

KIC 005872972

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})
005872972-01	OBS	No	1.212695	132.393302	127.8	7.987	10.1	9.0	3.38	7698	3.84	45735.48
005872972-02	OBS	No	79.082991	154.859611	2783.8	3.213	9.8	10.2	3.38	7698	17.92	174.24
005872972-03	OBS	No	19.940860	150.055838	1359.3	2.933	9.7	8.6	3.38	7698	12.67	1093.78
005872972-04	OBS	No	79.391727	197.232691	3435.2	1.945	8.8	9.3	3.38	7698	21.62	173.34
005872972-05	OBS	No	29.214265	132.921783	2834.7	1.619	9.0	8.8	3.38	7698	19.36	657.35
005872972-06	OBS	No	34.305238	137.624461	1035.5	7.640	8.1	7.9	3.38	7698	11.30	530.61
005872972-07	OBS	No	8.941798	139.718474	110.0	3.500	8.2	-1.0	3.38	7698	3.56	3186.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872972-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005872972-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005872972-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005872972-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

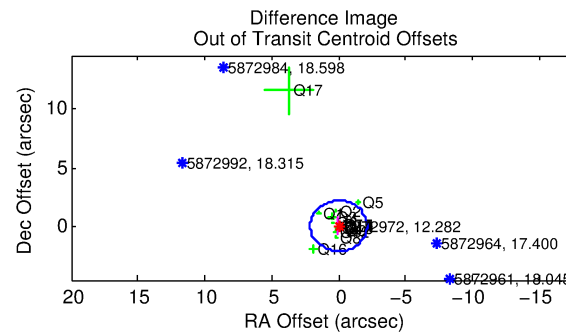
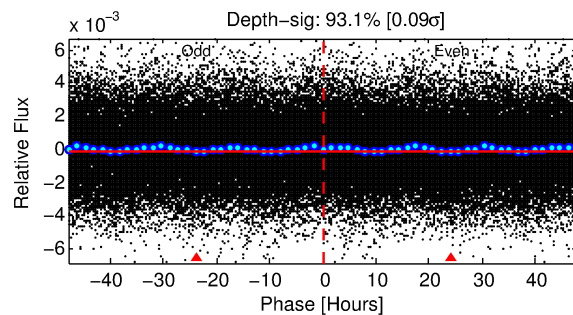
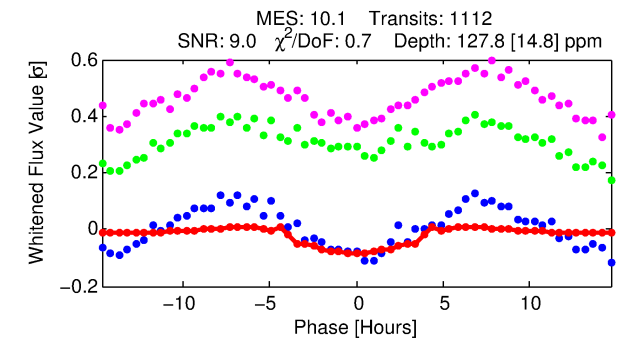
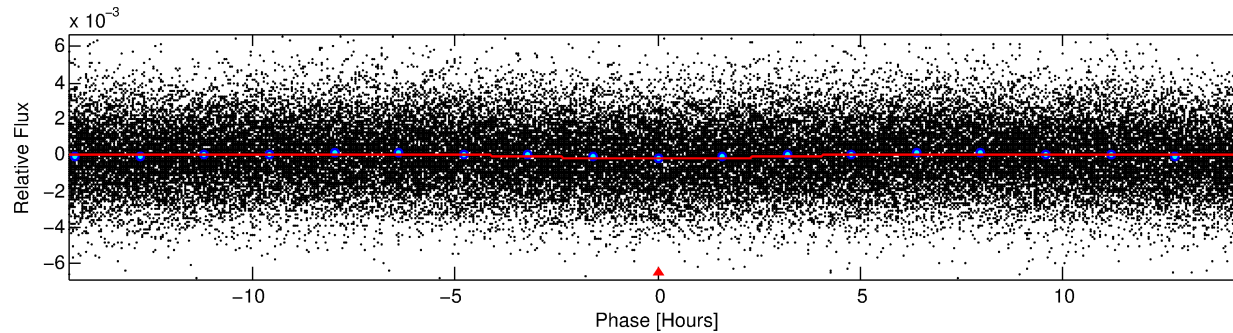
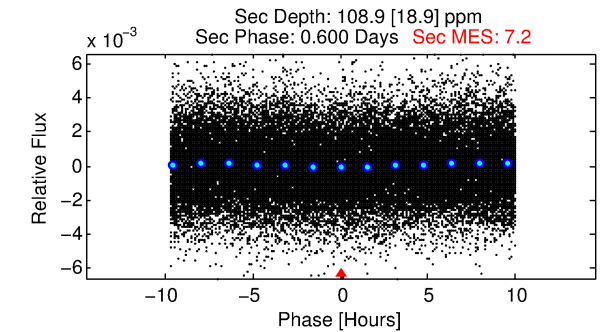
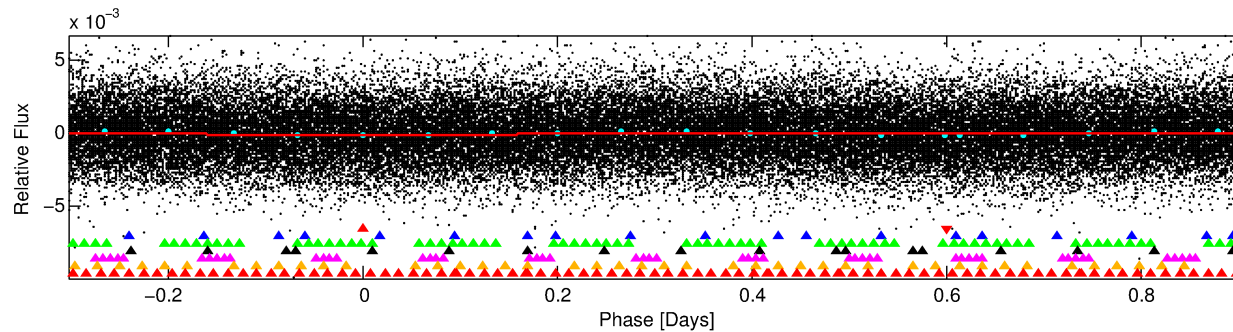
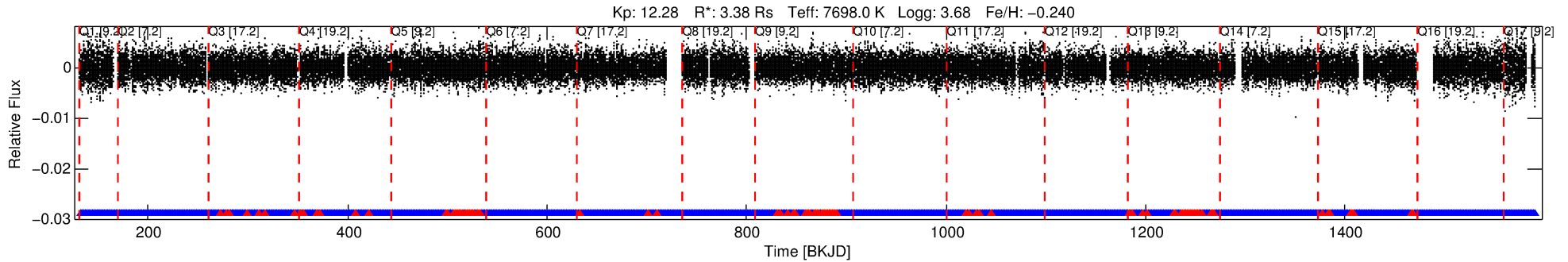
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872972-01

No Significant Match Found

DV One-Page Summary

KIC: 5872972 Candidate: 1 of 7 Period: 1.213 d



DV Fit Results:

Period = 1.21269 [0.00002] d
Epoch = 132.3933 [0.0057] BKJD
Rp/R* = 0.0104 [0.0138]
a/R* = 1.33 [4.00]
b = 0.14 [48.76]
Seff = 45735.48 [36974.47]
Teq = 3729 [754] K
Rp = 3.84 [5.42] Re
a = 0.0280 [0.0137] AU
Ag = 3.19 [8.83] [0.25σ]
Teffp = 7704 [5119] K [0.77σ]

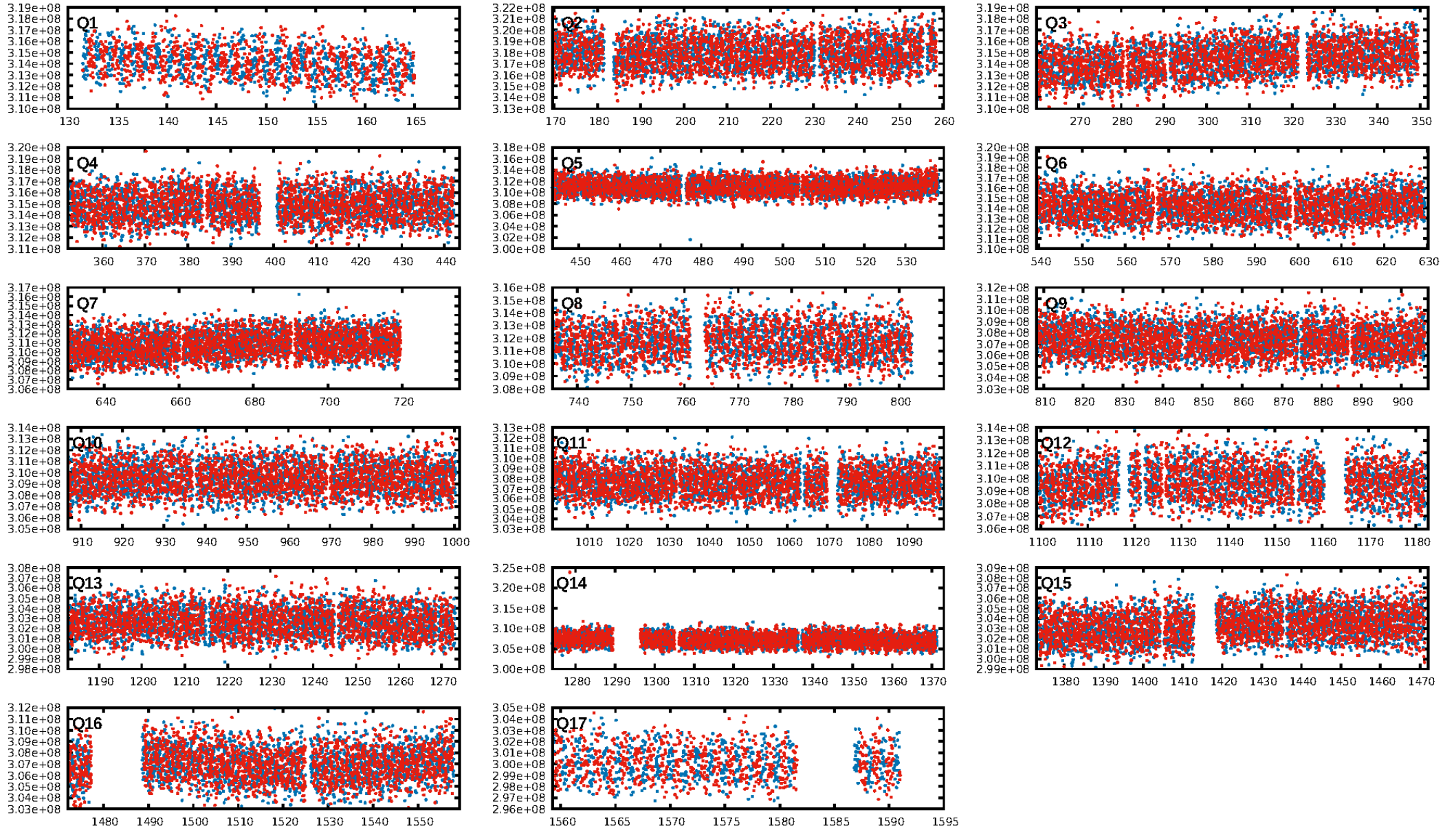
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [21.27σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [957/1062]
GhostDiagnostic-chr: 1.291
Centroid-sig: 86.2%
Centroid-so: 0.163 arcsec [2.08σ]
OotOffset-rm: 0.077 arcsec [0.11σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.129 arcsec [0.28σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 1.00 [17/17]

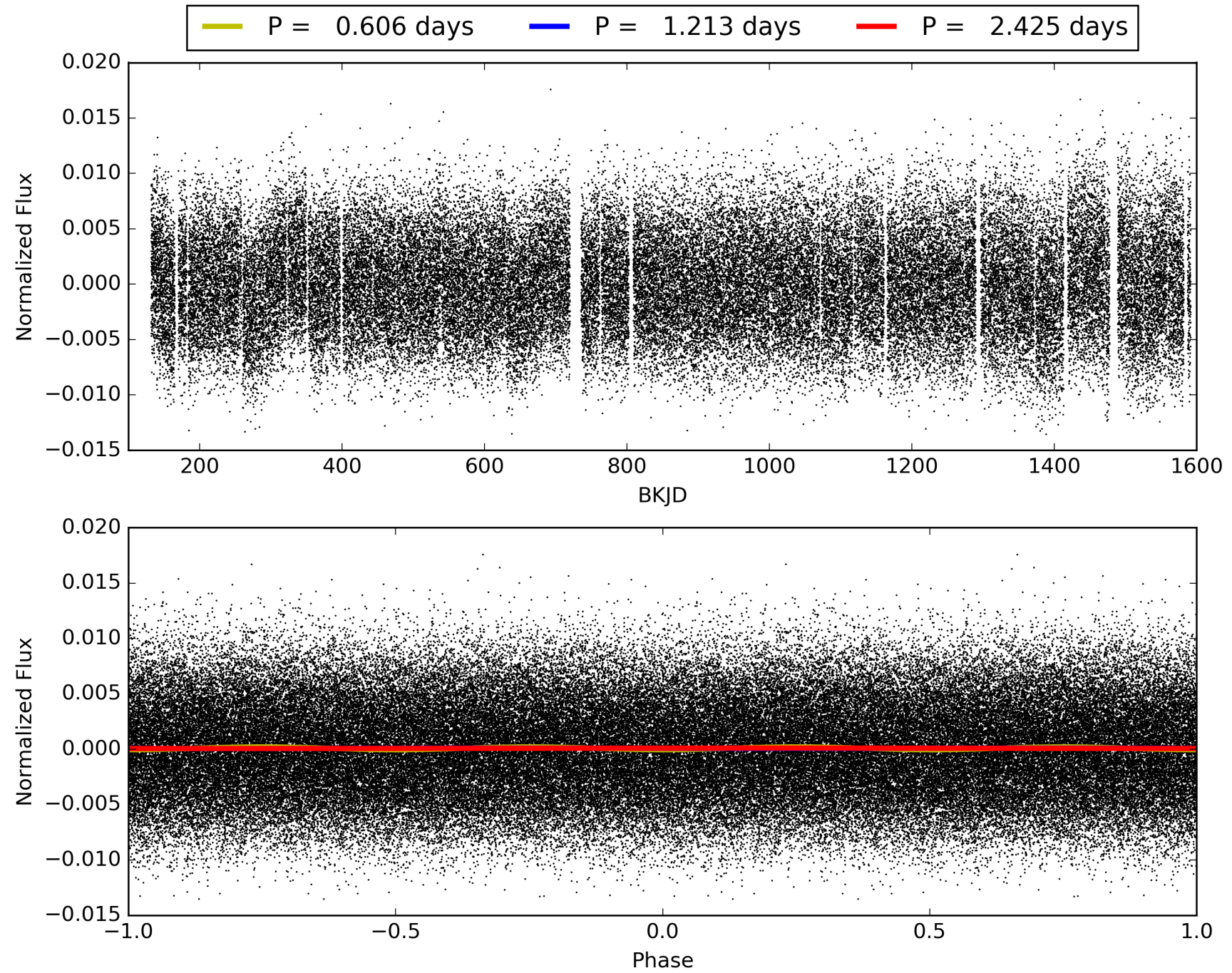
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:08:16 Z

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

TCE 005872972-01, PDC Light Curves

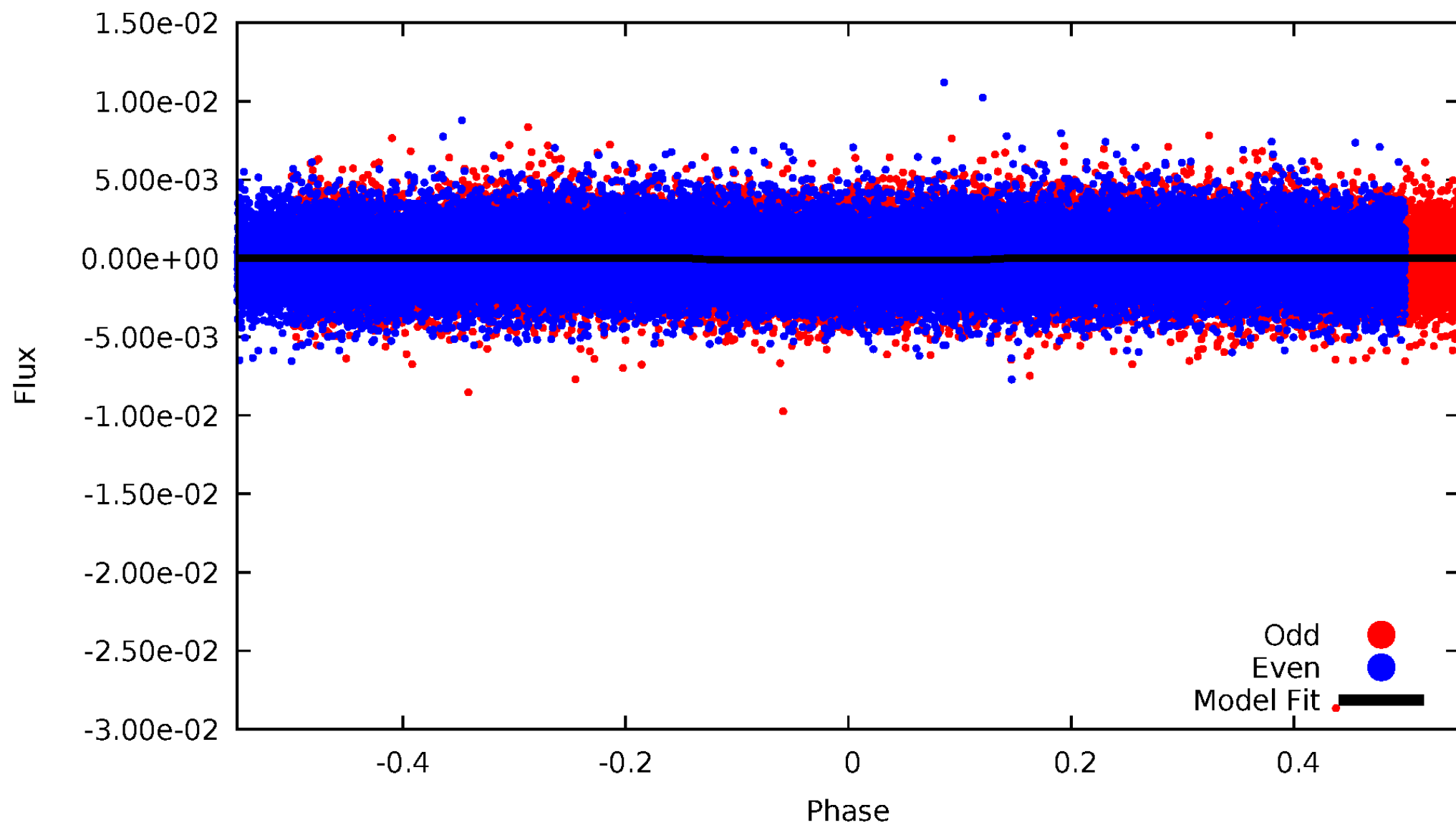


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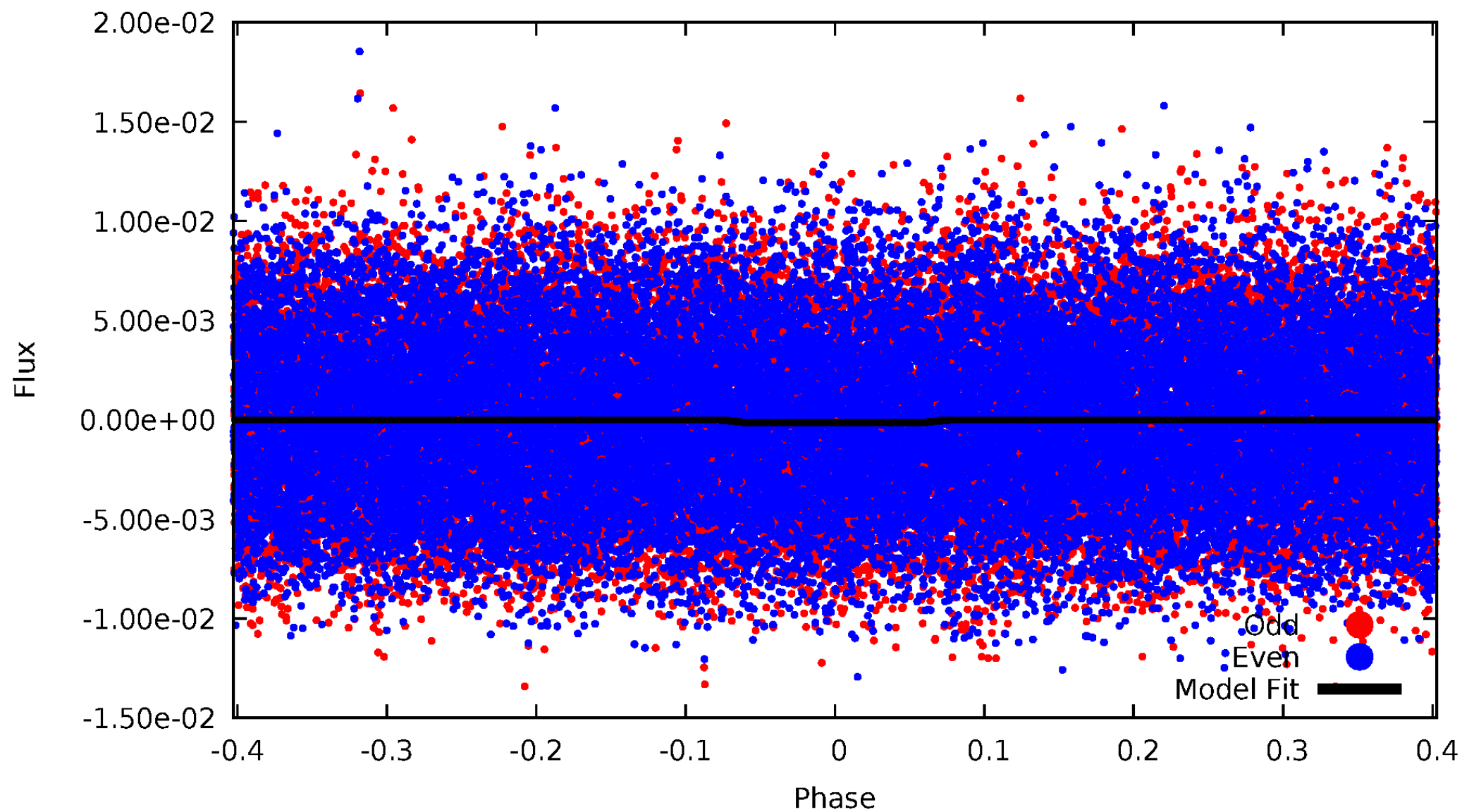
DV Odd/Even

TCE 005872972-01

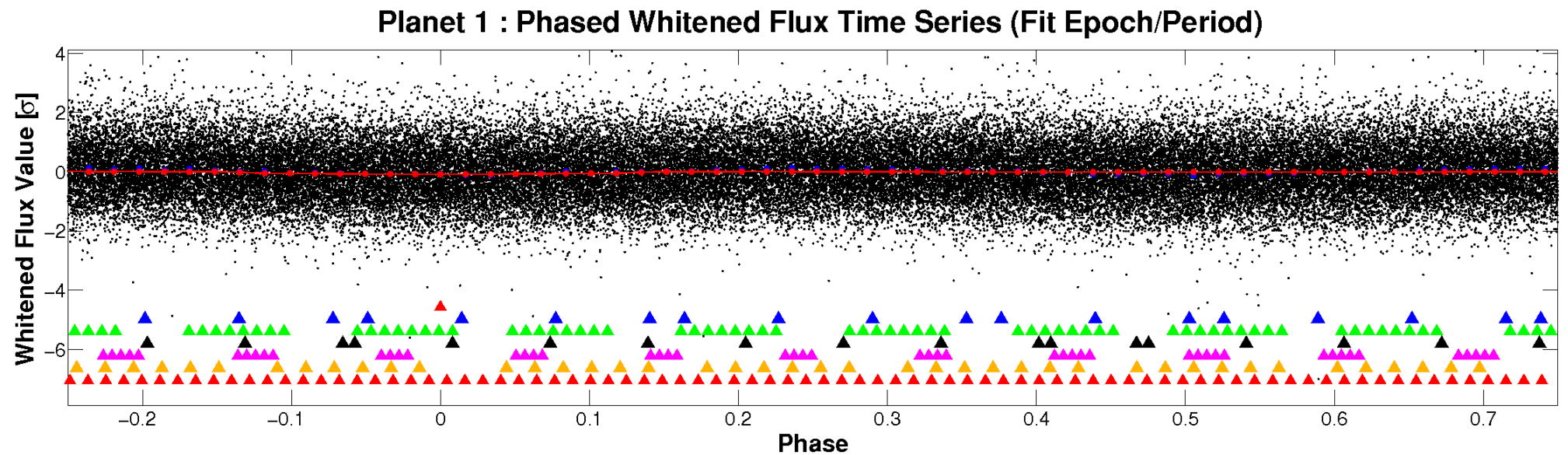
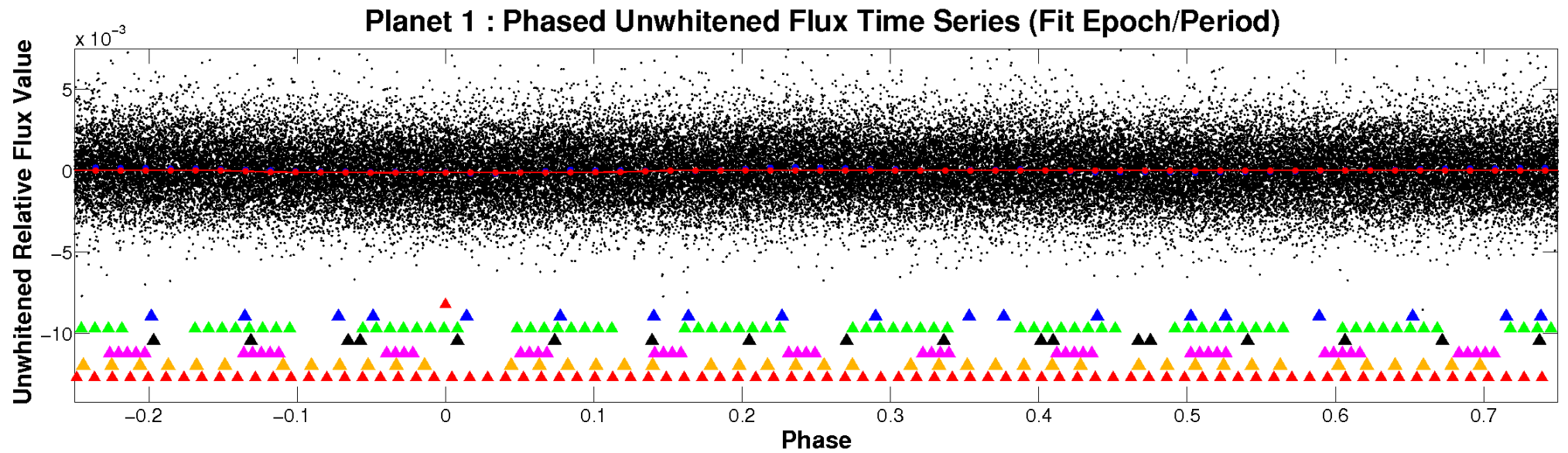


ALT Odd/Even

TCE 005872972-01

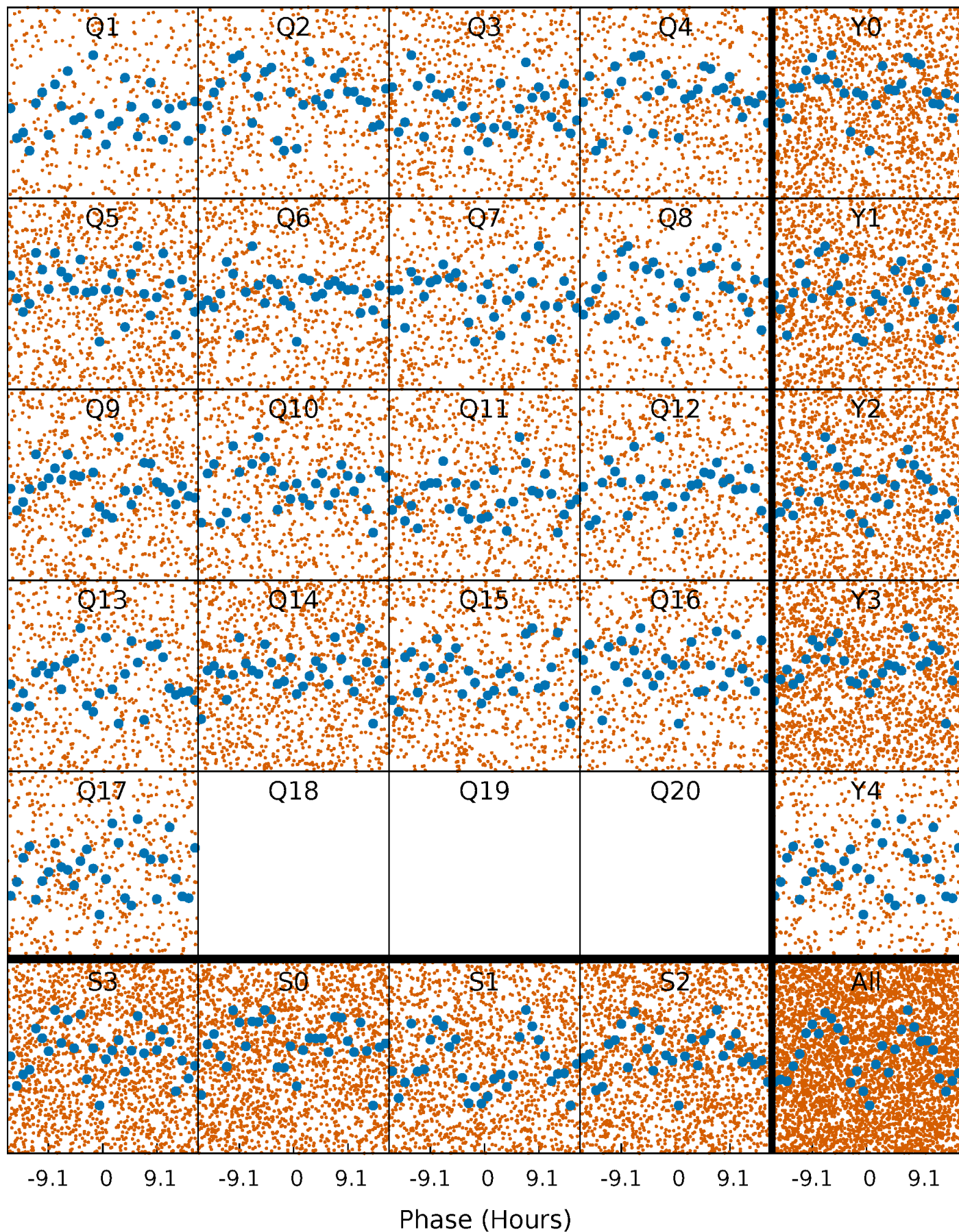


Non-Whitened Vs. Whitened Light Curve



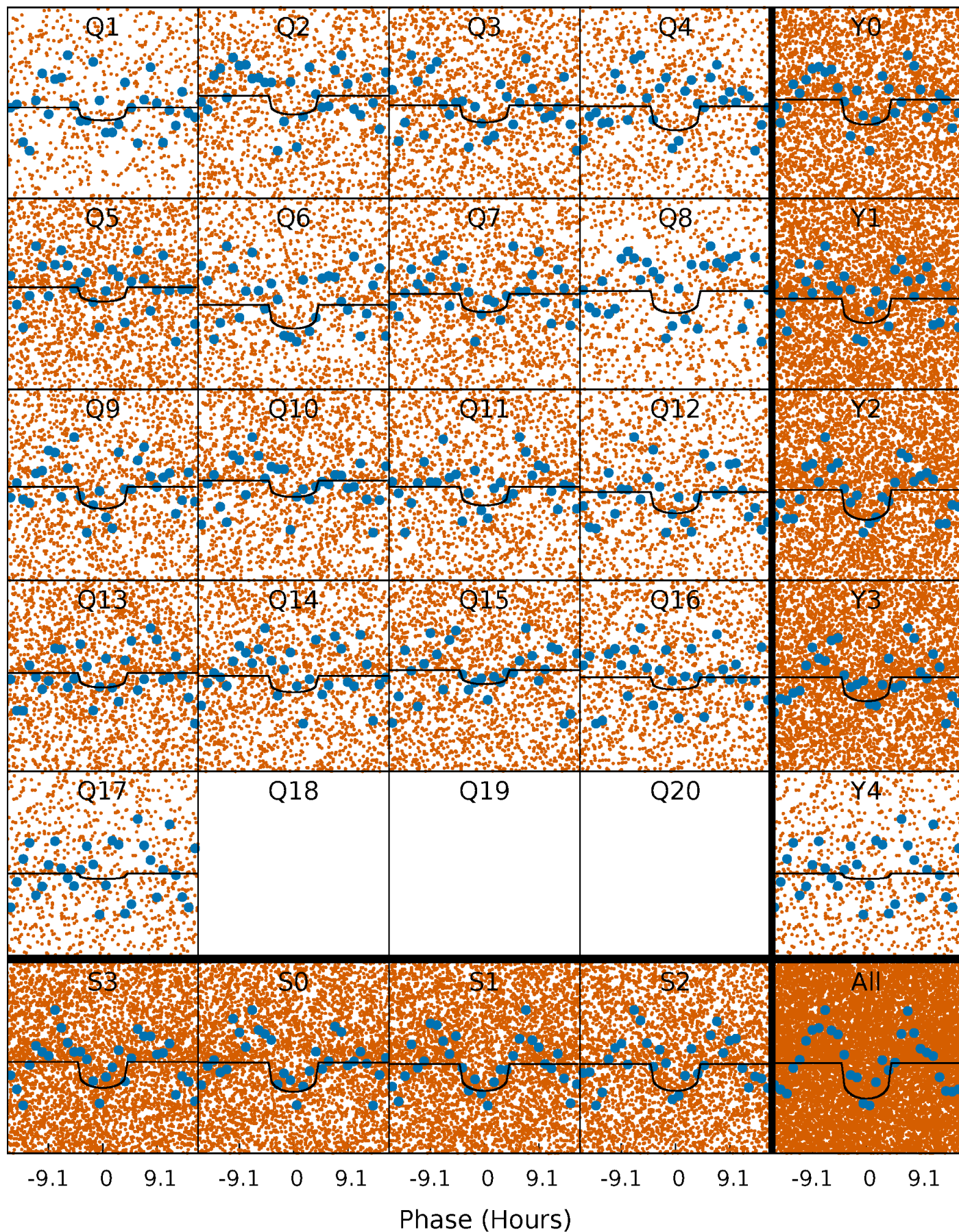
PDC Quarter-Phased Transit Curves

TCE 005872972-01 P= 1.212695 Days $T_0=132.393302$ (BKJD)



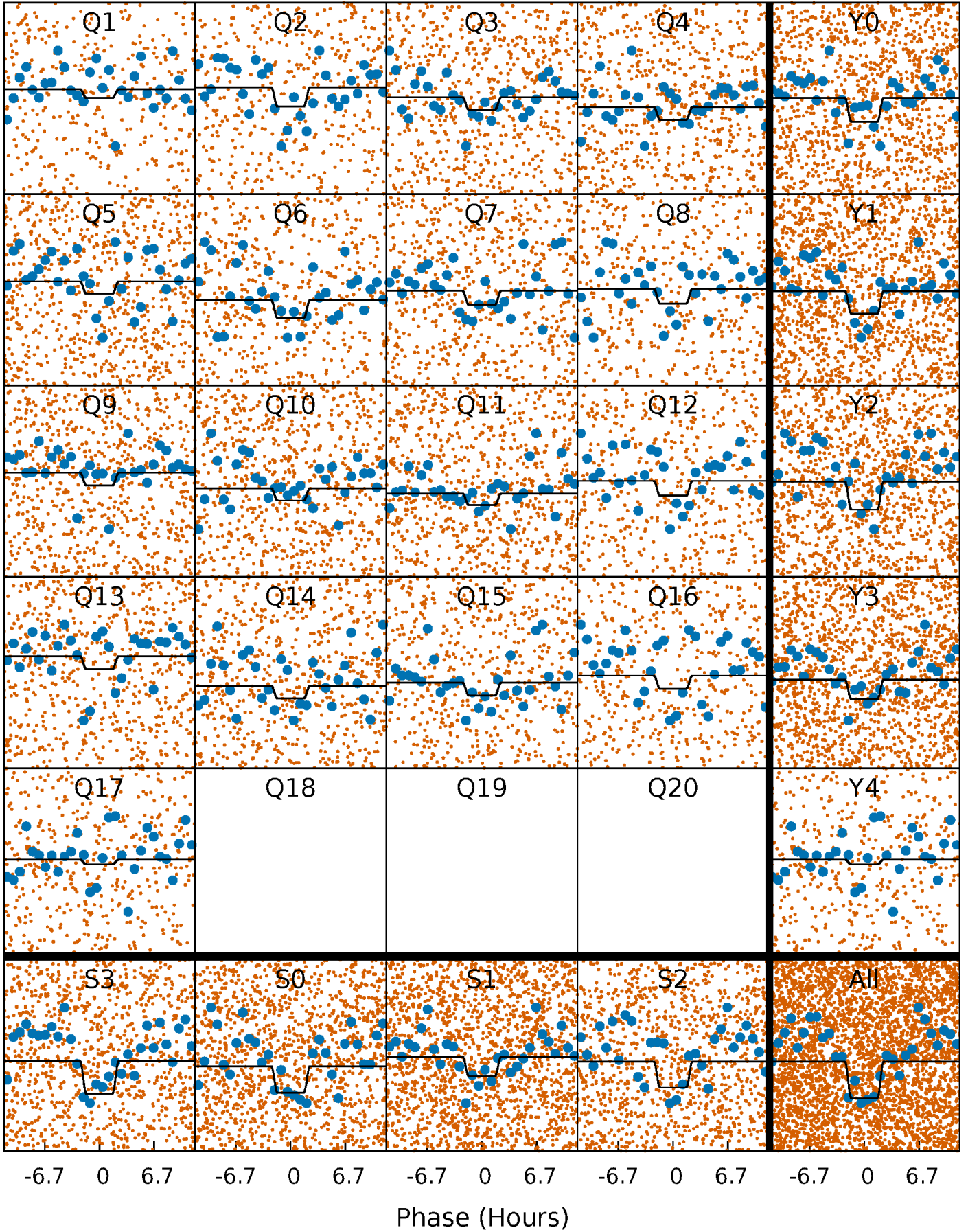
DV Quarter-Phased Transit Curves

TCE 005872972-01 P= 1.212695 Days $T_0=132.393302$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

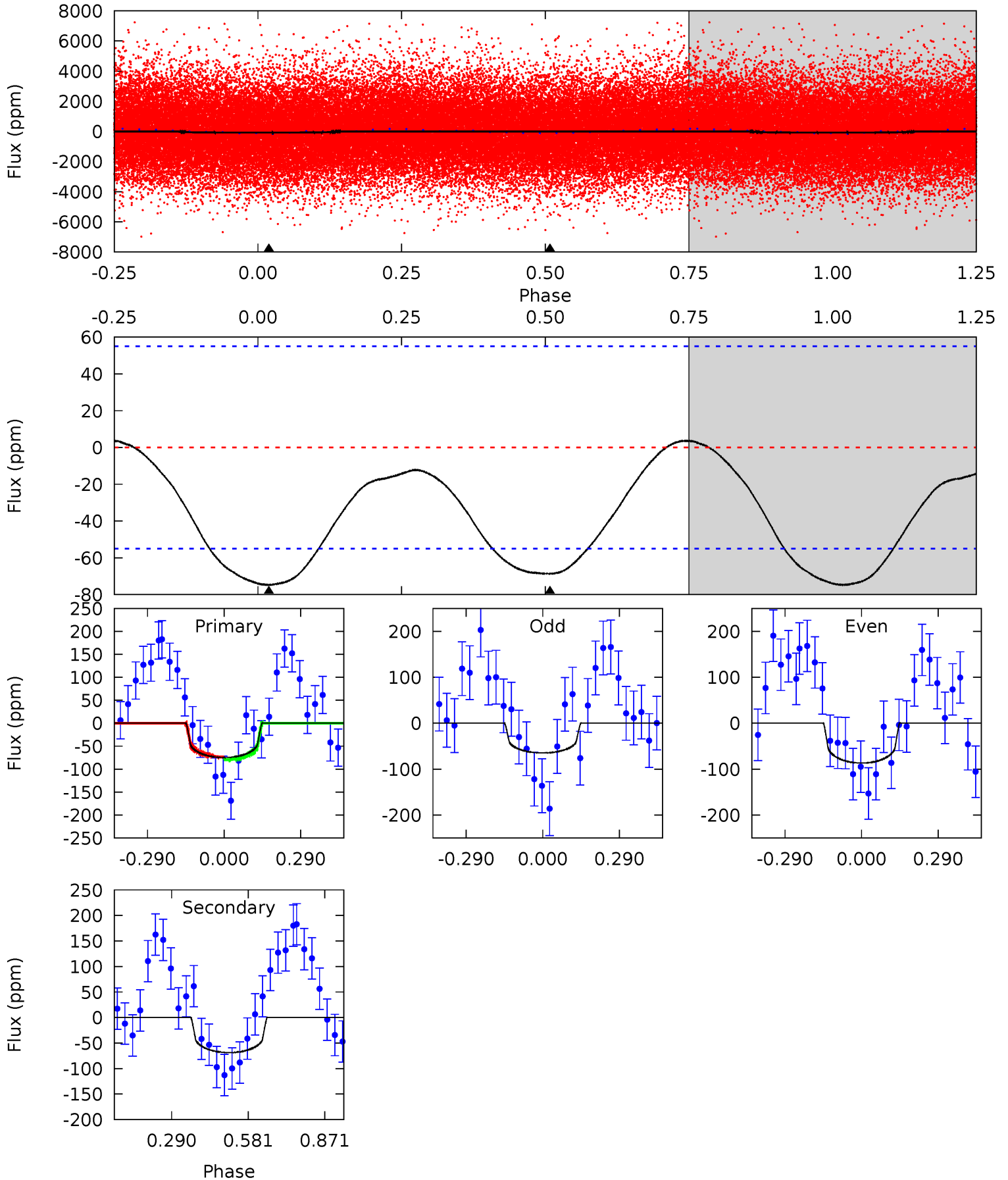
TCE 005872972-01 P= 1.212751 Days $T_0=132.344232$ (BKJD)



DV Model-Shift Uniqueness Test

005872972-01, P = 1.212695 Days, E = 131.180607 Days

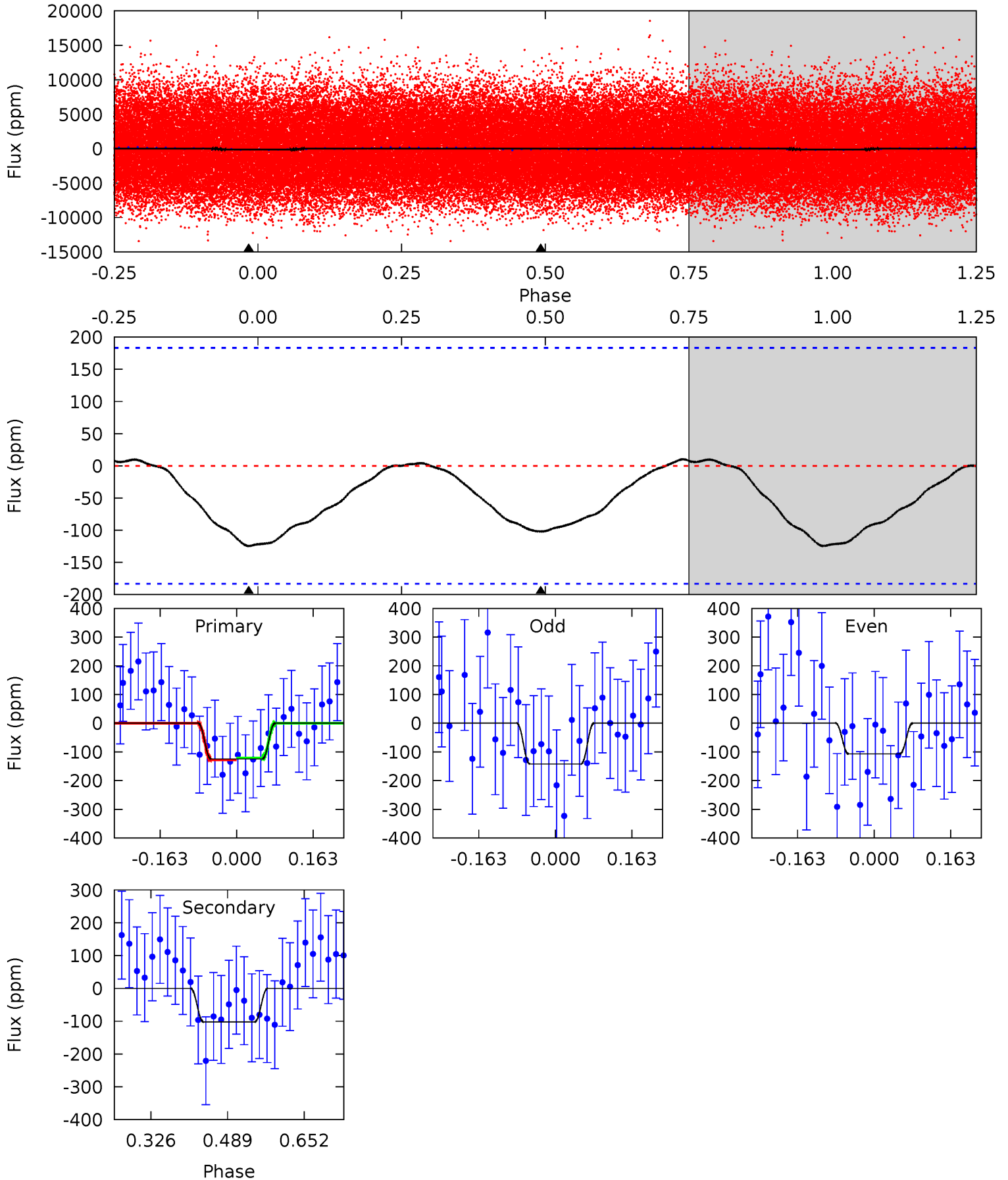
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.89	5.41	0	0	4.34	1.06	0.60	5.89	5.89	5.41	5.41	0.87	0.73	0.05	0.23



Alt Model-Shift Uniqueness Test

005872972-01, P = 1.212751 Days, E = 131.131481 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.03	2.49	0	0	4.46	1.40	0.35	3.03	3.03	2.49	2.49	0.43	1.68	0.08	0.07



Stellar Parameters For KIC 005872972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7698^{+239}_{-319}	$3.680^{+0.468}_{-0.055}$	$-0.240^{+0.200}_{-0.300}$	$3.375^{+0.315}_{-1.679}$	$1.990^{+0.111}_{-0.553}$	$0.073^{+0.361}_{-0.014}$
	+3%/-4%	+13%/-1%	+83%/-125%	+9%/-50%	+6%/-28%	+495%/-19%
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 005872972-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-69 ± 13	$4.32^{+4.16}_{-2.75}$	4985^{+372}_{-694}	5387^{+4611}_{-2010}	$1.474^{+9.521}_{-1.089}$
Alt.	-102 ± 41	$4.81^{+4.47}_{-3.03}$	5021^{+341}_{-642}	5786^{+5282}_{-2159}	$1.751^{+10.749}_{-1.347}$

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

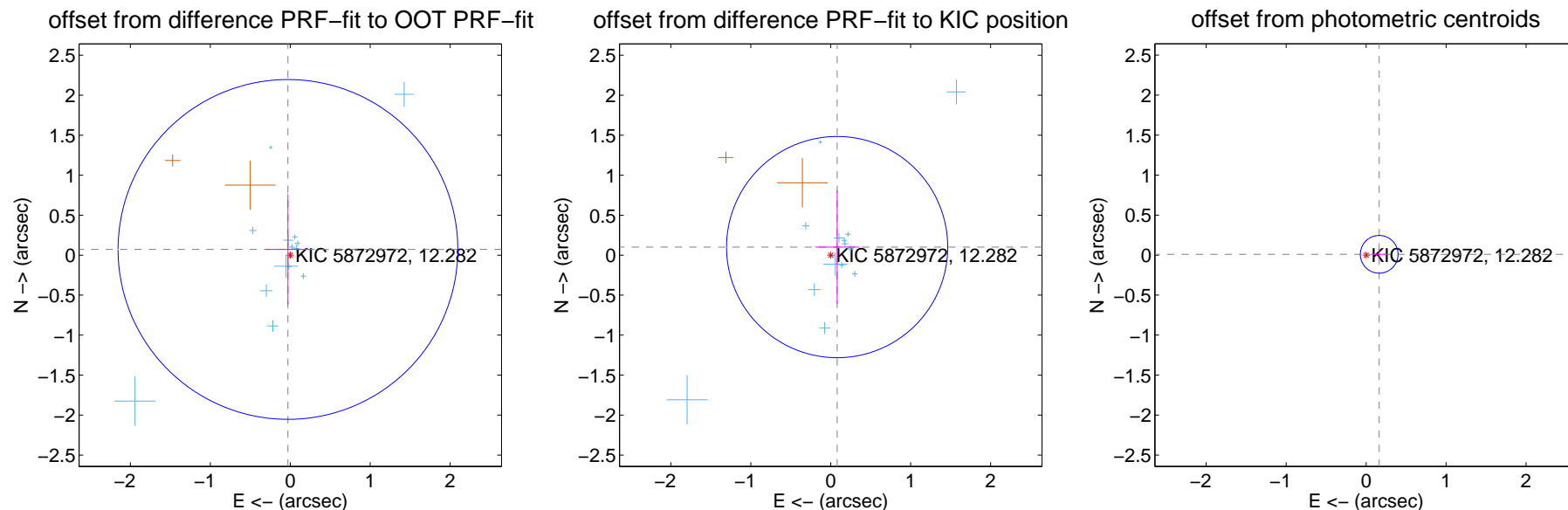
DV Centroid Data

Supplemental centroid analysis for 005872972-01. Kepler magnitude: 12.28. Transit SNR 8.96

There are 14 quarters with good PRF difference image offsets

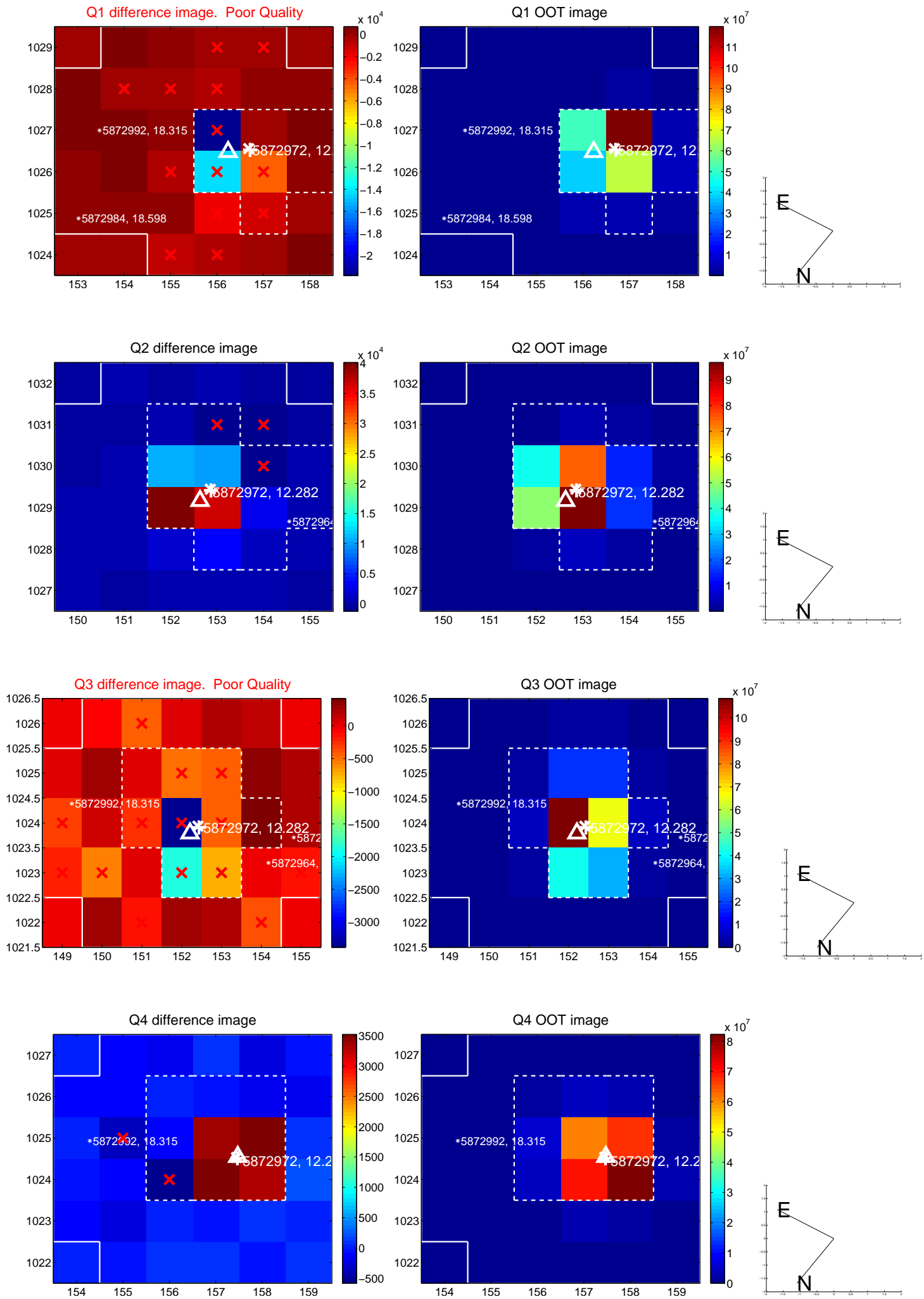
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.077 ± 0.708	0.11	0.029 ± 0.272	0.071 ± 0.690
PRF-fit source offset from KIC position	0.129 ± 0.461	0.28	-0.080 ± 0.273	0.101 ± 0.709
photometric centroid source offset	0.16 ± 0.08	2.08	-0.16 ± 0.08	0.01 ± 0.07

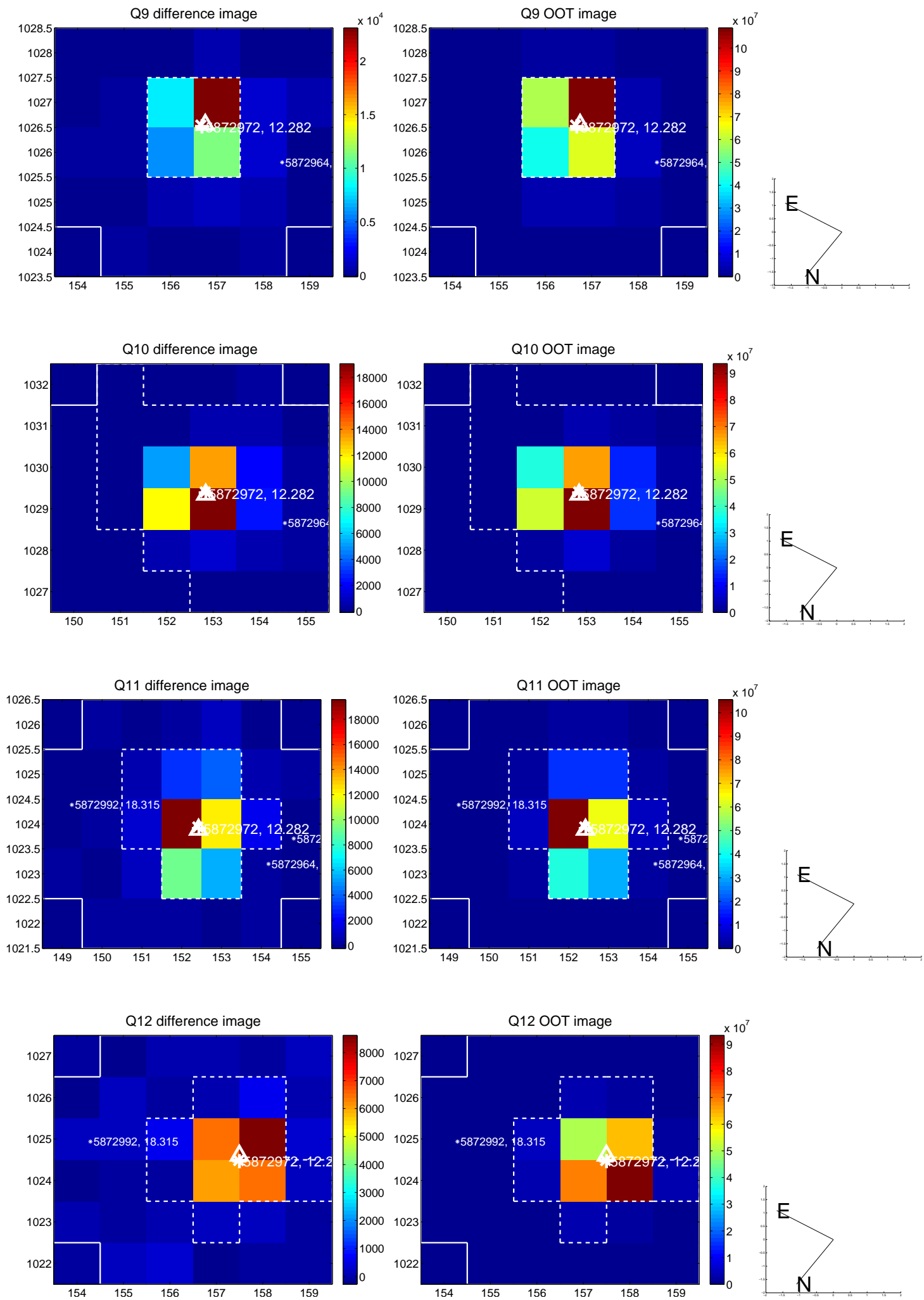


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

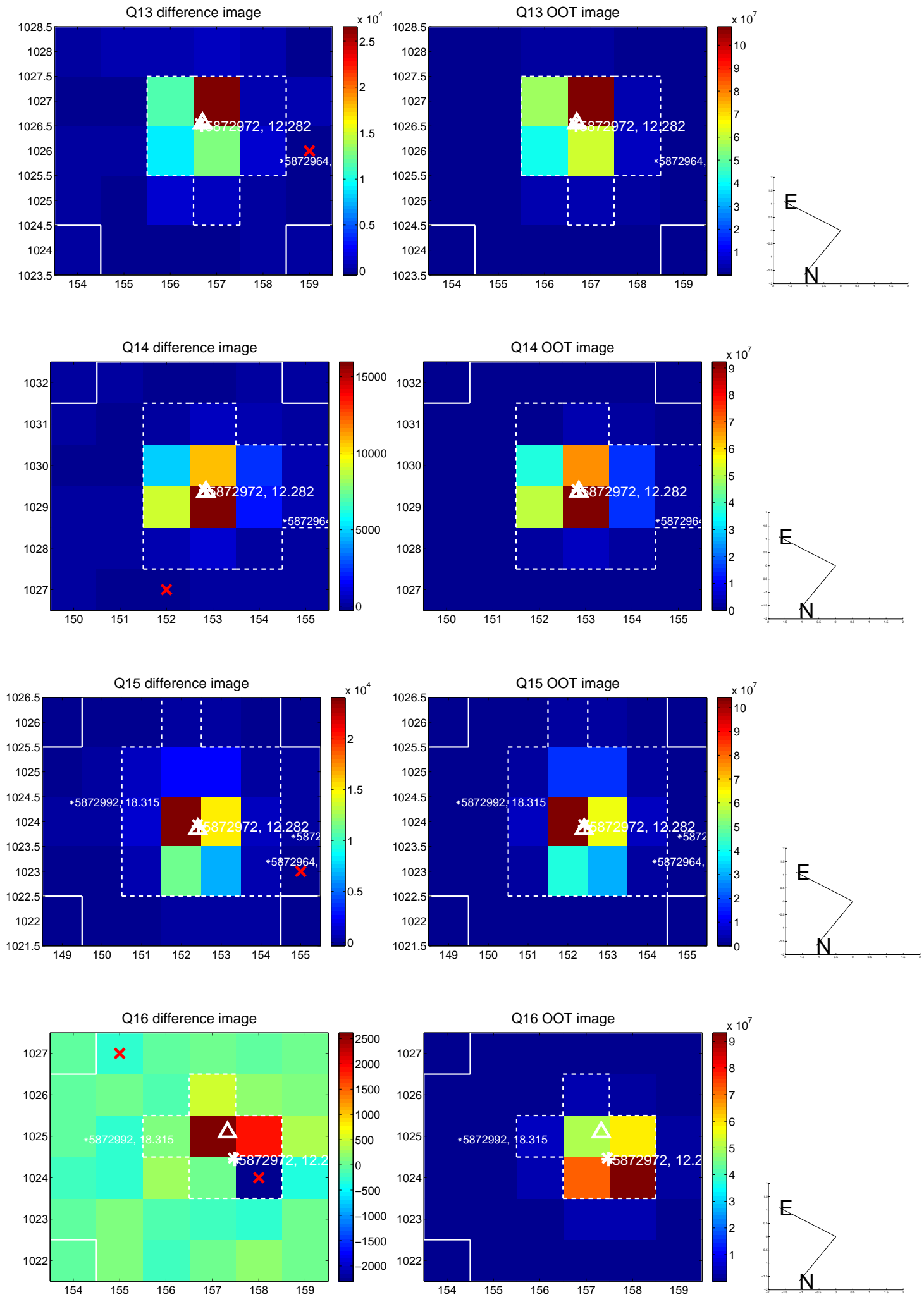
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



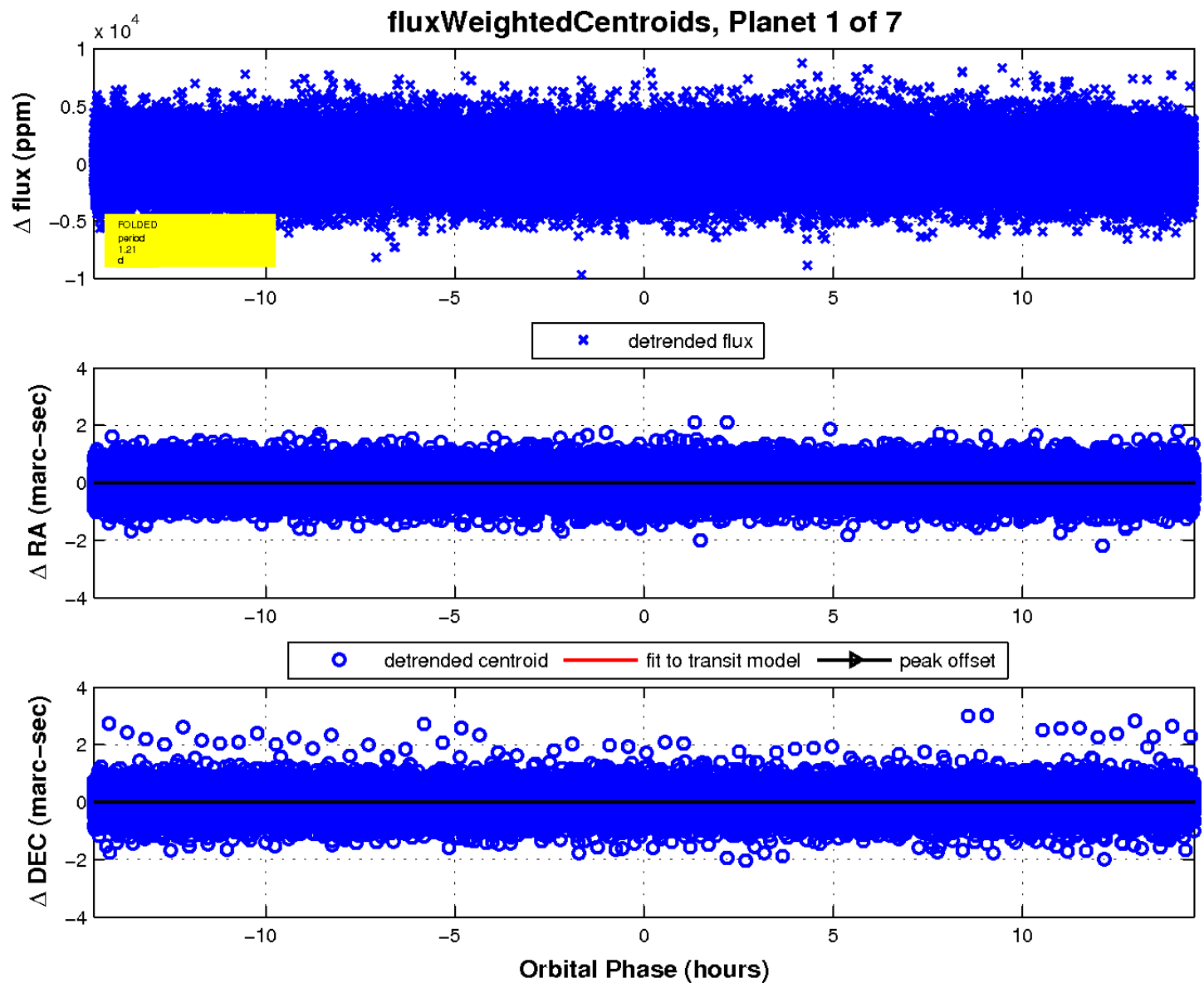
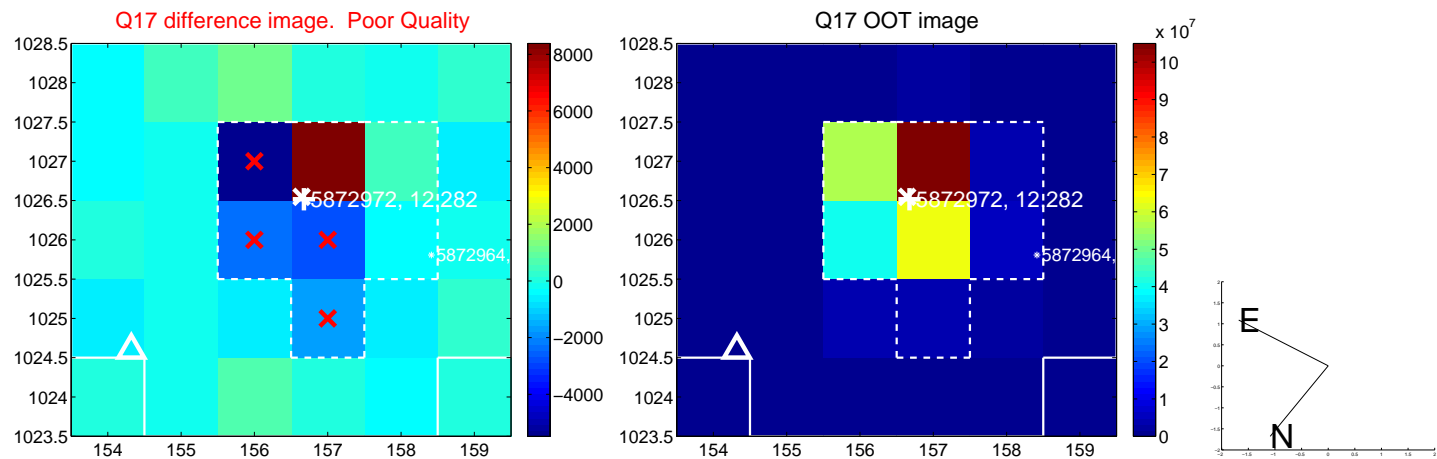
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

