

KIC 007593110

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})
007593110-01	OBS	1748.01	3.549389	134.246542	50678.7	2.465	1623.4	1256.5	0.89	5759	28.24	403.32
007593110-02	OBS	No	3.549400	132.461833	2061.6	2.282	59.2	70.3	0.89	5759	5.17	403.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007593110-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
007593110-02	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 007593110-01

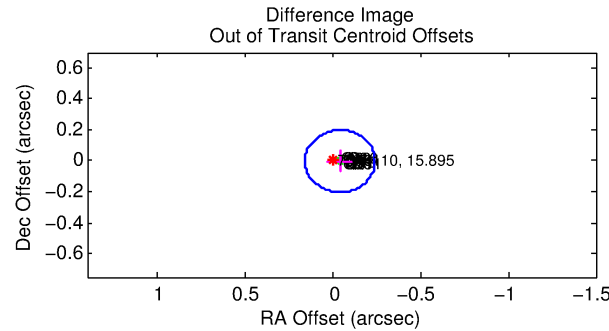
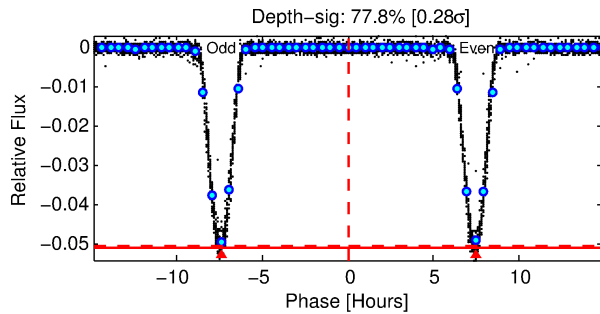
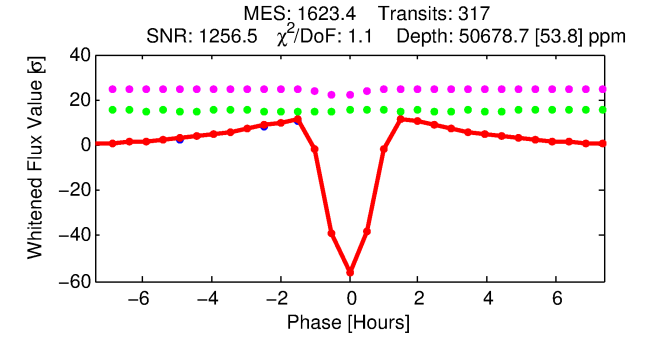
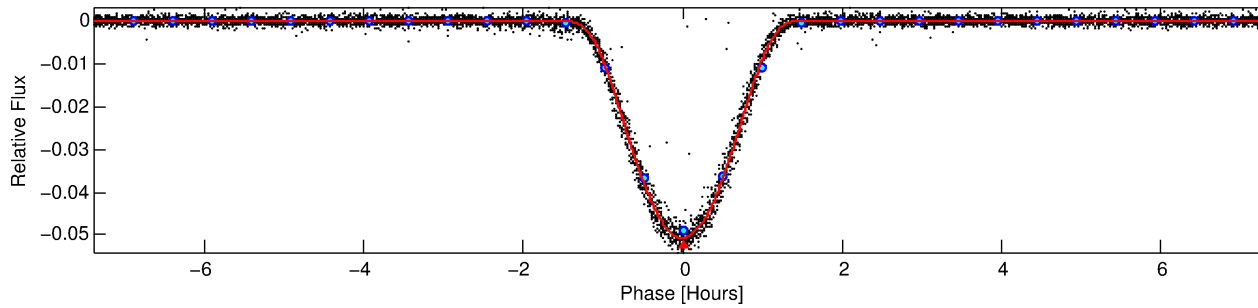
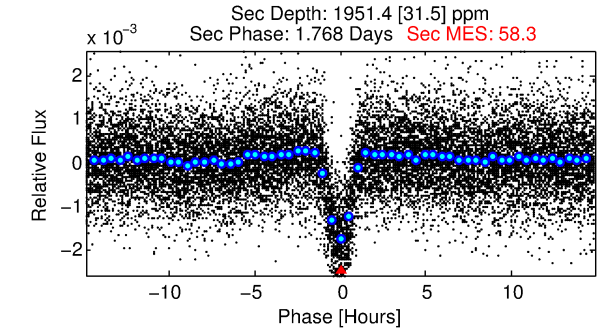
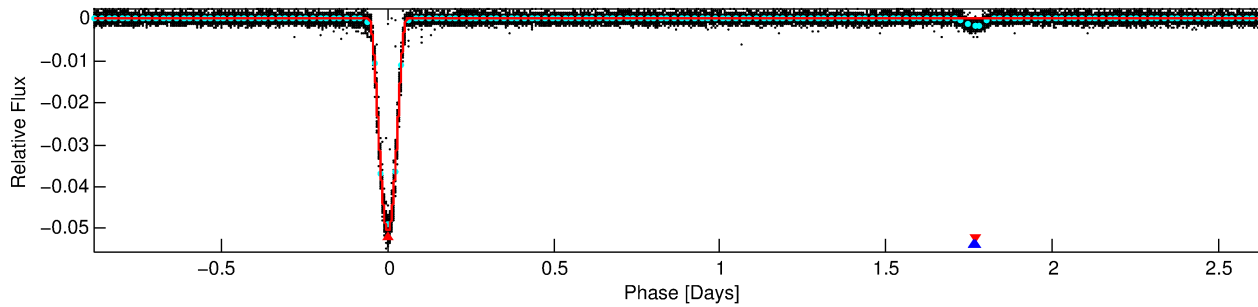
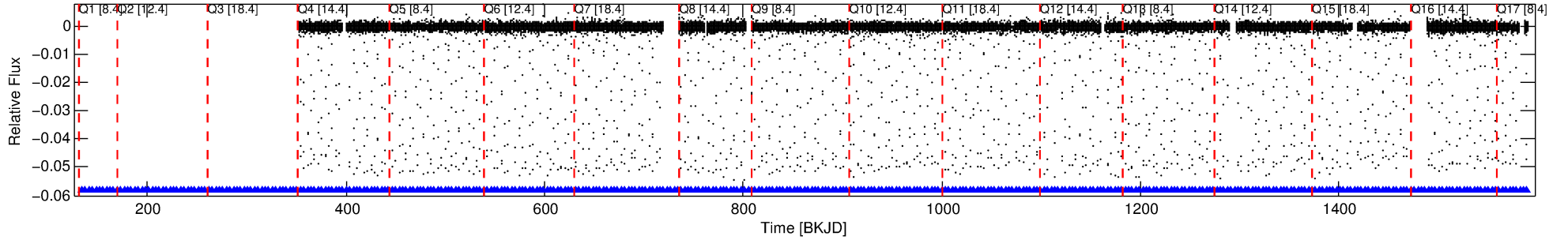
No Significant Match Found

DV One-Page Summary

KIC: 7593110 Candidate: 1 of 2 Period: 3.549 d

KOI: K01748.01 Corr: 0.997

Kp: 15.90 R*: 0.89 Rs Teff: 5759.0 K Logg: 4.50 Fe/H: -0.200



DV Fit Results:

Period = 3.54939 [0.00000] d
Epoch = 134.2465 [0.0000] BKJD
Rp/R* = 0.2902 [0.0084]
a/R* = 10.23 [0.03]
b = 0.90 [0.01]
Seff = 403.32 [147.52]
Teq = 1143 [104] K
Rp = 28.24 [7.77] Re
a = 0.0441 [0.0103] AU
Ag = 2.62 [0.91] [1.78σ]
Teffp = 2247 [81] K [8.35σ]

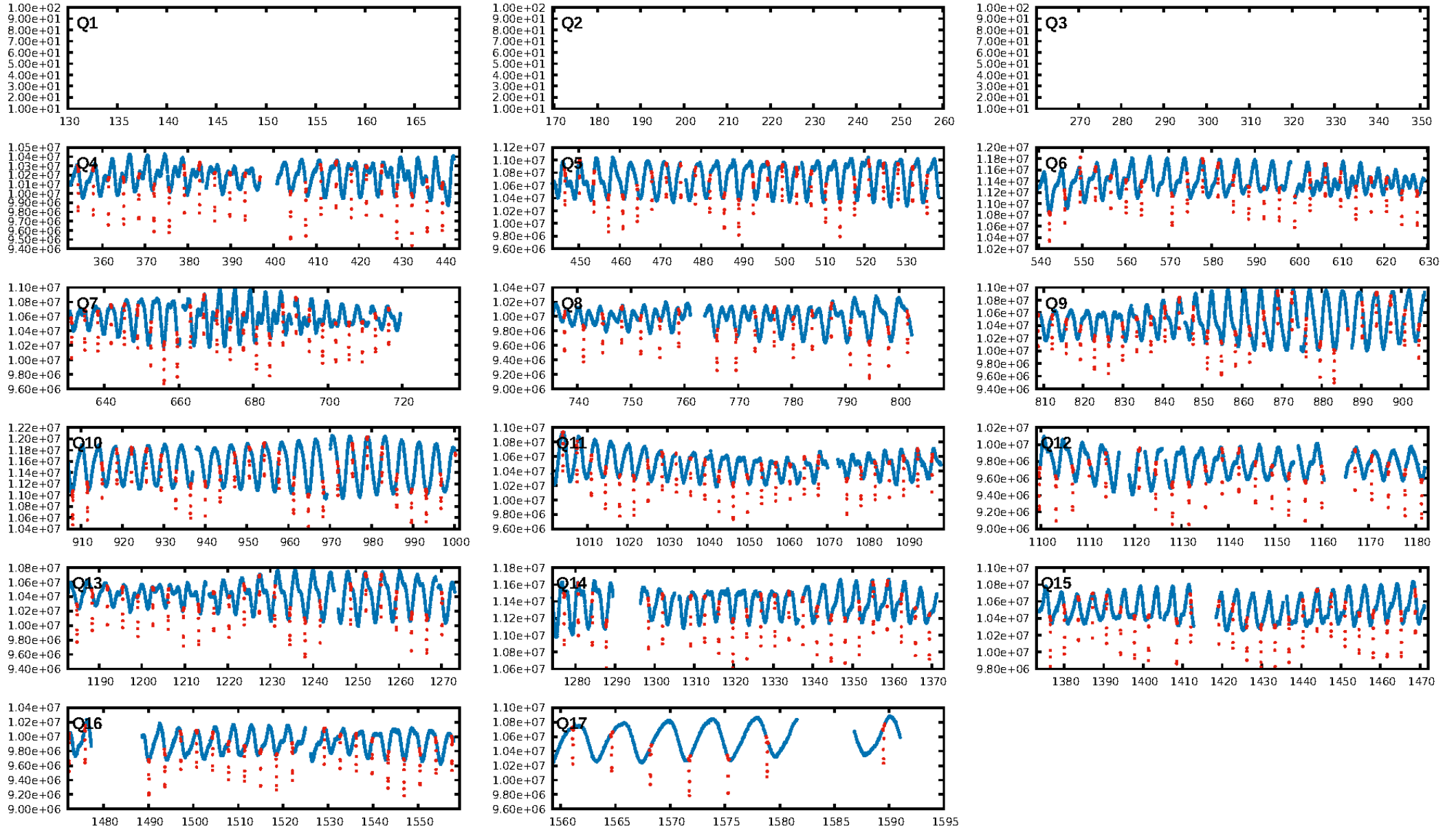
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [310/310]
GhostDiagnostic-chr: 1.948
Centroid-sig: 0.0%
Centroid-so: 0.114 arcsec [16.32σ]
OotOffset-rm: 0.040 arcsec [0.60σ]
KicOffset-rm: 0.039 arcsec [0.58σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
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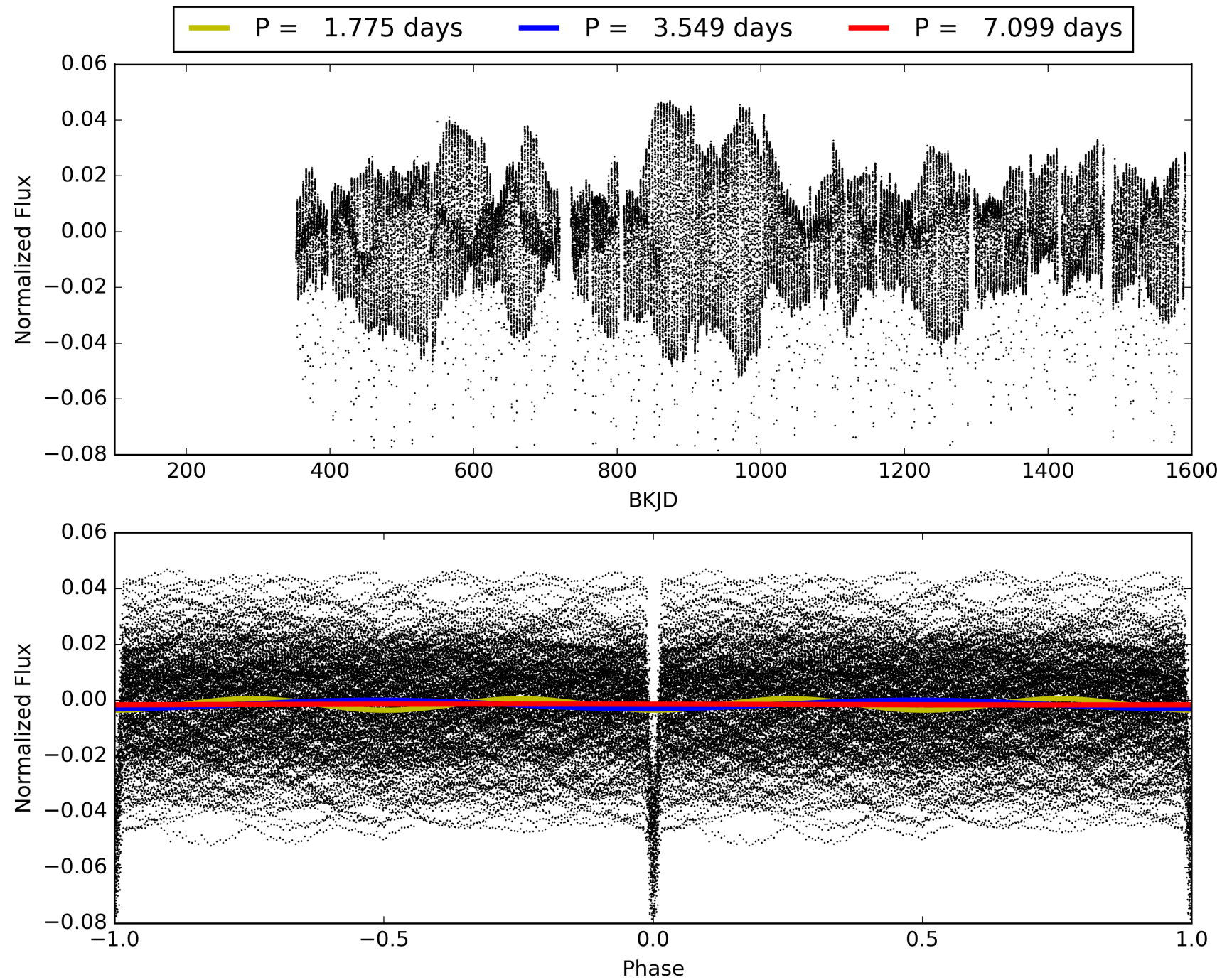
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:23:12 Z

