

KIC 010091110

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})
010091110-01	OBS	3627.01	4.218514	133.506646	23323.8	3.630	1192.2	1119.6	0.99	6185	16.68	473.61
010091110-02	OBS	3627.02	8.529991	137.654843	19780.4	3.928	599.1	593.7	0.99	6185	22.29	185.23
010091110-03	OBS	No	4.218512	135.616678	1043.5	3.475	54.5	58.6	0.99	6185	3.85	473.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010091110-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010091110-02	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED
010091110-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

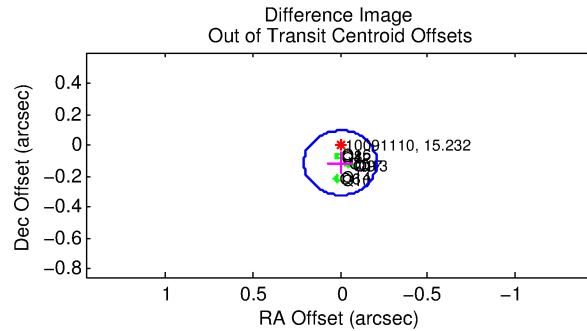
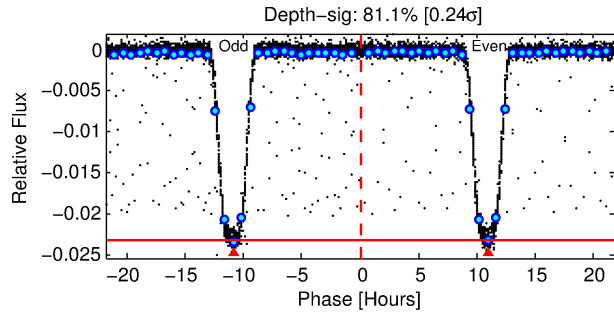
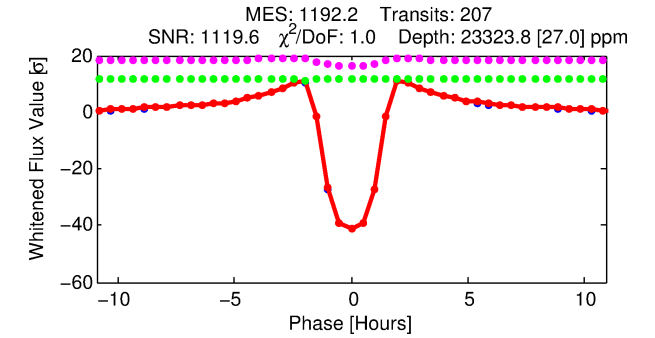
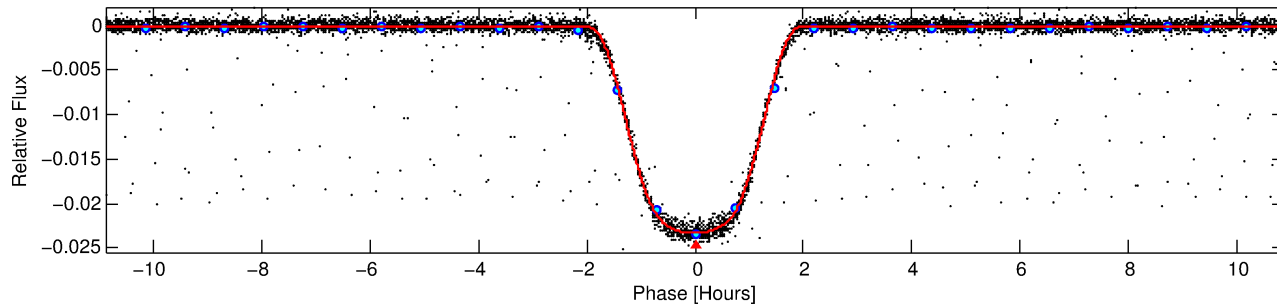
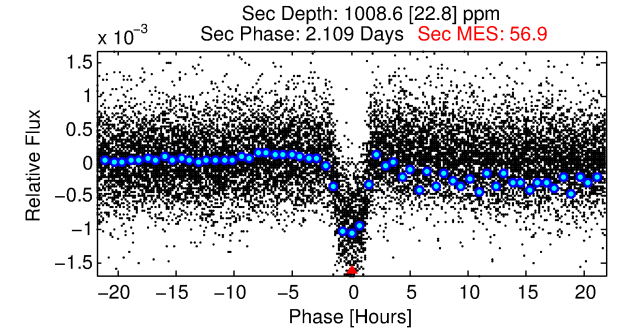
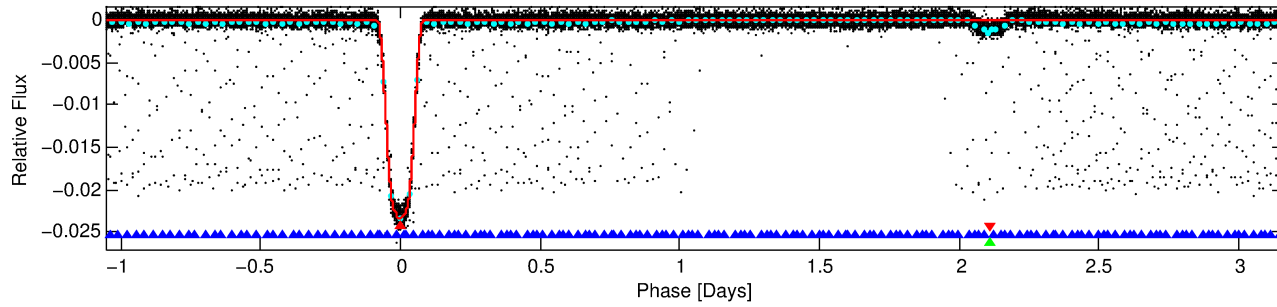
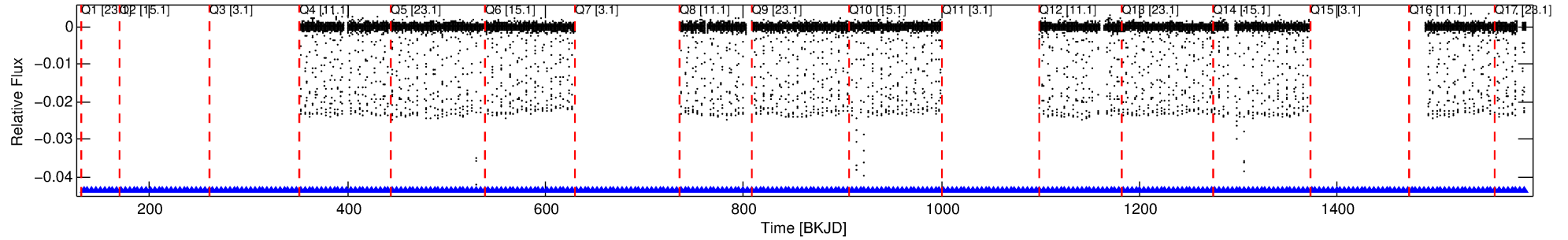
Ephemeris Match Information For 010091110-01

No Significant Match Found

DV One-Page Summary

KIC: 10091110 Candidate: 1 of 3 Period: 4.219 d
KOI: K03627.01 Corr: 0.999

Kp: 15.23 R*: 0.99 Rs Teff: 6185.0 K Logg: 4.47 Fe/H: -0.180



DV Fit Results:

Period = 4.21851 [0.00000] d
Epoch = 133.5066 [0.0001] BKJD
Rp/R* = 0.1543 [0.0001]
a/R* = 7.67 [0.02]
b = 0.77 [0.00]
Seff = 473.61 [201.31]
Teq = 1190 [126] K
Rp = 16.68 [5.40] Re
a = 0.0521 [0.0142] AU
Ag = 5.42 [2.15] [2.06σ]
Teff = 2806 [110] K [9.65σ]

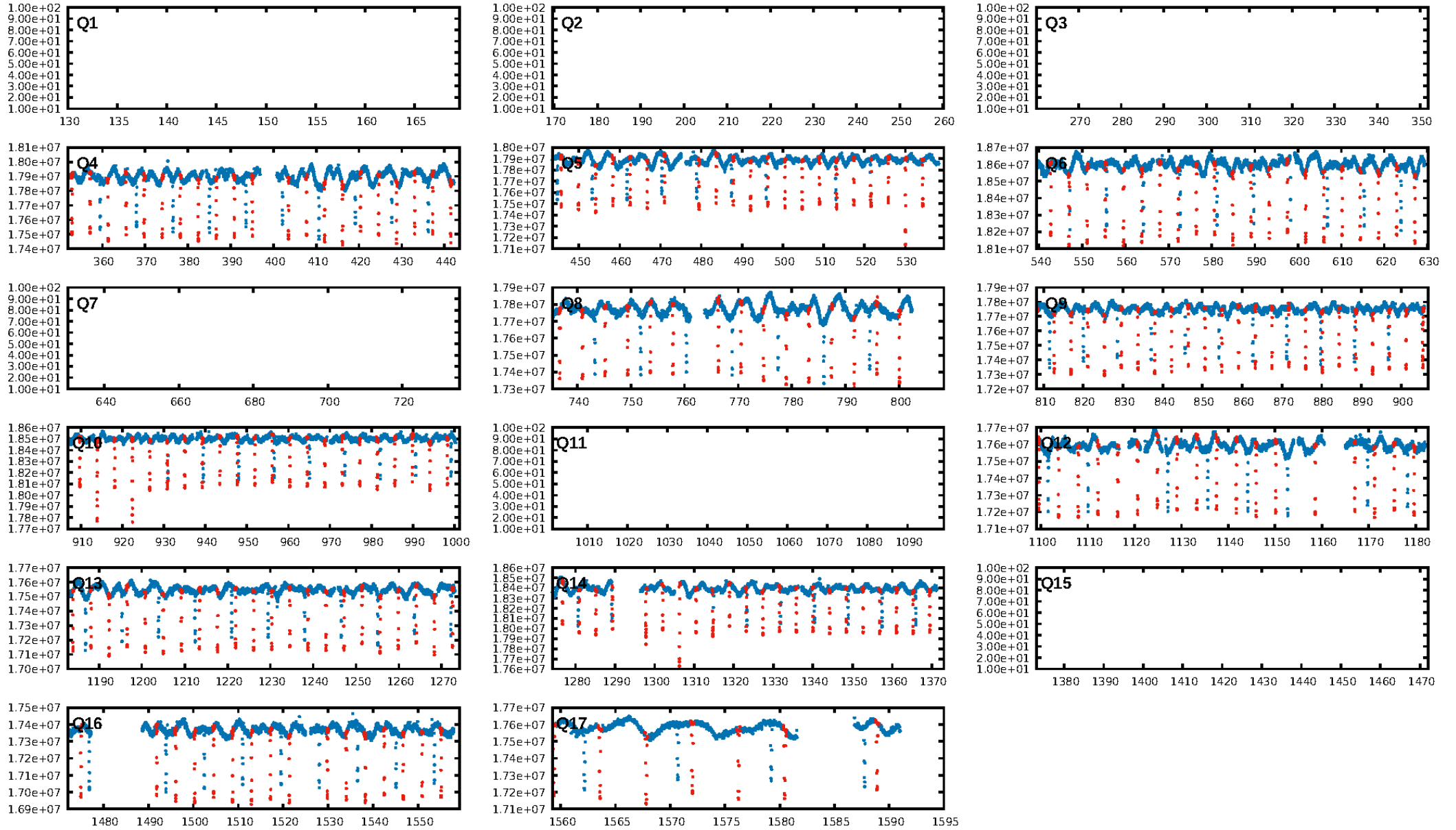
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [19.35σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [200/200]
GhostDiagnostic-chr: 3.585
Centroid-sig: 0.0%
Centroid-so: 0.410 arcsec [42.17σ]
OotOffset-rm: 0.113 arcsec [1.63σ]
KicOffset-rm: 0.282 arcsec [4.17σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/0/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

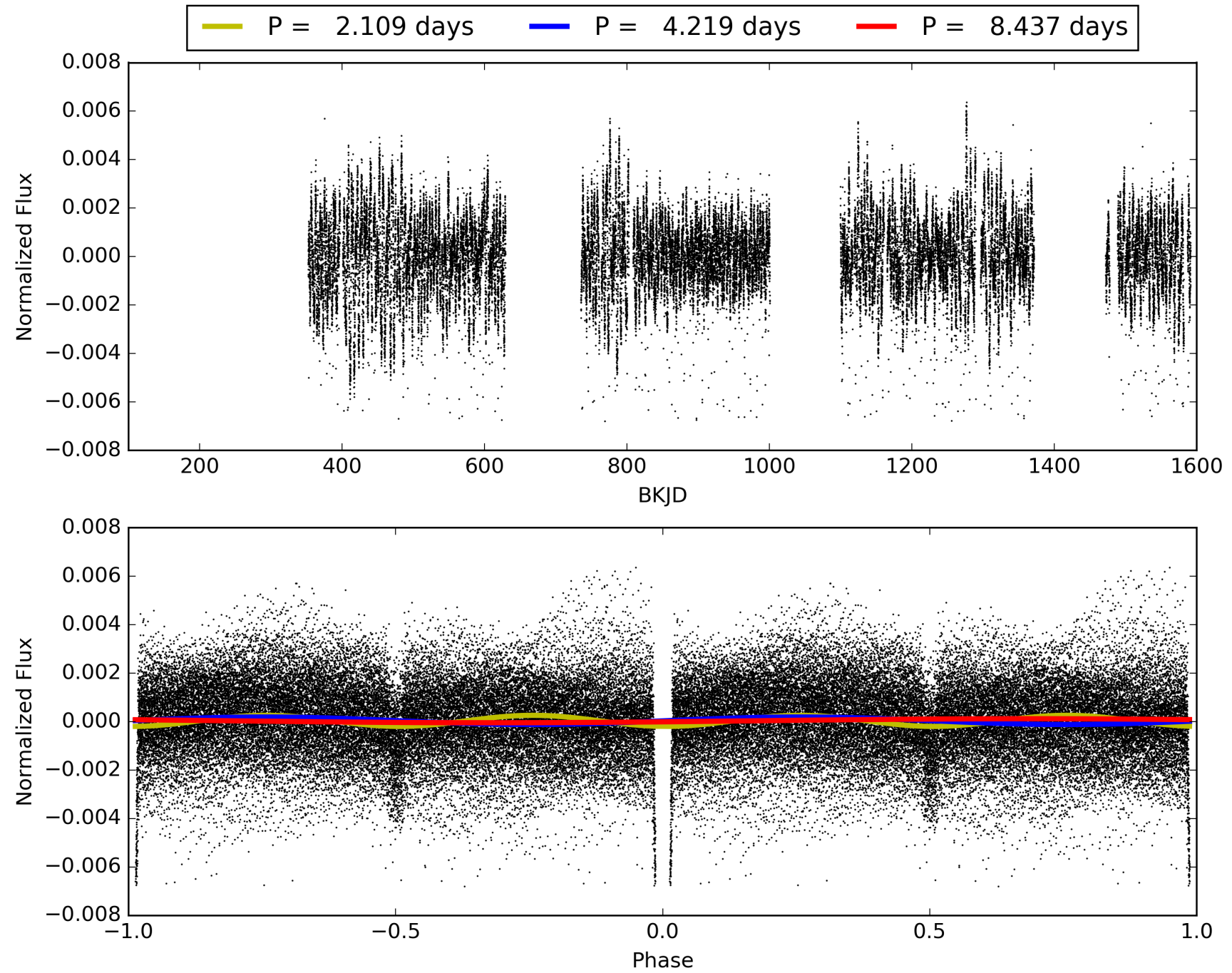
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:05:54 Z

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

TCE 010091110-01, PDC Light Curves

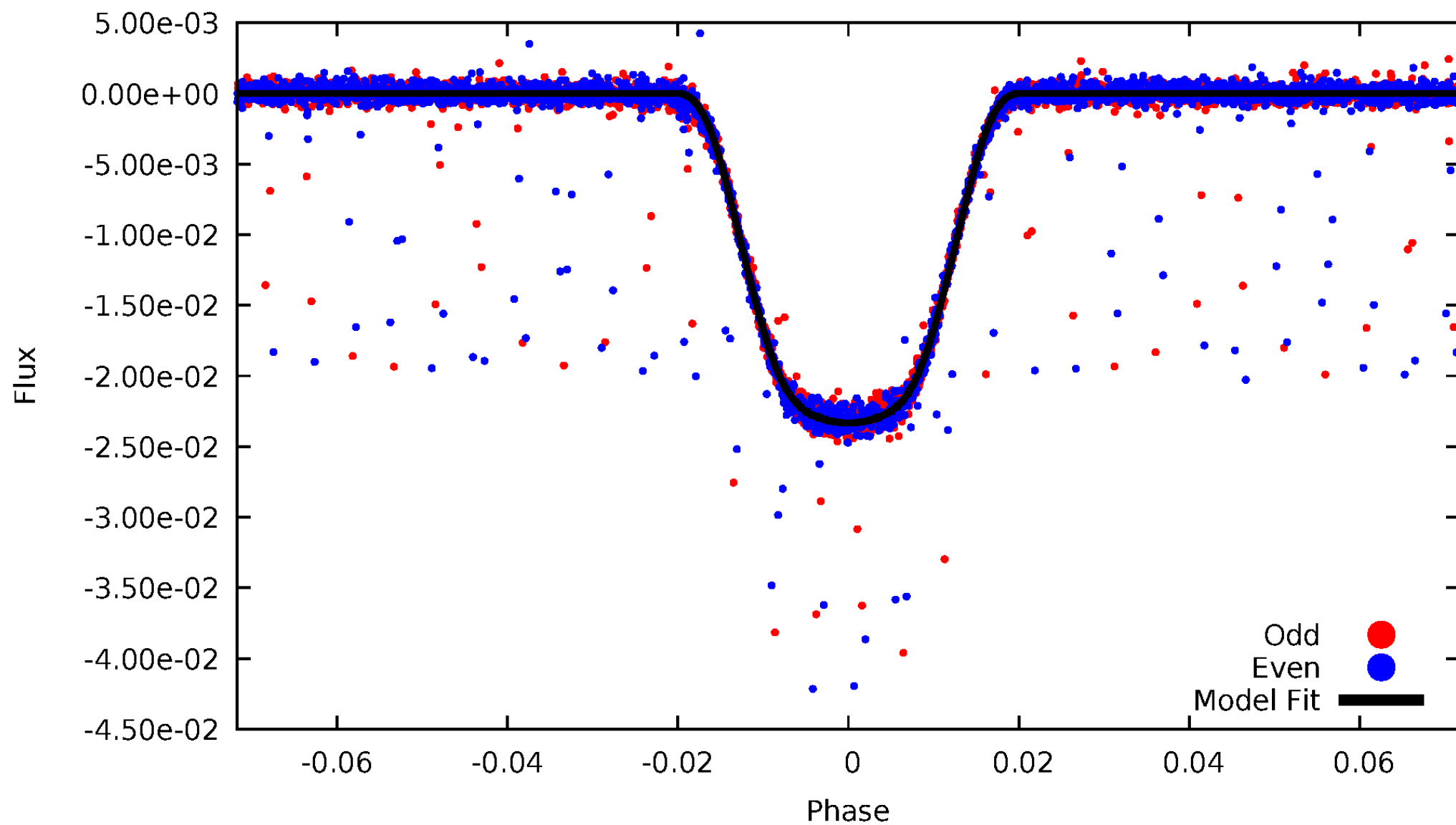


TCE 010091110-01



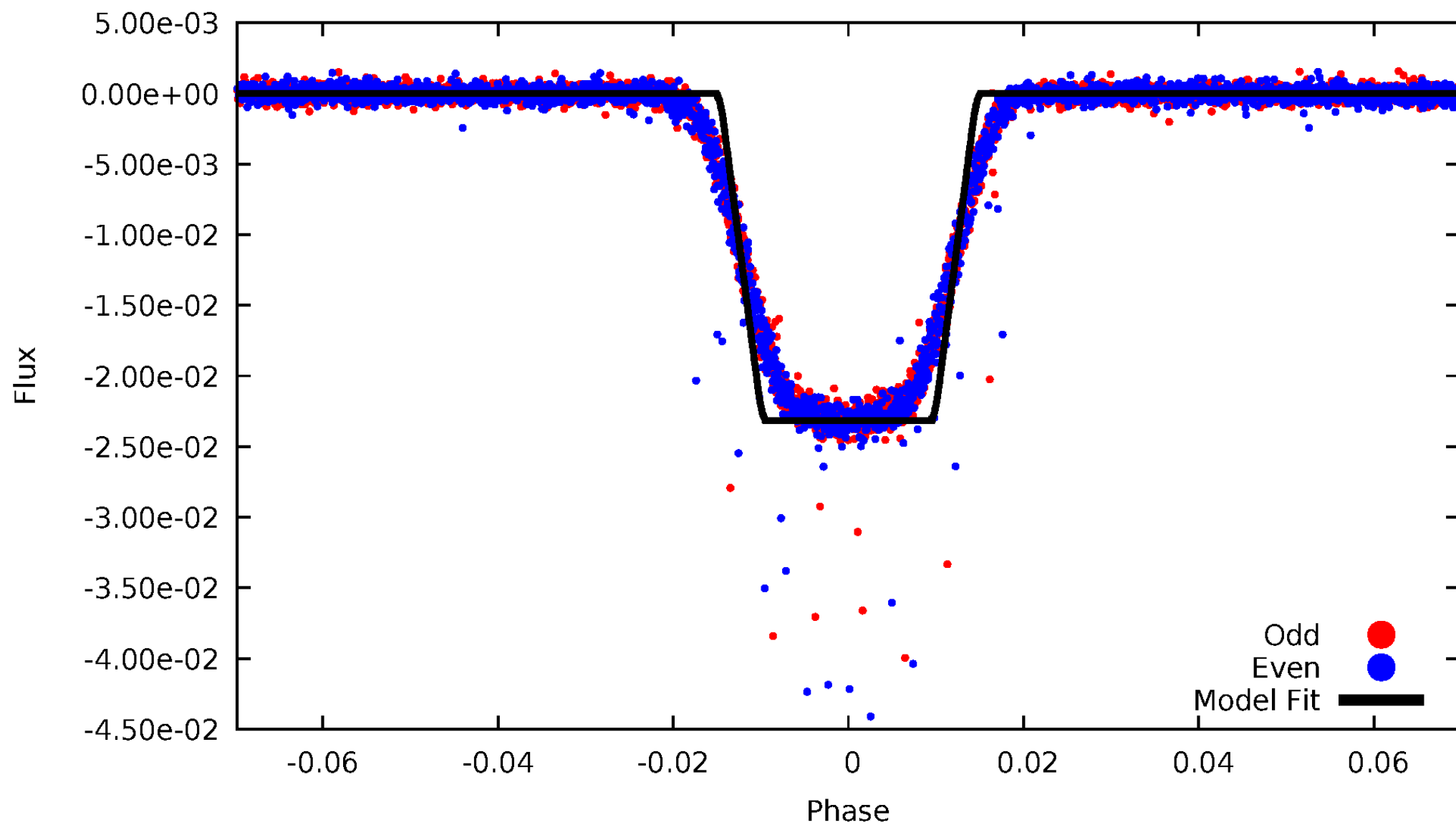
DV Odd/Even

TCE 010091110-01



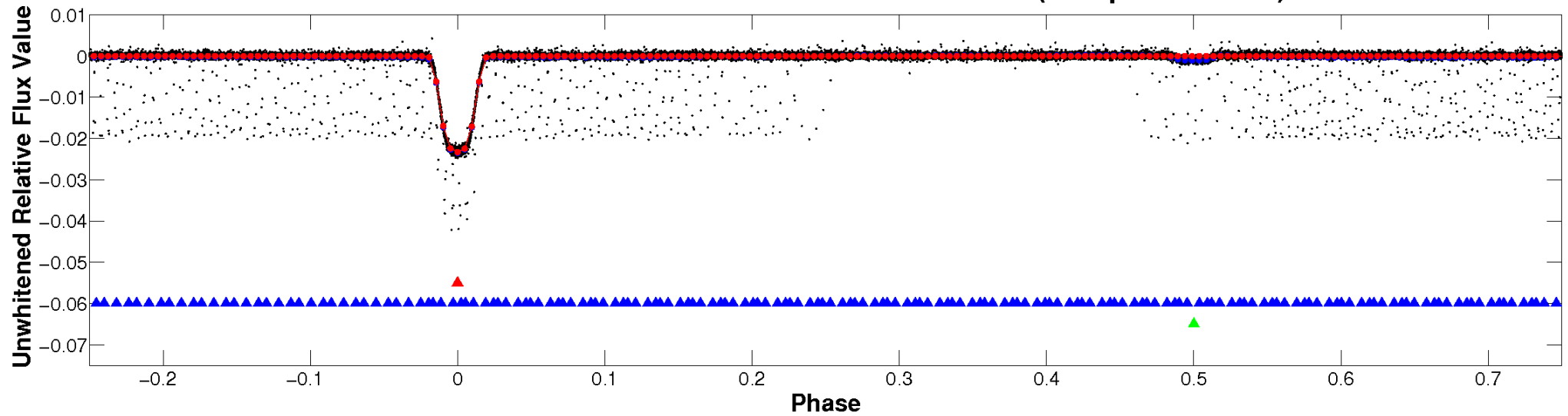
ALT Odd/Even

TCE 010091110-01

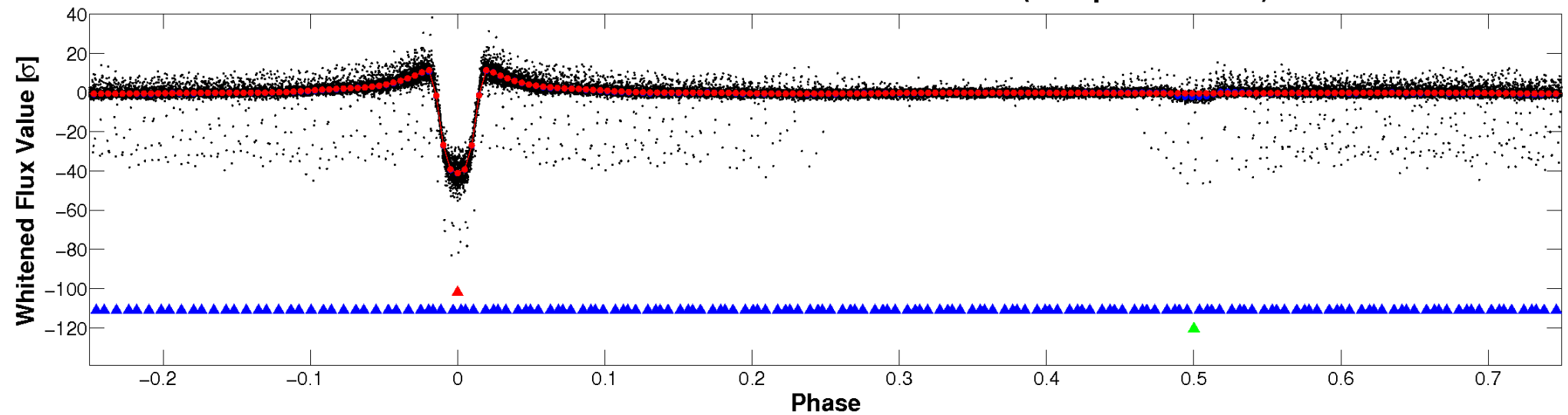


Non-Whitened Vs. Whitened Light Curve

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

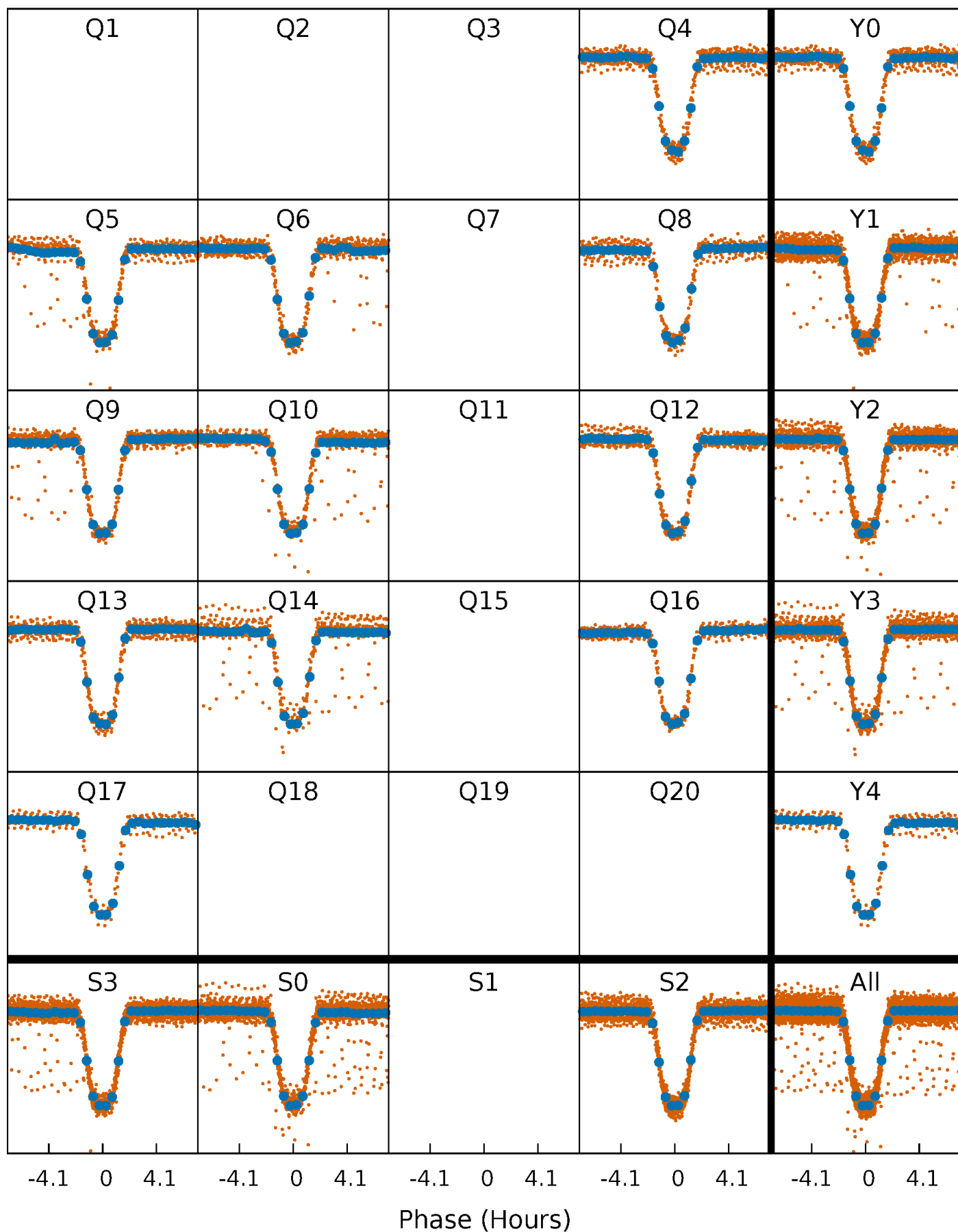


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



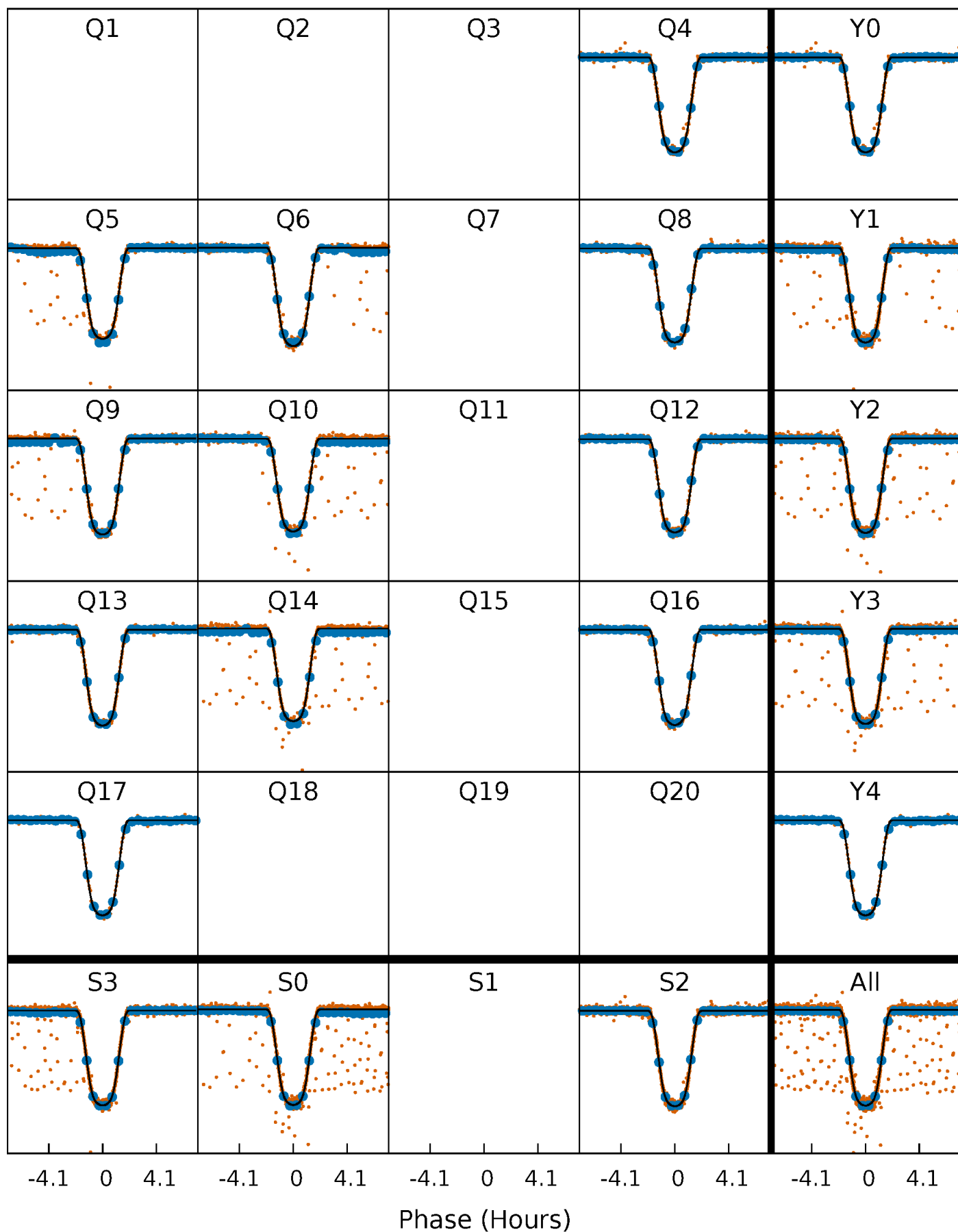
PDC Quarter-Phased Transit Curves

TCE 010091110-01 P= 4.218514 Days $T_0=133.506646$ (BKJD)



