

KIC 005964173

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})
005964173-01	OBS	No	2.059016	133.300716	330.3	11.072	13.1	12.8	1.66	7327	5.14	5407.31
005964173-02	OBS	No	2.059066	132.532672	187.9	3.500	9.1	-1.0	1.66	7327	2.31	5407.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005964173-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005964173-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

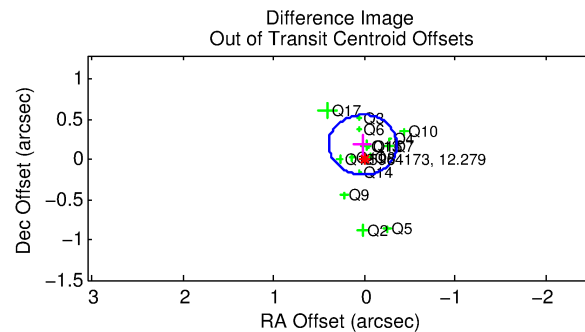
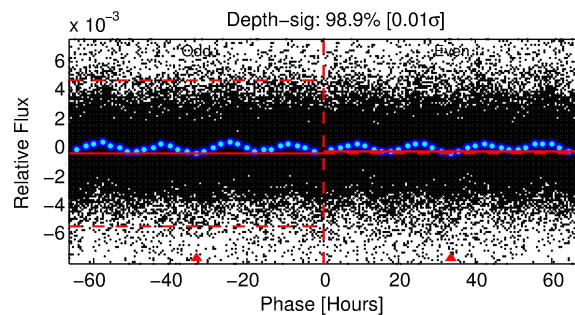
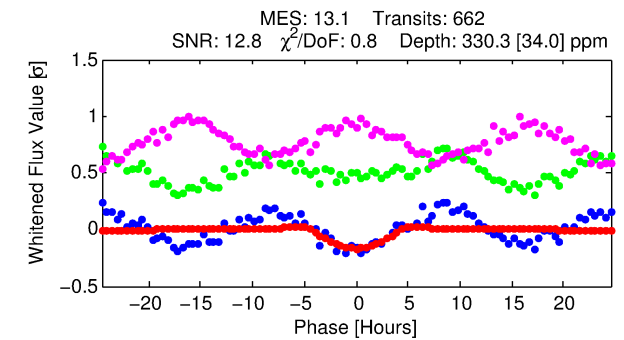
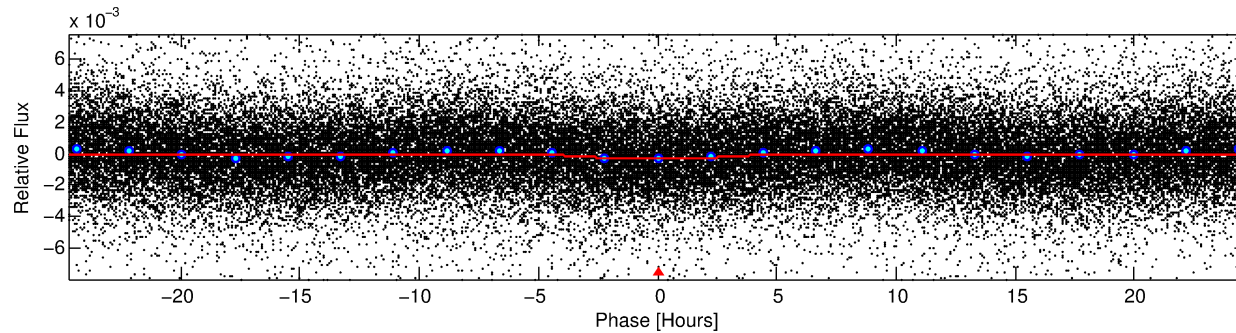
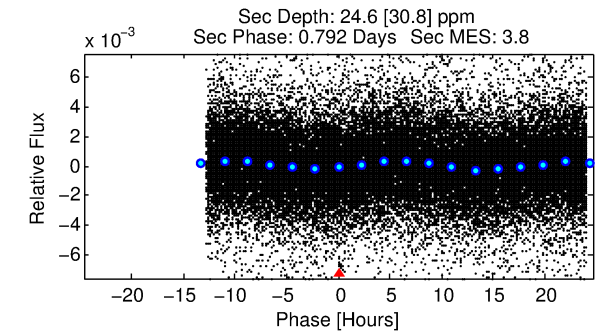
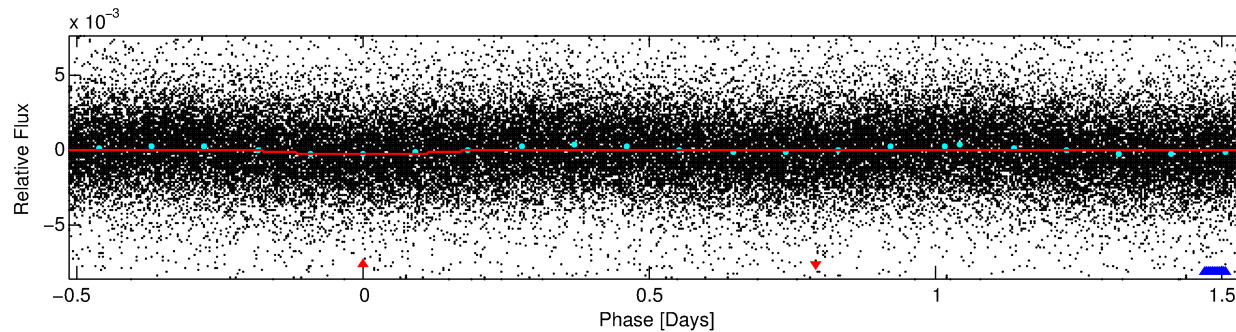
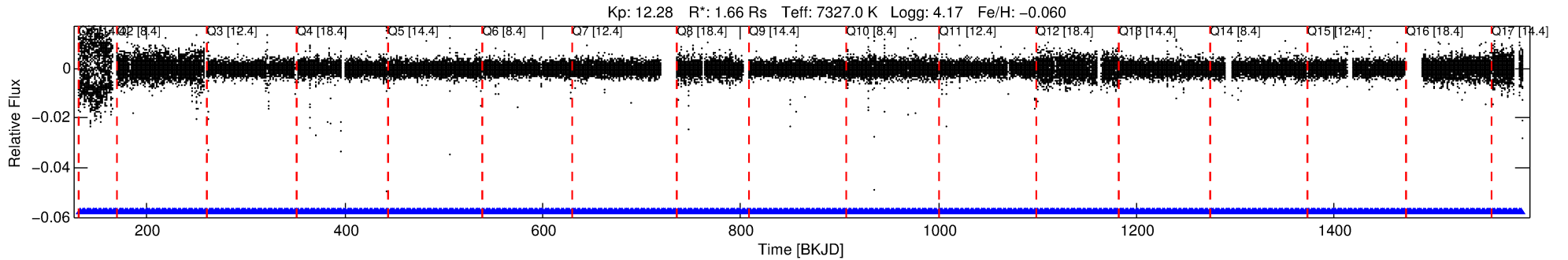
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005964173-01

No Significant Match Found

DV One-Page Summary

KIC: 5964173 Candidate: 1 of 2 Period: 2.059 d



DV Fit Results:

Period = 2.05902 [0.00004] d
Epoch = 133.3007 [0.0163] BKJD
Rp/R* = 0.0283 [0.0337]
a/R* = 1.07 [0.01]
b = 0.99 [0.06]
Seff = 5407.31 [2275.95]
Teff = 2187 [230] K
Rp = 5.14 [6.36] Re
a = 0.0363 [0.0098] AU
Ag = 0.68 [1.84] [-0.17σ]
Teffp = 3068 [2069] K [0.42σ]

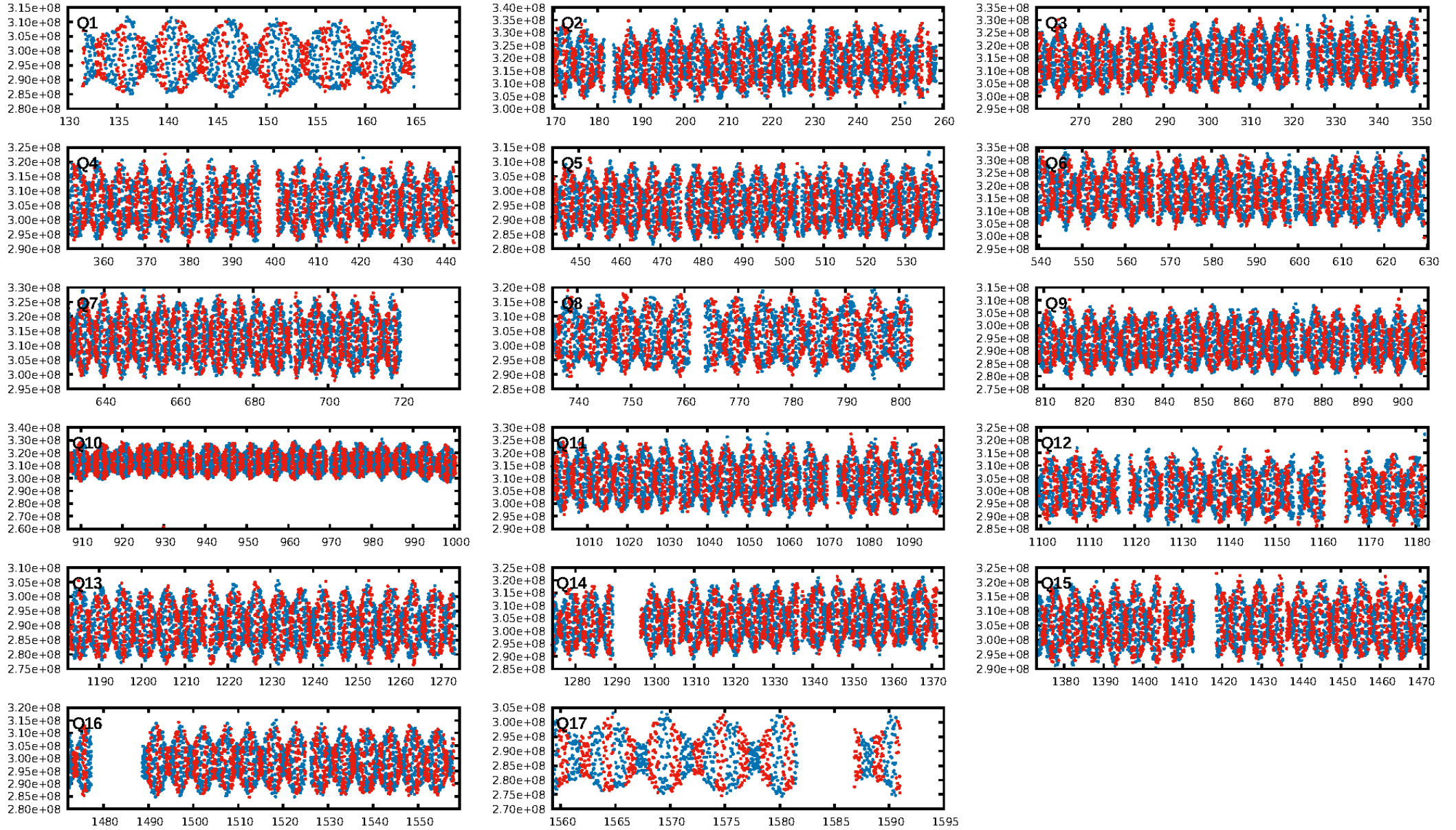
DV Diagnostic Results:

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 [632/632]
GhostDiagnostic-chr: 1.263
Centroid-sig: 0.0%
Centroid-so: 0.210 arcsec [3.49σ]
OotOffset-rm: 0.185 arcsec [1.48σ]
KicOffset-rm: 0.260 arcsec [1.95σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 0.00 [0/17]

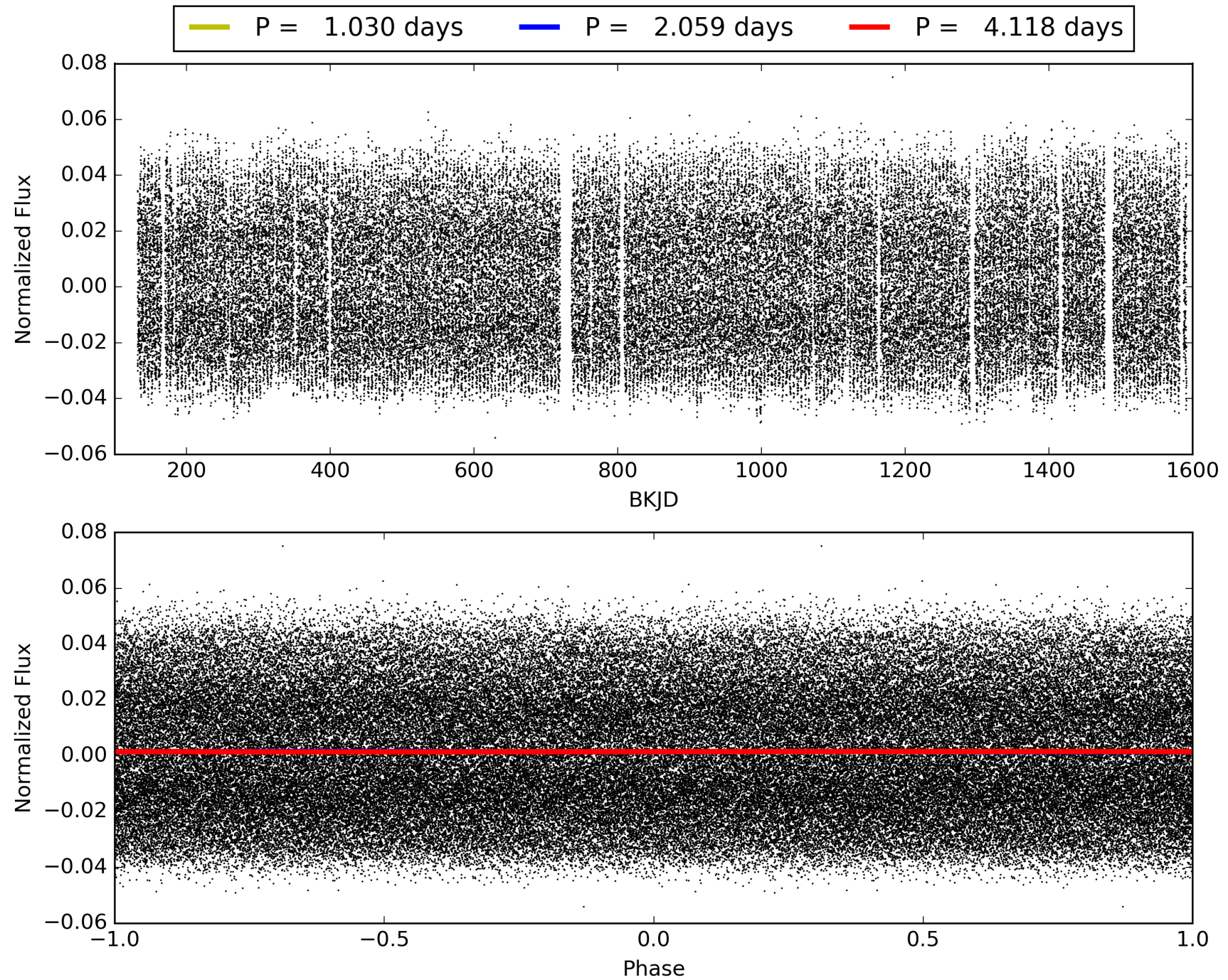
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:39:53 Z

