

KIC 001294670

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})
001294670-01	OBS	No	1.343148	132.645527	78.7	6.657	9.6	10.5	1.95	7277	2.06	12487.87
001294670-02	OBS	No	0.715635	131.762188	125.0	3.056	8.9	9.8	1.95	7277	2.53	28911.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001294670-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
001294670-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

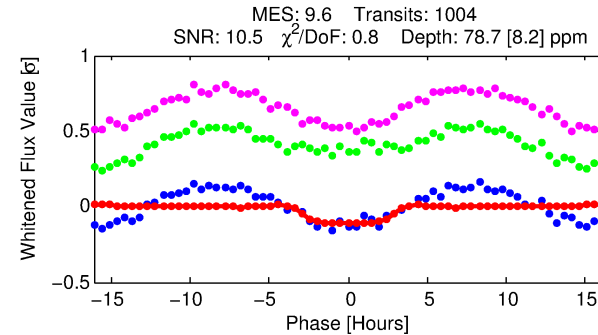
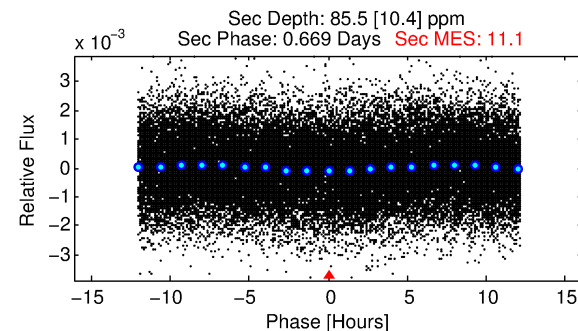
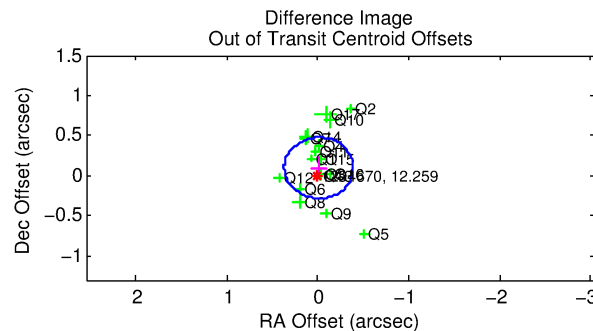
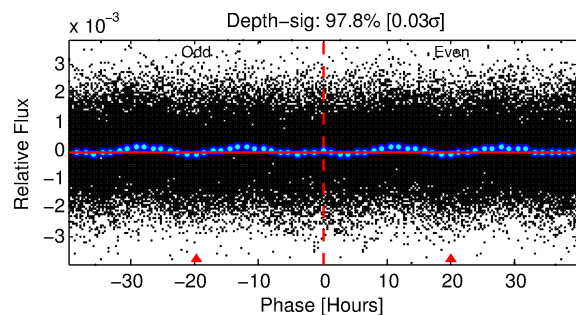
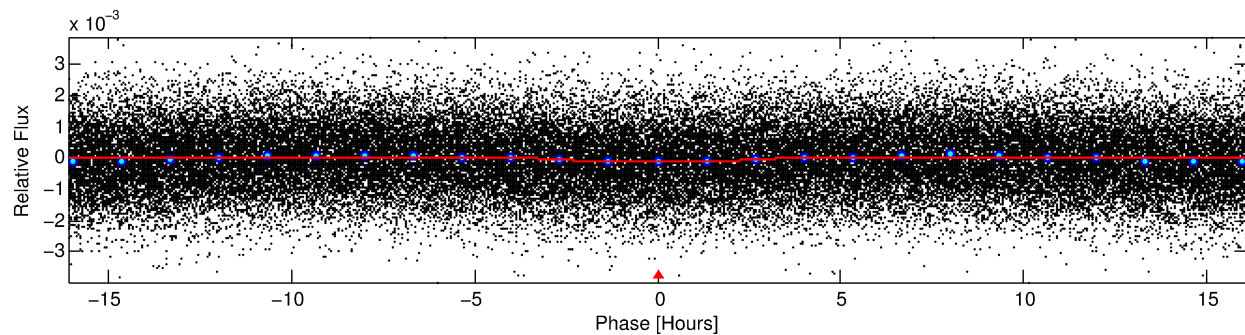
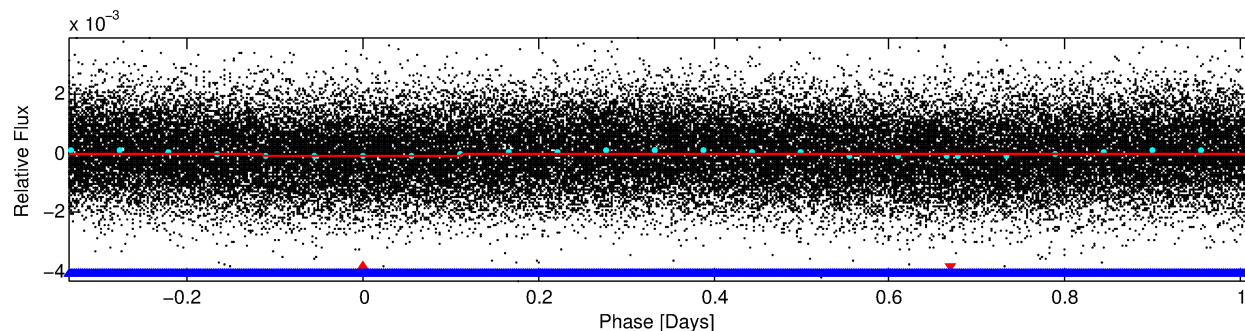
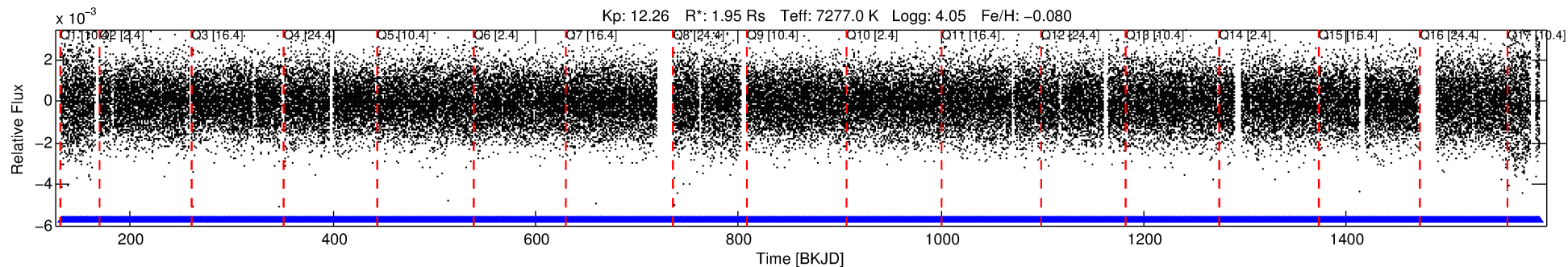
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001294670-01

No Significant Match Found

DV One-Page Summary

KIC: 1294670 Candidate: 1 of 2 Period: 1.343 d



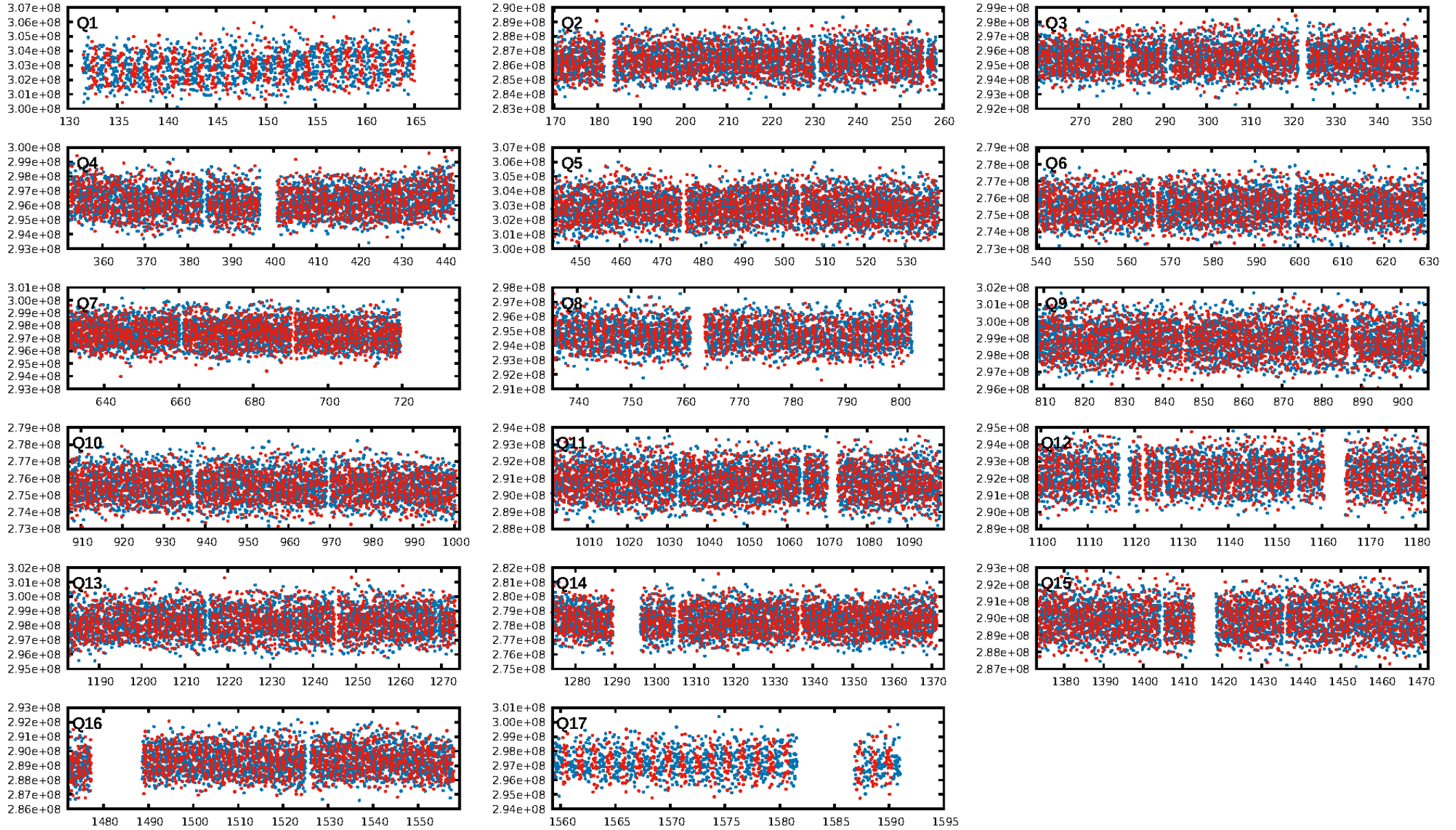
DV Fit Results:

Period = 1.34315 [0.00002] d
Epoch = 132.6455 [0.0083] BKJD
Rp/R* = 0.0097 [0.0025]
a/R* = 1.13 [0.42]
b = 0.93 [0.24]
Seff = 12487.87 [4556.91]
Teq = 2696 [246] K
Rp = 2.06 [0.78] Re
a = 0.0277 [0.0063] AU
Ag = 8.50 [5.35] [1.40σ]
Teffp = 7116 [1005] K [4.27σ]

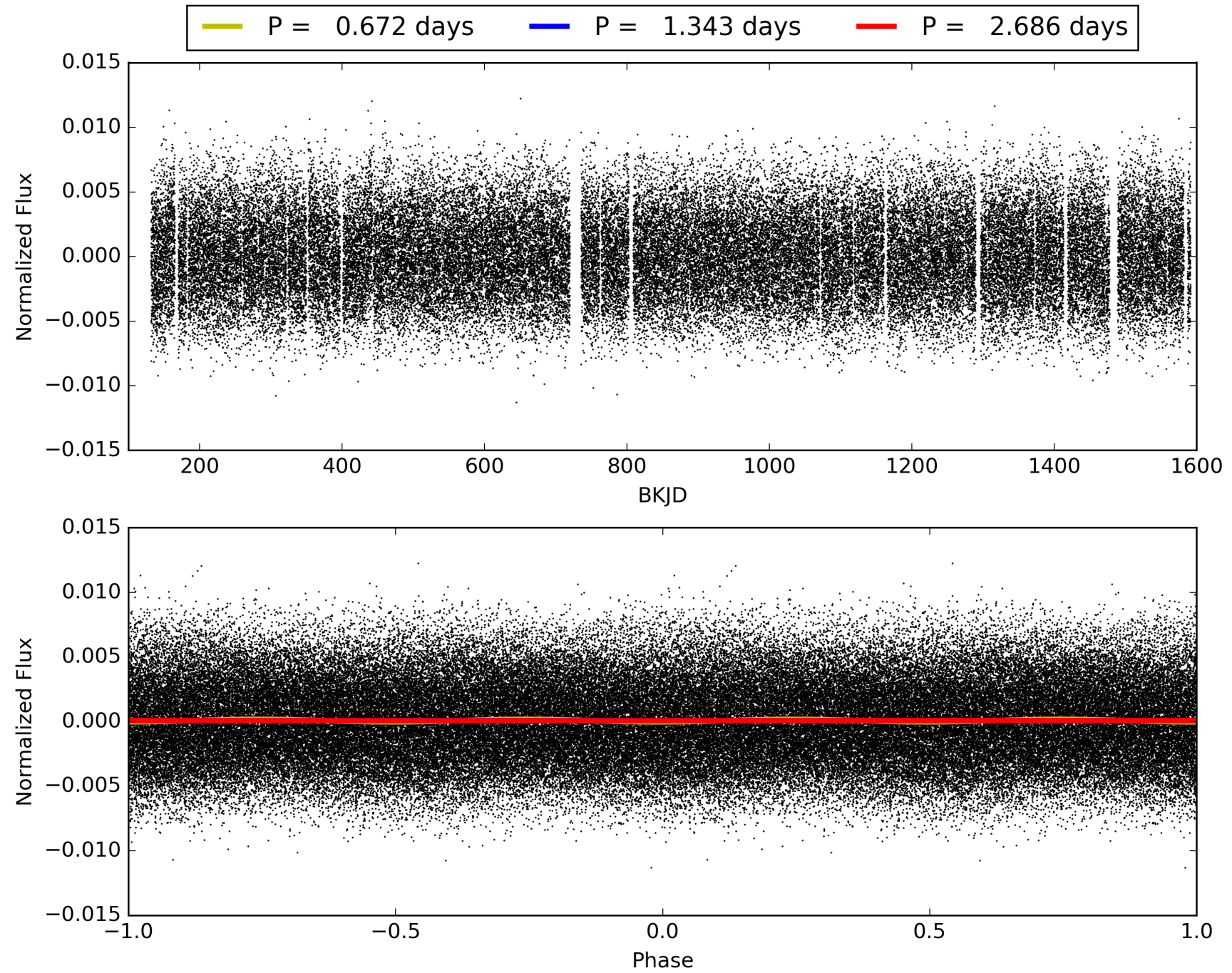
DV Diagnostic Results:

ShortPeriod-sig: 96.0% [2.06σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.24e-14
RollingBand-fgt: 1.00 [960/960]
GhostDiagnostic-chr: 1.014
Centroid-sig: 0.1%
Centroid-so: 0.497 arcsec [1.91σ]
OotOffset-rm: 0.097 arcsec [0.77σ]
KicOffset-rm: 0.121 arcsec [0.94σ]
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]

