

KIC 006226293

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})
006226293-01	OBS	No	1.208575	132.114121	140.4	6.771	16.5	16.2	1.83	7442	2.79	13721.34
006226293-02	OBS	No	0.604279	131.913228	184.0	6.480	11.0	14.4	1.83	7442	2.67	34576.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006226293-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006226293-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

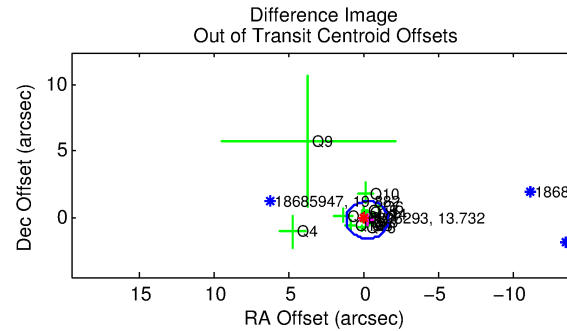
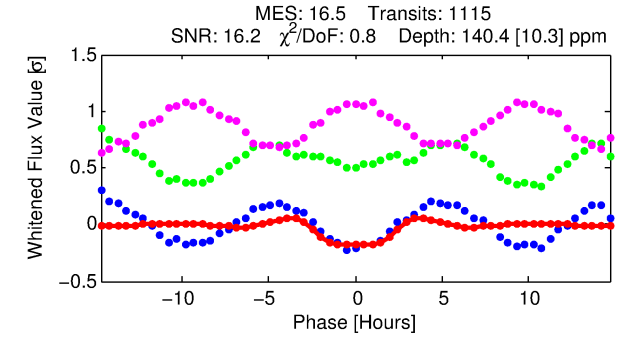
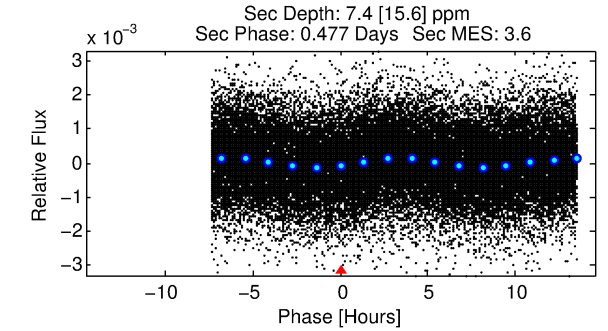
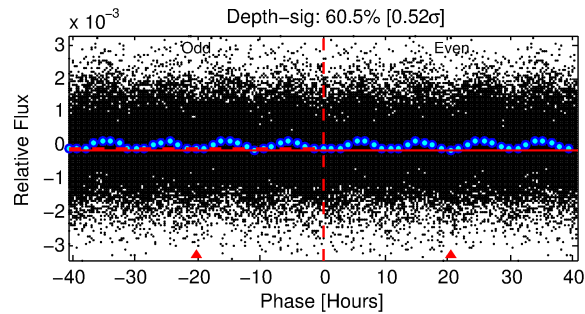
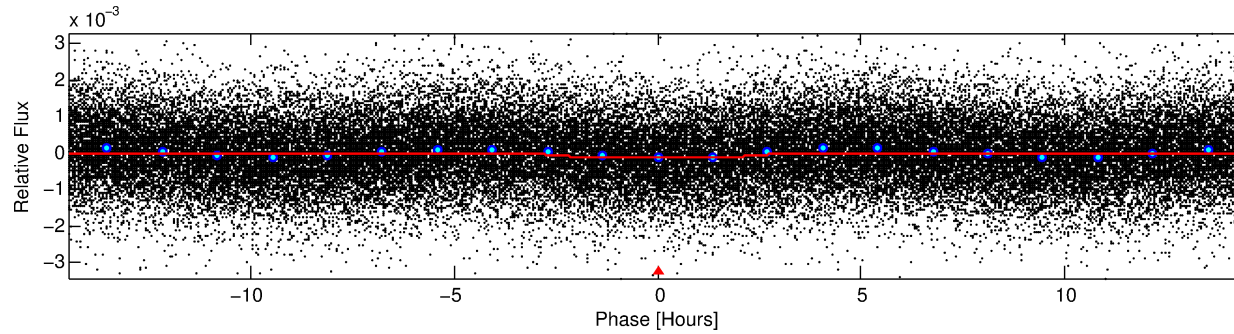
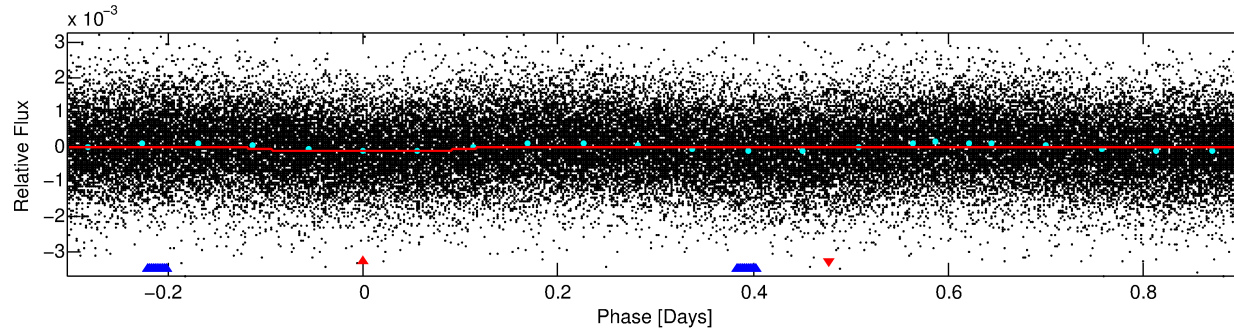
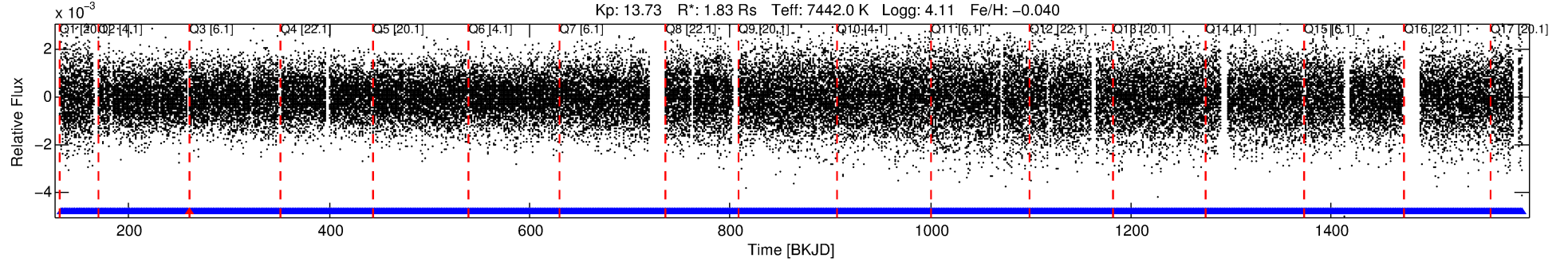
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006226293-01

No Significant Match Found

DV One-Page Summary

KIC: 6226293 Candidate: 1 of 2 Period: 1.209 d



DV Fit Results:

Period = 1.20857 [0.00001] d
Epoch = 132.1141 [0.0046] BKJD
Rp/R* = 0.0139 [0.0007]
a/R* = 1.06 [0.02]
b = 0.98 [0.01]
Seff = 13721.34 [5146.11]
Teq = 2760 [259] K
Rp = 2.79 [0.84] Re
a = 0.0259 [0.0062] AU
Ag = 0.35 [0.75] [-0.86σ]
Teffp = 3290 [1738] K [0.30σ]

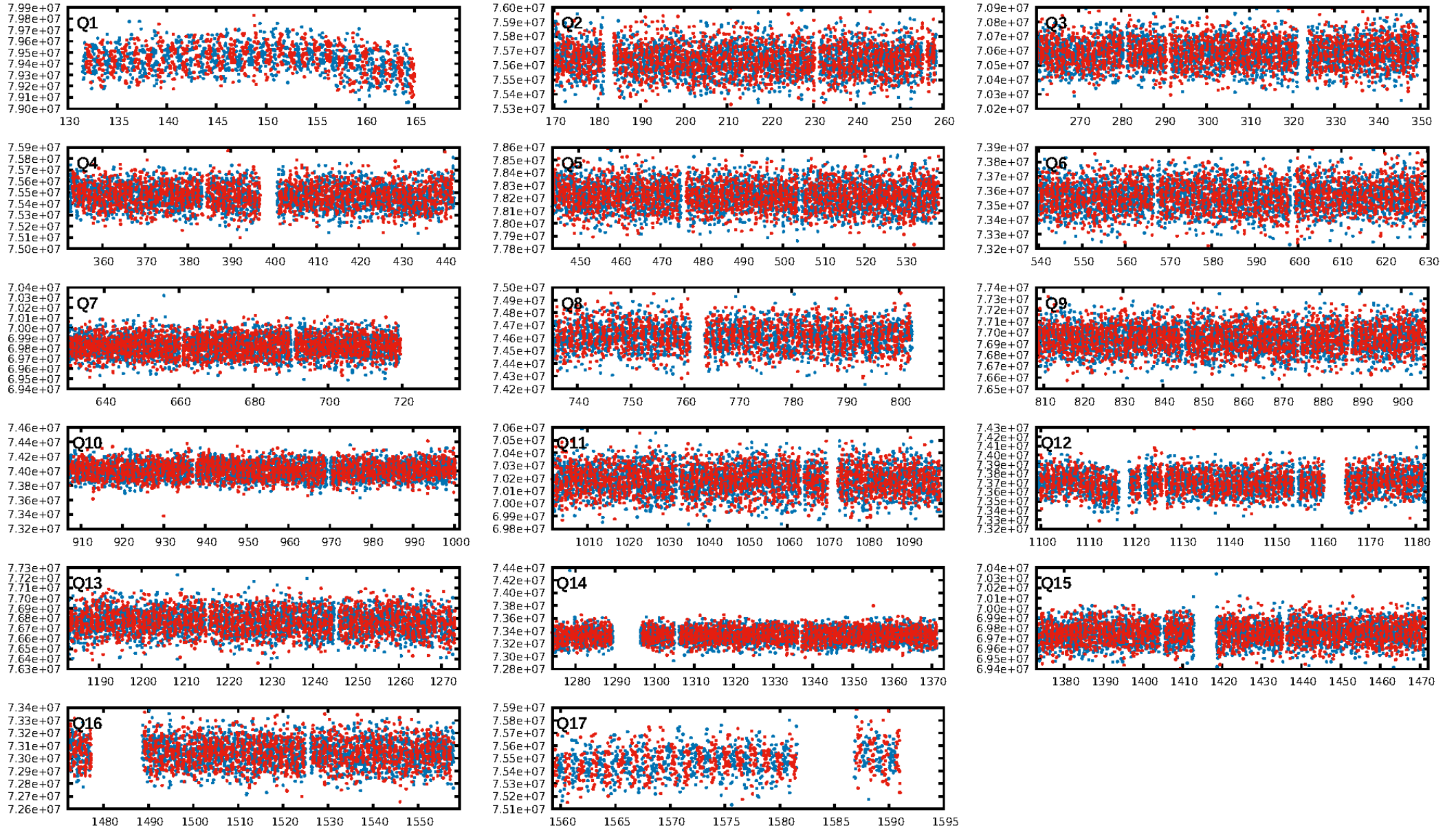
DV Diagnostic Results:

ShortPeriod-sig: 87.8% [1.55σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1063/1064]
GhostDiagnostic-chr: 1.515
Centroid-sig: 5.0%
Centroid-so: 0.303 arcsec [1.71σ]
OotOffset-rm: 0.340 arcsec [0.72σ]
KicOffset-rm: 0.361 arcsec [0.75σ]
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]

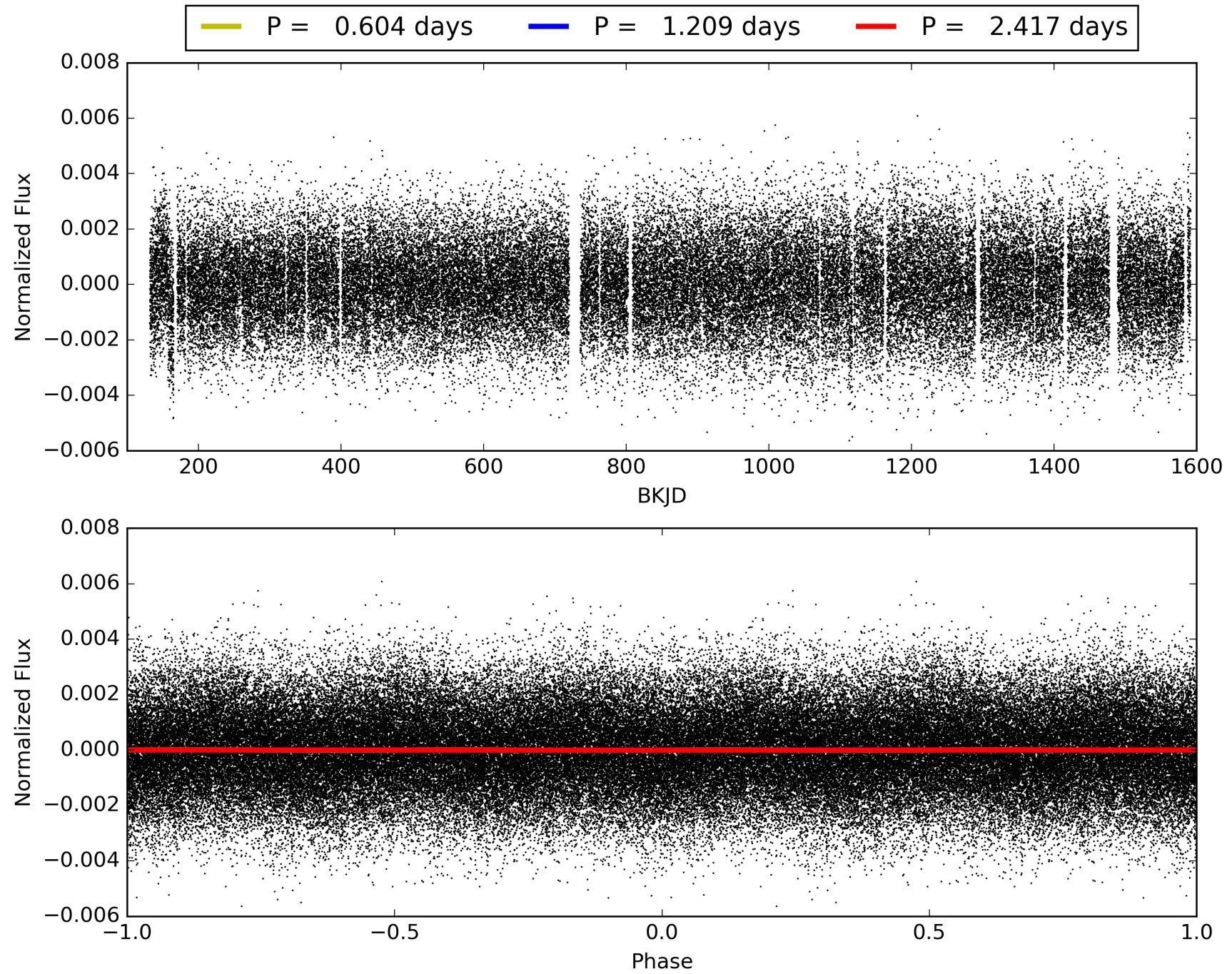
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:05:42 Z