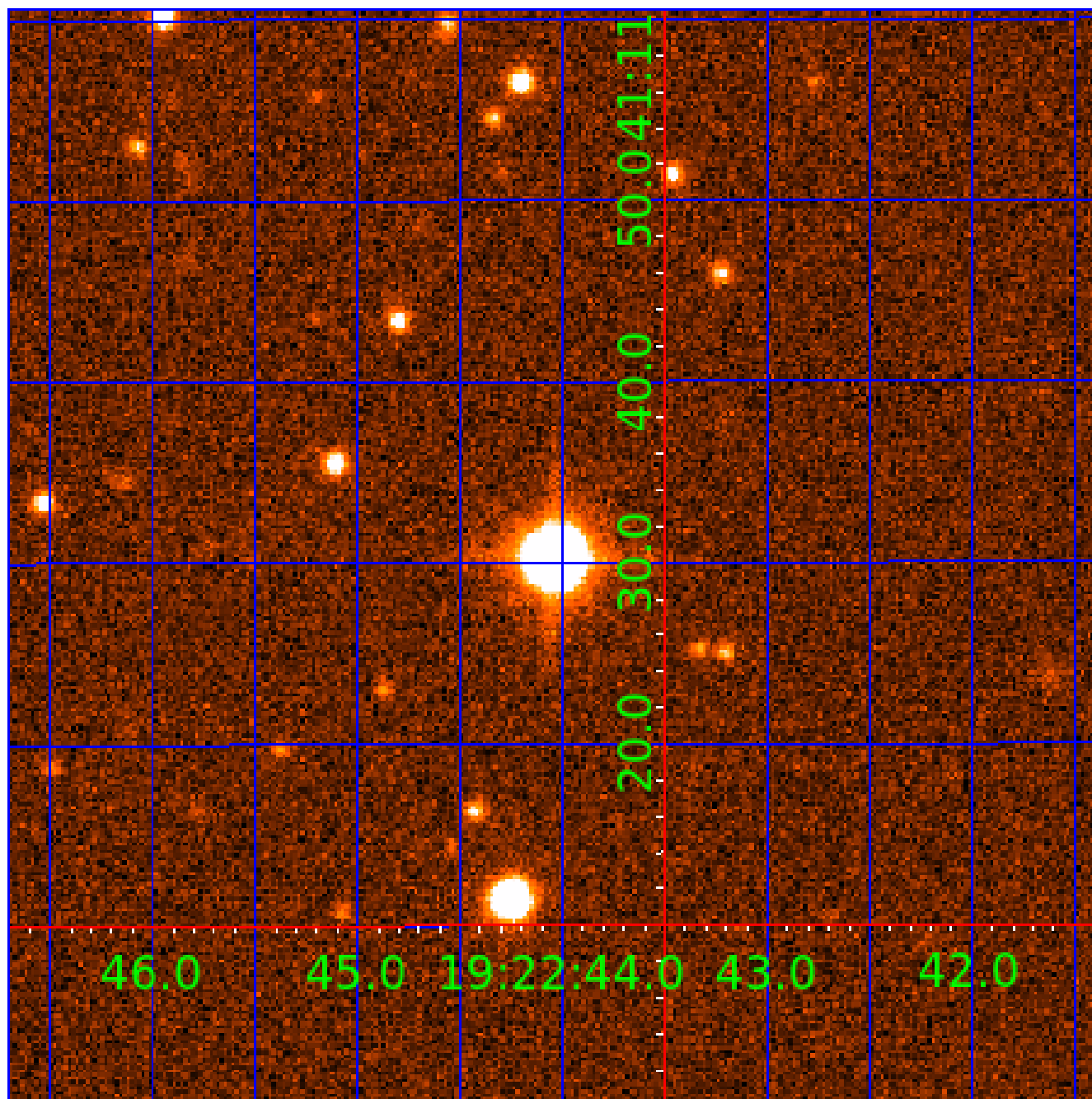


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005872972

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})
005872972-01	OBS	No	1.212695	132.393302	127.8	7.987	10.1	9.0	3.38	7698	3.84	45735.48
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872972-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005872972-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005872972-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005872972-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

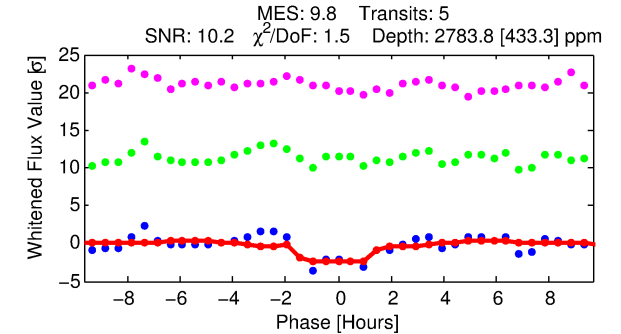
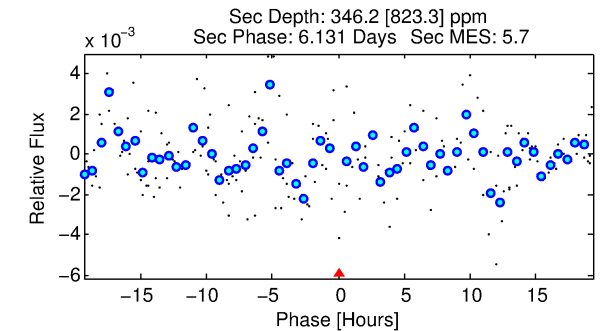
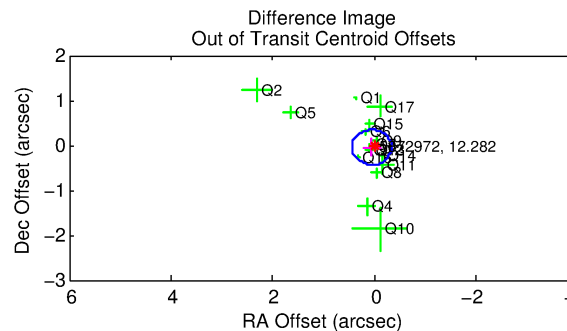
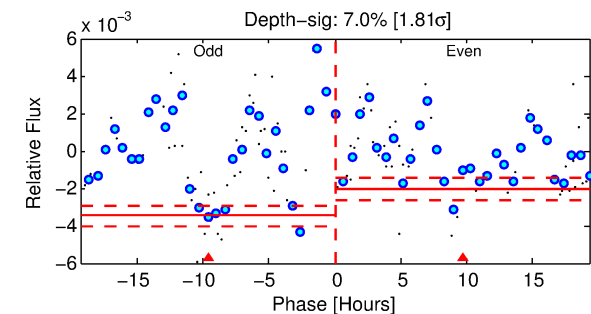
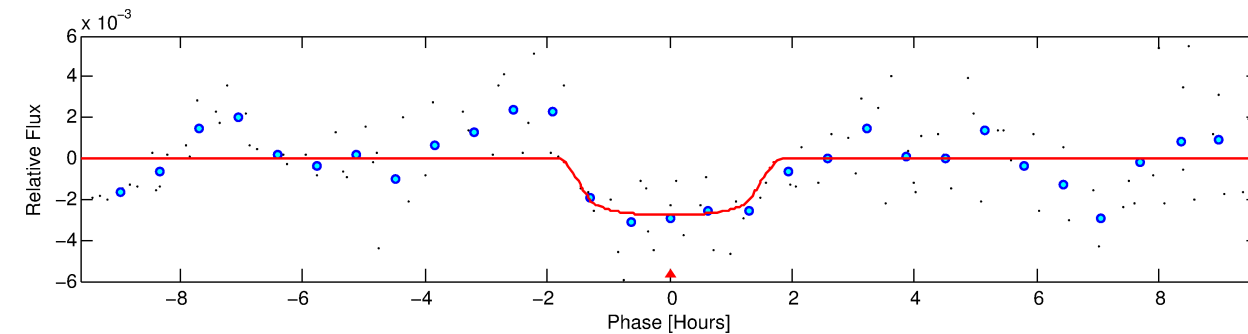
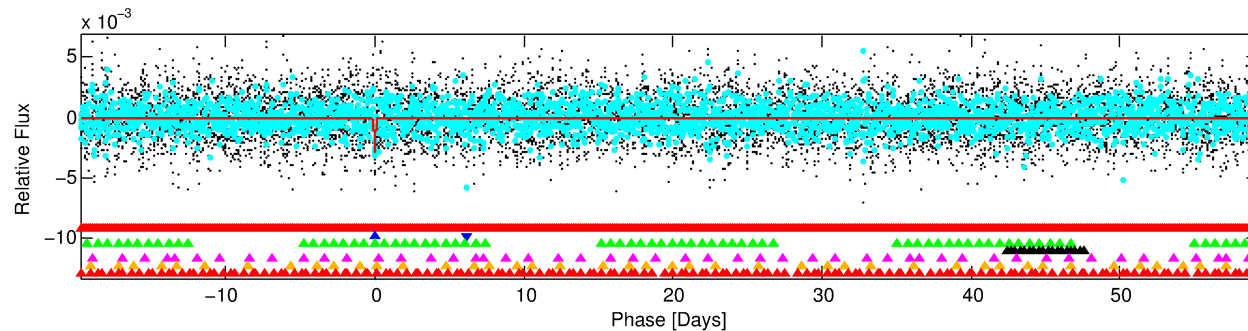
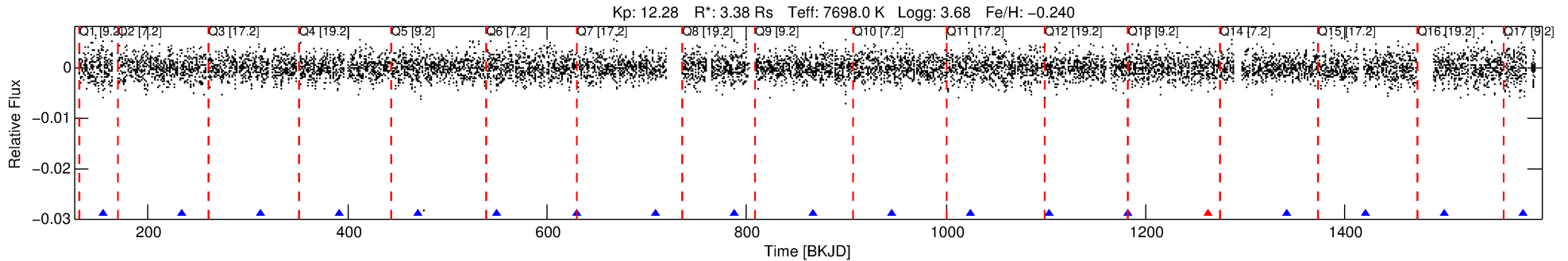
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872972-02

No Significant Match Found

DV One-Page Summary

KIC: 5872972 Candidate: 2 of 7 Period: 79.083 d



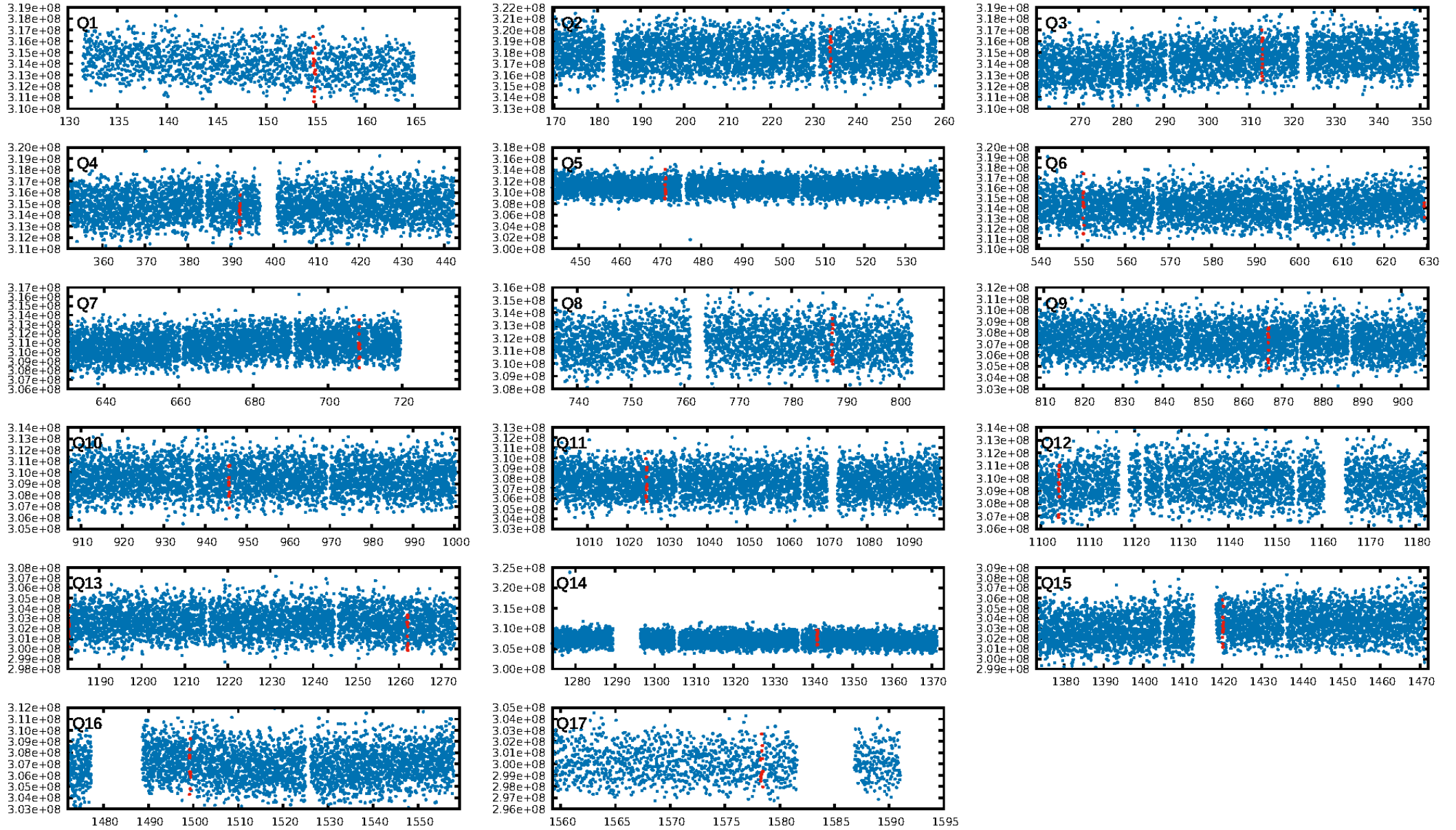
DV Fit Results:

Period = 79.08299 [0.00102] d
Epoch = 154.8596 [0.0105] BKJD
Rp/R* = 0.0487 [0.0614]
a/R* = 195.09 [1280.69]
b = 0.15 [42.24]
Seff = 174.24 [140.86]
Teq = 926 [187] K
Rp = 17.92 [24.32] Re
a = 0.4535 [0.2217] AU
Ag = 121.98 [433.93] [0.28σ]
Teffp = 4760 [4132] K [0.93σ]

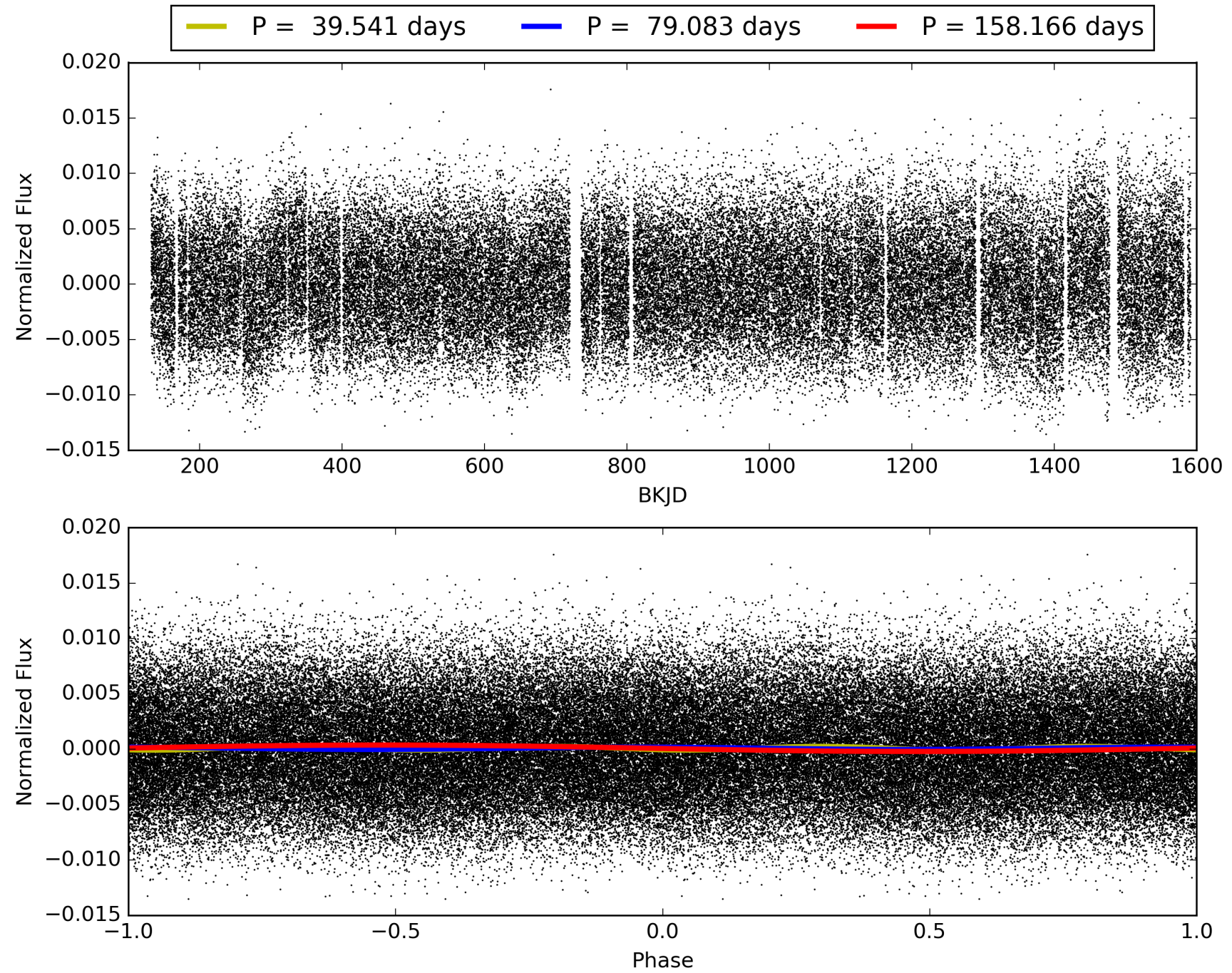
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [129.66σ]
LongPeriod-sig: 95.1% [1.97σ]
ModelChiSquare2-sig: 10.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 0.6338
Centroid-sig: 16.8%
Centroid-so: 0.129 arcsec [3.18σ]
OotOffset-rm: 0.071 arcsec [0.55σ]
KicOffset-rm: 0.092 arcsec [0.44σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 0.18 [3/17]

TCE 005872972-02, PDC Light Curves

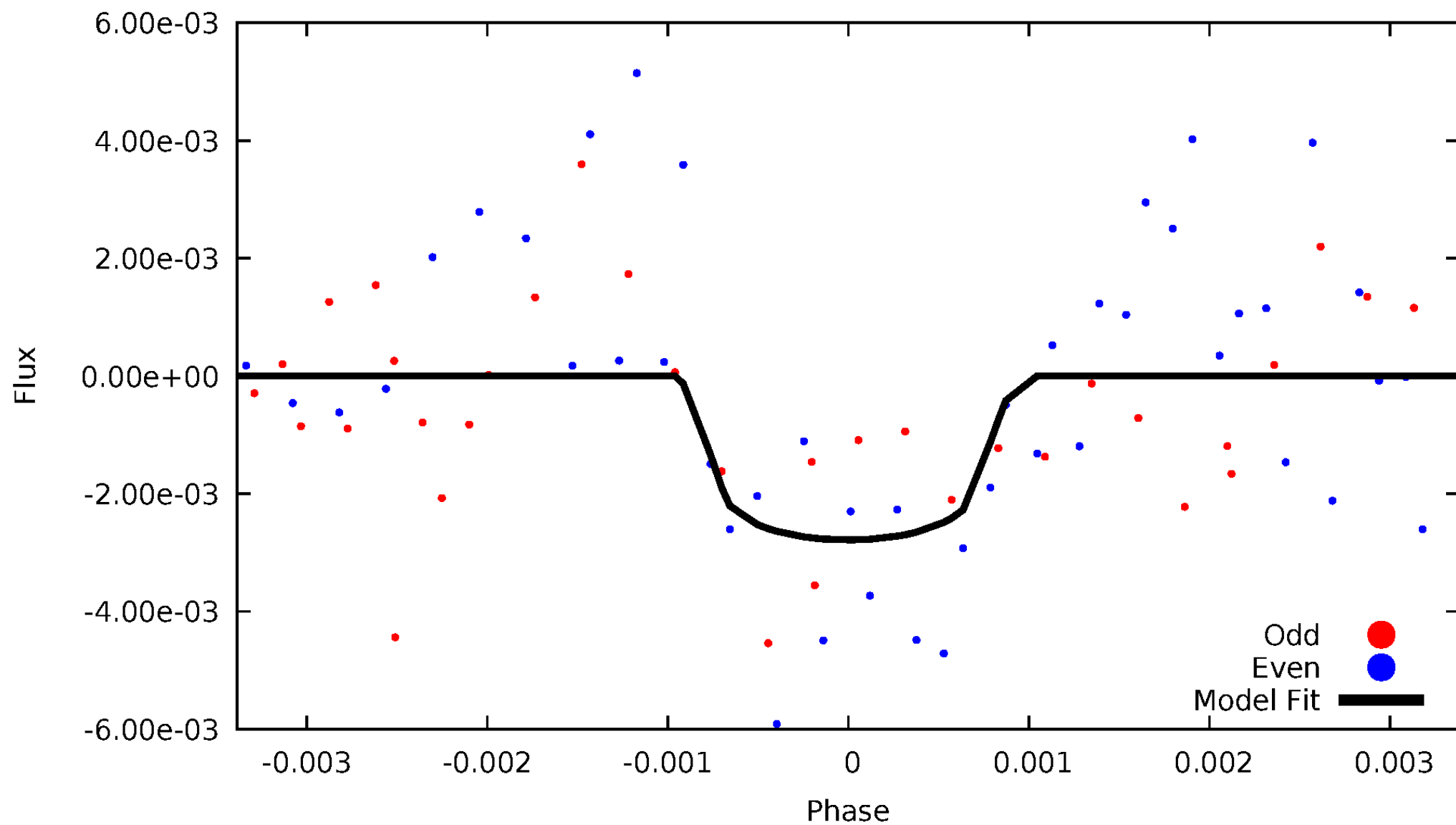


TCE 005872972-02



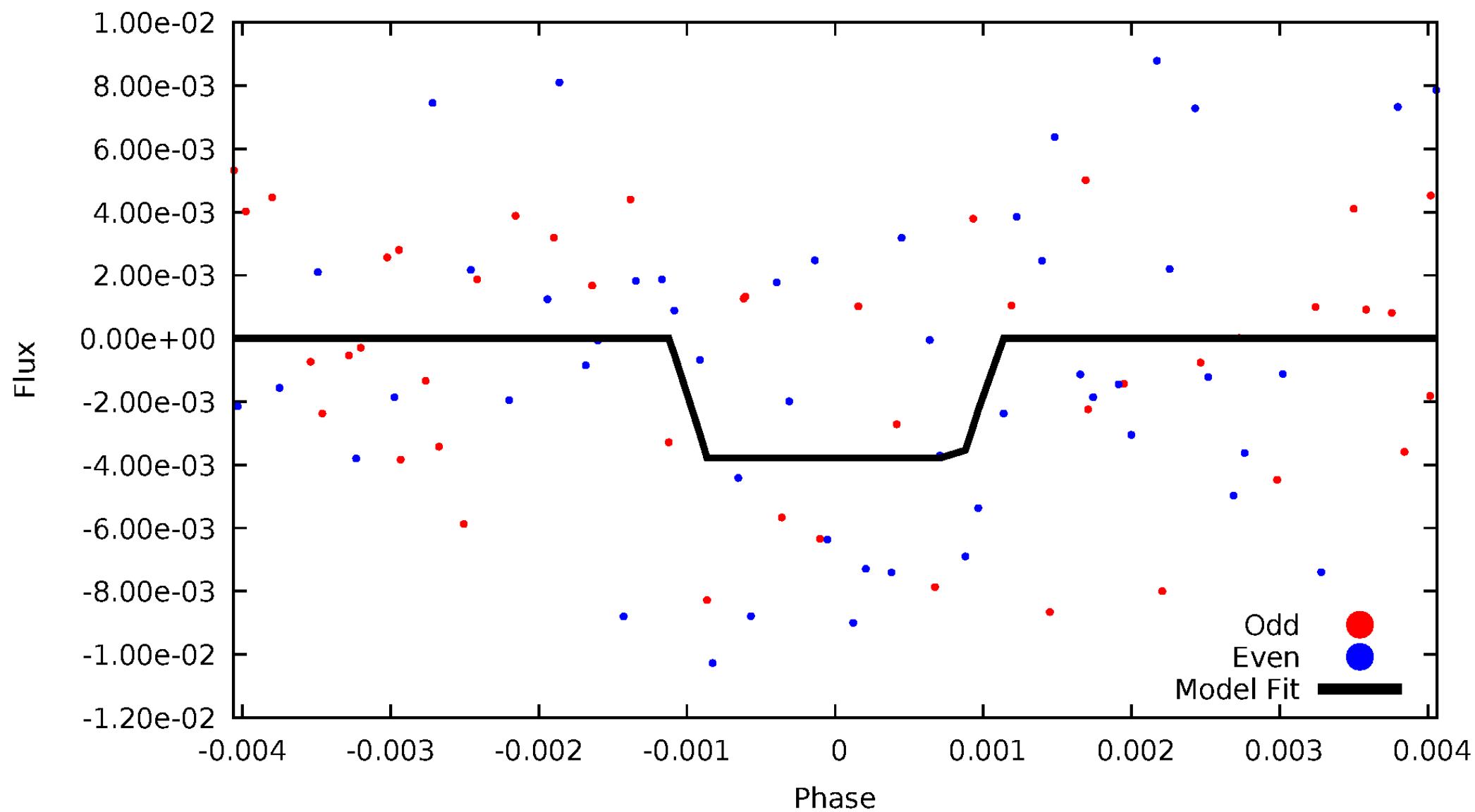
DV Odd/Even

TCE 005872972-02



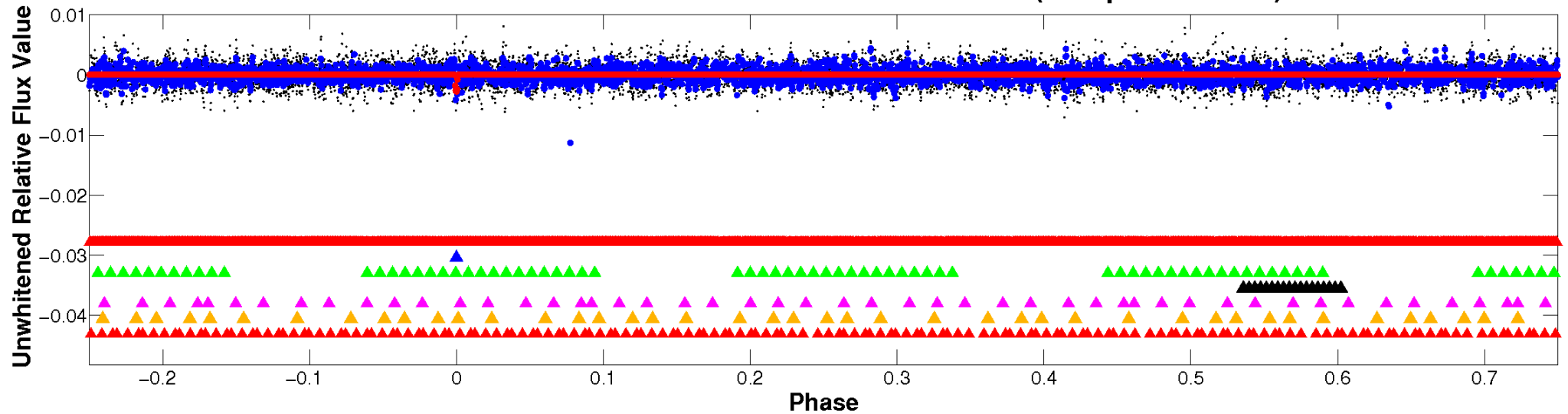
ALT Odd/Even

TCE 005872972-02

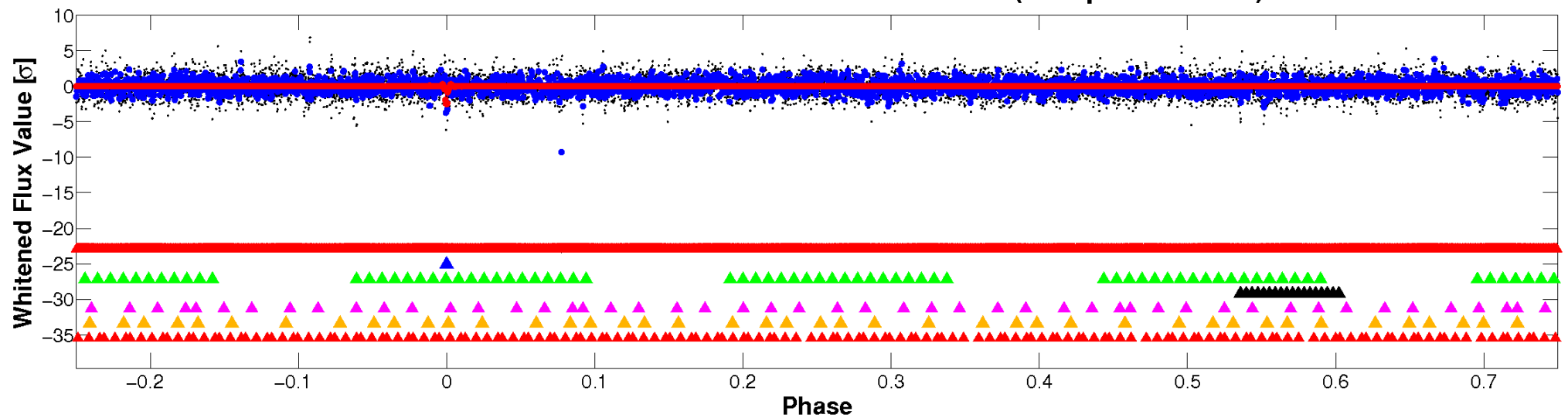


Non-Whitened Vs. Whitened Light Curve

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

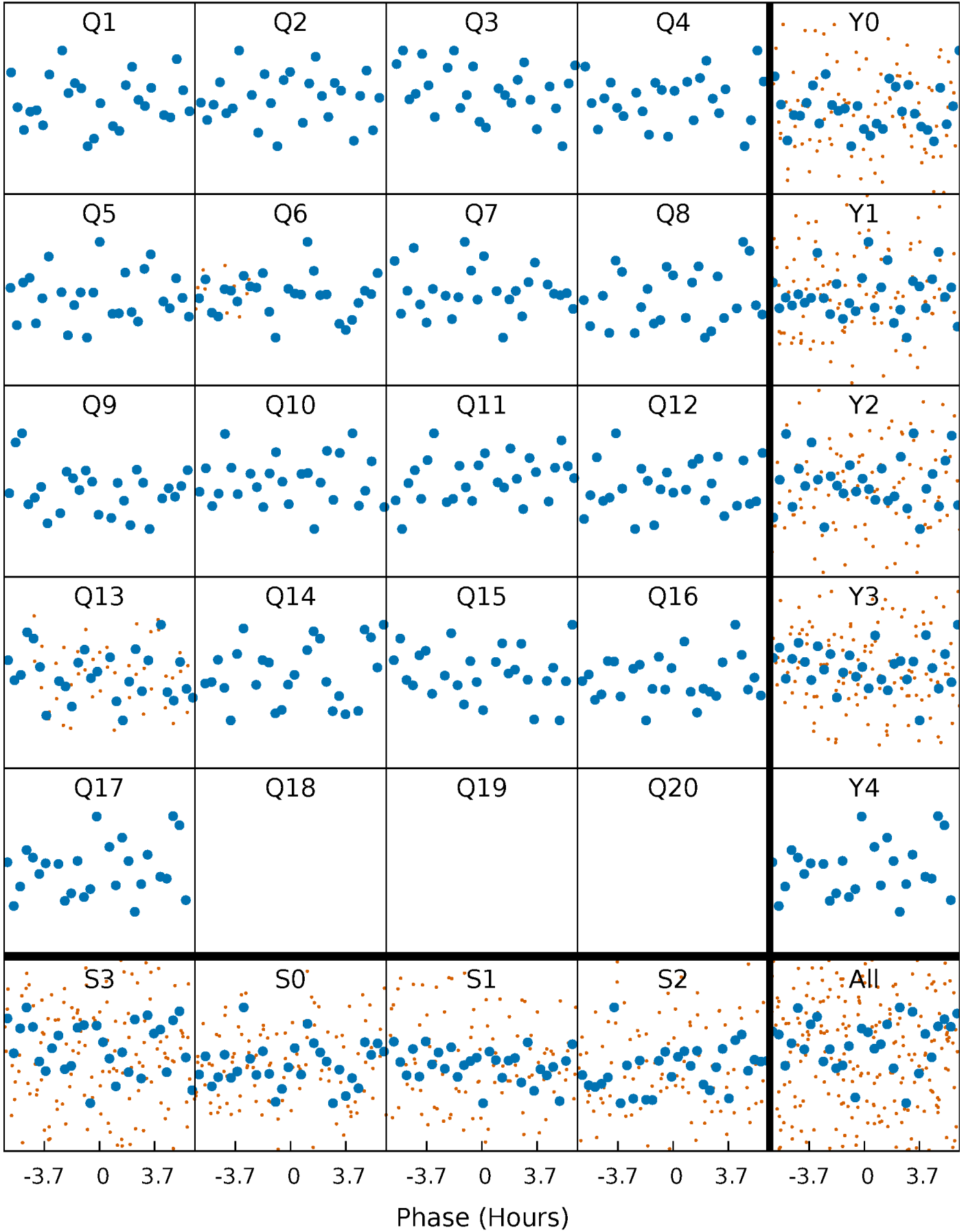


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



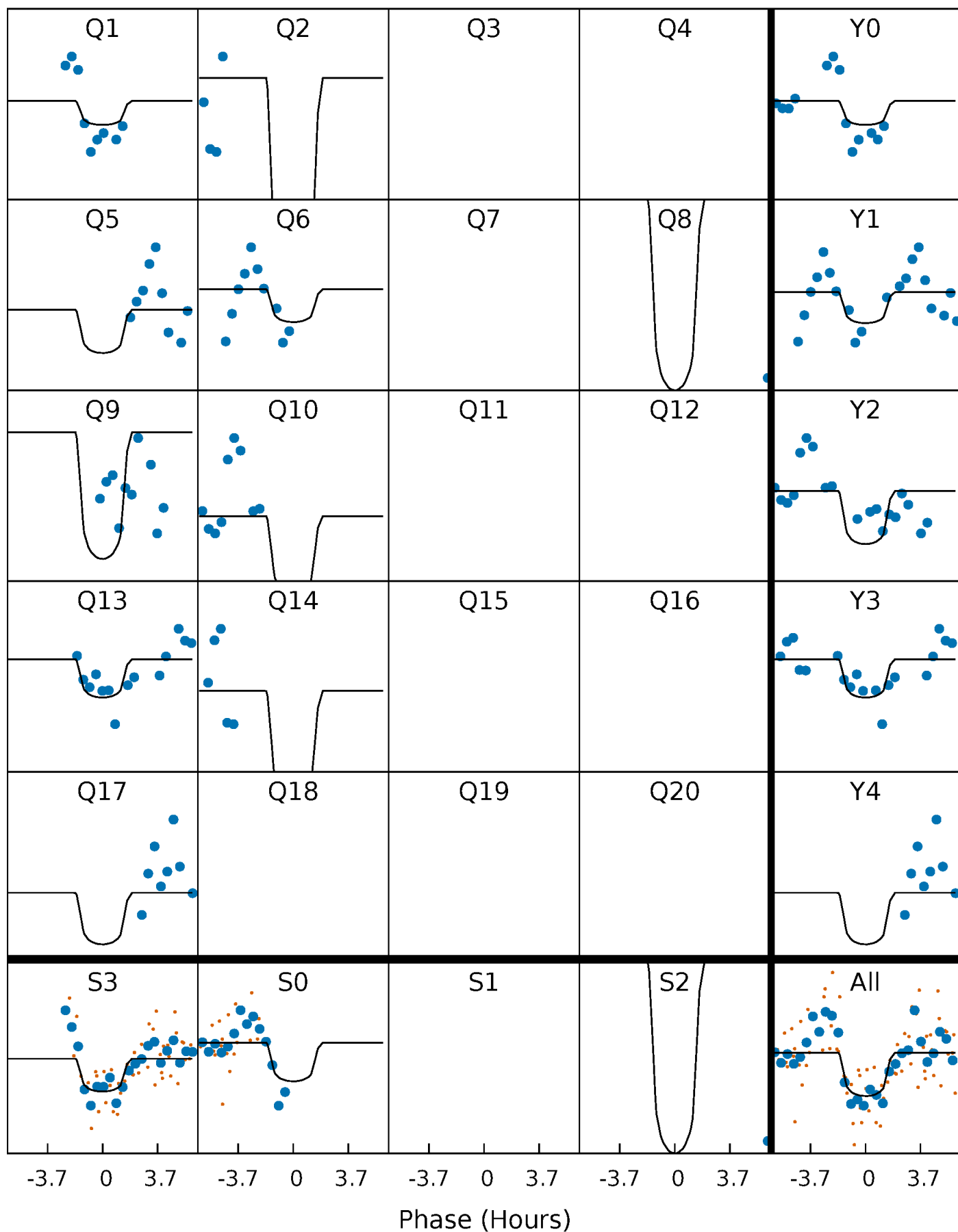
PDC Quarter-Phased Transit Curves

TCE 005872972-02 P= 79.082991 Days $T_0=154.859611$ (BKJD)



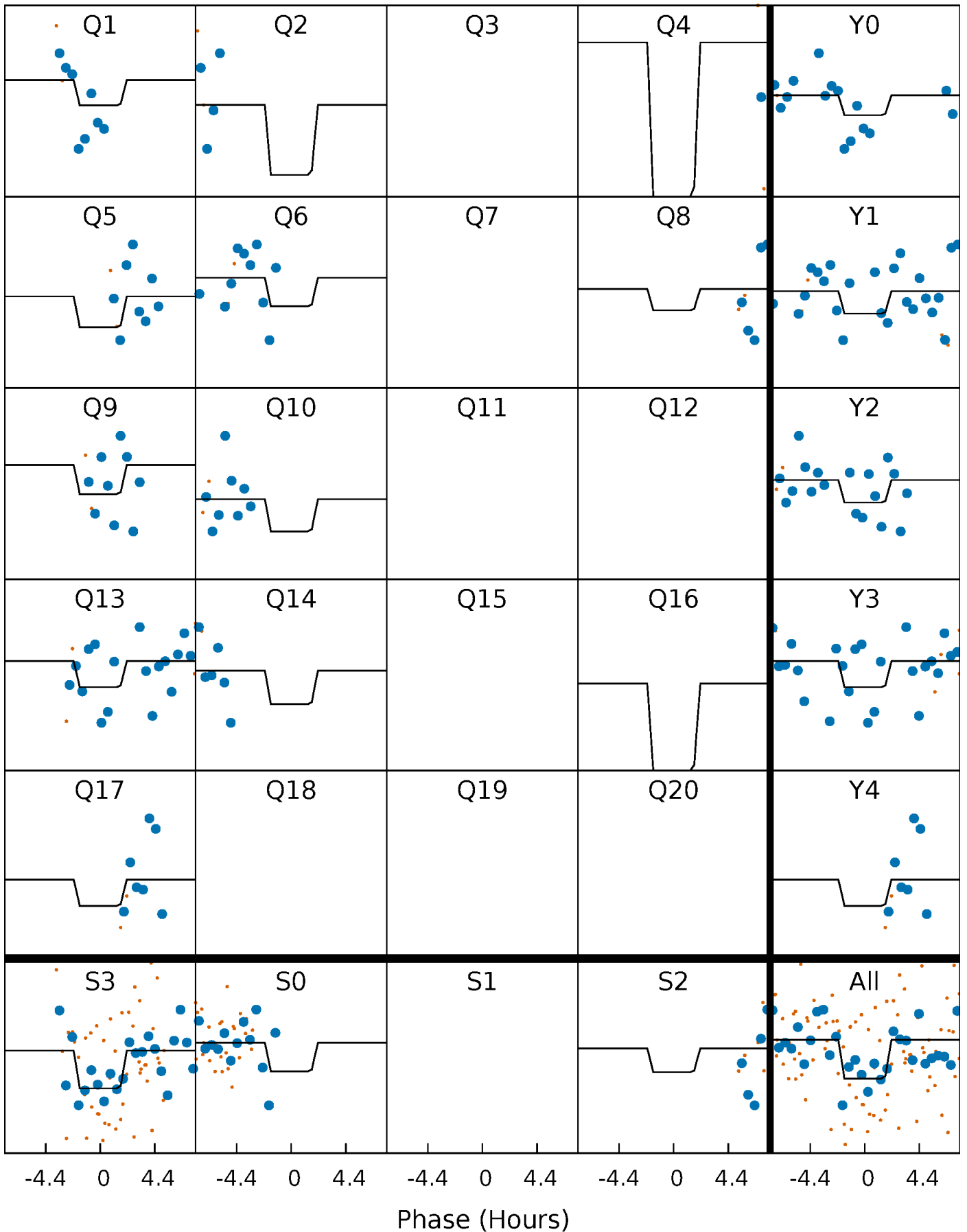
DV Quarter-Phased Transit Curves

TCE 005872972-02 $P = 79.082991$ Days $T_0 = 154.859611$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

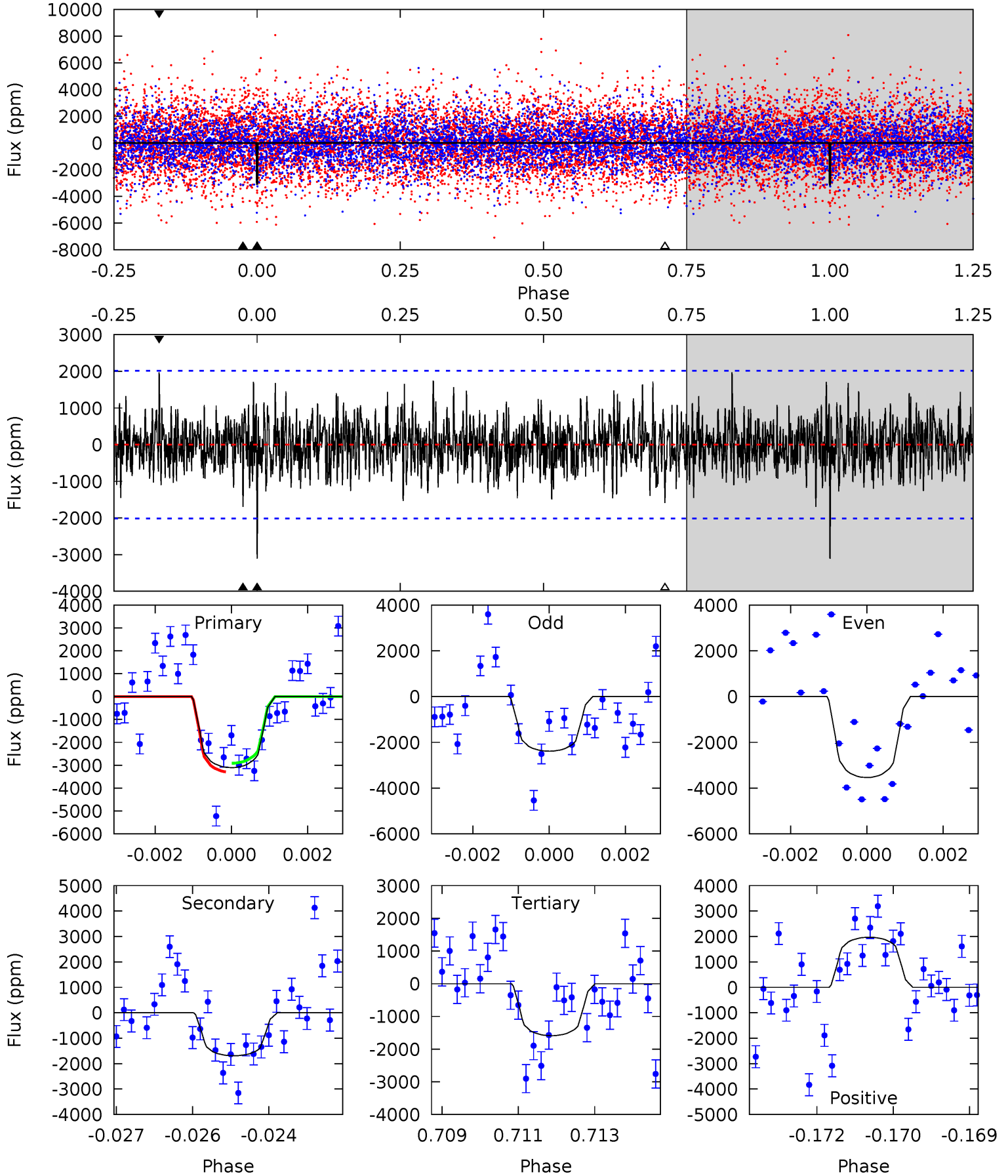
TCE 005872972-02 P= 79.082866 Days $T_0=154.893597$ (BKJD)



DV Model-Shift Uniqueness Test

005872972-02, P = 79.082991 Days, E = 75.776620 Days

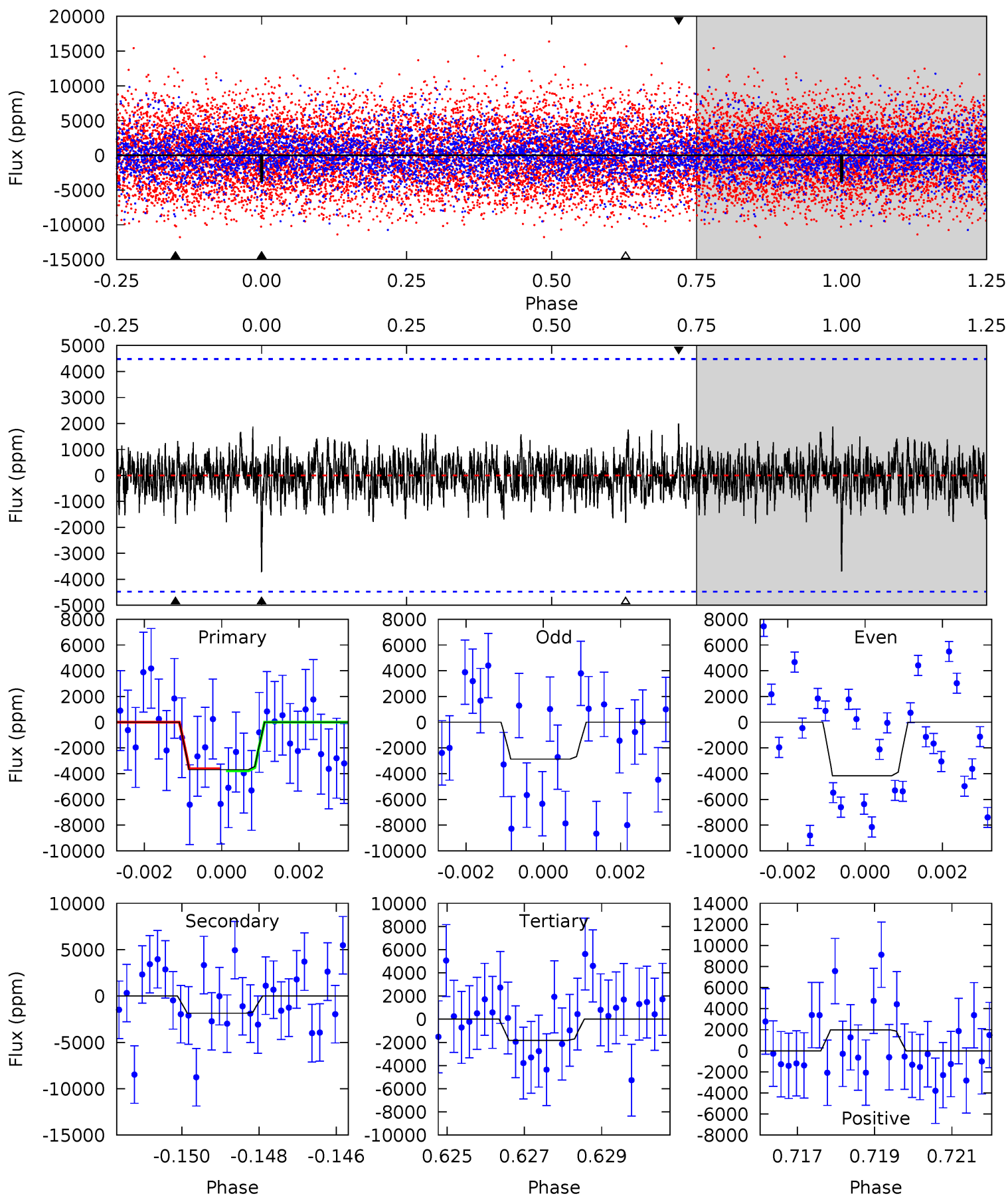
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.24	4.48	4.21	5.22	5.34	3.12	1.43	4.02	3.02	0.27	-0.74	1.48	0.95	0.39	0.50



Alt Model-Shift Uniqueness Test

005872972-02, P = 79.082866 Days, E = 75.810731 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.38	2.21	2.17	2.37	5.32	3.08	0.68	2.22	2.01	0.04	-0.17	0.74	1.28	0.35	0.10



Stellar Parameters For KIC 005872972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7698^{+239}_{-319}	$3.680^{+0.468}_{-0.055}$	$-0.240^{+0.200}_{-0.300}$	$3.375^{+0.315}_{-1.679}$	$1.990^{+0.111}_{-0.553}$	$0.073^{+0.361}_{-0.014}$
	+3%/-4%	+13%/-1%	+83%/-125%	+9%/-50%	+6%/-28%	+495%/-19%
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 005872972-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1690 ± 377	$21.07^{+19.63}_{-14.28}$	1249^{+82}_{-157}	5936^{+5940}_{-1411}	423^{+3601}_{-312}
Alt.	-1856 ± 841	$23.79^{+19.27}_{-15.12}$	1244^{+89}_{-158}	5772^{+4010}_{-1451}	370^{+2277}_{-281}

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

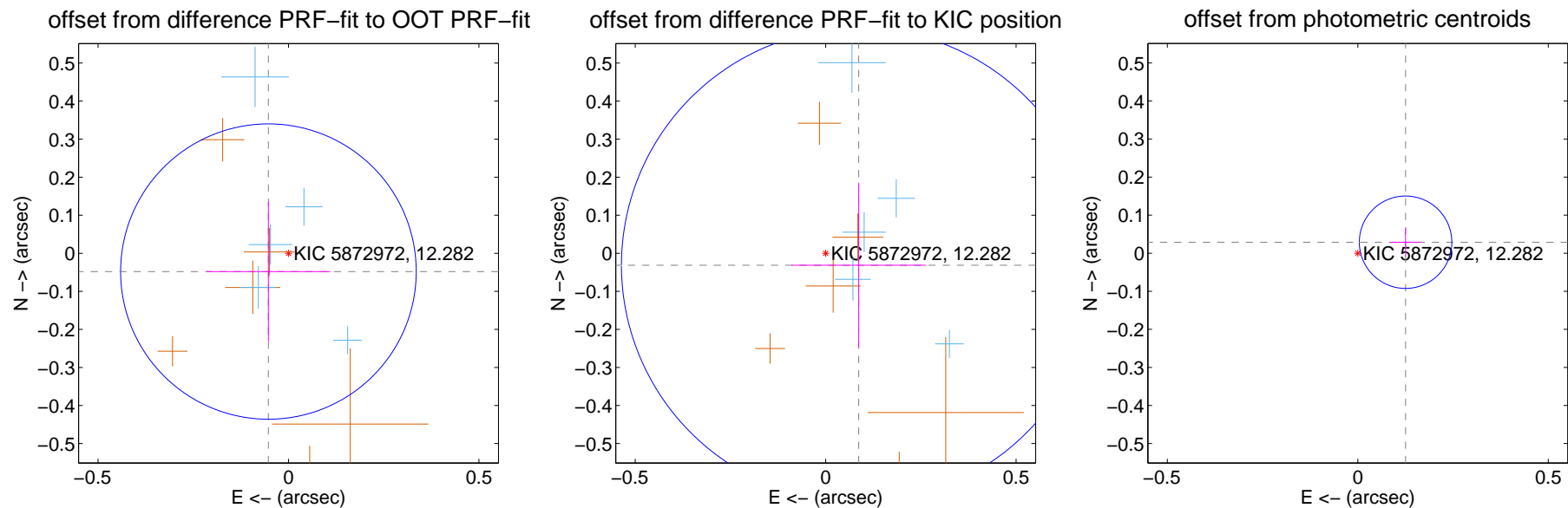
DV Centroid Data

Supplemental centroid analysis for 005872972-02. Kepler magnitude: 12.28. Transit SNR 10.23

There are 9 quarters with good PRF difference image offsets

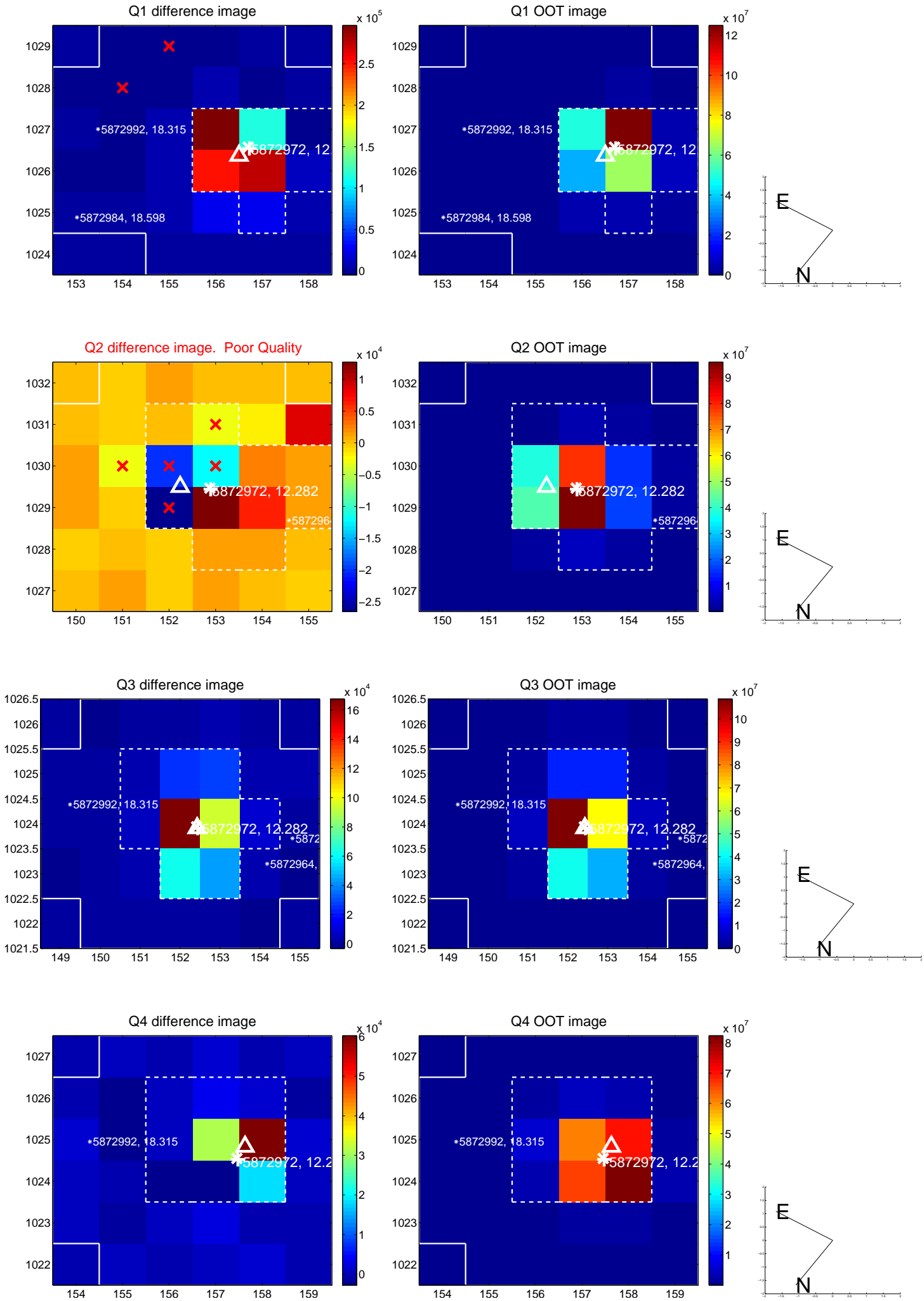
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.071 ± 0.129	0.55	0.053 ± 0.163	-0.048 ± 0.183
PRF-fit source offset from KIC position	0.092 ± 0.208	0.44	-0.087 ± 0.176	-0.031 ± 0.217
photometric centroid source offset	0.13 ± 0.04	3.18	-0.13 ± 0.04	0.03 ± 0.04

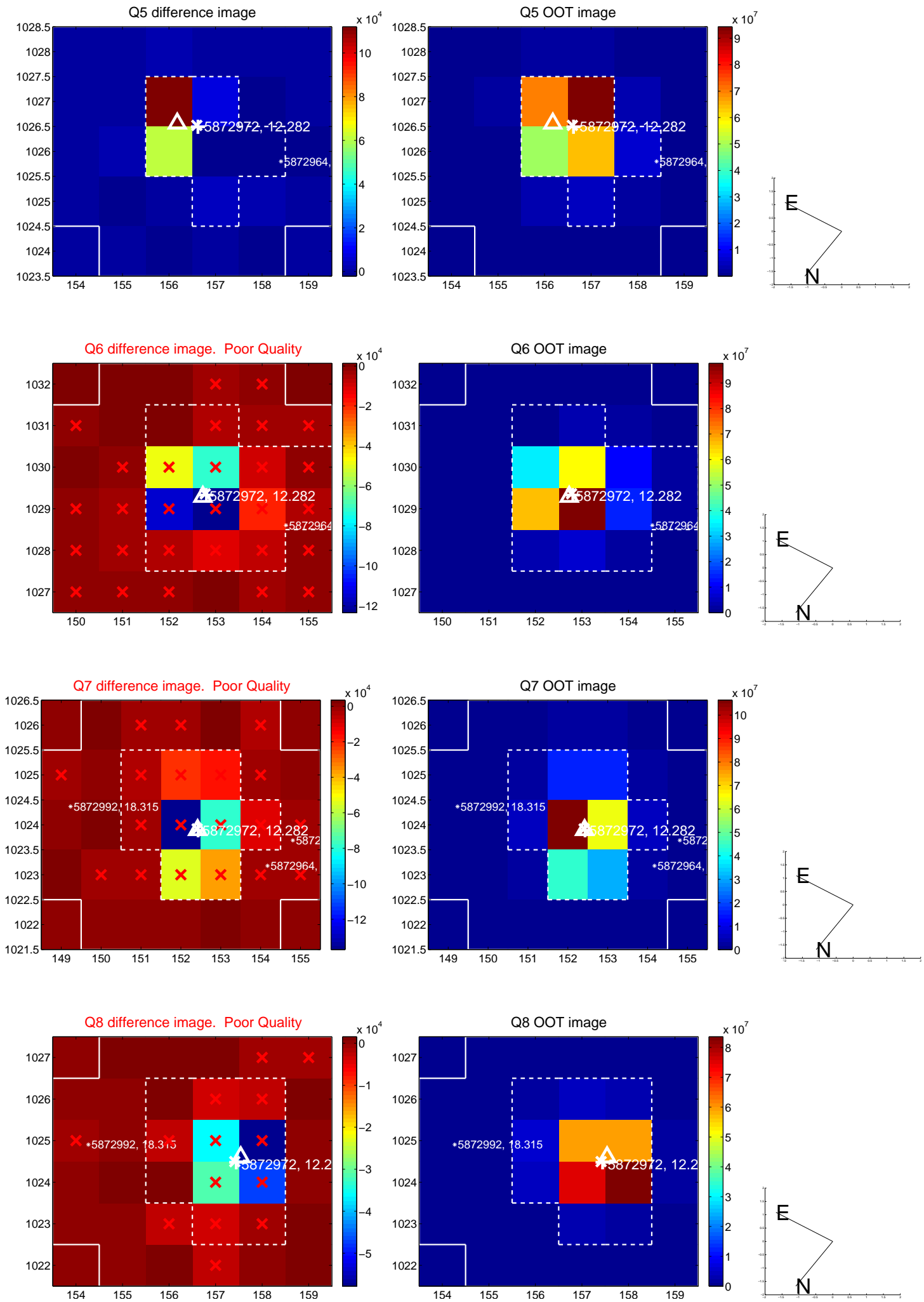


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

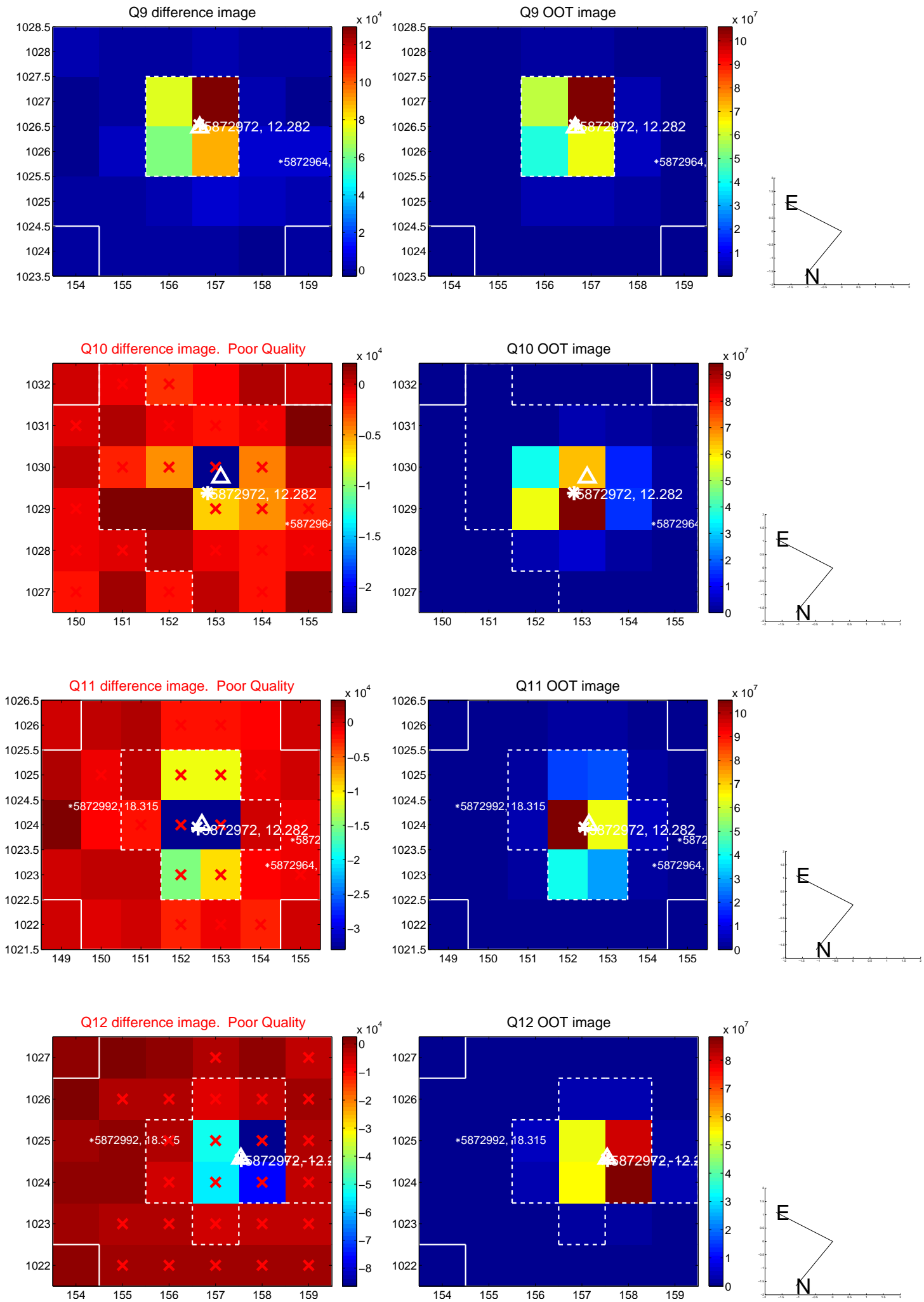
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