TCE 001294670-01, PDC Light Curves

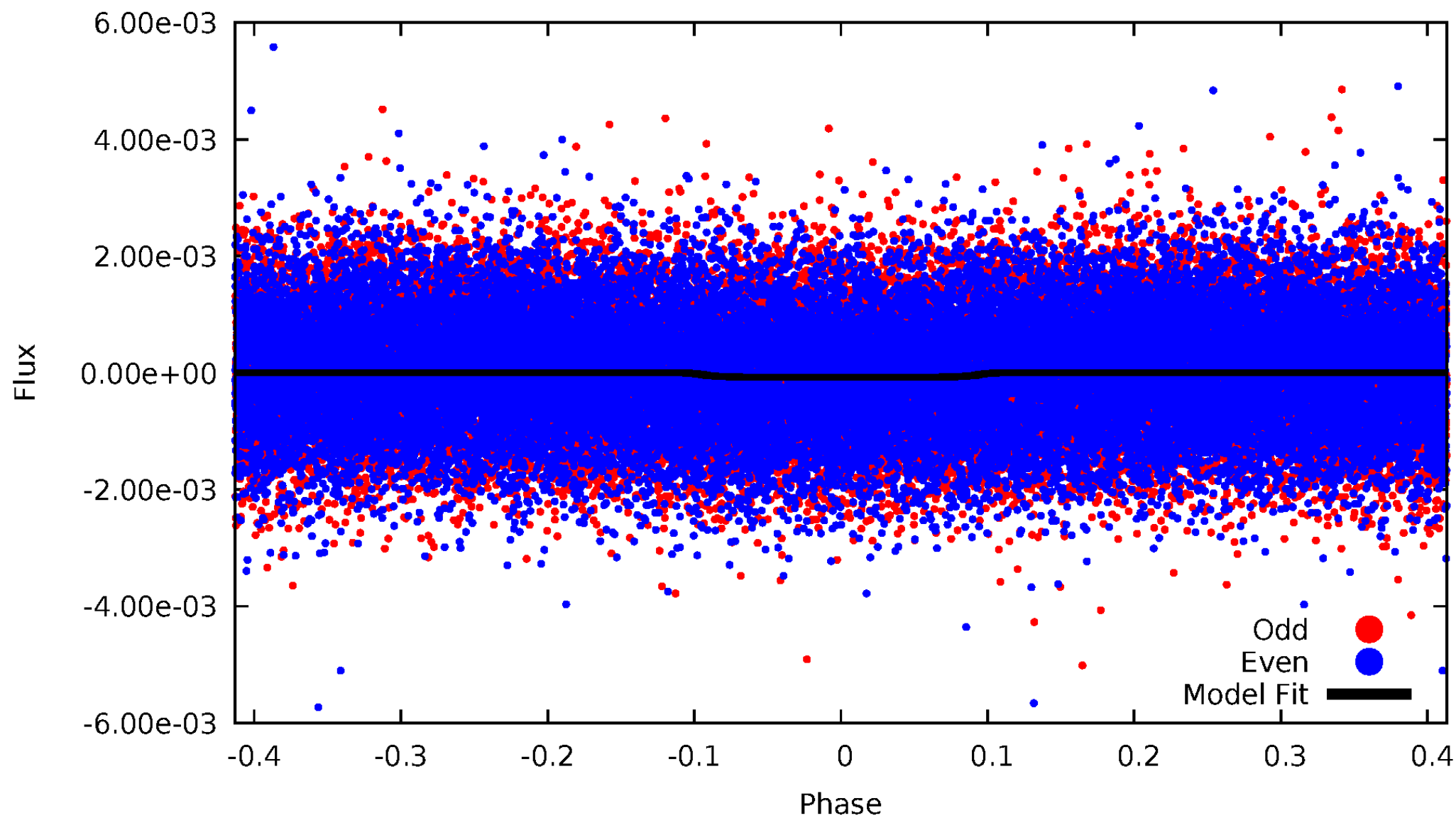


TCE 001294670-01



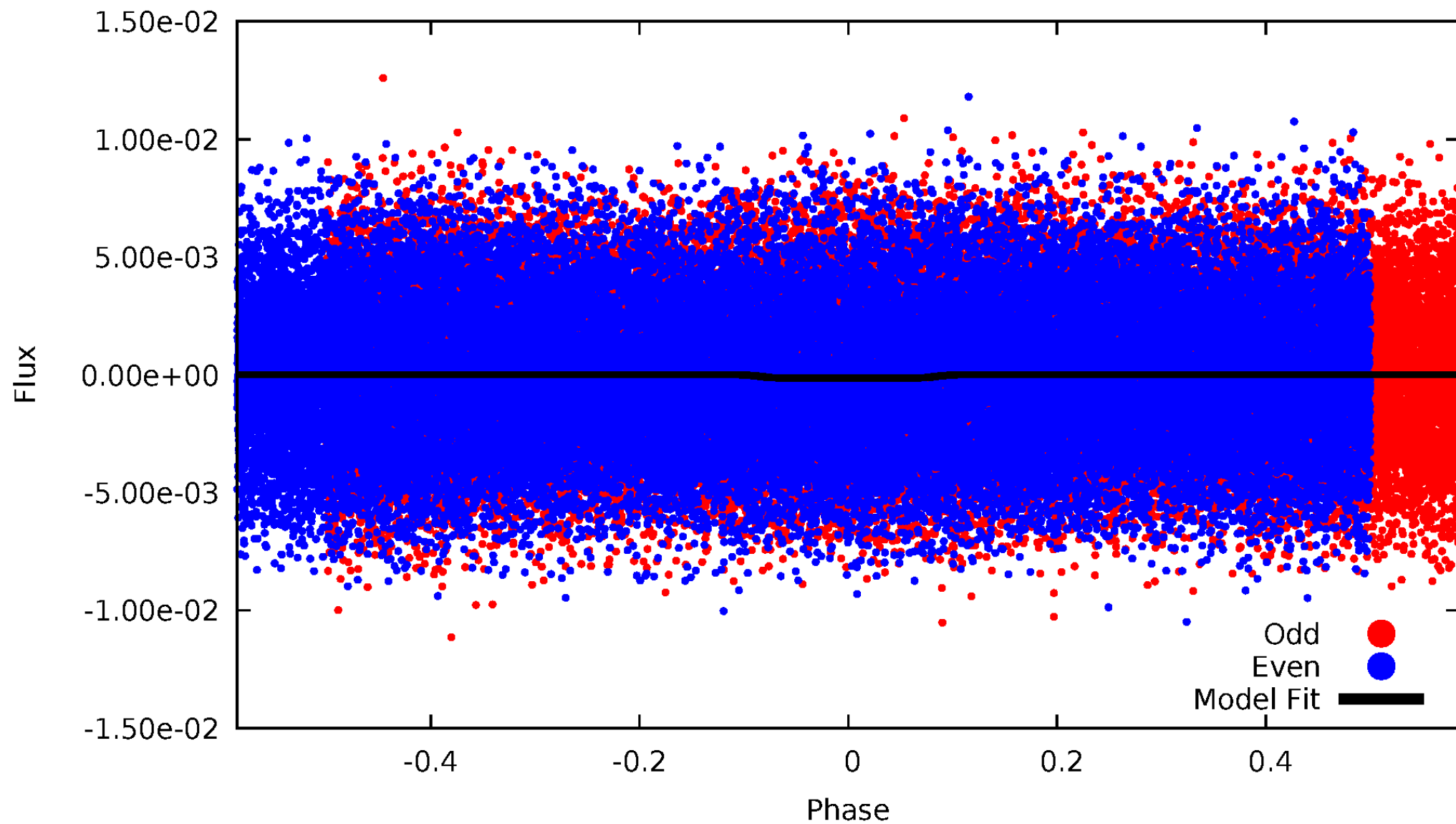
DV Odd/Even

TCE 001294670-01



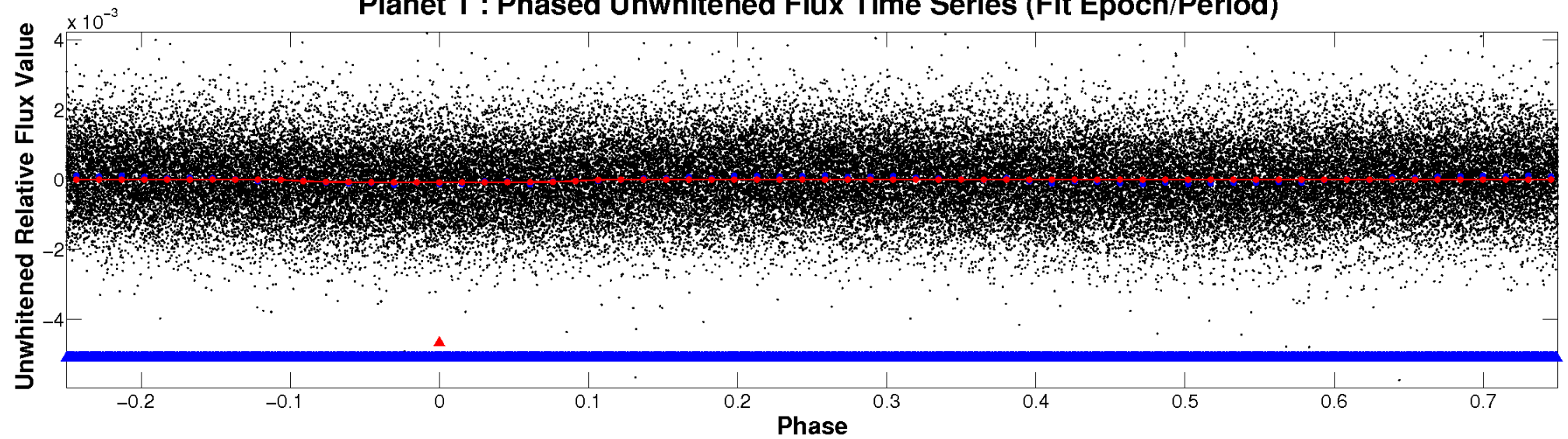
ALT Odd/Even

TCE 001294670-01

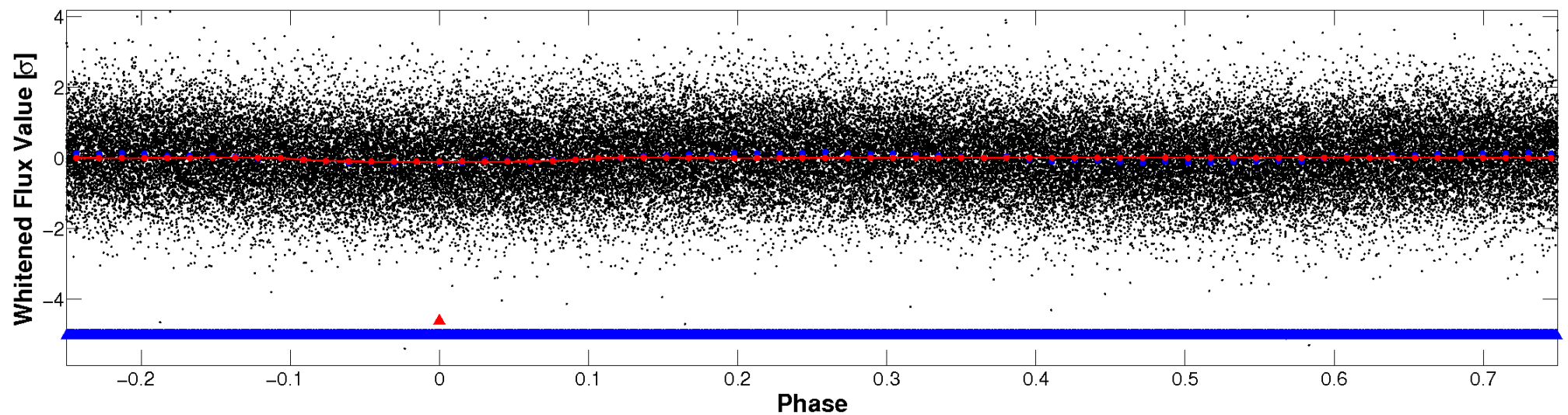


Non-Whitened Vs. Whitened Light Curve

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

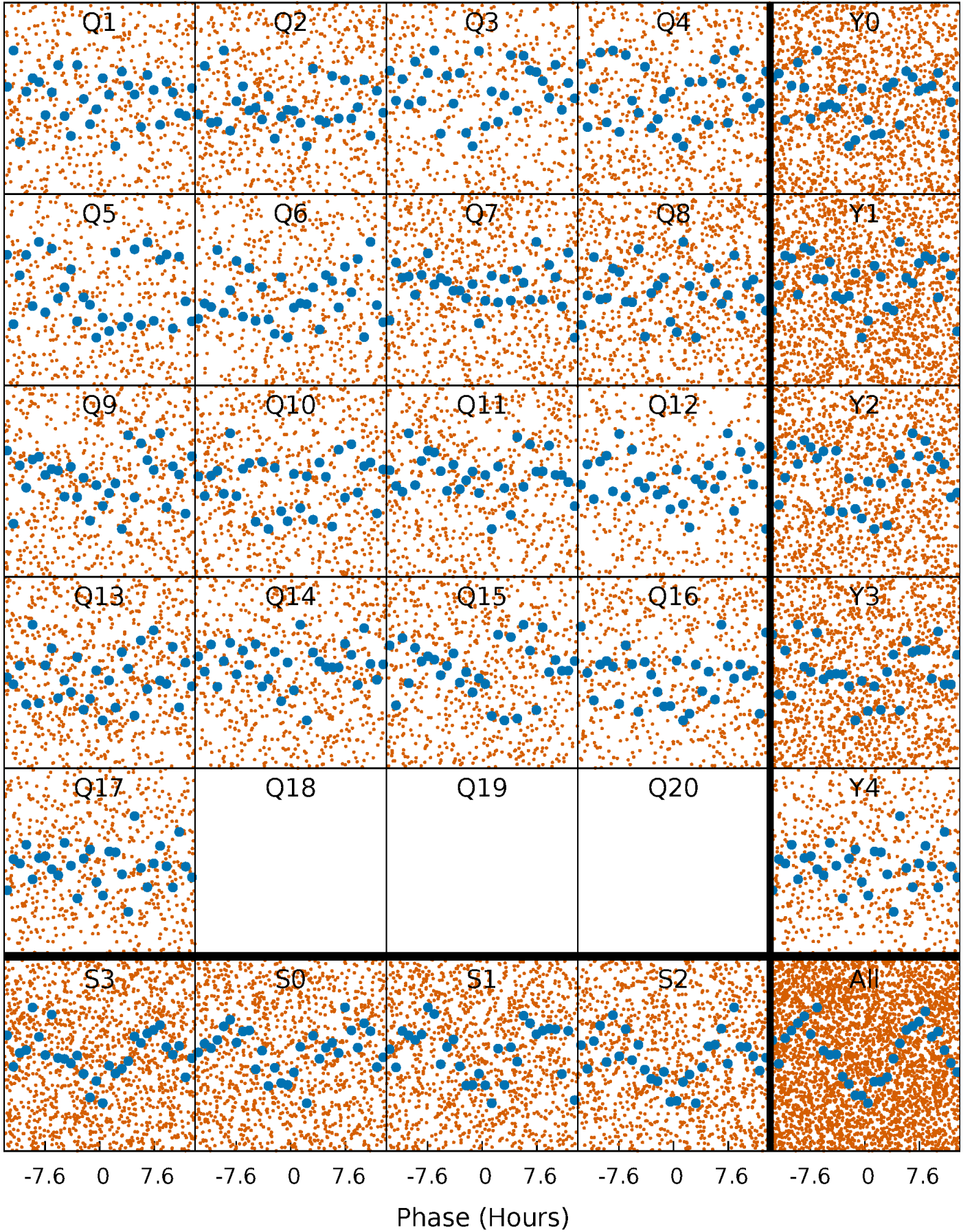


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



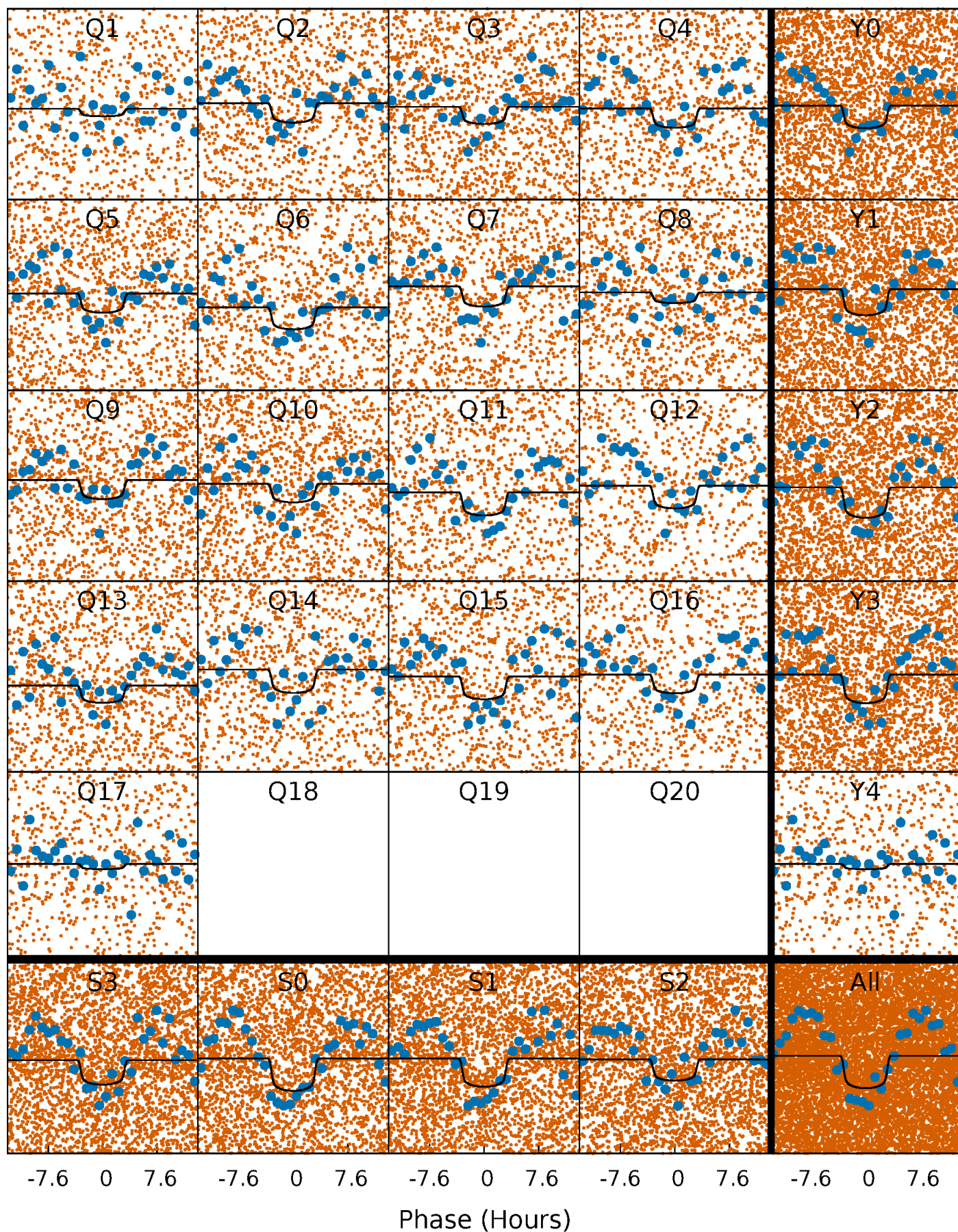
PDC Quarter-Phased Transit Curves

TCE 001294670-01 P= 1.343148 Days $T_0=132.645527$ (BKJD)