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

TCE 006226293-01, PDC Light Curves

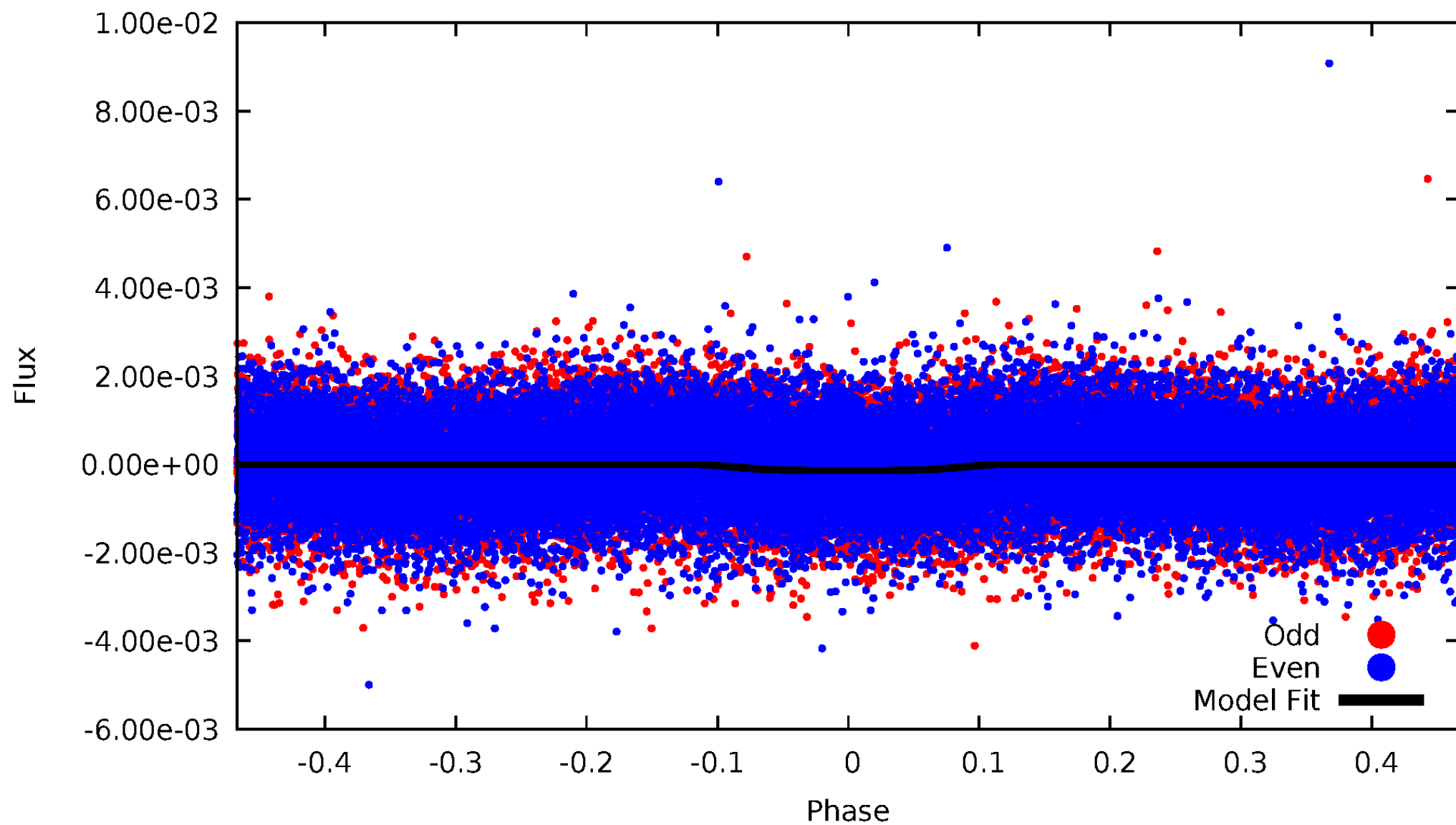


TCE 006226293-01



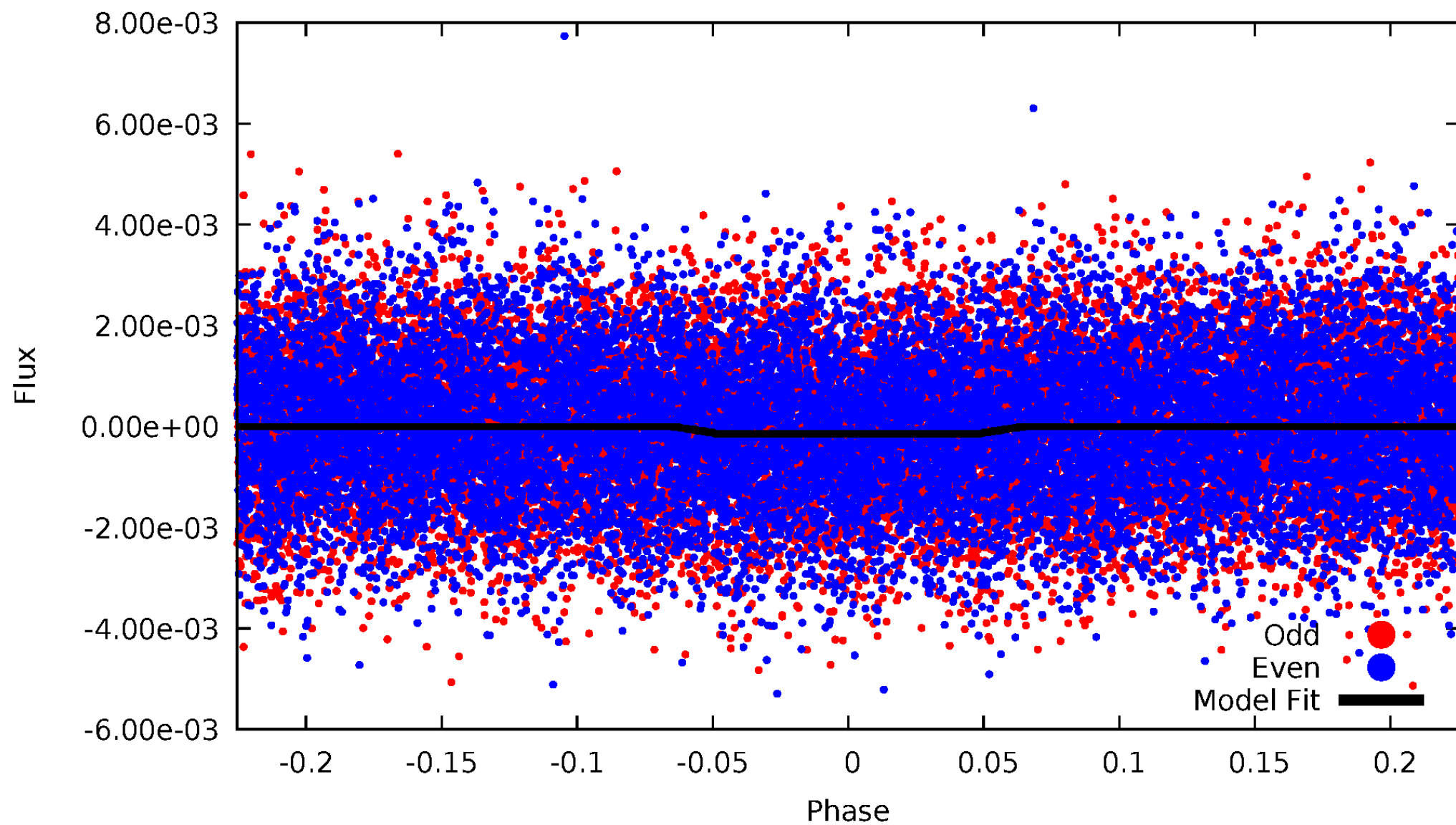
DV Odd/Even

TCE 006226293-01



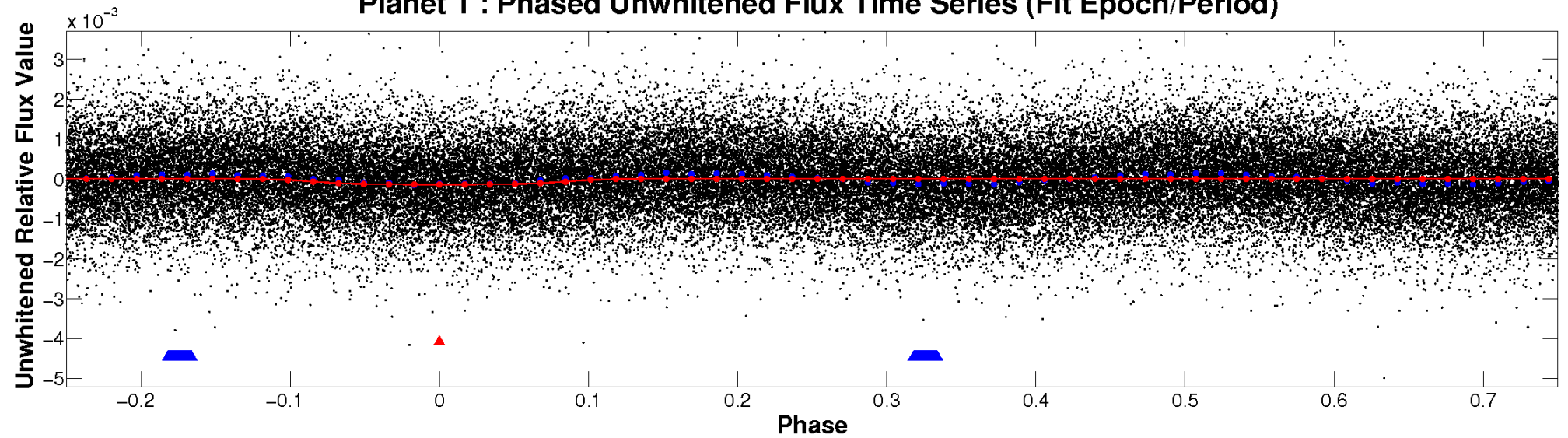
ALT Odd/Even

TCE 006226293-01

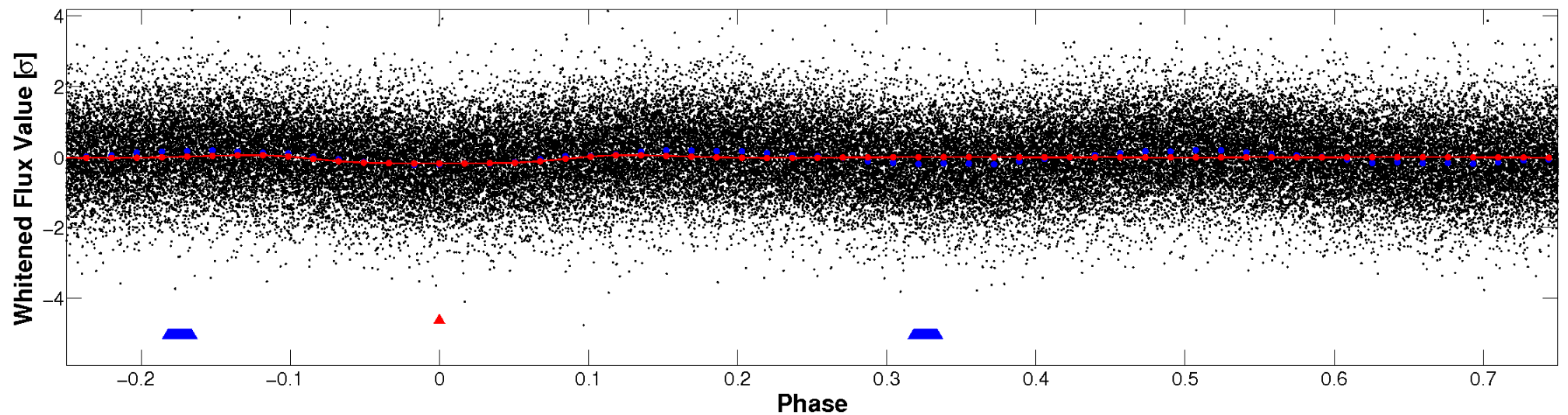


Non-Whitened Vs. Whitened Light Curve

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

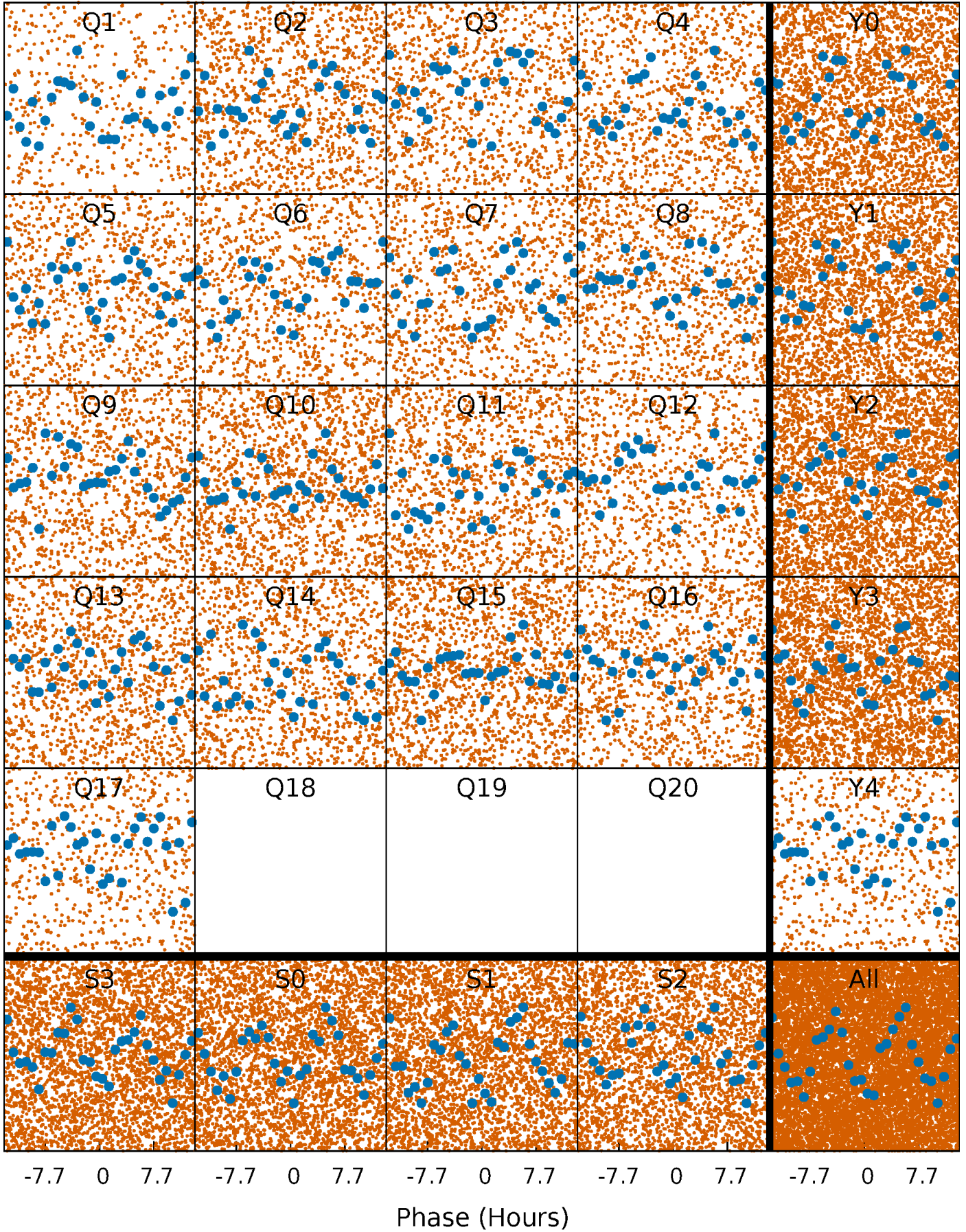


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



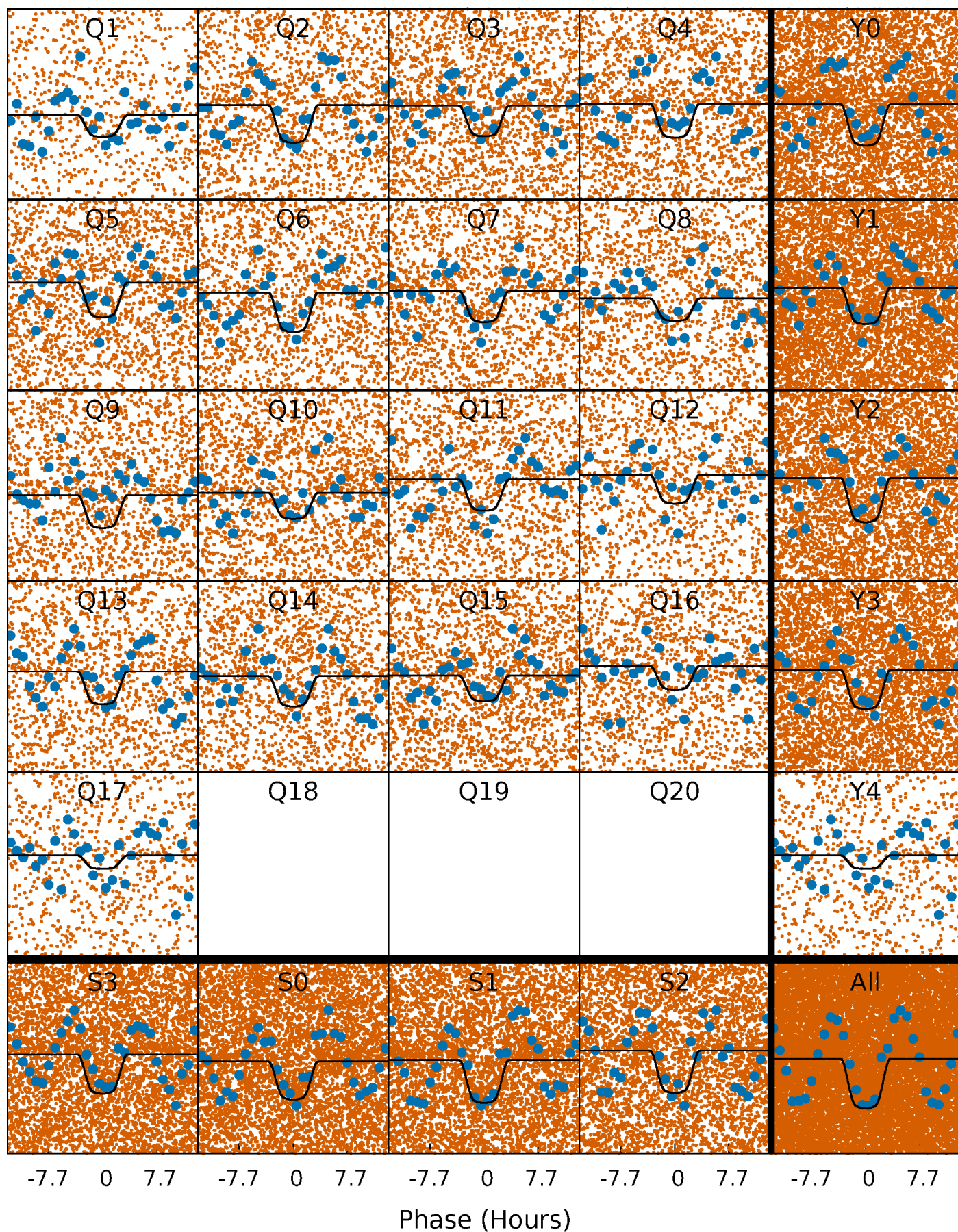
PDC Quarter-Phased Transit Curves

TCE 006226293-01 P= 1.208575 Days $T_0=132.114121$ (BKJD)