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

TCE 007593110-01, PDC Light Curves

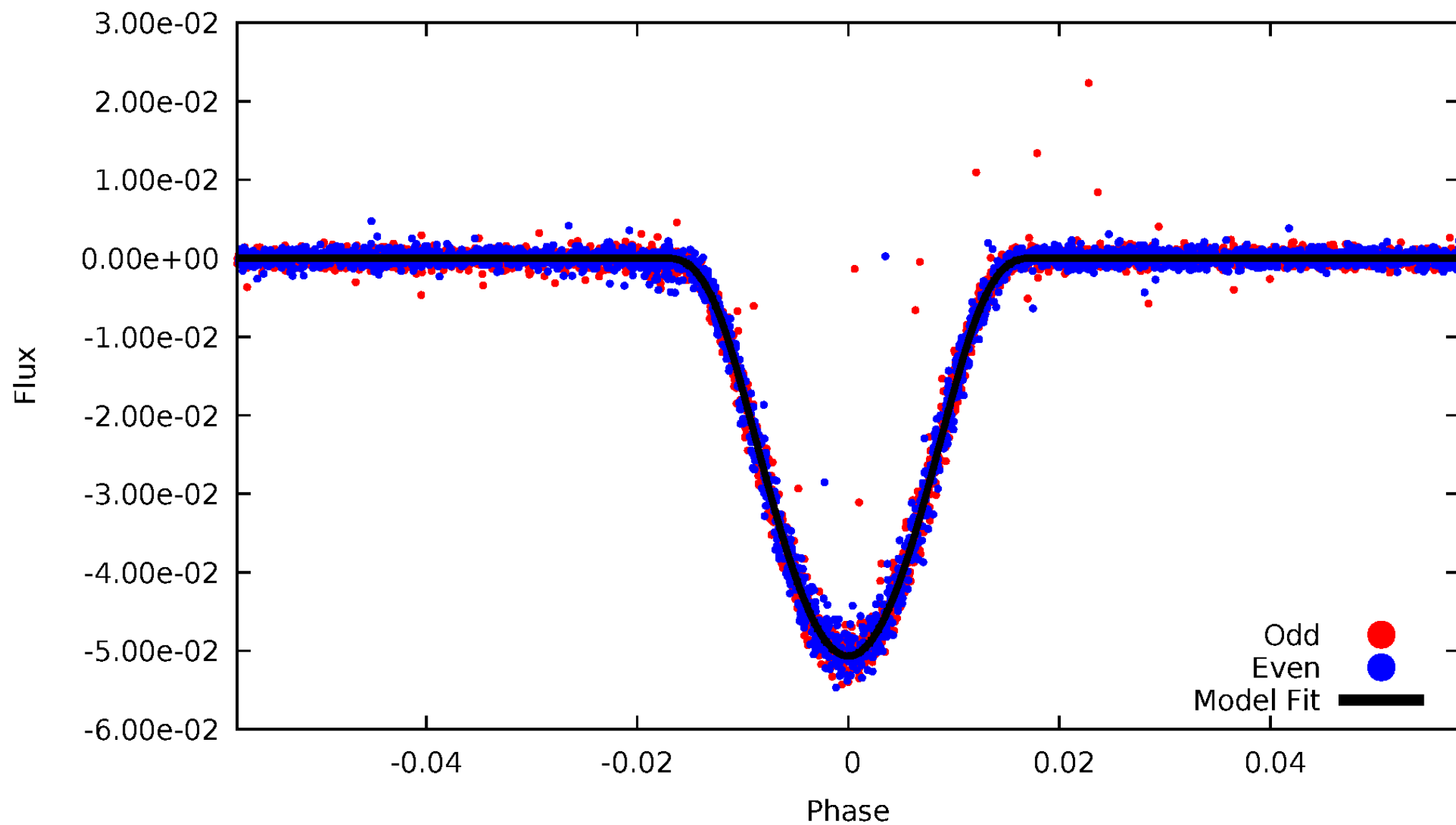


TCE 007593110-01



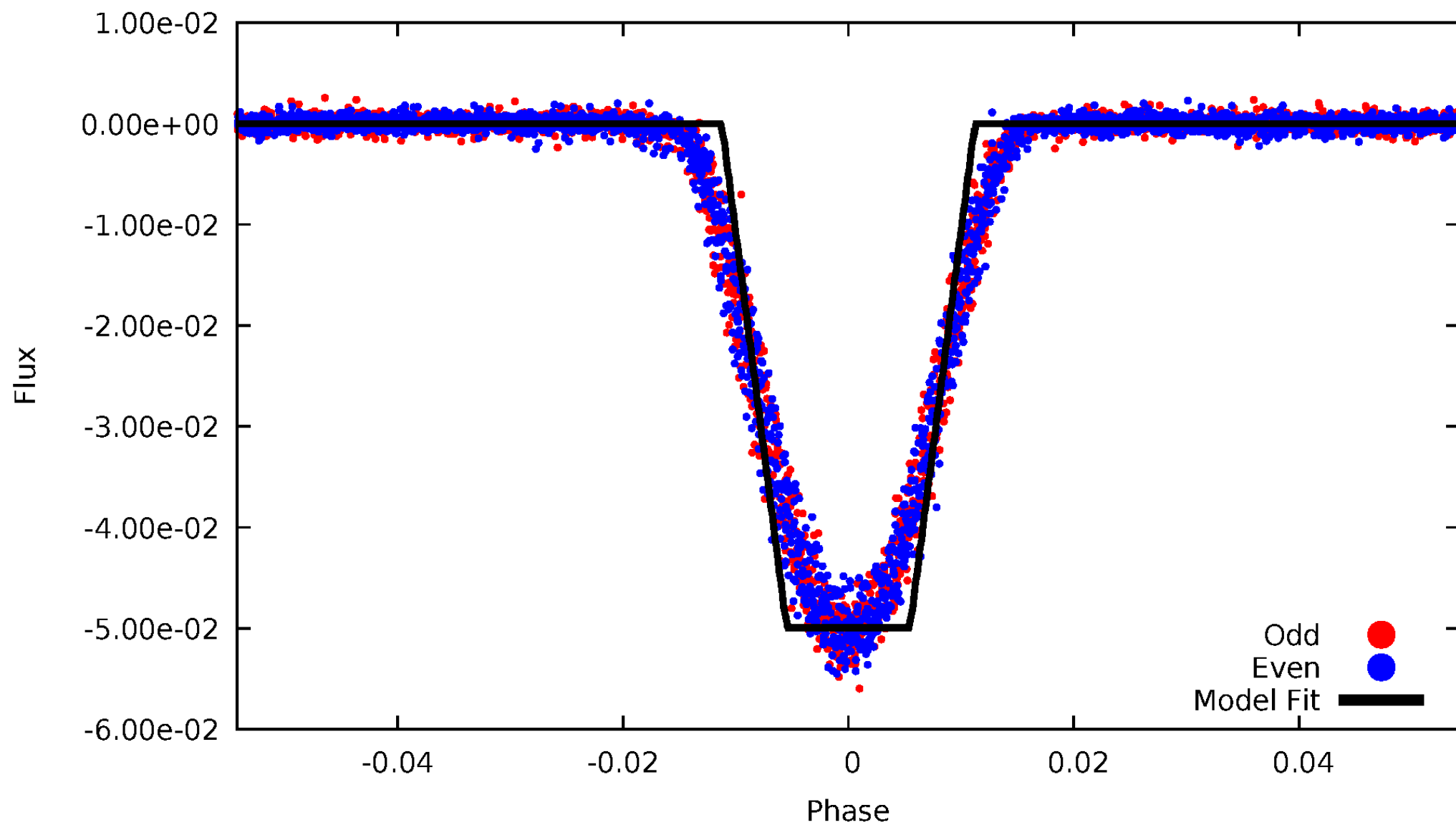
DV Odd/Even

TCE 007593110-01



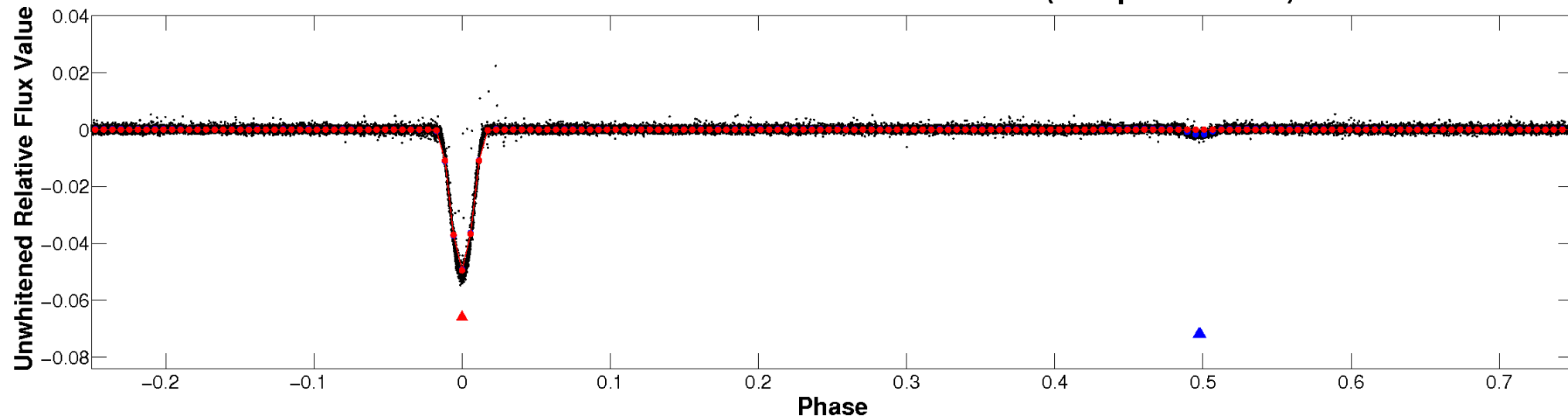
ALT Odd/Even

TCE 007593110-01

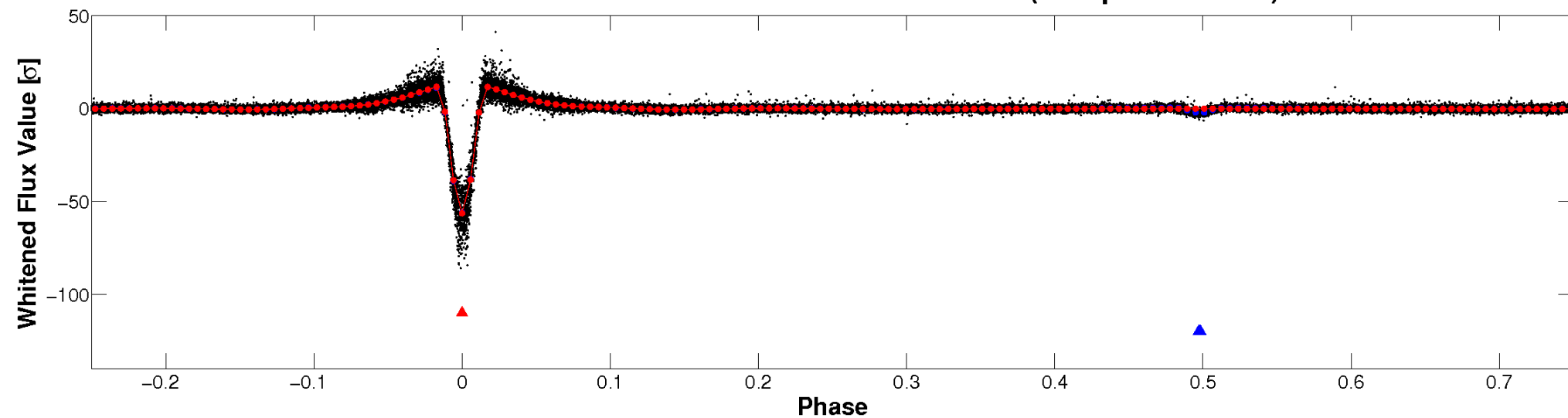


Non-Whitened Vs. Whitened Light Curve

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

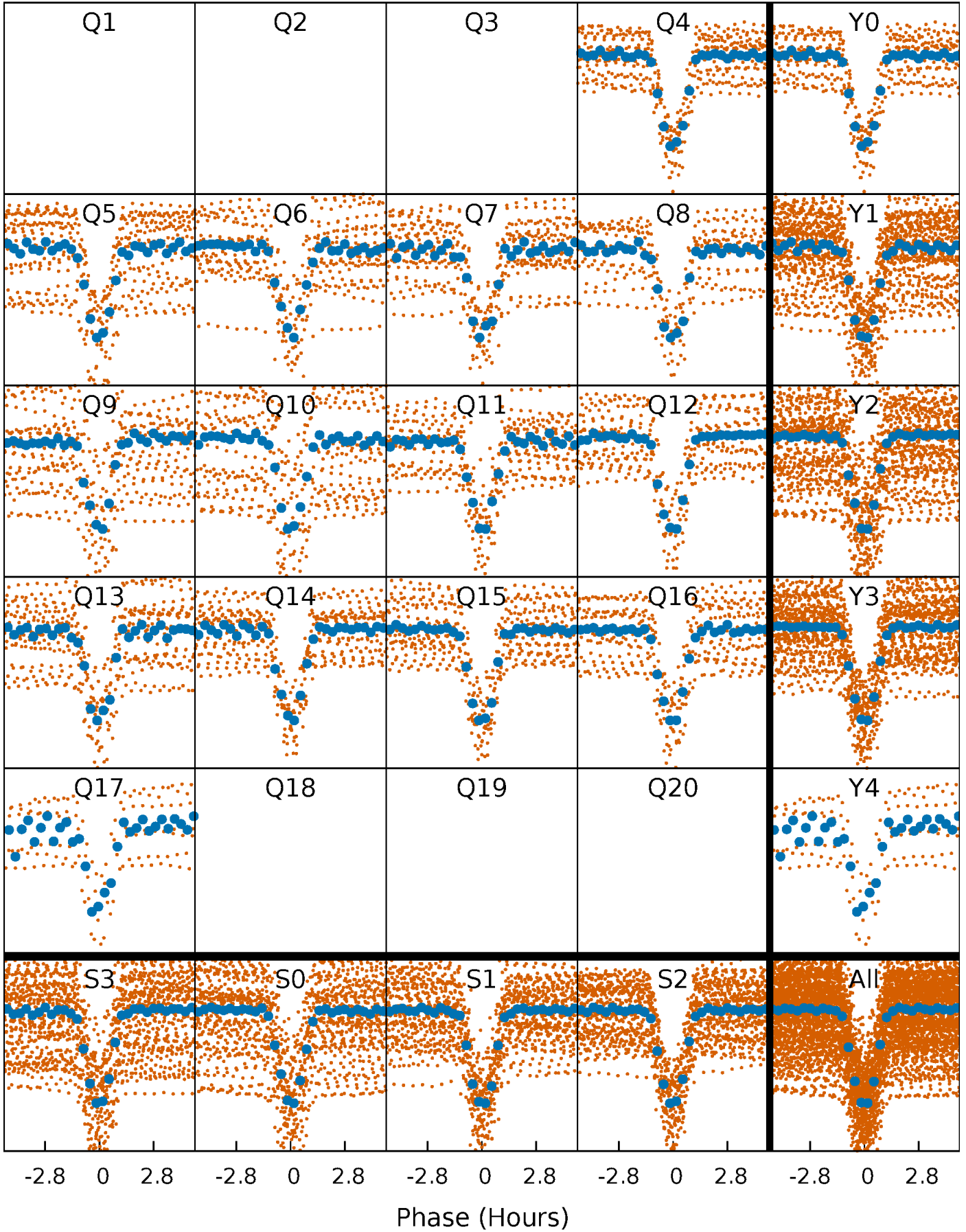


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



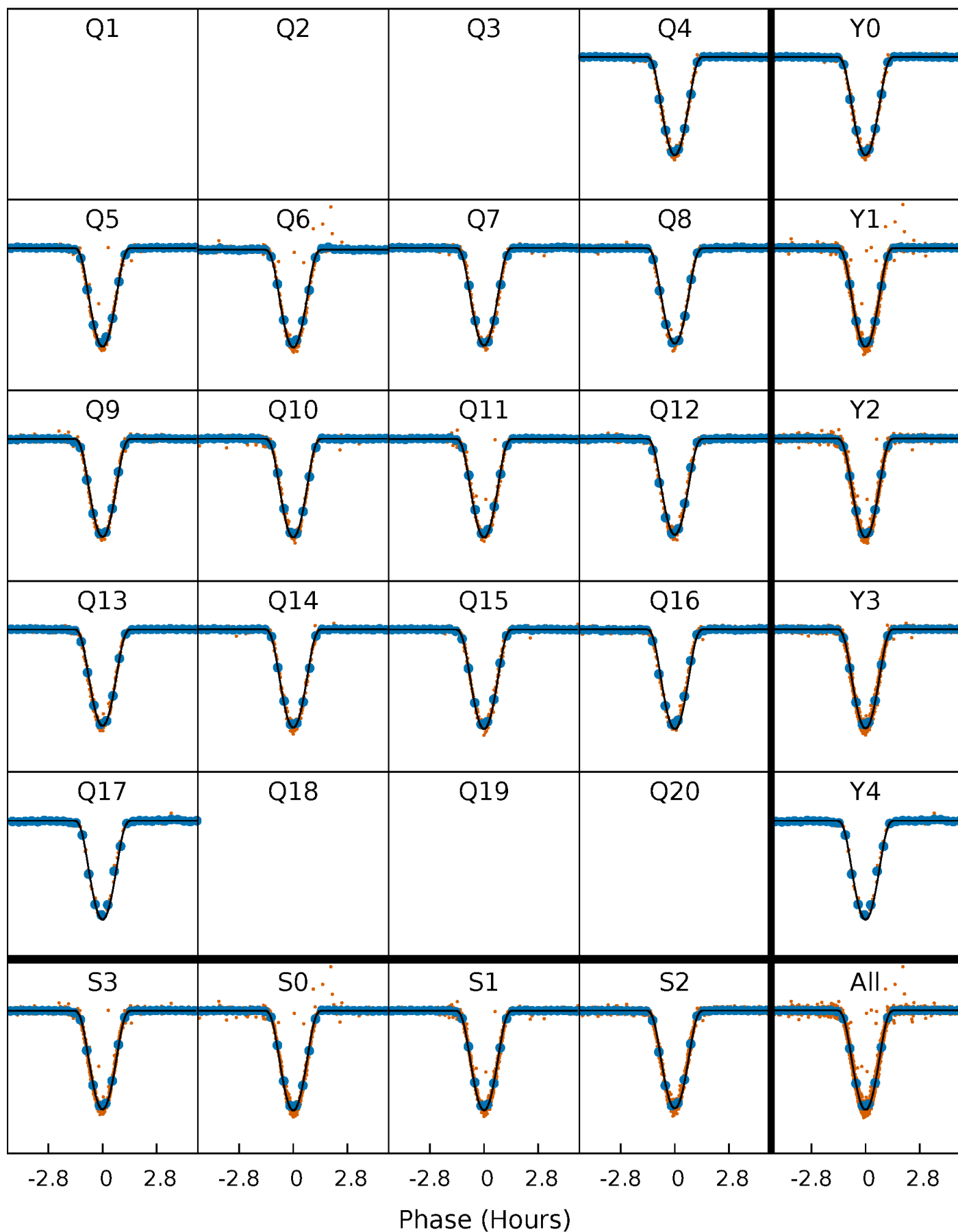
PDC Quarter-Phased Transit Curves

TCE 007593110-01 P= 3.549389 Days $T_0=134.246542$ (BKJD)



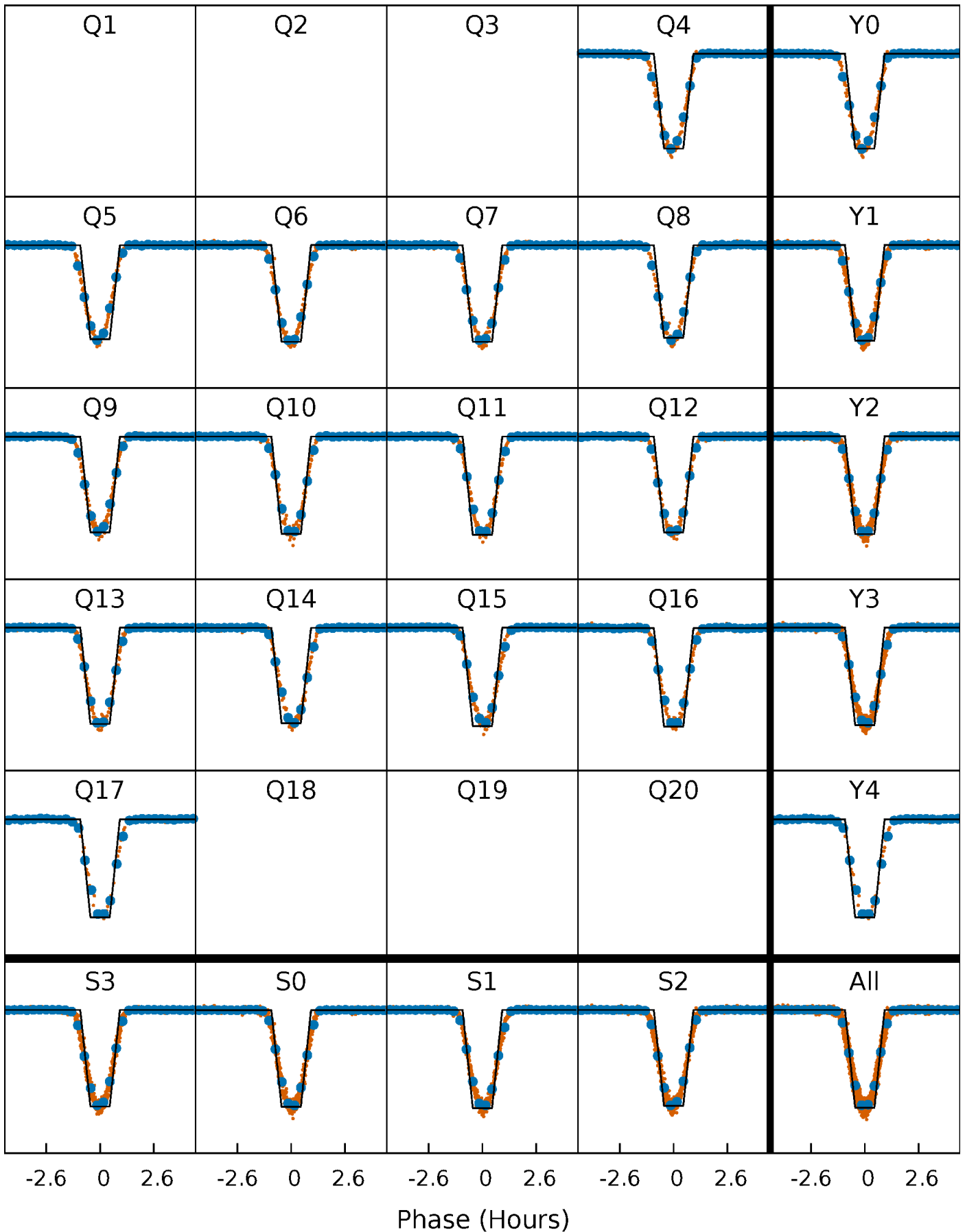
DV Quarter-Phased Transit Curves

TCE 007593110-01 P= 3.549389 Days $T_0=134.246542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

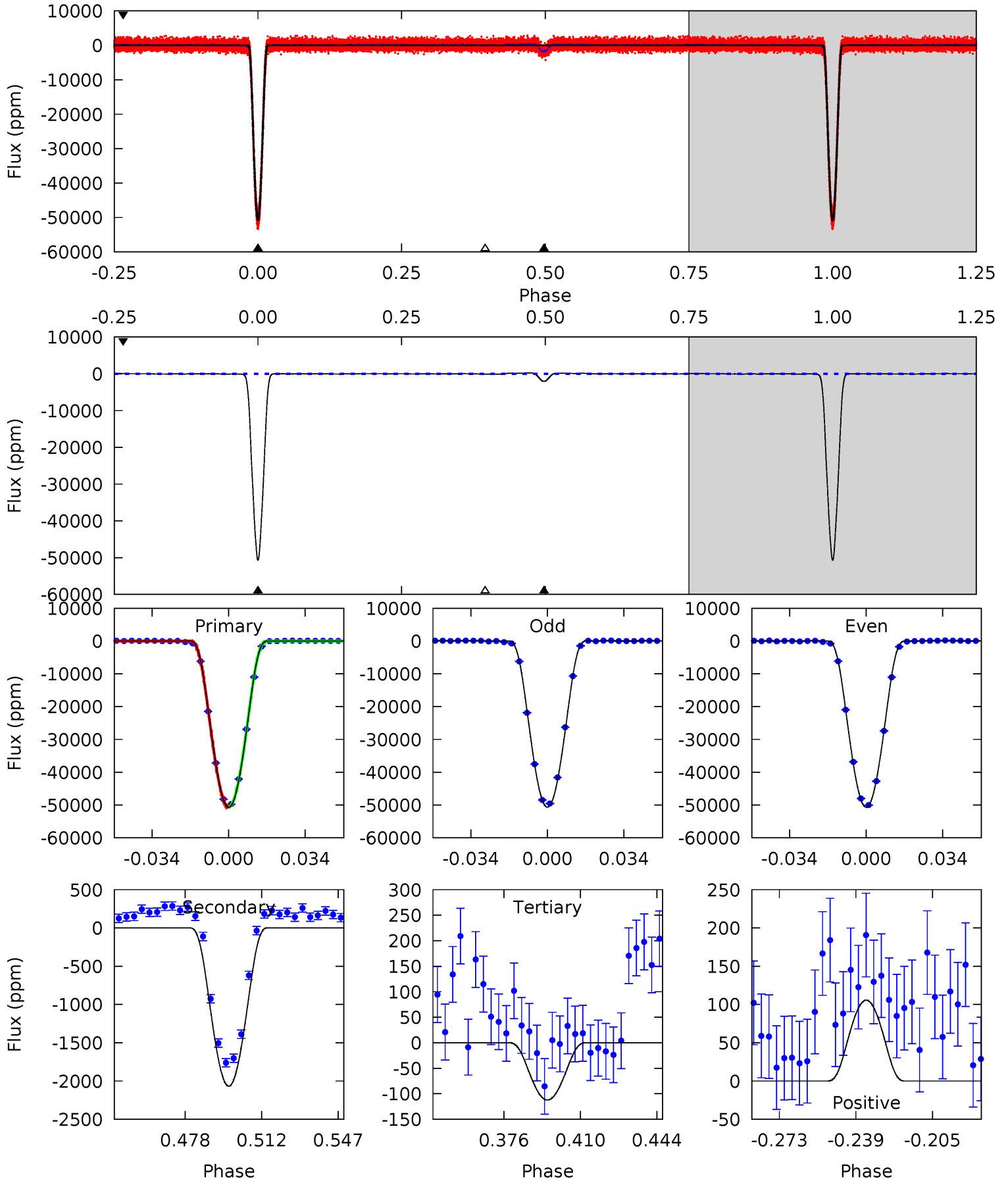
TCE 007593110-01 P= 3.549367 Days $T_0=134.251523$ (BKJD)



