

KIC 008094120

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})
008094120-01	OBS	4881.02	0.706426	132.148873	35.4	1.143	9.9	12.6	1.58	6514	1.16	15519.67
008094120-02	OBS	4881.01	5.679797	132.912665	46.1	4.341	7.7	9.2	1.58	6514	1.25	963.52
008094120-03	OBS	No	640.797781	209.425815	222.5	7.489	7.3	7.3	1.58	6514	2.65	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008094120-01	OBS	FP	0.00	0	0	0	1	CENT_KIC_POS—EPHEM_MATCH
008094120-02	OBS	PC	0.98	0	0	0	0	NO_COMMENT
008094120-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_FEW_DIFFS

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

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

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

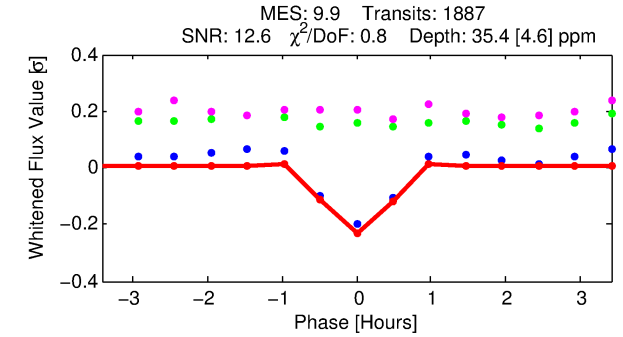
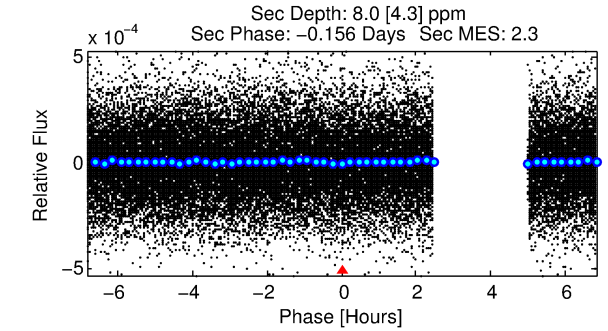
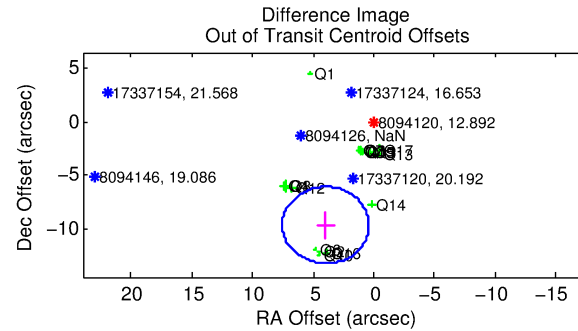
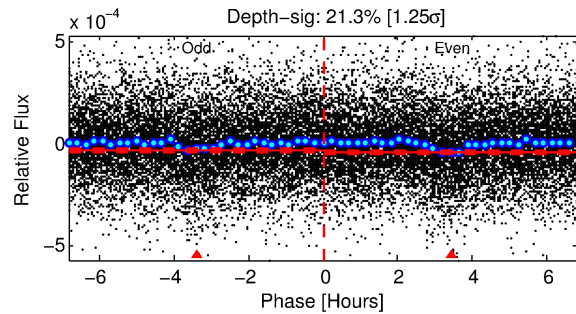
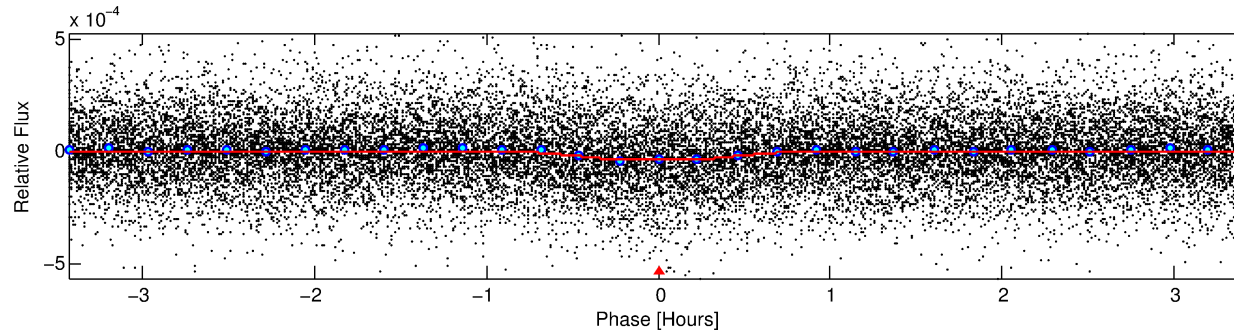
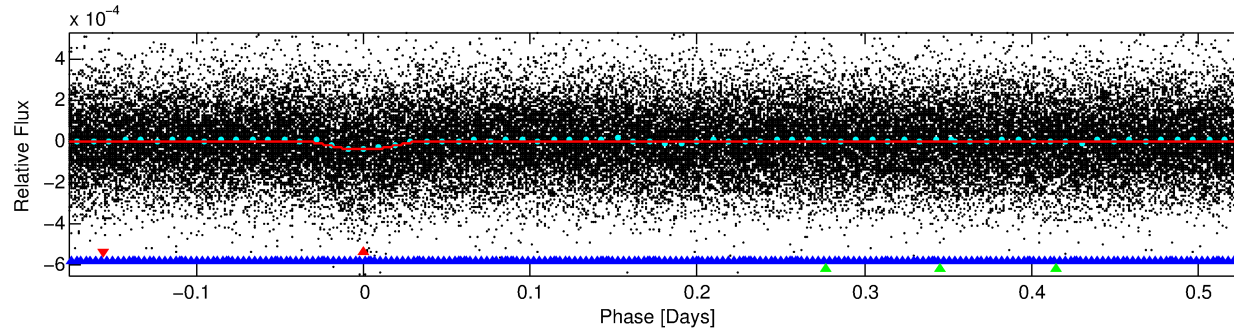
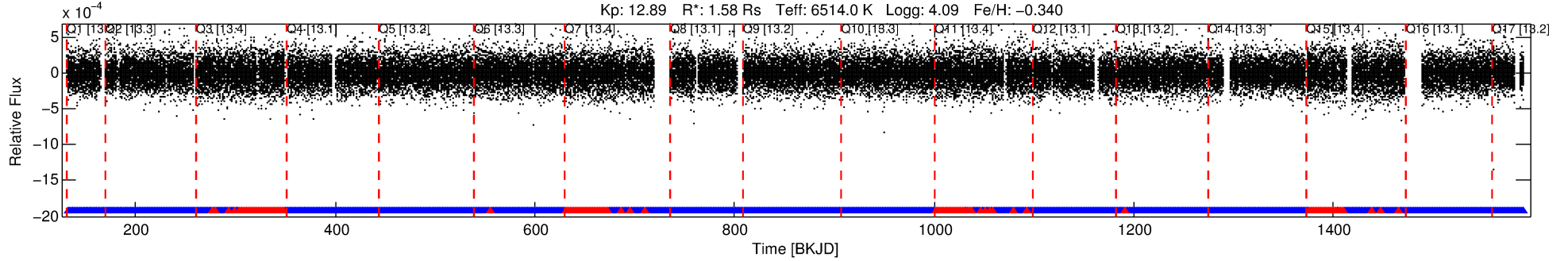
Ephemeris Match Information For 008094120-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008094120-01	8094120	6961.01	8094140	1:1	30.1	0	8	15.16	12.89	10702.00	Direct-PRF	0	0.35	0.22

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8094120 Candidate: 1 of 3 Period: 0.706 d
KOI: K04881.02 Corr: 0.821



DV Fit Results:

Period = 0.70643 [0.00001] d
Epoch = 132.1489 [0.0015] BKJD
Rp/R* = 0.0067 [0.0027]
a/R* = 1.92 [3.43]
b = 0.94 [0.29]
Seff = 15519.67 [7296.59]
Teq = 2846 [335] K
Rp = 1.16 [0.60] Re
a = 0.0162 [0.0047] AU
Ag = 0.86 [0.92] [-0.15 σ]
Teffp = 4235 [1042] K [1.27 σ]

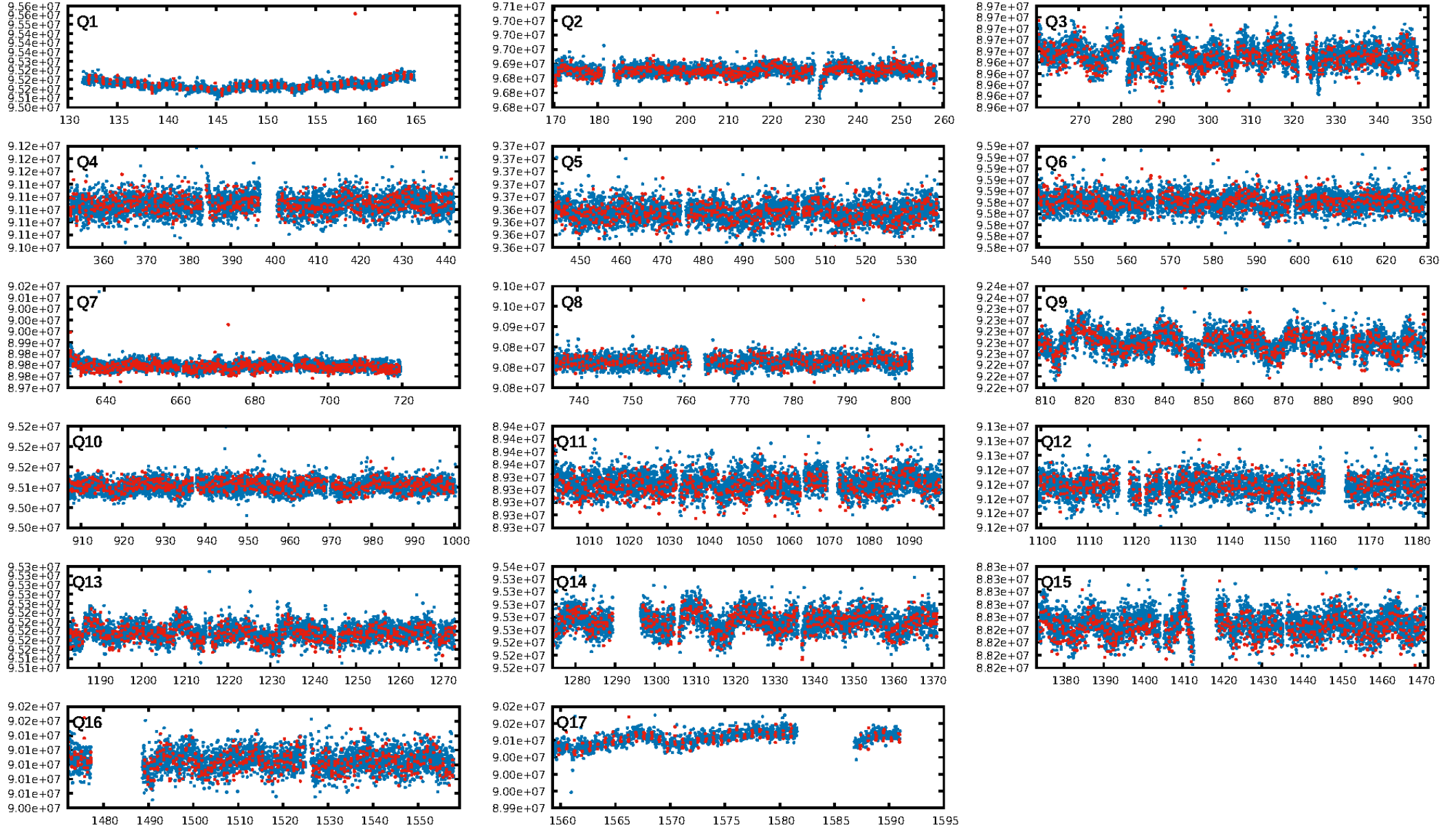
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [26.59 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.88e-23
RollingBand-fgt: 0.88 [1591/1803]
GhostDiagnostic-chr: 0.3937
Centroid-sig: 0.0%
Centroid-so: 5.697 arcsec [5.00 σ]
OotOffset-rm: 10.443 arcsec [8.75 σ]
KicOffset-rm: 10.611 arcsec [9.02 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 1.00 [17/17]

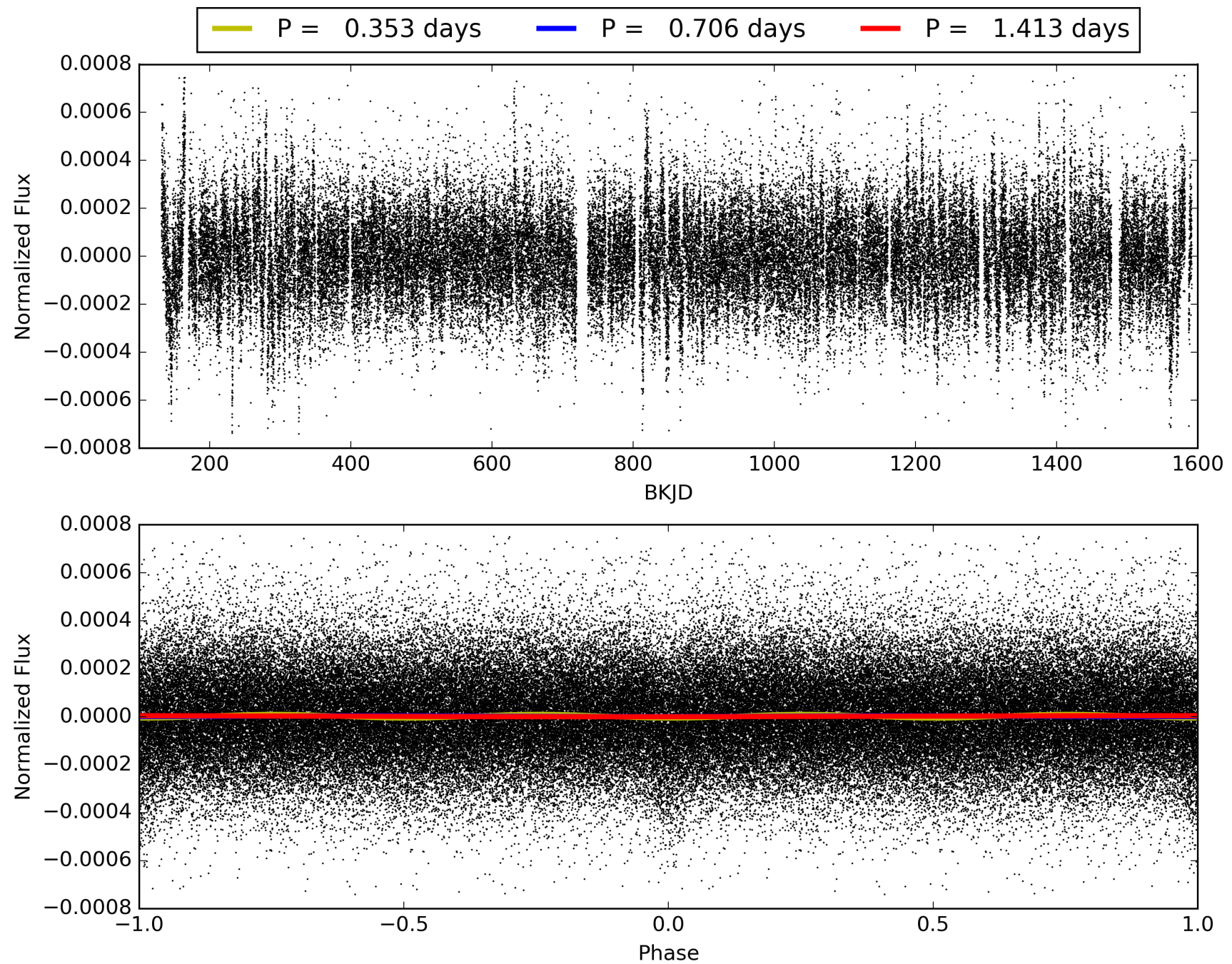
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:06:15 Z

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

TCE 008094120-01, PDC Light Curves

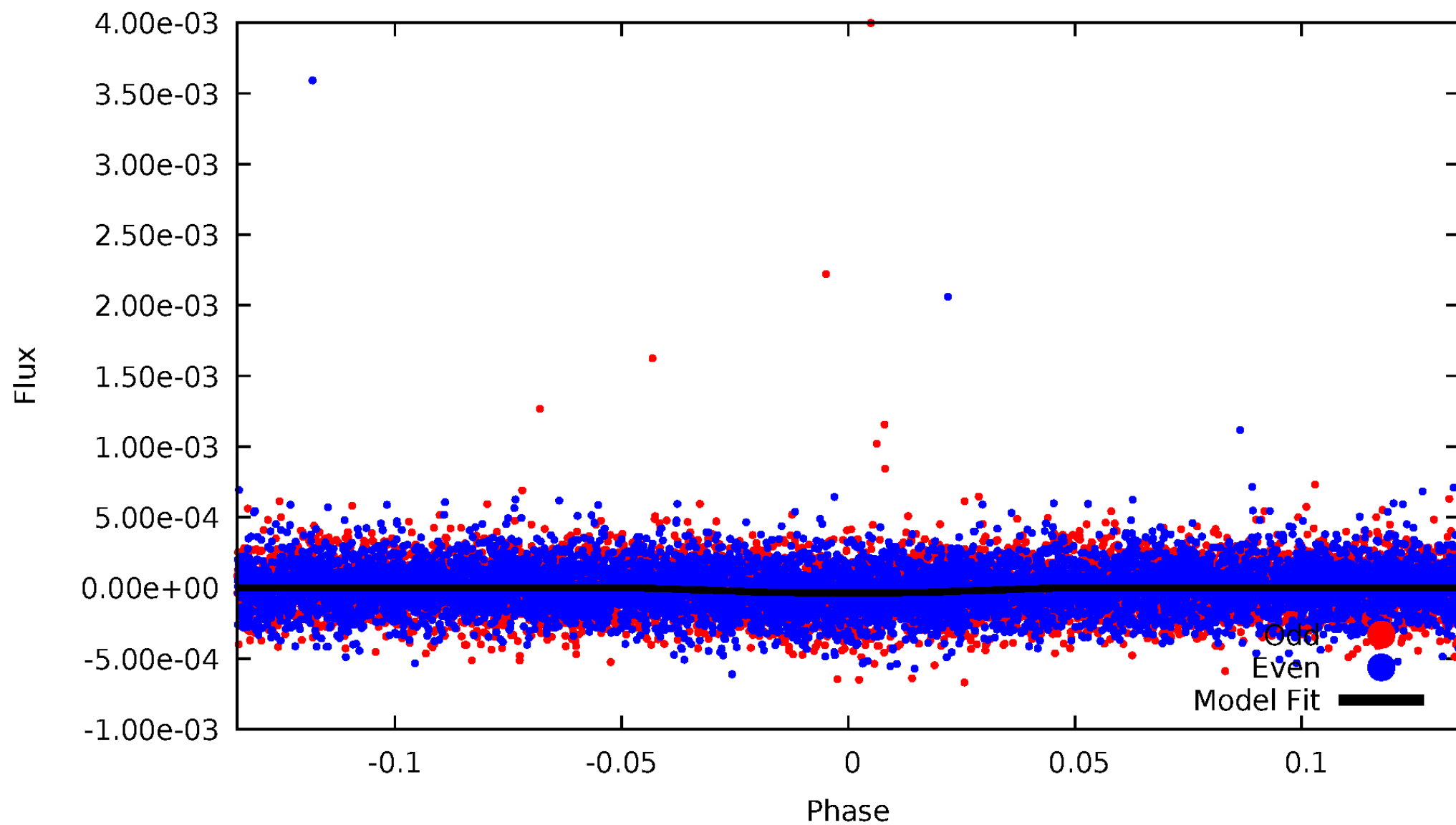


TCE 008094120-01



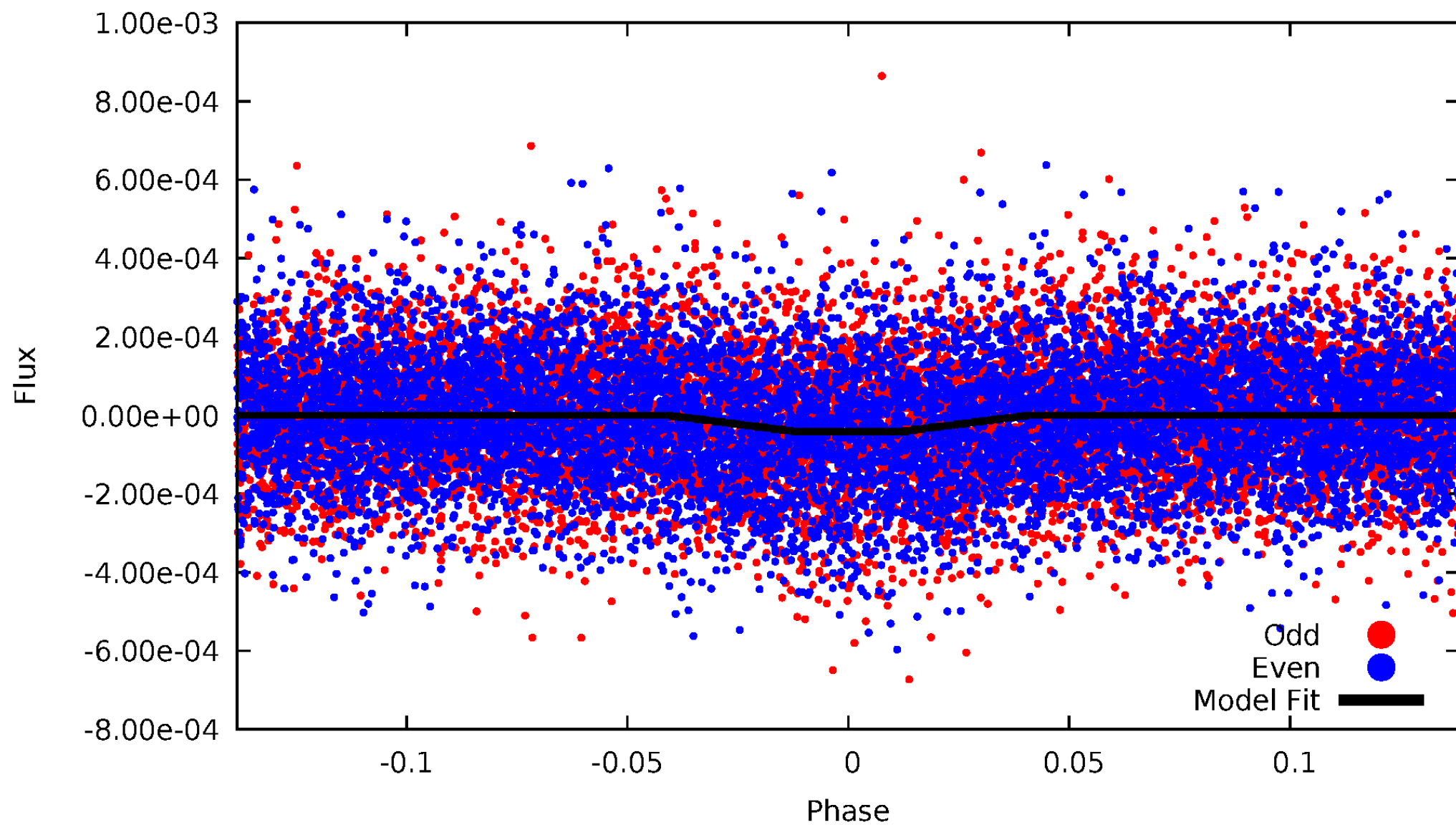
DV Odd/Even

TCE 008094120-01

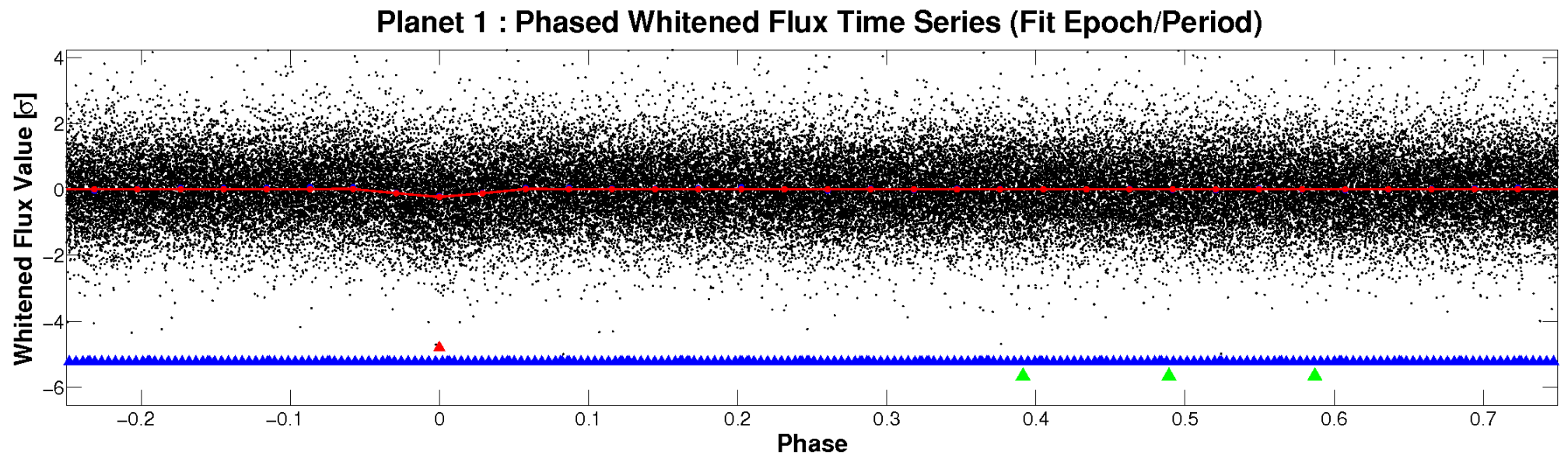
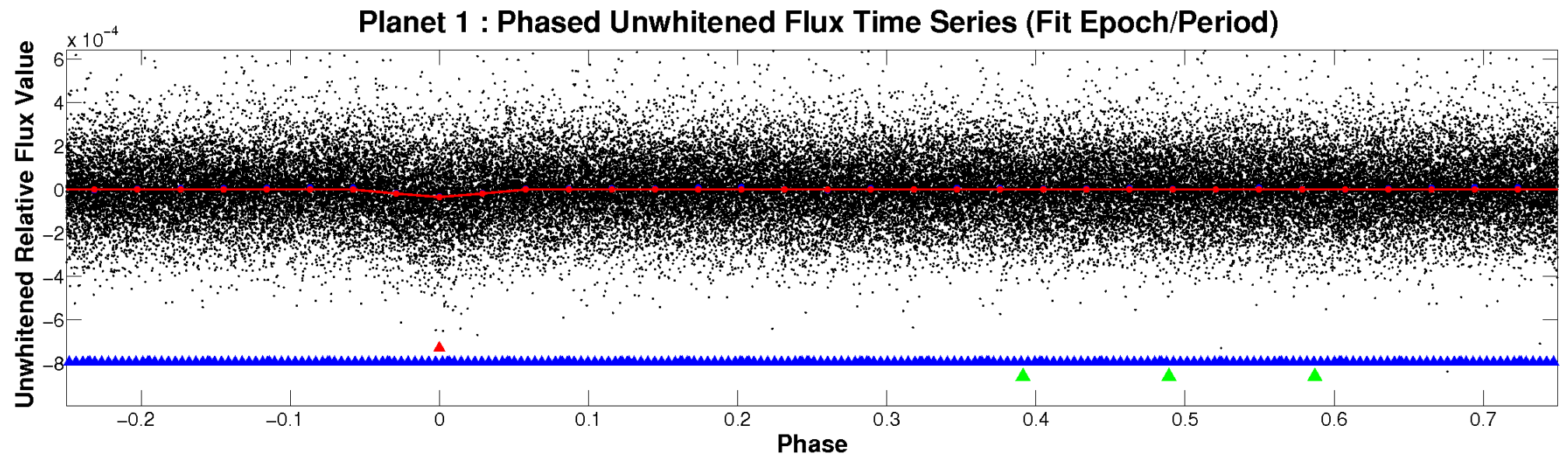