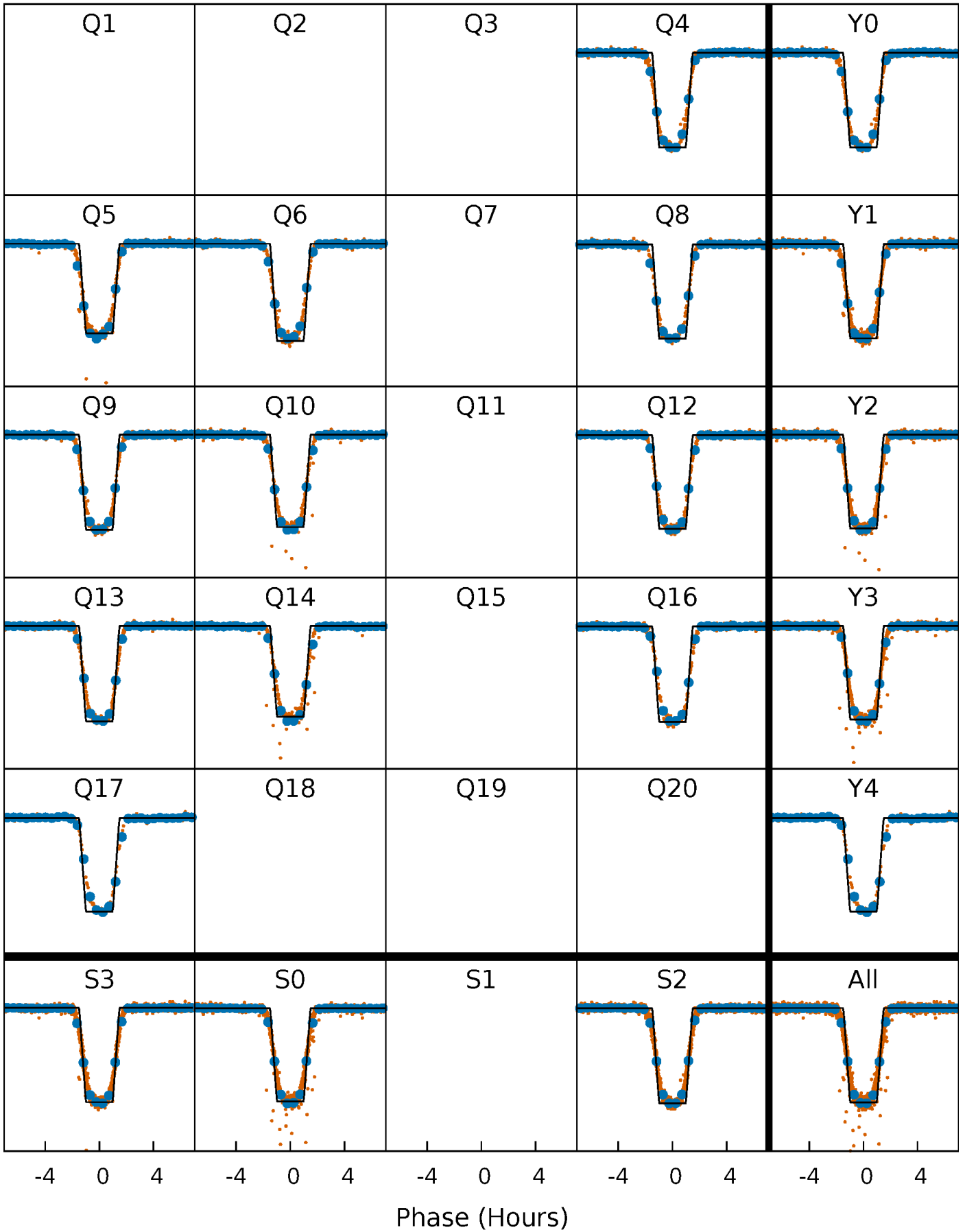
DV Quarter-Phased Transit Curves

TCE 010091110-01 P= 4.218514 Days $T_0=133.506646$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

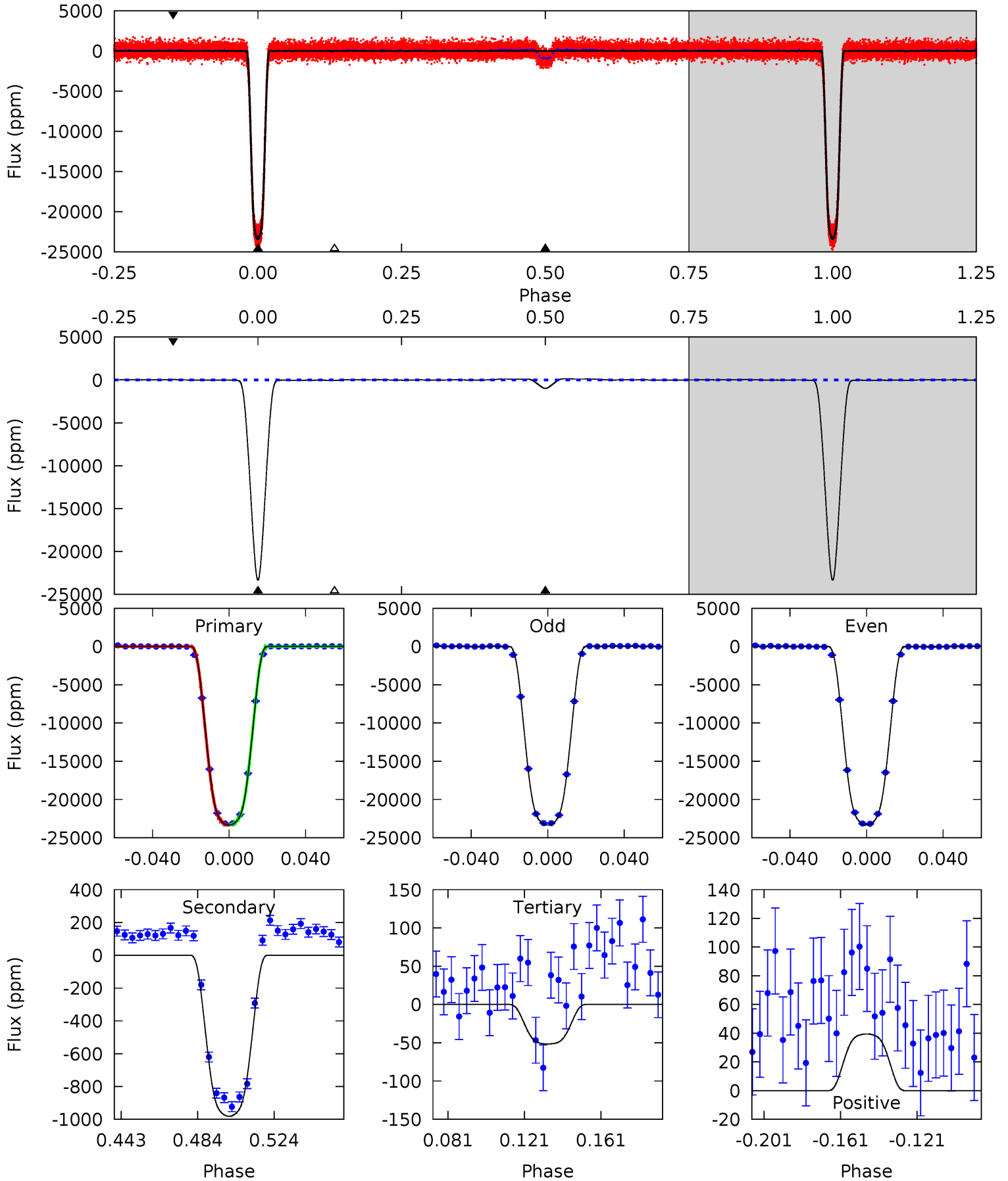
TCE 010091110-01 P= 4.218488 Days $T_0=133.511323$ (BKJD)



DV Model-Shift Uniqueness Test

010091110-01, P = 4.218514 Days, E = 133.506646 Days

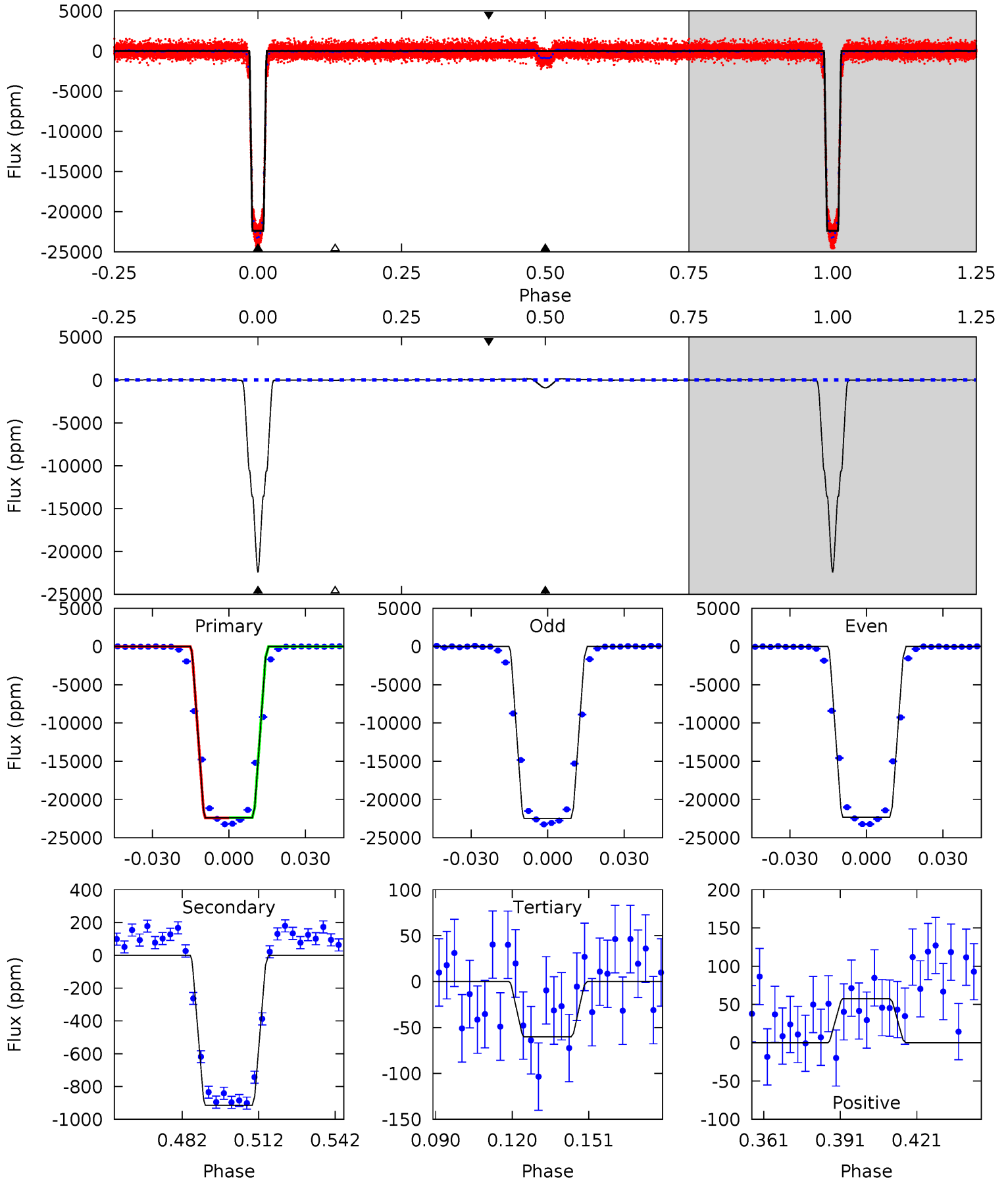
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2258	95.0	5.00	3.82	4.75	2.05	3.83	2253	2254	90.0	91.1	0.88	1.01	0.01	1.40



Alt Model-Shift Uniqueness Test

010091110-01, P = 4.218488 Days, E = 133.511323 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1658	67.8	4.46	4.26	4.81	2.17	2.64	1653	1654	63.3	63.5	6.15	1.01	0.01	1.13



Stellar Parameters For KIC 010091110

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6185^{+197}_{-240}	$4.472^{+0.054}_{-0.216}$	$-0.180^{+0.250}_{-0.350}$	$0.991^{+0.321}_{-0.107}$	$1.060^{+0.144}_{-0.144}$	$1.537^{+0.440}_{-0.821}$
	+3%/-4%	+1%/-5%	+139%/-194%	+32%/-11%	+14%/-14%	+29%/-53%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010091110-01 / KOI 3627.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-981 ± 10	$17.20^{+3.05}_{-1.40}$	1704^{+131}_{-90}	3297^{+65}_{-77}	$4.832^{+0.776}_{-1.244}$
Alt.	-915 ± 14	$16.91^{+2.98}_{-1.41}$	1700^{+129}_{-91}	3275^{+67}_{-74}	$4.702^{+0.709}_{-1.228}$

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 $A_{obs} \gg 1.0$

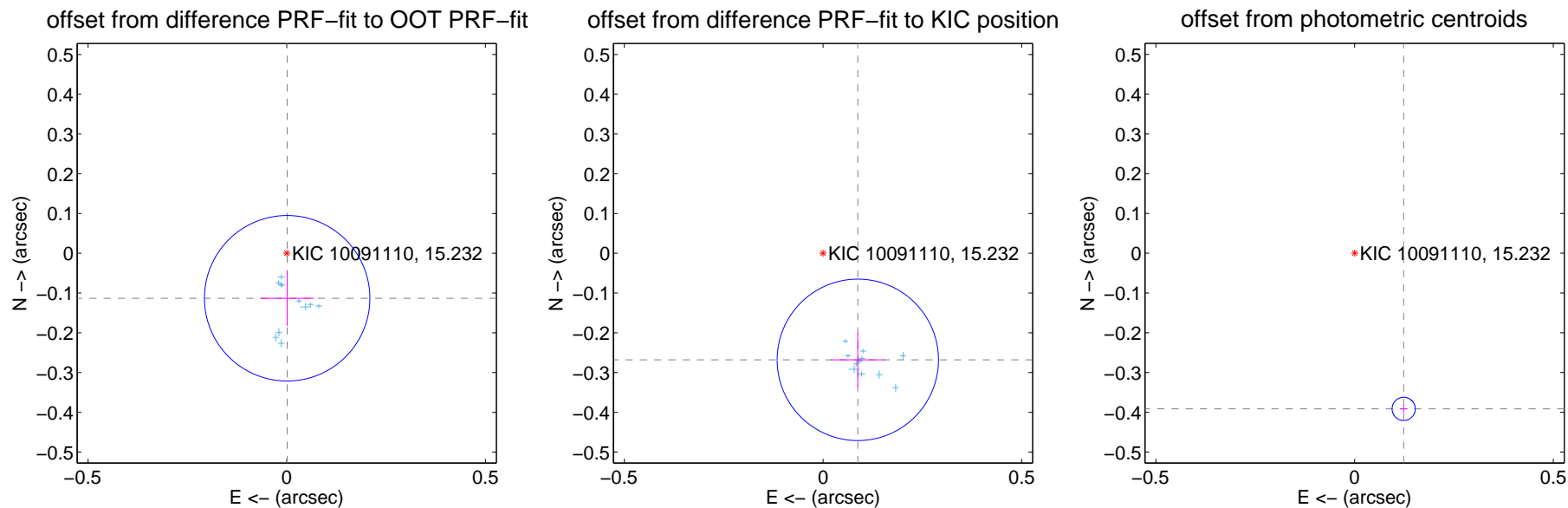
DV Centroid Data

Supplemental centroid analysis for 010091110-01. Kepler magnitude: 15.23. Transit SNR 1119.56

There are 11 quarters with good PRF difference image offsets

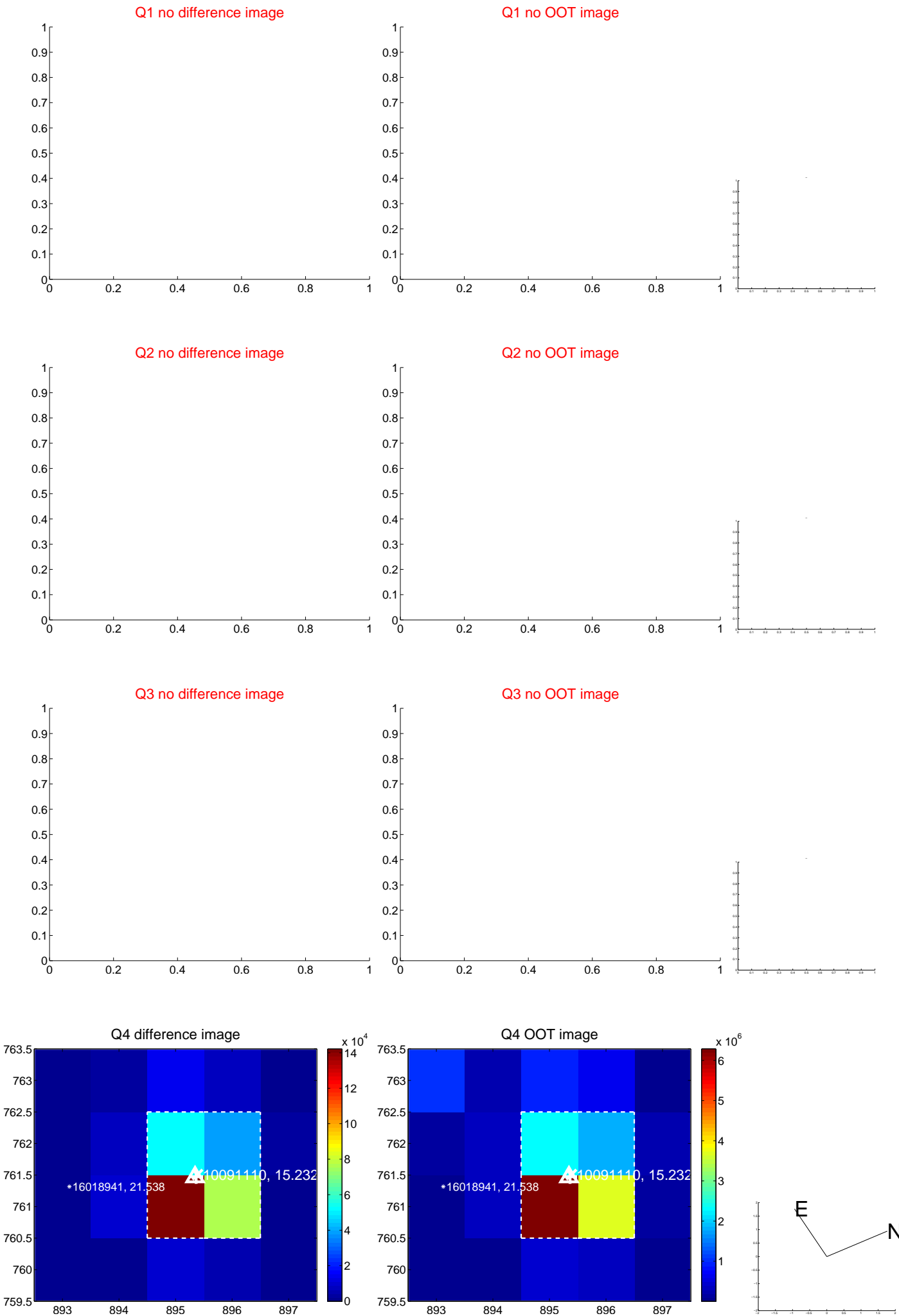
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.113 ± 0.069	1.63	-0.001 ± 0.067	-0.113 ± 0.069
PRF-fit source offset from KIC position	0.282 ± 0.068	4.17	-0.088 ± 0.068	-0.268 ± 0.067
photometric centroid source offset	0.41 ± 0.01	42.17	-0.12 ± 0.01	-0.39 ± 0.01

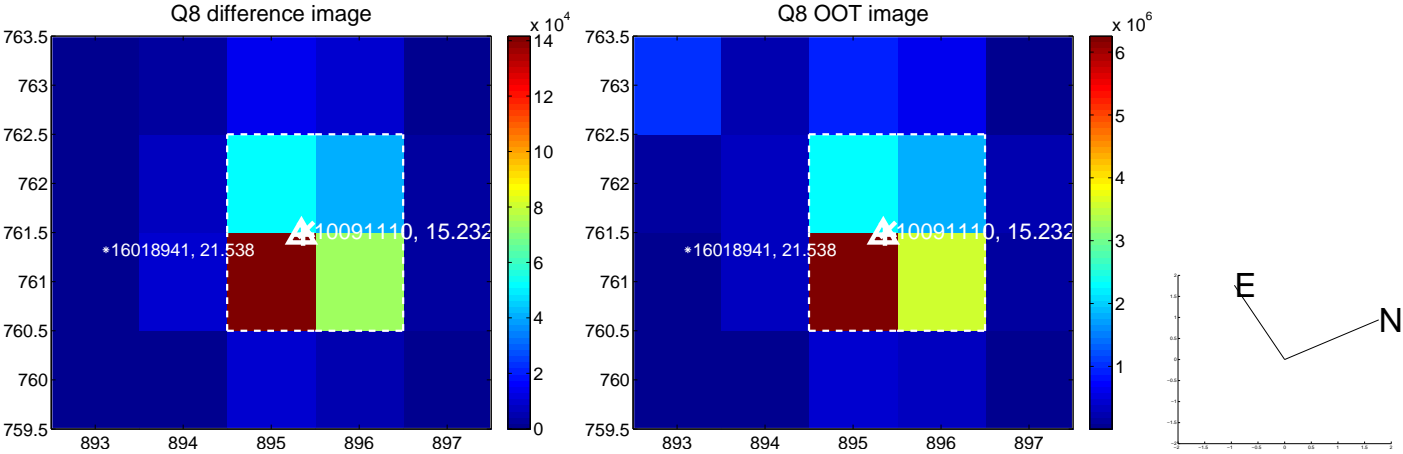
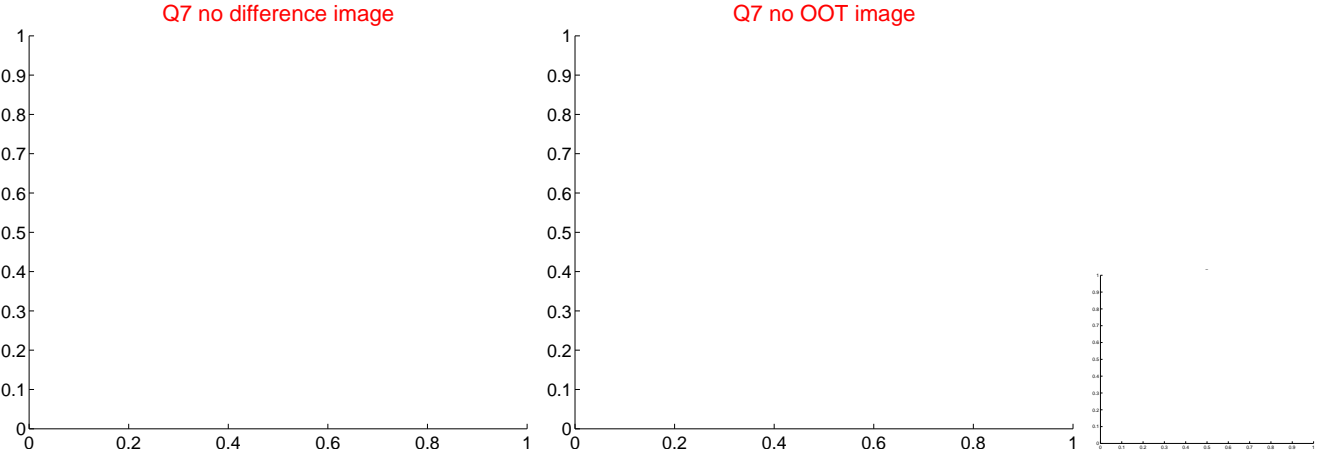
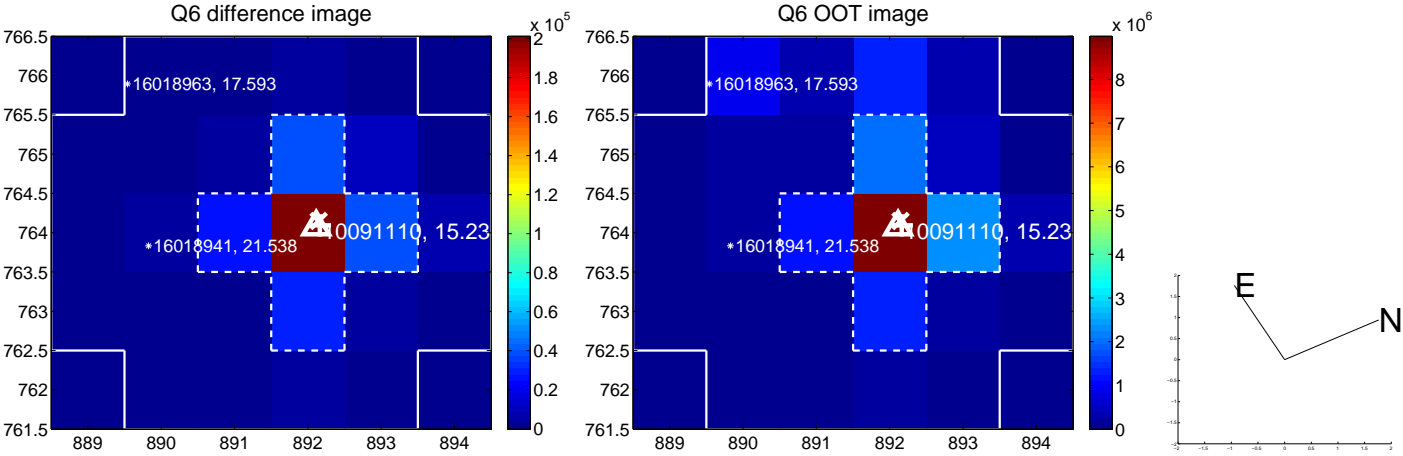
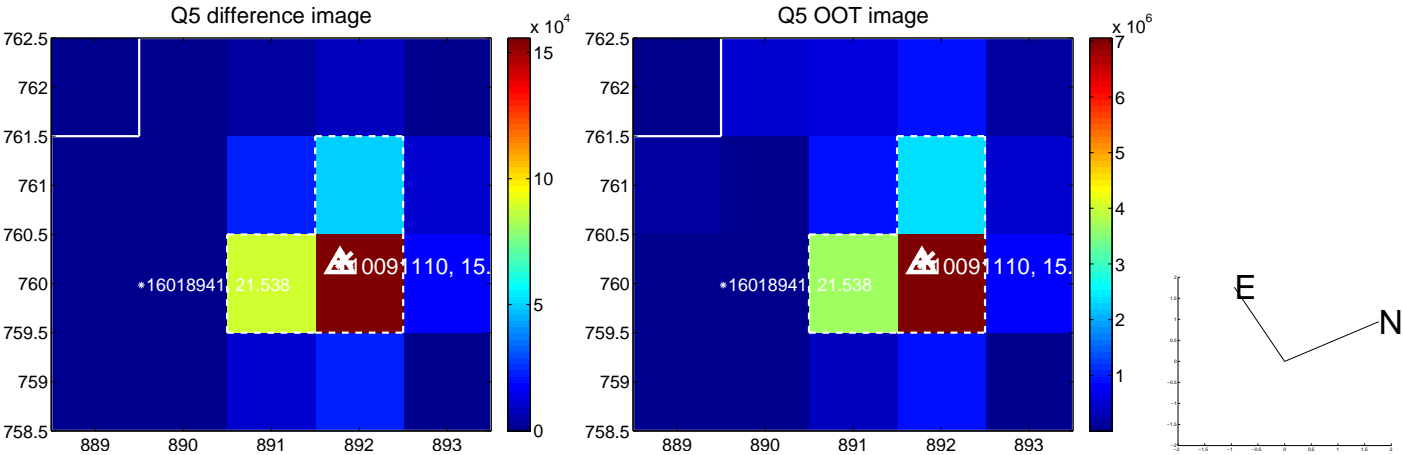