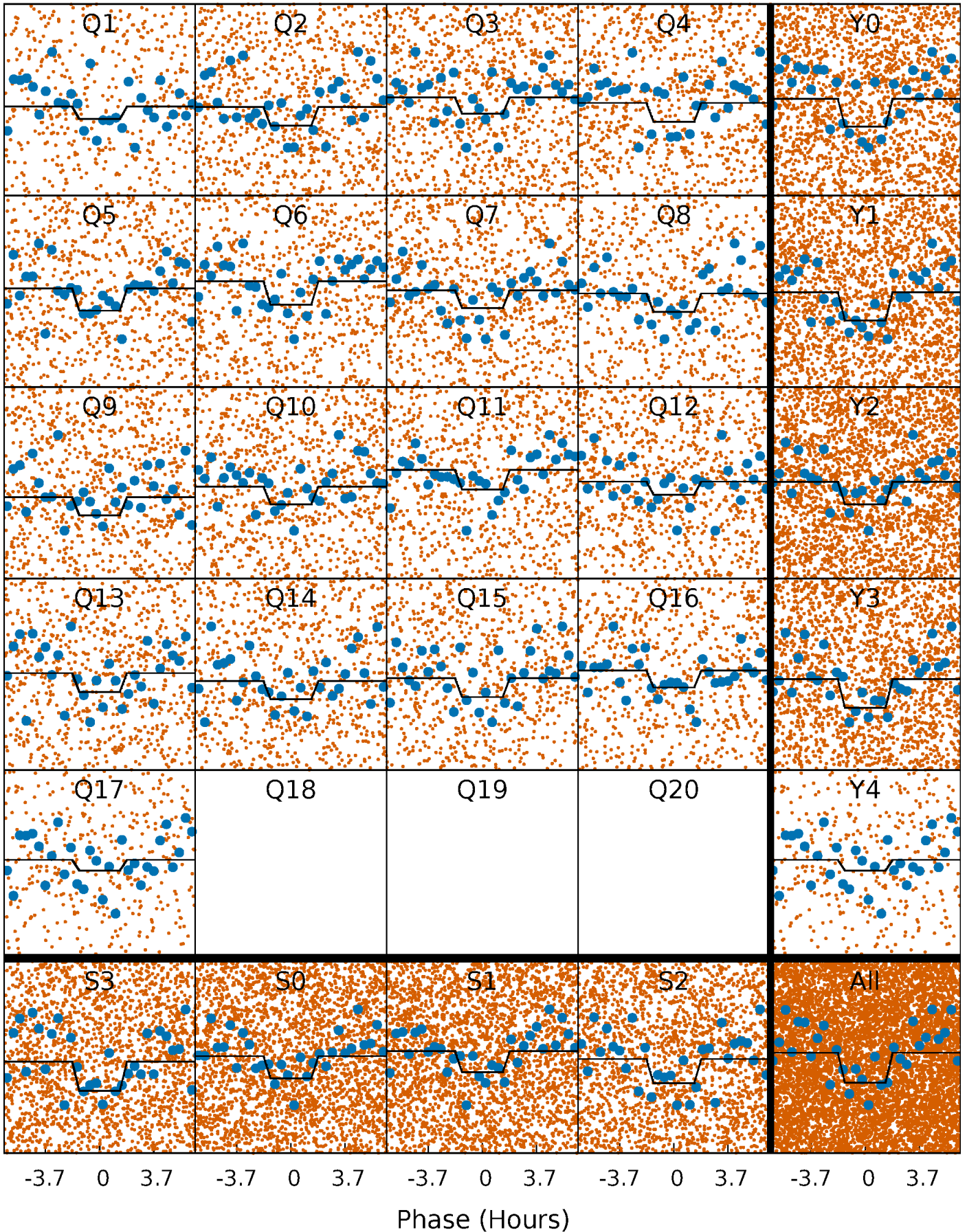
DV Quarter-Phased Transit Curves

TCE 006226293-01 P= 1.208575 Days $T_0=132.114121$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

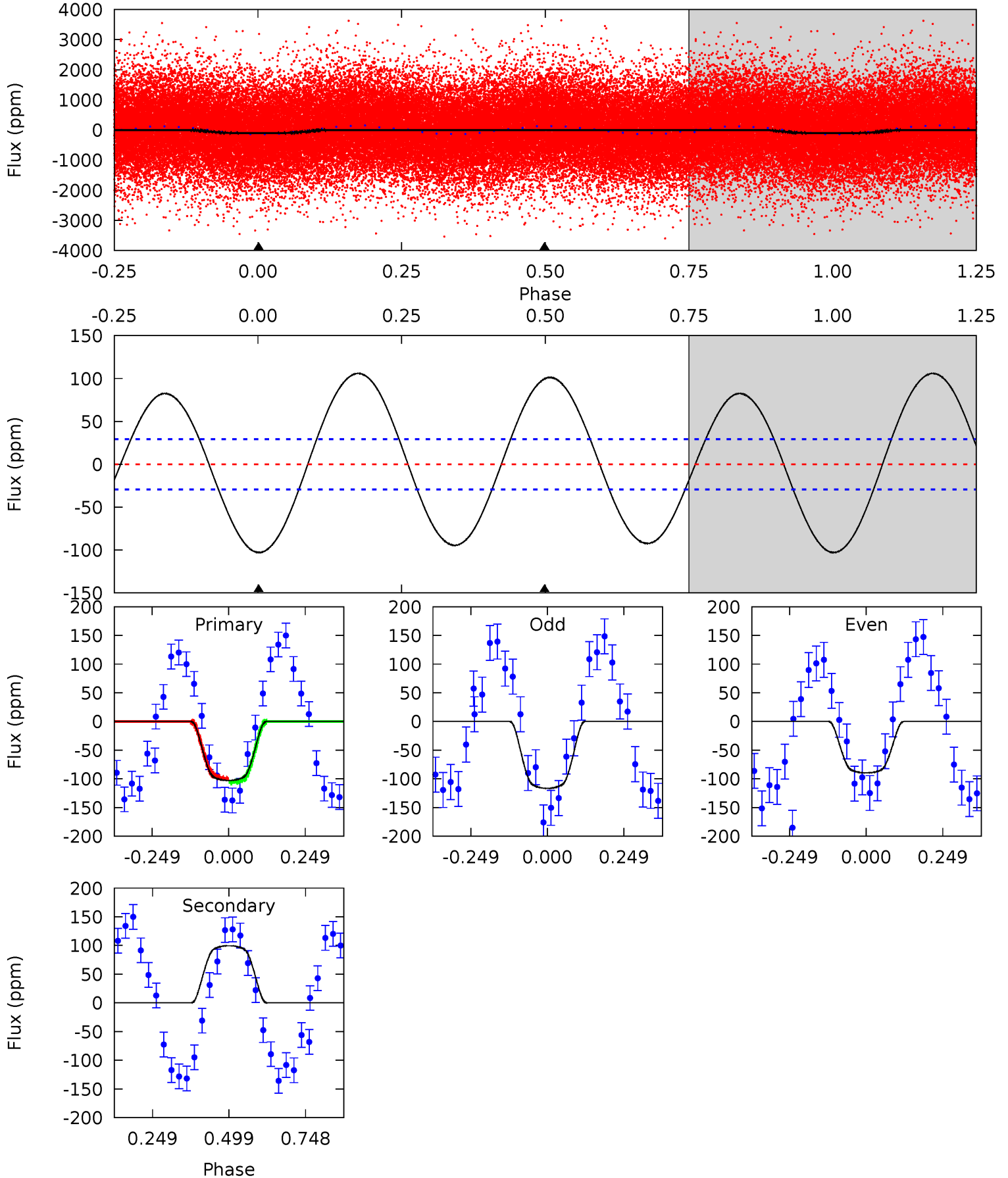
TCE 006226293-01 P= 1.208585 Days $T_0=132.112401$ (BKJD)



DV Model-Shift Uniqueness Test

006226293-01, P = 1.208575 Days, E = 130.905546 Days

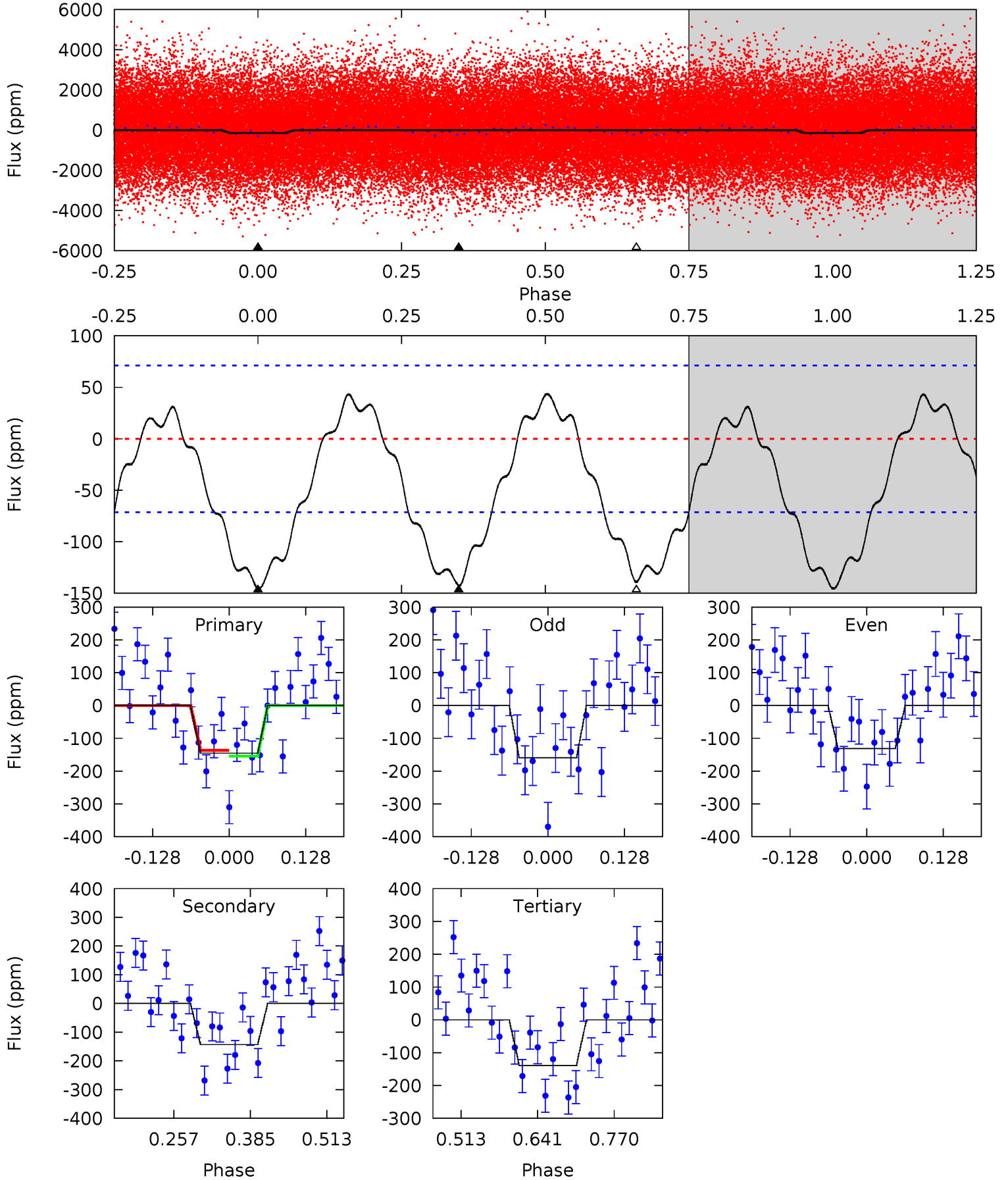
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	-14.9	0	0	4.37	1.15	4.77	15.4	15.4	-14.9	-14.9	1.99	1.04	0.51	0.52



Alt Model-Shift Uniqueness Test

006226293-01, P = 1.208585 Days, E = 130.903816 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.21	9.06	8.81	0	4.51	1.52	3.77	0.40	9.21	0.25	9.06	0.90	1.05	0.23	0.57



Stellar Parameters For KIC 006226293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7442^{+233}_{-311}	$4.114^{+0.128}_{-0.176}$	$-0.040^{+0.200}_{-0.350}$	$1.833^{+0.548}_{-0.365}$	$1.592^{+0.200}_{-0.244}$	$0.364^{+0.261}_{-0.174}$
	+3%/-4%	+3%/-4%	+500%/-875%	+30%/-20%	+13%/-15%	+72%/-48%
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 006226293-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	100 ± 7	$2.79^{+0.42}_{-0.31}$	3858^{+295}_{-242}	-6300^{+282}_{-272}	$-4.645^{+1.092}_{-1.247}$
Alt.	-143 ± 16	$2.42^{+0.41}_{-0.31}$	3862^{+294}_{-242}	7290^{+403}_{-425}	$8.790^{+2.691}_{-2.377}$

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

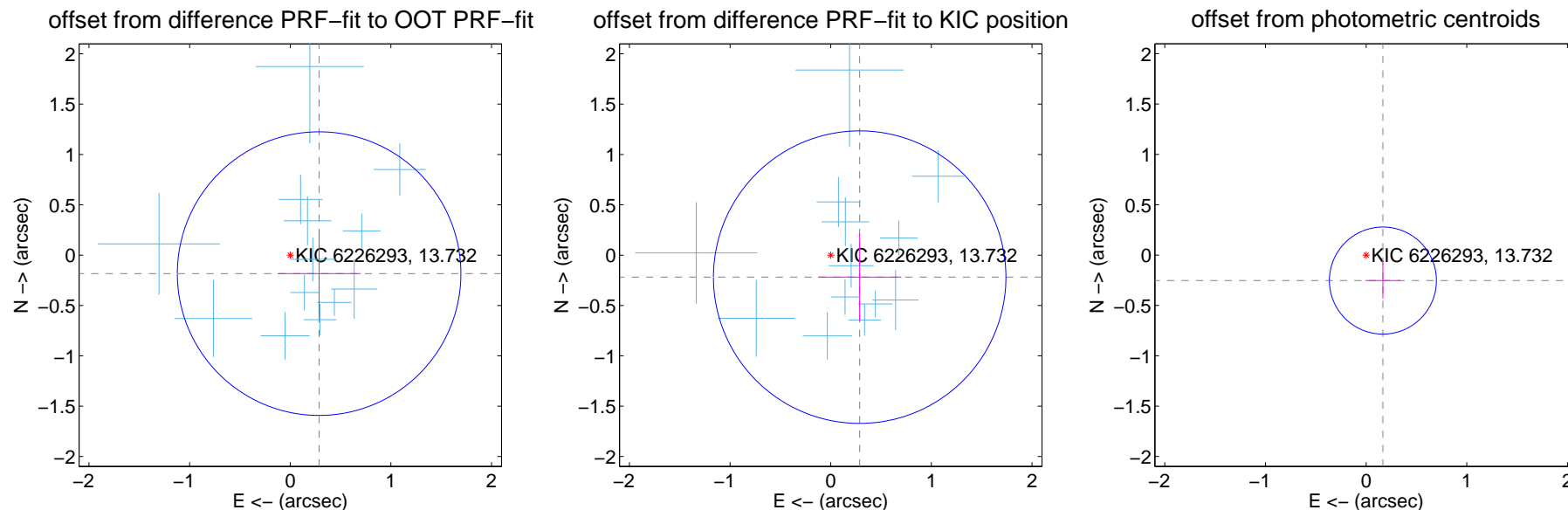
DV Centroid Data

Supplemental centroid analysis for 006226293-01. Kepler magnitude: 13.73. Transit SNR 16.23

There are 13 quarters with good PRF difference image offsets

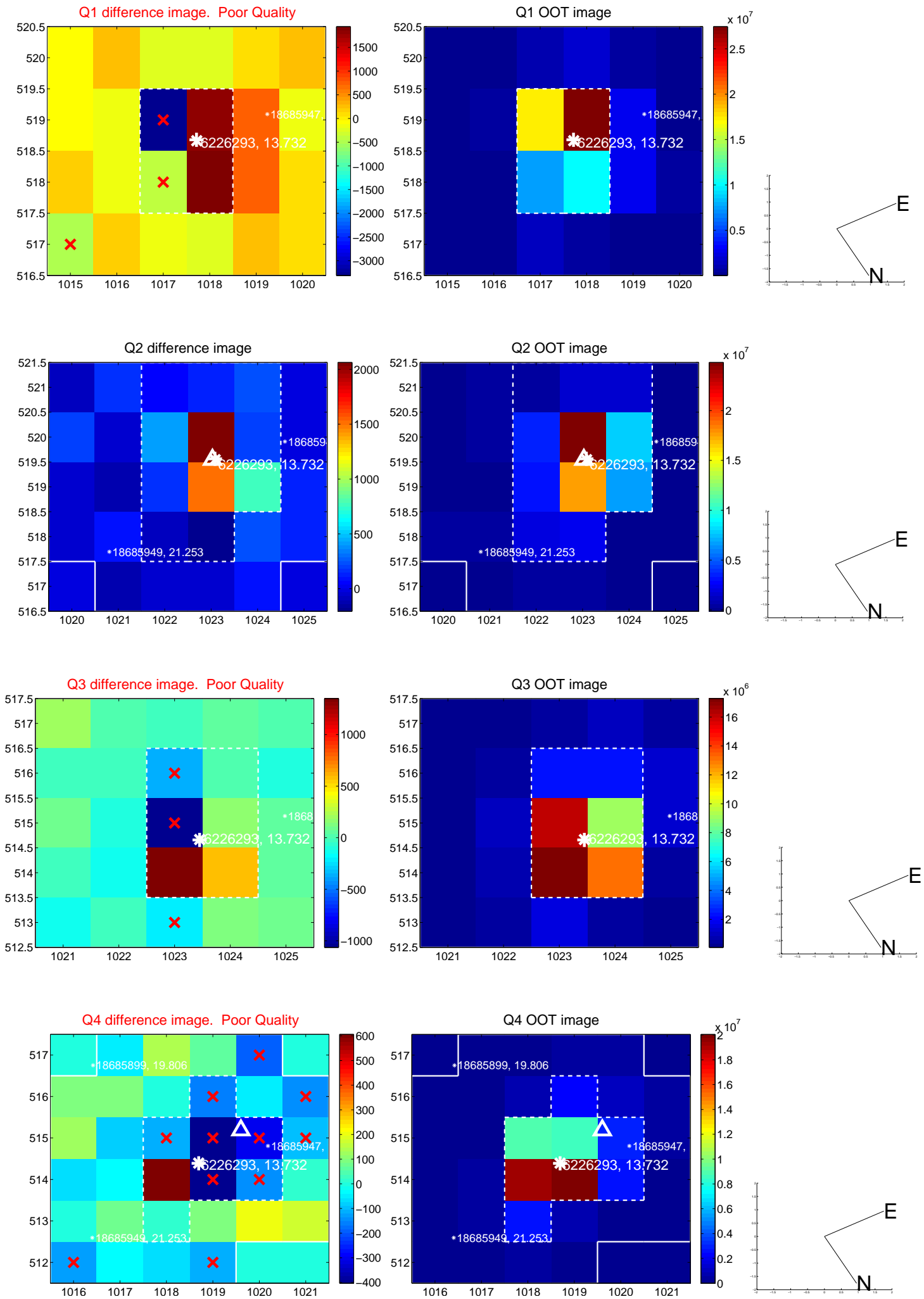
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.340 ± 0.470	0.72	-0.287 ± 0.412	-0.183 ± 0.423
PRF-fit source offset from KIC position	0.361 ± 0.484	0.75	-0.288 ± 0.414	-0.219 ± 0.435
photometric centroid source offset	0.30 ± 0.18	1.71	-0.17 ± 0.17	-0.25 ± 0.18

