

KIC 002714707

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})
002714707-01	OBS	No	1.570173	132.562121	157.3	7.026	11.1	11.4	1.59	7261	2.51	6737.29
002714707-02	OBS	No	3.491562	133.187649	250.9	9.474	9.5	9.1	1.59	7261	2.74	2321.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002714707-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
002714707-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

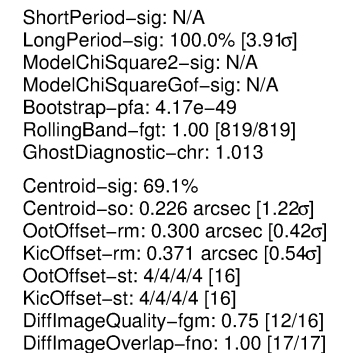
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

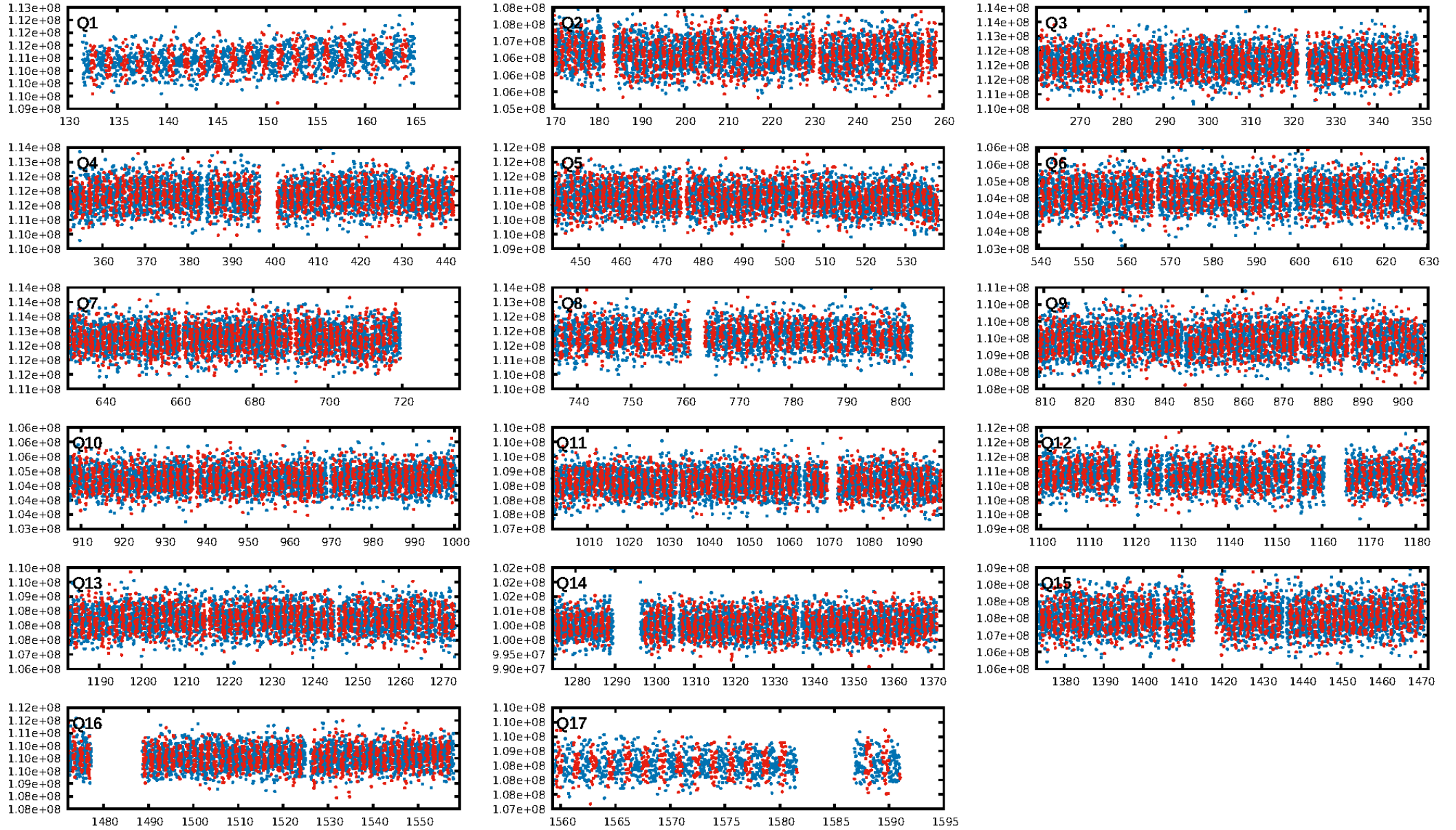
Ephemeris Match Information For 002714707-01

No Significant Match Found

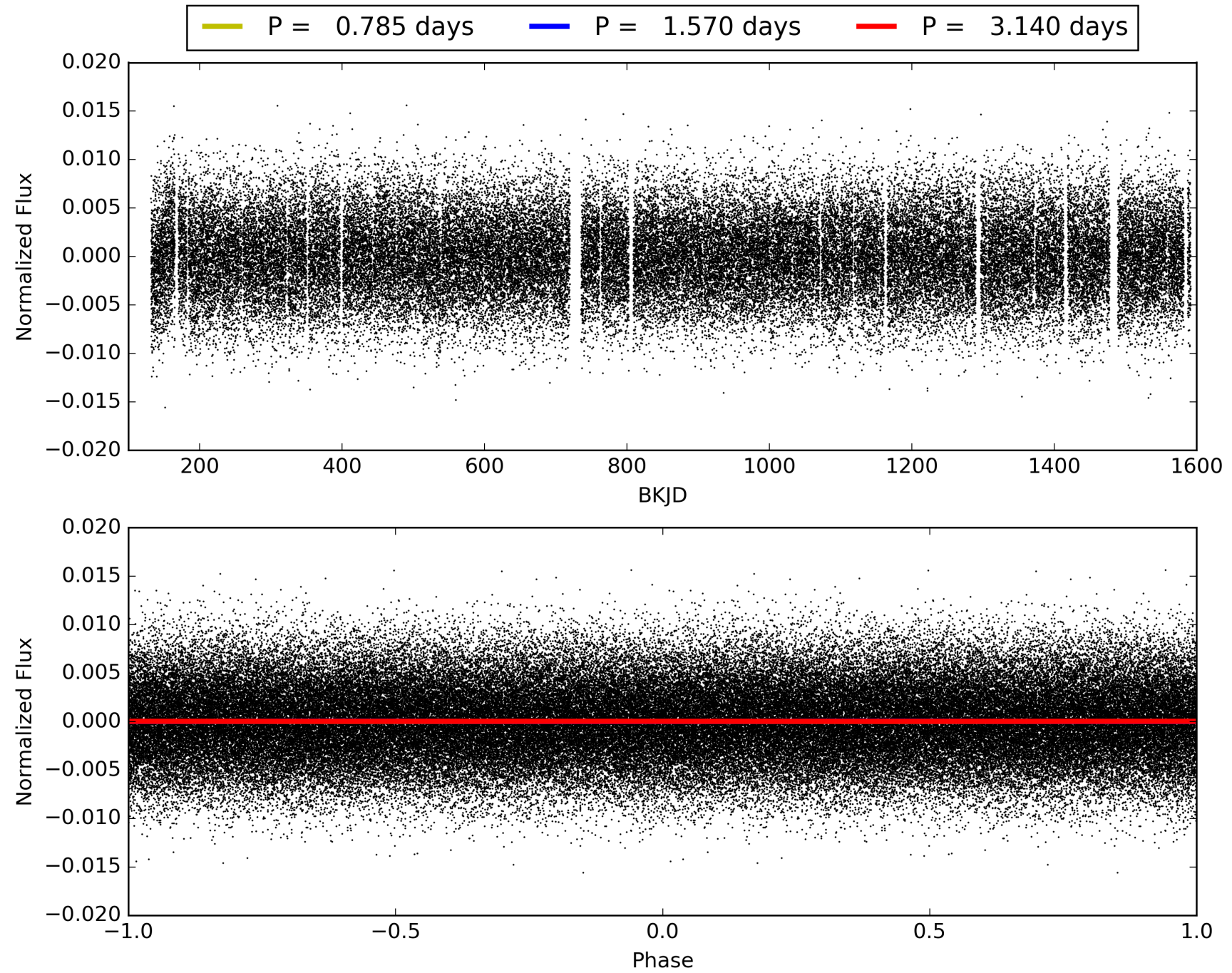
KIC: 2714707 Candidate: 1 of 2 Period: 1.570 d



