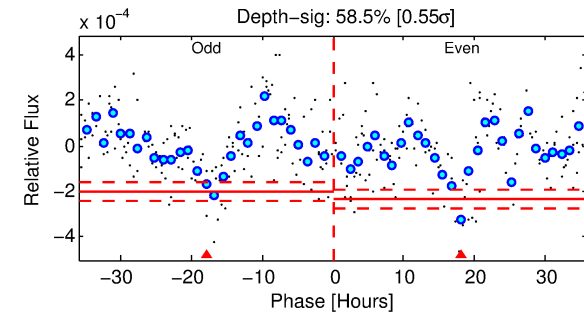
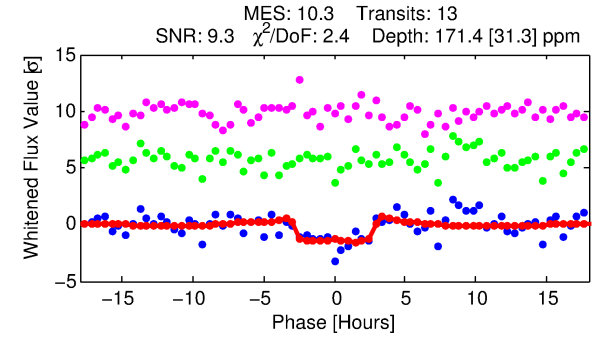
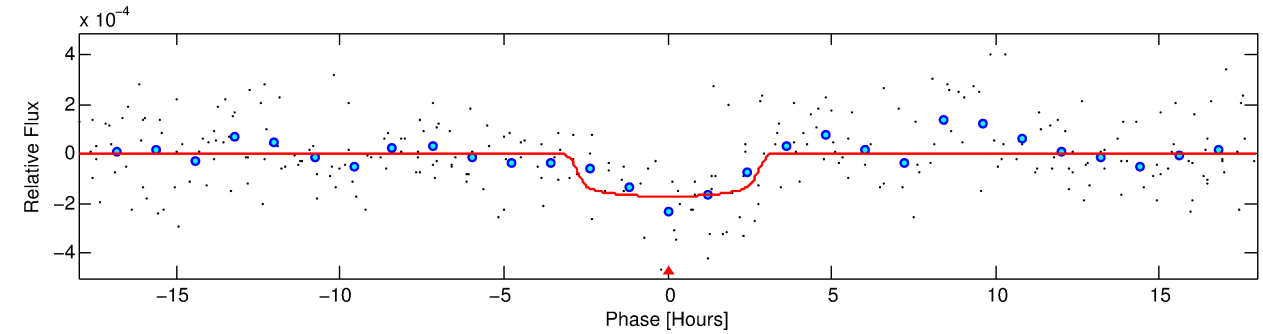
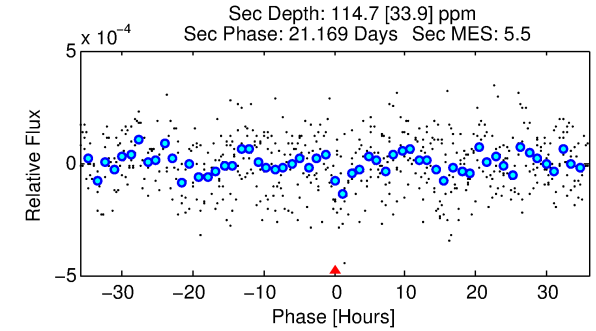
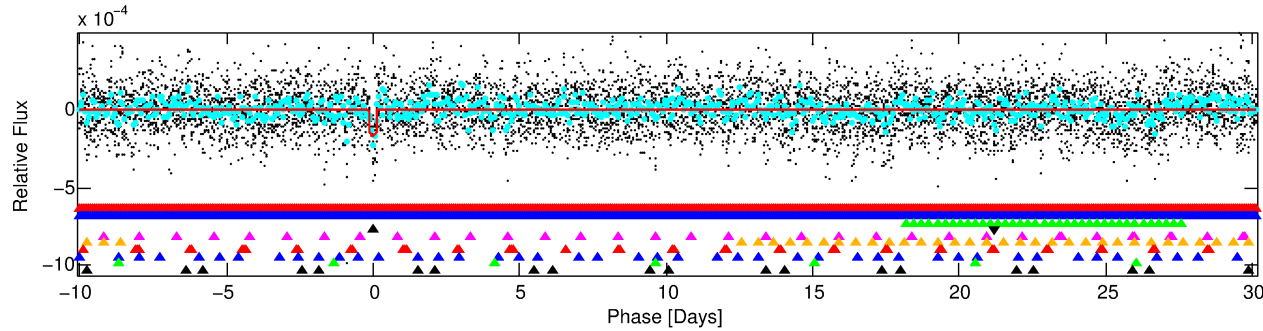
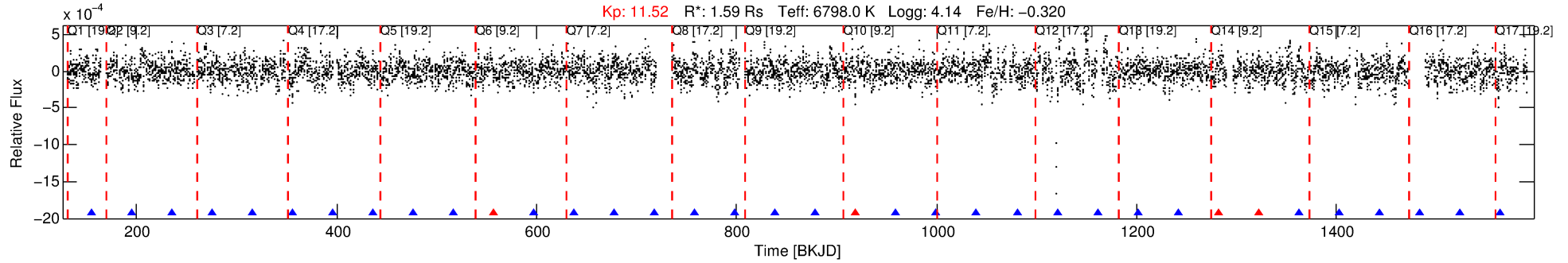
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-04

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 4 of 10 Period: 40.221 d



DV Fit Results:

Period = 40.22107 [0.00061] d
Epoch = 155.2827 [0.0131] BKJD
Rp/R* = 0.0140 [0.0047]
a/R* = 23.88 [44.79]
b = 0.90 [0.40]
Seff = 77.84 [30.32]
Teq = 757 [74] K
Rp = 2.42 [1.09] Re
a = 0.2491 [0.0609] AU
Ag = 668.04 [546.39] [1.22σ]
Teffp = 5954 [1127] K [4.60σ]

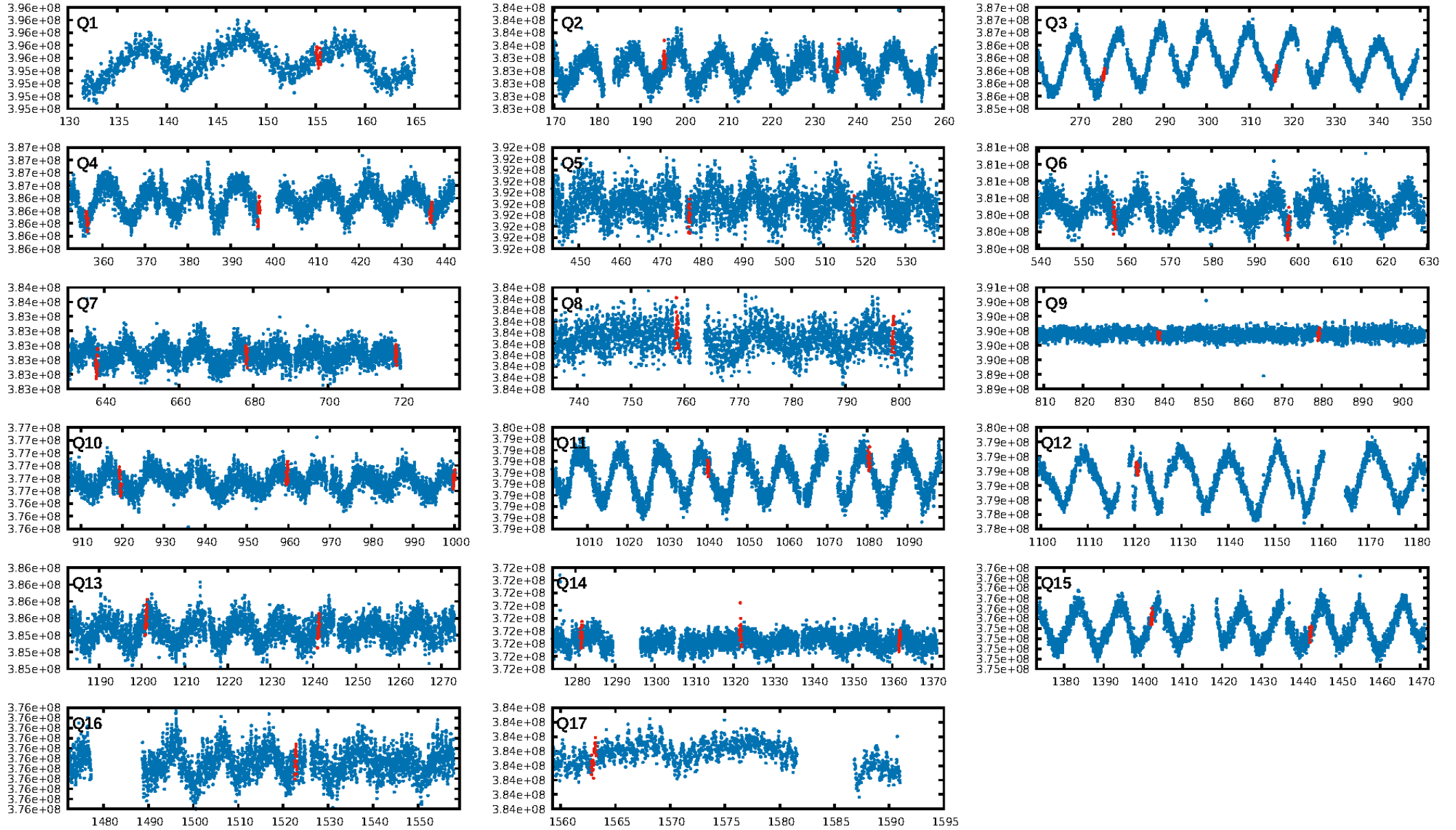
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.97σ]
LongPeriod-sig: 63.8% [0.91σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.42e-11
RollingBand-fgt: 0.67 [8/12]
GhostDiagnostic-chr: -13.56
Centroid-sig: 95.3%
Centroid-so: 0.817 arcsec [0.42σ]
OotOffset-rm: 5.732 arcsec [4.11σ]
KicOffset-rm: 5.807 arcsec [4.62σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 0.00 [0/16]

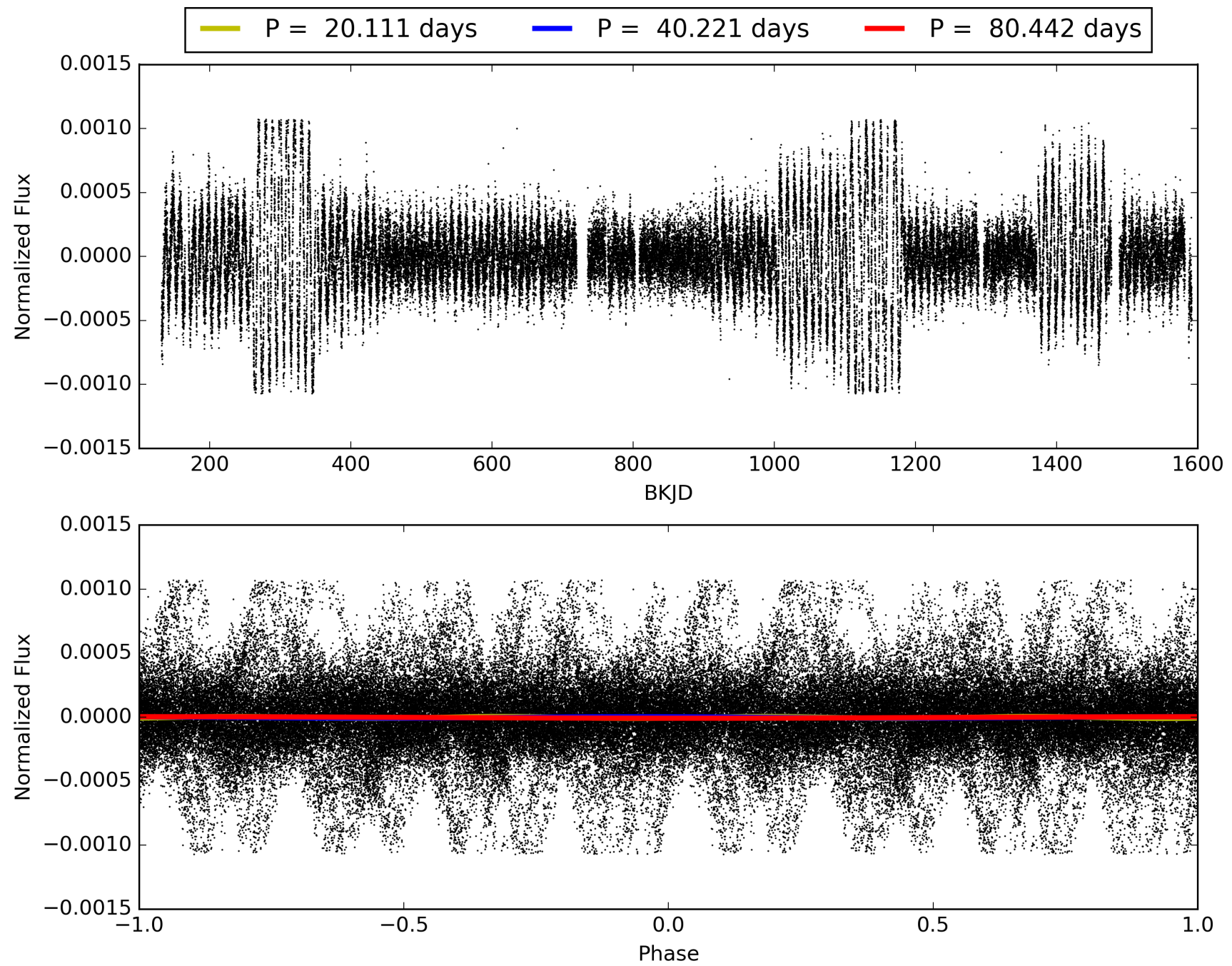
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:28 Z

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

TCE 008243804-04, PDC Light Curves

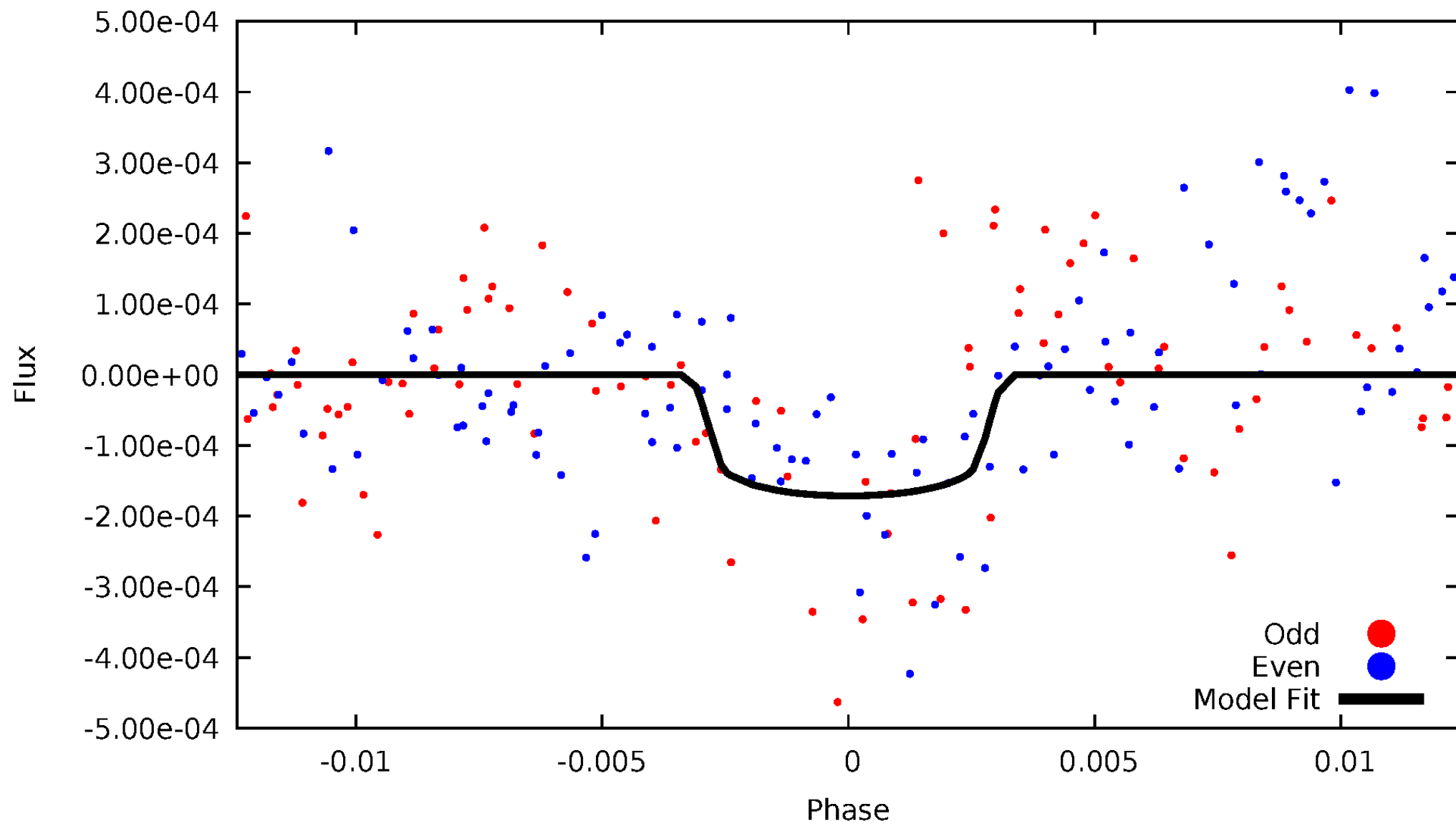


TCE 008243804-04



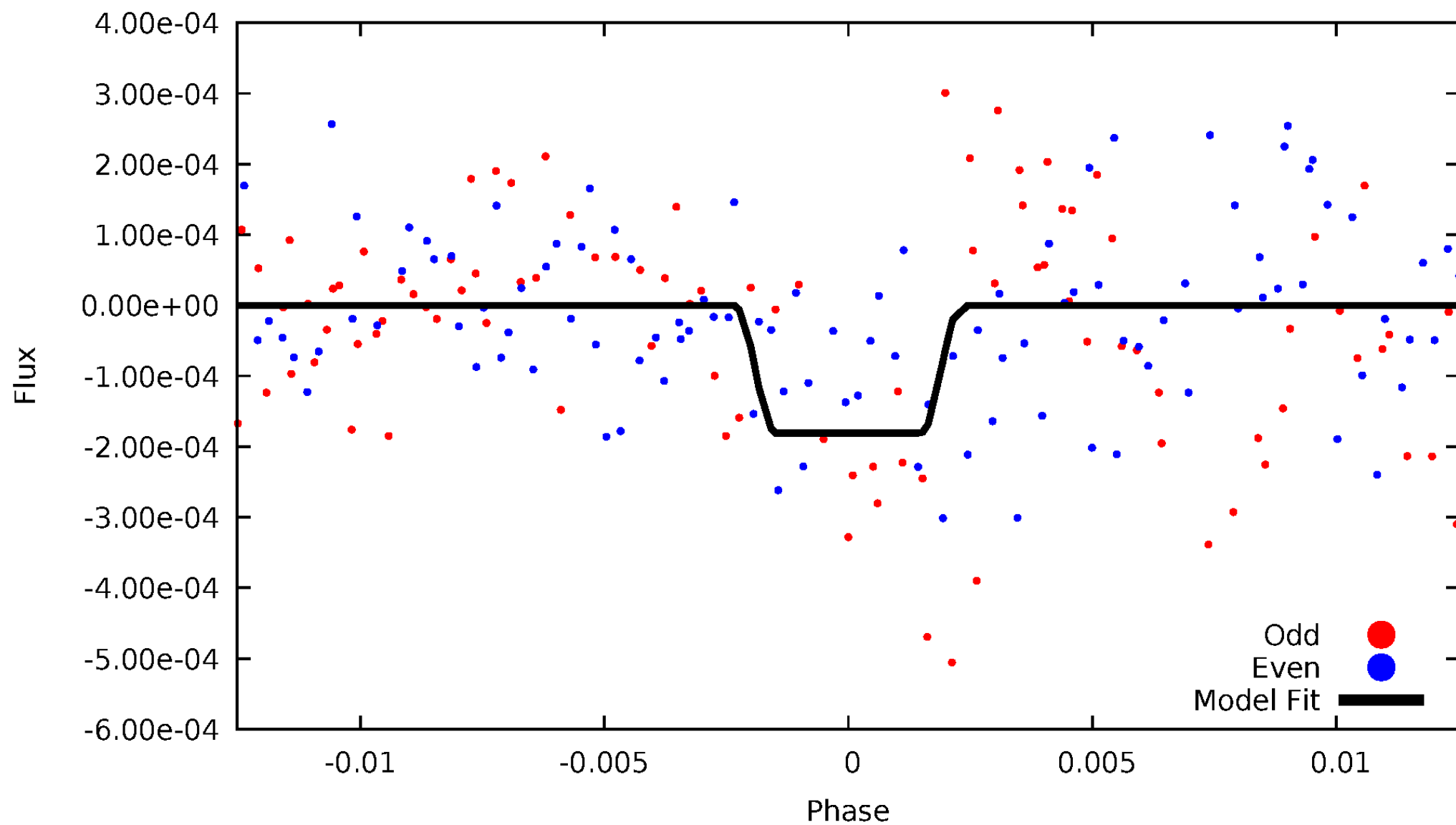
DV Odd/Even

TCE 008243804-04



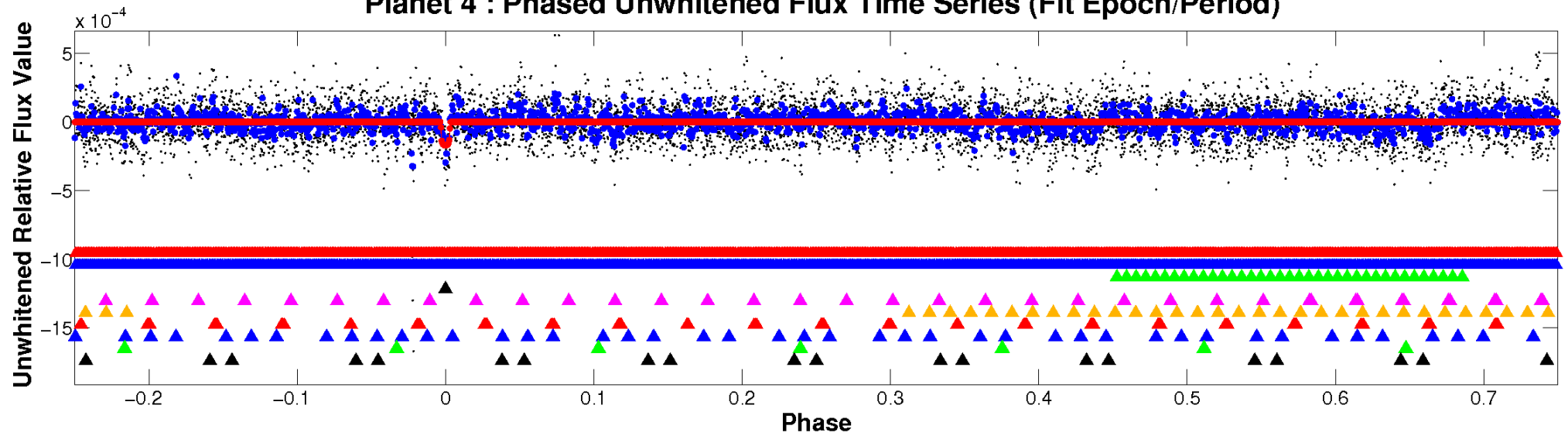
ALT Odd/Even

TCE 008243804-04

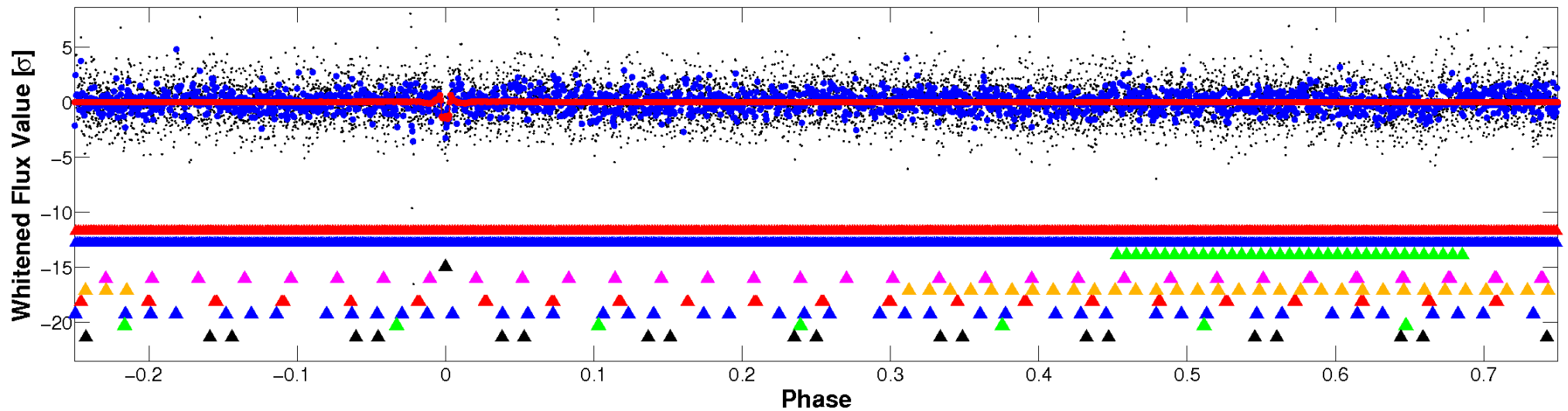


Non-Whitened Vs. Whitened Light Curve

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

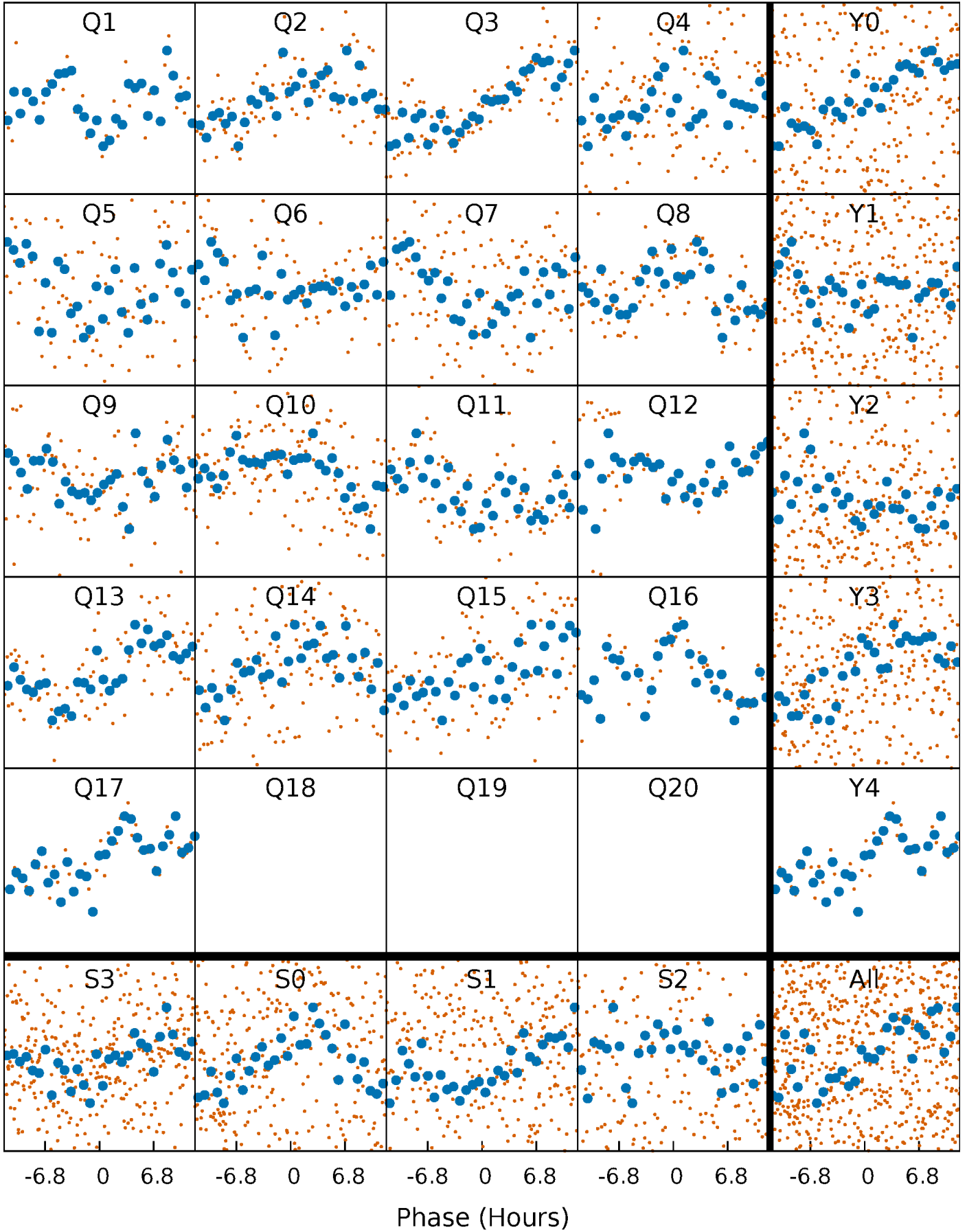


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



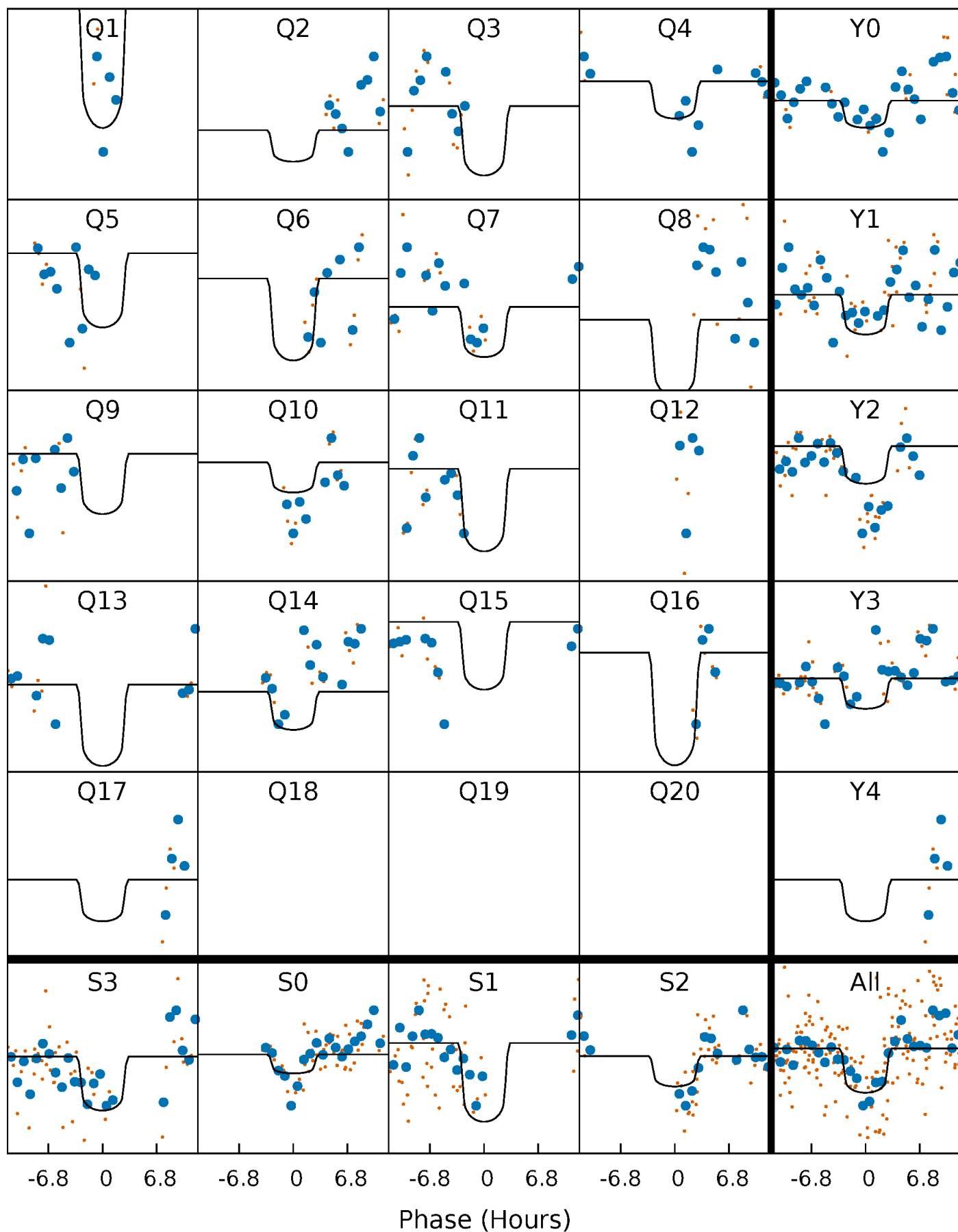
PDC Quarter-Phased Transit Curves

TCE 008243804-04 P= 40.221066 Days $T_0=155.282706$ (BKJD)



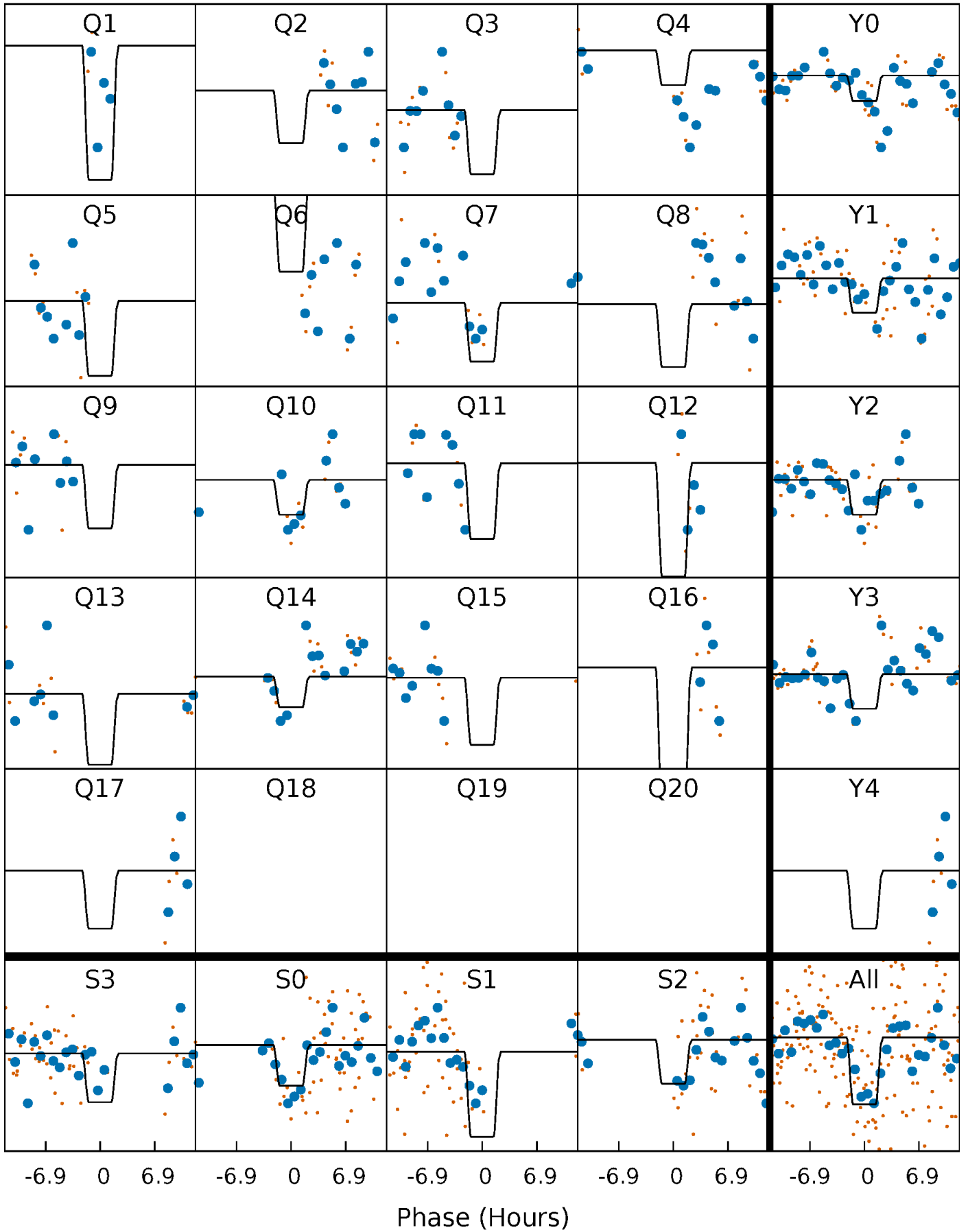
DV Quarter-Phased Transit Curves

TCE 008243804-04 P= 40.221066 Days $T_0=155.282706$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

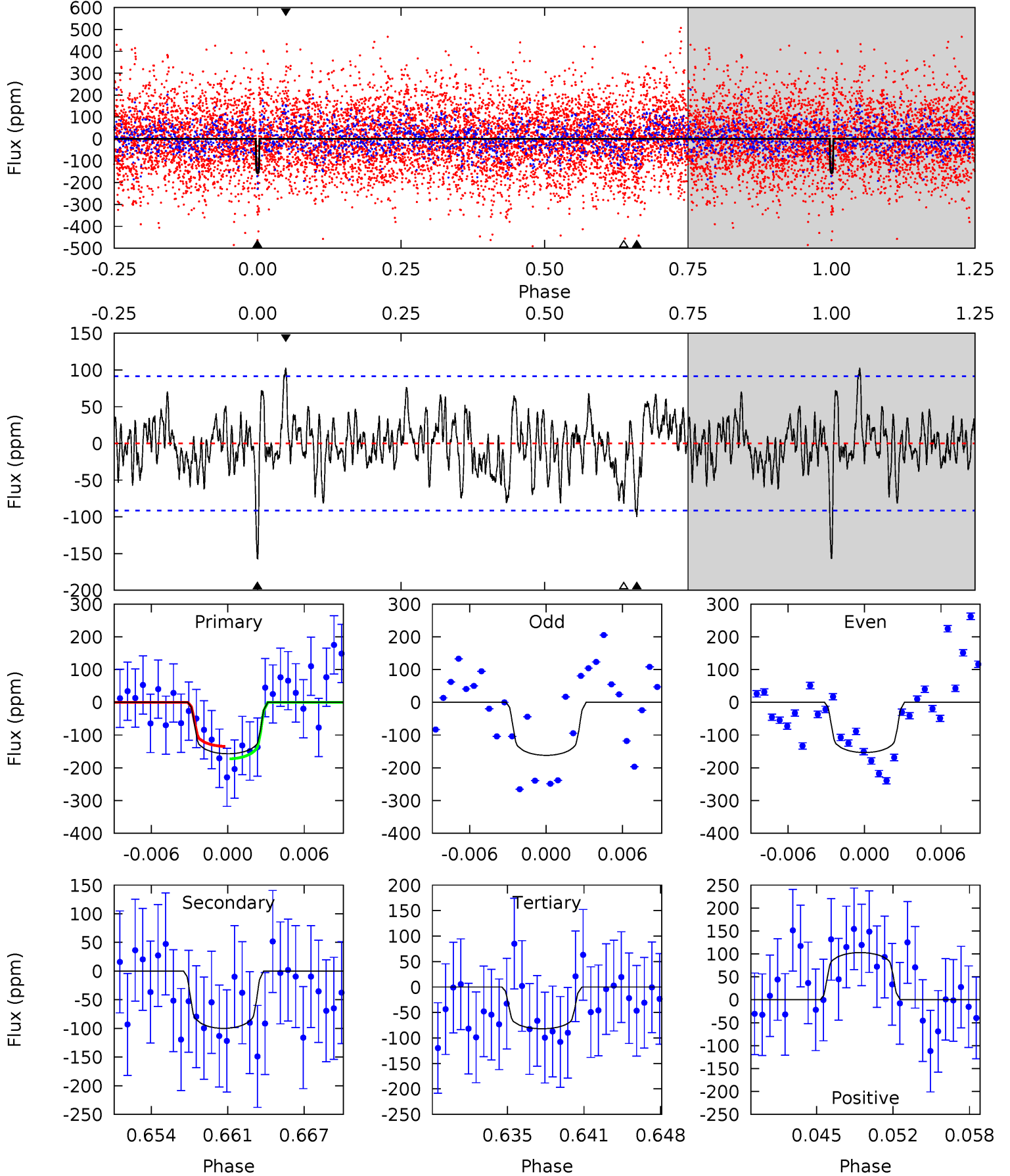
TCE 008243804-04 P= 40.219698 Days $T_0=155.299969$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-04, P = 40.221066 Days, E = 115.061640 Days

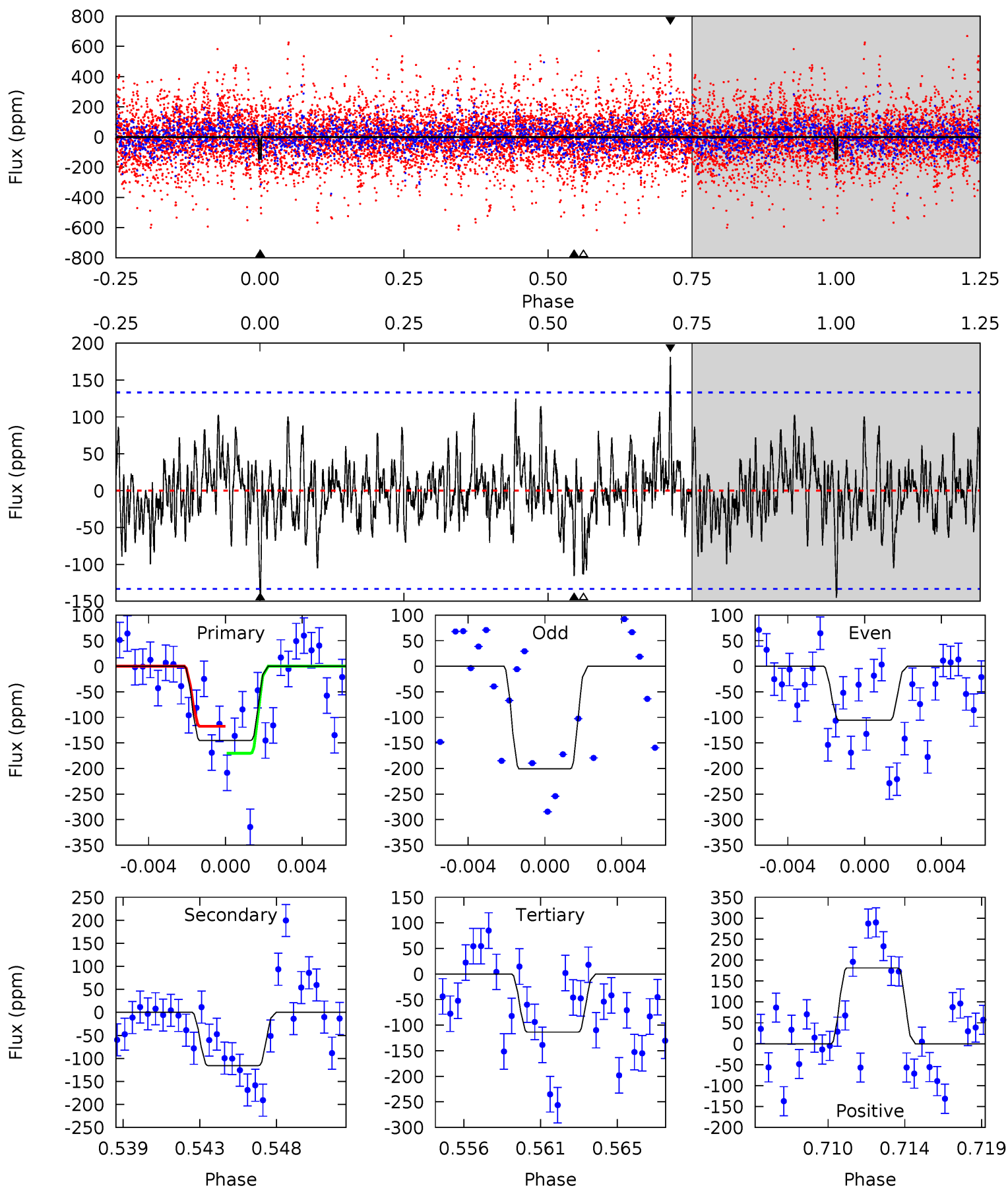
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.78	5.58	4.58	5.74	5.11	2.72	1.73	4.20	3.04	1.01	-0.16	0.23	0.89	0.40	1.04



Alt Model-Shift Uniqueness Test

008243804-04, $P = 40.219698$ Days, $E = 115.080271$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.65	4.49	4.42	7.04	5.18	2.85	1.42	1.23	-1.40	0.07	-2.55	1.68	1.12	0.55	1.05



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-100 ± 18	$2.38^{+1.11}_{-0.82}$	1059^{+82}_{-78}	5706^{+1400}_{-731}	570^{+846}_{-283}
Alt.	-115 ± 26	$2.37^{+0.97}_{-0.91}$	1055^{+90}_{-75}	6012^{+1665}_{-857}	703^{+1137}_{-374}

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

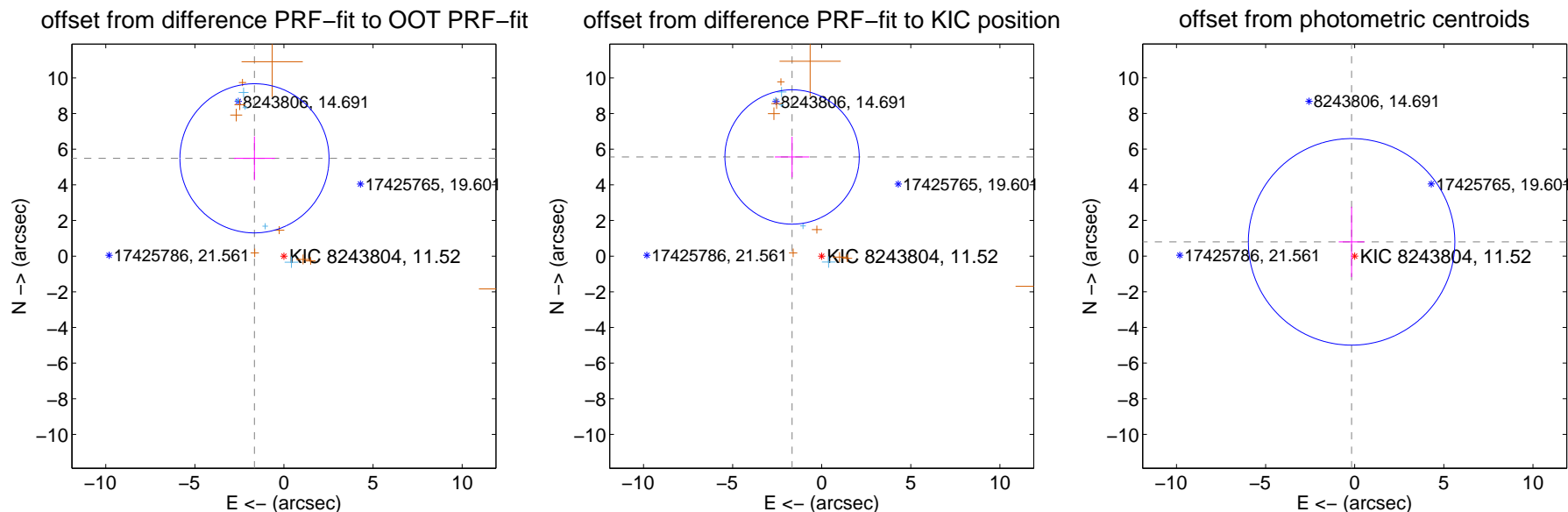
DV Centroid Data

Supplemental centroid analysis for 008243804-04. **Kepler magnitude: 11.52**. Transit SNR 9.34

There are 5 quarters with good PRF difference image offsets

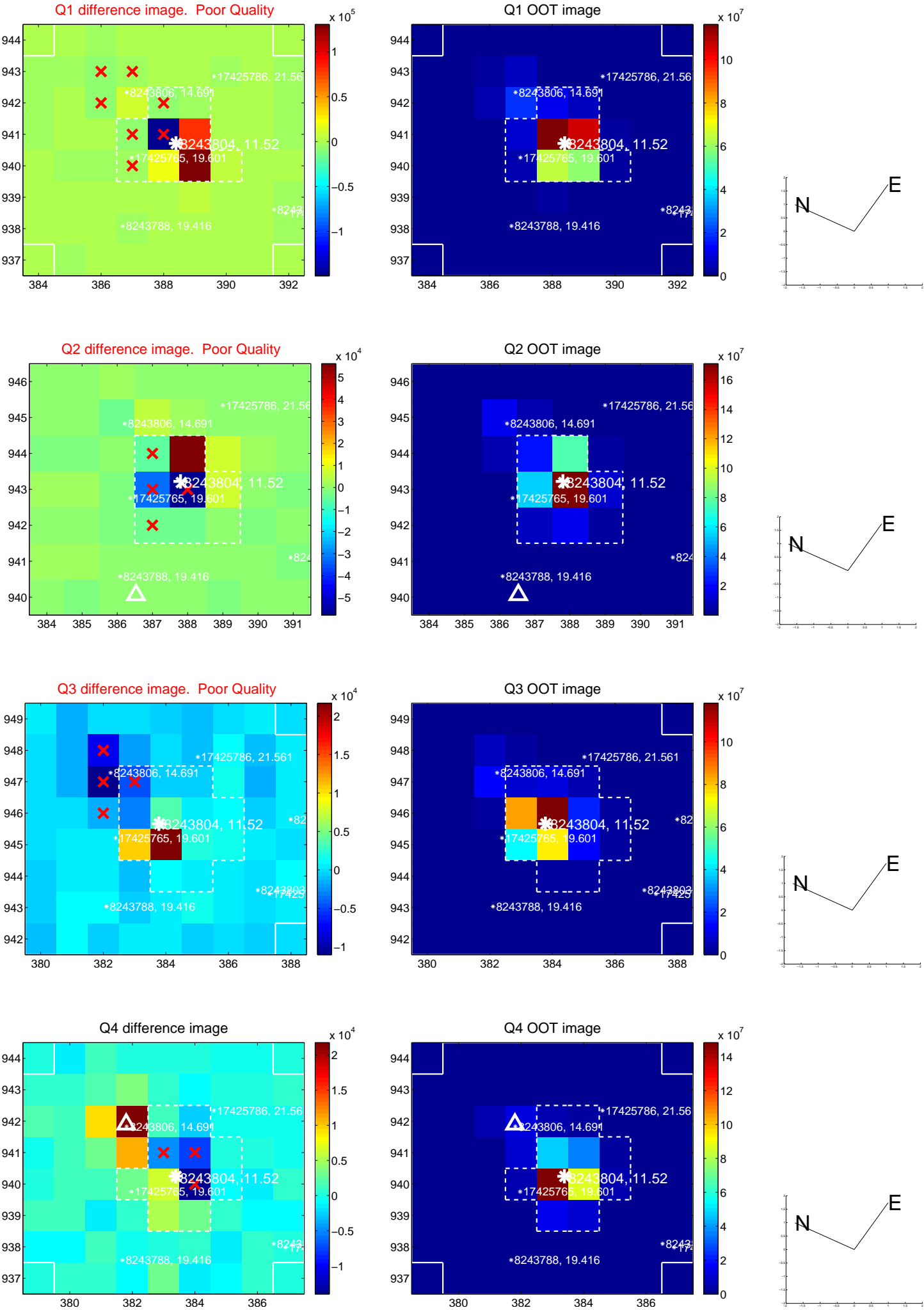
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.732 ± 1.394	4.11	1.656 ± 1.151	5.488 ± 1.229
PRF-fit source offset from KIC position	5.807 ± 1.256	4.62	1.664 ± 0.963	5.564 ± 1.136
photometric centroid source offset	0.82 ± 1.93	0.42	0.18 ± 0.72	0.80 ± 1.97

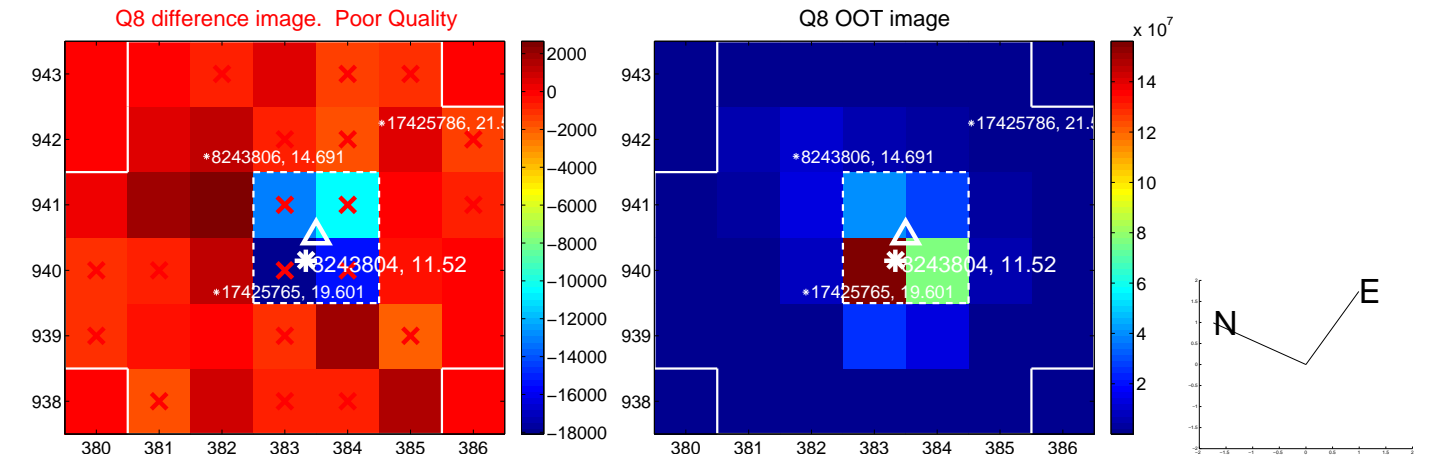
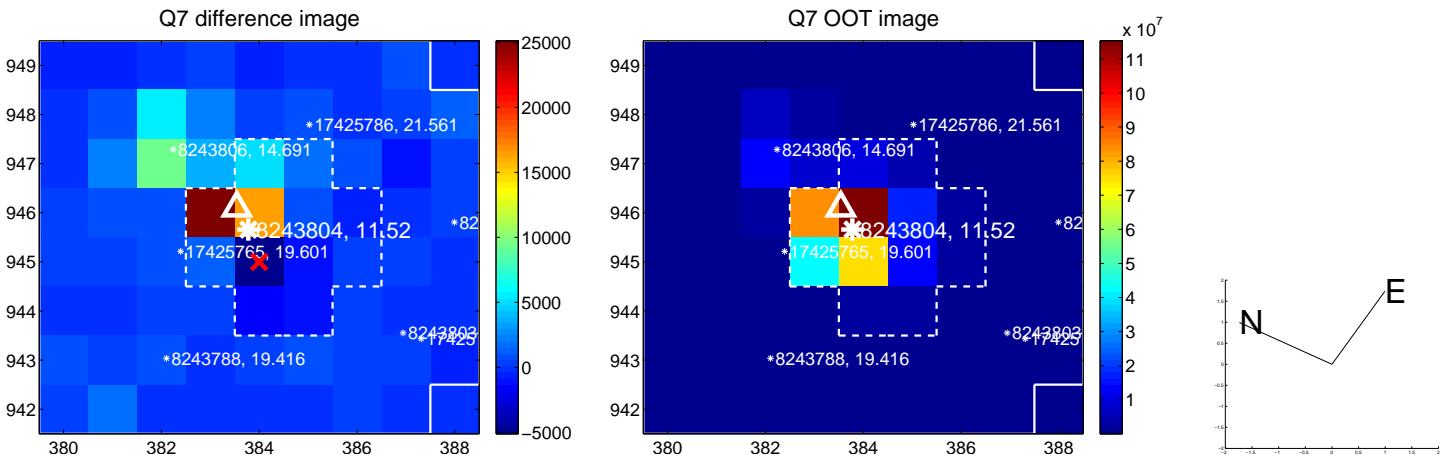
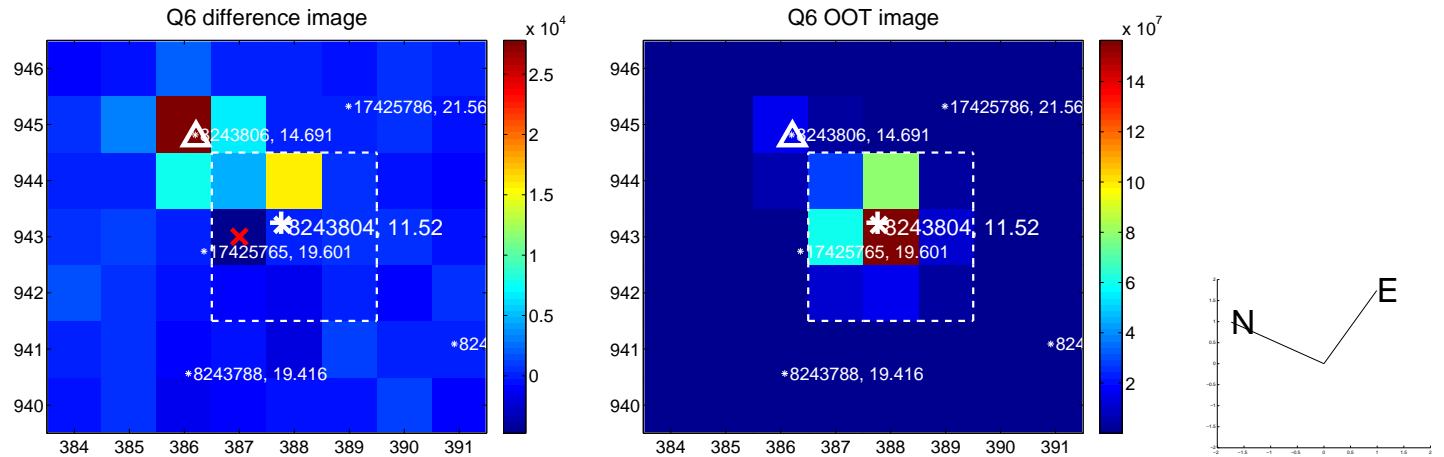
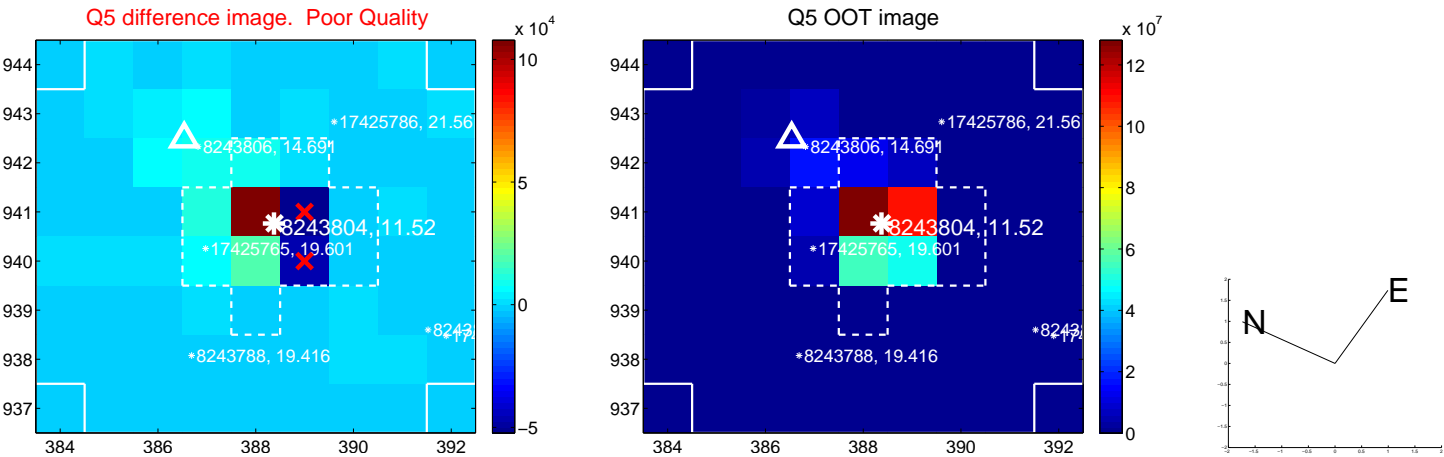


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

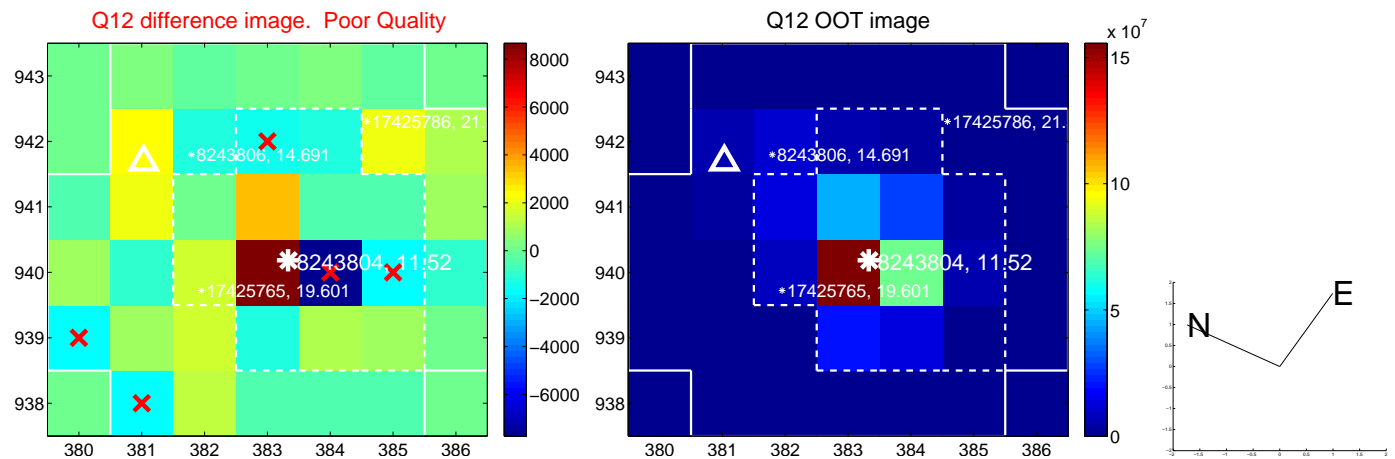
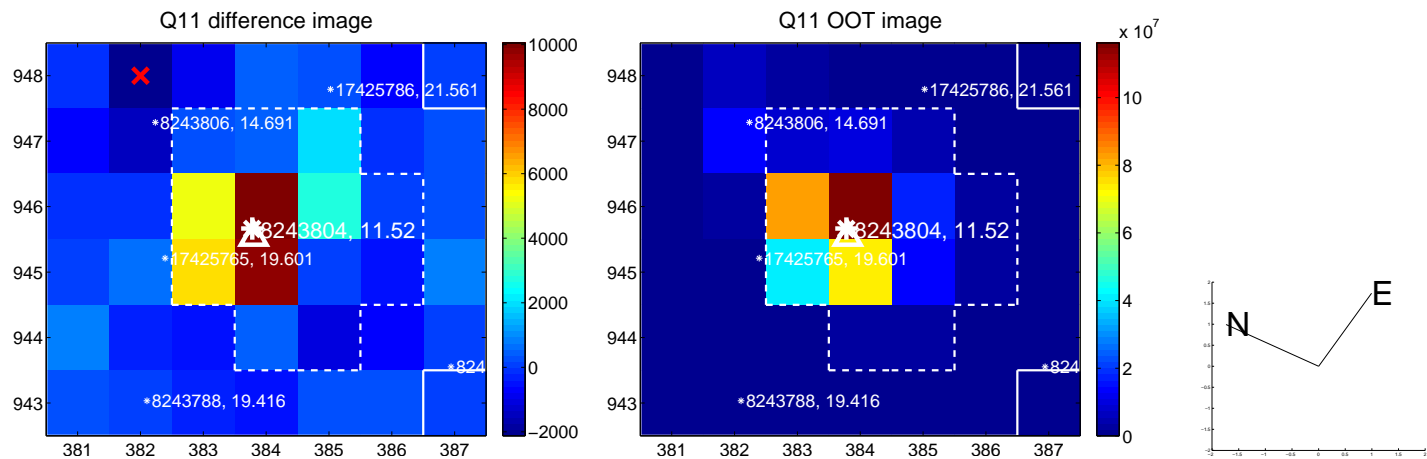
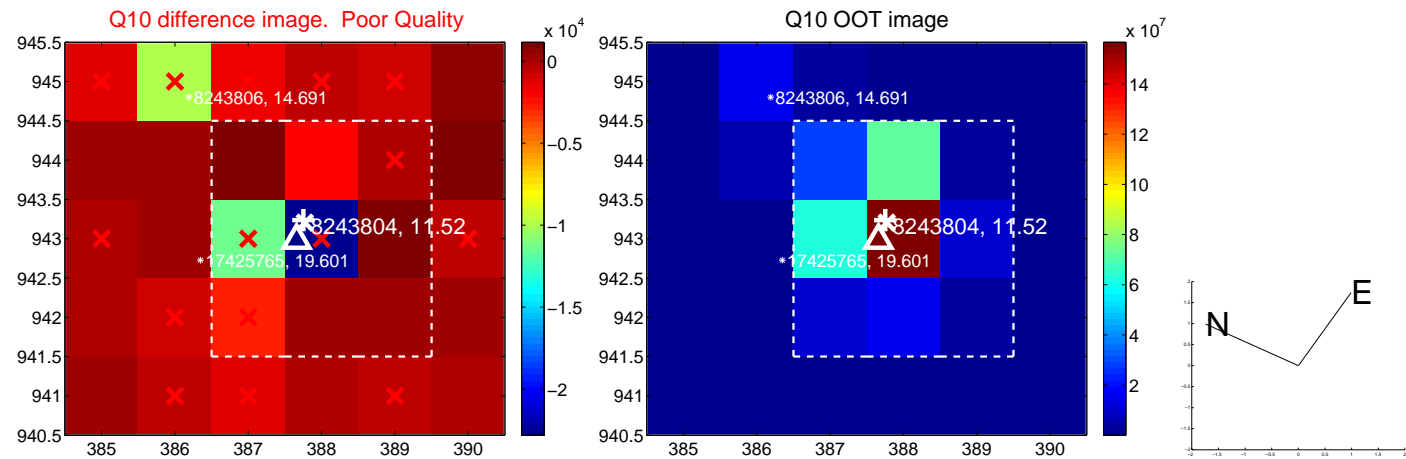
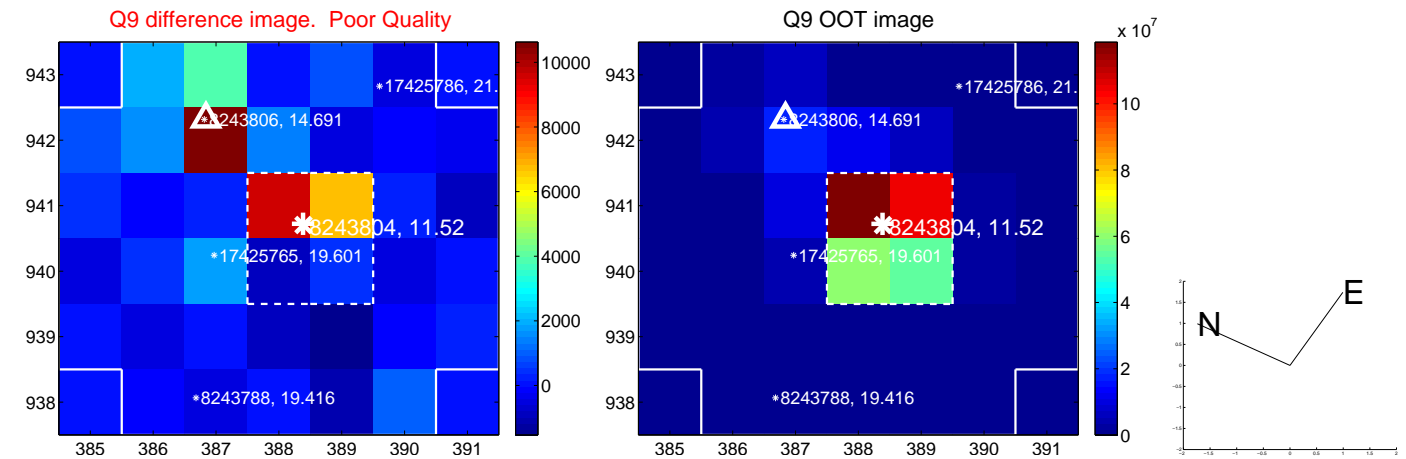
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