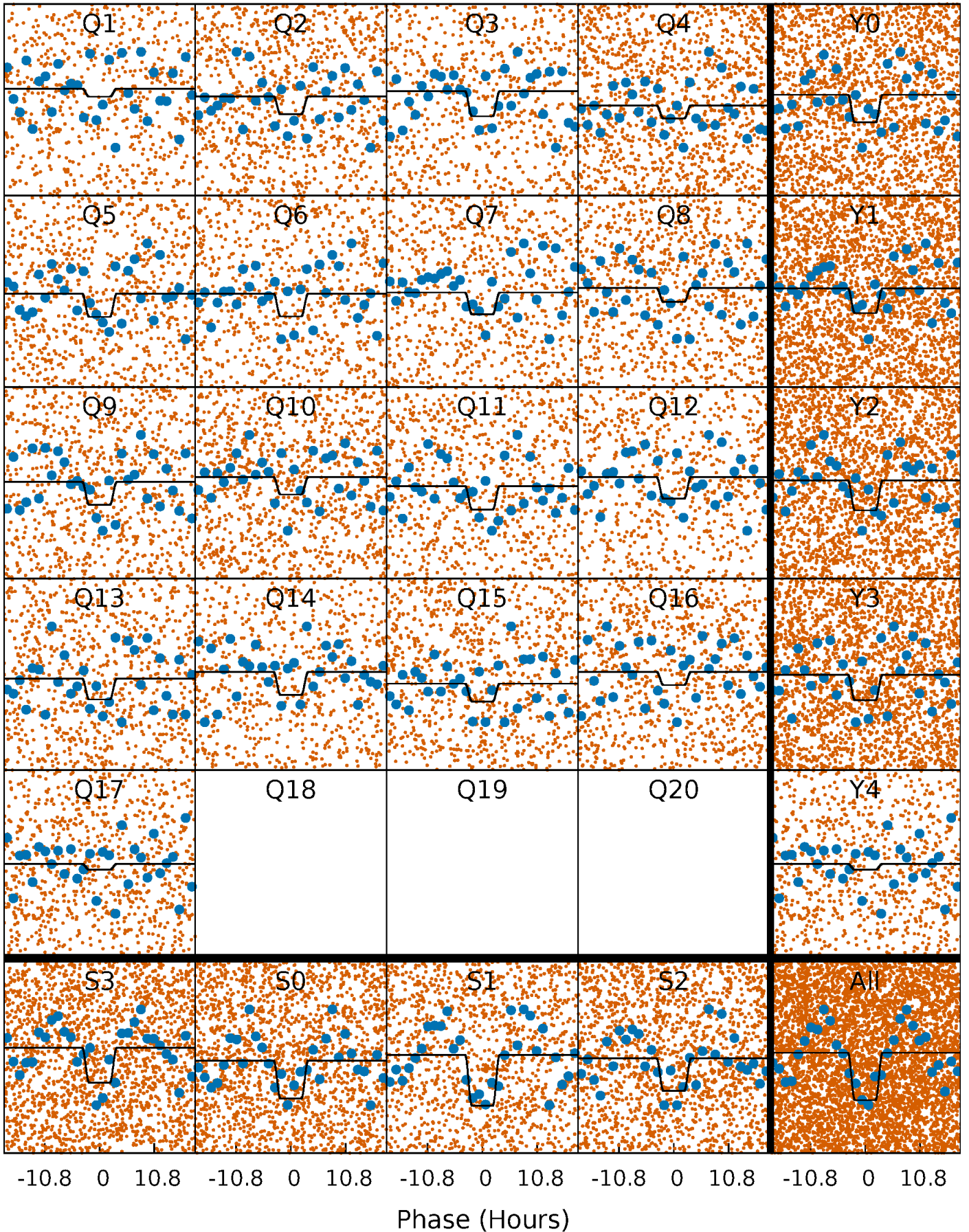
DV Quarter-Phased Transit Curves

TCE 001294670-01 P= 1.343148 Days $T_0=132.645527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

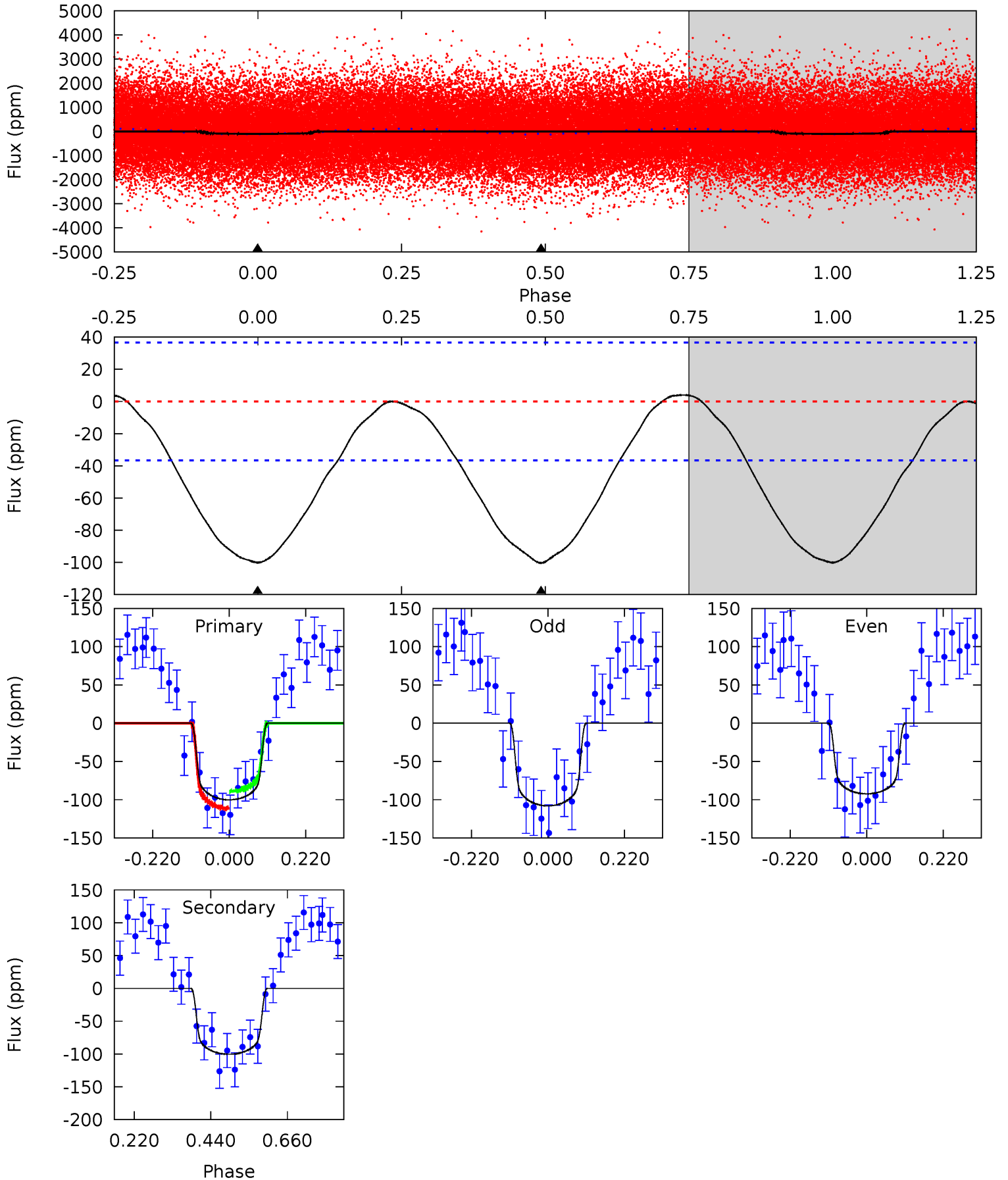
TCE 001294670-01 P= 1.343219 Days $T_0=132.601869$ (BKJD)



DV Model-Shift Uniqueness Test

001294670-01, P = 1.343148 Days, E = 131.302379 Days

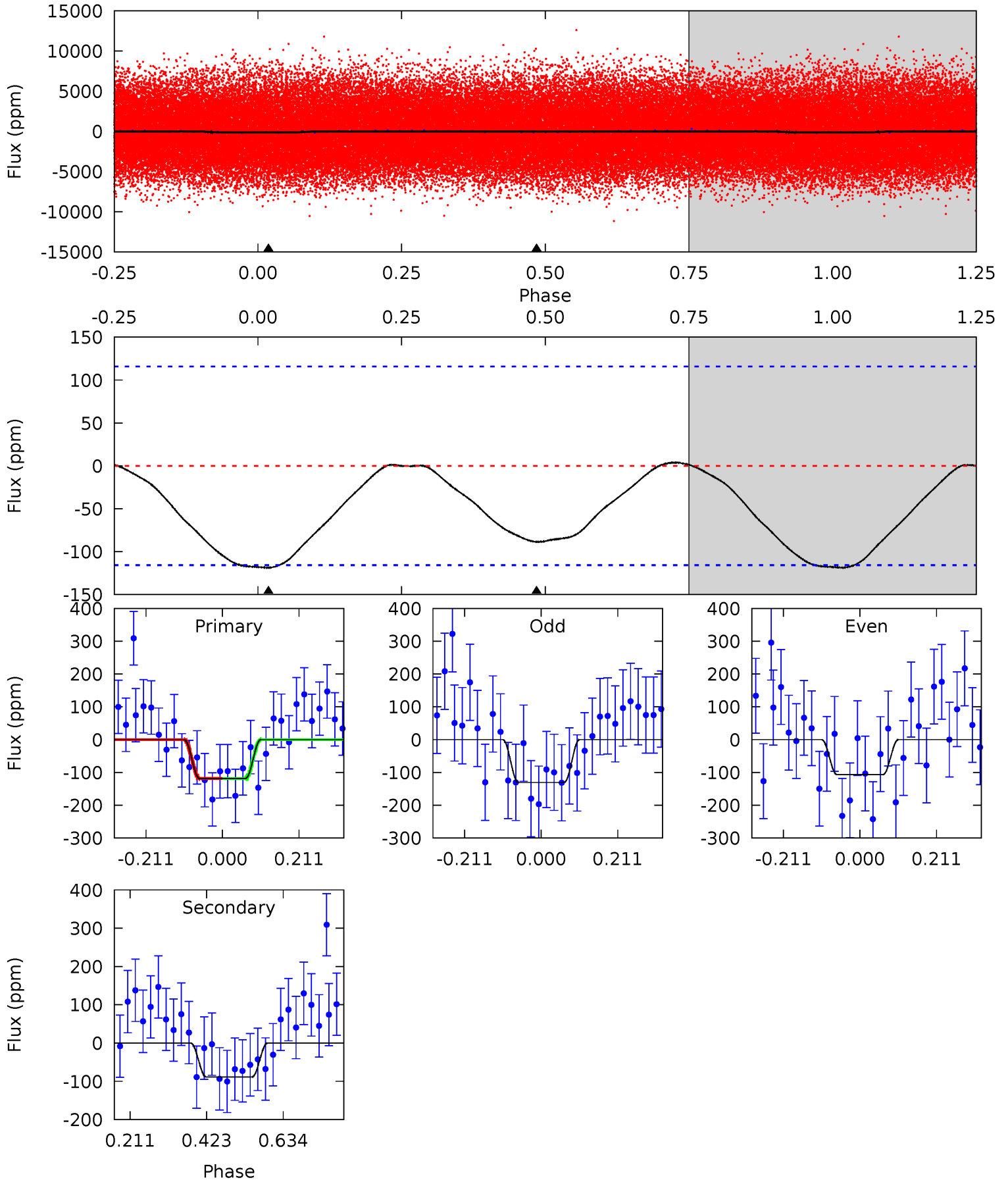
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	12.1	0	0	4.40	1.23	0.32	12.0	12.0	12.1	12.1	0.94	1.04	0.04	1.35



Alt Model-Shift Uniqueness Test

001294670-01, P = 1.343219 Days, E = 131.258650 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.52	3.37	0	0	4.41	1.25	0.22	4.52	4.52	3.37	3.37	0.45	0.84	0.03	0.01



Stellar Parameters For KIC 001294670

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7277^{+228}_{-304}	$4.053^{+0.175}_{-0.175}$	$-0.080^{+0.250}_{-0.350}$	$1.954^{+0.533}_{-0.480}$	$1.572^{+0.211}_{-0.257}$	$0.297^{+0.311}_{-0.130}$
	+3%/-4%	+4%/-4%	+312%/-438%	+27%/-25%	+13%/-16%	+105%/-44%
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 001294670-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-100 ± 8	$2.05^{+0.68}_{-0.59}$	3766^{+300}_{-269}	7332^{+1743}_{-1019}	10^{+10}_{-4}
Alt.	-89 ± 26	$2.51^{+0.69}_{-0.63}$	3757^{+303}_{-270}	6290^{+1080}_{-854}	$5.751^{+4.734}_{-2.688}$

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

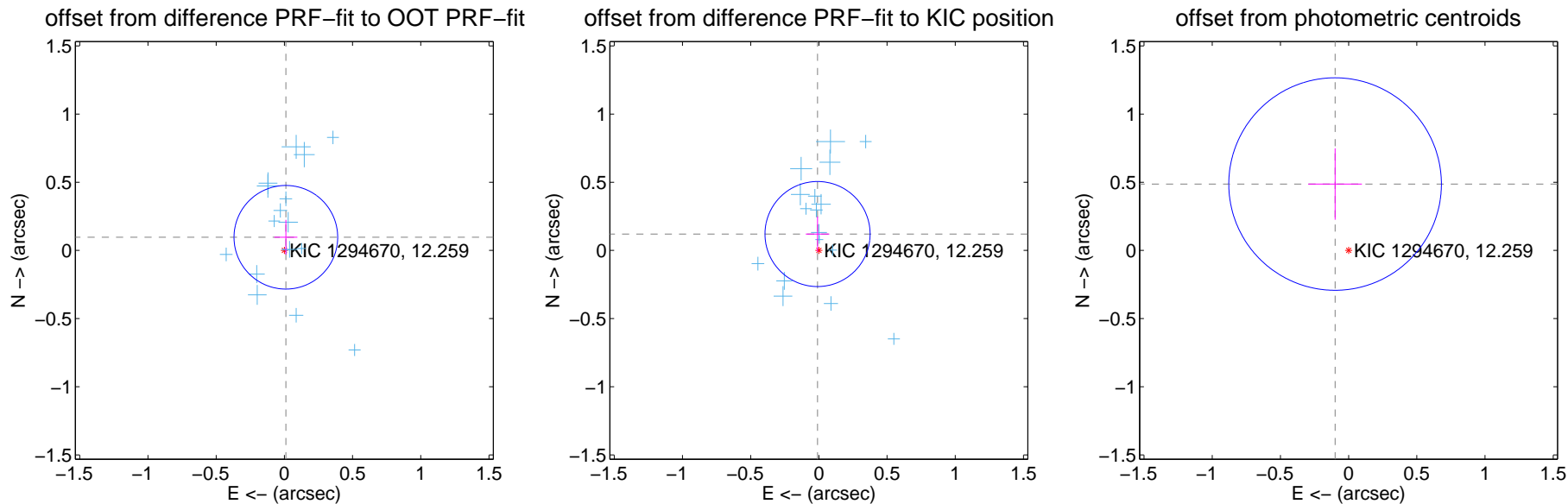
DV Centroid Data

Supplemental centroid analysis for 001294670-01. Kepler magnitude: 12.26. Transit SNR 10.52

There are 17 quarters with good PRF difference image offsets

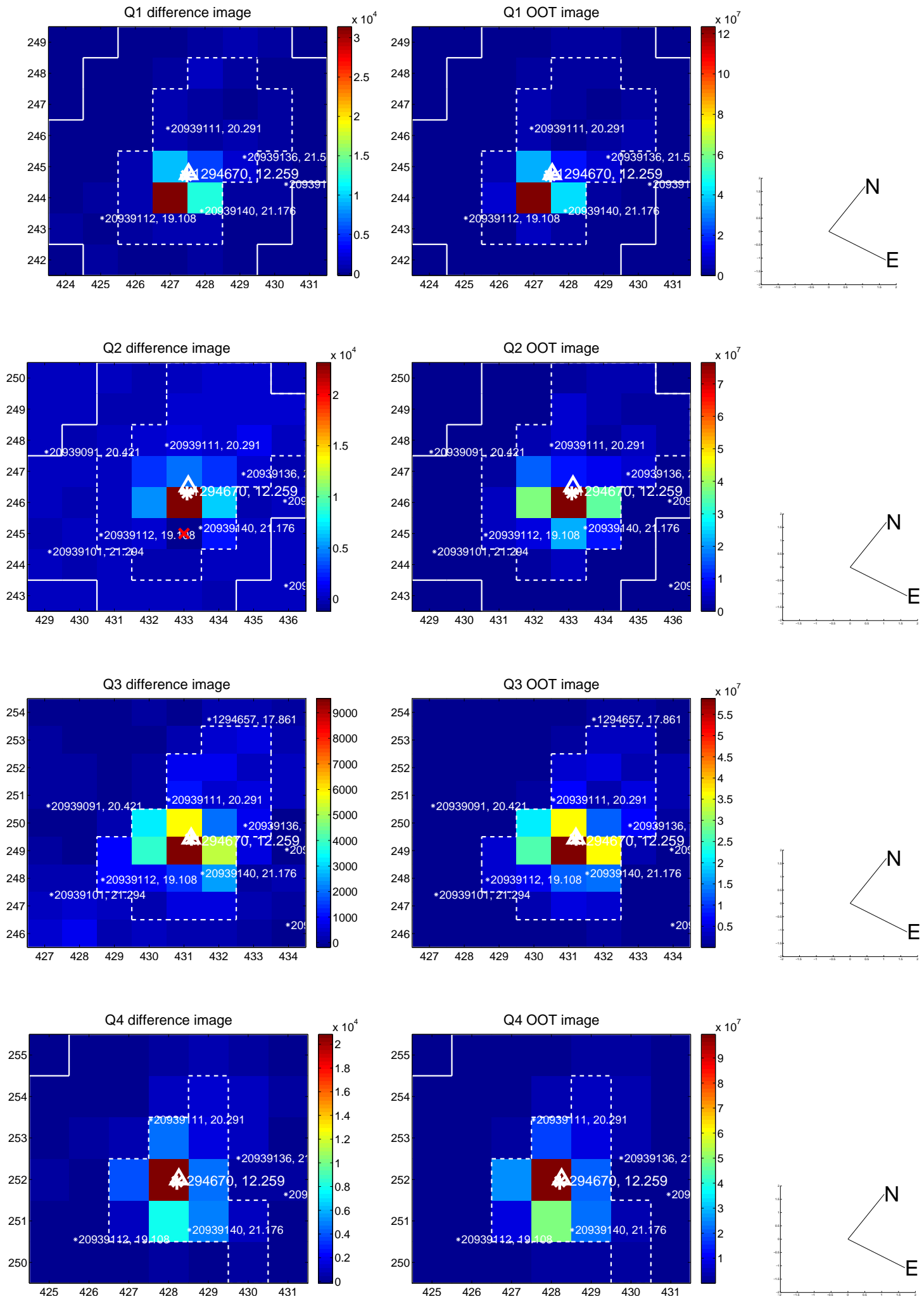
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.097 ± 0.127	0.77	-0.011 ± 0.084	0.097 ± 0.128
PRF-fit source offset from KIC position	0.121 ± 0.128	0.94	0.010 ± 0.086	0.120 ± 0.129
photometric centroid source offset	0.50 ± 0.26	1.91	0.10 ± 0.20	0.49 ± 0.26