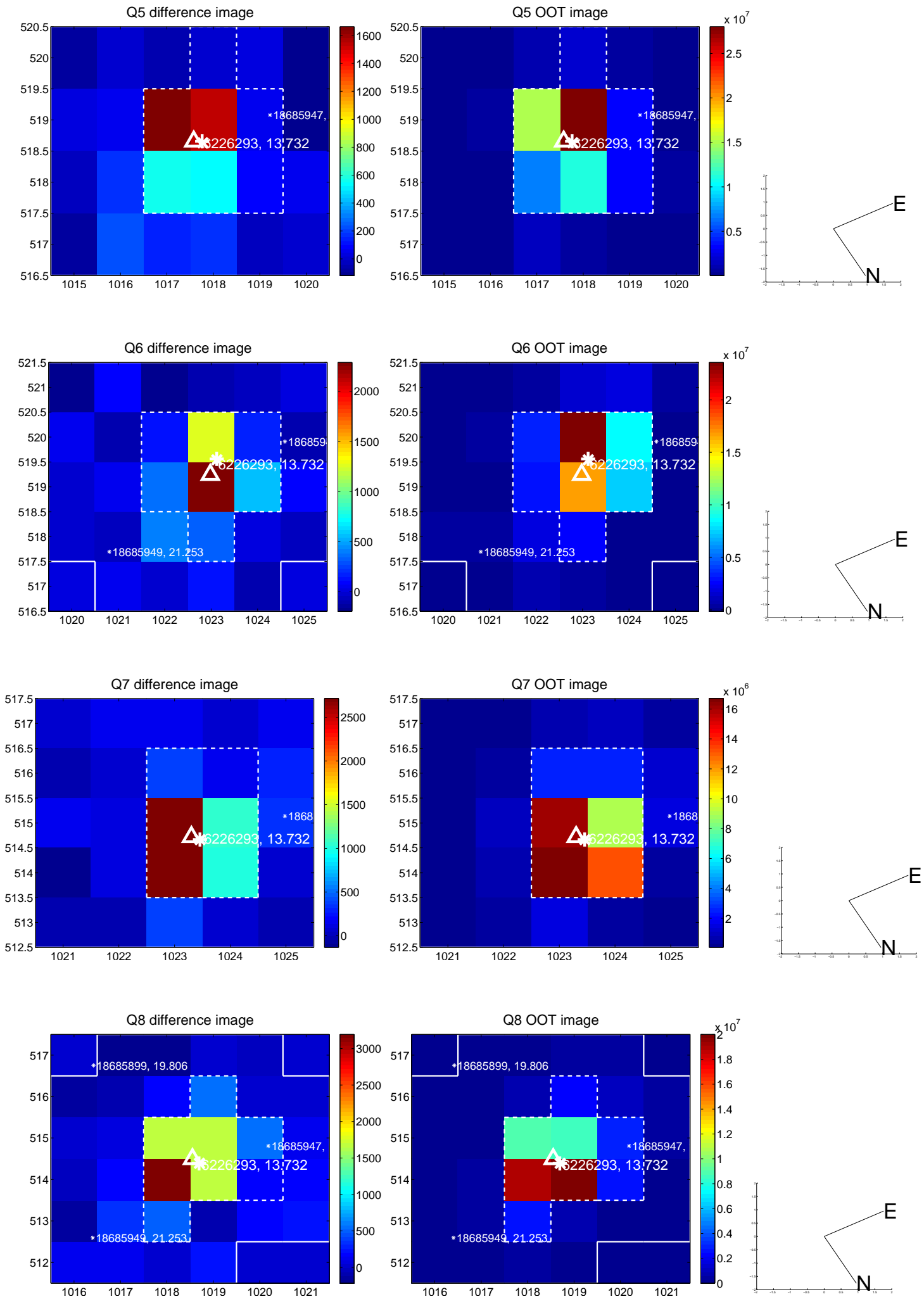


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

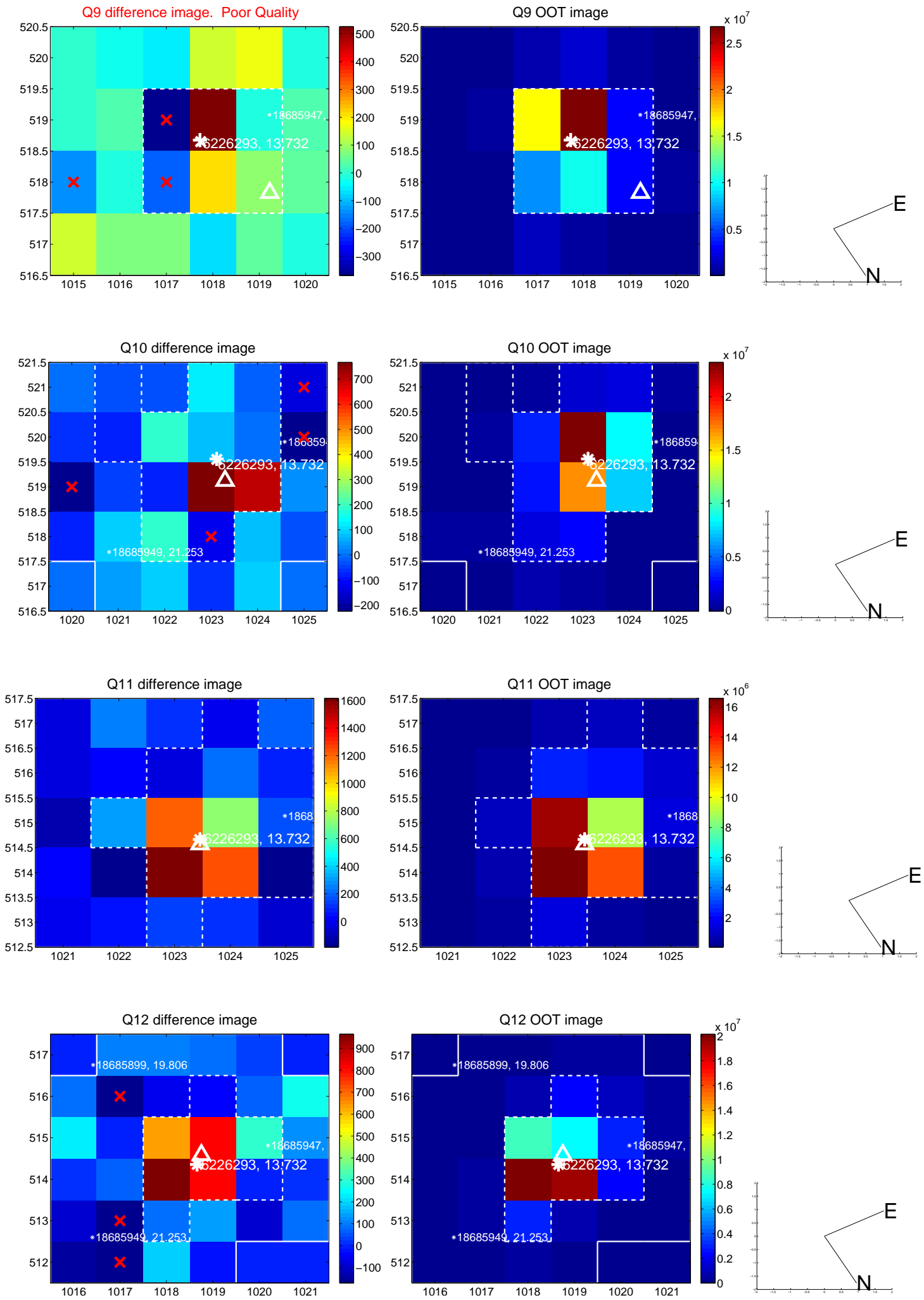
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



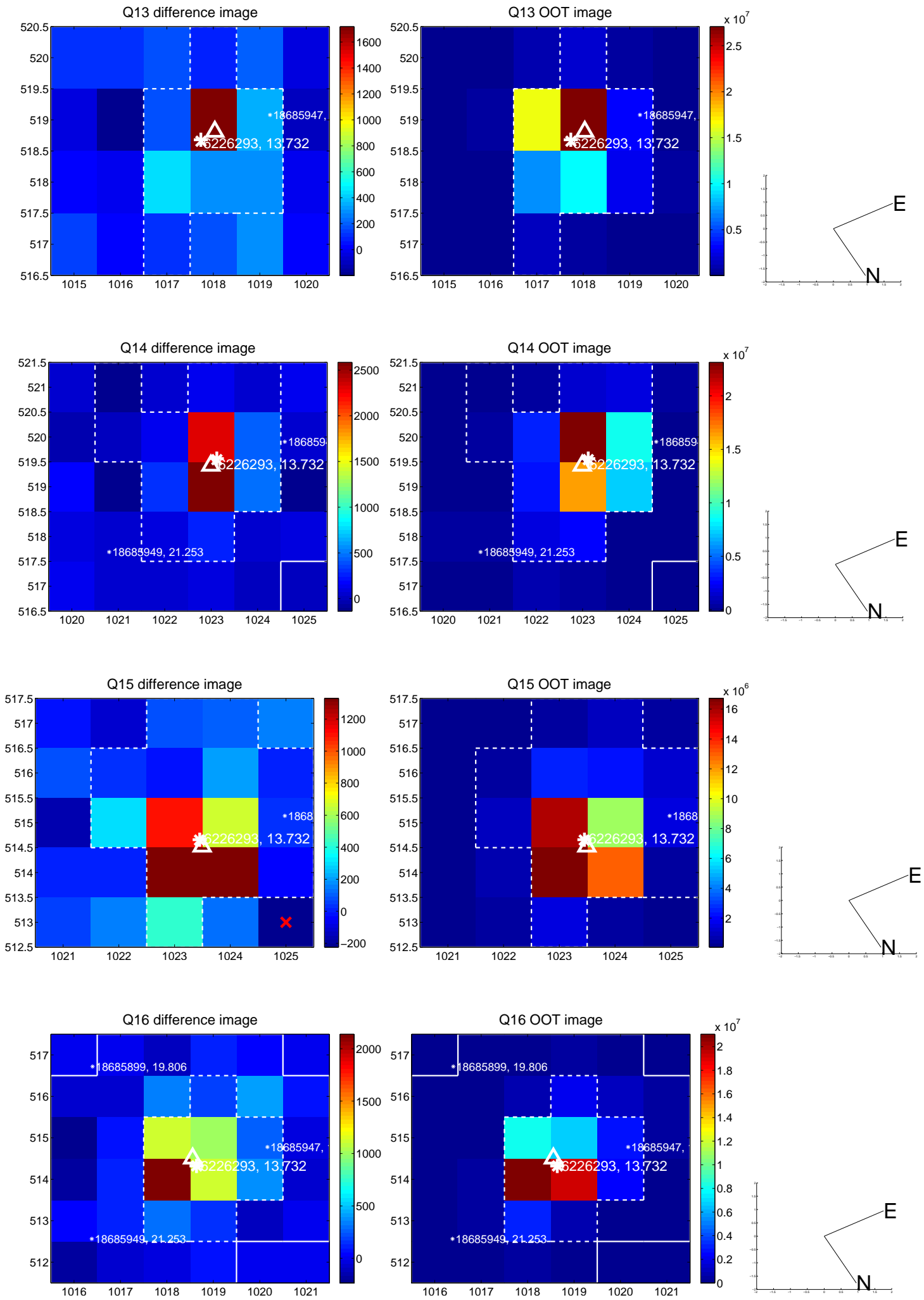
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

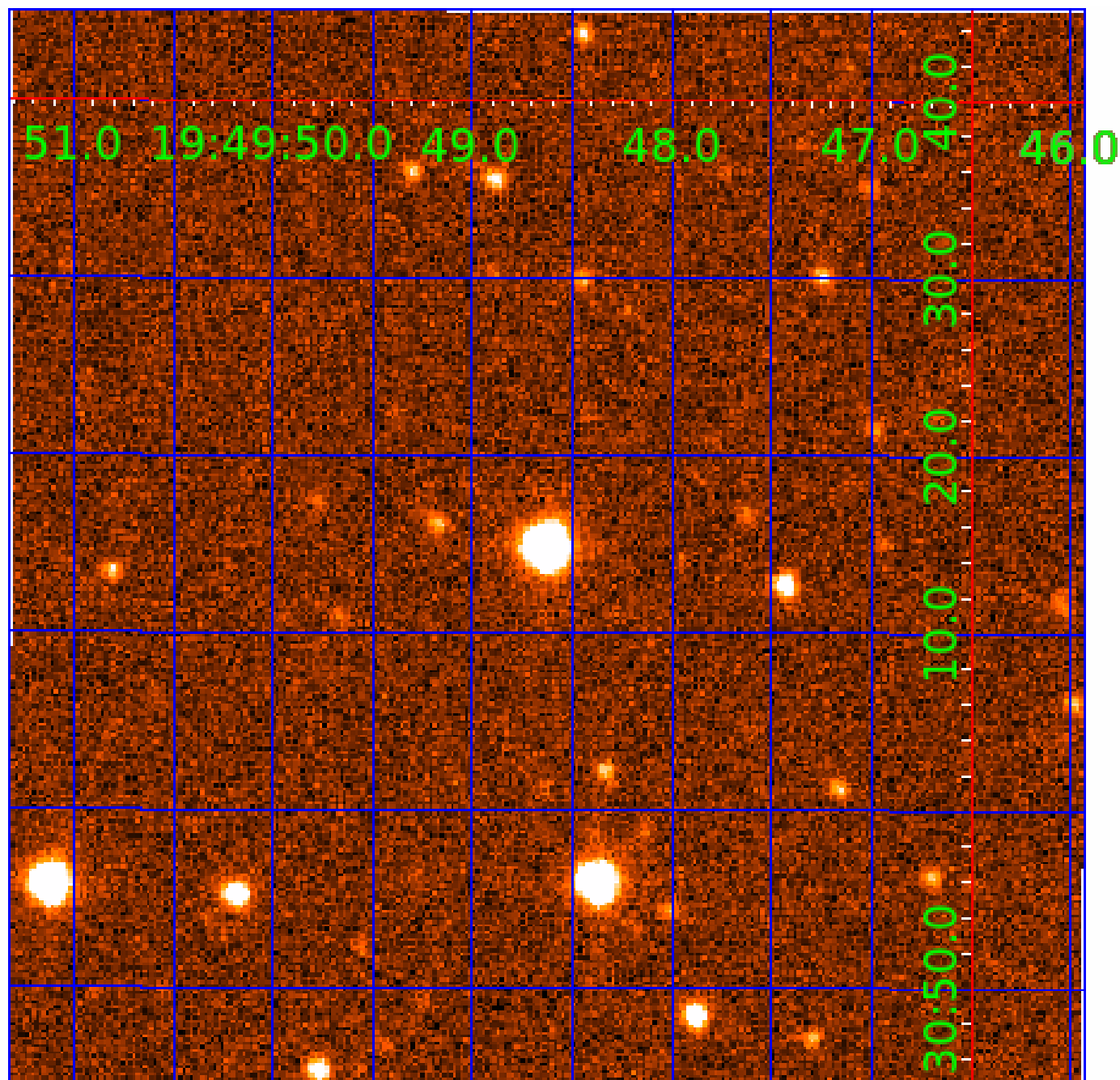


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006226293

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})
006226293-01	OBS	No	1.208575	132.114121	140.4	6.771	16.5	16.2	1.83	7442	2.79	13721.34
006226293-02	OBS	No	0.604279	131.913228	184.0	6.480	11.0	14.4	1.83	7442	2.67	34576.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006226293-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006226293-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