ALT Odd/Even

TCE 008094120-01

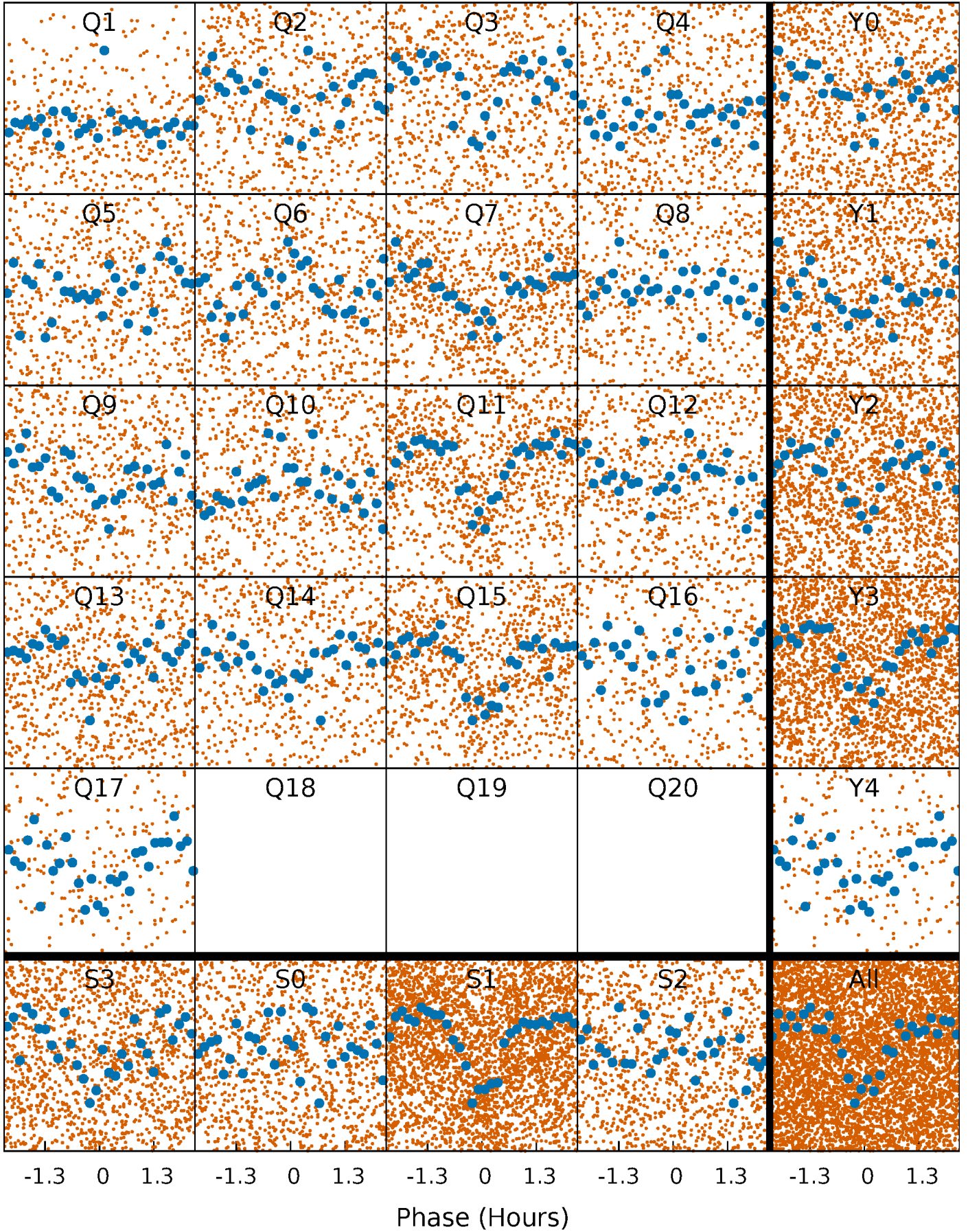


Non-Whitened Vs. Whitened Light Curve



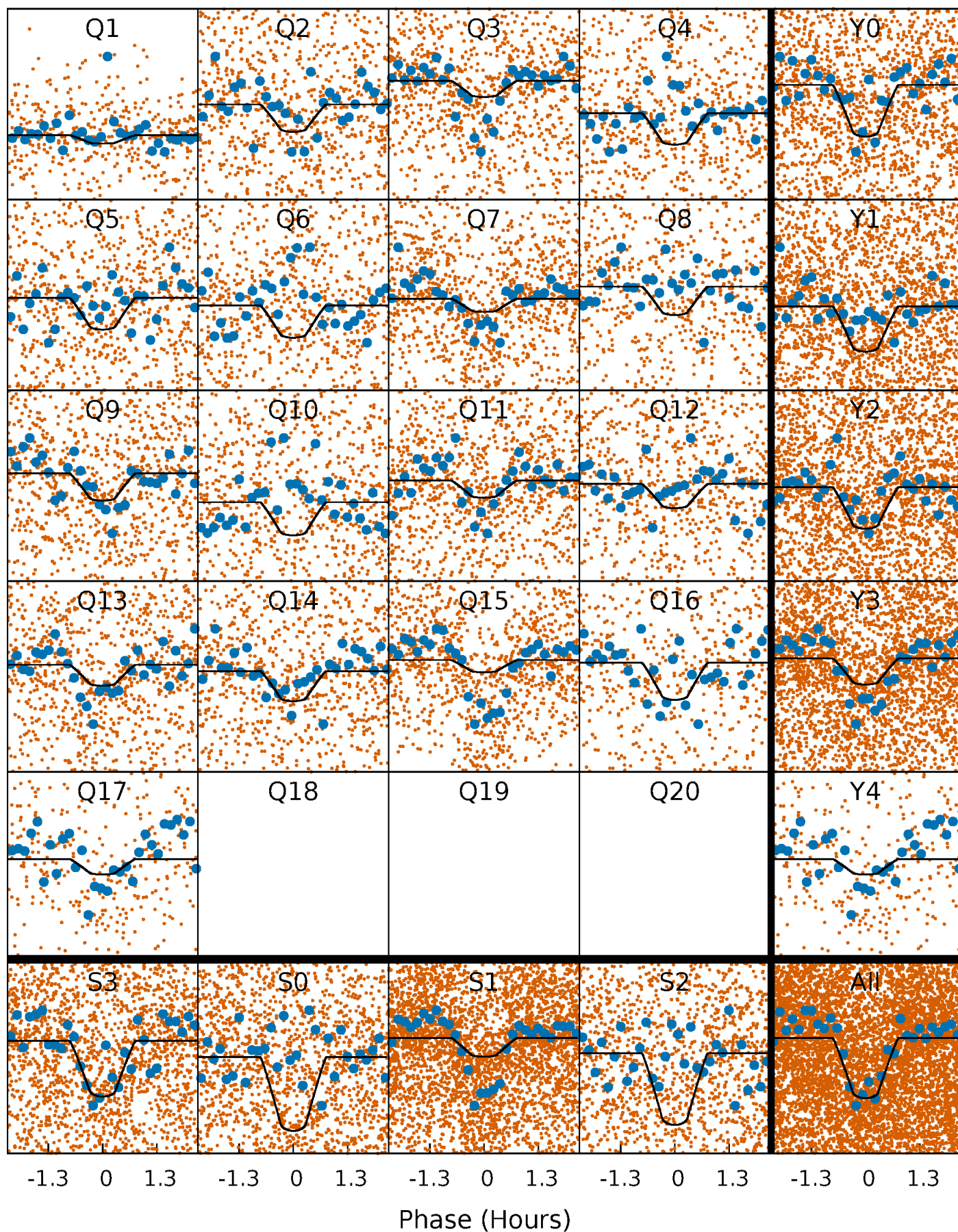
PDC Quarter-Phased Transit Curves

TCE 008094120-01 P= 0.706426 Days $T_0=132.148873$ (BKJD)



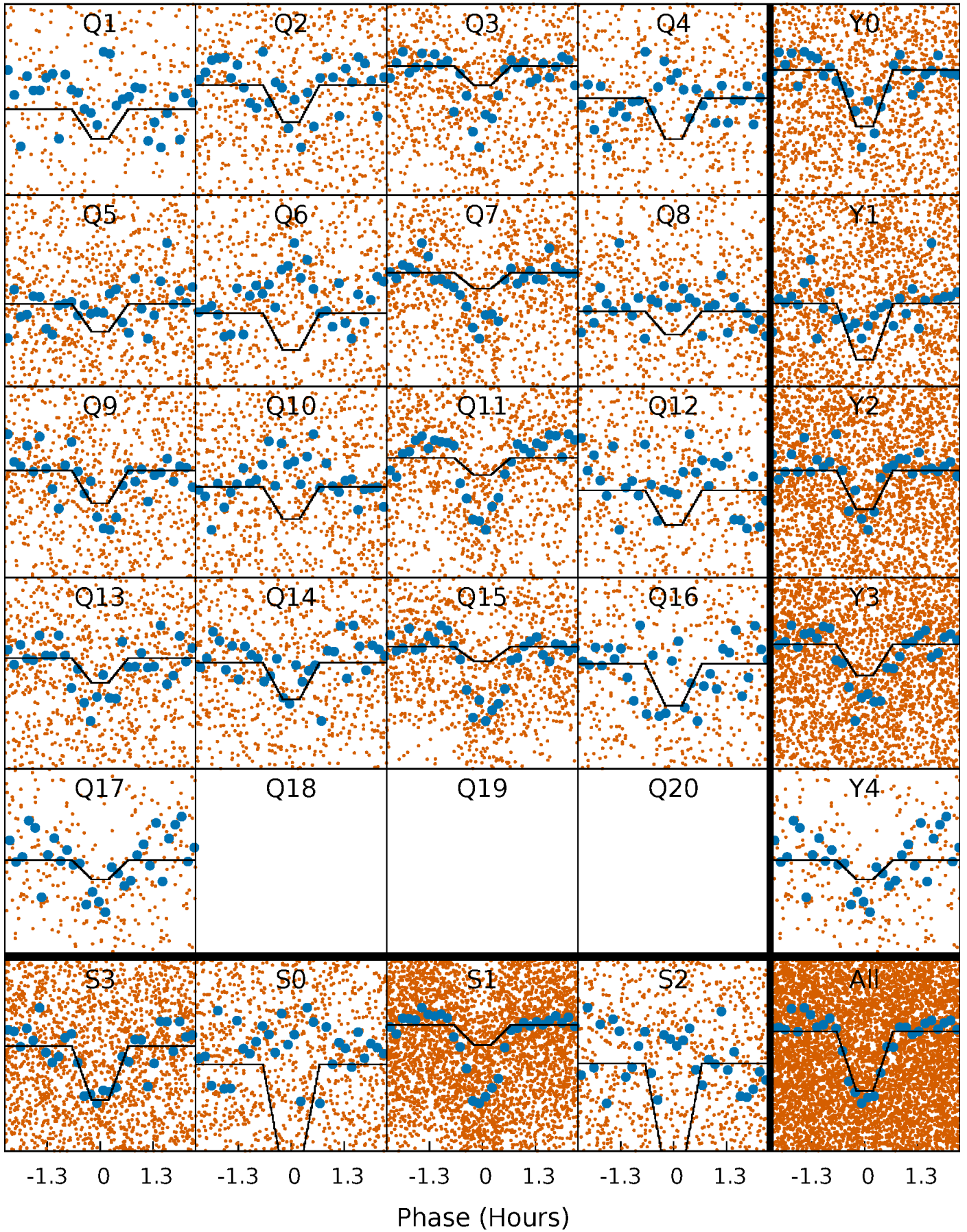
DV Quarter-Phased Transit Curves

TCE 008094120-01 P= 0.706426 Days $T_0=132.148873$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

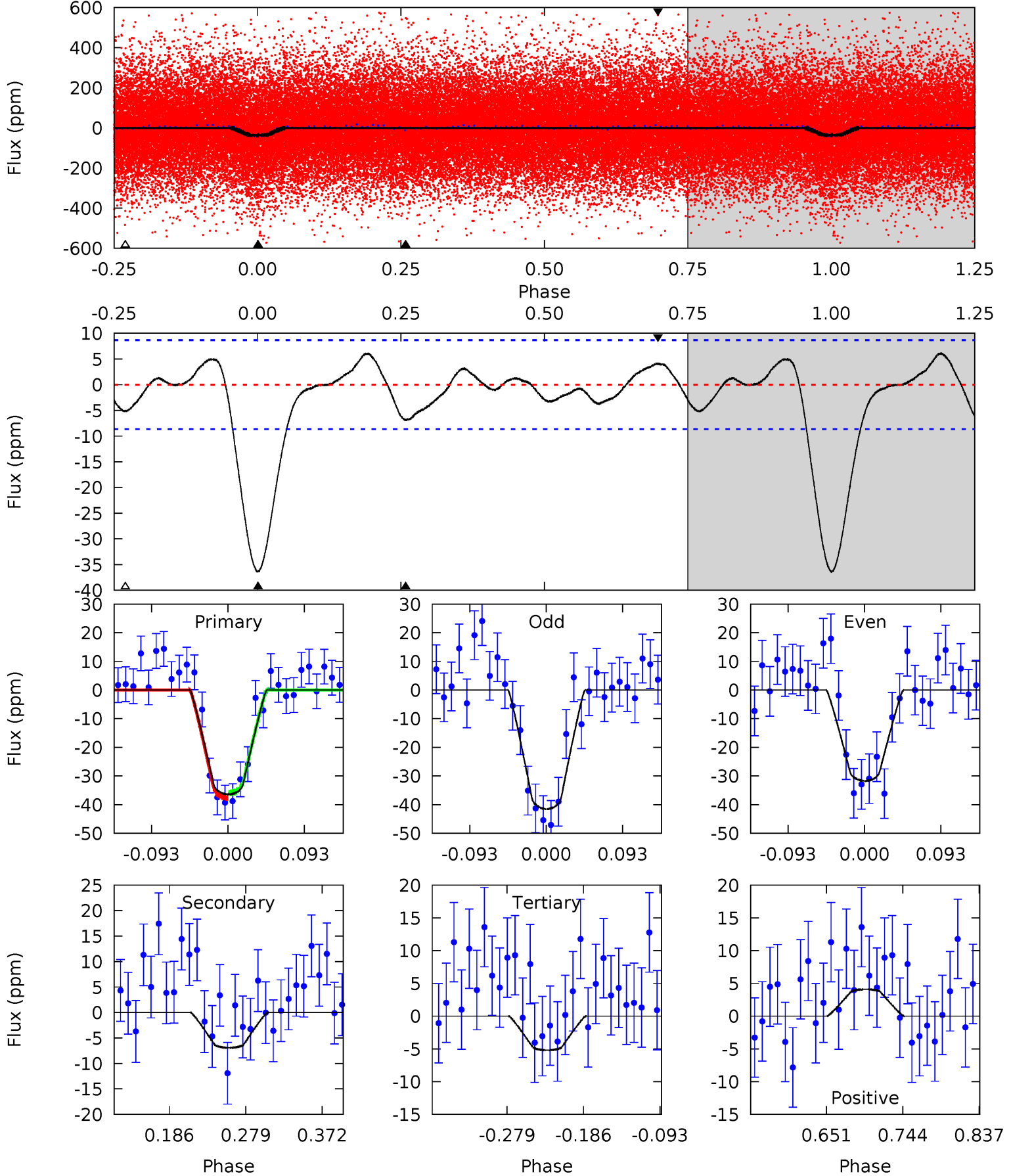
TCE 008094120-01 P= 0.706425 Days $T_0=132.149818$ (BKJD)



DV Model-Shift Uniqueness Test

008094120-01, P = 0.706426 Days, E = 131.442447 Days

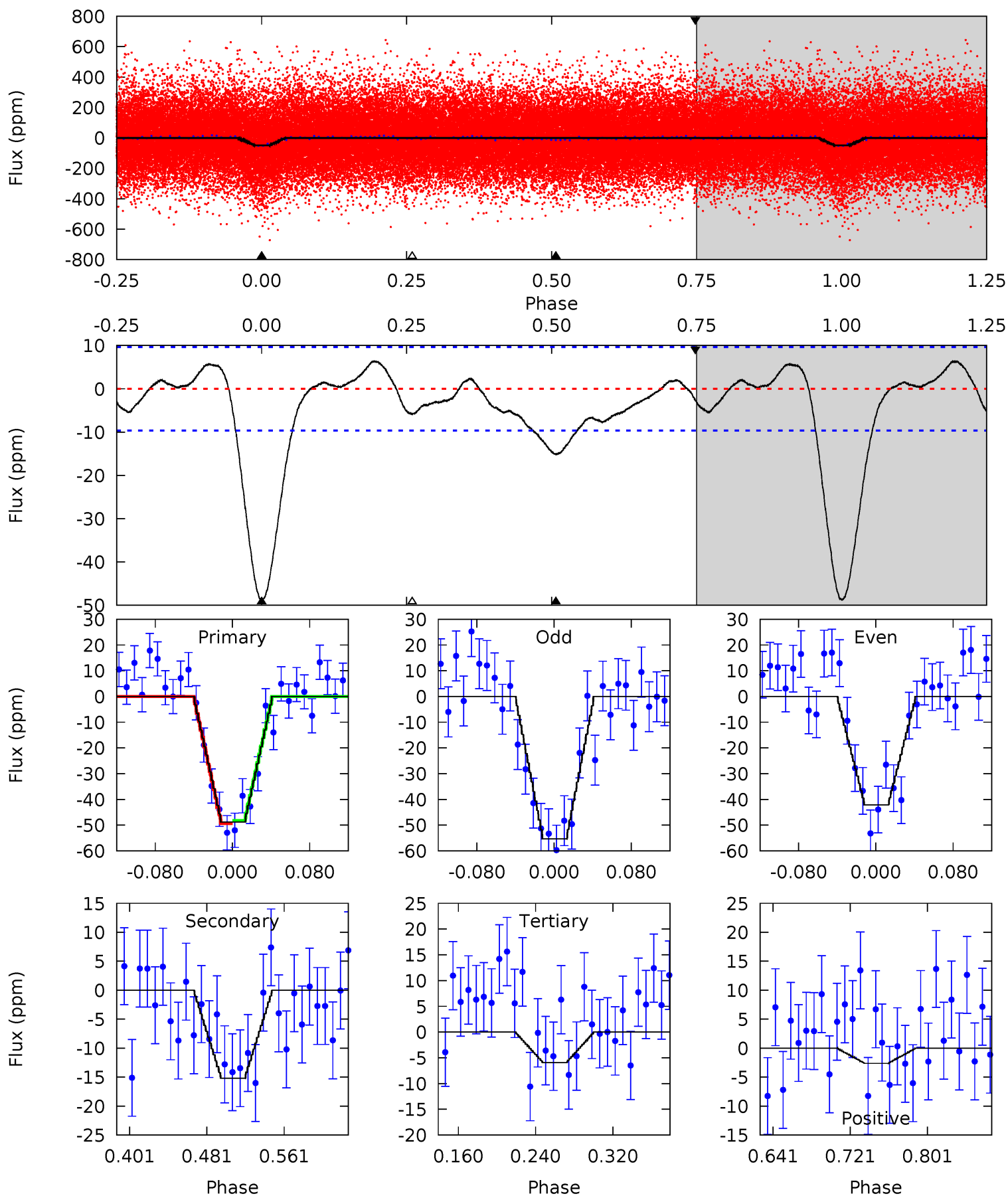
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	3.67	2.75	2.17	4.58	1.68	1.19	16.5	17.1	0.91	1.50	2.61	1.00	0.14	0.44



Alt Model-Shift Uniqueness Test

008094120-01, P = 0.706425 Days, E = 131.443393 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	7.26	2.83	-1.25	4.61	1.75	1.60	20.5	24.6	4.42	8.51	3.15	1.21	0.12	0.30



Stellar Parameters For KIC 008094120

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6514^{+181}_{-227}	$4.090^{+0.258}_{-0.172}$	$-0.340^{+0.300}_{-0.300}$	$1.585^{+0.457}_{-0.503}$	$1.127^{+0.192}_{-0.157}$	$0.398^{+0.621}_{-0.183}$
	+3%/-3%	+6%/-4%	+88%/-88%	+29%/-32%	+17%/-14%	+156%/-46%
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 008094120-01 / KOI 4881.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 2	$1.14^{+0.55}_{-0.50}$	3943^{+309}_{-351}	3885^{+1284}_{-1360}	$0.751^{+1.616}_{-0.428}$
Alt.	-15 ± 2	$1.07^{+0.54}_{-0.43}$	3949^{+314}_{-339}	4911^{+1389}_{-888}	$1.889^{+3.367}_{-1.087}$

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 $A_{obs} \gg 1.0$

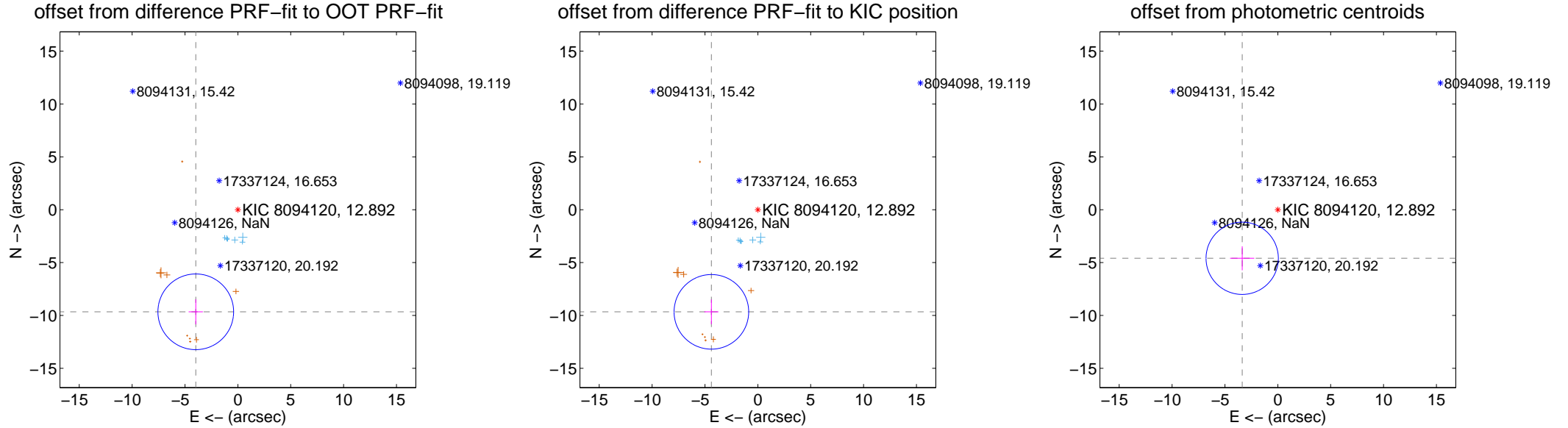
DV Centroid Data

Supplemental centroid analysis for 008094120-01. Kepler magnitude: 12.89. Transit SNR 12.56

There are 7 quarters with good PRF difference image offsets

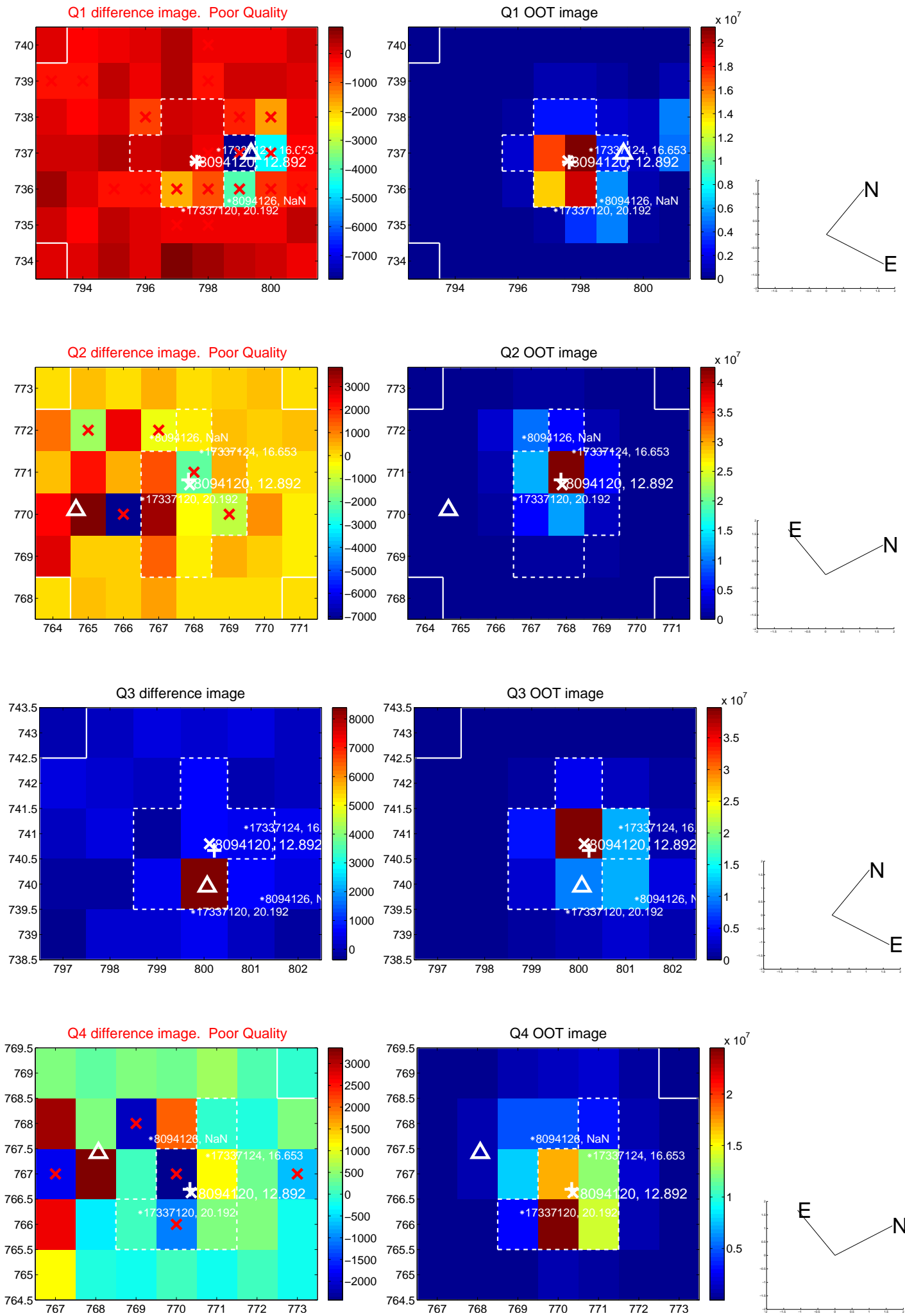
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.443 \pm 1.193	8.75	3.980 \pm 0.673	-9.655 \pm 1.184
PRF-fit source offset from KIC position	10.611 \pm 1.176	9.02	4.392 \pm 0.666	-9.659 \pm 1.166
photometric centroid source offset	5.70 \pm 1.14	5.00	3.37 \pm 1.14	-4.59 \pm 1.14

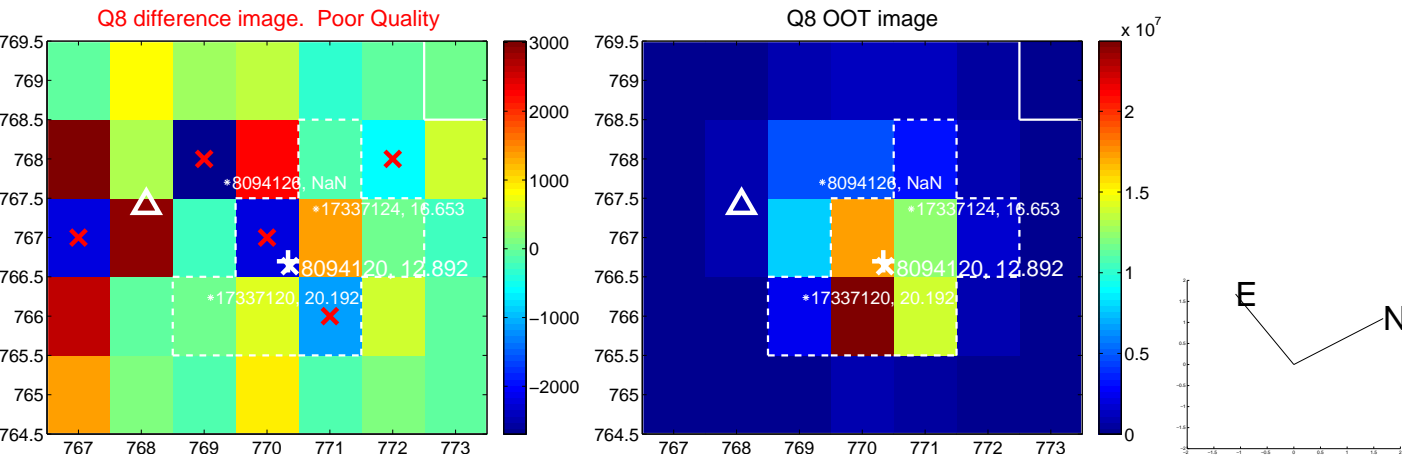
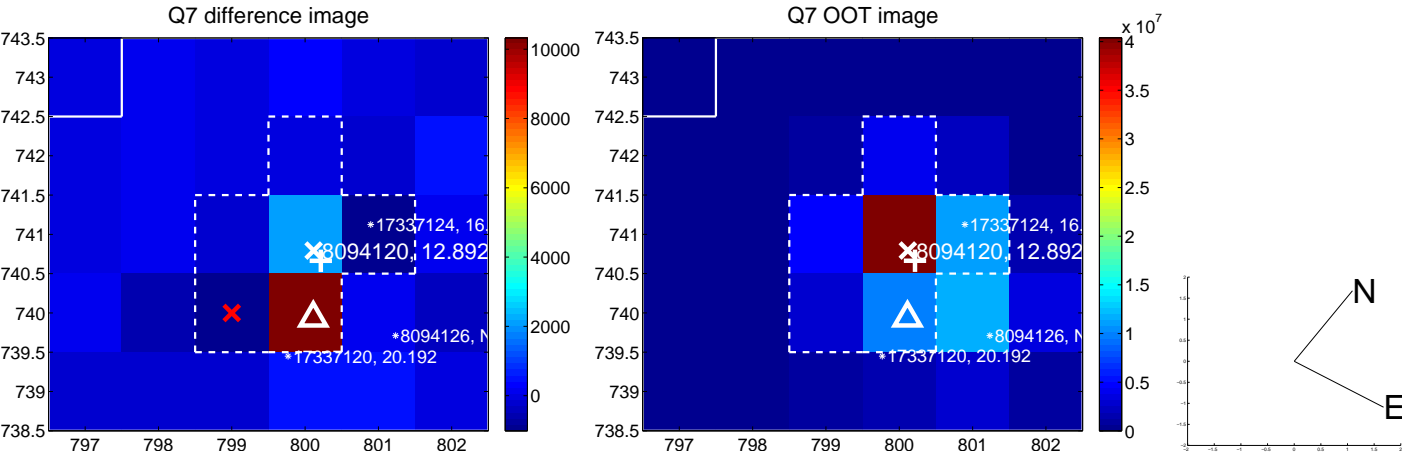
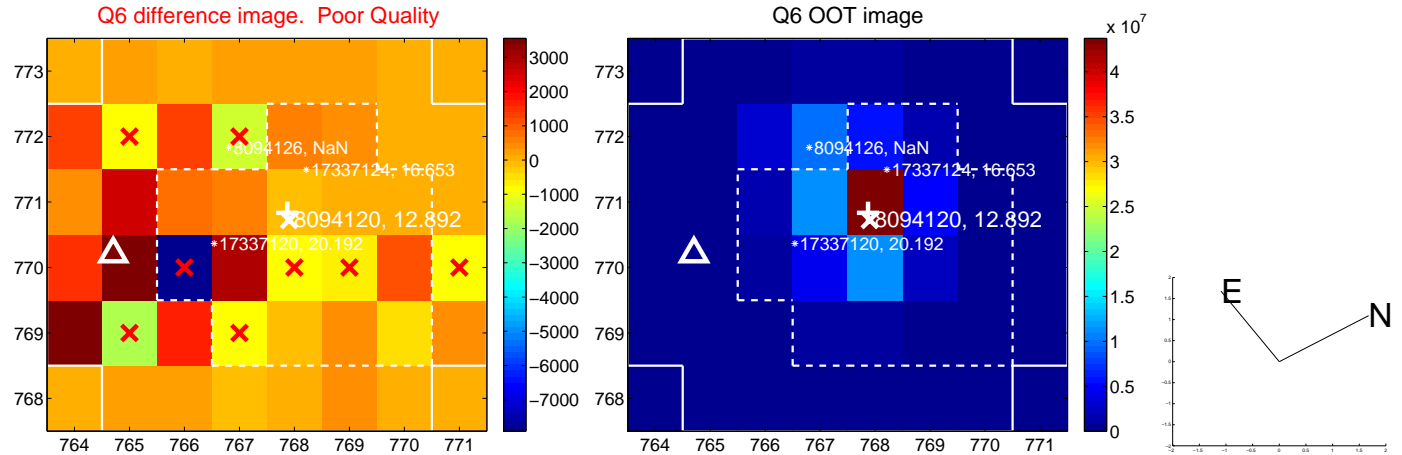
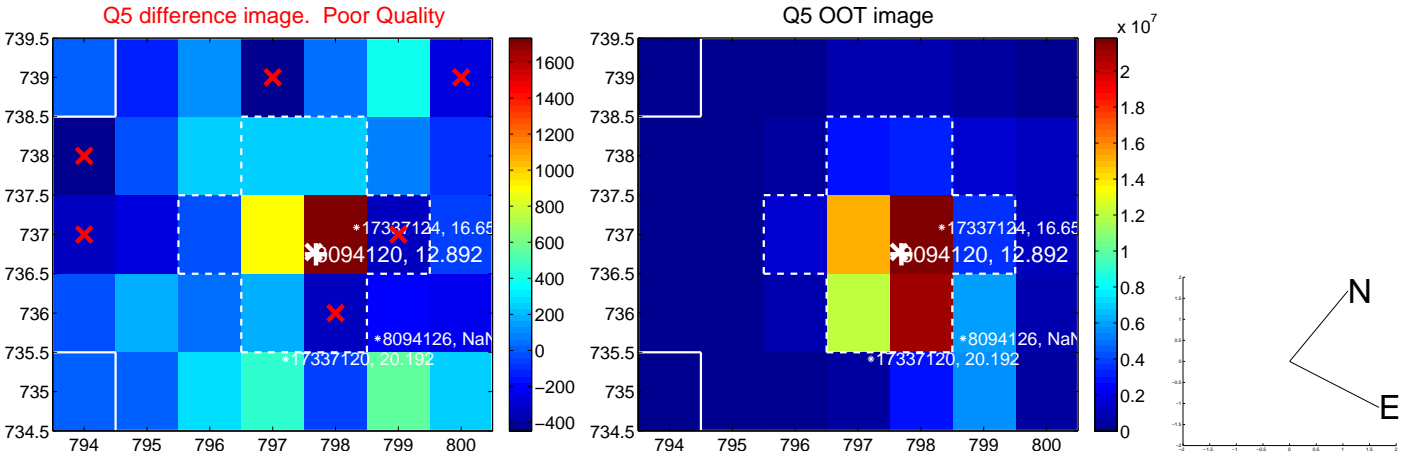


