

KIC 003848572

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})
003848572-01	OBS	No	2.000255	133.459175	24.6	14.647	7.9	8.6	0.99	5964	0.49	1124.77
003848572-02	OBS	No	16.434441	134.097367	266.8	3.999	14.2	12.8	0.99	5964	1.76	67.84
003848572-03	OBS	No	19.064952	137.878404	298.3	6.444	14.0	14.6	0.99	5964	1.91	55.66
003848572-04	OBS	No	44.646663	163.854428	528.6	1.647	13.6	13.2	0.99	5964	2.27	17.90
003848572-05	OBS	No	42.595759	155.809232	449.6	8.480	12.3	12.1	0.99	5964	4.08	19.06
003848572-06	OBS	No	372.043312	140.463887	330.5	2.559	9.9	10.4	0.99	5964	2.15	1.06
003848572-07	OBS	No	29.425177	160.784434	672.3	1.107	11.3	11.7	0.99	5964	2.57	31.20
003848572-08	OBS	No	29.841435	157.971575	404.4	1.199	9.7	9.7	0.99	5964	2.12	30.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003848572-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

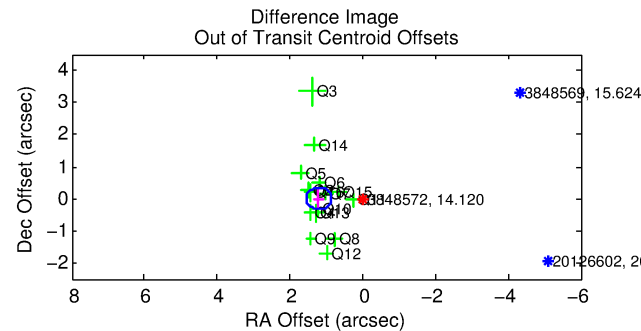
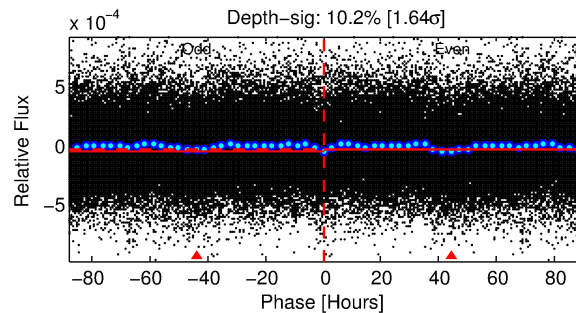
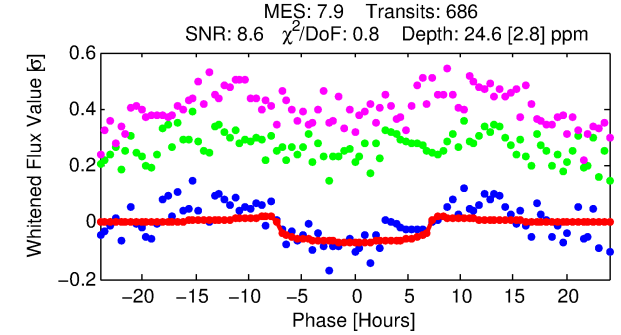
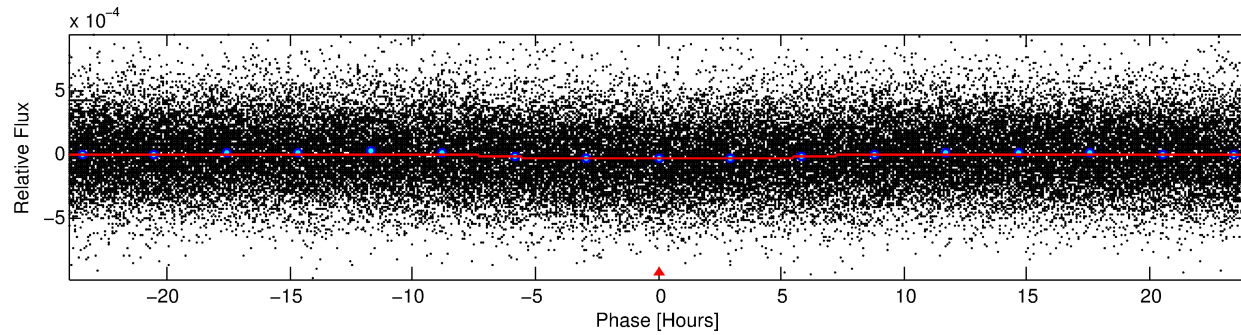
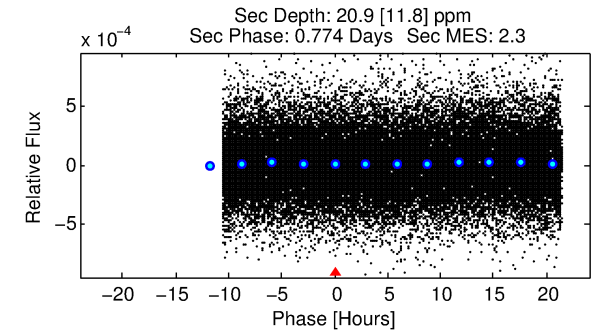
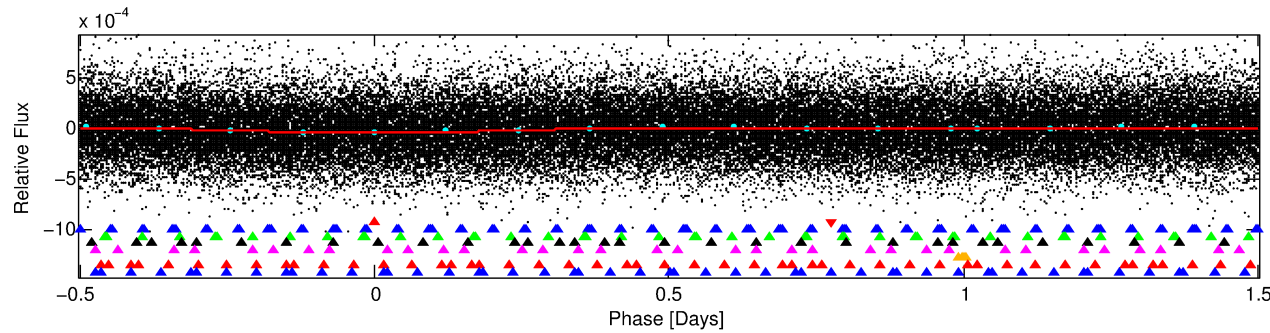
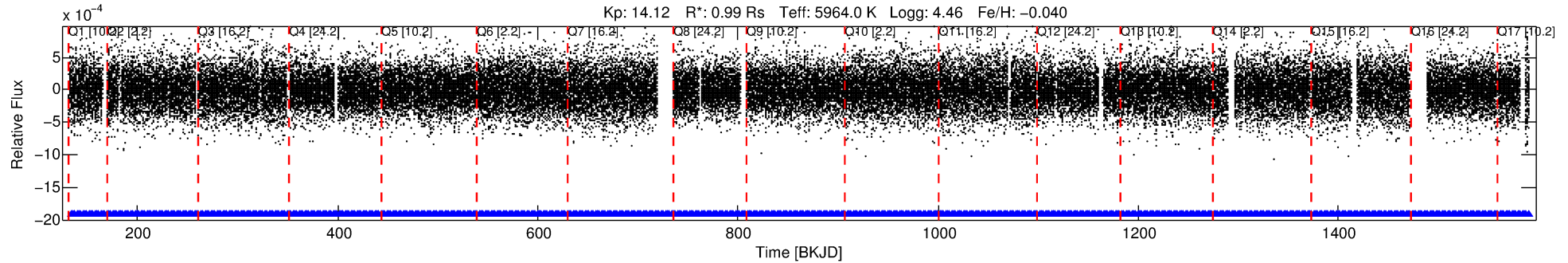
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-01

No Significant Match Found

DV One-Page Summary

KIC: 3848572 Candidate: 1 of 8 Period: 2.000 d



DV Fit Results:

Period = 2.00025 [0.00004] d
Epoch = 133.4592 [0.0120] BKJD
Rp/R* = 0.0045 [0.0059]
a/R* = 1.22 [2.43]
b = 0.20 [29.37]
Seff = 1124.77 [463.58]
Teq = 1477 [152] K
Rp = 0.49 [0.66] Re
a = 0.0314 [0.0083] AU
Ag = 47.19 [127.31] [0.36σ]
Teffp = 5984 [3998] K [1.13σ]

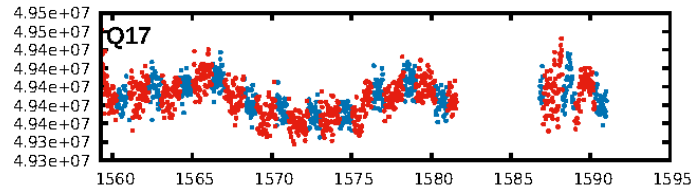
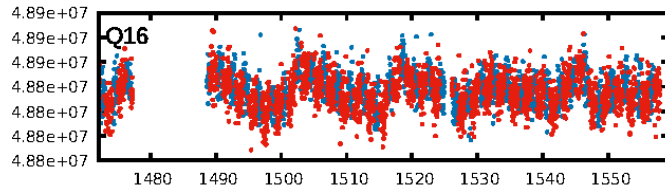
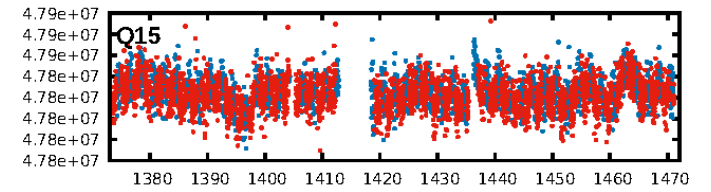
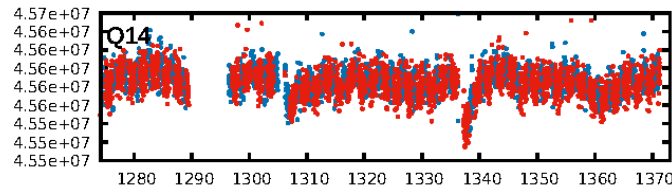
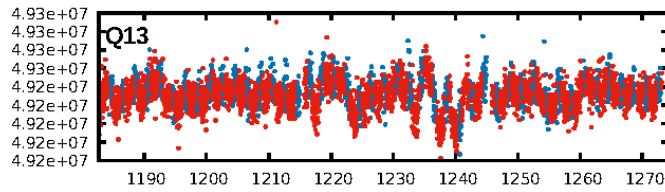
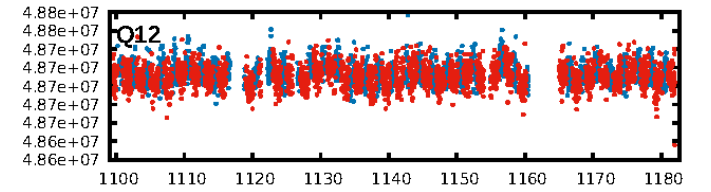
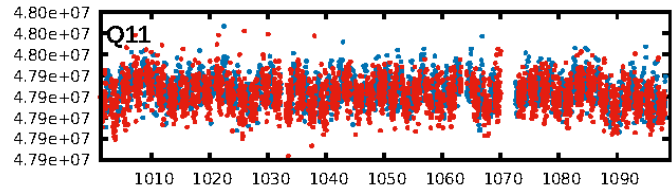
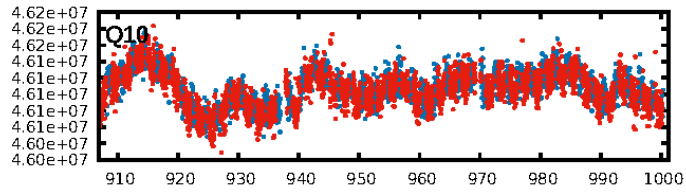
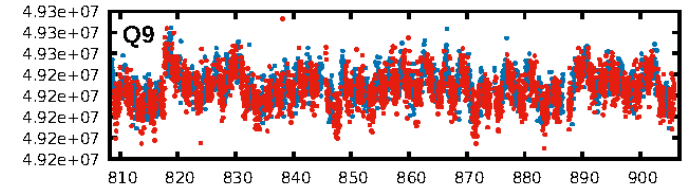
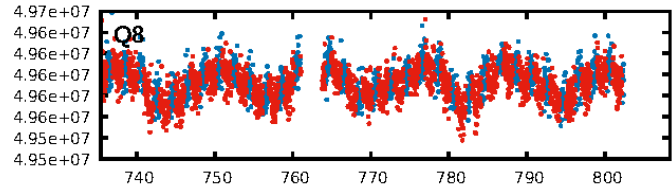
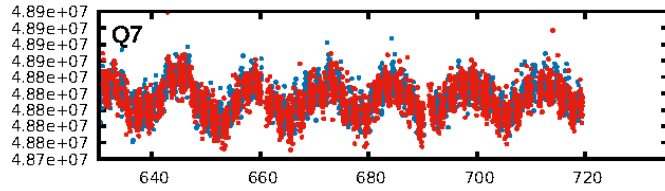
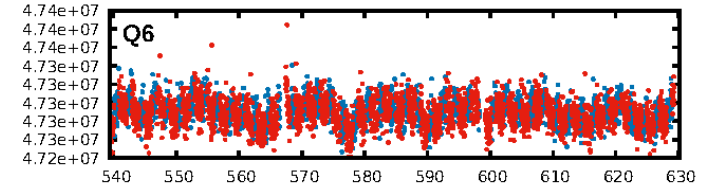
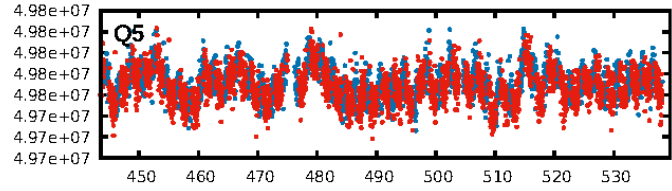
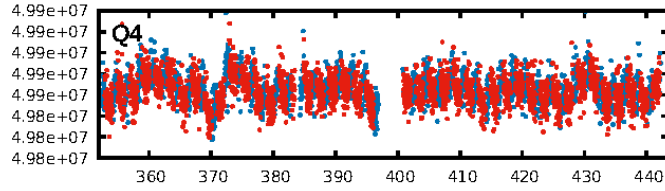
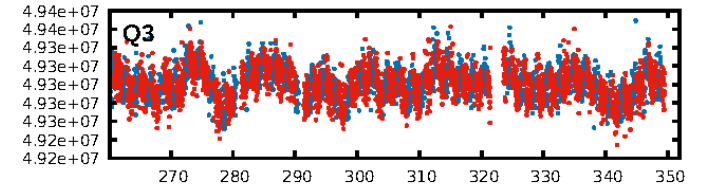
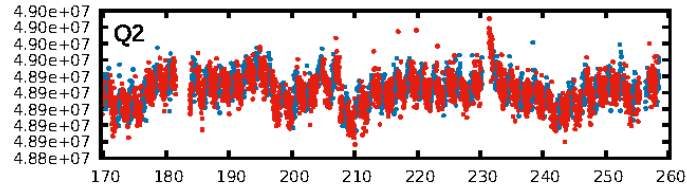
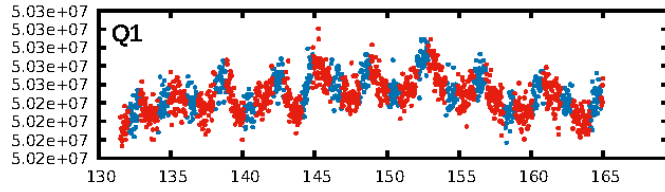
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [22.82σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [655/655]
GhostDiagnostic-chr: 1.154
Centroid-sig: 0.0%
Centroid-so: 3.204 arcsec [2.80σ]
OotOffset-rm: 1.213 arcsec [10.56σ]
KicOffset-rm: 0.576 arcsec [2.36σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.87 [13/15]
DiffImageOverlap-fno: 1.00 [17/17]

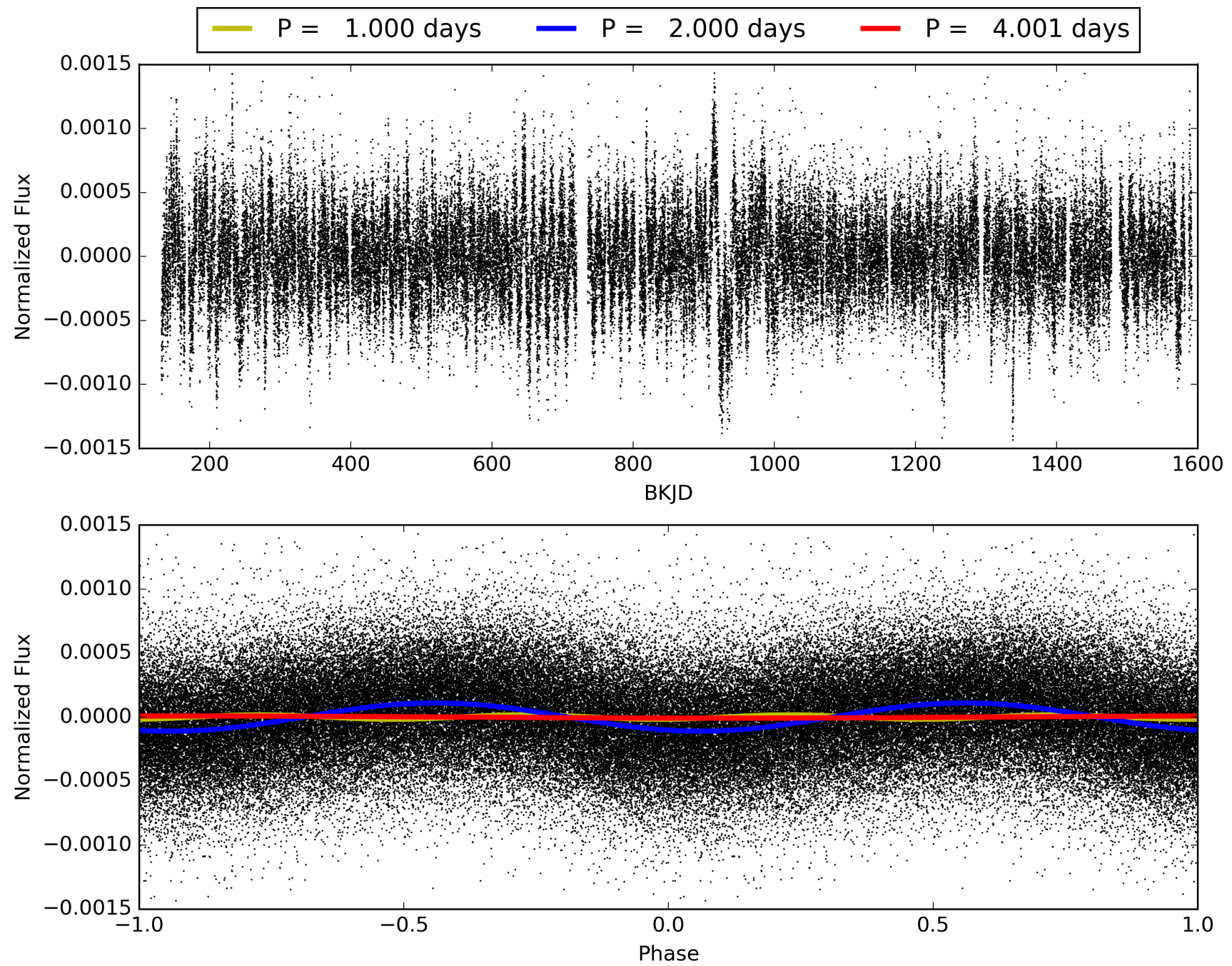
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:41:53 Z

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

TCE 003848572-01, PDC Light Curves

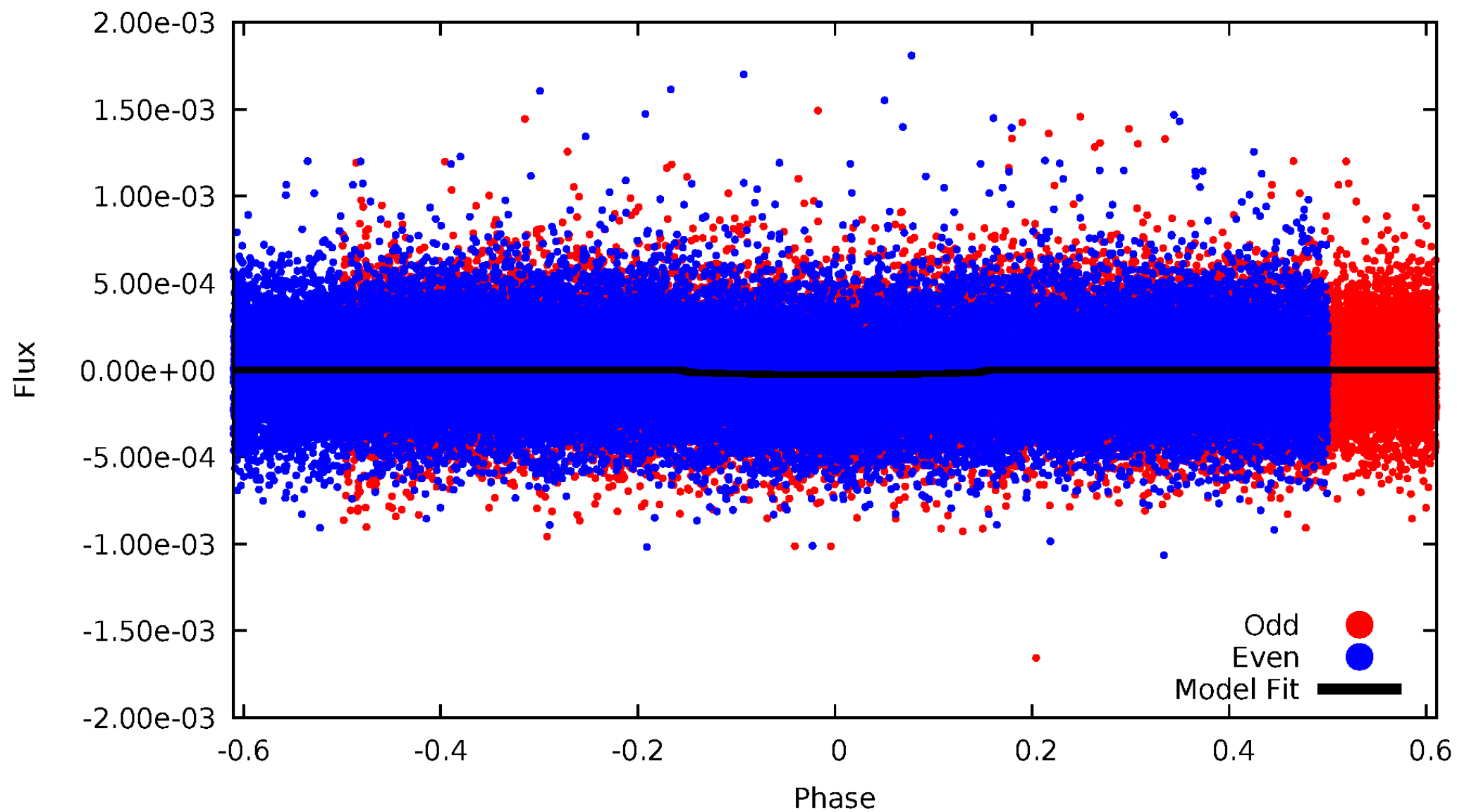


TCE 003848572-01



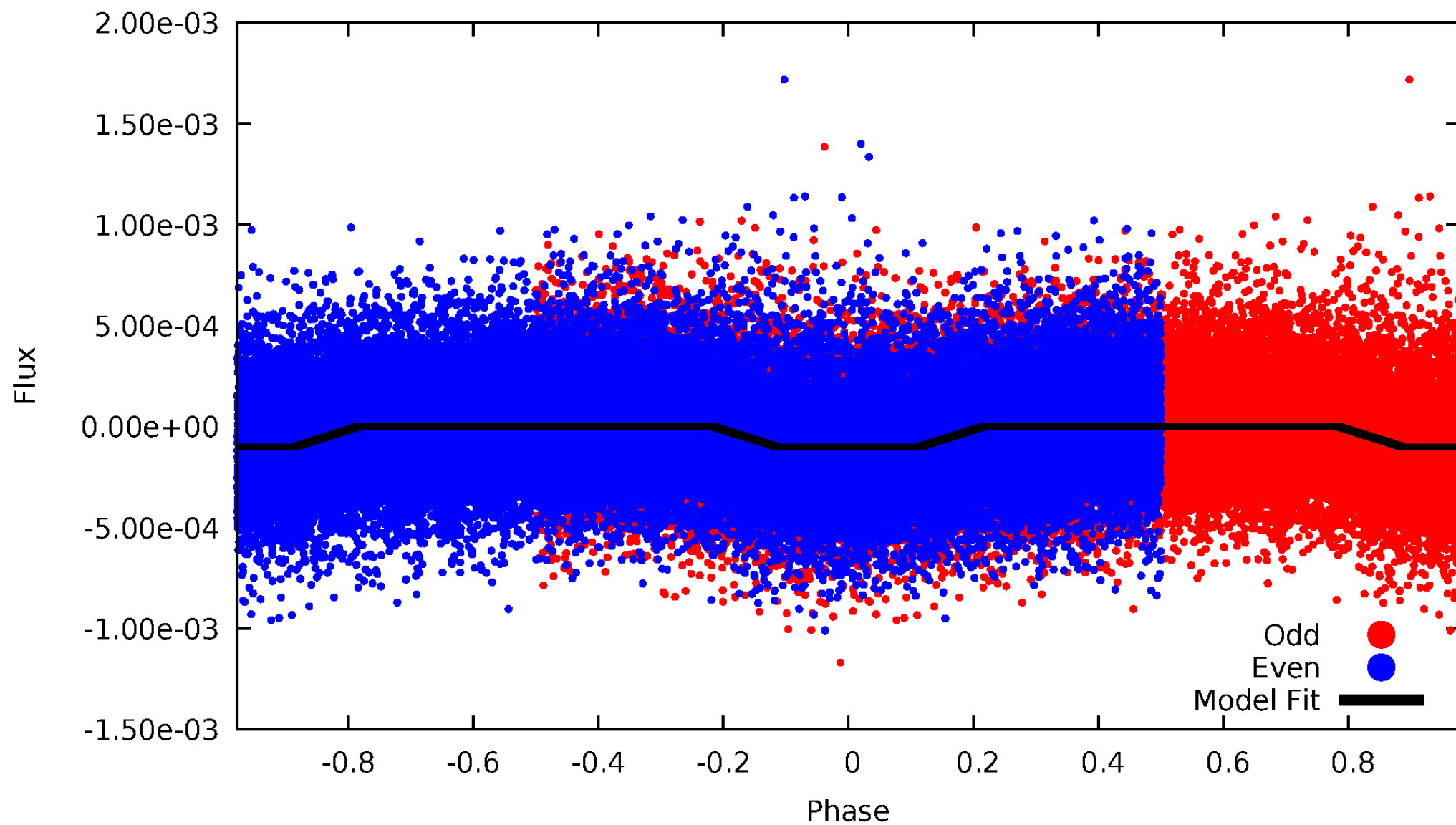
DV Odd/Even

TCE 003848572-01



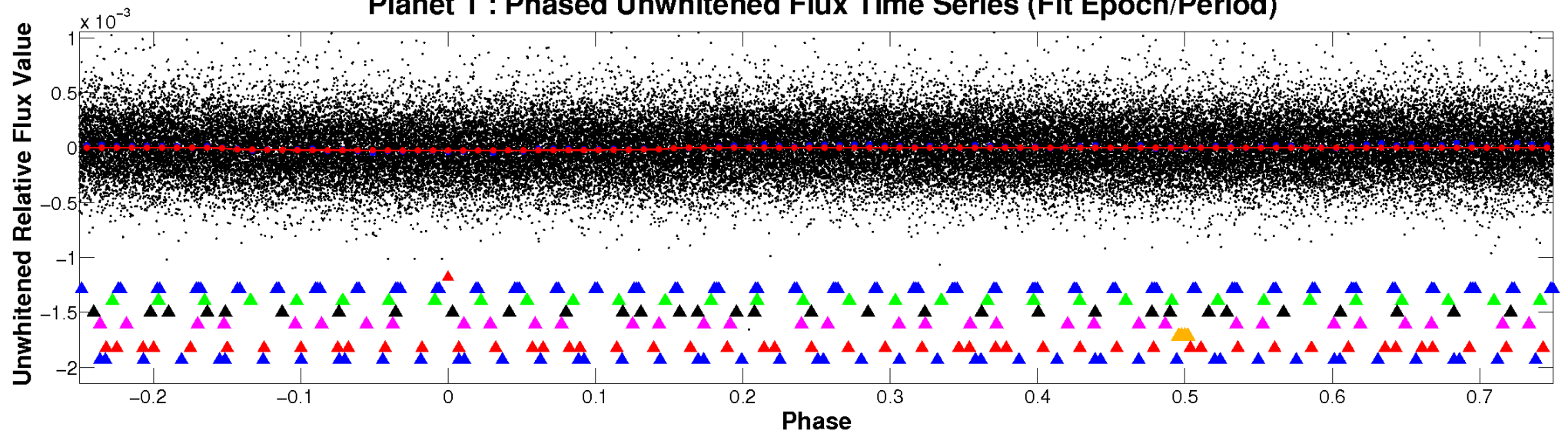
ALT Odd/Even

TCE 003848572-01

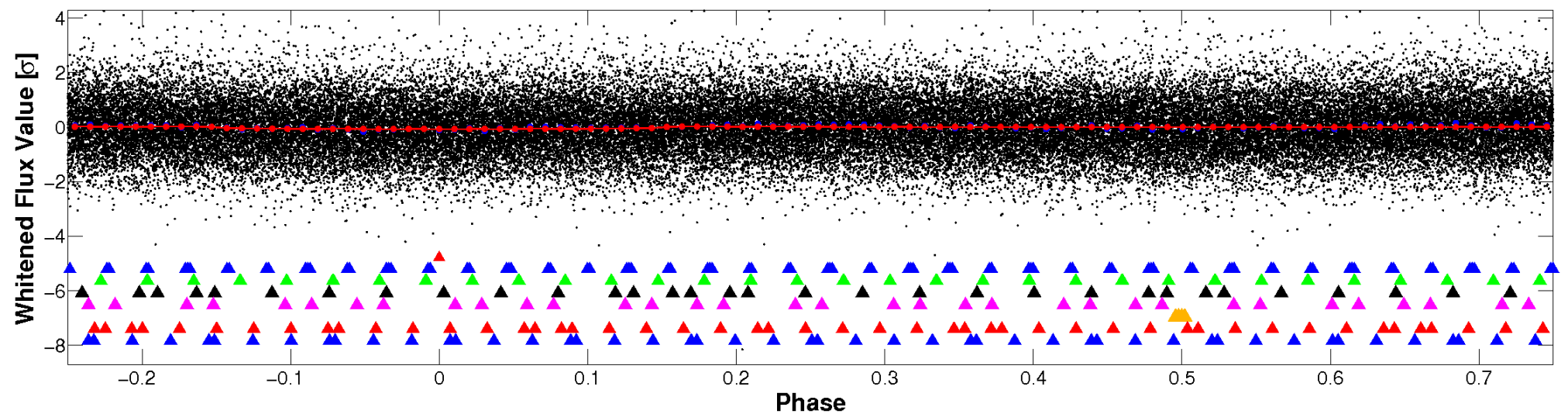


Non-Whitened Vs. Whitened Light Curve

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

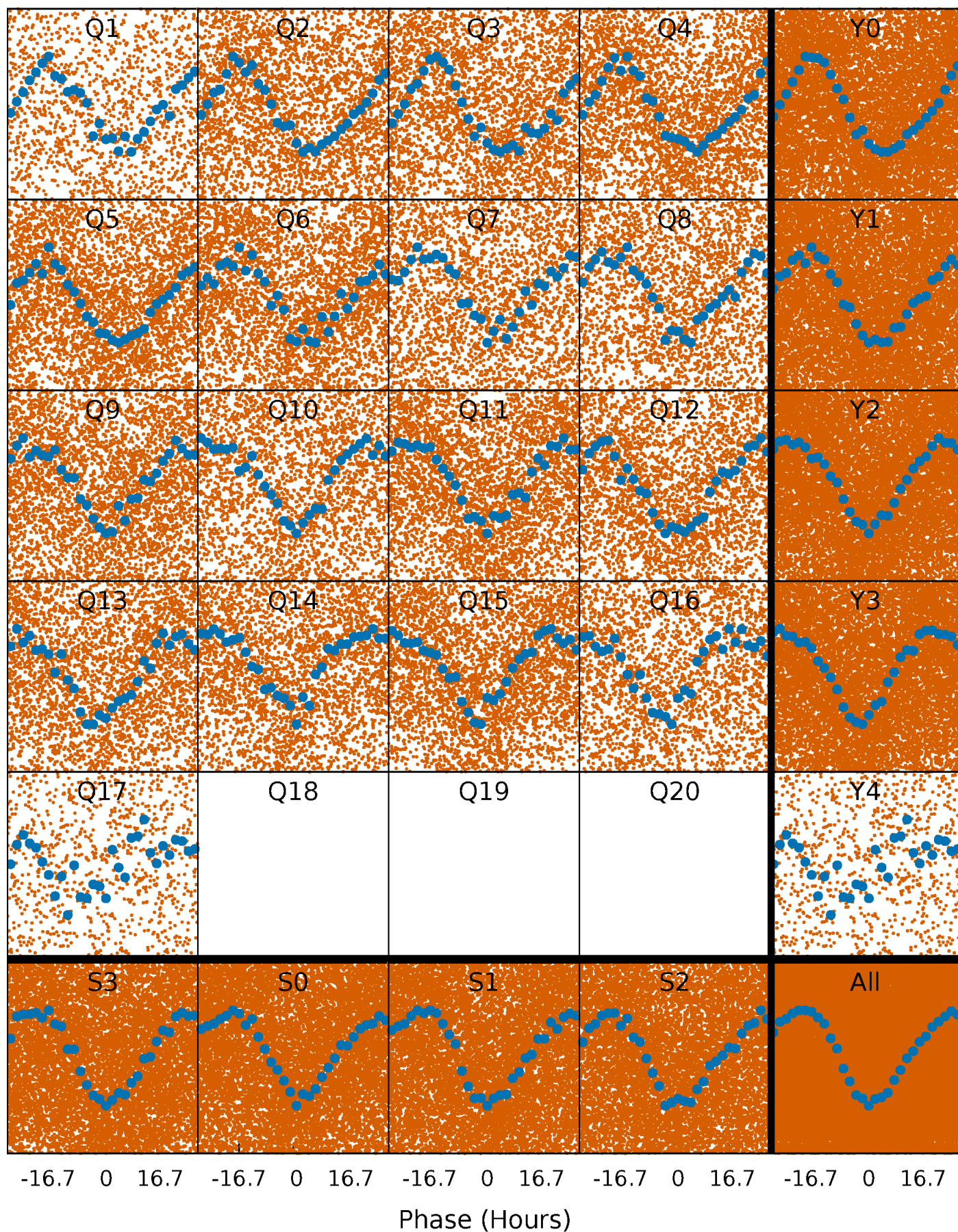


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



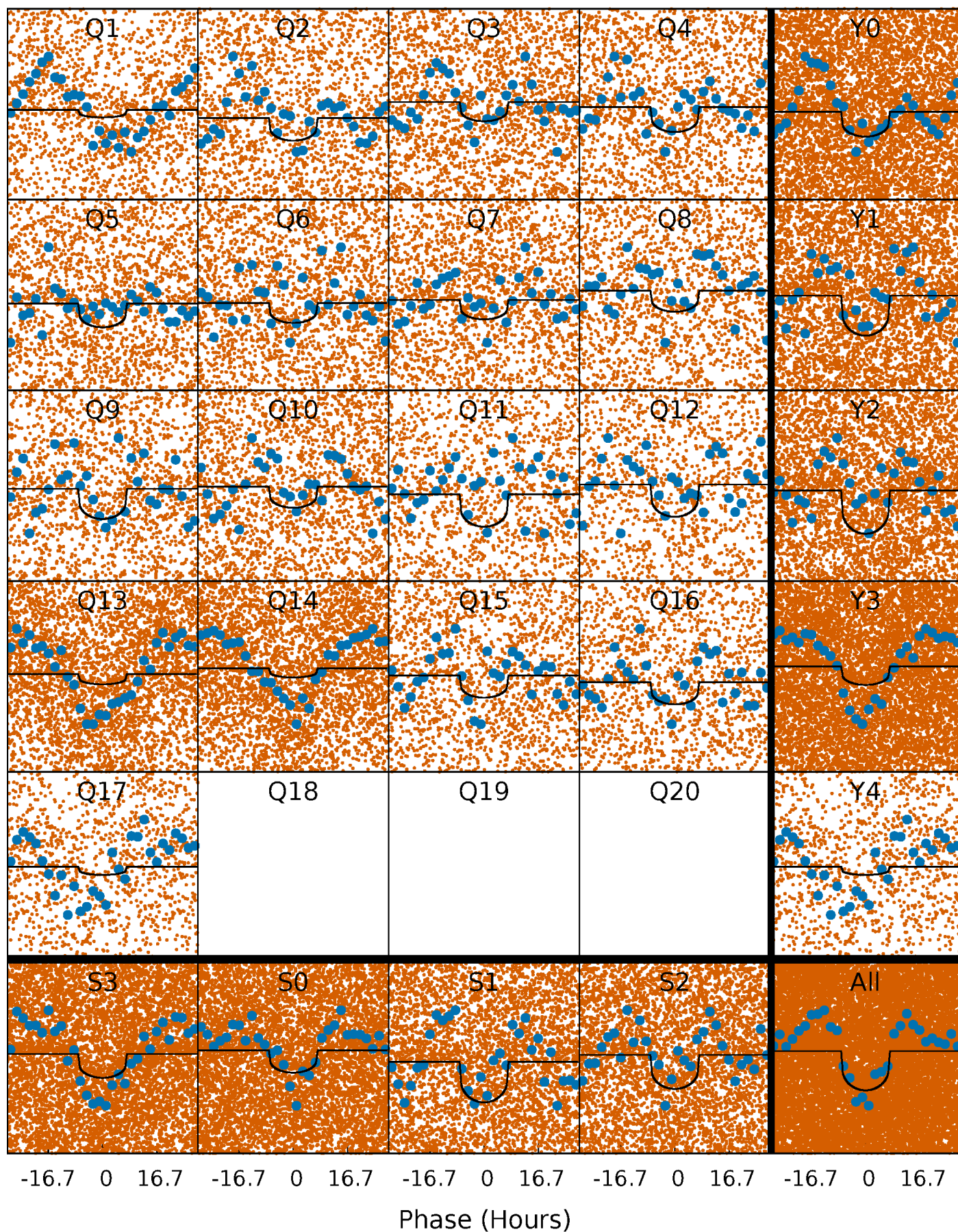
PDC Quarter-Phased Transit Curves

TCE 003848572-01 P= 2.000255 Days $T_0=133.459175$ (BKJD)



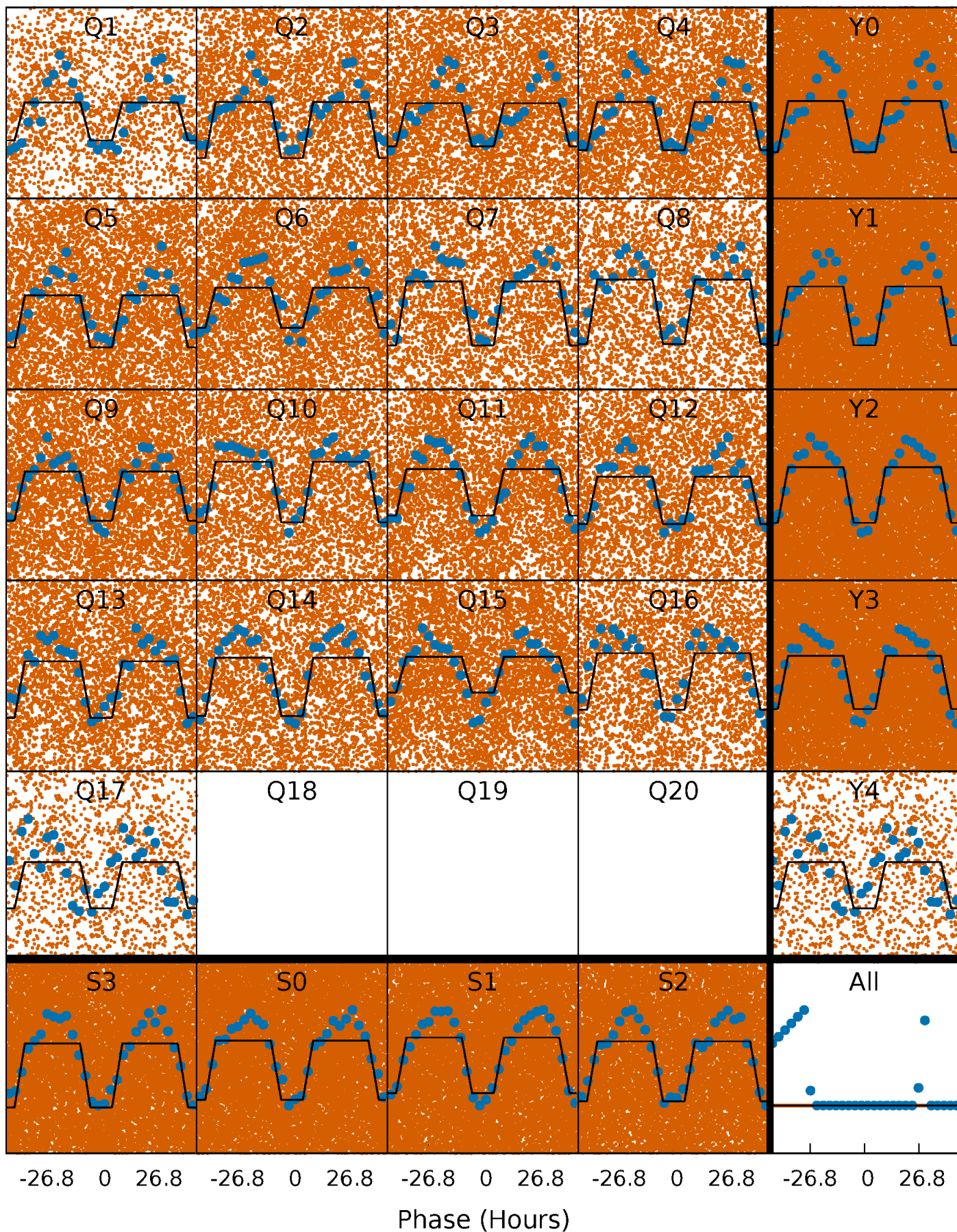
DV Quarter-Phased Transit Curves

TCE 003848572-01 P= 2.000255 Days $T_0=133.459175$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

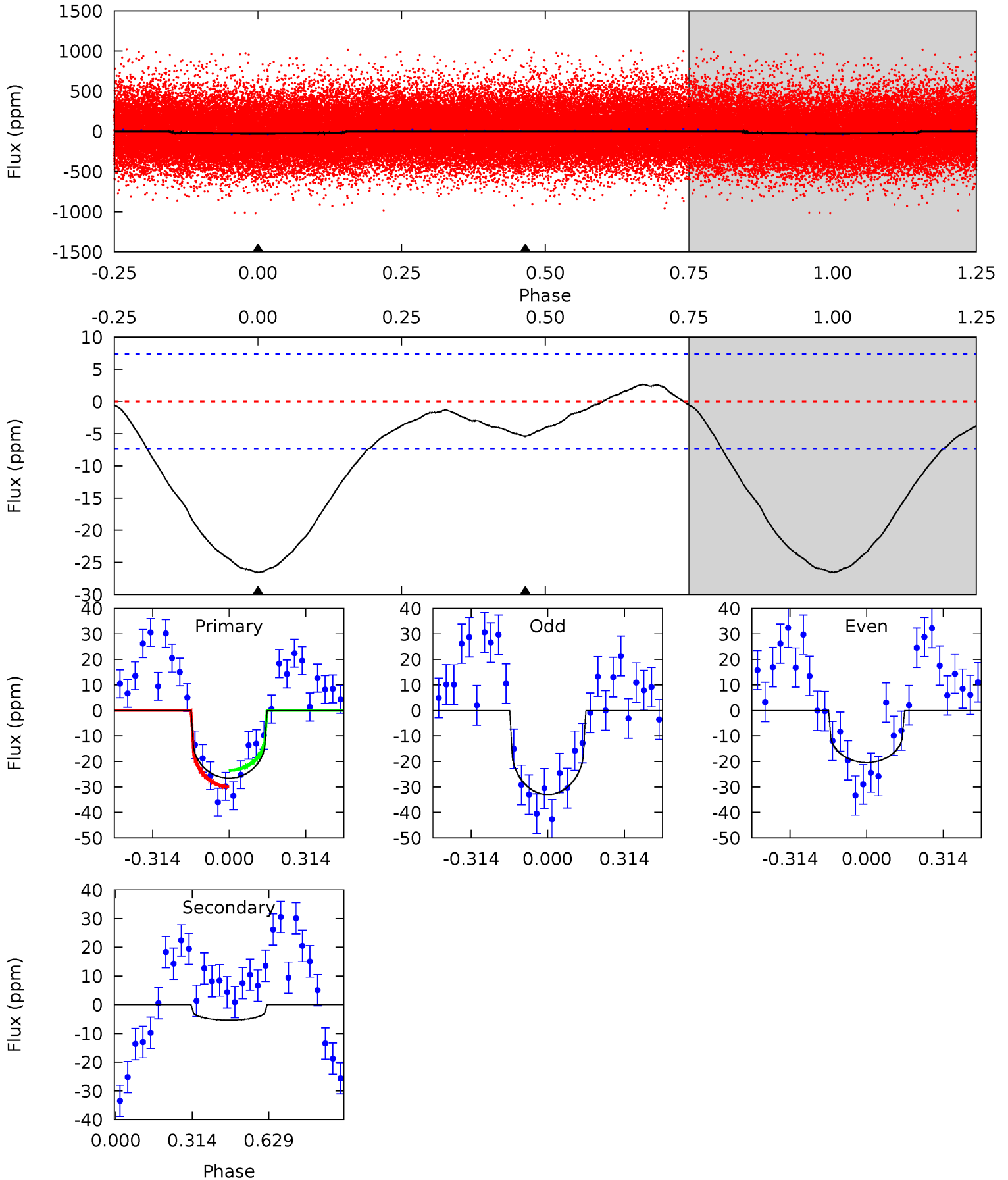
TCE 003848572-01 P= 2.000152 Days $T_0=133.542008$ (BKJD)



DV Model-Shift Uniqueness Test

003848572-01, P = 2.000255 Days, E = 131.458920 Days

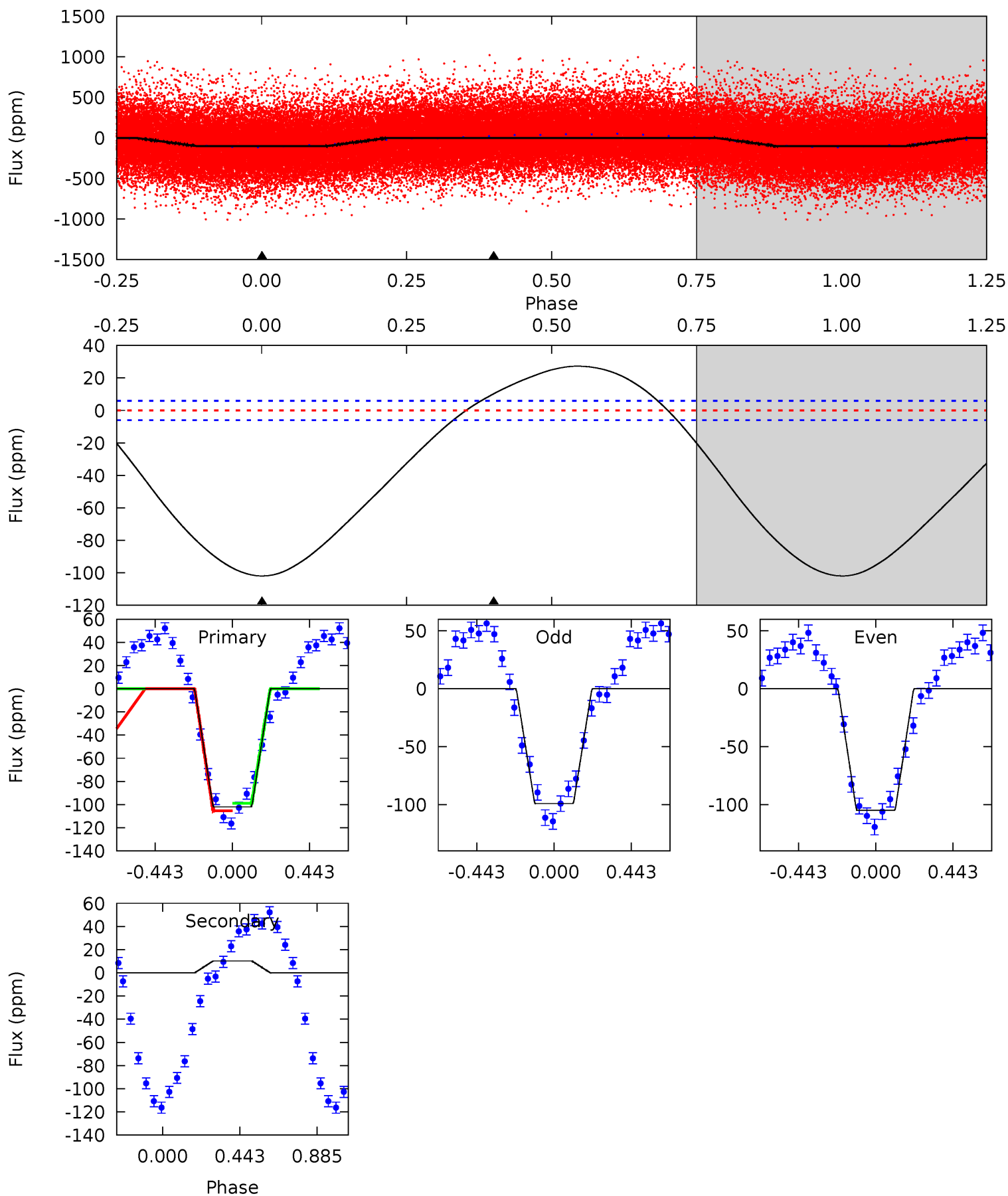
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	3.16	0	0	4.32	1.01	1.36	15.5	15.5	3.16	3.16	3.68	1.04	0.09	1.88



Alt Model-Shift Uniqueness Test

003848572-01, P = 2.000152 Days, E = 129.541704 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.4	-7.28	0	0	4.24	0.77	7.37	72.4	72.4	-7.28	-7.28	2.05	0.99	0.21	2.30



Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$0.72^{+0.63}_{-0.48}$	2097^{+153}_{-108}	3876^{+2100}_{-779}	$5.514^{+39.502}_{-4.042}$
Alt.	10 ± 1	$1.16^{+0.72}_{-0.63}$	2100^{+155}_{-107}	-3773^{+472}_{-1265}	$-4.099^{+2.597}_{-16.519}$

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

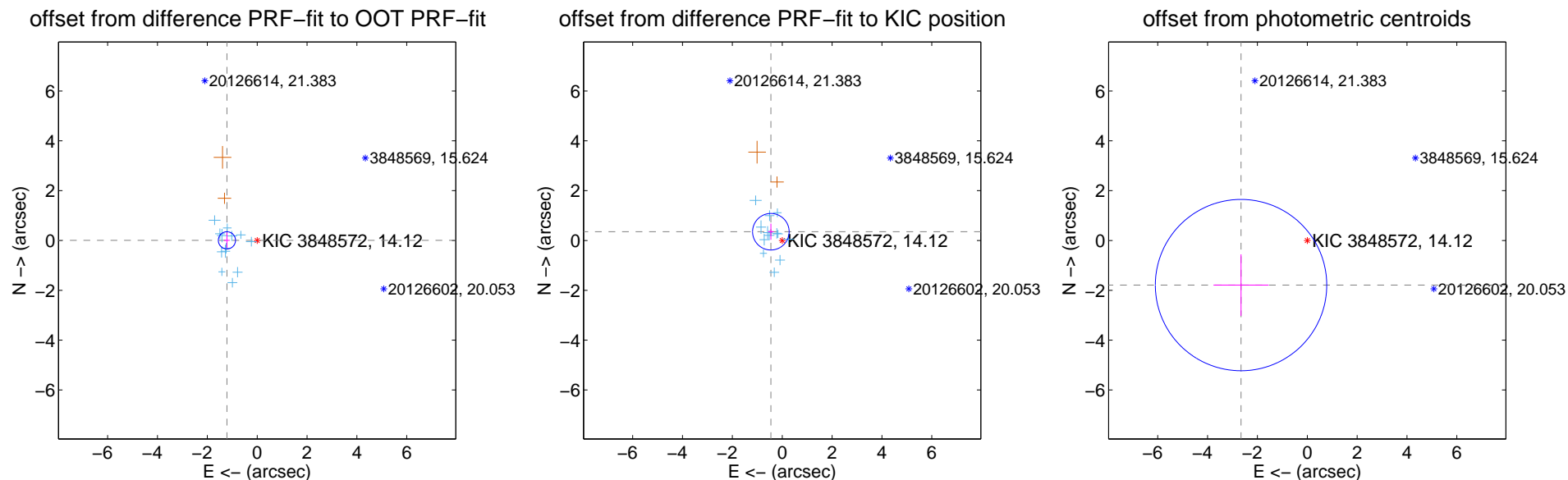
DV Centroid Data

Supplemental centroid analysis for 003848572-01. Kepler magnitude: 14.12. Transit SNR 8.64

There are 13 quarters with good PRF difference image offsets

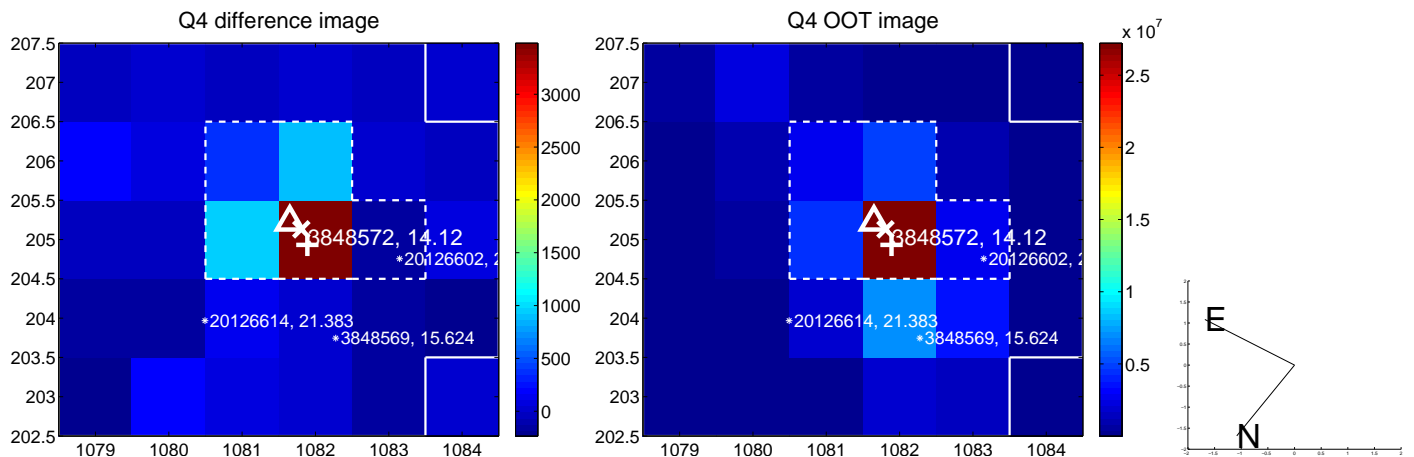
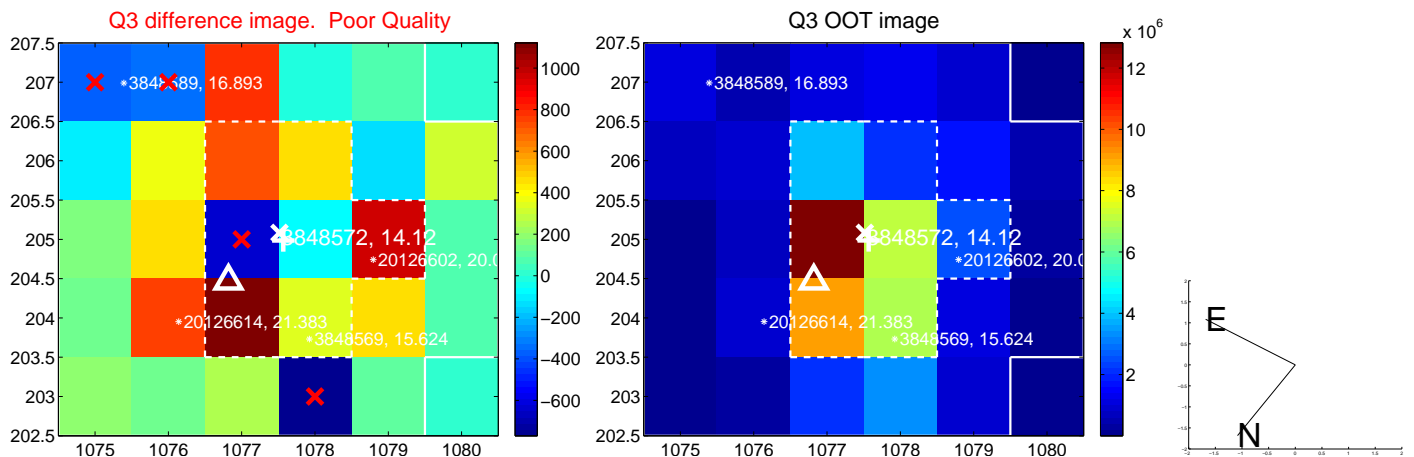
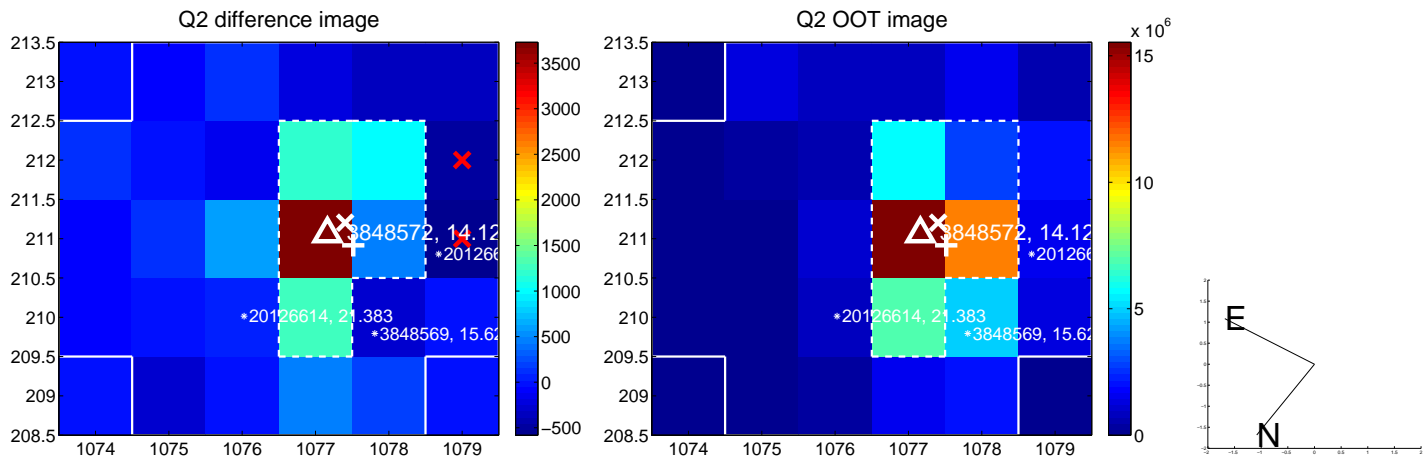
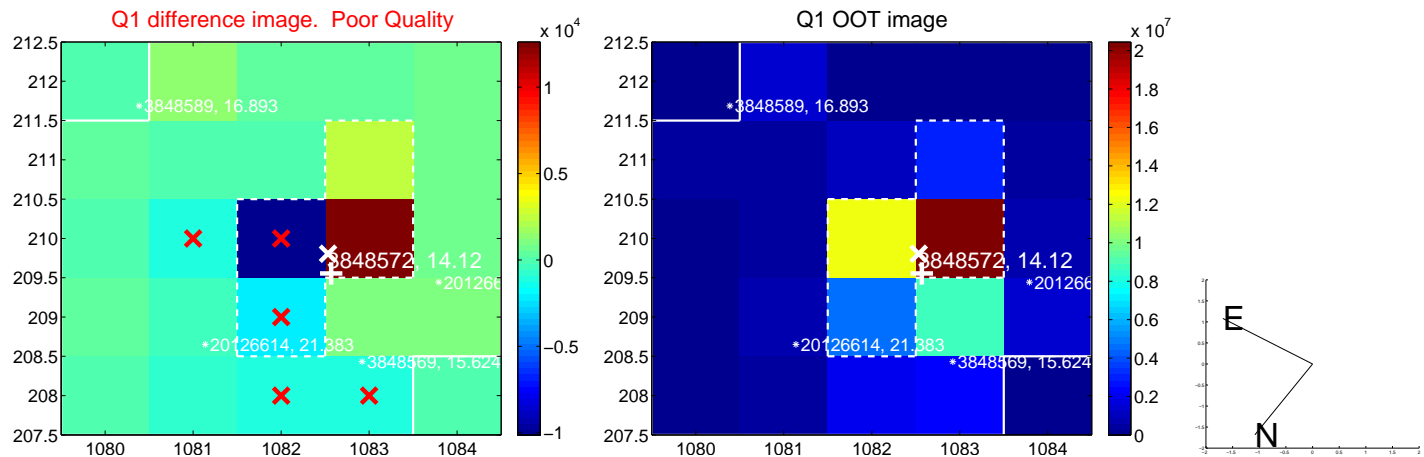
The direct PRF centroid is offset from the target star catalog position by about 0.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.213 \pm 0.115	10.56	1.213 \pm 0.115	0.006 \pm 0.311
PRF-fit source offset from KIC position	0.576 \pm 0.244	2.36	0.456 \pm 0.112	0.352 \pm 0.324
photometric centroid source offset	3.20 \pm 1.15	2.80	2.66 \pm 1.10	-1.79 \pm 1.23

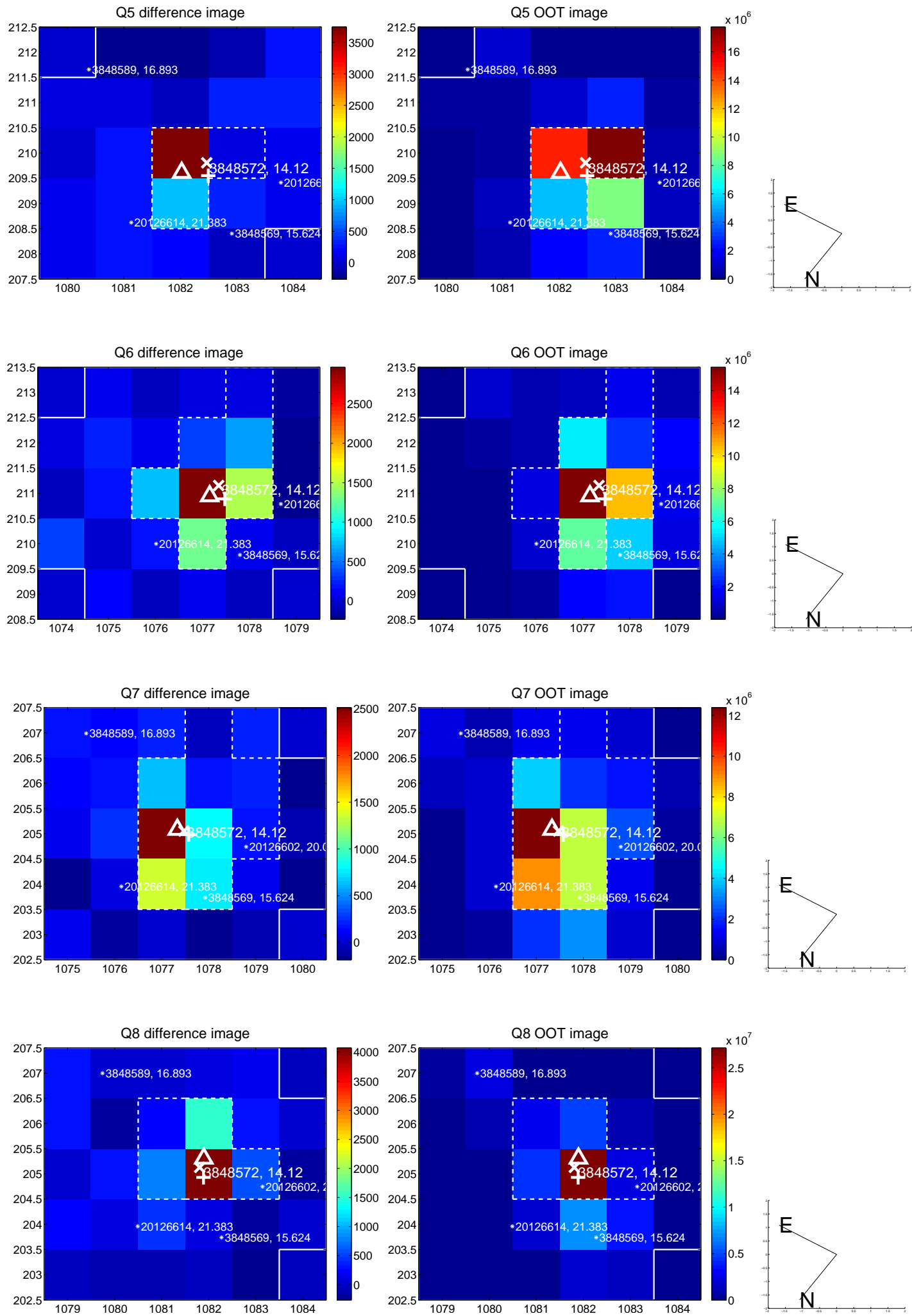


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

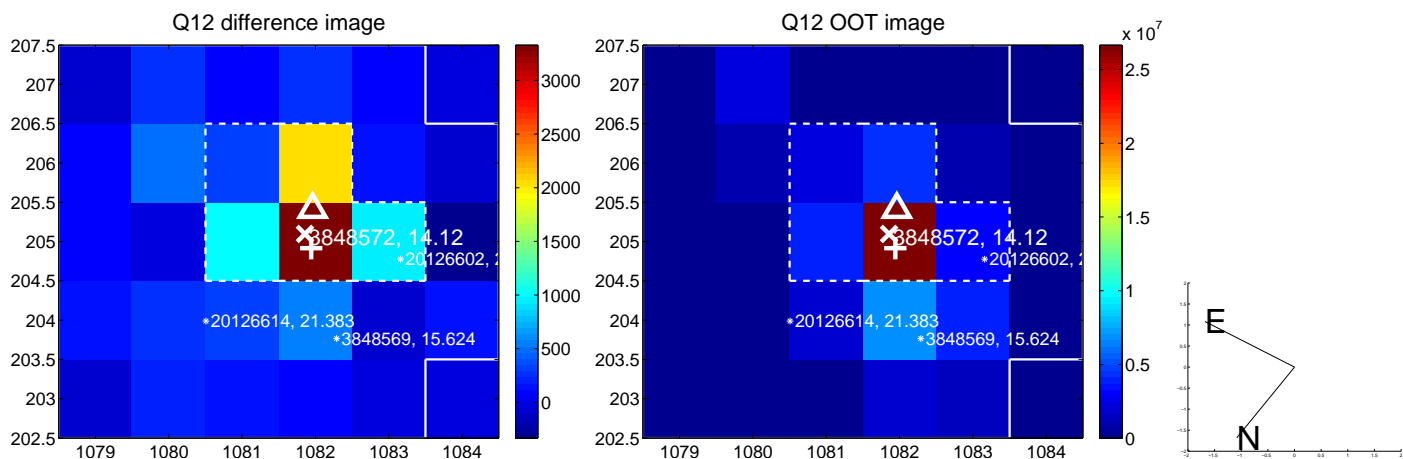
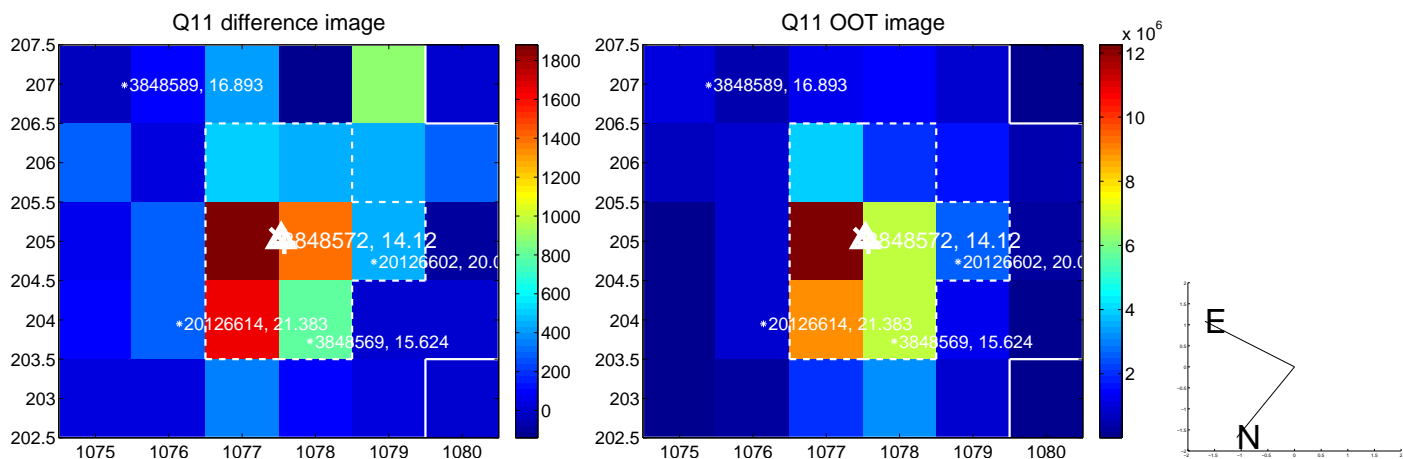
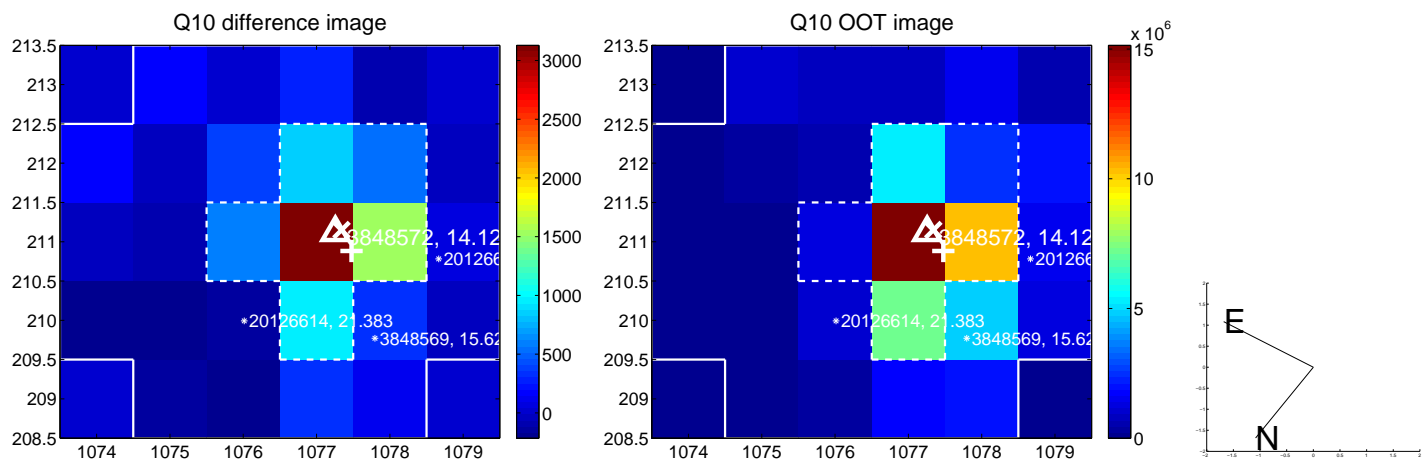
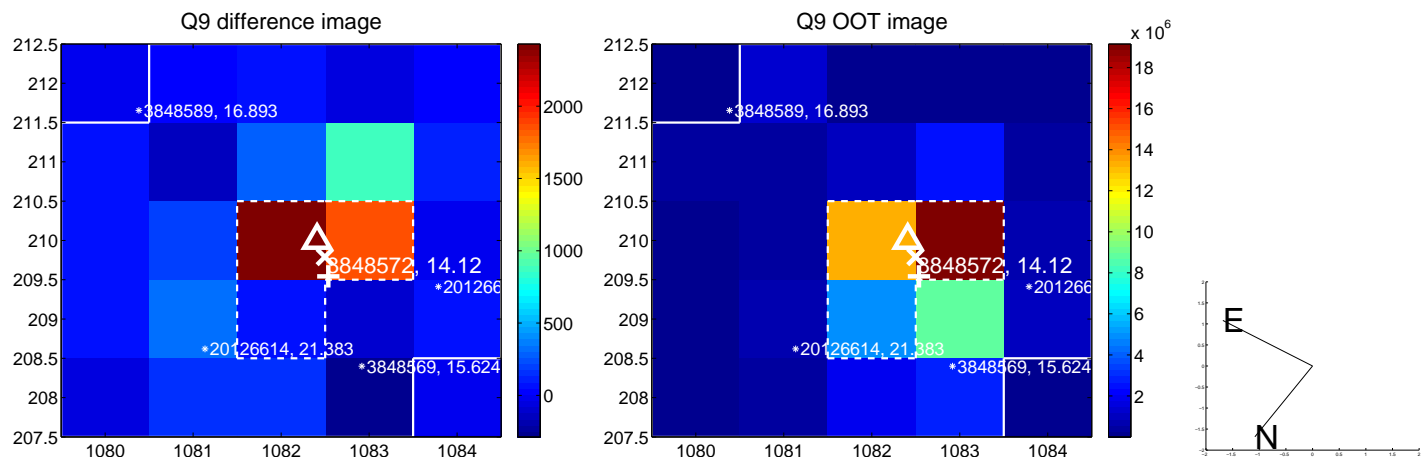
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