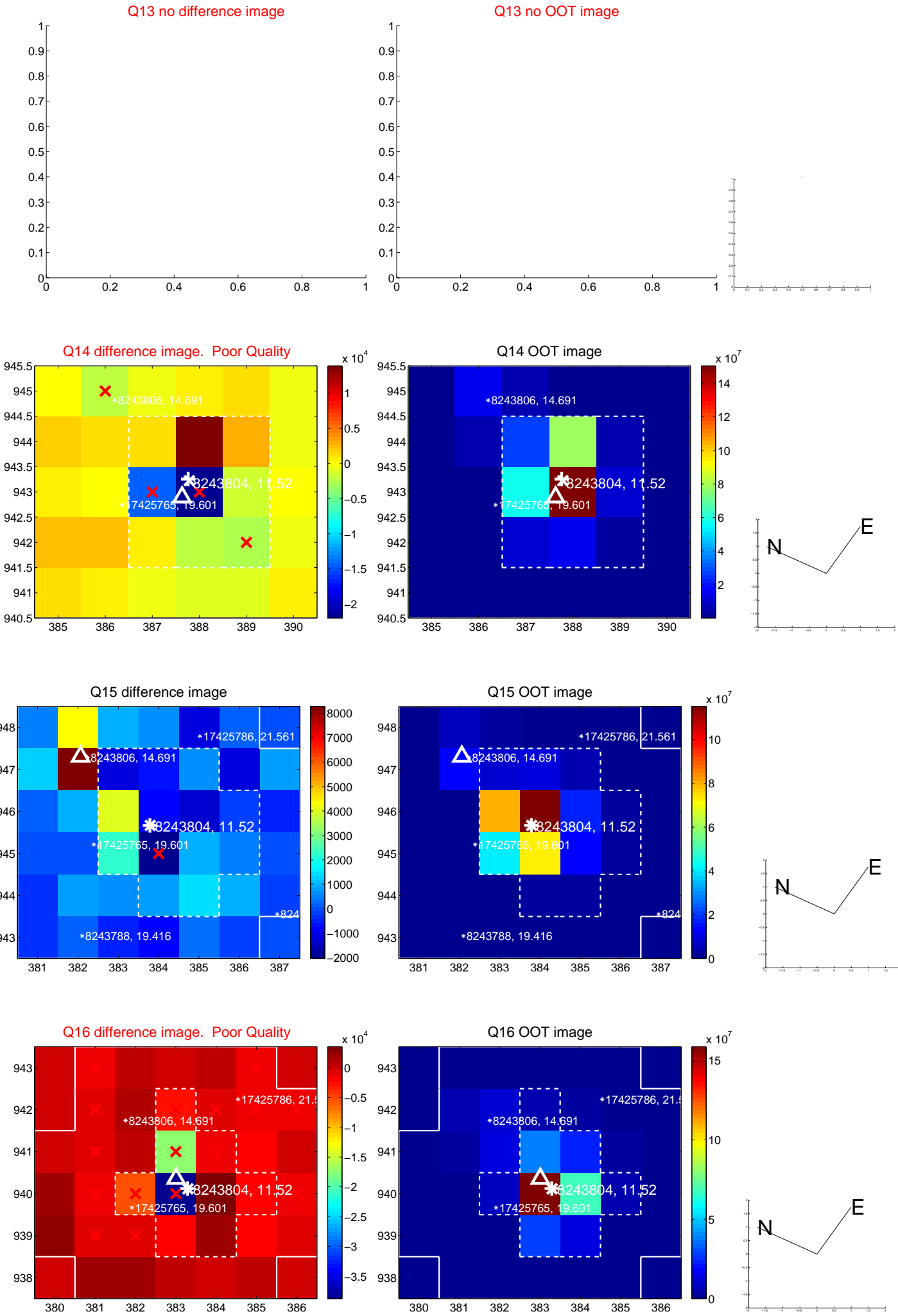
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



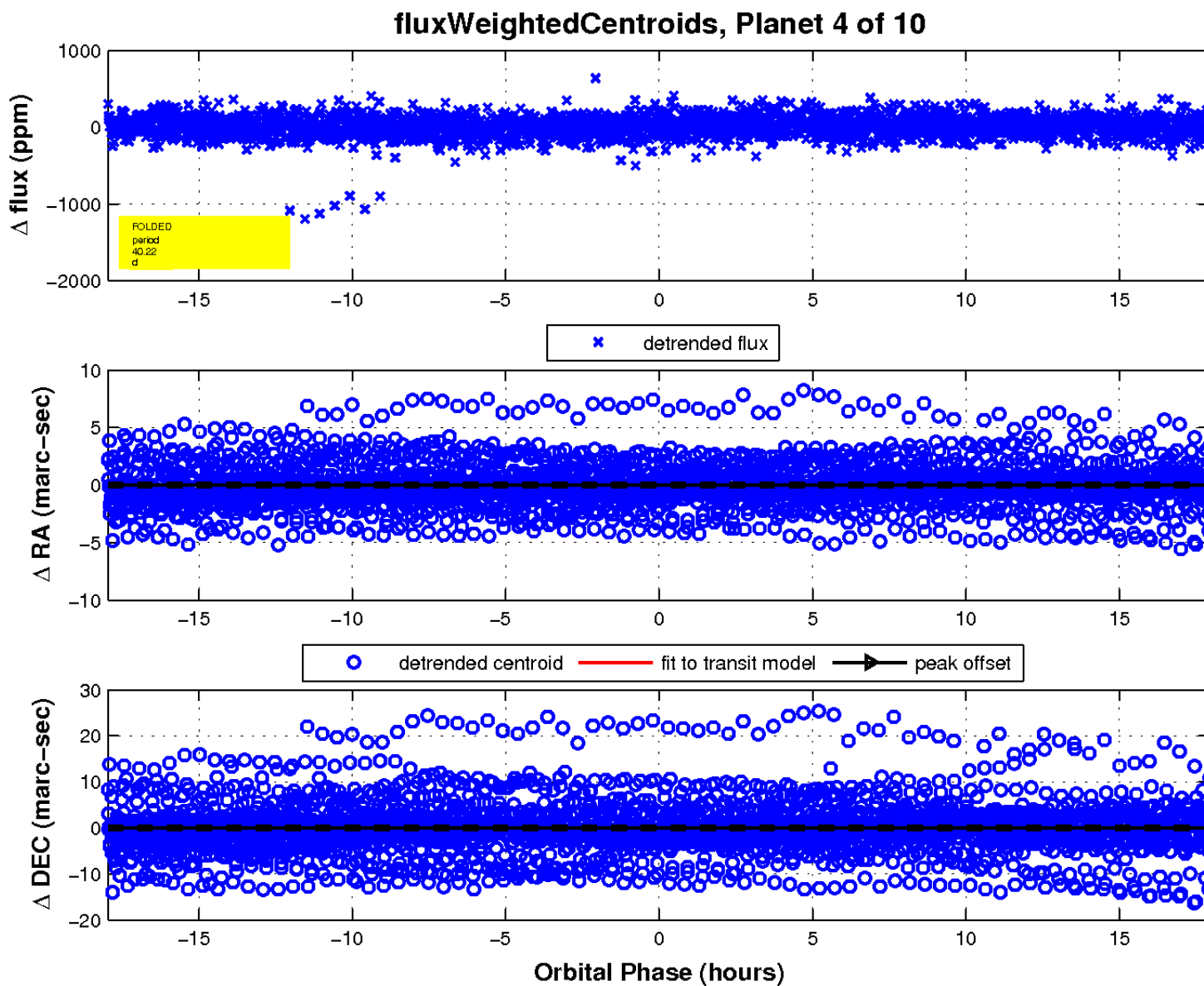
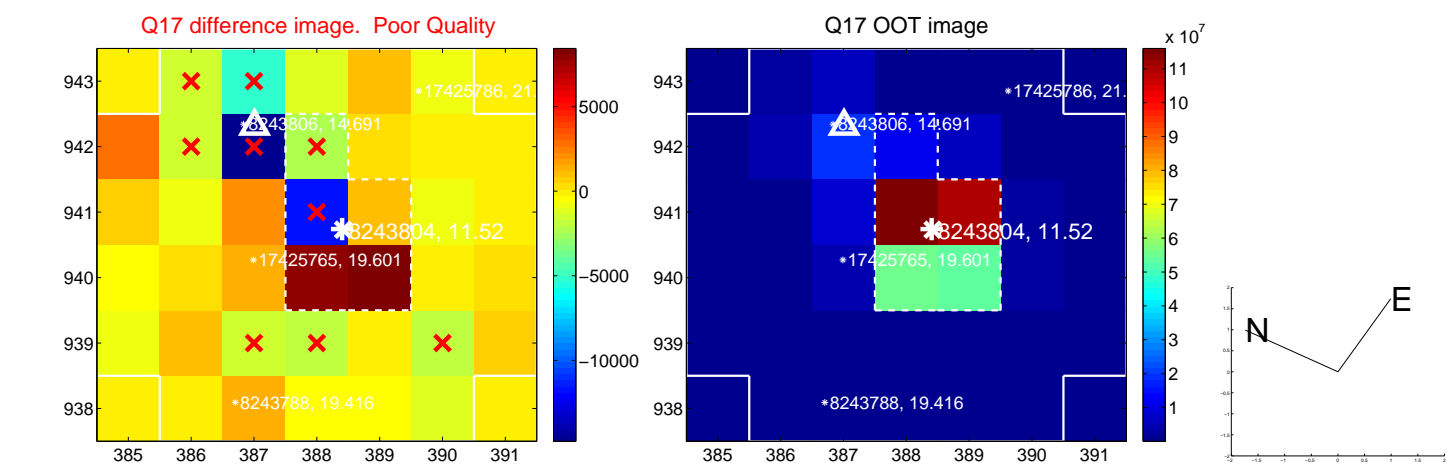
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



This astronomical image shows a field of stars against a dark background. A blue grid is overlaid on the image. Green text labels provide coordinates: '19:41:33.0' and '31.0' are at the top, and '08:40.0' and '50.0' are on the right side. A prominent bright star is located near the center of the grid.

Declination

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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

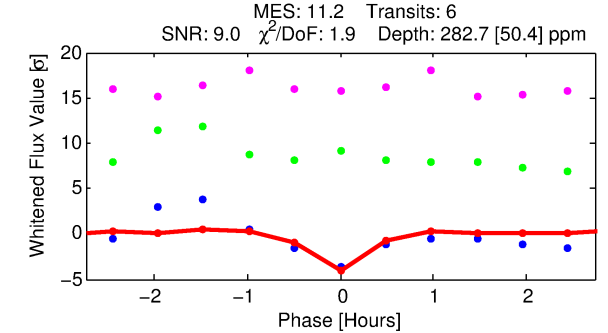
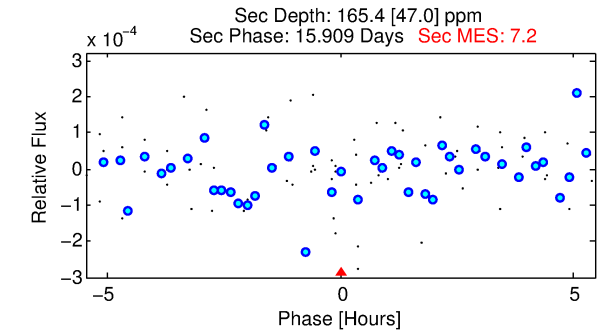
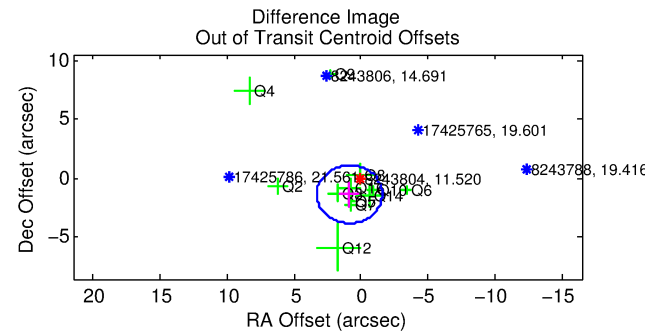
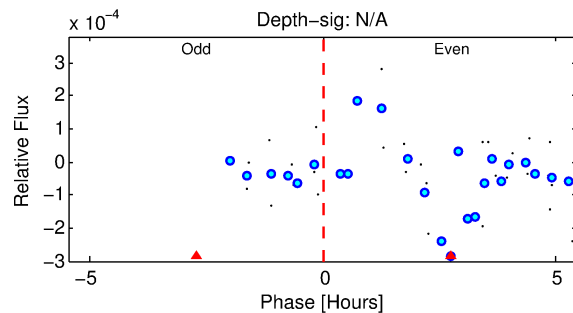
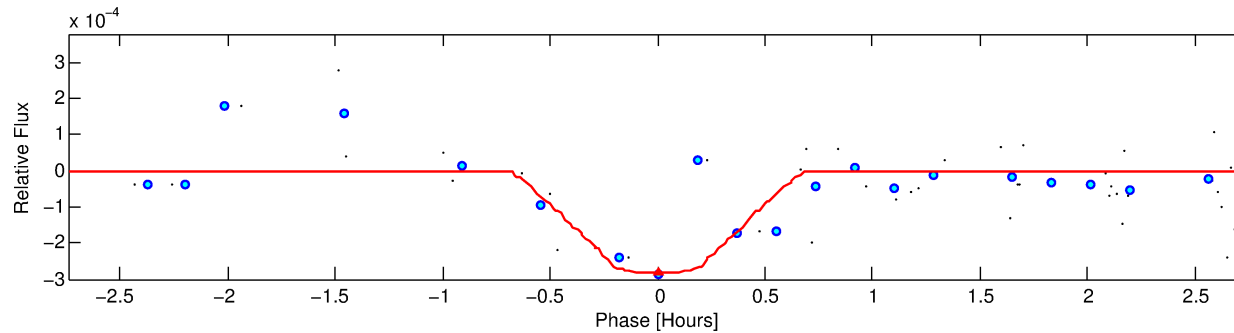
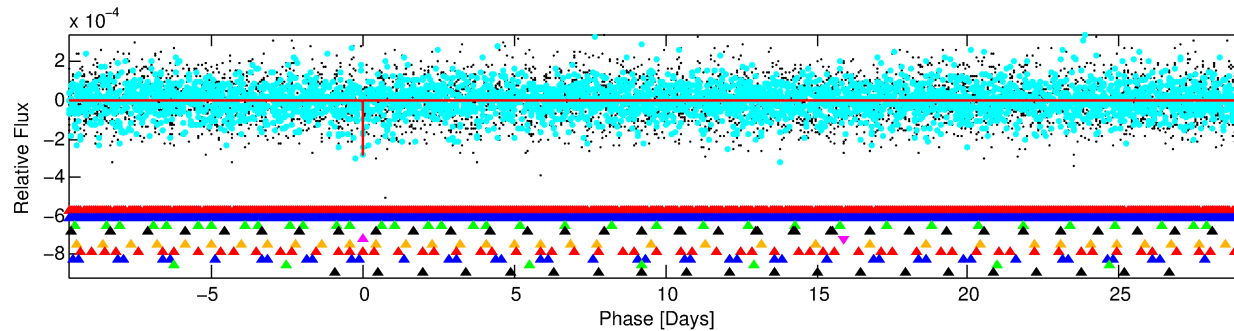
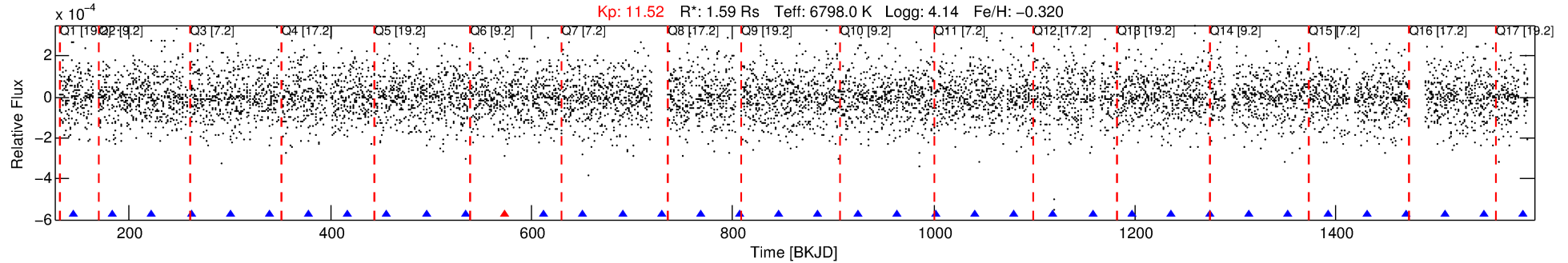
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-05

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 5 of 10 Period: 38.966 d



DV Fit Results:

Period = 38.9655 [0.00038] d
 Epoch = 144.7703 [0.0043] BKJD
 Rp/R* = 0.0162 [0.0219]
 a/R* = 281.60 [2162.95]
 b = 0.53 [10.35]
 Seff = 81.21 [31.63]
 Teq = 765 [75] K
 Rp = 2.80 [3.89] Re
 a = 0.2439 [0.0597] AU
 Ag = 688.26 [1889.97] [0.36σ]
 Tefp = 6062 [4135] K [1.28σ]

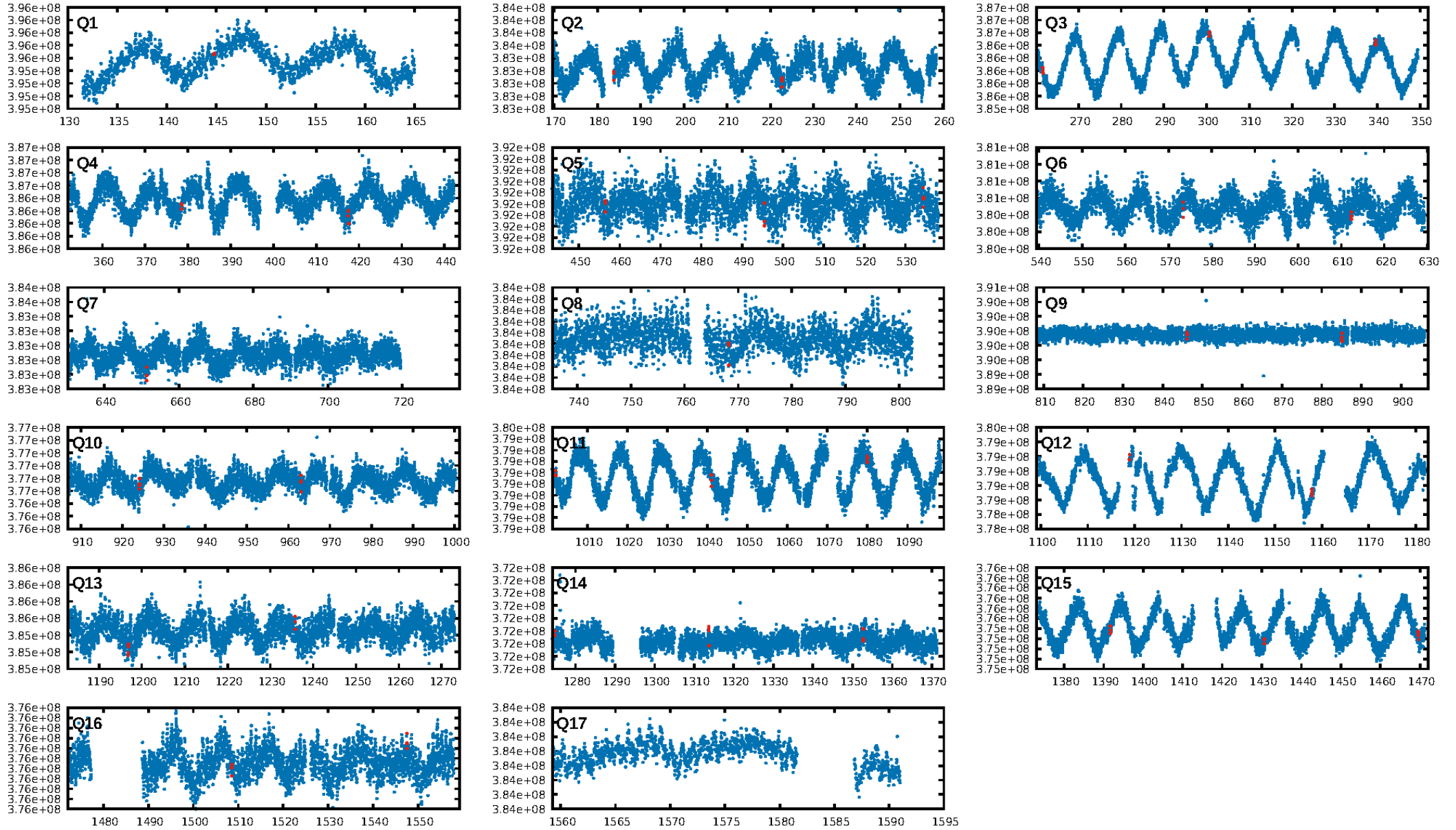
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [85.65σ]
 LongPeriod-sig: 100.0% [4.97σ]
 ModelChiSquare2-sig: 10.9%
 ModelChiSquareGof-sig: 86.0%
 Bootstrap-pfa: 2.55e-11
 RollingBand-fgt: 0.83 [5/6]
 GhostDiagnostic-chr: 0.8563
 Centroid-sig: 0.3%
 Centroid-so: 1.609 arcsec [1.29σ]
 OutOffset-rm: 1.597 arcsec [1.96σ]
 KicOffset-rm: 1.499 arcsec [1.73σ]
 OutOffset-st: 4/2/4/2 [12]
 KicOffset-st: 4/2/4/2 [12]
 DiffImageQuality-fgm: 0.17 [2/12]
 DiffImageOverlap-fno: 0.12 [2/16]

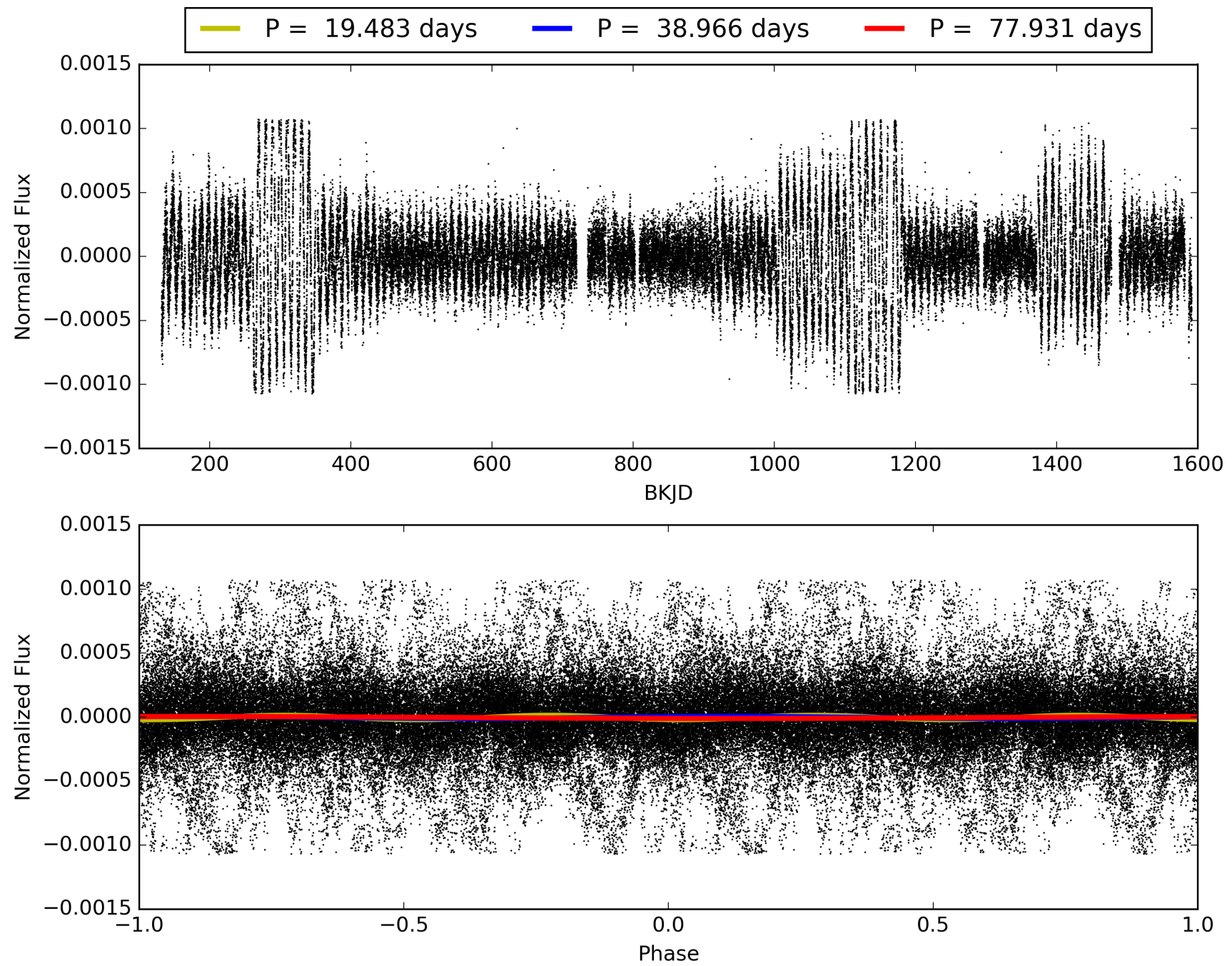
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:32 Z

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

TCE 008243804-05, PDC Light Curves

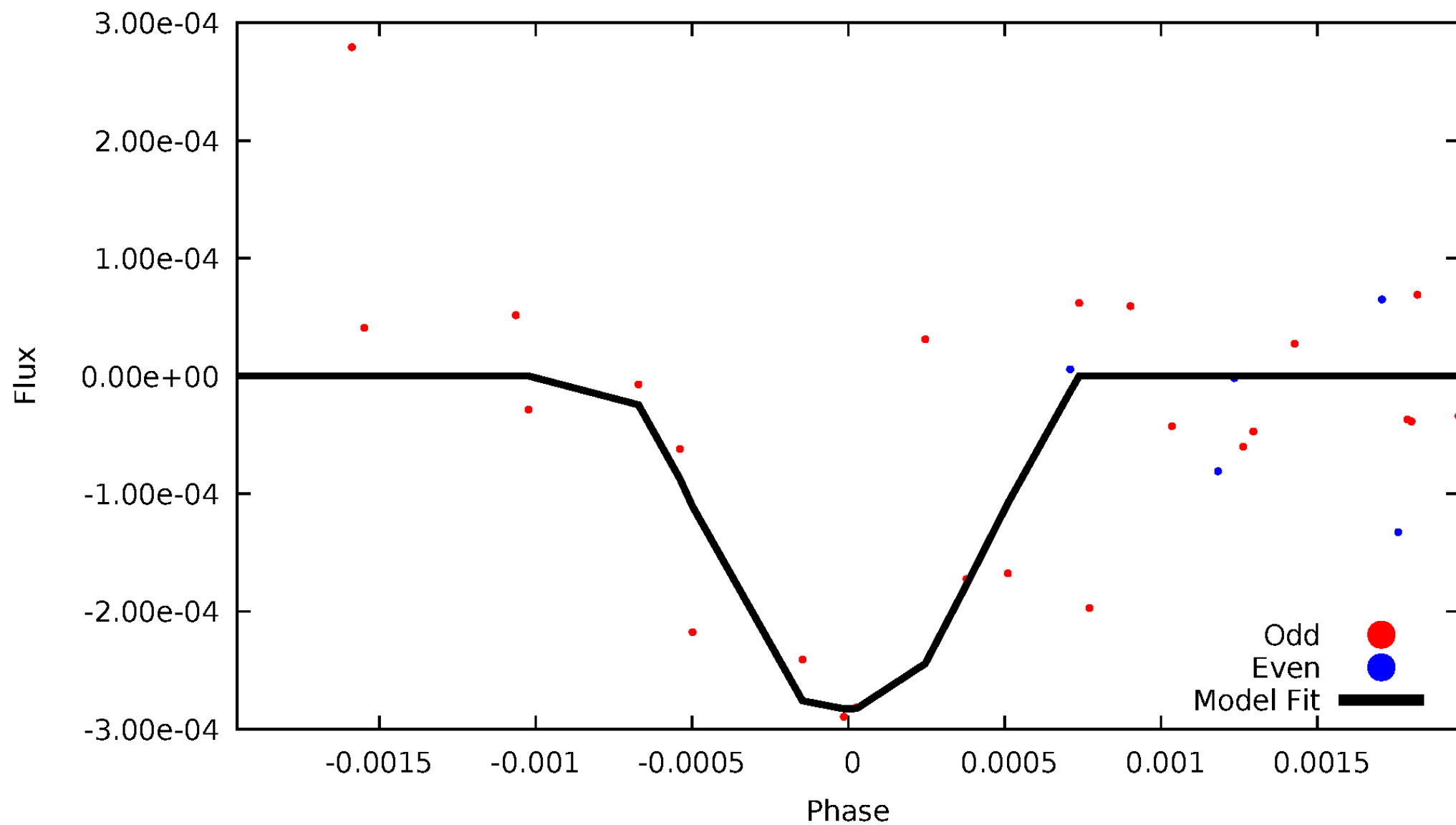


TCE 008243804-05



DV Odd/Even

TCE 008243804-05

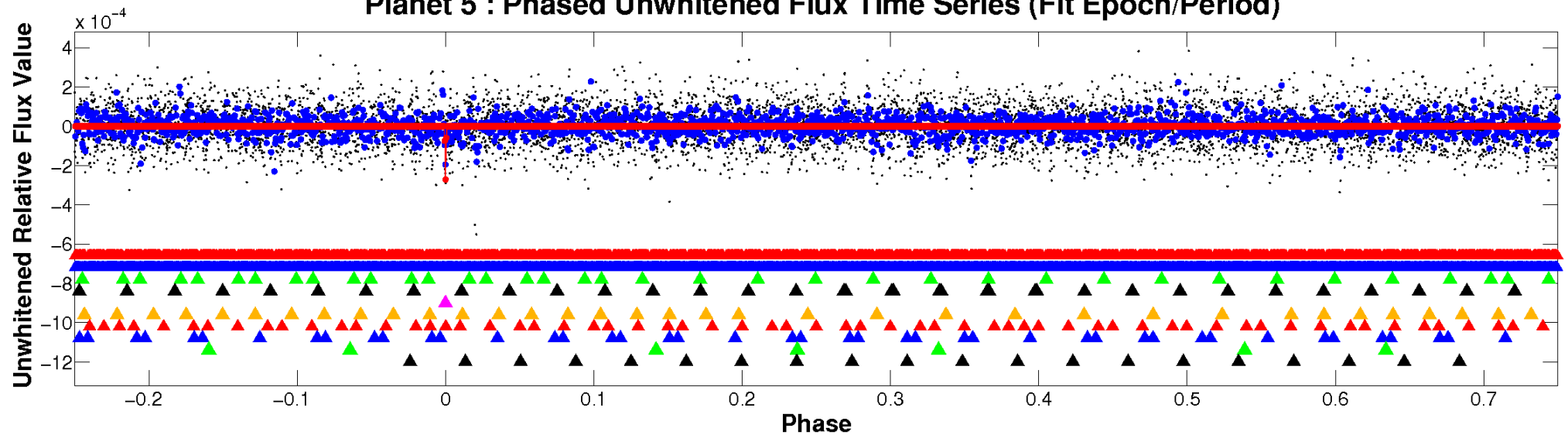


ALT Odd/Even

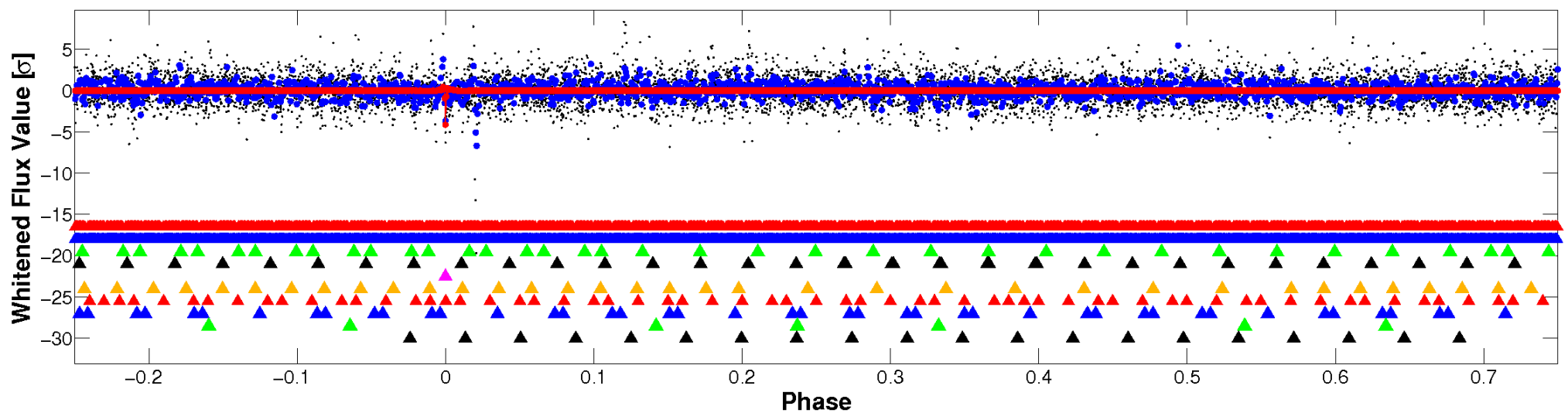
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

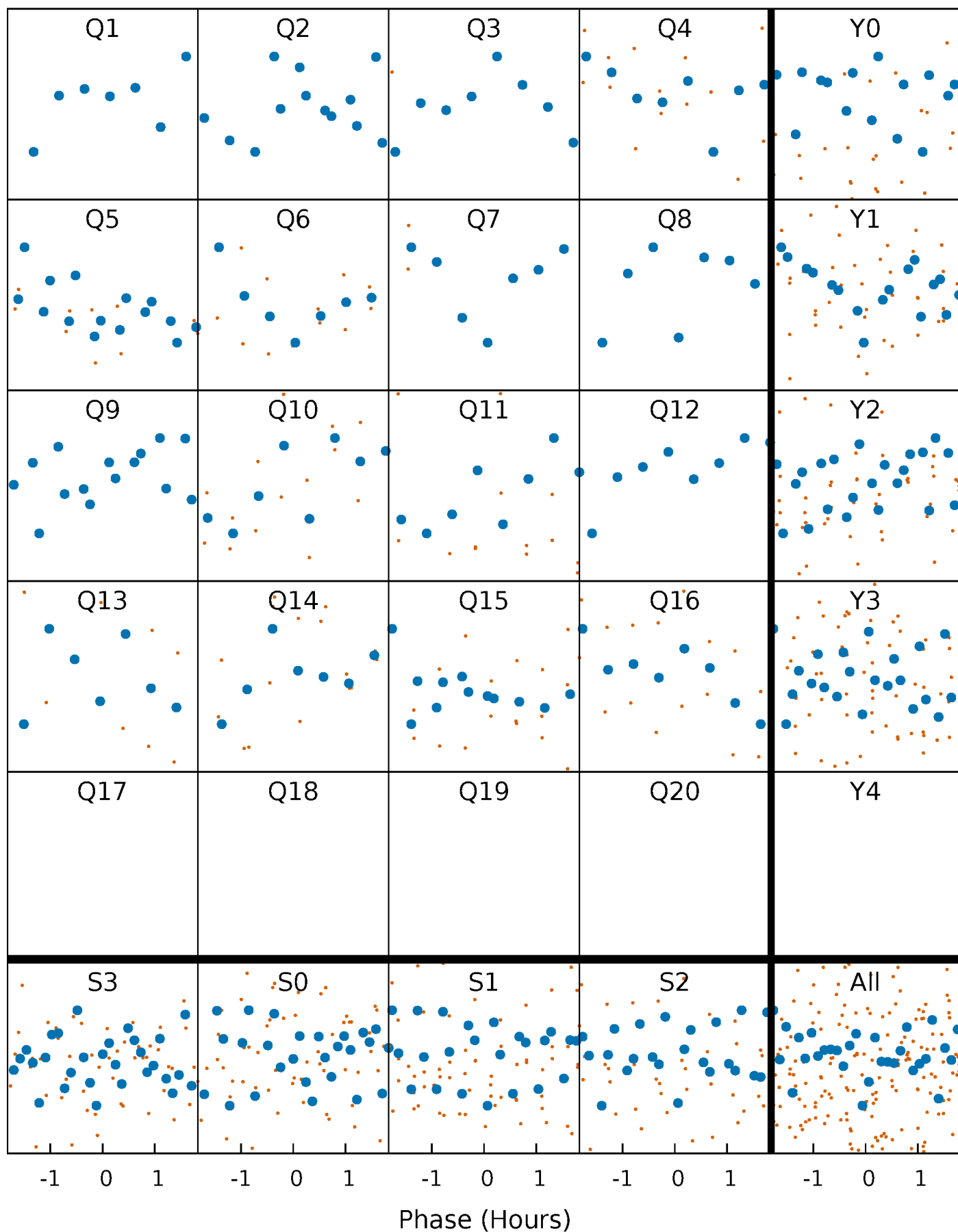


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



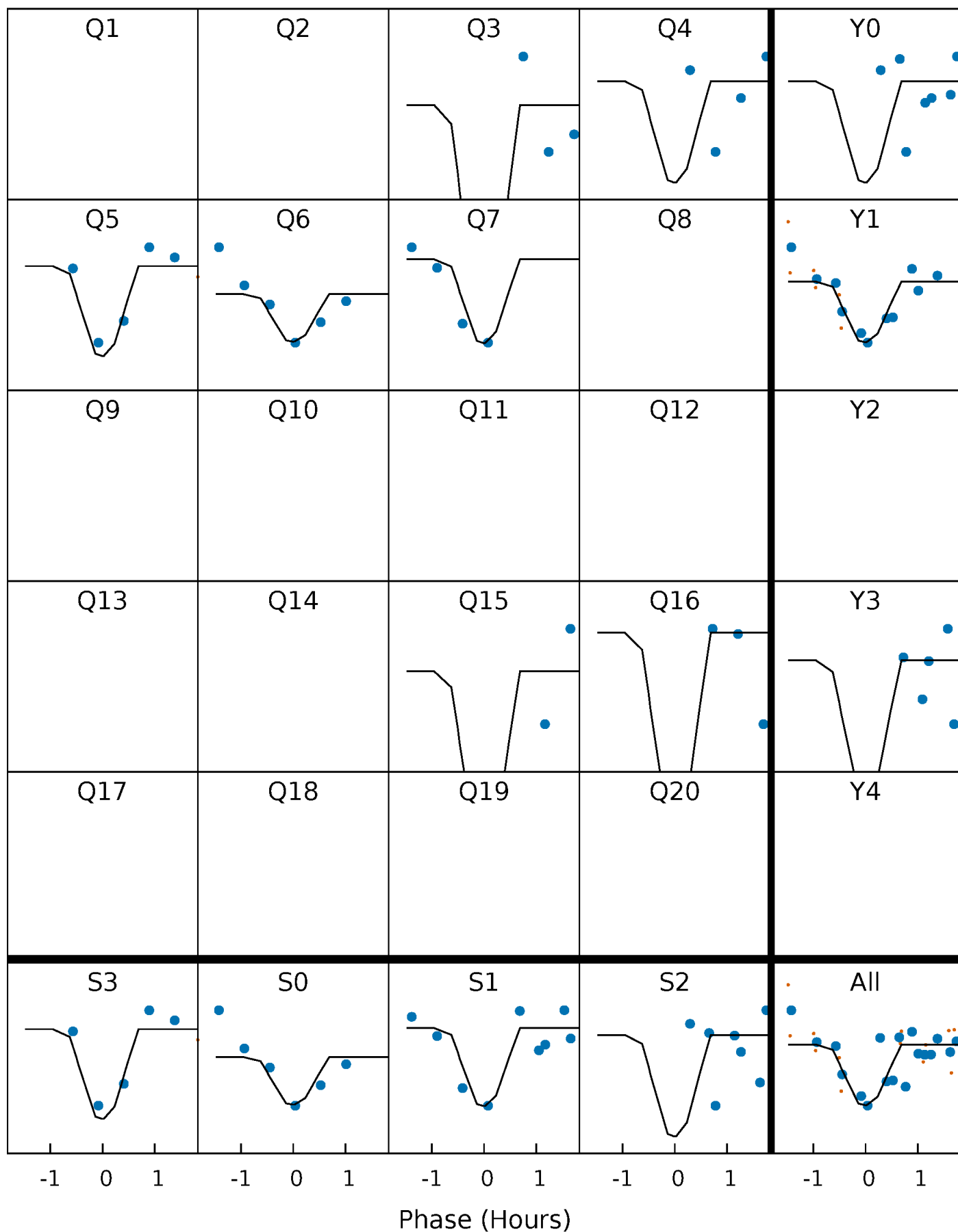
PDC Quarter-Phased Transit Curves

TCE 008243804-05 $P = 38.965554$ Days $T_0 = 144.770300$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008243804-05 $P = 38.965554$ Days $T_0 = 144.770300$ (BKJD)

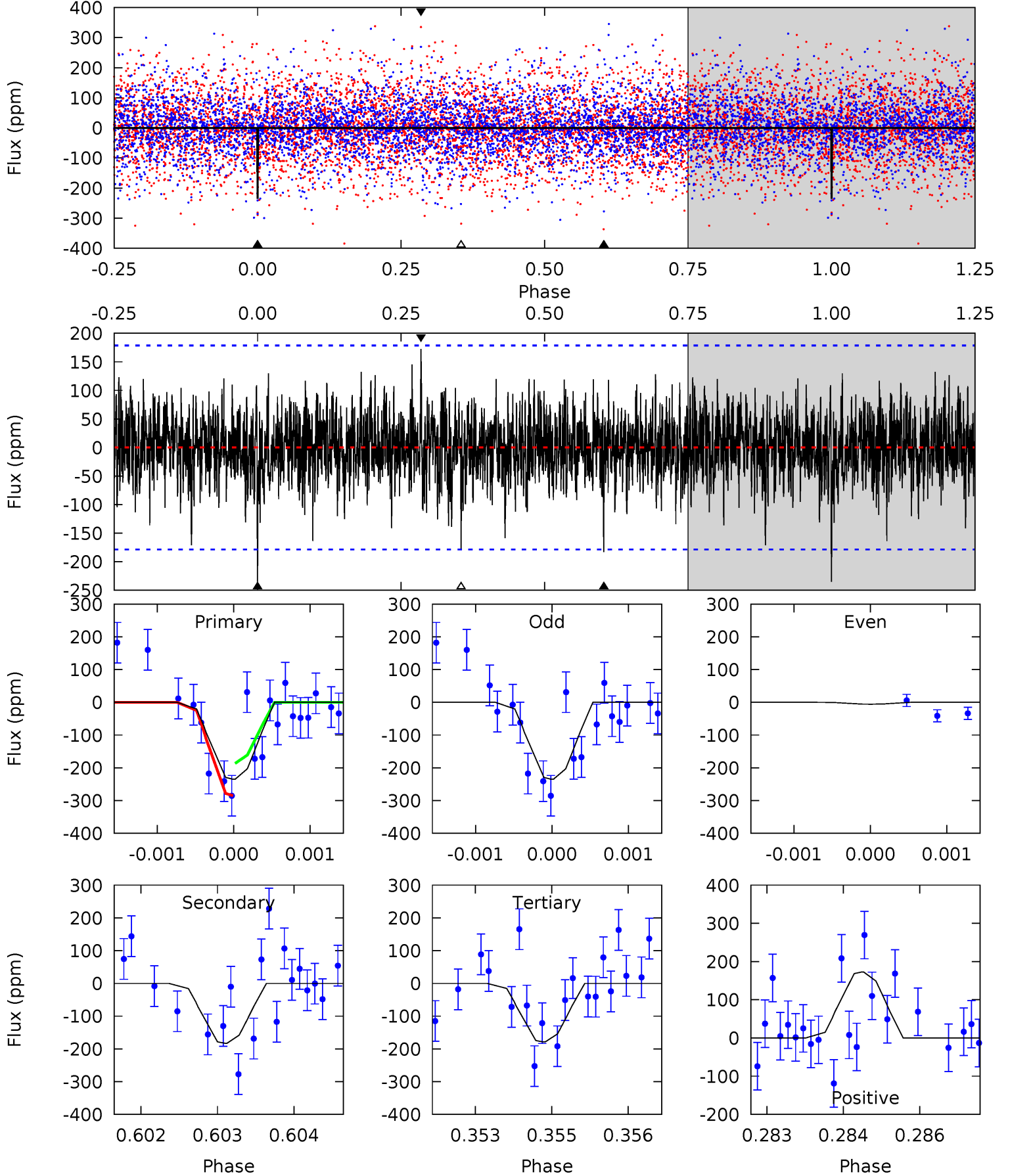


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008243804-05, $P = 38.965554$ Days, $E = 105.804746$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.09	5.52	5.39	5.21	5.39	3.20	1.35	1.70	1.88	0.13	0.31	4.95	0.97	0.42	1.49



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-183 ± 33	$3.88^{+3.28}_{-2.53}$	1072^{+81}_{-86}	5335^{+4001}_{-1196}	410^{+2890}_{-296}
Alt.	N/A	N/A	N/A	N/A	N/A

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

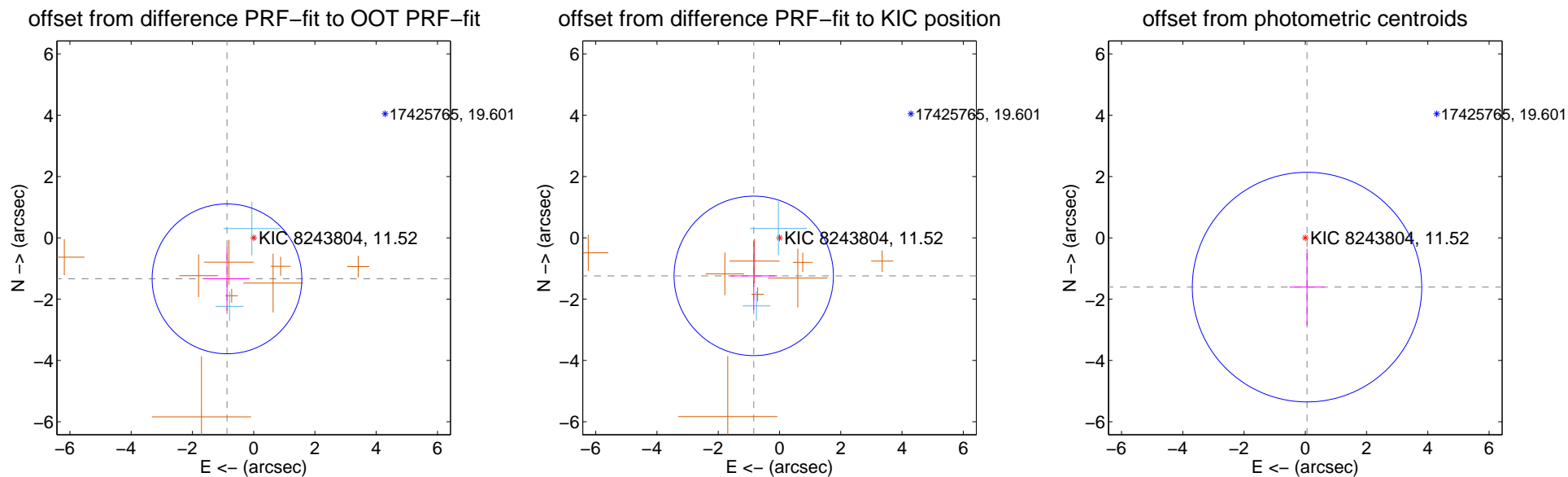
DV Centroid Data

Supplemental centroid analysis for 008243804-05. **Kepler magnitude: 11.52.** Transit SNR 8.98

There are 2 quarters with good PRF difference image offsets

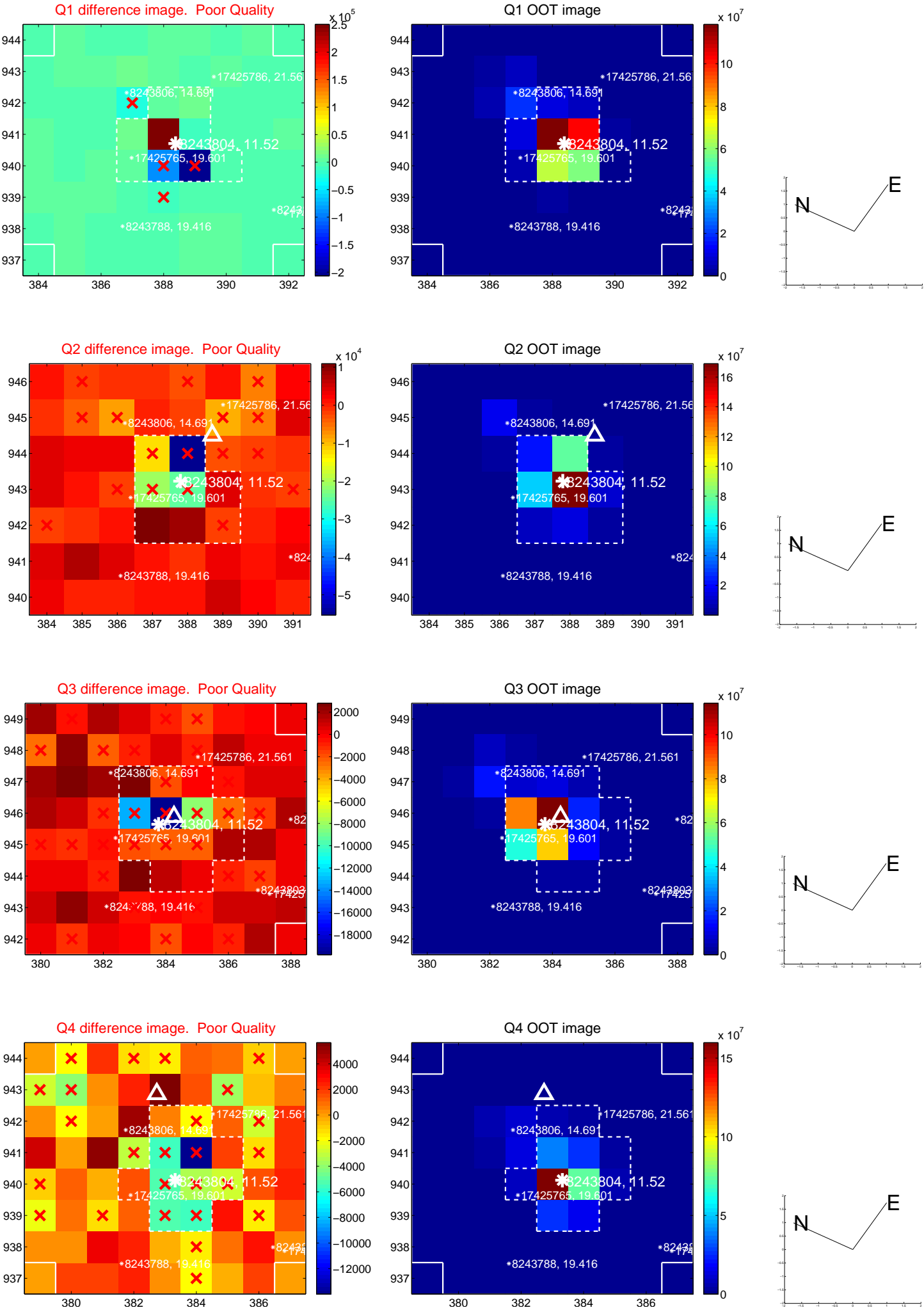
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.597 ± 0.815	1.96	0.872 ± 0.739	-1.338 ± 1.047
PRF-fit source offset from KIC position	1.499 ± 0.867	1.73	0.841 ± 0.766	-1.241 ± 1.108
photometric centroid source offset	1.61 ± 1.25	1.29	-0.06 ± 0.57	-1.61 ± 1.25

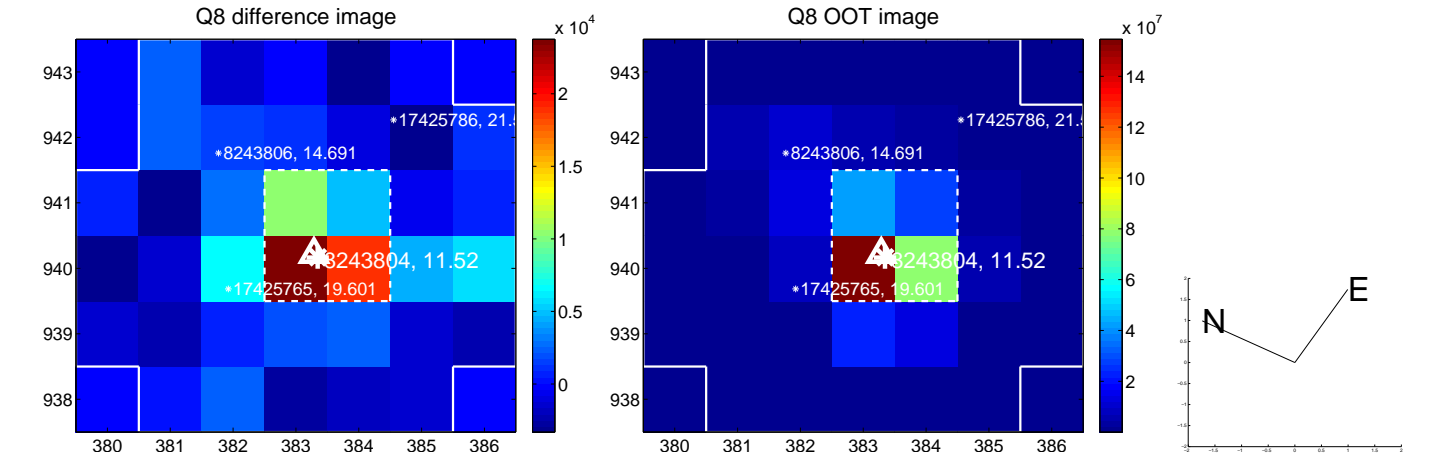
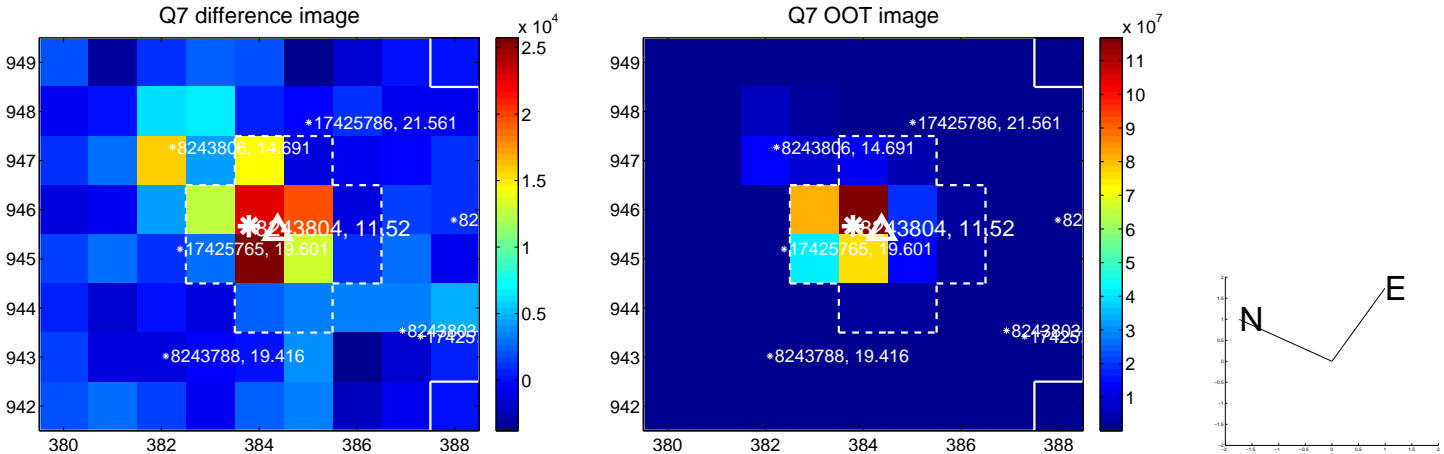
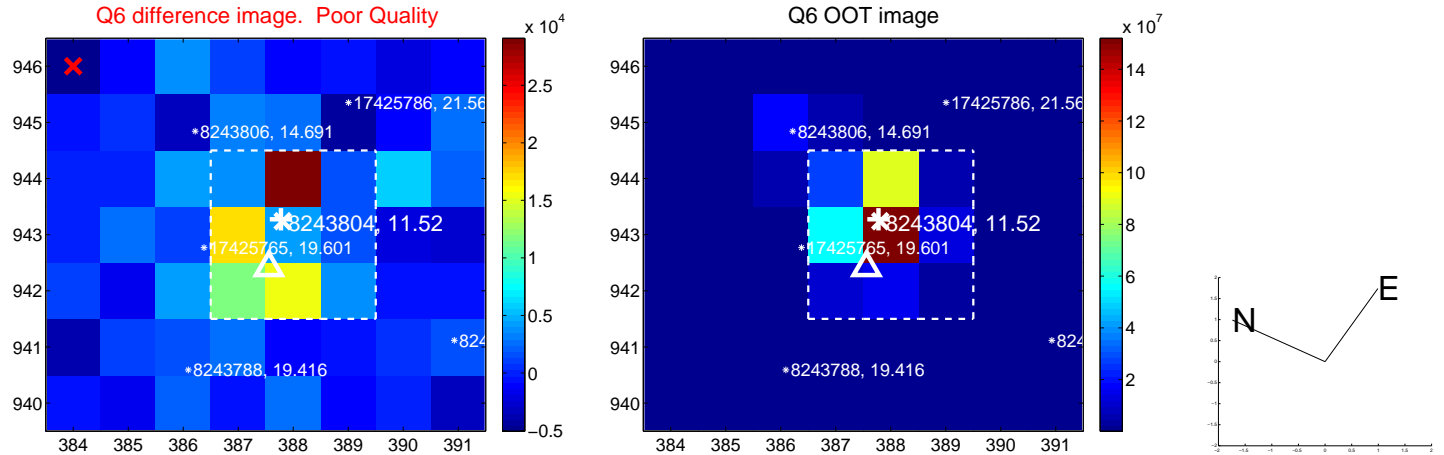
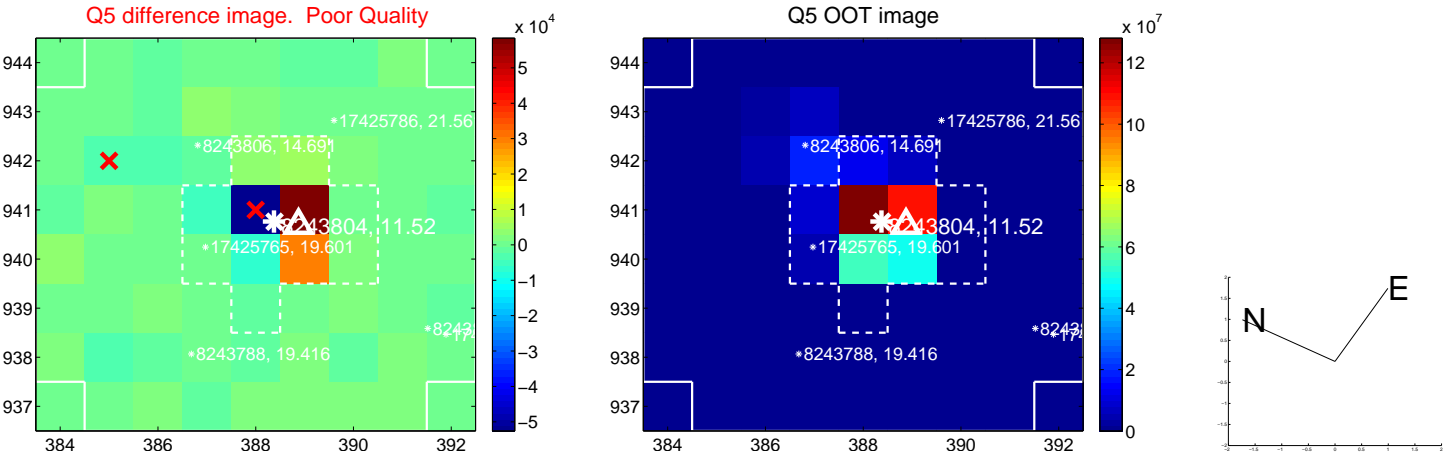


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

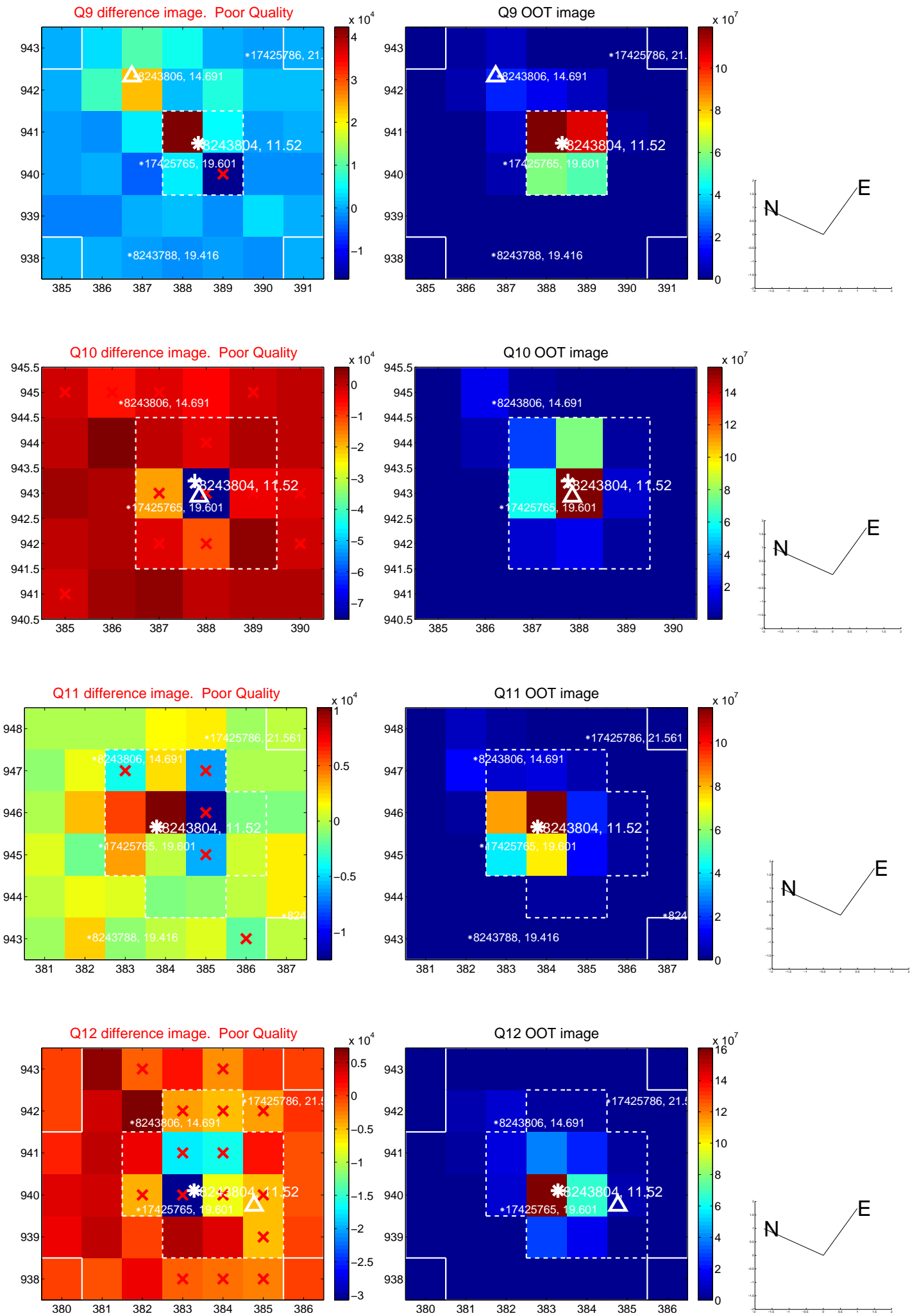
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