DV Model-Shift Uniqueness Test

007593110-01, P = 3.549389 Days, E = 134.246542 Days

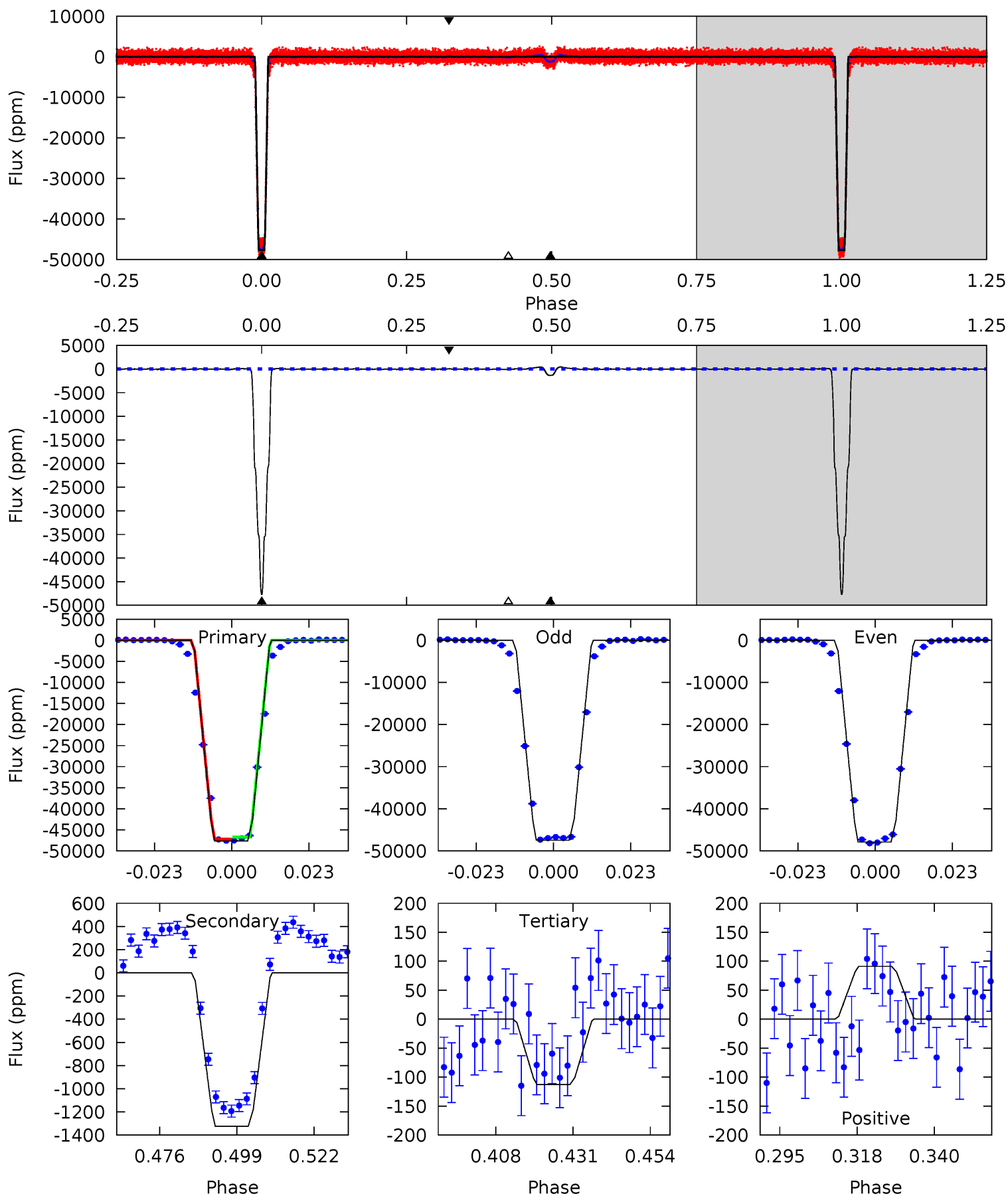
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3008	122.6	6.66	6.27	4.79	2.12	3.31	3001	3001	116.0	116.4	0.68	0.99	0.00	6.25



Alt Model-Shift Uniqueness Test

007593110-01, P = 3.549367 Days, E = 134.251523 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1669	46.4	3.95	3.19	4.87	2.28	1.95	1665	1666	42.4	43.2	7.21	1.00	0.01	0



Stellar Parameters For KIC 007593110

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5759^{+172}_{-189}	$4.495^{+0.075}_{-0.188}$	$-0.200^{+0.300}_{-0.300}$	$0.892^{+0.244}_{-0.105}$	$0.908^{+0.110}_{-0.100}$	$1.801^{+0.598}_{-0.883}$
	+3%/-3%	+2%/-4%	+150%/-150%	+27%/-12%	+12%/-11%	+33%/-49%
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 007593110-01 / KOI 1748.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2067 ± 17	$28.78^{+4.26}_{-2.42}$	1623^{+116}_{-88}	2911^{+59}_{-64}	$2.630^{+0.473}_{-0.569}$
Alt.	-1324 ± 29	$22.20^{+3.24}_{-2.08}$	1619^{+109}_{-86}	2945^{+67}_{-67}	$2.866^{+0.552}_{-0.641}$

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 $A_{obs} \gg 1.0$

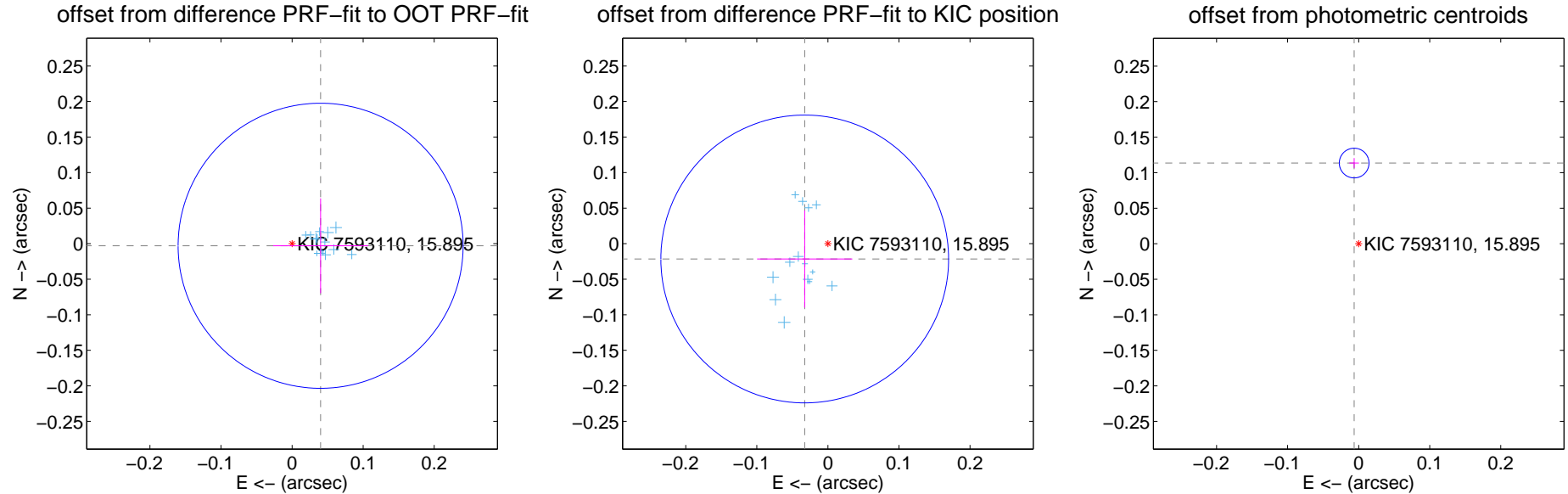
DV Centroid Data

Supplemental centroid analysis for 007593110-01. Kepler magnitude: 15.89. Transit SNR 1256.55

There are 14 quarters with good PRF difference image offsets

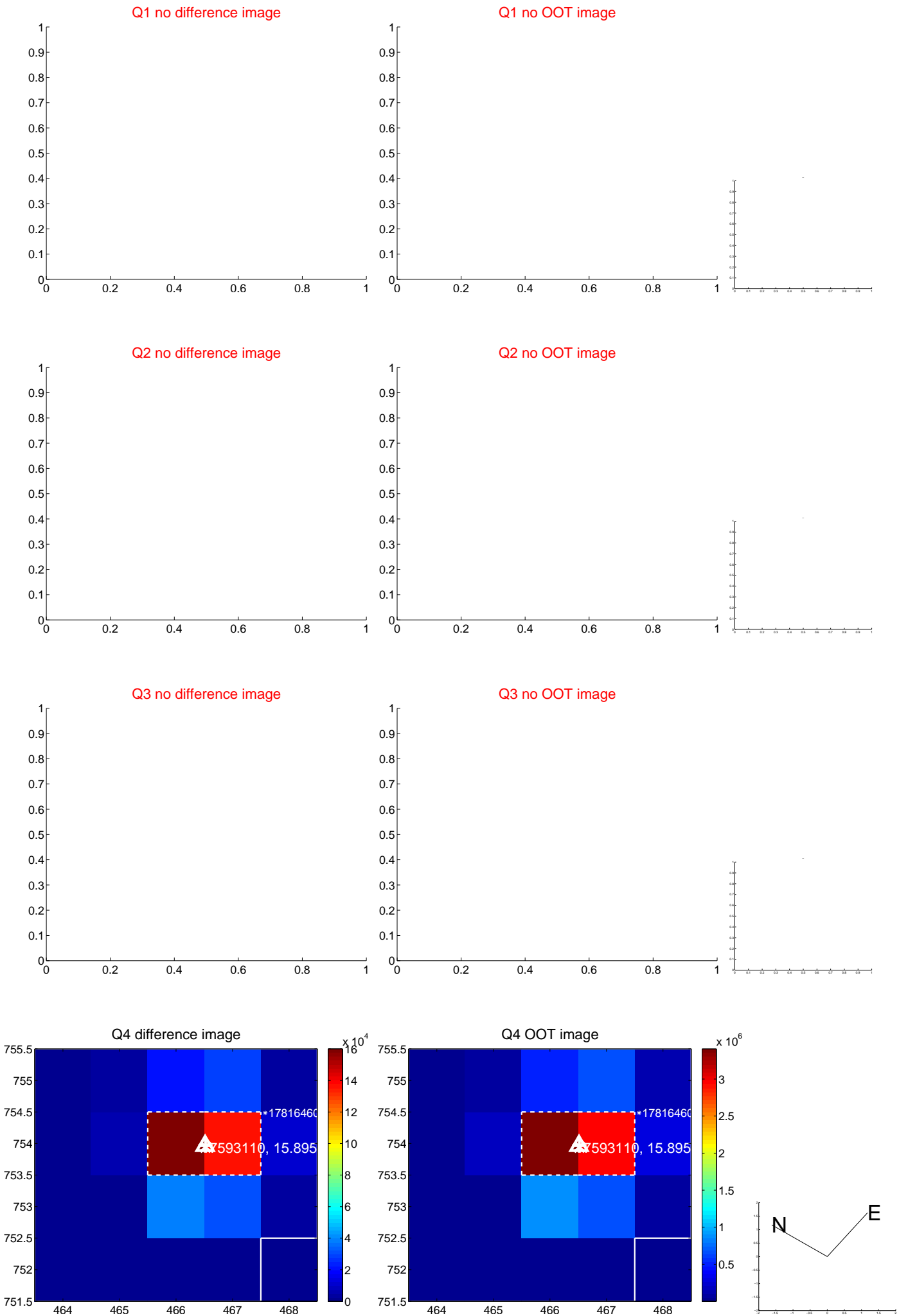
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.040 ± 0.067	0.60	-0.040 ± 0.067	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.039 ± 0.067	0.58	0.033 ± 0.067	-0.022 ± 0.068
photometric centroid source offset	0.11 ± 0.01	16.32	0.01 ± 0.01	0.11 ± 0.01

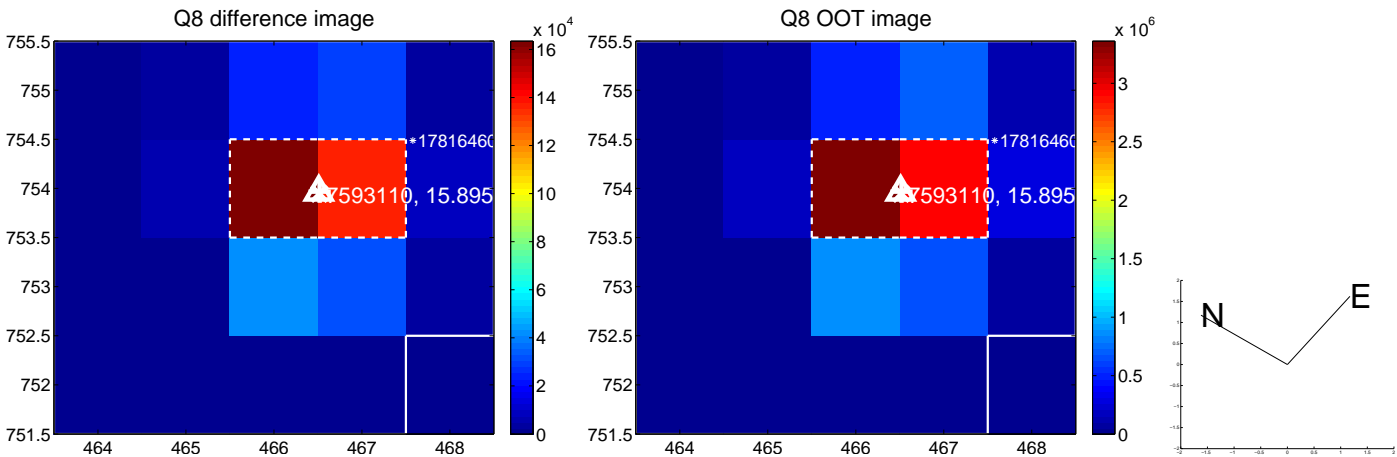
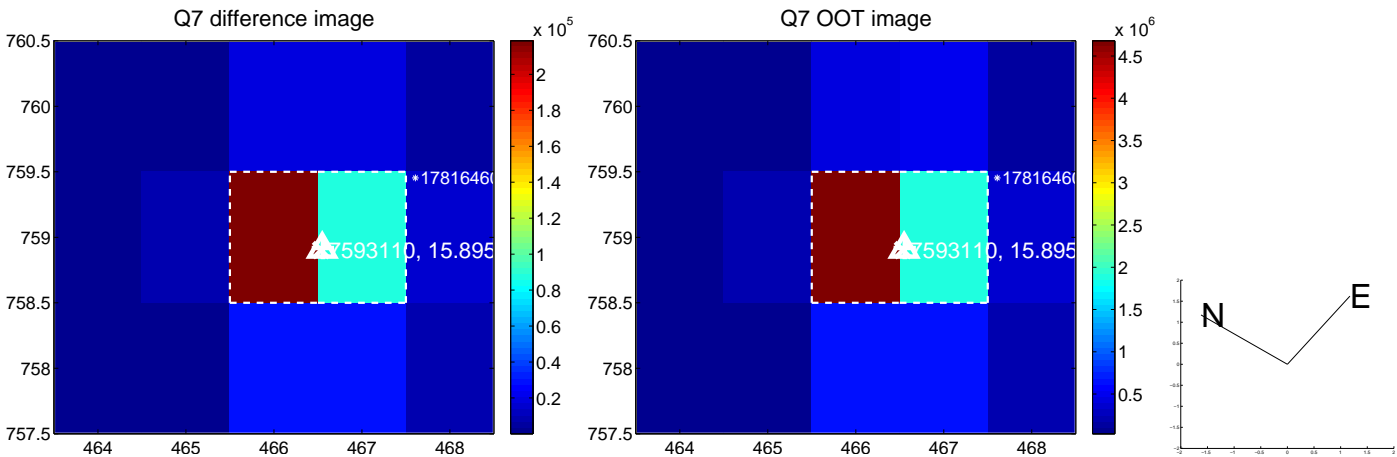
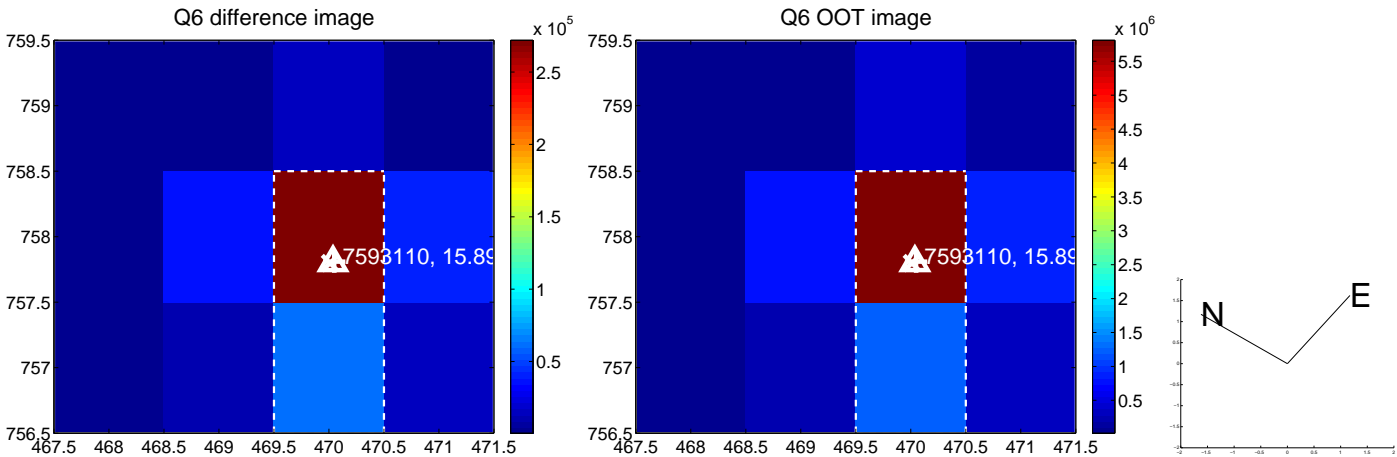
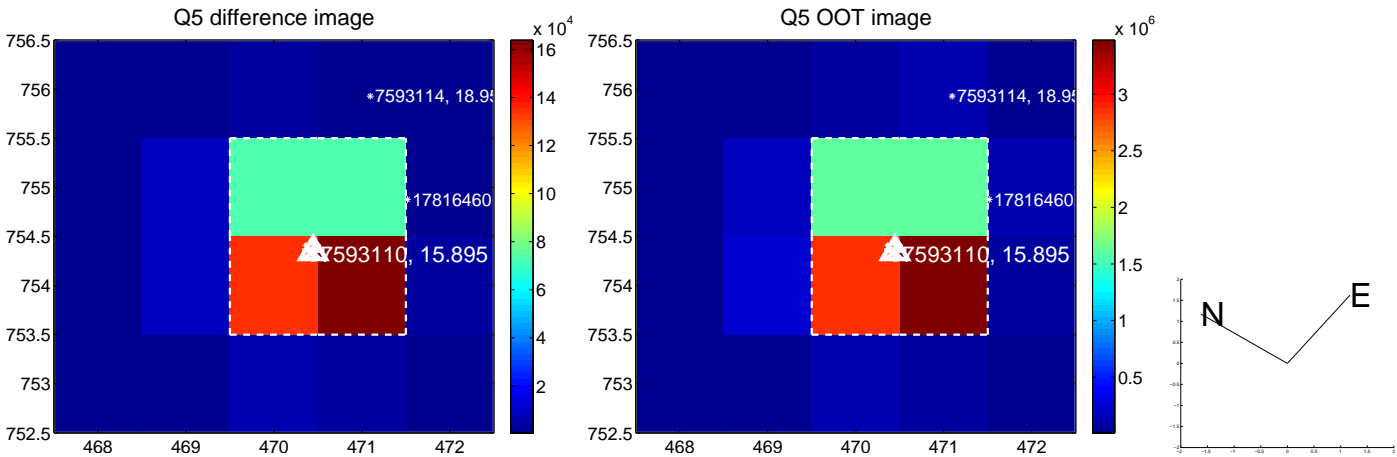


