

KIC 011461821

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})
011461821-01	OBS	No	1.282145	132.080358	20.0	2.861	9.5	7.4	1.85	7246	0.86	12211.76
011461821-02	OBS	No	1.282144	132.454531	23.7	2.671	9.2	8.9	1.85	7246	1.05	12211.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011461821-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
011461821-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

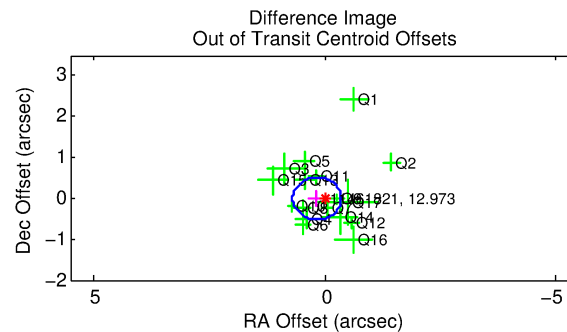
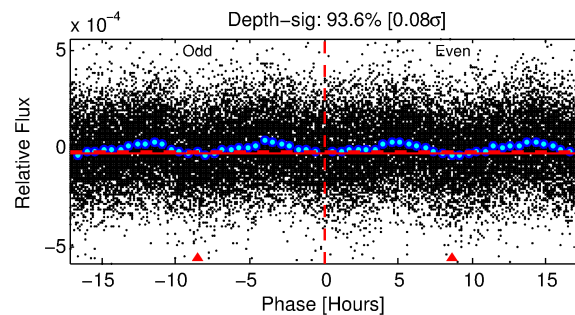
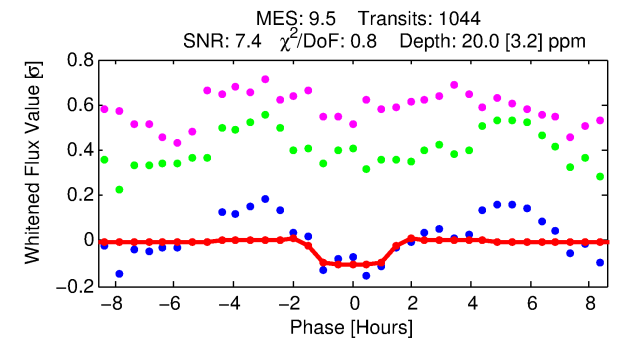
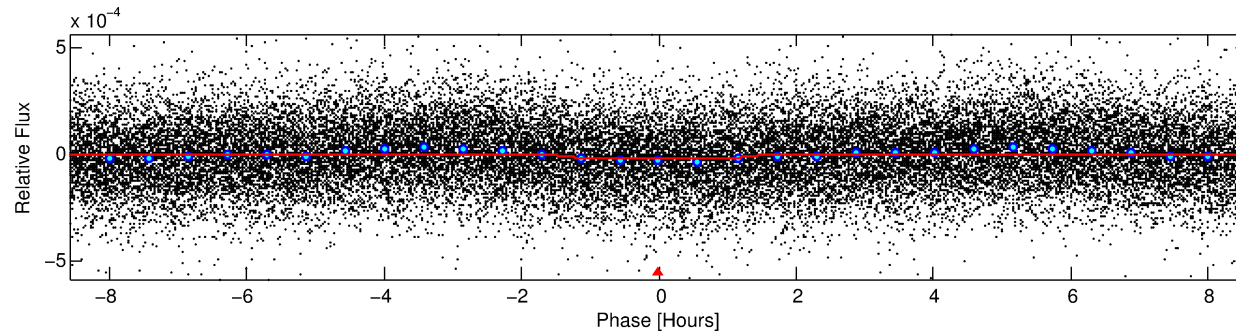
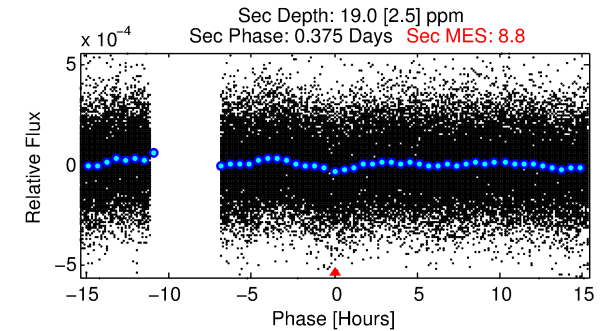
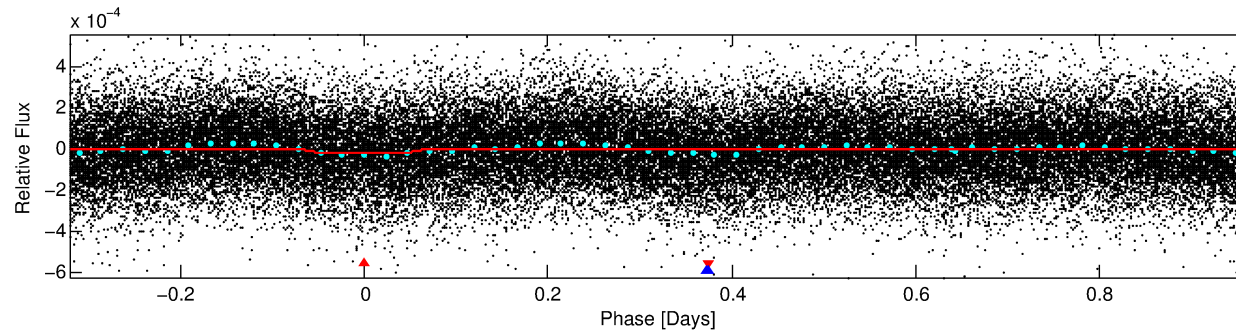
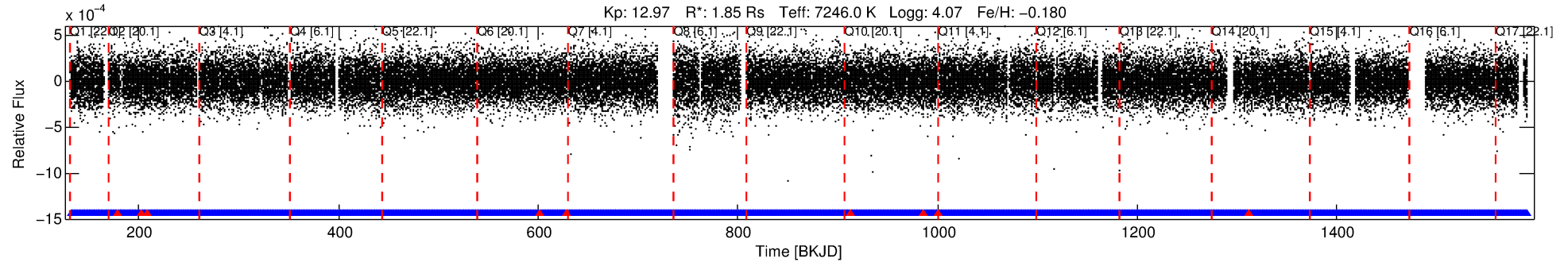
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011461821-01

No Significant Match Found

DV One-Page Summary

KIC: 11461821 Candidate: 1 of 2 Period: 1.282 d



DV Fit Results:

Period = 1.28214 [0.00002] d
Epoch = 132.0804 [0.0042] BKJD
Rp/R* = 0.0043 [0.0011]
a/R* = 3.05 [4.12]
b = 0.51 [2.23]
Seff = 12211.76 [4549.65]
Teq = 2681 [250] K
Rp = 0.86 [0.33] Re
a = 0.0264 [0.0061] AU
Ag = 9.80 [6.23] [1.41σ]
Teffp = 7333 [1039] K [4.35σ]

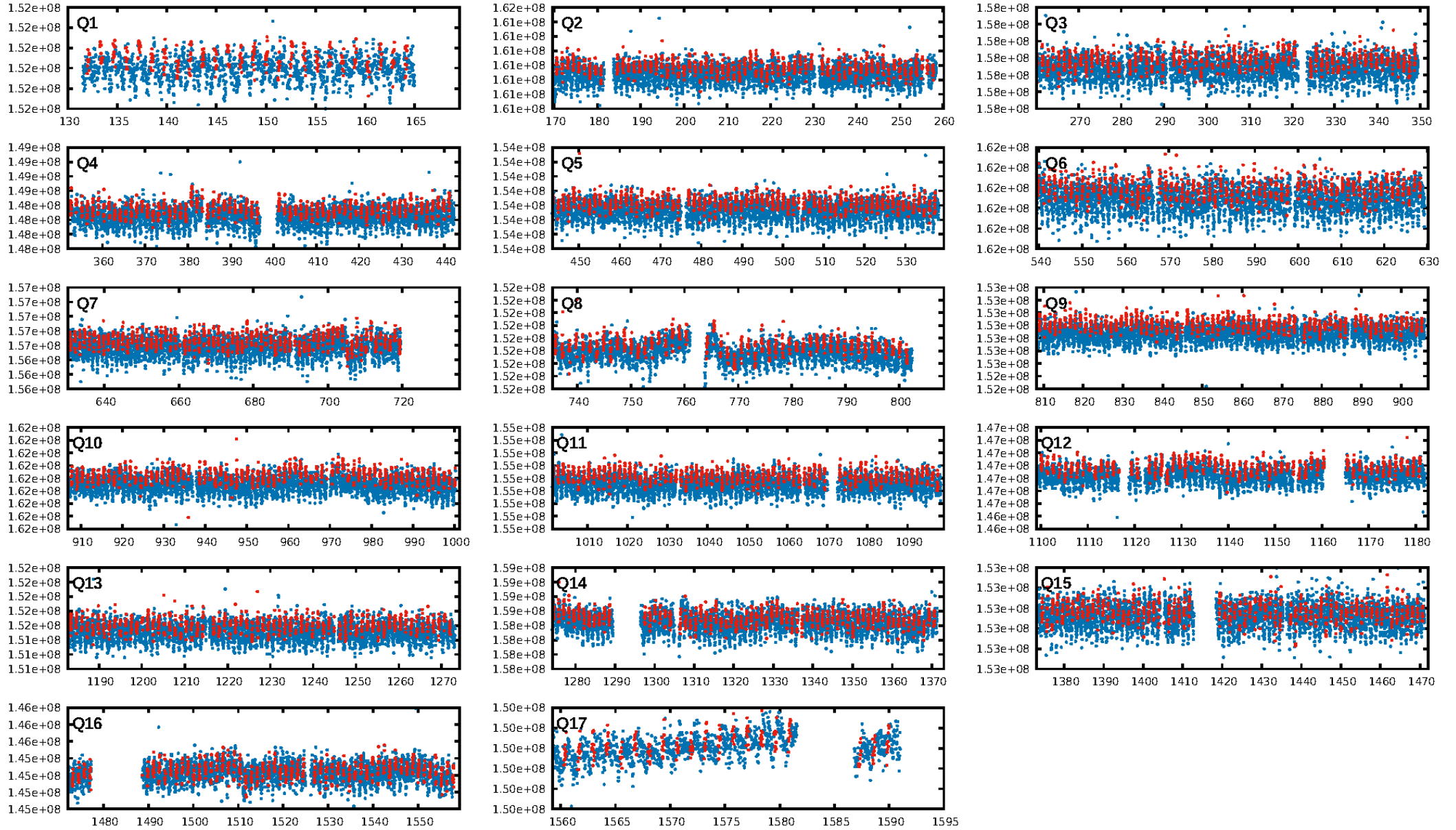
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.67e-16
RollingBand-fgt: 0.99 [989/998]
GhostDiagnostic-chr: -2.109
Centroid-sig: 15.9%
Centroid-so: 1.151 arcsec [1.11σ]
OotOffset-rm: 0.170 arcsec [0.97σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.171 arcsec [1.03σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

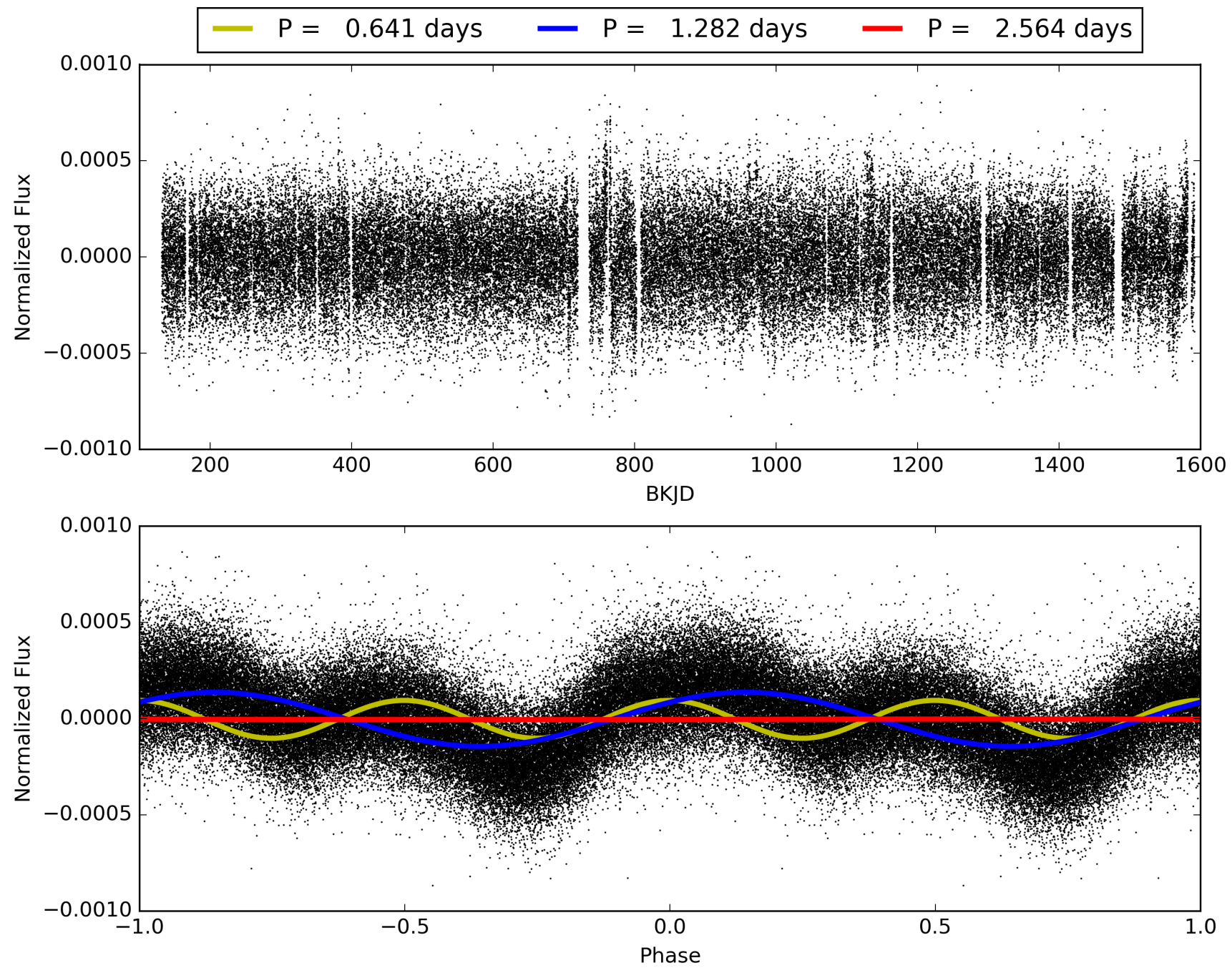
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:49:55 Z