TCE 002714707-01, PDC Light Curves

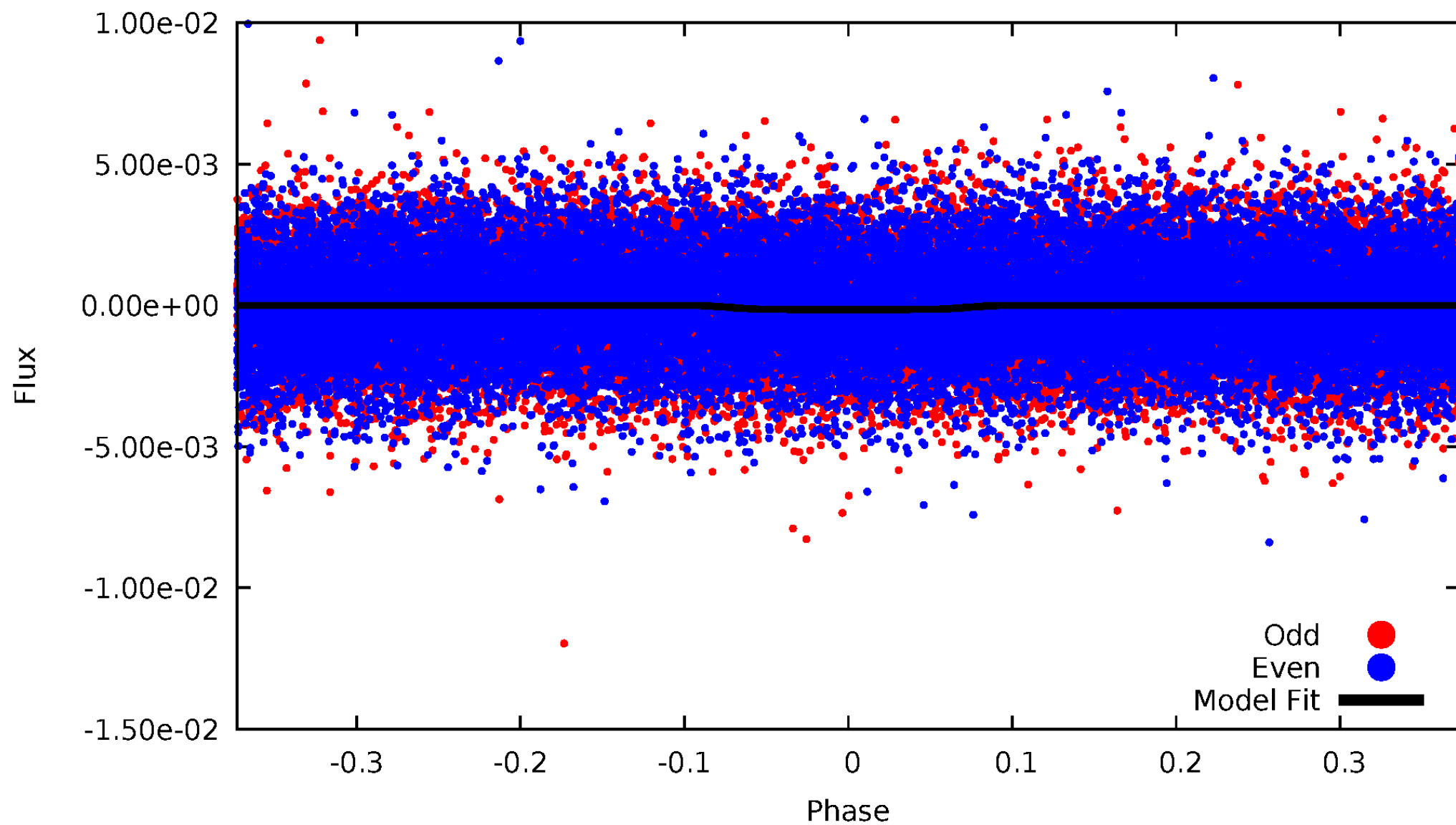


TCE 002714707-01



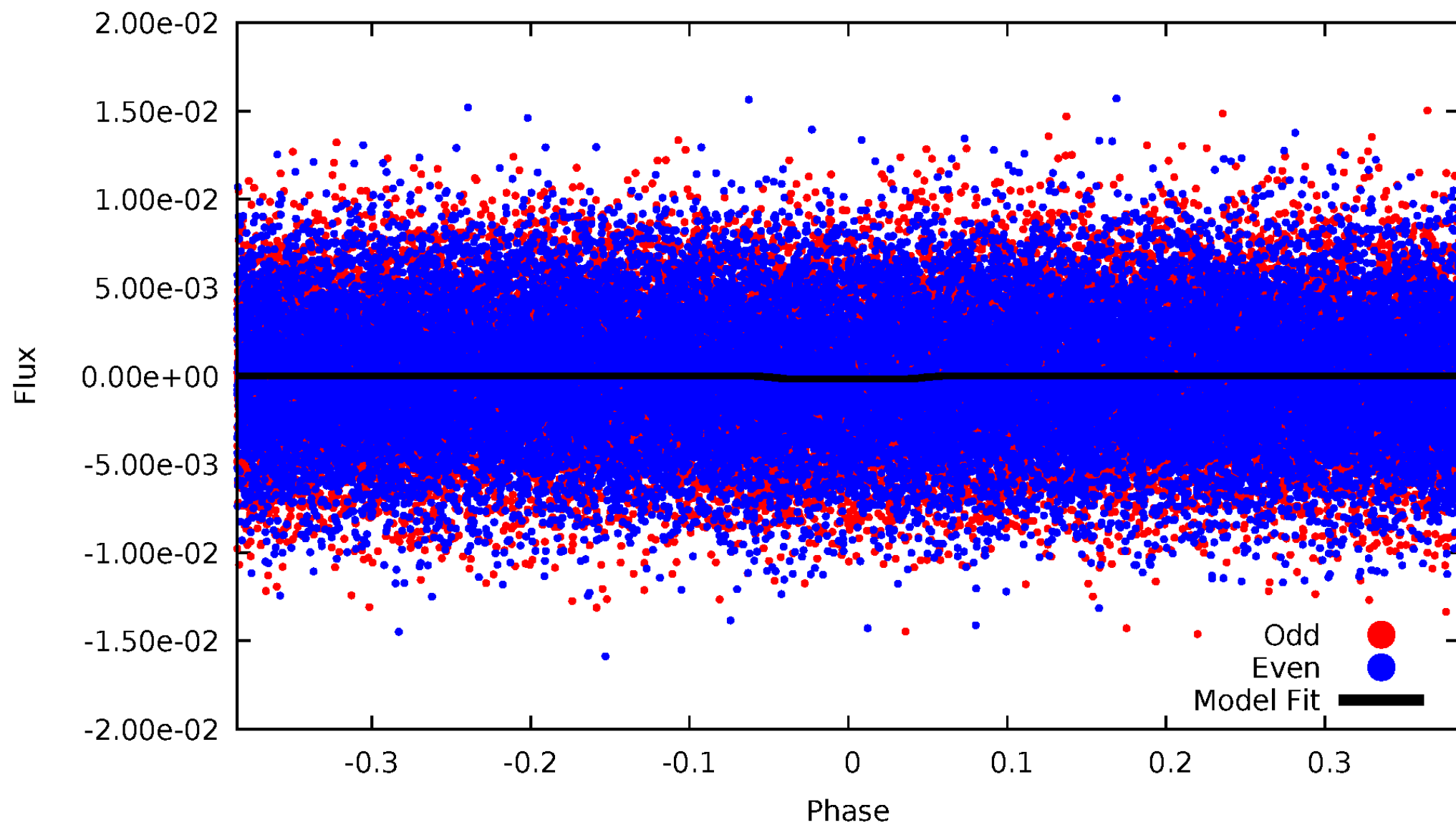
DV Odd/Even

TCE 002714707-01

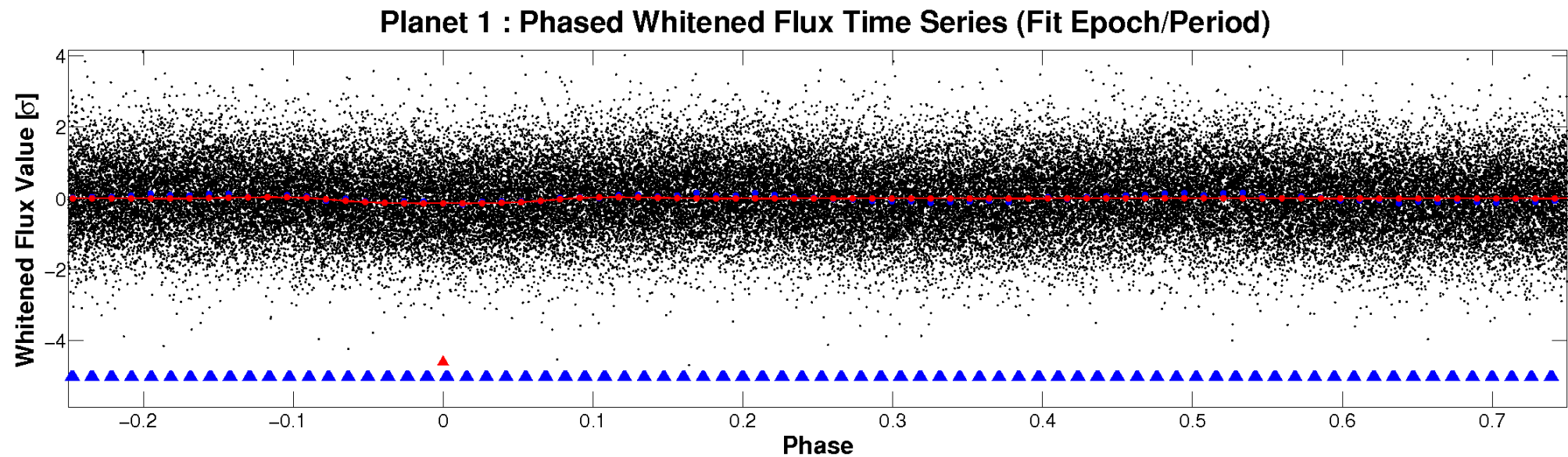
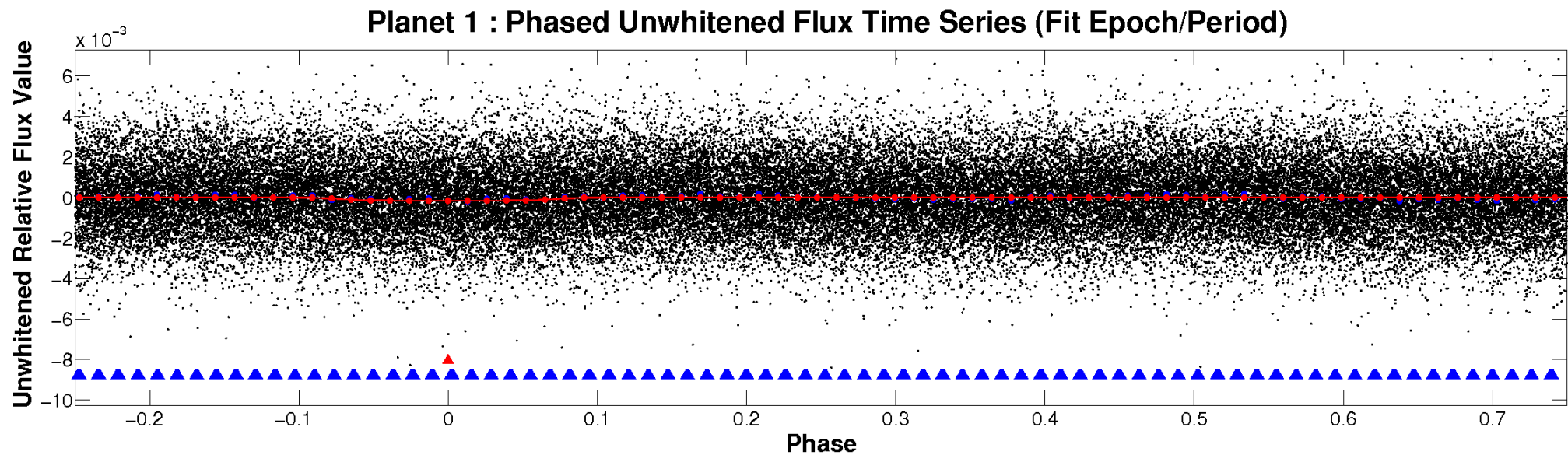


ALT Odd/Even

TCE 002714707-01

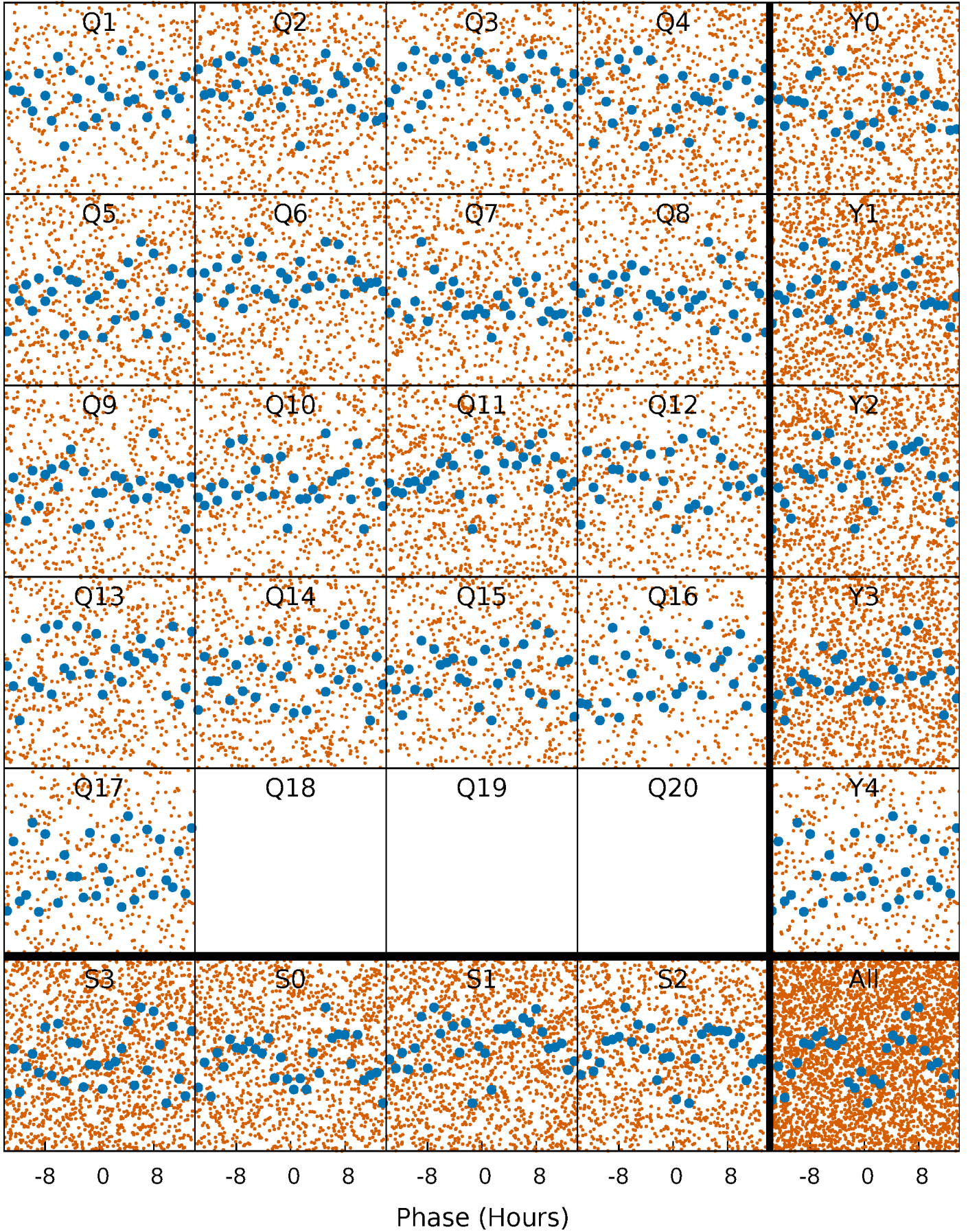


Non-Whitened Vs. Whitened Light Curve



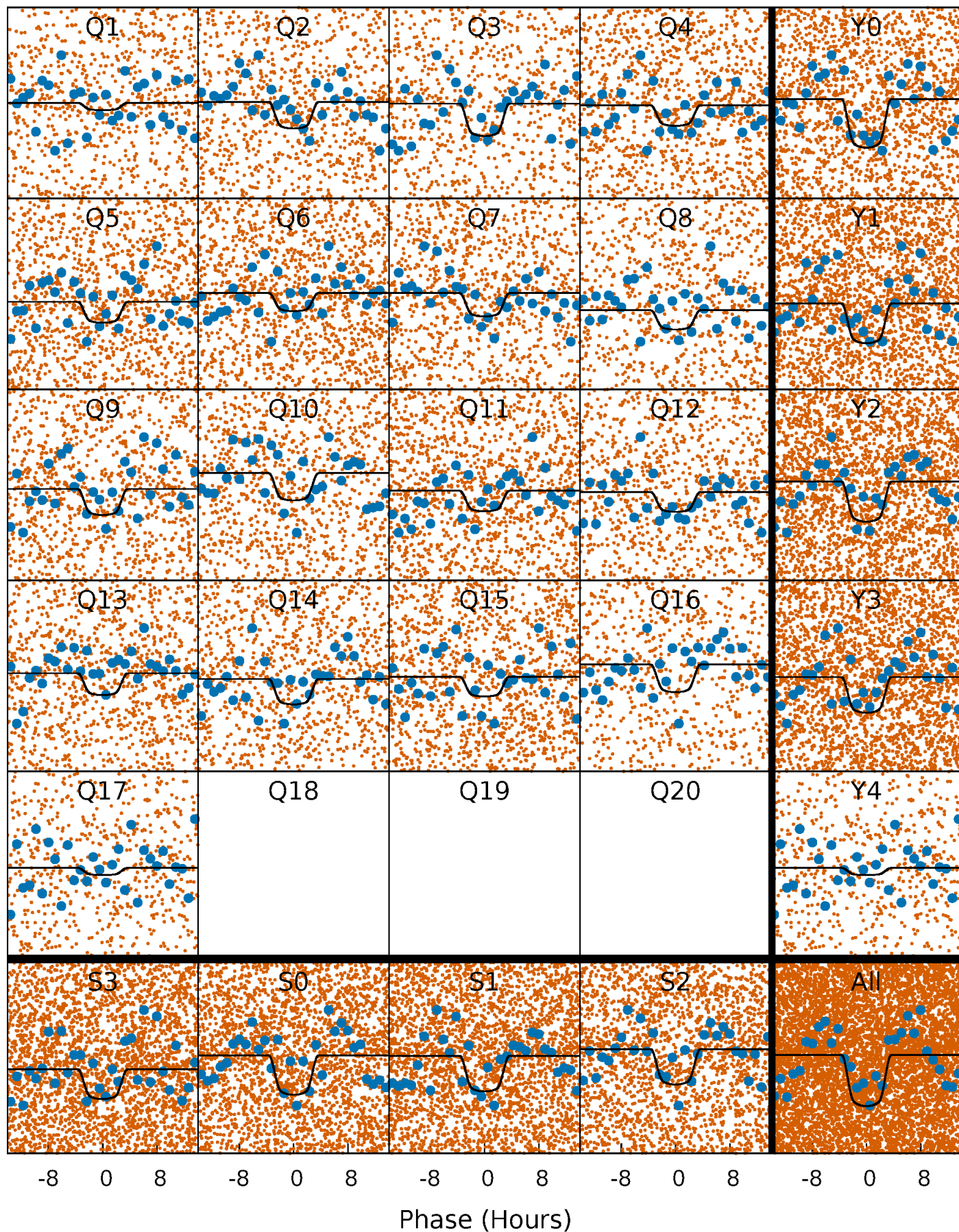
PDC Quarter-Phased Transit Curves

TCE 002714707-01 P= 1.570173 Days $T_0=132.562121$ (BKJD)



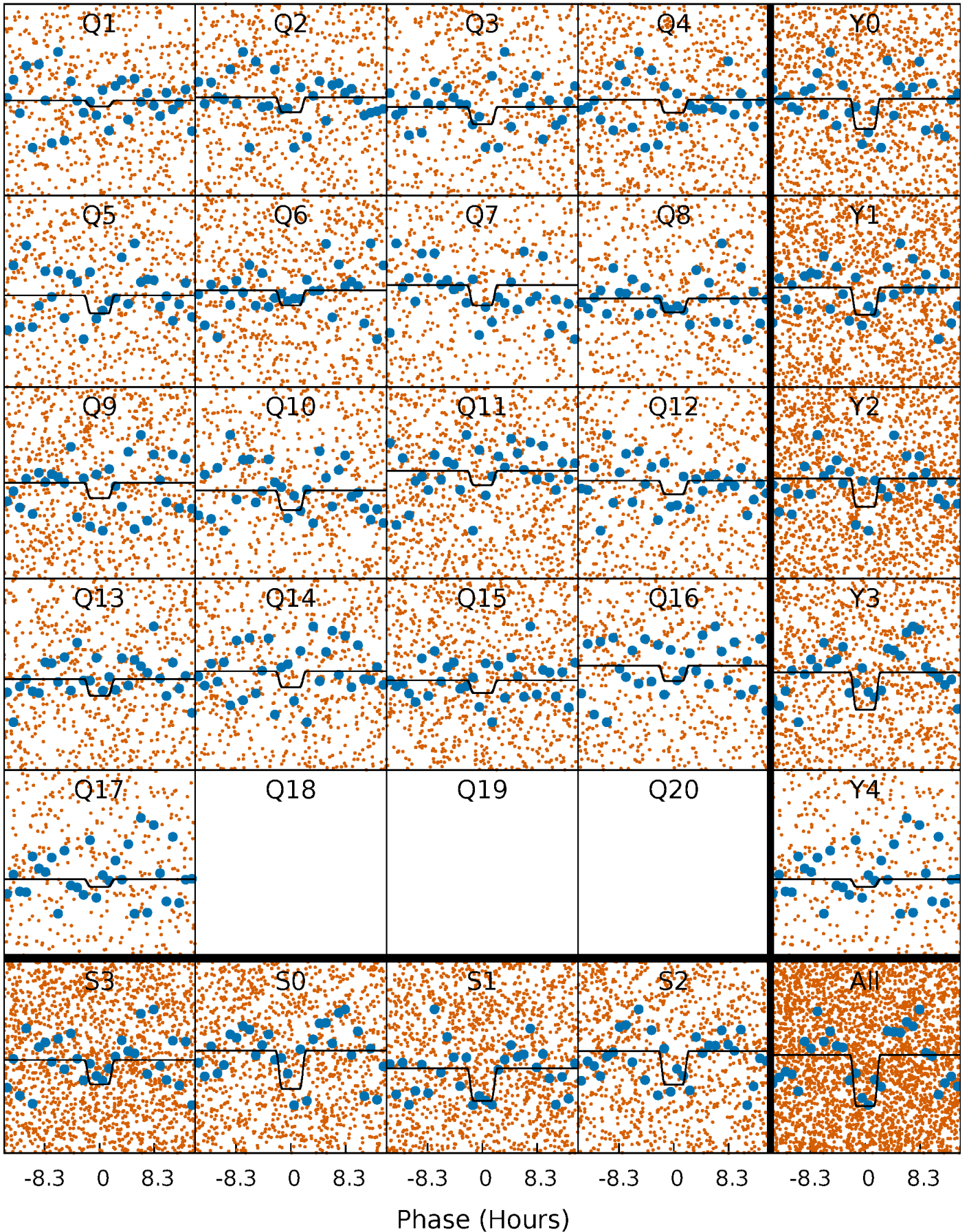
DV Quarter-Phased Transit Curves

TCE 002714707-01 P= 1.570173 Days $T_0=132.562121$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

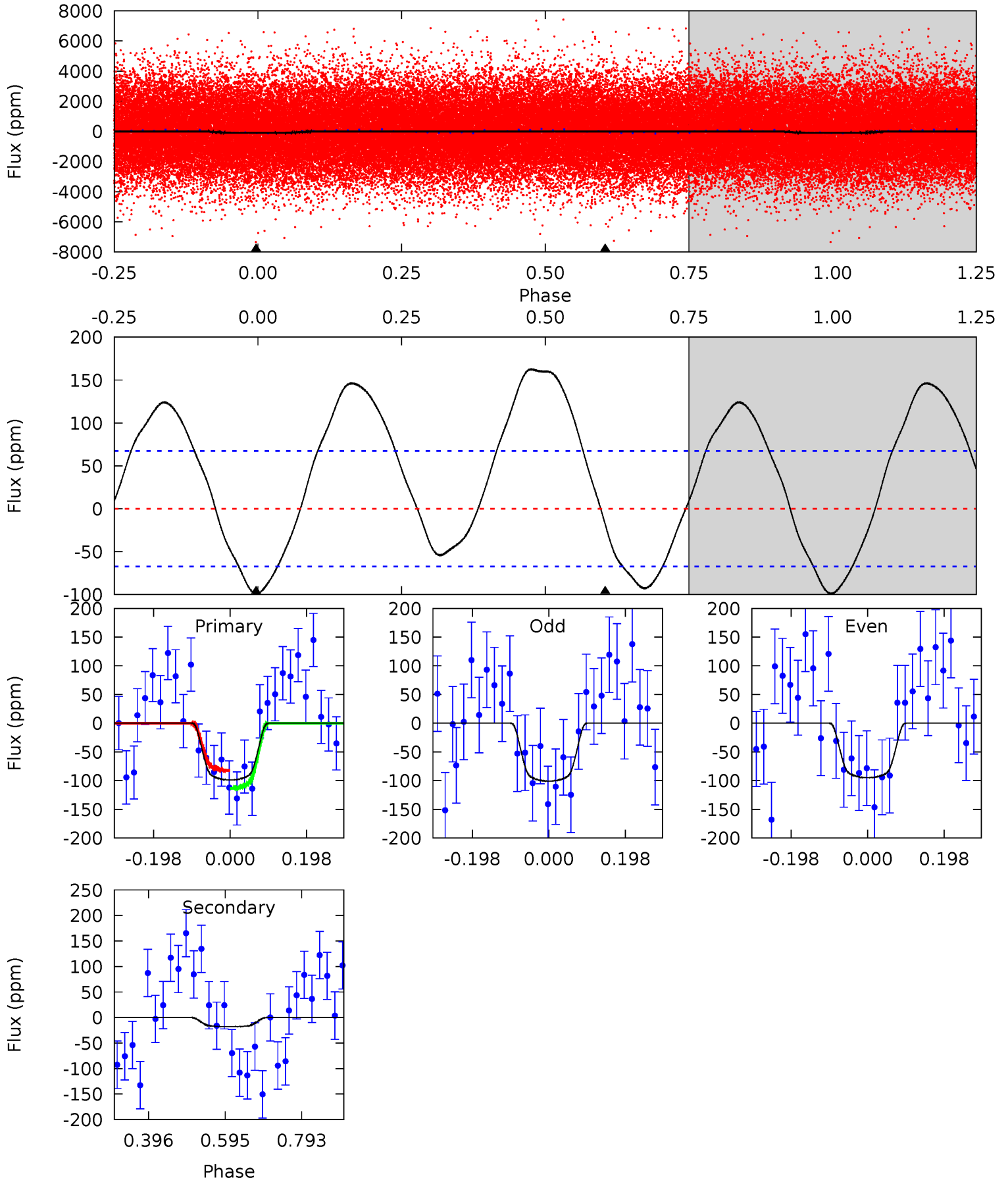
TCE 002714707-01 P= 1.570169 Days $T_0=132.568655$ (BKJD)