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

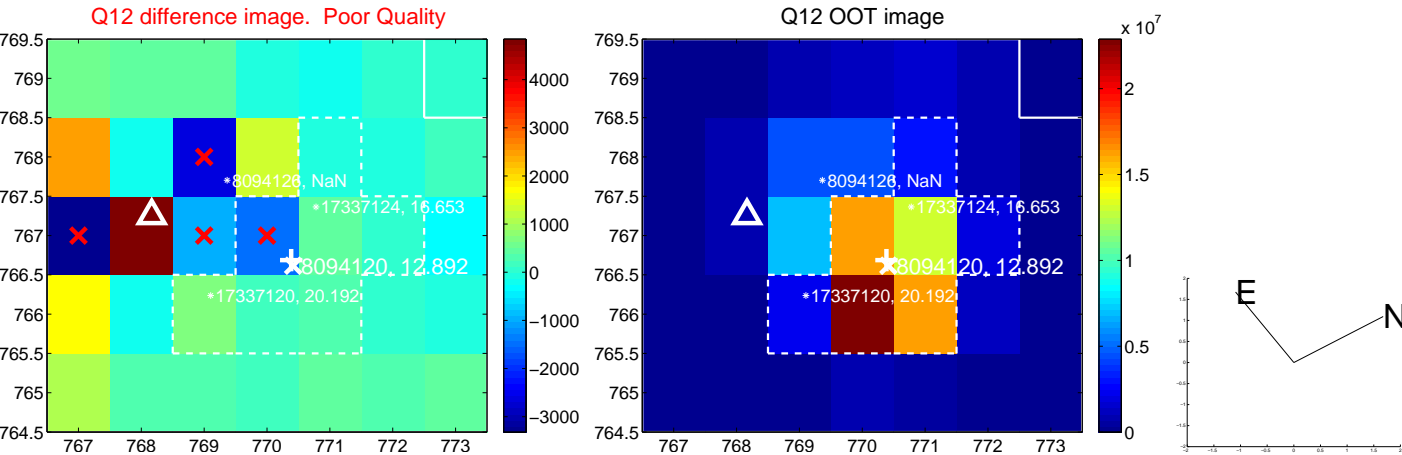
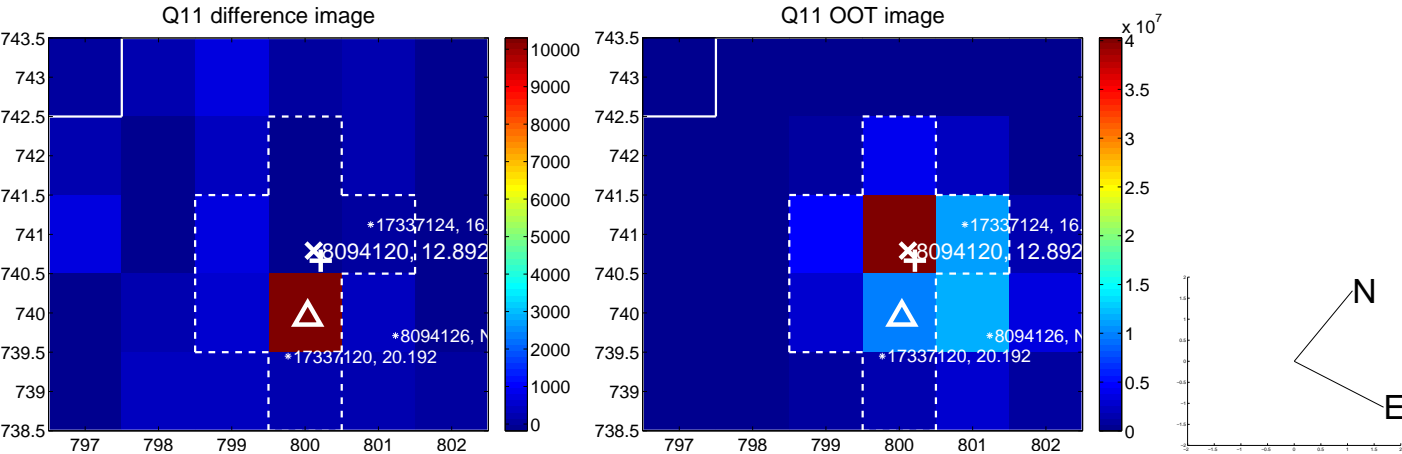
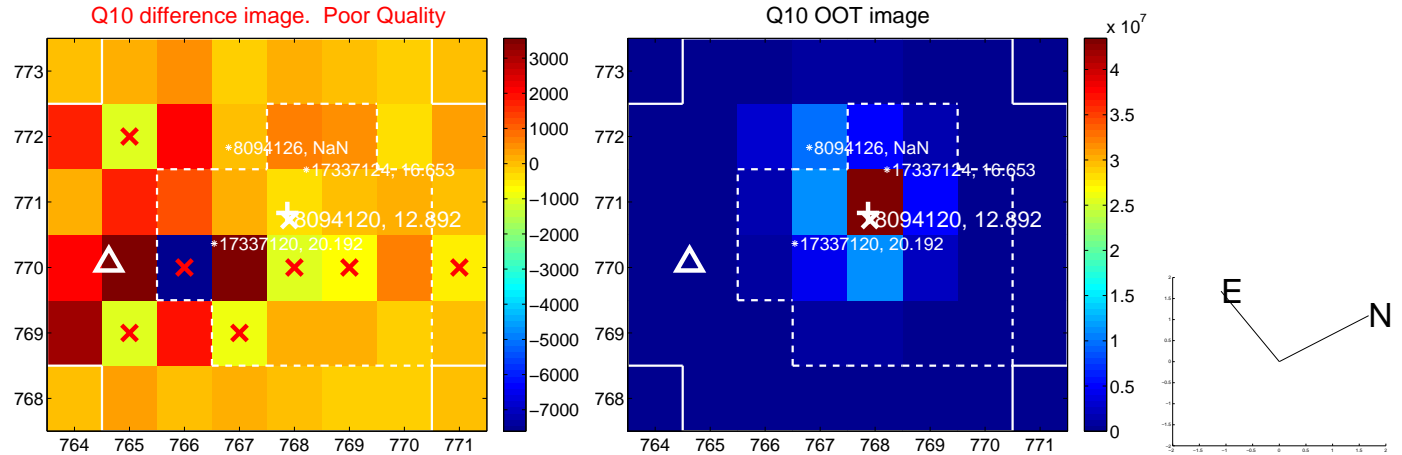
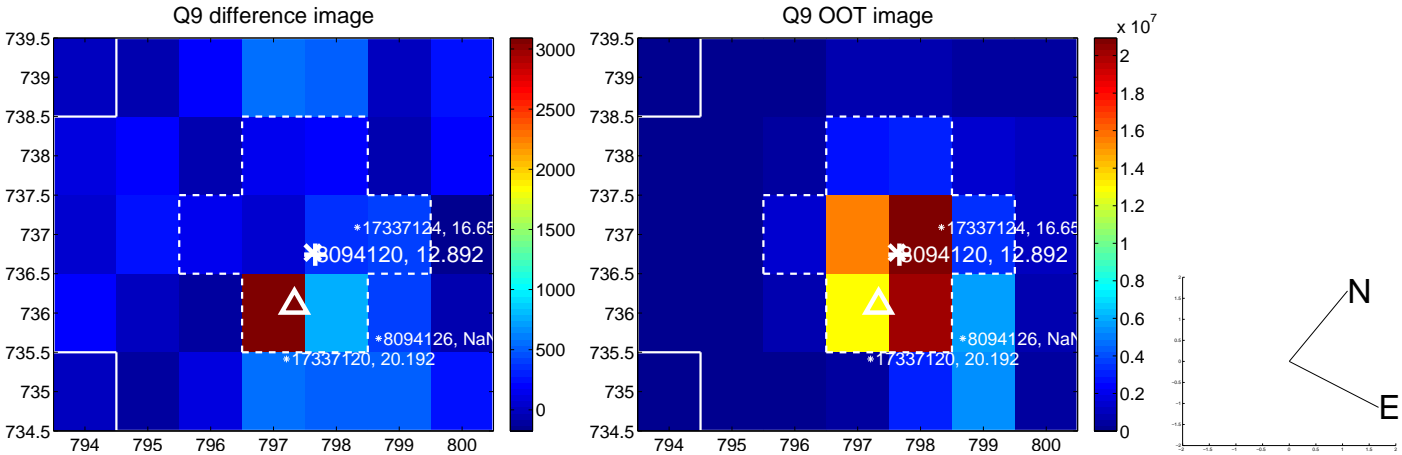
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



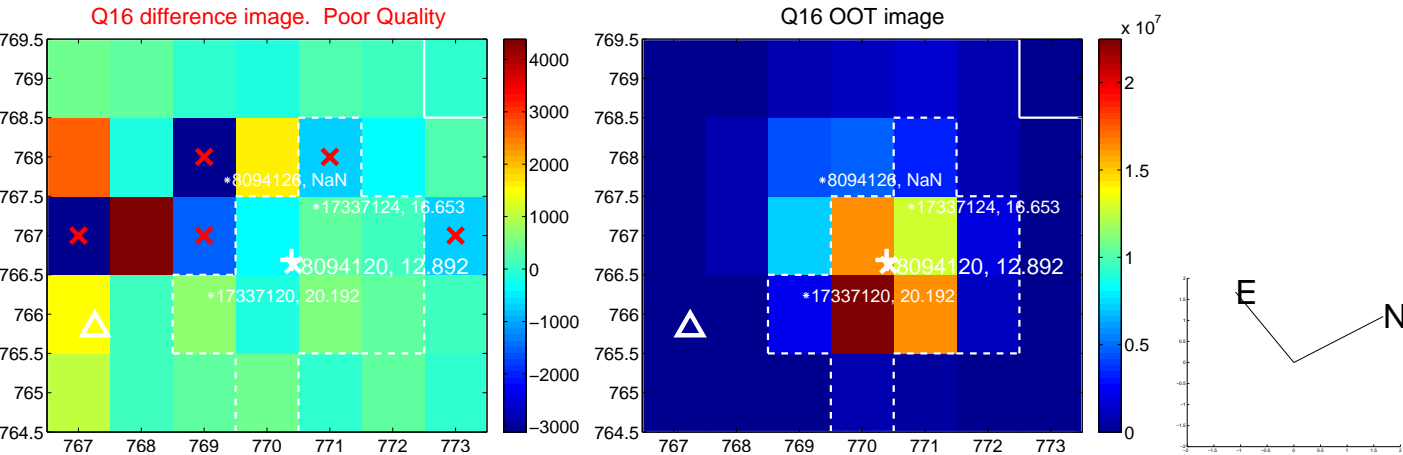
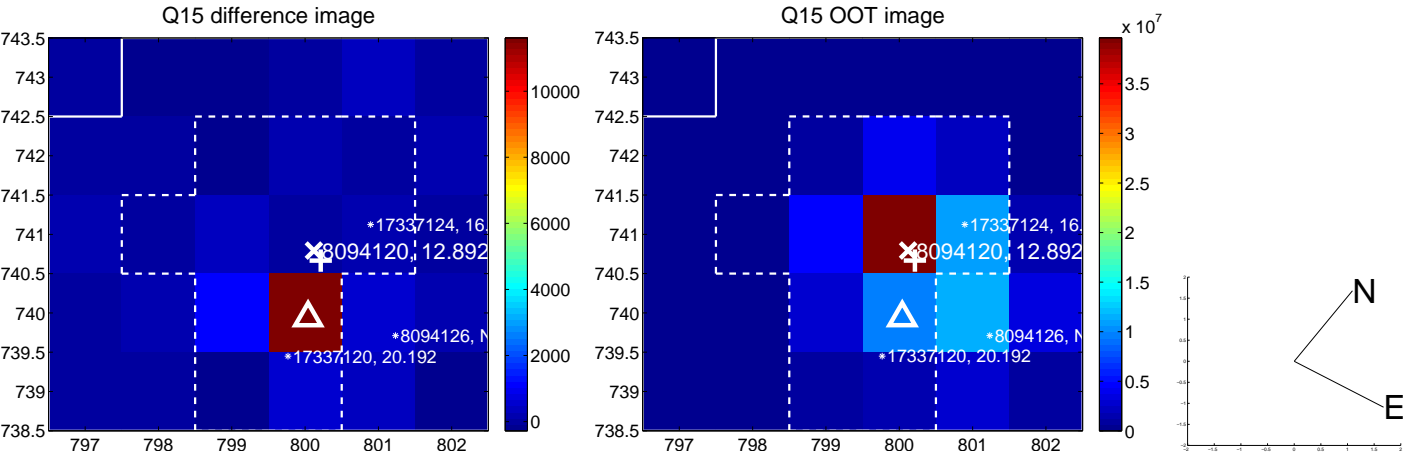
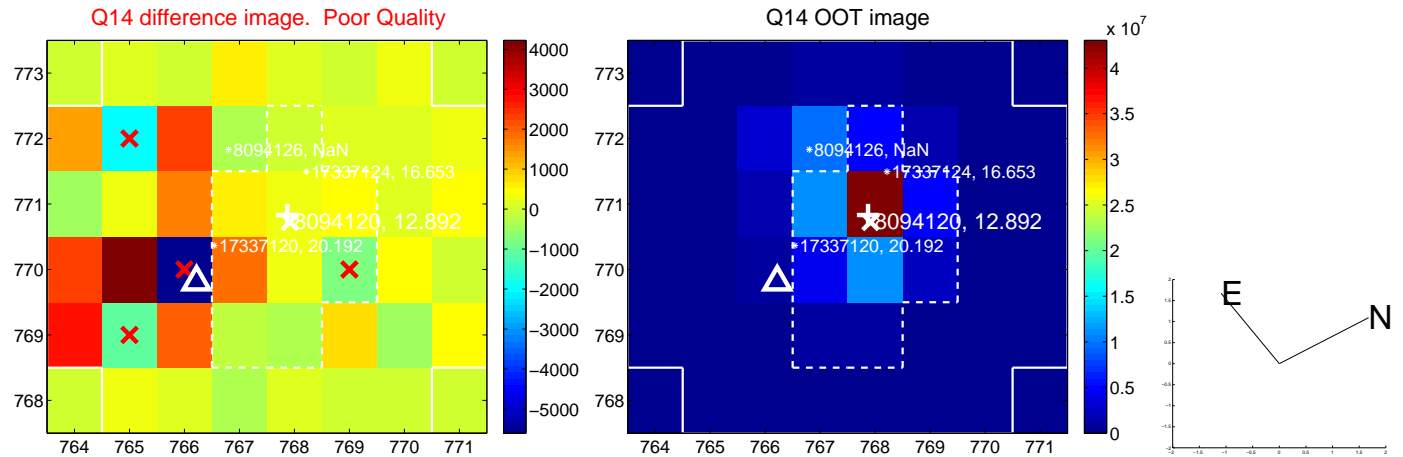
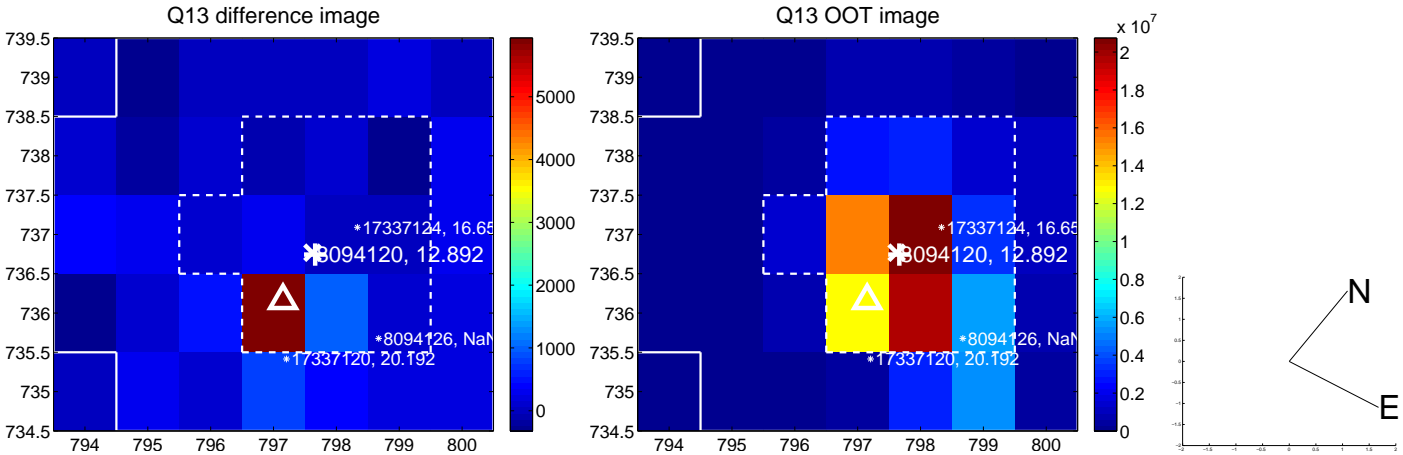
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



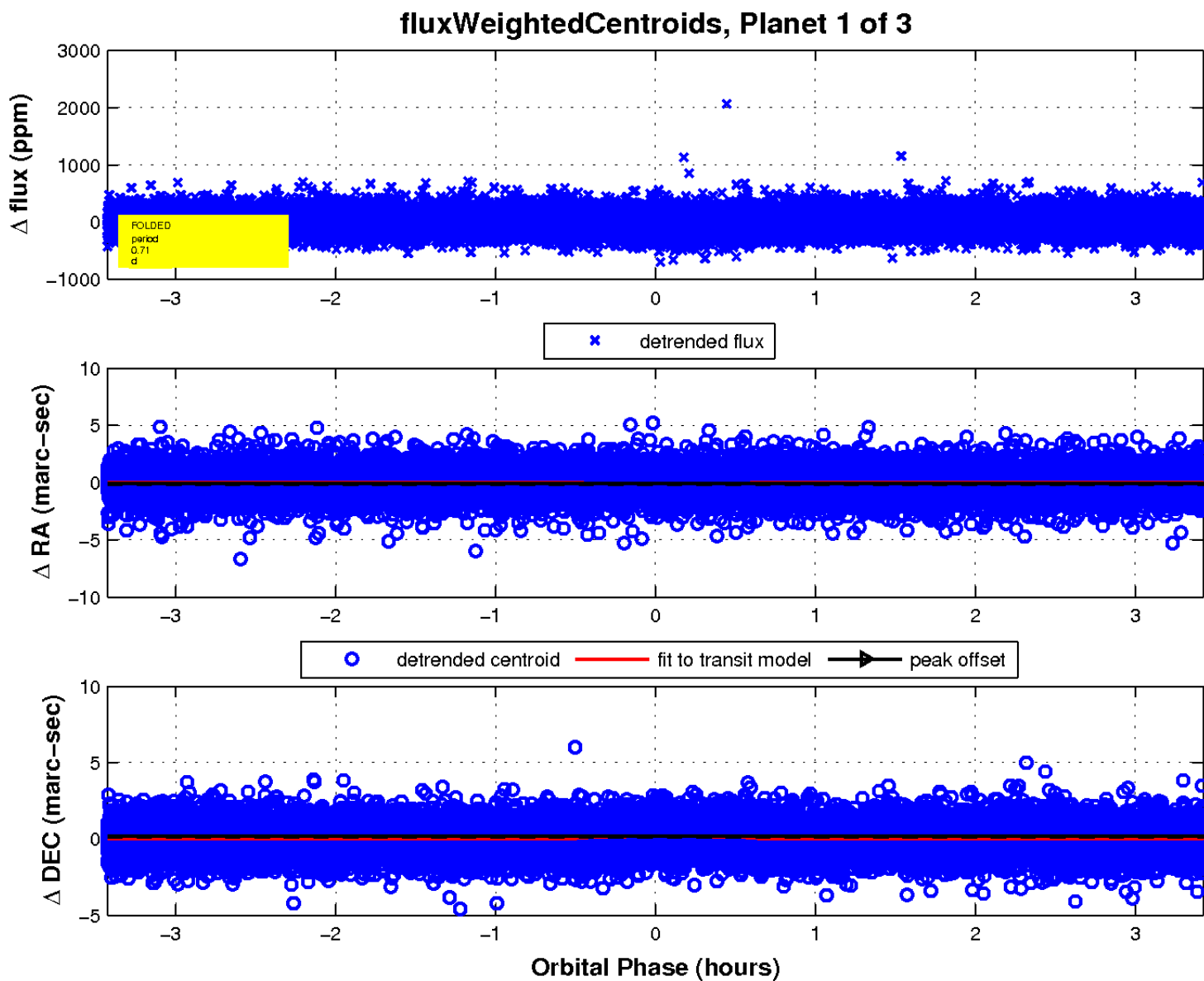
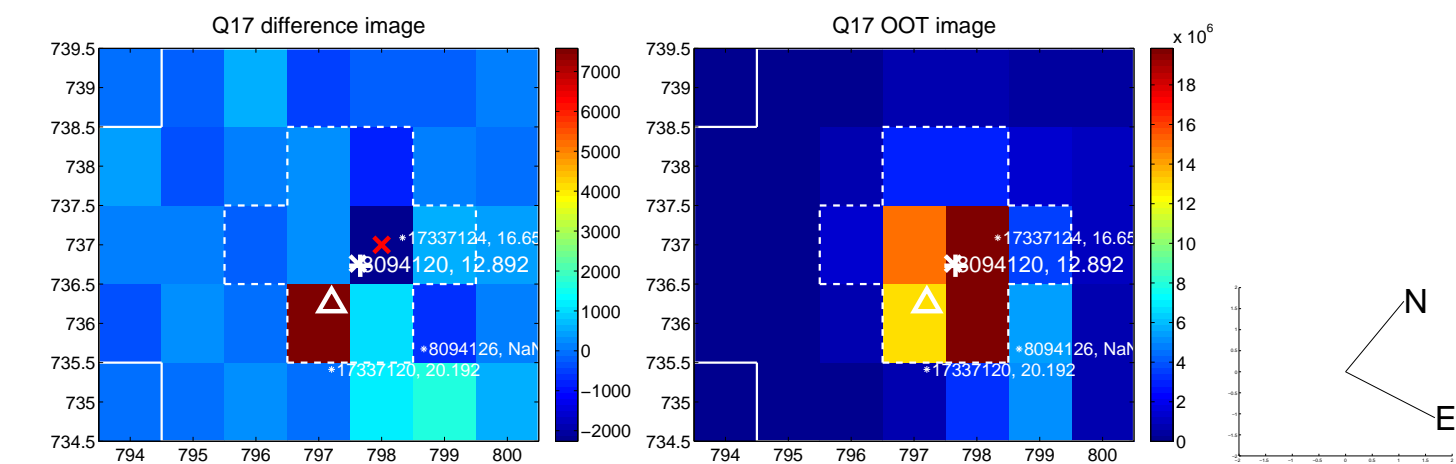
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



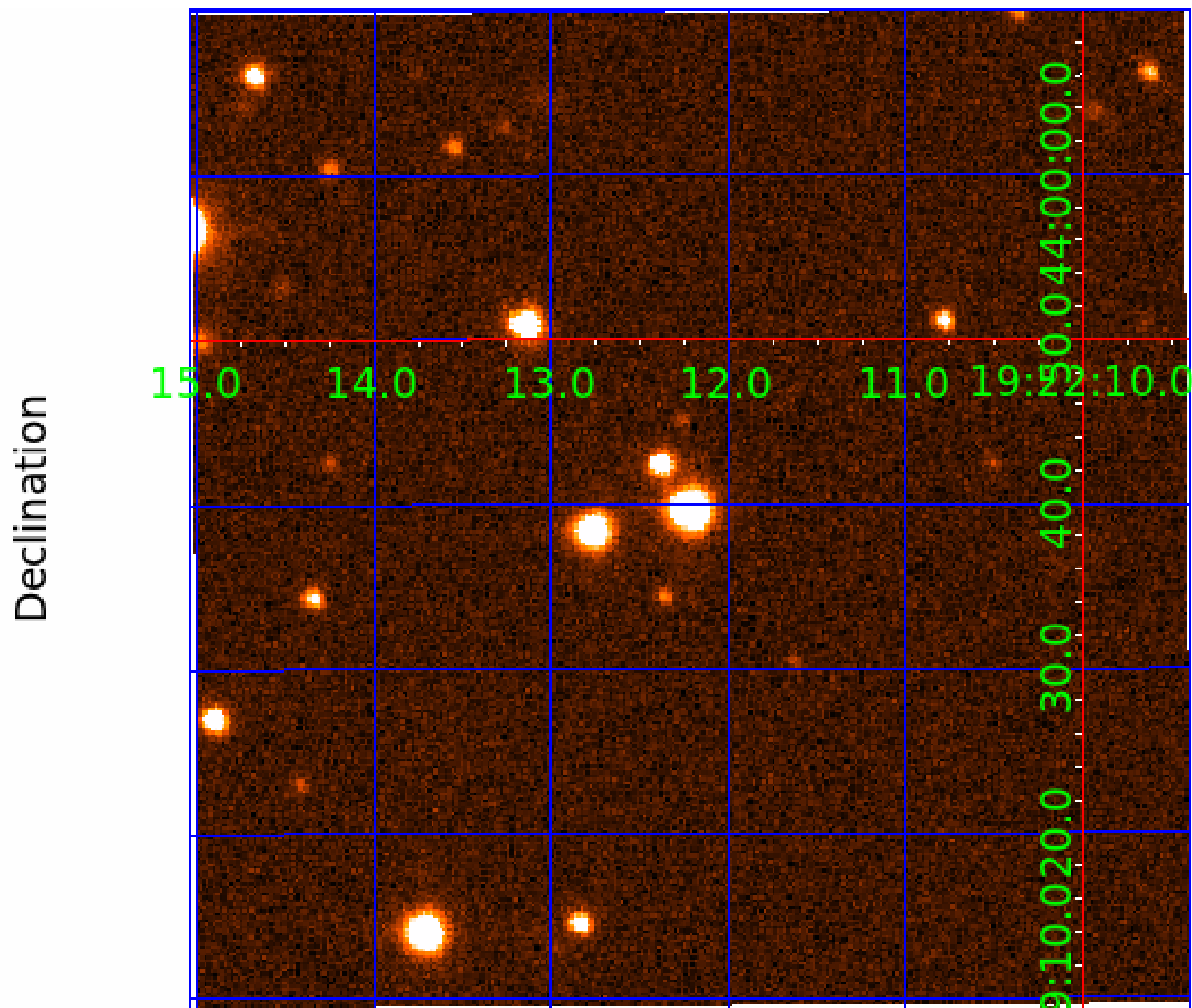
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008094120

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})
008094120-01	OBS	4881.02	0.706426	132.148873	35.4	1.143	9.9	12.6	1.58	6514	1.16	15519.67
008094120-02	OBS	4881.01	5.679797	132.912665	46.1	4.341	7.7	9.2	1.58	6514	1.25	963.52
008094120-03	OBS	No	640.797781	209.425815	222.5	7.489	7.3	7.3	1.58	6514	2.65	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008094120-01	OBS	FP	0.00	0	0	0	1	CENT_KIC_POS—EPHEM_MATCH
008094120-02	OBS	PC	0.98	0	0	0	0	NO_COMMENT
008094120-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_FEW_DIFFS