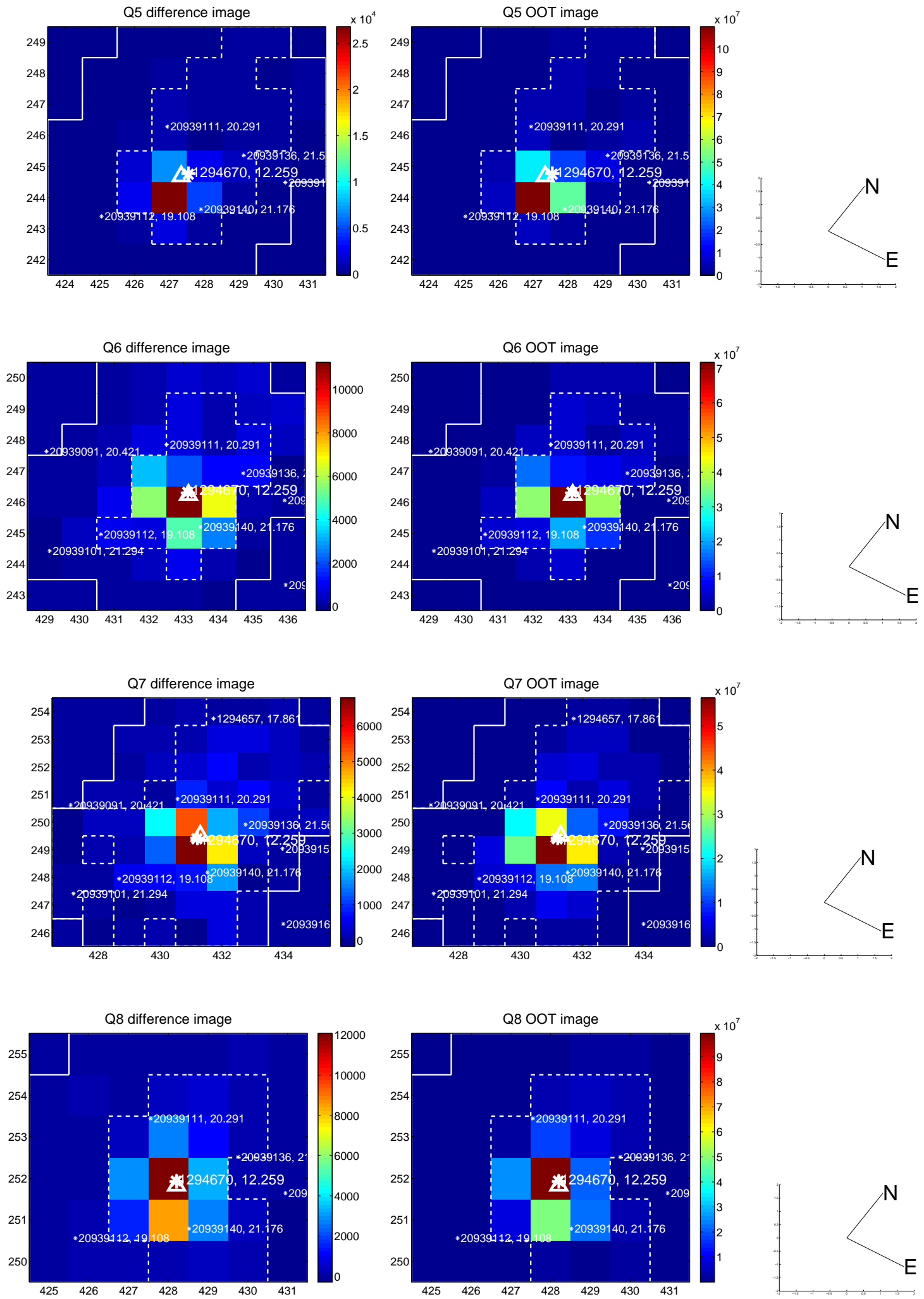


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

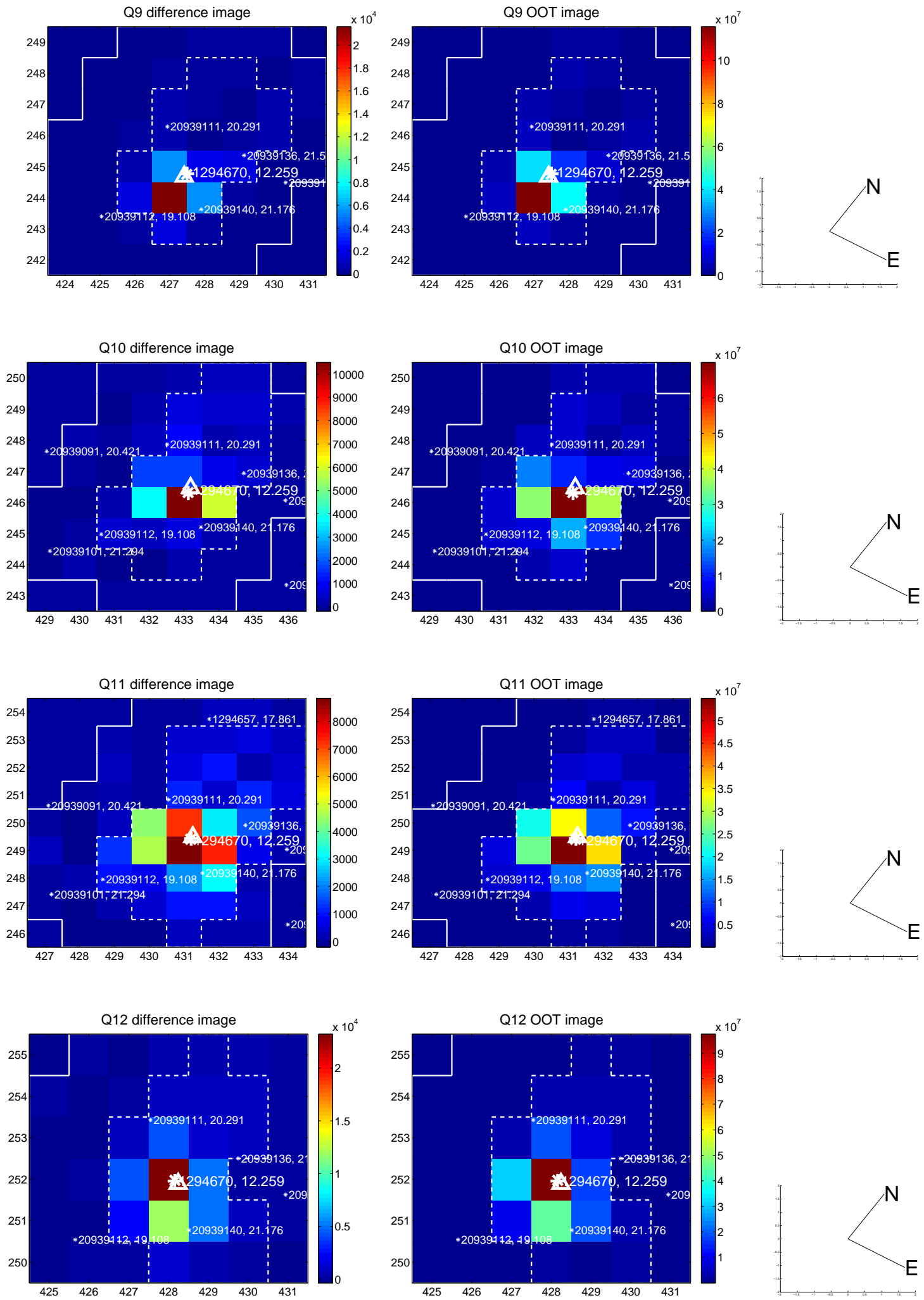
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



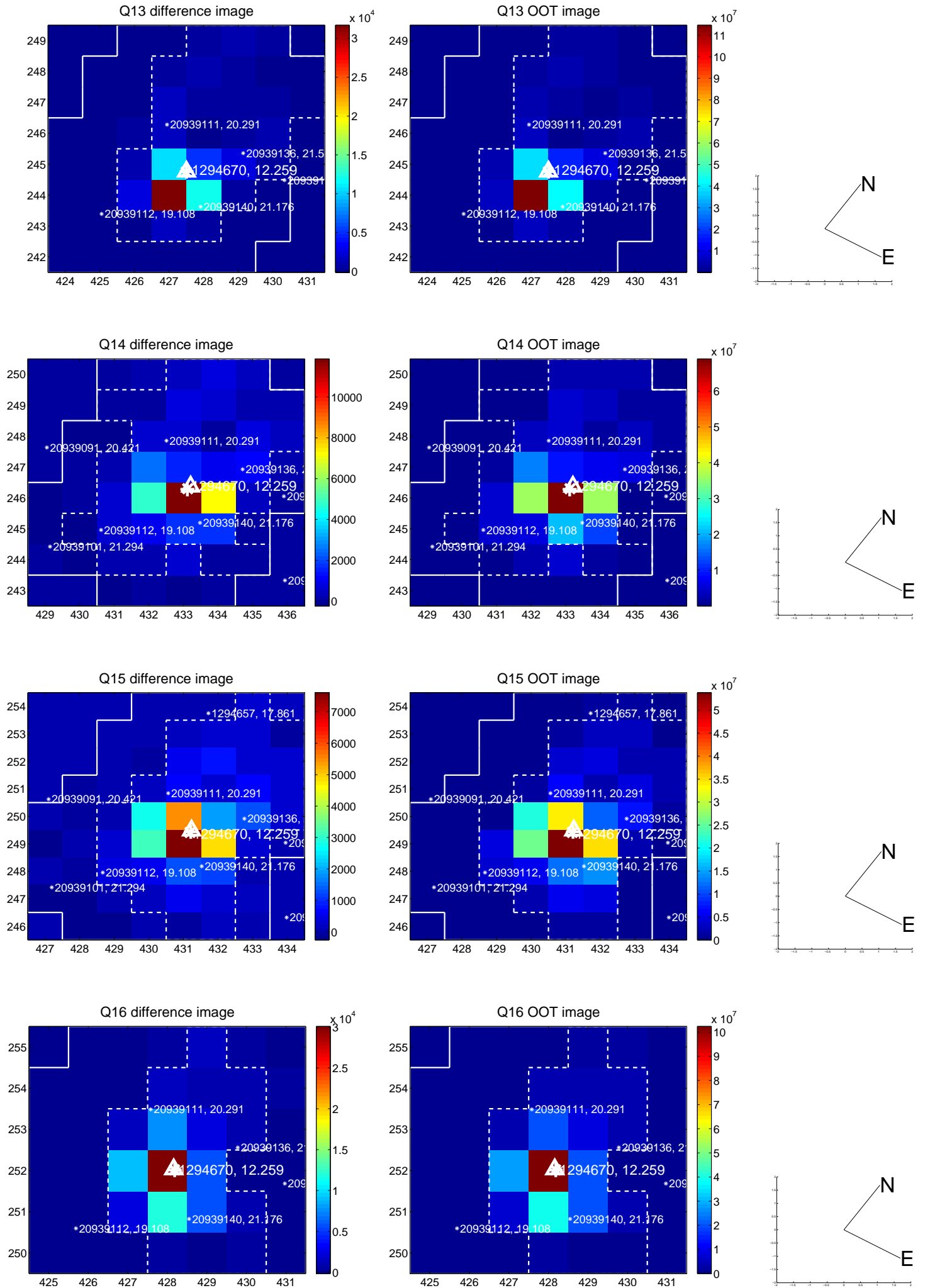
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



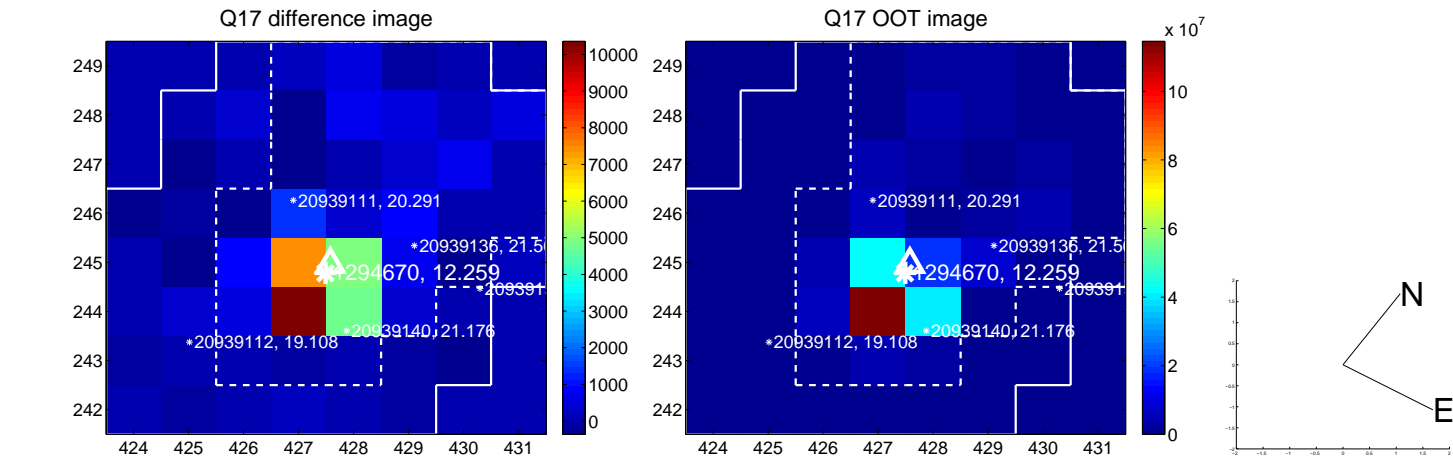
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



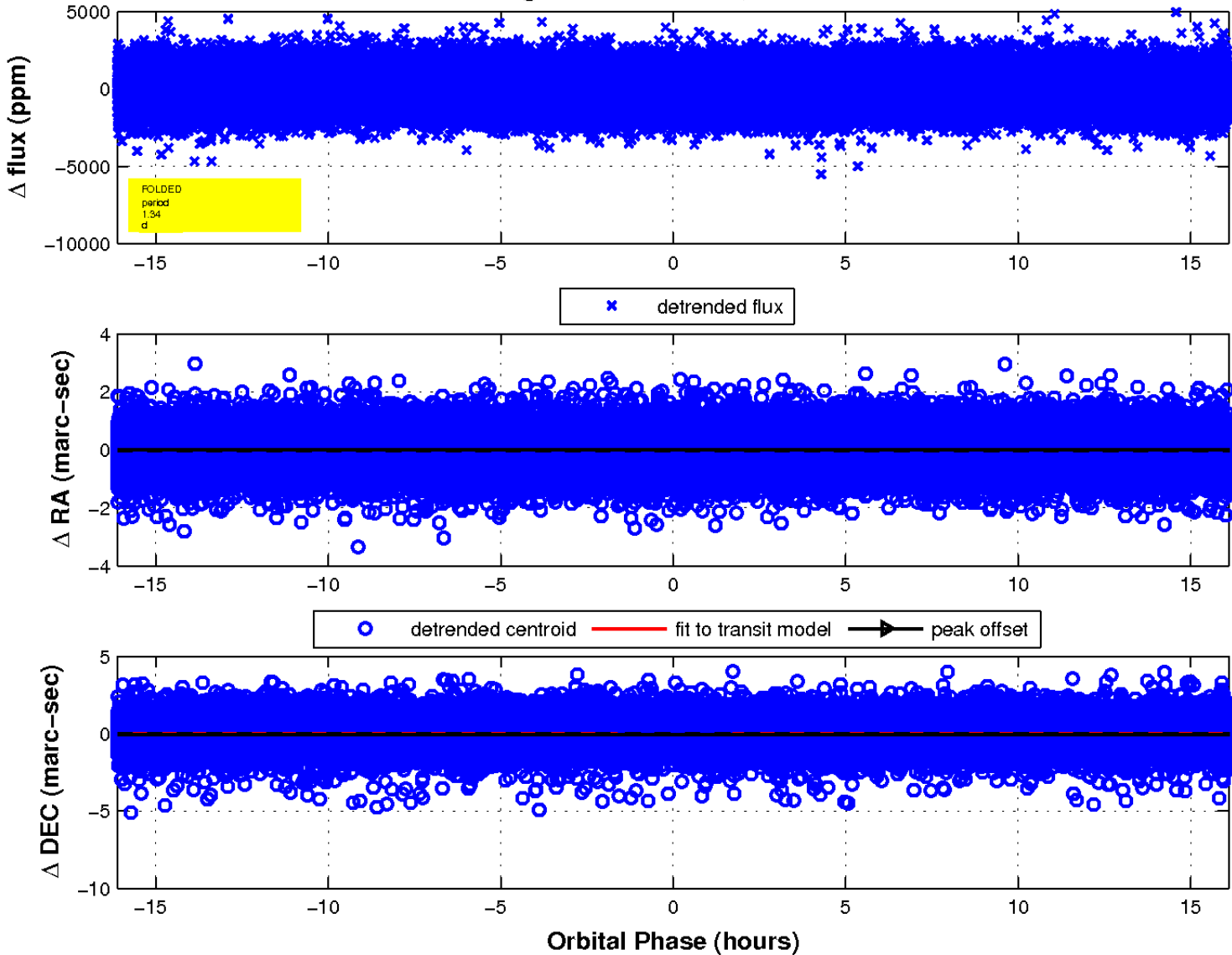
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