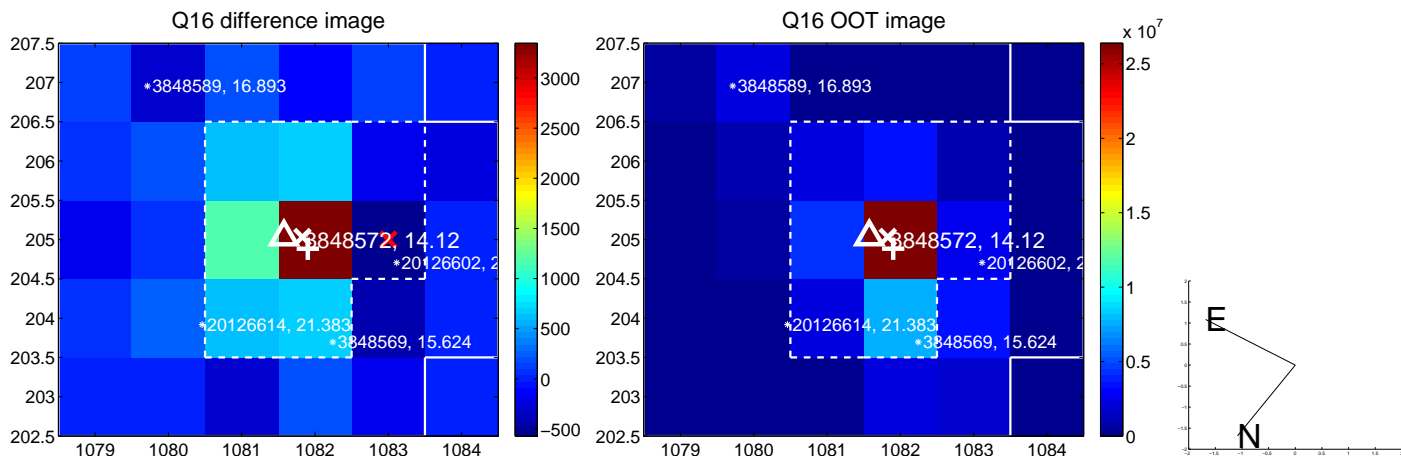
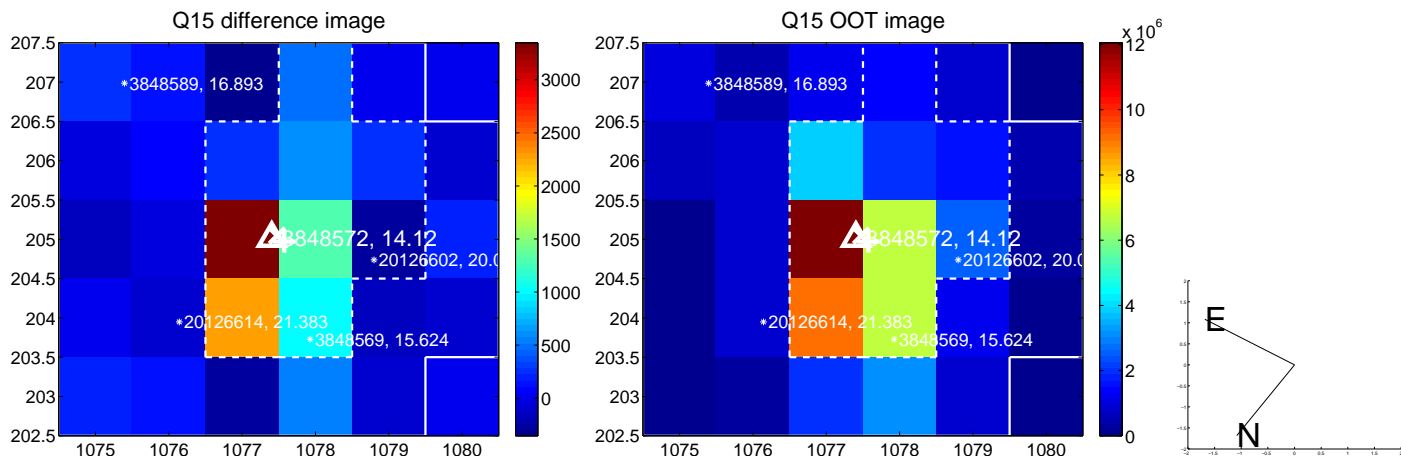
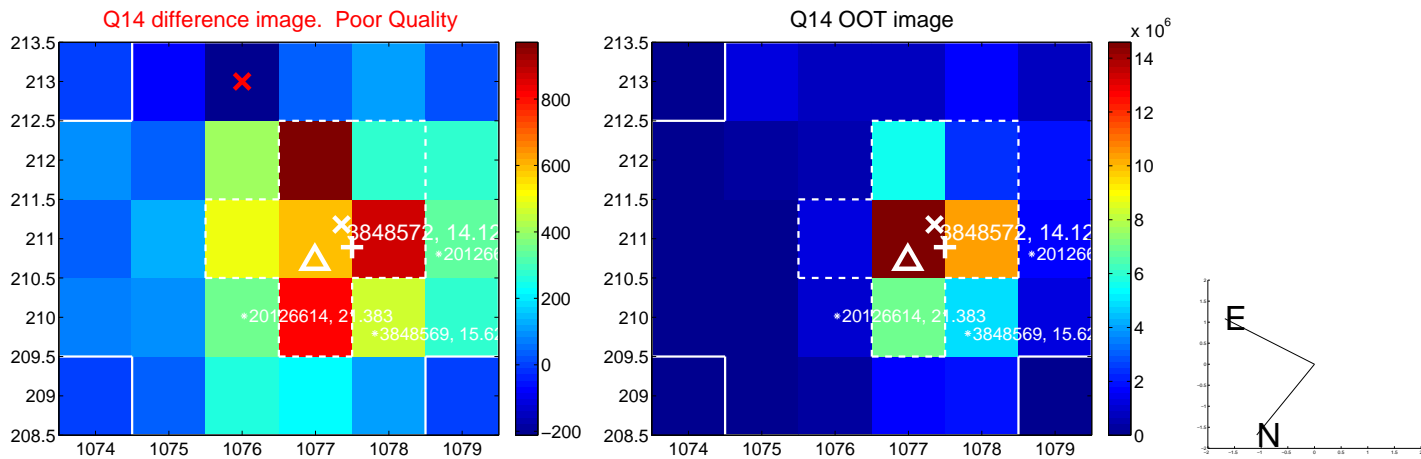
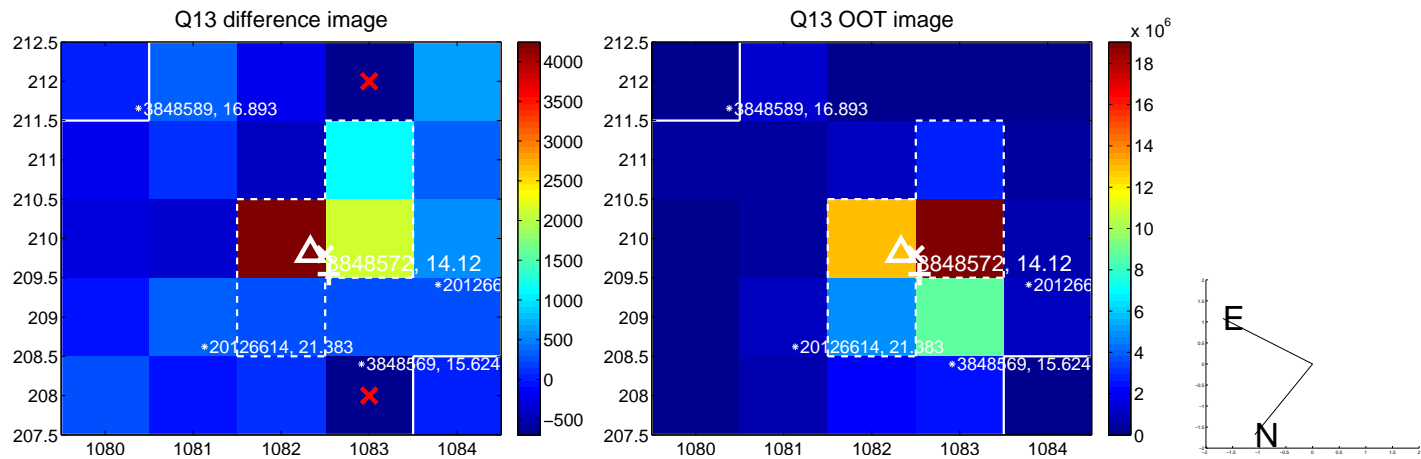
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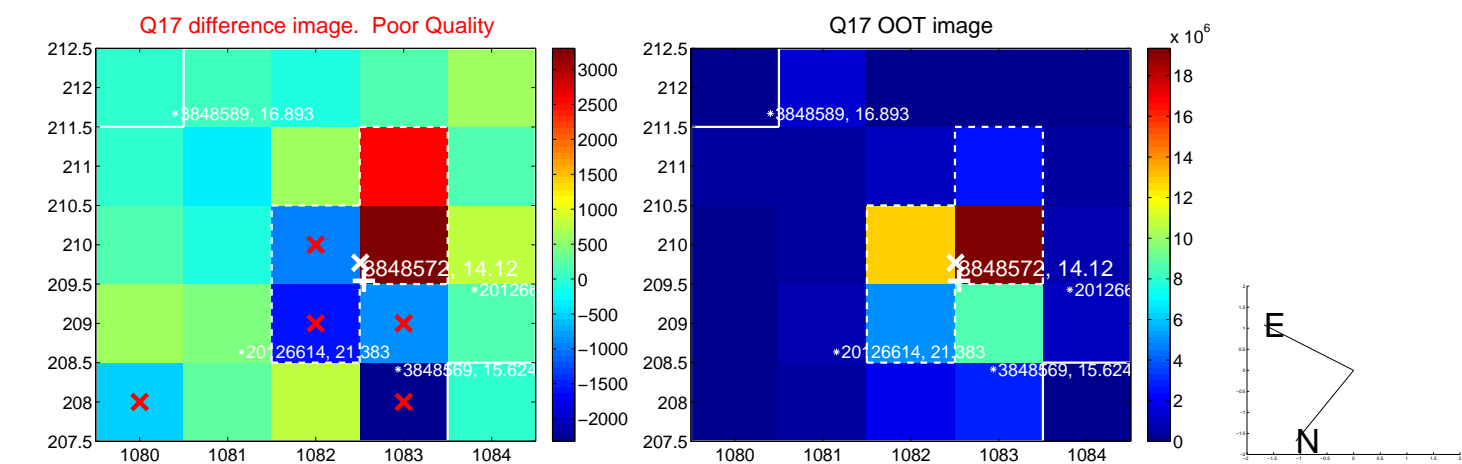
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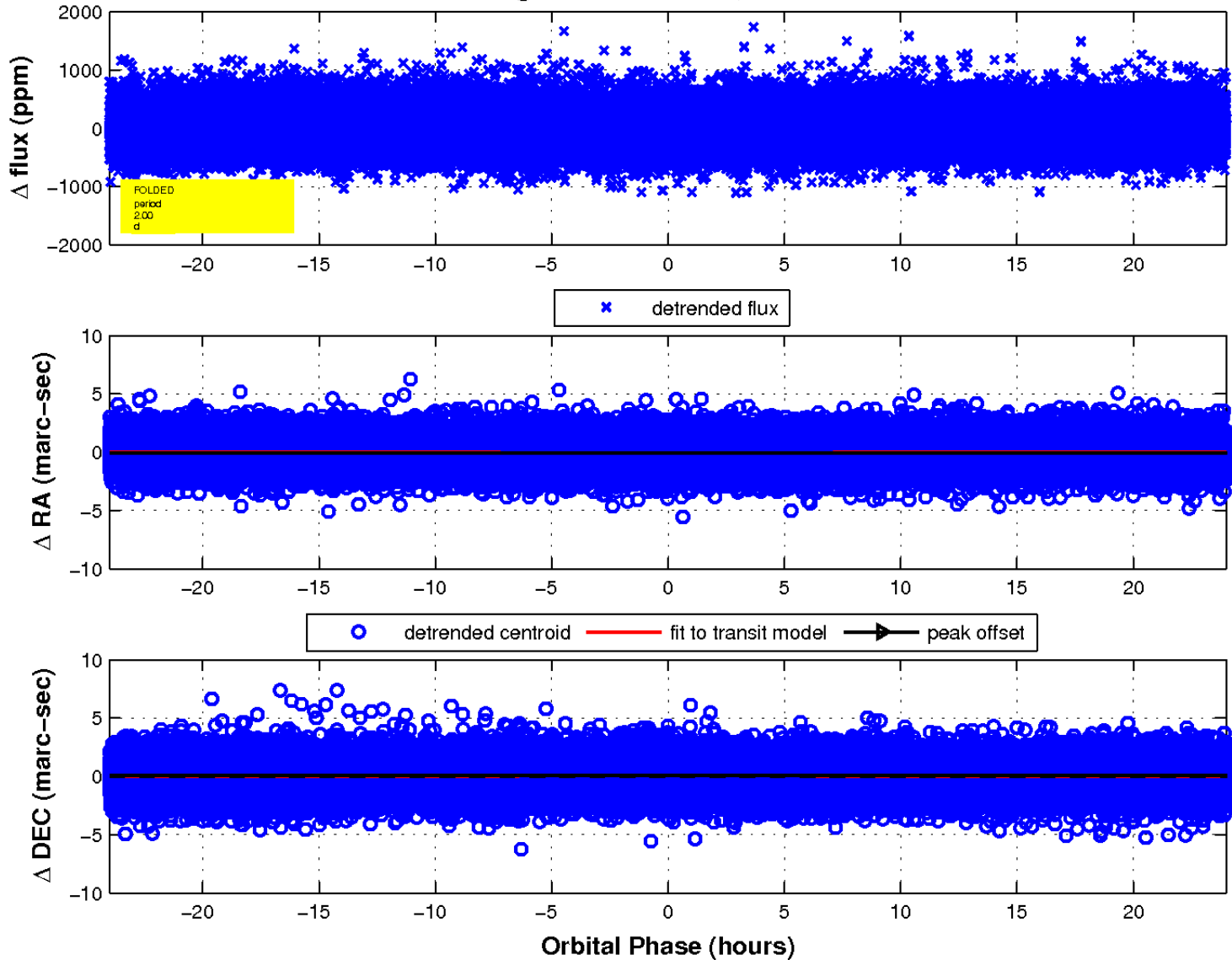
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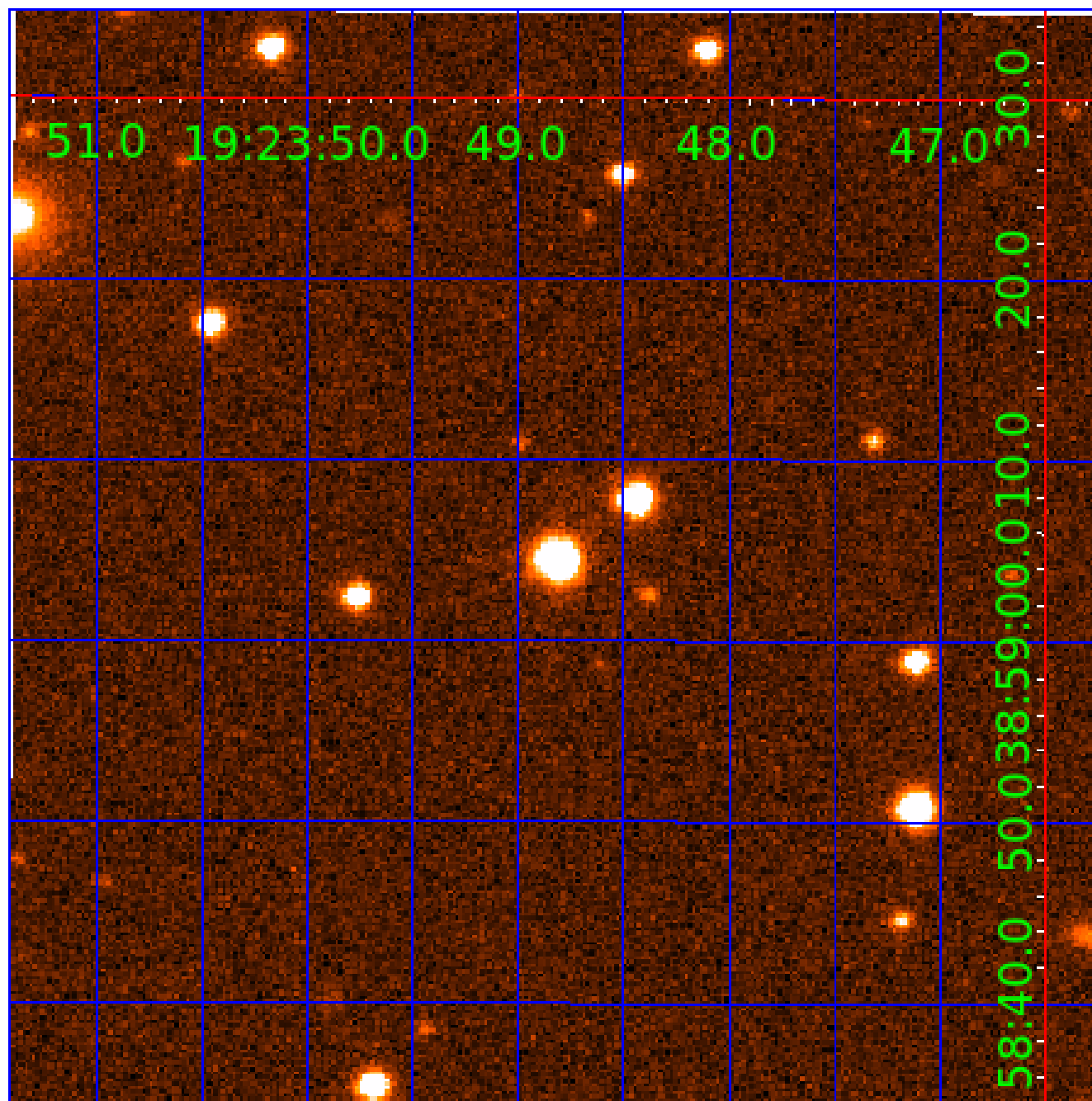


fluxWeightedCentroids, Planet 1 of 8



UKIRT Image

Declination



KIC 003848572

Q1-17 DR25 TCE Parameters

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003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

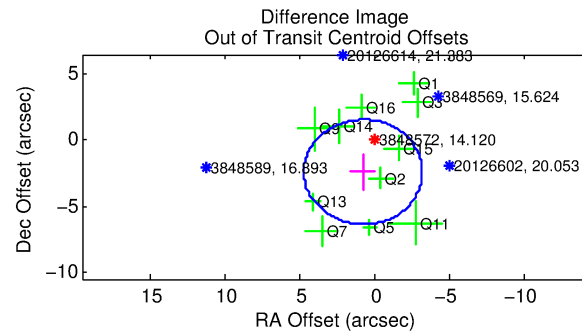
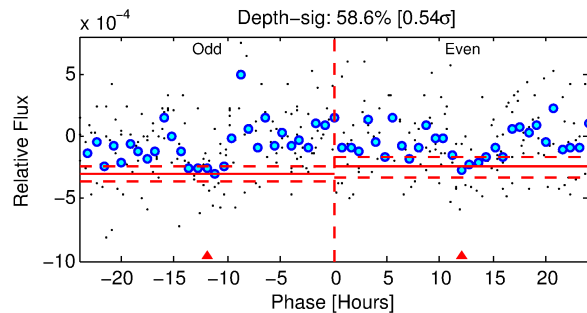
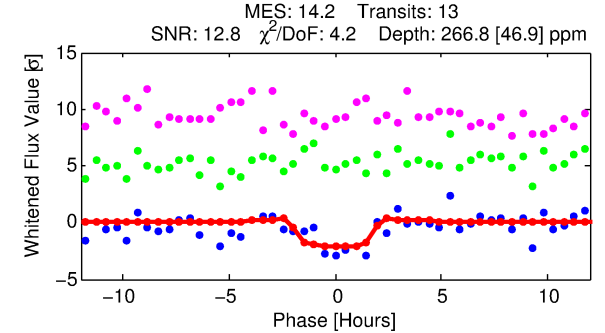
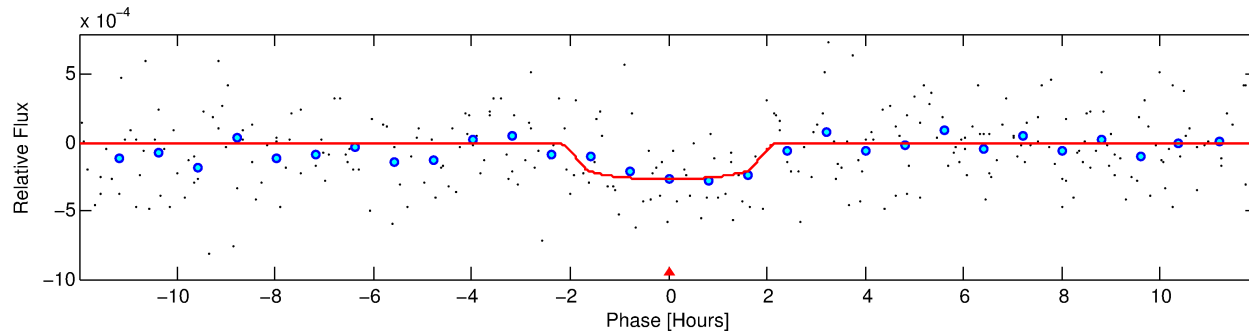
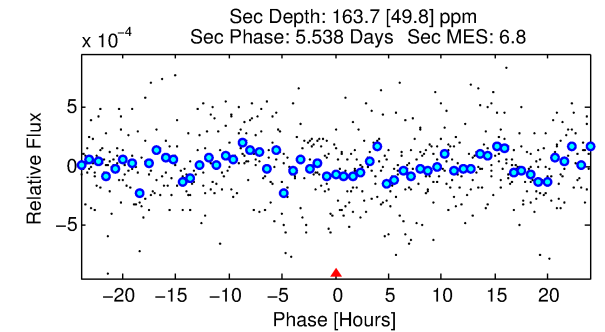
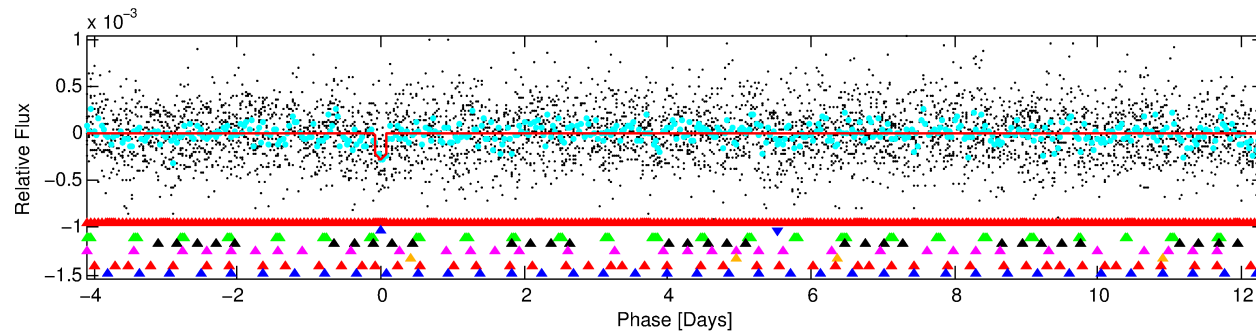
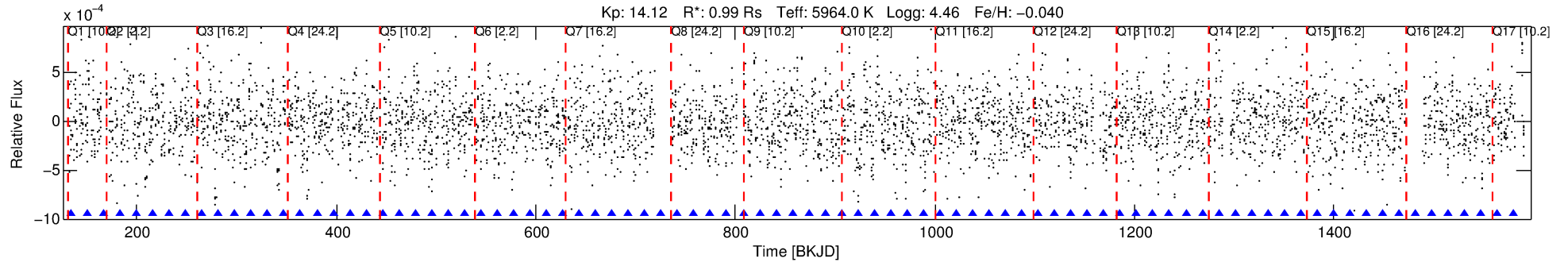
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-02

No Significant Match Found

DV One-Page Summary

KIC: 3848572 Candidate: 2 of 8 Period: 16.434 d



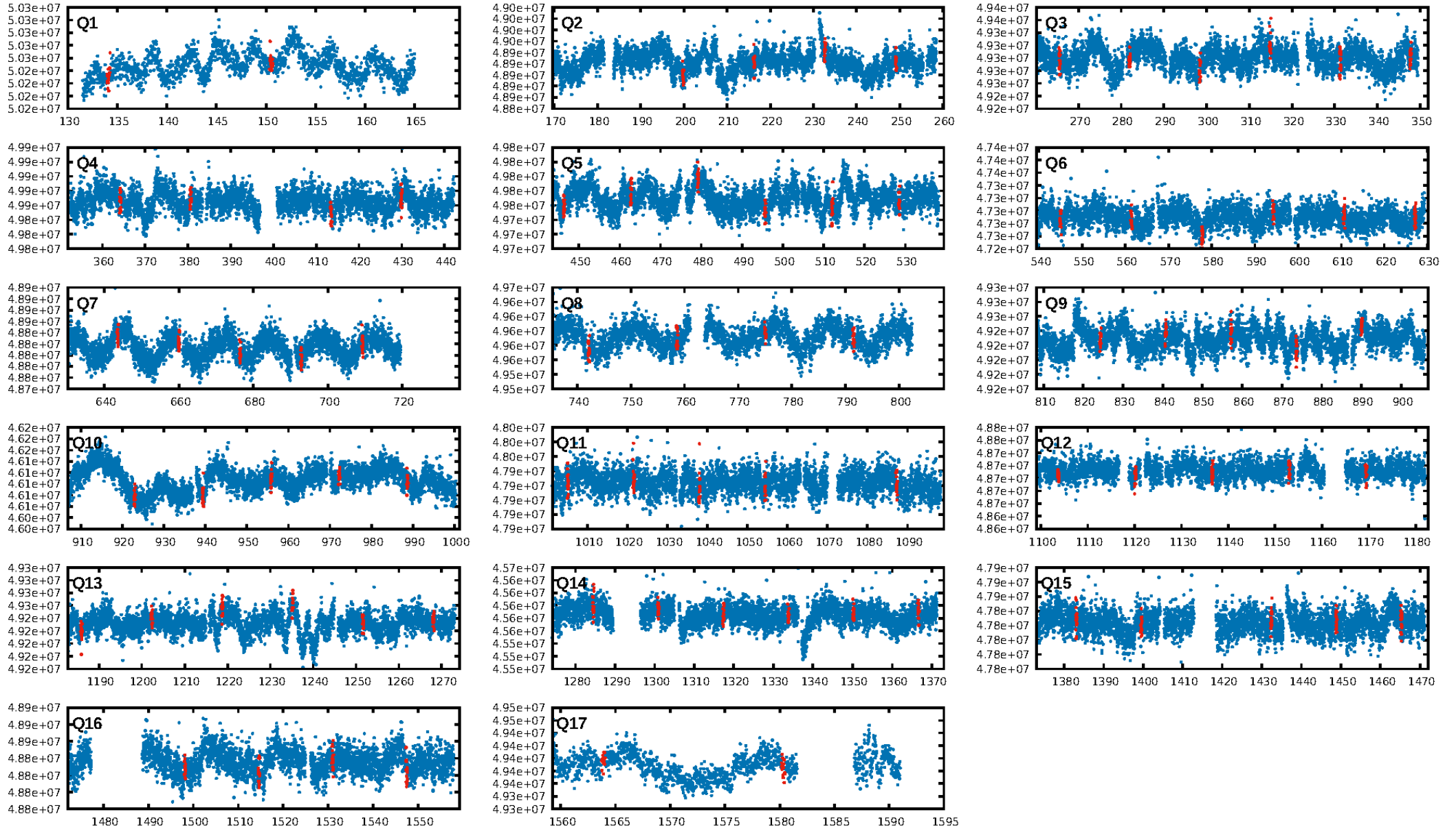
DV Fit Results:

Period = 16.43444 [0.00031] d
Epoch = 134.0974 [0.0153] BKJD
Rp/R* = 0.0163 [0.0279]
a/R* = 21.27 [173.44]
b = 0.76 [4.63]
Seff = 67.84 [27.96]
Teff = 732 [75] K
Rp = 1.76 [3.07] Re
a = 0.1278 [0.0339] AU
Ag = 475.56 [1647.41] [0.29 σ]
Teffp = 5284 [4550] K [1.00 σ]

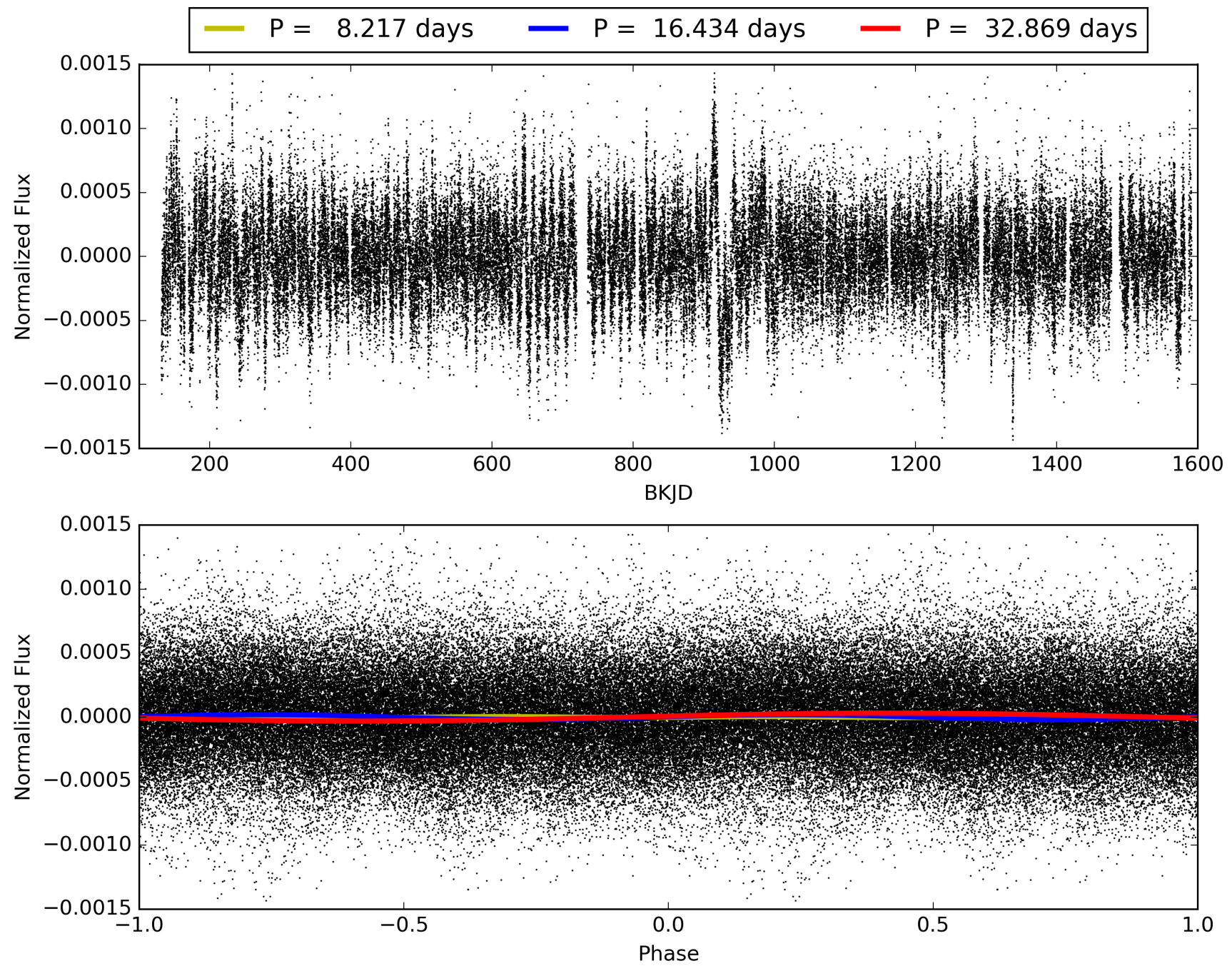
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.82 σ]
LongPeriod-sig: 100.0% [8.32 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 2.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 1.102
Centroid-sig: 0.3%
Centroid-so: 0.306 arcsec [0.56 σ]
OotOffset-rm: 2.511 arcsec [1.90 σ]
OotOffset-st: 2/4/1/4 [11]
KicOffset-rm: 1.867 arcsec [1.38 σ]
KicOffset-st: 2/4/1/4 [11]
DiffImageQuality-fgm: 0.09 [1/11]
DiffImageOverlap-fno: 0.88 [15/17]

TCE 003848572-02, PDC Light Curves

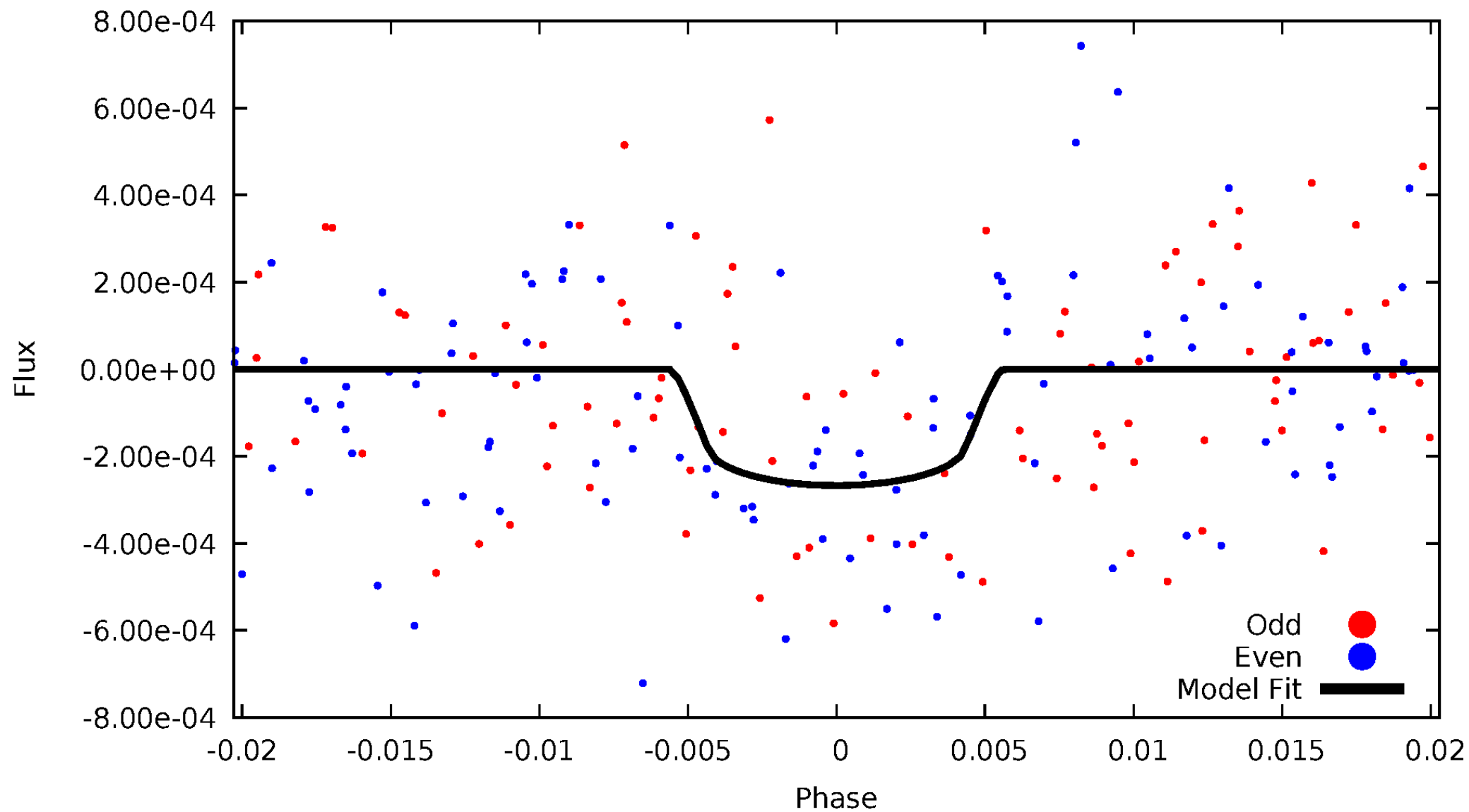


TCE 003848572-02



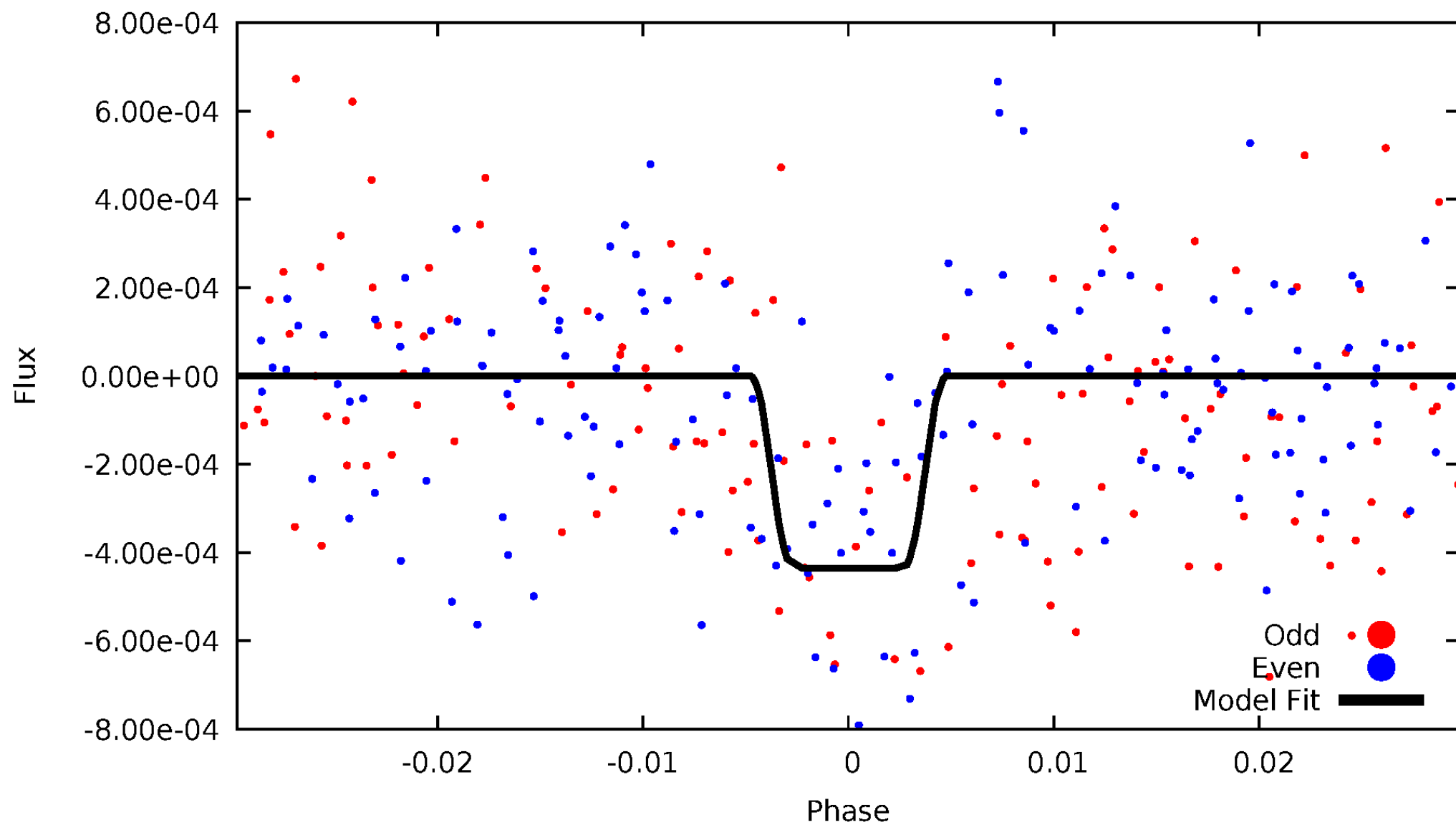
DV Odd/Even

TCE 003848572-02



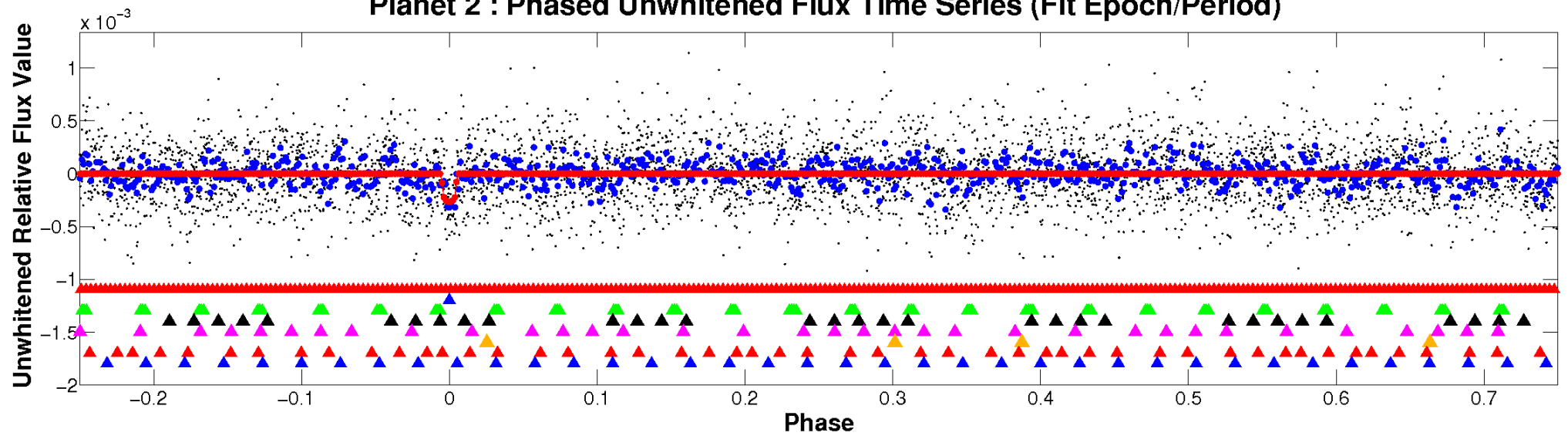
ALT Odd/Even

TCE 003848572-02

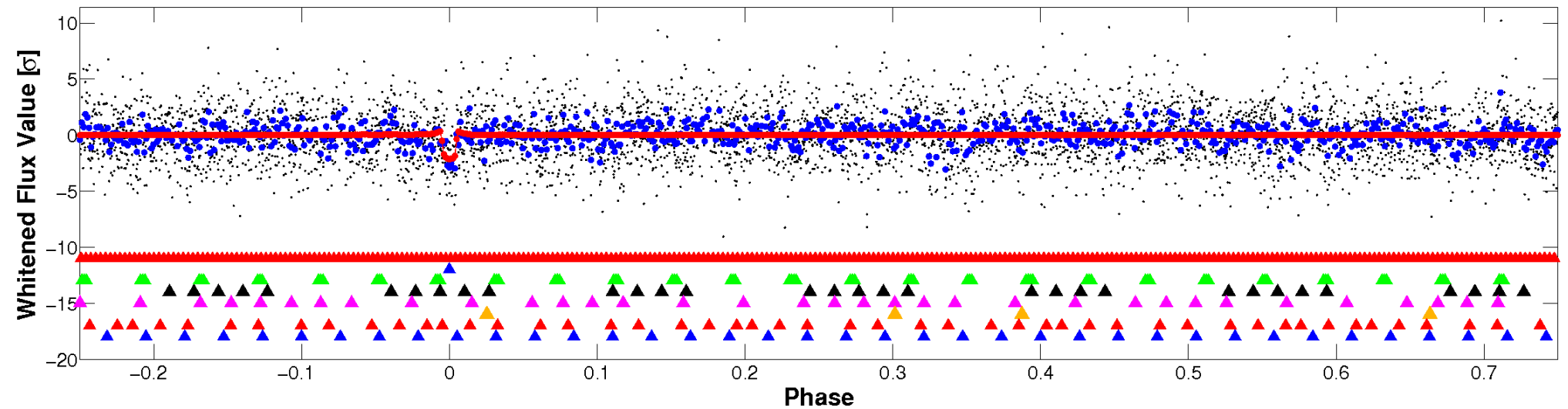


Non-Whitened Vs. Whitened Light Curve

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

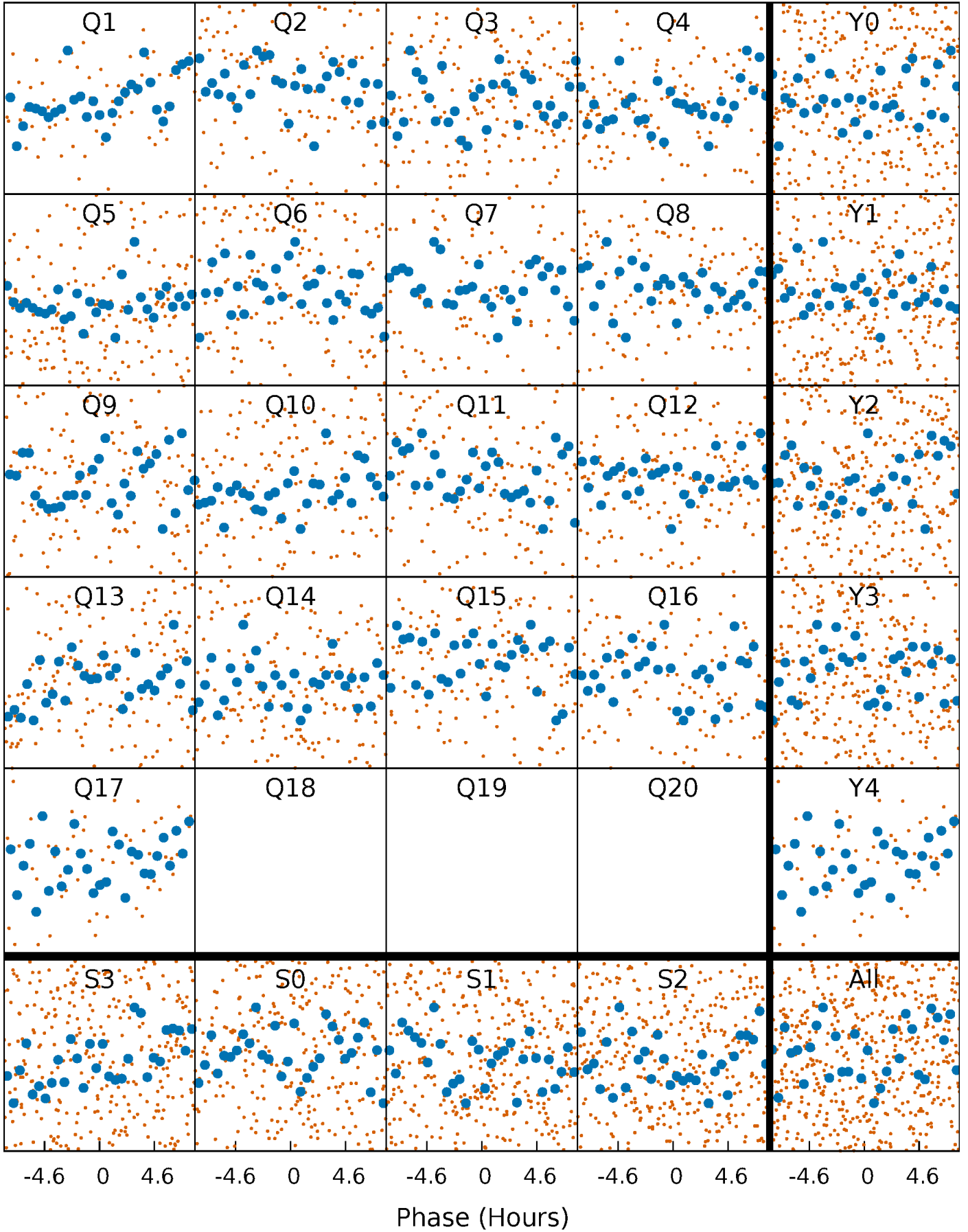


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



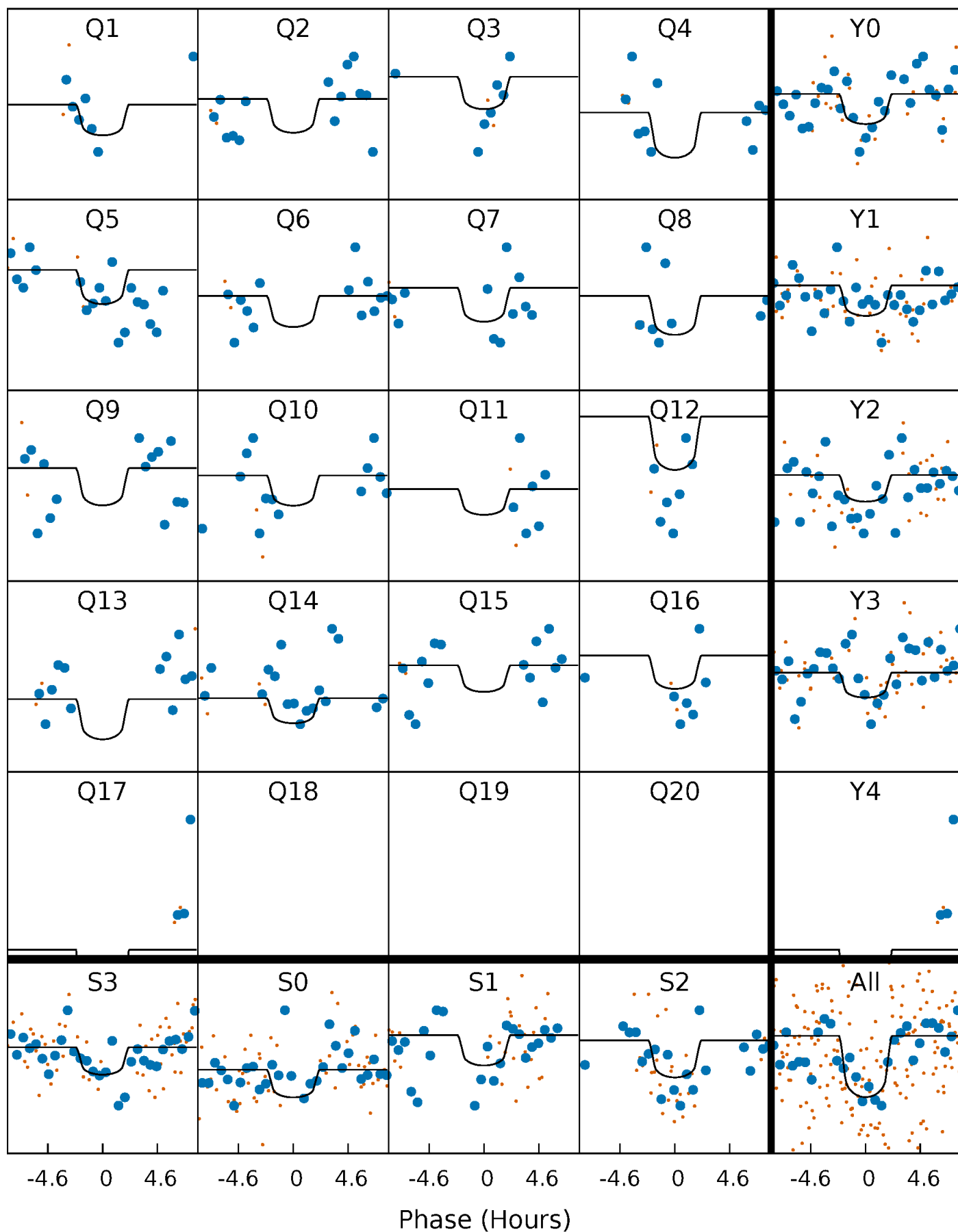
PDC Quarter-Phased Transit Curves

TCE 003848572-02 P= 16.434441 Days $T_0=134.097367$ (BKJD)



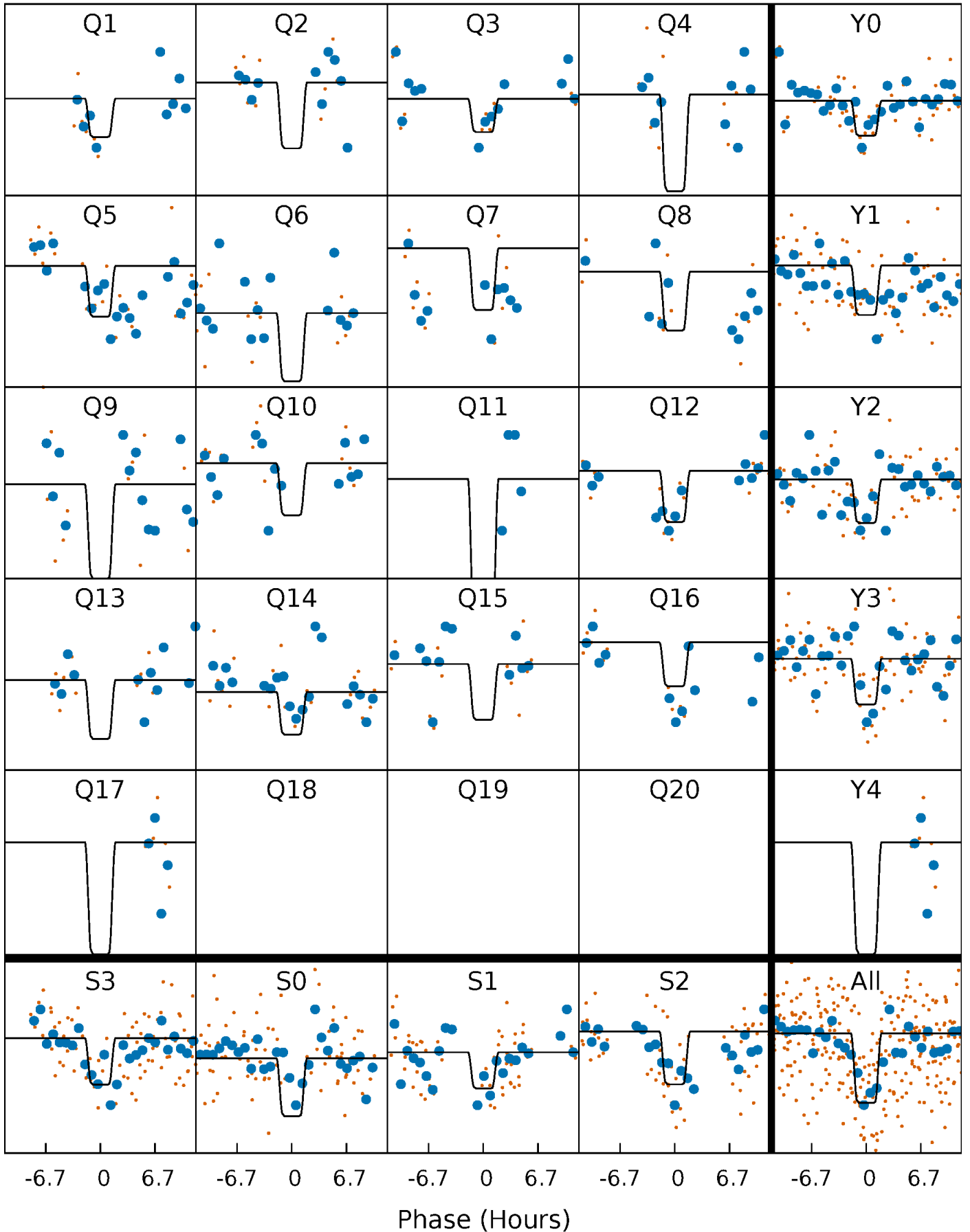
DV Quarter-Phased Transit Curves

TCE 003848572-02 P= 16.434441 Days $T_0=134.097367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

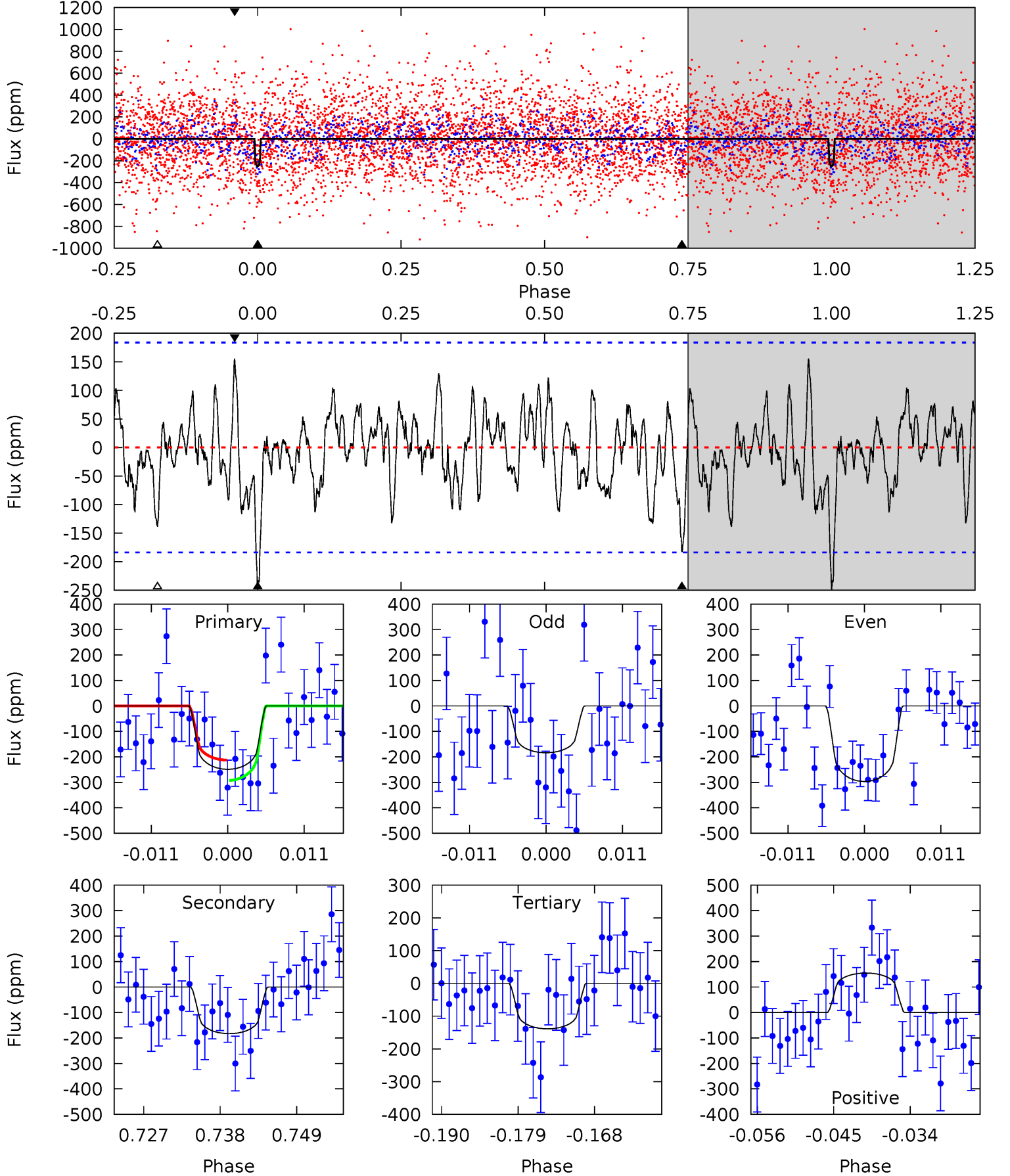
TCE 003848572-02 P= 16.434728 Days $T_0=134.092730$ (BKJD)



DV Model-Shift Uniqueness Test

003848572-02, P = 16.434441 Days, E = 117.662926 Days

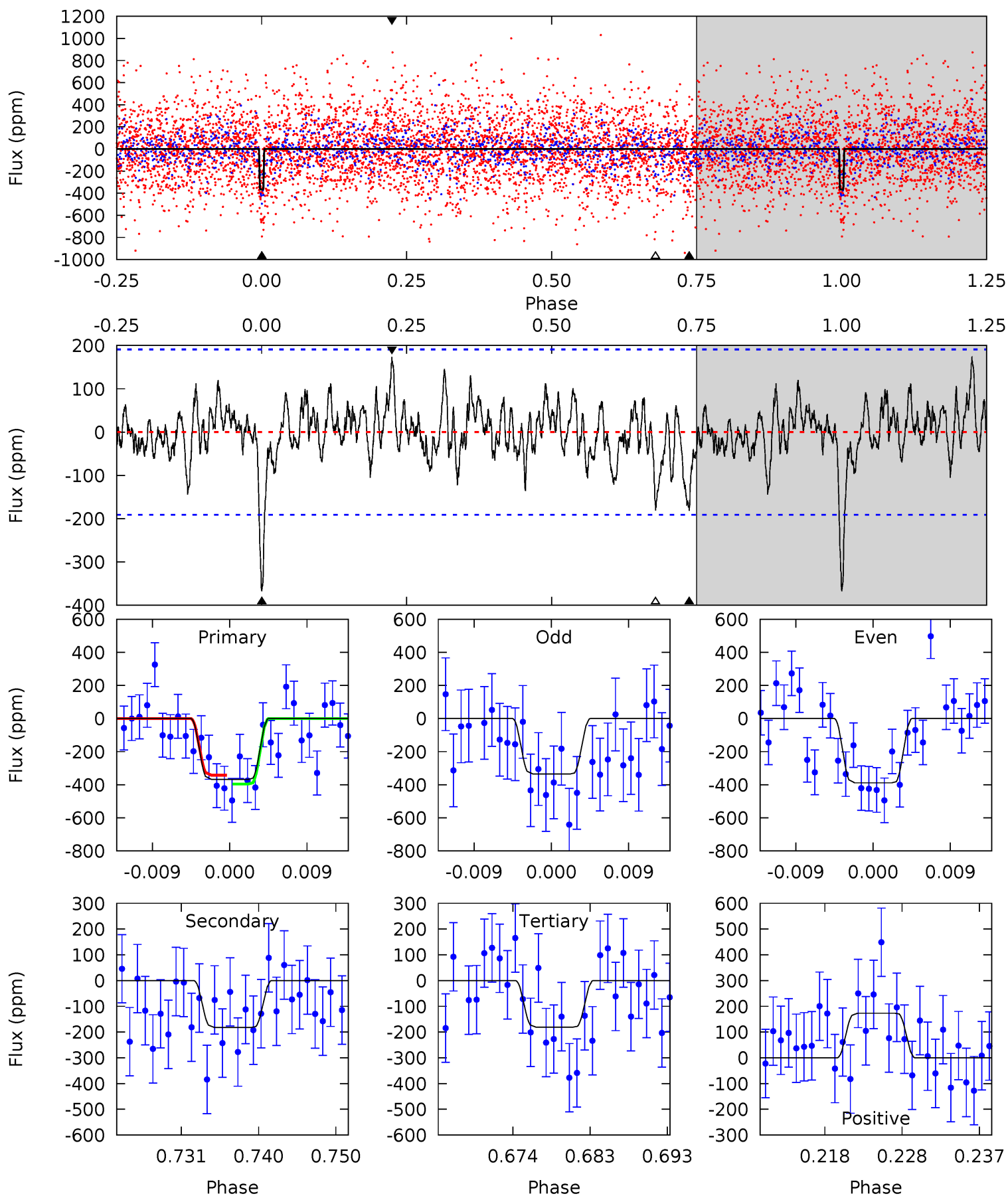
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.78	4.99	3.78	4.22	5.00	2.54	1.48	3.00	2.56	1.20	0.77	1.54	0.81	0.38	1.09



Alt Model-Shift Uniqueness Test

003848572-02, P = 16.434728 Days, E = 117.658002 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.68	4.80	4.77	4.57	5.04	2.59	1.35	4.92	5.12	0.03	0.23	0.70	1.00	0.32	0.70



Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-183 ± 37	$3.02^{+2.92}_{-2.01}$	1042^{+85}_{-57}	4421^{+2864}_{-877}	173^{+1398}_{-128}
Alt.	-182 ± 38	$3.33^{+2.91}_{-2.09}$	1042^{+81}_{-52}	4217^{+2452}_{-794}	135^{+908}_{-94}

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 $A_{obs} \gg 1.0$

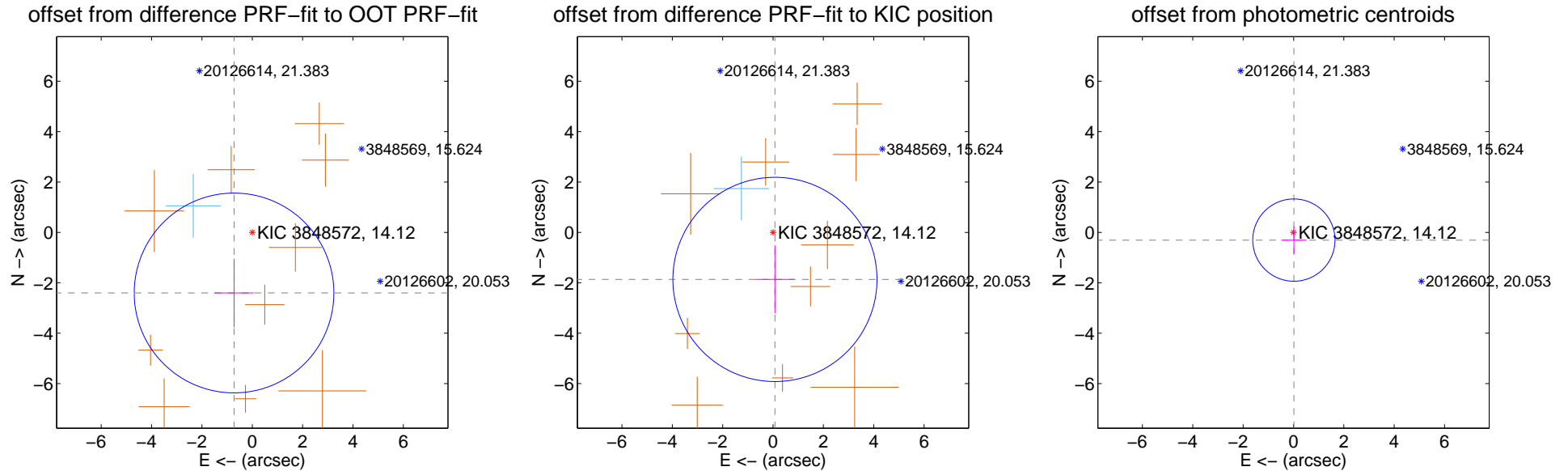
DV Centroid Data

Supplemental centroid analysis for 003848572-02. Kepler magnitude: 14.12. Transit SNR 12.81

There are 1 quarters with good PRF difference image offsets

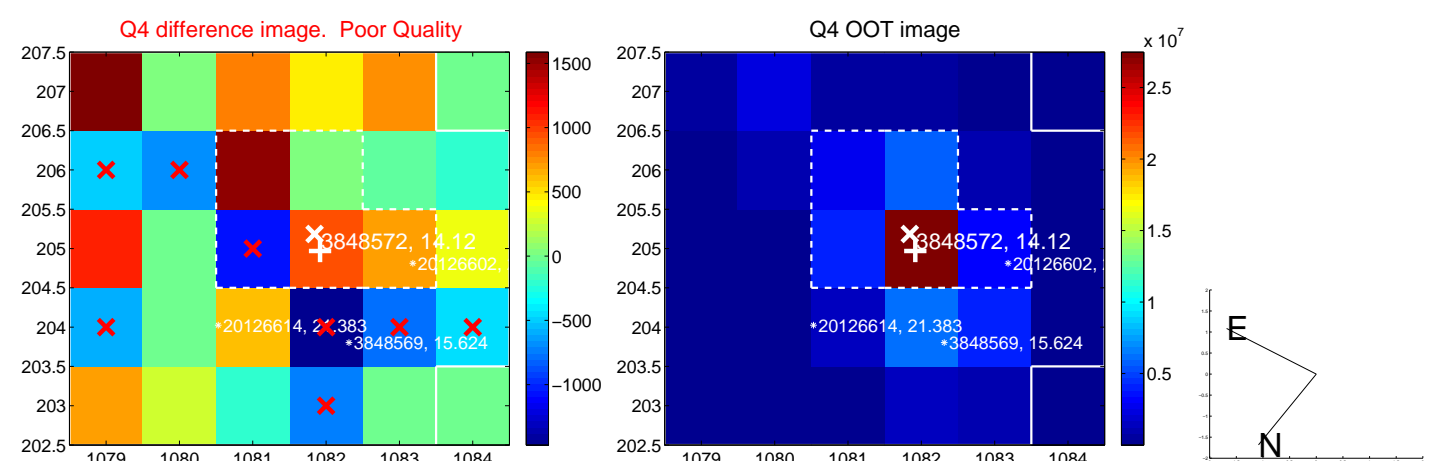
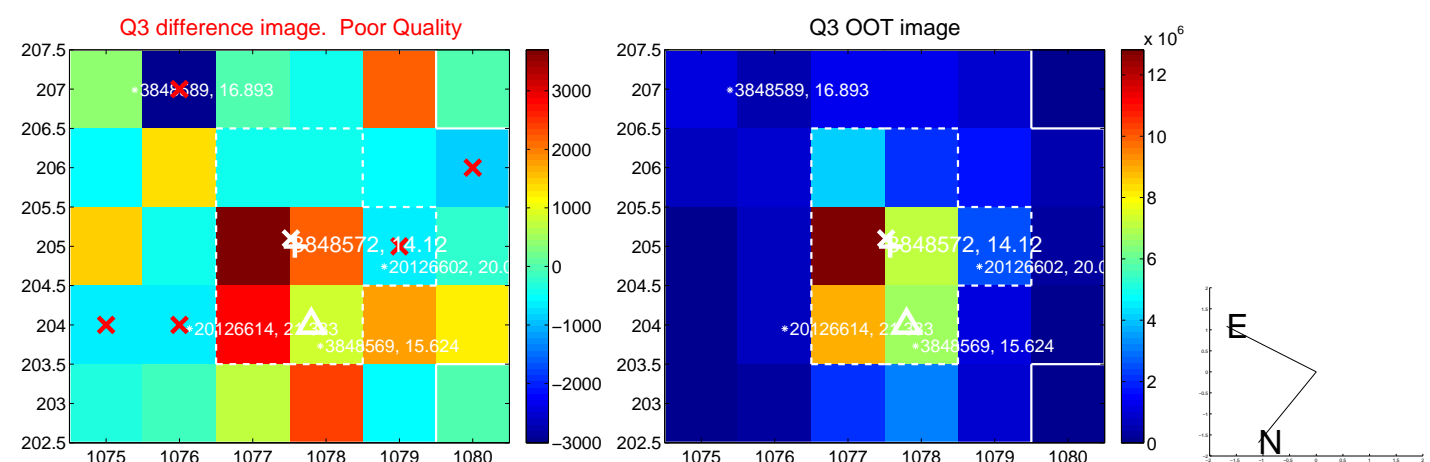
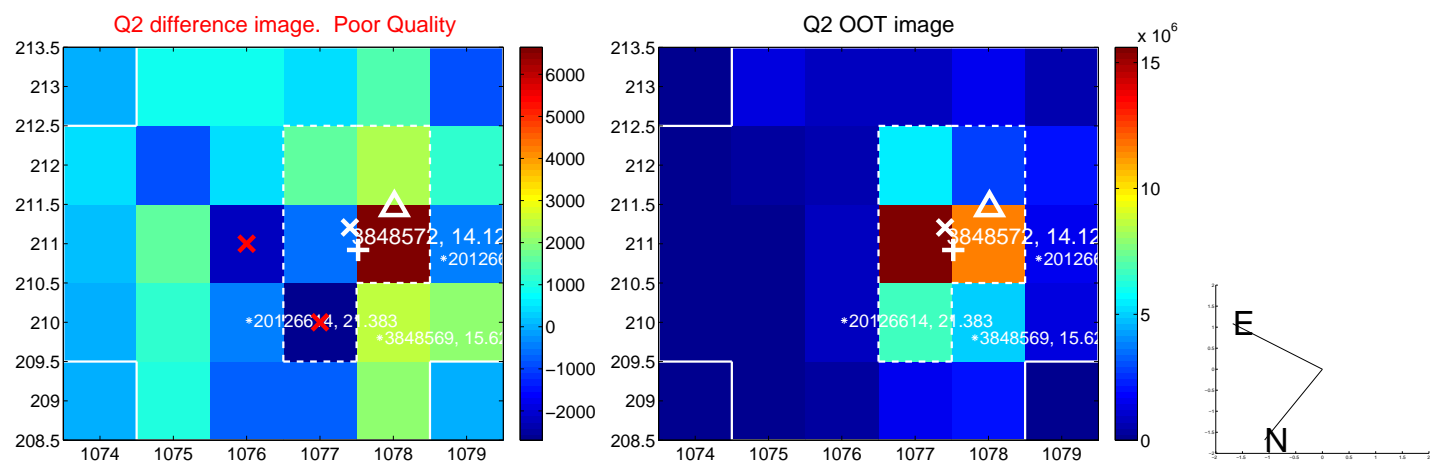
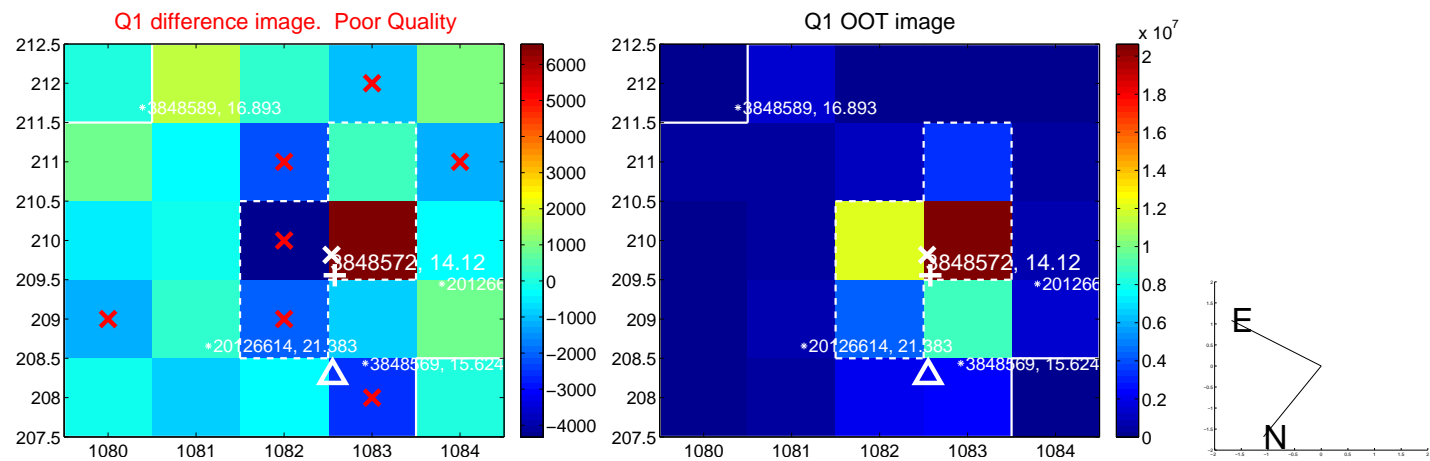
The direct PRF centroid is offset from the target star catalog position by about 0.63 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.511 ± 1.321	1.90	0.724 ± 0.785	-2.404 ± 1.360
PRF-fit source offset from KIC position	1.867 ± 1.351	1.38	-0.076 ± 0.780	-1.866 ± 1.351
photometric centroid source offset	0.31 ± 0.54	0.56	-0.02 ± 0.50	-0.31 ± 0.54

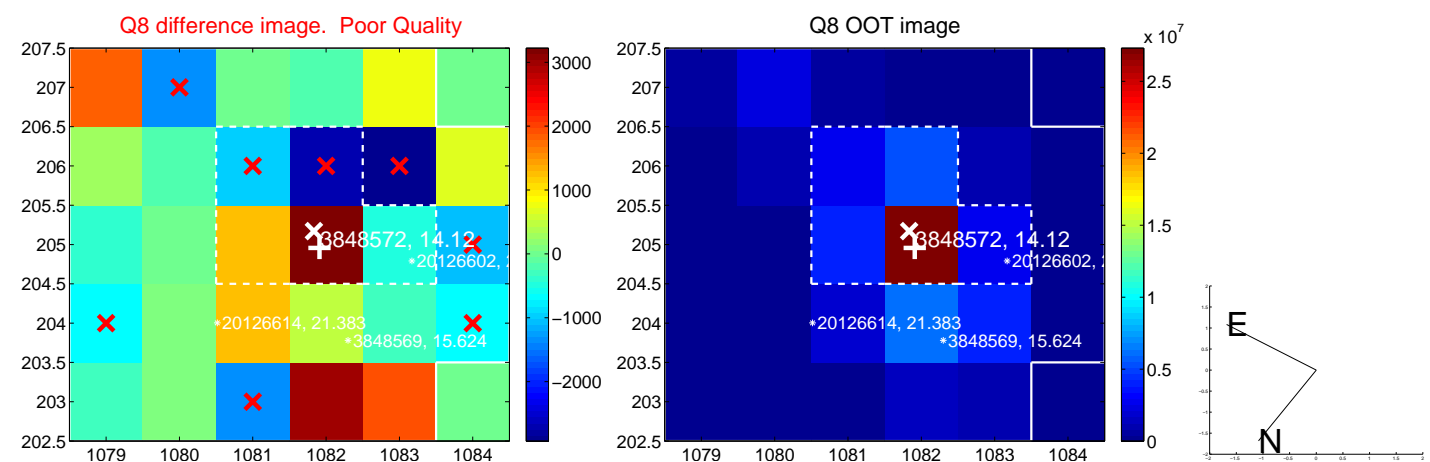
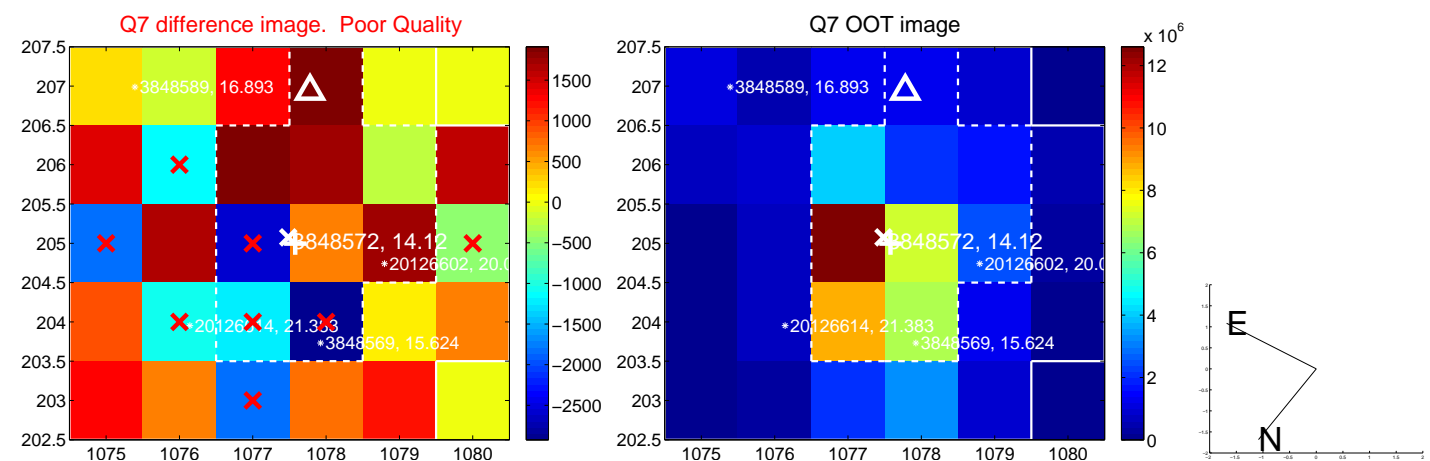
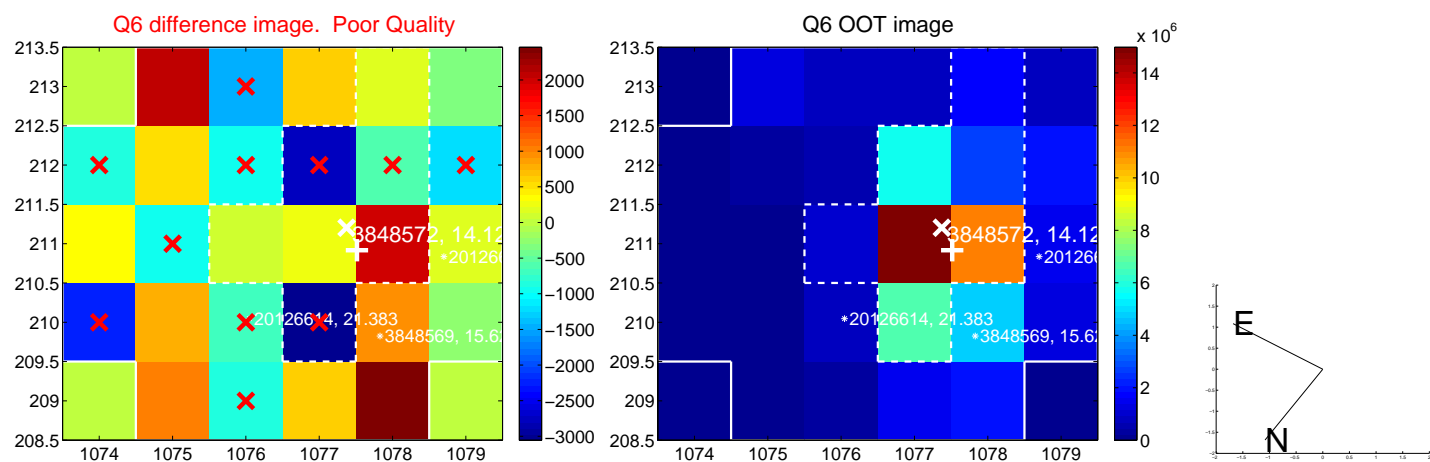
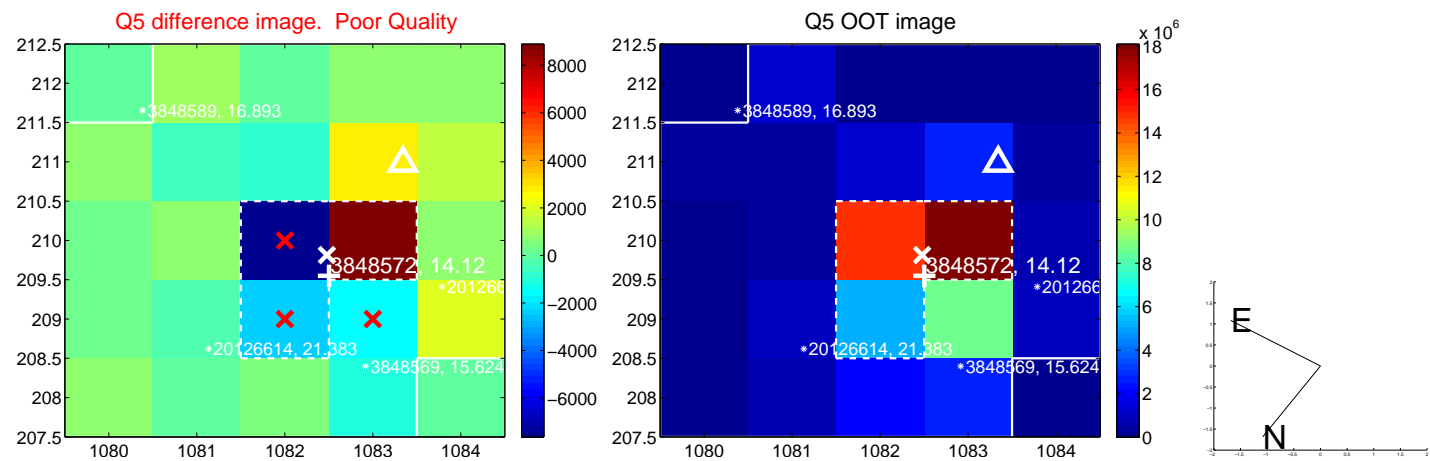