DV Model-Shift Uniqueness Test

002714707-01, P = 1.570173 Days, E = 130.991948 Days

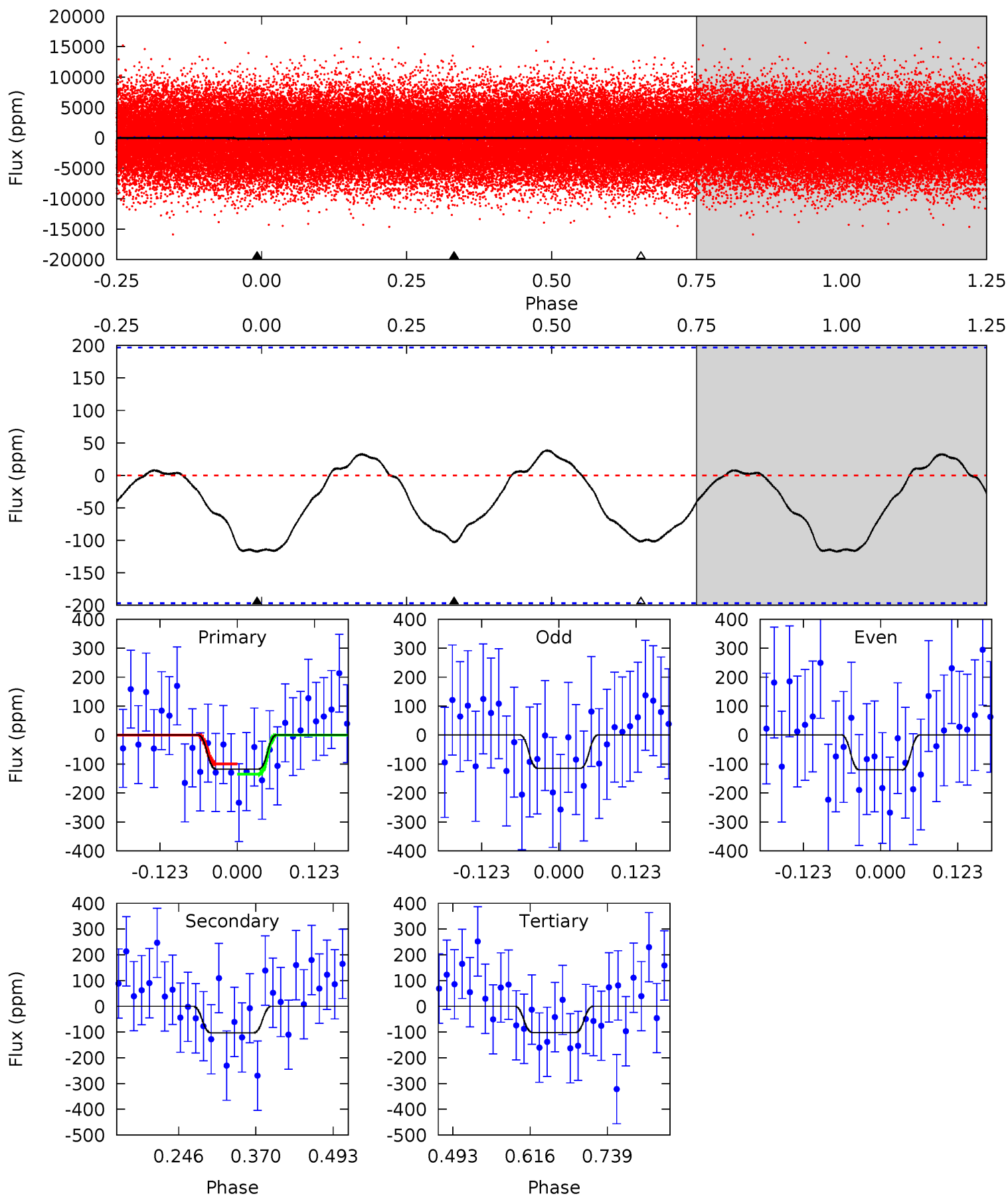
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.49	1.18	0	0	4.42	1.29	3.70	6.49	6.49	1.18	1.18	0.20	0.98	0.62	1.03



Alt Model-Shift Uniqueness Test

002714707-01, P = 1.570169 Days, E = 130.998486 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.69	2.36	2.33	0	4.52	1.54	1.05	0.36	2.69	0.03	2.36	0.06	0.33	0.25	0.40



Stellar Parameters For KIC 002714707

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7261^{+228}_{-314}	$4.223^{+0.075}_{-0.210}$	$0.070^{+0.200}_{-0.350}$	$1.586^{+0.565}_{-0.202}$	$1.533^{+0.226}_{-0.204}$	$0.542^{+0.221}_{-0.296}$
	+3%/-4%	+2%/-5%	+286%/-500%	+36%/-13%	+15%/-13%	+41%/-55%
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 002714707-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 15	$2.58^{+0.49}_{-0.33}$	3274^{+259}_{-173}	3918^{+638}_{-6689}	$1.224^{+1.344}_{-1.011}$
Alt.	-103 ± 44	$2.24^{+0.46}_{-0.30}$	3275^{+252}_{-194}	6353^{+796}_{-919}	$9.994^{+5.754}_{-4.645}$

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 $A_{obs} \gg 1.0$

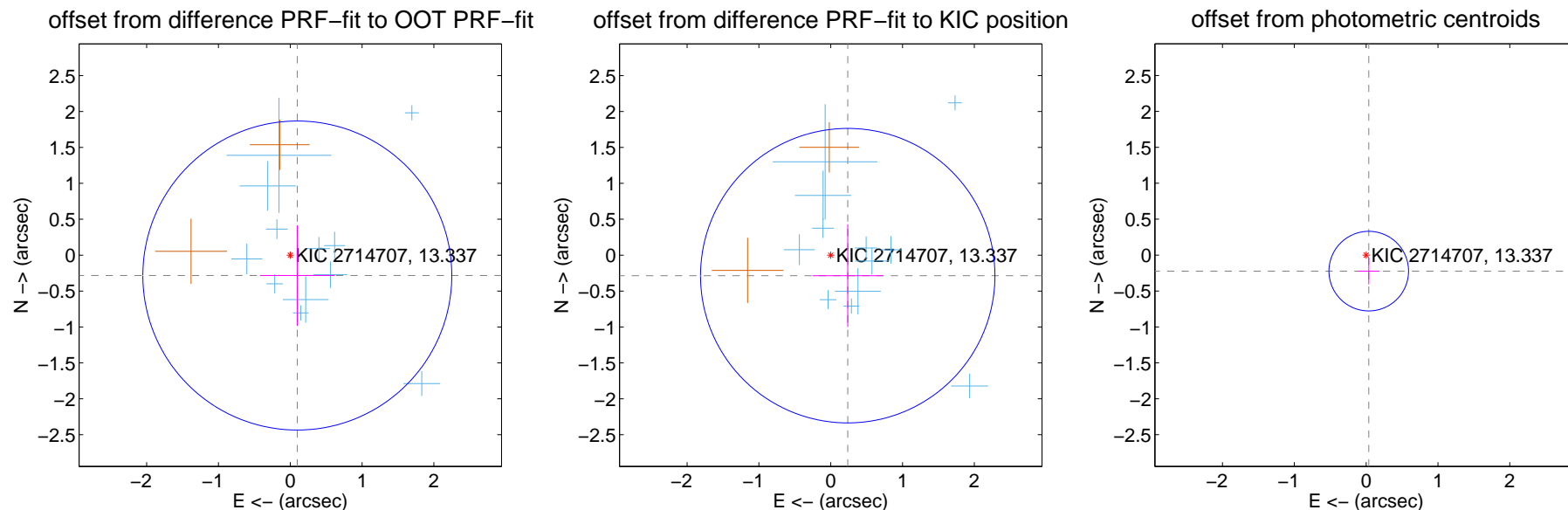
DV Centroid Data

Supplemental centroid analysis for 002714707-01. Kepler magnitude: 13.34. Transit SNR 11.42

There are 12 quarters with good PRF difference image offsets

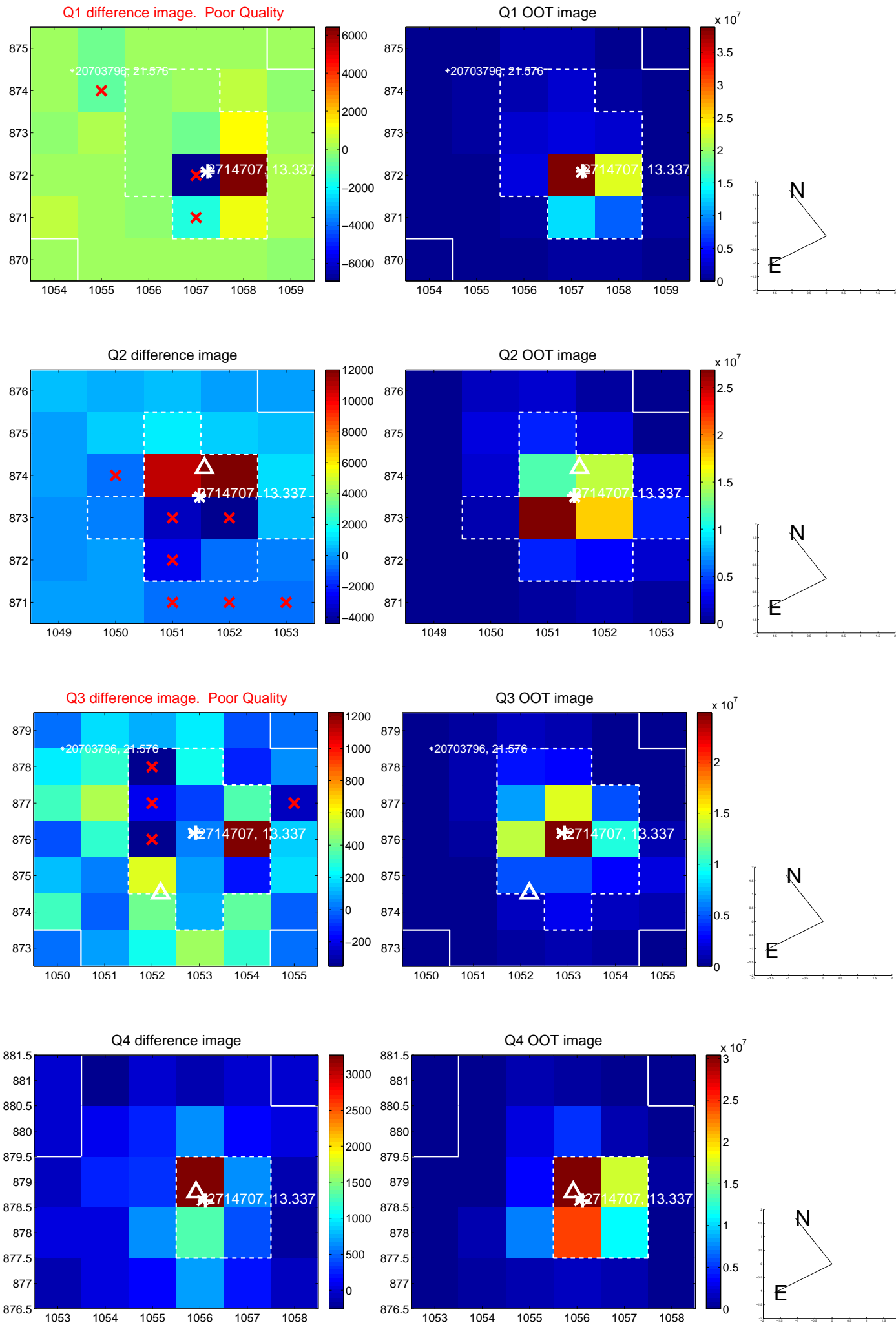
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.300 ± 0.717	0.42	-0.098 ± 0.519	-0.284 ± 0.699
PRF-fit source offset from KIC position	0.371 ± 0.683	0.54	-0.237 ± 0.492	-0.286 ± 0.715
photometric centroid source offset	0.23 ± 0.18	1.22	-0.04 ± 0.15	-0.22 ± 0.19

