

KIC 006115466

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})
006115466-01	OBS	No	4.930435	131.517805	47.9	15.000	10.1	-1.0	2.13	8186	1.49	3829.83
006115466-02	OBS	No	4.929746	134.985163	18.7	54.179	8.7	13.8	2.13	8186	0.93	3830.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115466-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
006115466-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

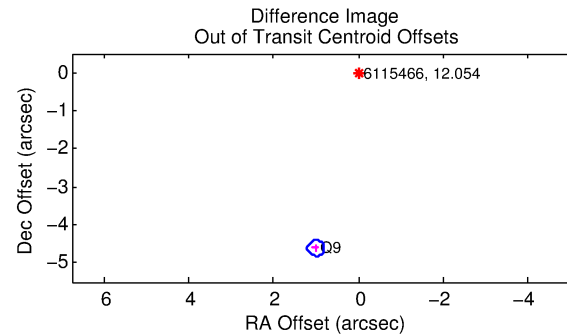
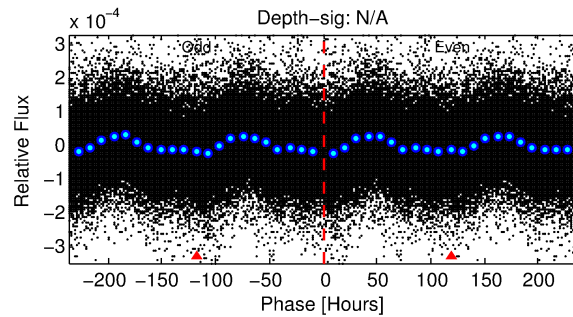
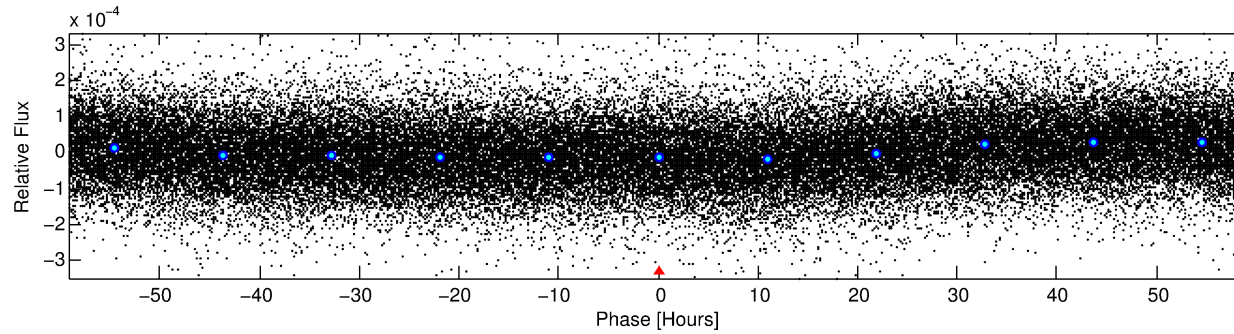
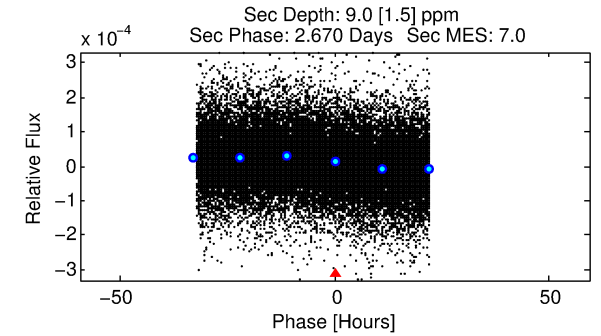
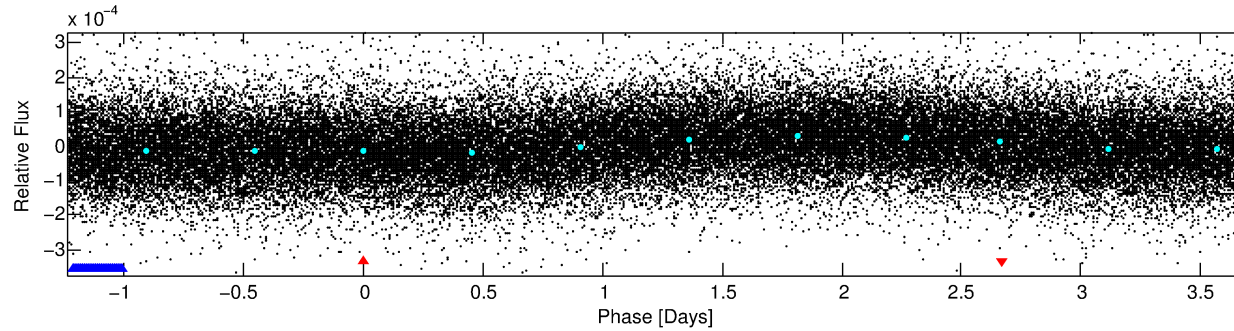
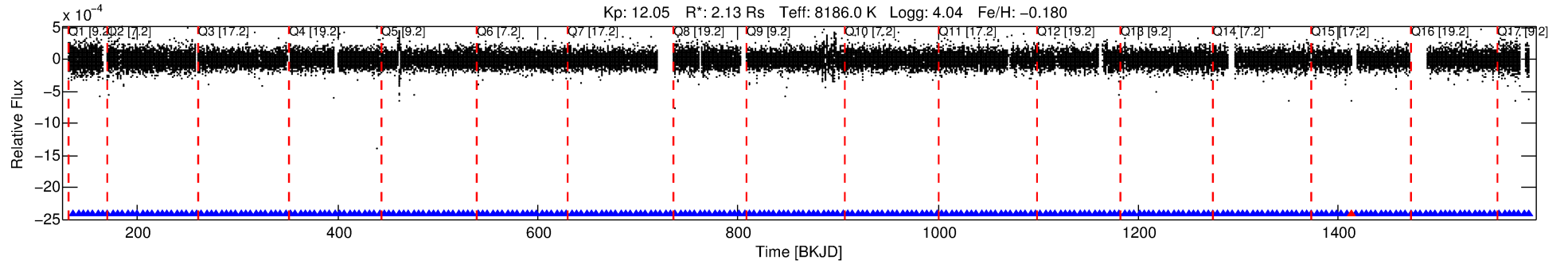
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115466-01

No Significant Match Found

DV One-Page Summary

KIC: 6115466 Candidate: 1 of 2 Period: 4.930 d



TPS TCE Results:

Period = 4.93044 d
Epoch = 131.5178 BKJD

DV fit results are unavailable

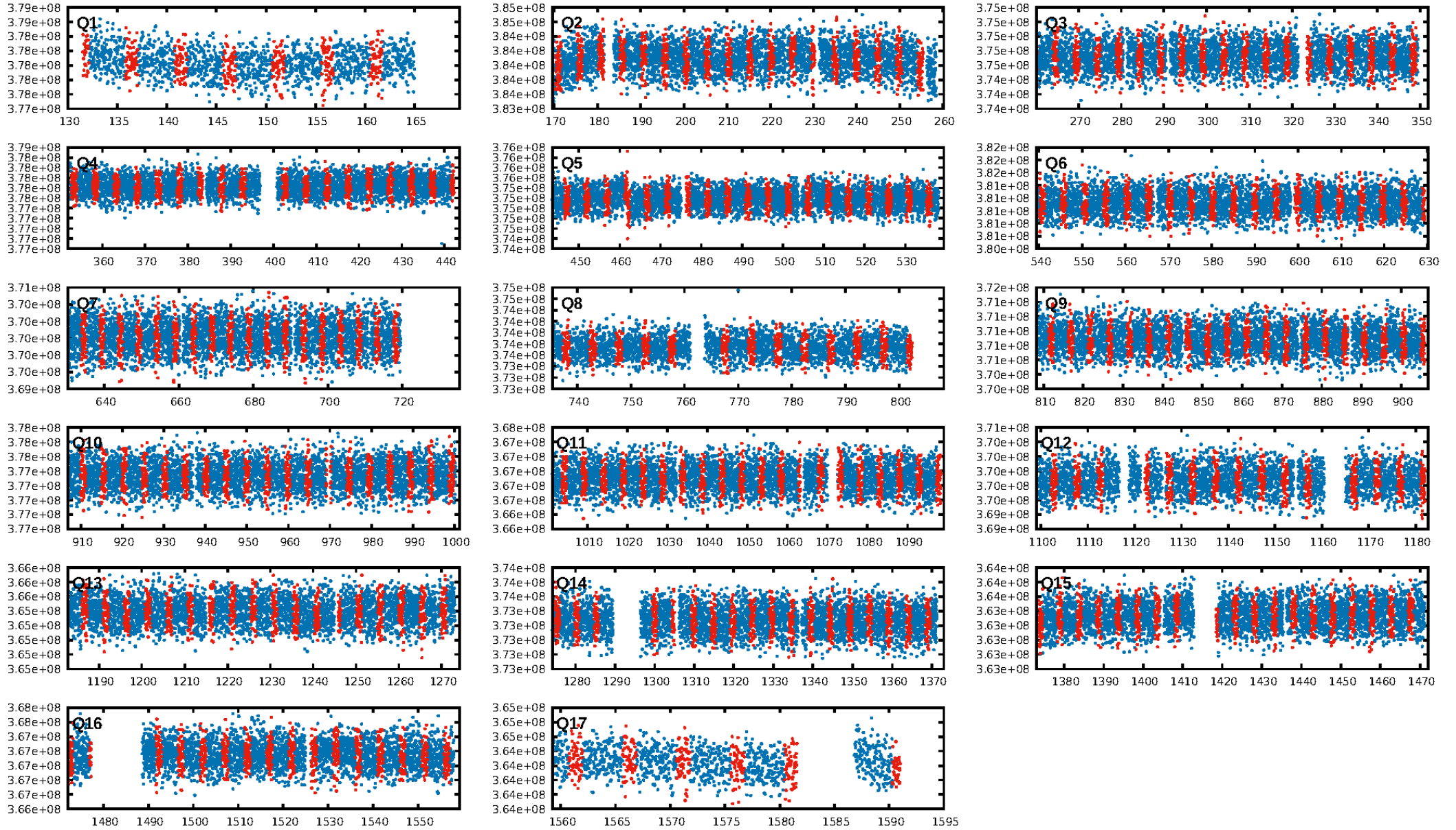
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [273/274]
GhostDiagnostic-chr: 4.172
Centroid-sig: 81.1%
Centroid-so: 0.239 arcsec [0.36 σ]
OotOffset-rm: 4.720 arcsec [69.24 σ]
KicOffset-rm: 4.680 arcsec [68.67 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/17]

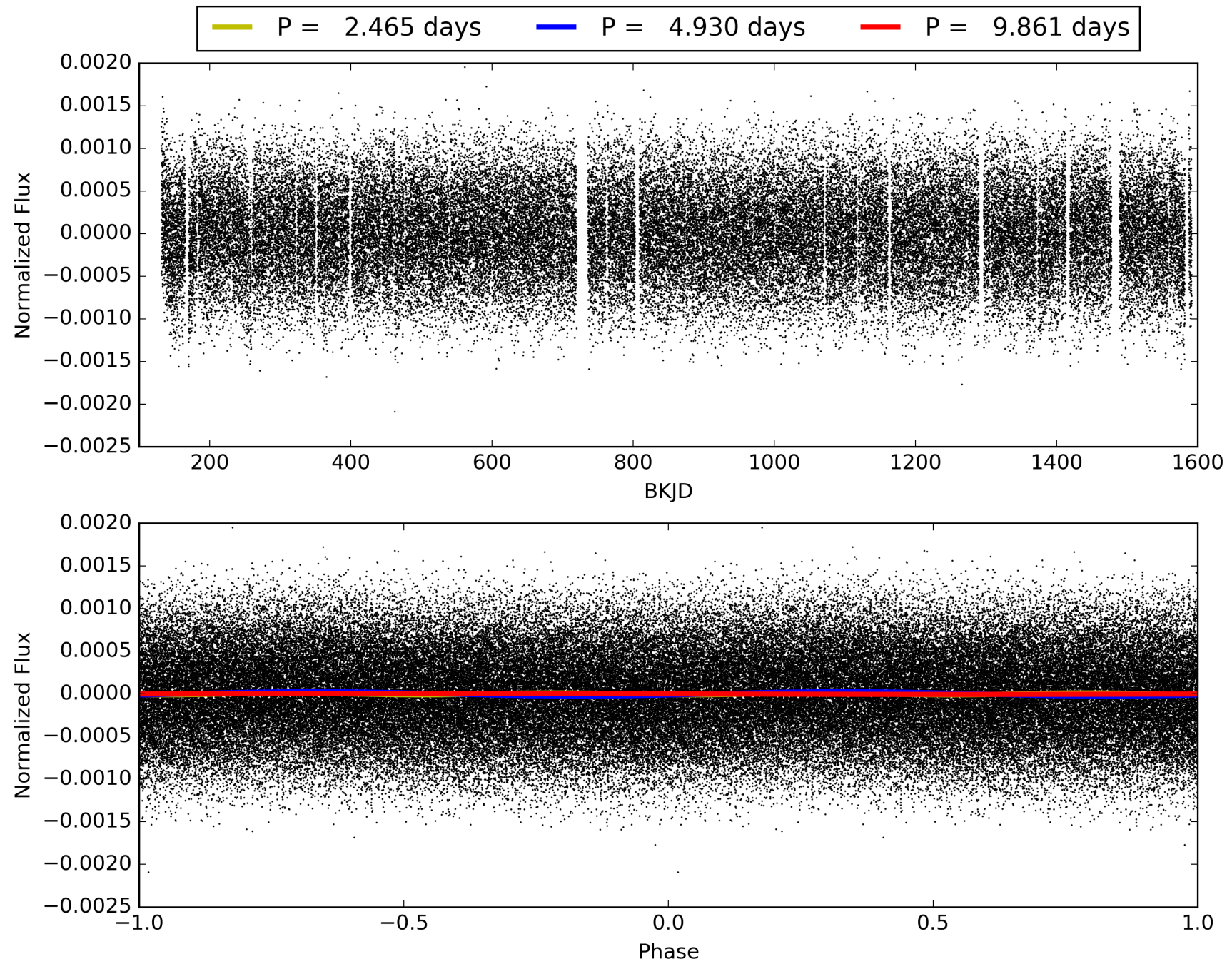
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:08:20 Z