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

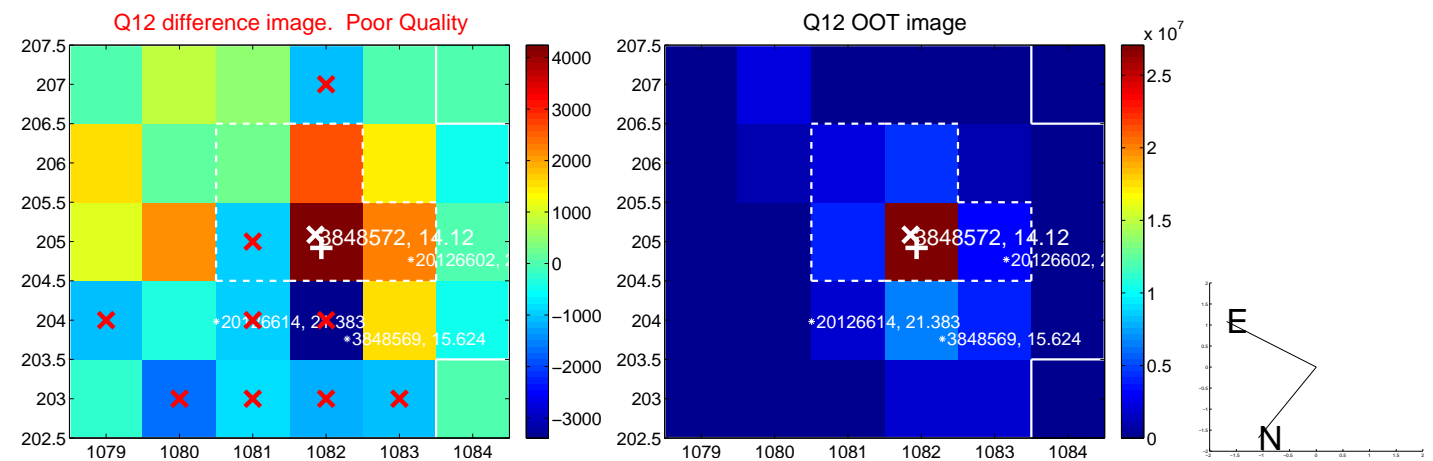
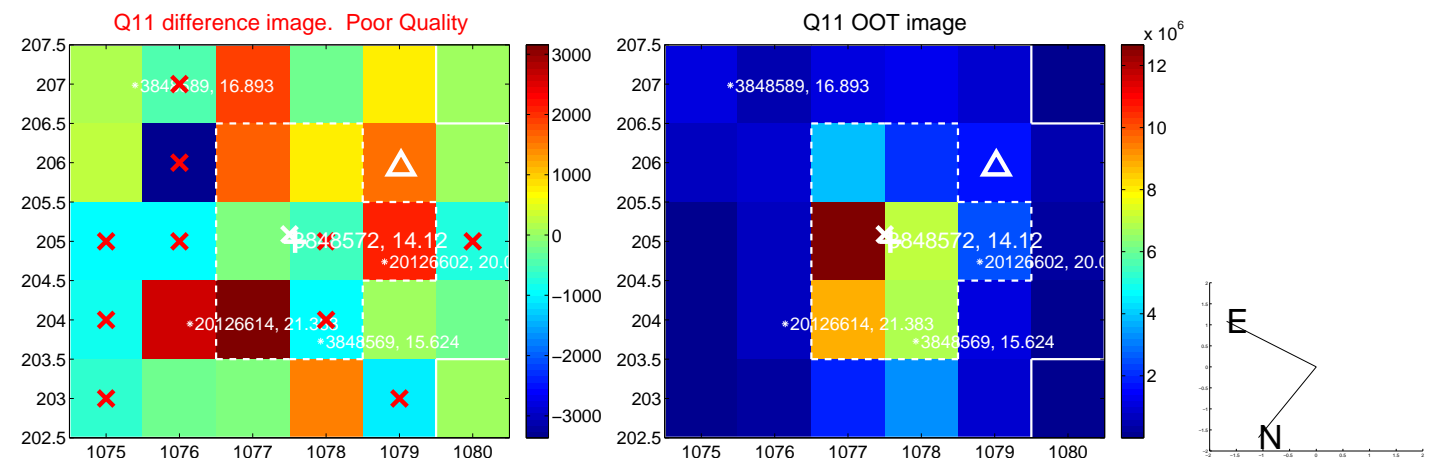
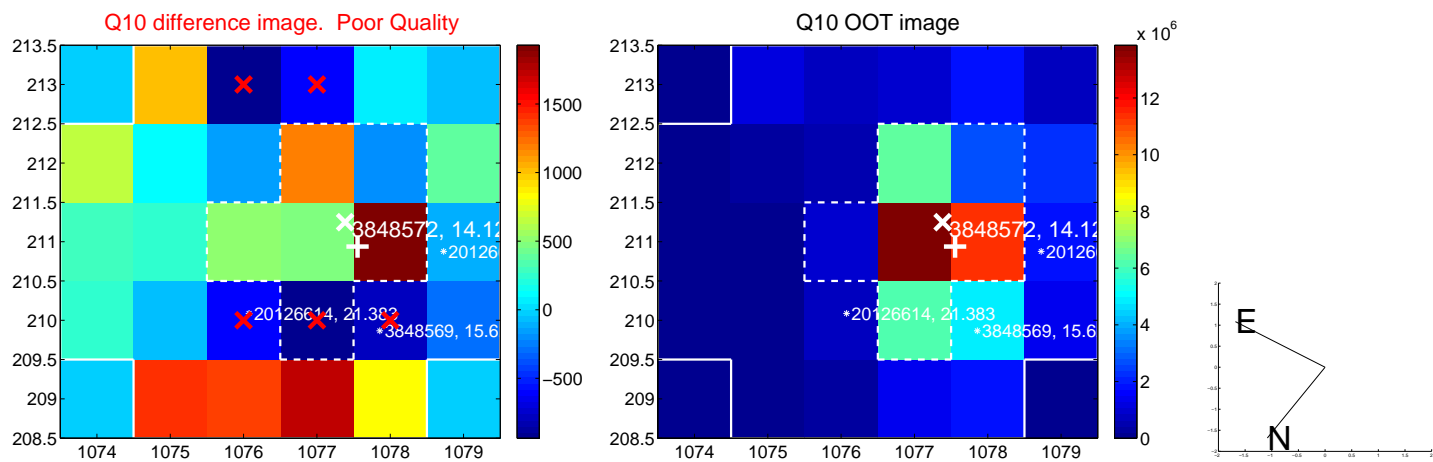
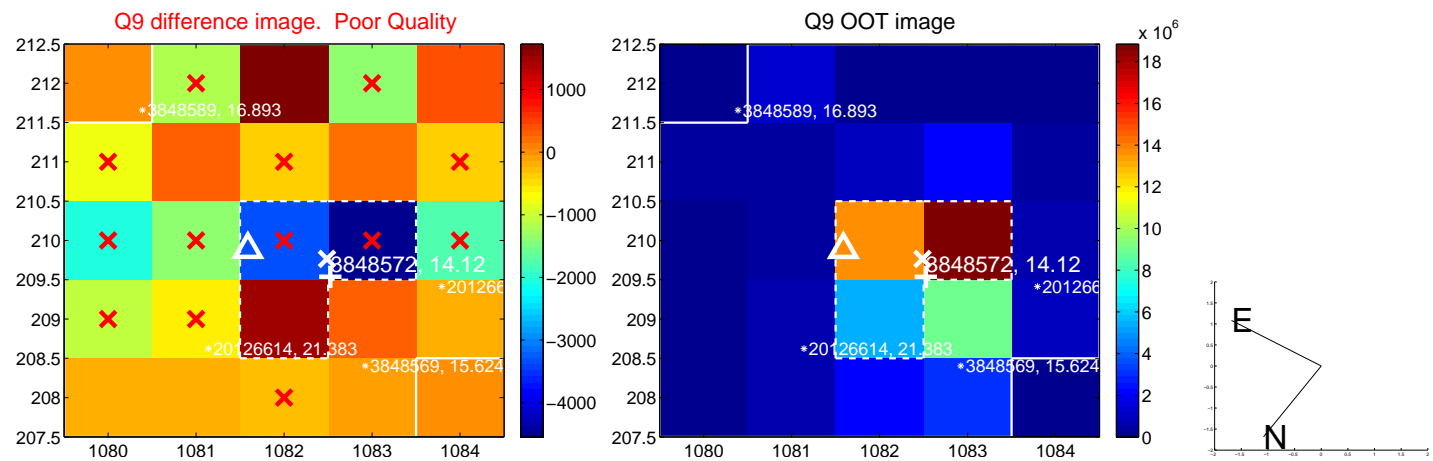
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



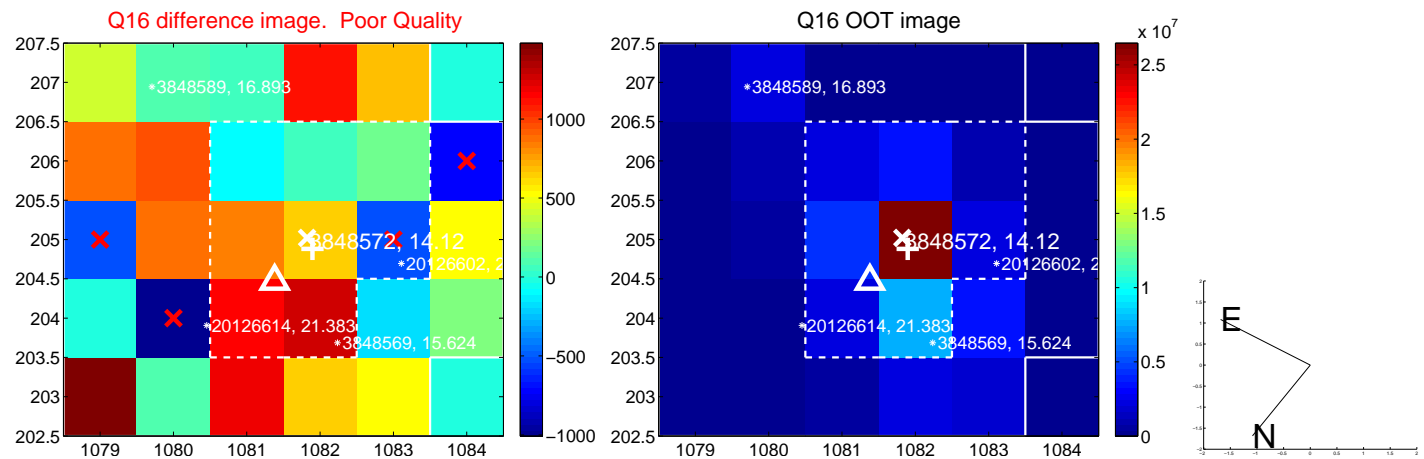
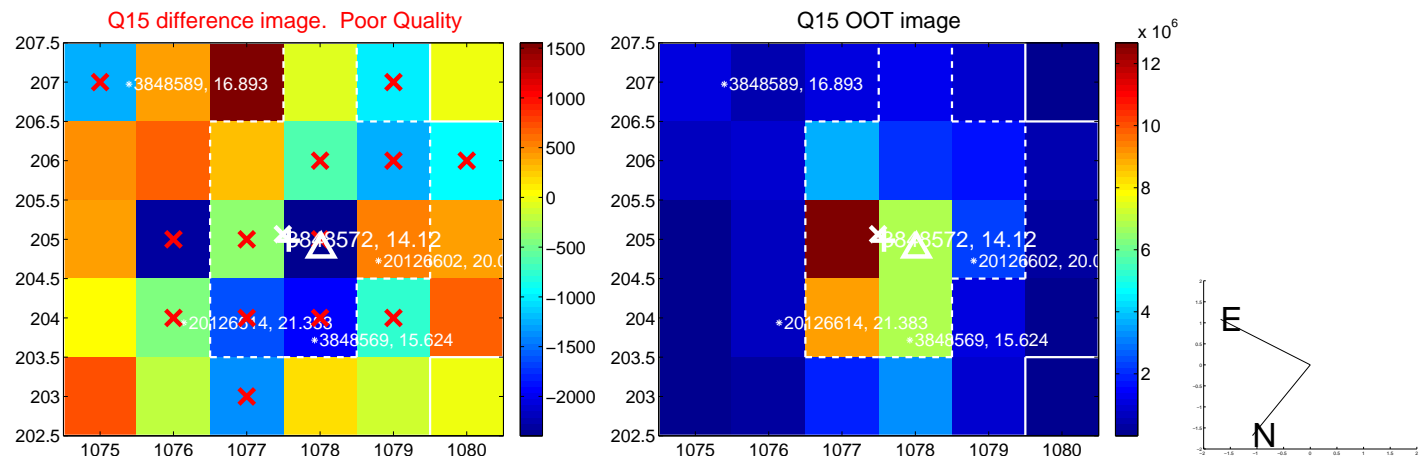
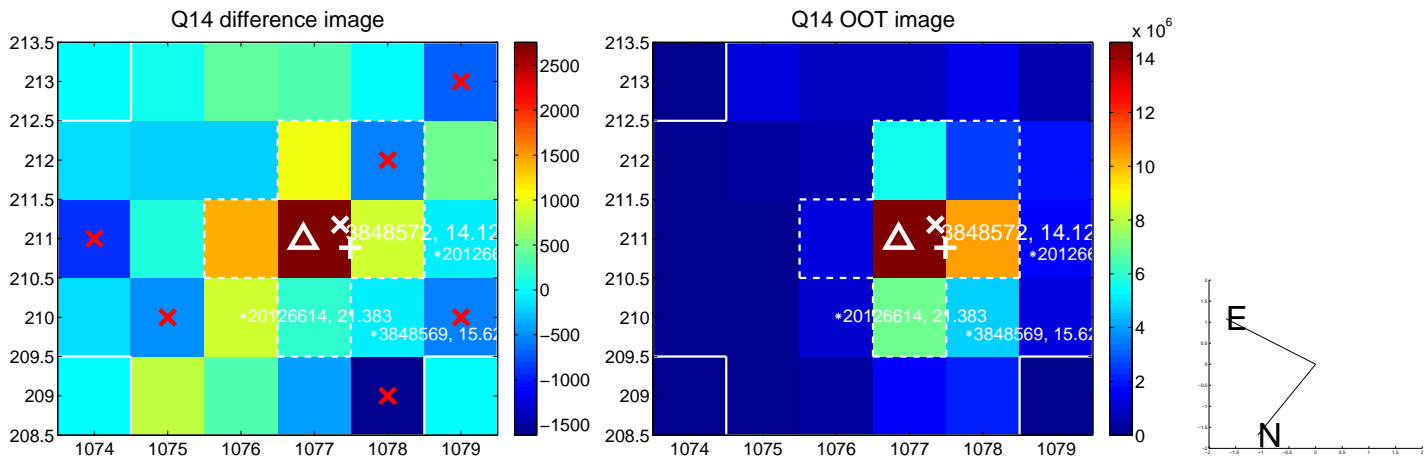
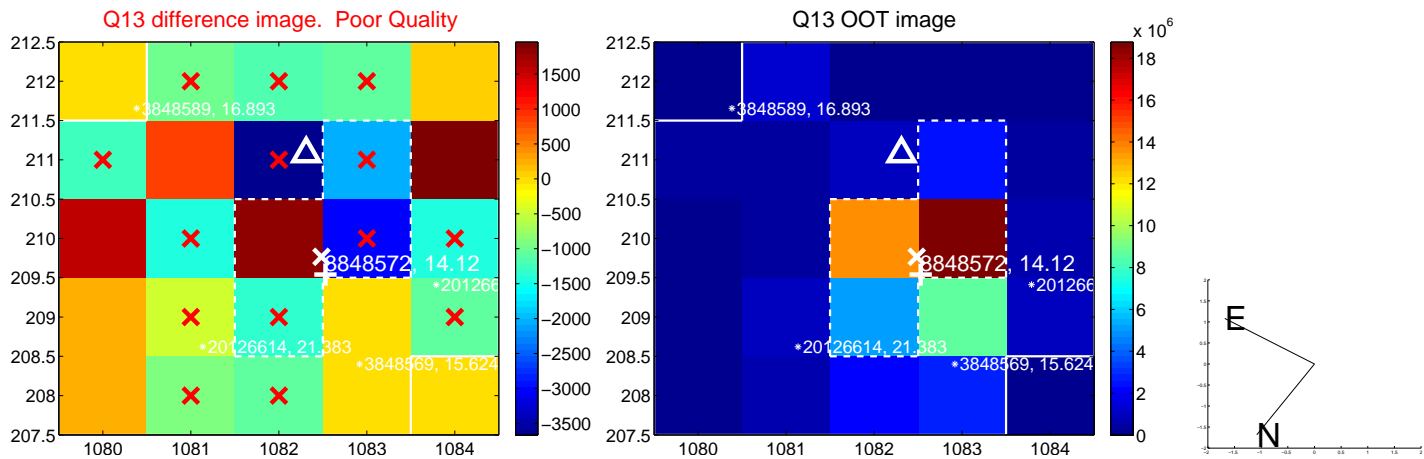
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



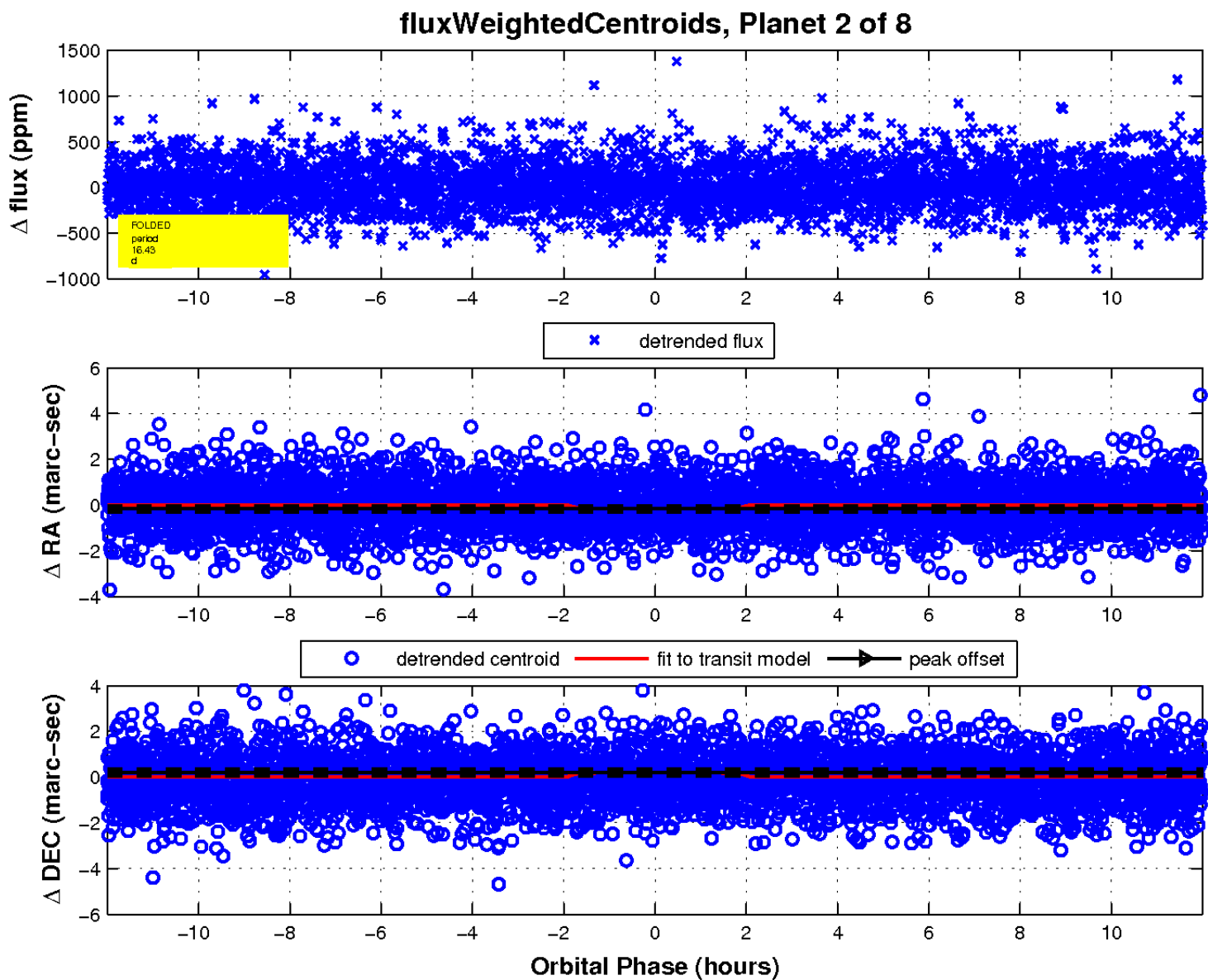
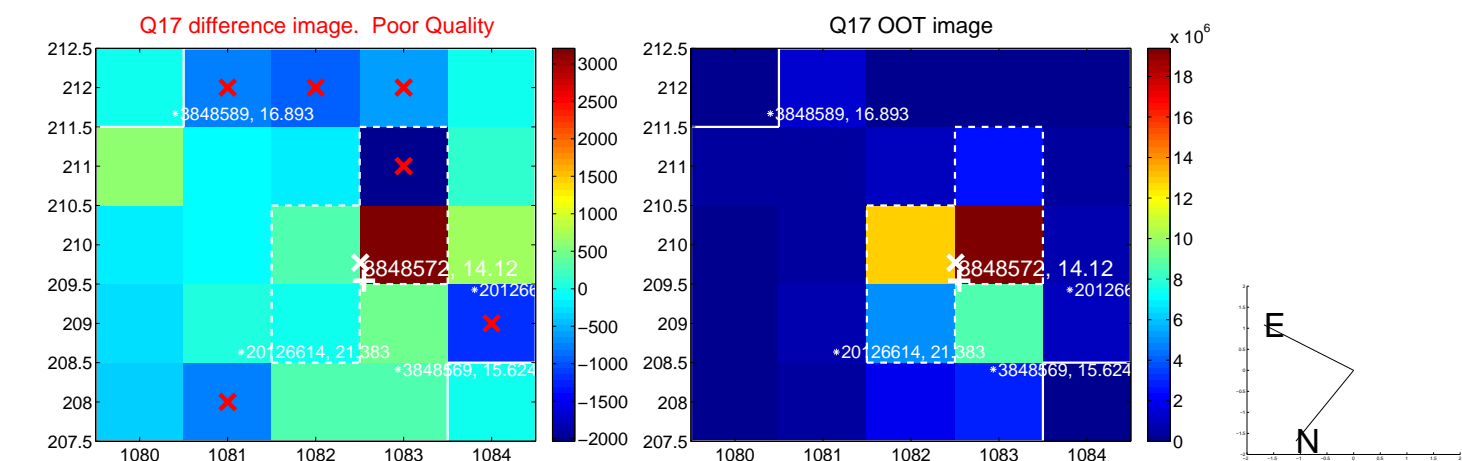
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

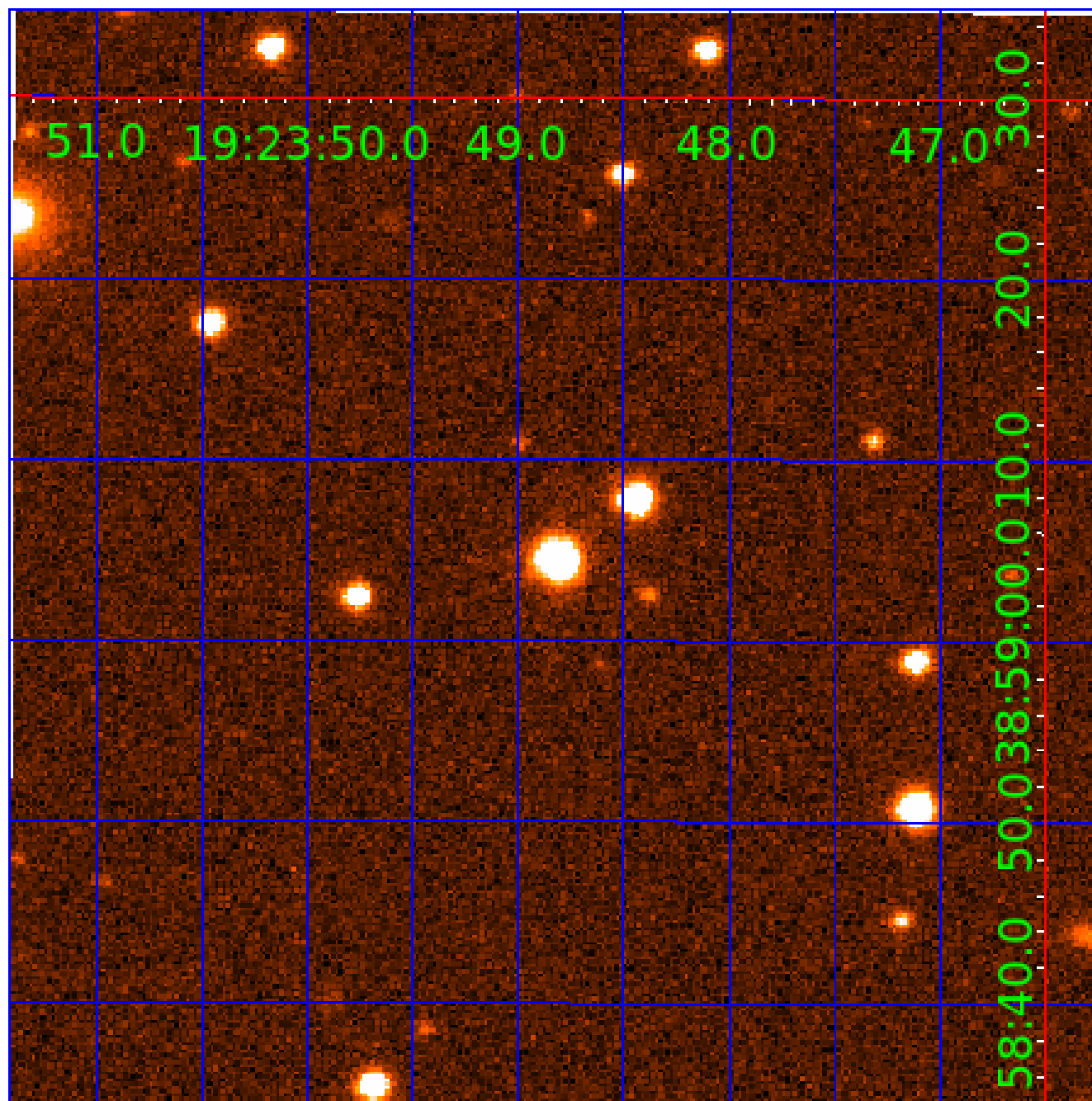


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003848572

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})
003848572-01	OBS	No	2.000255	133.459175	24.6	14.647	7.9	8.6	0.99	5964	0.49	1124.77
003848572-02	OBS	No	16.434441	134.097367	266.8	3.999	14.2	12.8	0.99	5964	1.76	67.84
003848572-03	OBS	No	19.064952	137.878404	298.3	6.444	14.0	14.6	0.99	5964	1.91	55.66
003848572-04	OBS	No	44.646663	163.854428	528.6	1.647	13.6	13.2	0.99	5964	2.27	17.90
003848572-05	OBS	No	42.595759	155.809232	449.6	8.480	12.3	12.1	0.99	5964	4.08	19.06
003848572-06	OBS	No	372.043312	140.463887	330.5	2.559	9.9	10.4	0.99	5964	2.15	1.06
003848572-07	OBS	No	29.425177	160.784434	672.3	1.107	11.3	11.7	0.99	5964	2.57	31.20
003848572-08	OBS	No	29.841435	157.971575	404.4	1.199	9.7	9.7	0.99	5964	2.12	30.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003848572-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

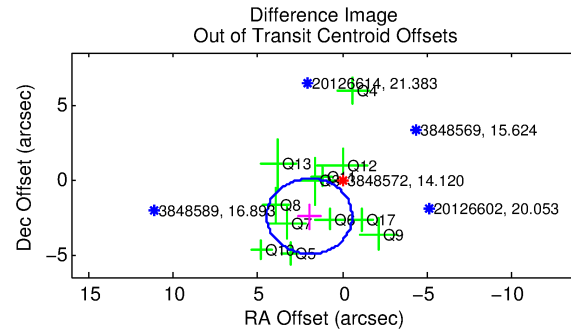
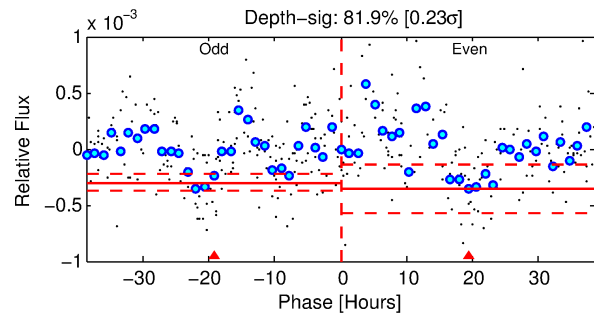
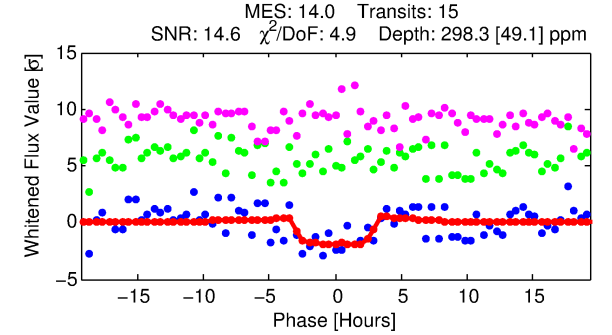
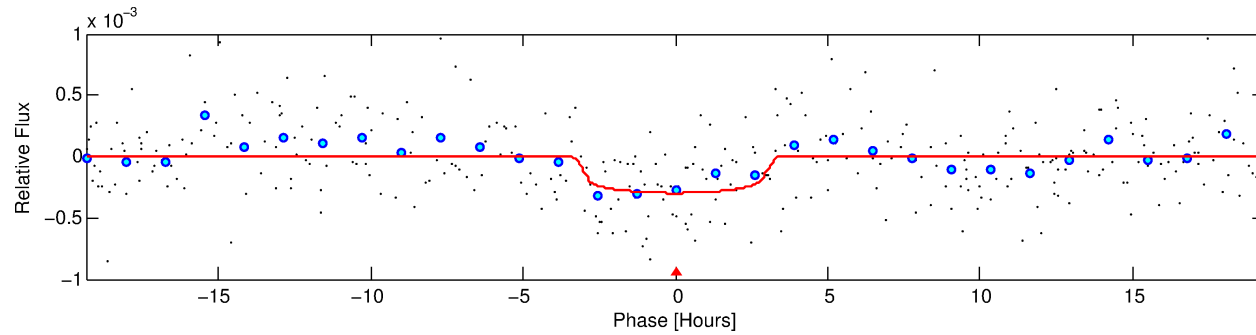
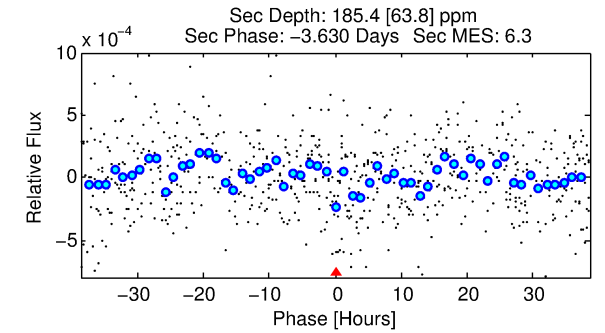
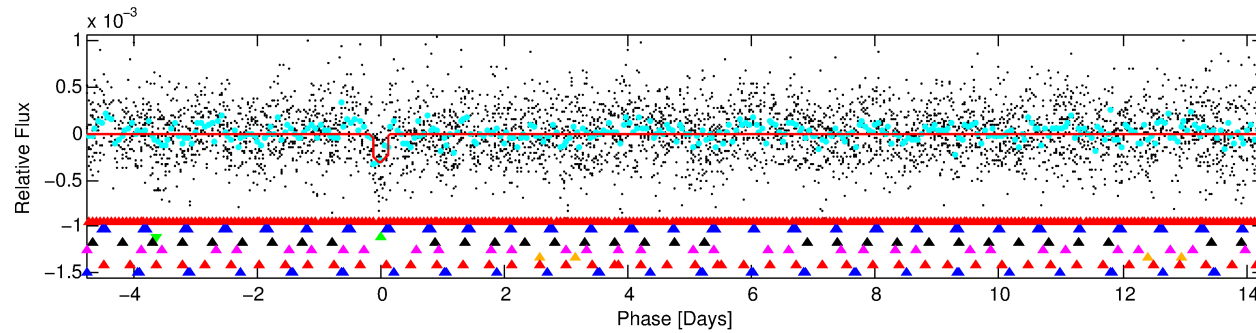
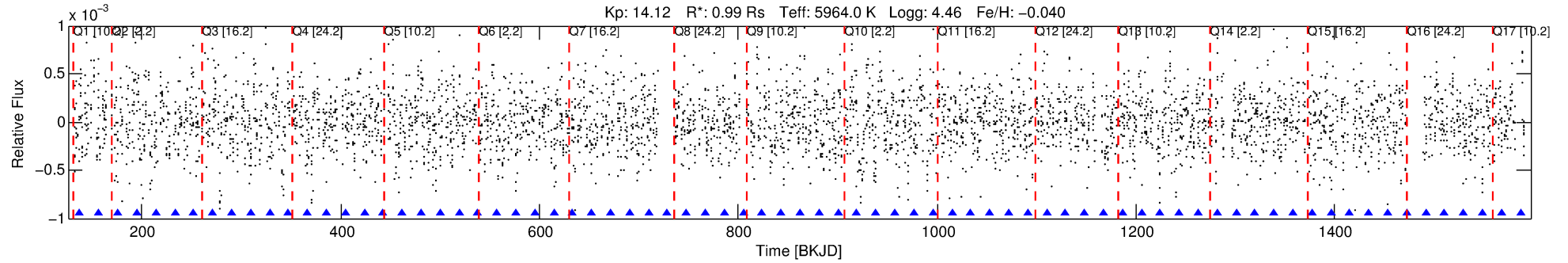
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-03

No Significant Match Found

DV One-Page Summary

KIC: 3848572 Candidate: 3 of 8 Period: 19.065 d



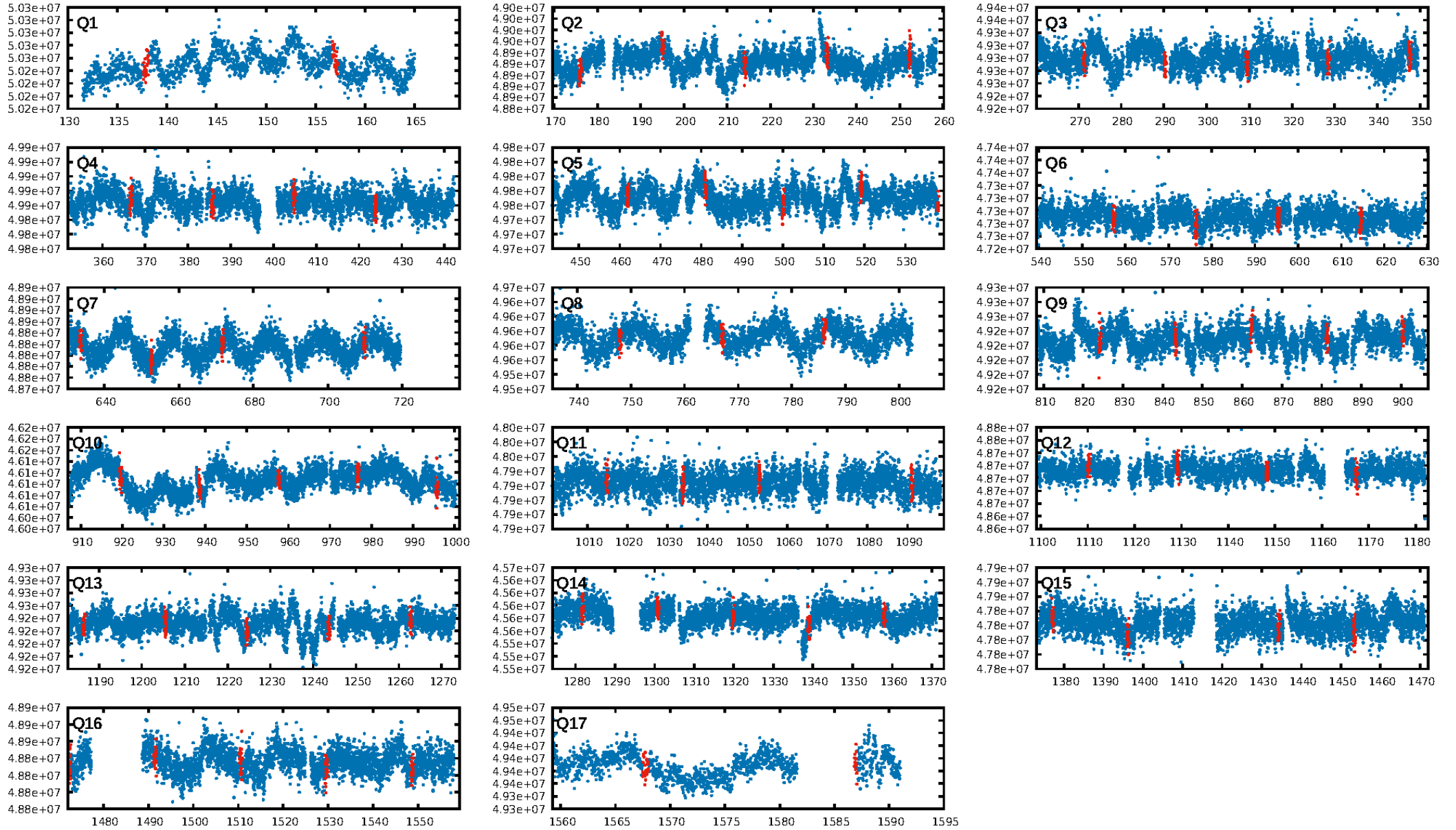
DV Fit Results:

Period = 19.06495 [0.00047] d
Epoch = 137.8784 [0.0203] BKJD
Rp/R* = 0.0177 [0.0120]
a/R* = 13.73 [44.41]
b = 0.82 [1.33]
Seff = 55.66 [22.94]
Teq = 696 [72] K
Rp = 1.91 [1.42] Re
a = 0.1411 [0.0374] AU
Ag = 557.79 [811.13] [0.69 σ]
Teffp = 5233 [1840] K [2.46 σ]

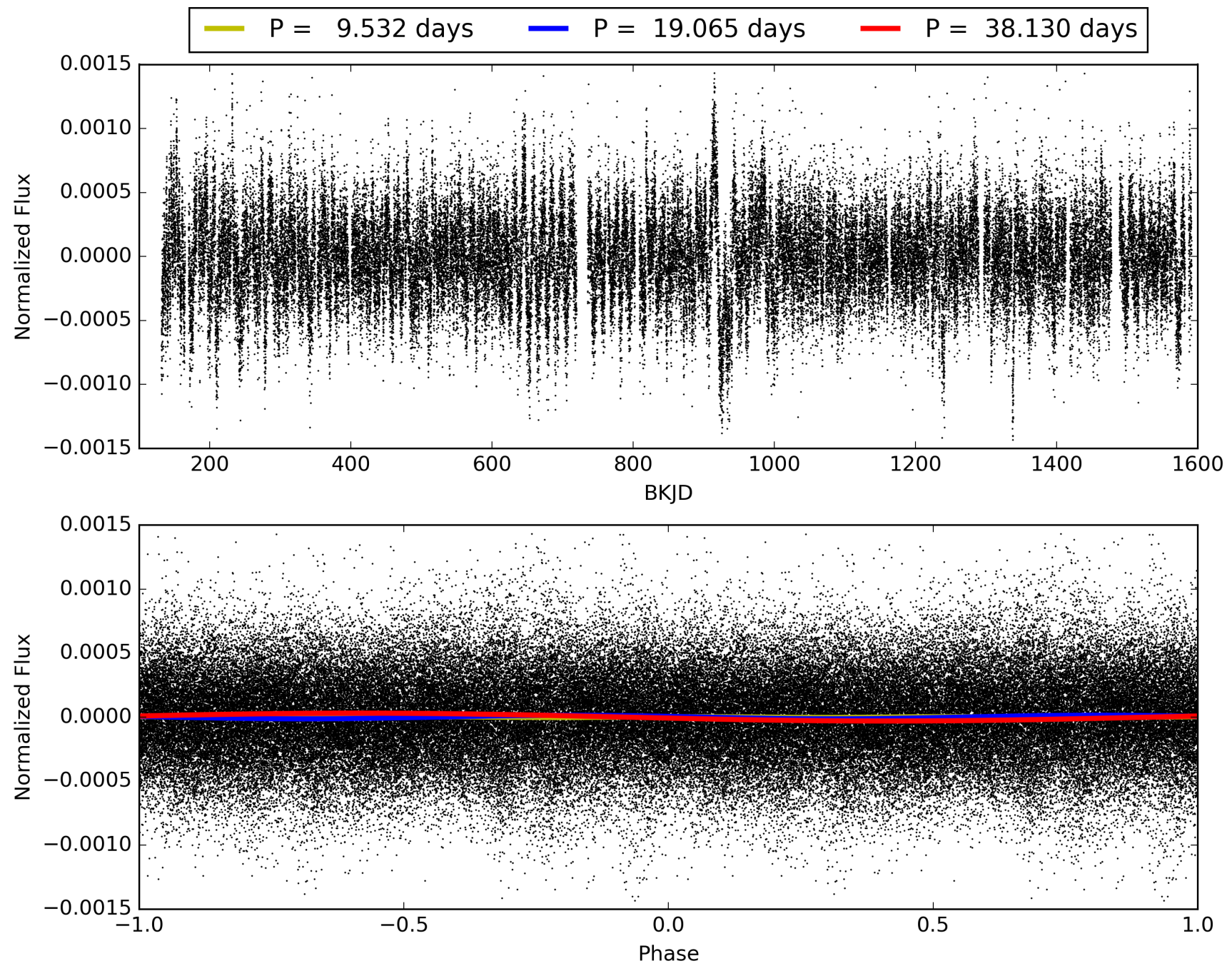
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.32 σ]
LongPeriod-sig: 100.0% [38.03 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 5.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: -3.546
Centroid-sig: 71.4%
Centroid-so: 1.008 arcsec [2.48 σ]
OotOffset-rm: 3.134 arcsec [3.73 σ]
OotOffset-st: 2/3/3/4 [12]
KicOffset-rm: 2.301 arcsec [2.53 σ]
KicOffset-st: 2/3/3/4 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 0.35 [6/17]

TCE 003848572-03, PDC Light Curves

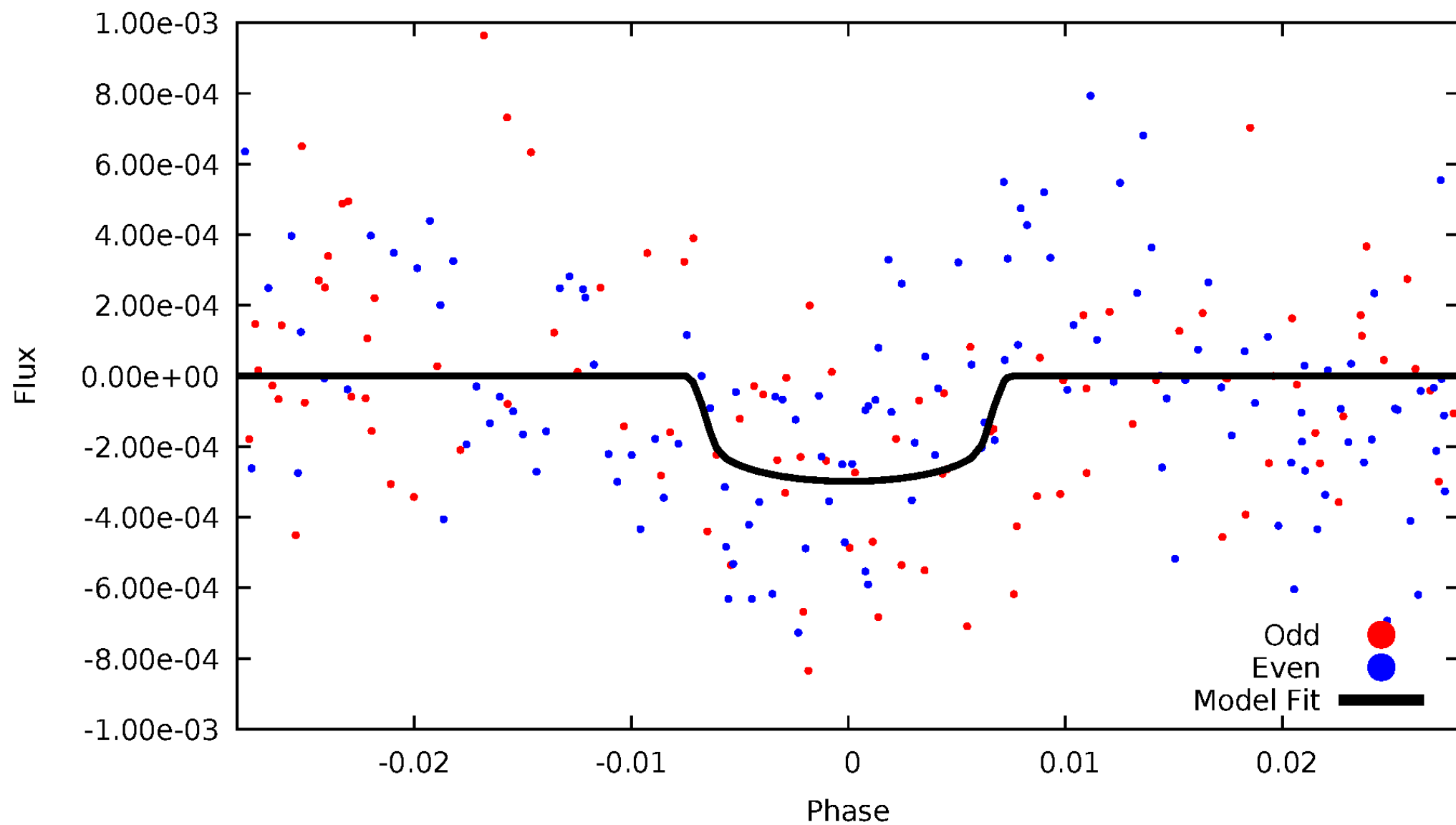


TCE 003848572-03



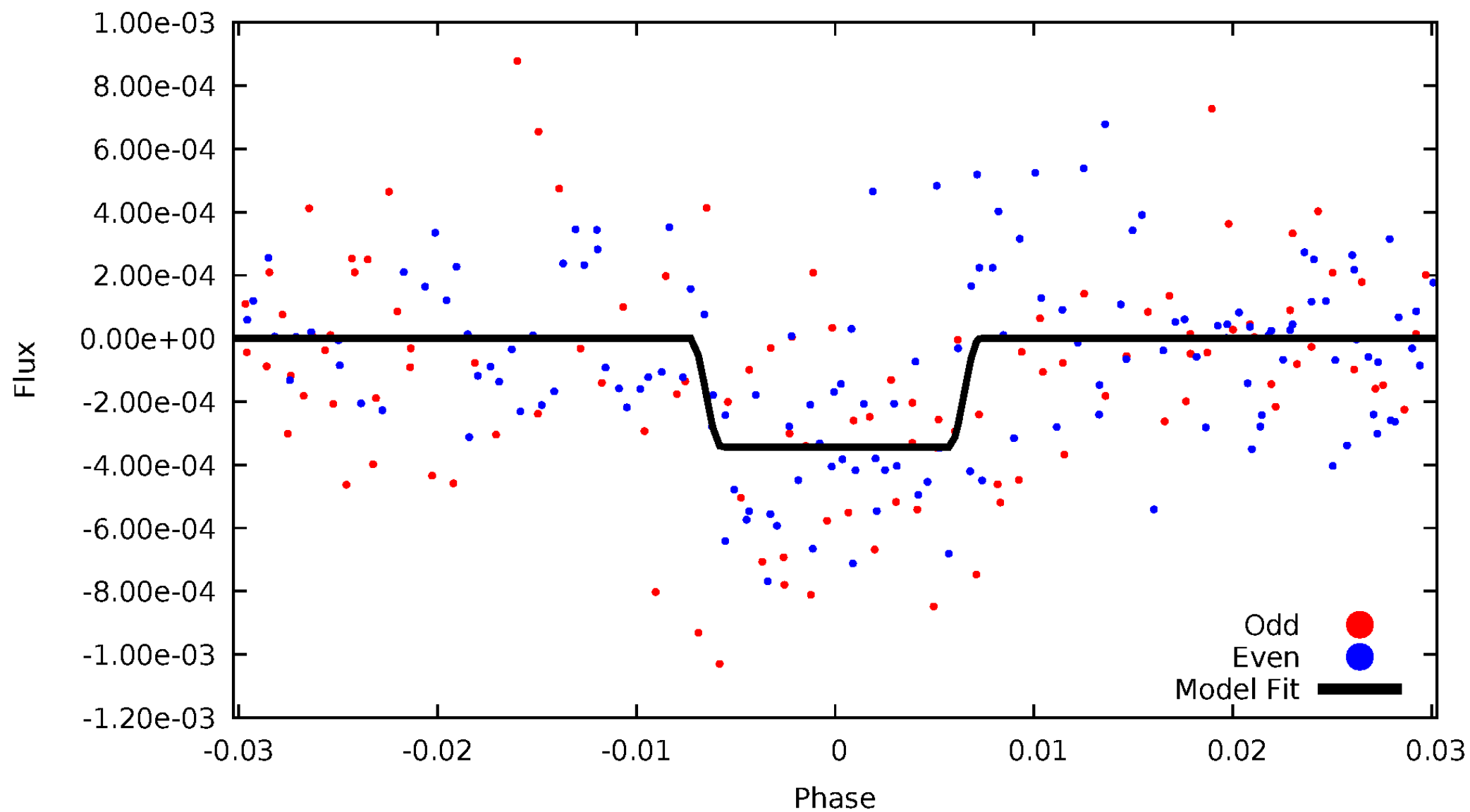
DV Odd/Even

TCE 003848572-03



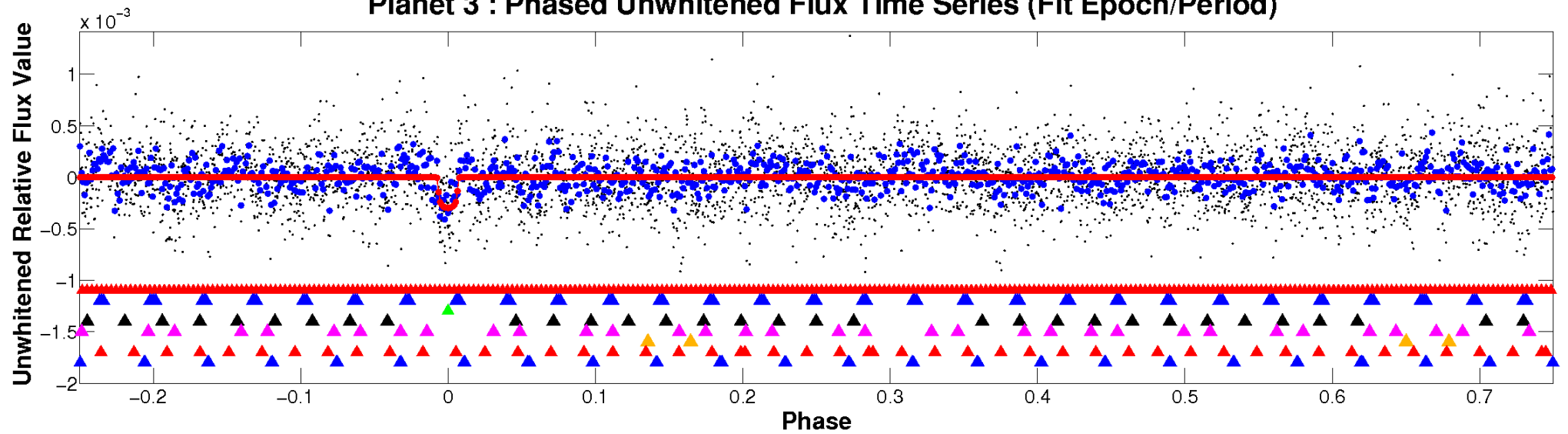
ALT Odd/Even

TCE 003848572-03

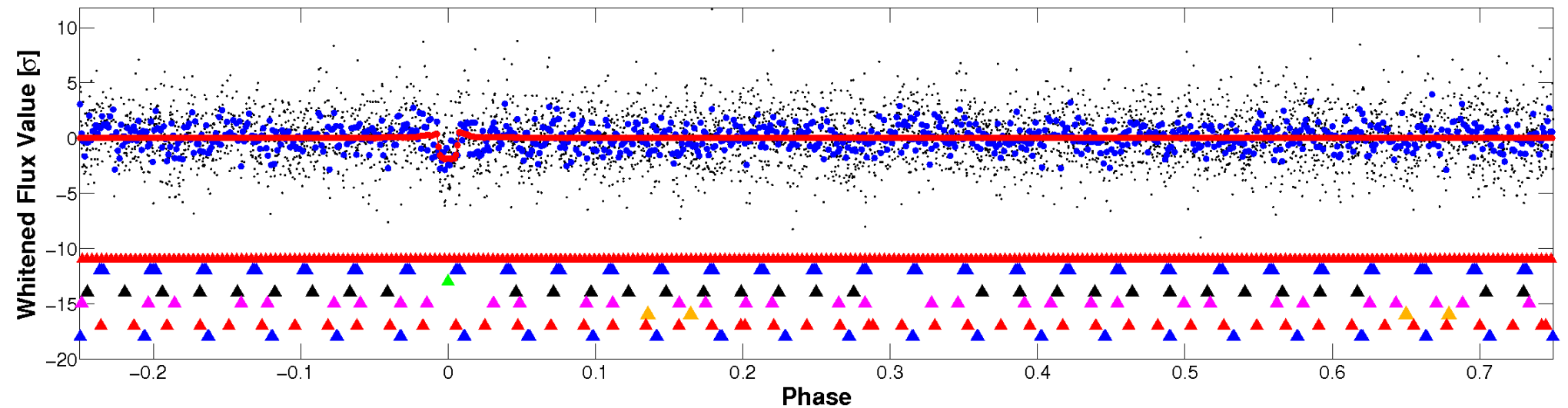


Non-Whitened Vs. Whitened Light Curve

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

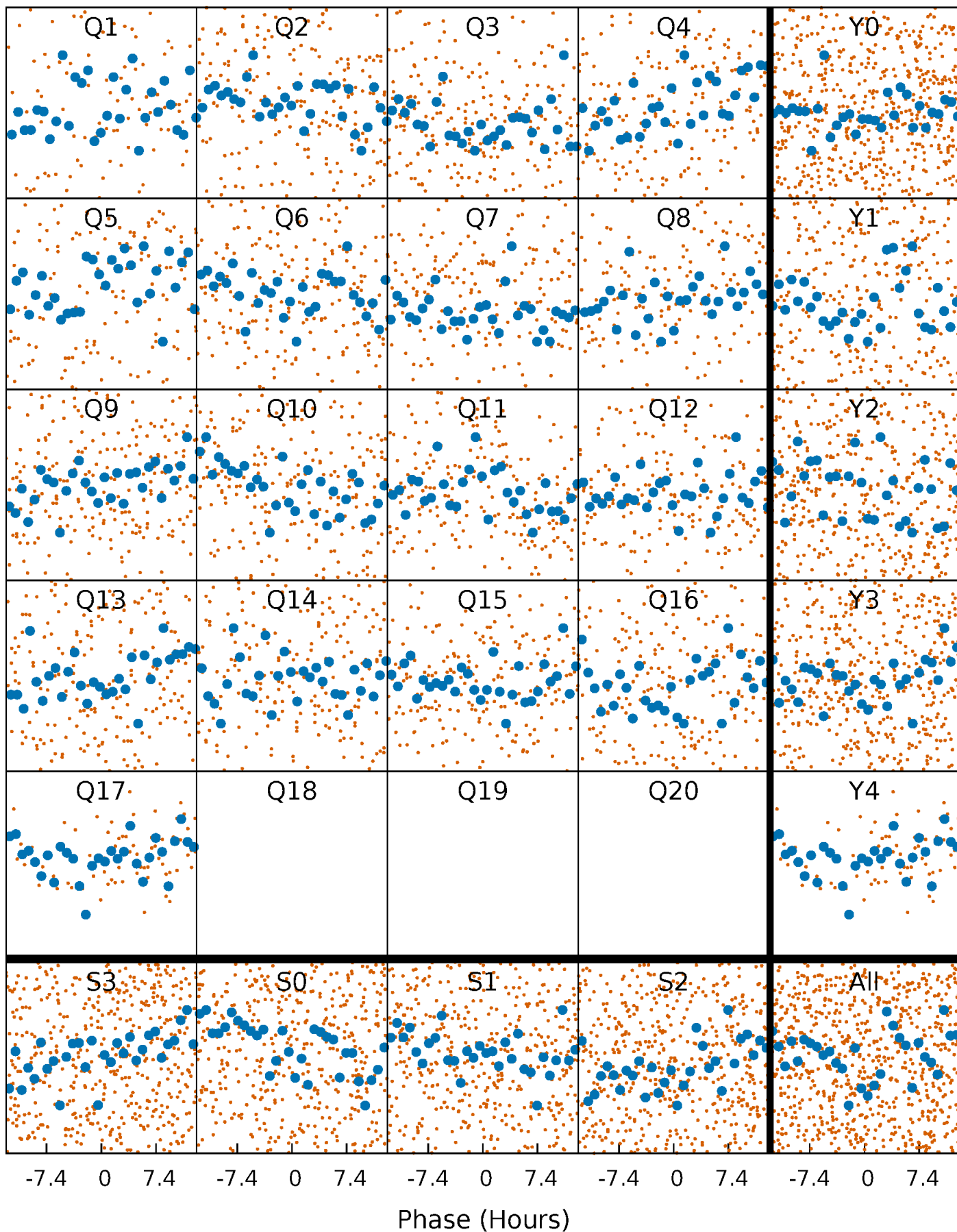


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



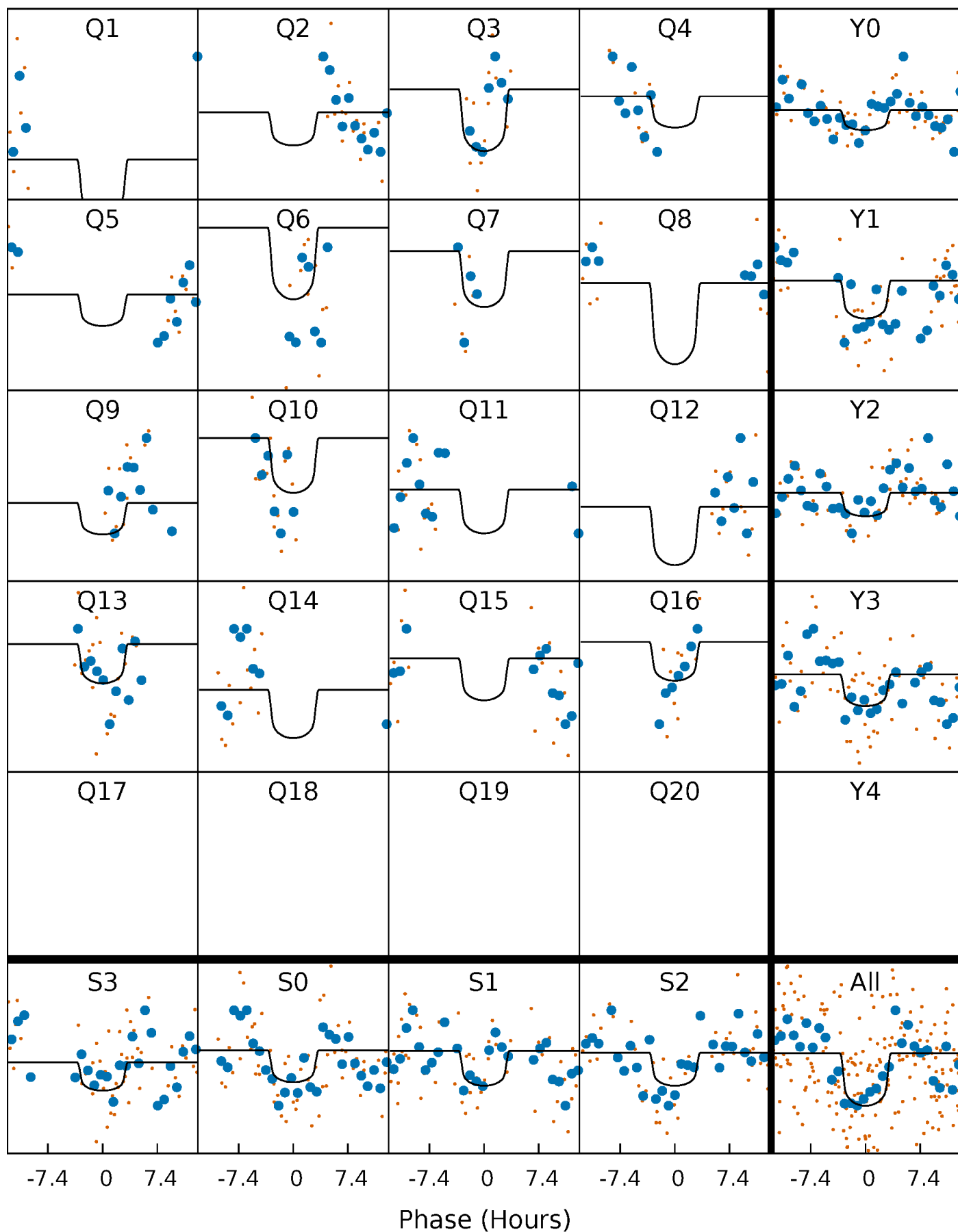
PDC Quarter-Phased Transit Curves

TCE 003848572-03 P= 19.064952 Days $T_0=137.878404$ (BKJD)



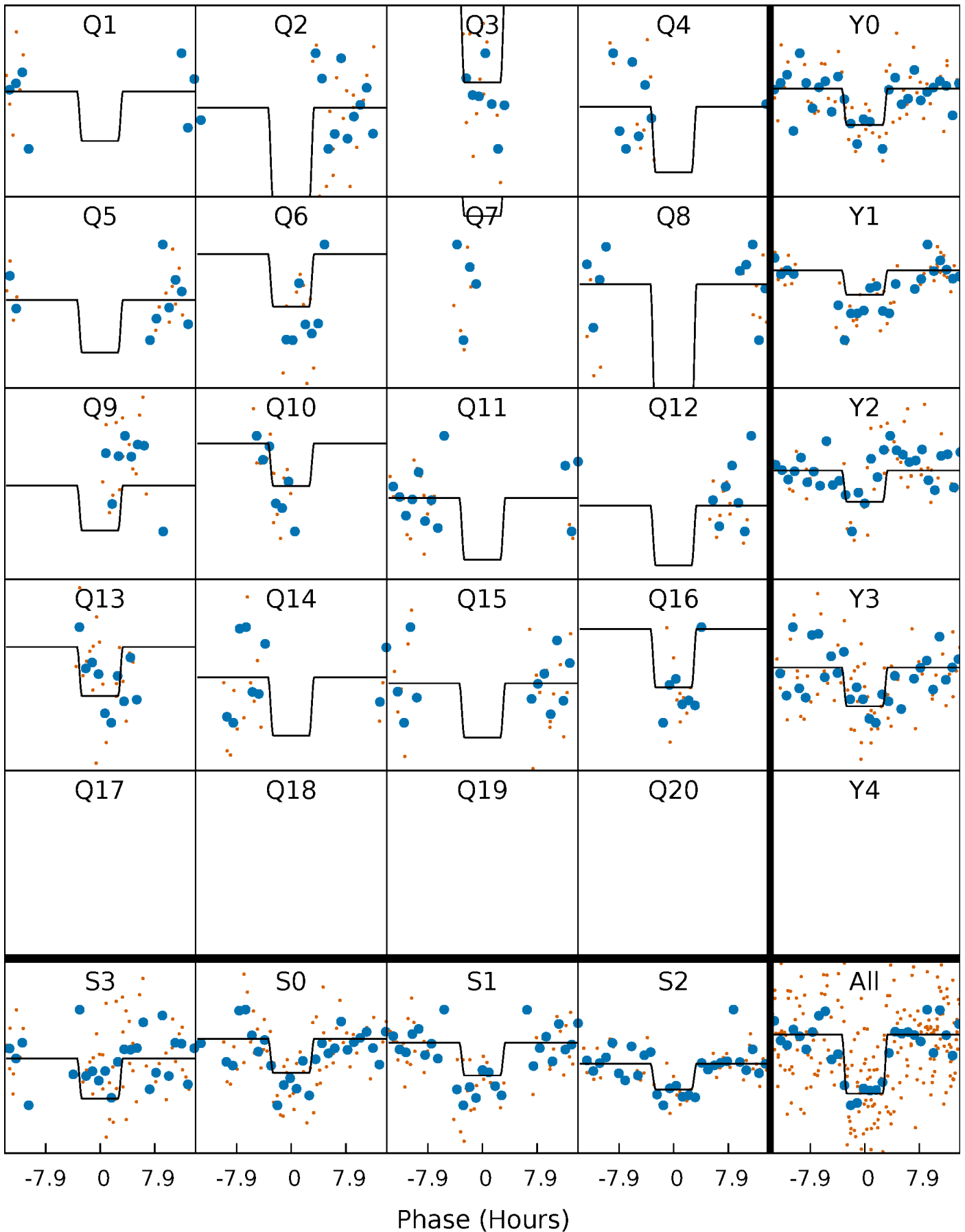
DV Quarter-Phased Transit Curves

TCE 003848572-03 P= 19.064952 Days $T_0=137.878404$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

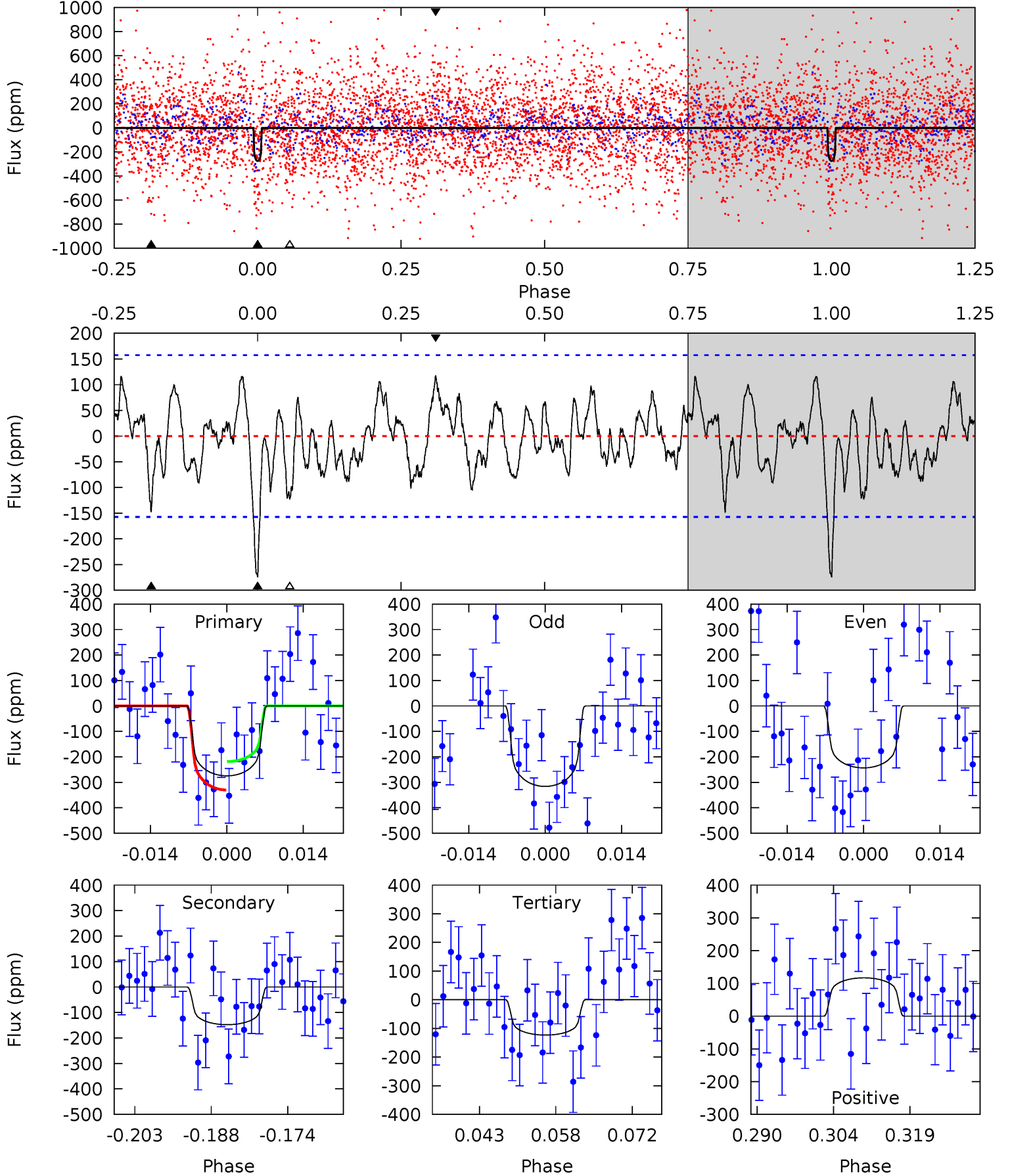
TCE 003848572-03 P= 19.064312 Days $T_0=137.903150$ (BKJD)



DV Model-Shift Uniqueness Test

003848572-03, P = 19.064952 Days, E = 118.813452 Days

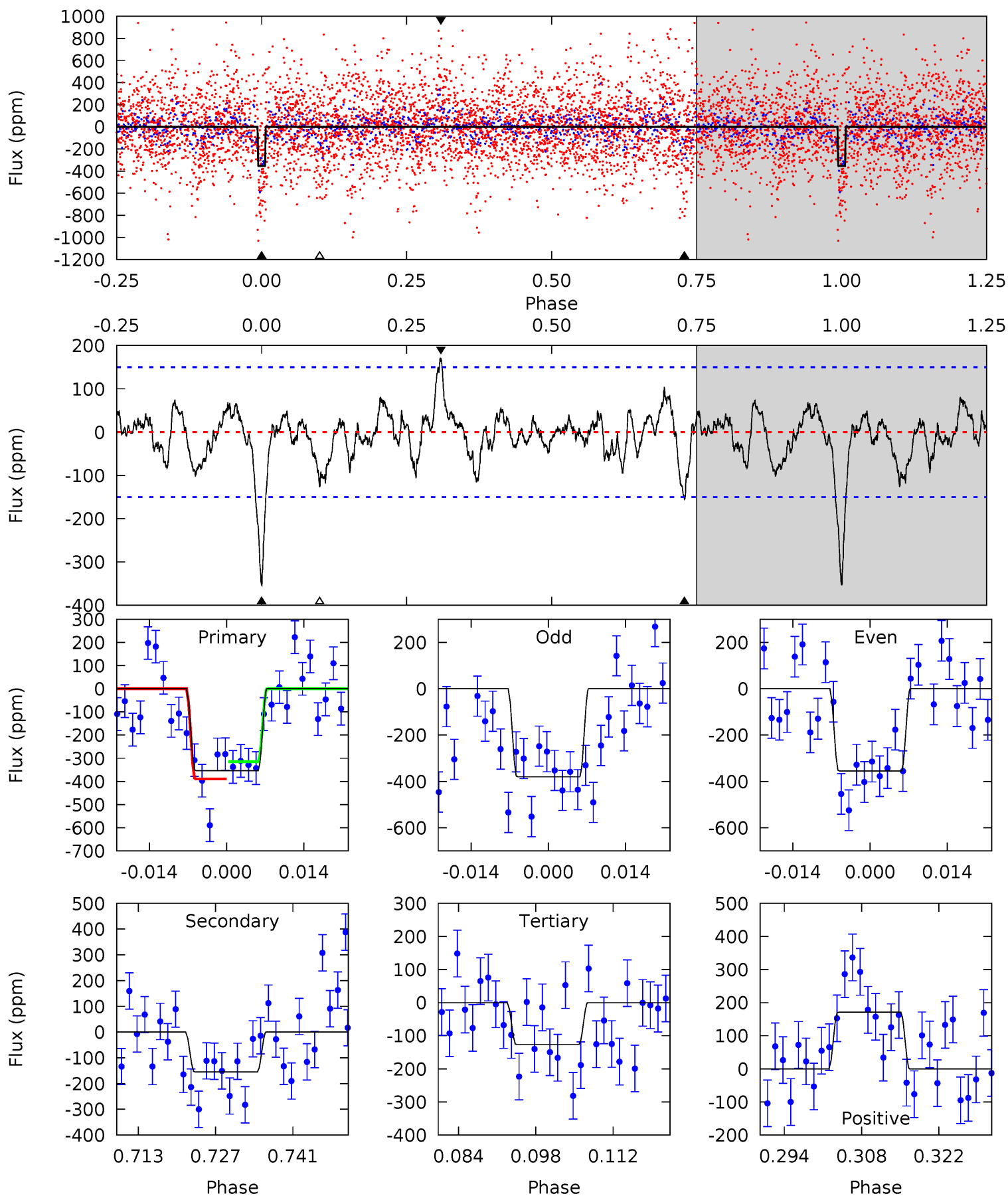
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.65	4.66	3.88	3.68	4.95	2.44	1.60	4.76	4.96	0.77	0.97	1.12	0.80	0.30	1.76



Alt Model-Shift Uniqueness Test

003848572-03, P = 19.064312 Days, E = 118.838838 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	5.11	4.18	5.65	4.96	2.46	1.50	7.50	6.03	0.93	-0.54	0.41	0.83	0.33	1.22



Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-148 ± 32	$2.17^{+1.37}_{-1.14}$	991^{+75}_{-49}	4848^{+2084}_{-836}	328^{+1284}_{-205}
Alt.	-155 ± 30	$2.16^{+1.32}_{-1.18}$	990^{+66}_{-51}	4872^{+2277}_{-840}	349^{+1318}_{-224}

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

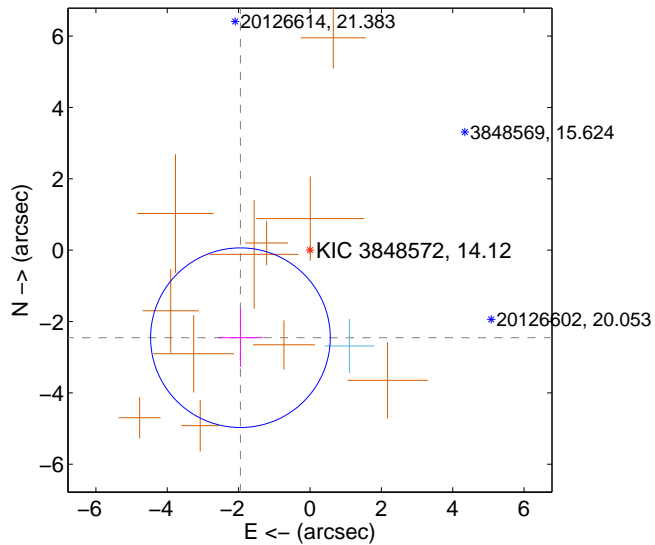
Supplemental centroid analysis for 003848572-03. Kepler magnitude: 14.12. Transit SNR 14.63

There are 1 quarters with good PRF difference image offsets

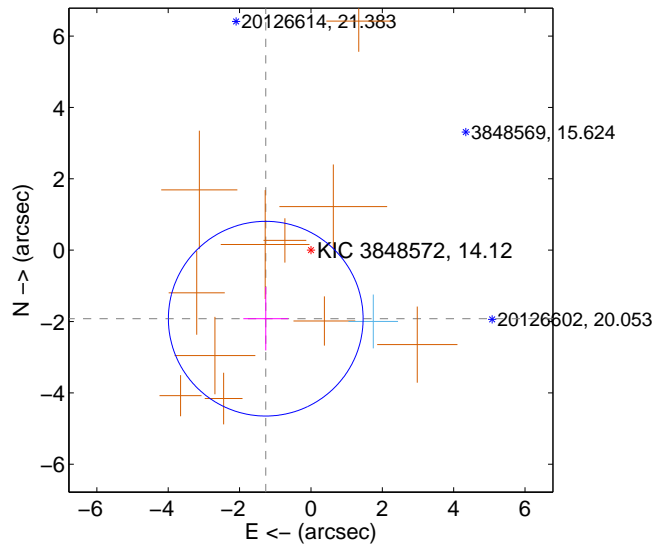
The direct PRF centroid is offset from the target star catalog position by about 0.94 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.134 ± 0.839	3.73	1.950 ± 0.623	-2.454 ± 0.818
PRF-fit source offset from KIC position	2.301 ± 0.910	2.53	1.267 ± 0.629	-1.921 ± 0.888
photometric centroid source offset	1.01 ± 0.41	2.48	-0.90 ± 0.40	0.46 ± 0.44

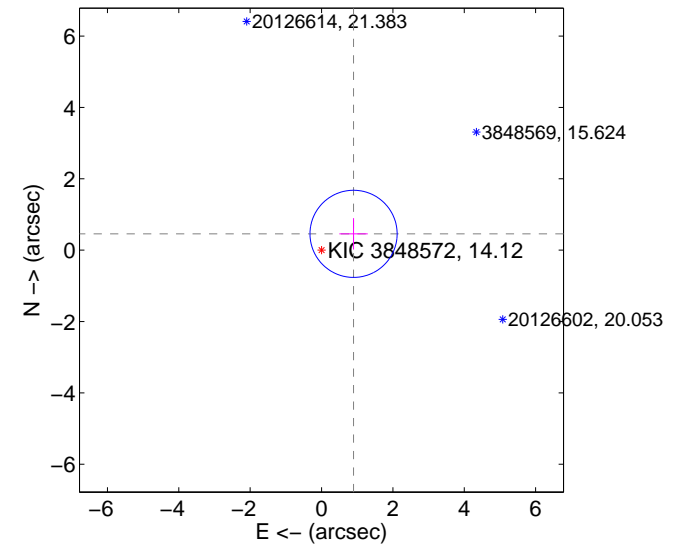
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

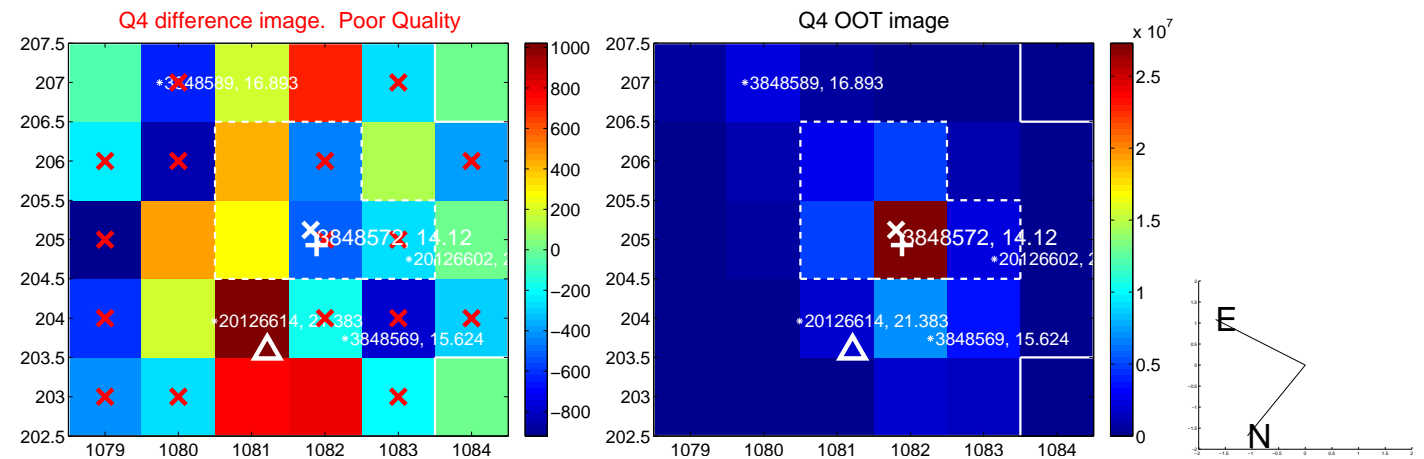
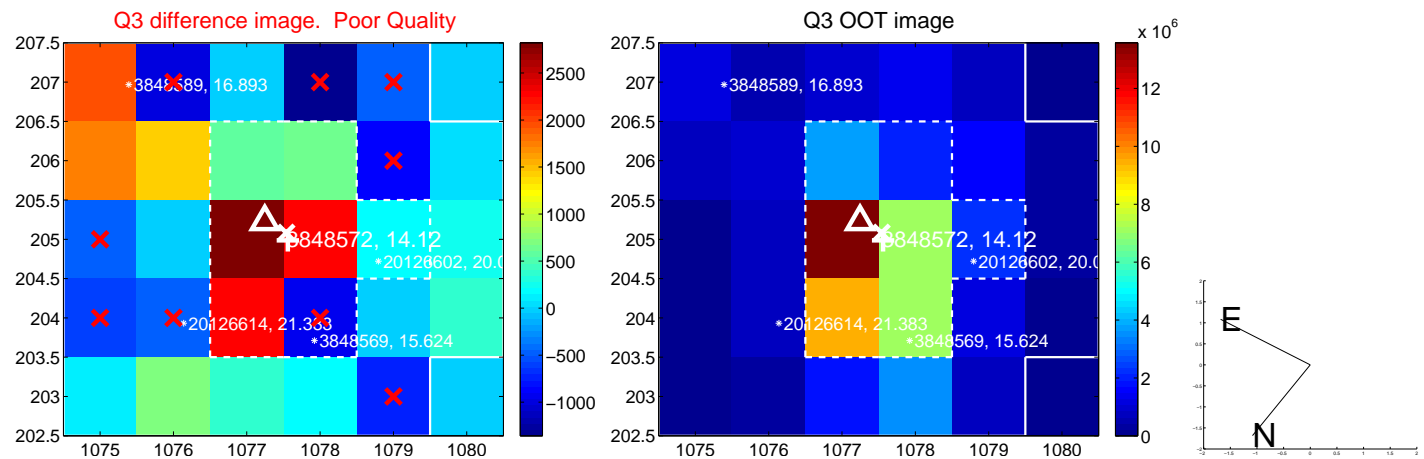
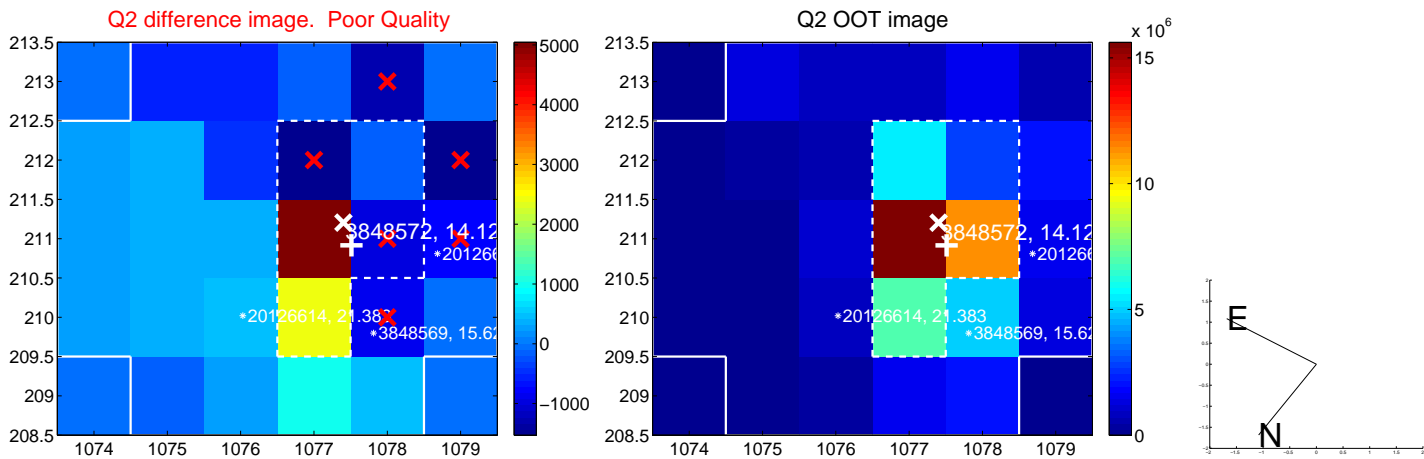
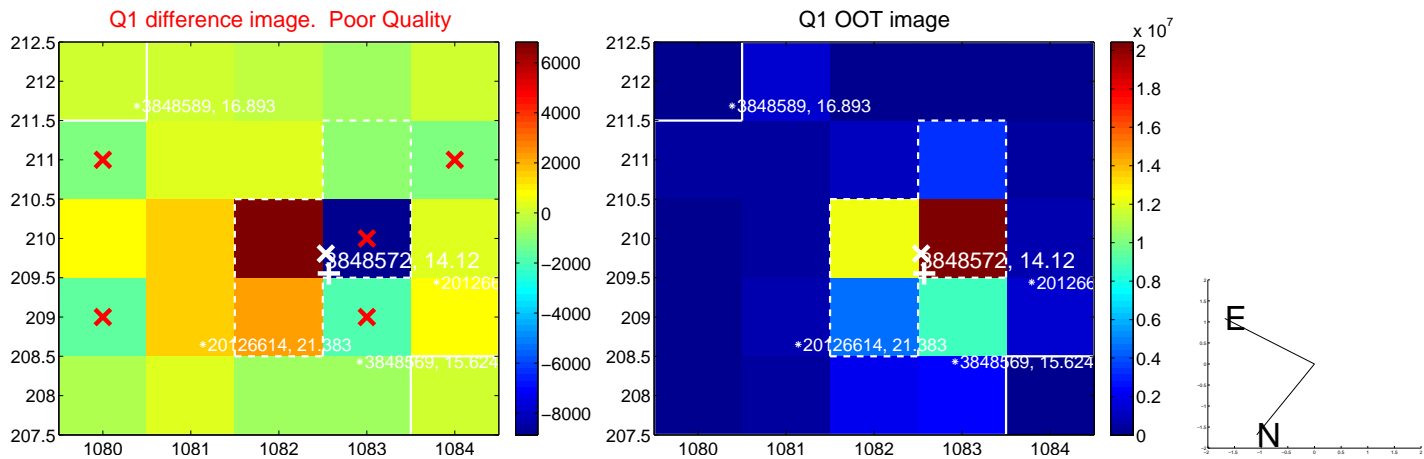


offset from photometric centroids

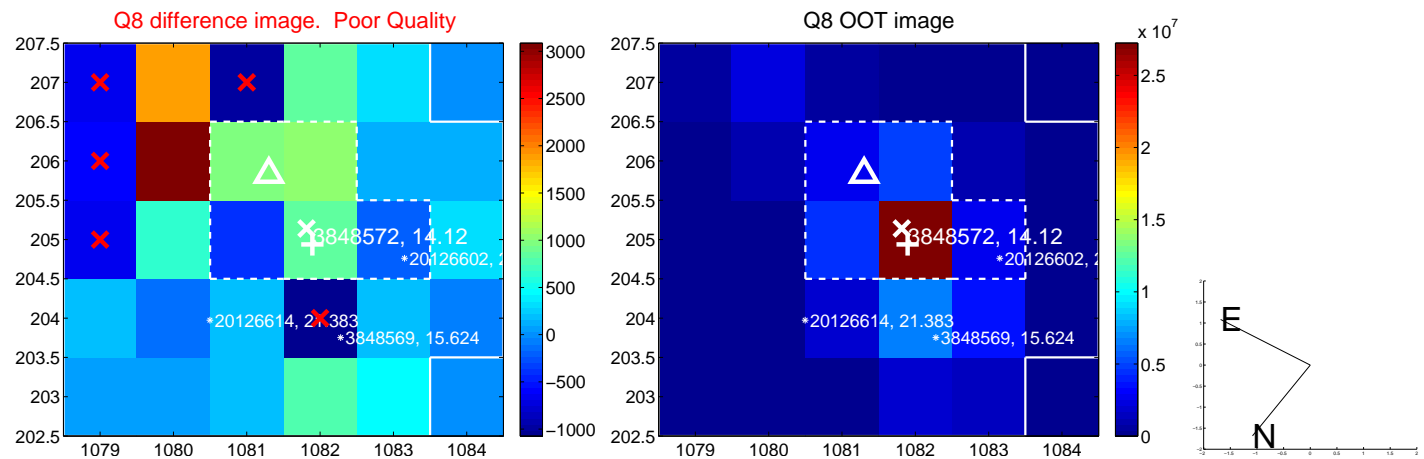
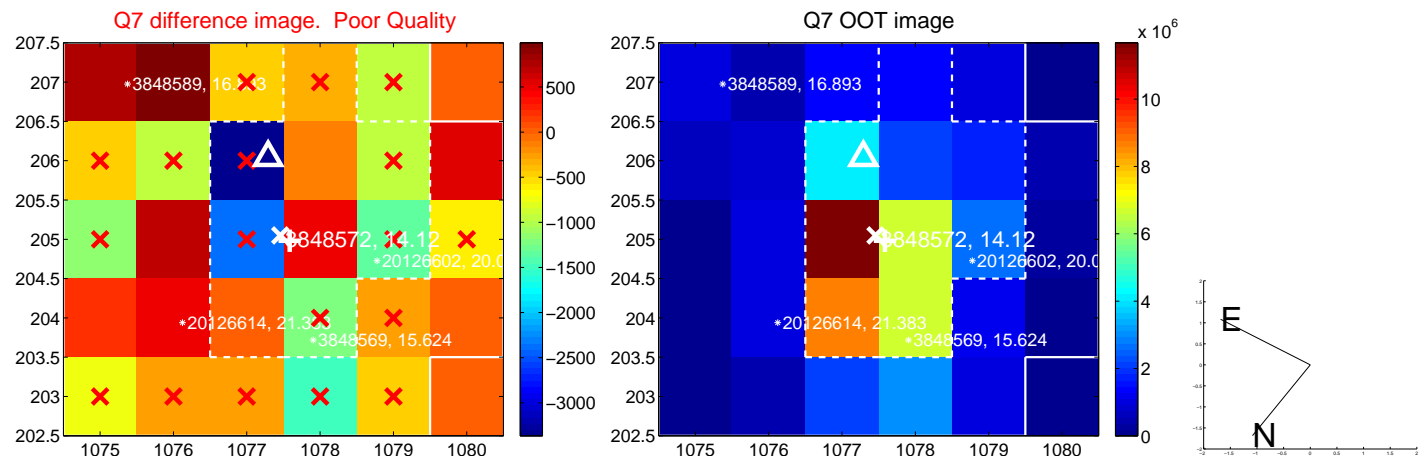
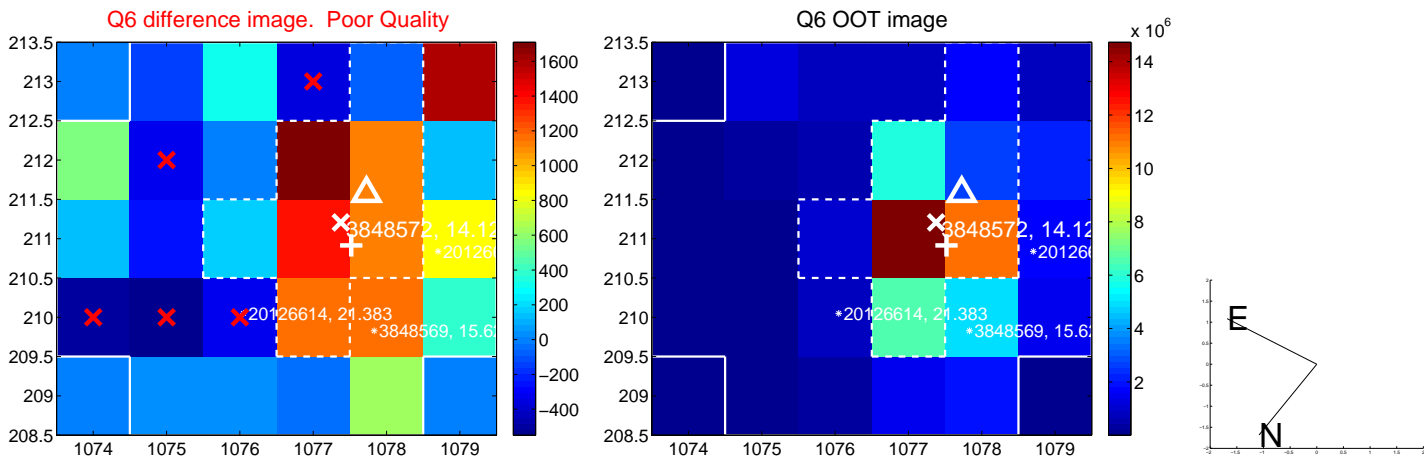
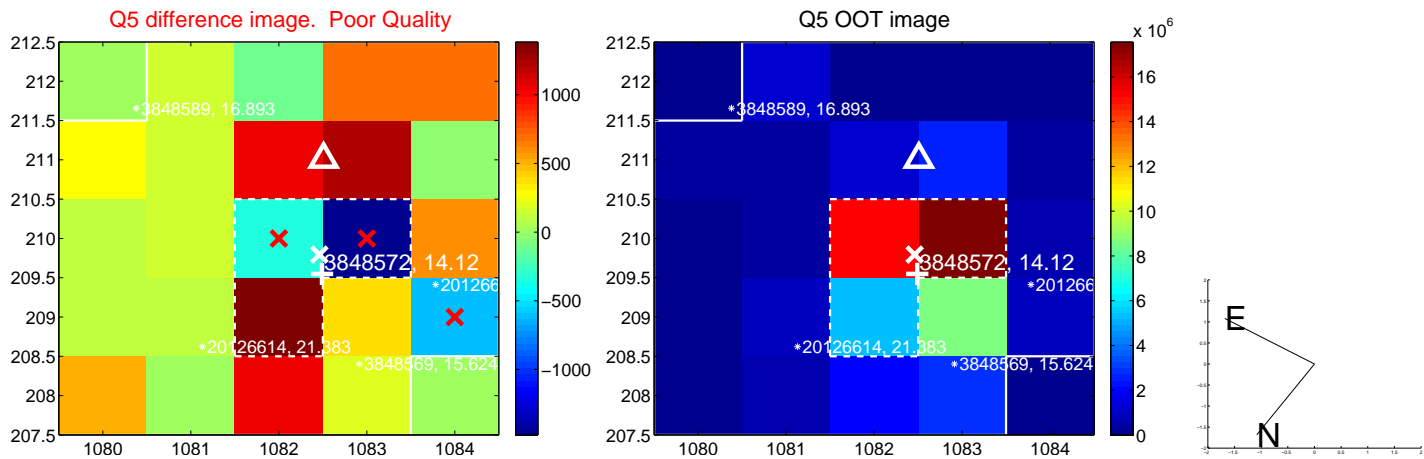


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

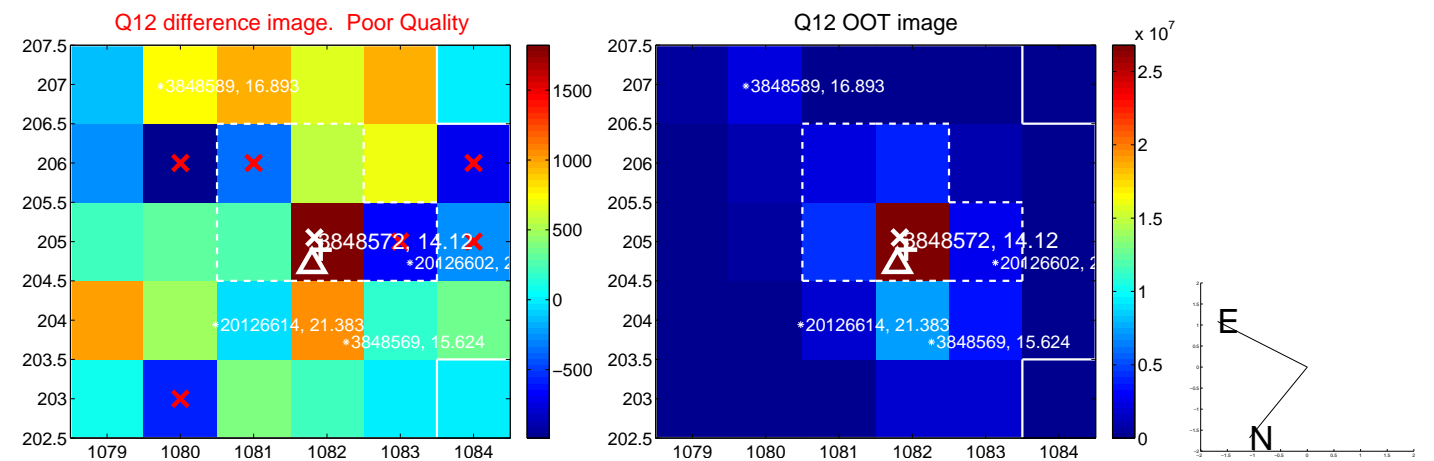
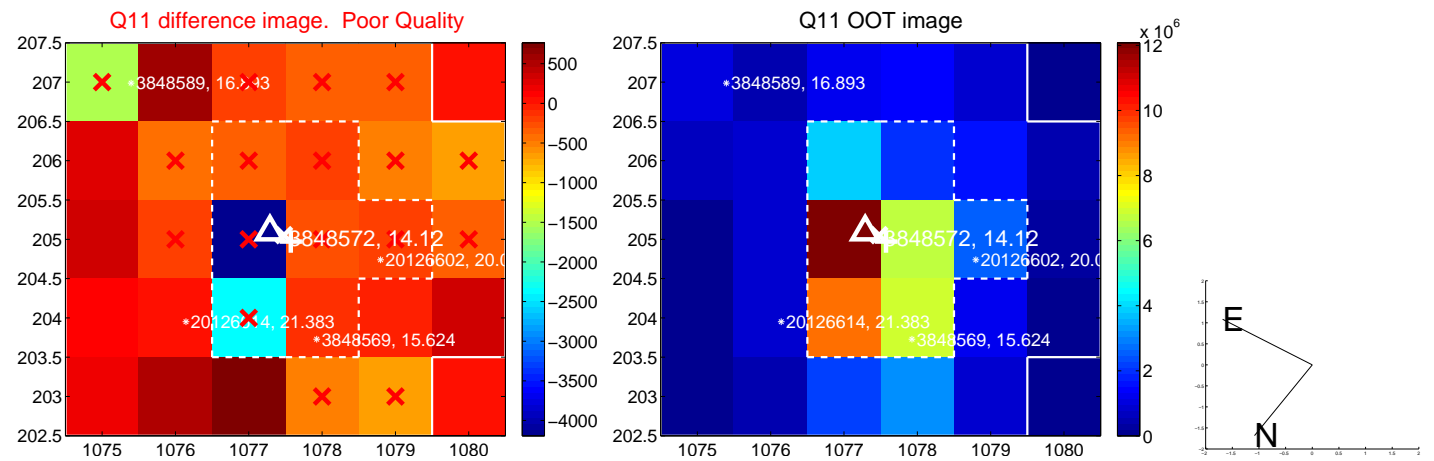
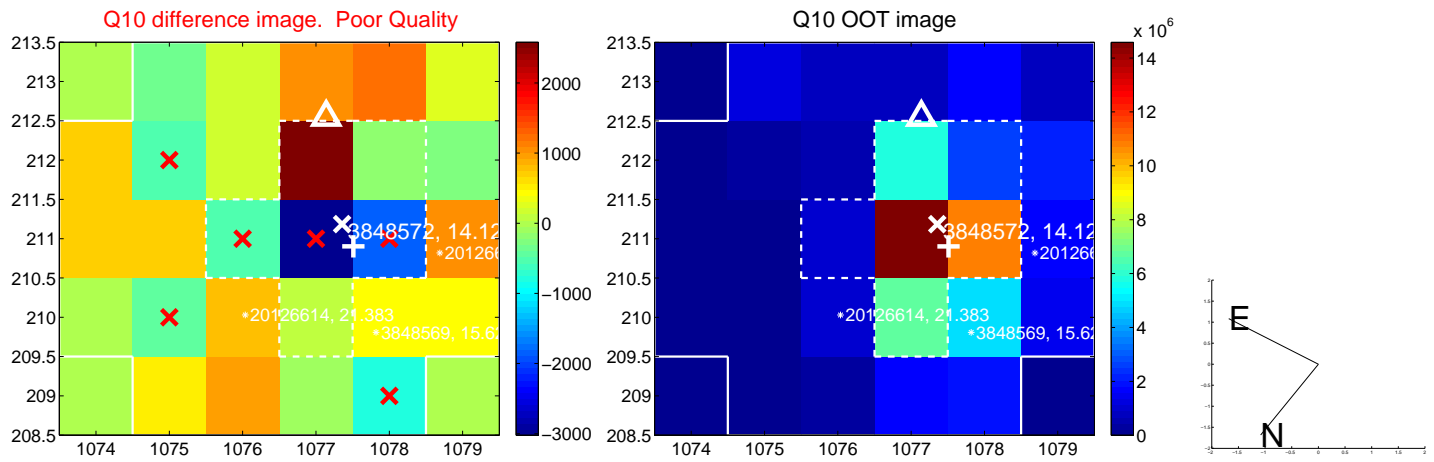
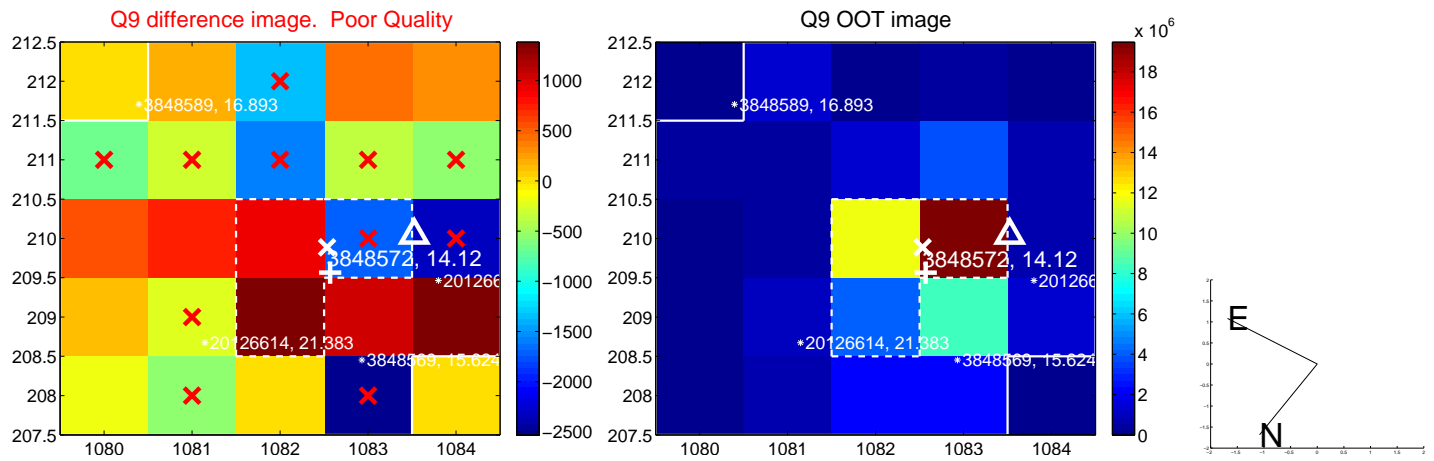
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



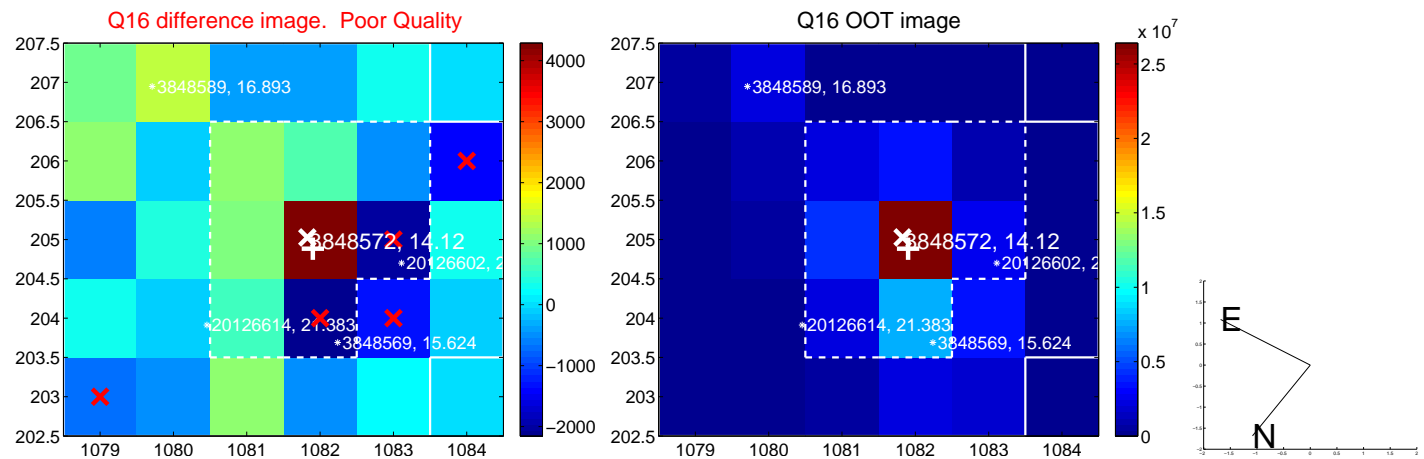
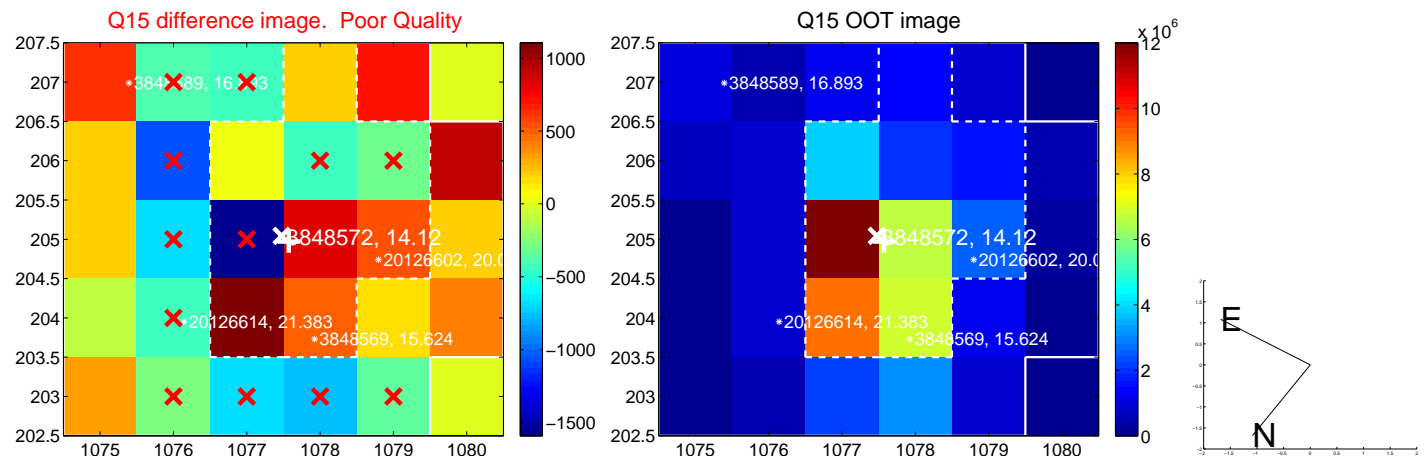
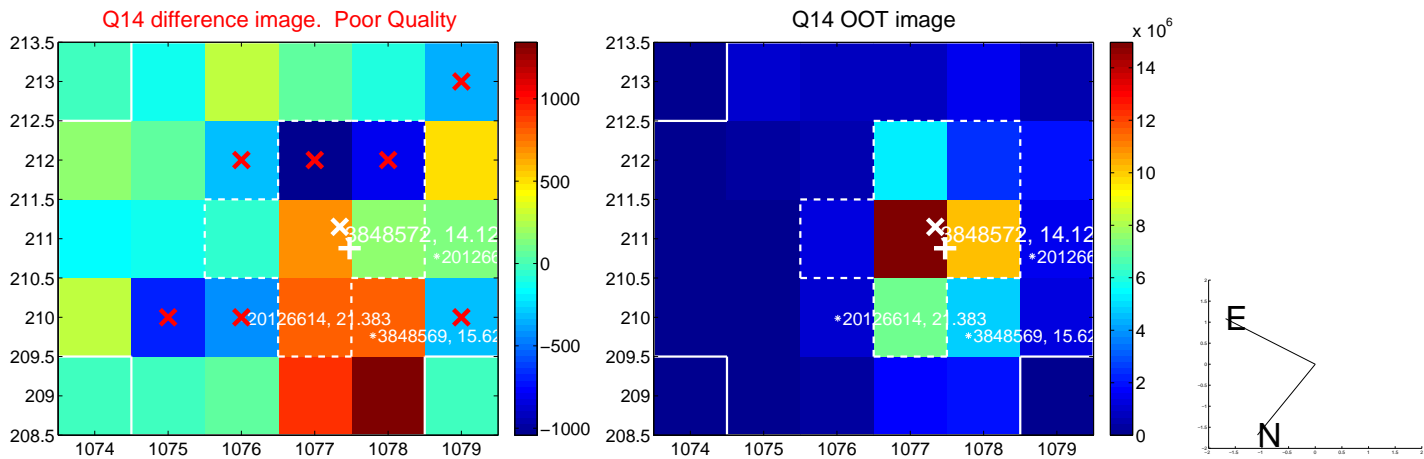
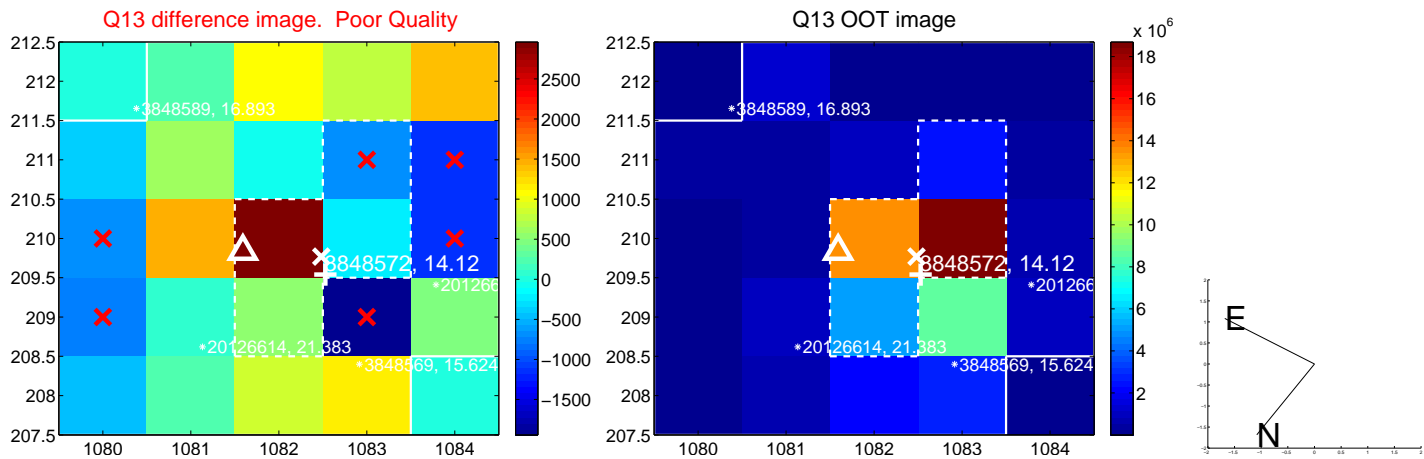
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



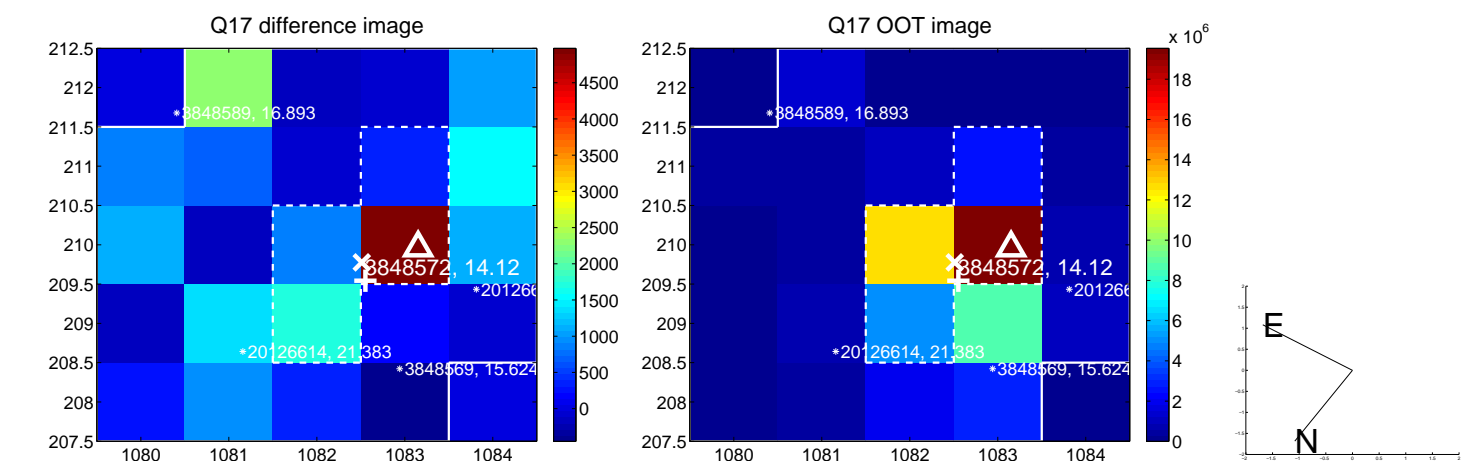
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



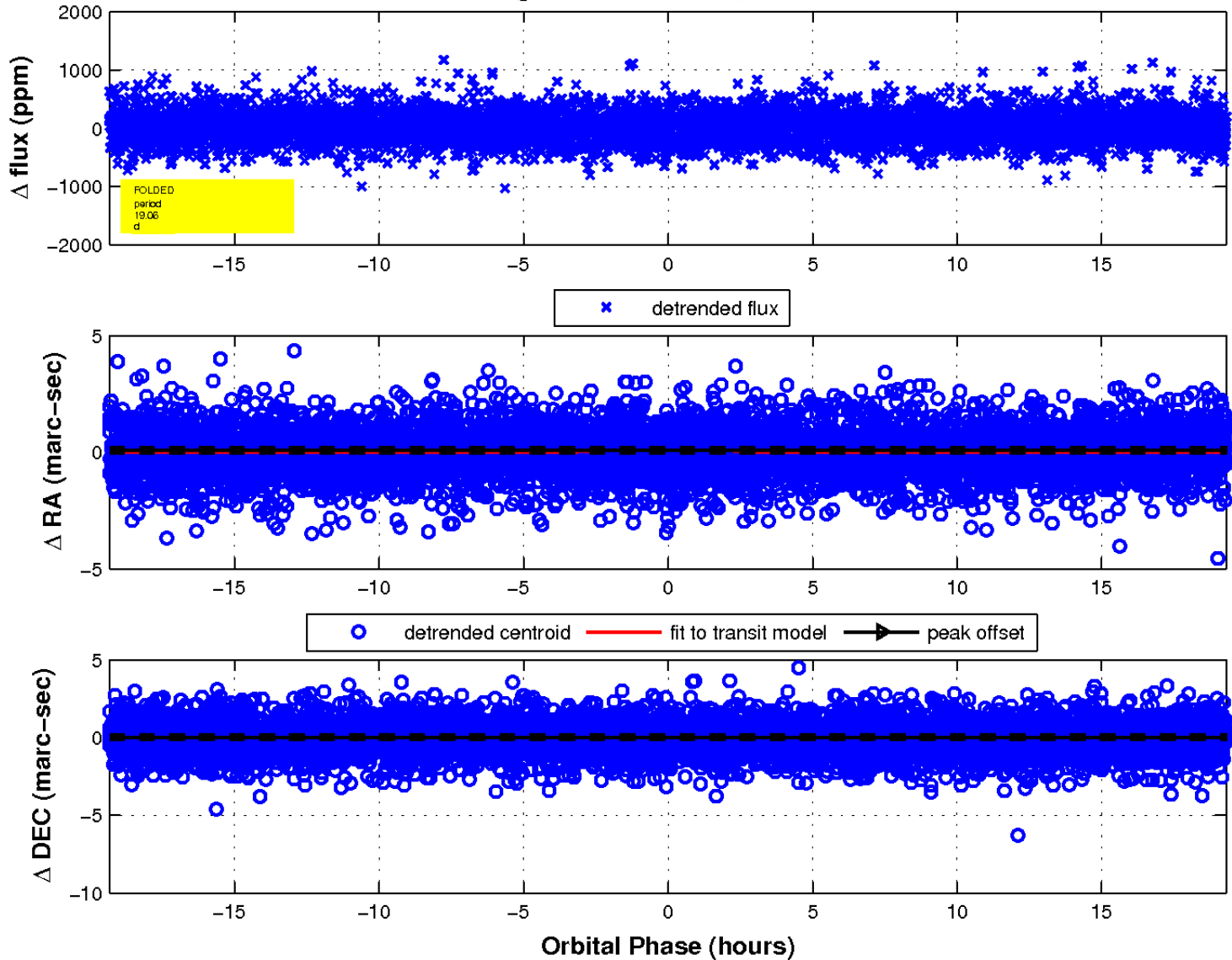
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

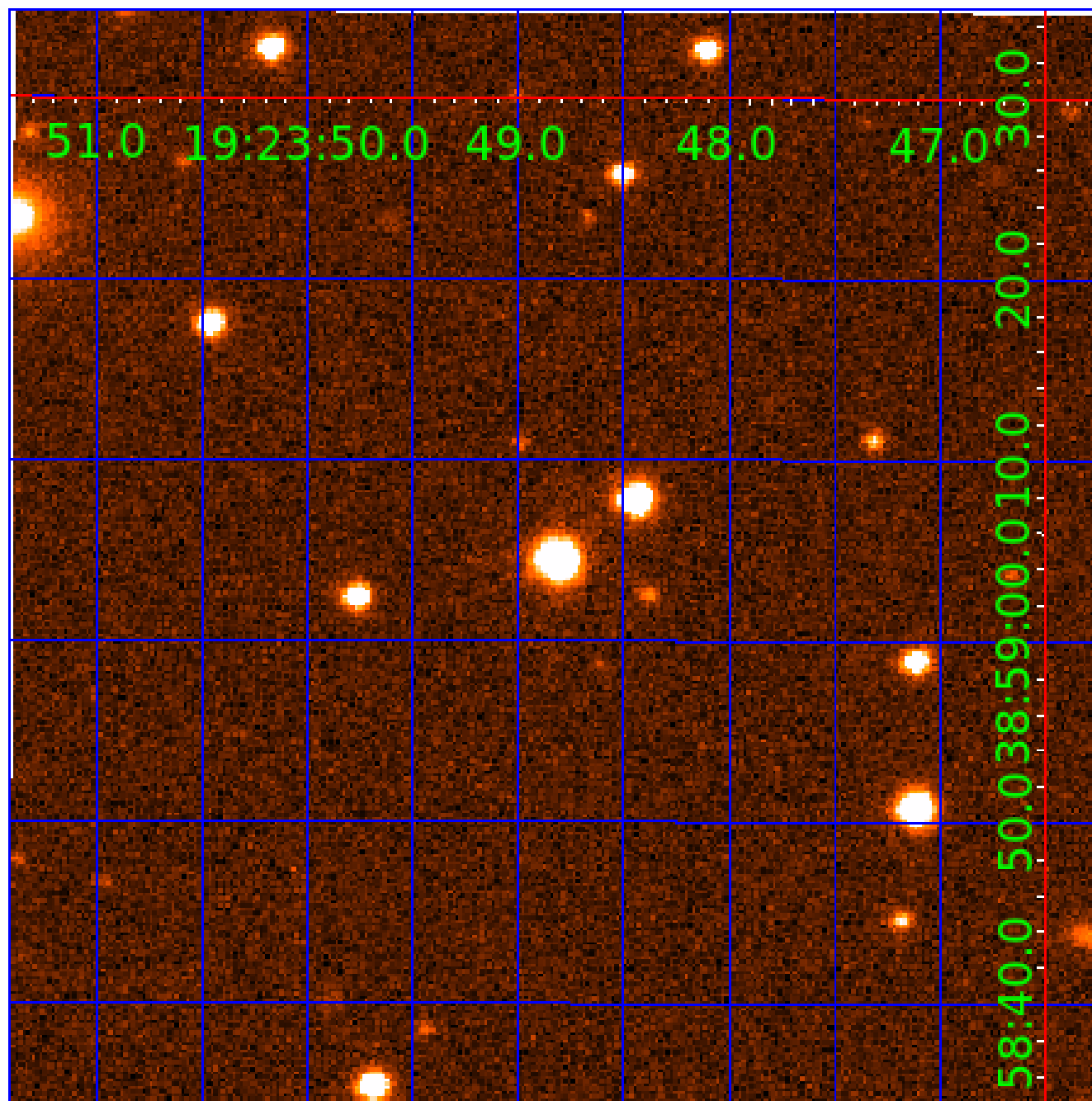


fluxWeightedCentroids, Planet 3 of 8



UKIRT Image

Declination



KIC 003848572

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})
003848572-01	OBS	No	2.000255	133.459175	24.6	14.647	7.9	8.6	0.99	5964	0.49	1124.77
003848572-02	OBS	No	16.434441	134.097367	266.8	3.999	14.2	12.8	0.99	5964	1.76	67.84
003848572-03	OBS	No	19.064952	137.878404	298.3	6.444	14.0	14.6	0.99	5964	1.91	55.66
003848572-04	OBS	No	44.646663	163.854428	528.6	1.647	13.6	13.2	0.99	5964	2.27	17.90
003848572-05	OBS	No	42.595759	155.809232	449.6	8.480	12.3	12.1	0.99	5964	4.08	19.06
003848572-06	OBS	No	372.043312	140.463887	330.5	2.559	9.9	10.4	0.99	5964	2.15	1.06
003848572-07	OBS	No	29.425177	160.784434	672.3	1.107	11.3	11.7	0.99	5964	2.57	31.20
003848572-08	OBS	No	29.841435	157.971575	404.4	1.199	9.7	9.7	0.99	5964	2.12	30.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003848572-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

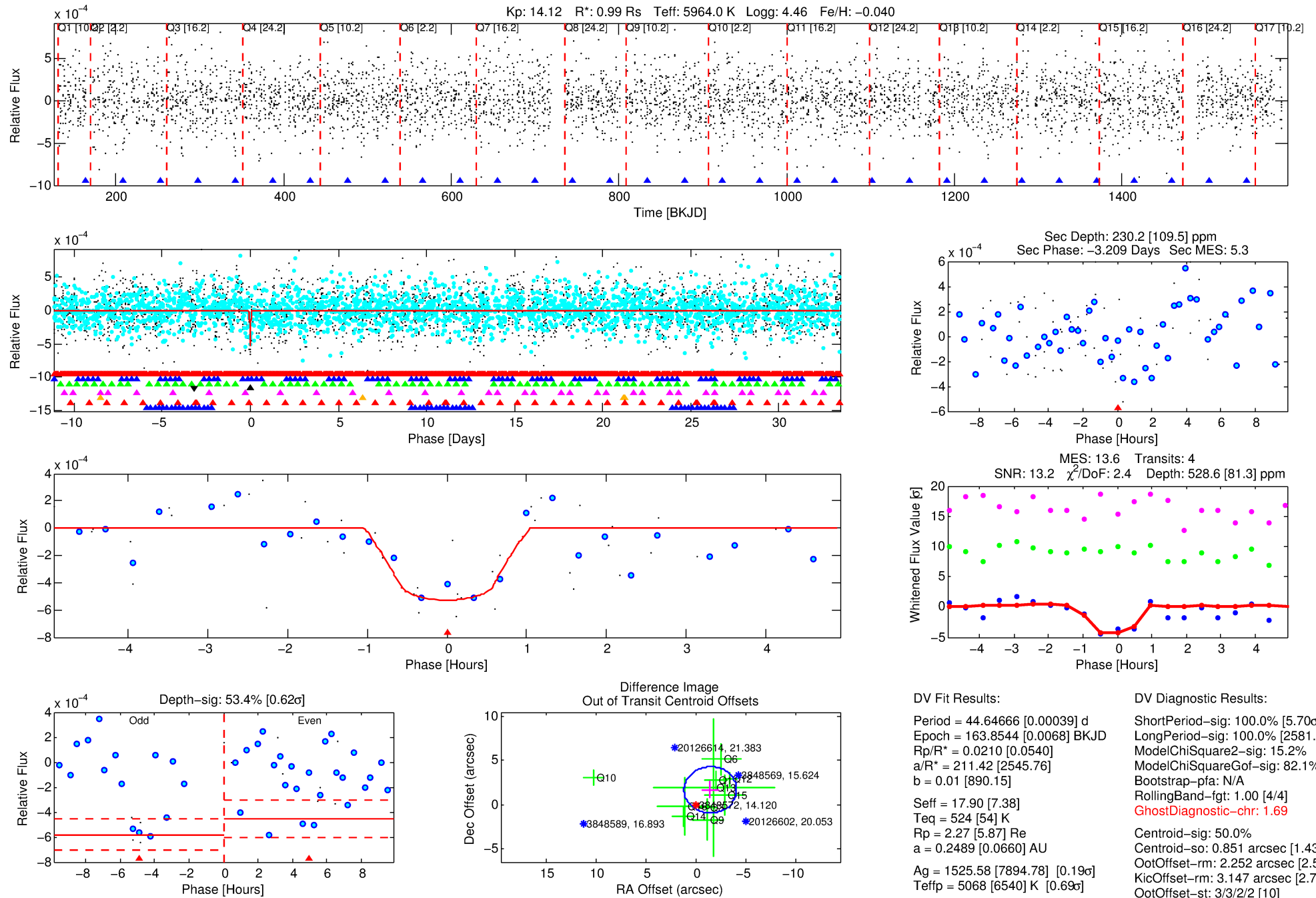
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-04

No Significant Match Found

DV One-Page Summary

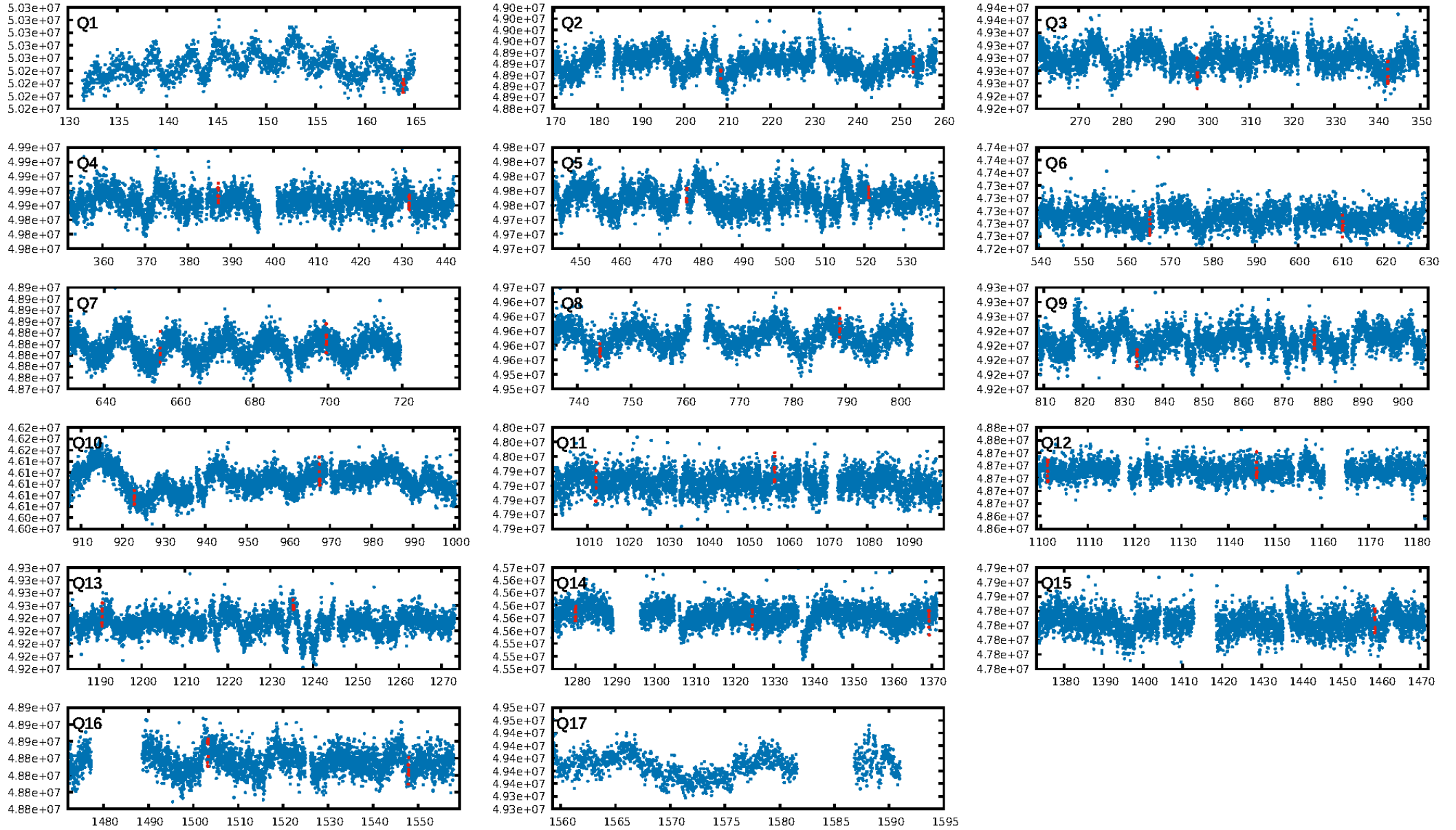
KIC: 3848572 Candidate: 4 of 8 Period: 44.647 d



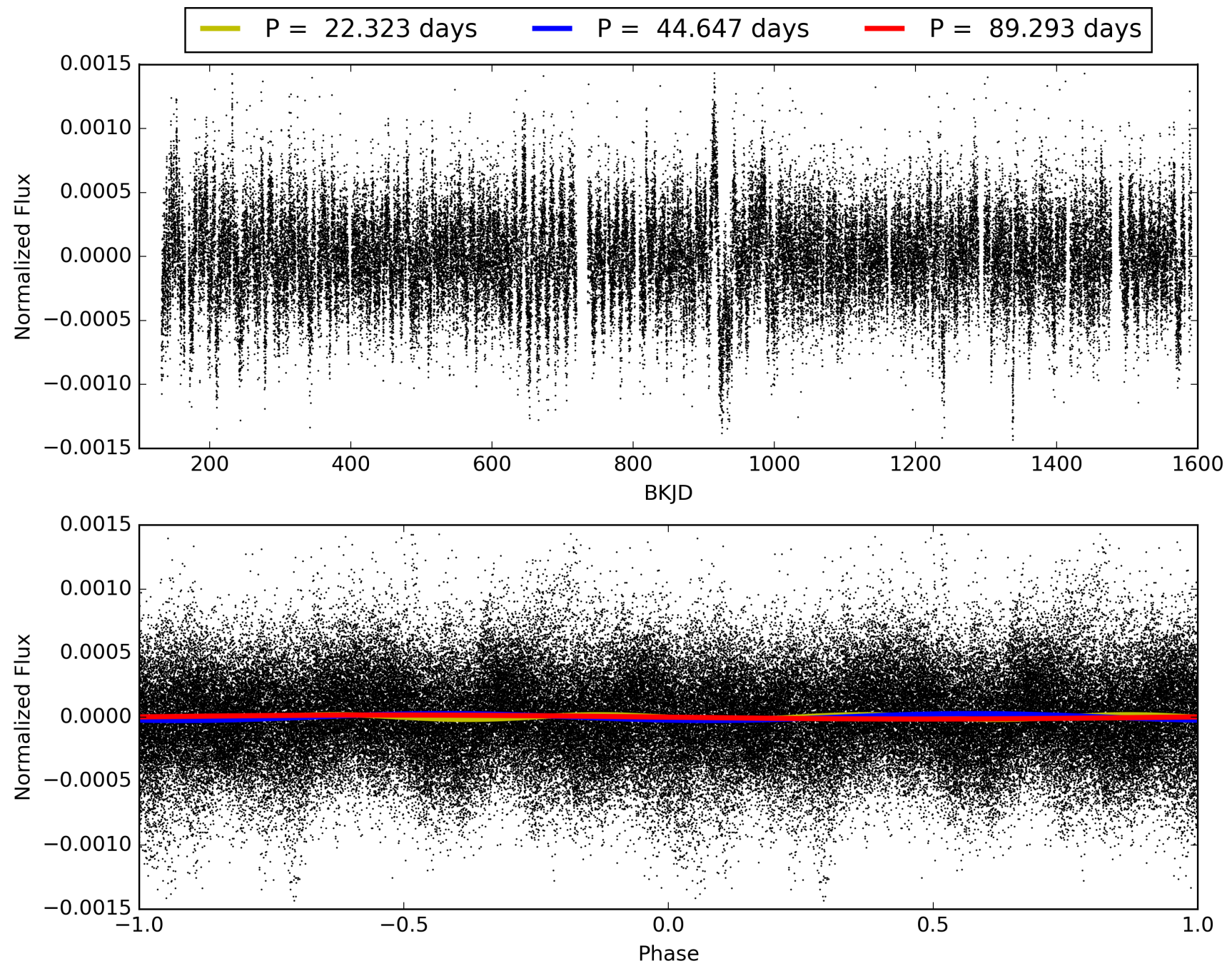
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:42:11 Z

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

TCE 003848572-04, PDC Light Curves

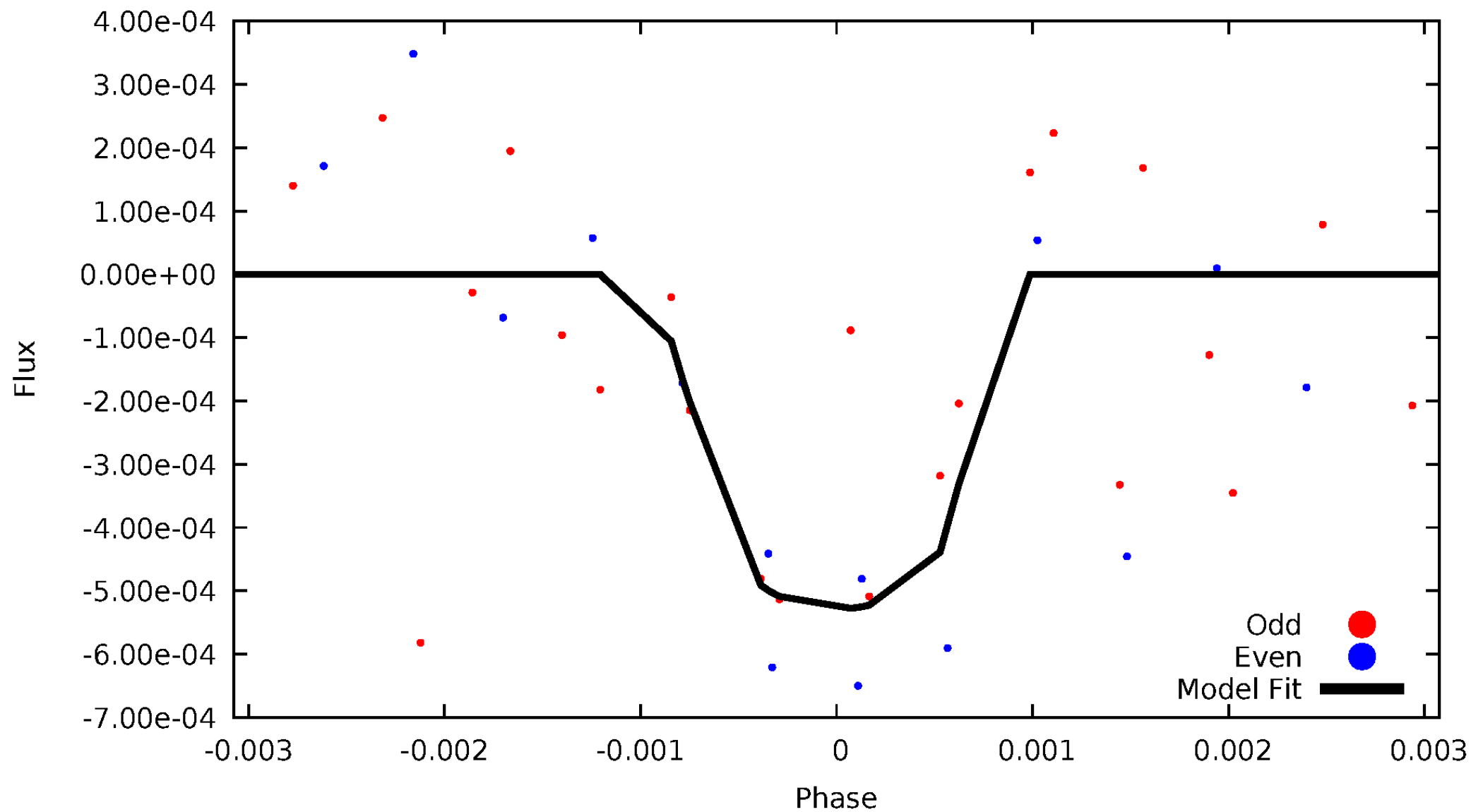


TCE 003848572-04



DV Odd/Even

TCE 003848572-04

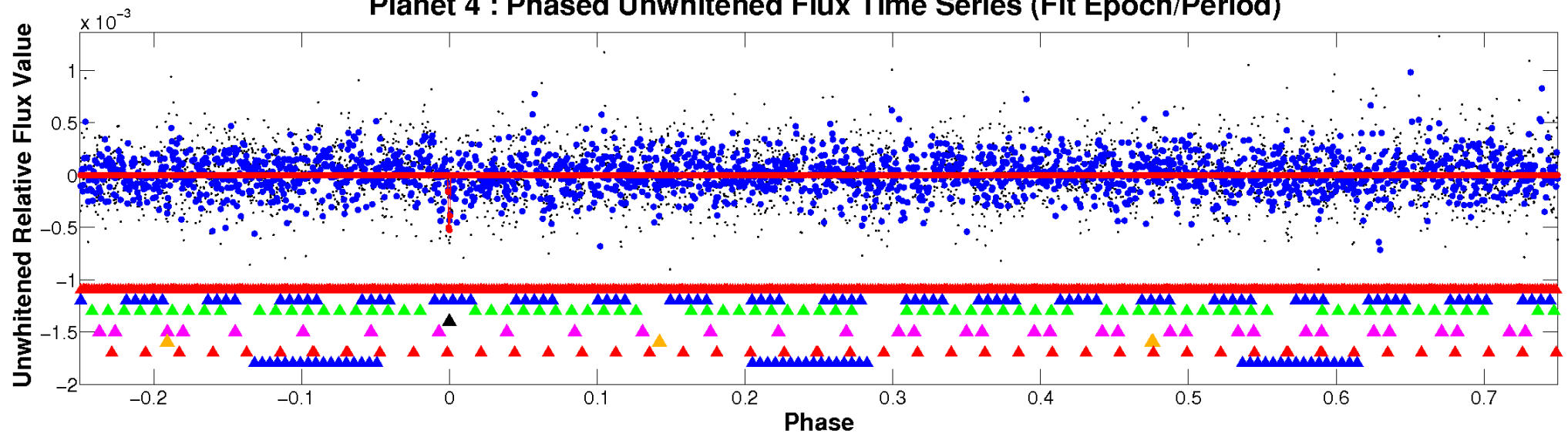


ALT Odd/Even

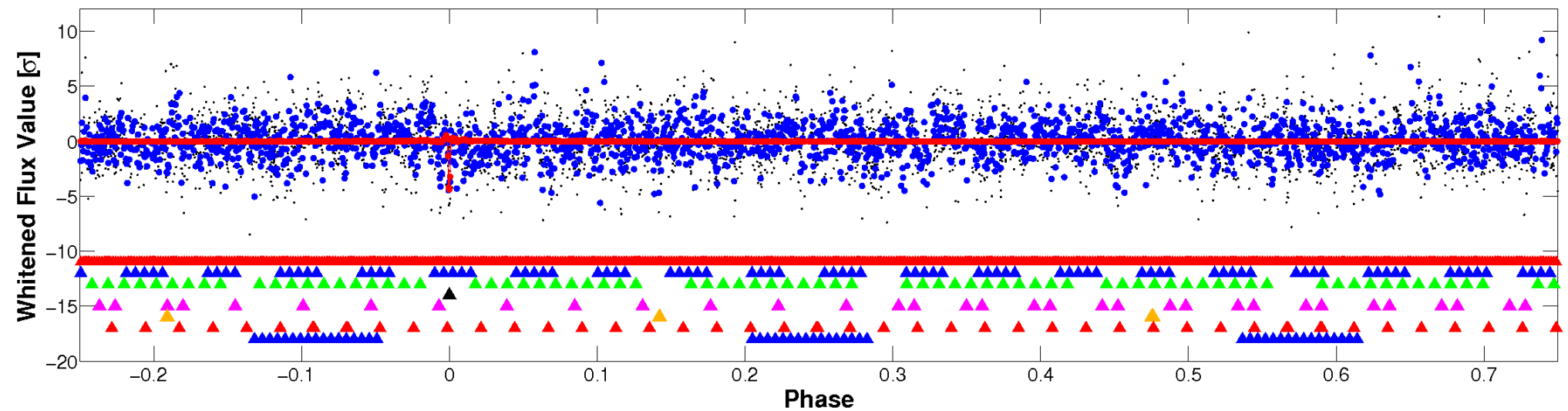
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

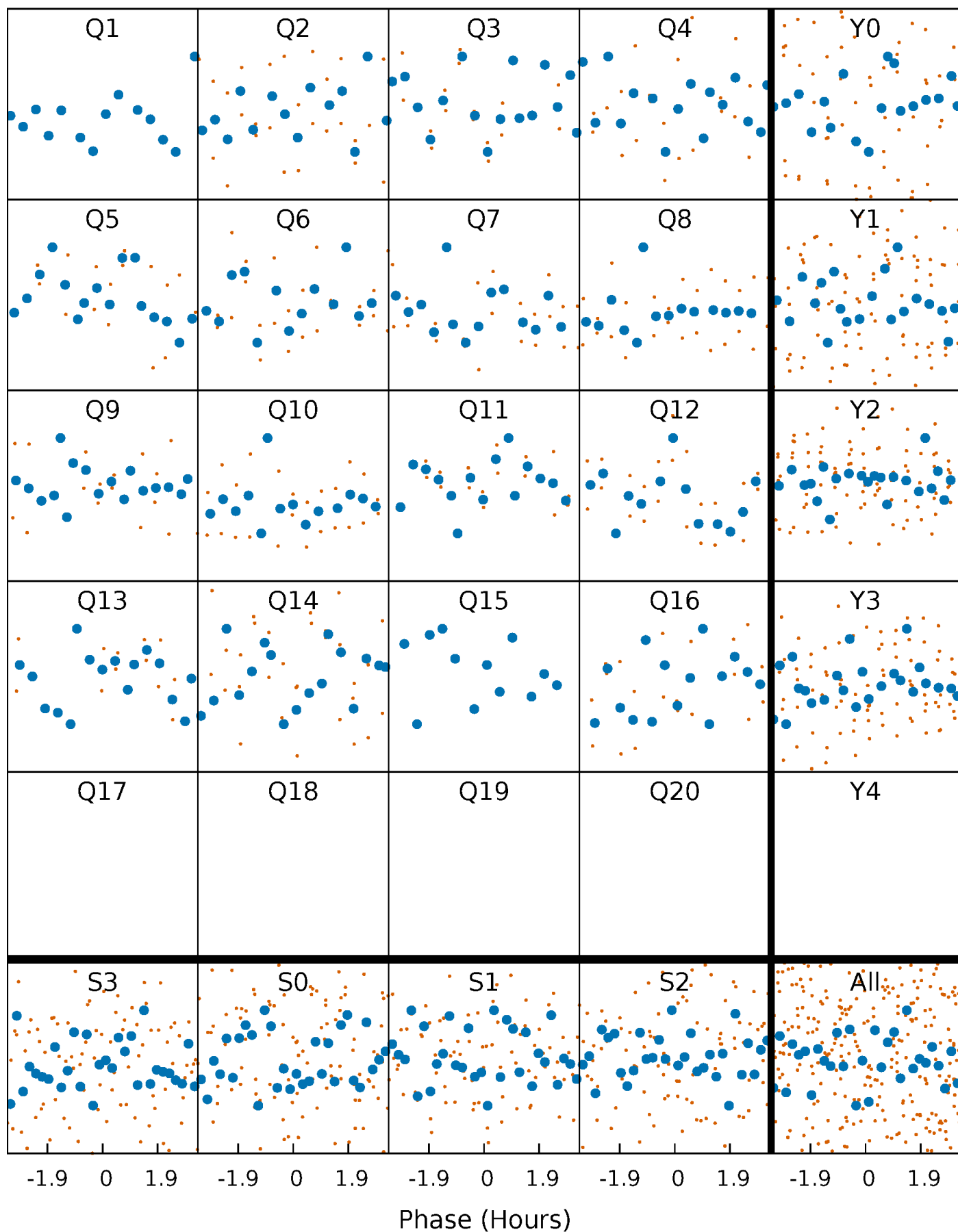


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



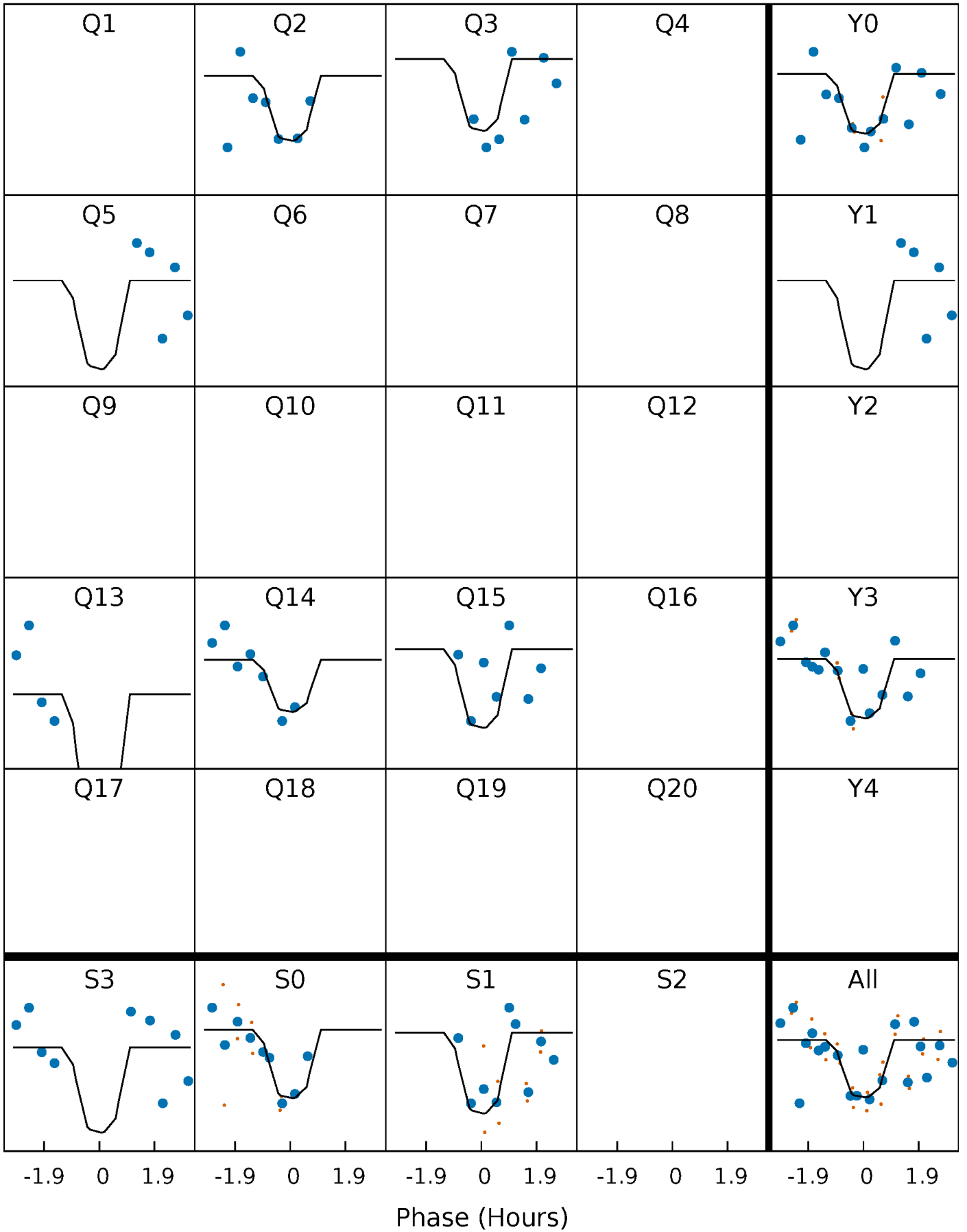
PDC Quarter-Phased Transit Curves

TCE 003848572-04 P= 44.646663 Days $T_0=163.854428$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003848572-04 P= 44.646663 Days $T_0=163.854428$ (BKJD)

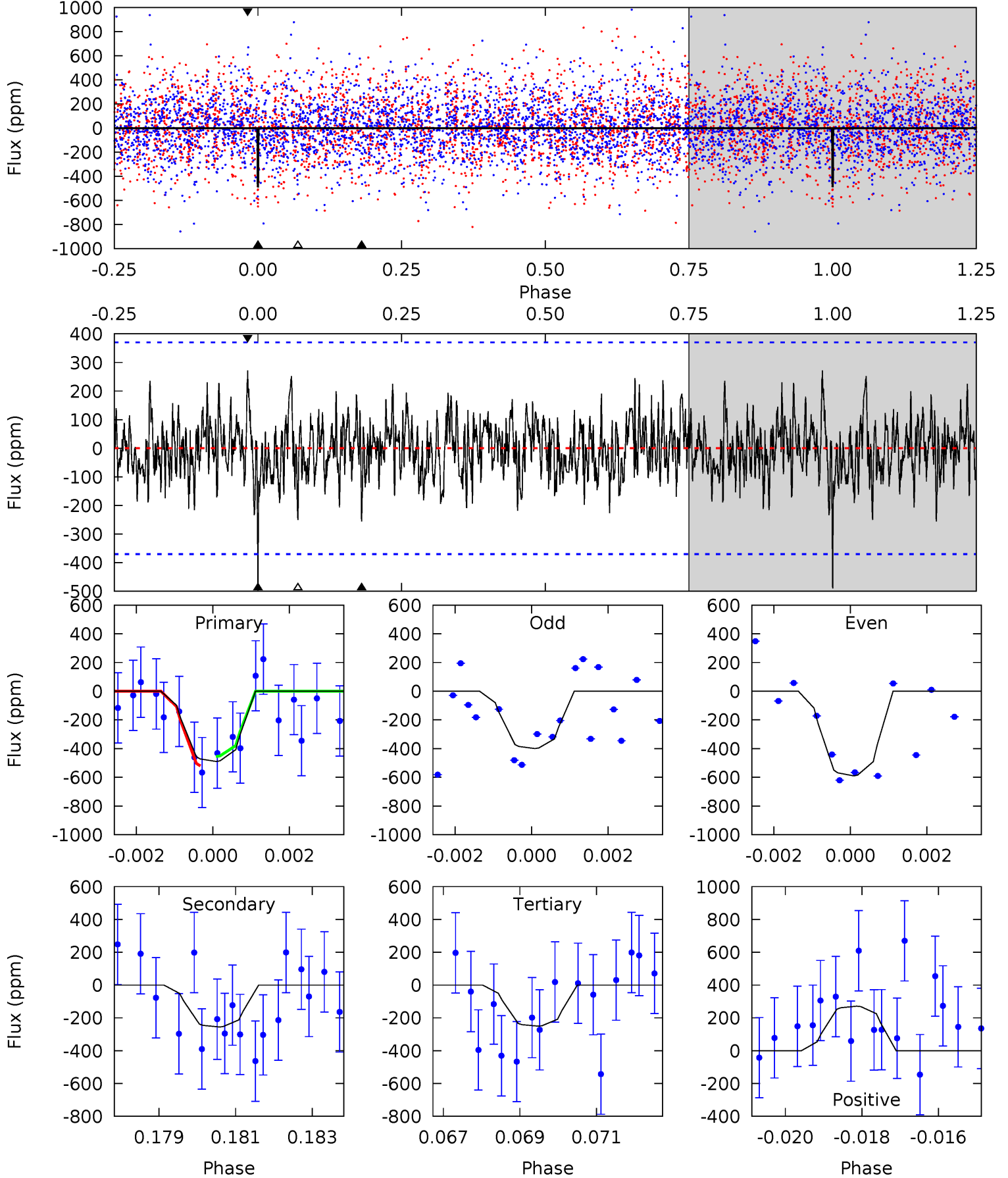


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003848572-04, P = 44.646663 Days, E = 119.207765 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.08	3.69	3.62	3.92	5.35	3.13	1.19	3.46	3.15	0.07	-0.23	1.36	0.94	0.36	0.47