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

TCE 005964173-01, PDC Light Curves

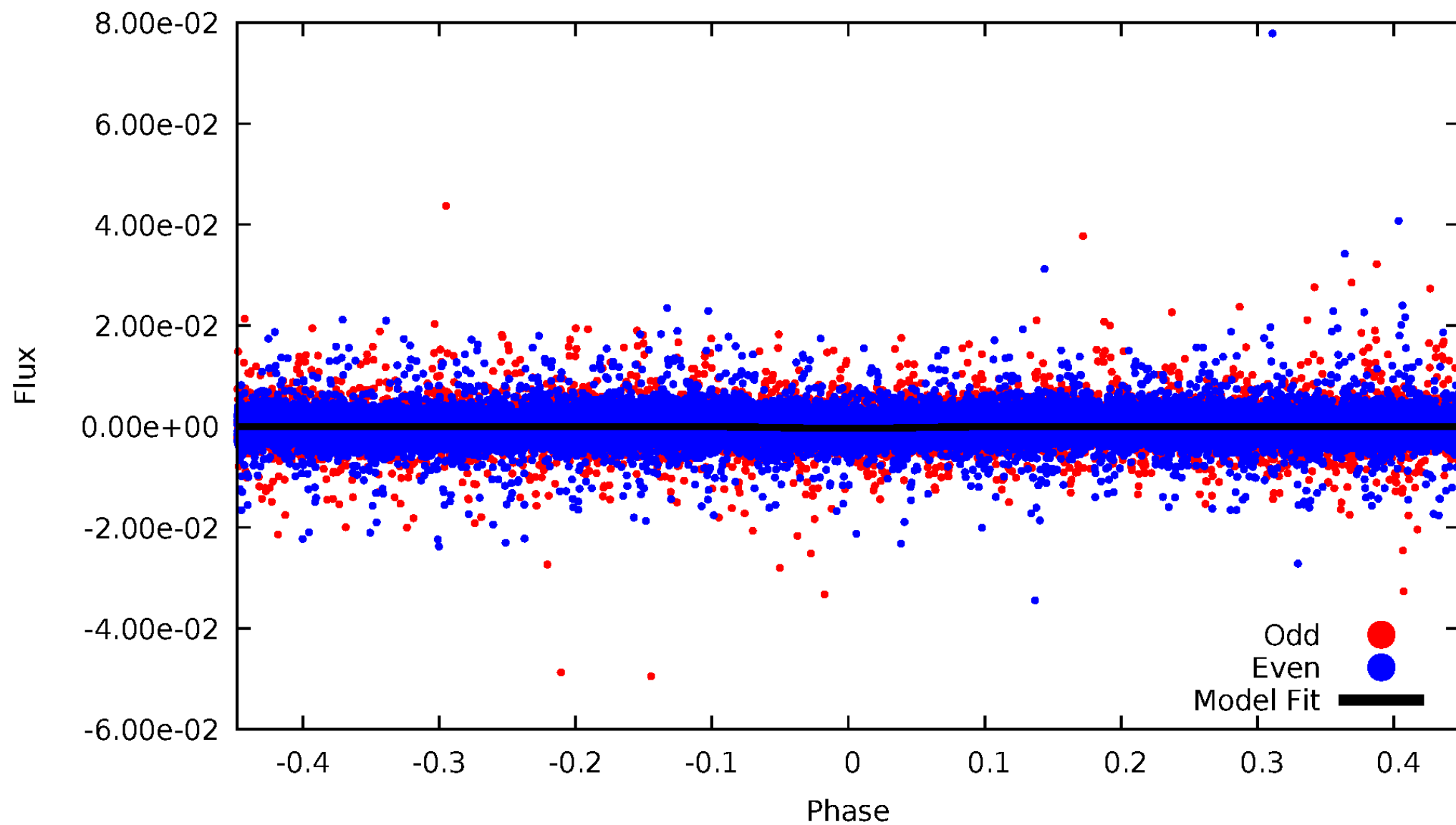


TCE 005964173-01



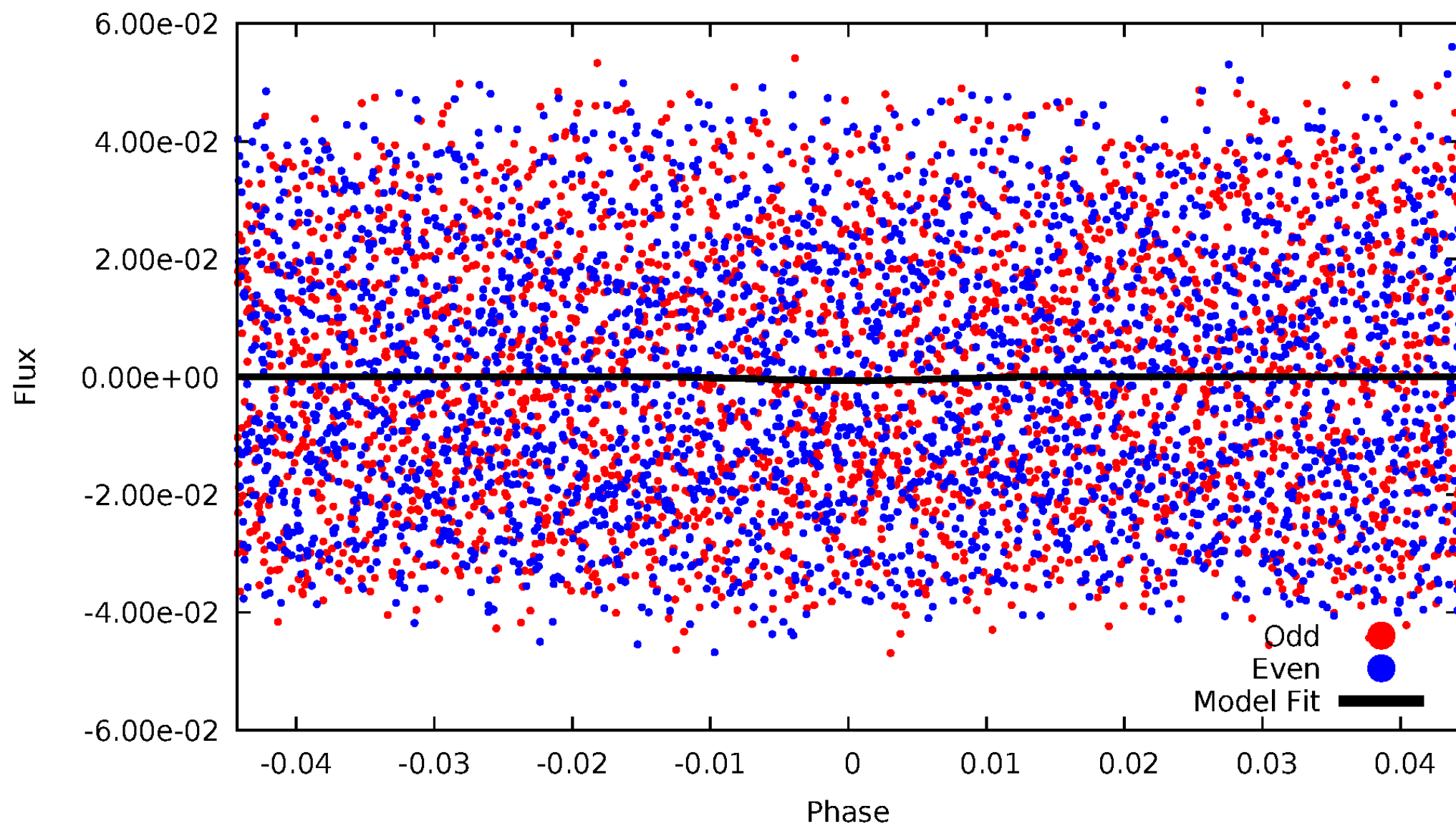
DV Odd/Even

TCE 005964173-01



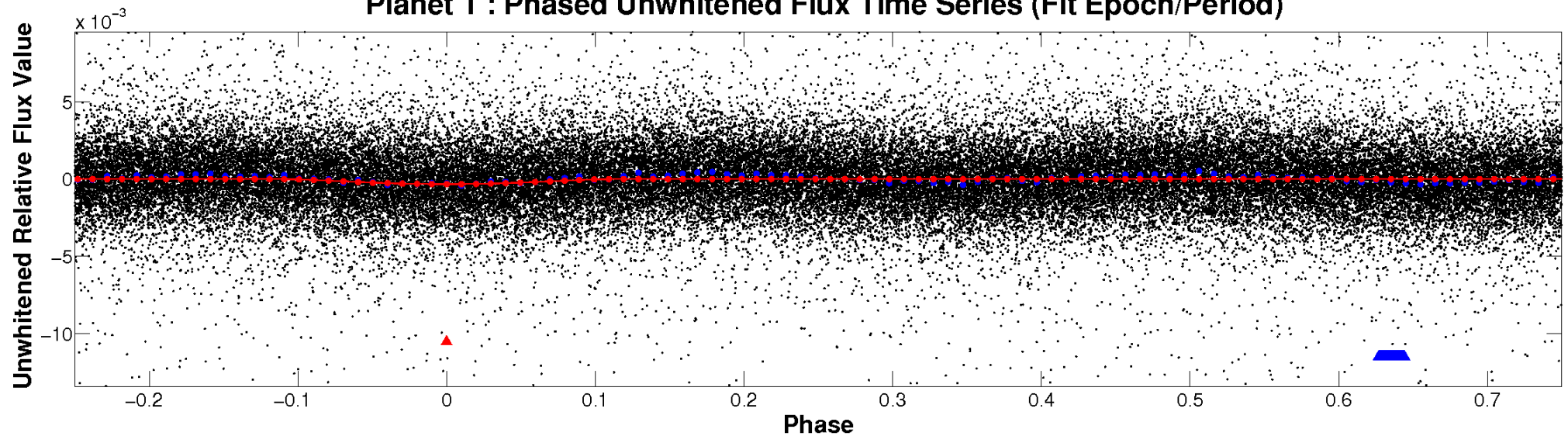
ALT Odd/Even

TCE 005964173-01

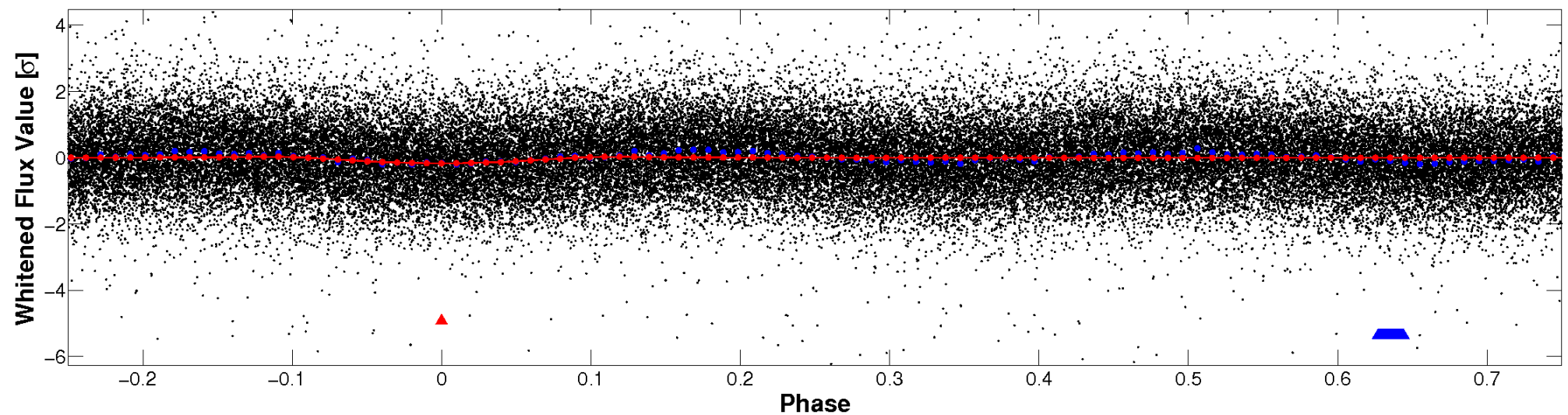


Non-Whitened Vs. Whitened Light Curve

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

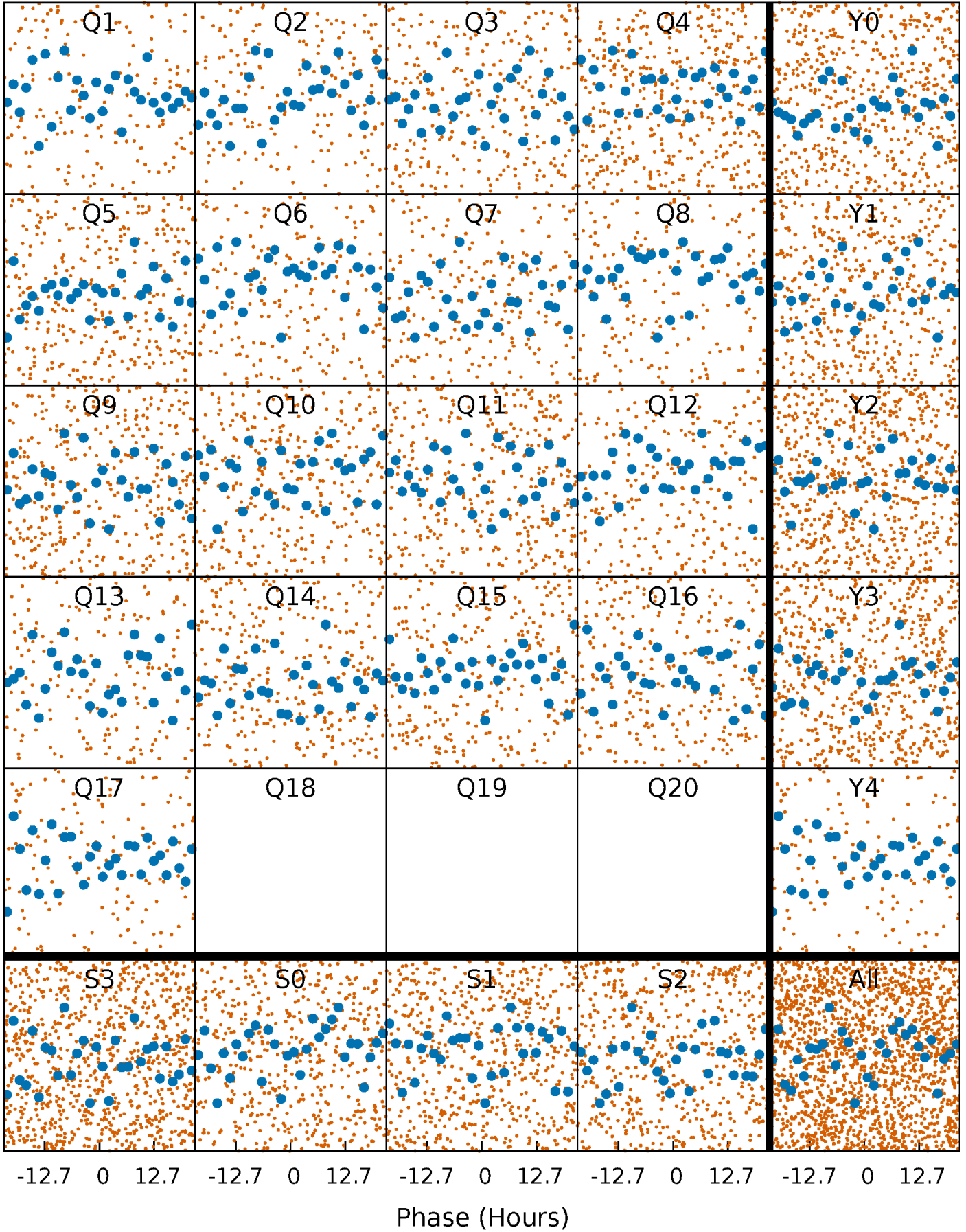


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



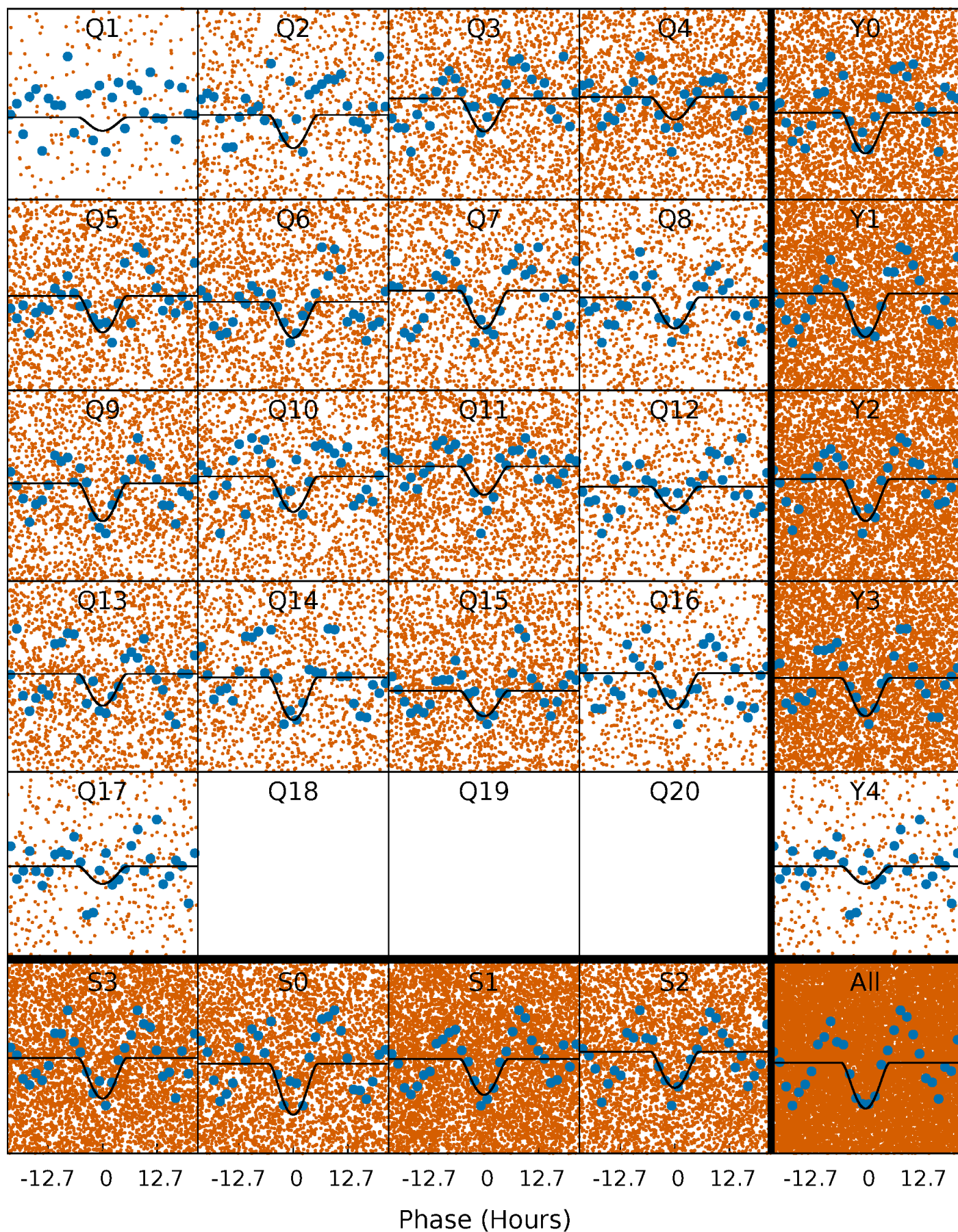
PDC Quarter-Phased Transit Curves

TCE 005964173-01 P= 2.059016 Days $T_0=133.300716$ (BKJD)



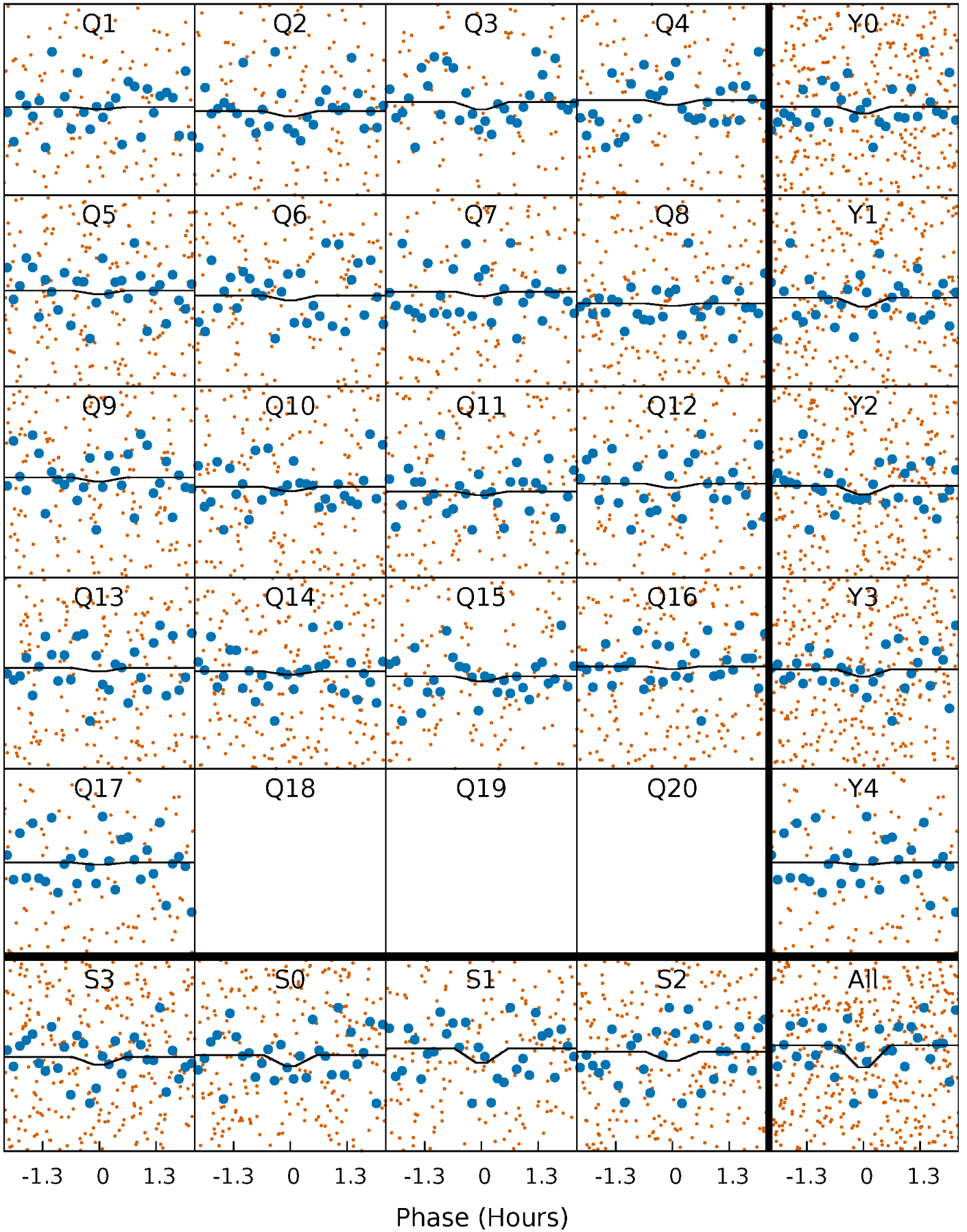
DV Quarter-Phased Transit Curves

TCE 005964173-01 P= 2.059016 Days $T_0=133.300716$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