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

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

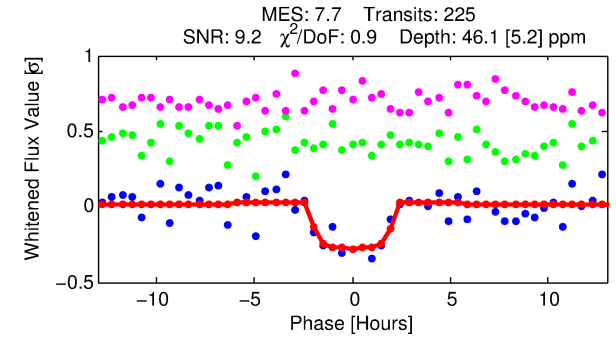
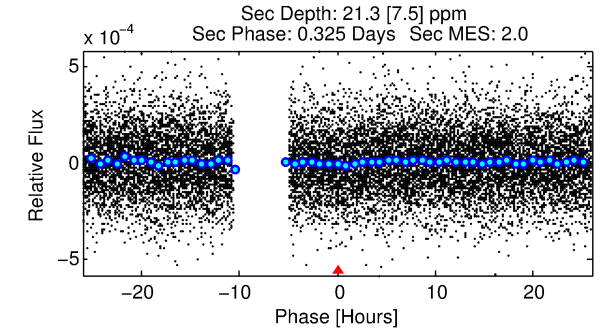
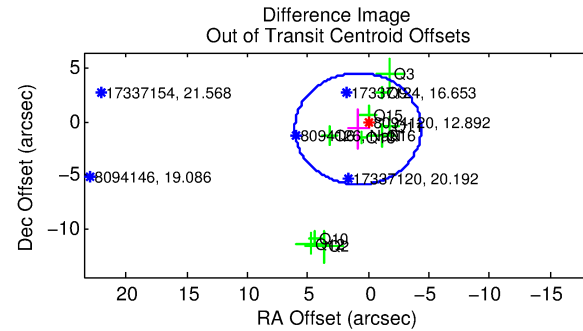
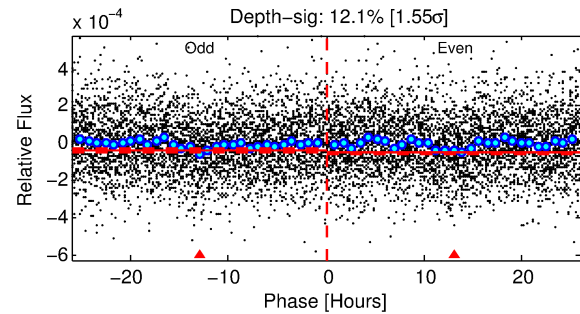
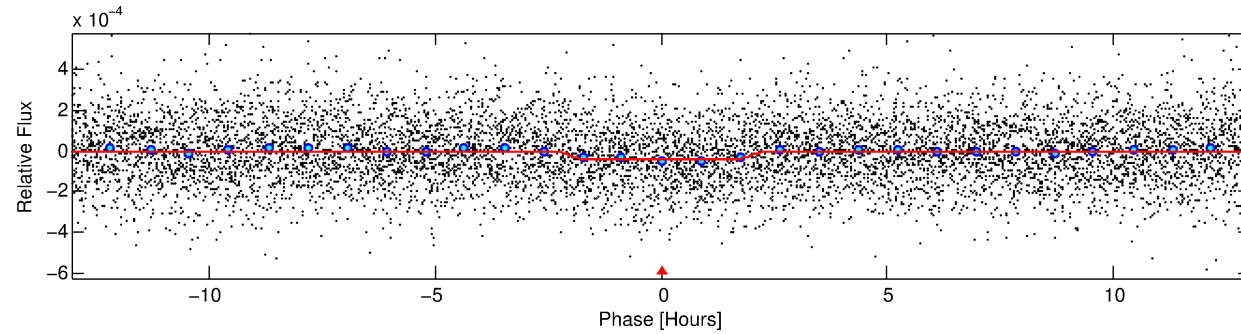
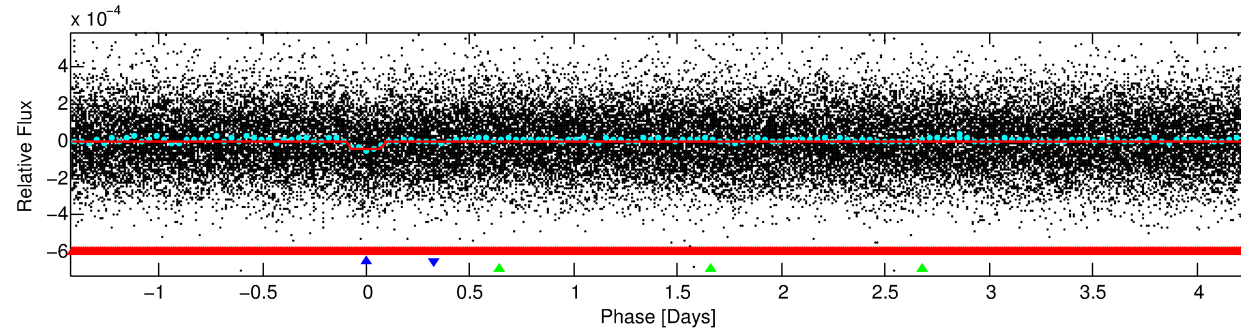
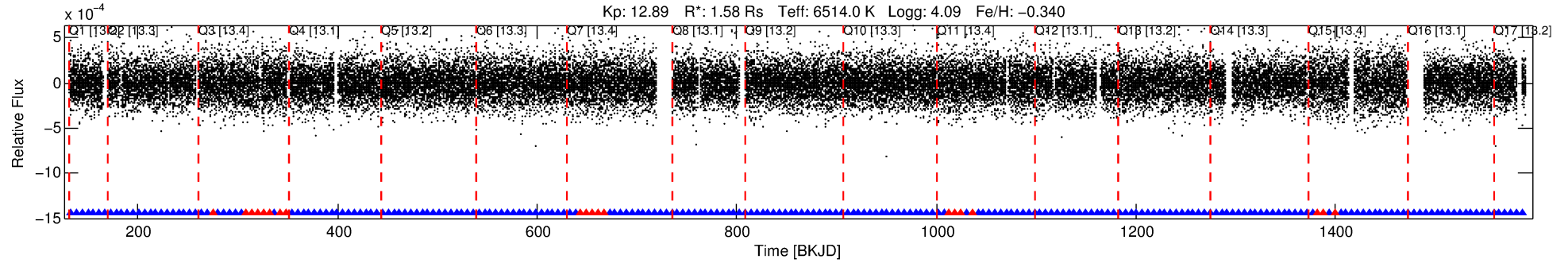
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008094120-02

No Significant Match Found

DV One-Page Summary

KIC: 8094120 Candidate: 2 of 3 Period: 5.680 d
KOI: K04881.01 Corr: 0.828



DV Fit Results:

Period = 5.67980 [0.00006] d
Epoch = 132.9127 [0.0072] BKJD
Rp/R* = 0.0073 [0.0030]
a/R* = 4.62 [10.60]
b = 0.90 [0.51]
Seff = 963.52 [453.00]
Teq = 1421 [167] K
Rp = 1.26 [0.65] Re
a = 0.0649 [0.0188] AU
Ag = 31.34 [31.38] [0.97 σ]
Teffp = 5197 [1177] K [3.18 σ]

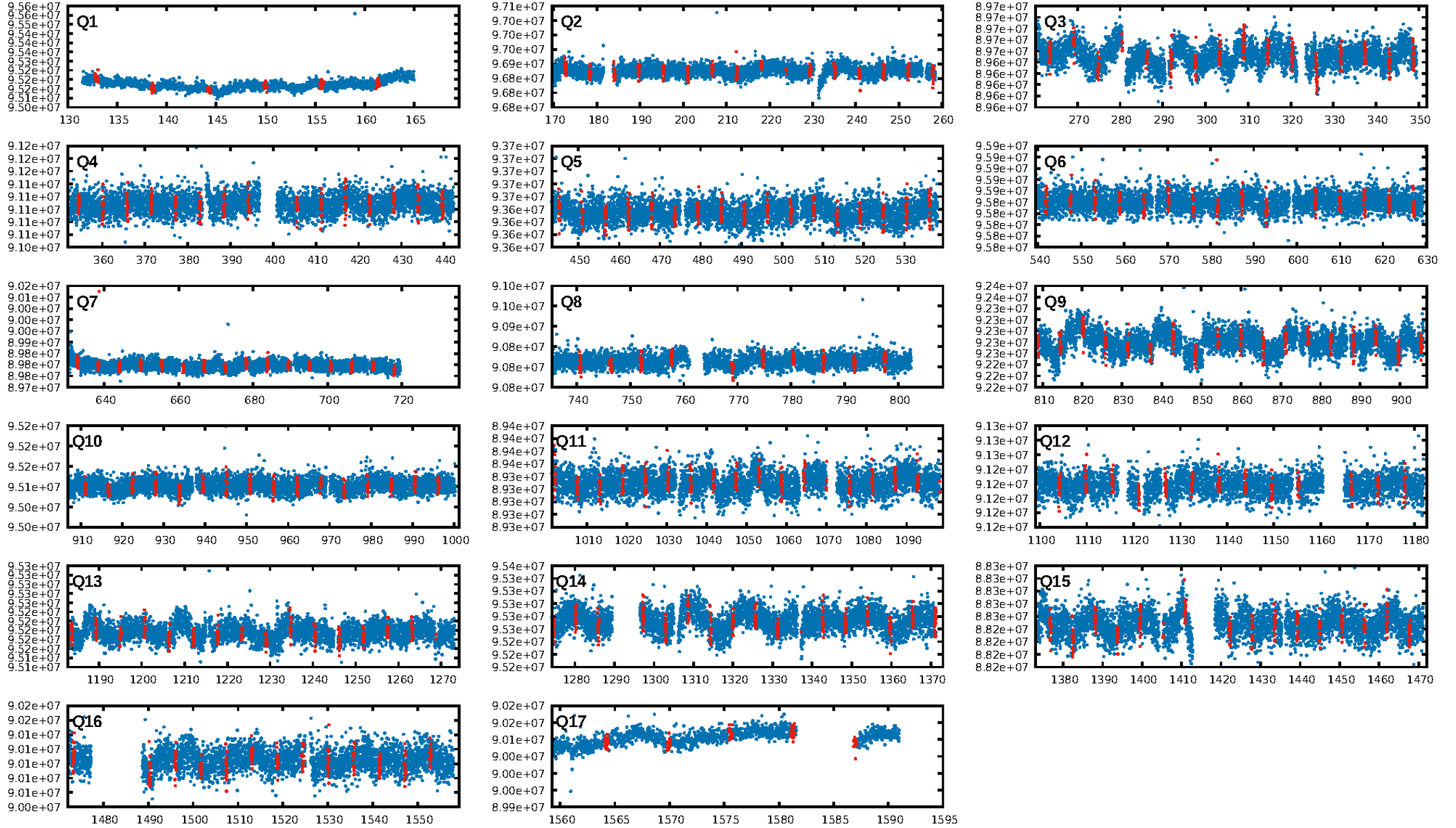
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.59 σ]
LongPeriod-sig: 100.0% [1760.90 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.97e-14
RollingBand-fgt: 0.91 [194/214]
GhostDiagnostic-chr: -4.052
Centroid-sig: 2.5%
Centroid-so: 1.641 arcsec [1.24 σ]
OotOffset-rm: 1.088 arcsec [0.63 σ]
OotOffset-st: 3/3/2/2 [10]
KicOffset-rm: 1.346 arcsec [0.90 σ]
KicOffset-st: 3/3/2/2 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 0.00 [0/17]

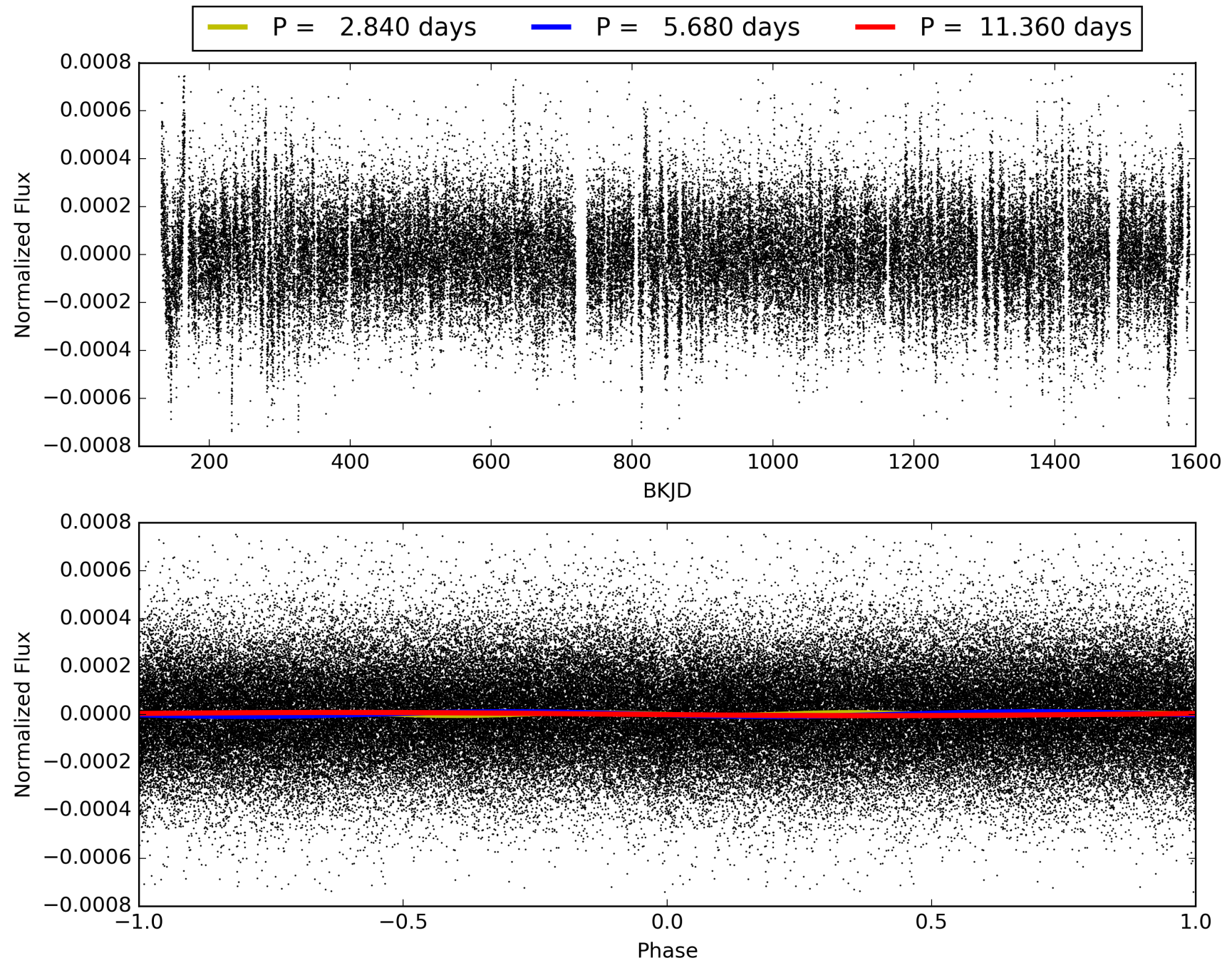
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:06:24 Z

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

TCE 008094120-02, PDC Light Curves

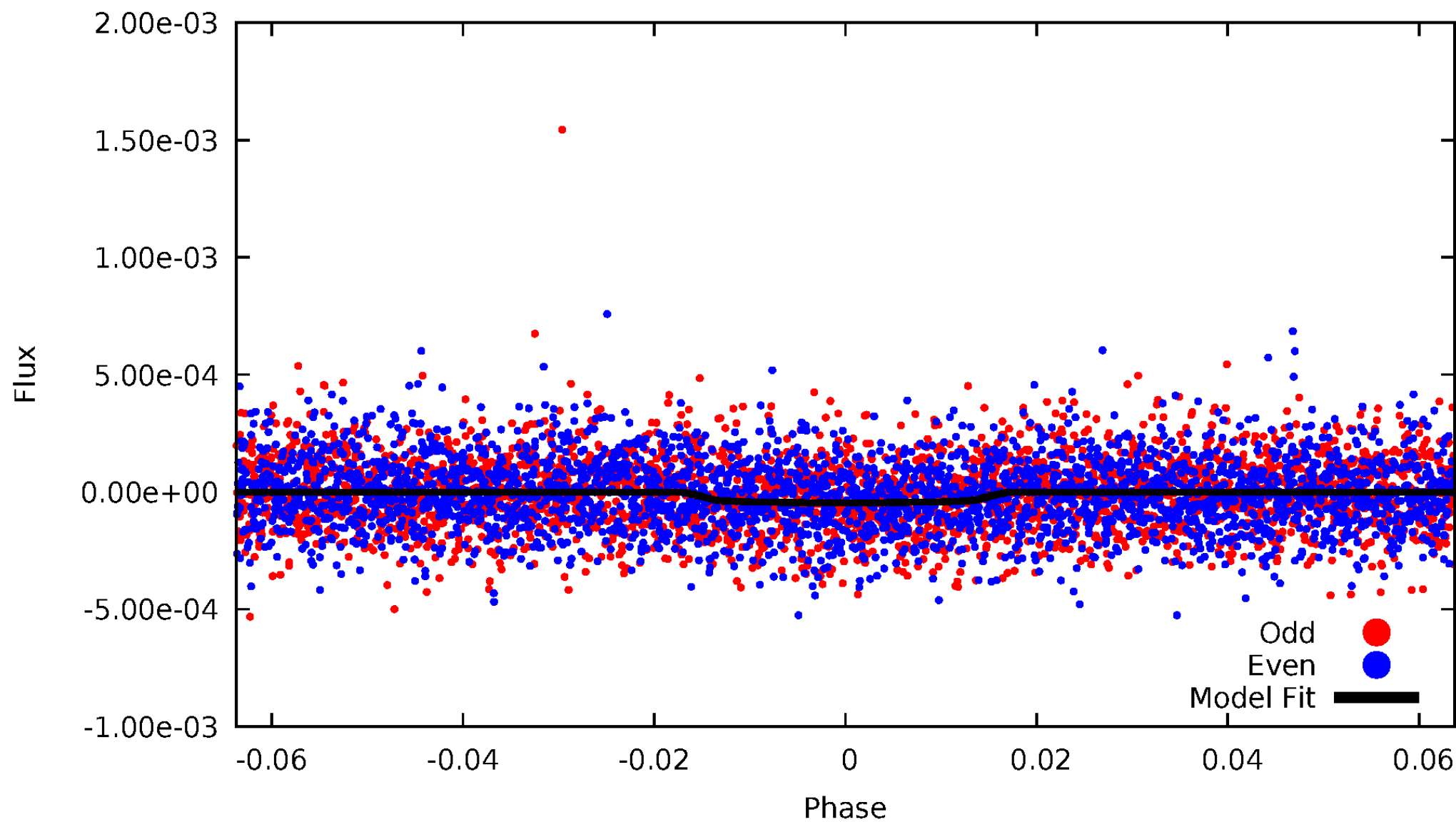


TCE 008094120-02



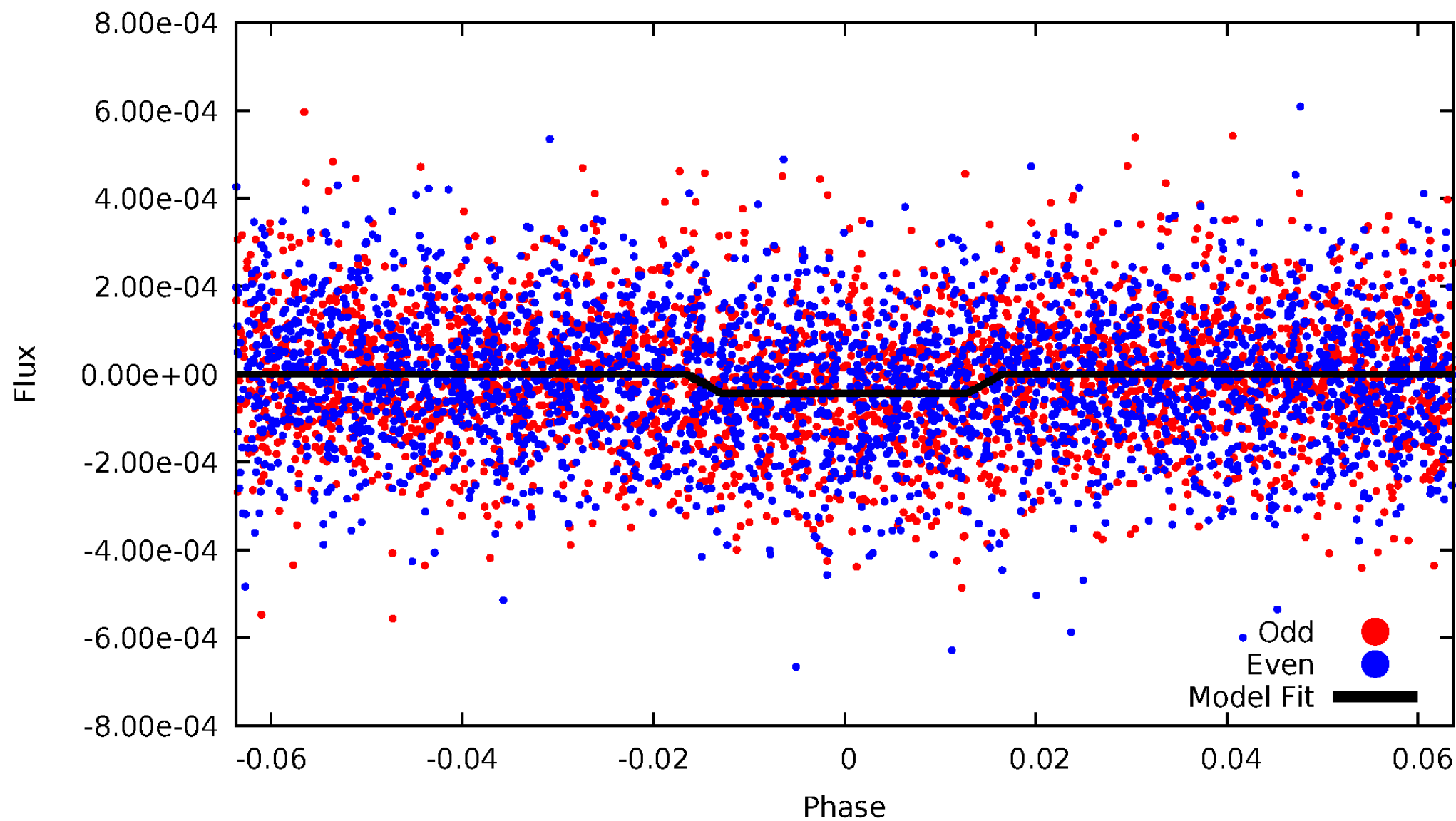
DV Odd/Even

TCE 008094120-02



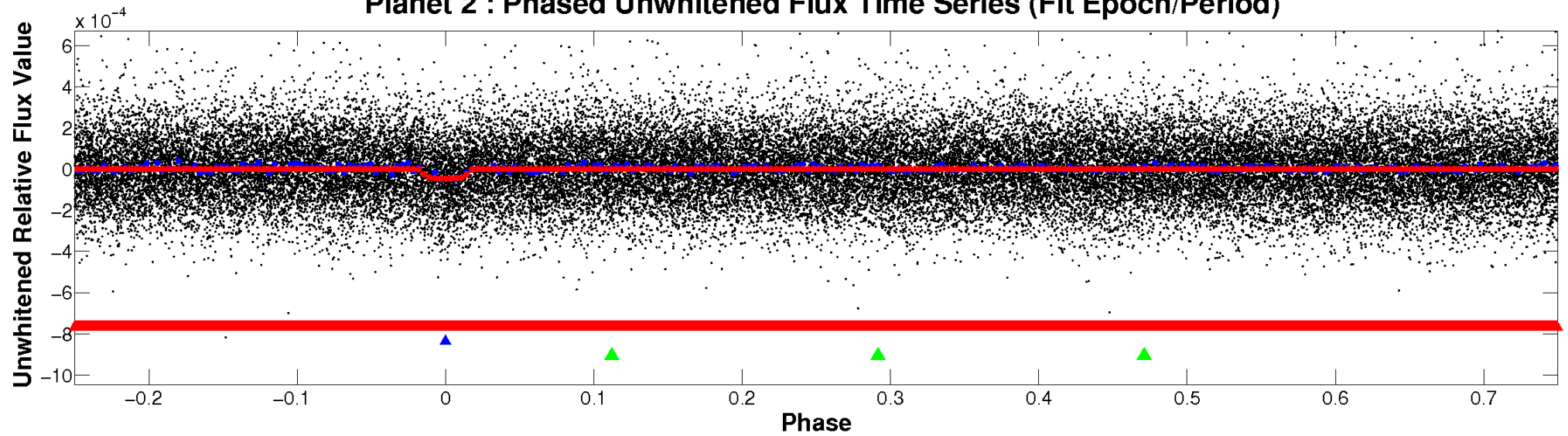
ALT Odd/Even

TCE 008094120-02

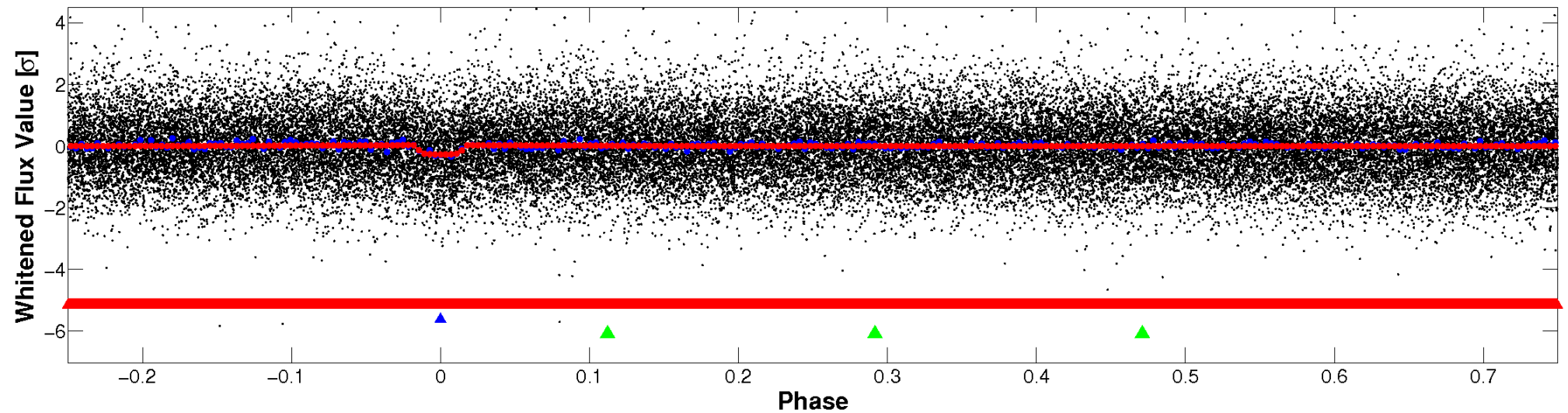


Non-Whitened Vs. Whitened Light Curve

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

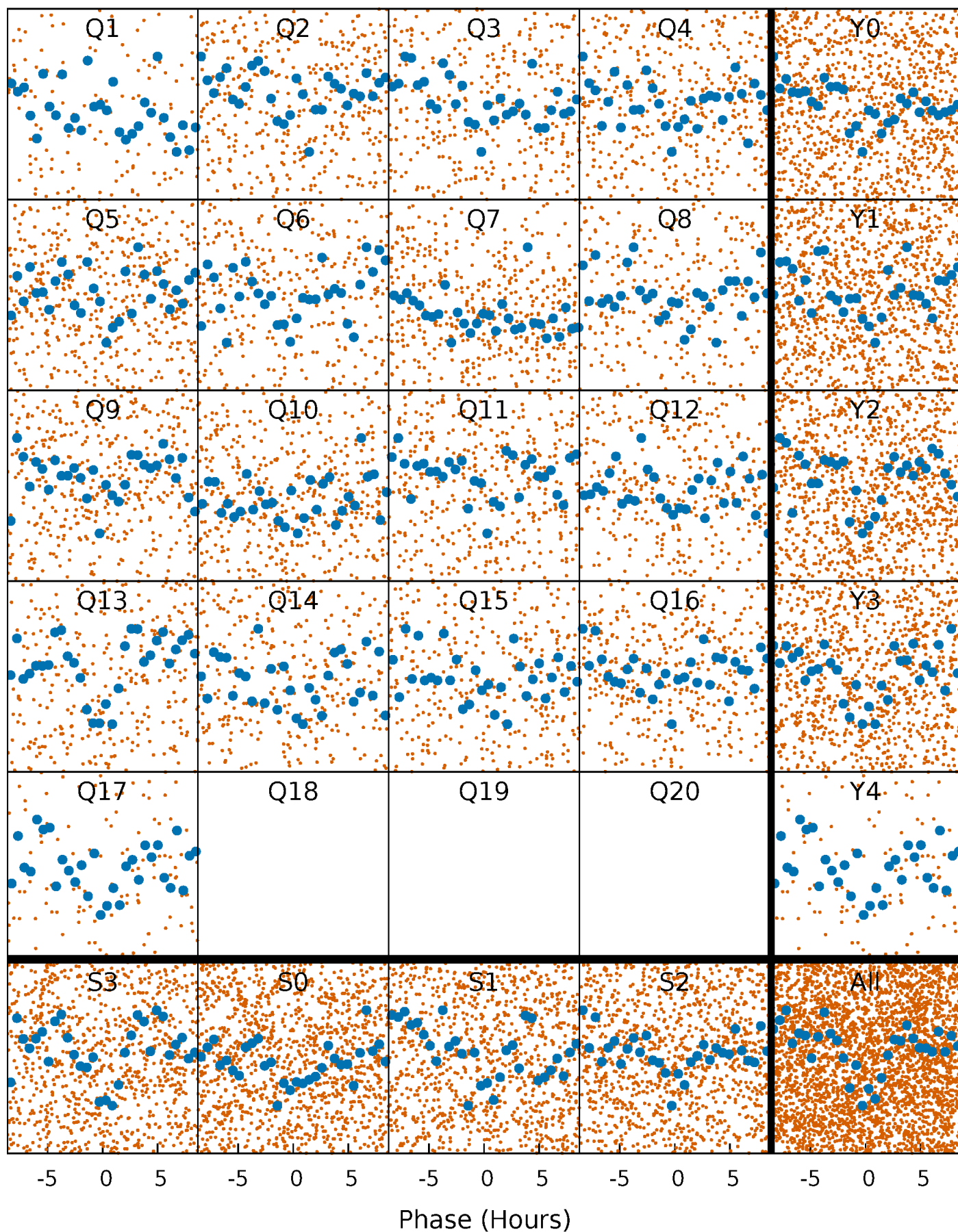


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



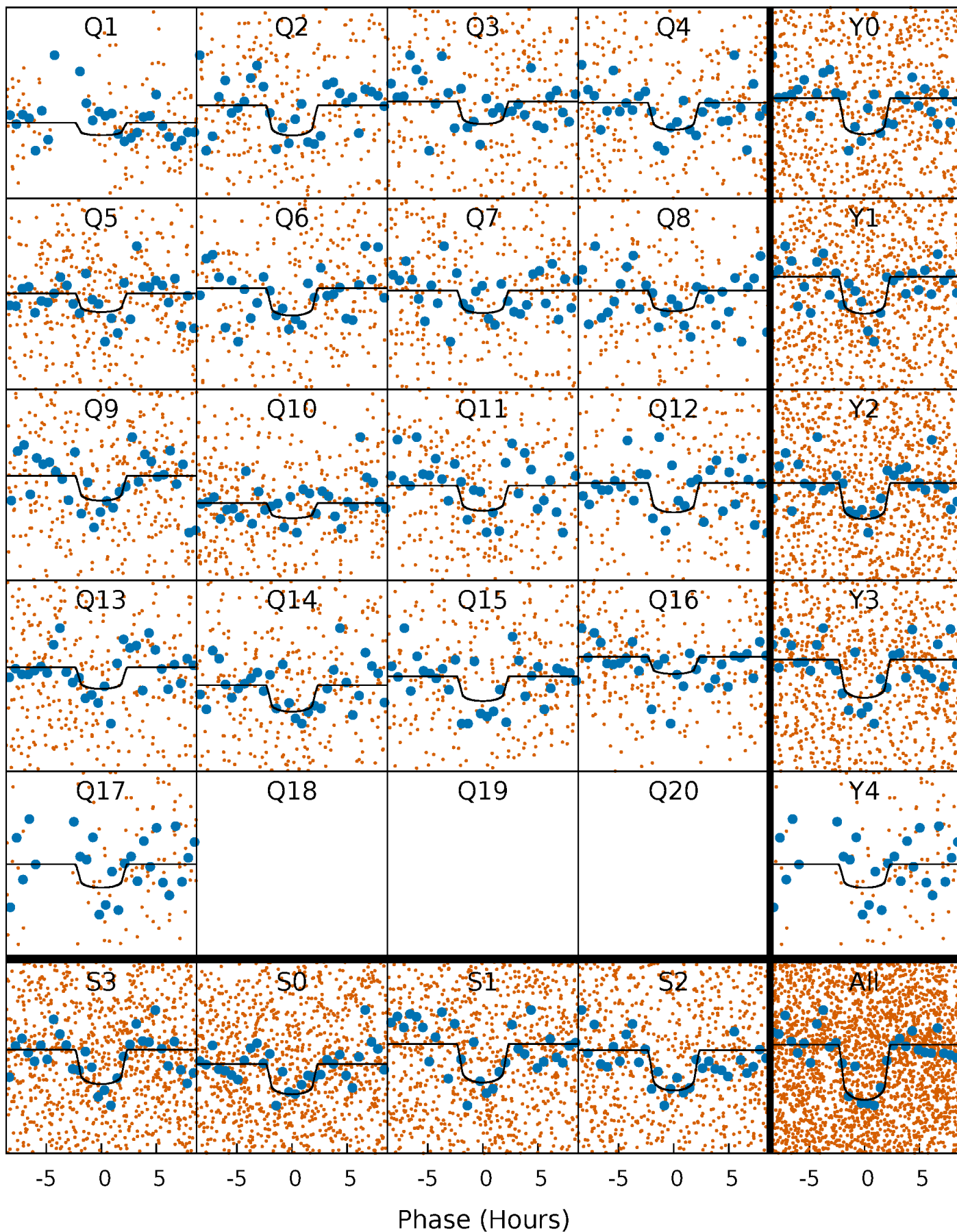
PDC Quarter-Phased Transit Curves

TCE 008094120-02 P= 5.679797 Days $T_0=132.912666$ (BKJD)