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

TCE 006115466-01, PDC Light Curves

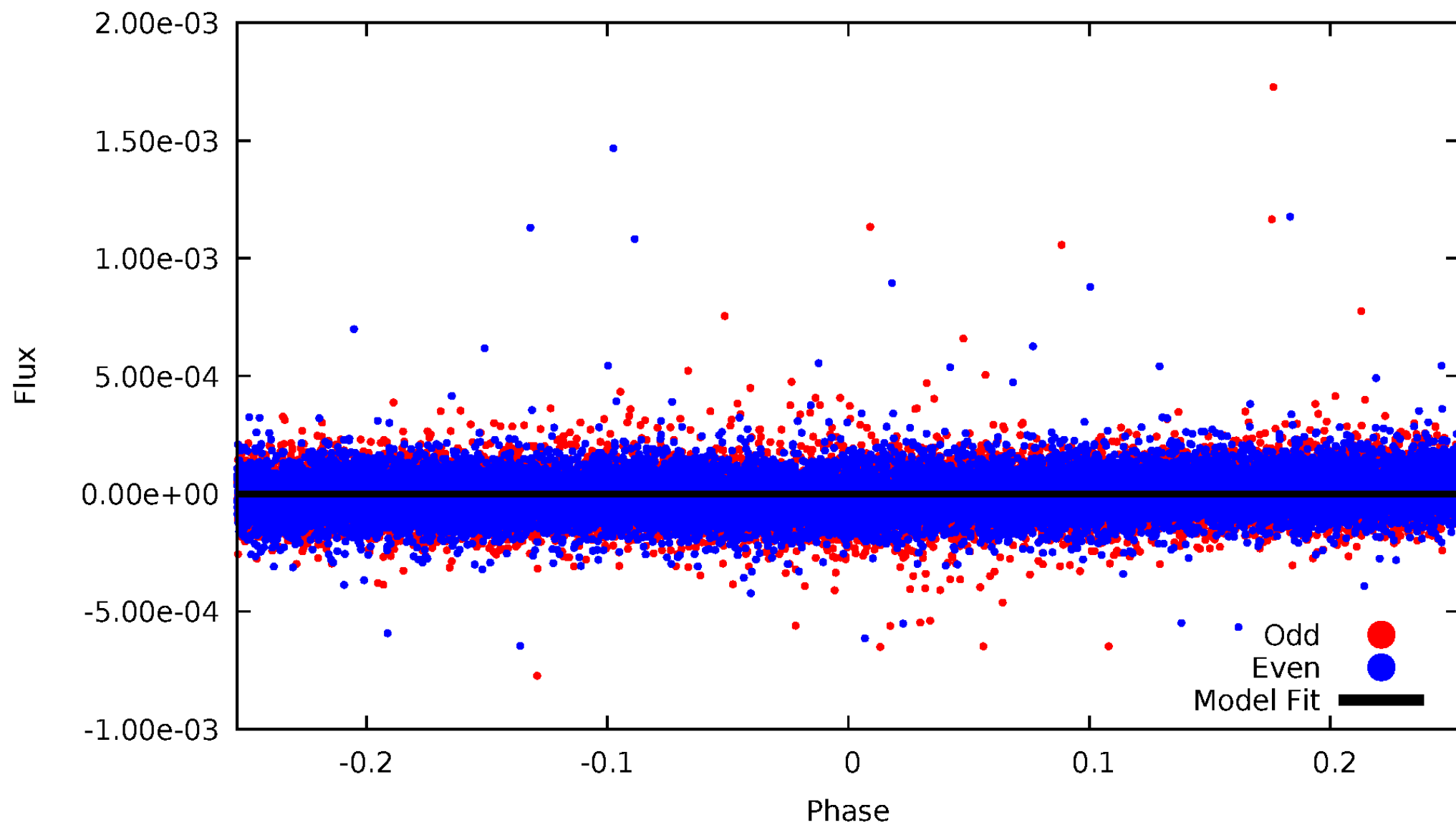


TCE 006115466-01



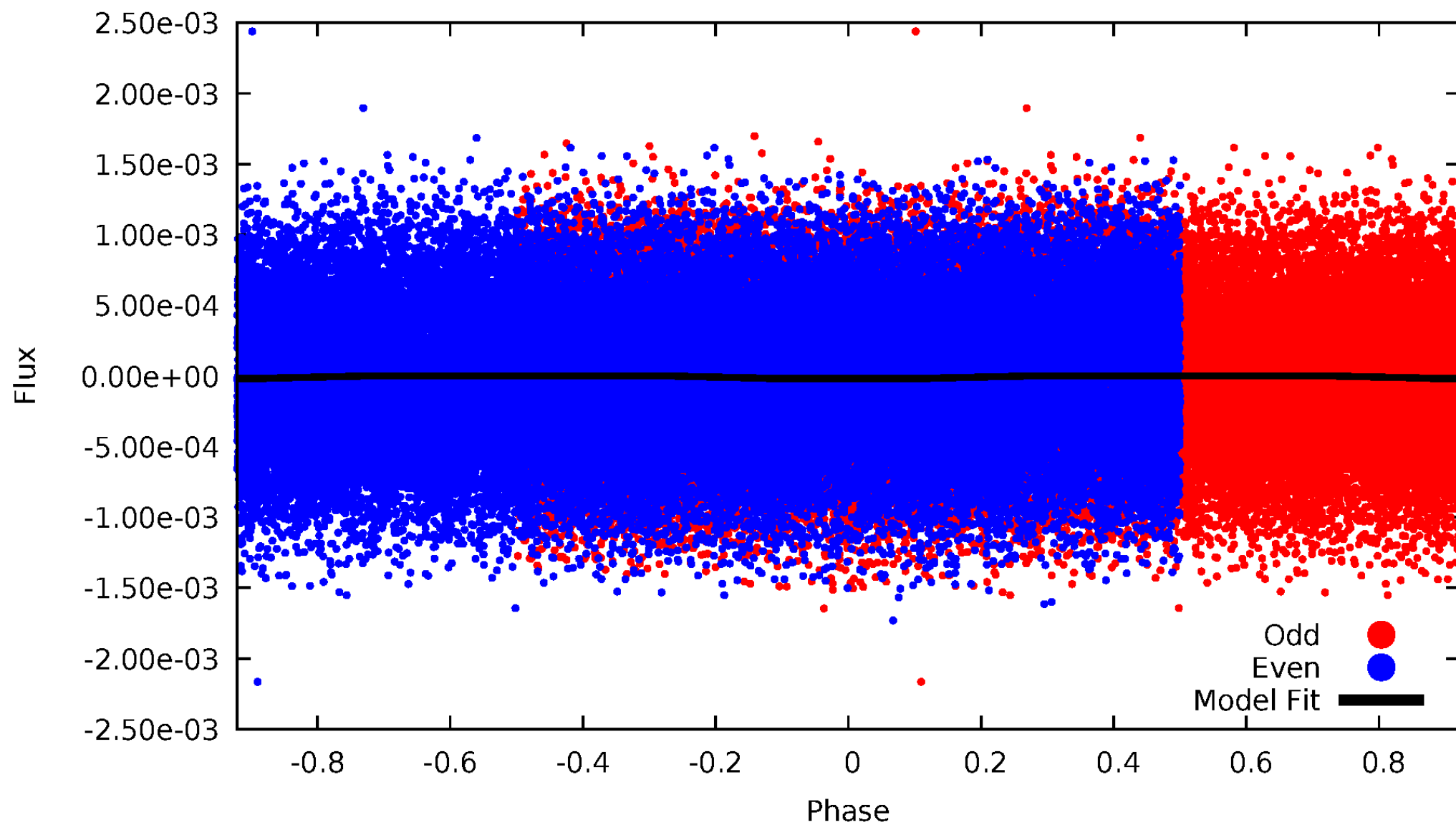
DV Odd/Even

TCE 006115466-01



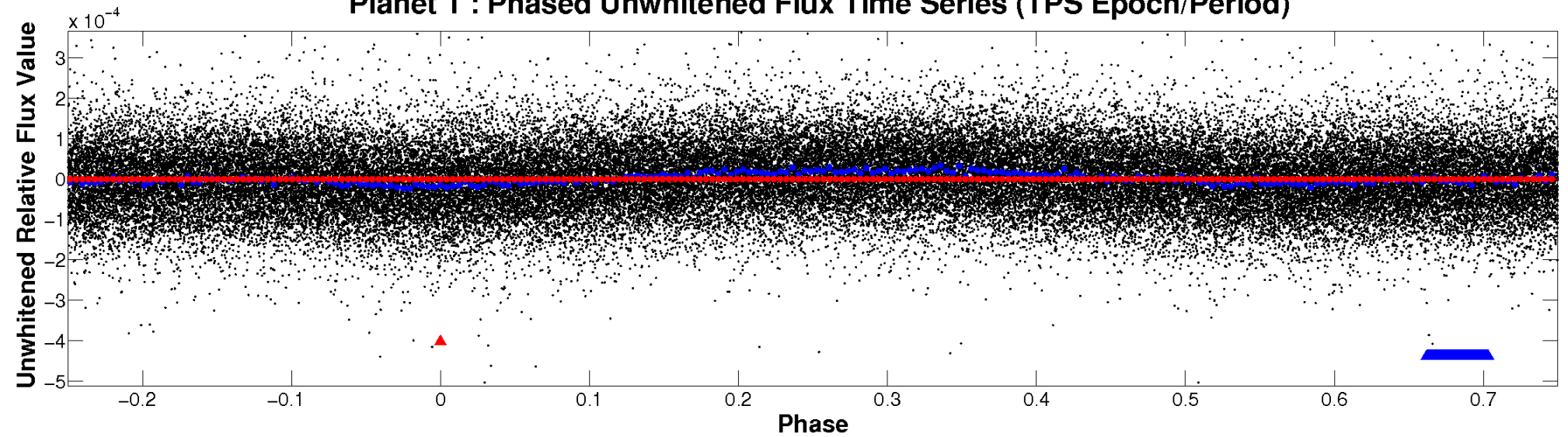
ALT Odd/Even

TCE 006115466-01

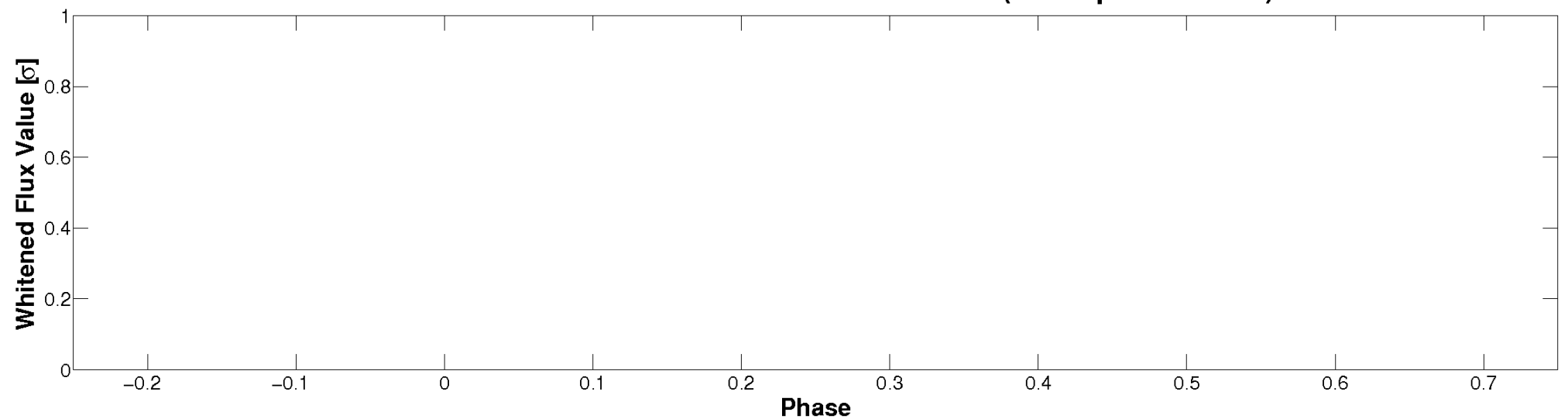


Non-Whitened Vs. Whitened Light Curve

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

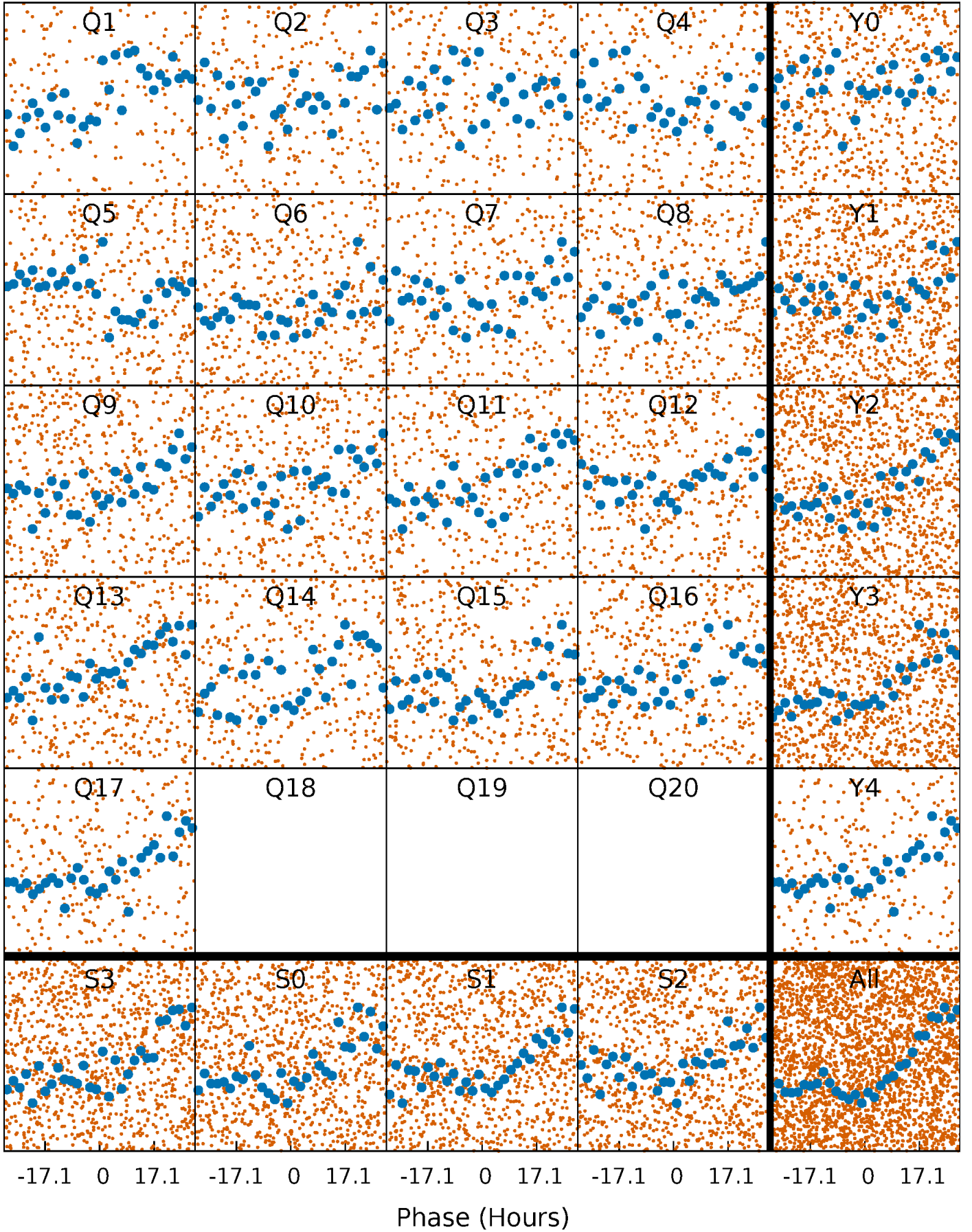


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



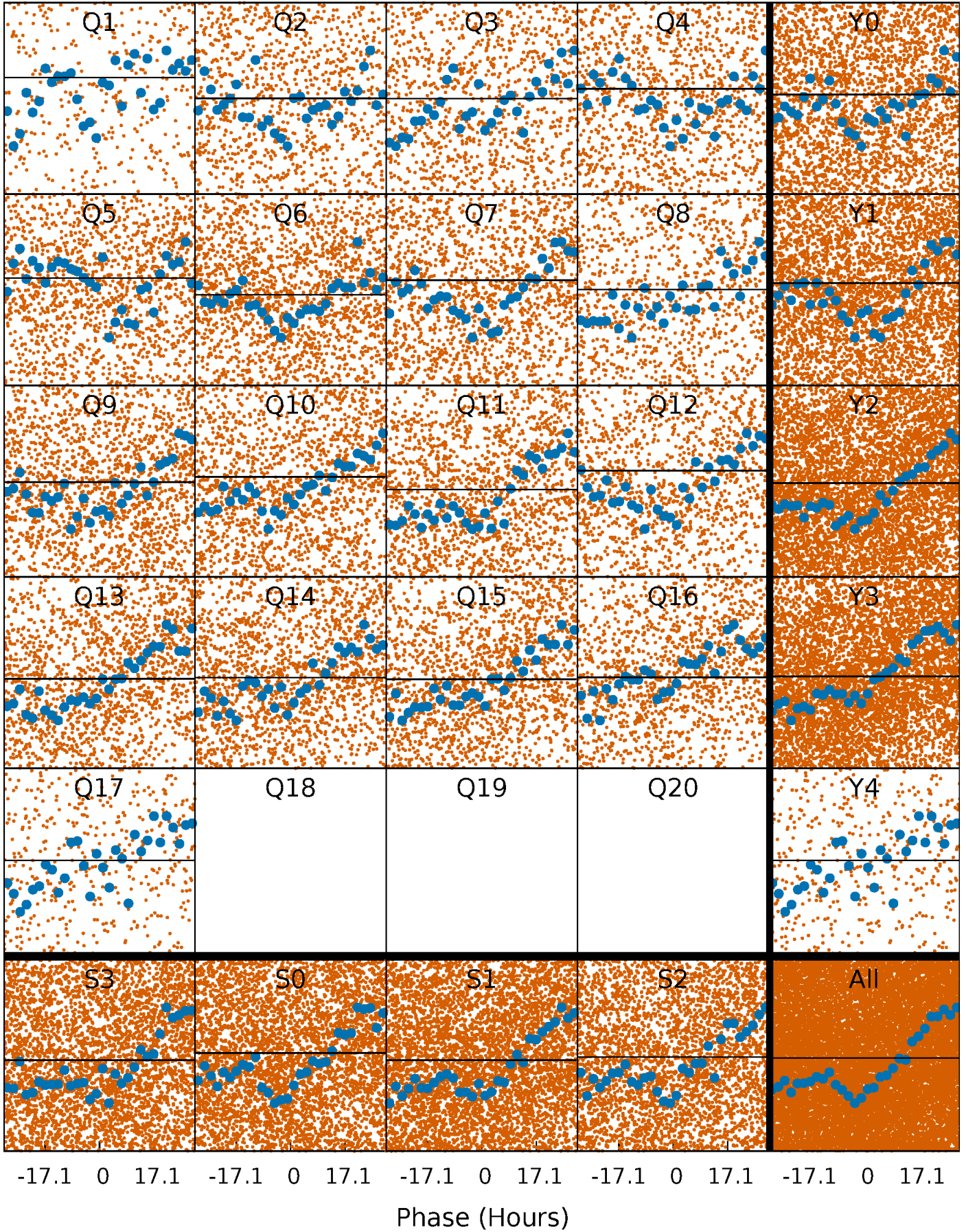
PDC Quarter-Phased Transit Curves

TCE 006115466-01 P= 4.930435 Days $T_0=131.517805$ (BKJD)



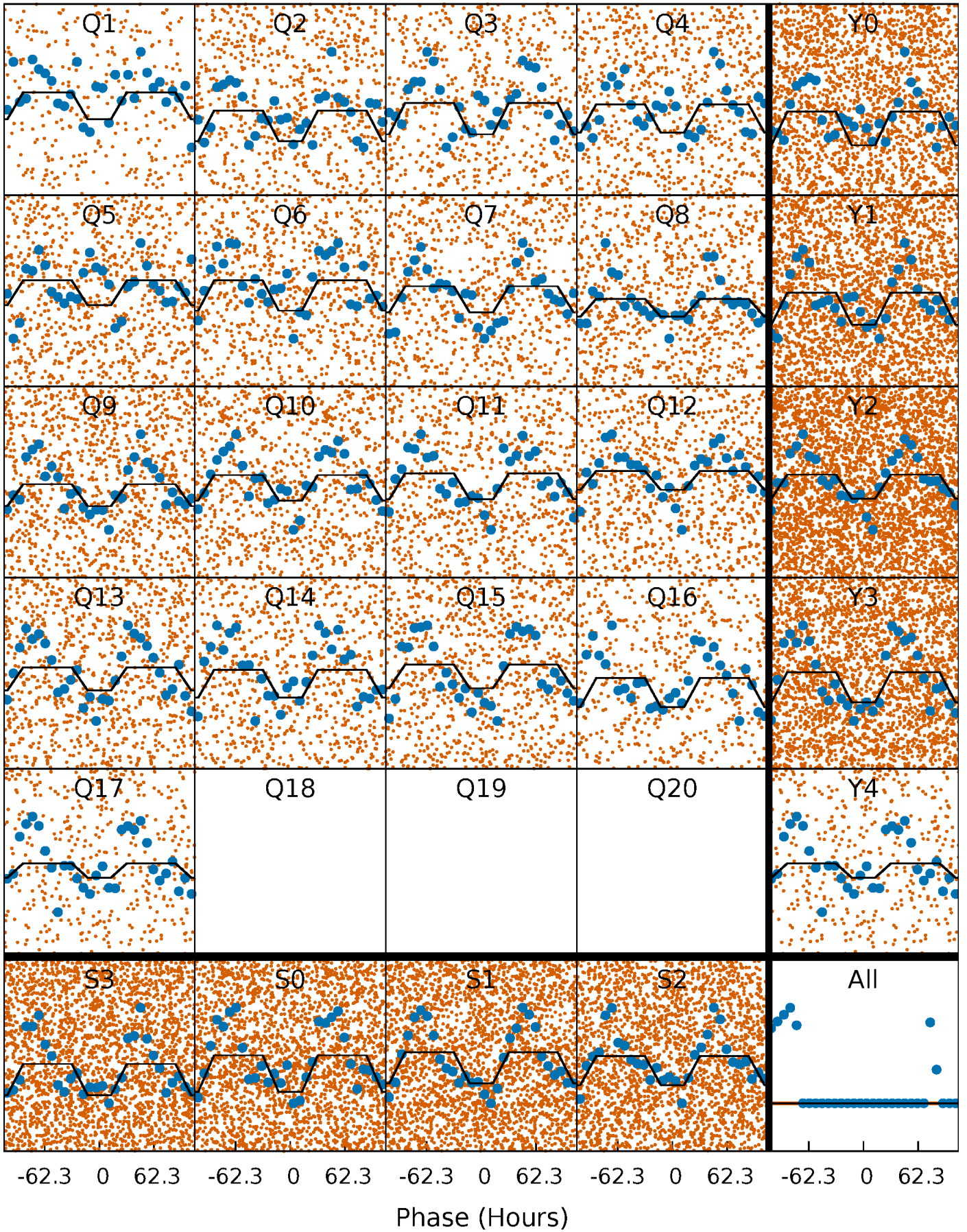
DV Quarter-Phased Transit Curves

TCE 006115466-01 P= 4.930435 Days $T_0=131.517805$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