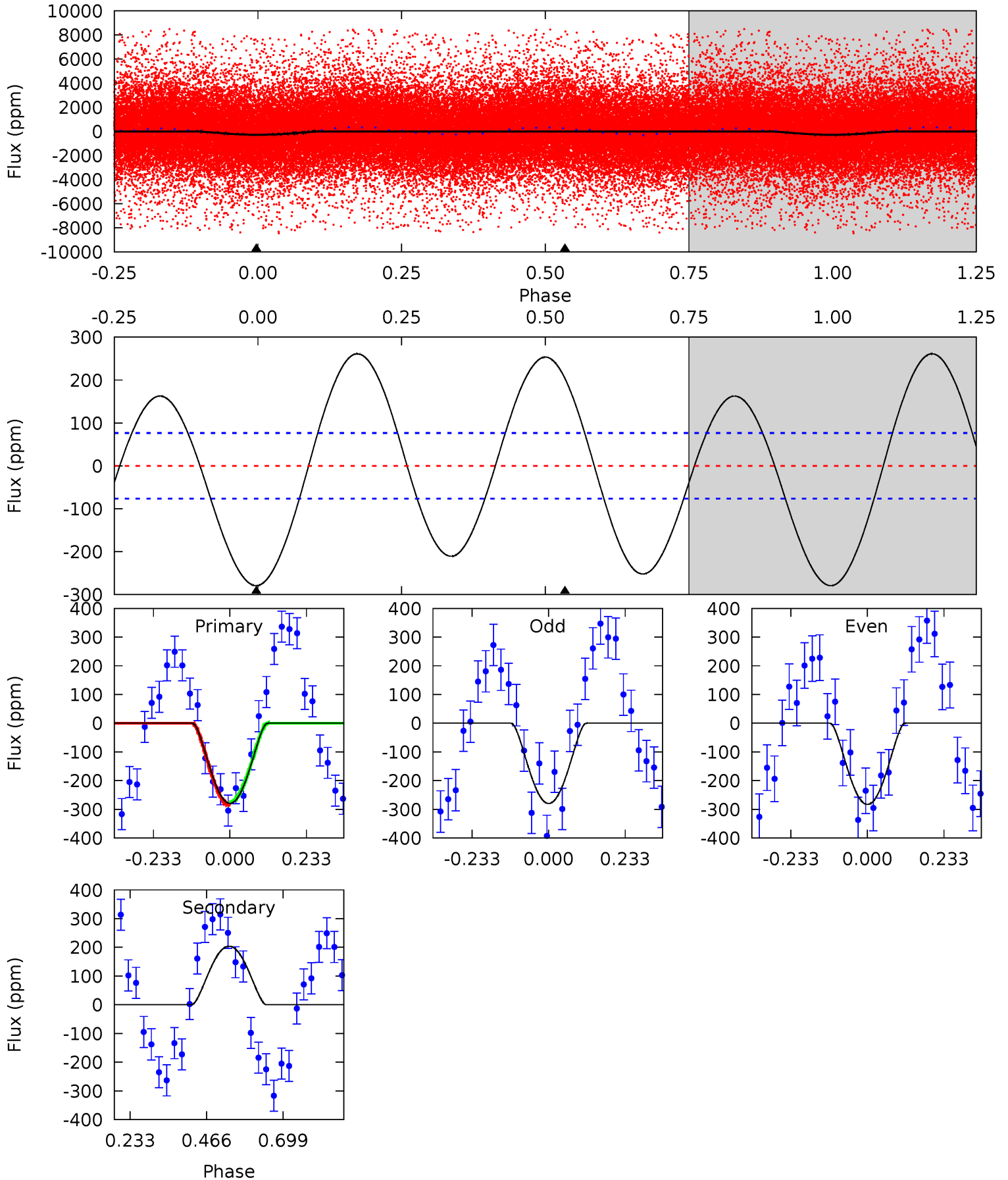
TCE 005964173-01 P= 2.059033 Days $T_0=133.308888$ (BKJD)



DV Model-Shift Uniqueness Test

005964173-01, P = 2.059016 Days, E = 131.241700 Days

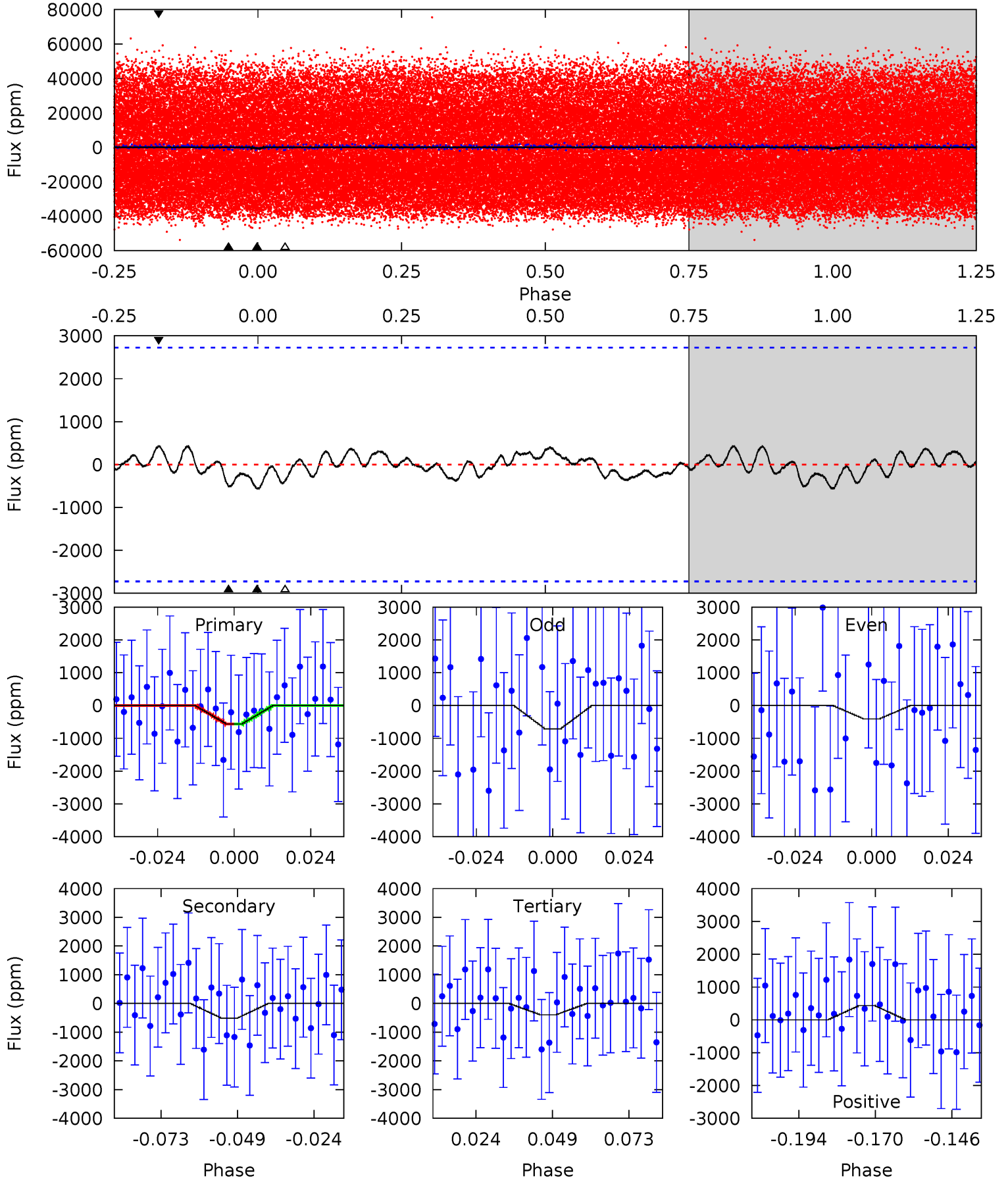
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	-11.7	0	0	4.38	1.19	5.66	16.0	16.0	-11.7	-11.7	0.10	1.18	0.48	0.34



Alt Model-Shift Uniqueness Test

005964173-01, P = 2.059033 Days, E = 131.249855 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.01	0.92	0.70	0.78	4.85	2.25	0.36	0.30	0.23	0.22	0.14	0.27	0.51	0.44	0.00



Stellar Parameters For KIC 005964173

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7327^{+203}_{-330}	$4.175^{+0.108}_{-0.201}$	$-0.060^{+0.200}_{-0.350}$	$1.663^{+0.555}_{-0.299}$	$1.508^{+0.234}_{-0.234}$	$0.462^{+0.278}_{-0.247}$
	+3%/-5%	+3%/-5%	+333%/-583%	+33%/-18%	+16%/-16%	+60%/-54%
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 005964173-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	204 ± 17	$6.99^{+6.07}_{-4.79}$	3081^{+249}_{-193}	-4722^{+841}_{-3372}	$-2.942^{+2.087}_{-26.930}$
Alt.	-515 ± 561	$6.71^{+5.68}_{-4.49}$	3081^{+250}_{-191}	5243^{+5133}_{-8478}	$6.037^{+58.245}_{-6.157}$

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

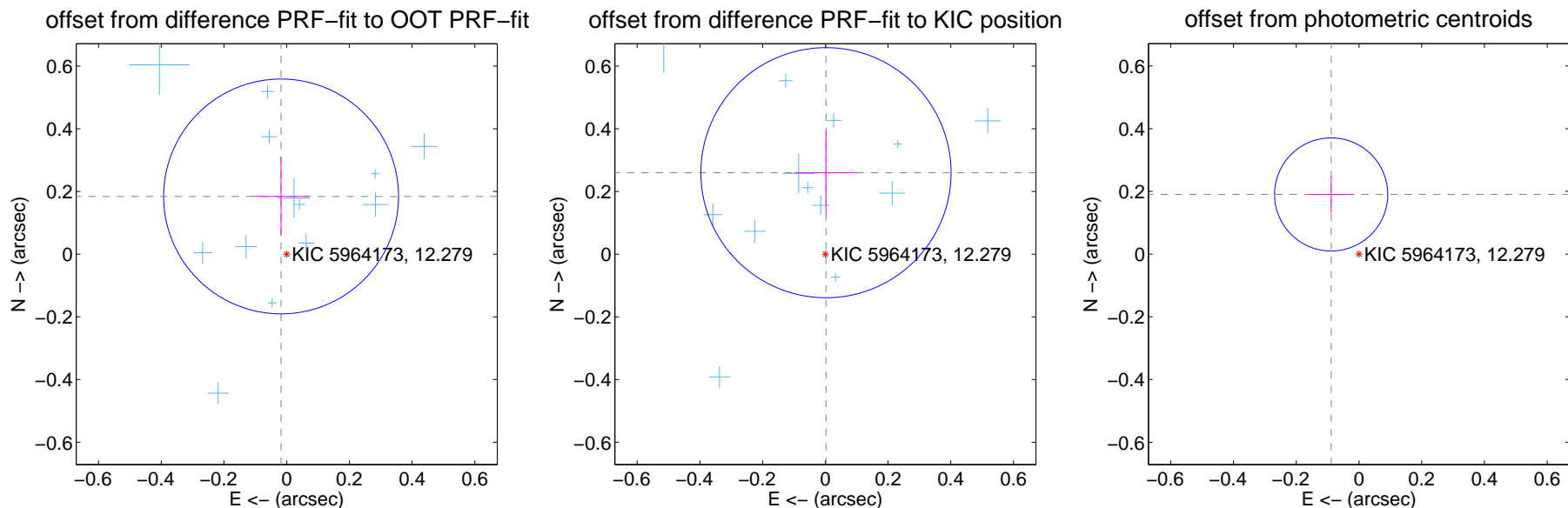
DV Centroid Data

Supplemental centroid analysis for 005964173-01. Kepler magnitude: 12.28. Transit SNR 12.79

There are 14 quarters with good PRF difference image offsets

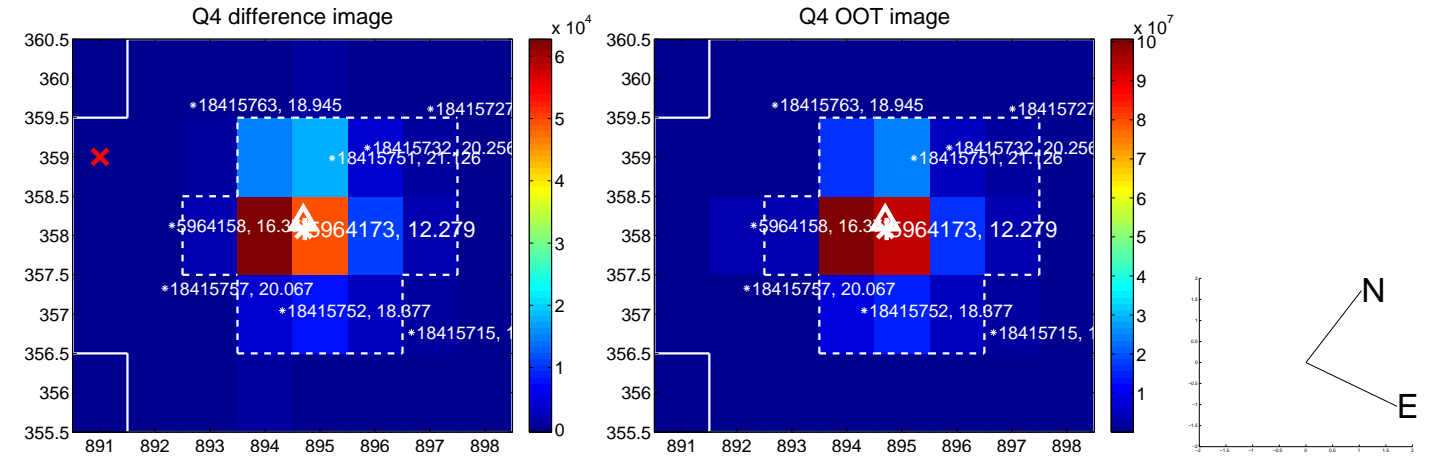
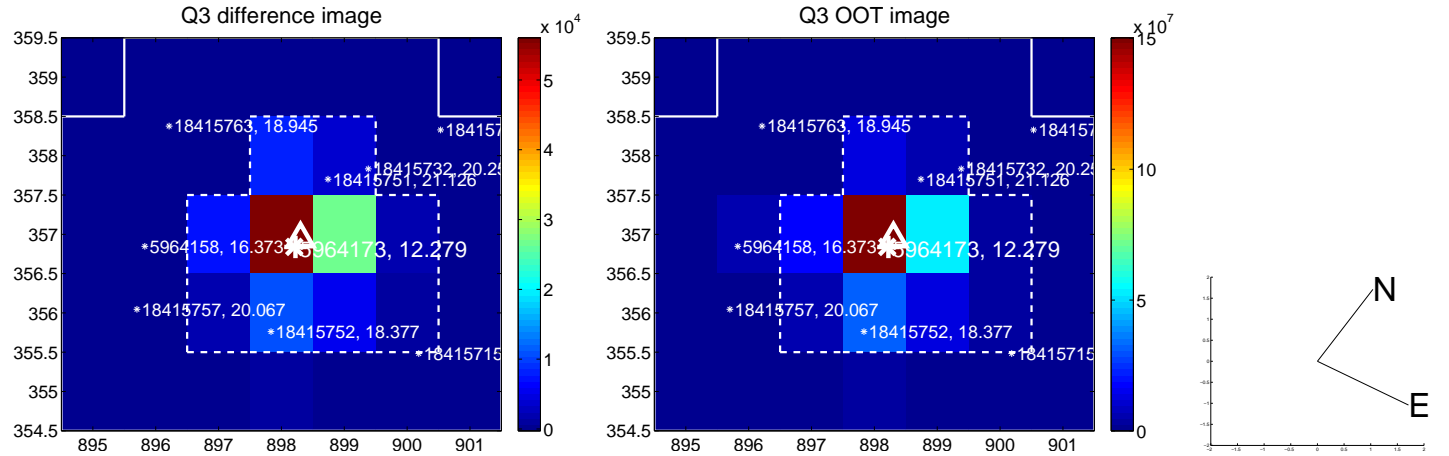
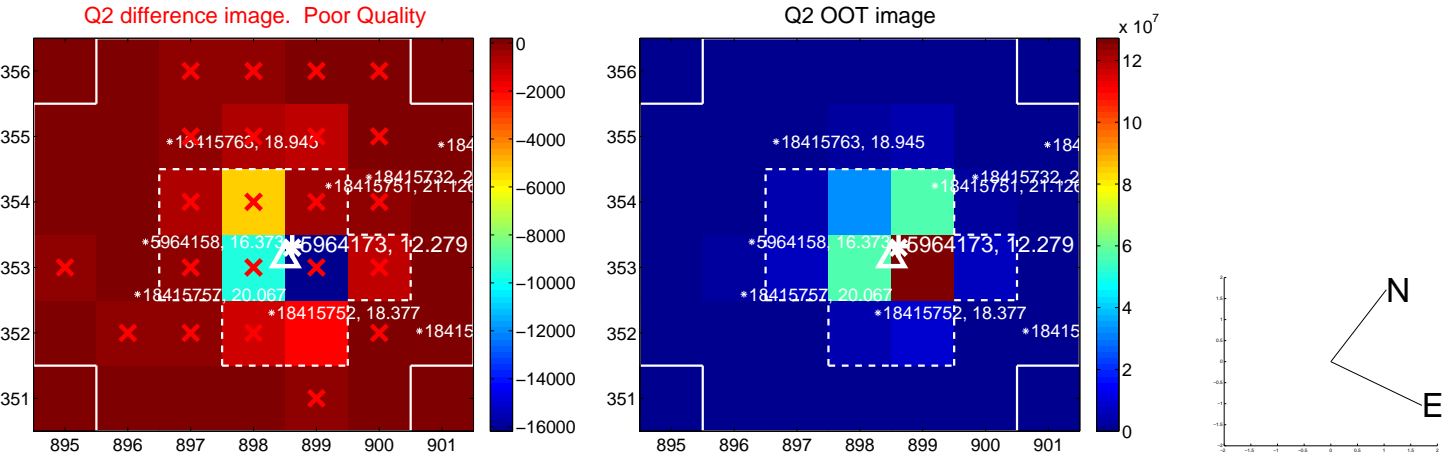
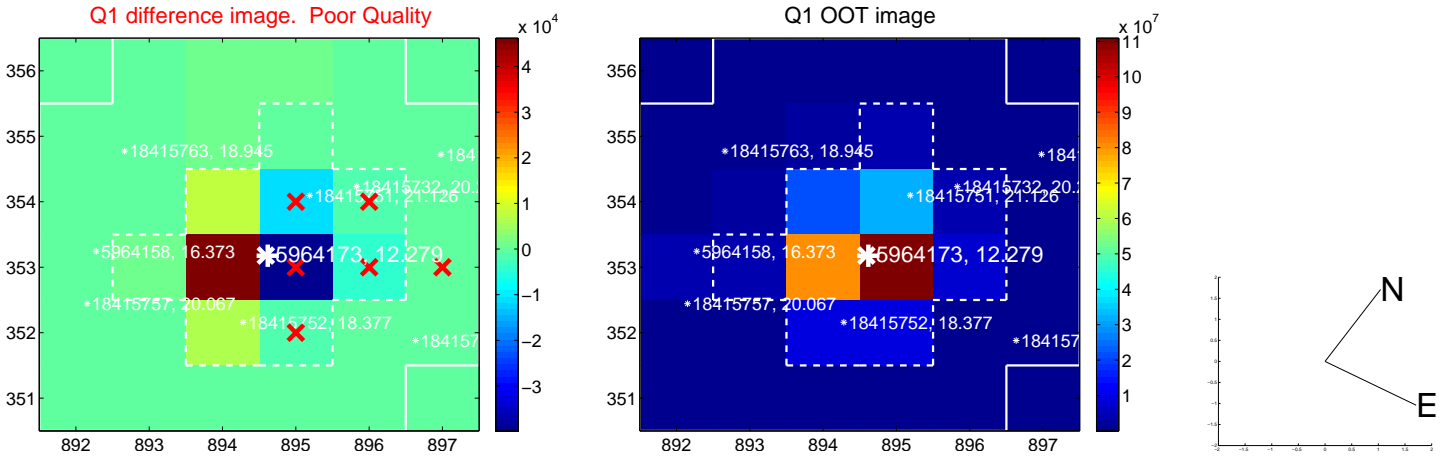
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.125	1.48	0.018 ± 0.089	0.184 ± 0.125
PRF-fit source offset from KIC position	0.260 ± 0.133	1.95	-0.002 ± 0.099	0.260 ± 0.133
photometric centroid source offset	0.21 ± 0.06	3.49	0.09 ± 0.07	0.19 ± 0.06