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

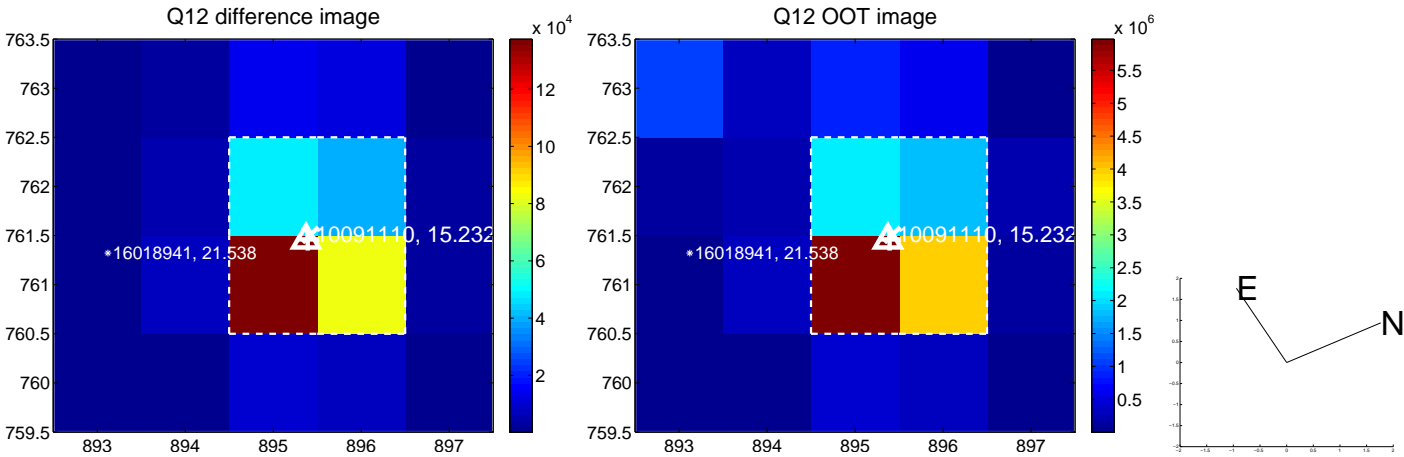
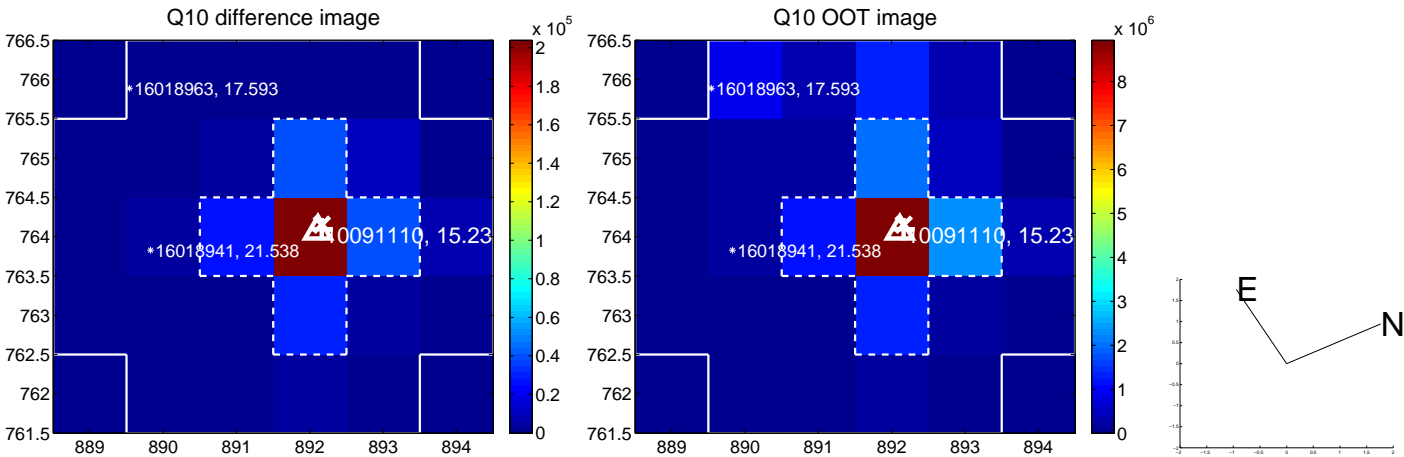
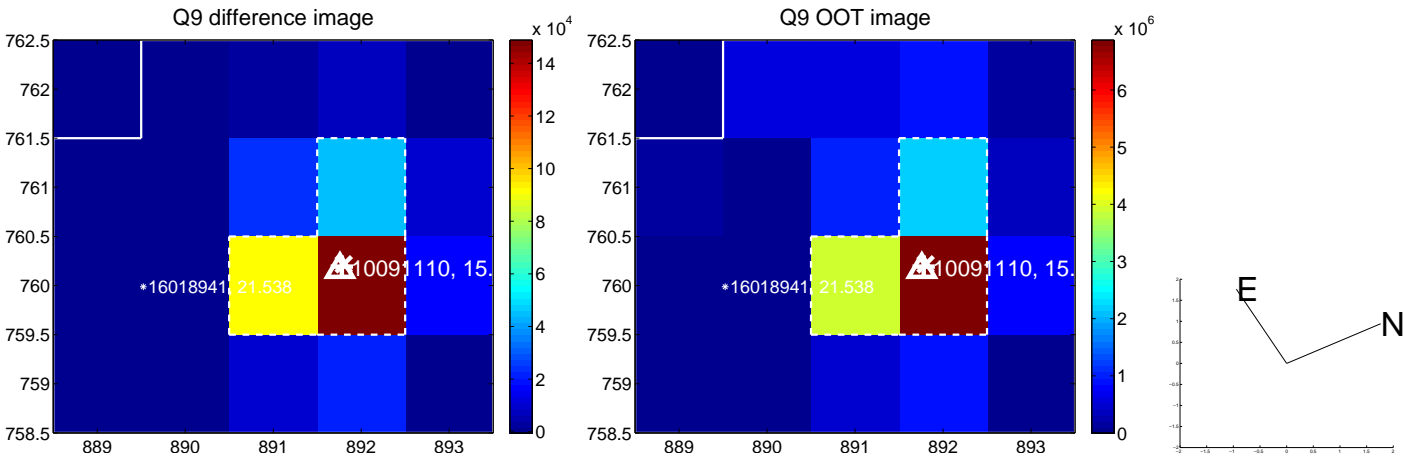
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



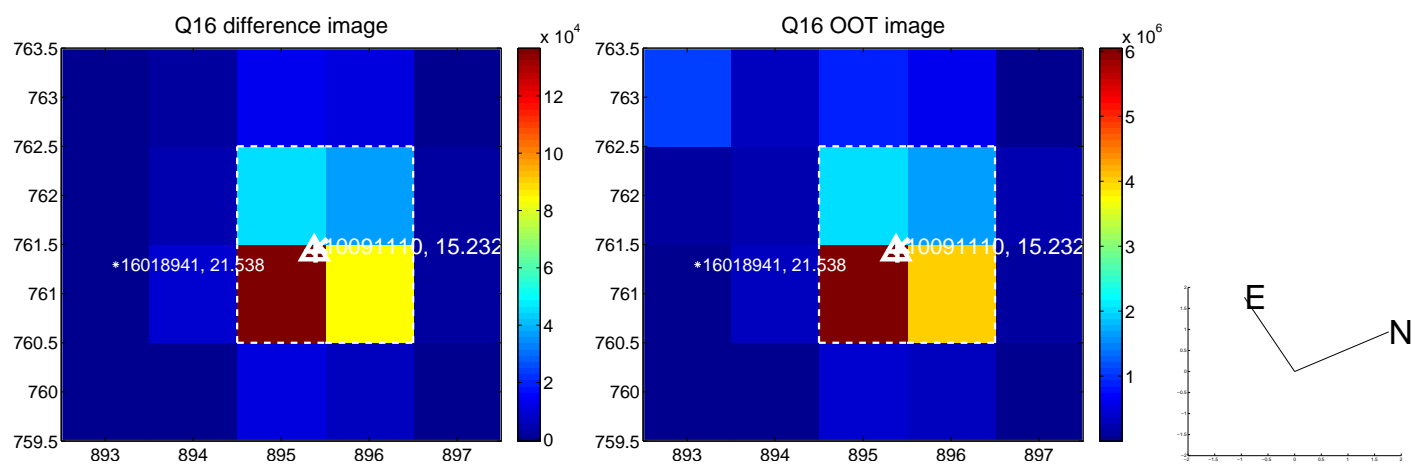
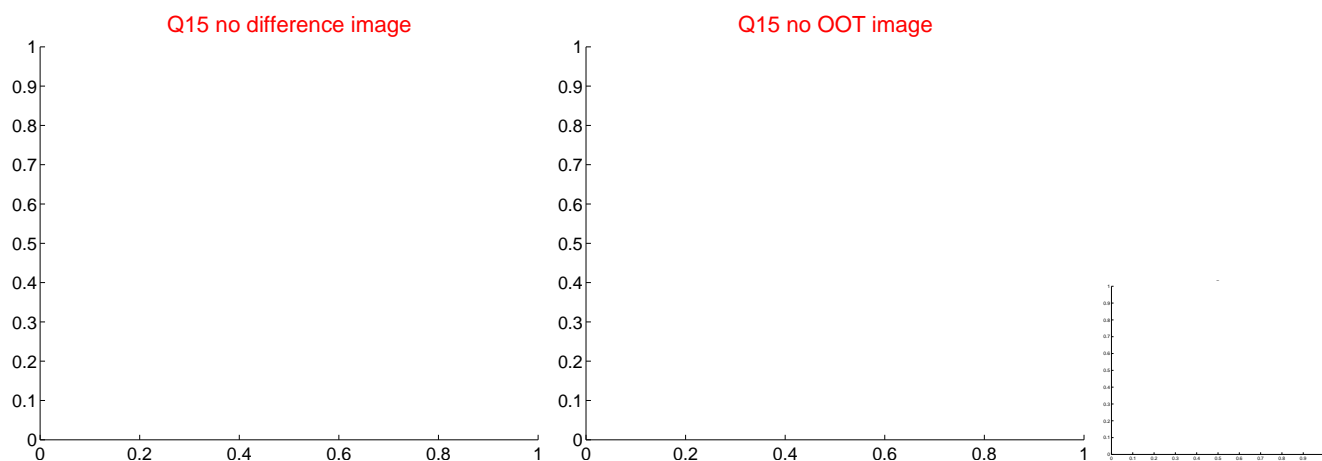
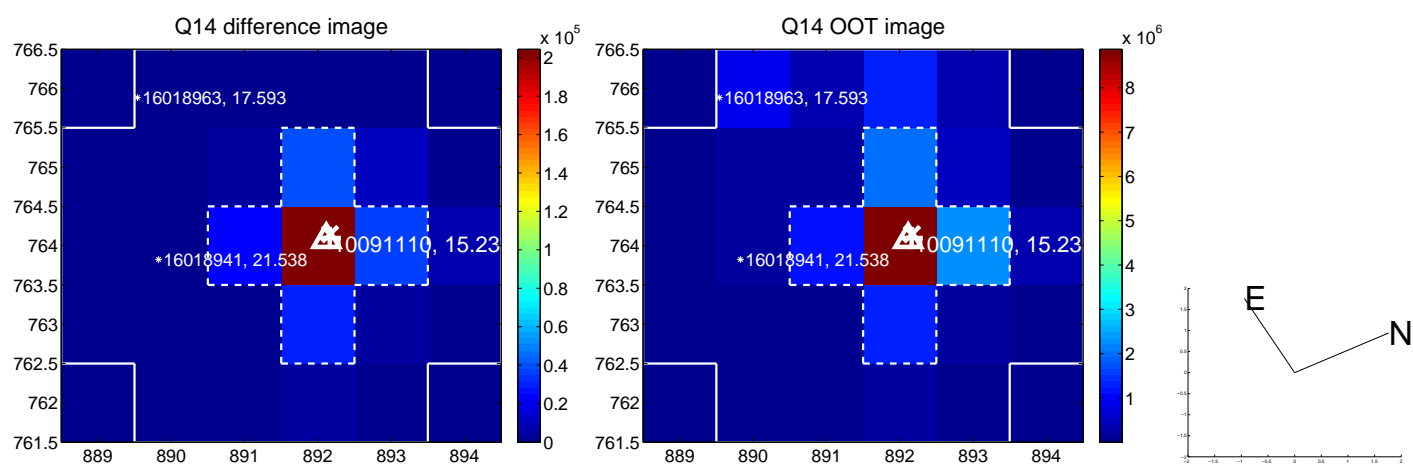
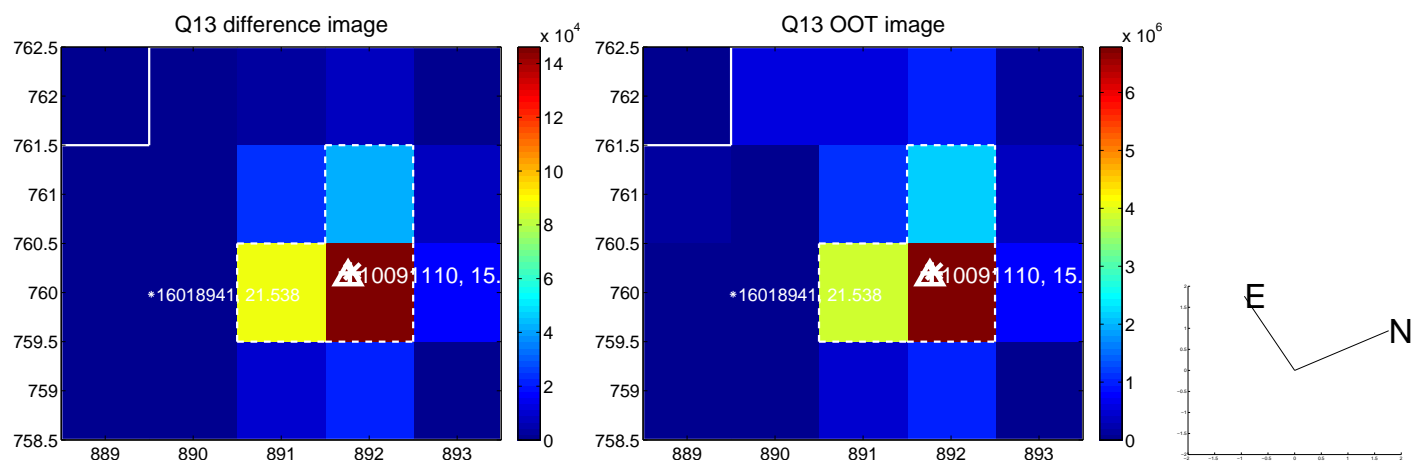
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



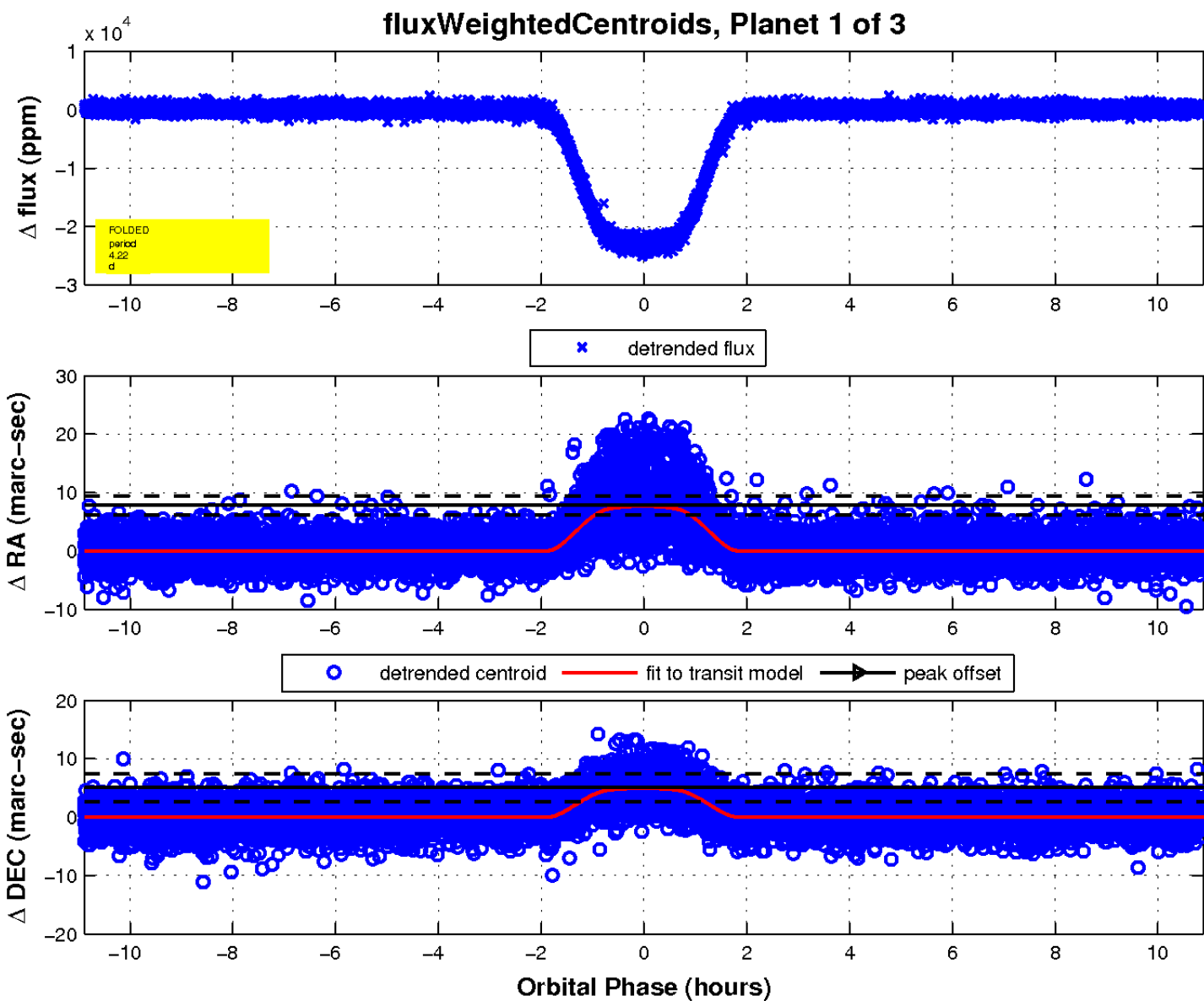
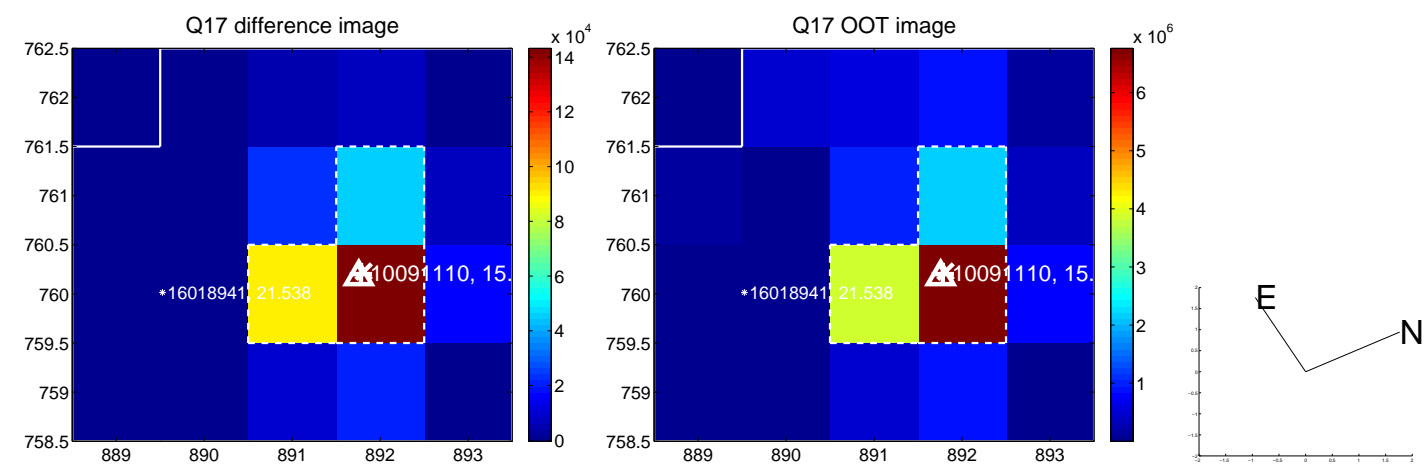
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

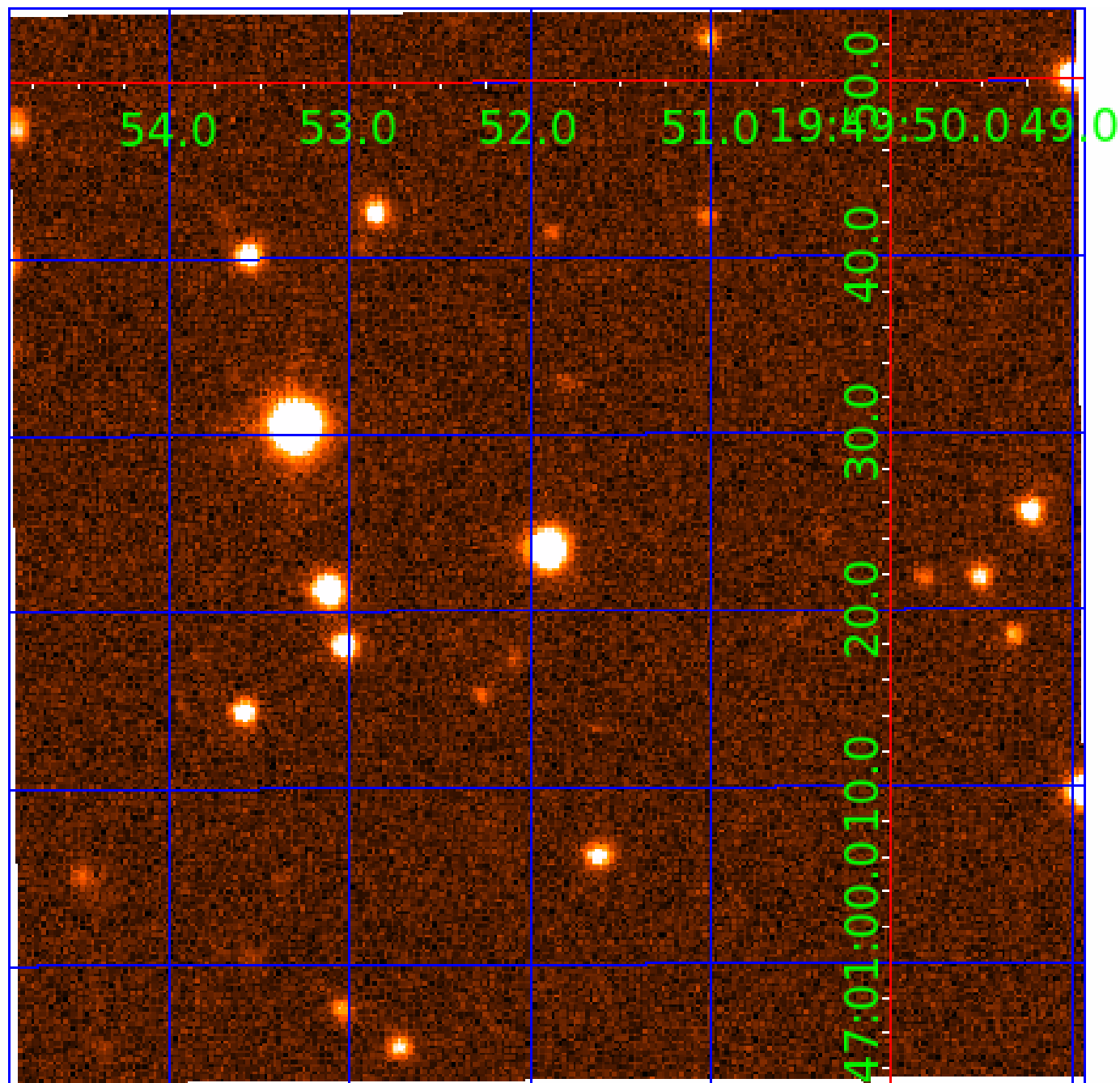


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010091110

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})
010091110-01	OBS	3627.01	4.218514	133.506646	23323.8	3.630	1192.2	1119.6	0.99	6185	16.68	473.61
010091110-02	OBS	3627.02	8.529991	137.654843	19780.4	3.928	599.1	593.7	0.99	6185	22.29	185.23
010091110-03	OBS	No	4.218512	135.616678	1043.5	3.475	54.5	58.6	0.99	6185	3.85	473.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010091110-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010091110-02	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED
010091110-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

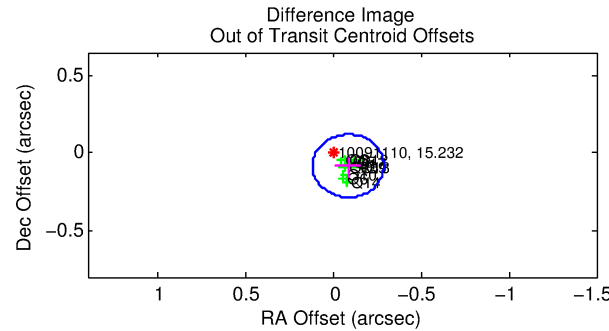
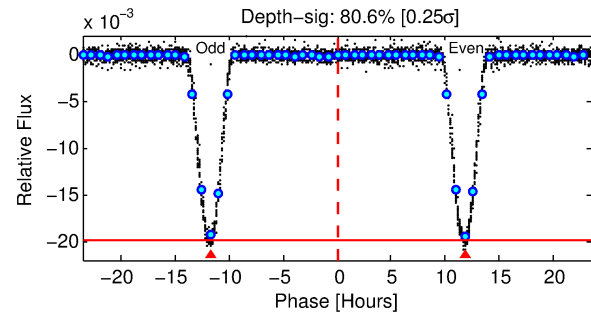
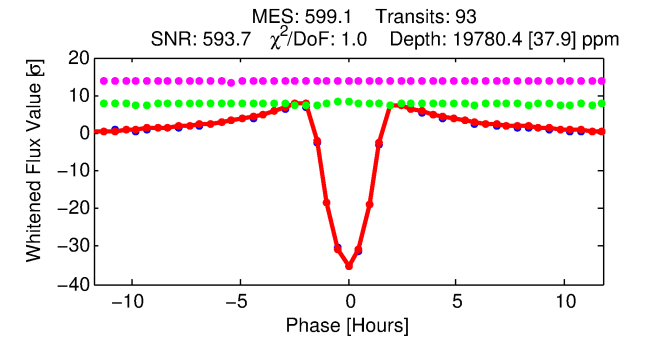
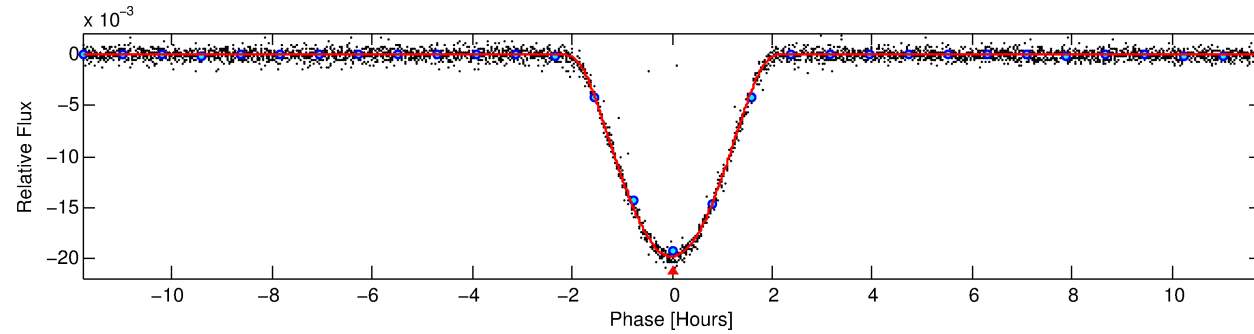
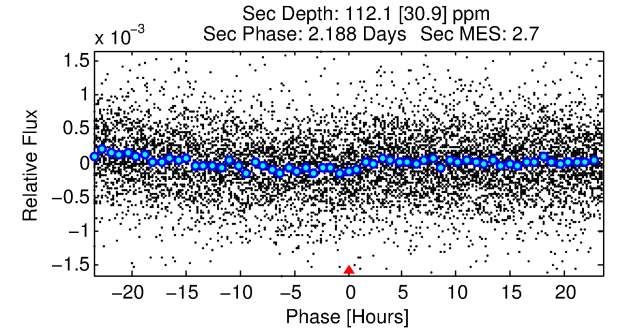
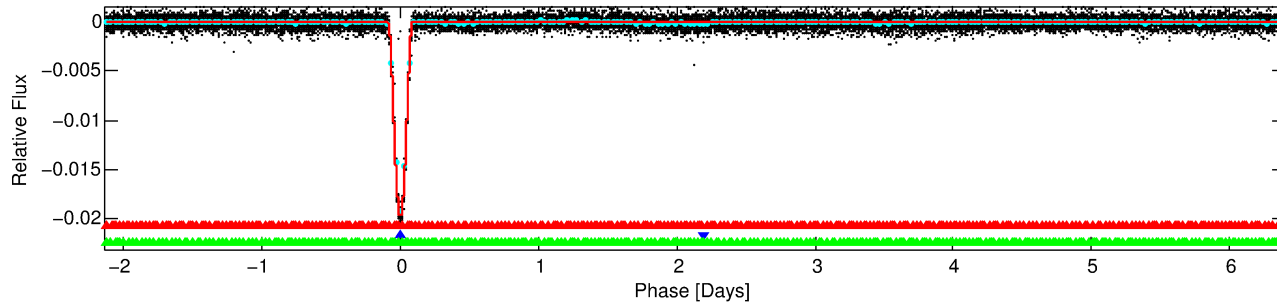
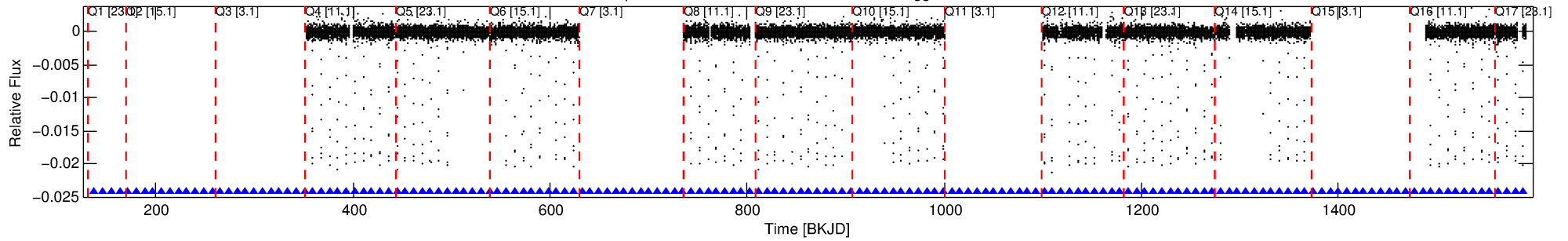
Ephemeris Match Information For 010091110-02

No Significant Match Found

DV One-Page Summary

KIC: 10091110 Candidate: 2 of 3 Period: 8.530 d
KOI: K03627.02 Corr: 0.998

Kp: 15.23 R*: 0.99 Rs Teff: 6185.0 K Logg: 4.47 Fe/H: -0.180



DV Fit Results:

Period = 8.52999 [0.00000] d
Epoch = 137.6548 [0.0002] BKJD
Rp/R* = 0.2061 [0.0135]
a/R* = 11.90 [0.11]
b = 0.97 [0.02]
Seff = 185.23 [78.73]
Teq = 941 [100] K
Rp = 22.29 [7.36] Re
a = 0.0834 [0.0227] AU
Ag = 0.86 [0.43] [-0.32σ]
Teffp = 1402 [120] K [2.96σ]

