

KIC 008458662

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})
008458662-01	OBS	No	3.767706	134.077574	11.4	5.766	11.2	4.4	2.96	6779	1.14	5249.52
008458662-02	OBS	No	3.768298	133.537792	30.6	6.947	11.1	11.2	2.96	6779	1.99	5248.42
008458662-03	OBS	No	3.768173	131.830180	19.1	13.577	10.8	10.8	2.96	6779	1.38	5248.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008458662-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008458662-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008458662-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

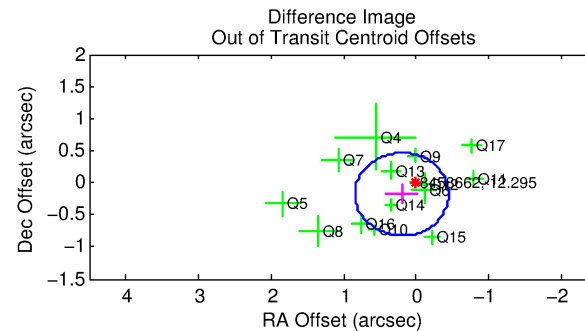
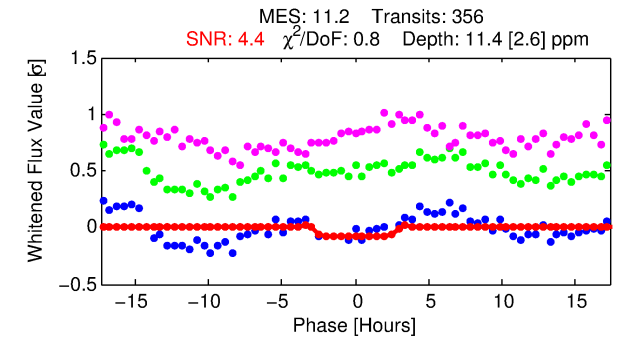
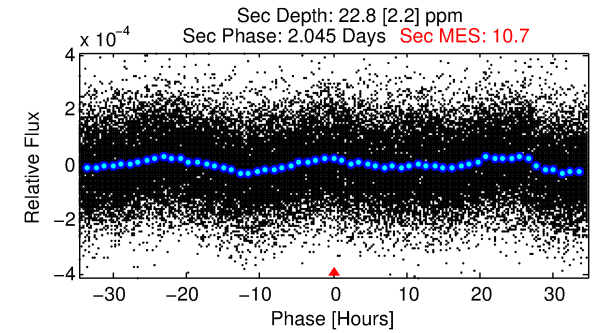
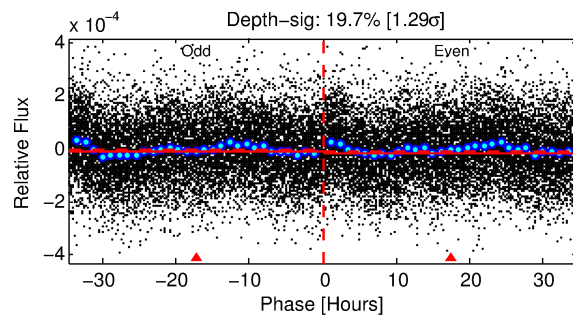
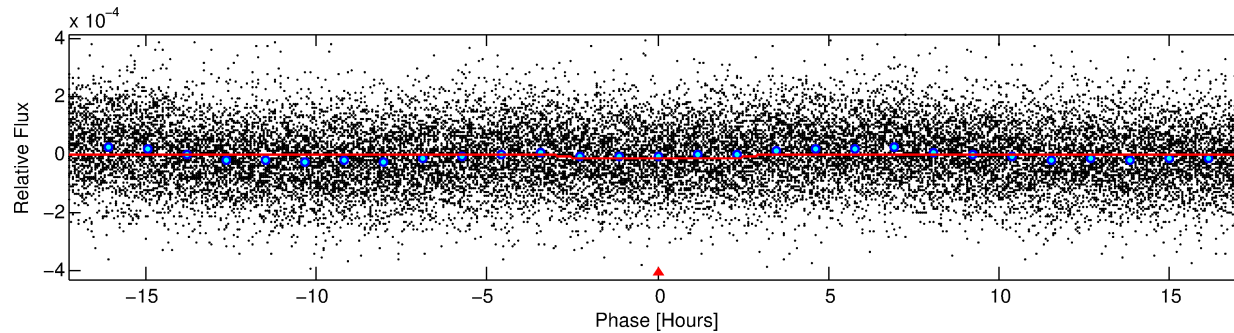
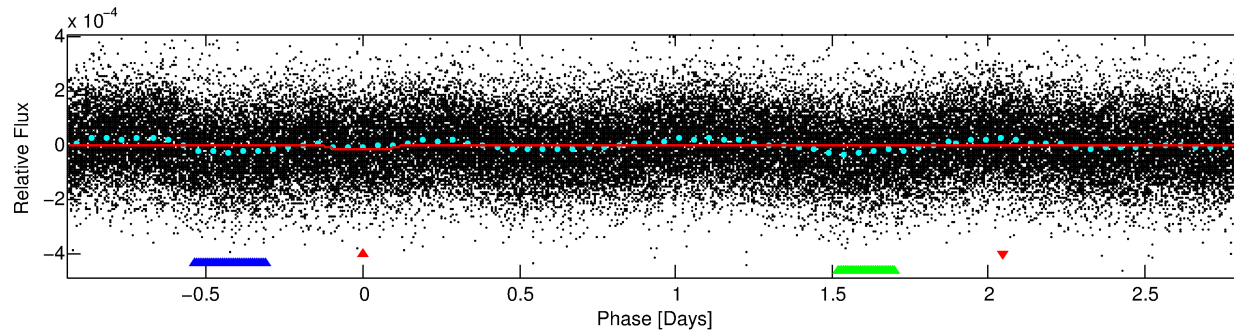
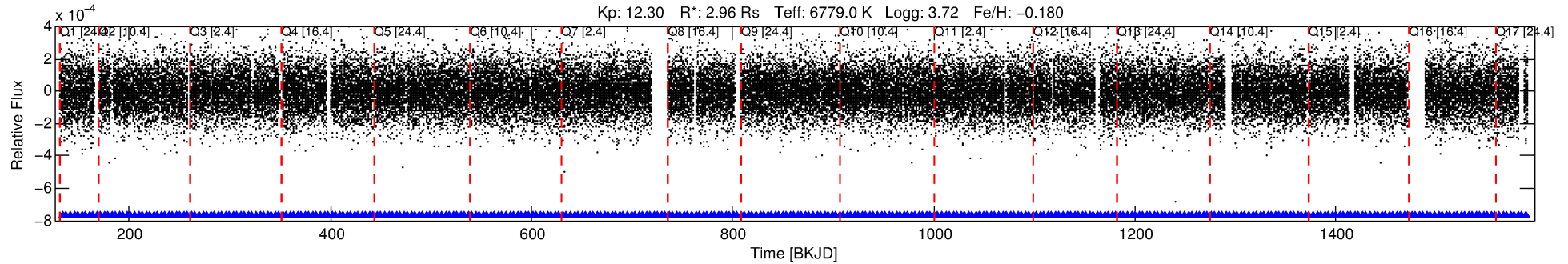
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008458662-01

No Significant Match Found

DV One-Page Summary

KIC: 8458662 Candidate: 1 of 3 Period: 3.768 d



DV Fit Results:

Period = 3.76771 [0.00007] d
Epoch = 134.0776 [0.0126] BKJD
Rp/R* = 0.0035 [0.0011]
a/R* = 2.72 [3.94]
b = 0.86 [0.50]
Seff = 5249.52 [2889.88]
Teq = 2170 [299] K
Rp = 1.13 [0.54] Re
a = 0.0562 [0.0192] AU
Ag = 30.73 [25.03] [1.19 σ]
Teffp = 7901 [1231] K [4.52 σ]

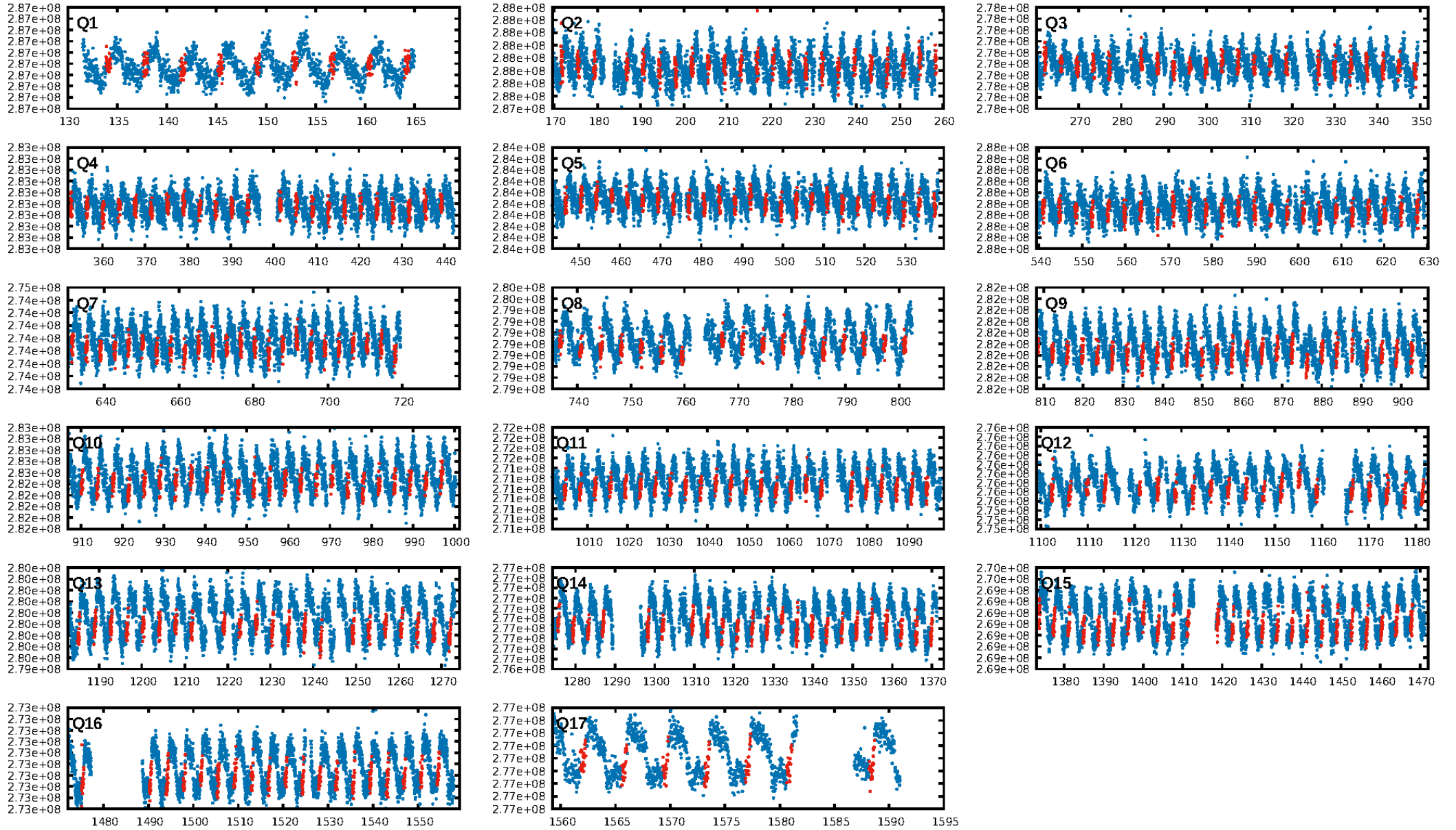
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.19e-17
RollingBand-fgt: 1.00 [340/340]
GhostDiagnostic-chr: 1.993
Centroid-sig: N/A
Centroid-so: 1.401 arcsec [0.65 σ]
OotOffset-rm: 0.269 arcsec [1.25 σ]
KicOffset-rm: 0.217 arcsec [1.09 σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/17]

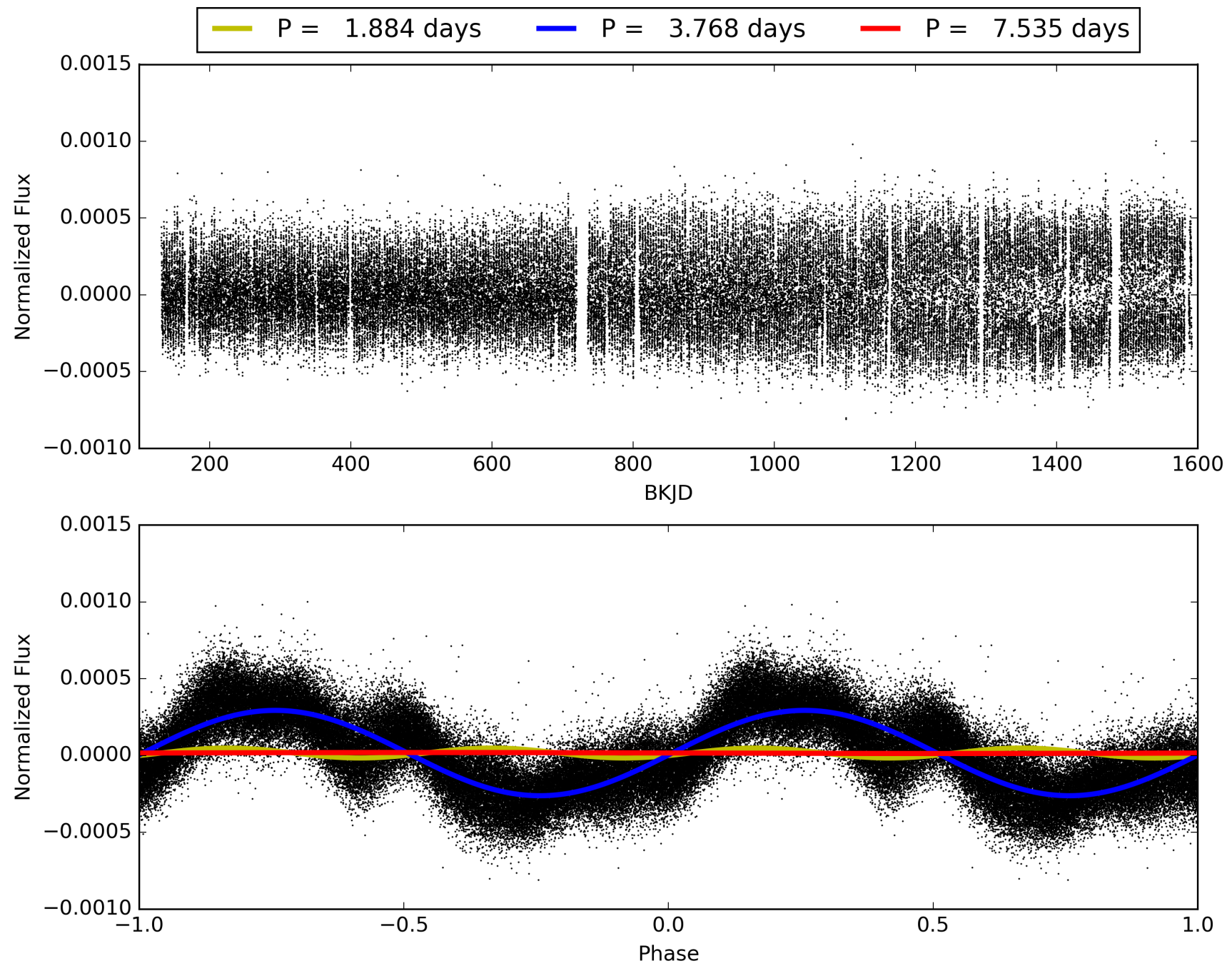
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:29:22 Z