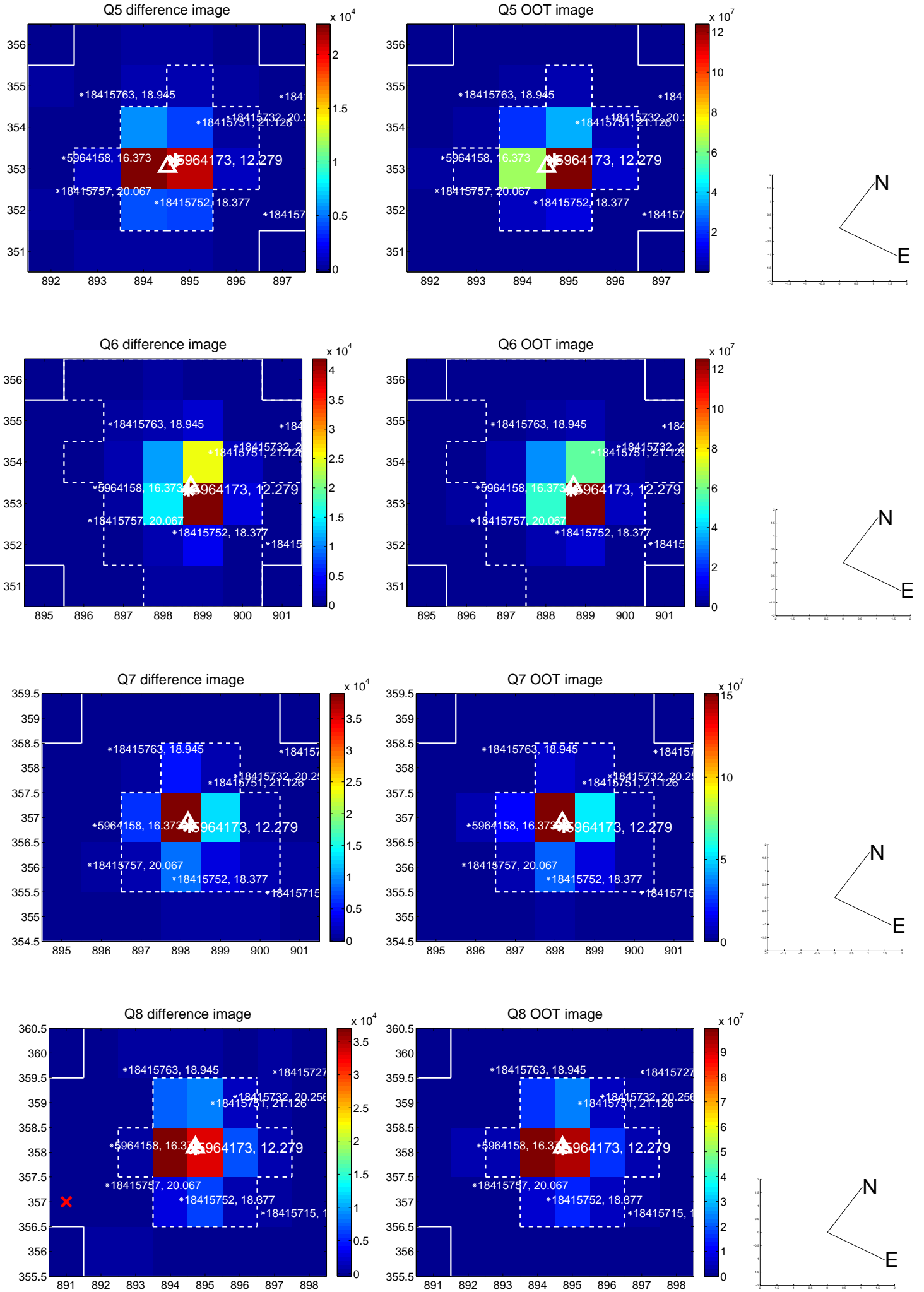


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

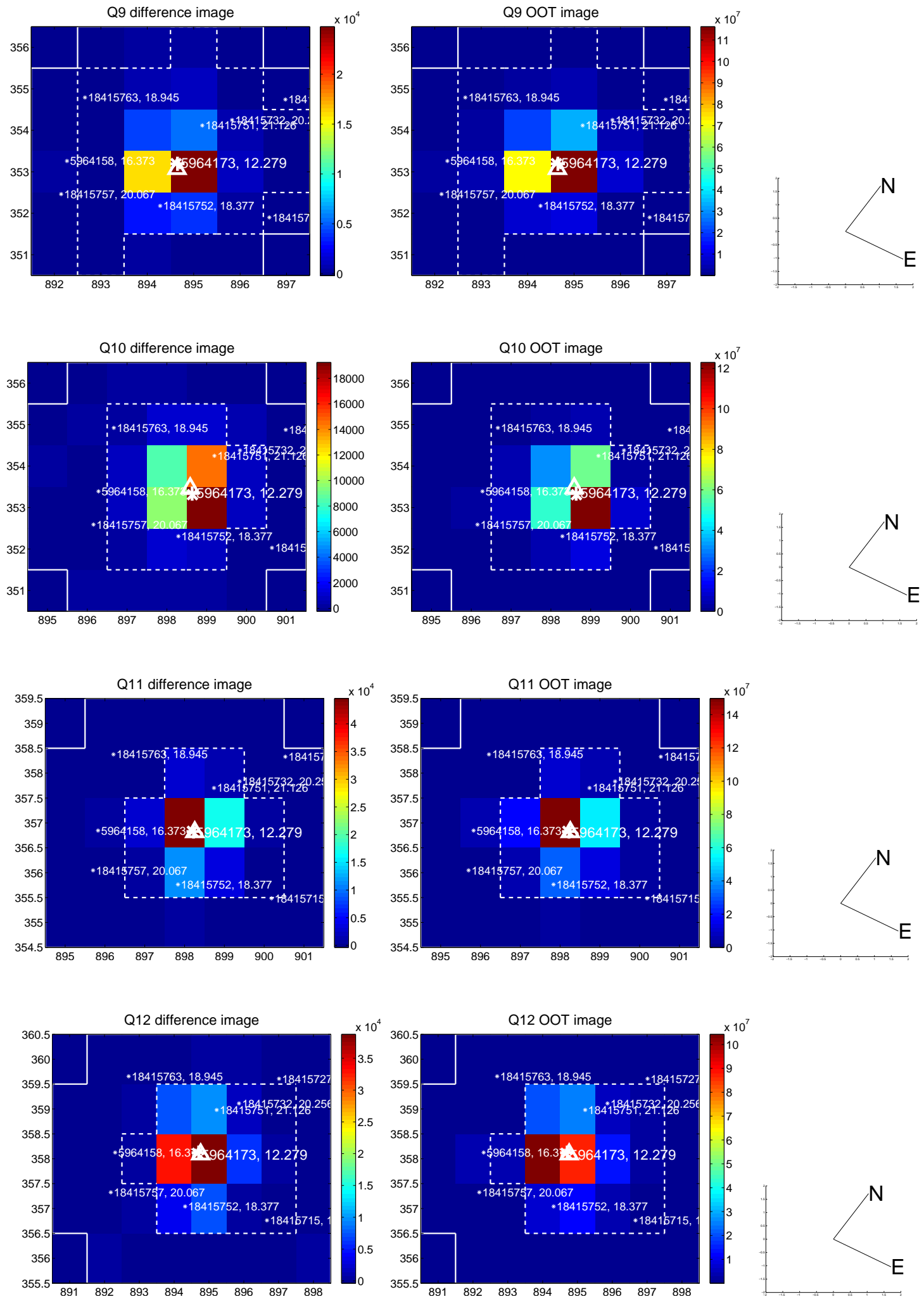
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



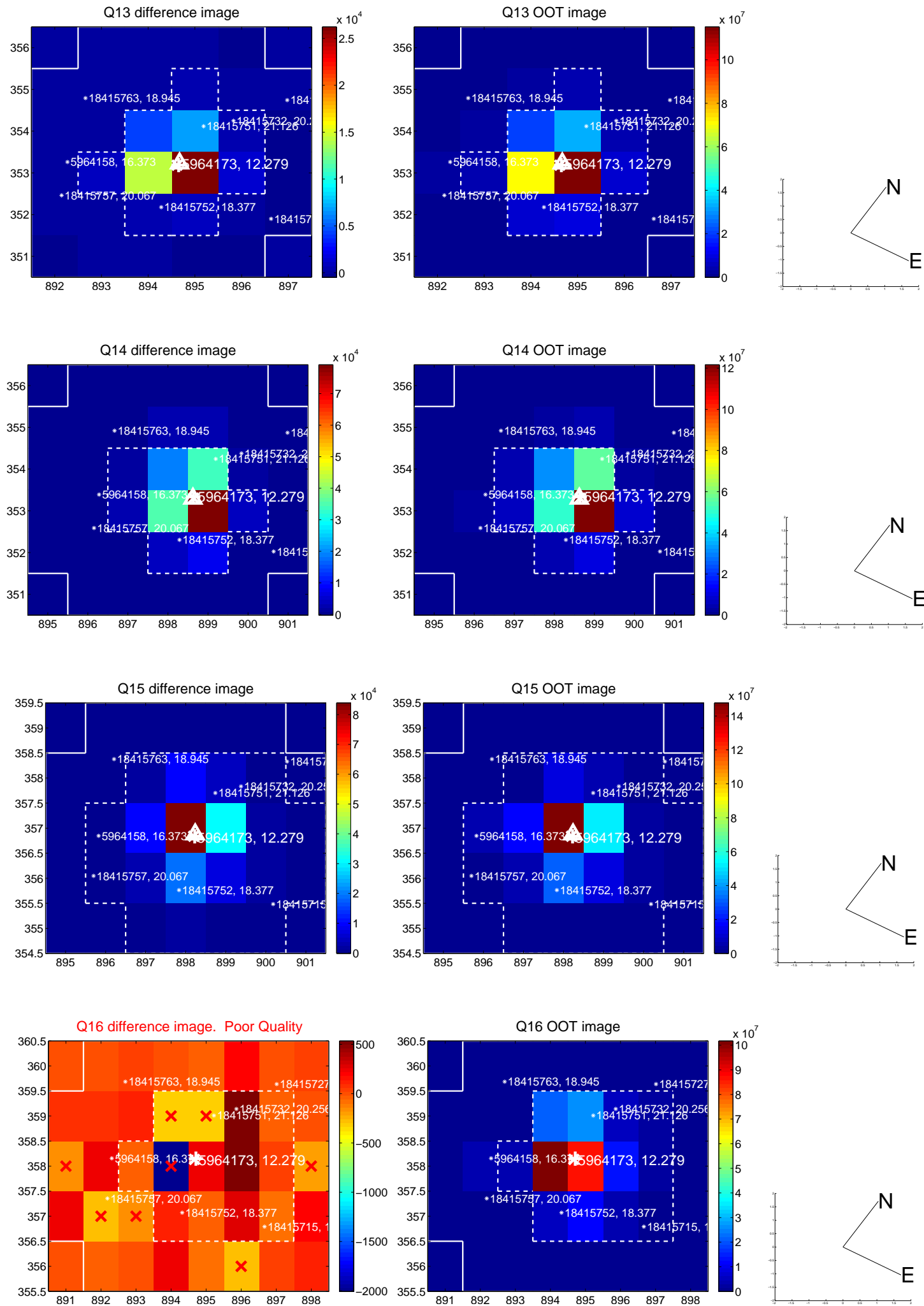
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



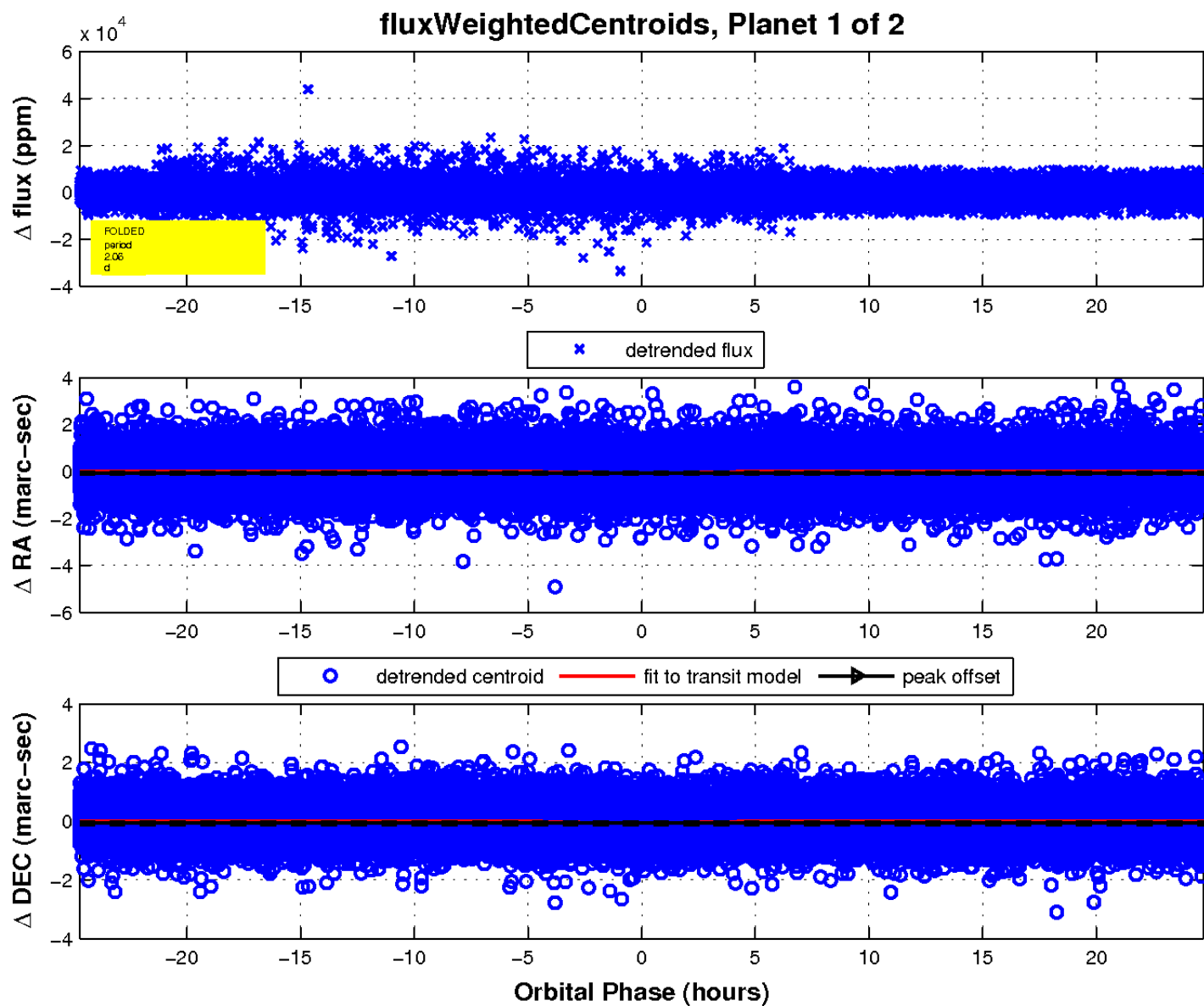
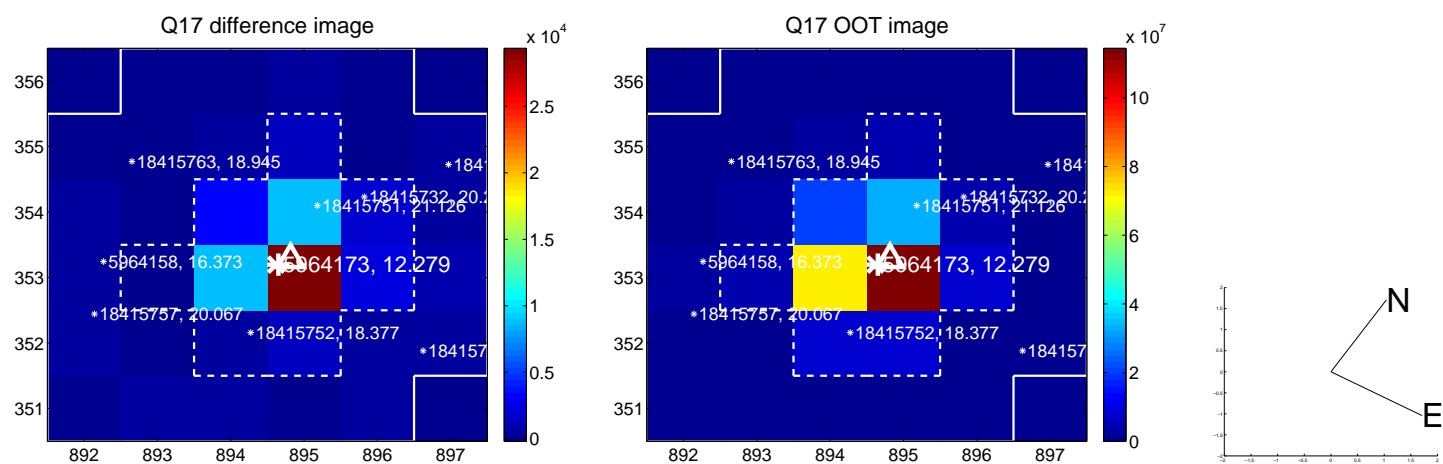
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