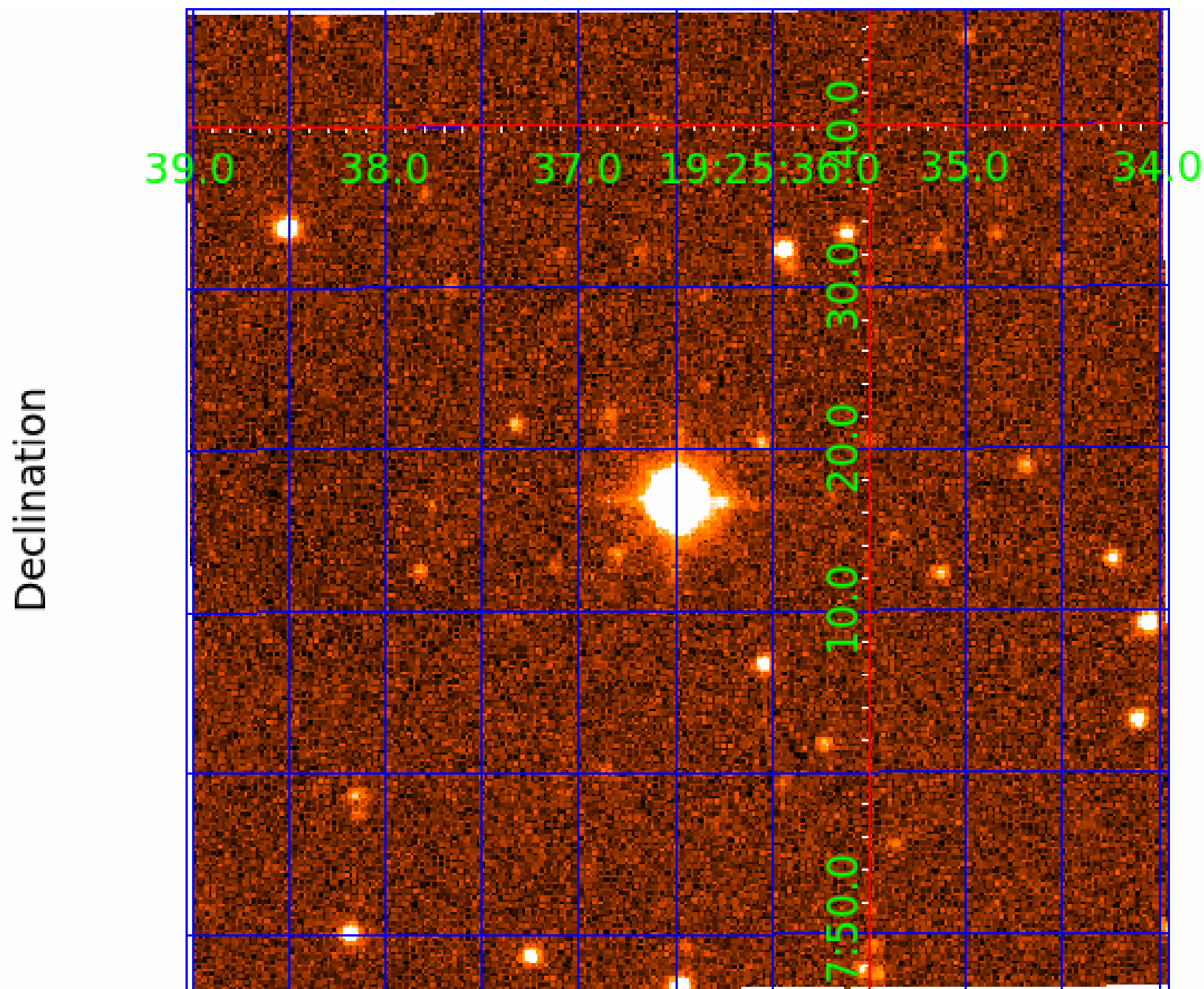
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 001294670

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})
001294670-01	OBS	No	1.343148	132.645527	78.7	6.657	9.6	10.5	1.95	7277	2.06	12487.87
001294670-02	OBS	No	0.715635	131.762188	125.0	3.056	8.9	9.8	1.95	7277	2.53	28911.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001294670-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
001294670-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

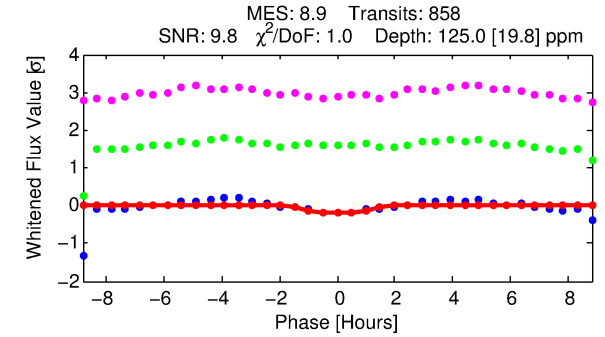
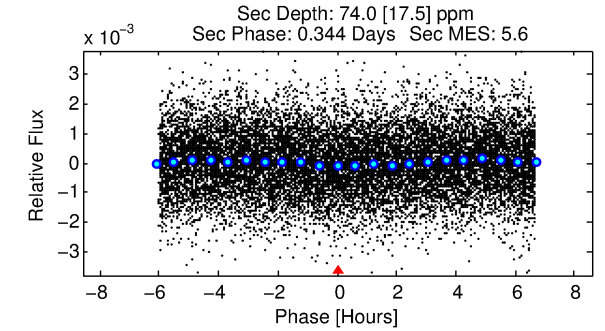
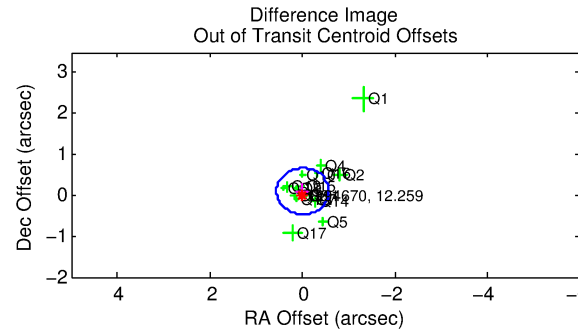
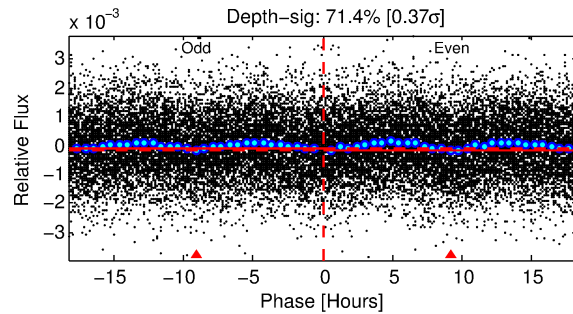
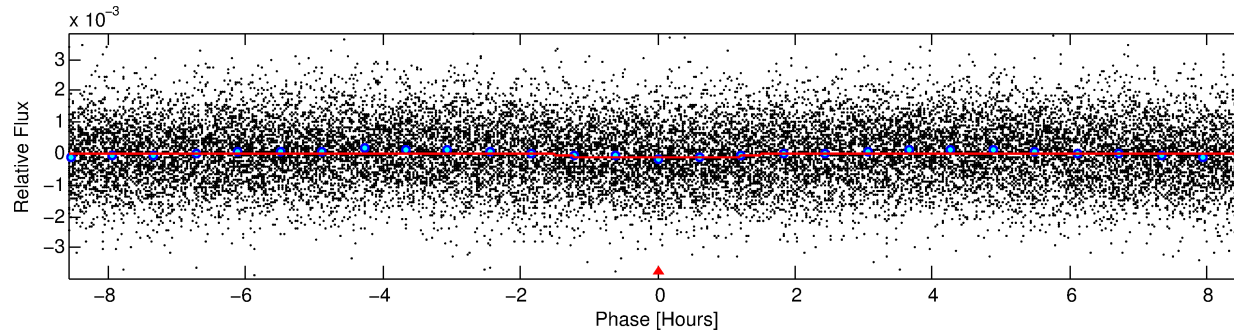
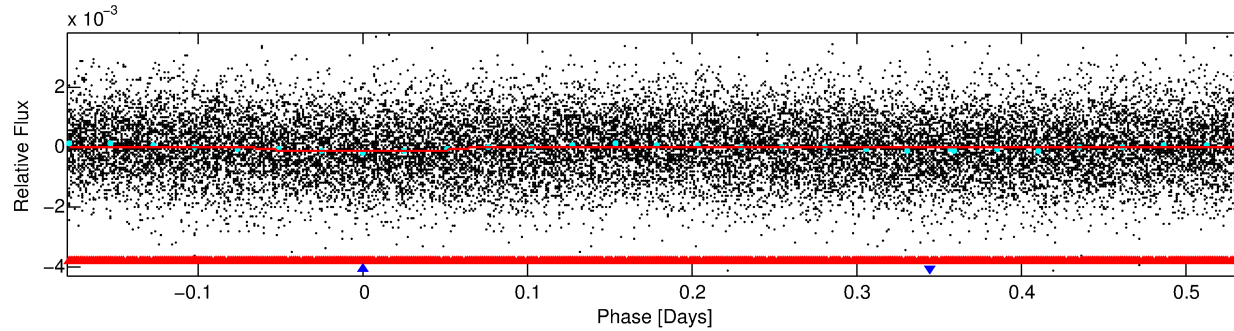
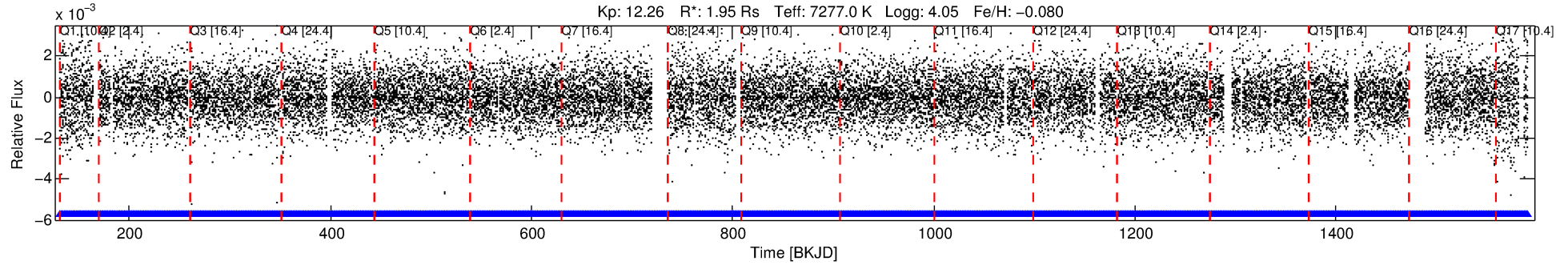
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001294670-02

No Significant Match Found

DV One-Page Summary

KIC: 1294670 Candidate: 2 of 2 Period: 0.716 d



DV Fit Results:

Period = 0.71563 [0.00001] d
Epoch = 131.7622 [0.0047] BKJD
Rp/R* = 0.0119 [0.0090]
a/R* = 1.26 [2.19]
b = 0.90 [1.04]
Seff = 28911.13 [10549.87]
Teq = 3325 [303] K
Rp = 2.53 [2.03] Re
a = 0.0182 [0.0041] AU
Ag = 2.11 [3.30] [0.34 σ]
Teffp = 6197 [2381] K [1.20 σ]

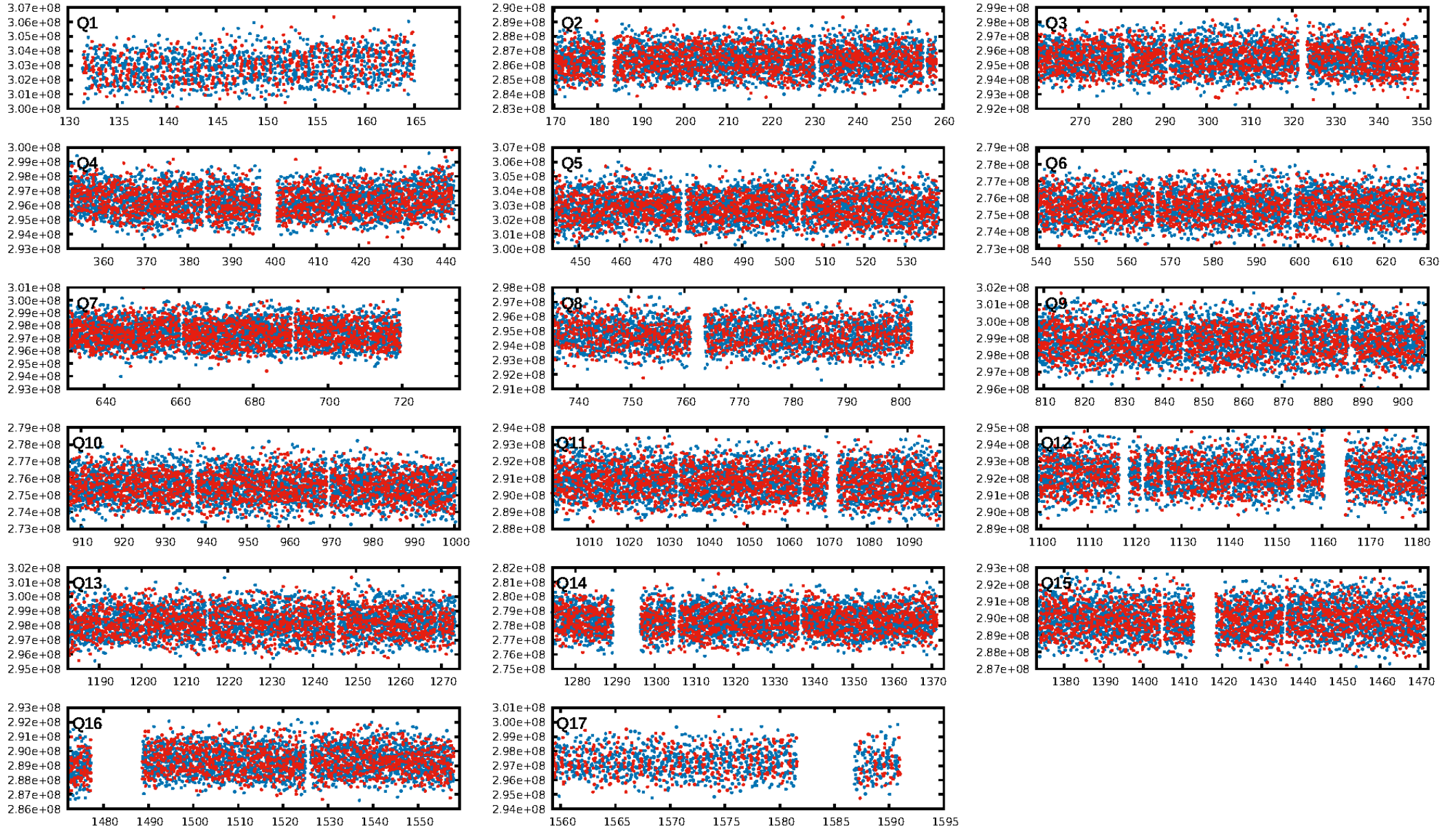
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 96.0% [2.06 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.77e-13
RollingBand-fgt: 1.00 [820/820]
GhostDiagnostic-chr: 1.379
Centroid-sig: 0.2%
Centroid-so: 0.355 arcsec [2.12 σ]
OotOffset-rm: 0.099 arcsec [0.52 σ]
KicOffset-rm: 0.167 arcsec [1.00 σ]
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]

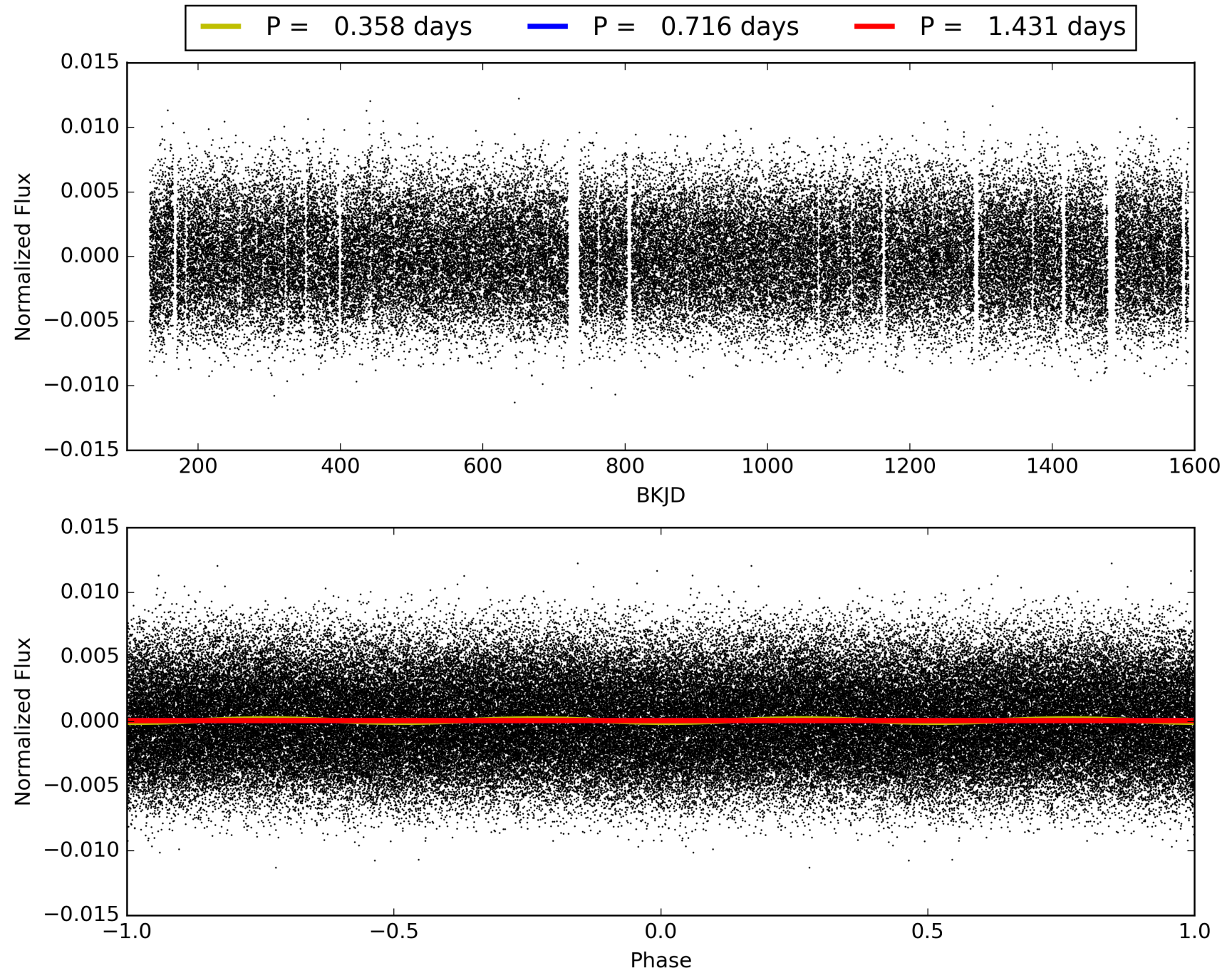
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:20:08 Z