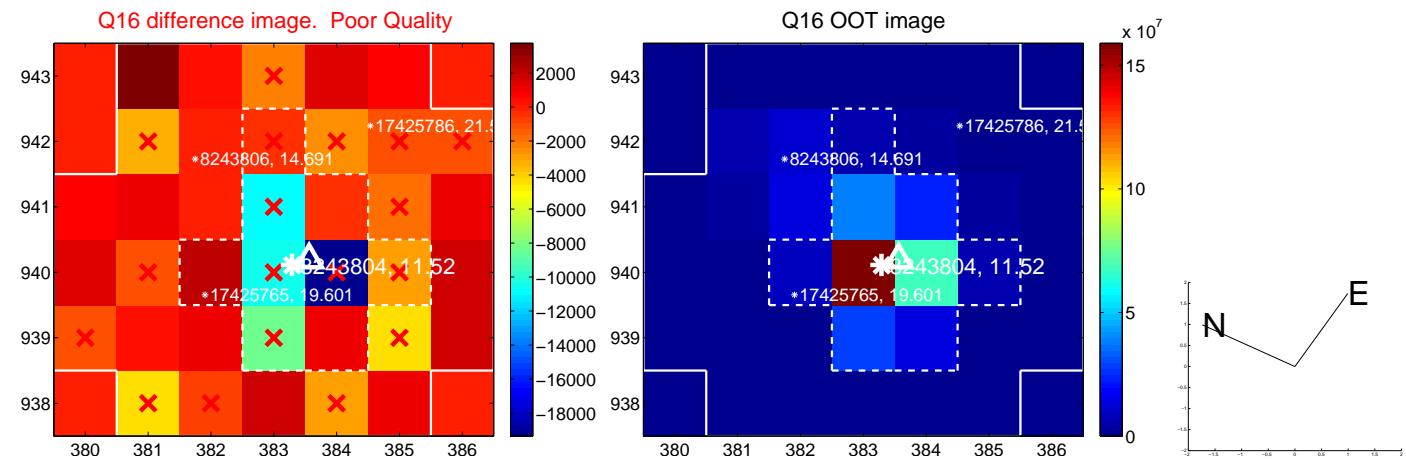
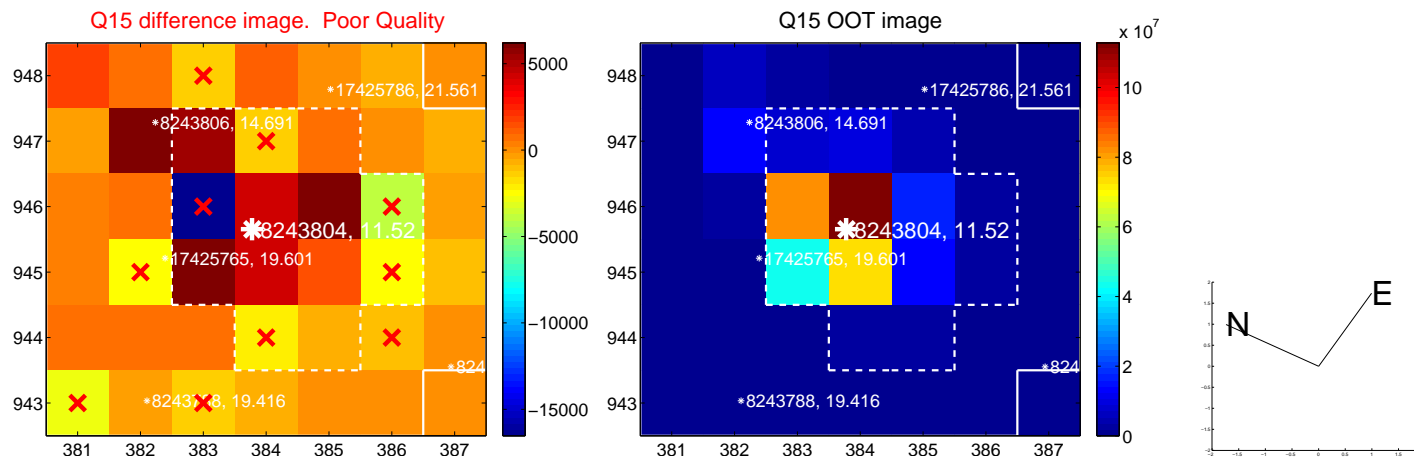
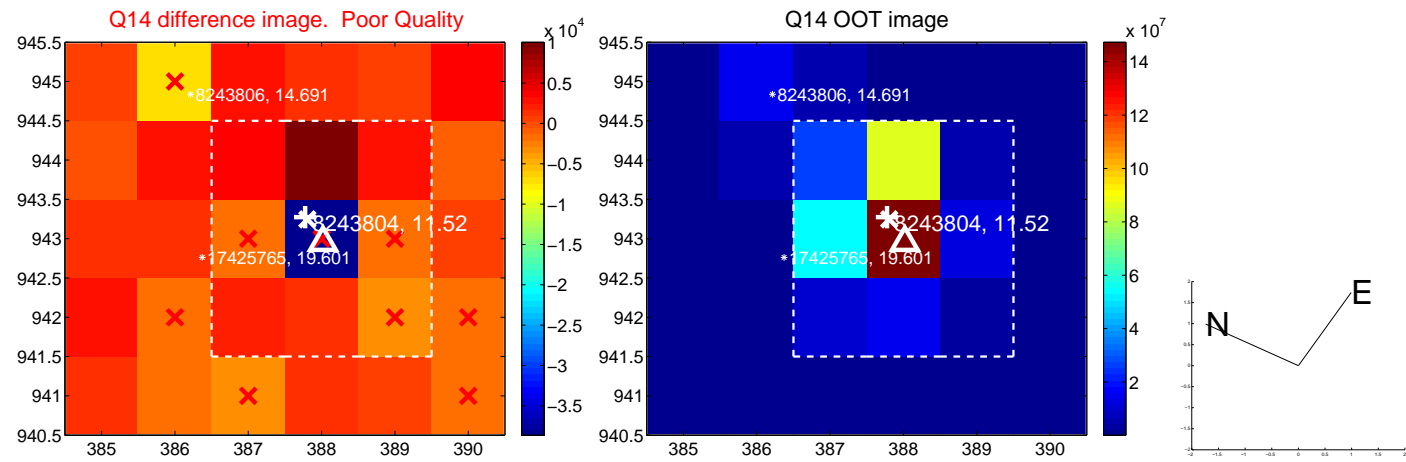
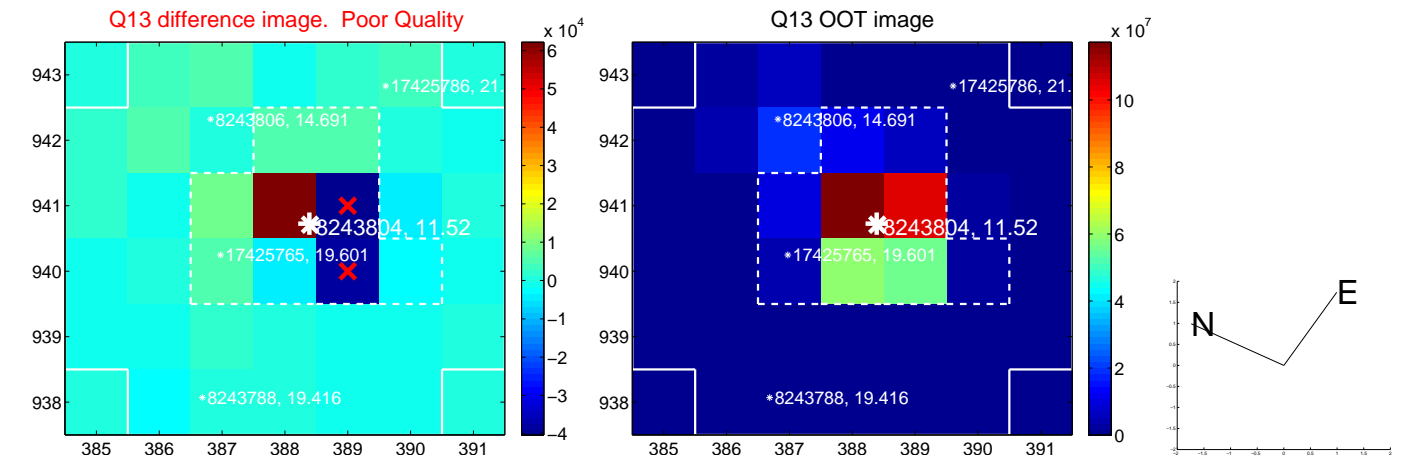
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



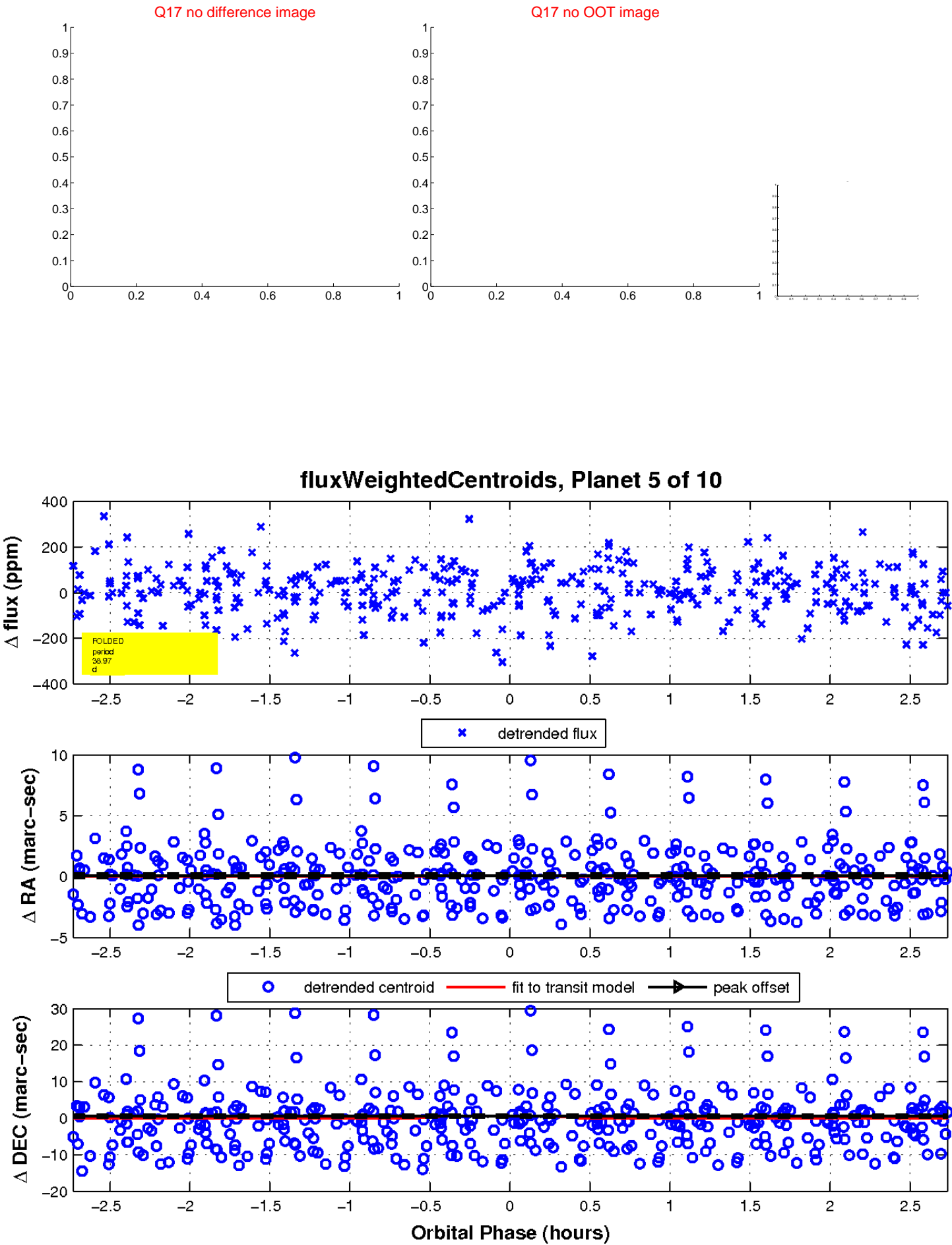
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



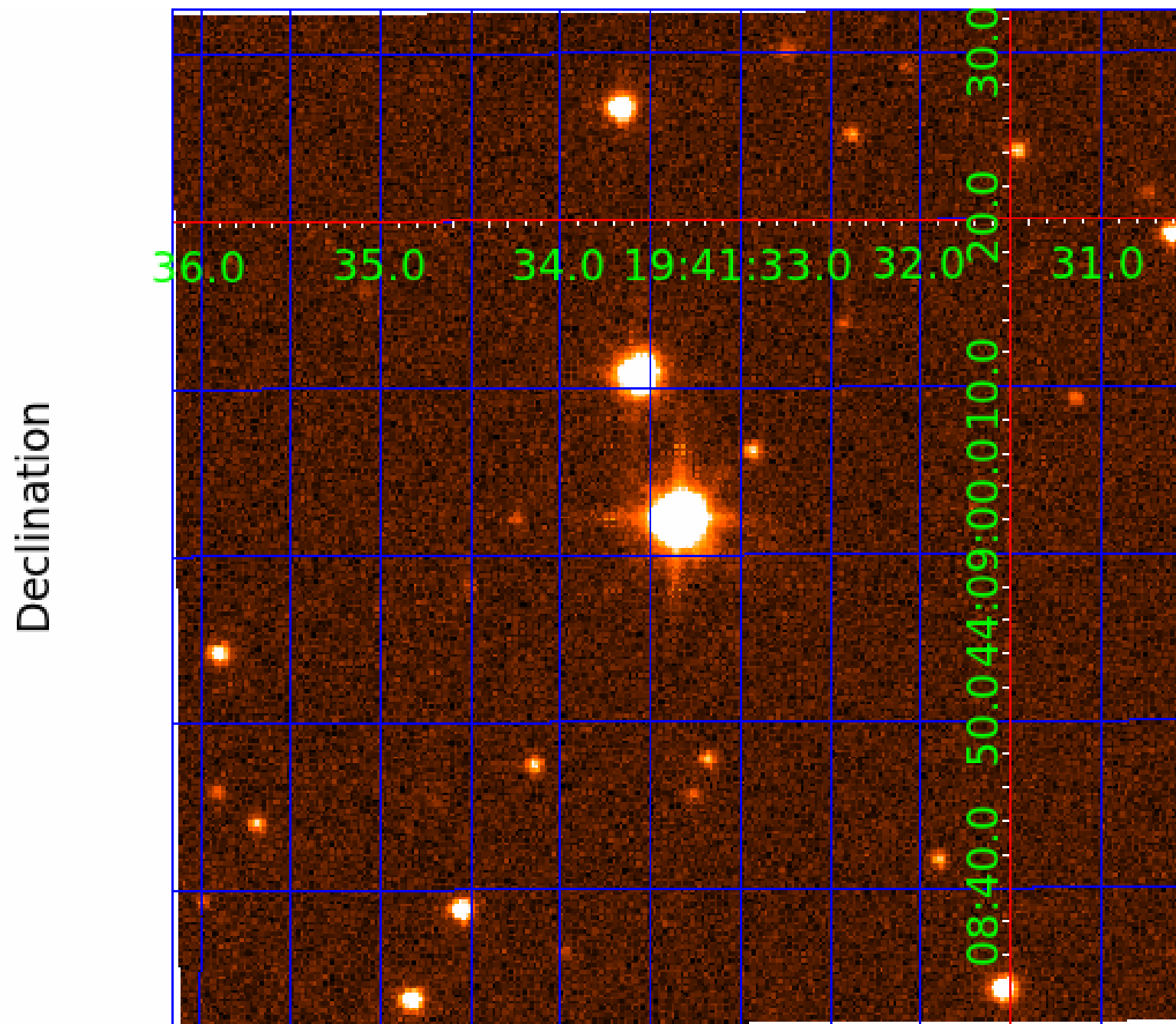
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

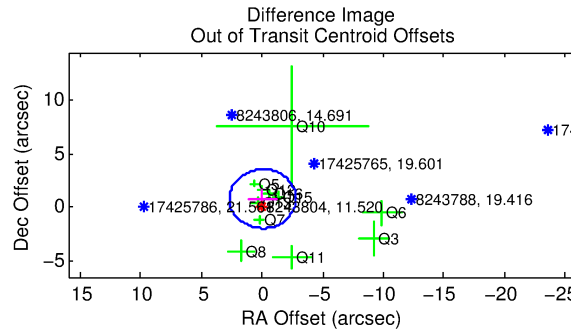
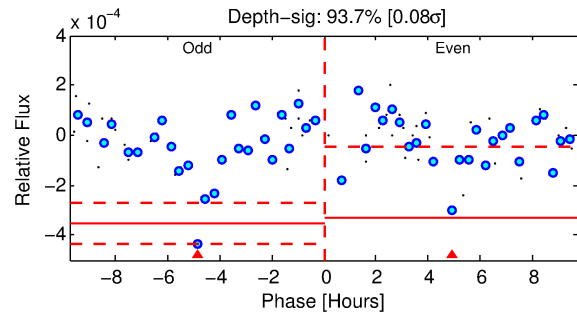
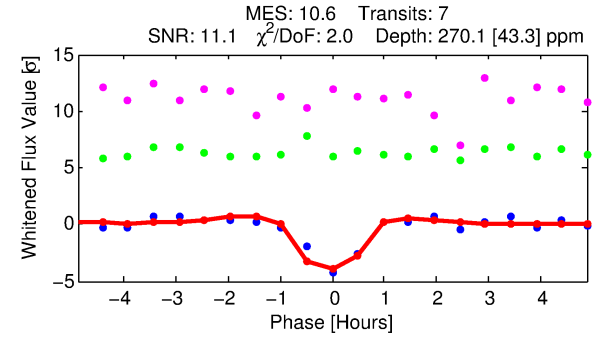
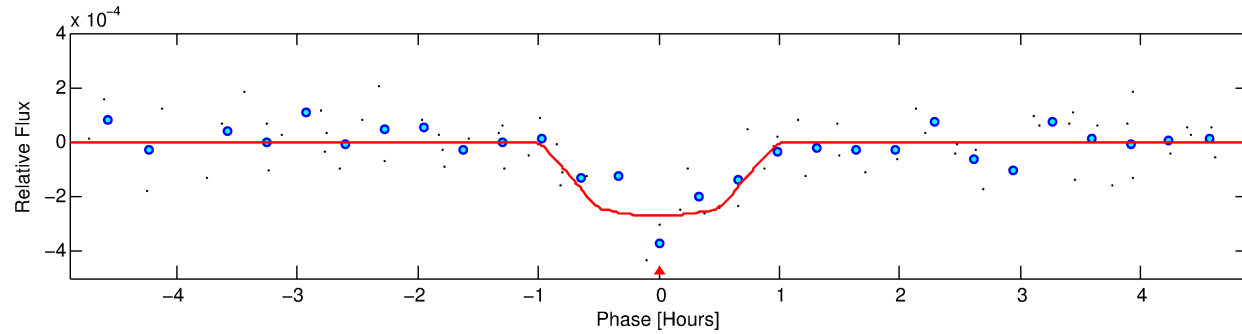
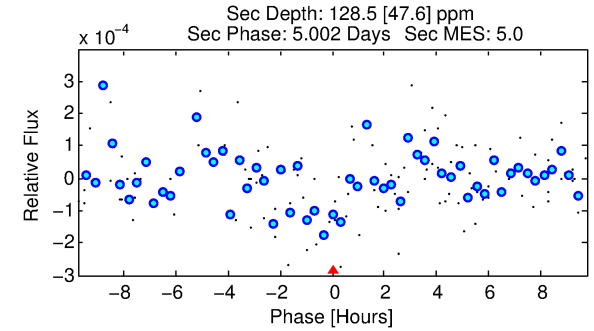
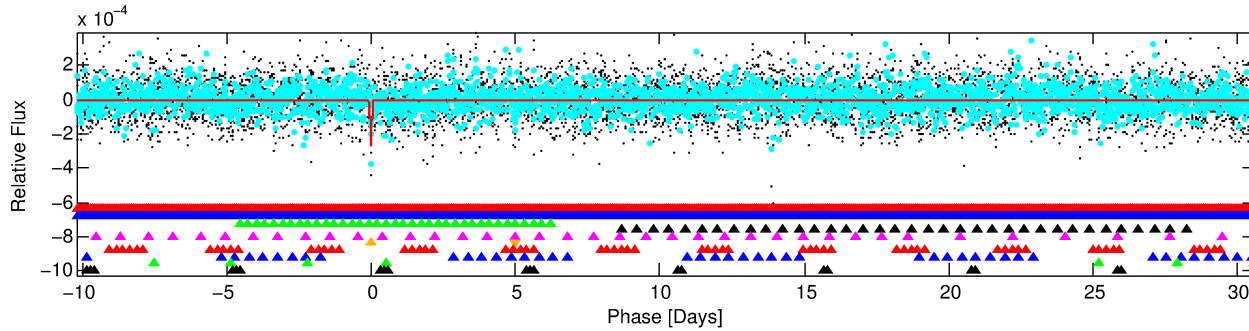
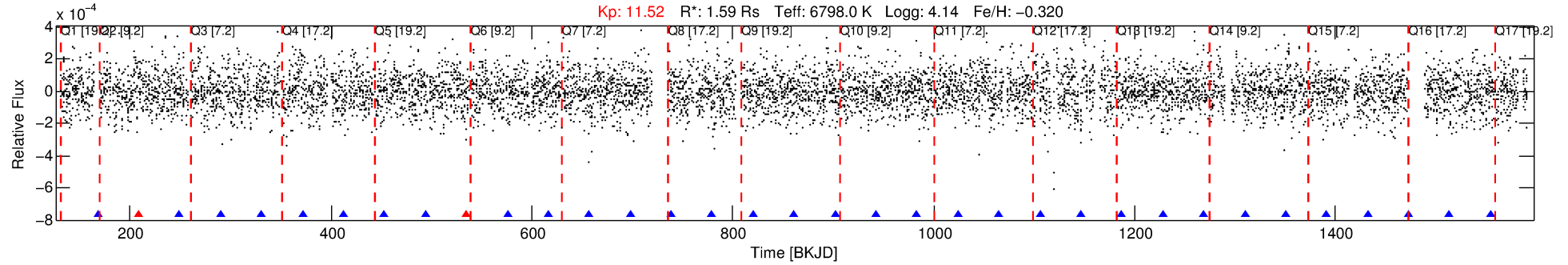
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-06

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 6 of 10 Period: 40.780 d



DV Fit Results:

Period = 40.78014 [0.00041] d
Epoch = 167.8508 [0.0082] BKJD
Rp/R* = 0.0171 [0.0107]
a/R* = 104.62 [371.78]
b = 0.86 [1.12]
Seff = 76.43 [29.77]
Teq = 754 [73] K
Rp = 2.96 [2.06] Re
a = 0.2514 [0.0615] AU
Ag = 508.96 [689.90] [0.74σ]
Teffp = 5537 [1827] K [2.62σ]

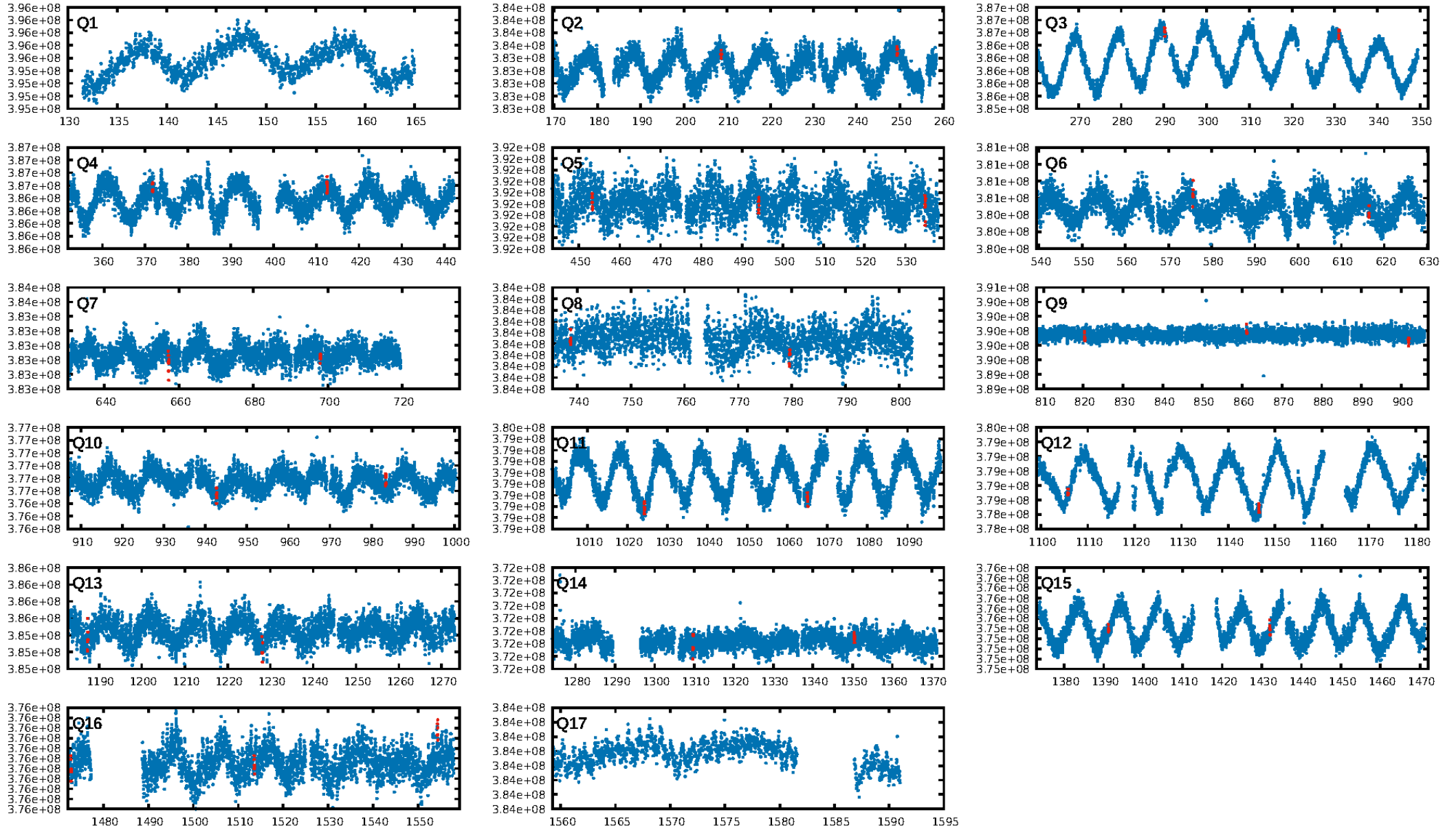
DV Diagnostic Results:

ShortPeriod-sig: 94.8% [1.94σ]
LongPeriod-sig: 100.0% [174.48σ]
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 83.8%
Bootstrap-pfa: 2.96e-10
RollingBand-fgt: 0.71 [5/7]
GhostDiagnostic-chr: -1.085
Centroid-sig: 16.1%
Centroid-so: 0.756 arcsec [0.70σ]
OotOffset-rm: 0.799 arcsec [0.87σ]
KicOffset-rm: 0.835 arcsec [0.83σ]
OotOffset-st: 2/4/3/2 [11]
KicOffset-st: 2/4/3/2 [11]
DiffImageQuality-fgm: 0.27 [3/11]
DiffImageOverlap-fno: 0.13 [2/15]

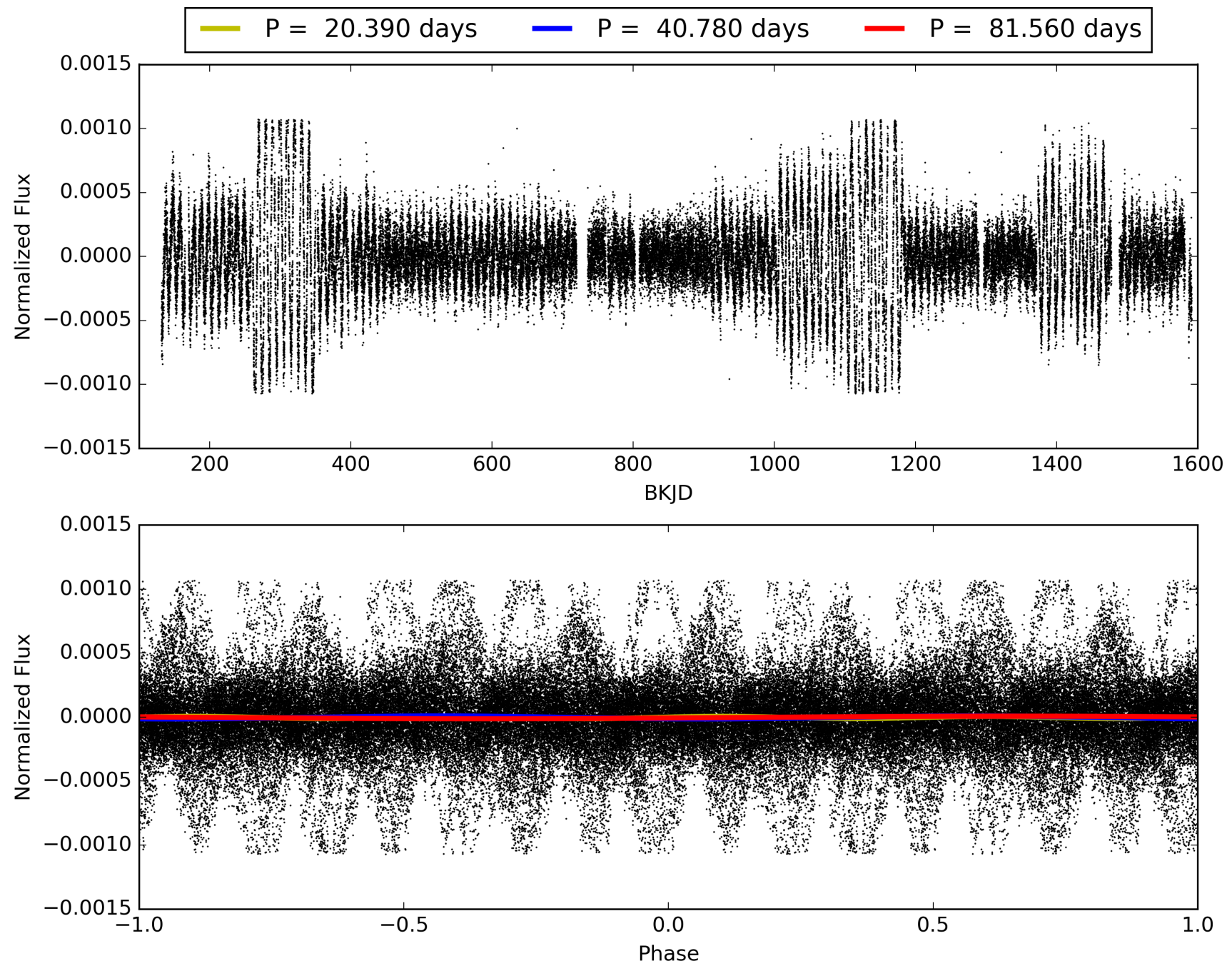
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:35 Z

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

TCE 008243804-06, PDC Light Curves

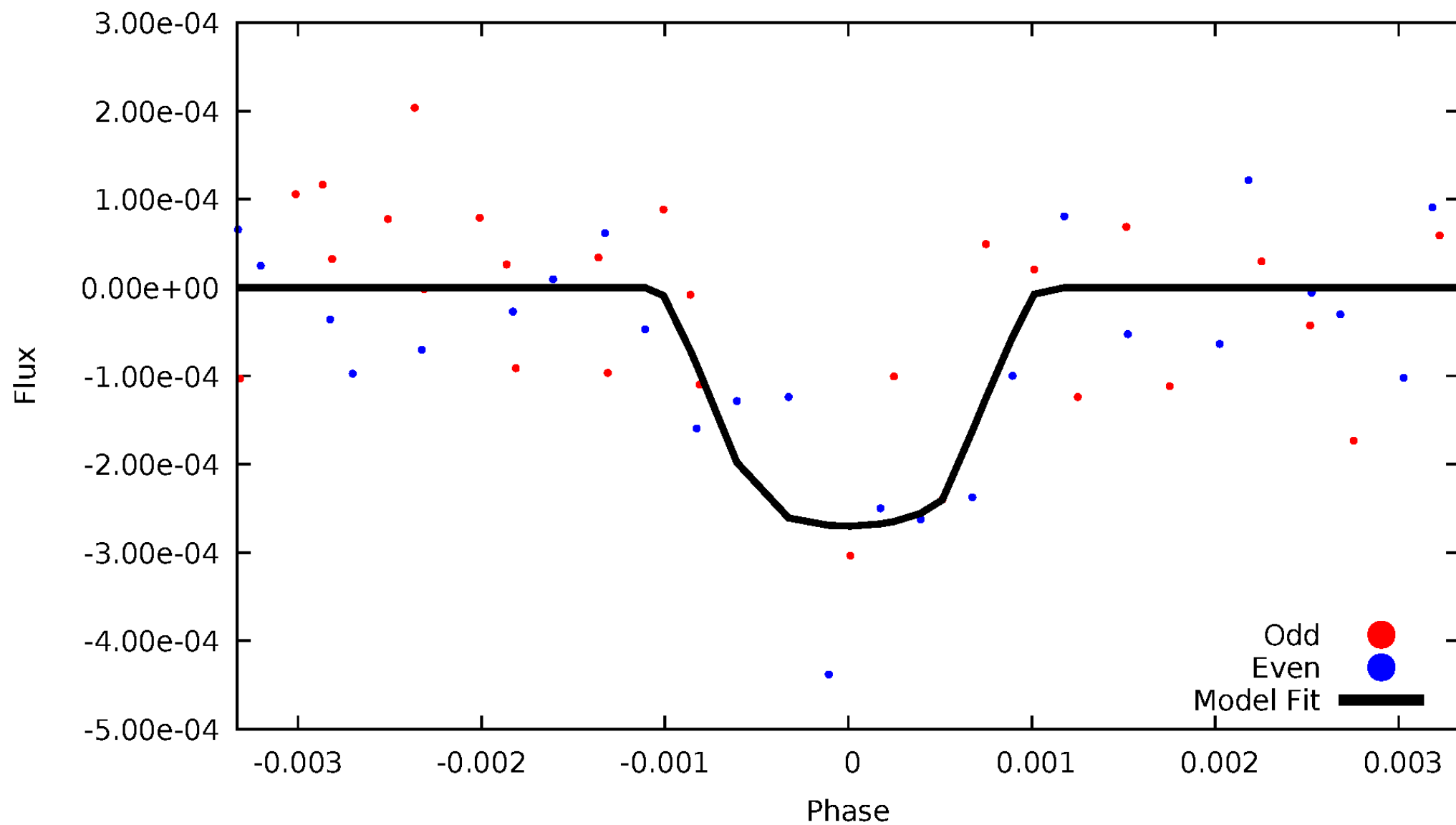


TCE 008243804-06



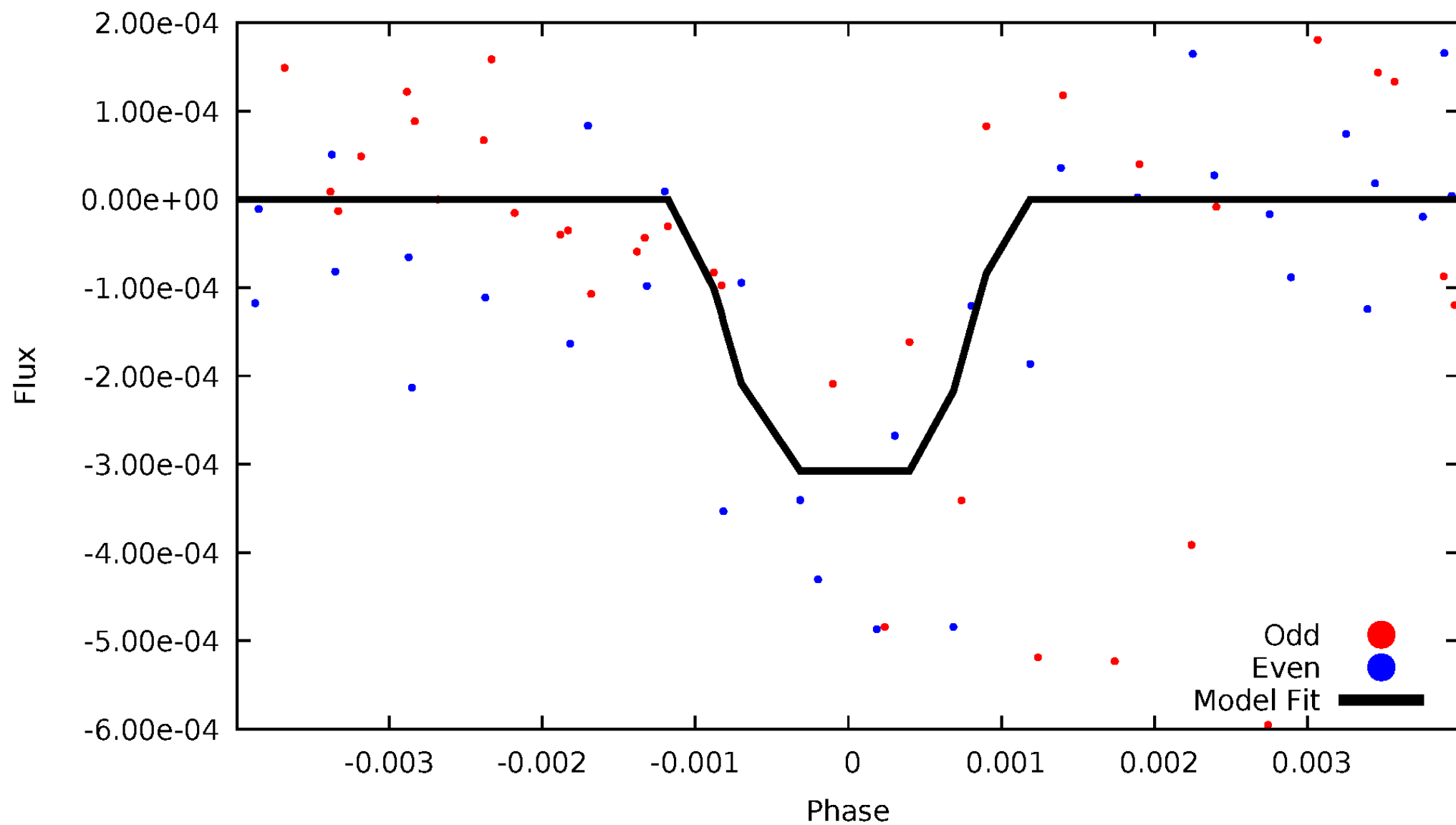
DV Odd/Even

TCE 008243804-06



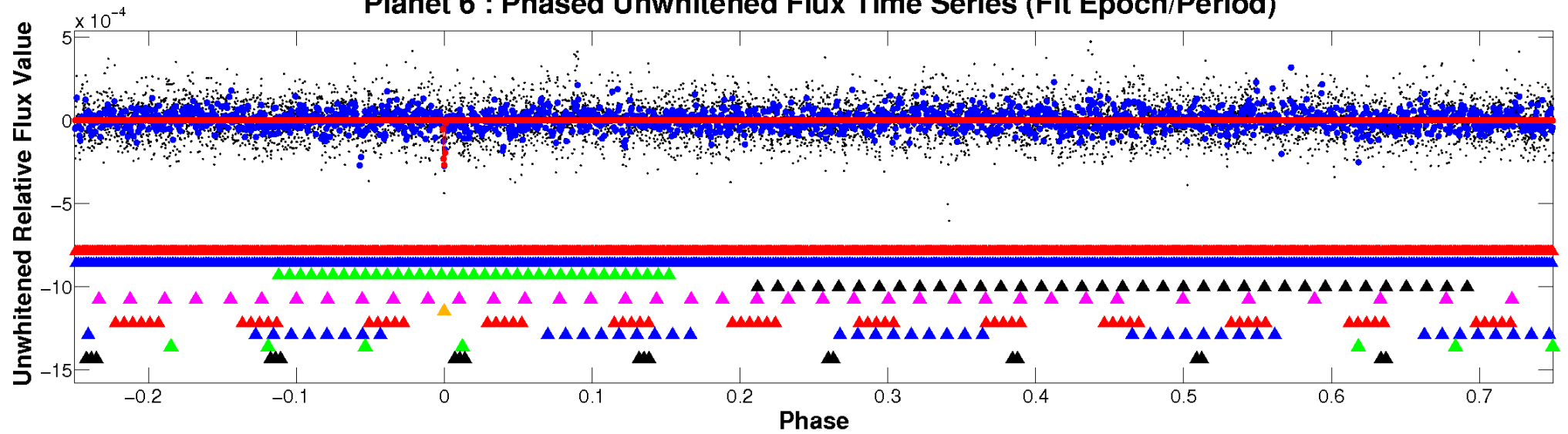
ALT Odd/Even

TCE 008243804-06

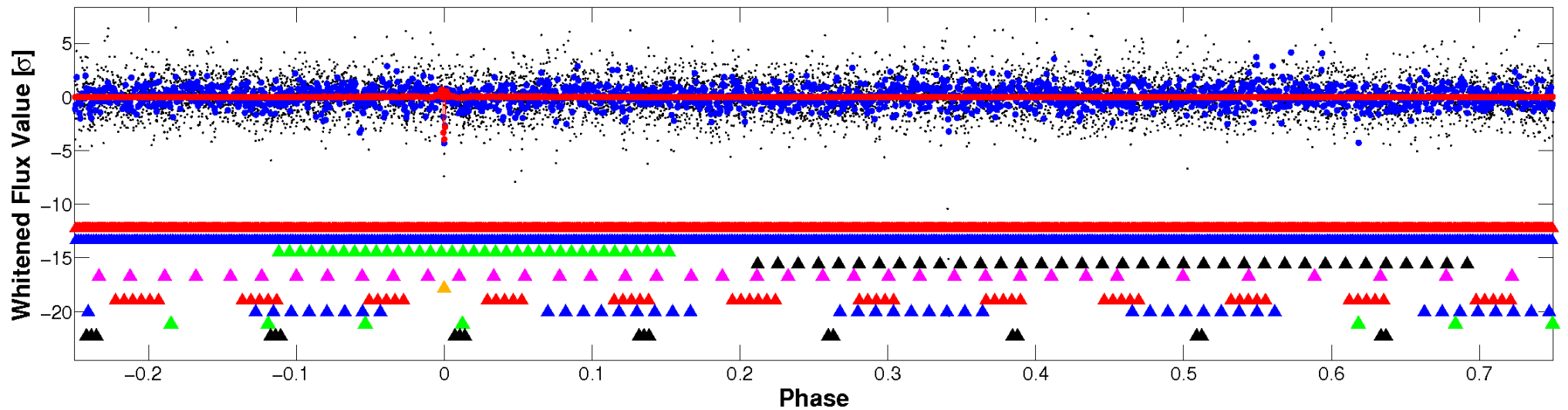


Non-Whitened Vs. Whitened Light Curve

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

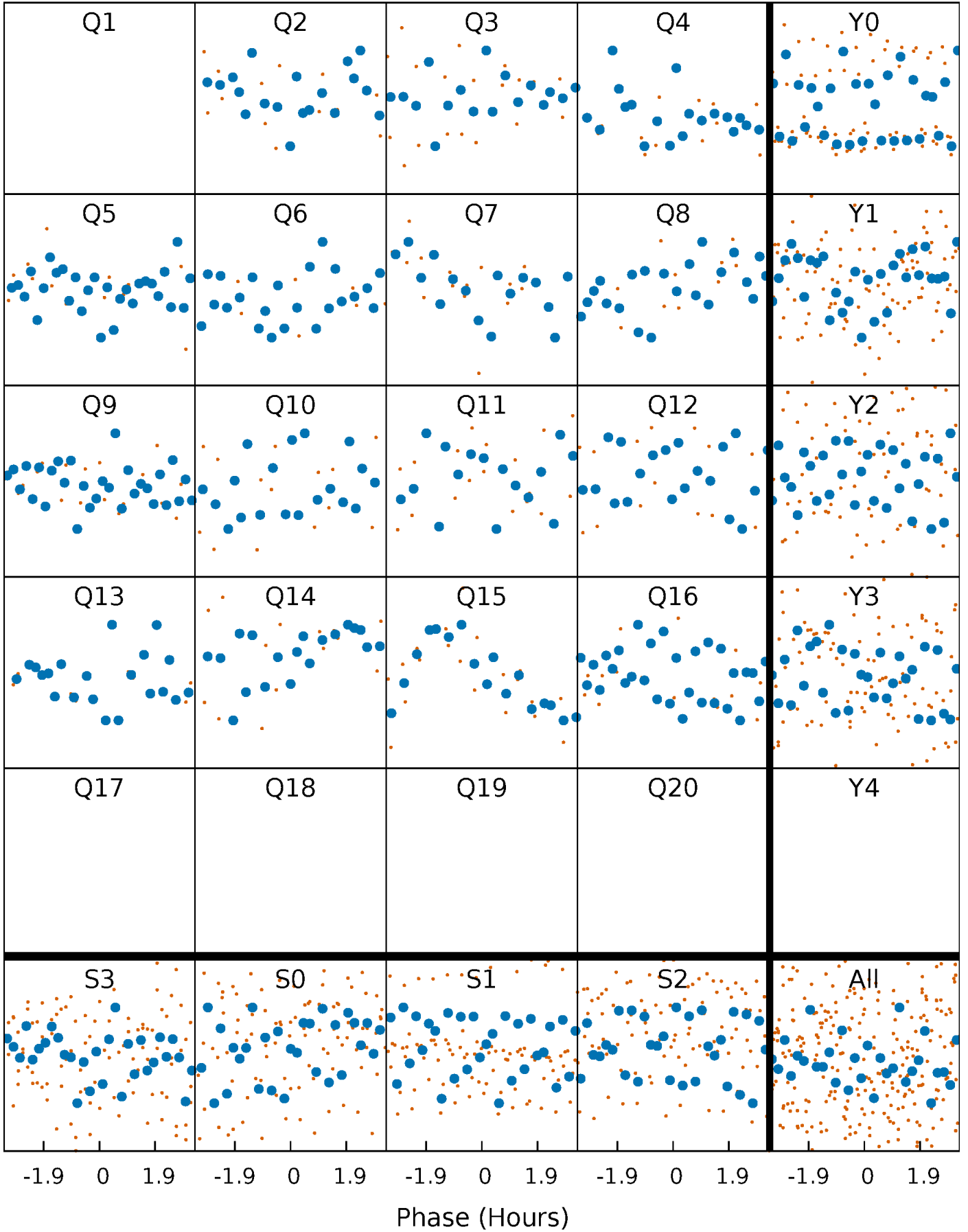


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



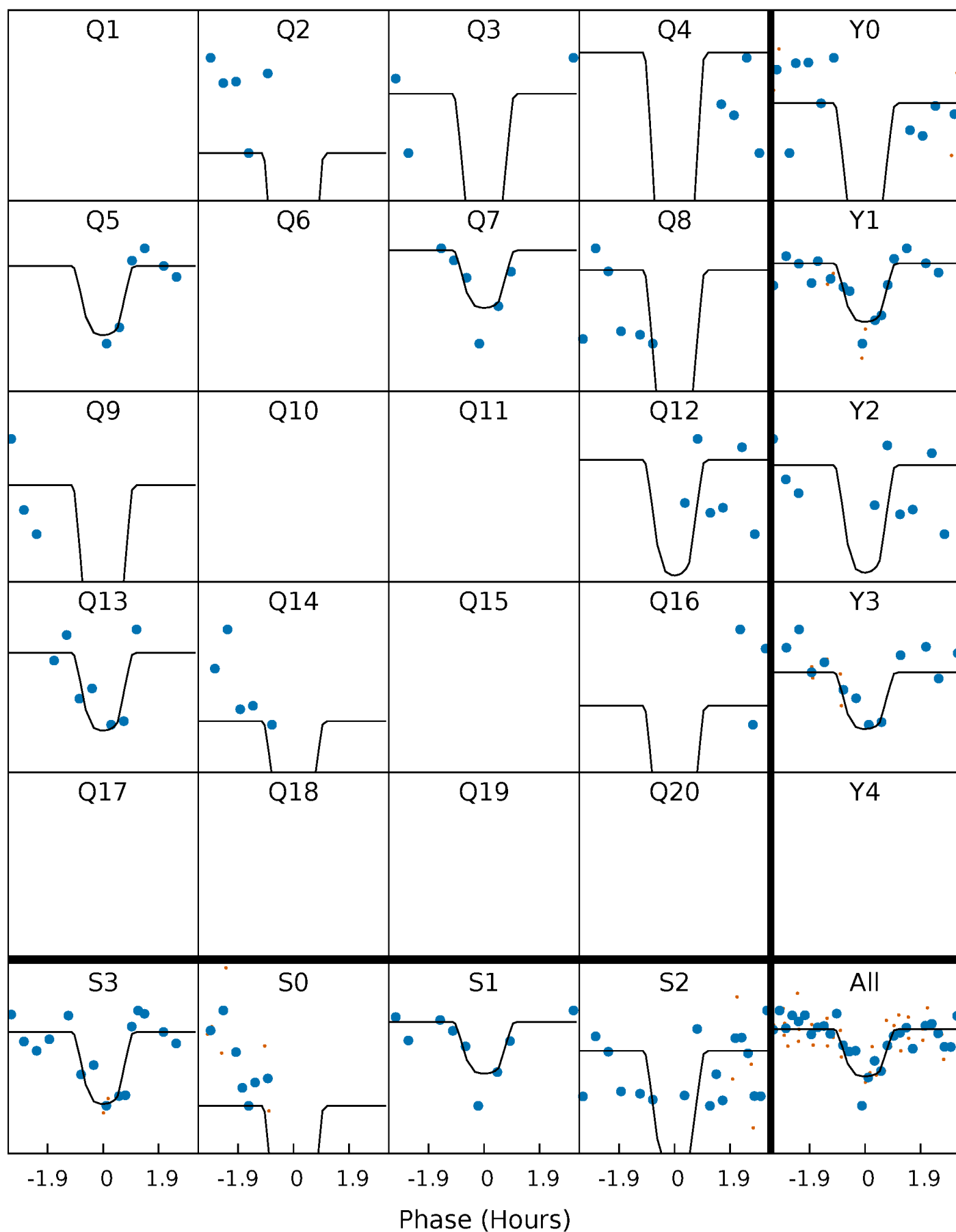
PDC Quarter-Phased Transit Curves

TCE 008243804-06 P= 40.780141 Days $T_0=167.850818$ (BKJD)



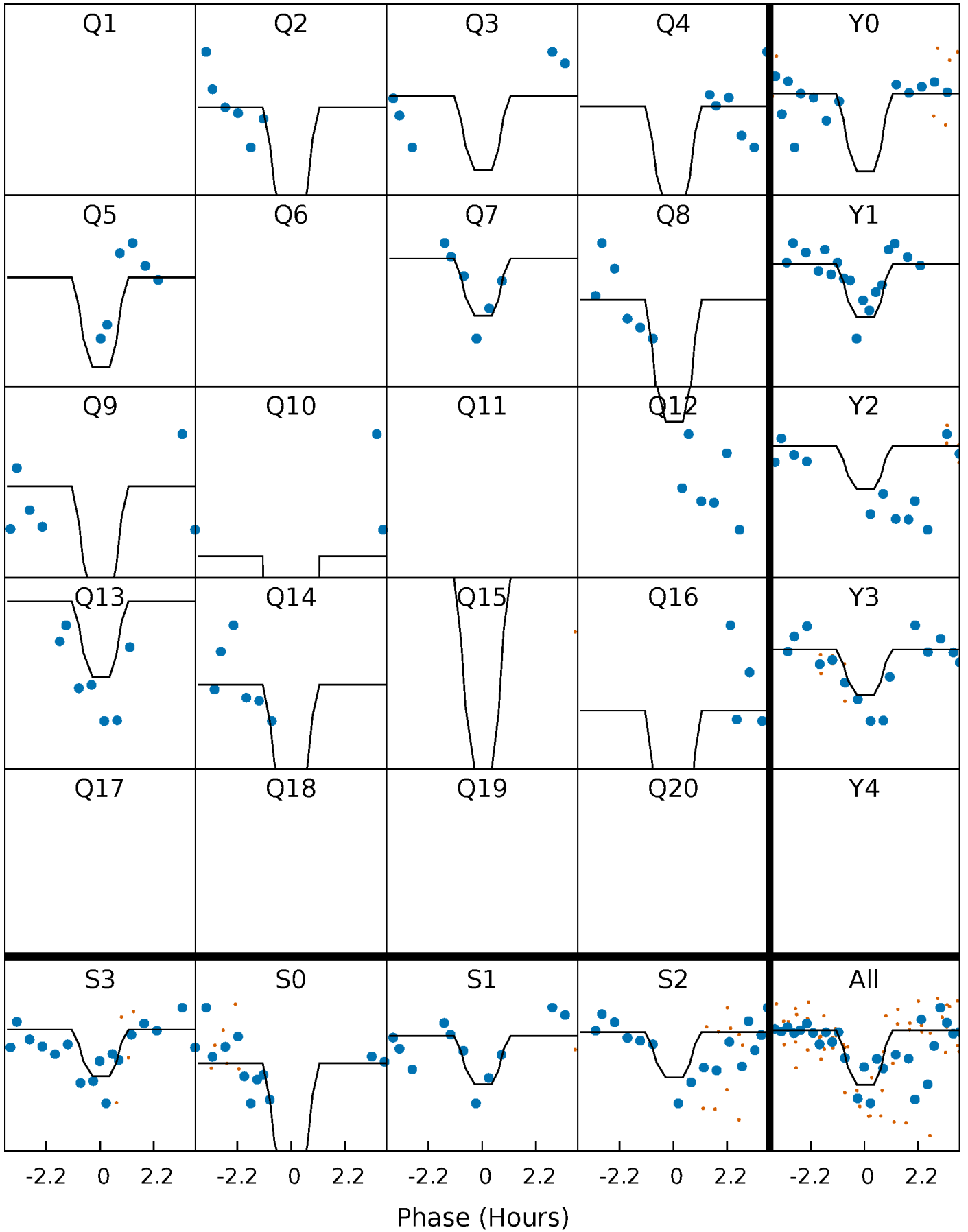
DV Quarter-Phased Transit Curves

TCE 008243804-06 P= 40.780141 Days $T_0=167.850818$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

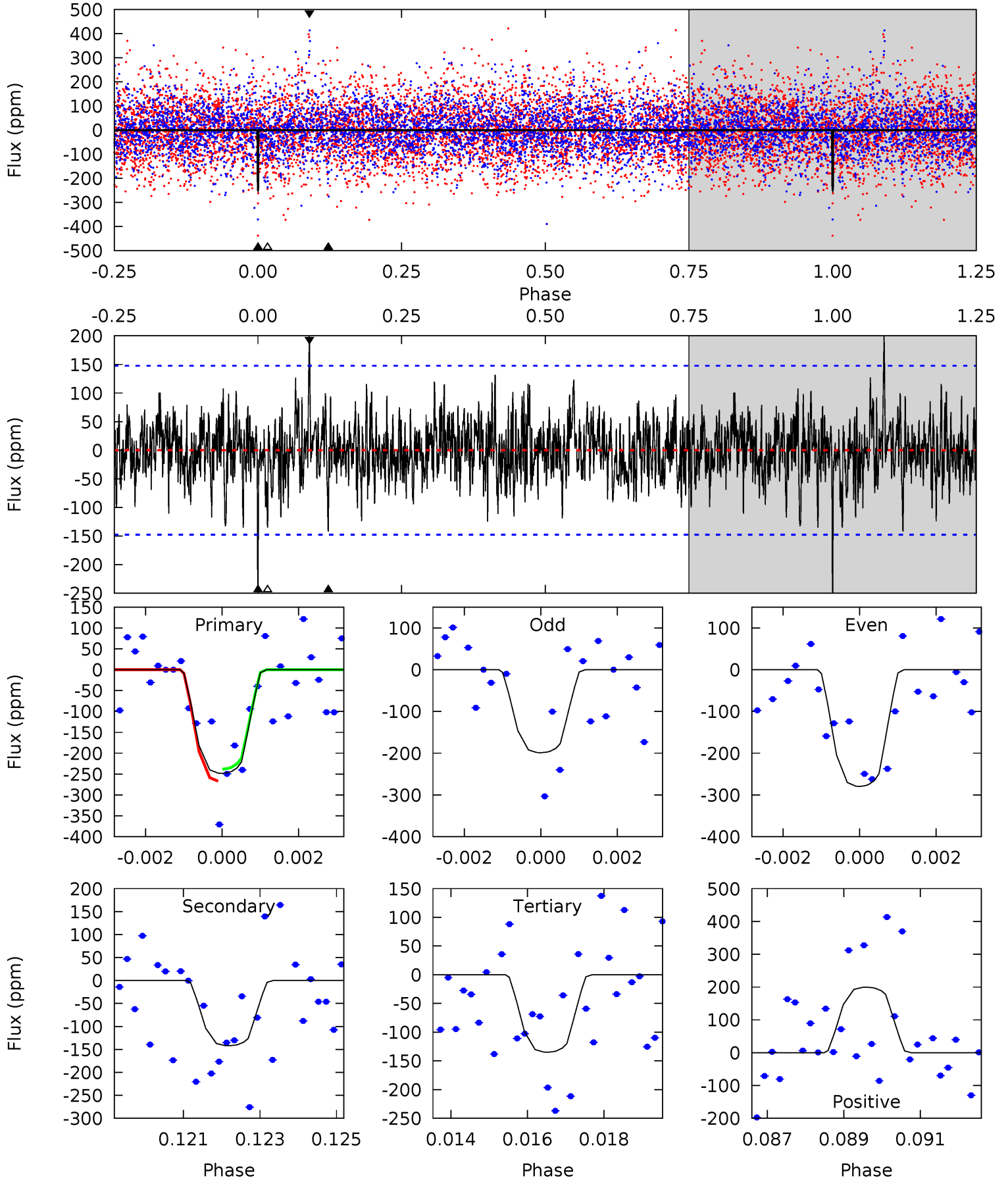
TCE 008243804-06 $P = 40.779845$ Days $T_0 = 167.858086$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-06, P = 40.780141 Days, E = 127.070677 Days

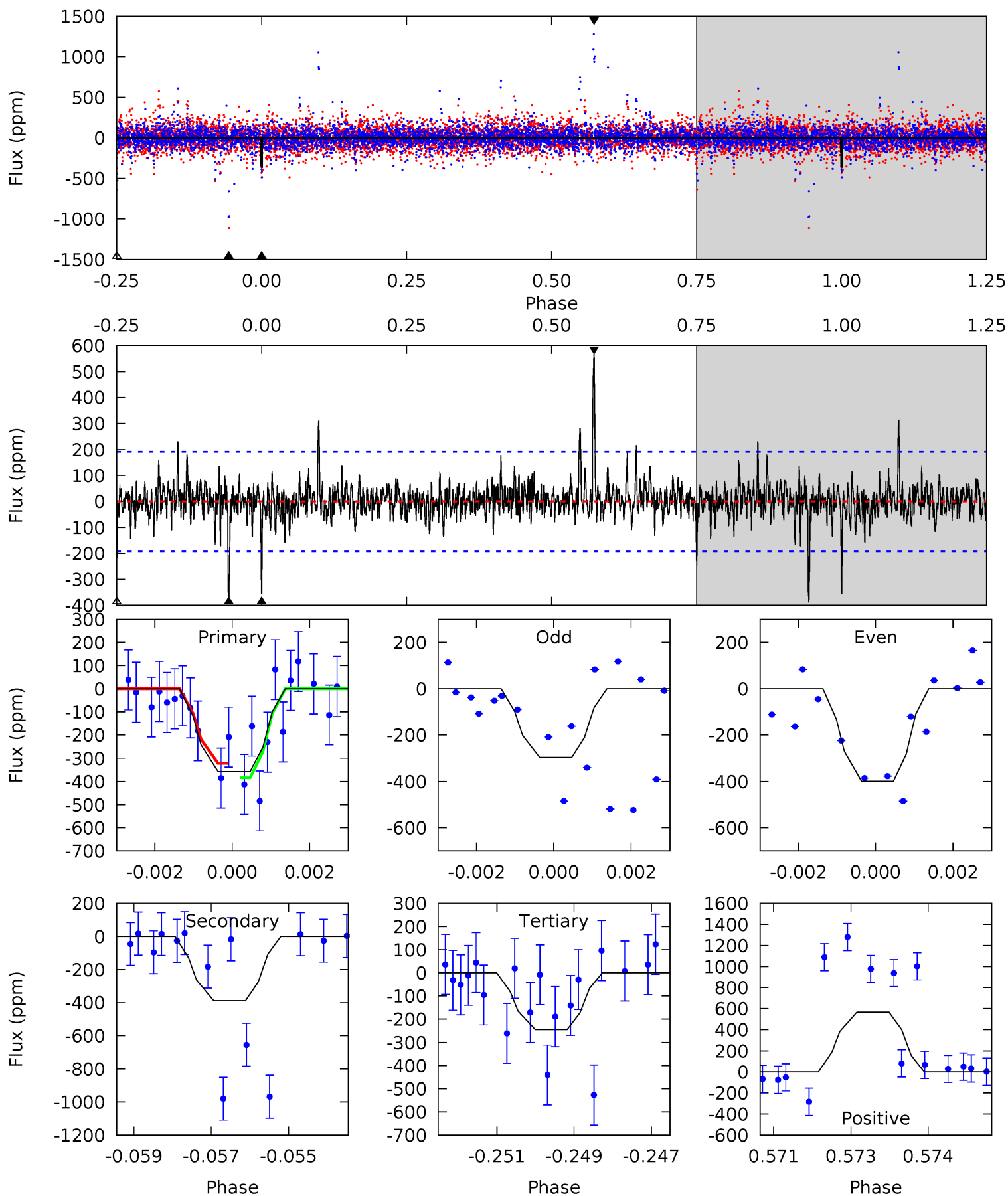
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.96	5.12	4.87	7.20	5.32	3.09	1.50	4.09	1.76	0.25	-2.08	1.43	0.87	0.45	0.51



Alt Model-Shift Uniqueness Test

008243804-06, P = 40.779845 Days, E = 127.078241 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	10.9	6.85	15.9	5.35	3.13	1.42	3.16	-5.87	4.02	-5.00	1.00	0.92	0.59	0.86



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-142 ± 28	$3.01^{+1.84}_{-1.63}$	1047^{+86}_{-81}	5631^{+2723}_{-1117}	544^{+1994}_{-342}
Alt.	-388 ± 36	$3.16^{+1.87}_{-1.78}$	1055^{+86}_{-86}	7053^{+5195}_{-1448}	1364^{+5692}_{-825}

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

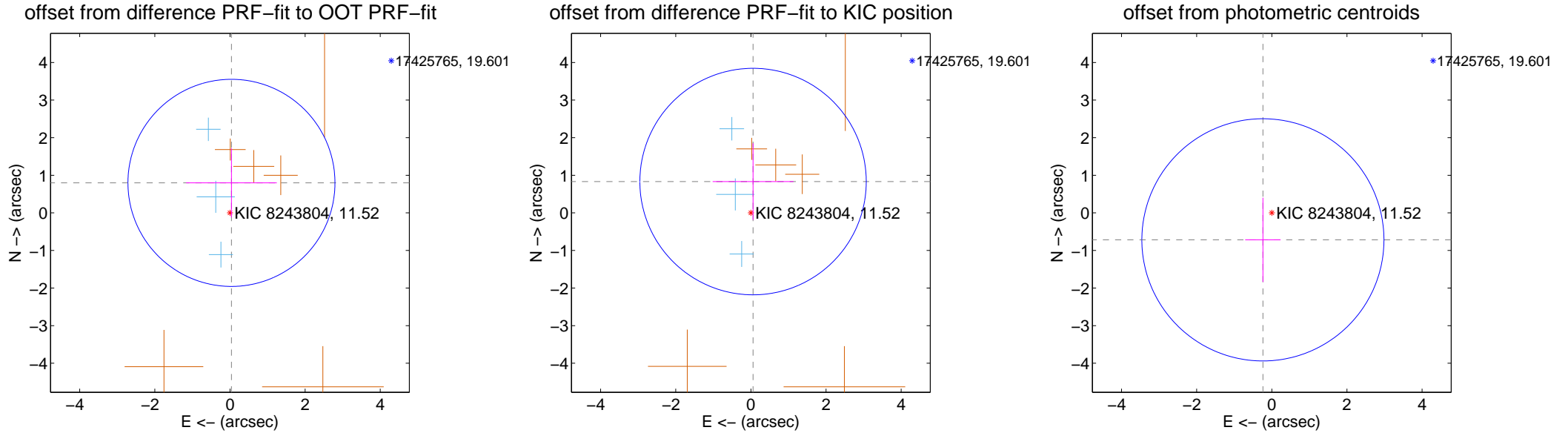
DV Centroid Data

Supplemental centroid analysis for 008243804-06. **Kepler magnitude: 11.52.** Transit SNR 11.11