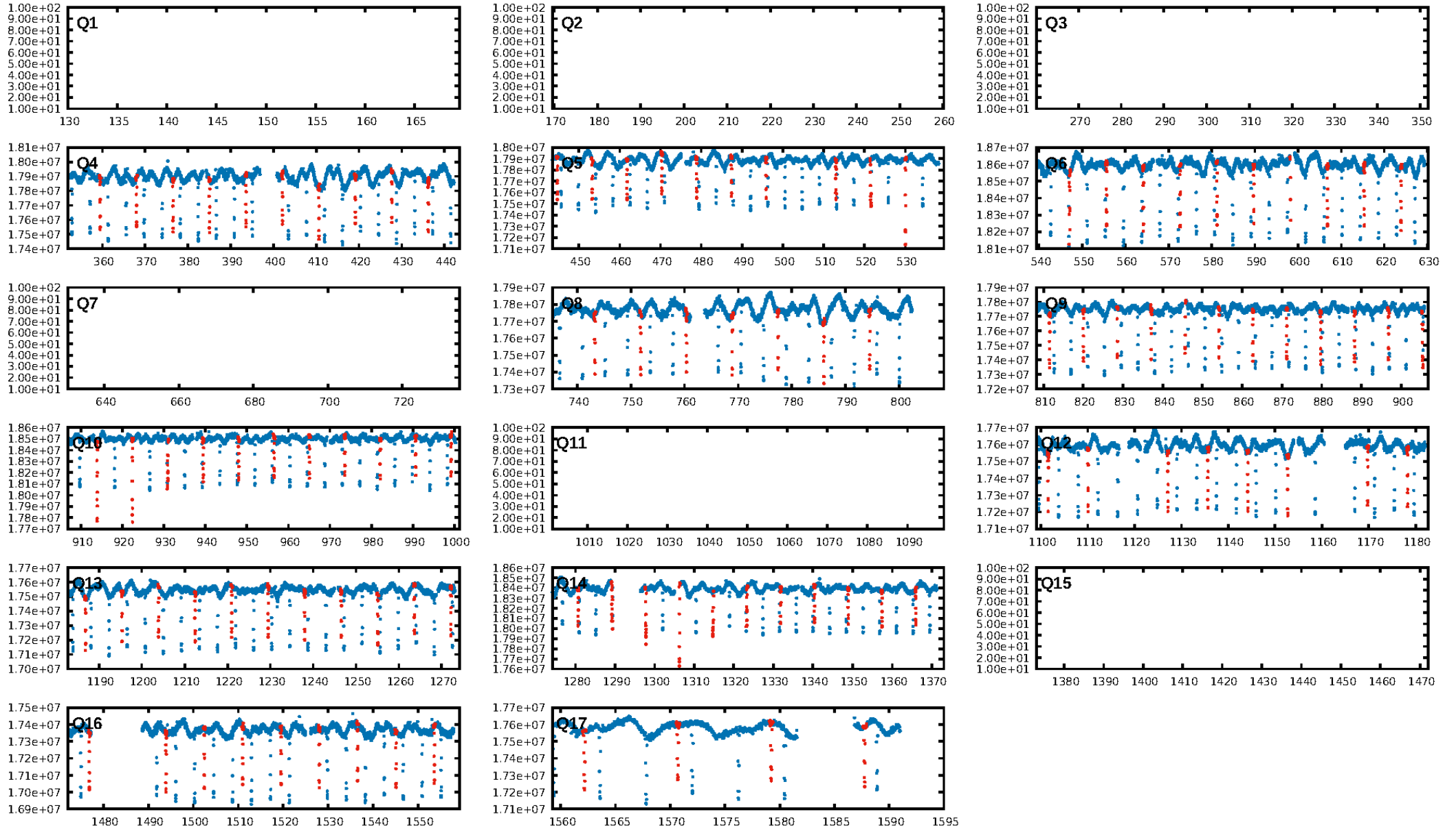
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.35σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [89/89]
GhostDiagnostic-chr: 3.992
Centroid-sig: 0.0%
Centroid-so: 0.382 arcsec [21.65σ]
OotOffset-rm: 0.118 arcsec [1.73σ]
KicOffset-rm: 0.310 arcsec [4.45σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/0/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

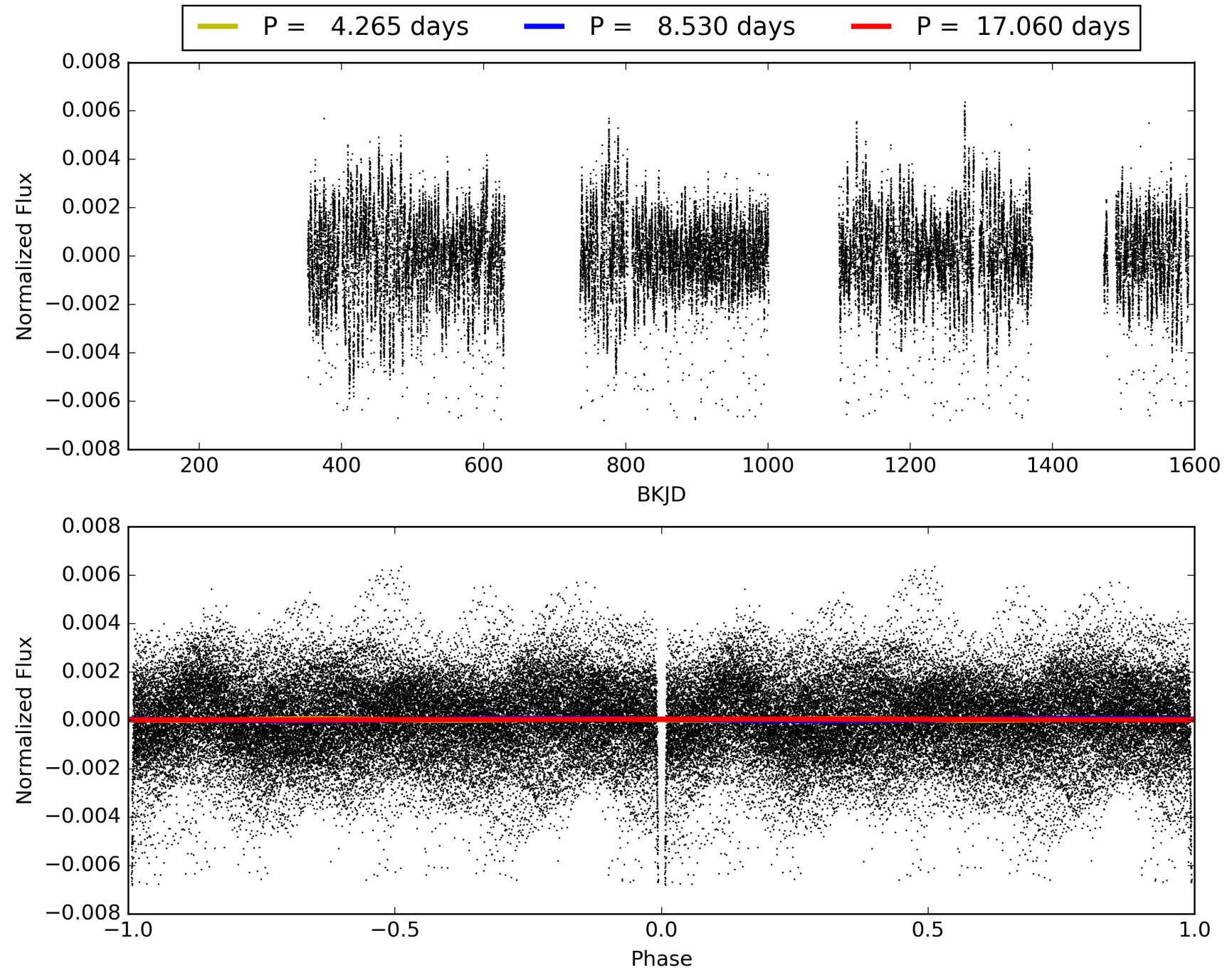
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:05:59 Z

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

TCE 010091110-02, PDC Light Curves

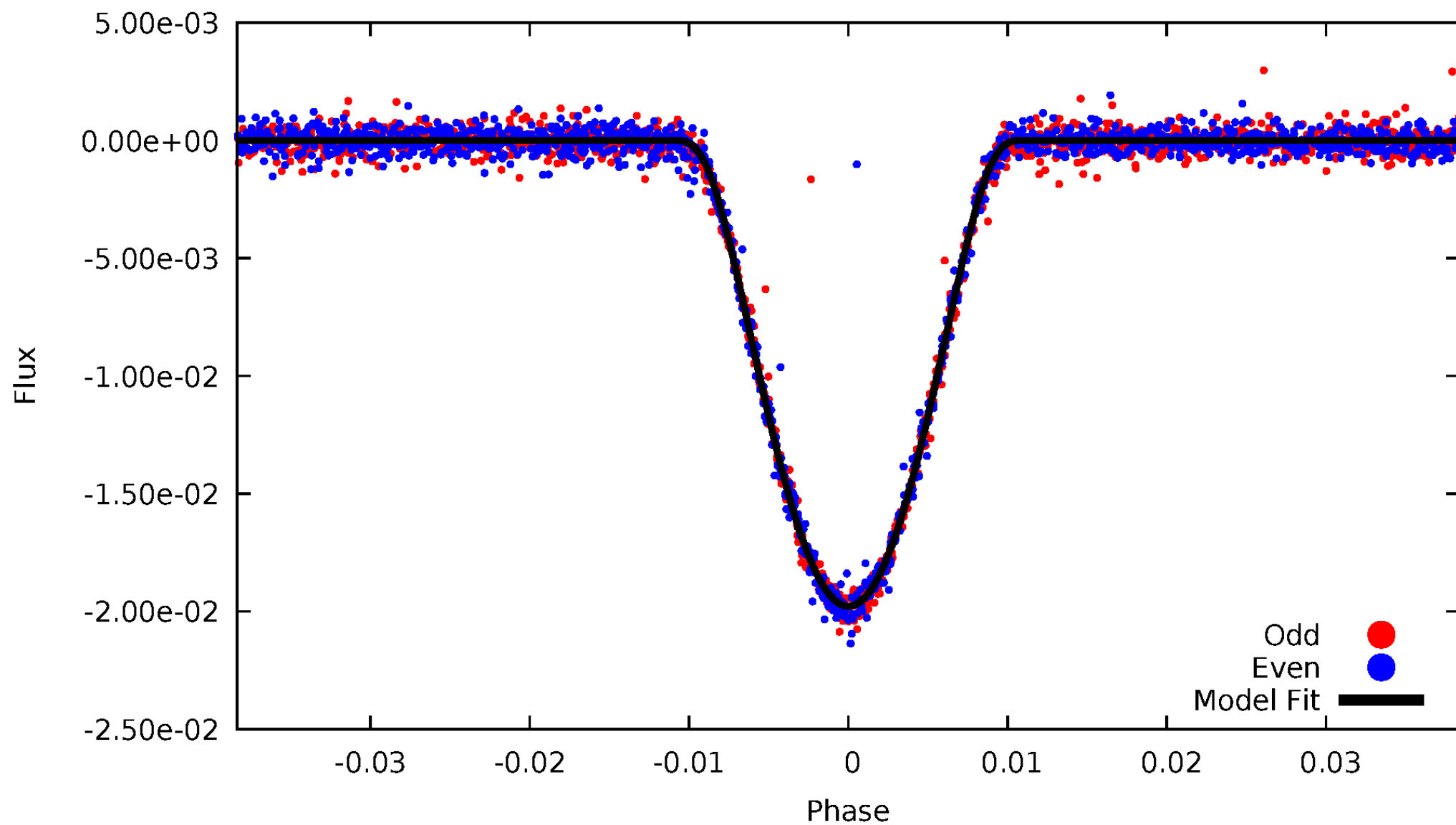


TCE 010091110-02



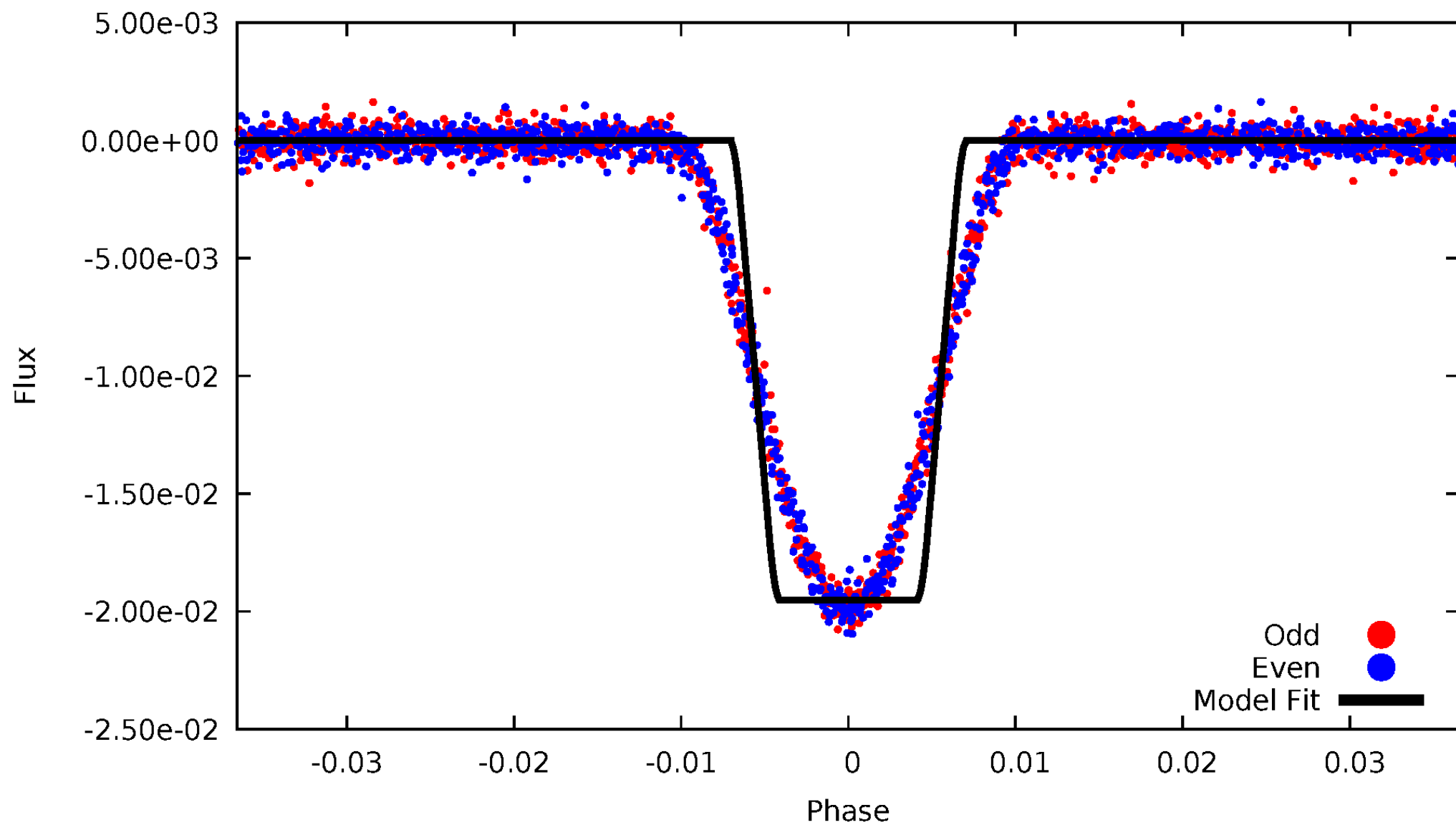
DV Odd/Even

TCE 010091110-02



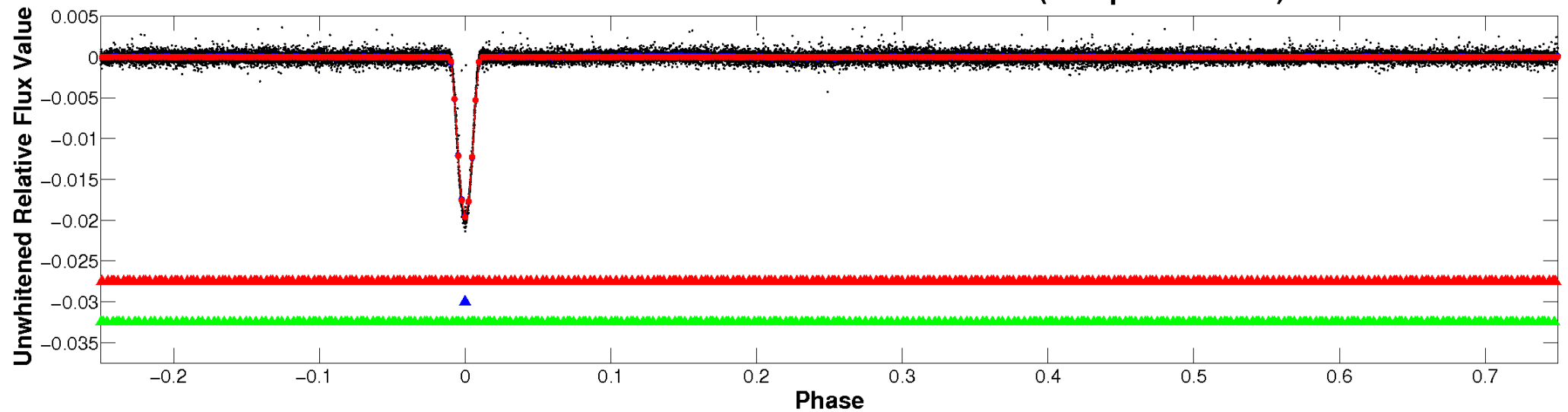
ALT Odd/Even

TCE 010091110-02

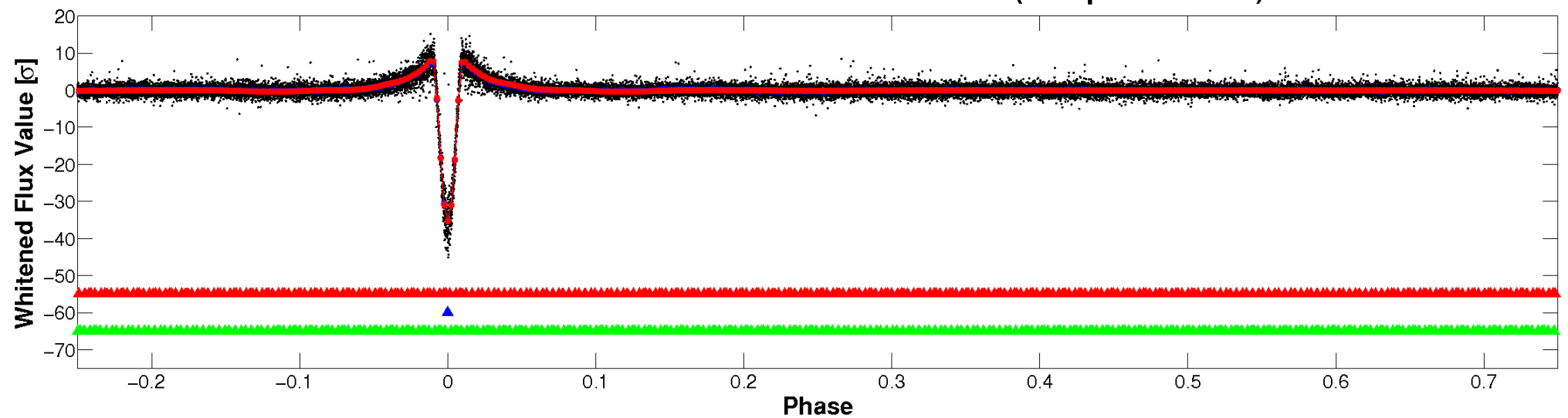


Non-Whitened Vs. Whitened Light Curve

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

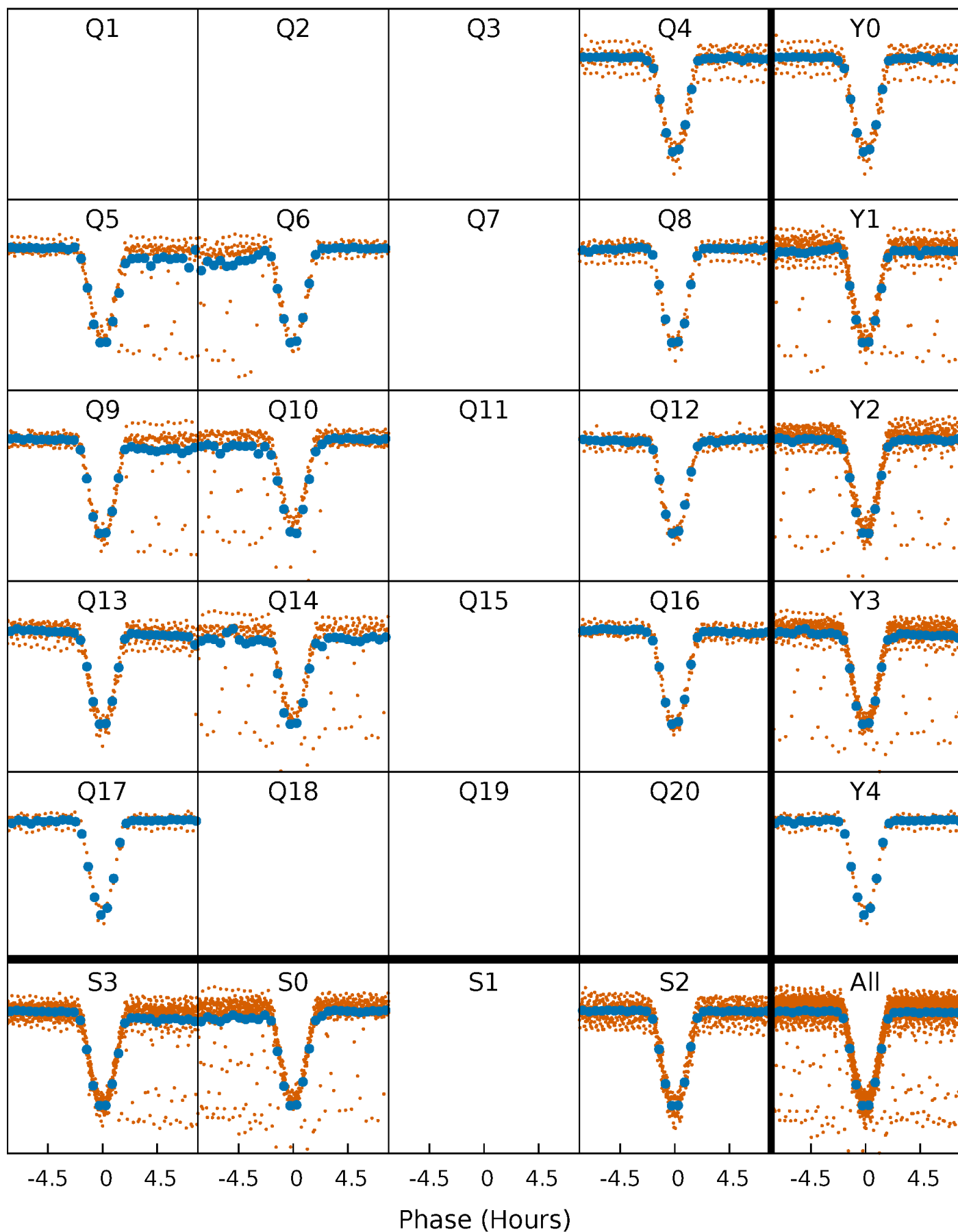


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



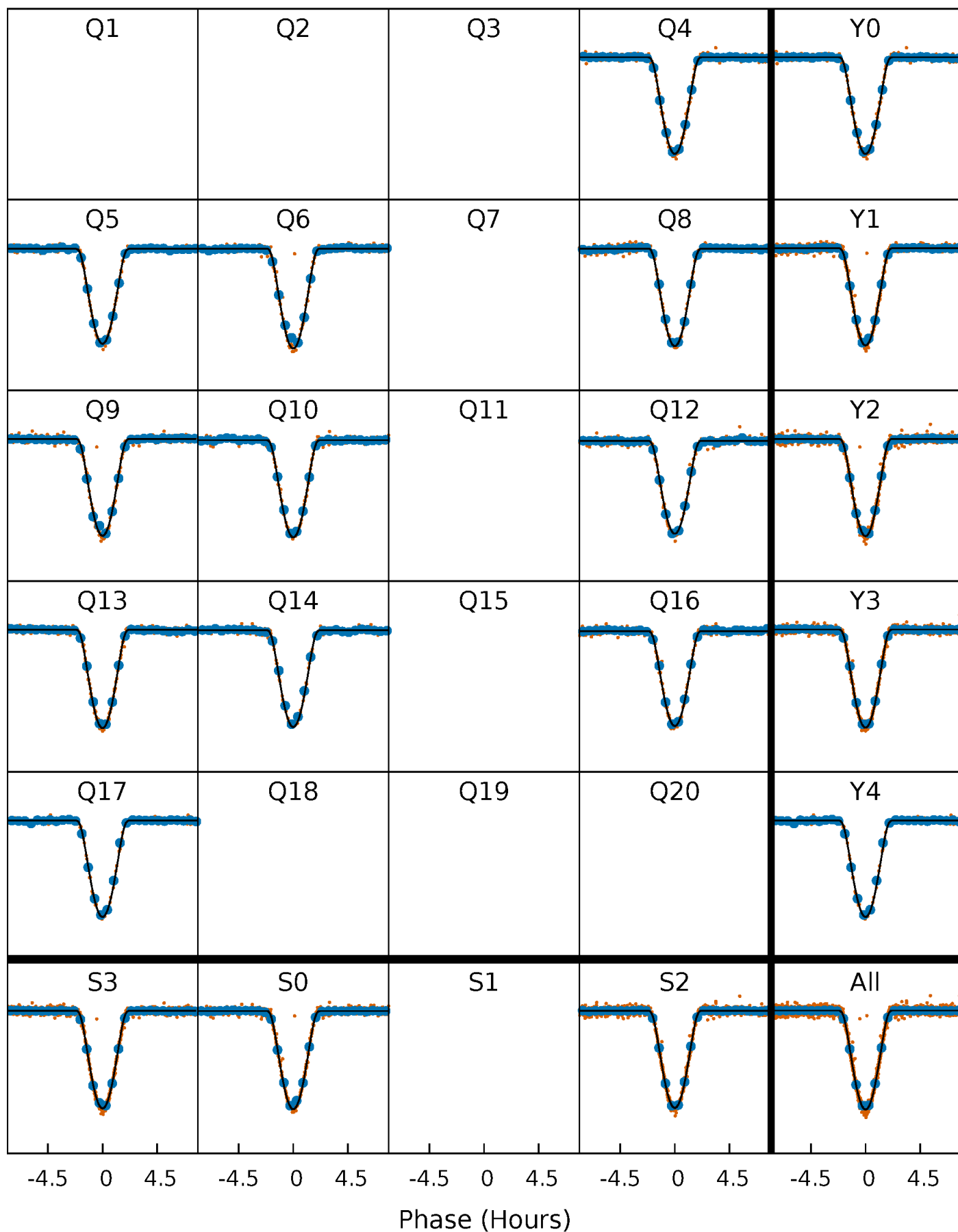
PDC Quarter-Phased Transit Curves

TCE 010091110-02 P= 8.529991 Days $T_0=137.654843$ (BKJD)



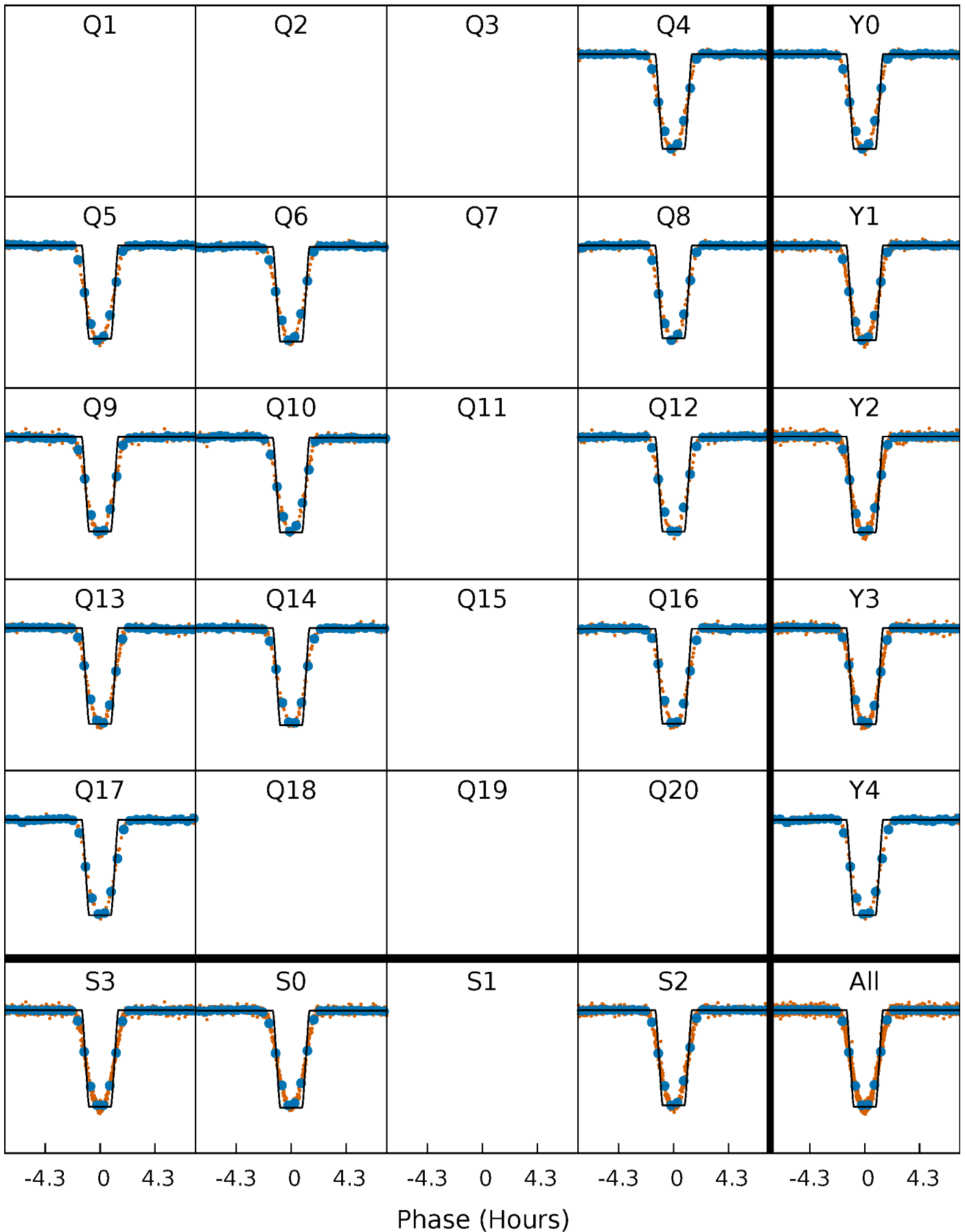
DV Quarter-Phased Transit Curves

TCE 010091110-02 P= 8.529991 Days $T_0=137.654843$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