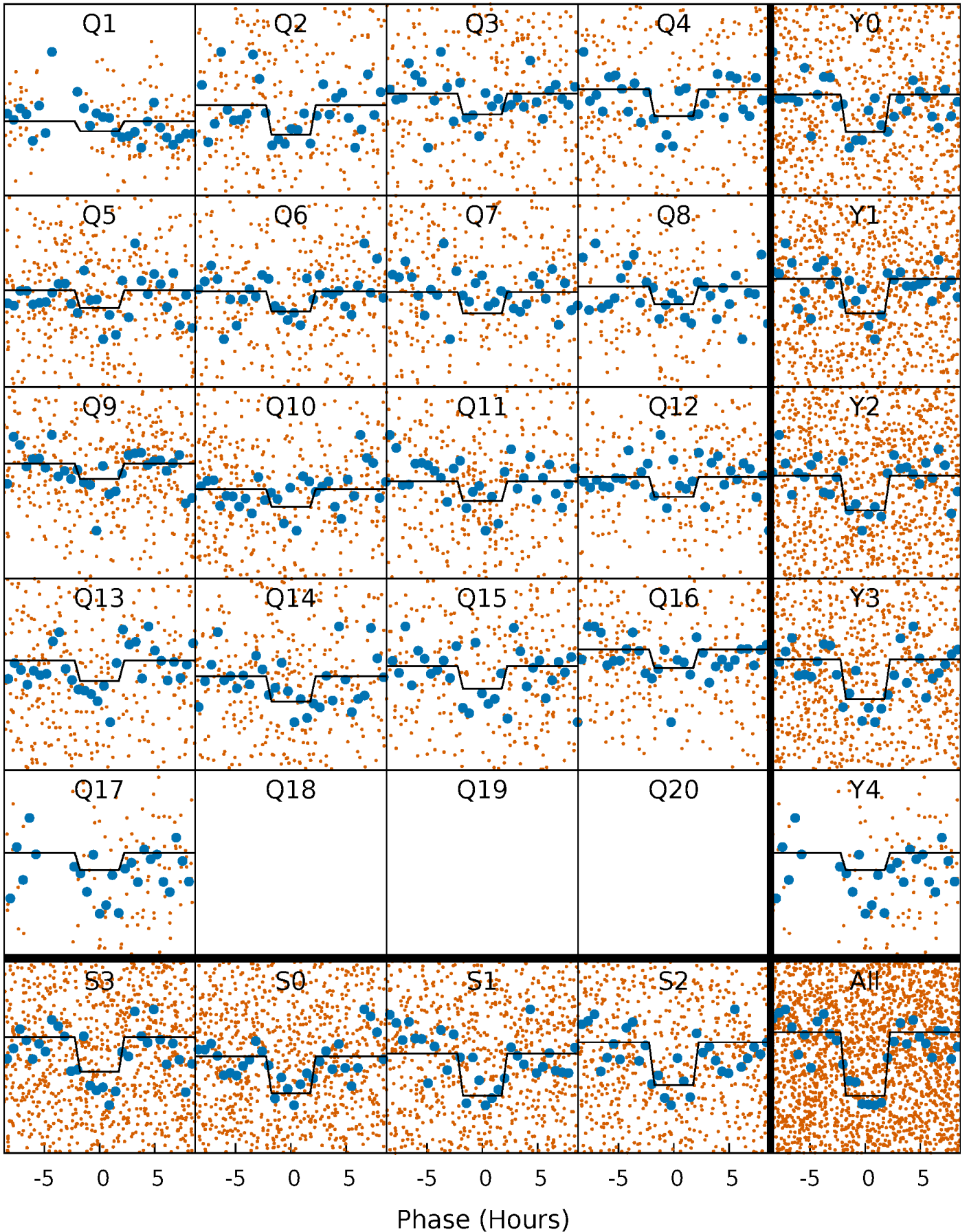
DV Quarter-Phased Transit Curves

TCE 008094120-02 P= 5.679797 Days $T_0=132.912666$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

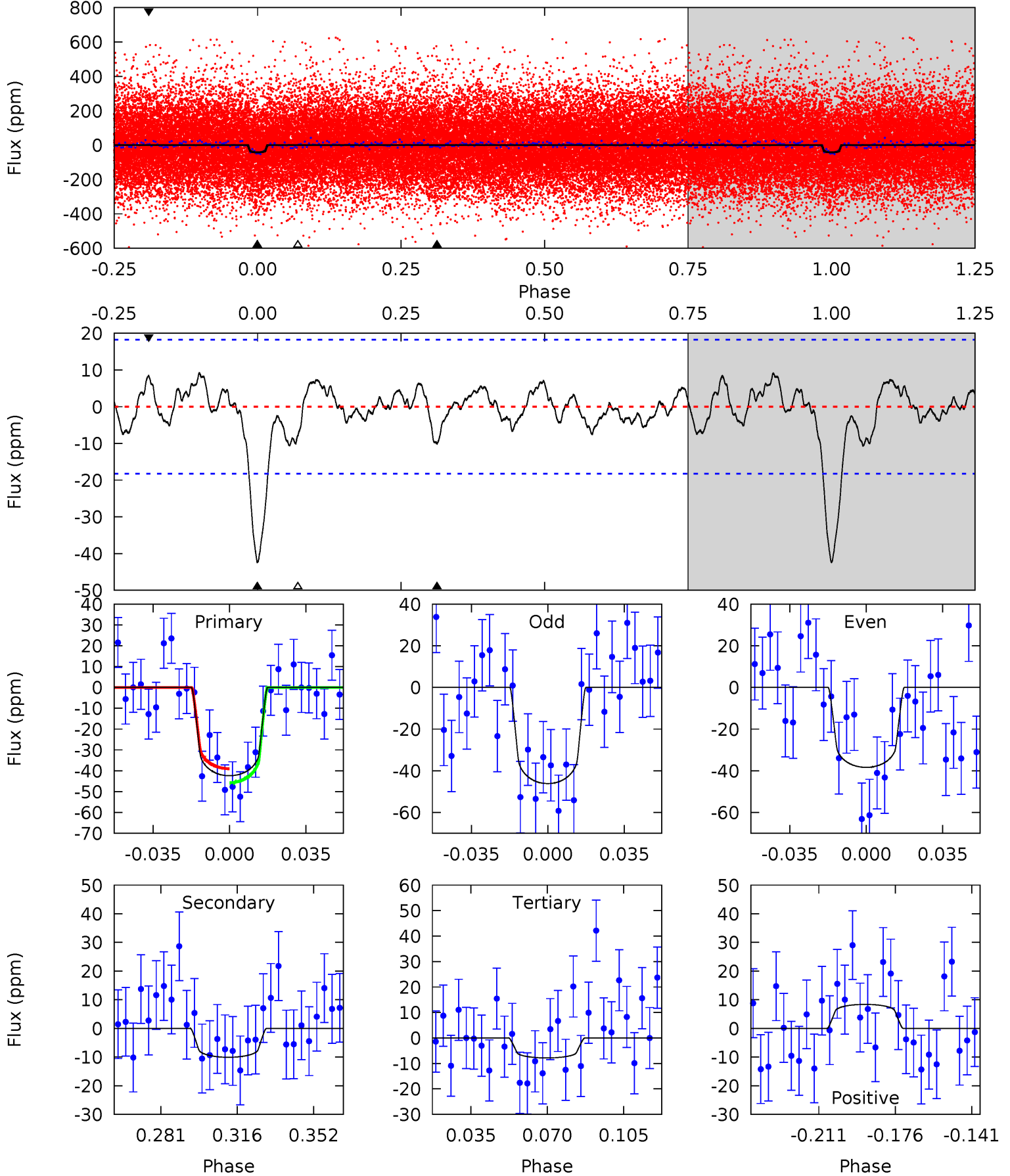
TCE 008094120-02 P= 5.679756 Days $T_0=132.915117$ (BKJD)



DV Model-Shift Uniqueness Test

008094120-02, P = 5.679797 Days, E = 127.232869 Days

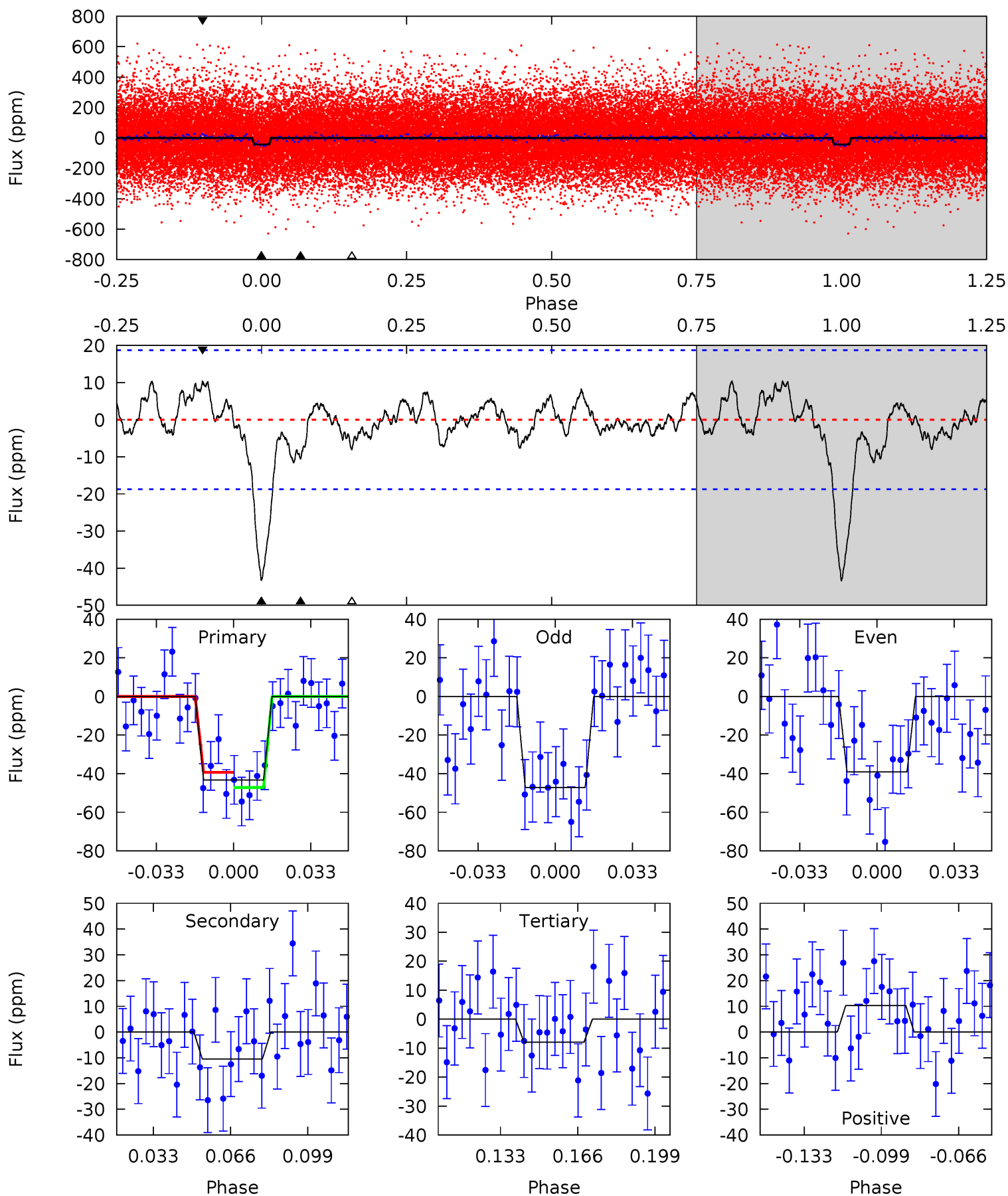
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	2.64	2.05	2.20	4.78	2.11	1.06	9.05	8.90	0.59	0.44	1.02	1.00	0.18	0.88



Alt Model-Shift Uniqueness Test

008094120-02, P = 5.679756 Days, E = 127.235361 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	2.68	2.04	2.64	4.79	2.13	1.00	9.03	8.43	0.64	0.04	1.03	0.98	0.19	1.00



Stellar Parameters For KIC 008094120

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6514^{+181}_{-227}	$4.090^{+0.258}_{-0.172}$	$-0.340^{+0.300}_{-0.300}$	$1.585^{+0.457}_{-0.503}$	$1.127^{+0.192}_{-0.157}$	$0.398^{+0.621}_{-0.183}$
	+3%/-3%	+6%/-4%	+88%/-88%	+29%/-32%	+17%/-14%	+156%/-46%
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 008094120-02 / KOI 4881.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 4	$1.26^{+0.55}_{-0.56}$	1978^{+160}_{-161}	4396^{+1260}_{-610}	15^{+31}_{-9}
Alt.	-10 ± 4	$1.13^{+0.57}_{-0.52}$	1966^{+164}_{-171}	4602^{+1462}_{-704}	19^{+47}_{-12}

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 $A_{obs} \gg 1.0$

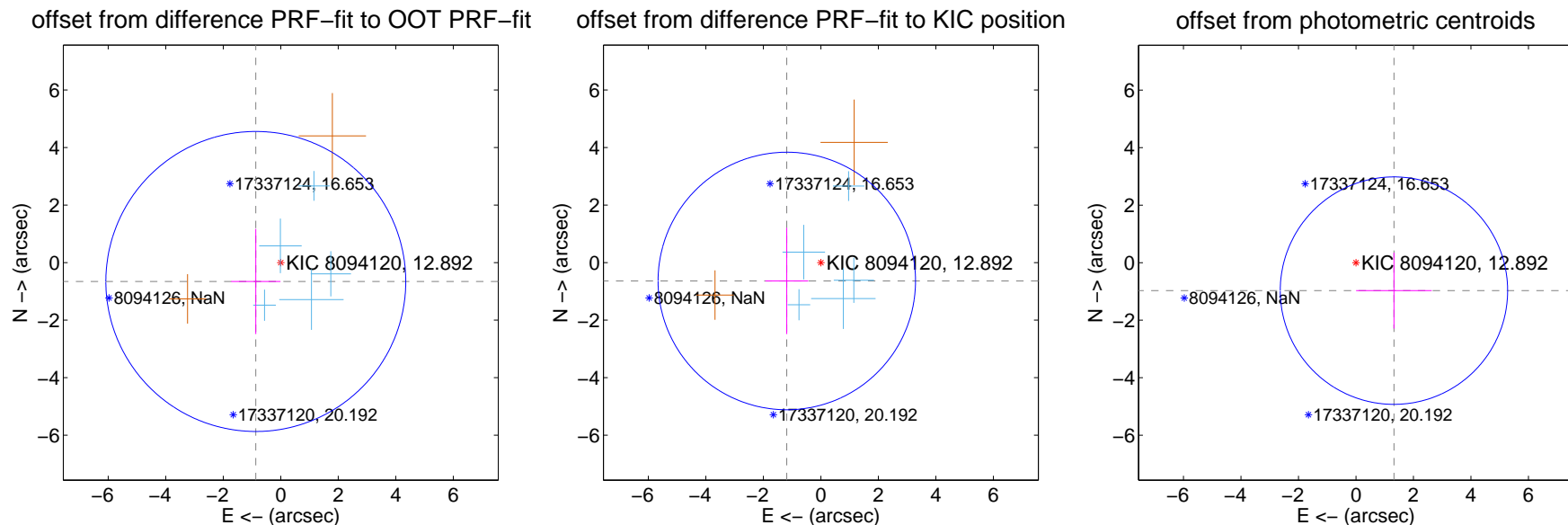
DV Centroid Data

Supplemental centroid analysis for 008094120-02. Kepler magnitude: 12.89. Transit SNR 9.20

There are 5 quarters with good PRF difference image offsets

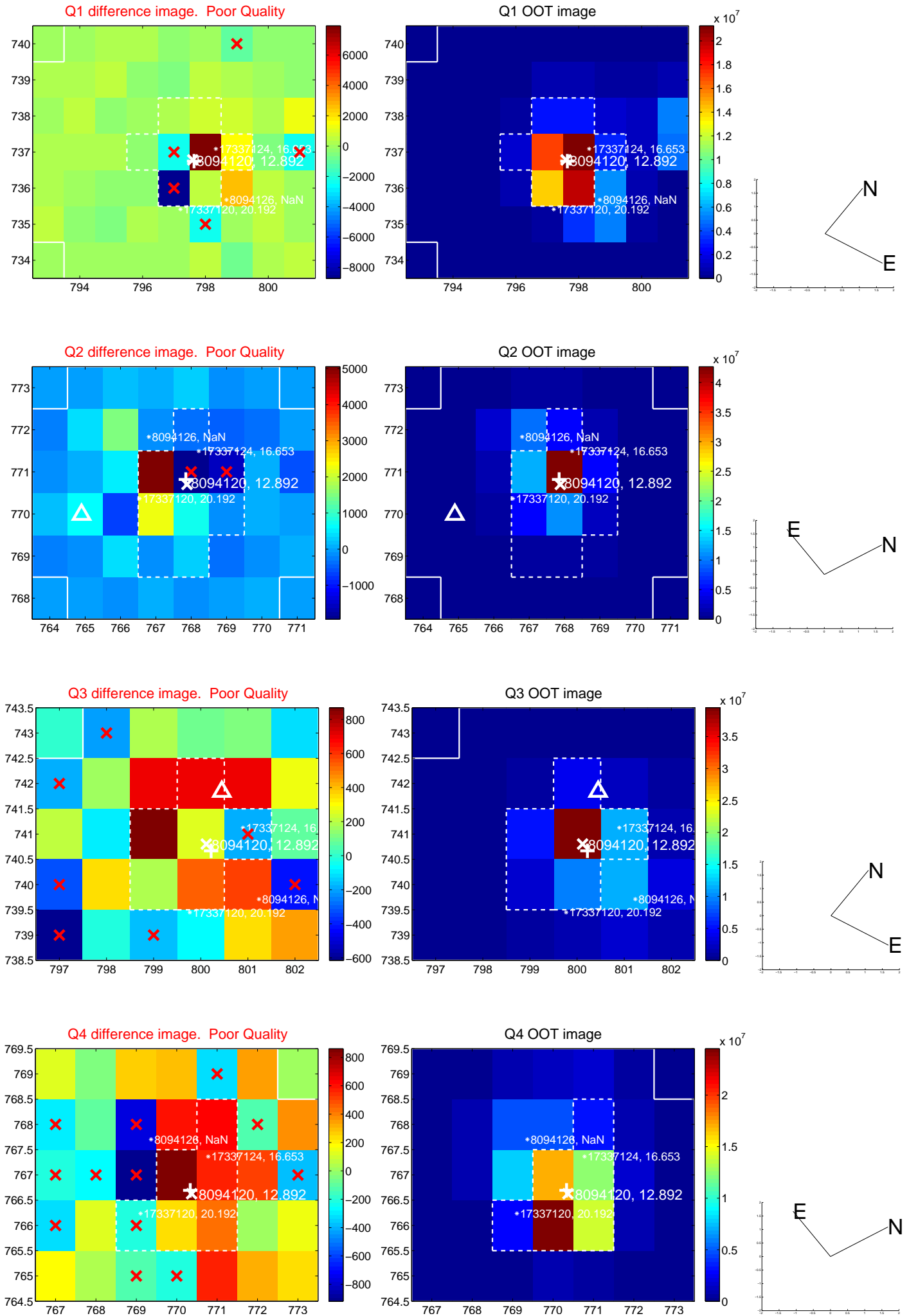
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.088 ± 1.738	0.63	0.867 ± 0.858	-0.656 ± 1.830
PRF-fit source offset from KIC position	1.346 ± 1.492	0.90	1.185 ± 0.746	-0.639 ± 1.846
photometric centroid source offset	1.64 ± 1.32	1.24	-1.32 ± 1.32	-0.97 ± 1.32

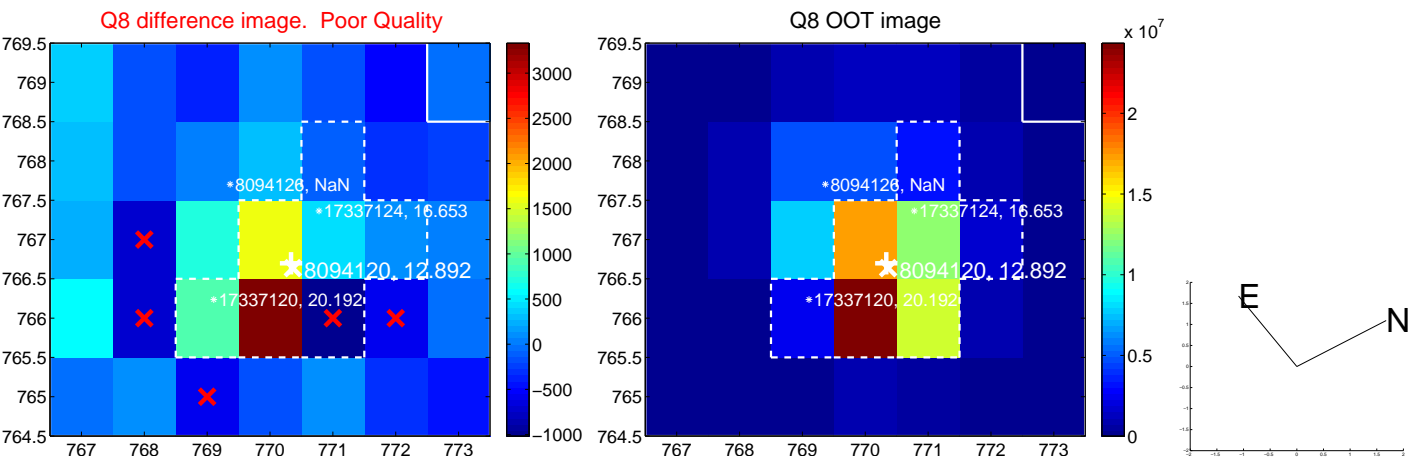
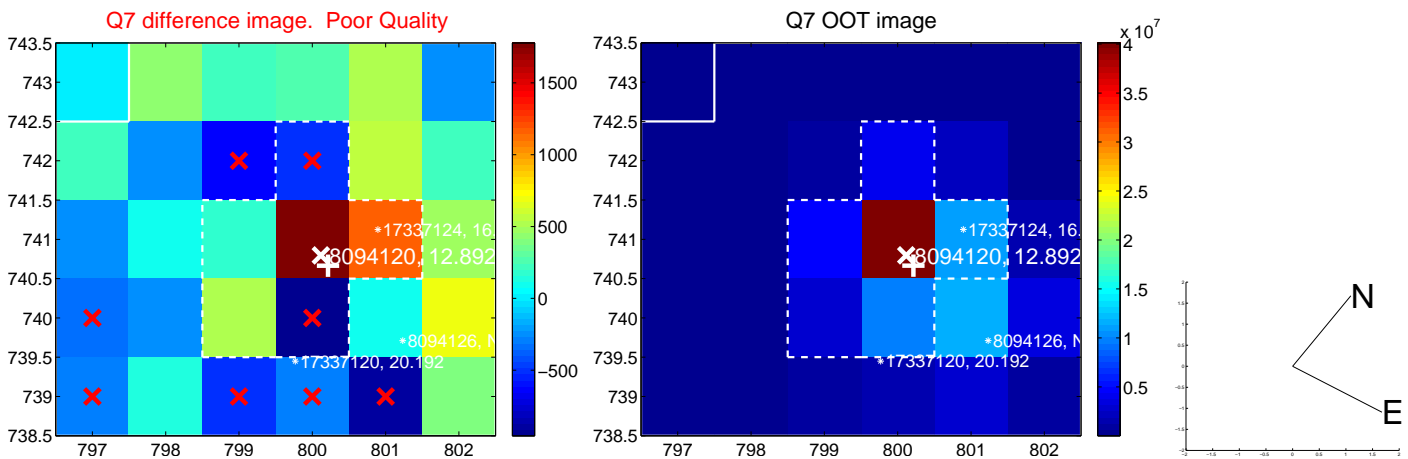
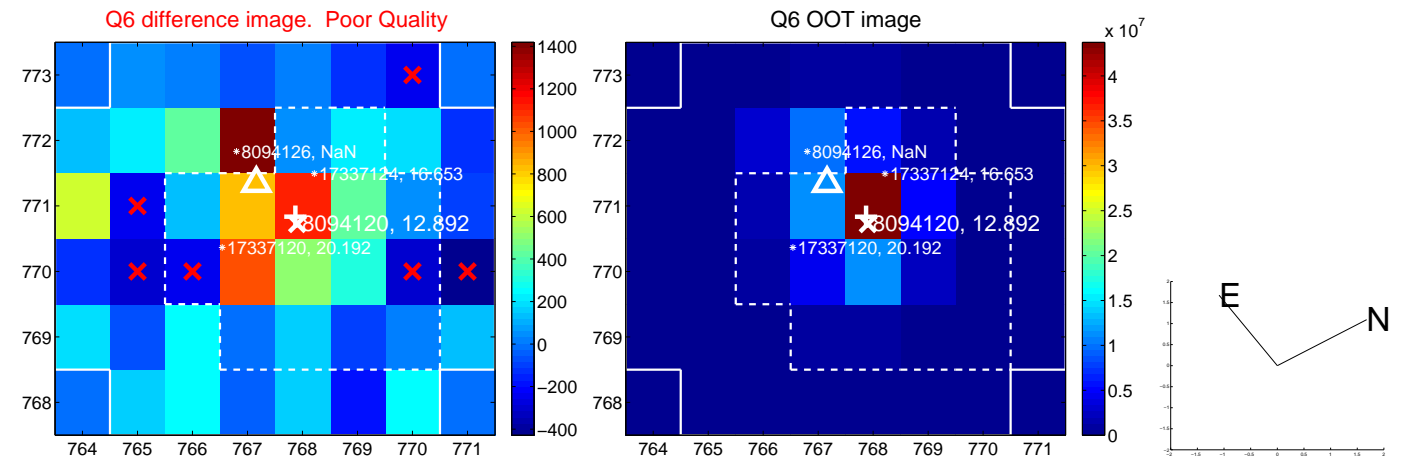
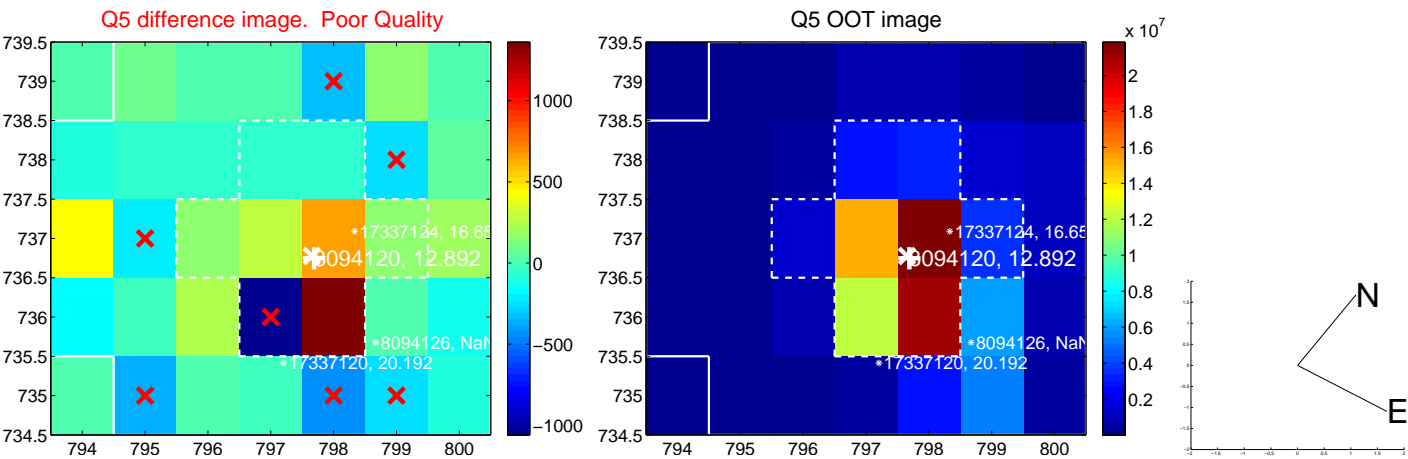