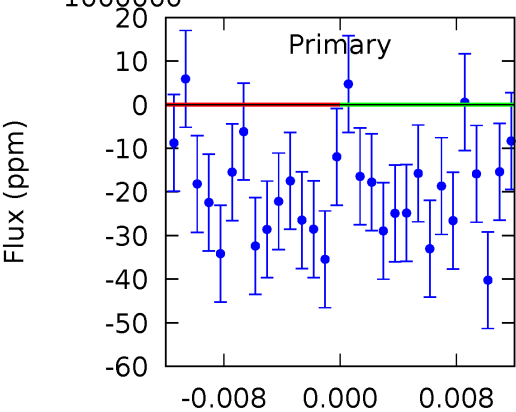
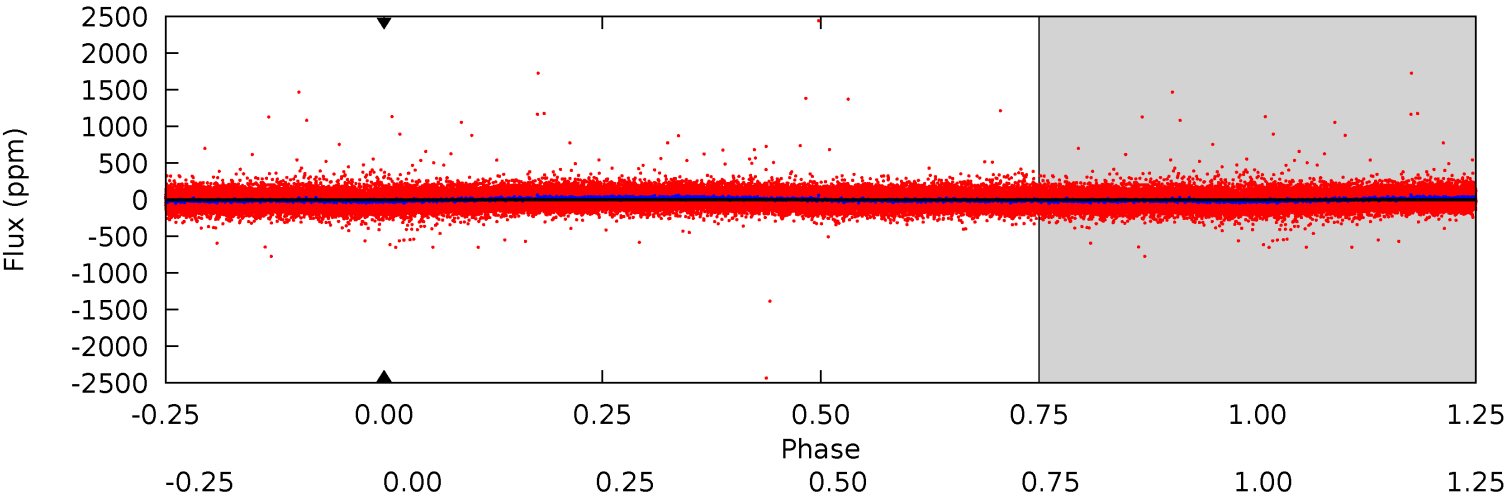
TCE 006115466-01 P= 4.930435 Days $T_0=135.992435$ (BKJD)



DV Model-Shift Uniqueness Test

006115466-01, P = 4.930435 Days, E = 126.587370 Days

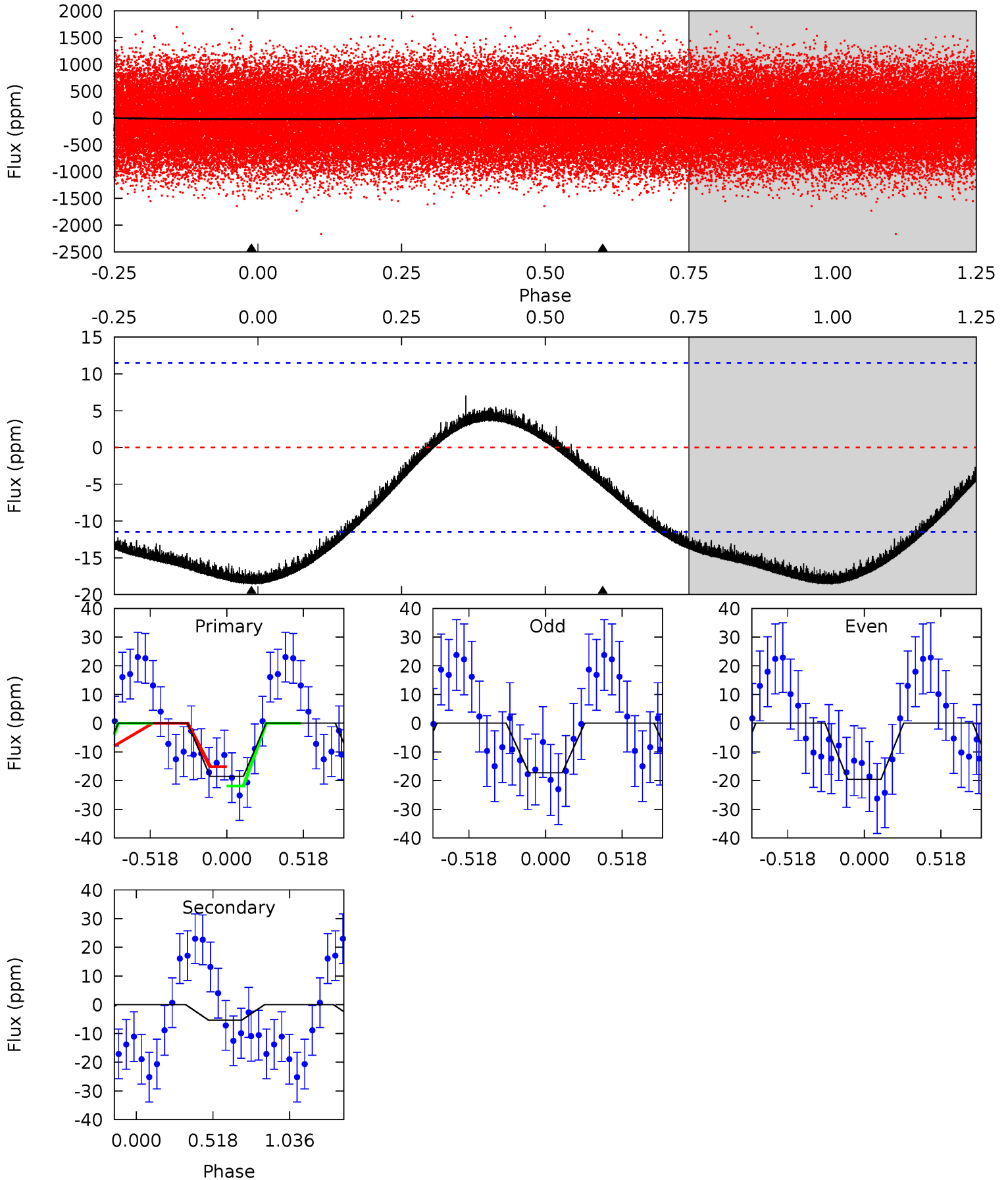
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006115466-01, P = 4.930435 Days, E = 131.062000 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.78	1.95	0	0	4.21	0.65	0.77	6.78	6.78	1.95	1.95	0.42	1.33	0.28	1.23



Stellar Parameters For KIC 006115466

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8186^{+226}_{-340}	$4.037^{+0.192}_{-0.128}$	$-0.180^{+0.250}_{-0.300}$	$2.127^{+0.446}_{-0.545}$	$1.796^{+0.134}_{-0.314}$	$0.263^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+139%/-167%	+21%/-26%	+7%/-17%	+107%/-38%
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 006115466-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$15.19^{+17.98}_{-10.46}$	2784^{+178}_{-200}	3594^{+60365}_{-63775}	$1.735^{+2250.624}_{-2279.971}$
Alt.	-5 ± 3	$15.92^{+18.83}_{-11.28}$	2781^{+181}_{-207}	-2794^{+5601}_{-163}	$0.047^{+0.518}_{-0.039}$

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 $A_{obs} \gg 1.0$

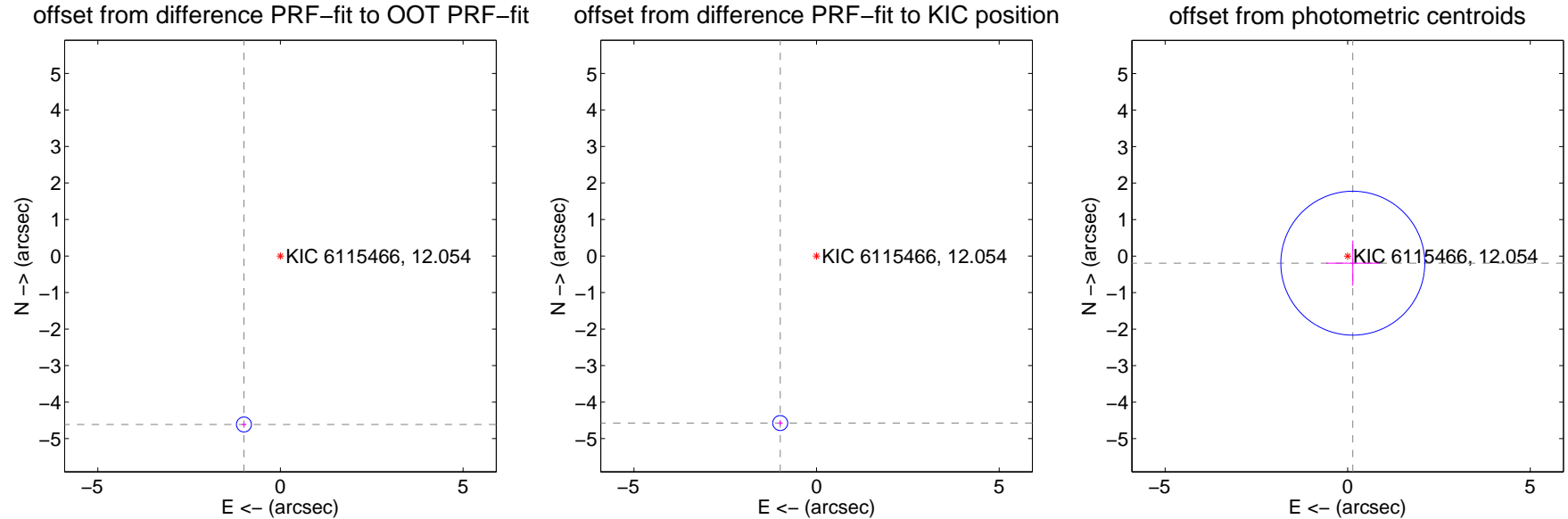
DV Centroid Data

Supplemental centroid analysis for 006115466-01. Kepler magnitude: 12.05. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

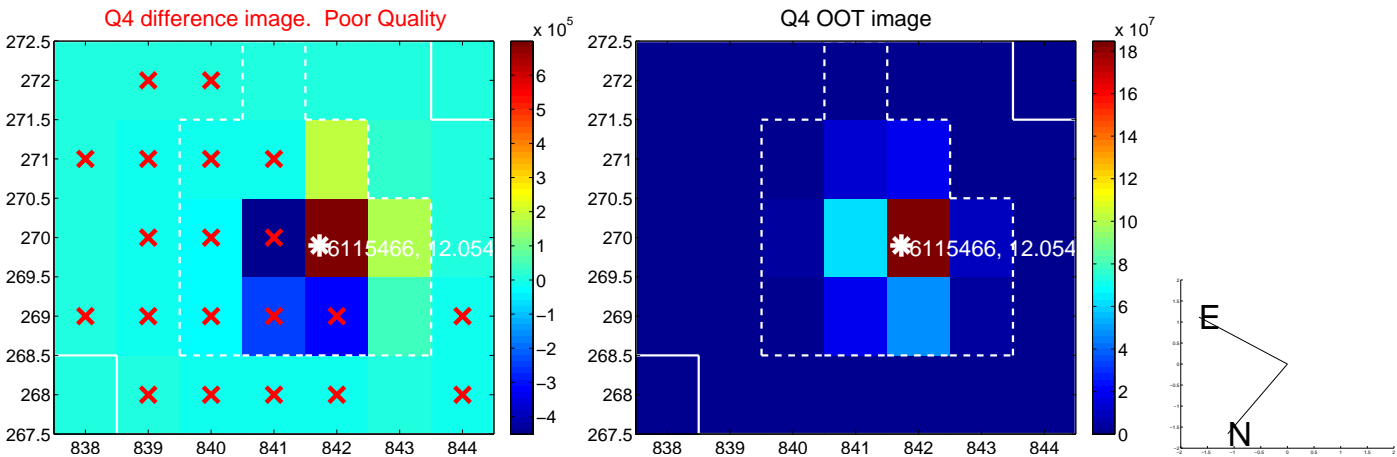
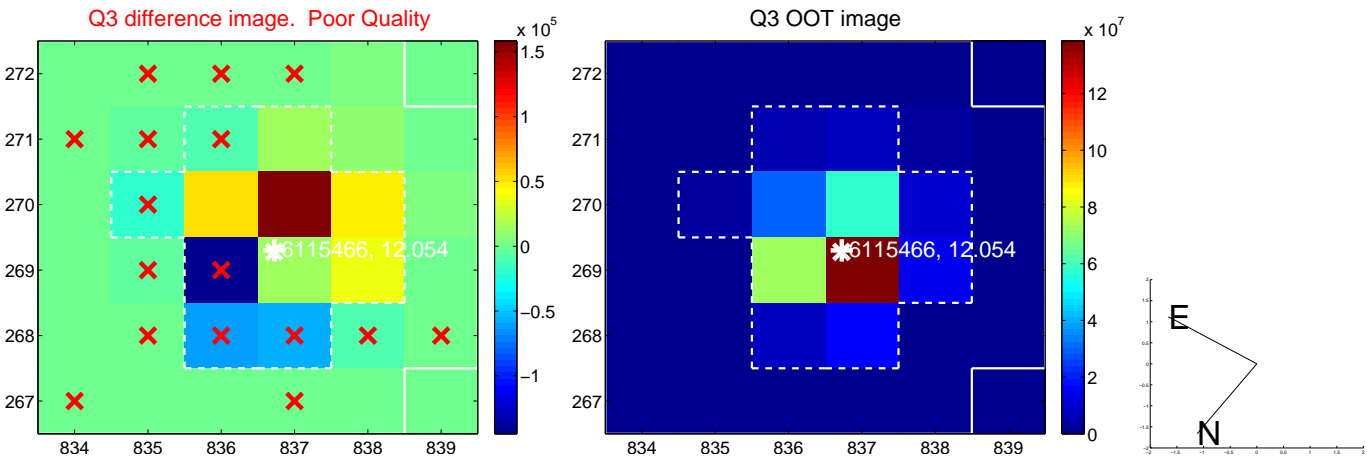
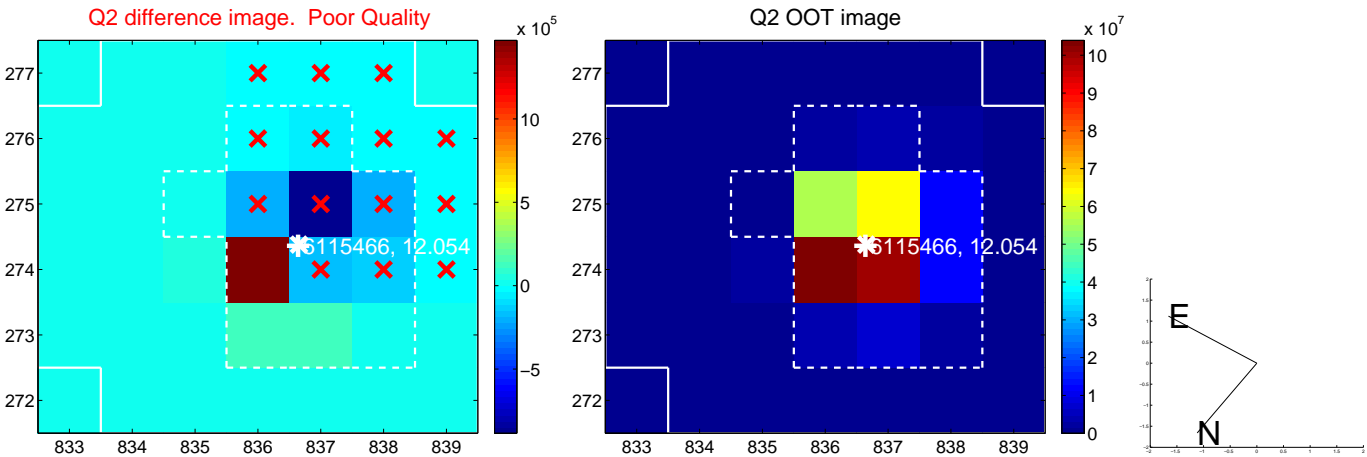
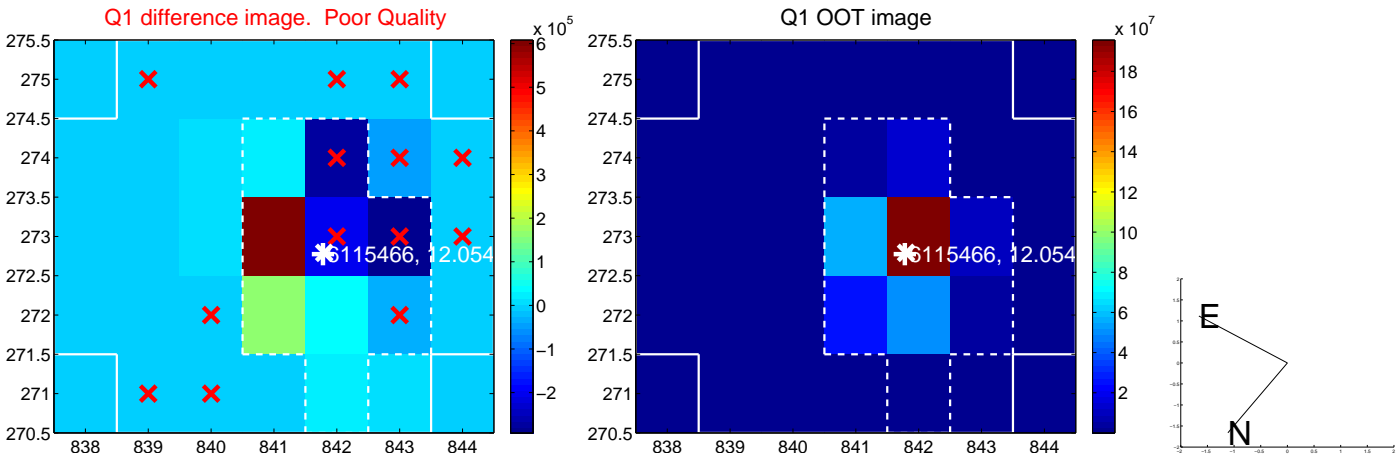
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.720 \pm 0.068	69.24	1.000 \pm 0.067	-4.613 \pm 0.068
PRF-fit source offset from KIC position	4.680 \pm 0.068	68.67	0.995 \pm 0.067	-4.573 \pm 0.068
photometric centroid source offset	0.24 \pm 0.66	0.36	-0.14 \pm 0.73	-0.19 \pm 0.62