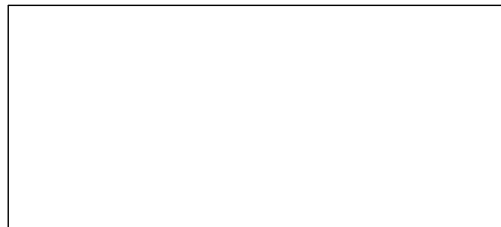
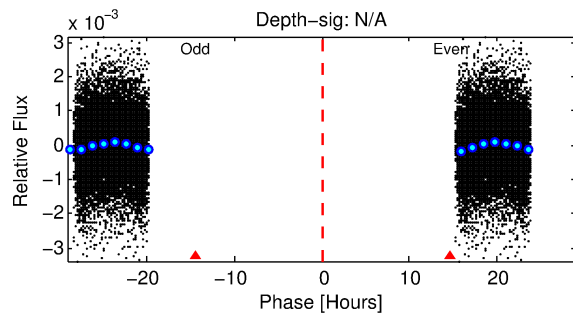
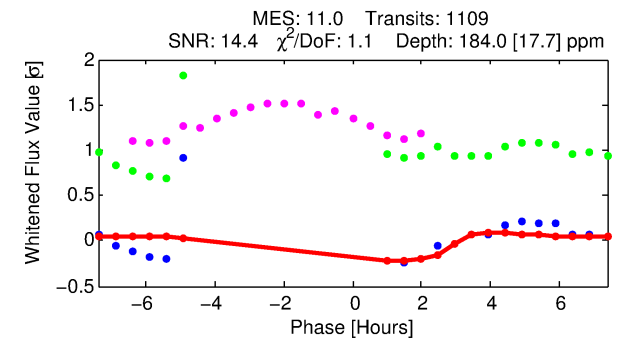
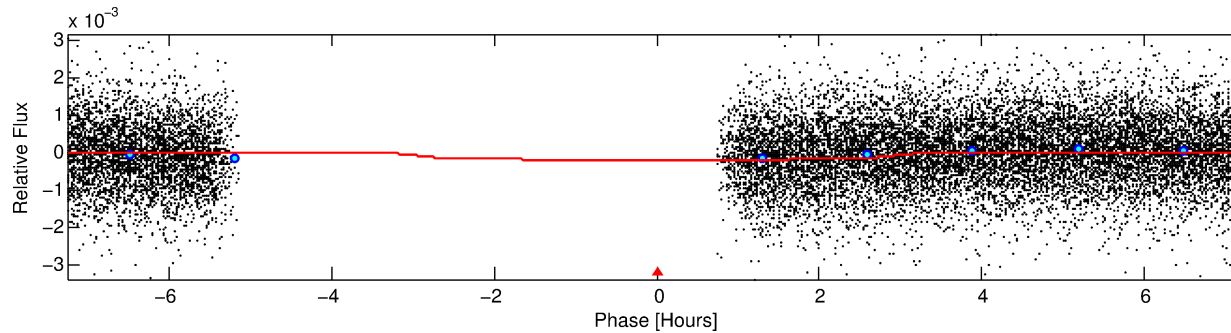
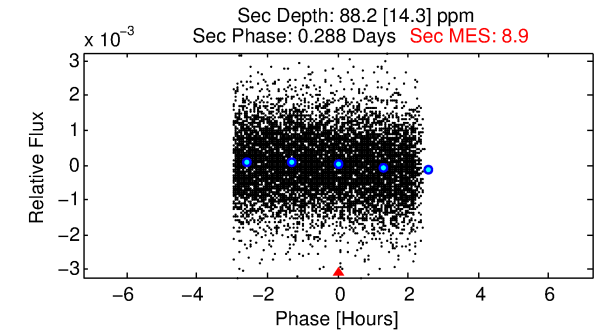
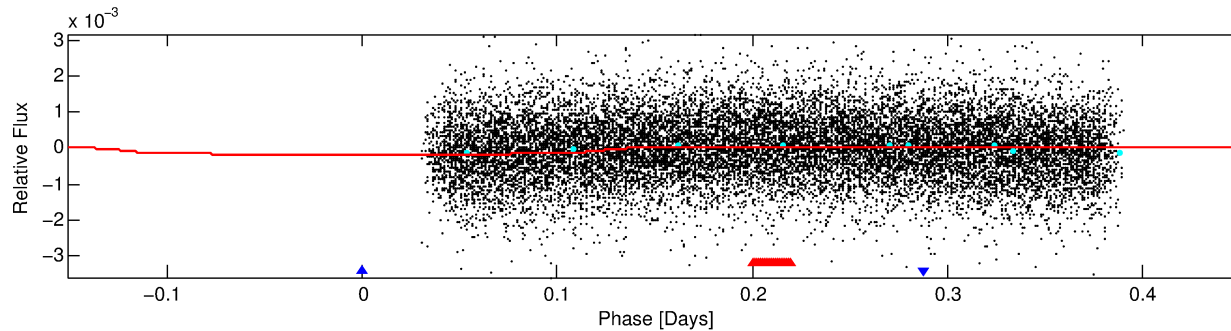
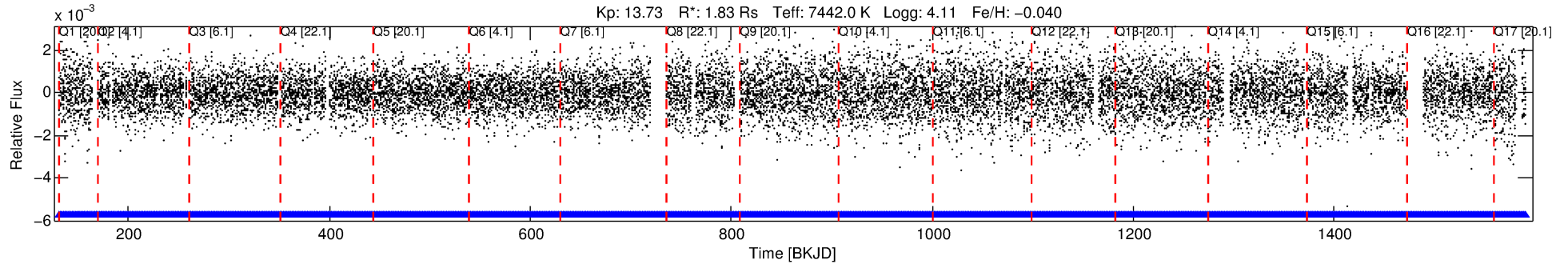
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006226293-02

No Significant Match Found

DV One-Page Summary

KIC: 6226293 Candidate: 2 of 2 Period: 0.604 d



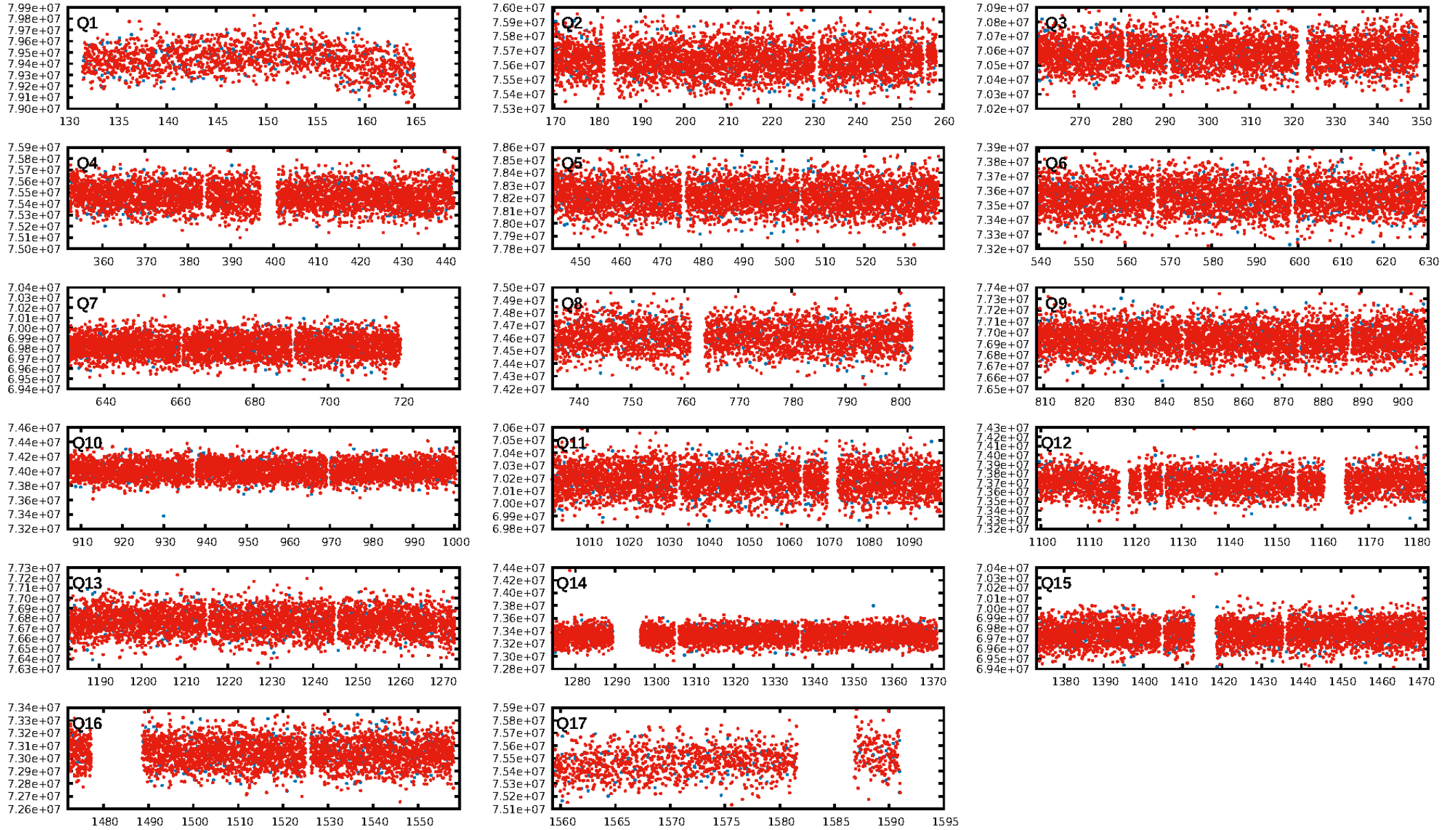
DV Fit Results:

Period = 0.60428 [0.00001] d
Epoch = 131.9132 [0.0136] BKJD
Rp/R* = 0.0133 [0.0030]
a/R* = 1.02 [0.06]
b = 0.70 [0.99]
Seff = 34576.22 [12967.61]
Teq = 3477 [326] K
Rp = 2.67 [0.99] Re
a = 0.0163 [0.0039] AU
Ag = 1.82 [1.06] [0.78σ]
Teffp = 6248 [786] K [3.26σ]

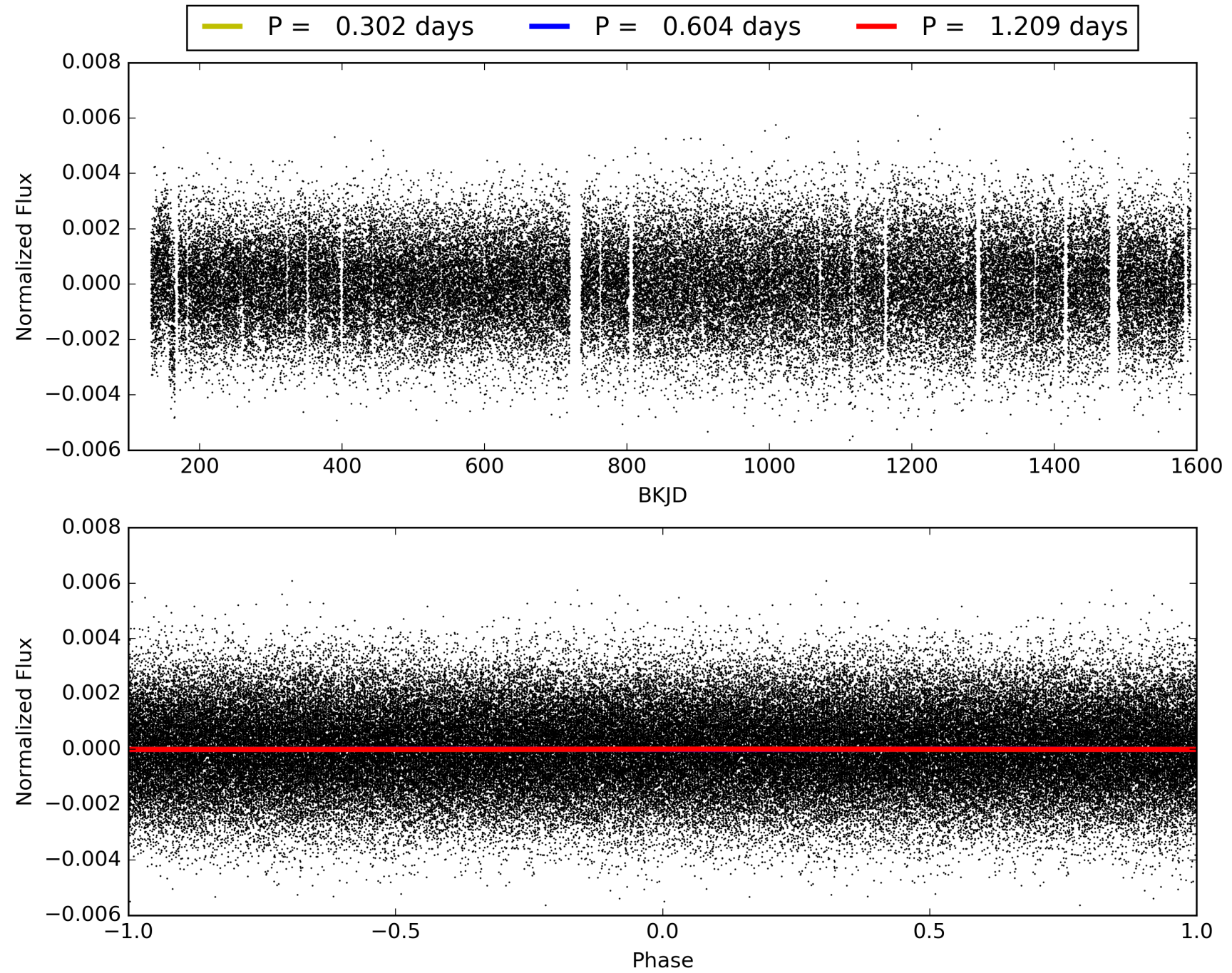
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 87.8% [1.55σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1061/1061]
GhostDiagnostic-chr: 3.473
Centroid-sig: 38.4%
Centroid-so: 0.047 arcsec [0.52σ]
OotOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-rm: N/A
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006226293-02, PDC Light Curves