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

TCE 011461821-01, PDC Light Curves

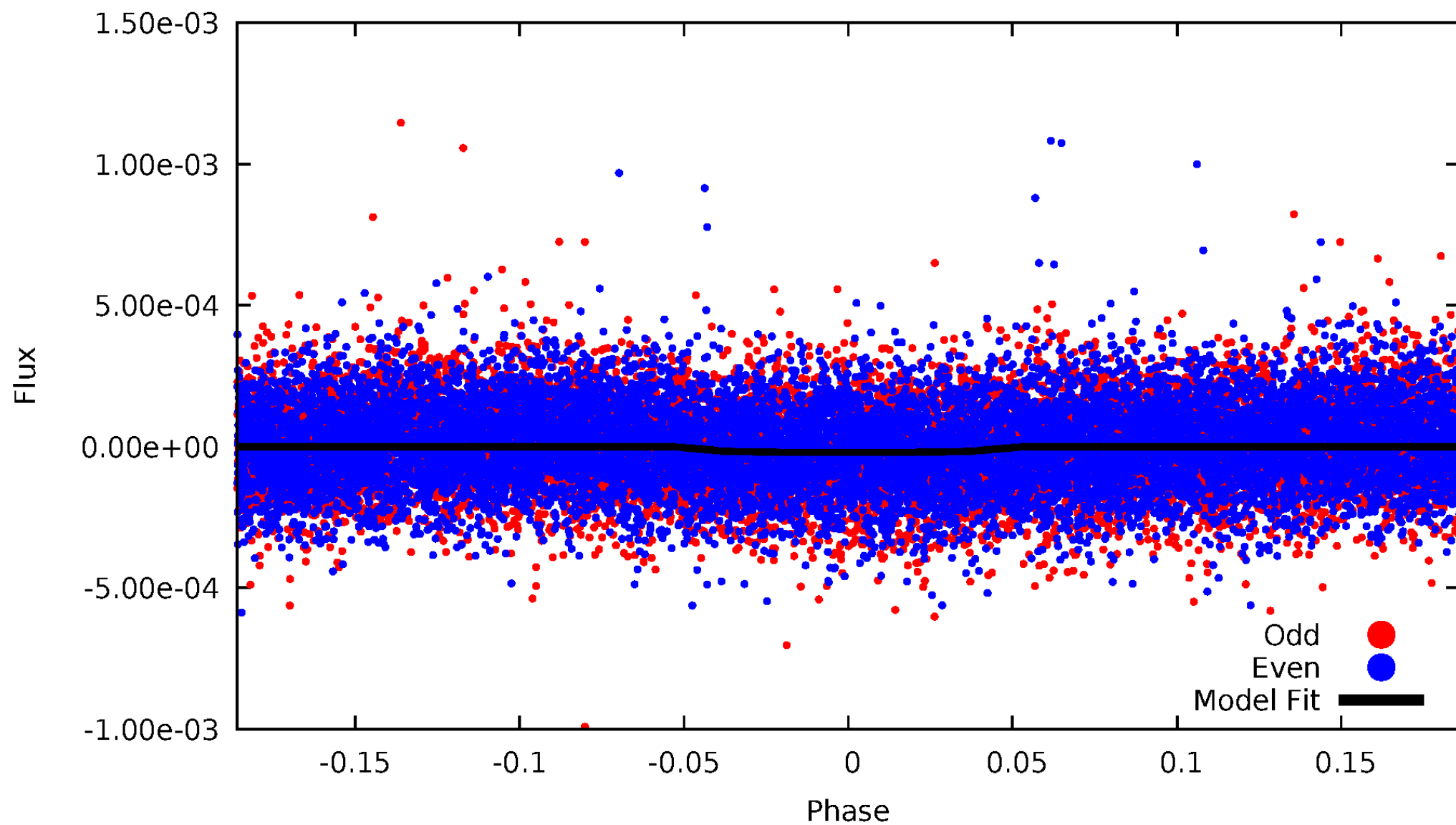


TCE 011461821-01



DV Odd/Even

TCE 011461821-01

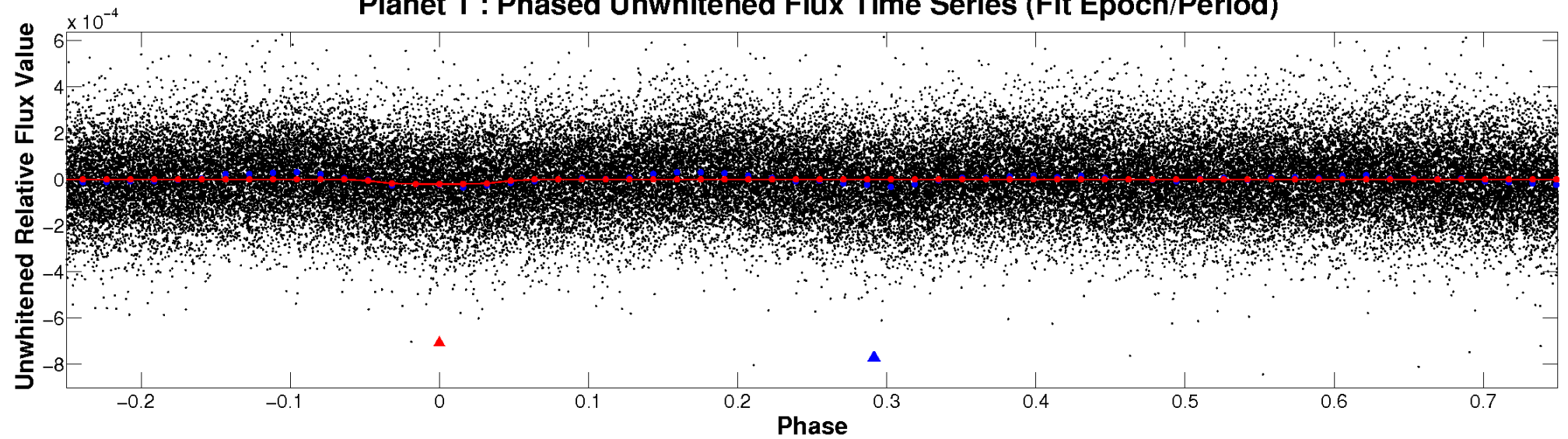


ALT Odd/Even

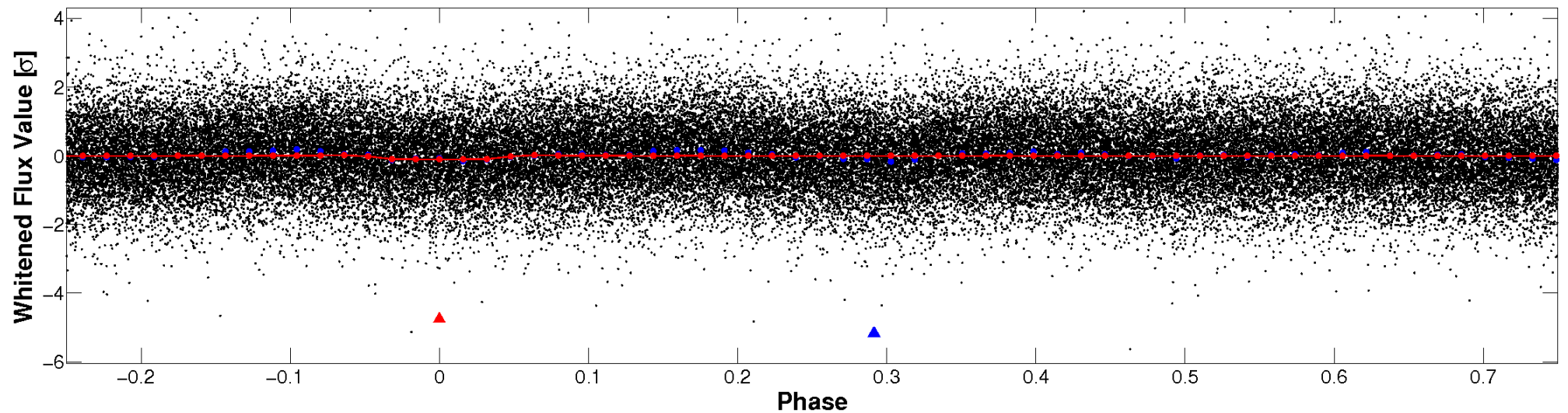
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

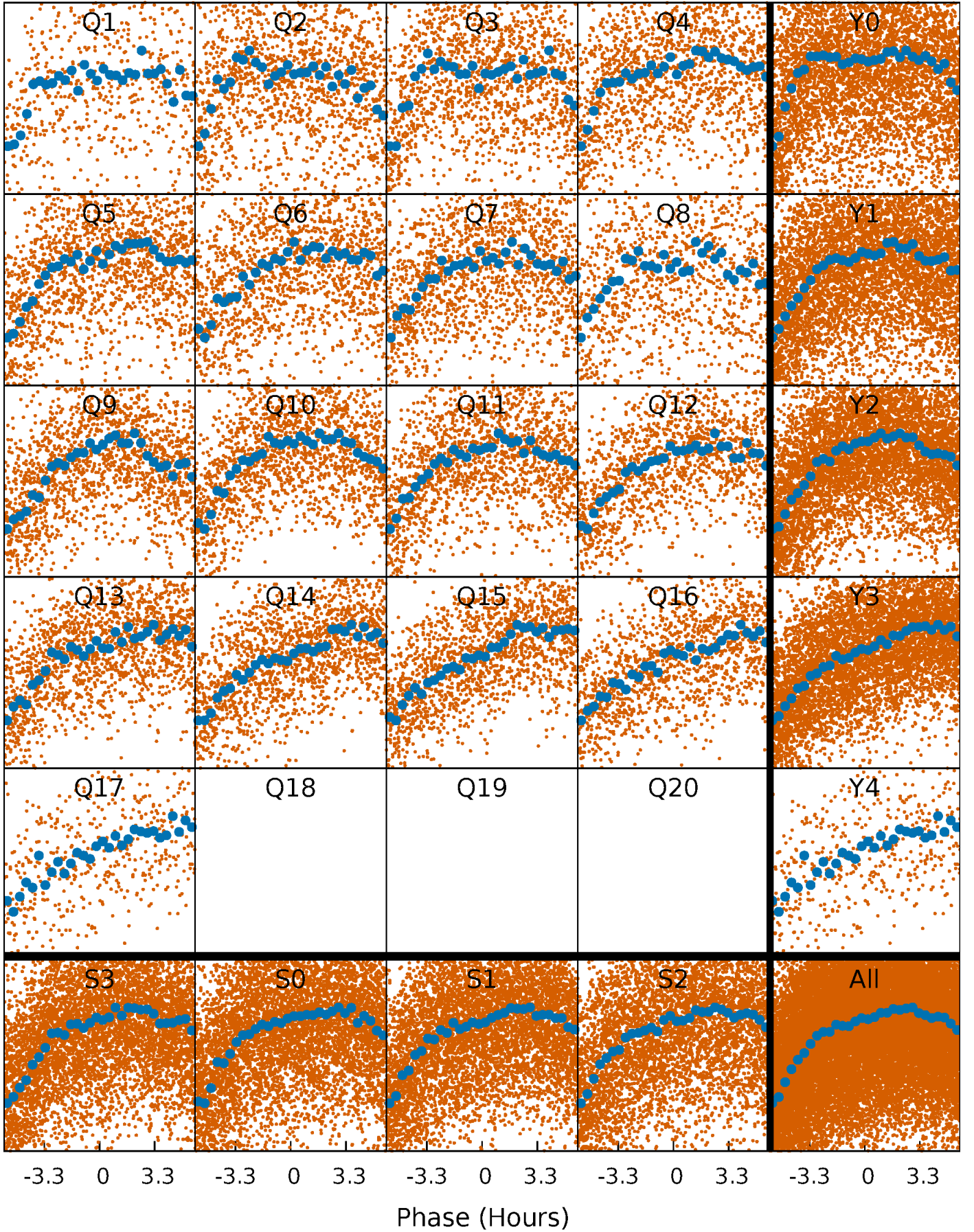


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



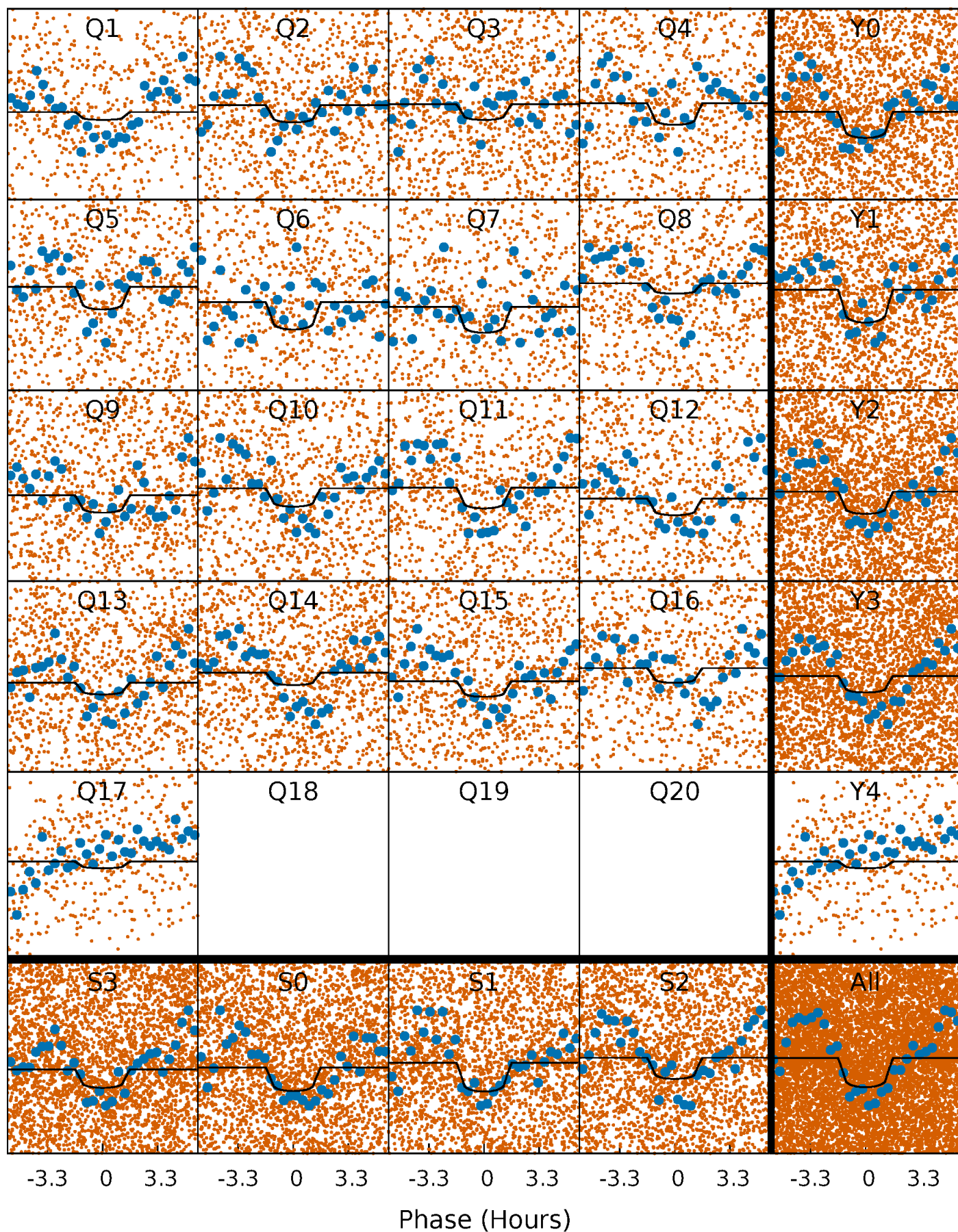
PDC Quarter-Phased Transit Curves

TCE 011461821-01 P= 1.282145 Days $T_0=132.080358$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011461821-01 P= 1.282145 Days $T_0=132.080358$ (BKJD)

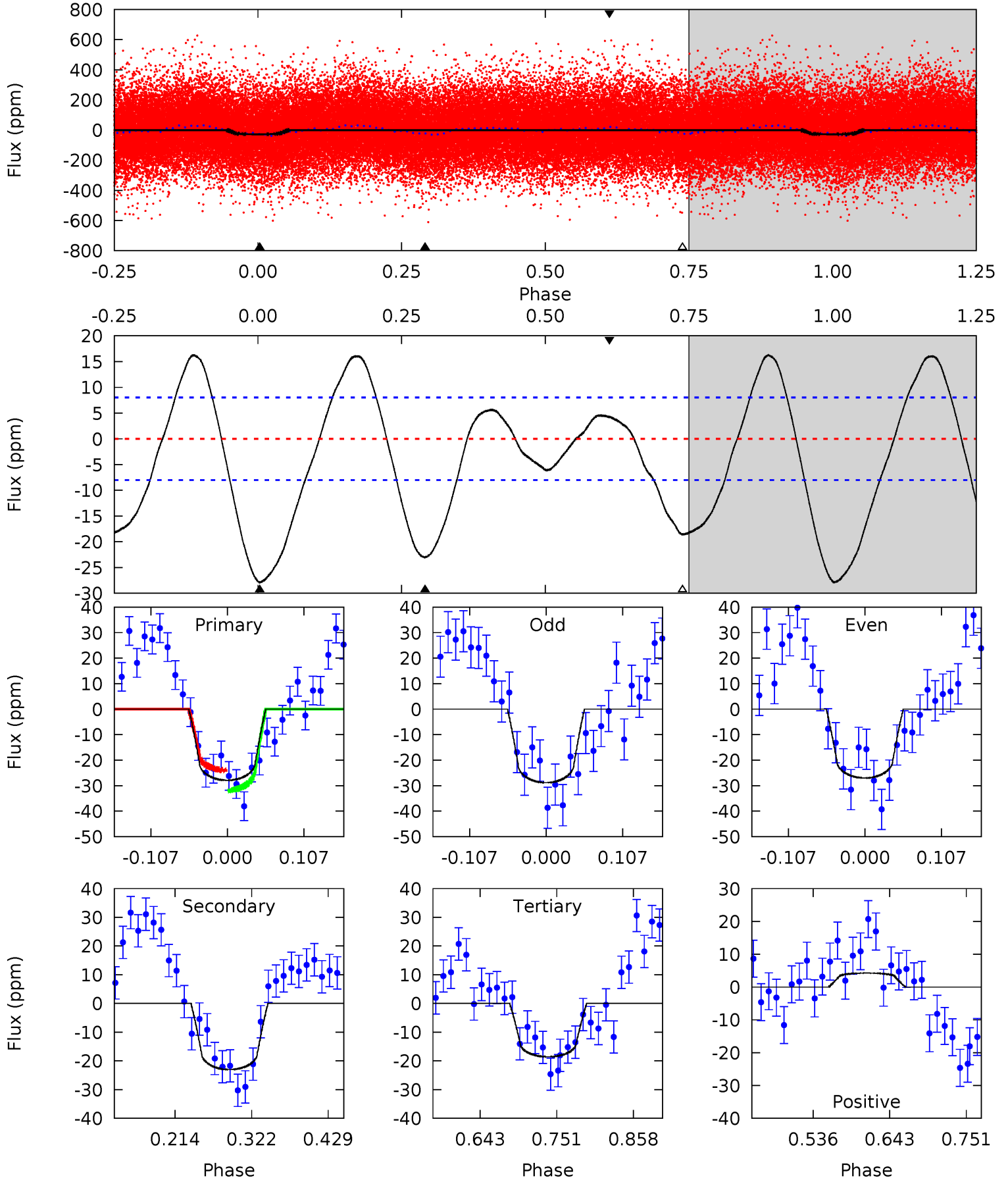


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

011461821-01, P = 1.282145 Days, E = 130.798213 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	13.1	10.5	2.42	4.55	1.61	5.39	5.28	13.4	2.53	10.6	0.52	1.11	0.37	2.22



