

KIC 011710462

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})
011710462-01	OBS	No	1.050092	131.966923	187.7	5.616	13.4	16.1	2.28	7805	3.22	29398.48
011710462-02	OBS	No	1.050120	132.469884	133.4	3.824	14.4	11.9	2.28	7805	2.81	29397.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011710462-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
011710462-02	OBS	FP	0.00	1	0	0	0	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.

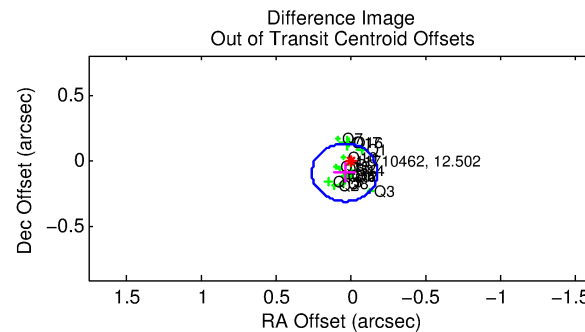
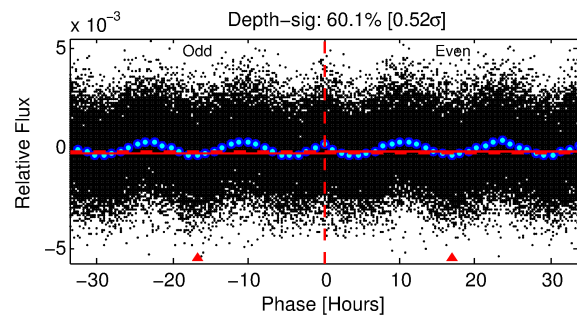
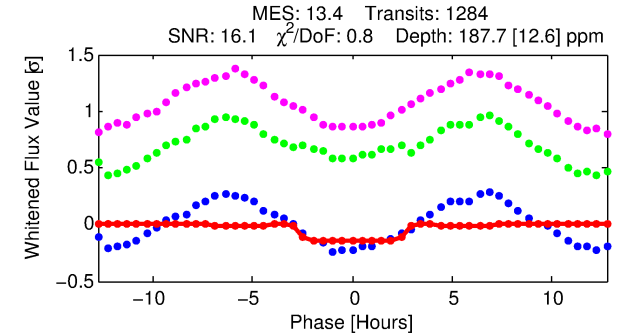
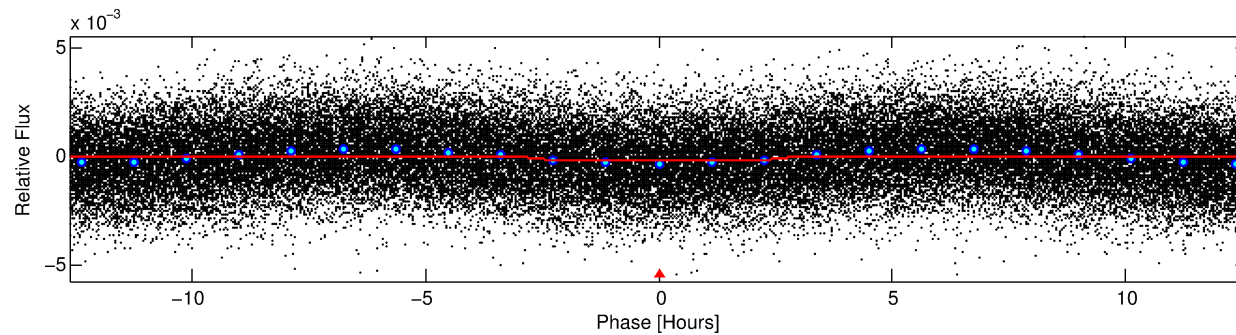
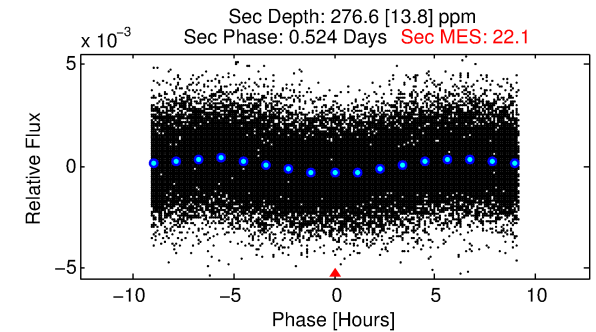
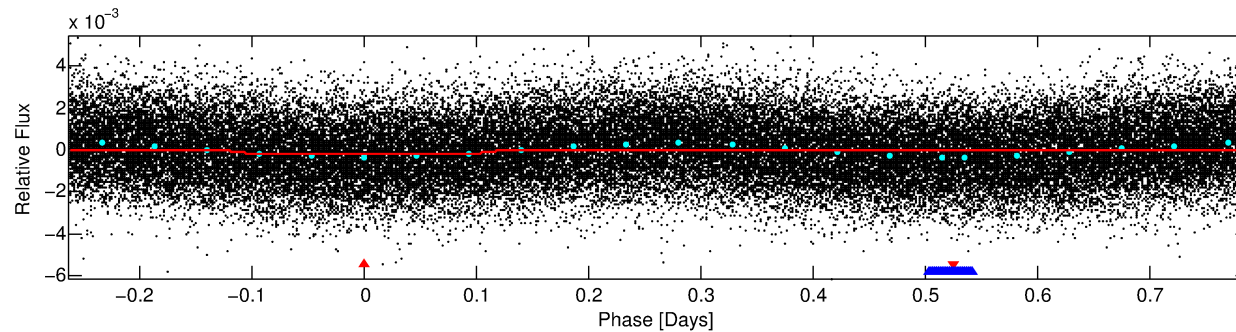
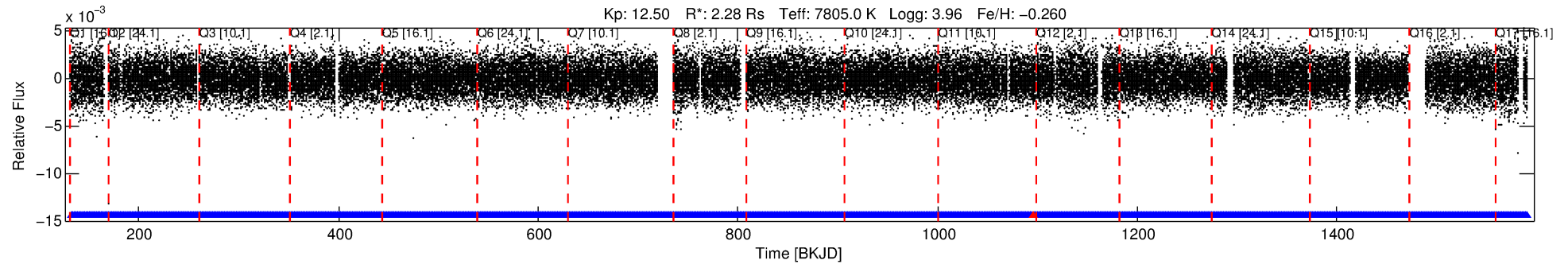
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011710462-01

No Significant Match Found

DV One-Page Summary

KIC: 11710462 Candidate: 1 of 2 Period: 1.050 d



DV Fit Results:

Period = 1.05009 [0.00001] d
Epoch = 131.9669 [0.0037] BKJD
Rp/R* = 0.0130 [0.0141]
a/R* = 1.45 [4.42]
b = 0.50 [8.70]
Seff = 29398.48 [14814.12]
Teq = 3339 [421] K
Rp = 3.22 [3.68] Re
a = 0.0242 [0.0074] AU
Ag = 8.60 [19.20] [0.40σ]
Teffp = 8841 [4835] K [1.13σ]

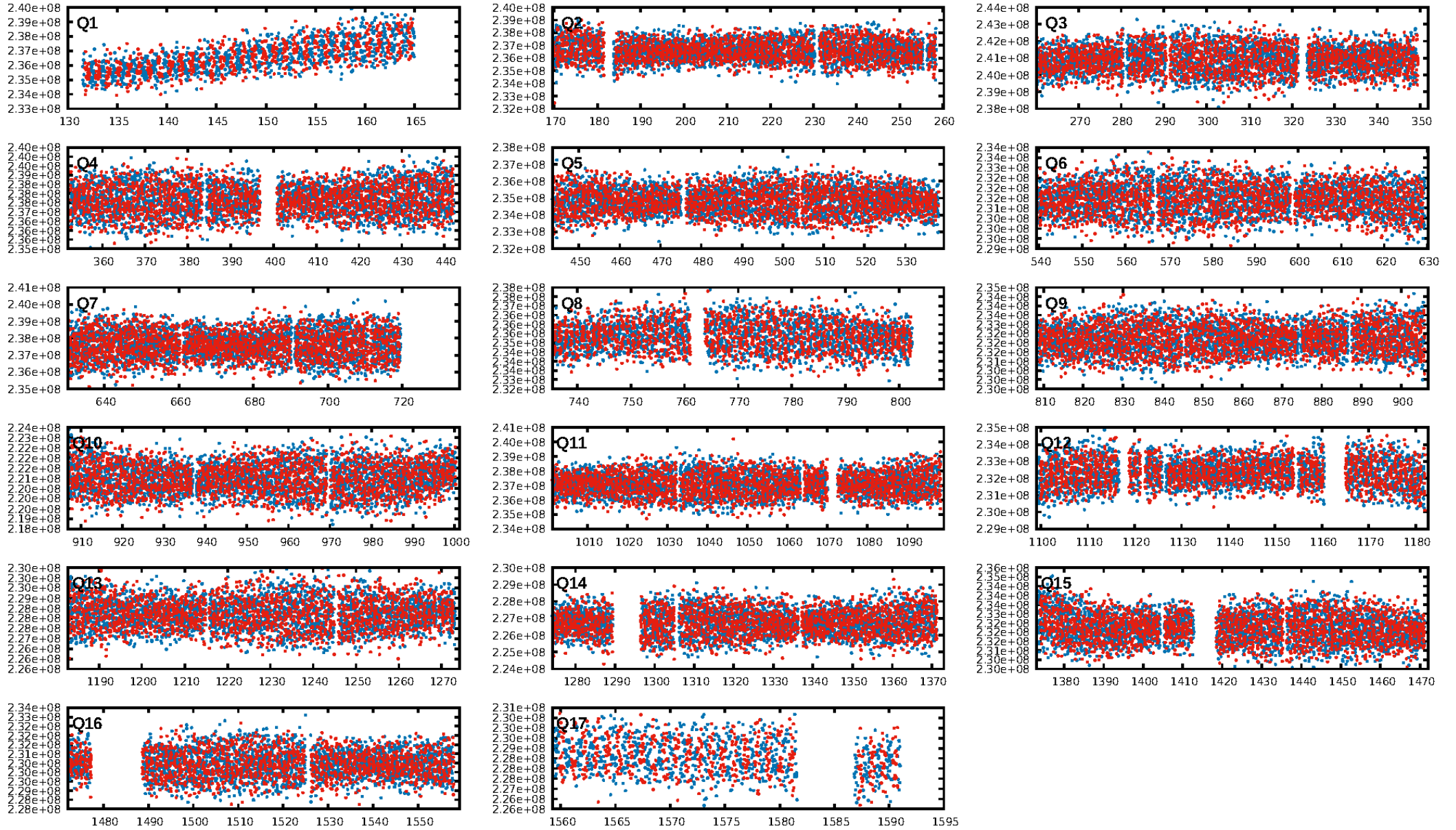
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1226/1227]
GhostDiagnostic-chr: 2.252
Centroid-sig: 51.0%
Centroid-so: 0.250 arcsec [3.50σ]
OotOffset-rm: 0.094 arcsec [1.29σ]
KicOffset-rm: 0.320 arcsec [4.03σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

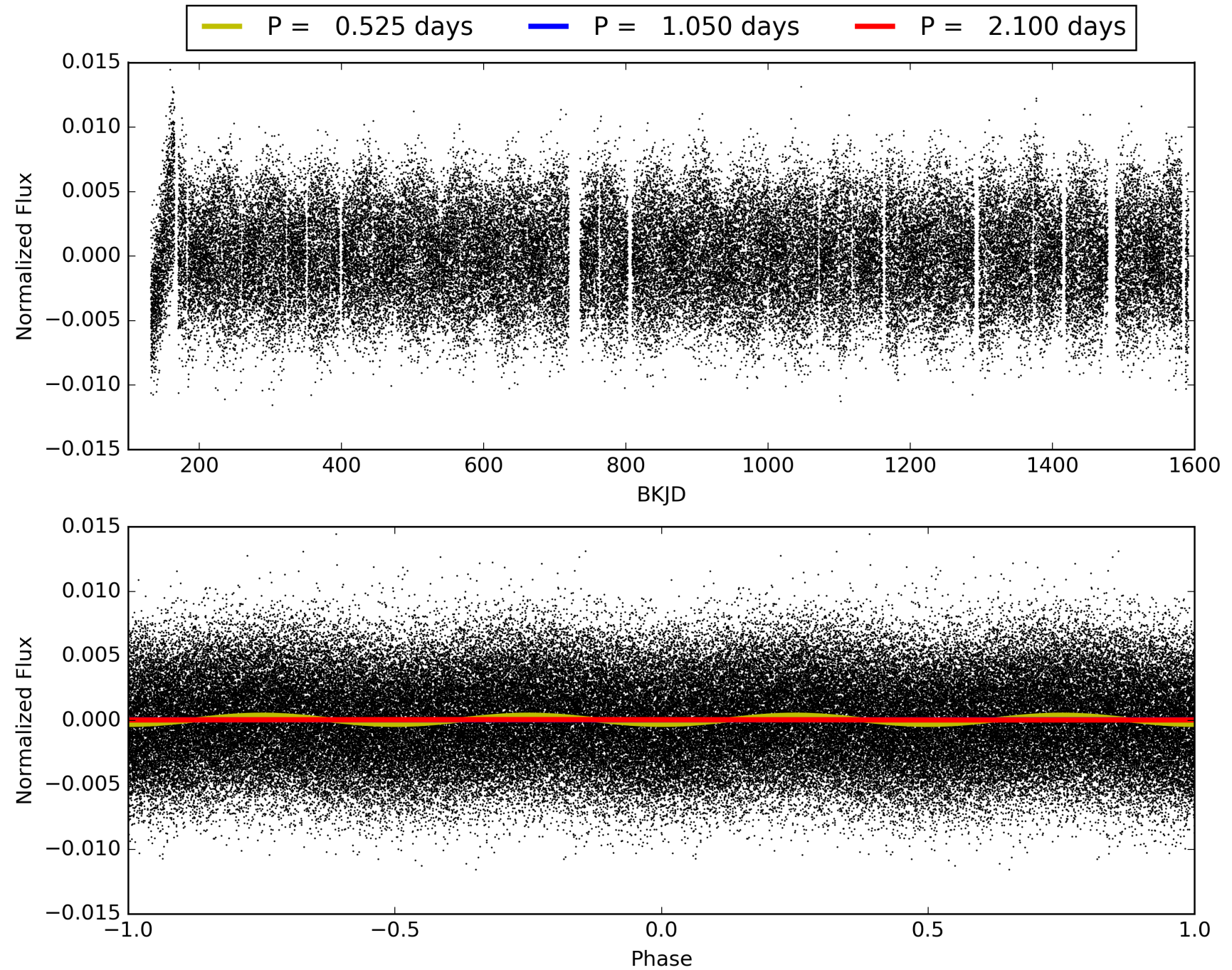
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:23:18 Z