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

TCE 008458662-01, PDC Light Curves

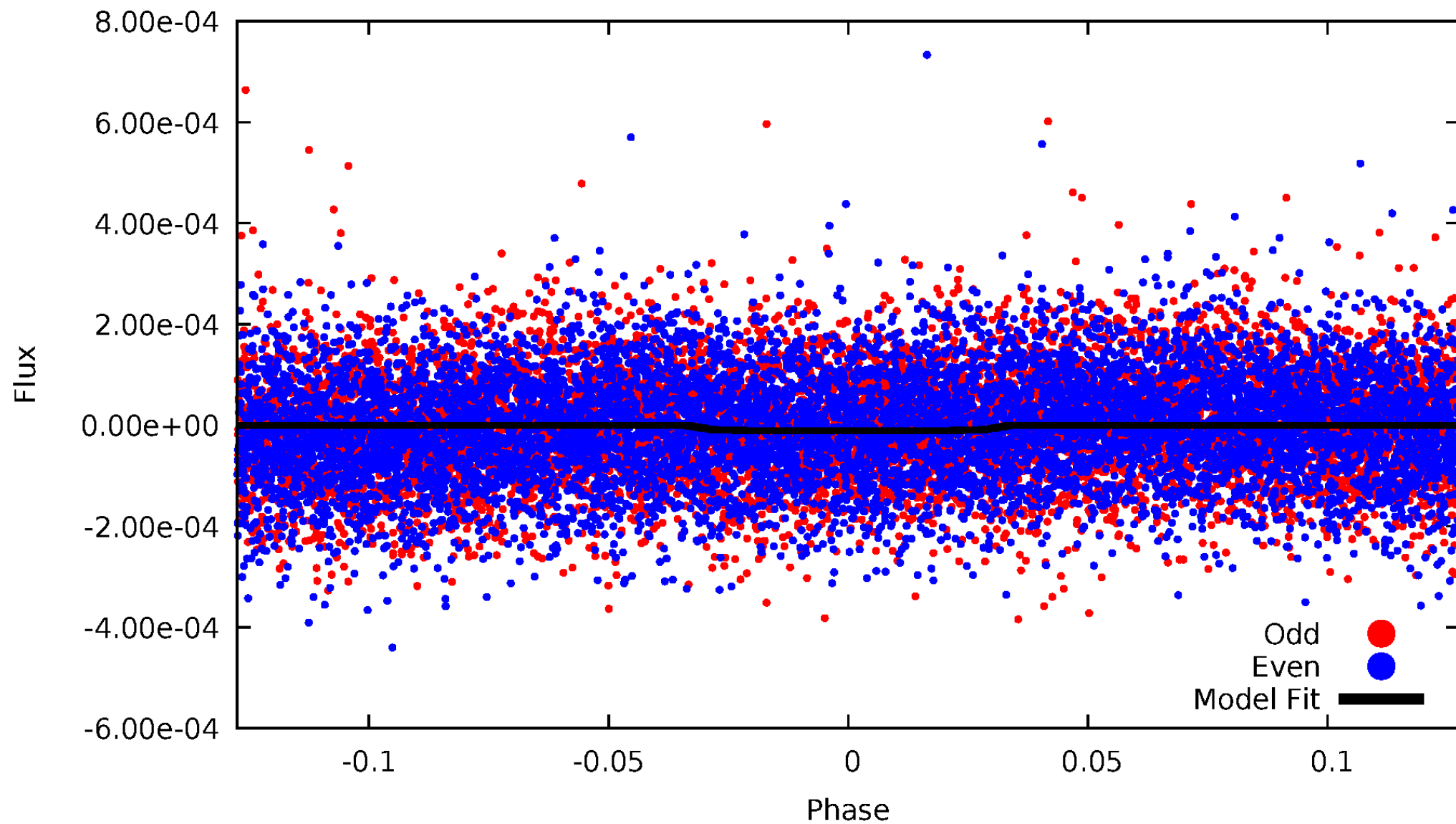


TCE 008458662-01



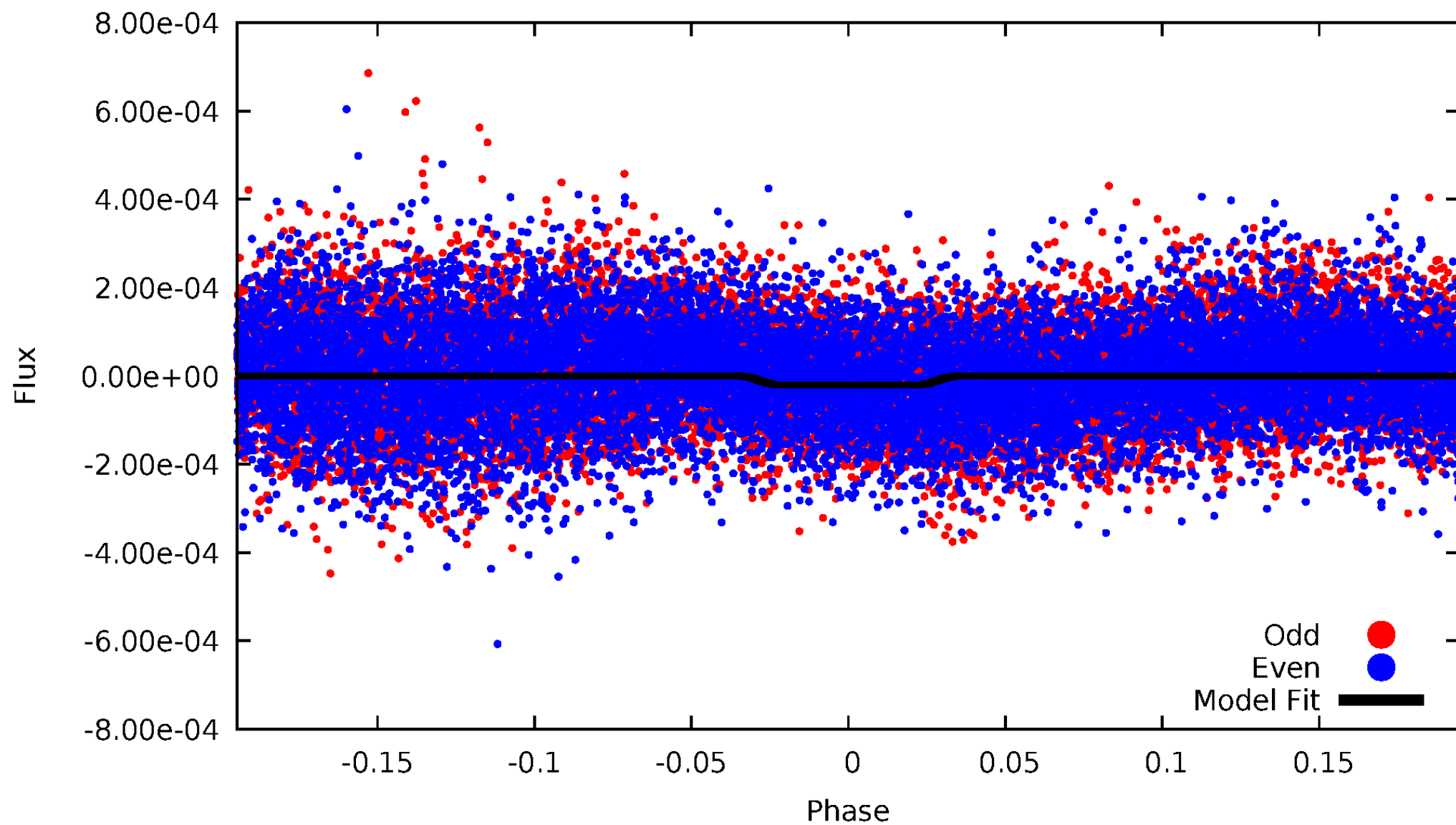
DV Odd/Even

TCE 008458662-01



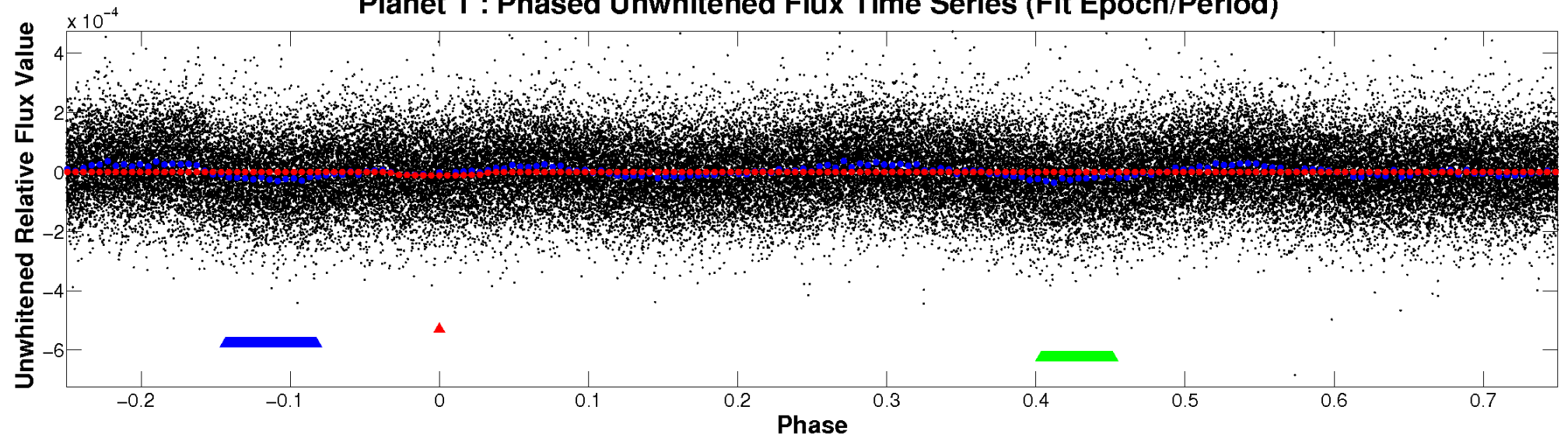
ALT Odd/Even

TCE 008458662-01

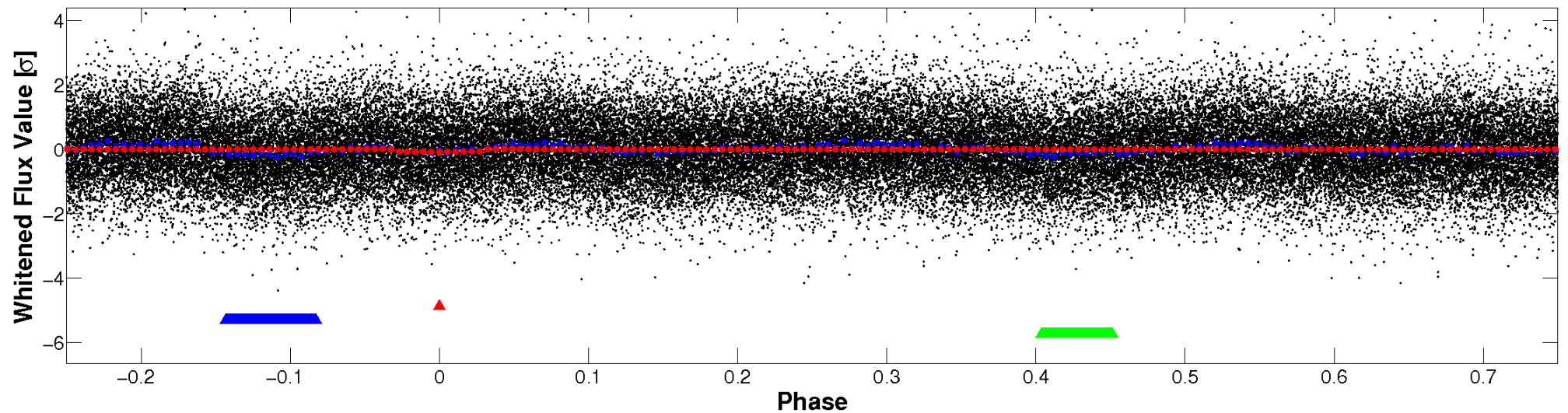


Non-Whitened Vs. Whitened Light Curve

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

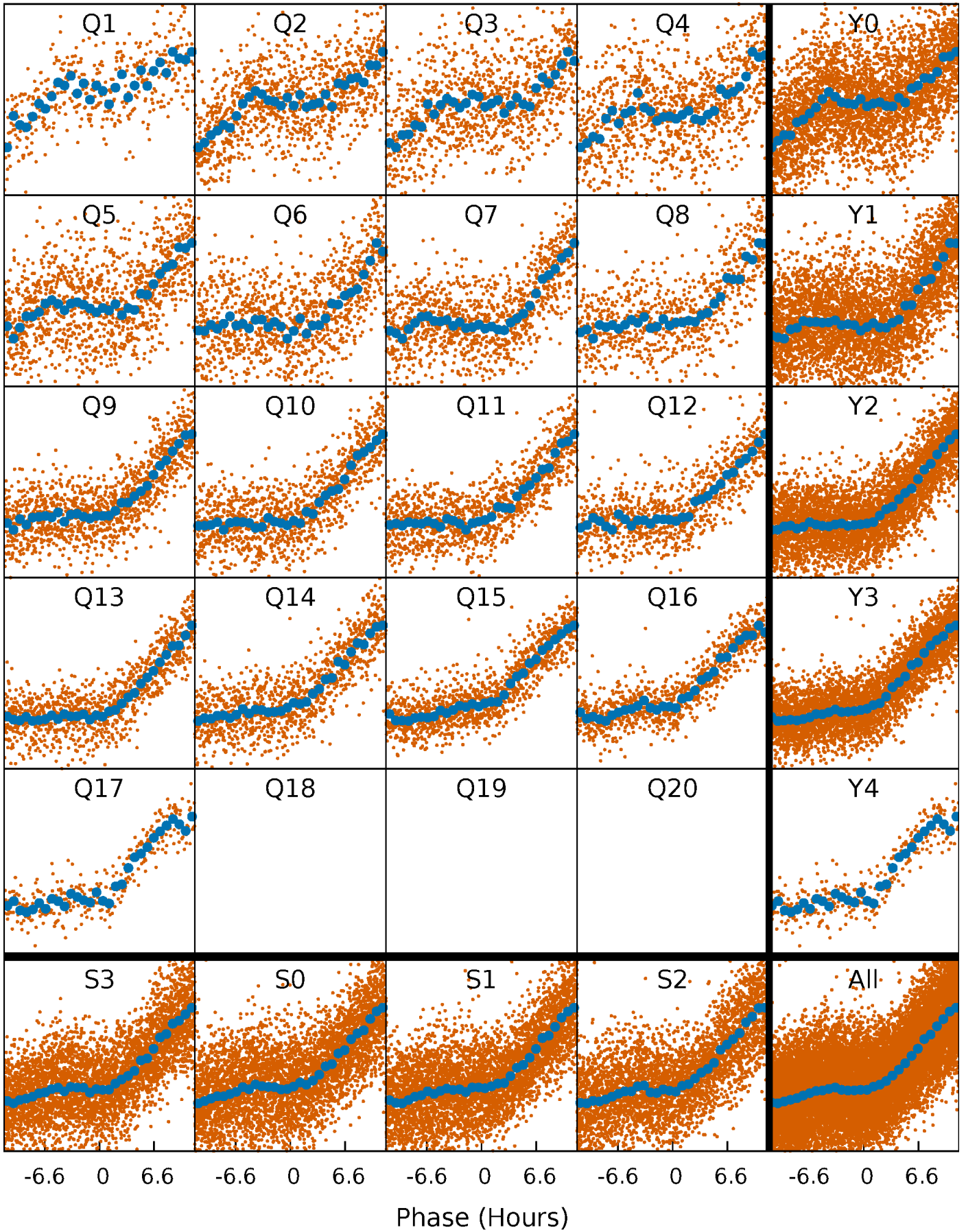


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



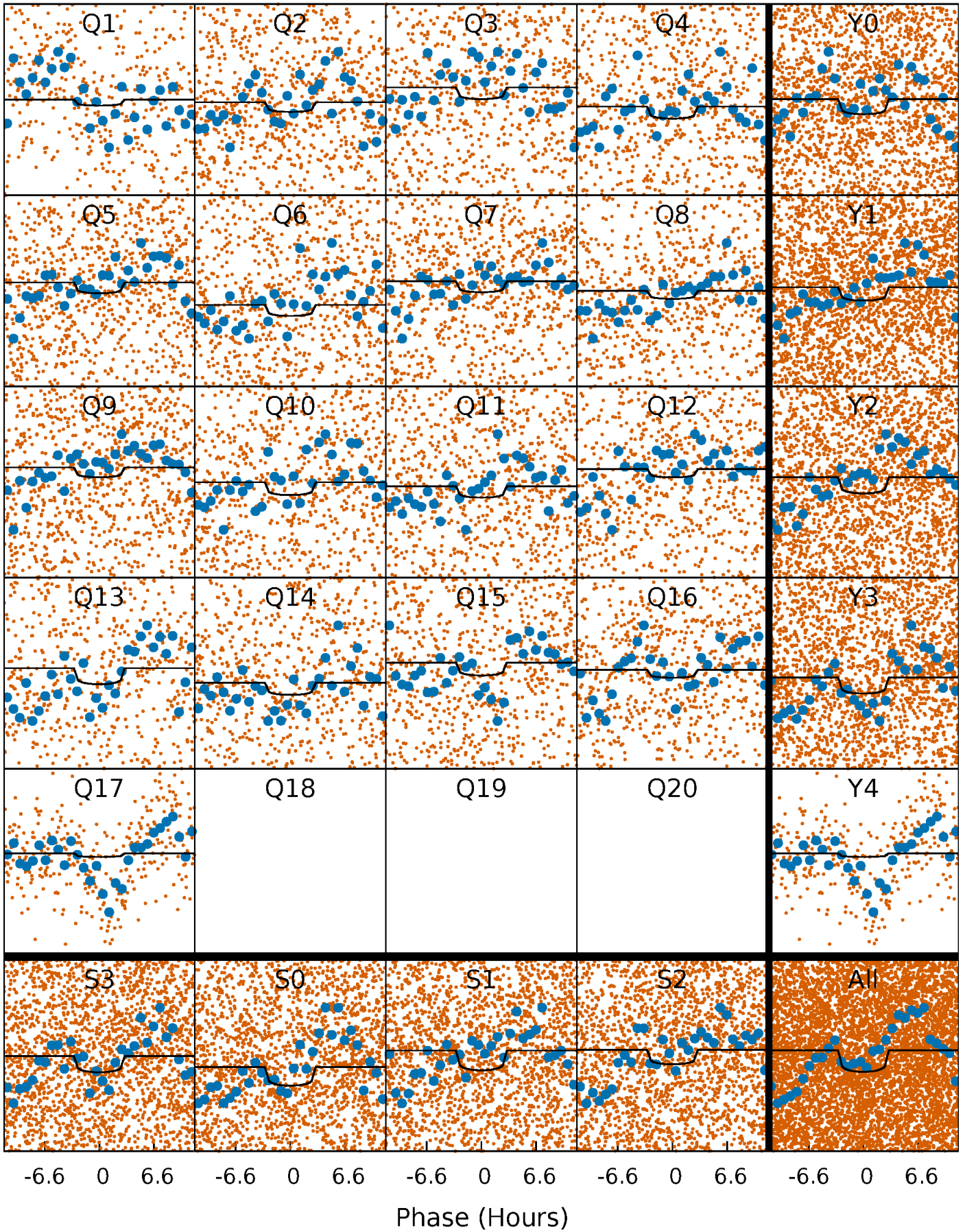
PDC Quarter-Phased Transit Curves

TCE 008458662-01 P= 3.767706 Days $T_0=134.077574$ (BKJD)



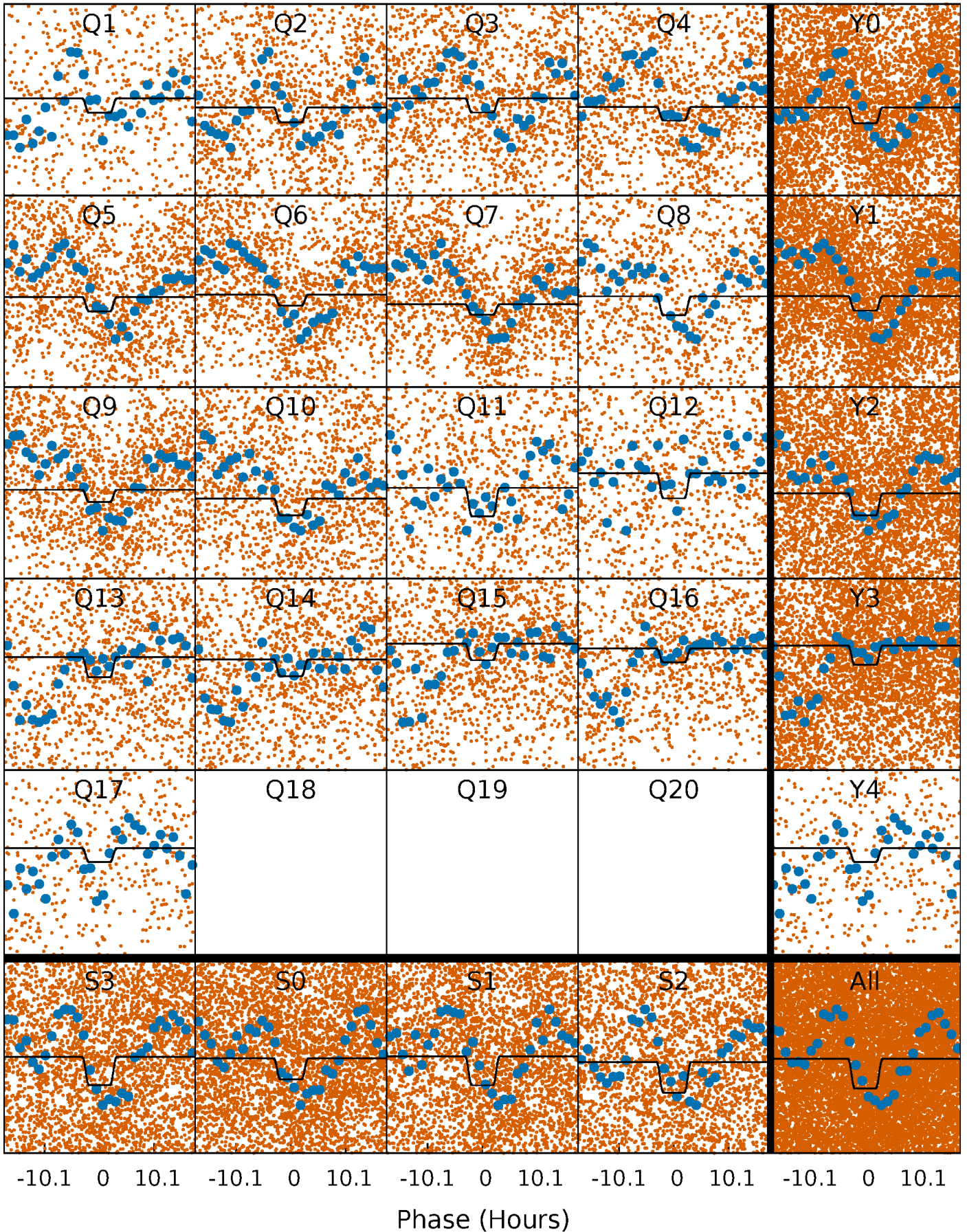
DV Quarter-Phased Transit Curves

TCE 008458662-01 P= 3.767706 Days $T_0=134.077574$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

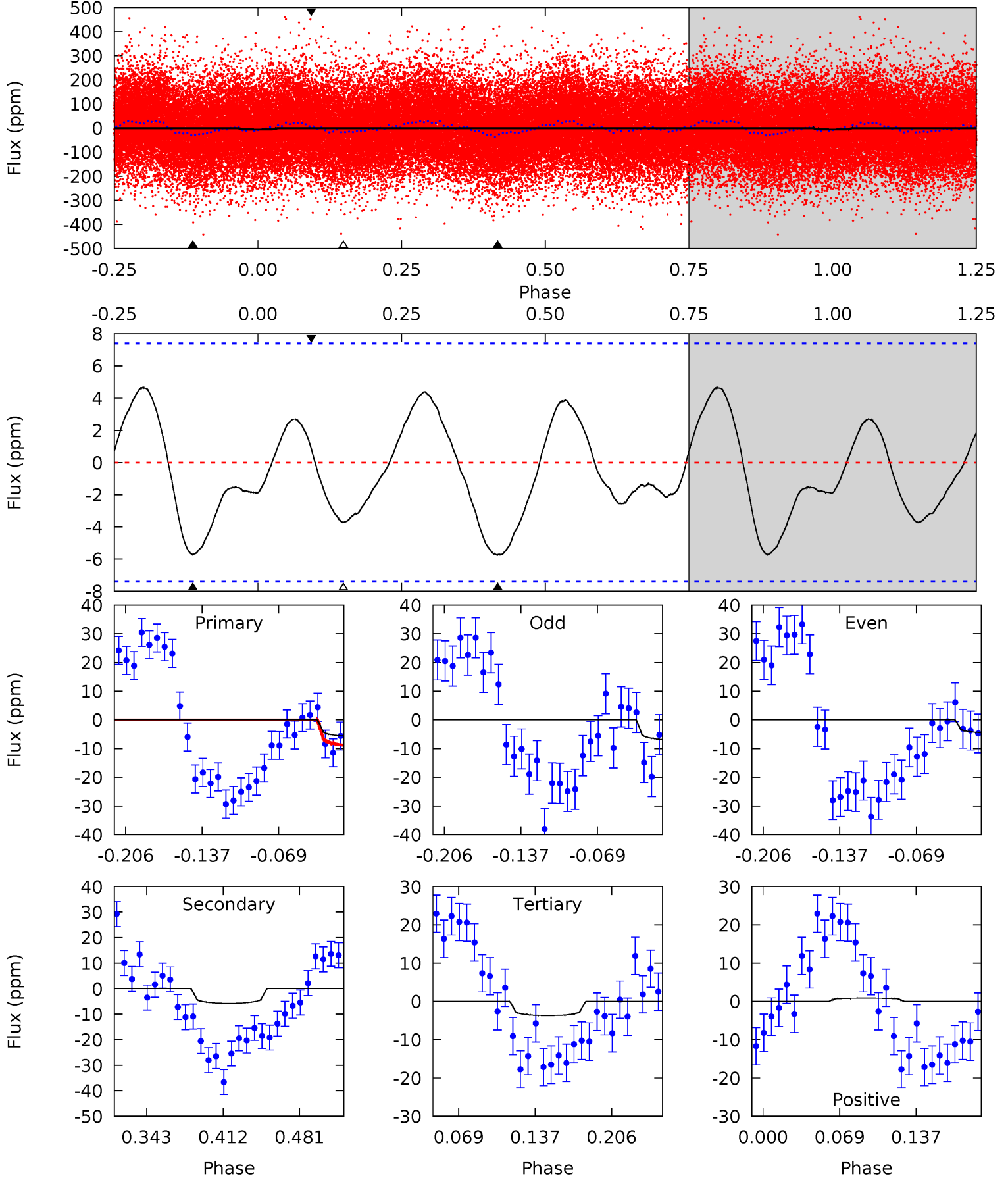
TCE 008458662-01 P= 3.767865 Days $T_0=134.085001$ (BKJD)



DV Model-Shift Uniqueness Test

008458662-01, P = 3.767706 Days, E = 130.309868 Days

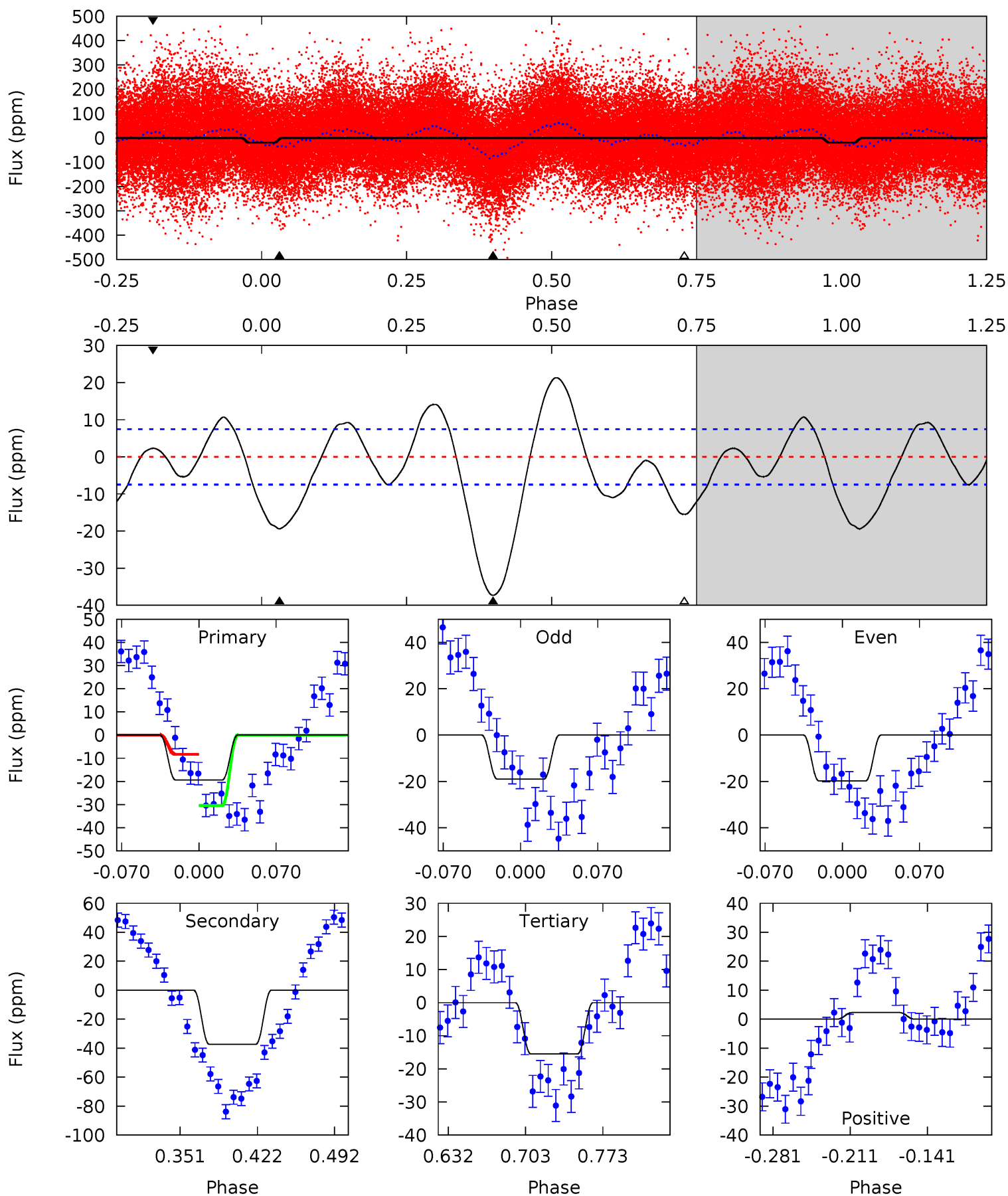
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.59	3.60	2.32	0.54	4.64	1.82	1.51	1.26	3.04	1.28	3.06	0.77	2.53	0.45	2.03



Alt Model-Shift Uniqueness Test

008458662-01, P = 3.767865 Days, E = 130.317136 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	23.2	9.64	1.43	4.64	1.81	5.58	2.42	10.6	13.5	21.8	0.26	1.19	0.36	6.77



Stellar Parameters For KIC 008458662

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6779^{+168}_{-202}	$3.717^{+0.312}_{-0.078}$	$-0.180^{+0.300}_{-0.250}$	$2.958^{+0.464}_{-1.082}$	$1.664^{+0.201}_{-0.373}$	$0.091^{+0.195}_{-0.024}$
	+2%/-3%	+8%/-2%	+167%/-139%	+16%/-37%	+12%/-22%	+215%/-27%
Source	PHO1	FLK73	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 008458662-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 2	$1.05^{+0.40}_{-0.33}$	2950^{+194}_{-262}	5518^{+1067}_{-727}	$8.882^{+10.939}_{-4.467}$
Alt.	-37 ± 2	$1.34^{+0.42}_{-0.39}$	2957^{+176}_{-269}	8030^{+1459}_{-929}	36^{+32}_{-14}

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

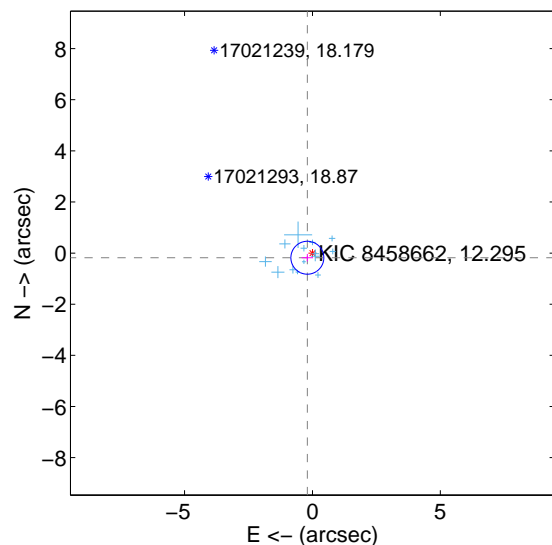
Supplemental centroid analysis for 008458662-01. Kepler magnitude: 12.29. Transit SNR 4.42

There are 14 quarters with good PRF difference image offsets

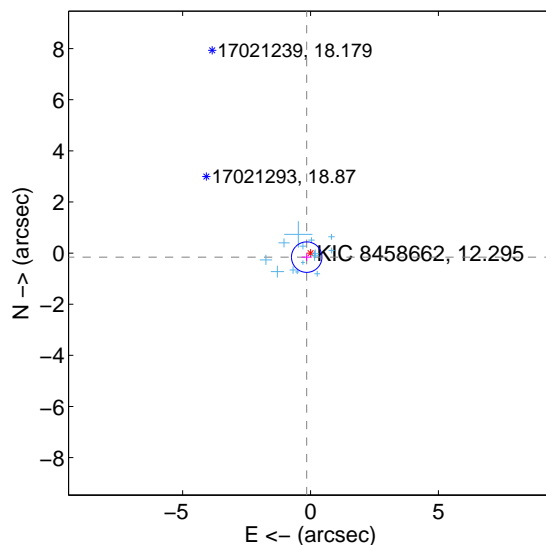
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.269 ± 0.215	1.25	0.199 ± 0.222	-0.181 ± 0.146
PRF-fit source offset from KIC position	0.217 ± 0.199	1.09	0.150 ± 0.199	-0.157 ± 0.148
photometric centroid source offset	1.40 ± 2.16	0.65	-0.61 ± 2.69	1.26 ± 2.02

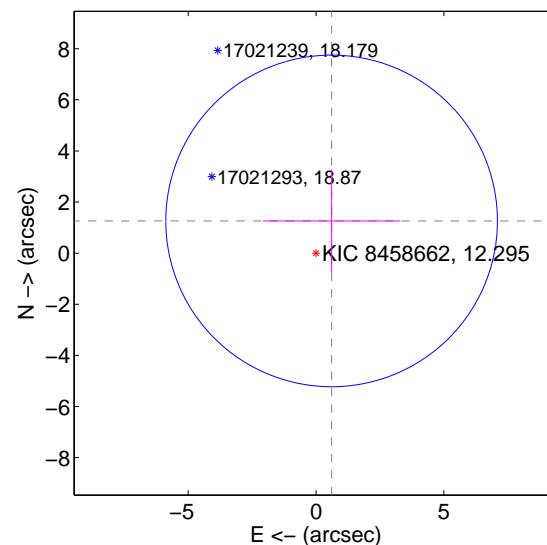
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

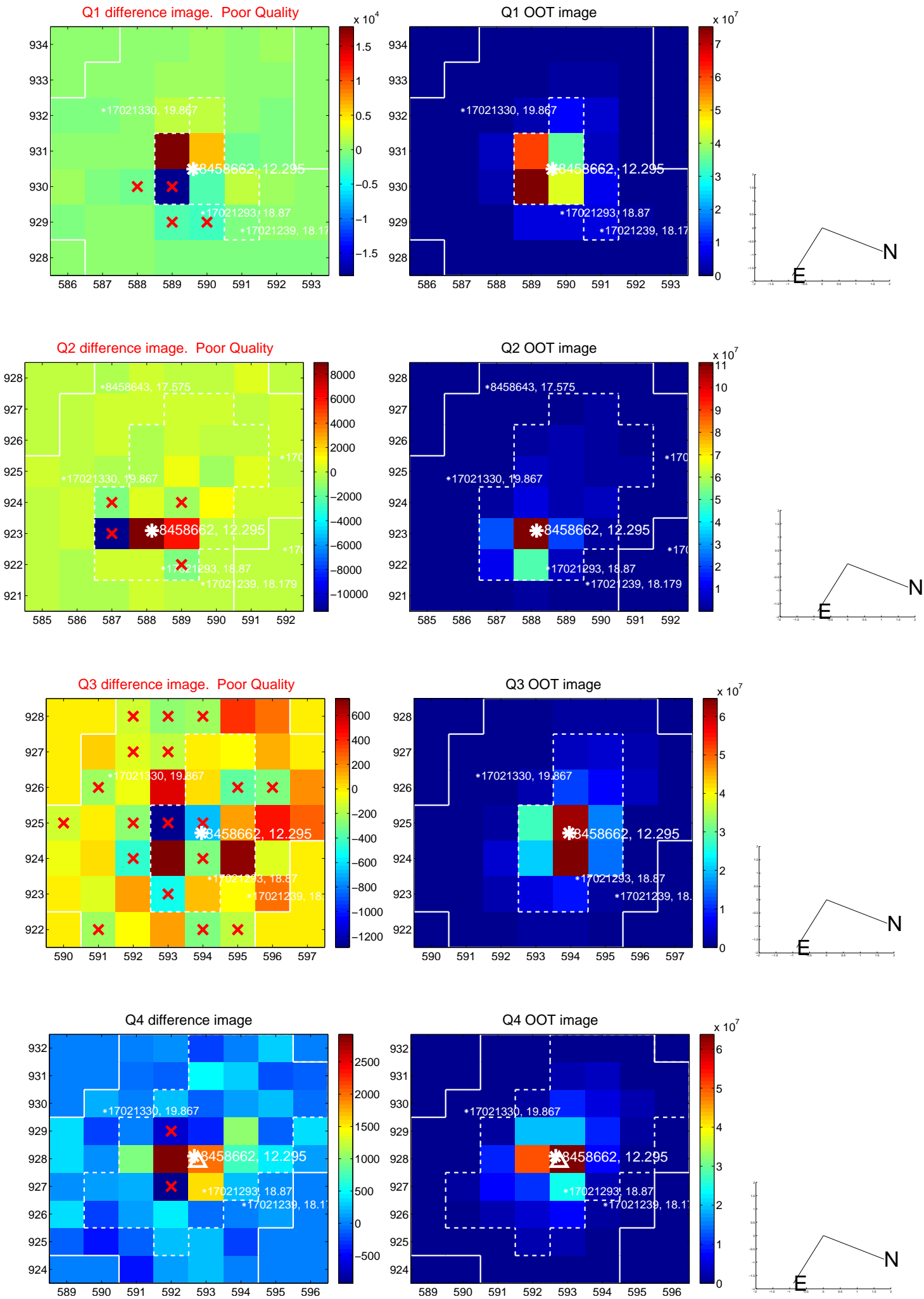


offset from photometric centroids

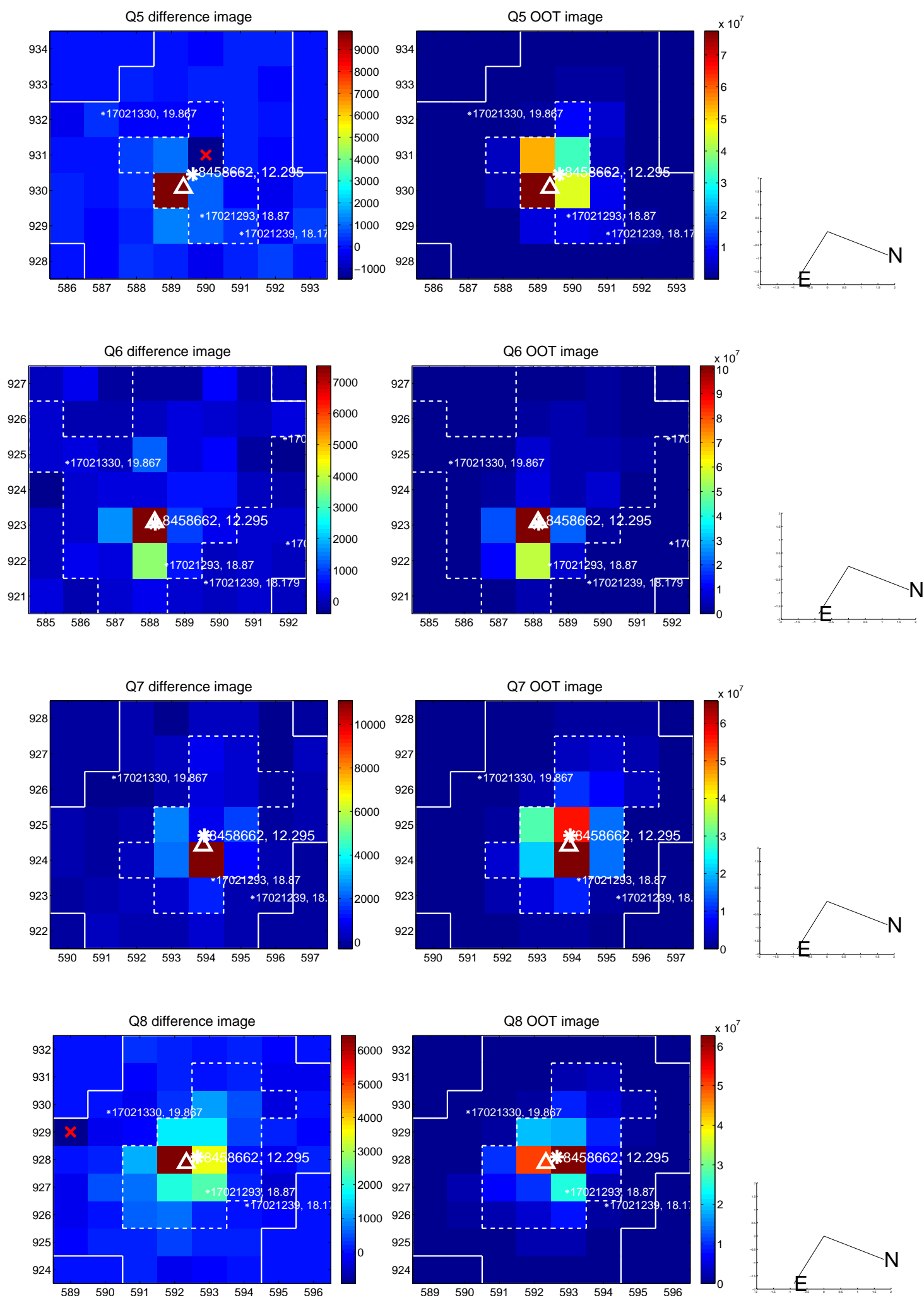


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

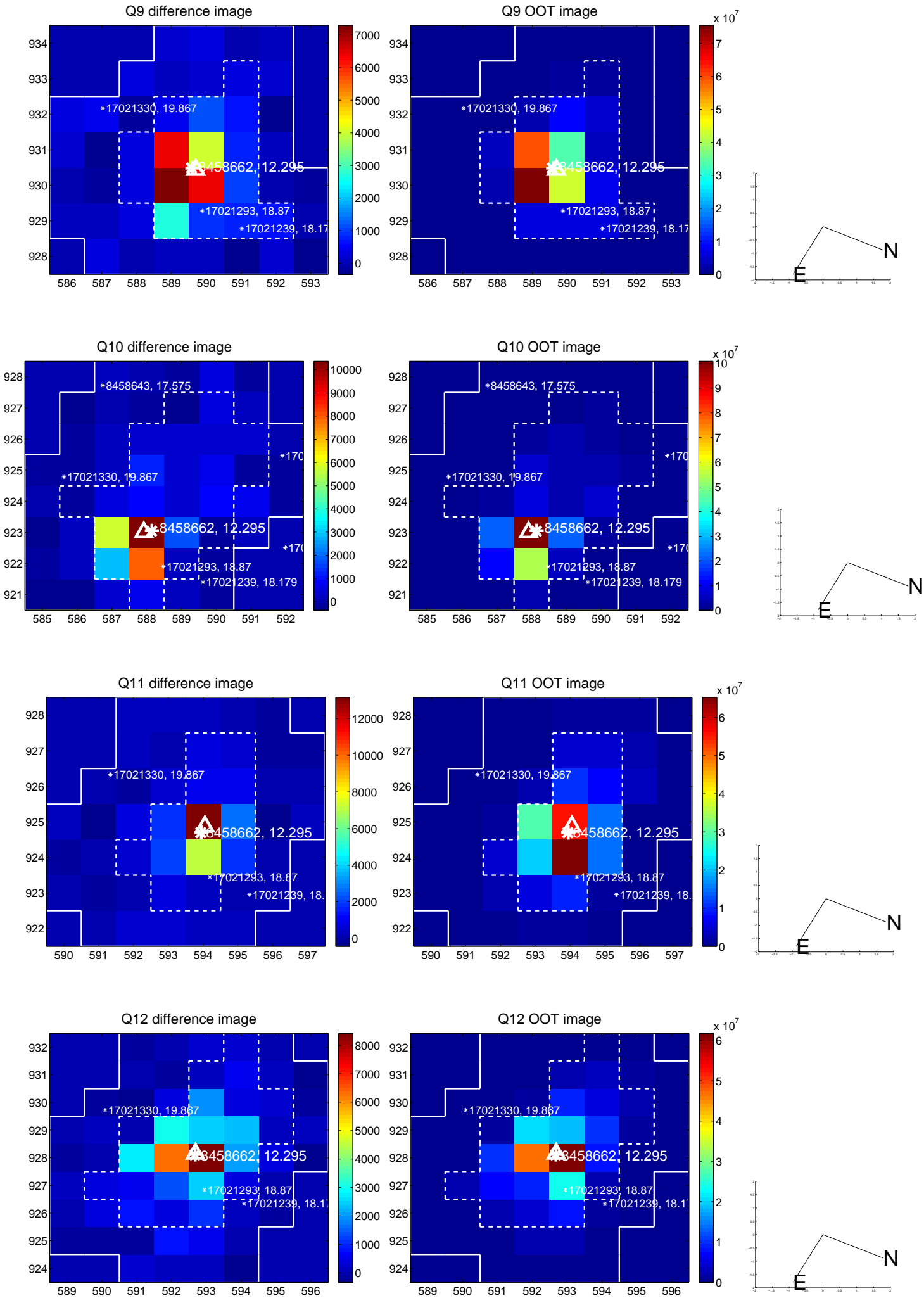
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