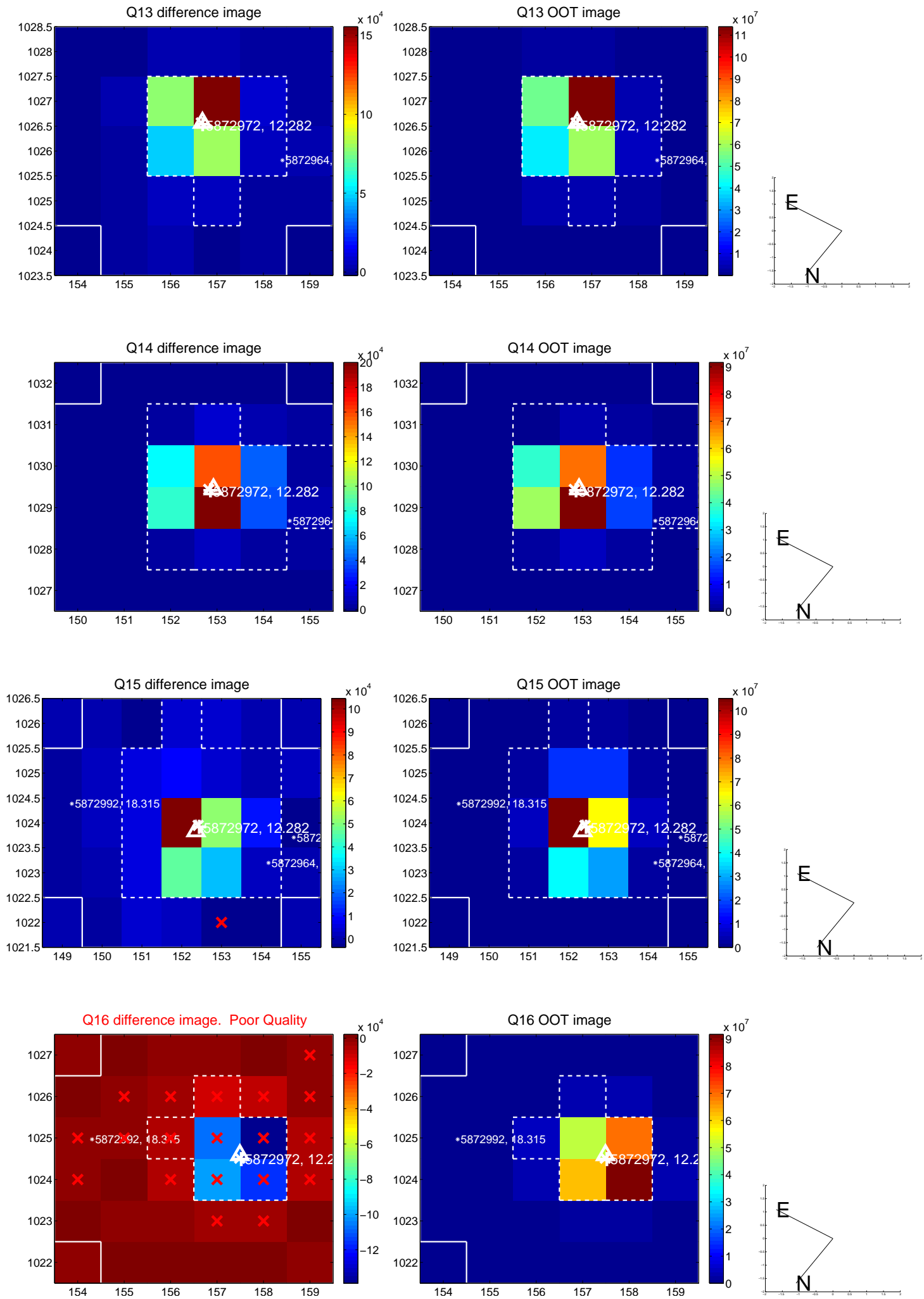
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



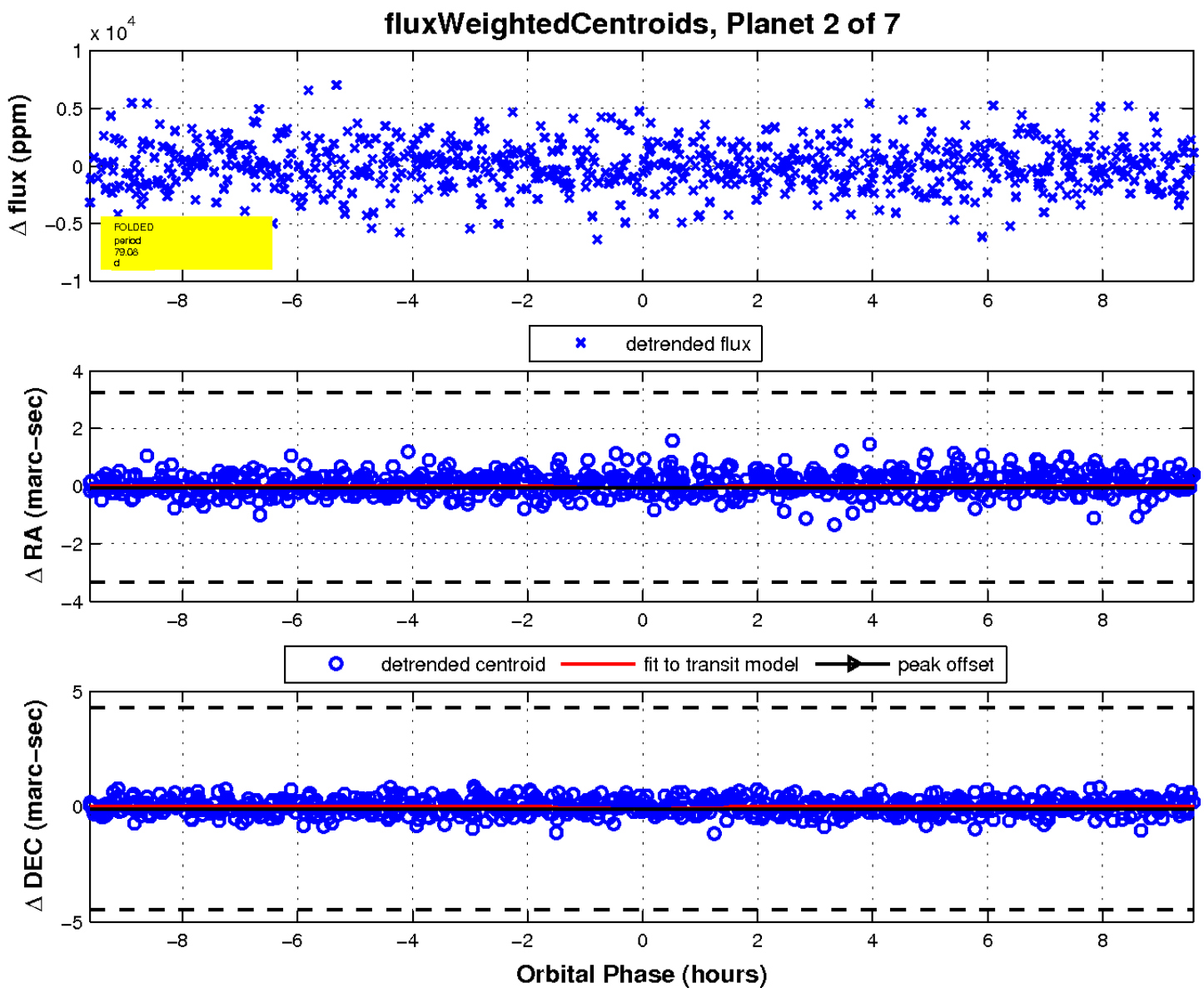
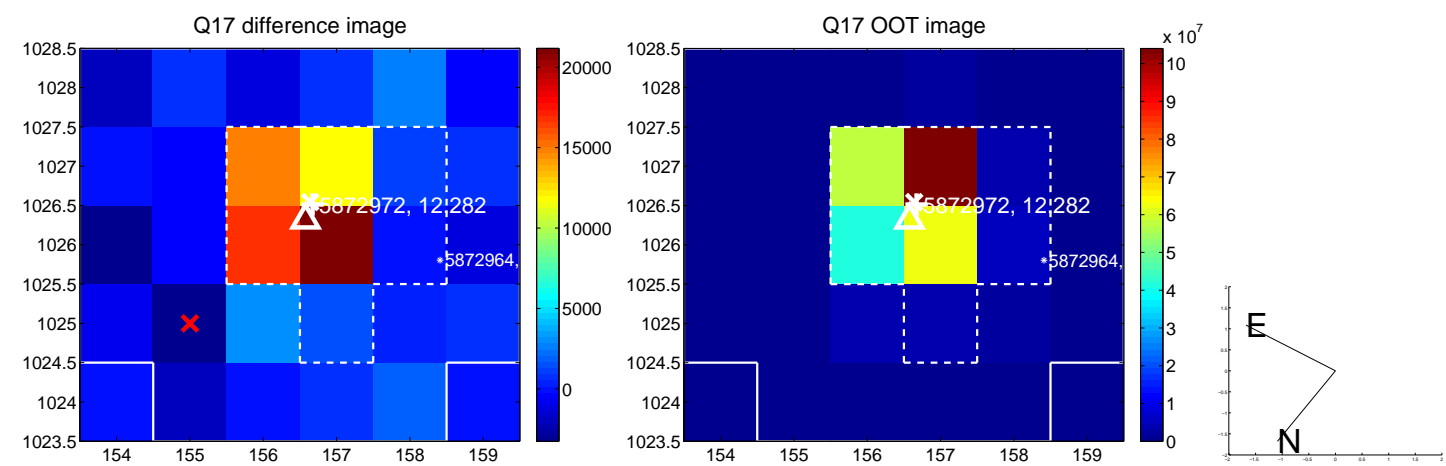
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

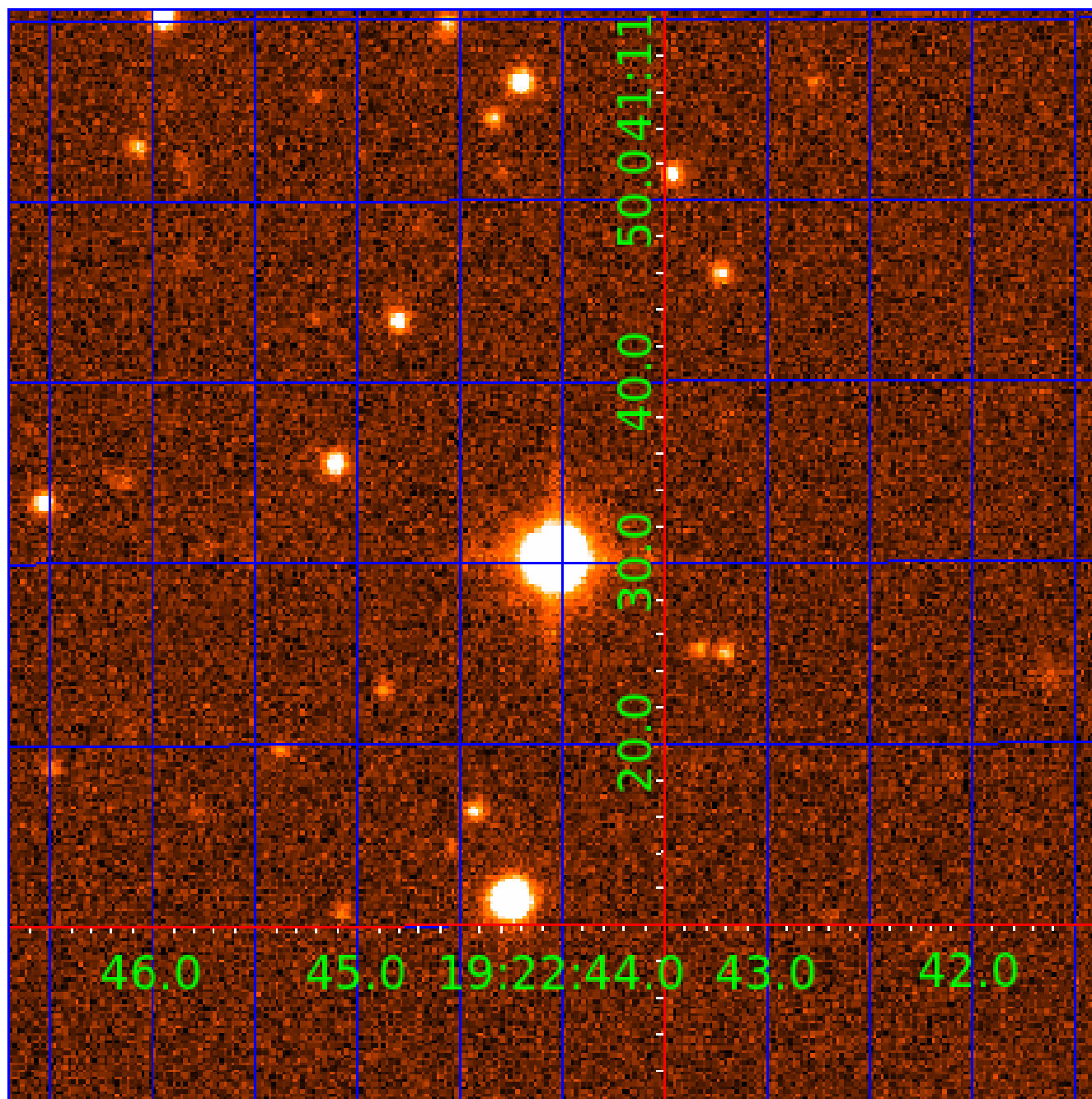


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005872972

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})
005872972-01	OBS	No	1.212695	132.393302	127.8	7.987	10.1	9.0	3.38	7698	3.84	45735.48
005872972-02	OBS	No	79.082991	154.859611	2783.8	3.213	9.8	10.2	3.38	7698	17.92	174.24
005872972-03	OBS	No	19.940860	150.055838	1359.3	2.933	9.7	8.6	3.38	7698	12.67	1093.78
005872972-04	OBS	No	79.391727	197.232691	3435.2	1.945	8.8	9.3	3.38	7698	21.62	173.34
005872972-05	OBS	No	29.214265	132.921783	2834.7	1.619	9.0	8.8	3.38	7698	19.36	657.35
005872972-06	OBS	No	34.305238	137.624461	1035.5	7.640	8.1	7.9	3.38	7698	11.30	530.61
005872972-07	OBS	No	8.941798	139.718474	110.0	3.500	8.2	-1.0	3.38	7698	3.56	3186.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872972-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005872972-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005872972-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005872972-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

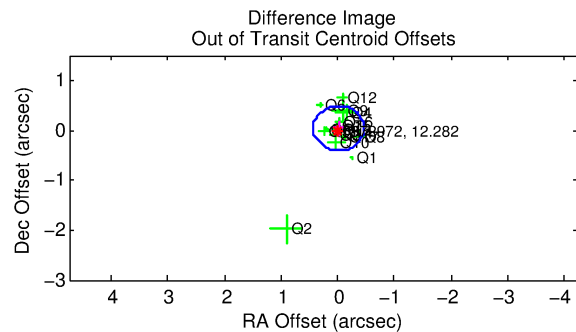
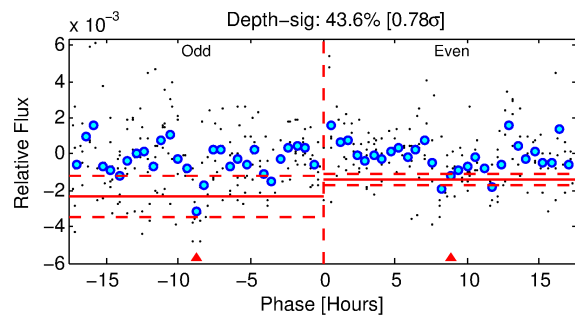
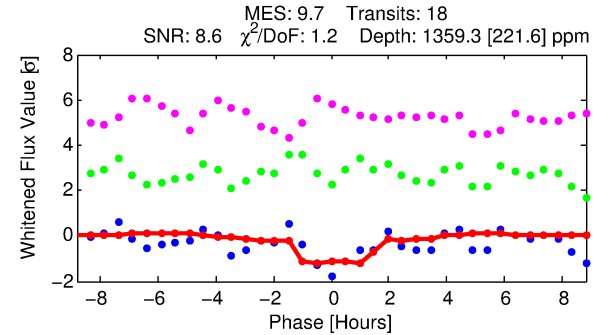
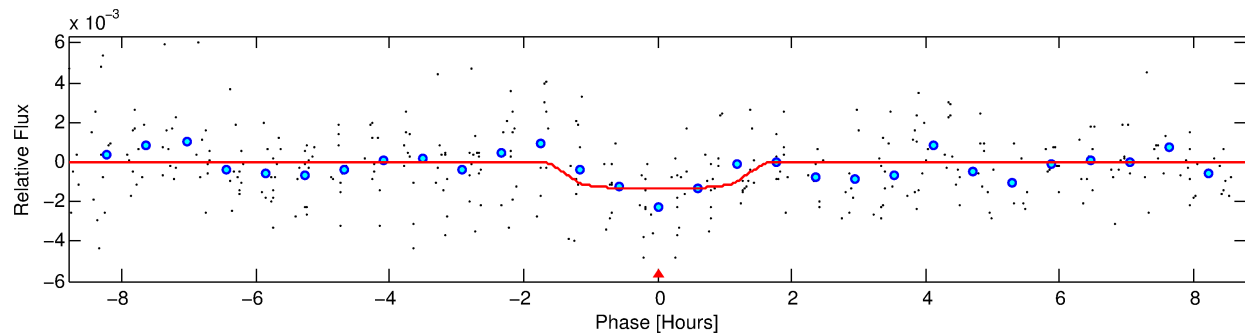
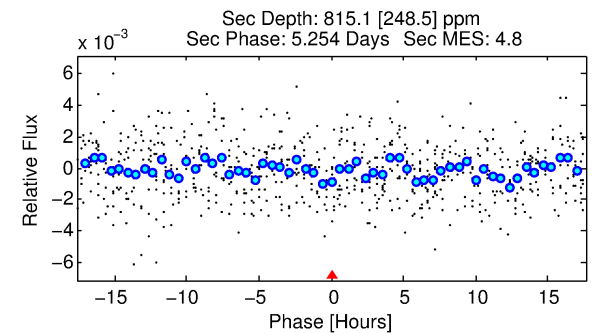
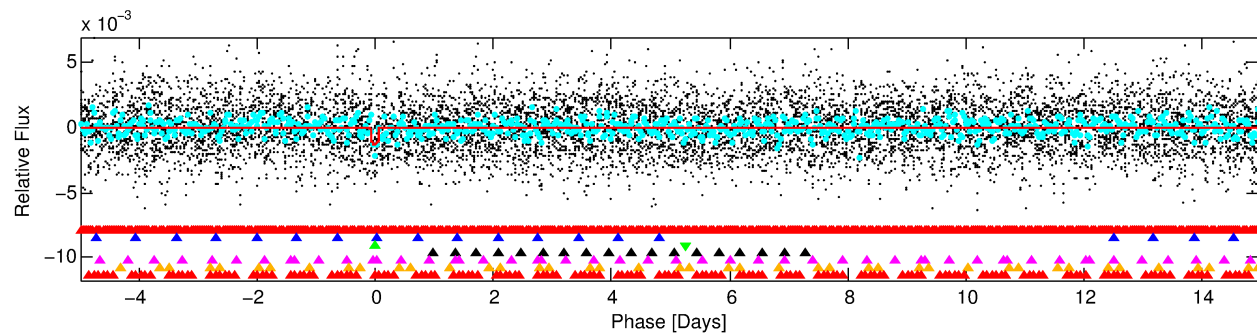
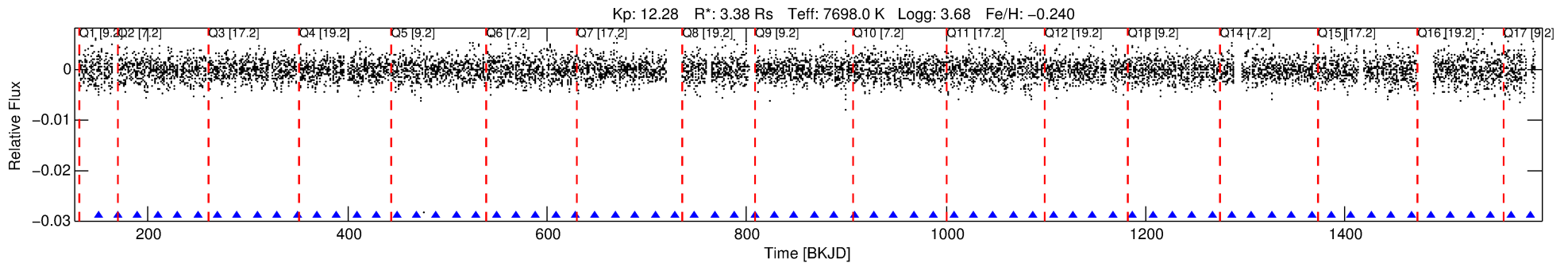
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872972-03

No Significant Match Found

DV One-Page Summary

KIC: 5872972 Candidate: 3 of 7 Period: 19.941 d



DV Fit Results:

Period = 19.94086 [0.00021] d
Epoch = 150.0558 [0.0090] BKJD
Rp/R* = 0.0344 [0.0557]
a/R* = 50.17 [420.74]
b = 0.37 [19.69]
Seff = 1093.78 [884.26]
Teff = 1466 [296] K
Rp = 12.67 [21.48] Re
a = 0.1810 [0.0885] AU
Ag = 91.53 [306.62] [0.30σ]
Teffp = 7013 [5714] K [0.97σ]

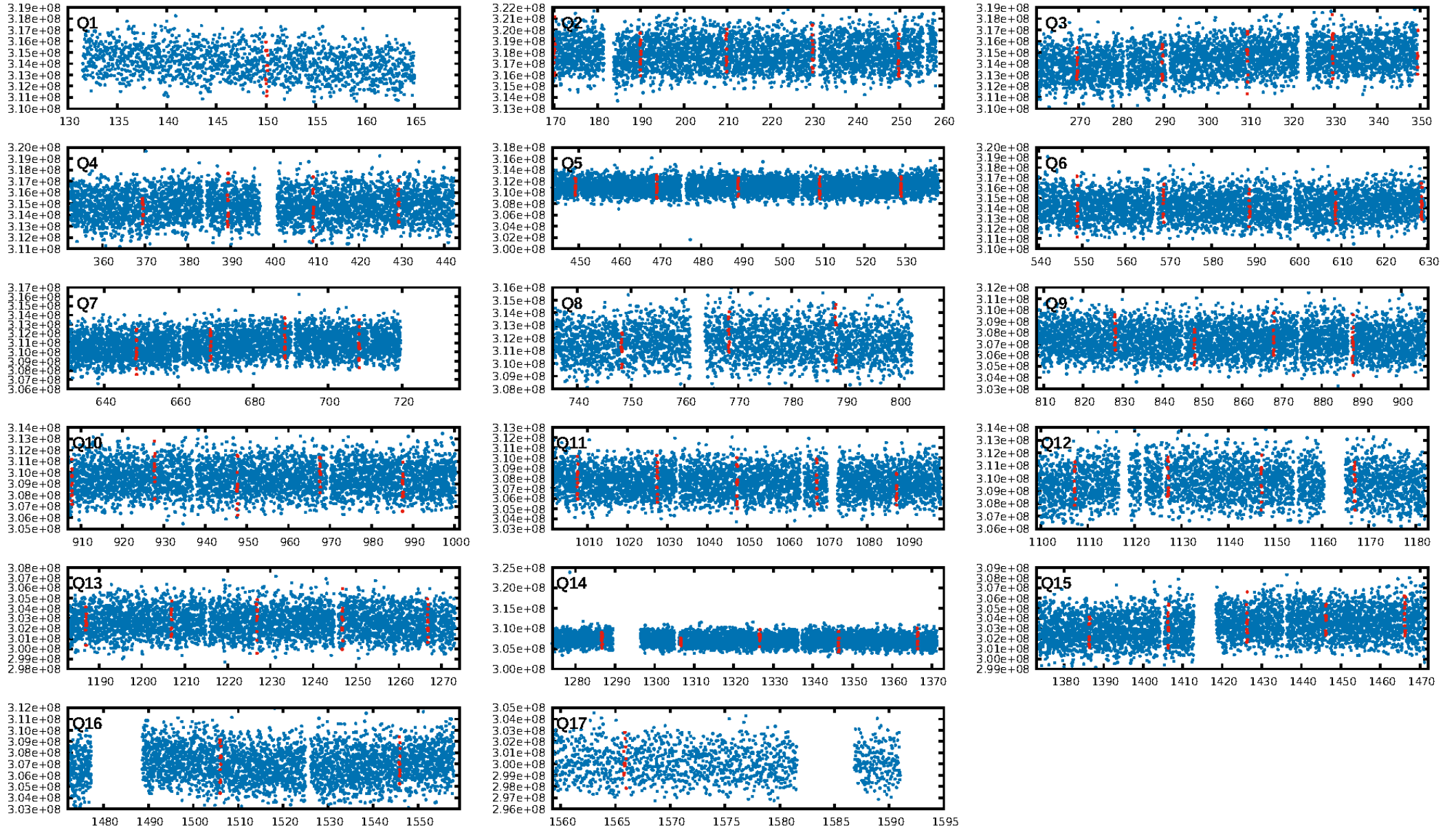
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.81σ]
LongPeriod-sig: 100.0% [66.43σ]
ModelChiSquare2-sig: 10.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [17/17]
GhostDiagnostic-chr: -510
Centroid-sig: 1.2%
Centroid-so: 0.148 arcsec [3.34σ]
OotOffset-rm: 0.042 arcsec [0.28σ]
KicOffset-rm: 0.178 arcsec [1.51σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 0.47 [8/17]

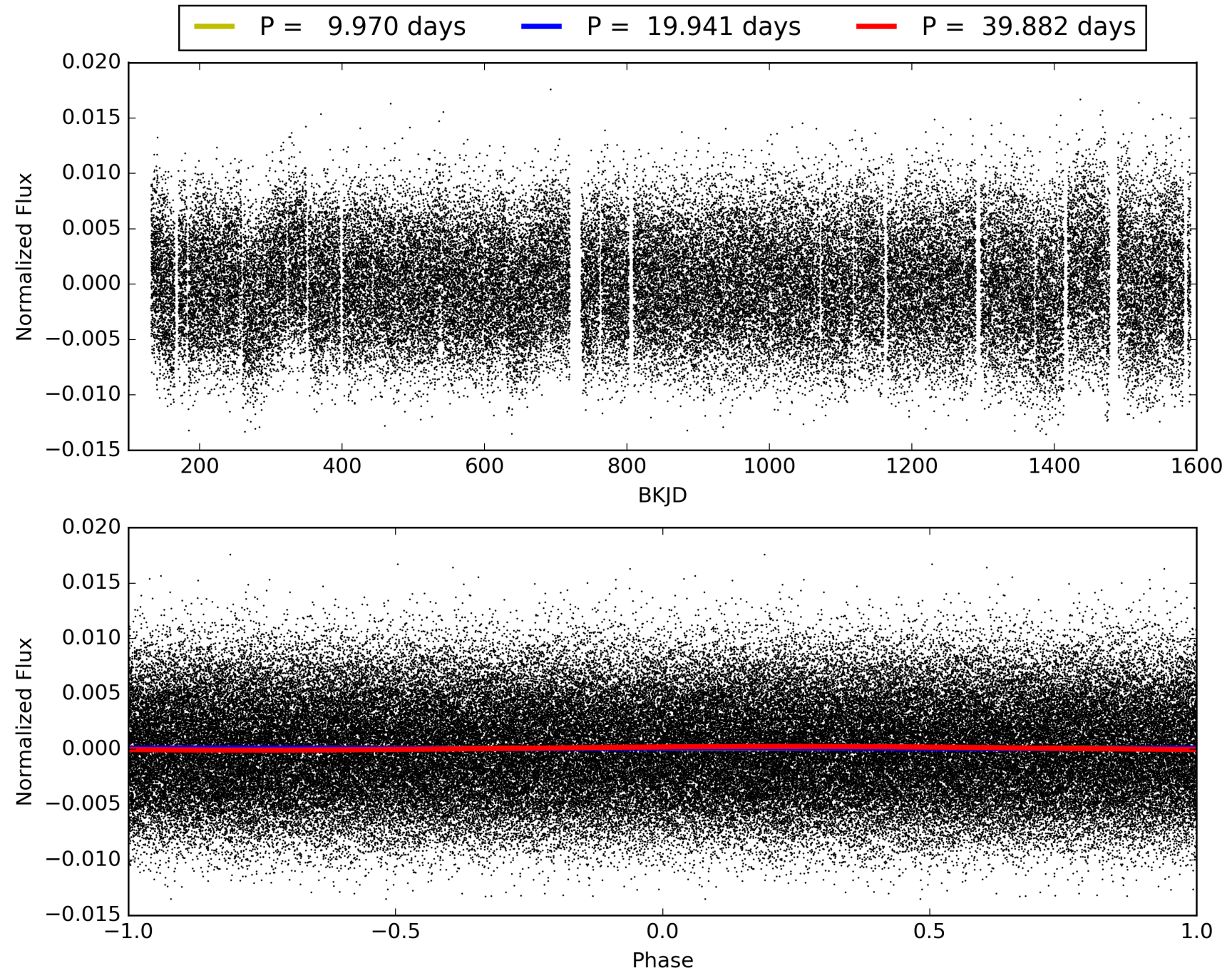
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:08:31 Z

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

TCE 005872972-03, PDC Light Curves

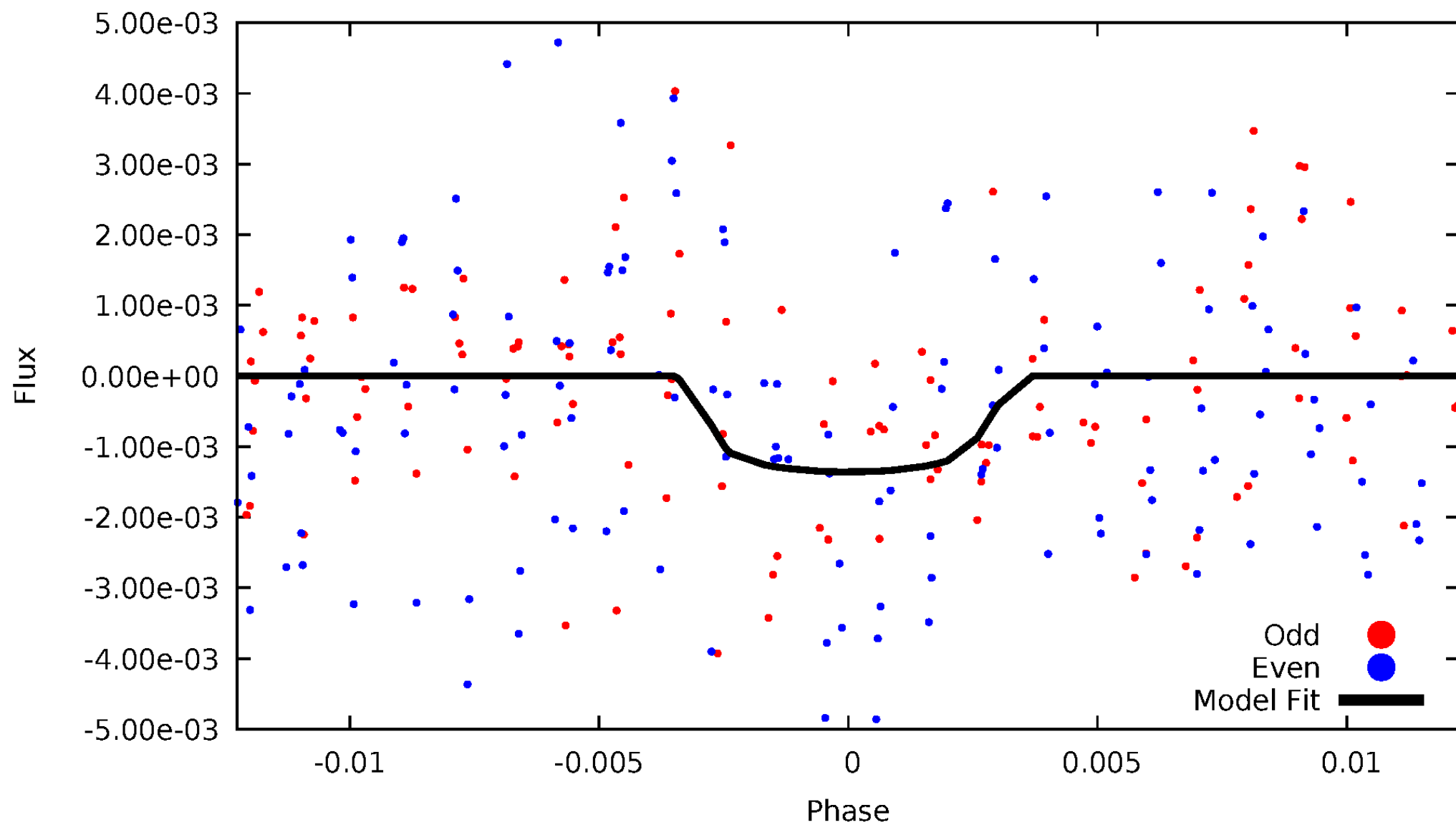


TCE 005872972-03



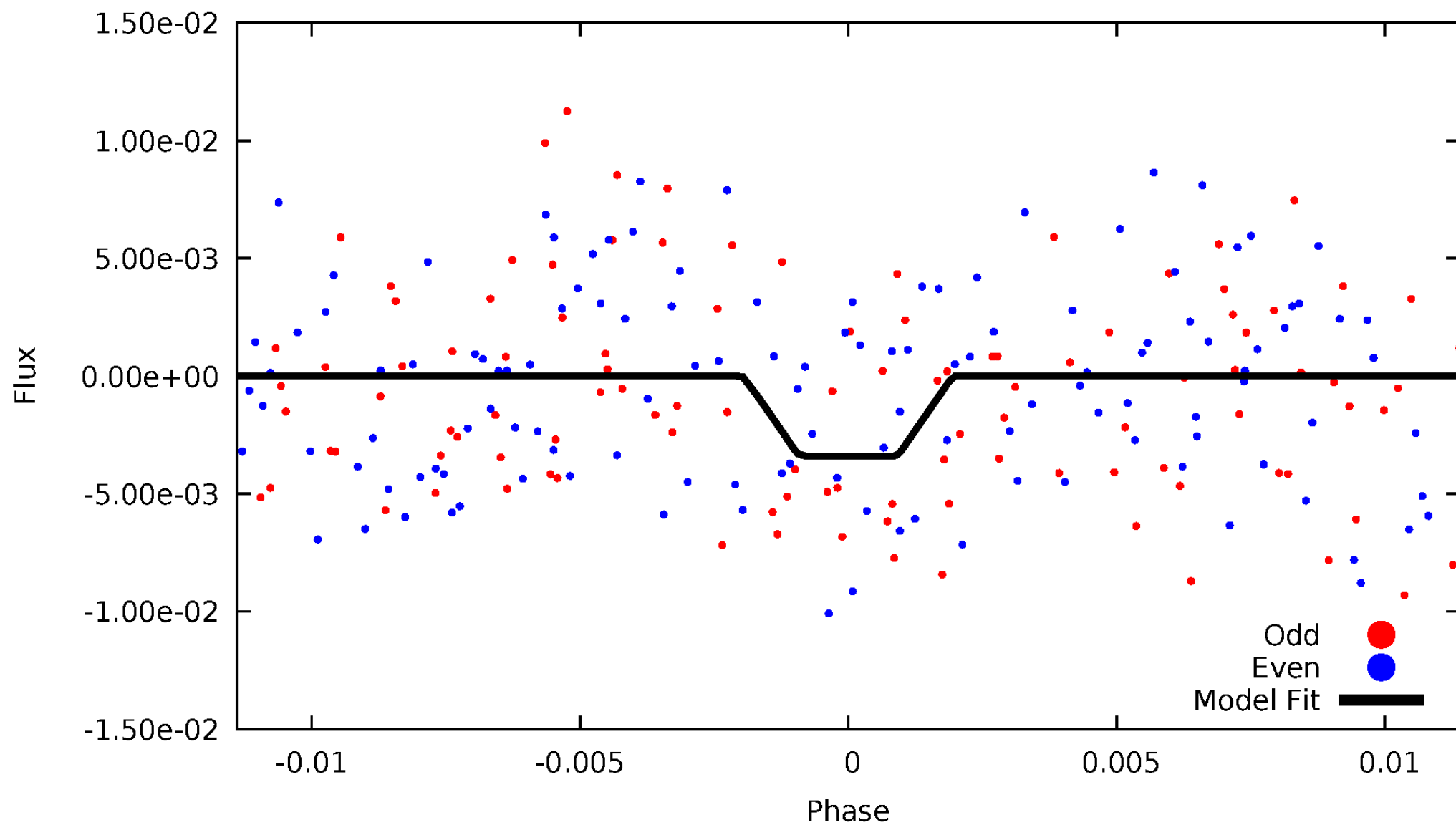
DV Odd/Even

TCE 005872972-03



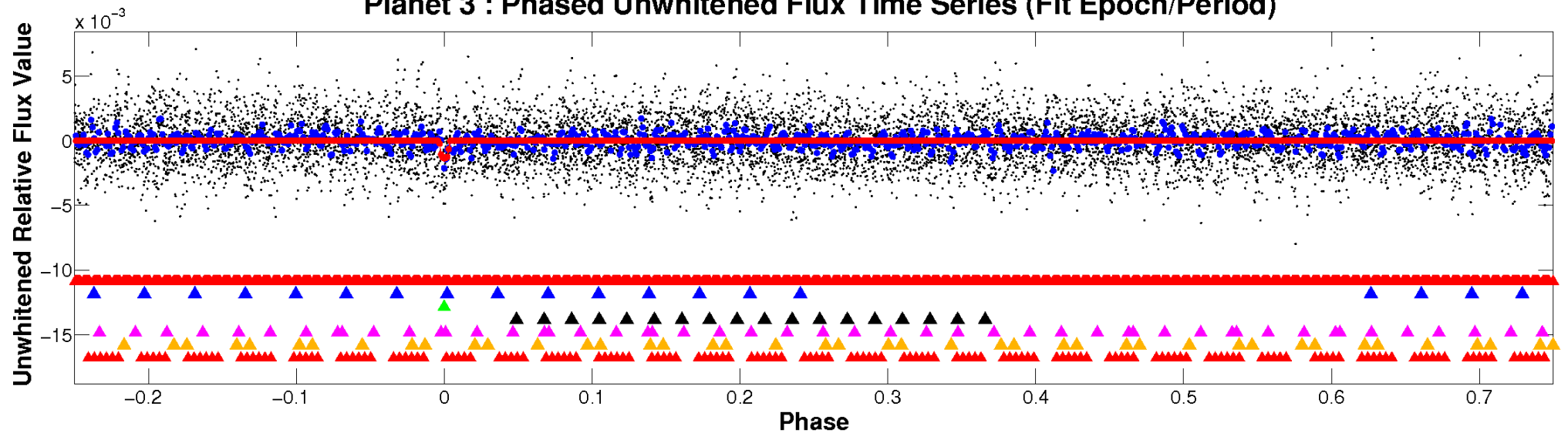
ALT Odd/Even

TCE 005872972-03

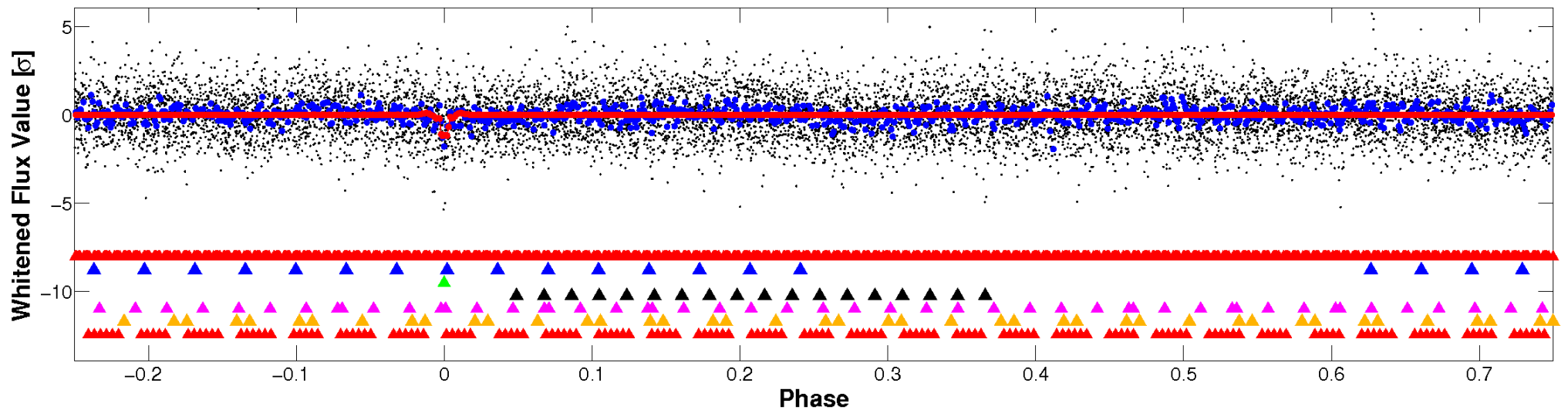


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

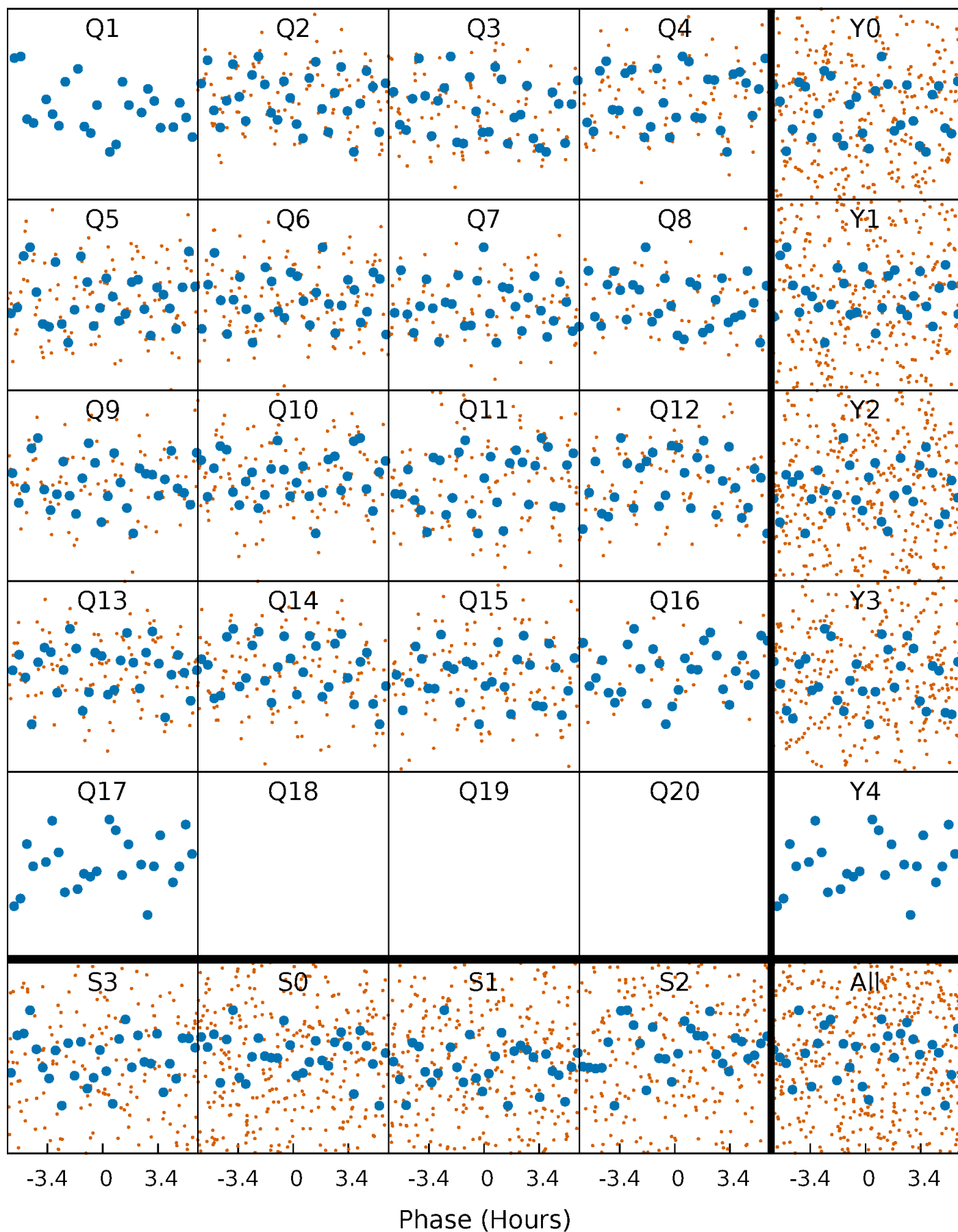


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



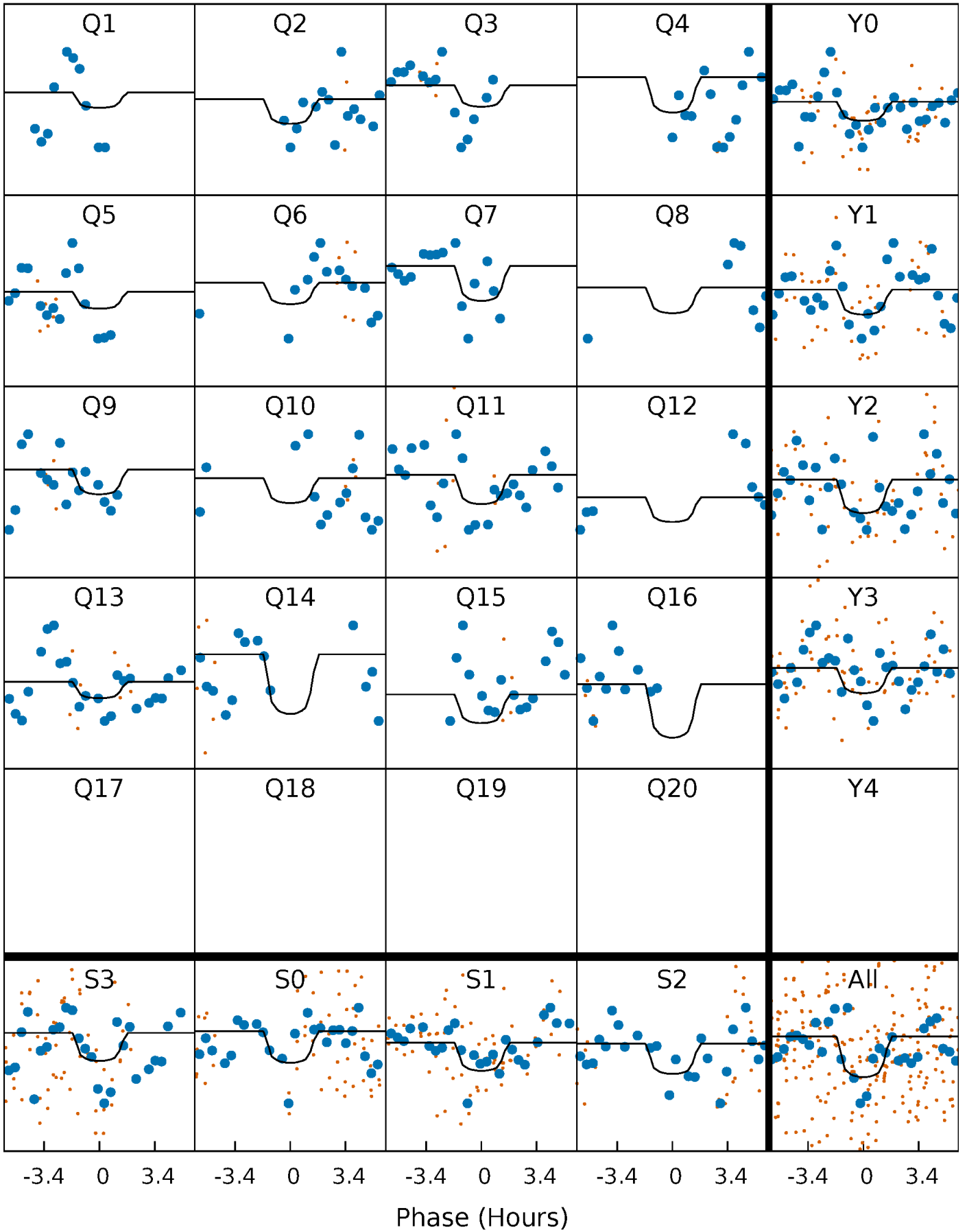
PDC Quarter-Phased Transit Curves

TCE 005872972-03 P= 19.940860 Days $T_0=150.055838$ (BKJD)



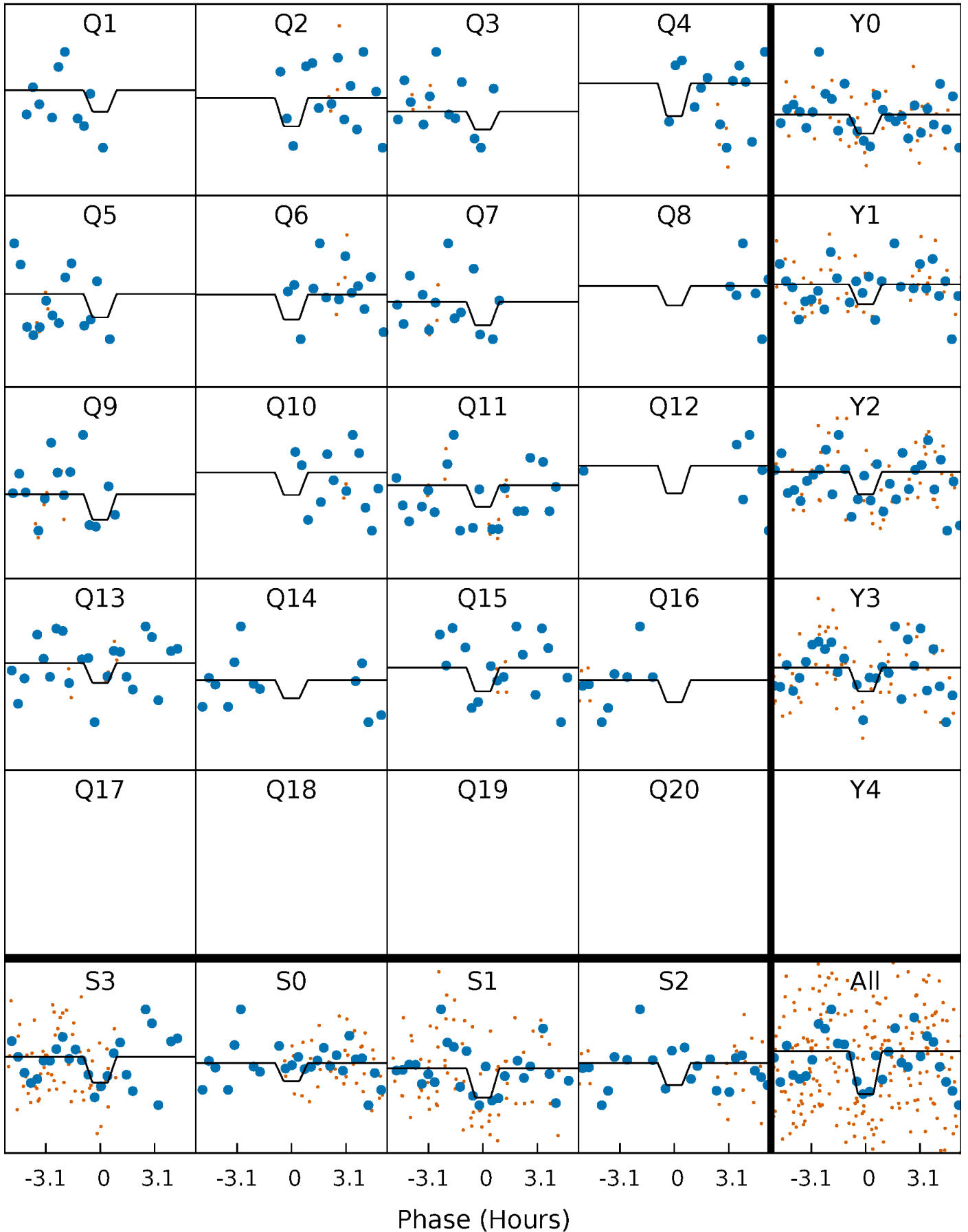
DV Quarter-Phased Transit Curves

TCE 005872972-03 P= 19.940860 Days $T_0=150.055838$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

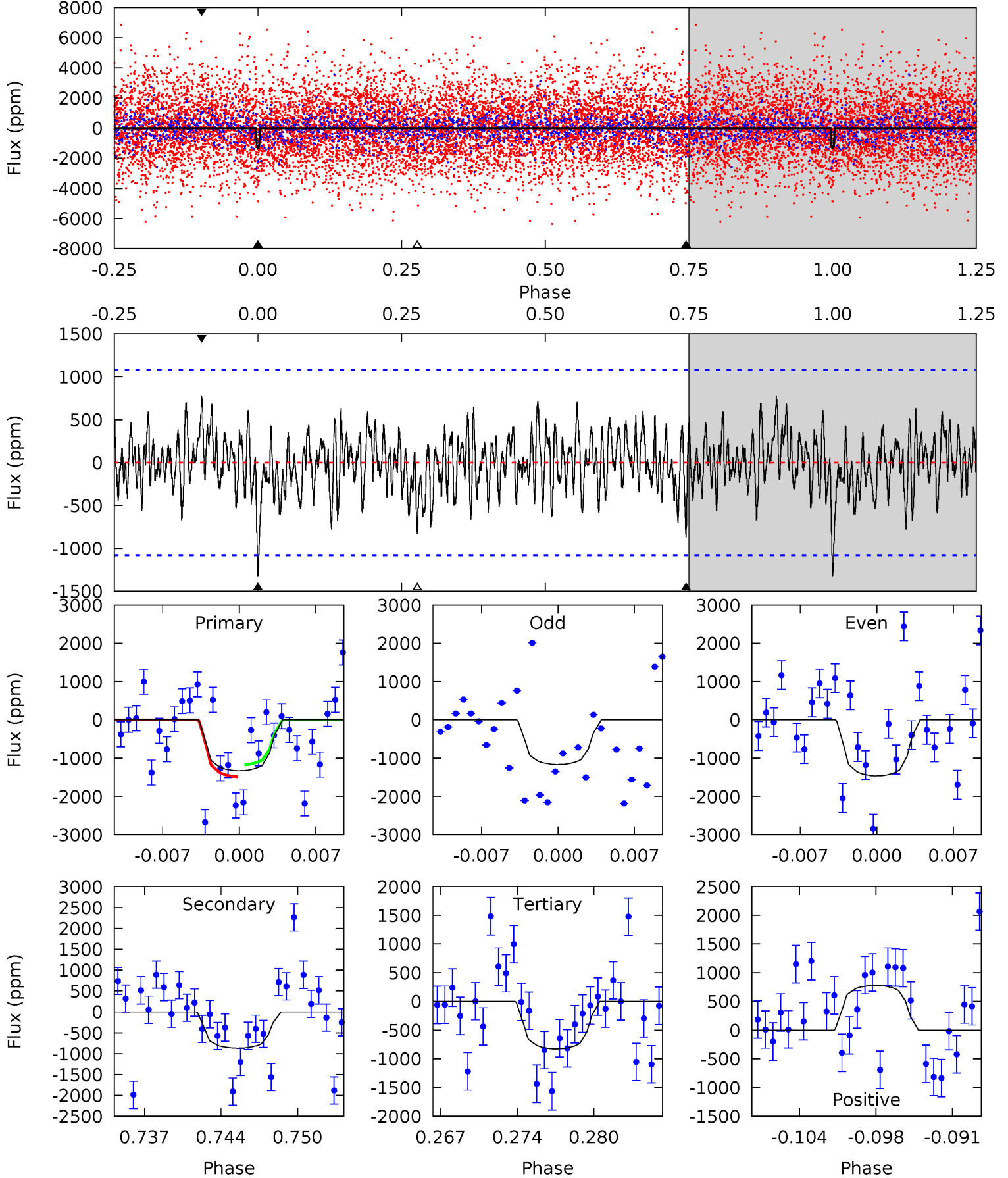
TCE 005872972-03 $P = 19.941056$ Days $T_0 = 150.065386$ (BKJD)



DV Model-Shift Uniqueness Test

005872972-03, P = 19.940860 Days, E = 130.114978 Days

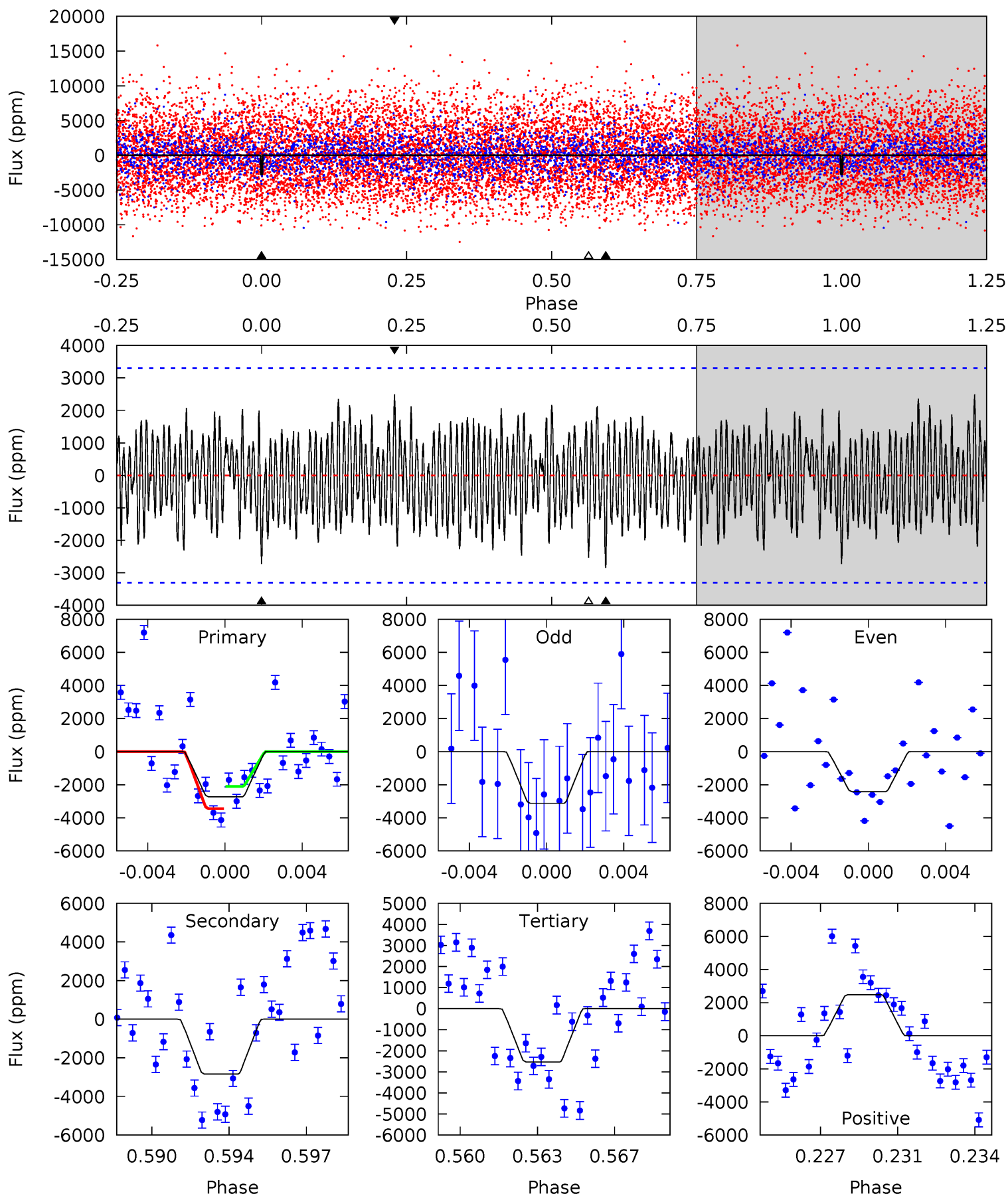
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.29	4.11	3.91	3.69	5.11	2.72	1.35	2.38	2.60	0.20	0.42	0.70	0.66	0.37	0.73



Alt Model-Shift Uniqueness Test

005872972-03, P = 19.941056 Days, E = 130.124330 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.30	4.48	3.99	3.90	5.21	2.90	1.62	0.31	0.40	0.49	0.58	0.56	1.07	0.47	1.04



Stellar Parameters For KIC 005872972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7698^{+239}_{-319}	$3.680^{+0.468}_{-0.055}$	$-0.240^{+0.200}_{-0.300}$	$3.375^{+0.315}_{-1.679}$	$1.990^{+0.111}_{-0.553}$	$0.073^{+0.361}_{-0.014}$
	+3%/-4%	+13%/-1%	+83%/-125%	+9%/-50%	+6%/-28%	+495%/-19%
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 005872972-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-870 ± 212	$16.85^{+15.61}_{-11.33}$	1961^{+141}_{-227}	5604^{+4980}_{-1294}	52^{+448}_{-38}
Alt.	-2840 ± 634	$21.84^{+17.26}_{-13.74}$	1975^{+129}_{-236}	6621^{+6530}_{-1562}	102^{+681}_{-70}

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

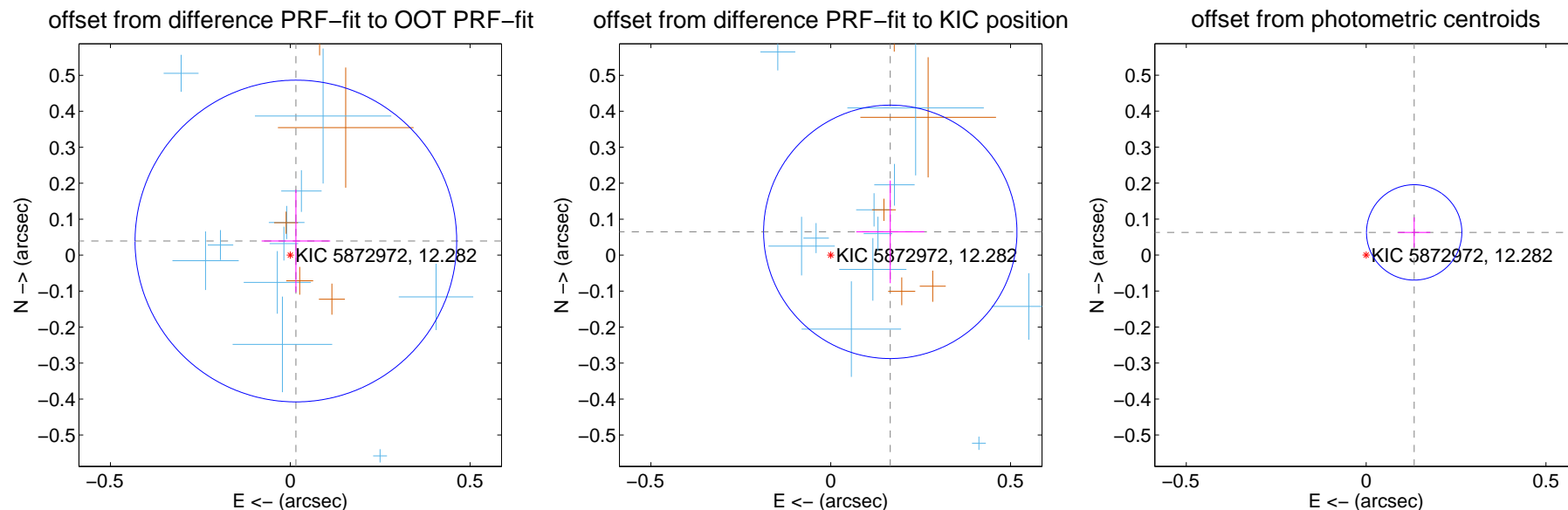
DV Centroid Data

Supplemental centroid analysis for 005872972-03. Kepler magnitude: 12.28. Transit SNR 8.64

There are 12 quarters with good PRF difference image offsets

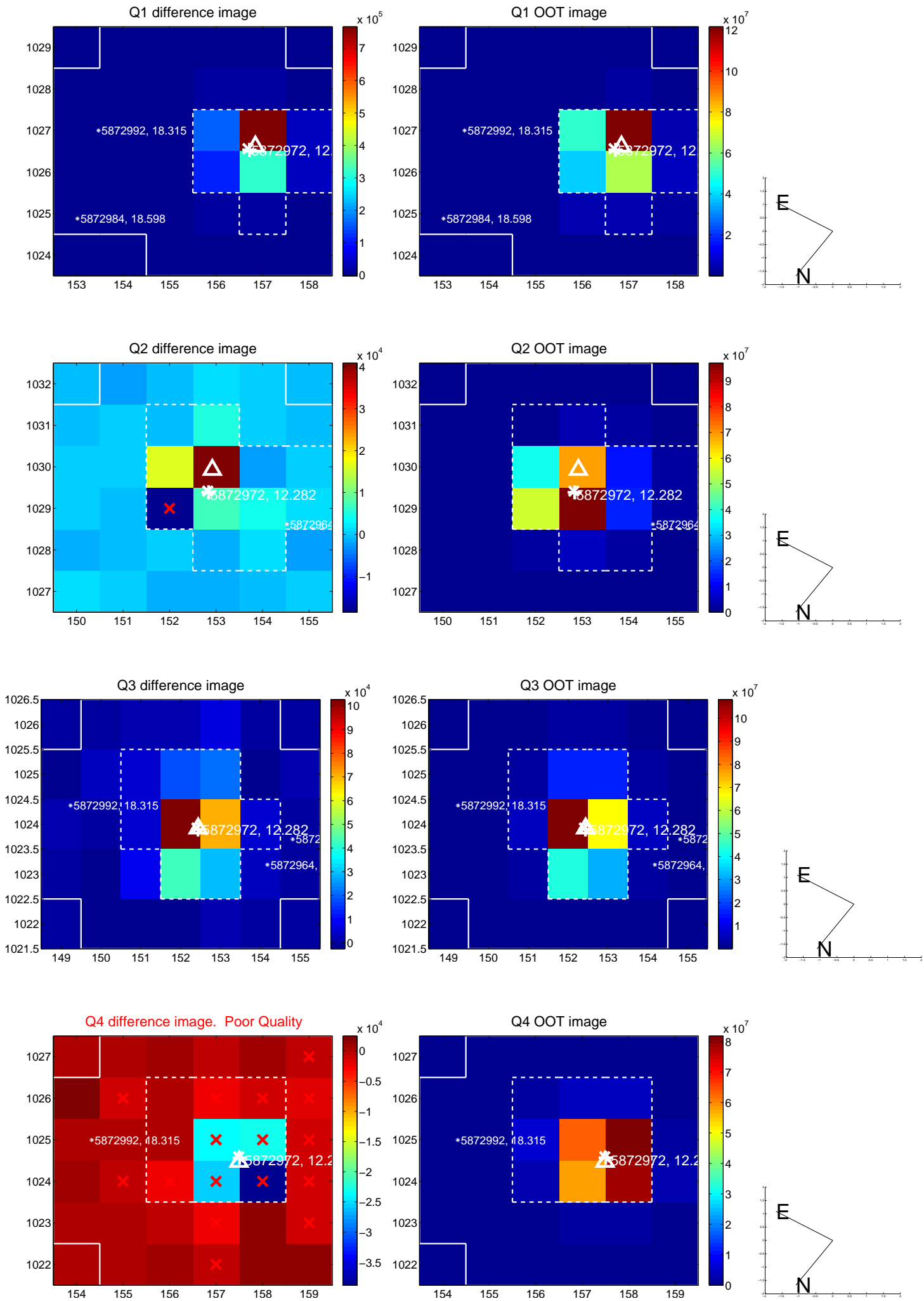
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.149	0.28	-0.016 ± 0.095	0.039 ± 0.142
PRF-fit source offset from KIC position	0.178 ± 0.117	1.51	-0.166 ± 0.095	0.065 ± 0.143
photometric centroid source offset	0.15 ± 0.04	3.34	-0.13 ± 0.04	0.06 ± 0.04