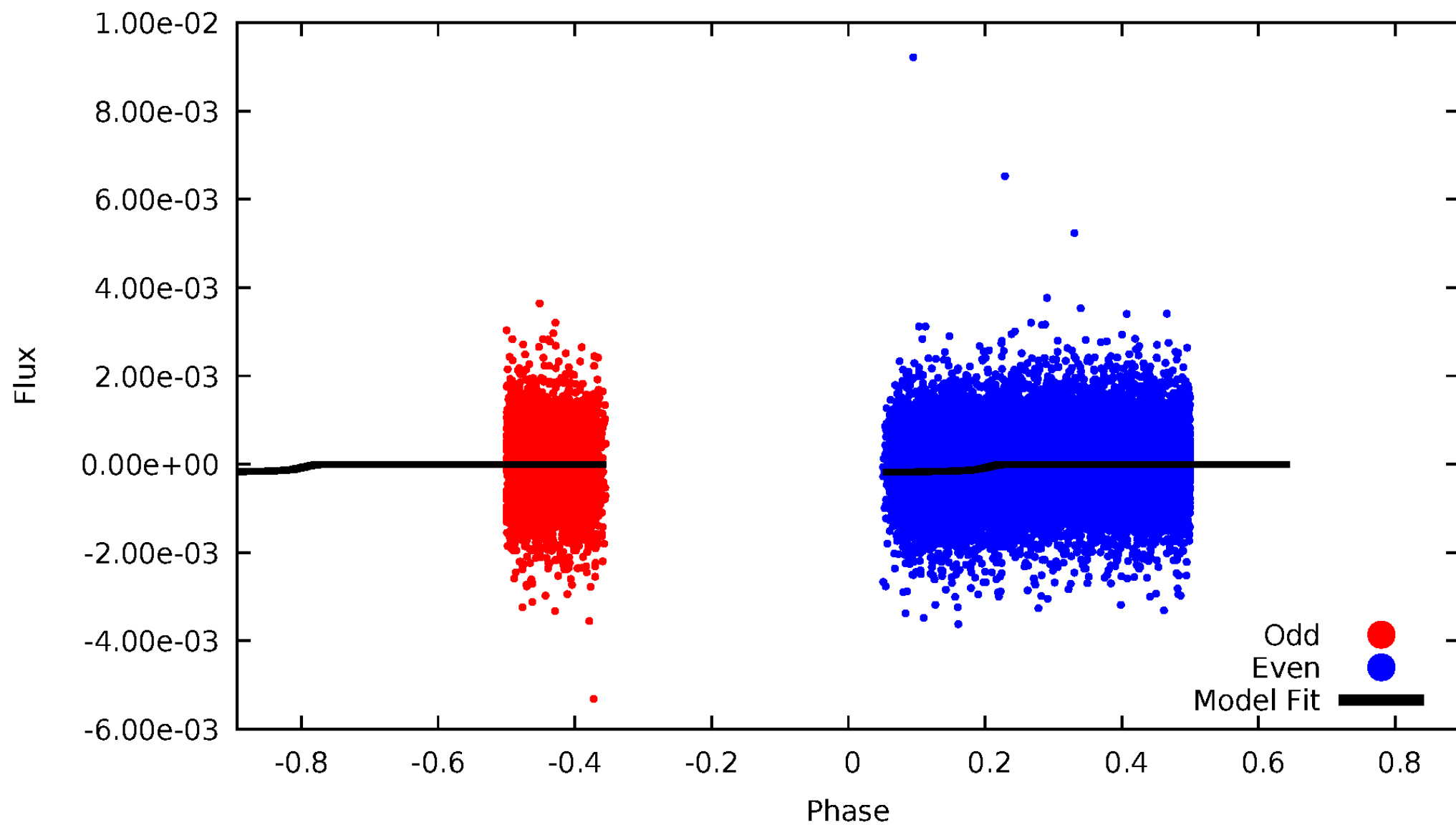


TCE 006226293-02



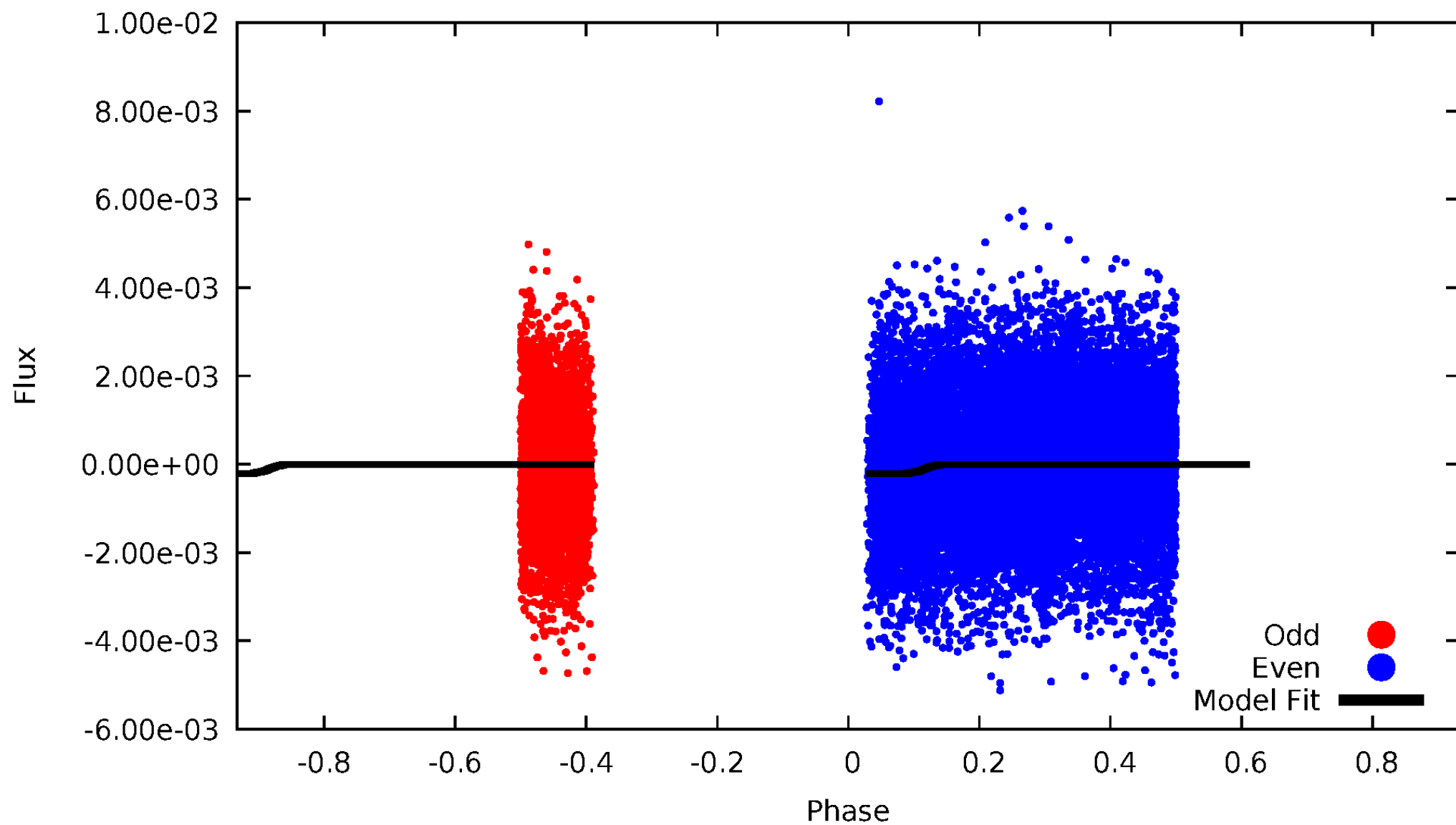
DV Odd/Even

TCE 006226293-02



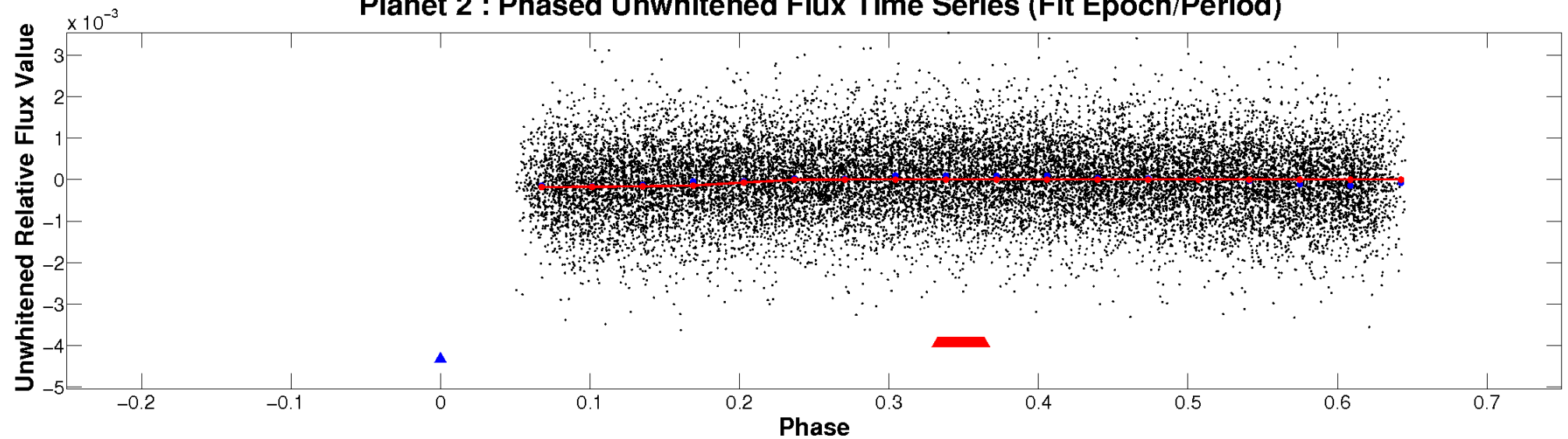
ALT Odd/Even

TCE 006226293-02

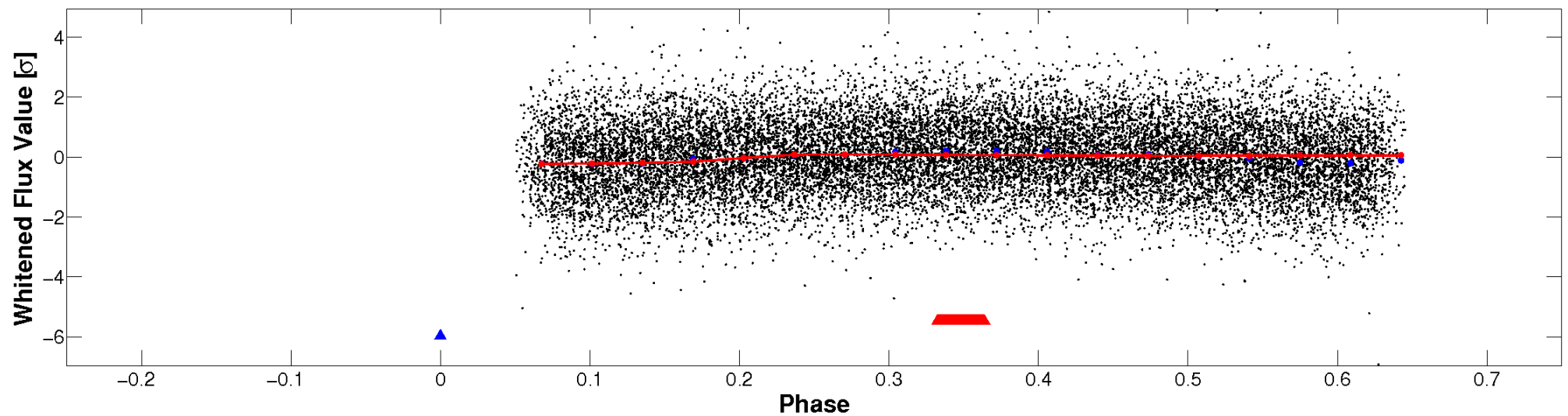


Non-Whitened Vs. Whitened Light Curve

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

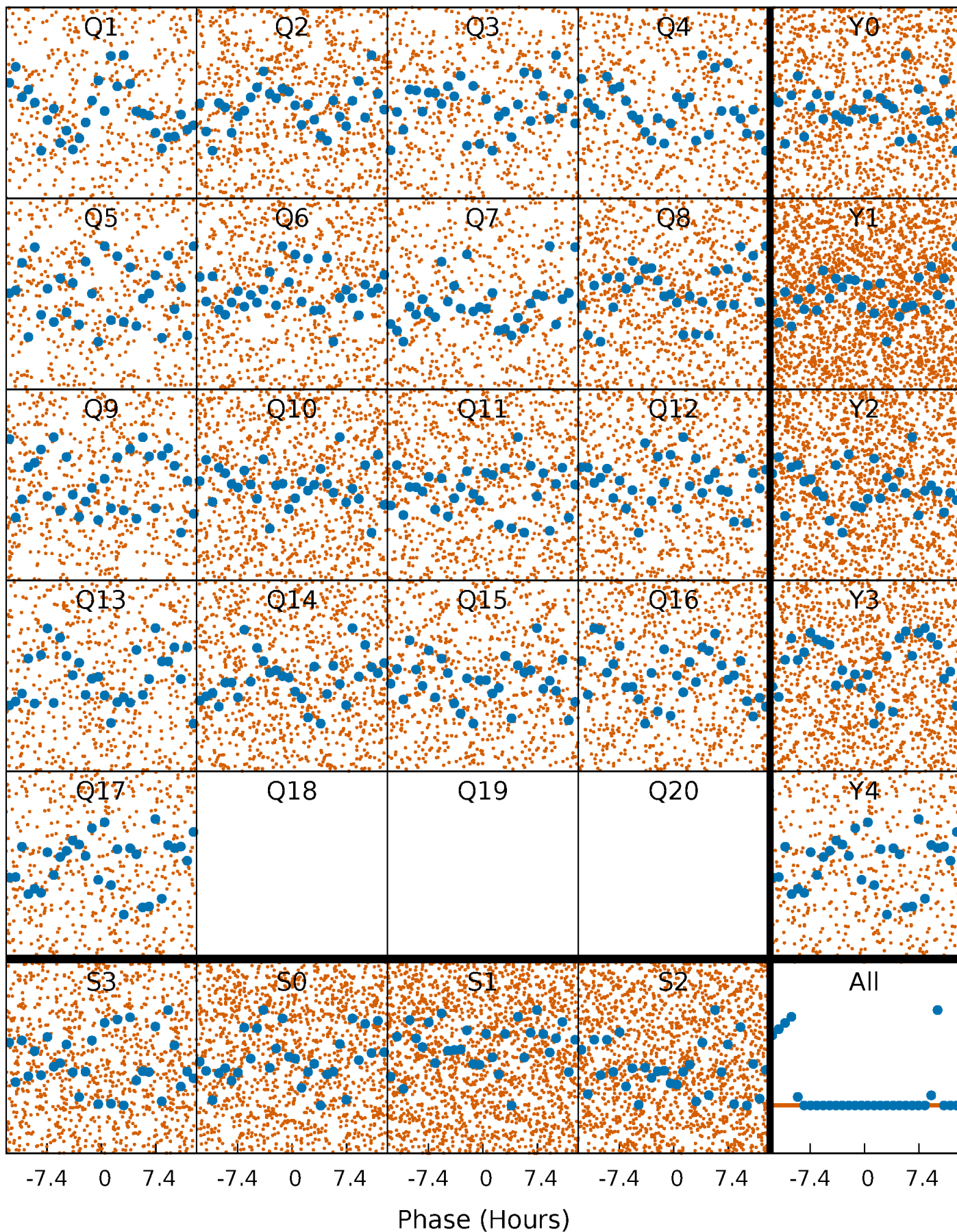


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



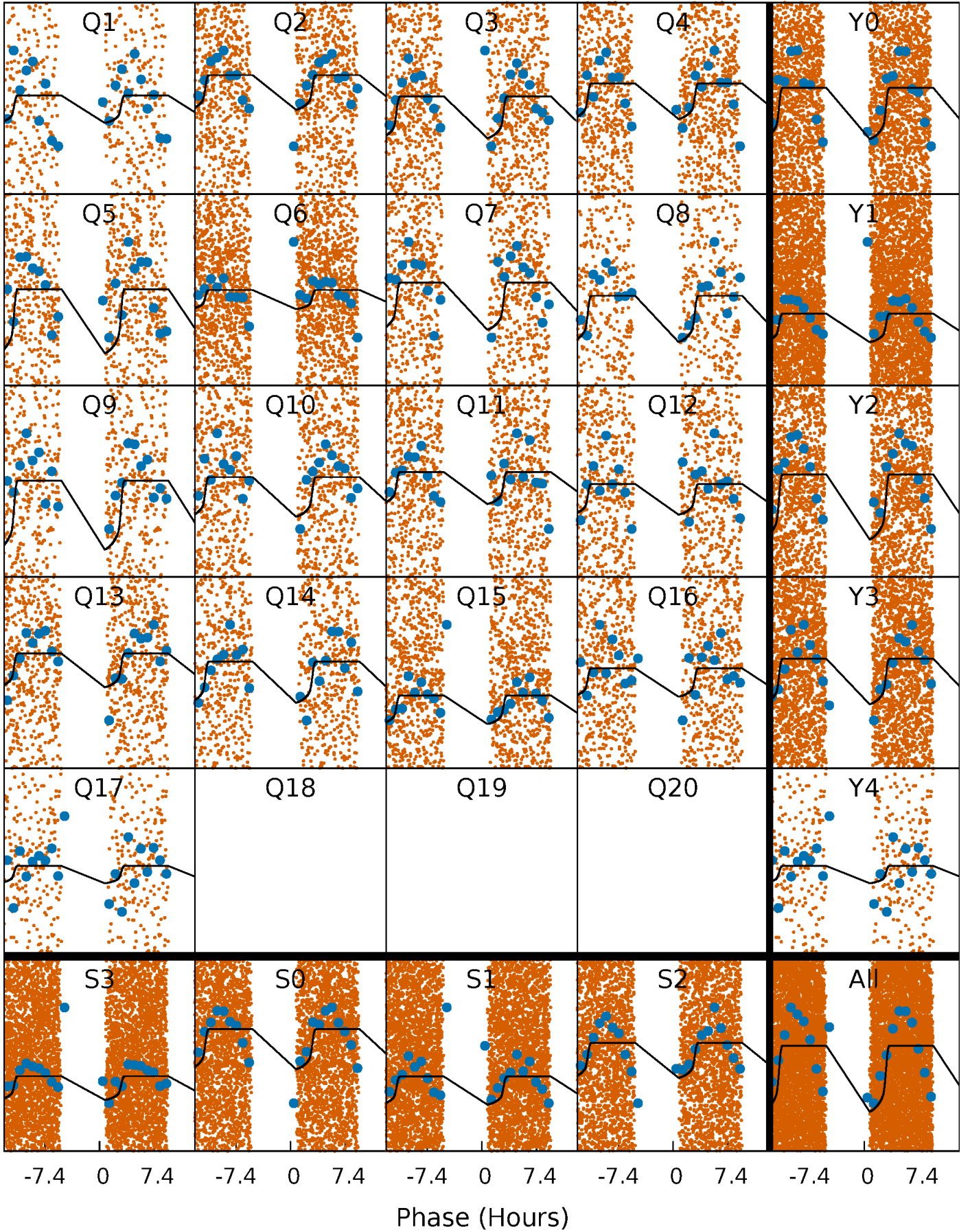
PDC Quarter-Phased Transit Curves

TCE 006226293-02 P= 0.604279 Days $T_0=131.913228$ (BKJD)