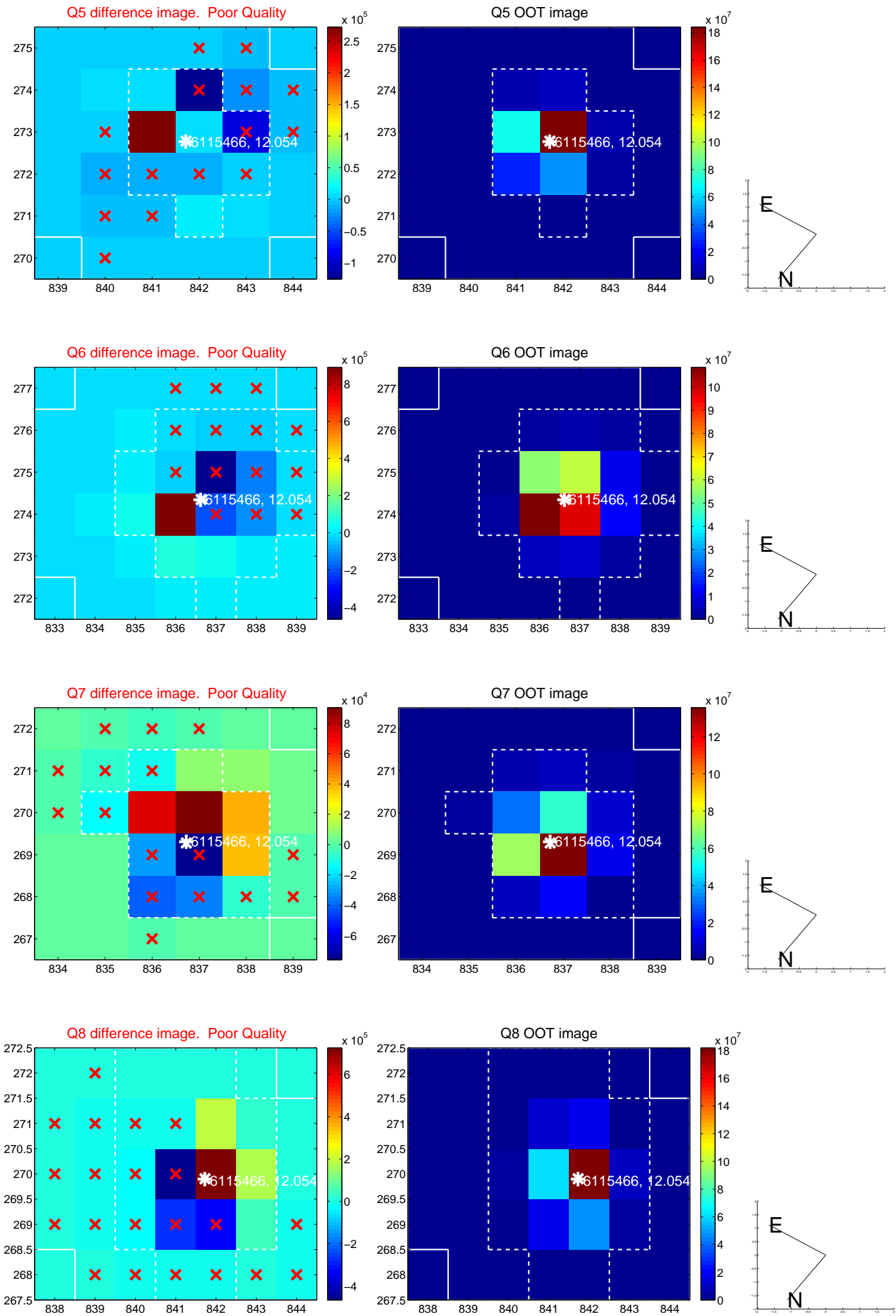


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

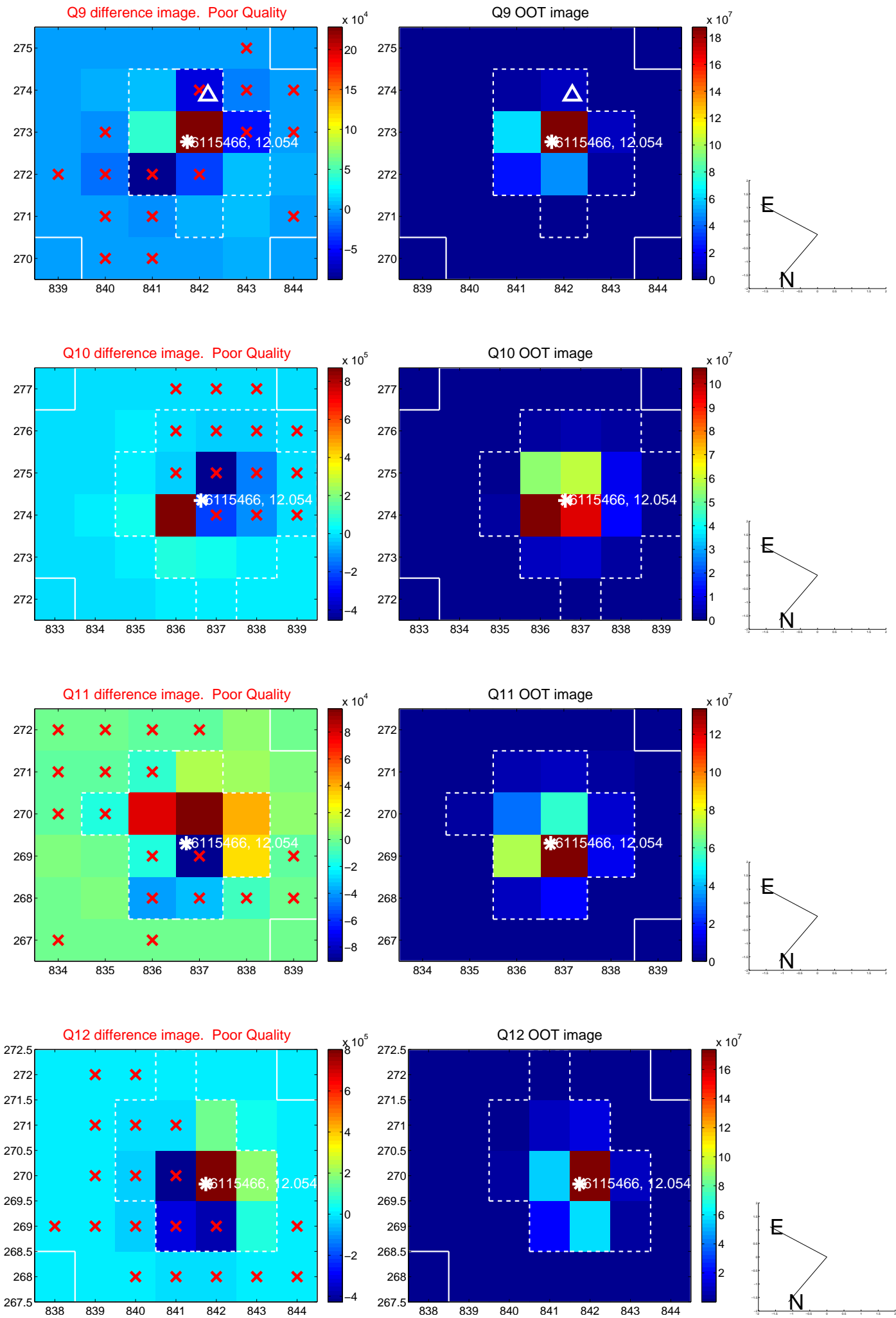
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



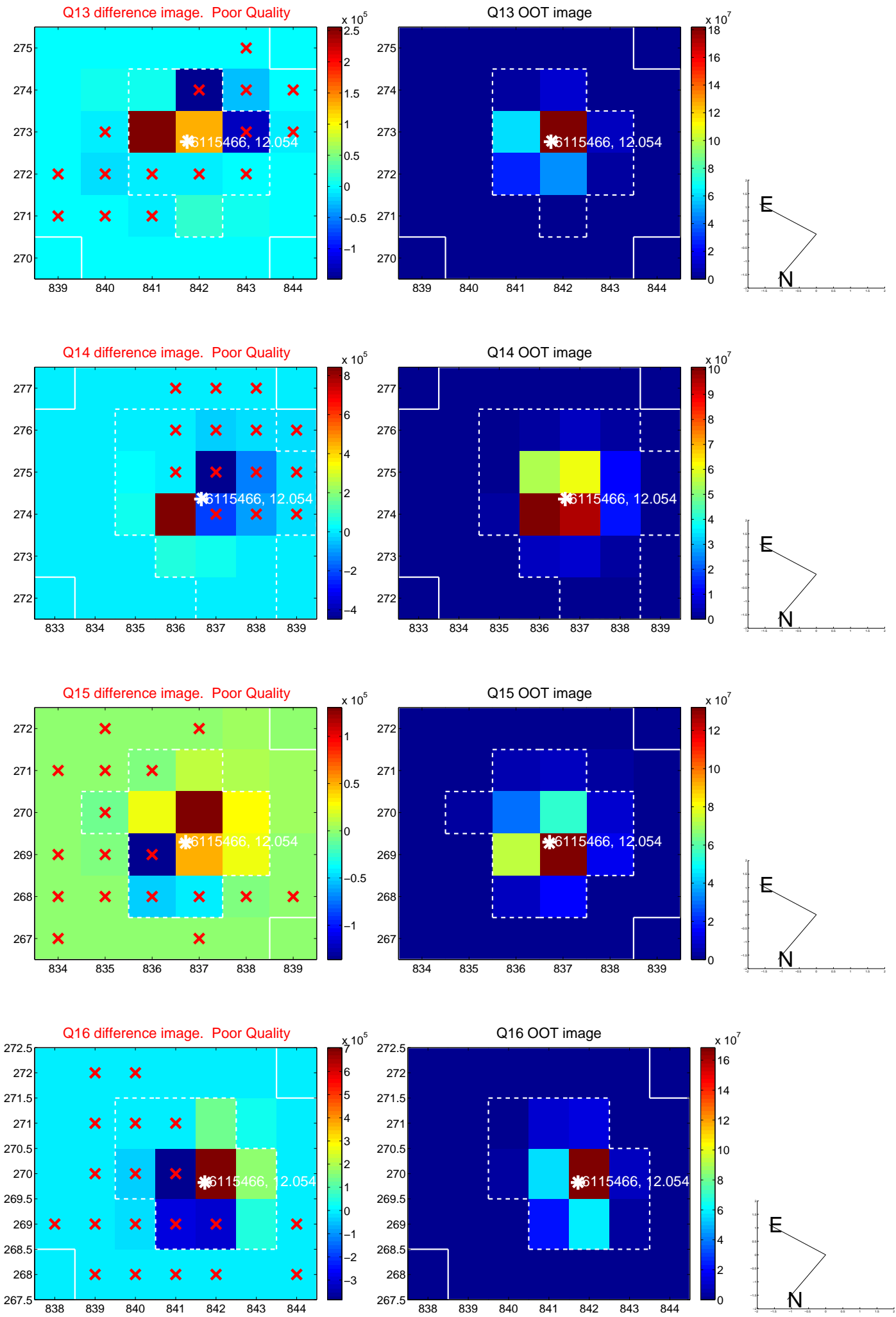
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



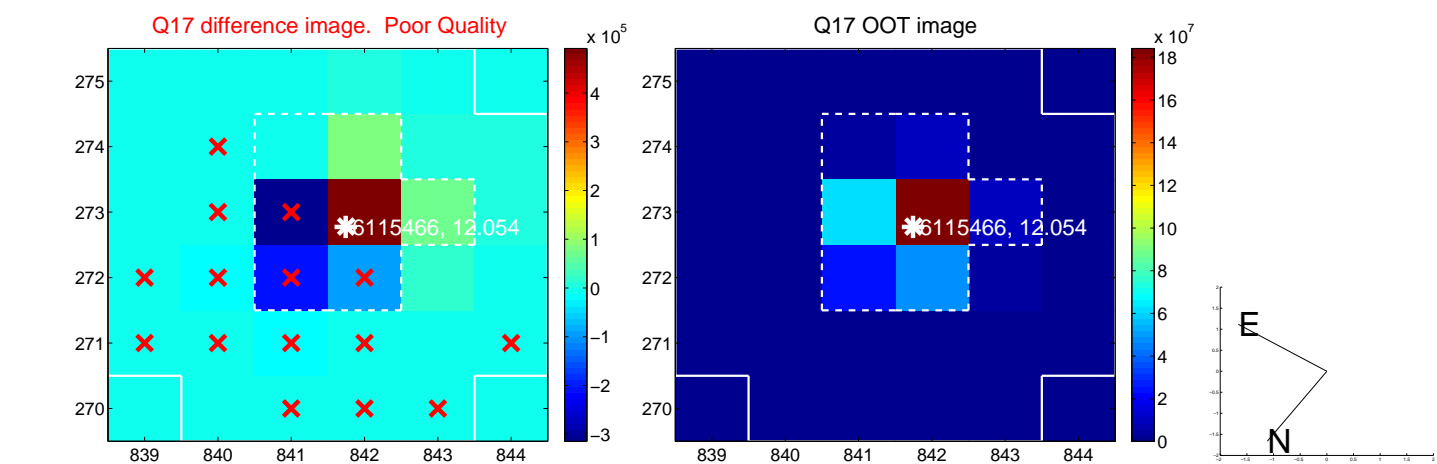
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



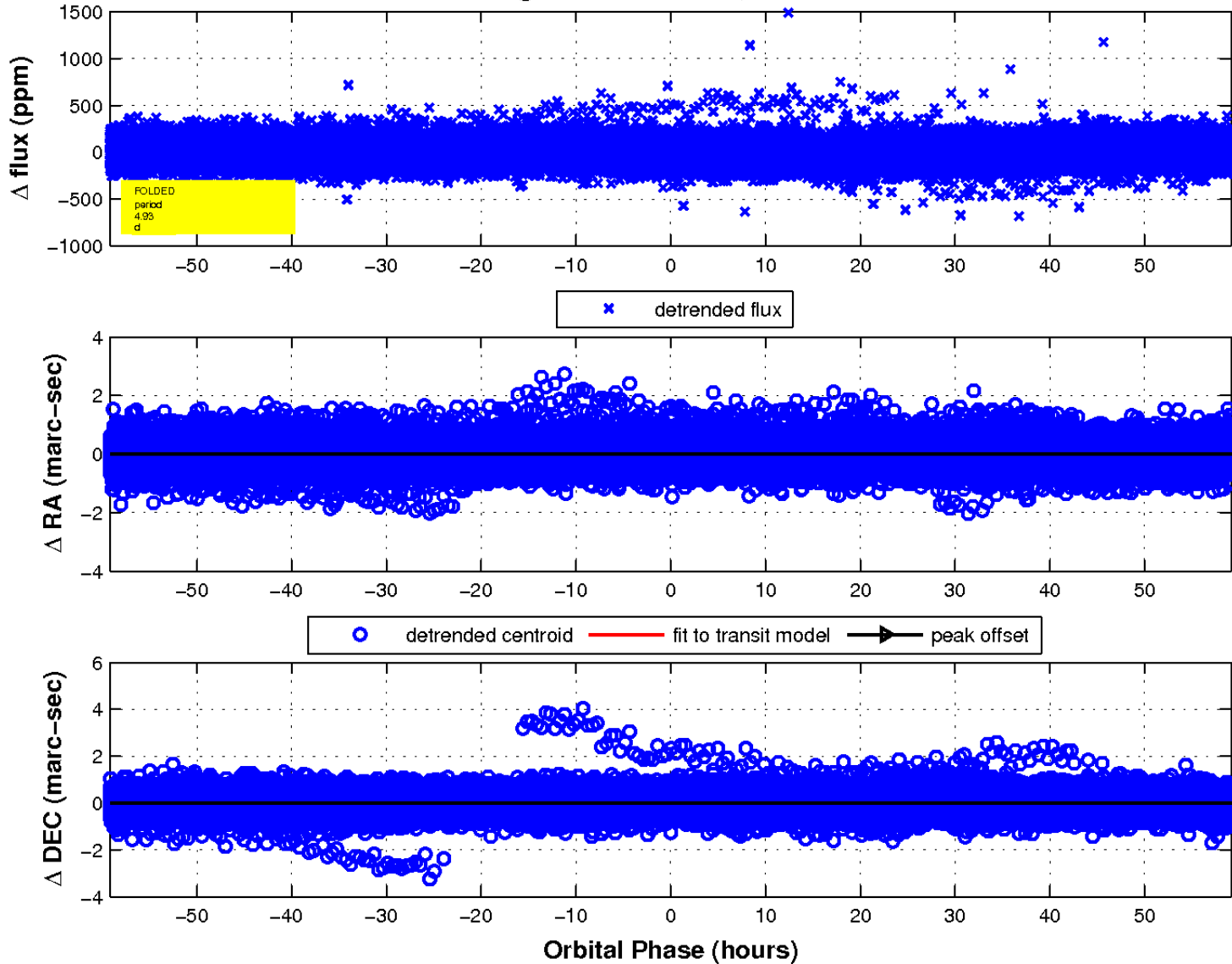
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

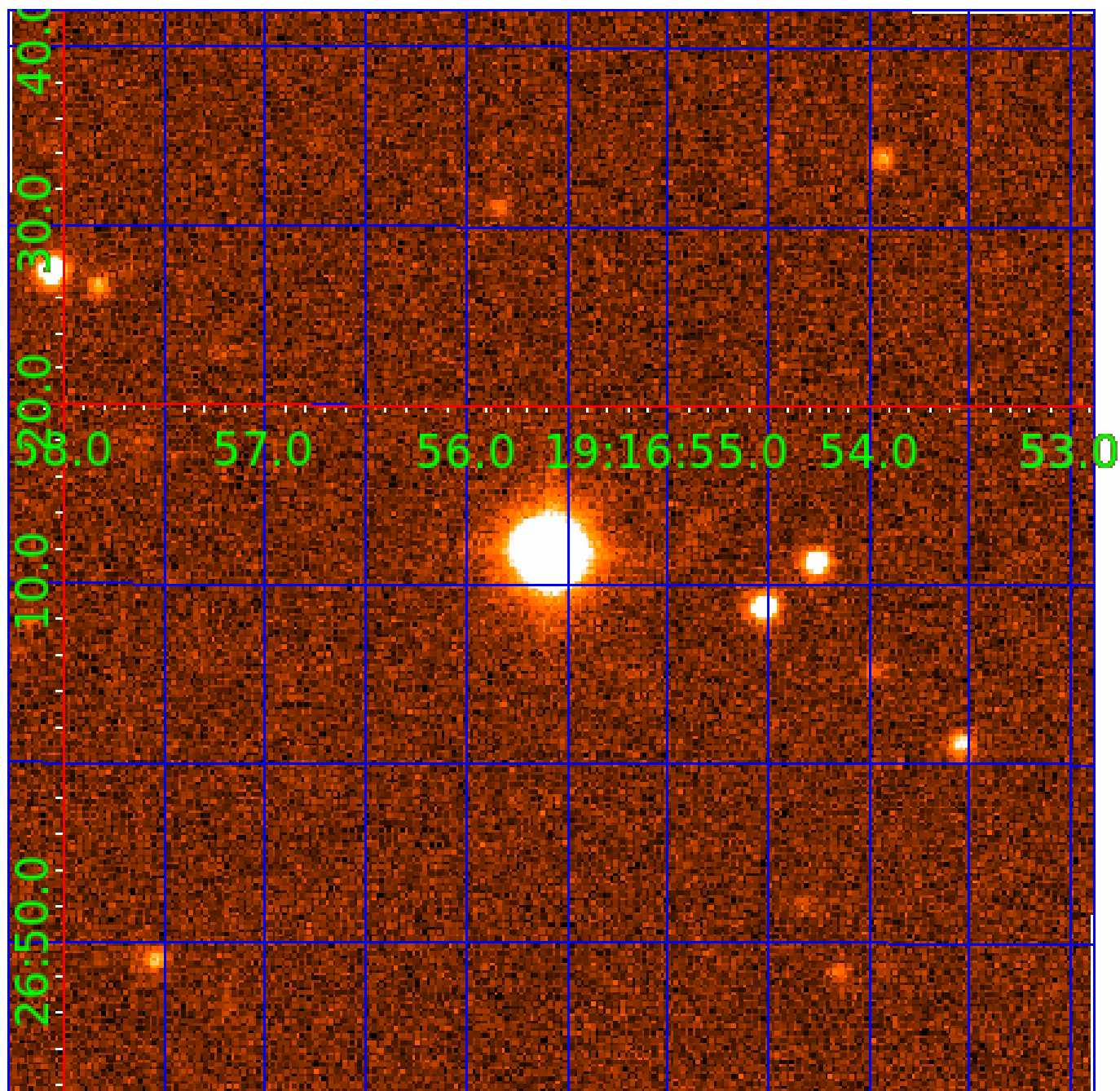


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006115466

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})
006115466-01	OBS	No	4.930435	131.517805	47.9	15.000	10.1	-1.0	2.13	8186	1.49	3829.83
006115466-02	OBS	No	4.929746	134.985163	18.7	54.179	8.7	13.8	2.13	8186	0.93	3830.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115466-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
006115466-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