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

TCE 011710462-01, PDC Light Curves

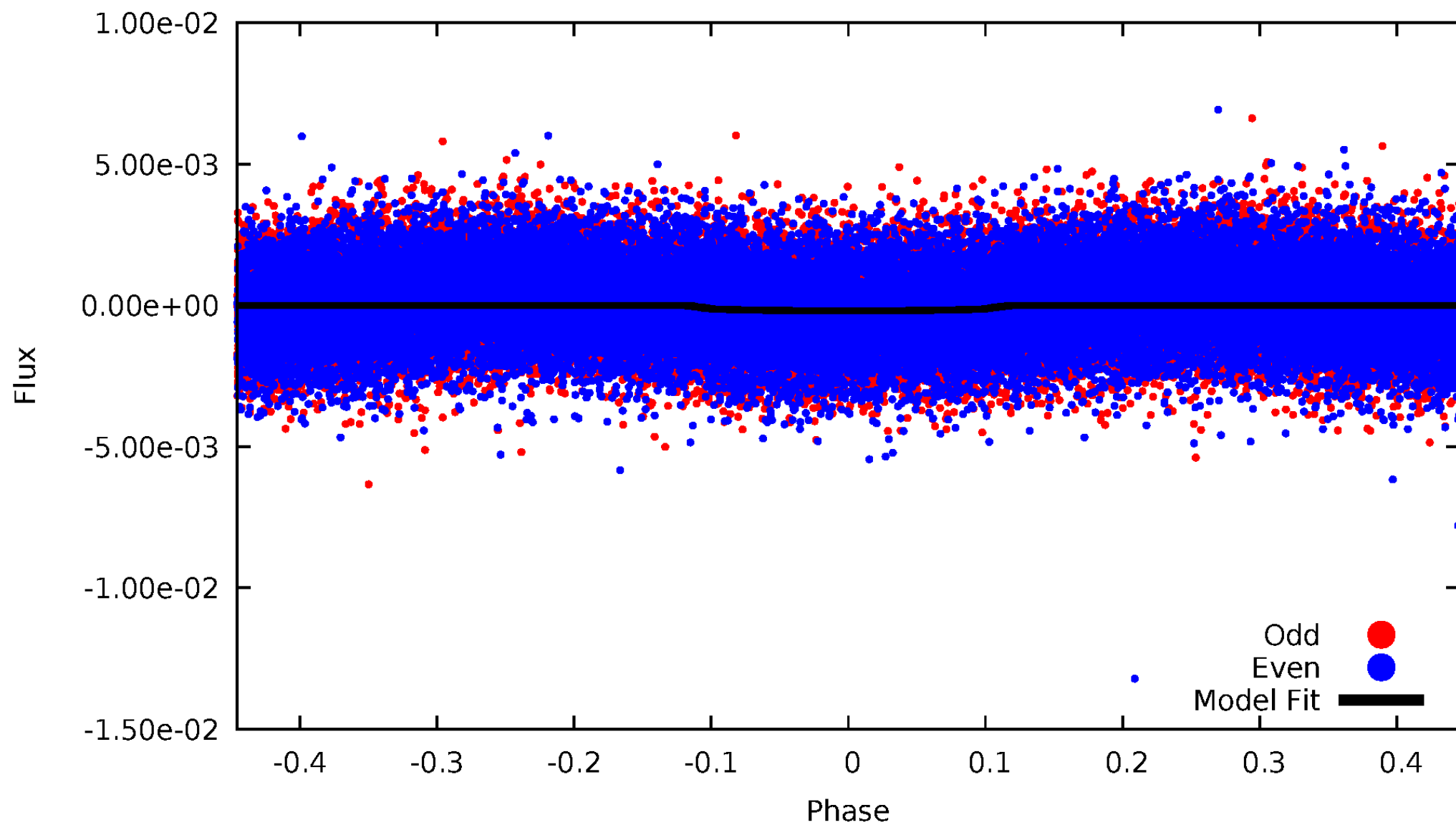


TCE 011710462-01



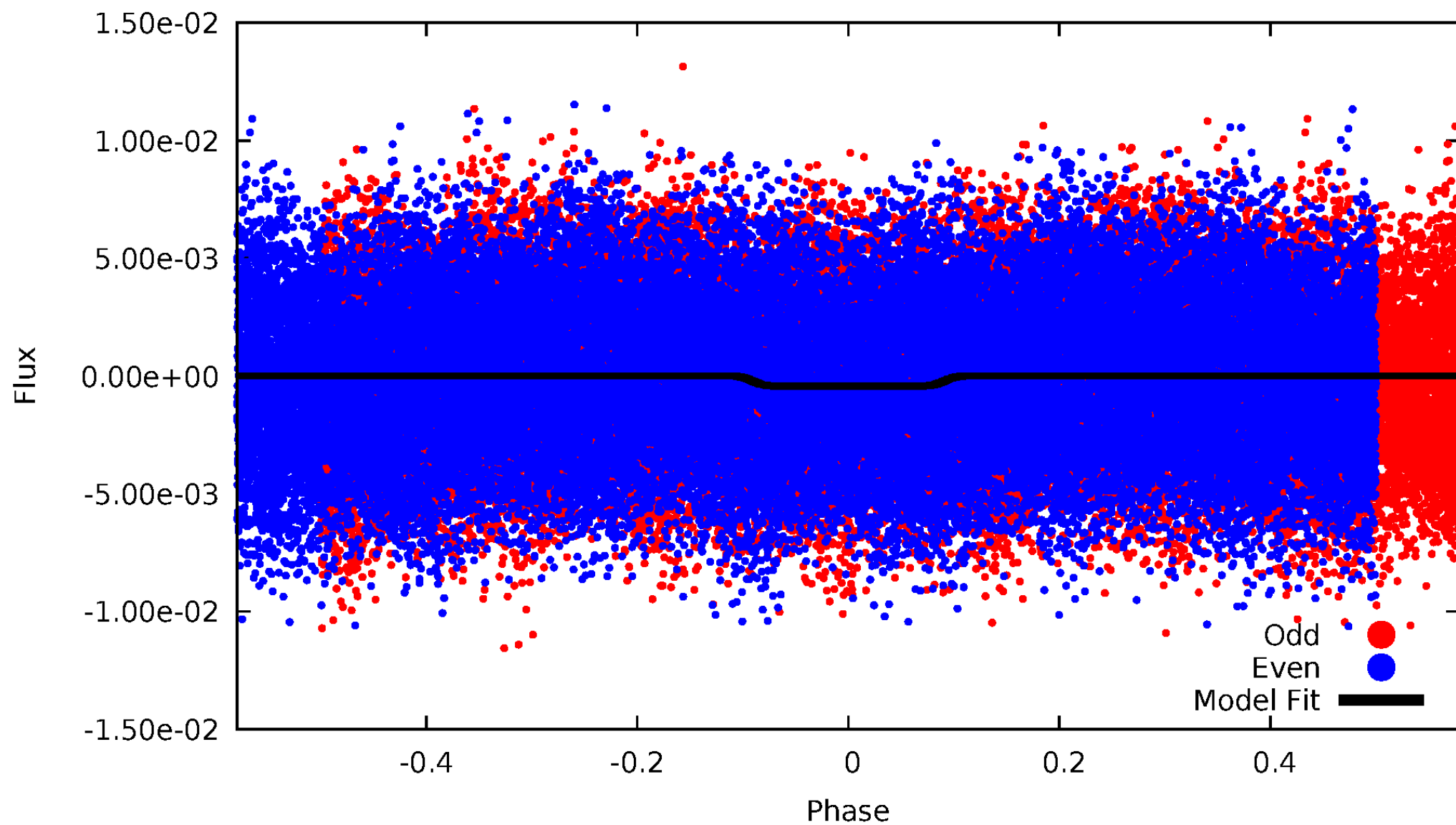
DV Odd/Even

TCE 011710462-01



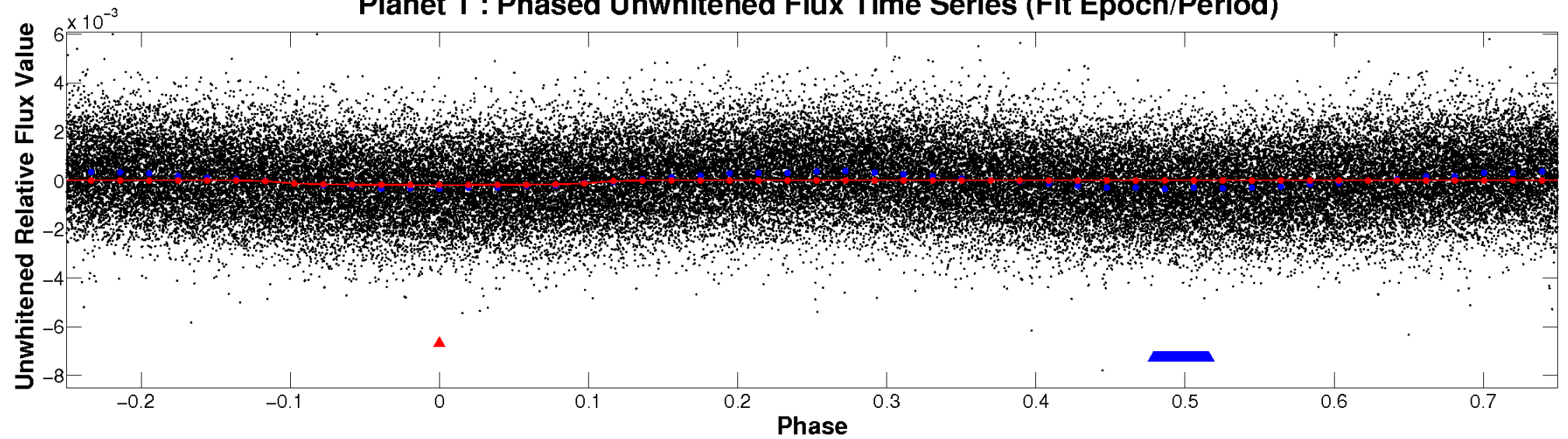
ALT Odd/Even

TCE 011710462-01

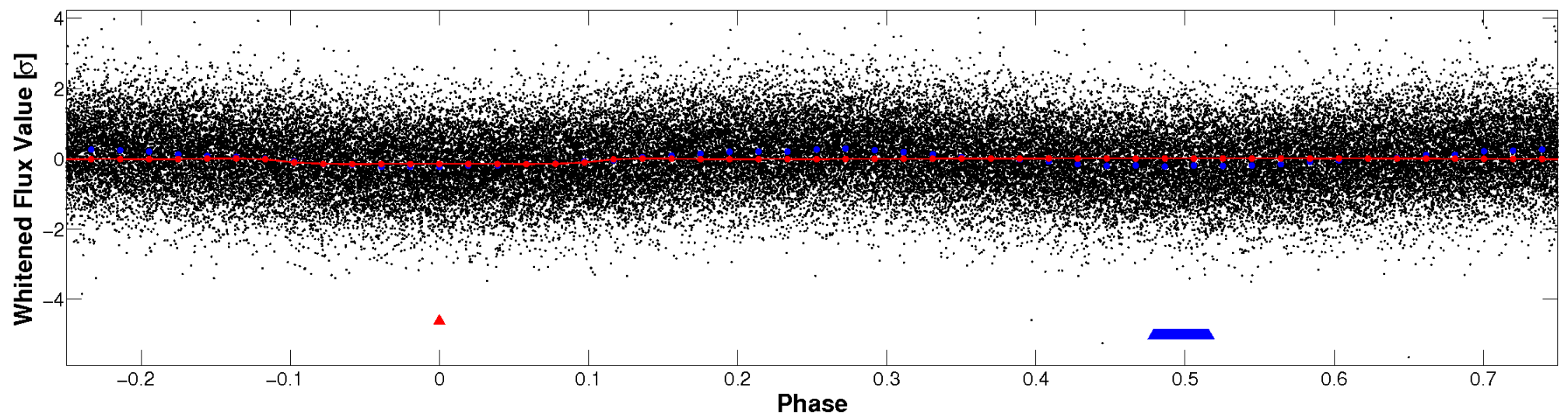


Non-Whitened Vs. Whitened Light Curve

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

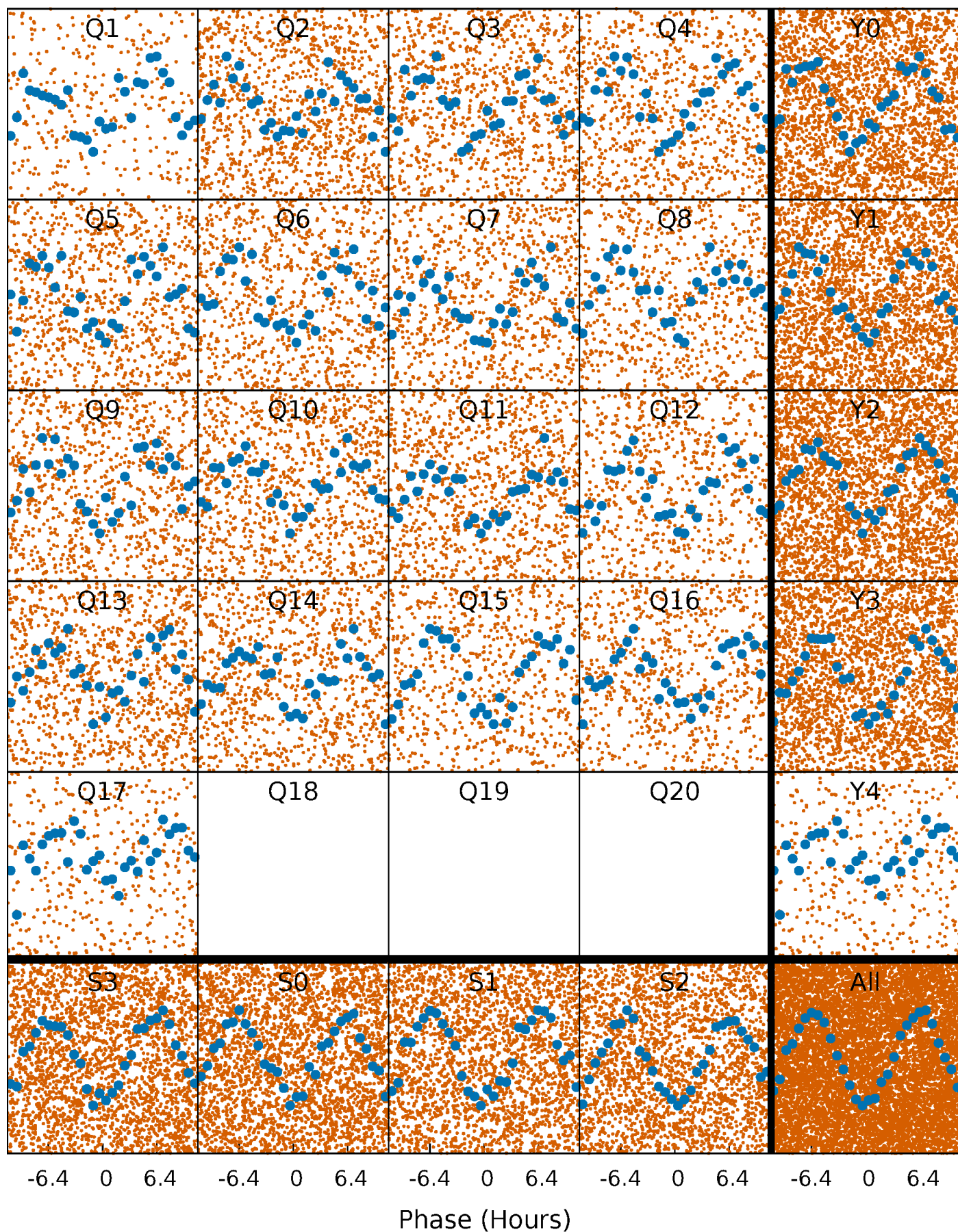


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



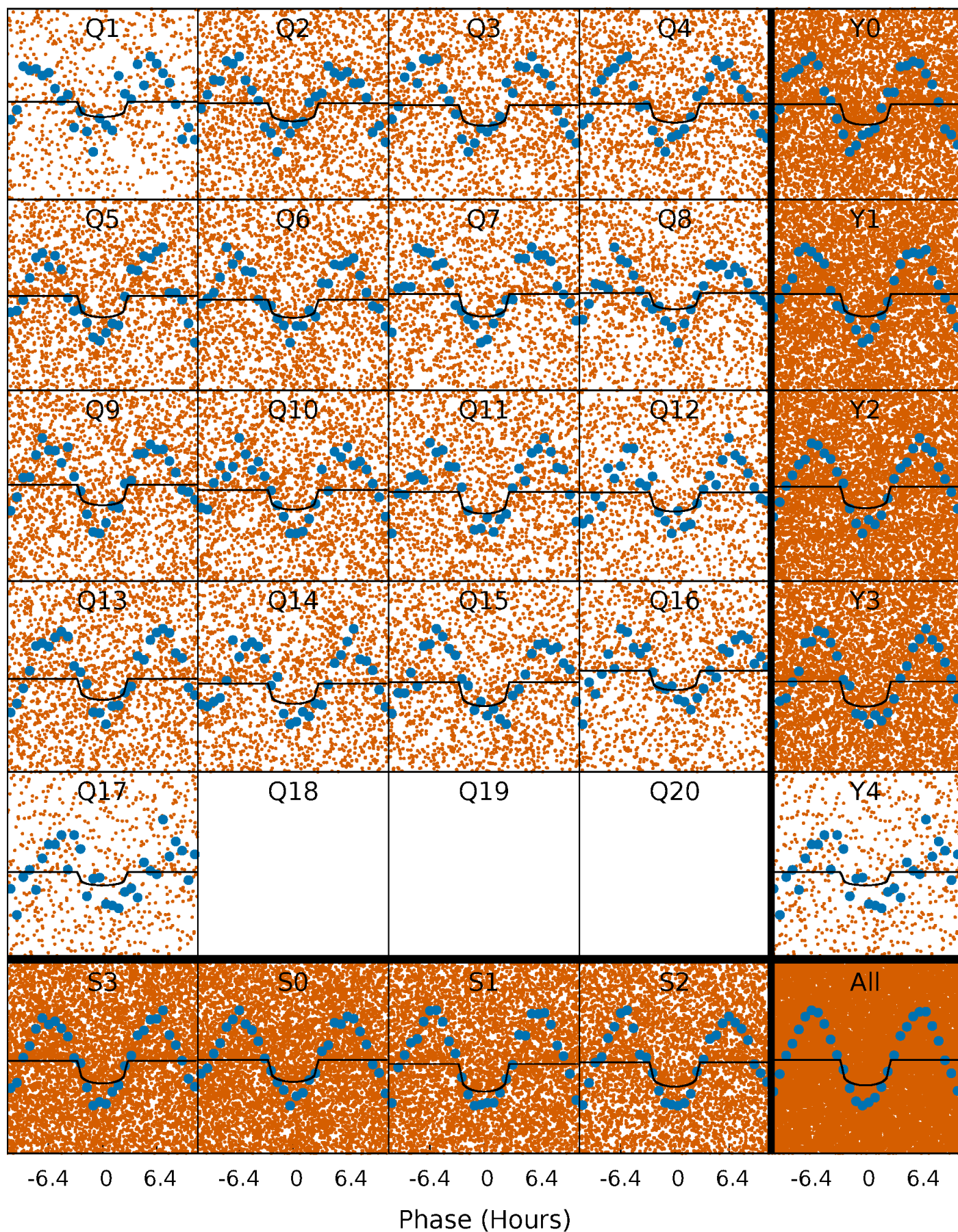
PDC Quarter-Phased Transit Curves

TCE 011710462-01 P= 1.050092 Days $T_0=131.966923$ (BKJD)