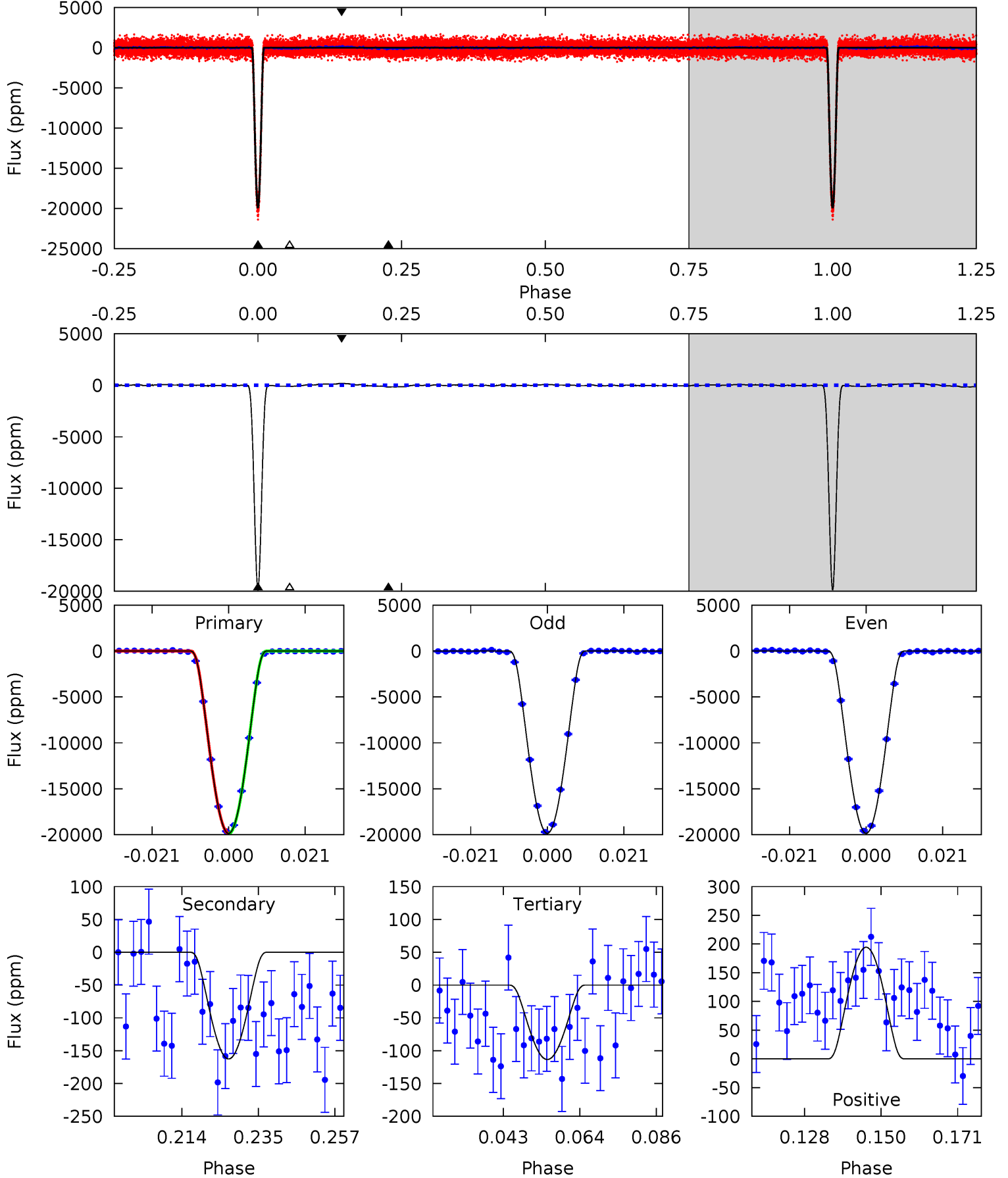
TCE 010091110-02 P= 8.529947 Days $T_0=137.659059$ (BKJD)



DV Model-Shift Uniqueness Test

010091110-02, P = 8.529991 Days, E = 137.654843 Days

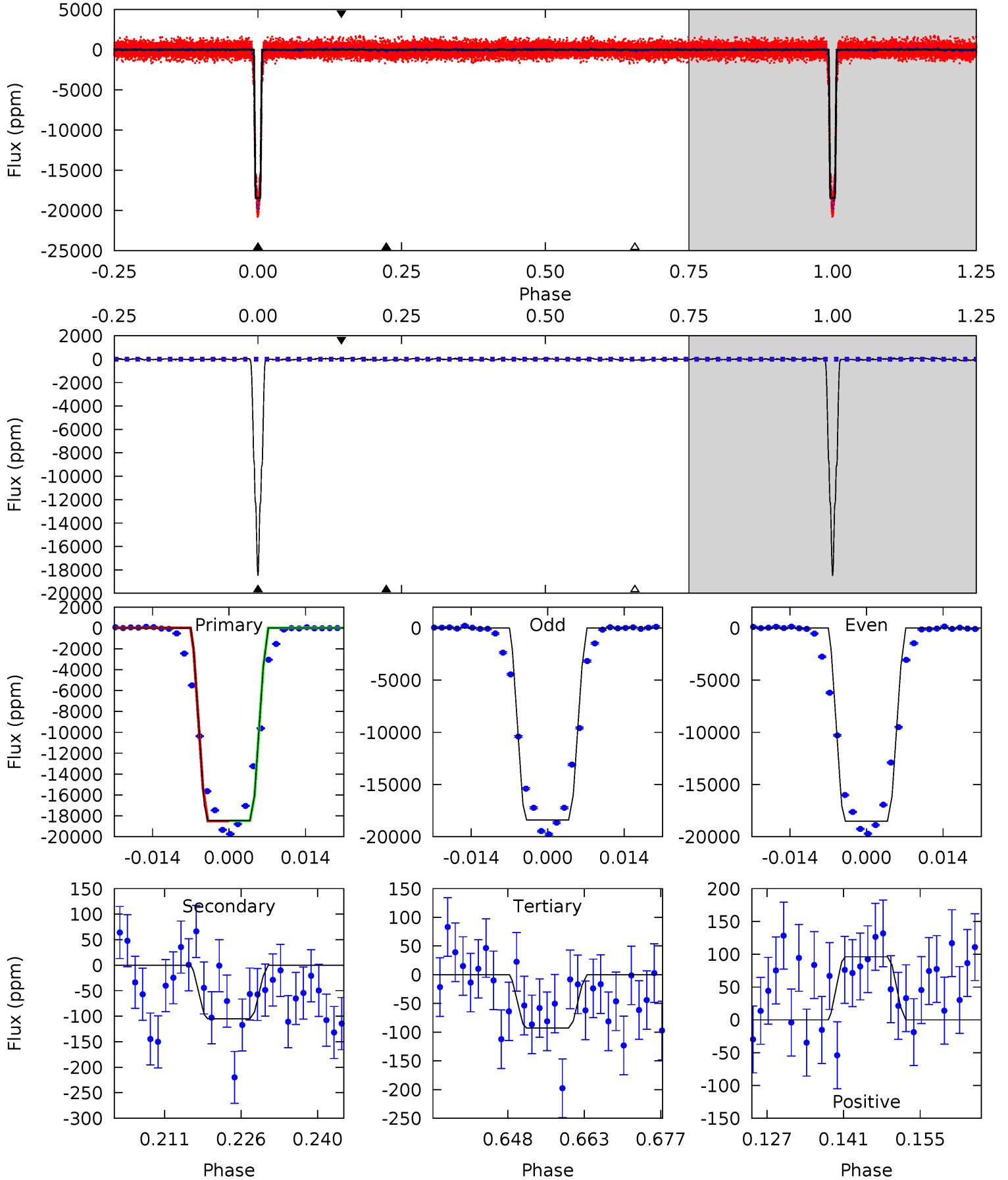
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1243	10.2	7.10	12.2	4.88	2.30	3.29	1236	1231	3.08	-1.99	0.00	0.99	0.01	1.20



Alt Model-Shift Uniqueness Test

010091110-02, P = 8.529947 Days, E = 137.659059 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
805.5	4.59	4.05	4.20	4.96	2.45	1.43	801.5	801.3	0.54	0.39	2.73	1.00	0.01	0.46



Stellar Parameters For KIC 010091110

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6185^{+197}_{-240}	$4.472^{+0.054}_{-0.216}$	$-0.180^{+0.250}_{-0.350}$	$0.991^{+0.321}_{-0.107}$	$1.060^{+0.144}_{-0.144}$	$1.537^{+0.440}_{-0.821}$
	+3%/-4%	+1%/-5%	+139%/-194%	+32%/-11%	+14%/-14%	+29%/-53%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010091110-02 / KOI 3627.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-163 ± 16	$22.95^{+4.43}_{-2.57}$	1343^{+102}_{-75}	2333^{+74}_{-81}	$1.145^{+0.307}_{-0.315}$
Alt.	-105 ± 23	$15.69^{+2.92}_{-1.85}$	1345^{+104}_{-70}	2450^{+110}_{-123}	$1.552^{+0.608}_{-0.522}$

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 $A_{obs} \gg 1.0$

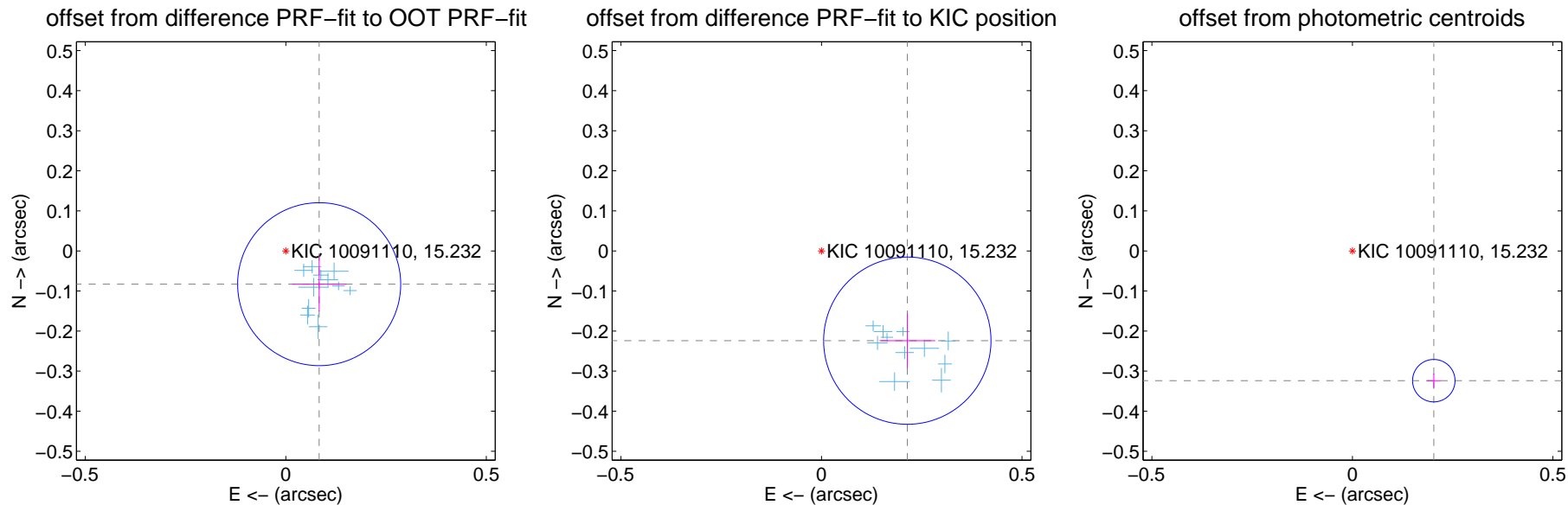
DV Centroid Data

Supplemental centroid analysis for 010091110-02. Kepler magnitude: 15.23. Transit SNR 593.72

There are 11 quarters with good PRF difference image offsets

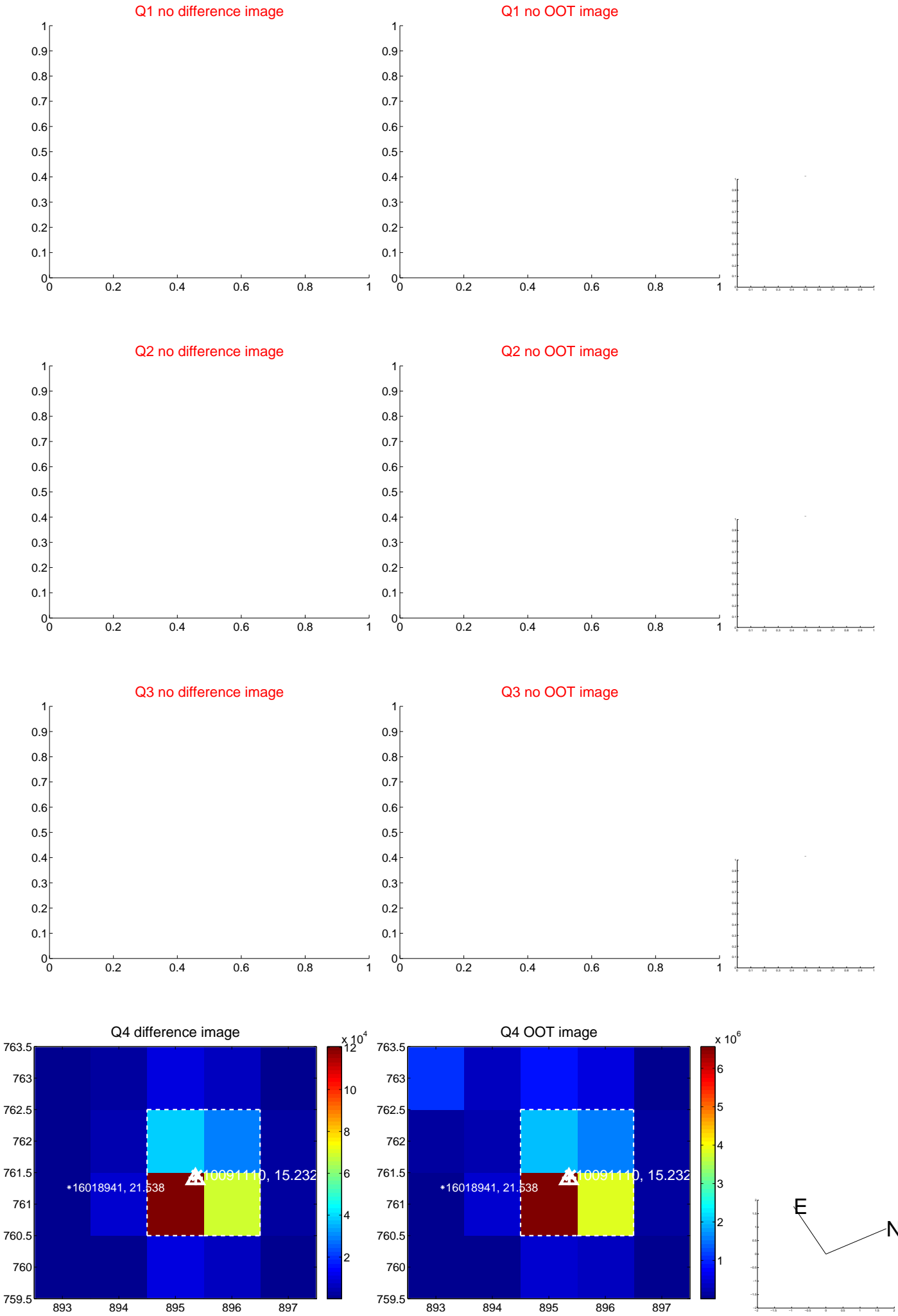
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.118 ± 0.068	1.73	-0.083 ± 0.068	-0.083 ± 0.068
PRF-fit source offset from KIC position	0.310 ± 0.070	4.45	-0.214 ± 0.069	-0.224 ± 0.068
photometric centroid source offset	0.38 ± 0.02	21.65	-0.20 ± 0.02	-0.32 ± 0.02

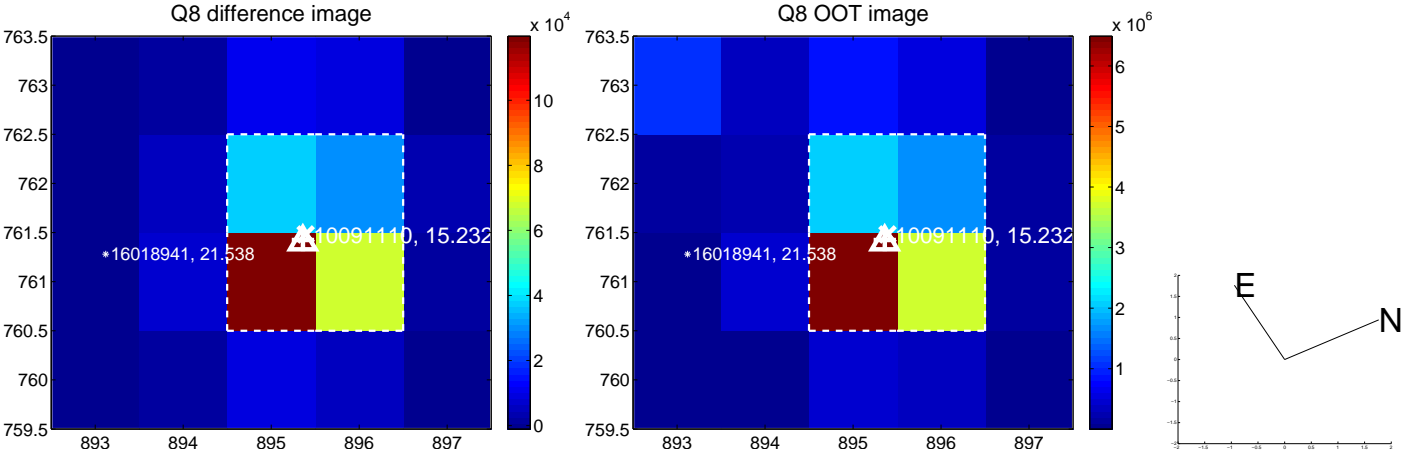
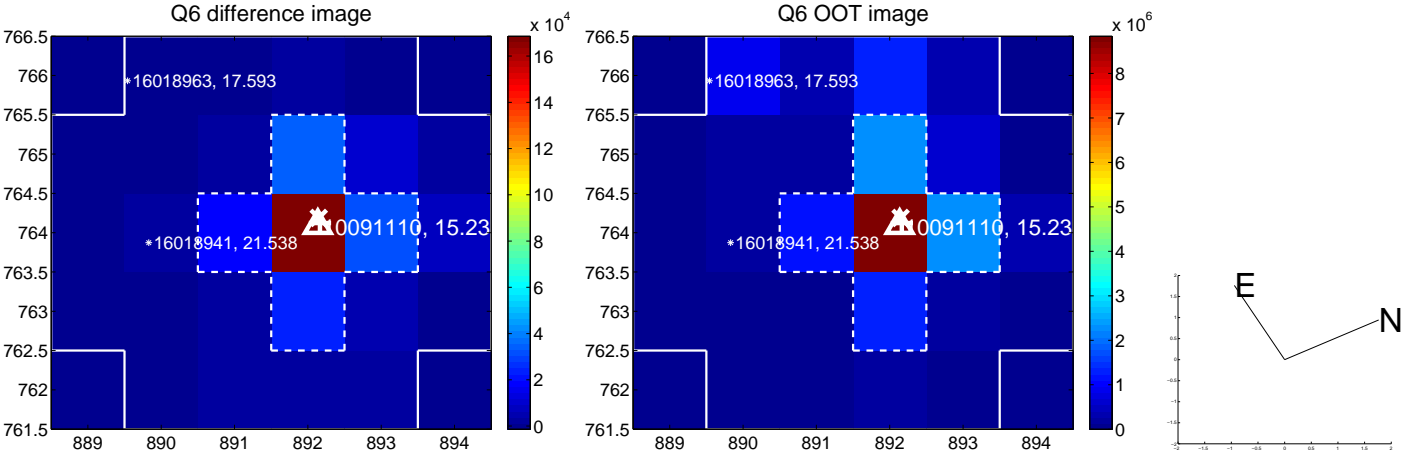
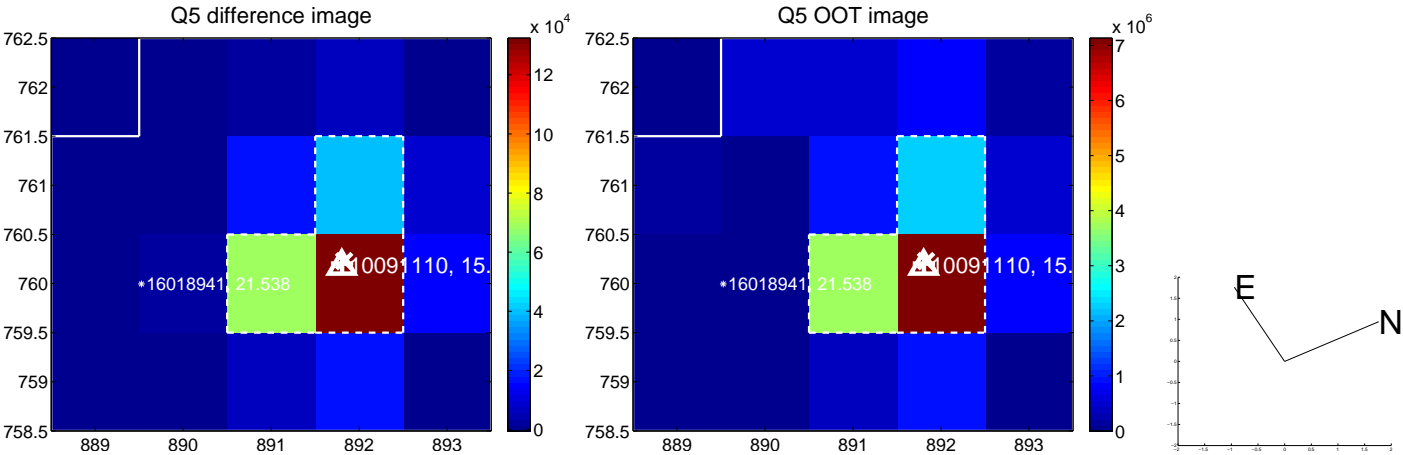


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

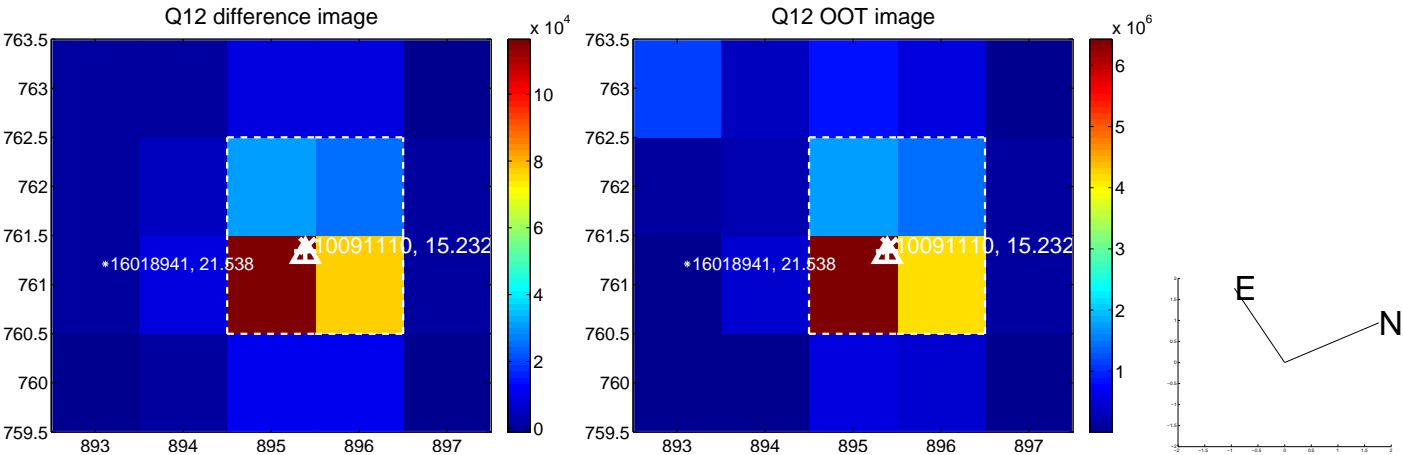
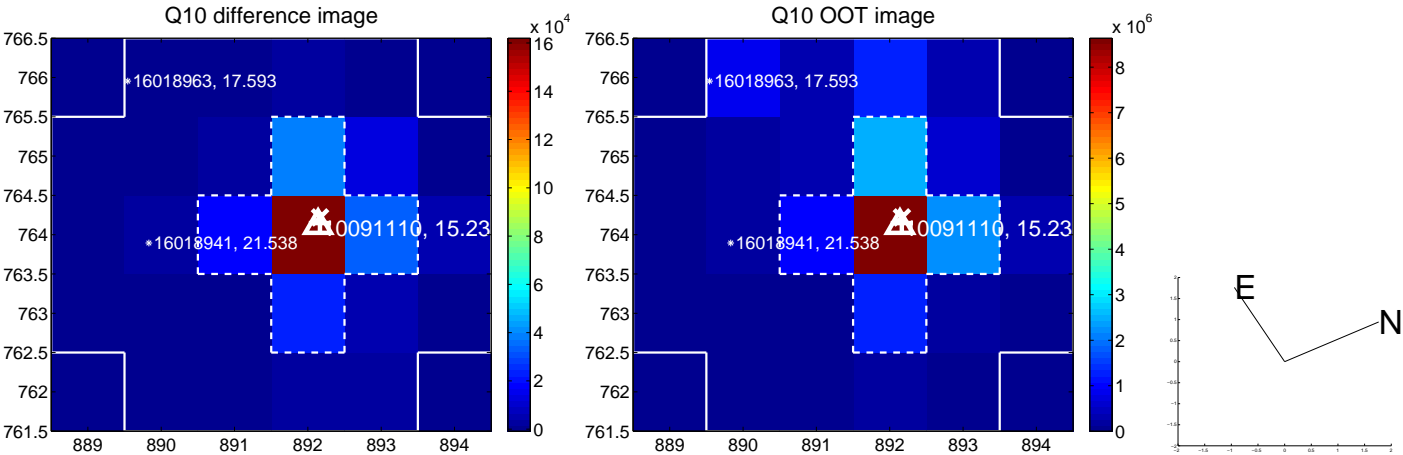
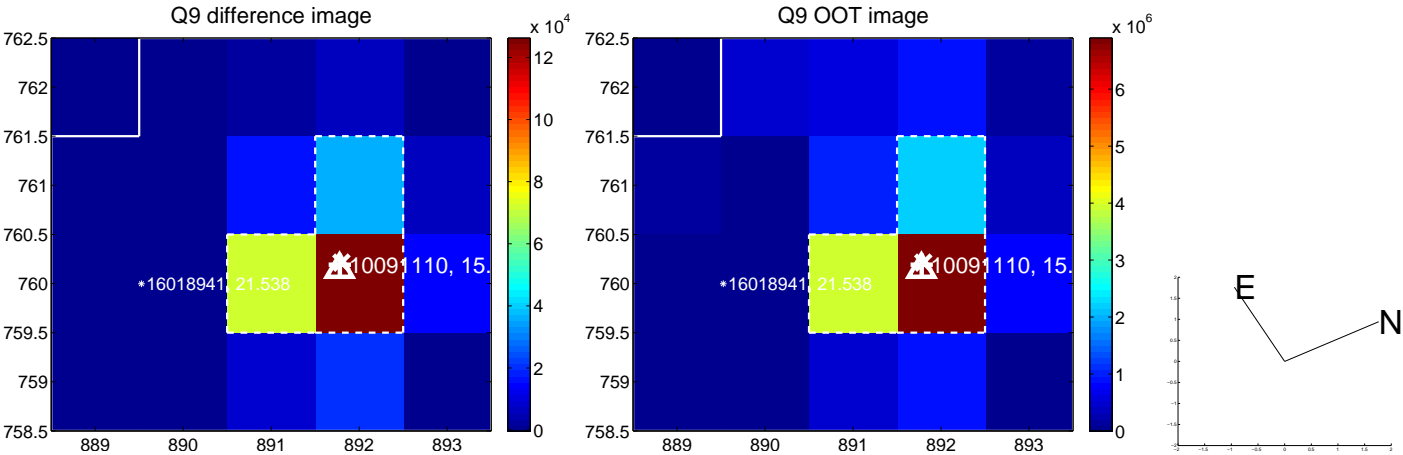
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



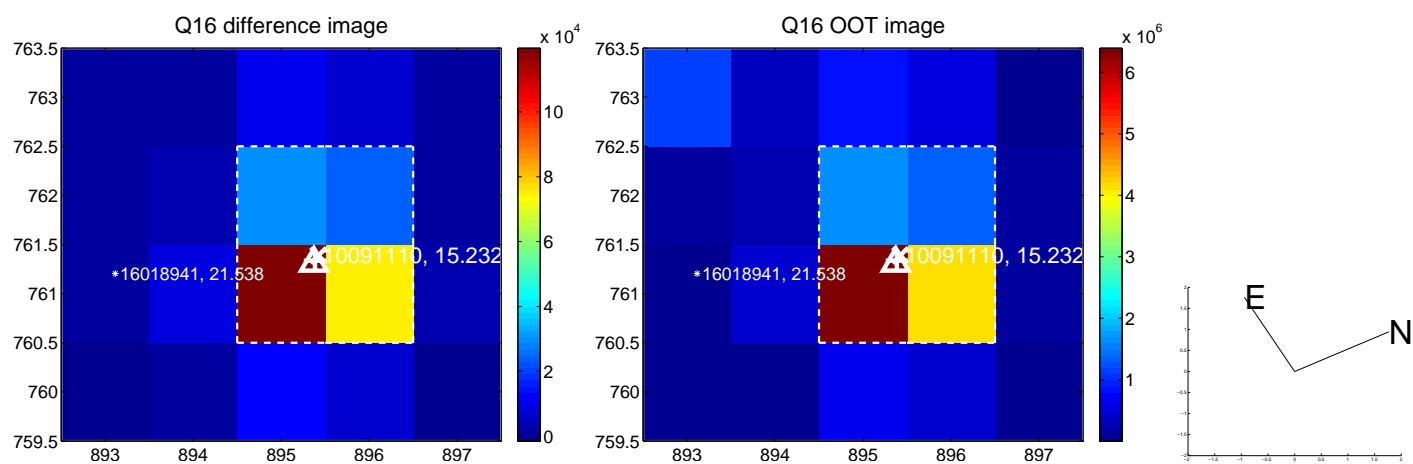
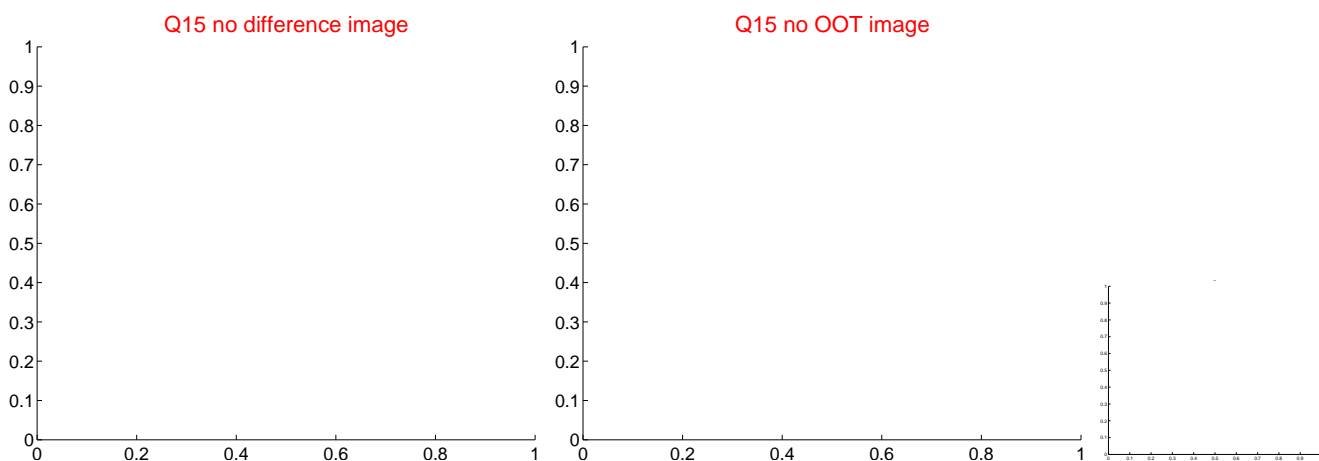
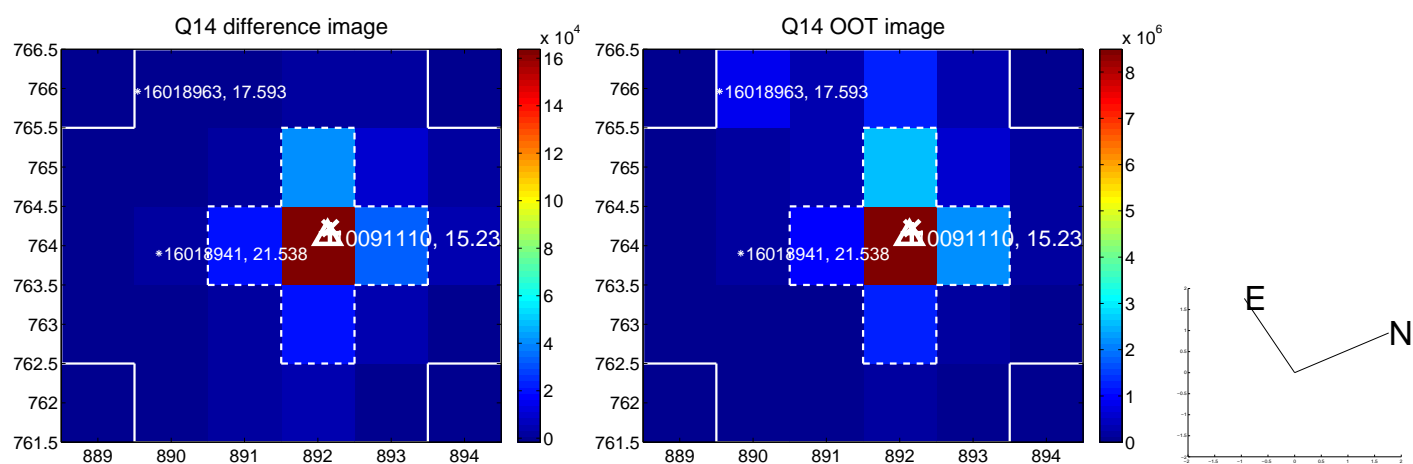
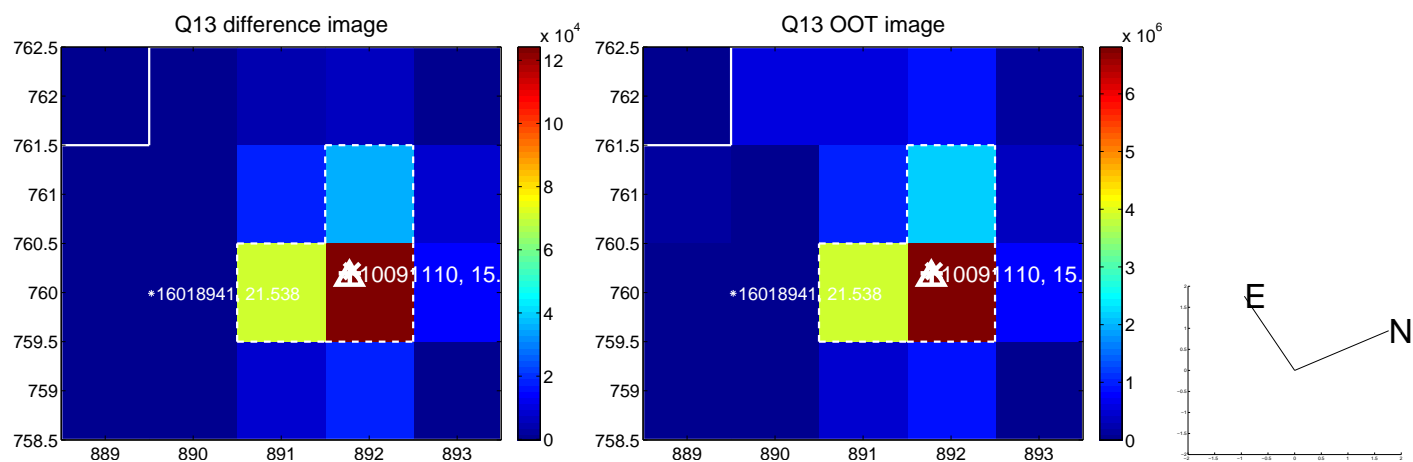
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