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-255 ± 69	$4.90^{+5.05}_{-3.46}$	744^{+58}_{-35}	3928^{+2685}_{-805}	345^{+3733}_{-266}
Alt.	N/A	N/A	N/A	N/A	N/A

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

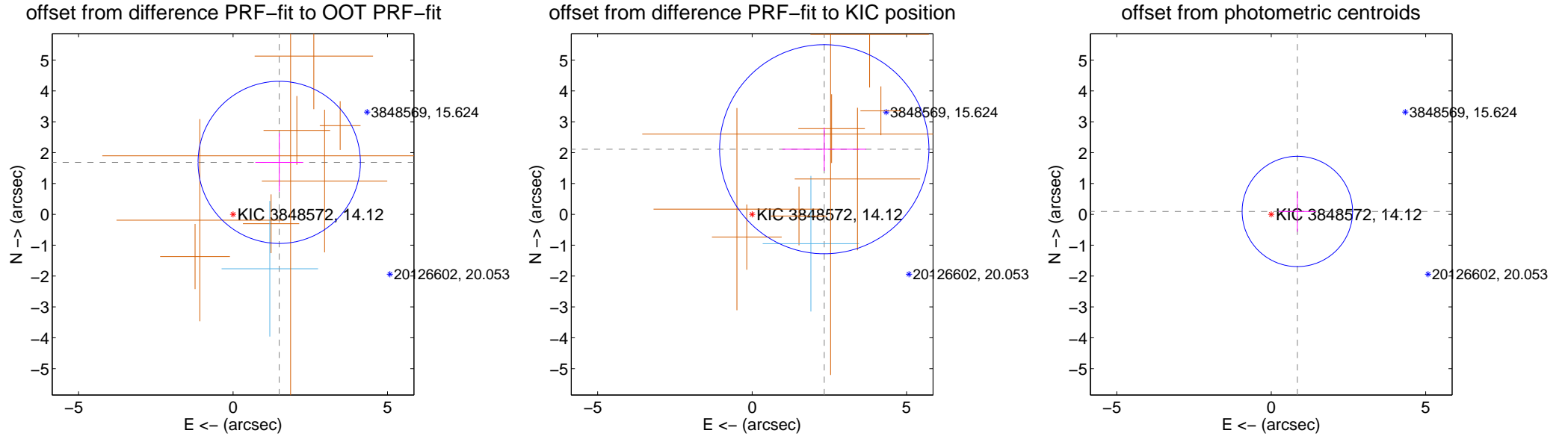
DV Centroid Data

Supplemental centroid analysis for 003848572-04. Kepler magnitude: 14.12. Transit SNR 13.20

There are 1 quarters with good PRF difference image offsets

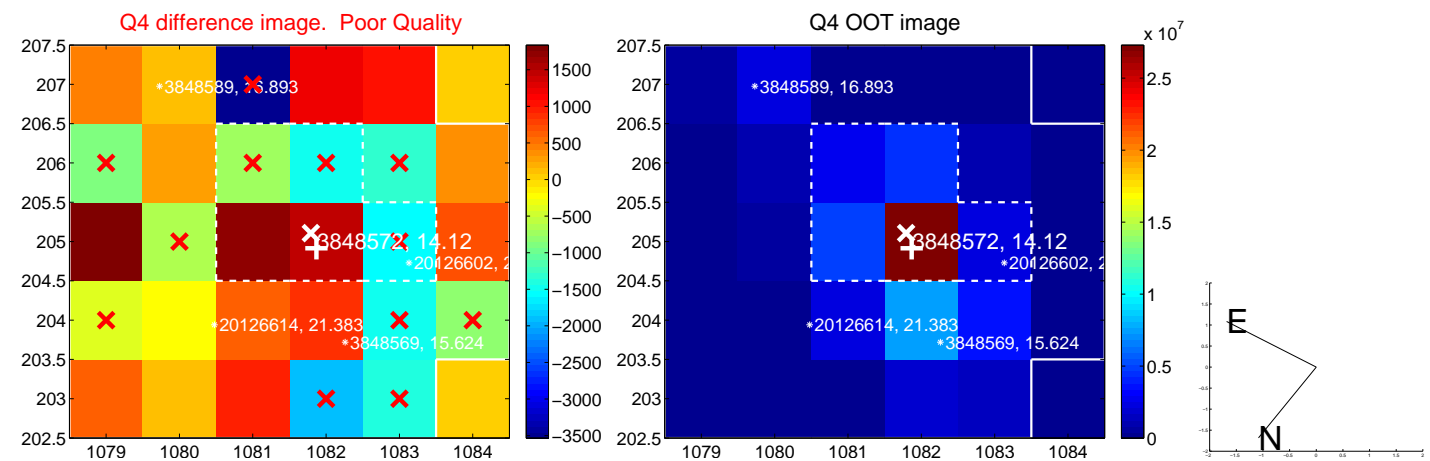
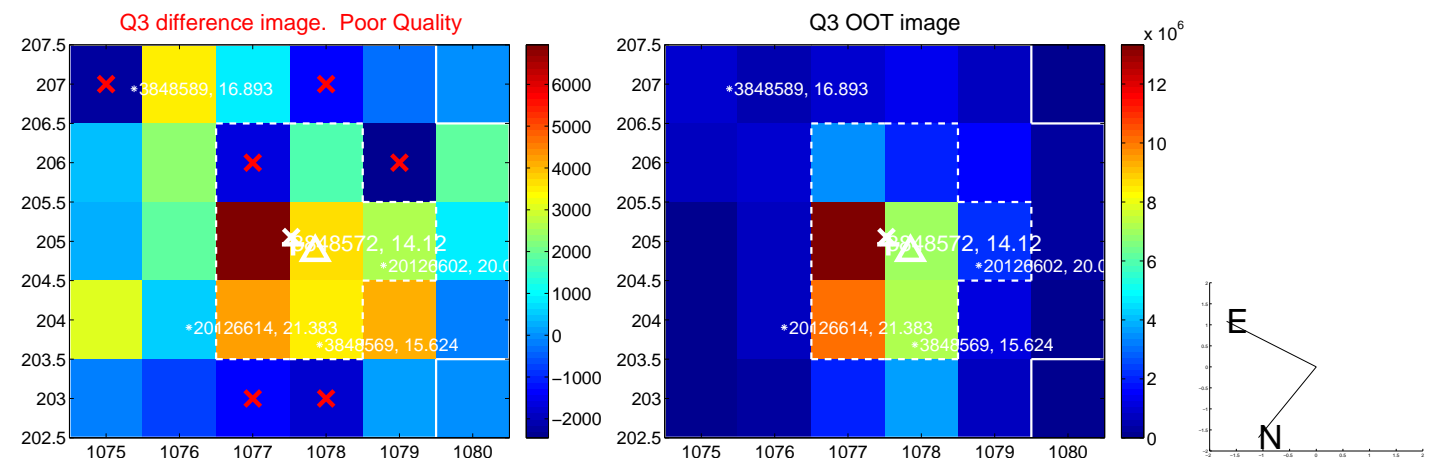
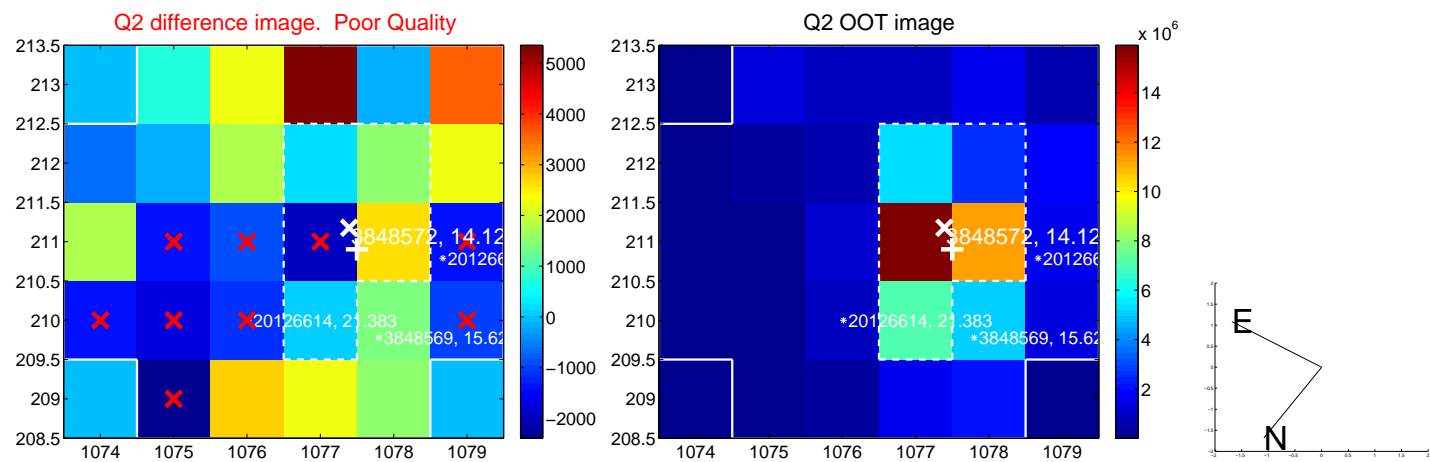
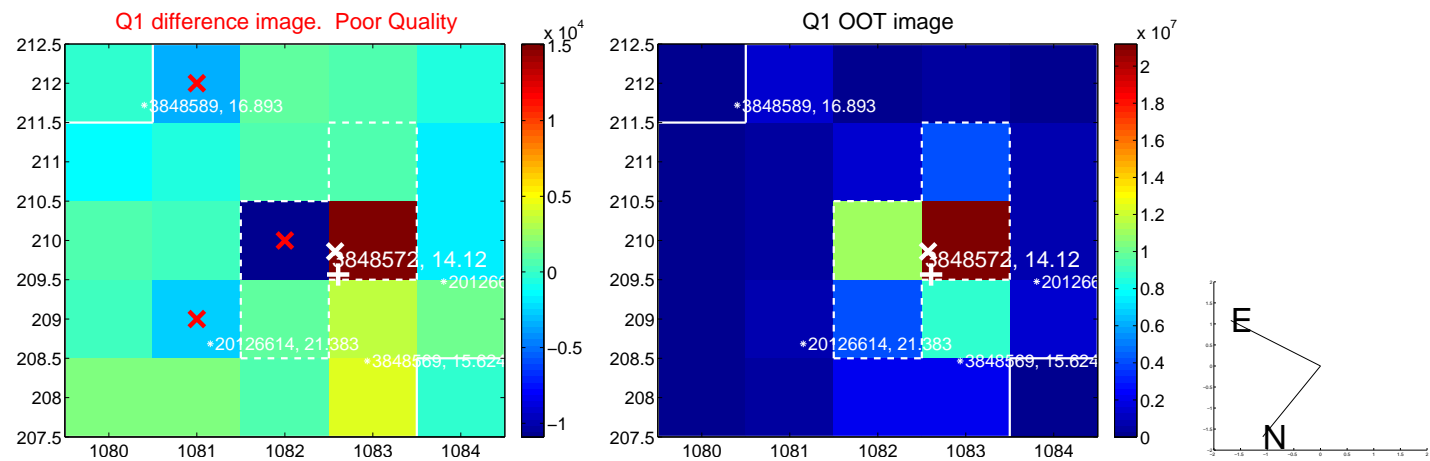
The direct PRF centroid is offset from the target star catalog position by about 0.68 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.252 ± 0.876	2.57	-1.495 ± 0.774	1.684 ± 0.949
PRF-fit source offset from KIC position	3.147 ± 1.129	2.79	-2.335 ± 1.356	2.110 ± 0.702
photometric centroid source offset	0.85 ± 0.60	1.43	-0.85 ± 0.59	0.09 ± 0.66

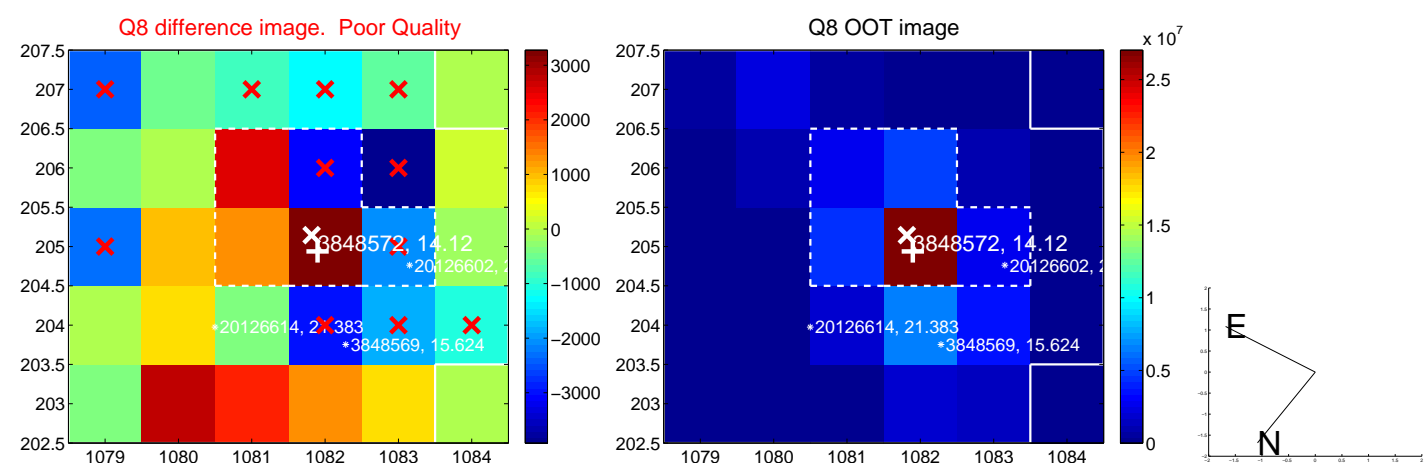
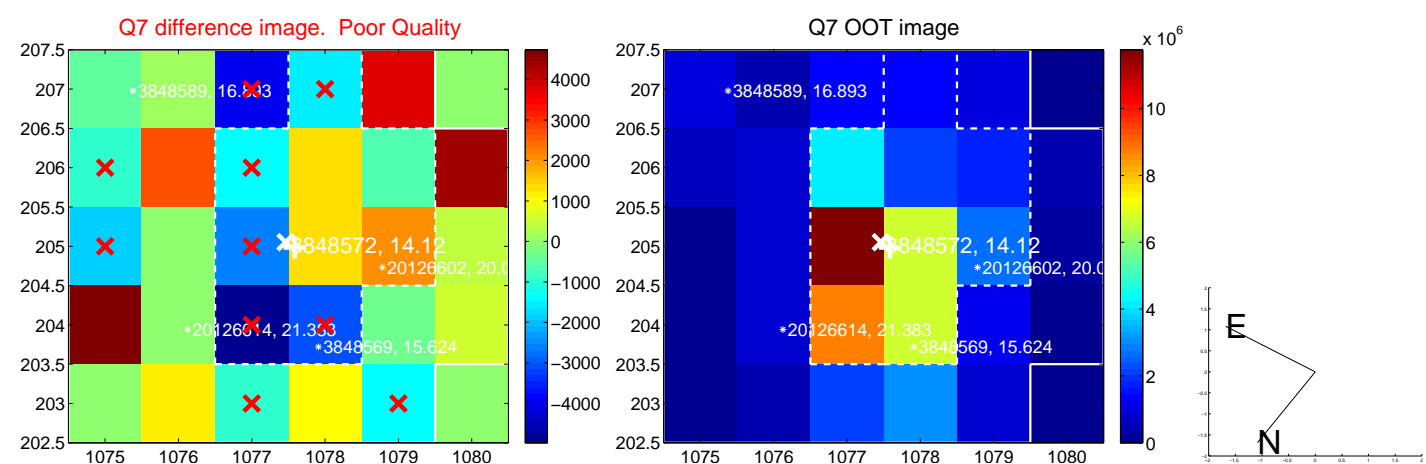
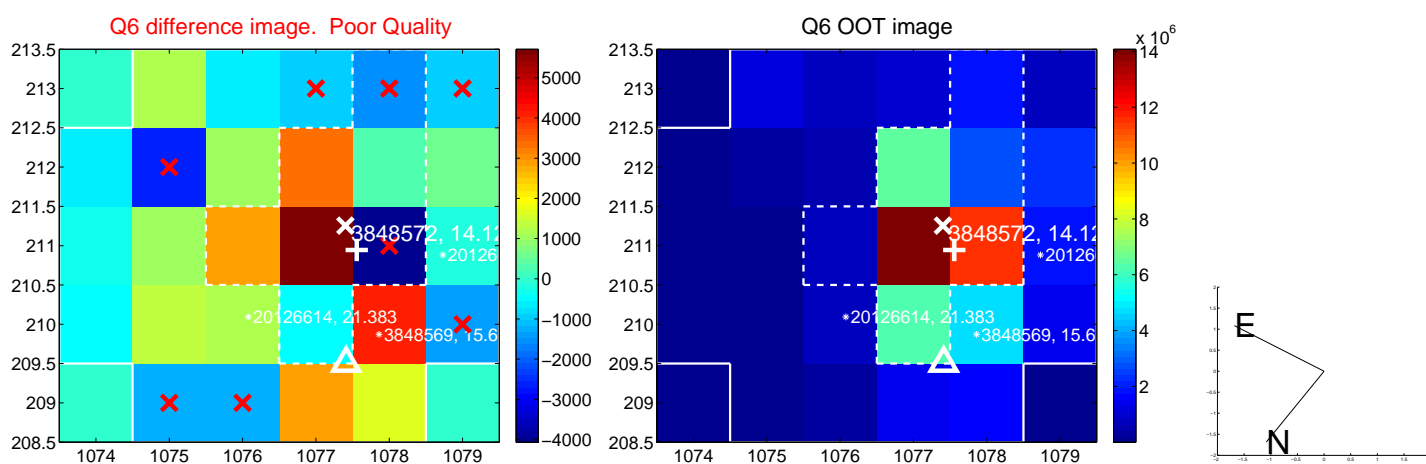
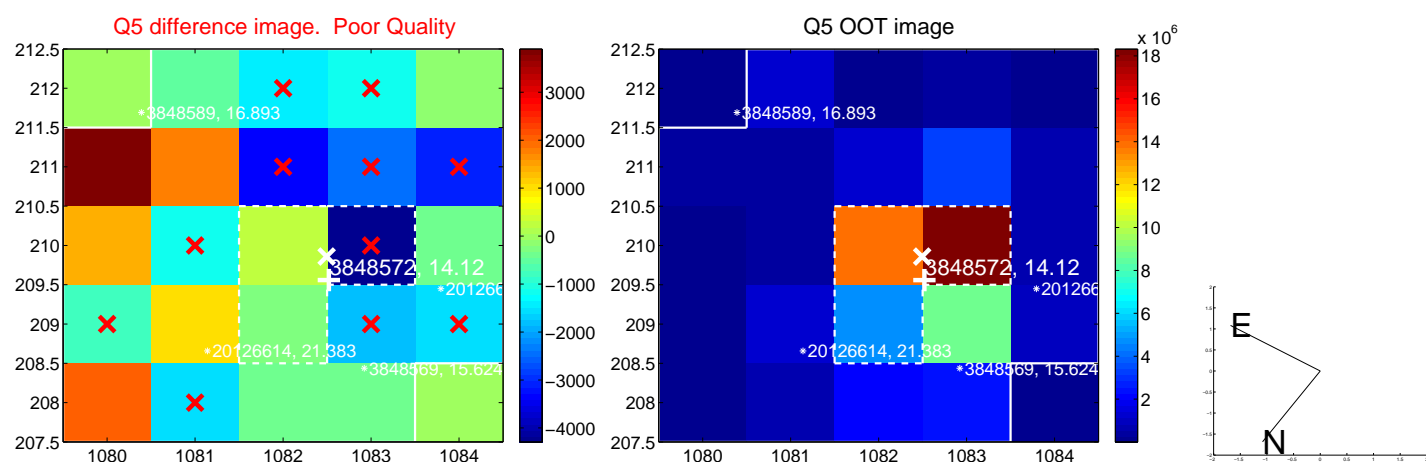


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

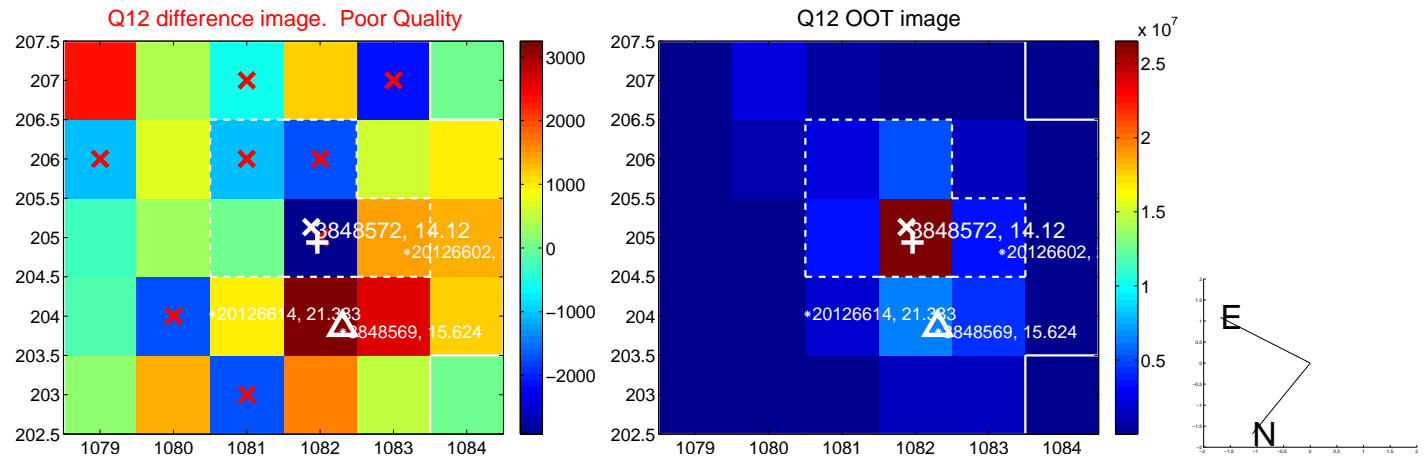
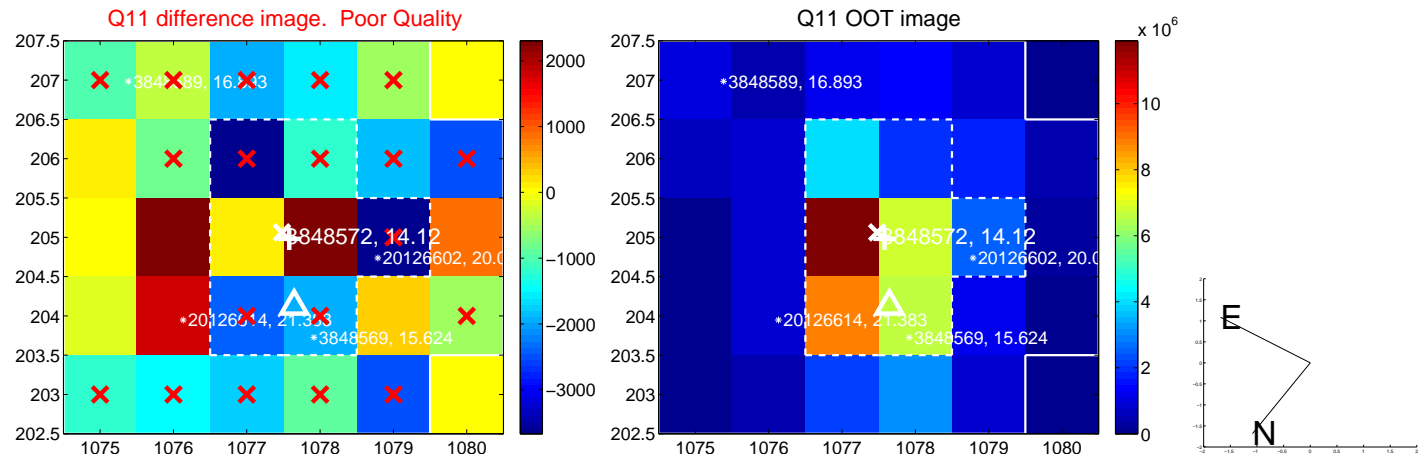
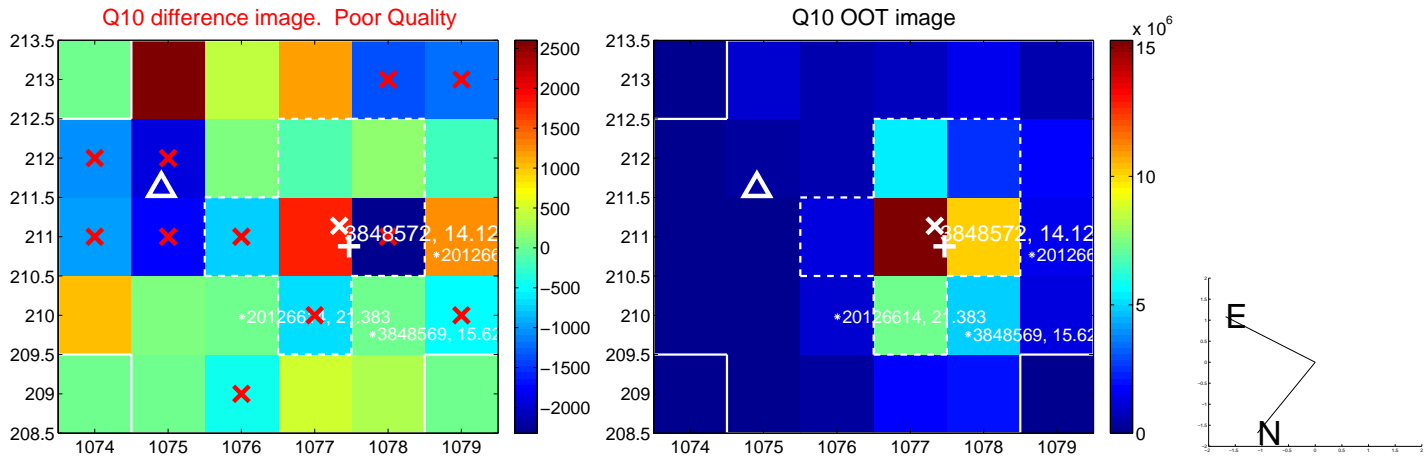
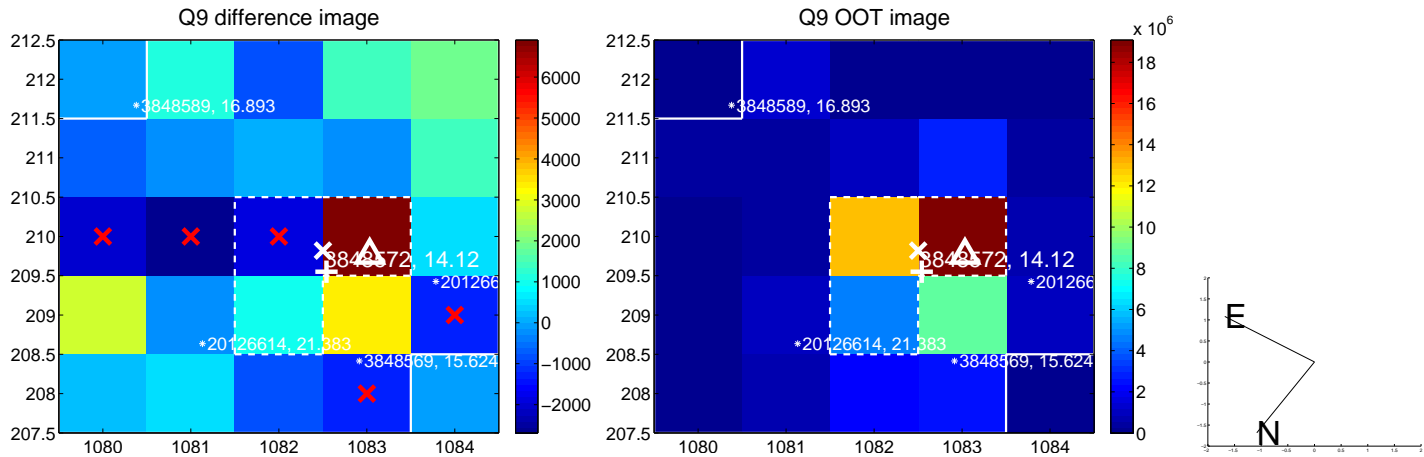
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



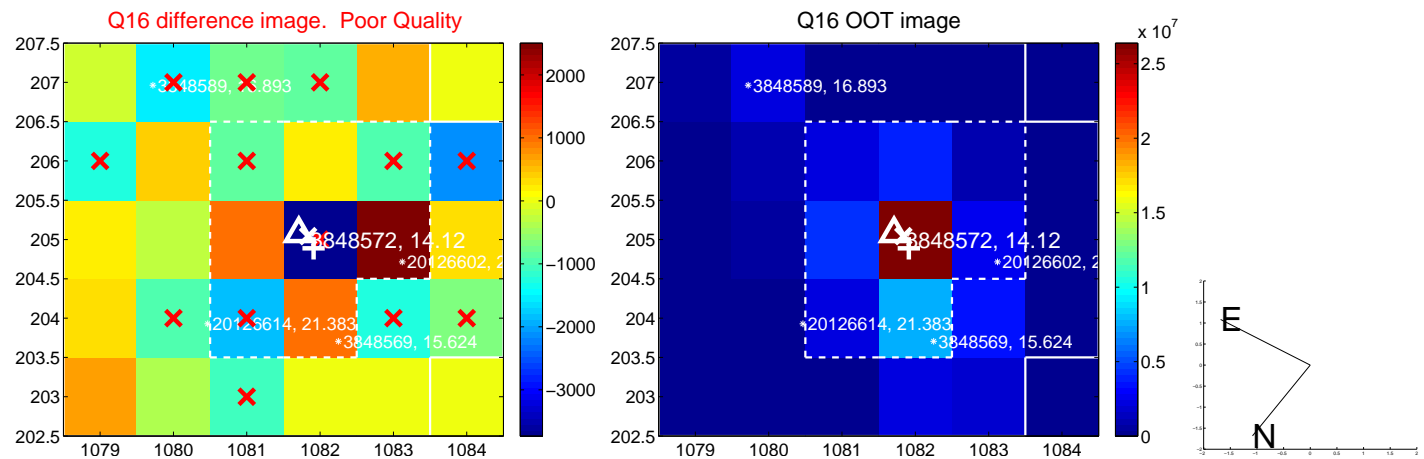
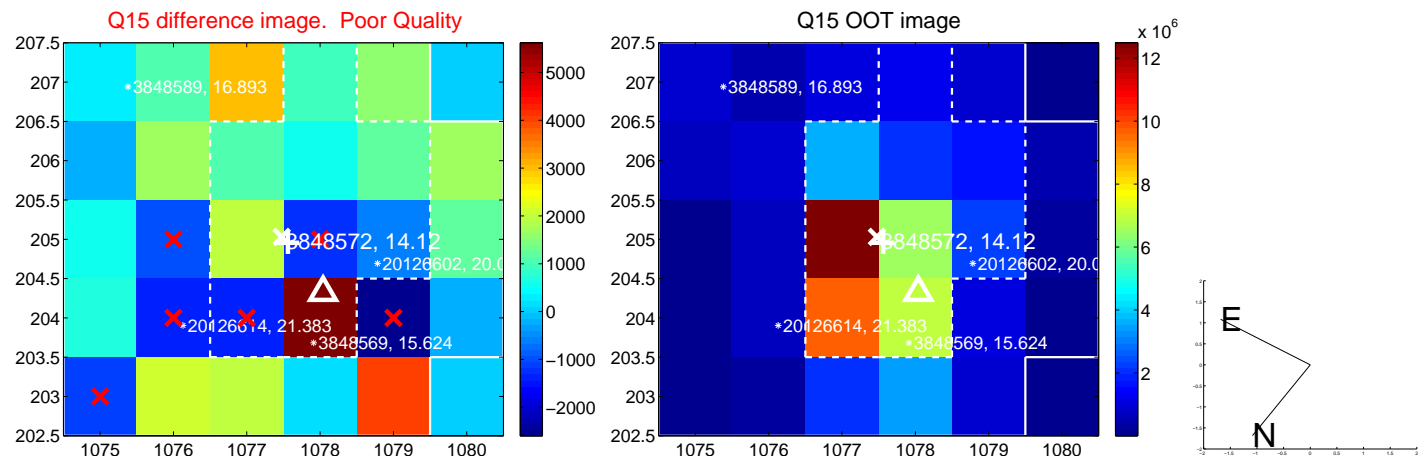
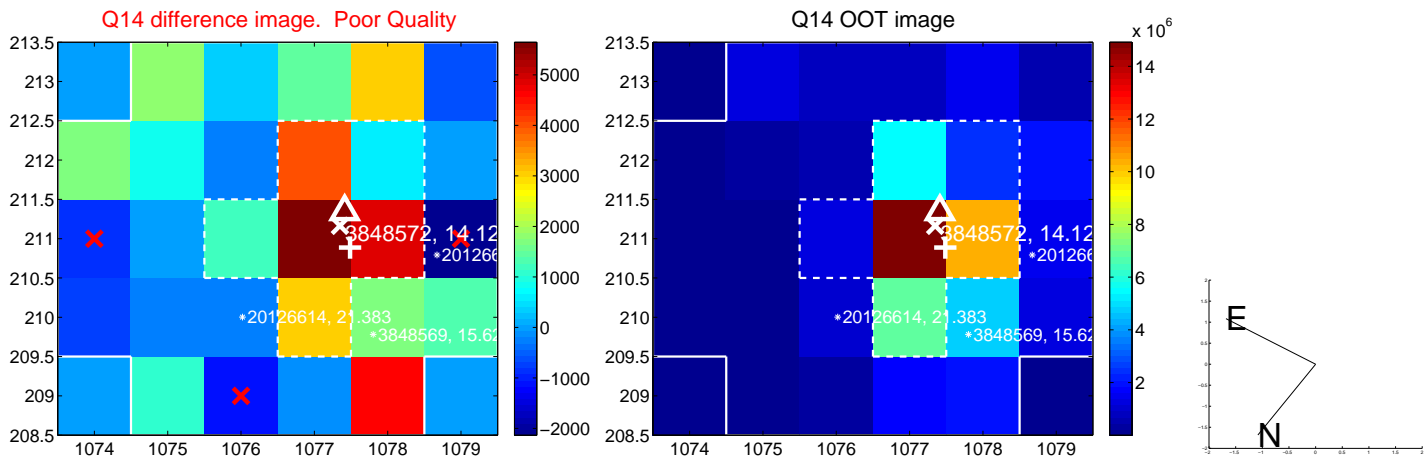
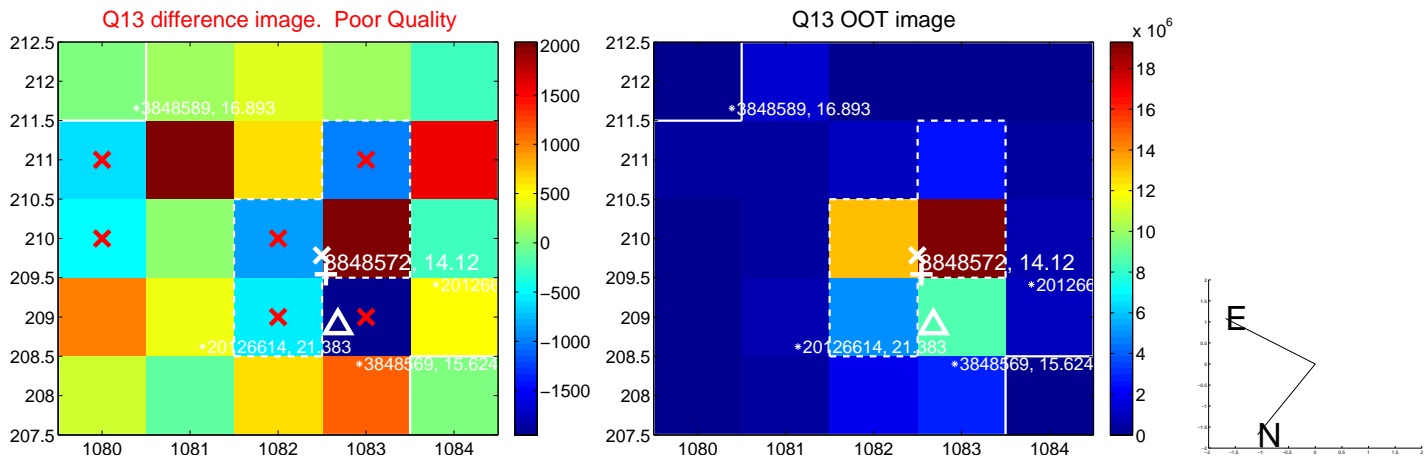
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



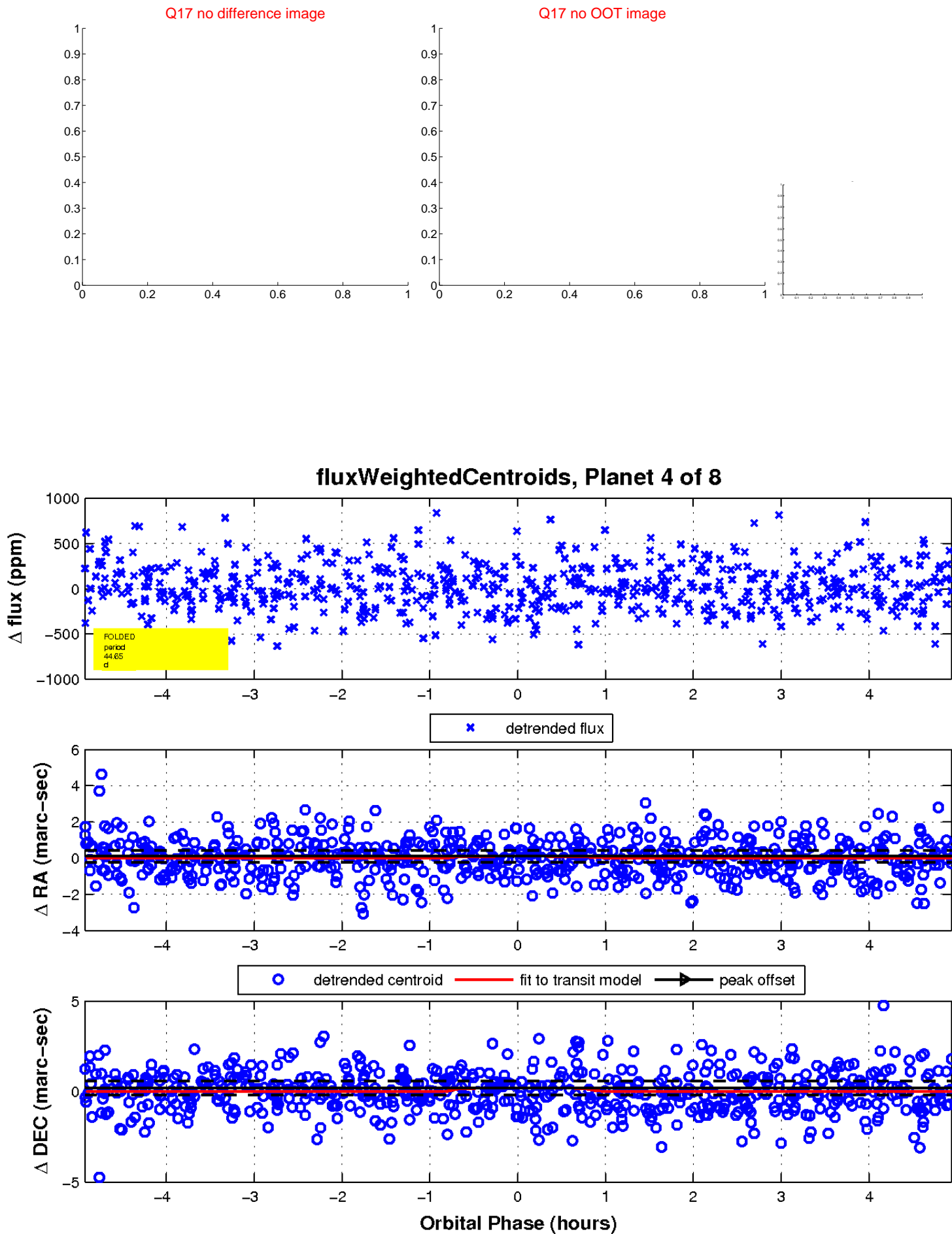
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

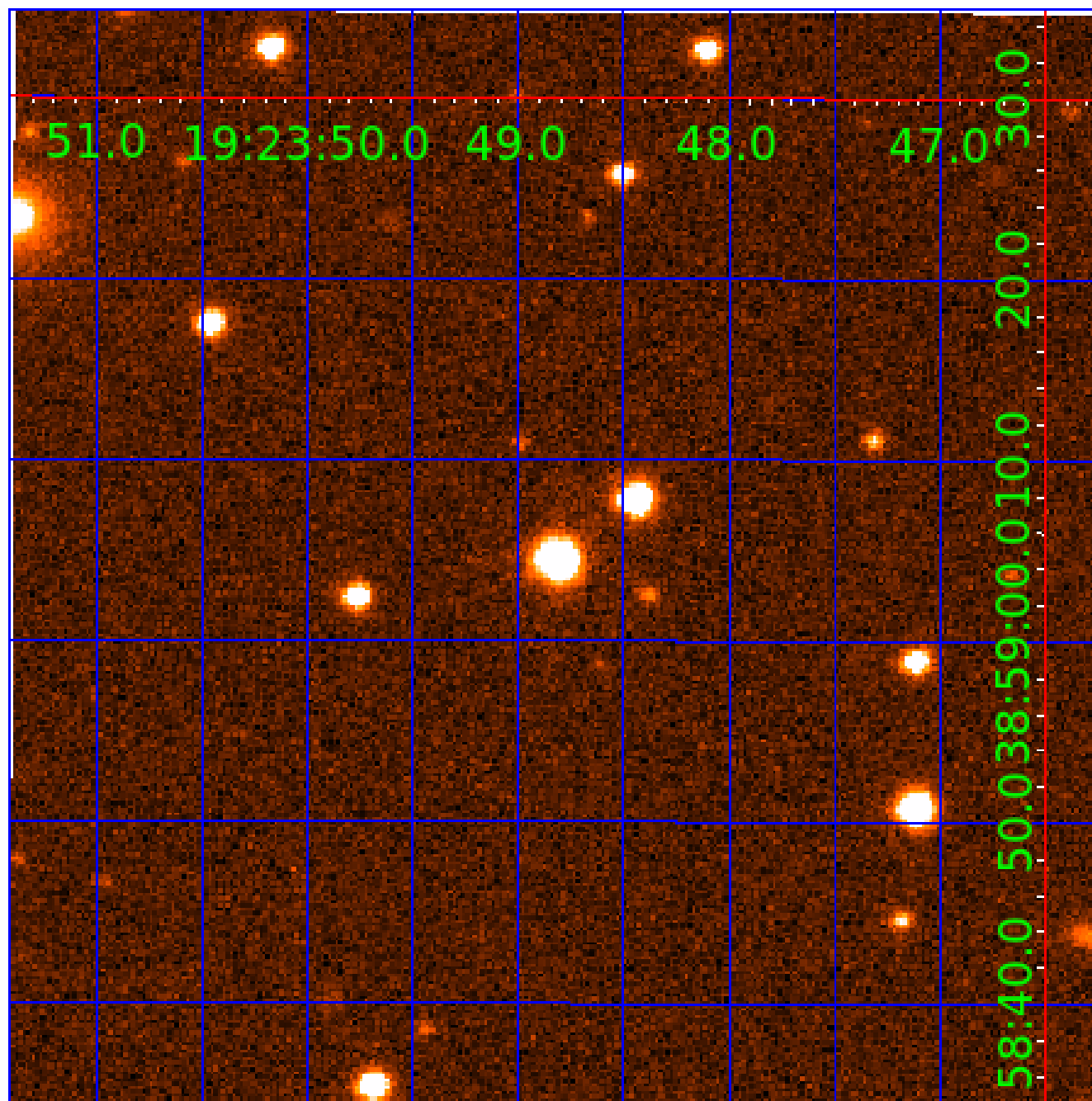


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003848572

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})
003848572-01	OBS	No	2.000255	133.459175	24.6	14.647	7.9	8.6	0.99	5964	0.49	1124.77
003848572-02	OBS	No	16.434441	134.097367	266.8	3.999	14.2	12.8	0.99	5964	1.76	67.84
003848572-03	OBS	No	19.064952	137.878404	298.3	6.444	14.0	14.6	0.99	5964	1.91	55.66
003848572-04	OBS	No	44.646663	163.854428	528.6	1.647	13.6	13.2	0.99	5964	2.27	17.90
003848572-05	OBS	No	42.595759	155.809232	449.6	8.480	12.3	12.1	0.99	5964	4.08	19.06
003848572-06	OBS	No	372.043312	140.463887	330.5	2.559	9.9	10.4	0.99	5964	2.15	1.06
003848572-07	OBS	No	29.425177	160.784434	672.3	1.107	11.3	11.7	0.99	5964	2.57	31.20
003848572-08	OBS	No	29.841435	157.971575	404.4	1.199	9.7	9.7	0.99	5964	2.12	30.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003848572-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

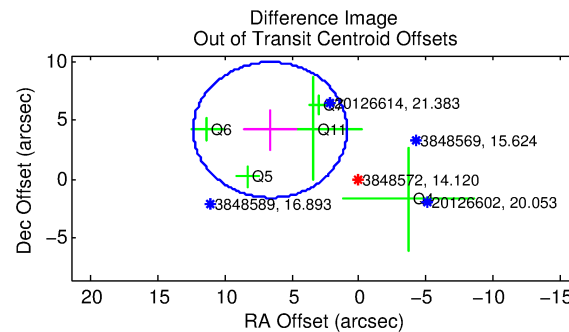
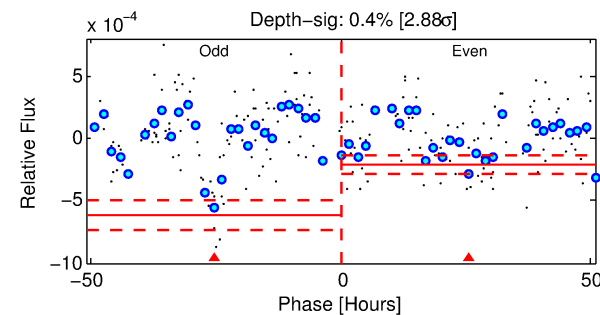
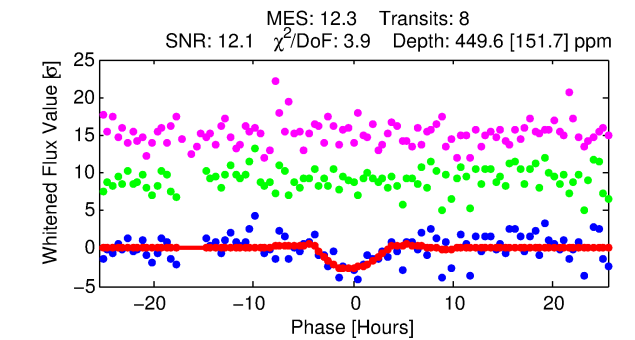
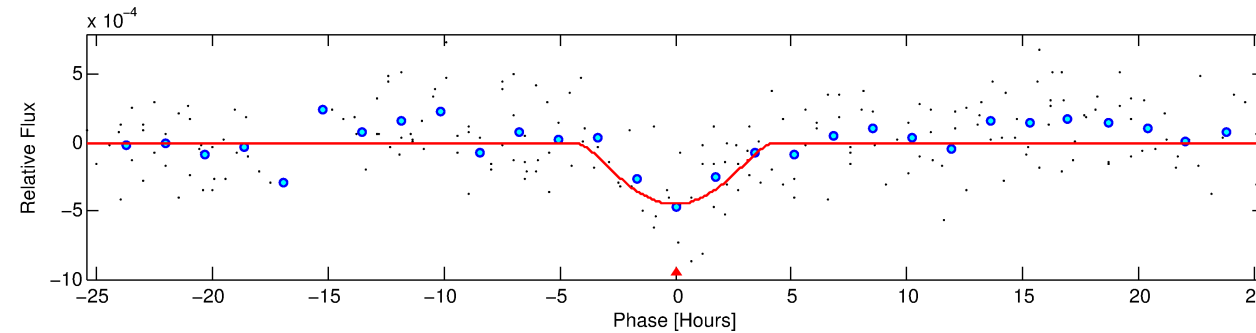
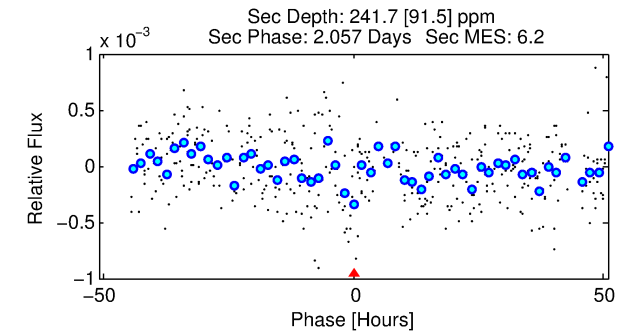
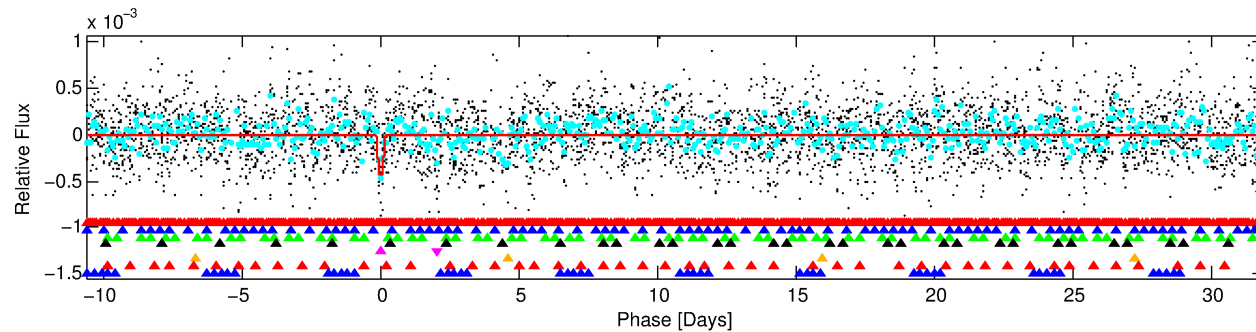
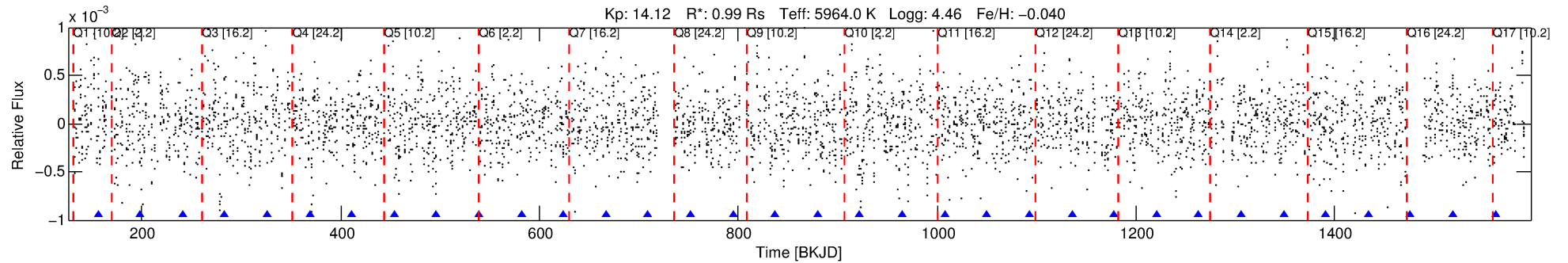
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-05

No Significant Match Found

DV One-Page Summary

KIC: 3848572 Candidate: 5 of 8 Period: 42.596 d



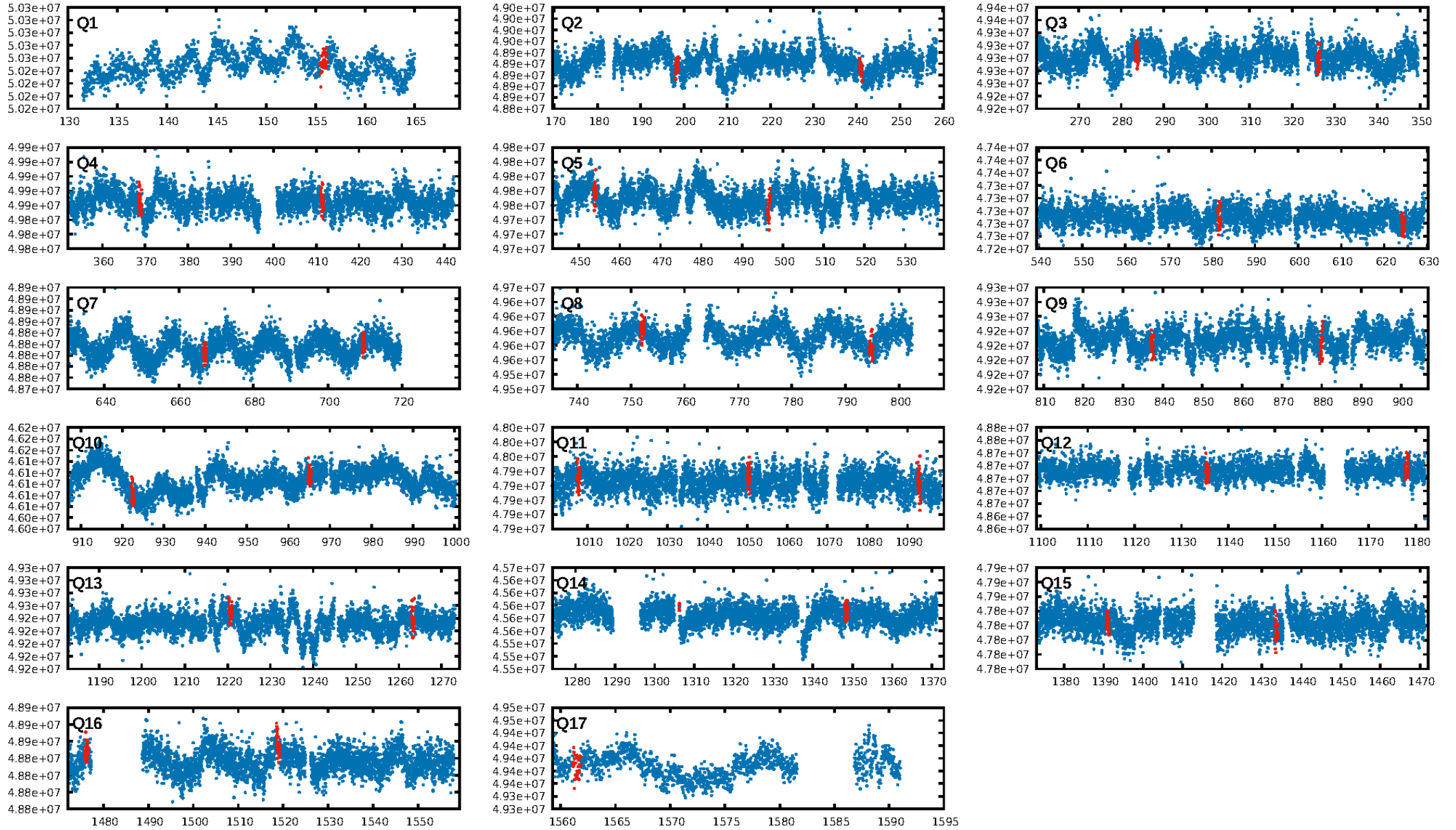
DV Fit Results:

Period = 42.59576 [0.00173] d
Epoch = 155.8092 [0.0306] BKJD
Rp/R* = 0.0378 [0.1800]
a/R* = 10.85 [13.16]
b = 1.00 [0.27]
Seff = 19.06 [7.85]
Teff = 533 [55] K
Rp = 4.08 [19.47] Re
a = 0.2412 [0.0640] AU
Ag = 465.10 [4437.65] [0.10 σ]
Teffp = 3825 [9118] K [0.36 σ]

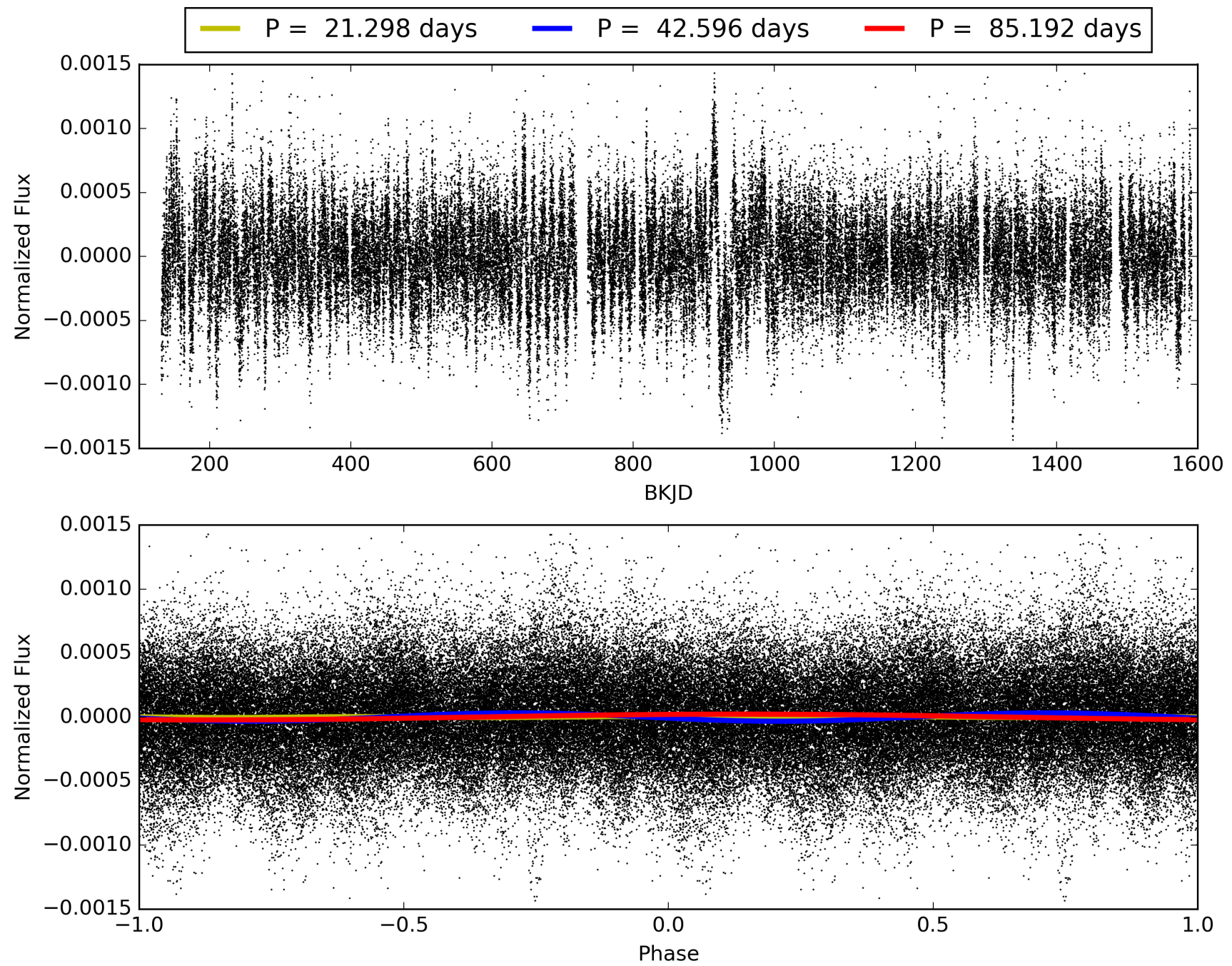
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.74 σ]
LongPeriod-sig: 100.0% [5.70 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.1025
Centroid-sig: 1.7%
Centroid-so: 1.116 arcsec [2.26 σ]
OotOffset-rm: 7.839 arcsec [4.10 σ]
KicOffset-rm: 7.498 arcsec [4.40 σ]
OotOffset-st: 1/2/1/1 [5]
KicOffset-st: 1/2/1/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.00 [0/16]

TCE 003848572-05, PDC Light Curves

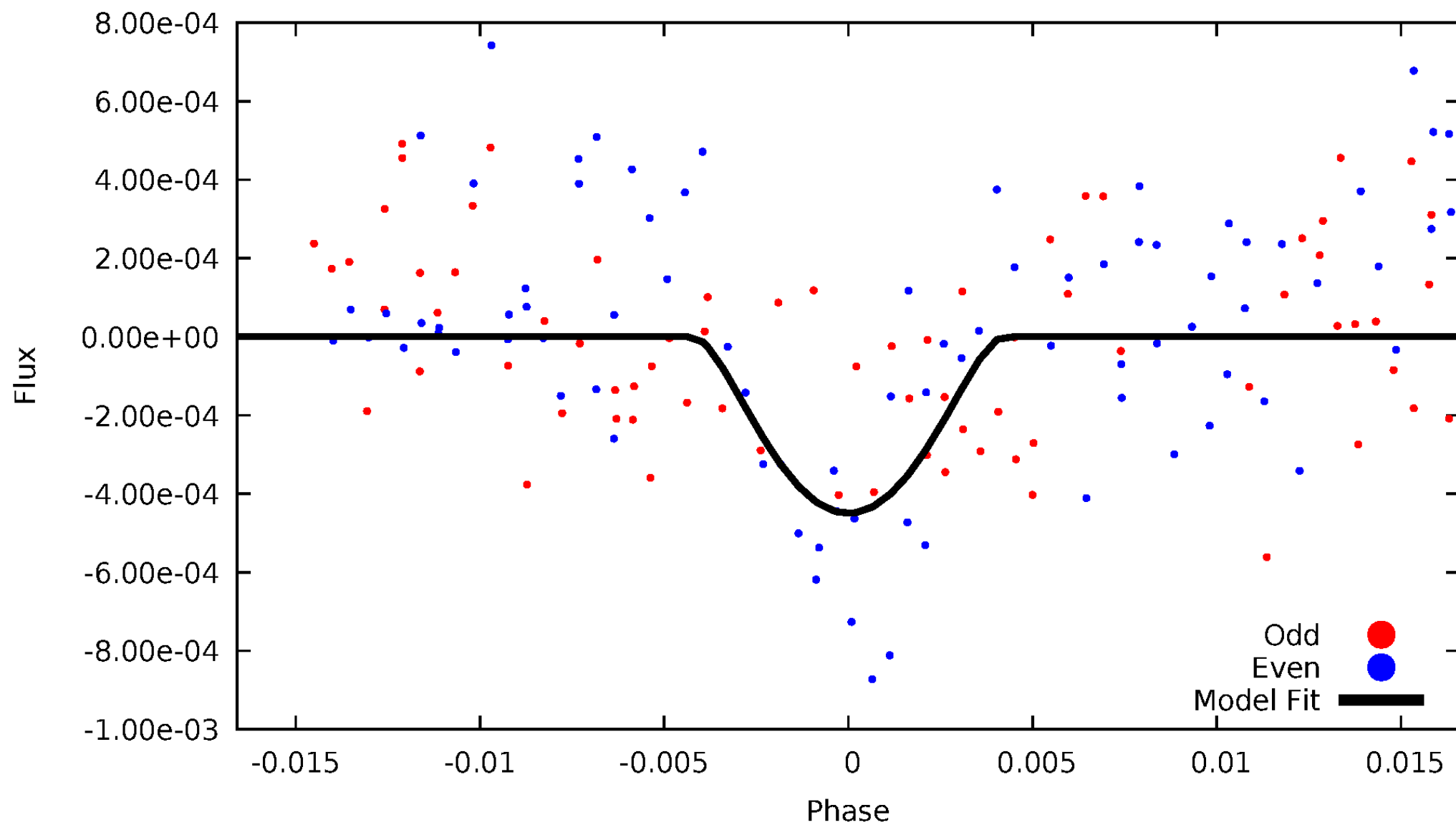


TCE 003848572-05



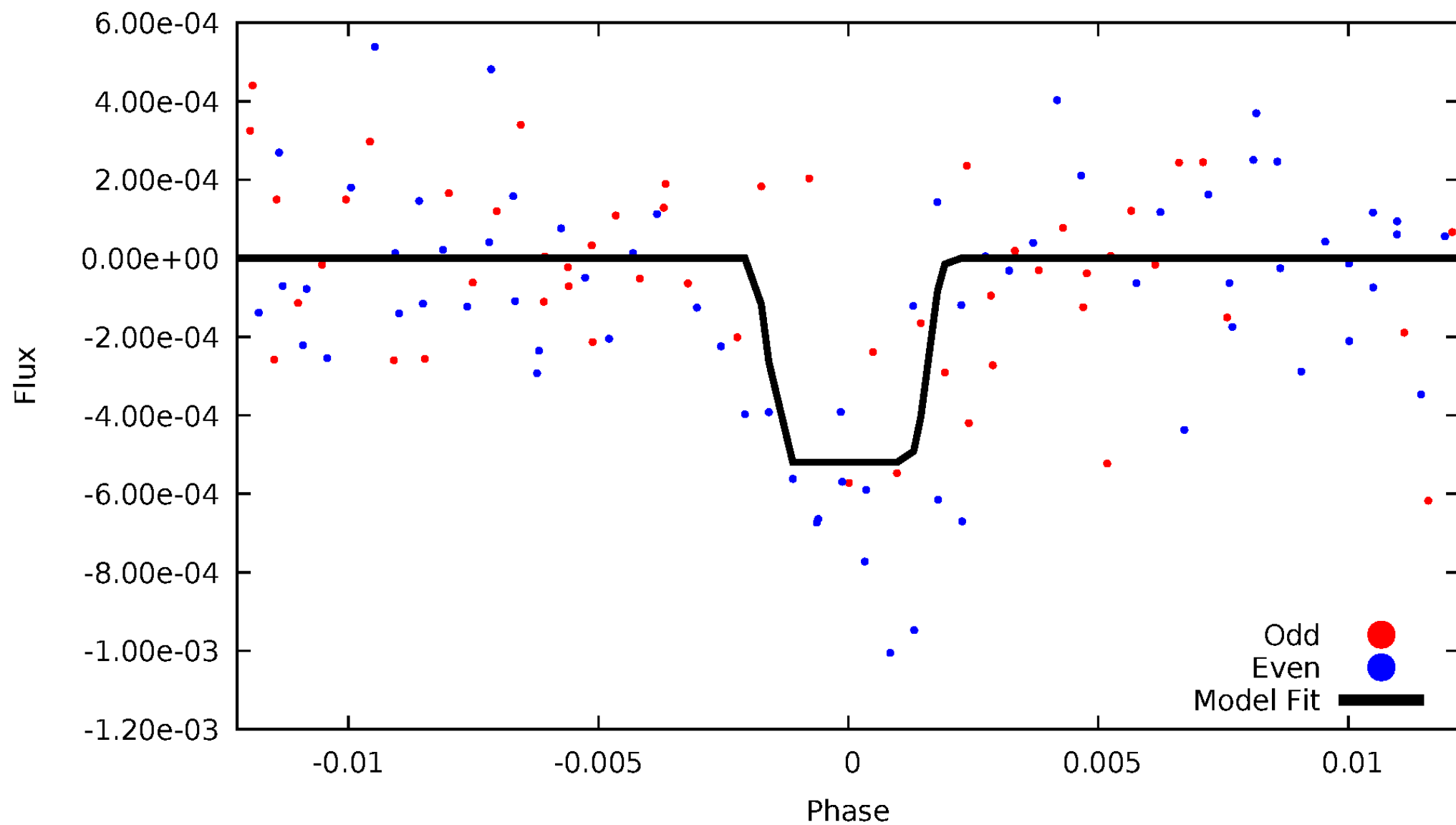
DV Odd/Even

TCE 003848572-05



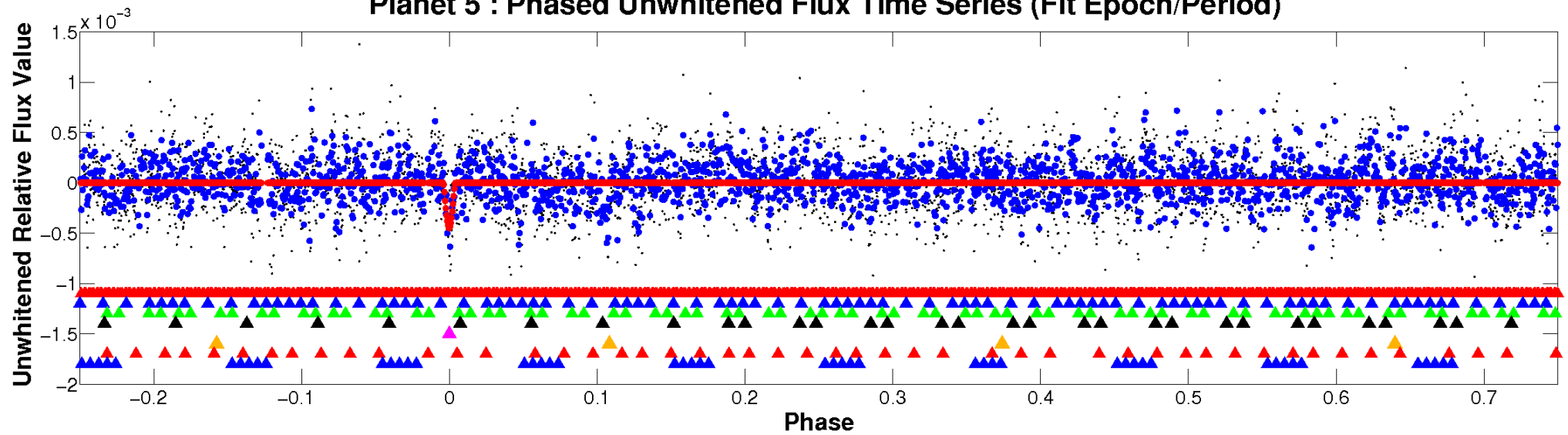
ALT Odd/Even

TCE 003848572-05

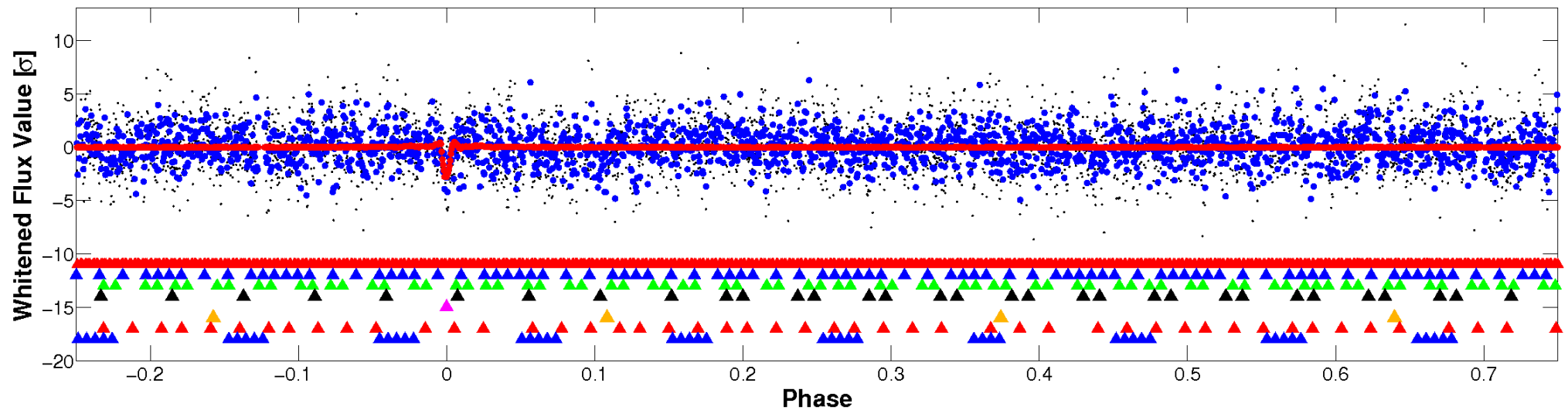


Non-Whitened Vs. Whitened Light Curve

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

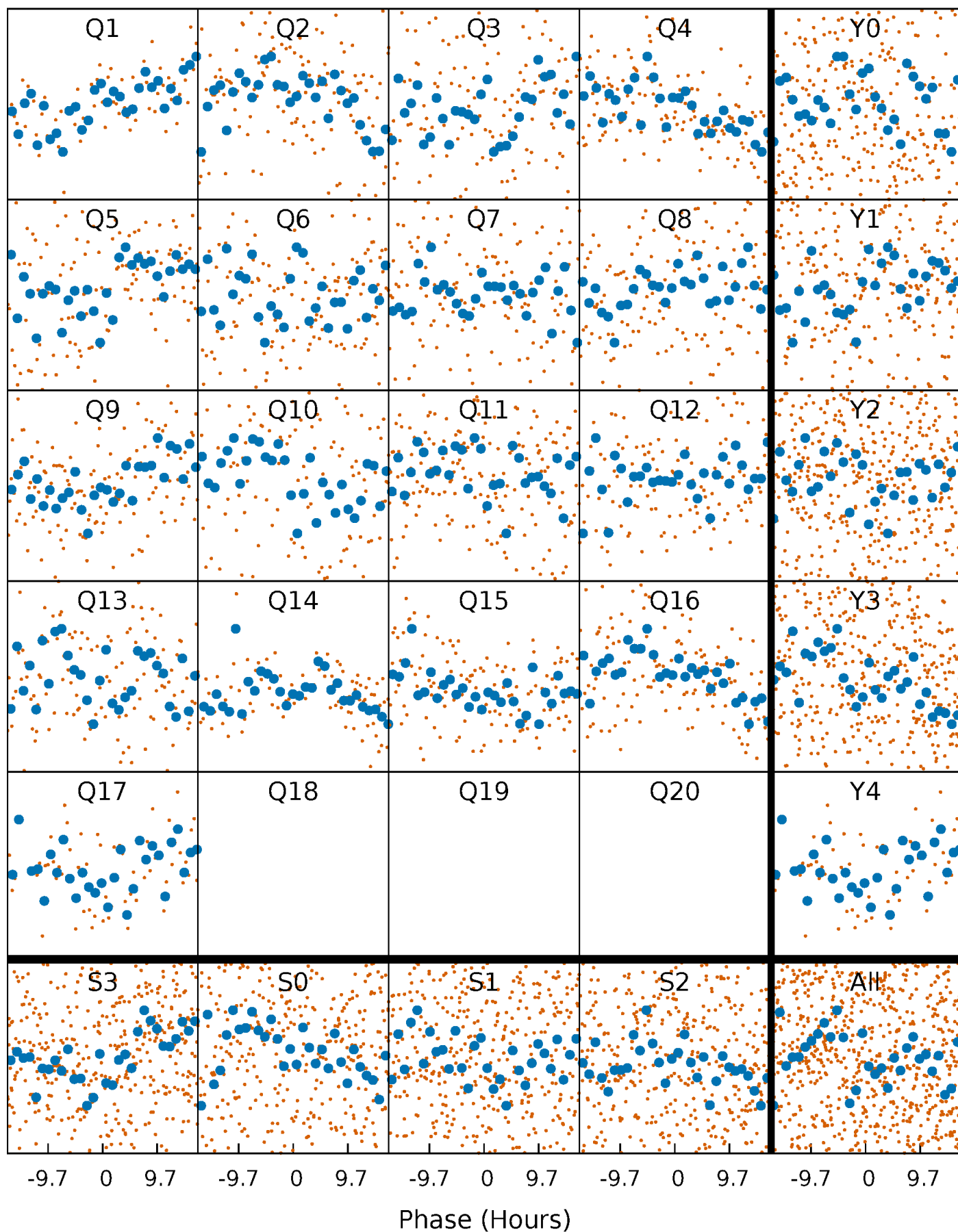


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



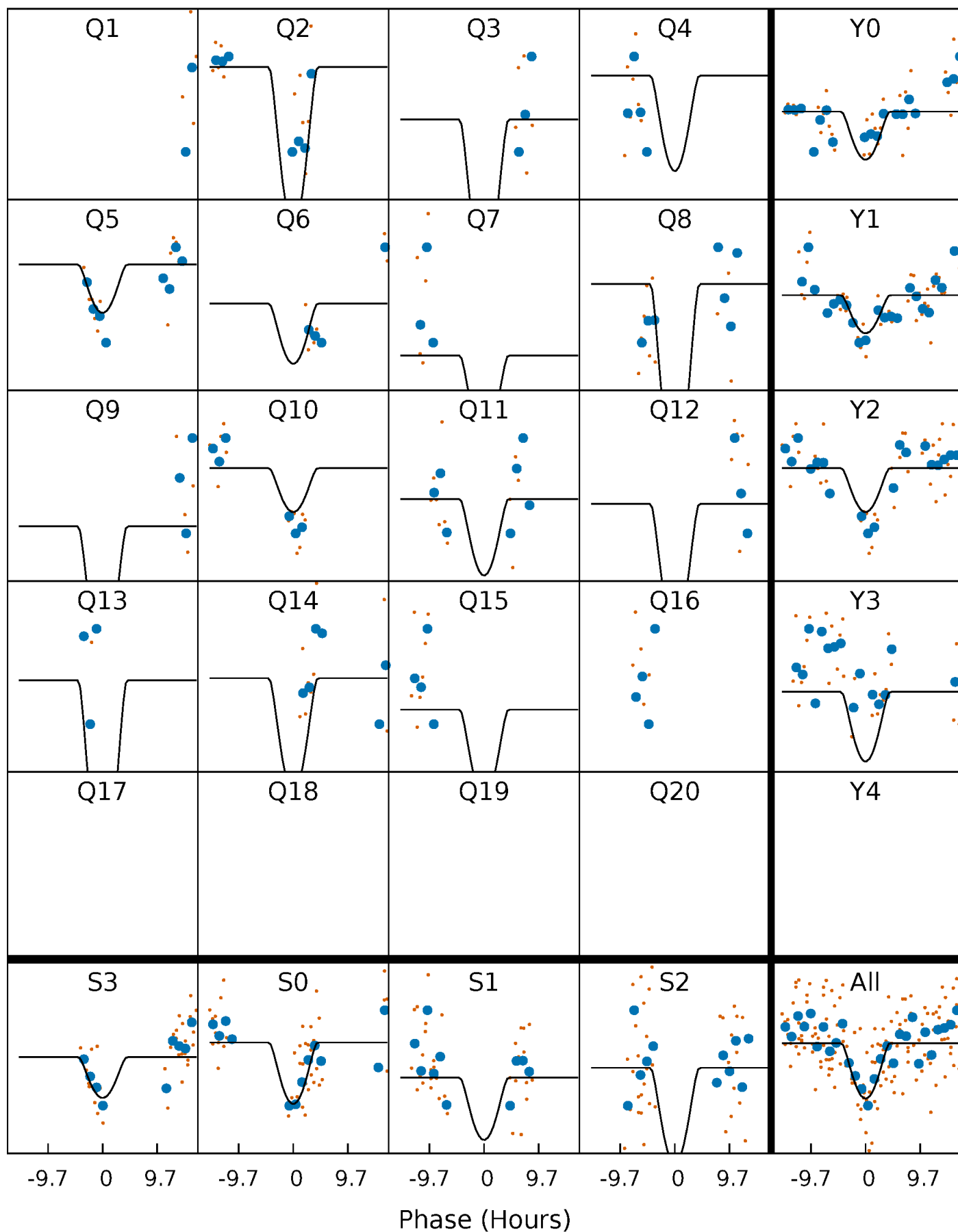
PDC Quarter-Phased Transit Curves

TCE 003848572-05 $P = 42.595759$ Days $T_0 = 155.809232$ (BKJD)