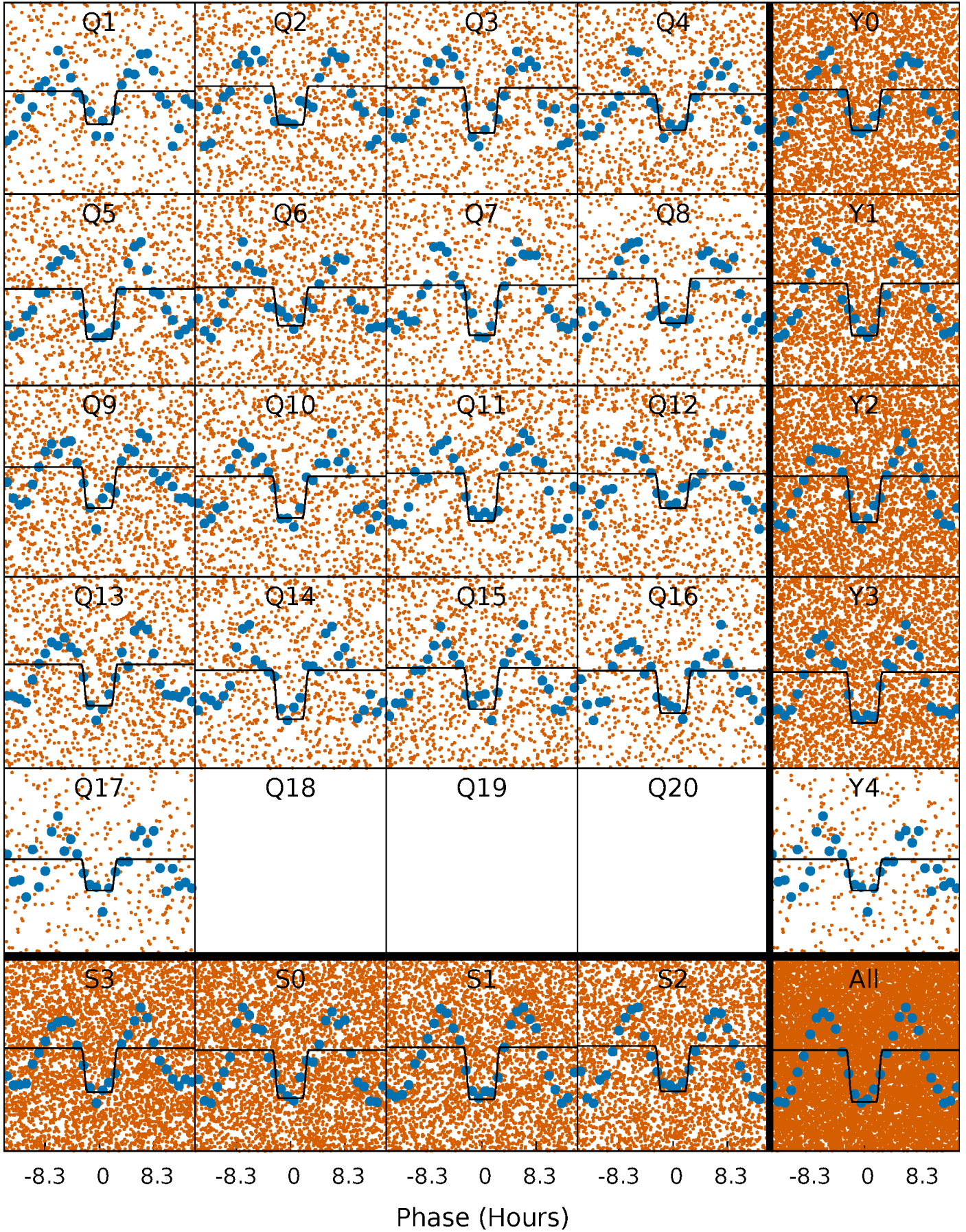
DV Quarter-Phased Transit Curves

TCE 011710462-01 P= 1.050092 Days $T_0=131.966923$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

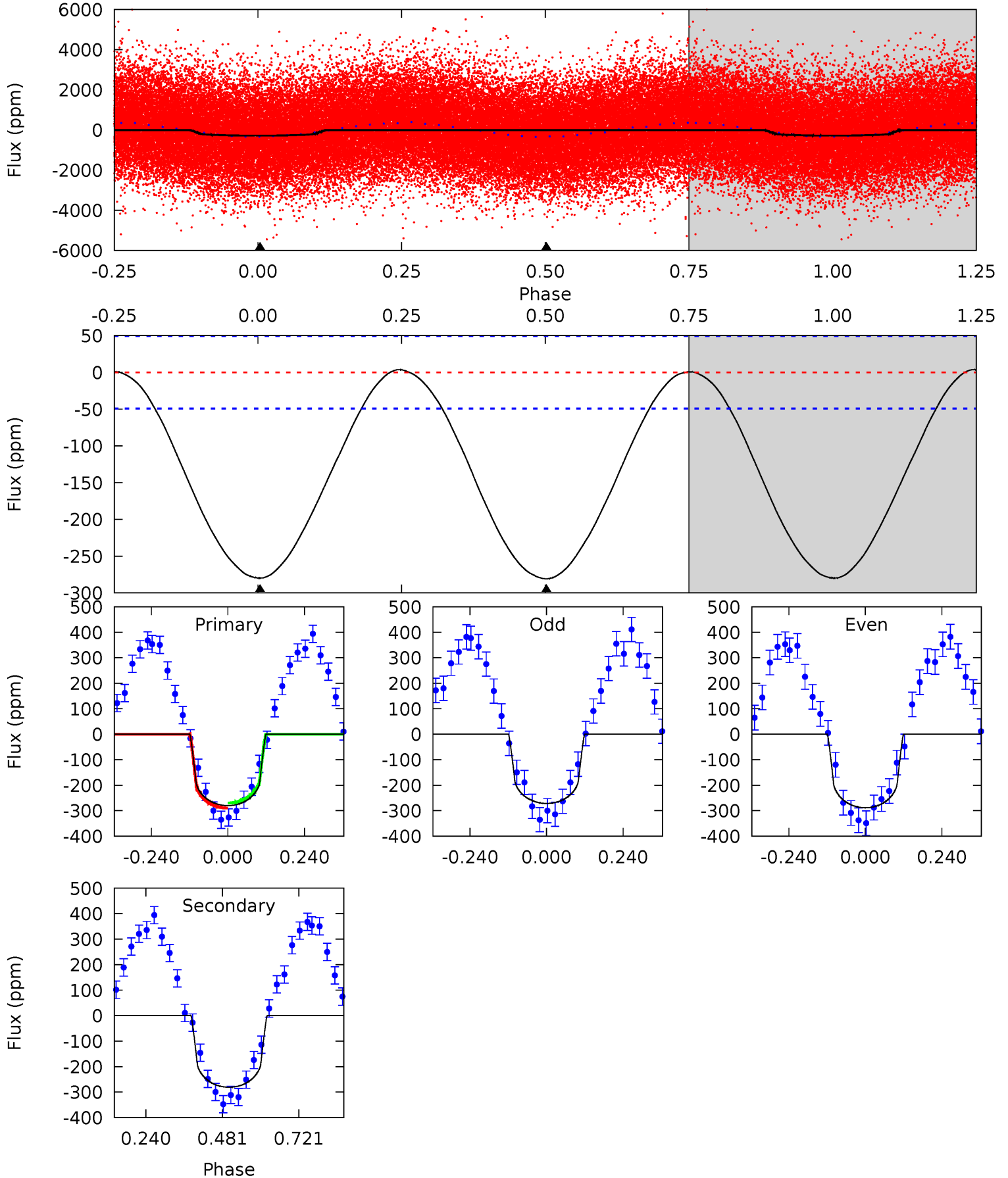
TCE 011710462-01 P= 1.050165 Days $T_0=131.917293$ (BKJD)



DV Model-Shift Uniqueness Test

011710462-01, P = 1.050092 Days, E = 130.916831 Days

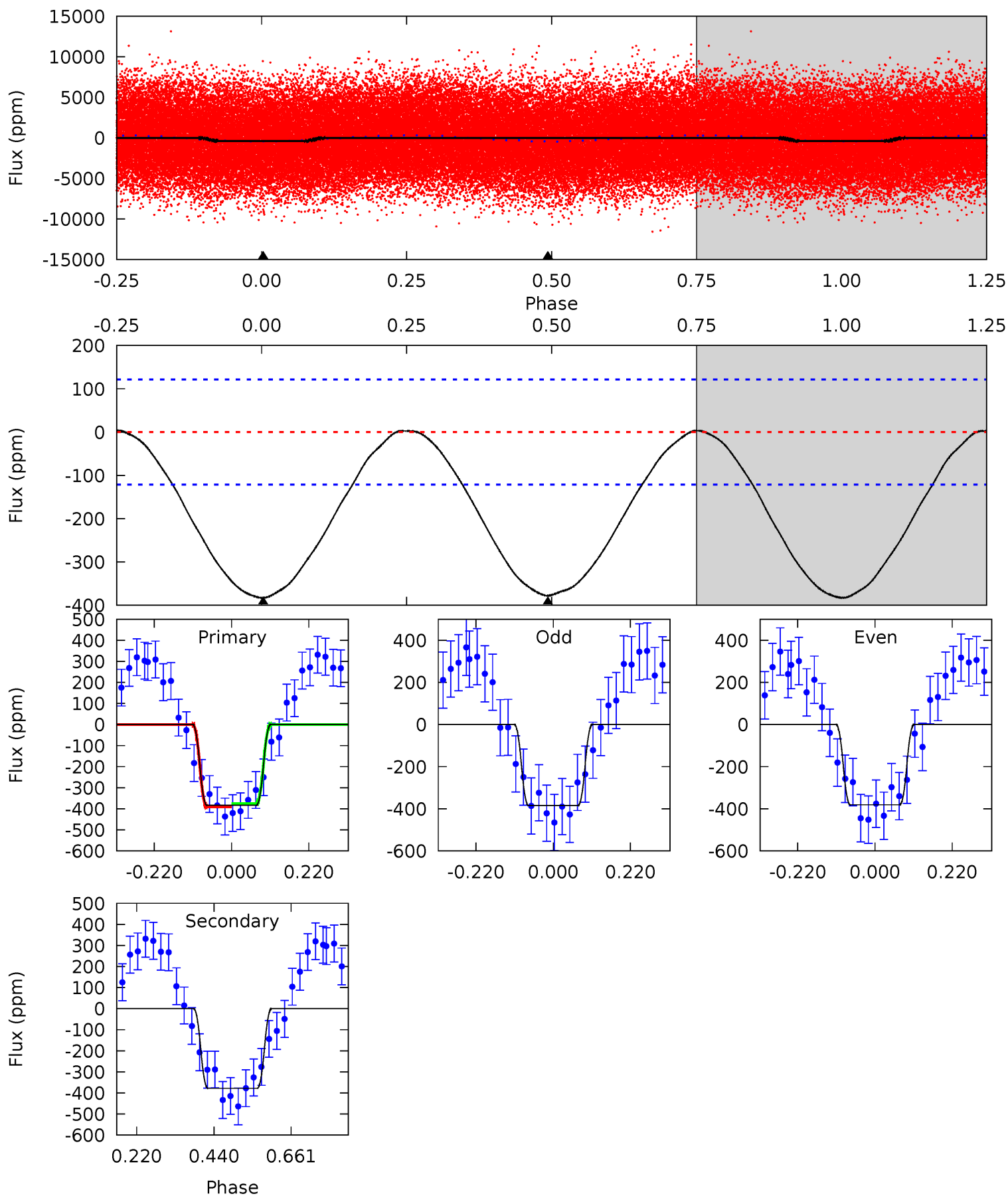
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	24.9	0	0	4.38	1.17	0.24	24.9	24.9	24.9	24.9	0.75	1.01	0.01	0.91



Alt Model-Shift Uniqueness Test

011710462-01, P = 1.050165 Days, E = 130.867128 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	13.7	0	0	4.40	1.23	0.23	13.9	13.9	13.7	13.7	0.07	1.02	0.01	0.29



Stellar Parameters For KIC 011710462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7805^{+244}_{-325}	$3.958^{+0.273}_{-0.136}$	$-0.260^{+0.200}_{-0.350}$	$2.277^{+0.473}_{-0.768}$	$1.717^{+0.182}_{-0.338}$	$0.205^{+0.347}_{-0.086}$
	+3%/-4%	+7%/-3%	+77%/-135%	+21%/-34%	+11%/-20%	+169%/-42%
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 011710462-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-281 ± 11	$3.81^{+3.12}_{-2.38}$	4598^{+321}_{-411}	7830^{+10127}_{-2298}	$6.308^{+41.560}_{-4.454}$
Alt.	-378 ± 28	$5.09^{+3.56}_{-2.60}$	4606^{+330}_{-387}	7108^{+4724}_{-1695}	$4.671^{+14.890}_{-3.030}$

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 $A_{obs} \gg 1.0$

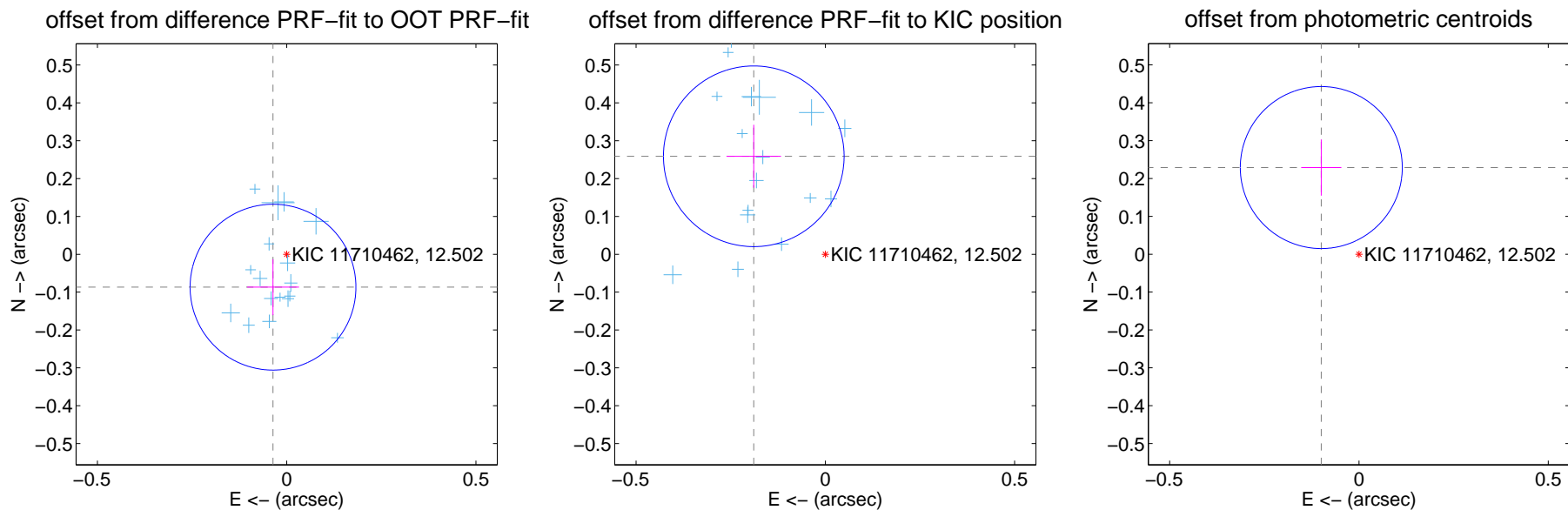
DV Centroid Data

Supplemental centroid analysis for 011710462-01. Kepler magnitude: 12.50. Transit SNR 16.06

There are 17 quarters with good PRF difference image offsets

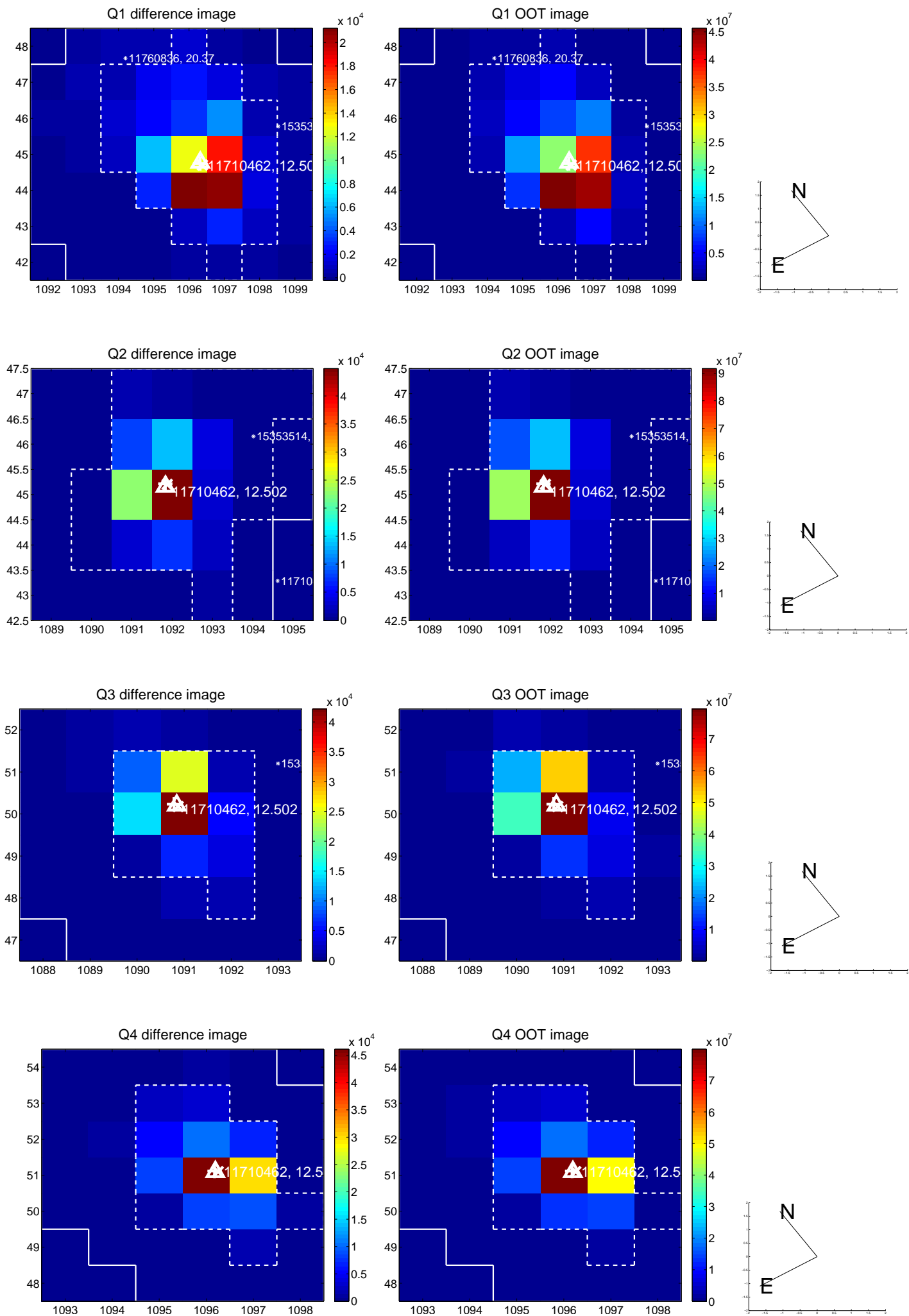
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.094 ± 0.073	1.29	0.036 ± 0.069	-0.087 ± 0.074
PRF-fit source offset from KIC position	0.320 ± 0.080	4.03	0.189 ± 0.072	0.259 ± 0.083
photometric centroid source offset	0.25 ± 0.07	3.50	0.10 ± 0.05	0.23 ± 0.07