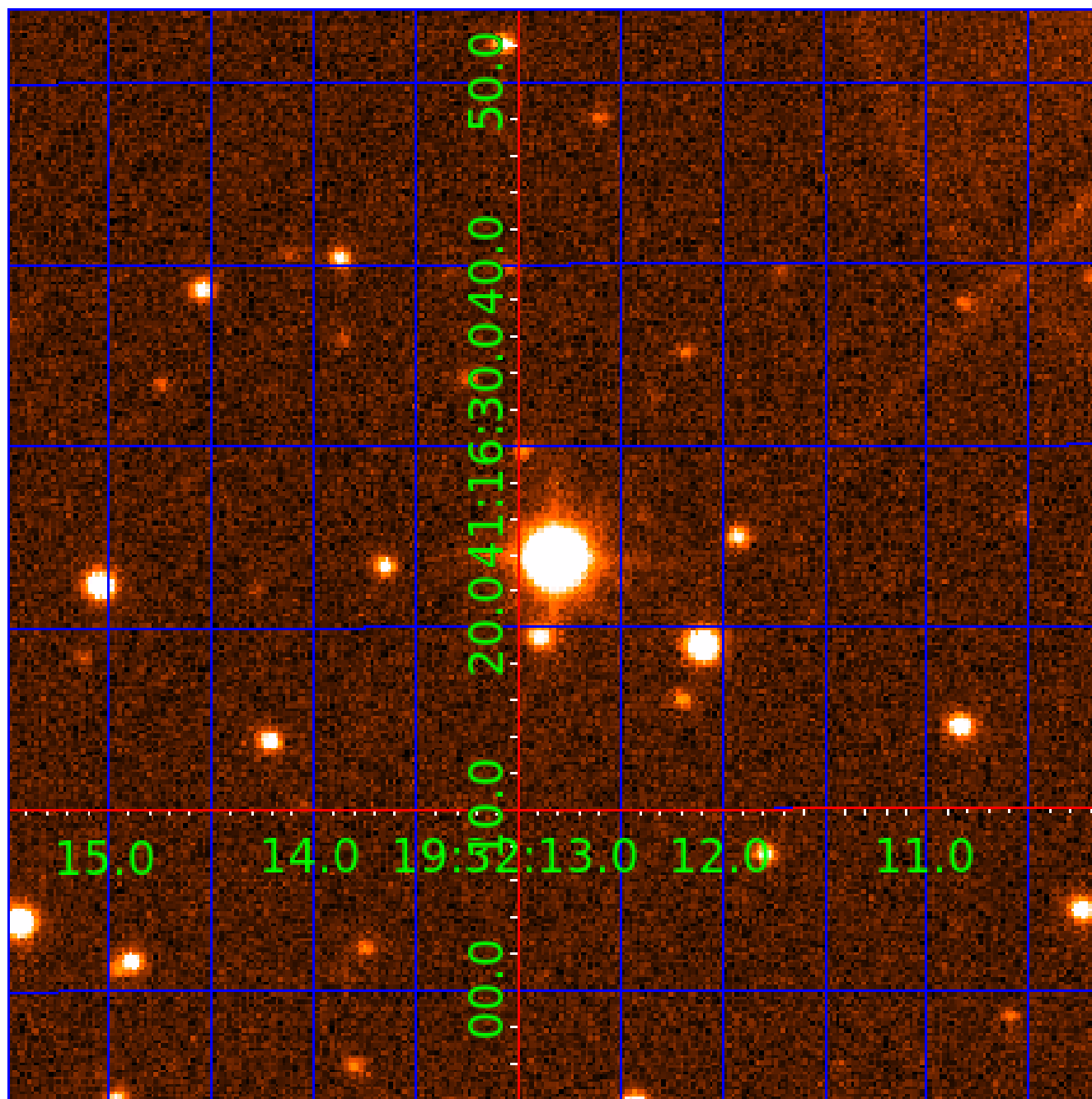


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005964173

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})
005964173-01	OBS	No	2.059016	133.300716	330.3	11.072	13.1	12.8	1.66	7327	5.14	5407.31
005964173-02	OBS	No	2.059066	132.532672	187.9	3.500	9.1	-1.0	1.66	7327	2.31	5407.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005964173-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005964173-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

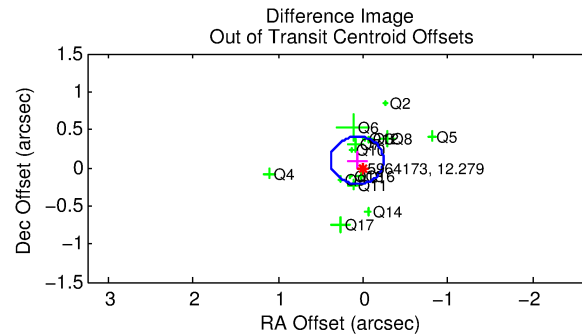
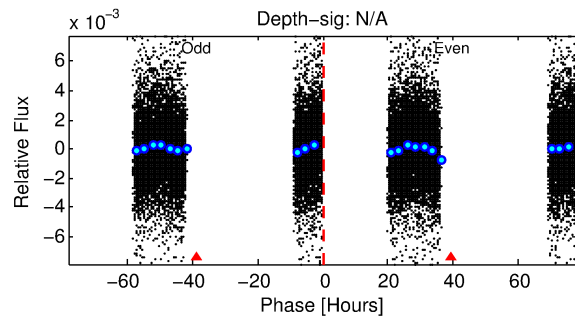
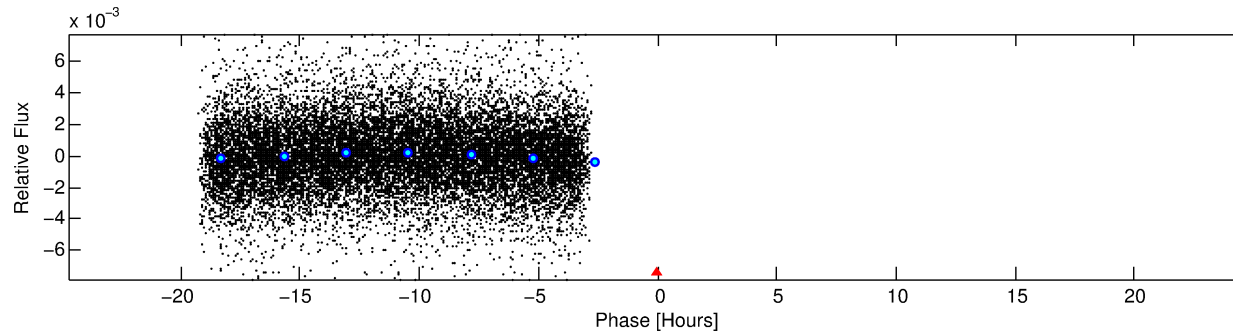
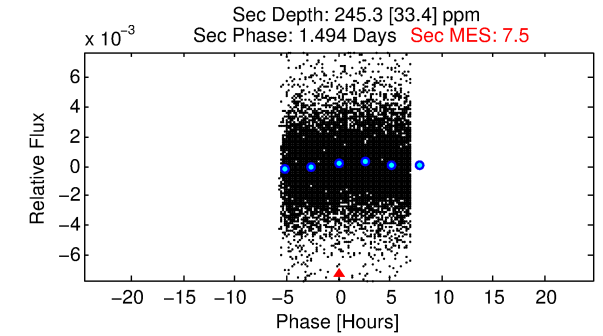
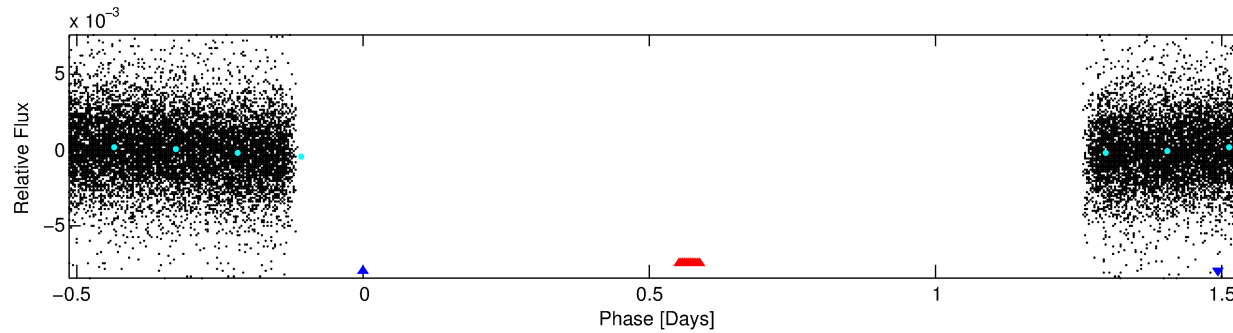
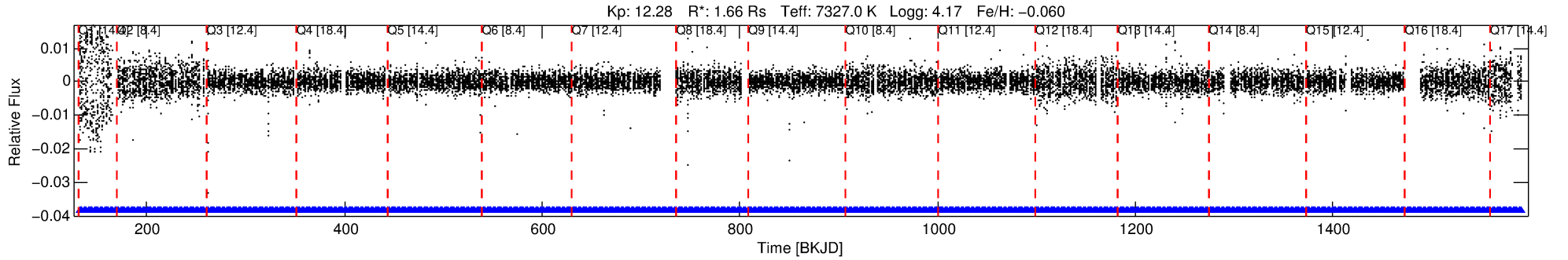
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005964173-02

No Significant Match Found

DV One-Page Summary

KIC: 5964173 Candidate: 2 of 2 Period: 2.059 d



TPS TCE Results:

Period = 2.05907 d
Epoch = 132.5327 BKJD

DV fit results are unavailable

DV Diagnostic Results:

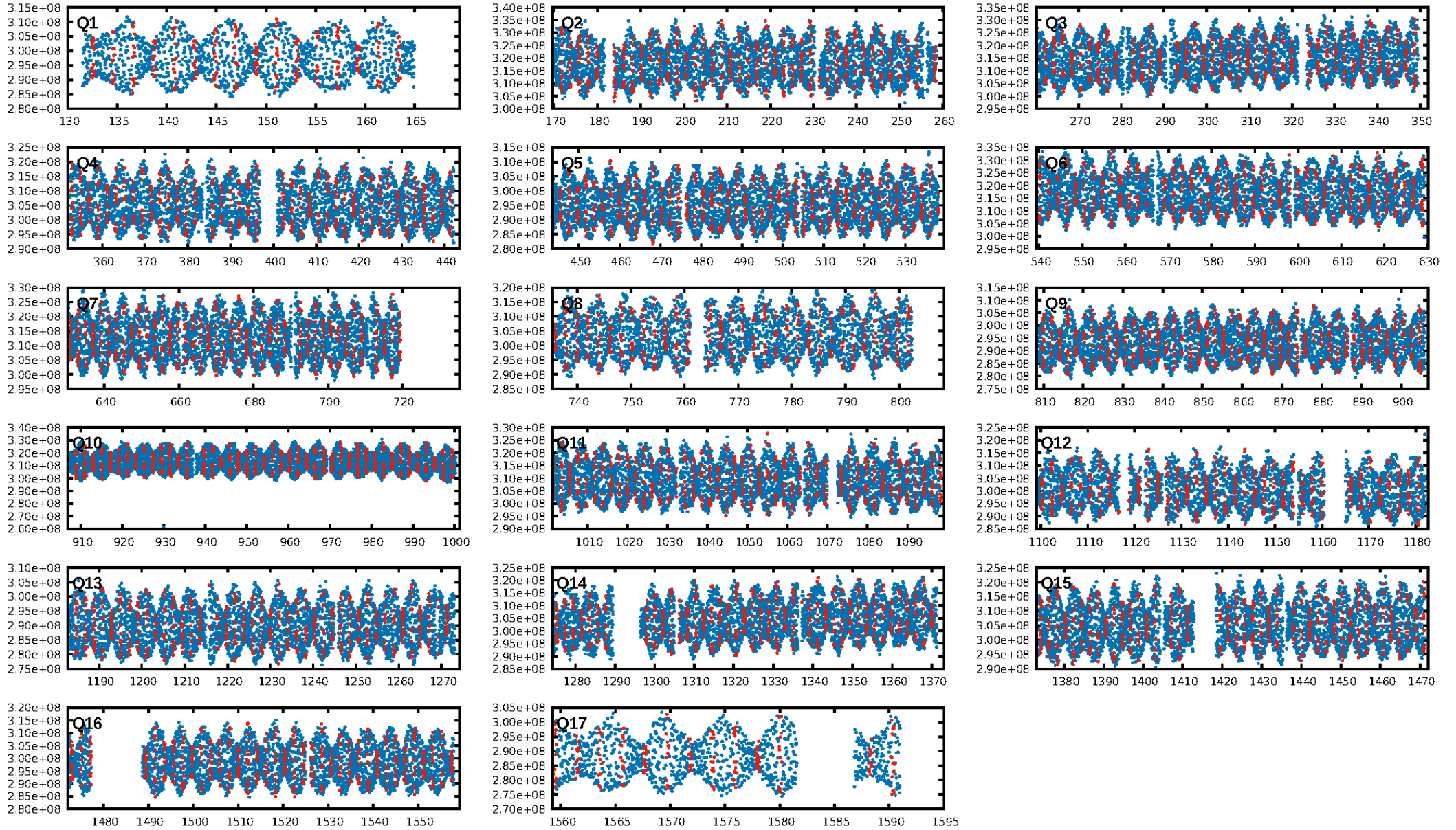
ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [622/622]
GhostDiagnostic-chr: 0.7948

Centroid-sig: 0.0%
Centroid-so: 0.413 arcsec [2.04σ]
OotOffset-rm: 0.119 arcsec [1.14σ]
KicOffset-rm: 0.201 arcsec [1.95σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.87 [13/15]
DiffImageOverlap-fno: 0.00 [0/17]

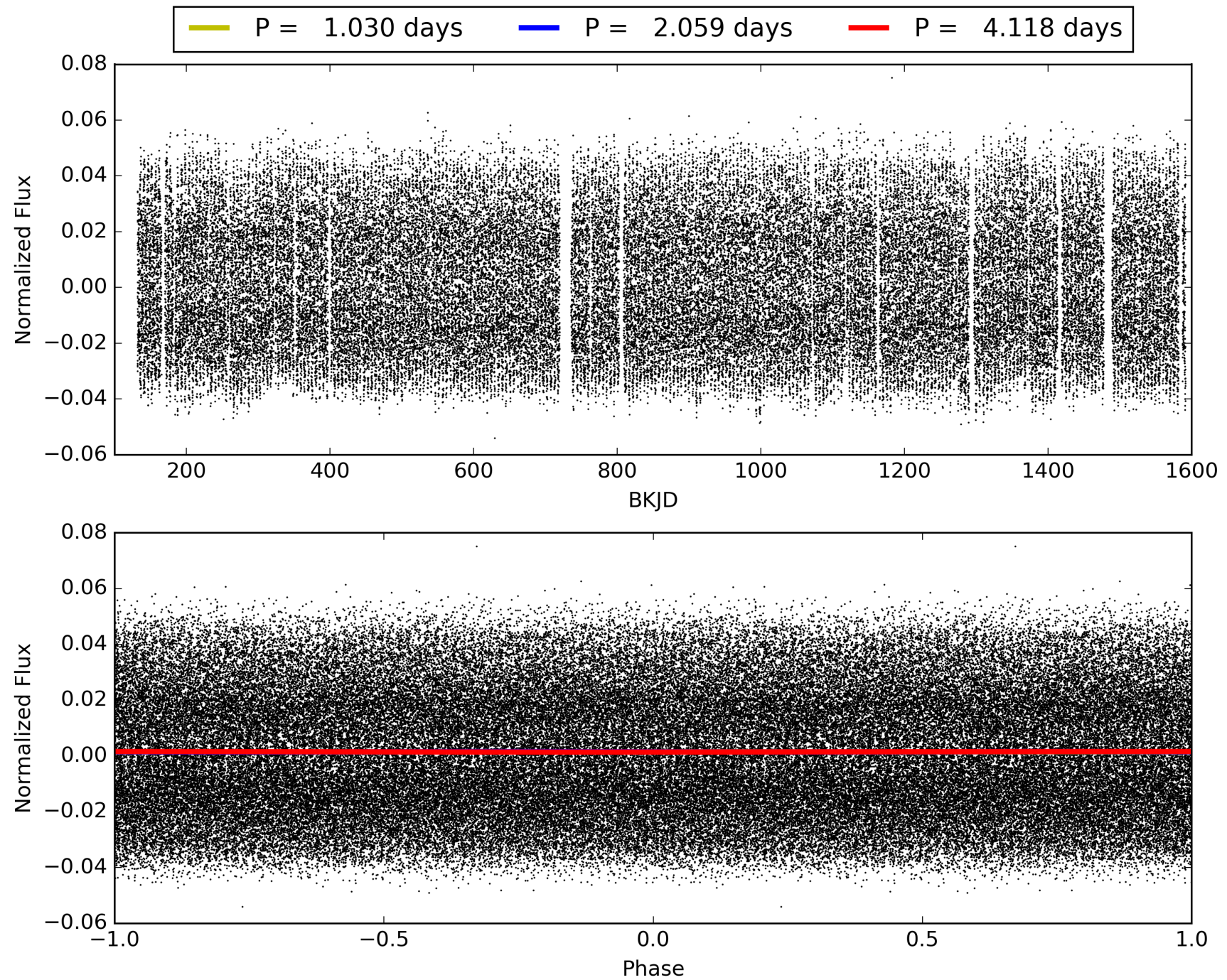
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:40:06 Z