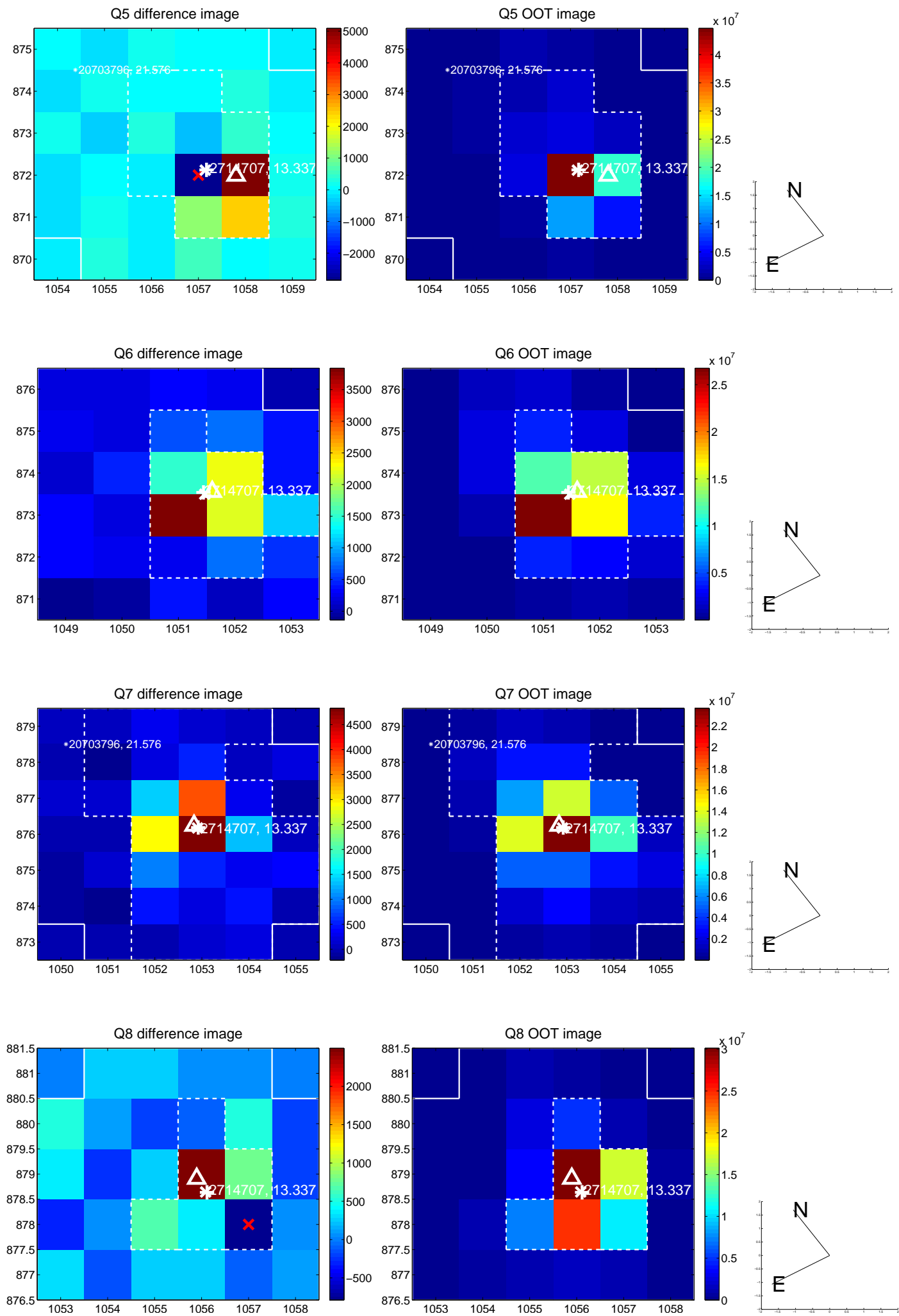


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

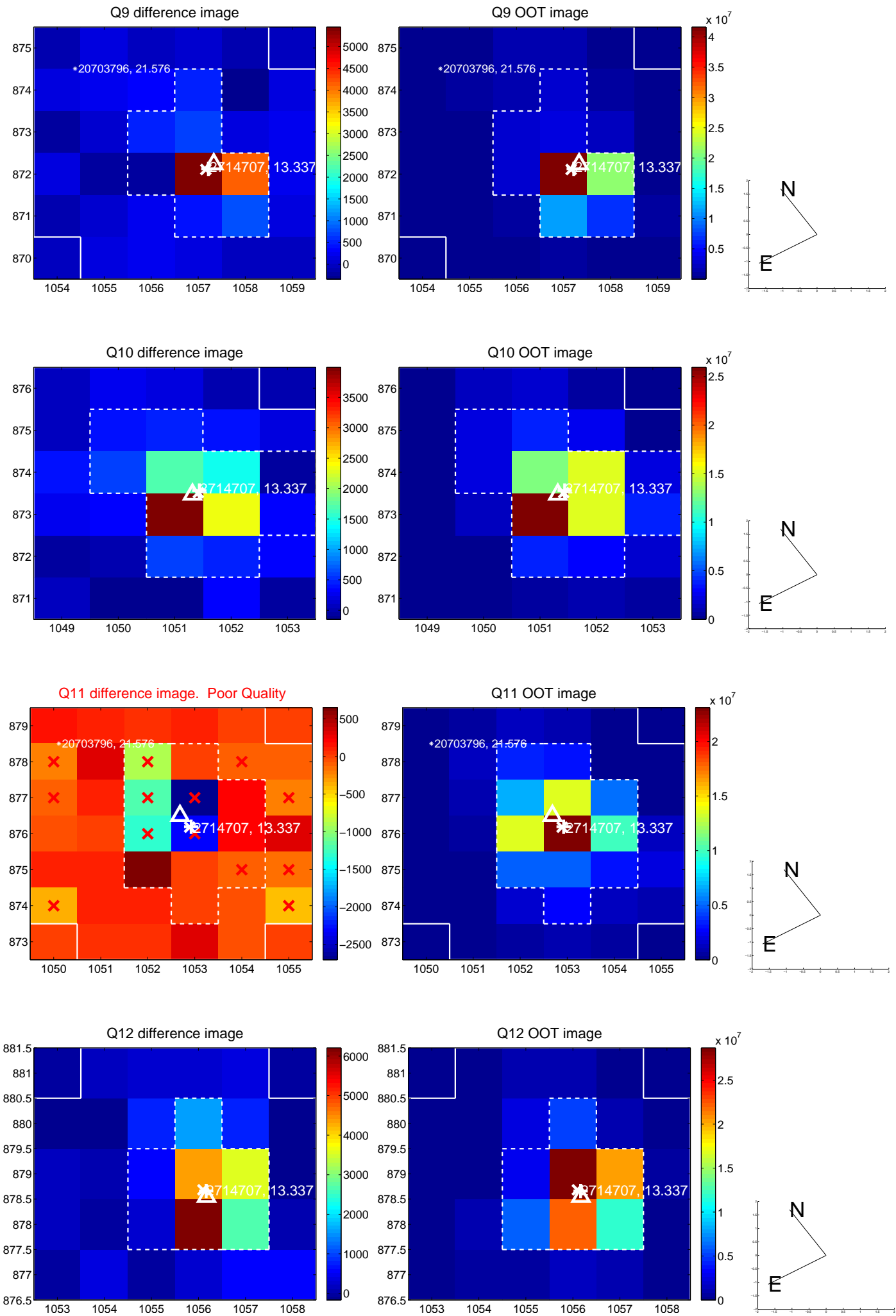
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



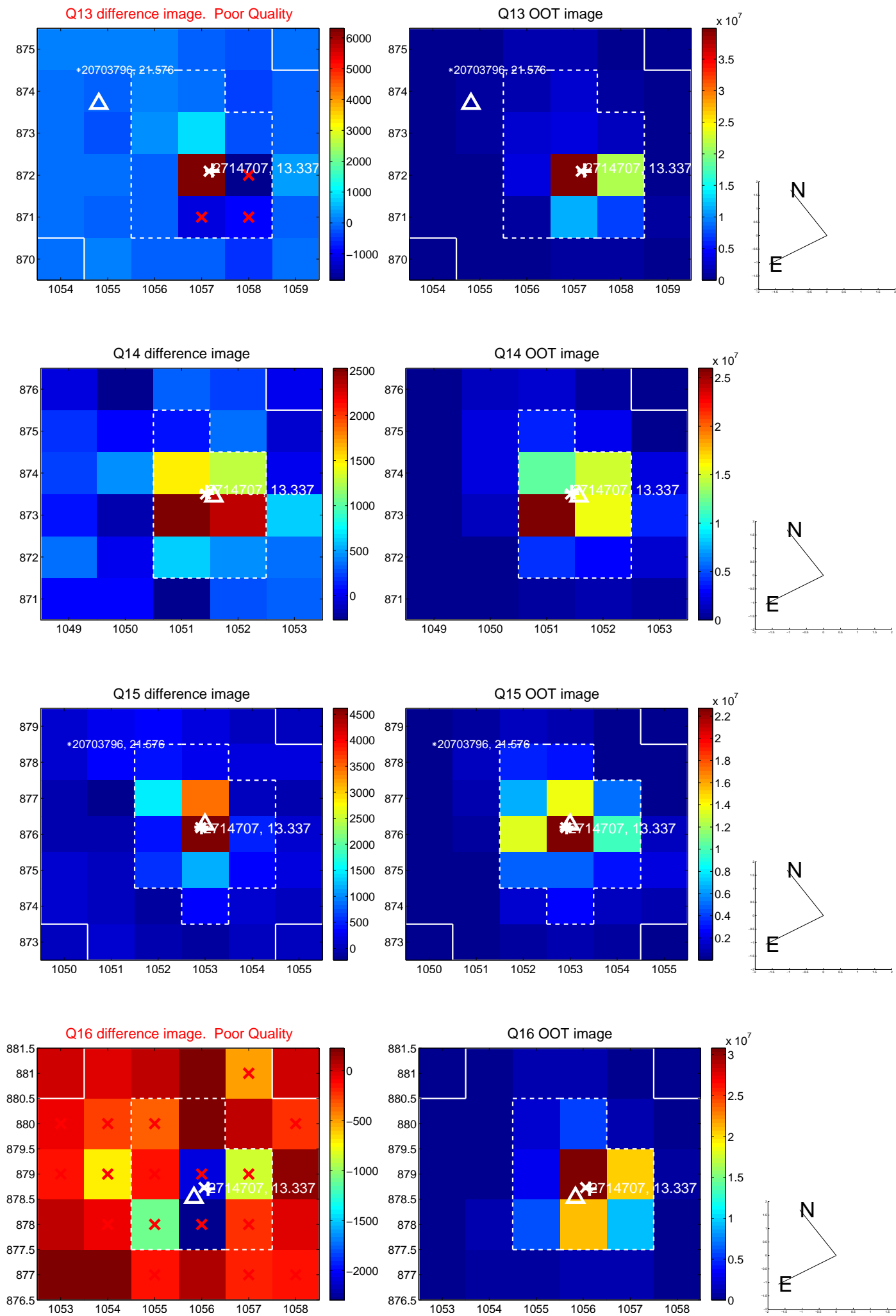
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



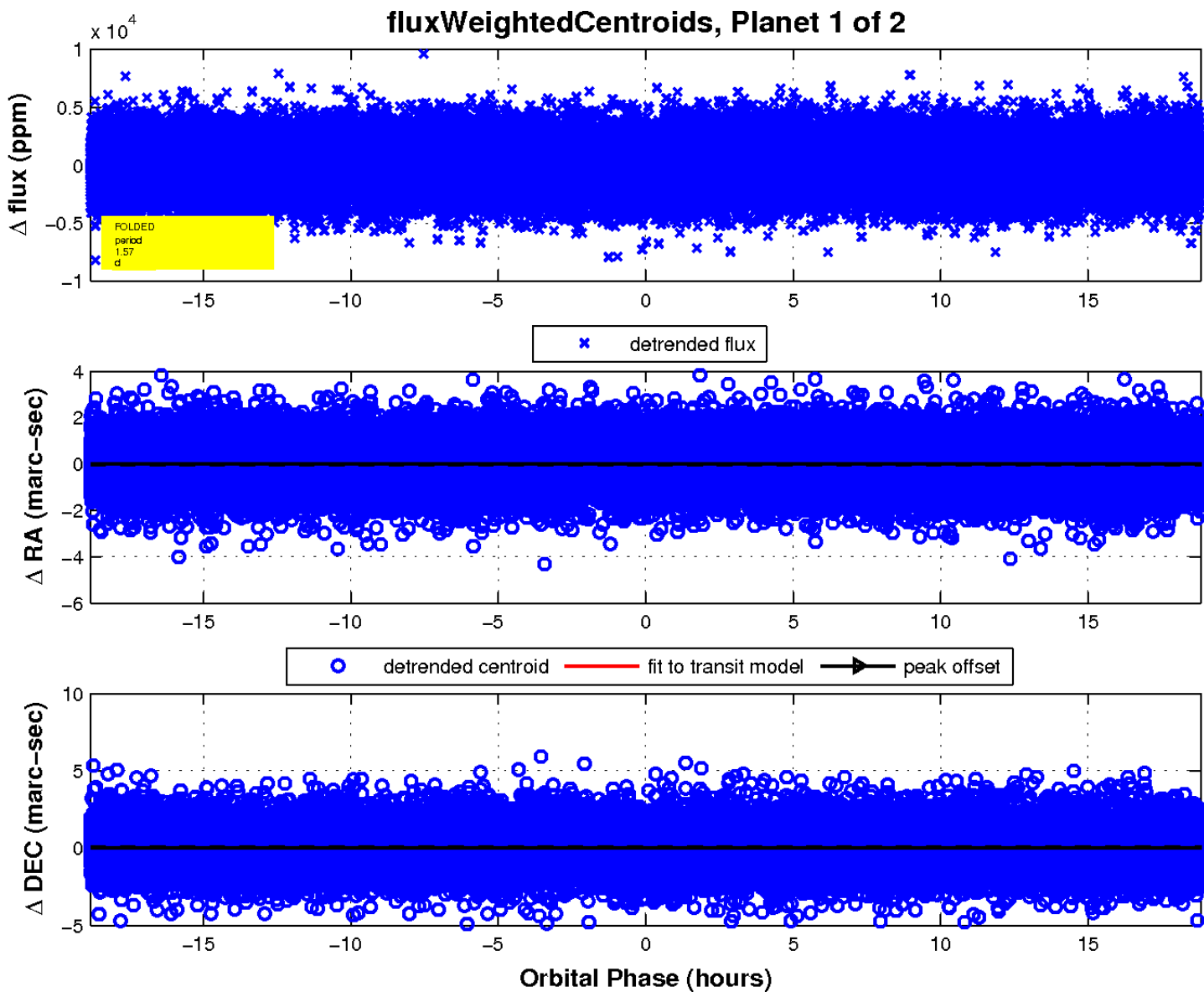
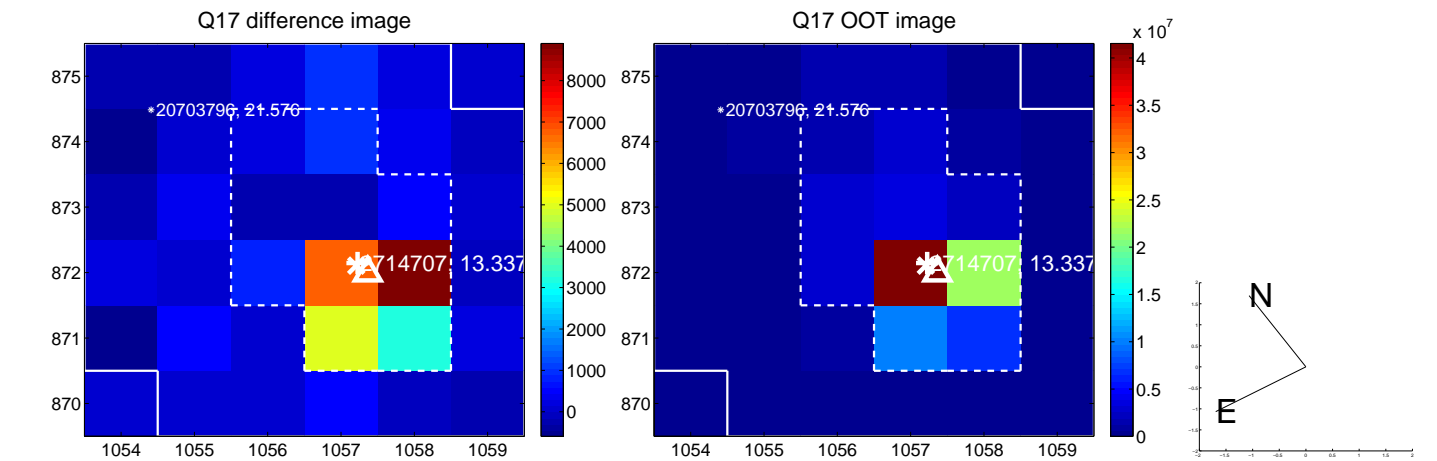
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

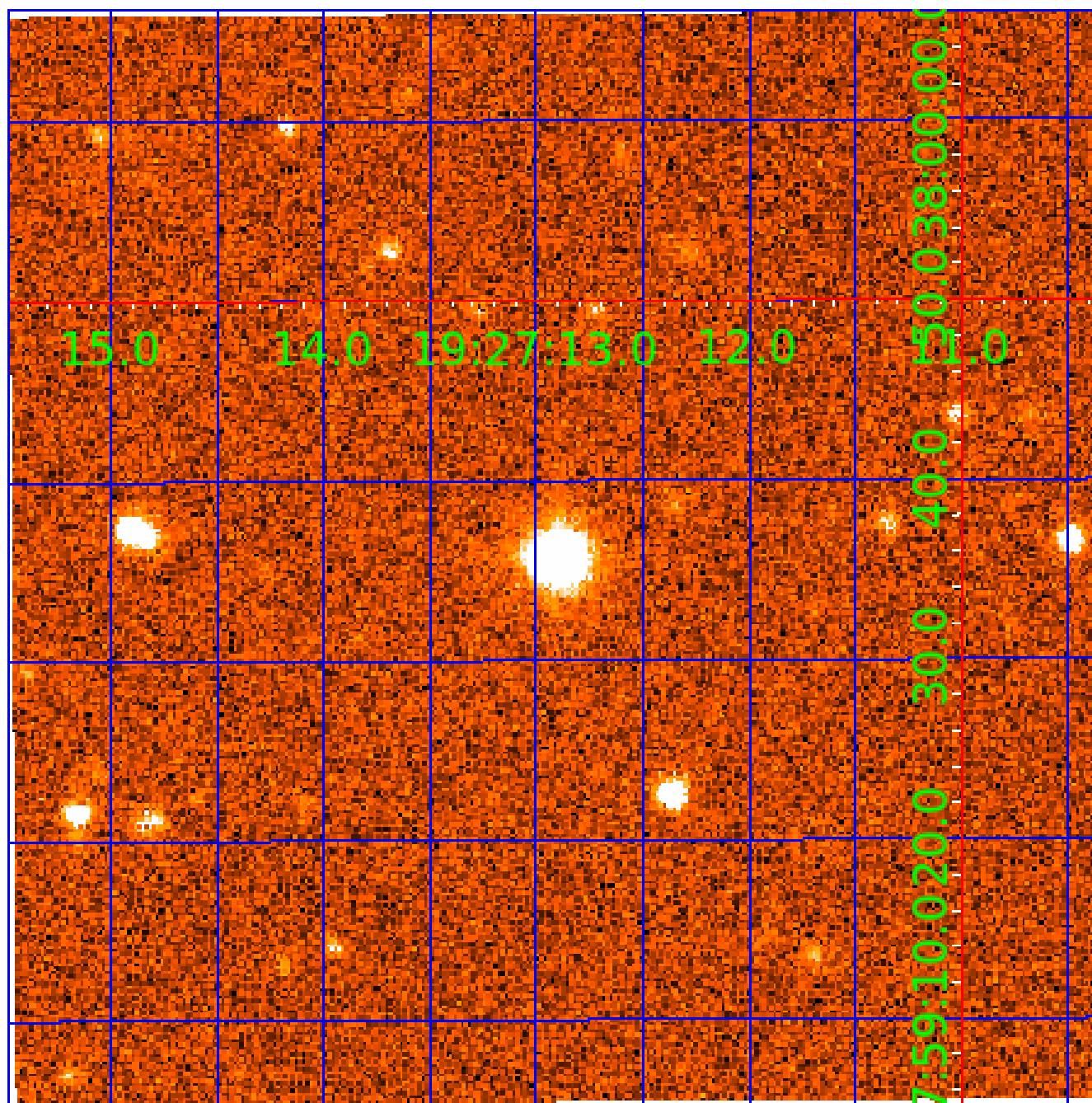


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002714707

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})
002714707-01	OBS	No	1.570173	132.562121	157.3	7.026	11.1	11.4	1.59	7261	2.51	6737.29
002714707-02	OBS	No	3.491562	133.187649	250.9	9.474	9.5	9.1	1.59	7261	2.74	2321.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002714707-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
002714707-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