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

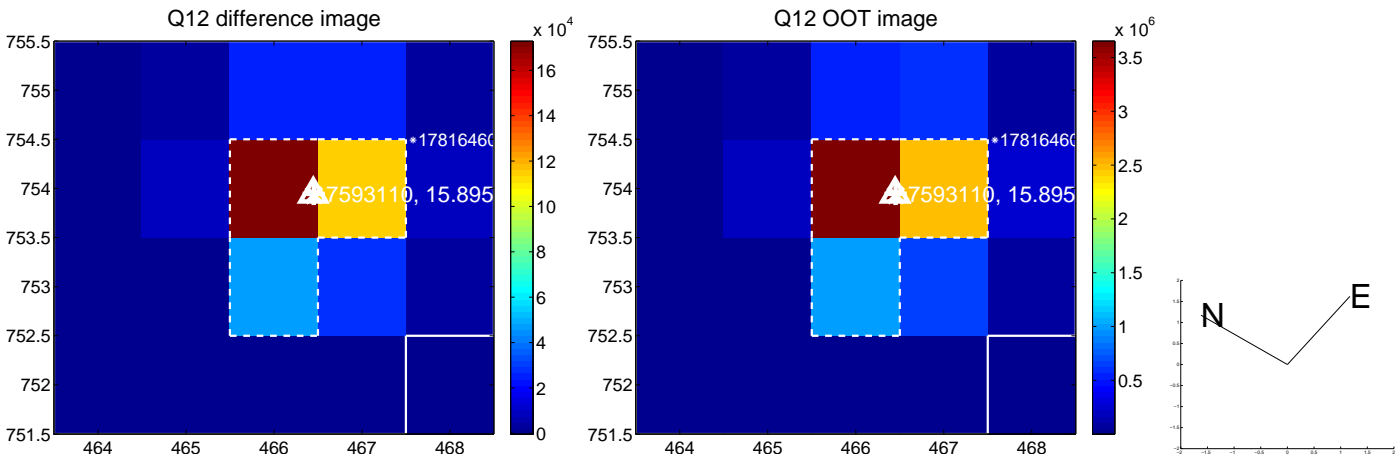
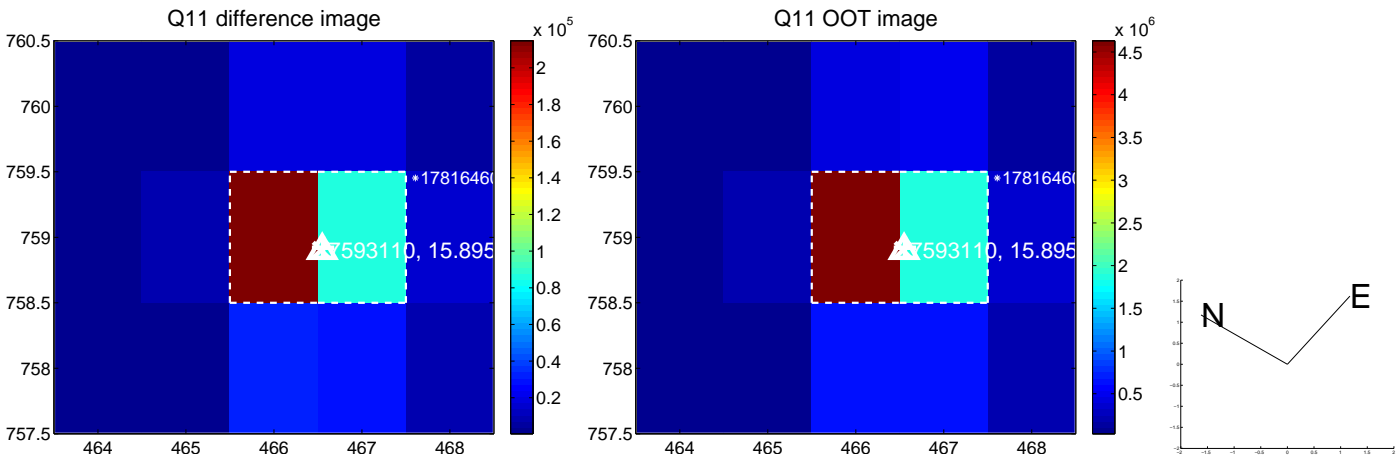
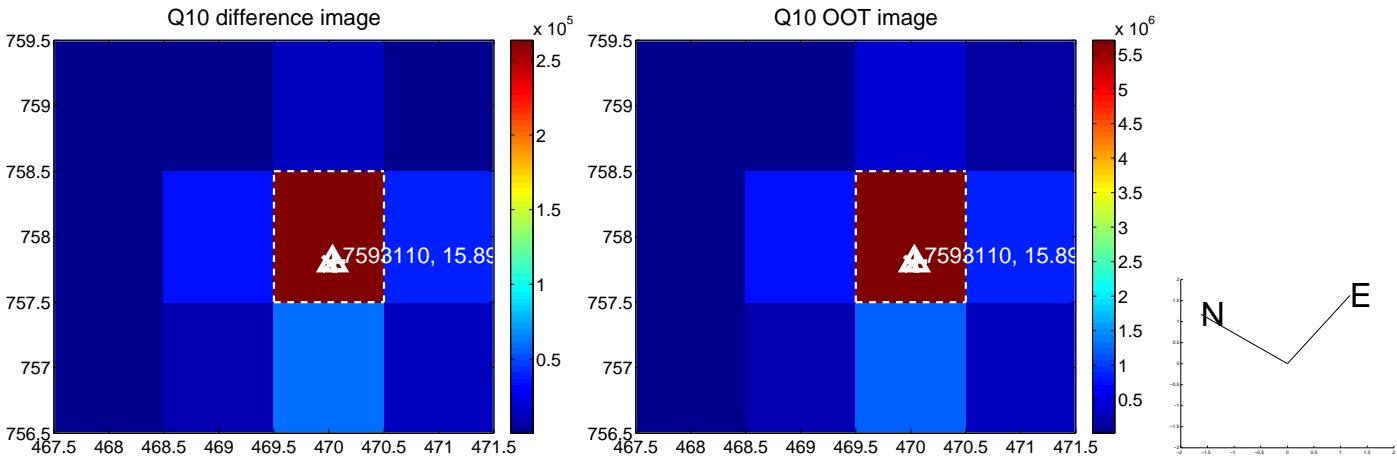
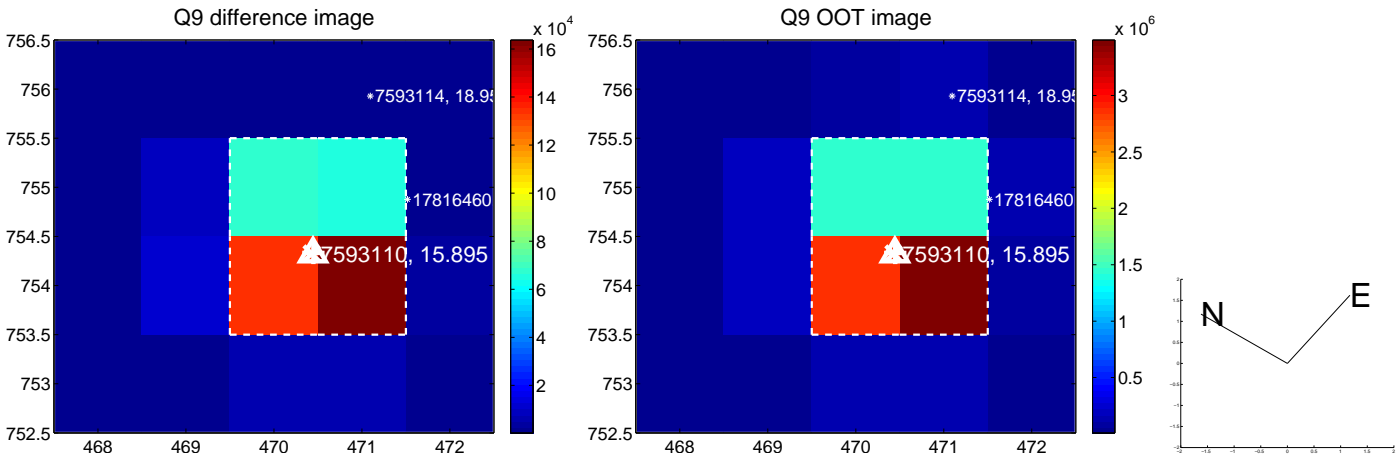
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



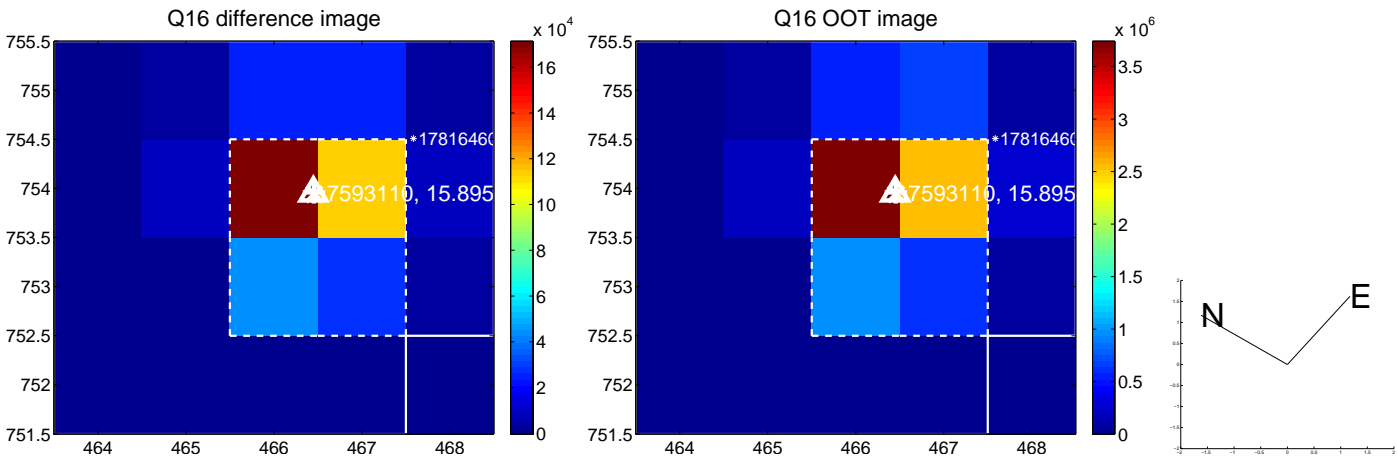
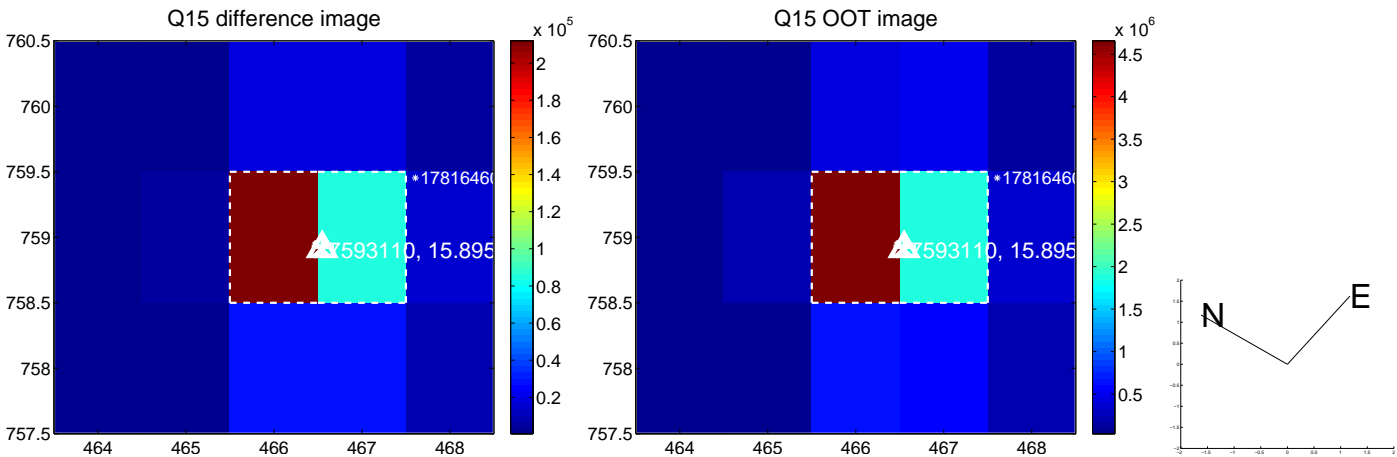
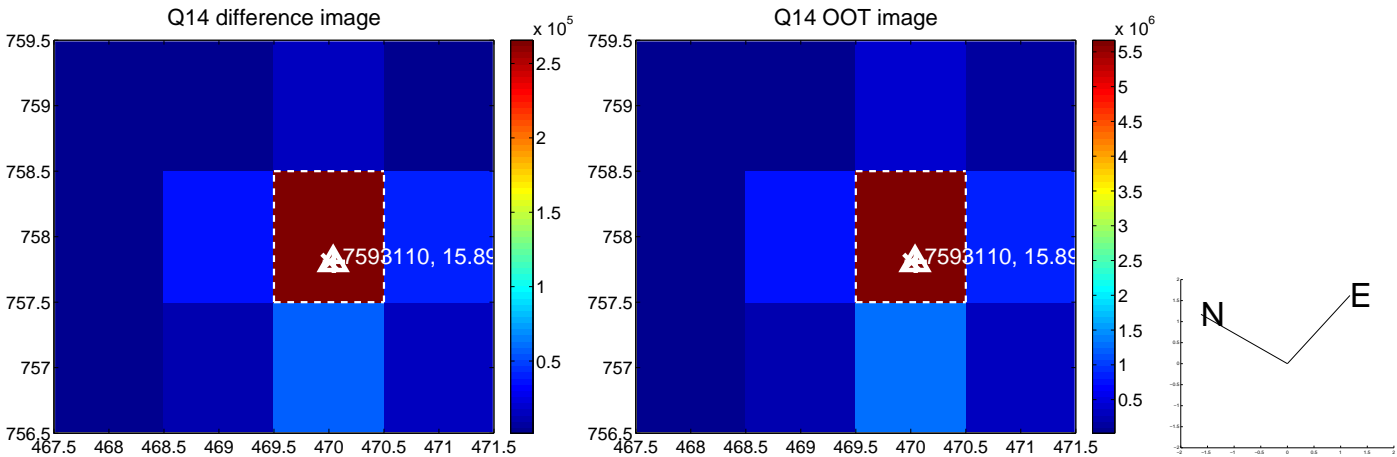
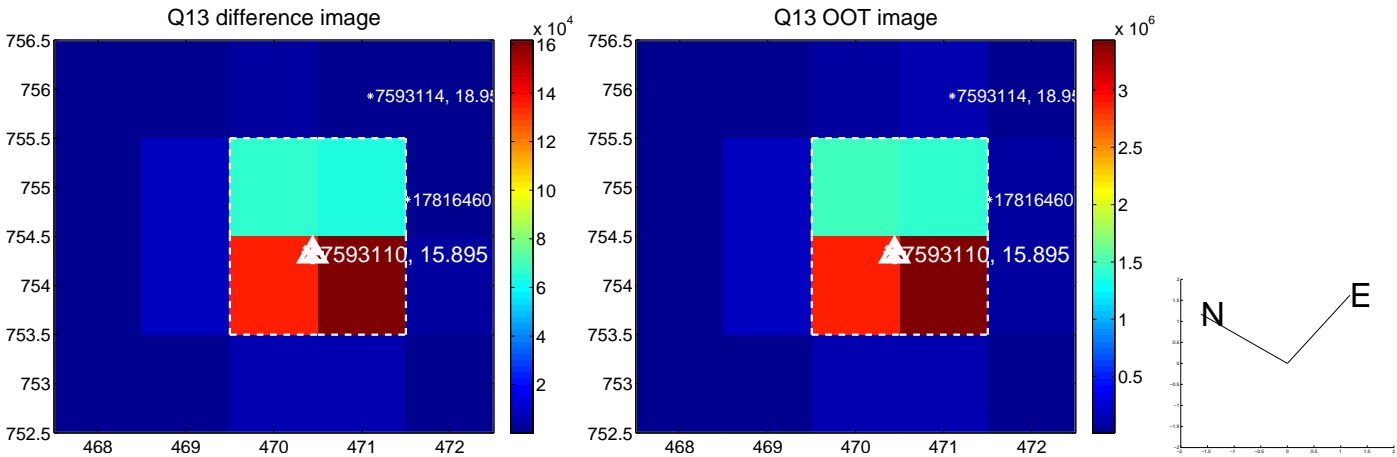
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



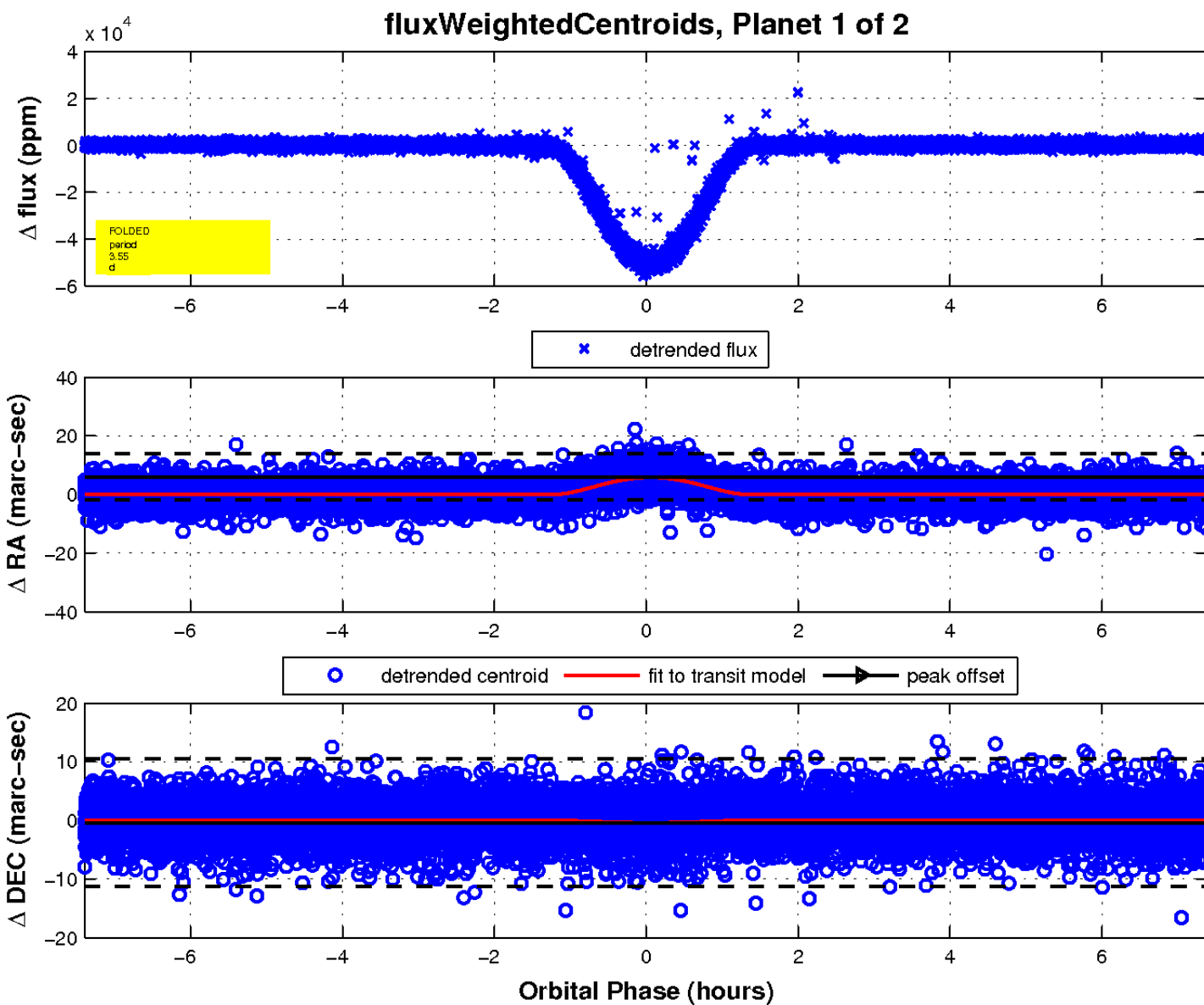
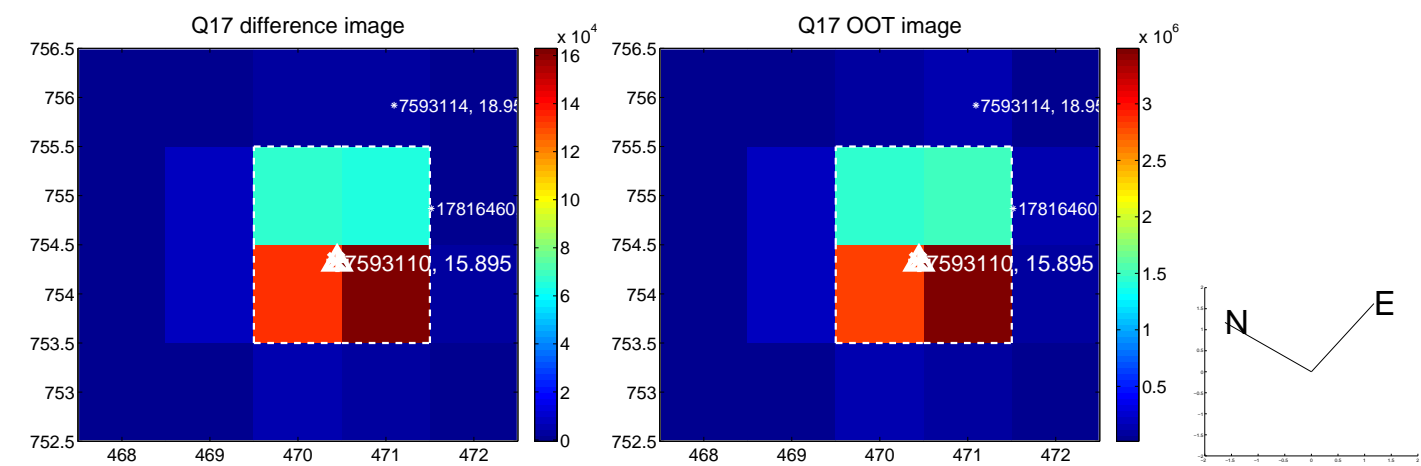
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



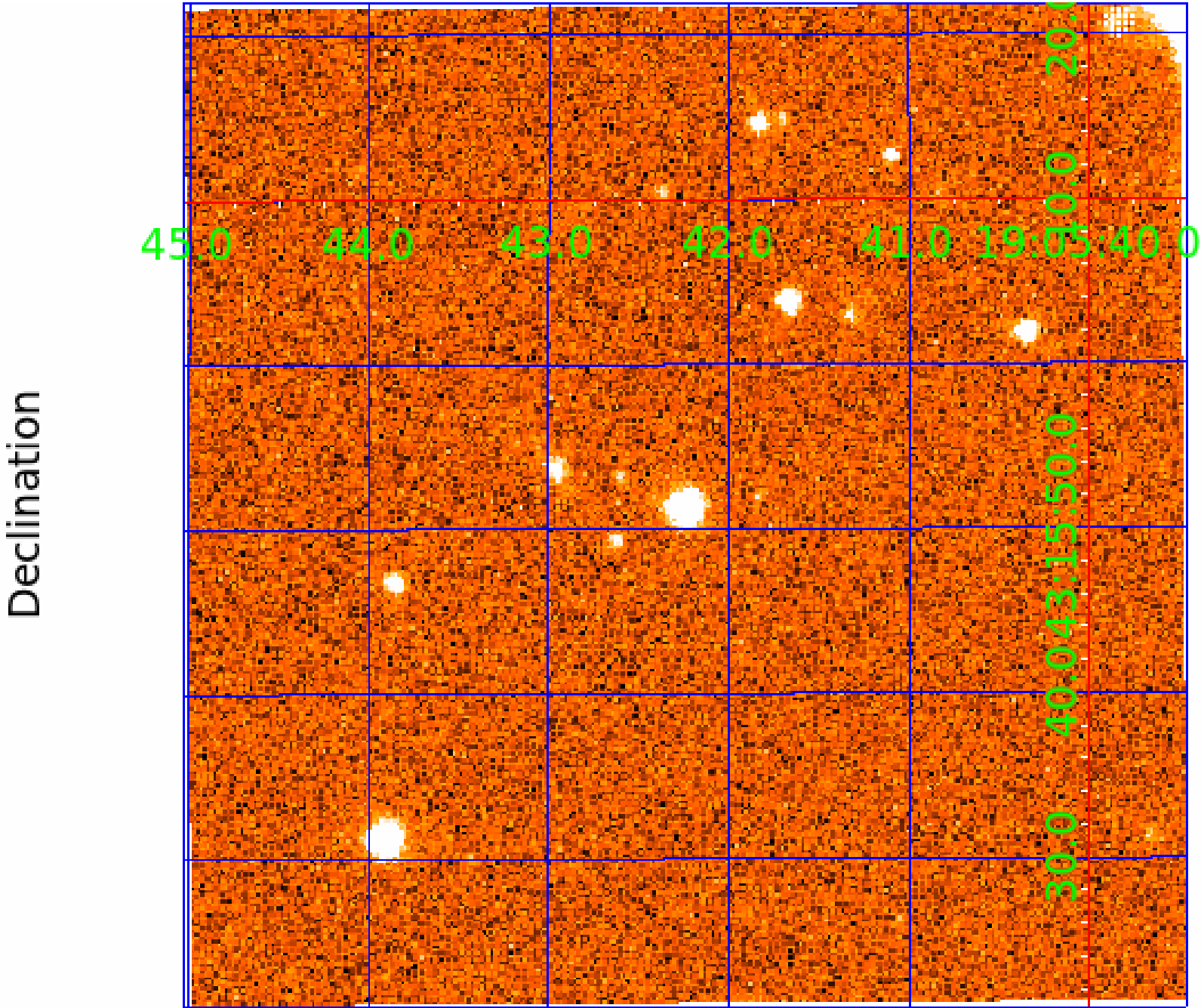
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007593110

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})
007593110-01	OBS	1748.01	3.549389	134.246542	50678.7	2.465	1623.4	1256.5	0.89	5759	28.24	403.32
007593110-02	OBS	No	3.549400	132.461833	2061.6	2.282	59.2	70.3	0.89	5759	5.17	403.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007593110-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
007593110-02	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.