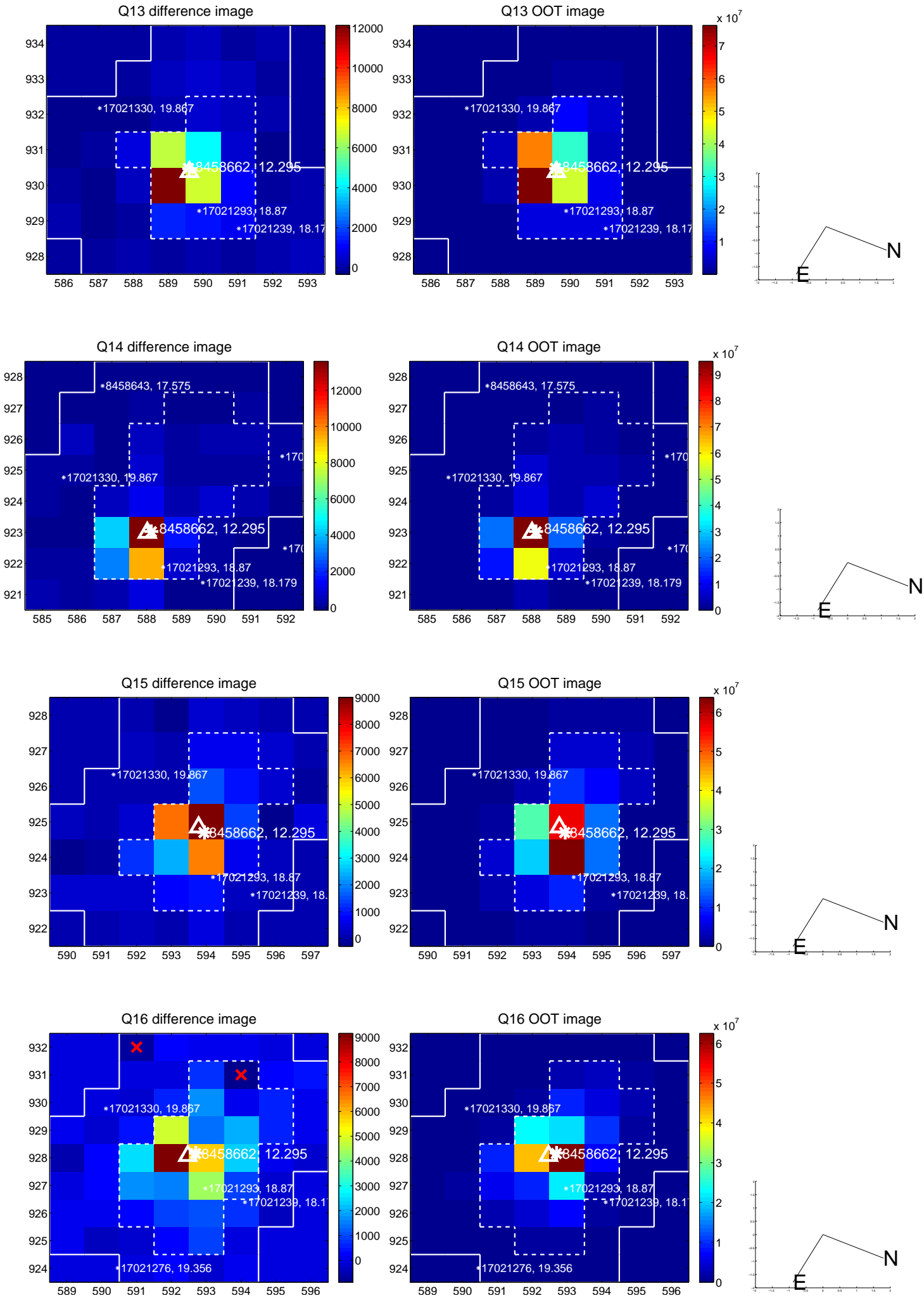
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



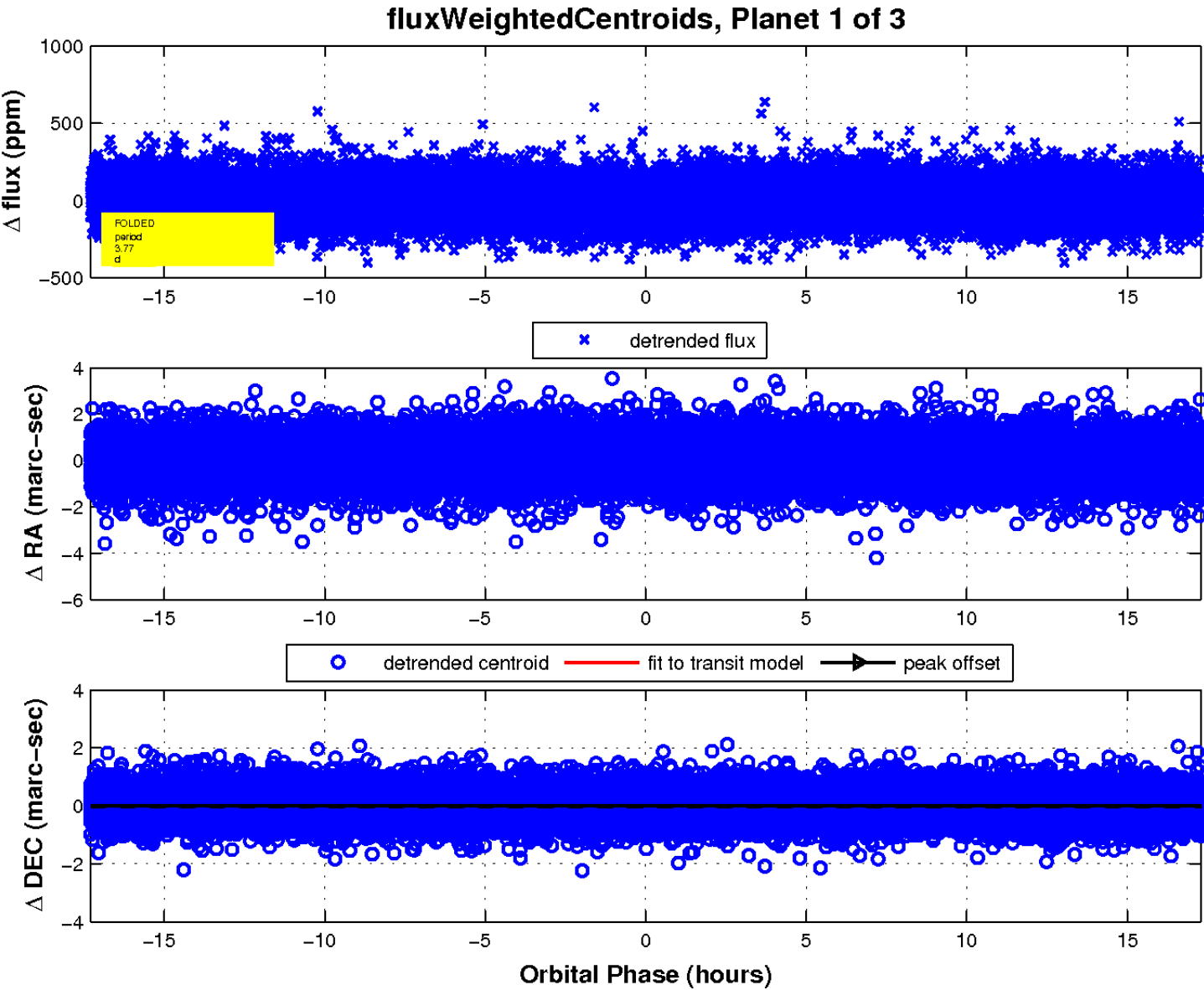
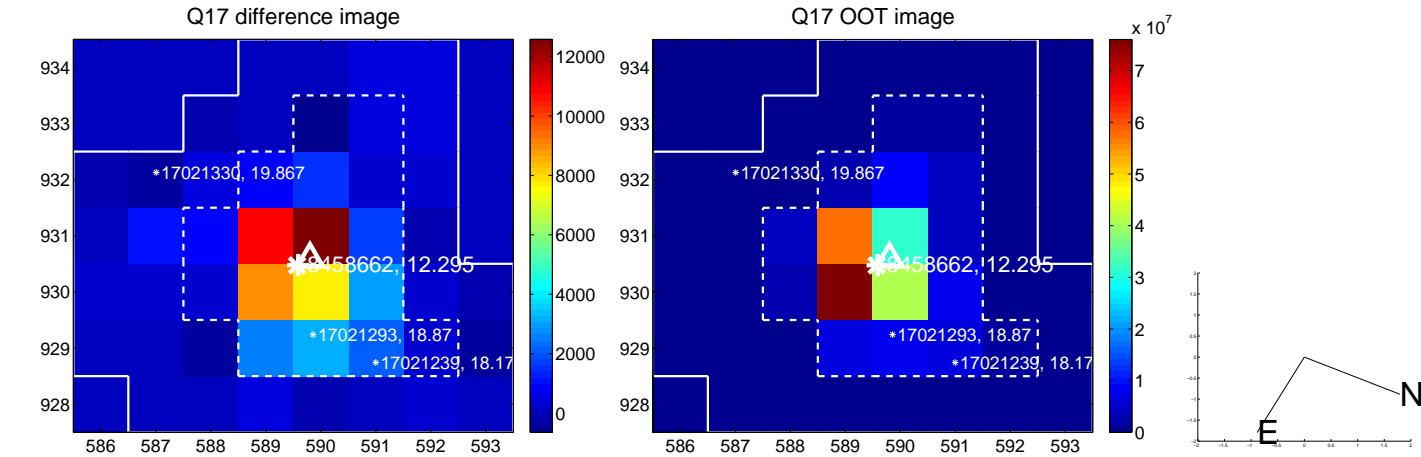
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

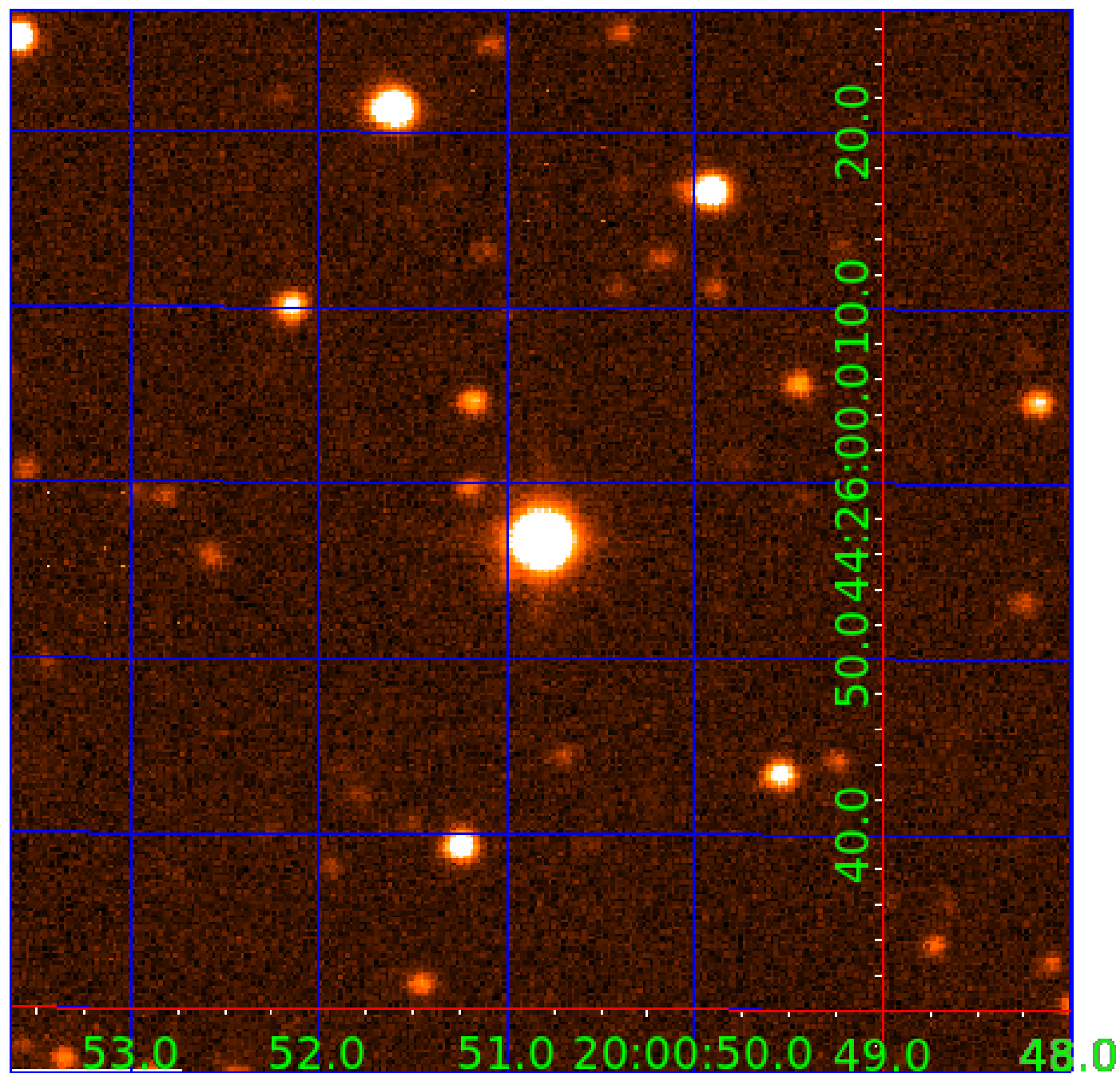


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008458662

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})
008458662-01	OBS	No	3.767706	134.077574	11.4	5.766	11.2	4.4	2.96	6779	1.14	5249.52
008458662-02	OBS	No	3.768298	133.537792	30.6	6.947	11.1	11.2	2.96	6779	1.99	5248.42
008458662-03	OBS	No	3.768173	131.830180	19.1	13.577	10.8	10.8	2.96	6779	1.38	5248.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008458662-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008458662-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008458662-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

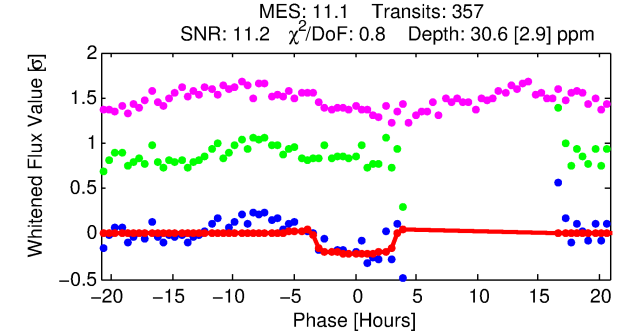
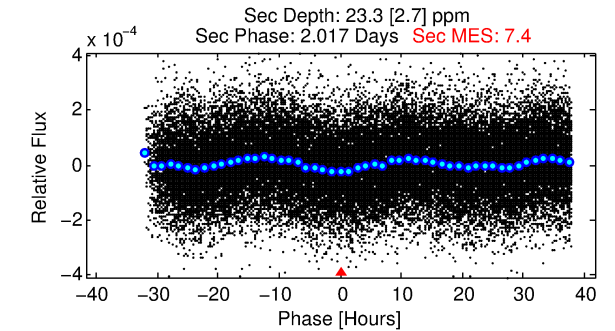
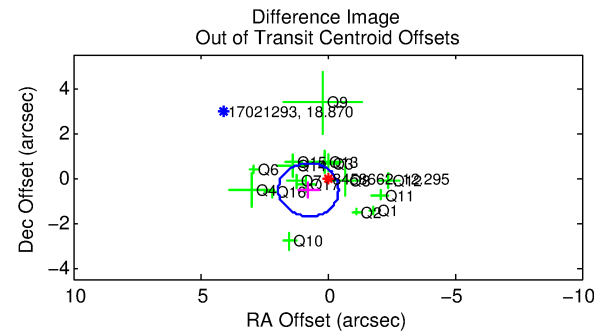
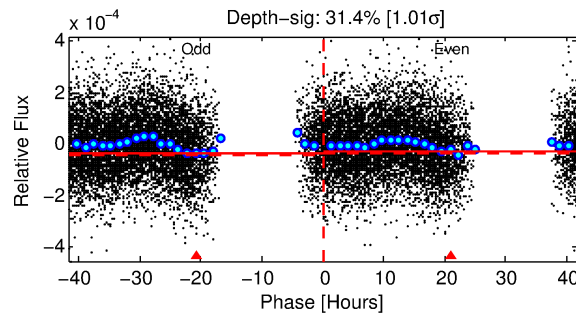
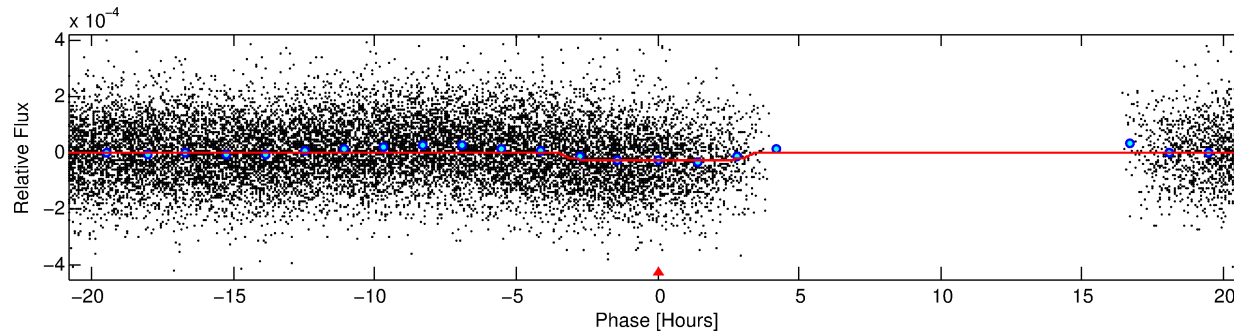
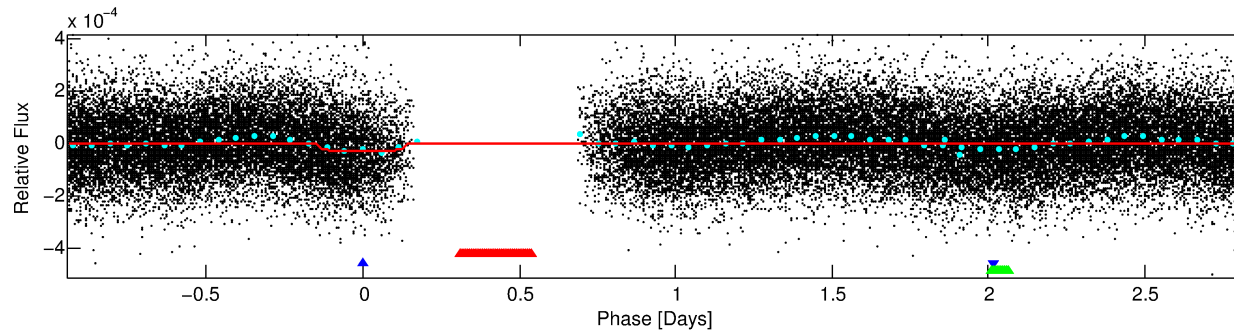
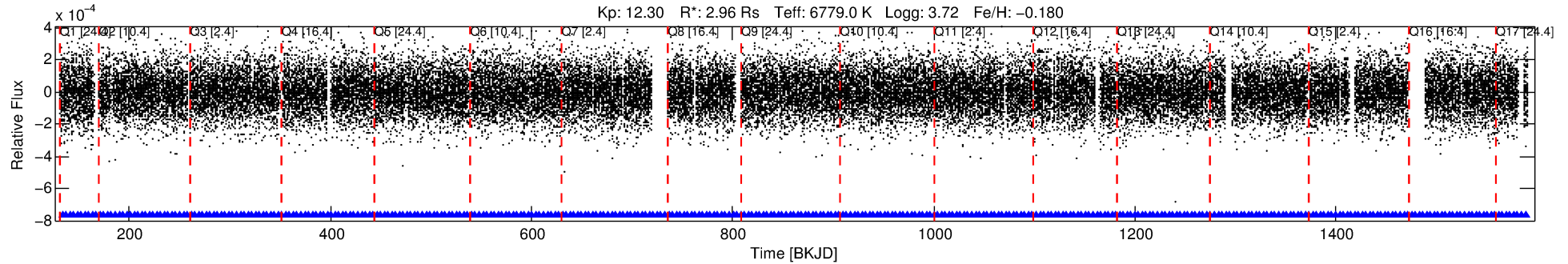
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008458662-02

No Significant Match Found

DV One-Page Summary

KIC: 8458662 Candidate: 2 of 3 Period: 3.768 d



DV Fit Results:

Period = 3.76830 [0.00004] d
Epoch = 133.5378 [0.0084] BKJD
Rp/R* = 0.0062 [0.0010]
a/R* = 1.73 [1.10]
b = 0.94 [0.11]
Seff = 5248.42 [2889.28]
Teq = 2170 [299] K
Rp = 1.99 [0.80] Re
a = 0.0562 [0.0192] AU
Ag = 10.18 [6.47] [1.42 σ]
Teffp = 5995 [537] K [6.22 σ]

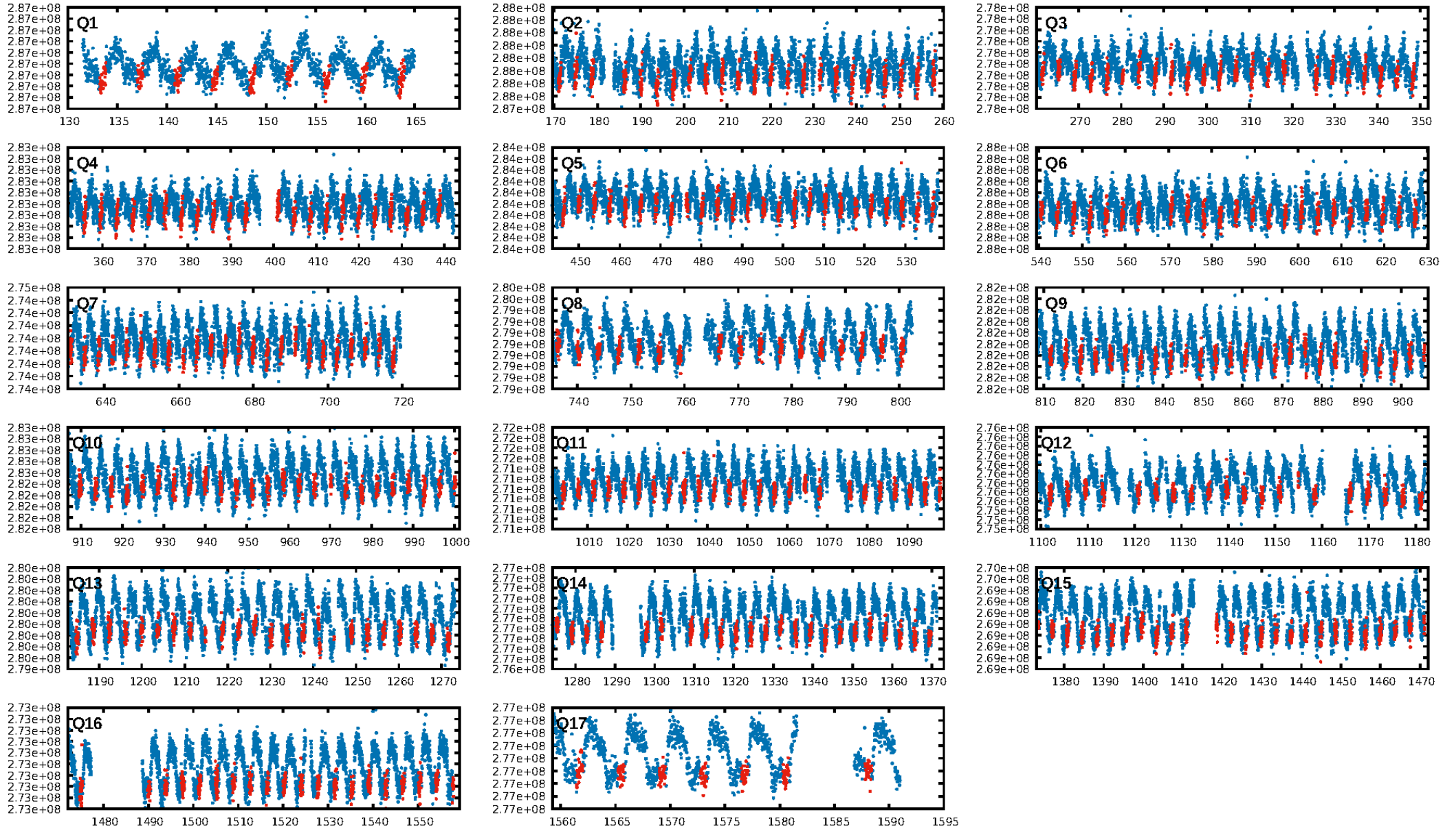
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.01e-16
RollingBand-fgt: 1.00 [341/341]
GhostDiagnostic-chr: 11.1
Centroid-sig: N/A
Centroid-so: 0.772 arcsec [0.95 σ]
OotOffset-rm: 0.912 arcsec [2.30 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.836 arcsec [2.13 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