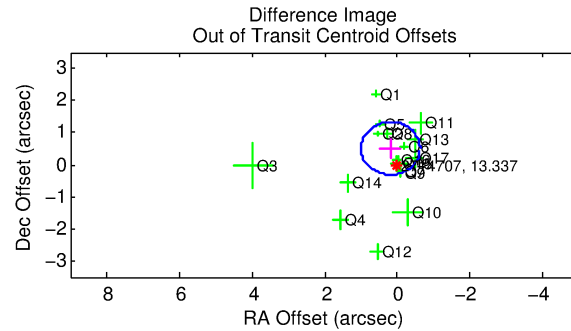
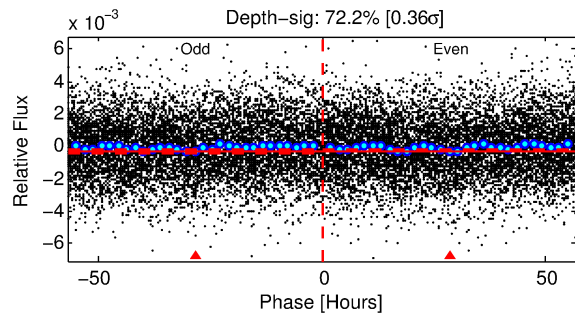
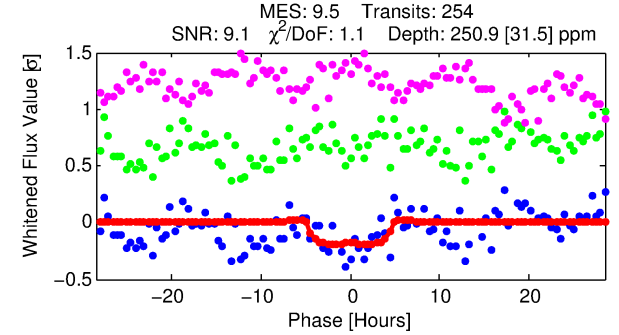
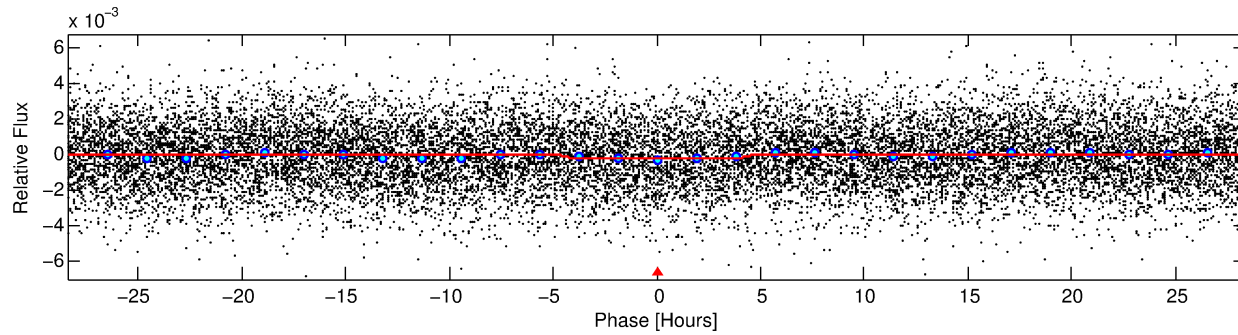
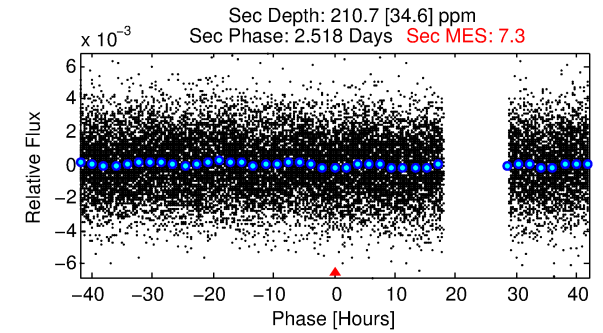
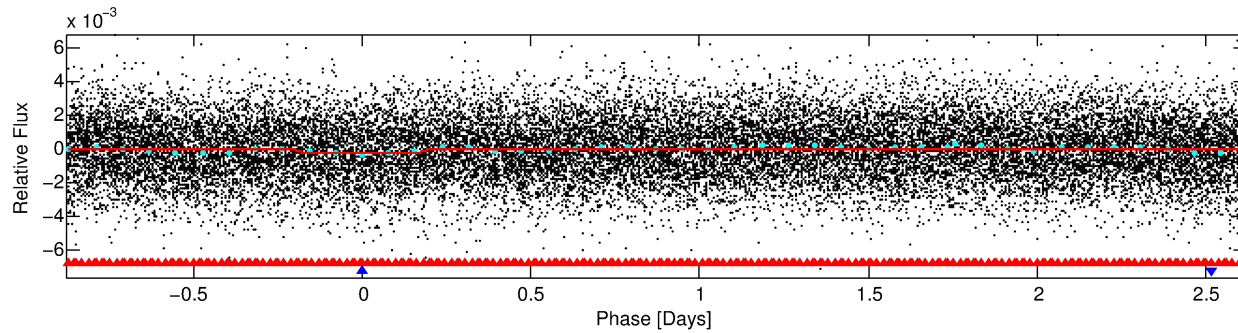
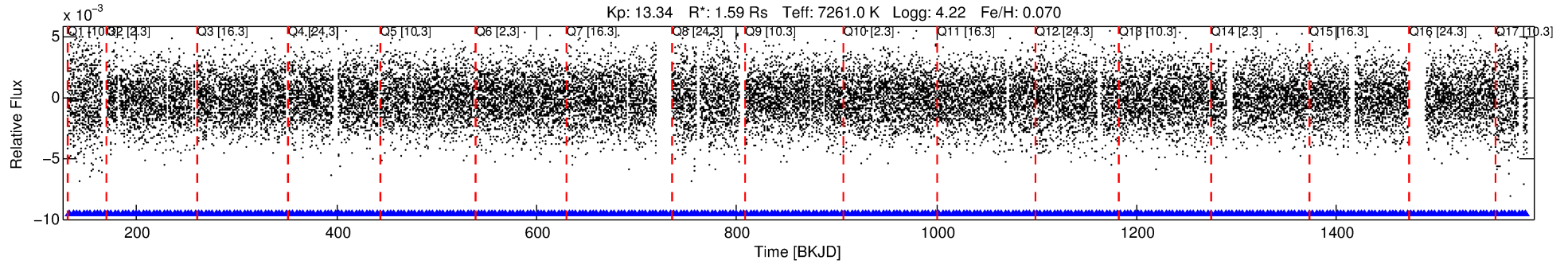
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002714707-02

No Significant Match Found

DV One-Page Summary

KIC: 2714707 Candidate: 2 of 2 Period: 3.492 d



DV Fit Results:

Period = 3.49156 [0.00007] d
Epoch = 133.1876 [0.0152] BKJD
Rp/R* = 0.0158 [0.0083]
a/R* = 2.06 [5.11]
b = 0.77 [1.75]
Seff = 2321.25 [1012.46]
Teff = 1770 [193] K
Rp = 2.74 [1.74] Re
a = 0.0519 [0.0149] AU
Ag = 41.72 [47.40] [0.86σ]
Teffp = 6955 [1873] K [2.75σ]

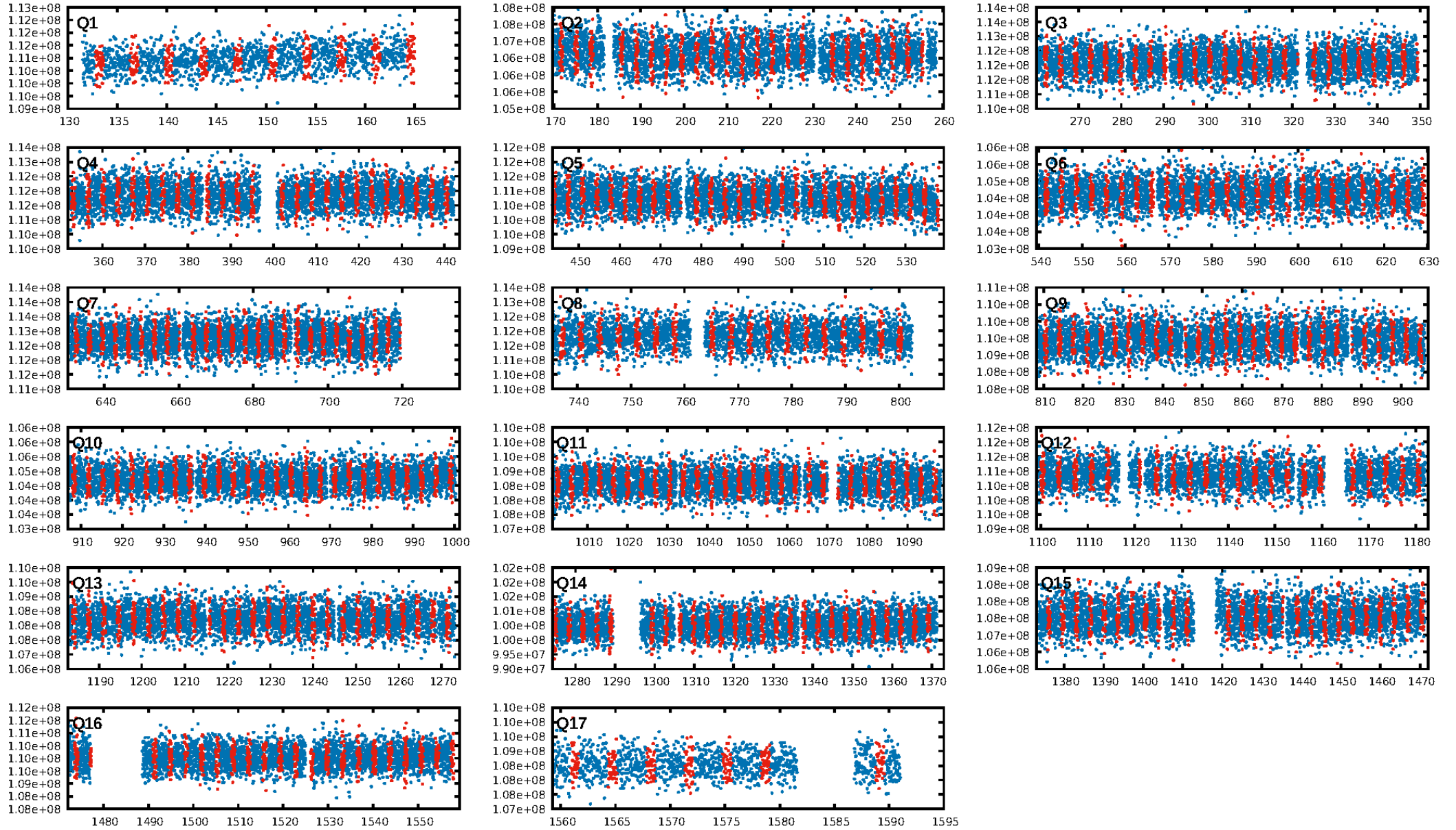
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.91σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.49e-34
RollingBand-fgt: 1.00 [243/243]
GhostDiagnostic-chr: 0.709
Centroid-sig: 4.0%
Centroid-so: 0.322 arcsec [2.28σ]
OotOffset-rm: 0.543 arcsec [1.99σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.591 arcsec [1.98σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

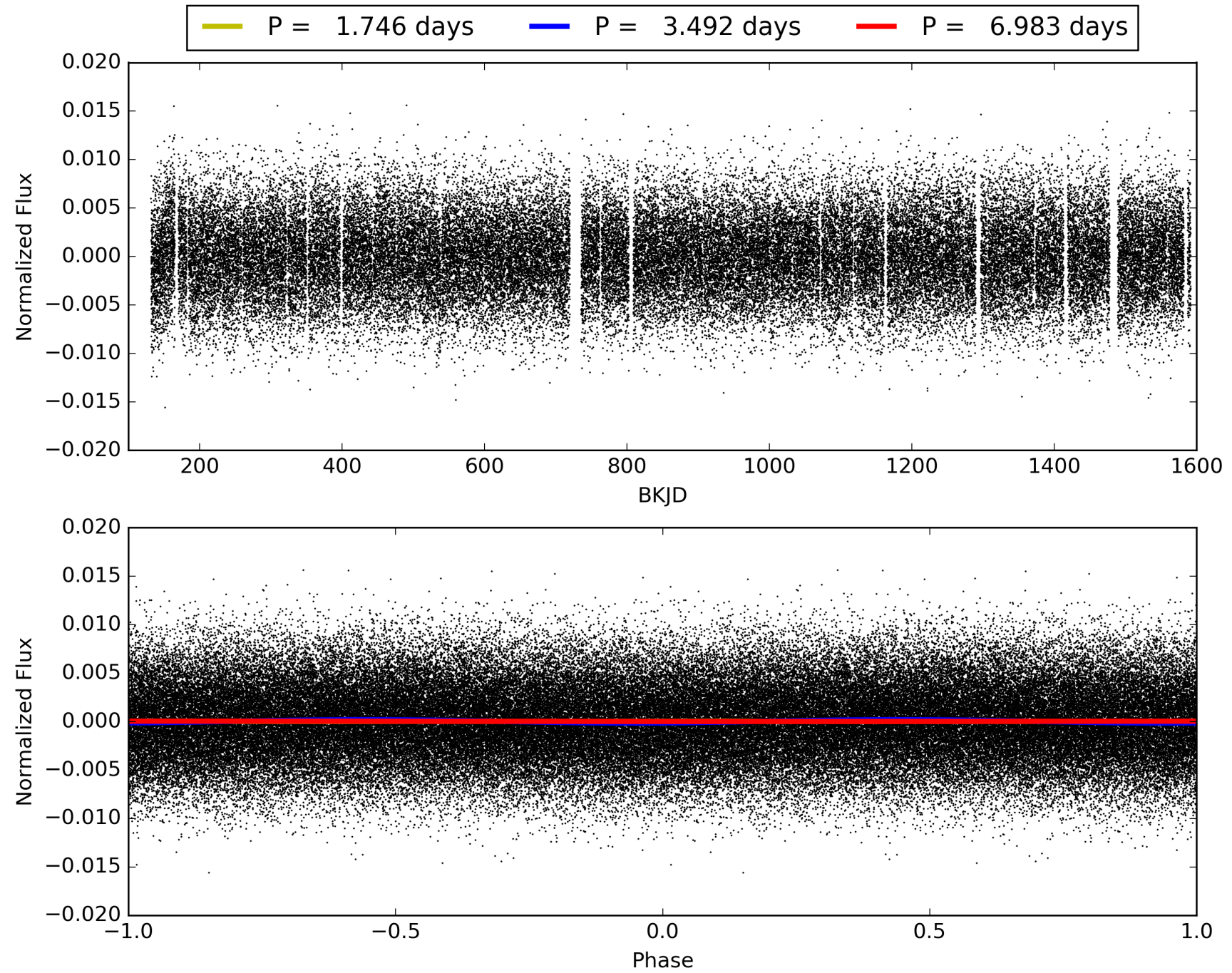
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:47:45 Z