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 011461821

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7246^{+228}_{-304}	$4.074^{+0.180}_{-0.162}$	$-0.180^{+0.250}_{-0.350}$	$1.854^{+0.515}_{-0.464}$	$1.487^{+0.211}_{-0.257}$	$0.329^{+0.327}_{-0.166}$
	+3%/-4%	+4%/-4%	+139%/-194%	+28%/-25%	+14%/-17%	+100%/-51%
Source	PHO1	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 011461821-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 2	$0.83^{+0.29}_{-0.23}$	3724^{+292}_{-269}	7717^{+1794}_{-1022}	13^{+11}_{-6}
Alt.	N/A	N/A	N/A	N/A	N/A

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

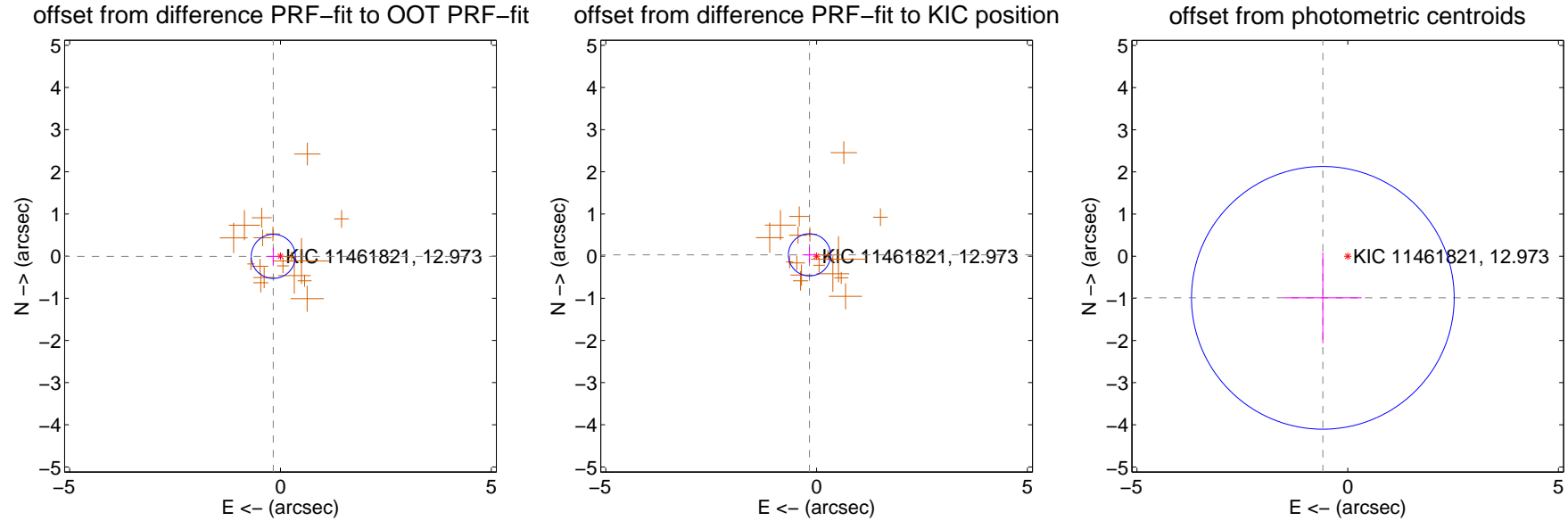
DV Centroid Data

Supplemental centroid analysis for 011461821-01. Kepler magnitude: 12.97. Transit SNR 7.36

There are 0 quarters with good PRF difference image offsets

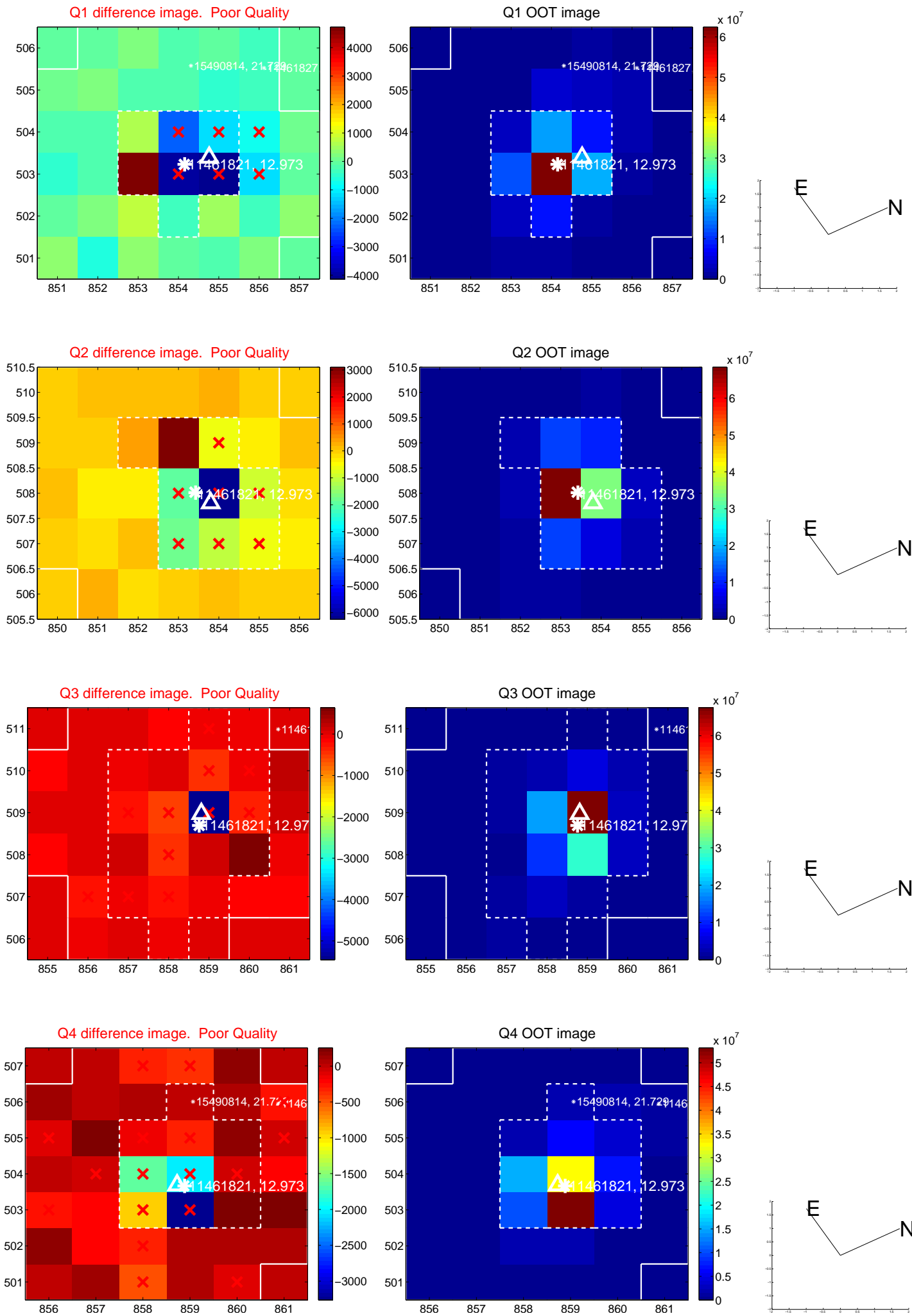
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.170 ± 0.174	0.97	0.170 ± 0.174	-0.006 ± 0.204
PRF-fit source offset from KIC position	0.171 ± 0.167	1.03	0.169 ± 0.170	0.030 ± 0.198
photometric centroid source offset	1.15 ± 1.04	1.11	0.59 ± 0.92	-0.99 ± 1.08

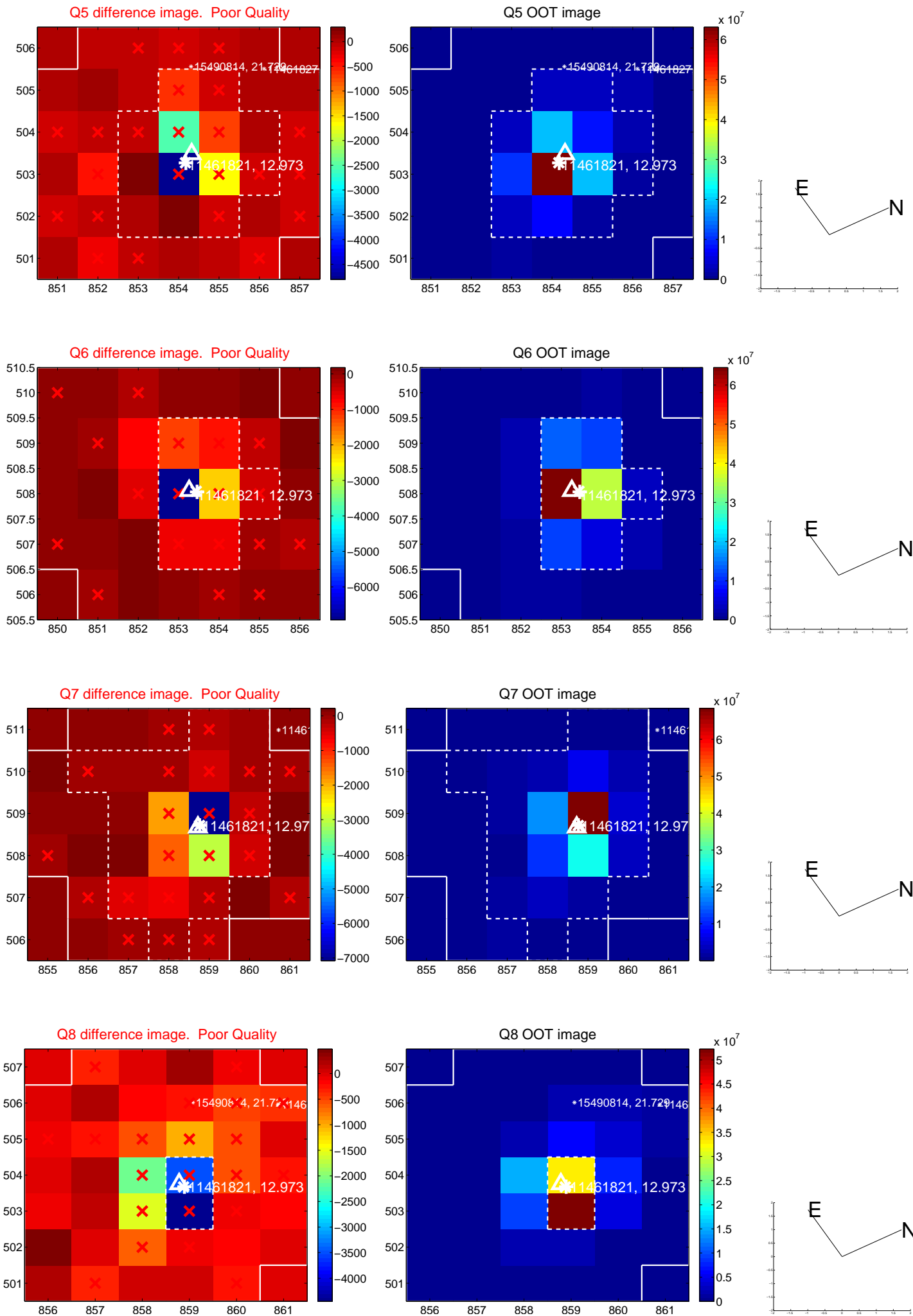


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

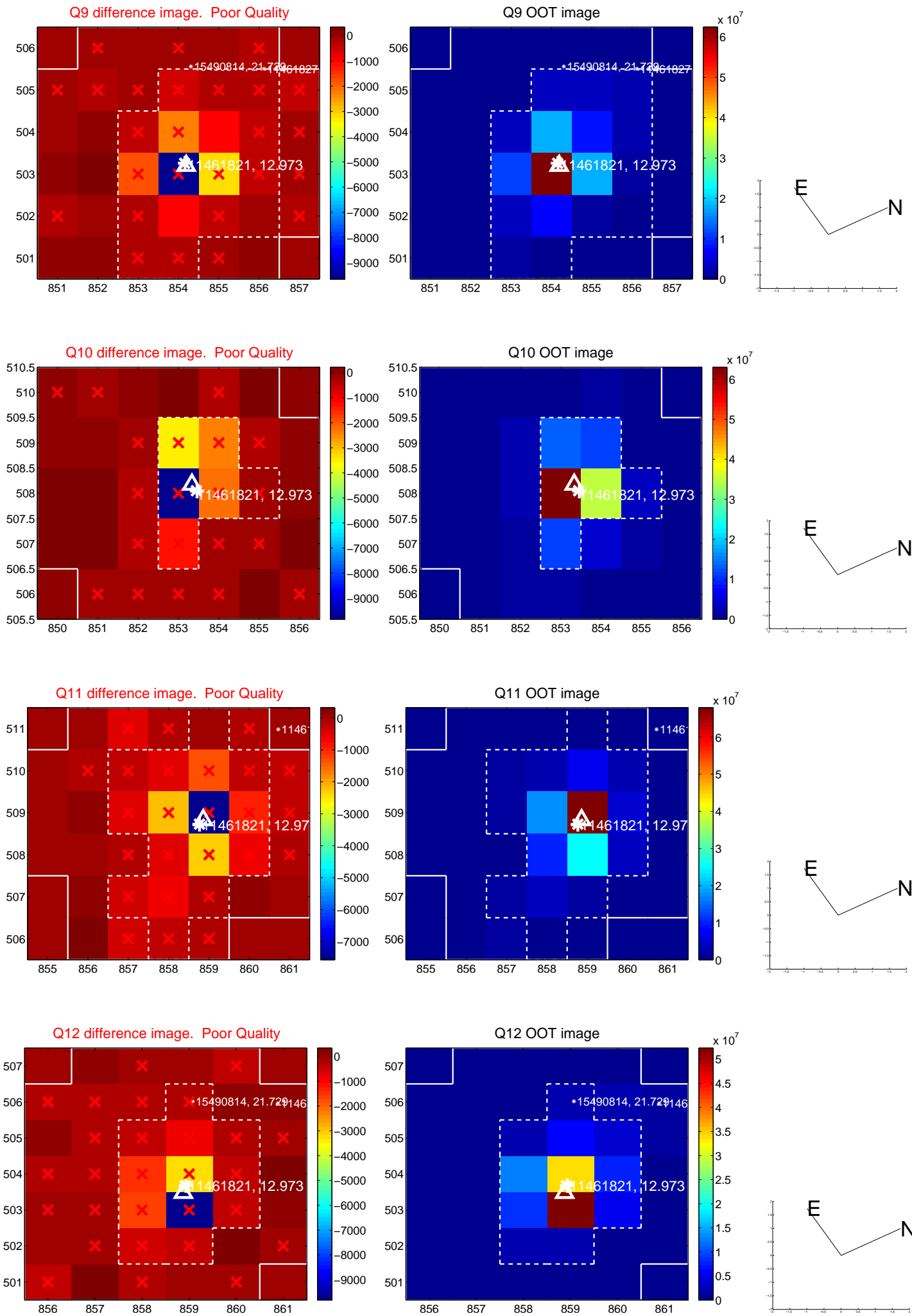
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