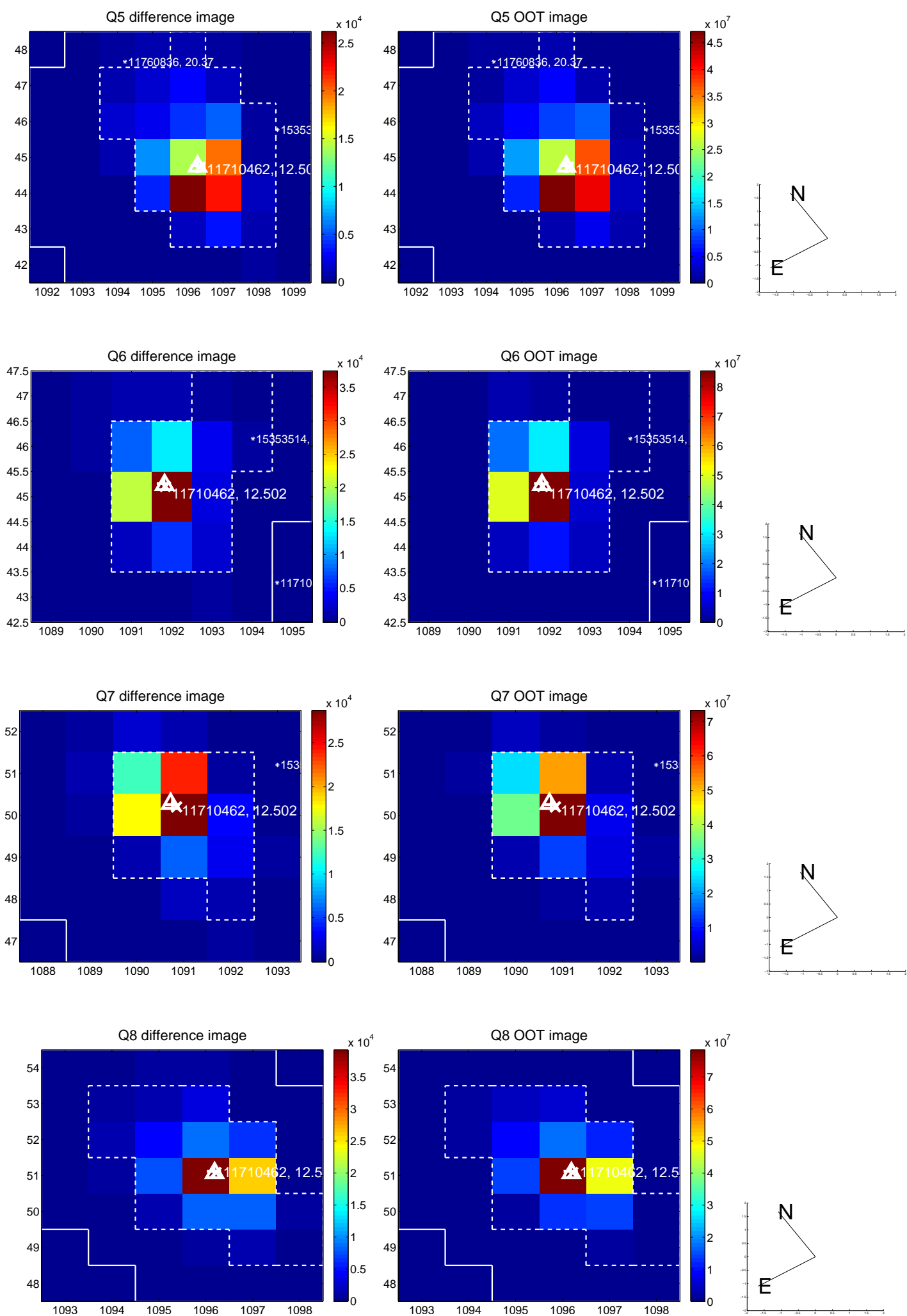


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

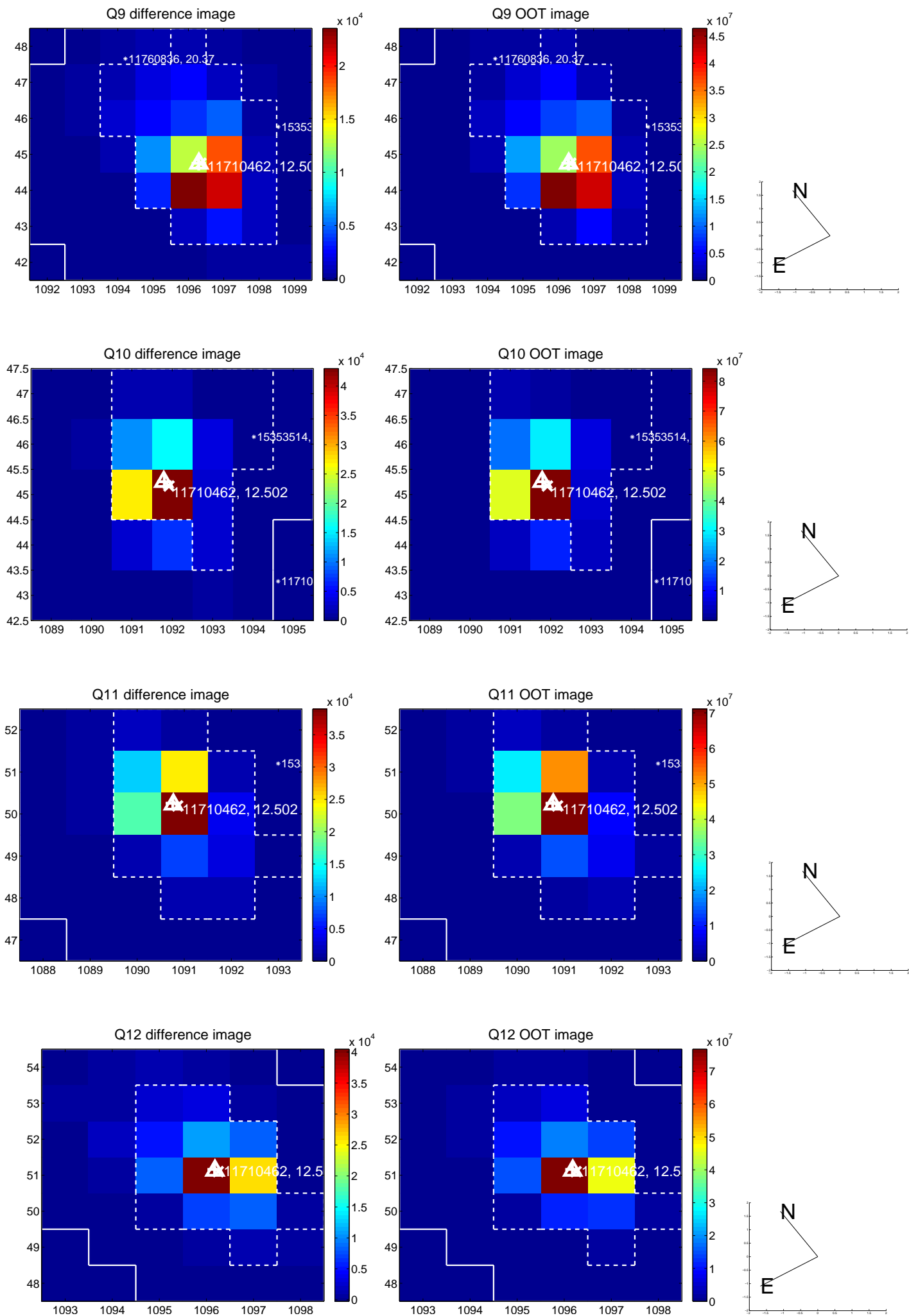
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



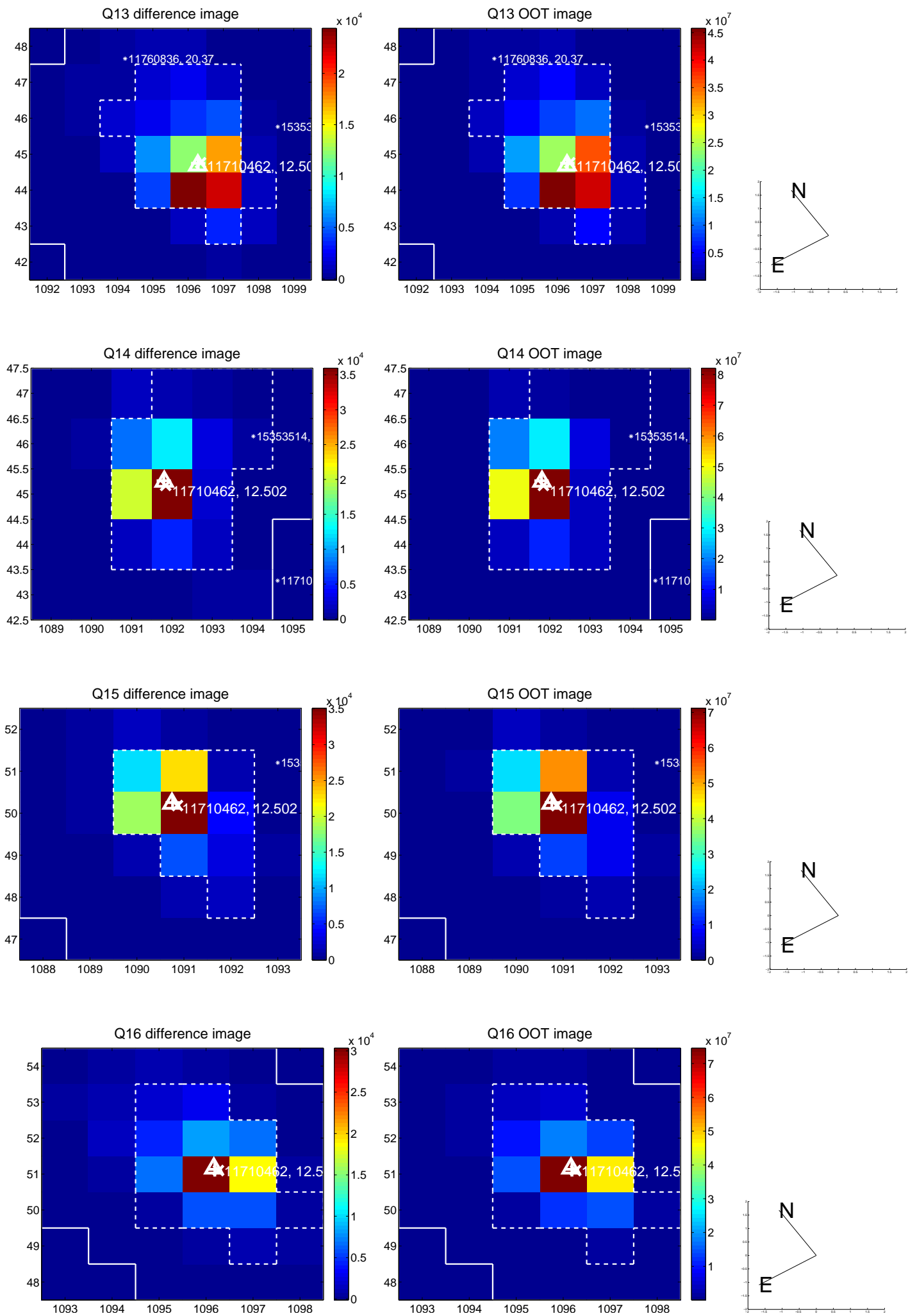
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



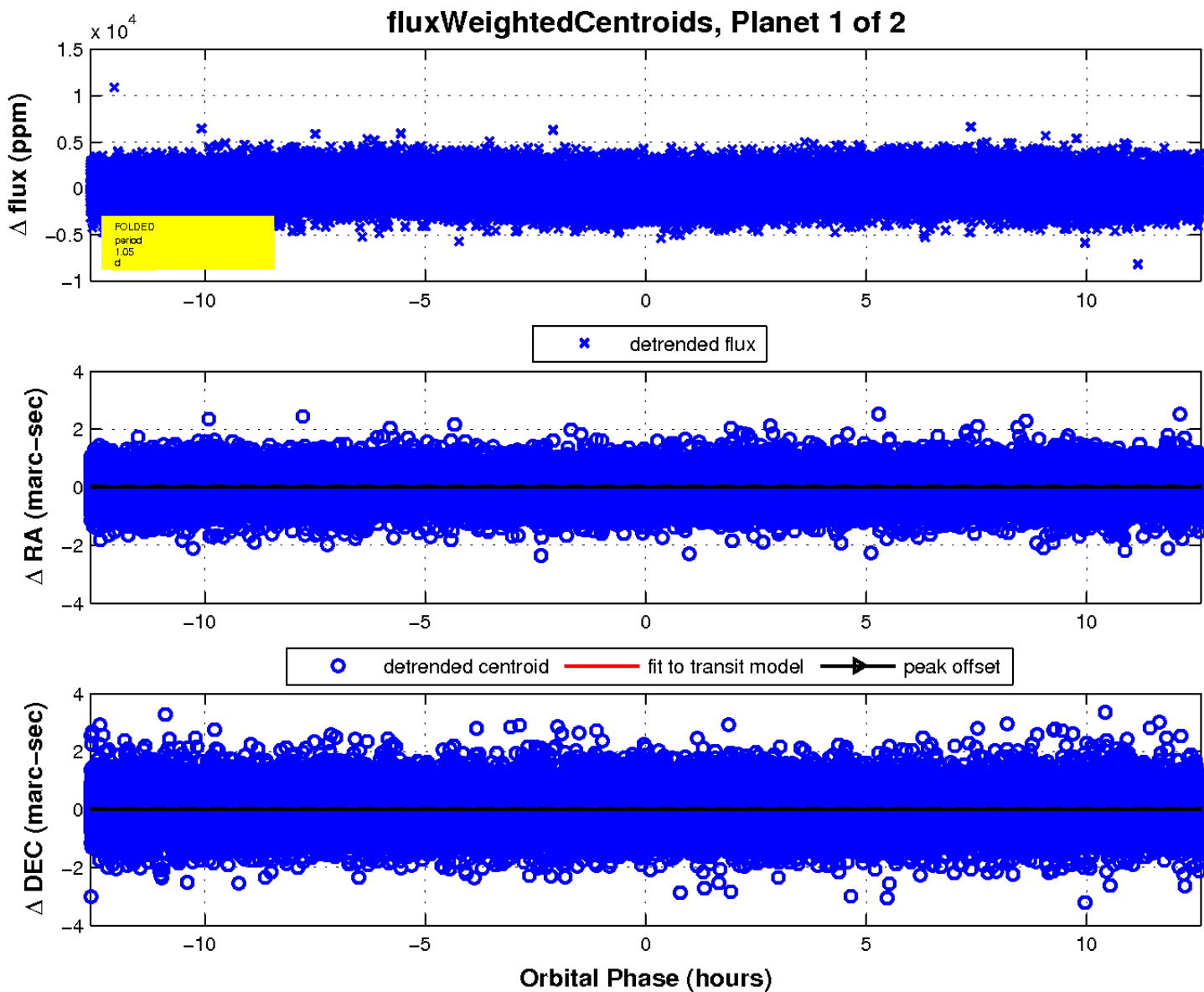
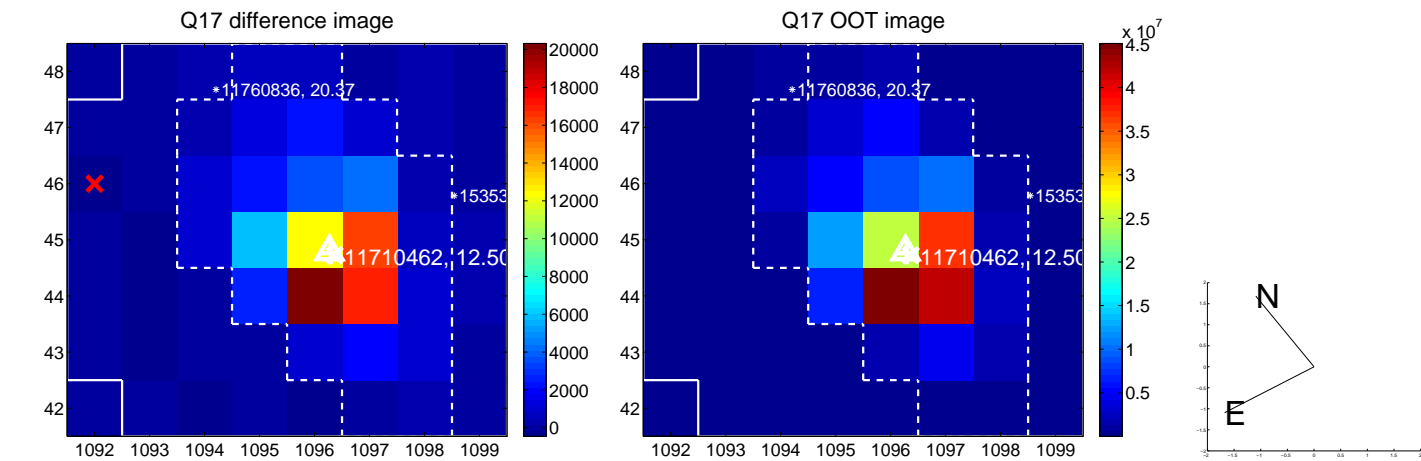
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

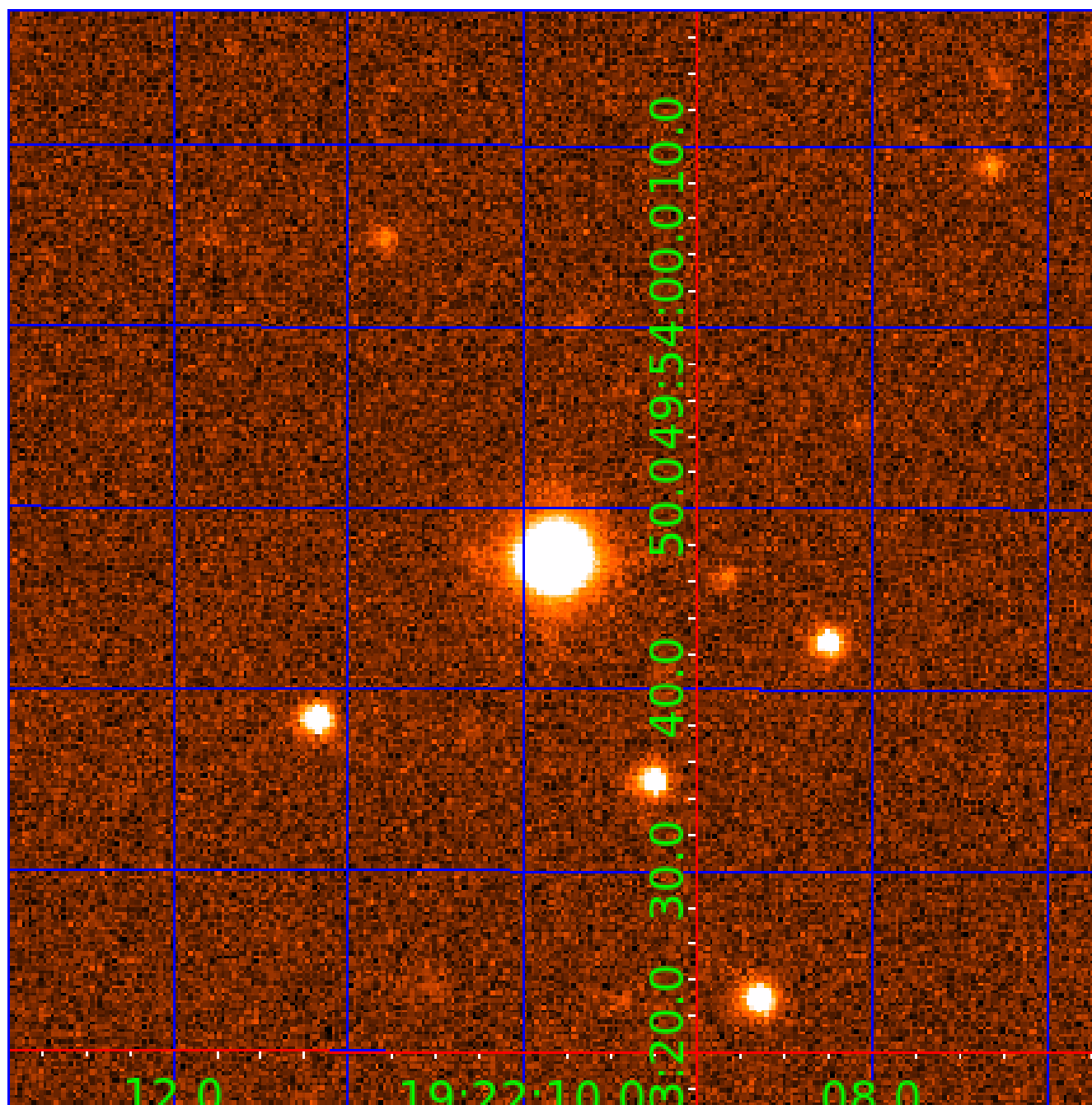


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011710462

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})
011710462-01	OBS	No	1.050092	131.966923	187.7	5.616	13.4	16.1	2.28	7805	3.22	29398.48
011710462-02	OBS	No	1.050120	132.469884	133.4	3.824	14.4	11.9	2.28	7805	2.81	29397.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011710462-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
011710462-02	OBS	FP	0.00	1	0	0	0	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.