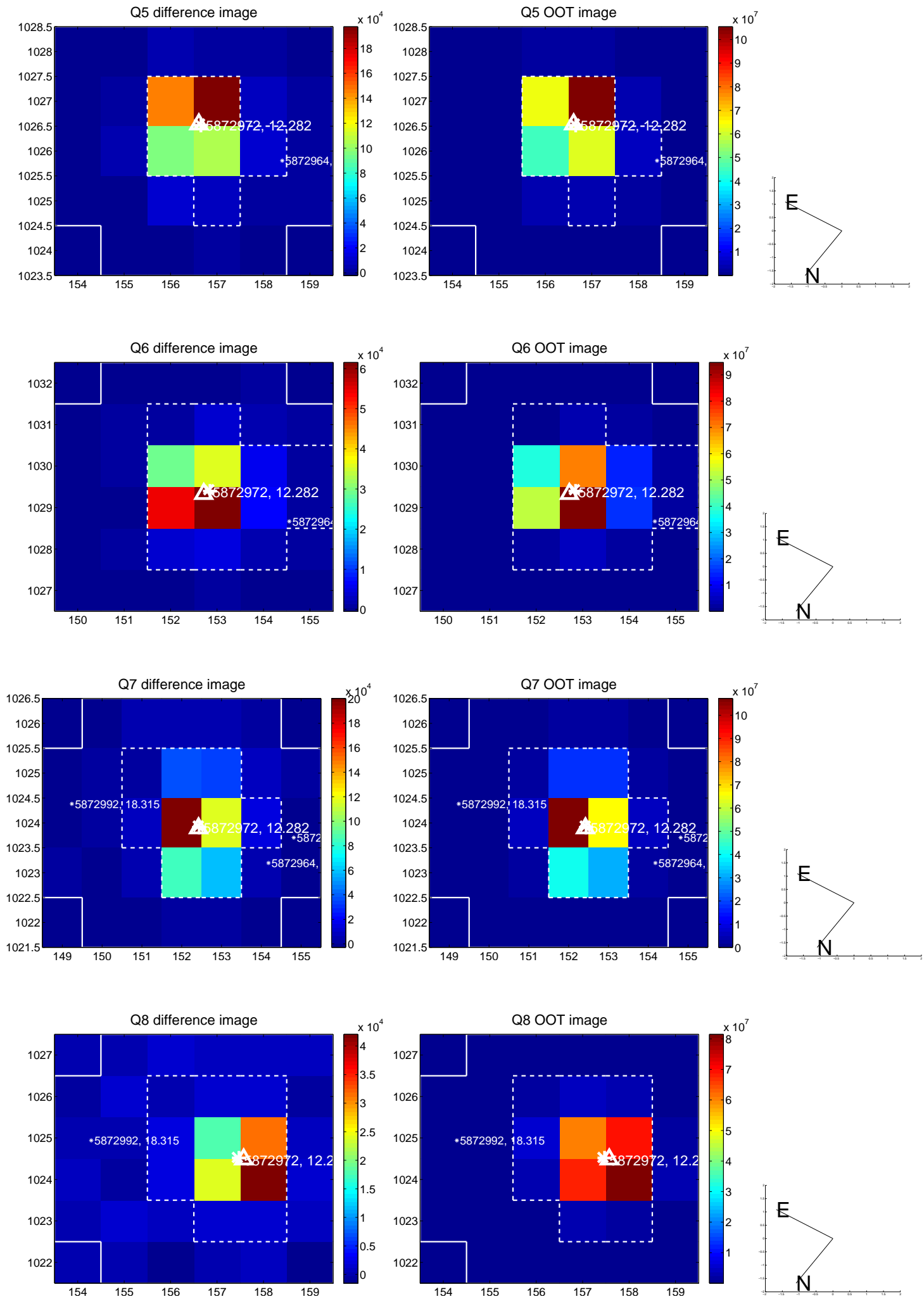


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

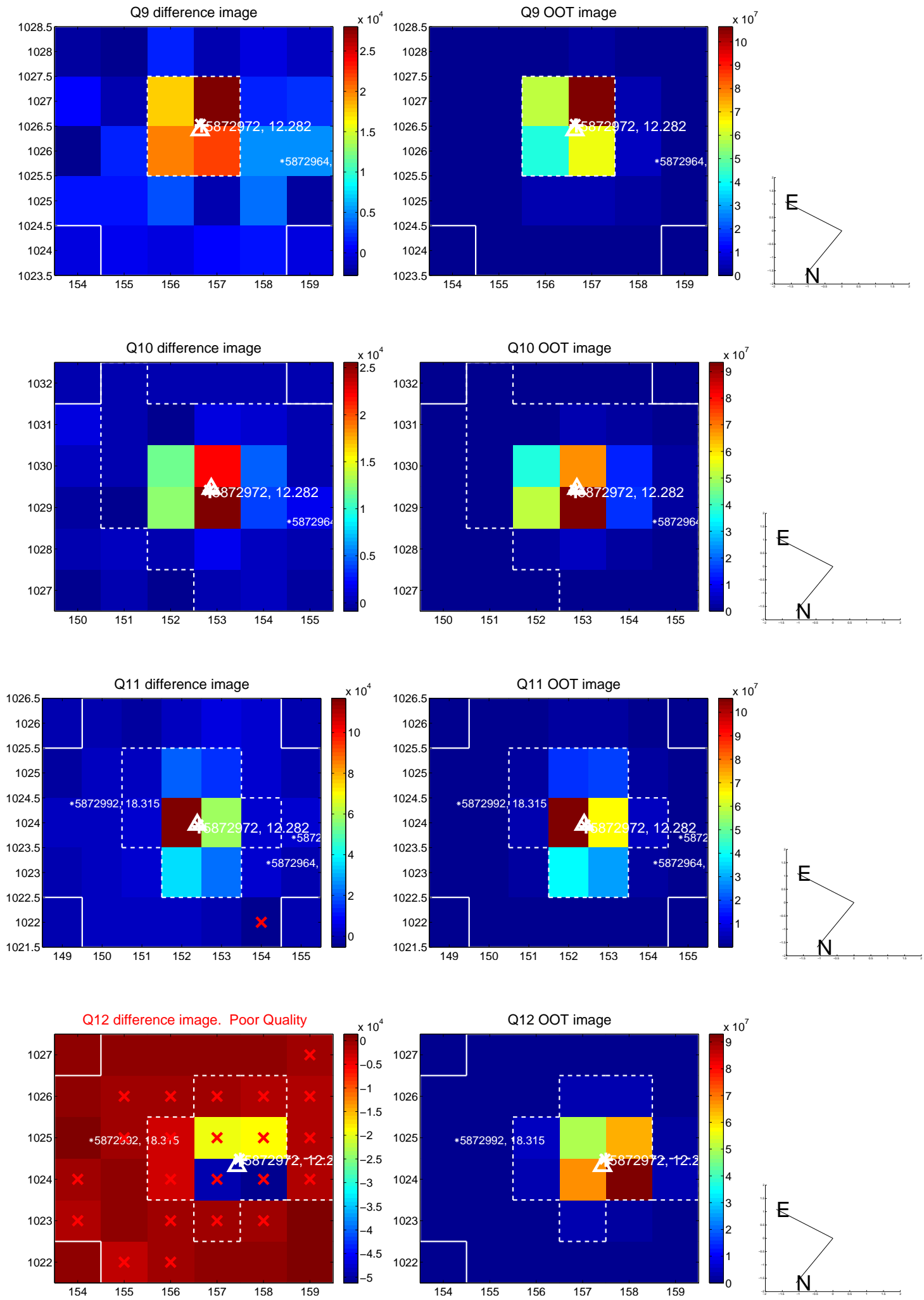
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



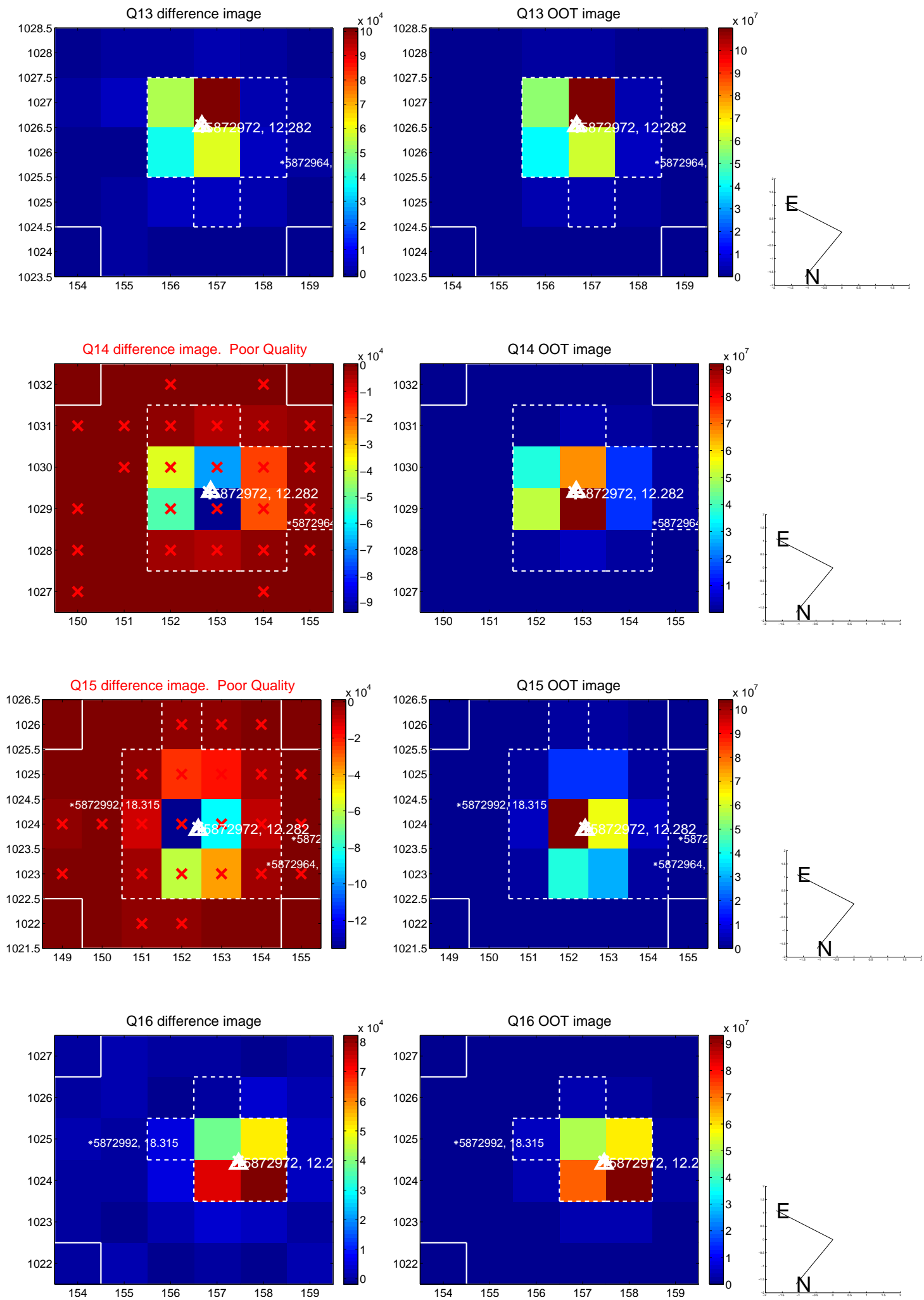
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



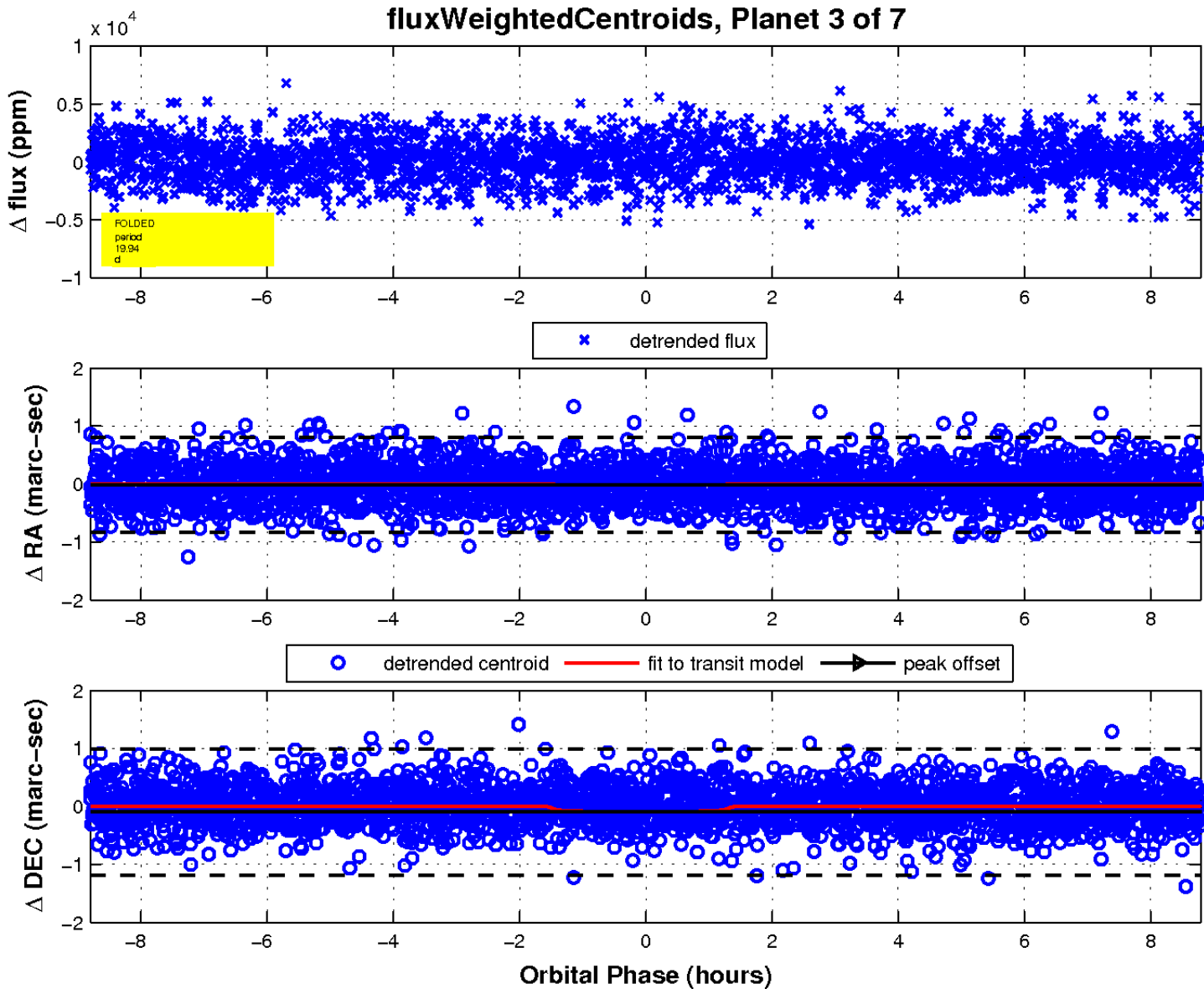
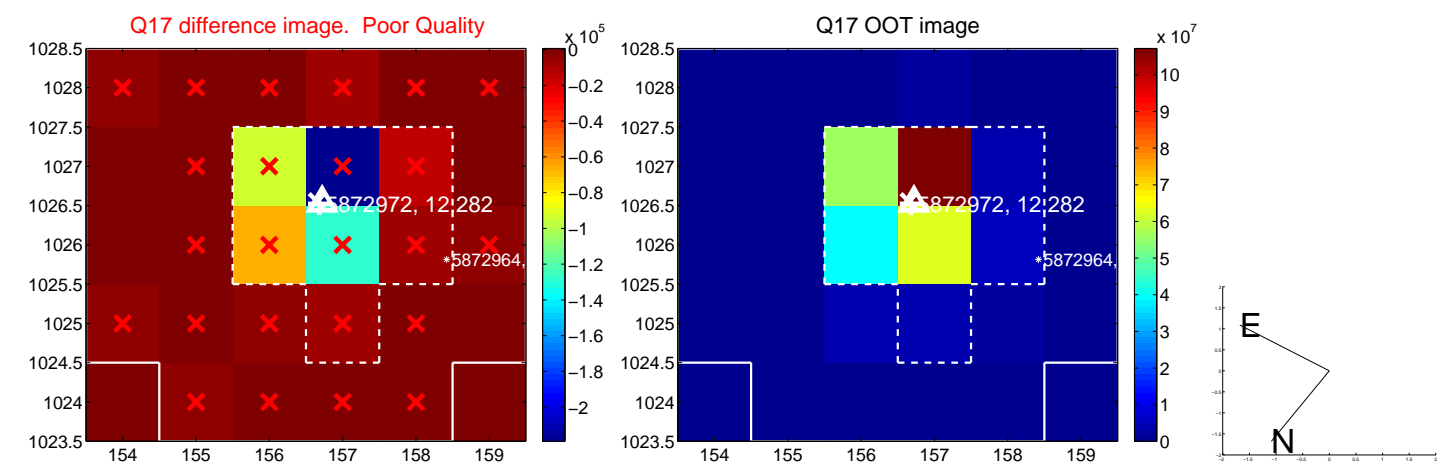
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

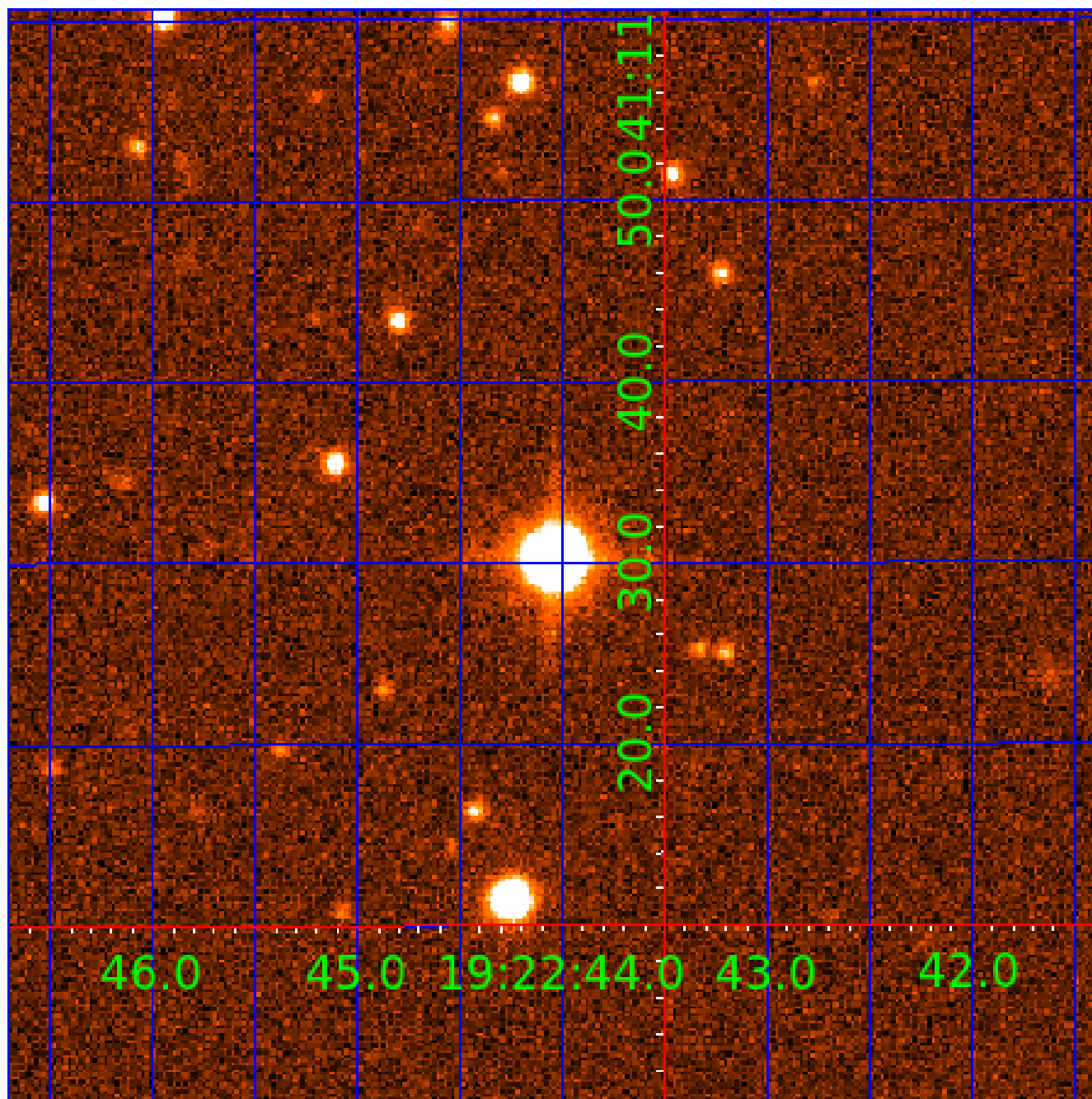


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005872972

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})
005872972-01	OBS	No	1.212695	132.393302	127.8	7.987	10.1	9.0	3.38	7698	3.84	45735.48
005872972-02	OBS	No	79.082991	154.859611	2783.8	3.213	9.8	10.2	3.38	7698	17.92	174.24
005872972-03	OBS	No	19.940860	150.055838	1359.3	2.933	9.7	8.6	3.38	7698	12.67	1093.78
005872972-04	OBS	No	79.391727	197.232691	3435.2	1.945	8.8	9.3	3.38	7698	21.62	173.34
005872972-05	OBS	No	29.214265	132.921783	2834.7	1.619	9.0	8.8	3.38	7698	19.36	657.35
005872972-06	OBS	No	34.305238	137.624461	1035.5	7.640	8.1	7.9	3.38	7698	11.30	530.61
005872972-07	OBS	No	8.941798	139.718474	110.0	3.500	8.2	-1.0	3.38	7698	3.56	3186.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872972-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005872972-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005872972-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005872972-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

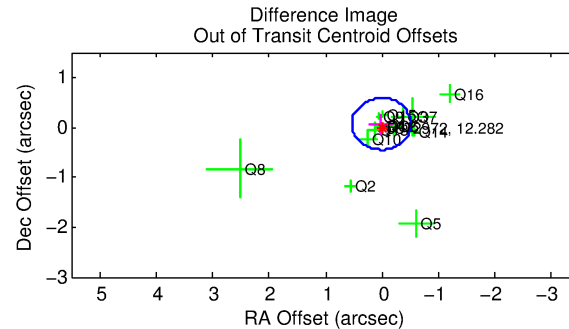
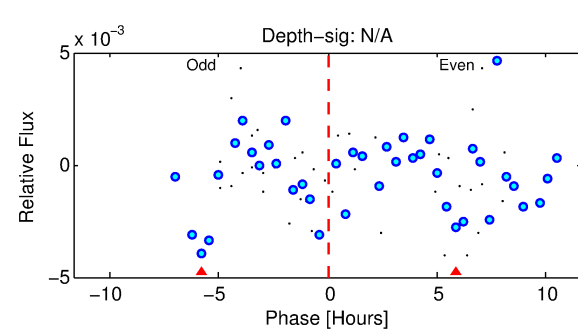
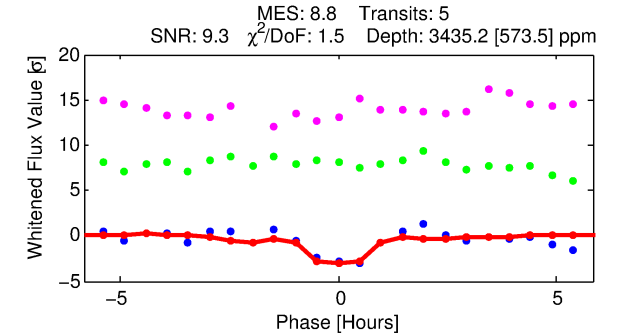
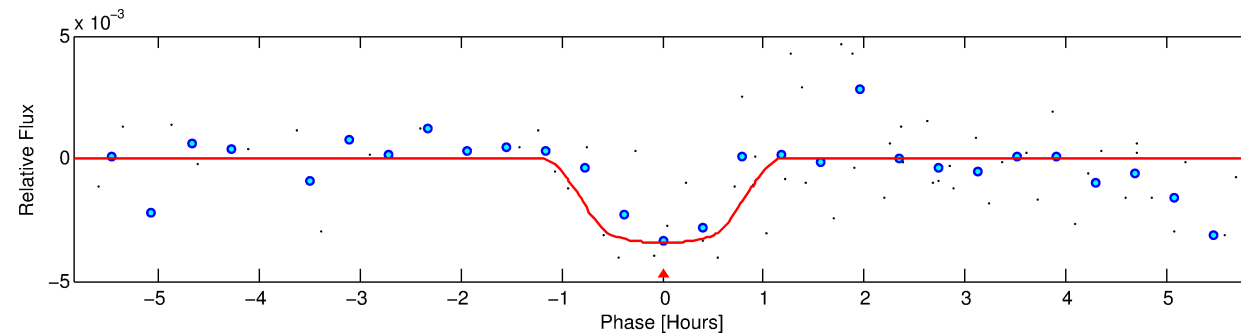
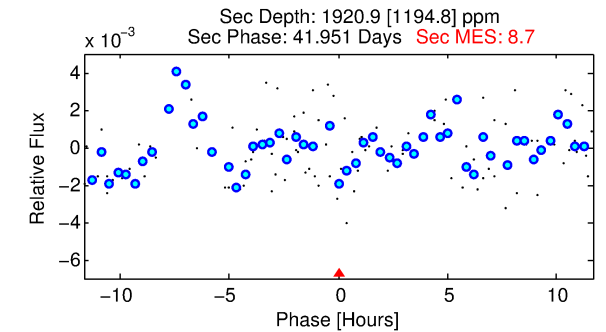
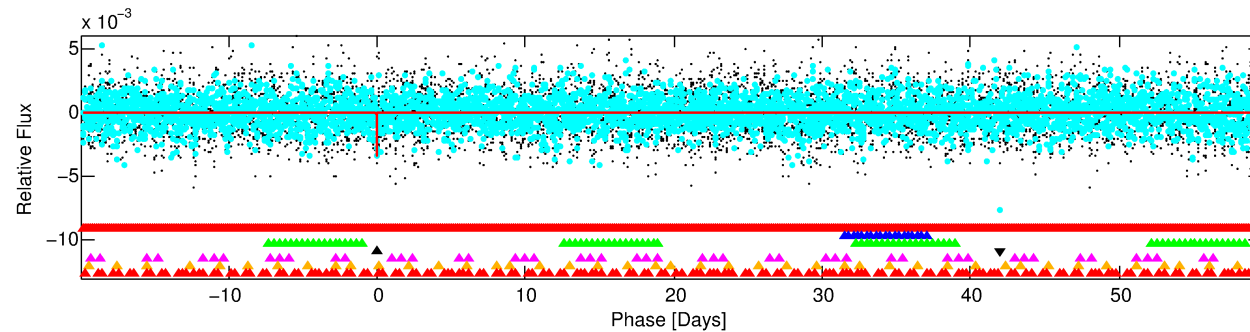
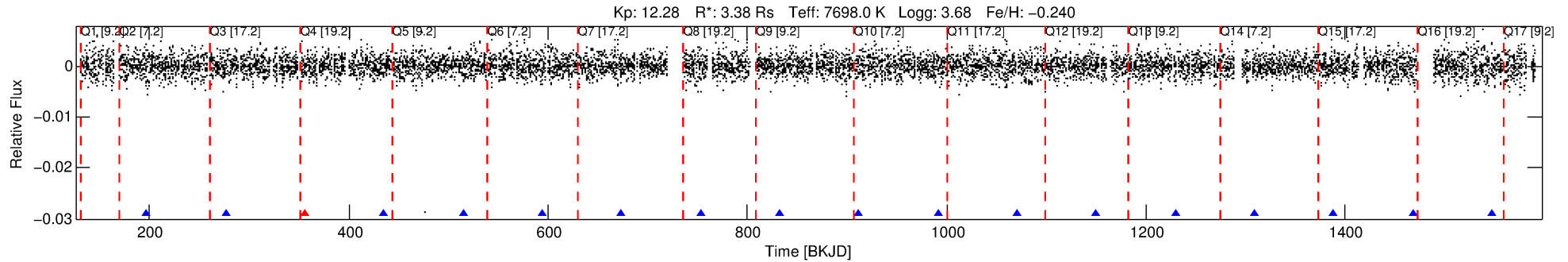
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872972-04

No Significant Match Found

DV One-Page Summary

KIC: 5872972 Candidate: 4 of 7 Period: 79.392 d



DV Fit Results:

Period = 79.39173 [0.00043] d
Epoch = 197.2327 [0.0049] BKJD
Rp/R* = 0.0587 [0.0344]
a/R* = 229.53 [646.03]
b = 0.76 [1.59]
Seff = 173.34 [140.13]
Teq = 925 [187] K
Rp = 21.62 [16.61] Re
a = 0.4547 [0.2223] AU
Ag = 467.24 [721.15] [0.65σ]
Teffp = 6651 [2221] K [2.57σ]

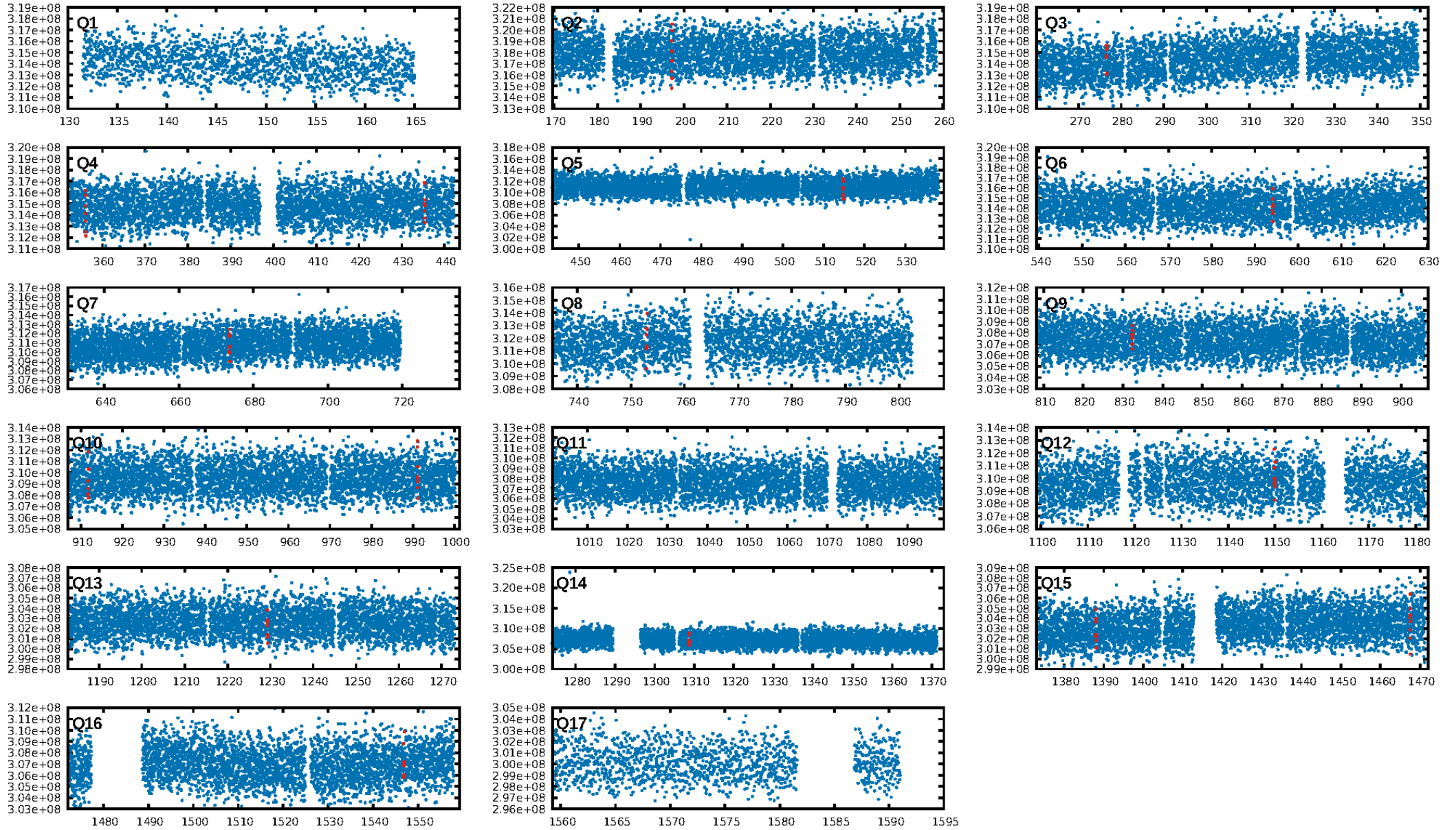
DV Diagnostic Results:

ShortPeriod-sig: 95.1% [1.97σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 81.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.80 [4/5]
GhostDiagnostic-chr: 0.8159
Centroid-sig: 2.8%
Centroid-so: 0.185 arcsec [4.32σ]
OotOffset-rm: 0.068 arcsec [0.39σ]
KicOffset-rm: 0.141 arcsec [0.57σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 0.36 [5/14]

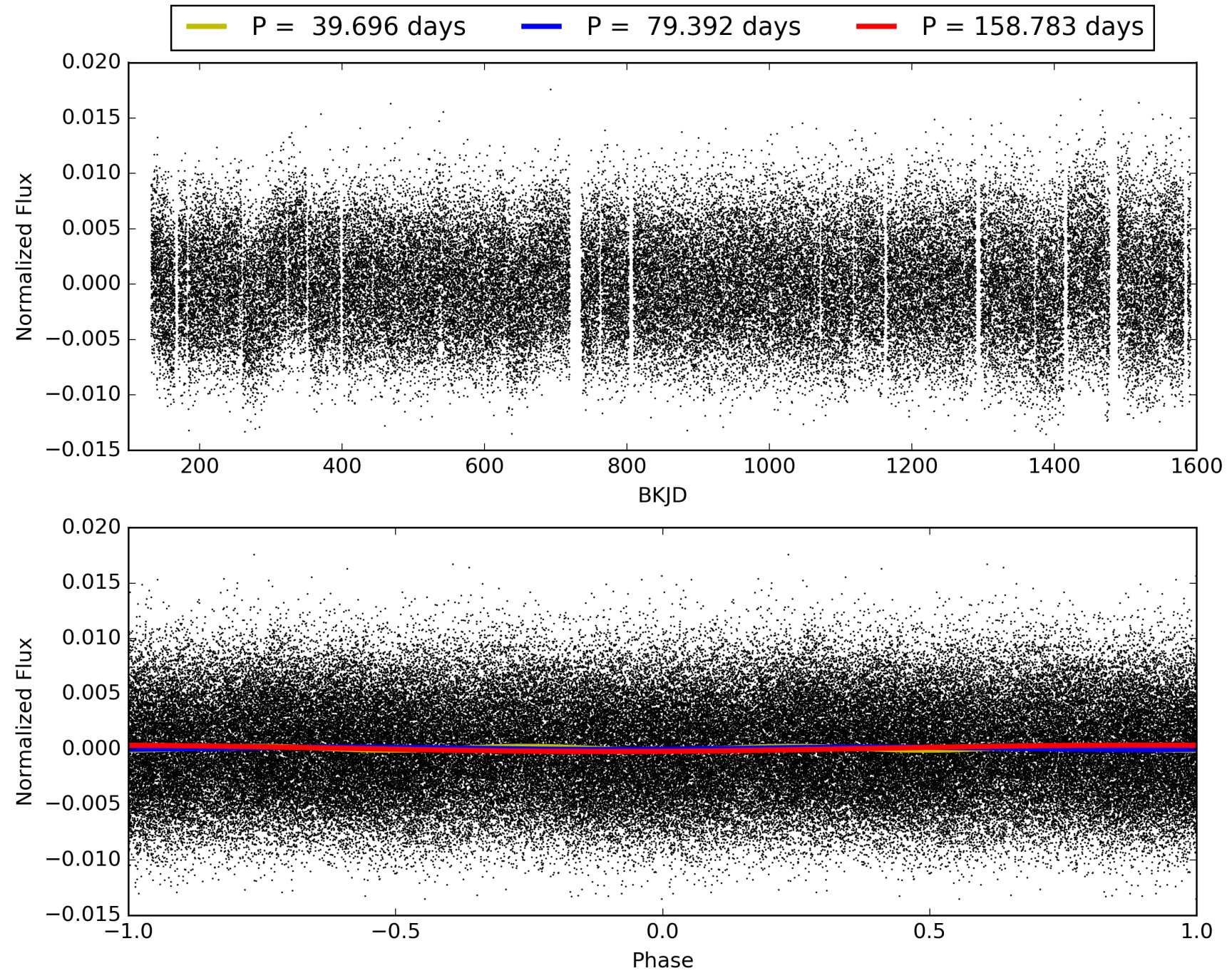
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:08:35 Z

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

TCE 005872972-04, PDC Light Curves

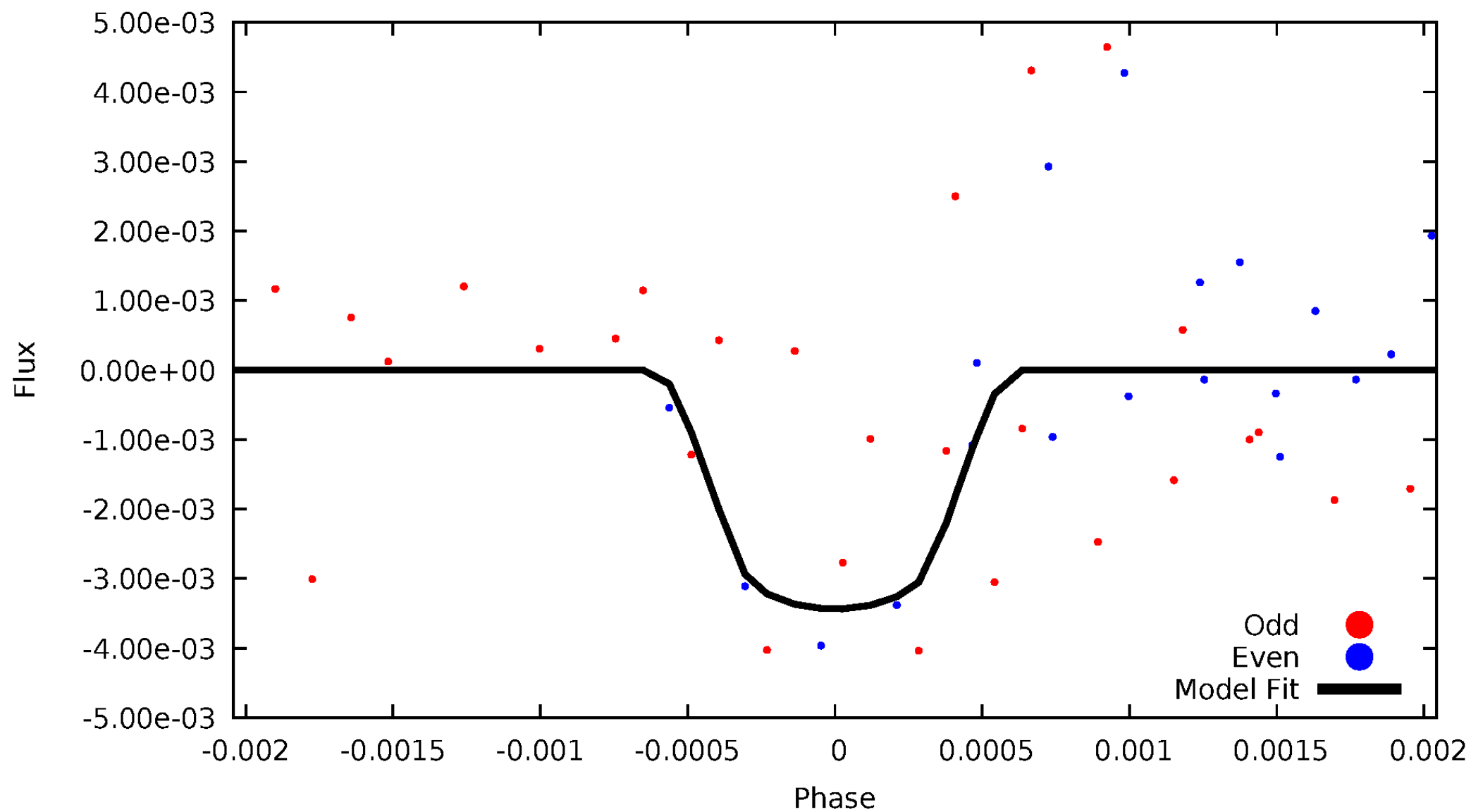


TCE 005872972-04



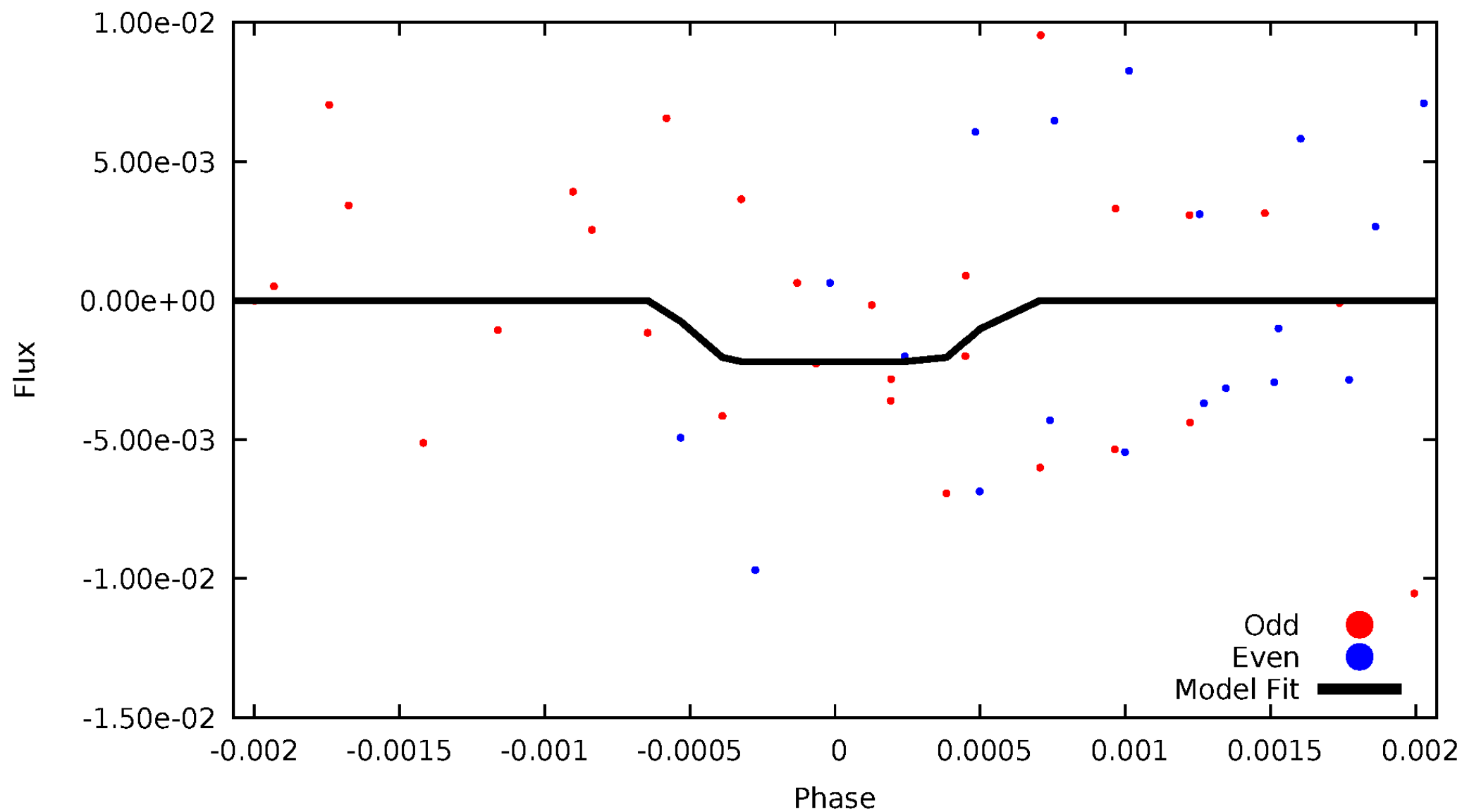
DV Odd/Even

TCE 005872972-04



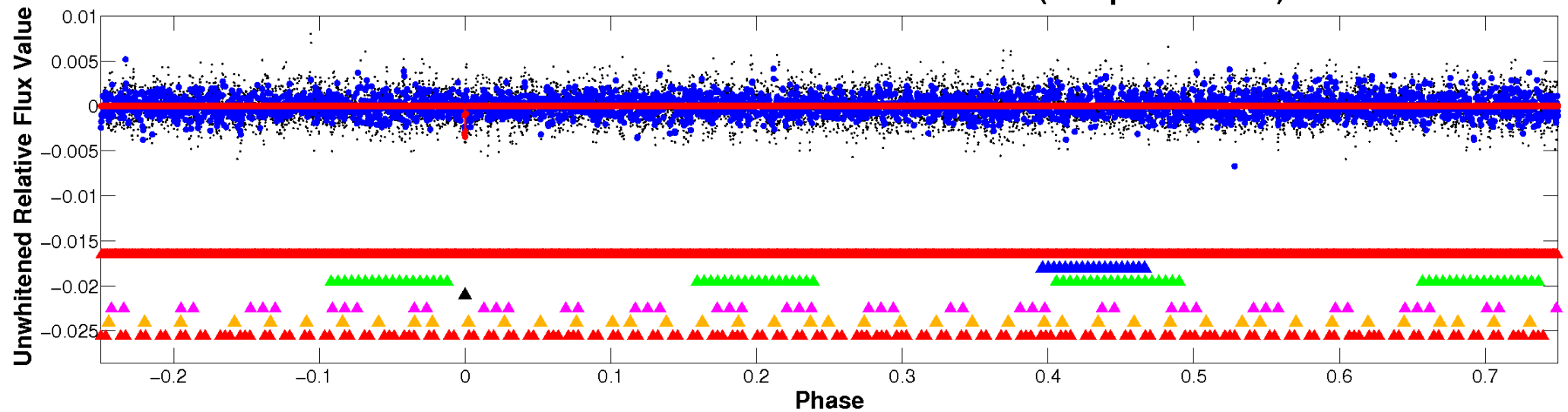
ALT Odd/Even

TCE 005872972-04

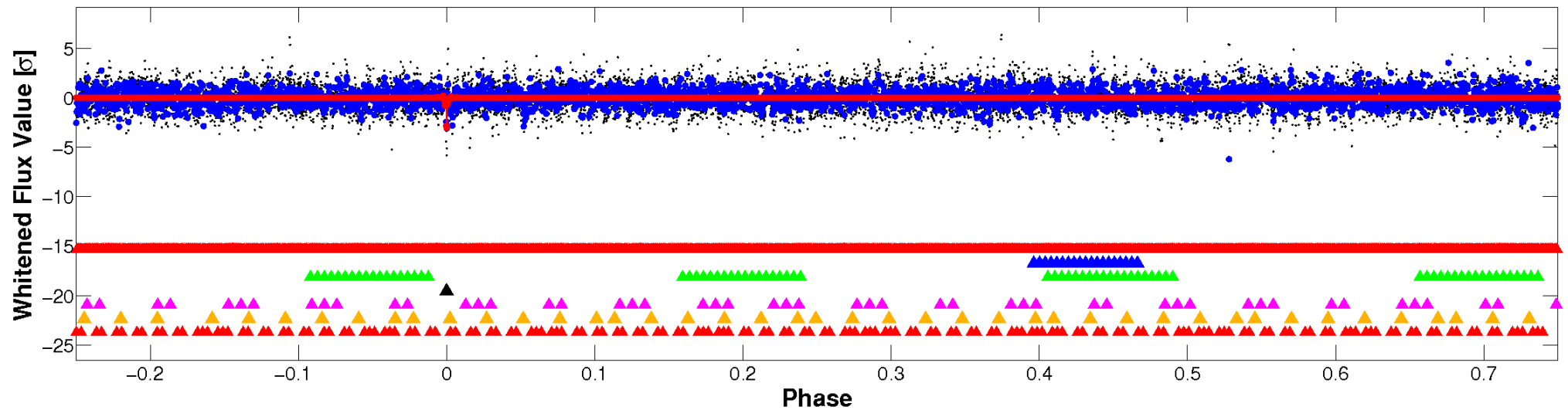


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

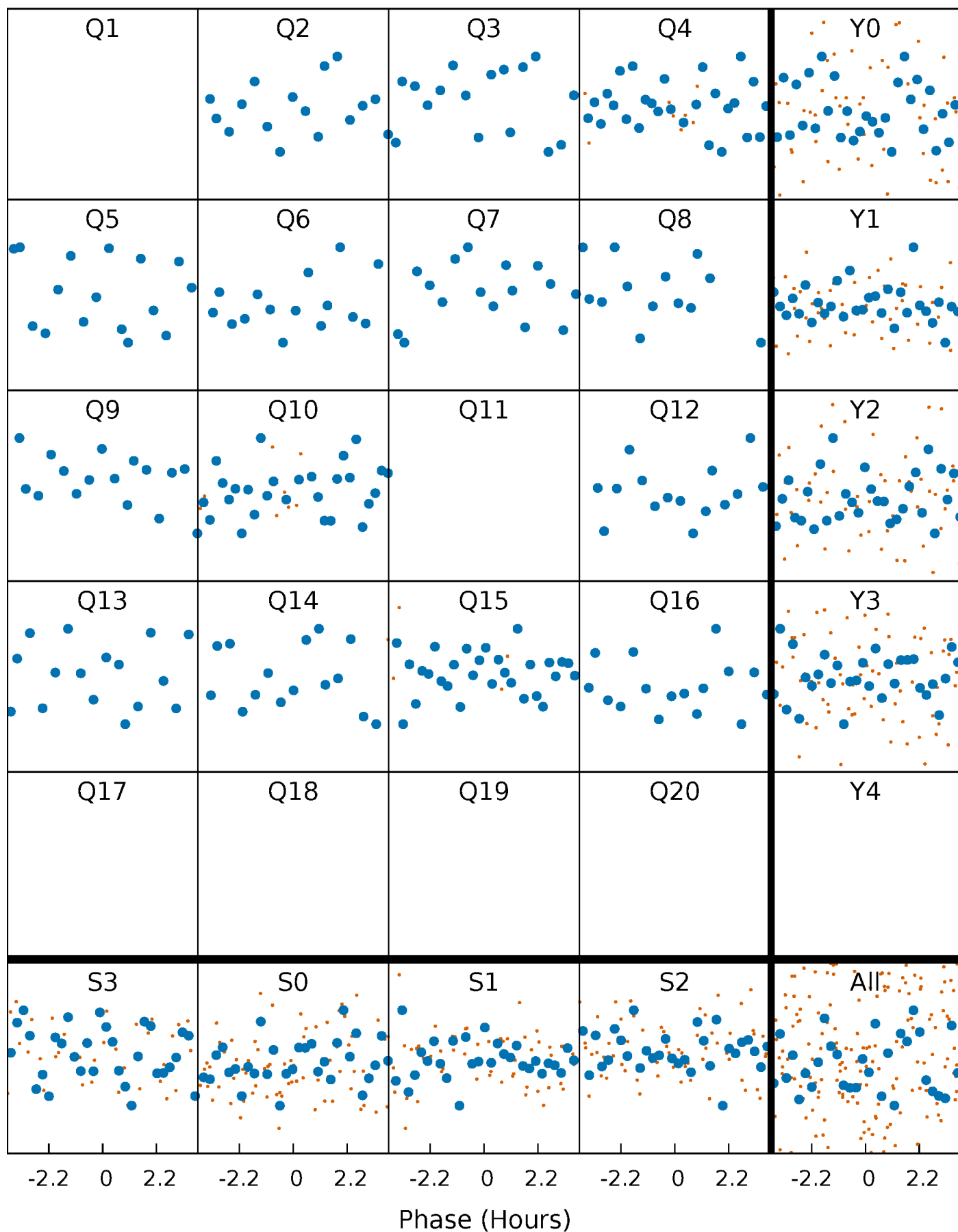


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



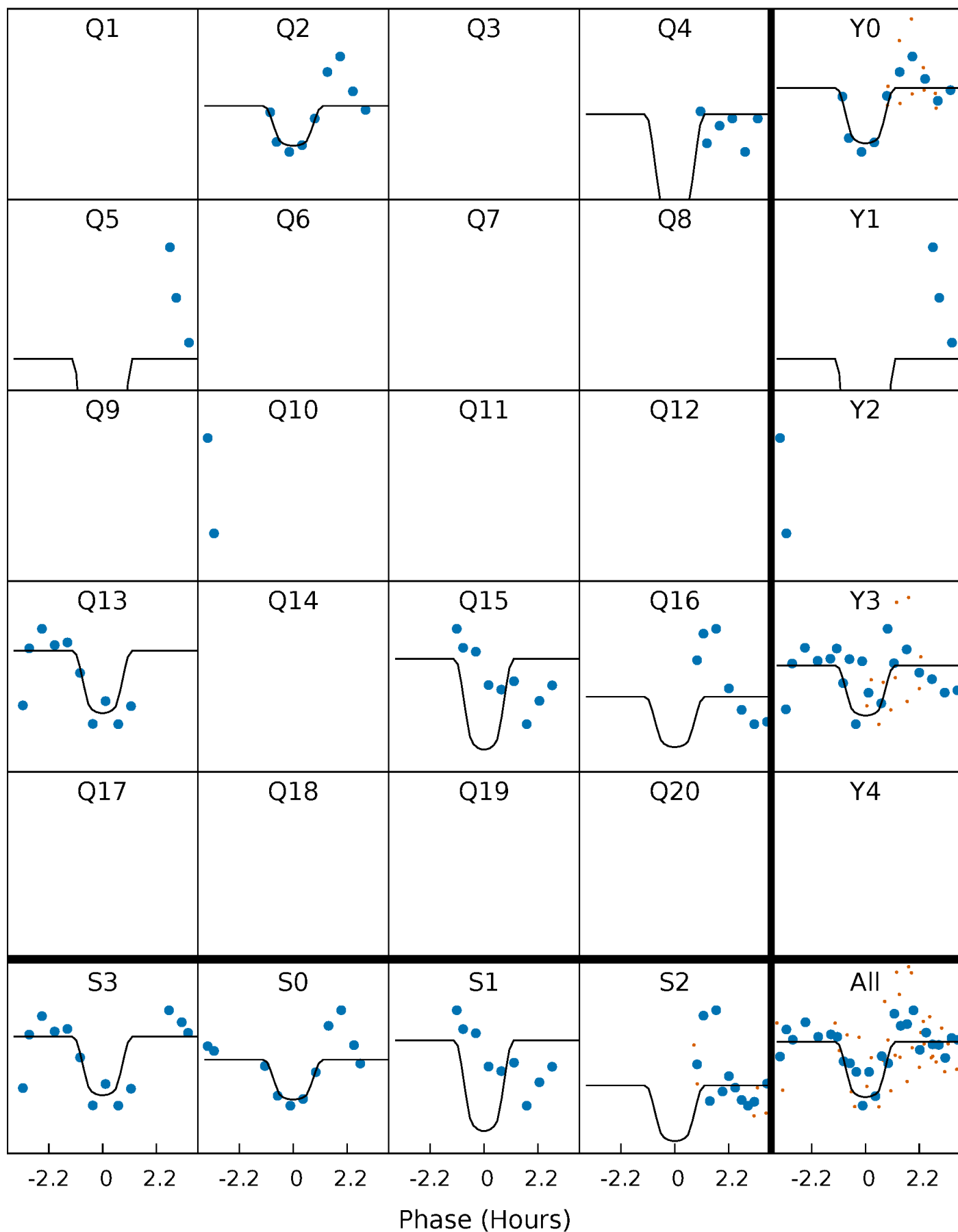
PDC Quarter-Phased Transit Curves

TCE 005872972-04 P= 79.391727 Days $T_0=197.232691$ (BKJD)



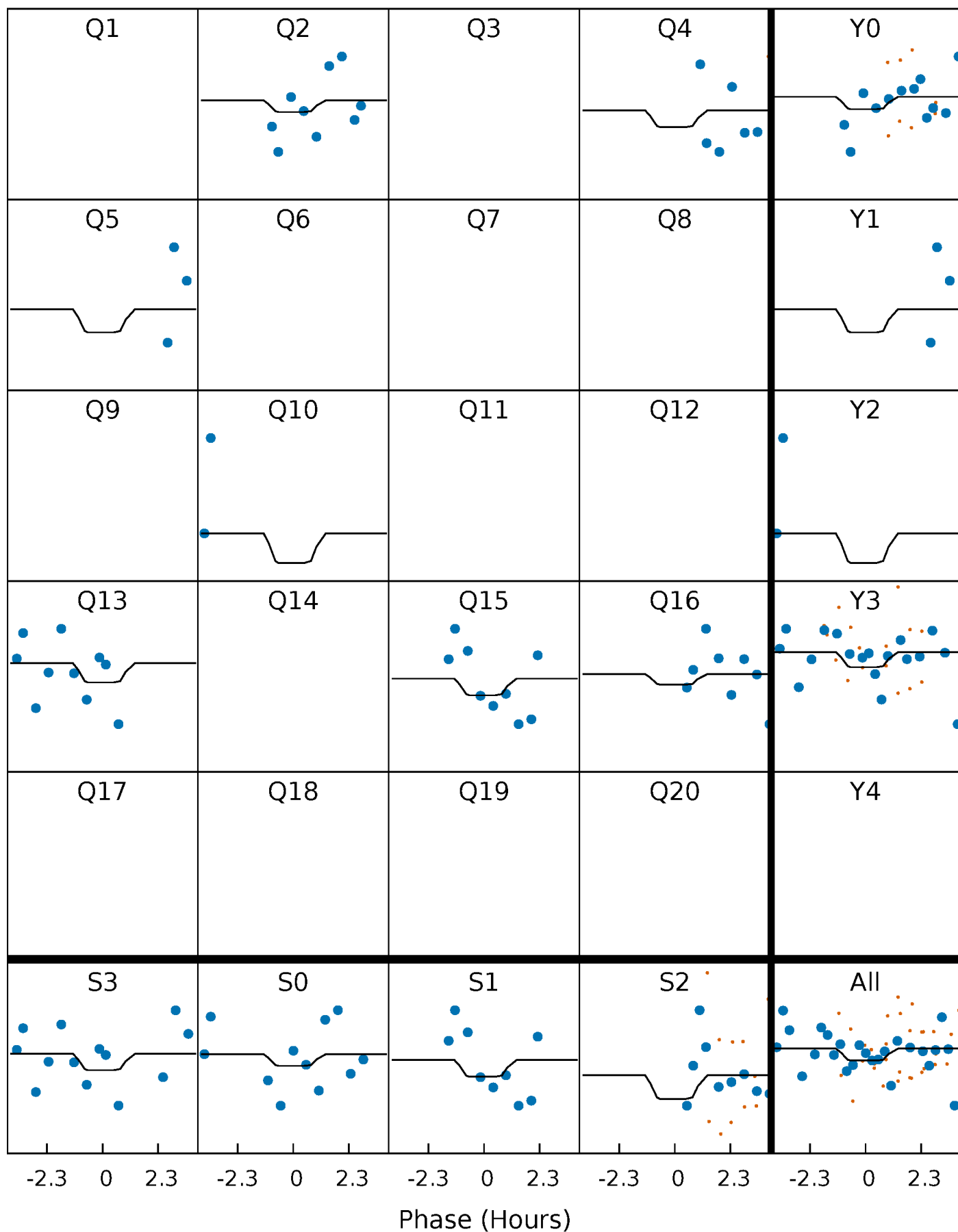
DV Quarter-Phased Transit Curves

TCE 005872972-04 P= 79.391727 Days $T_0=197.232691$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

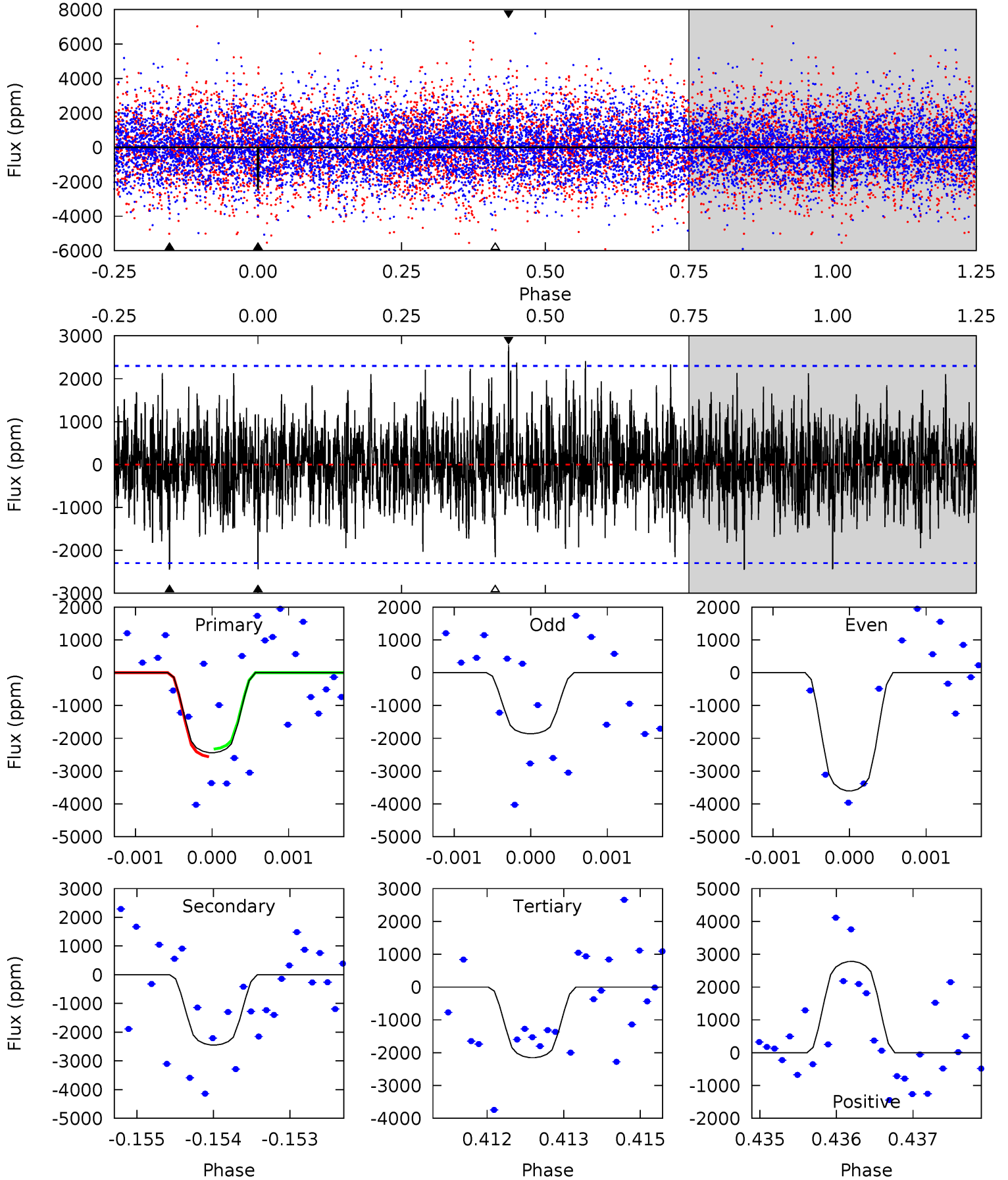
TCE 005872972-04 P= 79.392877 Days $T_0=197.230269$ (BKJD)



DV Model-Shift Uniqueness Test

005872972-04, P = 79.391727 Days, E = 117.840964 Days

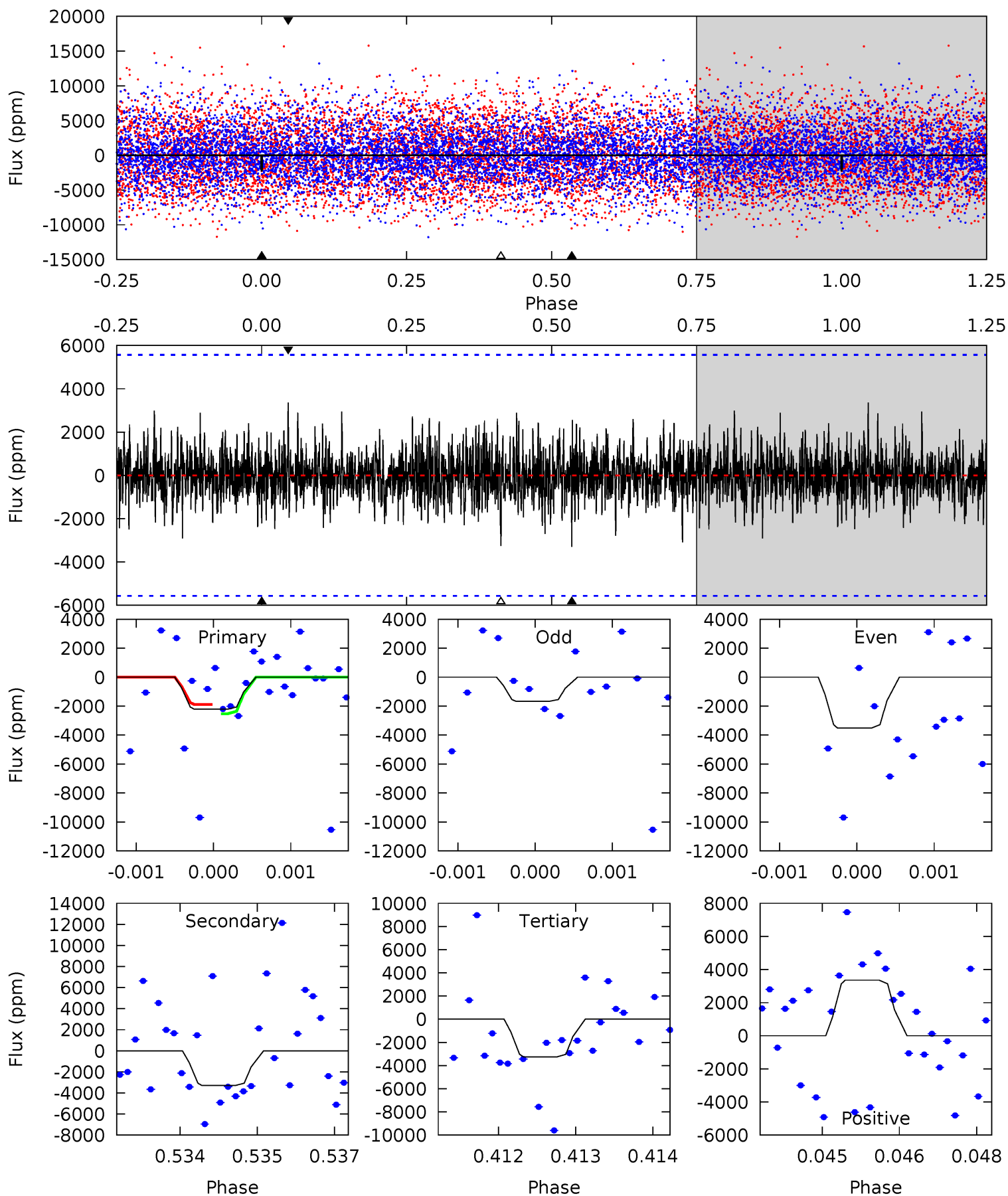
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.77	5.79	5.09	6.58	5.43	3.26	1.67	0.68	-0.81	0.70	-0.79	2.00	0.72	0.53	0.27



Alt Model-Shift Uniqueness Test

005872972-04, P = 79.392877 Days, E = 117.837392 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.15	3.20	3.15	3.26	5.41	3.22	0.87	-1.01	-1.12	0.04	-0.07	0.88	1.15	0.51	0.31



Stellar Parameters For KIC 005872972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7698^{+239}_{-319}	$3.680^{+0.468}_{-0.055}$	$-0.240^{+0.200}_{-0.300}$	$3.375^{+0.315}_{-1.679}$	$1.990^{+0.111}_{-0.553}$	$0.073^{+0.361}_{-0.014}$
	+3%/-4%	+13%/-1%	+83%/-125%	+9%/-50%	+6%/-28%	+495%/-19%
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 005872972-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2449 ± 423	$19.25^{+12.59}_{-10.46}$	1240^{+83}_{-155}	6878^{+3874}_{-1518}	728^{+2919}_{-473}
Alt.	-3290 ± 1029	$16.60^{+11.85}_{-9.76}$	1241^{+88}_{-149}	8101^{+7595}_{-2127}	1321^{+6335}_{-912}

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 $A_{obs} \gg 1.0$

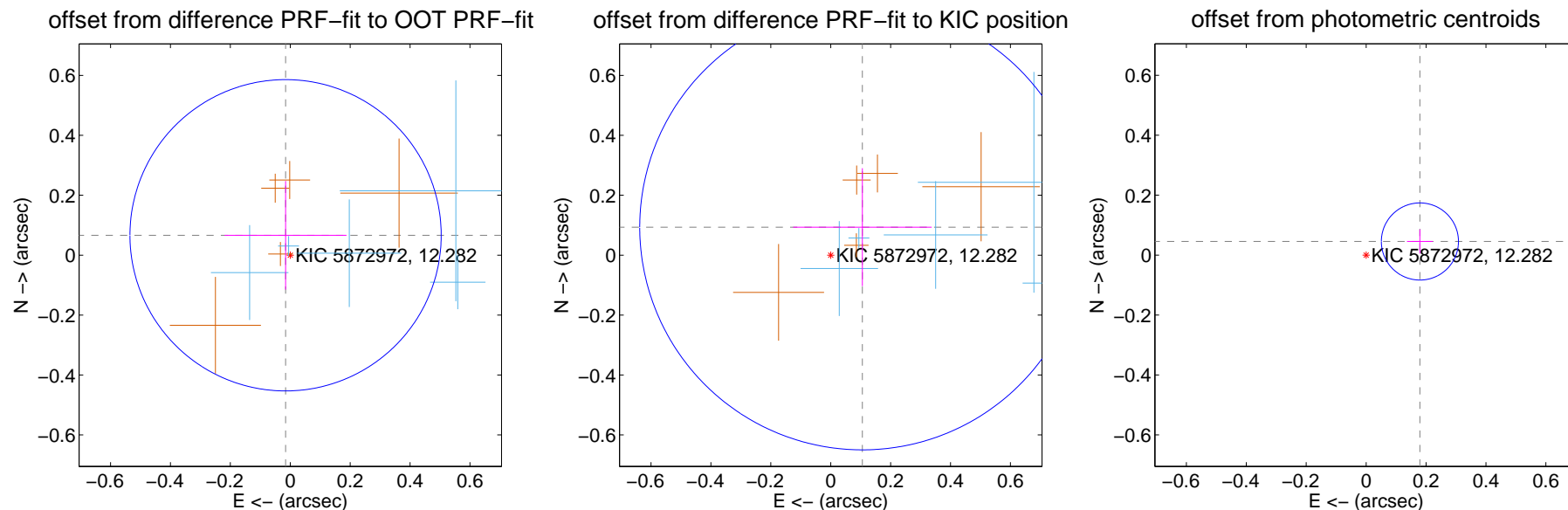
DV Centroid Data

Supplemental centroid analysis for 005872972-04. Kepler magnitude: 12.28. Transit SNR 9.26

There are 6 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.068 ± 0.173	0.39	0.016 ± 0.203	0.066 ± 0.181
PRF-fit source offset from KIC position	0.141 ± 0.248	0.57	-0.106 ± 0.232	0.093 ± 0.197
photometric centroid source offset	0.19 ± 0.04	4.32	-0.18 ± 0.04	0.05 ± 0.04



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.