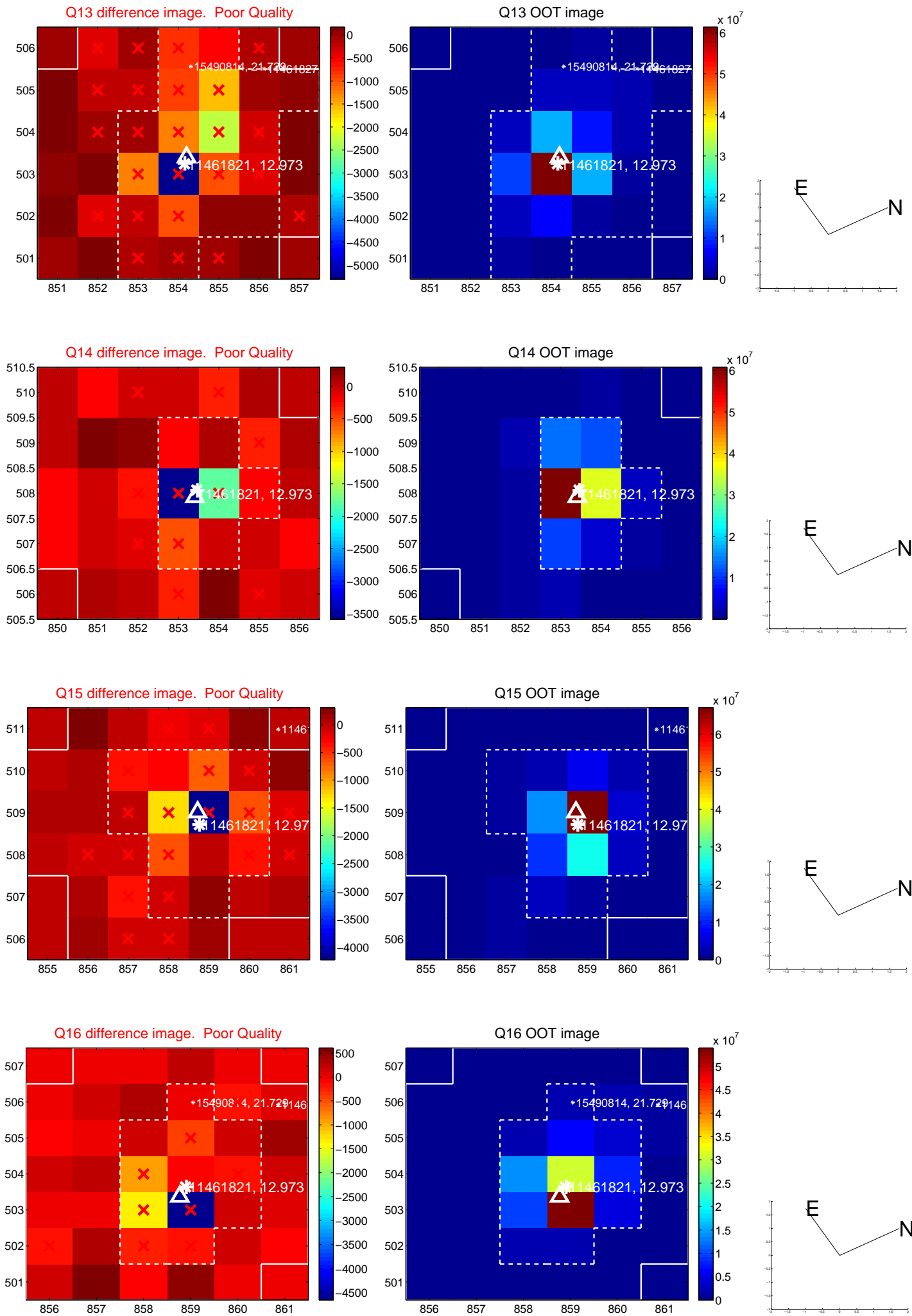
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



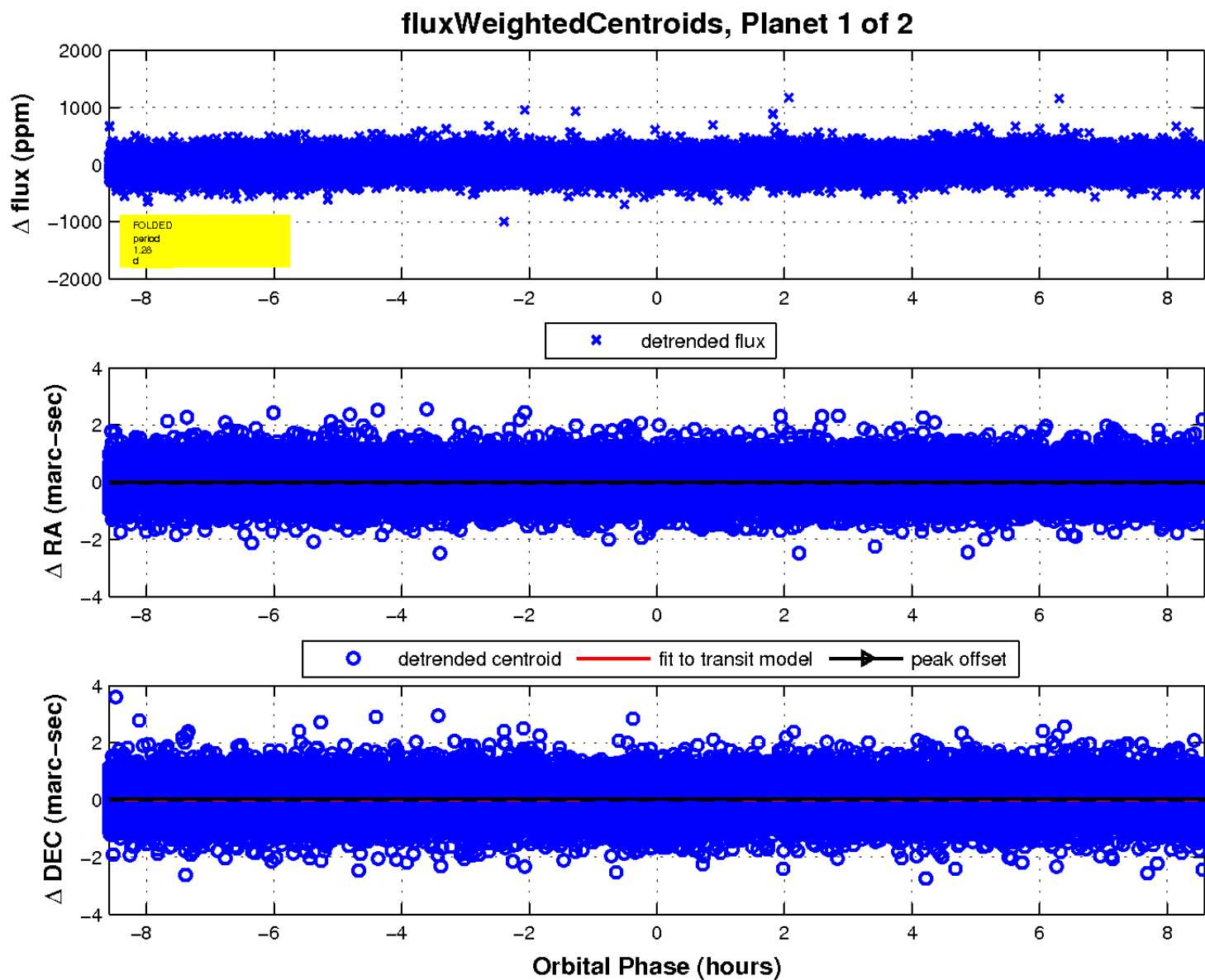
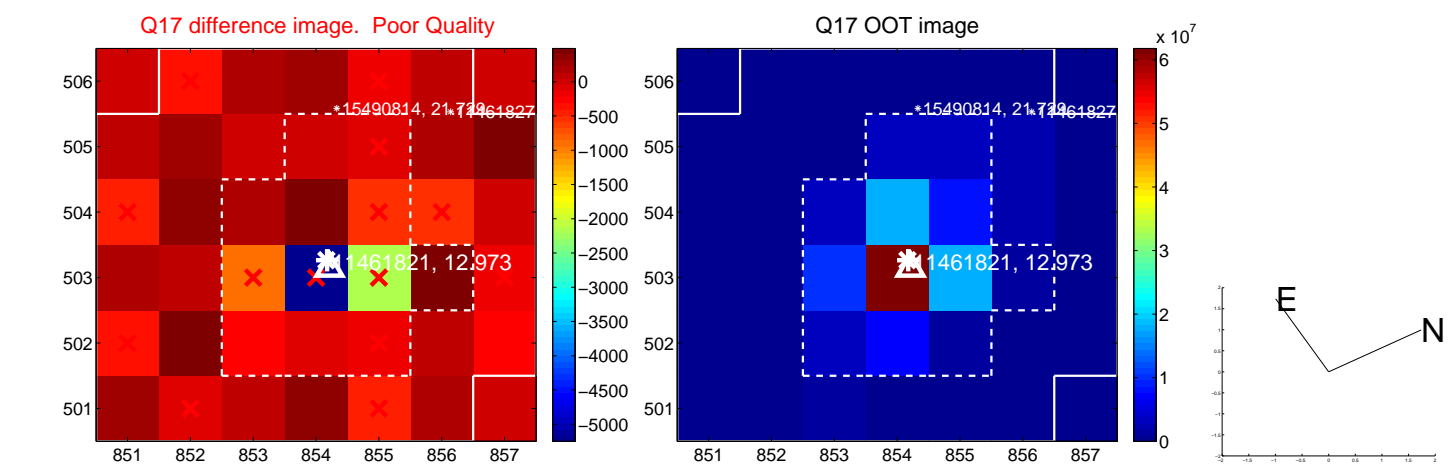
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

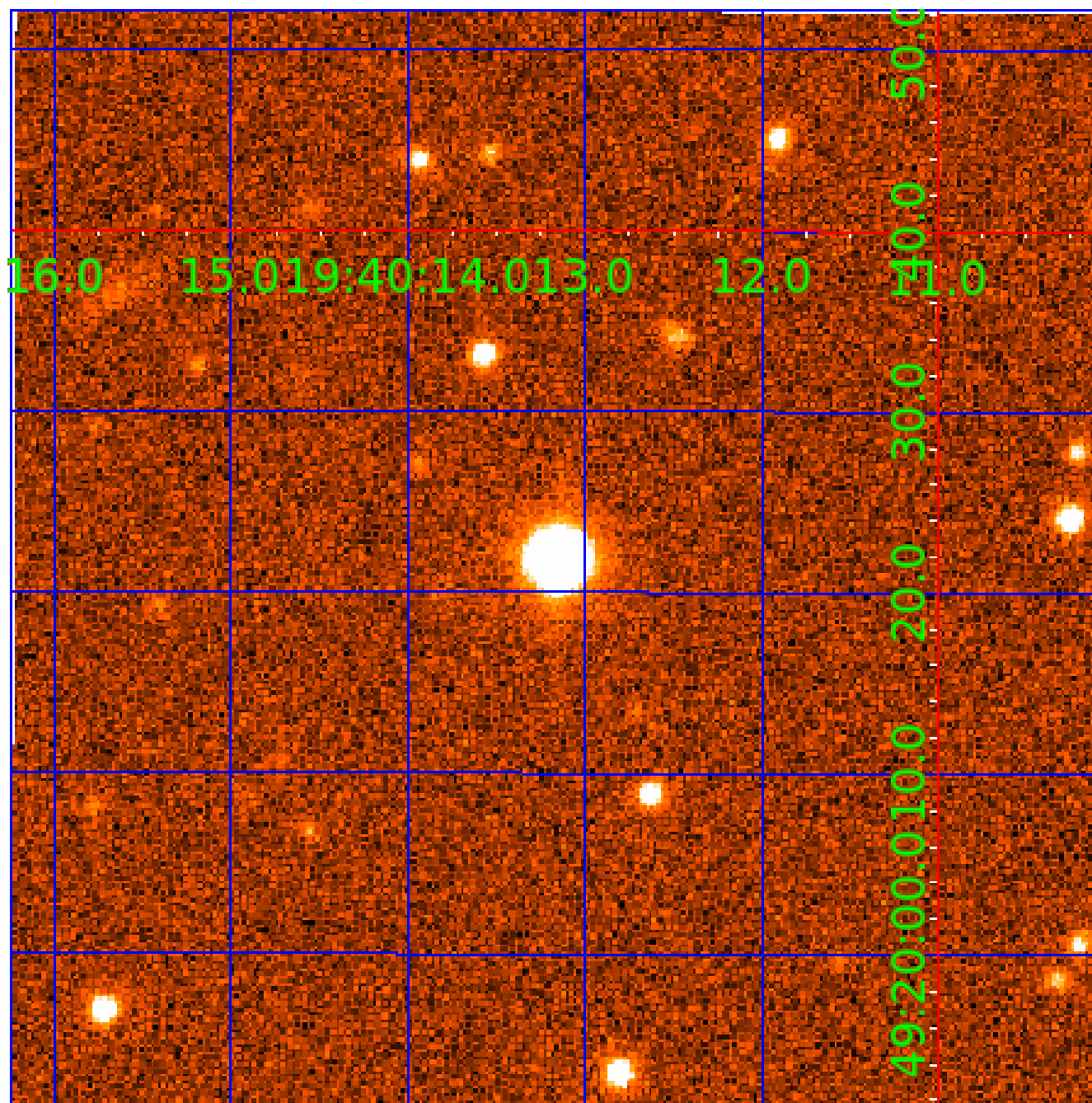


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011461821

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})
011461821-01	OBS	No	1.282145	132.080358	20.0	2.861	9.5	7.4	1.85	7246	0.86	12211.76
011461821-02	OBS	No	1.282144	132.454531	23.7	2.671	9.2	8.9	1.85	7246	1.05	12211.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011461821-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
011461821-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

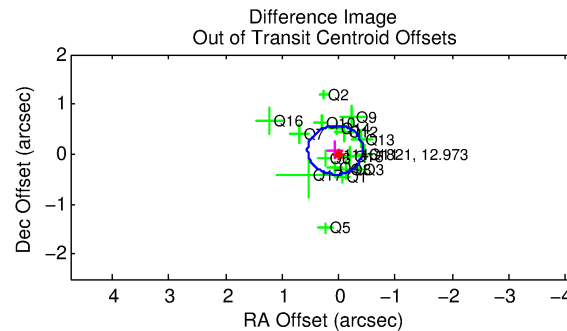
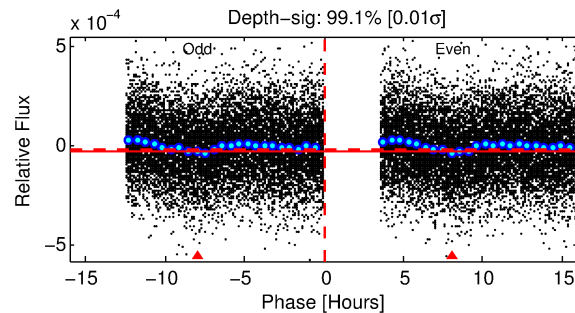
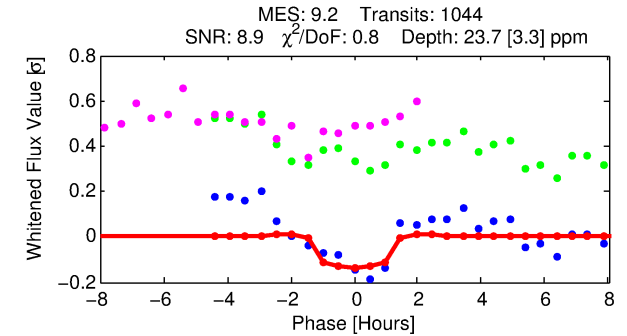
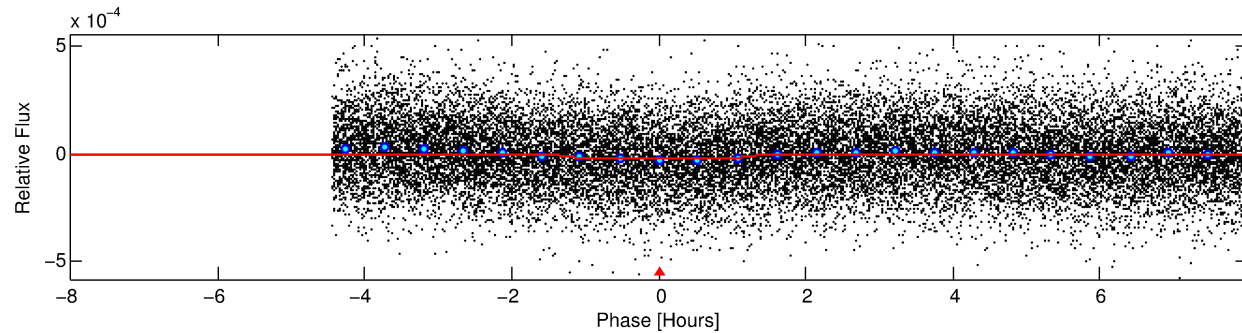
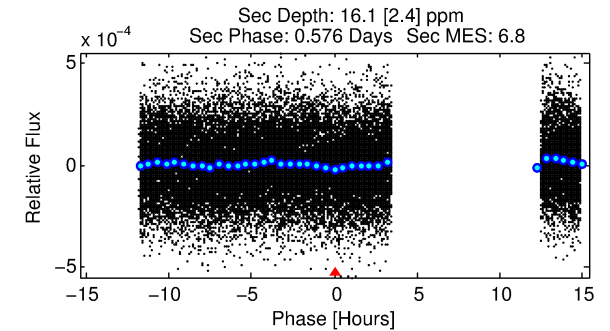
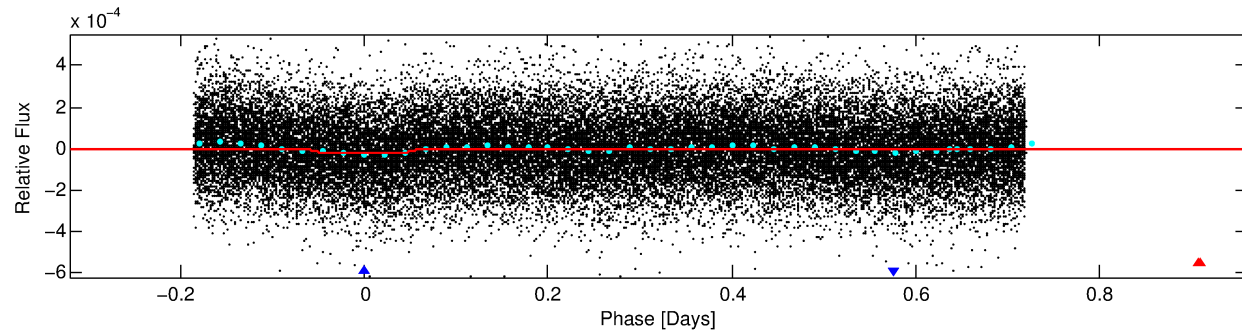
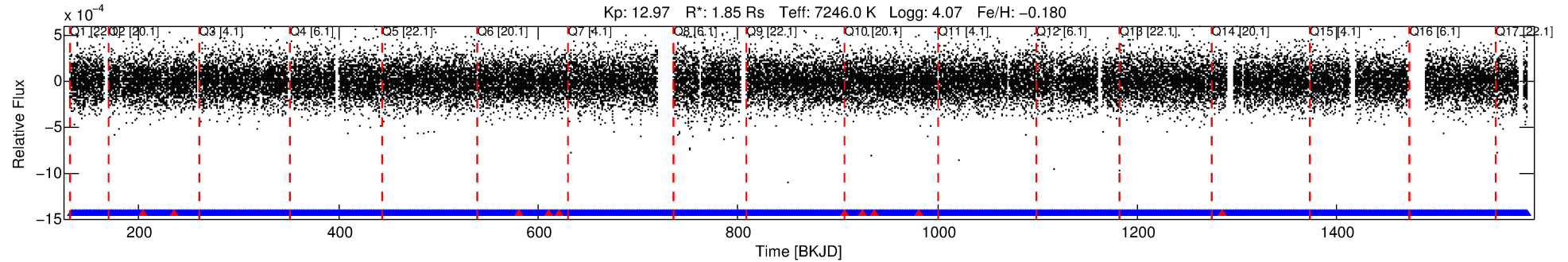
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011461821-02