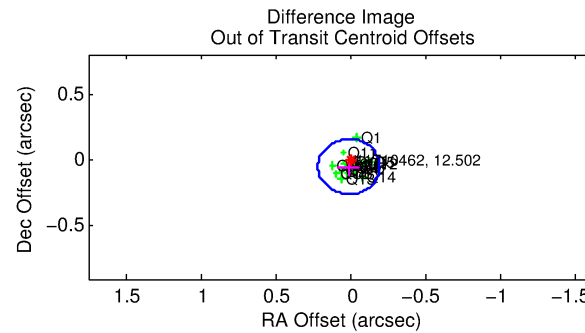
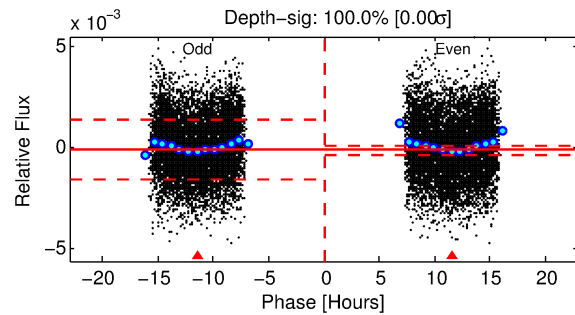
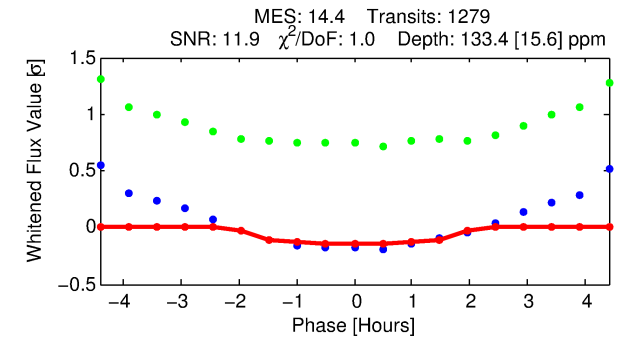
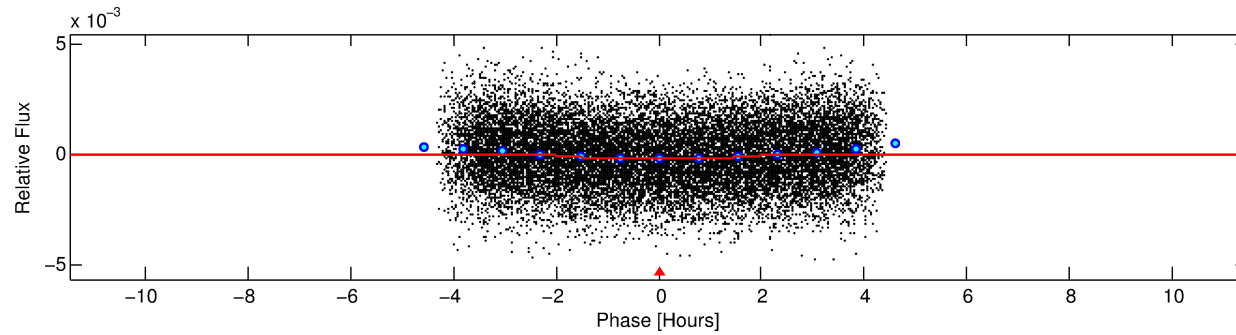
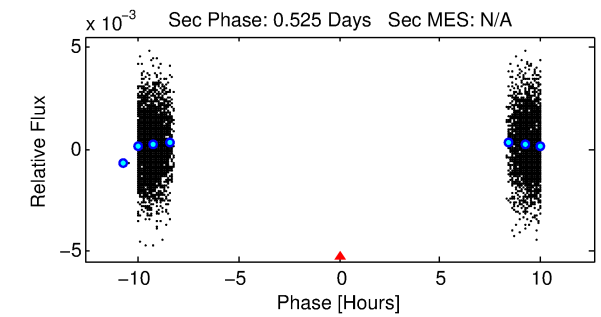
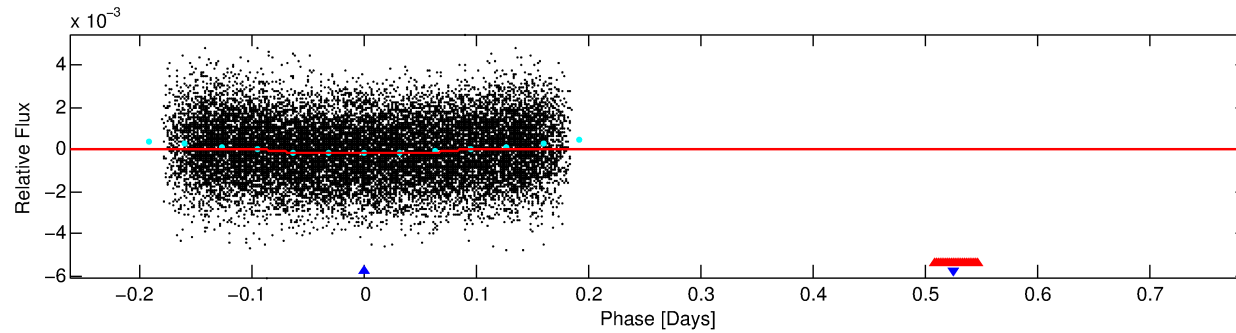
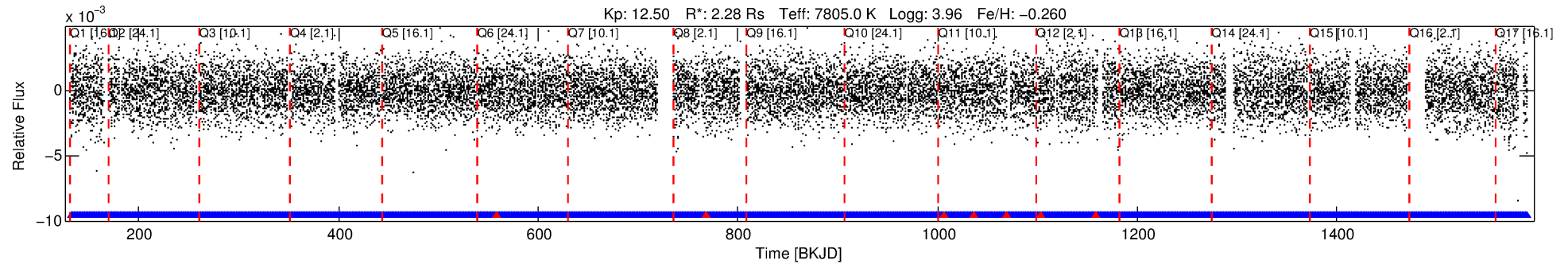
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011710462-02

No Significant Match Found

DV One-Page Summary

KIC: 11710462 Candidate: 2 of 2 Period: 1.050 d



DV Fit Results:

Period = 1.05012 [0.00001] d
Epoch = 132.4699 [0.0051] BKJD
Rp/R* = 0.0113 [0.0093]
a/R* = 1.74 [5.05]
b = 0.70 [3.23]
Seff = 29397.44 [14813.60]
Teq = 3339 [421] K
Rp = 2.81 [2.49] Re
a = 0.0242 [0.0074] AU

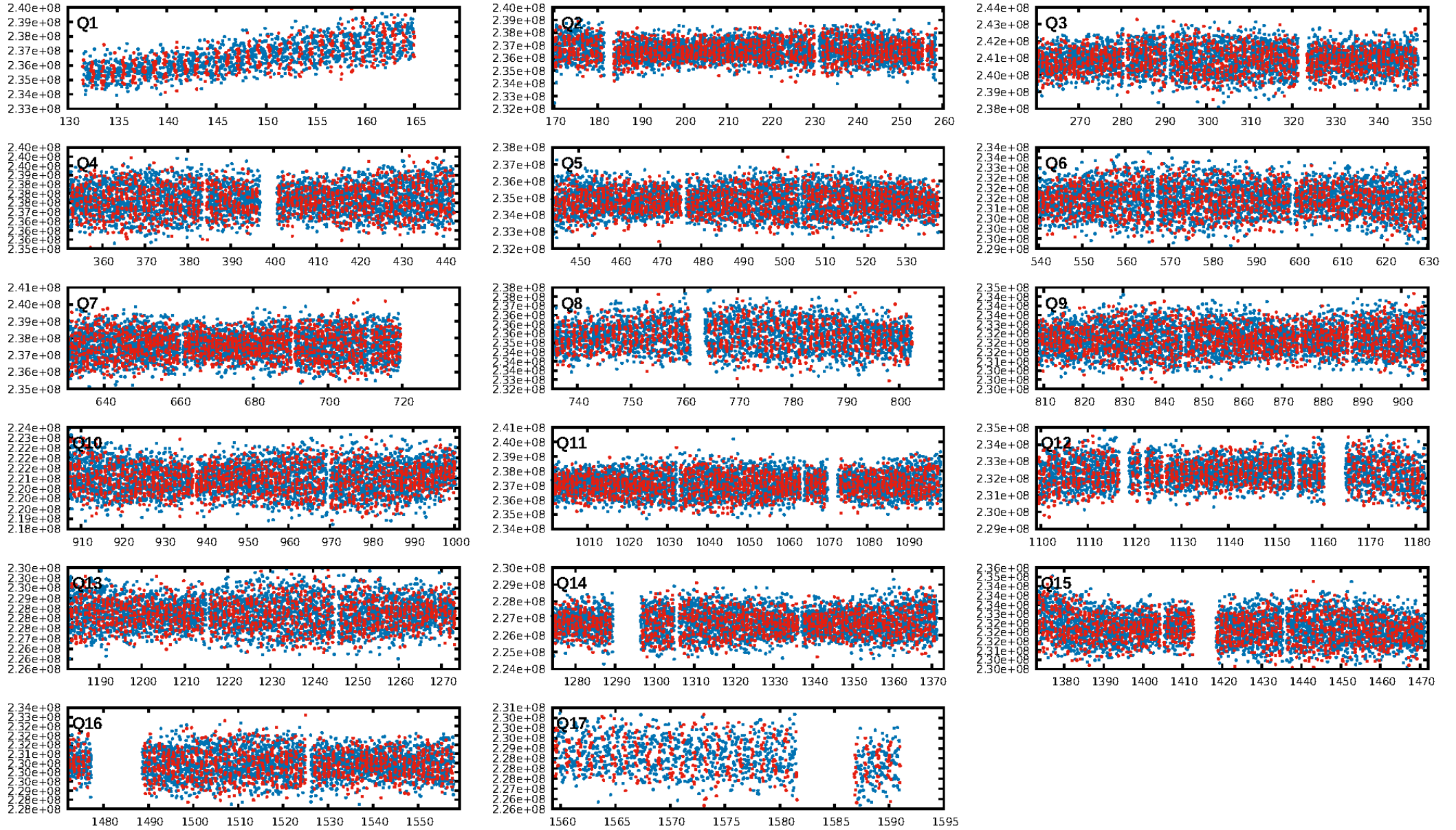
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1213/1220]
GhostDiagnostic-chr: 1.855
Centroid-sig: 0.5%
Centroid-so: 0.492 arcsec [4.09σ]
OotOffset-rm: 0.051 arcsec [0.74σ]
KicOffset-rm: 0.347 arcsec [4.56σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

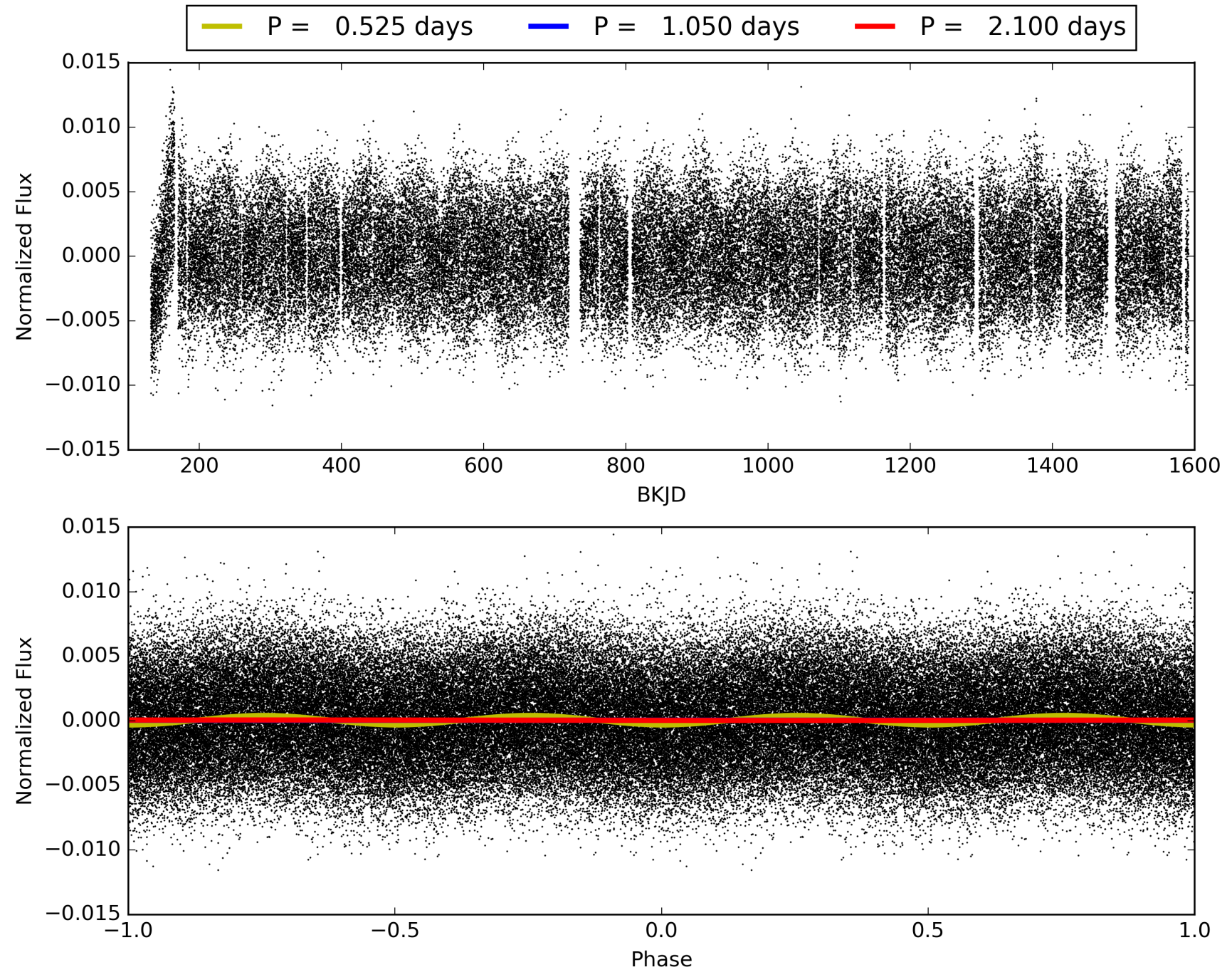
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:23:31 Z