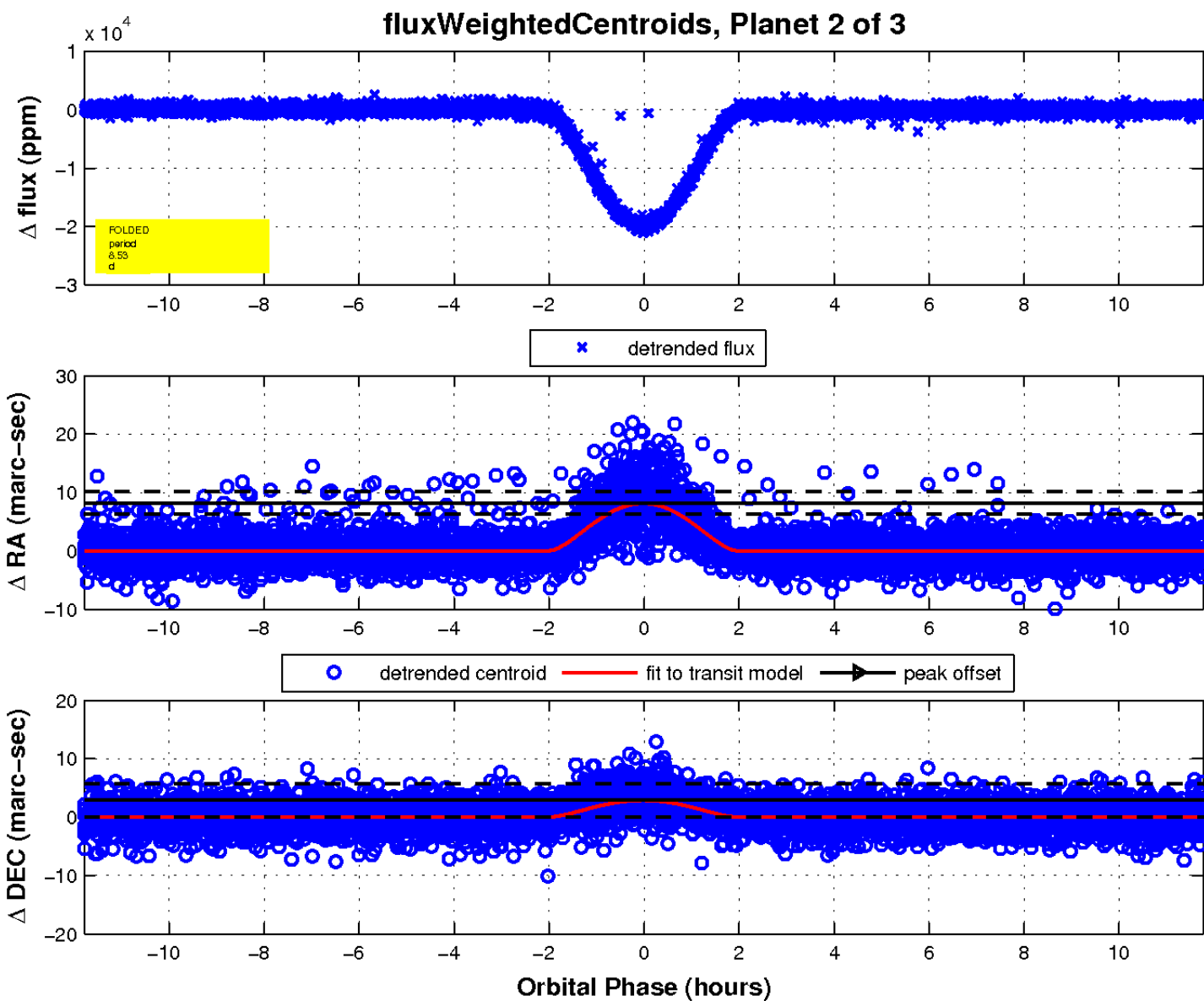
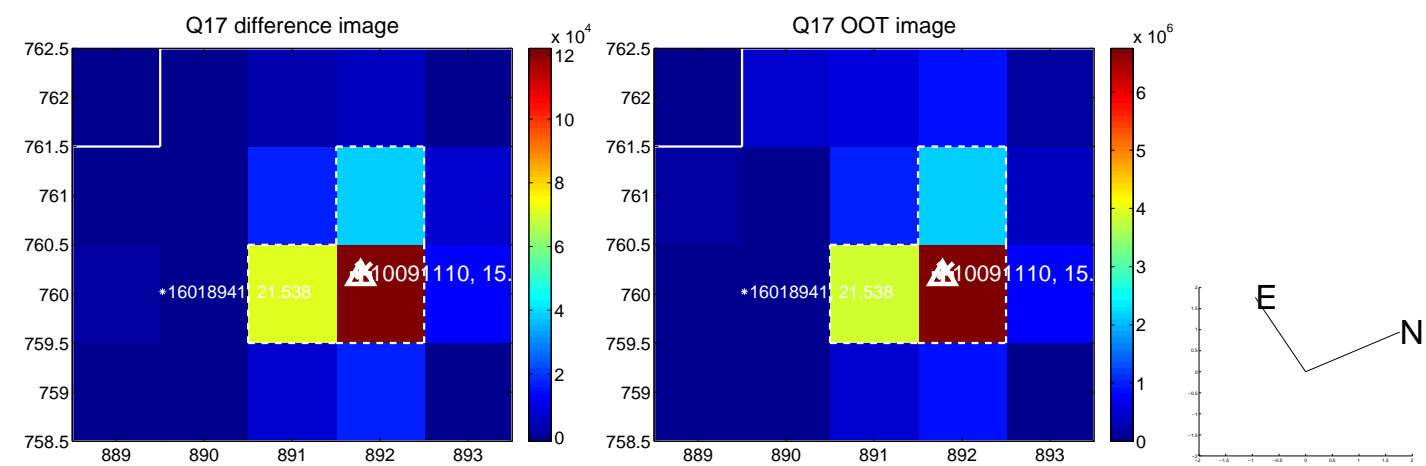
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

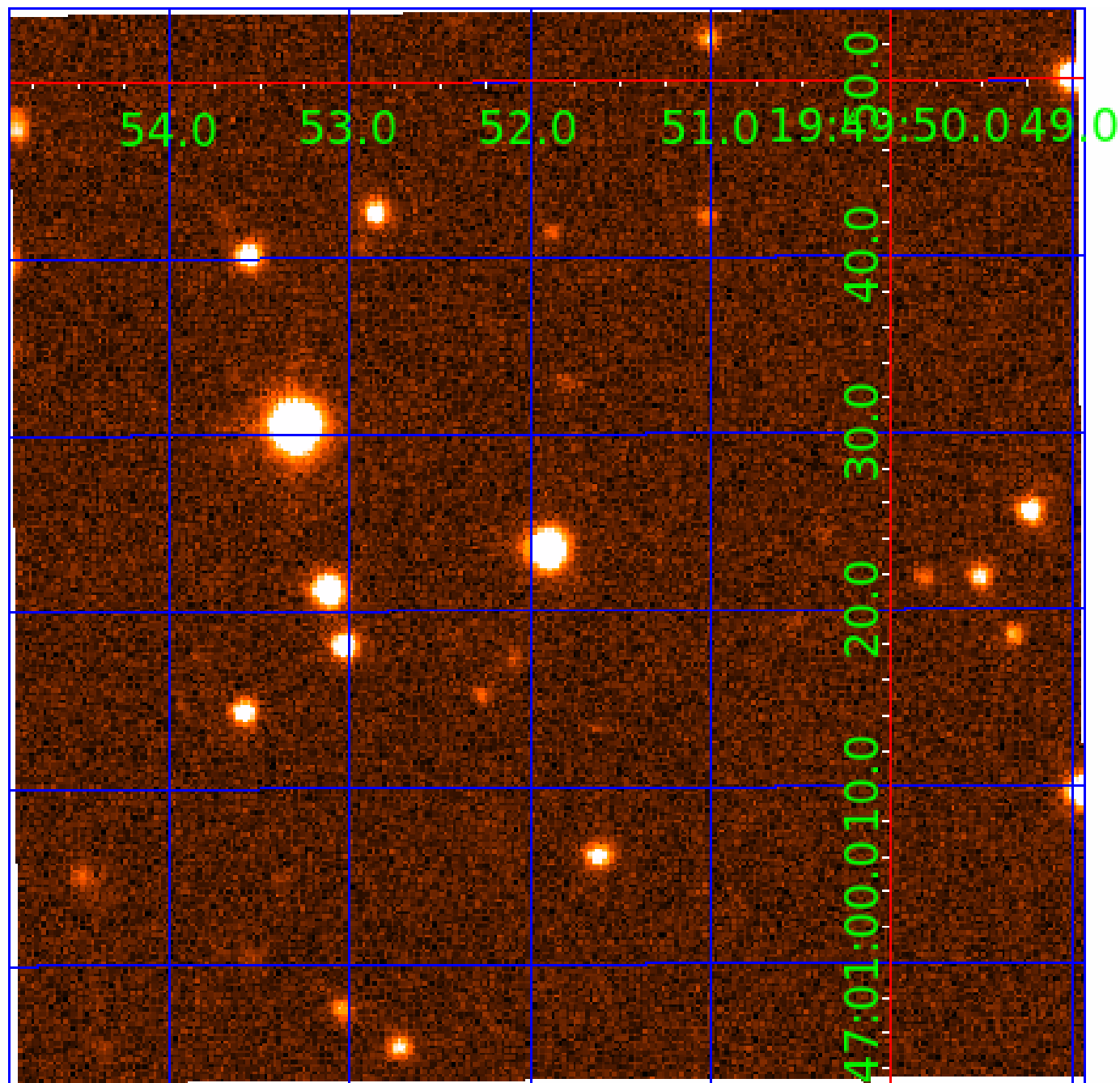


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010091110

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})
010091110-01	OBS	3627.01	4.218514	133.506646	23323.8	3.630	1192.2	1119.6	0.99	6185	16.68	473.61
010091110-02	OBS	3627.02	8.529991	137.654843	19780.4	3.928	599.1	593.7	0.99	6185	22.29	185.23
010091110-03	OBS	No	4.218512	135.616678	1043.5	3.475	54.5	58.6	0.99	6185	3.85	473.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010091110-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010091110-02	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED
010091110-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

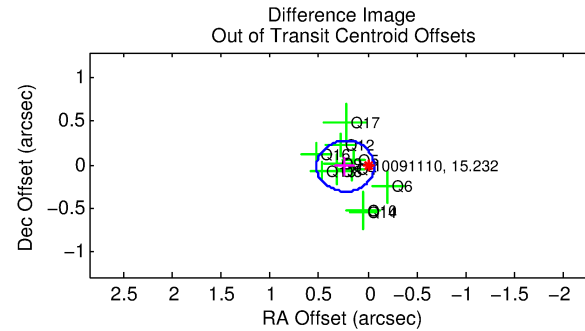
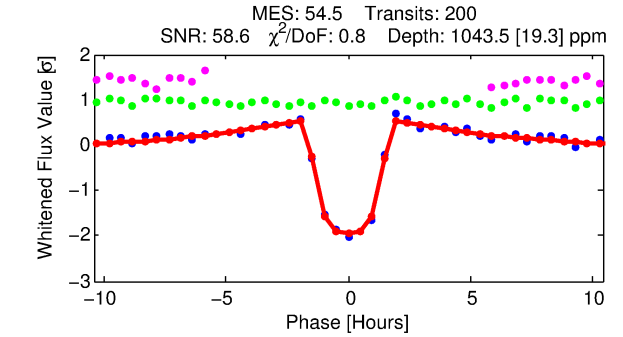
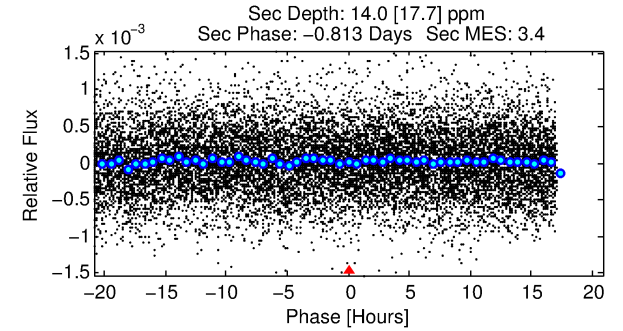
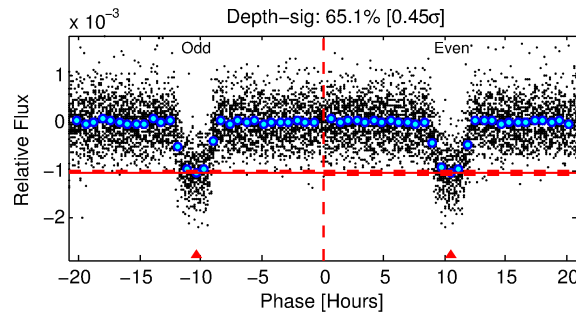
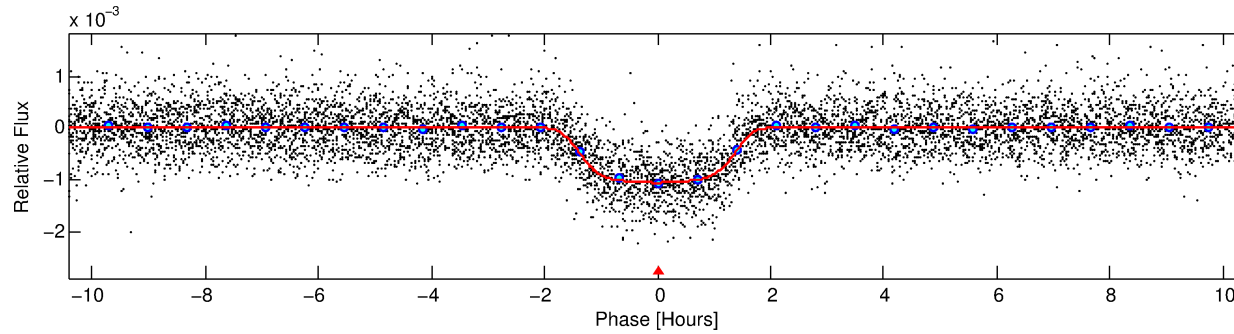
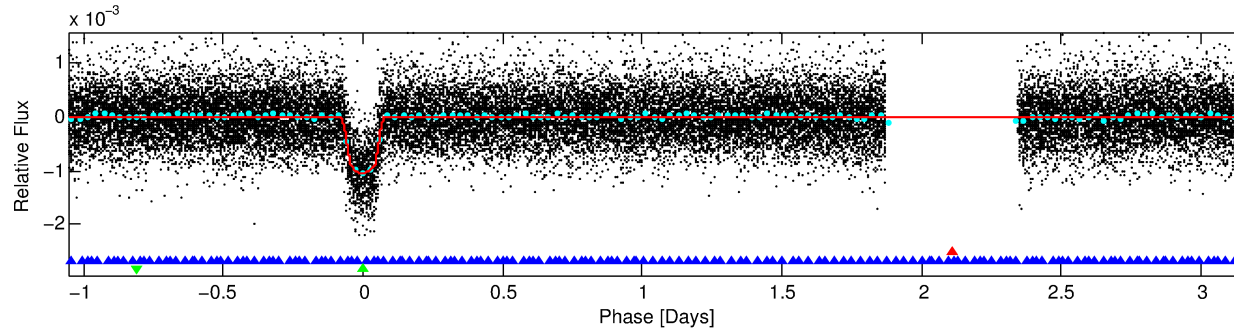
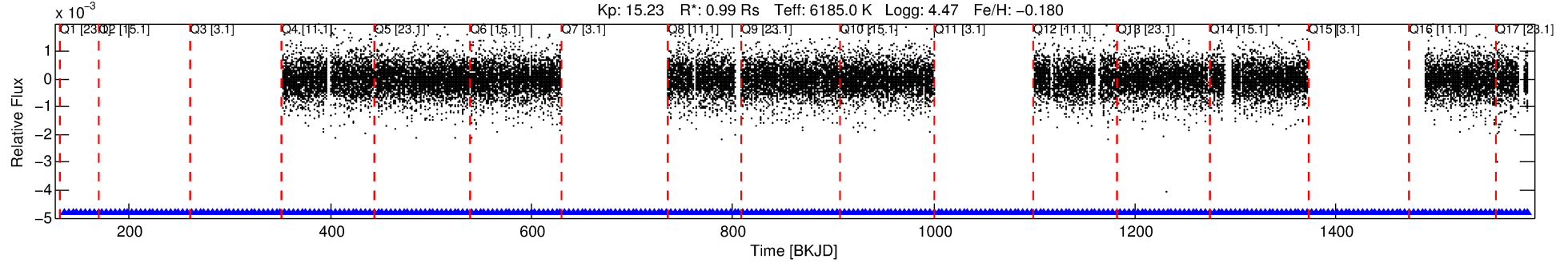
Ephemeris Match Information For 010091110-03

No Significant Match Found

DV One-Page Summary

KIC: 10091110 Candidate: 3 of 3 Period: 4.219 d
KOI: K03627 Corr: No Ephemeris Match

Kp: 15.23 R*: 0.99 Rs Teff: 6185.0 K Logg: 4.47 Fe/H: -0.180



DV Fit Results:

Period = 4.21851 [0.00001] d
Epoch = 135.6167 [0.0010] BKJD
Rp/R* = 0.0356 [0.0007]
a/R* = 4.48 [0.33]
b = 0.92 [0.01]
Seff = 473.61 [201.31]
Teq = 1190 [126] K
Rp = 3.85 [1.25] Re
a = 0.0521 [0.0142] AU
Ag = 1.42 [1.87] [0.22σ]
Teffp = 2006 [638] K [1.26σ]

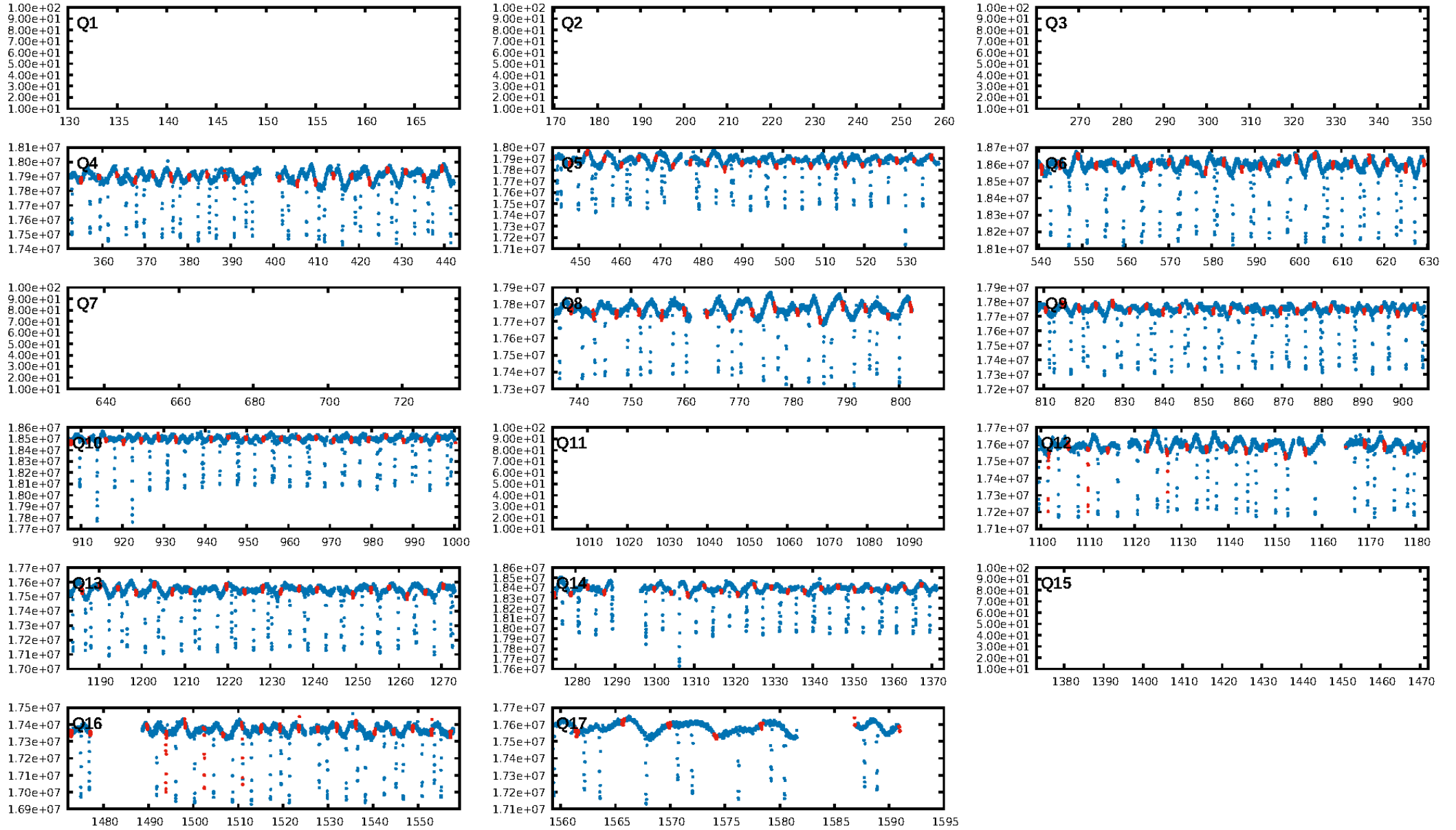
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [193/193]
GhostDiagnostic-chr: 4.154
Centroid-sig: 0.0%
Centroid-so: 0.647 arcsec [3.13σ]
OotOffset-rm: 0.234 arcsec [2.39σ]
KicOffset-rm: 0.227 arcsec [2.29σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/0/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

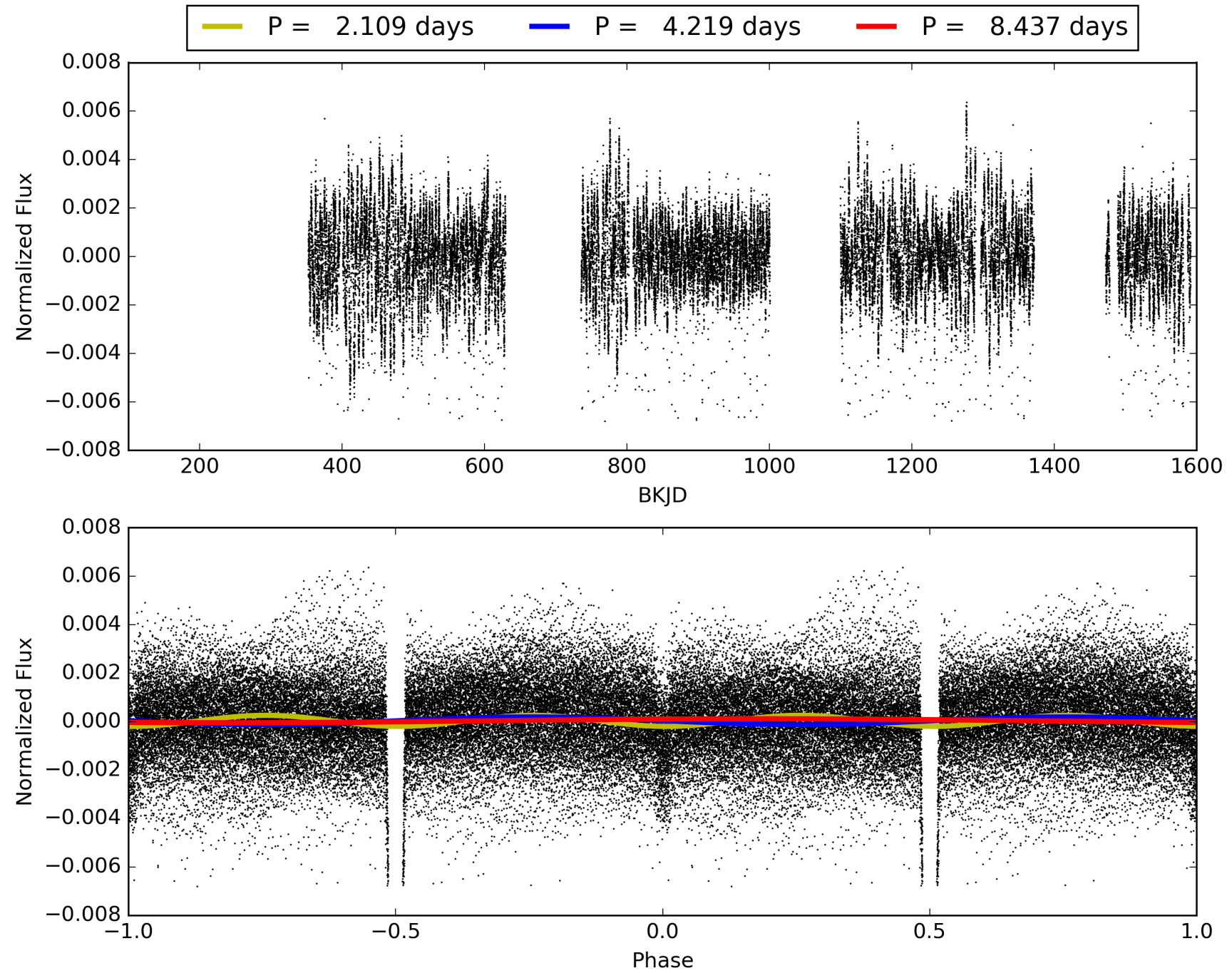
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:06:04 Z