No Significant Match Found

DV One-Page Summary

KIC: 11461821 Candidate: 2 of 2 Period: 1.282 d



DV Fit Results:

Period = 1.28214 [0.00001] d
Epoch = 132.4545 [0.0035] BKJD
Rp/R* = 0.0052 [0.0016]
a/R* = 1.89 [2.58]
b = 0.90 [0.40]
Seff = 12211.77 [4549.65]
Teq = 2681 [250] K
Rp = 1.05 [0.43] Re
a = 0.0264 [0.0061] AU
Ag = 5.62 [3.98] [1.16σ]
Teffp = 6382 [1031] K [3.49σ]

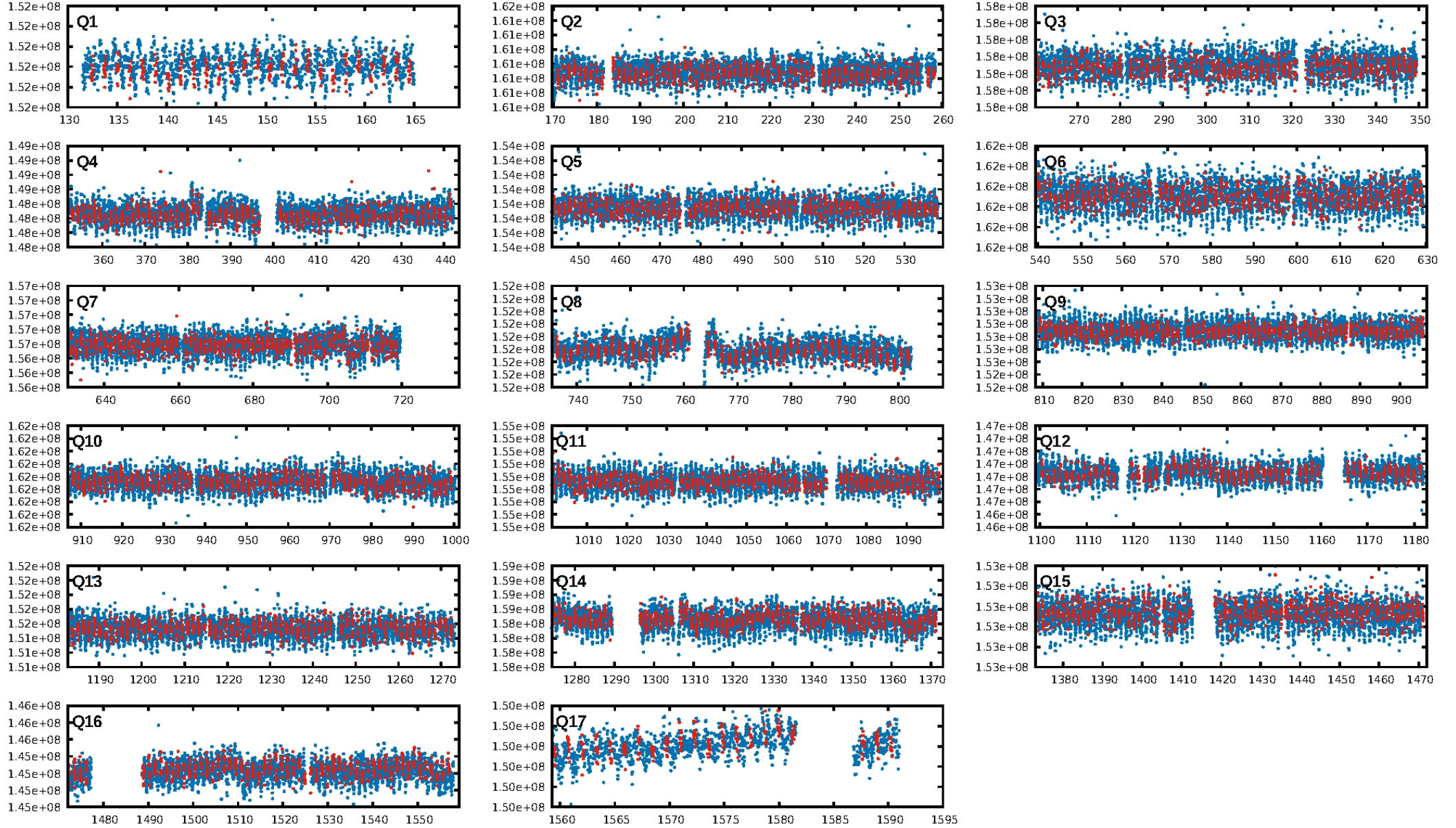
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.08e-15
RollingBand-fgt: 0.99 [987/997]
GhostDiagnostic-chr: 0.879
Centroid-sig: 9.8%
Centroid-so: 1.263 arcsec [1.43σ]
OotOffset-rm: 0.103 arcsec [0.63σ]
KicOffset-rm: 0.123 arcsec [0.74σ]
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]

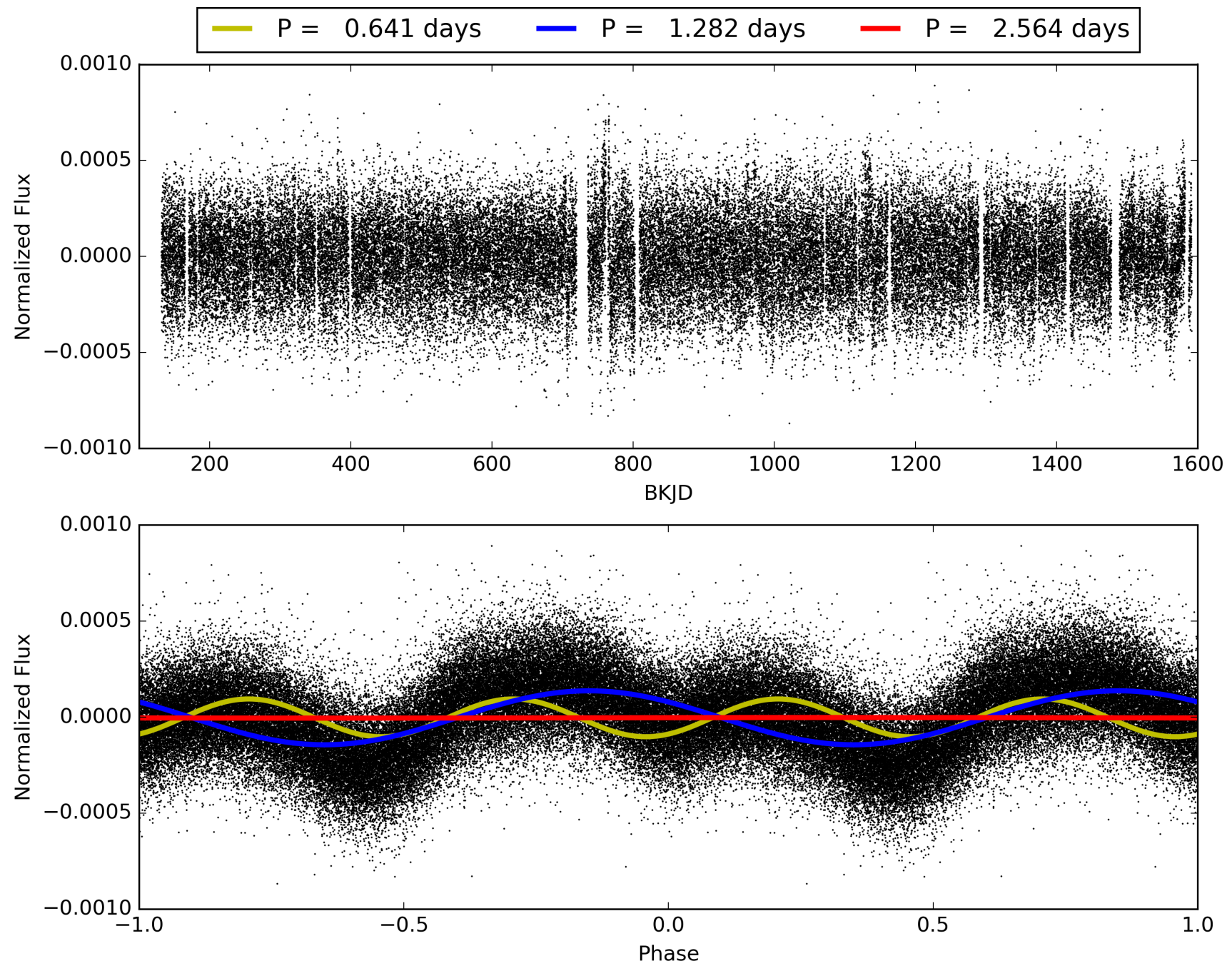
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:50:05 Z