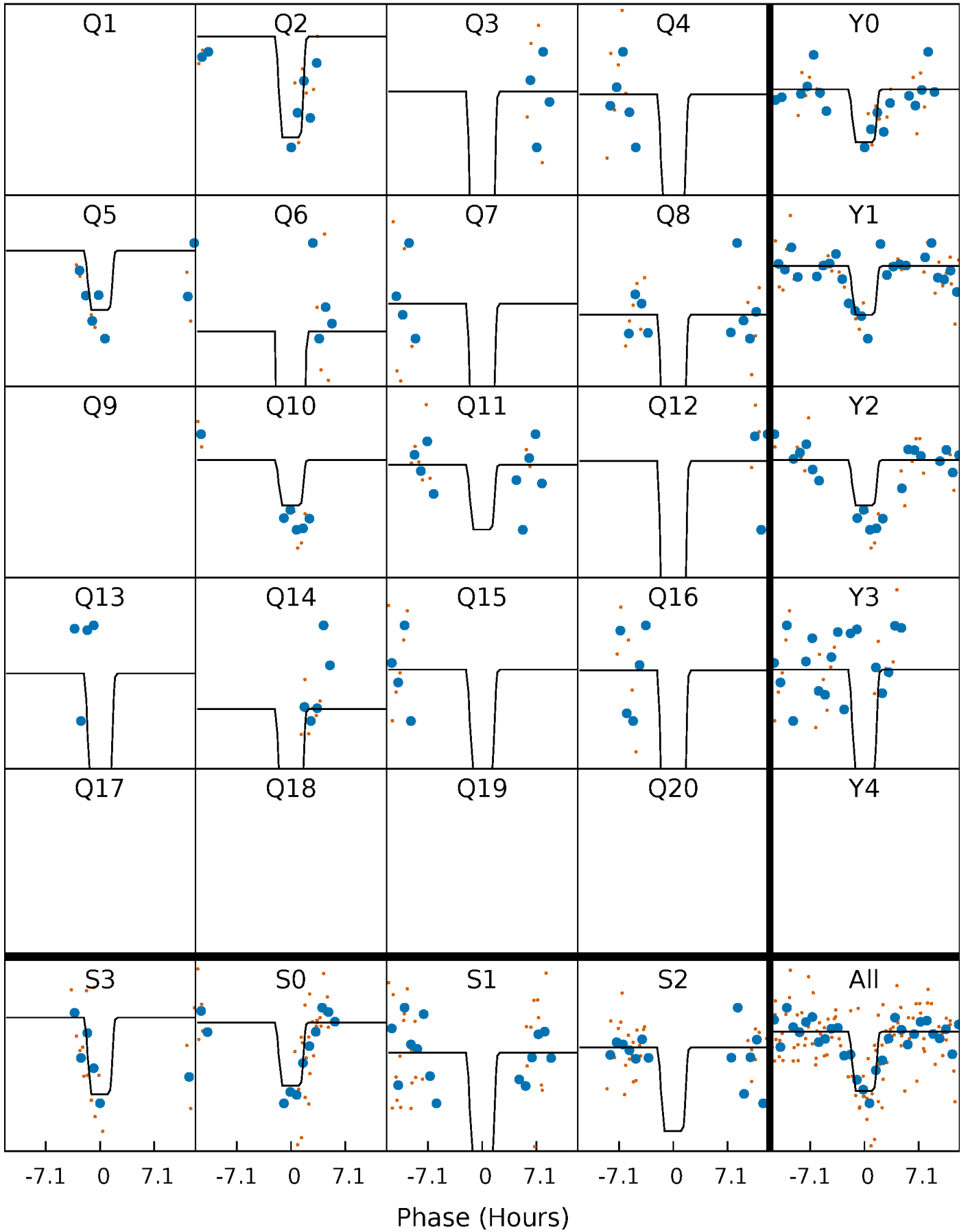
DV Quarter-Phased Transit Curves

TCE 003848572-05 P= 42.595759 Days $T_0=155.809232$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

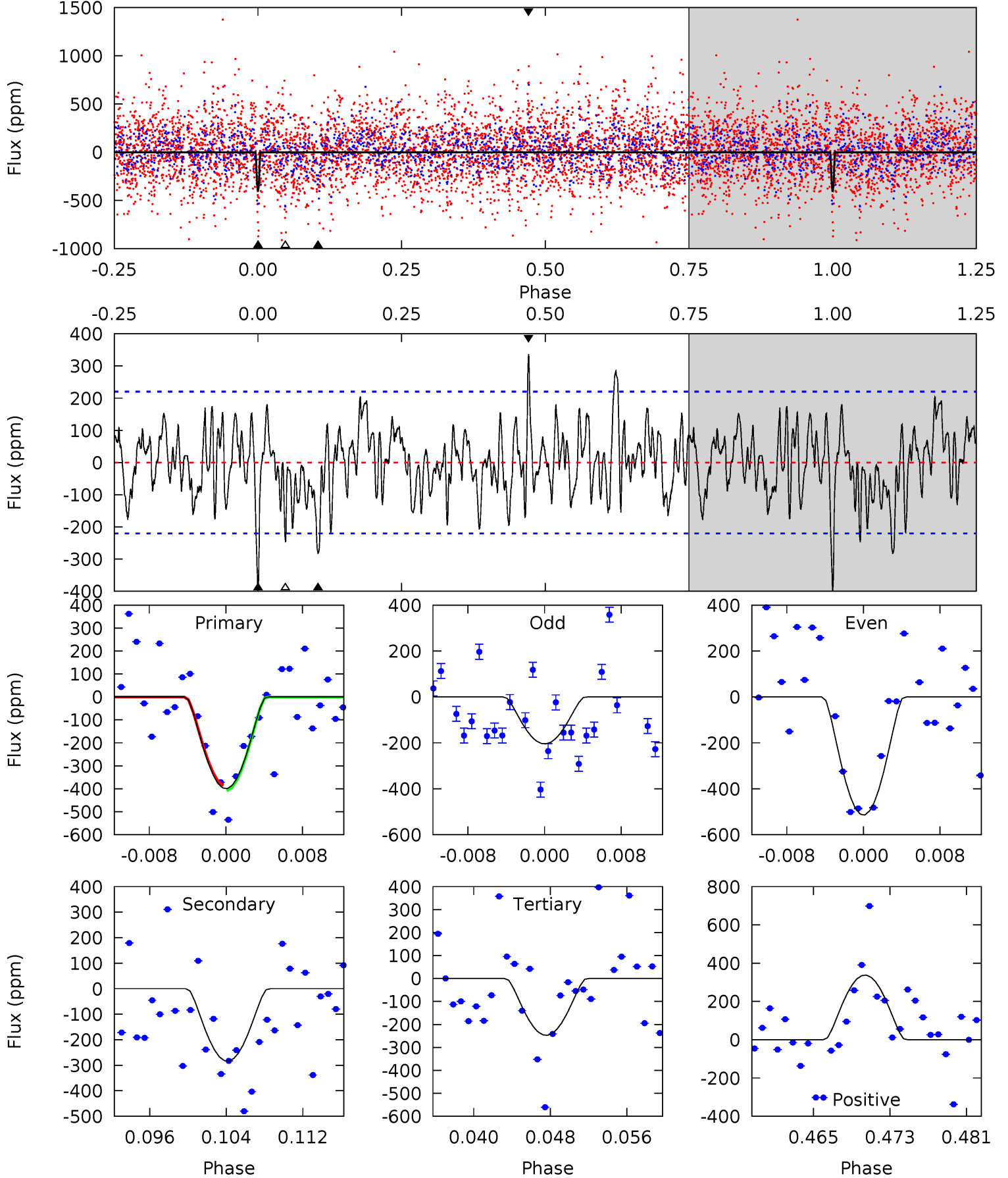
TCE 003848572-05 P= 42.595958 Days $T_0=155.797435$ (BKJD)



DV Model-Shift Uniqueness Test

003848572-05, P = 42.595759 Days, E = 113.213473 Days

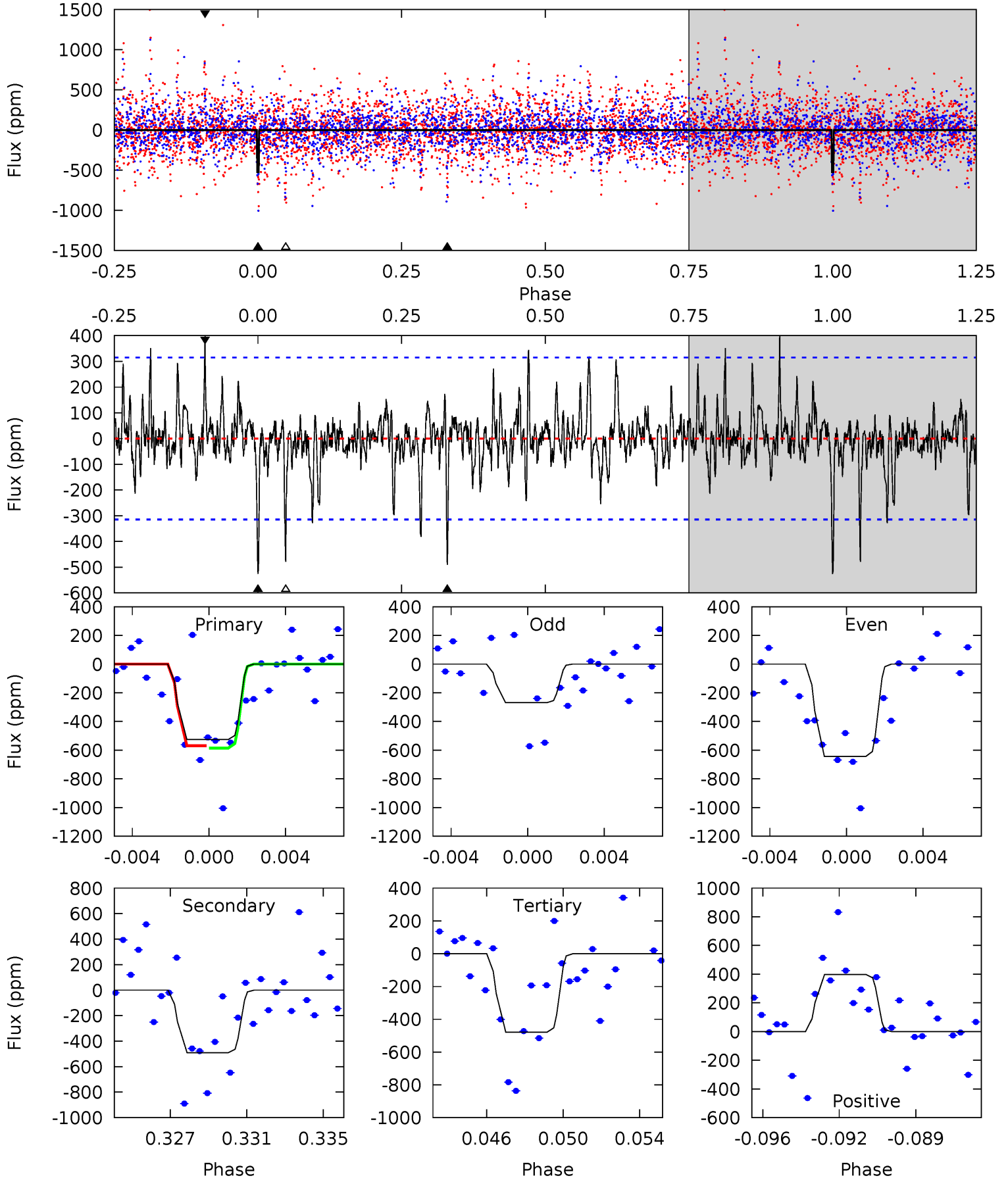
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.18	6.52	5.69	7.76	5.07	2.65	2.08	3.49	1.42	0.83	-1.24	3.57	1.07	0.46	0.24



Alt Model-Shift Uniqueness Test

003848572-05, P = 42.595958 Days, E = 113.201477 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.71	8.12	7.92	6.58	5.21	2.89	1.49	0.79	2.13	0.20	1.54	2.99	0.80	0.43	0.12



Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-283 ± 43	$15.41^{+15.02}_{-10.15}$	758^{+60}_{-39}	2831^{+1093}_{-474}	37^{+280}_{-28}
Alt.	-490 ± 60	$14.64^{+16.33}_{-10.19}$	755^{+57}_{-37}	3076^{+1526}_{-556}	72^{+742}_{-57}

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

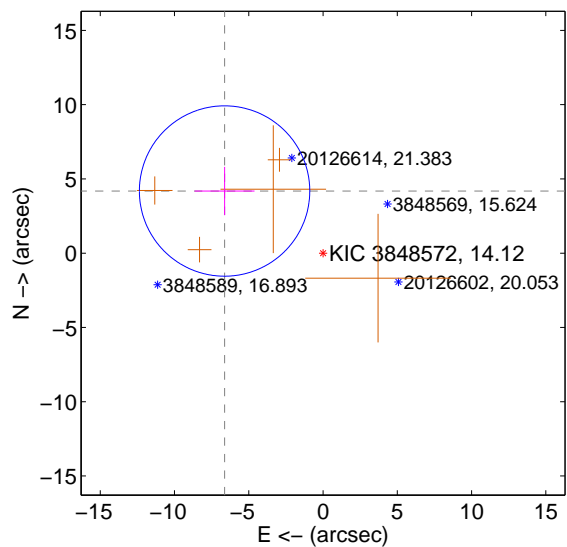
Supplemental centroid analysis for 003848572-05. Kepler magnitude: 14.12. Transit SNR 12.11

There are 0 quarters with good PRF difference image offsets

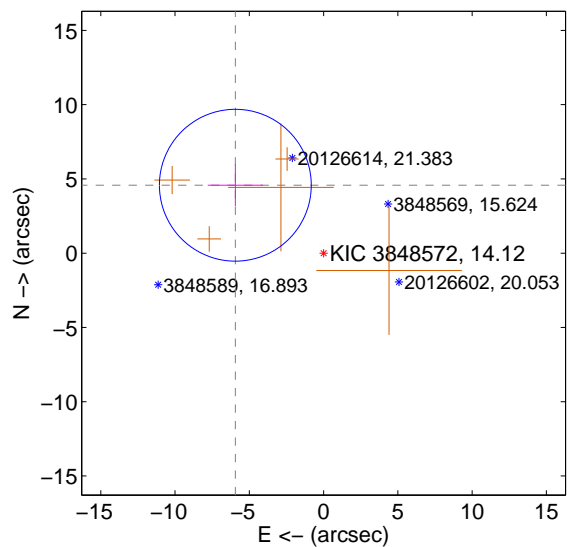
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.839 ± 1.912	4.10	6.629 ± 2.014	4.185 ± 1.626
PRF-fit source offset from KIC position	7.498 ± 1.704	4.40	5.941 ± 1.856	4.575 ± 1.411
photometric centroid source offset	1.12 ± 0.49	2.26	-0.23 ± 0.45	1.09 ± 0.50

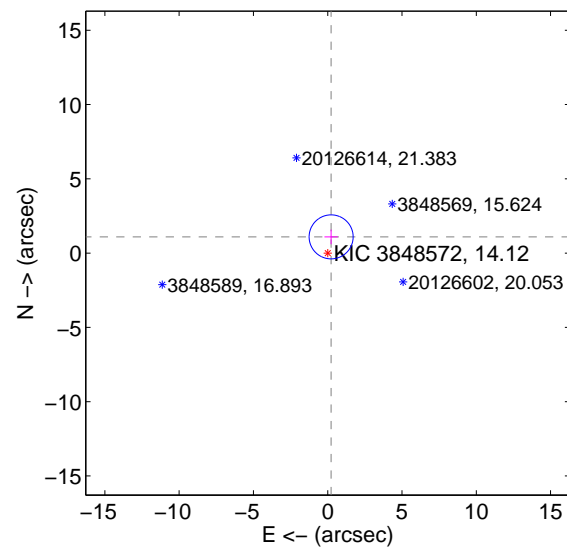
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

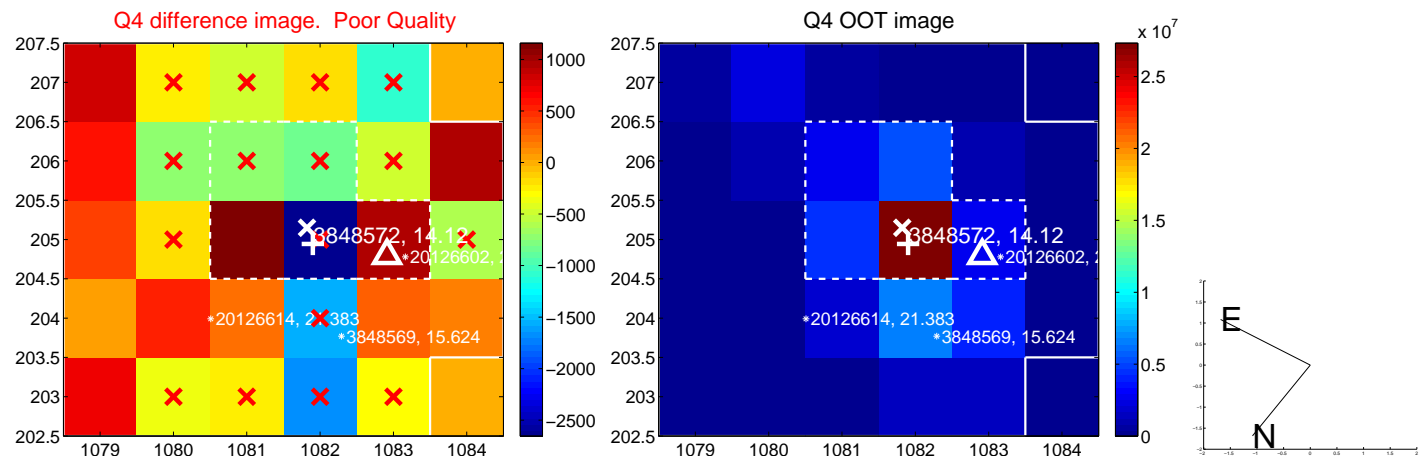
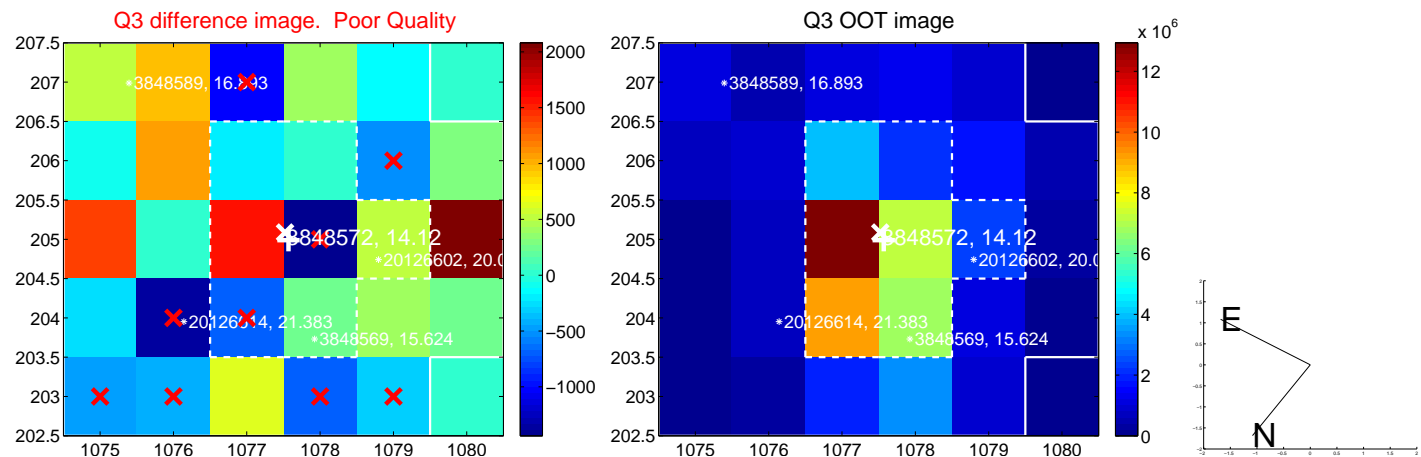
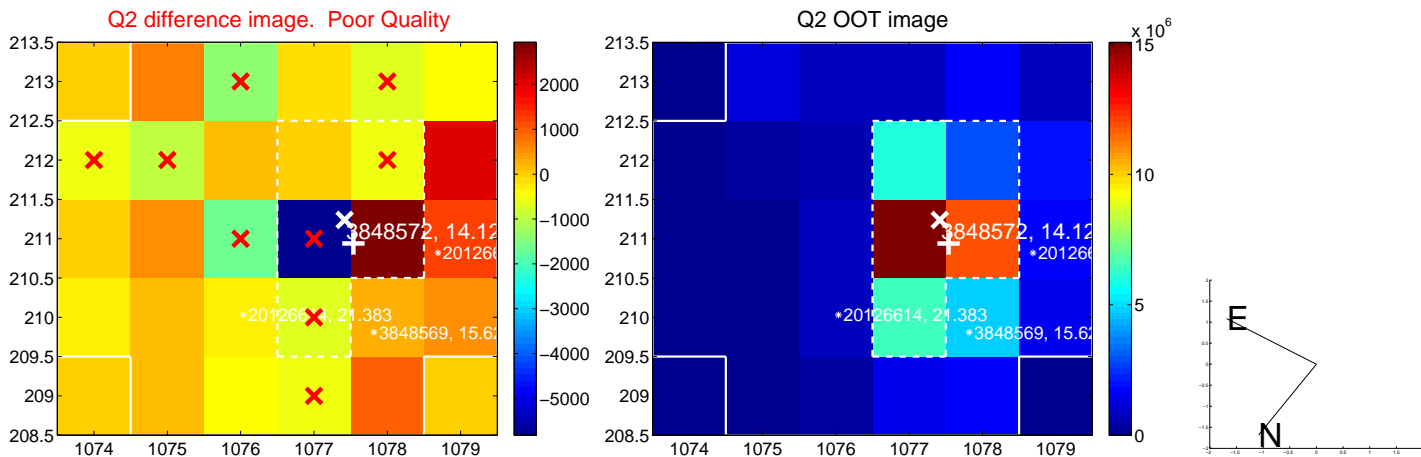
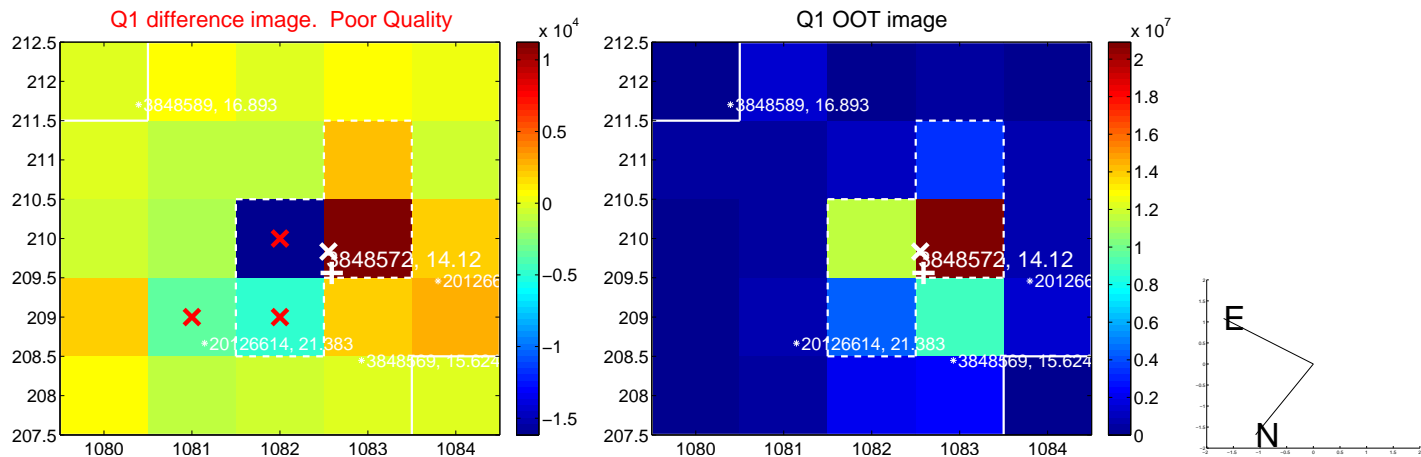


offset from photometric centroids

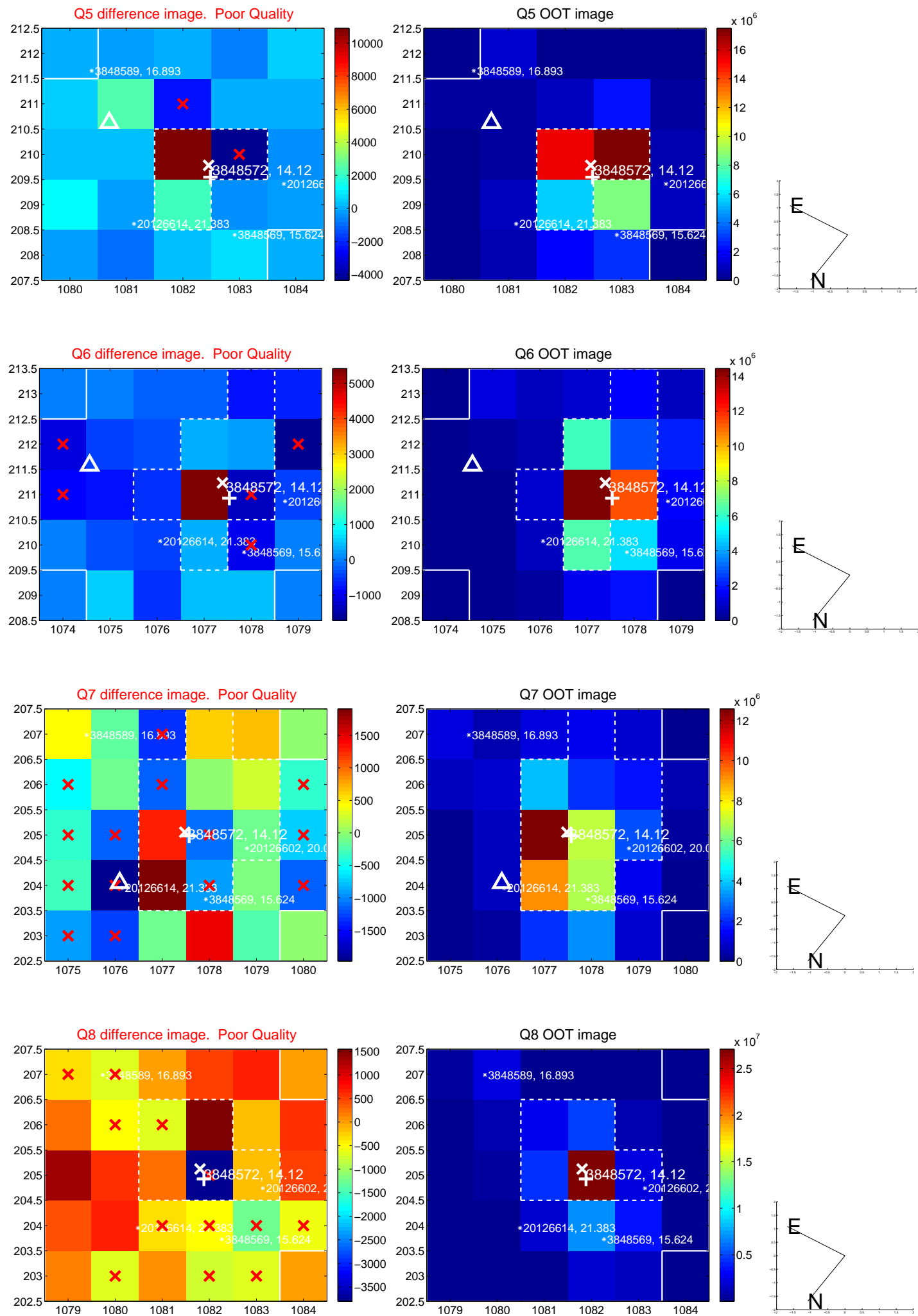


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

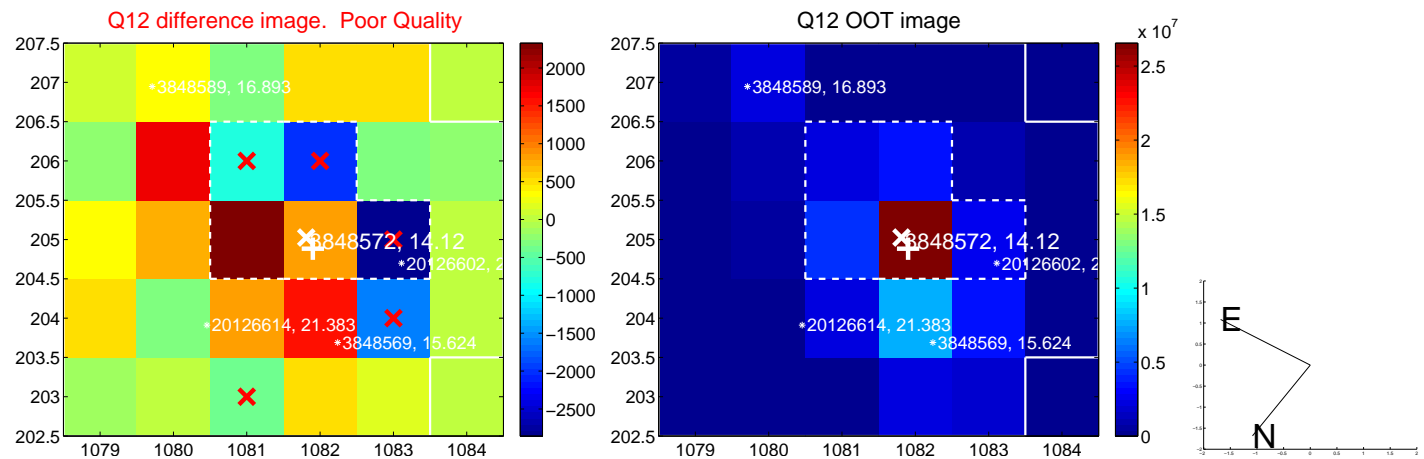
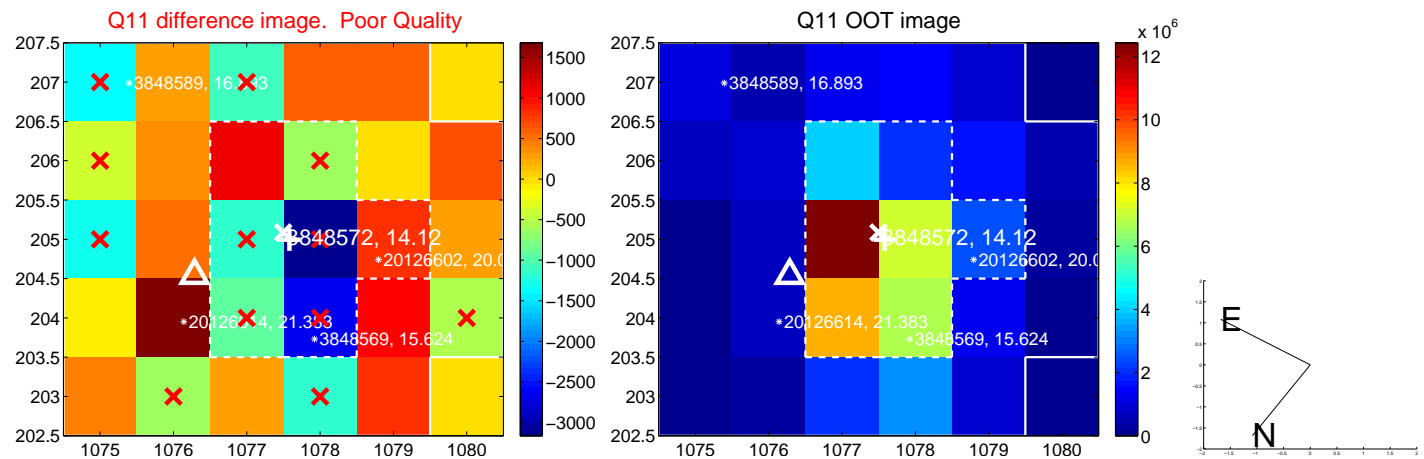
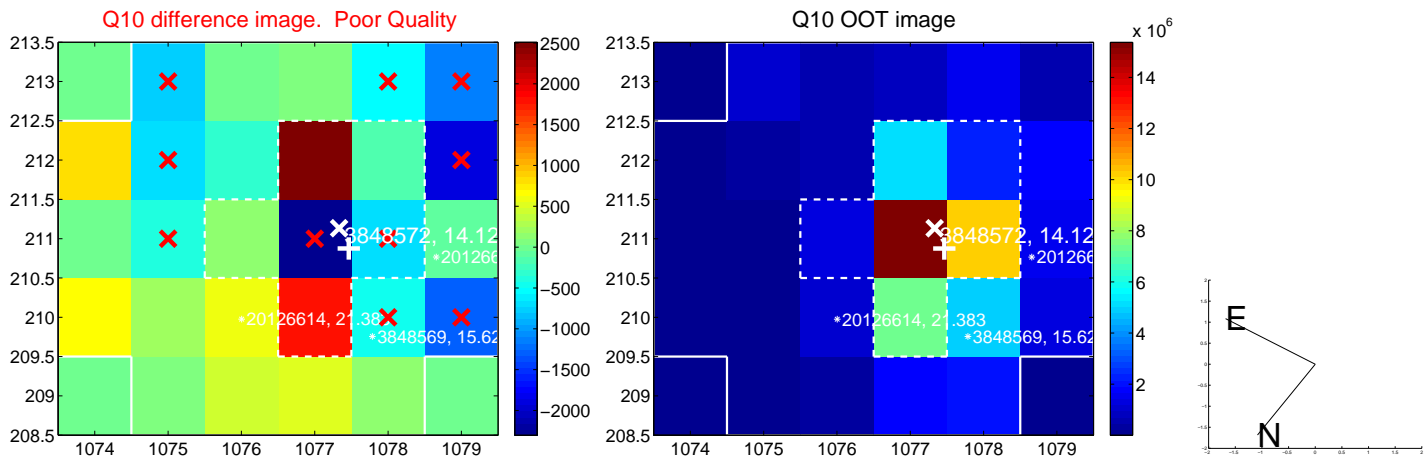
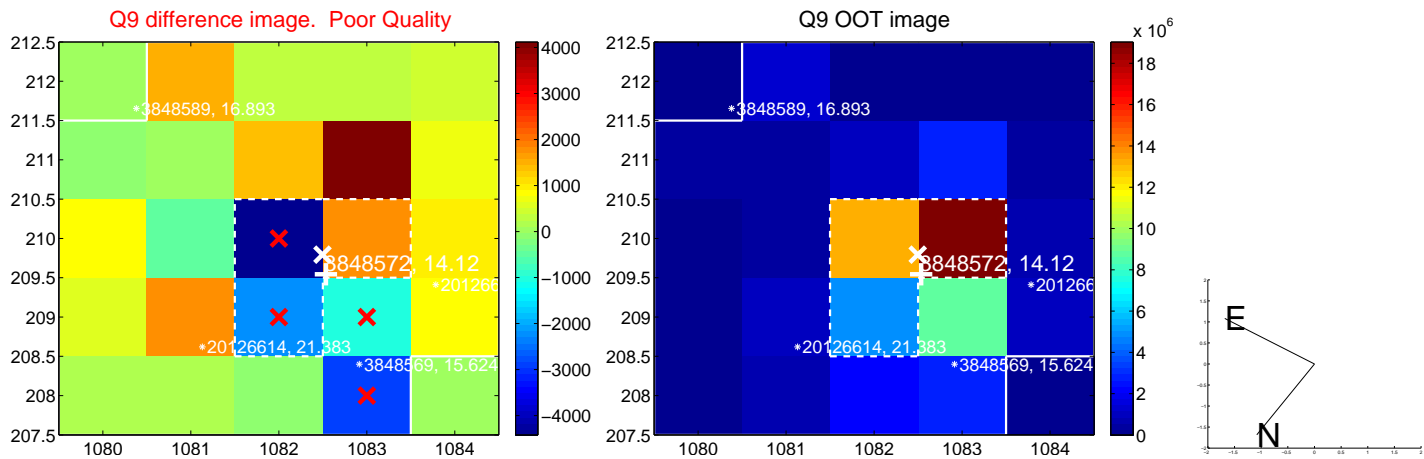
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



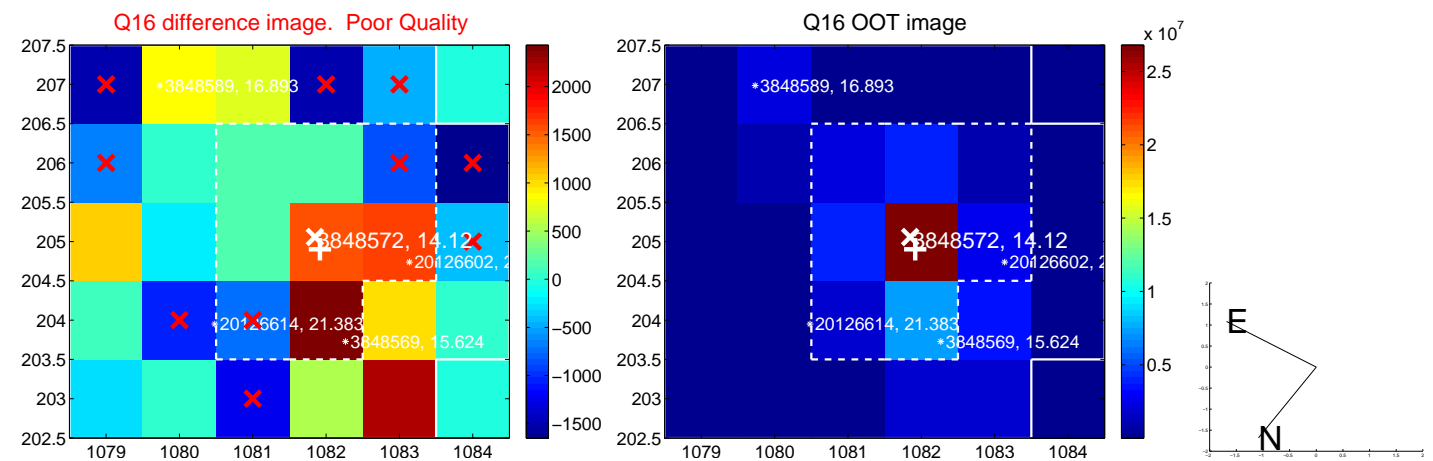
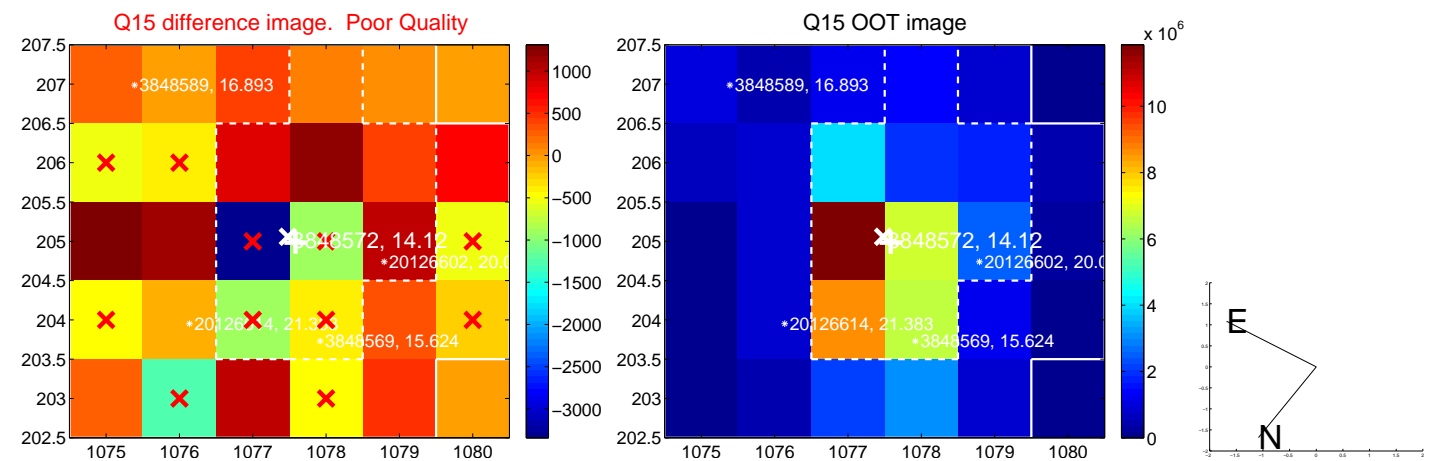
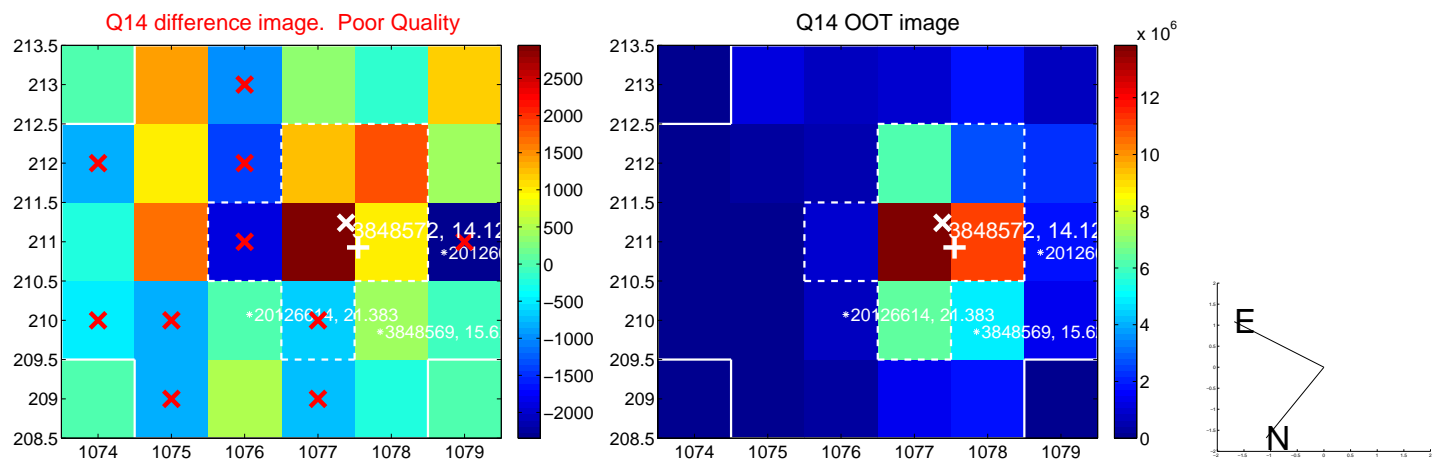
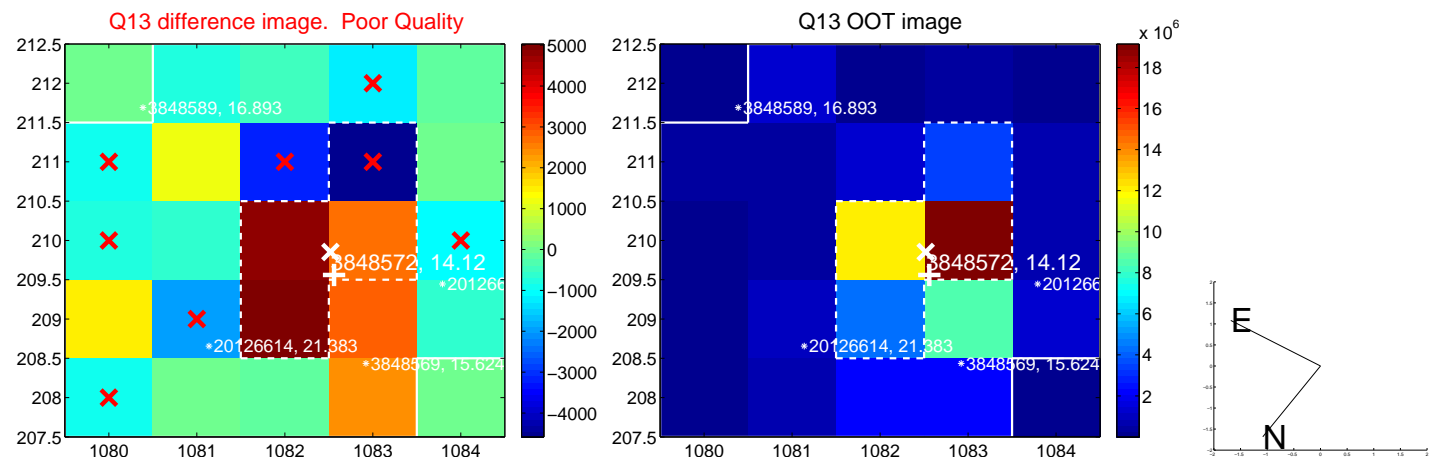
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



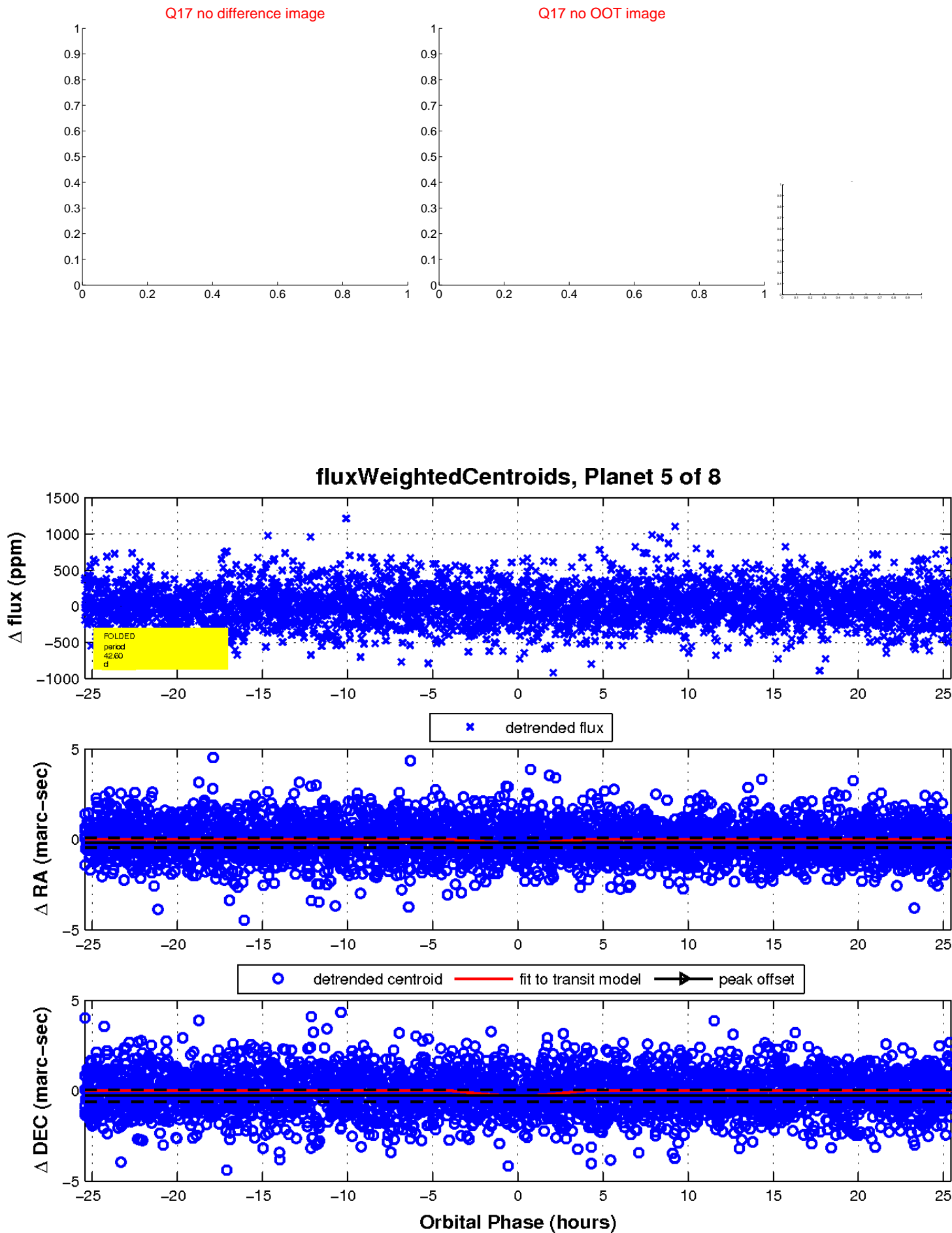
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

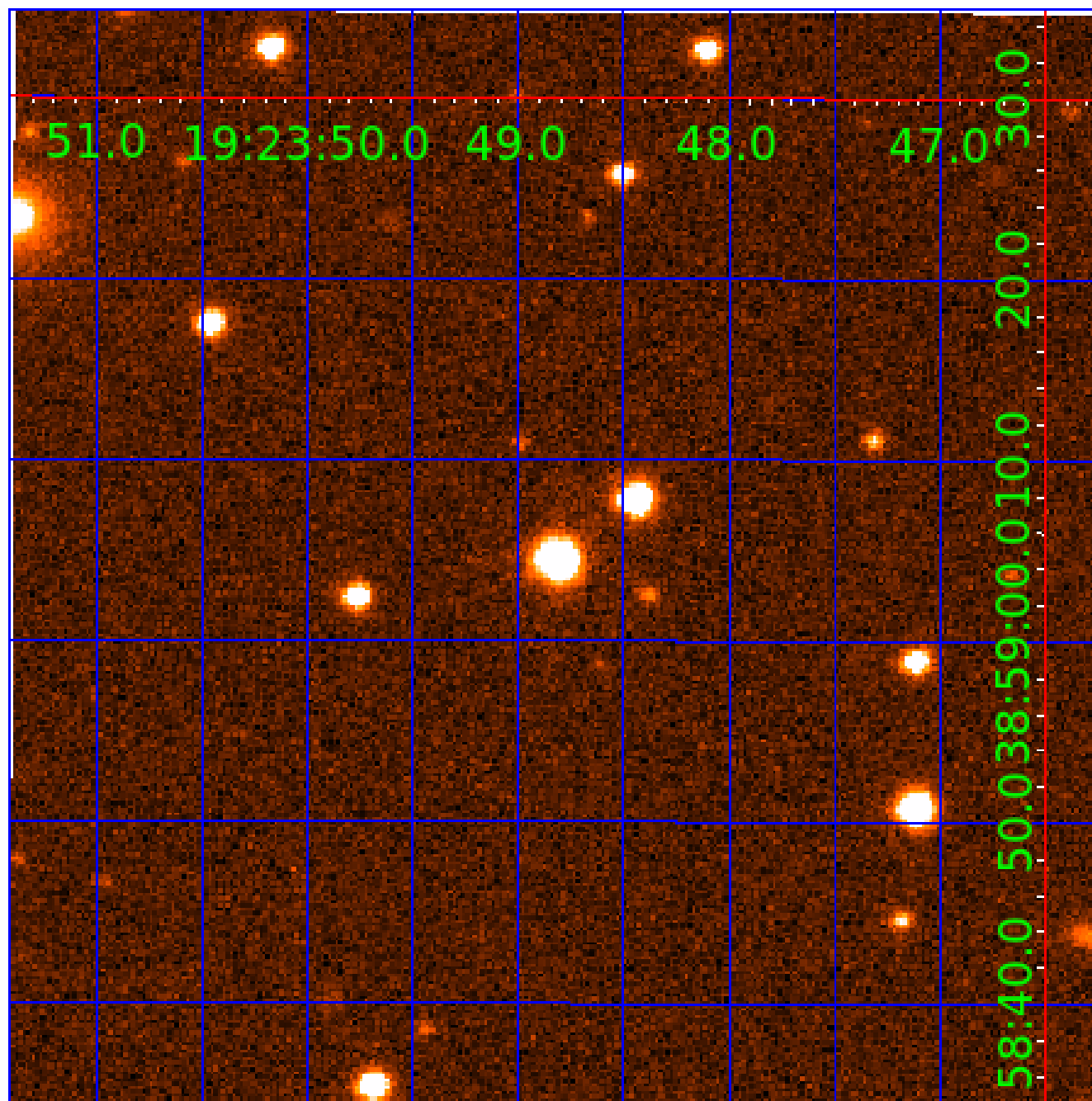


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003848572

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})
003848572-01	OBS	No	2.000255	133.459175	24.6	14.647	7.9	8.6	0.99	5964	0.49	1124.77
003848572-02	OBS	No	16.434441	134.097367	266.8	3.999	14.2	12.8	0.99	5964	1.76	67.84
003848572-03	OBS	No	19.064952	137.878404	298.3	6.444	14.0	14.6	0.99	5964	1.91	55.66
003848572-04	OBS	No	44.646663	163.854428	528.6	1.647	13.6	13.2	0.99	5964	2.27	17.90
003848572-05	OBS	No	42.595759	155.809232	449.6	8.480	12.3	12.1	0.99	5964	4.08	19.06
003848572-06	OBS	No	372.043312	140.463887	330.5	2.559	9.9	10.4	0.99	5964	2.15	1.06
003848572-07	OBS	No	29.425177	160.784434	672.3	1.107	11.3	11.7	0.99	5964	2.57	31.20
003848572-08	OBS	No	29.841435	157.971575	404.4	1.199	9.7	9.7	0.99	5964	2.12	30.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003848572-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

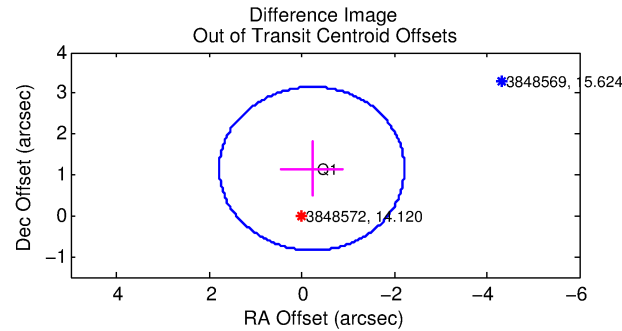
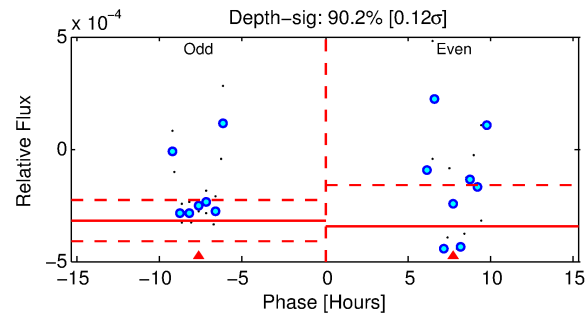
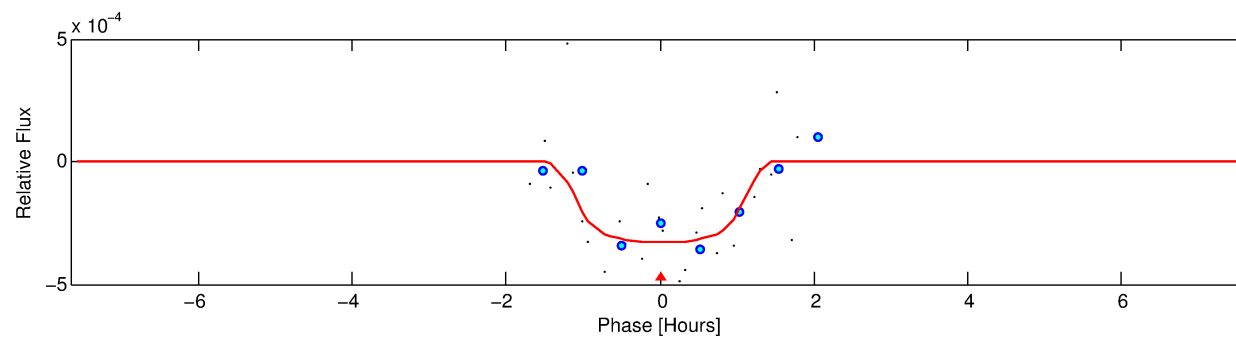
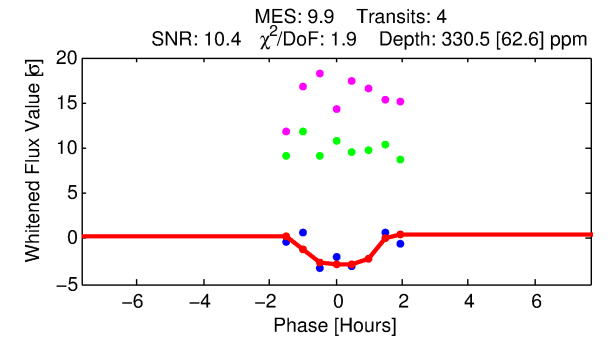
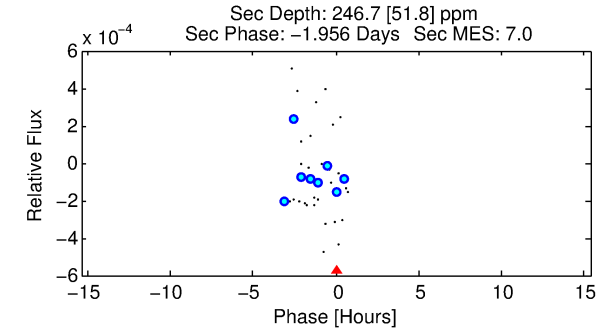
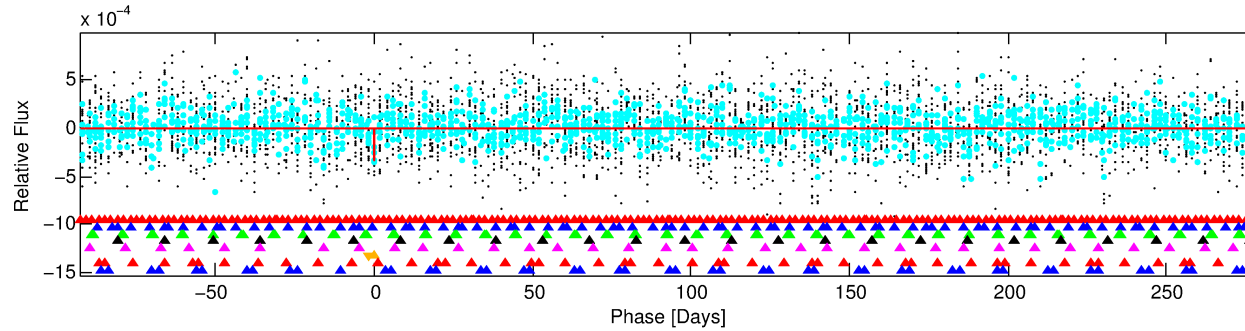
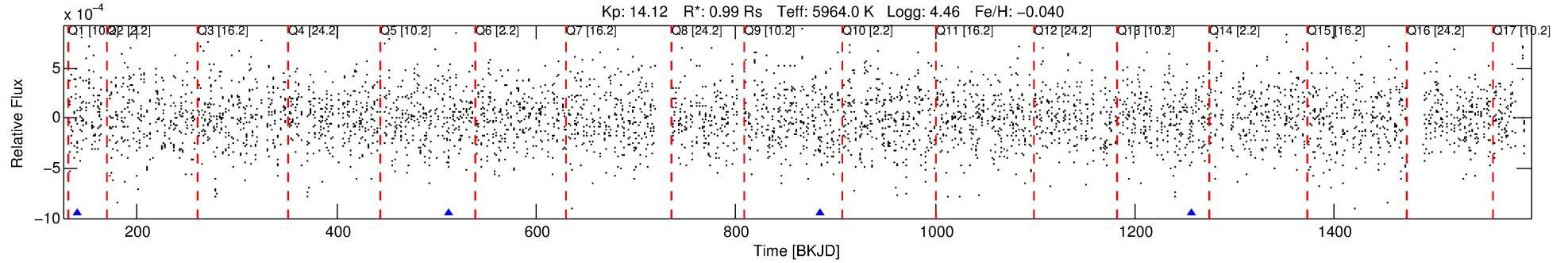
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-06

No Significant Match Found

DV One-Page Summary

KIC: 3848572 Candidate: 6 of 8 Period: 372.043 d



DV Fit Results:

Period = 372.04331 [0.00459] d
Epoch = 140.4639 [0.0083] BKJD
Rp/R* = 0.0200 [0.0149]
a/R* = 506.65 [1873.89]
b = 0.91 [0.69]
Seff = 1.06 [0.44]
Teq = 259 [27] K
Rp = 2.15 [1.74] Re
a = 1.0230 [0.2713] AU
Ag = 30620.31 [47658.97] [0.64σ]
Teffp = 5291 [2000] K [2.52σ]

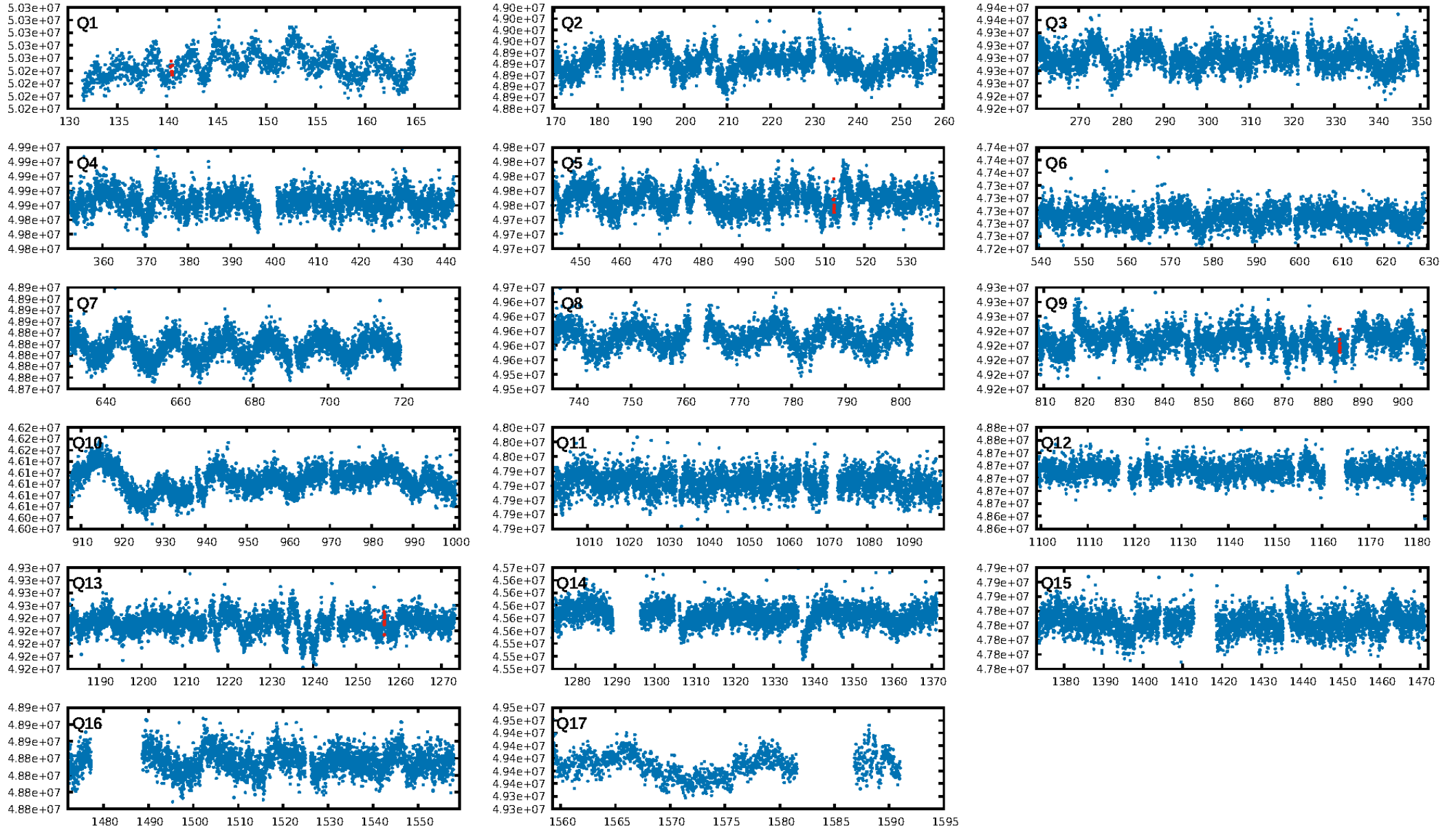
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [2581.91σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 69.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.092
Centroid-sig: 18.5%
Centroid-so: 2.889 arcsec [1.53σ]
OotOffset-rm: 1.171 arcsec [1.76σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-rm: 2.031 arcsec [3.05σ]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [4/4]

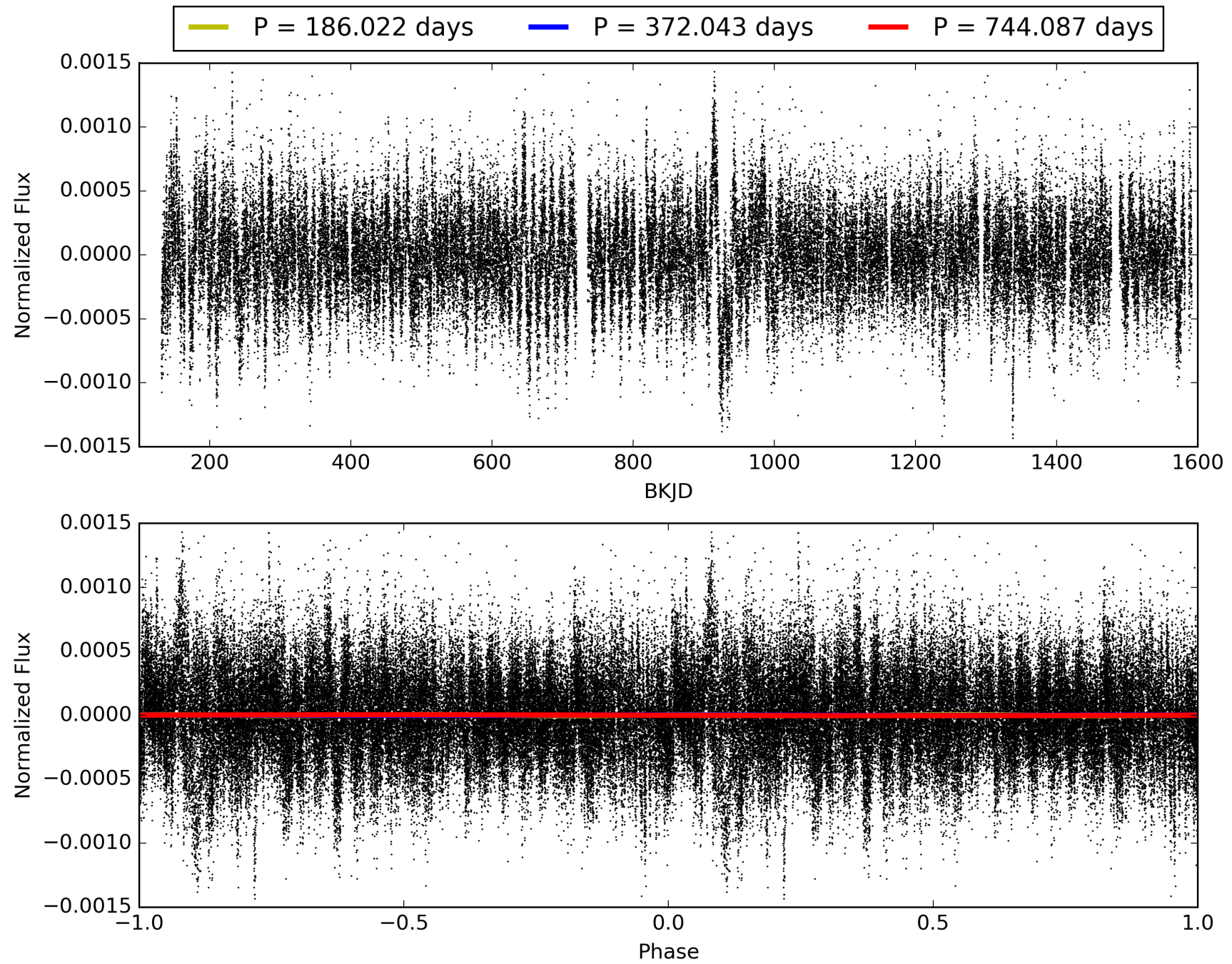
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:42:18 Z