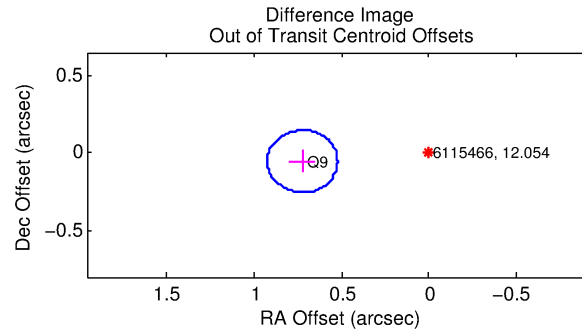
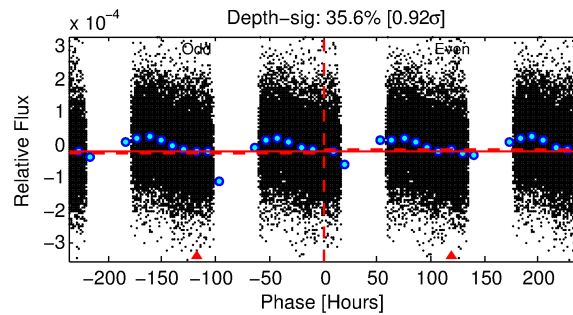
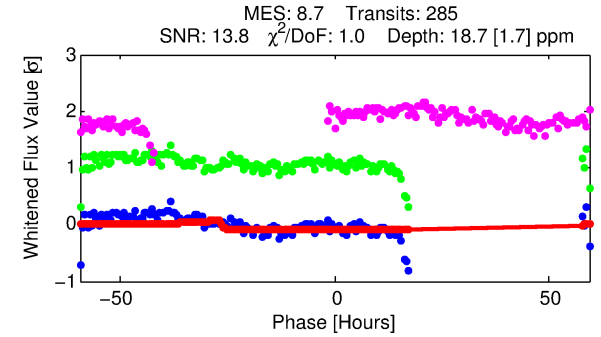
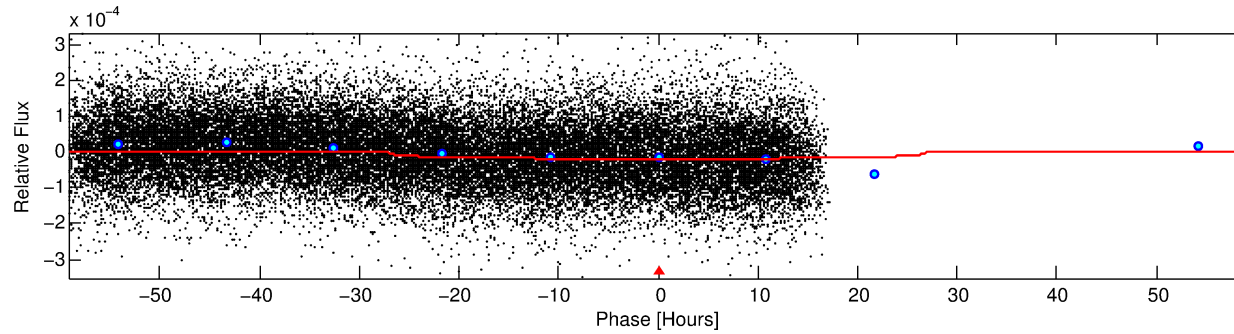
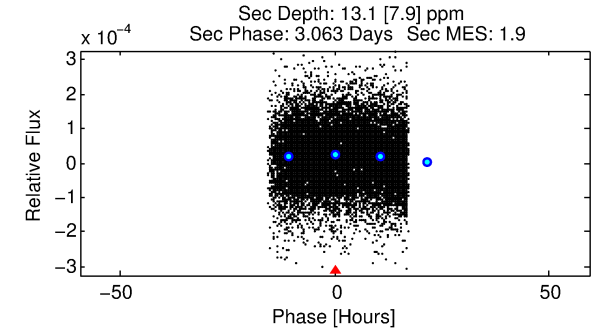
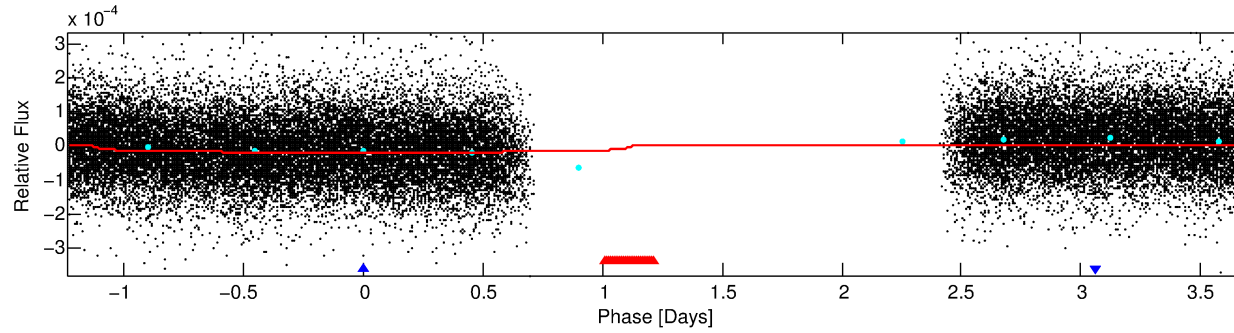
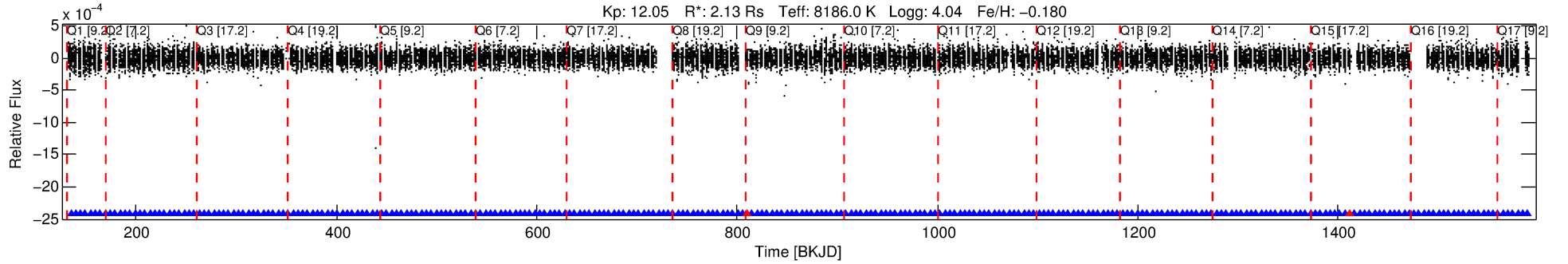
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115466-02

No Significant Match Found

DV One-Page Summary

KIC: 6115466 Candidate: 2 of 2 Period: 4.930 d



DV Fit Results:

Period = 4.92975 [0.00017] d
Epoch = 134.9852 [0.1175] BKJD
Rp/R* = 0.0040 [0.0009]
a/R* = 1.01 [0.03]
b = 0.05 [28.33]
Seff = 3830.54 [1451.81]
Teq = 2006 [190] K
Rp = 0.93 [0.32] Re
a = 0.0689 [0.0156] AU
Ag = 39.65 [32.57] [1.19σ]
Teffp = 7783 [1490] K [3.85σ]

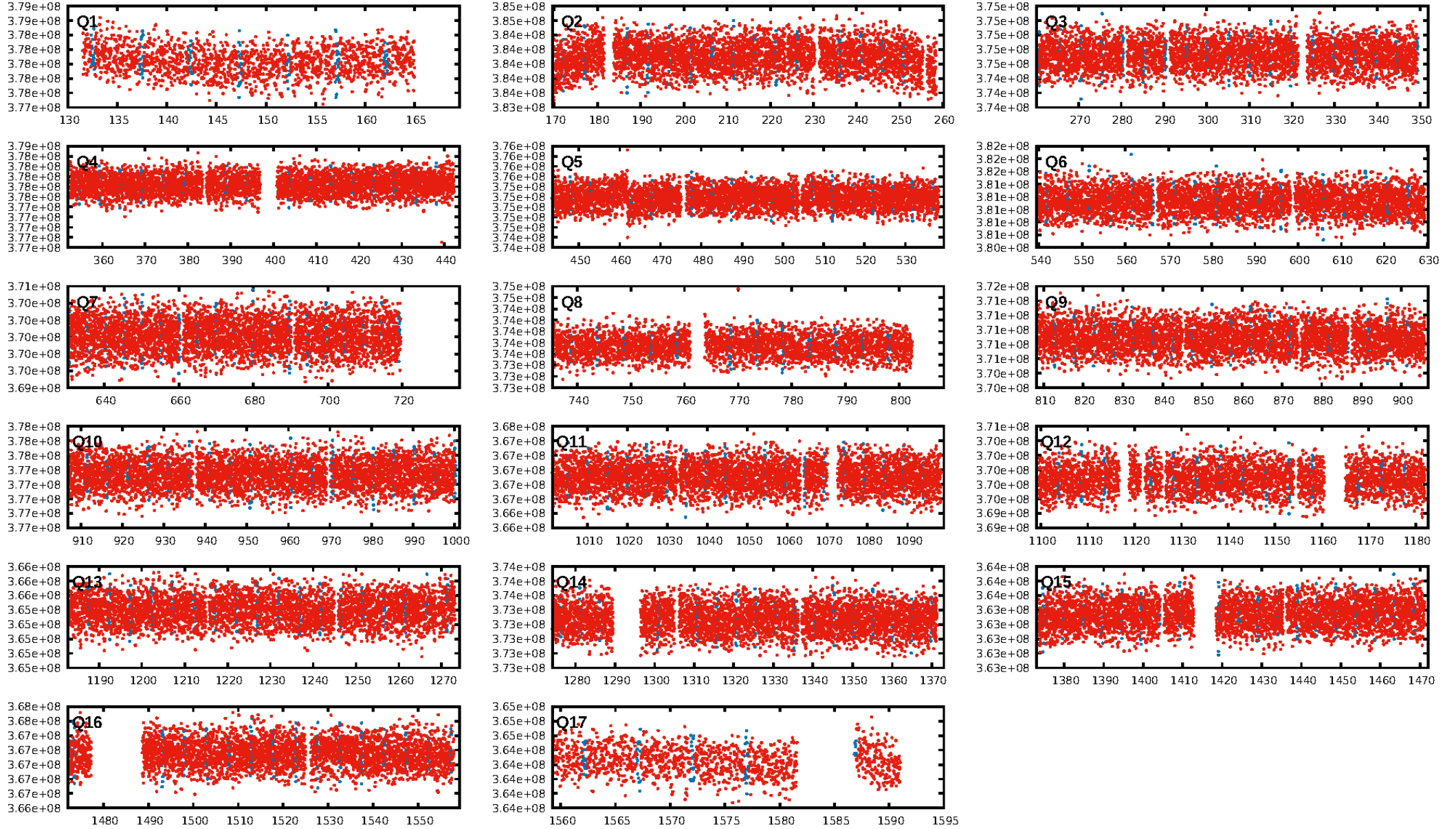
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [270/272]
GhostDiagnostic-chr: 4.225
Centroid-sig: 0.0%
Centroid-so: 1.040 arcsec [1.82σ]
OotOffset-rm: 0.724 arcsec [10.80σ]
KicOffset-rm: 0.721 arcsec [10.76σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/17]

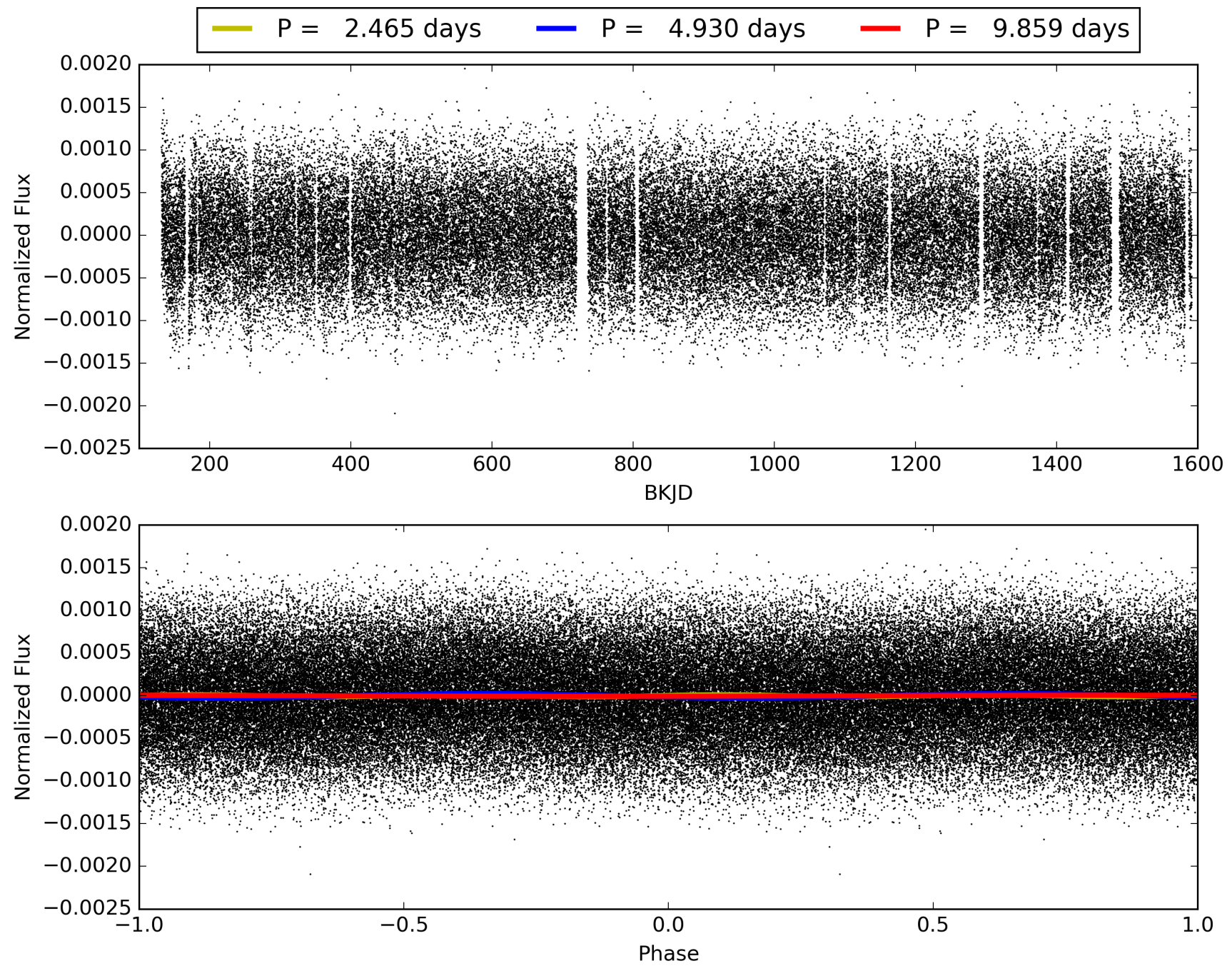
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:08:38 Z