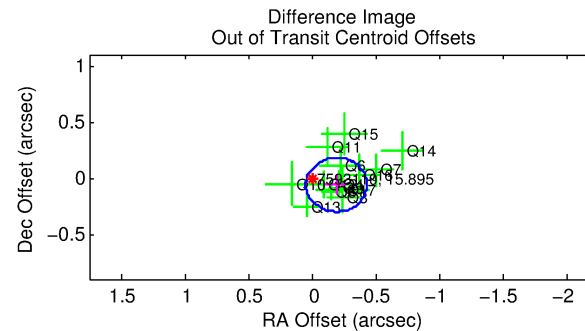
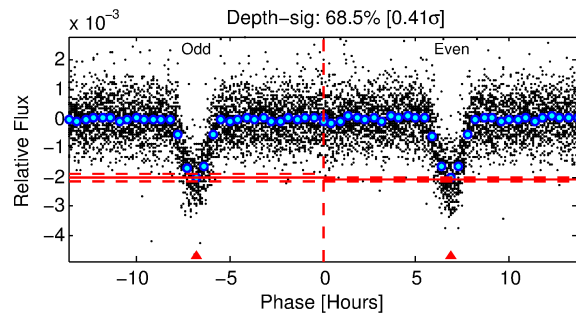
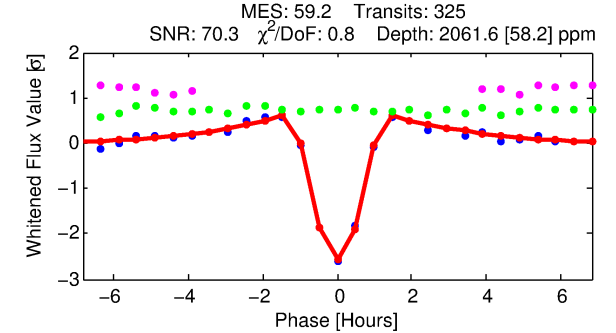
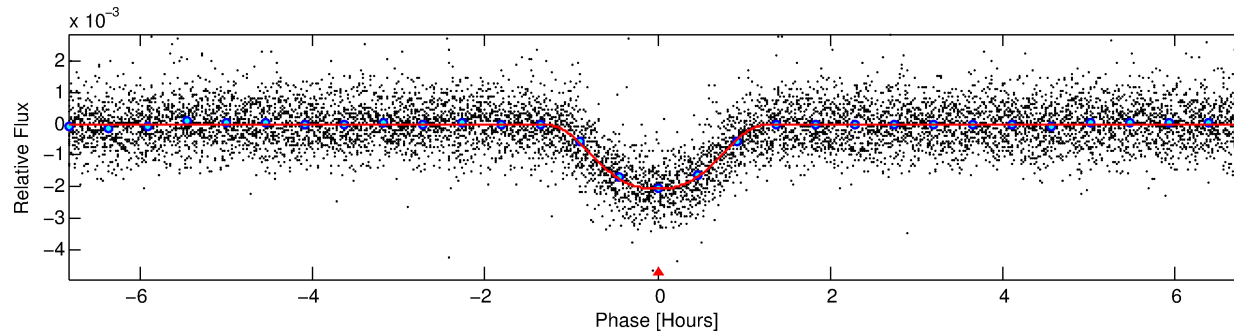
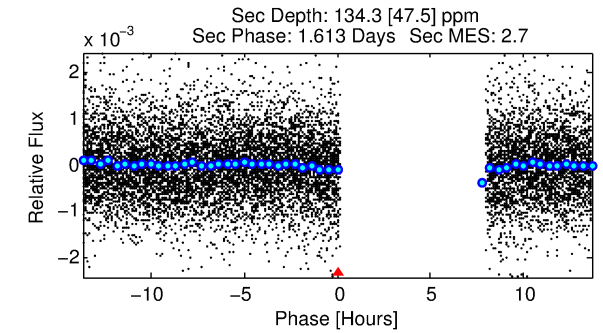
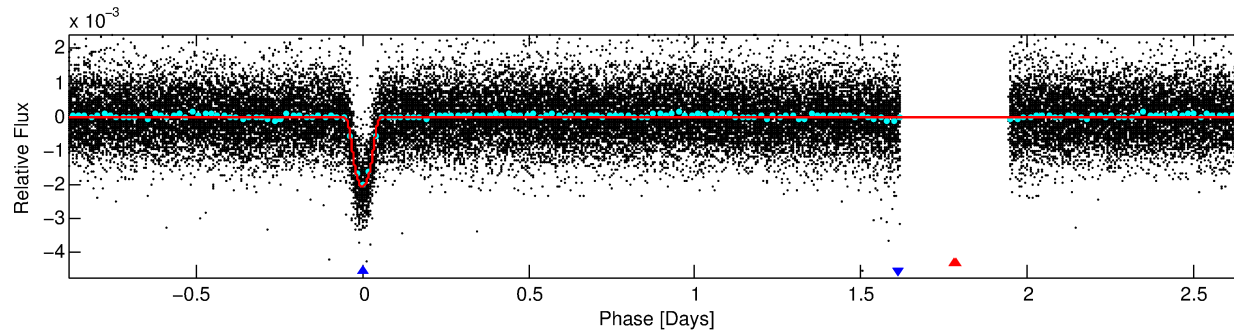
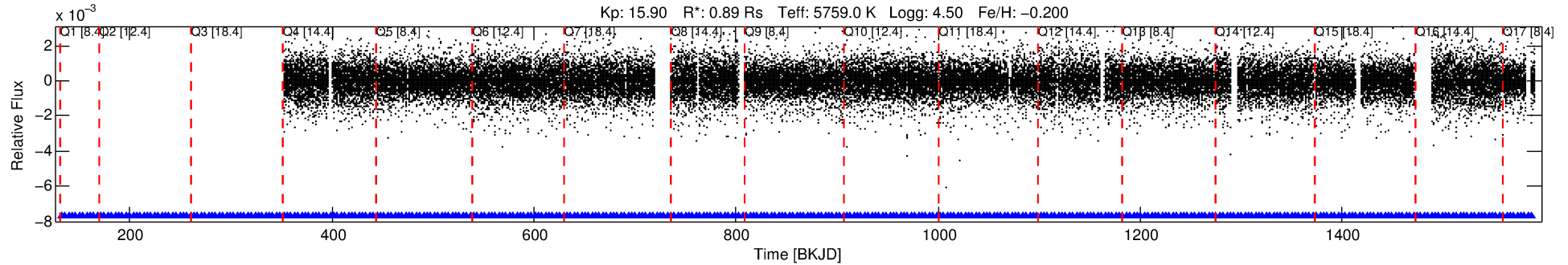
Ephemeris Match Information For 007593110-02

No Significant Match Found

DV One-Page Summary

KIC: 7593110 Candidate: 2 of 2 Period: 3.549 d
KOI: K01748 Corr: No Ephemeris Match

Kp: 15.90 R*: 0.89 Rs Teff: 5759.0 K Logg: 4.50 Fe/H: -0.200



DV Fit Results:

Period = 3.54940 [0.00000] d
Epoch = 132.4618 [0.0006] BKJD
Rp/R* = 0.0531 [0.0014]
a/R* = 5.58 [0.21]
b = 0.95 [0.01]
Seff = 403.32 [147.52]
Teq = 1143 [104] K
Rp = 5.17 [1.42] Re
a = 0.0441 [0.0103] AU
Ag = 5.37 [2.66] [1.65σ]
Teffp = 2690 [256] K [5.59σ]

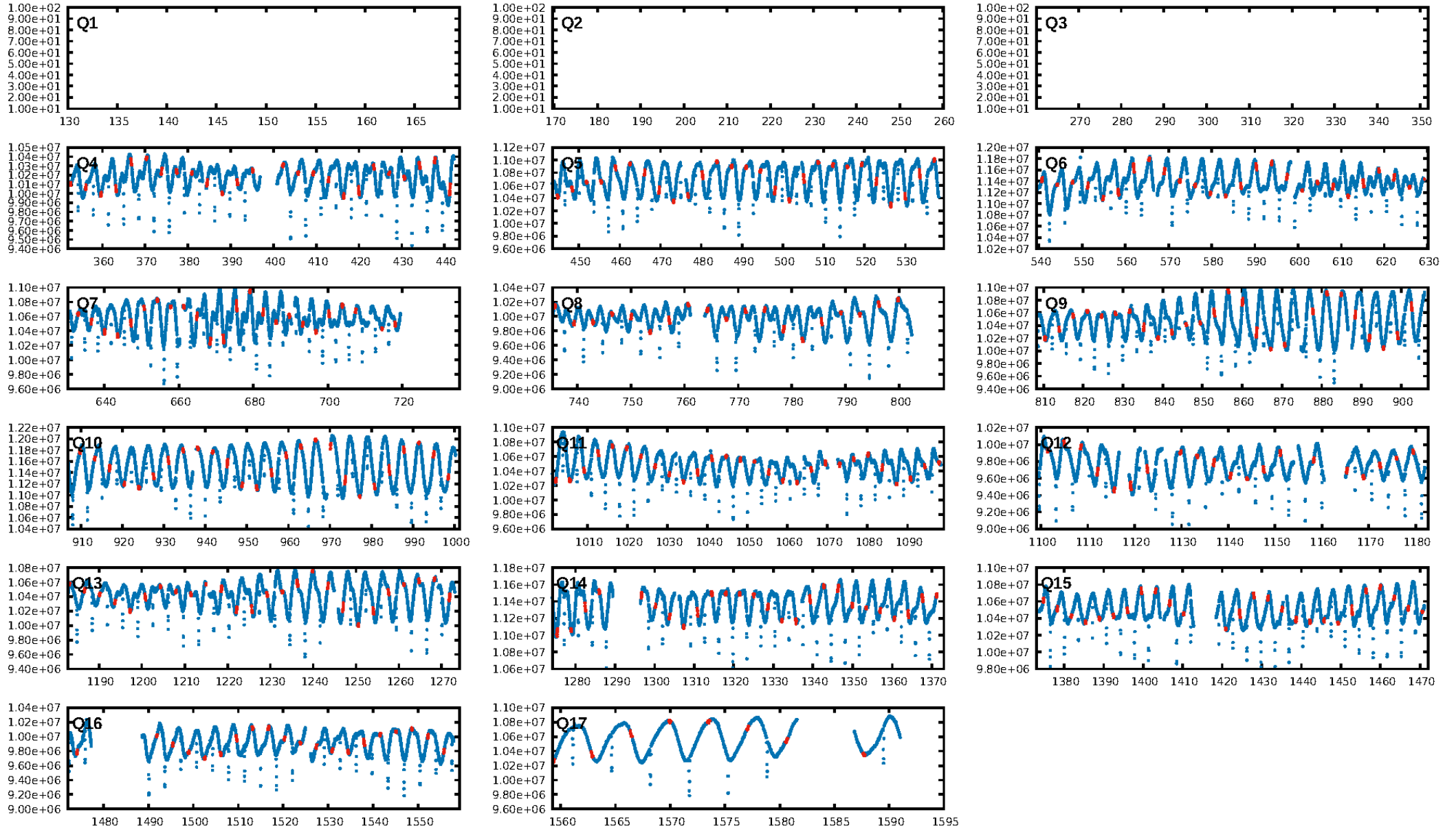
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [317/317]
GhostDiagnostic-chr: 1.614
Centroid-sig: 0.5%
Centroid-so: 0.227 arcsec [1.47σ]
OotOffset-rm: 0.202 arcsec [2.53σ]
KicOffset-rm: 0.143 arcsec [1.80σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

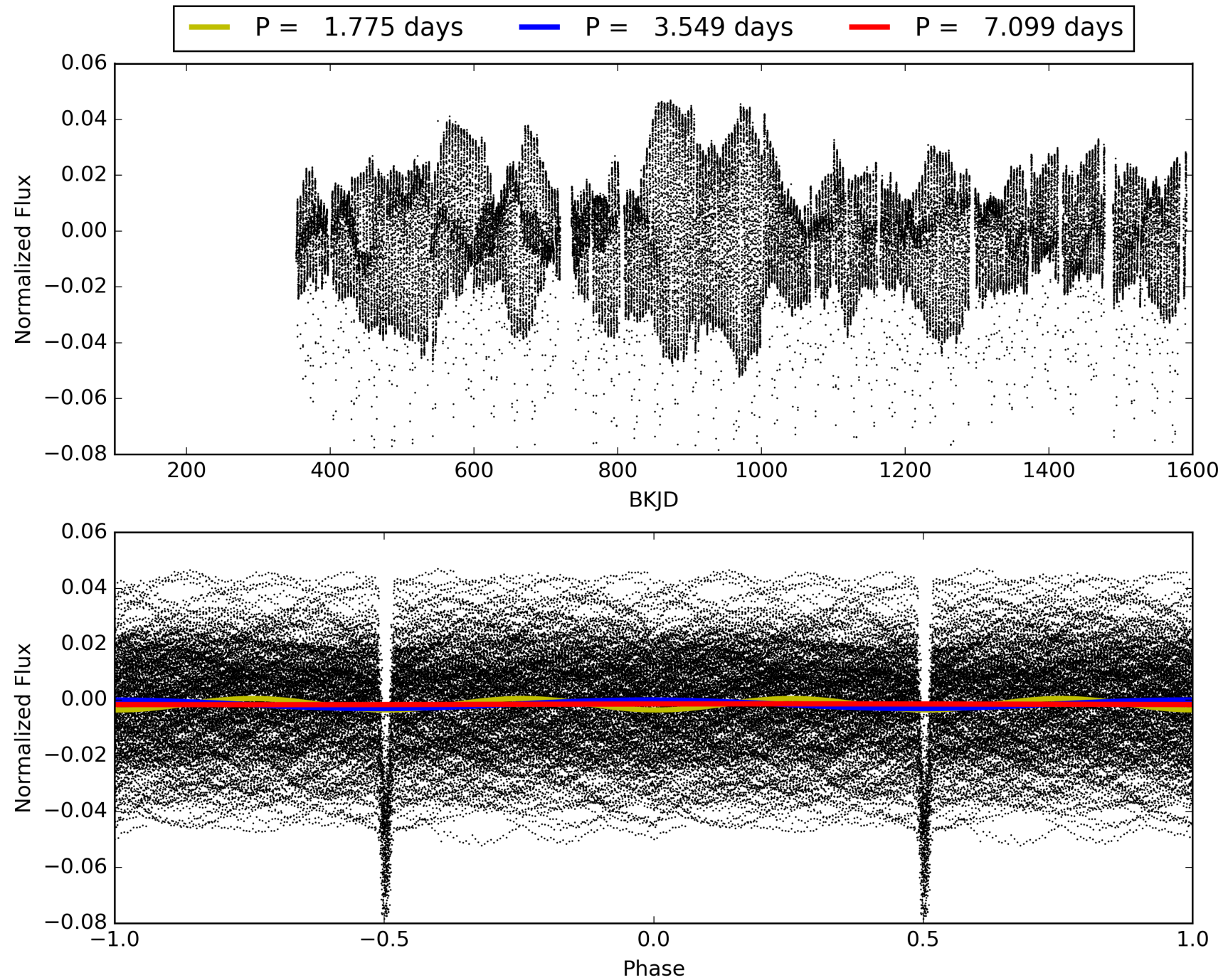
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:23:18 Z