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

TCE 003848572-06, PDC Light Curves

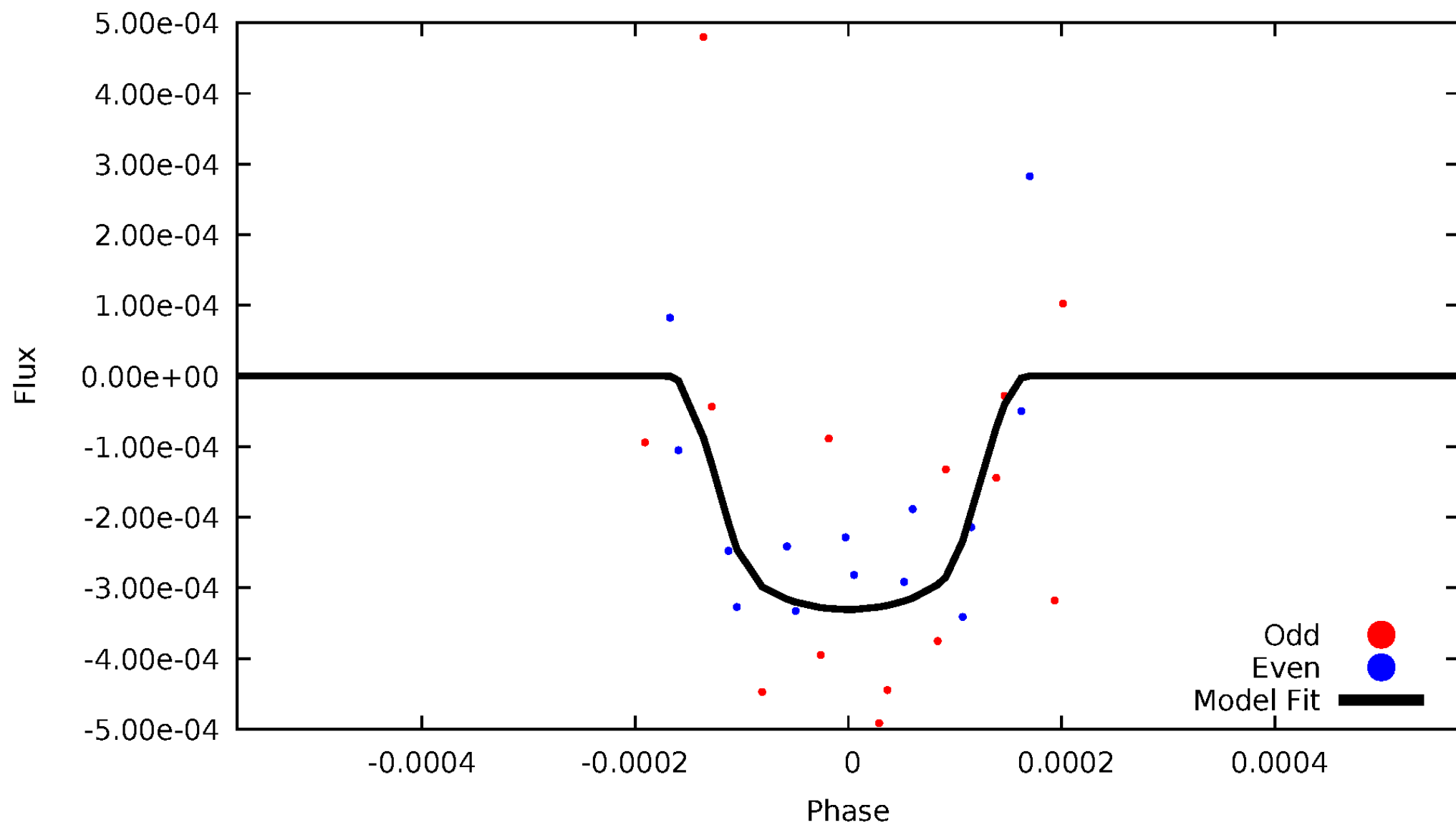


TCE 003848572-06



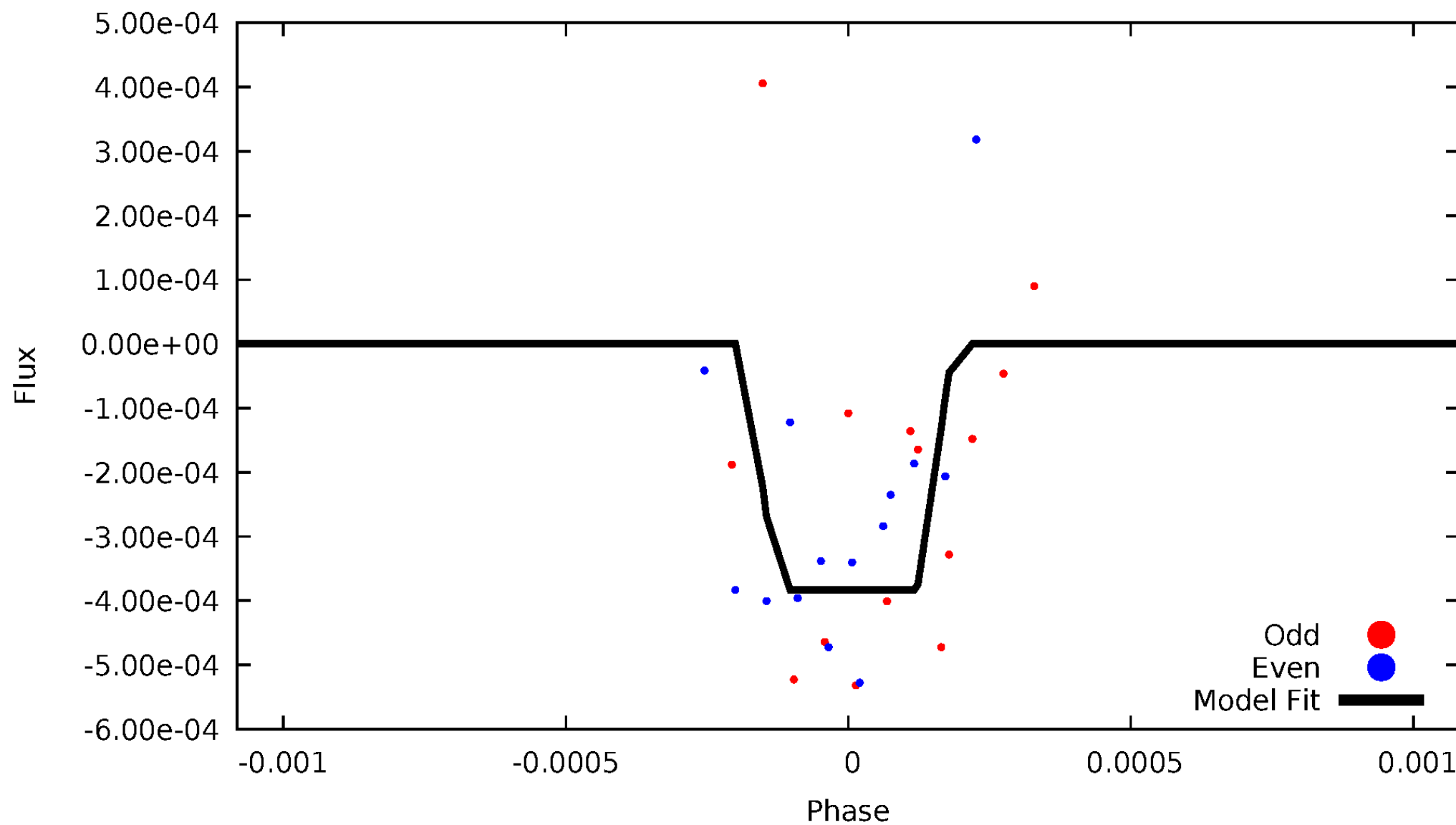
DV Odd/Even

TCE 003848572-06



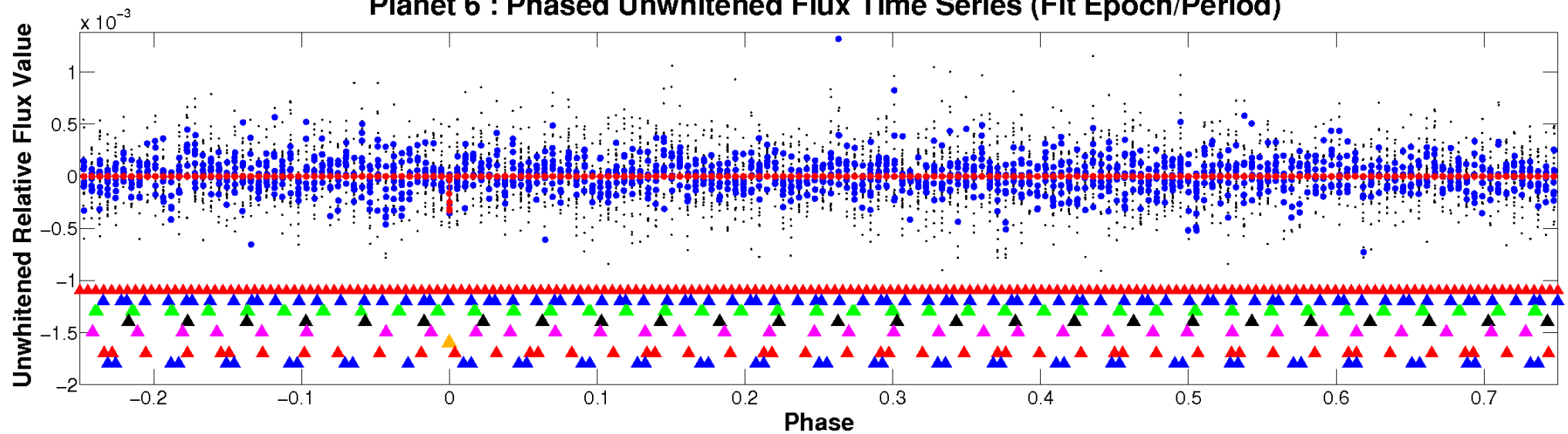
ALT Odd/Even

TCE 003848572-06

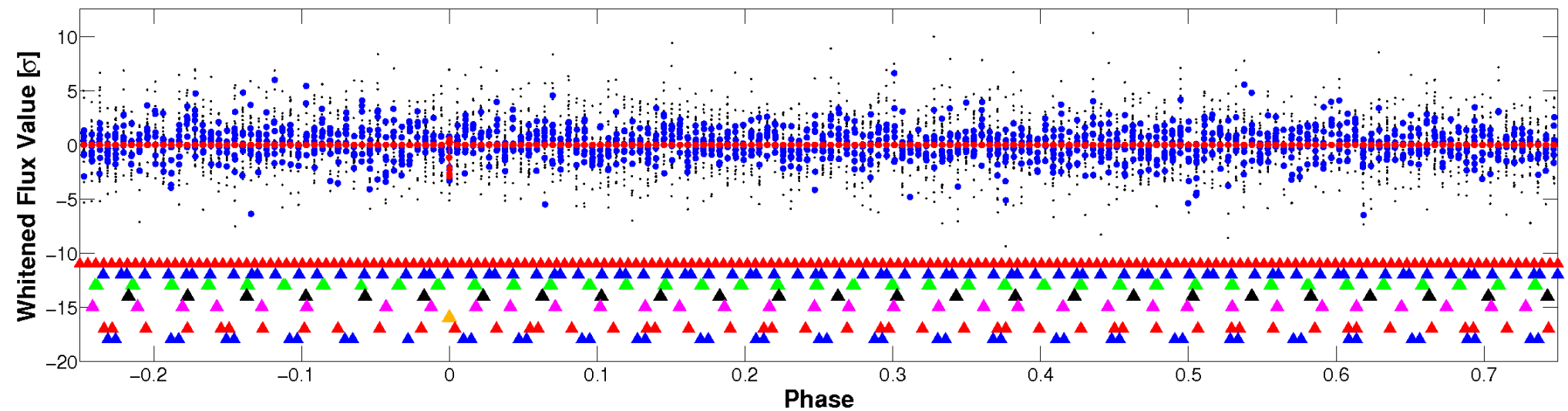


Non-Whitened Vs. Whitened Light Curve

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

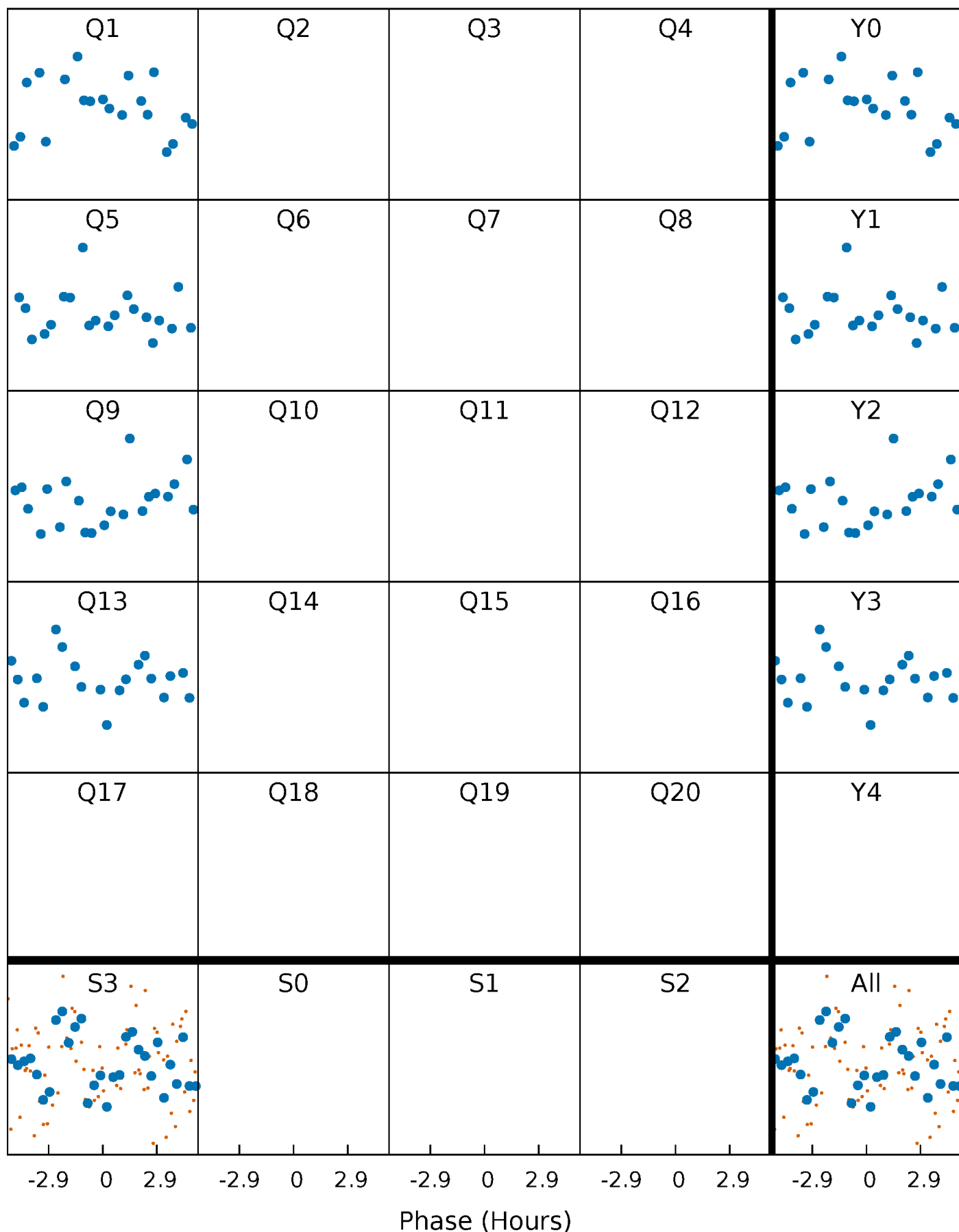


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



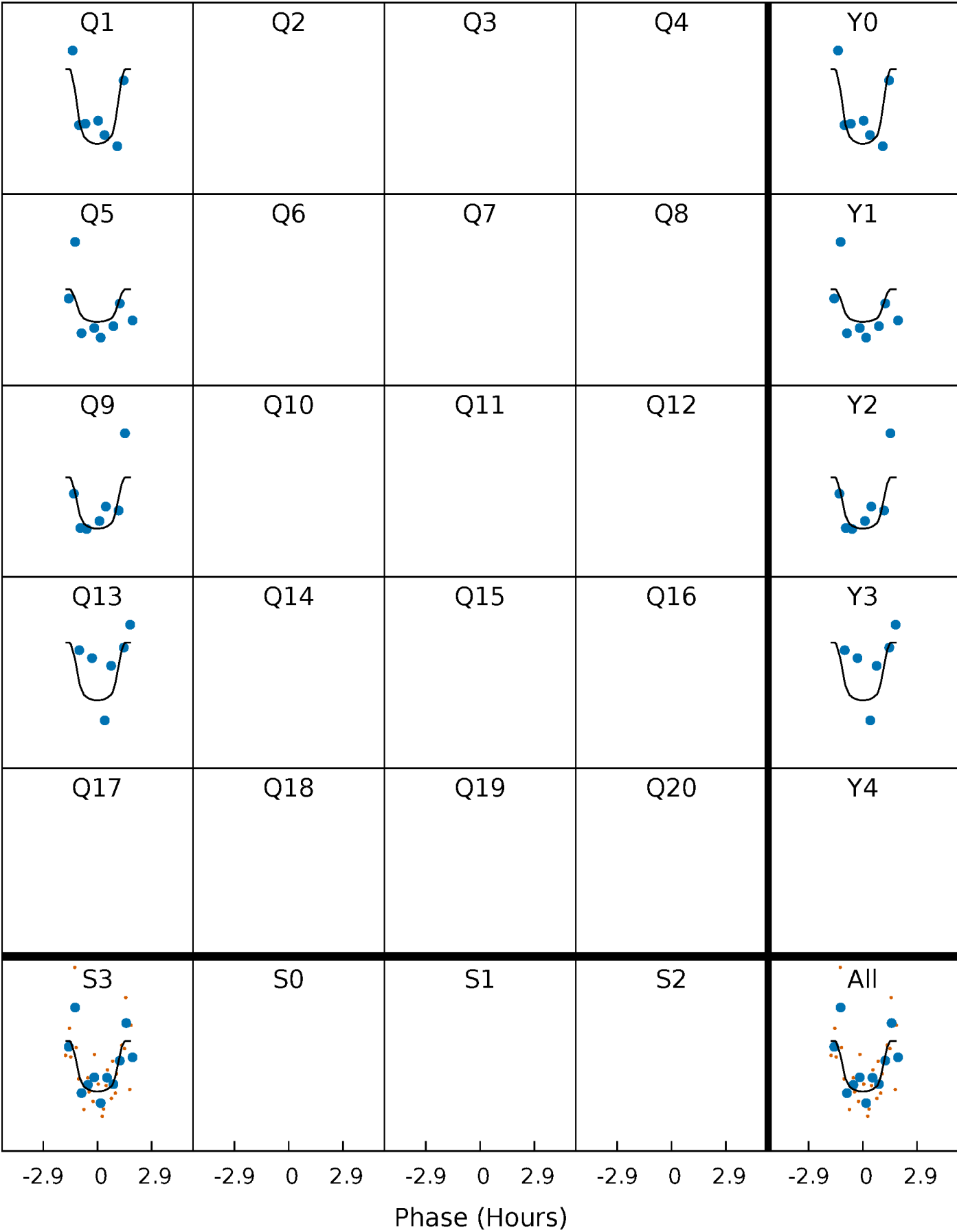
PDC Quarter-Phased Transit Curves

TCE 003848572-06 P=372.043312 Days $T_0=140.463887$ (BKJD)



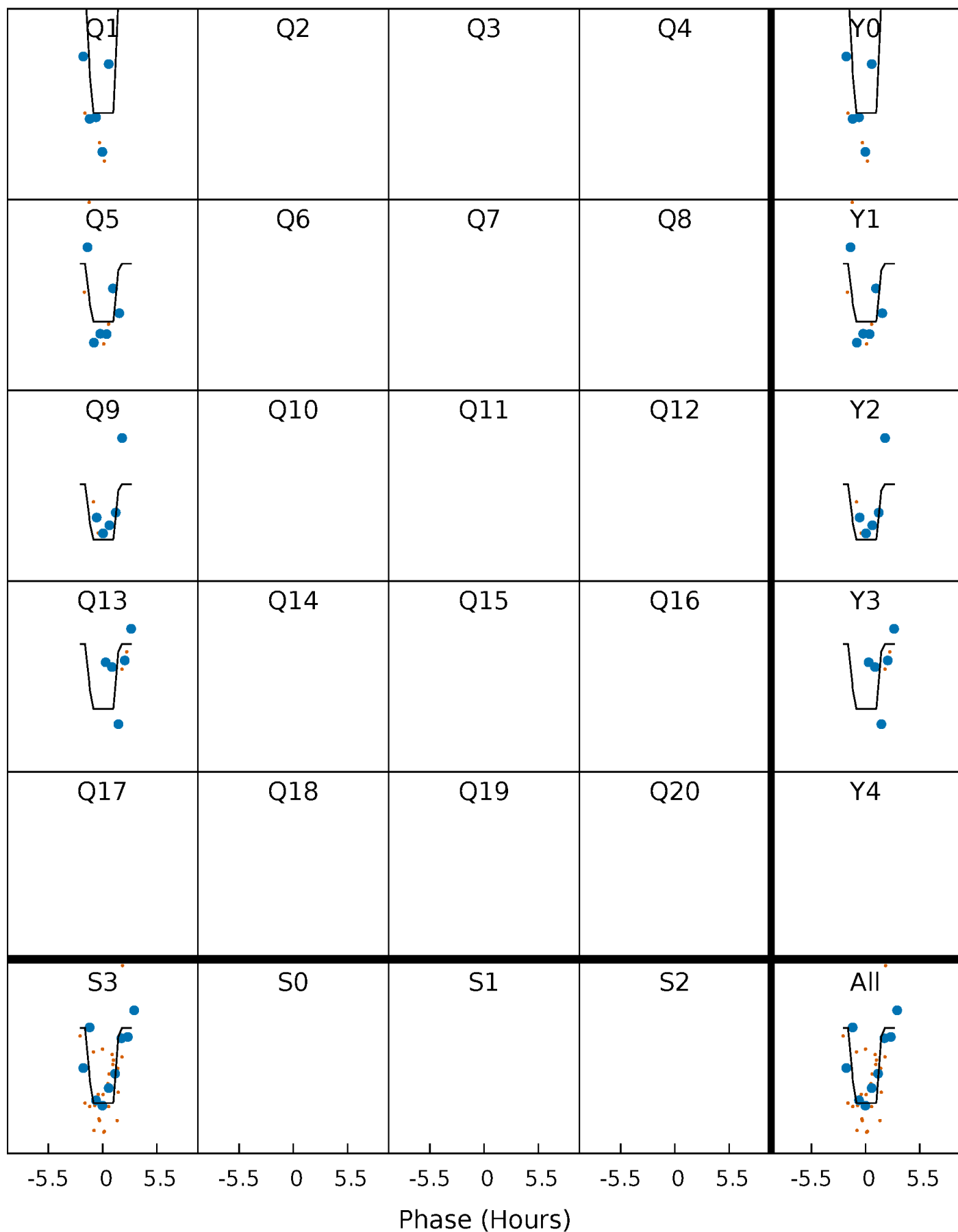
DV Quarter-Phased Transit Curves

TCE 003848572-06 P=372.043312 Days $T_0=140.463887$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

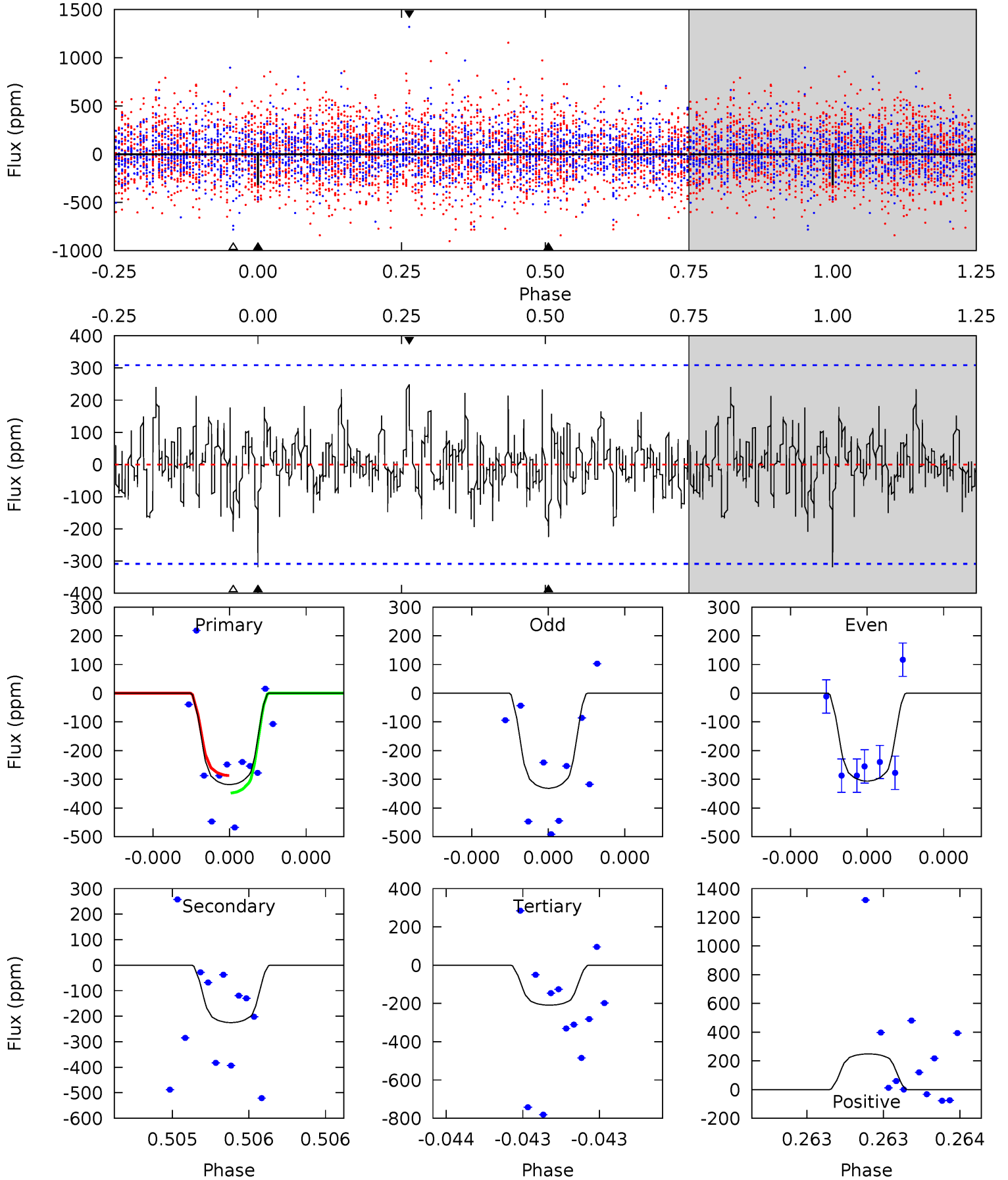
TCE 003848572-06 P=372.016626 Days $T_0=140.496341$ (BKJD)



DV Model-Shift Uniqueness Test

003848572-06, P = 372.043312 Days, E = 140.463887 Days

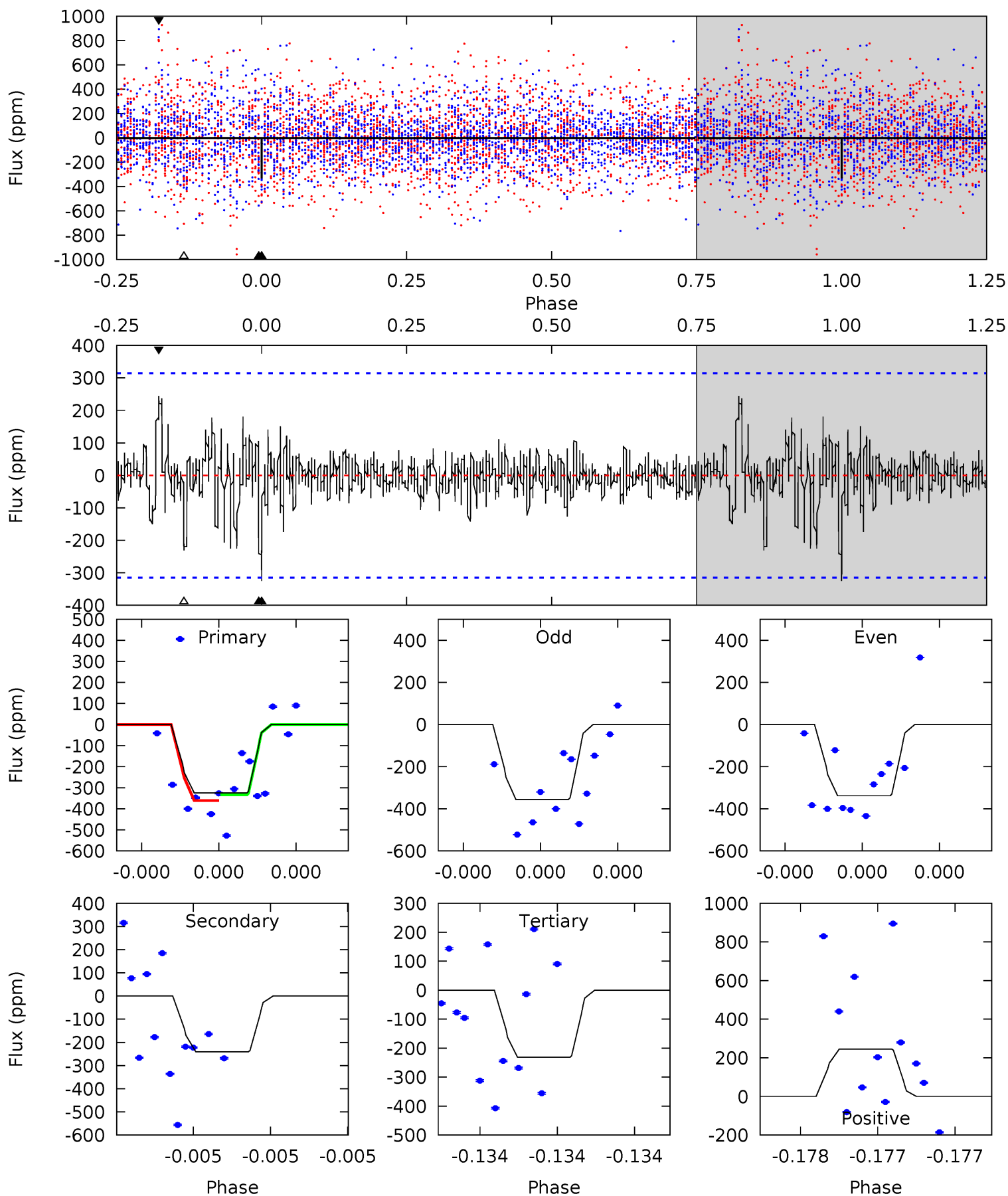
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.83	4.12	3.83	4.55	5.65	3.59	1.39	2.01	1.28	0.29	-0.43	0.24	1.02	0.44	0.56



Alt Model-Shift Uniqueness Test

003848572-06, P = 372.016626 Days, E = 140.496341 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.83	4.31	4.15	4.39	5.65	3.60	0.96	1.68	1.44	0.17	-0.08	0.16	1.00	0.43	0.24



Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-225 ± 55	$2.42^{+1.68}_{-1.37}$	369^{+29}_{-20}	5077^{+2599}_{-977}	21621^{+90638}_{-14271}
Alt.	-241 ± 56	$2.37^{+1.42}_{-1.39}$	367^{+26}_{-19}	5128^{+2951}_{-918}	$23081^{+113802}_{-14289}$

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 $A_{obs} \gg 1.0$

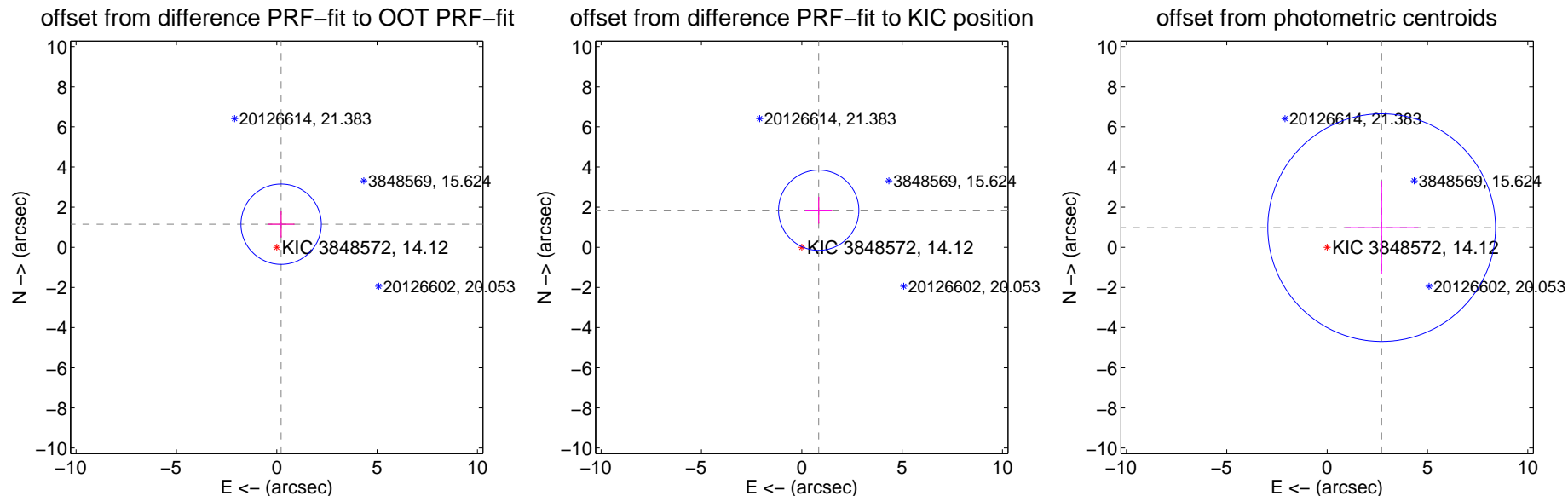
DV Centroid Data

Supplemental centroid analysis for 003848572-06. Kepler magnitude: 14.12. Transit SNR 10.35

There are 0 quarters with good PRF difference image offsets

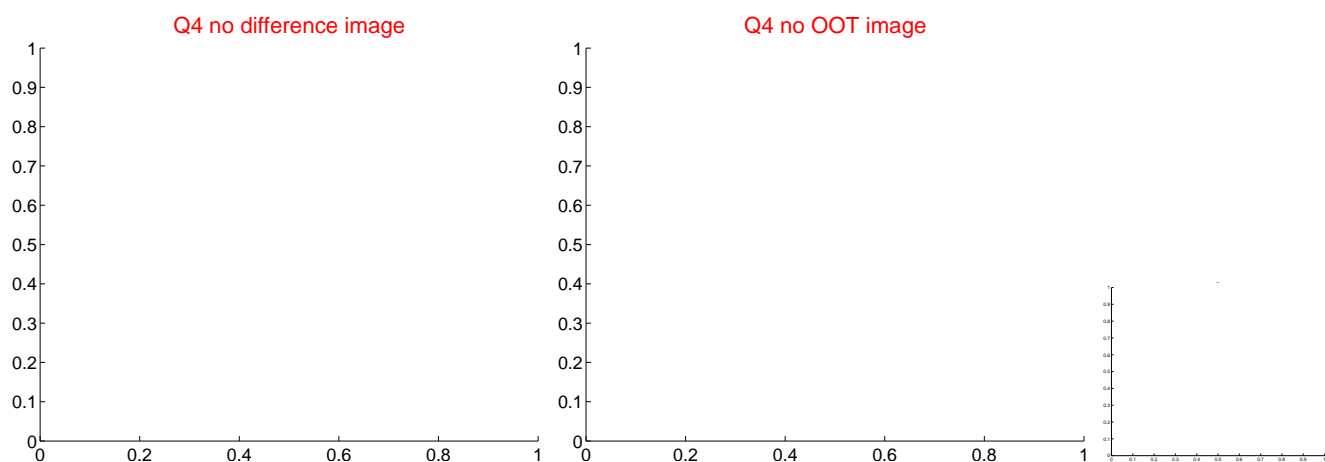
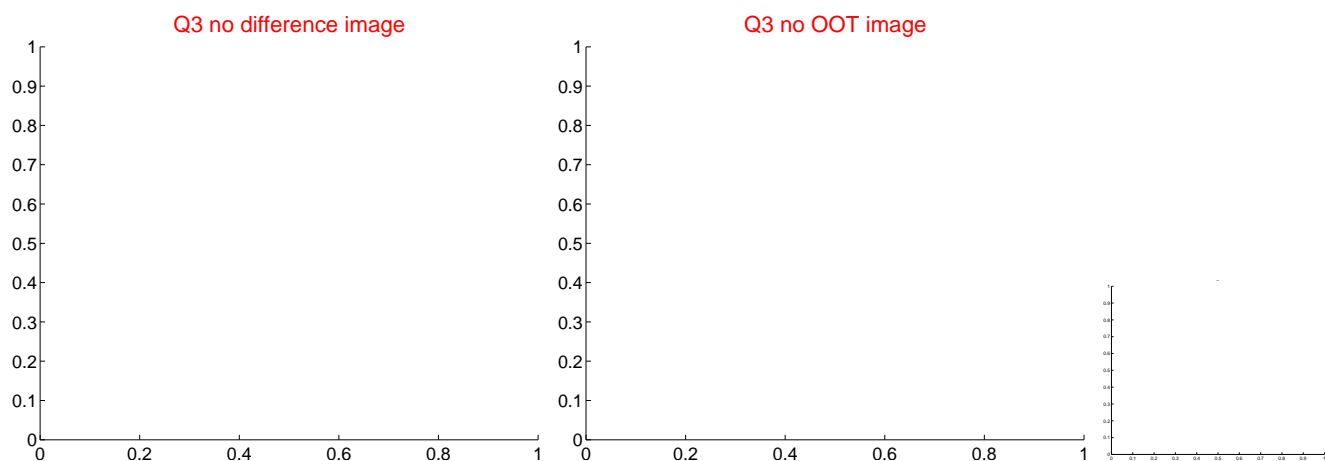
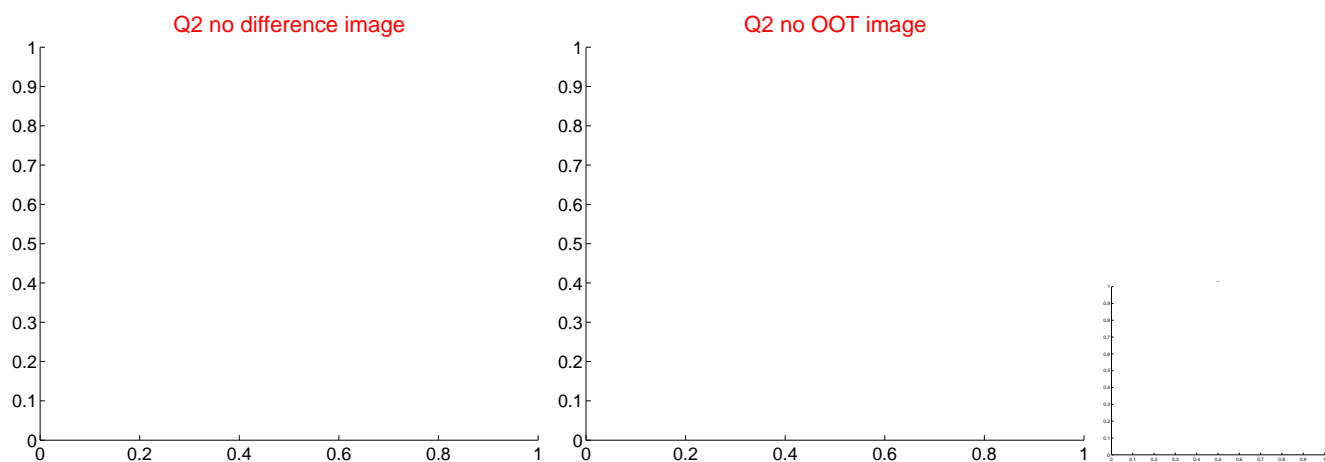
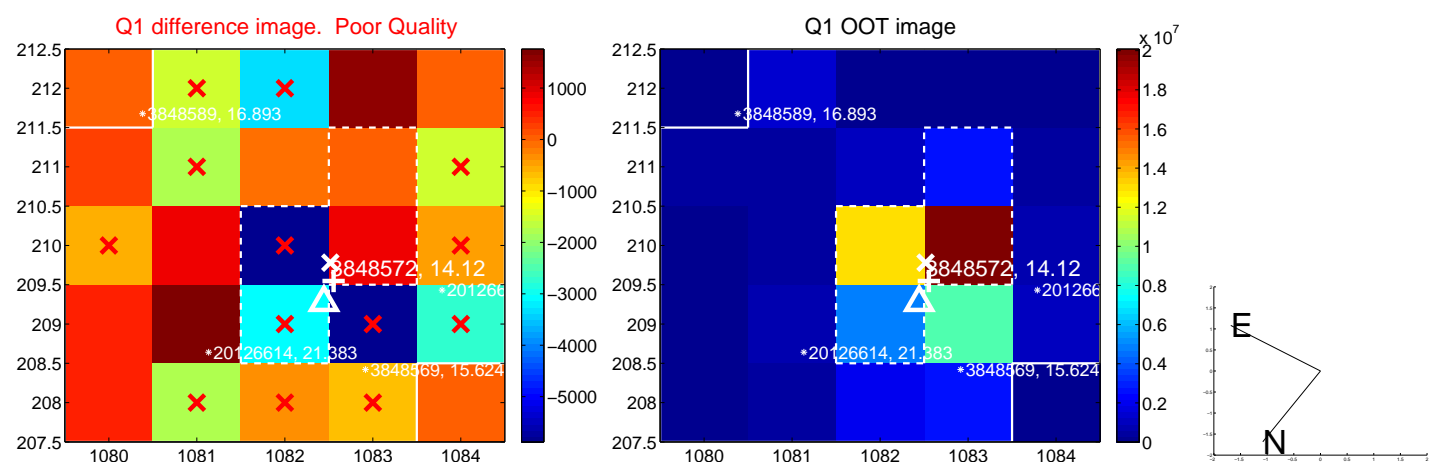
The direct PRF centroid is offset from the target star catalog position by about 0.94 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.171 ± 0.667	1.76	-0.218 ± 0.664	1.150 ± 0.667
PRF-fit source offset from KIC position	2.031 ± 0.667	3.05	-0.843 ± 0.664	1.848 ± 0.667
photometric centroid source offset	2.89 ± 1.89	1.53	-2.72 ± 1.83	0.98 ± 2.32

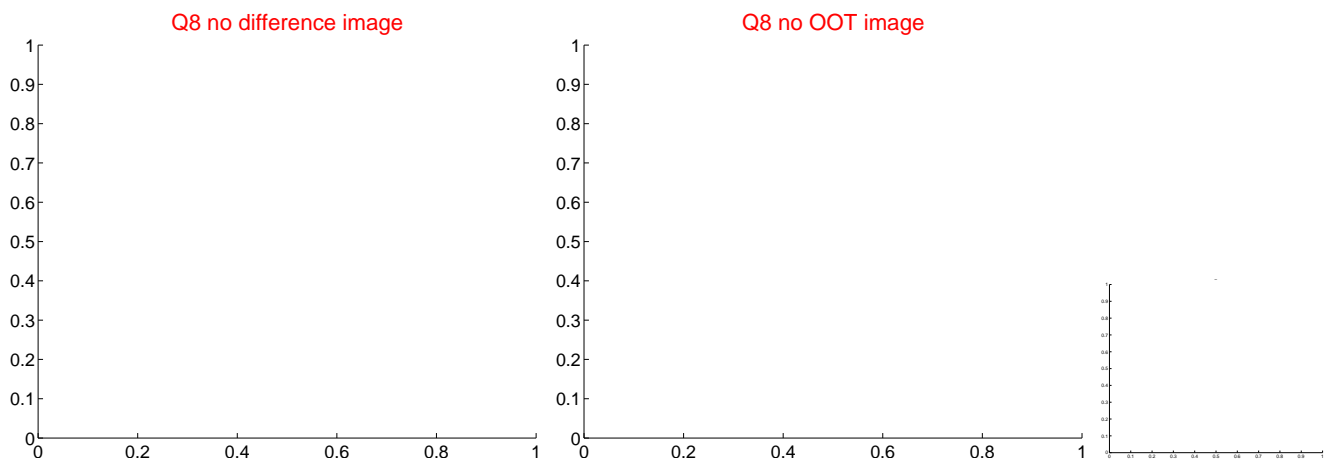
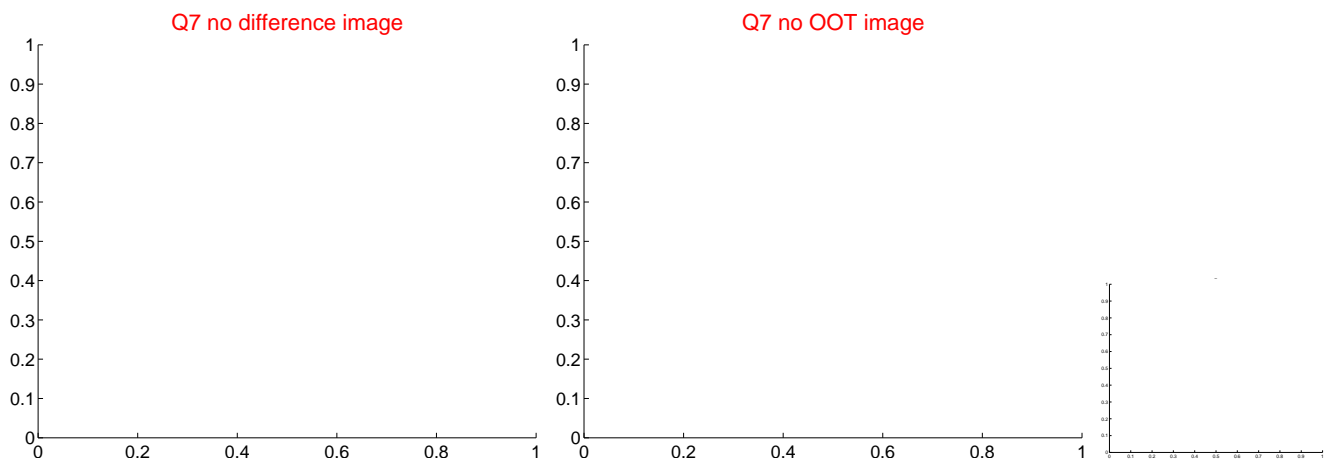
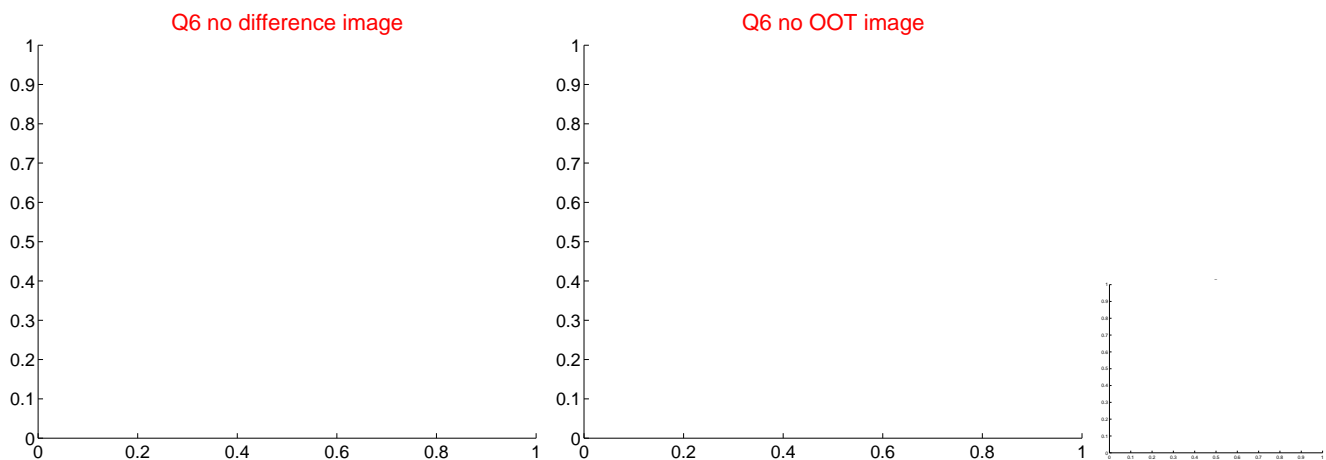
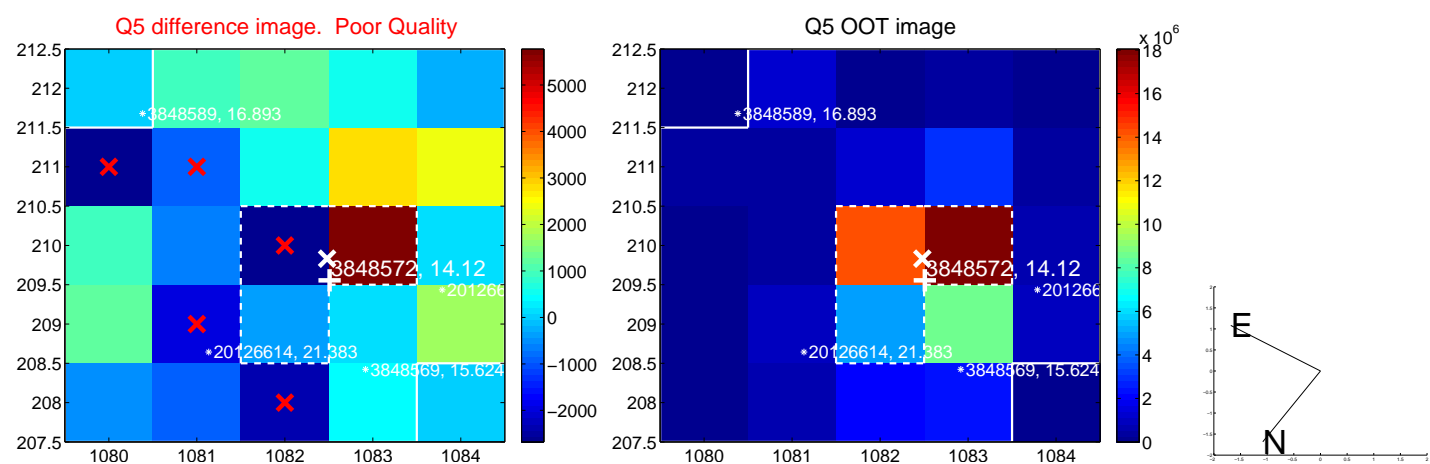


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

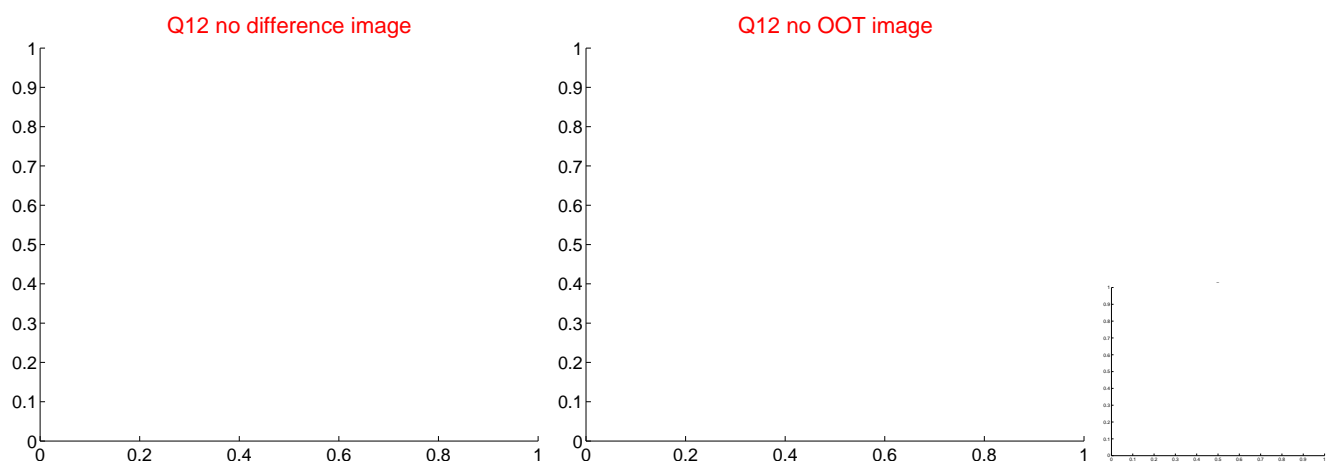
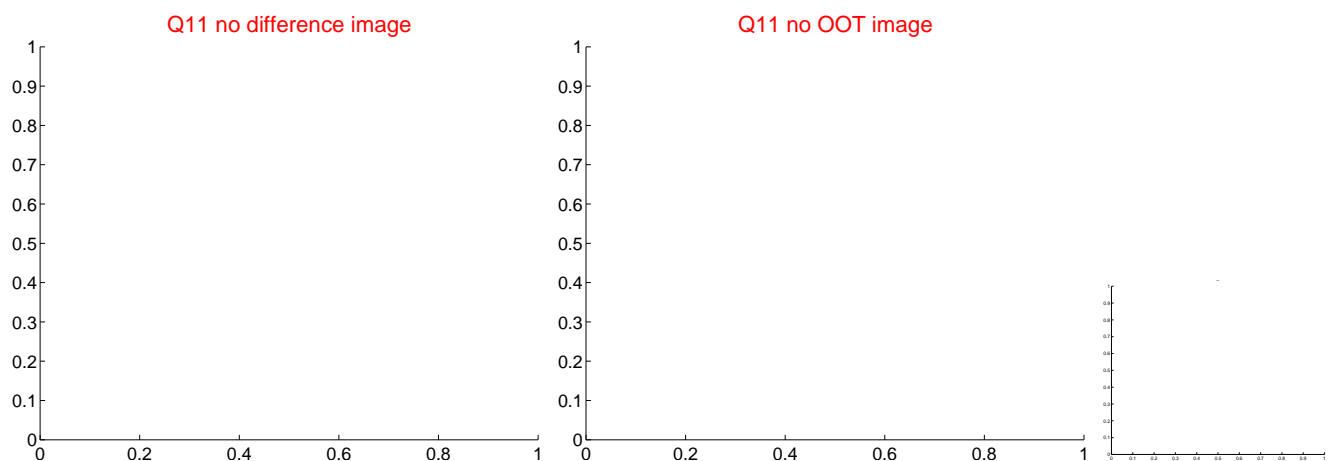
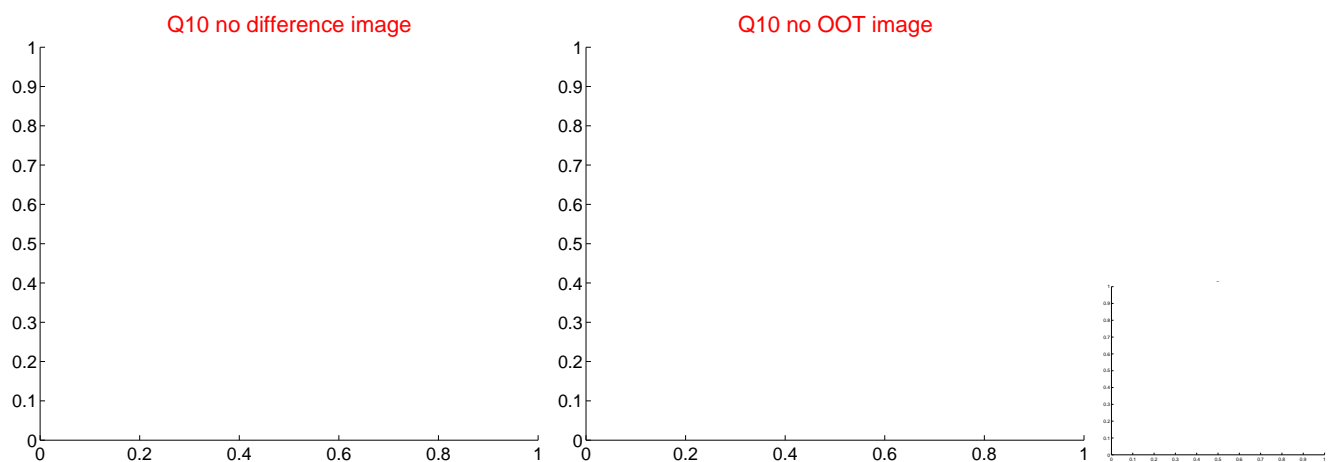
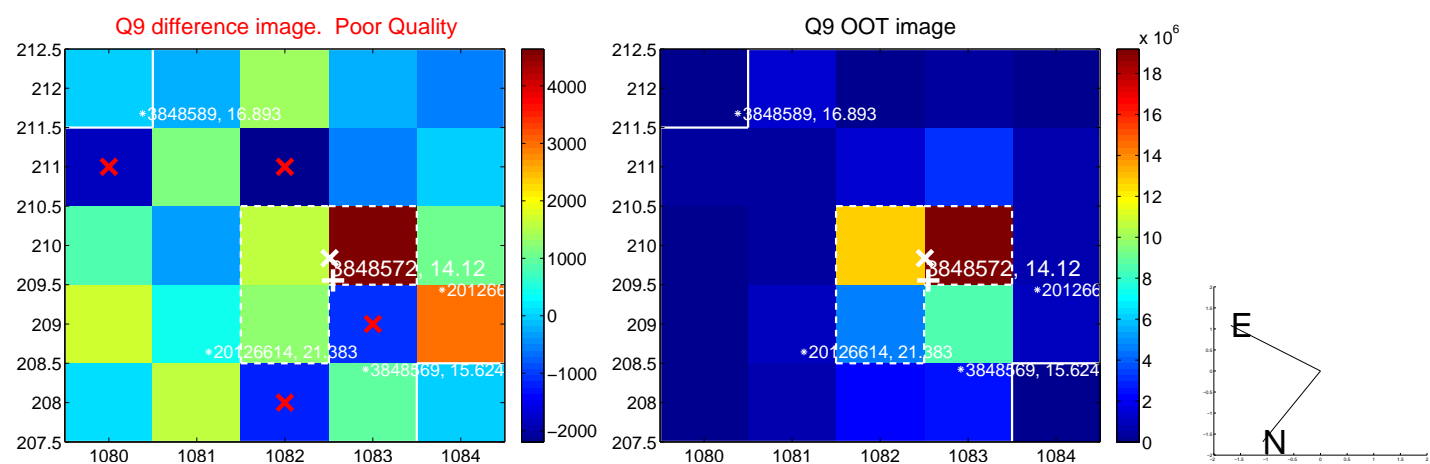
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



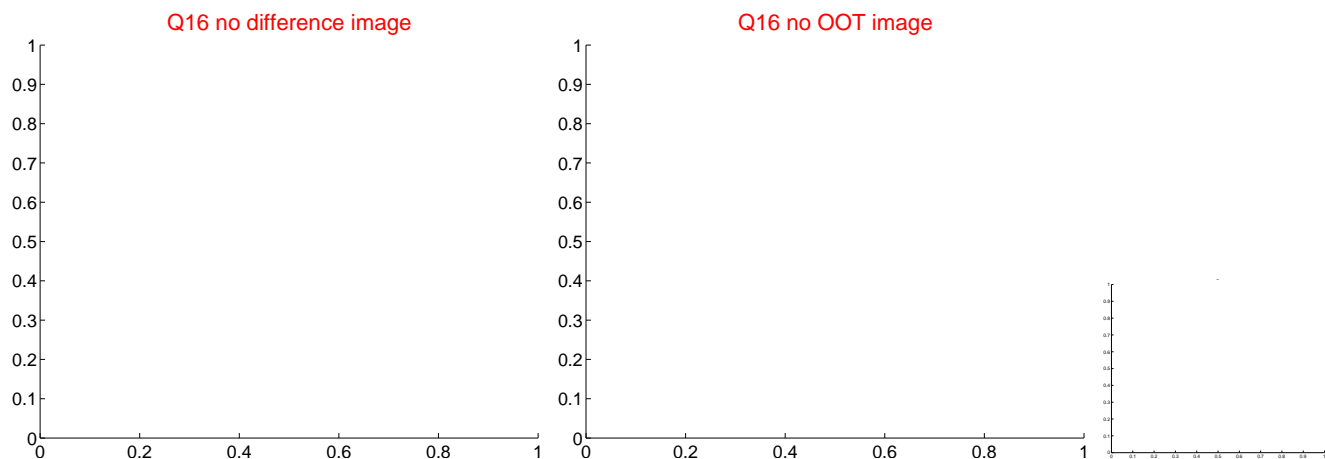
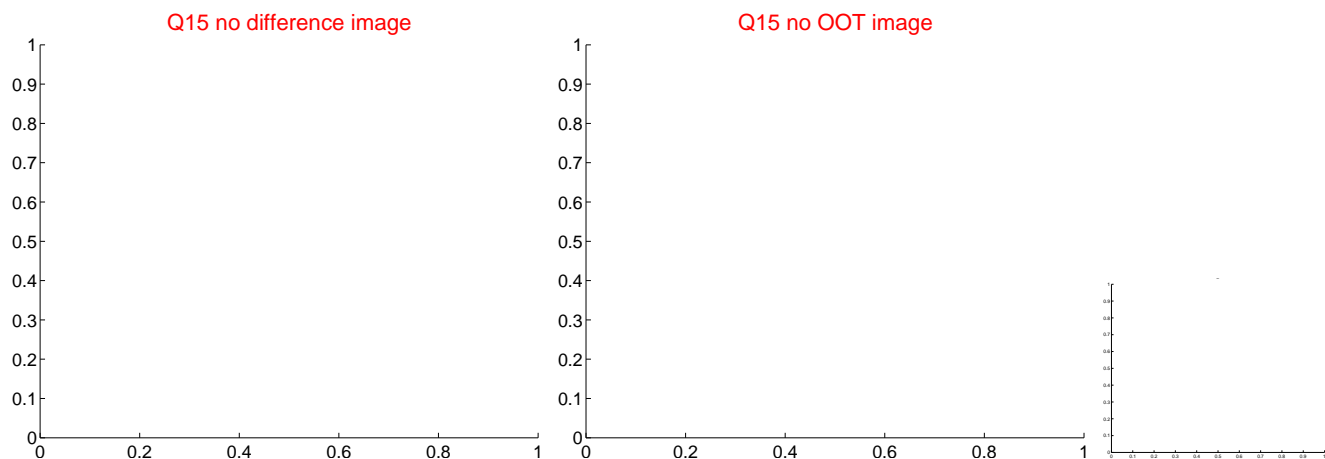
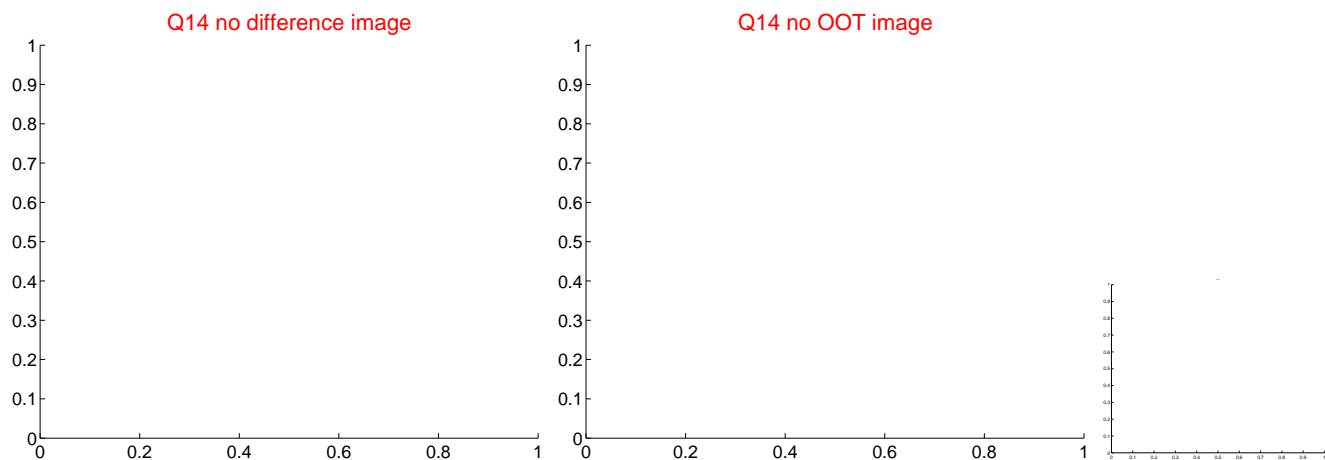
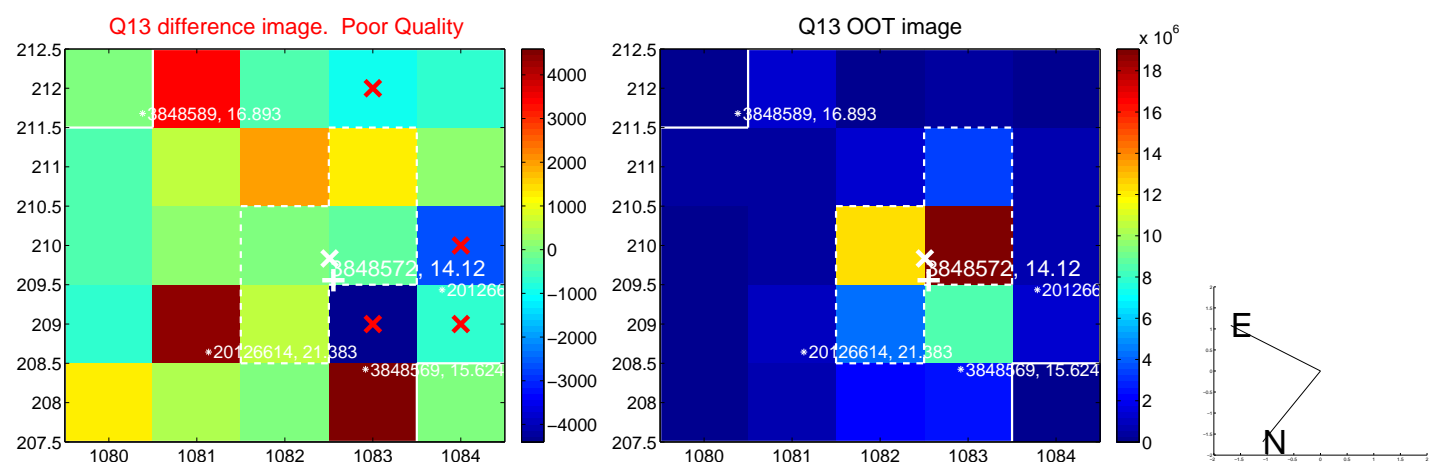
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



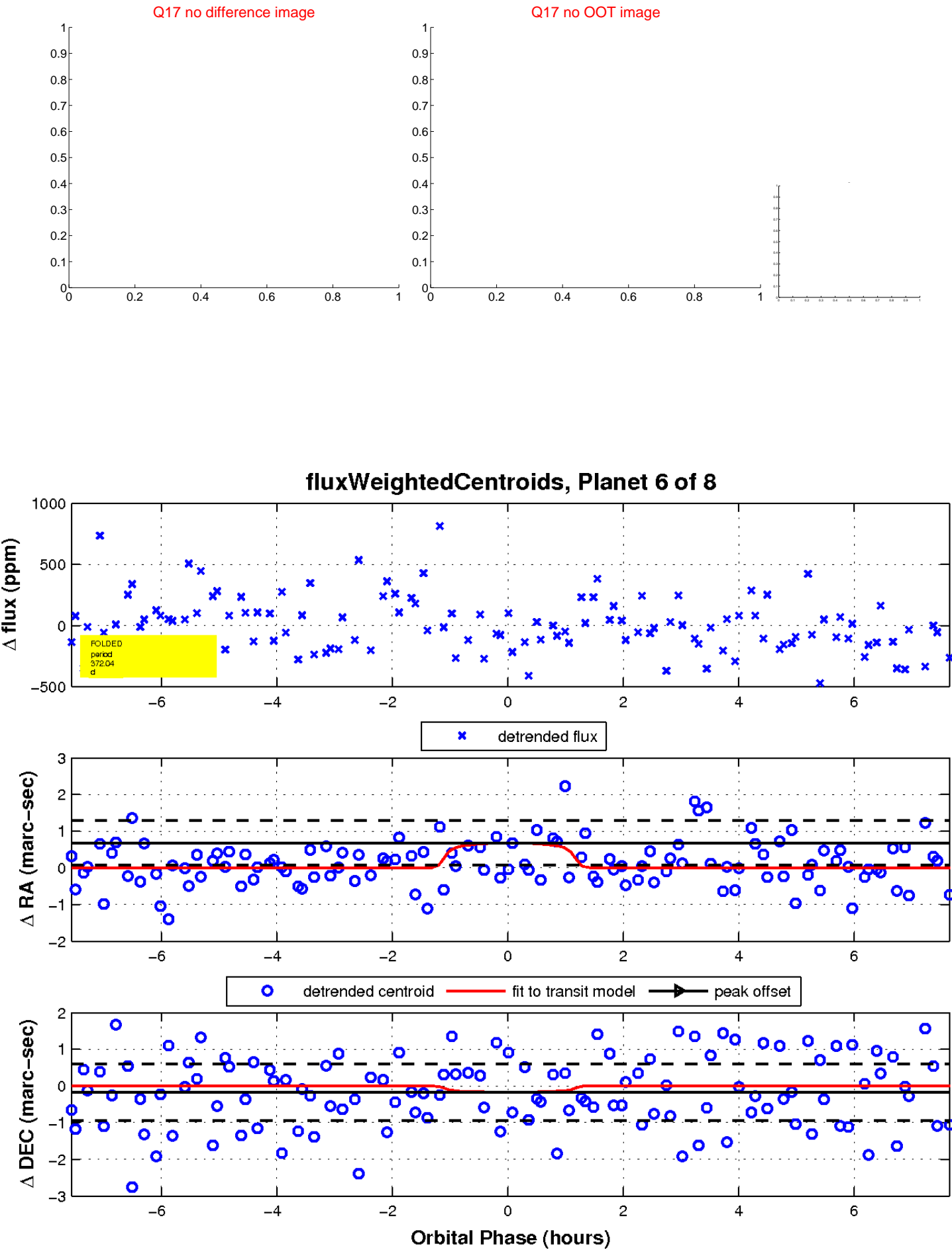
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

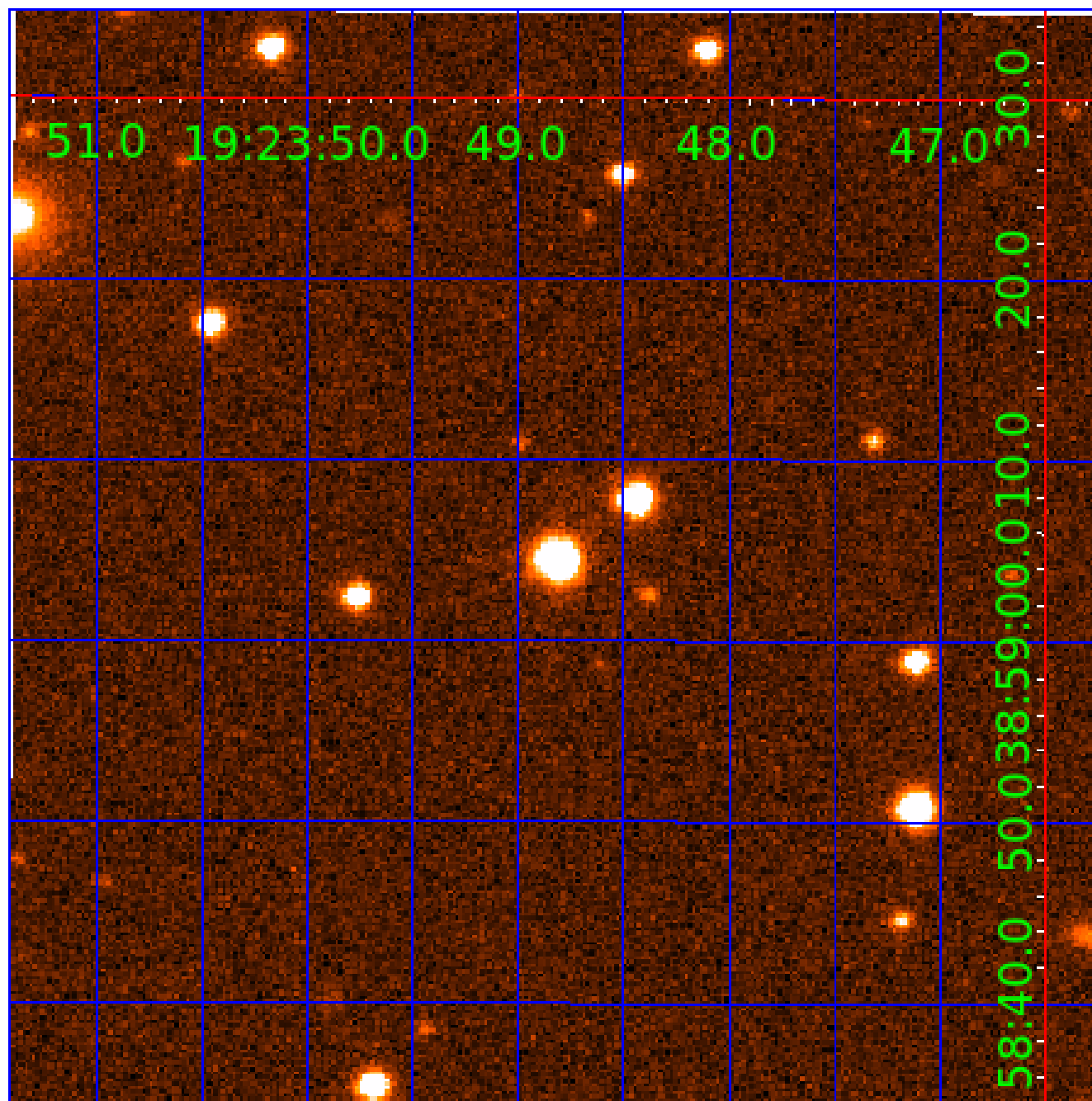


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003848572

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})
003848572-01	OBS	No	2.000255	133.459175	24.6	14.647	7.9	8.6	0.99	5964	0.49	1124.77
003848572-02	OBS	No	16.434441	134.097367	266.8	3.999	14.2	12.8	0.99	5964	1.76	67.84
003848572-03	OBS	No	19.064952	137.878404	298.3	6.444	14.0	14.6	0.99	5964	1.91	55.66
003848572-04	OBS	No	44.646663	163.854428	528.6	1.647	13.6	13.2	0.99	5964	2.27	17.90
003848572-05	OBS	No	42.595759	155.809232	449.6	8.480	12.3	12.1	0.99	5964	4.08	19.06
003848572-06	OBS	No	372.043312	140.463887	330.5	2.559	9.9	10.4	0.99	5964	2.15	1.06
003848572-07	OBS	No	29.425177	160.784434	672.3	1.107	11.3	11.7	0.99	5964	2.57	31.20
003848572-08	OBS	No	29.841435	157.971575	404.4	1.199	9.7	9.7	0.99	5964	2.12	30.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003848572-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

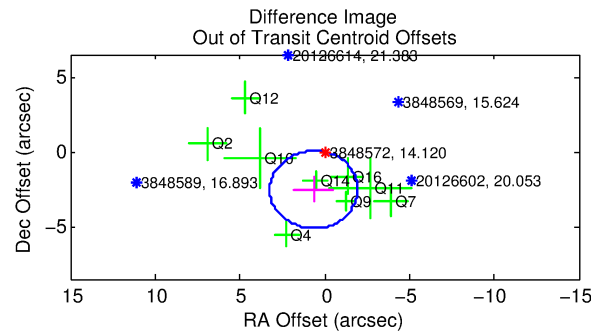
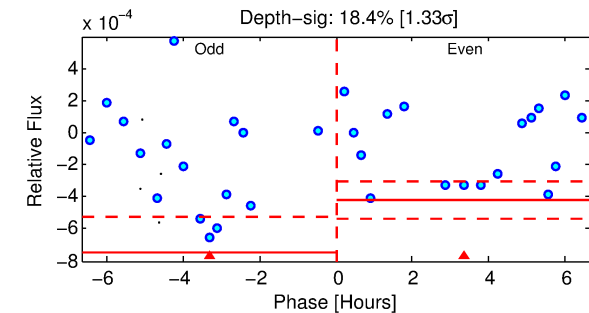
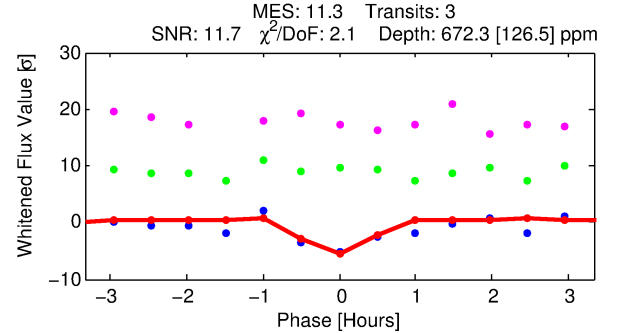
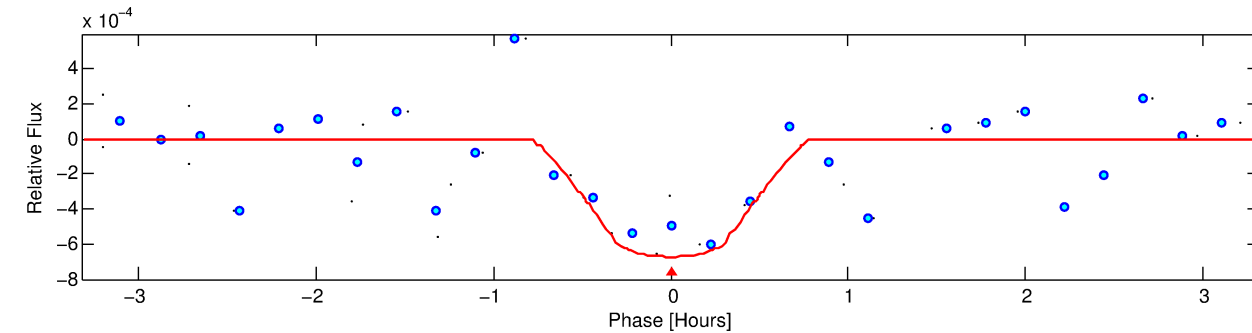
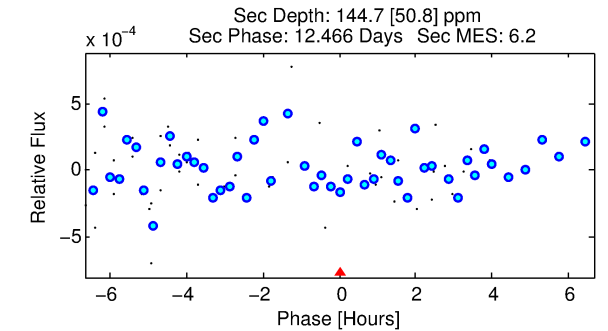
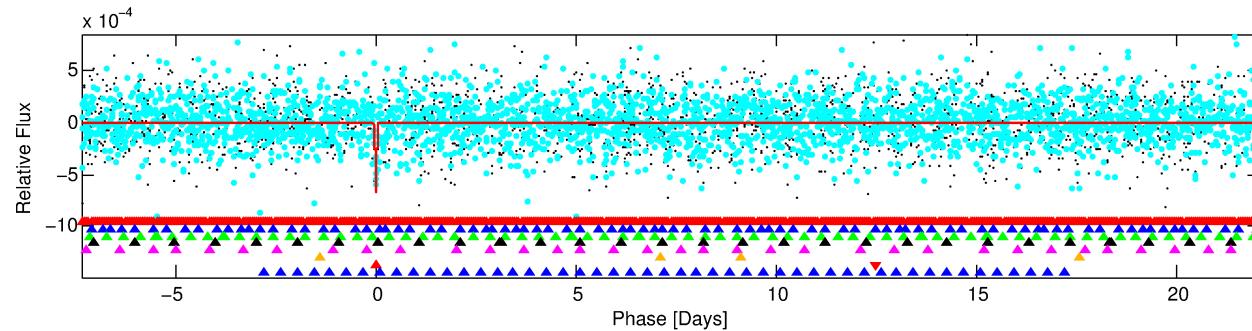
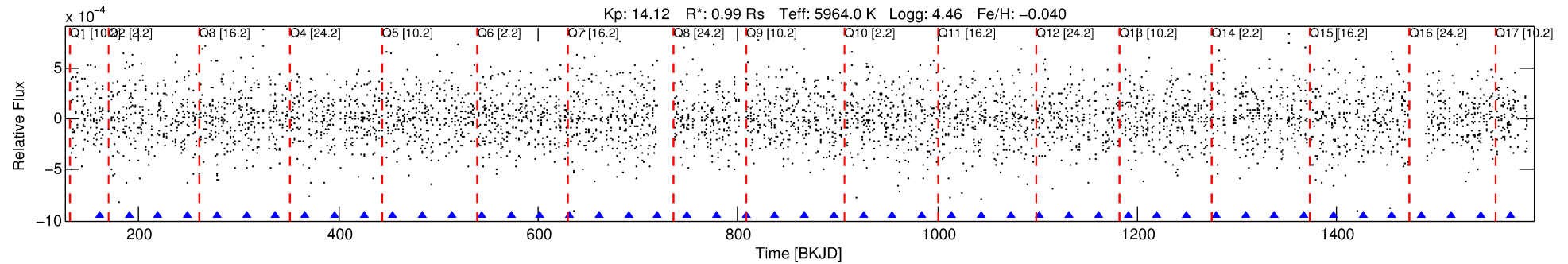
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-07

No Significant Match Found

DV One-Page Summary

KIC: 3848572 Candidate: 7 of 8 Period: 29.425 d



DV Fit Results:

Period = 29.42518 [0.00019] d
Epoch = 160.7844 [0.0050] BKJD
Rp/R* = 0.0238 [0.0436]
a/R* = 207.80 [1765.78]
b = 0.01 [638.15]
Seff = 31.20 [12.86]
Teq = 603 [62] K
Rp = 2.57 [4.77] Re
a = 0.1885 [0.0500] AU
Ag = 428.89 [1588.20] [0.27 σ]
Teffp = 4240 [3906] K [0.93 σ]