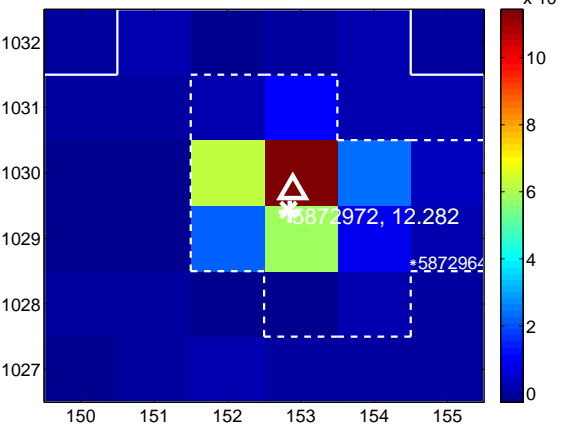
Q1 no difference image



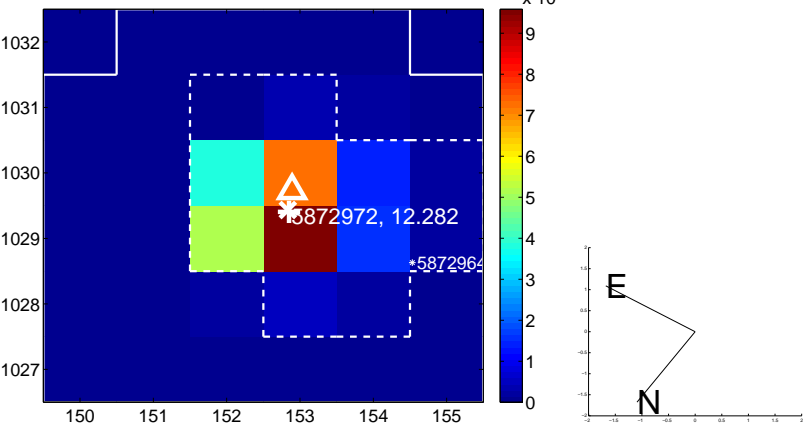
Q1 no OOT image



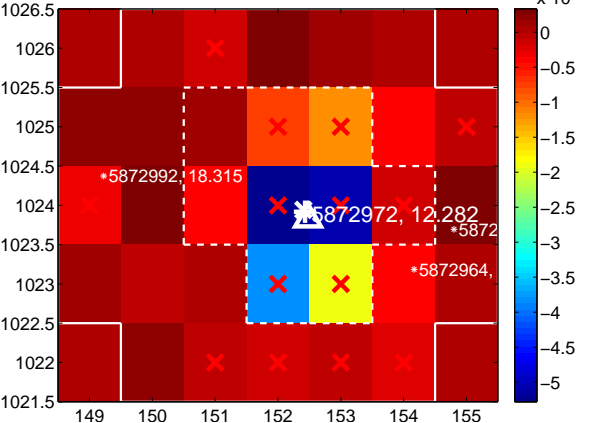
Q2 difference image



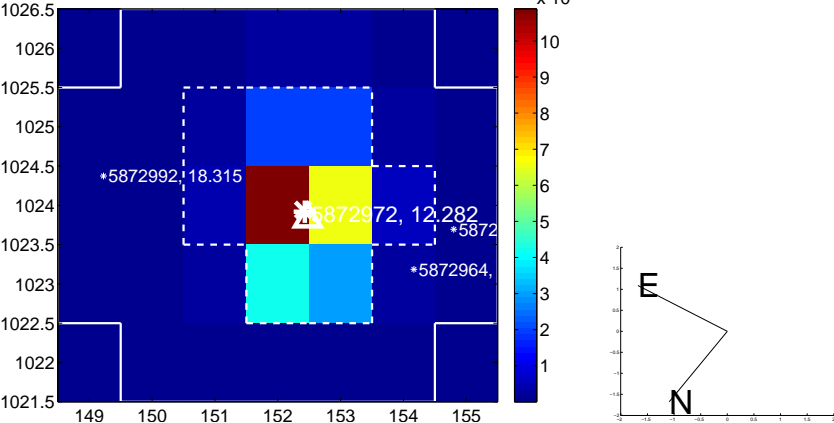
Q2 OOT image



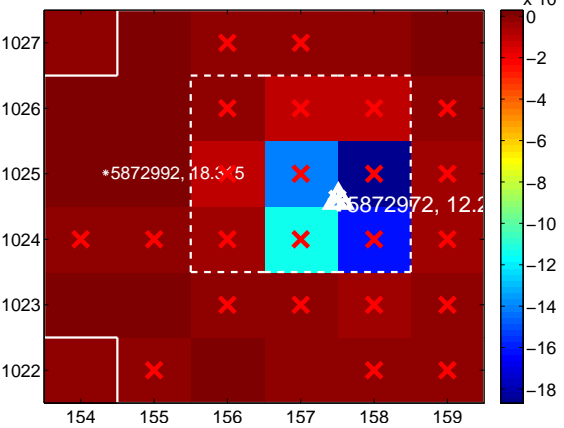
Q3 difference image. Poor Quality



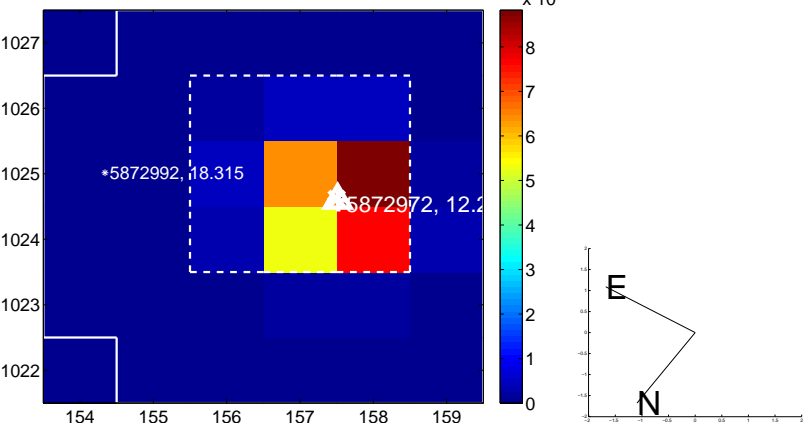
Q3 OOT image



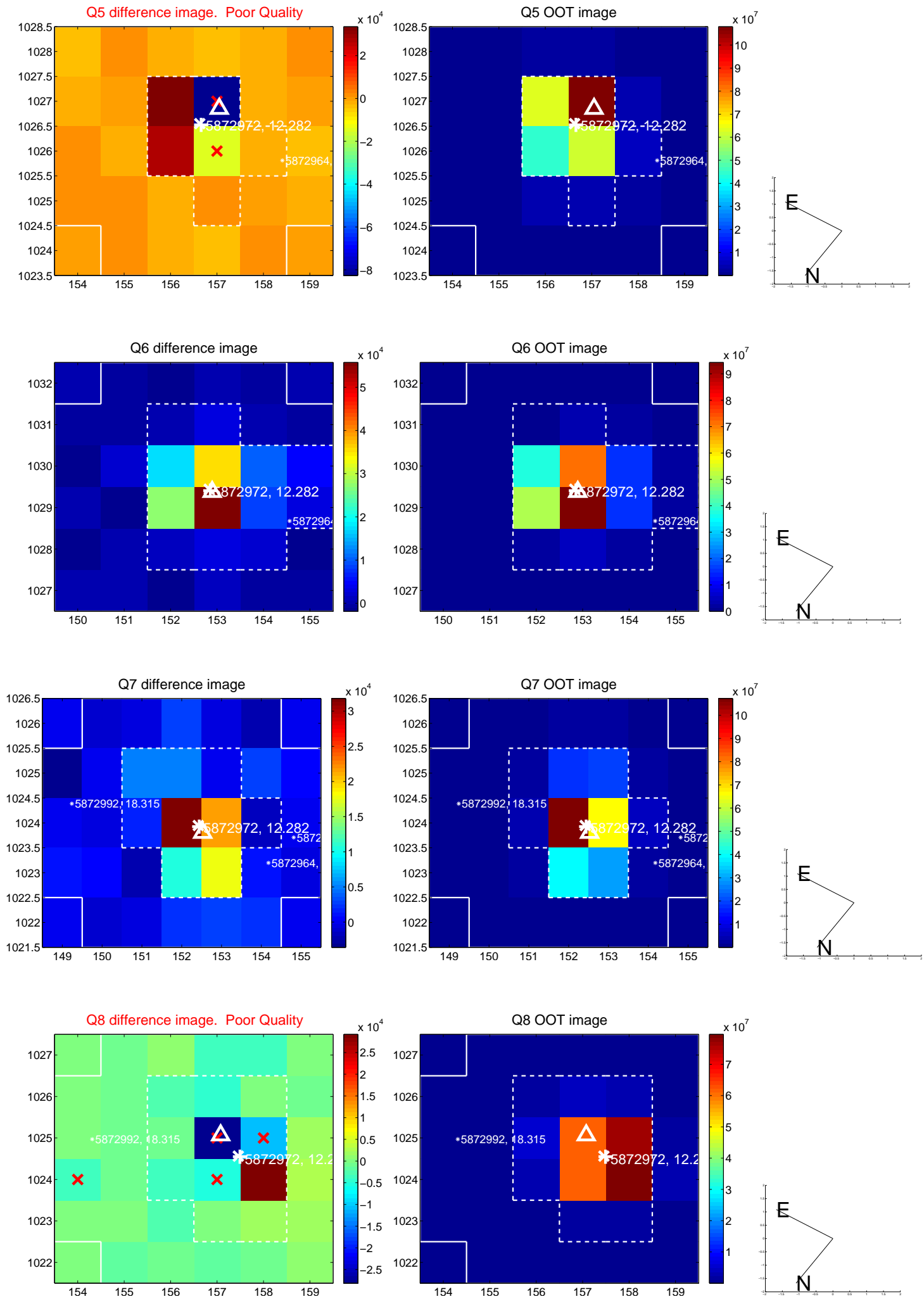
Q4 difference image. Poor Quality



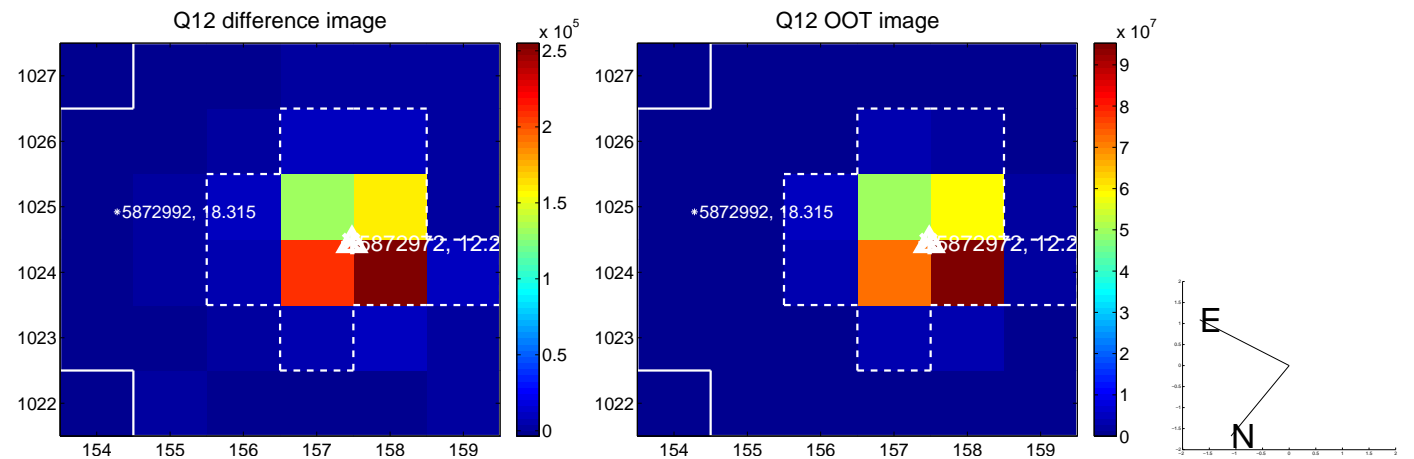
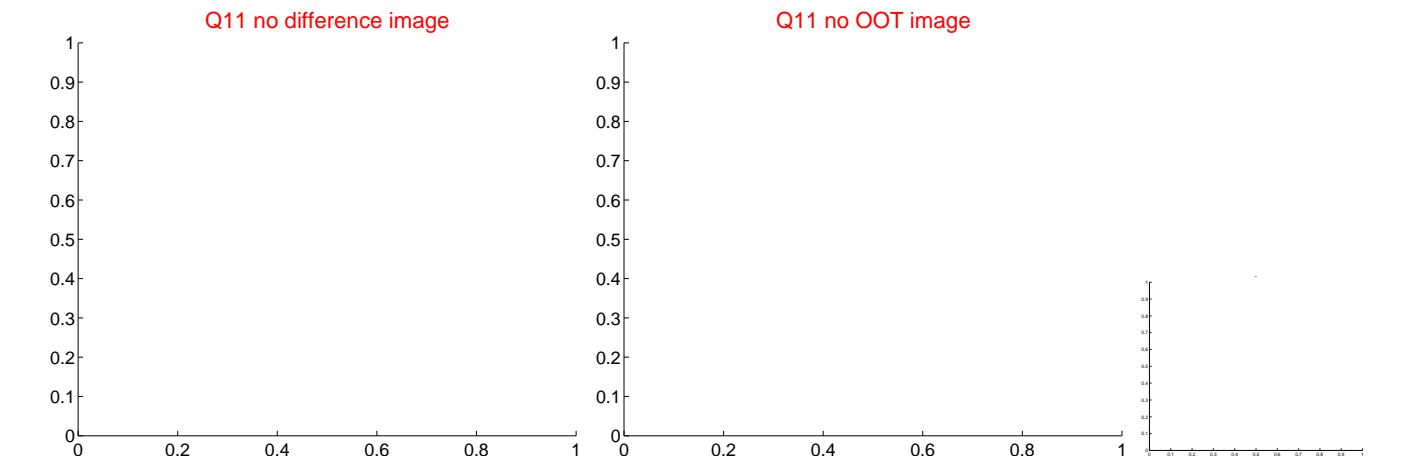
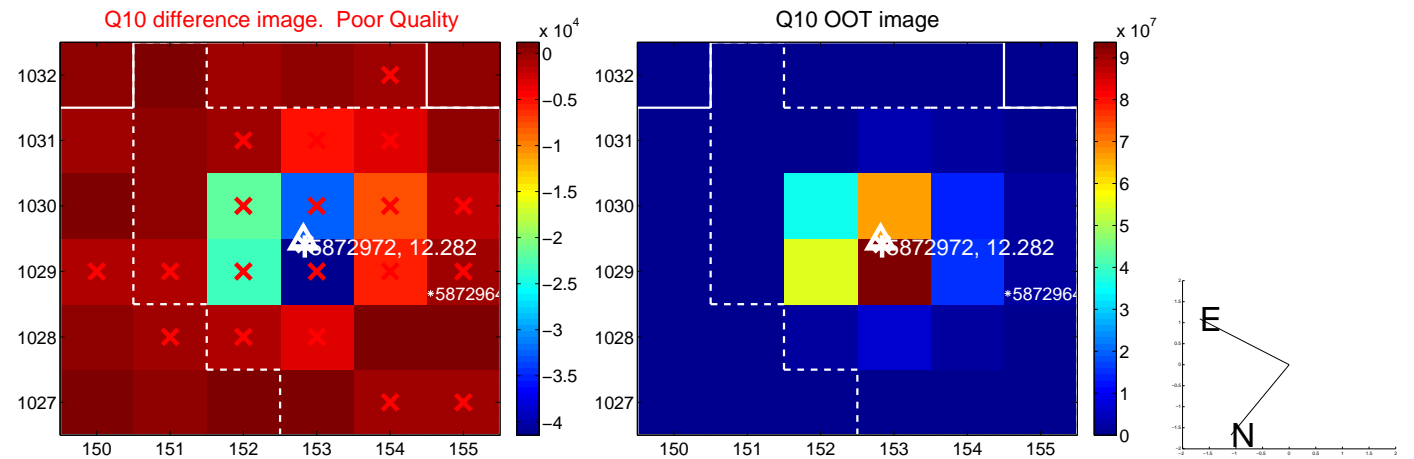
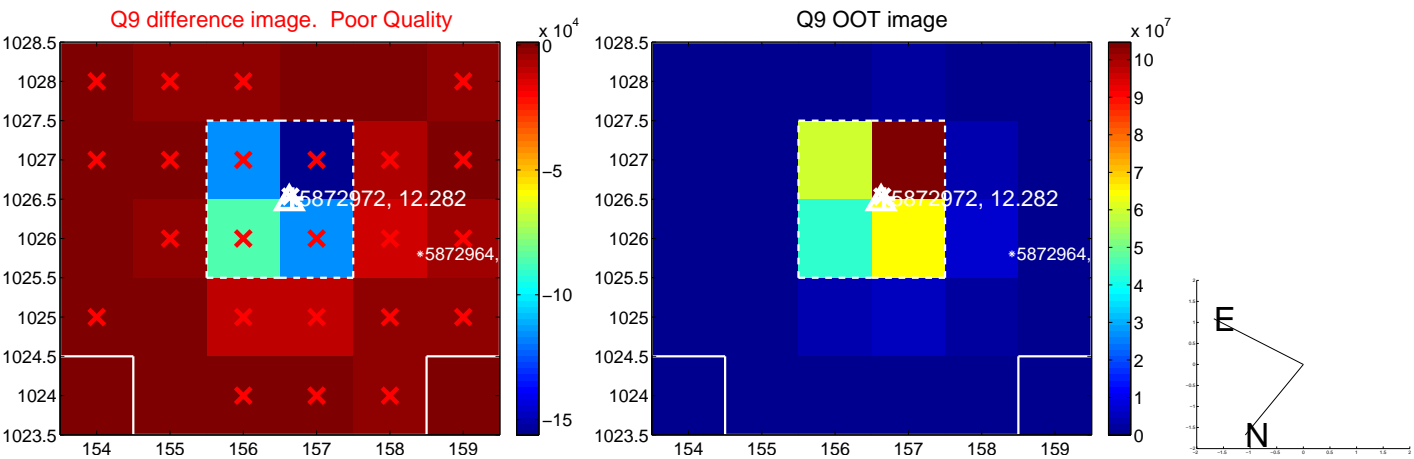
Q4 OOT image



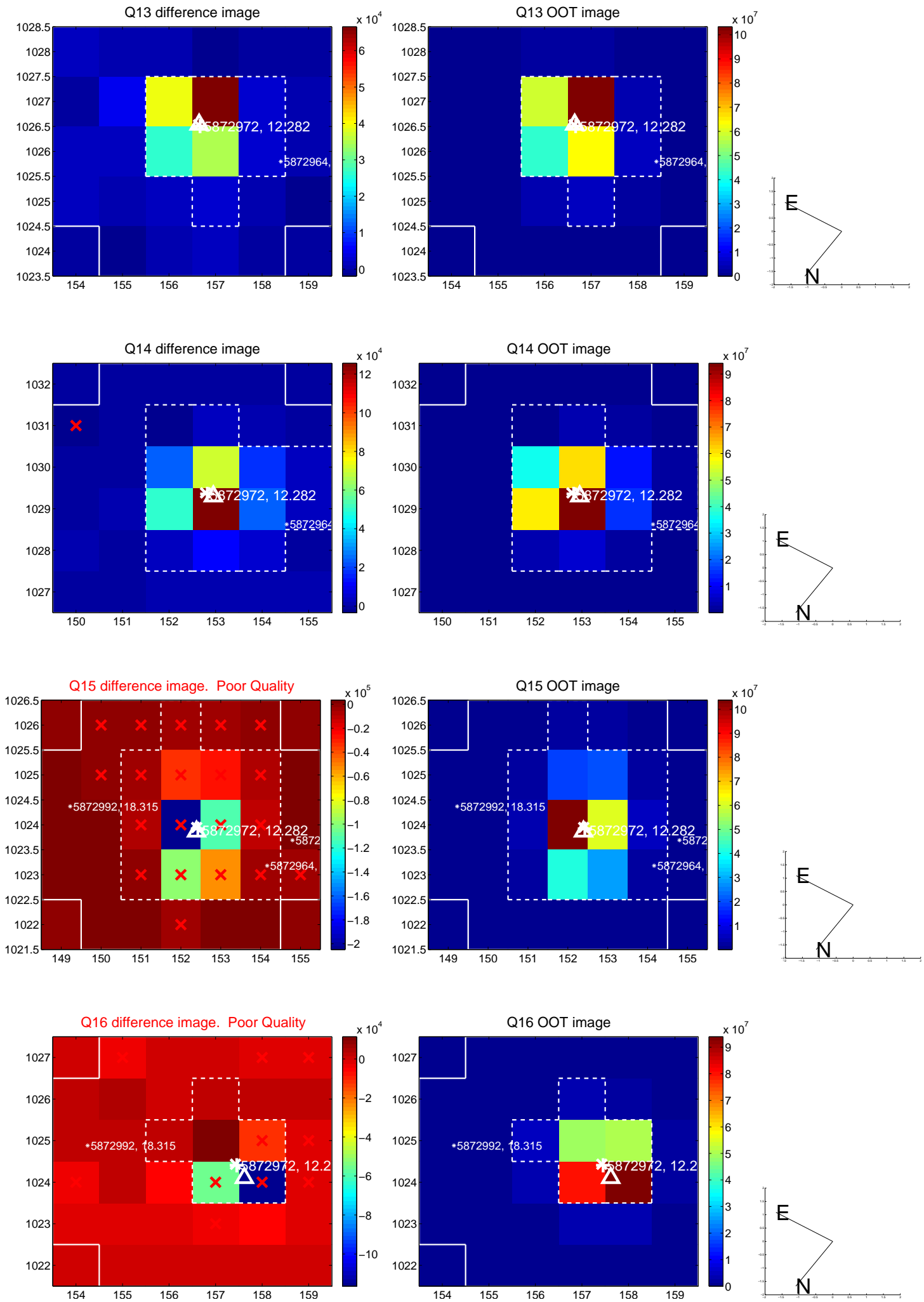
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



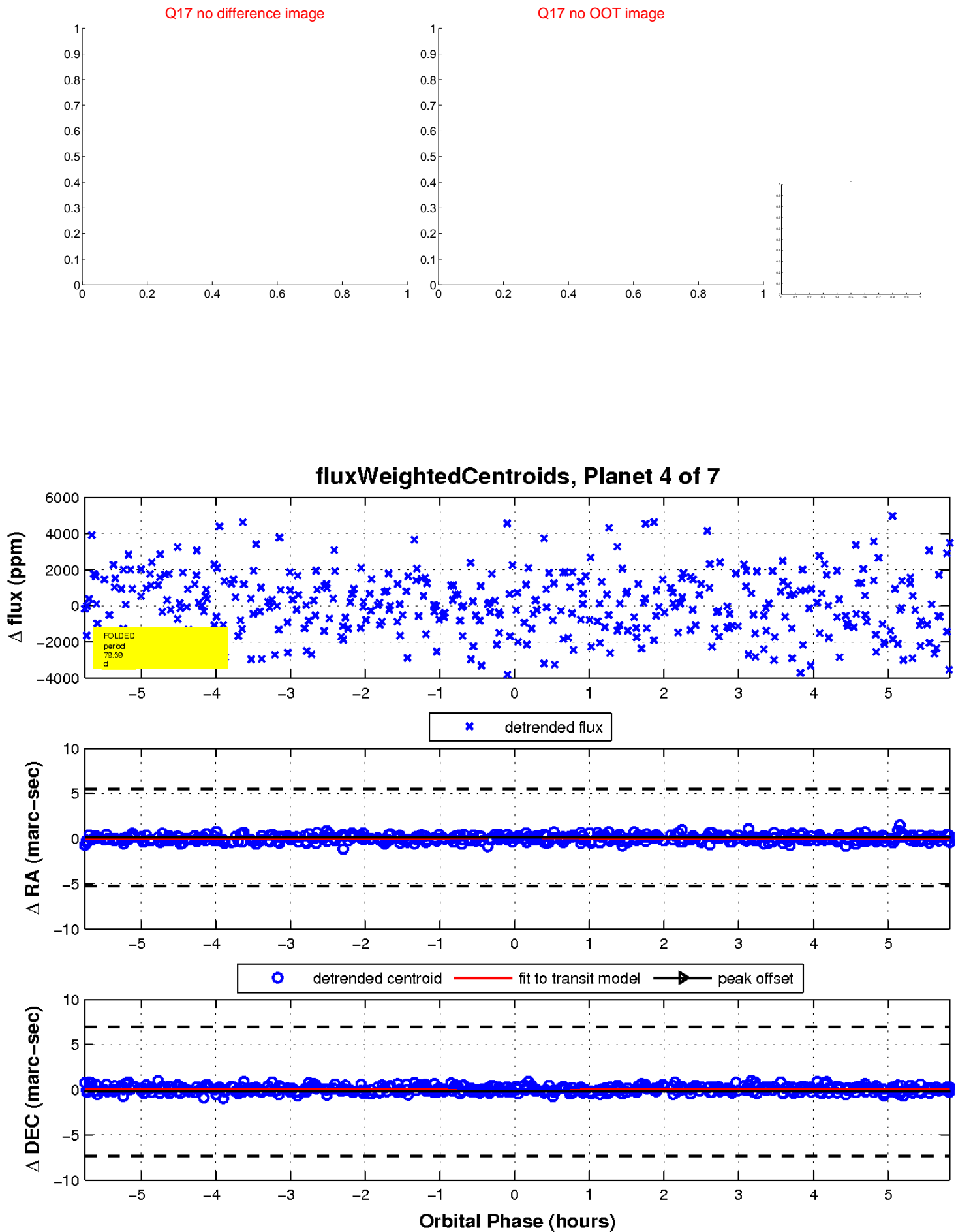
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

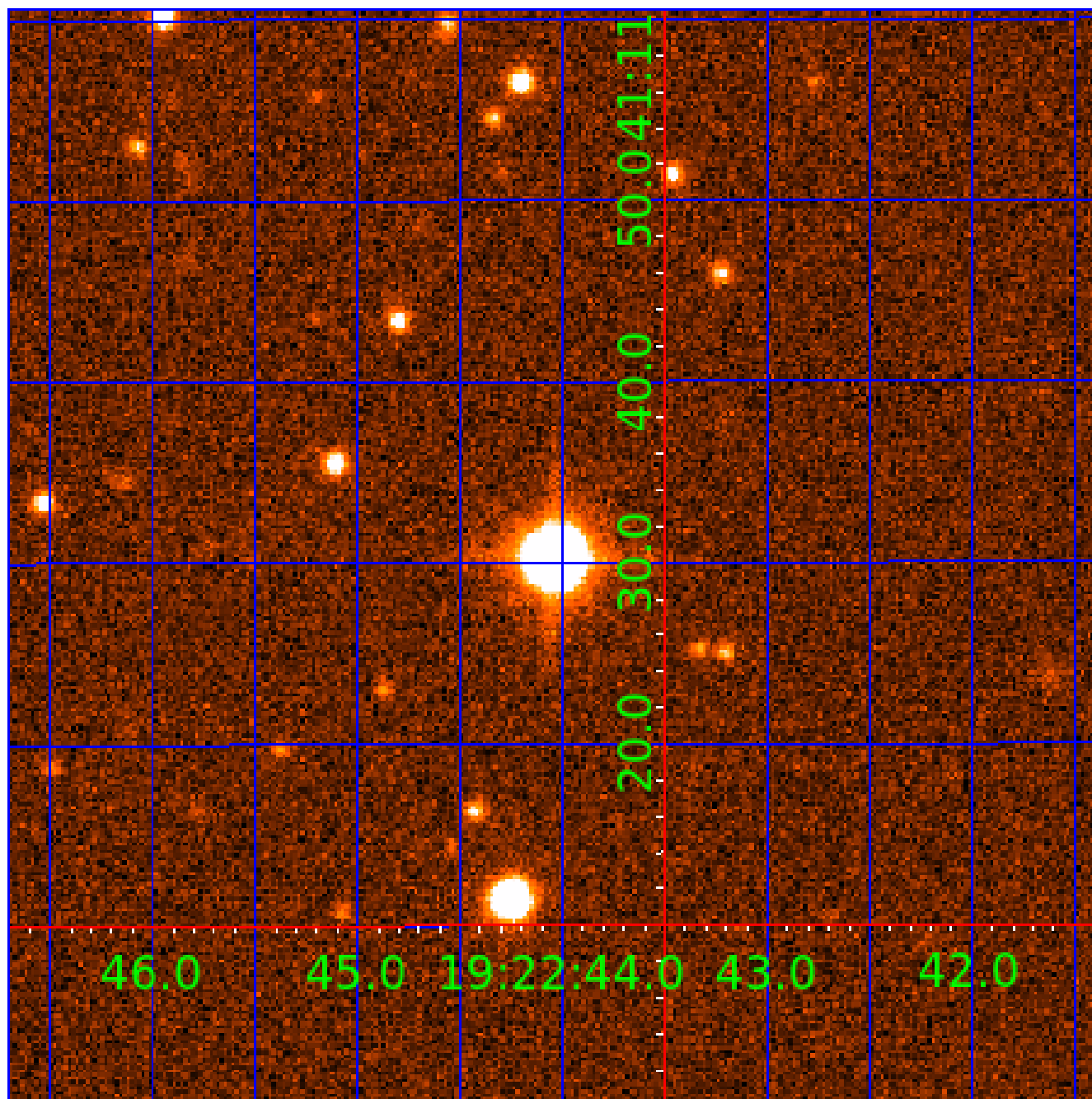


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005872972

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})
005872972-01	OBS	No	1.212695	132.393302	127.8	7.987	10.1	9.0	3.38	7698	3.84	45735.48
005872972-02	OBS	No	79.082991	154.859611	2783.8	3.213	9.8	10.2	3.38	7698	17.92	174.24
005872972-03	OBS	No	19.940860	150.055838	1359.3	2.933	9.7	8.6	3.38	7698	12.67	1093.78
005872972-04	OBS	No	79.391727	197.232691	3435.2	1.945	8.8	9.3	3.38	7698	21.62	173.34
005872972-05	OBS	No	29.214265	132.921783	2834.7	1.619	9.0	8.8	3.38	7698	19.36	657.35
005872972-06	OBS	No	34.305238	137.624461	1035.5	7.640	8.1	7.9	3.38	7698	11.30	530.61
005872972-07	OBS	No	8.941798	139.718474	110.0	3.500	8.2	-1.0	3.38	7698	3.56	3186.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872972-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005872972-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005872972-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005872972-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

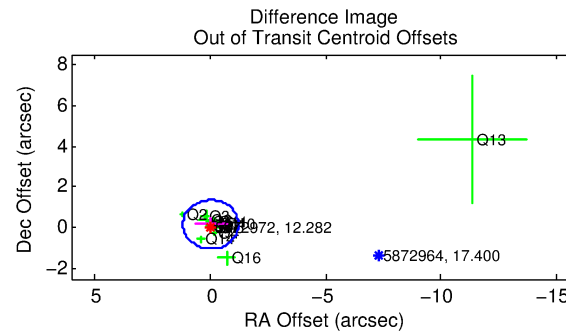
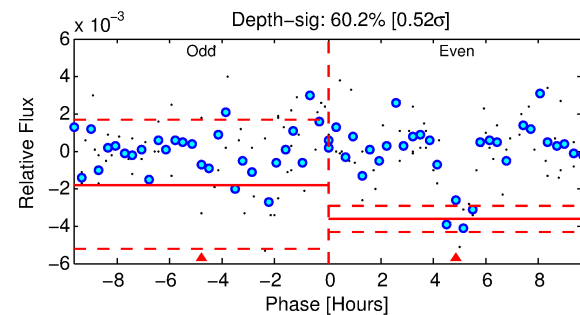
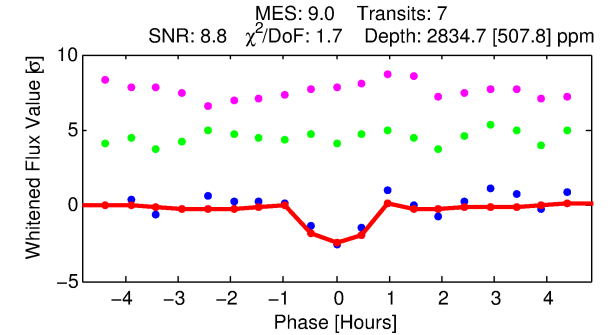
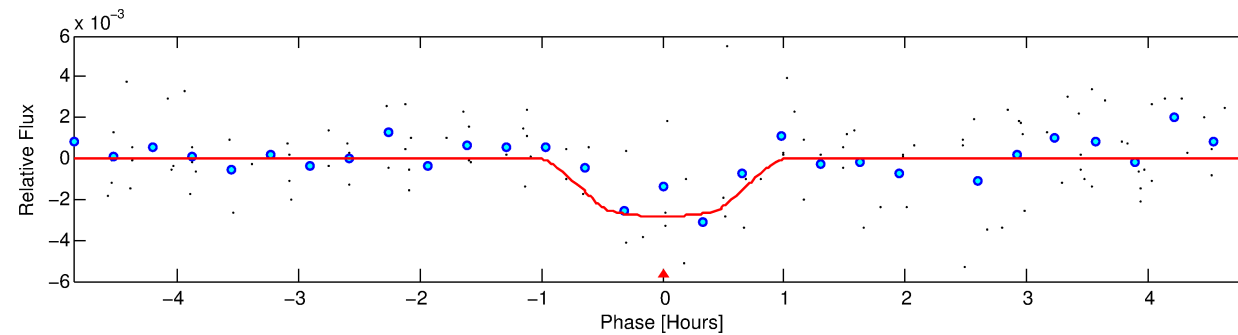
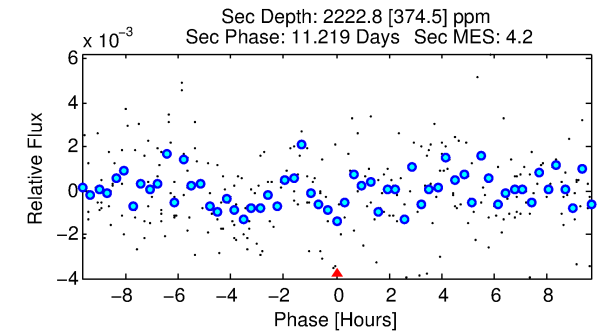
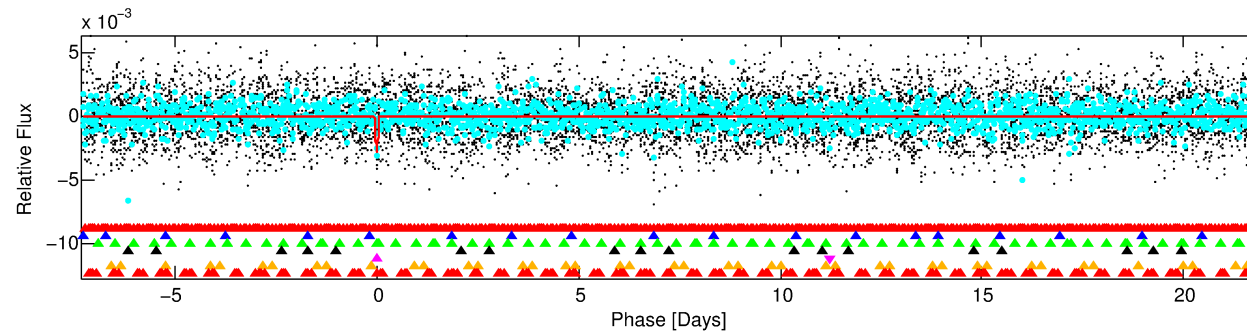
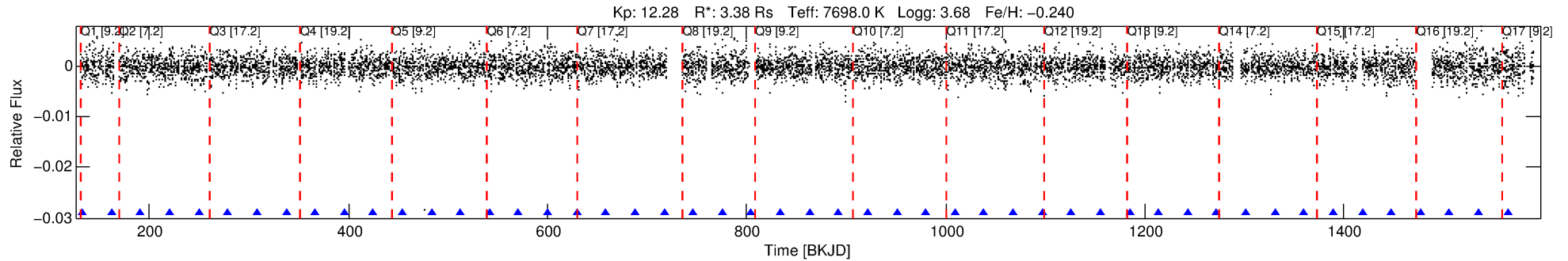
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872972-05

No Significant Match Found

DV One-Page Summary

KIC: 5872972 Candidate: 5 of 7 Period: 29.214 d



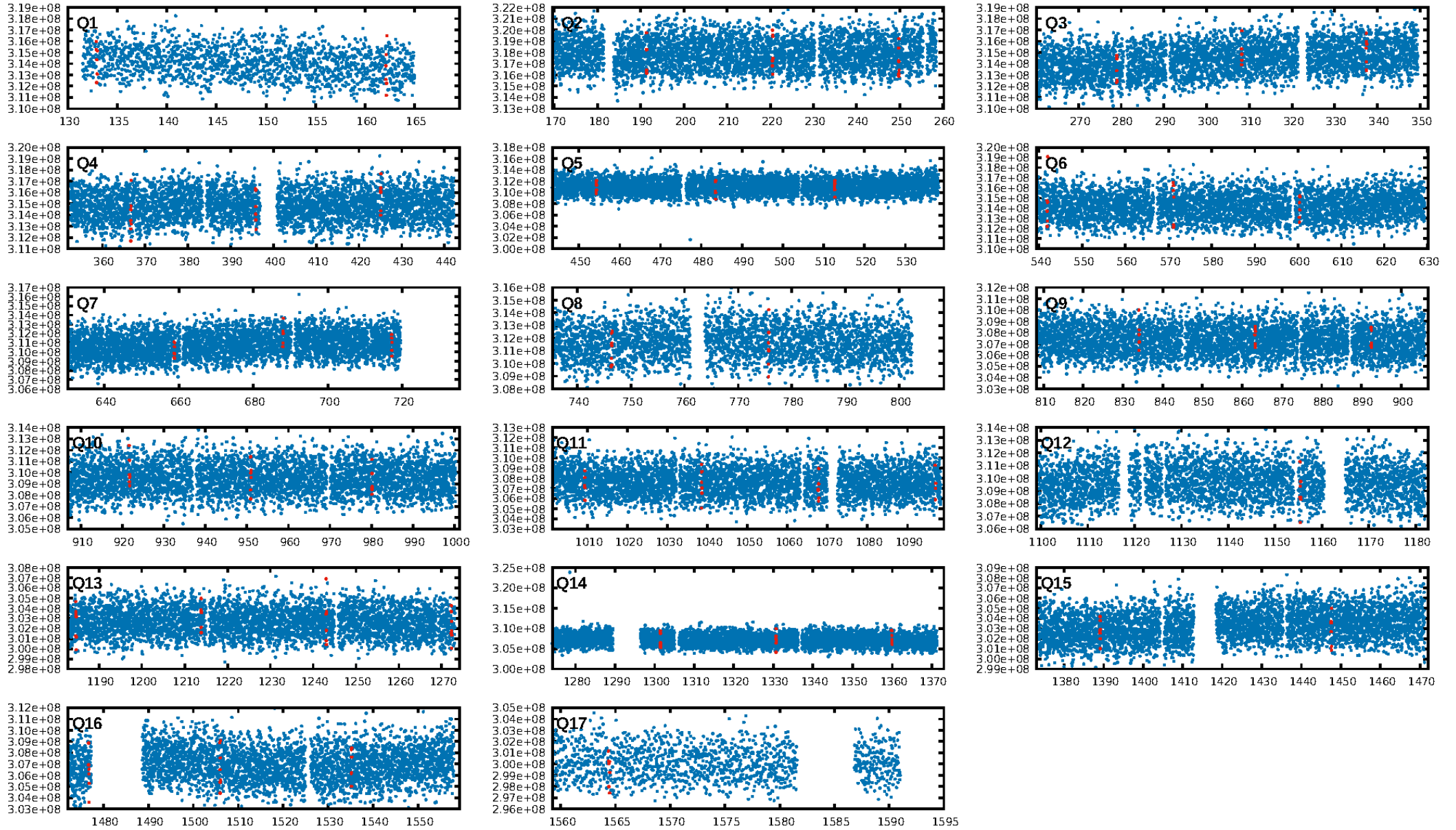
DV Fit Results:

Period = 29.21427 [0.00022] d
Epoch = 132.9218 [0.0056] BKJD
Rp/R* = 0.0526 [0.0461]
a/R* = 106.96 [471.27]
b = 0.71 [3.08]
Seff = 657.35 [531.43]
Teq = 1291 [261] K
Rp = 19.36 [19.52] Re
a = 0.2335 [0.1142] AU
Ag = 177.92 [343.64] [0.51σ]
Teffp = 7291 [3226] K [1.85σ]

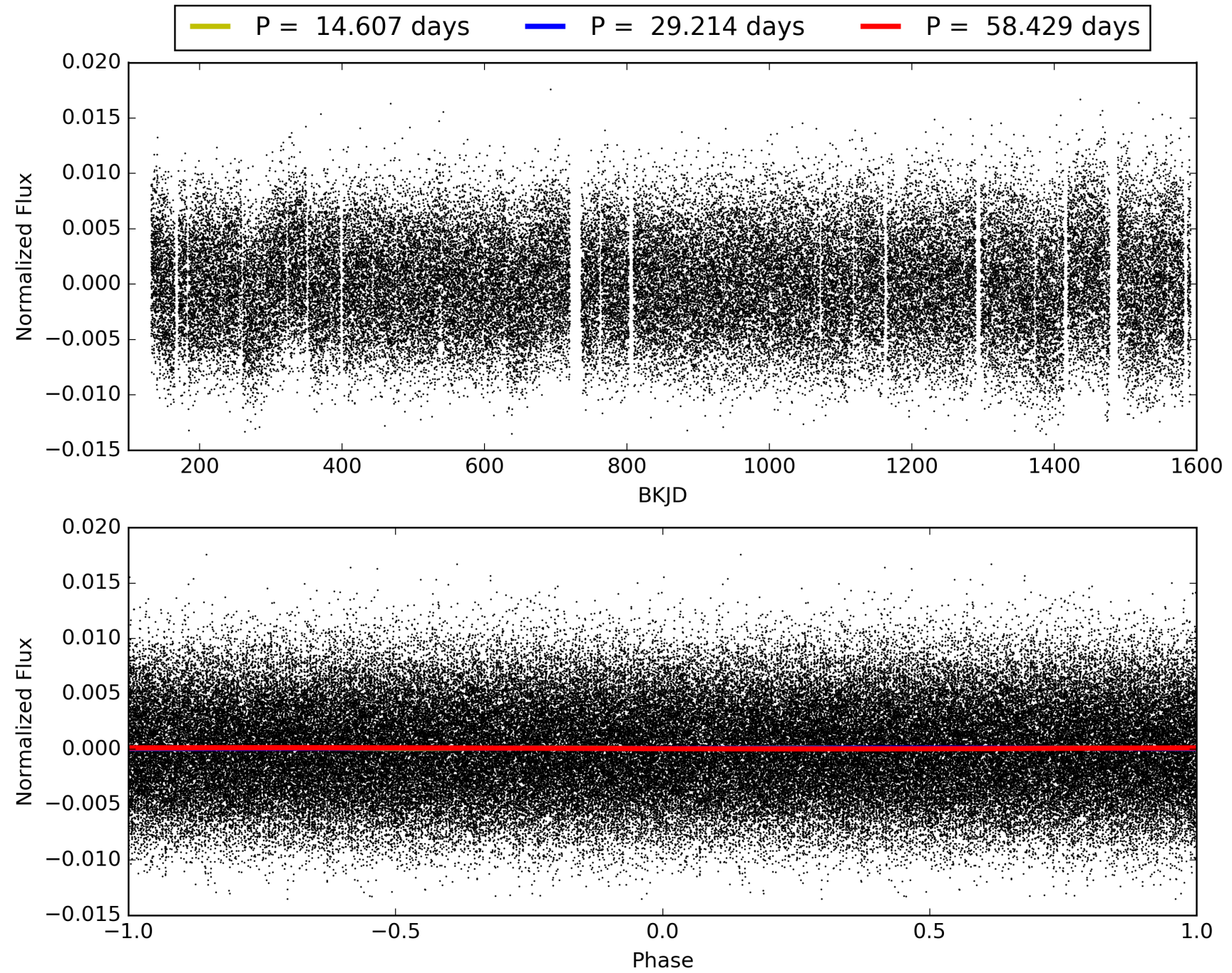
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [66.43σ]
LongPeriod-sig: 100.0% [15.64σ]
ModelChiSquare2-sig: 2.3%
ModelChiSquareGof-sig: 95.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.05526
Centroid-sig: 14.4%
Centroid-so: 0.132 arcsec [3.77σ]
OotOffset-rm: 0.169 arcsec [0.42σ]
KicOffset-rm: 0.259 arcsec [0.38σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.44 [7/16]

TCE 005872972-05, PDC Light Curves

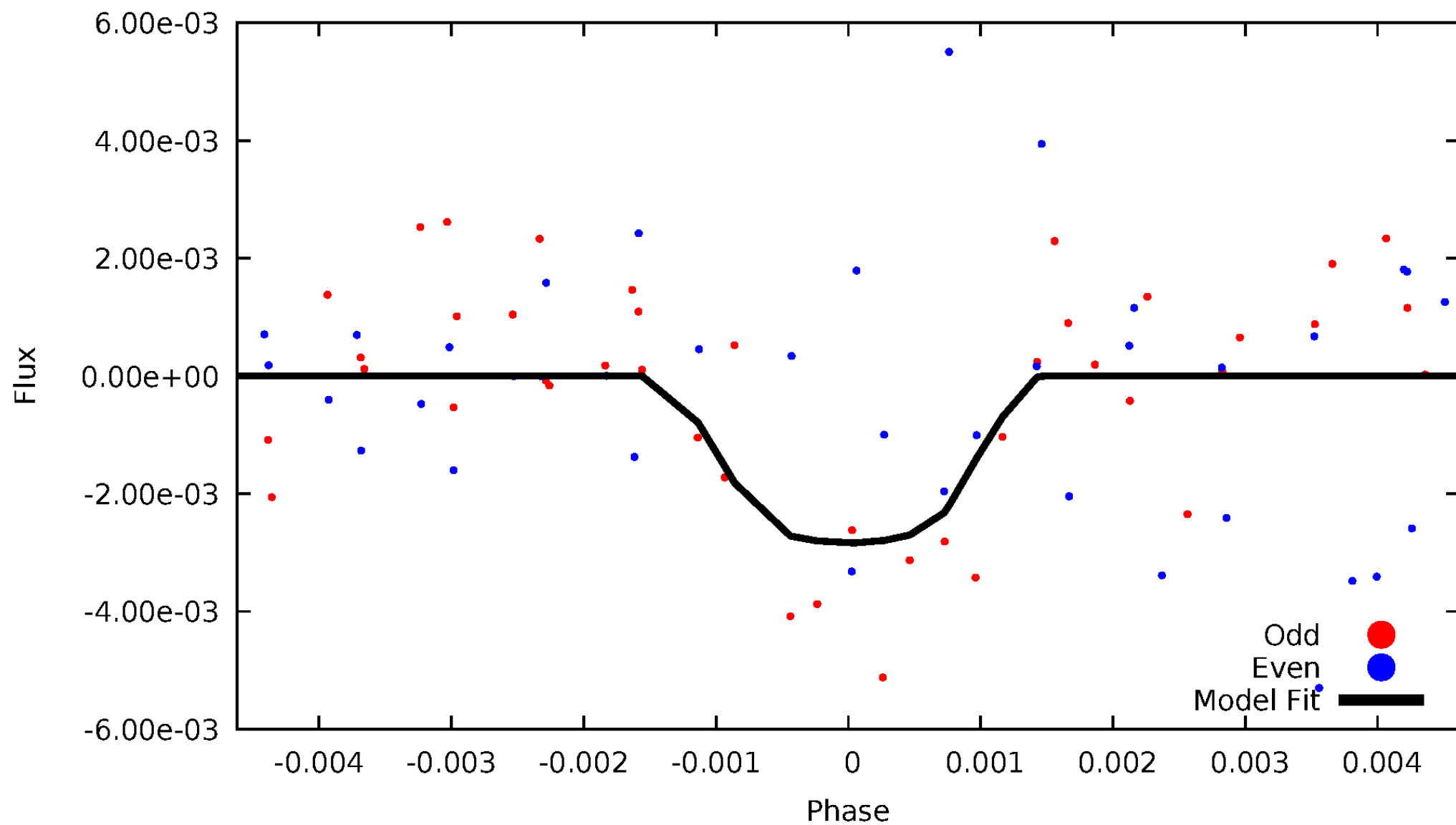


TCE 005872972-05



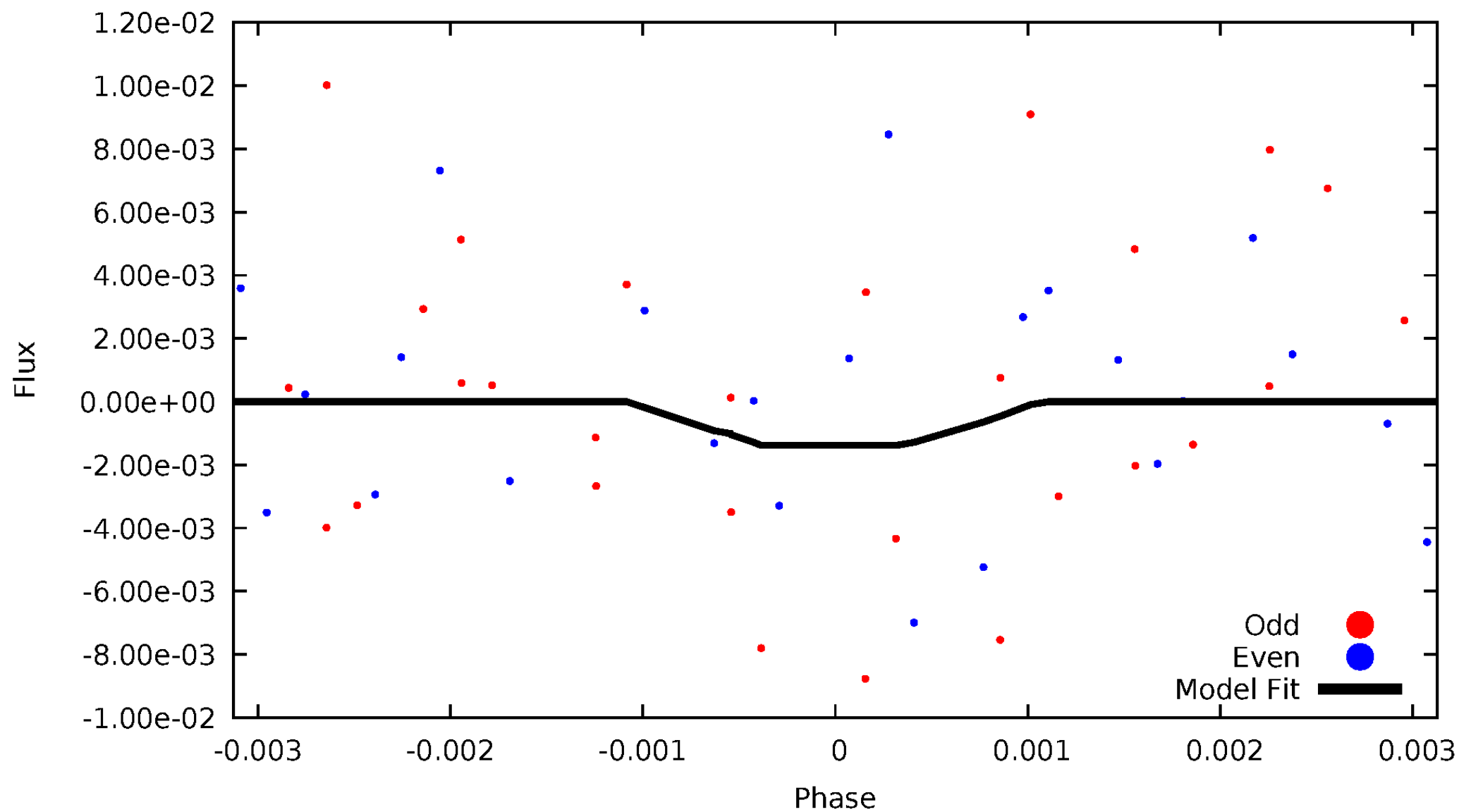
DV Odd/Even

TCE 005872972-05



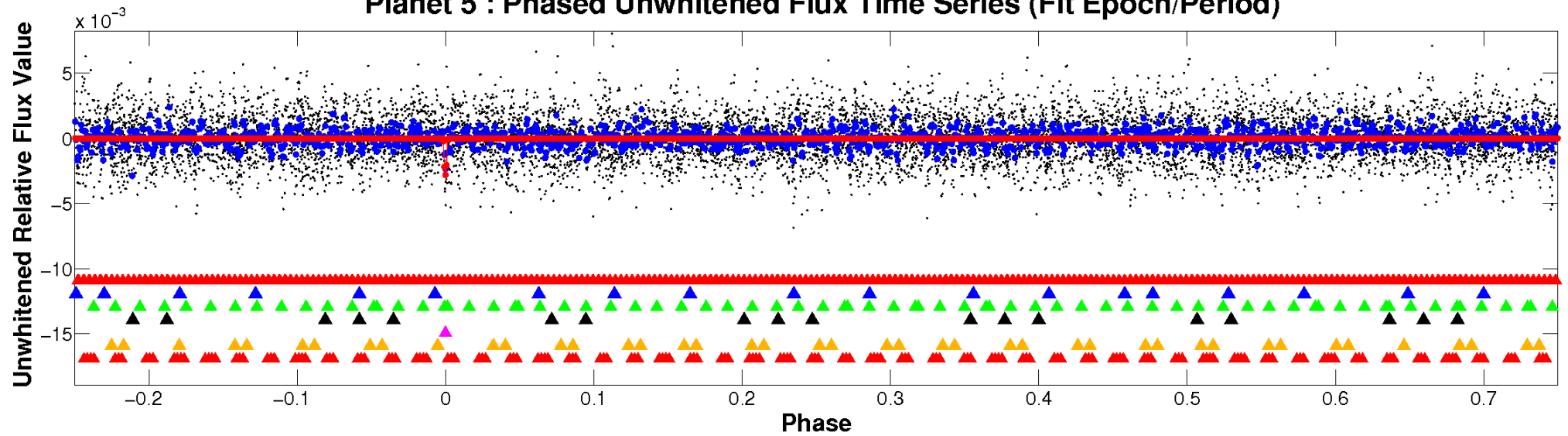
ALT Odd/Even

TCE 005872972-05

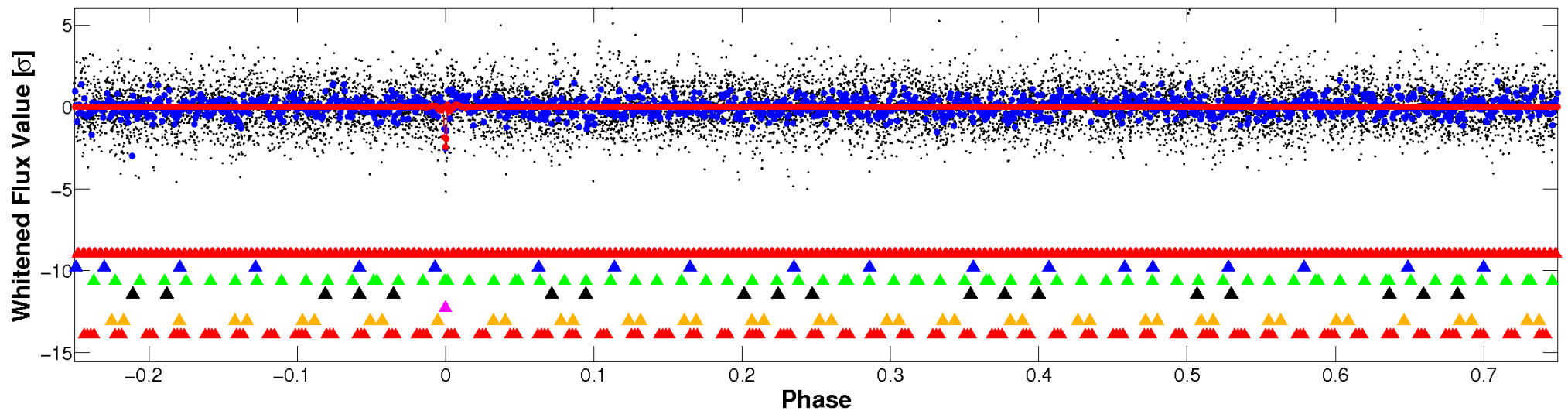


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

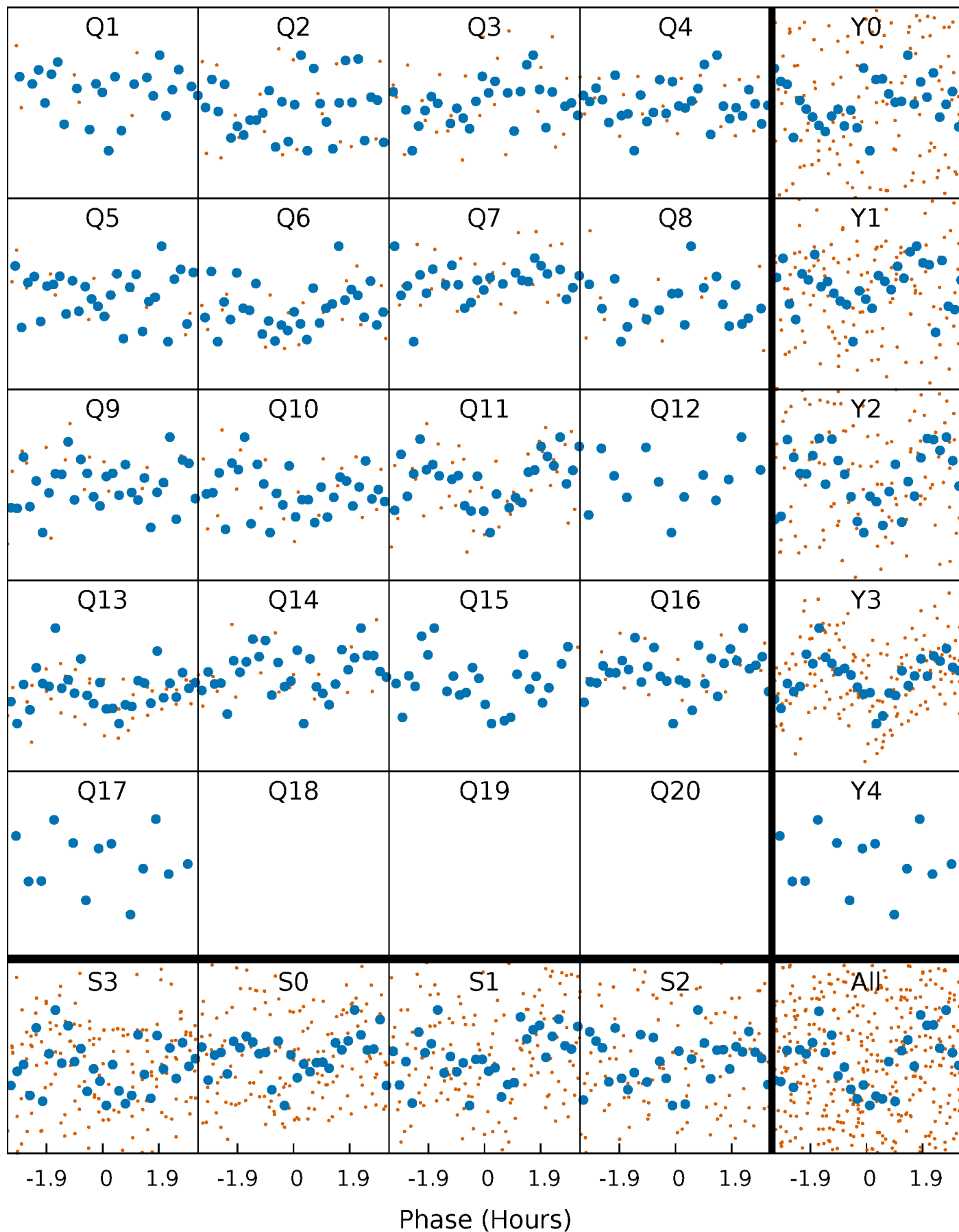


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



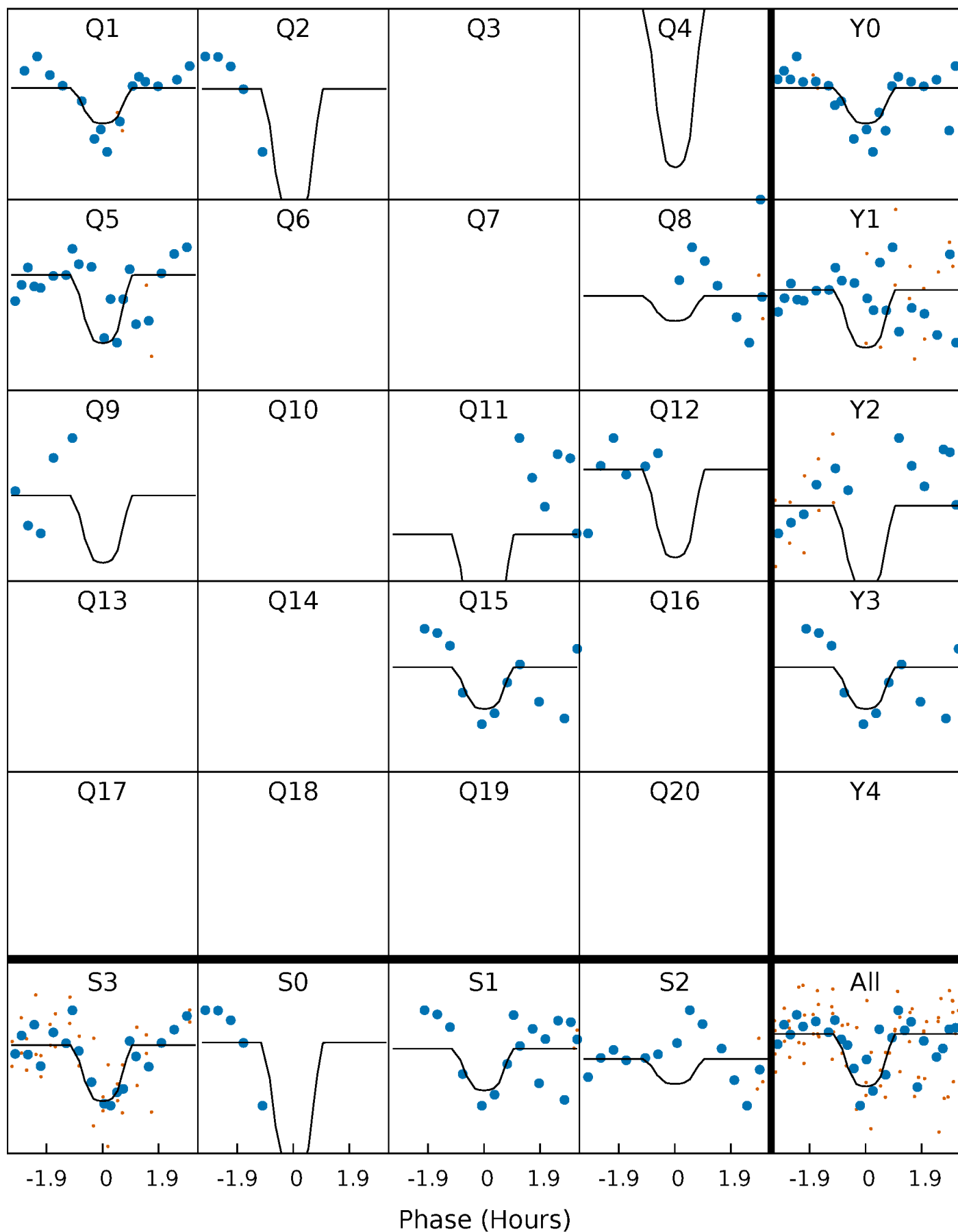
PDC Quarter-Phased Transit Curves

TCE 005872972-05 P= 29.214265 Days $T_0=132.921783$ (BKJD)