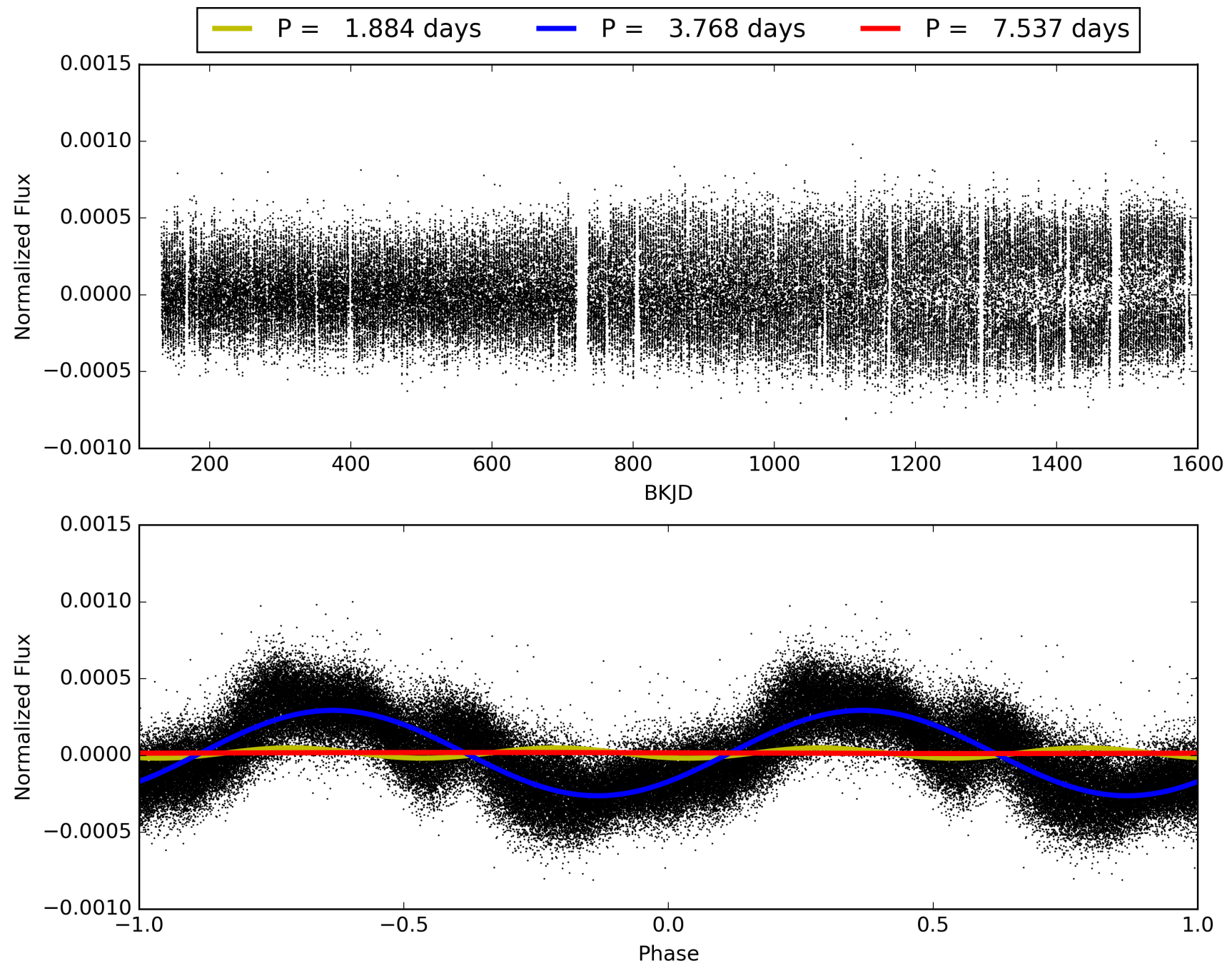
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:29:40 Z

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

TCE 008458662-02, PDC Light Curves

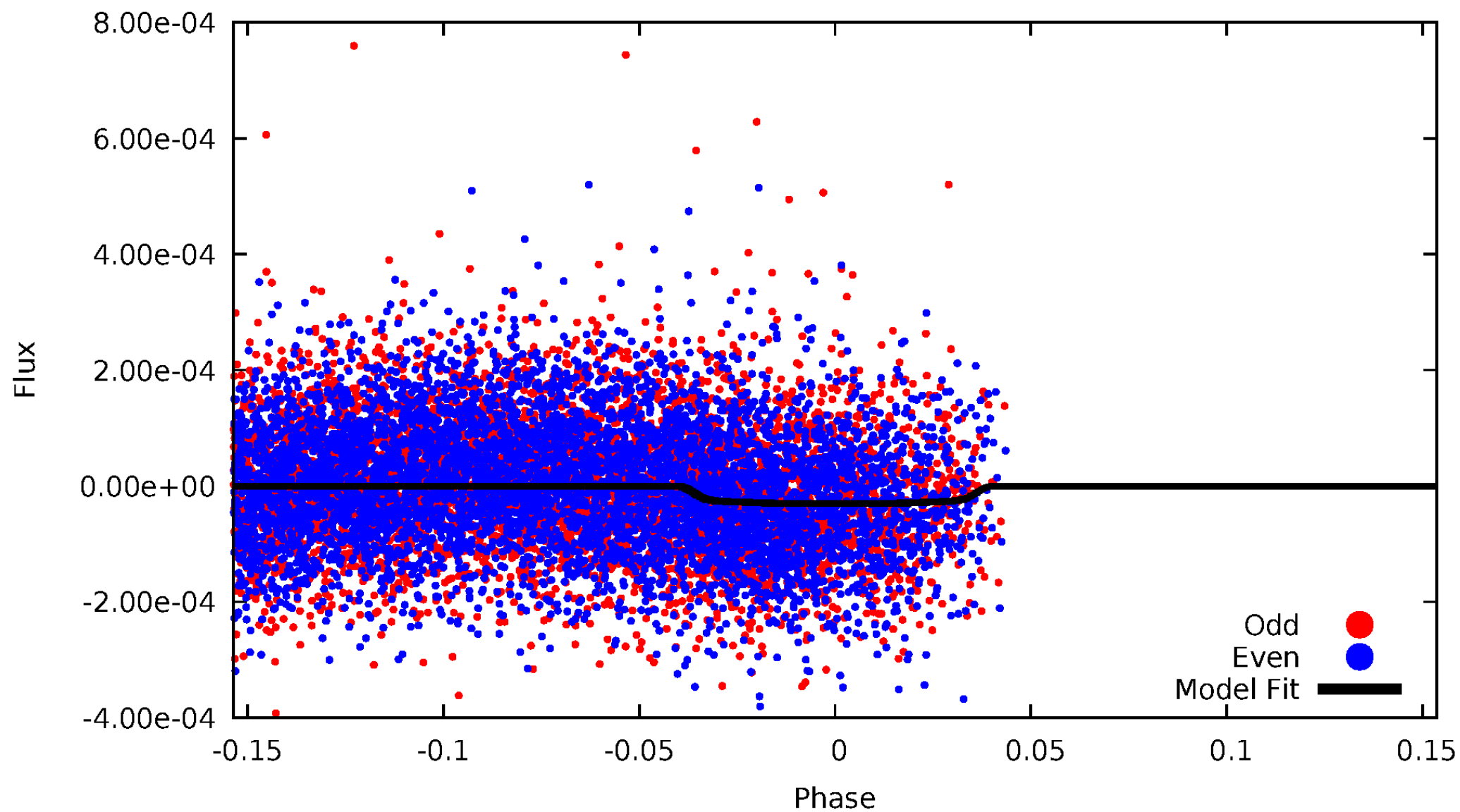


TCE 008458662-02



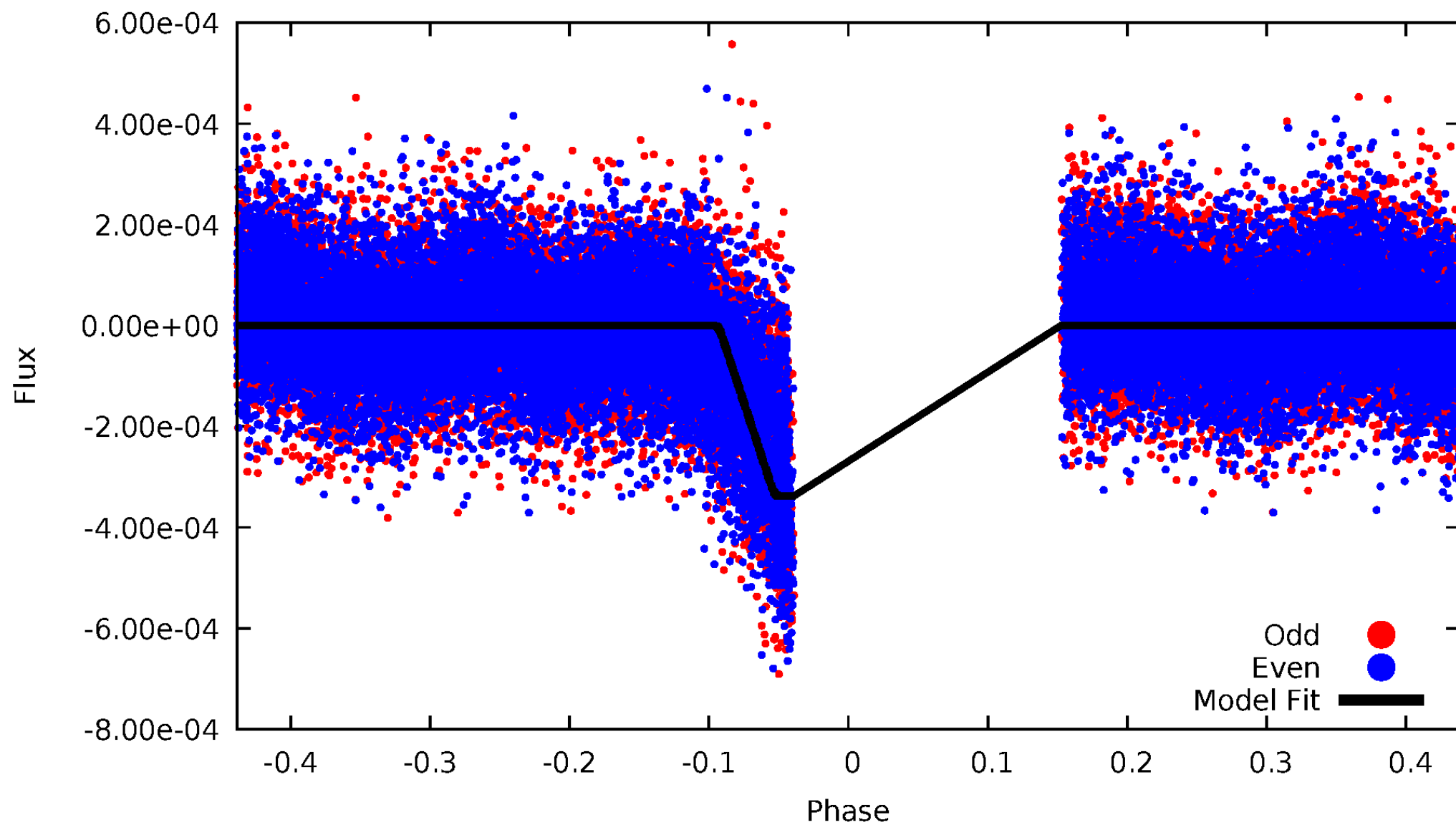
DV Odd/Even

TCE 008458662-02



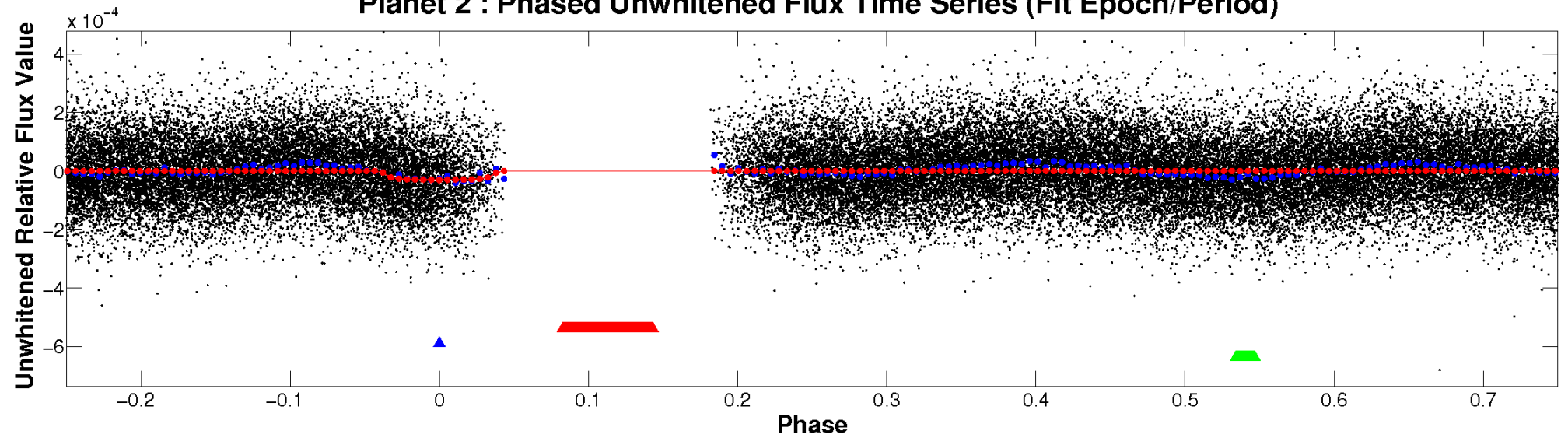
ALT Odd/Even

TCE 008458662-02

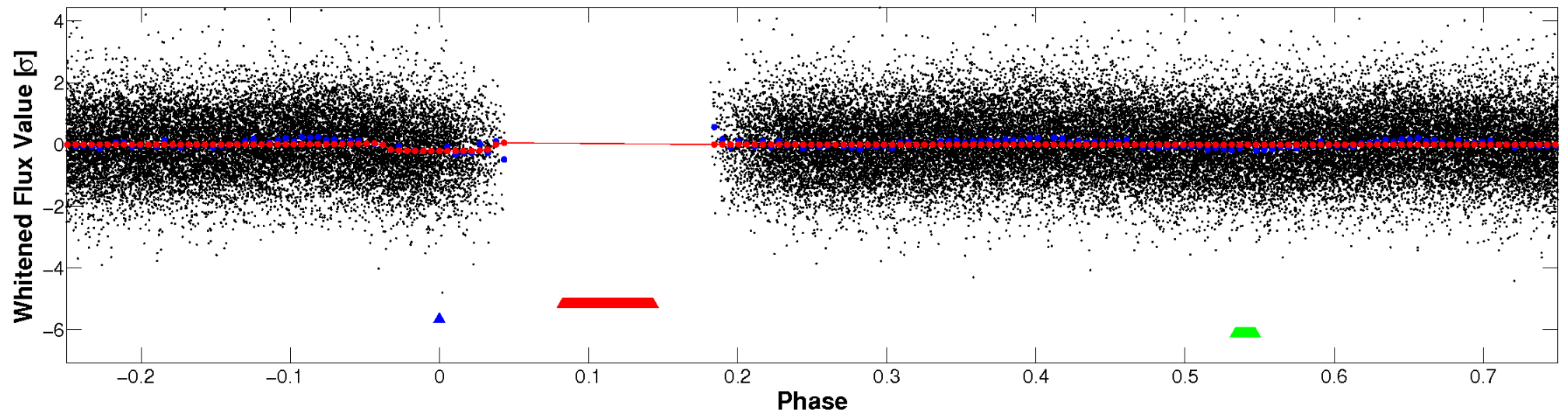


Non-Whitened Vs. Whitened Light Curve

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

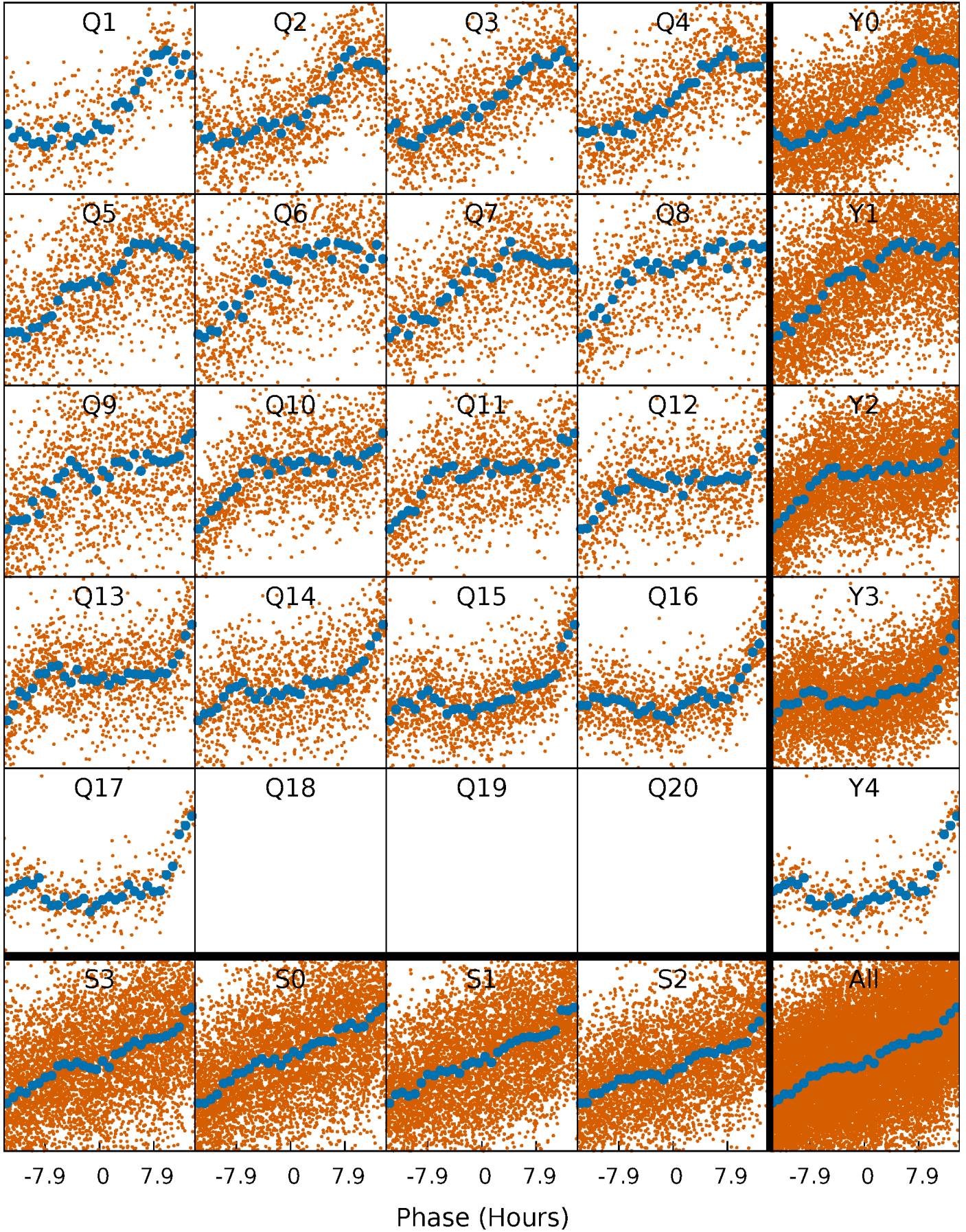


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



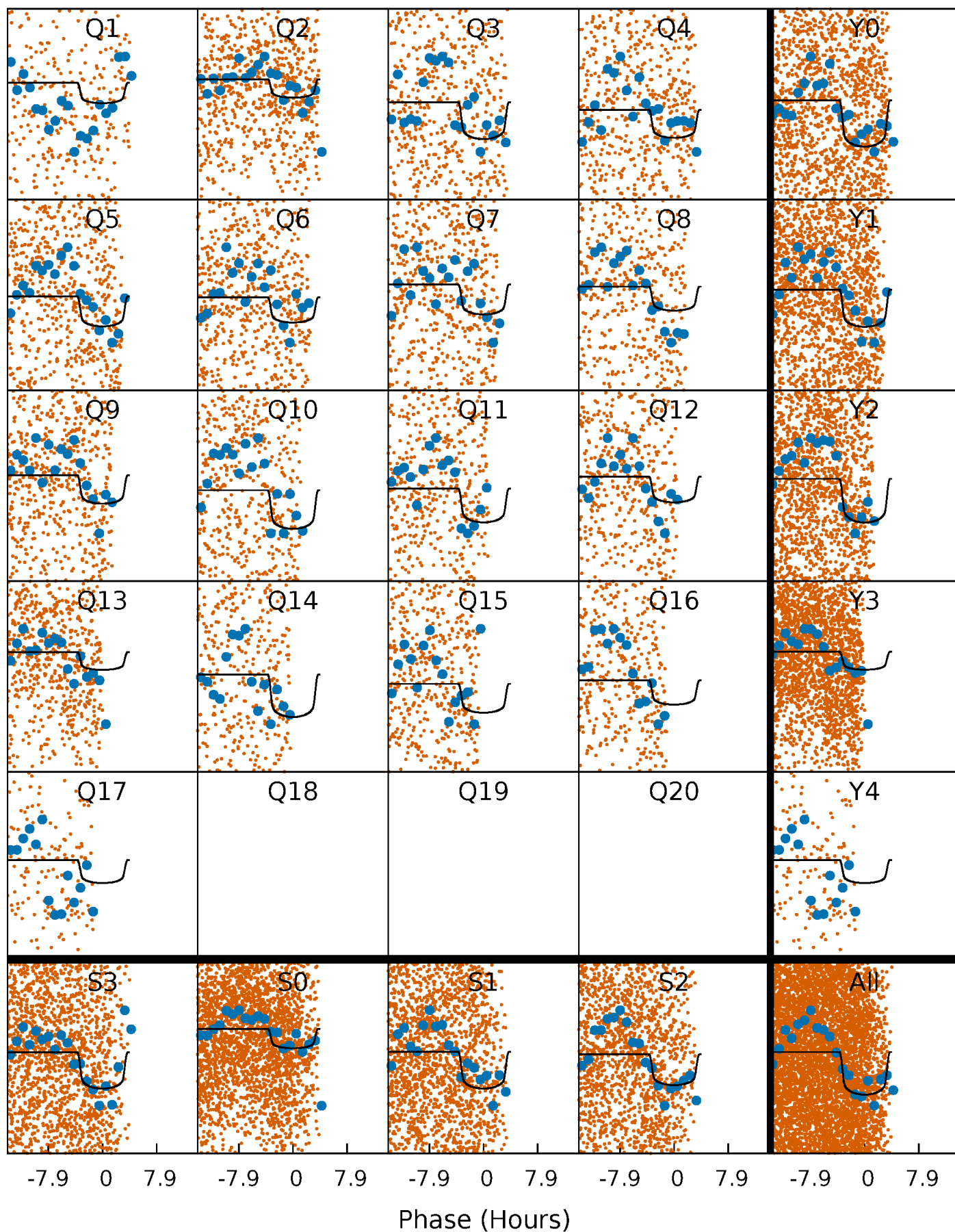
PDC Quarter-Phased Transit Curves

TCE 008458662-02 P= 3.768298 Days $T_0=133.537792$ (BKJD)



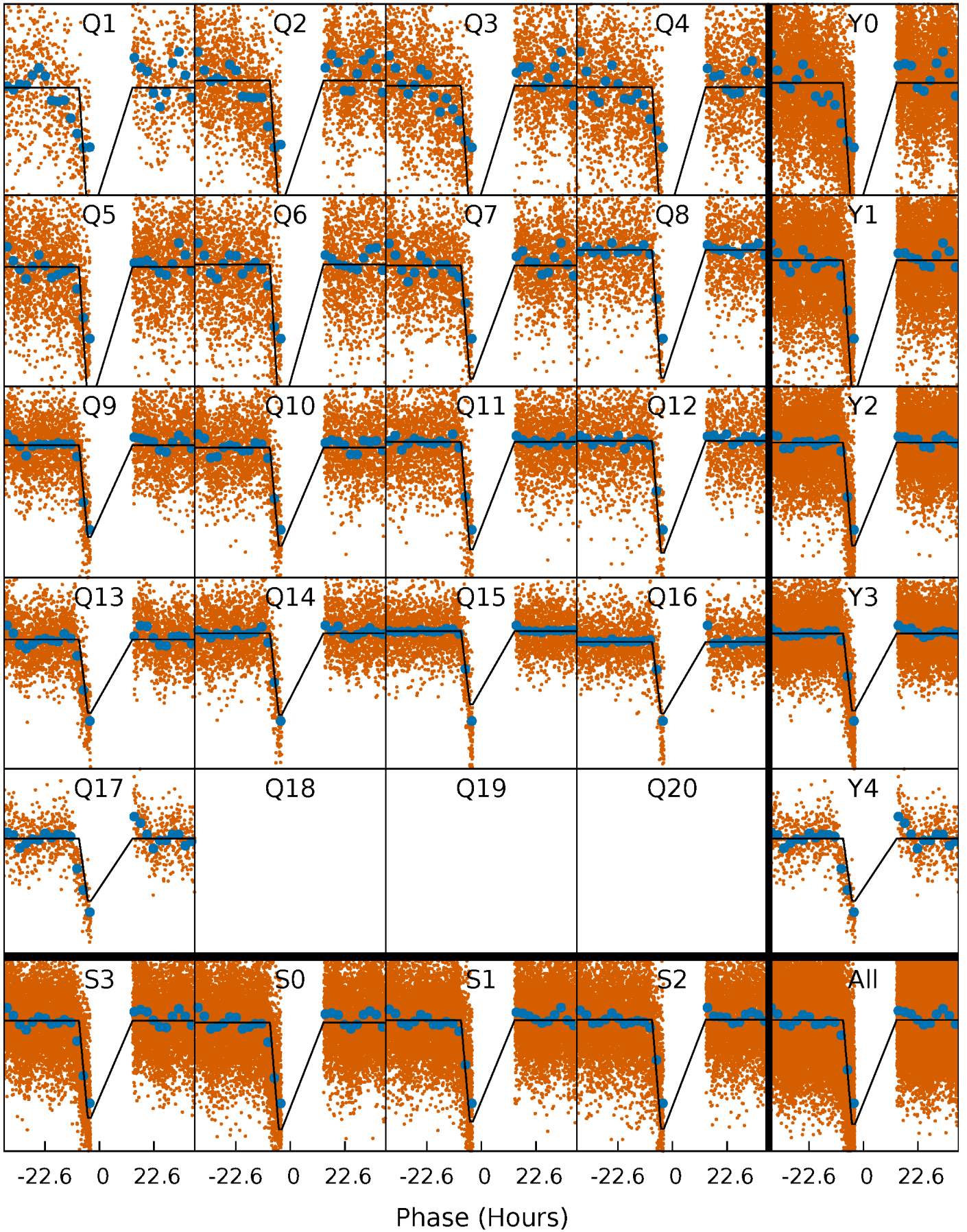
DV Quarter-Phased Transit Curves

TCE 008458662-02 P= 3.768298 Days $T_0=133.537792$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

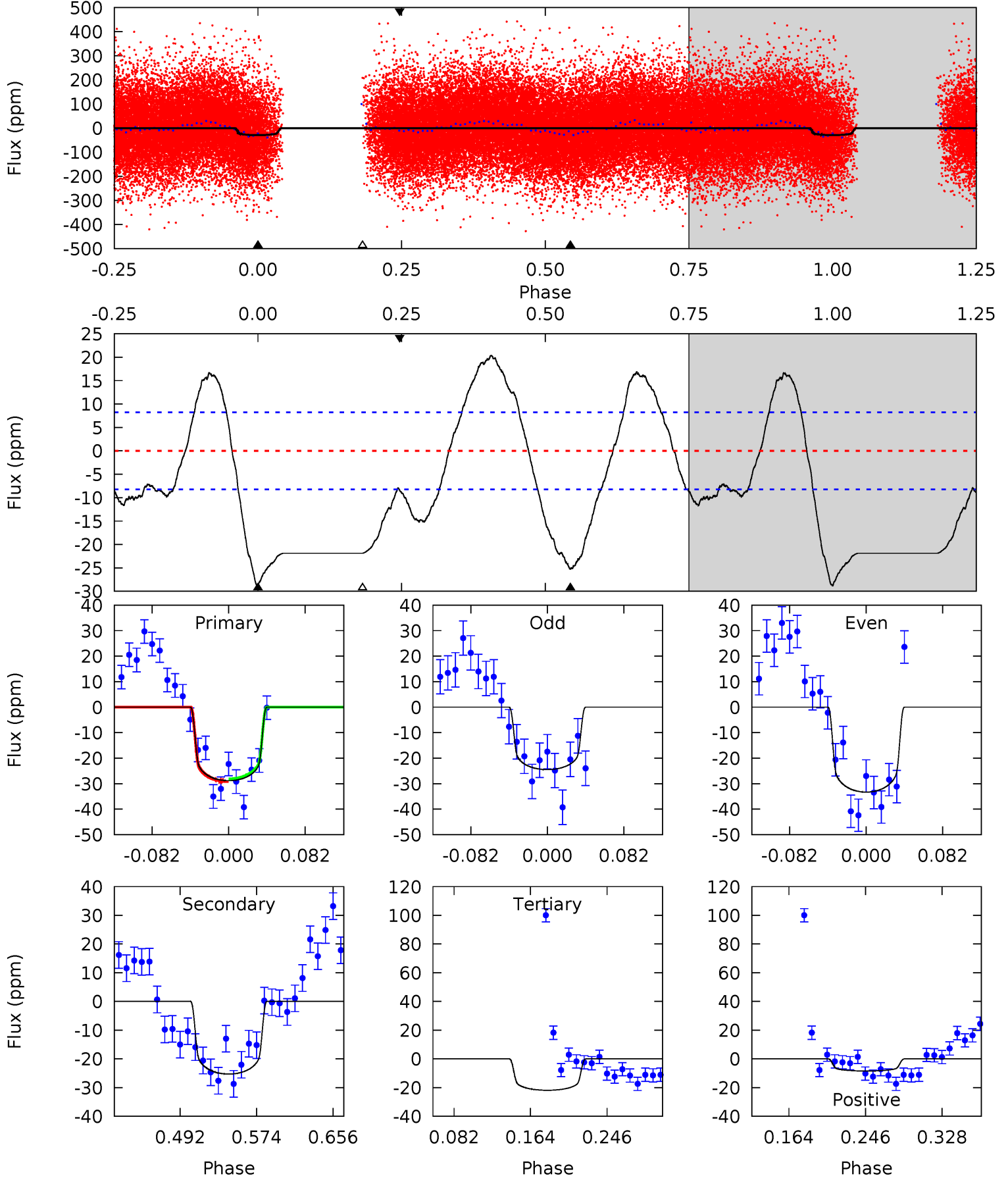
TCE 008458662-02 P= 3.767651 Days $T_0=133.874147$ (BKJD)