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

TCE 005964173-02, PDC Light Curves

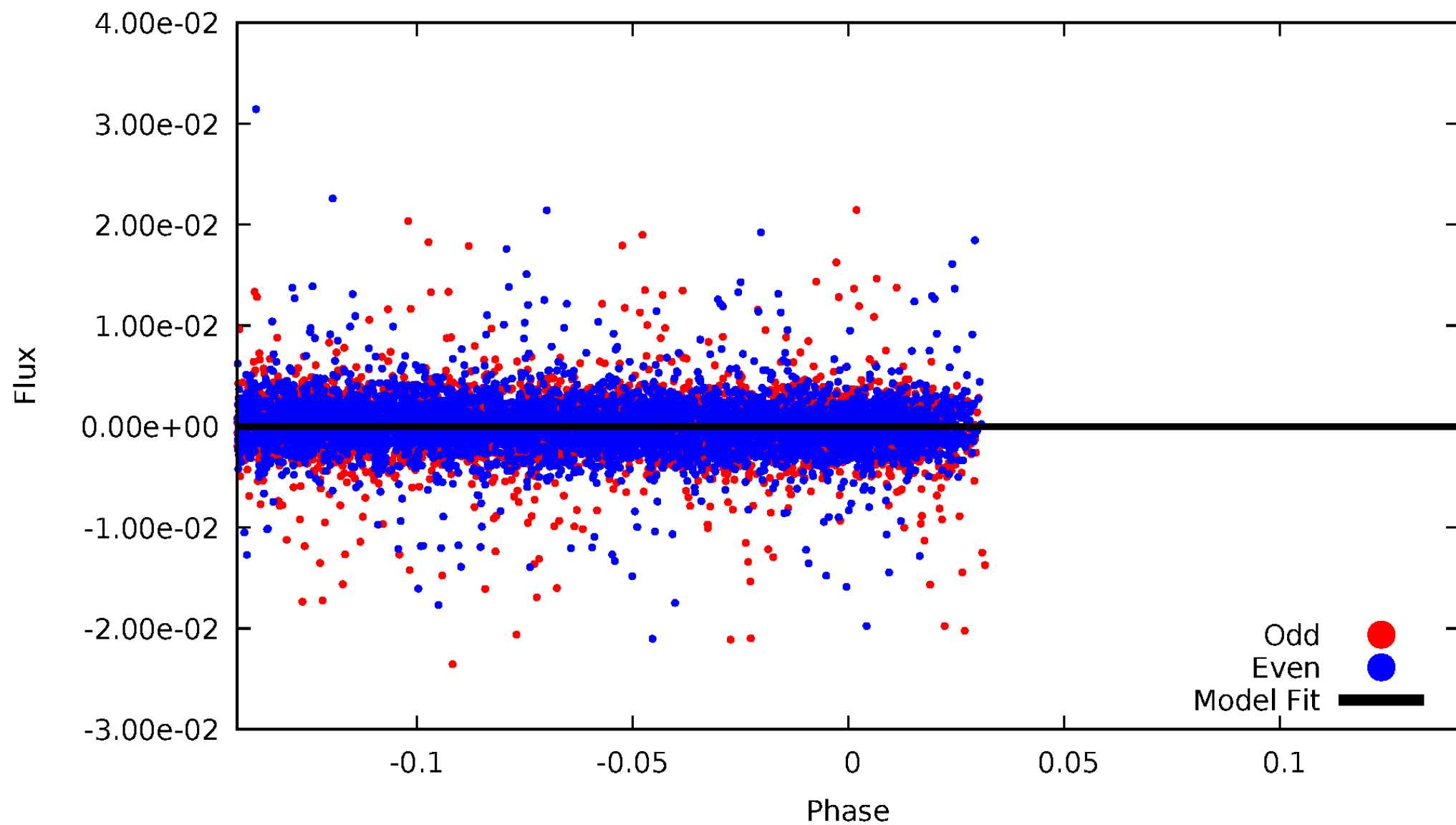


TCE 005964173-02



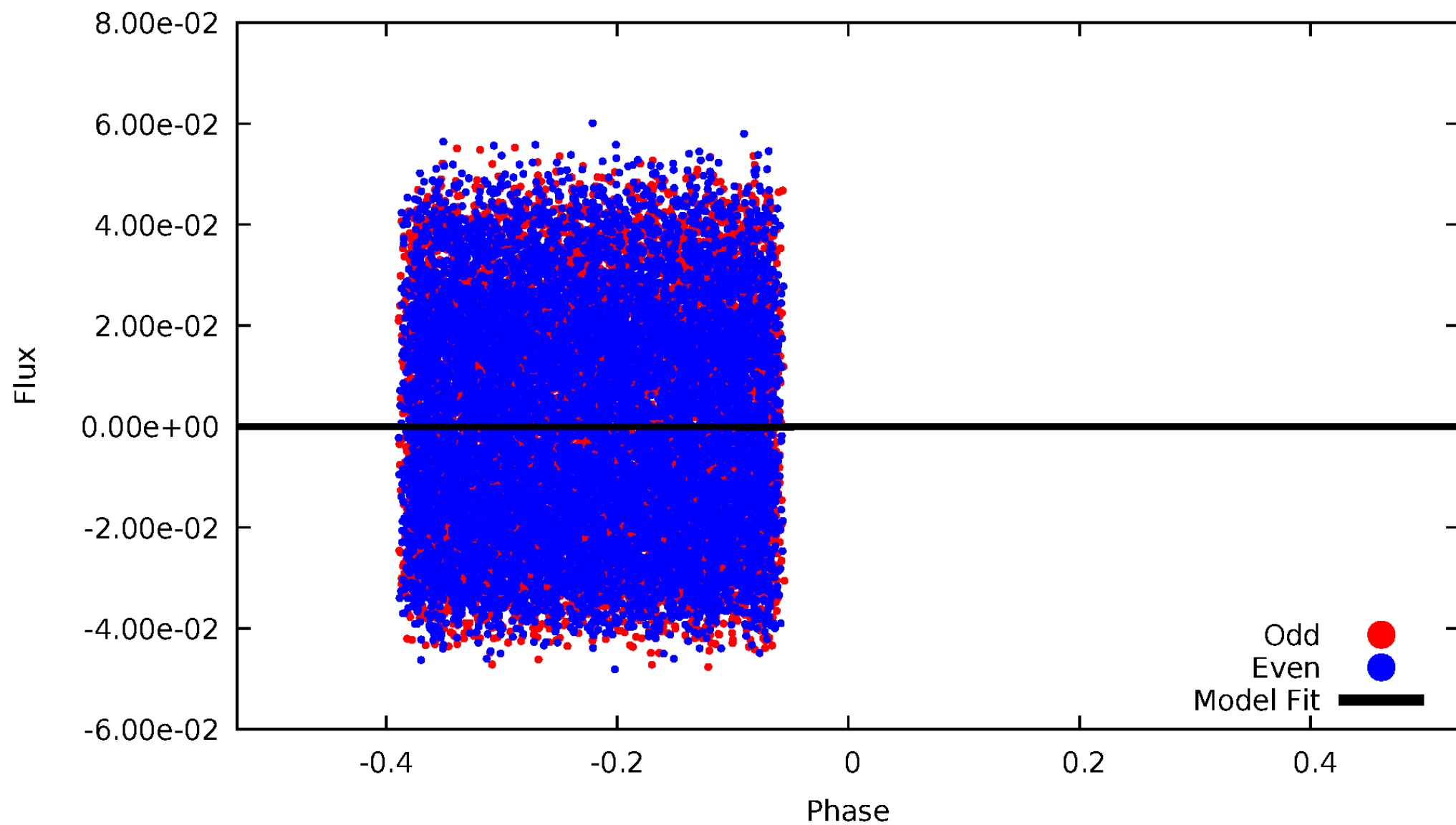
DV Odd/Even

TCE 005964173-02



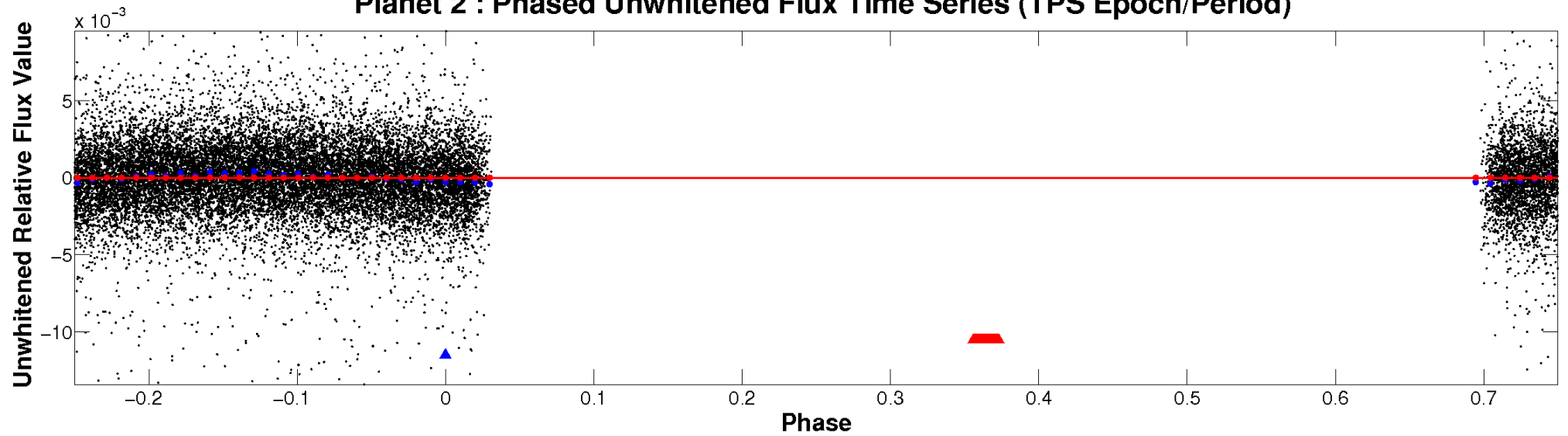
ALT Odd/Even

TCE 005964173-02



Non-Whitened Vs. Whitened Light Curve

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

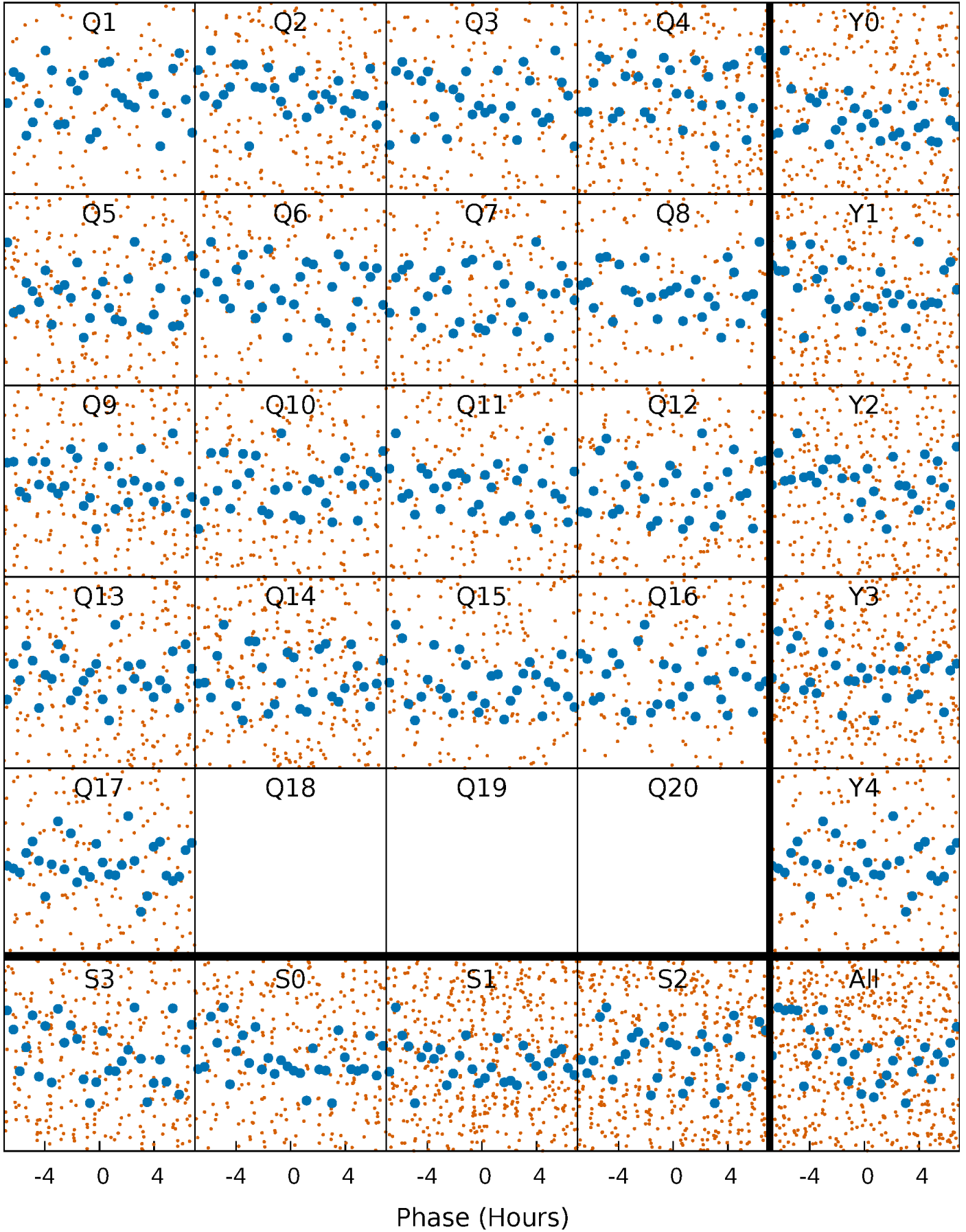


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



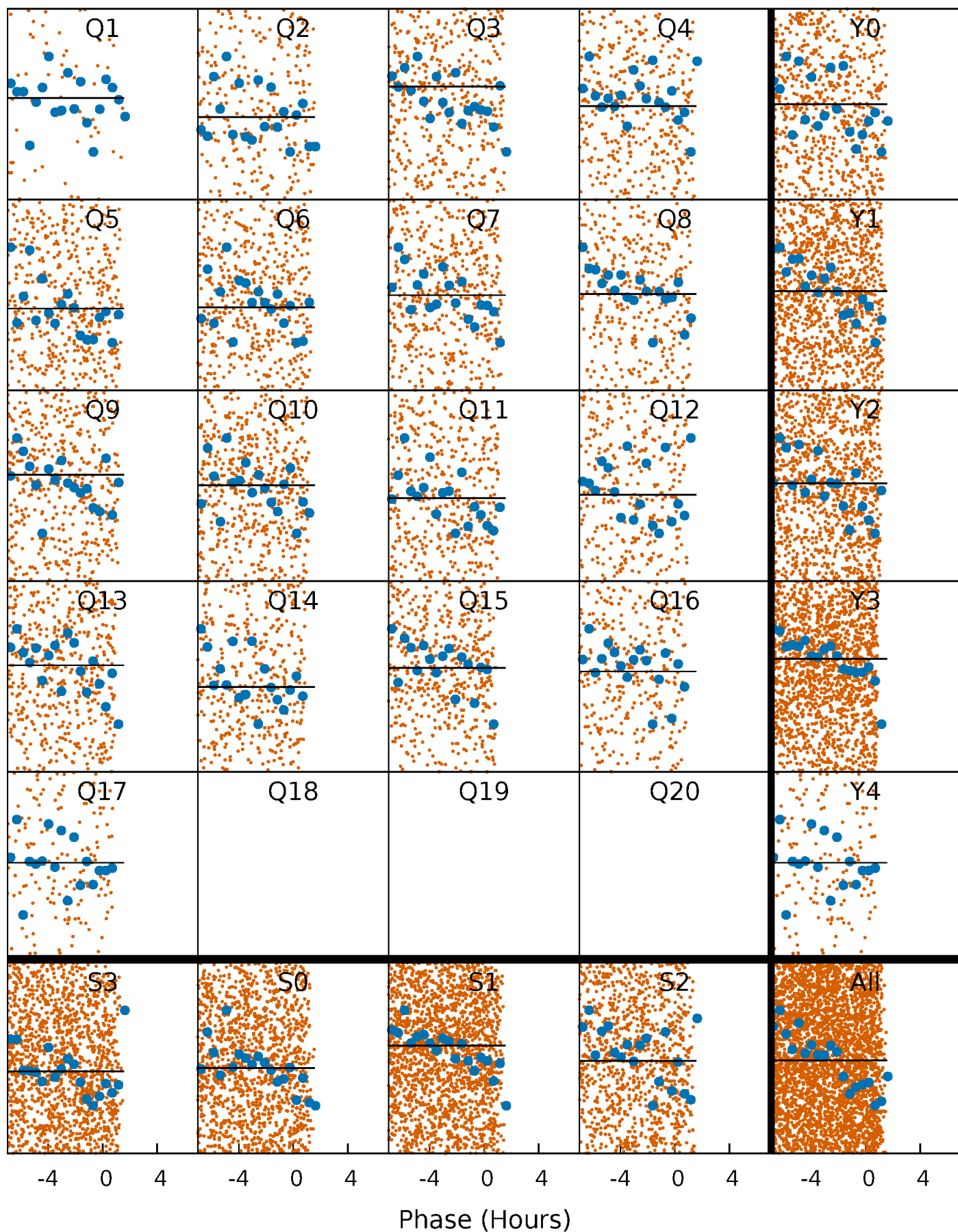
PDC Quarter-Phased Transit Curves

TCE 005964173-02 P= 2.059066 Days $T_0=132.532672$ (BKJD)



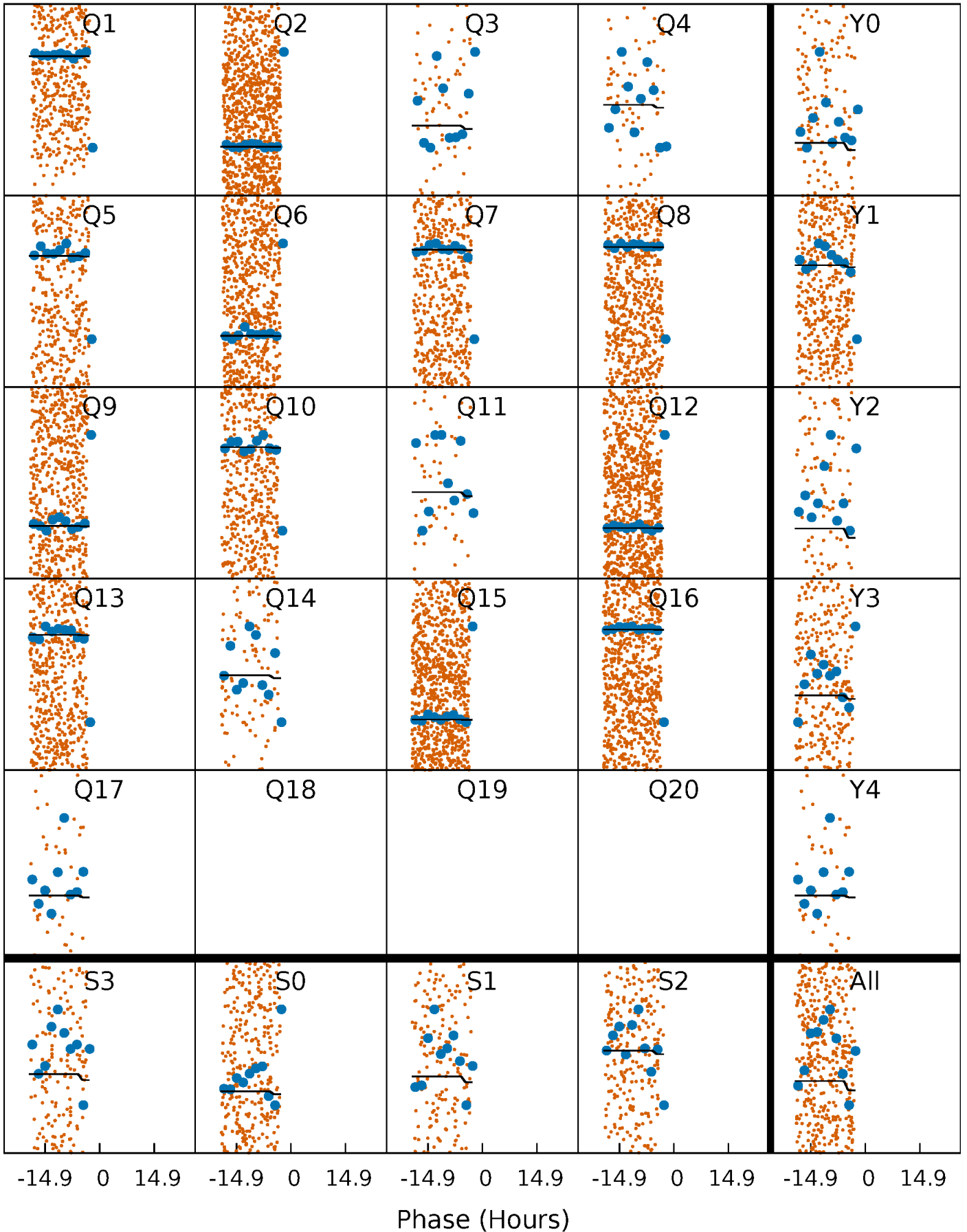
DV Quarter-Phased Transit Curves

TCE 005964173-02 P= 2.059066 Days $T_0=132.532672$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