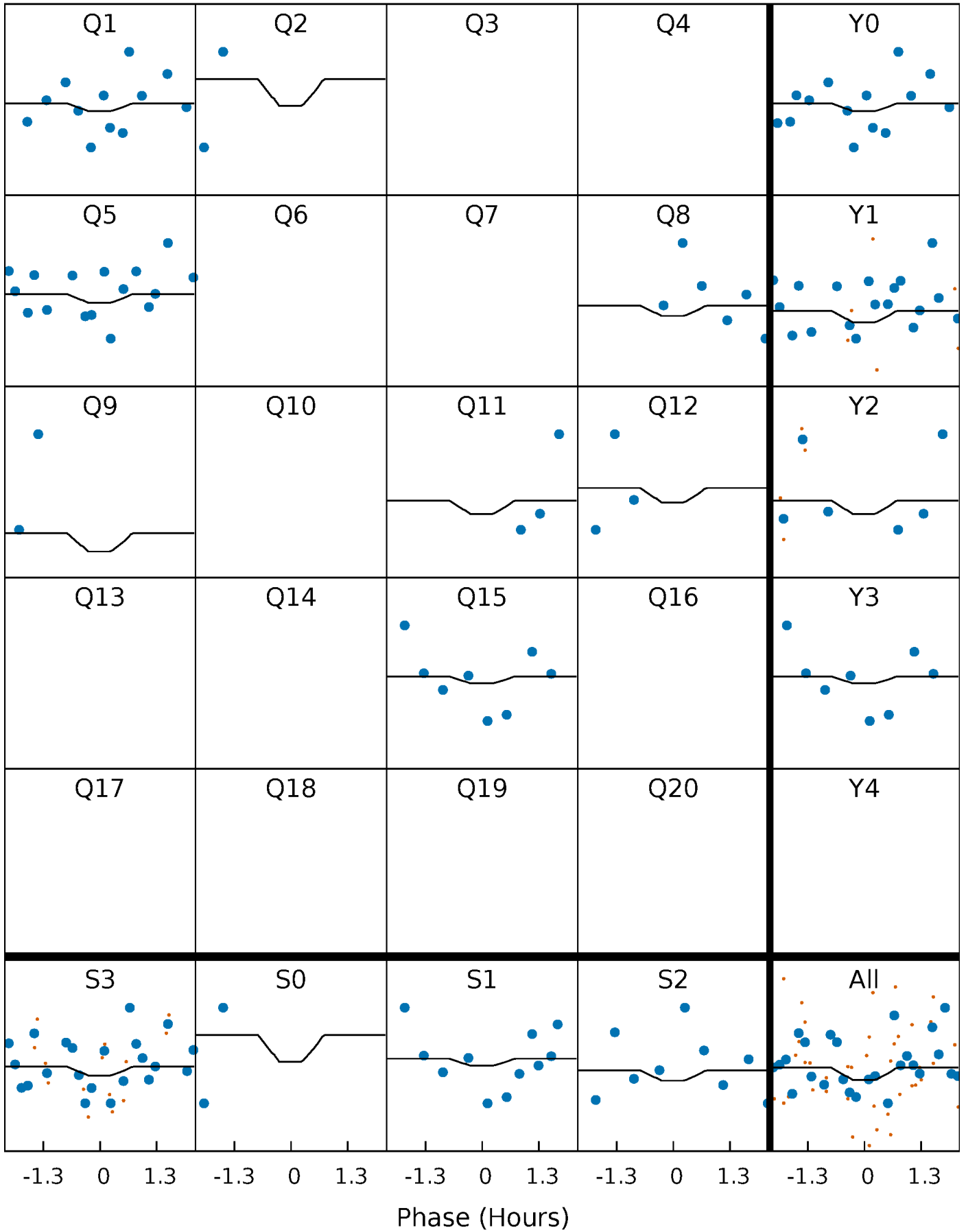
DV Quarter-Phased Transit Curves

TCE 005872972-05 $P = 29.214265$ Days $T_0 = 132.921783$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

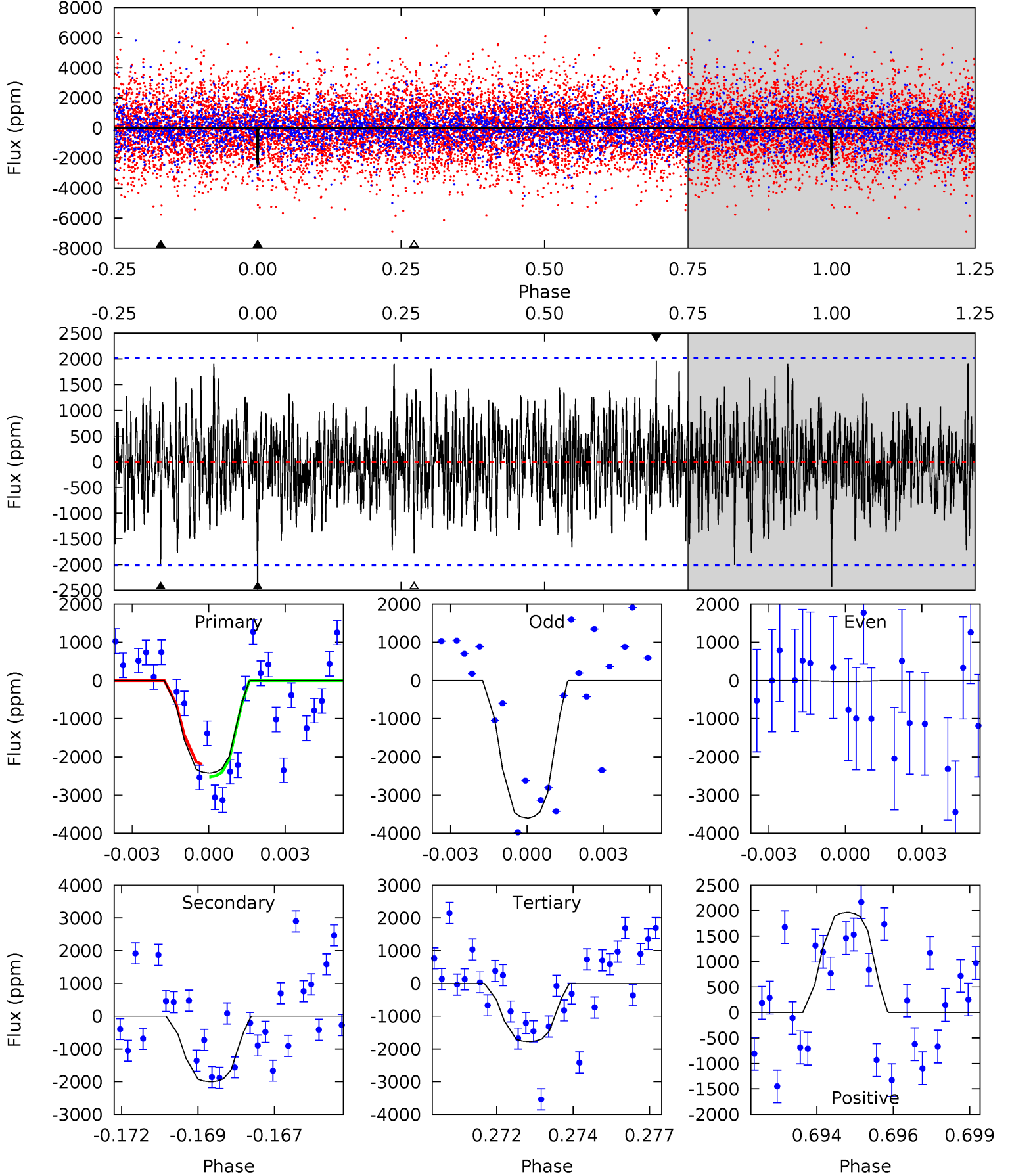
TCE 005872972-05 $P = 29.214041$ Days $T_0 = 132.940878$ (BKJD)



DV Model-Shift Uniqueness Test

005872972-05, P = 29.214265 Days, E = 103.707518 Days

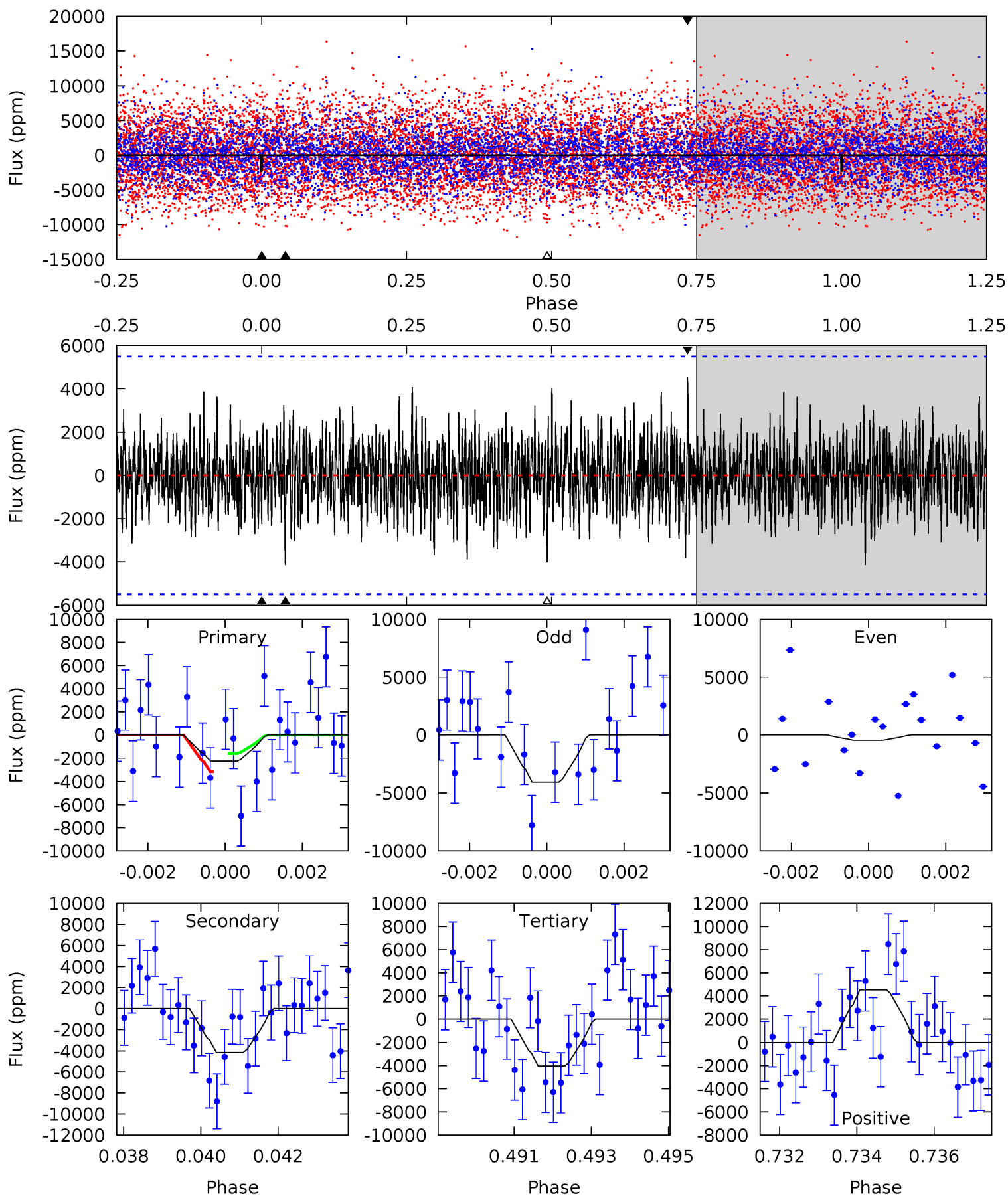
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.34	5.25	4.66	5.15	5.27	3.00	1.60	1.69	1.19	0.59	0.09	4.78	0.63	0.45	0.38



Alt Model-Shift Uniqueness Test

005872972-05, P = 29.214041 Days, E = 103.726837 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.18	4.02	3.90	4.39	5.33	3.09	1.24	-1.73	-2.21	0.11	-0.37	1.79	0.72	0.52	0.75



Stellar Parameters For KIC 005872972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7698^{+239}_{-319}	$3.680^{+0.468}_{-0.055}$	$-0.240^{+0.200}_{-0.300}$	$3.375^{+0.315}_{-1.679}$	$1.990^{+0.111}_{-0.553}$	$0.073^{+0.361}_{-0.014}$
	+3%/-4%	+13%/-1%	+83%/-125%	+9%/-50%	+6%/-28%	+495%/-19%
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 005872972-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2004 ± 382	$18.89^{+16.08}_{-11.97}$	1742^{+116}_{-202}	6570^{+5550}_{-1462}	162^{+1011}_{-113}
Alt.	-4142 ± 1031	$15.72^{+14.19}_{-9.73}$	1715^{+133}_{-217}	8878^{+12414}_{-2707}	496^{+2582}_{-373}

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

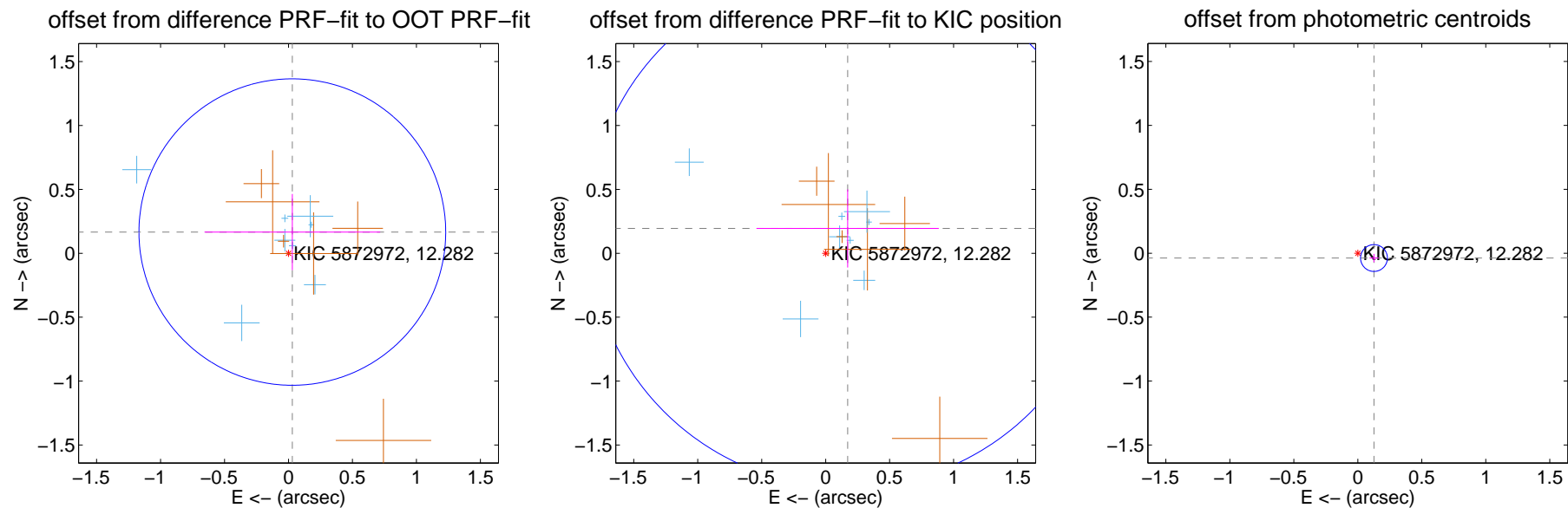
DV Centroid Data

Supplemental centroid analysis for 005872972-05. Kepler magnitude: 12.28. Transit SNR 8.82

There are 8 quarters with good PRF difference image offsets

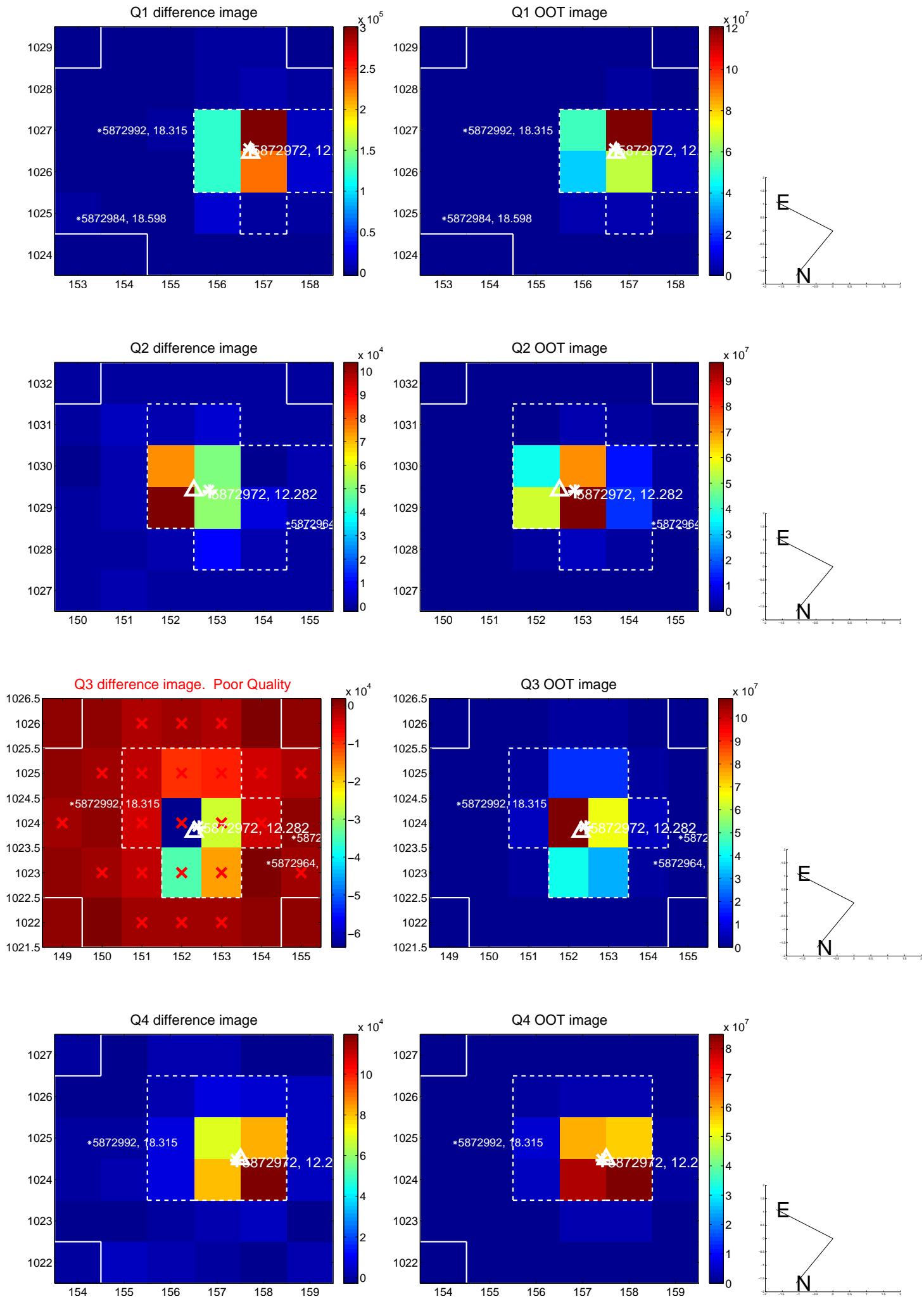
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.169 ± 0.400	0.42	-0.030 ± 0.686	0.166 ± 0.298
PRF-fit source offset from KIC position	0.259 ± 0.676	0.38	-0.172 ± 0.713	0.194 ± 0.306
photometric centroid source offset	0.13 ± 0.03	3.77	-0.13 ± 0.04	-0.04 ± 0.03

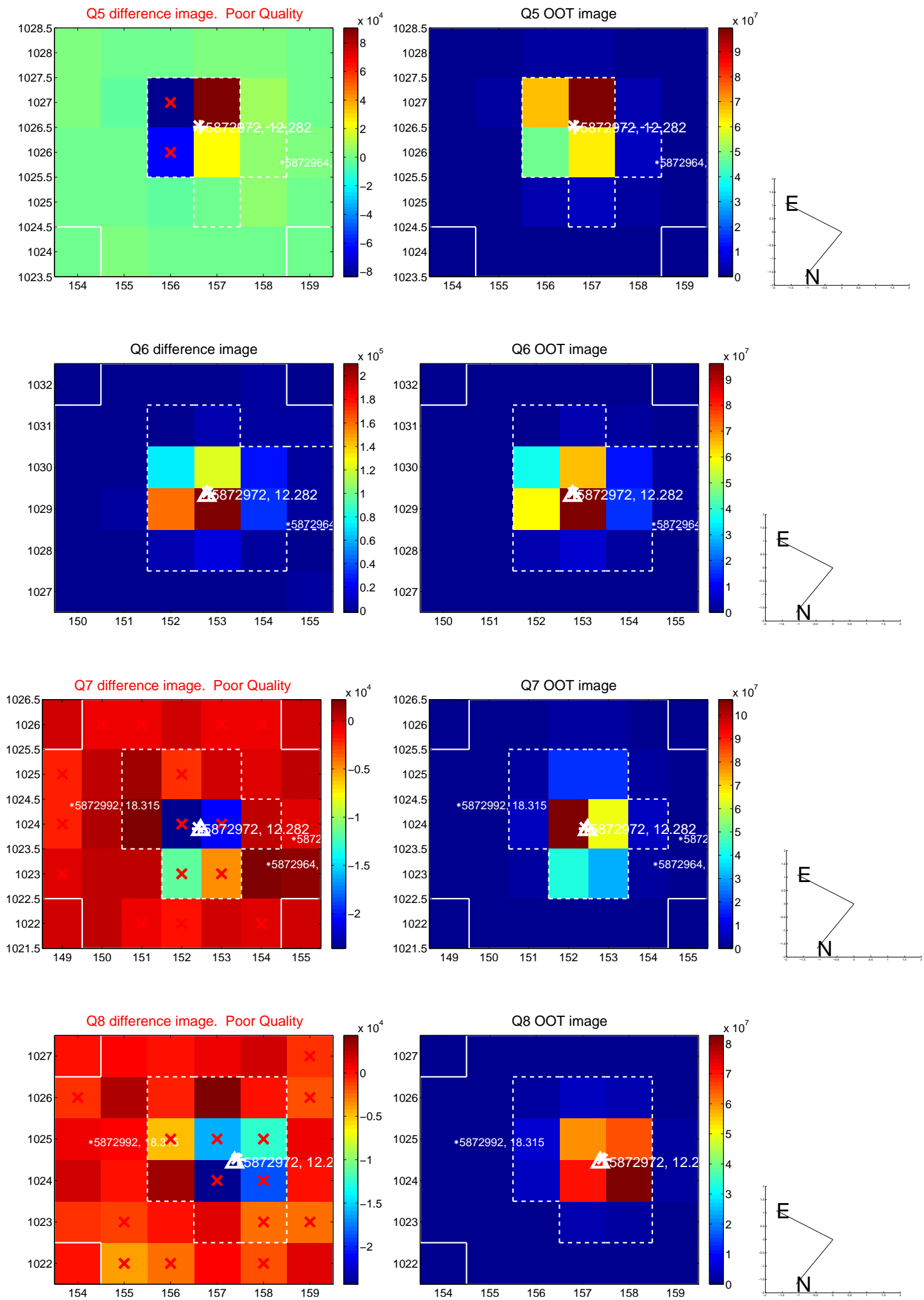


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

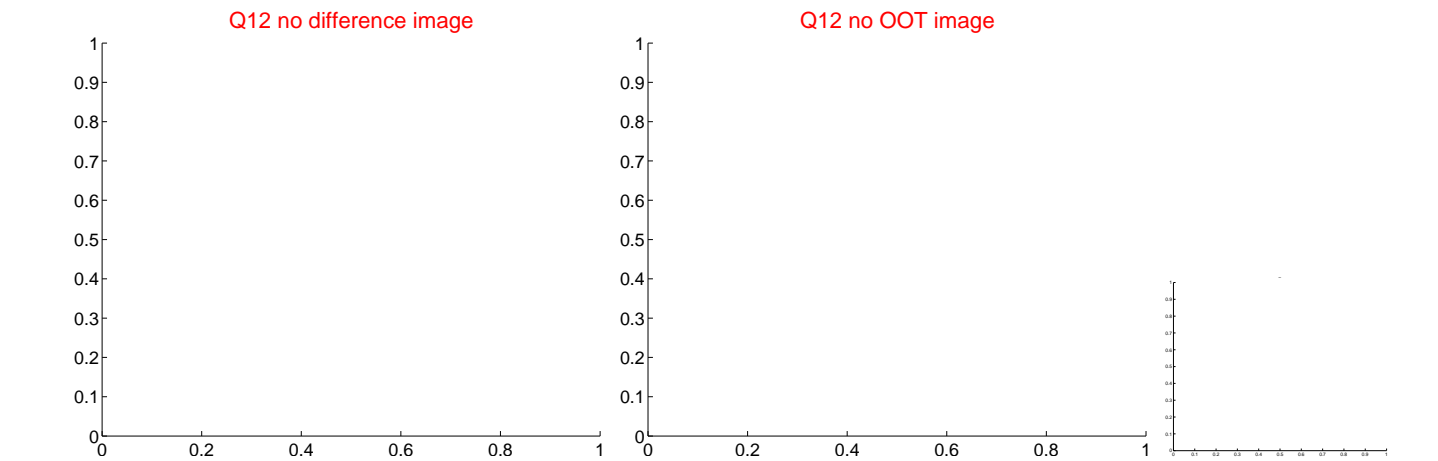
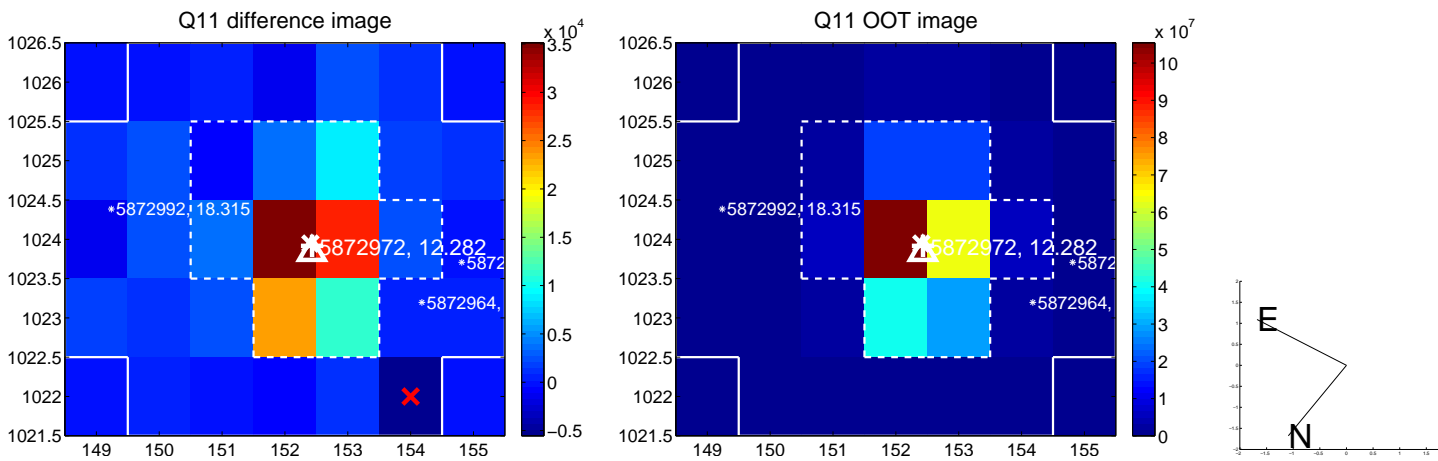
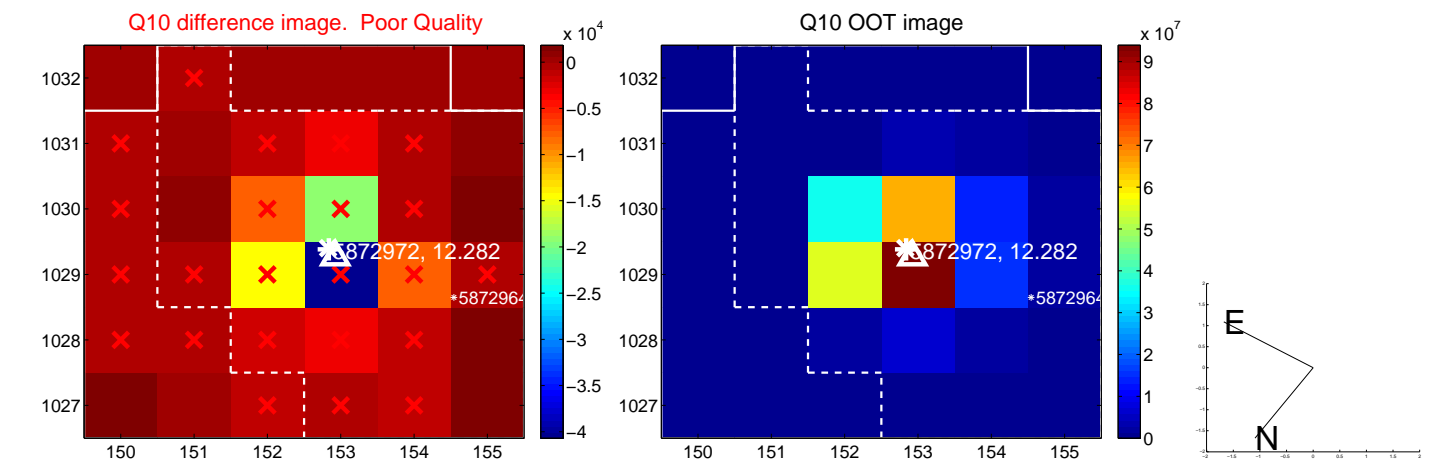
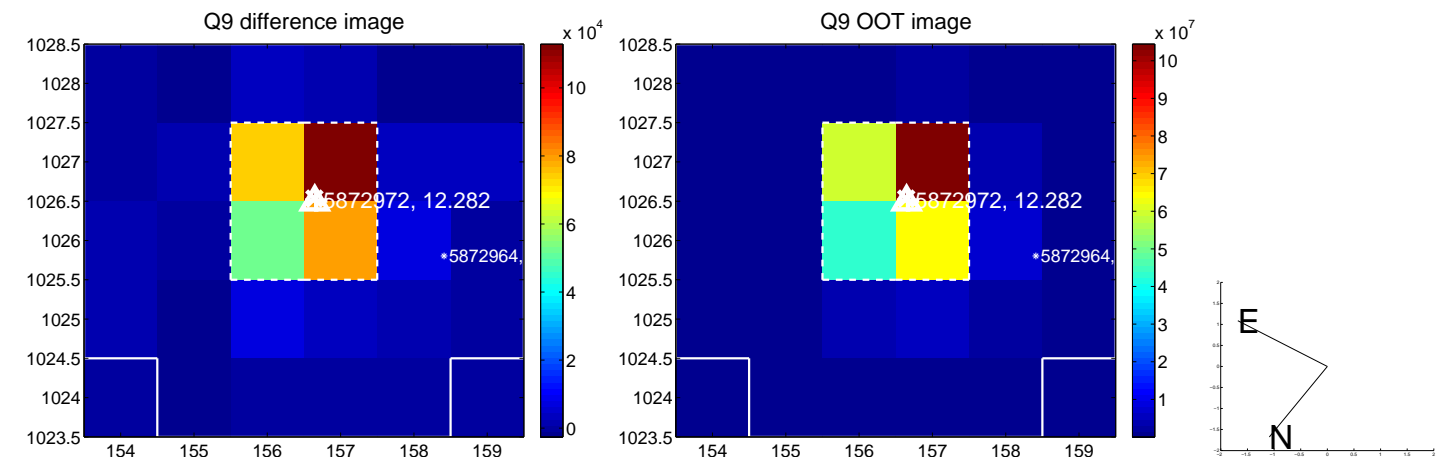
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



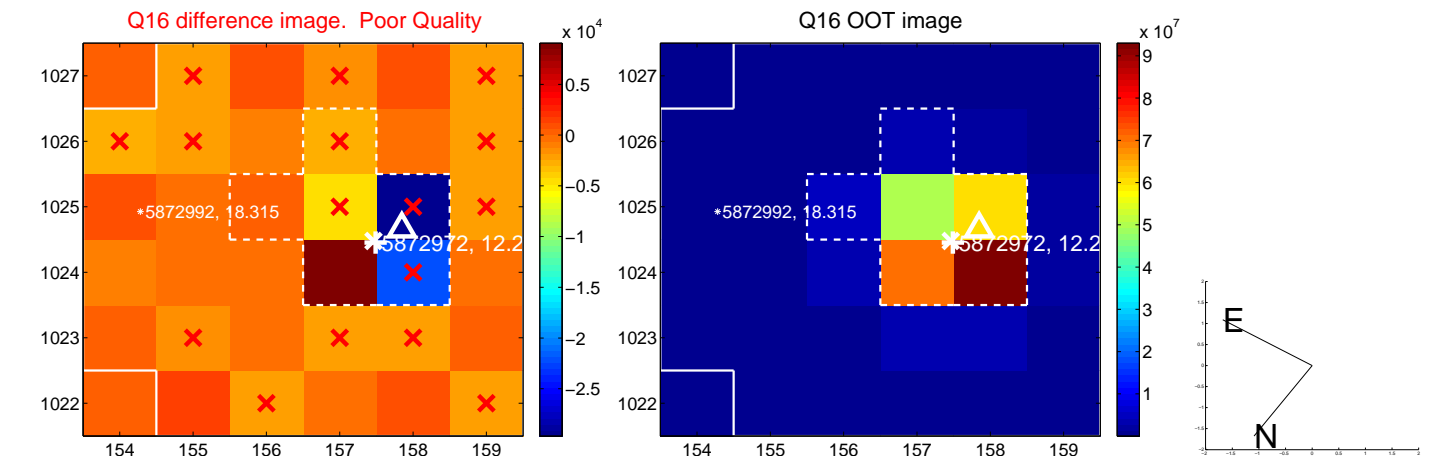
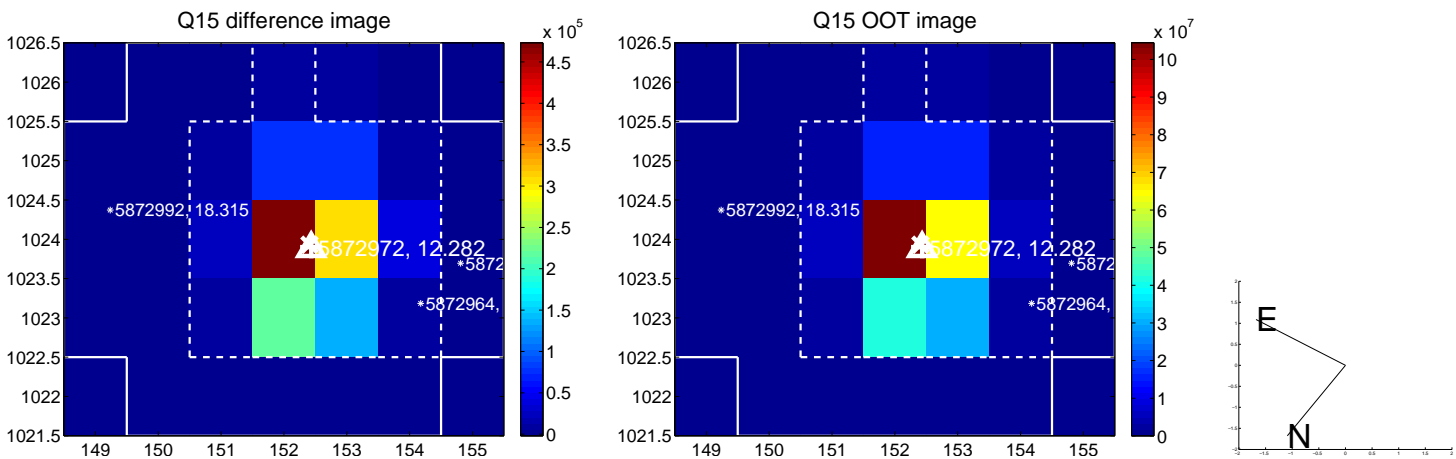
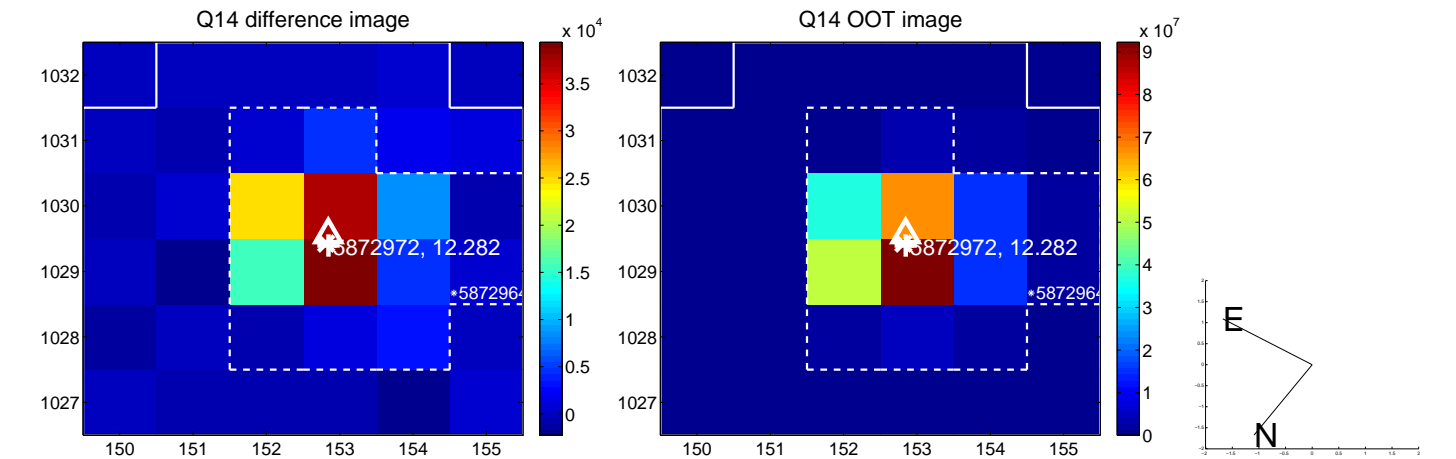
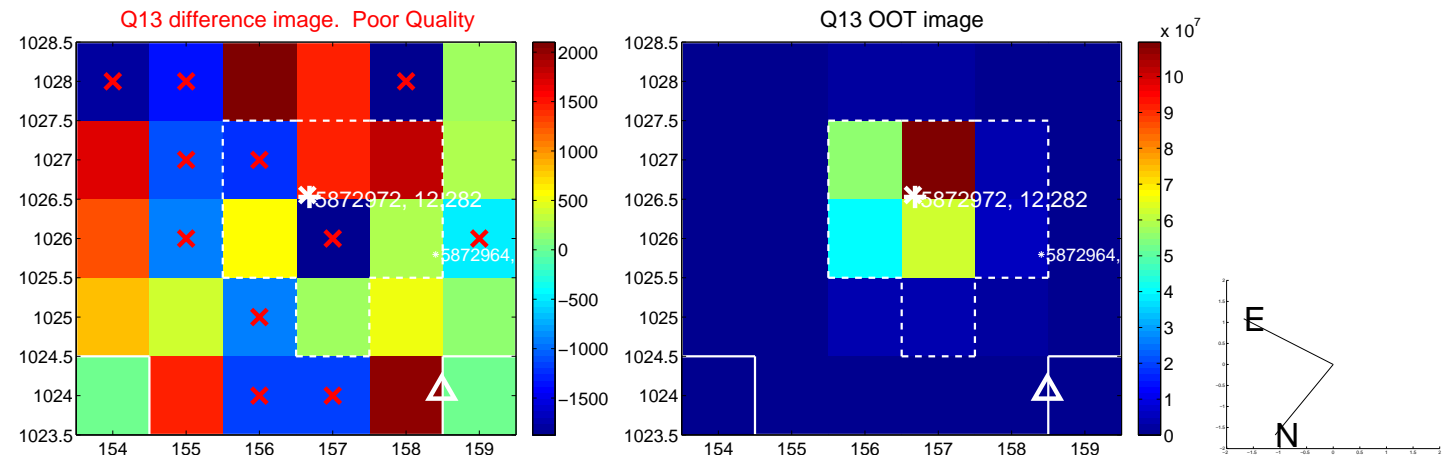
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



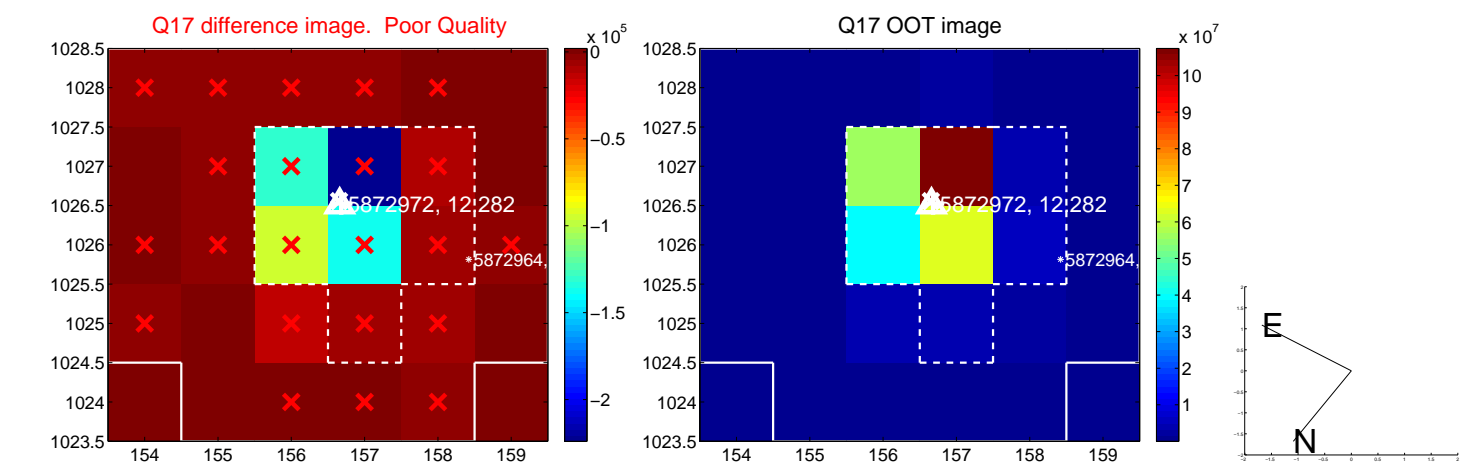
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



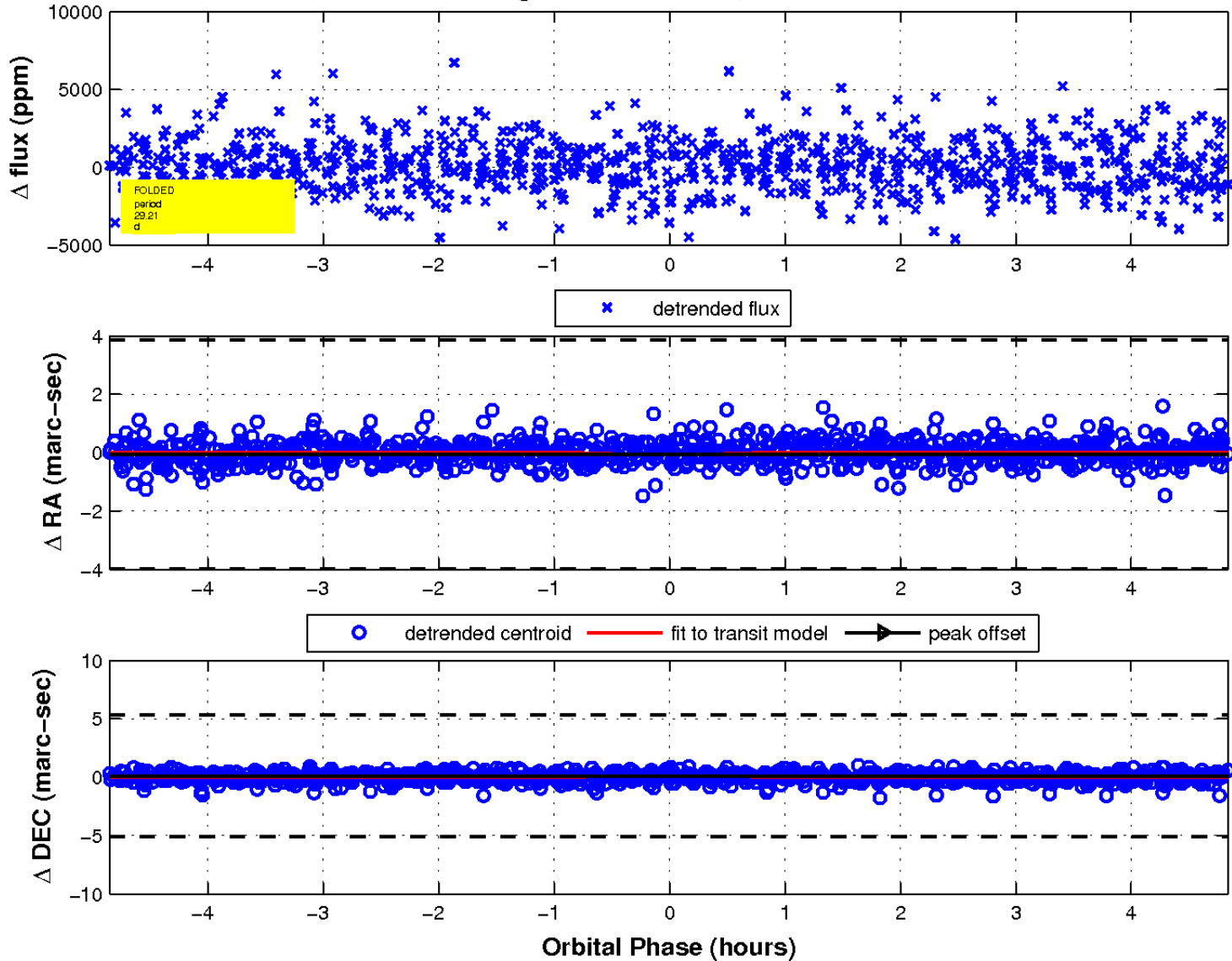
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

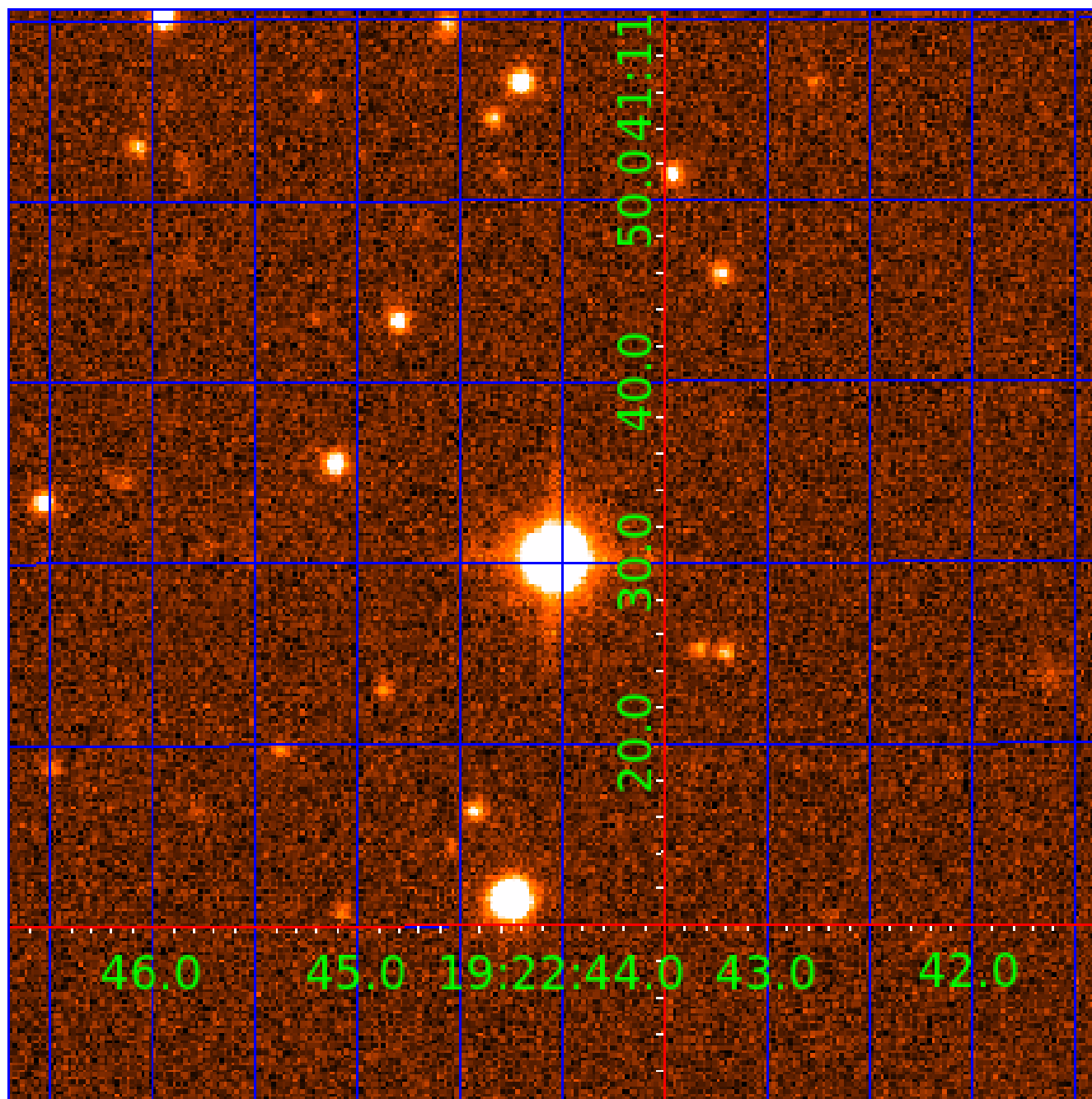


fluxWeightedCentroids, Planet 5 of 7



UKIRT Image

Declination



KIC 005872972

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})
005872972-01	OBS	No	1.212695	132.393302	127.8	7.987	10.1	9.0	3.38	7698	3.84	45735.48
005872972-02	OBS	No	79.082991	154.859611	2783.8	3.213	9.8	10.2	3.38	7698	17.92	174.24
005872972-03	OBS	No	19.940860	150.055838	1359.3	2.933	9.7	8.6	3.38	7698	12.67	1093.78
005872972-04	OBS	No	79.391727	197.232691	3435.2	1.945	8.8	9.3	3.38	7698	21.62	173.34
005872972-05	OBS	No	29.214265	132.921783	2834.7	1.619	9.0	8.8	3.38	7698	19.36	657.35
005872972-06	OBS	No	34.305238	137.624461	1035.5	7.640	8.1	7.9	3.38	7698	11.30	530.61
005872972-07	OBS	No	8.941798	139.718474	110.0	3.500	8.2	-1.0	3.38	7698	3.56	3186.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872972-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005872972-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005872972-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005872972-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

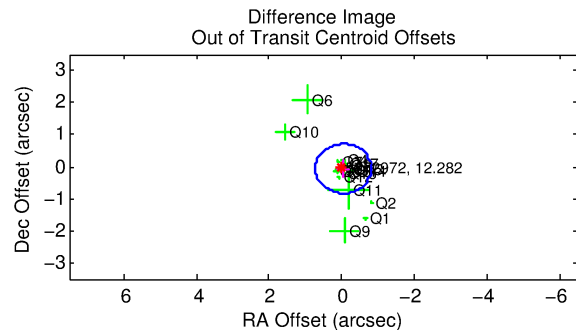
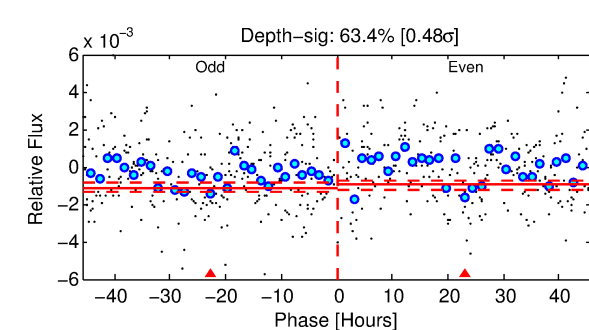
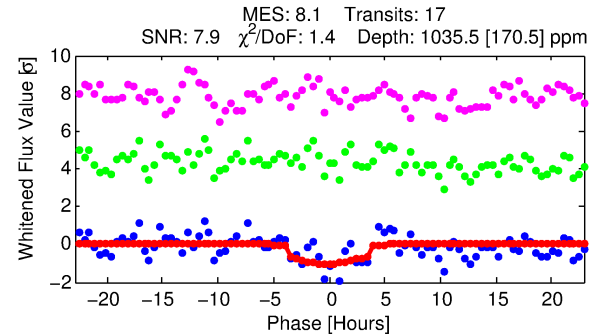
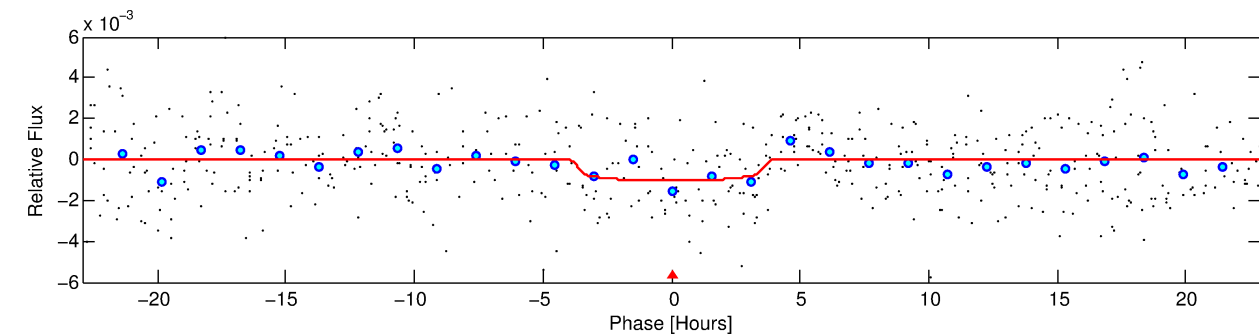
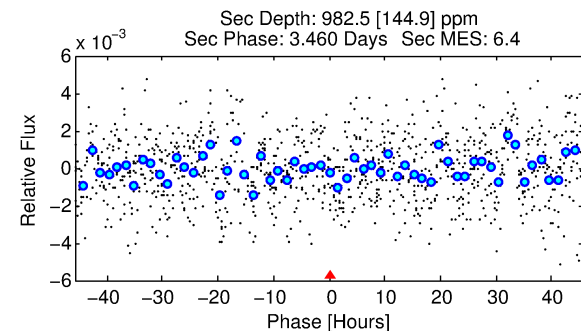
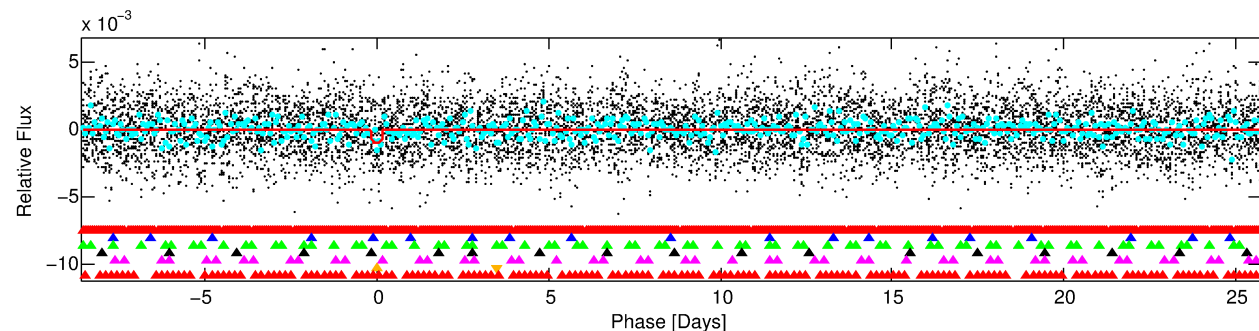
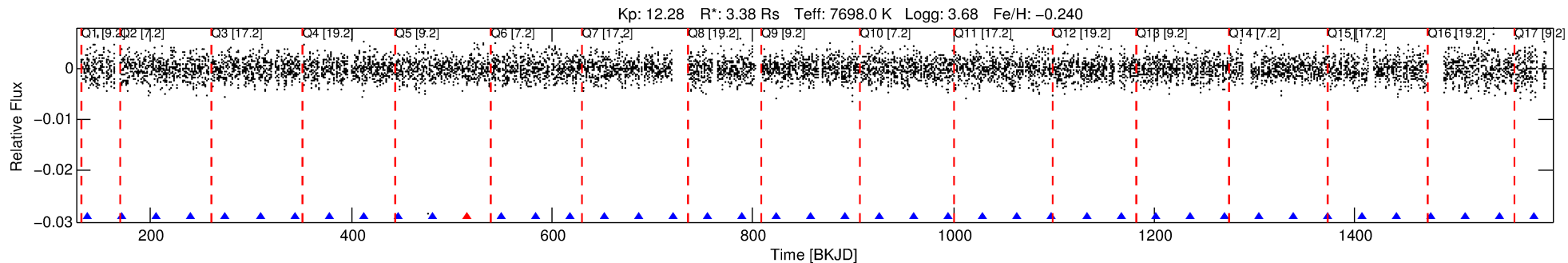
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872972-06

No Significant Match Found

DV One-Page Summary

KIC: 5872972 Candidate: 6 of 7 Period: 34.305 d



DV Fit Results:

Period = 34.30524 [0.00090] d
Epoch = 137.6245 [0.0195] BKJD
Rp/R* = 0.0307 [0.0217]
a/R* = 29.58 [106.68]
b = 0.56 [4.38]
Seff = 530.61 [428.97]
Teq = 1224 [247] K
Rp = 11.30 [9.78] Re
a = 0.2599 [0.1271] AU
Ag = 285.89 [465.59] [0.61σ]
Teffp = 7781 [2787] K [2.34σ]

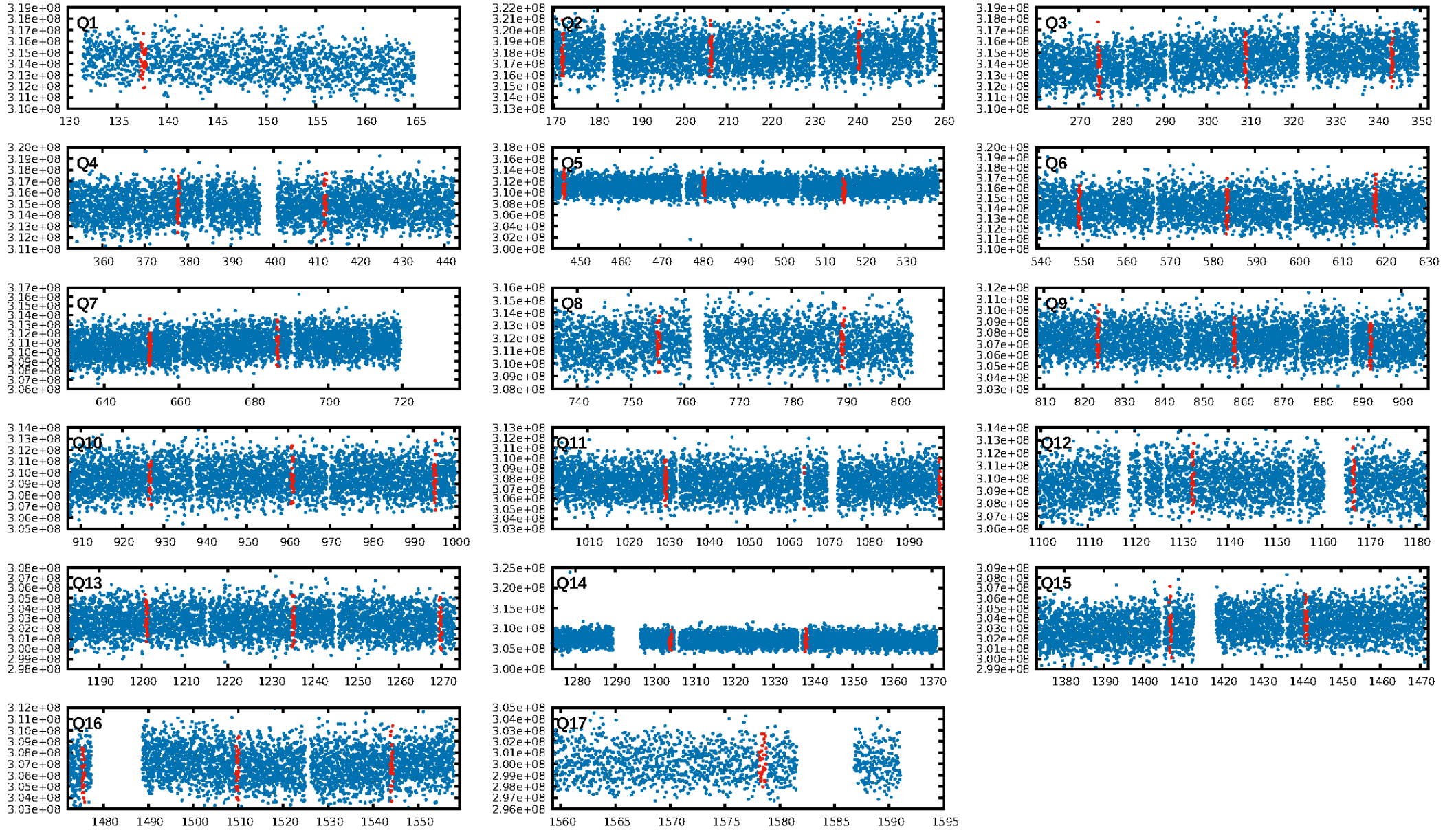
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.64σ]
LongPeriod-sig: 100.0% [129.66σ]
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [14/15]
GhostDiagnostic-chr: -0.4377
Centroid-sig: 51.9%
Centroid-so: 0.162 arcsec [2.87σ]
OotOffset-rm: 0.073 arcsec [0.28σ]
KicOffset-rm: 0.196 arcsec [1.00σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 0.00 [0/17]

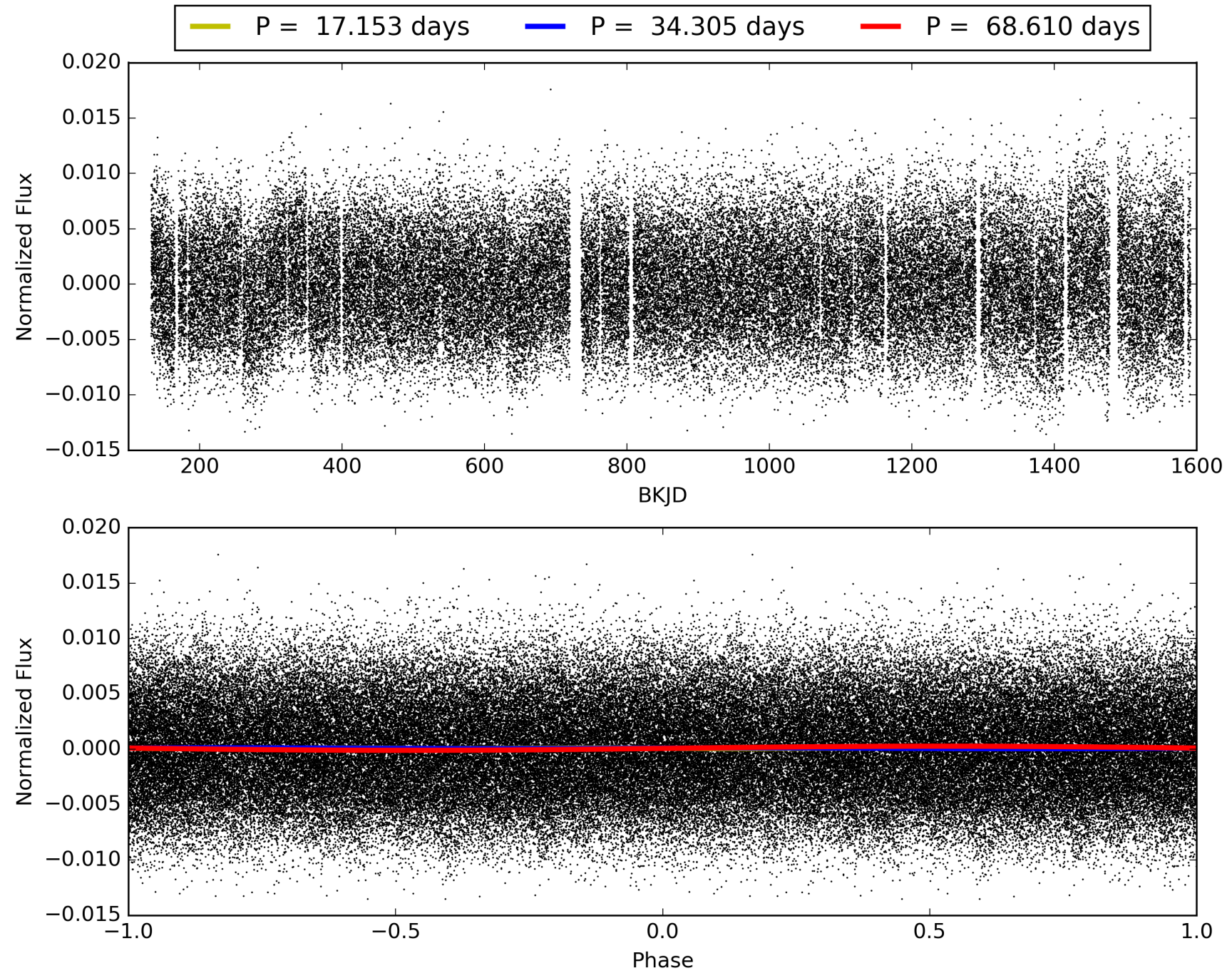
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:08:42 Z