DV Model-Shift Uniqueness Test

008458662-02, P = 3.768298 Days, E = 129.769494 Days

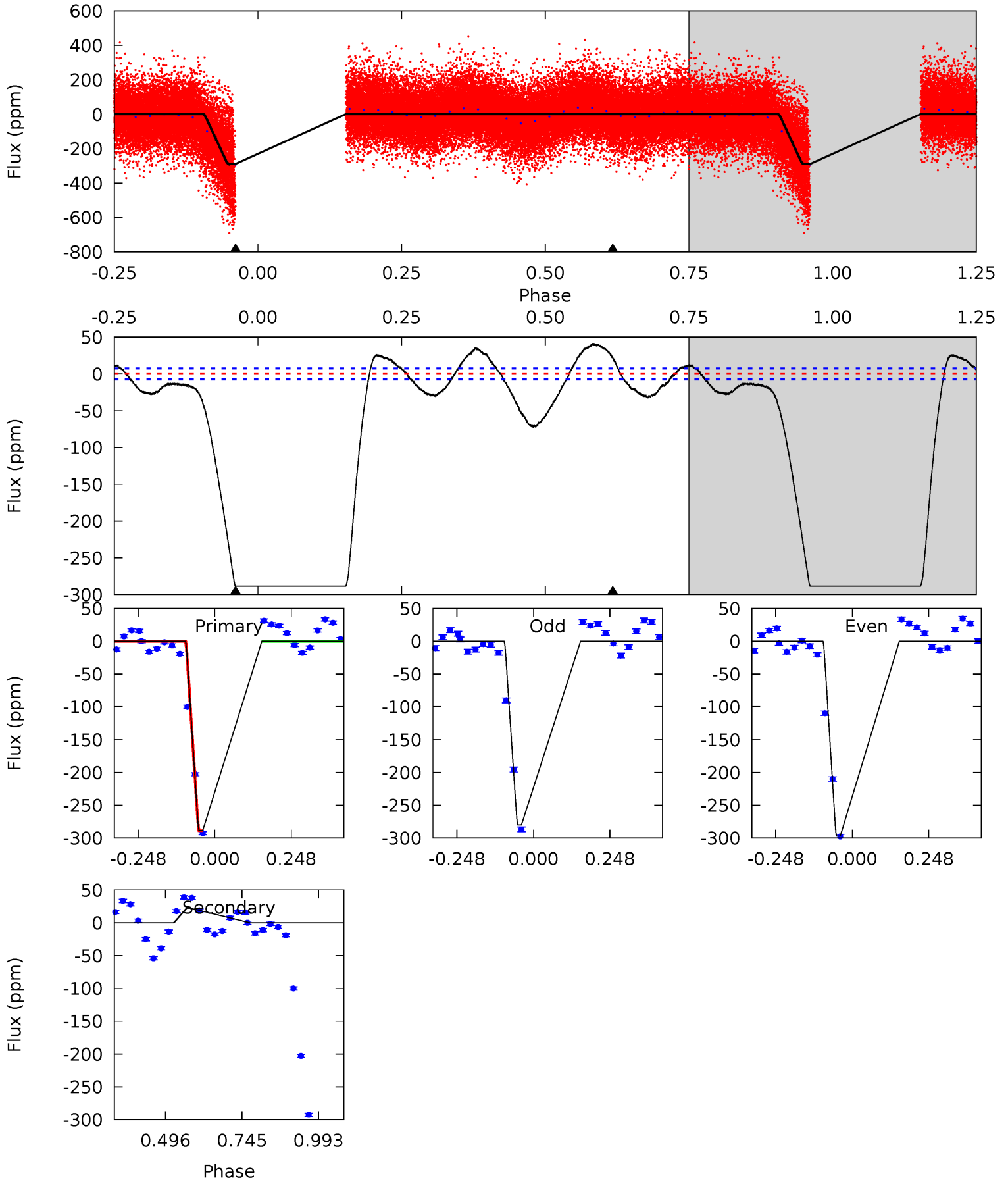
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	14.2	12.3	-4.74	4.61	1.74	6.52	3.90	20.9	1.91	18.9	2.48	1.02	0.41	0.27



Alt Model-Shift Uniqueness Test

008458662-02, P = 3.767651 Days, E = 130.106496 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
167.7	-12.8	0	0	4.37	1.15	12.6	167.7	167.7	-12.8	-12.8	4.95	0	0.12	0



Stellar Parameters For KIC 008458662

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6779^{+168}_{-202}	$3.717^{+0.312}_{-0.078}$	$-0.180^{+0.300}_{-0.250}$	$2.958^{+0.464}_{-1.082}$	$1.664^{+0.201}_{-0.373}$	$0.091^{+0.195}_{-0.024}$
	+2%/-3%	+8%/-2%	+167%/-139%	+16%/-37%	+12%/-22%	+215%/-27%
Source	PHO1	FLK73	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 008458662-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-25 ± 2	$1.84^{+0.45}_{-0.41}$	2960^{+175}_{-279}	6067^{+607}_{-453}	13^{+8}_{-4}
Alt.	22 ± 2	$5.71^{+0.74}_{-1.08}$	2952^{+179}_{-258}	-3938^{+106}_{-108}	$-1.189^{+0.244}_{-0.531}$

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

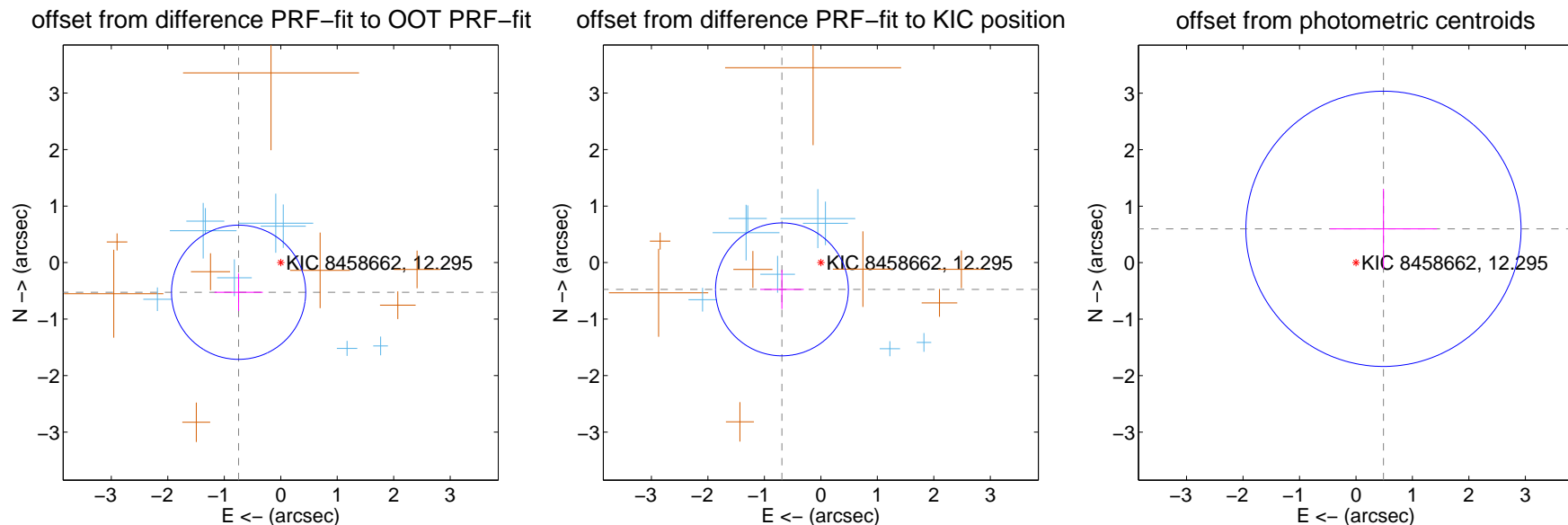
DV Centroid Data

Supplemental centroid analysis for 008458662-02. Kepler magnitude: 12.29. Transit SNR 11.16

There are 8 quarters with good PRF difference image offsets

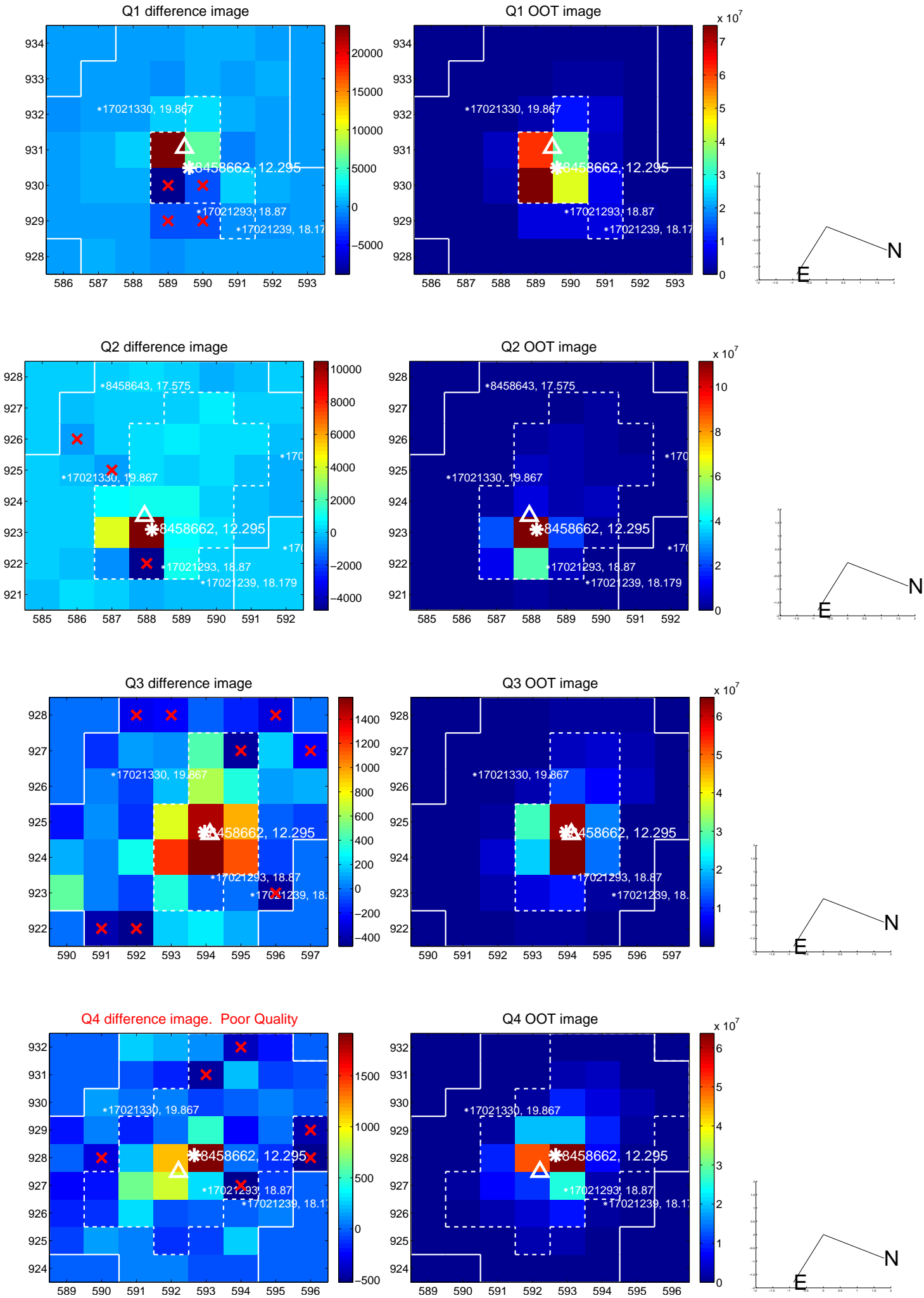
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.912 ± 0.396	2.30	0.746 ± 0.427	-0.525 ± 0.333
PRF-fit source offset from KIC position	0.836 ± 0.392	2.13	0.689 ± 0.385	-0.474 ± 0.346
photometric centroid source offset	0.77 ± 0.81	0.95	-0.49 ± 0.95	0.60 ± 0.71

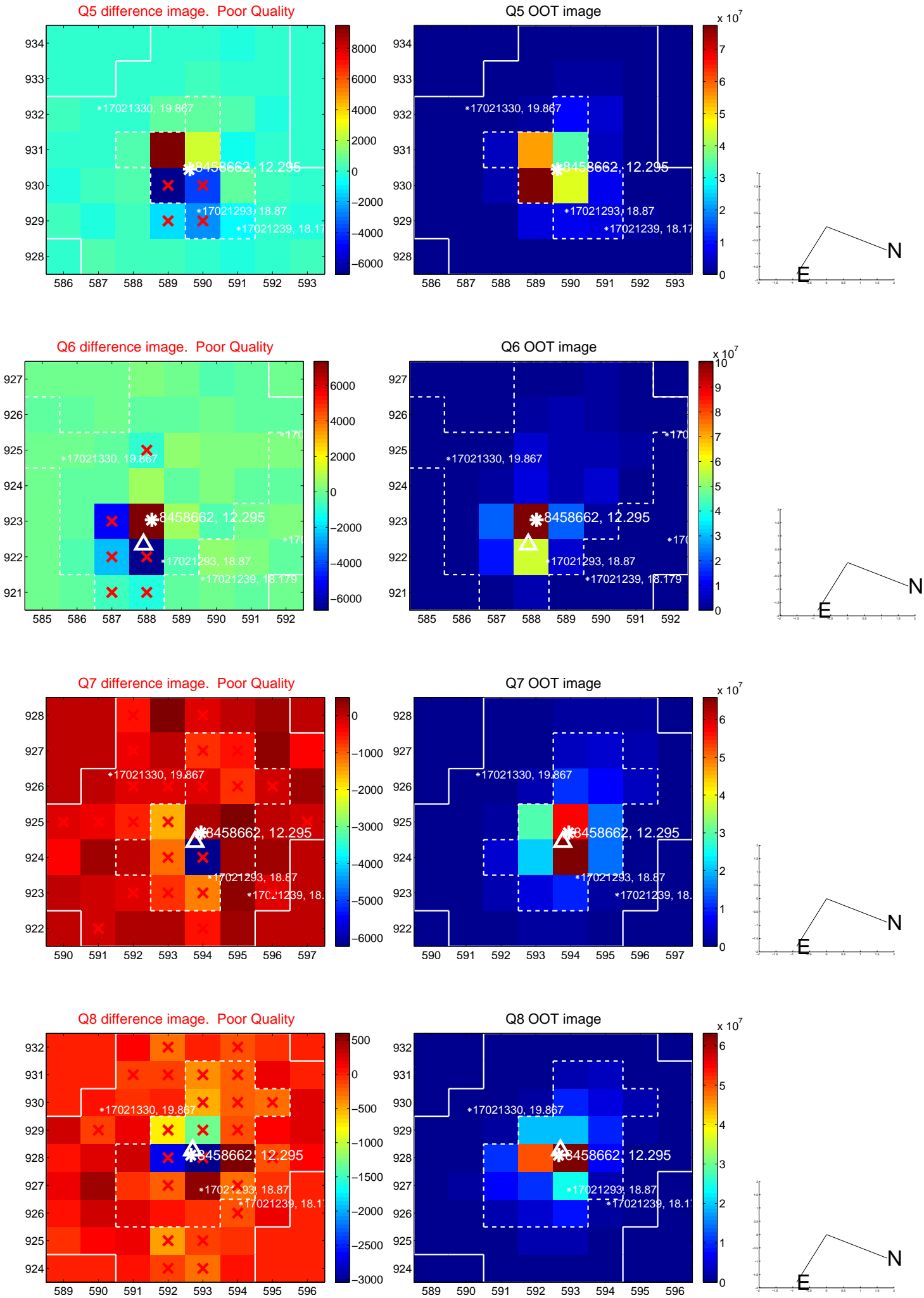


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

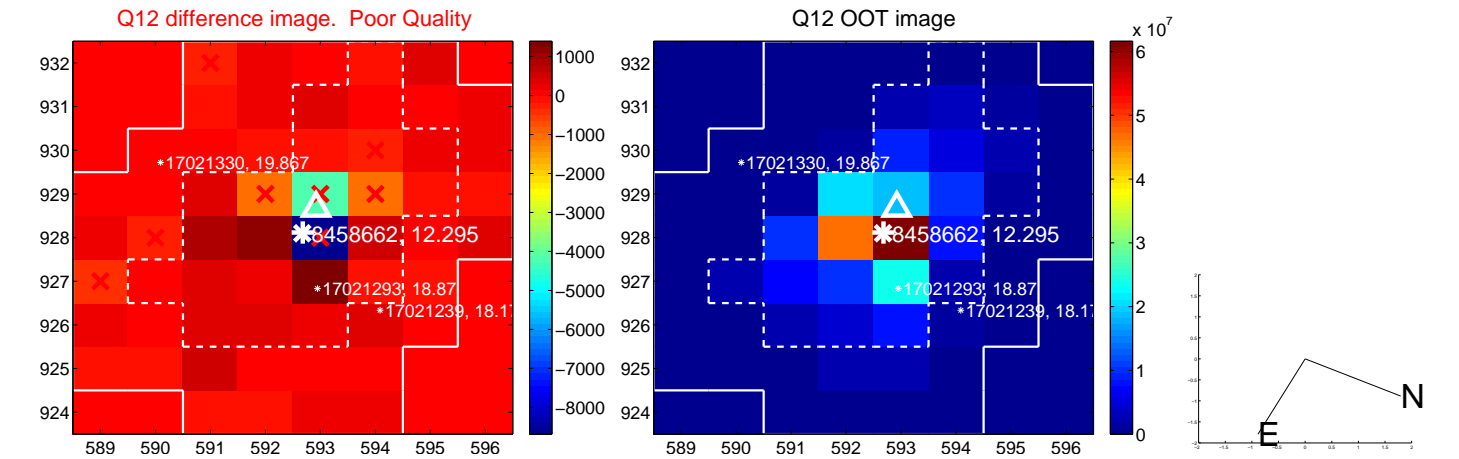
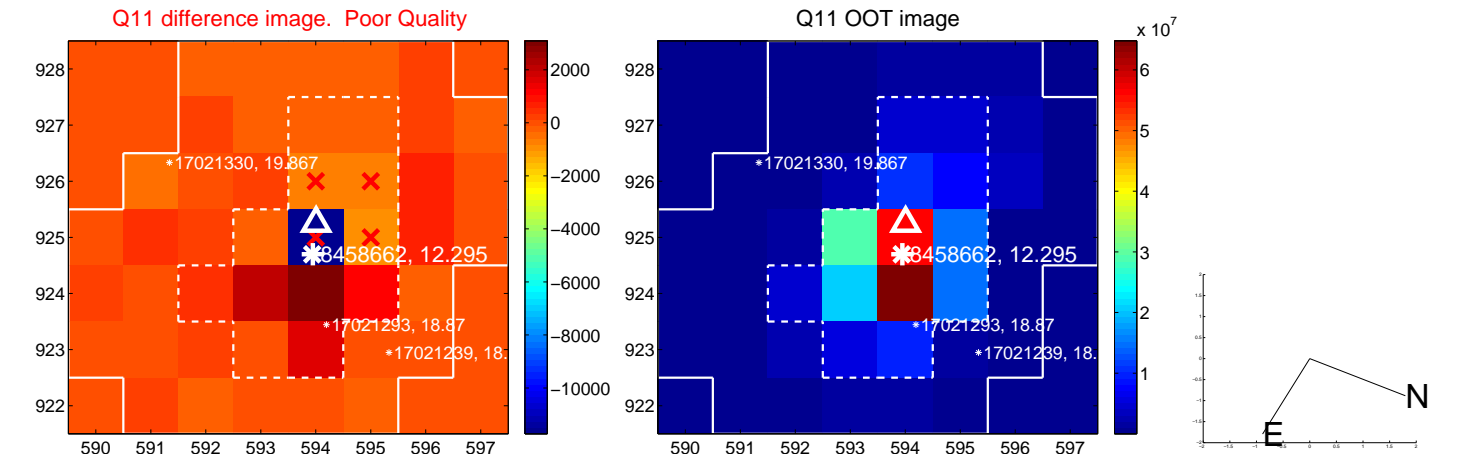
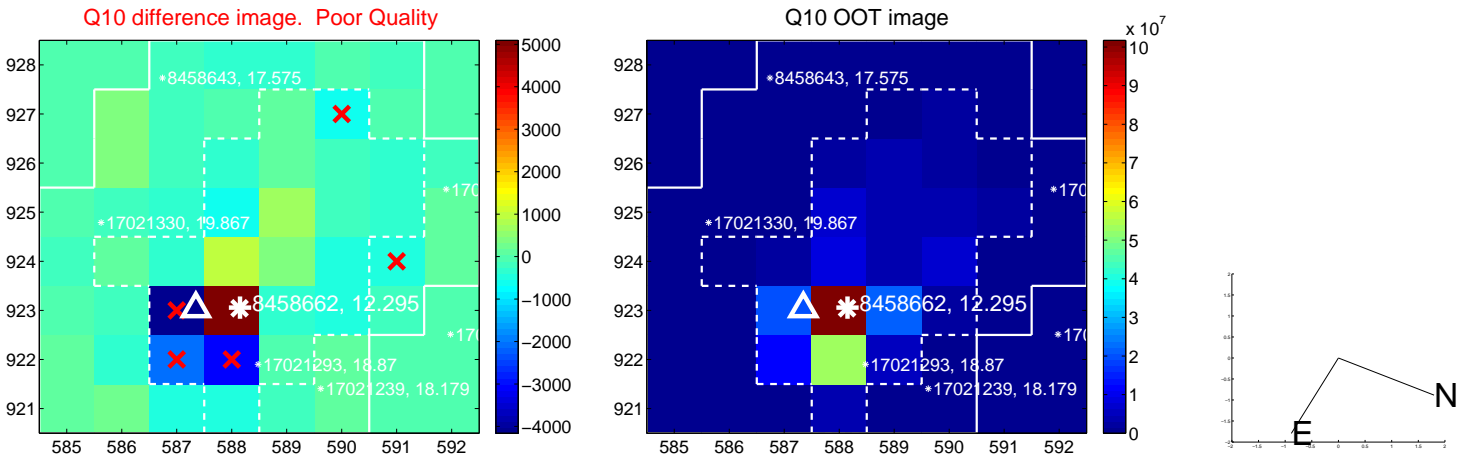
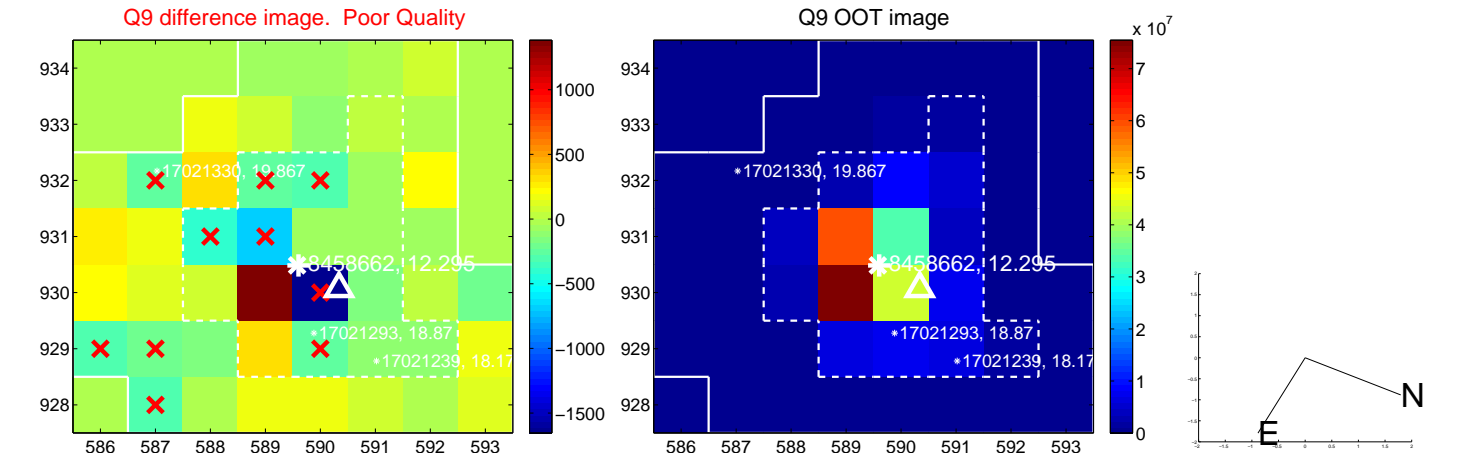
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



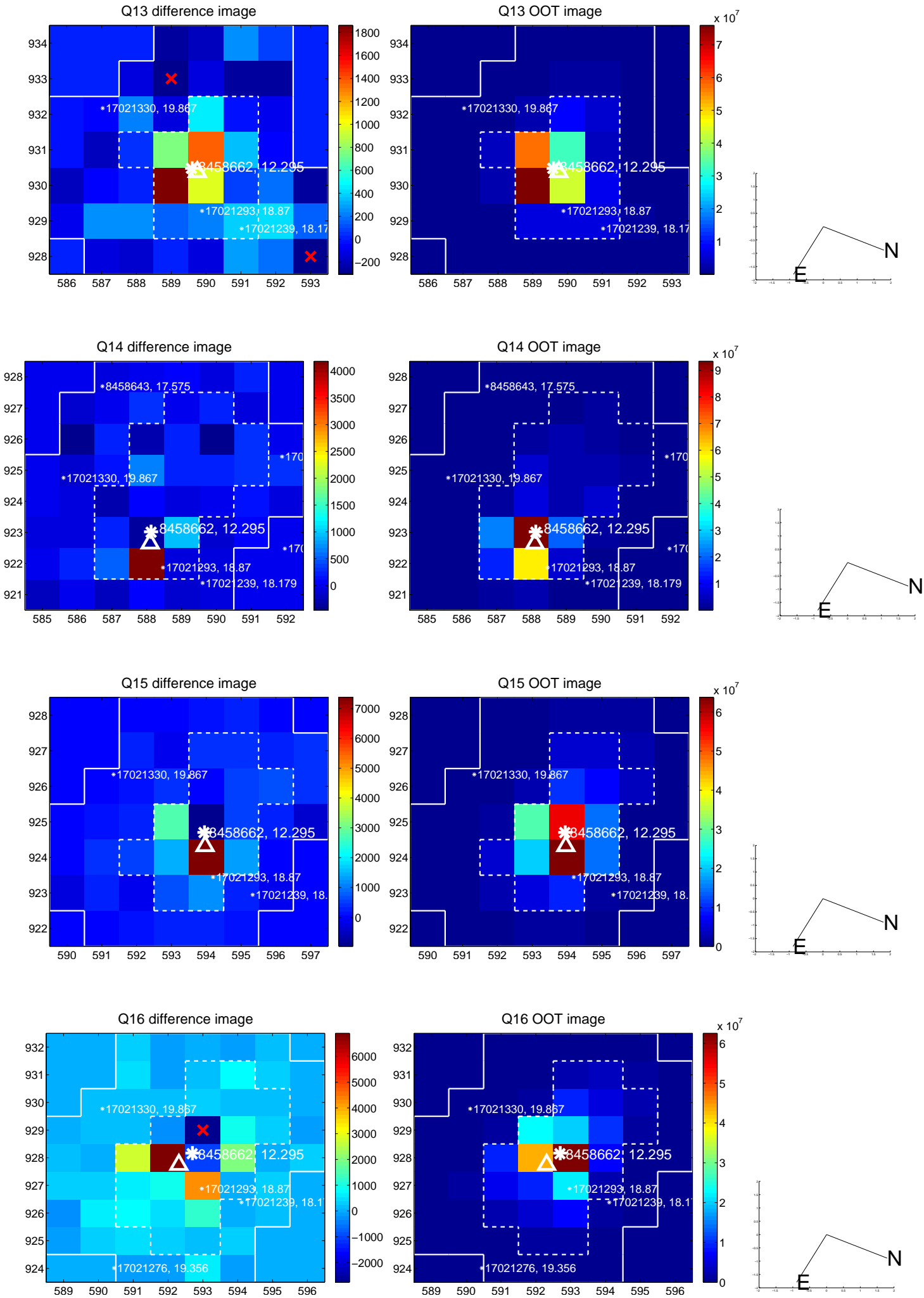
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