There are 3 quarters with good PRF difference image offsets

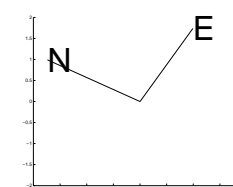
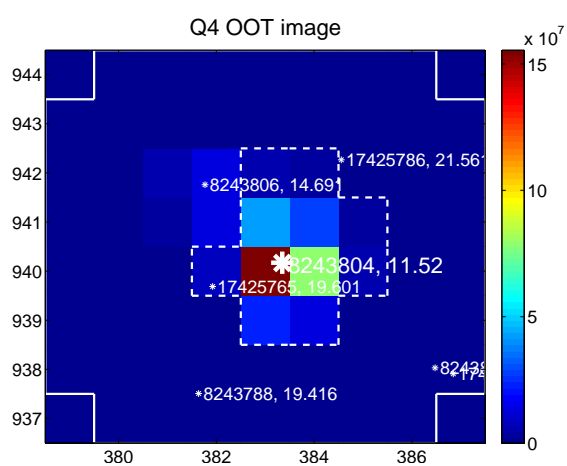
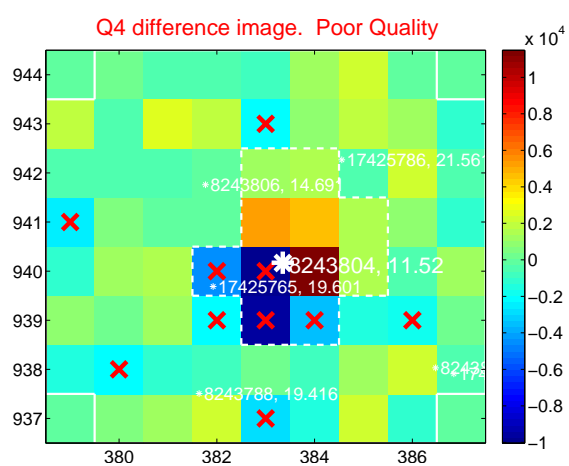
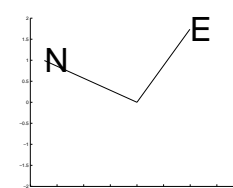
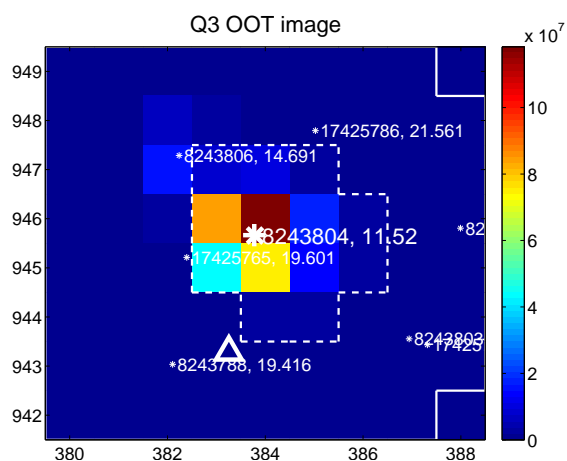
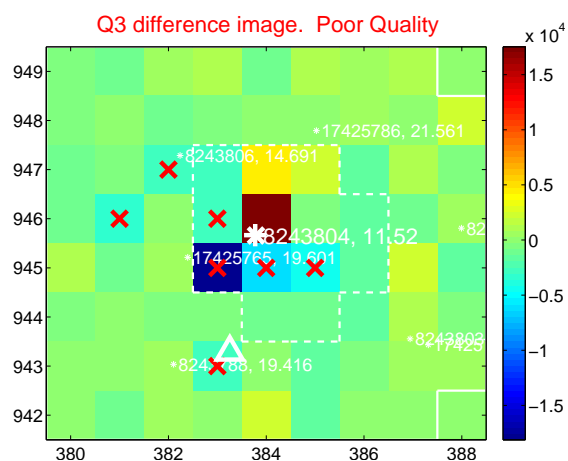
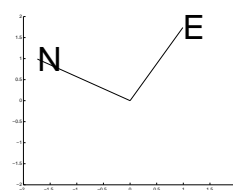
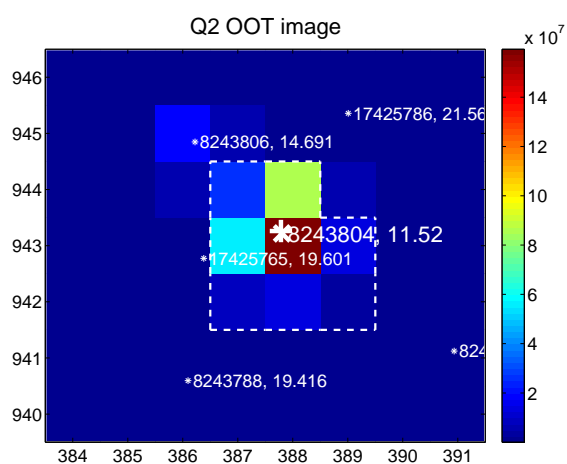
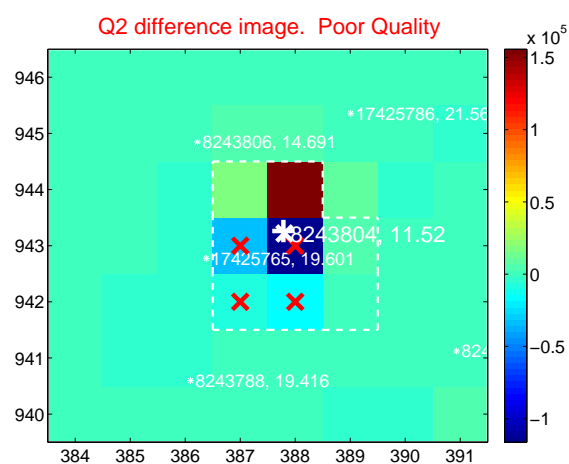
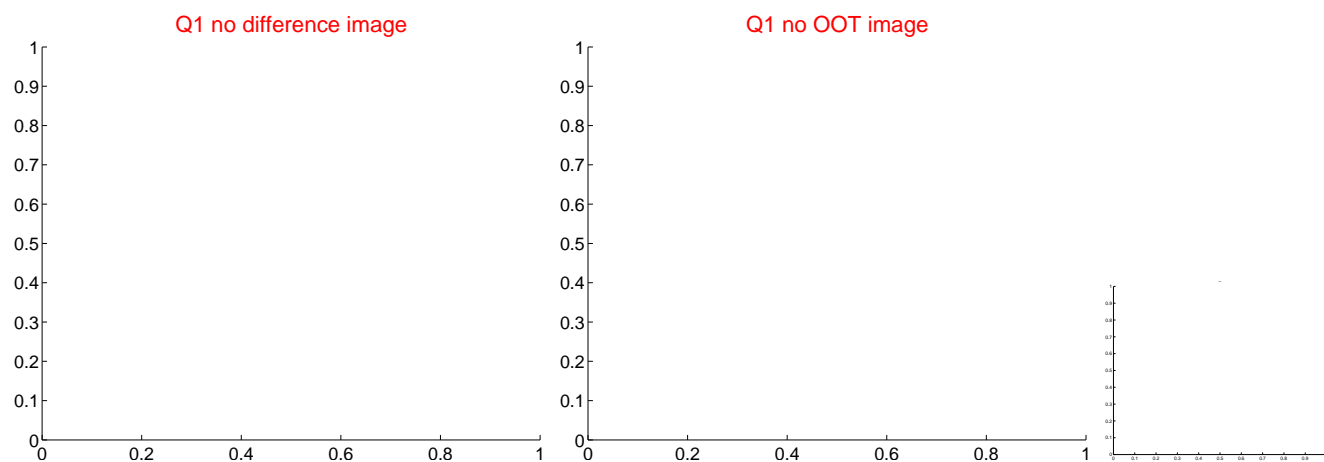
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.799 ± 0.918	0.87	-0.039 ± 1.206	0.798 ± 0.921
PRF-fit source offset from KIC position	0.835 ± 1.004	0.83	-0.058 ± 1.075	0.833 ± 1.019
photometric centroid source offset	0.76 ± 1.07	0.70	0.24 ± 0.47	-0.72 ± 1.12

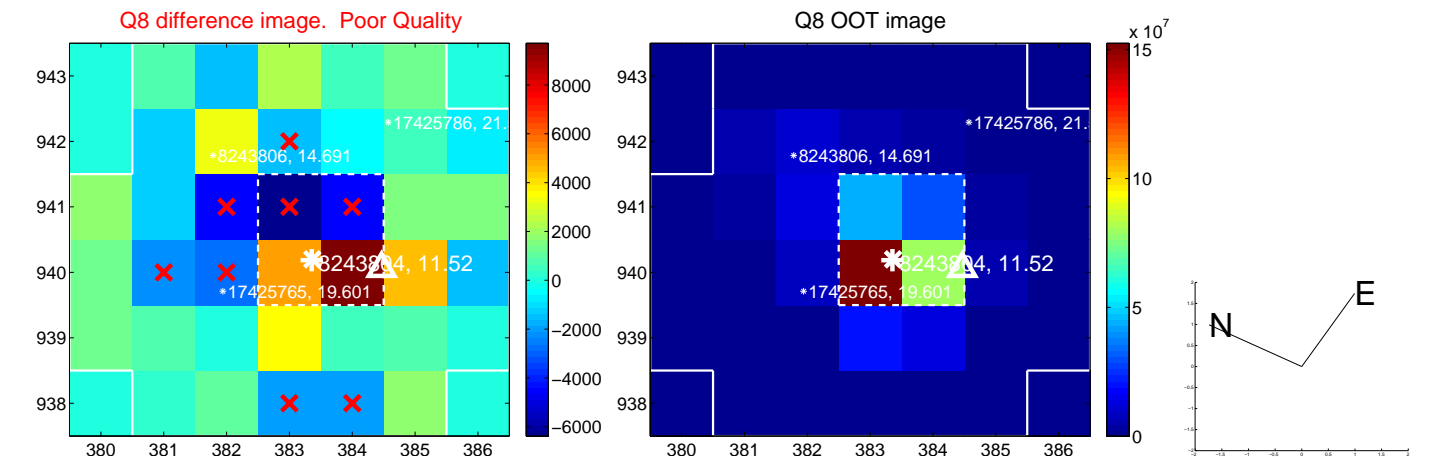
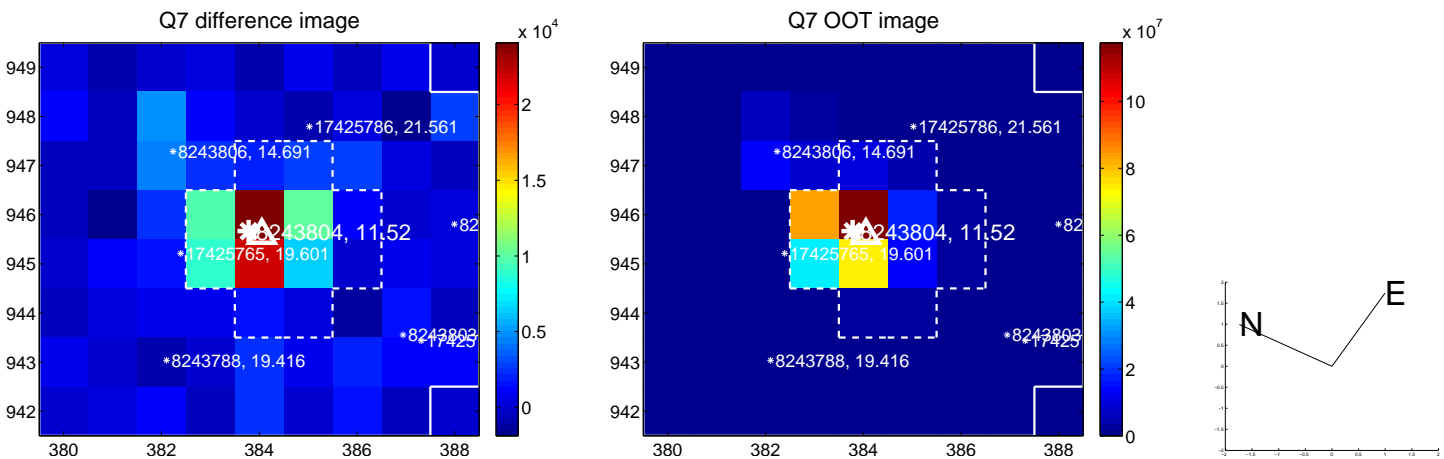
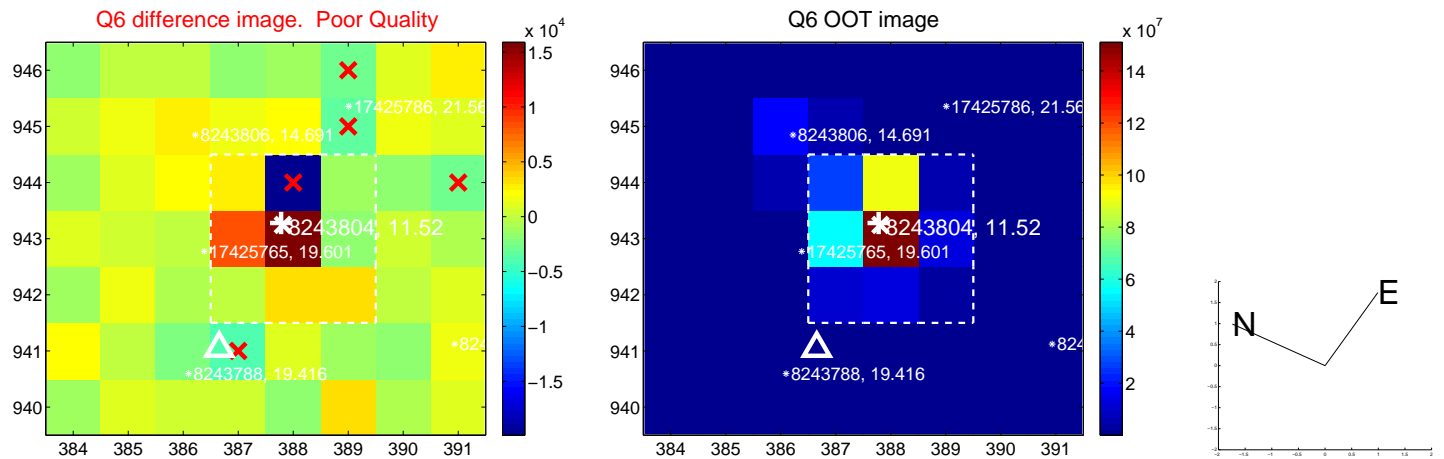
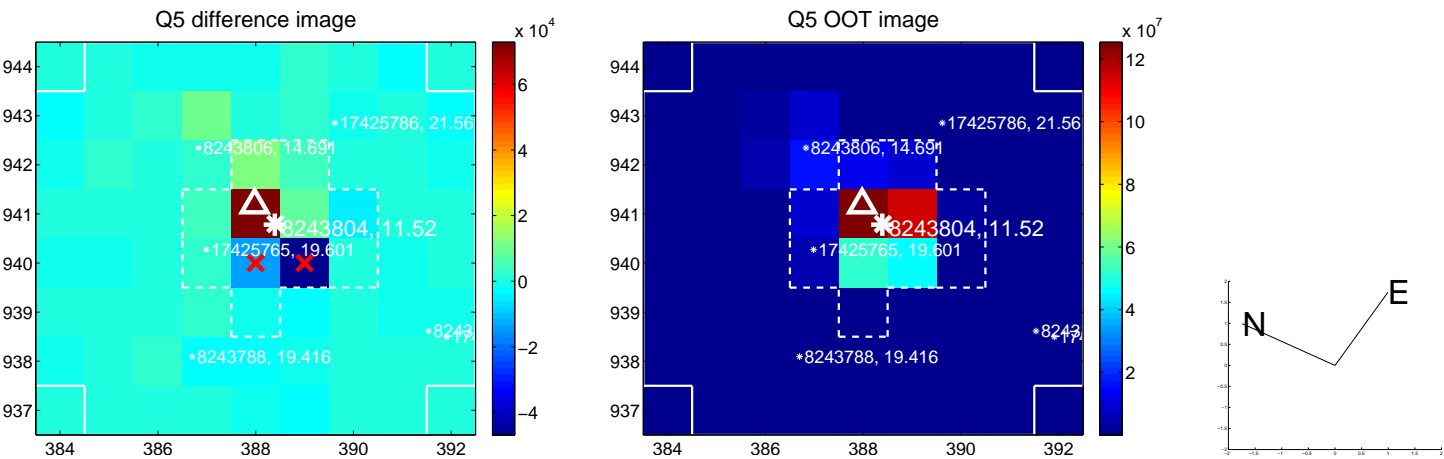


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

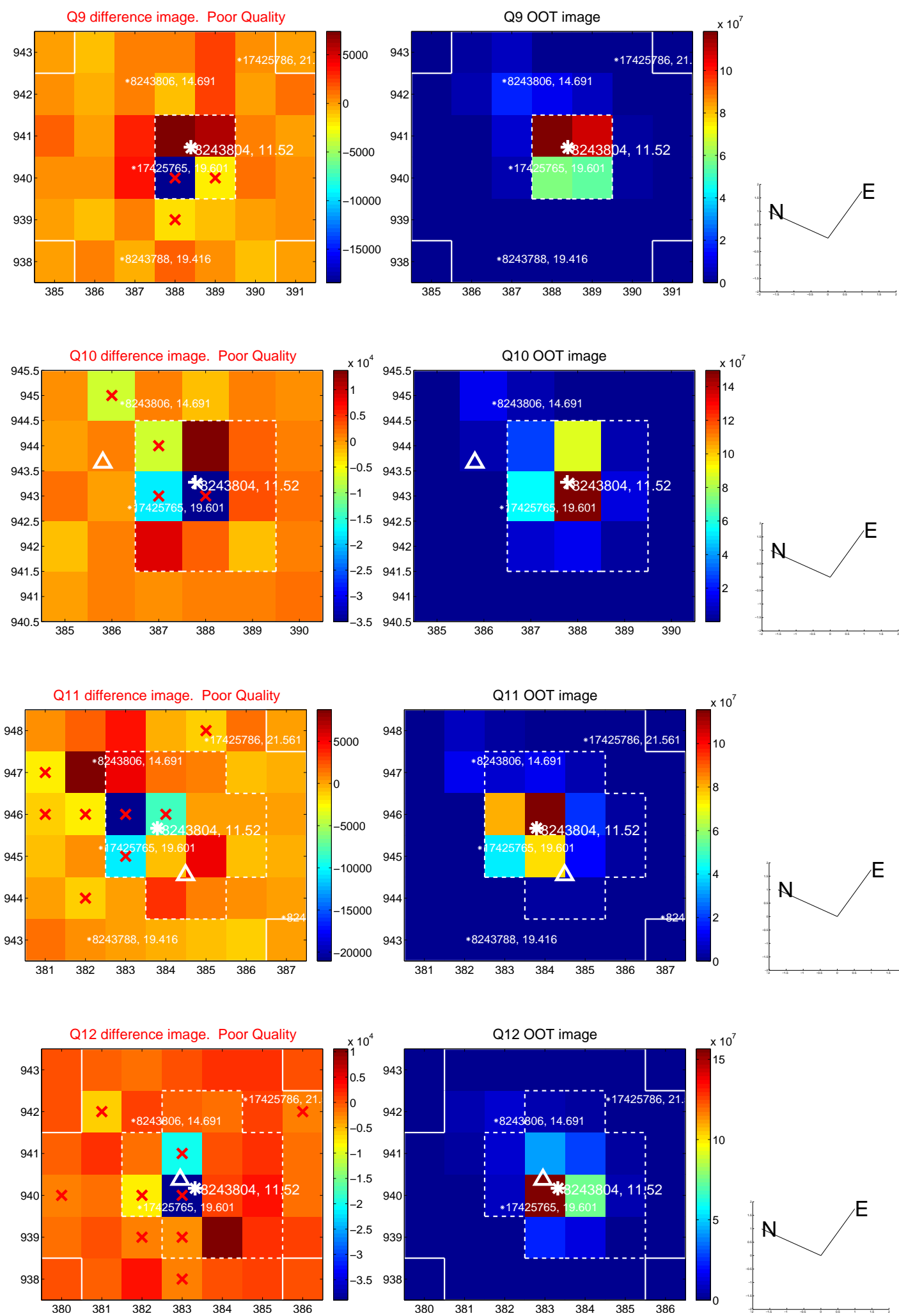
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



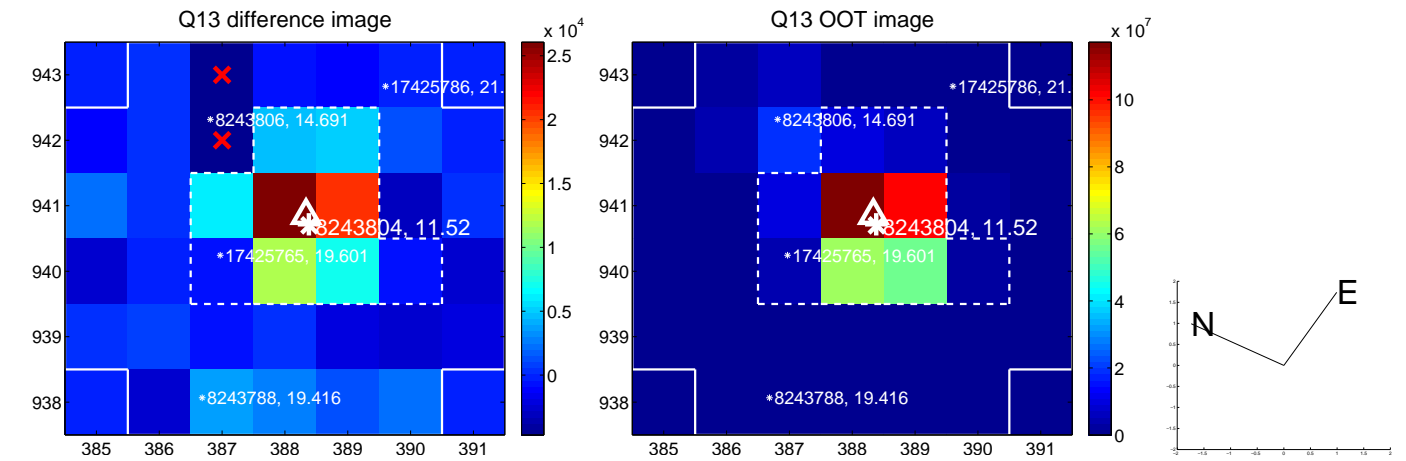
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



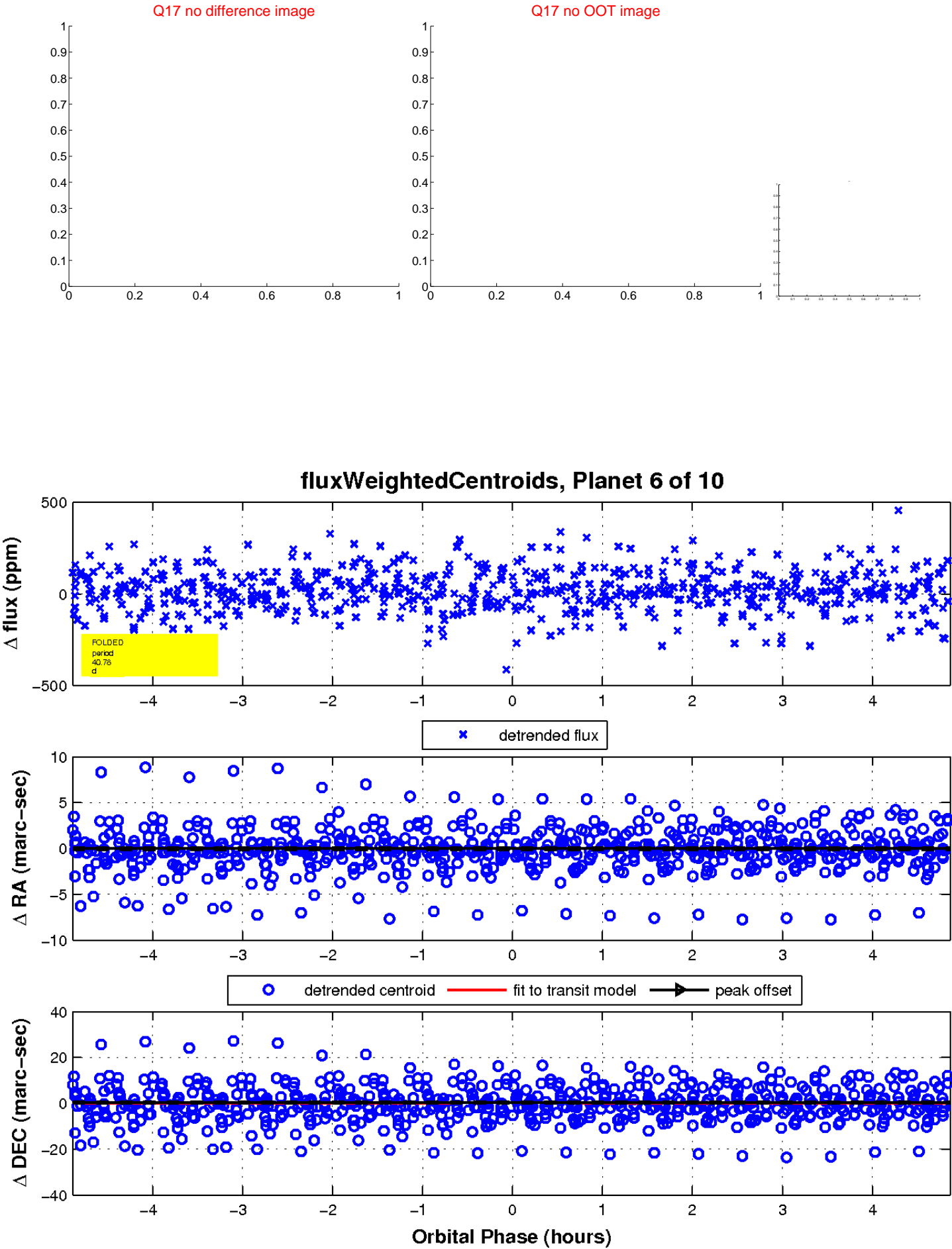
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

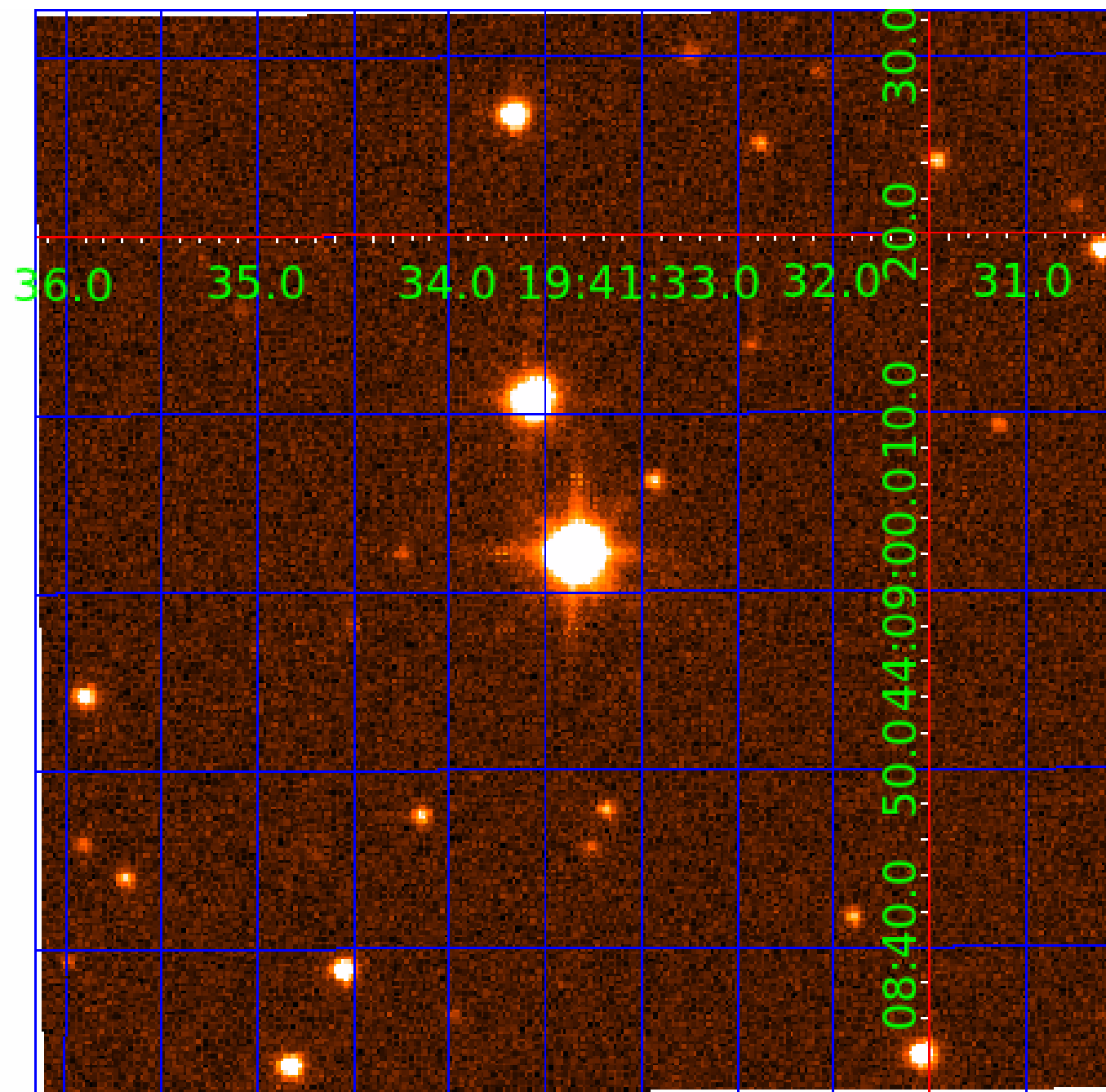


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

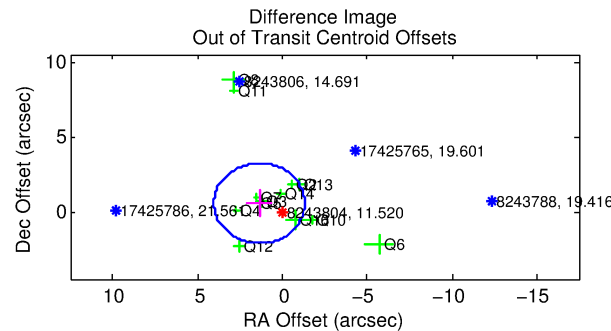
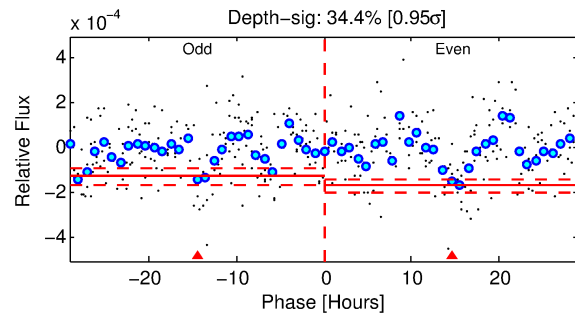
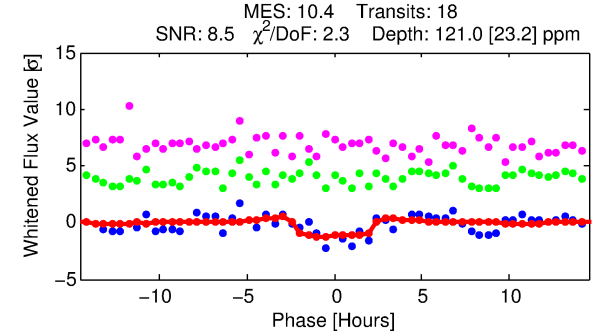
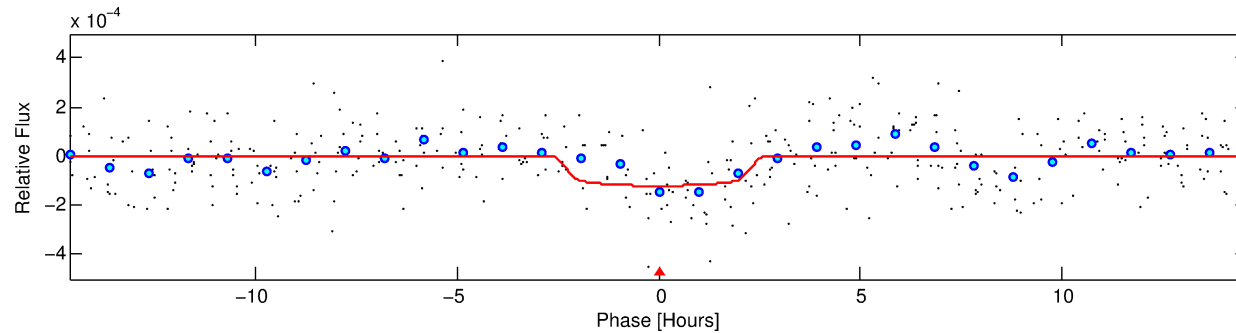
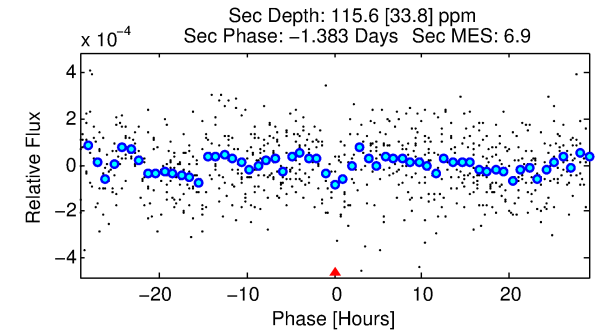
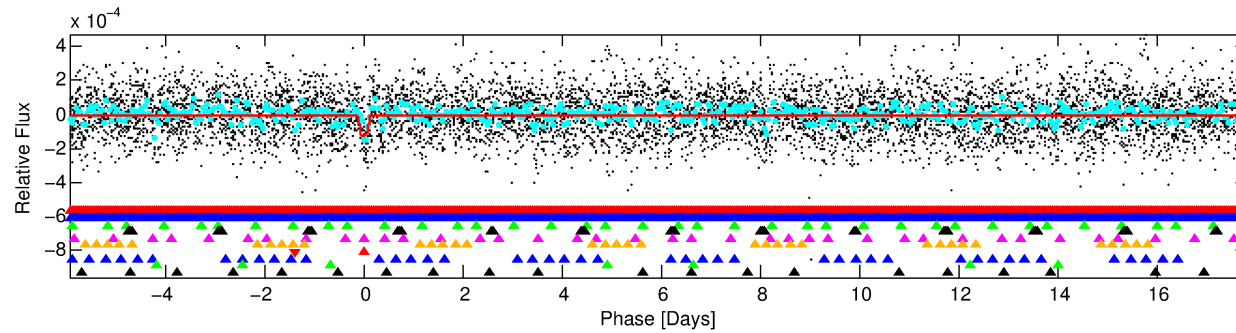
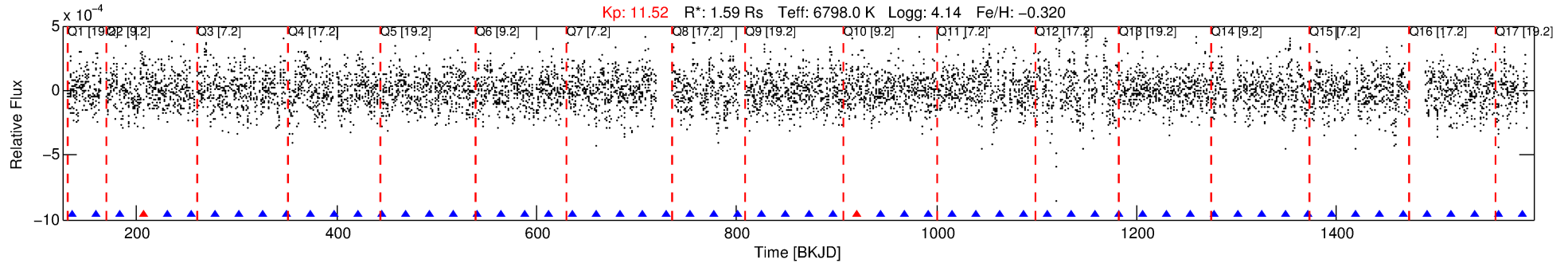
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-07

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 7 of 10 Period: 23.769 d



DV Fit Results:

Period = 23.76864 [0.00044] d
Epoch = 136.2061 [0.0137] BKJD
Rp/R* = 0.0115 [0.0098]
a/R* = 19.11 [97.13]
b = 0.87 [1.40]
Seff = 156.97 [61.15]
Teq = 903 [88] K
Rp = 2.00 [1.80] Re
a = 0.1754 [0.0429] AU
Ag = 491.33 [864.61] [0.57σ]
Teffp = 6570 [2846] K [1.99σ]

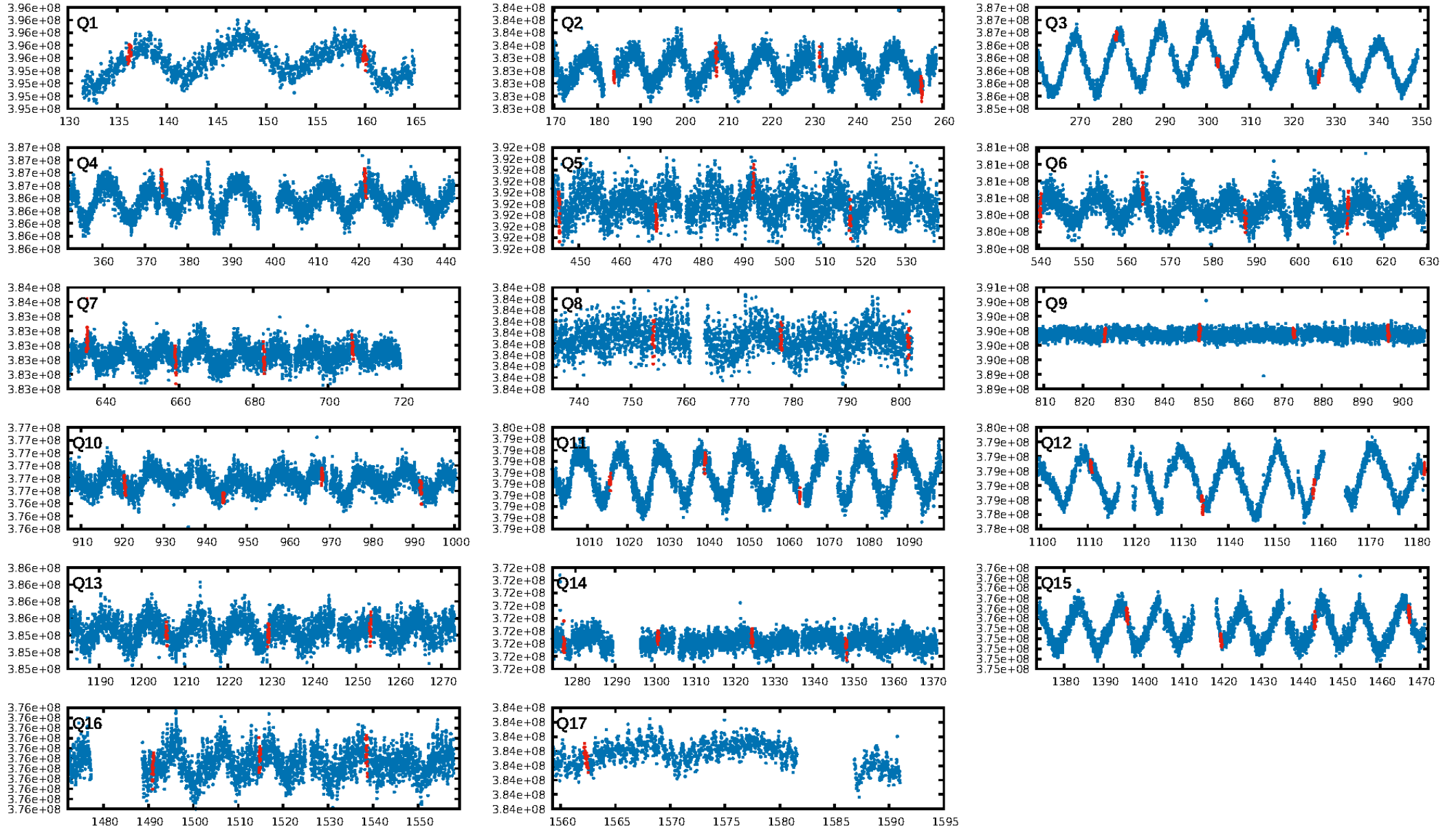
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [99.96σ]
LongPeriod-sig: 100.0% [42.23σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.49e-10
RollingBand-fgt: 0.88 [15/17]
GhostDiagnostic-chr: -0.5233
Centroid-sig: 0.4%
Centroid-so: 2.519 arcsec [1.32σ]
OotOffset-rm: 1.464 arcsec [1.64σ]
KicOffset-rm: 1.493 arcsec [1.83σ]
OotOffset-st: 4/3/4/2 [13]
KicOffset-st: 4/3/4/2 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.00 [0/17]

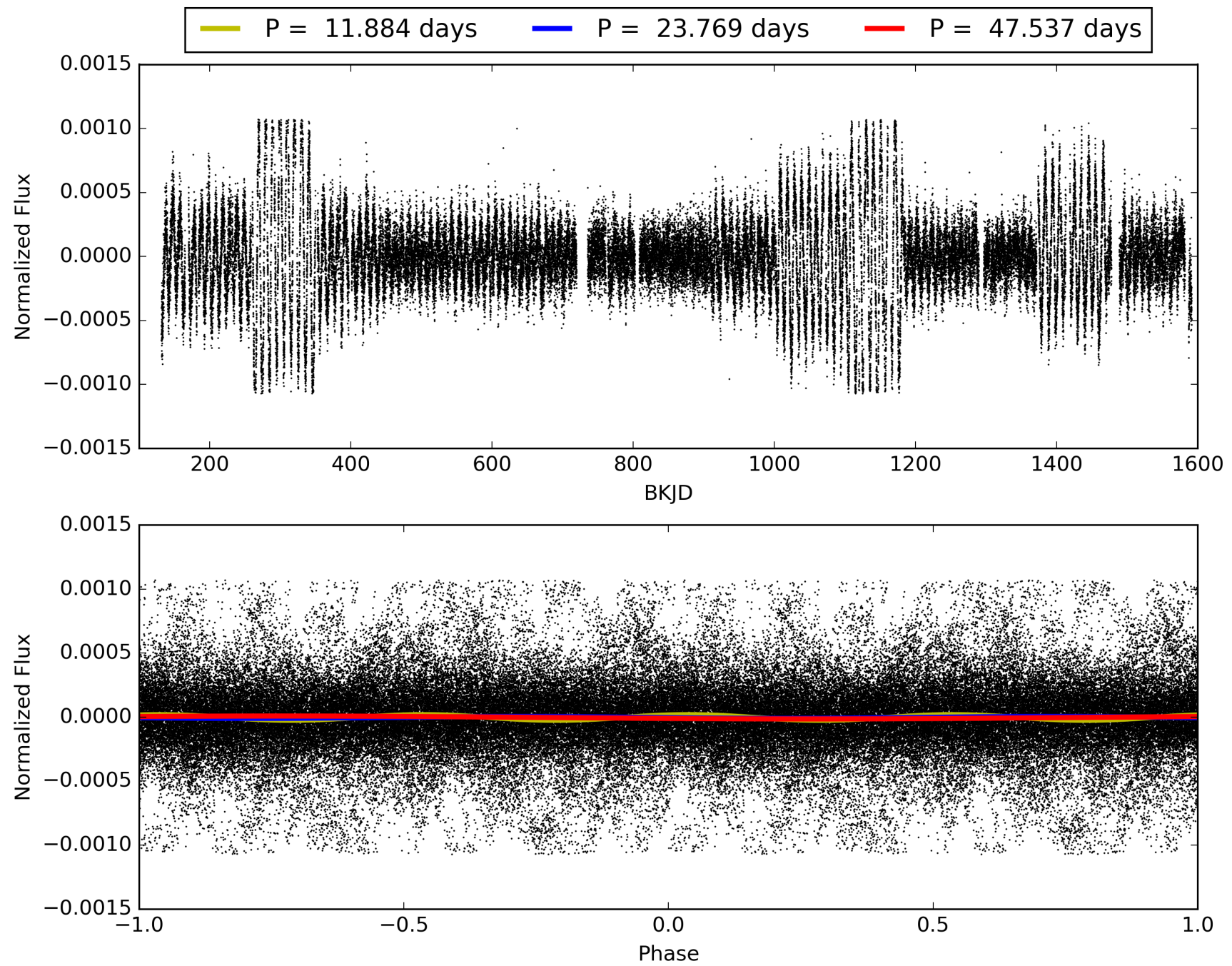
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:39 Z

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

TCE 008243804-07, PDC Light Curves

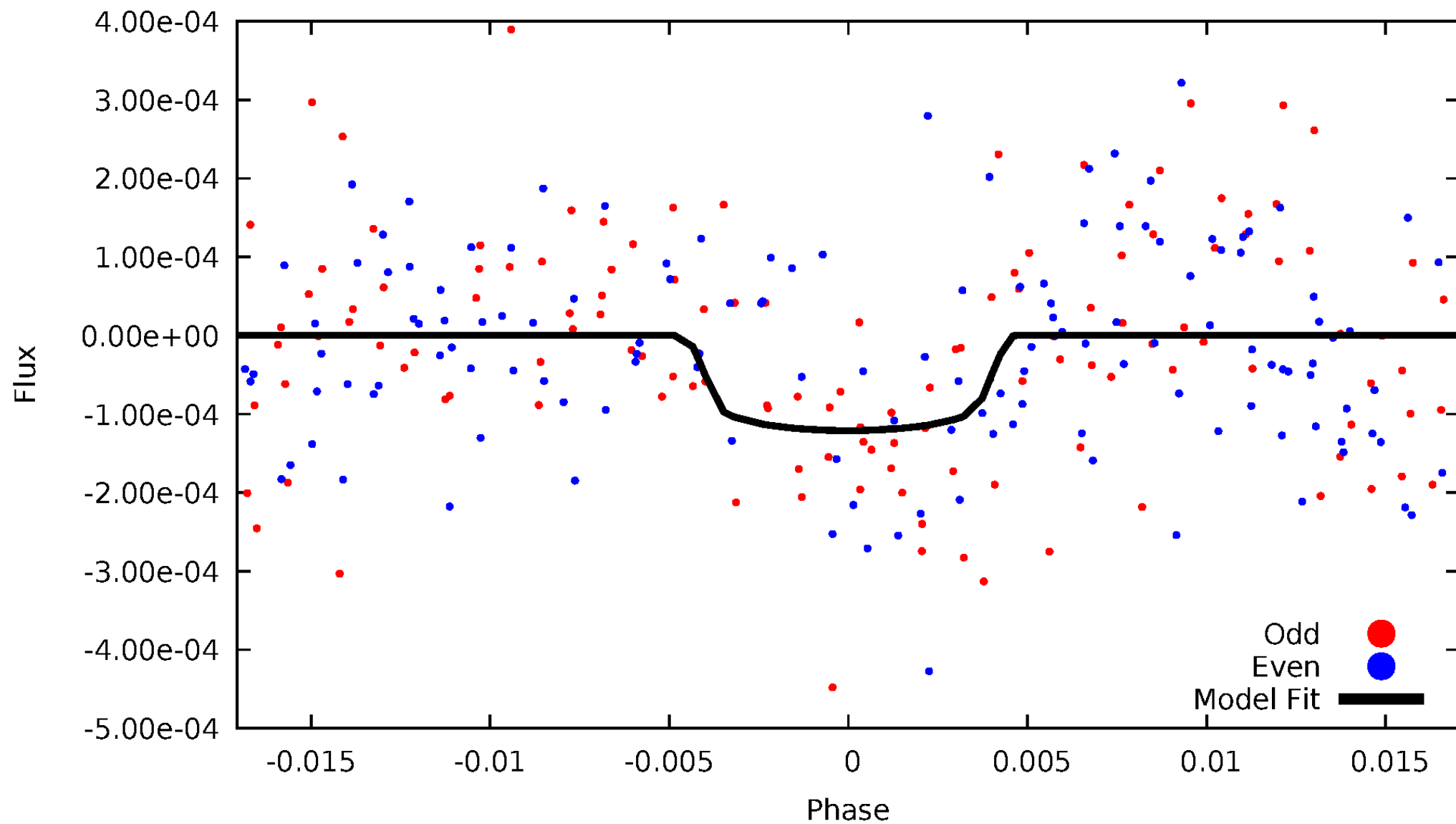


TCE 008243804-07



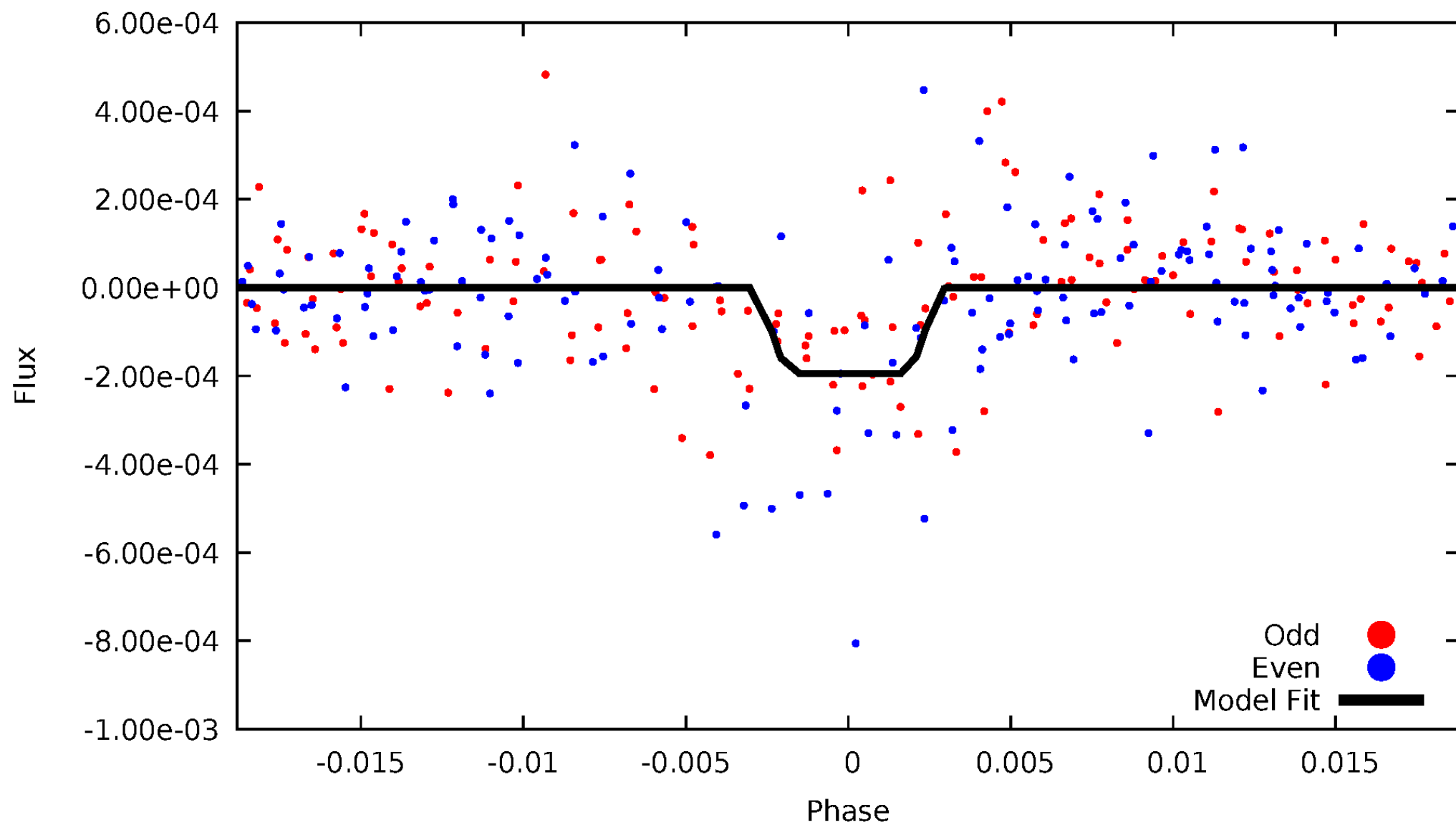
DV Odd/Even

TCE 008243804-07



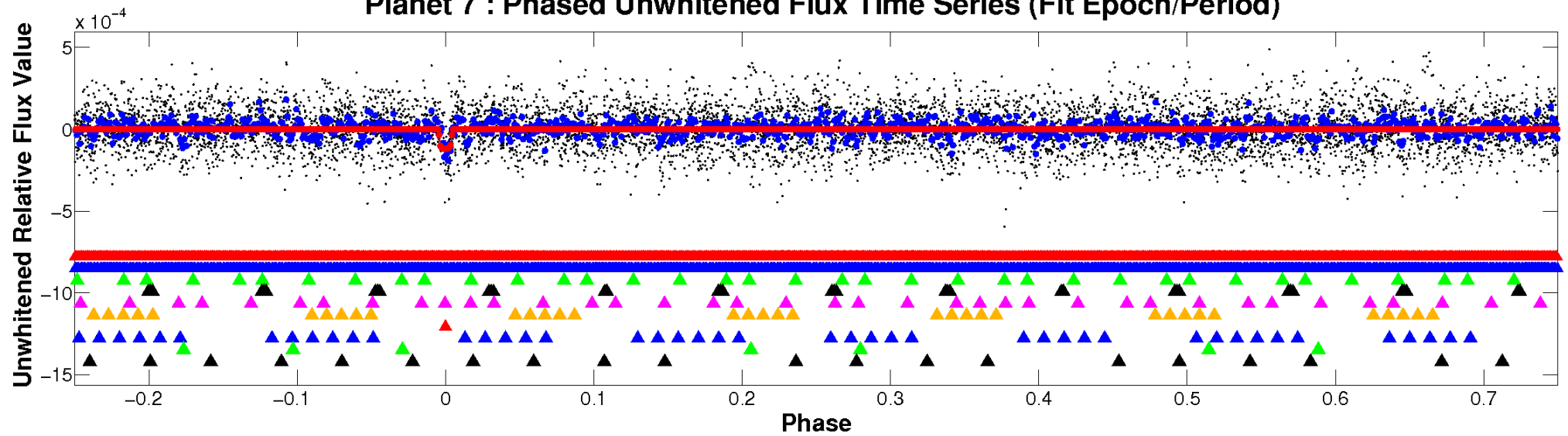
ALT Odd/Even

TCE 008243804-07

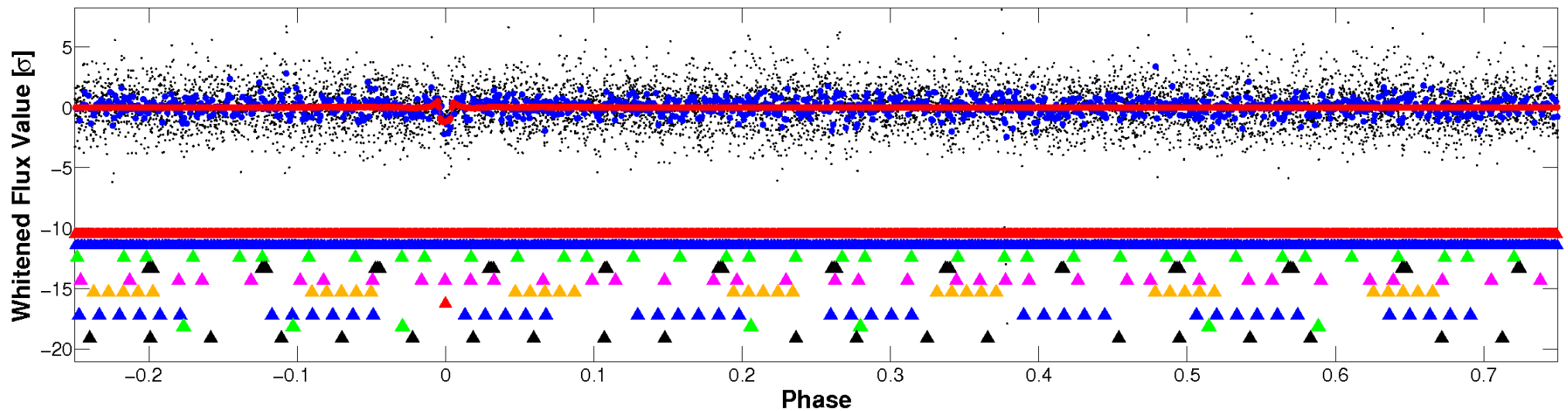


Non-Whitened Vs. Whitened Light Curve

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

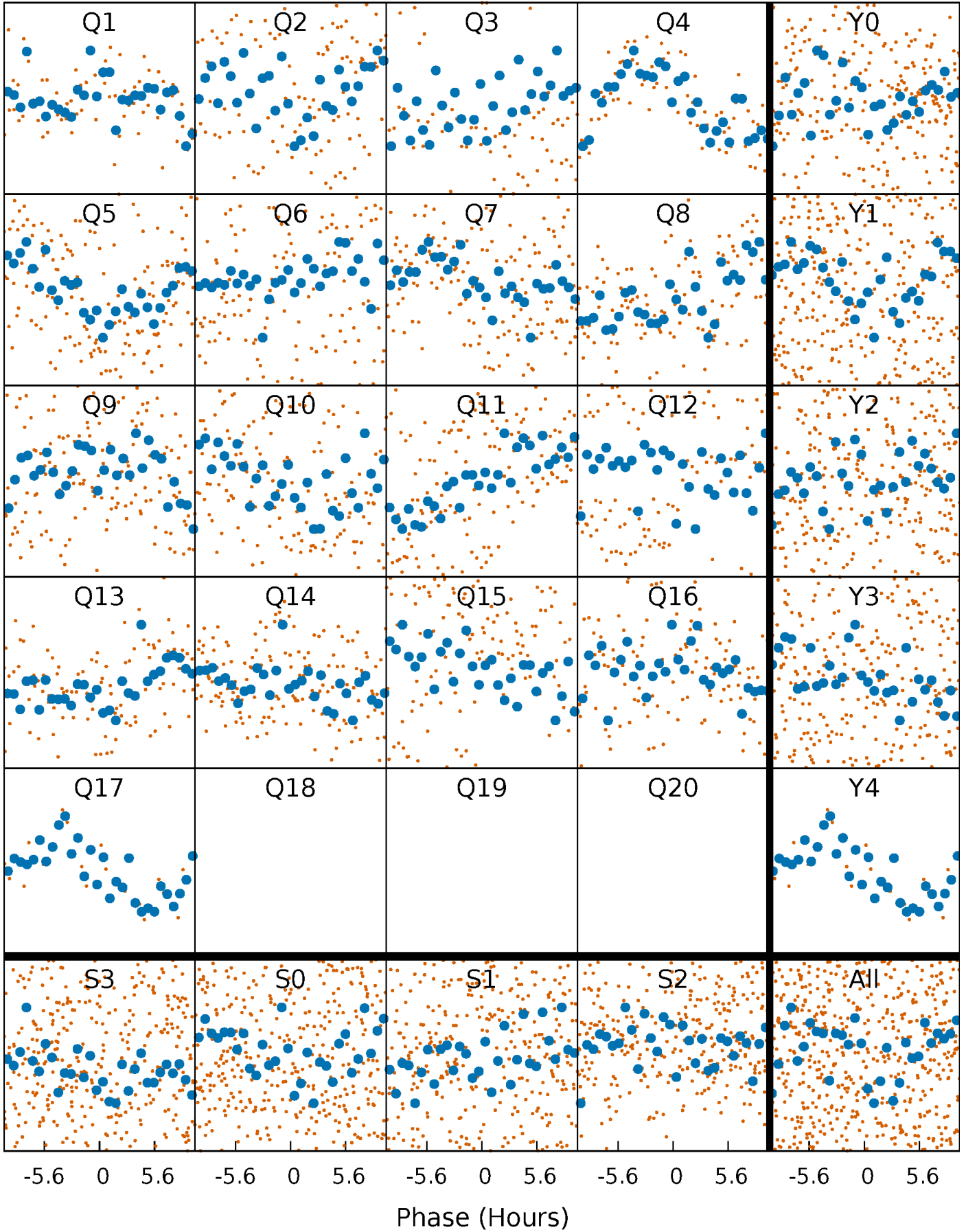


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



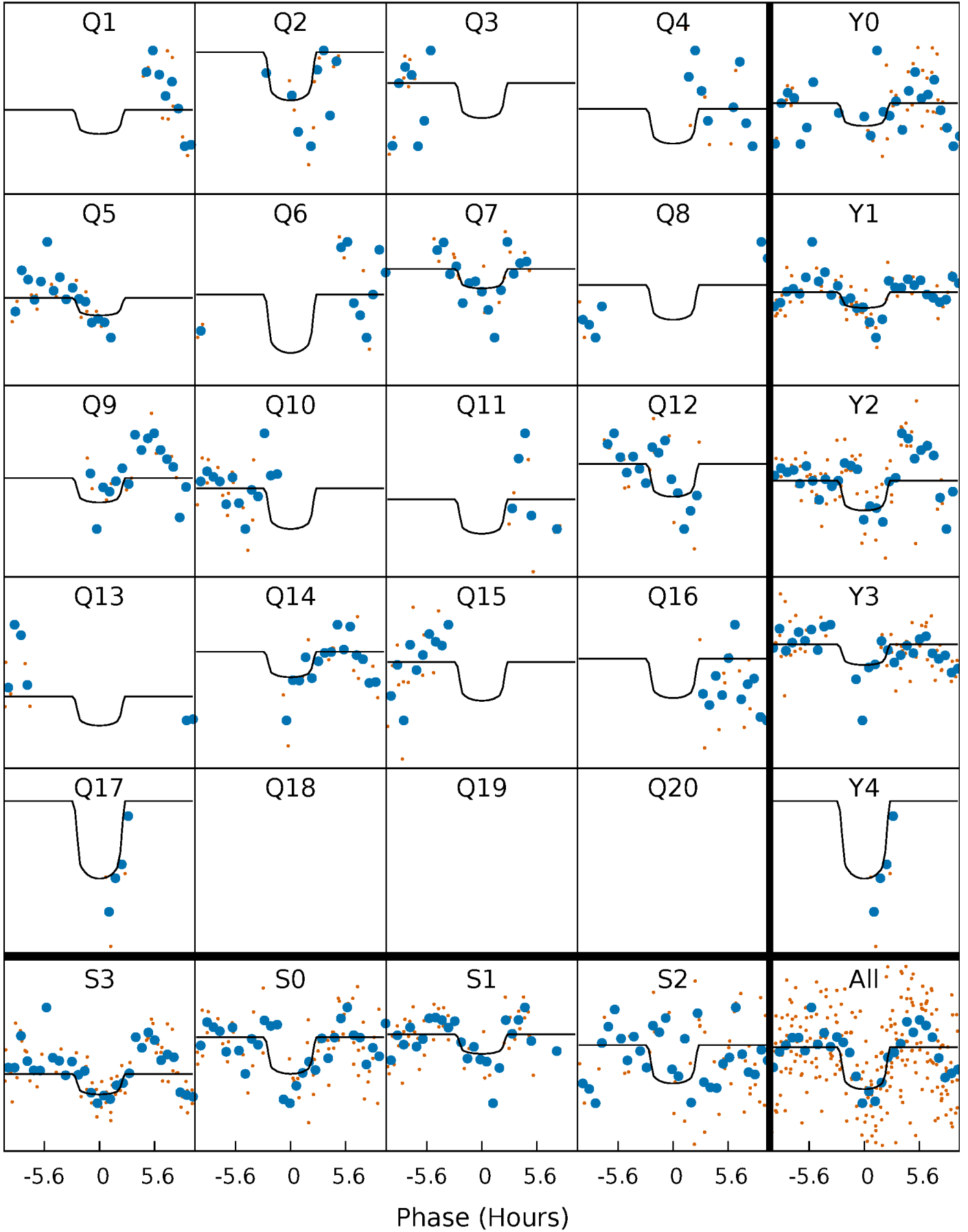
PDC Quarter-Phased Transit Curves

TCE 008243804-07 P= 23.768643 Days $T_0=136.206050$ (BKJD)



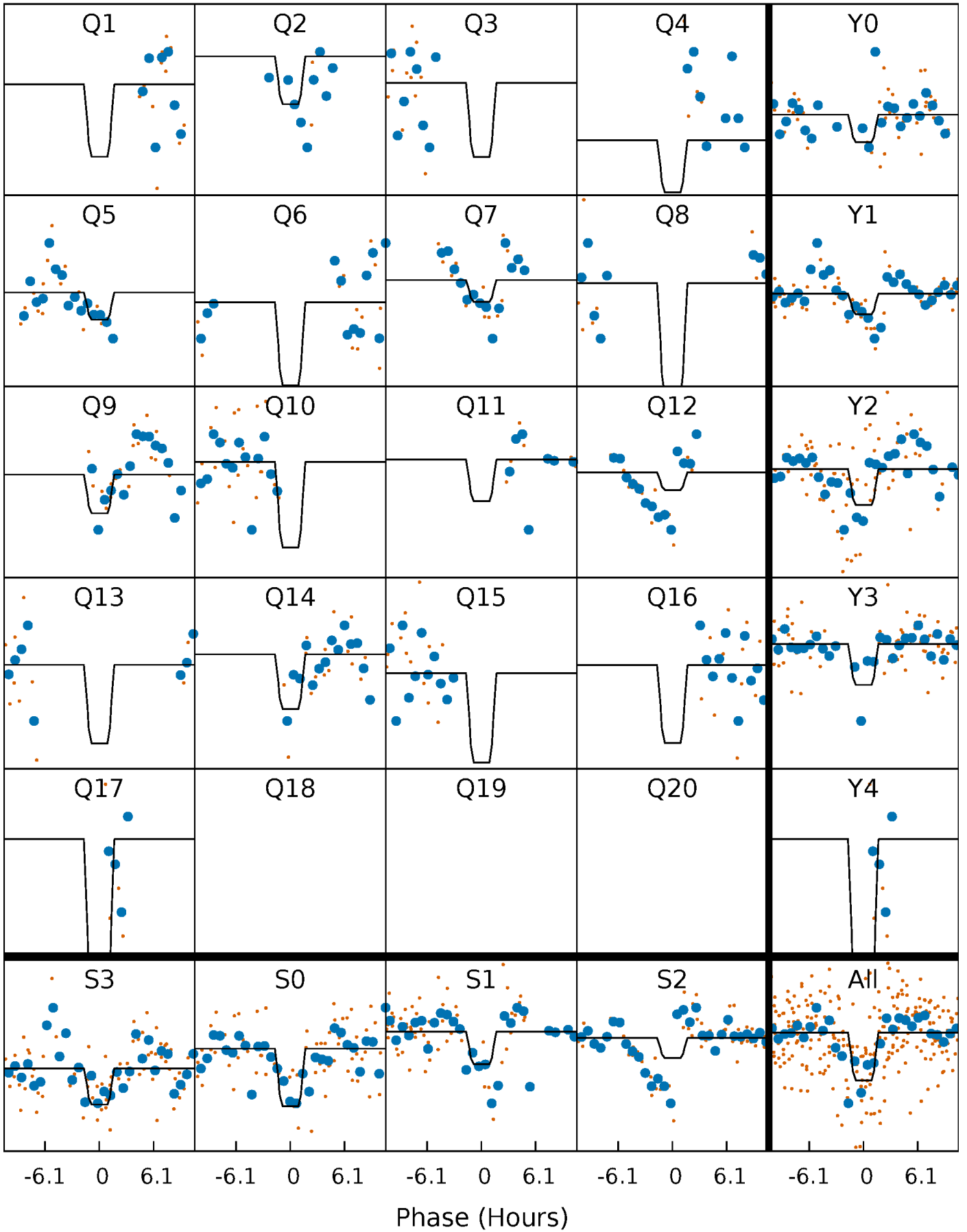
DV Quarter-Phased Transit Curves

TCE 008243804-07 $P = 23.768643$ Days $T_0 = 136.206050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

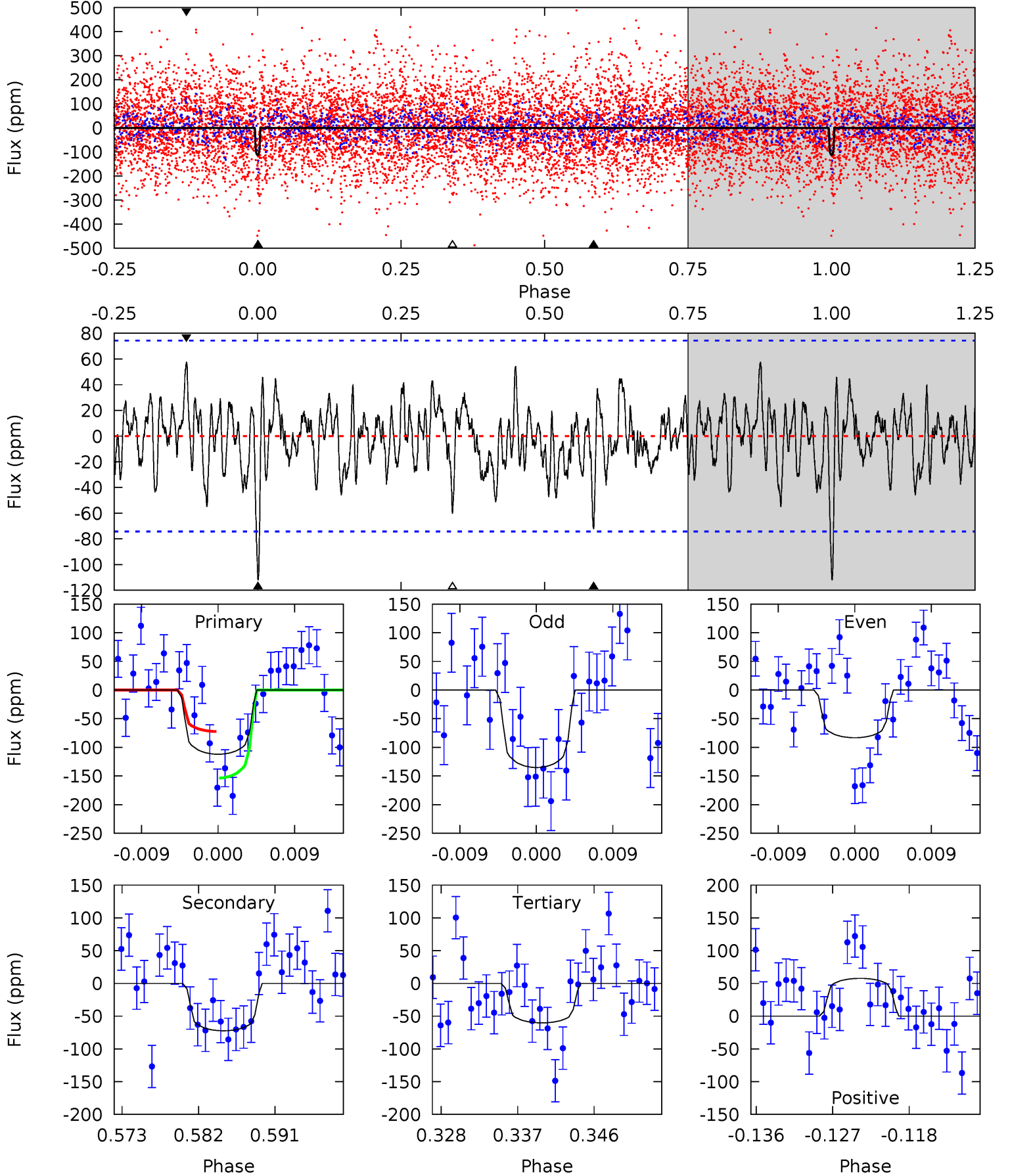
TCE 008243804-07 $P = 23.768652$ Days $T_0 = 136.203674$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-07, P = 23.768643 Days, E = 112.437407 Days