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

TCE 010091110-03, PDC Light Curves

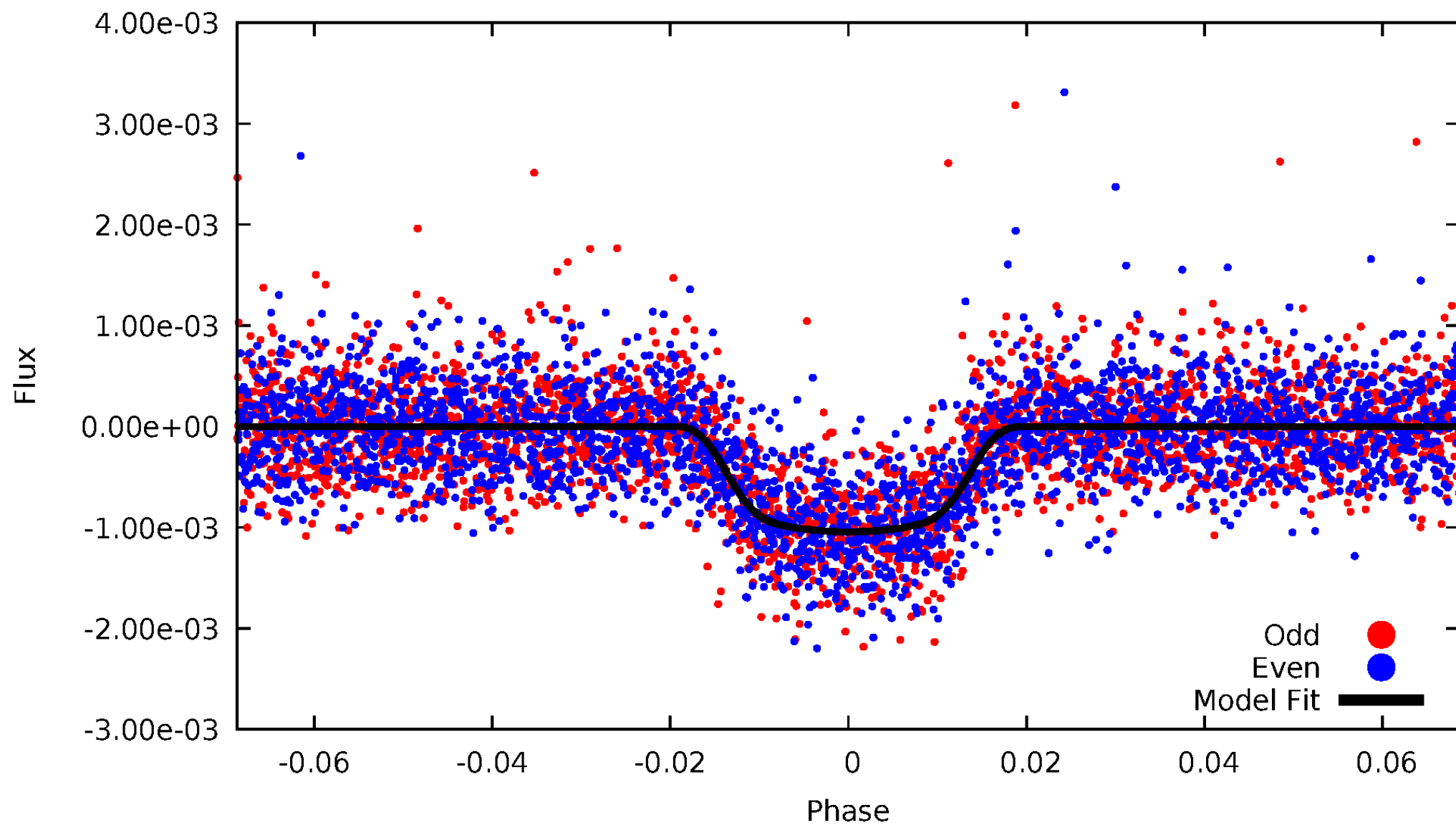


TCE 010091110-03



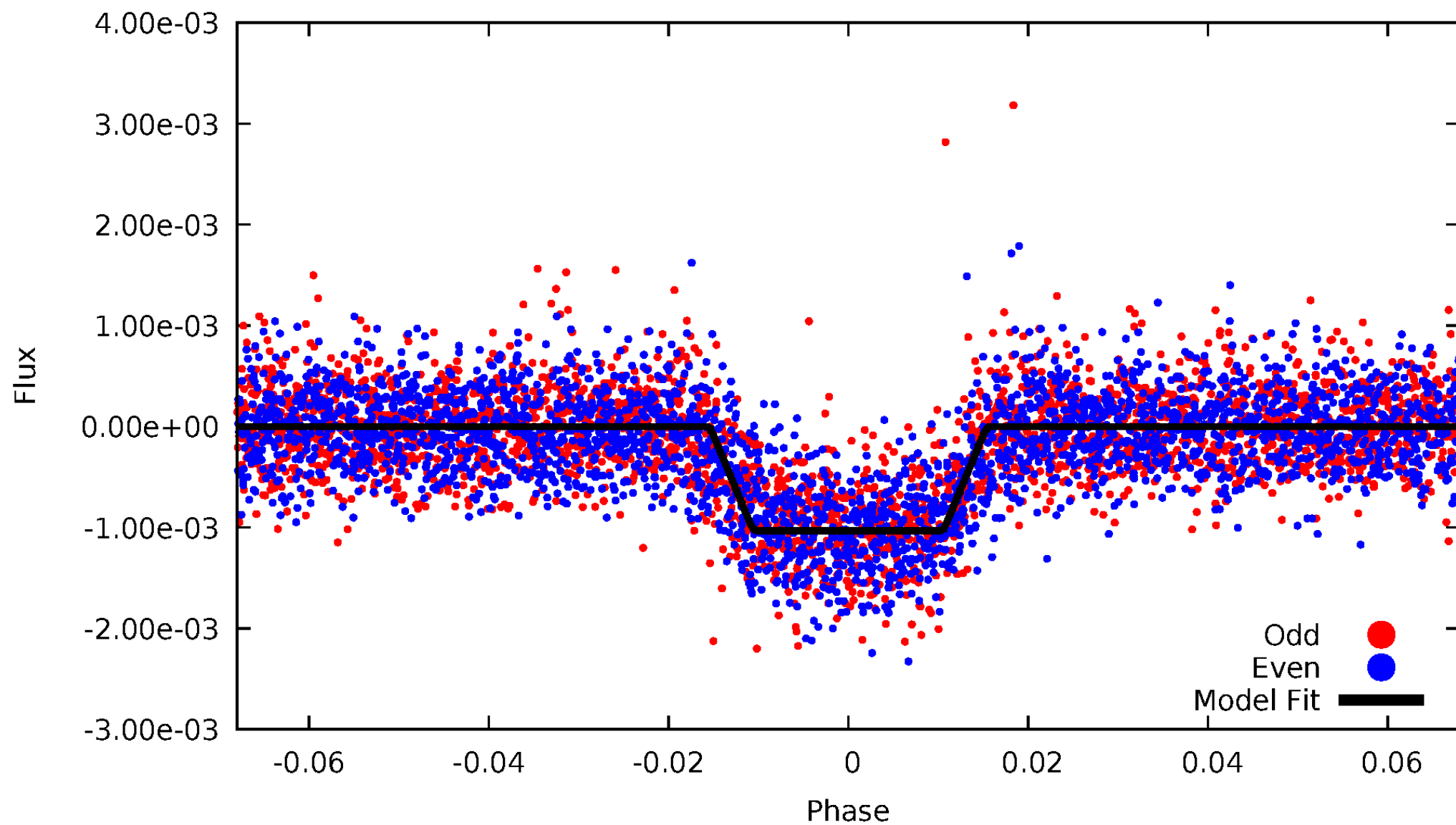
DV Odd/Even

TCE 010091110-03



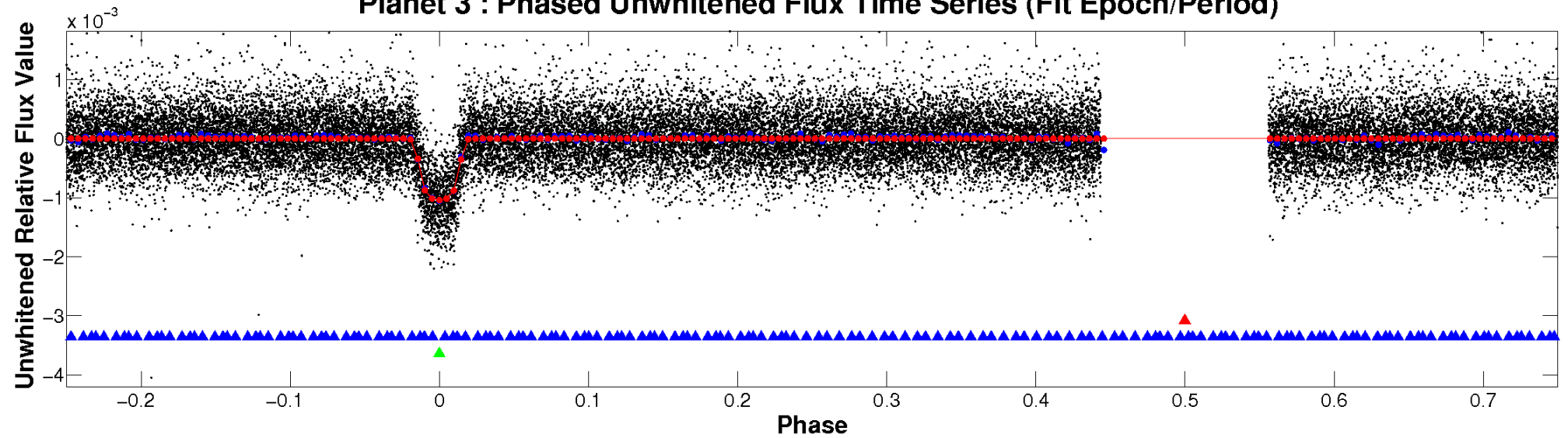
ALT Odd/Even

TCE 010091110-03

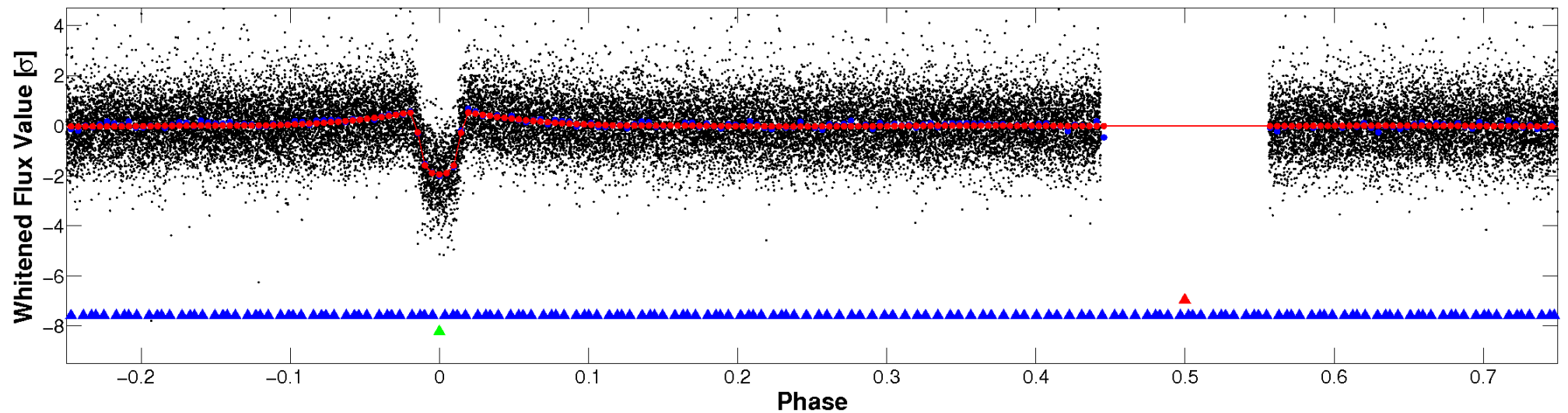


Non-Whitened Vs. Whitened Light Curve

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

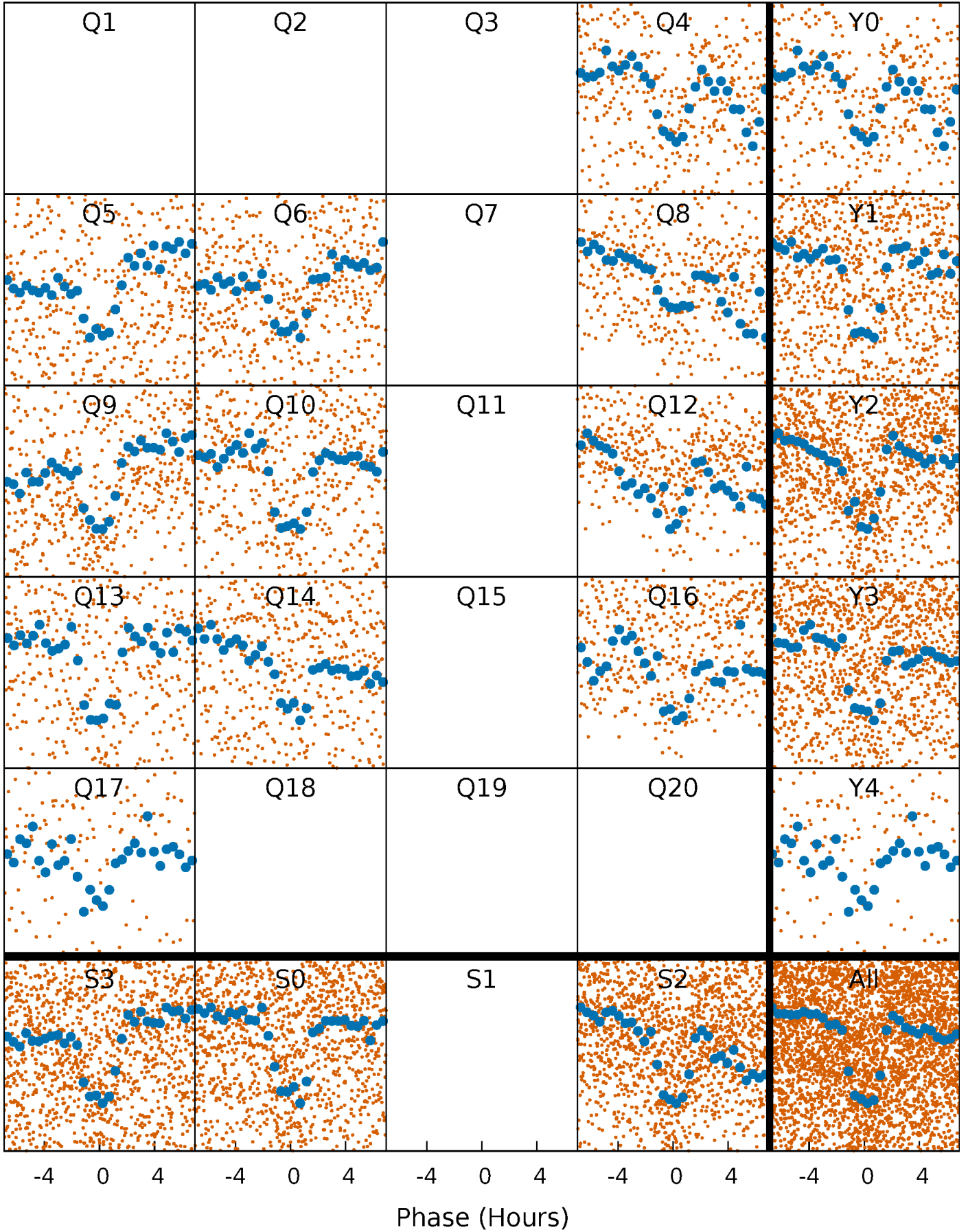


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



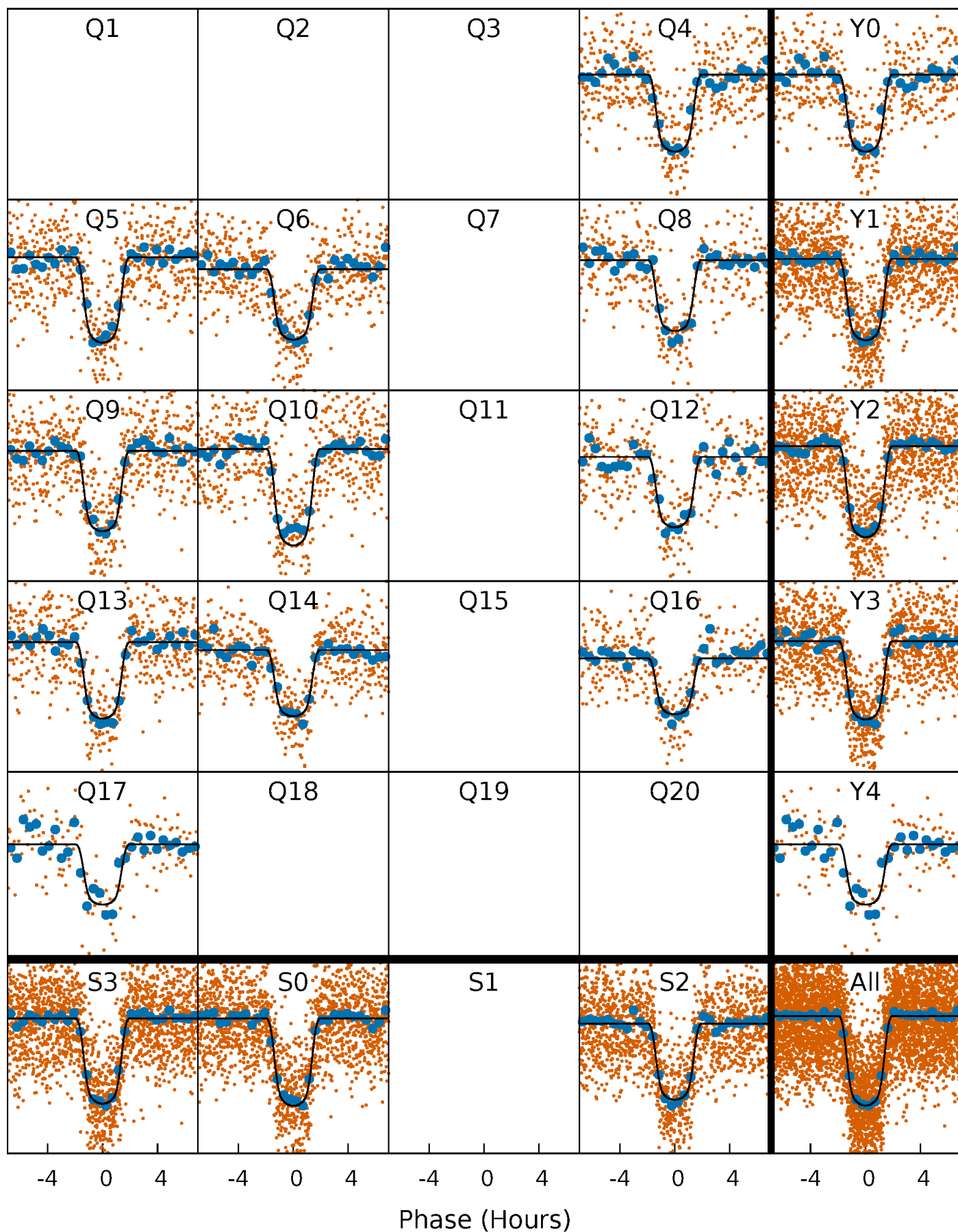
PDC Quarter-Phased Transit Curves

TCE 010091110-03 P= 4.218512 Days $T_0=135.616678$ (BKJD)



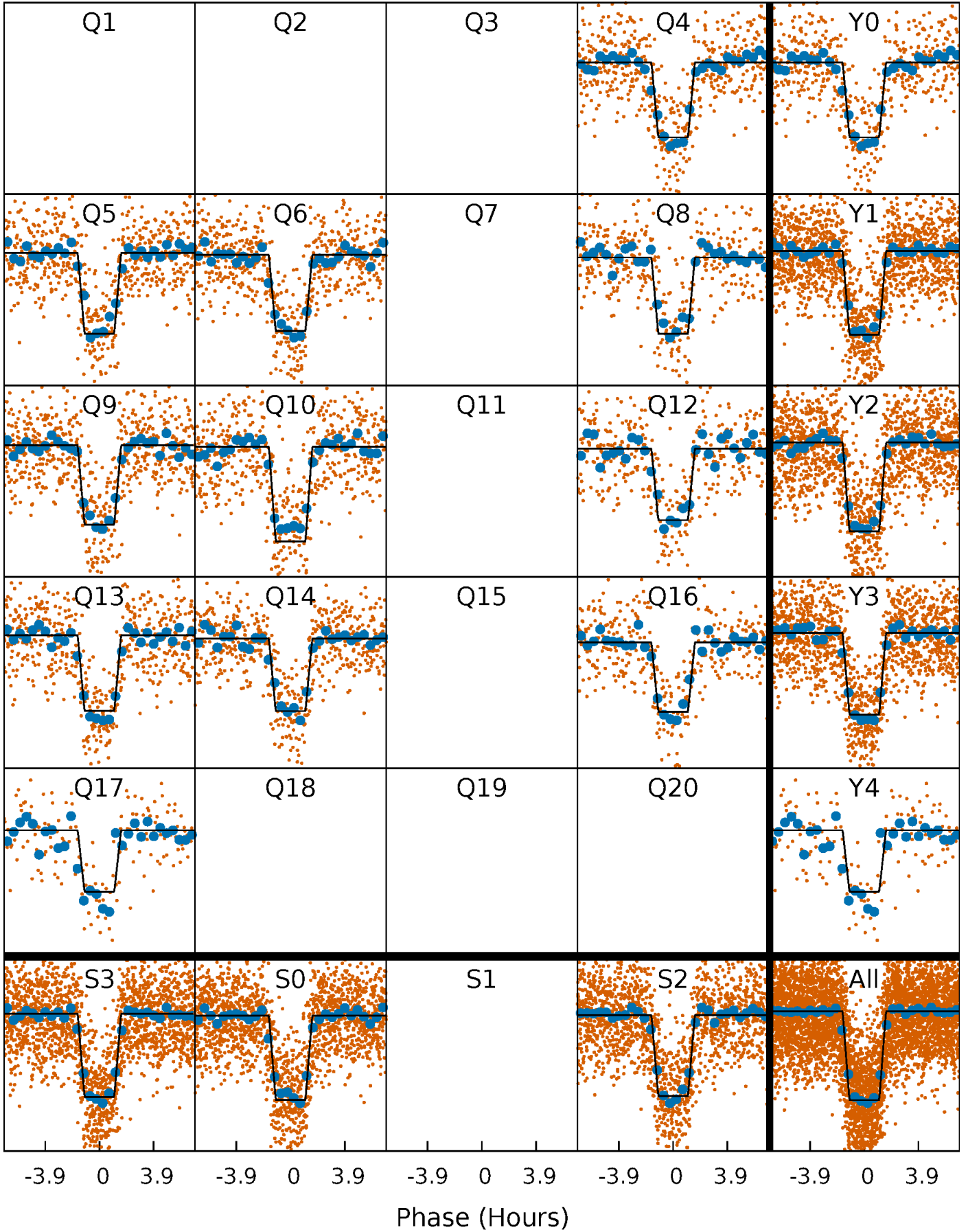
DV Quarter-Phased Transit Curves

TCE 010091110-03 P= 4.218512 Days $T_0=135.616678$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

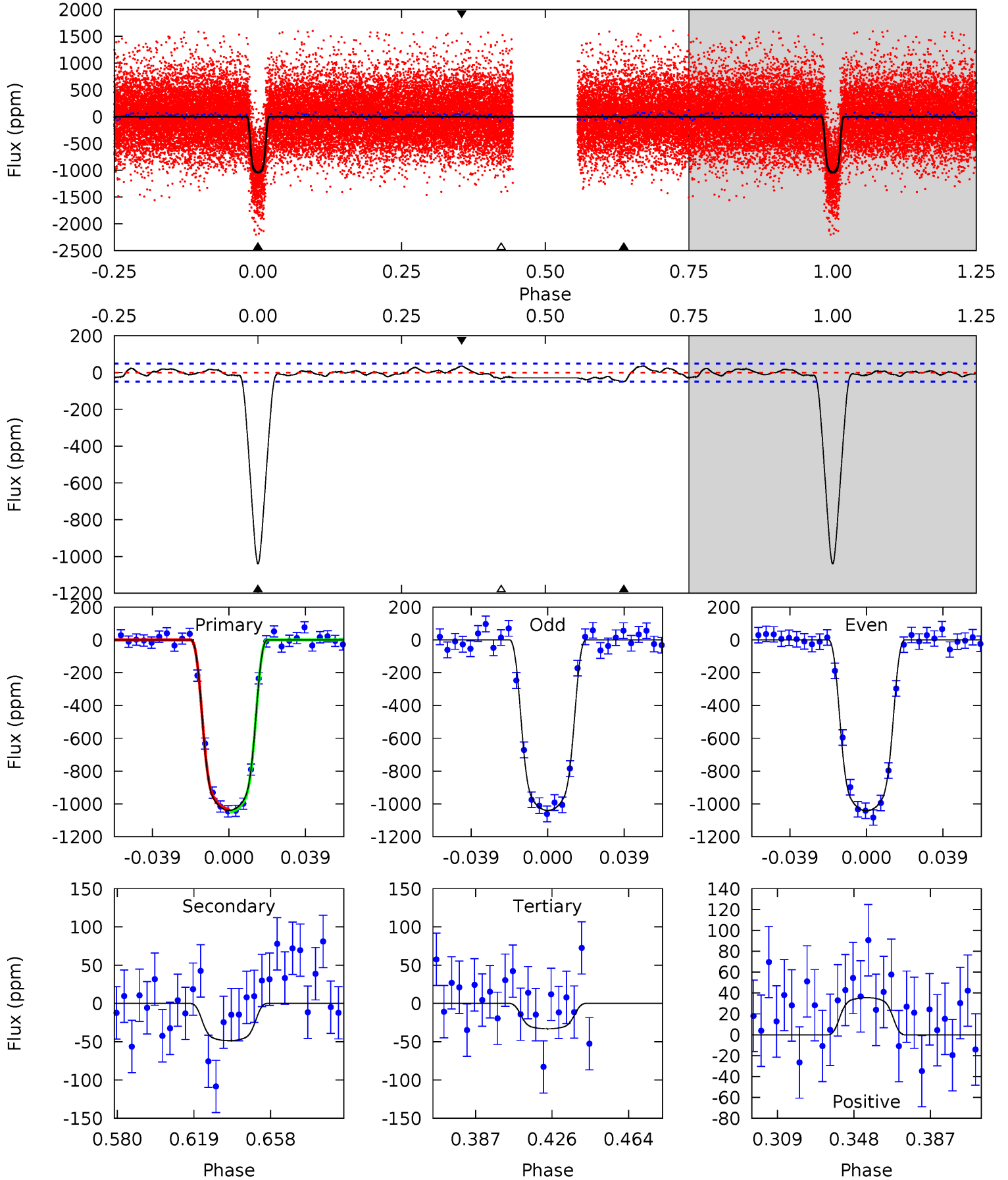
TCE 010091110-03 P= 4.218526 Days $T_0=135.613896$ (BKJD)



DV Model-Shift Uniqueness Test

010091110-03, P = 4.218512 Days, E = 135.616678 Days

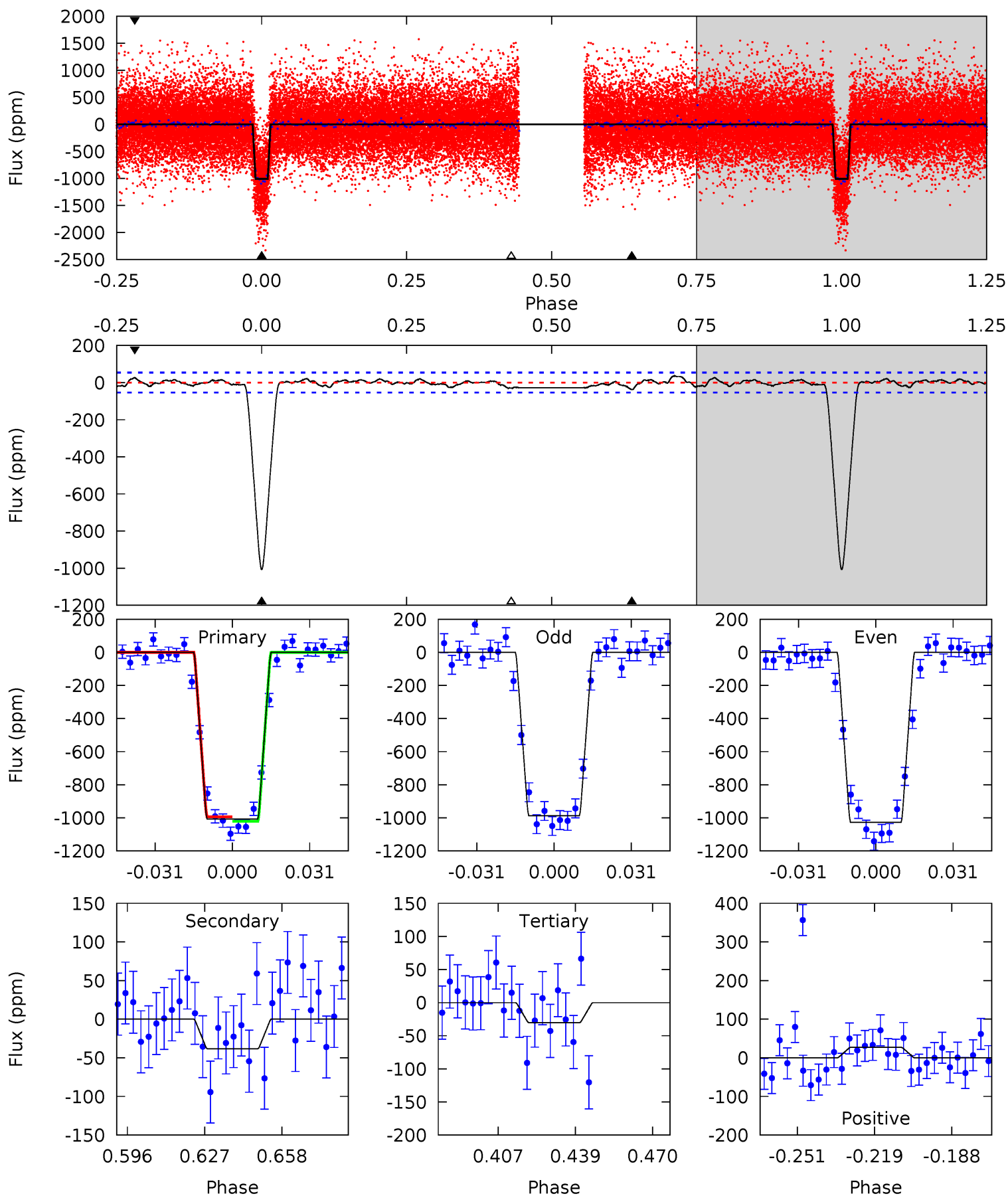
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
100.1	4.68	3.19	3.43	4.76	2.07	1.52	96.9	96.7	1.50	1.26	0.10	0.98	0.03	0.83



Alt Model-Shift Uniqueness Test

010091110-03, P = 4.218526 Days, E = 135.613896 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.1	3.42	2.72	2.43	4.80	2.15	1.17	87.4	87.7	0.69	0.98	1.80	0.98	0.03	1.27



Stellar Parameters For KIC 010091110

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6185^{+197}_{-240}	$4.472^{+0.054}_{-0.216}$	$-0.180^{+0.250}_{-0.350}$	$0.991^{+0.321}_{-0.107}$	$1.060^{+0.144}_{-0.144}$	$1.537^{+0.440}_{-0.821}$
	+3%/-4%	+1%/-5%	+139%/-194%	+32%/-11%	+14%/-14%	+29%/-53%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010091110-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 10	$3.95^{+0.69}_{-0.34}$	1692^{+126}_{-86}	3251^{+139}_{-133}	$4.379^{+1.542}_{-1.300}$
Alt.	-38 ± 11	$3.59^{+0.65}_{-0.32}$	1700^{+133}_{-94}	3235^{+147}_{-200}	$4.114^{+1.627}_{-1.447}$

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 $A_{obs} \gg 1.0$

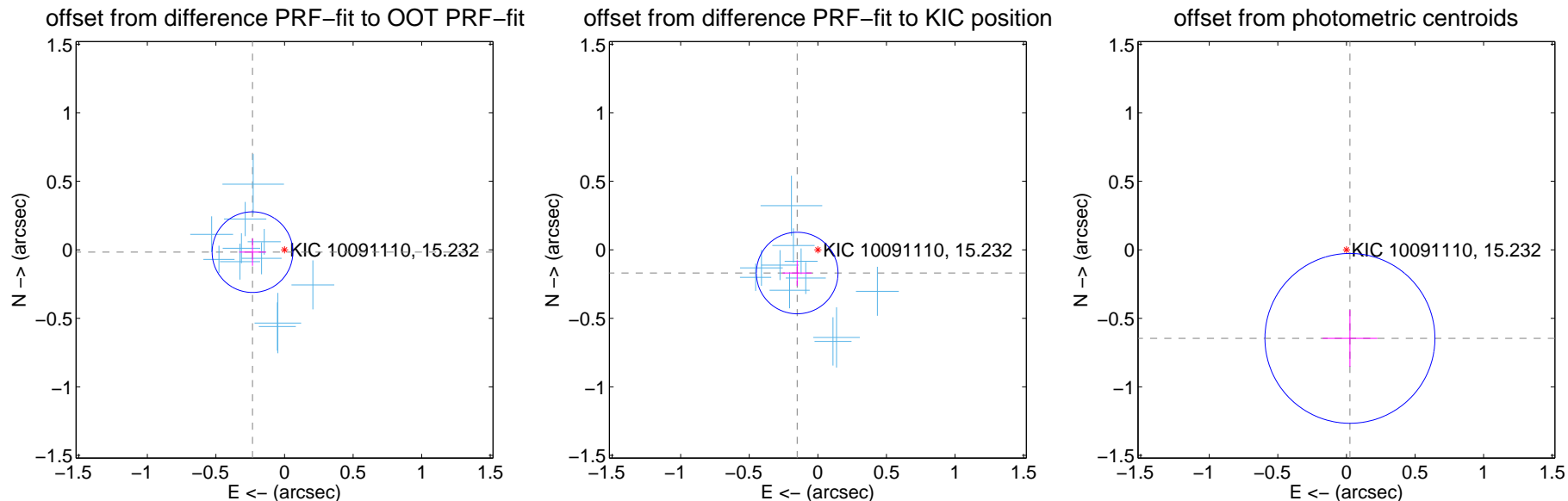
DV Centroid Data

Supplemental centroid analysis for 010091110-03. Kepler magnitude: 15.23. Transit SNR 58.56