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

TCE 002714707-02, PDC Light Curves

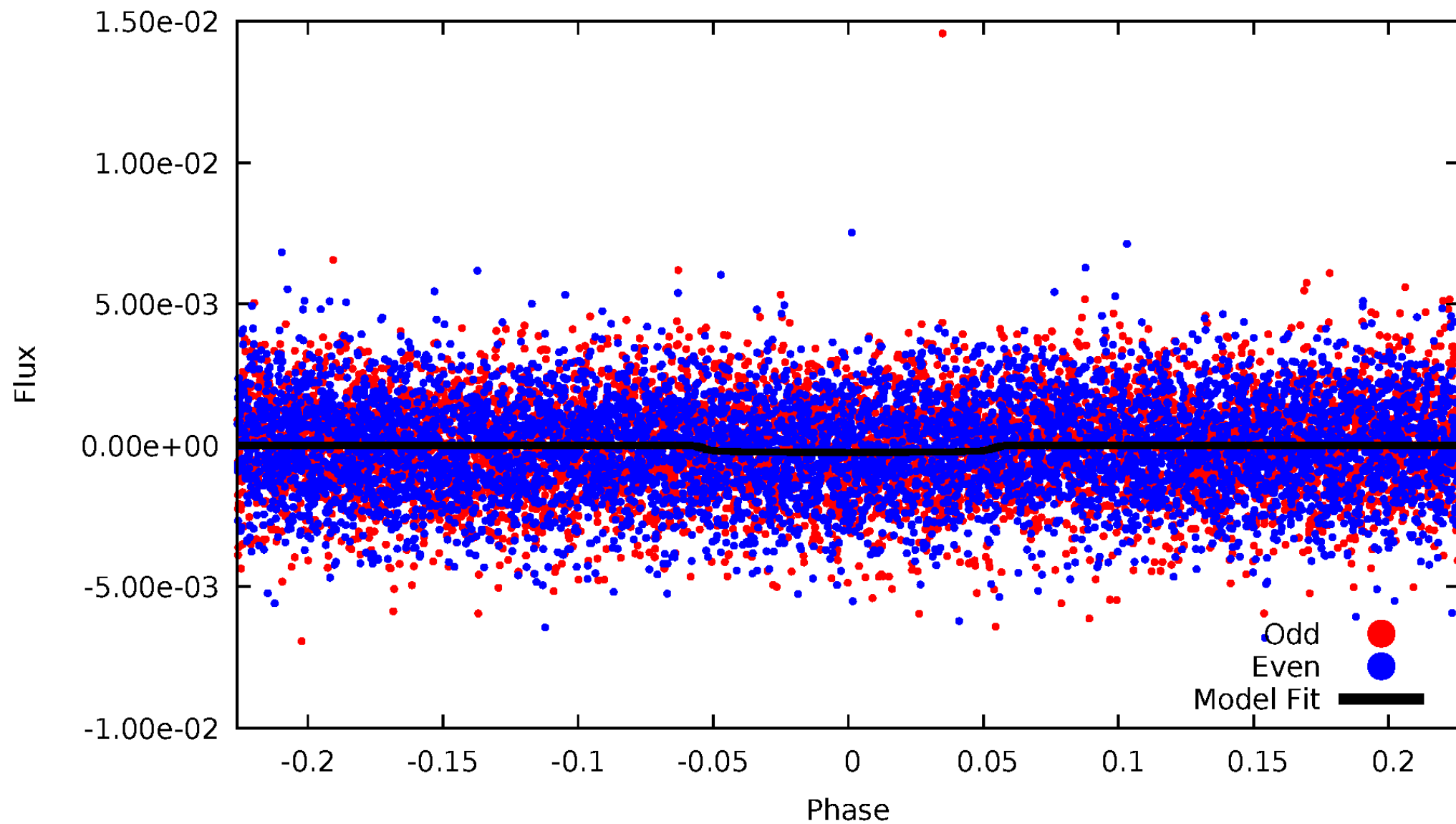


TCE 002714707-02



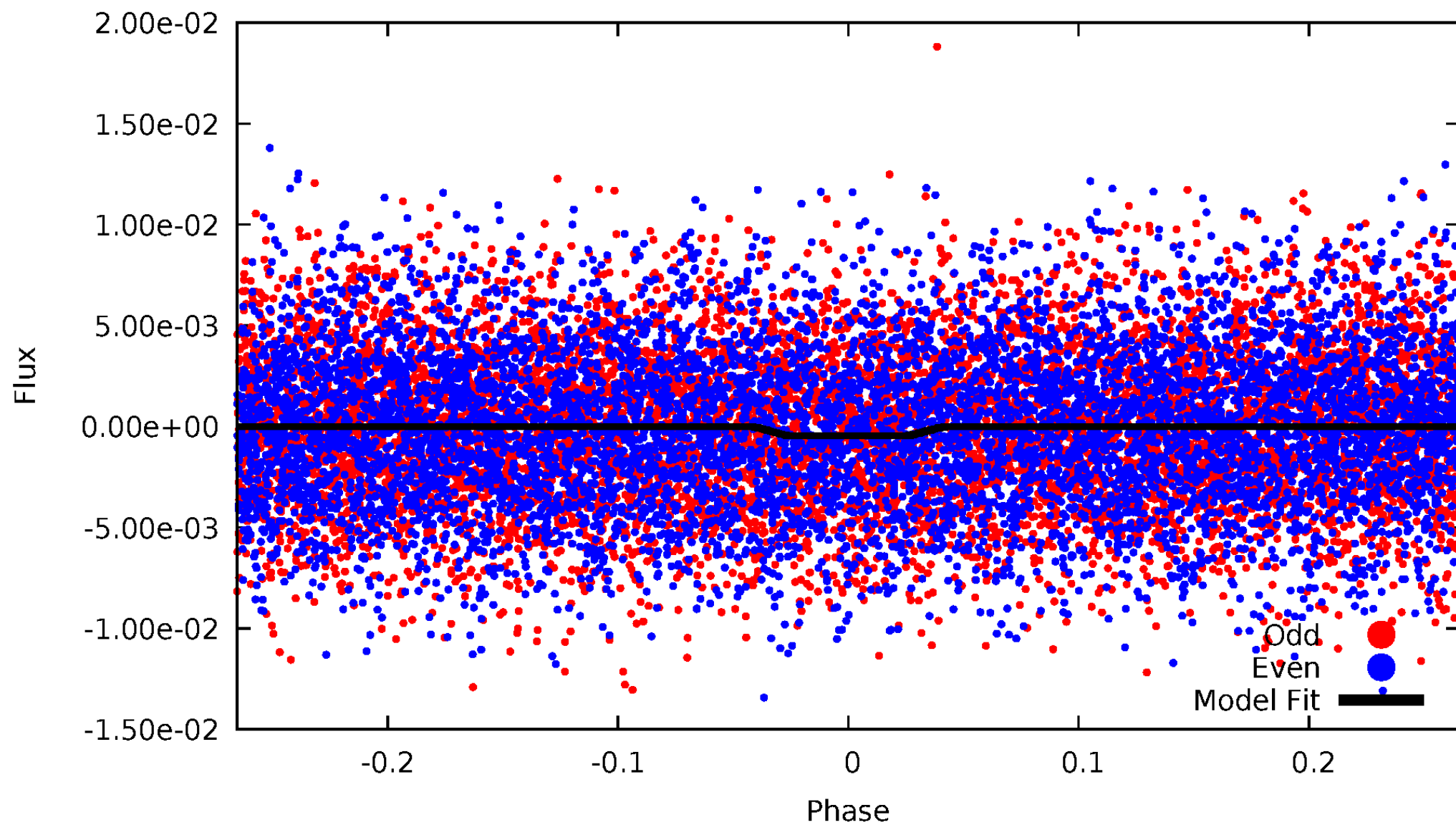
DV Odd/Even

TCE 002714707-02



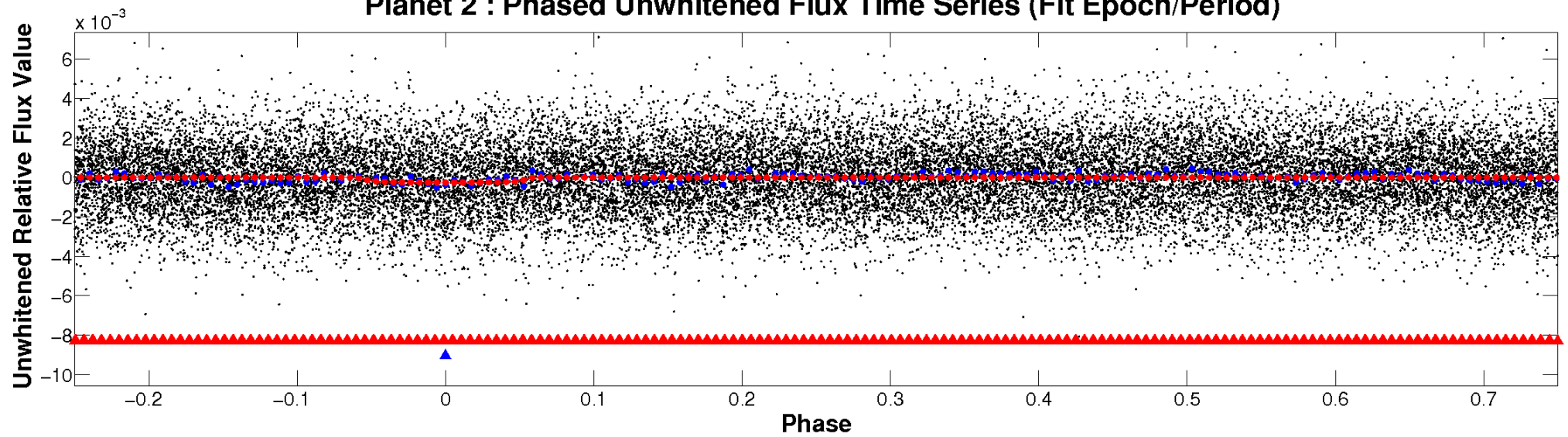
ALT Odd/Even

TCE 002714707-02

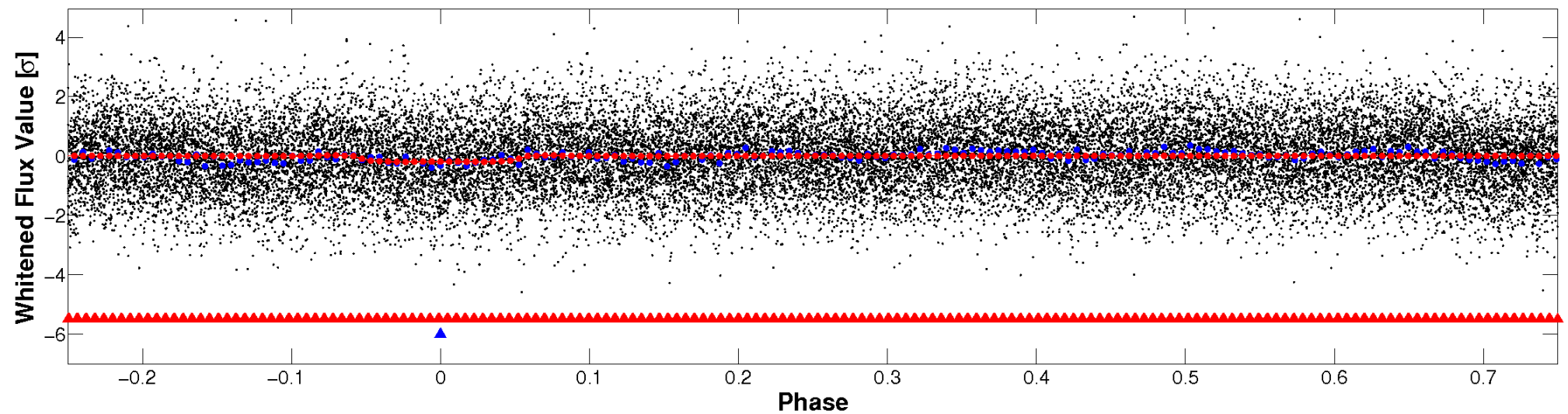


Non-Whitened Vs. Whitened Light Curve

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

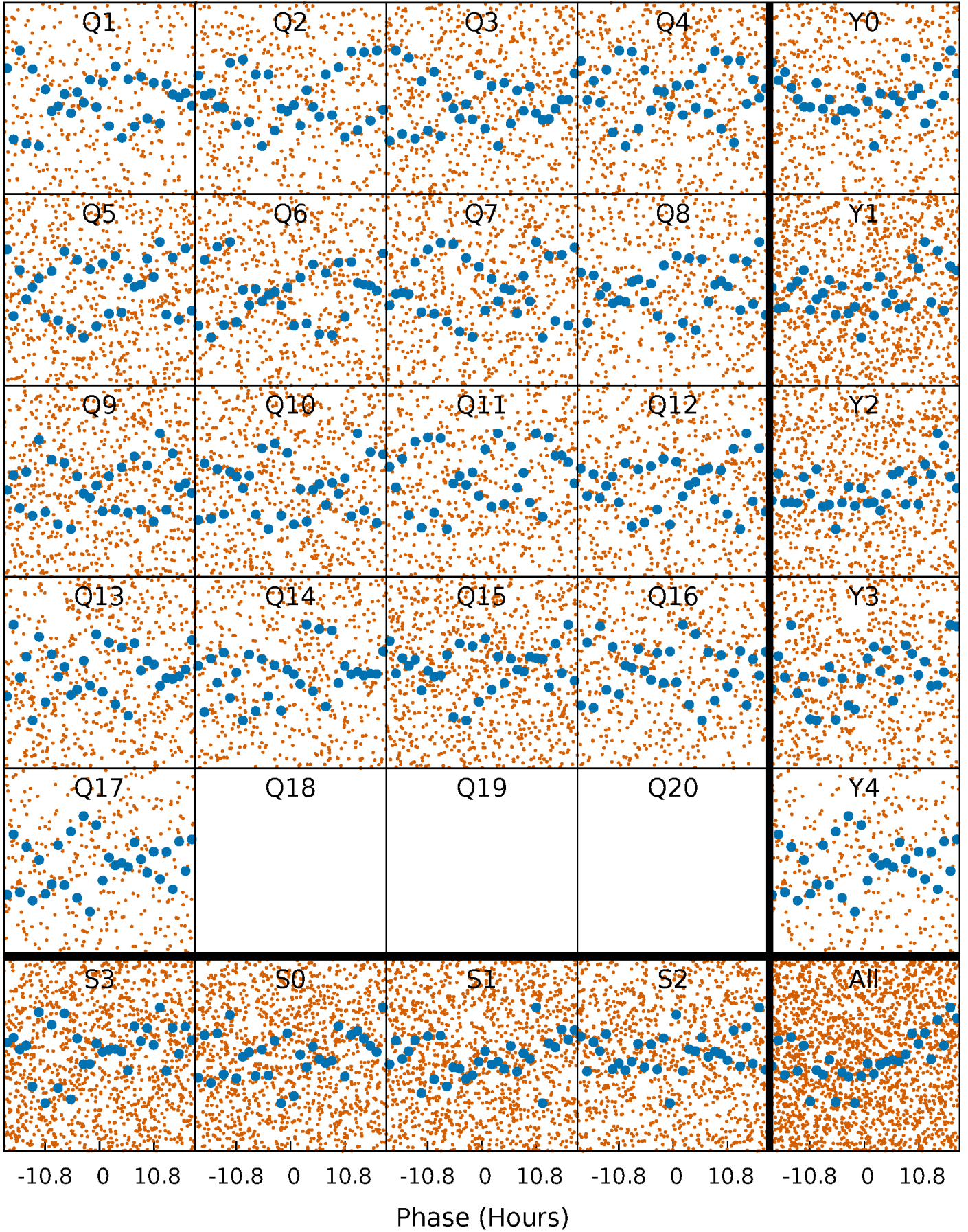


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



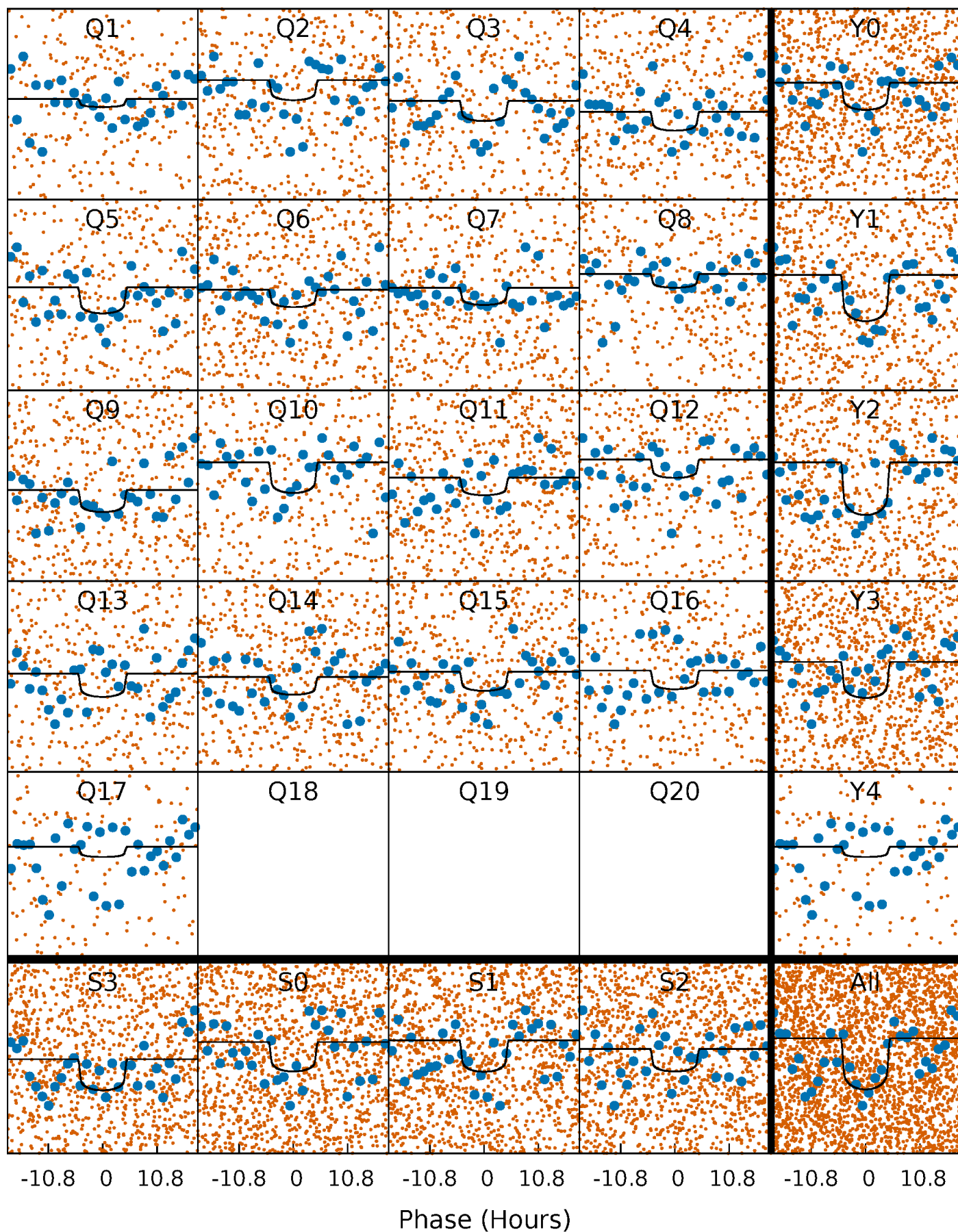
PDC Quarter-Phased Transit Curves

TCE 002714707-02 $P = 3.491562$ Days $T_0 = 133.187649$ (BKJD)