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

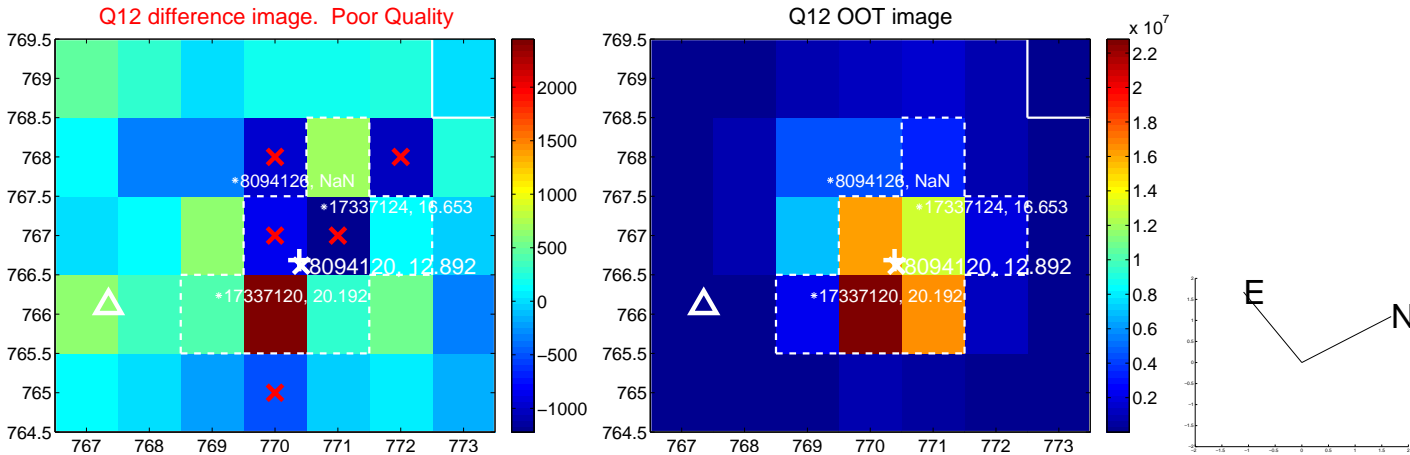
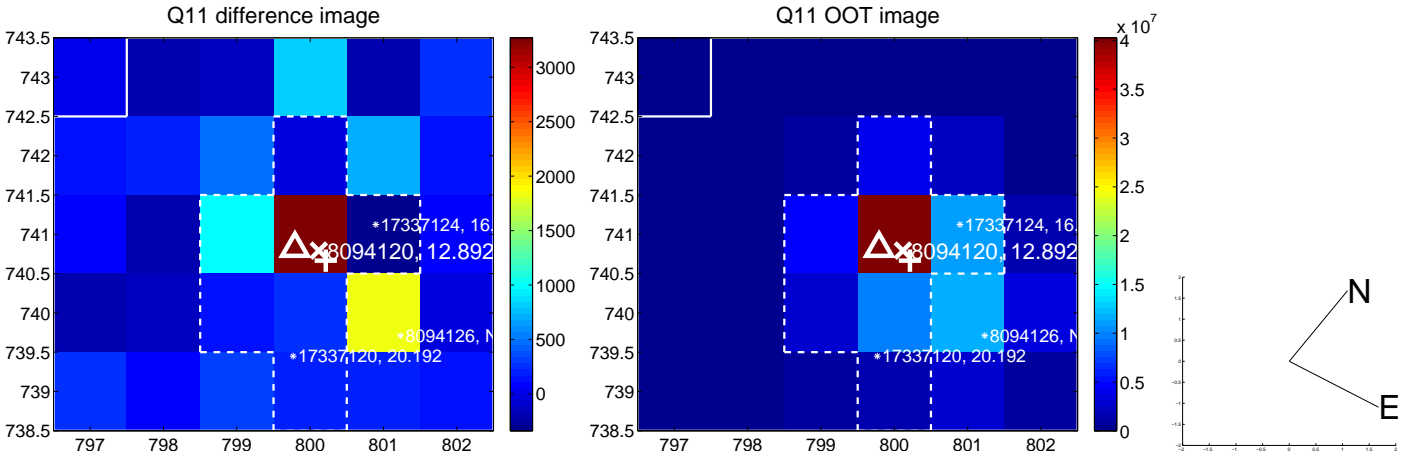
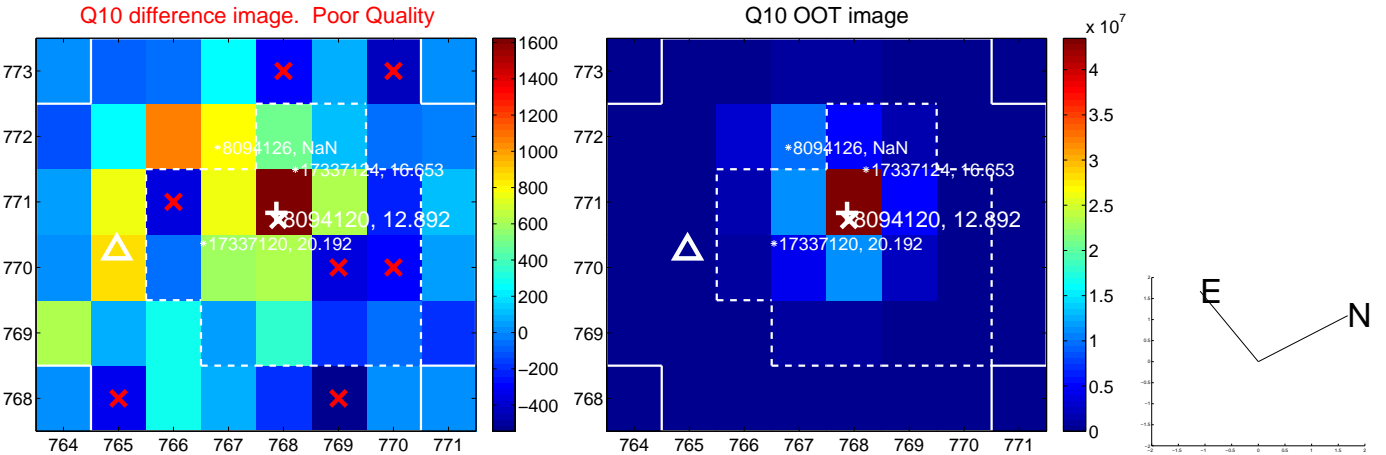
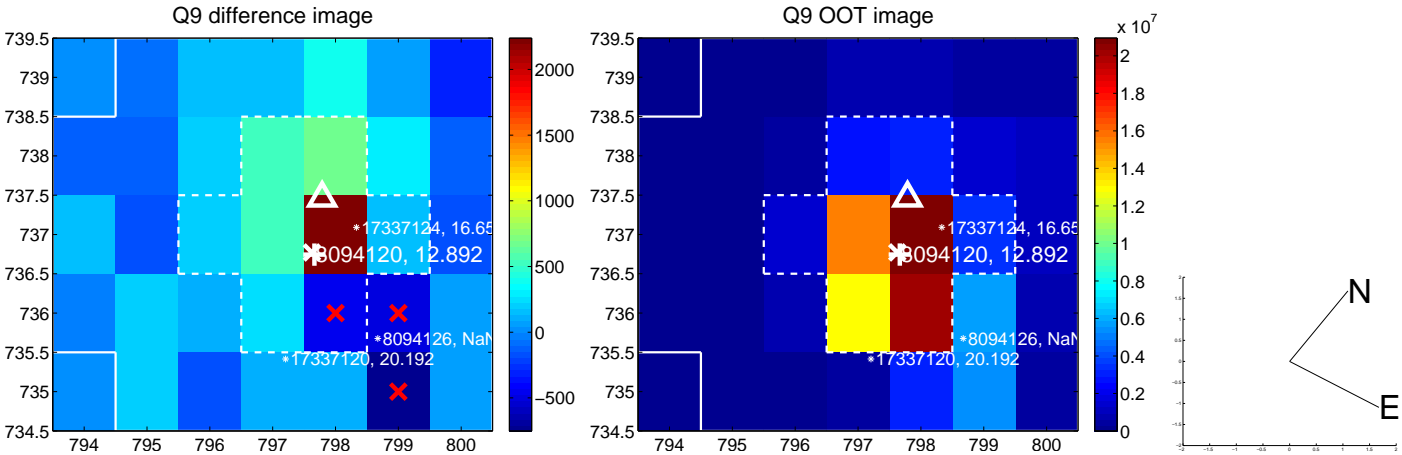
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



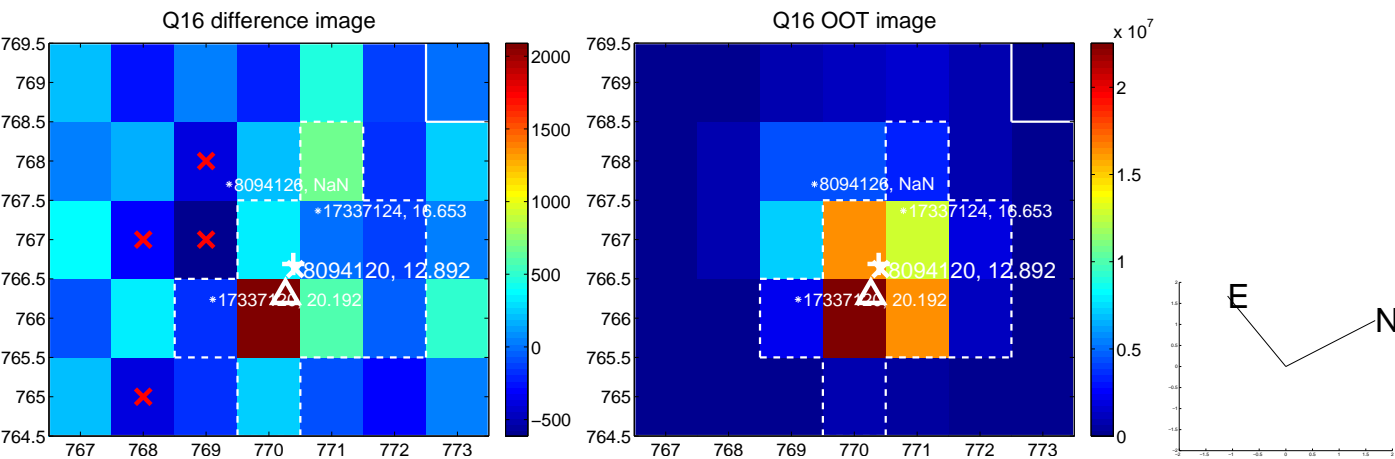
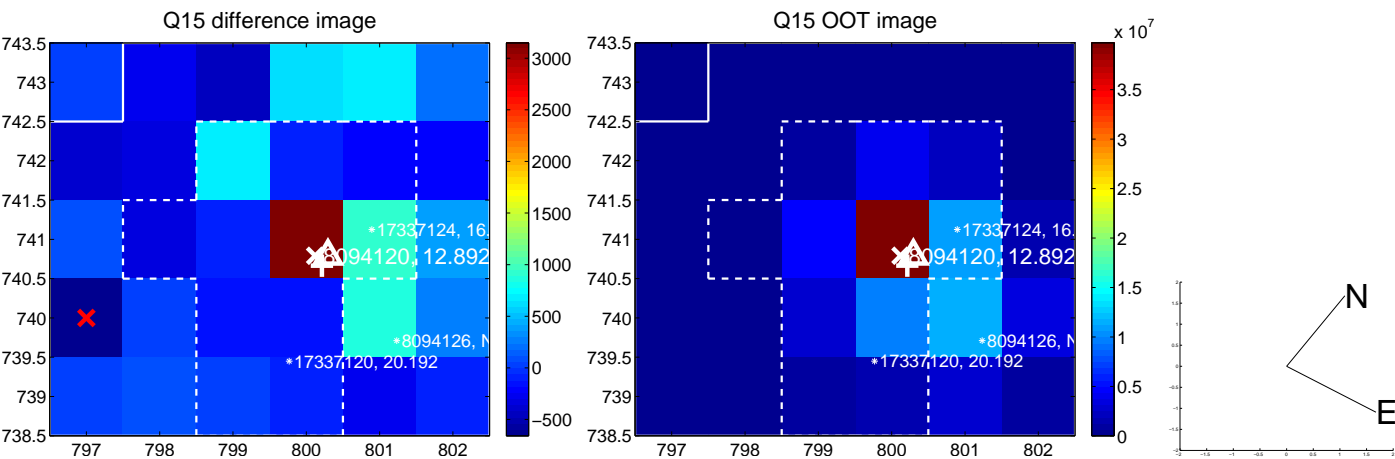
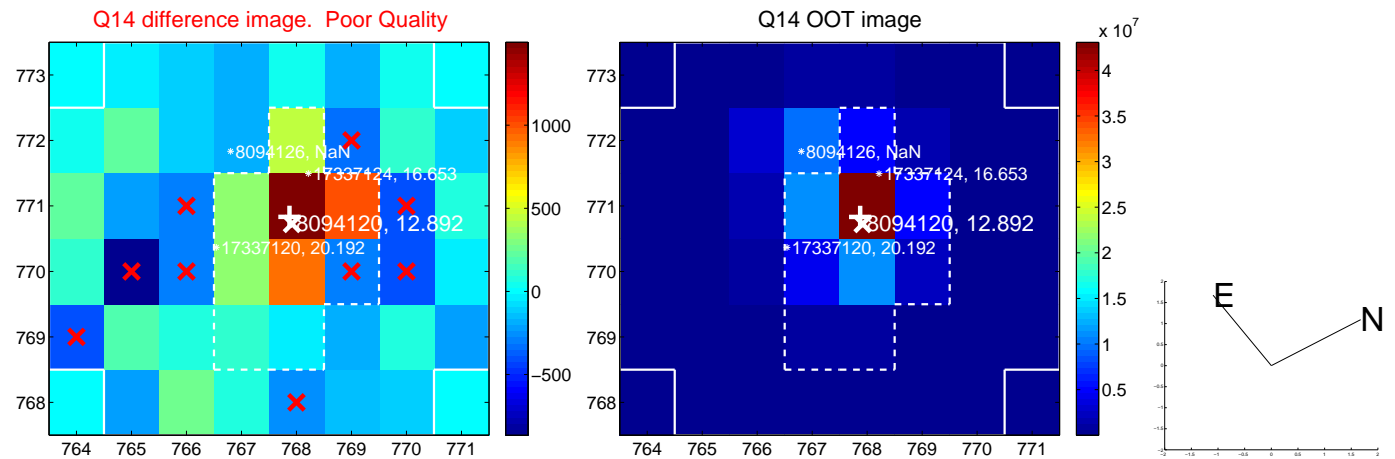
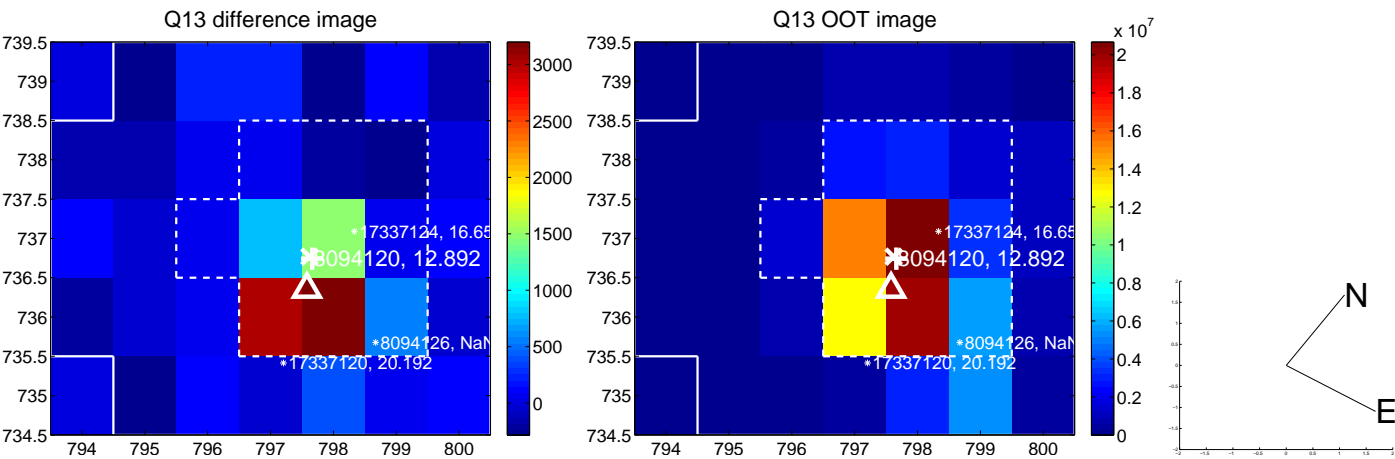
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



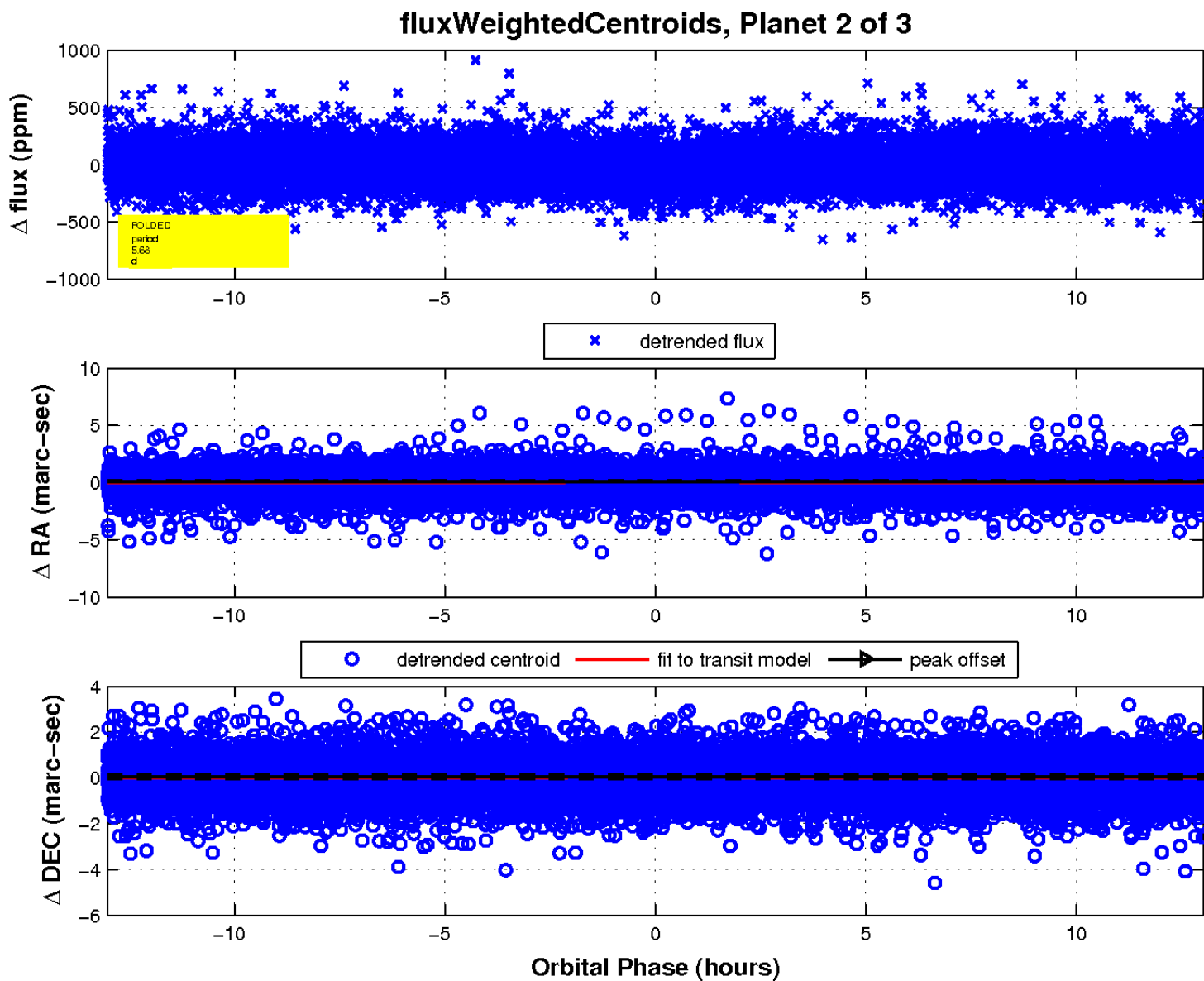
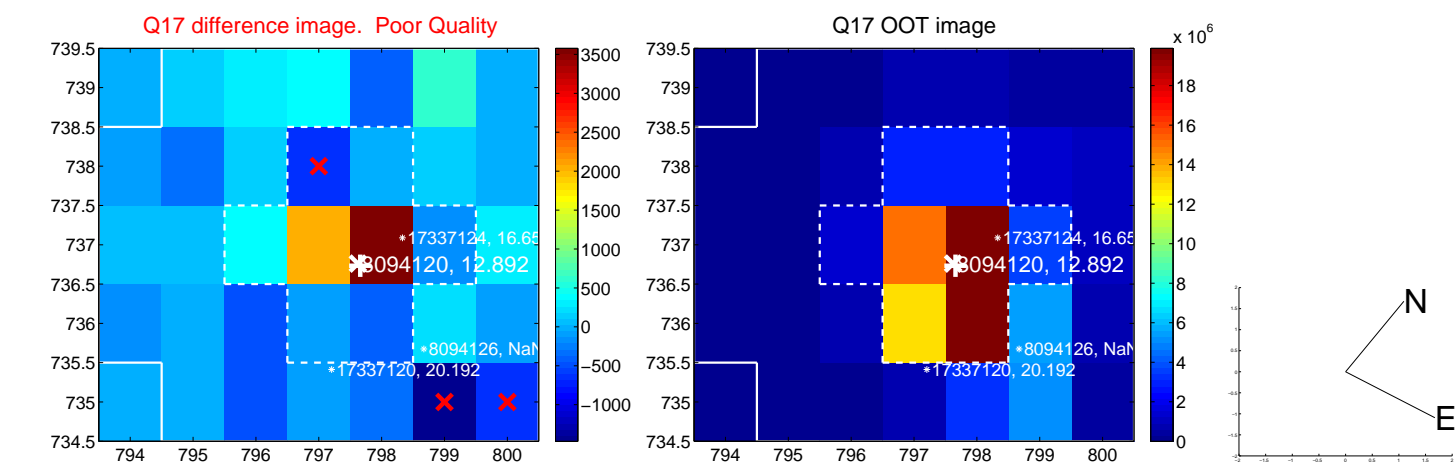
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



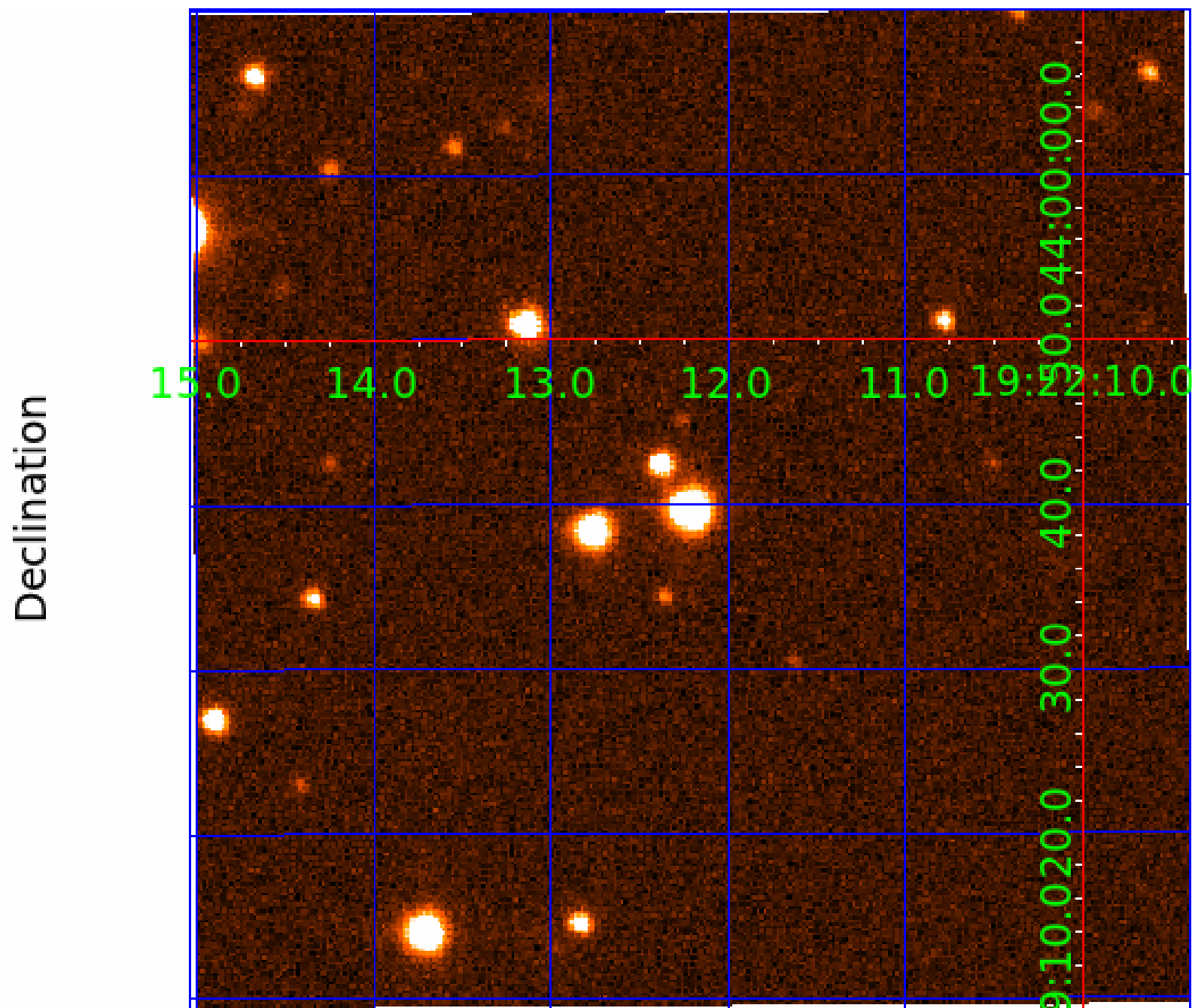
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008094120

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})
008094120-01	OBS	4881.02	0.706426	132.148873	35.4	1.143	9.9	12.6	1.58	6514	1.16	15519.67
008094120-02	OBS	4881.01	5.679797	132.912665	46.1	4.341	7.7	9.2	1.58	6514	1.25	963.52
008094120-03	OBS	No	640.797781	209.425815	222.5	7.489	7.3	7.3	1.58	6514	2.65	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008094120-01	OBS	FP	0.00	0	0	0	1	CENT_KIC_POS—EPHEM_MATCH
008094120-02	OBS	PC	0.98	0	0	0	0	NO_COMMENT
008094120-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_FEW_DIFFS