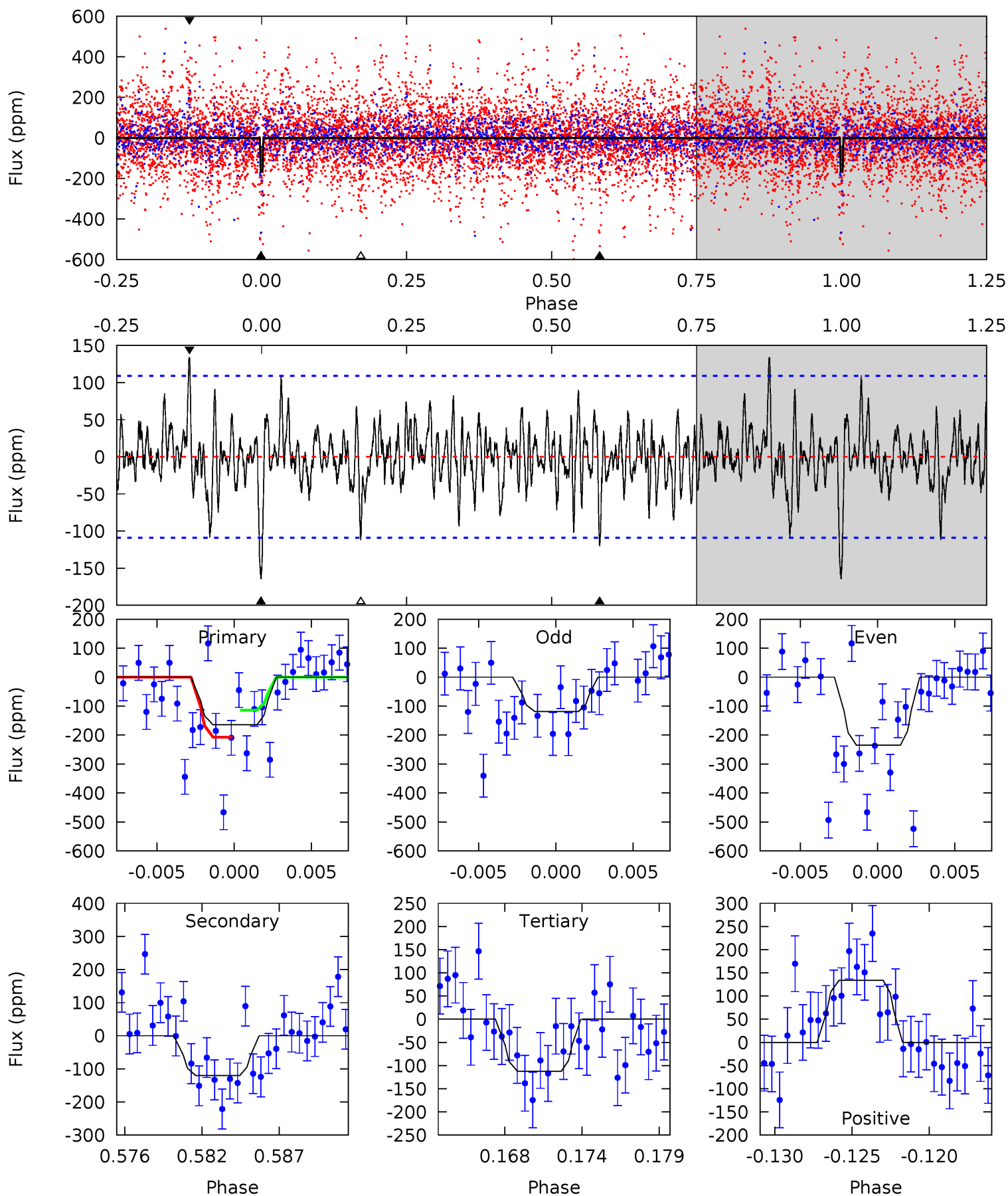
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.61	4.91	4.09	3.92	5.04	2.61	1.36	3.52	3.69	0.82	1.00	1.76	0.96	0.34	2.69



Alt Model-Shift Uniqueness Test

008243804-07, P = 23.768652 Days, E = 112.435022 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.76	5.68	5.30	6.33	5.14	2.78	1.56	2.46	1.43	0.38	-0.65	2.72	1.09	0.45	2.19



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-72 ± 15	$2.21^{+1.70}_{-1.34}$	1250^{+95}_{-88}	5476^{+3649}_{-1110}	244^{+1379}_{-164}
Alt.	-120 ± 21	$2.60^{+1.75}_{-1.45}$	1261^{+106}_{-97}	5810^{+3397}_{-1190}	310^{+1214}_{-205}

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

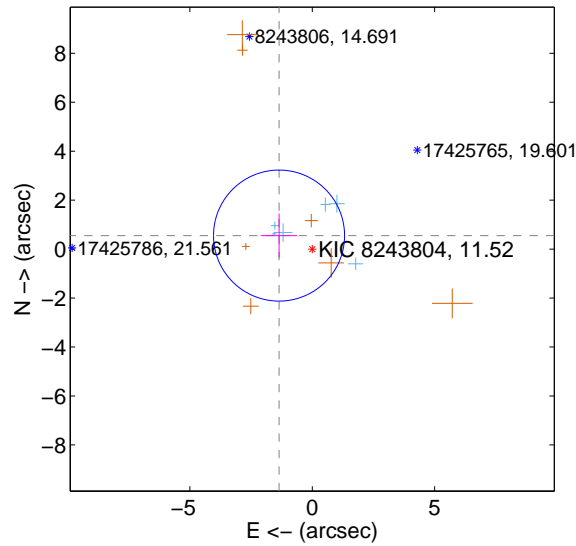
Supplemental centroid analysis for 008243804-07. **Kepler magnitude: 11.52**. Transit SNR 8.51

There are 6 quarters with good PRF difference image offsets

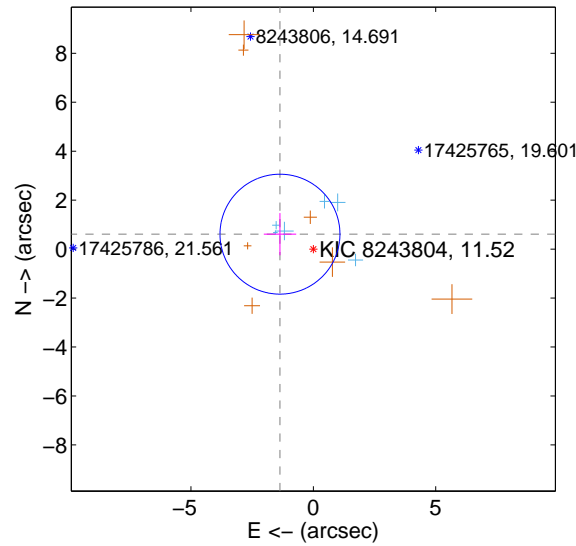
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.464 ± 0.892	1.64	1.356 ± 0.744	0.552 ± 0.903
PRF-fit source offset from KIC position	1.493 ± 0.817	1.83	1.363 ± 0.663	0.610 ± 0.861
photometric centroid source offset	2.52 ± 1.91	1.32	-1.04 ± 0.76	-2.30 ± 2.06

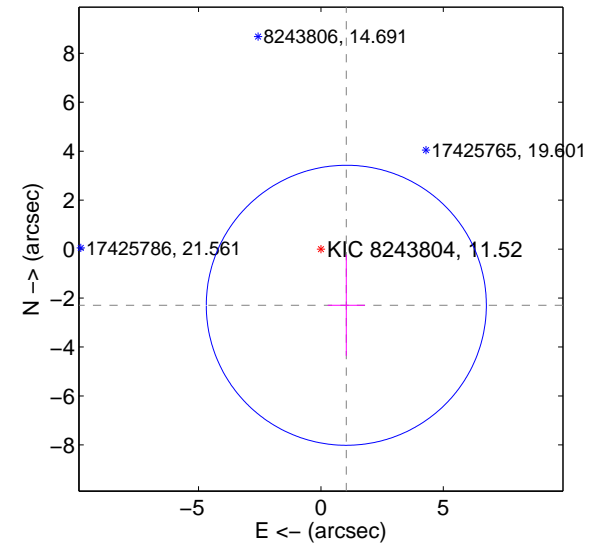
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

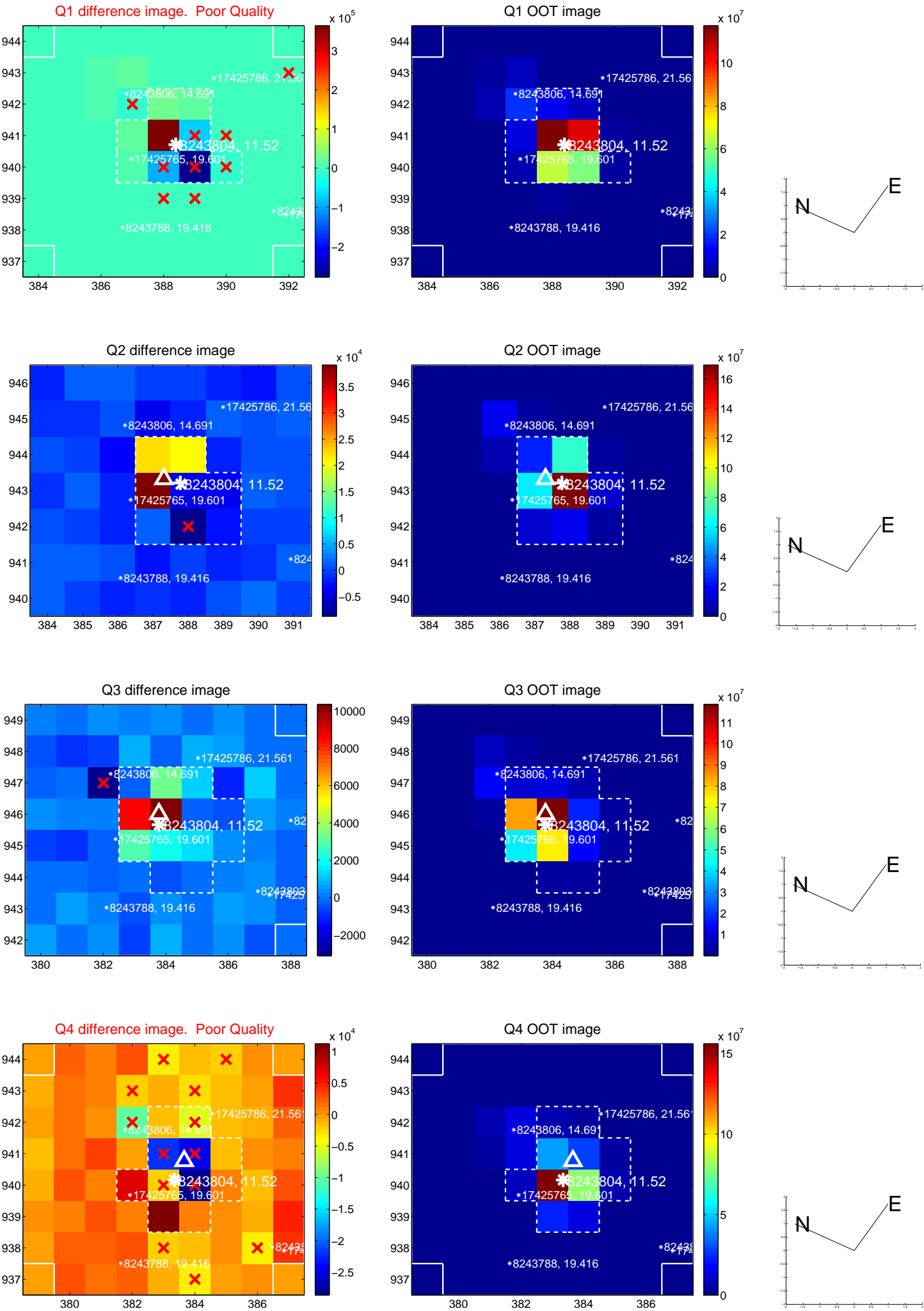


offset from photometric centroids

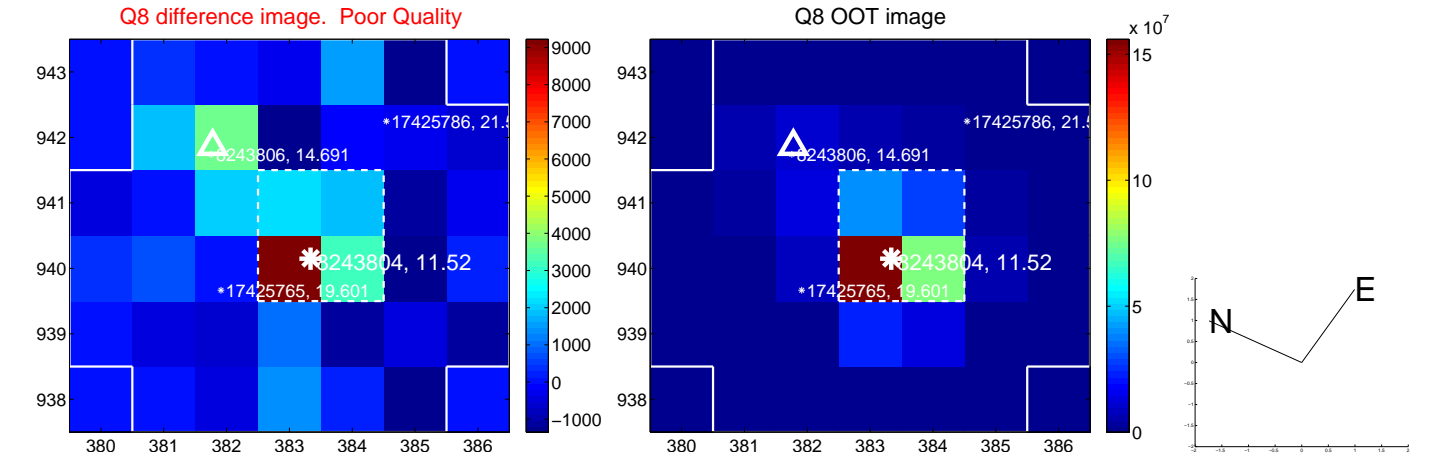
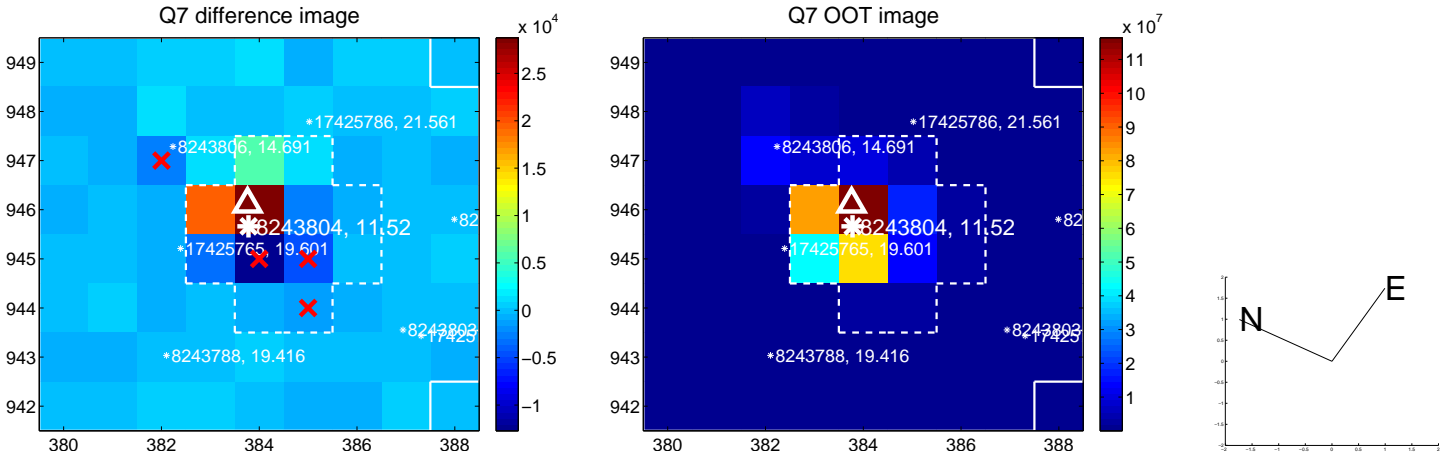
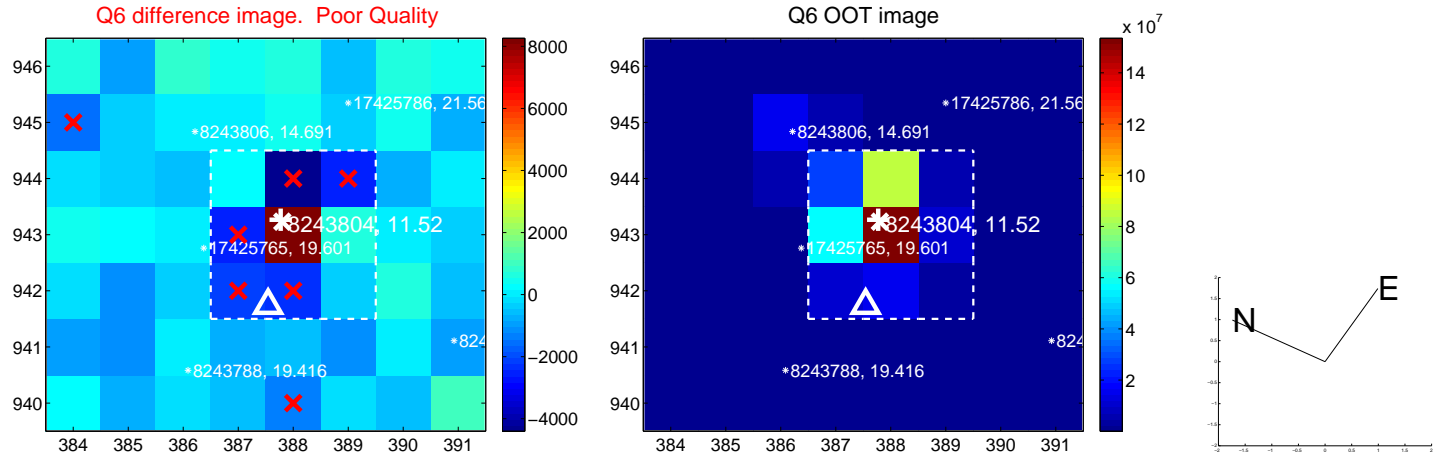
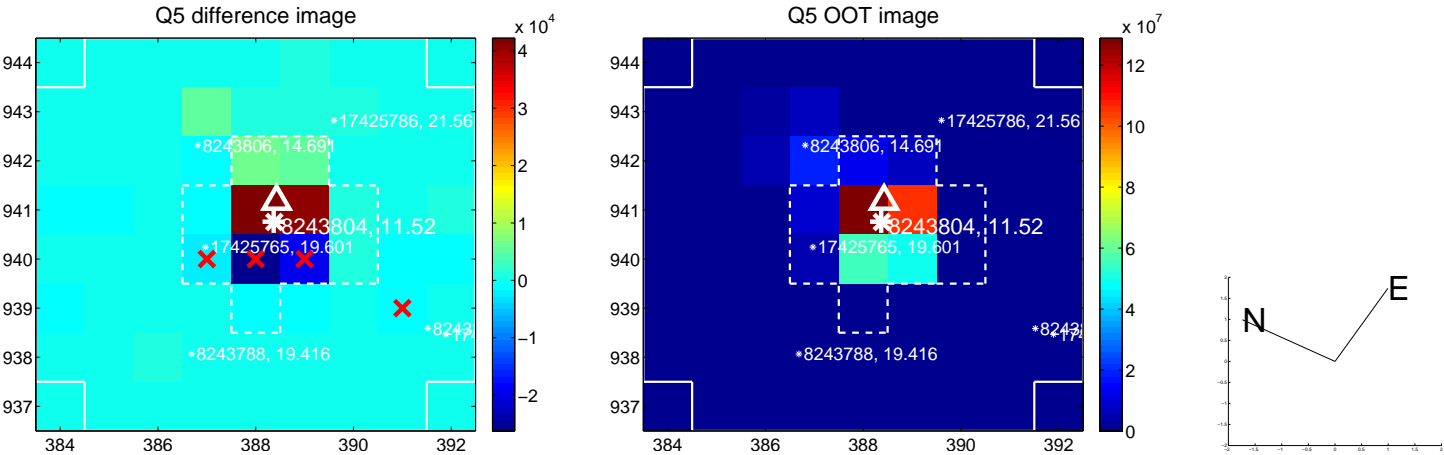


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

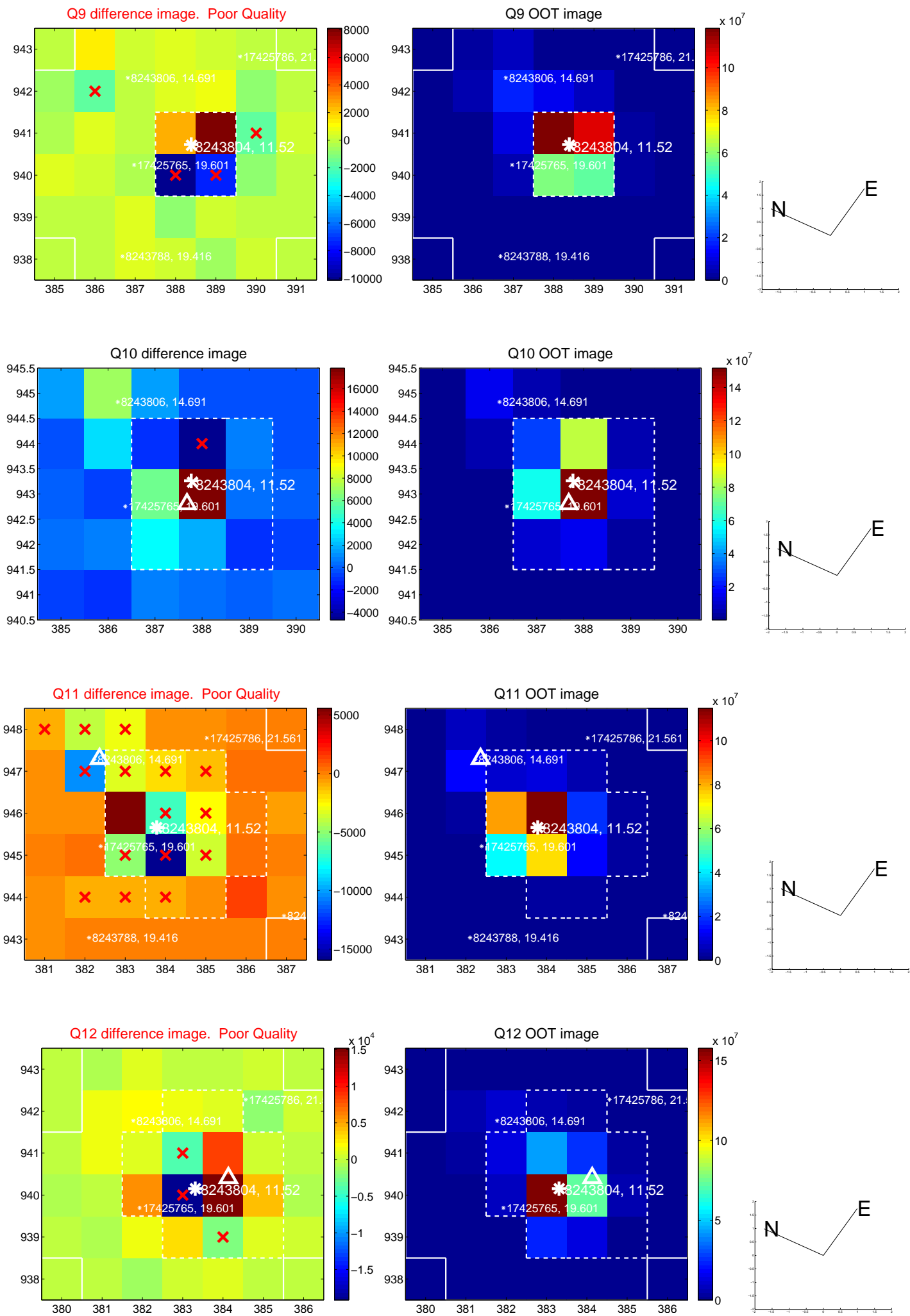
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



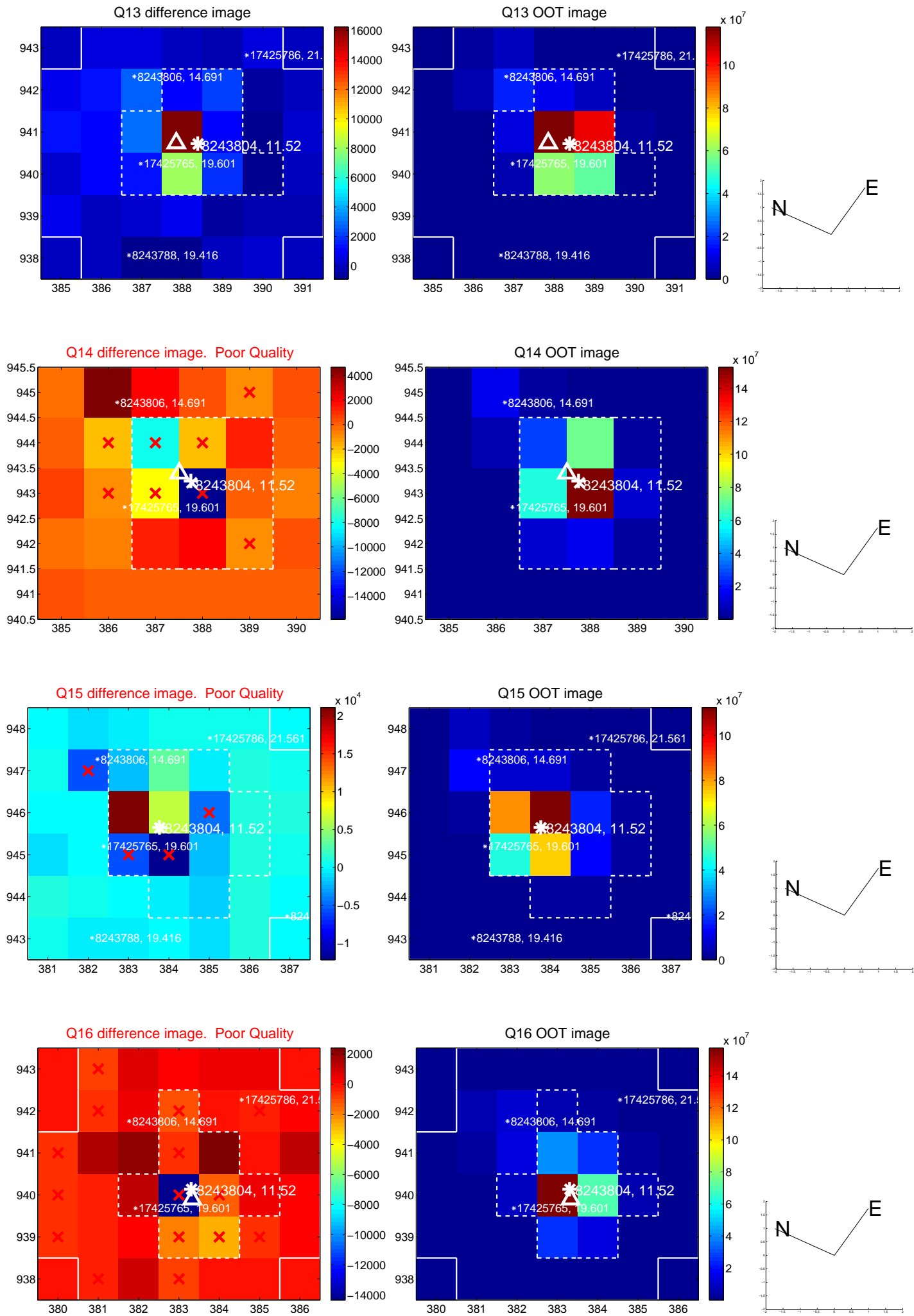
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



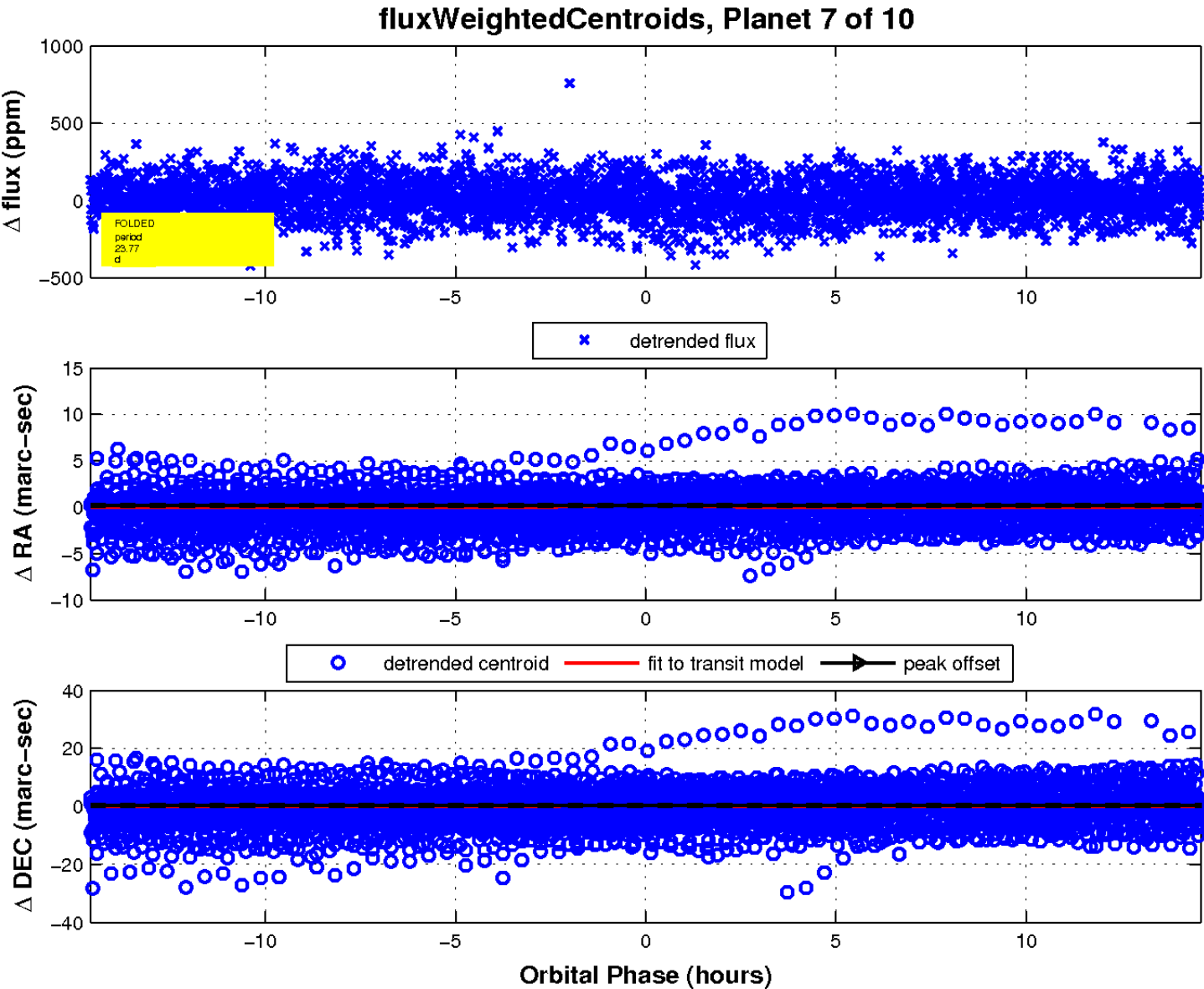
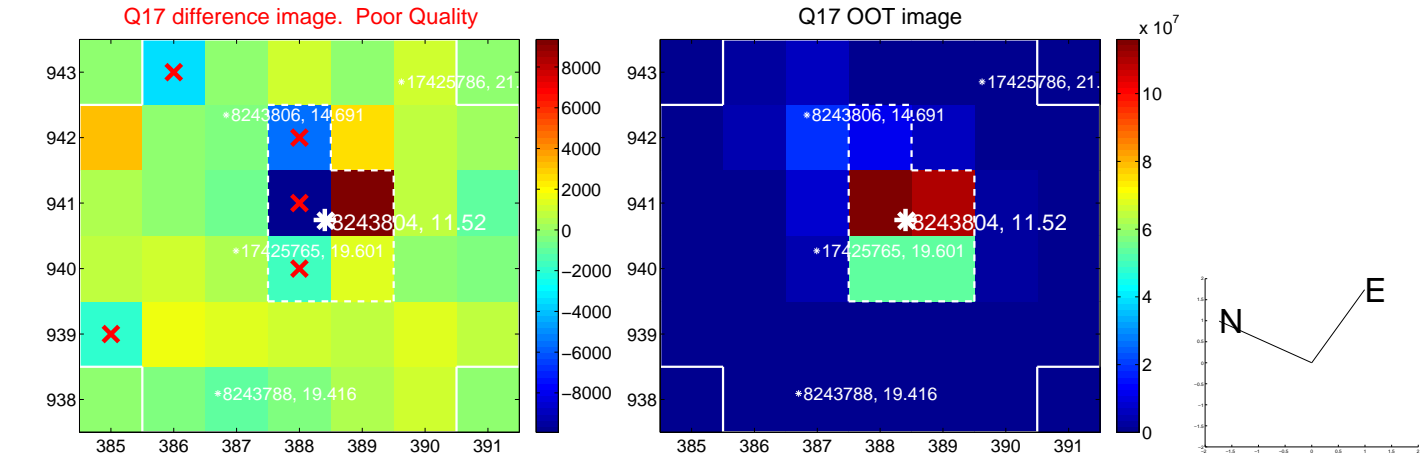
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

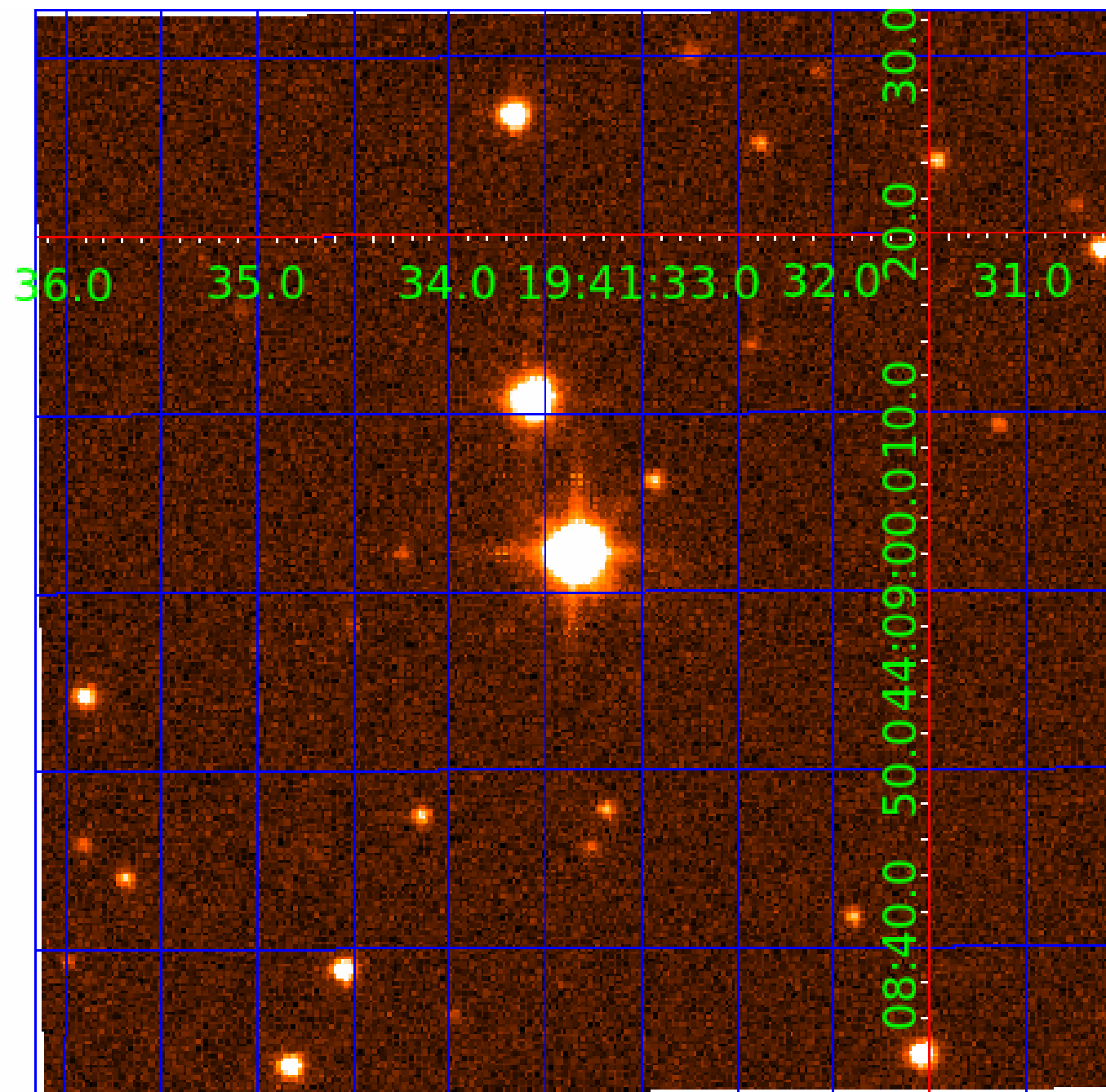


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

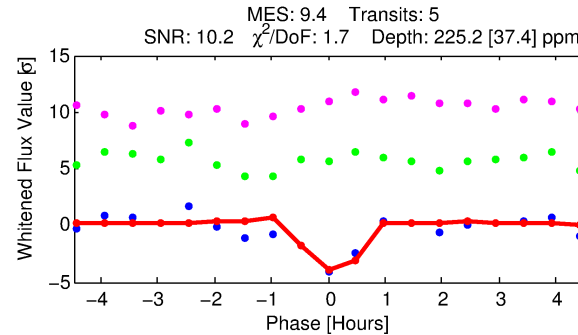
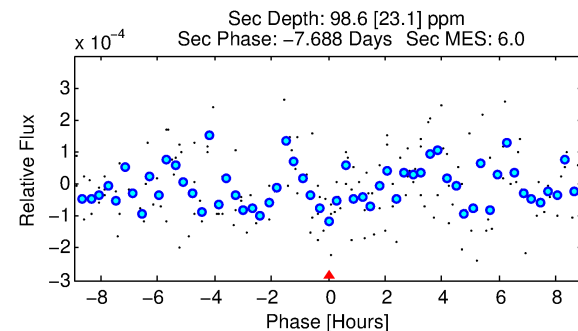
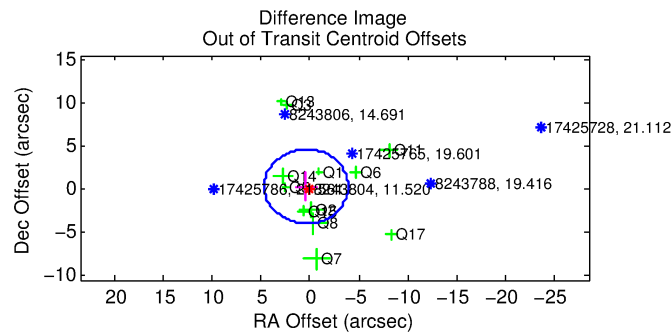
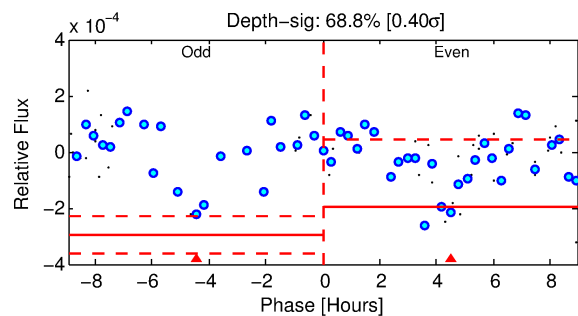
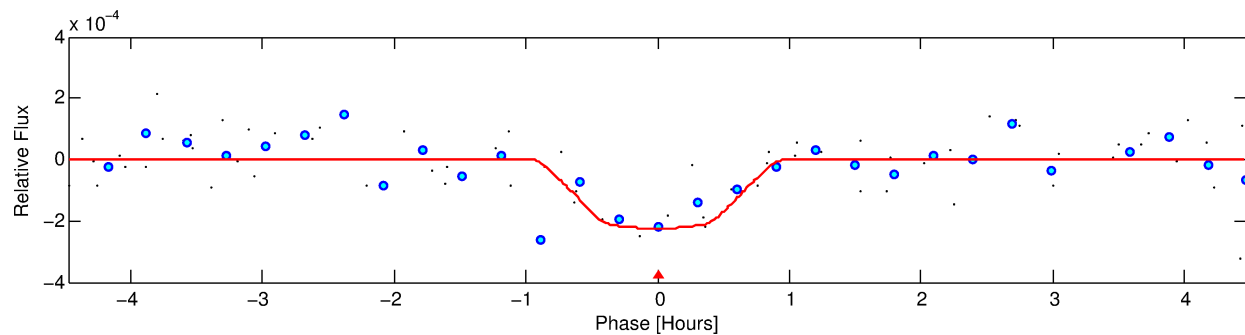
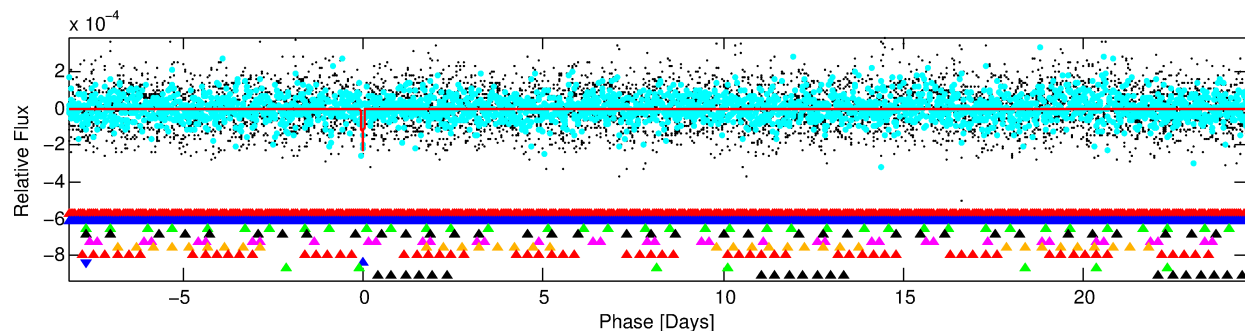
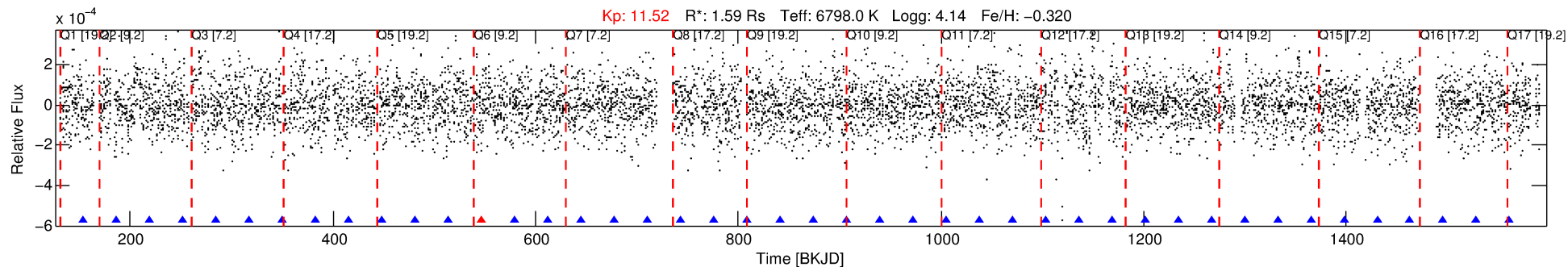
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-08

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 8 of 10 Period: 32.722 d



DV Fit Results:

Period = 32.72242 [0.00017] d
 Epoch = 154.1023 [0.0034] BKJD
 Rp/R* = 0.0163 [0.0101]
 a/R* = 73.34 [266.41]
 b = 0.92 [0.64]
 Seff = 102.50 [39.93]
 Teq = 811 [79] K
 Rp = 2.82 [1.93] Re
 a = 0.2171 [0.0531] AU
 Ag = 320.75 [418.79] [0.76 σ]
 Teffp = 5309 [1684] K [2.67 σ]

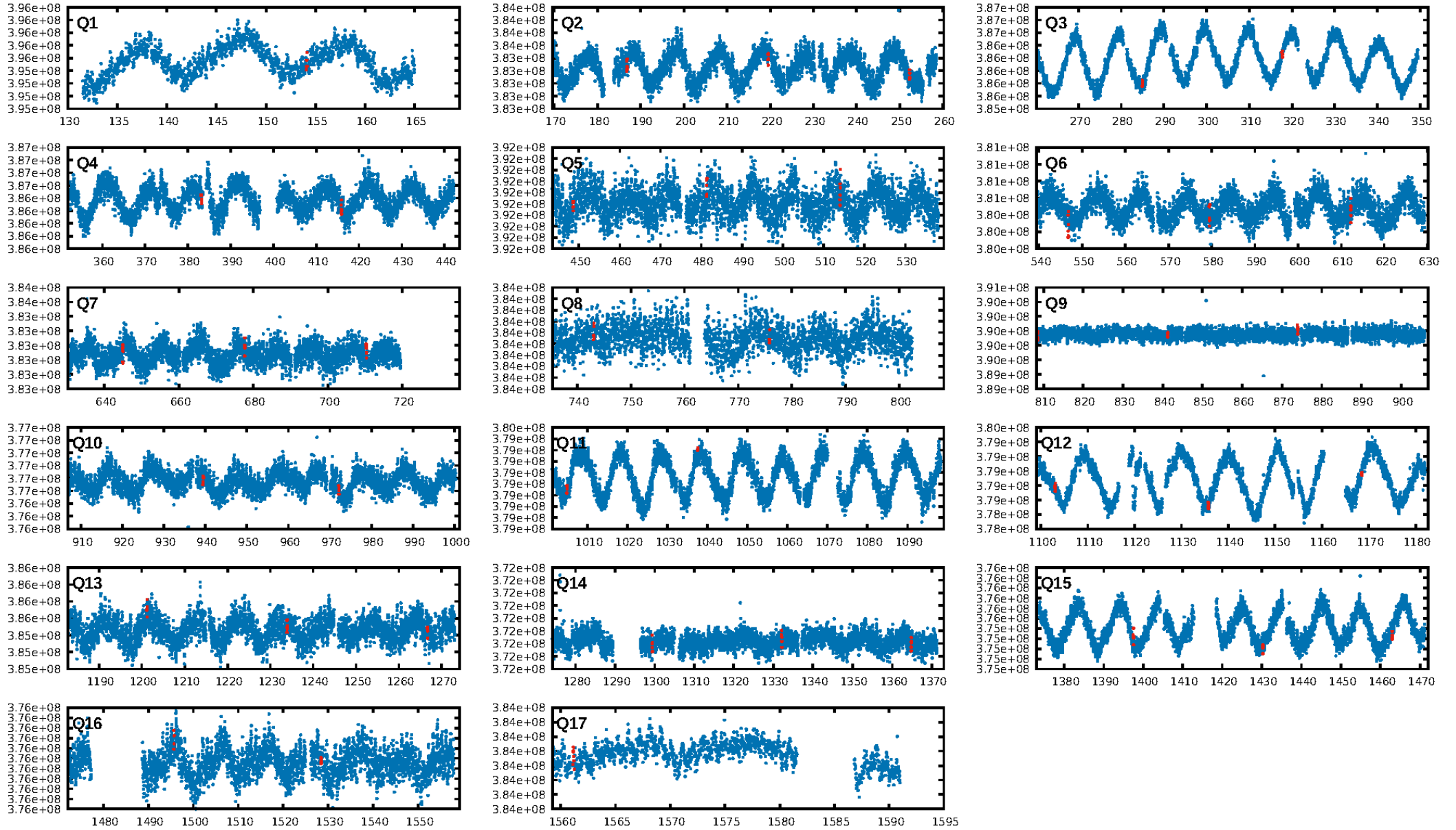
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [42.23 σ]
 LongPeriod-sig: 100.0% [85.65 σ]
 ModelChiSquare2-sig: 5.3%
 ModelChiSquareGof-sig: 93.5%
 Bootstrap-pfa: 1.50e-08
 RollingBand-fgt: 0.80 [4/5]
 GhostDiagnostic-chr: -0.0322
 Centroid-sig: 0.2%
 Centroid-so: 2.086 arcsec [1.62 σ]
 OutOffset-rm: 0.510 arcsec [0.36 σ]
 KicOffset-rm: 0.548 arcsec [0.36 σ]
 OutOffset-st: 3/4/1/4 [12]
 KicOffset-st: 3/4/1/4 [12]
 DiffImageQuality-fgm: 0.08 [1/12]
 DiffImageOverlap-fno: 0.12 [2/17]

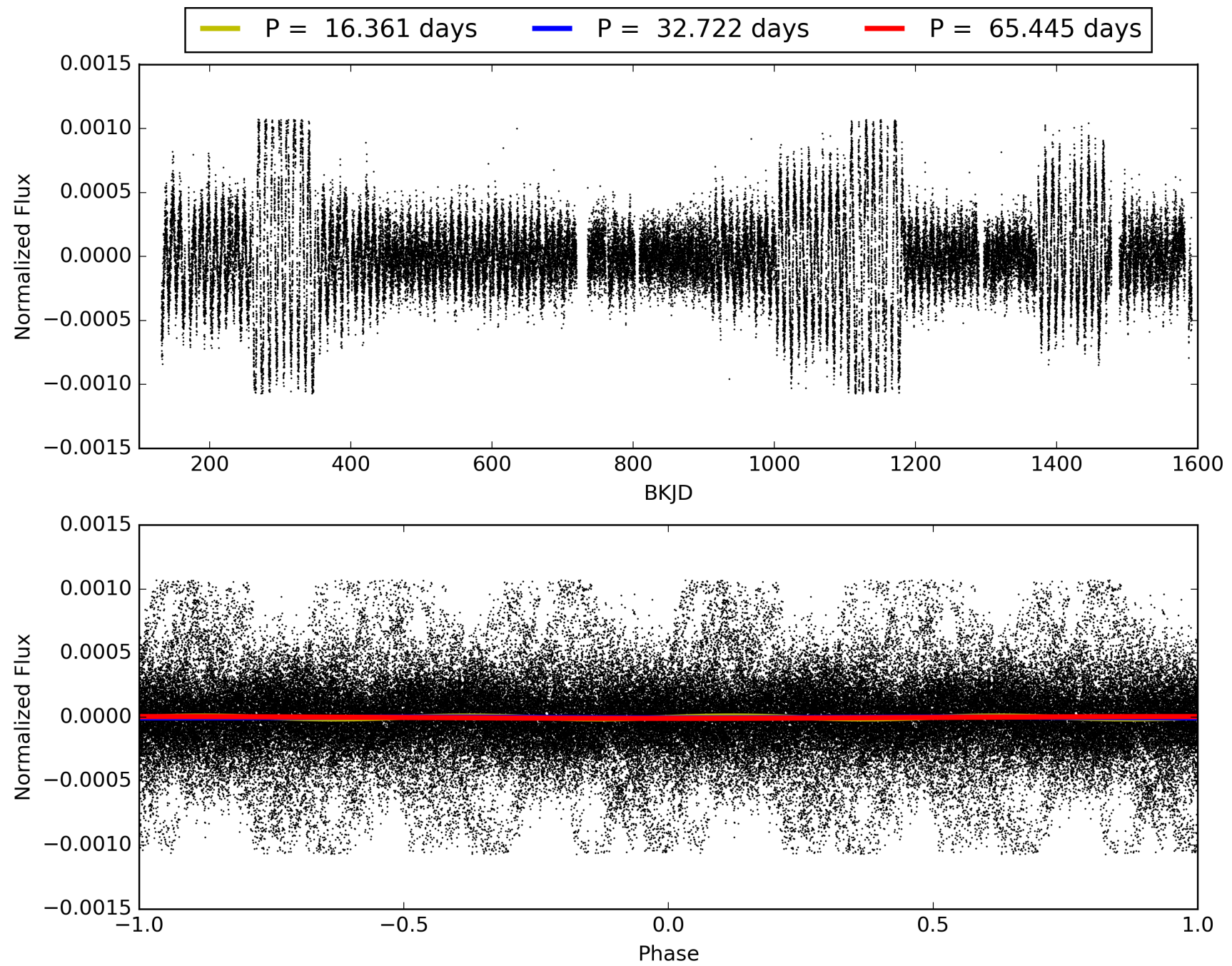
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:42 Z

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

TCE 008243804-08, PDC Light Curves

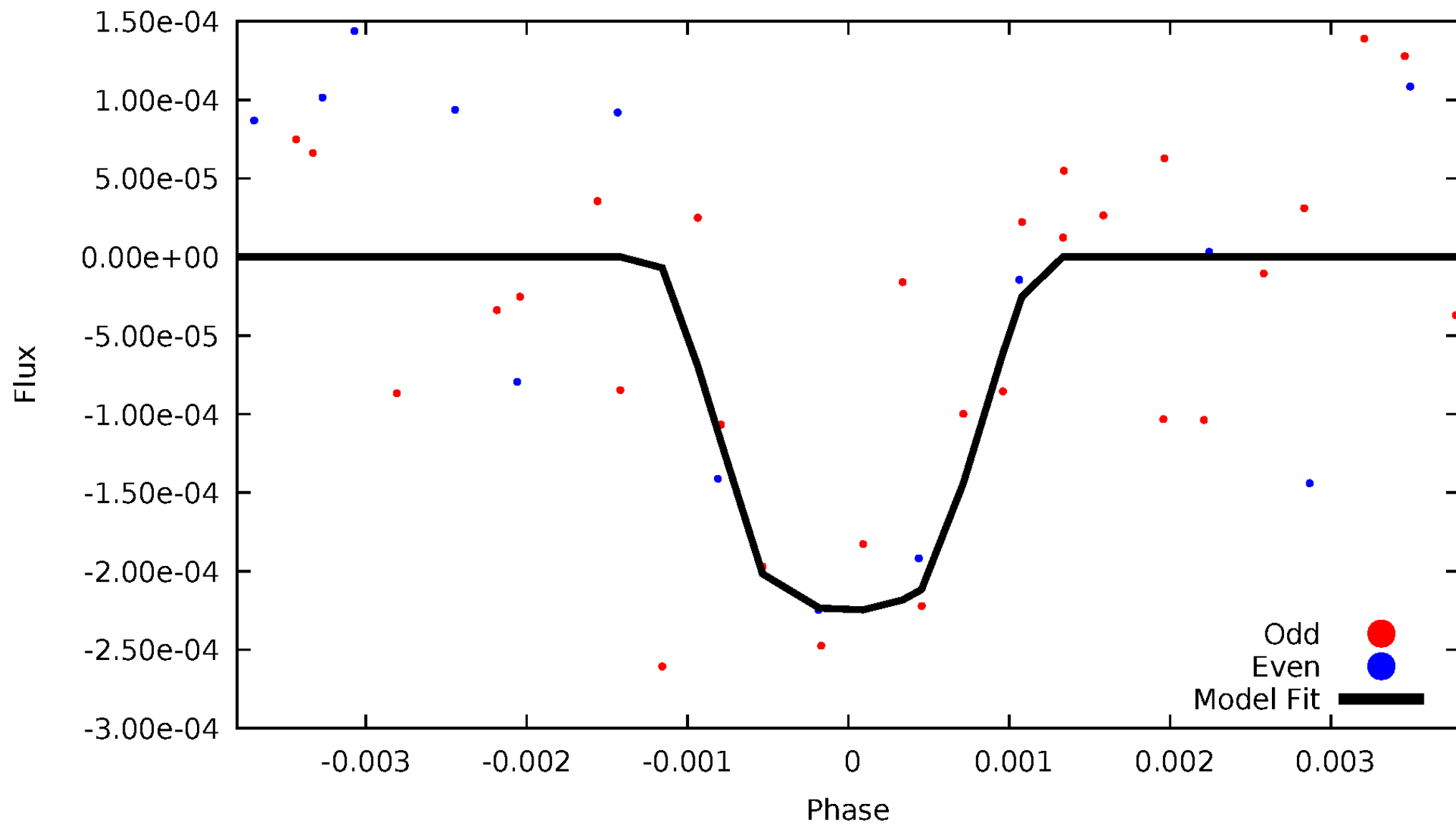


TCE 008243804-08



DV Odd/Even

TCE 008243804-08

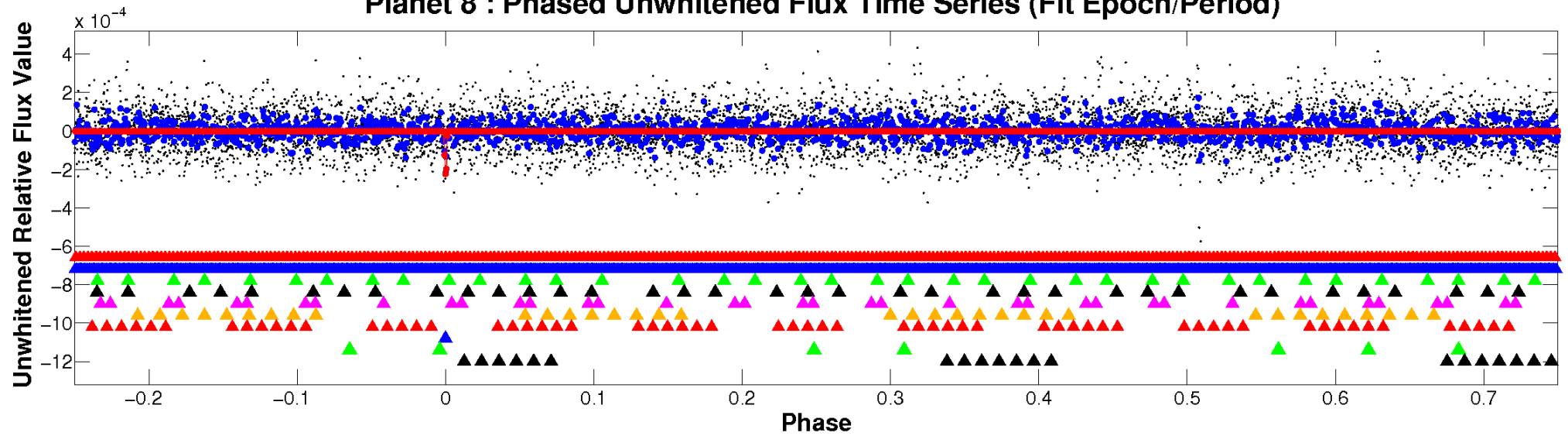


ALT Odd/Even

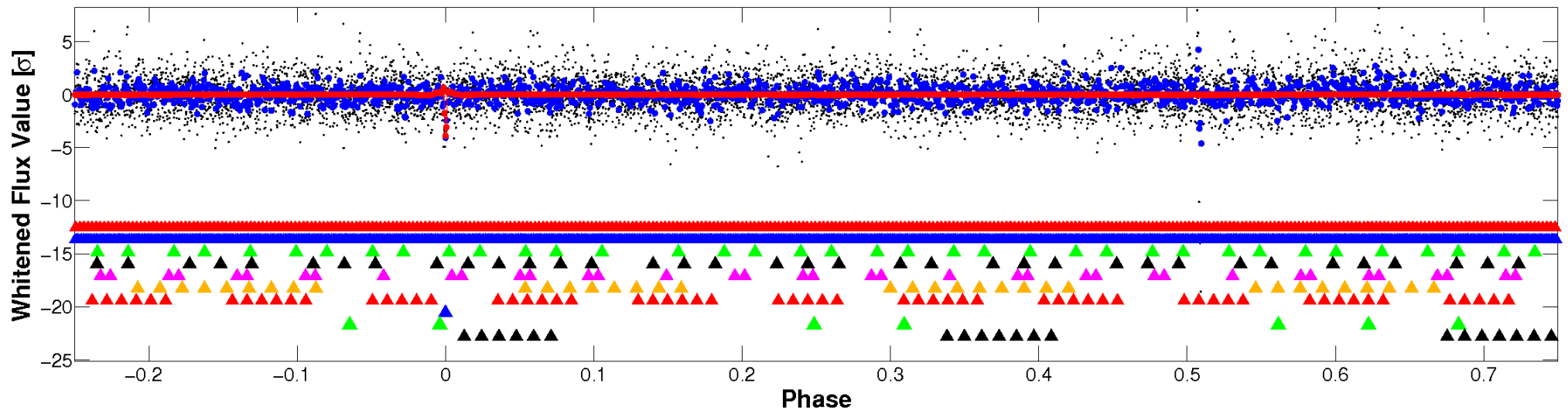
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

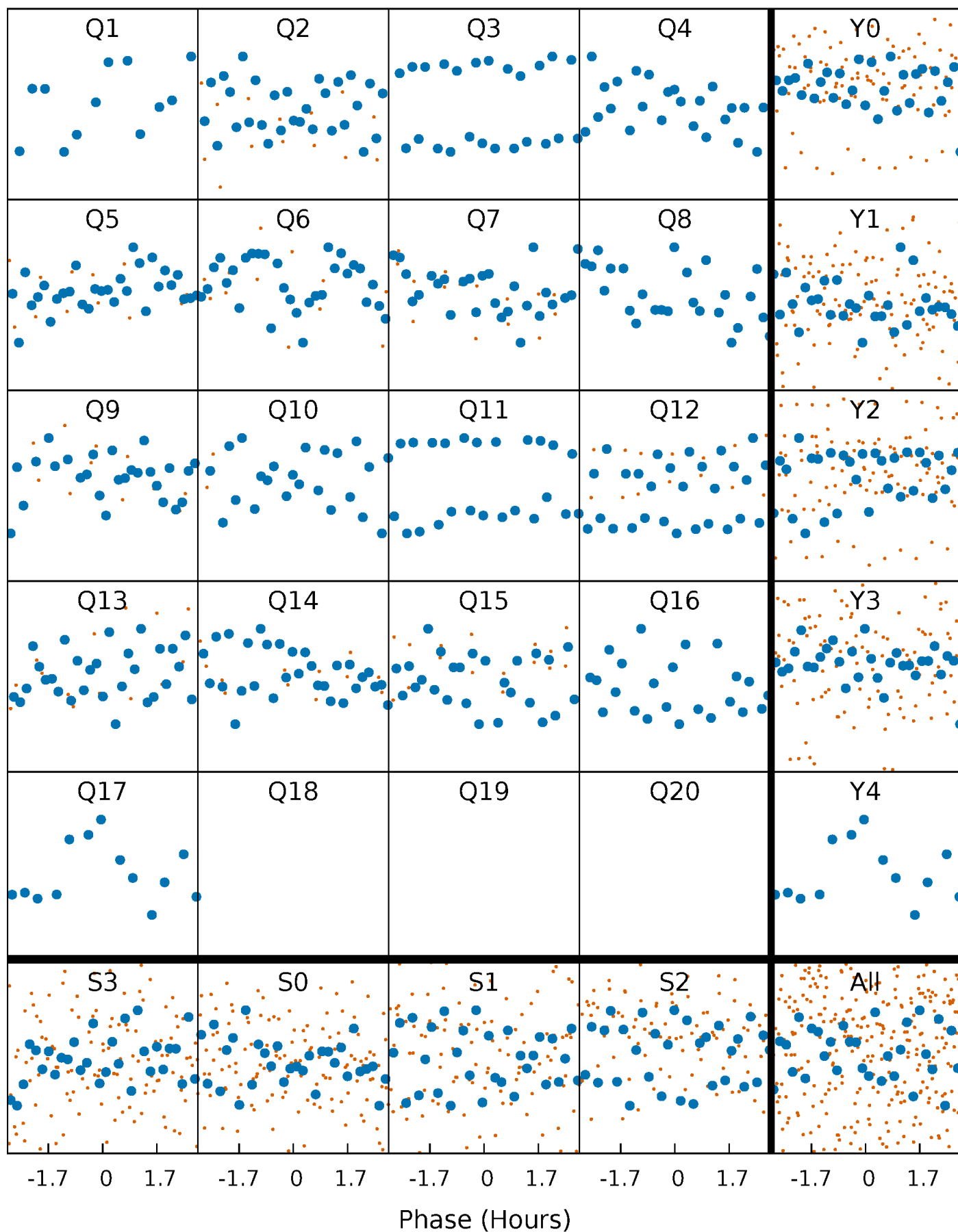


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



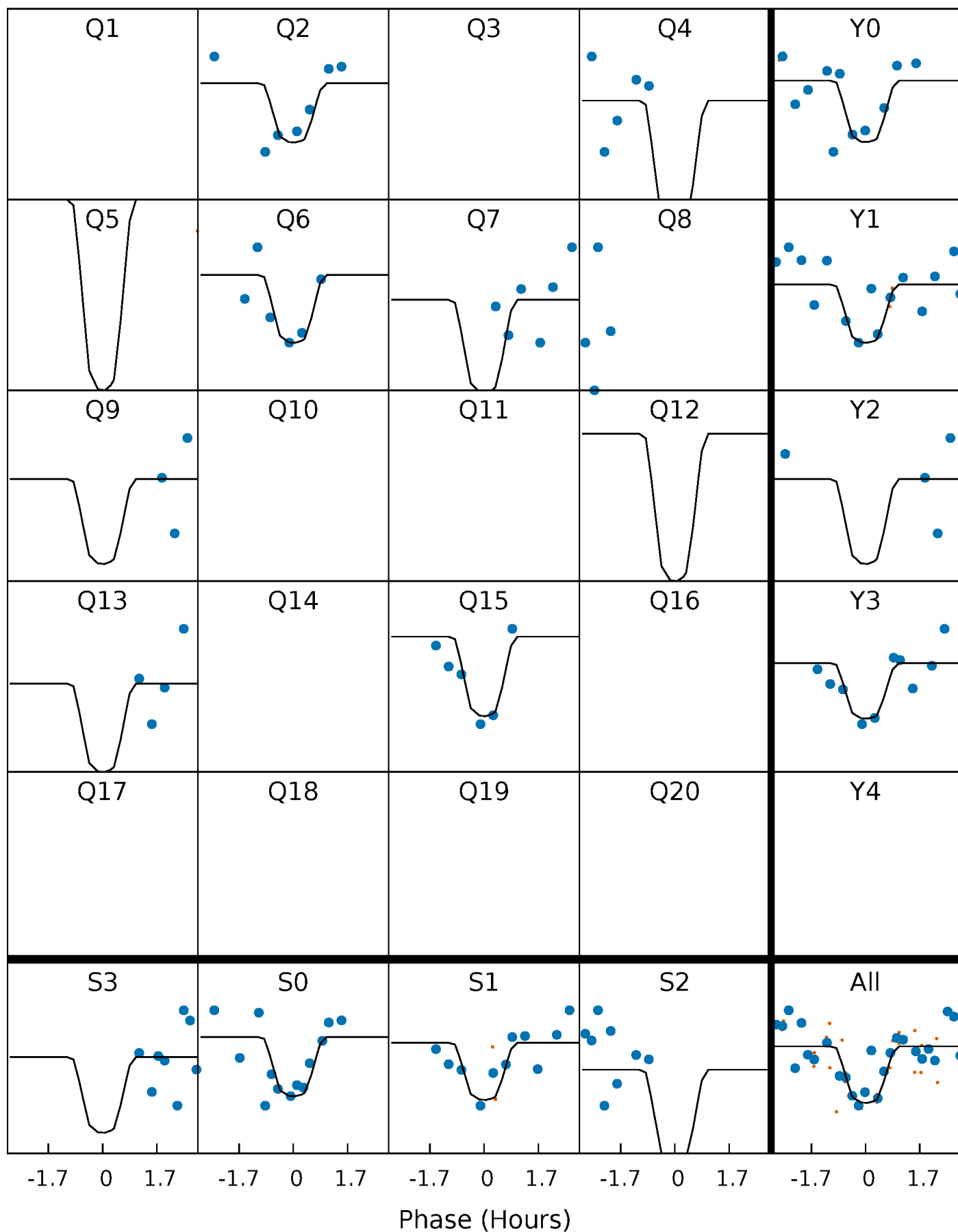
PDC Quarter-Phased Transit Curves

TCE 008243804-08 P= 32.722421 Days $T_0=154.102325$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008243804-08 P= 32.722421 Days $T_0=154.102325$ (BKJD)