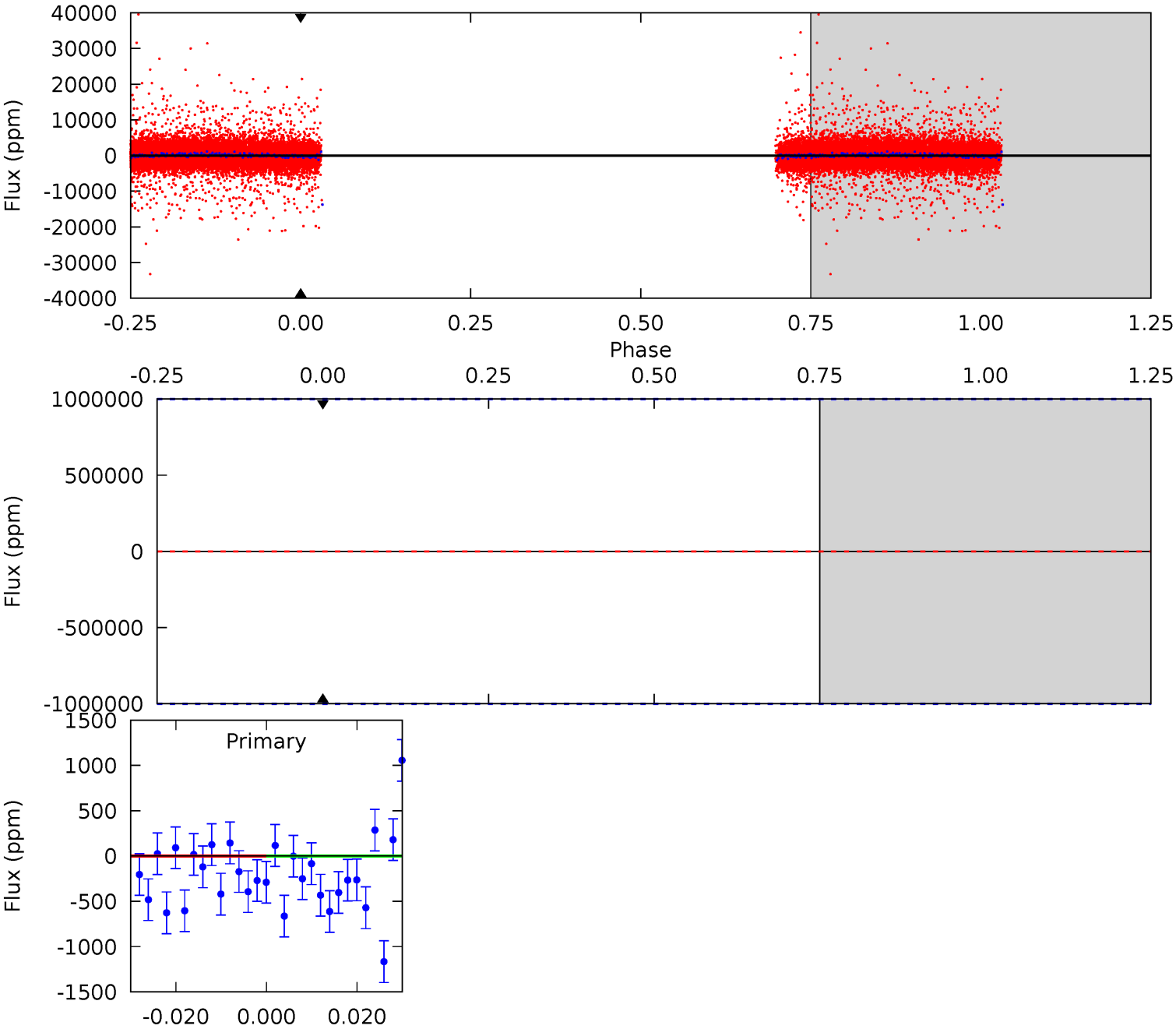
TCE 005964173-02 P= 2.059066 Days $T_0=132.711946$ (BKJD)



DV Model-Shift Uniqueness Test

005964173-02, P = 2.059066 Days, E = 130.473606 Days

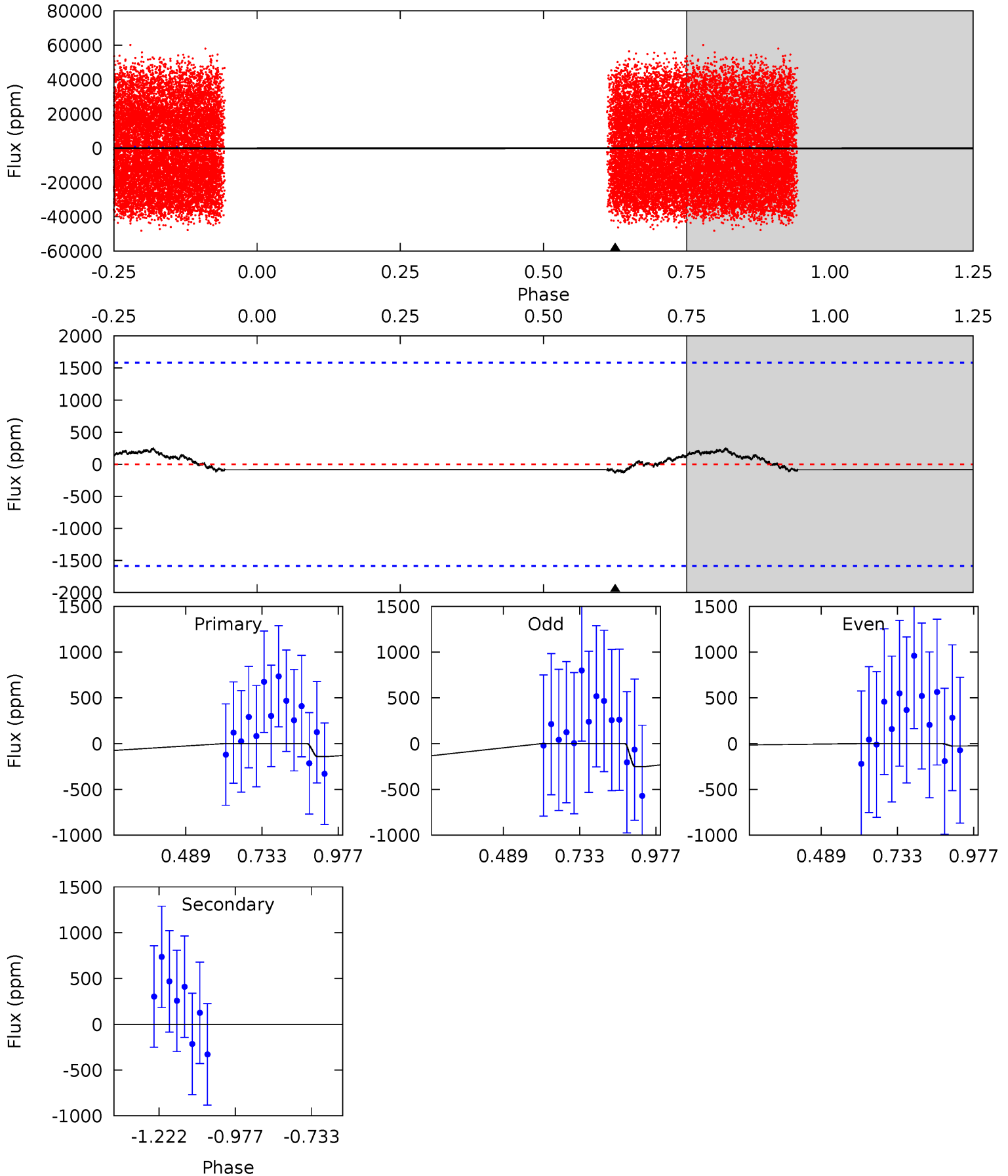
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005964173-02, P = 2.059066 Days, E = 130.652880 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.39	0	0	0	4.37	1.16	0.19	0.39	0.39	0	0	0.31	0	0.65	0



Stellar Parameters For KIC 005964173

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7327^{+203}_{-330}	$4.175^{+0.108}_{-0.201}$	$-0.060^{+0.200}_{-0.350}$	$1.663^{+0.555}_{-0.299}$	$1.508^{+0.234}_{-0.234}$	$0.462^{+0.278}_{-0.247}$
	+3%/-5%	+3%/-5%	+333%/-583%	+33%/-18%	+16%/-16%	+60%/-54%
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 005964173-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.40^{+13.98}_{-9.67}$	3084^{+236}_{-206}	3909^{+43038}_{-47361}	$1.445^{+885.521}_{-814.786}$
Alt.	0 ± 362	$12.32^{+14.68}_{-8.25}$	3078^{+236}_{-192}	-3149^{+7475}_{-1656}	$-0.021^{+2.355}_{-3.085}$

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

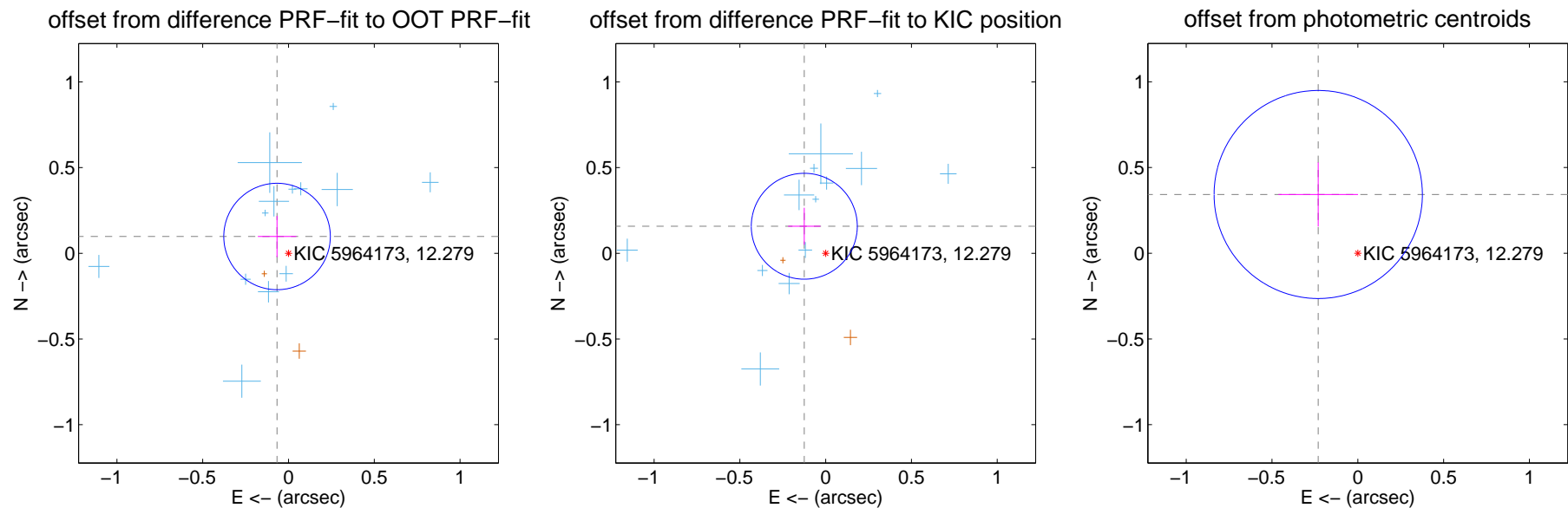
DV Centroid Data

Supplemental centroid analysis for 005964173-02. Kepler magnitude: 12.28. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

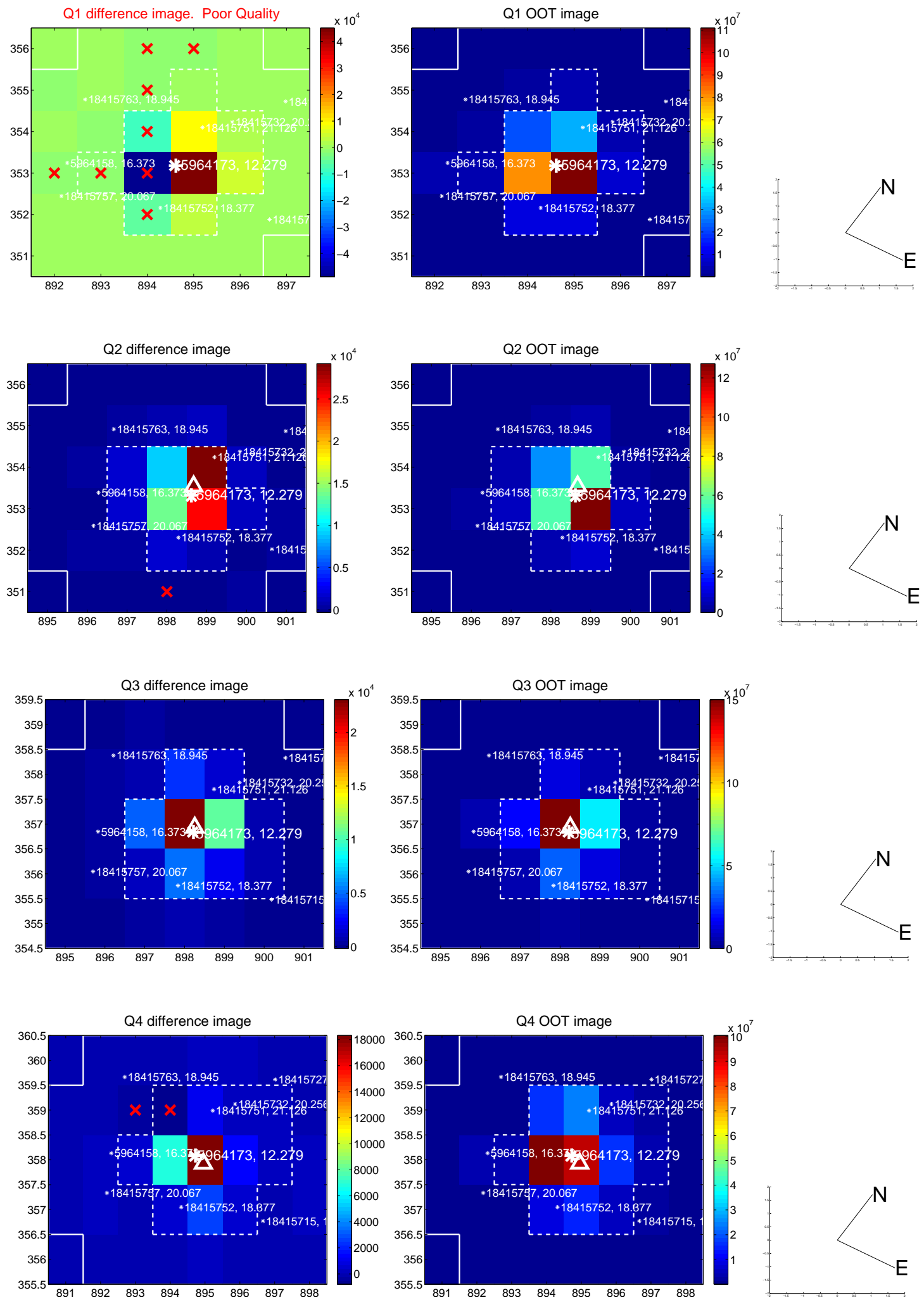
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.119 ± 0.104	1.14	0.067 ± 0.112	0.098 ± 0.120
PRF-fit source offset from KIC position	0.201 ± 0.103	1.95	0.125 ± 0.094	0.158 ± 0.108
photometric centroid source offset	0.41 ± 0.20	2.04	0.23 ± 0.23	0.34 ± 0.19