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

TCE 006115466-02, PDC Light Curves

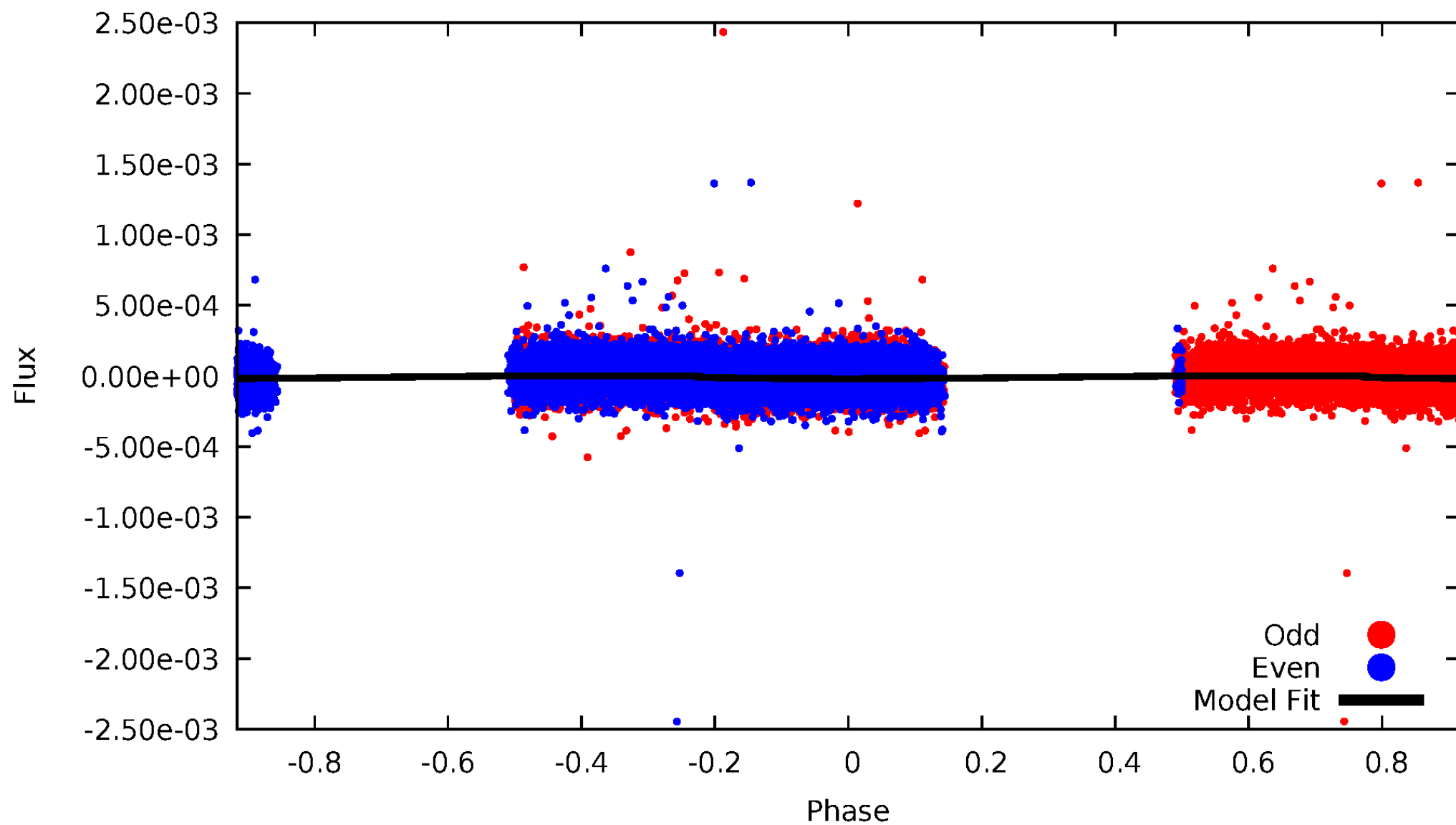


TCE 006115466-02



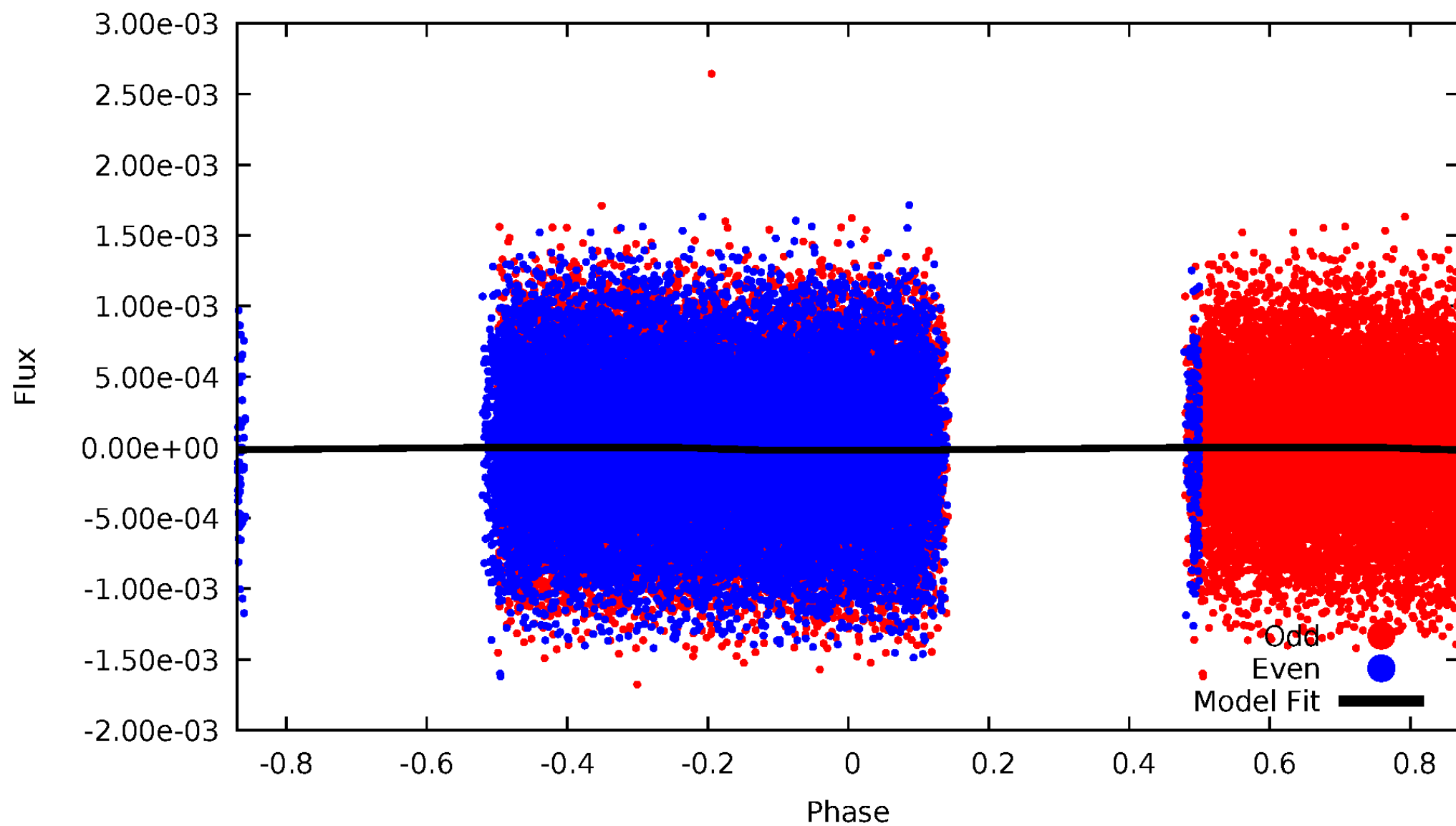
DV Odd/Even

TCE 006115466-02



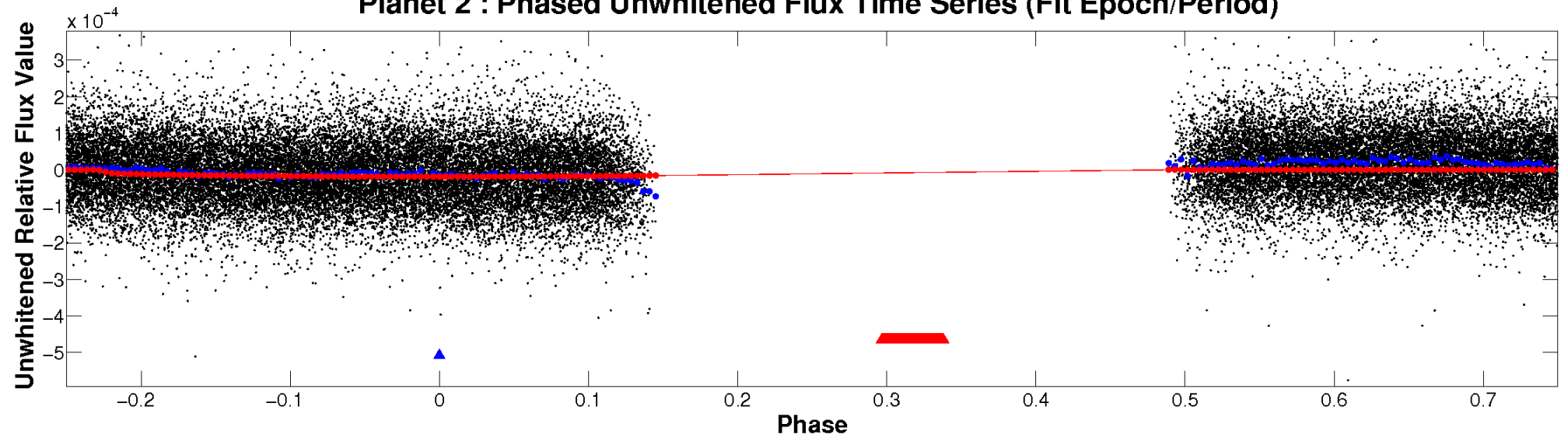
ALT Odd/Even

TCE 006115466-02

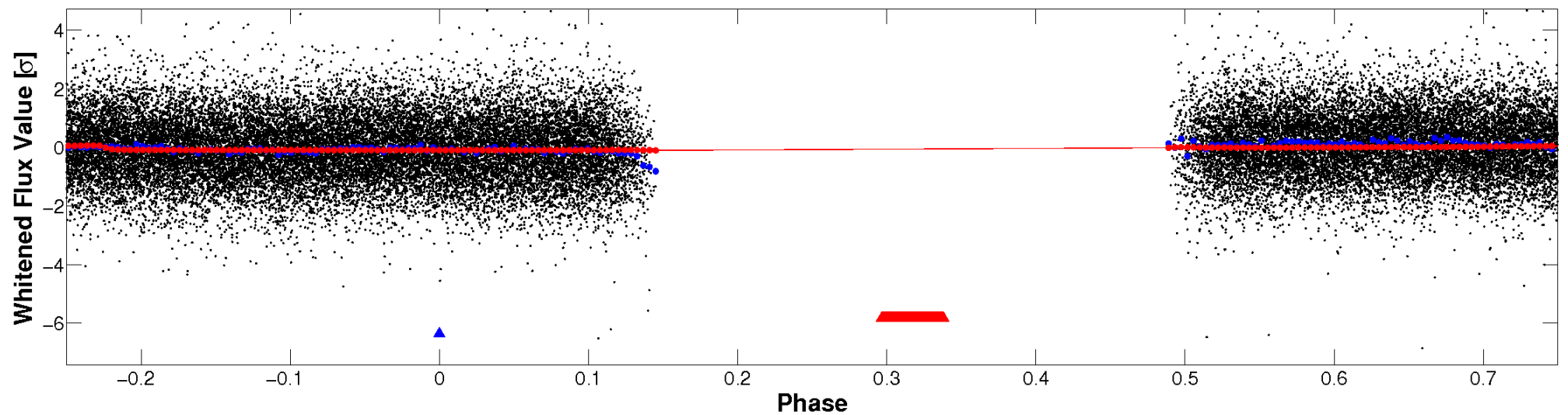


Non-Whitened Vs. Whitened Light Curve

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

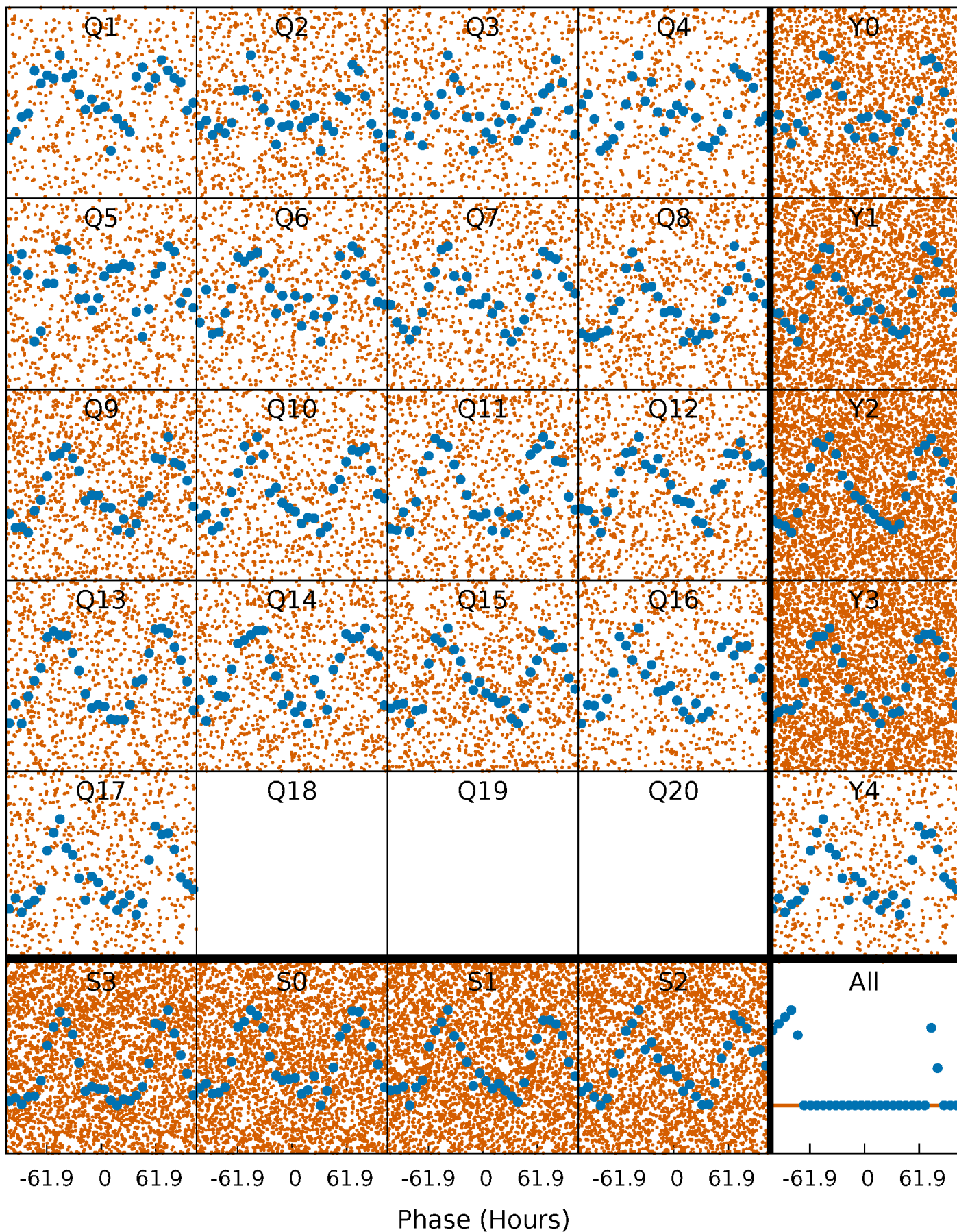


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



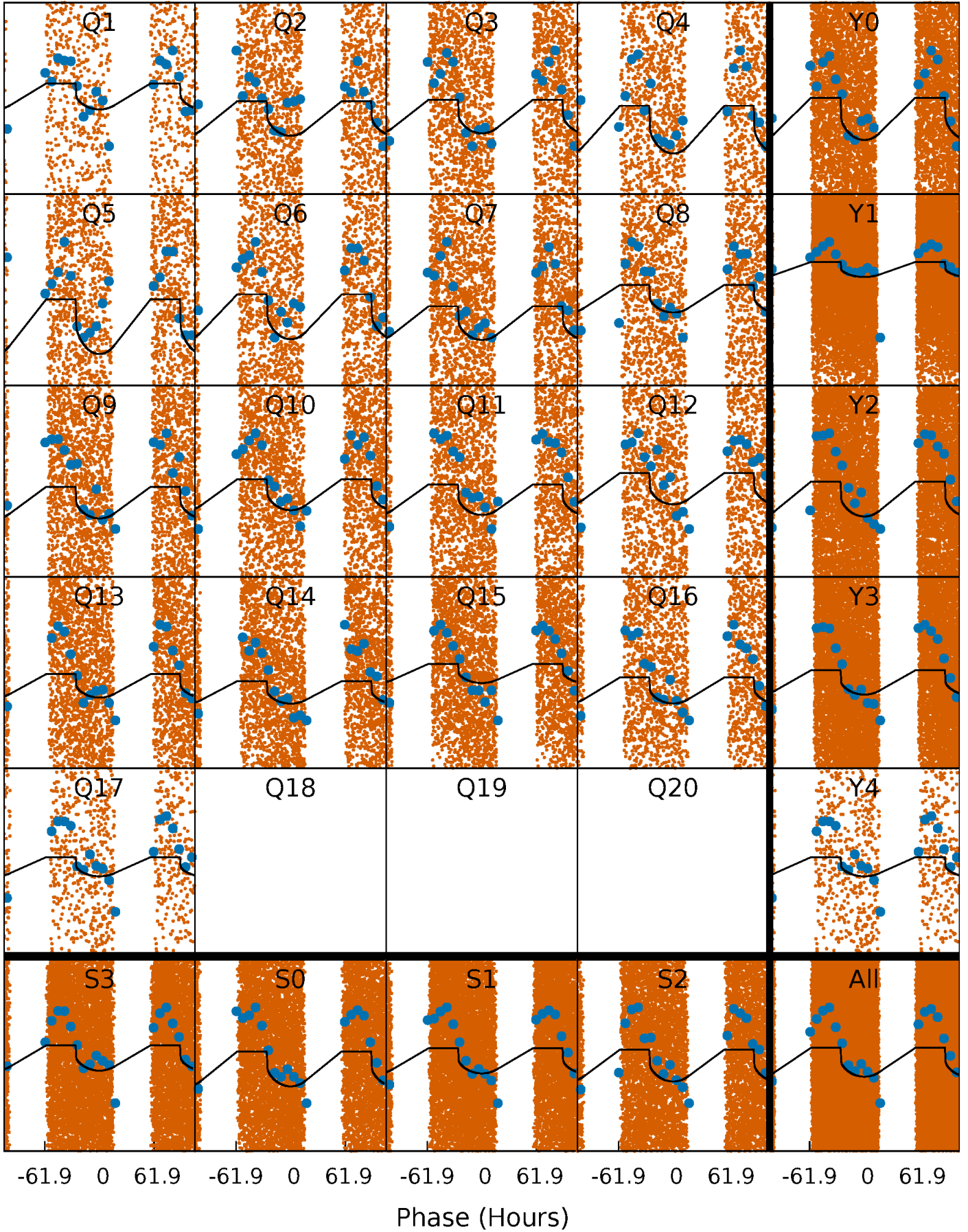
PDC Quarter-Phased Transit Curves

TCE 006115466-02 P= 4.929746 Days $T_0=134.985163$ (BKJD)



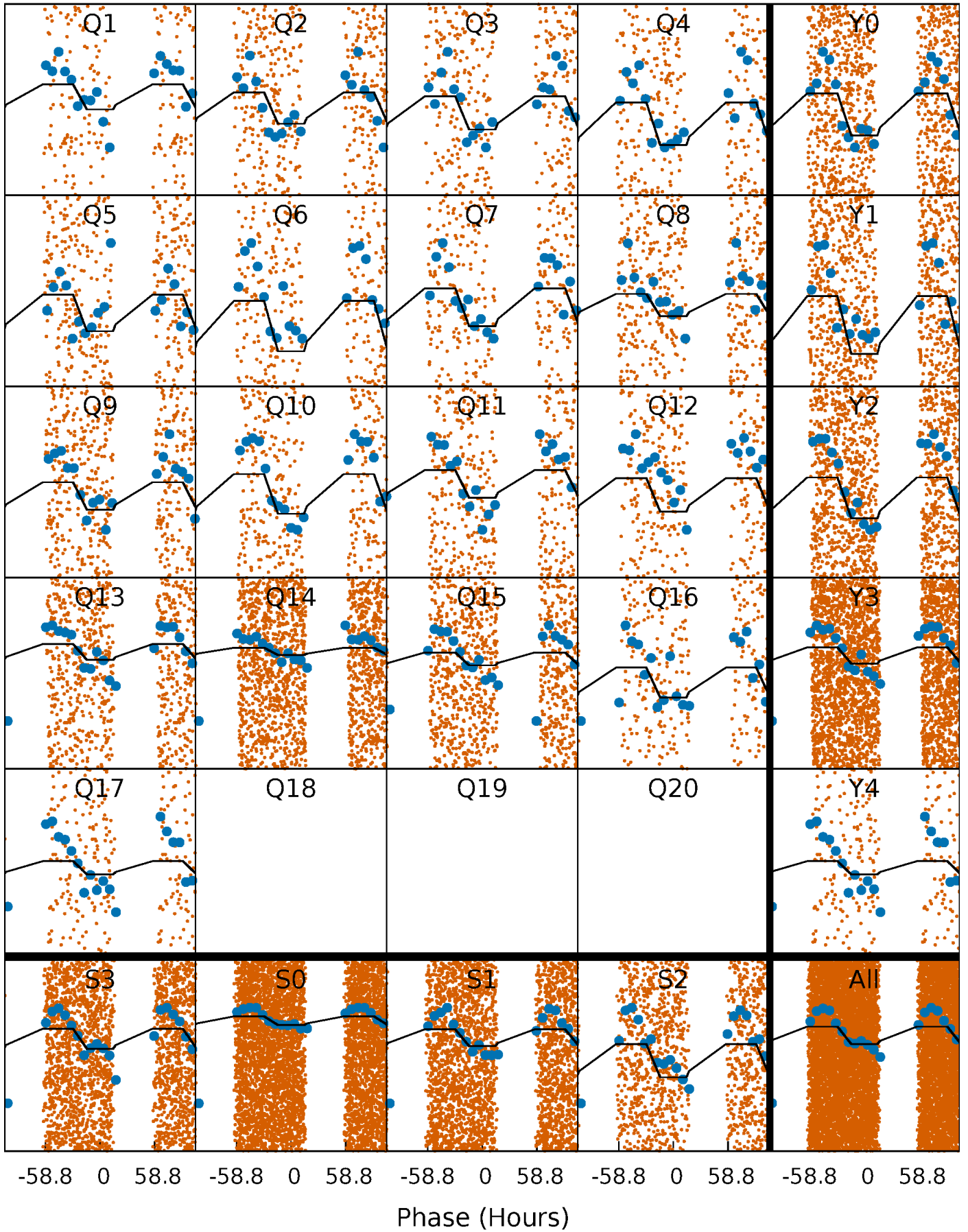
DV Quarter-Phased Transit Curves

TCE 006115466-02 P= 4.929746 Days $T_0=134.985163$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