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

TCE 007593110-02, PDC Light Curves

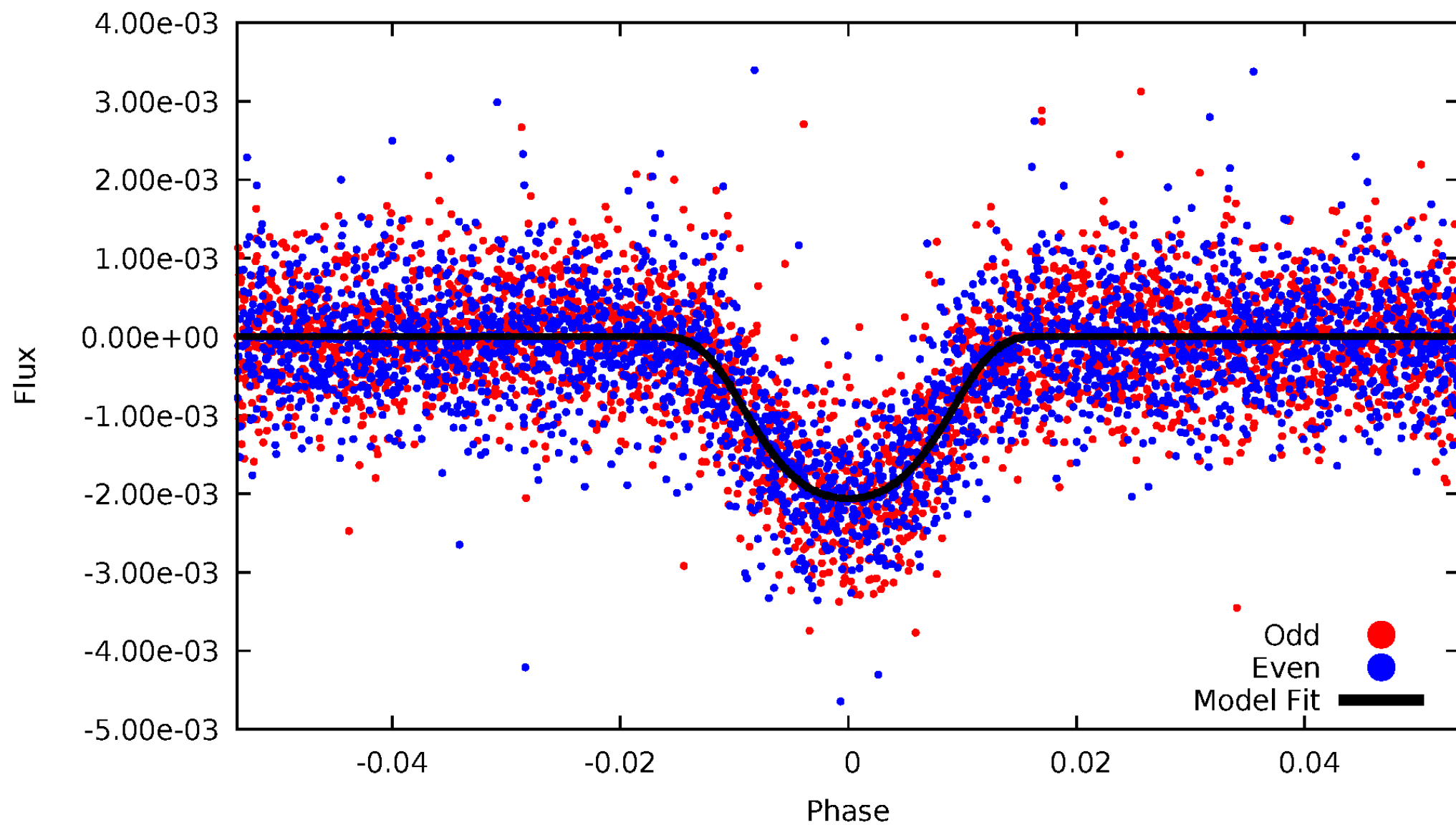


TCE 007593110-02



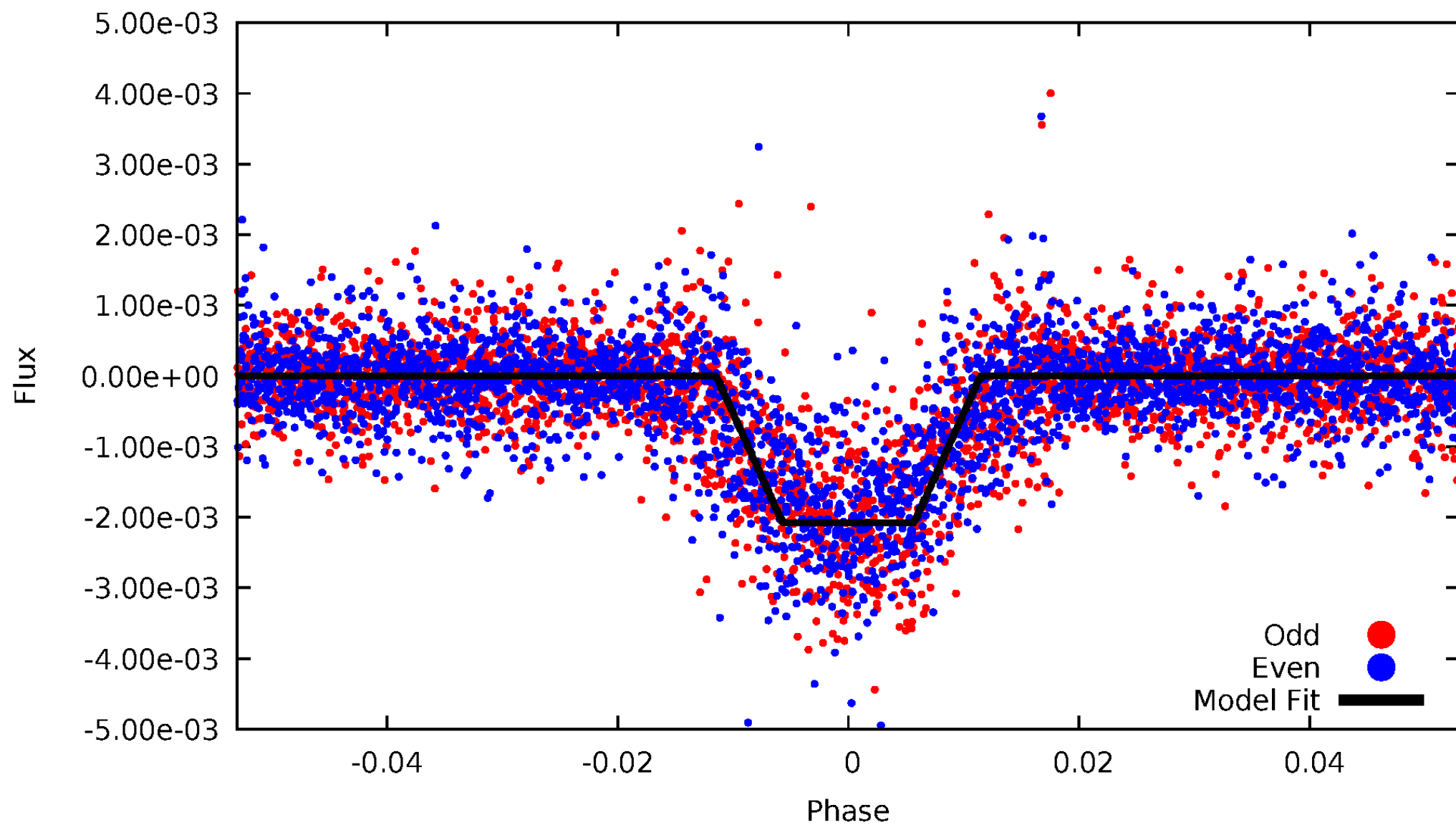
DV Odd/Even

TCE 007593110-02



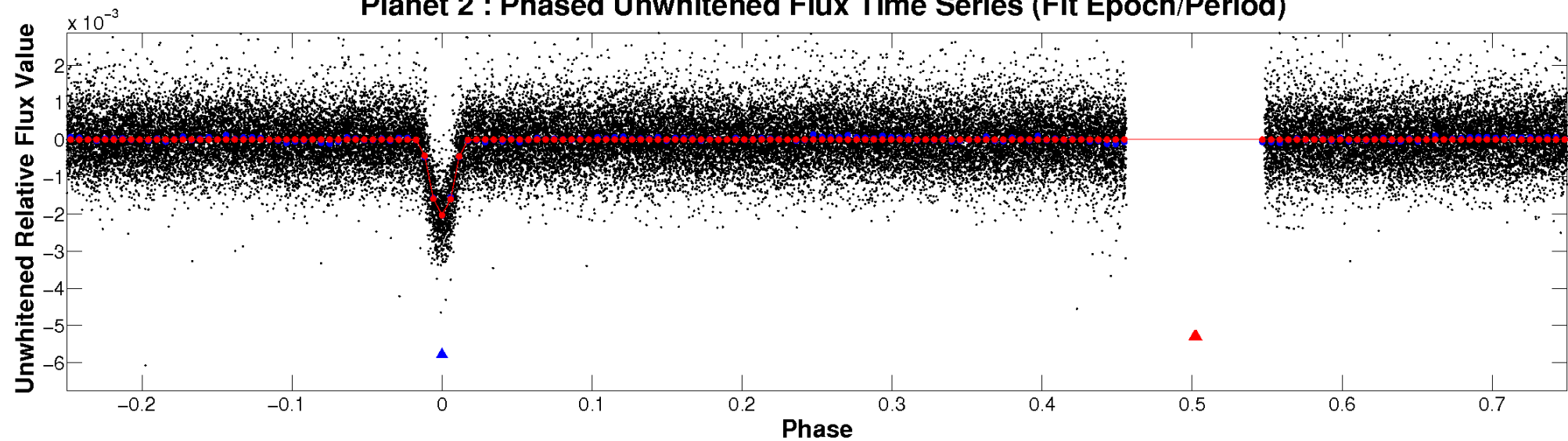
ALT Odd/Even

TCE 007593110-02

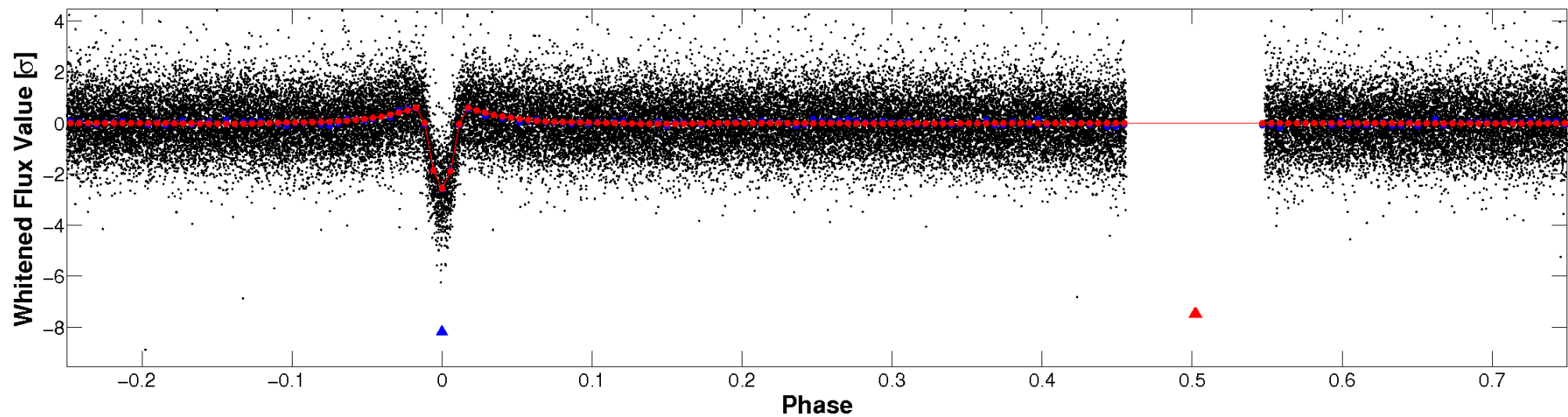


Non-Whitened Vs. Whitened Light Curve

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

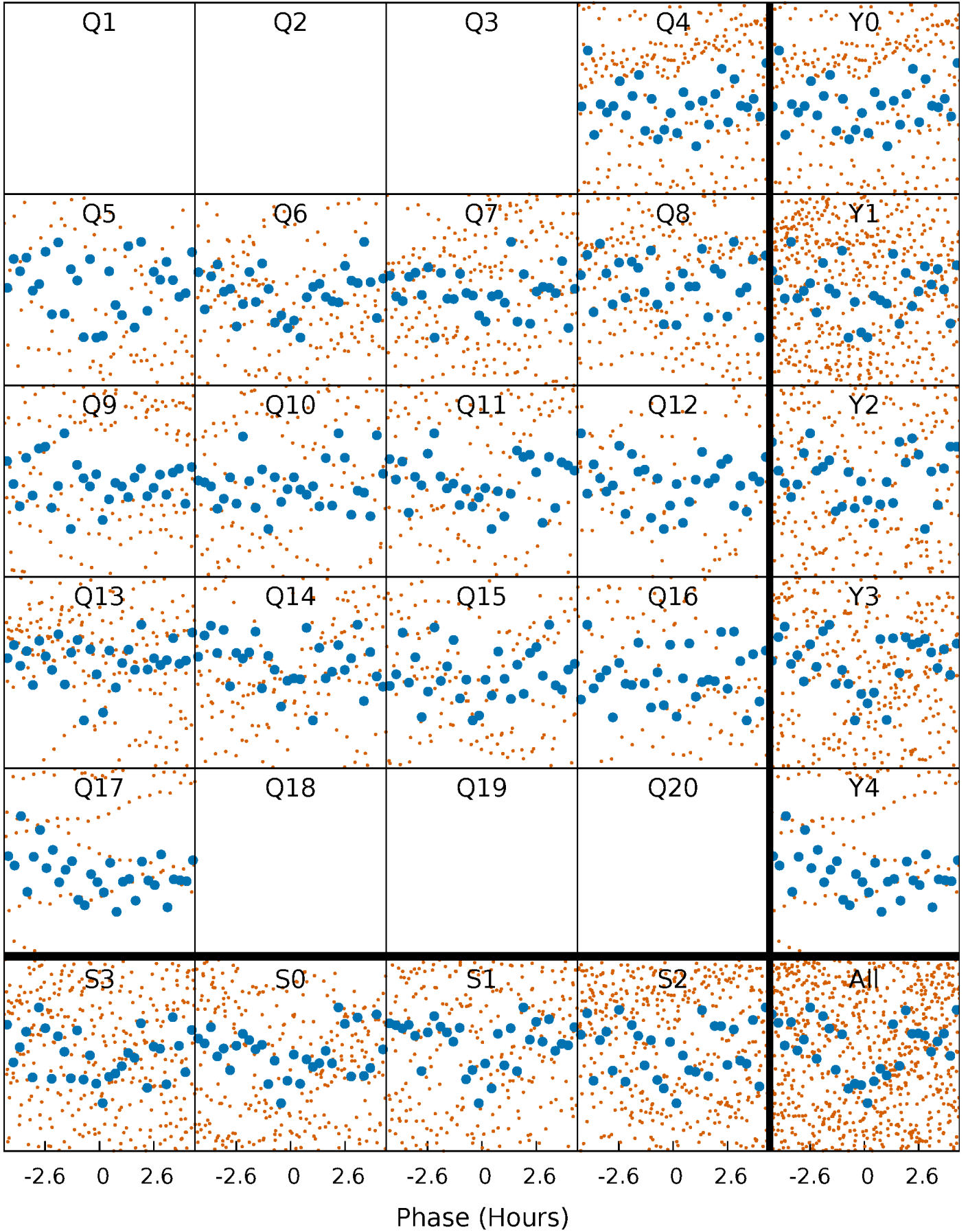


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



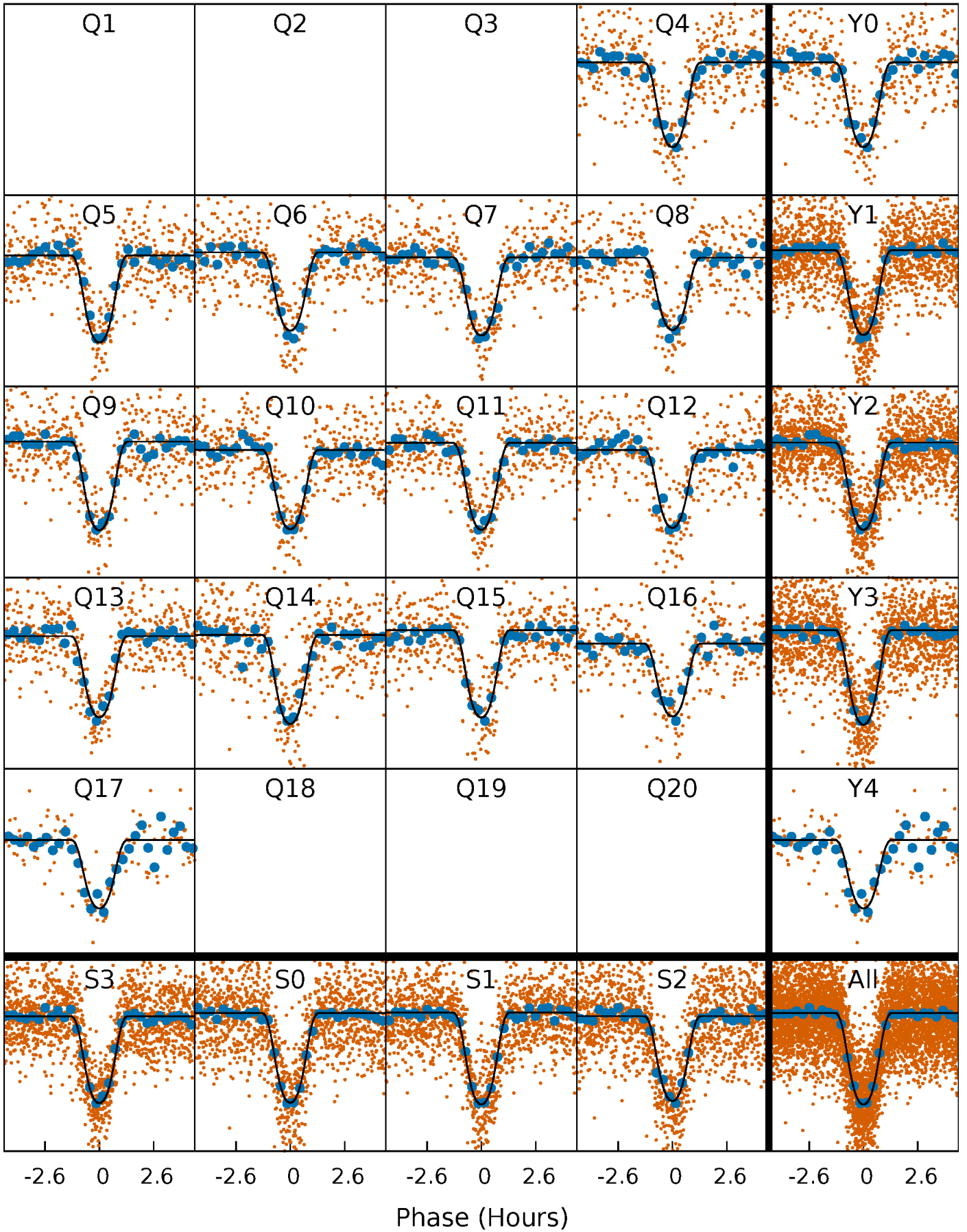
PDC Quarter-Phased Transit Curves

TCE 007593110-02 P= 3.549400 Days $T_0=132.461833$ (BKJD)



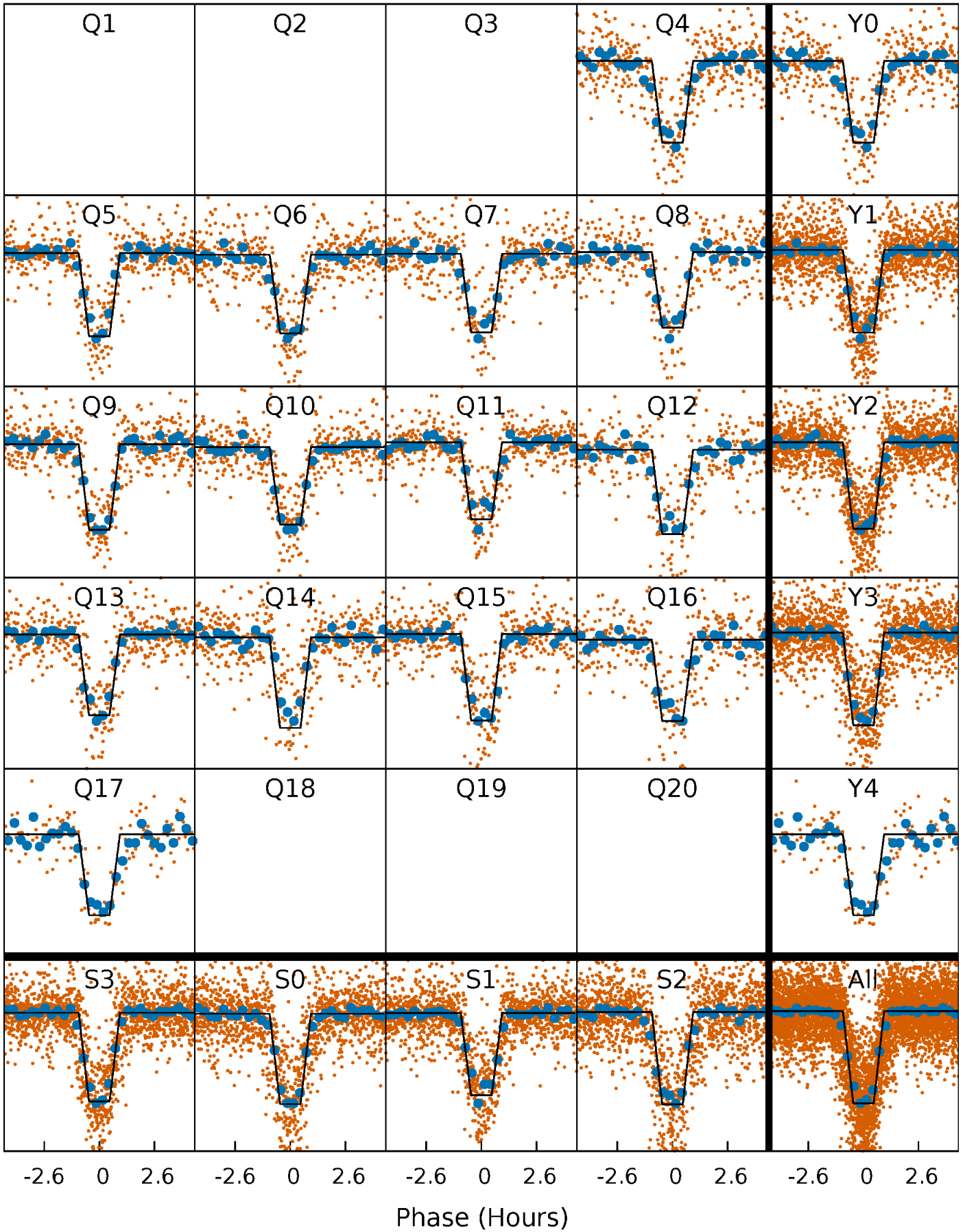
DV Quarter-Phased Transit Curves

TCE 007593110-02 P= 3.549400 Days $T_0=132.461833$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

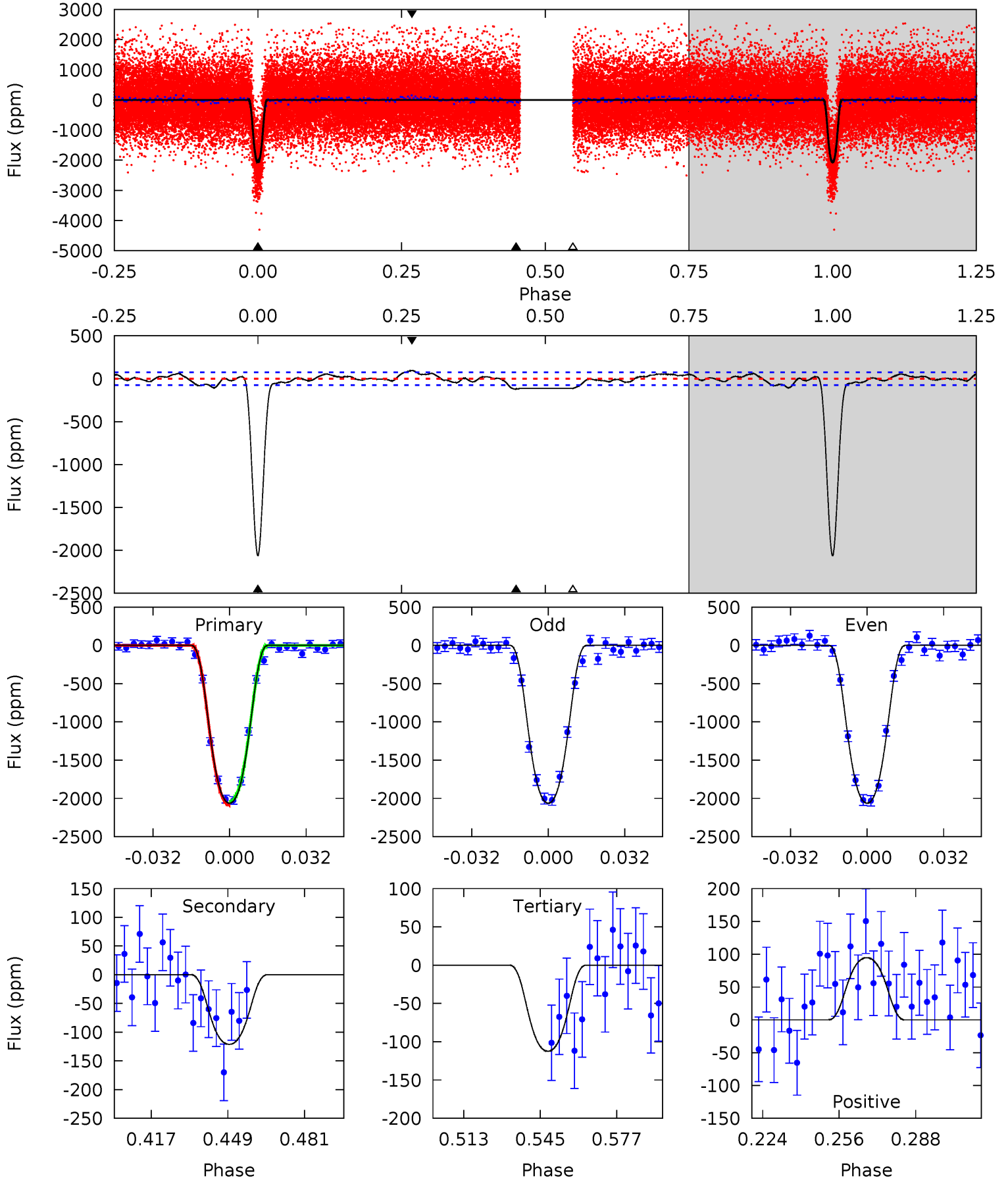
TCE 007593110-02 P= 3.549368 Days $T_0=132.468616$ (BKJD)