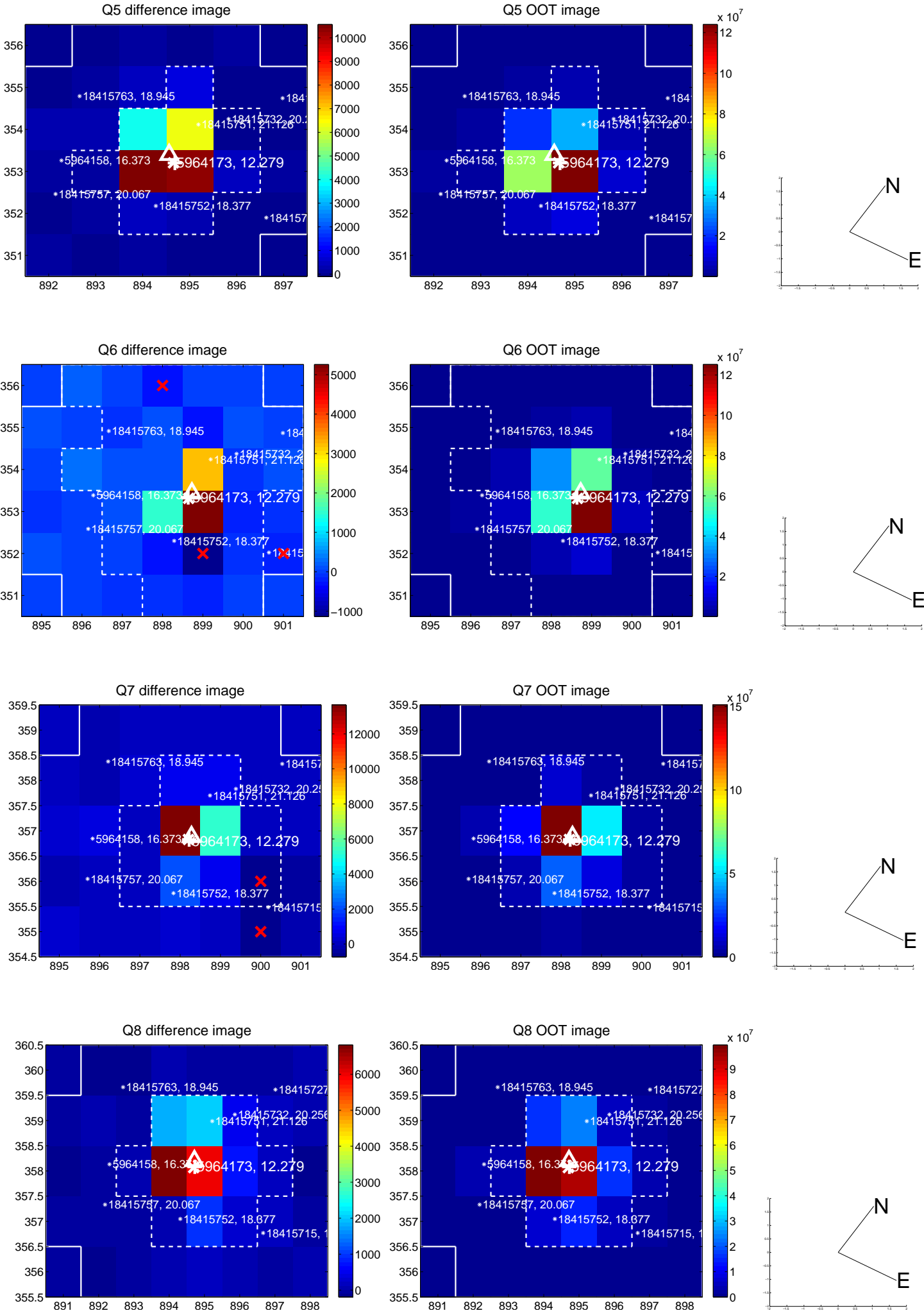


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

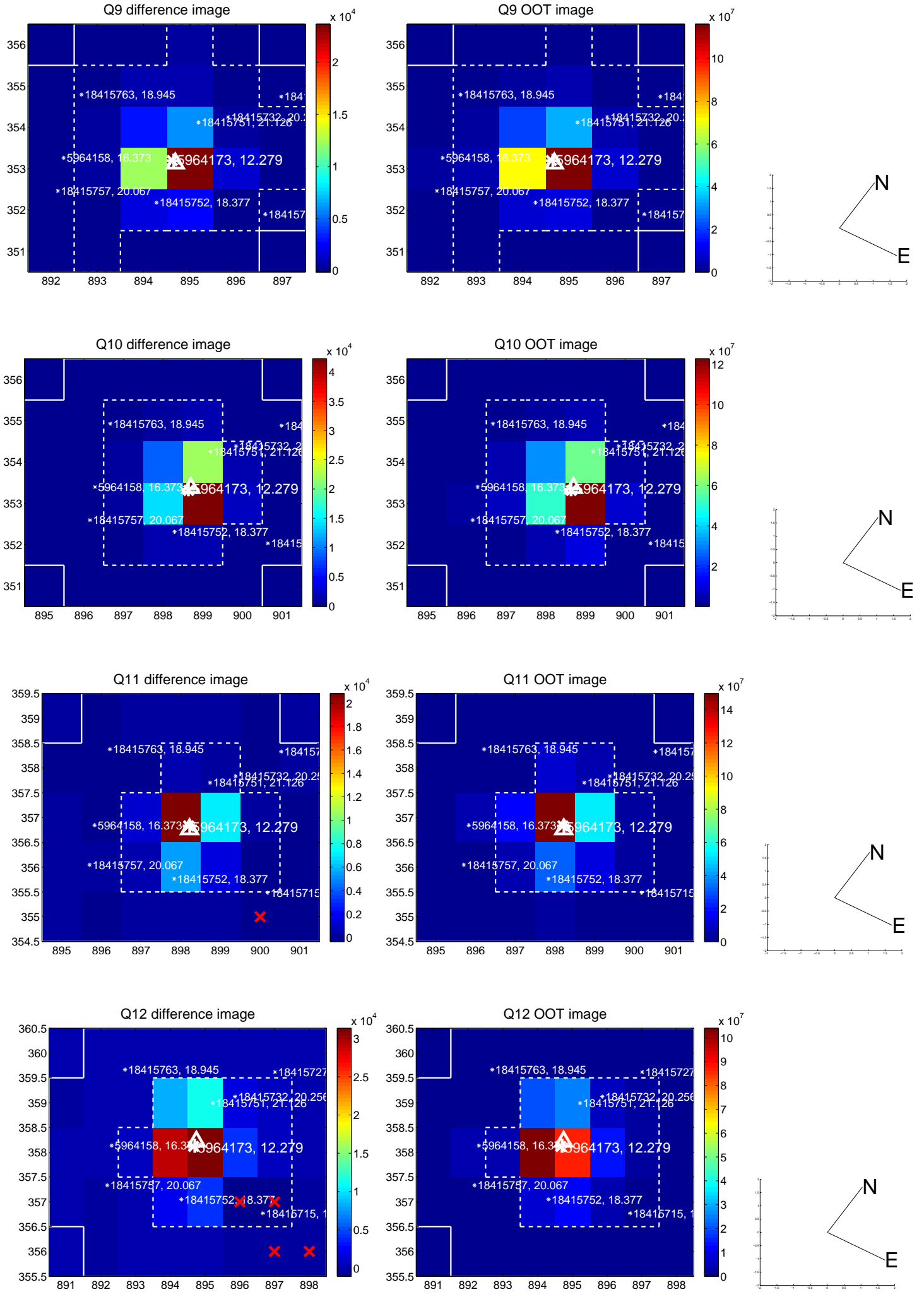
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



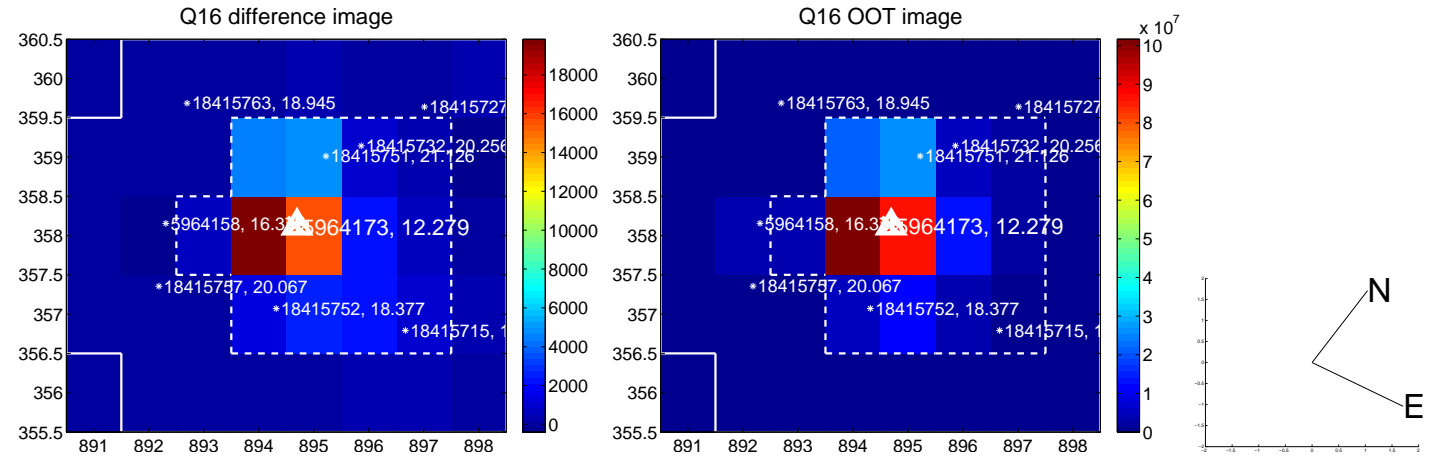
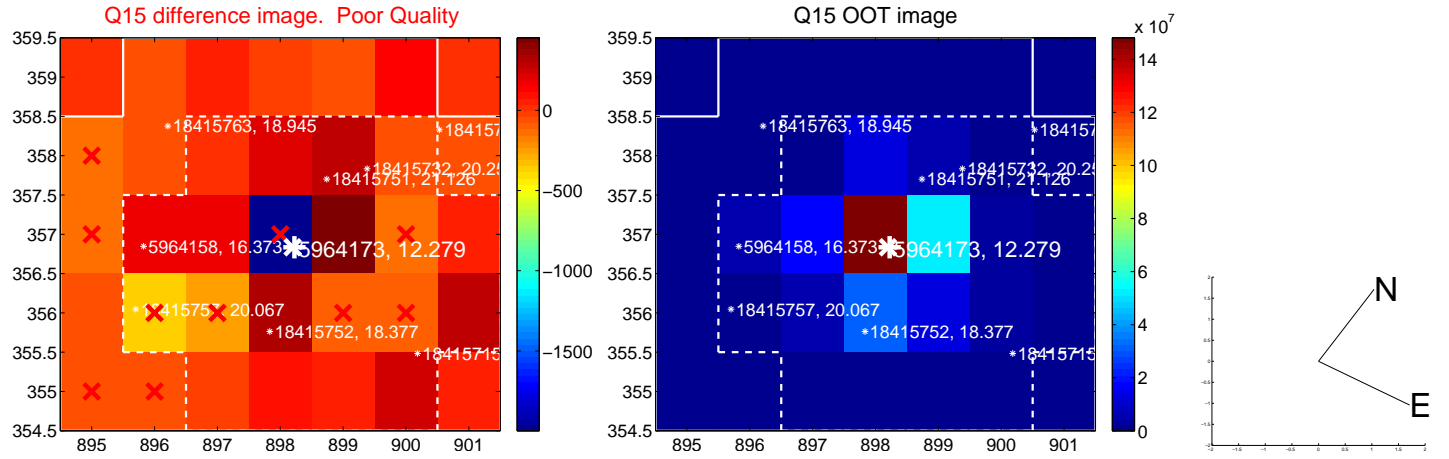
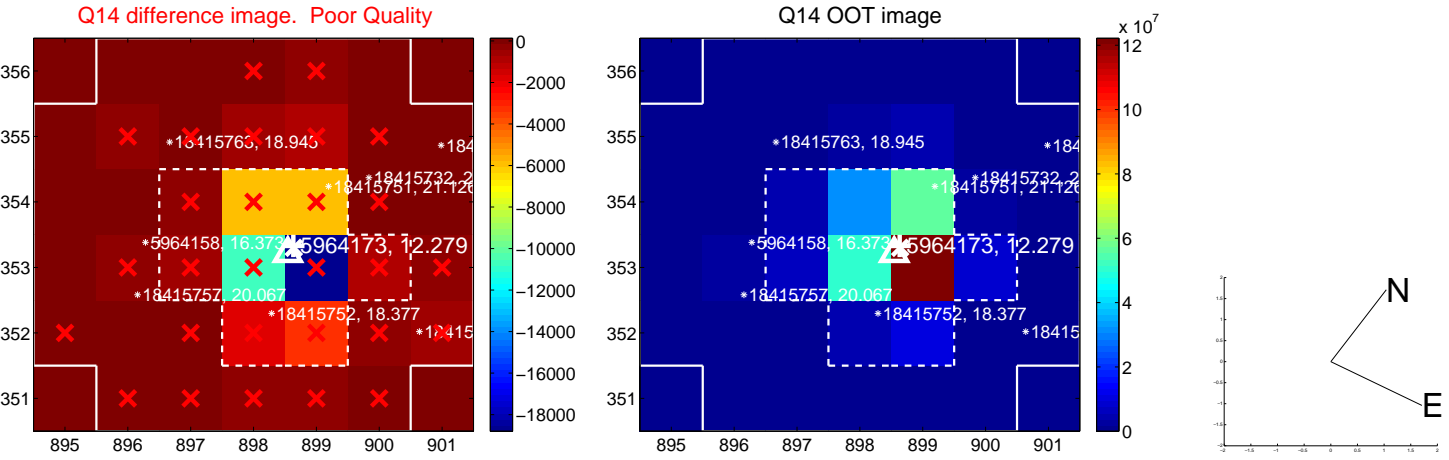
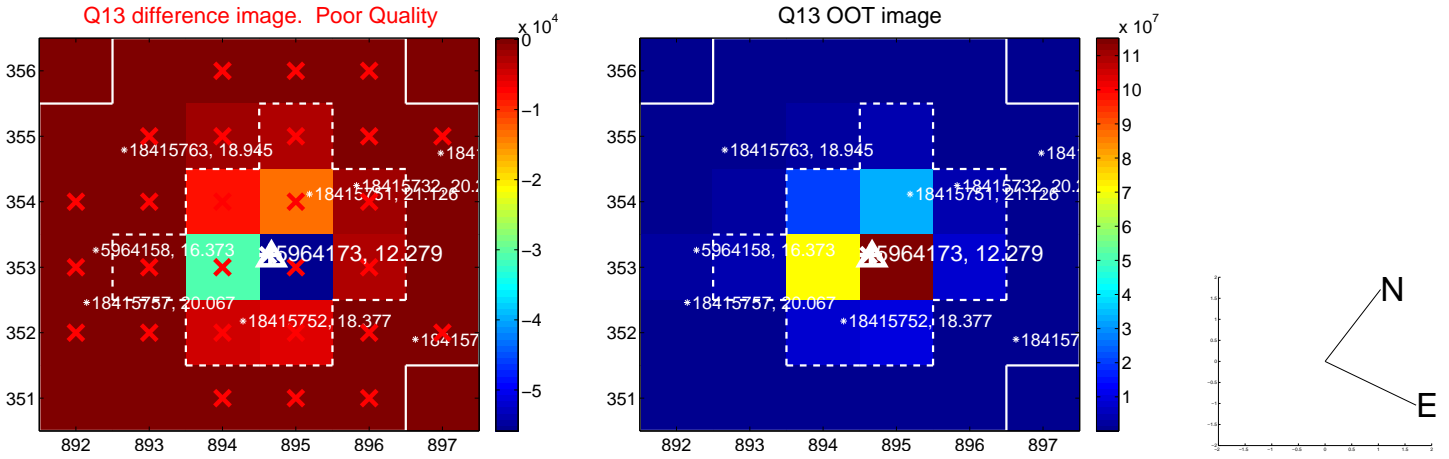
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



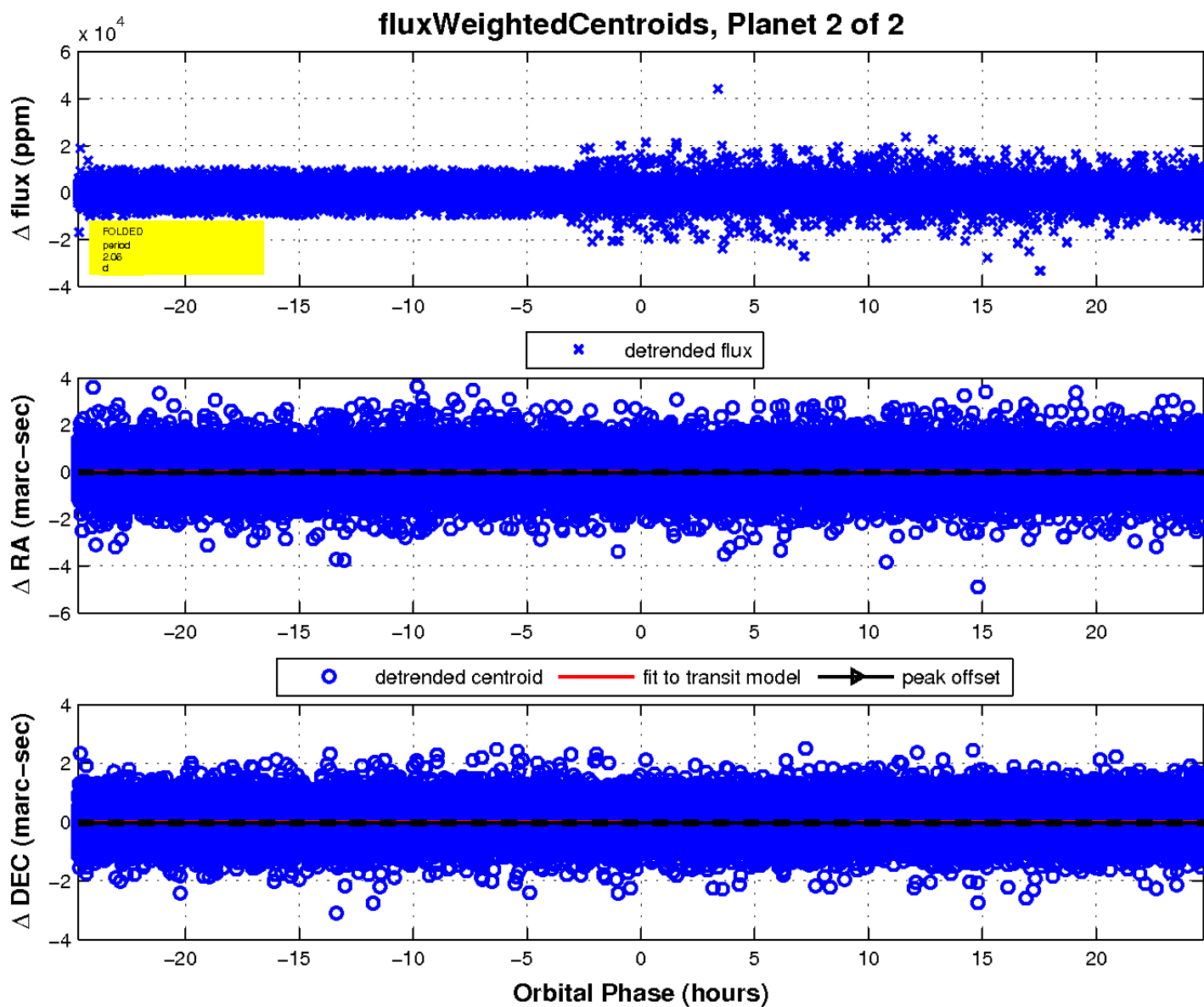
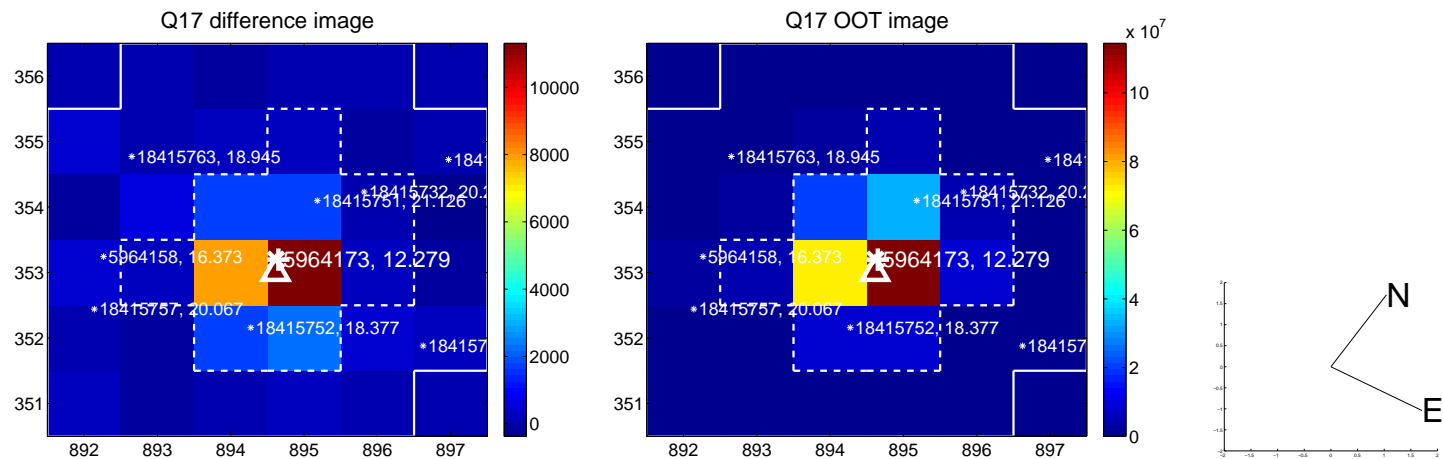
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