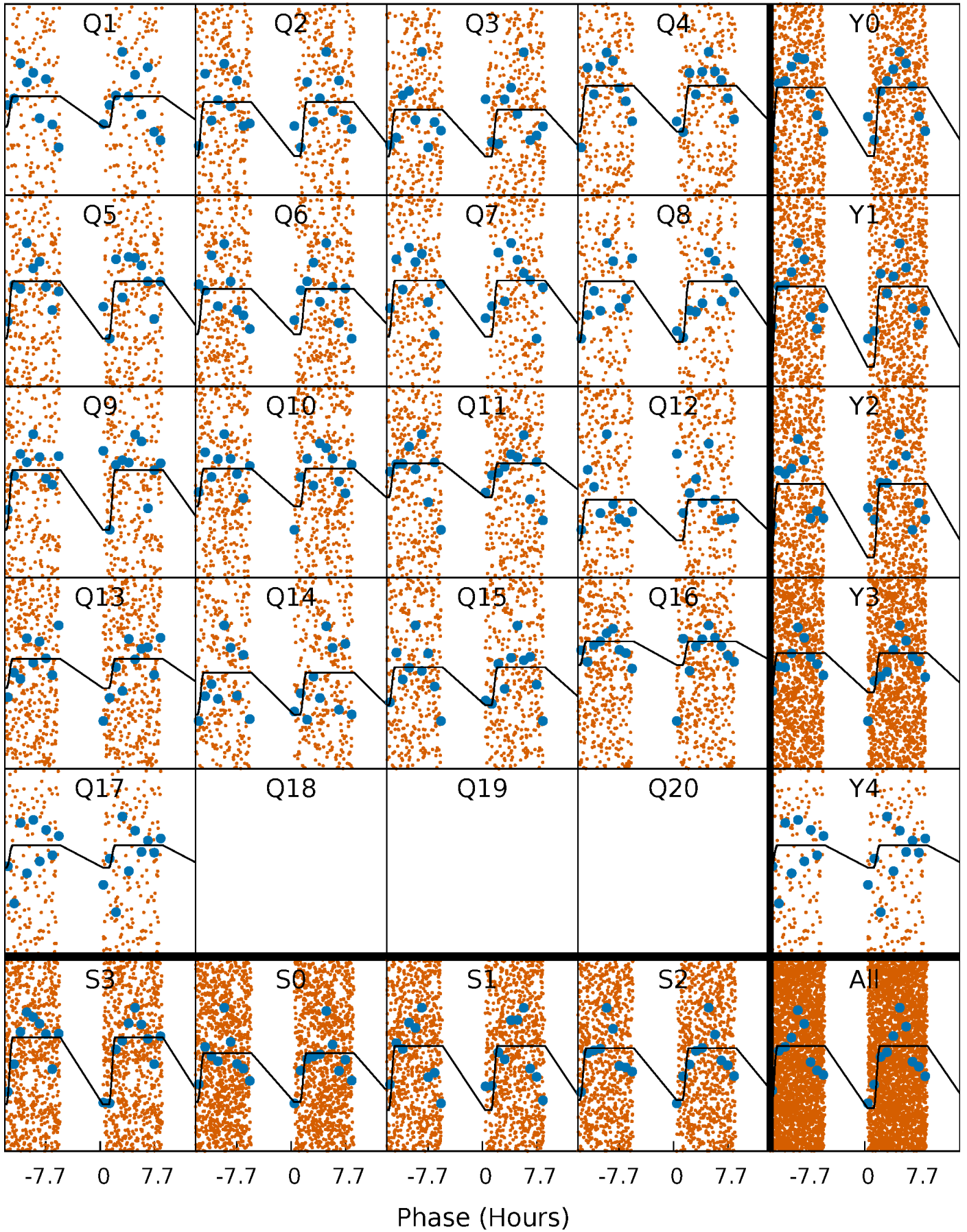
DV Quarter-Phased Transit Curves

TCE 006226293-02 P= 0.604279 Days $T_0=131.913228$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

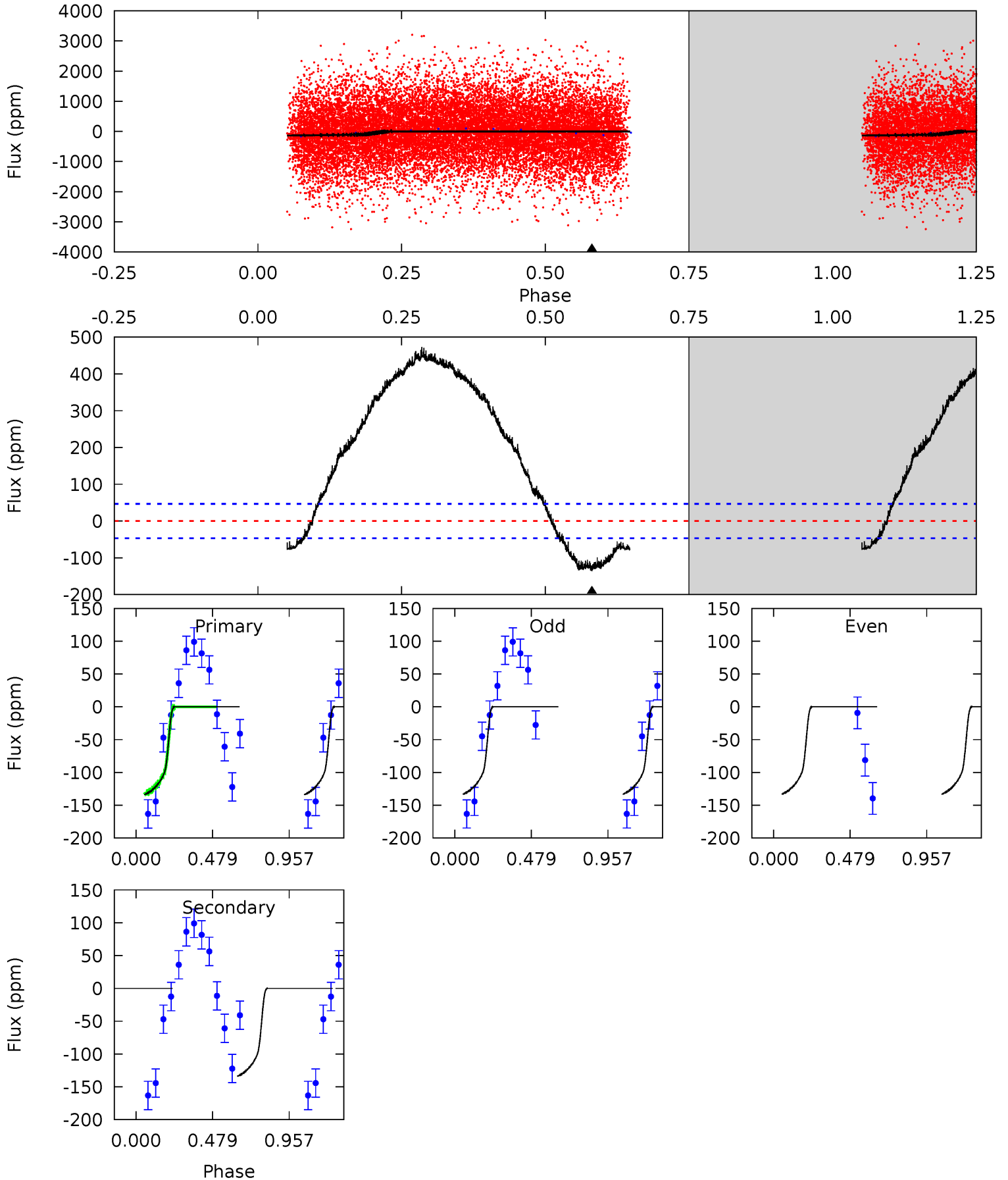
TCE 006226293-02 P= 0.604292 Days $T_0=131.914843$ (BKJD)



DV Model-Shift Uniqueness Test

006226293-02, P = 0.604279 Days, E = 131.308949 Days

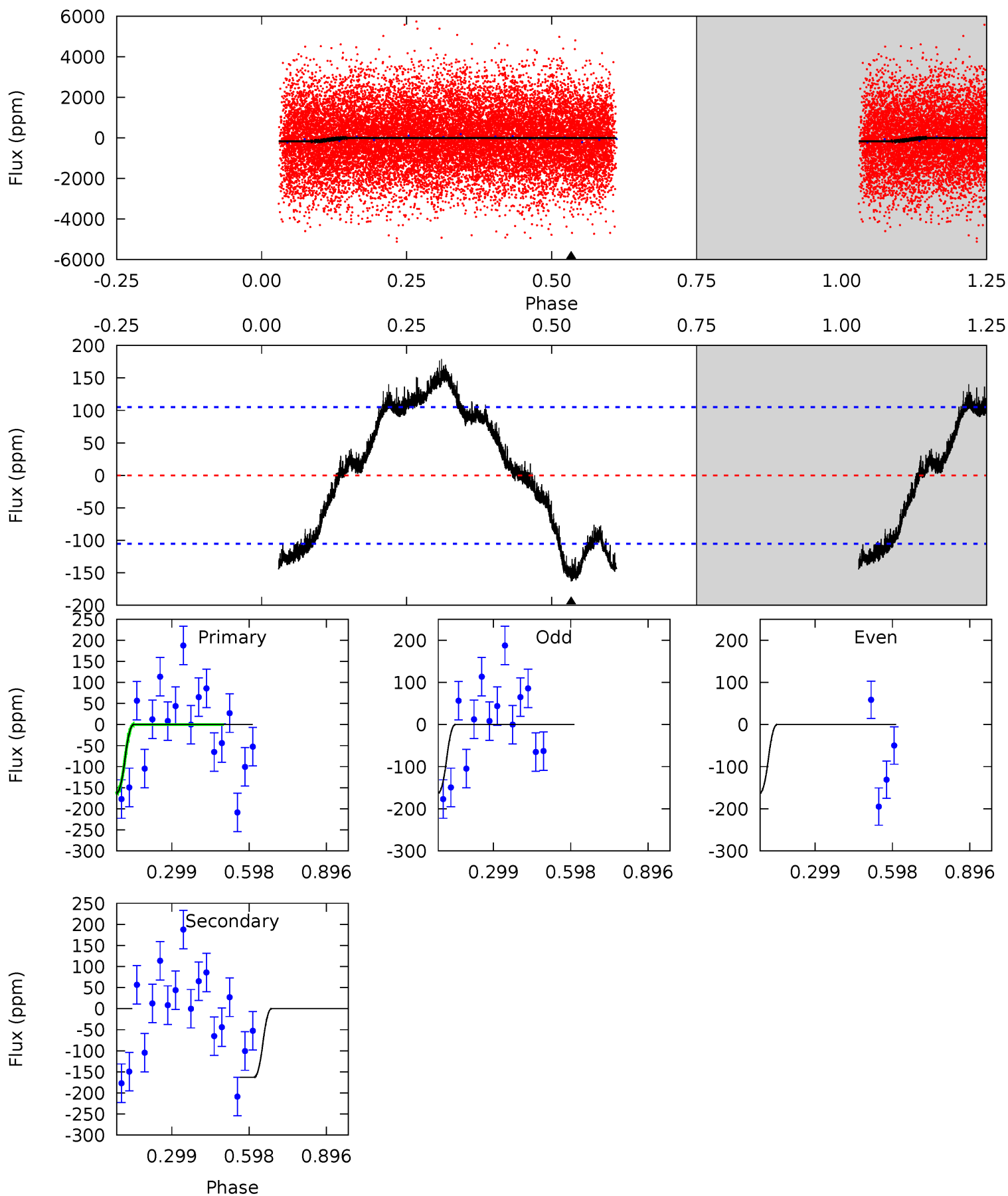
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	12.1	0	0	4.22	0.71	5.18	12.1	12.1	12.1	12.1	0	1.02	0.78	0



Alt Model-Shift Uniqueness Test

006226293-02, P = 0.604292 Days, E = 131.310551 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.71	6.71	0	0	4.33	1.04	3.29	6.71	6.71	6.71	6.71	0	0.92	0.52	0



Stellar Parameters For KIC 006226293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7442^{+233}_{-311}	$4.114^{+0.128}_{-0.176}$	$-0.040^{+0.200}_{-0.350}$	$1.833^{+0.548}_{-0.365}$	$1.592^{+0.200}_{-0.244}$	$0.364^{+0.261}_{-0.174}$
	+3%/-4%	+3%/-4%	+500%/-875%	+30%/-20%	+13%/-15%	+72%/-48%
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 006226293-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-134 ± 11	$2.72^{+0.77}_{-0.65}$	4885^{+363}_{-302}	6607^{+1106}_{-783}	$2.621^{+1.923}_{-0.994}$
Alt.	-163 ± 24	$2.92^{+0.79}_{-0.72}$	4896^{+381}_{-344}	6708^{+1221}_{-834}	$2.809^{+1.978}_{-1.139}$

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

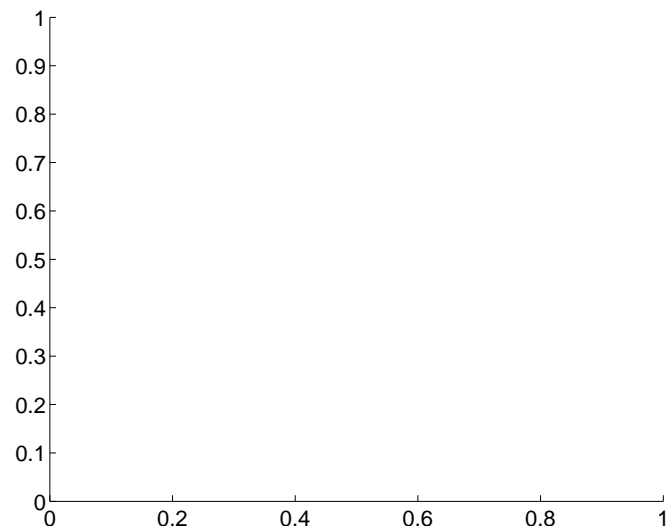
Supplemental centroid analysis for 006226293-02. Kepler magnitude: 13.73. Transit SNR 14.35

There are 0 quarters with good PRF difference image offsets

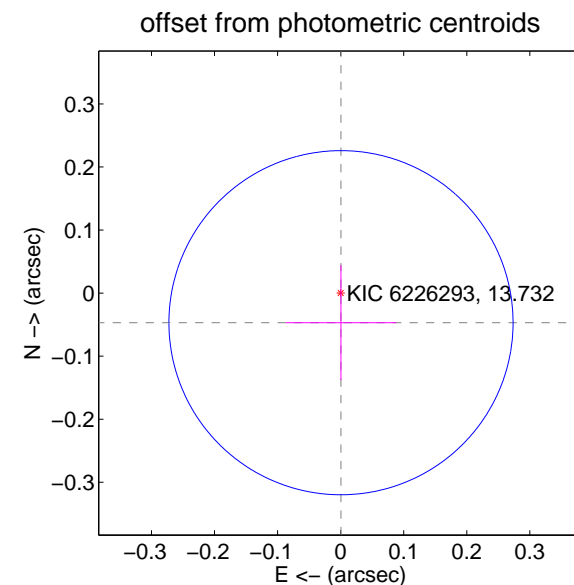
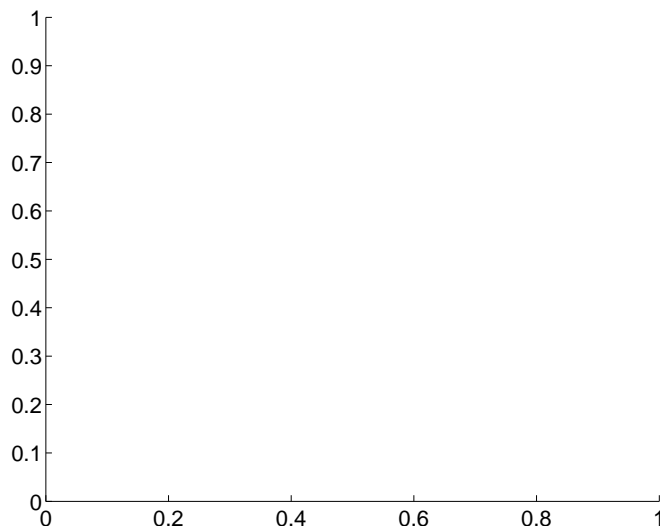
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.05 ± 0.09	0.52	-0.00 ± 0.09	-0.05 ± 0.09