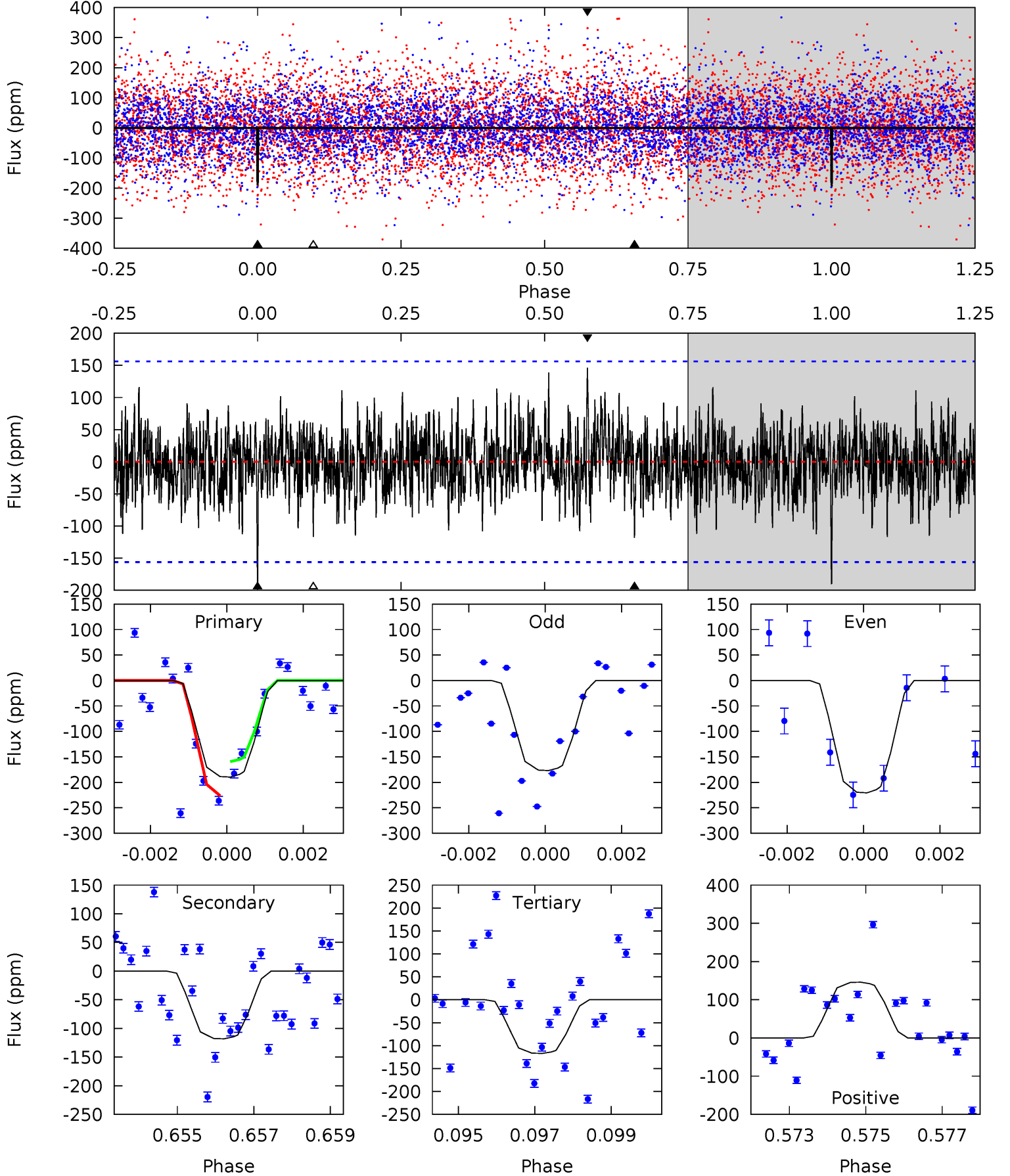


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008243804-08, P = 32.722421 Days, E = 121.379904 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.46	4.03	3.99	4.98	5.33	3.09	1.33	2.47	1.48	0.04	-0.95	0.70	0.83	0.44	1.12



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-118 ± 29	$3.03^{+1.81}_{-1.78}$	1129^{+90}_{-86}	5344^{+3346}_{-998}	337^{+1636}_{-215}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

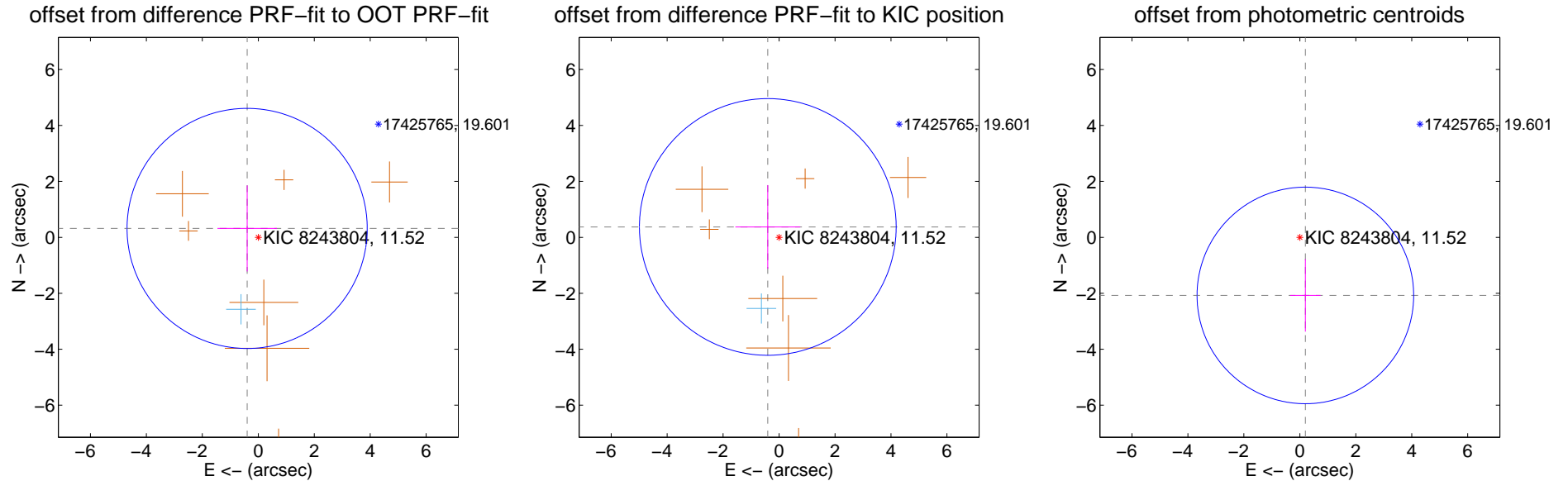
DV Centroid Data

Supplemental centroid analysis for 008243804-08. **Kepler magnitude: 11.52.** Transit SNR 10.15

There are 1 quarters with good PRF difference image offsets

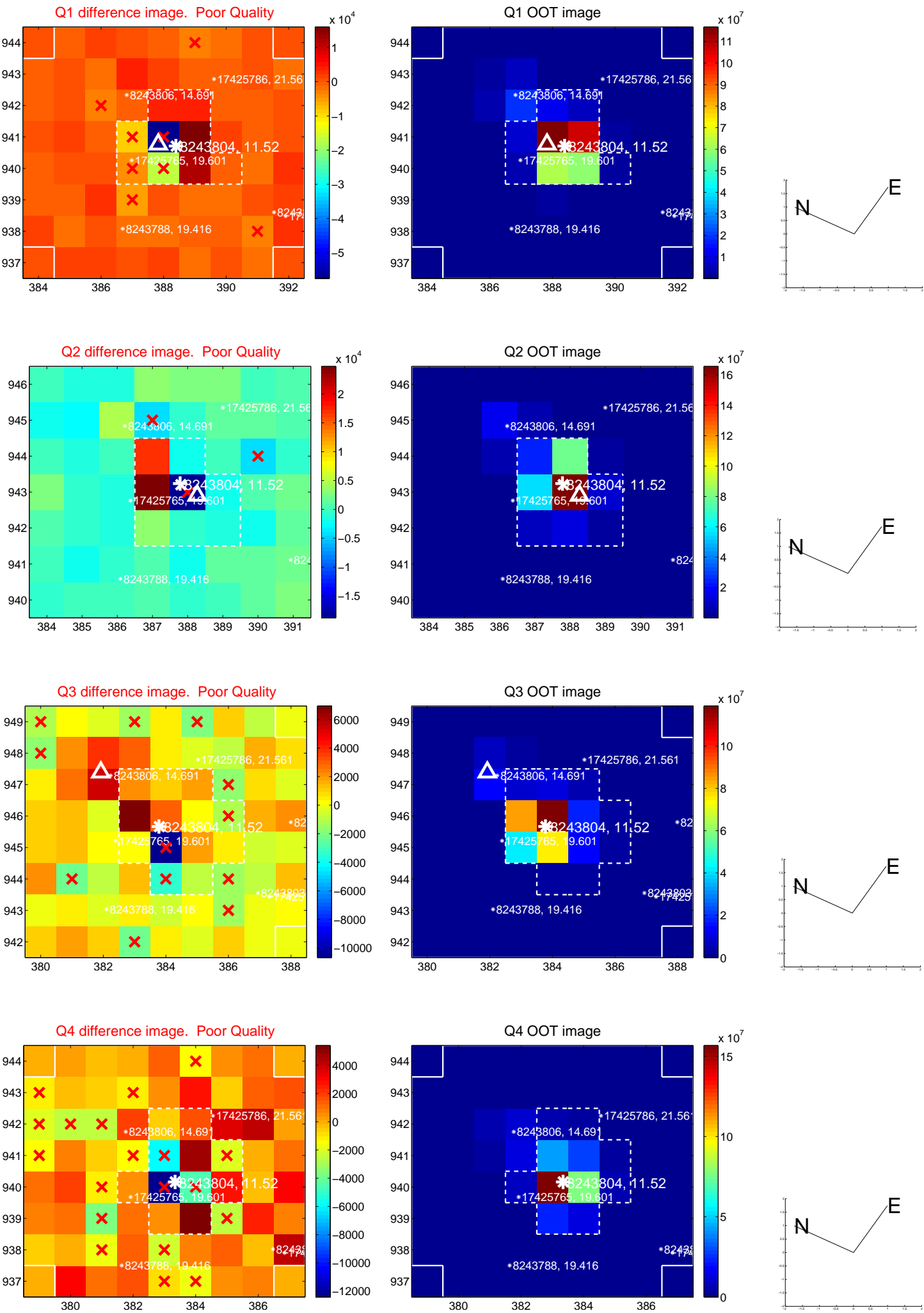
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.510 ± 1.431	0.36	0.399 ± 1.063	0.318 ± 1.537
PRF-fit source offset from KIC position	0.548 ± 1.529	0.36	0.403 ± 1.160	0.371 ± 1.497
photometric centroid source offset	2.09 ± 1.29	1.62	-0.20 ± 0.54	-2.08 ± 1.30

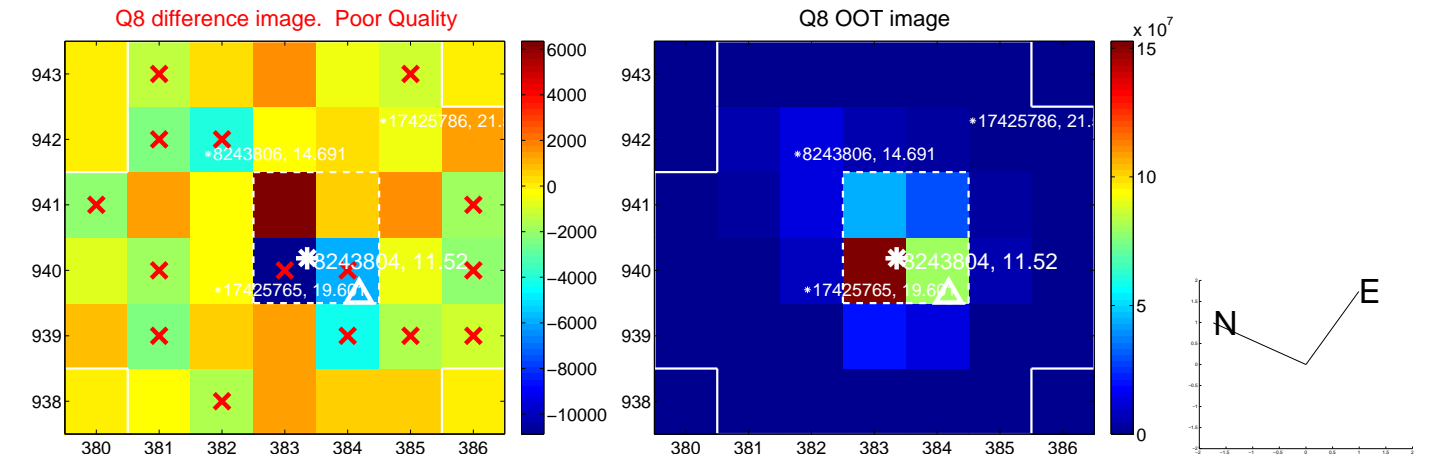
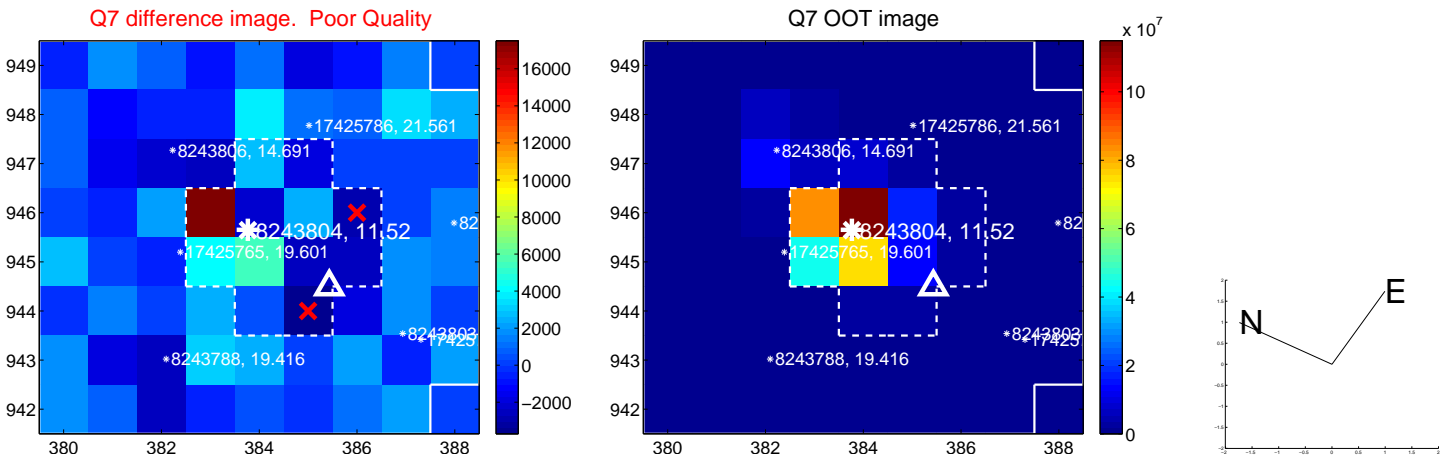
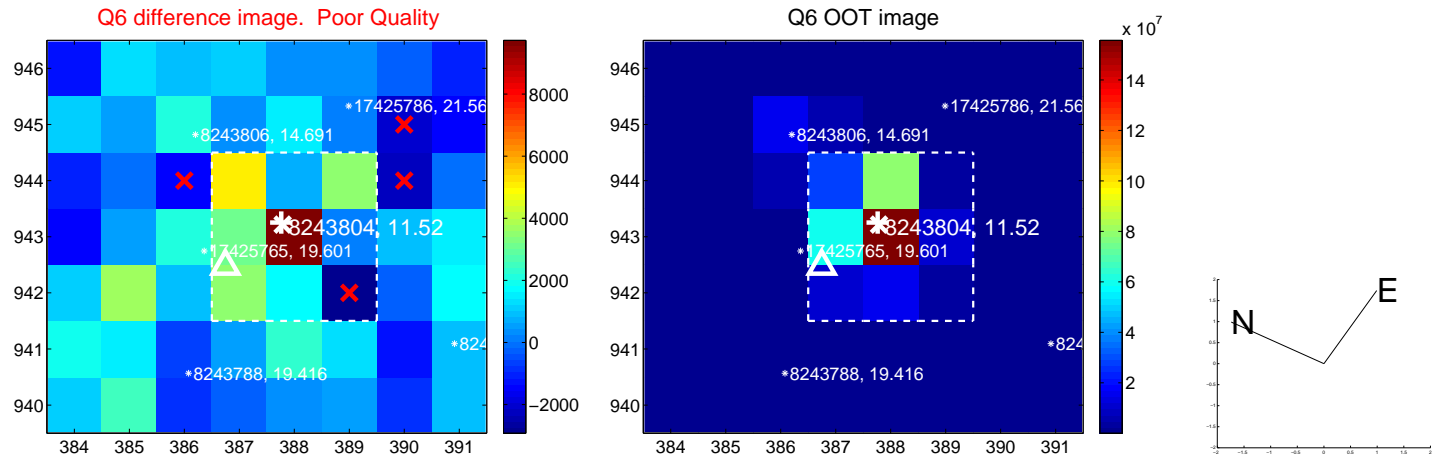
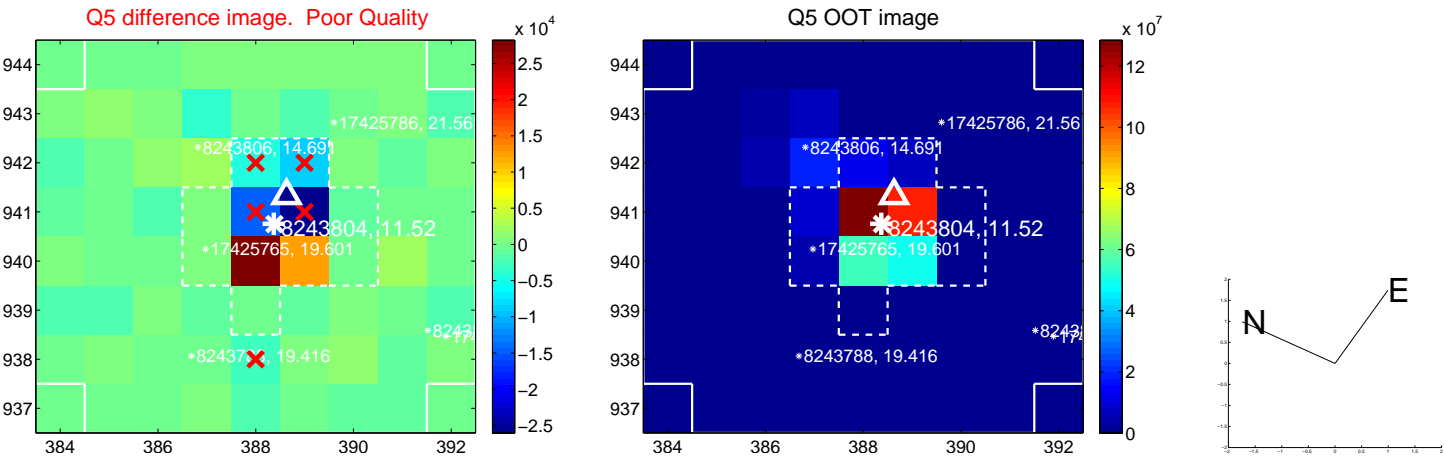


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

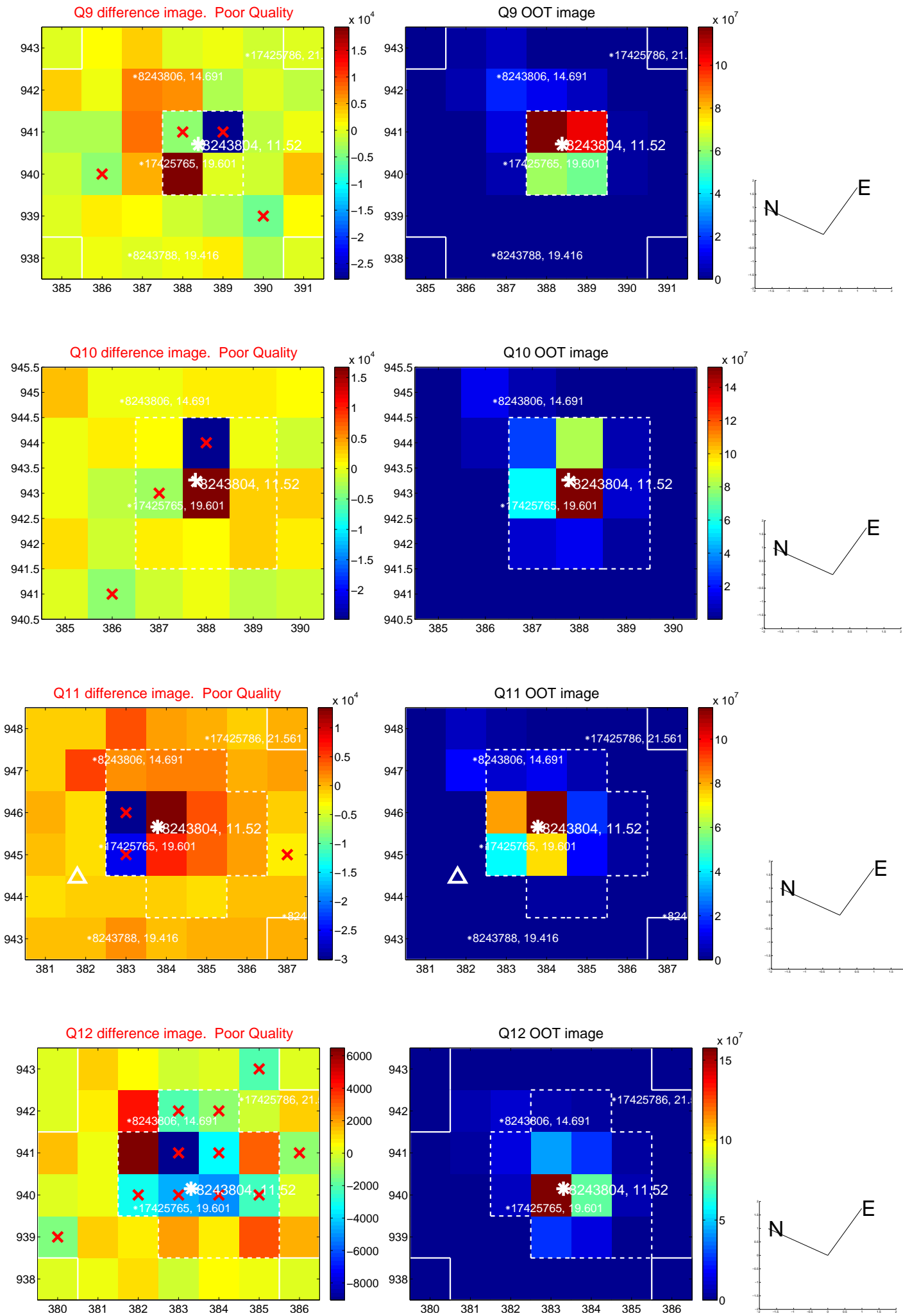
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



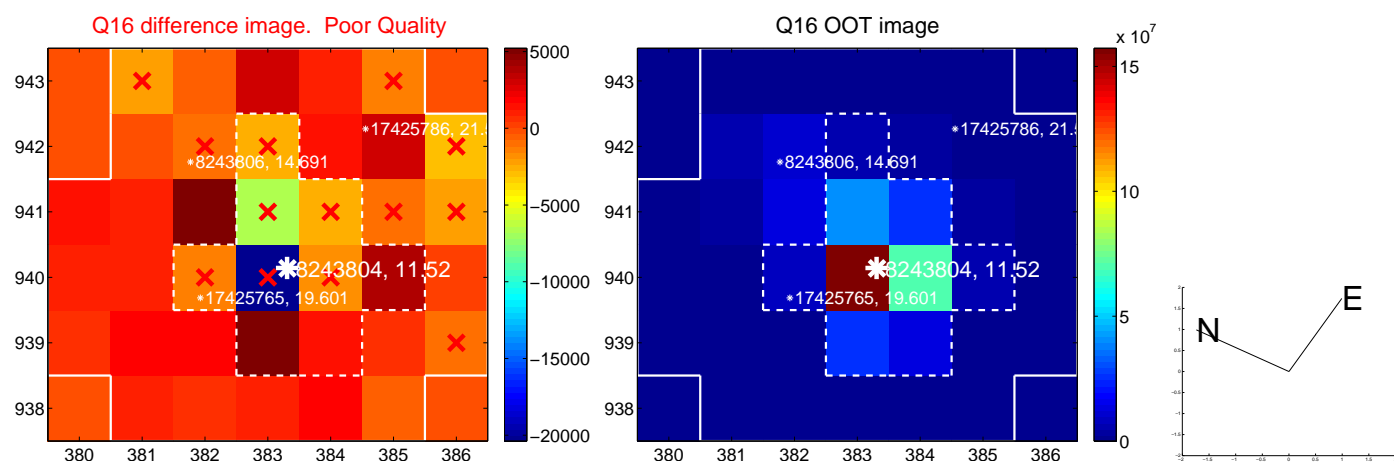
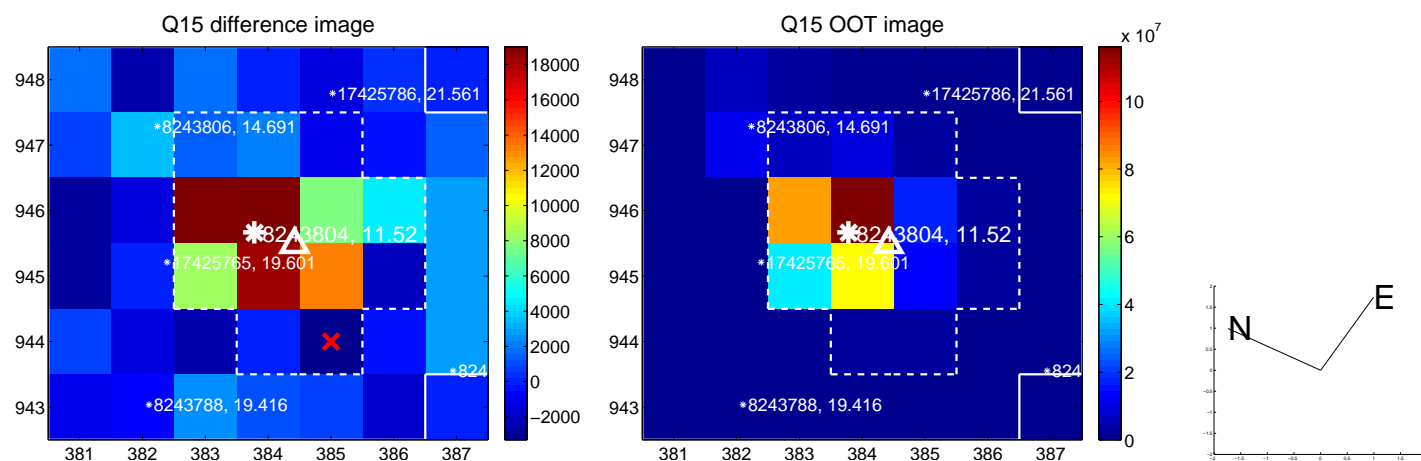
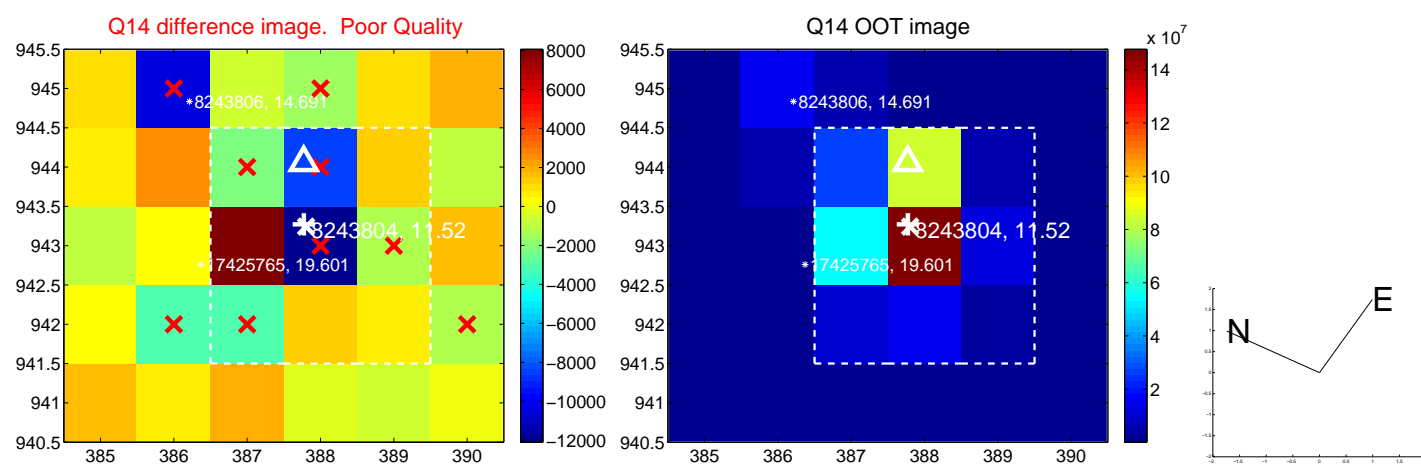
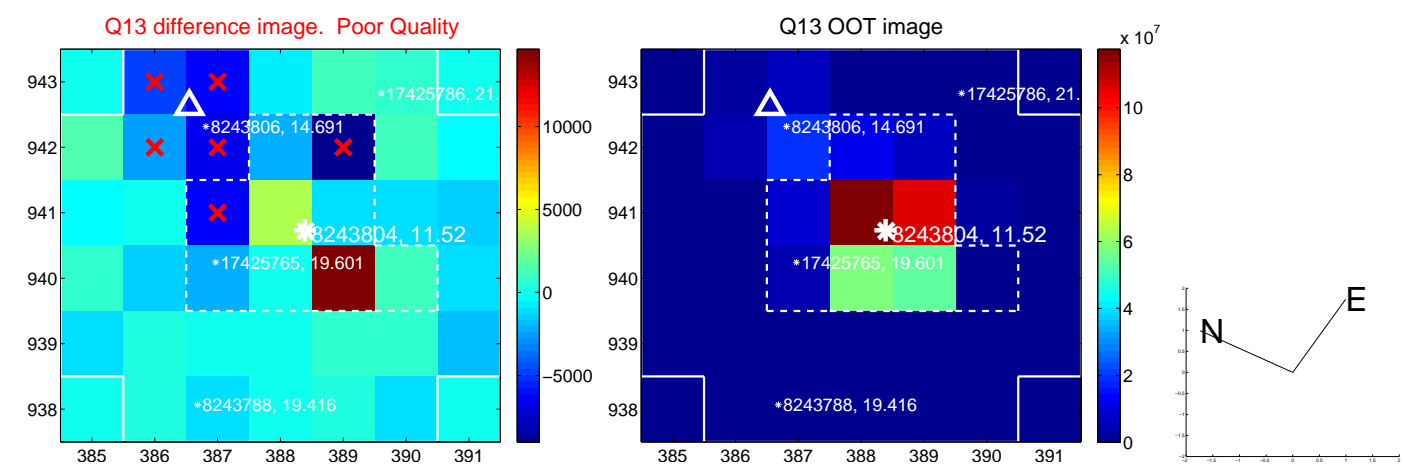
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



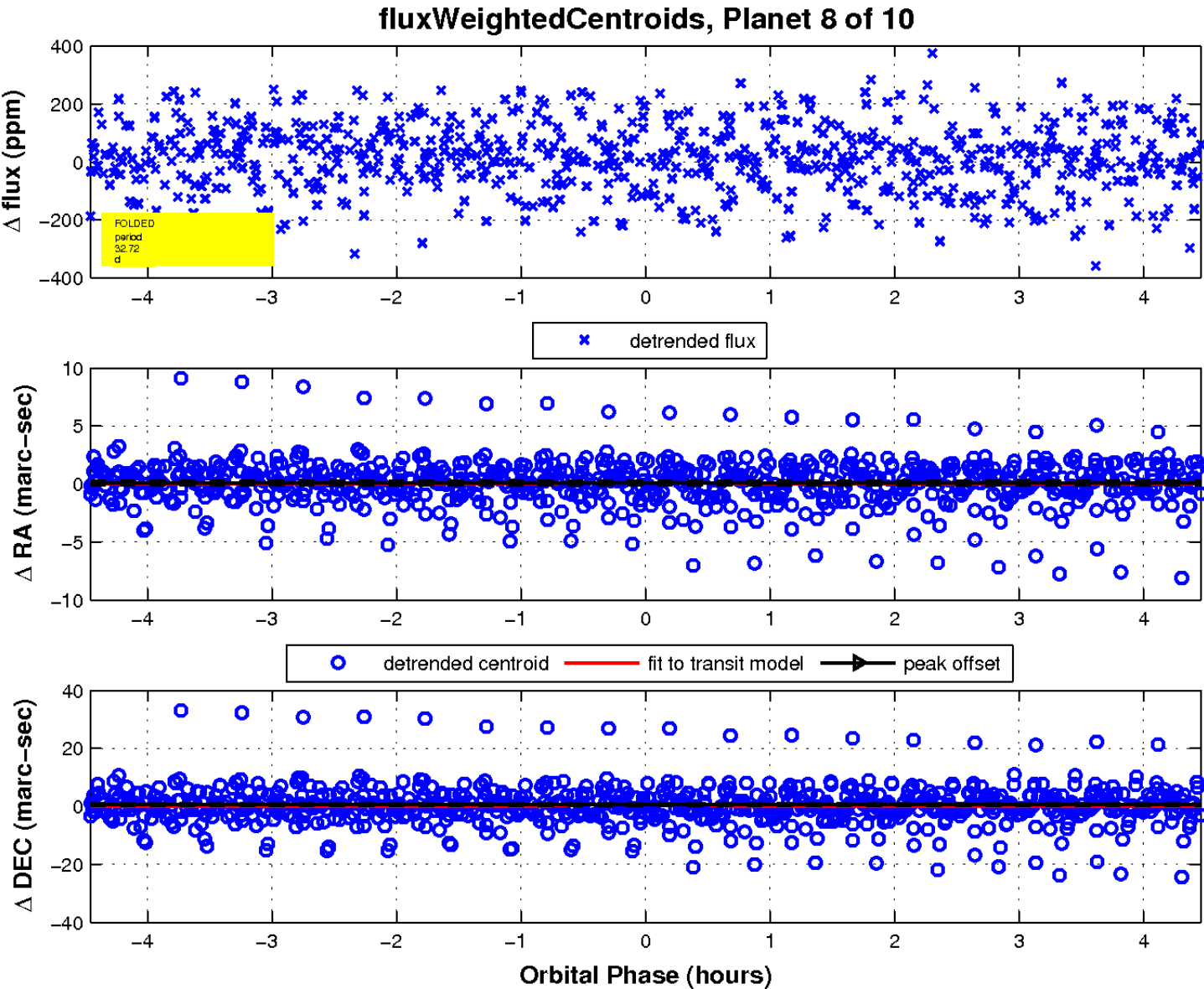
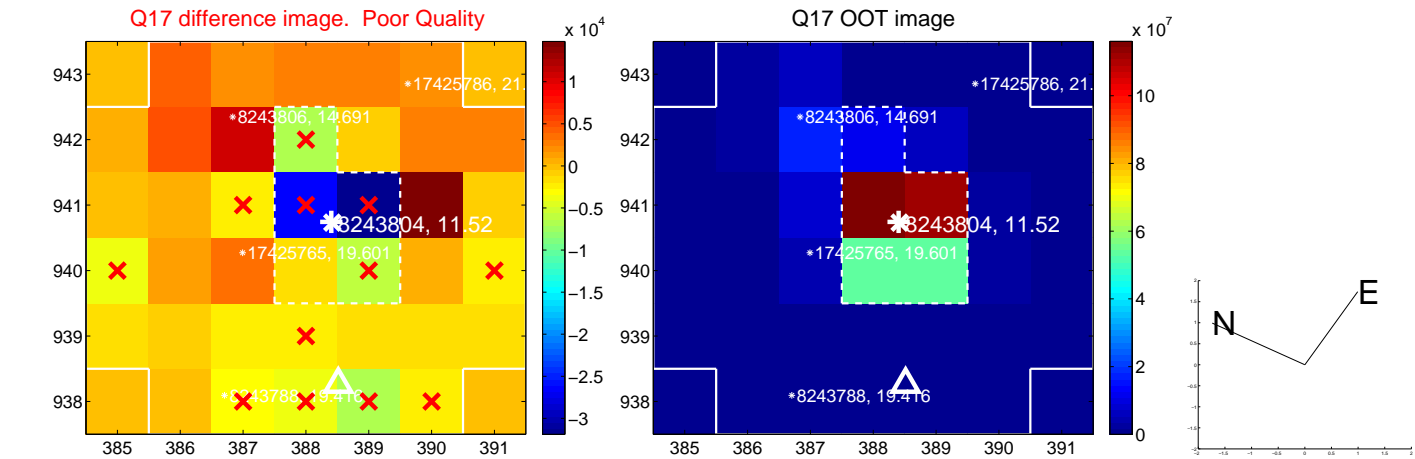
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

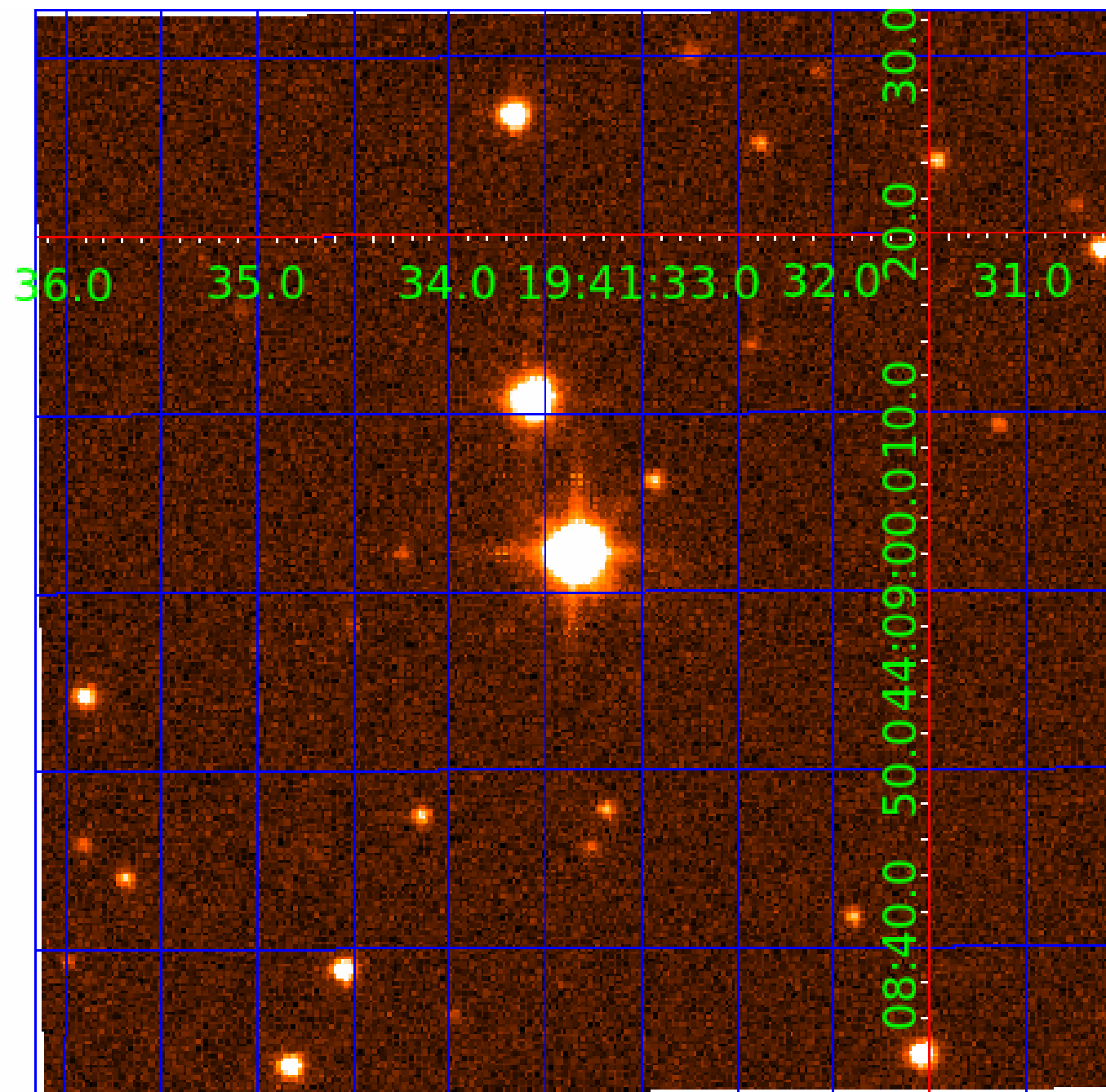


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
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008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

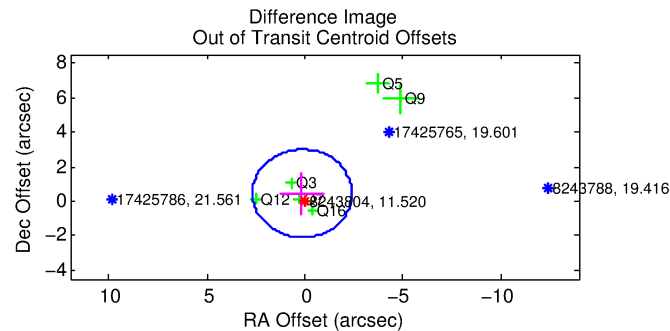
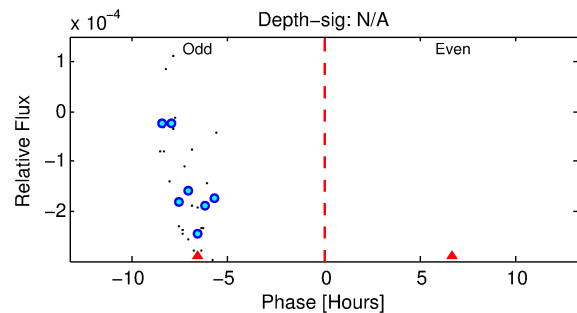
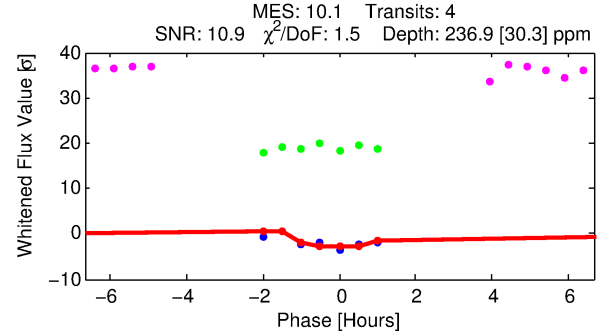
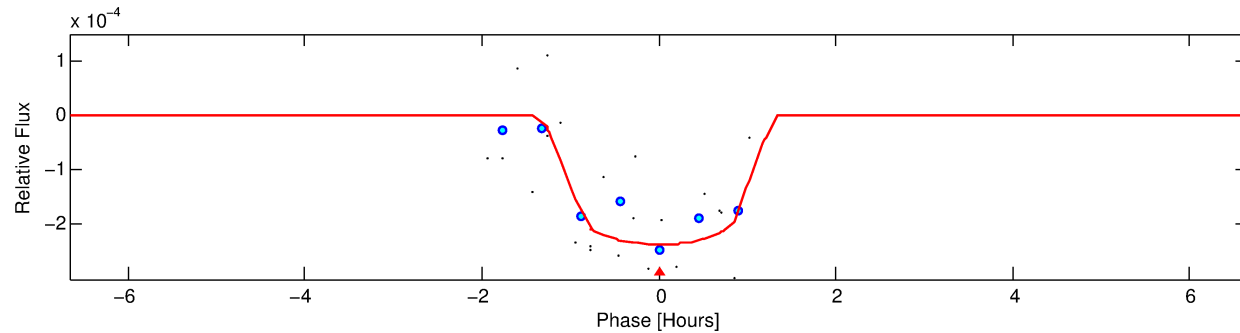
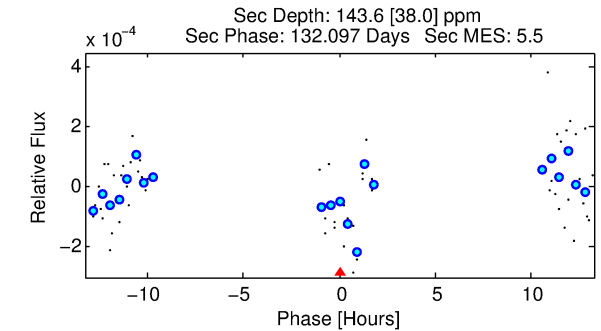
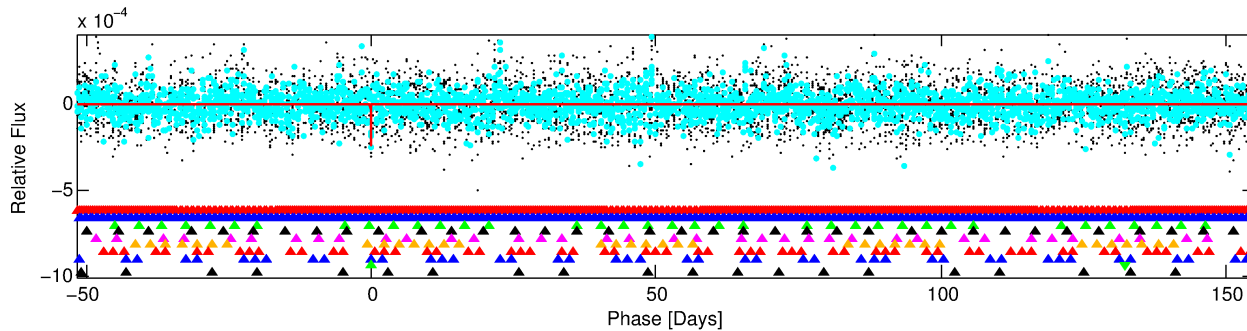
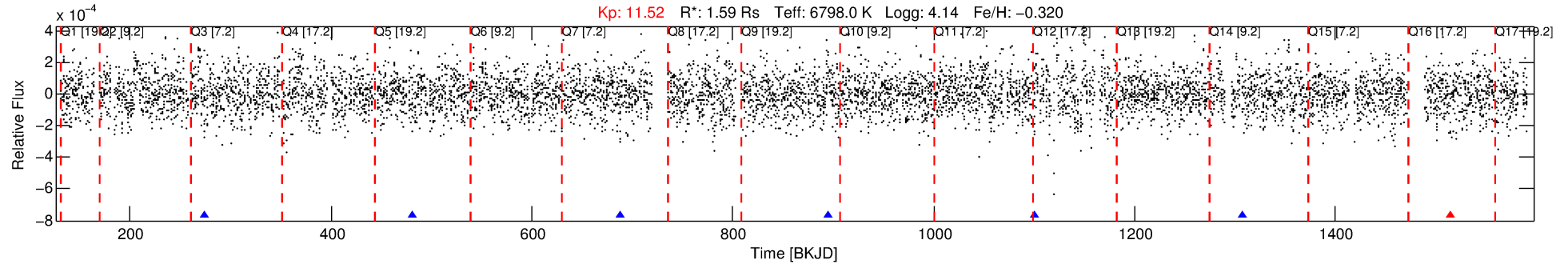
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-09

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 9 of 10 Period: 206.579 d



DV Fit Results:

Period = 206.57947 [0.00199] d
Epoch = 274.6218 [0.0083] BKJD
Rp/R* = 0.0144 [0.0125]
a/R* = 690.09 [3323.80]
b = 0.29 [15.05]
Seff = 8.78 [3.42]
Teq = 439 [43] K
Rp = 2.49 [2.28] Re
a = 0.7416 [0.1814] AU
Ag = 7007.11 [12555.23] [0.56] σ
Teffp = 6210 [2740] K [2.11] σ

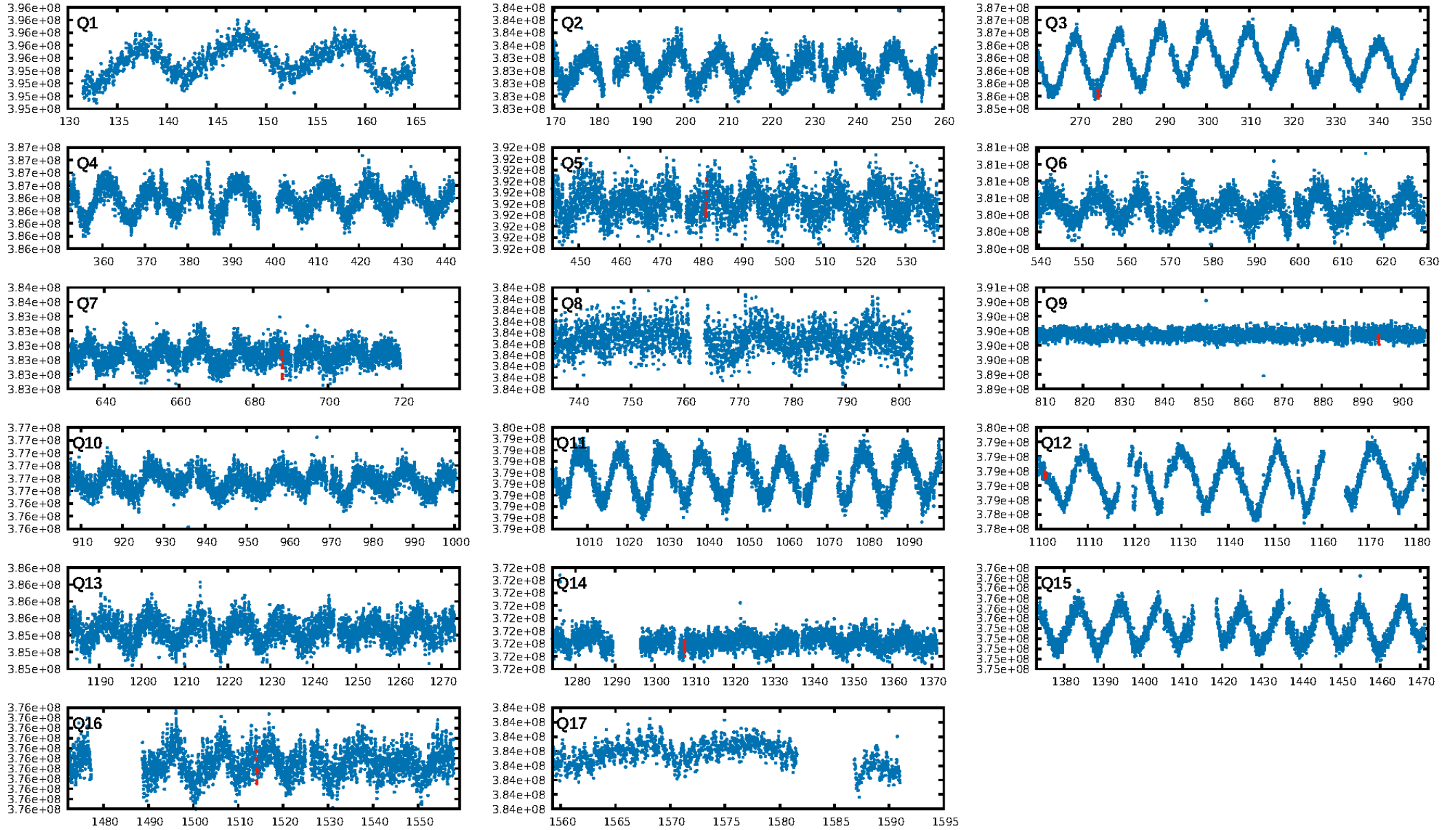
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [607.83] σ
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.1%
ModelChiSquareGof-sig: 61.1%
Bootstrap-pfa: 3.69e-09
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: -1.608
Centroid-sig: 4.4%
Centroid-so: 3.172 arcsec [1.23] σ
OotOffset-rm: 0.472 arcsec [0.56] σ
OotOffset-st: 0/2/2/2 [6]
KicOffset-rm: 0.509 arcsec [0.61] σ
KicOffset-st: 0/2/2/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/7]

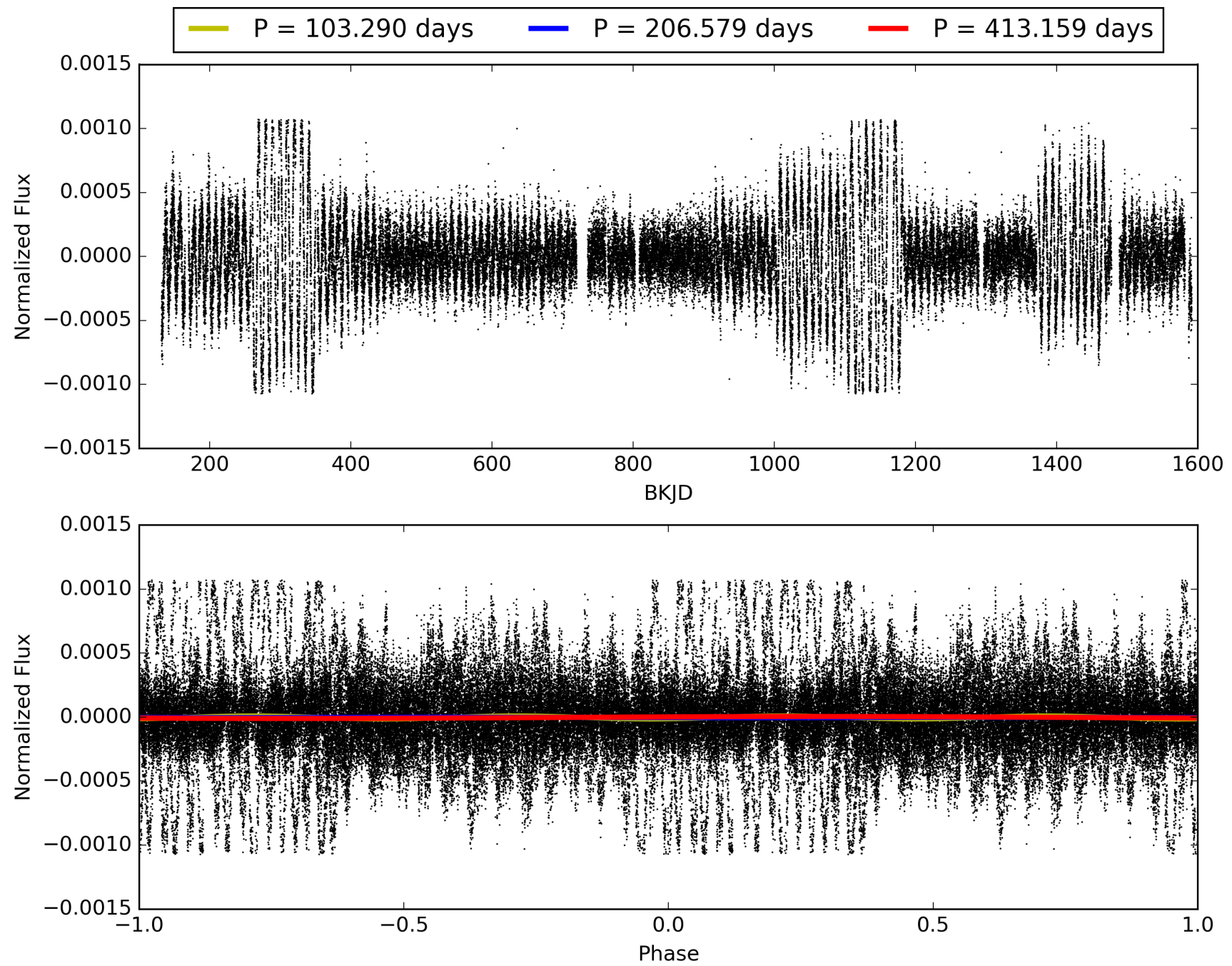
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:47 Z

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

TCE 008243804-09, PDC Light Curves

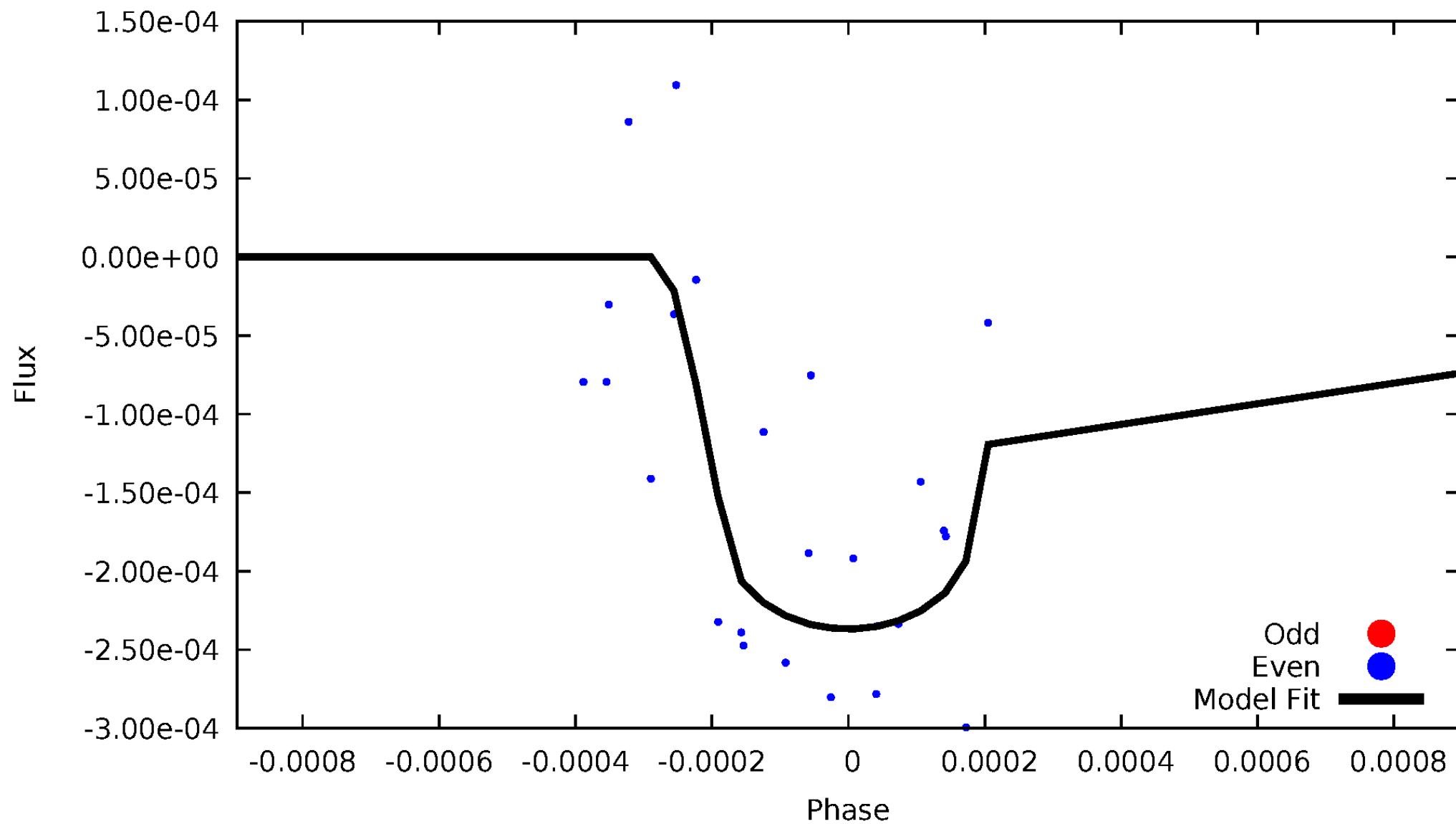


TCE 008243804-09



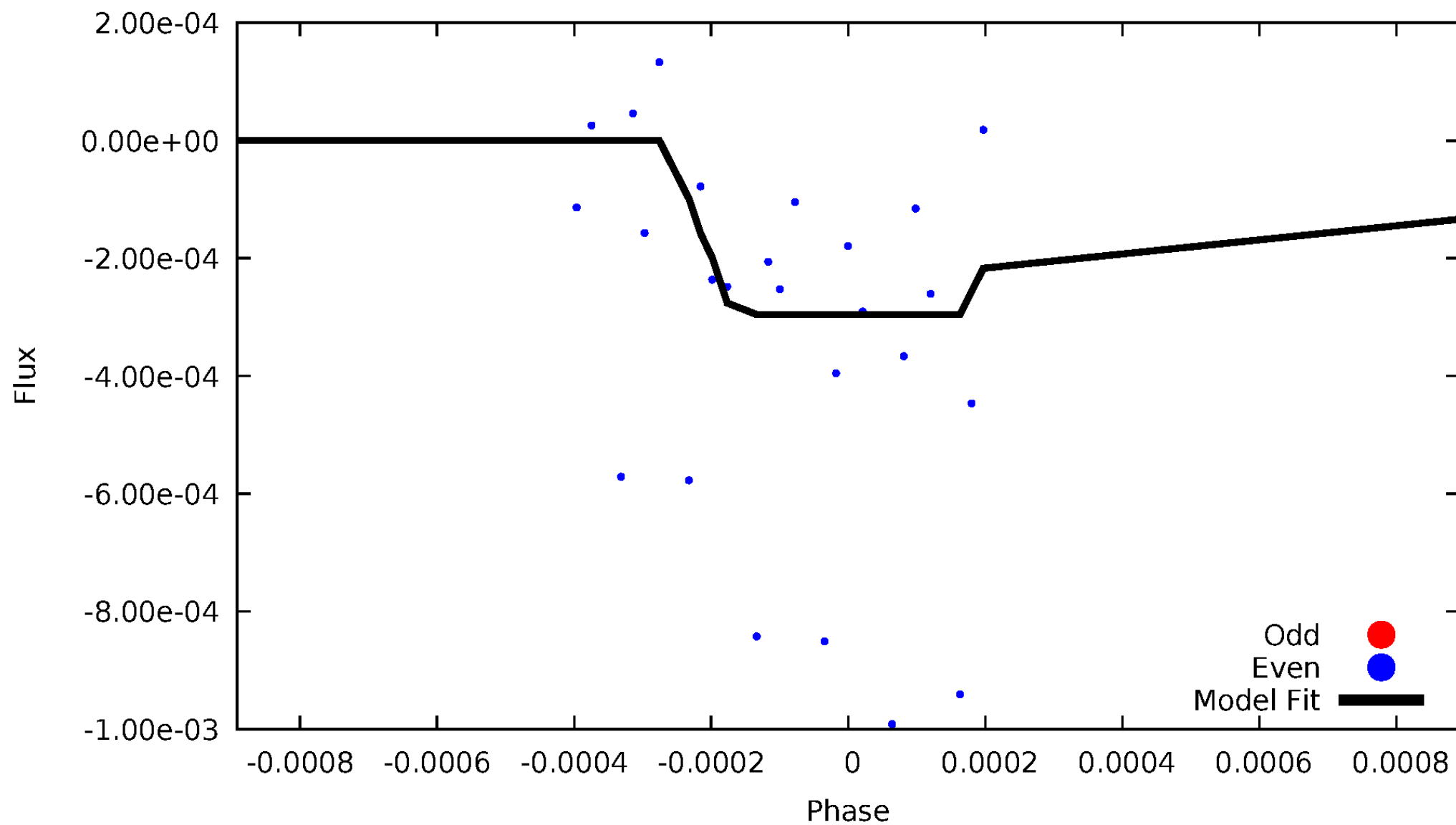
DV Odd/Even

TCE 008243804-09



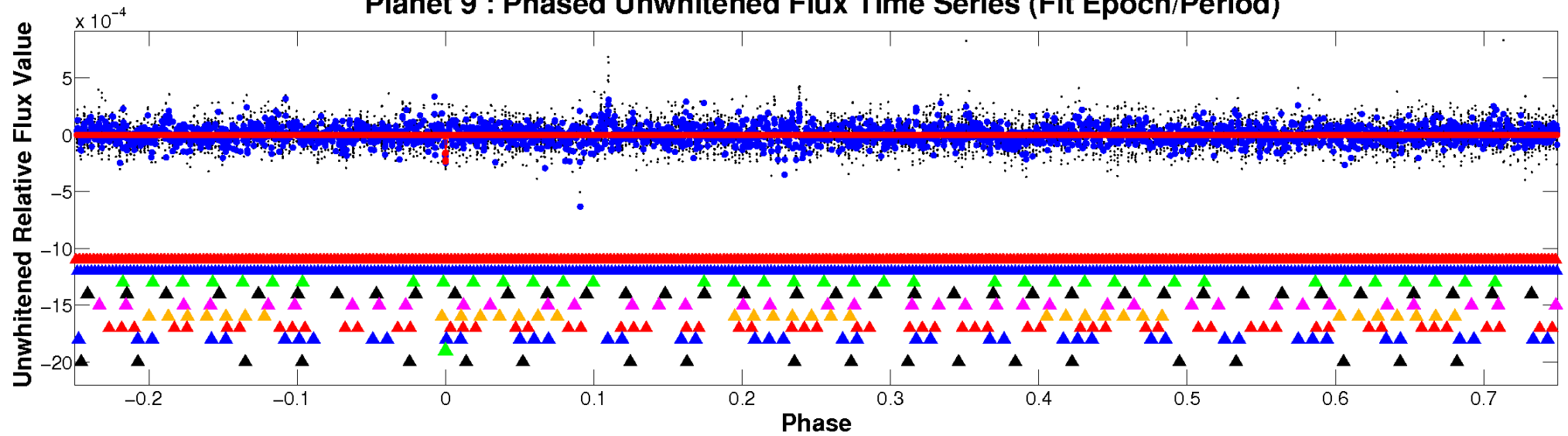
ALT Odd/Even

TCE 008243804-09

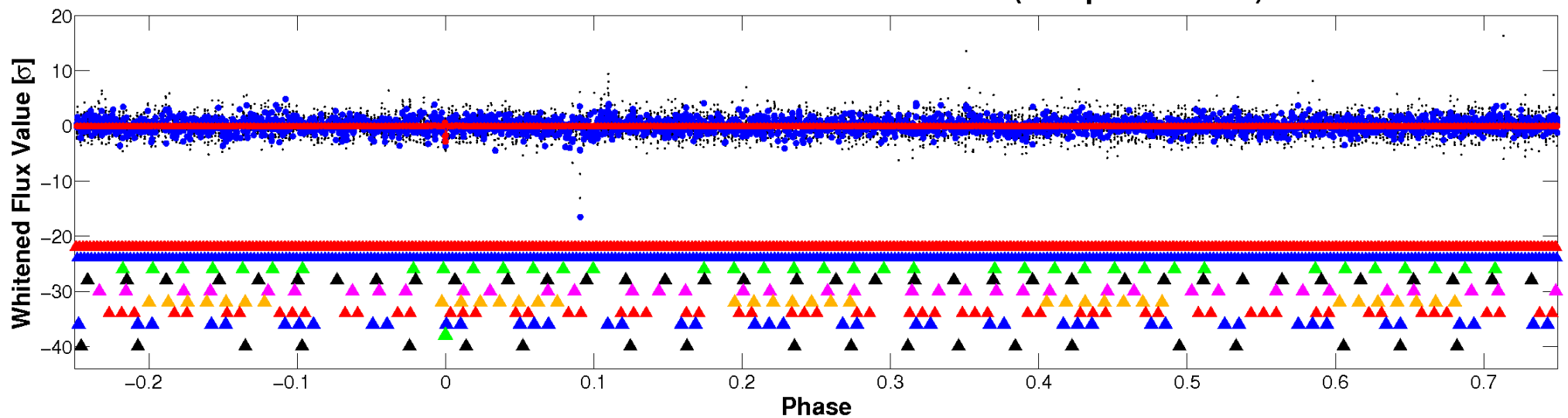


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

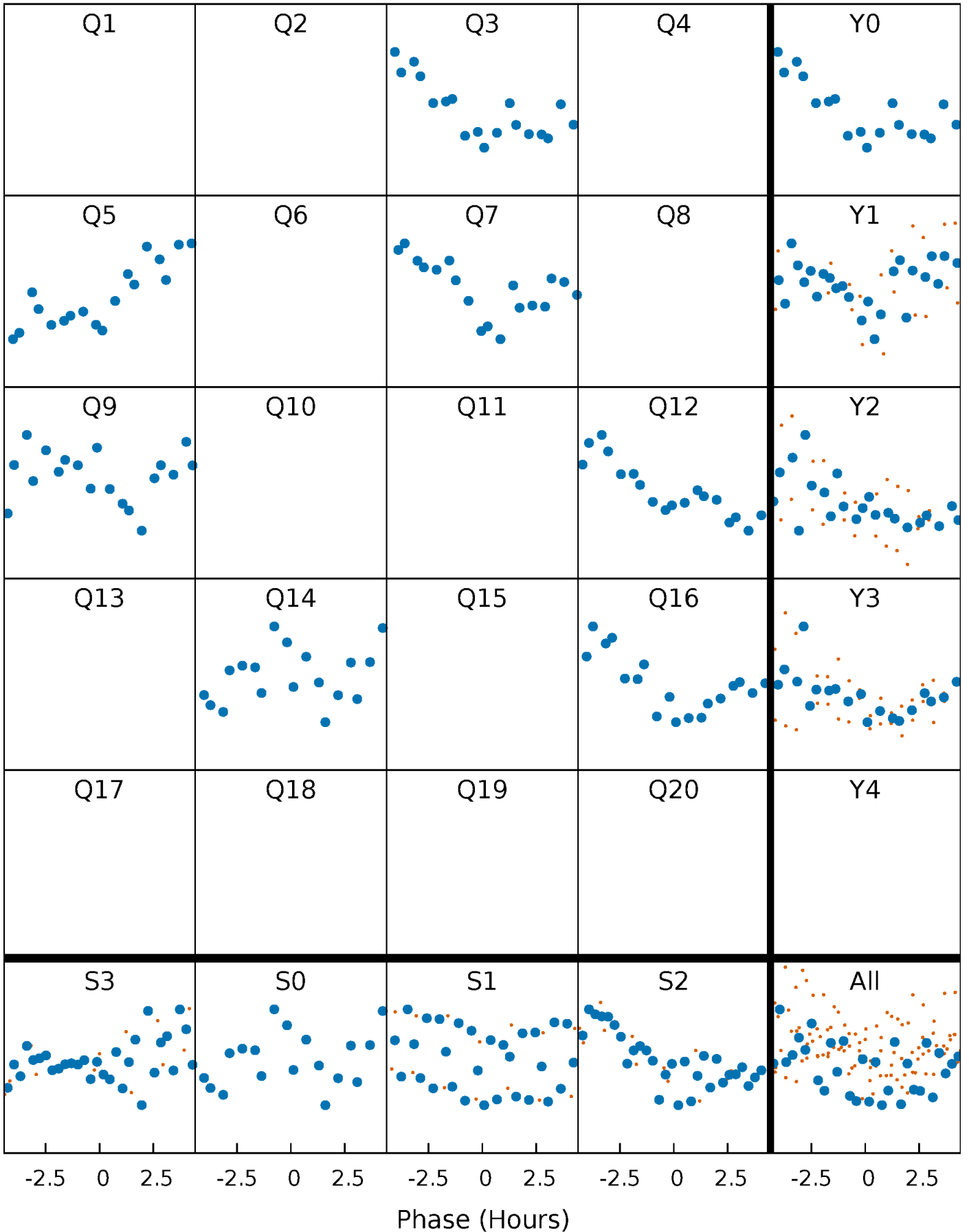


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



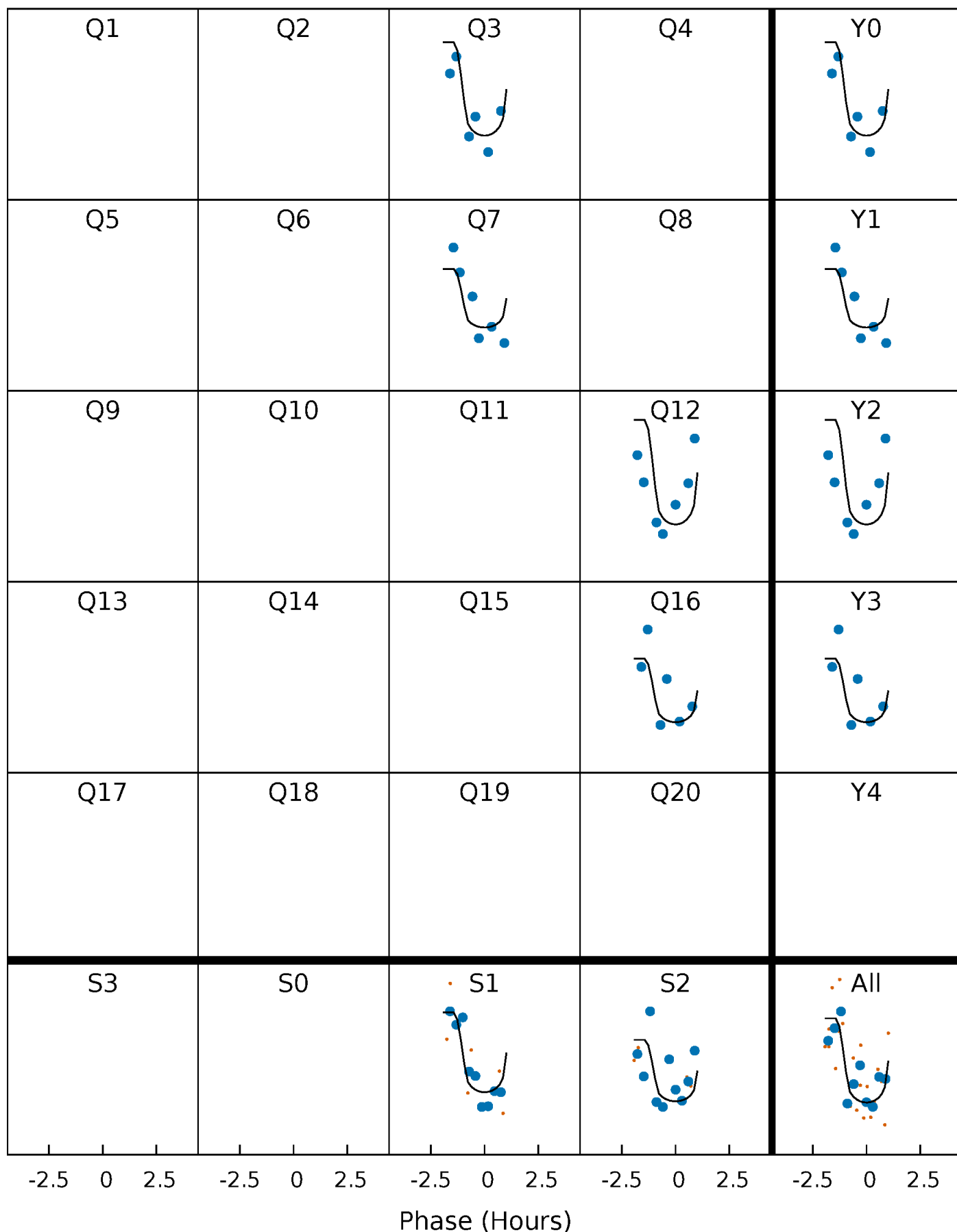
PDC Quarter-Phased Transit Curves

TCE 008243804-09 P=206.579467 Days $T_0=274.621831$ (BKJD)