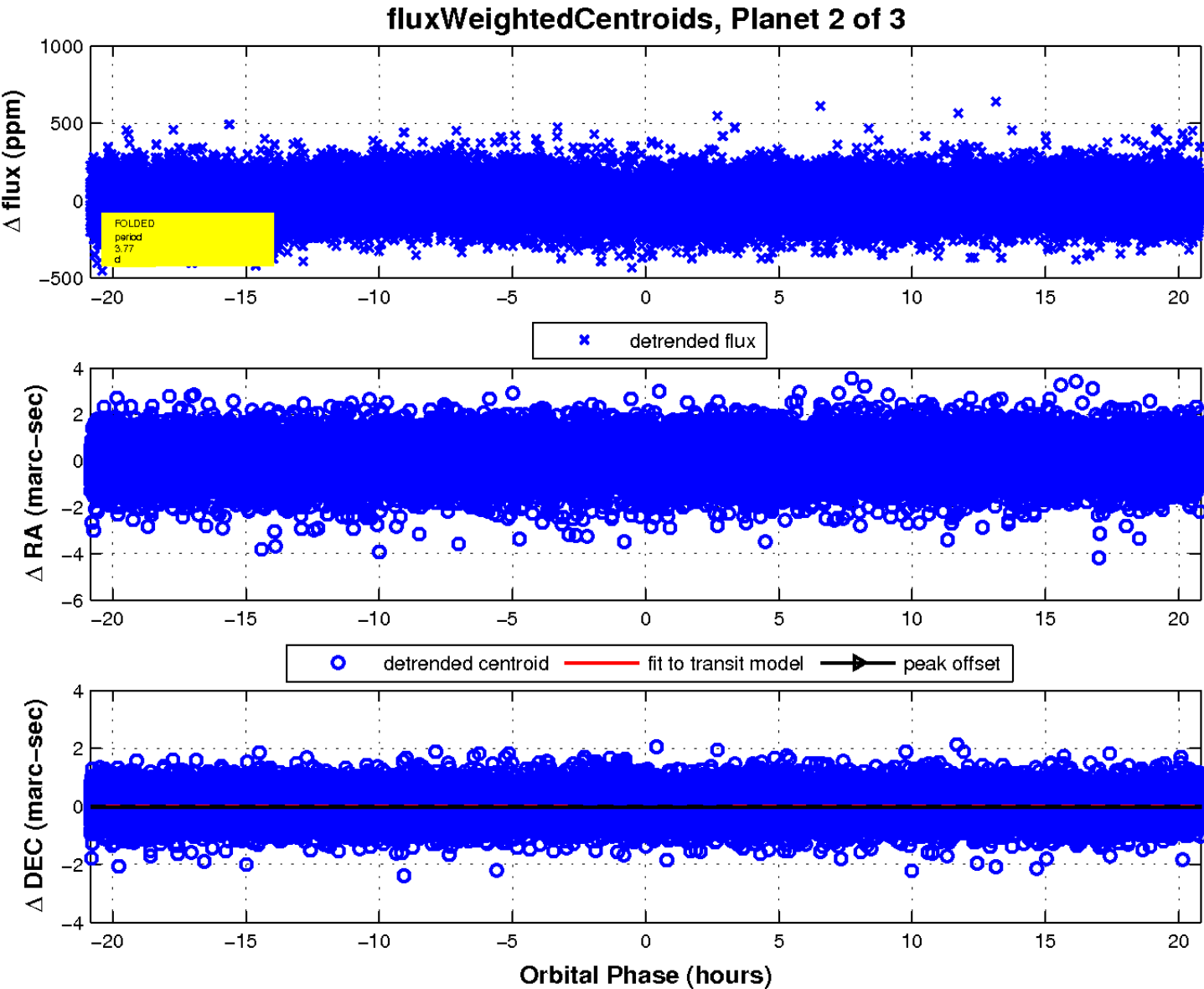
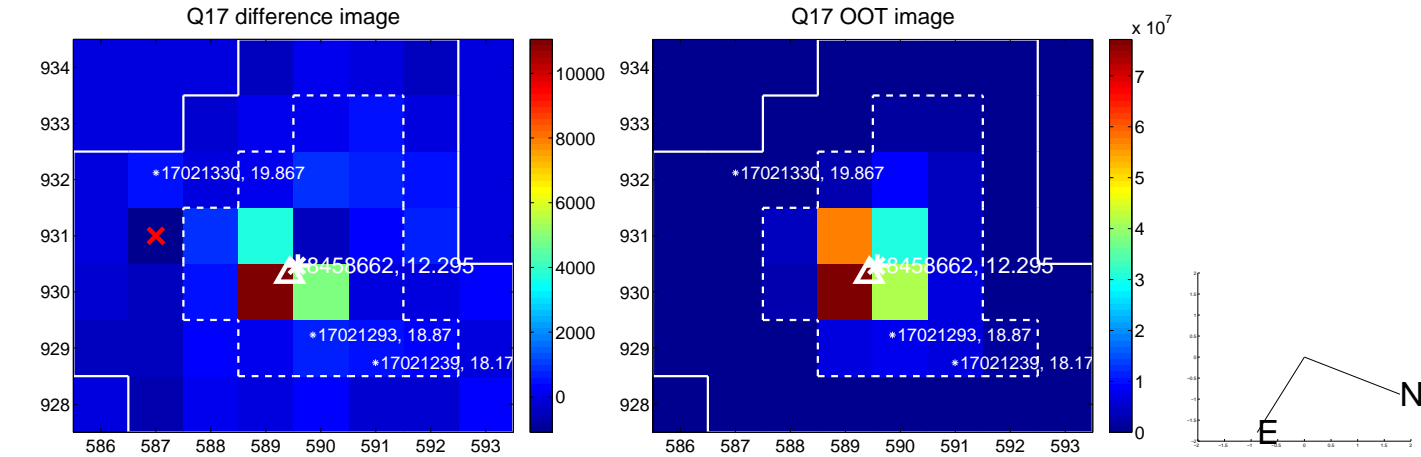
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

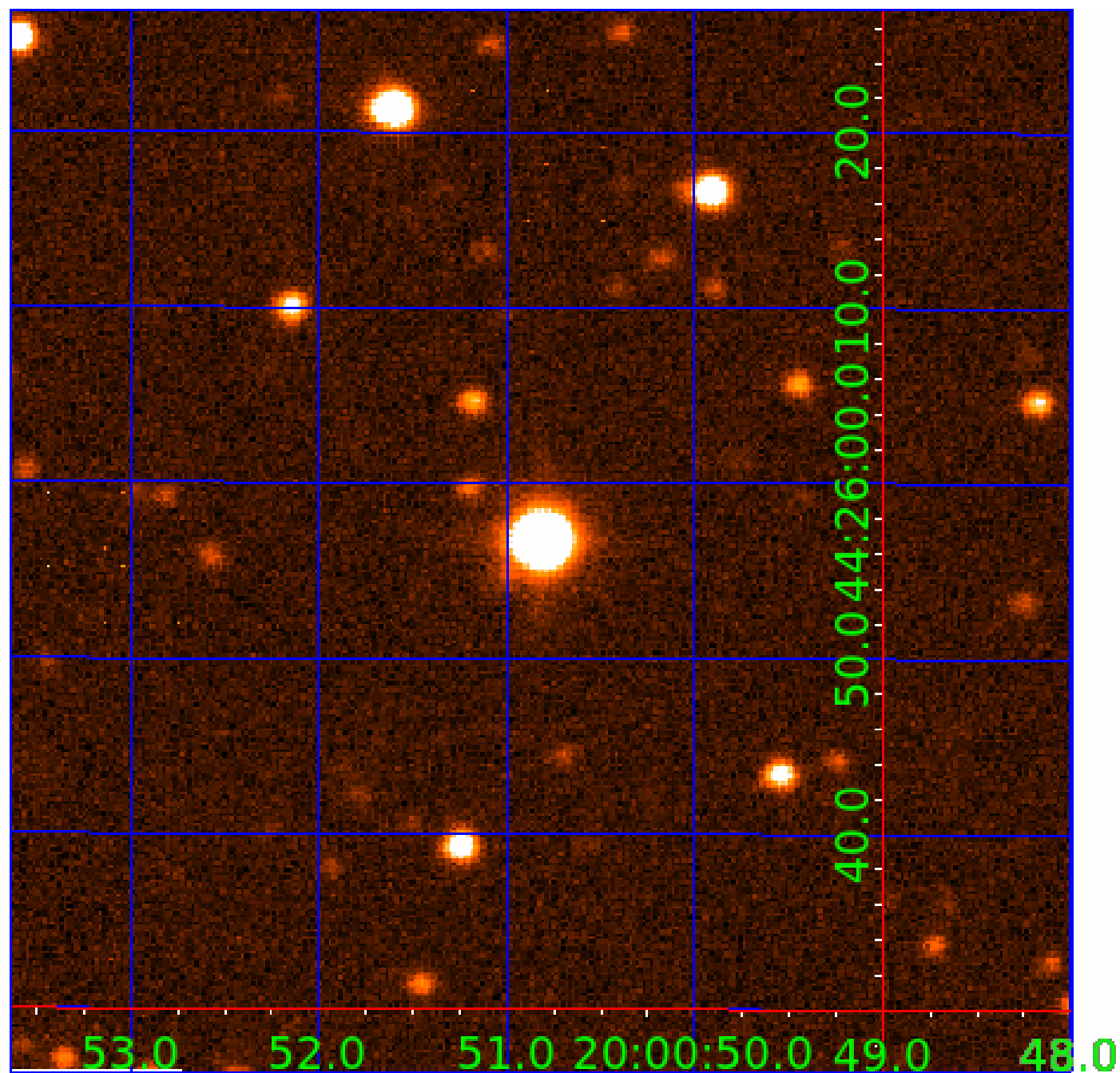


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008458662

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})
008458662-01	OBS	No	3.767706	134.077574	11.4	5.766	11.2	4.4	2.96	6779	1.14	5249.52
008458662-02	OBS	No	3.768298	133.537792	30.6	6.947	11.1	11.2	2.96	6779	1.99	5248.42
008458662-03	OBS	No	3.768173	131.830180	19.1	13.577	10.8	10.8	2.96	6779	1.38	5248.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008458662-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008458662-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008458662-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

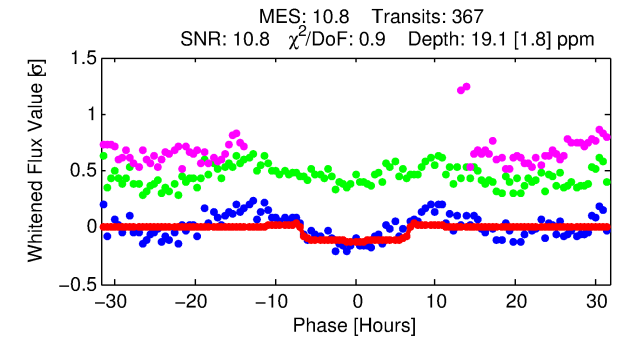
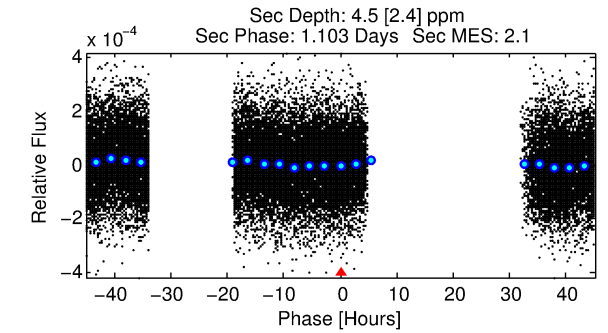
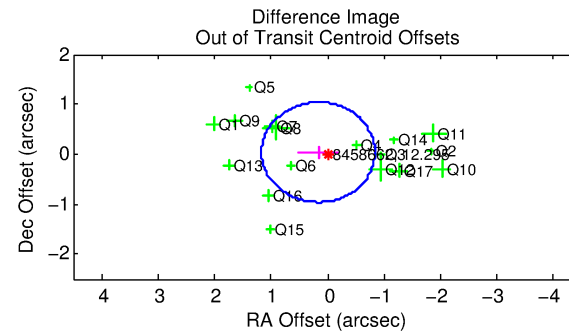
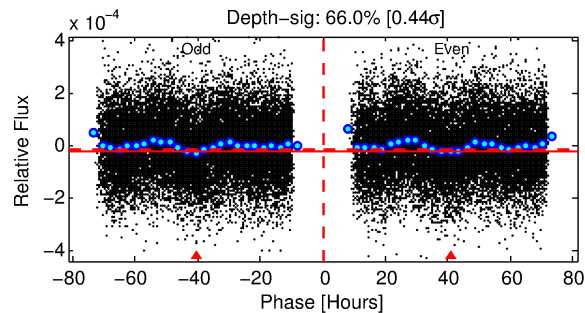
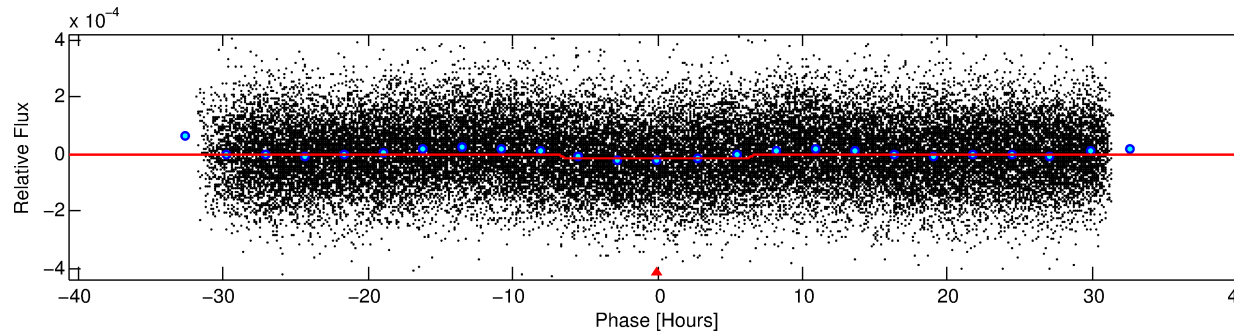
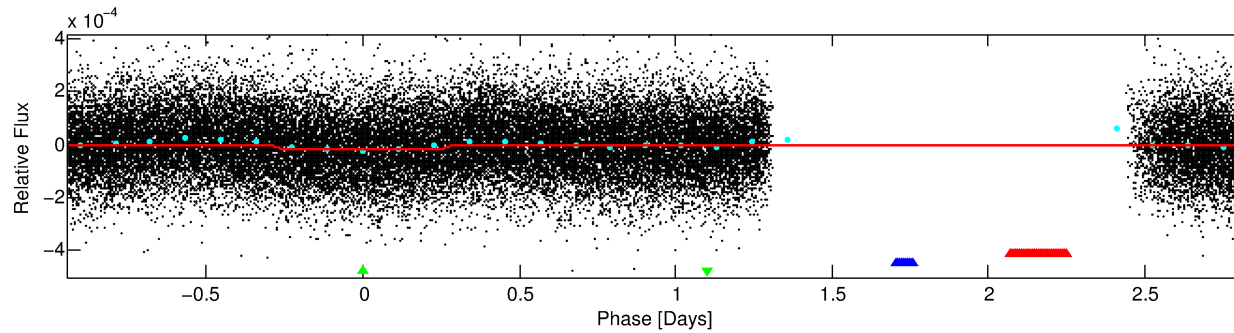
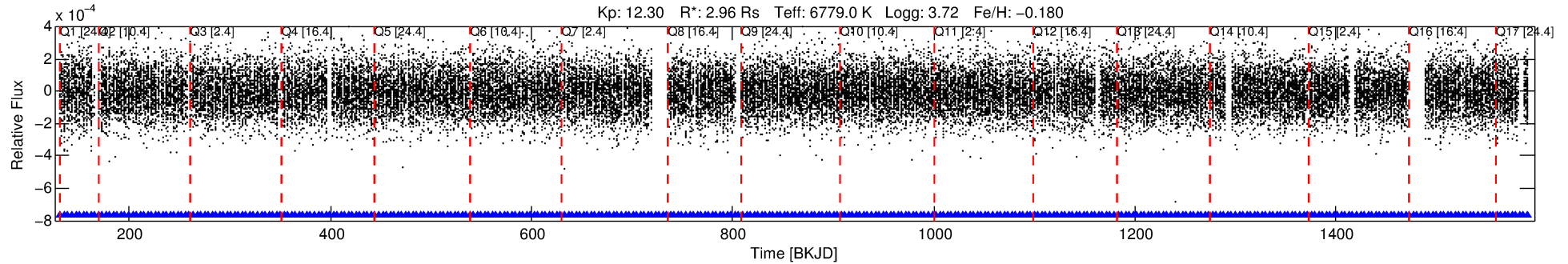
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008458662-03

No Significant Match Found

DV One-Page Summary

KIC: 8458662 Candidate: 3 of 3 Period: 3.768 d



DV Fit Results:

Period = 3.76817 [0.00005] d
Epoch = 131.8302 [0.0088] BKJD
Rp/R* = 0.0043 [0.0010]
a/R* = 1.78 [1.61]
b = 0.67 [1.09]
Seff = 5248.65 [2889.41]
Teq = 2170 [299] K
Rp = 1.38 [0.60] Re
a = 0.0562 [0.0192] AU
Ag = 4.10 [3.65] [0.85 σ]
Teffp = 4776 [859] K [2.87 σ]

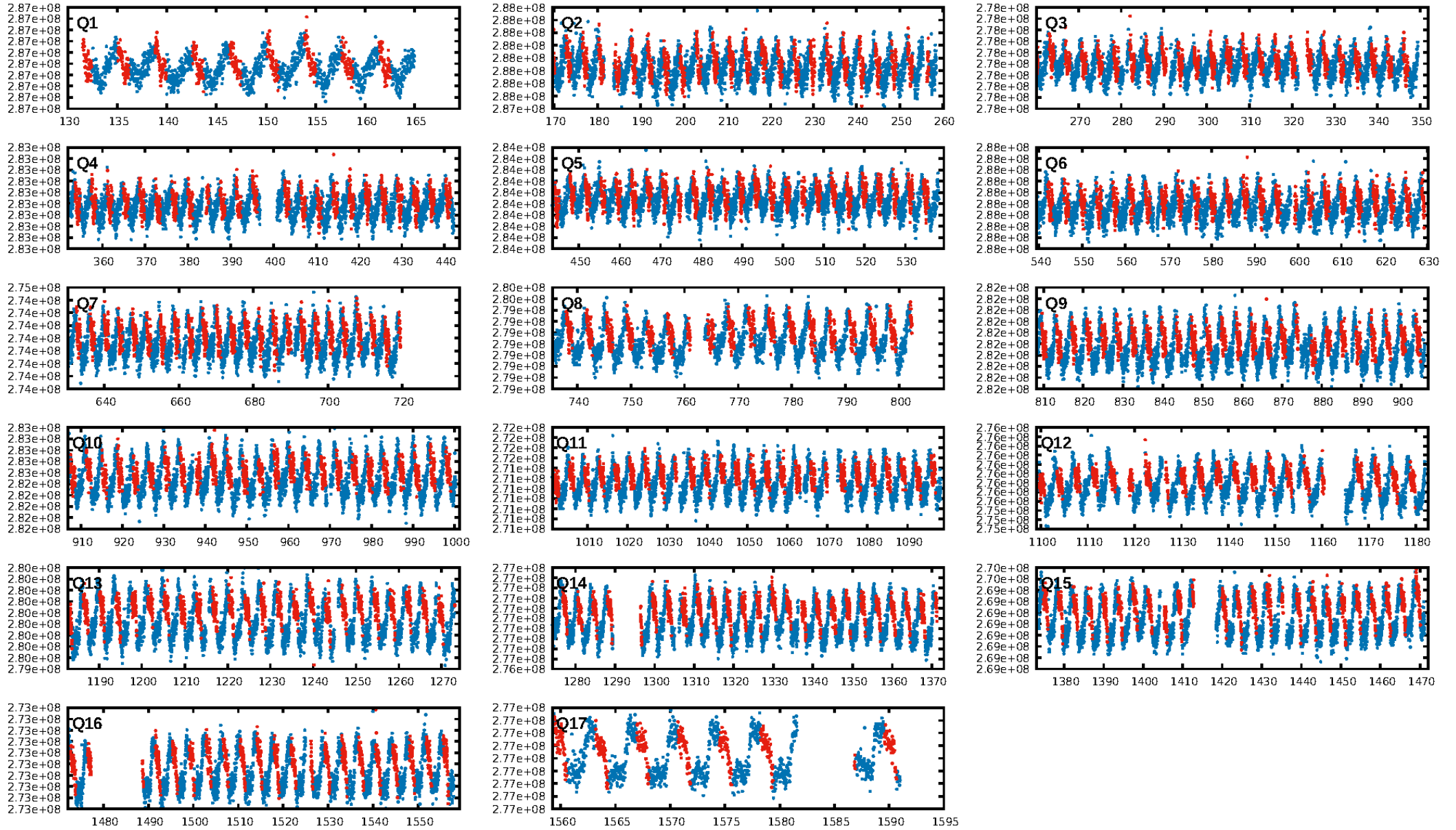
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.37e-20
RollingBand-fgt: 1.00 [351/351]
GhostDiagnostic-chr: 5.308
Centroid-sig: N/A
Centroid-so: 1.954 arcsec [1.66 σ]
OotOffset-rm: 0.169 arcsec [0.51 σ]
KicOffset-rm: 0.122 arcsec [0.36 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 1.00 [17/17]

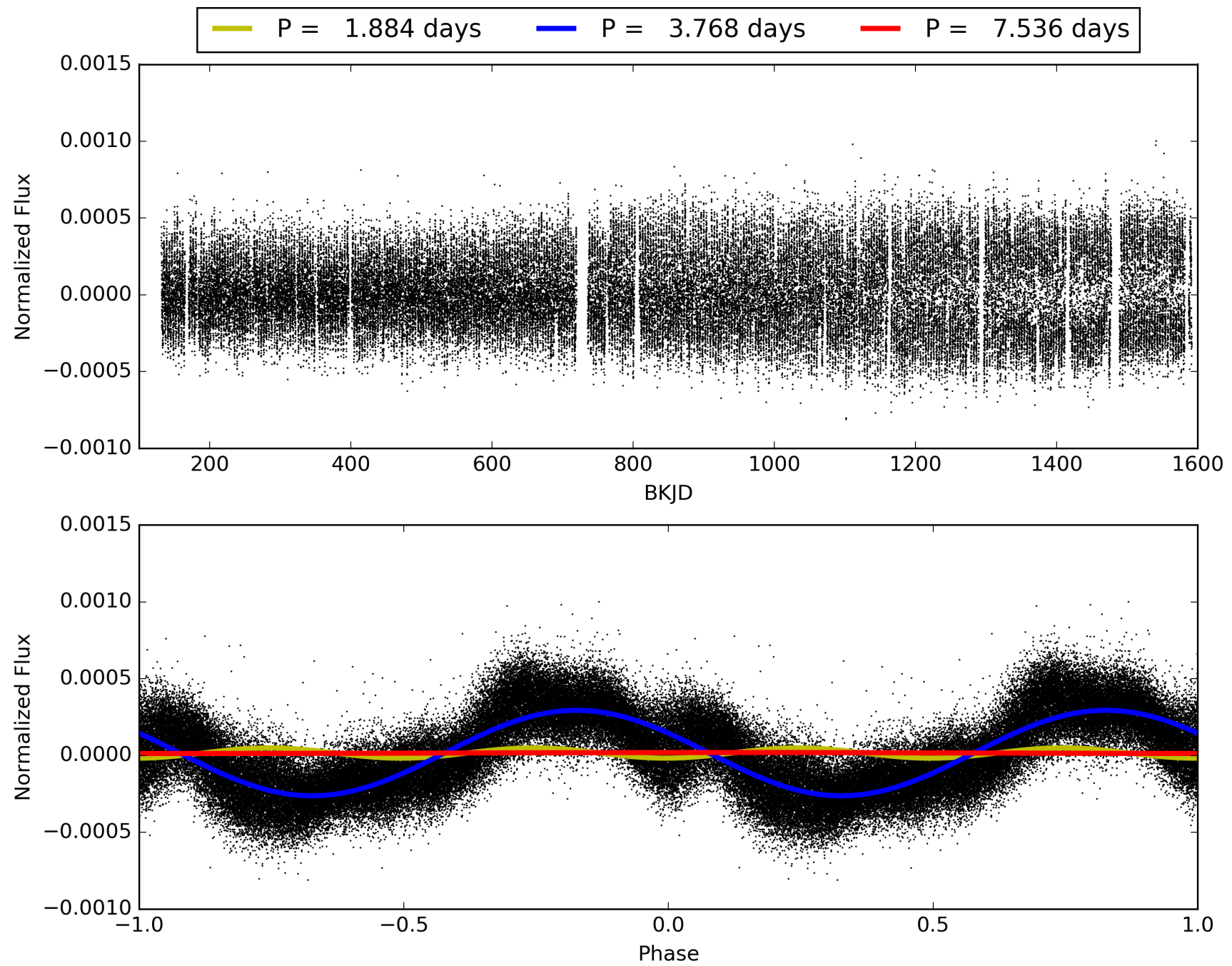
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:29:51 Z