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

TCE 011710462-02, PDC Light Curves

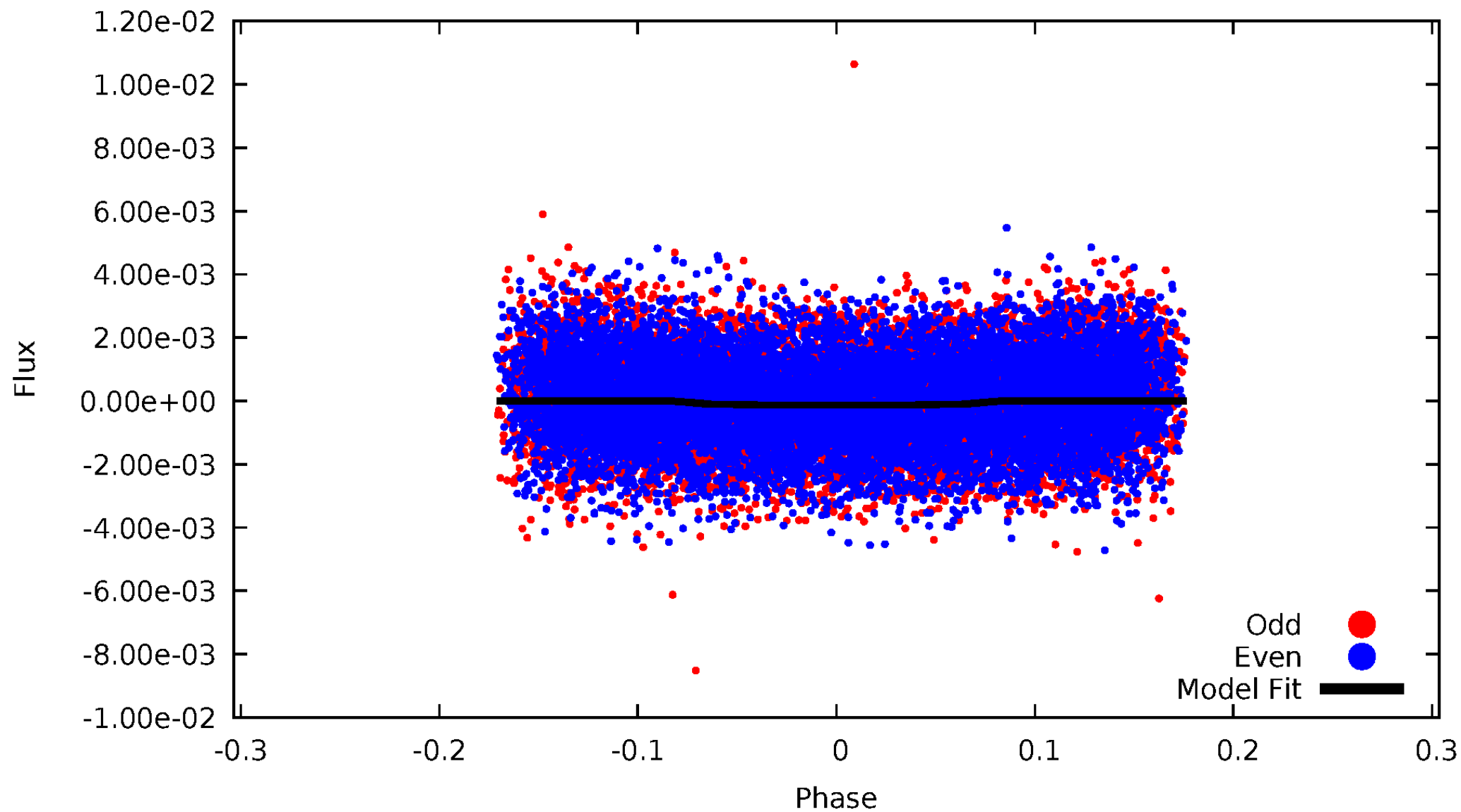


TCE 011710462-02



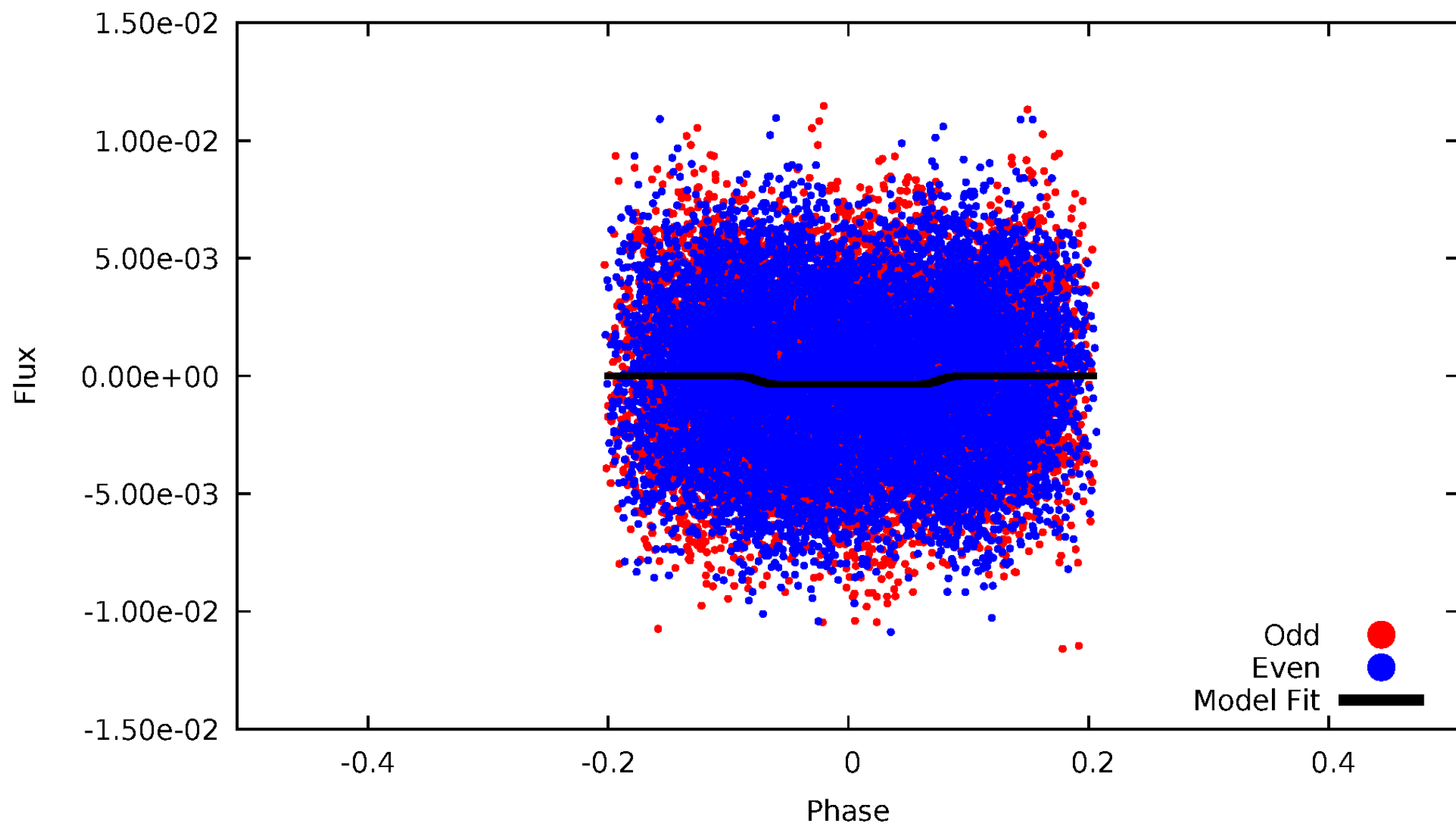
DV Odd/Even

TCE 011710462-02



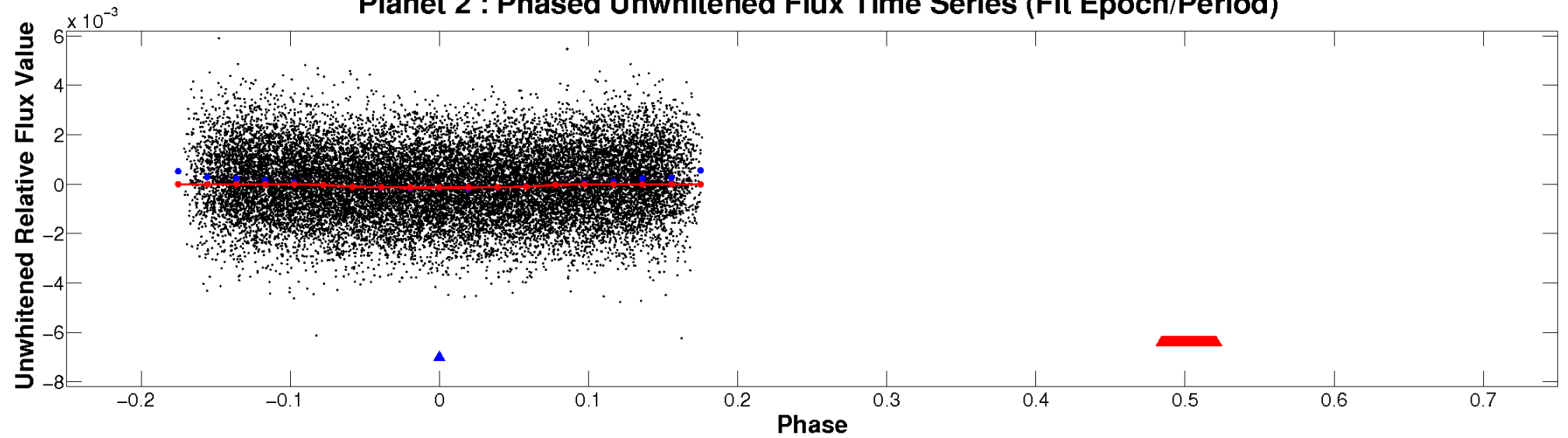
ALT Odd/Even

TCE 011710462-02

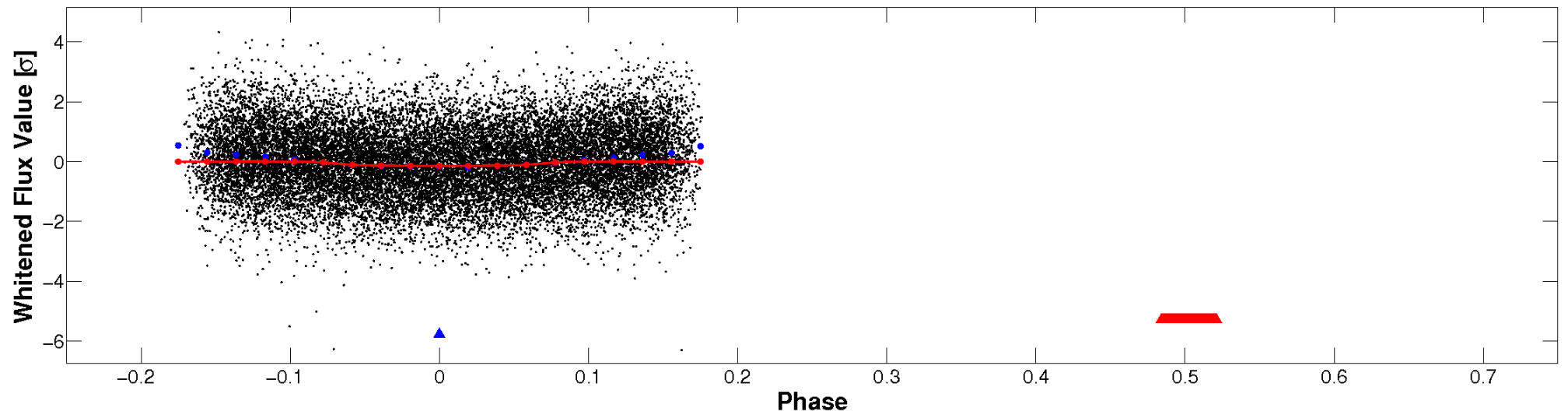


Non-Whitened Vs. Whitened Light Curve

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

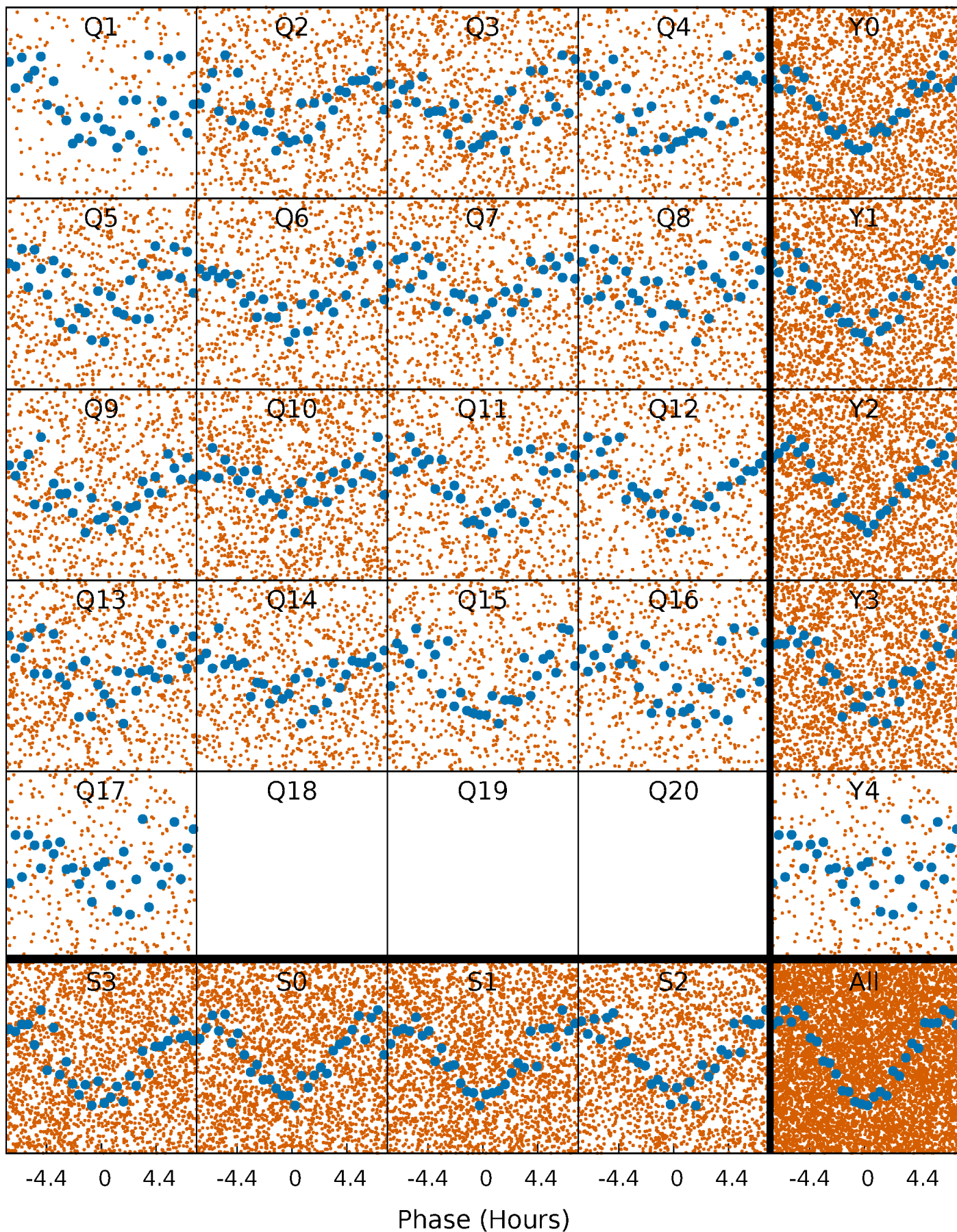


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



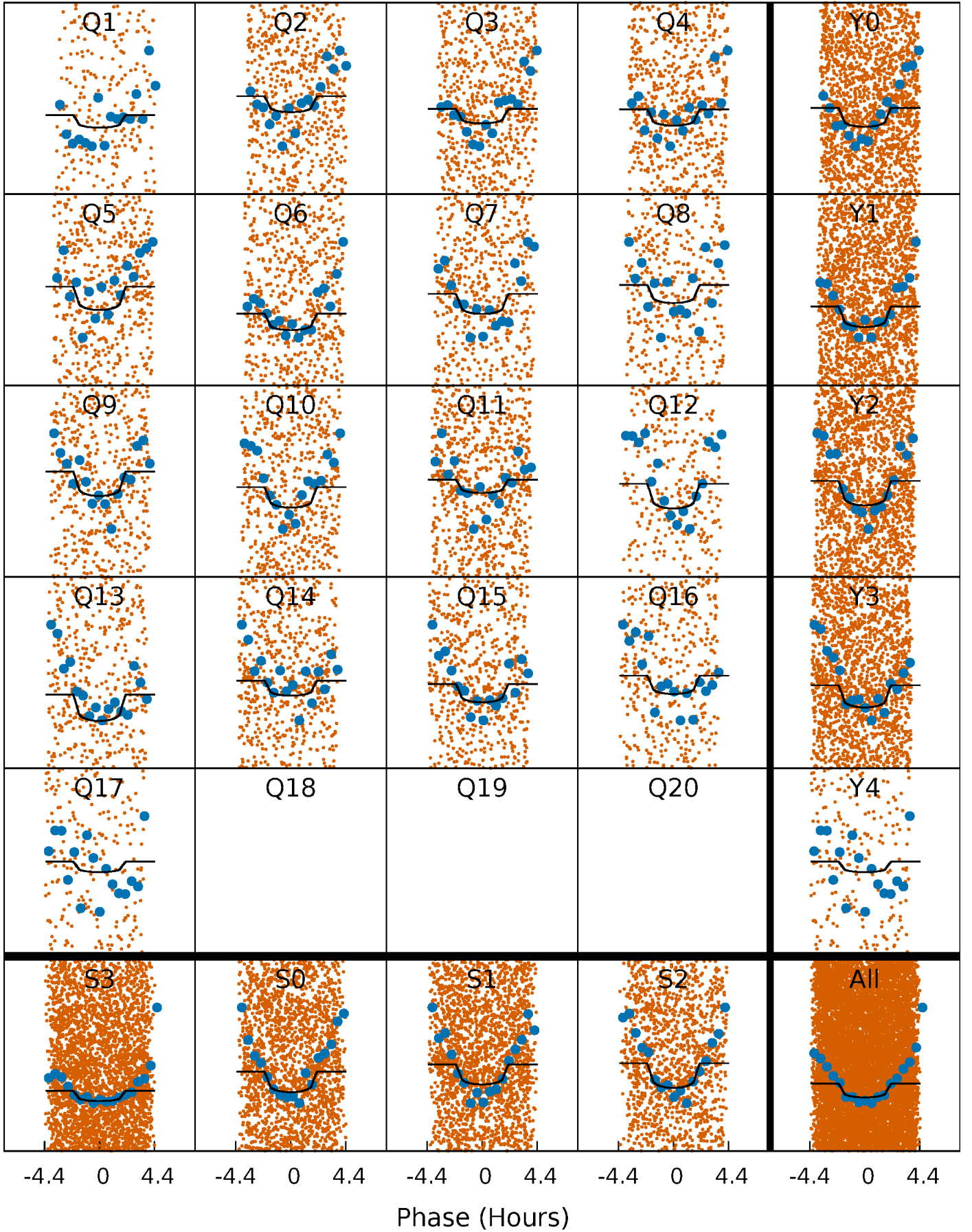
PDC Quarter-Phased Transit Curves

TCE 011710462-02 P= 1.050120 Days $T_0=132.469884$ (BKJD)