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

TCE 005872972-06, PDC Light Curves

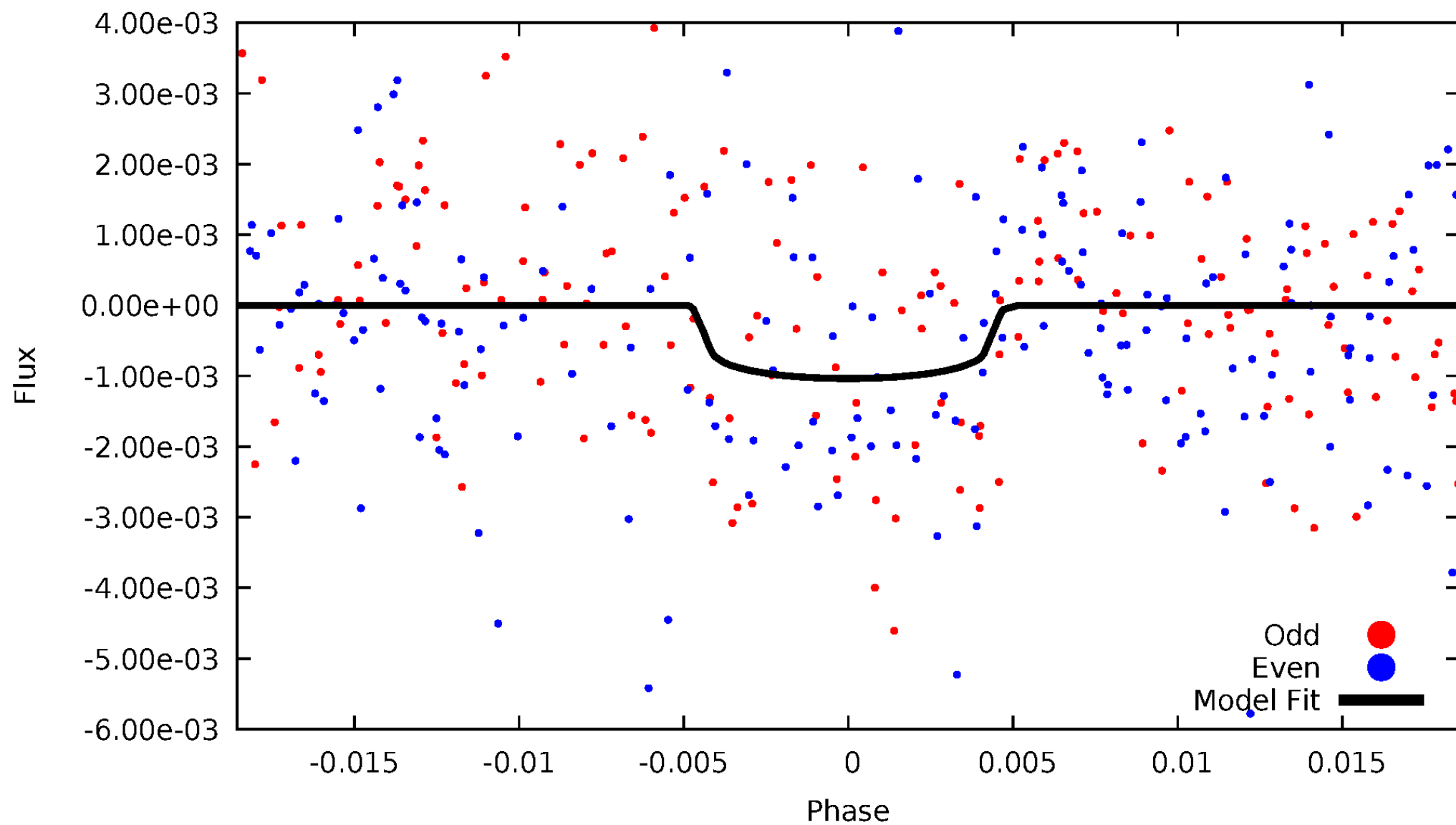


TCE 005872972-06



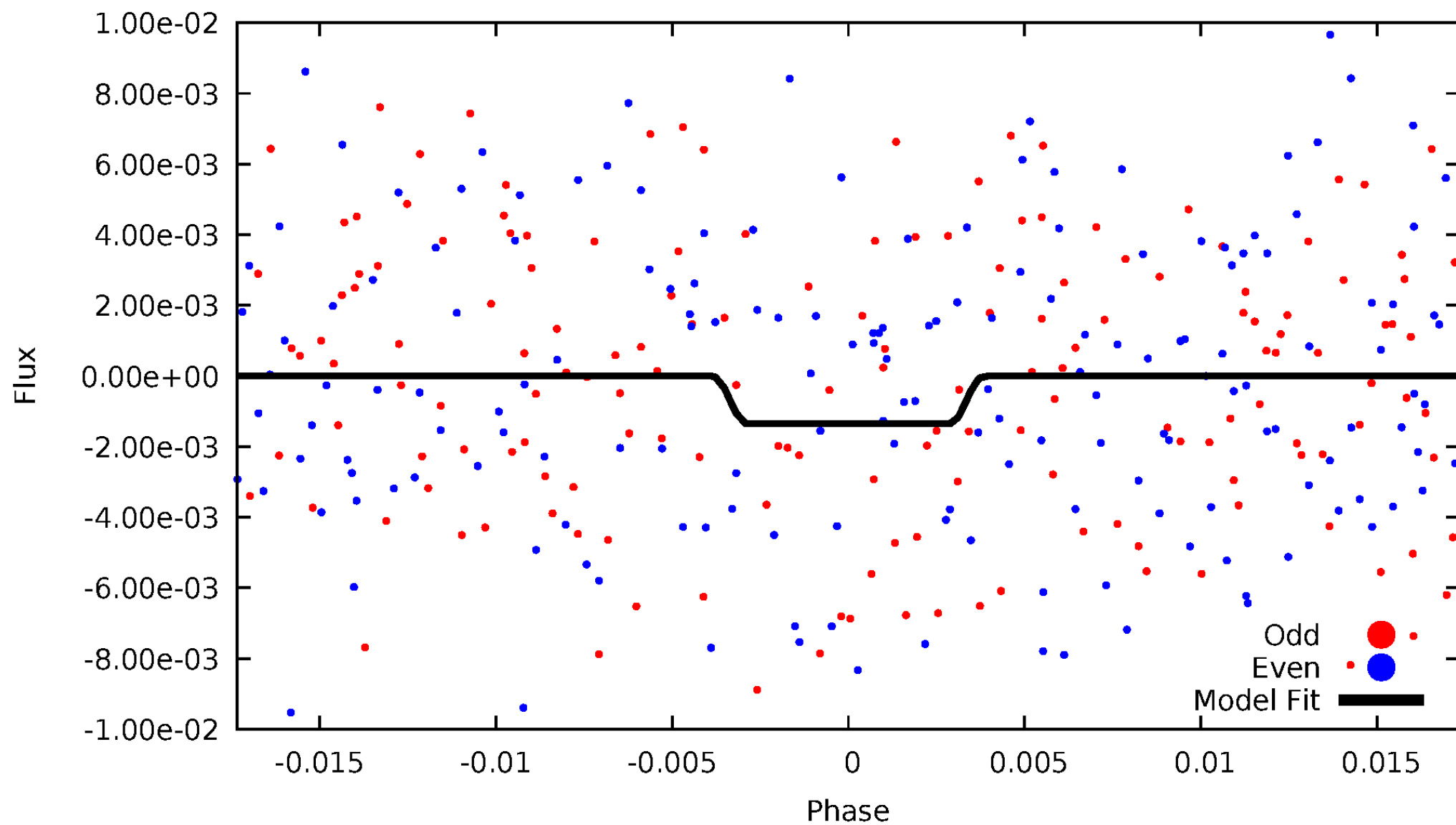
DV Odd/Even

TCE 005872972-06



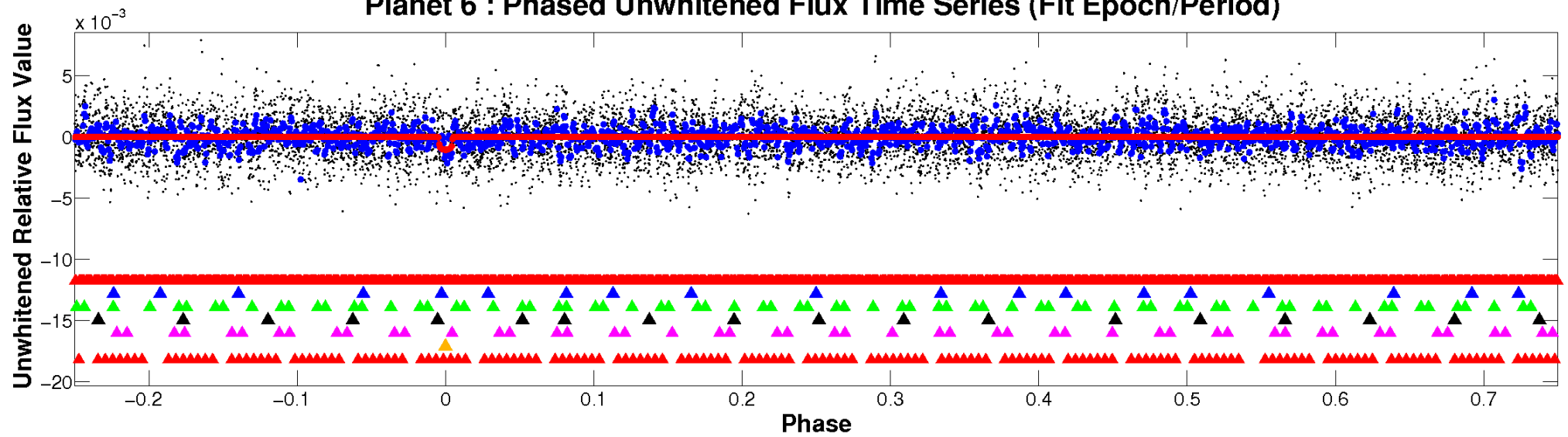
ALT Odd/Even

TCE 005872972-06

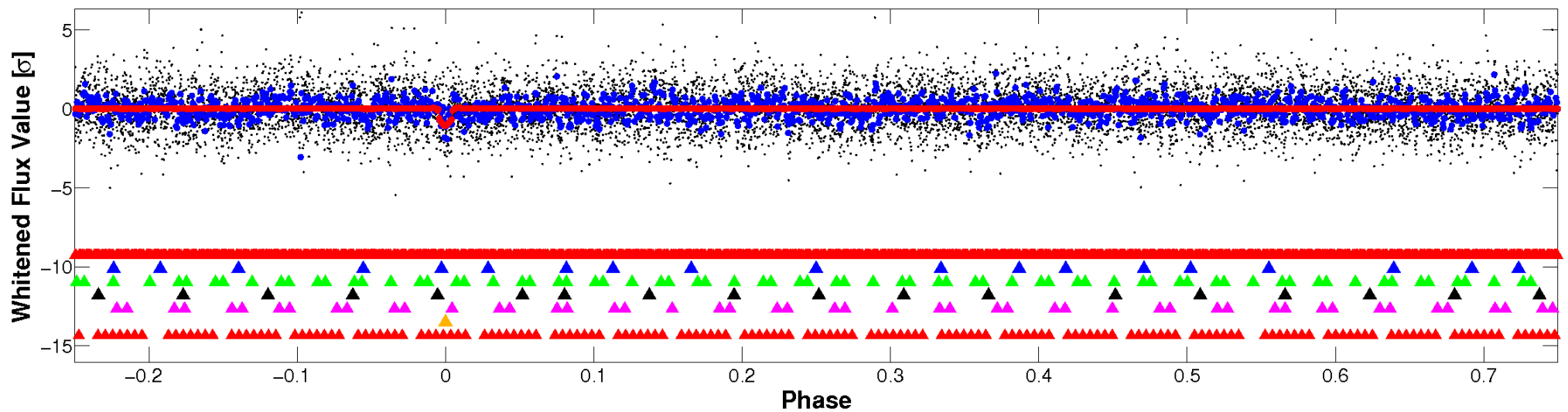


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

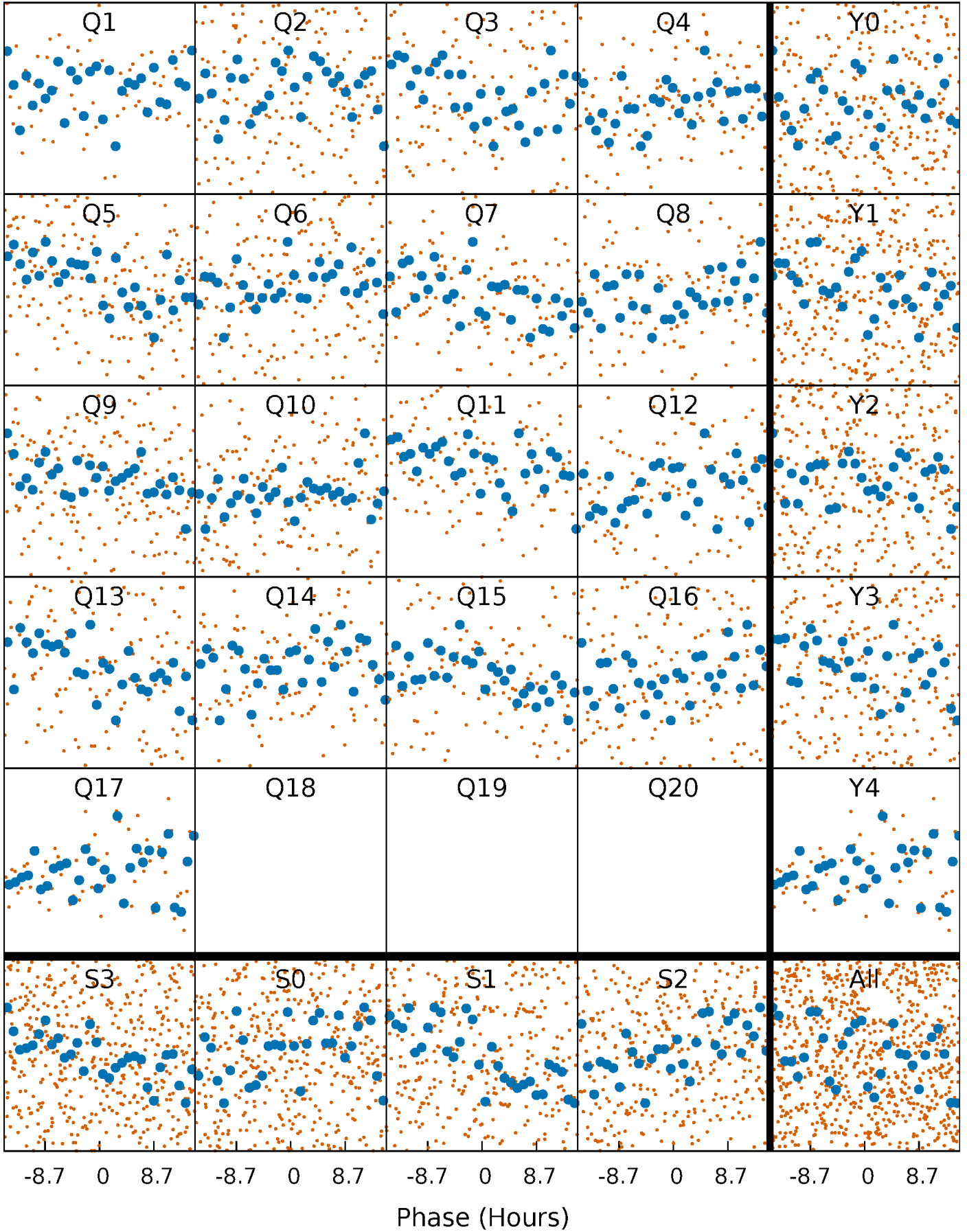


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



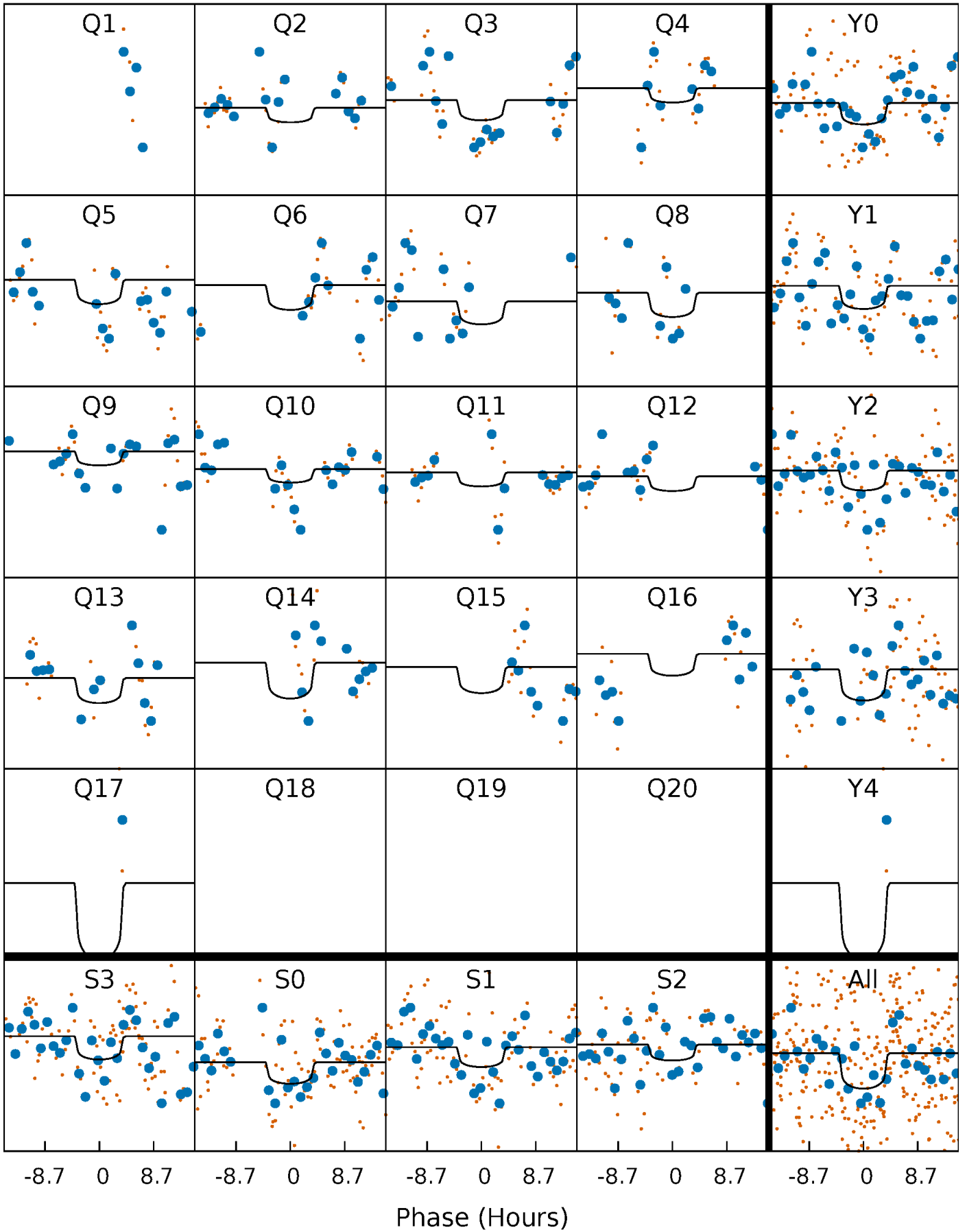
PDC Quarter-Phased Transit Curves

TCE 005872972-06 P= 34.305238 Days $T_0=137.624461$ (BKJD)



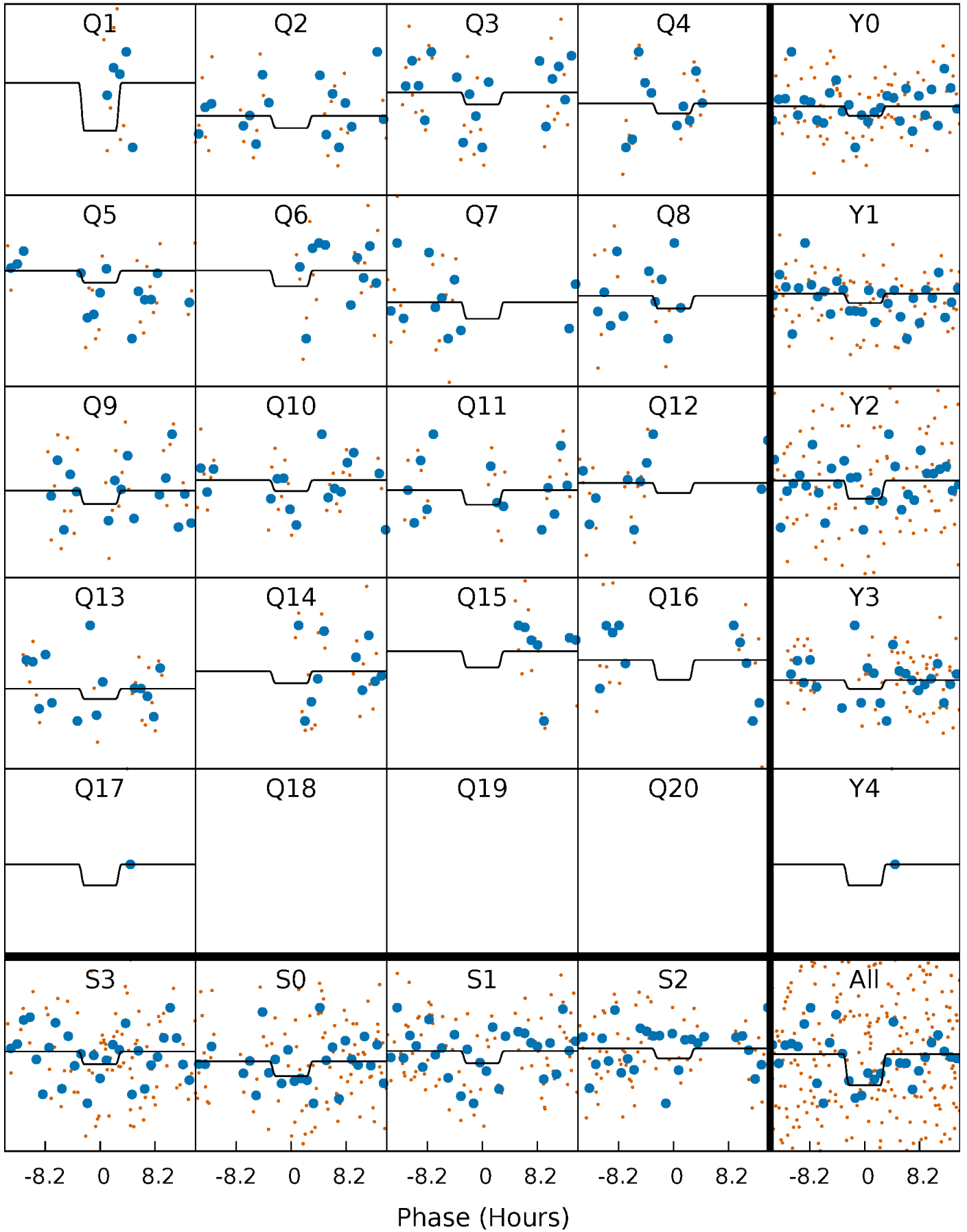
DV Quarter-Phased Transit Curves

TCE 005872972-06 P= 34.305238 Days $T_0=137.624461$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

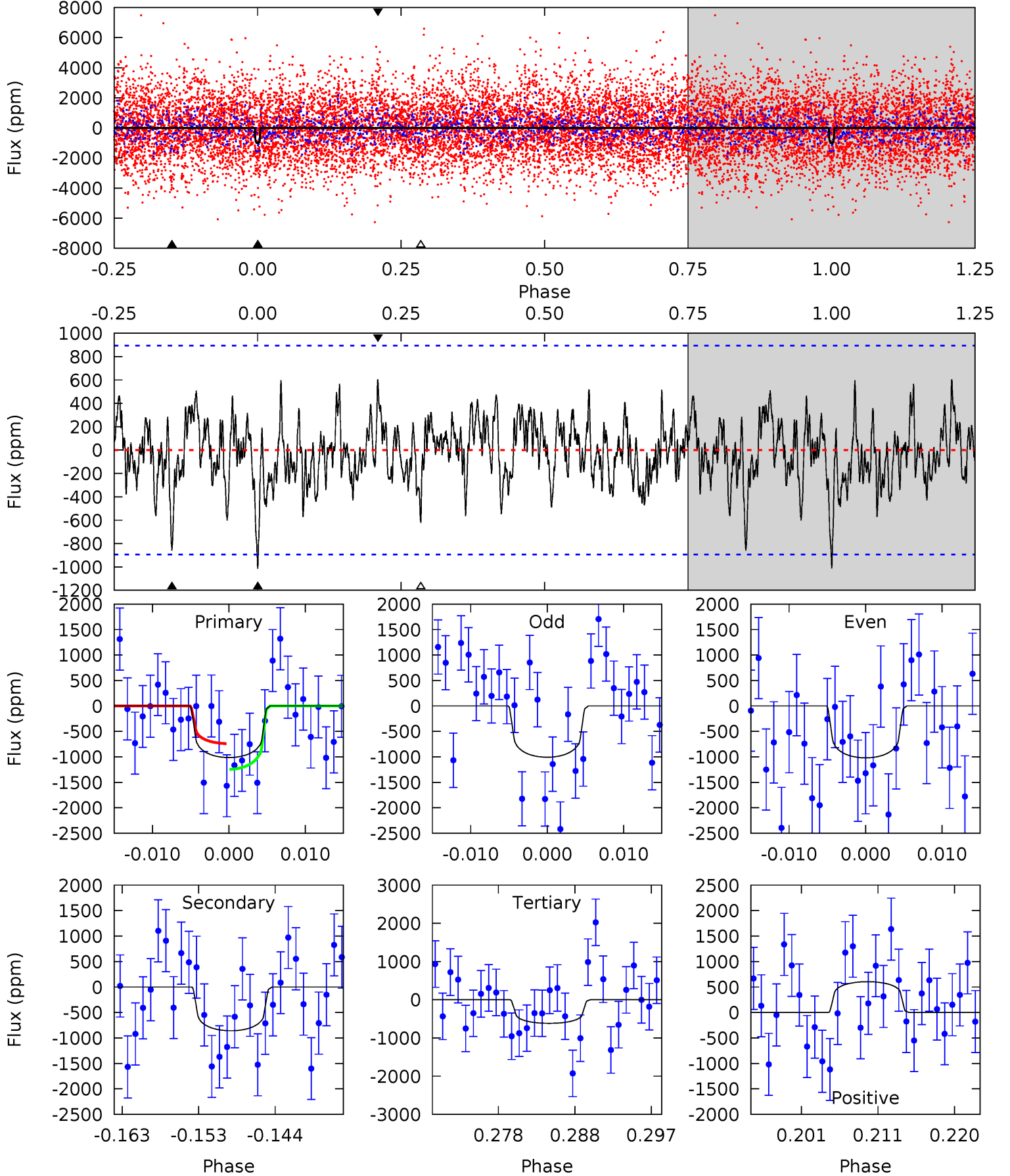
TCE 005872972-06 P= 34.301590 Days $T_0=137.741170$ (BKJD)



DV Model-Shift Uniqueness Test

005872972-06, $P = 34.305238$ Days, $E = 103.319223$ Days

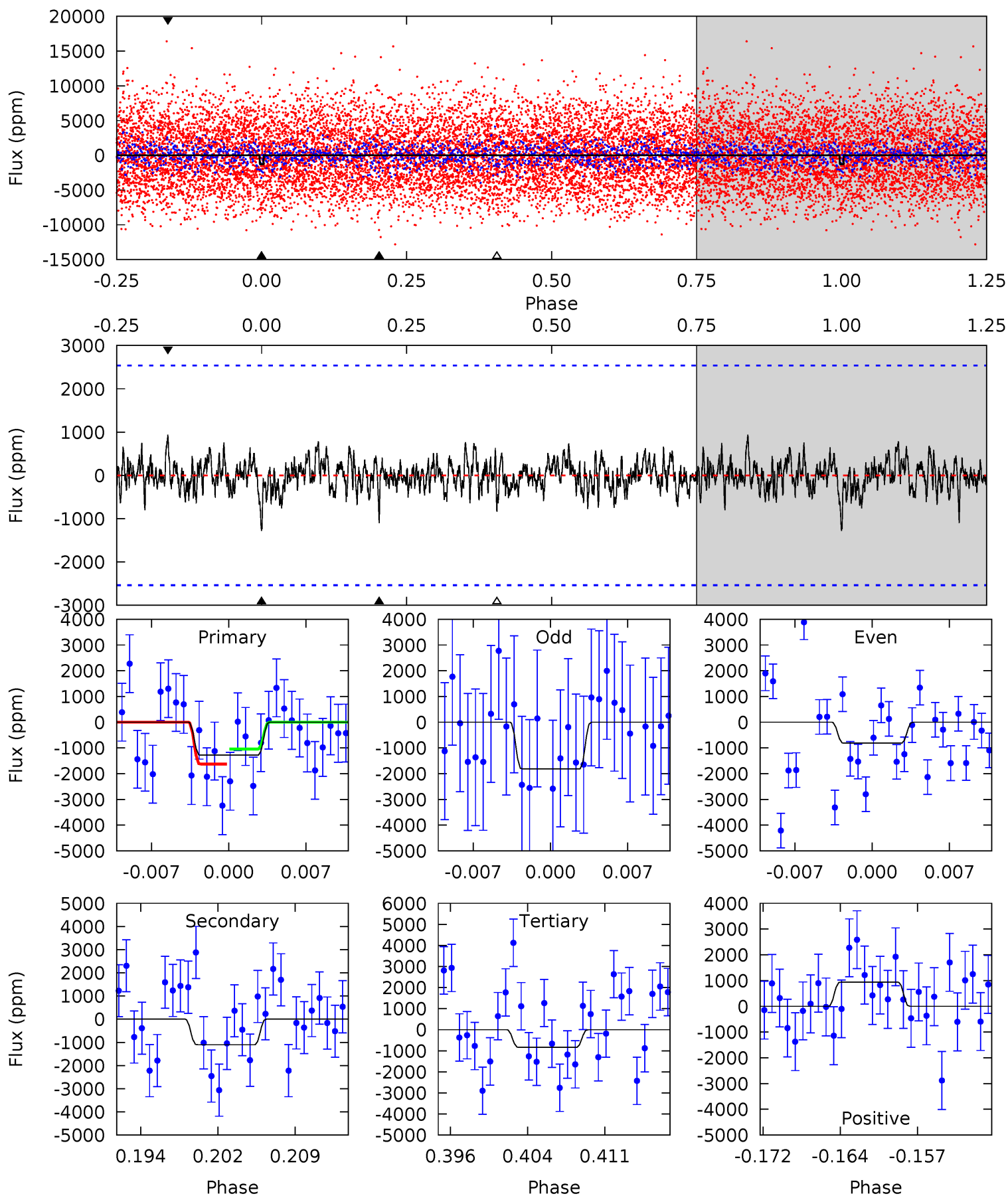
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.70	4.83	3.47	3.40	5.03	2.59	1.23	2.23	2.30	1.36	1.43	0.03	0.63	0.37	1.41



Alt Model-Shift Uniqueness Test

005872972-06, P = 34.301590 Days, E = 103.439580 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.56	2.20	1.68	1.88	5.08	2.67	0.58	0.89	0.69	0.53	0.33	1.00	0.99	0.42	0.57



Stellar Parameters For KIC 005872972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7698^{+239}_{-319}	$3.680^{+0.468}_{-0.055}$	$-0.240^{+0.200}_{-0.300}$	$3.375^{+0.315}_{-1.679}$	$1.990^{+0.111}_{-0.553}$	$0.073^{+0.361}_{-0.014}$
	+3%/-4%	+13%/-1%	+83%/-125%	+9%/-50%	+6%/-28%	+495%/-19%
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 005872972-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-858 ± 178	$10.66^{+6.99}_{-6.41}$	1650^{+112}_{-214}	7142^{+5559}_{-1587}	278^{+1313}_{-182}
Alt.	-1100 ± 499	$11.98^{+8.15}_{-6.19}$	1649^{+105}_{-212}	6920^{+4241}_{-1607}	253^{+880}_{-179}

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 $A_{obs} \gg 1.0$

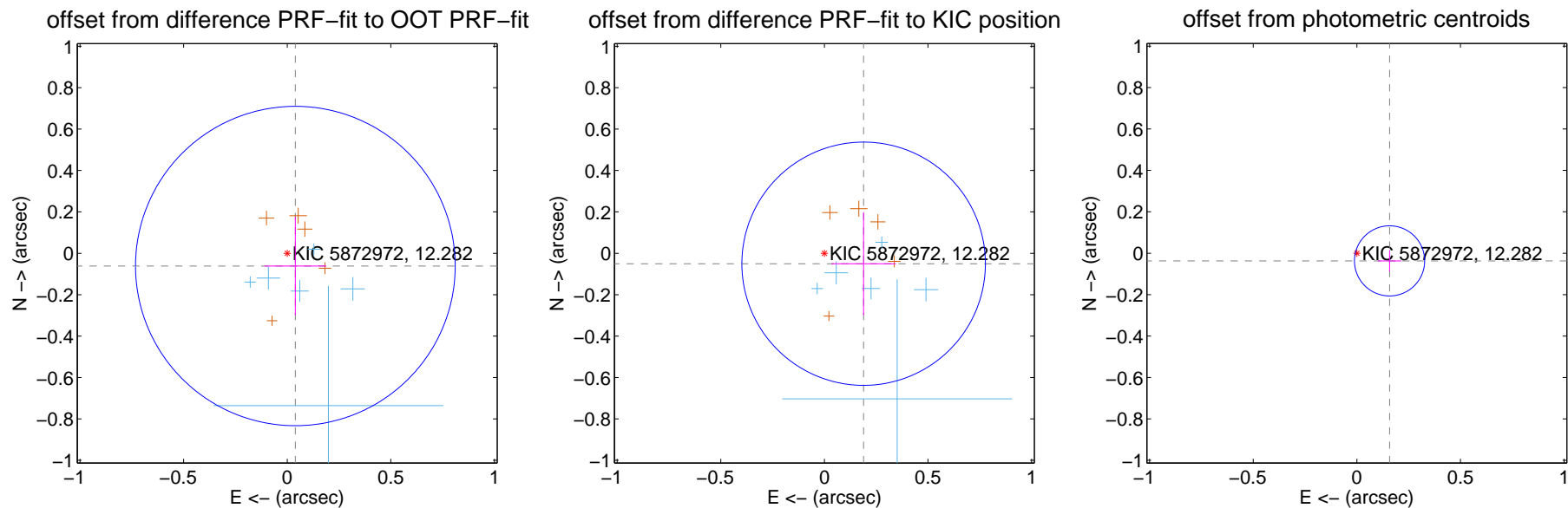
DV Centroid Data

Supplemental centroid analysis for 005872972-06. Kepler magnitude: 12.28. Transit SNR 7.88

There are 9 quarters with good PRF difference image offsets

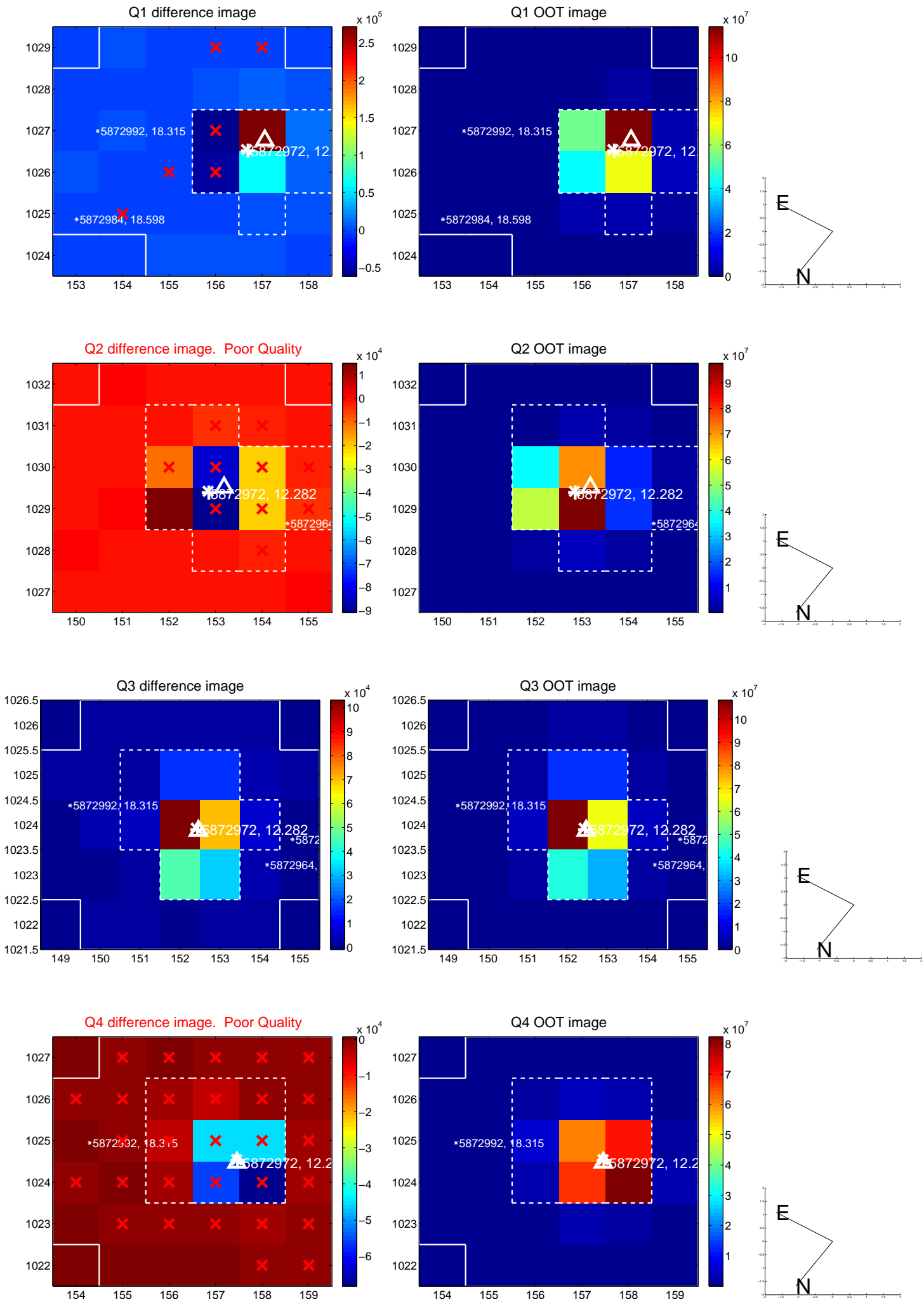
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.073 ± 0.257	0.28	-0.039 ± 0.149	-0.061 ± 0.237
PRF-fit source offset from KIC position	0.196 ± 0.196	1.00	-0.189 ± 0.155	-0.050 ± 0.248
photometric centroid source offset	0.16 ± 0.06	2.87	-0.16 ± 0.06	-0.04 ± 0.05

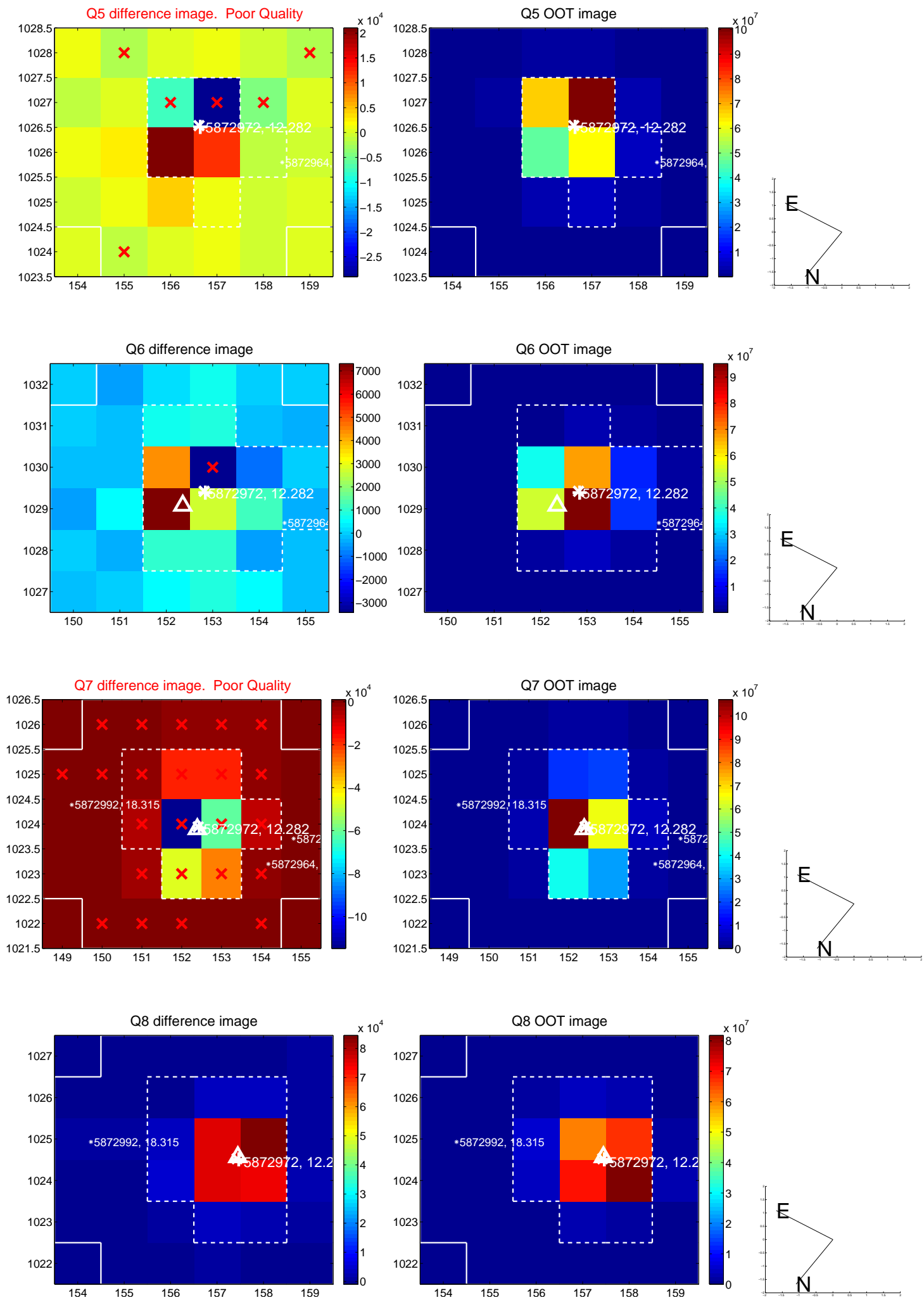


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

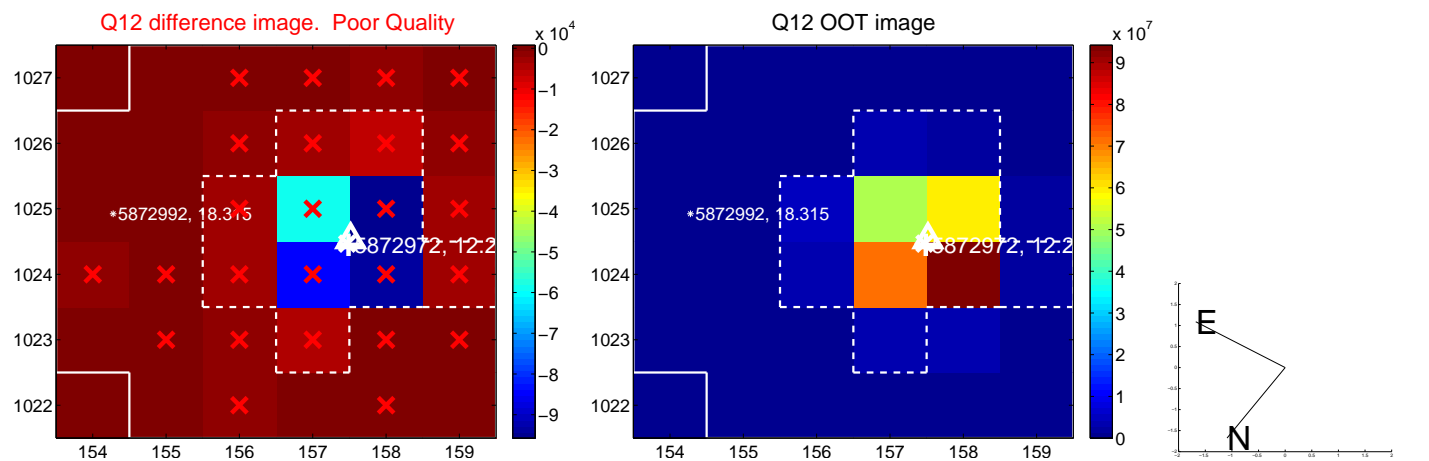
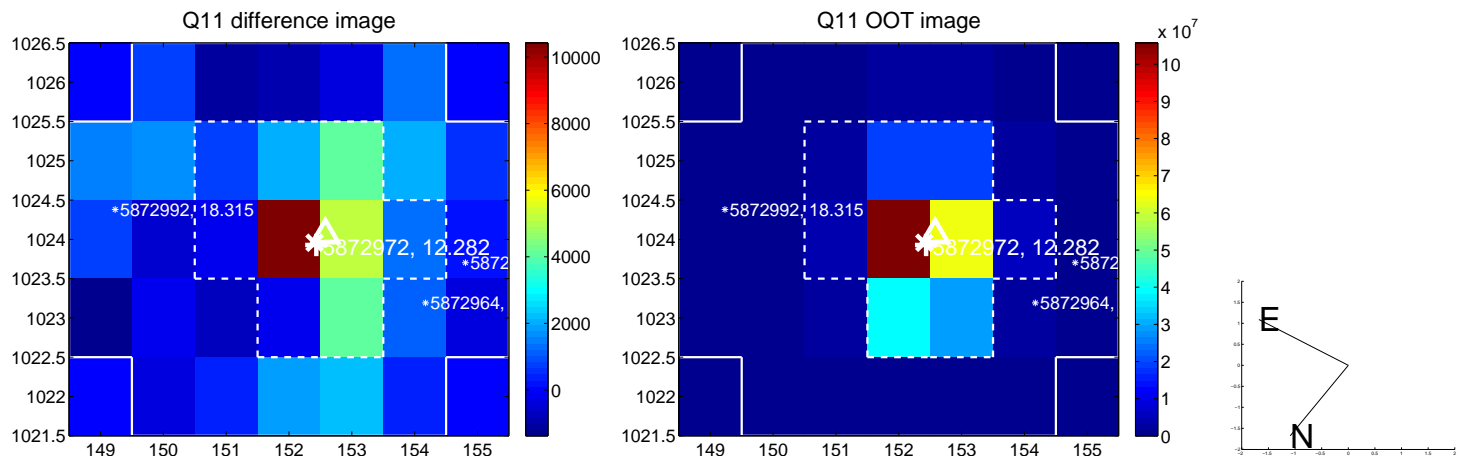
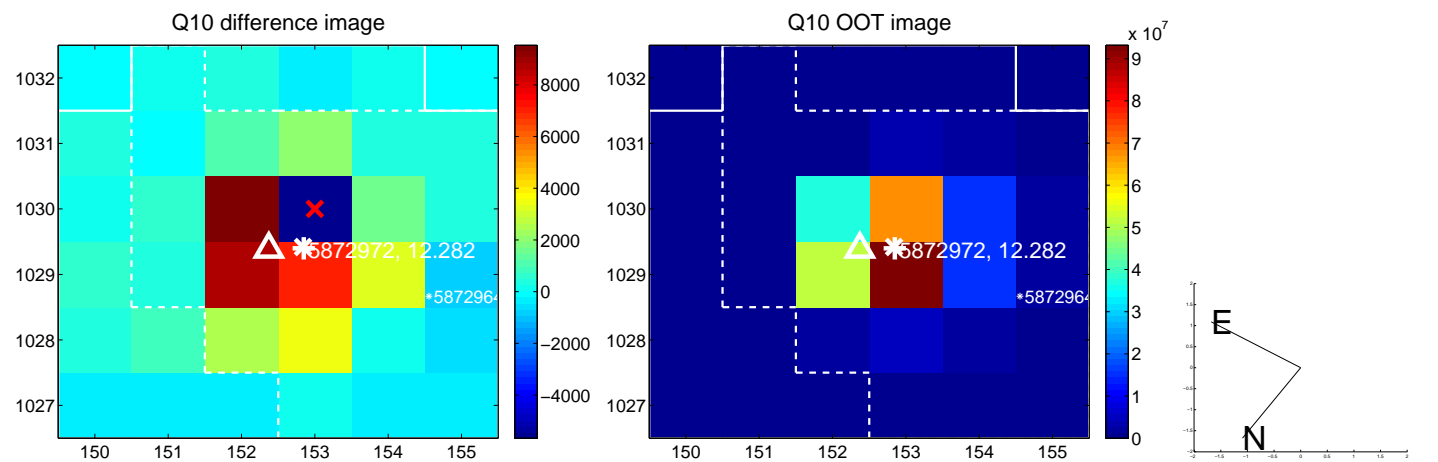
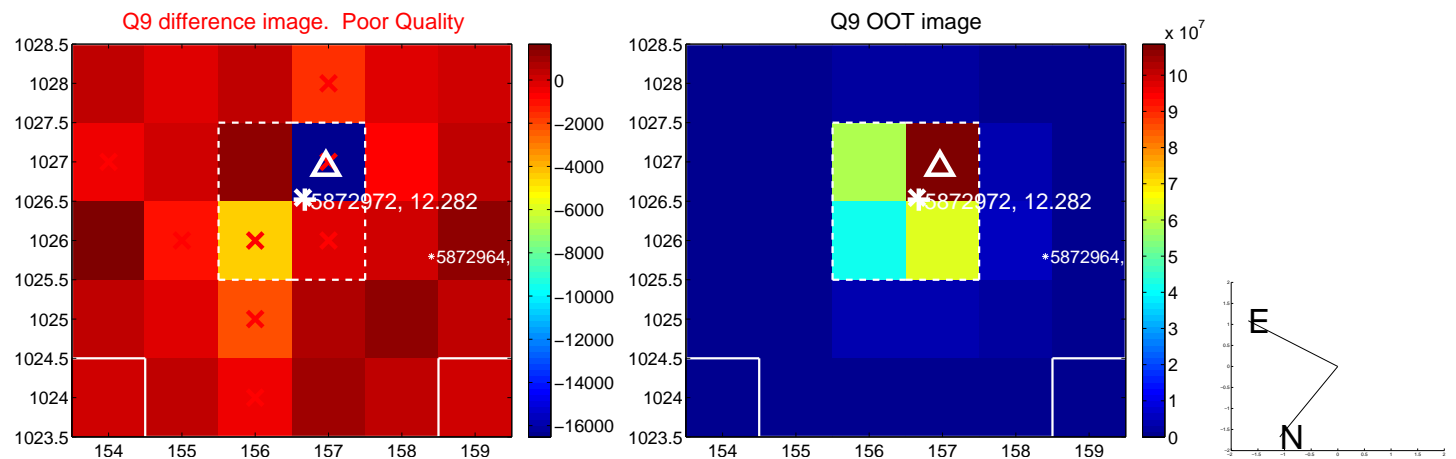
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



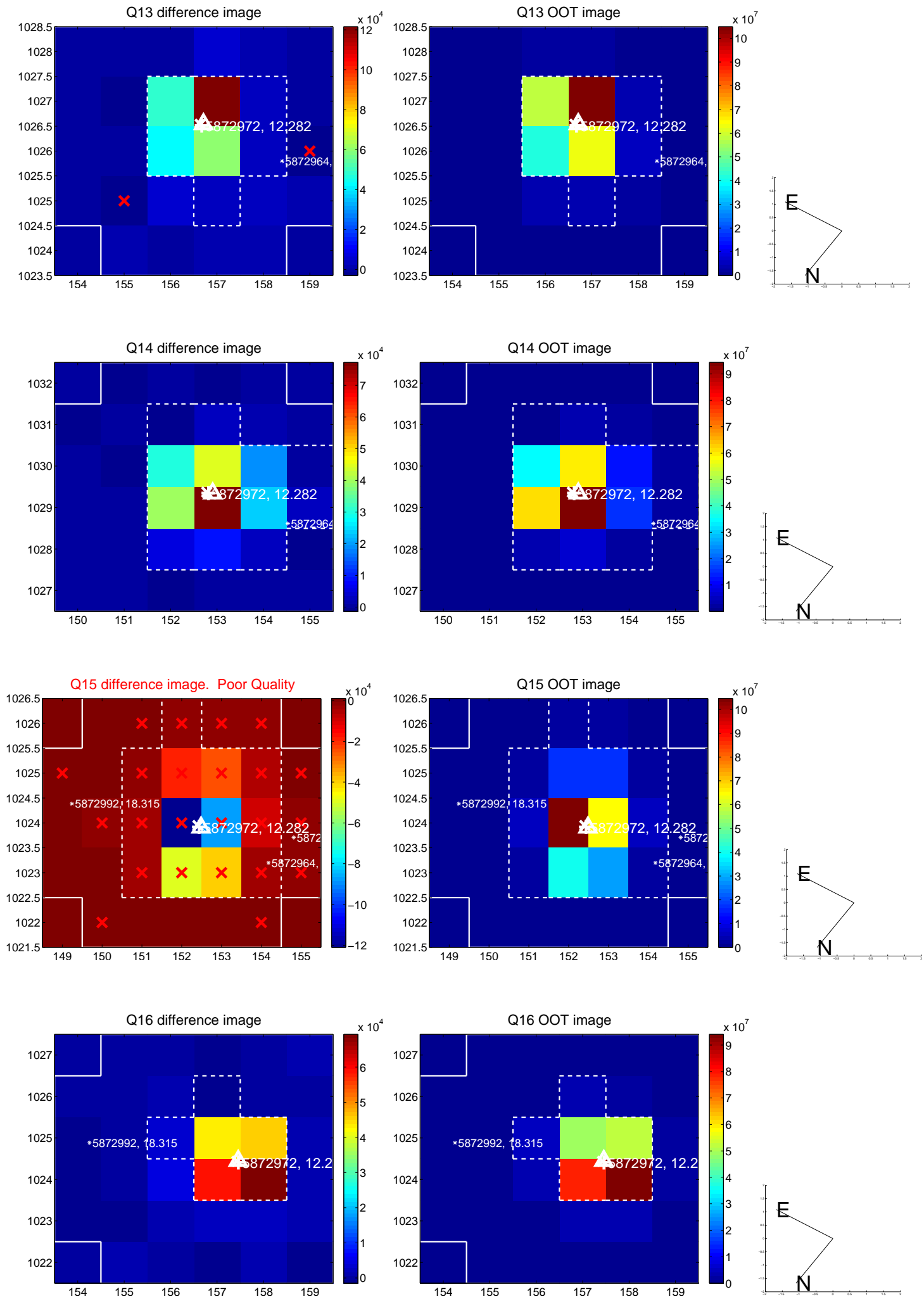
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



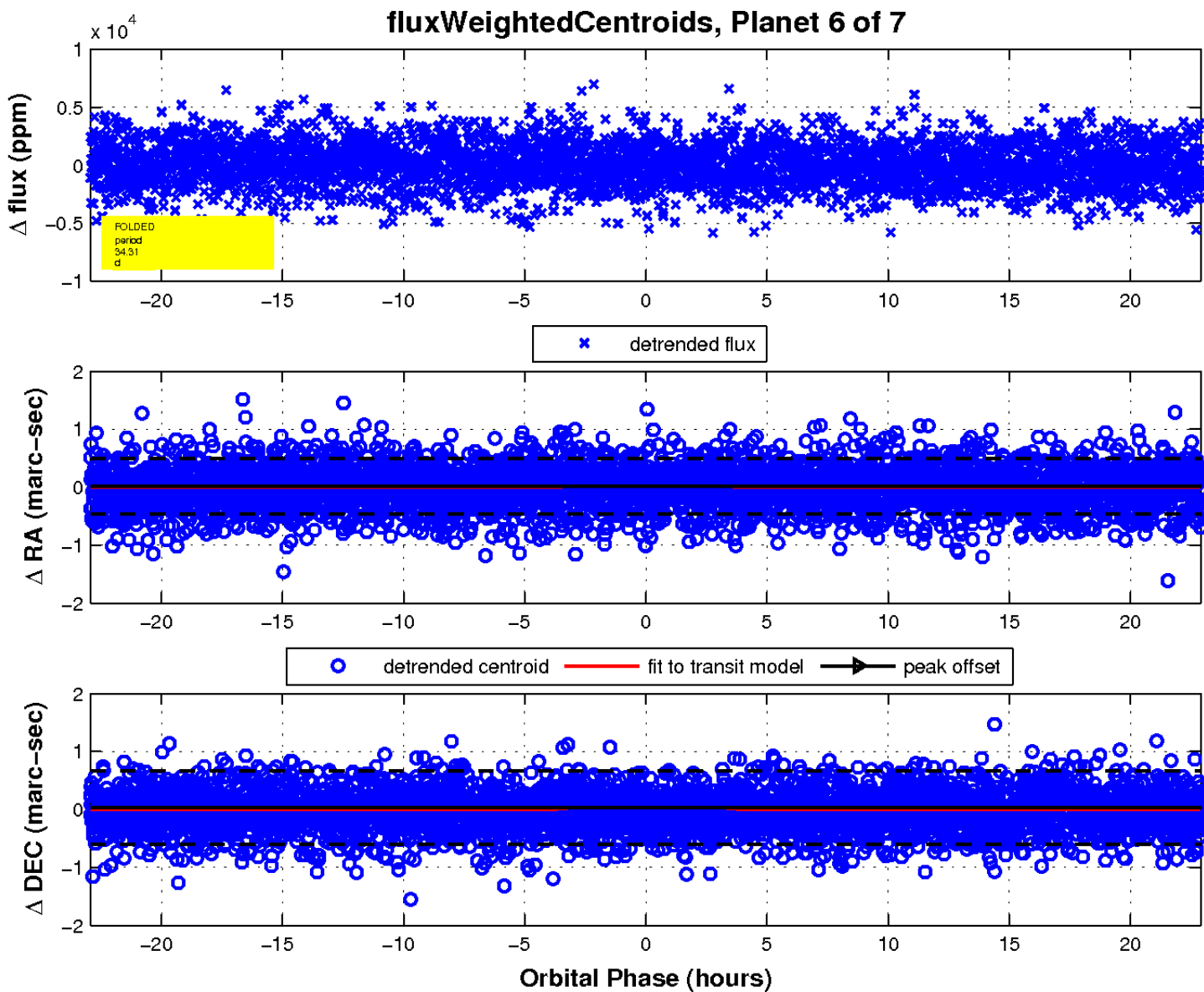
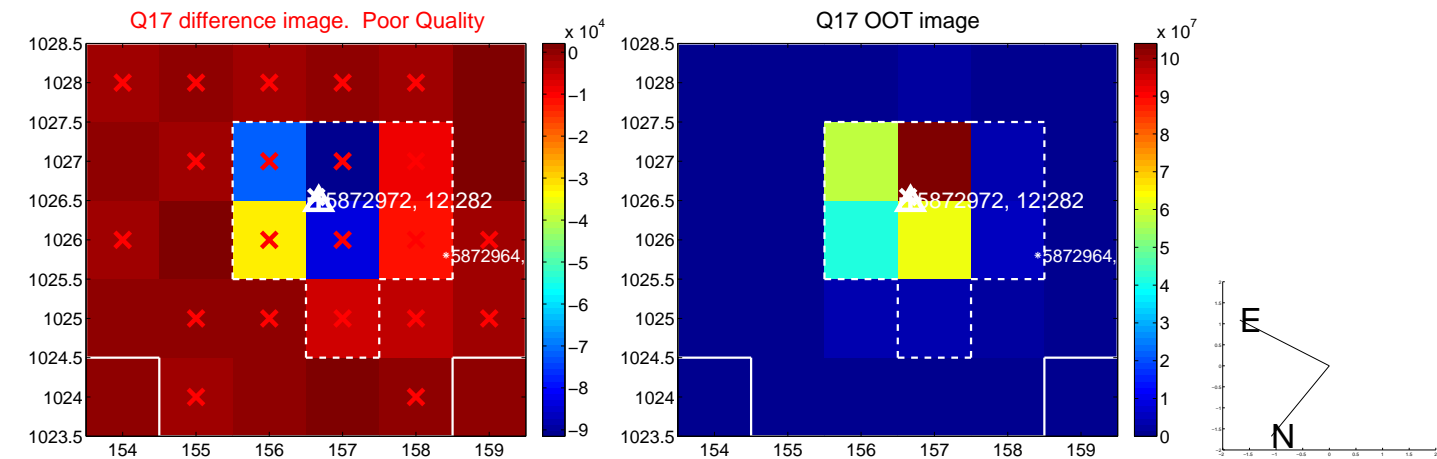
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

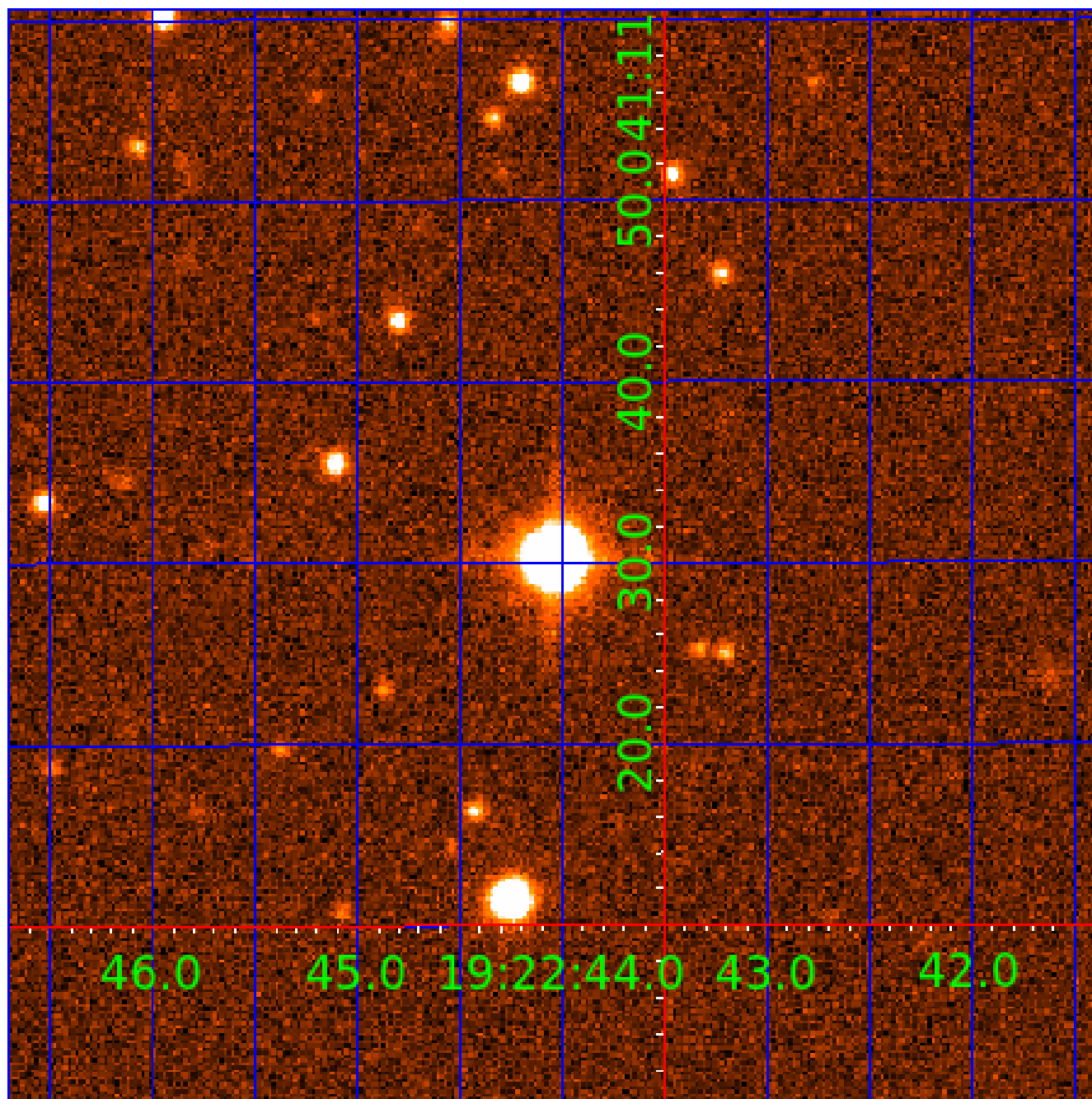


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005872972

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})
005872972-01	OBS	No	1.212695	132.393302	127.8	7.987	10.1	9.0	3.38	7698	3.84	45735.48
005872972-02	OBS	No	79.082991	154.859611	2783.8	3.213	9.8	10.2	3.38	7698	17.92	174.24
005872972-03	OBS	No	19.940860	150.055838	1359.3	2.933	9.7	8.6	3.38	7698	12.67	1093.78
005872972-04	OBS	No	79.391727	197.232691	3435.2	1.945	8.8	9.3	3.38	7698	21.62	173.34
005872972-05	OBS	No	29.214265	132.921783	2834.7	1.619	9.0	8.8	3.38	7698	19.36	657.35
005872972-06	OBS	No	34.305238	137.624461	1035.5	7.640	8.1	7.9	3.38	7698	11.30	530.61
005872972-07	OBS	No	8.941798	139.718474	110.0	3.500	8.2	-1.0	3.38	7698	3.56	3186.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872972-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005872972-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005872972-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005872972-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005872972-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