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

TCE 008458662-03, PDC Light Curves

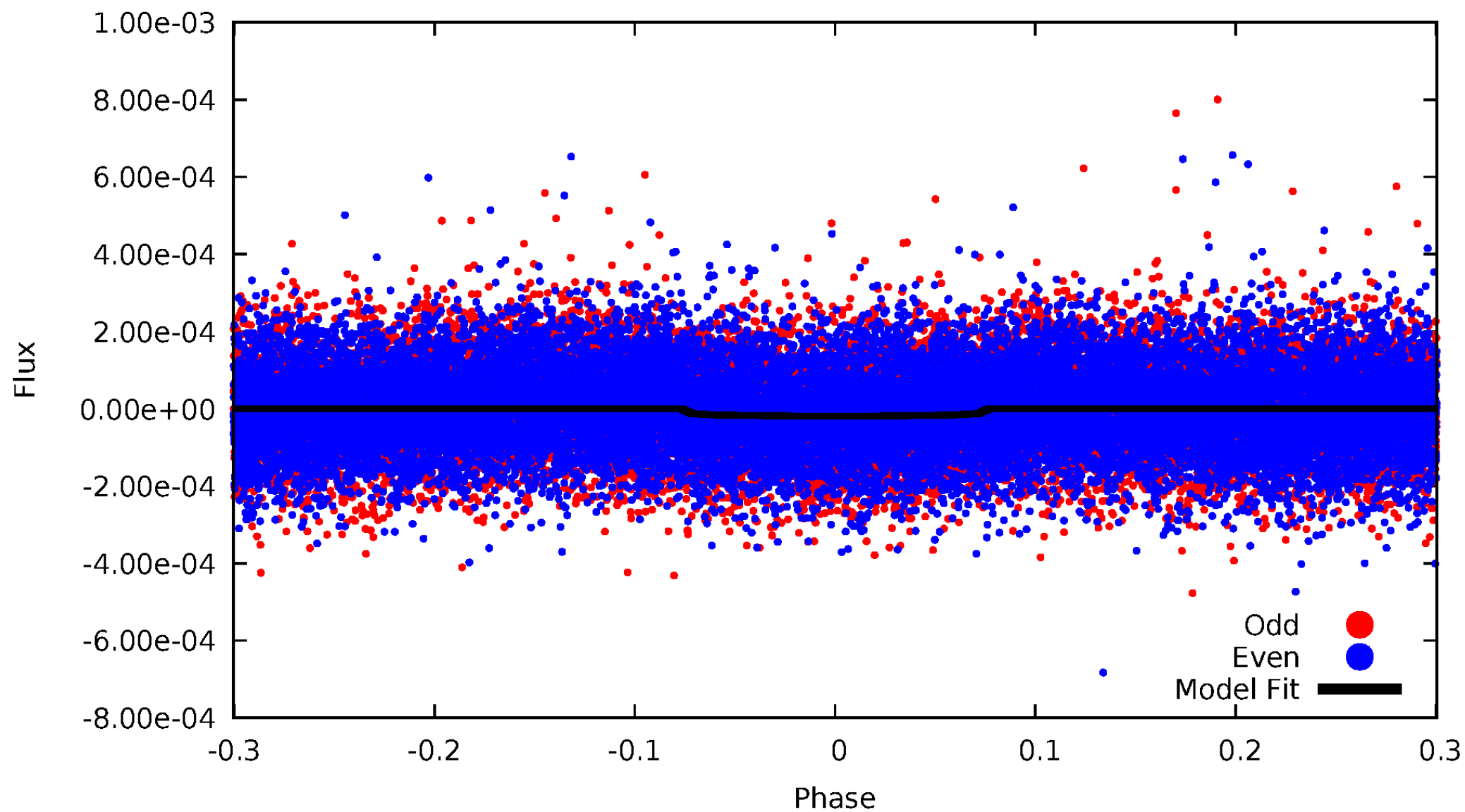


TCE 008458662-03



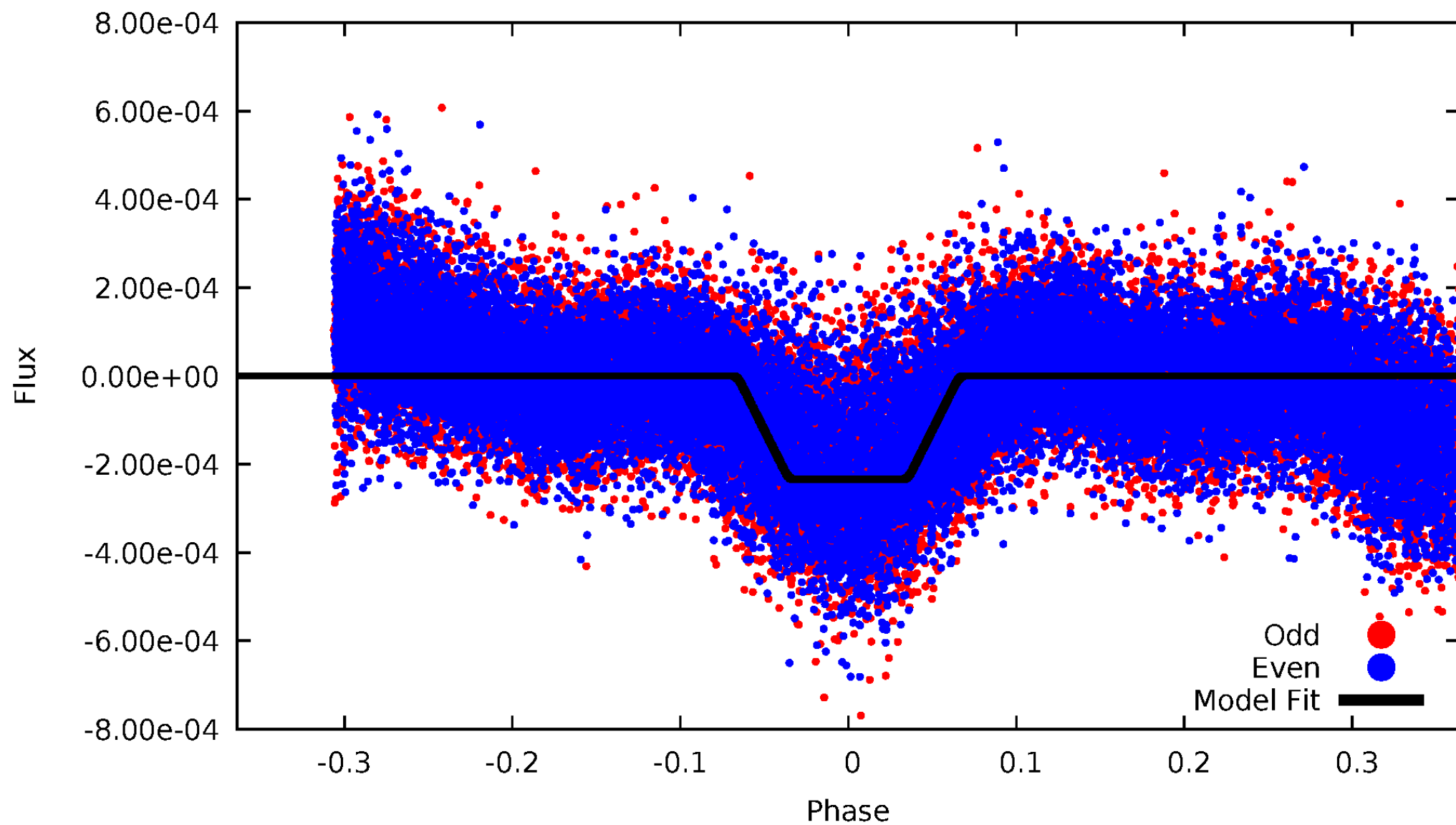
DV Odd/Even

TCE 008458662-03



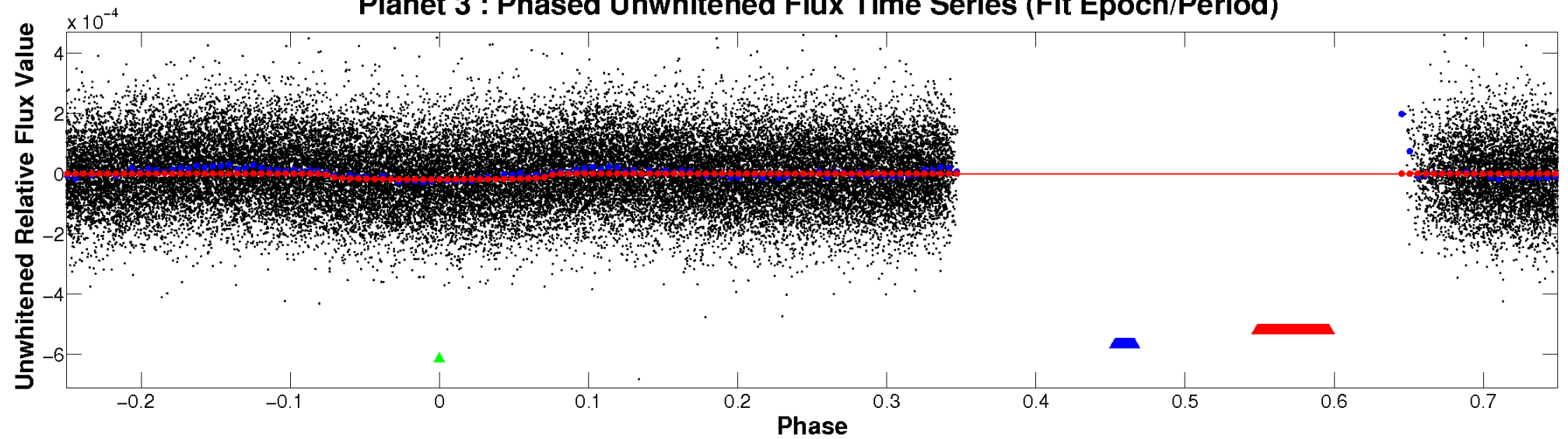
ALT Odd/Even

TCE 008458662-03

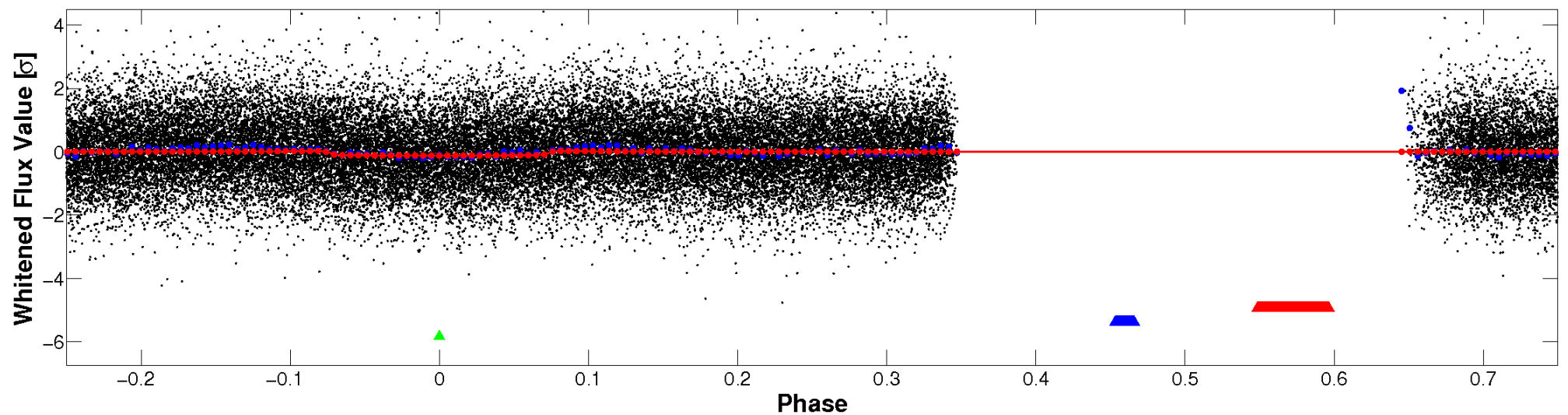


Non-Whitened Vs. Whitened Light Curve

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

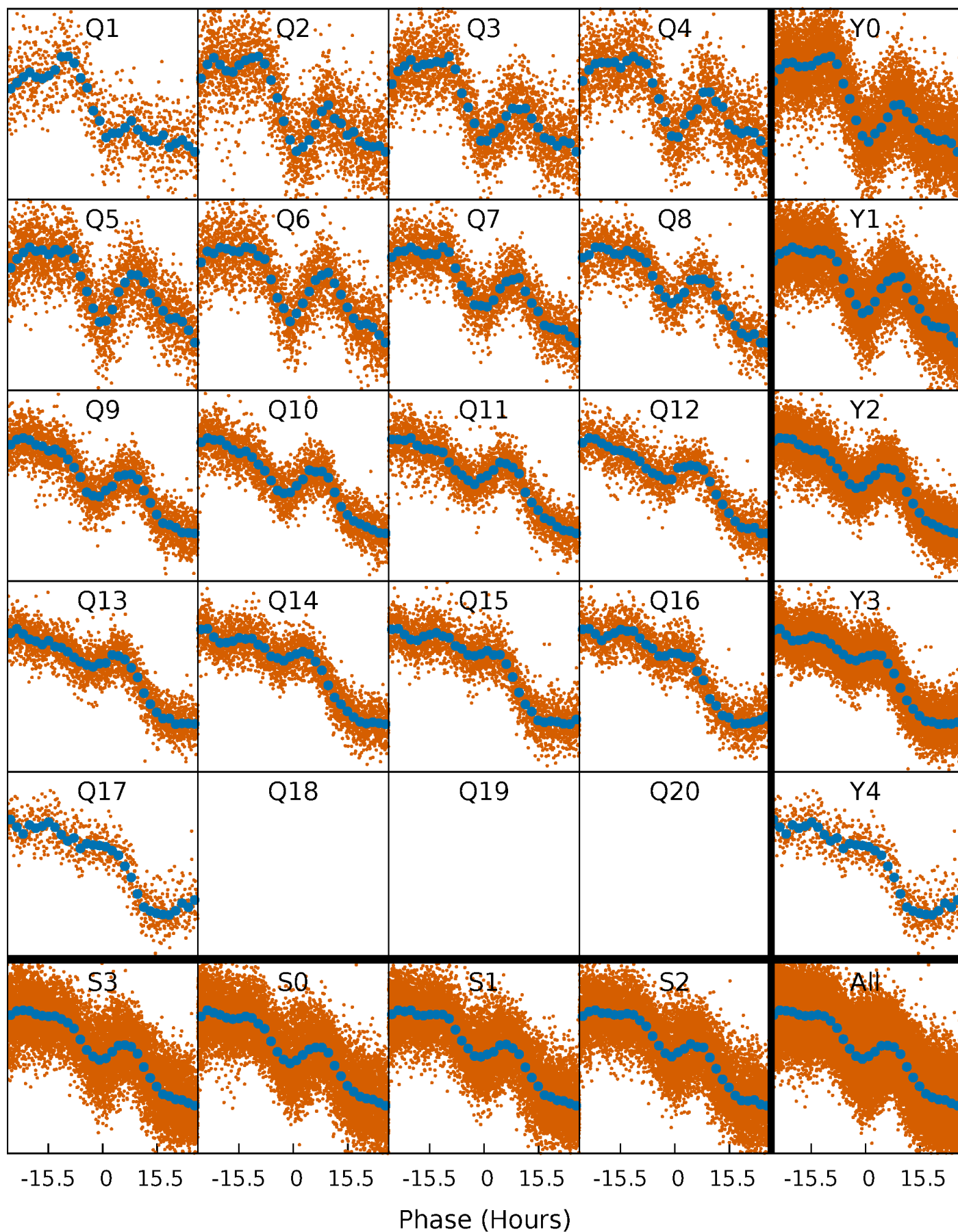


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



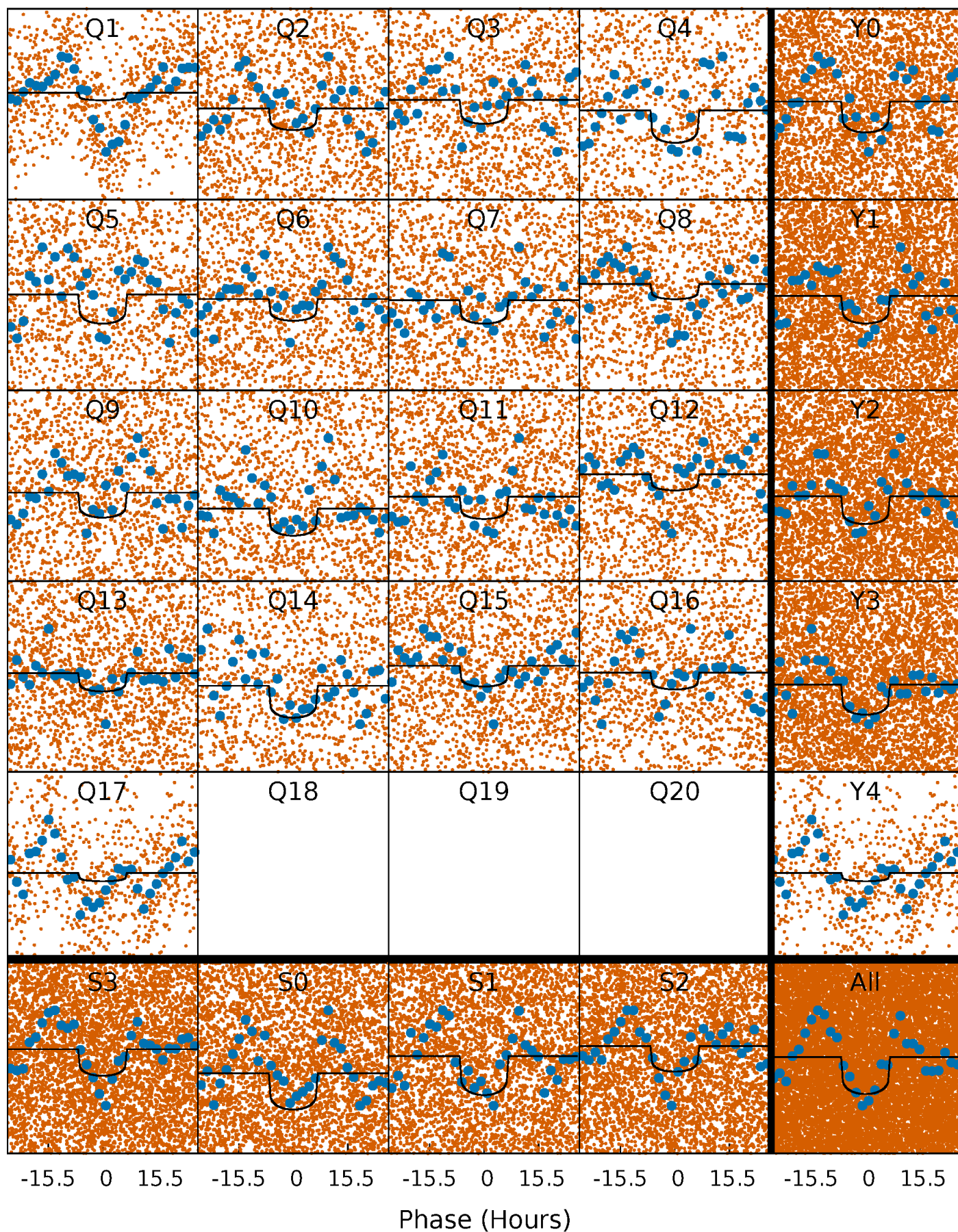
PDC Quarter-Phased Transit Curves

TCE 008458662-03 P= 3.768173 Days $T_0=131.830180$ (BKJD)



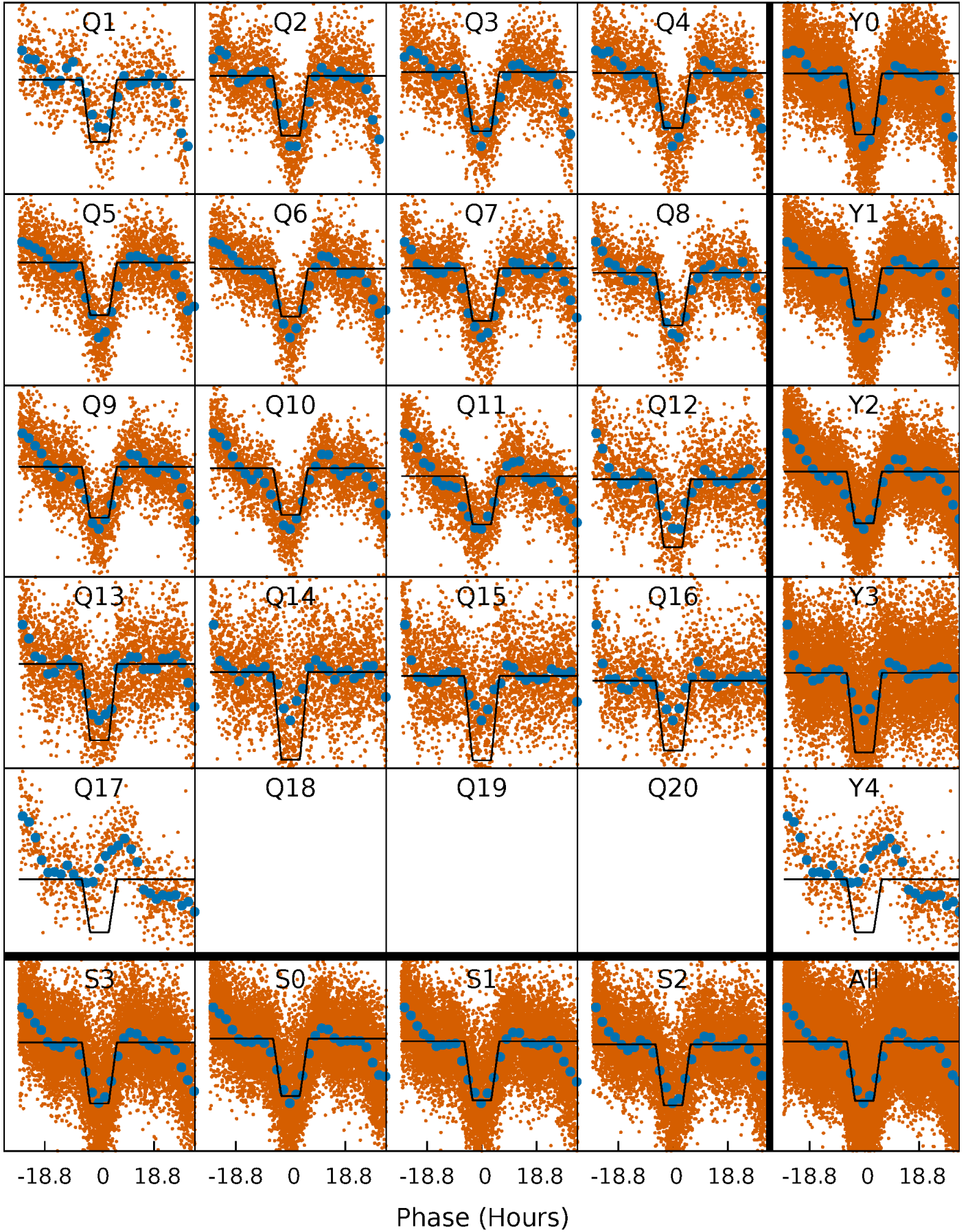
DV Quarter-Phased Transit Curves

TCE 008458662-03 P= 3.768173 Days $T_0=131.830180$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

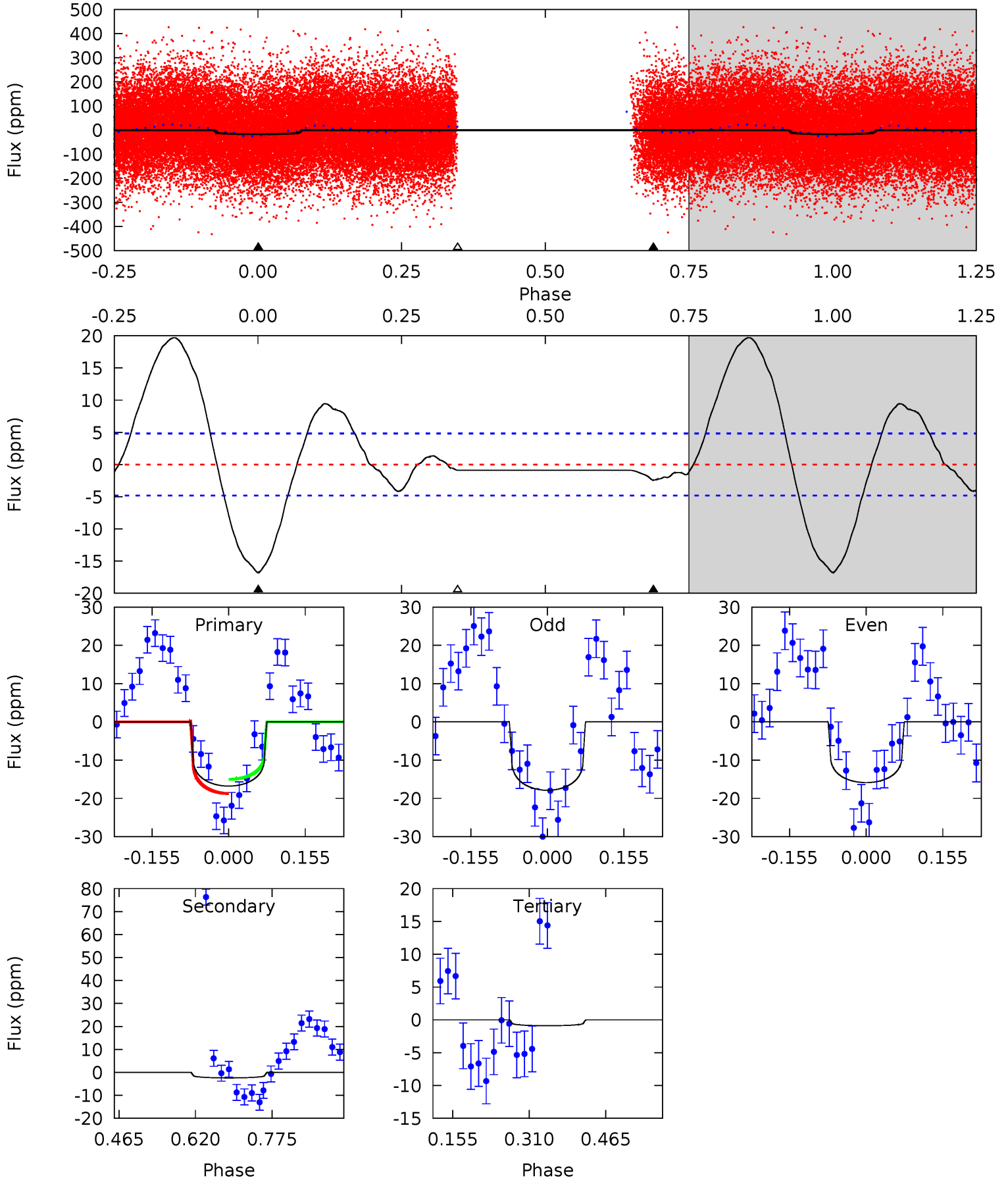
TCE 008458662-03 P= 3.767686 Days $T_0=131.834562$ (BKJD)



DV Model-Shift Uniqueness Test

008458662-03, P = 3.768173 Days, E = 128.062007 Days

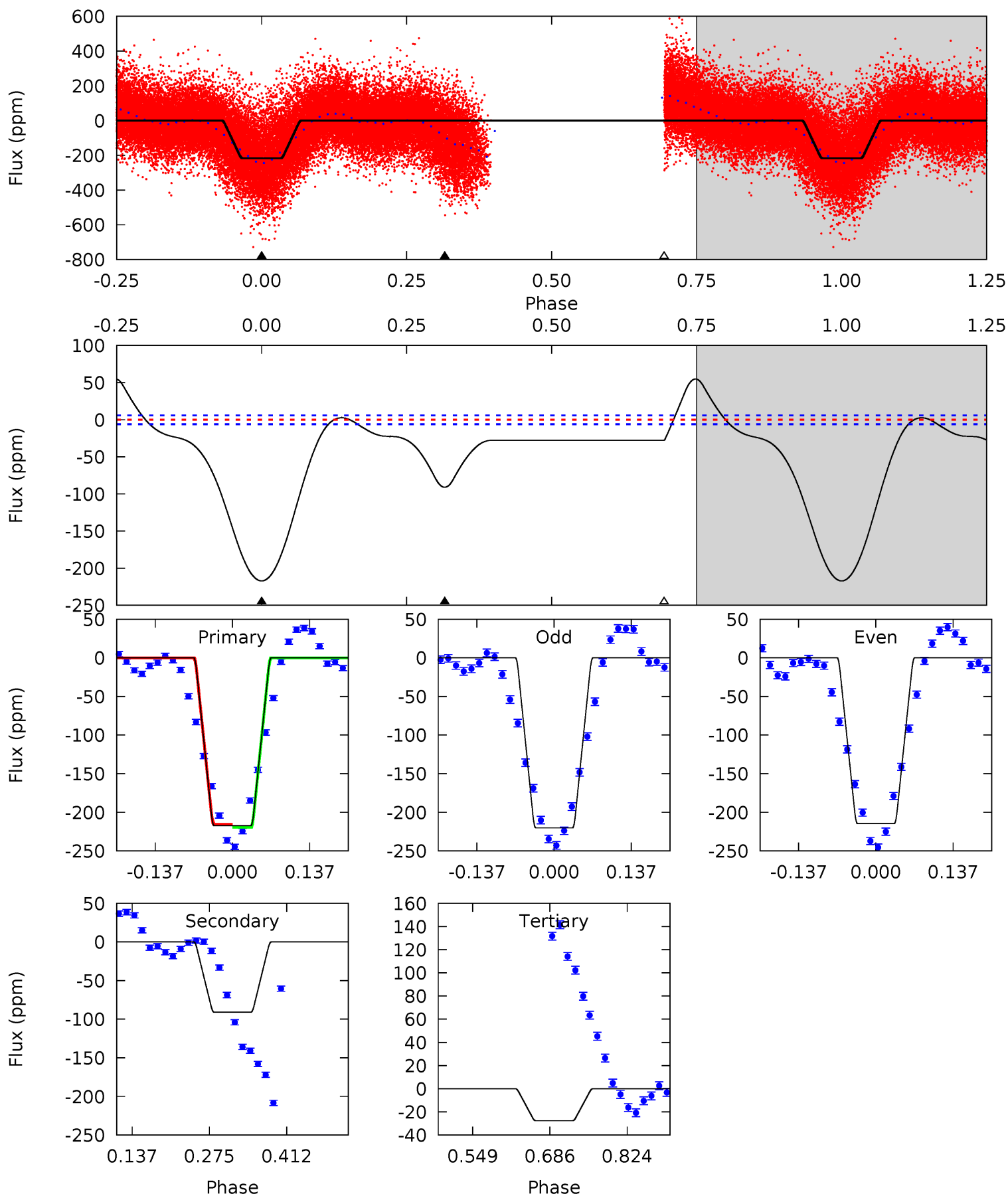
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	2.25	0.83	0	4.47	1.42	3.10	14.8	15.6	1.42	2.25	0.93	1.04	0.54	1.74



Alt Model-Shift Uniqueness Test

008458662-03, P = 3.767686 Days, E = 128.066876 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
164.4	68.9	20.9	0	4.50	1.49	19.0	143.5	164.4	47.9	68.9	2.08	0.92	0.20	1.78



Stellar Parameters For KIC 008458662

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6779^{+168}_{-202}	$3.717^{+0.312}_{-0.078}$	$-0.180^{+0.300}_{-0.250}$	$2.958^{+0.464}_{-1.082}$	$1.664^{+0.201}_{-0.373}$	$0.091^{+0.195}_{-0.024}$
	+2%/-3%	+8%/-2%	+167%/-139%	+16%/-37%	+12%/-22%	+215%/-27%
Source	PHO1	FLK73	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 008458662-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2 ± 1	$1.30^{+0.36}_{-0.36}$	2960^{+173}_{-270}	4167^{+619}_{-595}	$2.436^{+2.581}_{-1.288}$
Alt.	-91 ± 1	$4.65^{+0.71}_{-0.95}$	2945^{+170}_{-276}	5304^{+207}_{-197}	$7.248^{+3.638}_{-1.567}$