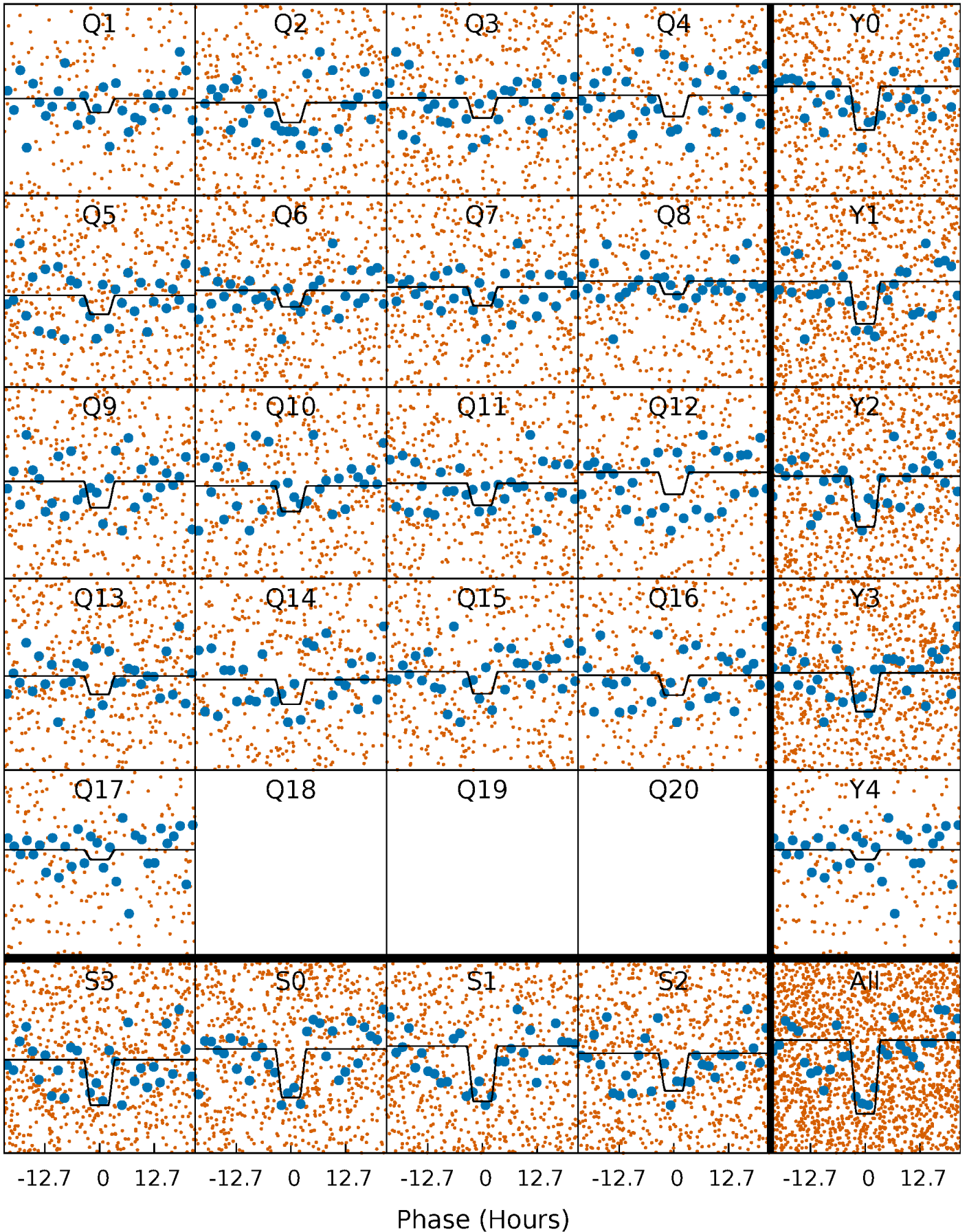
DV Quarter-Phased Transit Curves

TCE 002714707-02 $P = 3.491562$ Days $T_0 = 133.187649$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

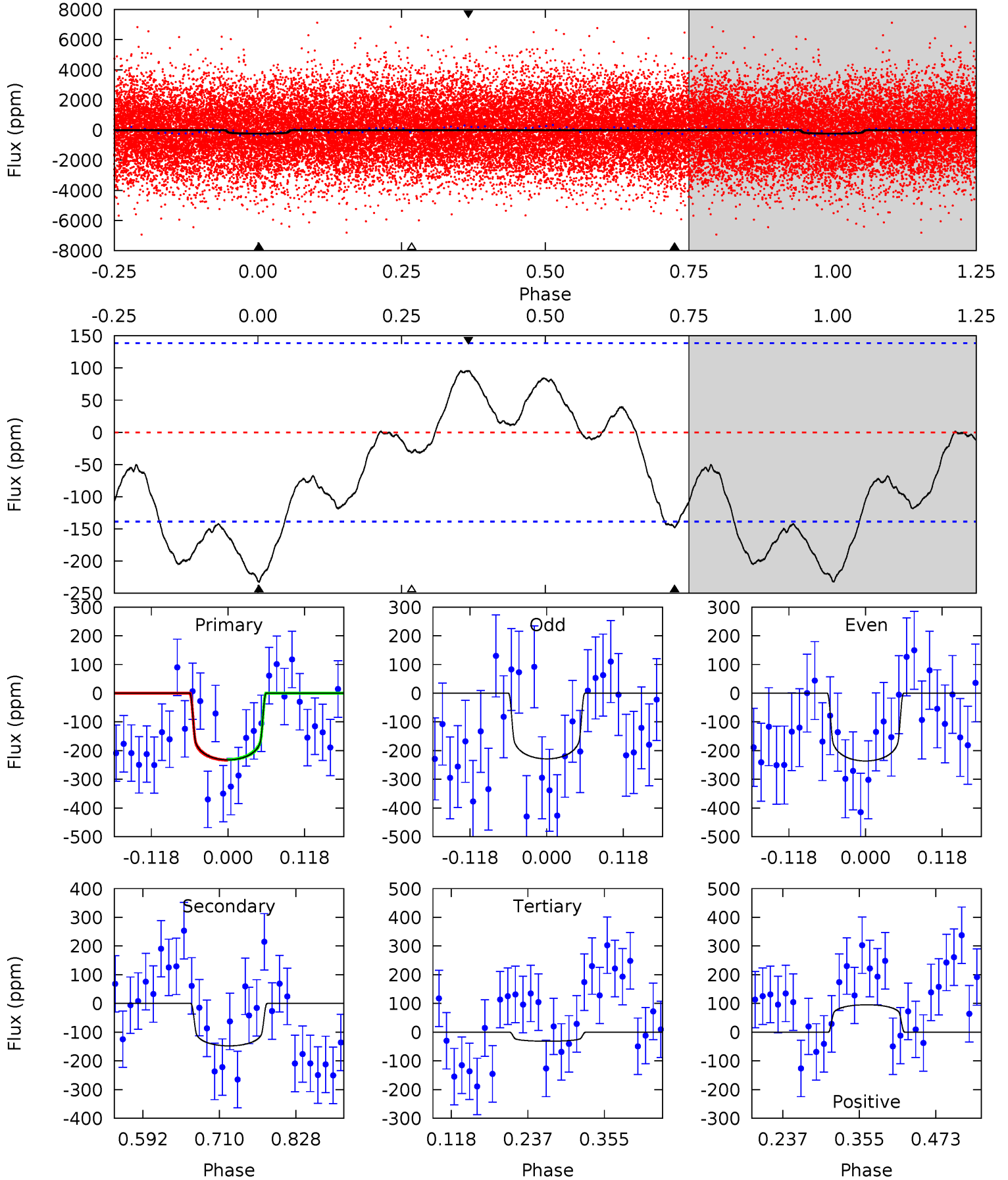
TCE 002714707-02 P= 3.491520 Days $T_0=133.188758$ (BKJD)



DV Model-Shift Uniqueness Test

002714707-02, P = 3.491562 Days, E = 129.696087 Days

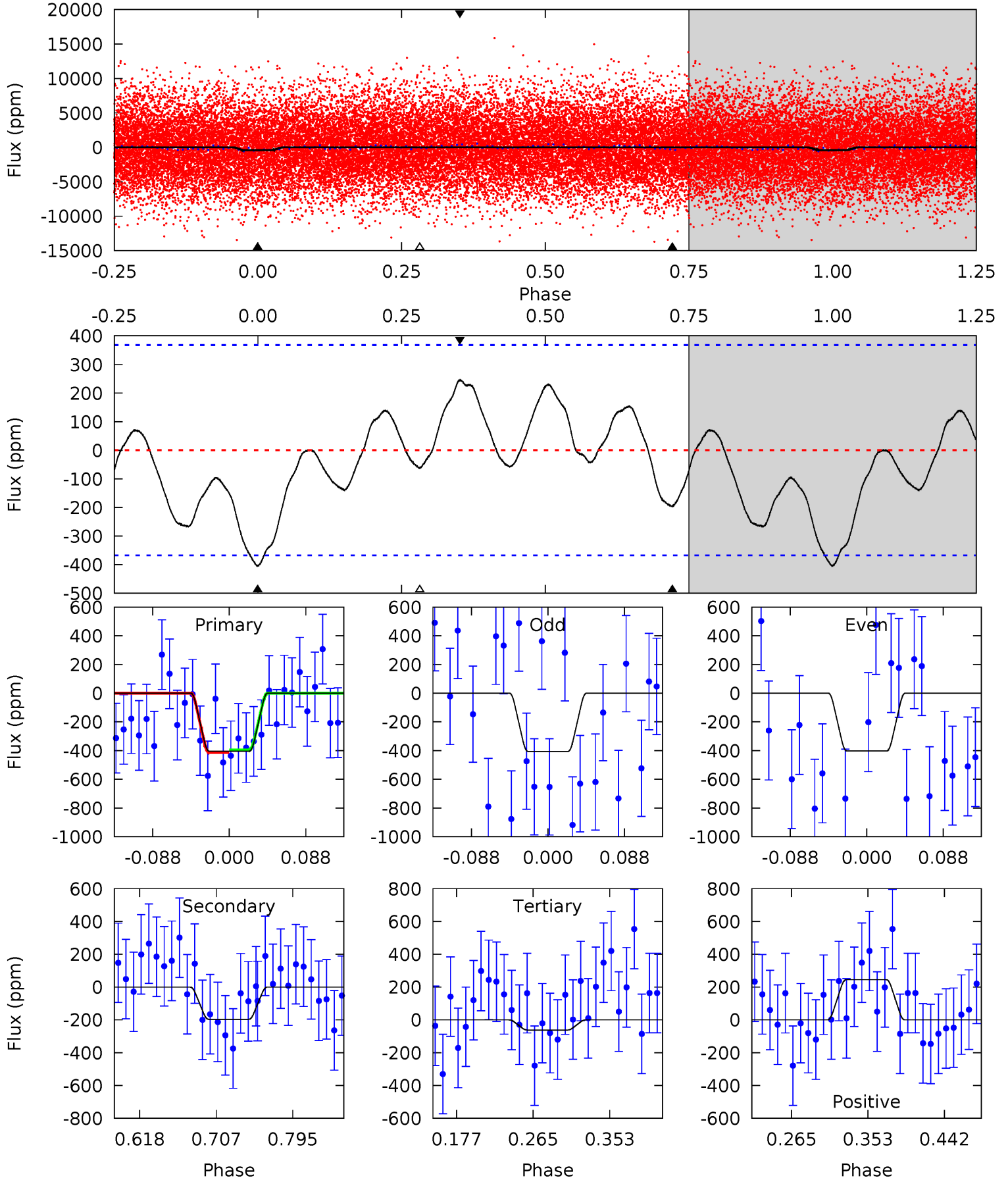
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	4.82	1.03	3.12	4.53	1.56	2.50	6.56	4.47	3.79	1.71	0.12	0.76	0.29	0.03



Alt Model-Shift Uniqueness Test

002714707-02, P = 3.491520 Days, E = 129.697238 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.05	2.46	0.78	3.07	4.59	1.70	1.62	4.28	1.99	1.68	-0.61	0.02	1.21	0.38	0.12



Stellar Parameters For KIC 002714707

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7261^{+228}_{-314}	$4.223^{+0.075}_{-0.210}$	$0.070^{+0.200}_{-0.350}$	$1.586^{+0.565}_{-0.202}$	$1.533^{+0.226}_{-0.204}$	$0.542^{+0.221}_{-0.296}$
	+3%/-4%	+2%/-5%	+286%/-500%	+36%/-13%	+15%/-13%	+41%/-55%
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 002714707-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-148 ± 31	$2.96^{+1.51}_{-1.46}$	2513^{+201}_{-143}	6140^{+2878}_{-1078}	24^{+72}_{-14}
Alt.	-197 ± 80	$4.01^{+1.55}_{-1.54}$	2511^{+206}_{-145}	5644^{+1809}_{-931}	18^{+31}_{-10}

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 $A_{obs} \gg 1.0$

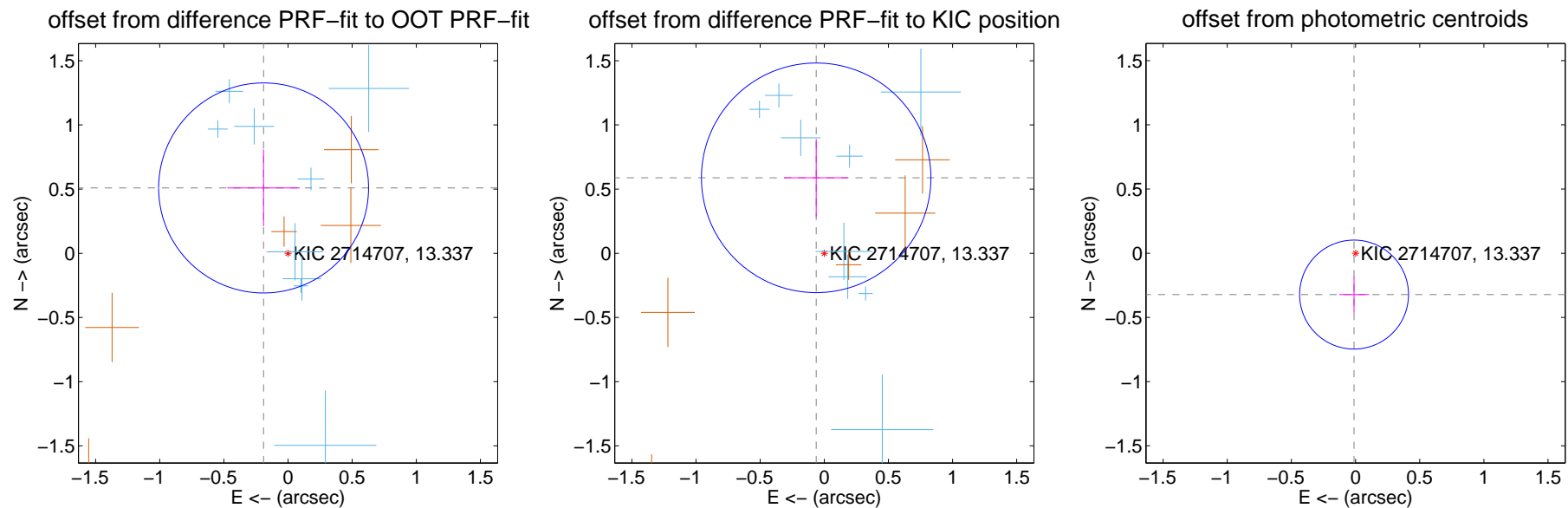
DV Centroid Data

Supplemental centroid analysis for 002714707-02. Kepler magnitude: 13.34. Transit SNR 9.15

There are 10 quarters with good PRF difference image offsets

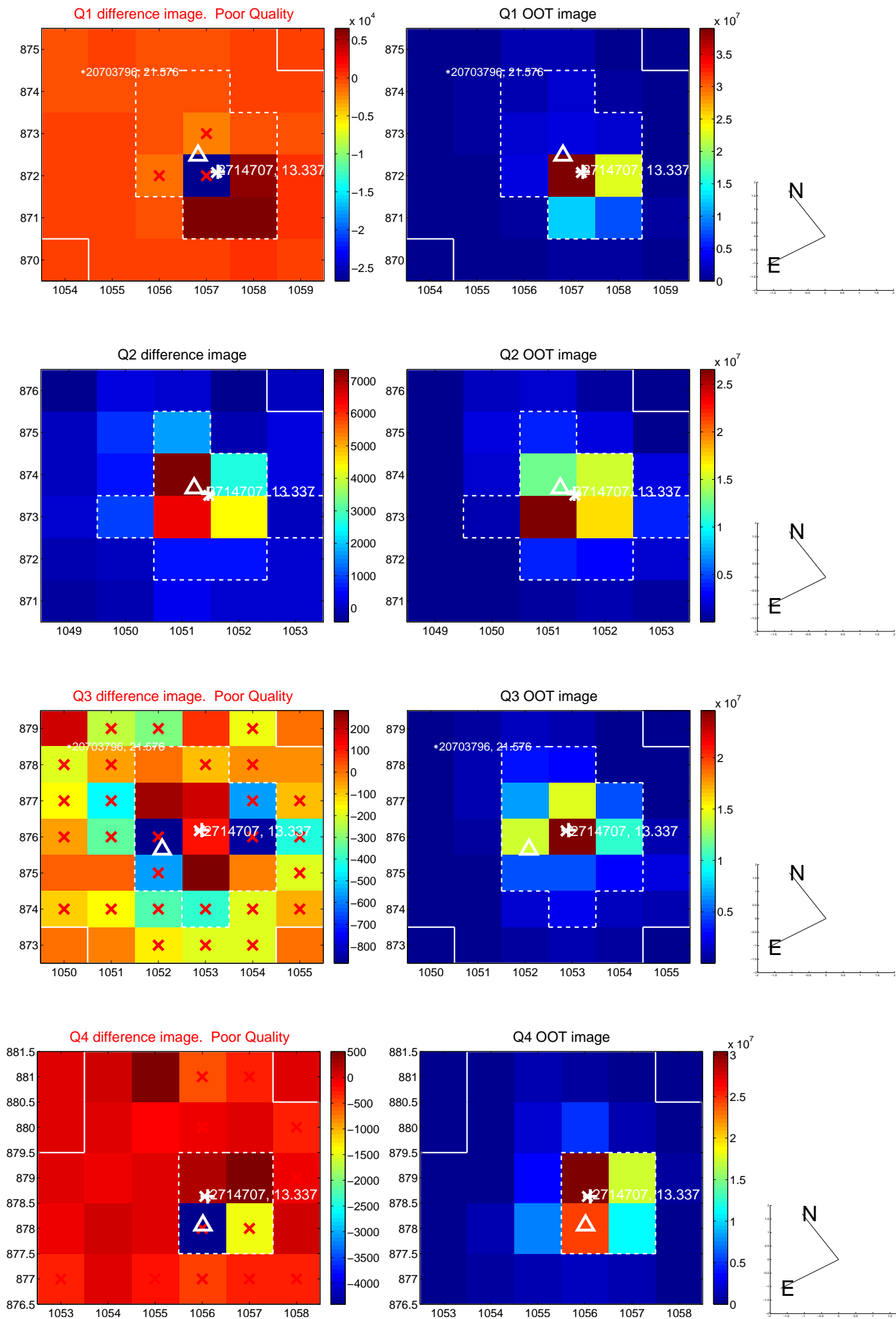
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.543 ± 0.273	1.99	0.190 ± 0.283	0.509 ± 0.298
PRF-fit source offset from KIC position	0.591 ± 0.298	1.98	0.063 ± 0.251	0.588 ± 0.302
photometric centroid source offset	0.32 ± 0.14	2.28	0.01 ± 0.12	-0.32 ± 0.14