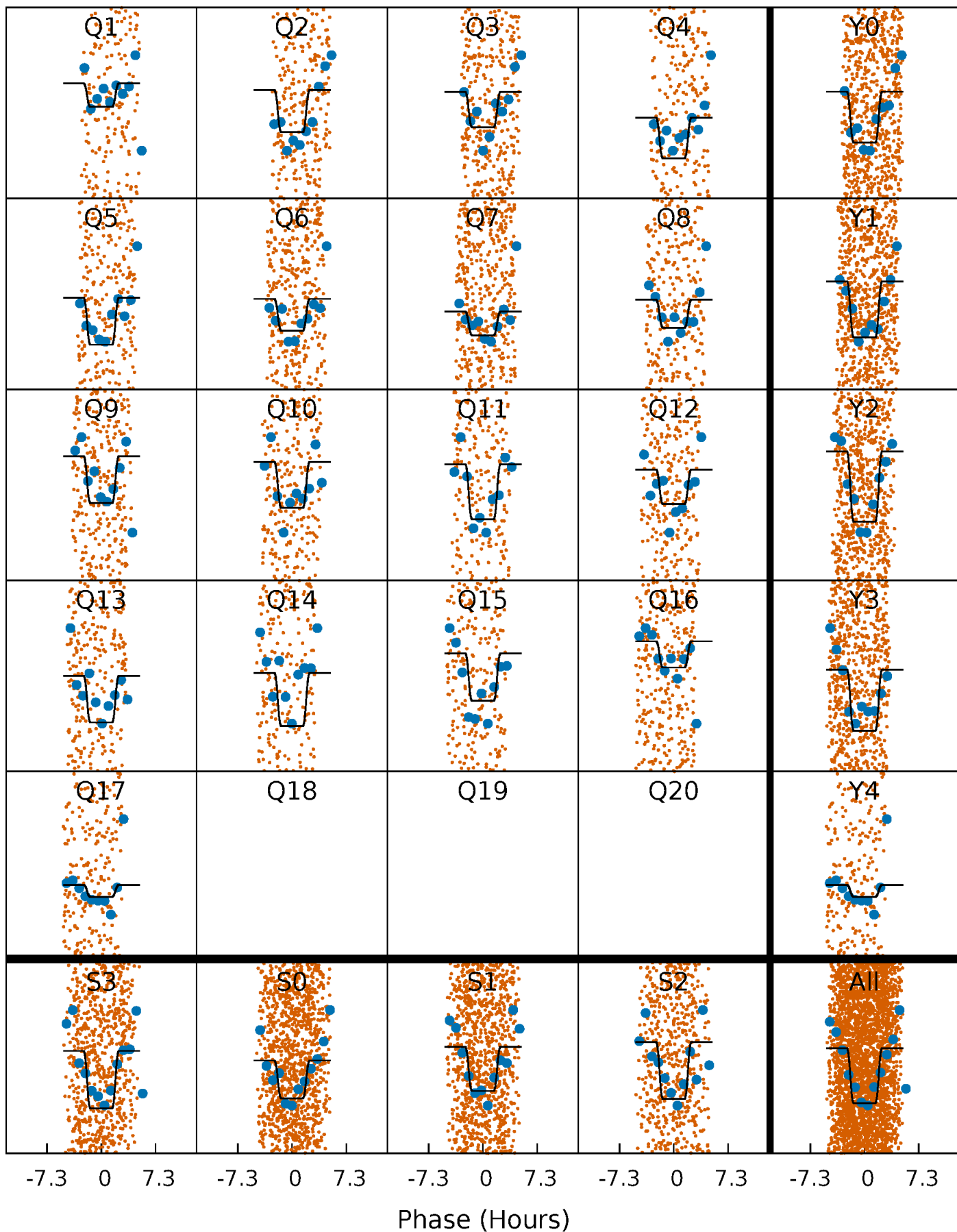
DV Quarter-Phased Transit Curves

TCE 011710462-02 P= 1.050120 Days $T_0=132.469884$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

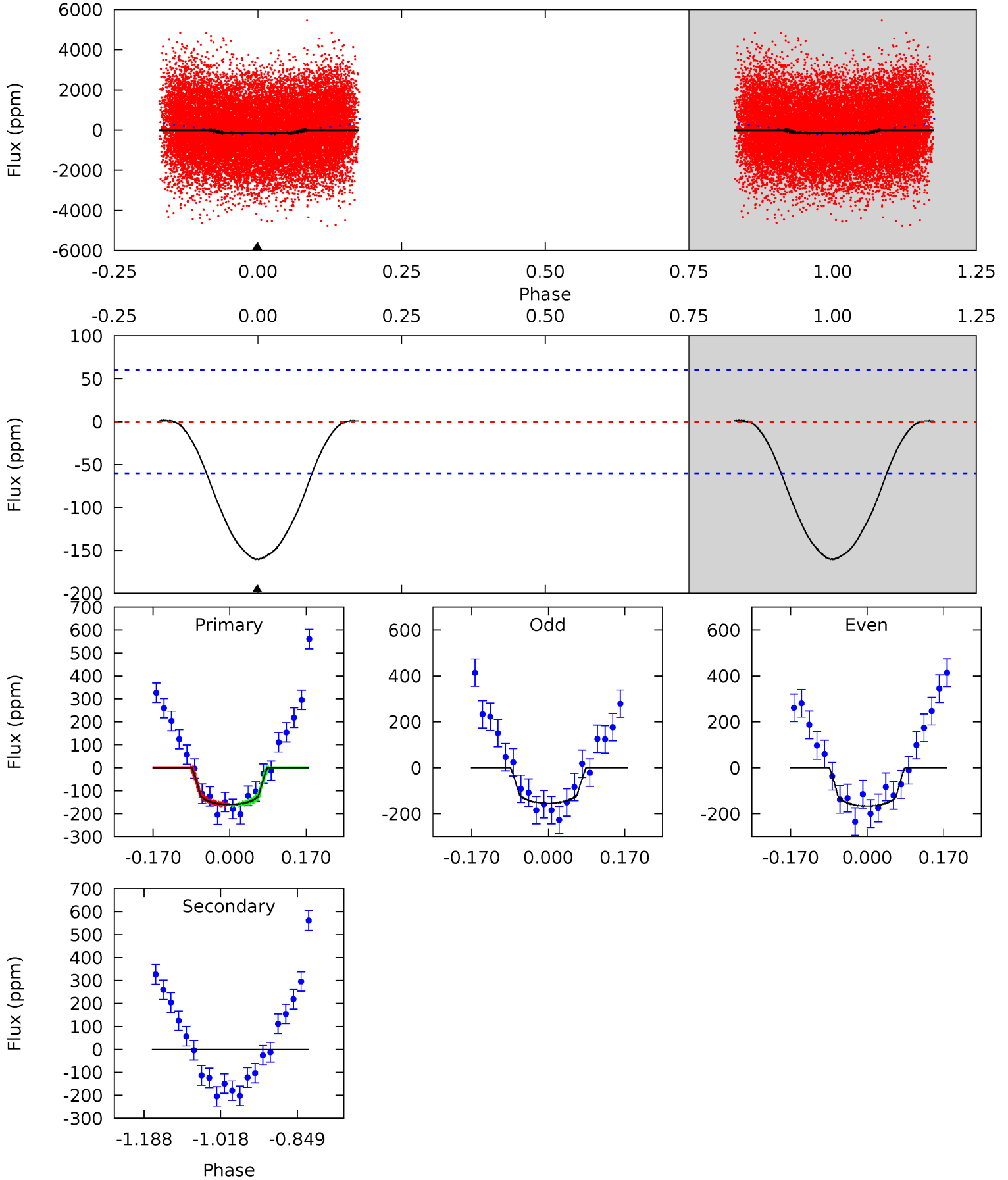
TCE 011710462-02 $P = 1.050168$ Days $T_0 = 132.437307$ (BKJD)



DV Model-Shift Uniqueness Test

011710462-02, P = 1.050120 Days, E = 131.419764 Days

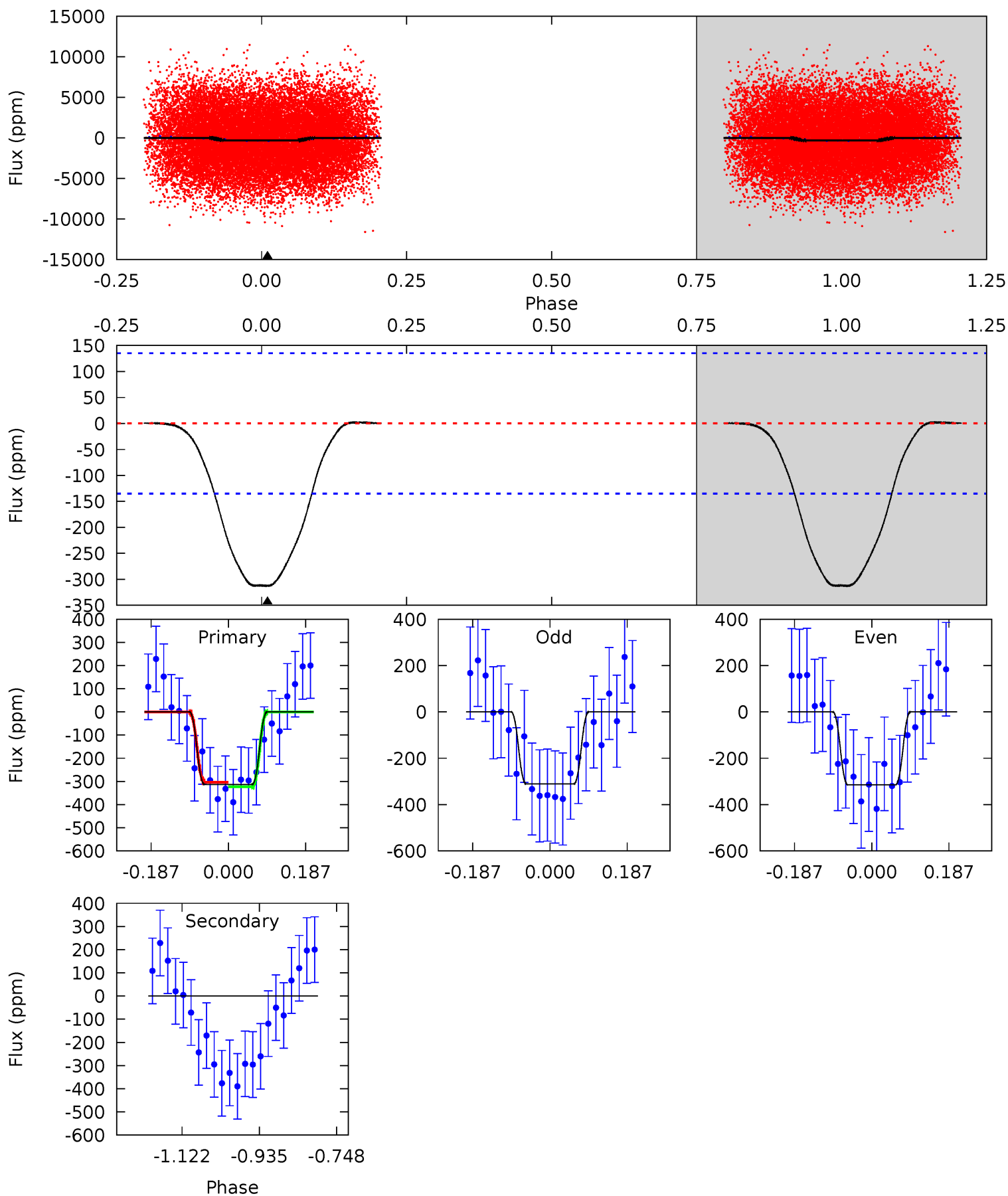
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	0	0	0	4.45	1.37	0.14	11.9	11.9	0	0	0.46	1.10	0.01	0.12



Alt Model-Shift Uniqueness Test

011710462-02, P = 1.050168 Days, E = 131.387139 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	0	0	0	4.43	1.32	0.09	10.3	10.3	0	0	0.06	1.07	0.01	0.32



Stellar Parameters For KIC 011710462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7805^{+244}_{-325}	$3.958^{+0.273}_{-0.136}$	$-0.260^{+0.200}_{-0.350}$	$2.277^{+0.473}_{-0.768}$	$1.717^{+0.182}_{-0.338}$	$0.205^{+0.347}_{-0.086}$
	+3%/-4%	+7%/-3%	+77%/-135%	+21%/-34%	+11%/-20%	+169%/-42%
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 011710462-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 14	$3.06^{+2.23}_{-1.90}$	4593^{+344}_{-420}	-4021^{+8163}_{-981}	$-0.002^{+0.680}_{-0.679}$
Alt.	0 ± 30	$4.35^{+2.53}_{-2.08}$	4636^{+314}_{-411}	-3975^{+8110}_{-914}	$0.013^{+0.657}_{-0.597}$

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 $A_{obs} \gg 1.0$

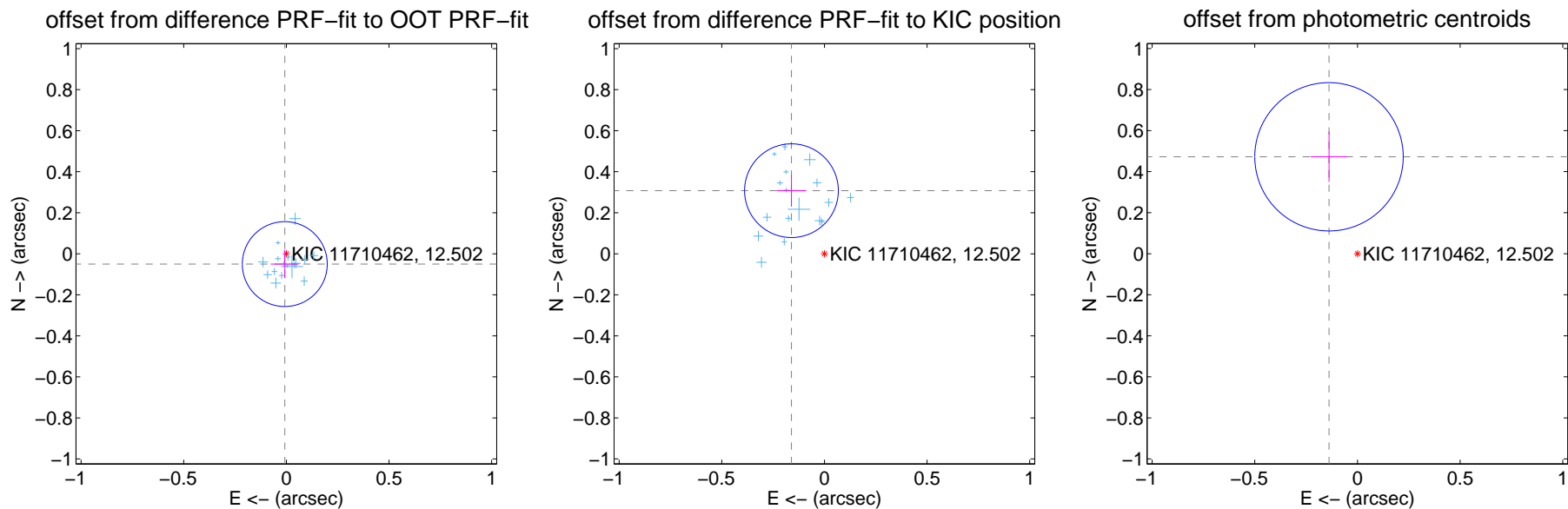
DV Centroid Data

Supplemental centroid analysis for 011710462-02. Kepler magnitude: 12.50. Transit SNR 11.88

There are 17 quarters with good PRF difference image offsets

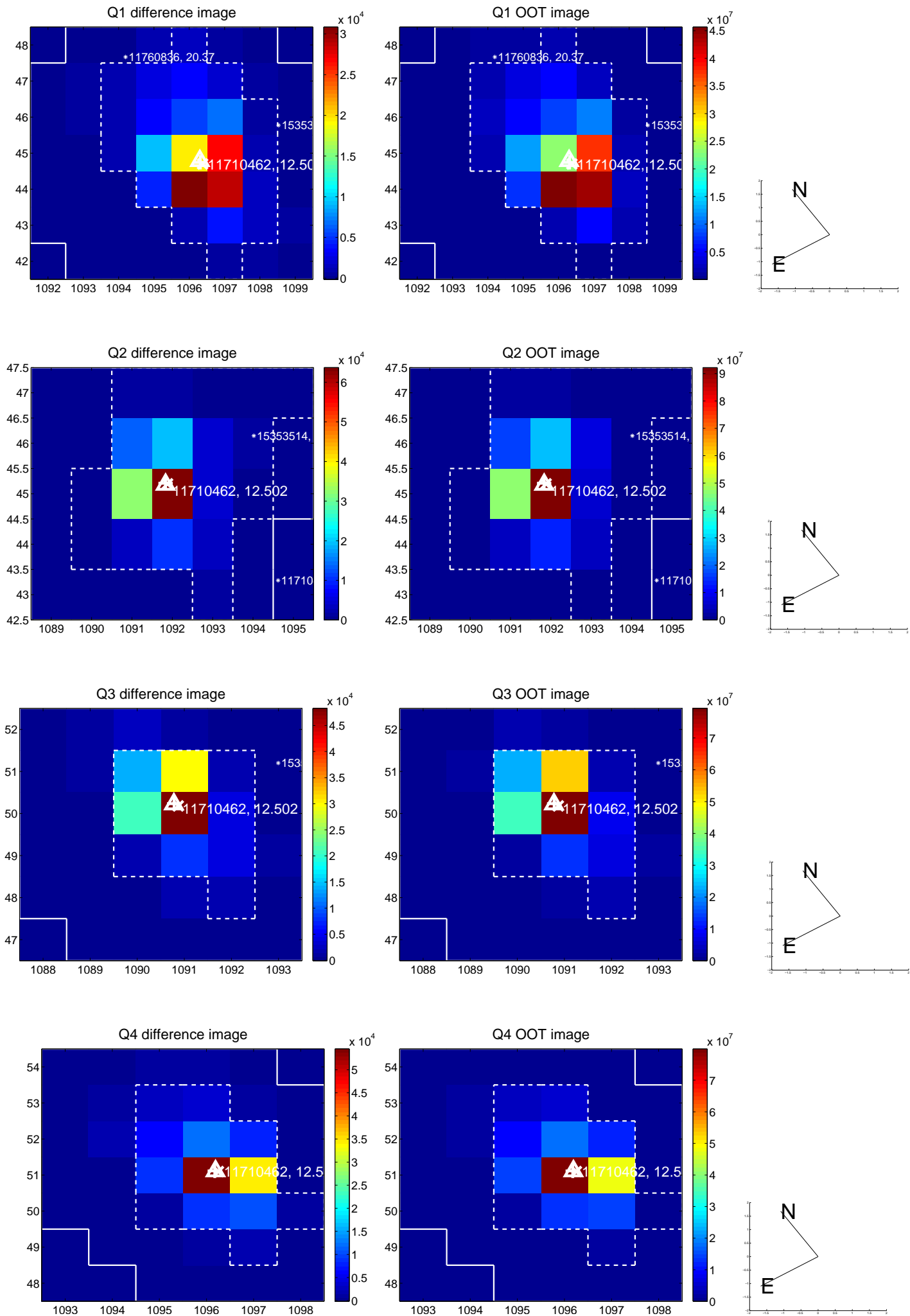
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.051 ± 0.069	0.74	0.008 ± 0.069	-0.050 ± 0.069
PRF-fit source offset from KIC position	0.347 ± 0.076	4.56	0.161 ± 0.072	0.308 ± 0.077
photometric centroid source offset	0.49 ± 0.12	4.09	0.14 ± 0.09	0.47 ± 0.12