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

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

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

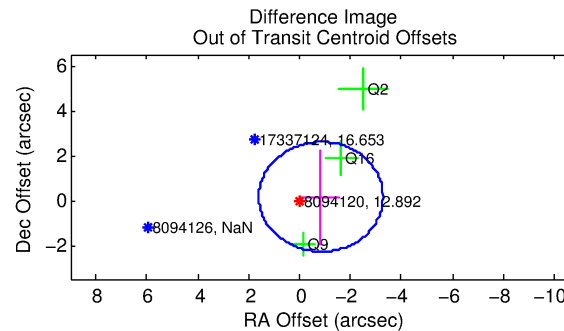
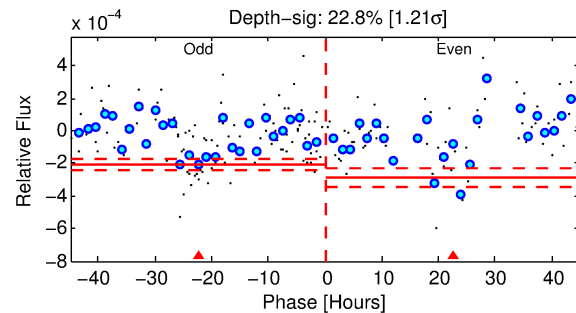
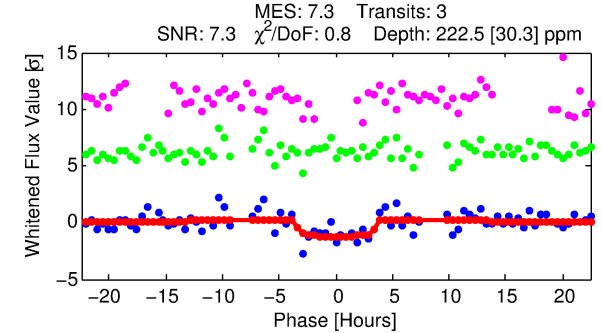
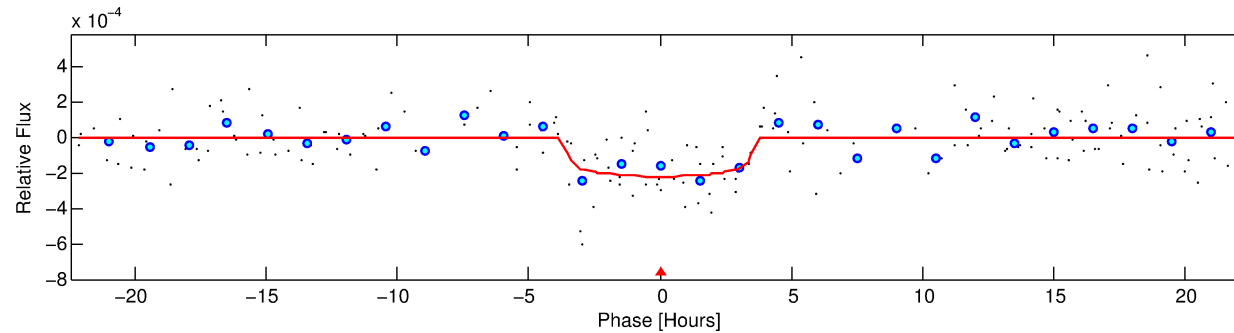
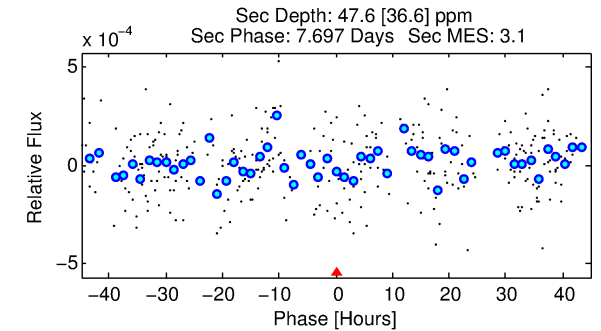
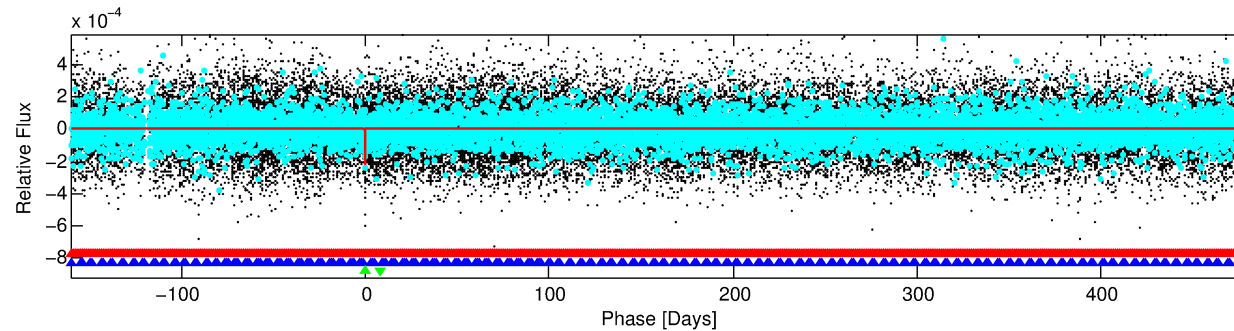
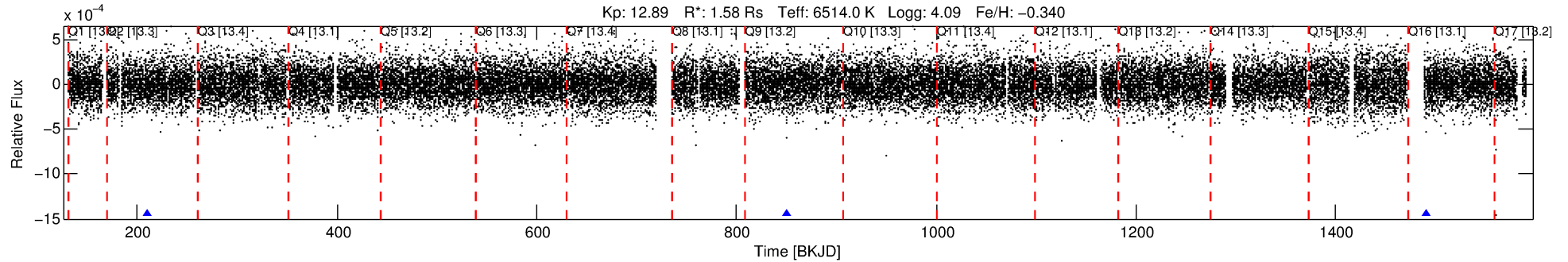
Ephemeris Match Information For 008094120-03

No Significant Match Found

DV One-Page Summary

KIC: 8094120 Candidate: 3 of 3 Period: 640.798 d

KOI: K04881 Corr: No Ephemeris Match



DV Fit Results:

Period = 640.79778 [0.00997] d
Epoch = 209.4258 [0.0132] BKJD
Rp/R* = 0.0153 [0.0081]
a/R* = 376.19 [1131.81]
b = 0.84 [1.08]
Seff = 1.77 [0.83]
Teq = 294 [35] K
Rp = 2.65 [1.63] Re
a = 1.5142 [0.4388] AU
Ag = 8528.86 [11764.93] [0.72σ]
Teffp = 4368 [1433] K [2.84σ]

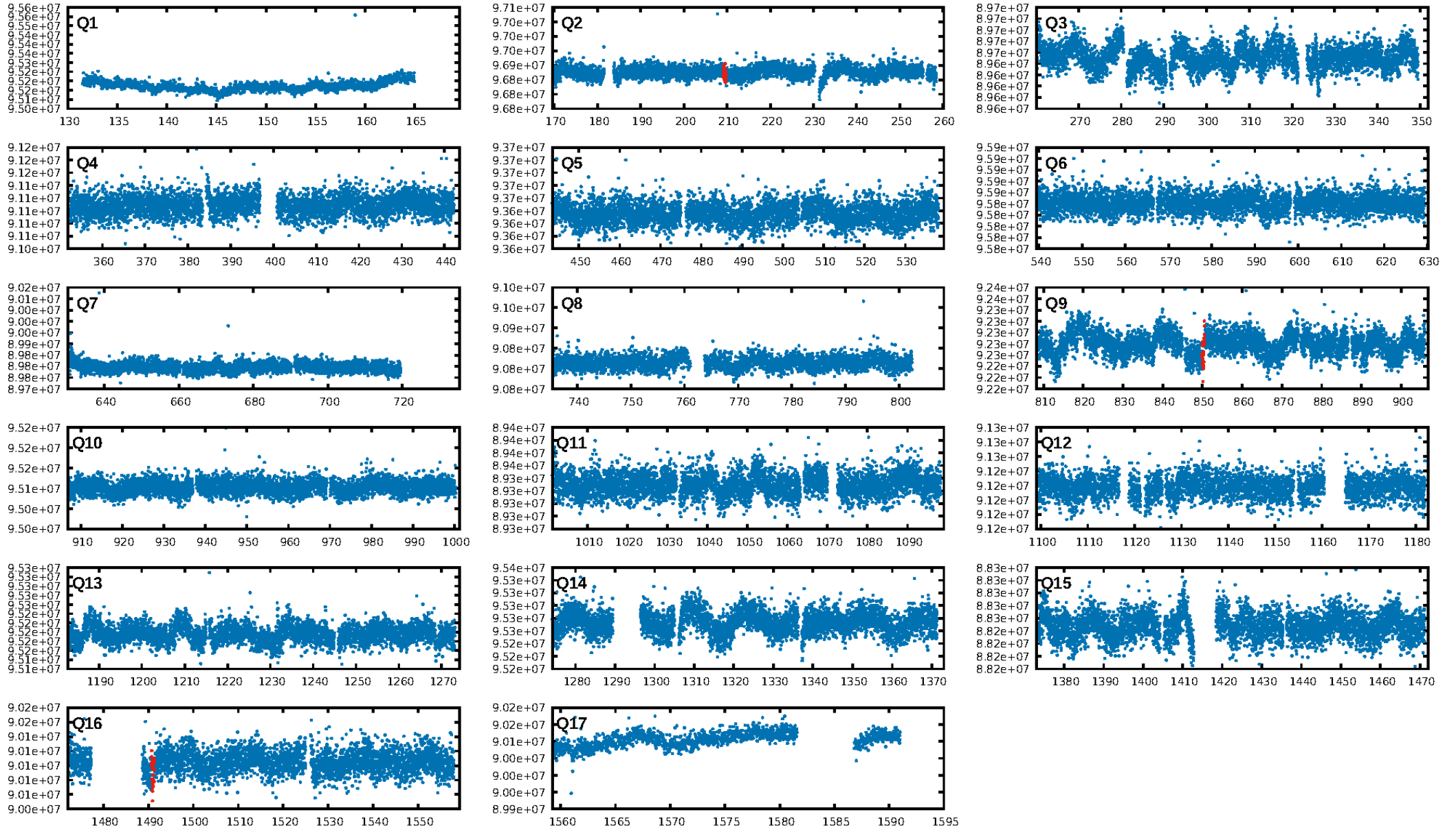
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1760.90σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 27.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.28e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.831
Centroid-sig: 91.1%
Centroid-so: 0.688 arcsec [0.37σ]
OotOffset-rm: 0.856 arcsec [1.05σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.620 arcsec [0.50σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

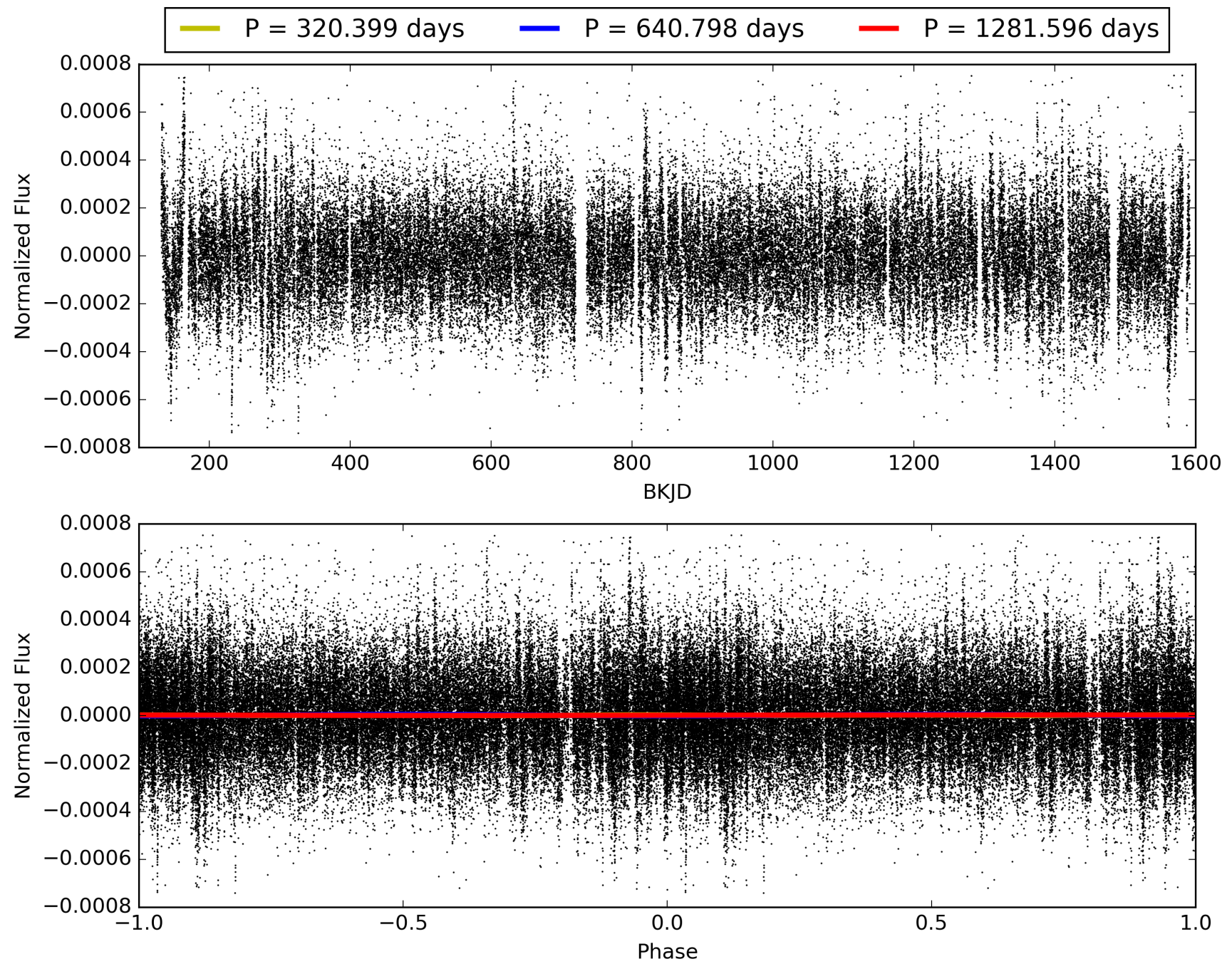
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:06:35 Z

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

TCE 008094120-03, PDC Light Curves

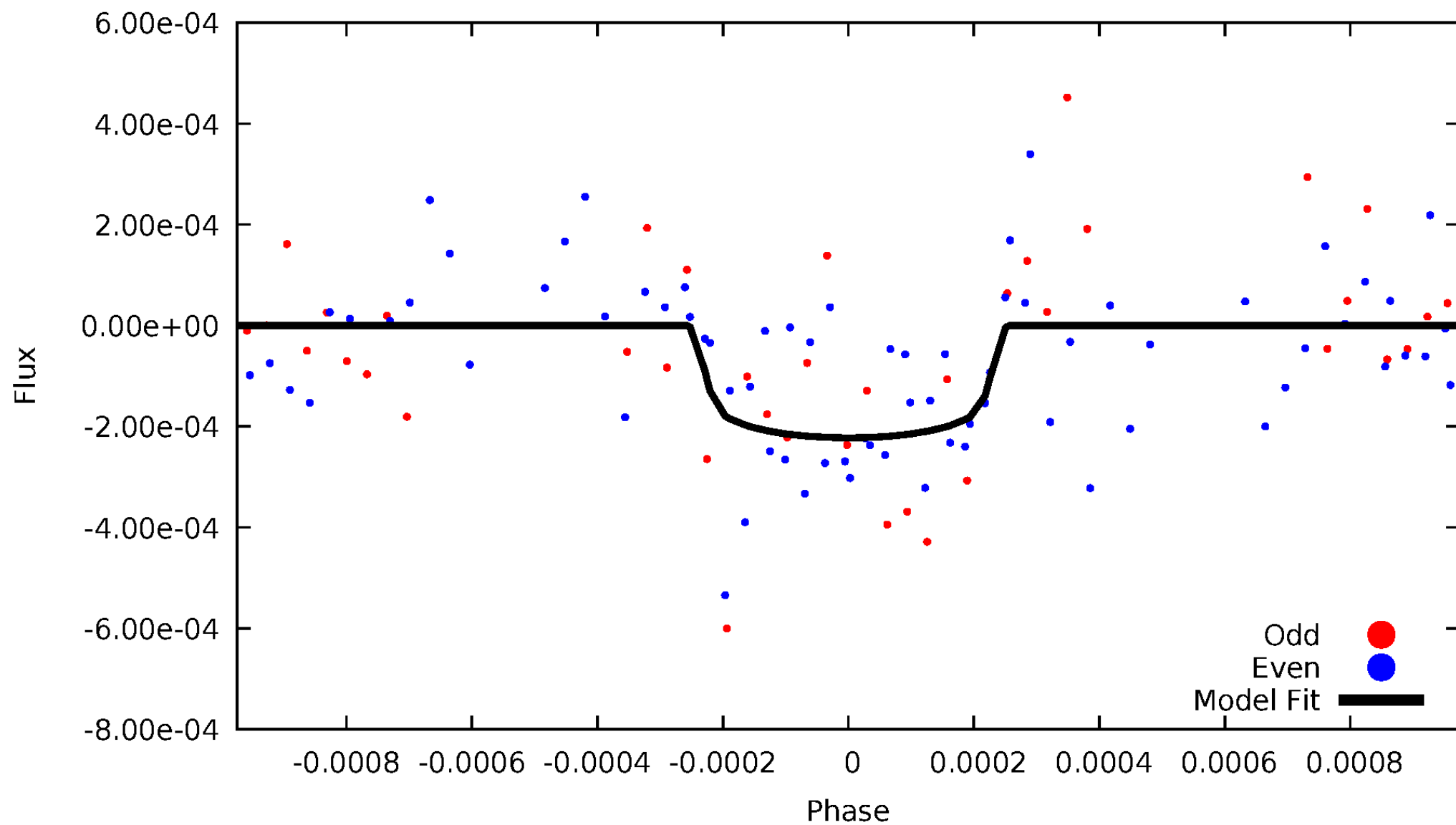


TCE 008094120-03



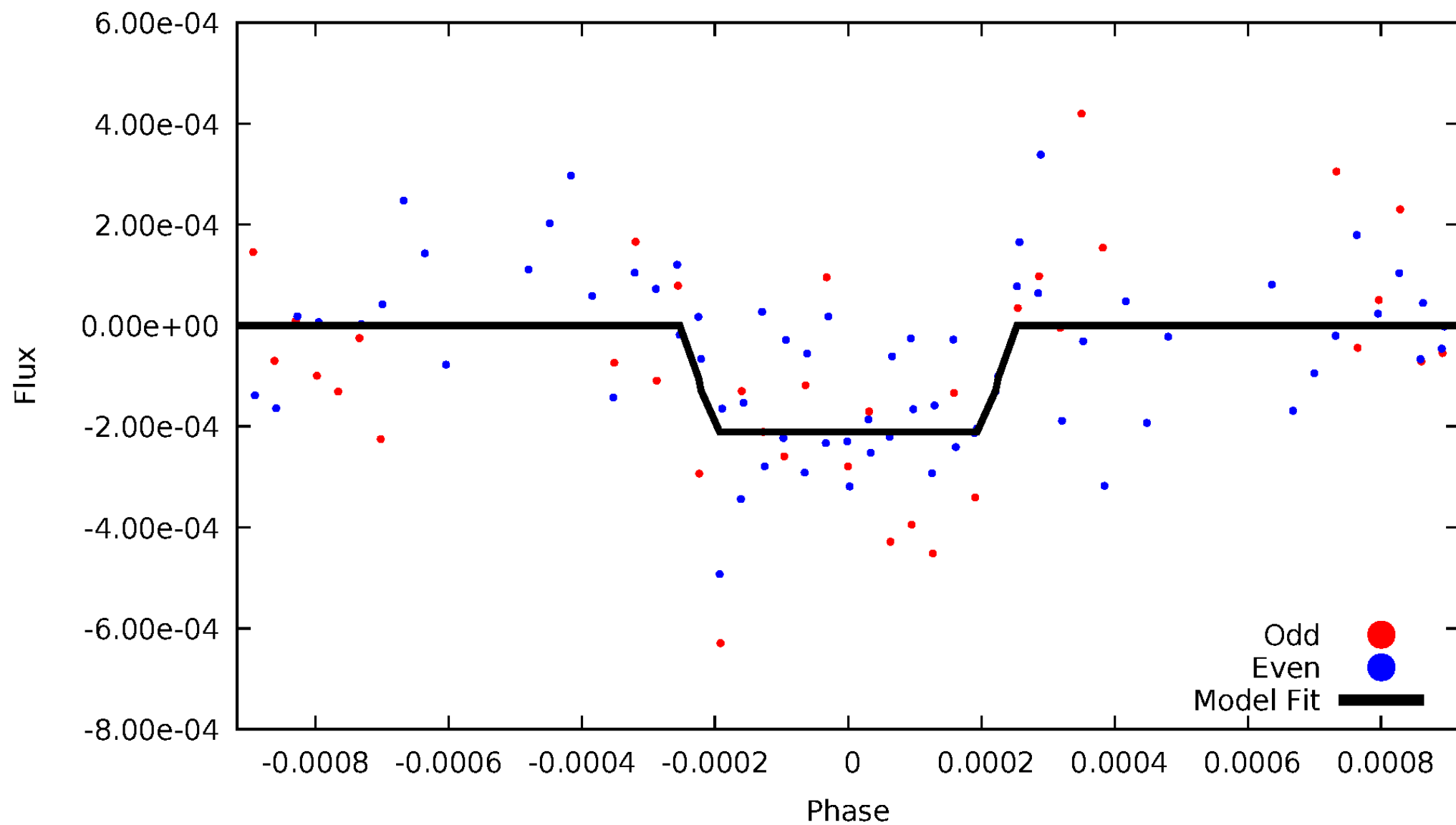
DV Odd/Even

TCE 008094120-03

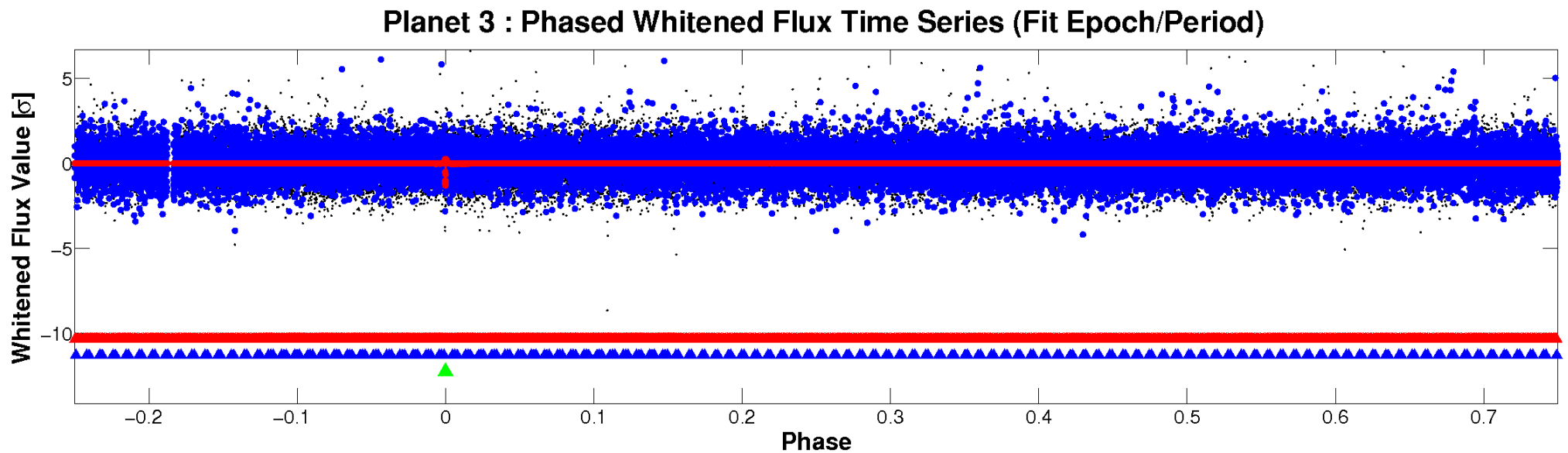
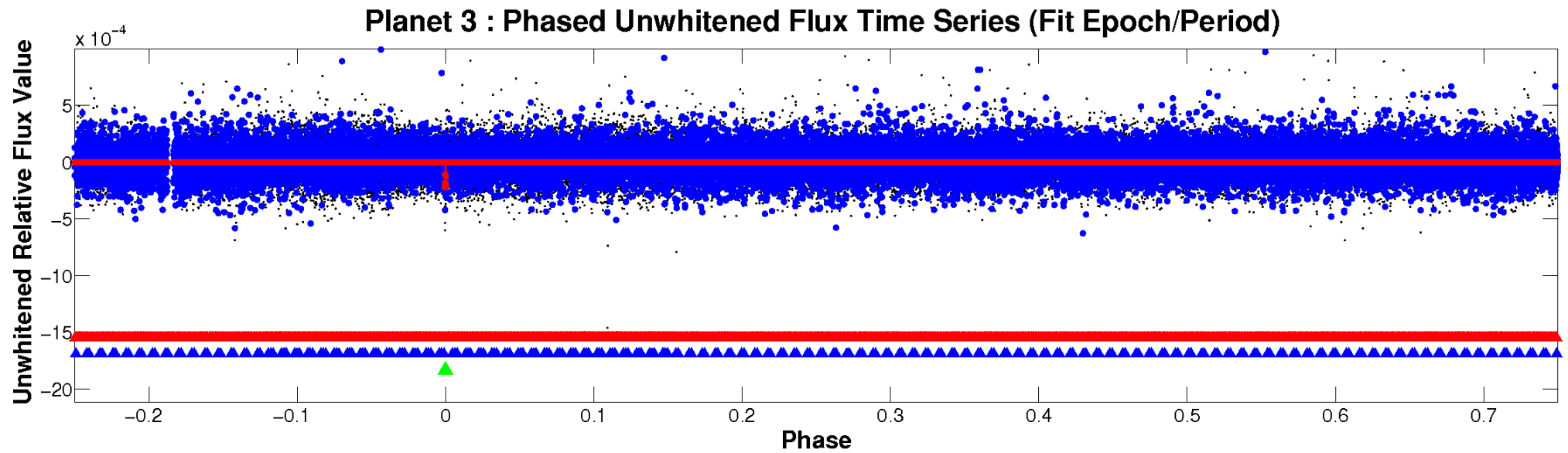


ALT Odd/Even

TCE 008094120-03

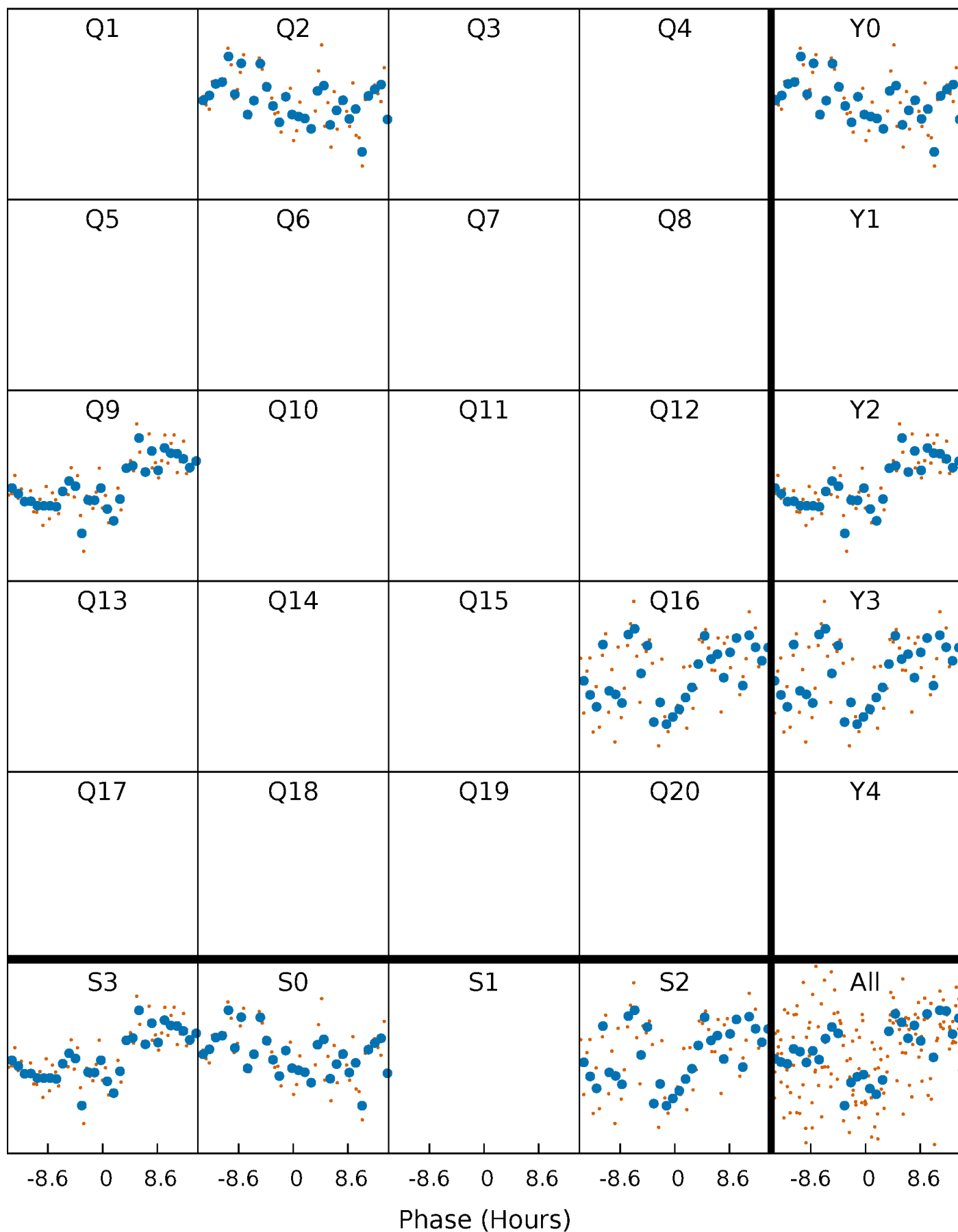


Non-Whitened Vs. Whitened Light Curve



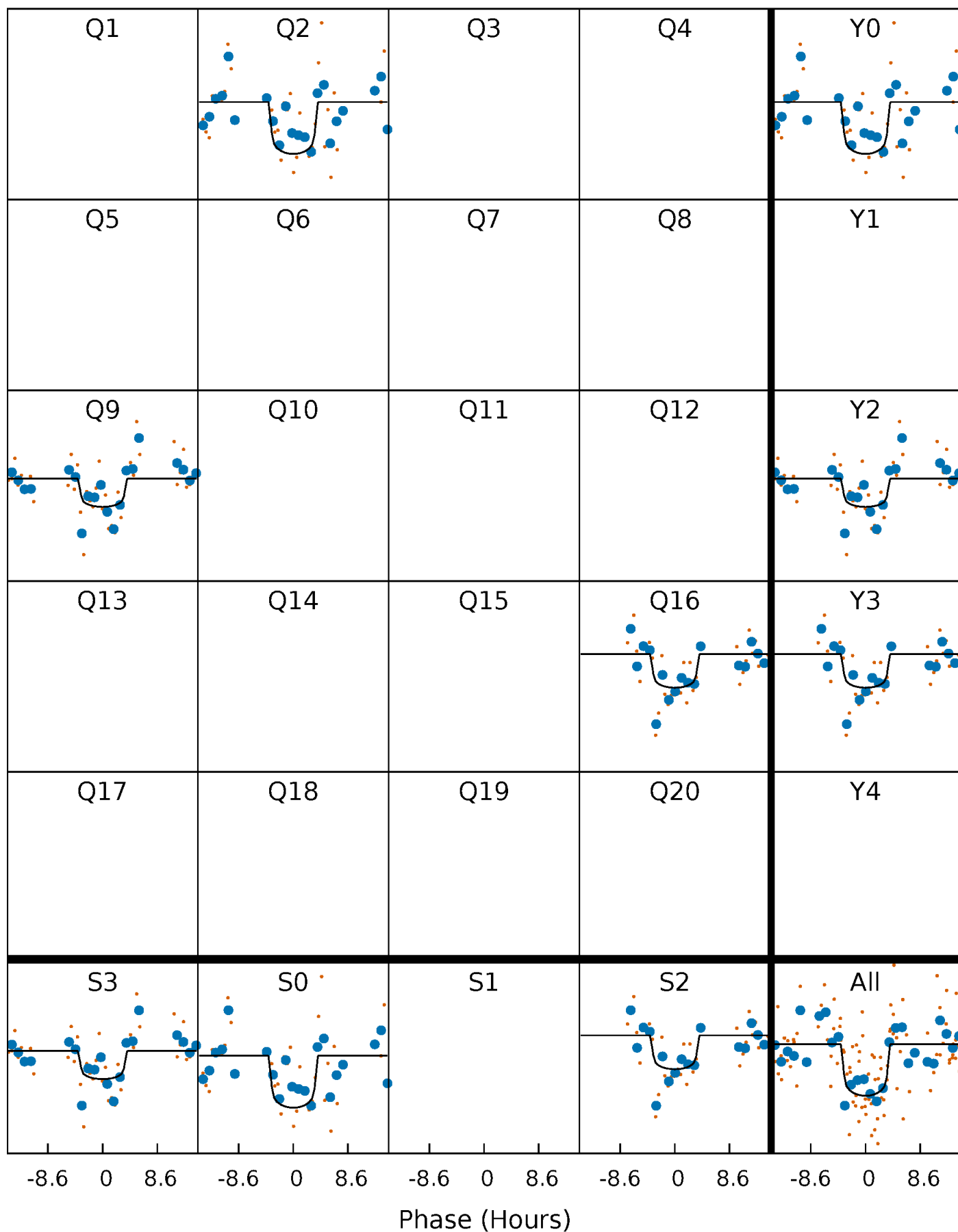
PDC Quarter-Phased Transit Curves

TCE 008094120-03 P=640.797781 Days $T_0=209.425815$ (BKJD)