DV Model-Shift Uniqueness Test

007593110-02, P = 3.549400 Days, E = 132.461833 Days

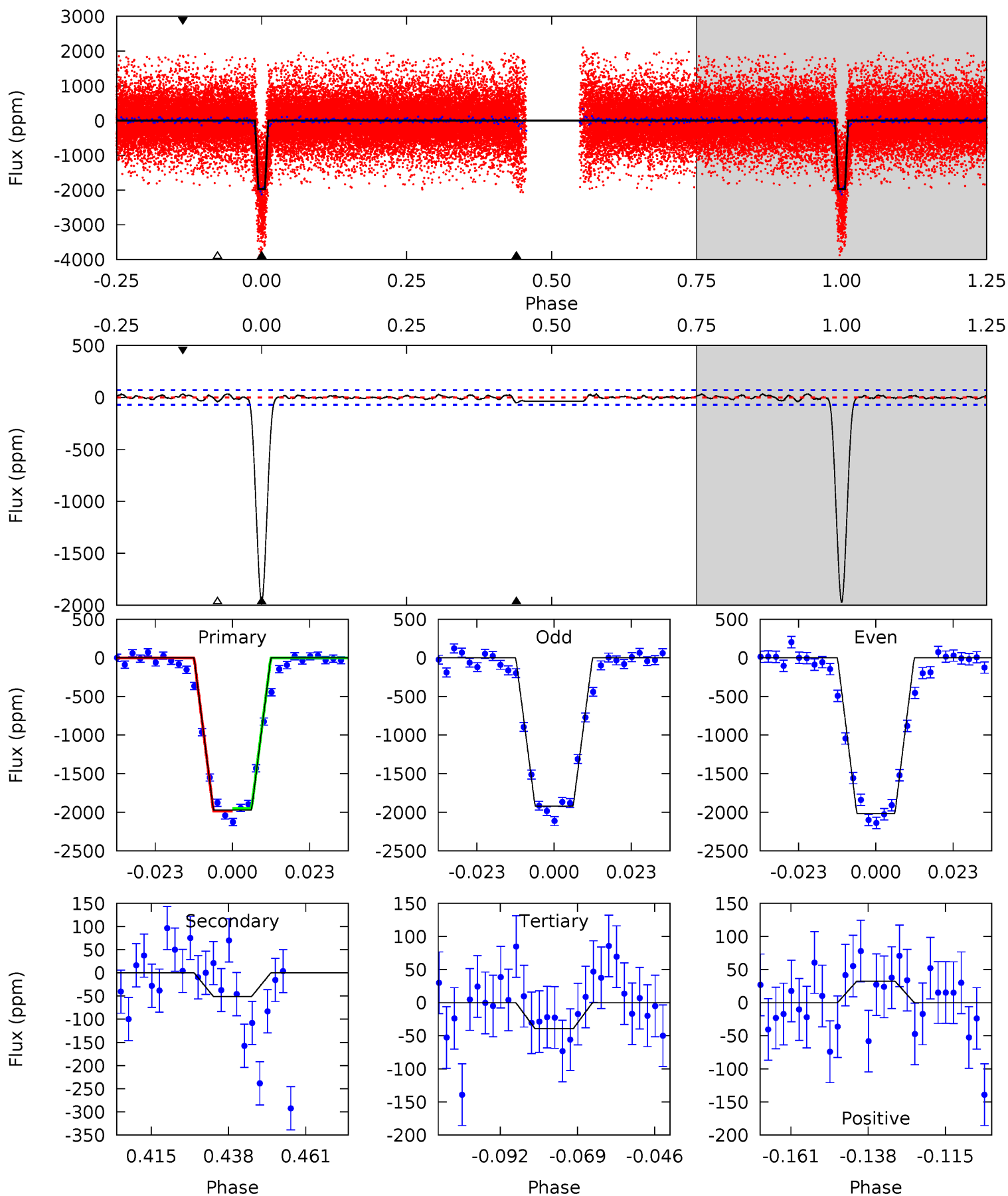
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
133.2	7.83	7.26	6.11	4.80	2.14	2.54	125.9	127.1	0.57	1.72	0.00	0.99	0.04	1.33



Alt Model-Shift Uniqueness Test

007593110-02, P = 3.549368 Days, E = 132.468616 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
136.8	3.55	2.74	2.25	4.86	2.27	0.87	134.1	134.6	0.81	1.30	3.28	1.01	0.02	1.20



Stellar Parameters For KIC 007593110

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5759^{+172}_{-189}	$4.495^{+0.075}_{-0.188}$	$-0.200^{+0.300}_{-0.300}$	$0.892^{+0.244}_{-0.105}$	$0.908^{+0.110}_{-0.100}$	$1.801^{+0.598}_{-0.883}$
	+3%/-3%	+2%/-4%	+150%/-150%	+27%/-12%	+12%/-11%	+33%/-49%
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 007593110-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-121 ± 15	$5.30^{+0.76}_{-0.47}$	1613^{+118}_{-75}	3168^{+91}_{-101}	$4.463^{+1.138}_{-1.103}$
Alt.	-51 ± 14	$4.53^{+0.71}_{-0.39}$	1618^{+107}_{-88}	2907^{+134}_{-166}	$2.563^{+1.009}_{-0.884}$

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

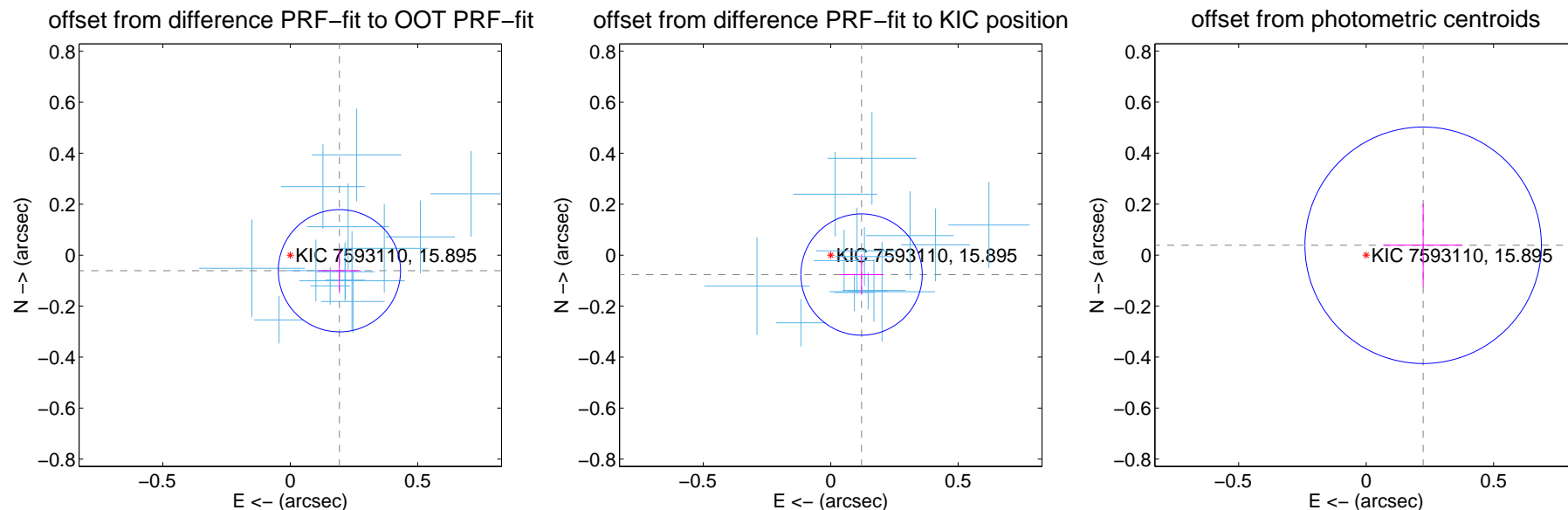
DV Centroid Data

Supplemental centroid analysis for 007593110-02. Kepler magnitude: 15.89. Transit SNR 70.35

There are 14 quarters with good PRF difference image offsets

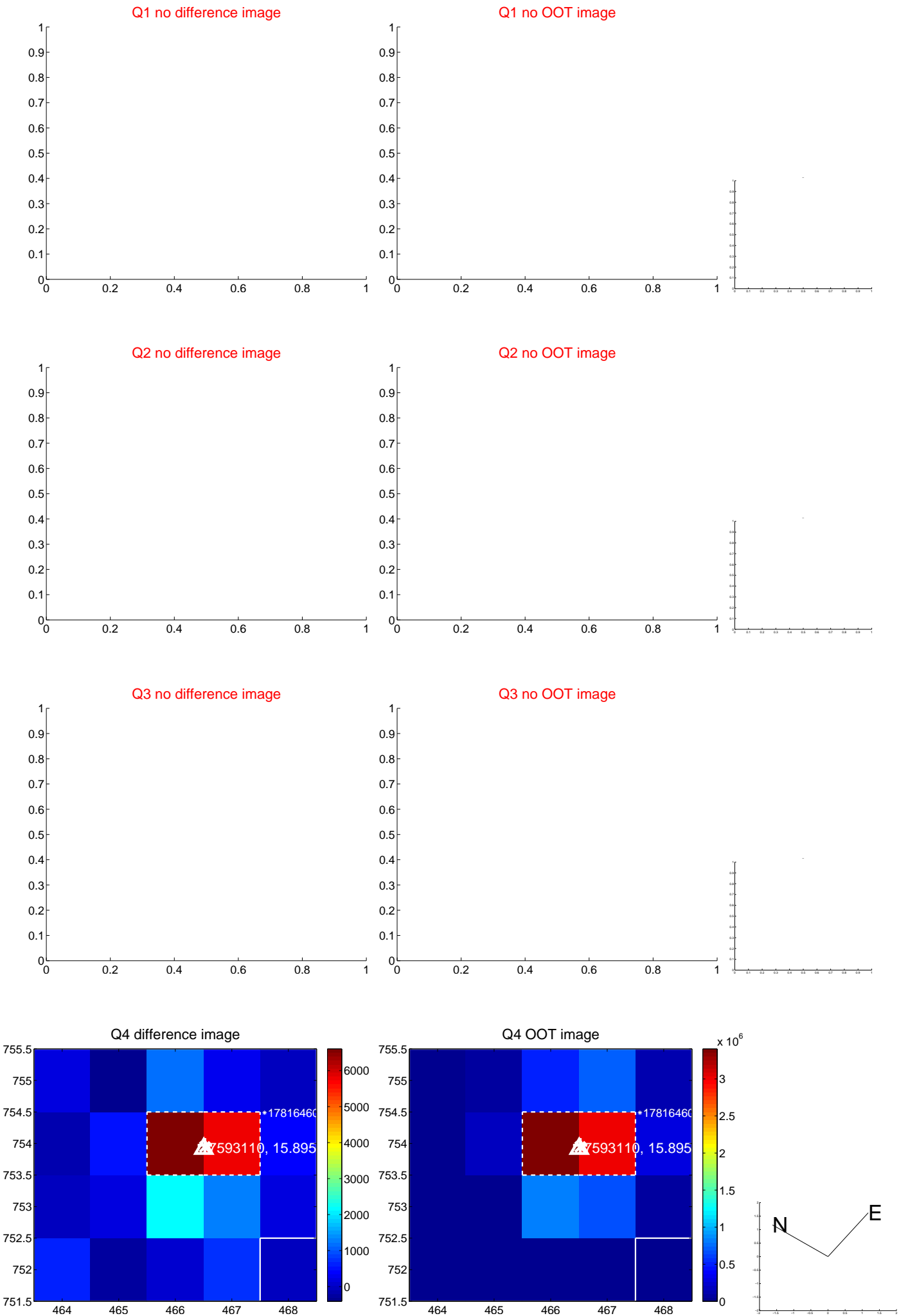
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.202 ± 0.080	2.53	-0.193 ± 0.083	-0.061 ± 0.080
PRF-fit source offset from KIC position	0.143 ± 0.079	1.80	-0.121 ± 0.086	-0.076 ± 0.079
photometric centroid source offset	0.23 ± 0.15	1.47	-0.22 ± 0.15	0.04 ± 0.16

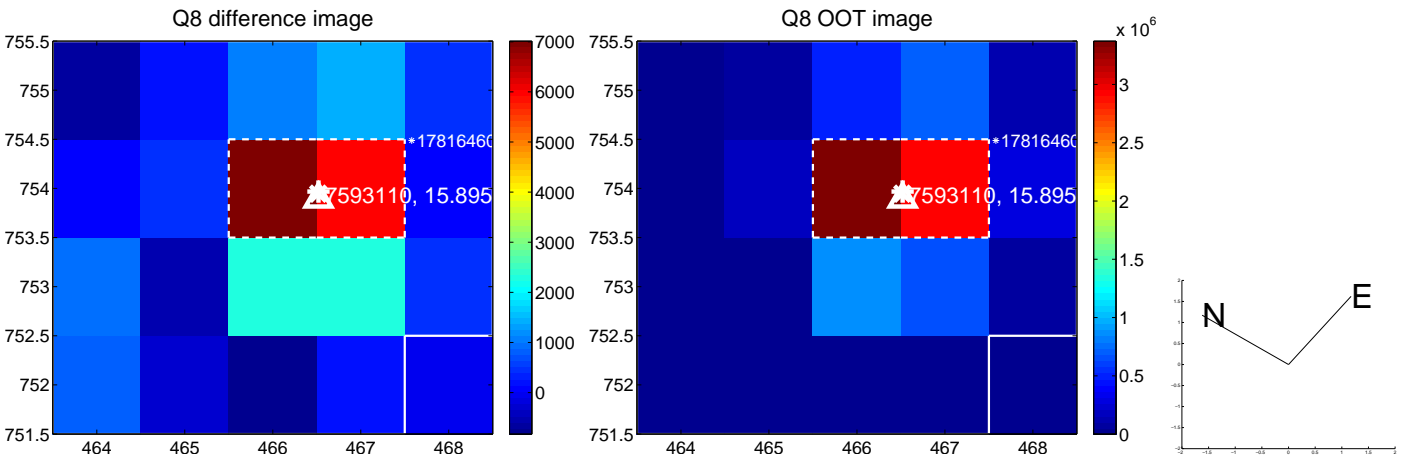
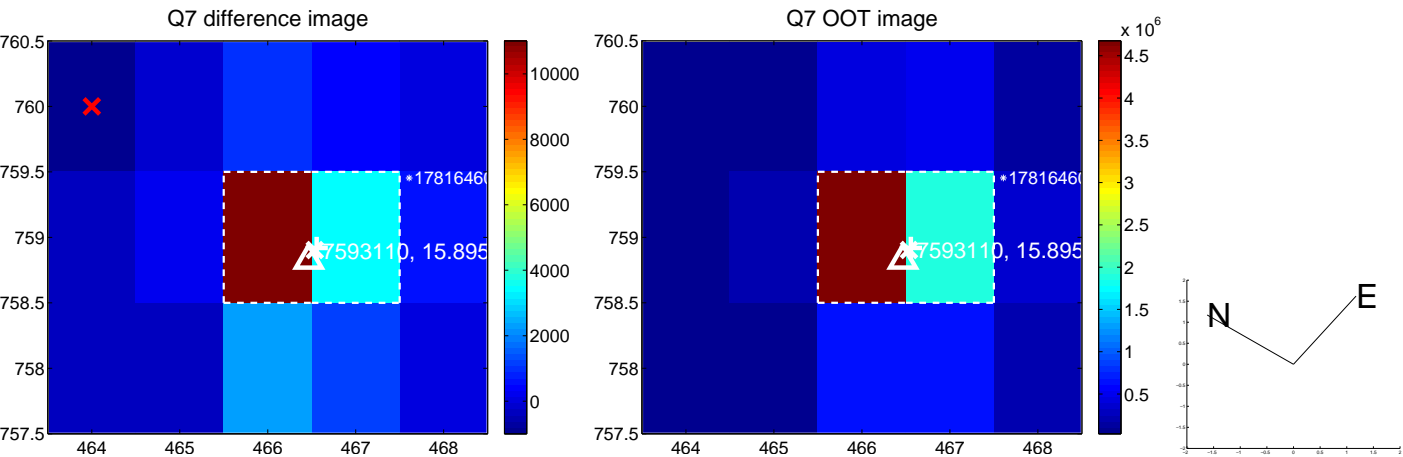
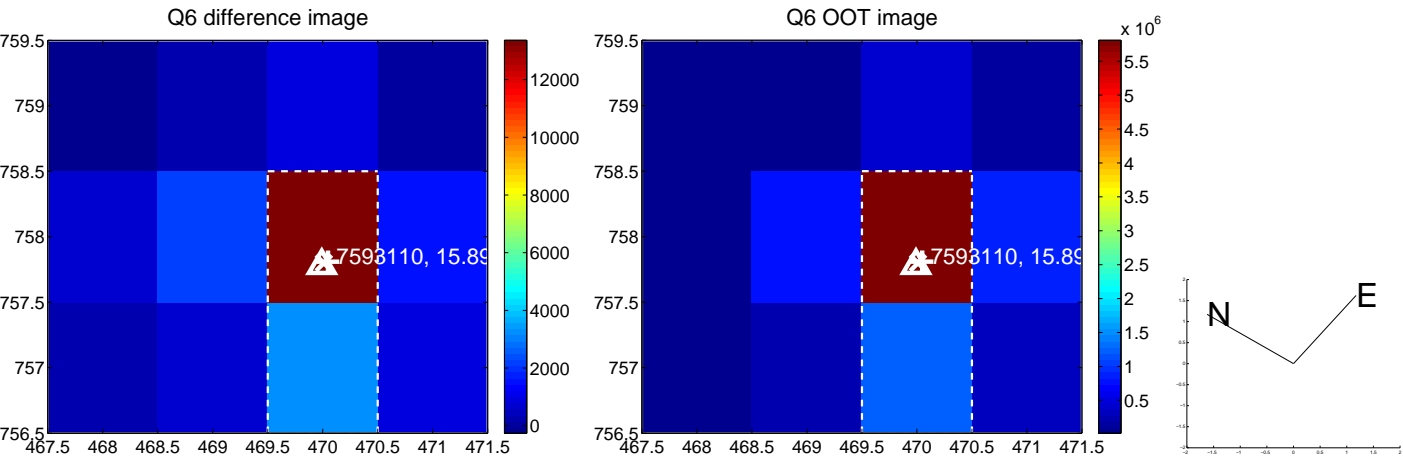
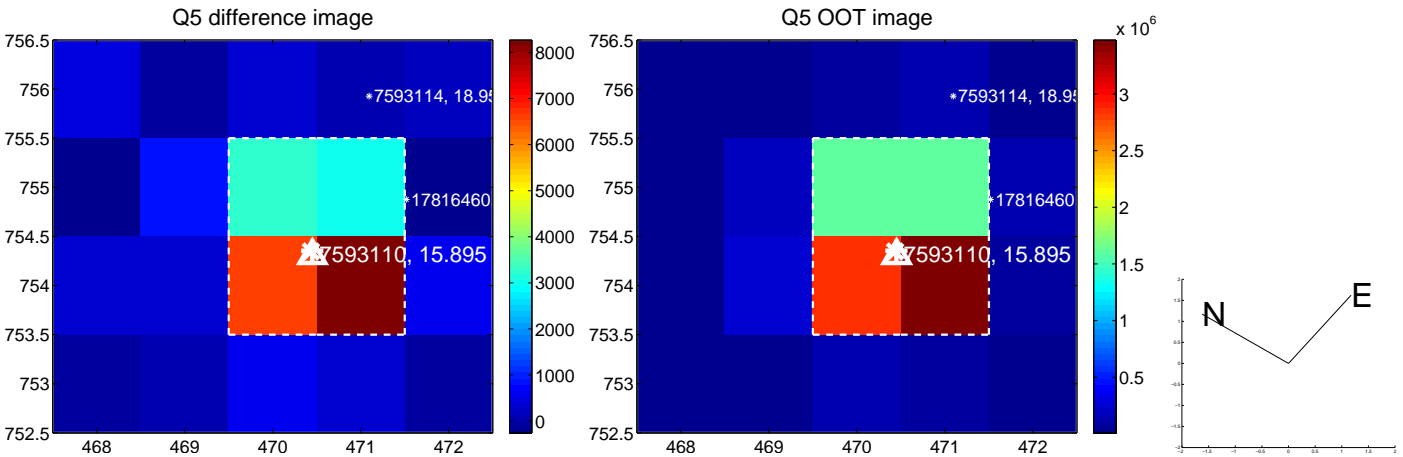