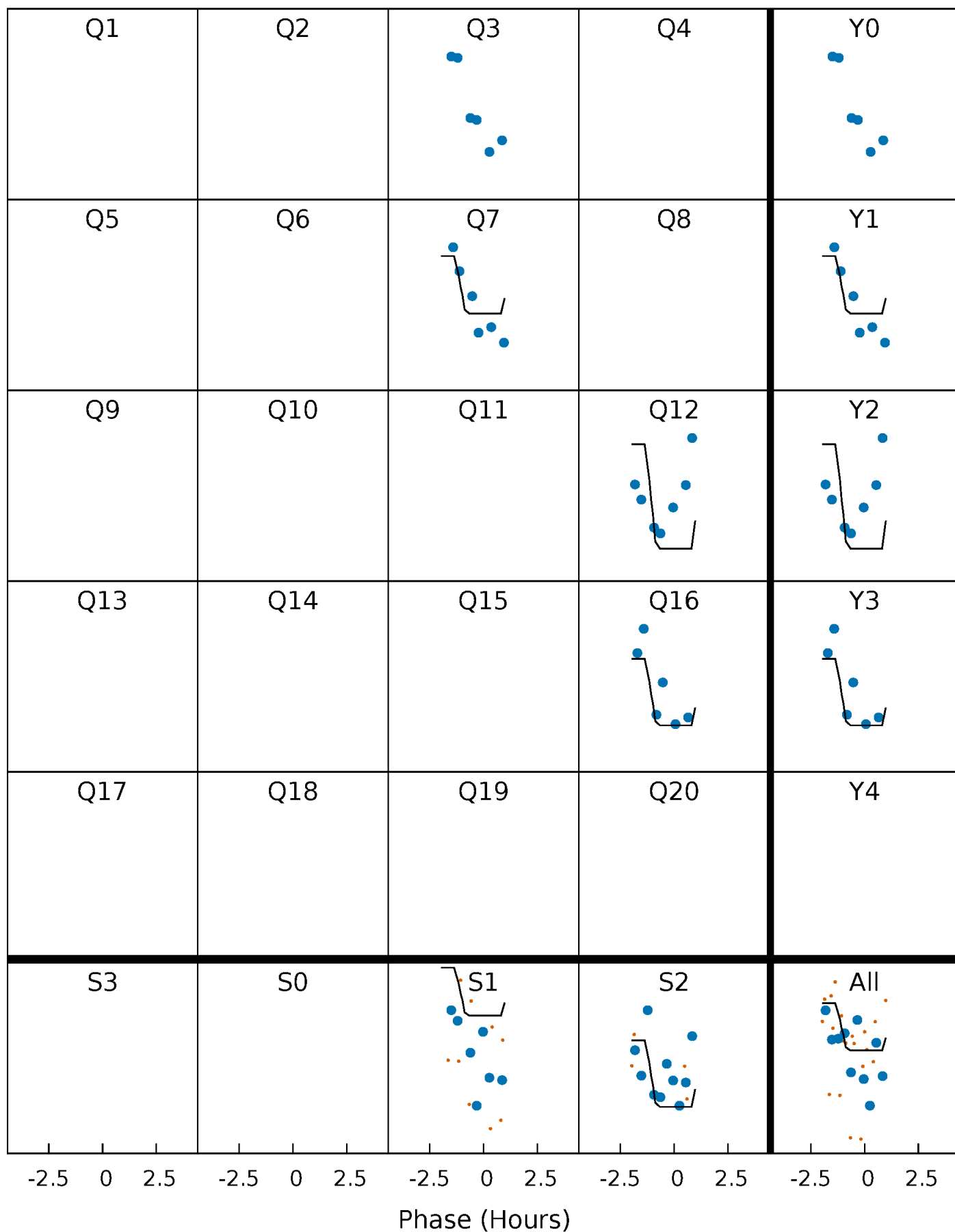
DV Quarter-Phased Transit Curves

TCE 008243804-09 P=206.579467 Days $T_0=274.621831$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

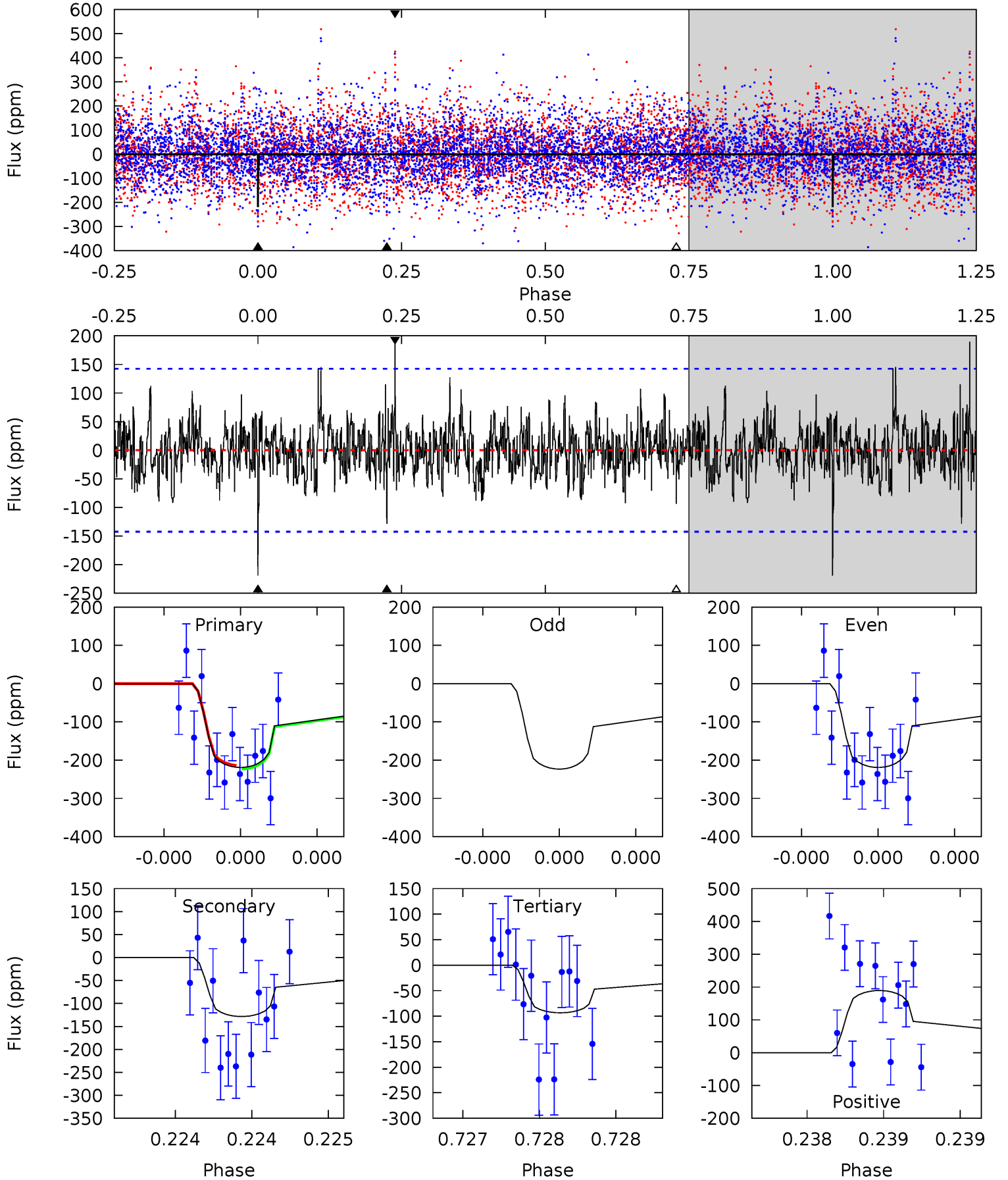
TCE 008243804-09 P=206.581056 Days $T_0=274.617093$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-09, P = 206.579467 Days, E = 68.042364 Days

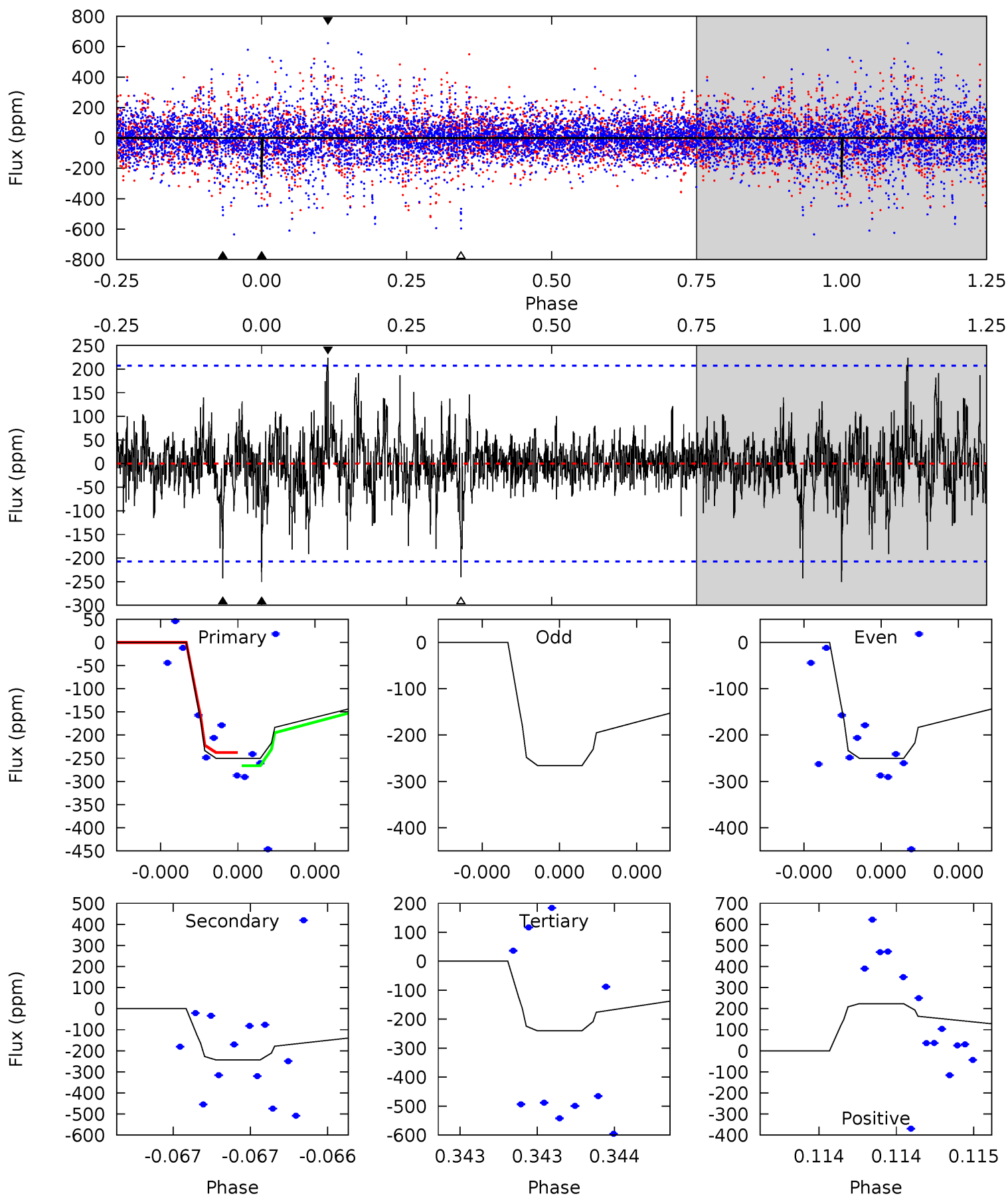
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.59	5.04	3.66	7.43	5.59	3.50	1.40	4.94	1.17	1.38	-2.39	0.09	0.98	0.46	0.18



Alt Model-Shift Uniqueness Test

008243804-09, P = 206.581056 Days, E = 68.036037 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.77	6.57	6.50	6.05	5.61	3.53	1.27	0.27	0.72	0.08	0.53	0.20	1.46	0.47	0.37



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-09 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-128 ± 25	$2.84^{+2.09}_{-1.64}$	610^{+50}_{-45}	5520^{+3586}_{-1089}	4689^{+20967}_{-3167}
Alt.	-243 ± 37	$3.34^{+2.34}_{-1.81}$	613^{+51}_{-48}	6105^{+3626}_{-1293}	6461^{+28023}_{-4252}

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 $A_{obs} \gg 1.0$

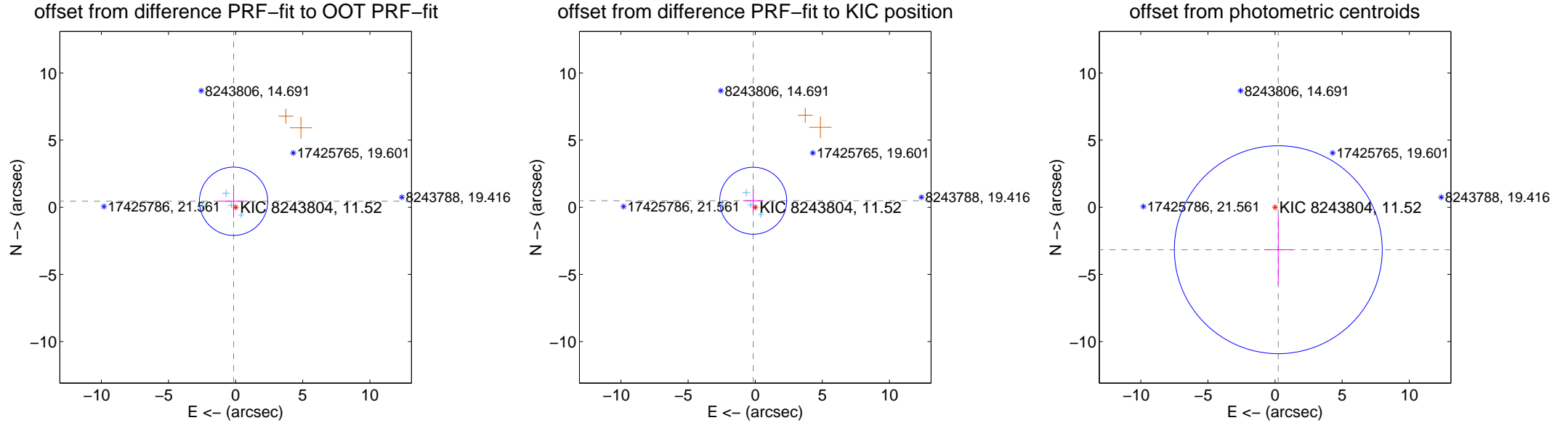
DV Centroid Data

Supplemental centroid analysis for 008243804-09. **Kepler magnitude: 11.52**. Transit SNR 10.89

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.472 ± 0.848	0.56	0.154 ± 1.065	0.447 ± 1.214
PRF-fit source offset from KIC position	0.509 ± 0.832	0.61	0.151 ± 0.745	0.486 ± 0.840
photometric centroid source offset	3.17 ± 2.58	1.23	-0.24 ± 1.04	-3.16 ± 2.59



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



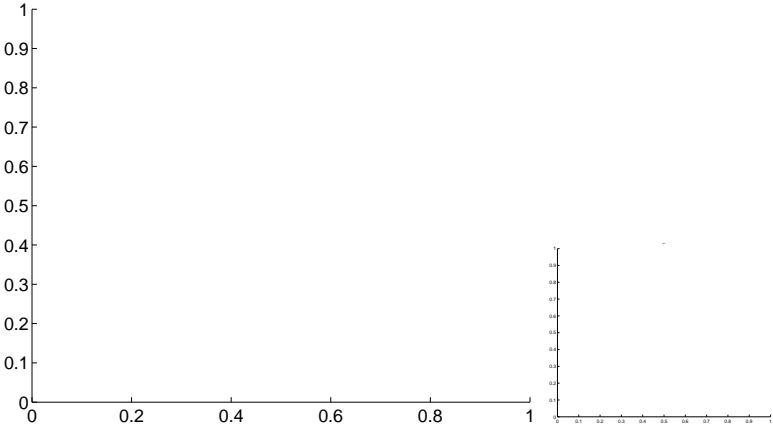
Q1 no OOT image



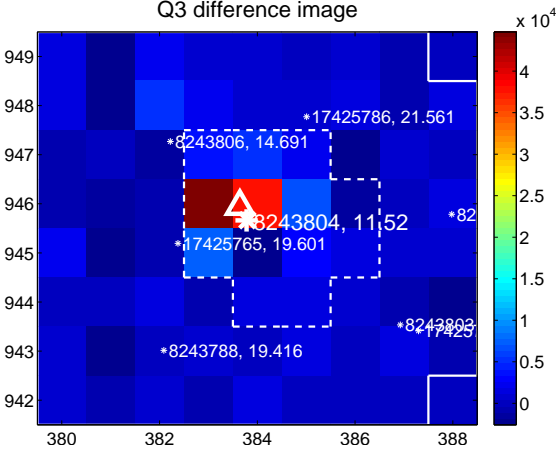
Q2 no difference image



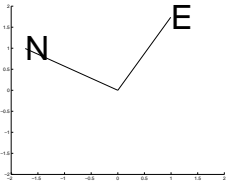
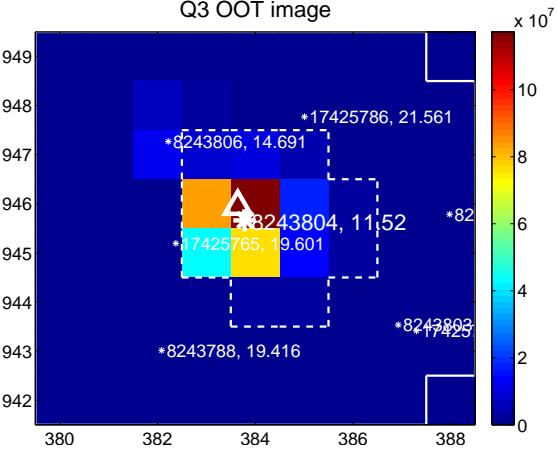
Q2 no OOT image



Q3 difference image



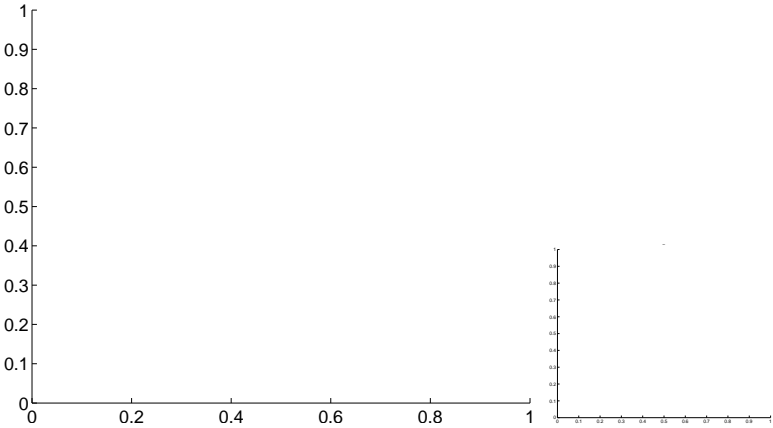
Q3 OOT image



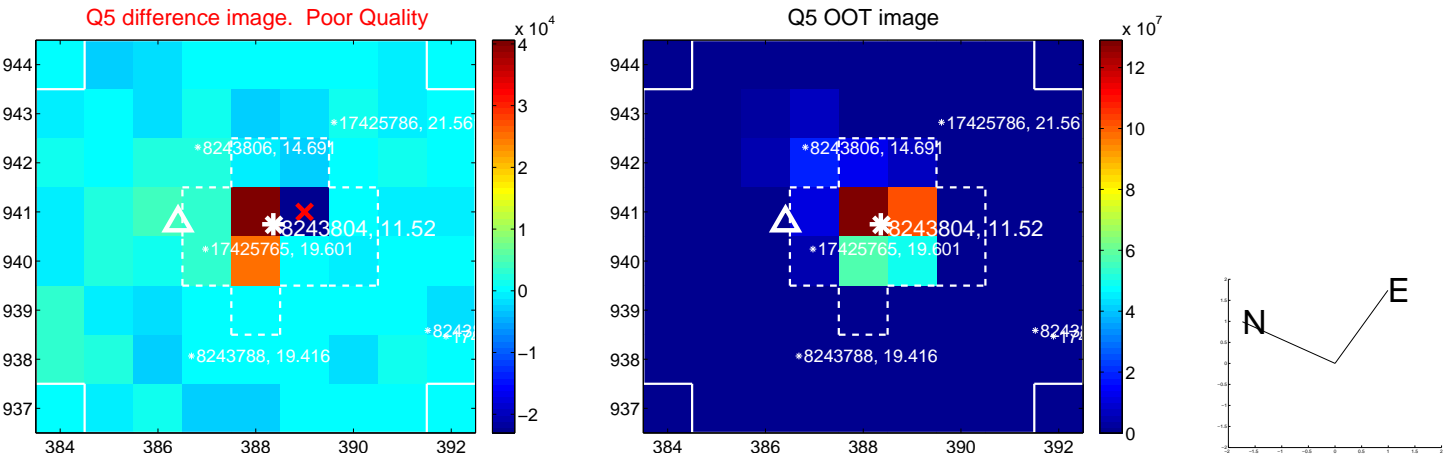
Q4 no difference image



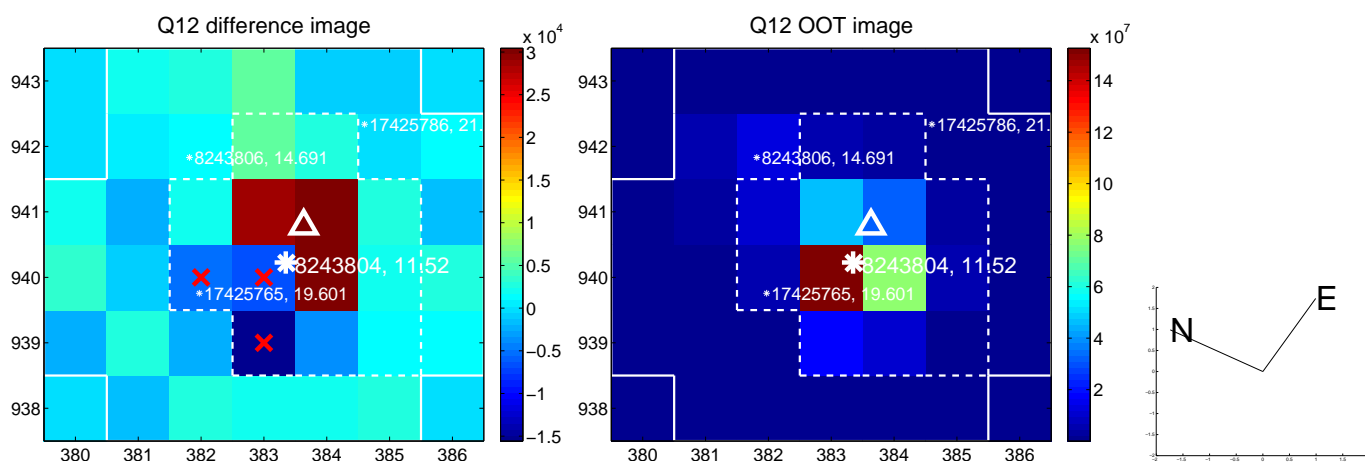
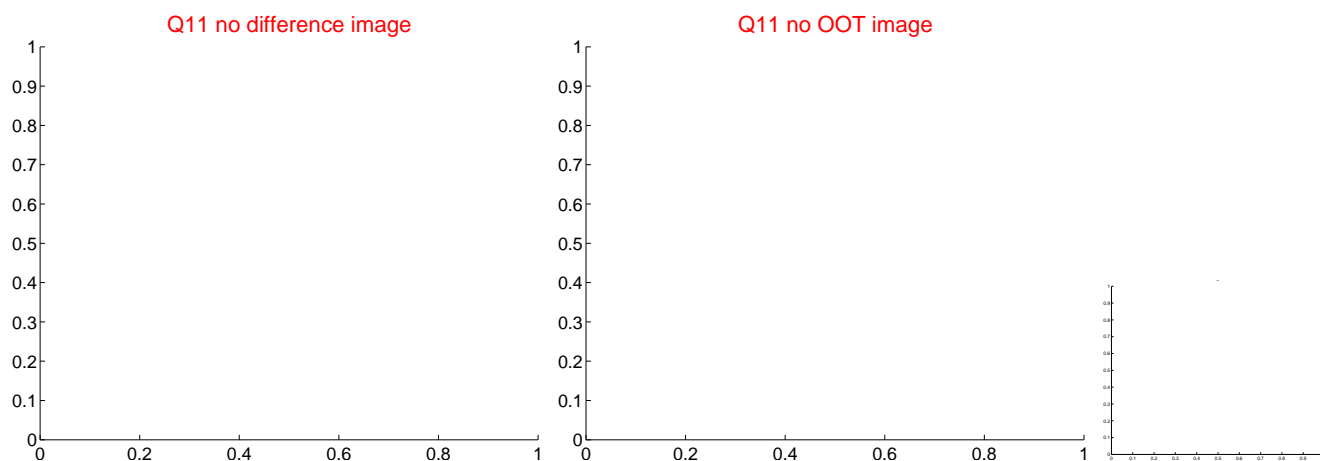
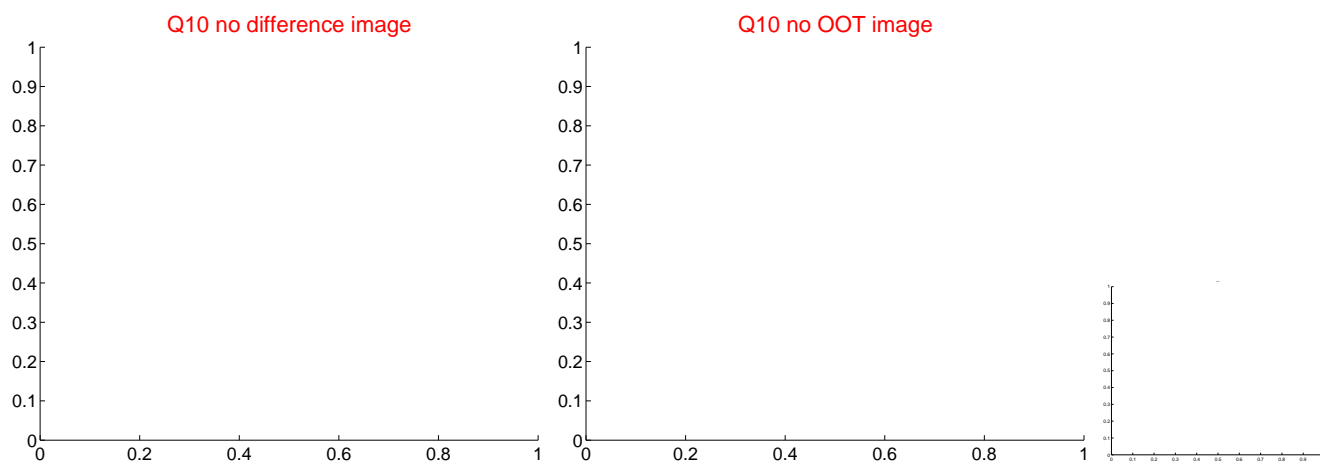
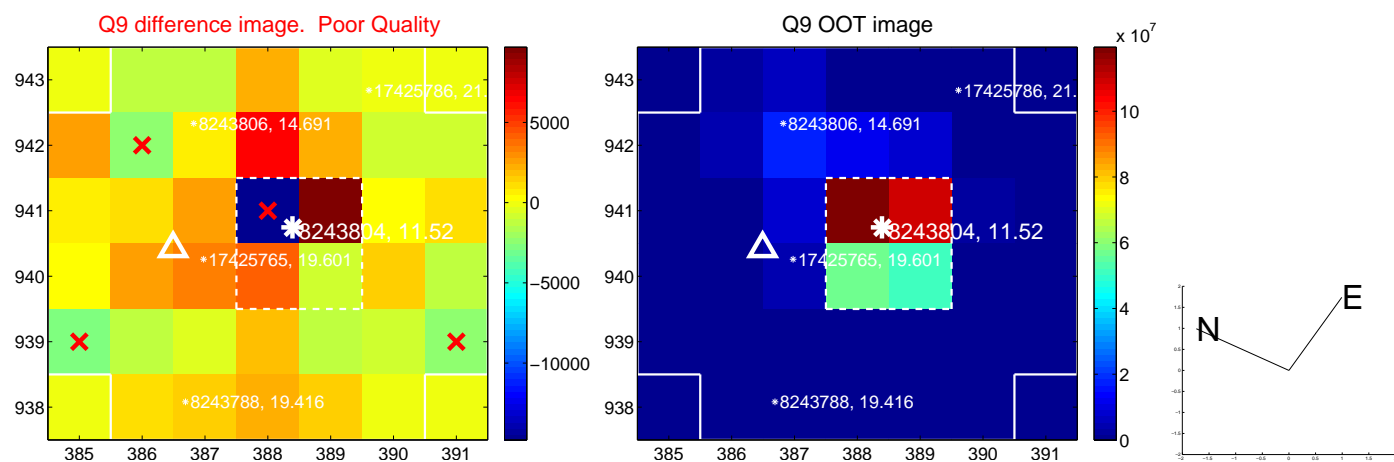
Q4 no OOT image



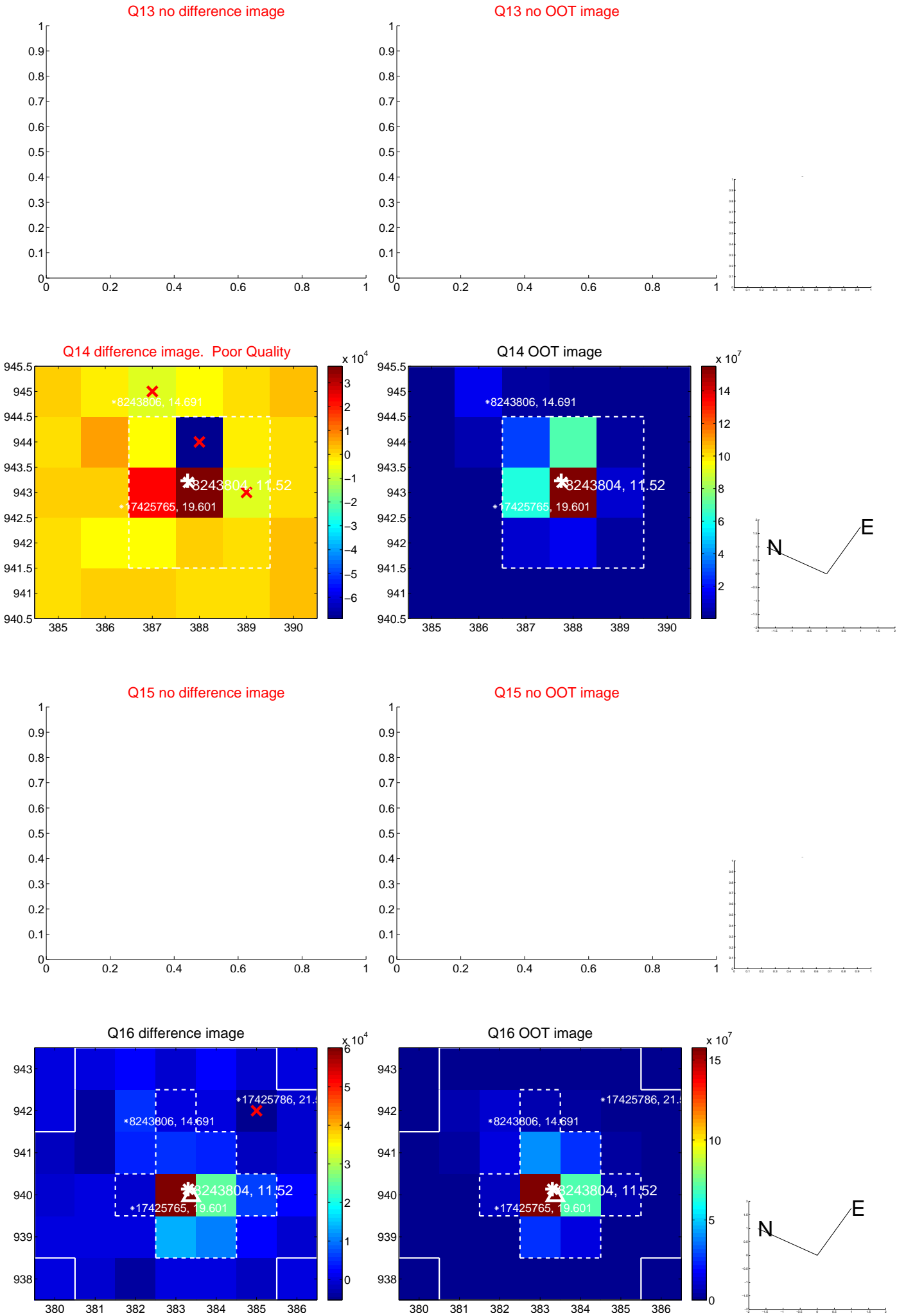
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



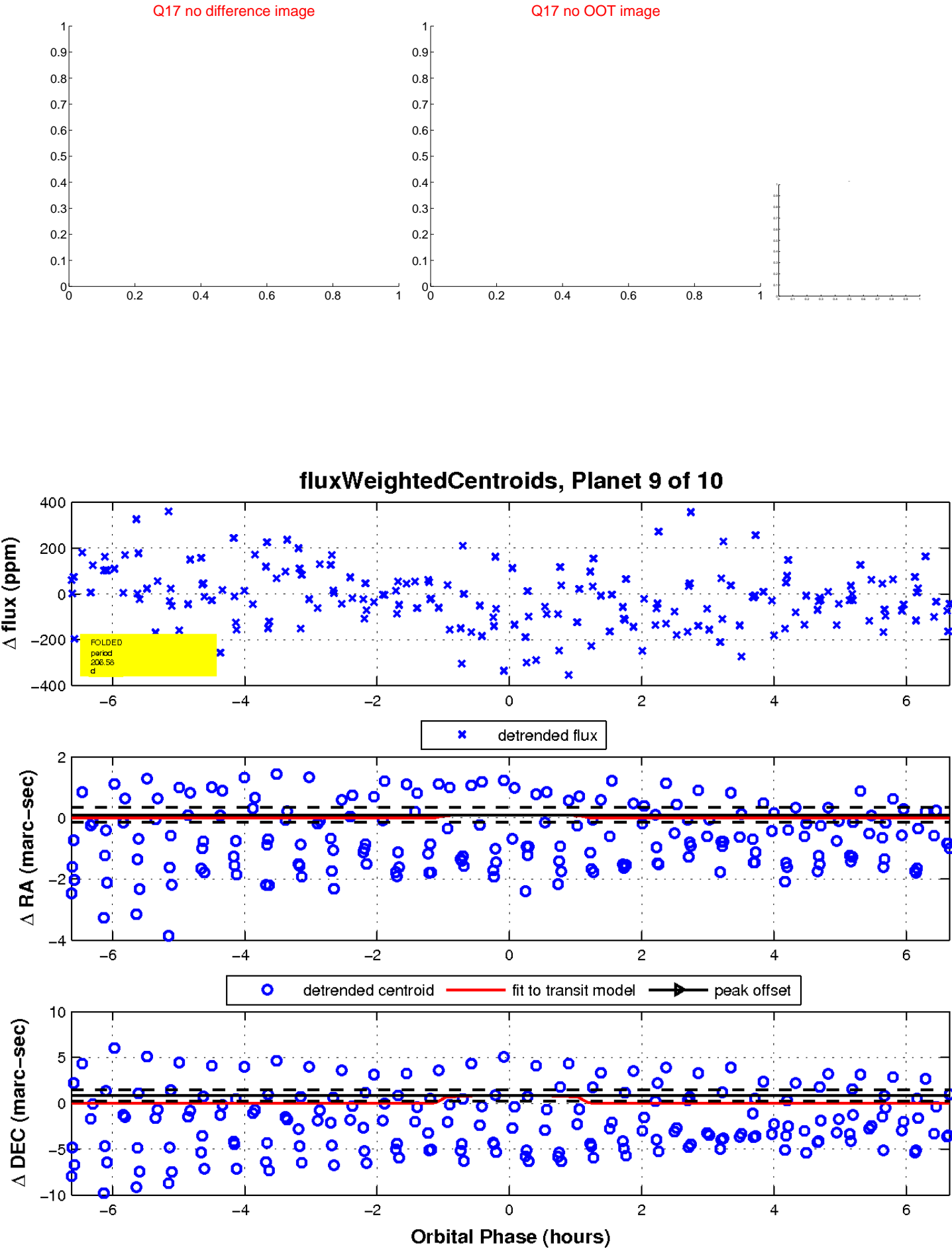
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



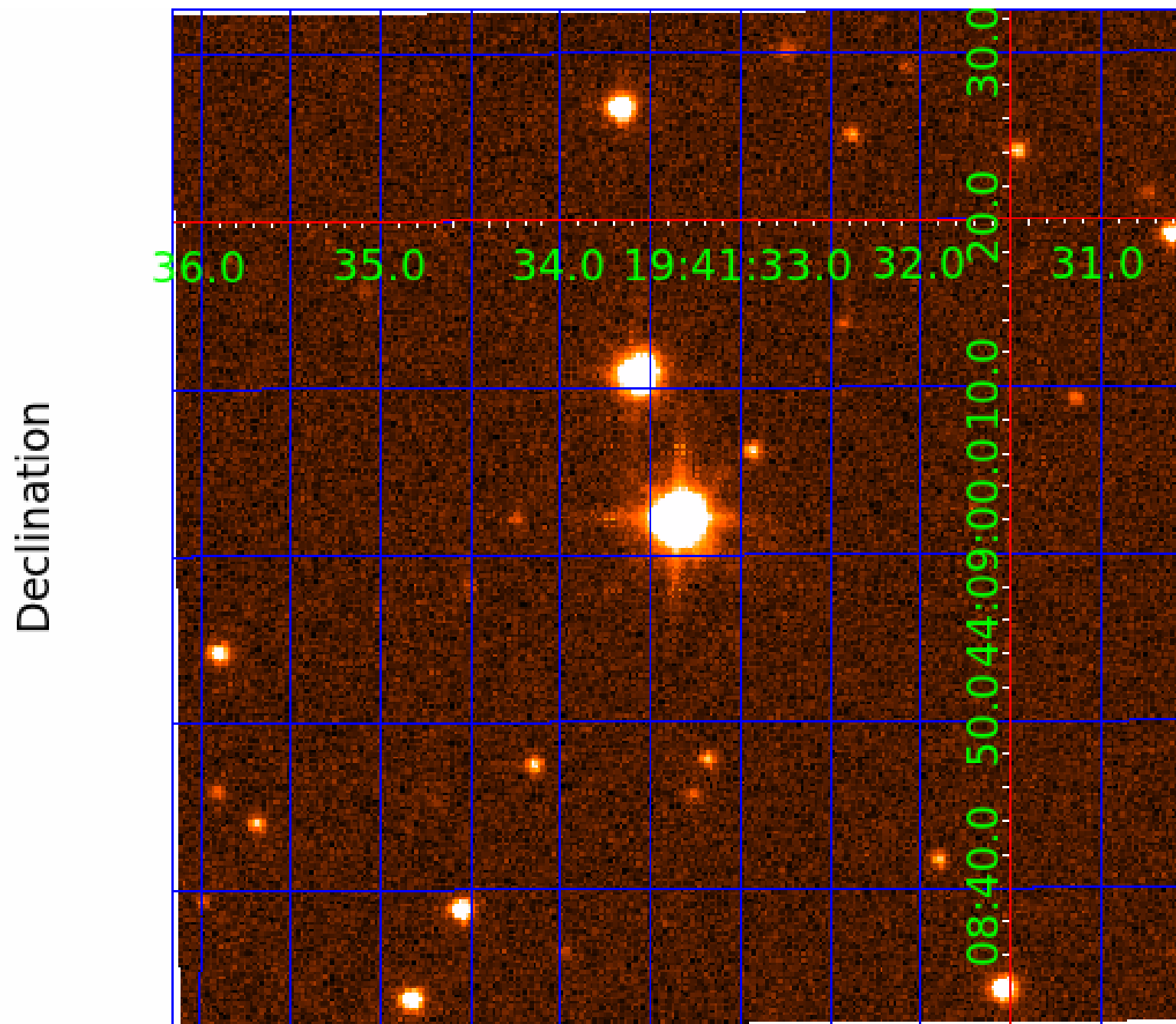
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008243804

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})
008243804-01	OBS	No	0.986177	131.854744	177.1	2.500	10.3	-1.0	1.59	6798	2.14	10928.53
008243804-02	OBS	No	0.986059	132.118390	15.8	6.718	9.2	7.8	1.59	6798	0.68	10930.28
008243804-03	OBS	No	40.481203	133.271156	208.0	3.316	11.9	11.5	1.59	6798	2.56	77.18
008243804-04	OBS	No	40.221066	155.282706	171.4	5.991	10.3	9.3	1.59	6798	2.42	77.84
008243804-05	OBS	No	38.965554	144.770300	282.7	0.914	11.2	9.0	1.59	6798	2.81	81.21
008243804-06	OBS	No	40.780141	167.850818	270.1	1.630	10.6	11.1	1.59	6798	2.96	76.42
008243804-07	OBS	No	23.768643	136.206050	121.0	4.865	10.4	8.5	1.59	6798	2.00	156.97
008243804-08	OBS	No	32.722421	154.102325	225.2	1.492	9.4	10.2	1.59	6798	2.82	102.50
008243804-09	OBS	No	206.579468	274.621831	236.9	2.221	10.1	10.9	1.59	6798	2.49	8.79
008243804-10	OBS	No	76.480069	132.444900	177.3	4.632	9.1	8.6	1.59	6798	2.37	33.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008243804-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS
008243804-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008243804-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008243804-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008243804-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—MOD_NONUNIQ_DV
008243804-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008243804-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008243804-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
008243804-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008243804-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

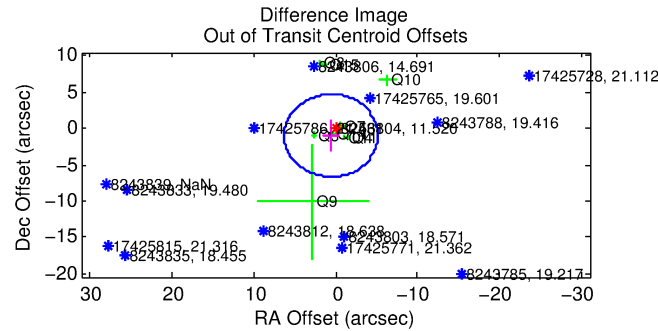
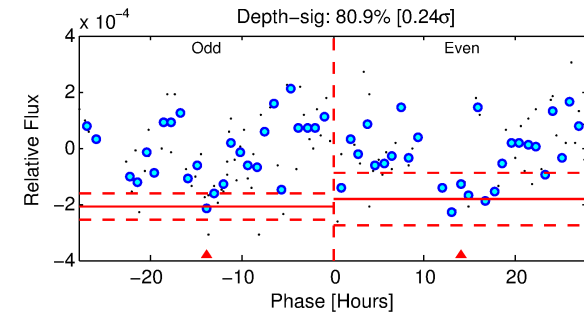
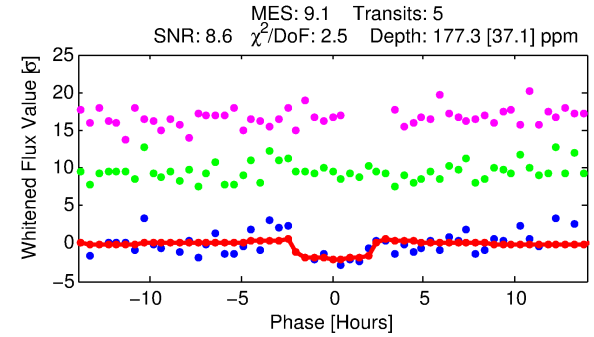
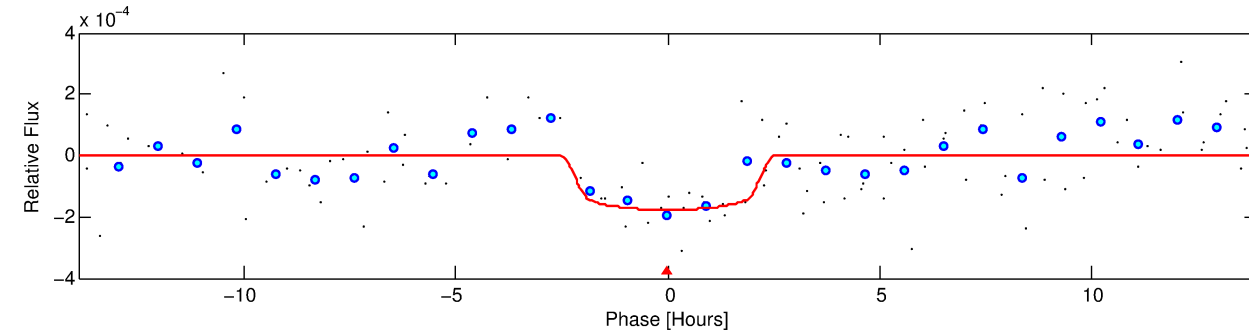
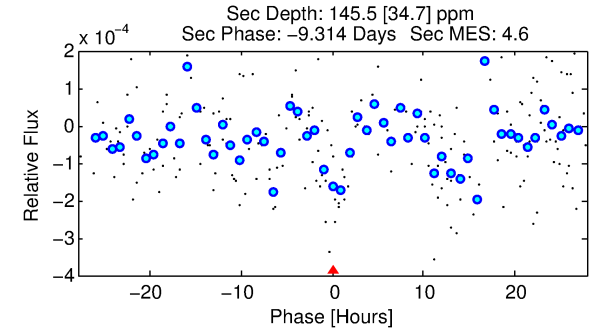
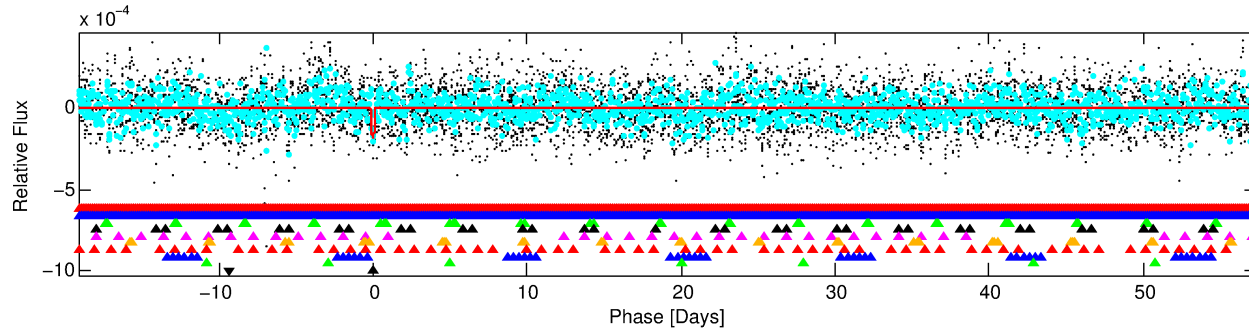
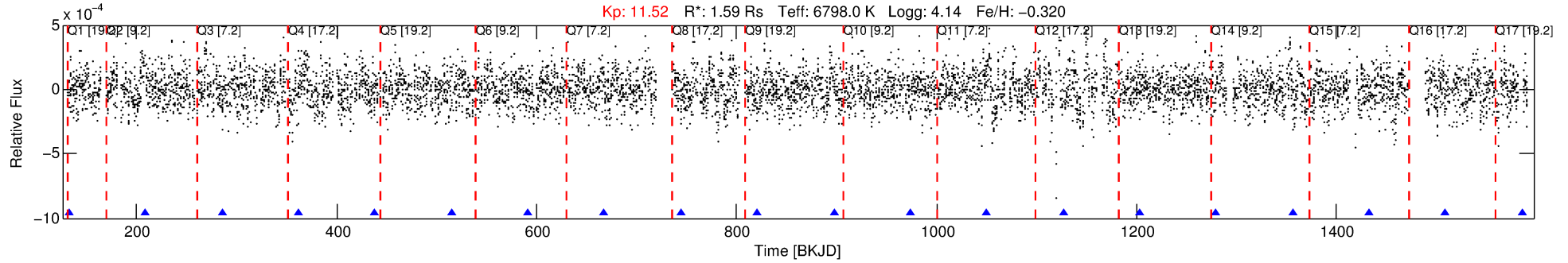
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008243804-10

No Significant Match Found

DV One-Page Summary

KIC: 8243804 Candidate: 10 of 10 Period: 76.480 d



DV Fit Results:

Period = 76.48007 [0.00212] d
Epoch = 132.4449 [0.0195] BKJD
Rp/R* = 0.0137 [0.0408]
a/R* = 72.25 [1298.93]
b = 0.84 [6.50]
Seff = 33.04 [12.87]
Teq = 611 [60] K
Rp = 2.37 [7.12] Re
a = 0.3824 [0.0935] AU
Ag = 2082.46 [12475.23] [0.17σ]
Teffp = 6385 [9550] K [0.60σ]

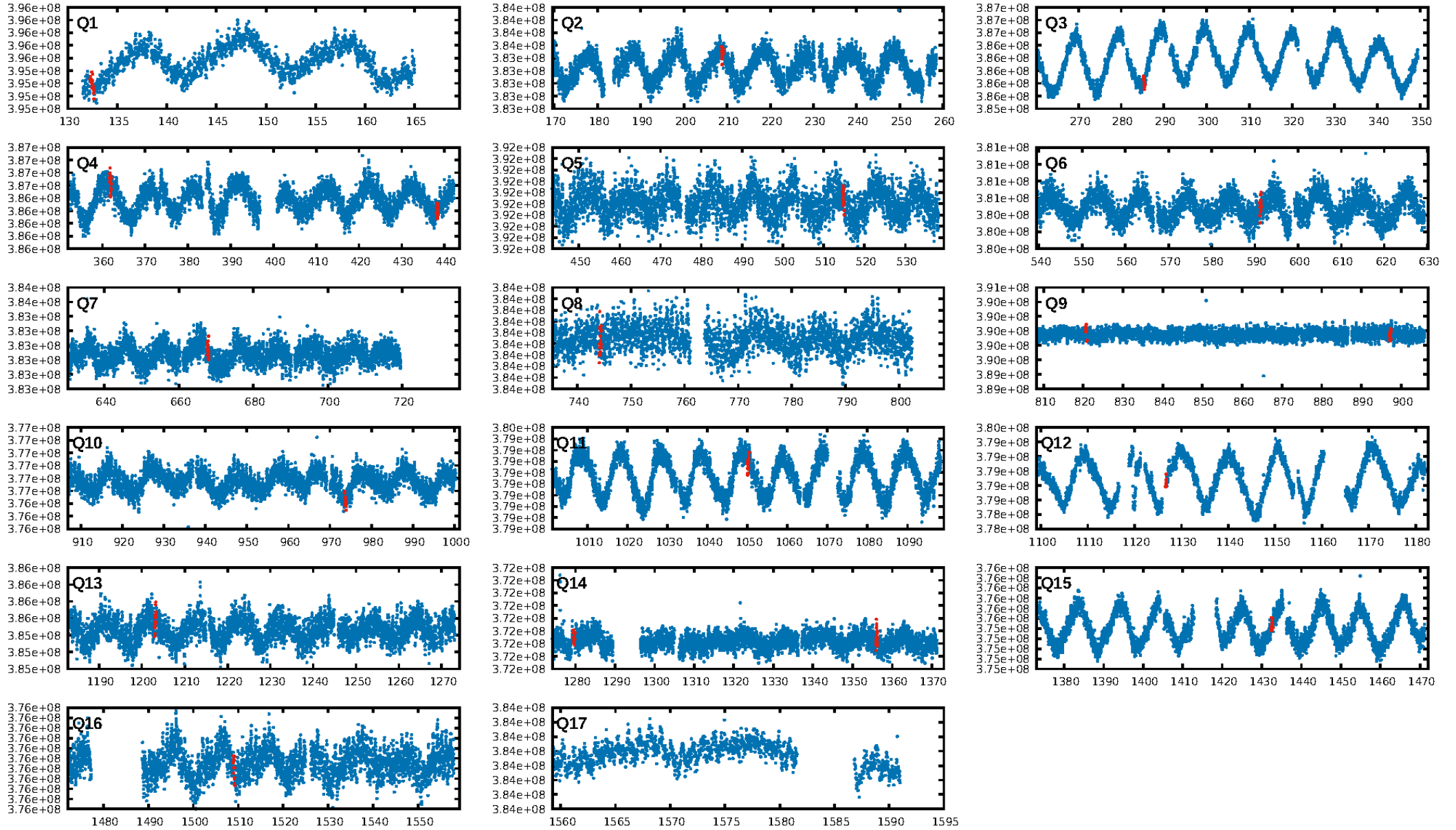
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [174.48σ]
LongPeriod-sig: 100.0% [607.83σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.77e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.146
Centroid-sig: 6.4%
Centroid-so: 2.132 arcsec [0.94σ]
OotOffset-rm: 1.146 arcsec [0.60σ]
KicOffset-rm: 1.068 arcsec [0.57σ]
OotOffset-st: 2/4/2/1 [9]
KicOffset-st: 2/4/2/1 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.00 [0/15]

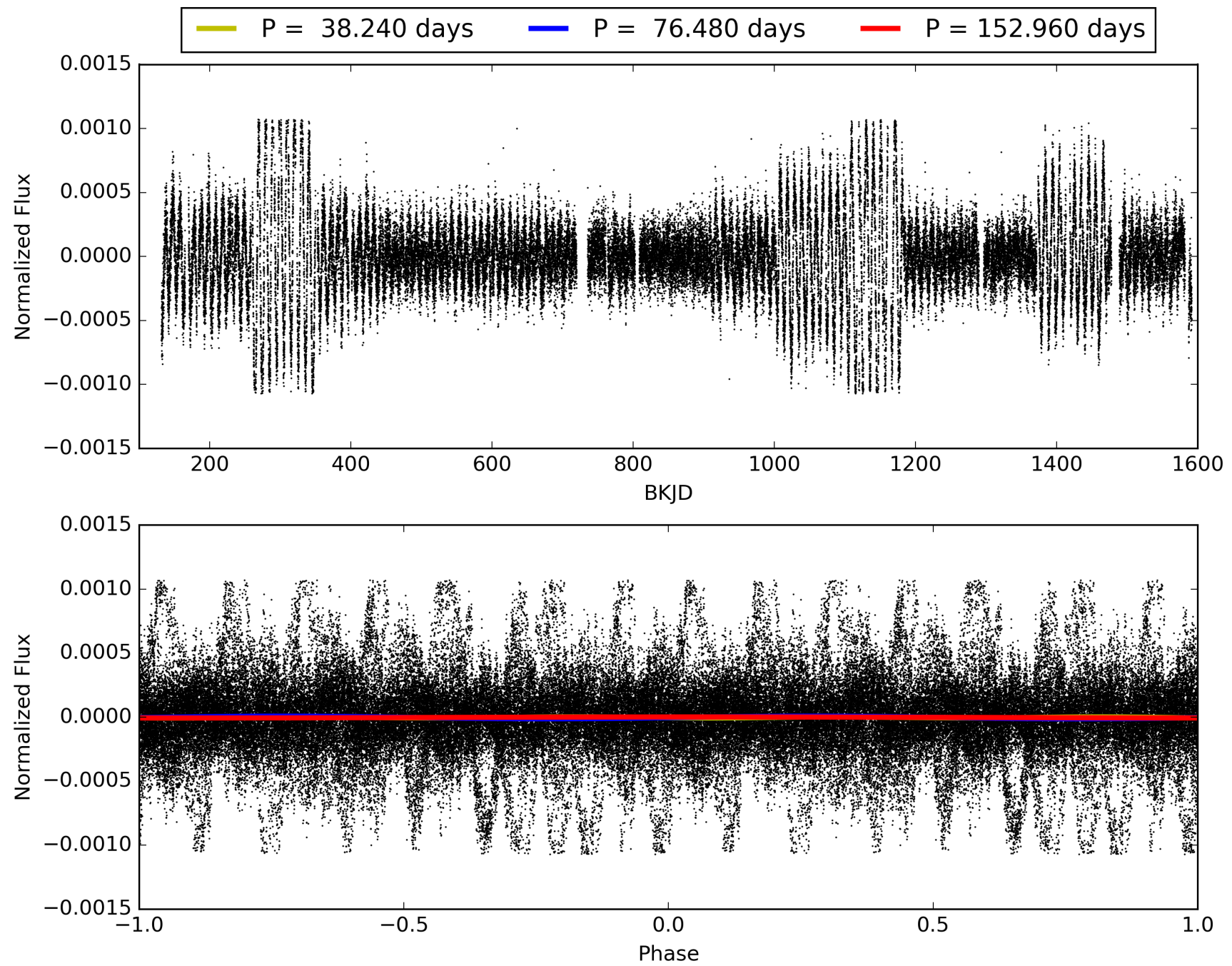
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:28:51 Z