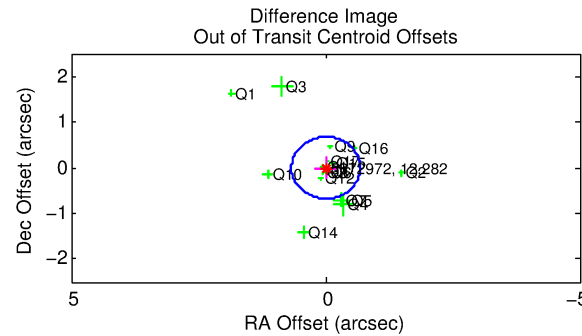
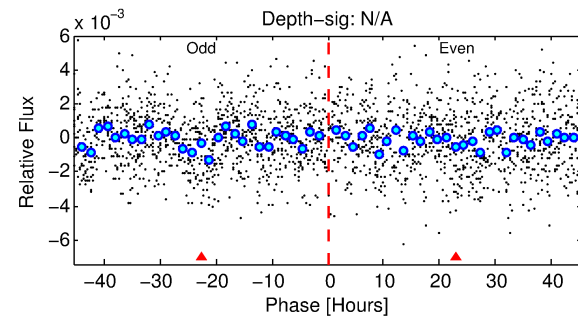
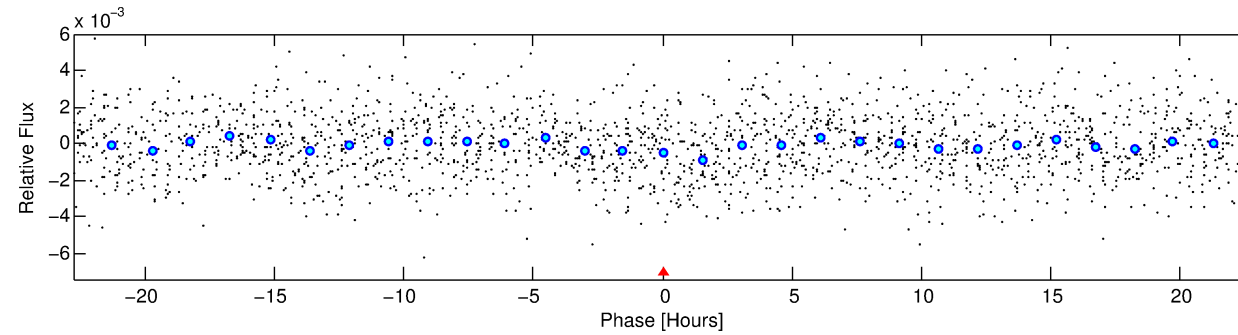
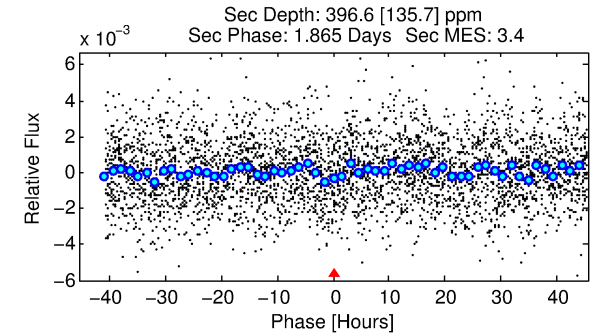
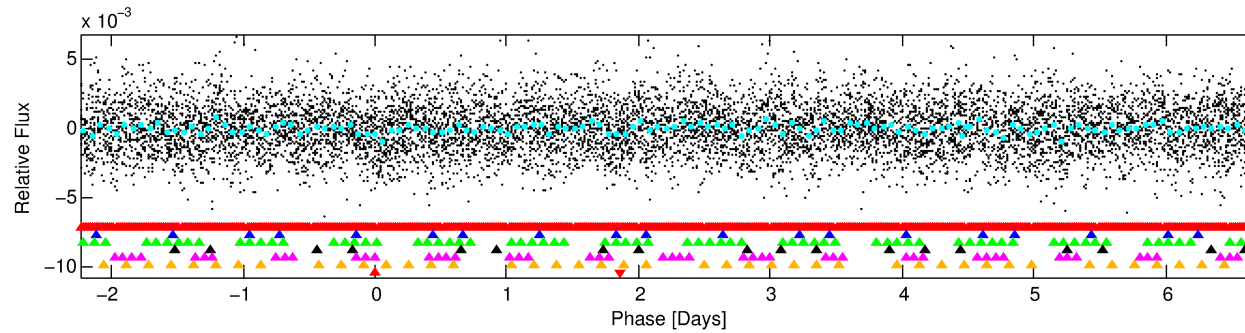
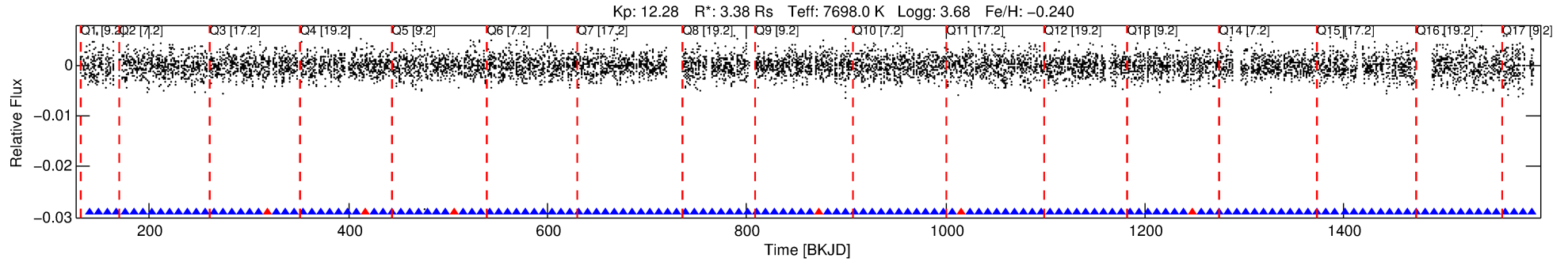
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872972-07

No Significant Match Found

DV One-Page Summary

KIC: 5872972 Candidate: 7 of 7 Period: 8.942 d



TPS TCE Results:

Period = 8.94180 d
Epoch = 139.7185 BKJD

DV fit results are unavailable

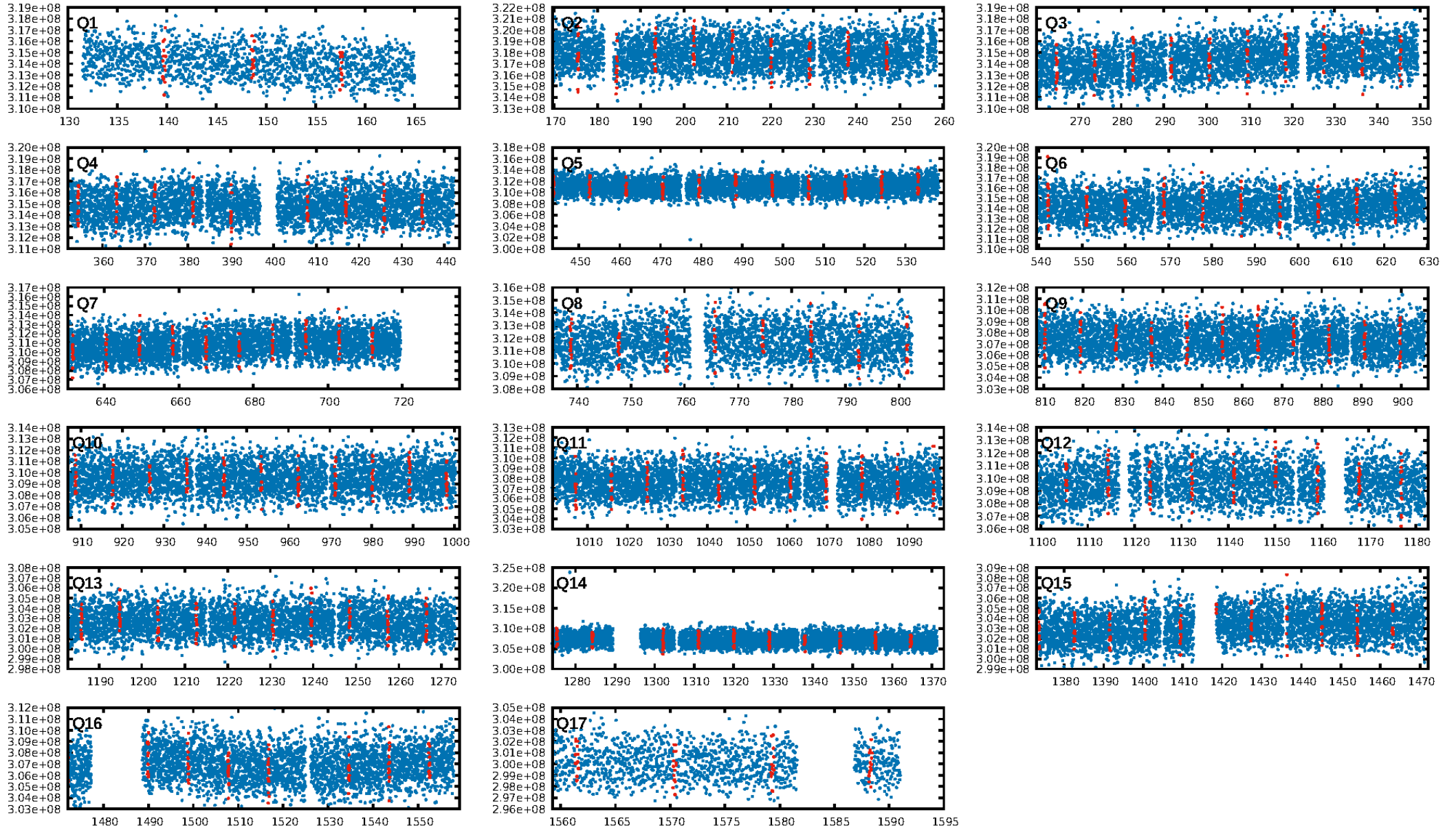
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.27 σ]
LongPeriod-sig: 100.0% [57.81 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [57/63]
GhostDiagnostic-chr: 0.738
Centroid-sig: 55.9%
Centroid-so: 0.140 arcsec [3.20 σ]
OotOffset-rm: 0.002 arcsec [0.01 σ]
KicOffset-rm: 0.181 arcsec [0.95 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 0.00 [0/17]

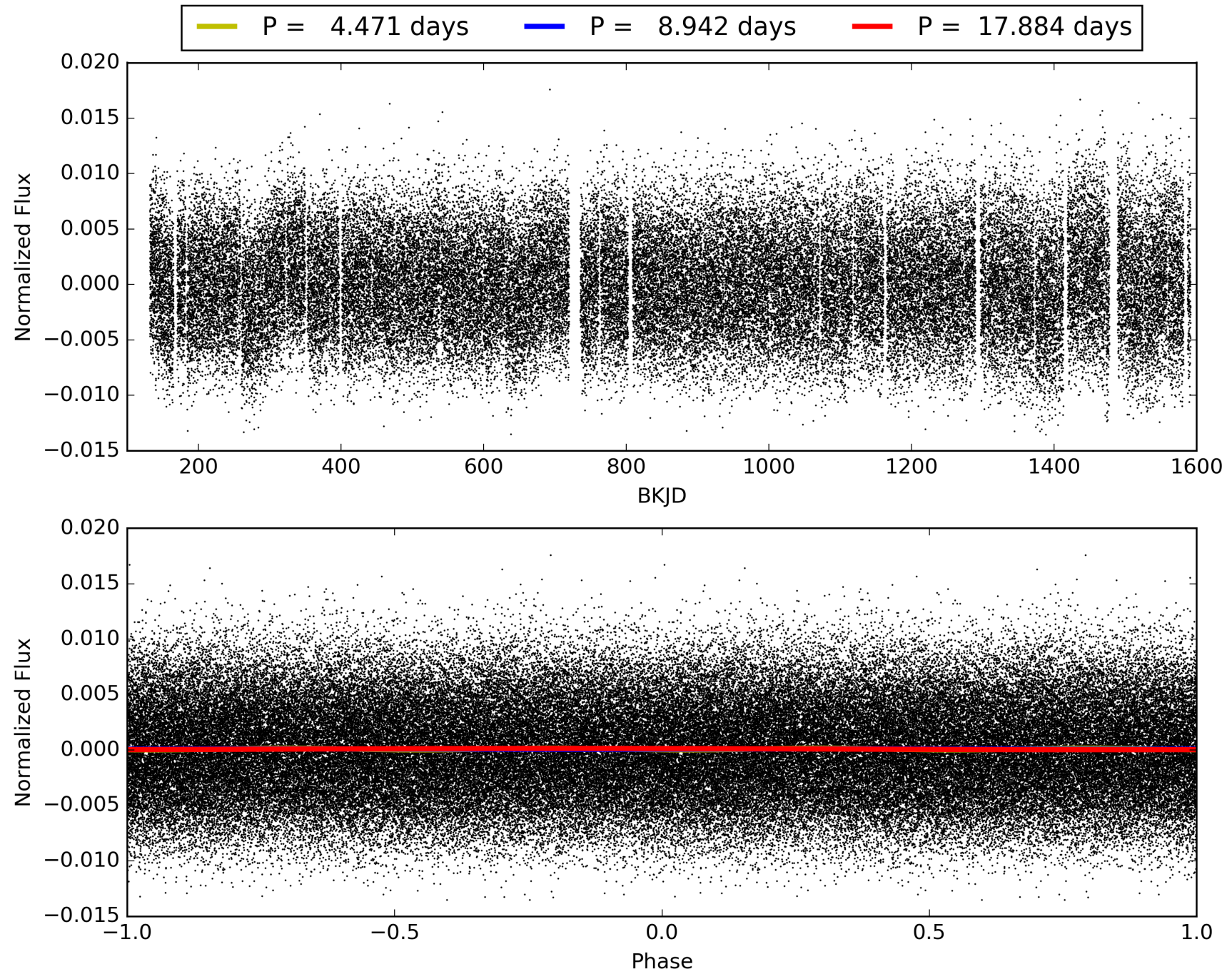
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:08:46 Z

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

TCE 005872972-07, PDC Light Curves

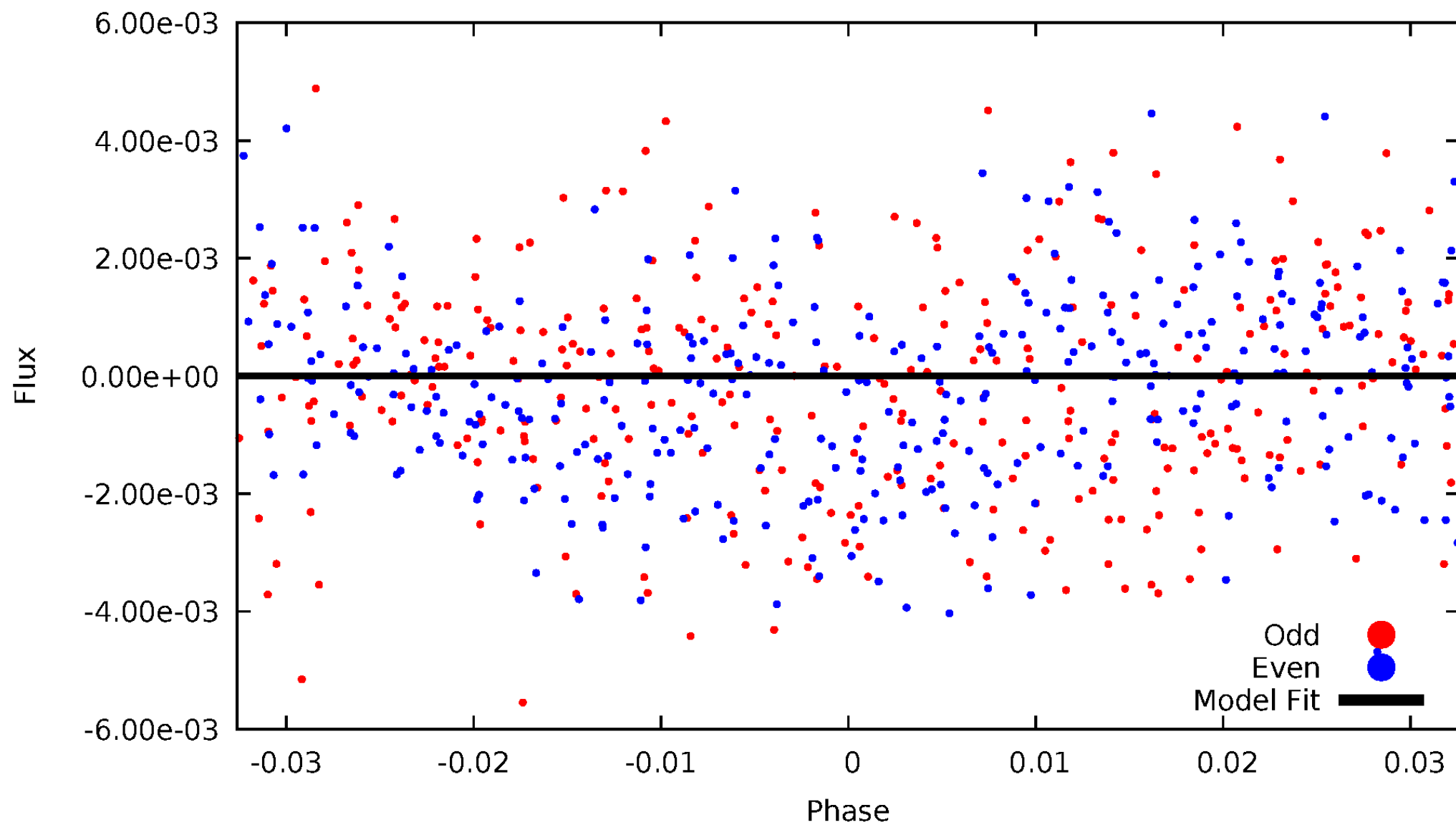


TCE 005872972-07



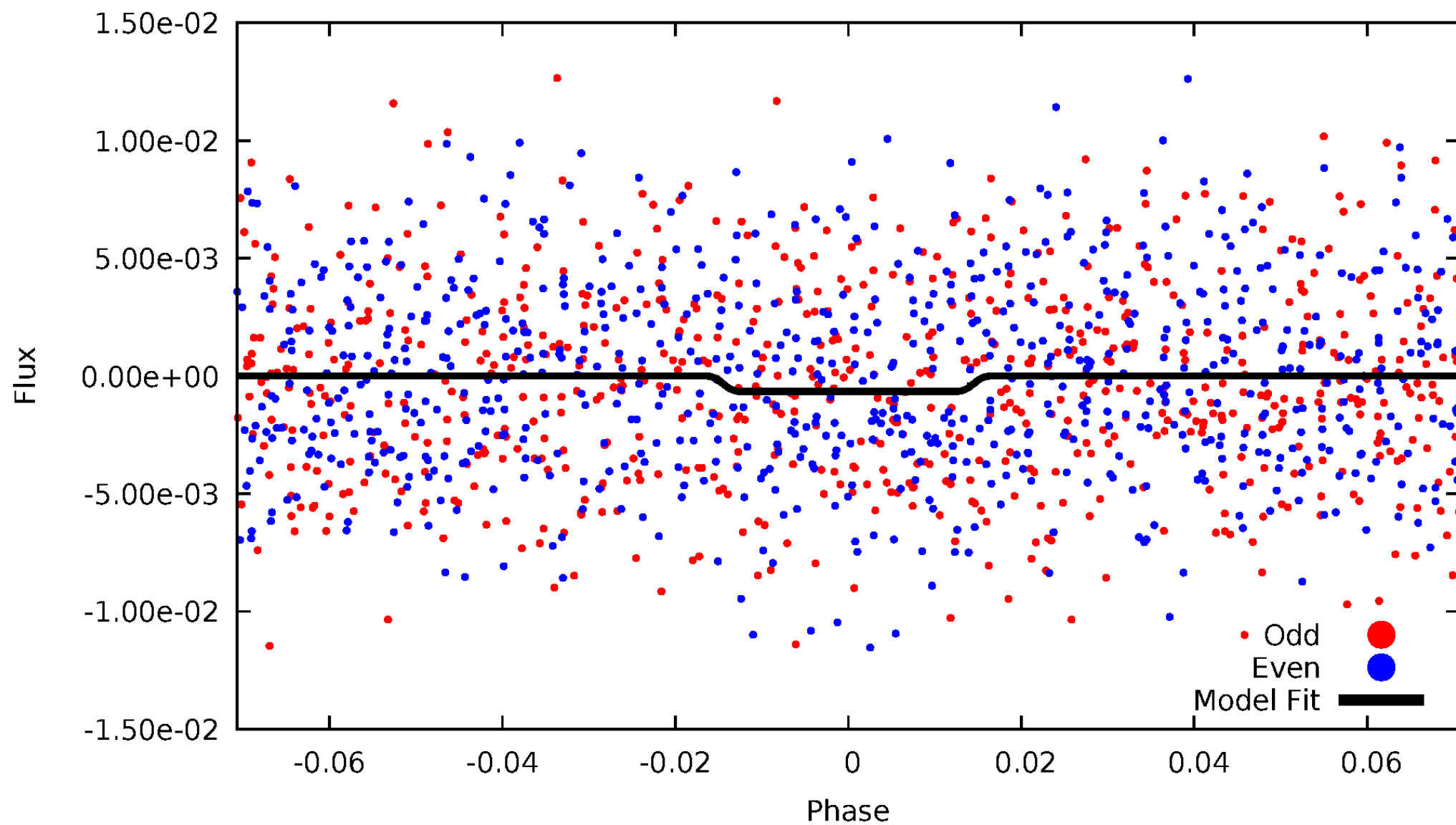
DV Odd/Even

TCE 005872972-07



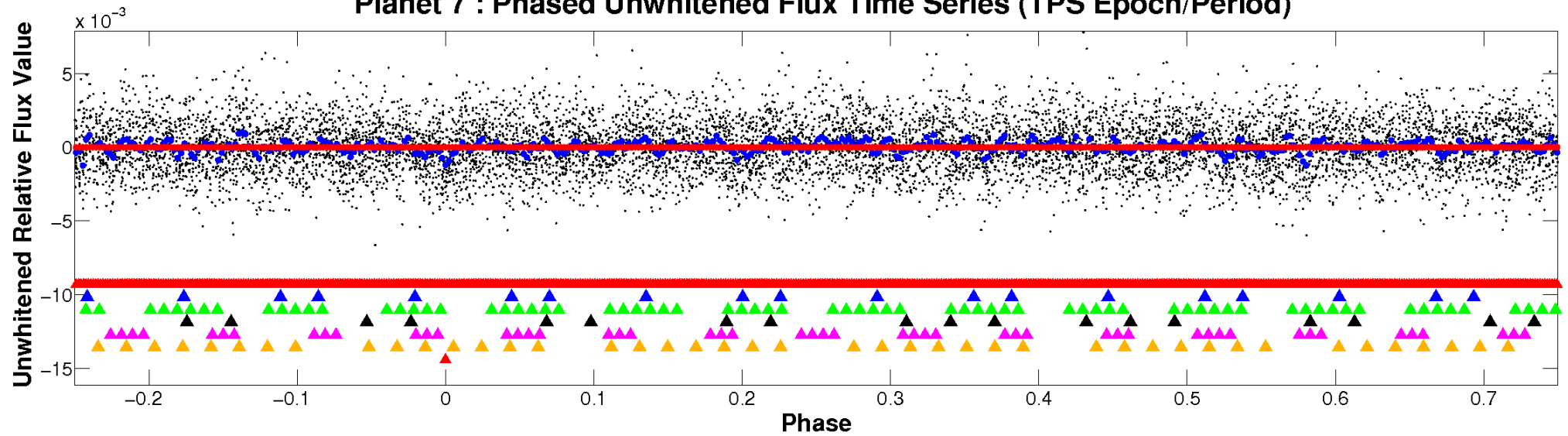
ALT Odd/Even

TCE 005872972-07

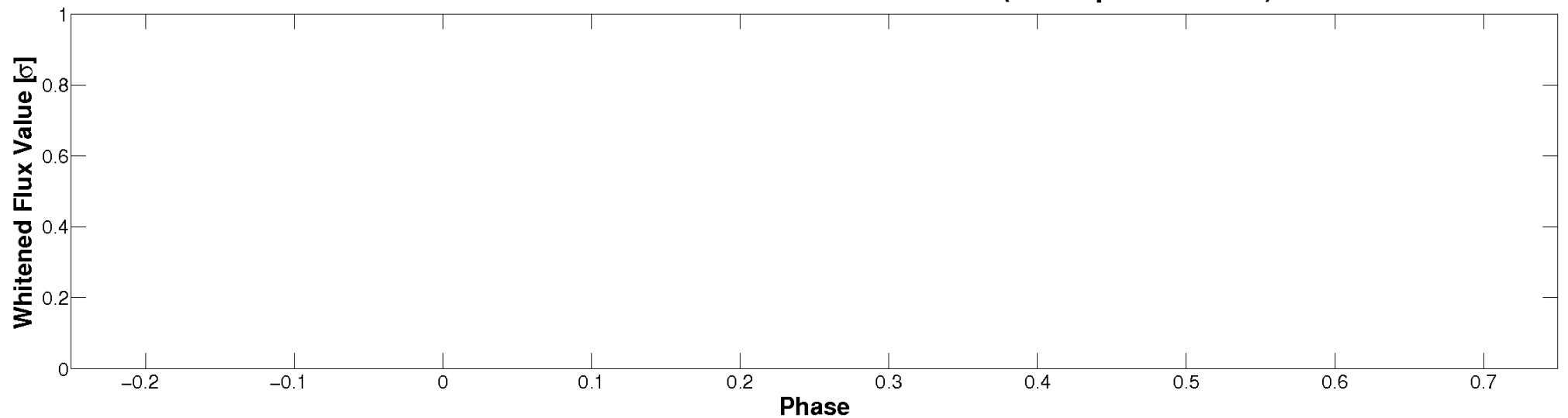


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

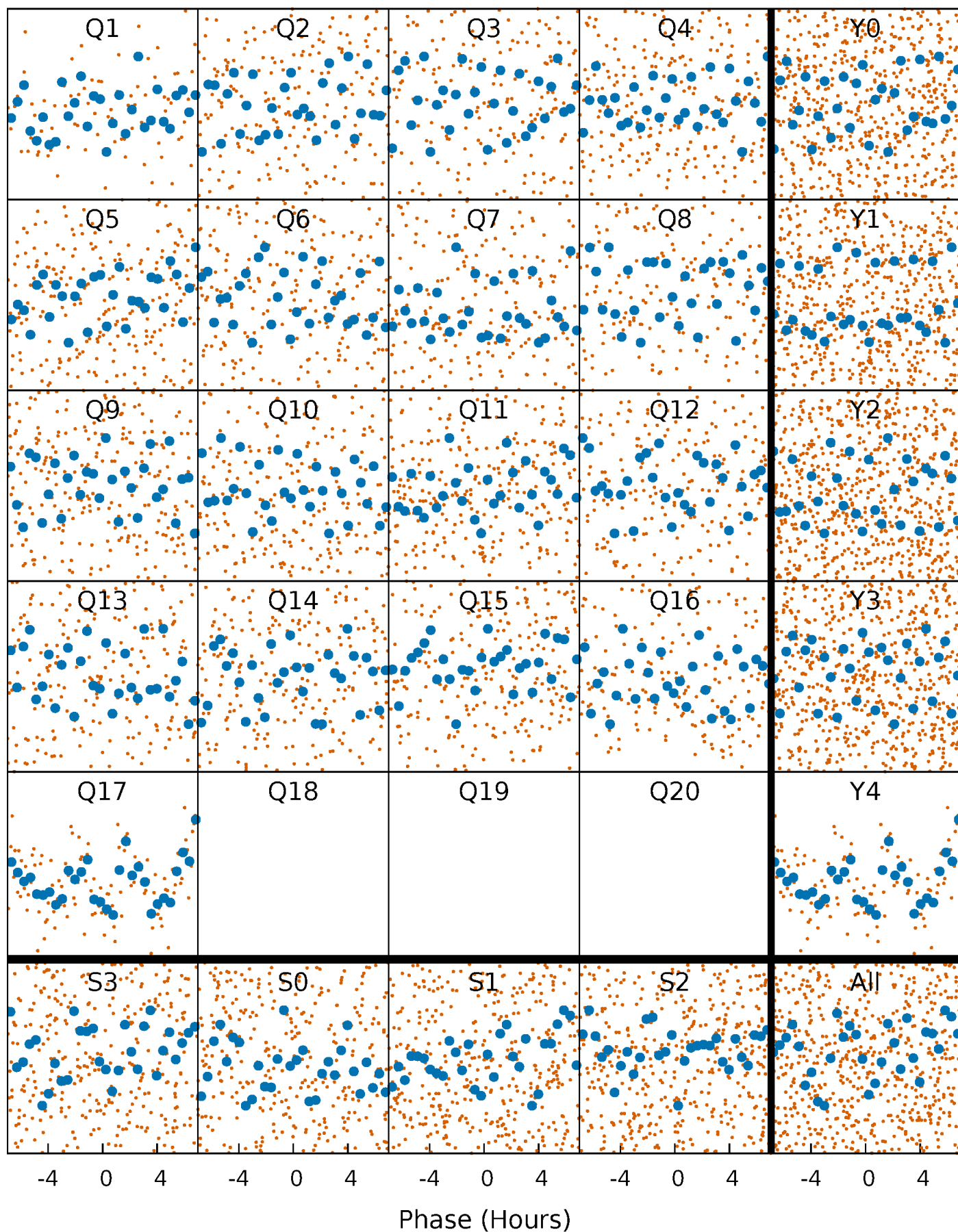


Planet 7 : Phased Whitened Flux Time Series (TPS Epoch/Period)



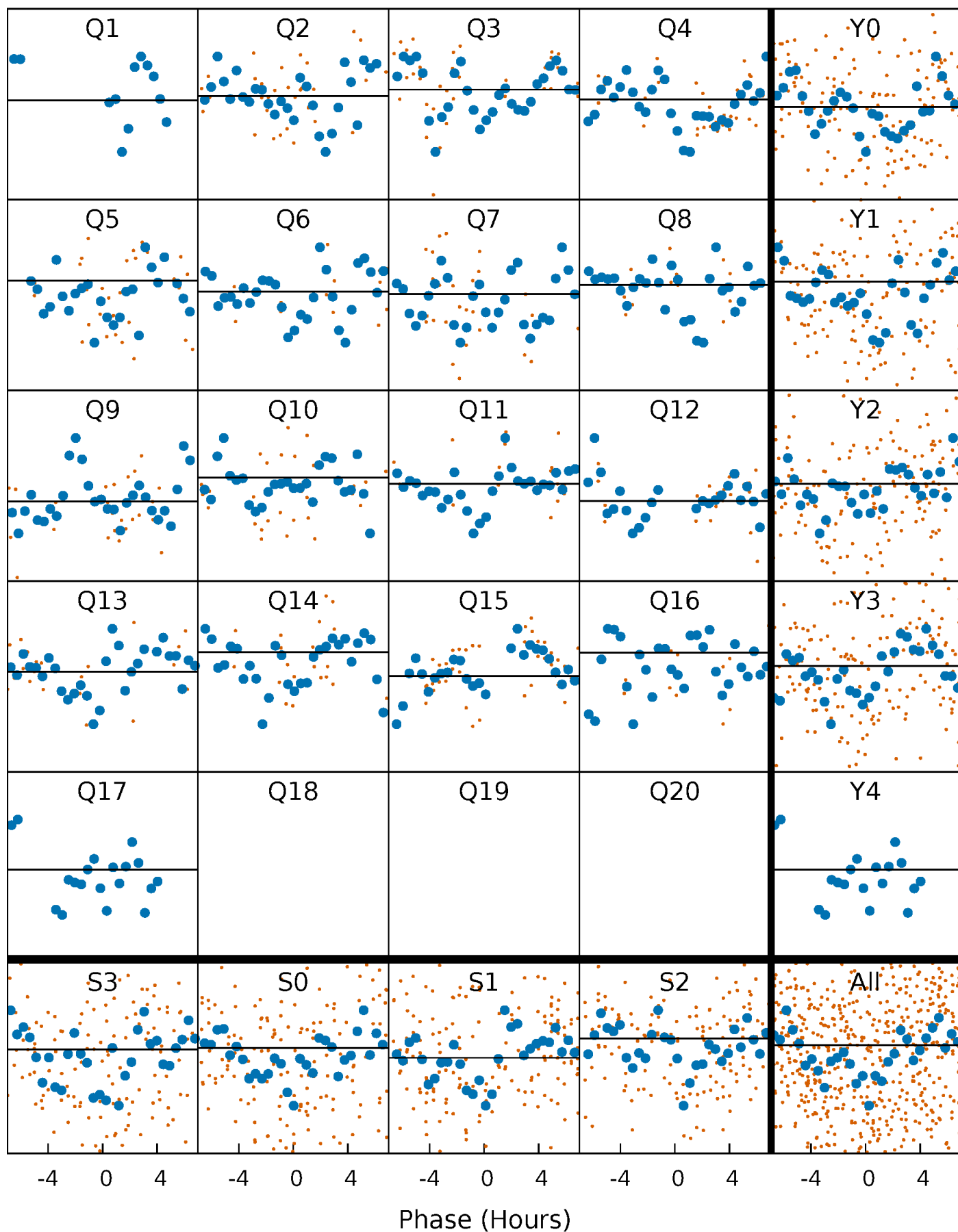
PDC Quarter-Phased Transit Curves

TCE 005872972-07 $P = 8.941798$ Days $T_0 = 139.718474$ (BKJD)



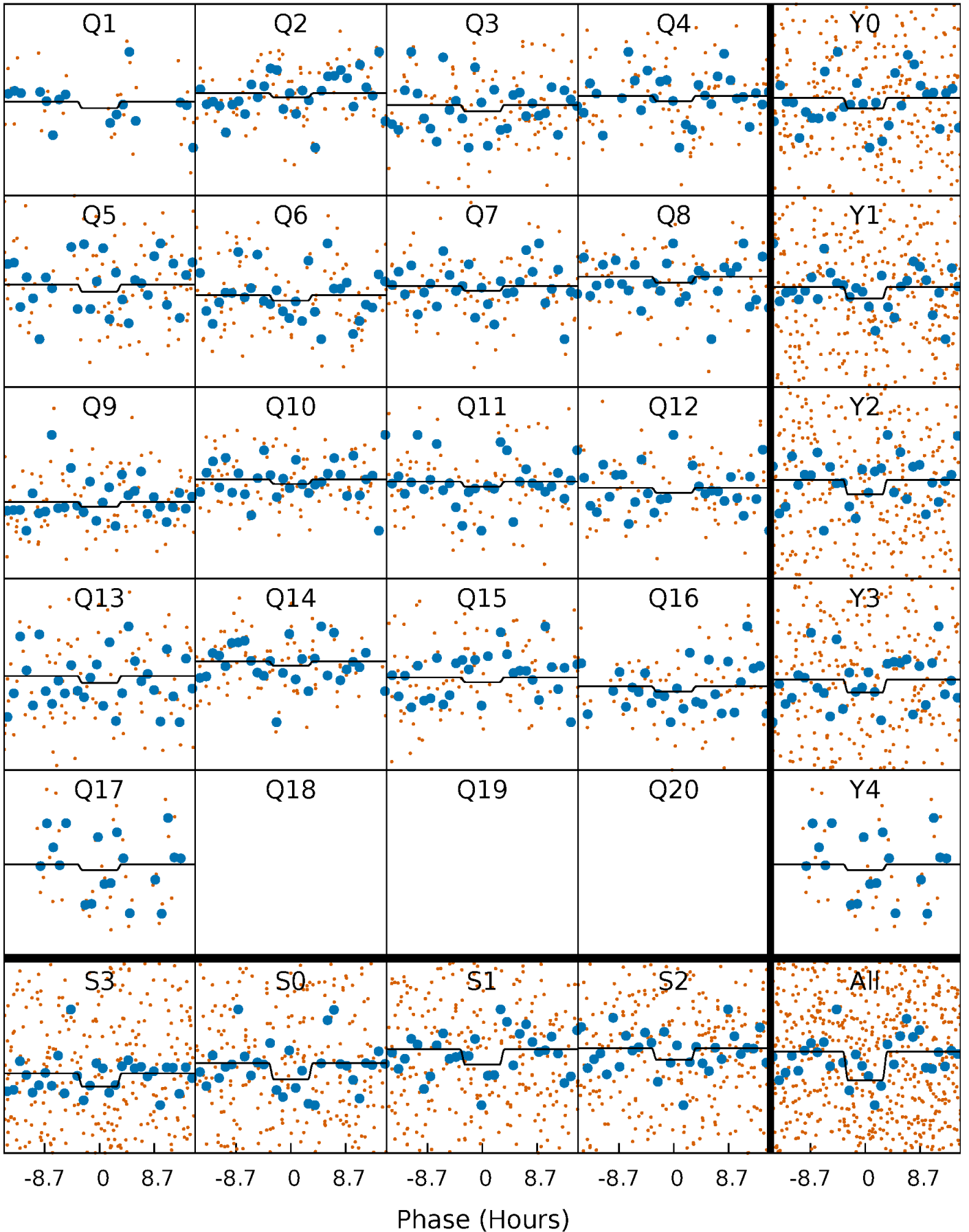
DV Quarter-Phased Transit Curves

TCE 005872972-07 $P = 8.941798$ Days $T_0 = 139.718474$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

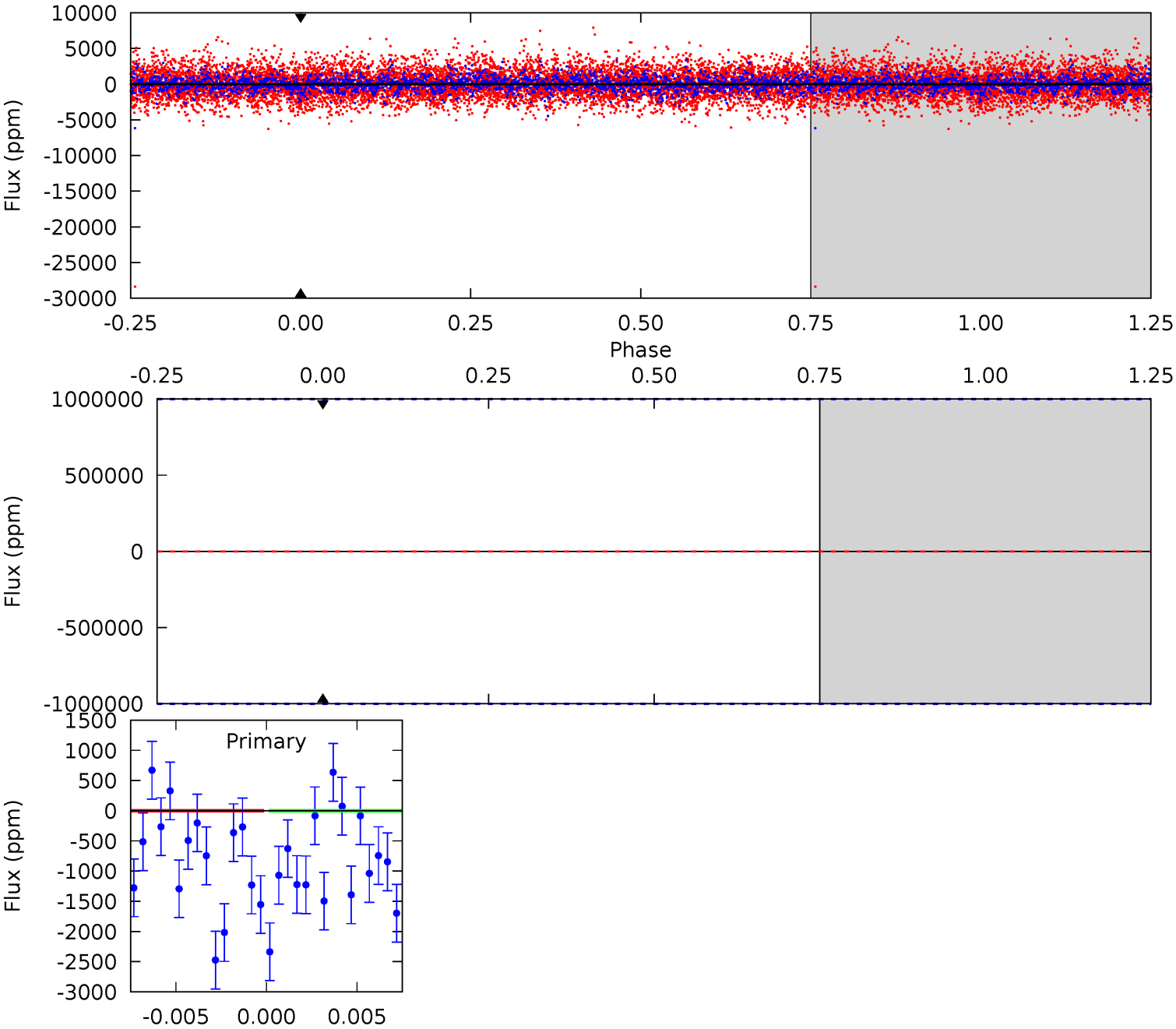
TCE 005872972-07 P= 8.941798 Days $T_0=139.677032$ (BKJD)



DV Model-Shift Uniqueness Test

005872972-07, P = 8.941798 Days, E = 130.776676 Days

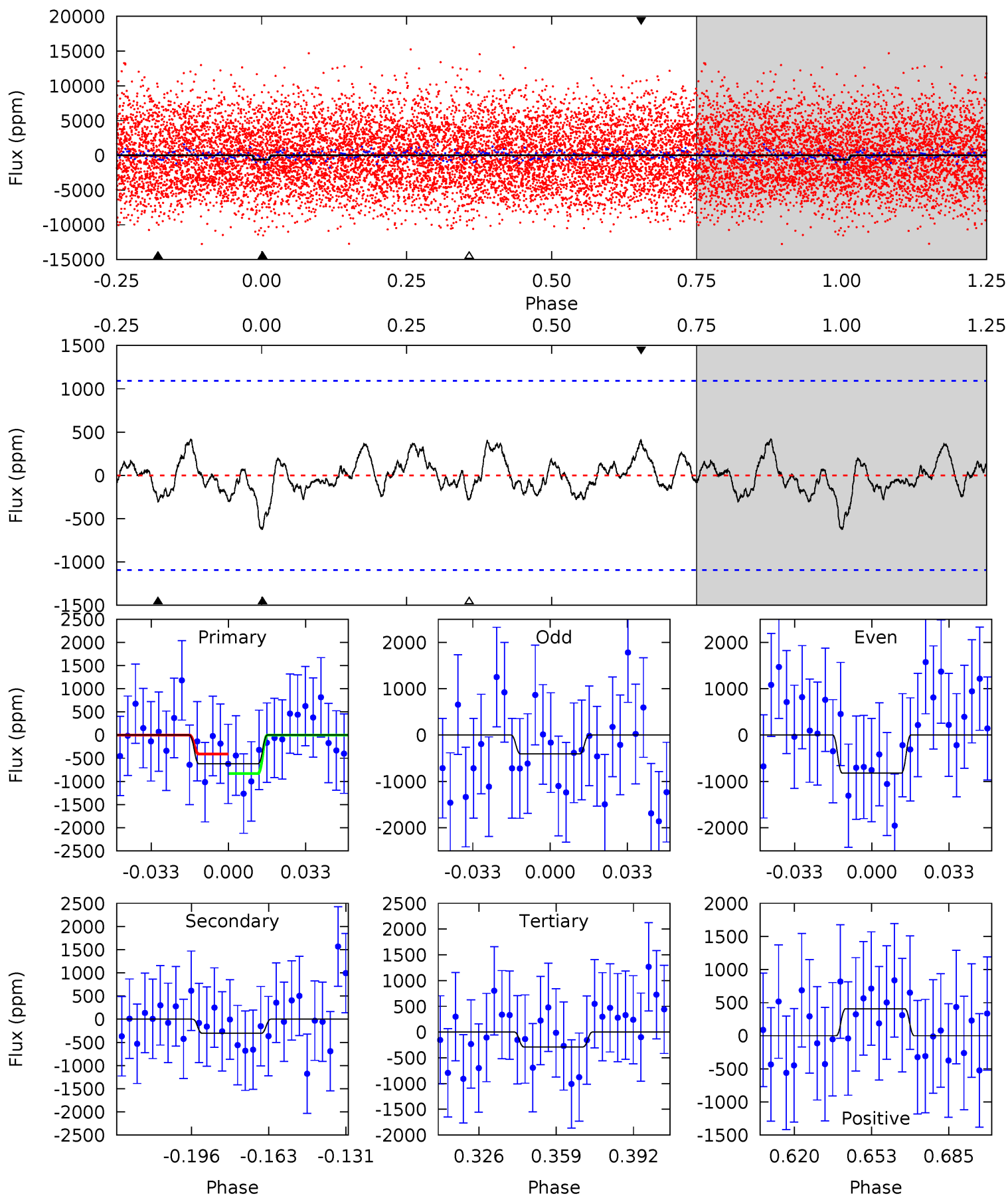
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005872972-07, P = 8.941798 Days, E = 130.735234 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.72	1.34	1.26	1.79	4.79	2.14	0.73	1.46	0.94	0.07	-0.45	0.90	0.98	0.40	0.92



Stellar Parameters For KIC 005872972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7698^{+239}_{-319}	$3.680^{+0.468}_{-0.055}$	$-0.240^{+0.200}_{-0.300}$	$3.375^{+0.315}_{-1.679}$	$1.990^{+0.111}_{-0.553}$	$0.073^{+0.361}_{-0.014}$
	+3%/-4%	+13%/-1%	+83%/-125%	+9%/-50%	+6%/-28%	+495%/-19%
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 005872972-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$21.84^{+30.55}_{-14.93}$	2573^{+178}_{-309}	-4519^{+48631}_{-40608}	$-5.625^{+2085.780}_{-2212.828}$
Alt.	-304 ± 228	$24.90^{+27.26}_{-17.48}$	2579^{+169}_{-315}	3654^{+2462}_{-5214}	$2.237^{+24.634}_{-1.939}$

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 $A_{obs} \gg 1.0$

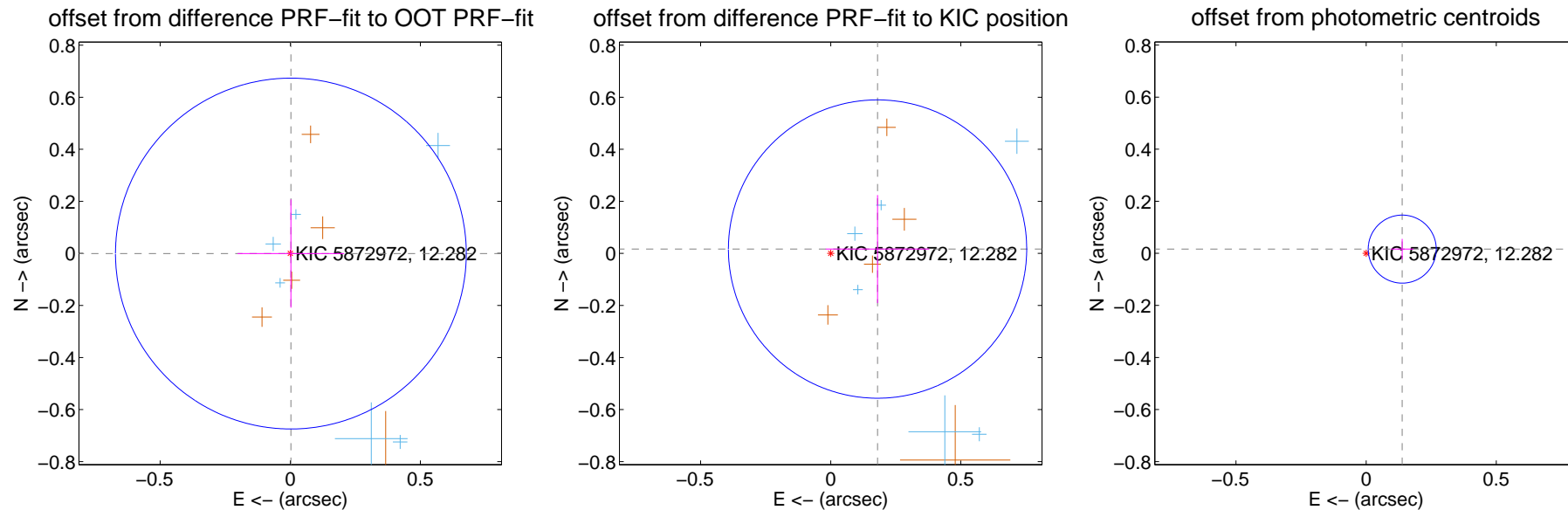
DV Centroid Data

Supplemental centroid analysis for 005872972-07. Kepler magnitude: 12.28. Transit SNR -1.00

There are 11 quarters with good PRF difference image offsets

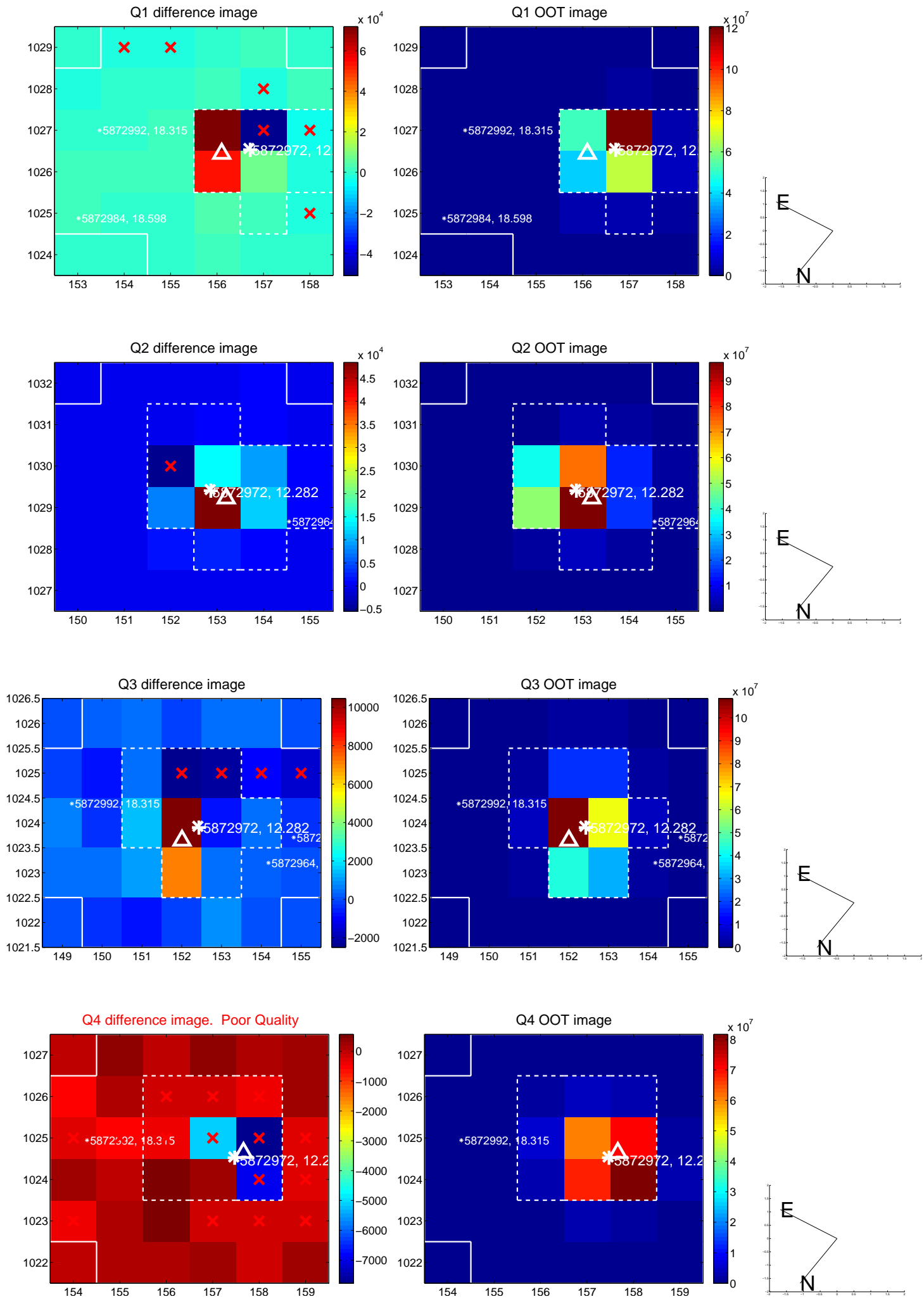
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.225	0.01	-0.002 ± 0.205	-0.001 ± 0.208
PRF-fit source offset from KIC position	0.181 ± 0.191	0.95	-0.180 ± 0.199	0.017 ± 0.208
photometric centroid source offset	0.14 ± 0.04	3.20	-0.14 ± 0.04	0.02 ± 0.04

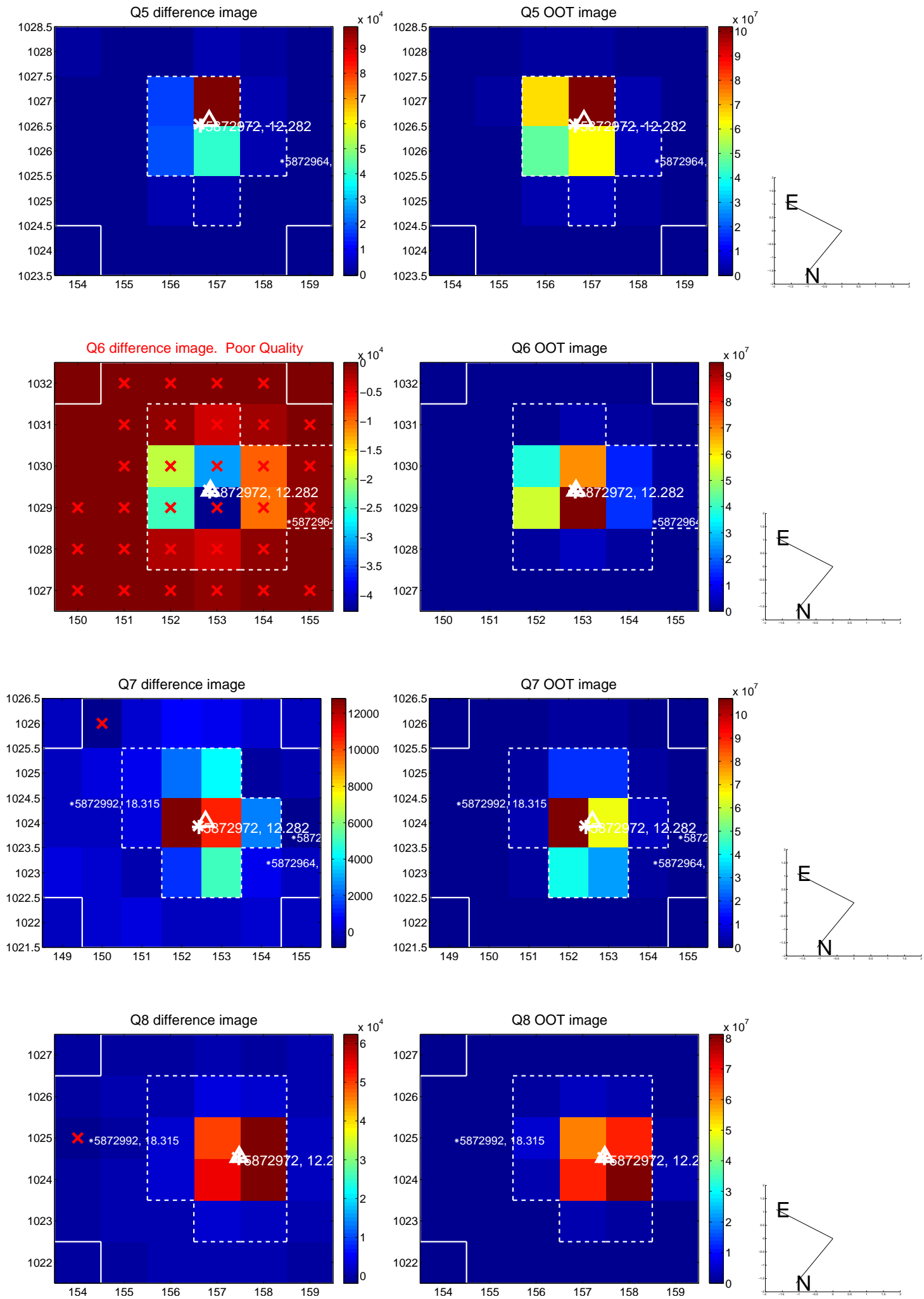


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

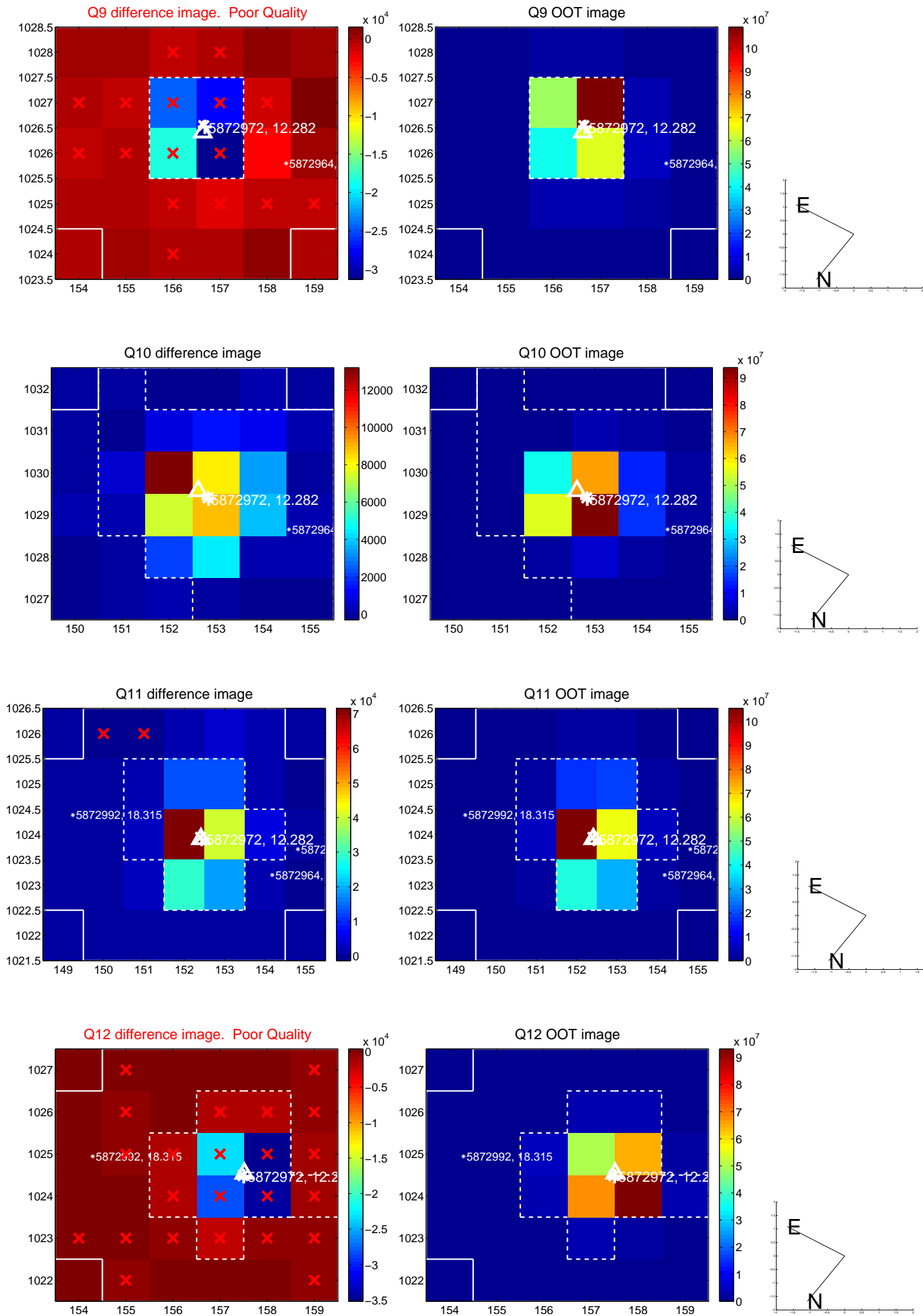
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



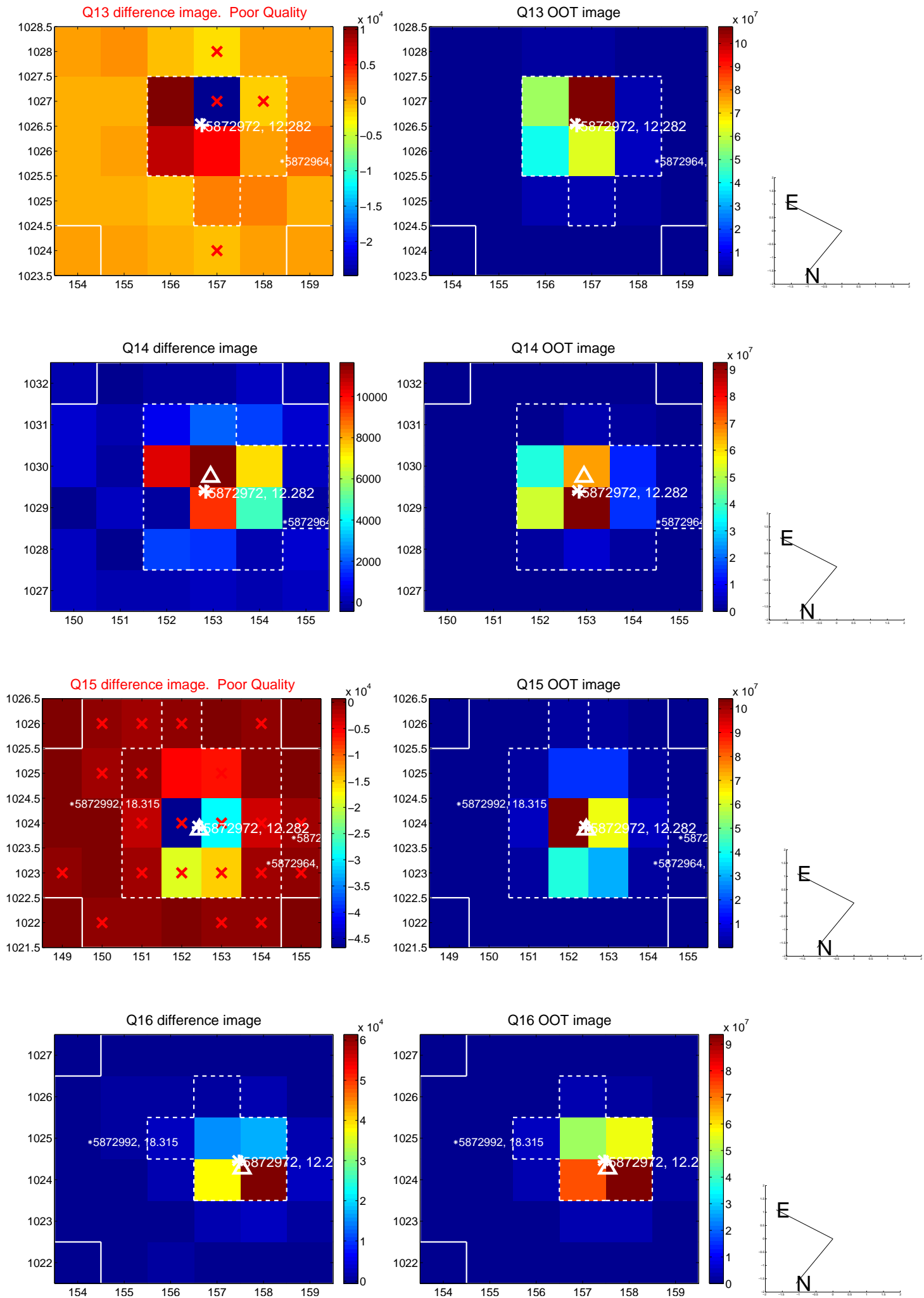
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



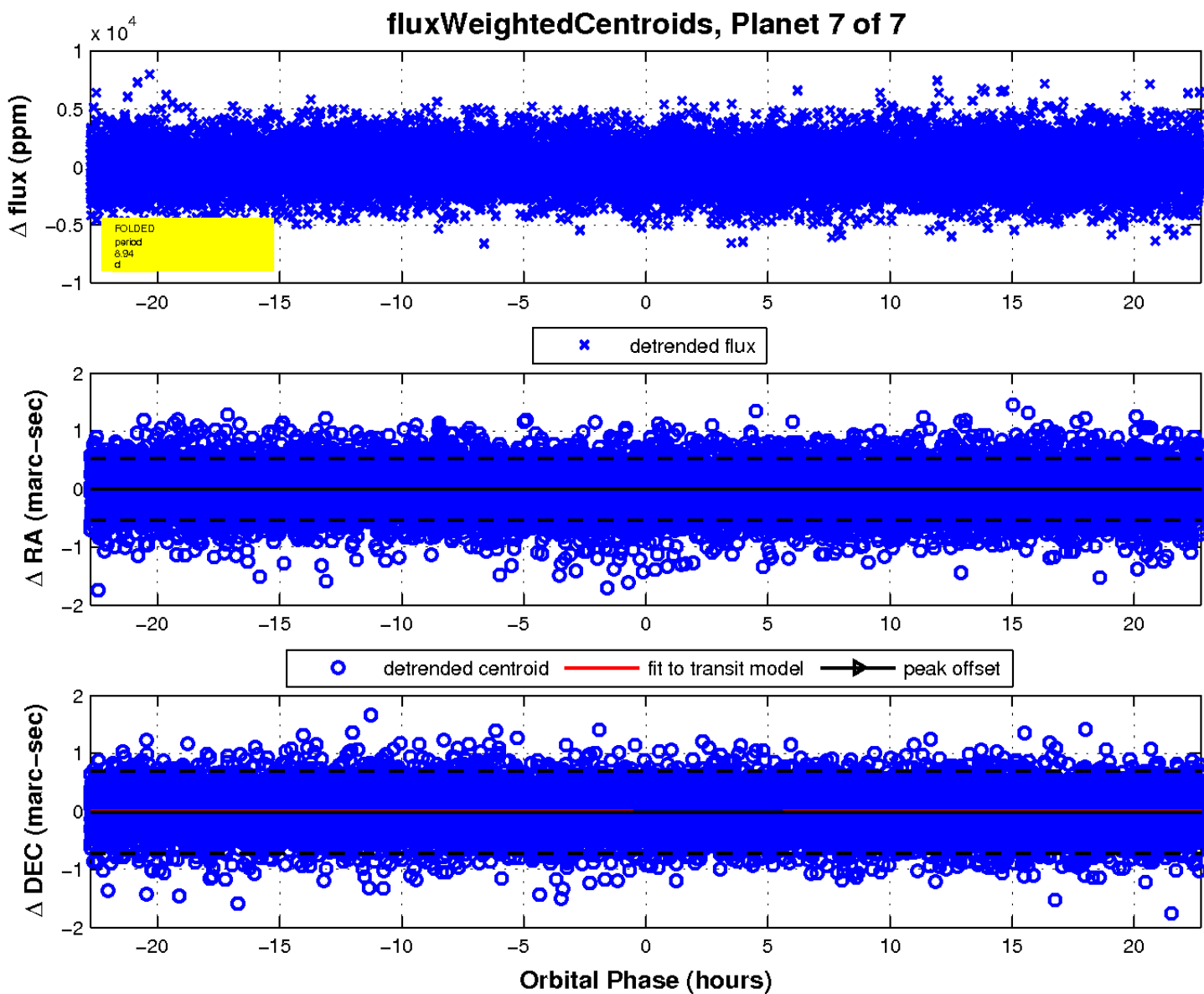
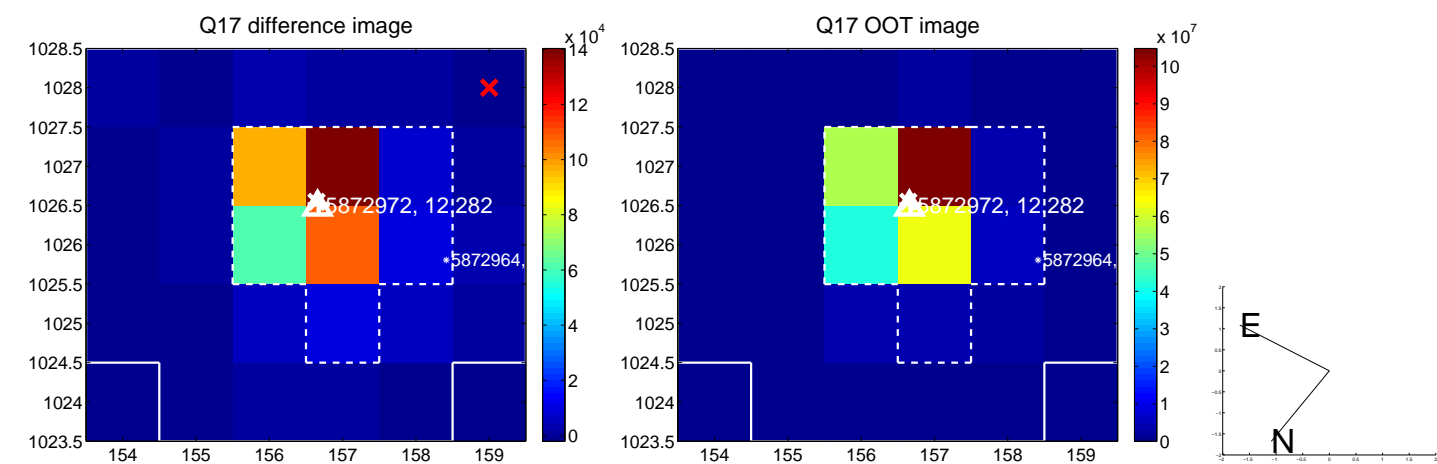
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