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

TCE 011461821-02, PDC Light Curves

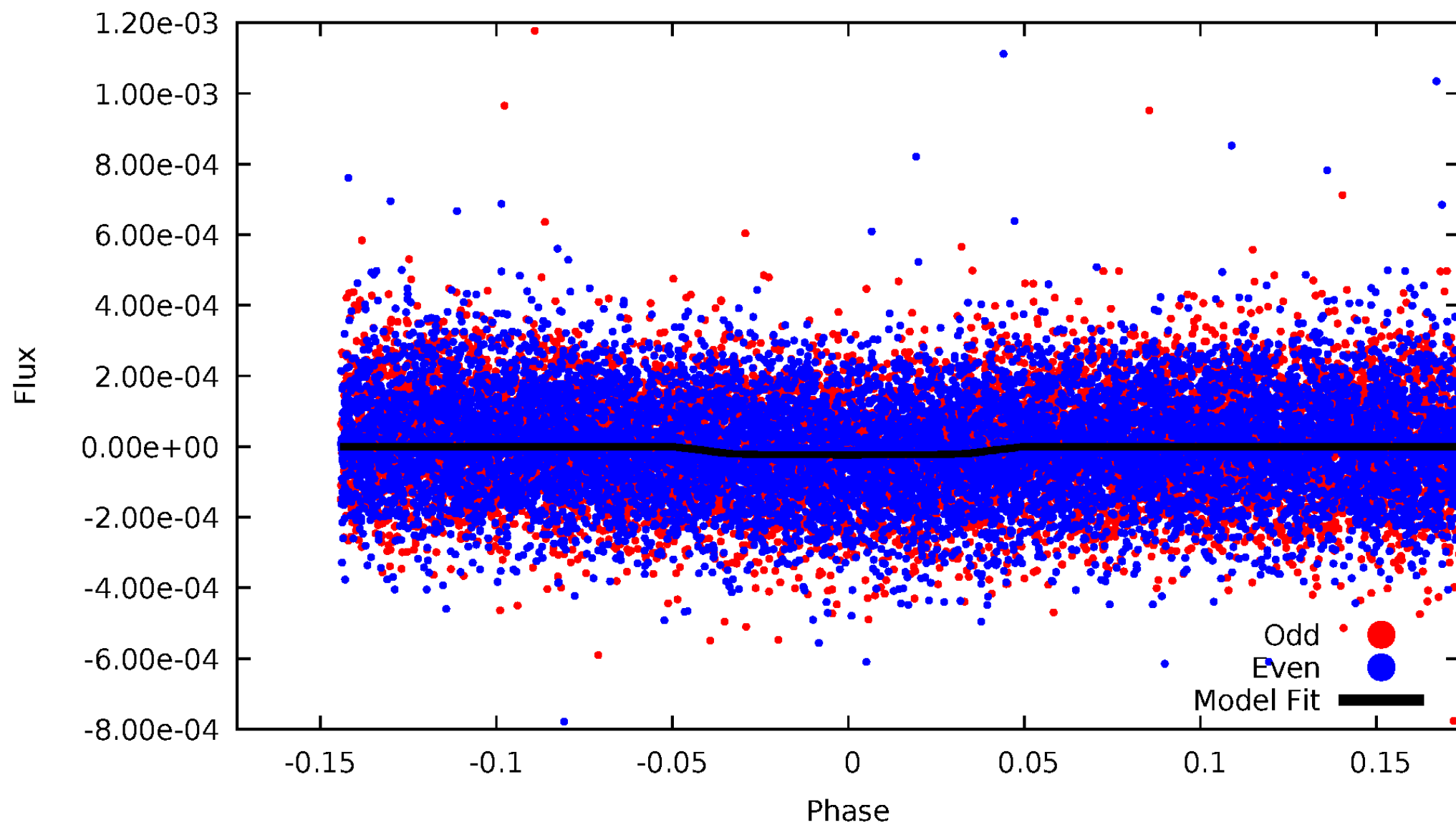


TCE 011461821-02



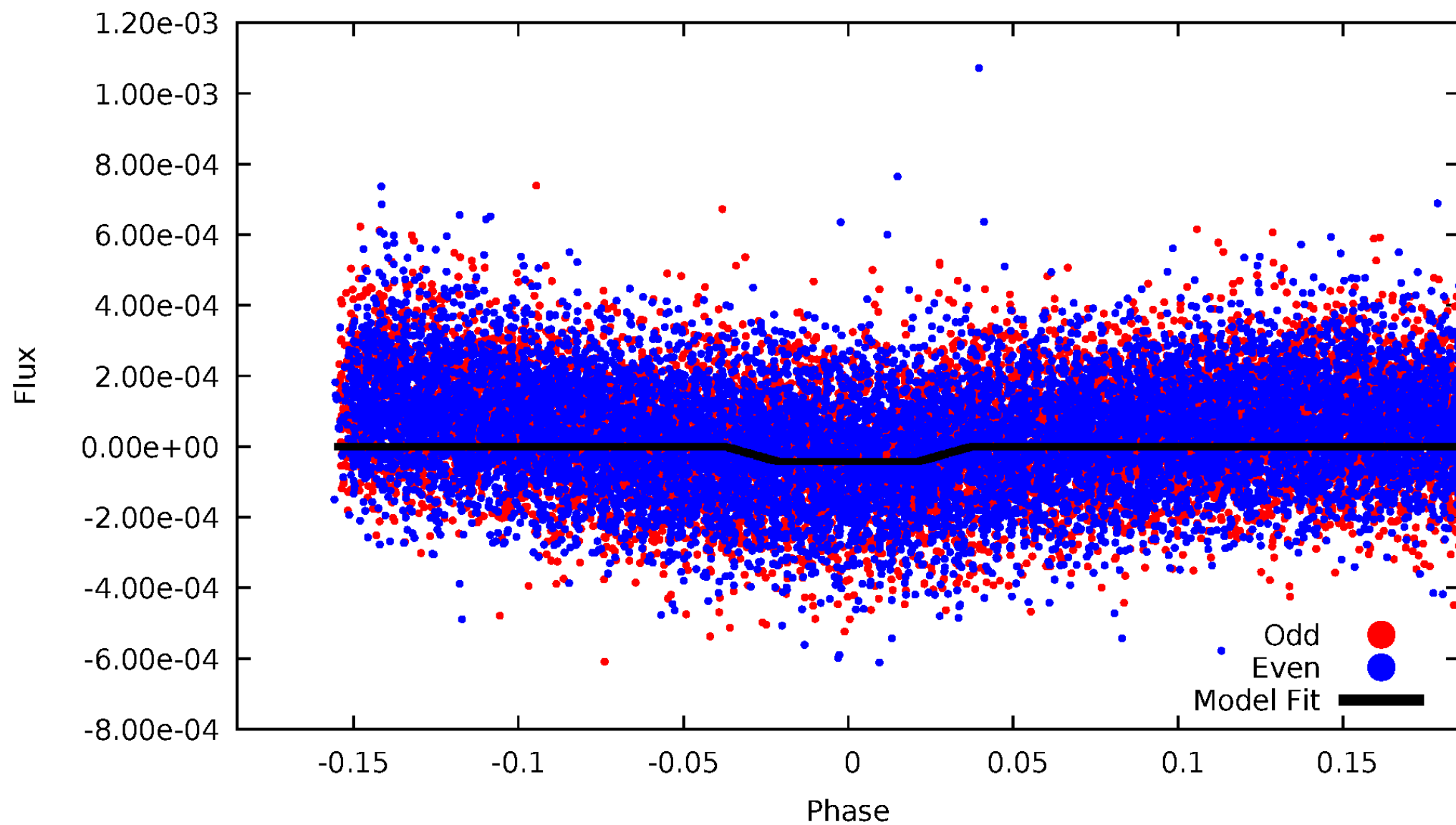
DV Odd/Even

TCE 011461821-02



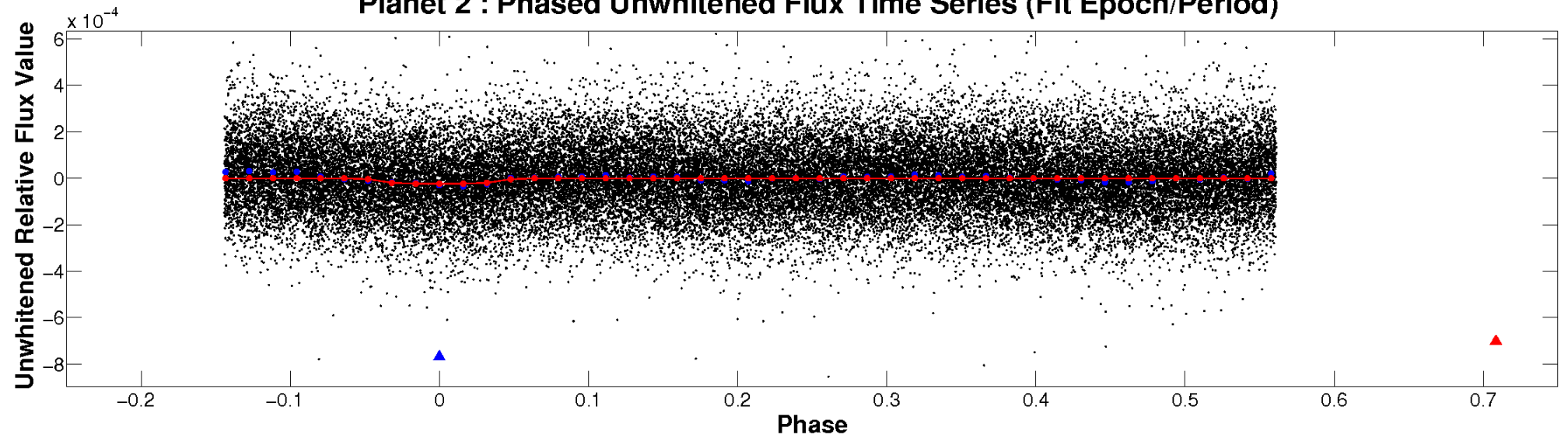
ALT Odd/Even

TCE 011461821-02

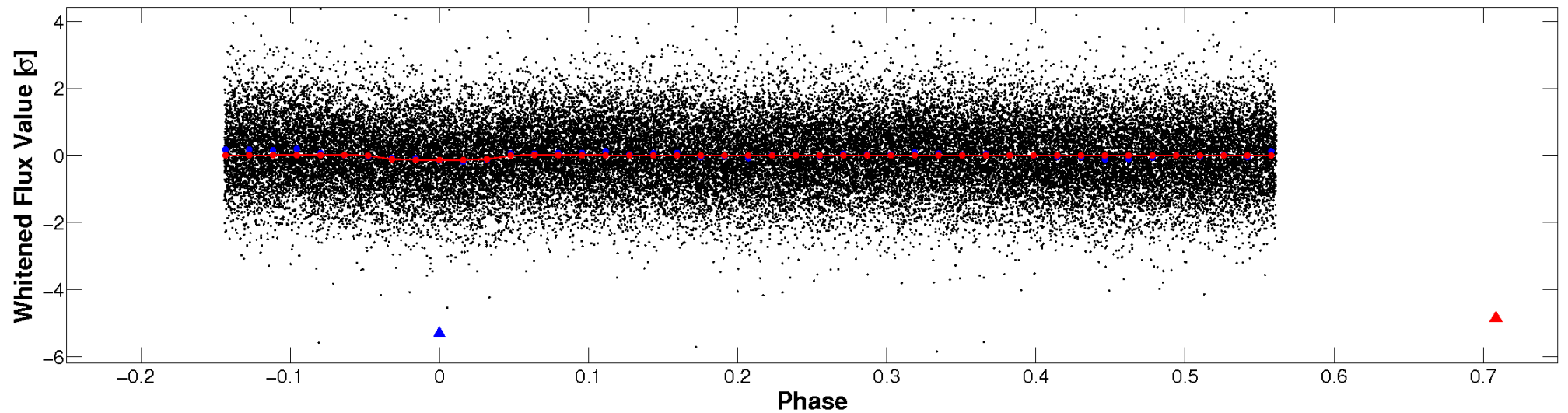


Non-Whitened Vs. Whitened Light Curve

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

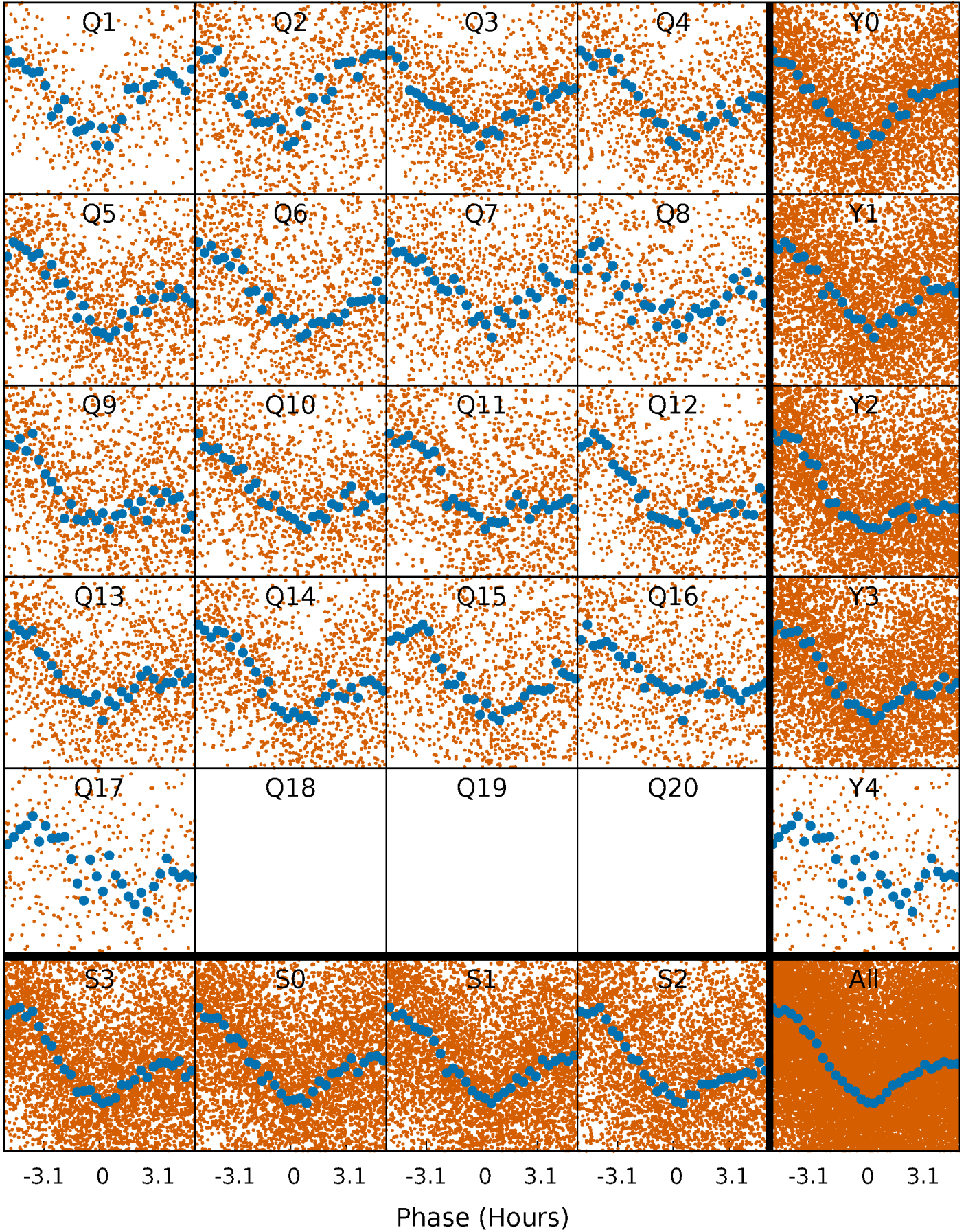


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



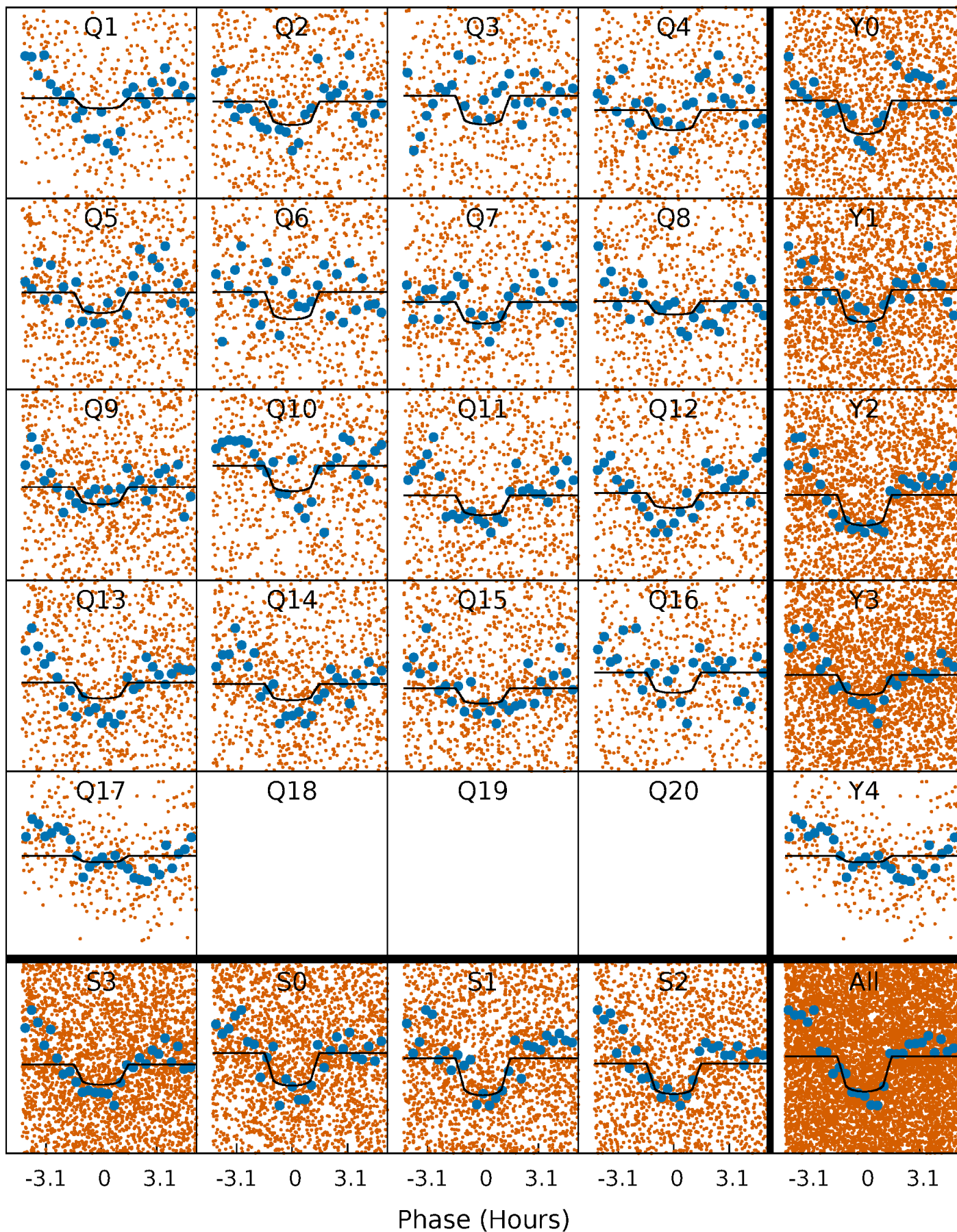
PDC Quarter-Phased Transit Curves

TCE 011461821-02 P= 1.282144 Days $T_0=132.454531$ (BKJD)



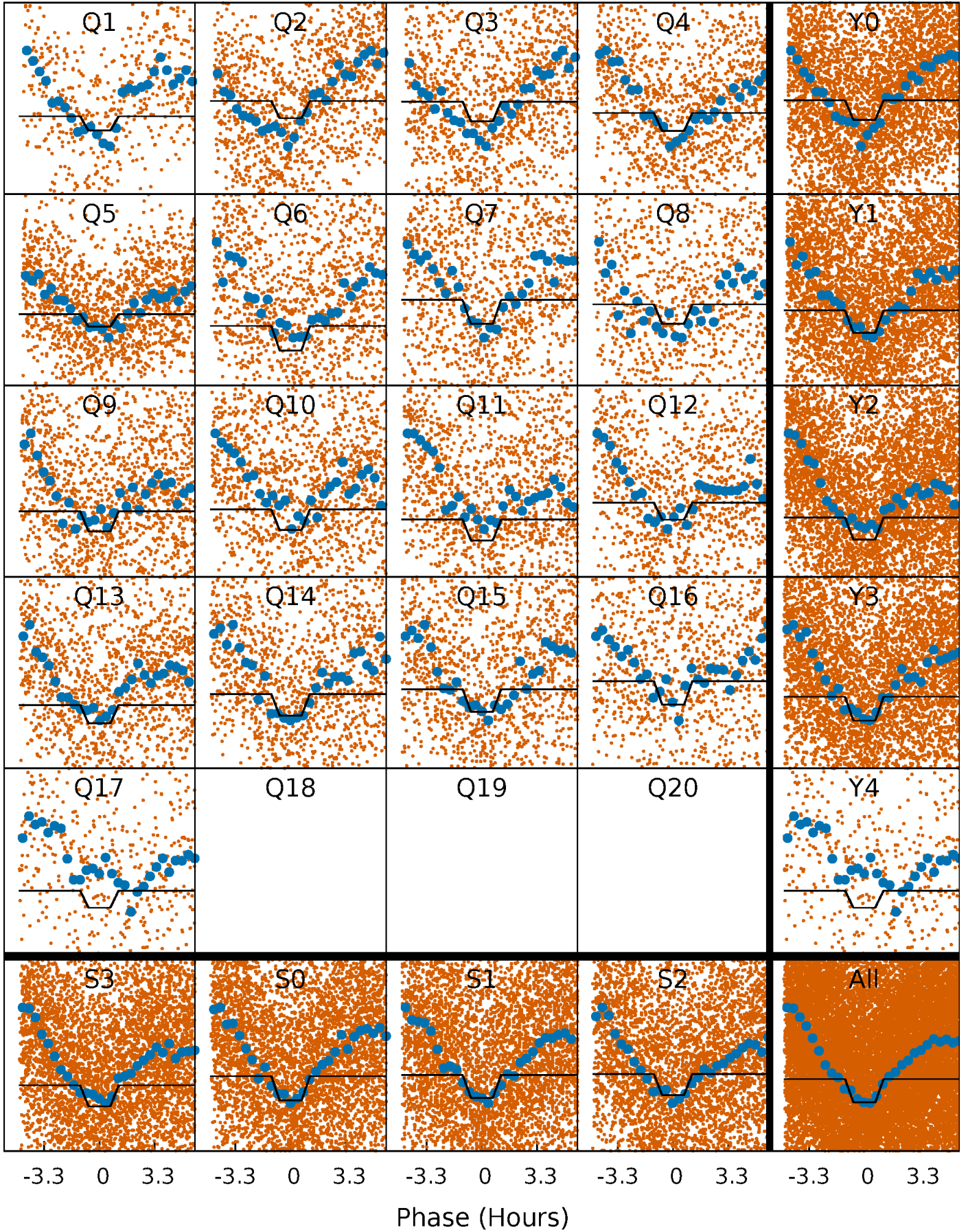
DV Quarter-Phased Transit Curves

TCE 011461821-02 P= 1.282144 Days $T_0=132.454531$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