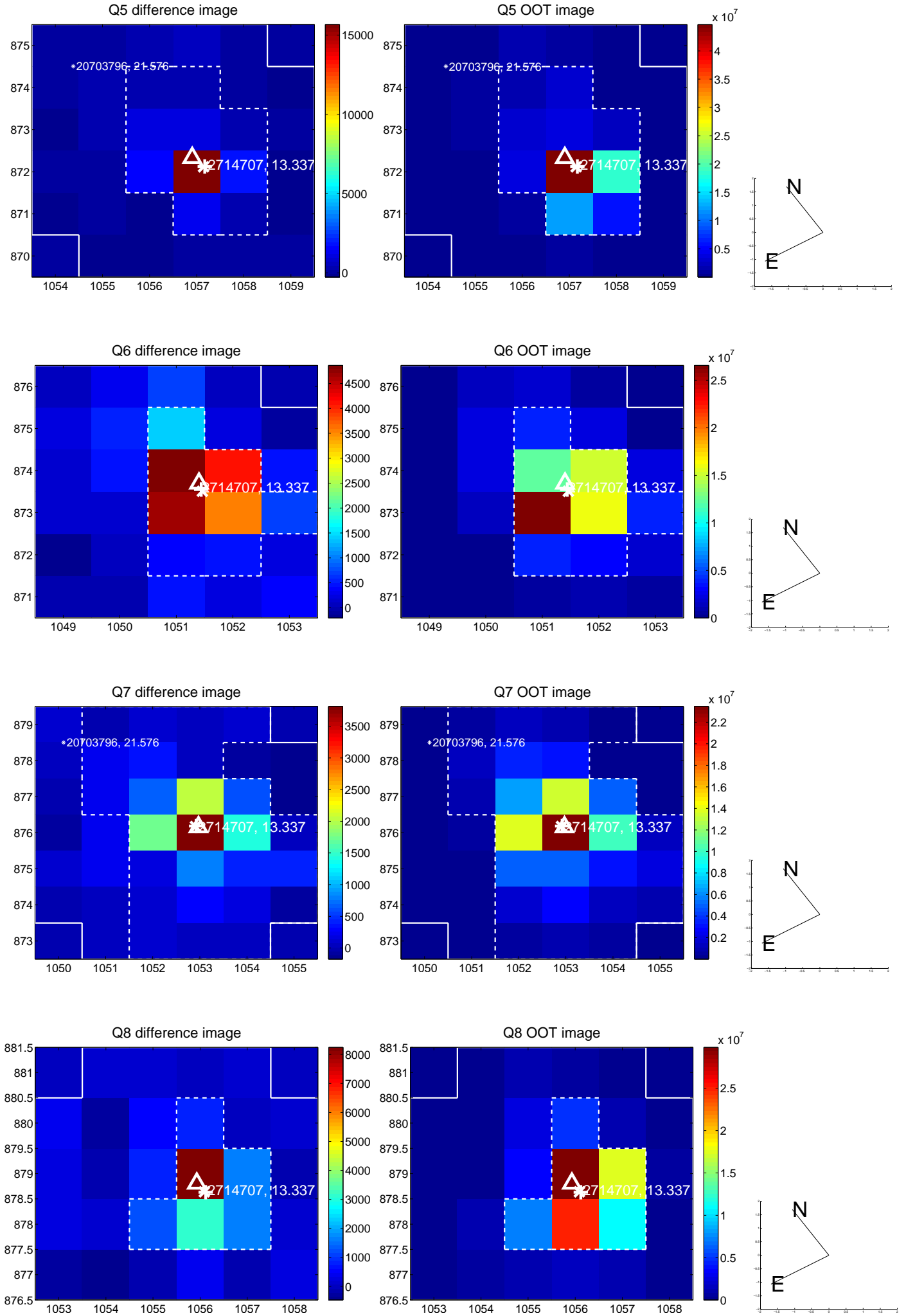


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

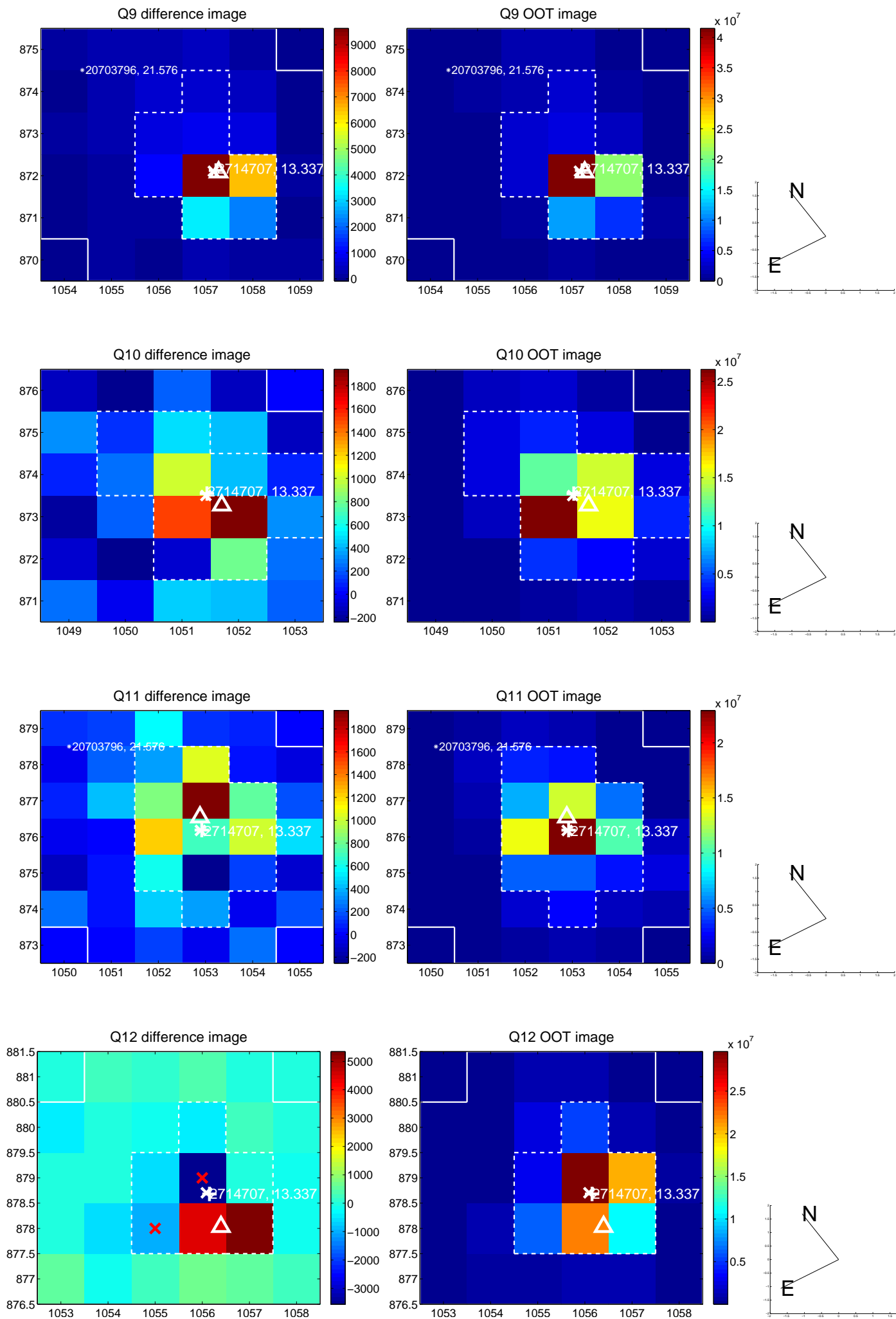
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



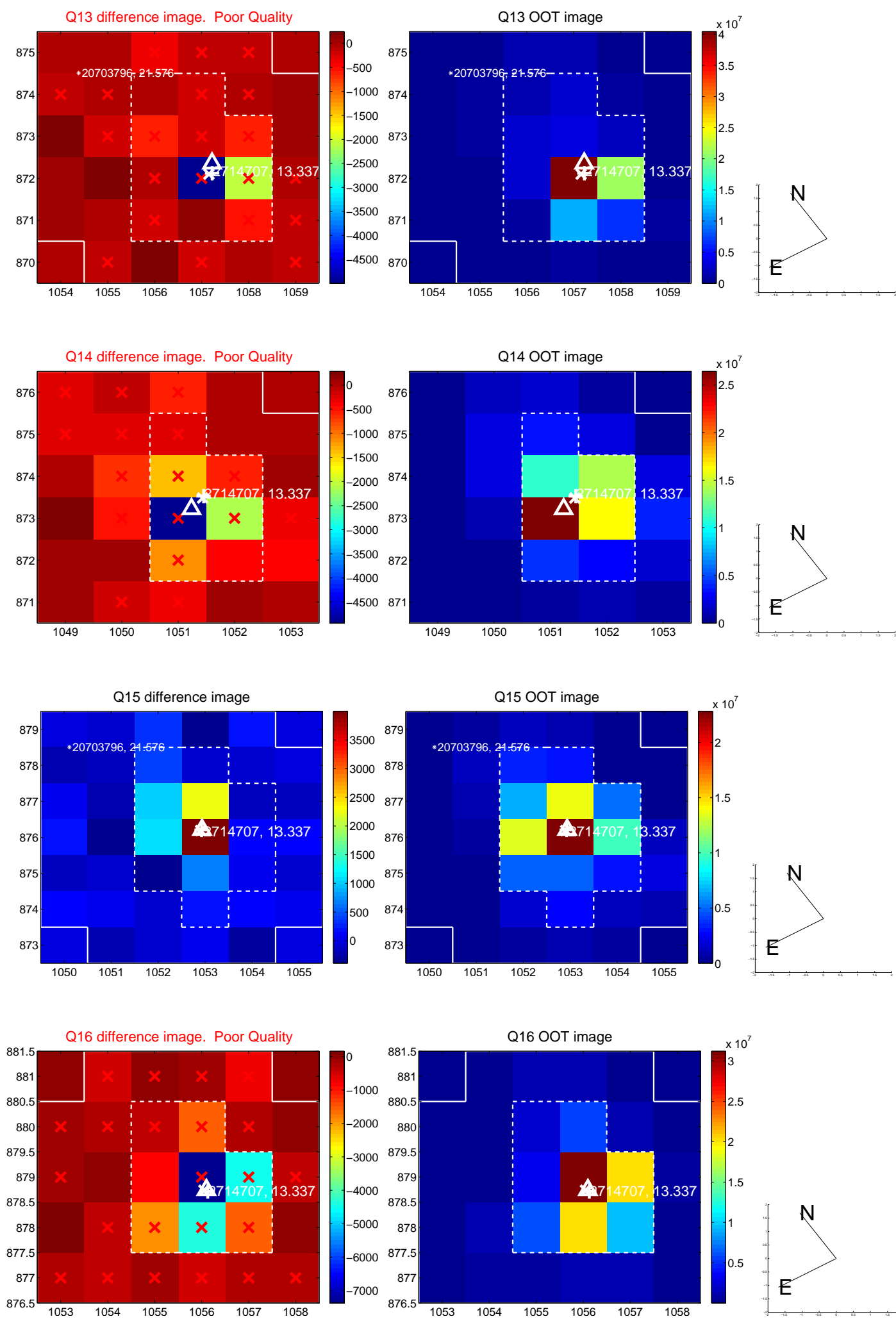
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



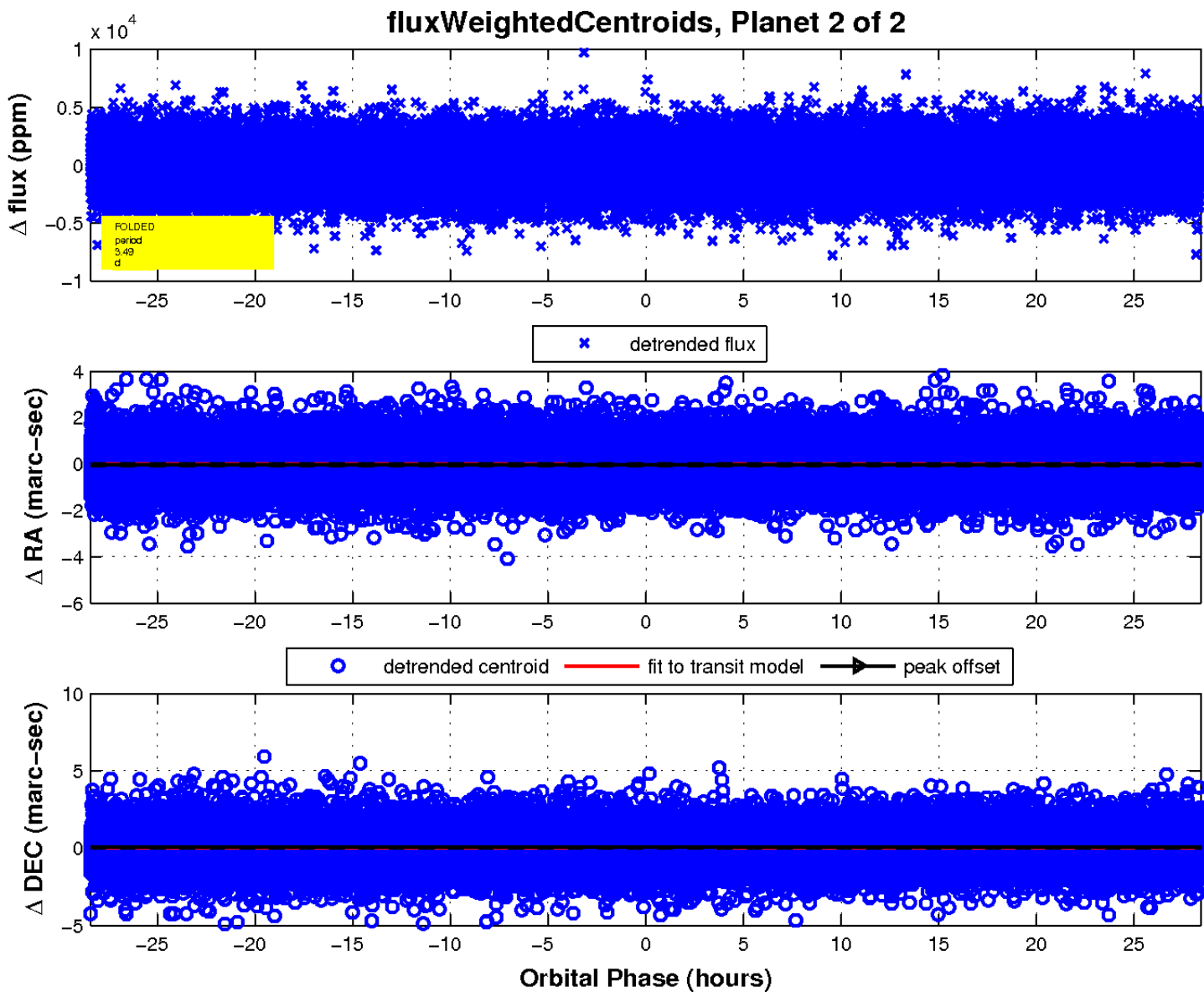
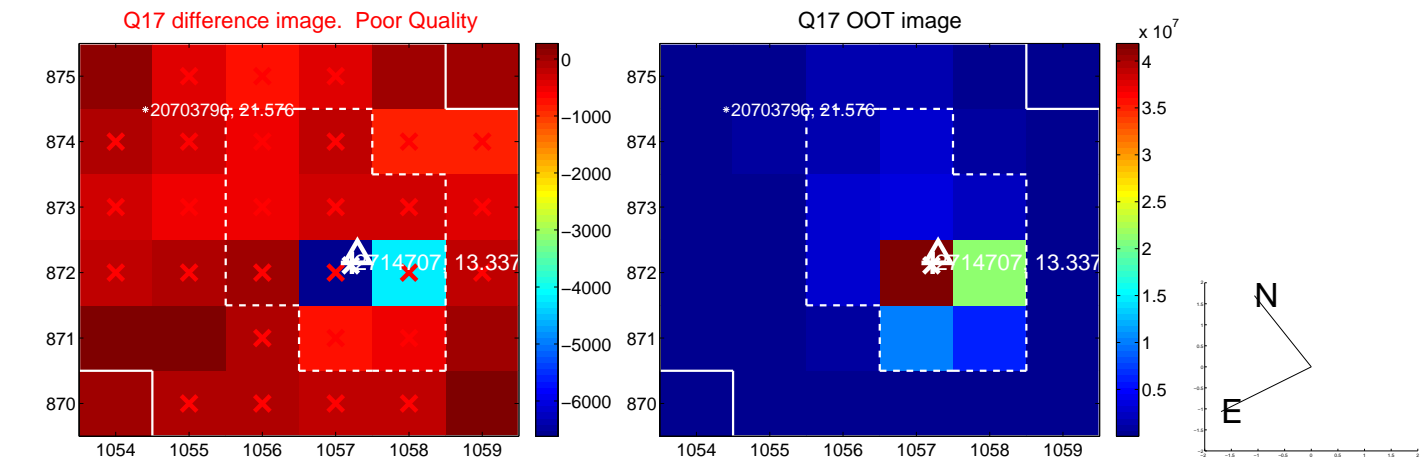
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