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

TCE 001294670-02, PDC Light Curves

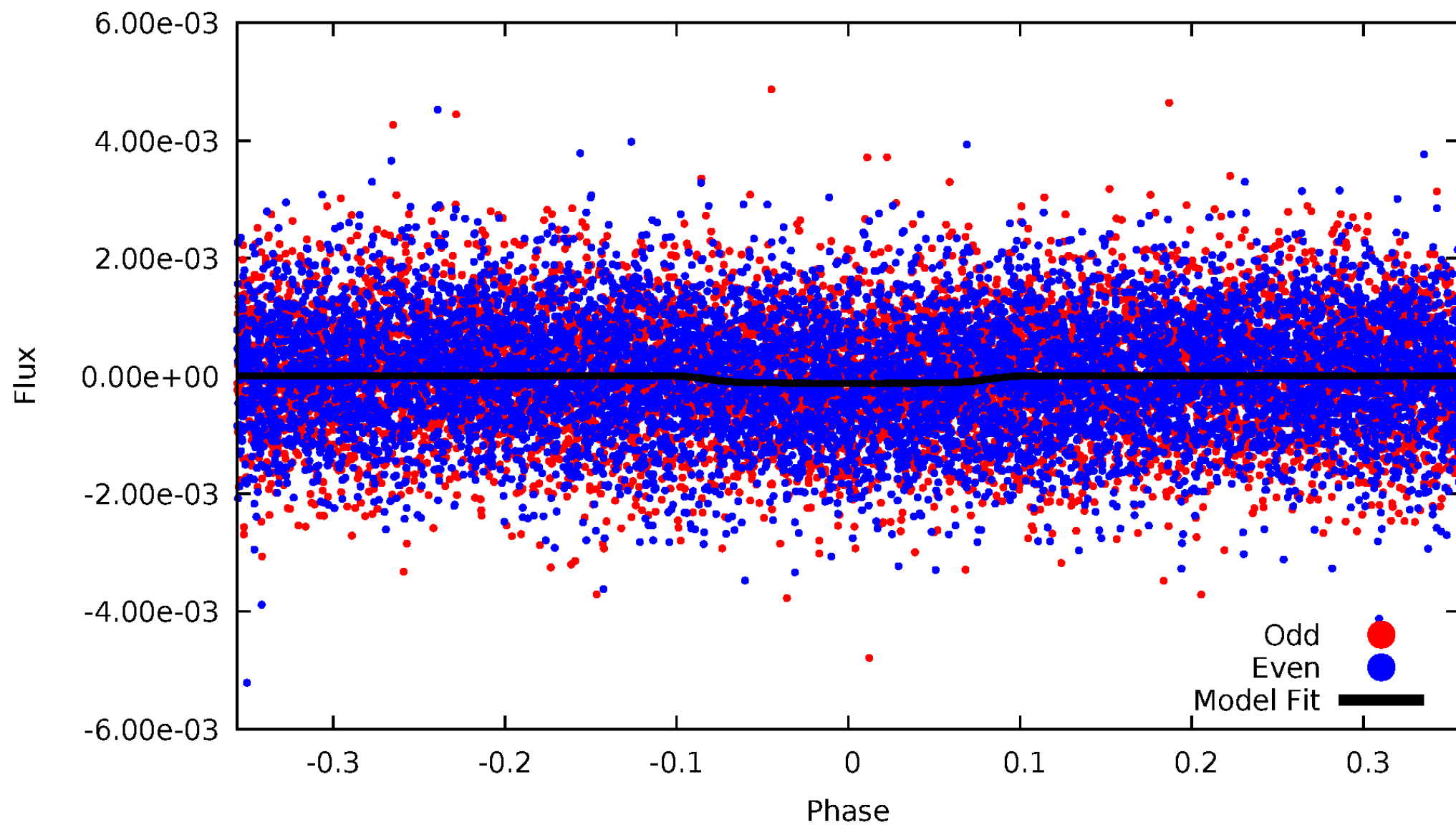


TCE 001294670-02



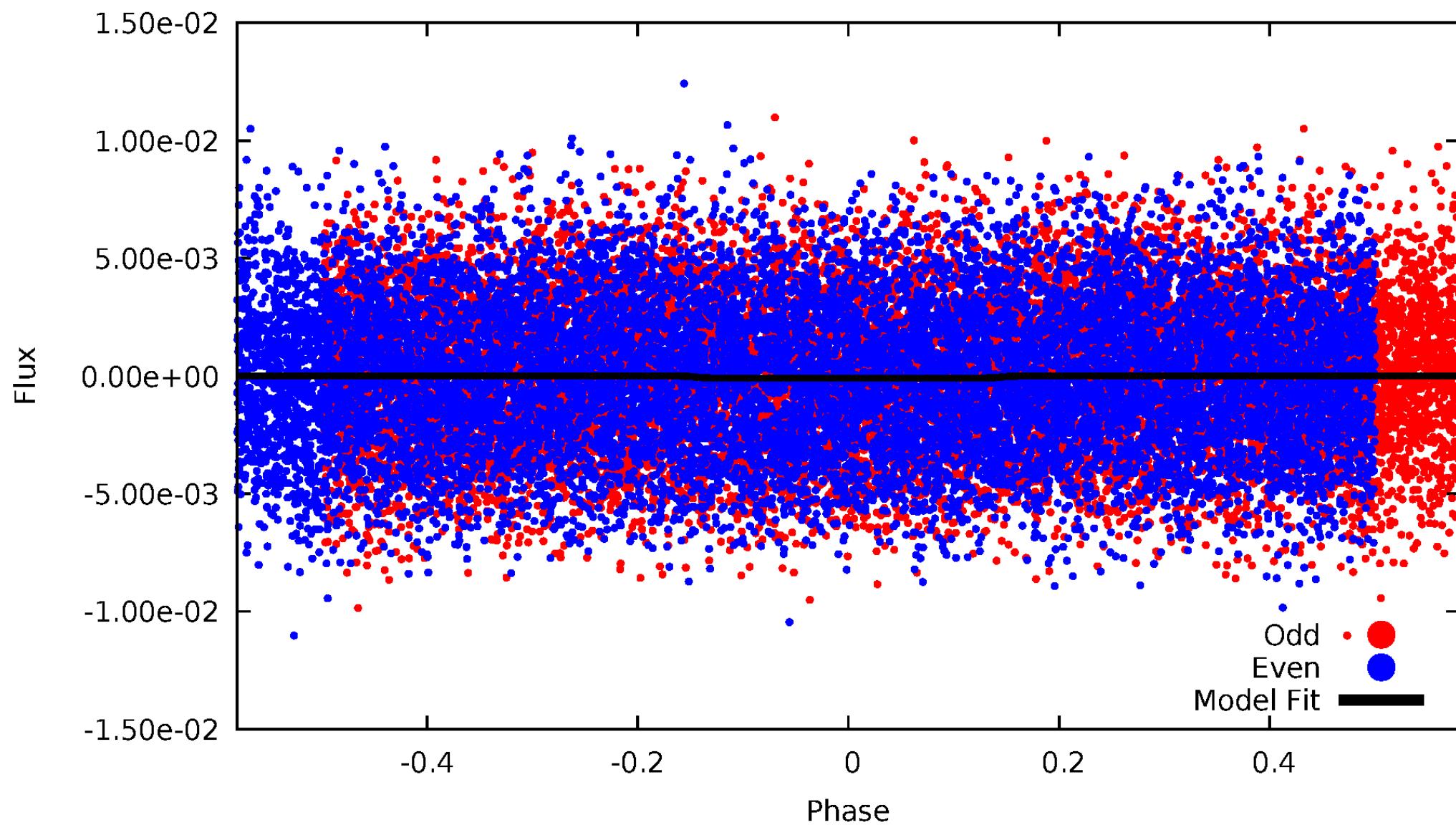
DV Odd/Even

TCE 001294670-02



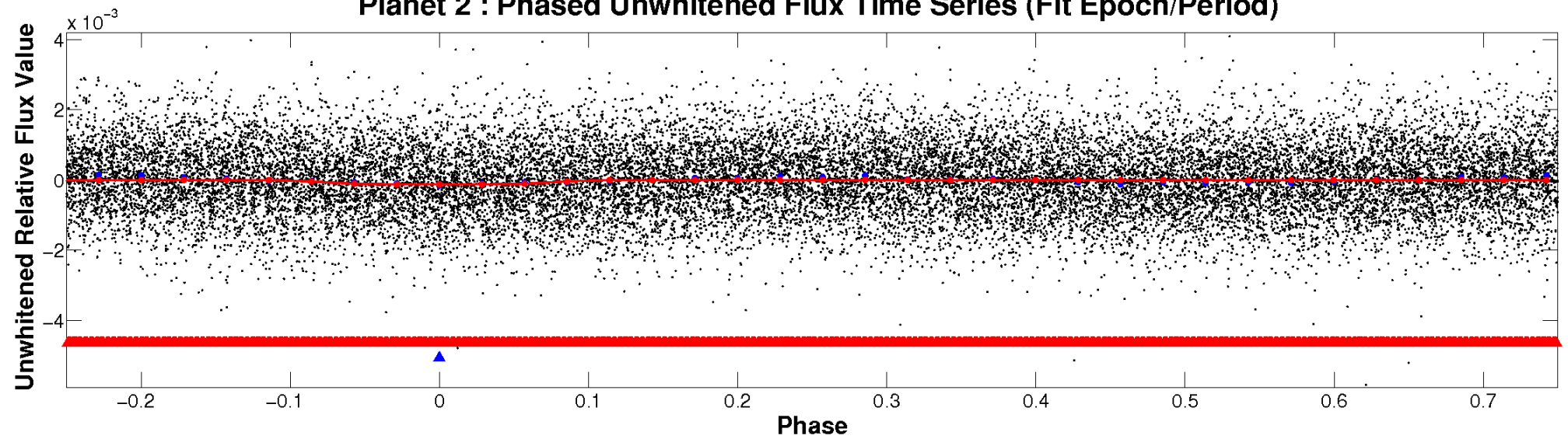
ALT Odd/Even

TCE 001294670-02

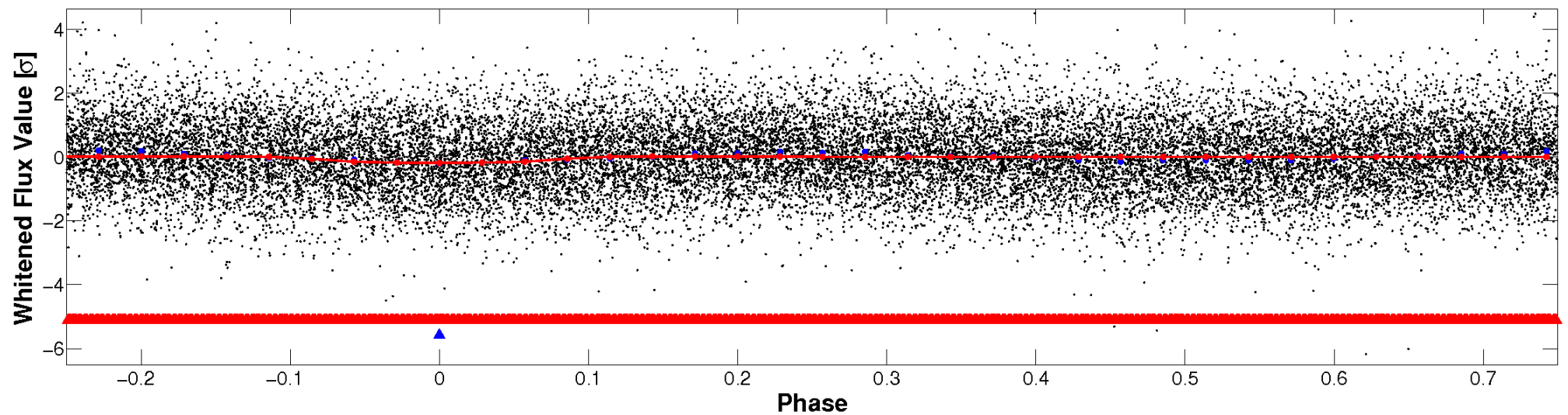


Non-Whitened Vs. Whitened Light Curve

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

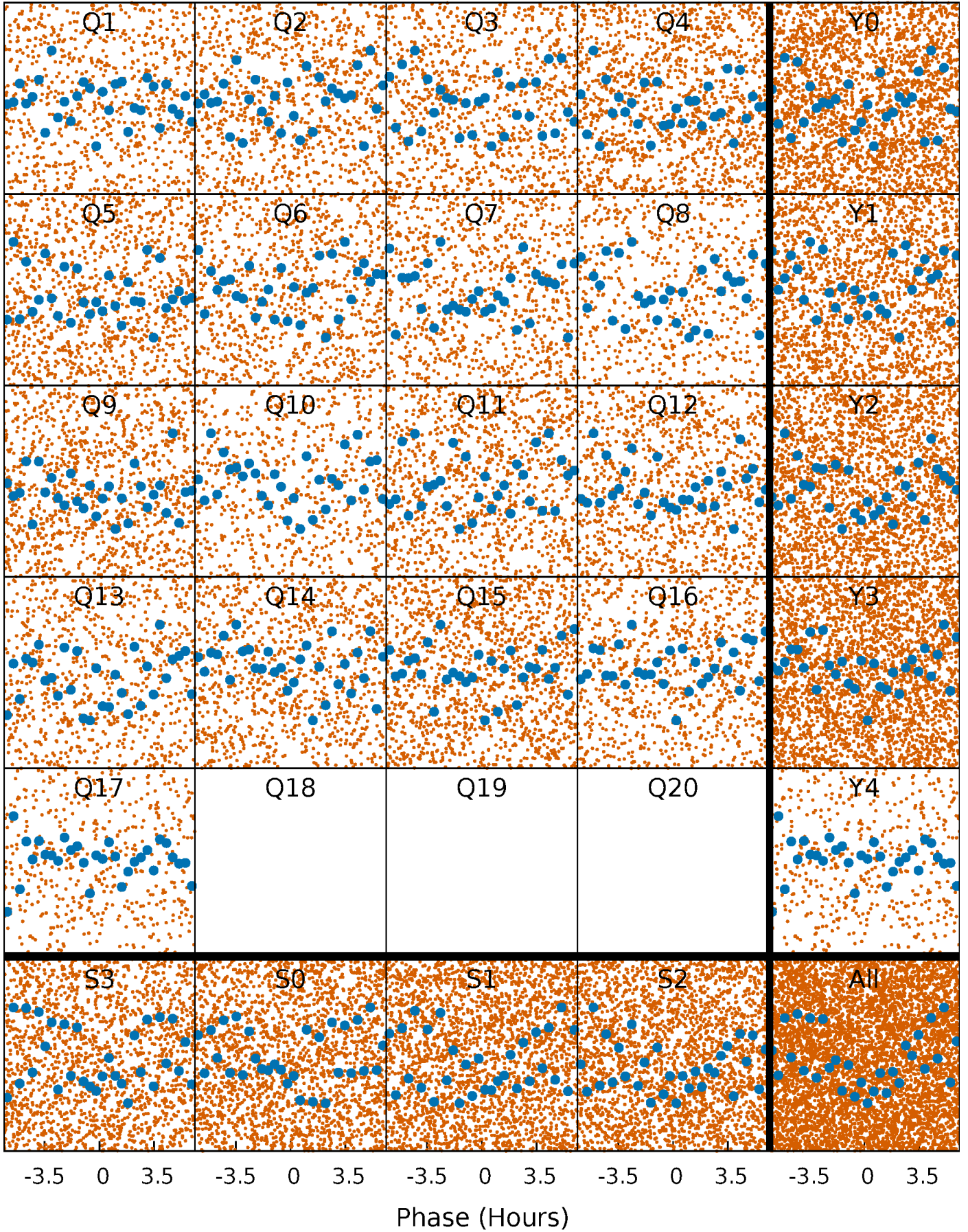


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



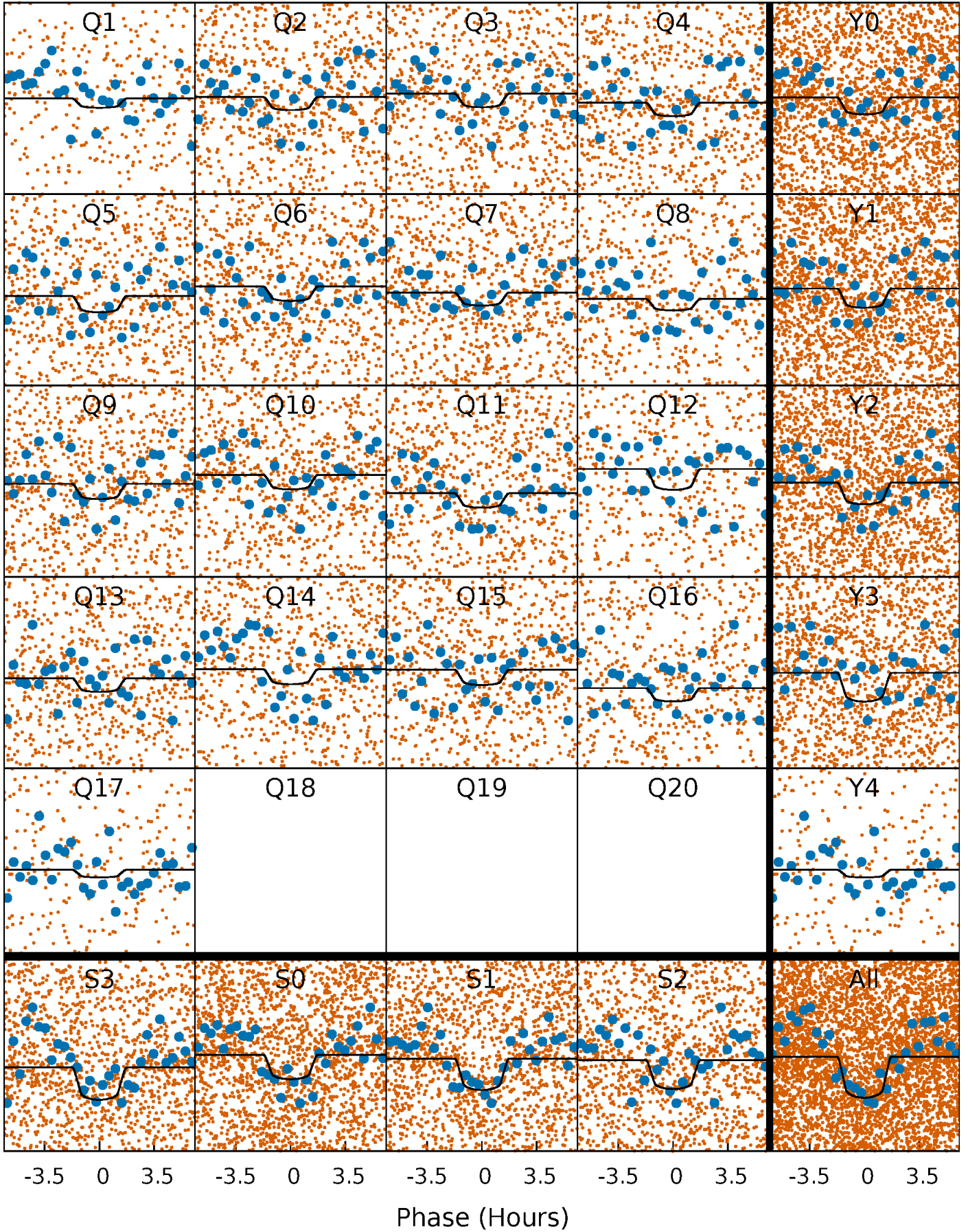
PDC Quarter-Phased Transit Curves

TCE 001294670-02 P= 0.715635 Days $T_0=131.762188$ (BKJD)