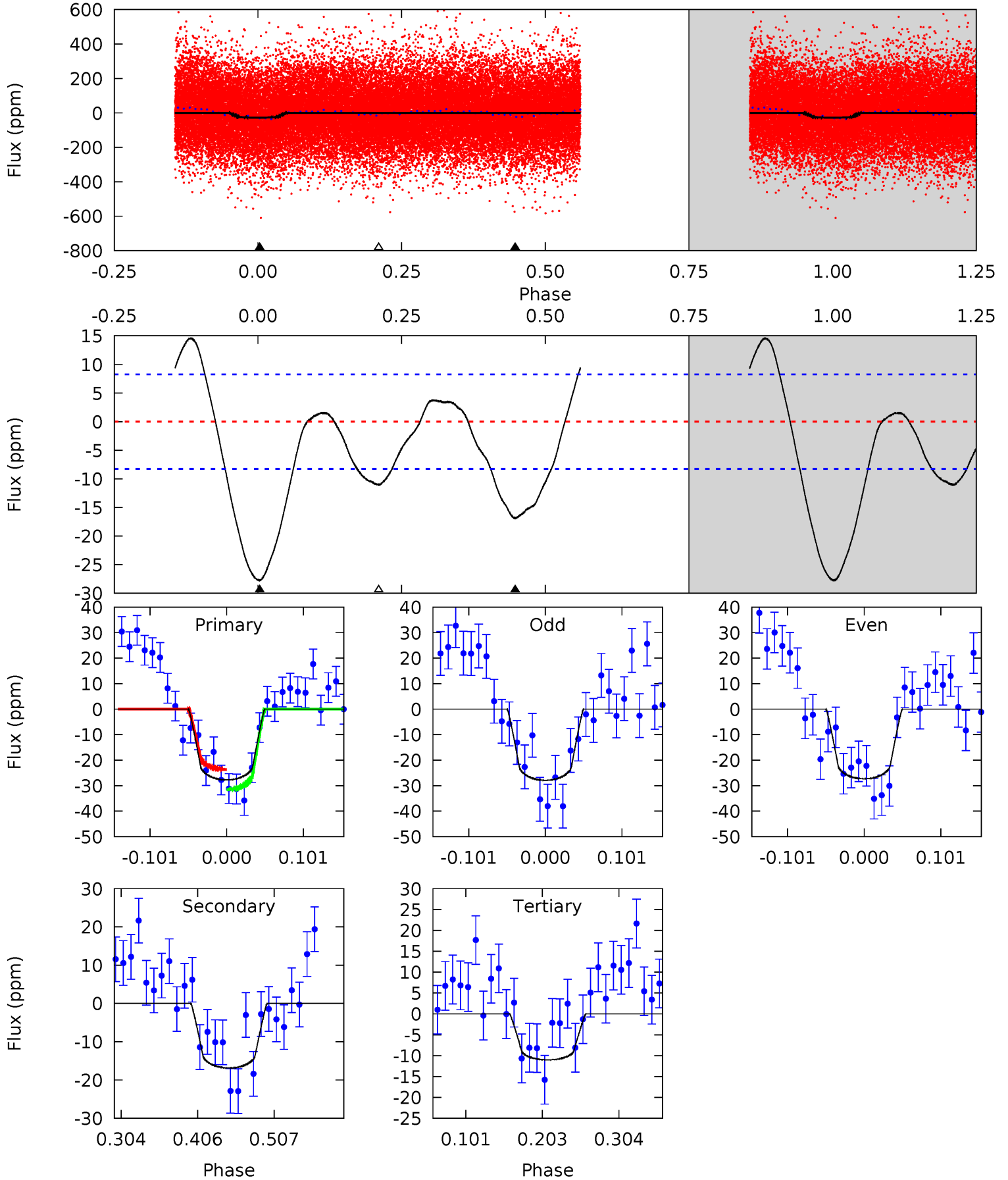
TCE 011461821-02 P= 1.282155 Days $T_0=132.457722$ (BKJD)



DV Model-Shift Uniqueness Test

011461821-02, P = 1.282144 Days, E = 131.172387 Days

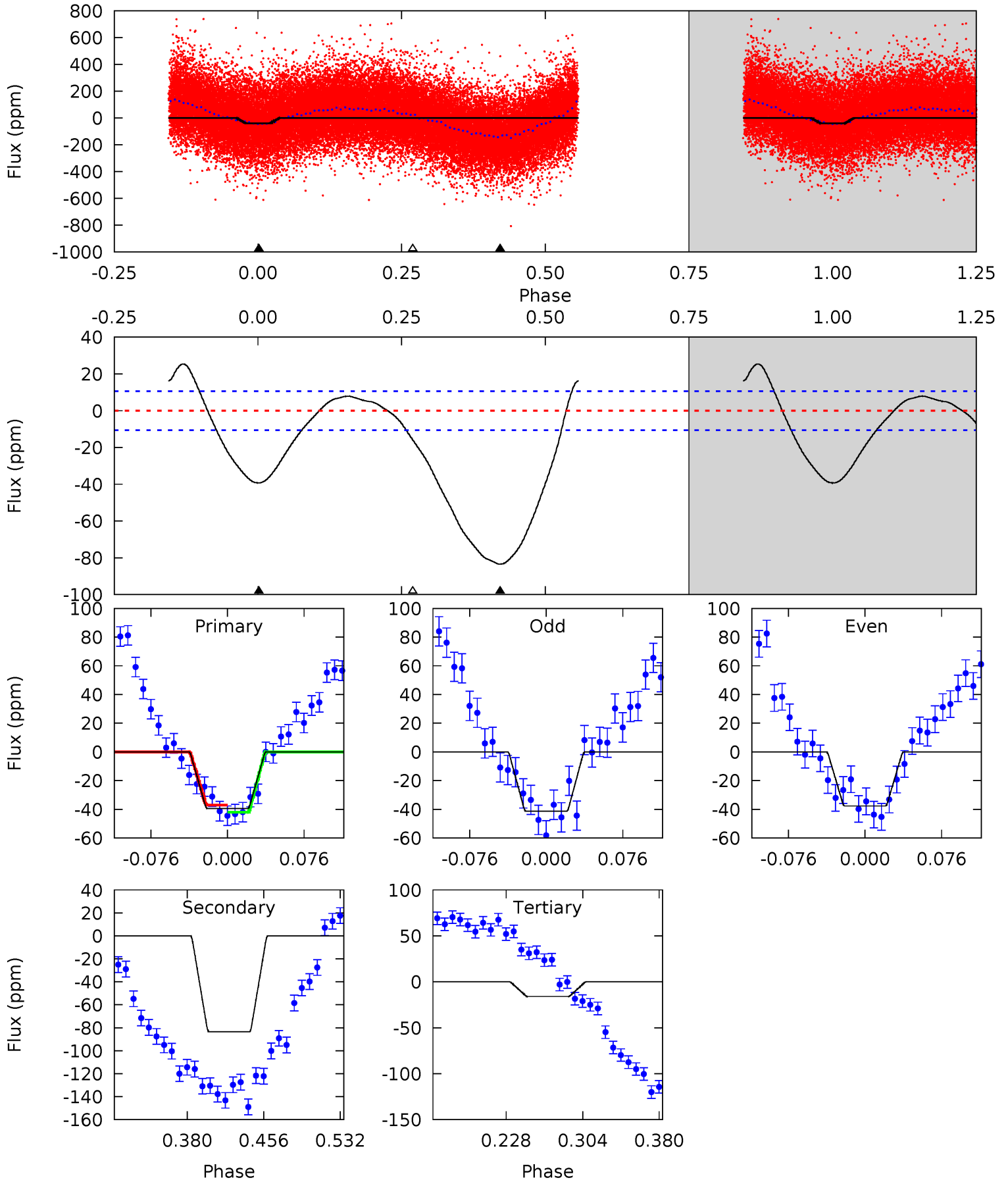
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	9.31	6.08	0	4.56	1.64	4.17	9.23	15.3	3.23	9.31	0.16	0.96	0.34	2.17



Alt Model-Shift Uniqueness Test

011461821-02, P = 1.282155 Days, E = 131.175567 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	36.4	6.97	0	4.62	1.77	8.64	10.2	17.2	29.5	36.4	0.80	0.97	0.23	1.05



Stellar Parameters For KIC 011461821

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7246^{+228}_{-304}	$4.074^{+0.180}_{-0.162}$	$-0.180^{+0.250}_{-0.350}$	$1.854^{+0.515}_{-0.464}$	$1.487^{+0.211}_{-0.257}$	$0.329^{+0.327}_{-0.166}$
	+3%/-4%	+4%/-4%	+139%/-194%	+28%/-25%	+14%/-17%	+100%/-51%
Source	PHO1	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 011461821-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-17 ± 2	$1.03^{+0.39}_{-0.33}$	3741^{+269}_{-274}	6333^{+1589}_{-905}	$6.117^{+7.373}_{-2.967}$
Alt.	-83 ± 2	$1.33^{+0.41}_{-0.37}$	3745^{+272}_{-251}	8779^{+2024}_{-1158}	18^{+16}_{-7}

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

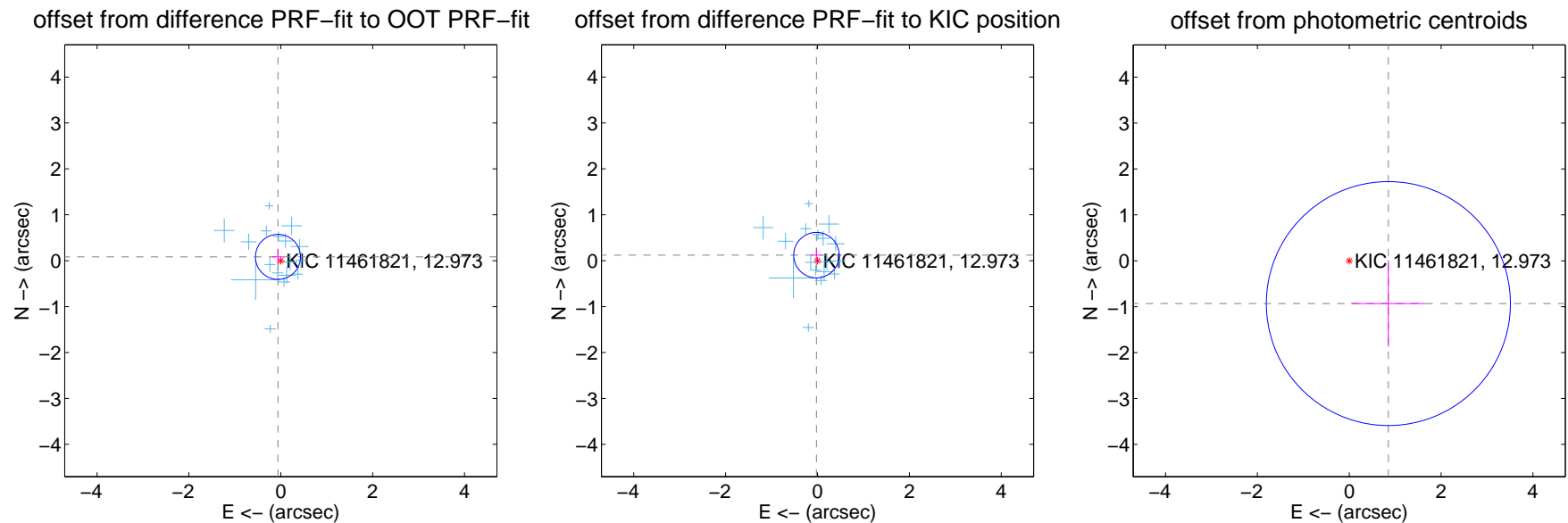
DV Centroid Data

Supplemental centroid analysis for 011461821-02. Kepler magnitude: 12.97. Transit SNR 8.94

There are 17 quarters with good PRF difference image offsets

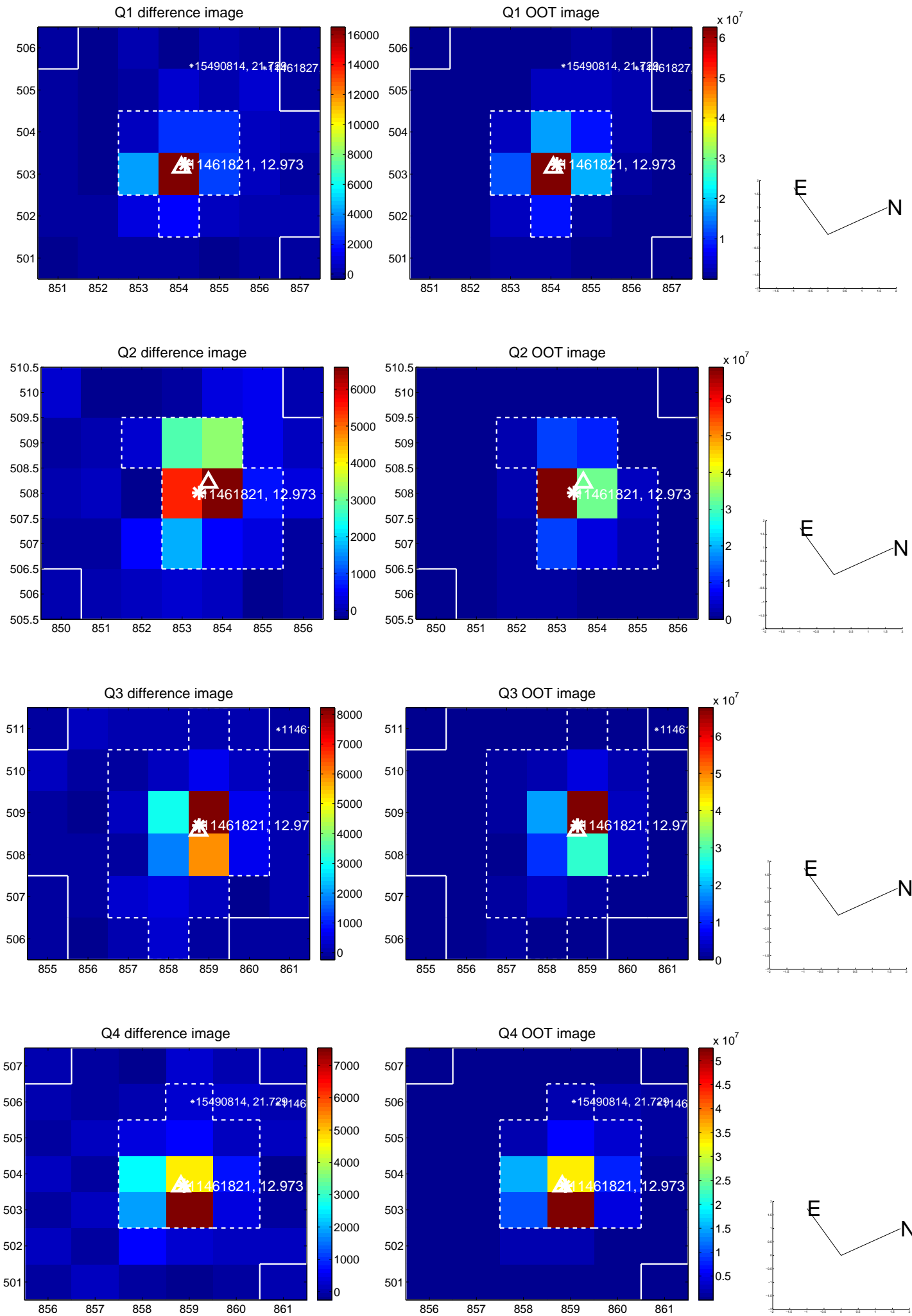
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.103 ± 0.163	0.63	0.061 ± 0.126	0.083 ± 0.171
PRF-fit source offset from KIC position	0.123 ± 0.165	0.74	0.023 ± 0.122	0.120 ± 0.163
photometric centroid source offset	1.26 ± 0.89	1.43	-0.85 ± 0.81	-0.93 ± 0.94