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

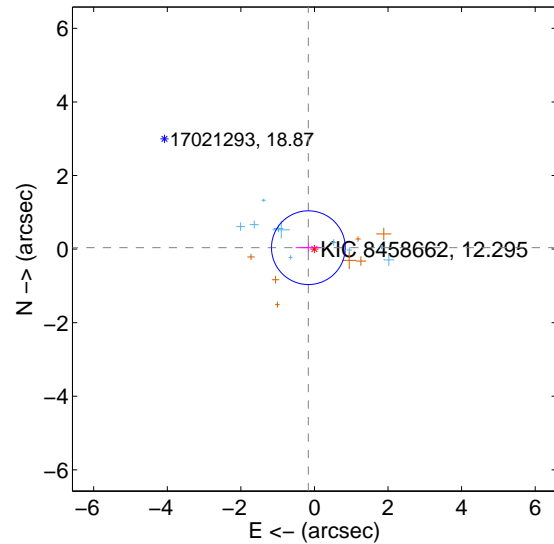
Supplemental centroid analysis for 008458662-03. Kepler magnitude: 12.29. Transit SNR 10.77

There are 10 quarters with good PRF difference image offsets

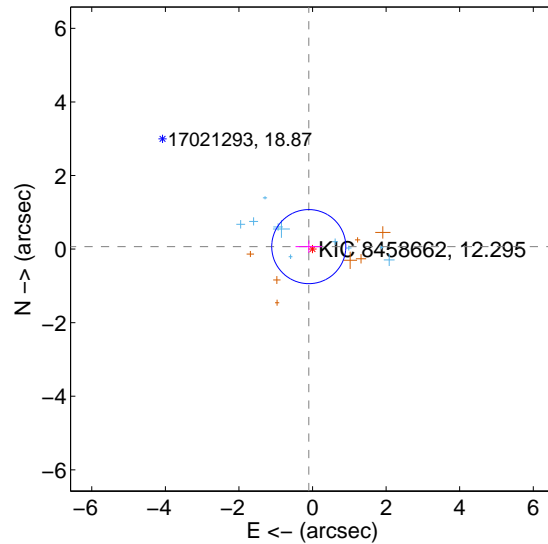
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.169 ± 0.334	0.51	0.165 ± 0.342	0.038 ± 0.120
PRF-fit source offset from KIC position	0.122 ± 0.336	0.36	0.102 ± 0.360	0.067 ± 0.168
photometric centroid source offset	1.95 ± 1.18	1.66	-1.91 ± 1.19	-0.41 ± 0.88

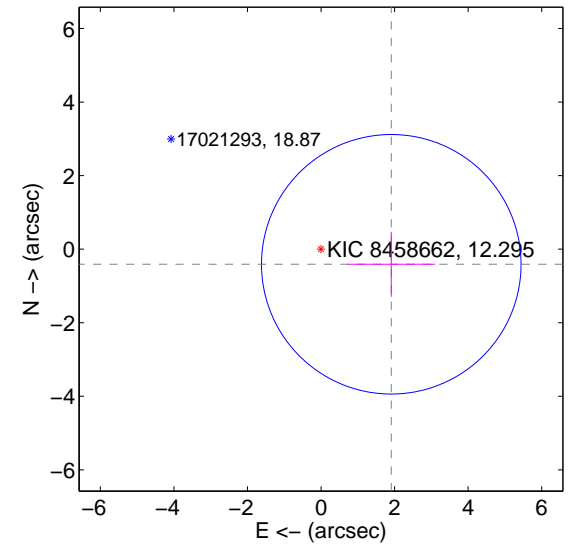
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

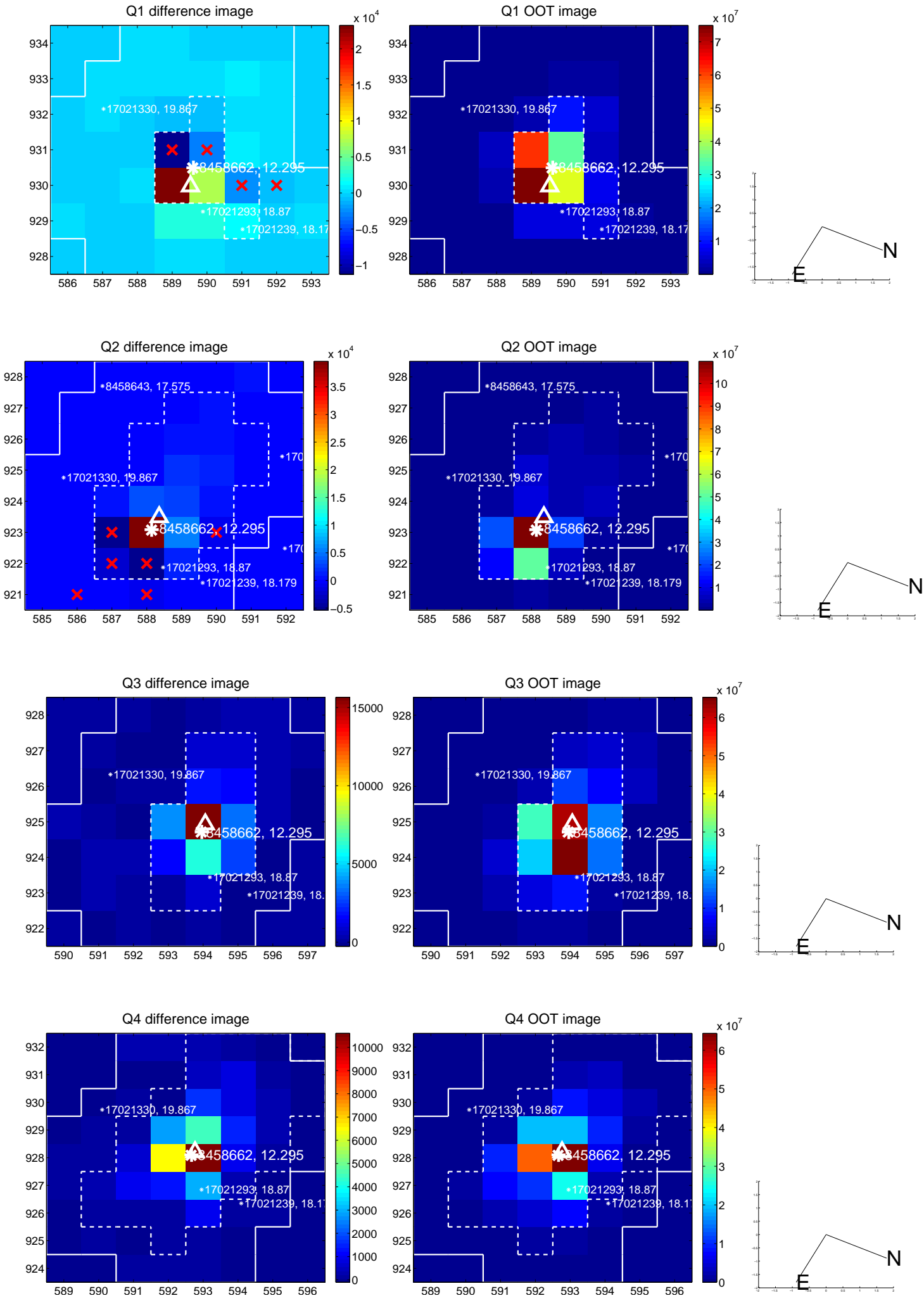


offset from photometric centroids

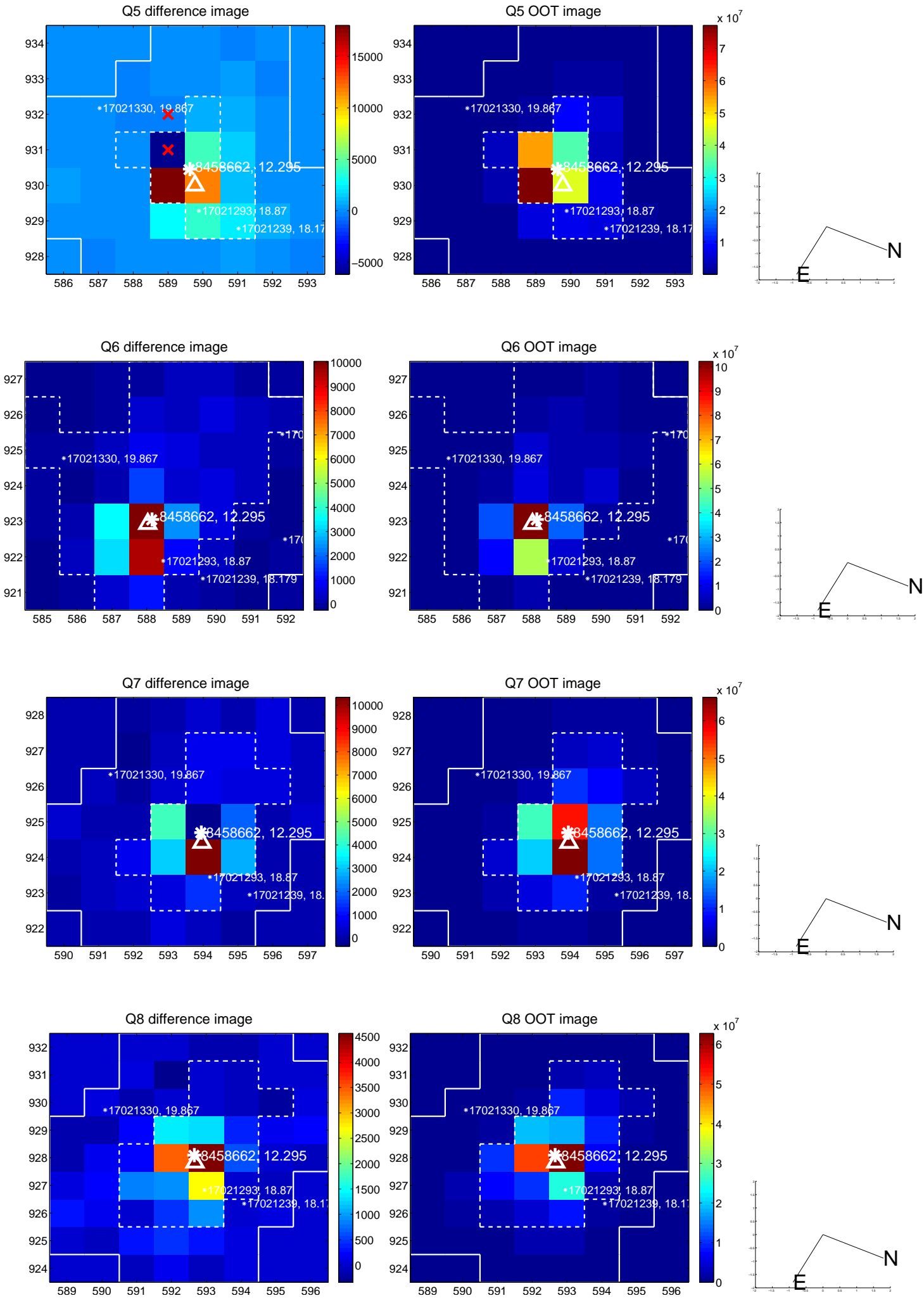


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

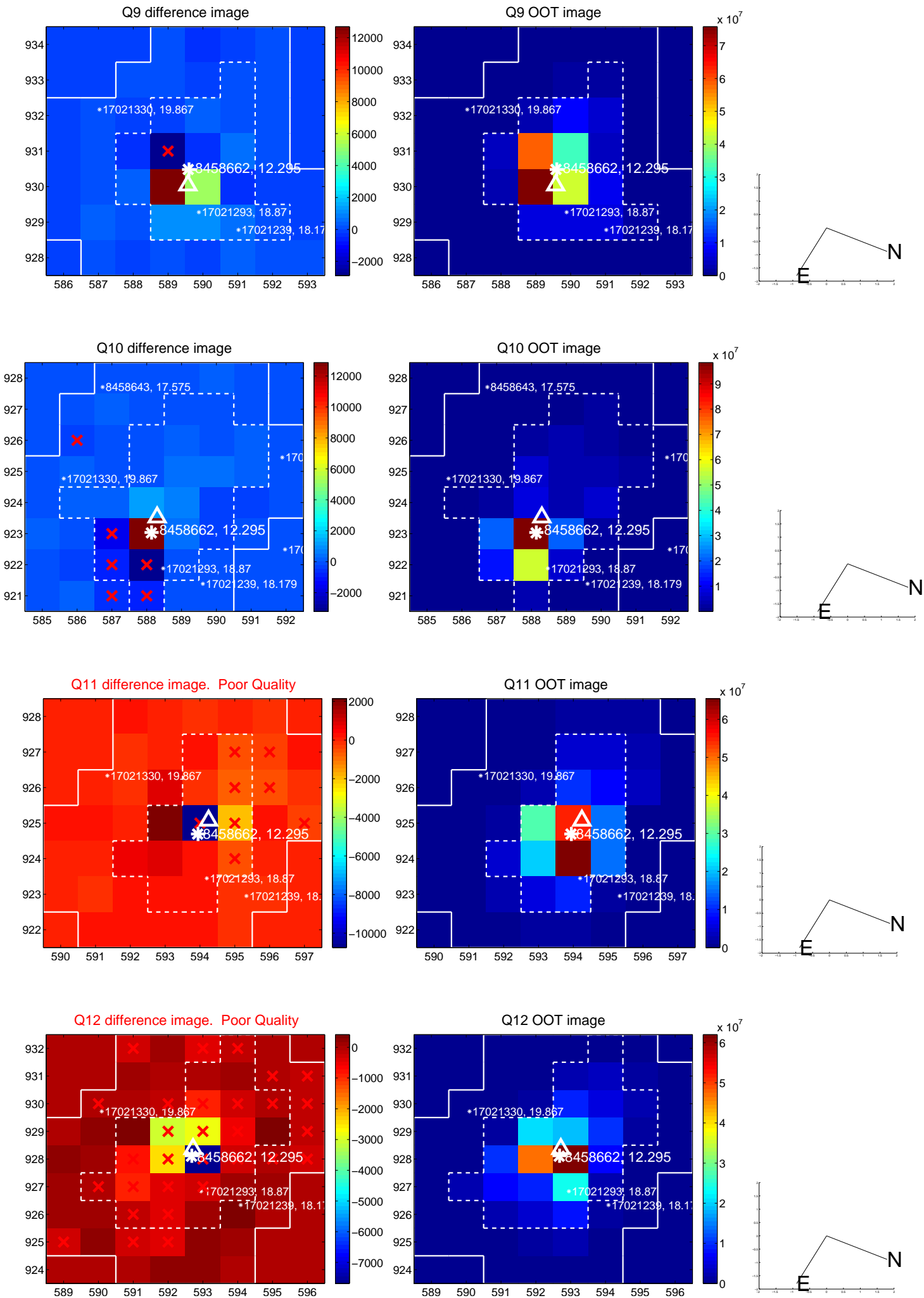
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



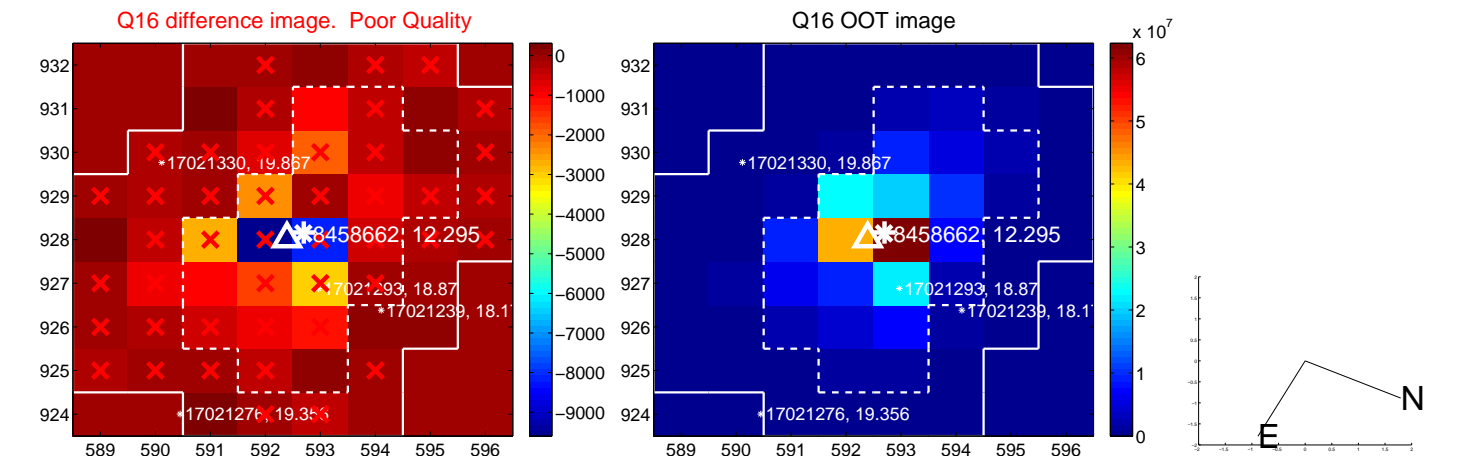
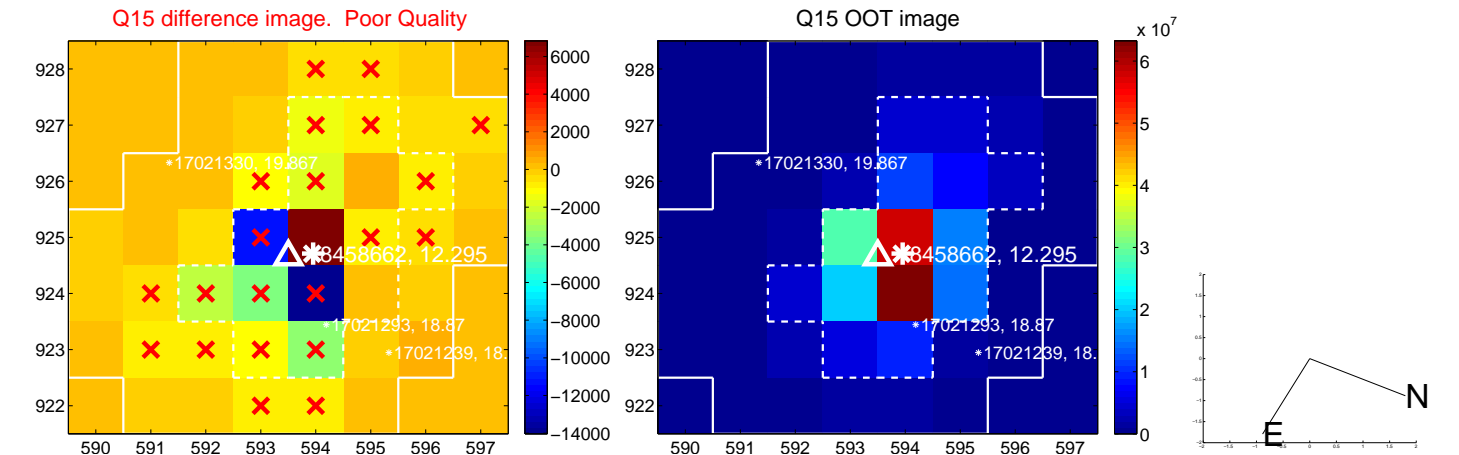
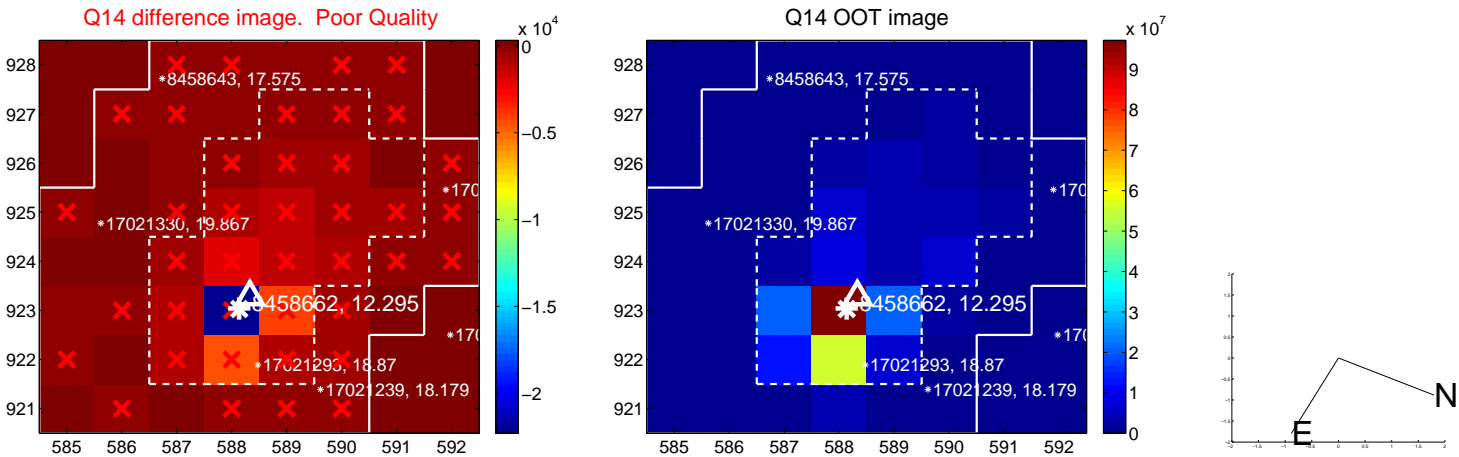
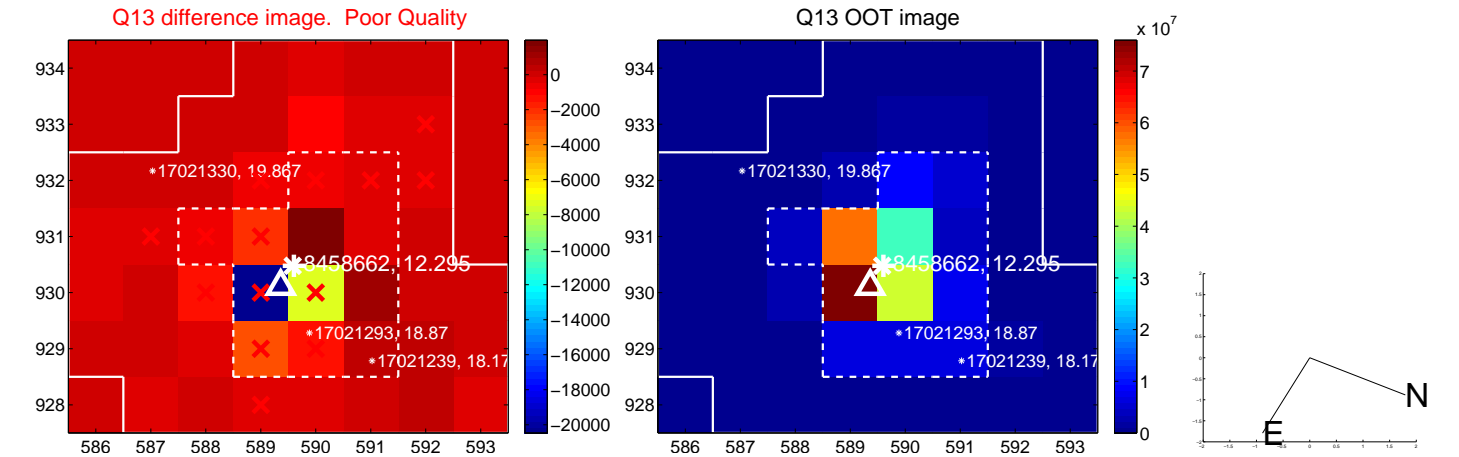
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



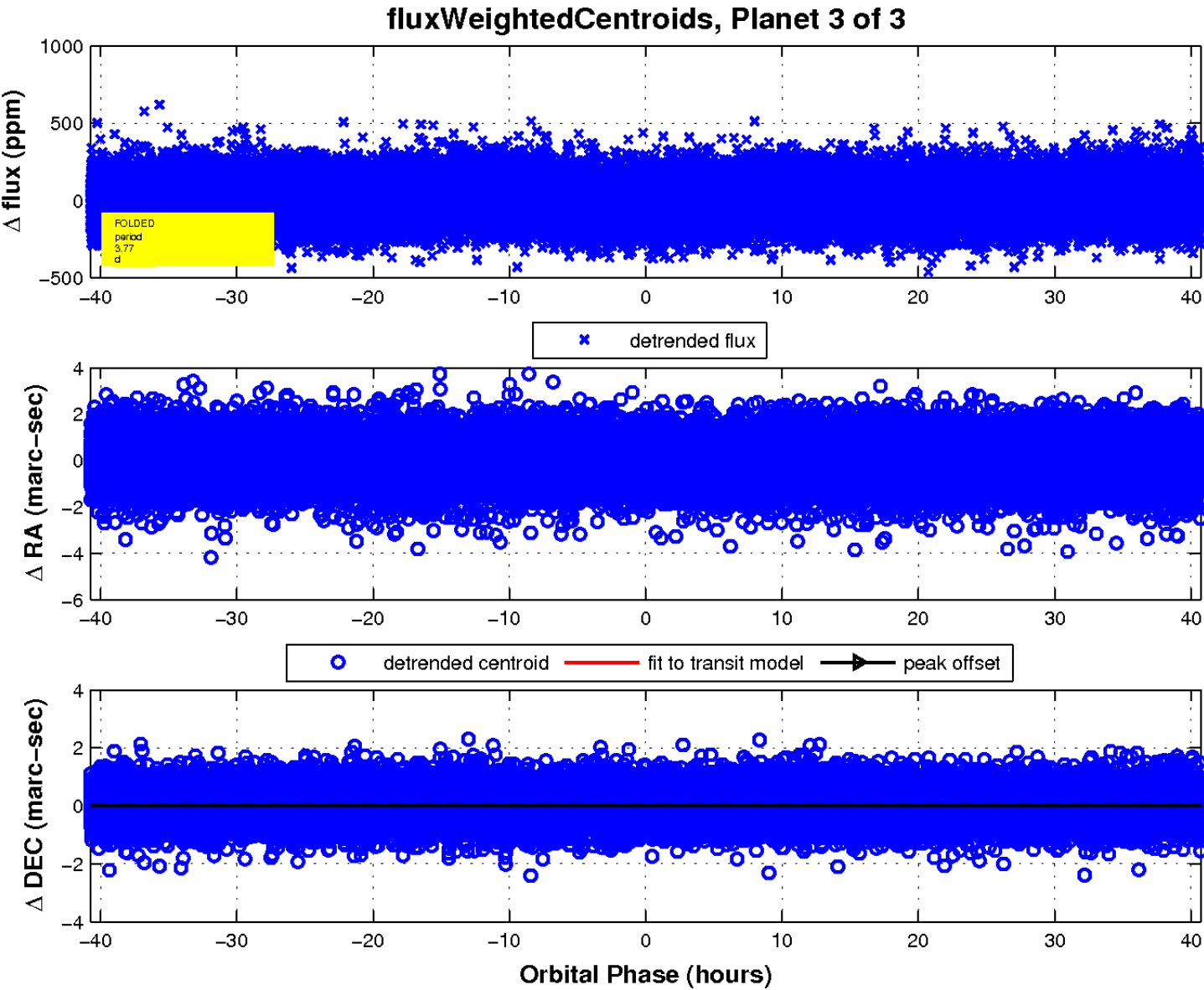
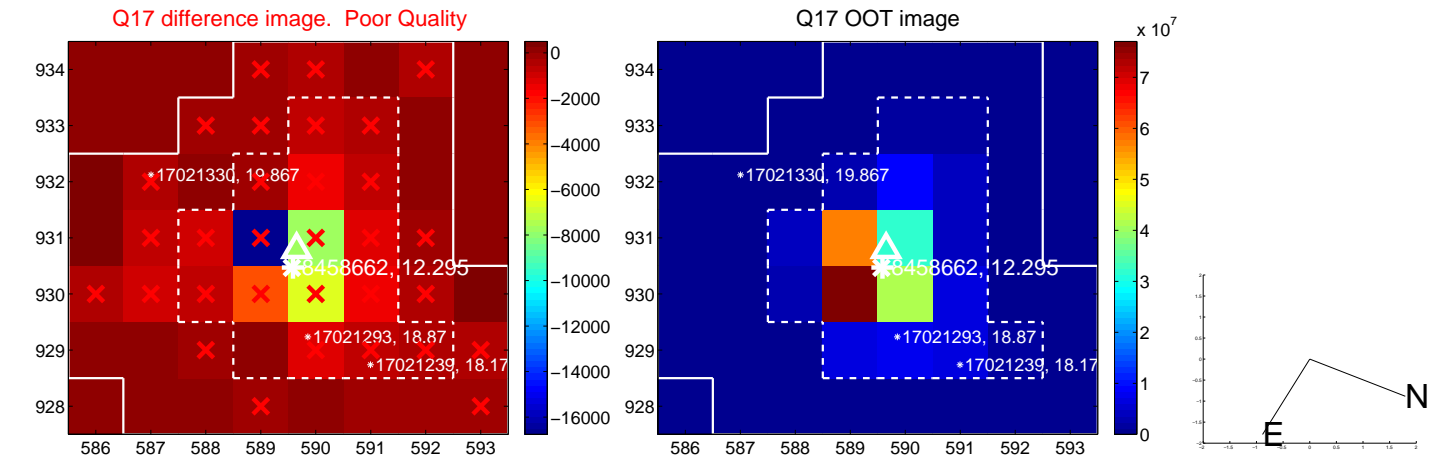
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