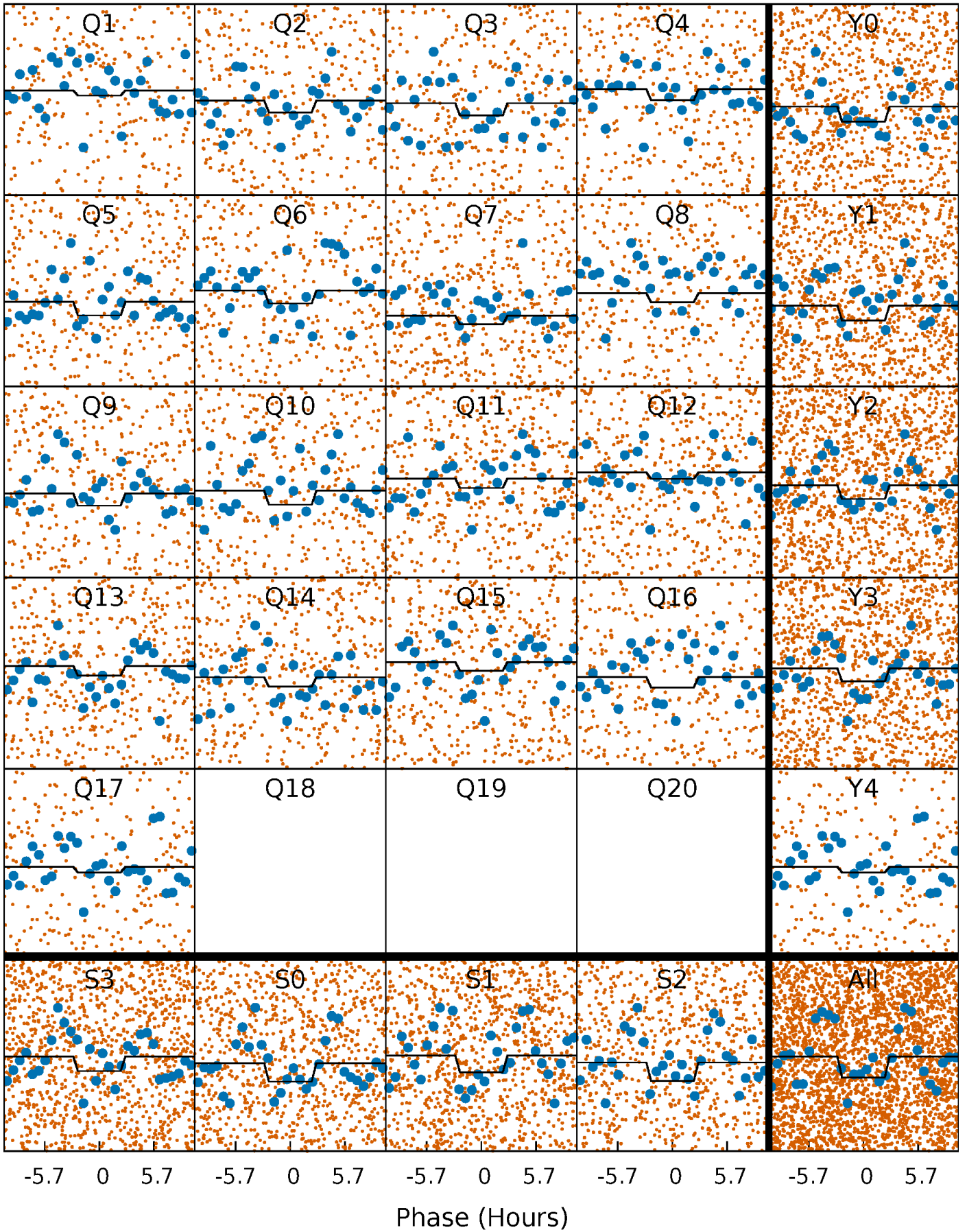
DV Quarter-Phased Transit Curves

TCE 001294670-02 P= 0.715635 Days $T_0=131.762188$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

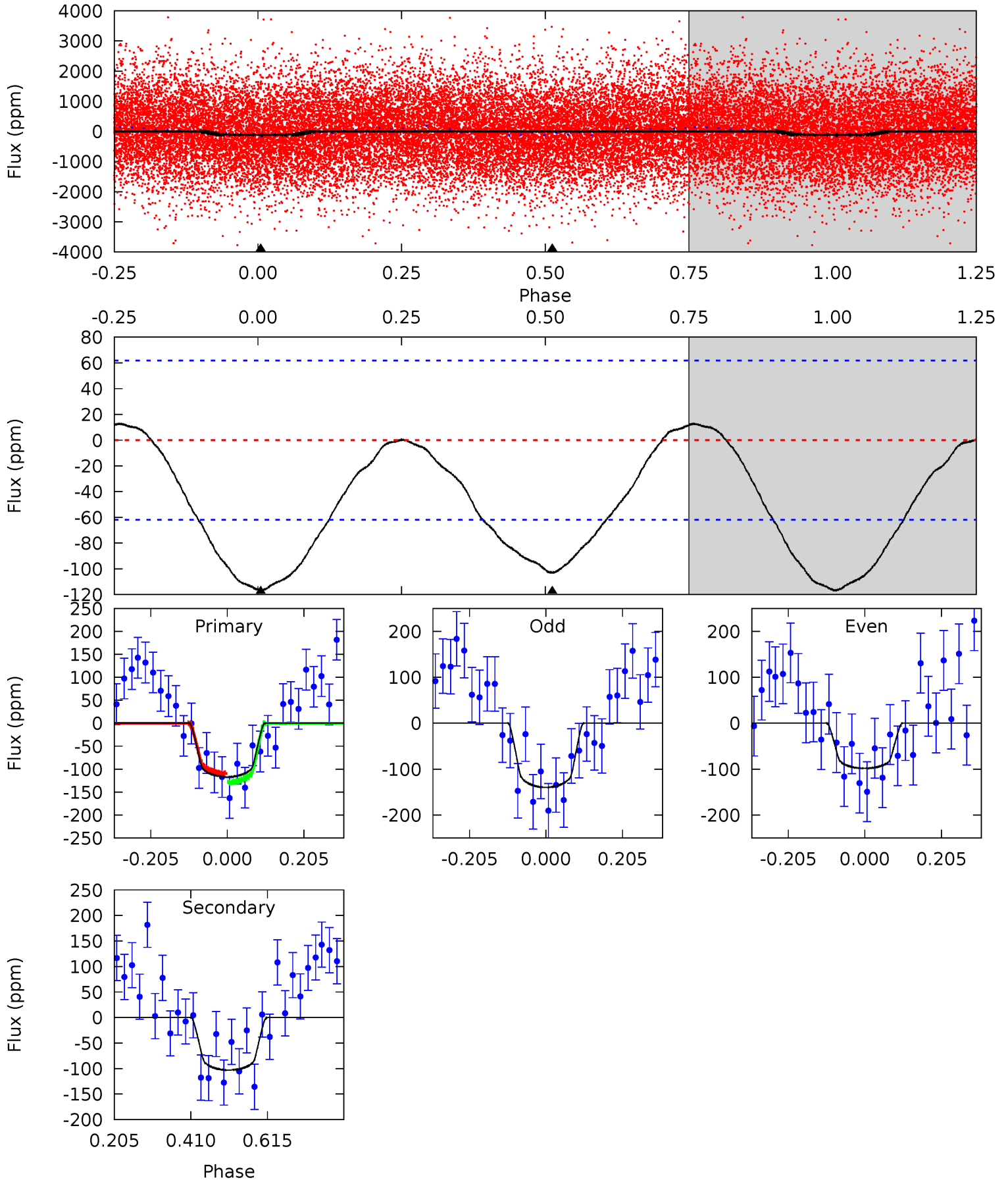
TCE 001294670-02 P= 0.715648 Days $T_0=131.752112$ (BKJD)



DV Model-Shift Uniqueness Test

001294670-02, P = 0.715635 Days, E = 131.046553 Days

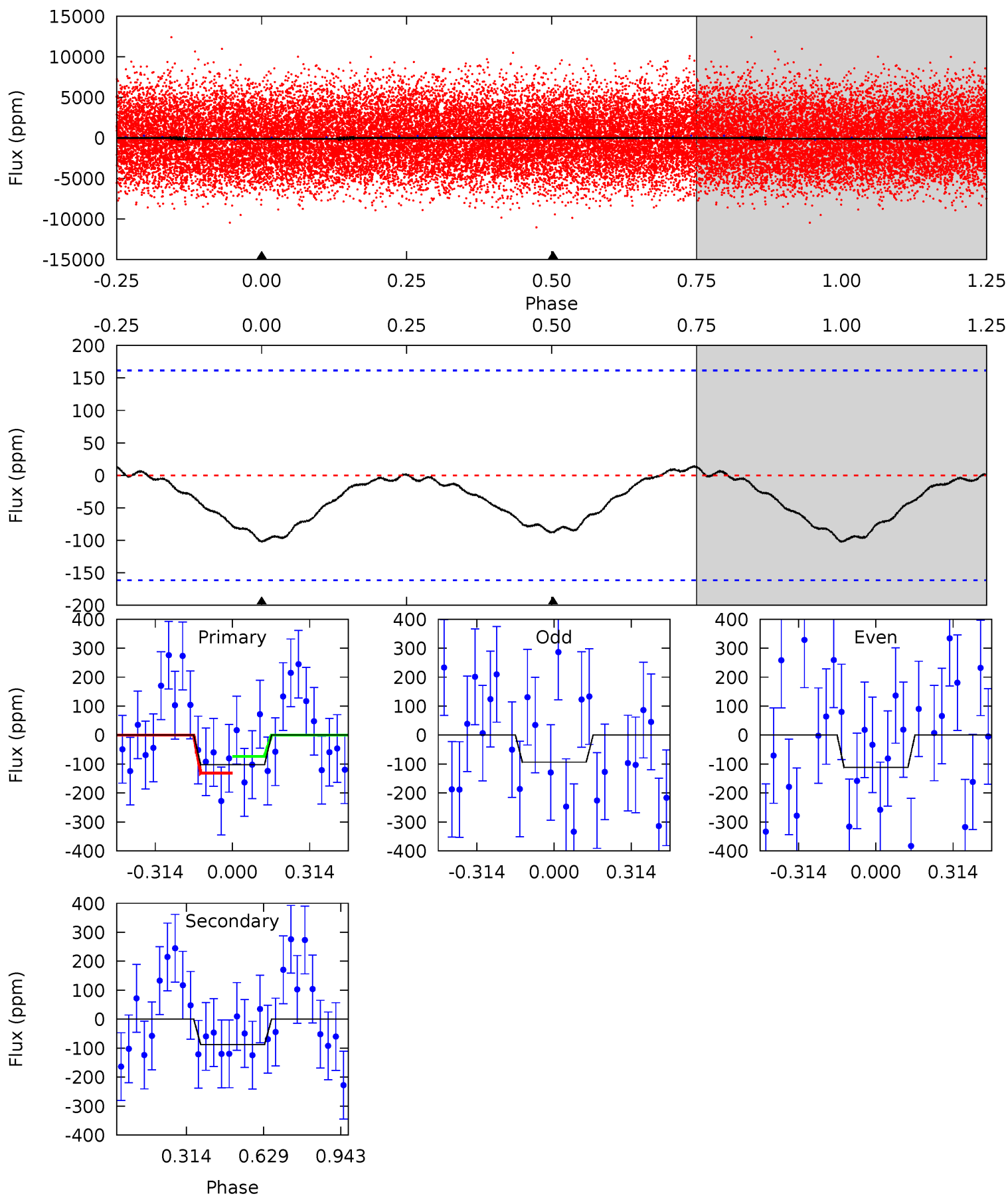
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.33	7.34	0	0	4.41	1.27	0.54	8.33	8.33	7.34	7.34	1.47	1.05	0.10	0.69



Alt Model-Shift Uniqueness Test

001294670-02, P = 0.715648 Days, E = 131.036464 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.74	2.35	0	0	4.32	1.01	0.19	2.74	2.74	2.35	2.35	0.25	1.64	0.12	0.77



Stellar Parameters For KIC 001294670

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7277^{+228}_{-304}	$4.053^{+0.175}_{-0.175}$	$-0.080^{+0.250}_{-0.350}$	$1.954^{+0.533}_{-0.480}$	$1.572^{+0.211}_{-0.257}$	$0.297^{+0.311}_{-0.130}$
	+3%/-4%	+4%/-4%	+312%/-438%	+27%/-25%	+13%/-16%	+105%/-44%
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 001294670-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-103 ± 14	$2.74^{+2.02}_{-1.62}$	4617^{+378}_{-321}	6128^{+4828}_{-1584}	$2.433^{+11.882}_{-1.616}$
Alt.	-88 ± 37	$2.52^{+1.95}_{-1.66}$	4622^{+366}_{-324}	6111^{+6067}_{-1866}	$2.533^{+17.263}_{-1.847}$

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

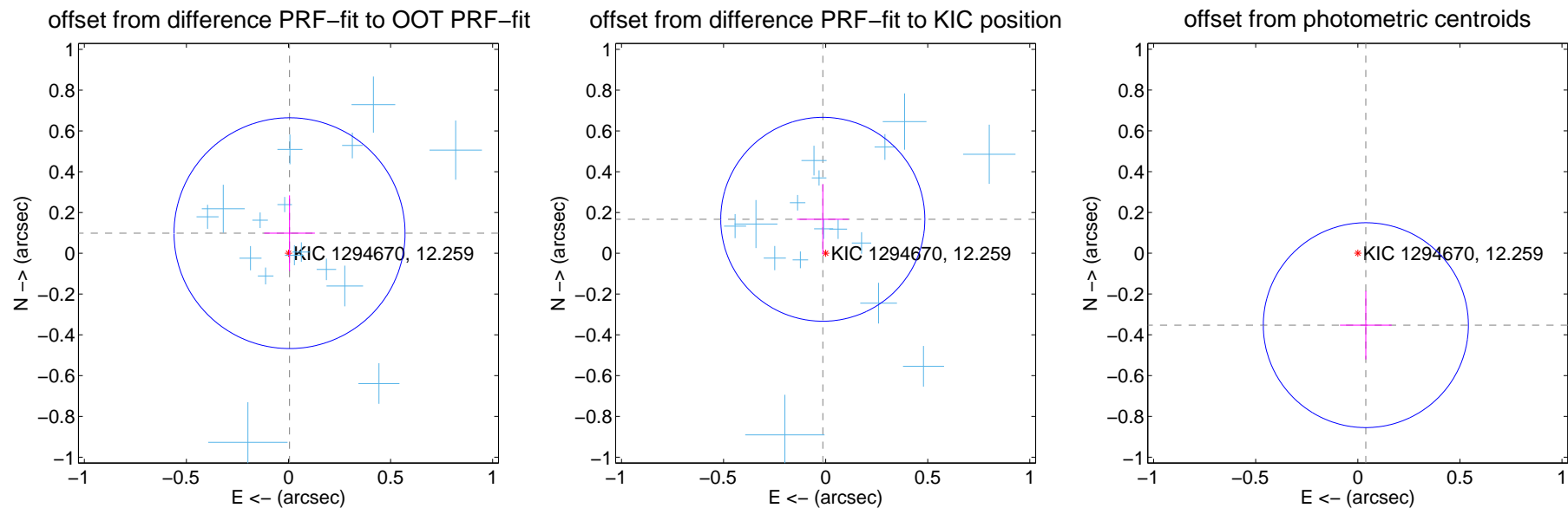
DV Centroid Data

Supplemental centroid analysis for 001294670-02. Kepler magnitude: 12.26. Transit SNR 9.83

There are 17 quarters with good PRF difference image offsets

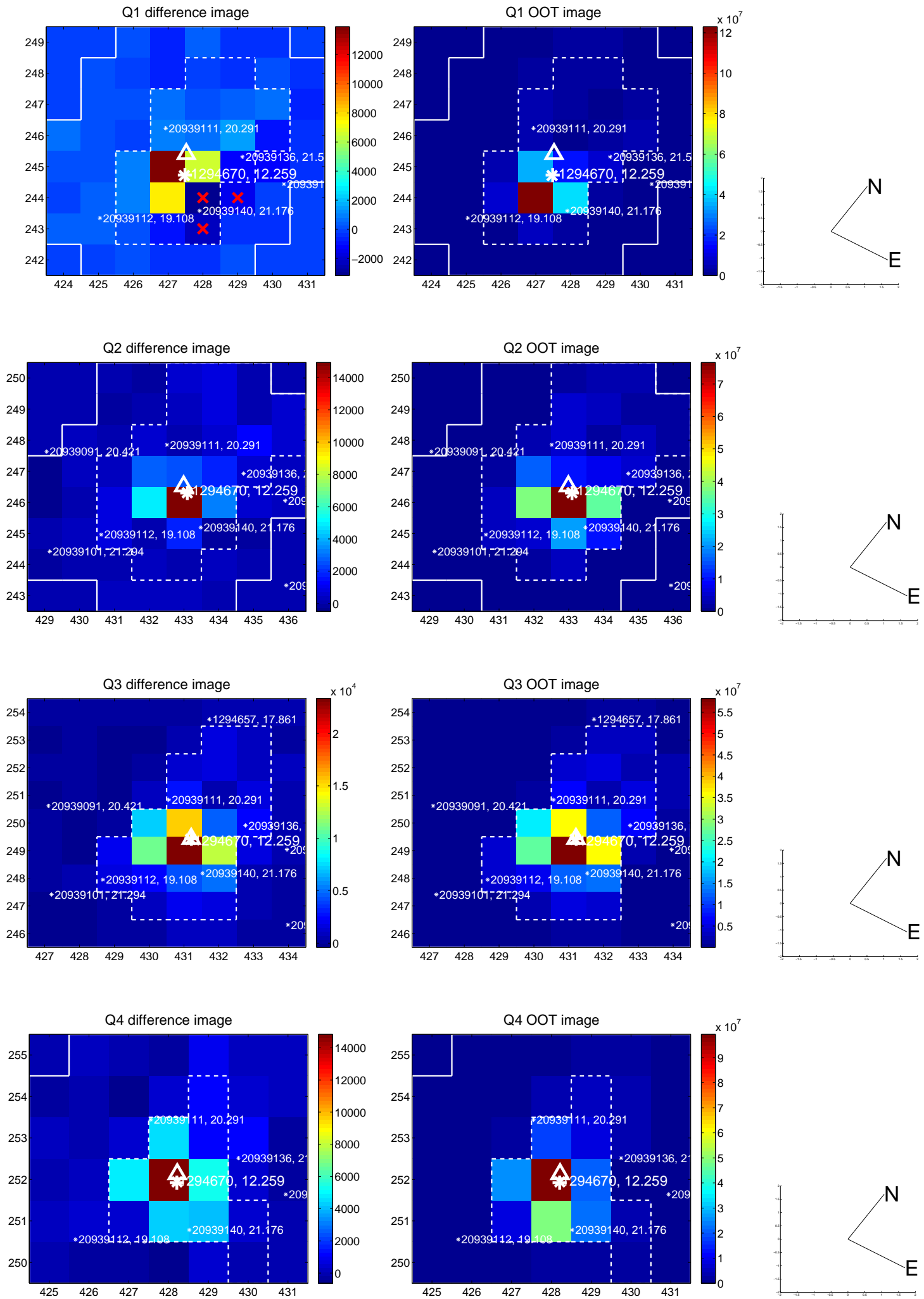
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.189	0.52	-0.005 ± 0.124	0.099 ± 0.185
PRF-fit source offset from KIC position	0.167 ± 0.167	1.00	0.014 ± 0.126	0.167 ± 0.172
photometric centroid source offset	0.35 ± 0.17	2.12	-0.04 ± 0.13	-0.35 ± 0.17