There are 11 quarters with good PRF difference image offsets

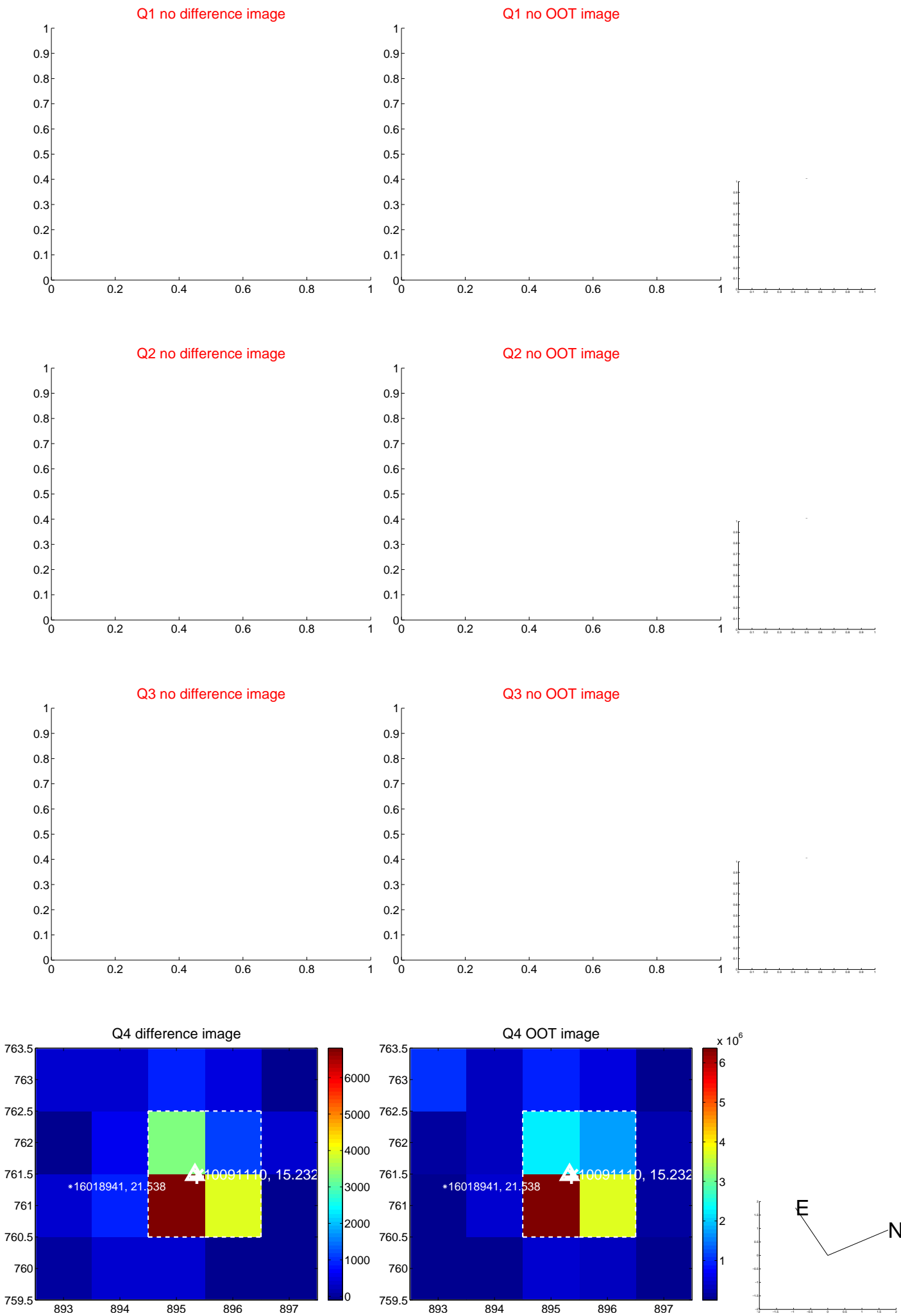
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.234 ± 0.098	2.39	0.234 ± 0.098	-0.017 ± 0.100
PRF-fit source offset from KIC position	0.227 ± 0.099	2.29	0.151 ± 0.106	-0.170 ± 0.093
photometric centroid source offset	0.65 ± 0.21	3.13	-0.03 ± 0.20	-0.65 ± 0.21

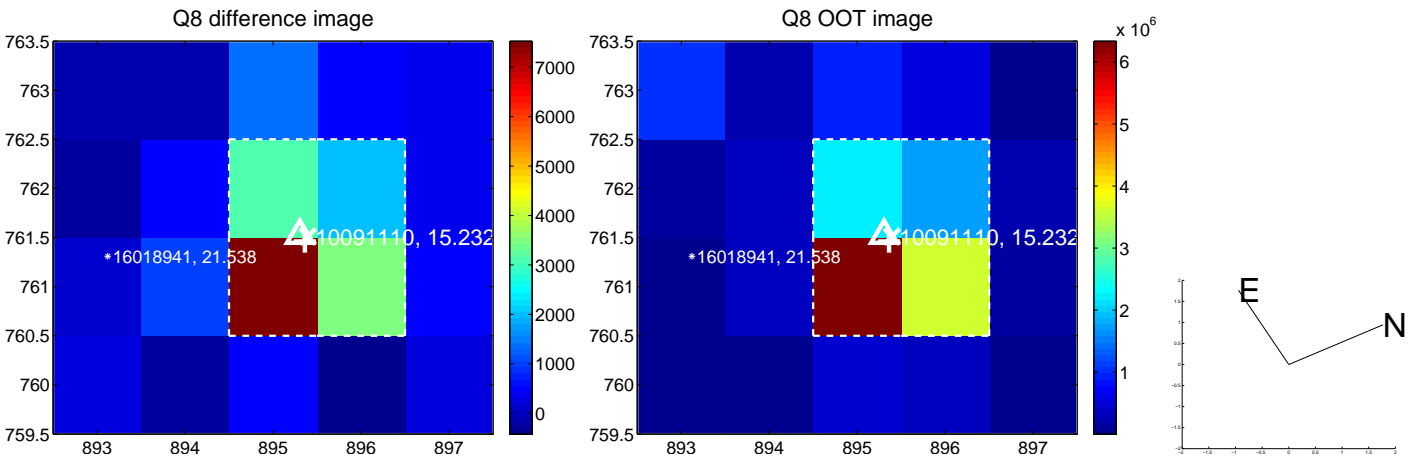
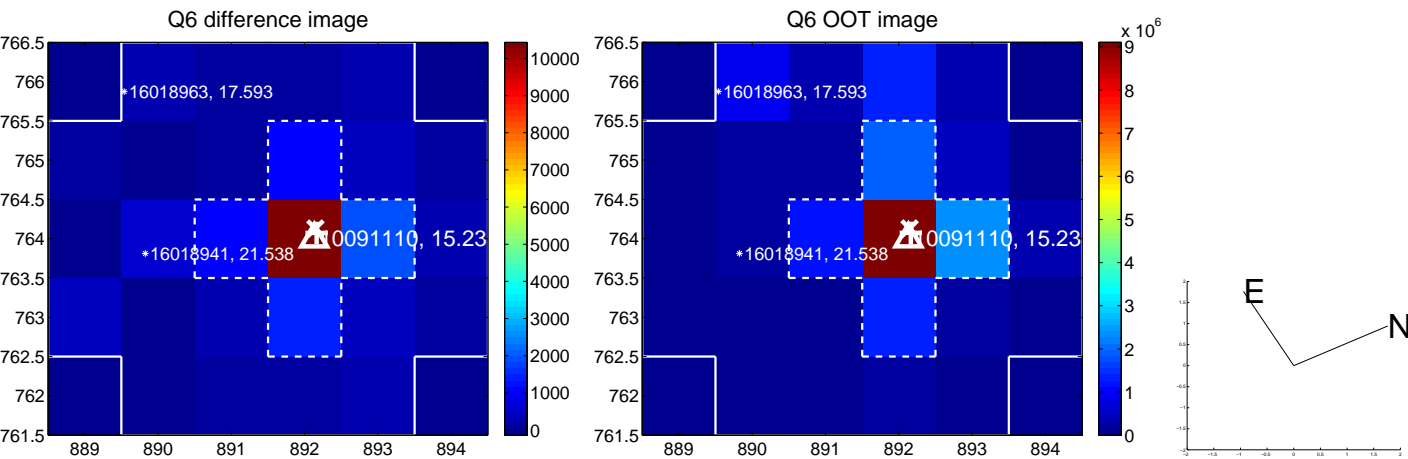
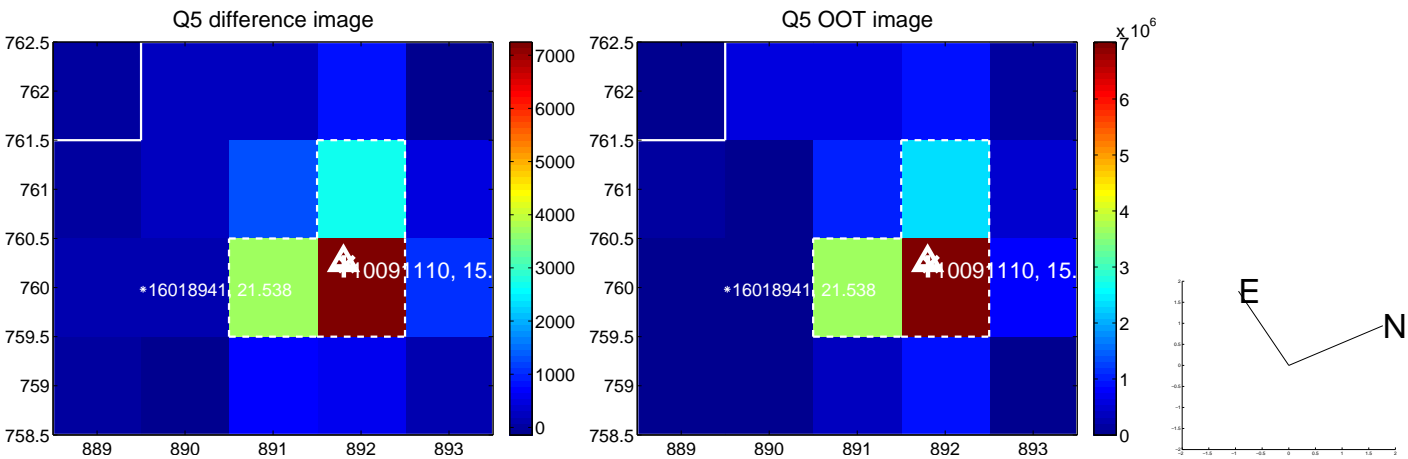


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

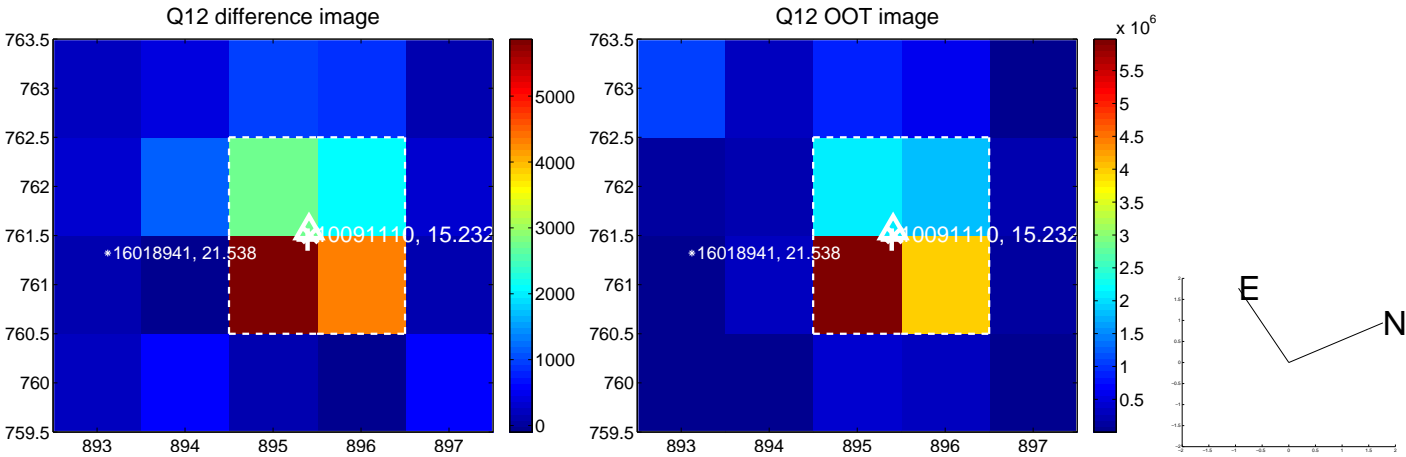
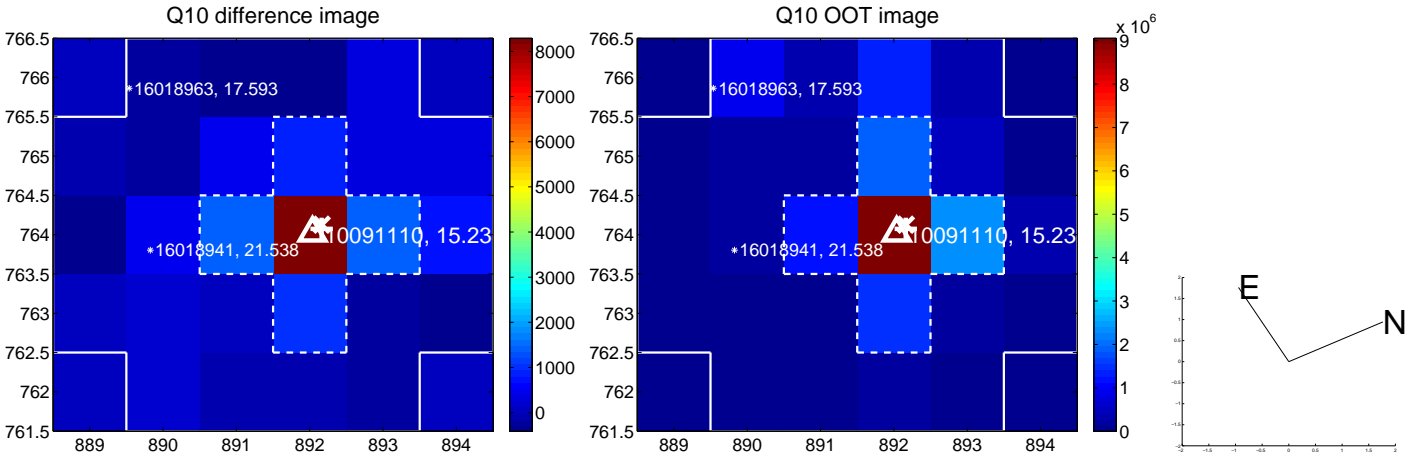
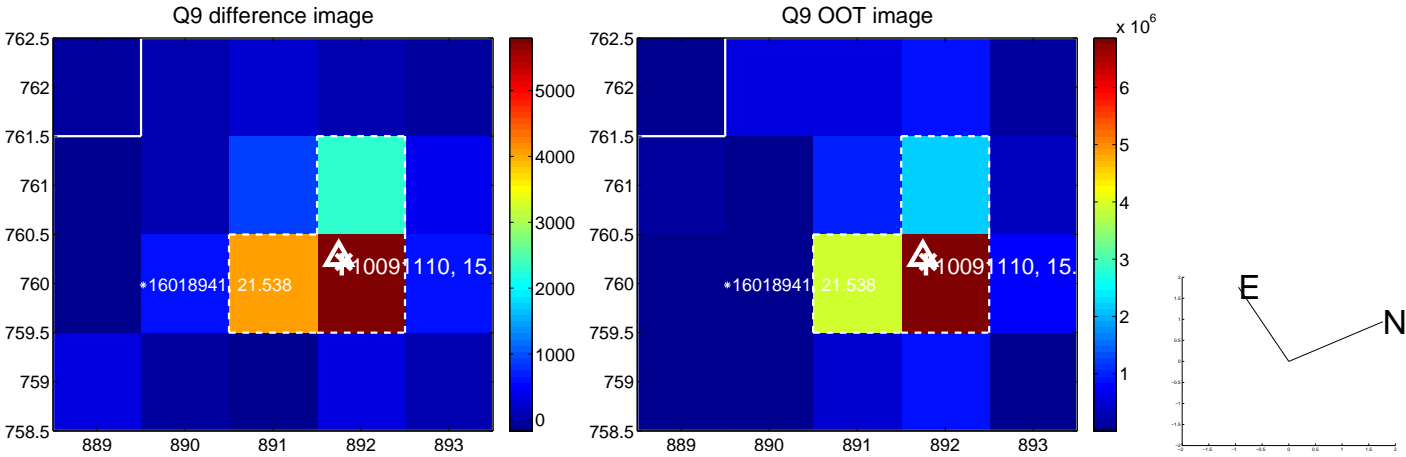
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



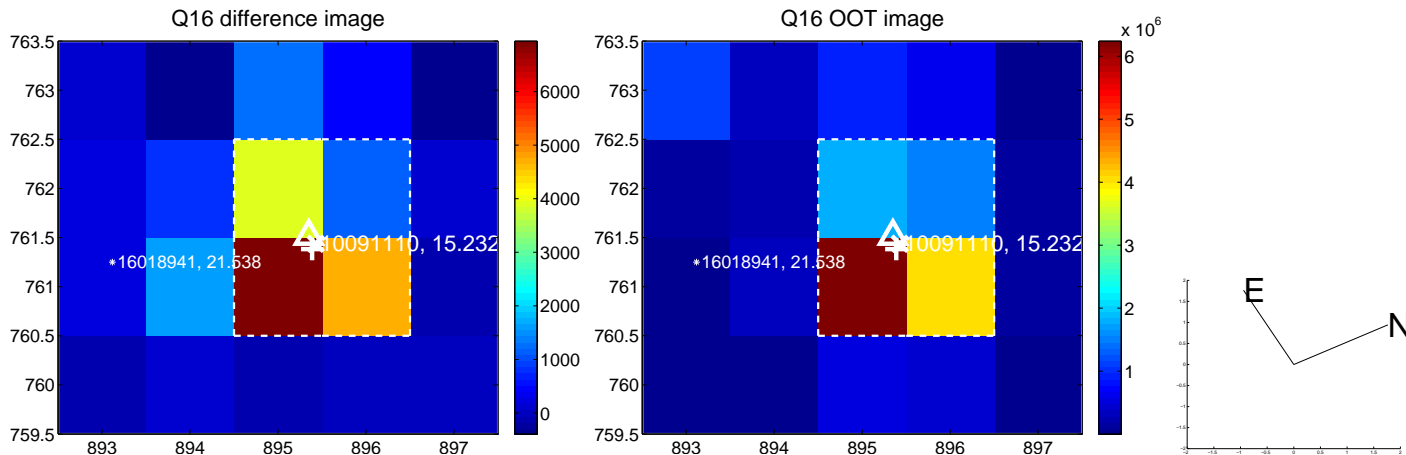
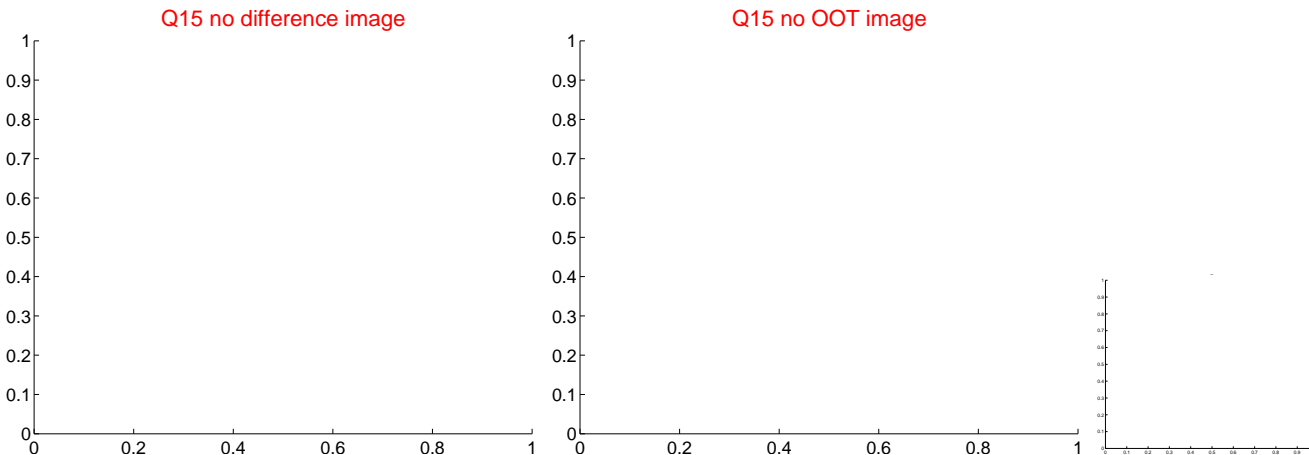
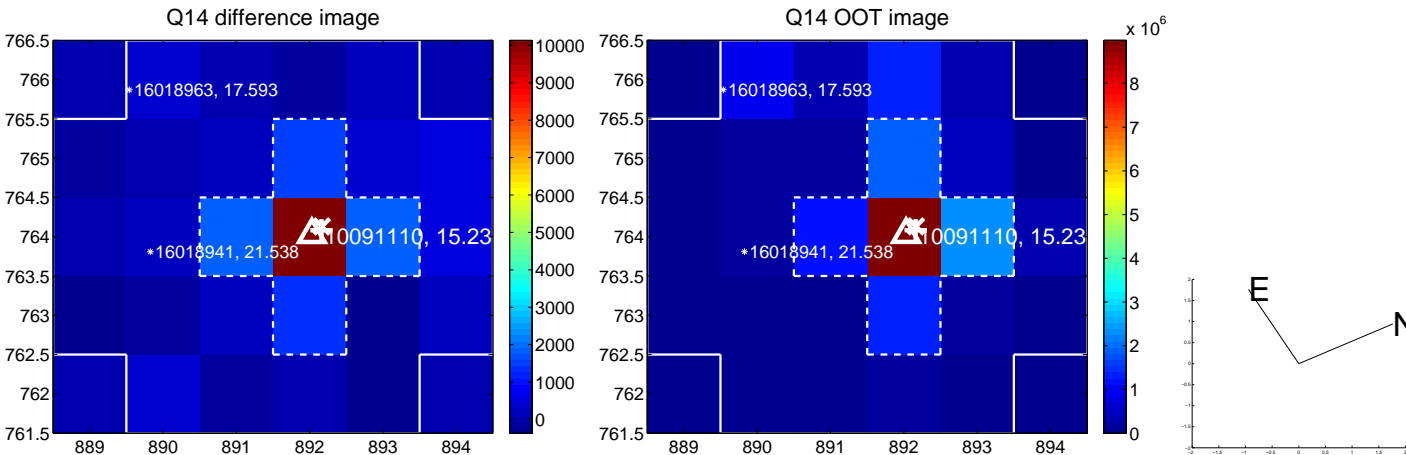
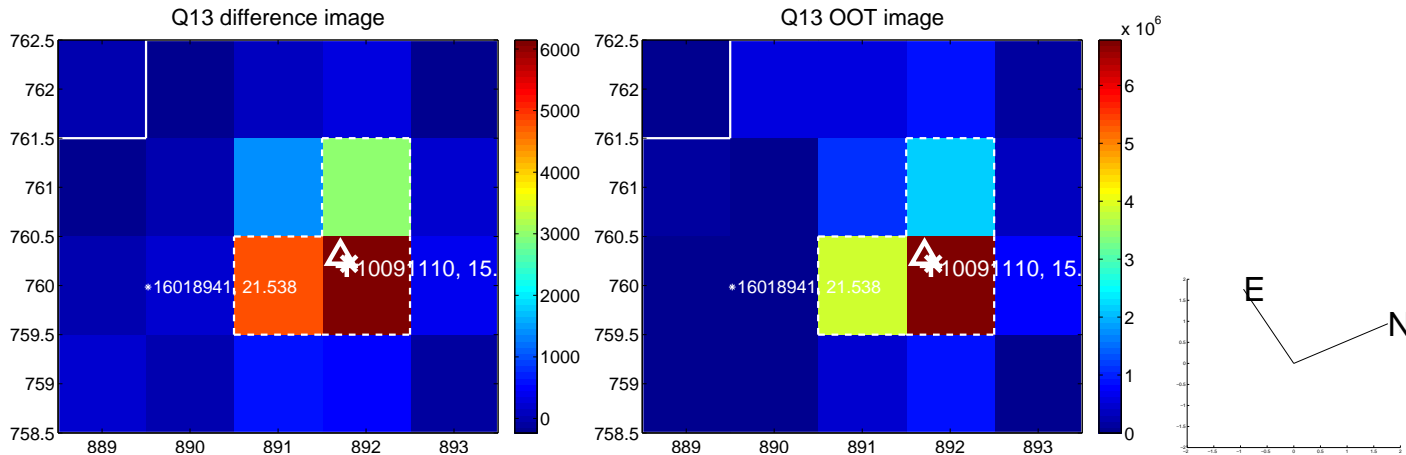
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



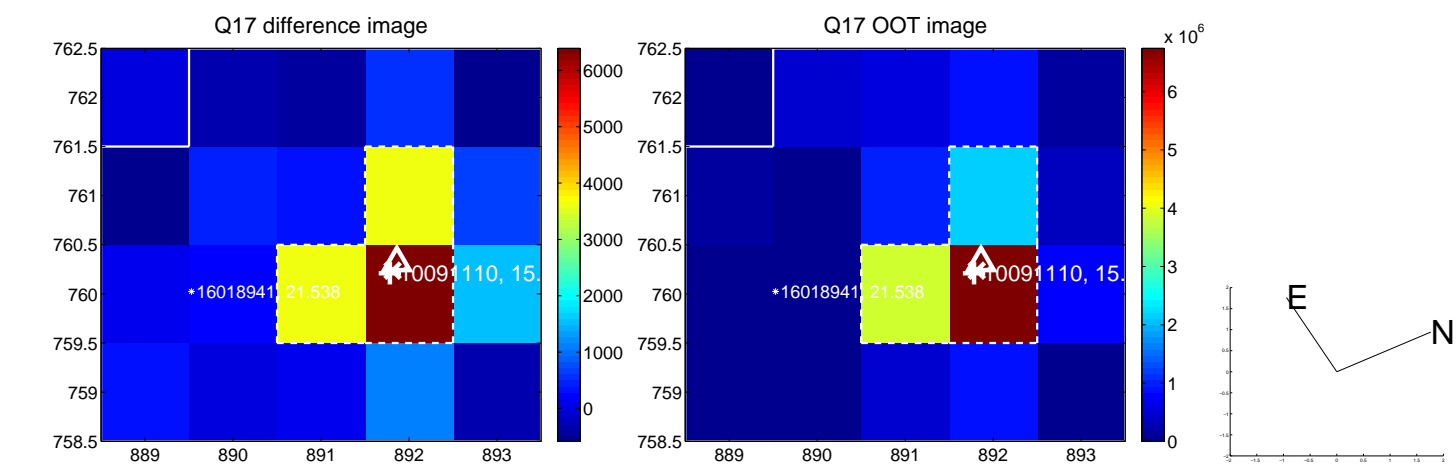
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



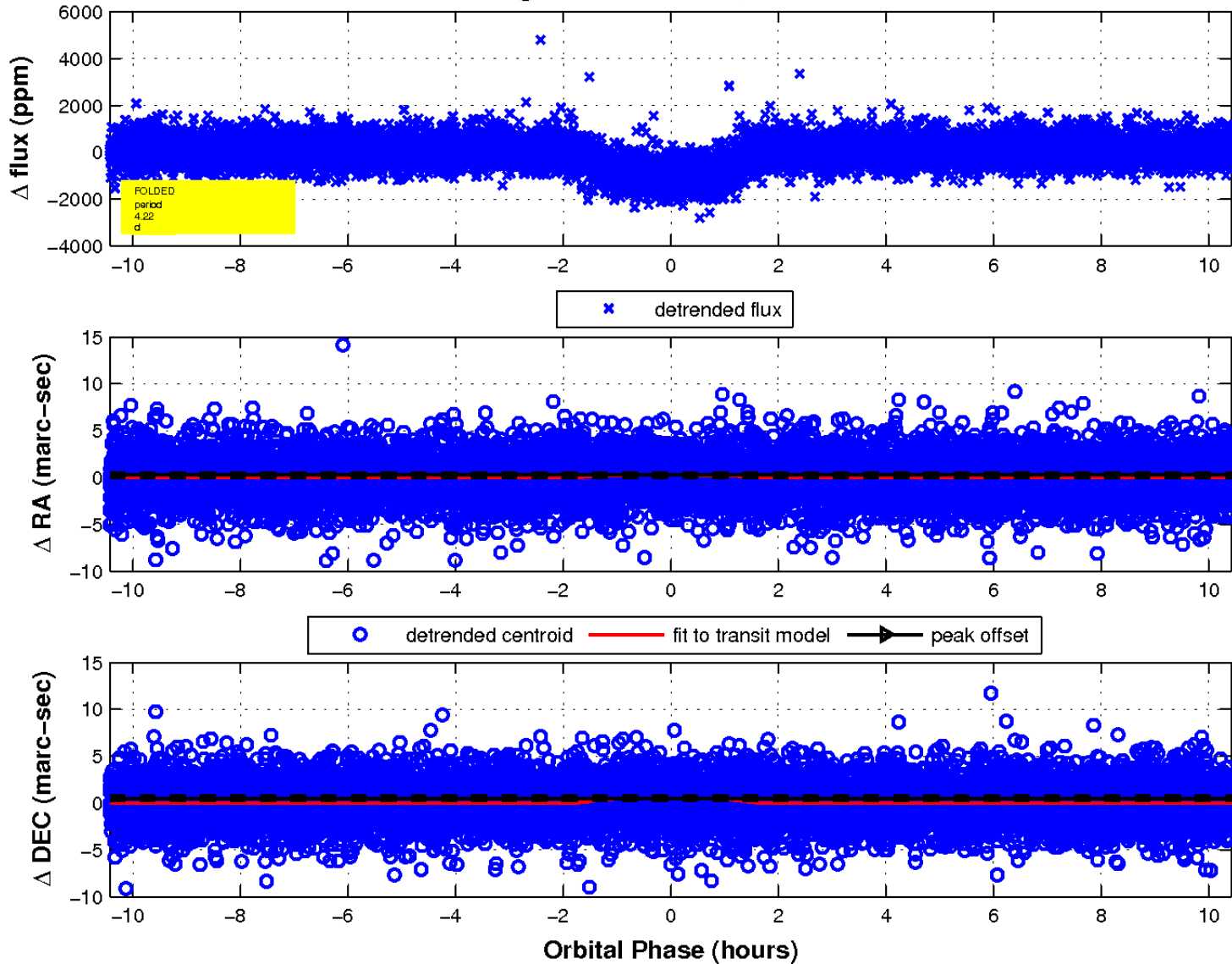
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