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

TCE 008243804-10, PDC Light Curves

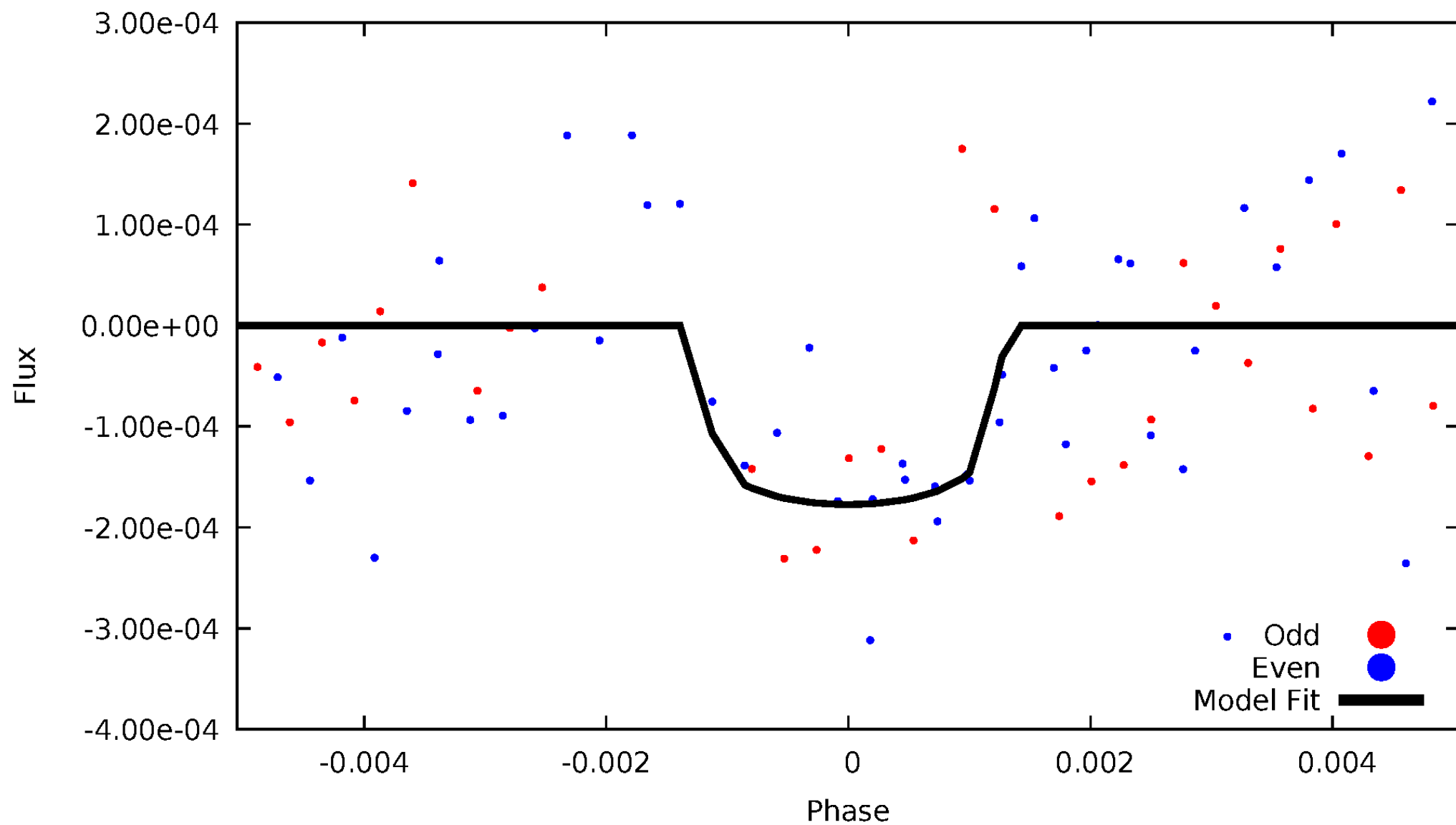


TCE 008243804-10



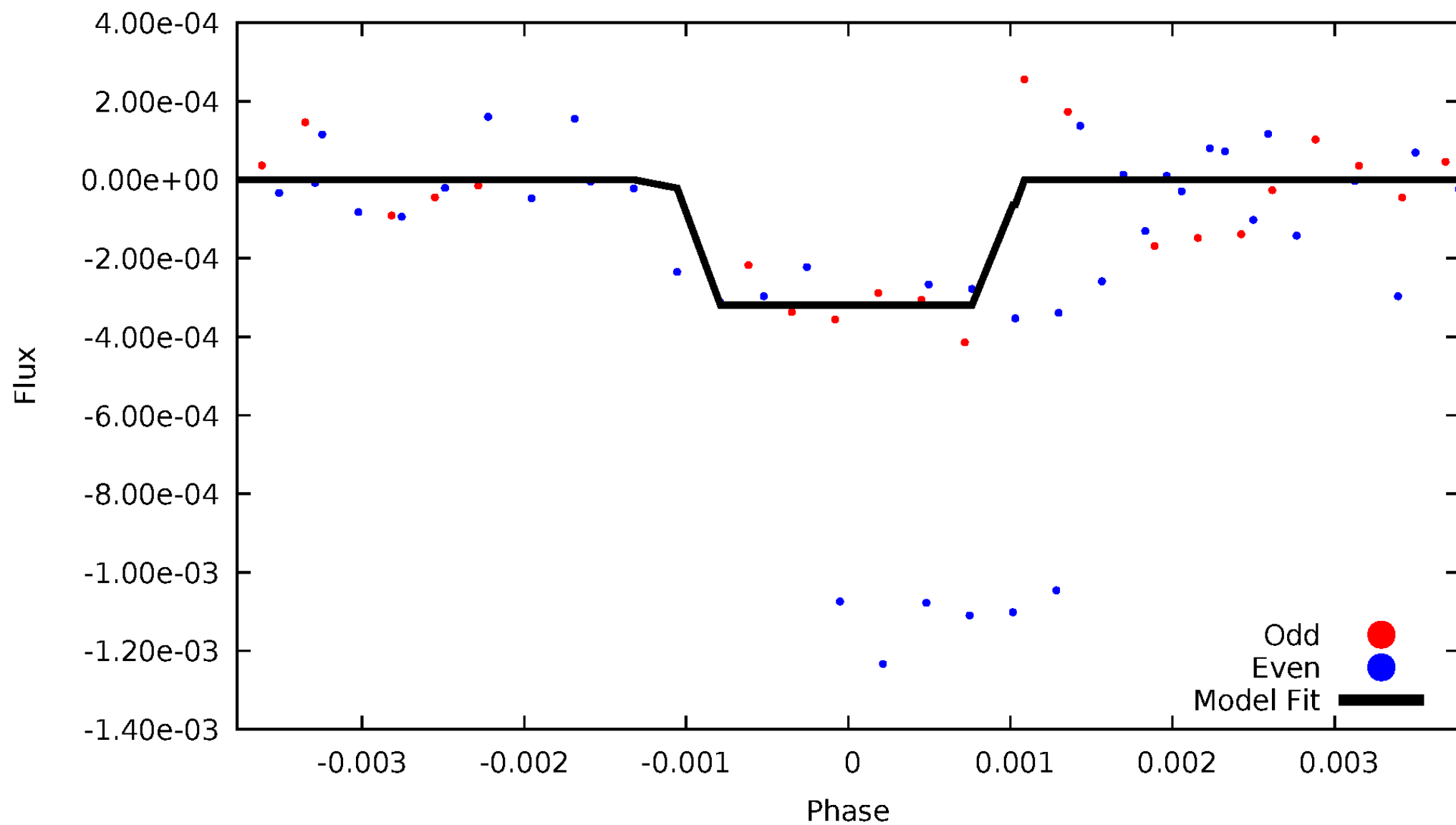
DV Odd/Even

TCE 008243804-10



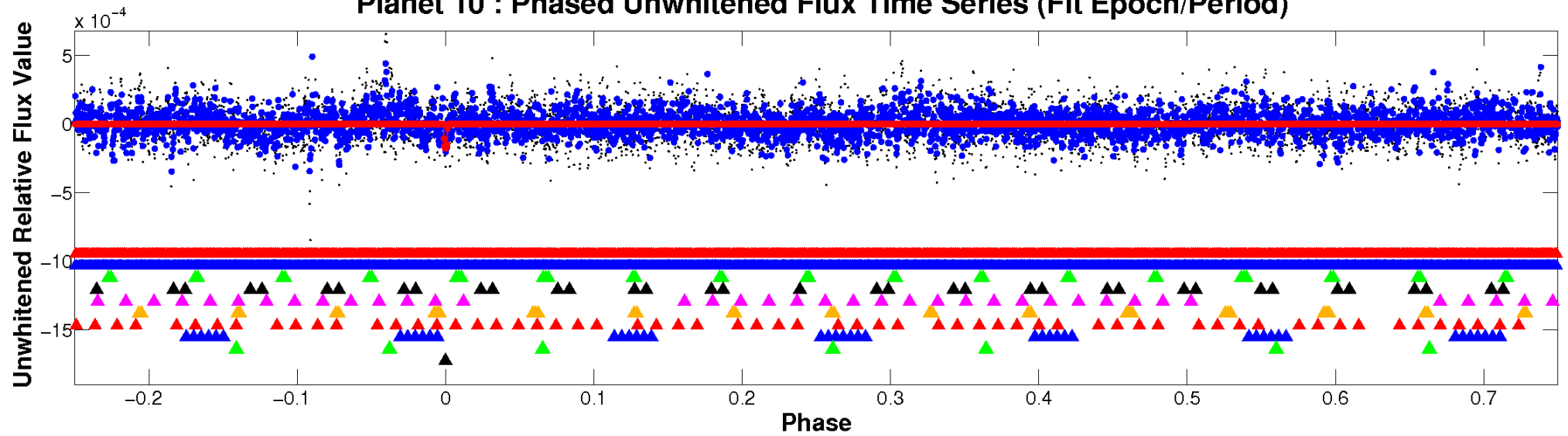
ALT Odd/Even

TCE 008243804-10

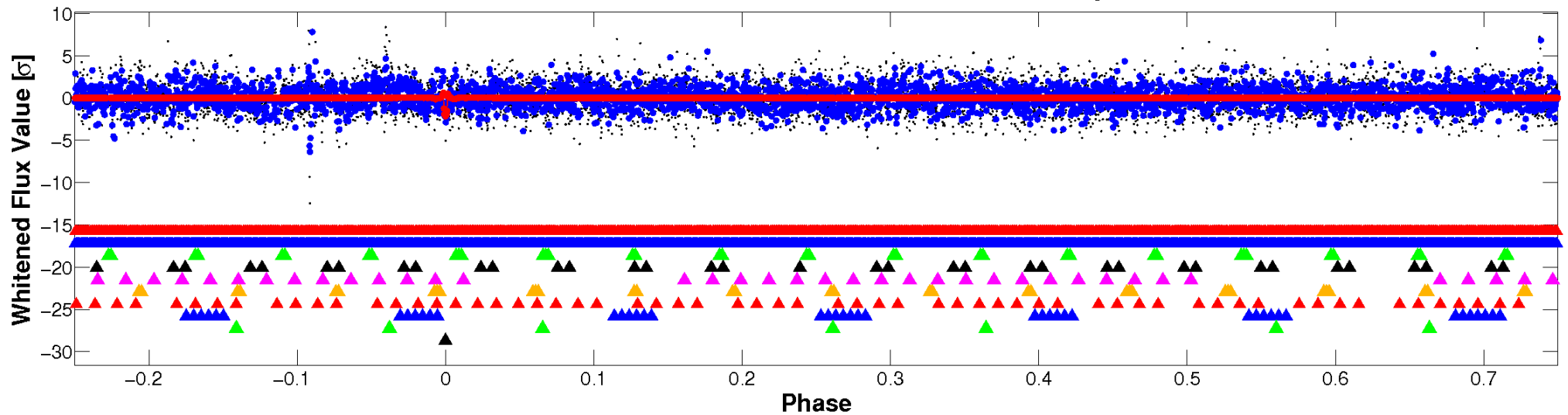


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

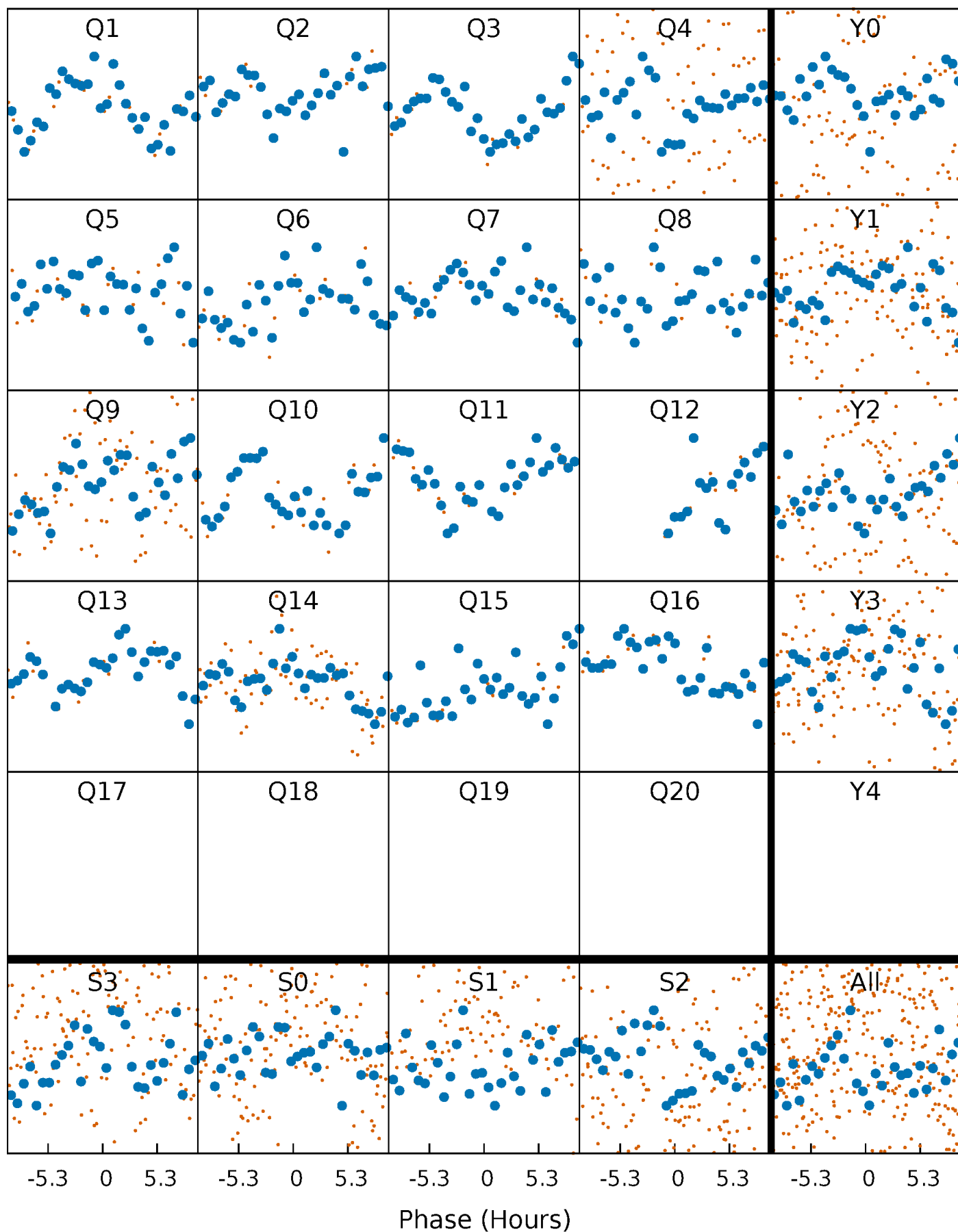


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



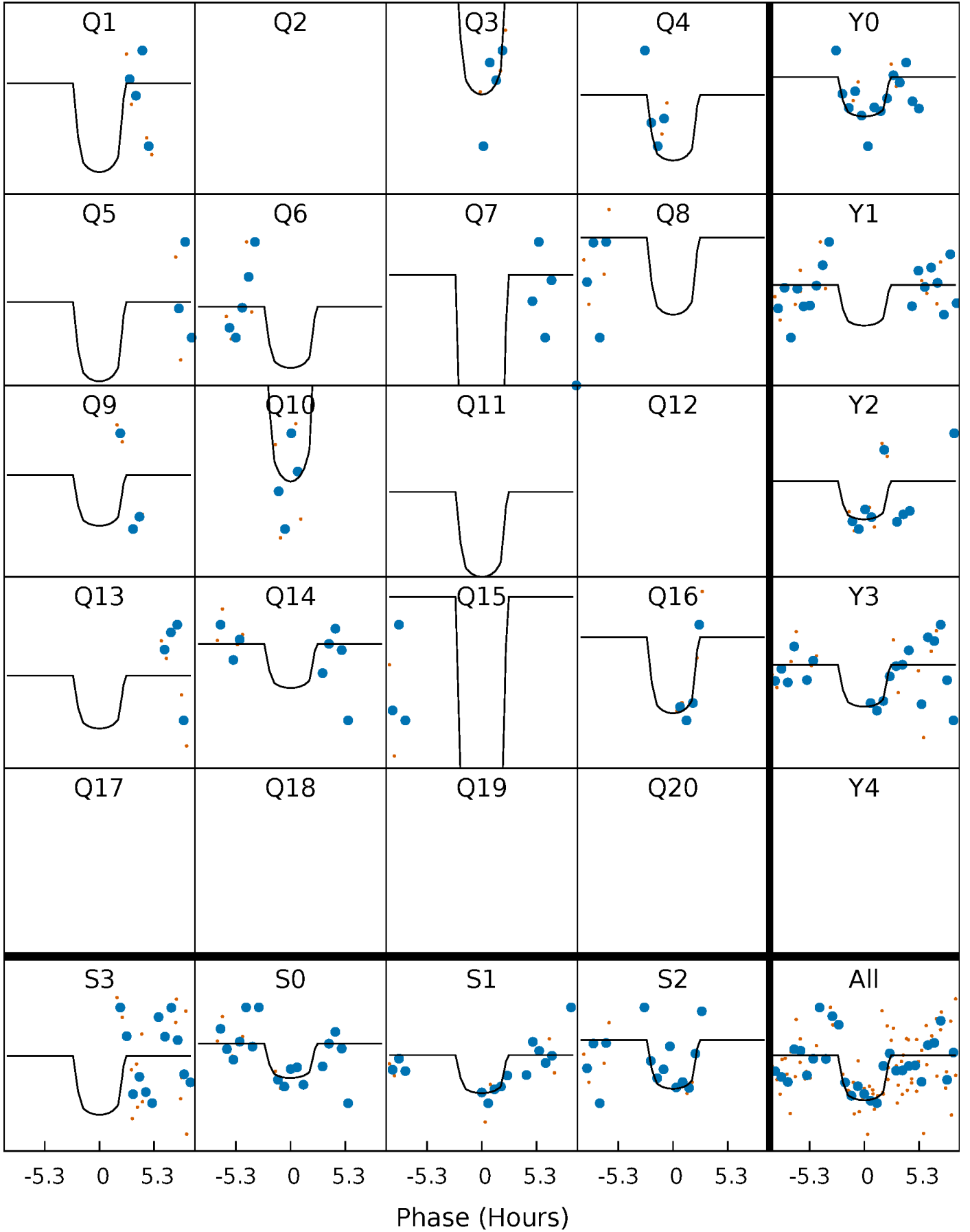
PDC Quarter-Phased Transit Curves

TCE 008243804-10 P= 76.480069 Days $T_0=132.444900$ (BKJD)



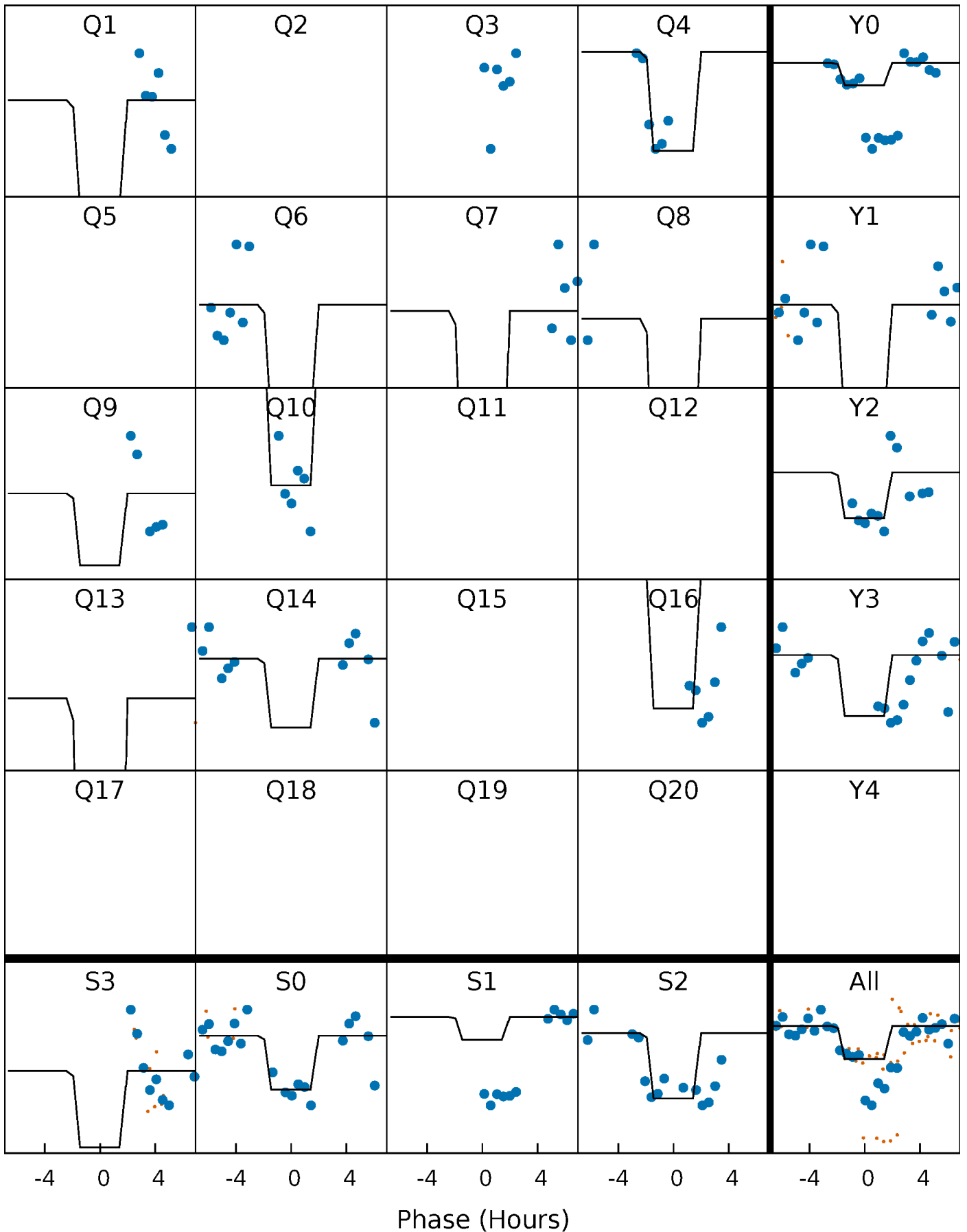
DV Quarter-Phased Transit Curves

TCE 008243804-10 P= 76.480069 Days $T_0=132.444900$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

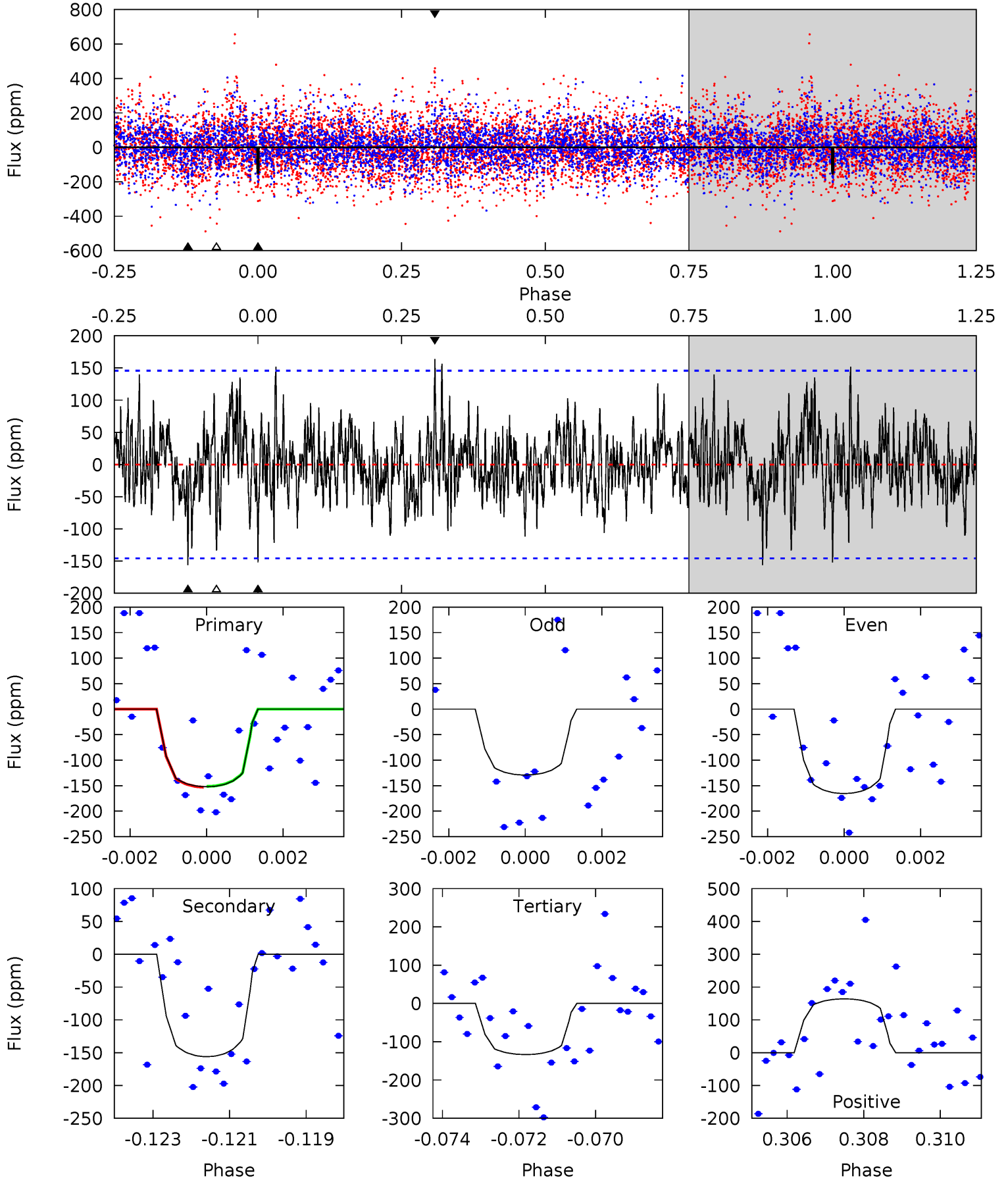
TCE 008243804-10 P= 76.478825 Days $T_0=132.444768$ (BKJD)



DV Model-Shift Uniqueness Test

008243804-10, P = 76.480069 Days, E = 55.964831 Days

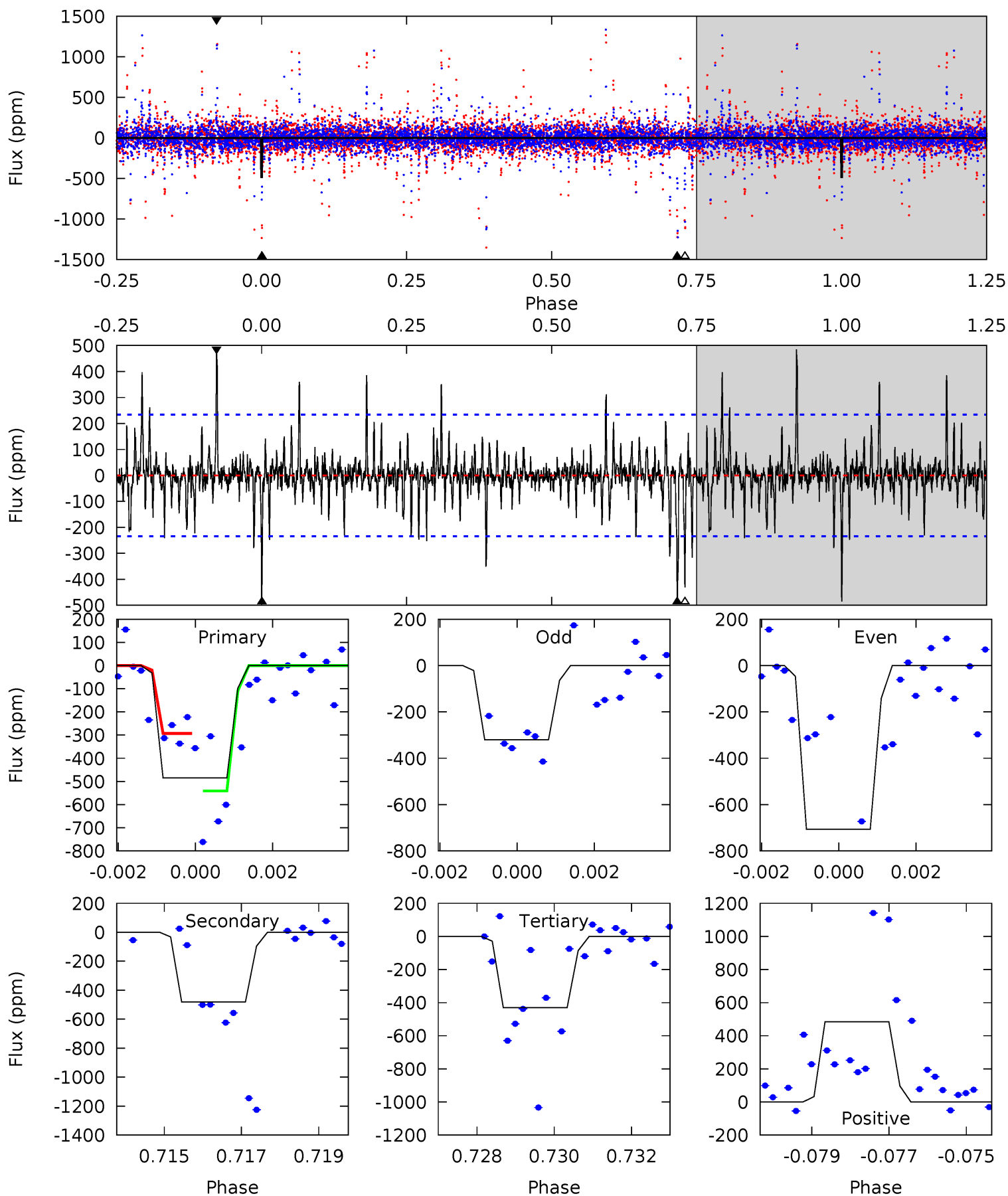
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.55	5.69	4.87	5.98	5.32	3.07	1.55	0.68	-0.43	0.83	-0.29	0.64	0.48	0.51	0.03



Alt Model-Shift Uniqueness Test

008243804-10, P = 76.478825 Days, E = 55.965943 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	11.0	9.82	11.1	5.34	3.11	1.66	1.24	-0.01	1.14	-0.10	3.72	1.67	0.50	0



Stellar Parameters For KIC 008243804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6798^{+190}_{-285}	$4.141^{+0.190}_{-0.190}$	$-0.320^{+0.250}_{-0.300}$	$1.589^{+0.468}_{-0.425}$	$1.278^{+0.195}_{-0.216}$	$0.449^{+0.473}_{-0.215}$
	+3%/-4%	+5%/-5%	+78%/-94%	+29%/-27%	+15%/-17%	+105%/-48%
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 008243804-10 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-156 ± 27	$5.29^{+6.18}_{-3.63}$	856^{+72}_{-67}	4492^{+3701}_{-1064}	453^{+4257}_{-362}
Alt.	-480 ± 44	$5.95^{+5.83}_{-4.03}$	856^{+70}_{-68}	5402^{+4903}_{-1219}	1056^{+9133}_{-766}

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

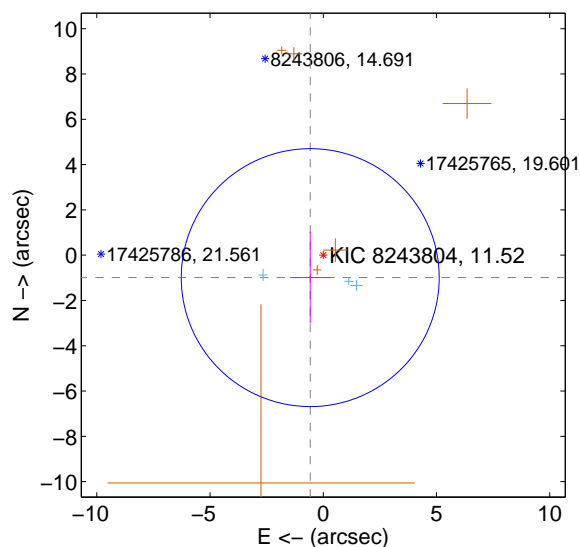
Supplemental centroid analysis for 008243804-10. **Kepler magnitude: 11.52.** Transit SNR 8.55

There are 3 quarters with good PRF difference image offsets

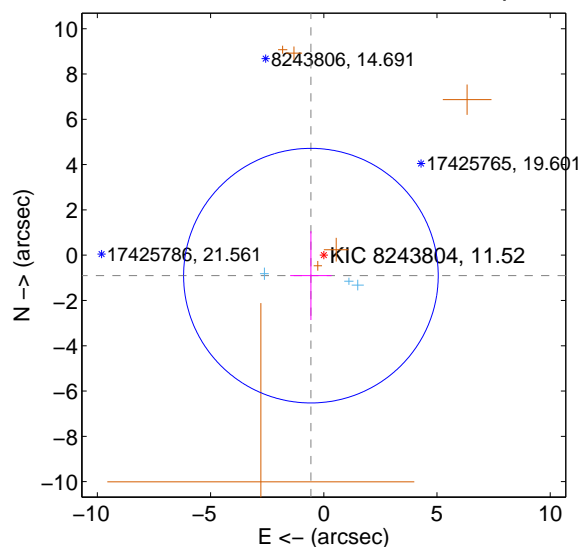
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.146 ± 1.898	0.60	0.575 ± 0.889	-0.991 ± 2.026
PRF-fit source offset from KIC position	1.068 ± 1.874	0.57	0.568 ± 0.917	-0.904 ± 1.962
photometric centroid source offset	2.13 ± 2.26	0.94	-0.32 ± 0.84	-2.11 ± 2.28

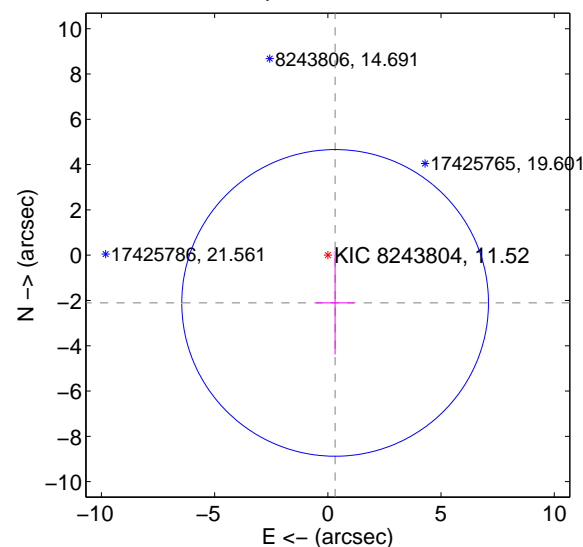
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

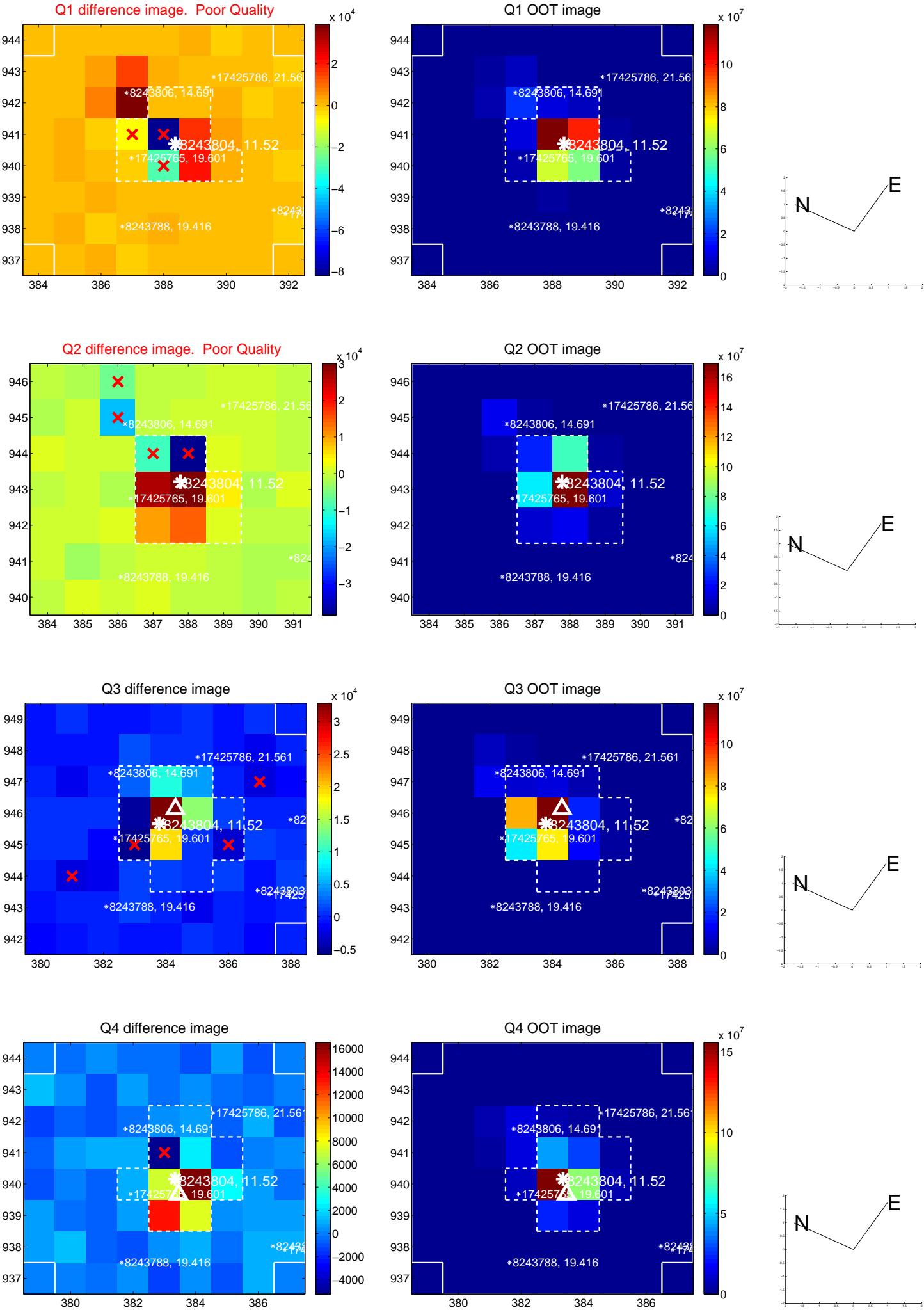


offset from photometric centroids

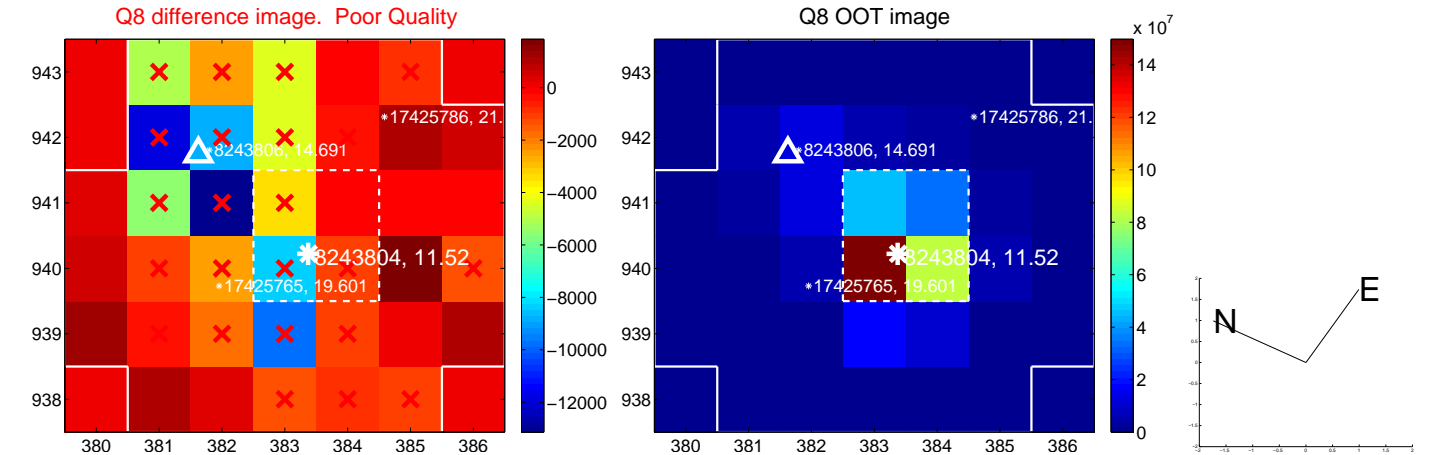
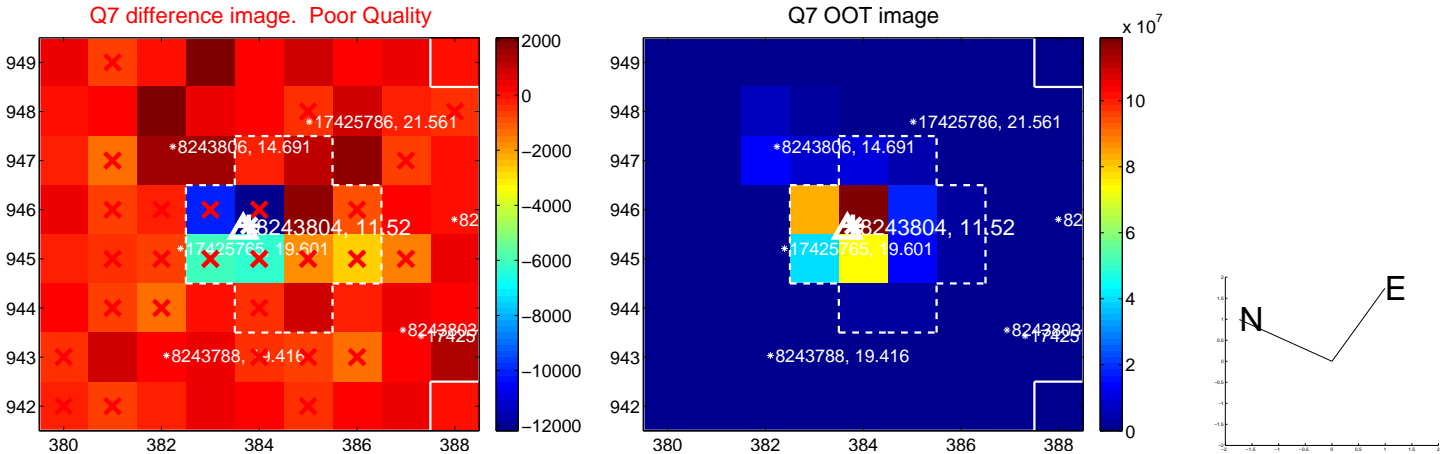
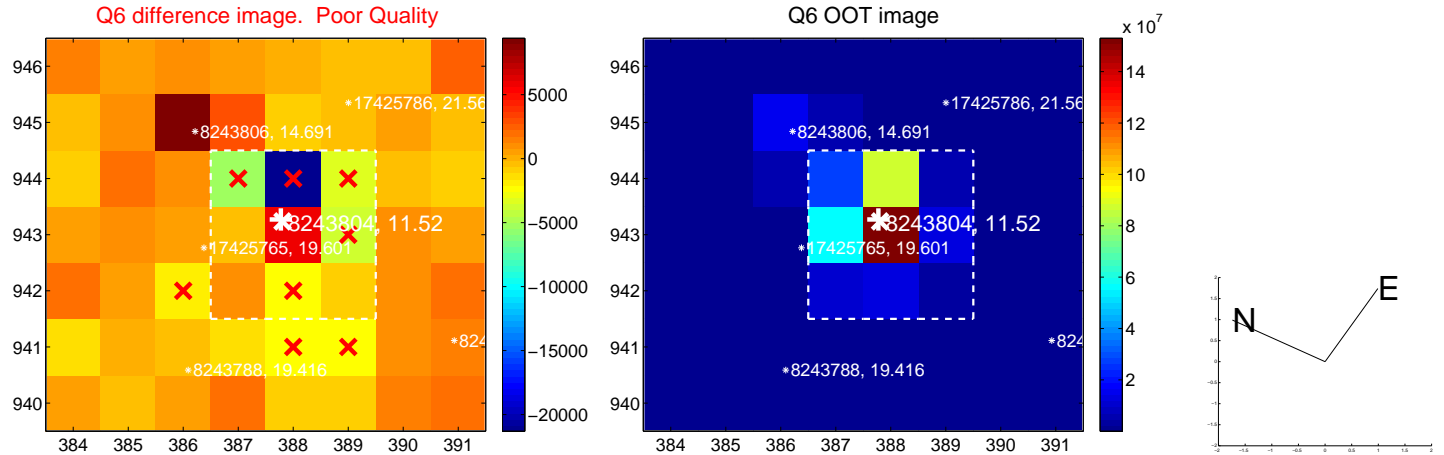
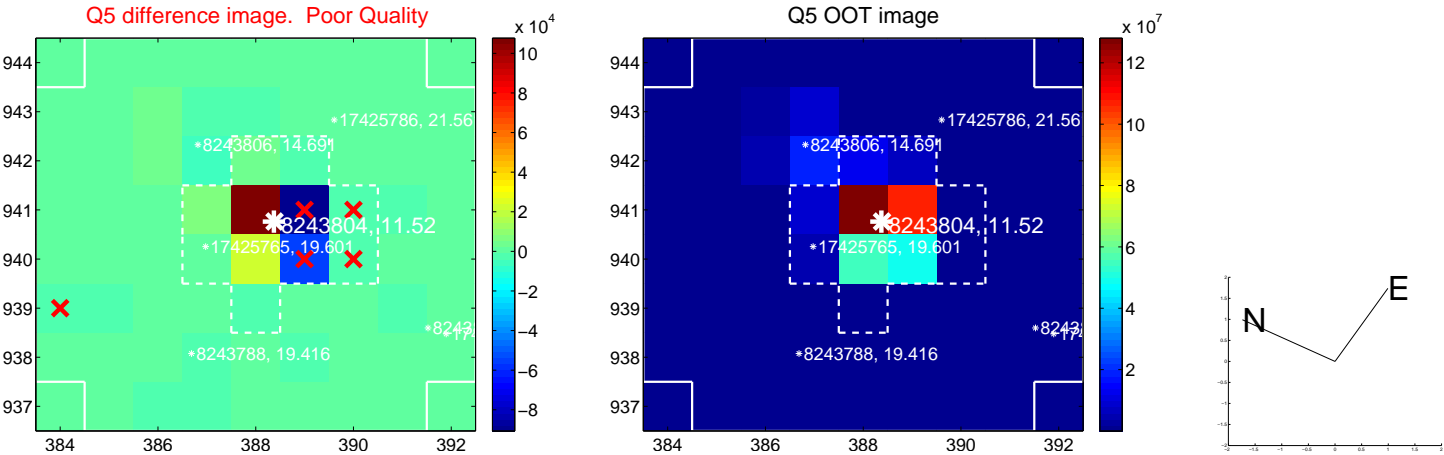


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

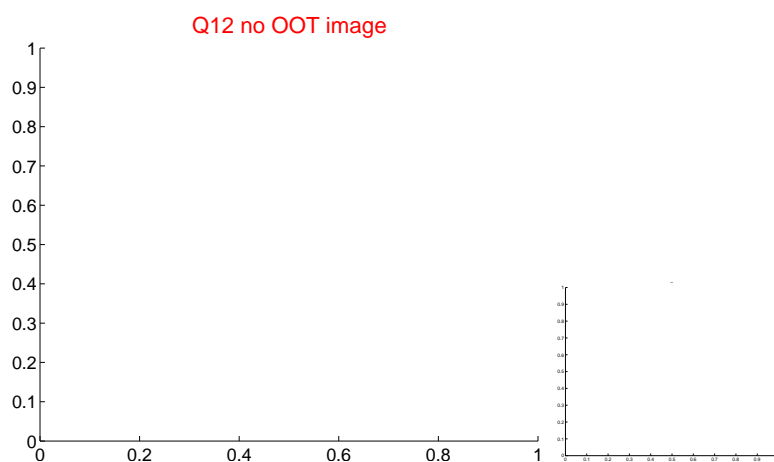
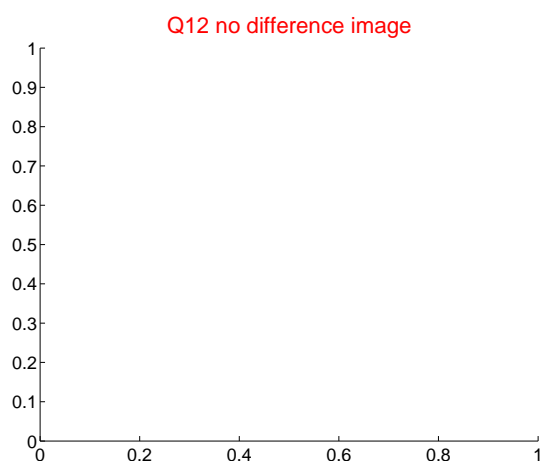
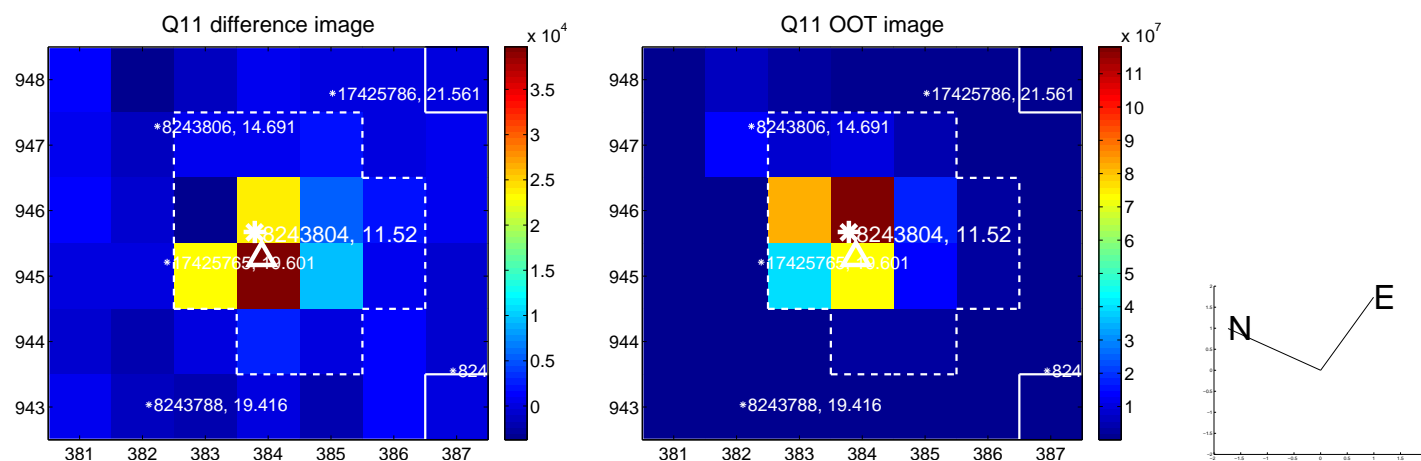
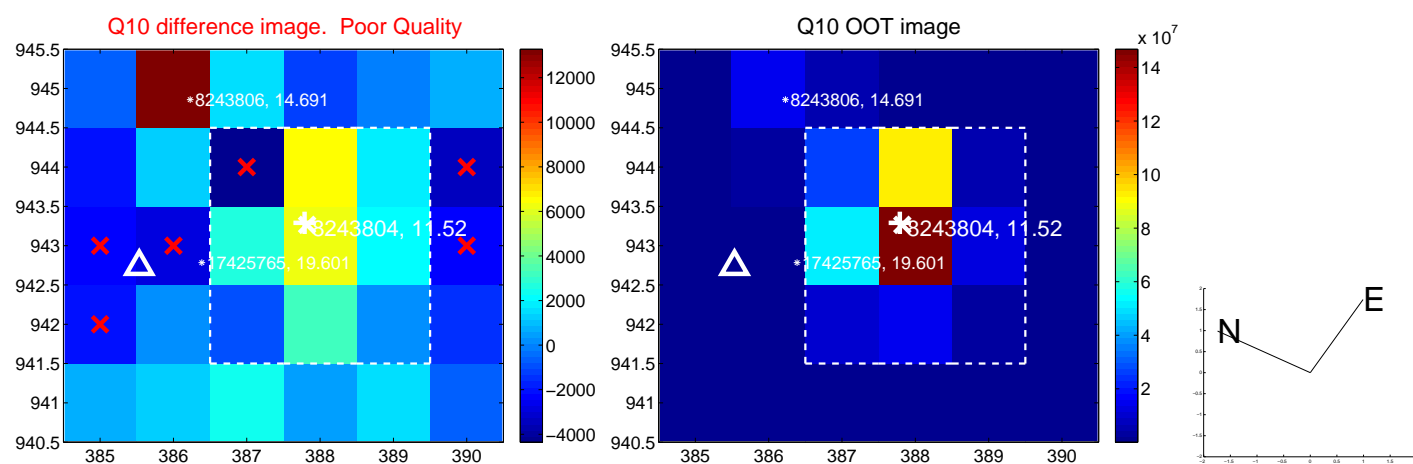
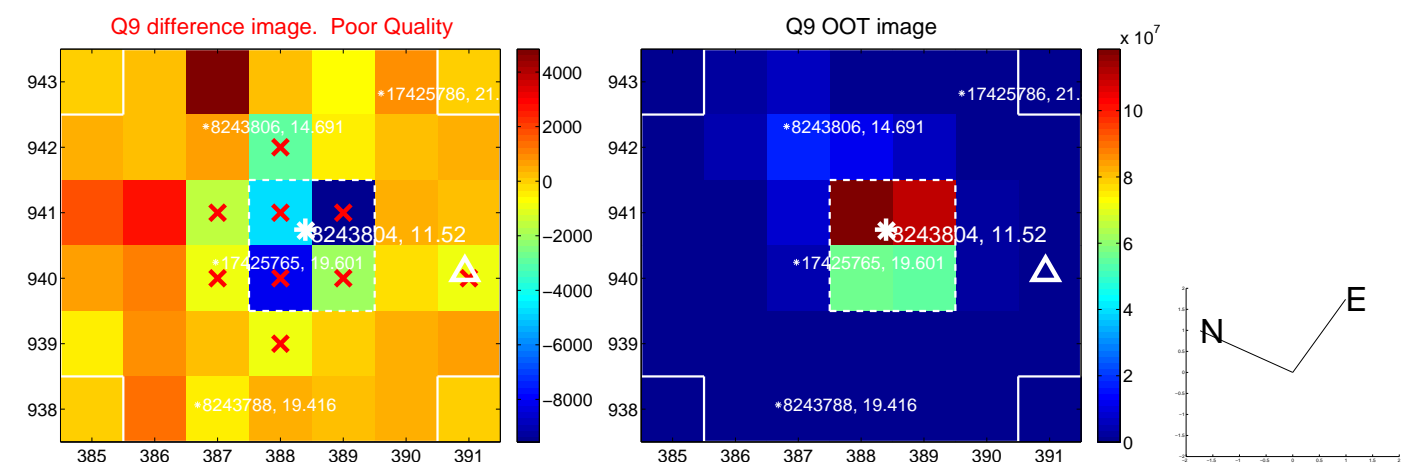
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



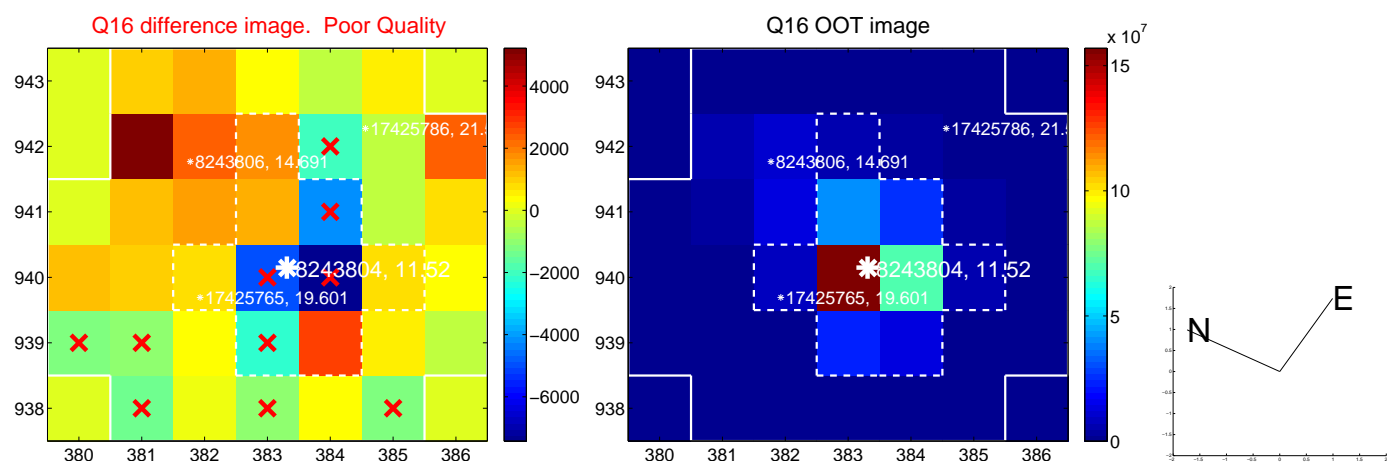
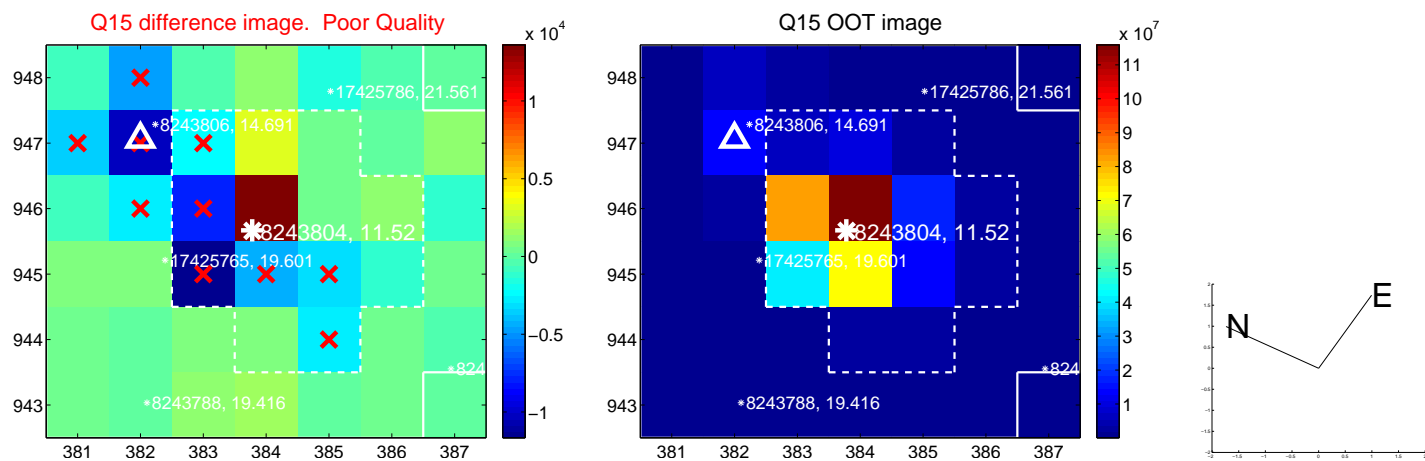
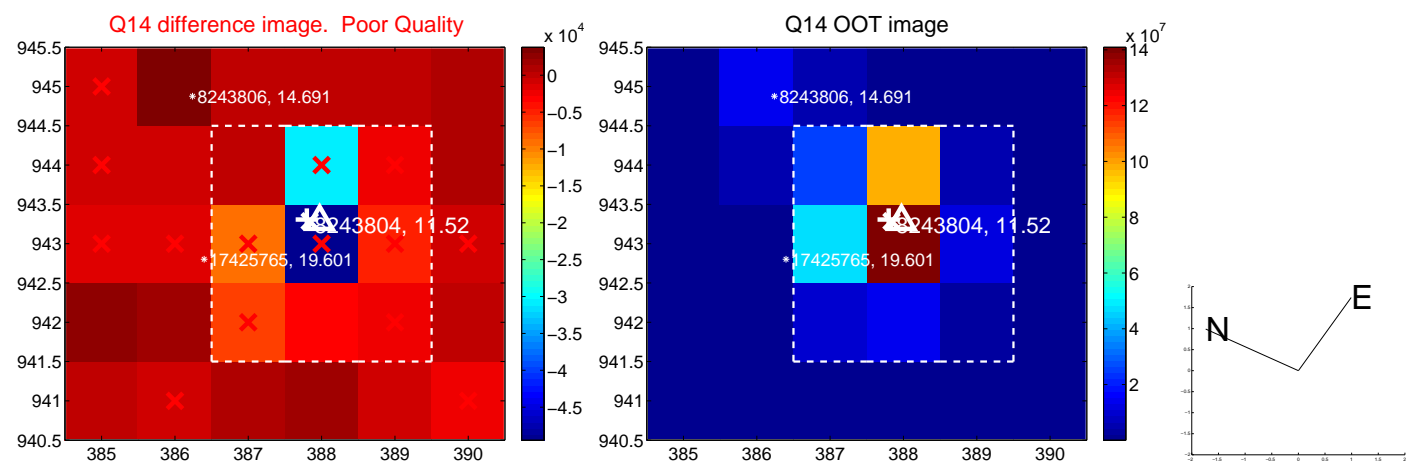
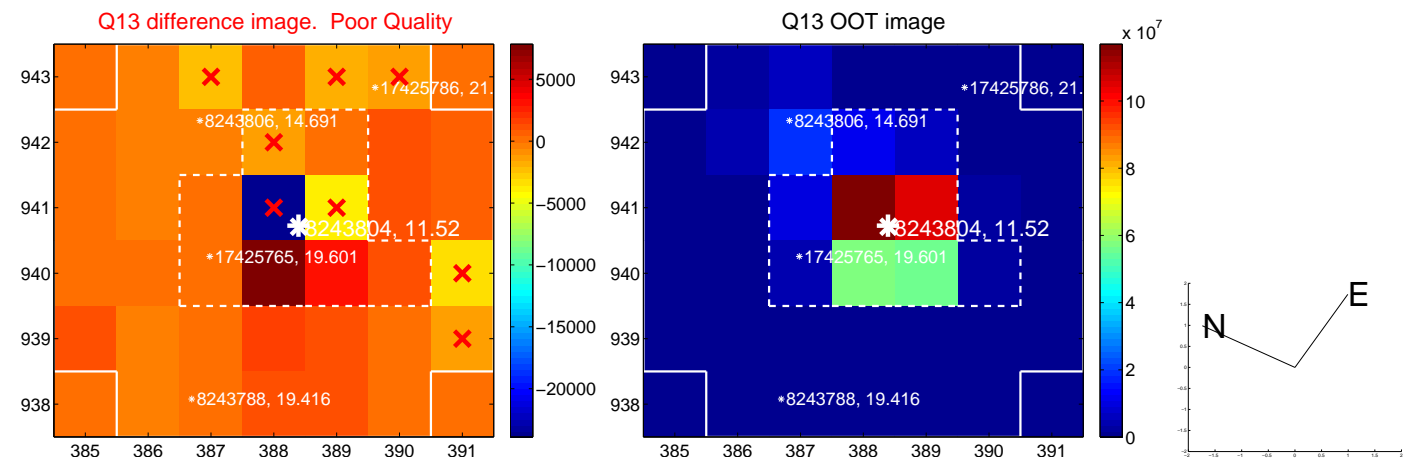
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



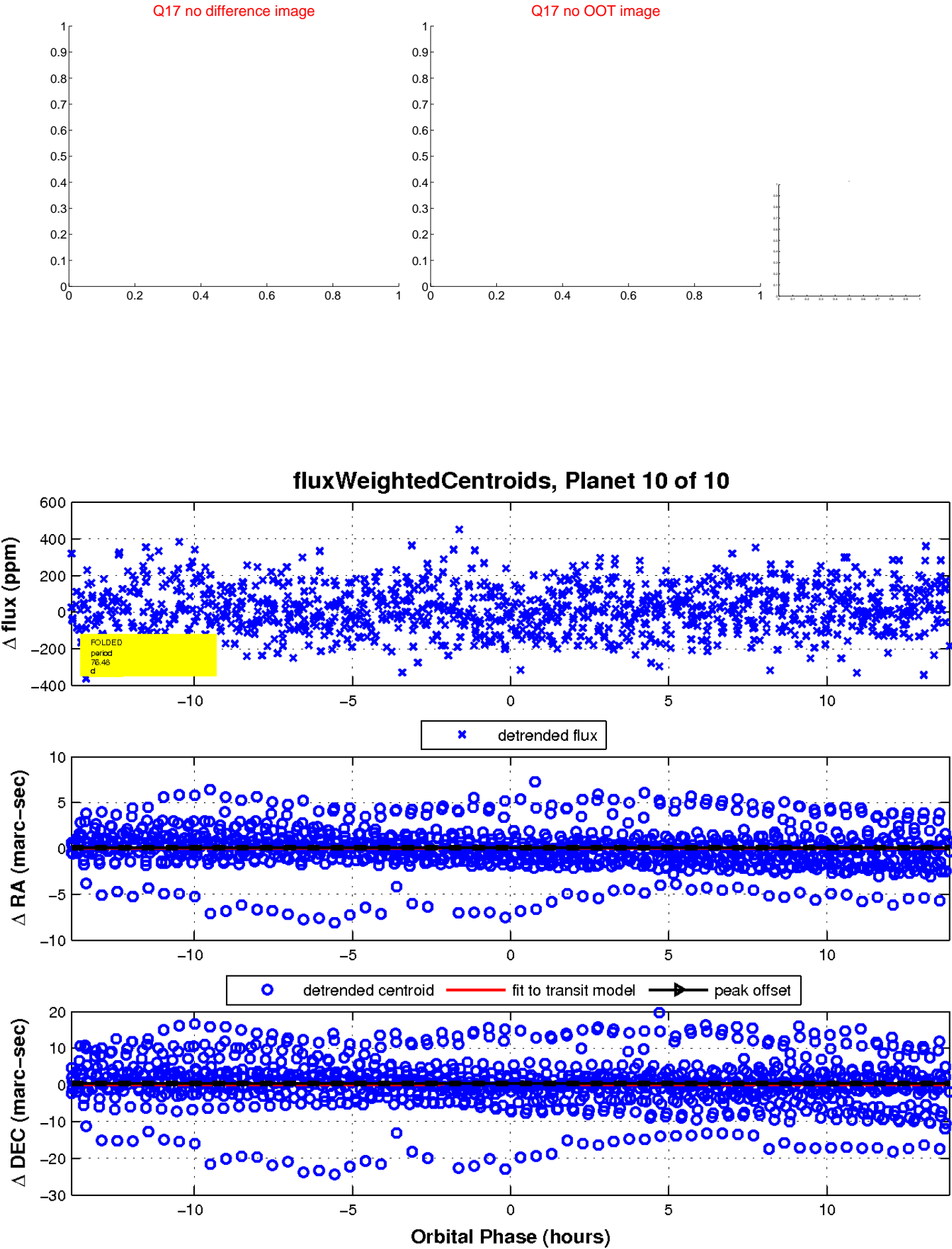
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



This astronomical image shows a field of stars against a dark background. A blue grid is overlaid on the image. Green text labels provide coordinates: '19:41:33.0' and '31.0' are at the top, and '08:40.0' and '50.0' are on the right side. A prominent bright star is located near the center of the grid.

Declination