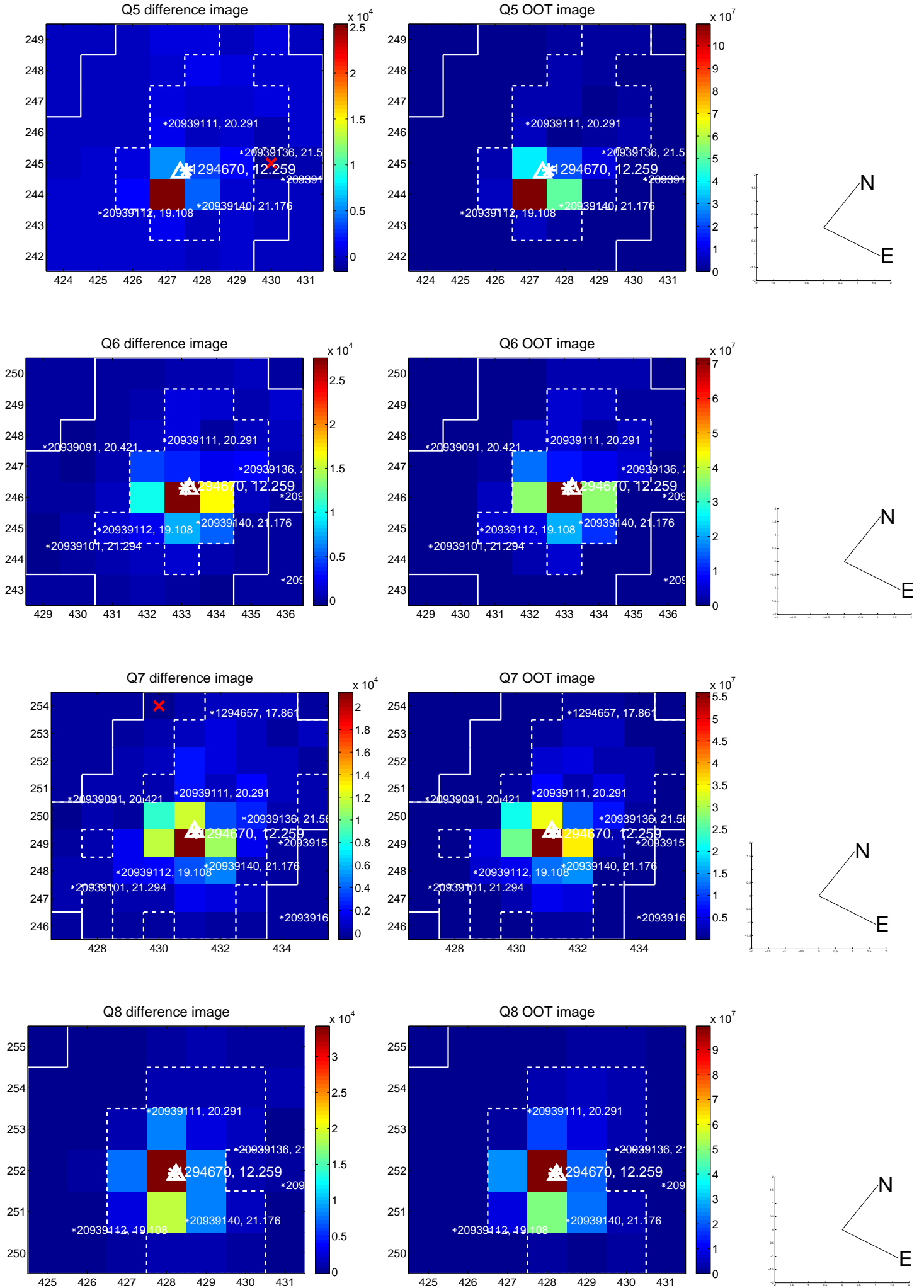


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

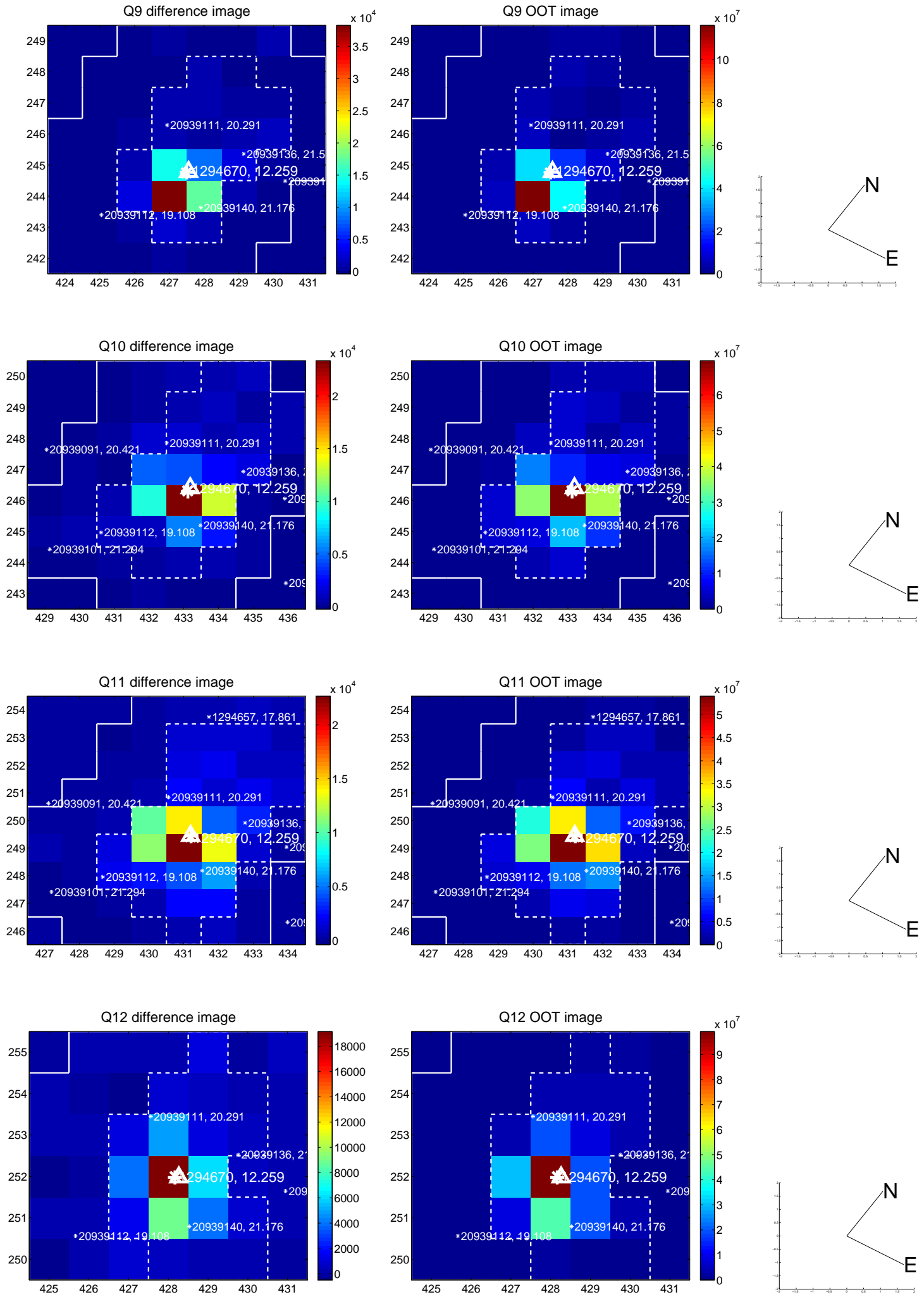
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



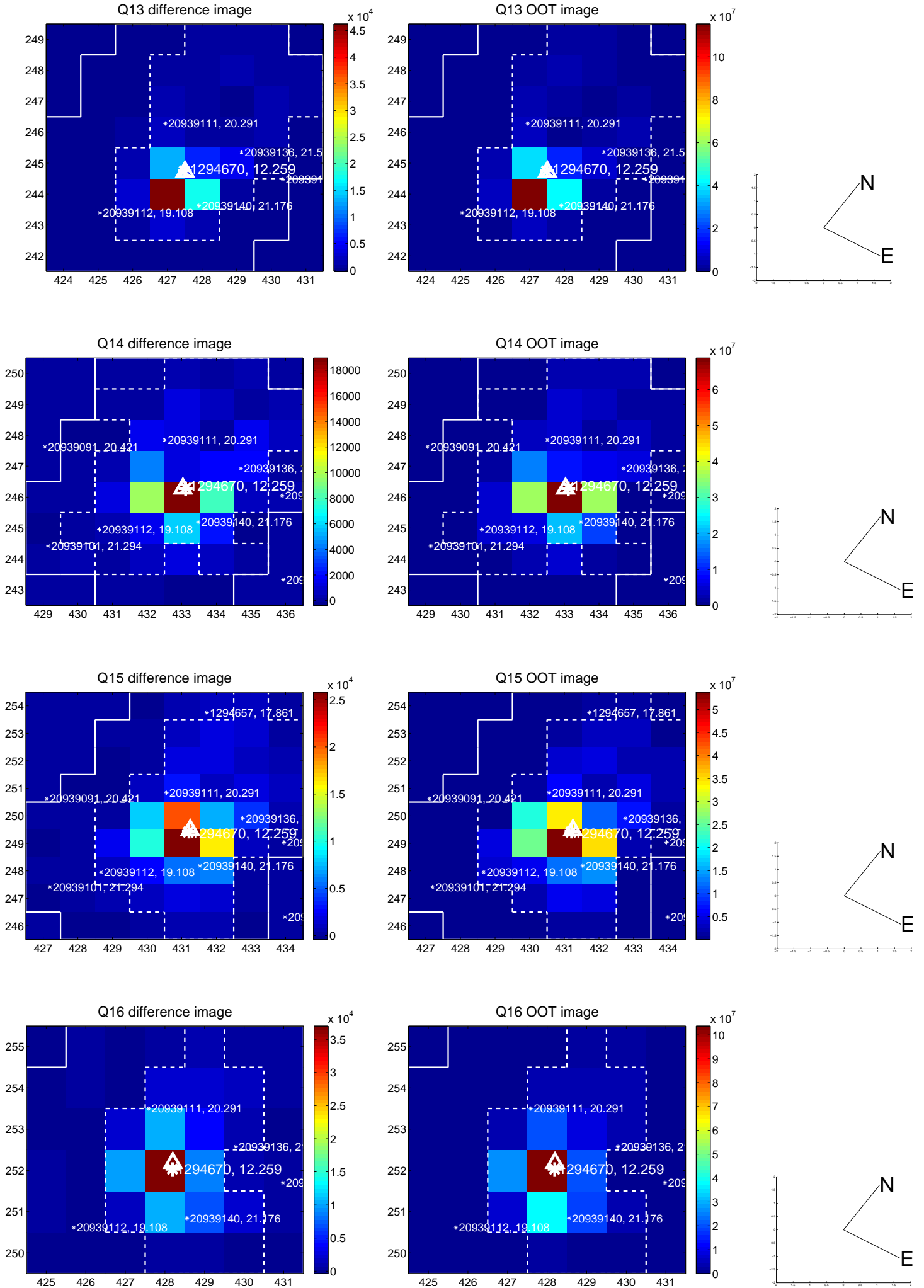
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



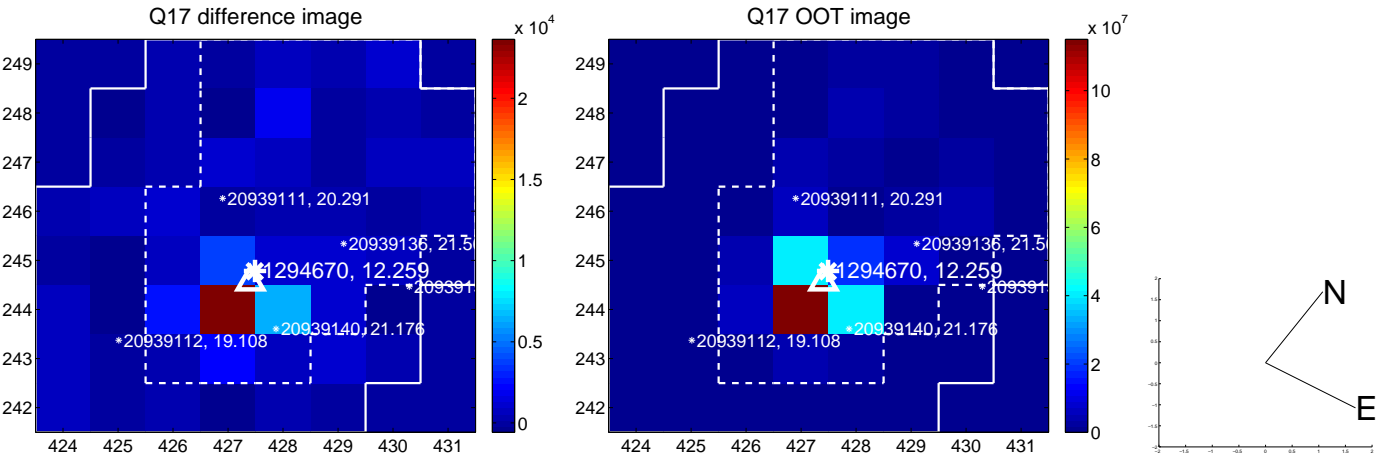
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



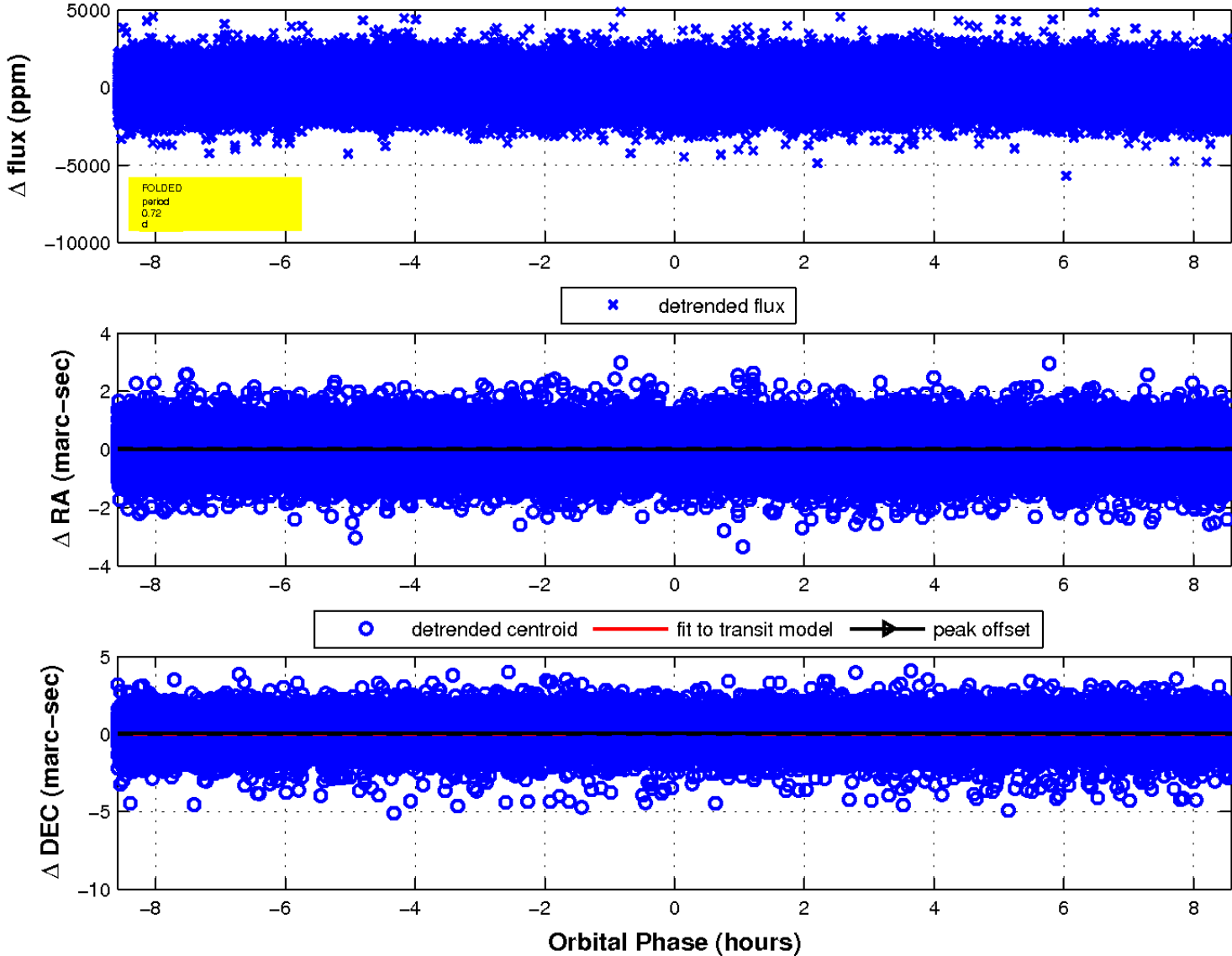
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