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

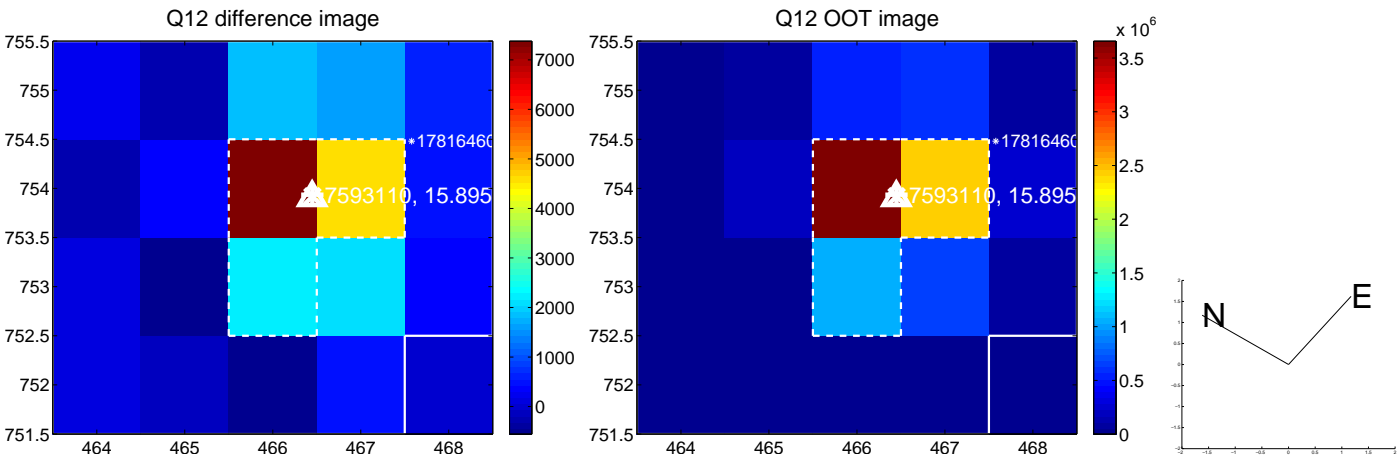
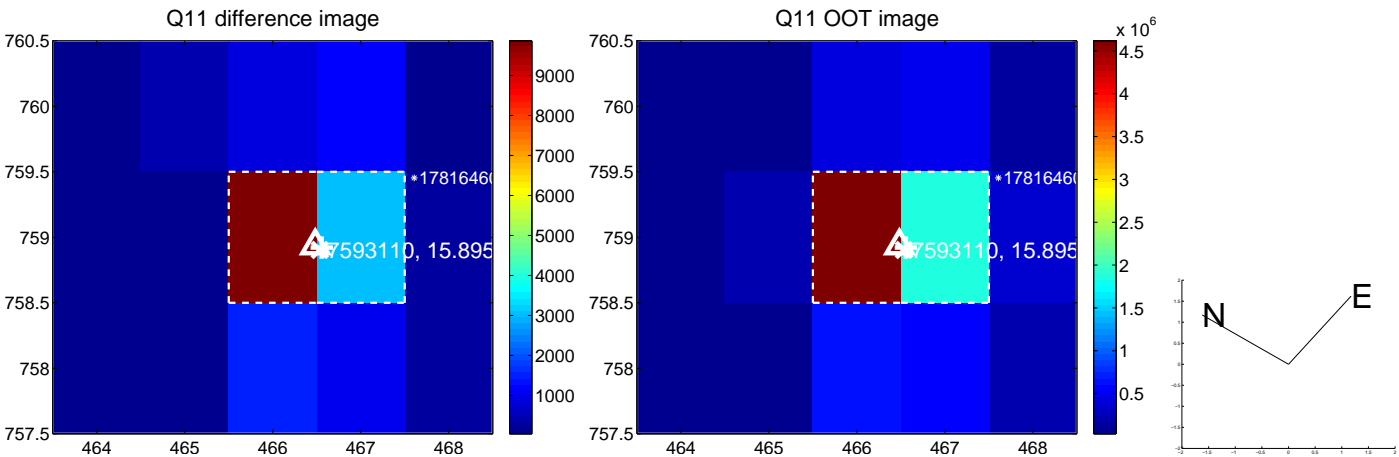
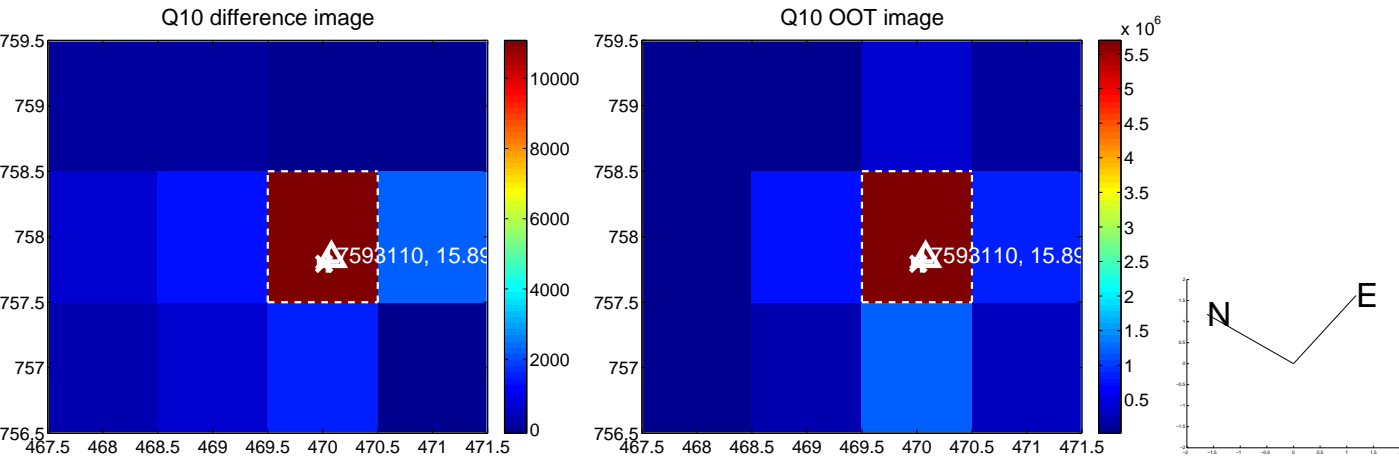
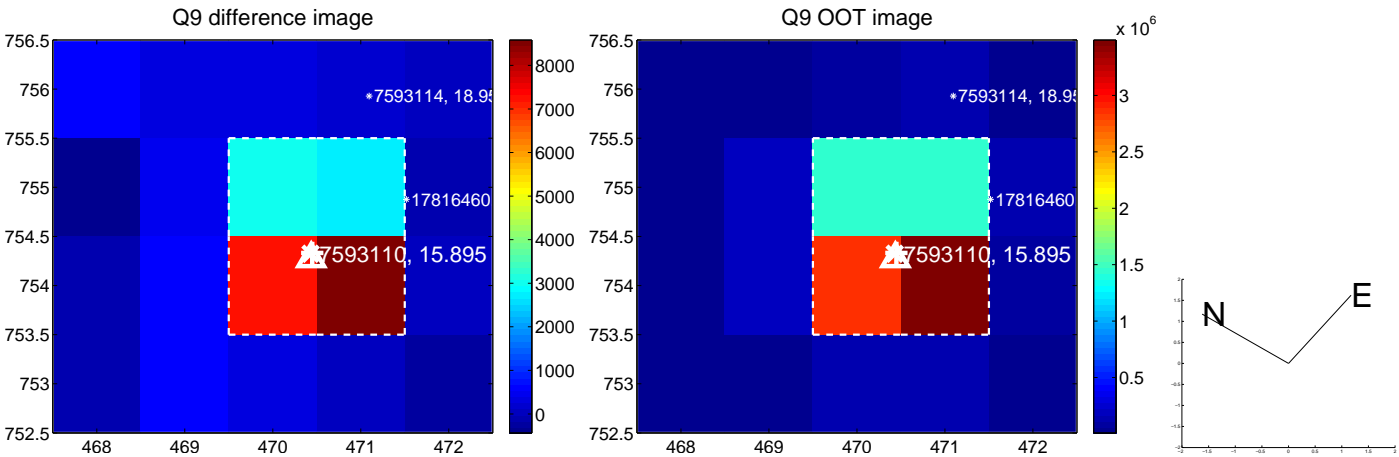
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



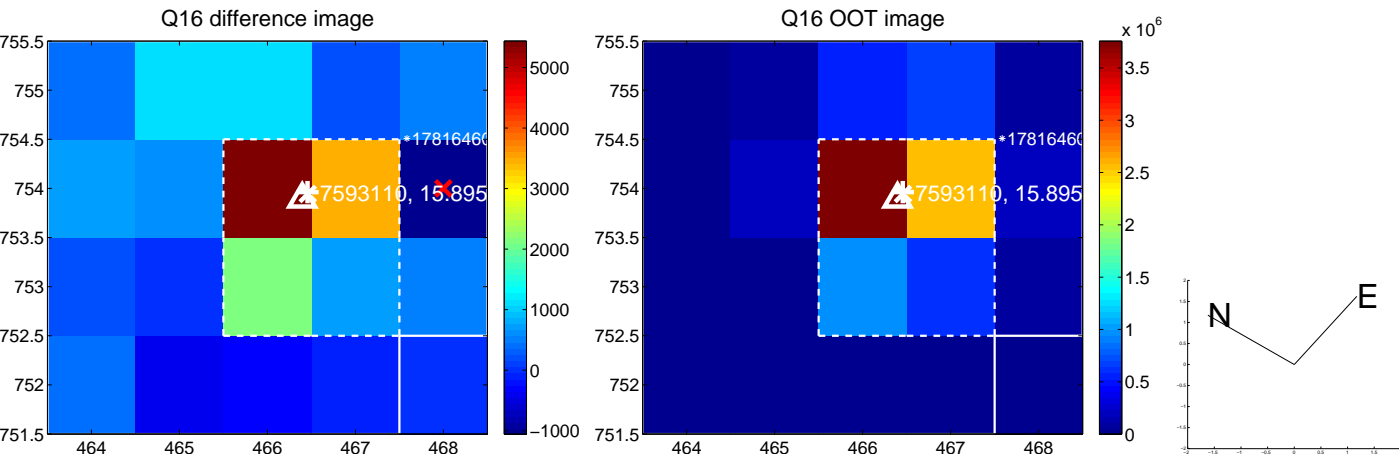
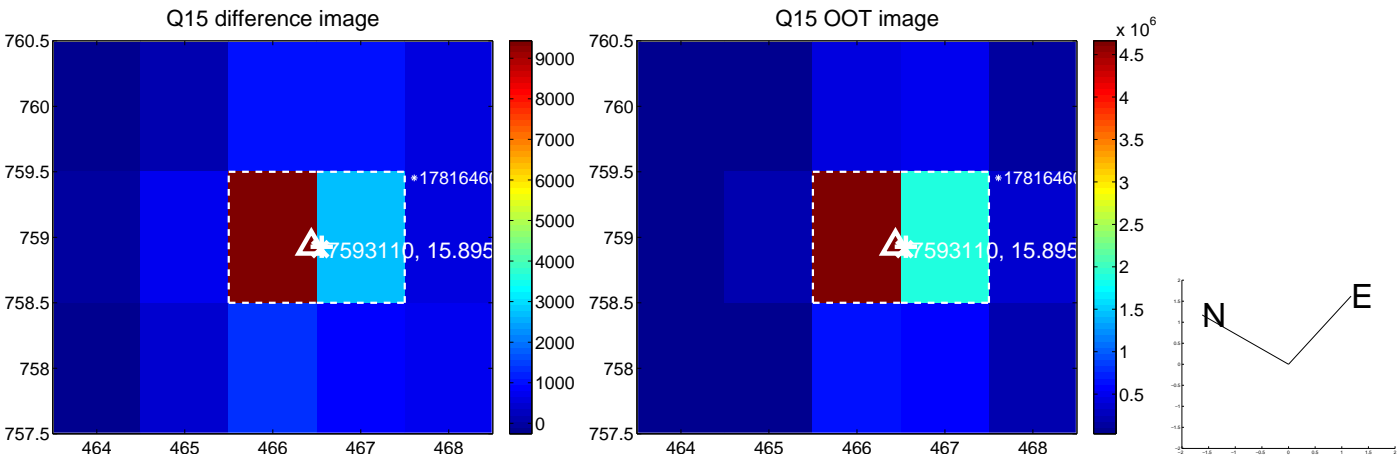
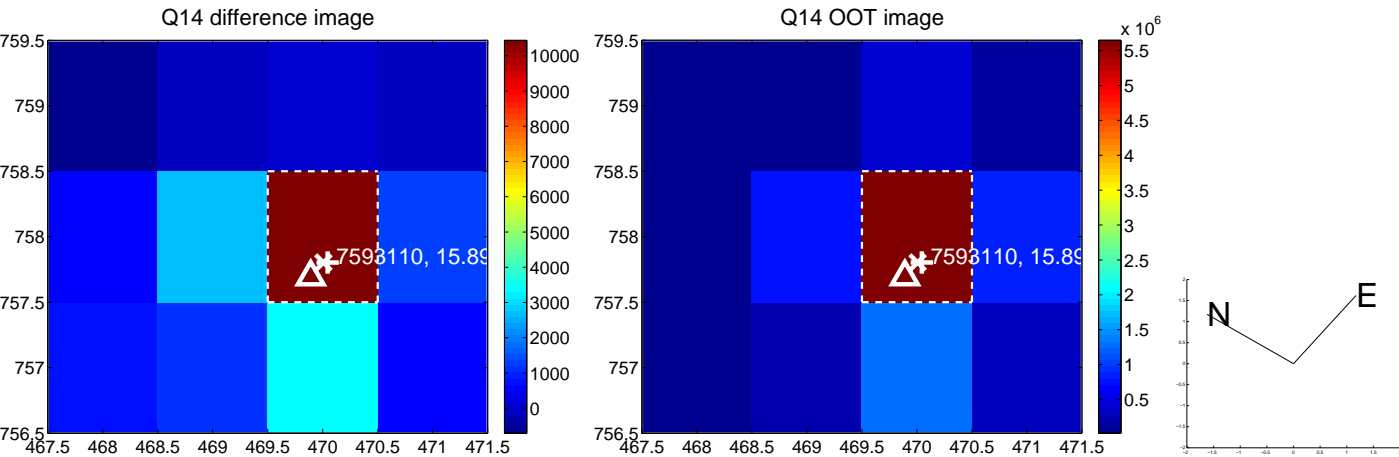
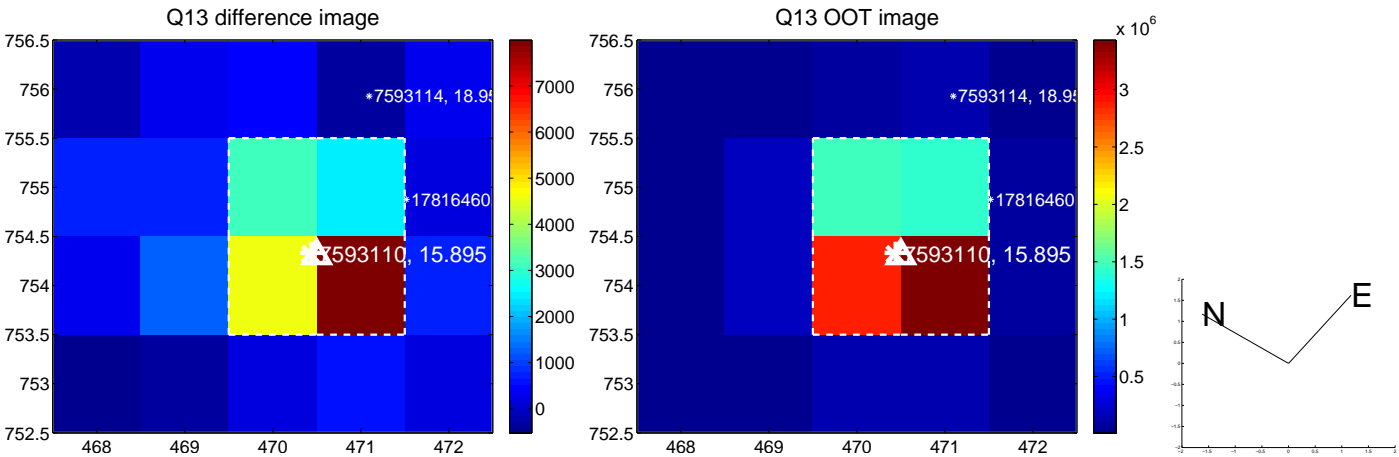
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



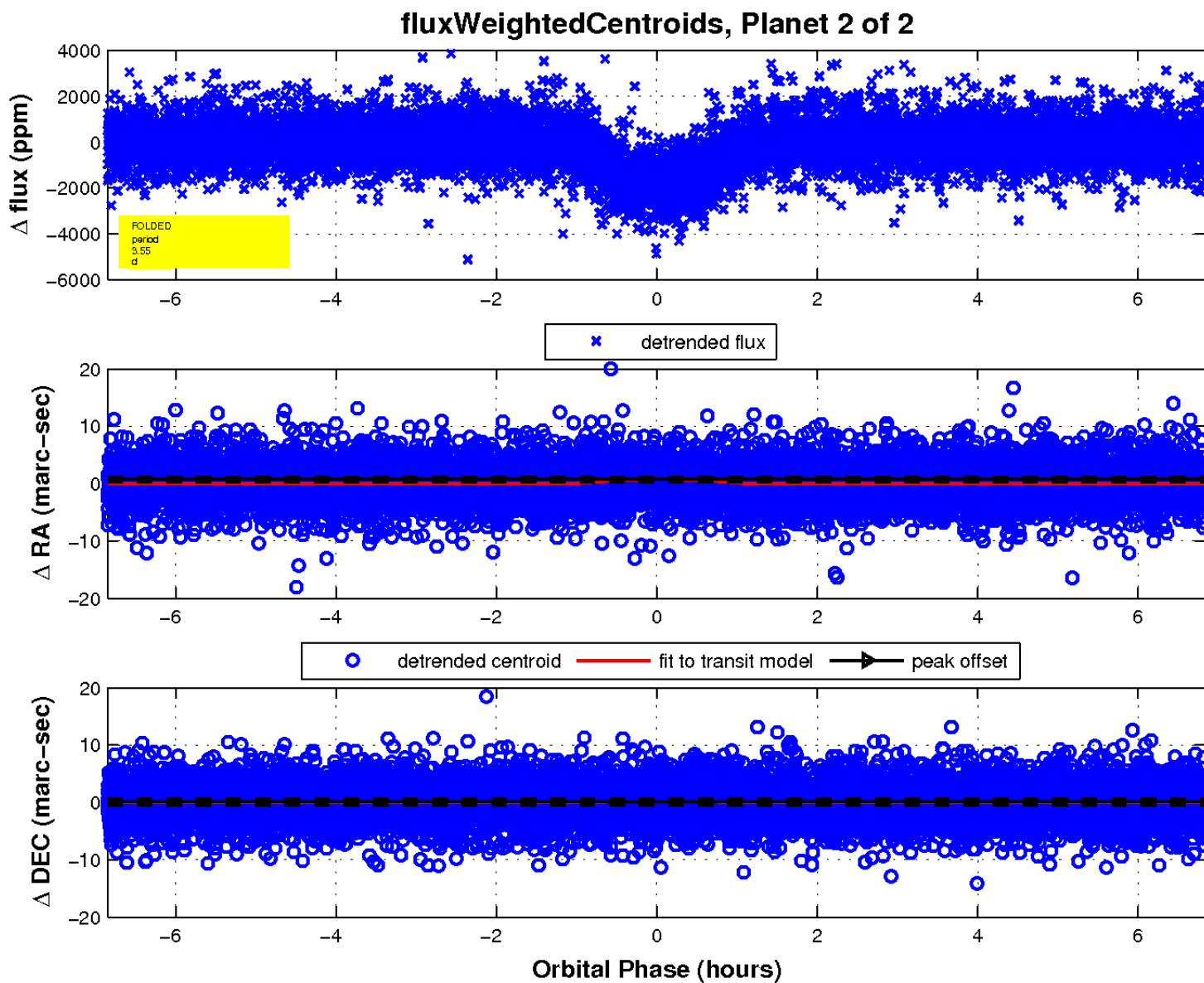
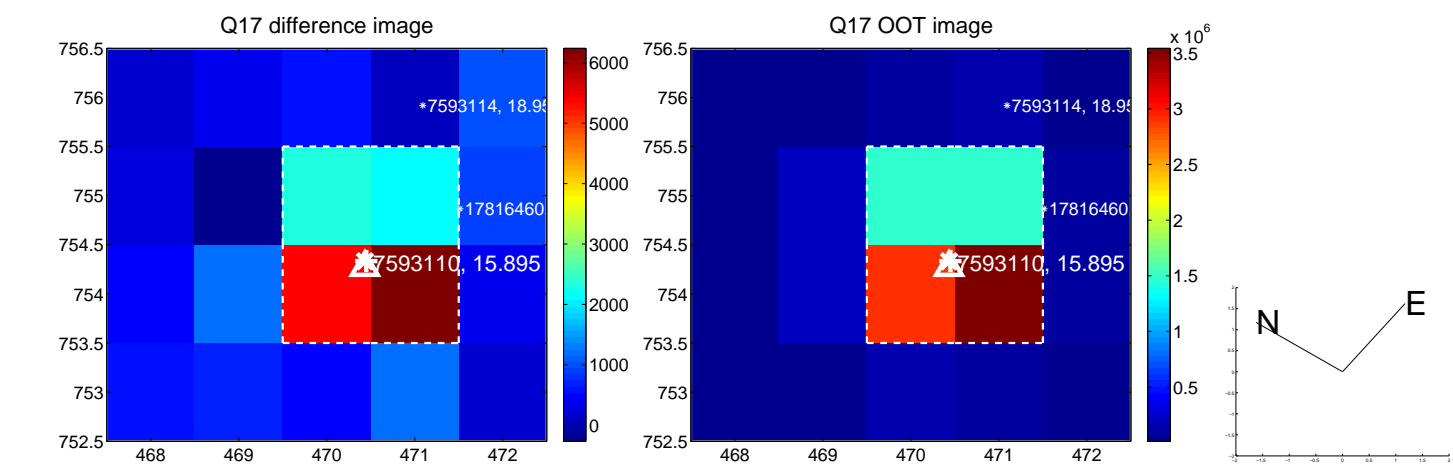
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