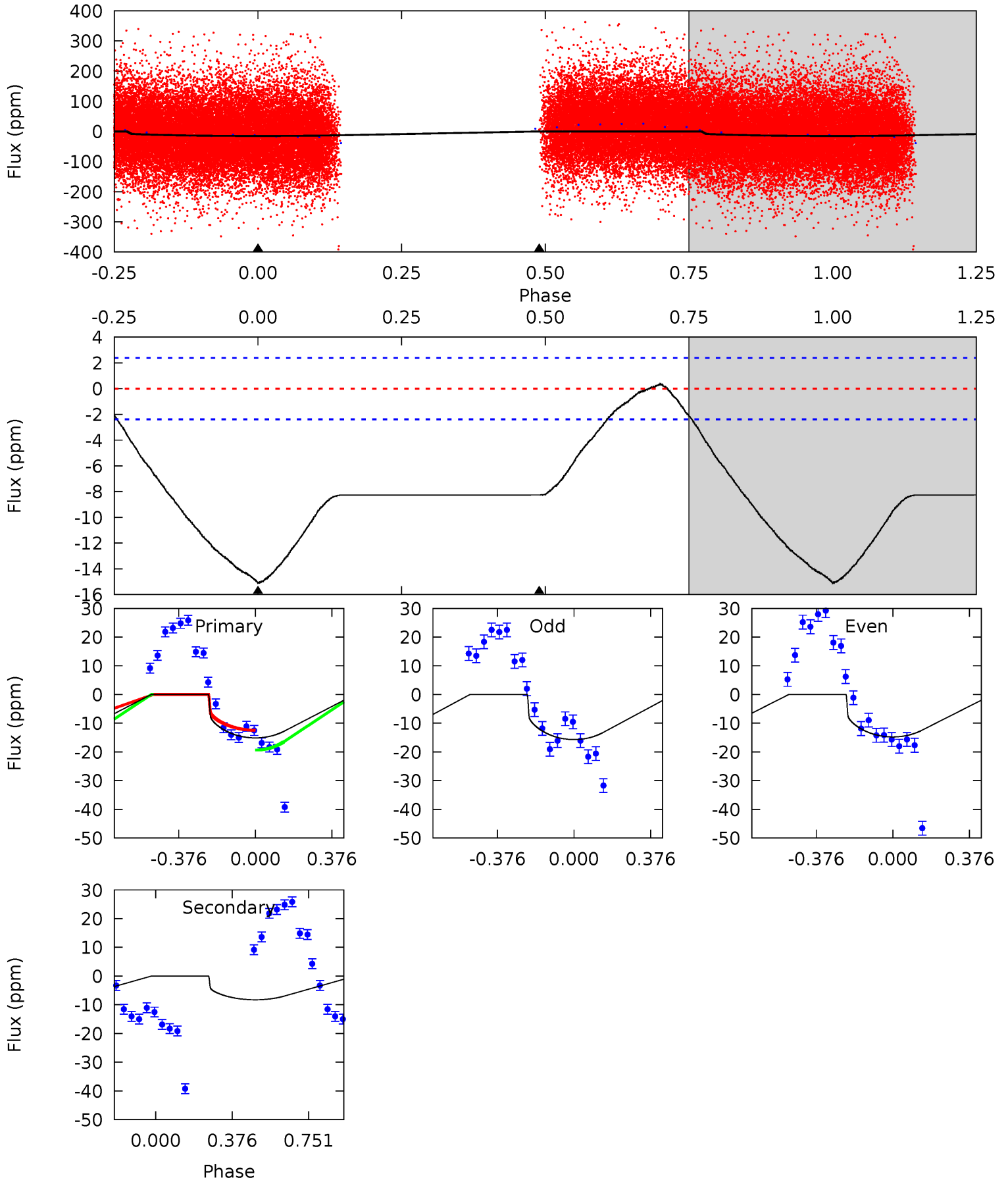
TCE 006115466-02 P= 4.929593 Days $T_0=135.039444$ (BKJD)



DV Model-Shift Uniqueness Test

006115466-02, P = 4.929746 Days, E = 130.055417 Days

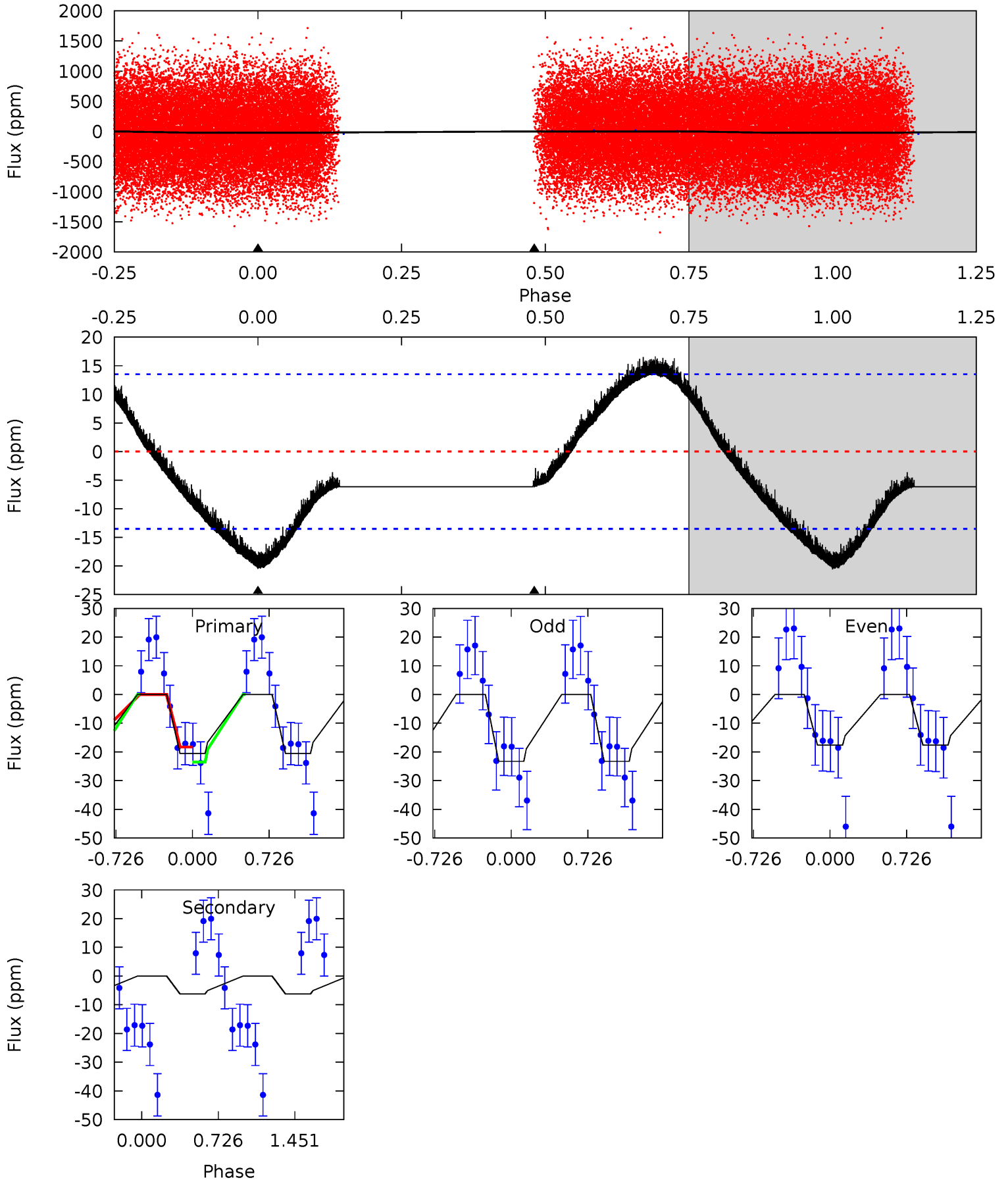
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.1	14.8	0	0	4.28	0.89	0.45	27.1	27.1	14.8	14.8	0.82	0.85	0.02	5.97



Alt Model-Shift Uniqueness Test

006115466-02, P = 4.929593 Days, E = 130.109851 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.26	1.89	0	0	4.13	0.35	0.78	6.26	6.26	1.89	1.89	0.87	1.02	0.45	0.75



Stellar Parameters For KIC 006115466

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8186^{+226}_{-340}	$4.037^{+0.192}_{-0.128}$	$-0.180^{+0.250}_{-0.300}$	$2.127^{+0.446}_{-0.545}$	$1.796^{+0.134}_{-0.314}$	$0.263^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+139%/-167%	+21%/-26%	+7%/-17%	+107%/-38%
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 006115466-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 1	$0.91^{+0.24}_{-0.24}$	2775^{+175}_{-196}	6673^{+1132}_{-683}	26^{+21}_{-10}
Alt.	-6 ± 3	$1.00^{+0.25}_{-0.23}$	2779^{+165}_{-200}	5903^{+1104}_{-1063}	16^{+15}_{-9}

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

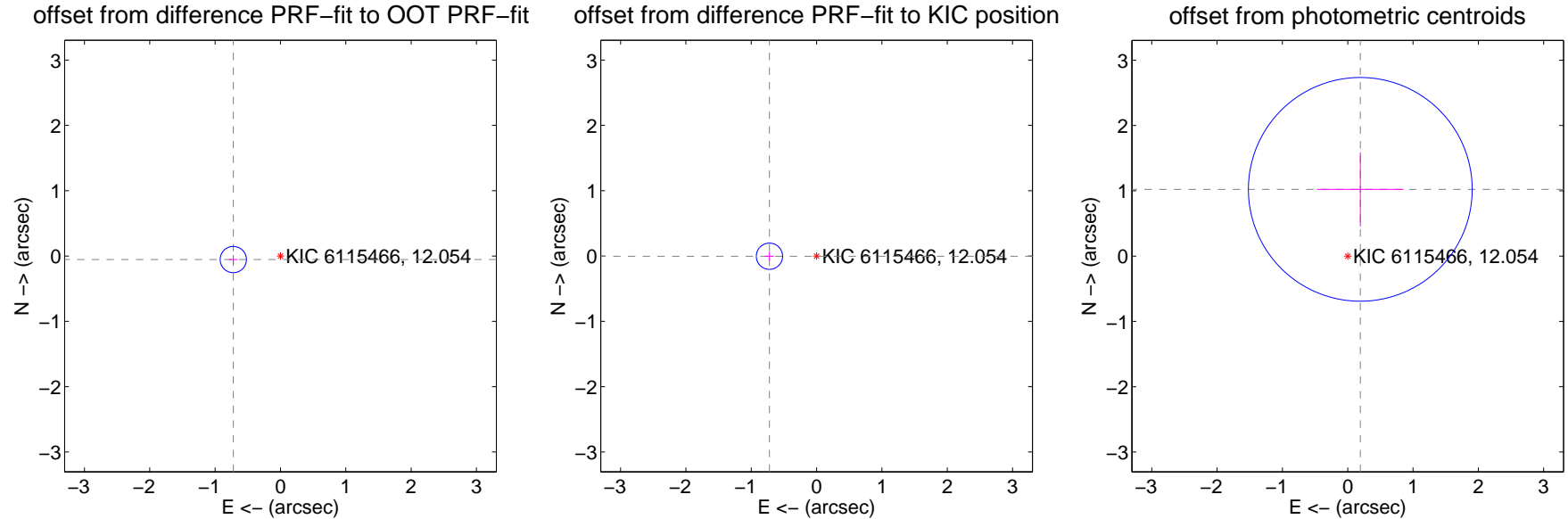
DV Centroid Data

Supplemental centroid analysis for 006115466-02. Kepler magnitude: 12.05. Transit SNR 13.77

There are 1 quarters with good PRF difference image offsets

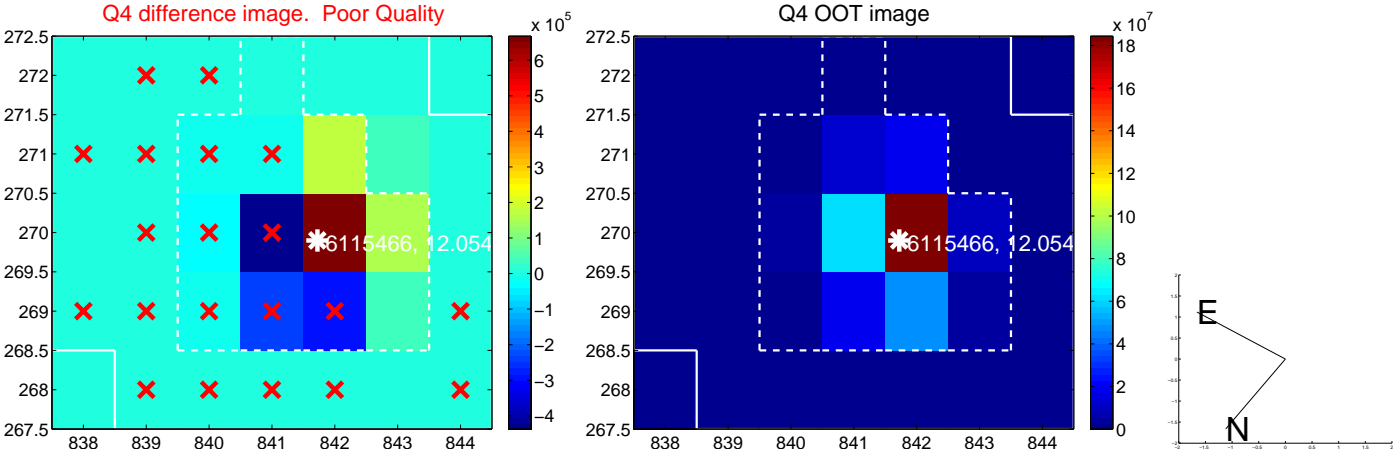
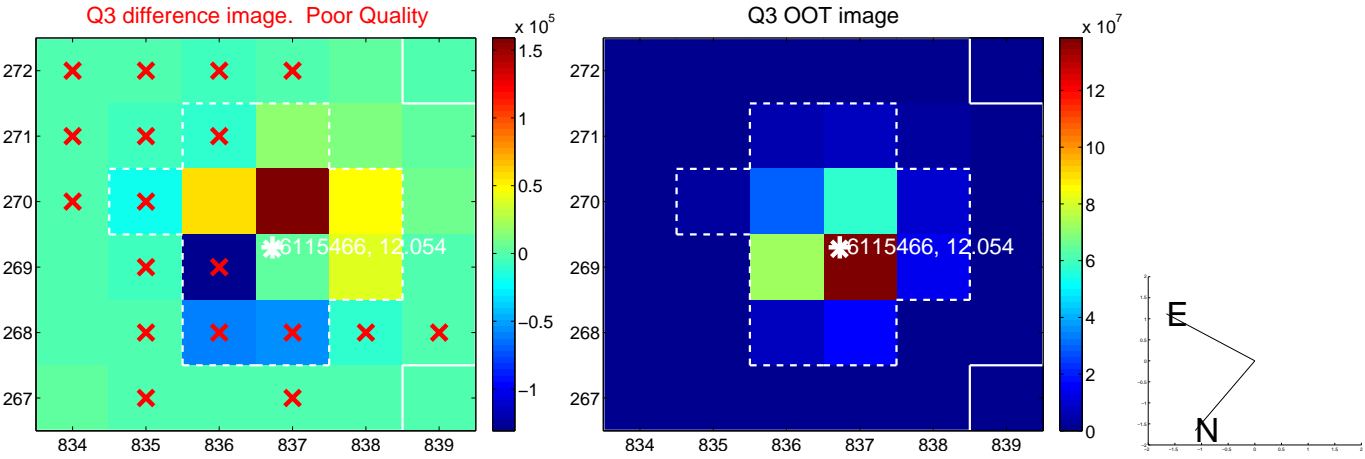
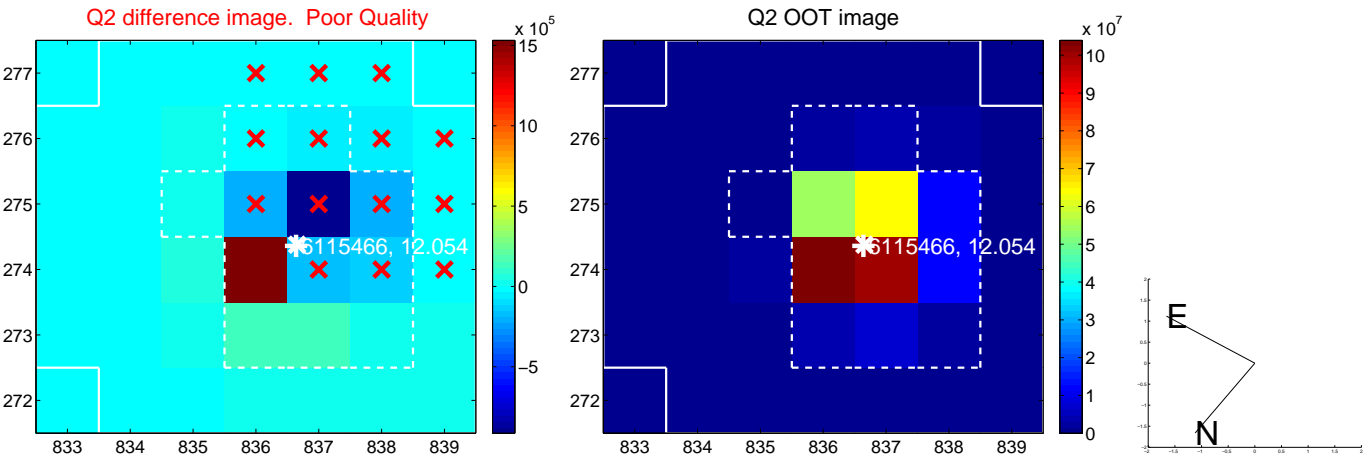
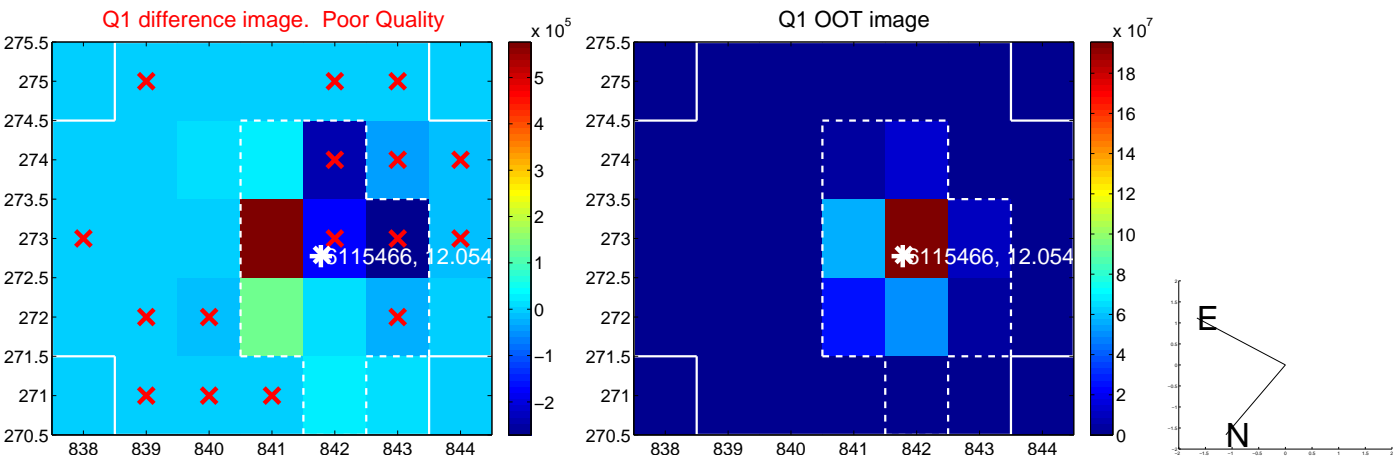
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.724 ± 0.067	10.80	0.722 ± 0.067	-0.054 ± 0.067
PRF-fit source offset from KIC position	0.721 ± 0.067	10.76	0.721 ± 0.067	-0.003 ± 0.067
photometric centroid source offset	1.04 ± 0.57	1.82	-0.19 ± 0.66	1.02 ± 0.57