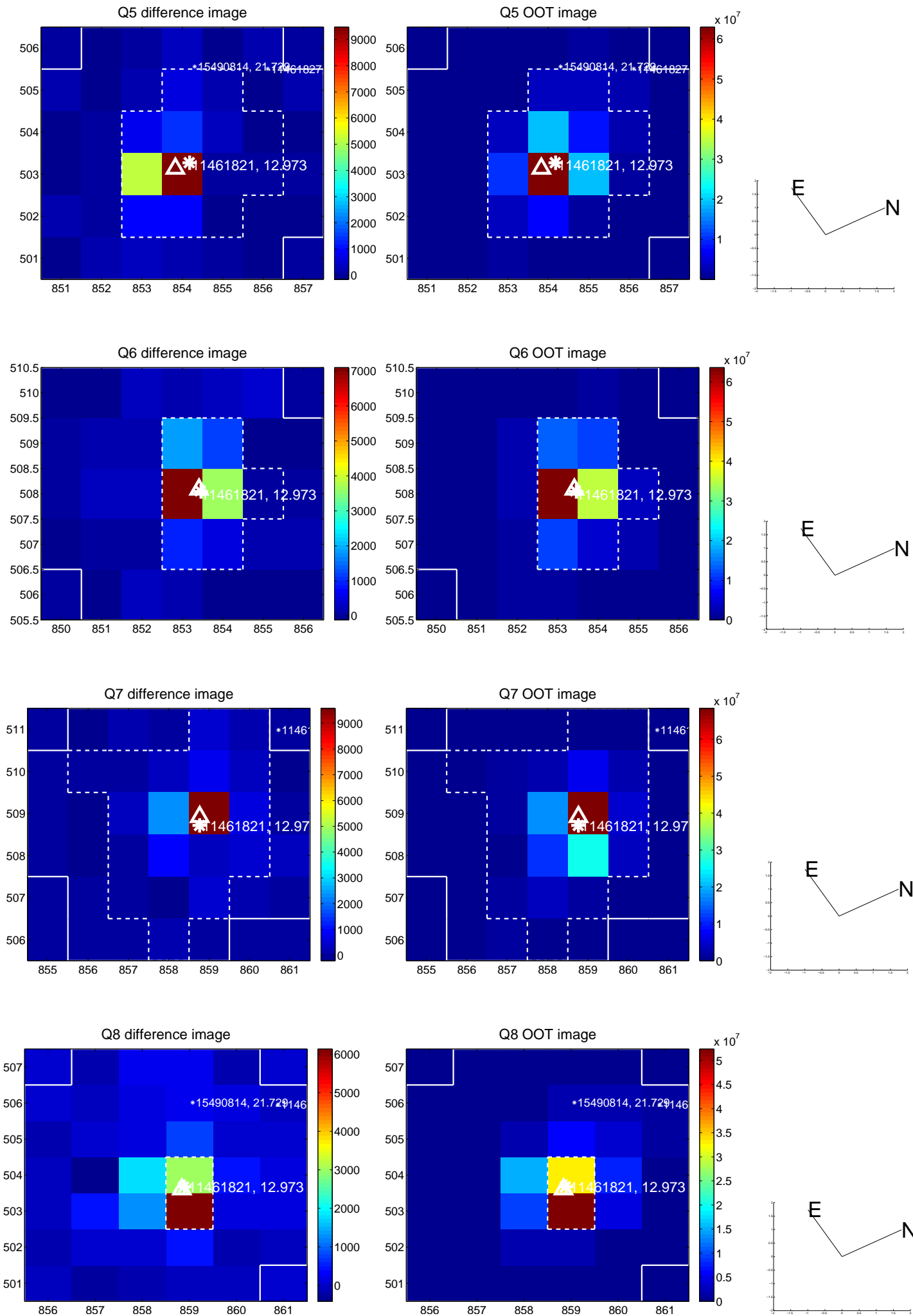


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

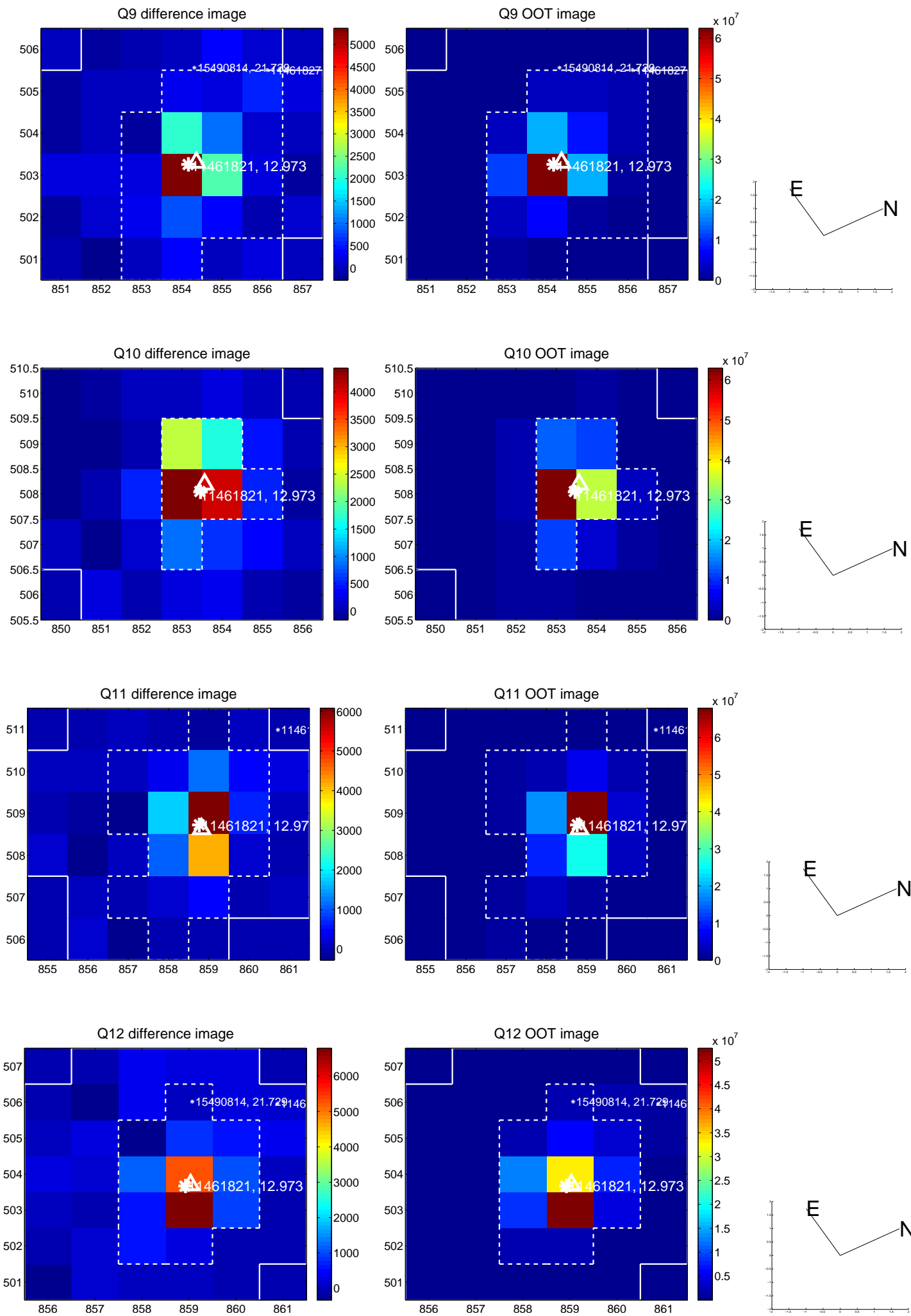
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



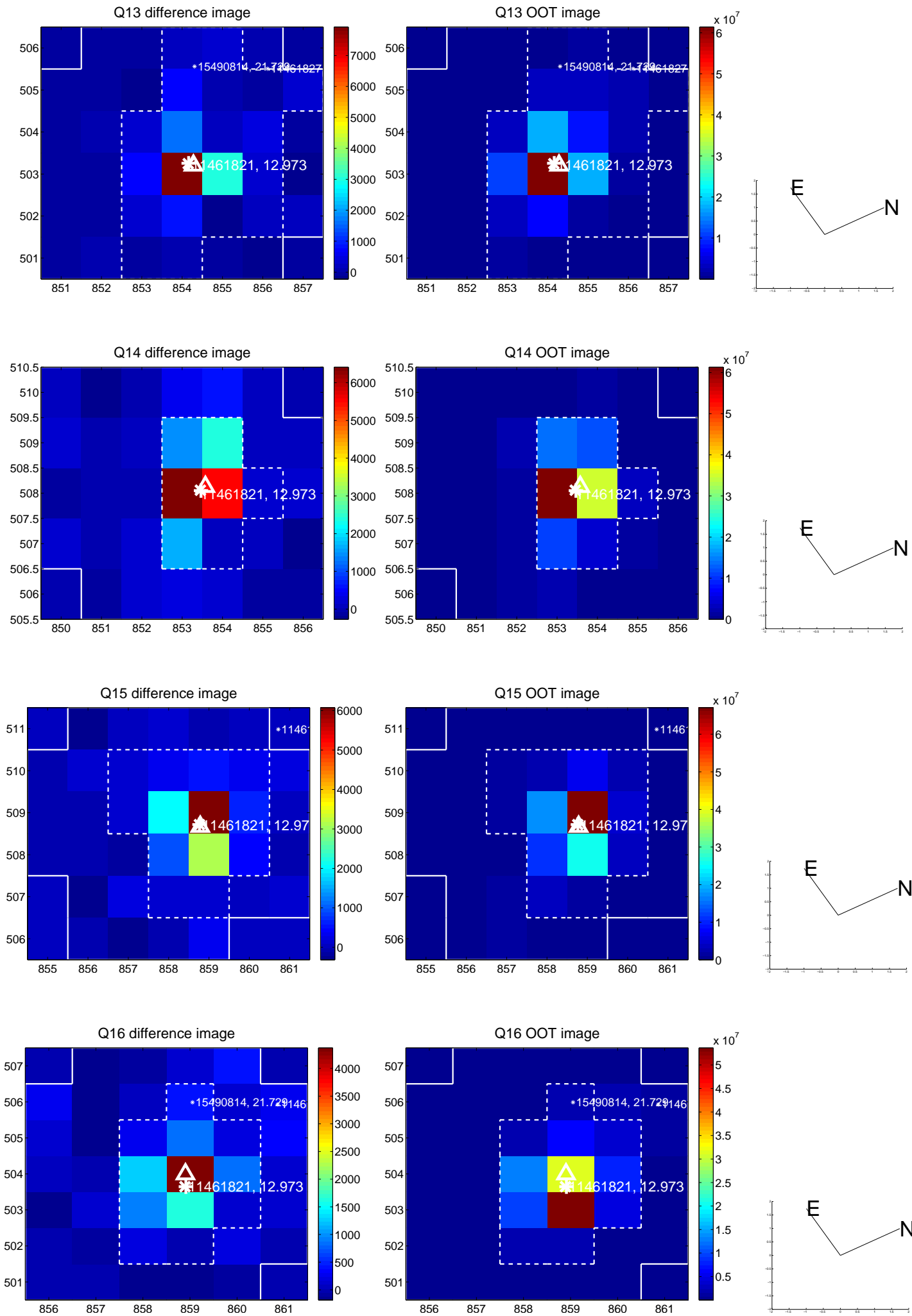
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



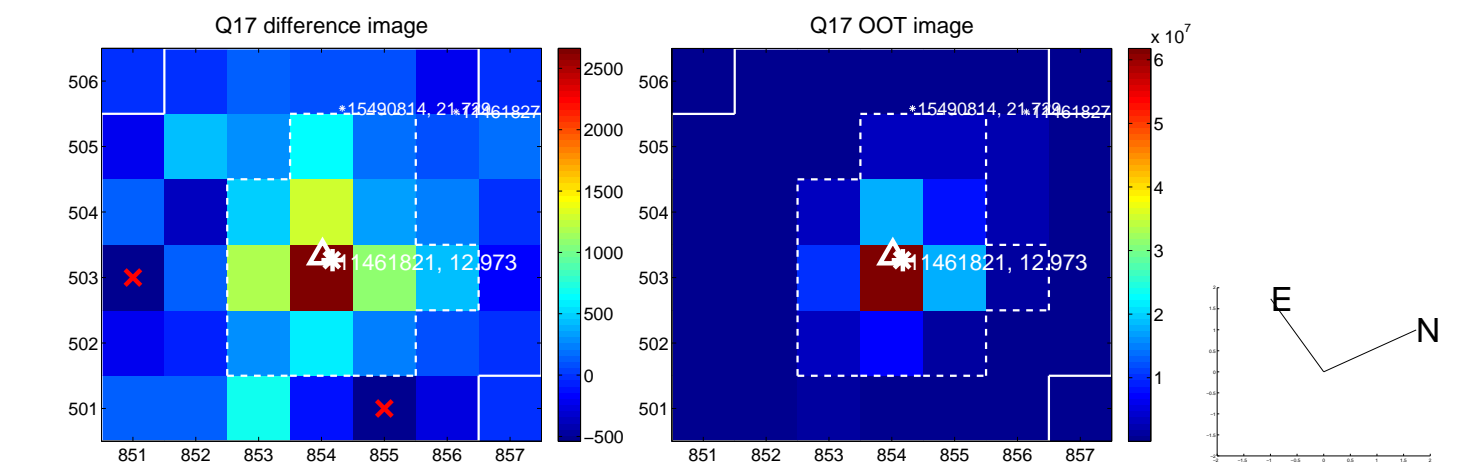
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



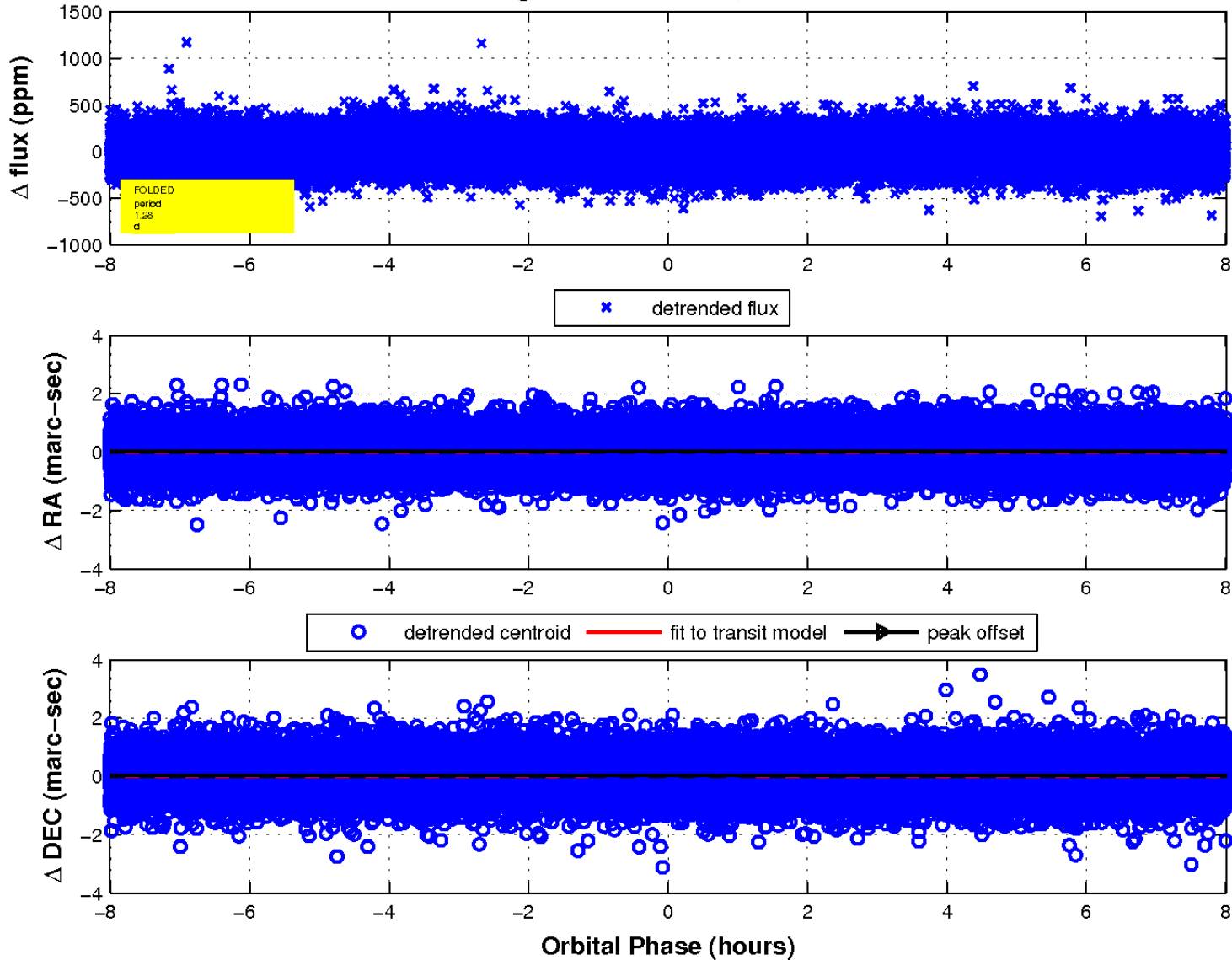
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