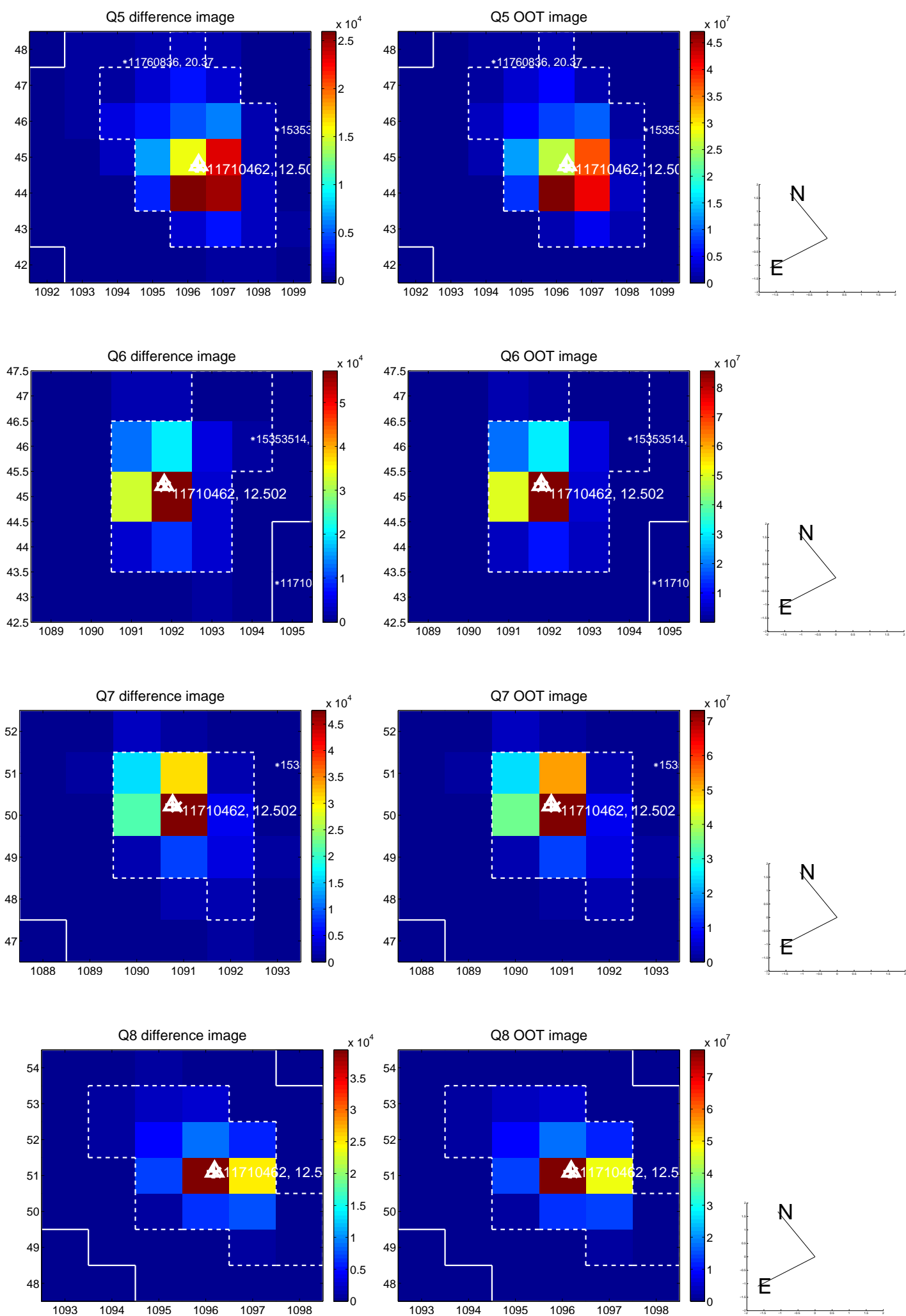


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

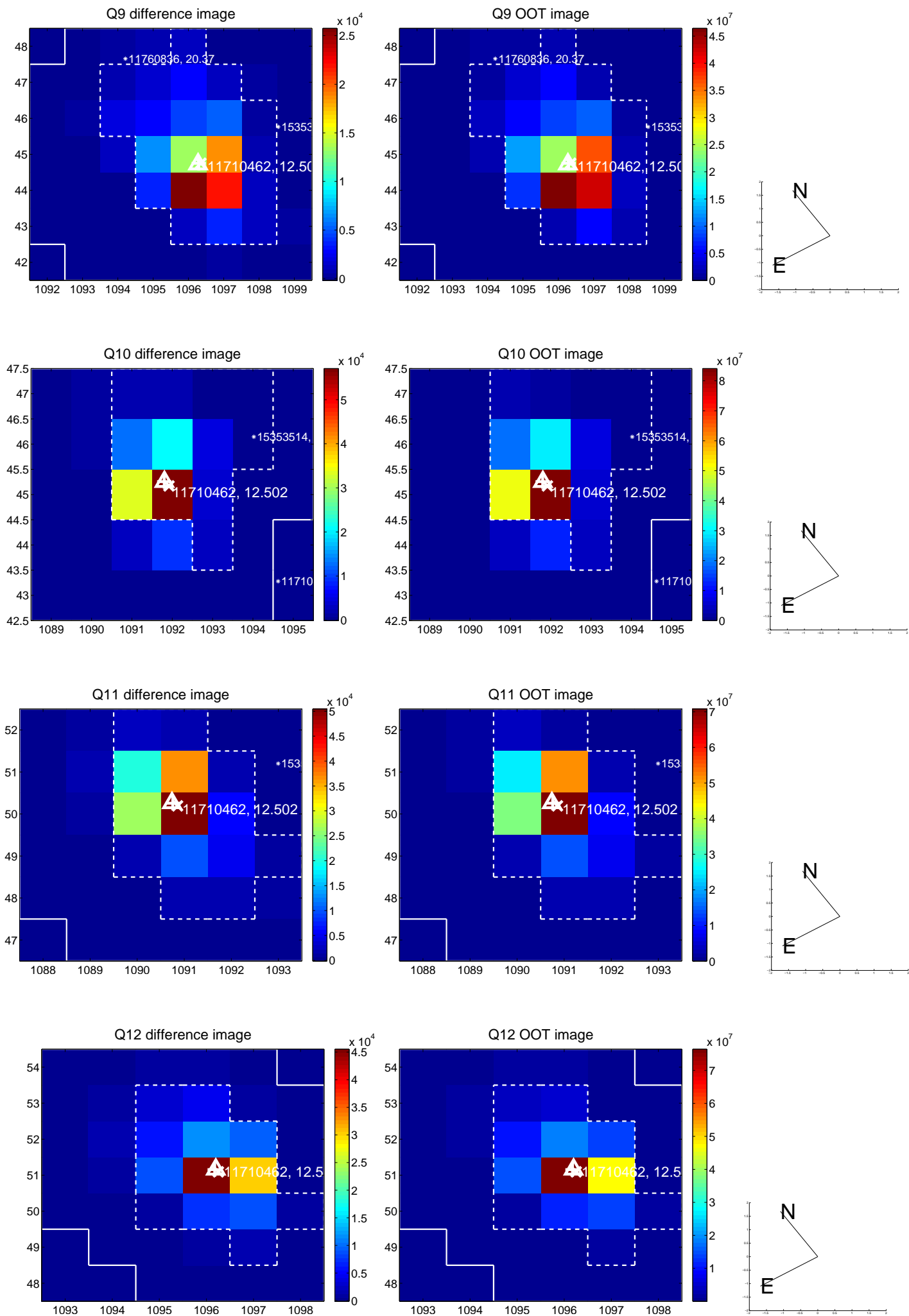
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



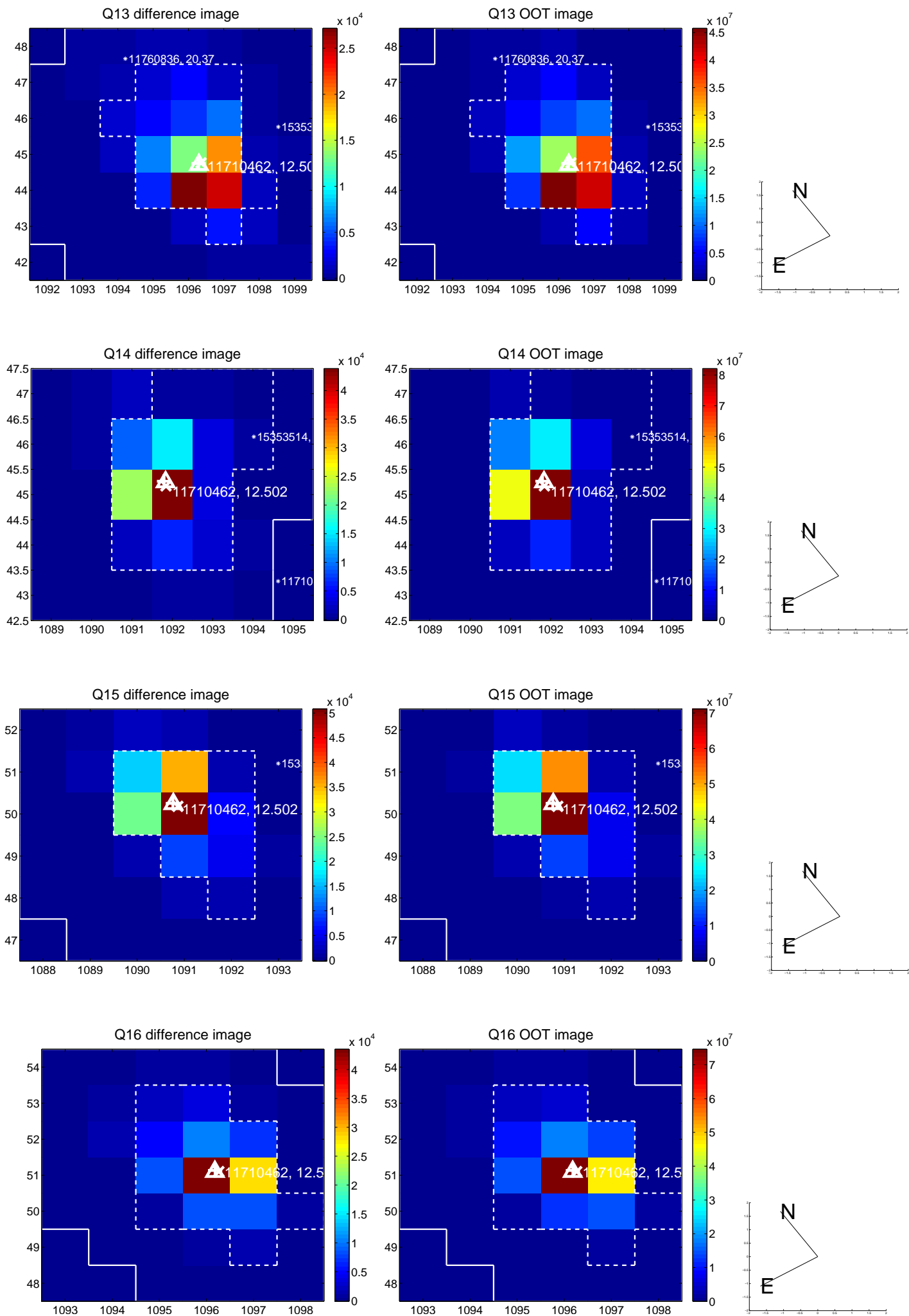
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



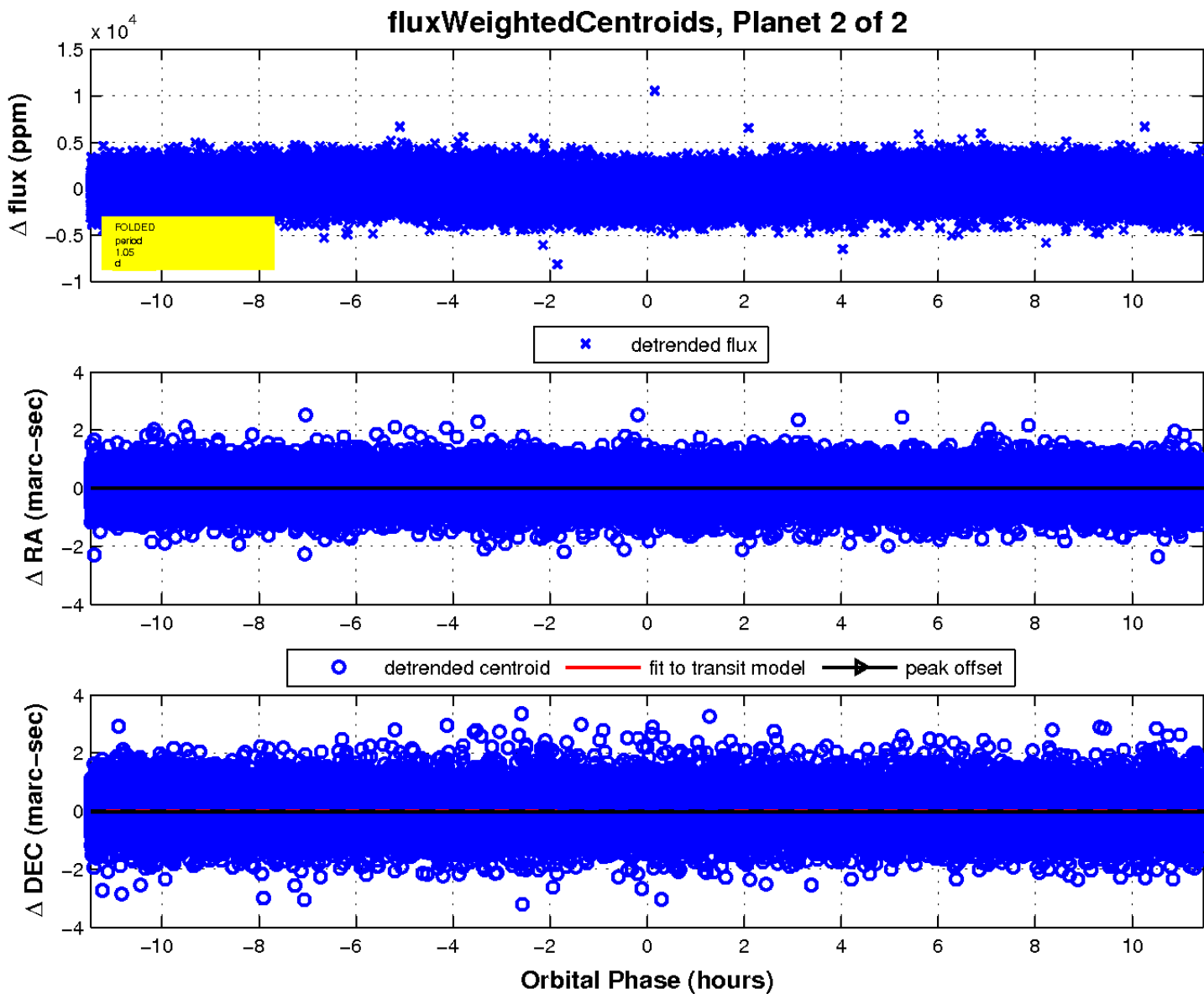
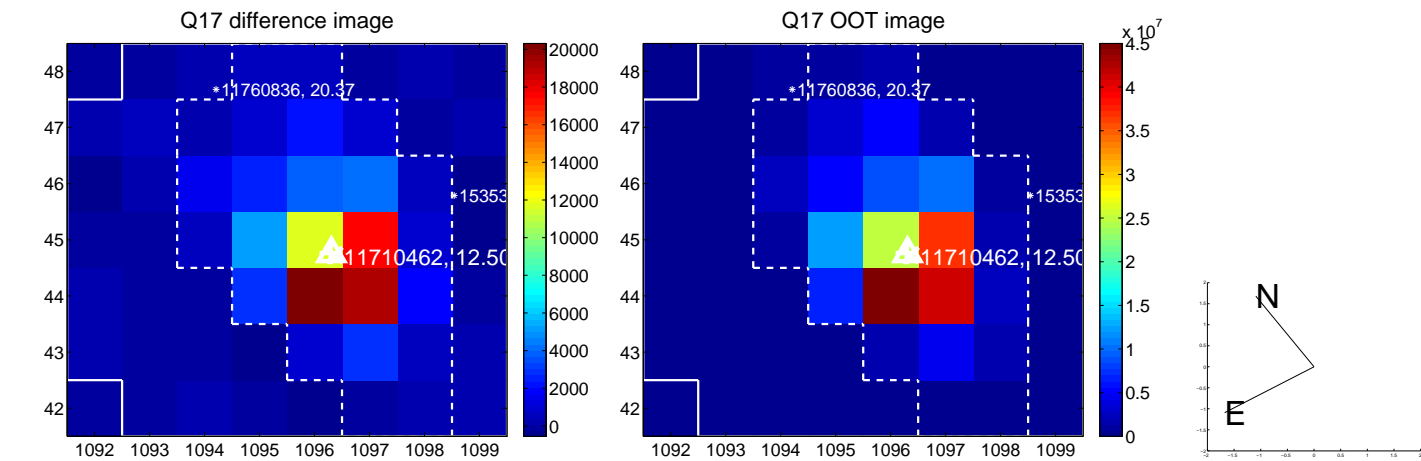
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