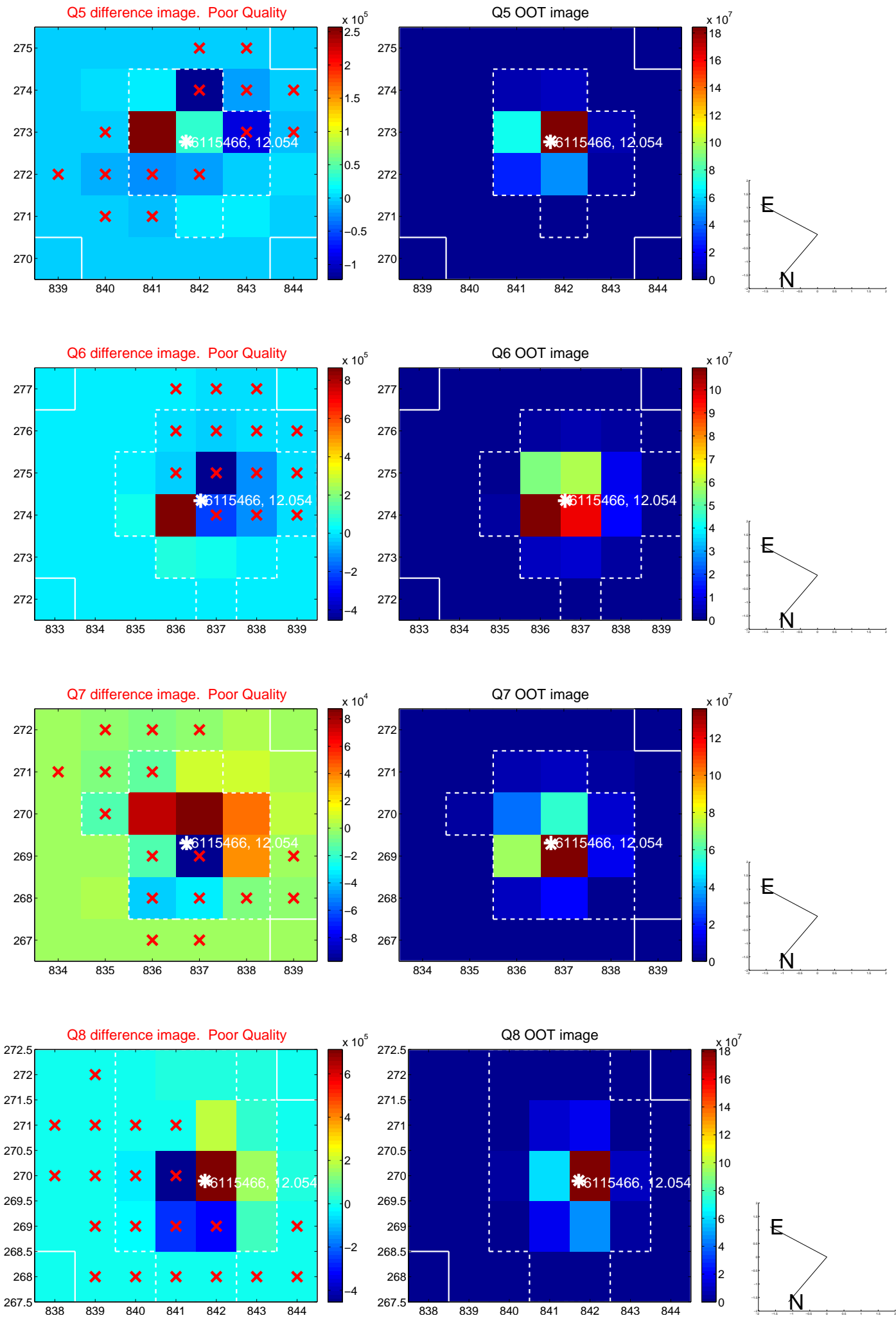


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

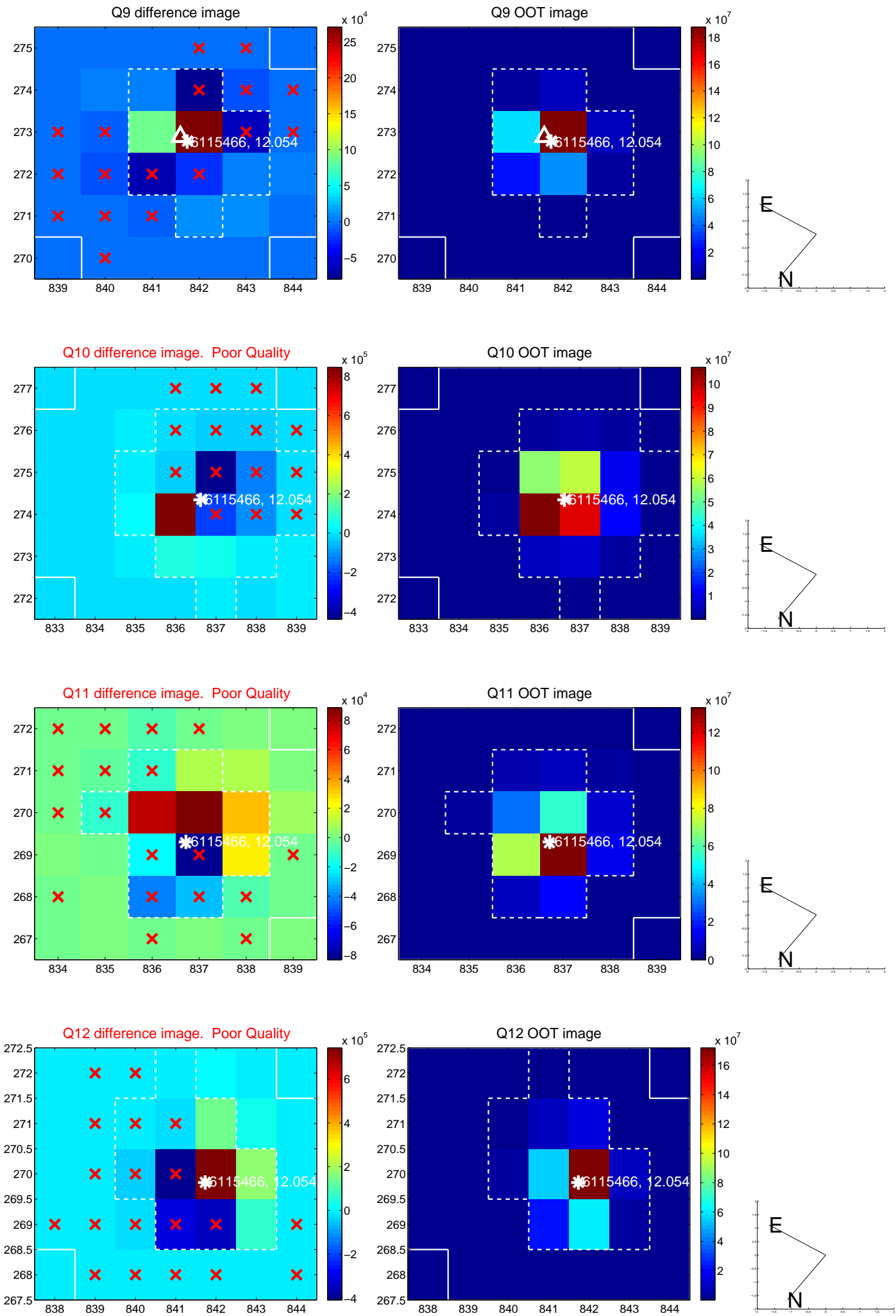
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



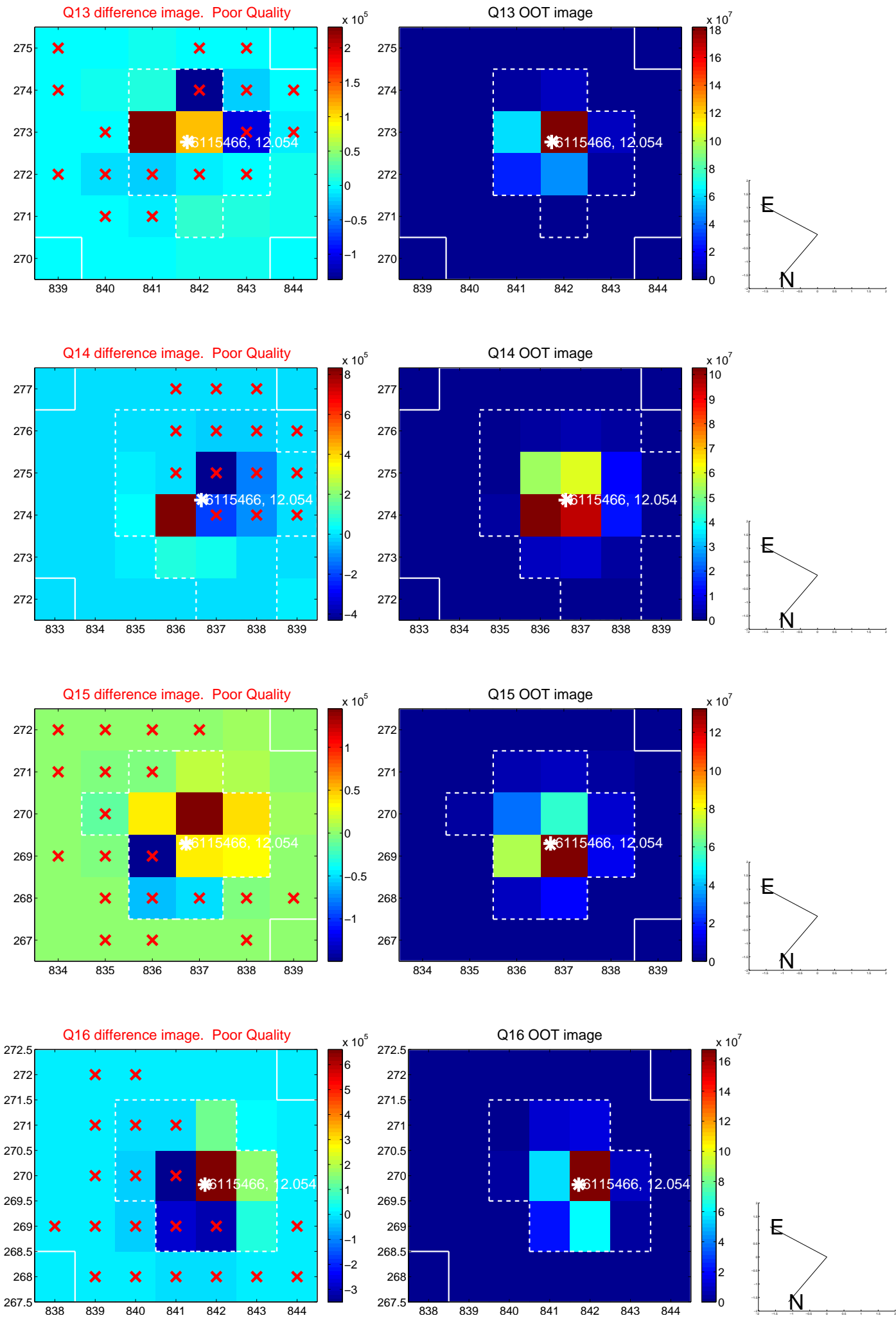
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



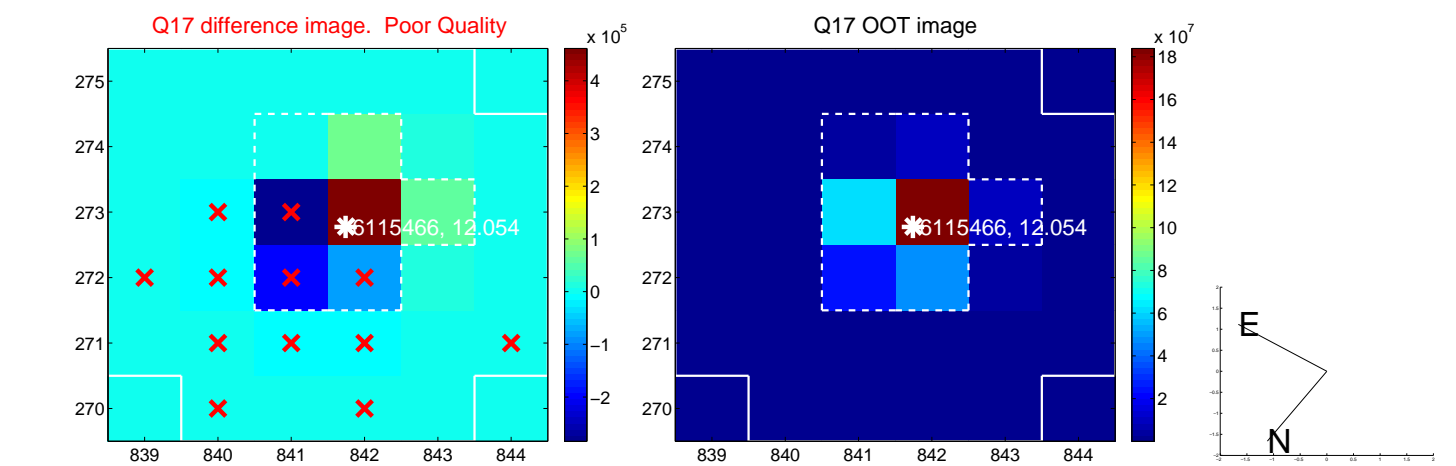
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



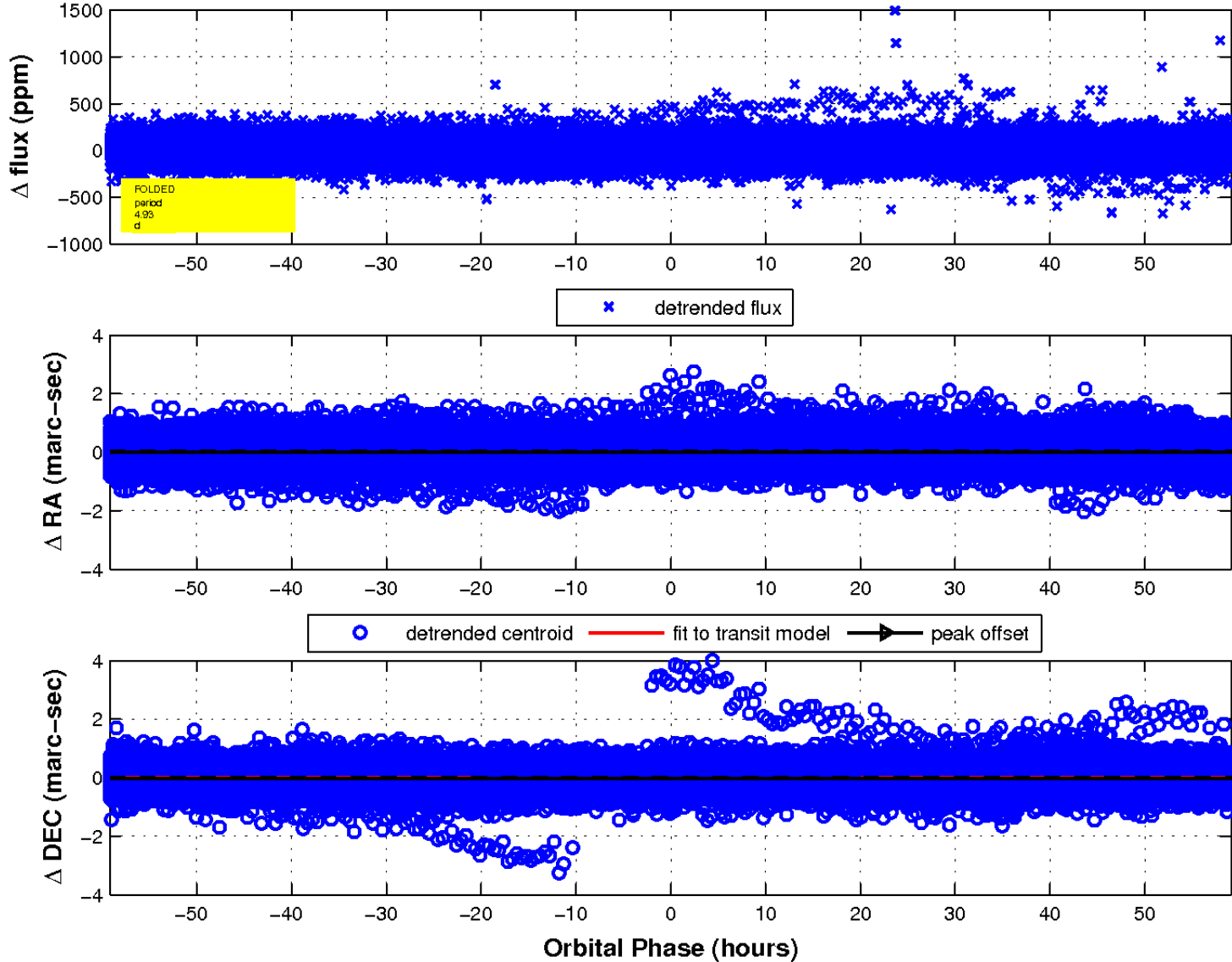
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