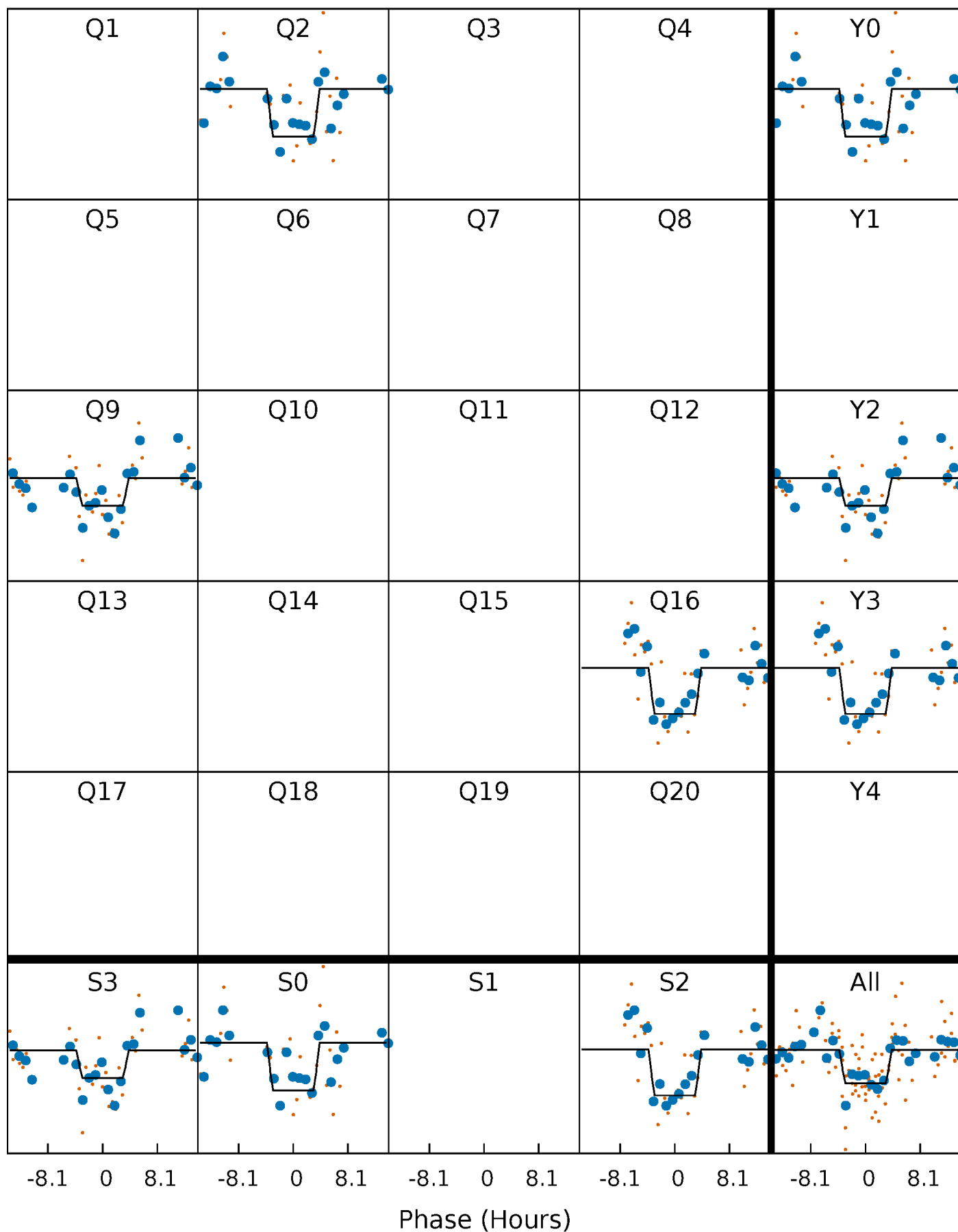
DV Quarter-Phased Transit Curves

TCE 008094120-03 P=640.797781 Days $T_0=209.425815$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

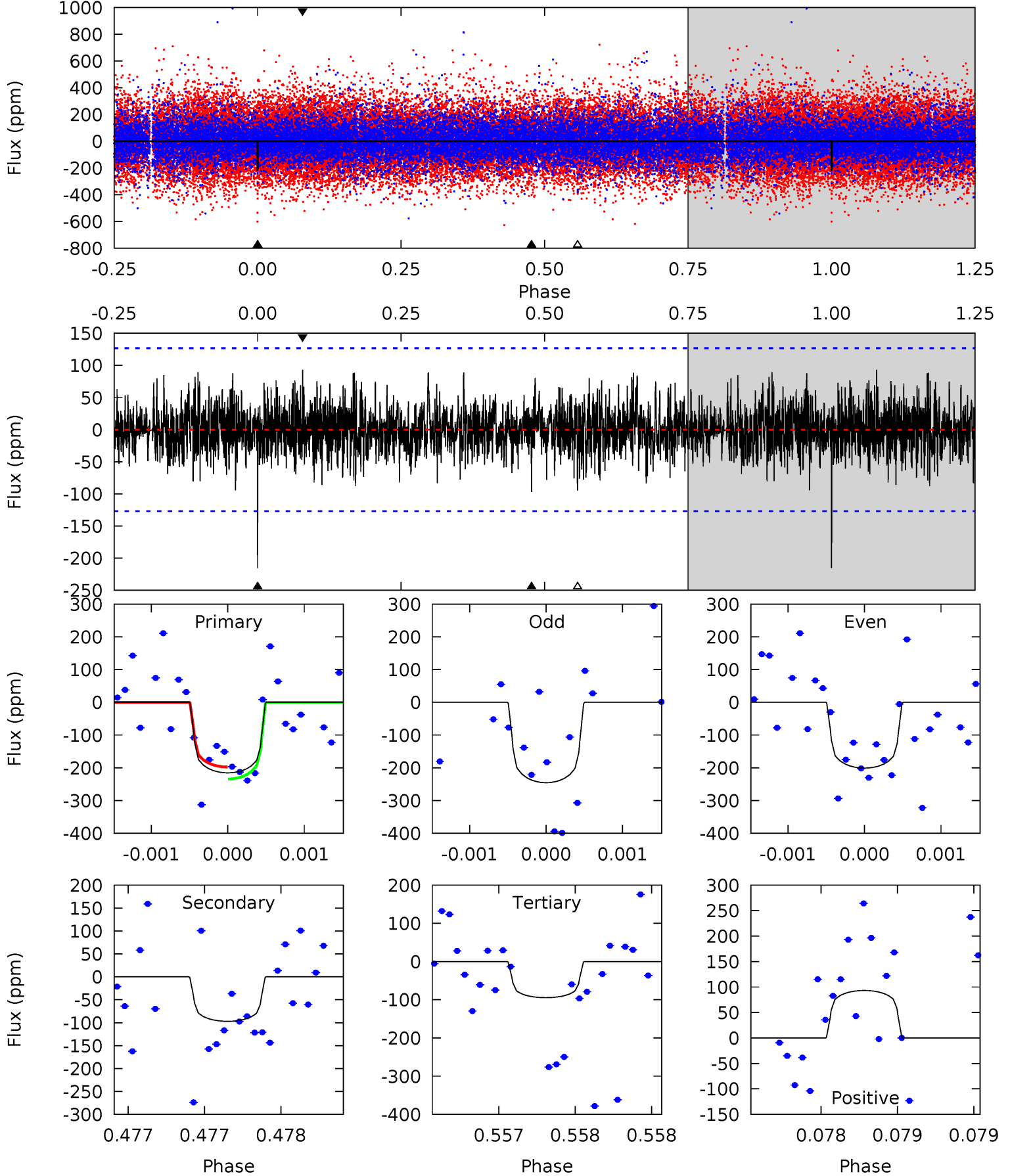
TCE 008094120-03 P=640.796442 Days $T_0=209.426369$ (BKJD)



DV Model-Shift Uniqueness Test

008094120-03, P = 640.797781 Days, E = 209.425815 Days

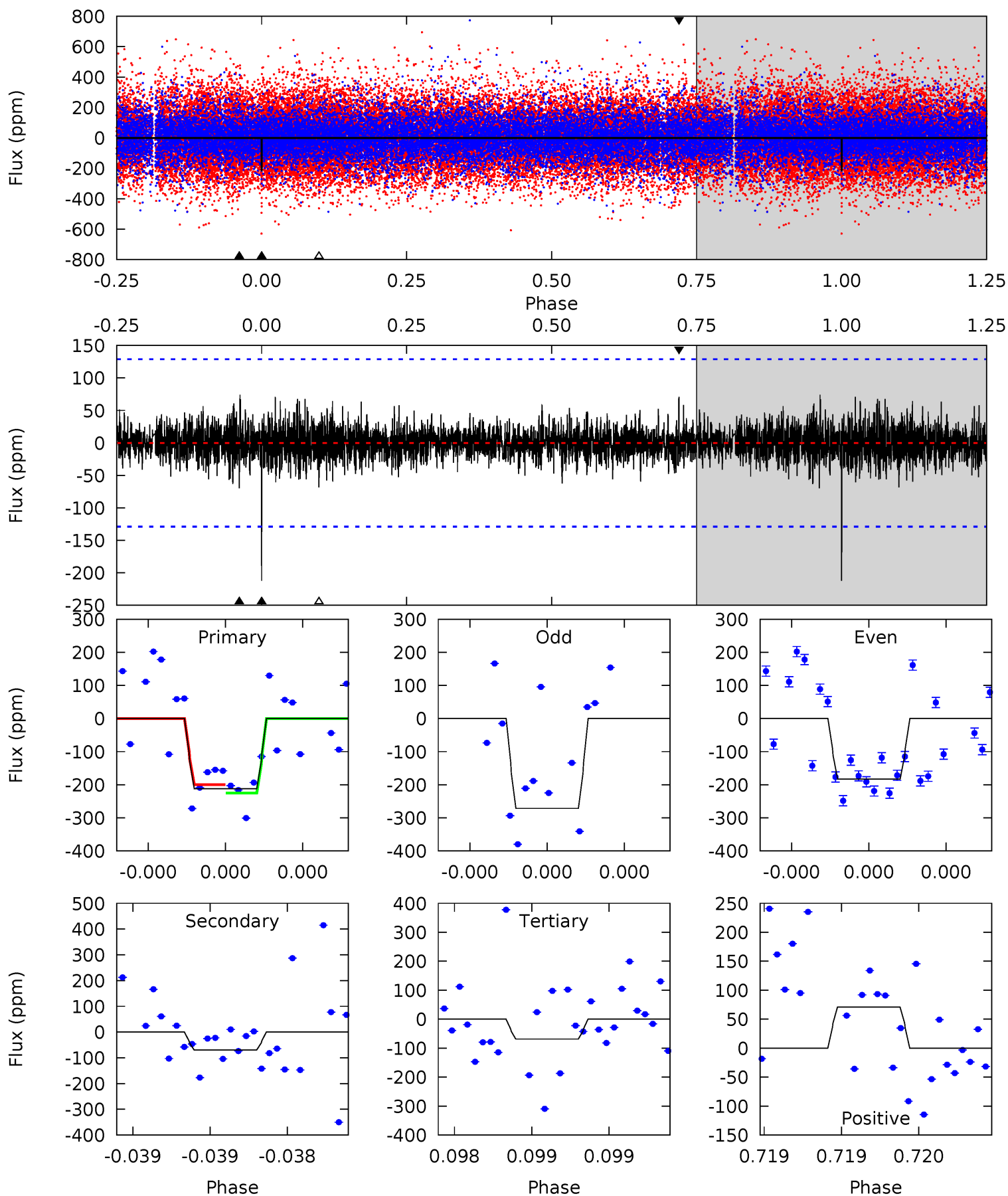
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	4.26	4.15	4.09	5.57	3.48	1.20	5.31	5.37	0.11	0.17	0.93	0.88	0.30	0.81



Alt Model-Shift Uniqueness Test

008094120-03, P = 640.796442 Days, E = 209.426369 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.17	3.01	2.96	3.07	5.58	3.49	0.77	6.21	6.11	0.05	-0.06	1.79	1.02	0.26	0.56



Stellar Parameters For KIC 008094120

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6514^{+181}_{-227}	$4.090^{+0.258}_{-0.172}$	$-0.340^{+0.300}_{-0.300}$	$1.585^{+0.457}_{-0.503}$	$1.127^{+0.192}_{-0.157}$	$0.398^{+0.621}_{-0.183}$
	+3%/-3%	+6%/-4%	+88%/-88%	+29%/-32%	+17%/-14%	+156%/-46%
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 008094120-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-97 ± 23	$2.74^{+1.38}_{-1.36}$	412^{+31}_{-37}	5156^{+1948}_{-806}	16335^{+47571}_{-9544}
Alt.	-70 ± 23	$2.60^{+1.35}_{-1.48}$	406^{+34}_{-34}	4940^{+2183}_{-889}	13586^{+51136}_{-8700}

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

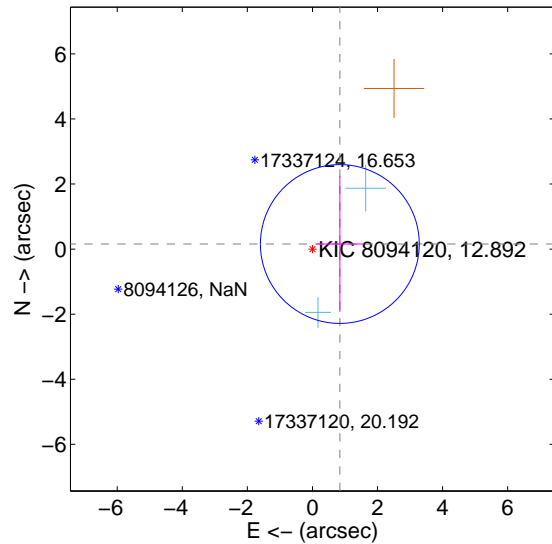
Supplemental centroid analysis for 008094120-03. Kepler magnitude: 12.89. Transit SNR 7.30

There are 2 quarters with good PRF difference image offsets

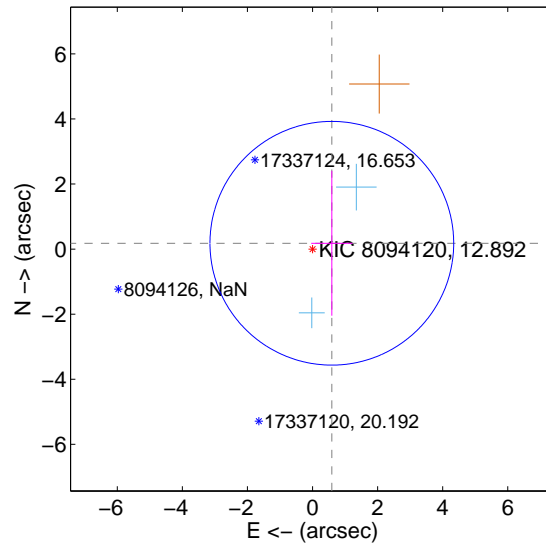
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.856 ± 0.814	1.05	-0.842 ± 0.731	0.156 ± 2.086
PRF-fit source offset from KIC position	0.620 ± 1.249	0.50	-0.593 ± 0.634	0.179 ± 2.227
photometric centroid source offset	0.69 ± 1.84	0.37	0.58 ± 1.85	-0.36 ± 1.81

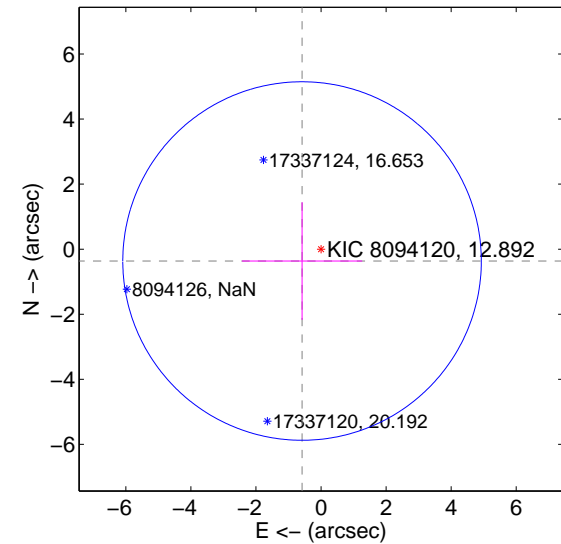
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

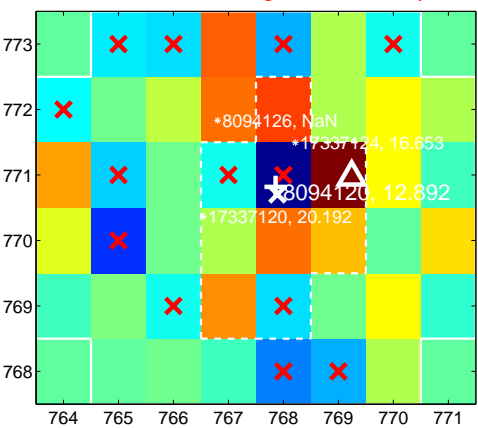
Q1 no difference image



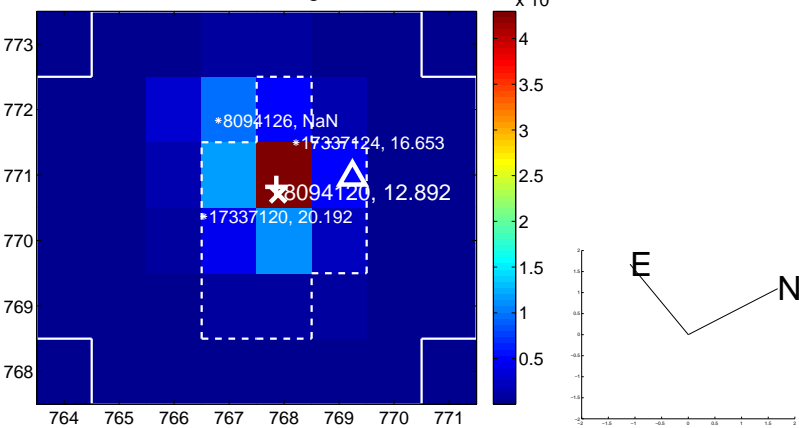
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



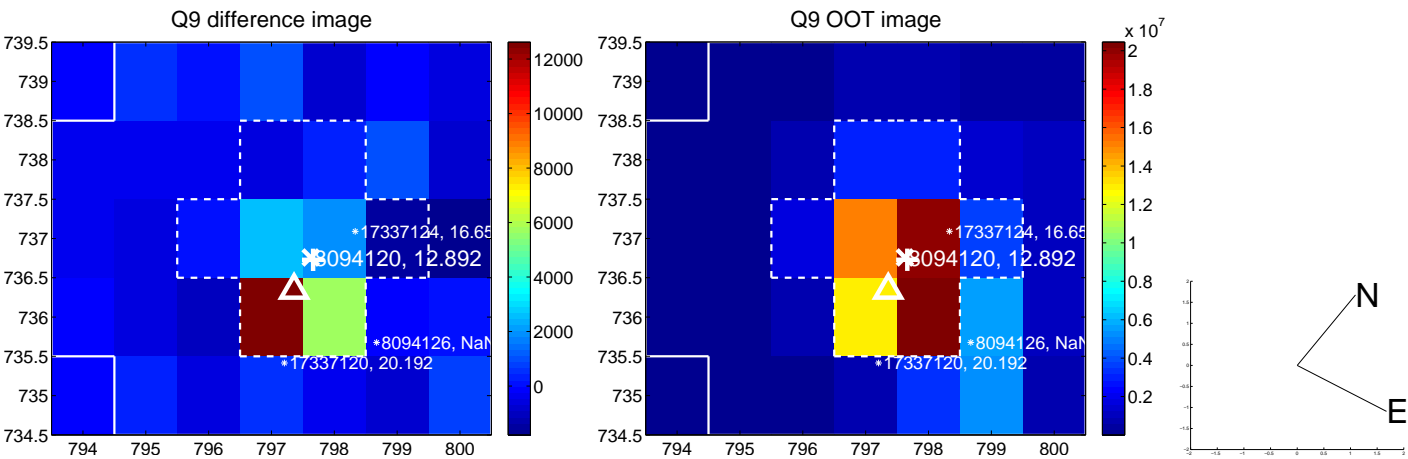
Q4 no OOT image



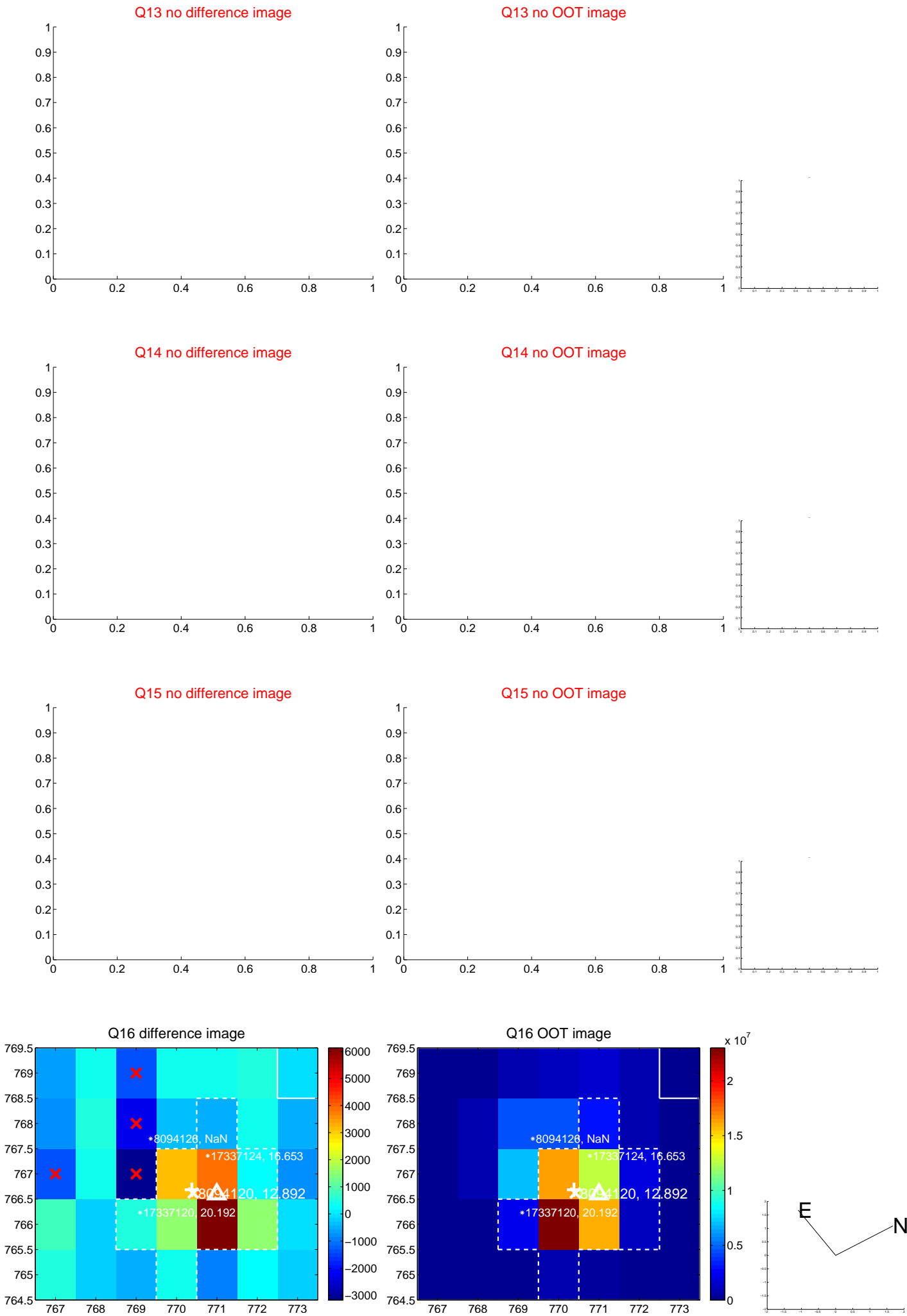
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



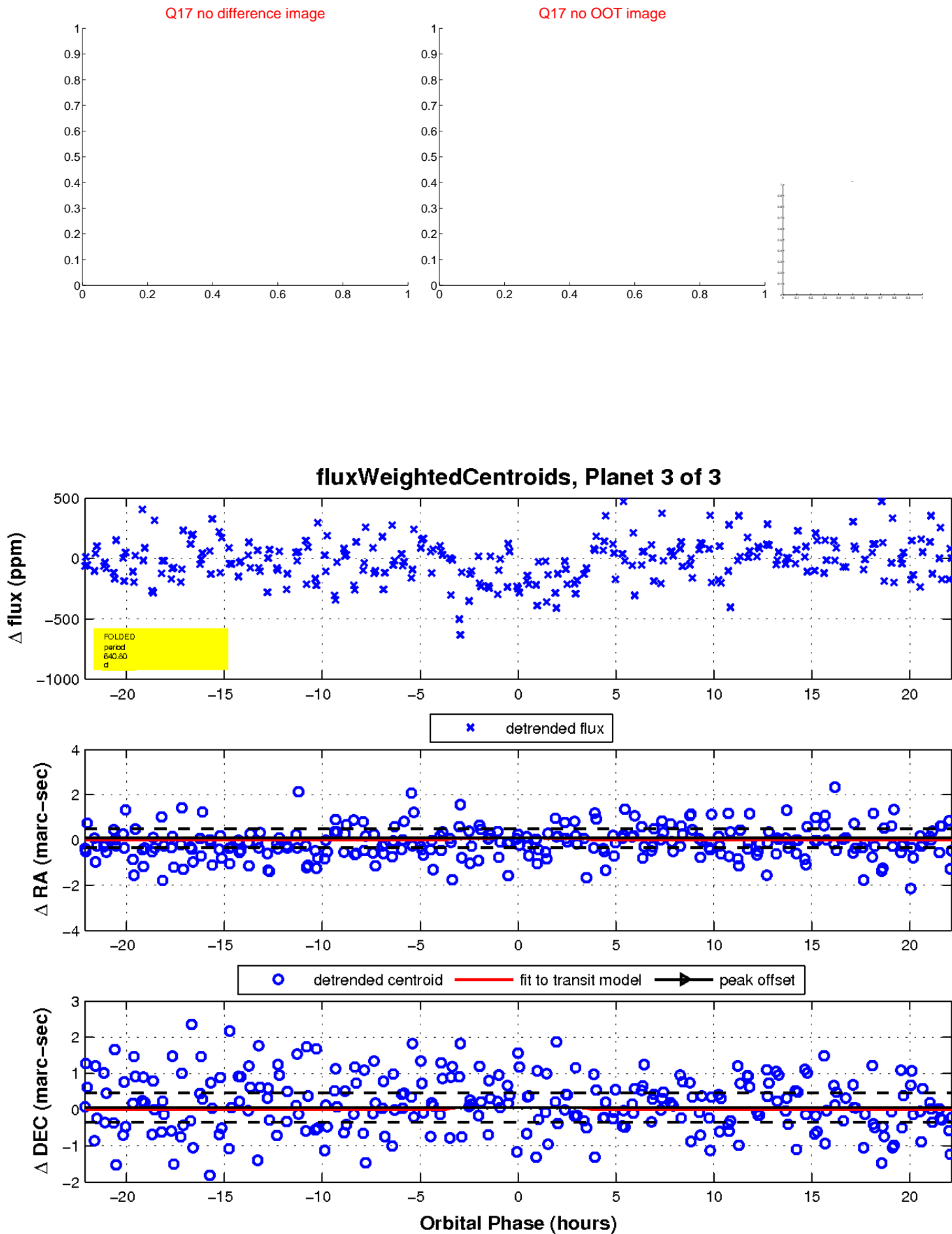
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