There is no PRF-fit offset from OOT-fit

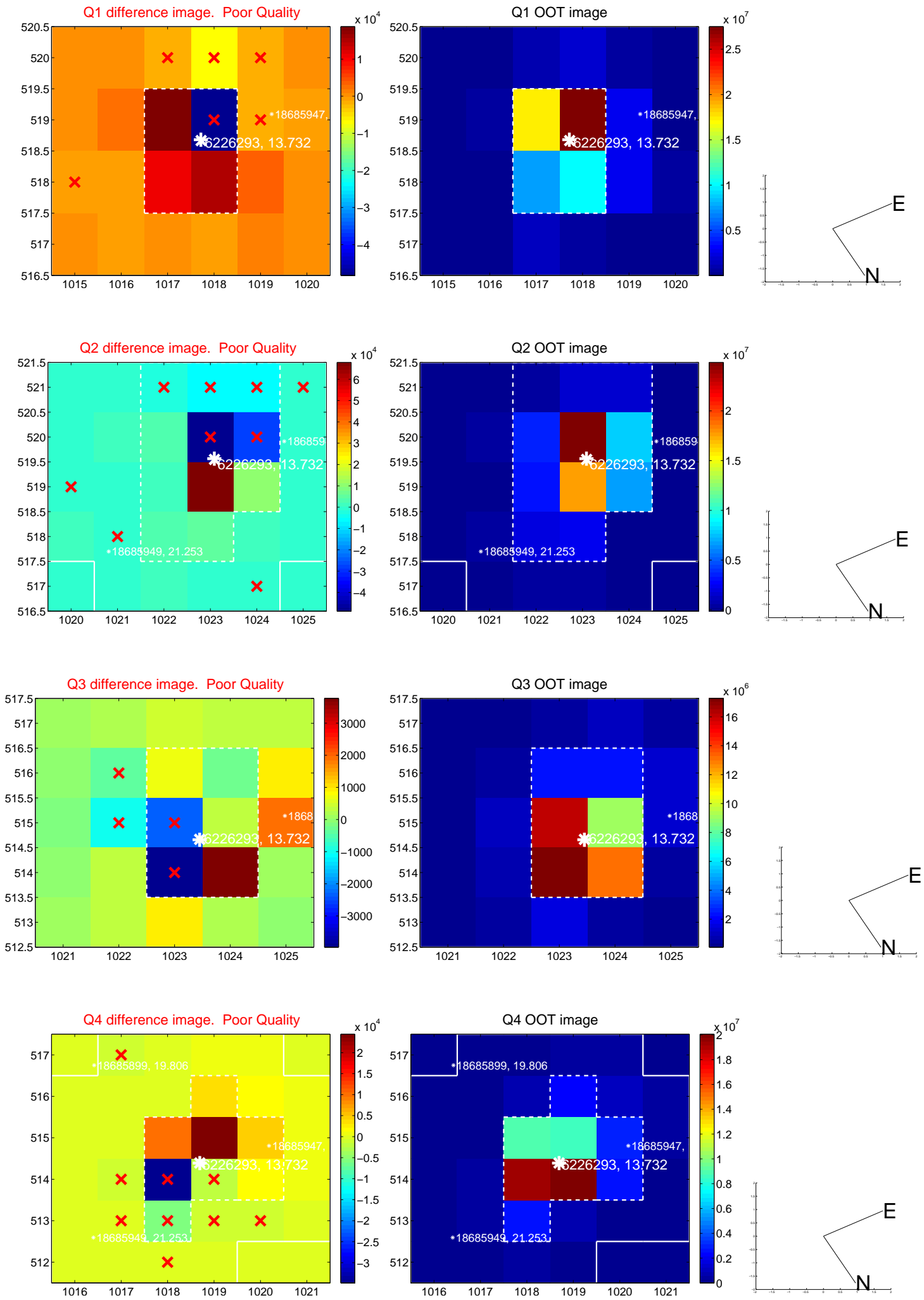


There is no PRF-fit offset from KIC

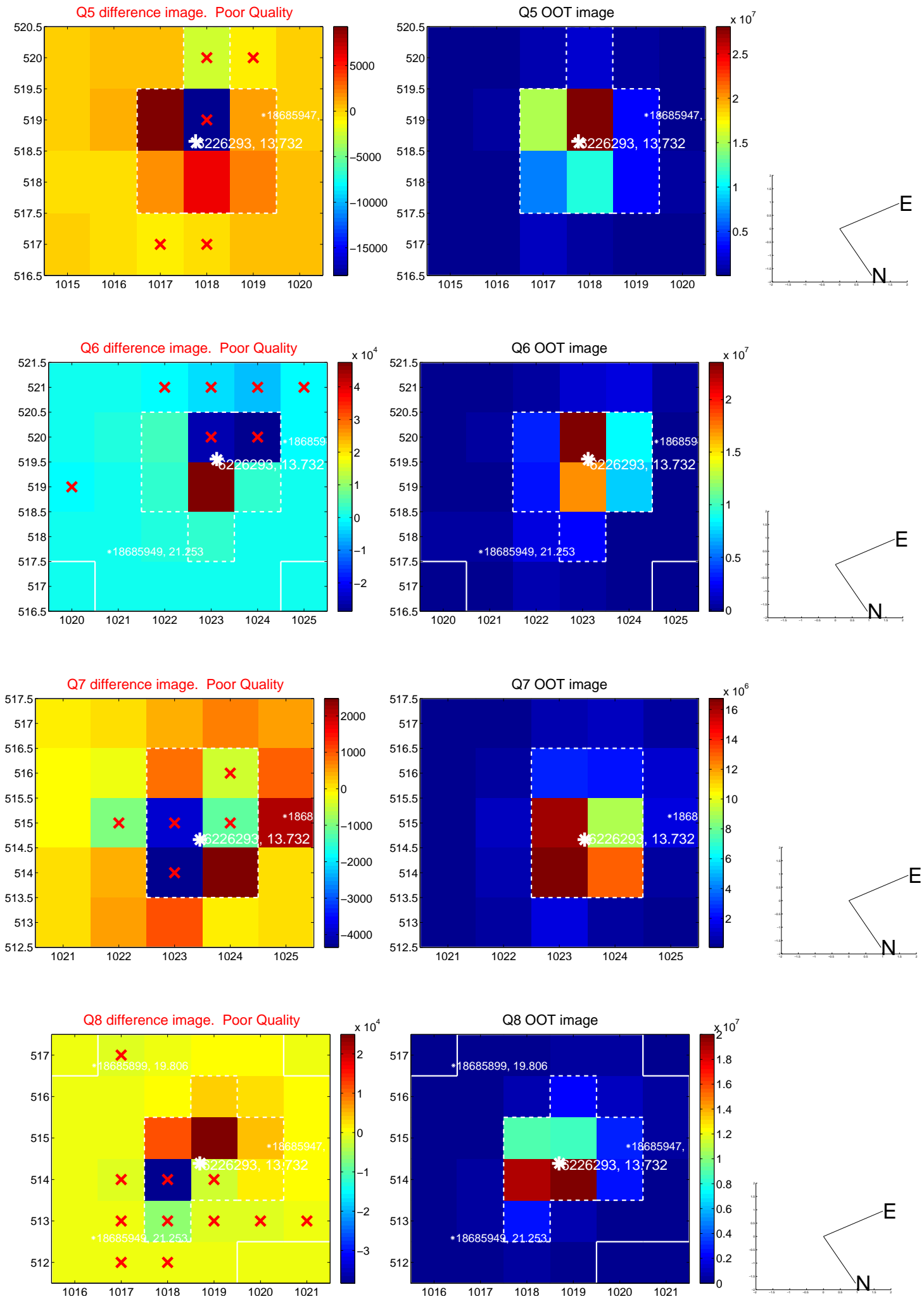


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

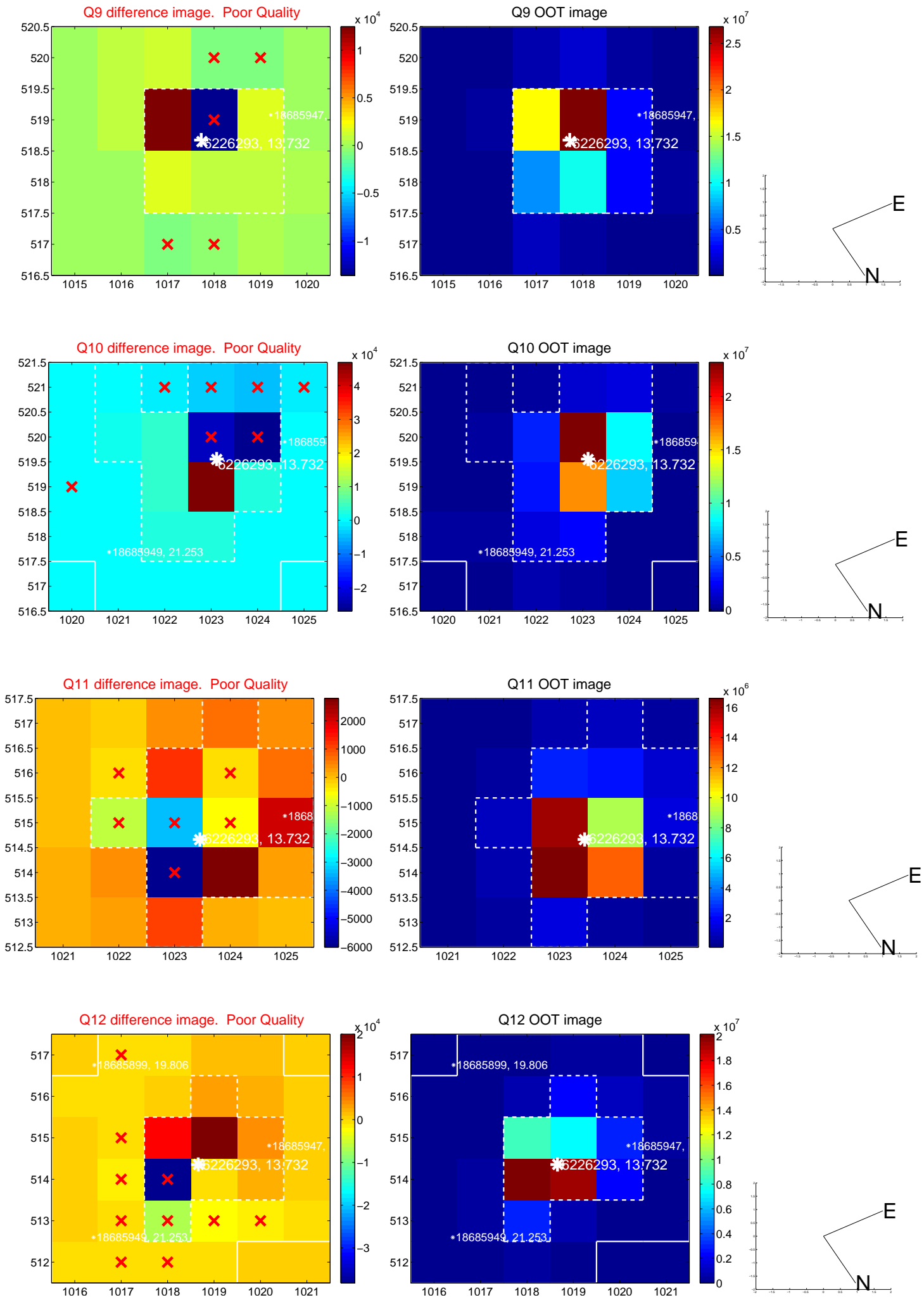
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



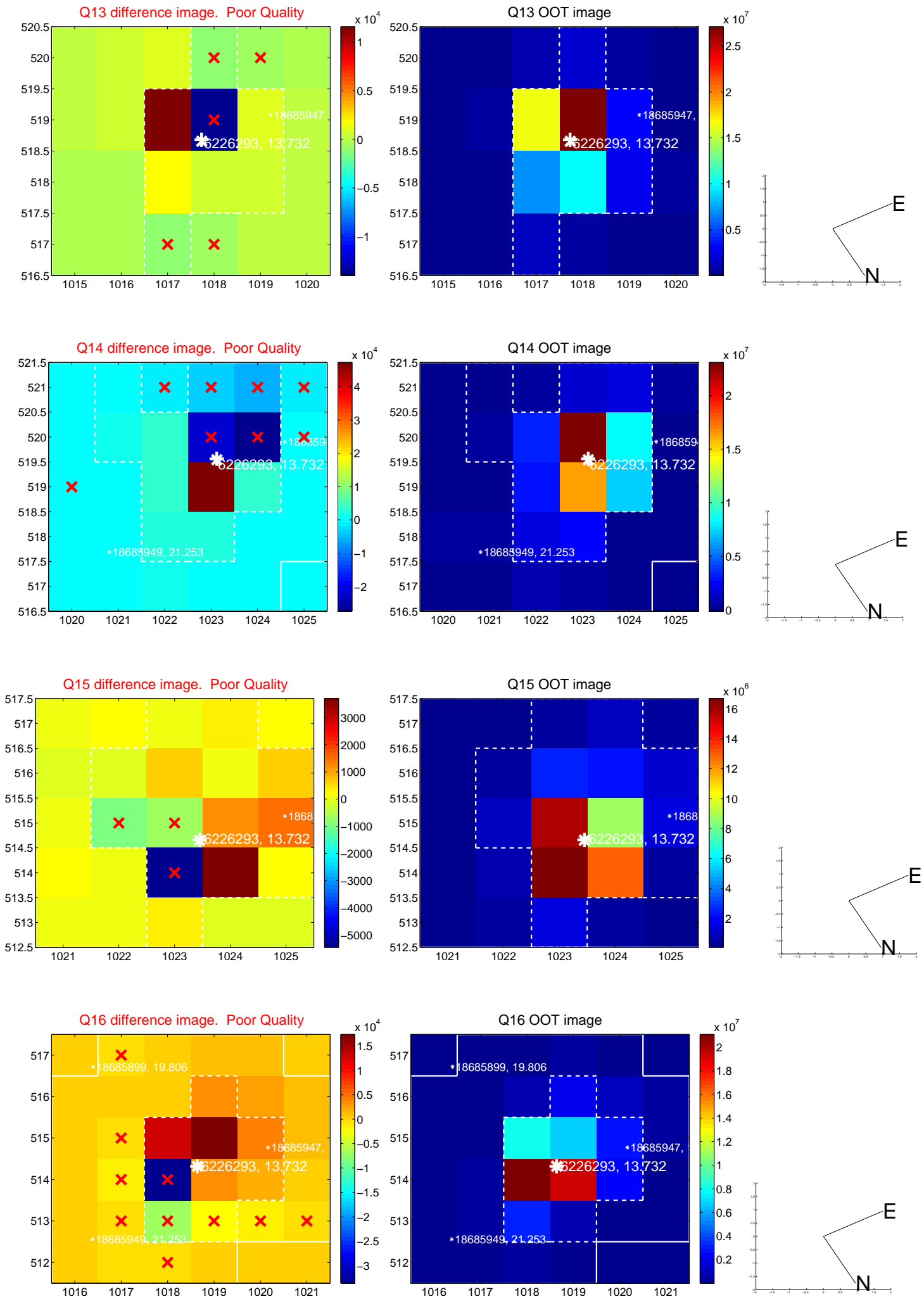
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



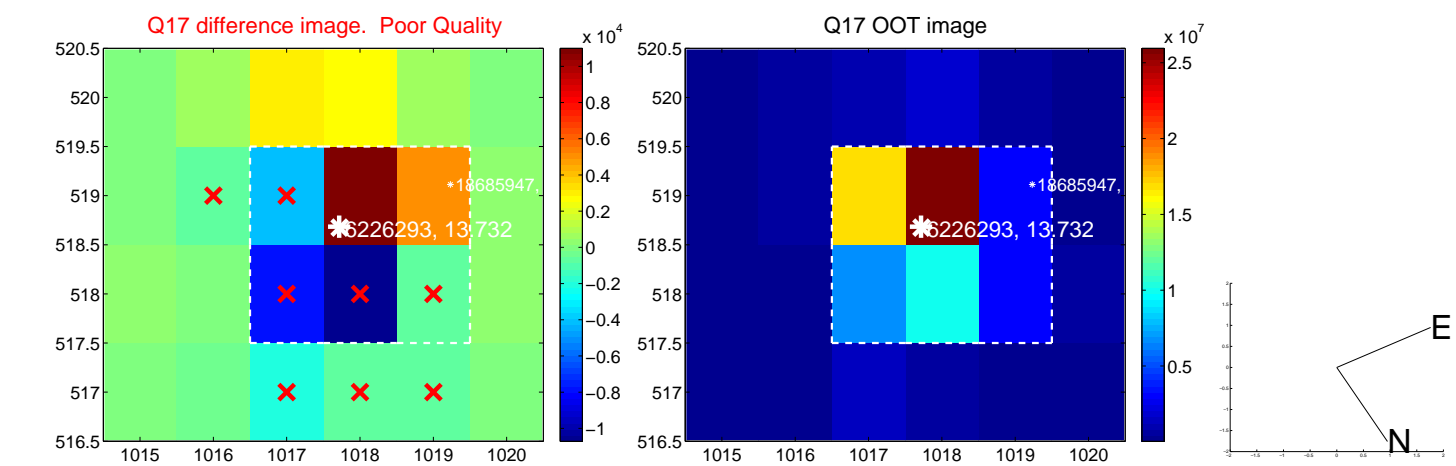
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



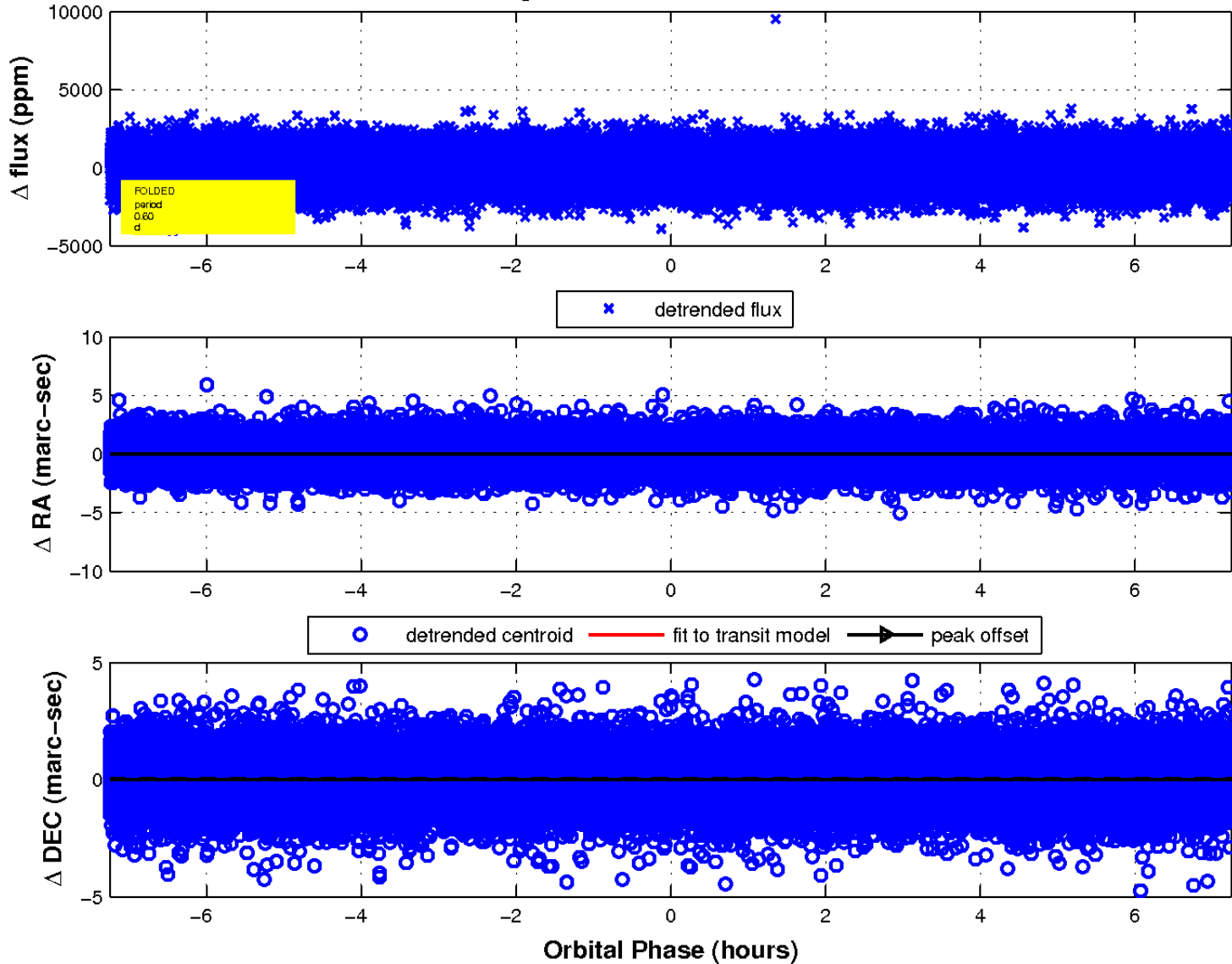
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