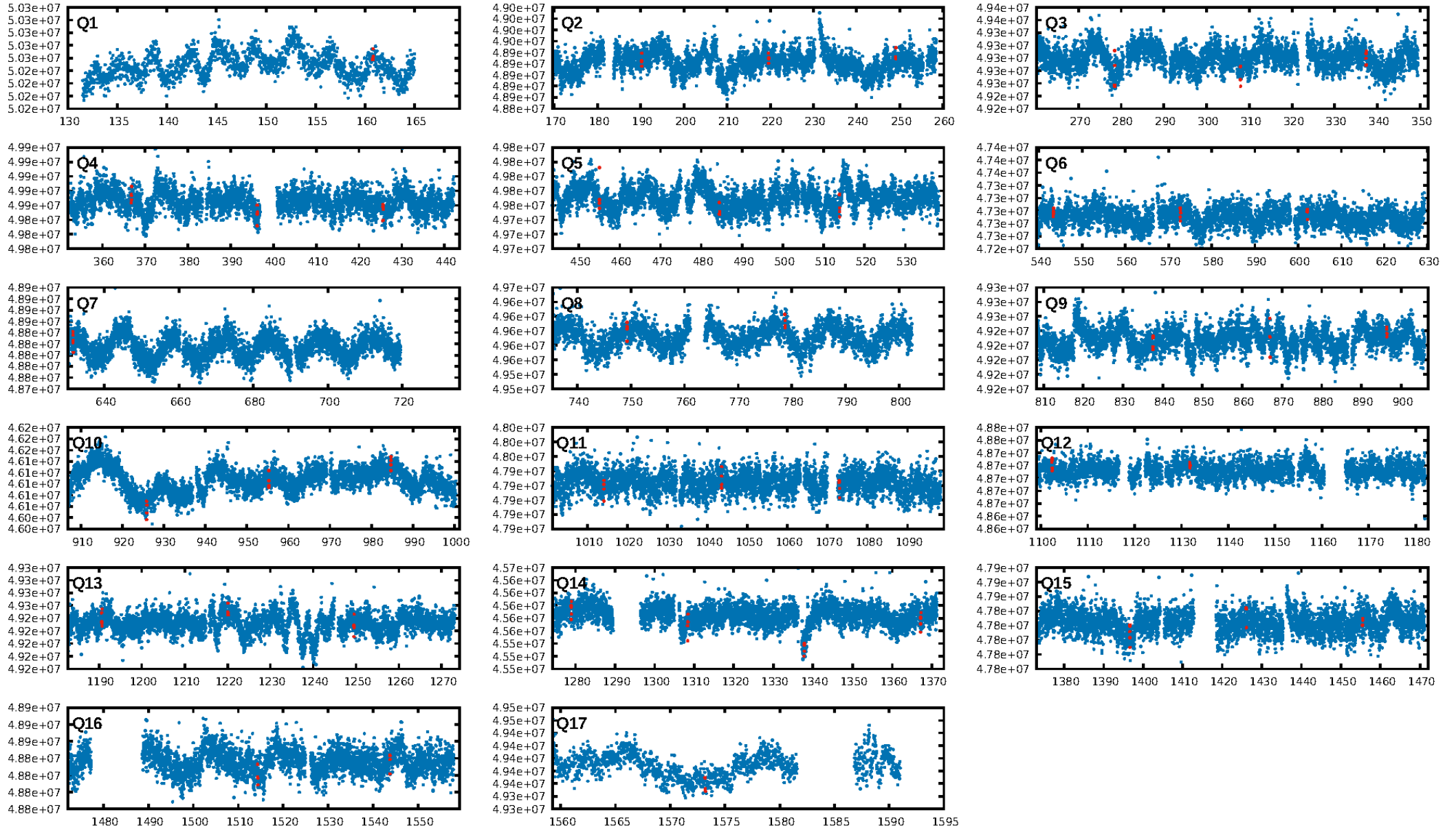
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [38.03 σ]
LongPeriod-sig: 100.0% [6.12 σ]
ModelChiSquare2-sig: 25.5%
ModelChiSquareGof-sig: 77.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.749
Centroid-sig: 0.0%
Centroid-so: 1.415 arcsec [2.85 σ]
OotOffset-rm: 2.613 arcsec [3.02 σ]
OotOffset-st: 3/2/3/1 [9]
KicOffset-rm: 1.972 arcsec [2.10 σ]
KicOffset-st: 3/2/3/1 [9]
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DiffImageOverlap-fno: 0.76 [13/17]

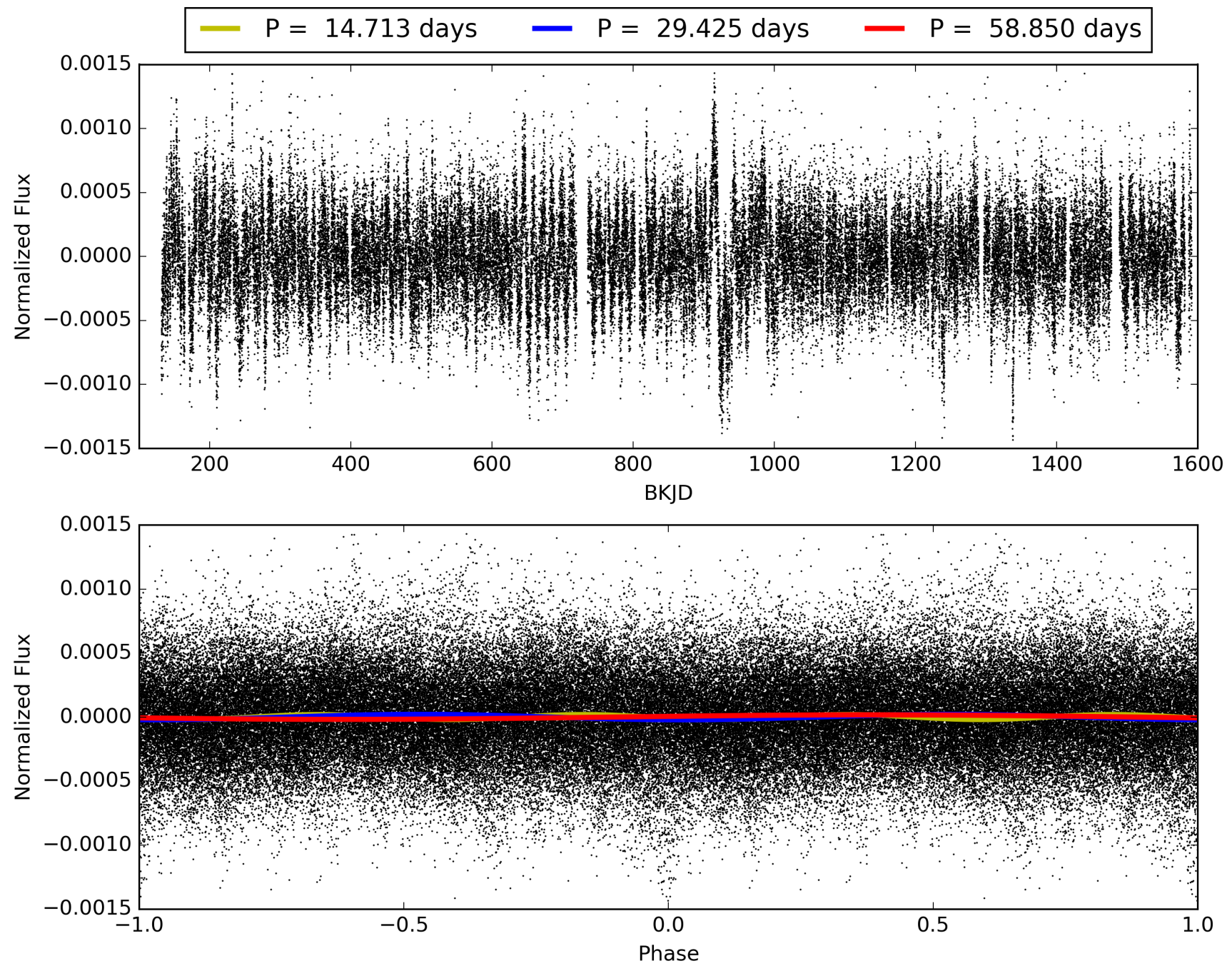
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:42:21 Z

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

TCE 003848572-07, PDC Light Curves

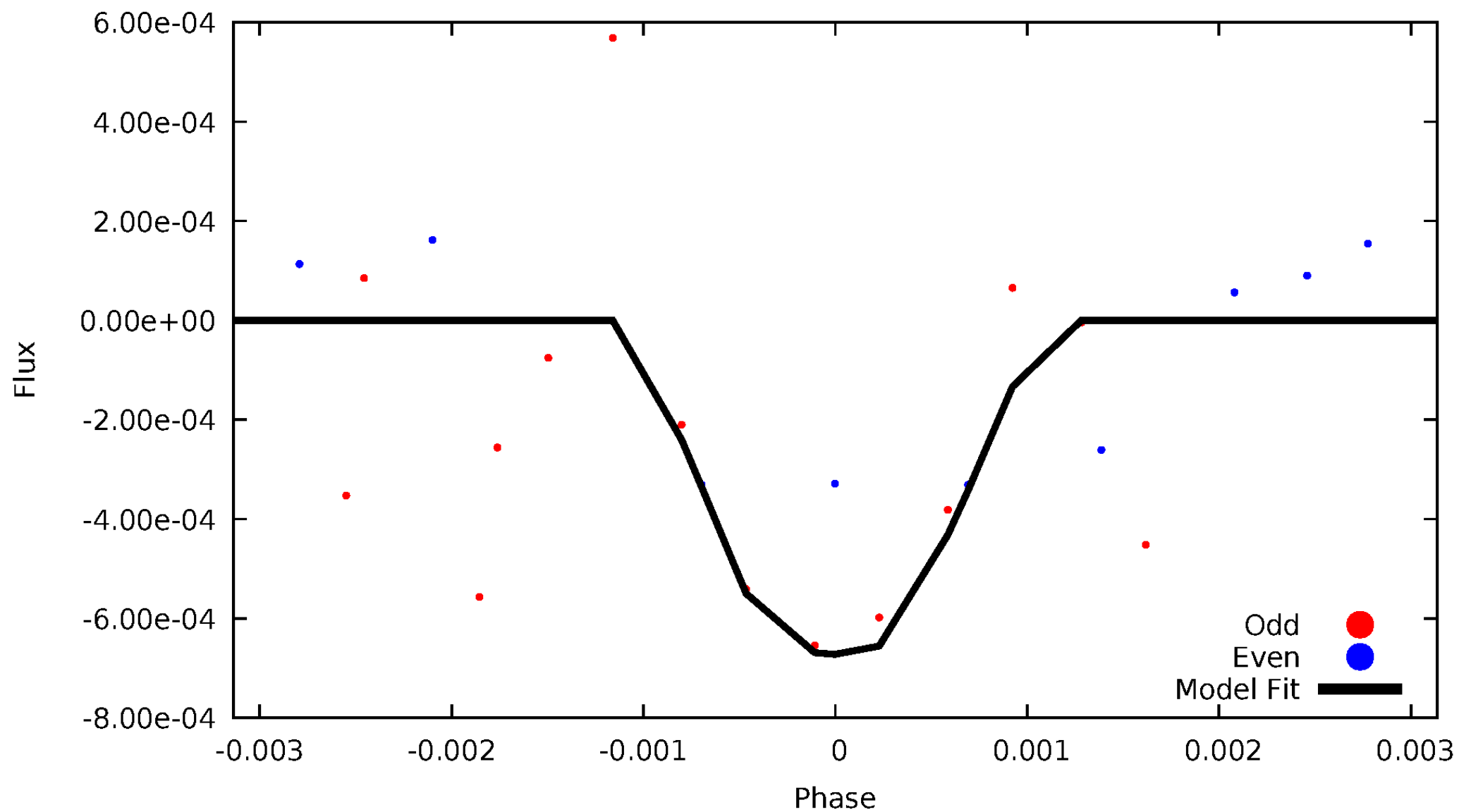


TCE 003848572-07



DV Odd/Even

TCE 003848572-07

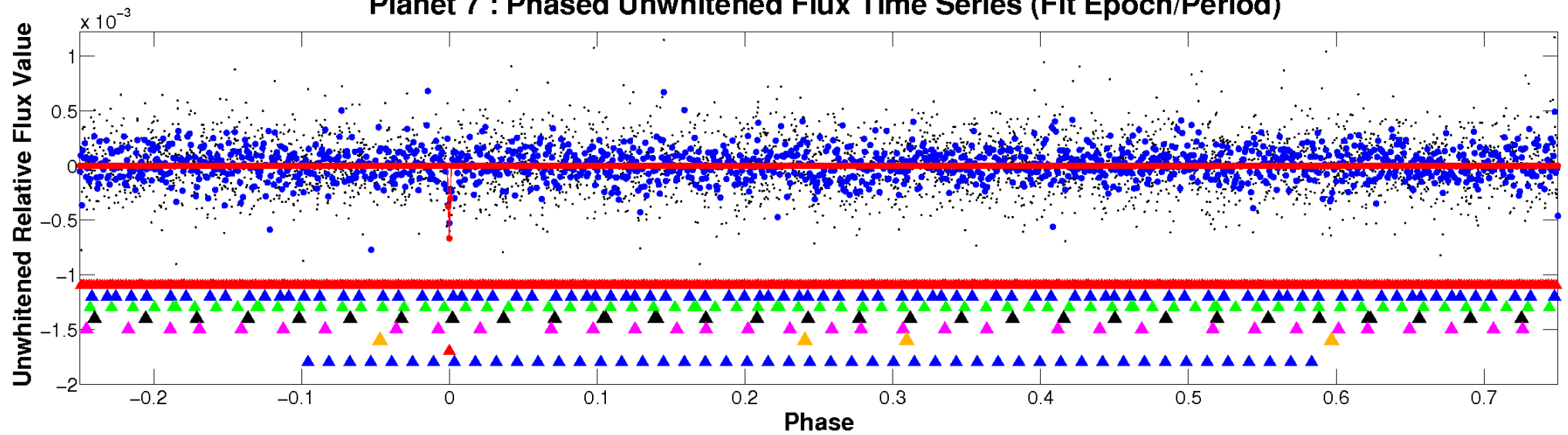


ALT Odd/Even

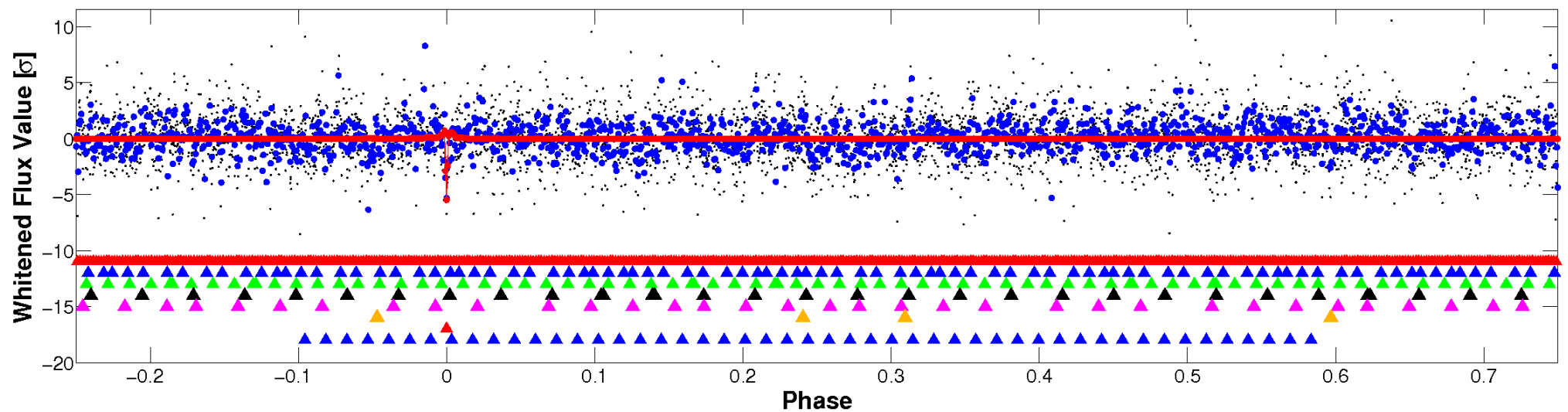
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

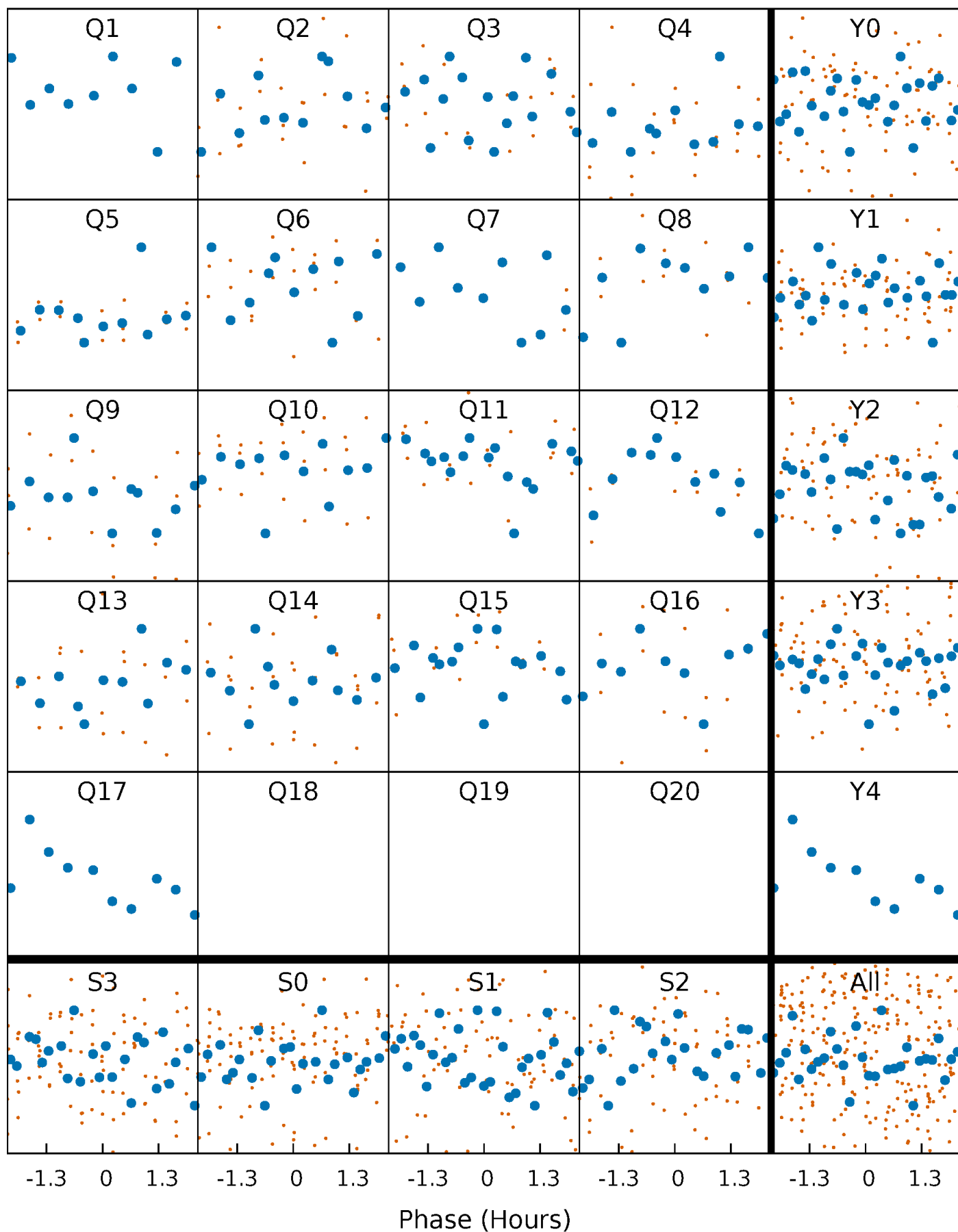


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



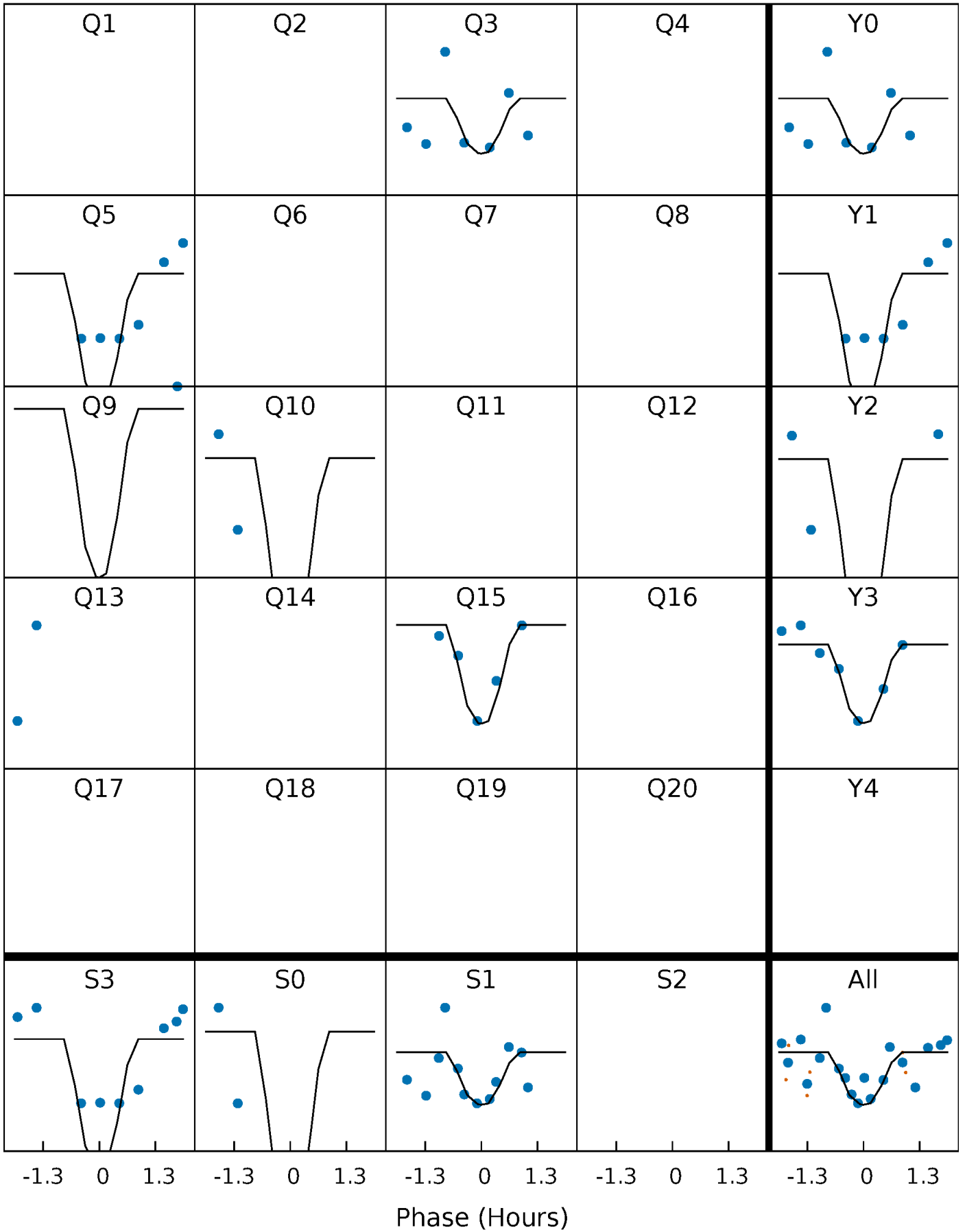
PDC Quarter-Phased Transit Curves

TCE 003848572-07 P= 29.425177 Days $T_0=160.784434$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003848572-07 $P = 29.425177$ Days $T_0 = 160.784434$ (BKJD)

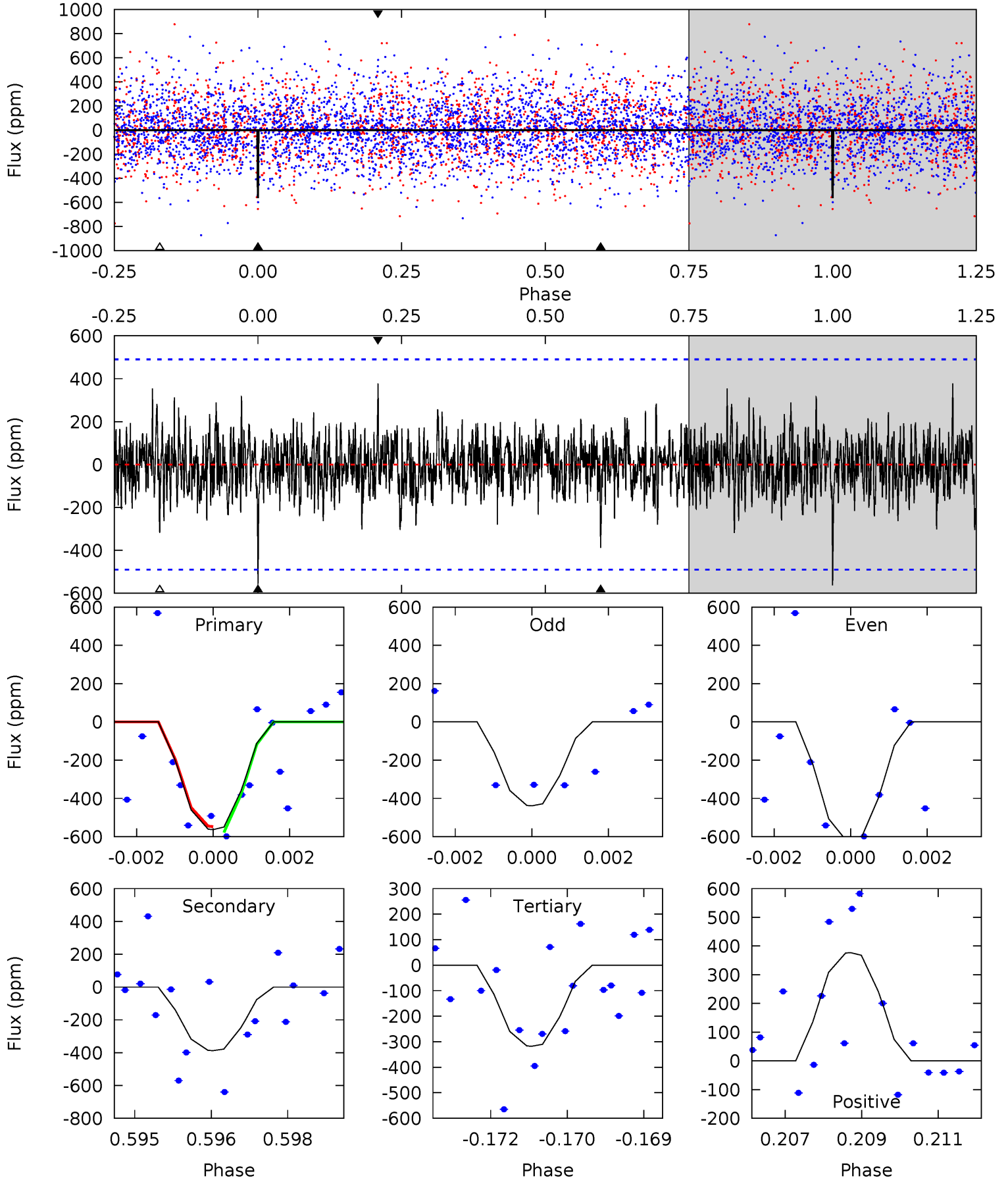


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003848572-07, $P = 29.425177$ Days, $E = 131.359257$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.16	4.24	3.48	4.13	5.36	3.15	1.08	2.69	2.04	0.77	0.12	0.94	0.92	0.40	0.16



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-388 ± 91	$4.40^{+4.63}_{-2.75}$	860^{+62}_{-45}	4374^{+2738}_{-936}	367^{+2462}_{-280}
Alt.	N/A	N/A	N/A	N/A	N/A

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

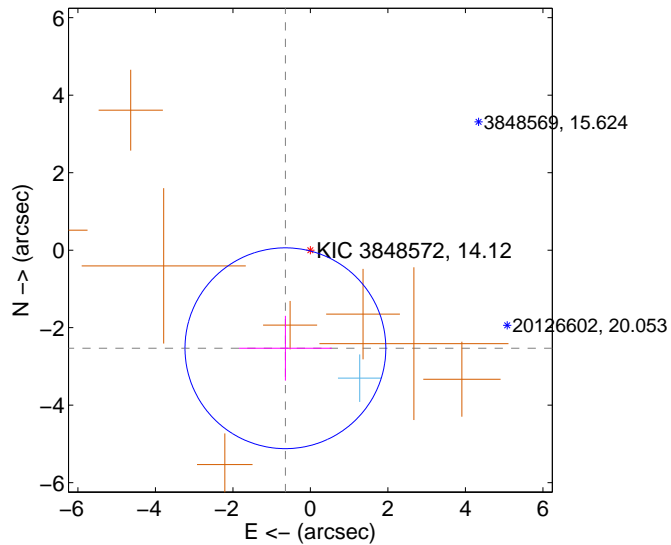
Supplemental centroid analysis for 003848572-07. Kepler magnitude: 14.12. Transit SNR 11.70

There are 1 quarters with good PRF difference image offsets

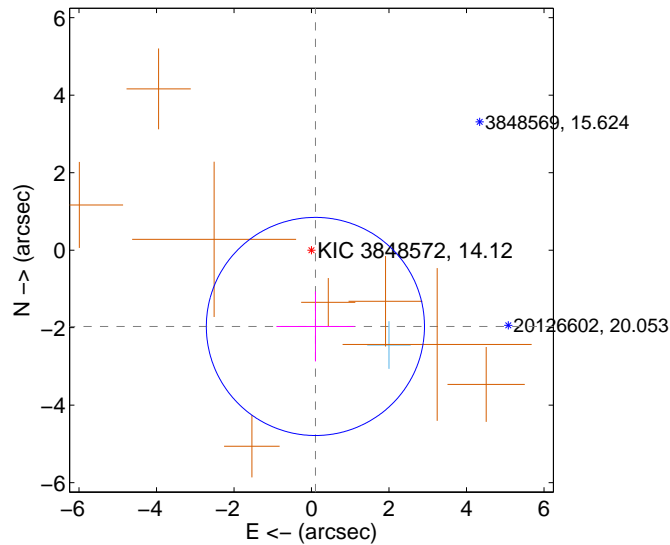
The direct PRF centroid is offset from the target star catalog position by about 0.64 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.613 ± 0.864	3.02	0.646 ± 1.197	-2.532 ± 0.837
PRF-fit source offset from KIC position	1.972 ± 0.938	2.10	-0.101 ± 1.005	-1.969 ± 0.903
photometric centroid source offset	1.42 ± 0.50	2.85	-1.27 ± 0.49	-0.63 ± 0.54

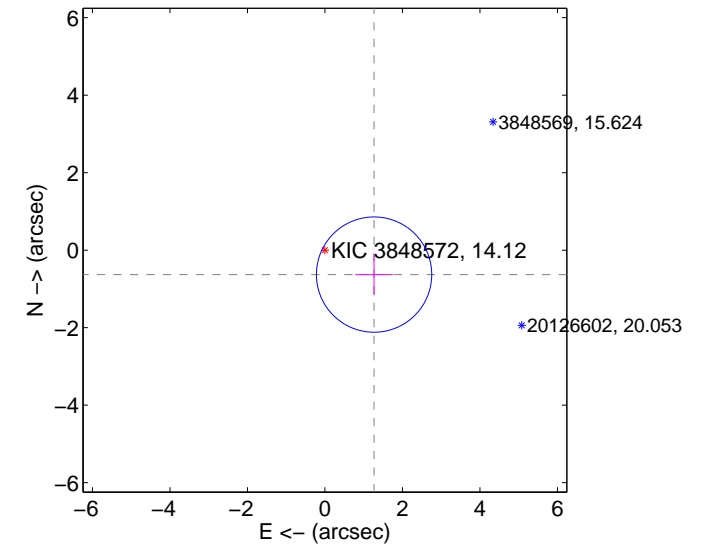
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

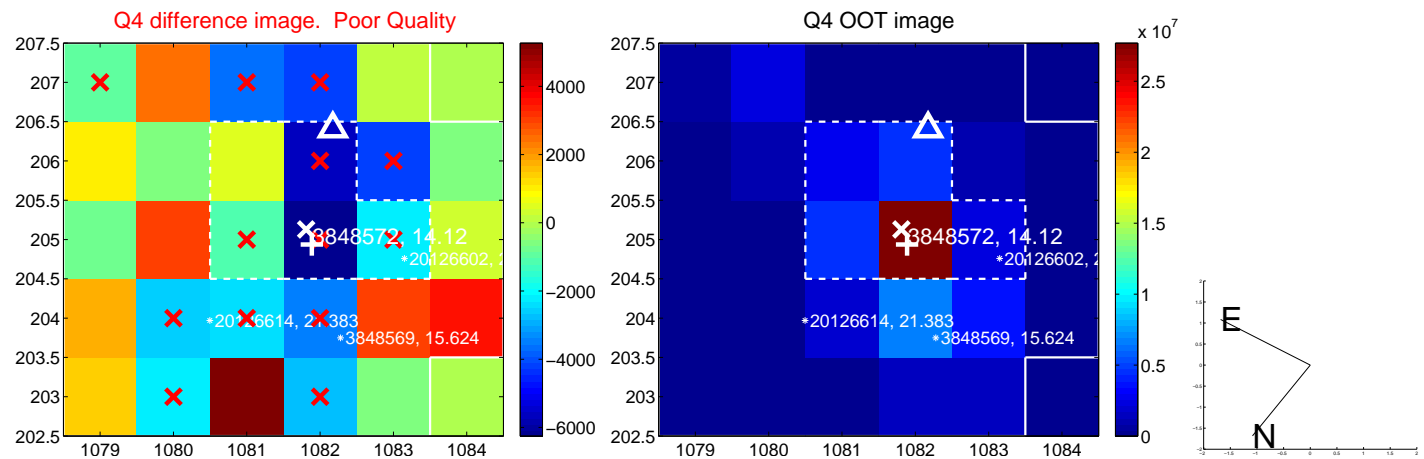
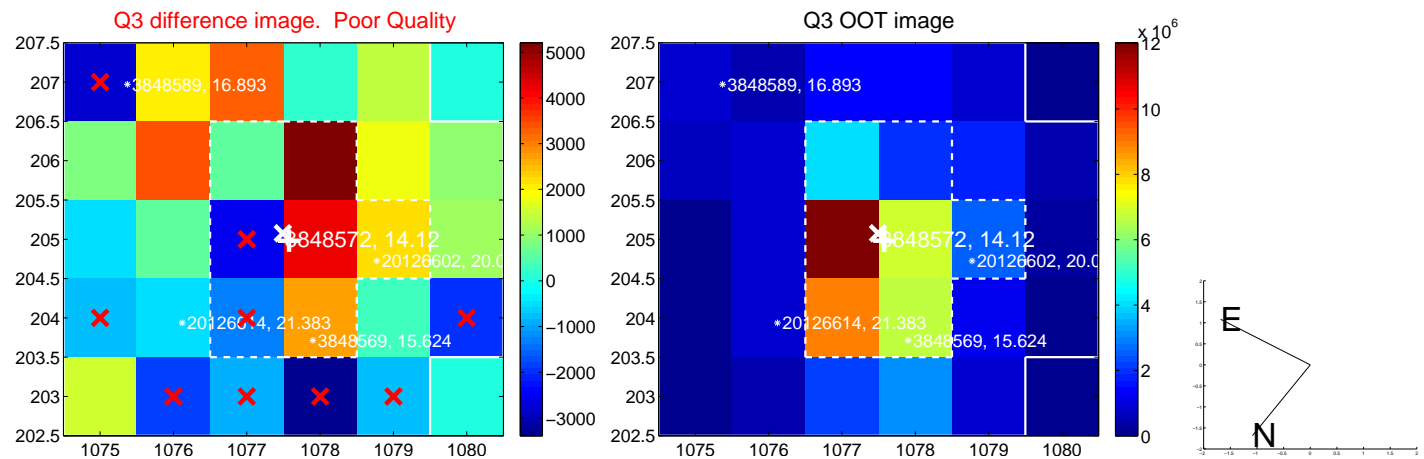
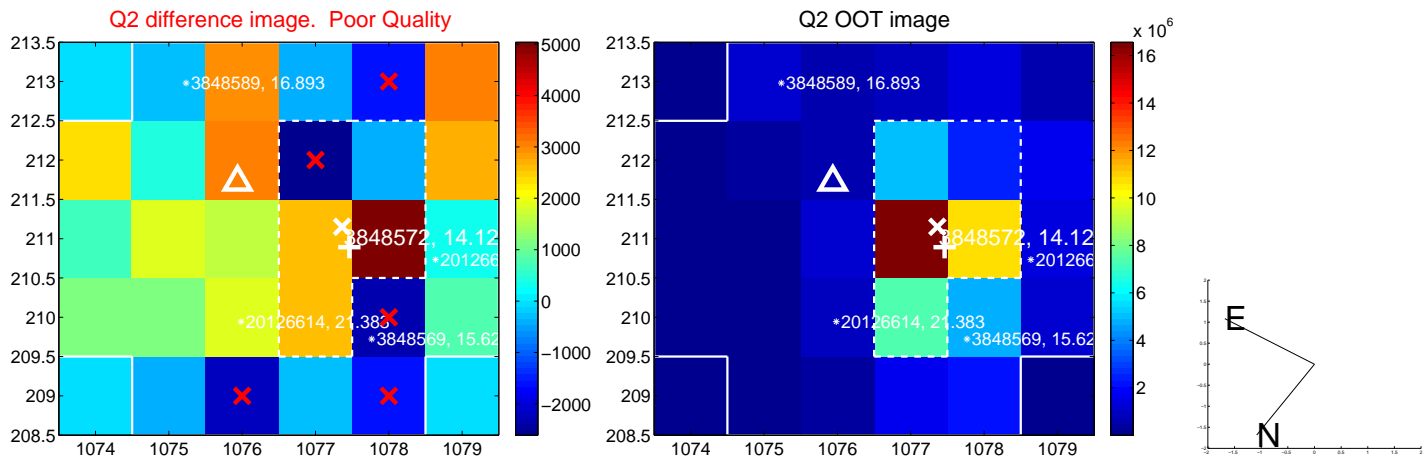
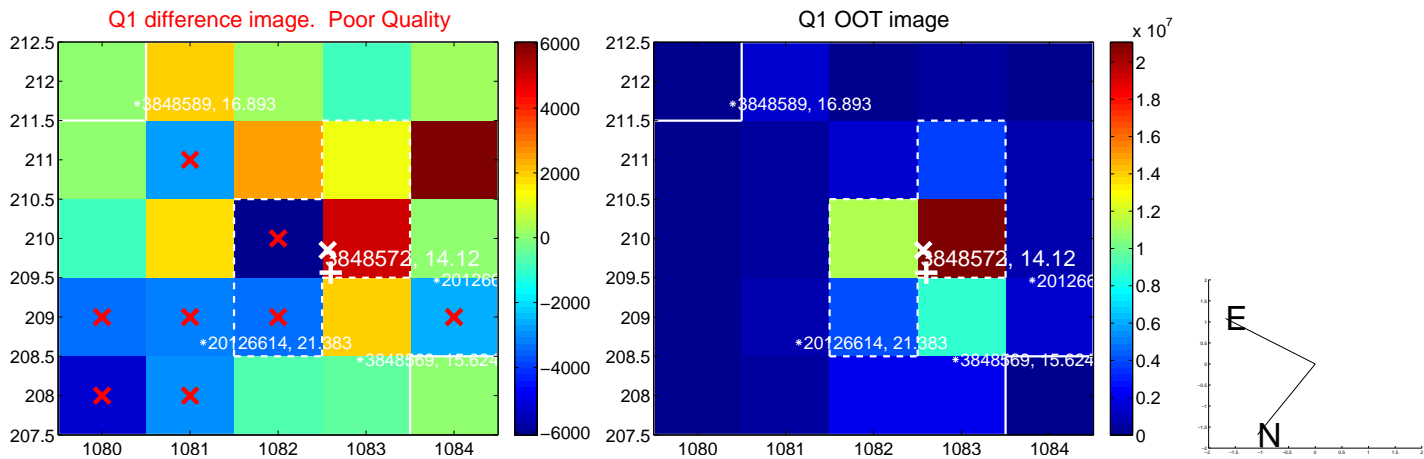


offset from photometric centroids

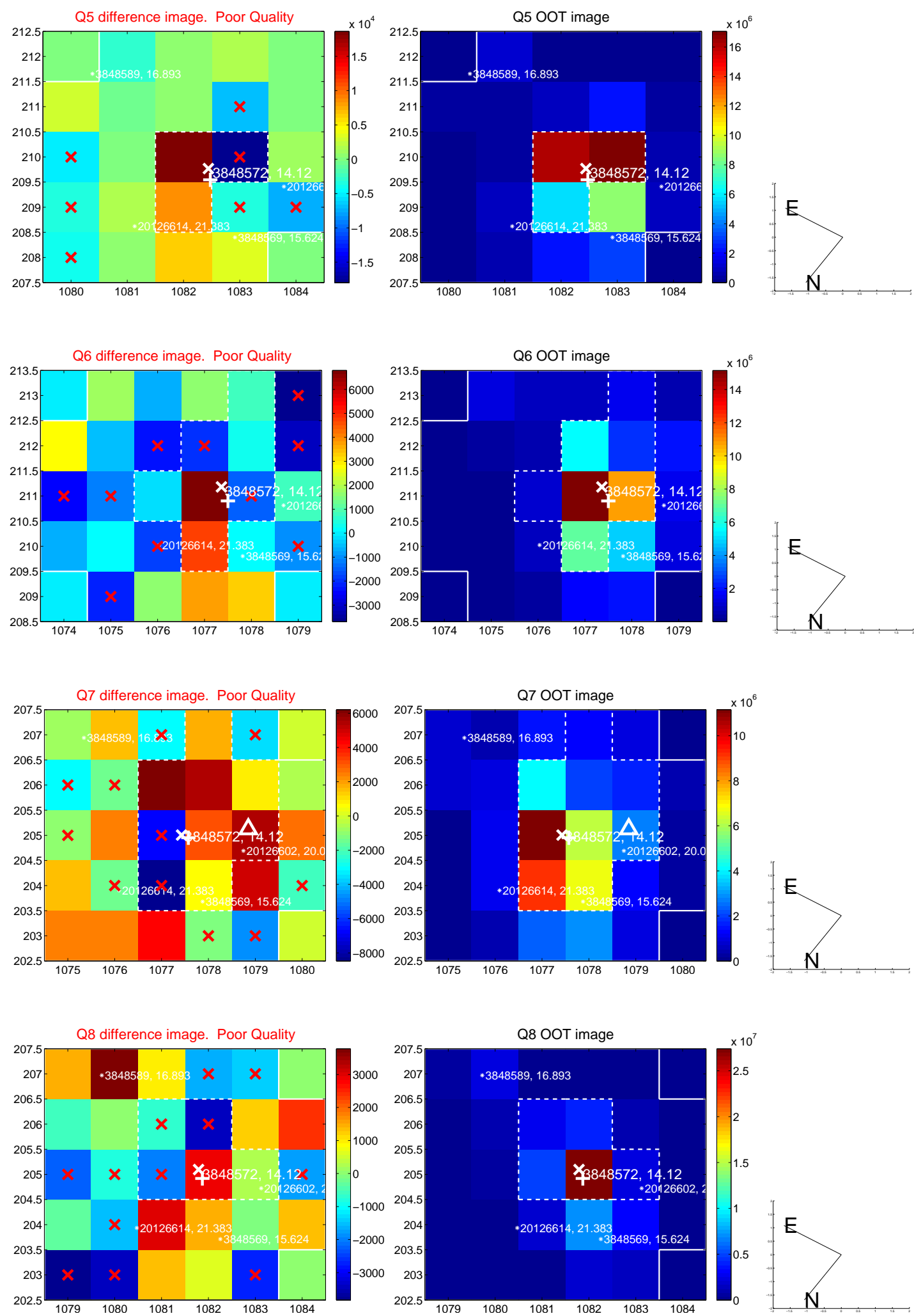


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

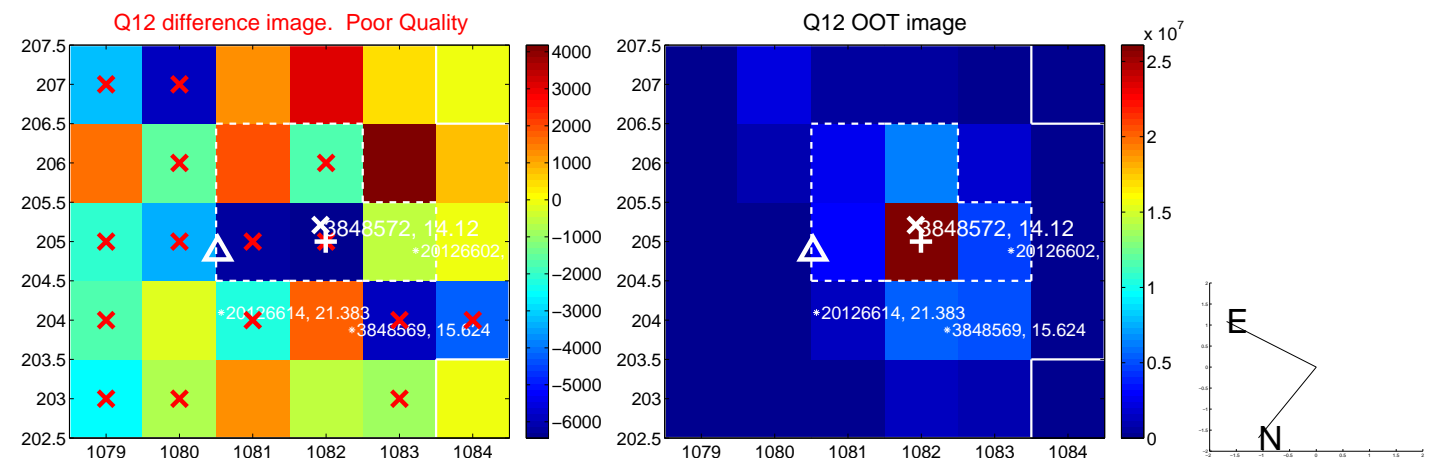
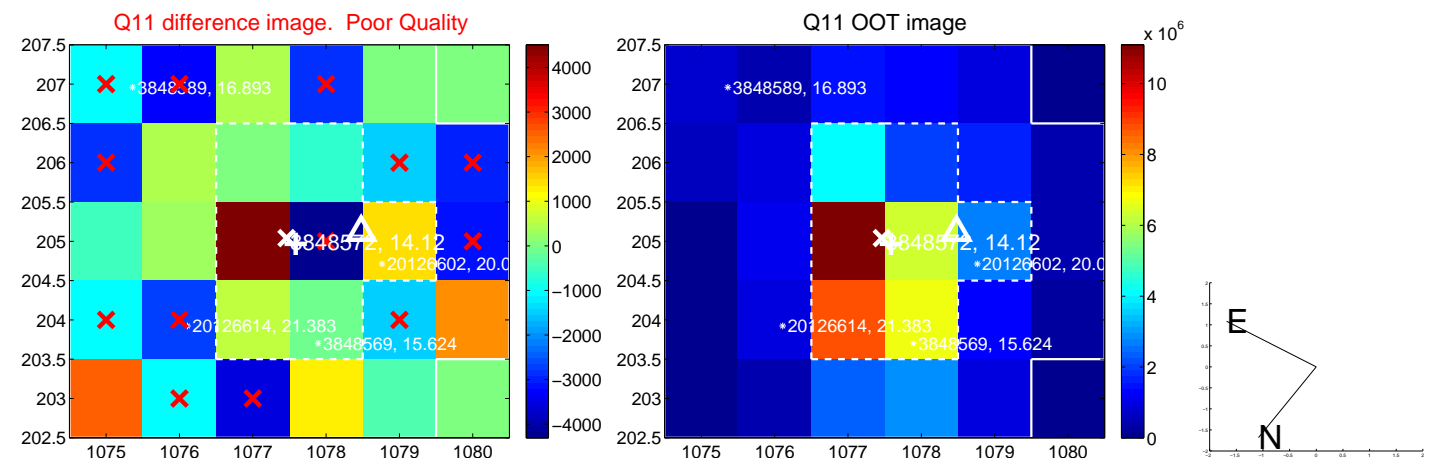
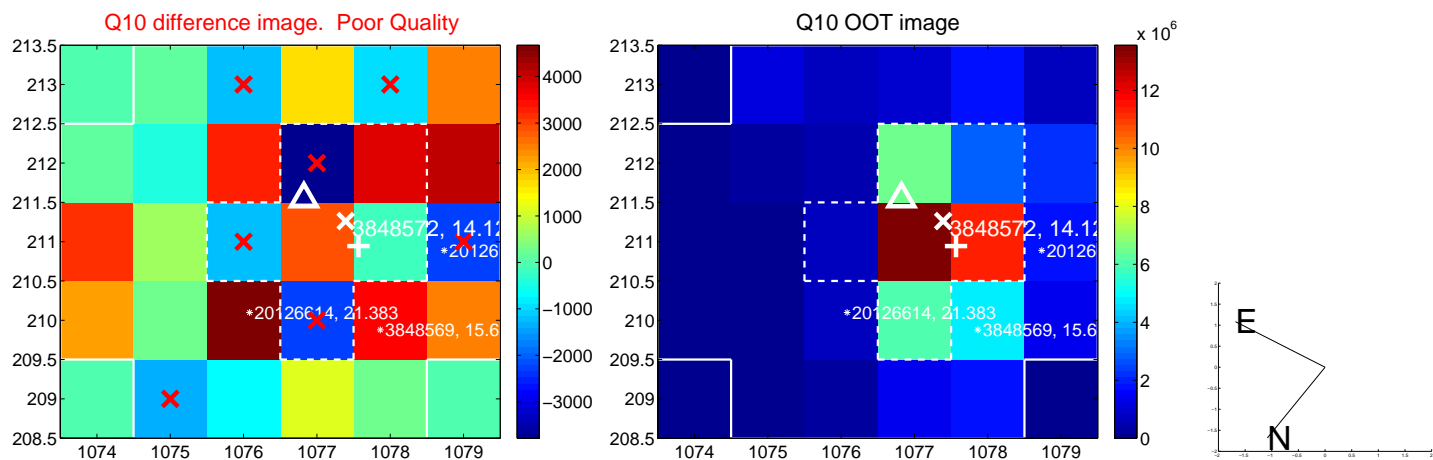
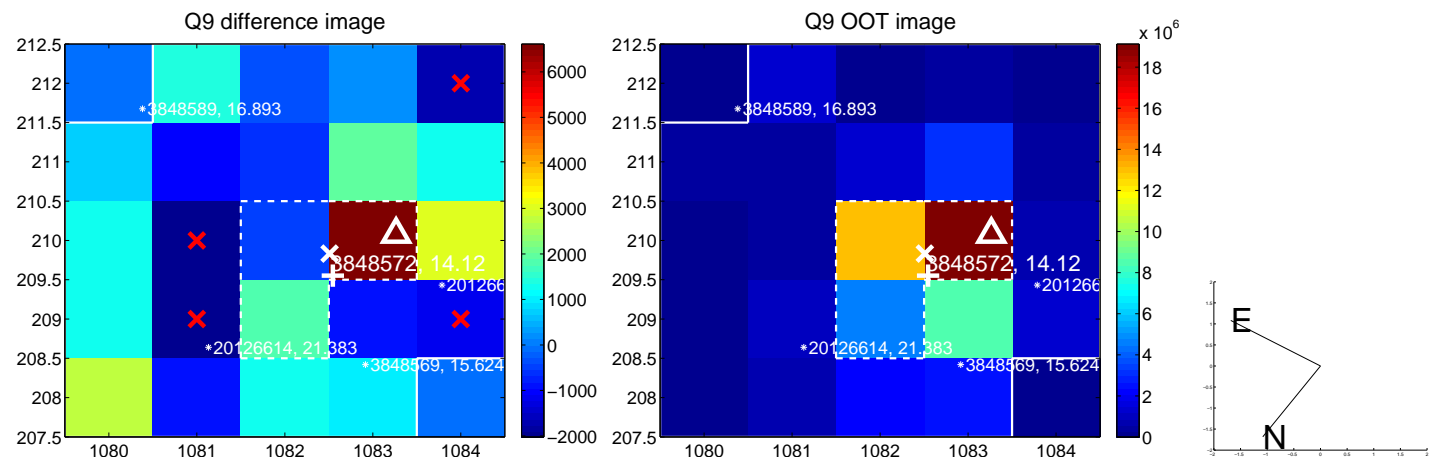
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



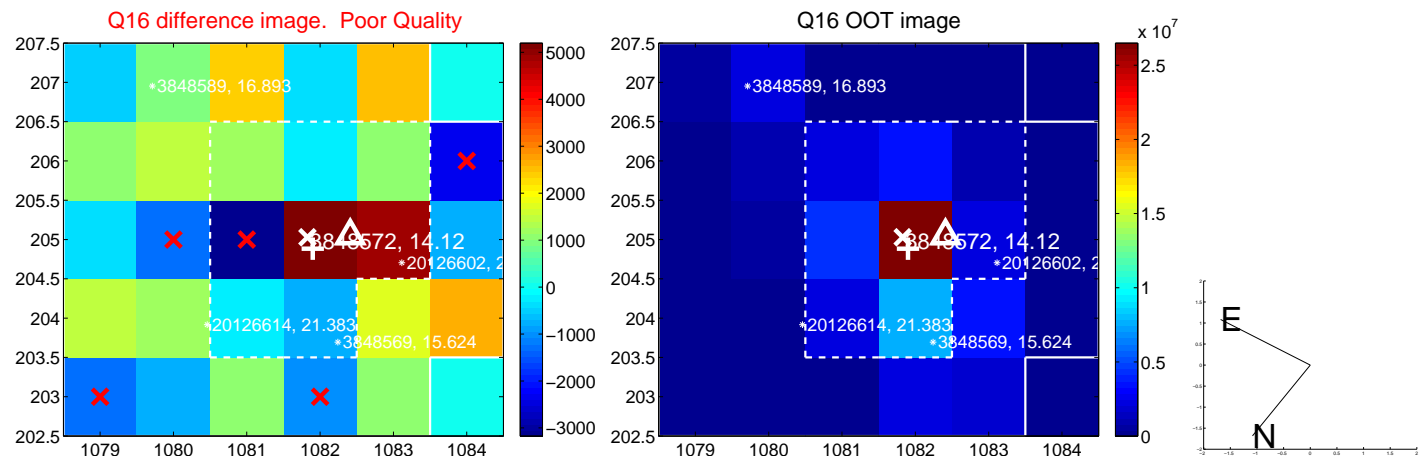
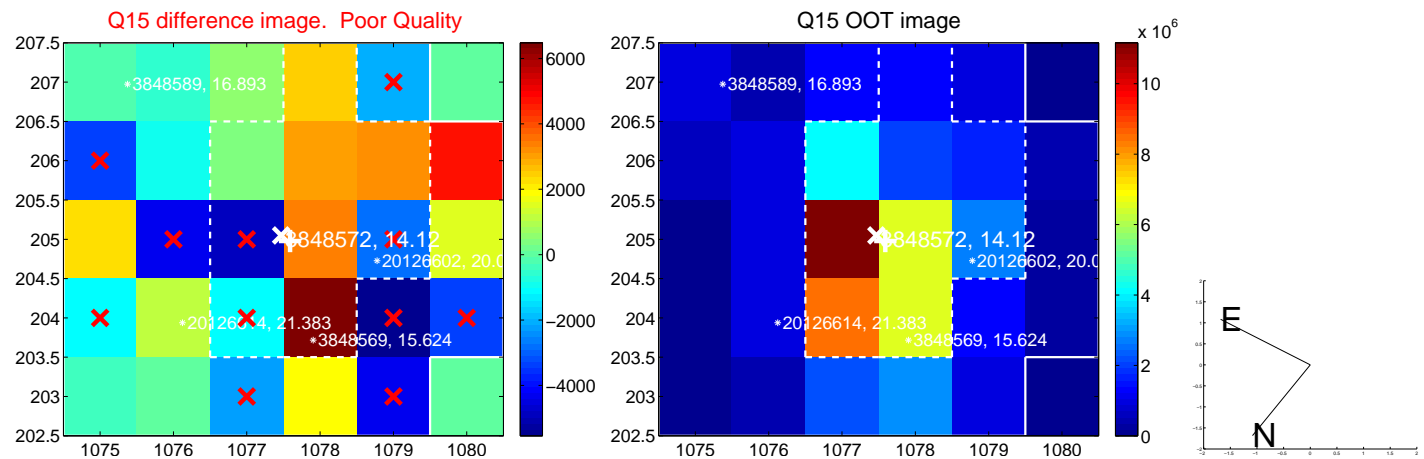
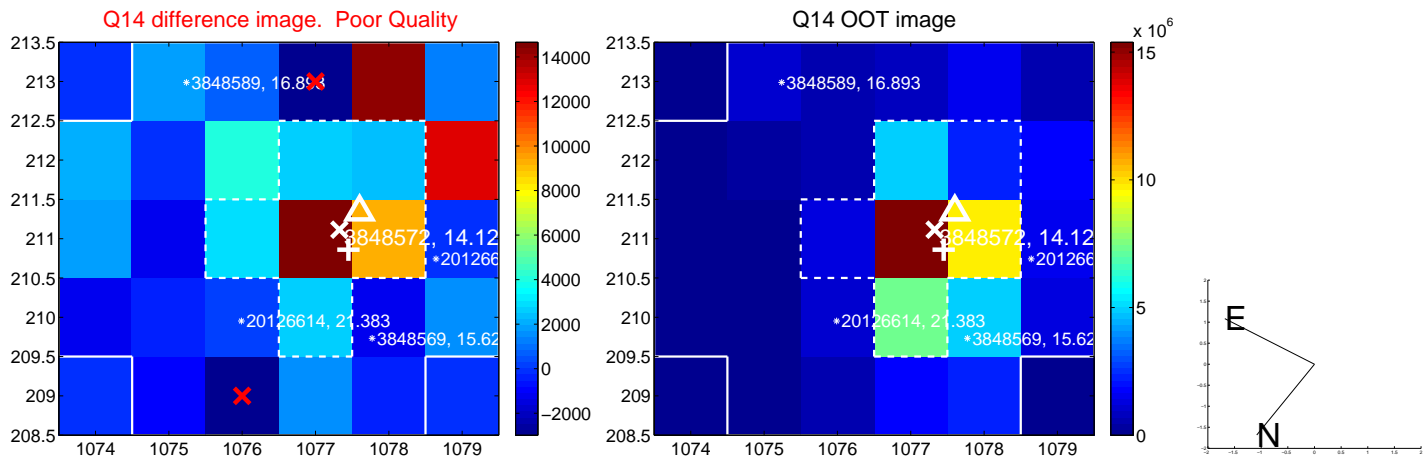
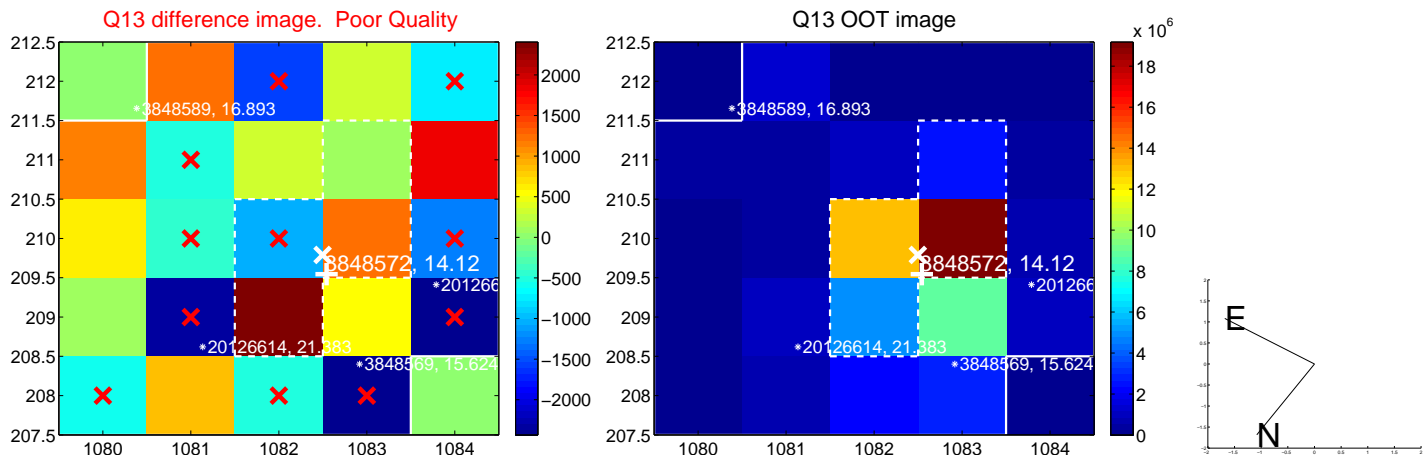
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



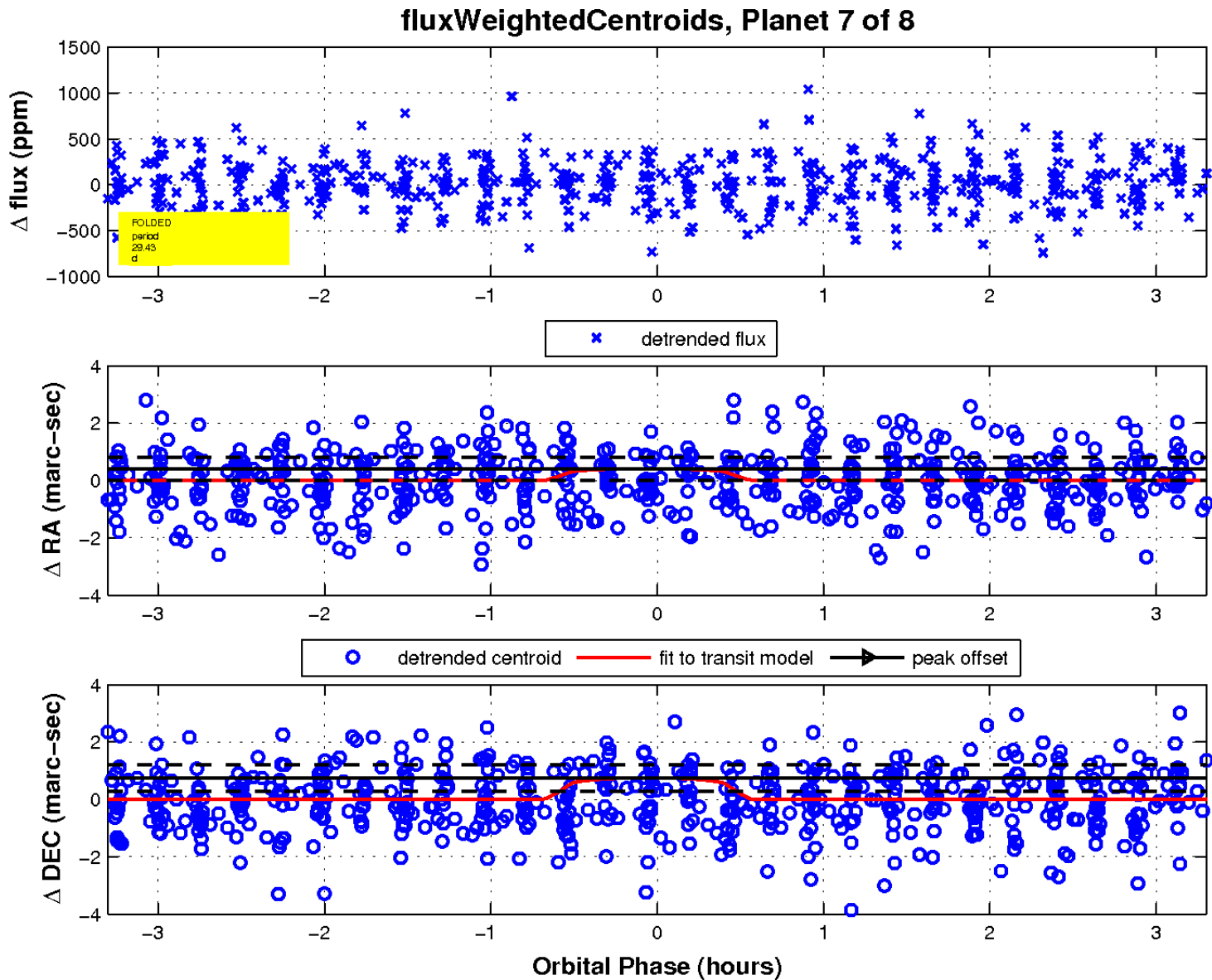
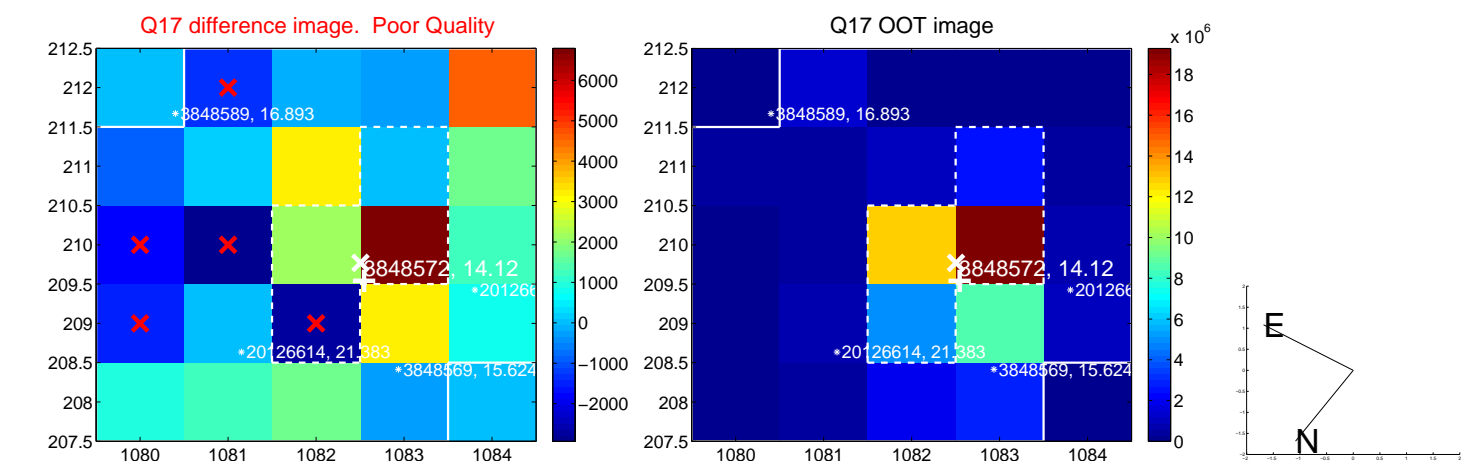
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

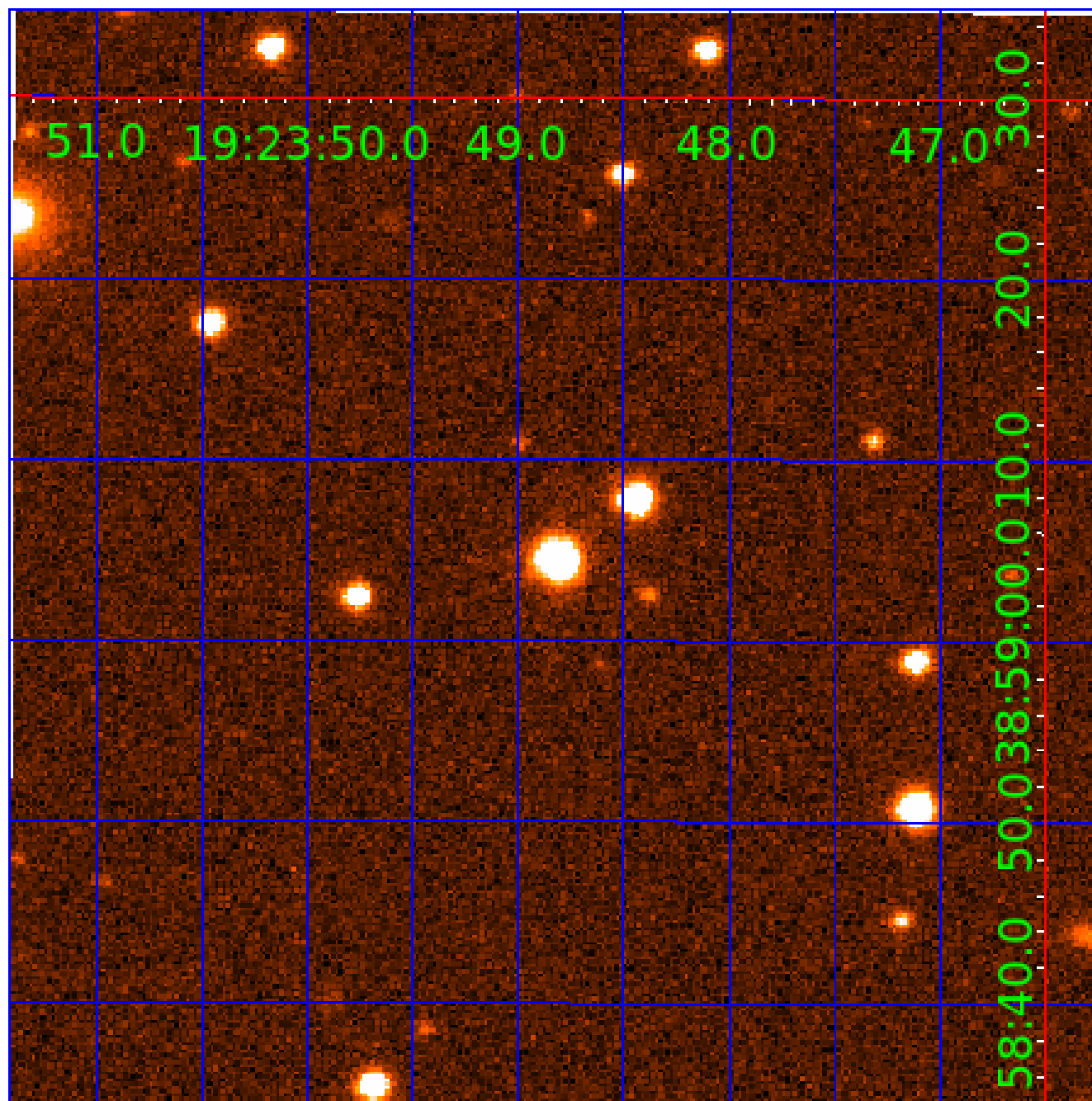


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003848572

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})
003848572-01	OBS	No	2.000255	133.459175	24.6	14.647	7.9	8.6	0.99	5964	0.49	1124.77
003848572-02	OBS	No	16.434441	134.097367	266.8	3.999	14.2	12.8	0.99	5964	1.76	67.84
003848572-03	OBS	No	19.064952	137.878404	298.3	6.444	14.0	14.6	0.99	5964	1.91	55.66
003848572-04	OBS	No	44.646663	163.854428	528.6	1.647	13.6	13.2	0.99	5964	2.27	17.90
003848572-05	OBS	No	42.595759	155.809232	449.6	8.480	12.3	12.1	0.99	5964	4.08	19.06
003848572-06	OBS	No	372.043312	140.463887	330.5	2.559	9.9	10.4	0.99	5964	2.15	1.06
003848572-07	OBS	No	29.425177	160.784434	672.3	1.107	11.3	11.7	0.99	5964	2.57	31.20
003848572-08	OBS	No	29.841435	157.971575	404.4	1.199	9.7	9.7	0.99	5964	2.12	30.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003848572-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_KIC_POS
003848572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
003848572-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
003848572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS—HALO_GHOST
003848572-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003848572-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
003848572-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

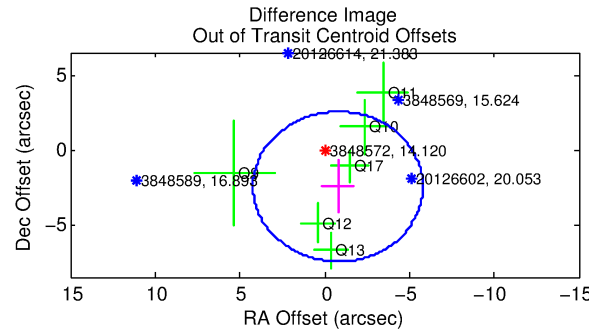
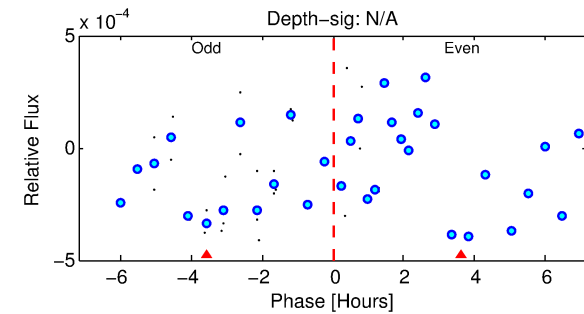
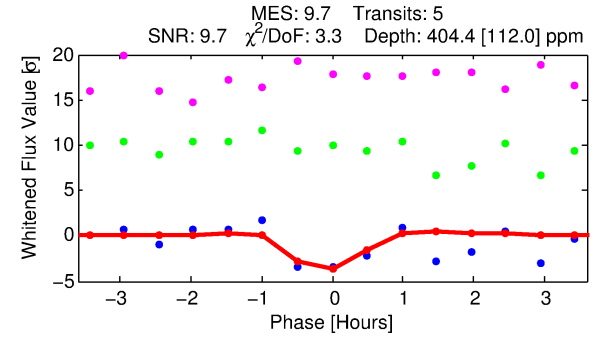
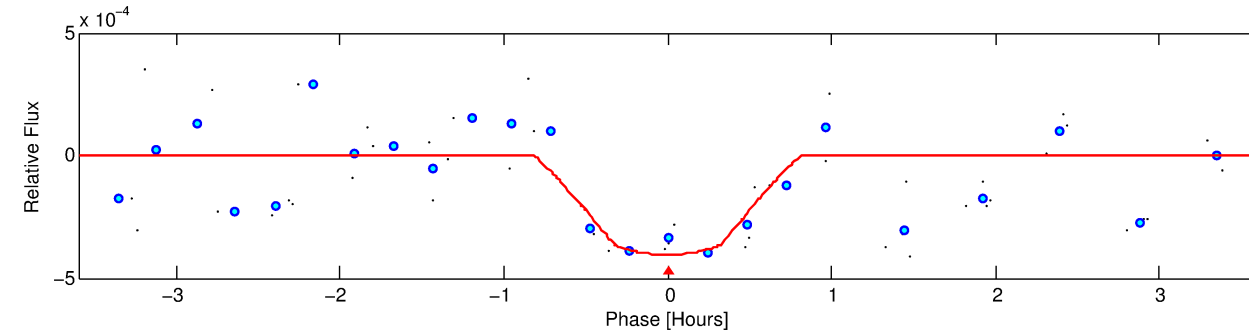
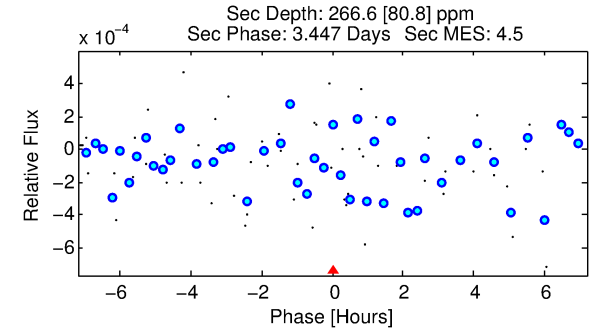
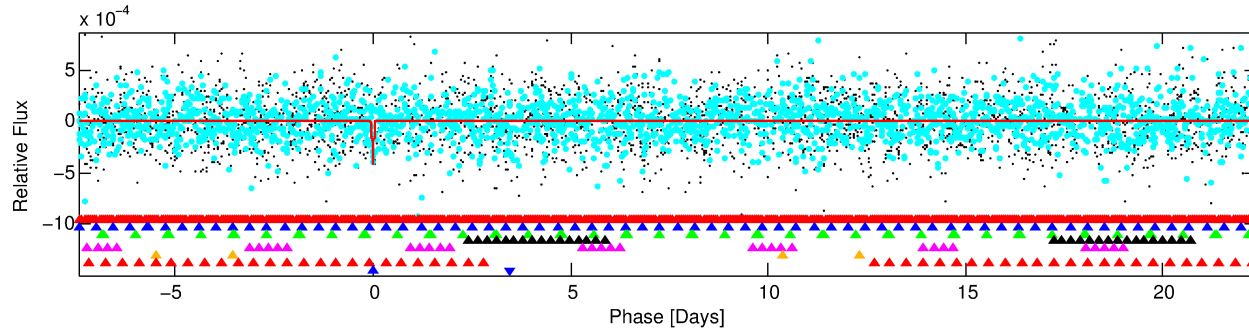
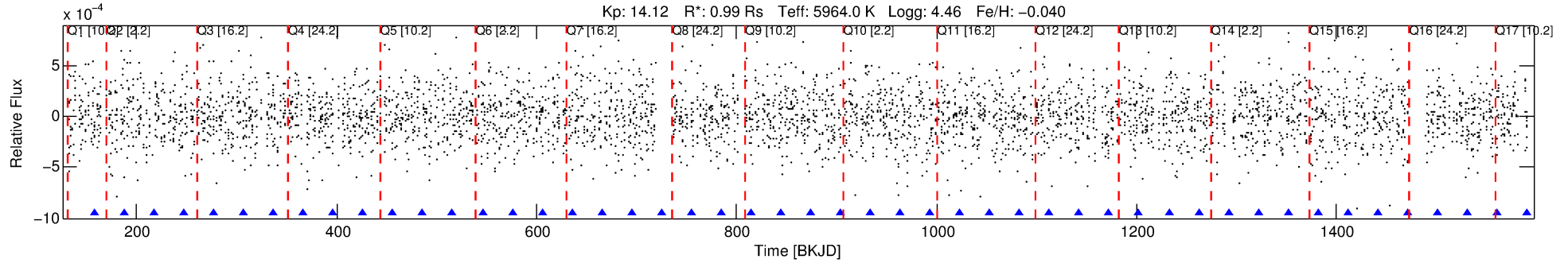
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003848572-08

No Significant Match Found

DV One-Page Summary

KIC: 3848572 Candidate: 8 of 8 Period: 29.841 d



DV Fit Results:

Period = 29.84143 [0.00030] d
Epoch = 157.9716 [0.0076] BKJD
Rp/R* = 0.0197 [0.0328]
a/R* = 145.33 [1105.82]
b = 0.67 [6.27]
Seff = 30.63 [12.62]
Teff = 600 [62] K
Rp = 2.12 [3.60] Re
a = 0.1903 [0.0505] AU
Ag = 1177.52 [3964.45] [0.30σ]
Teffp = 5433 [4545] K [1.06σ]

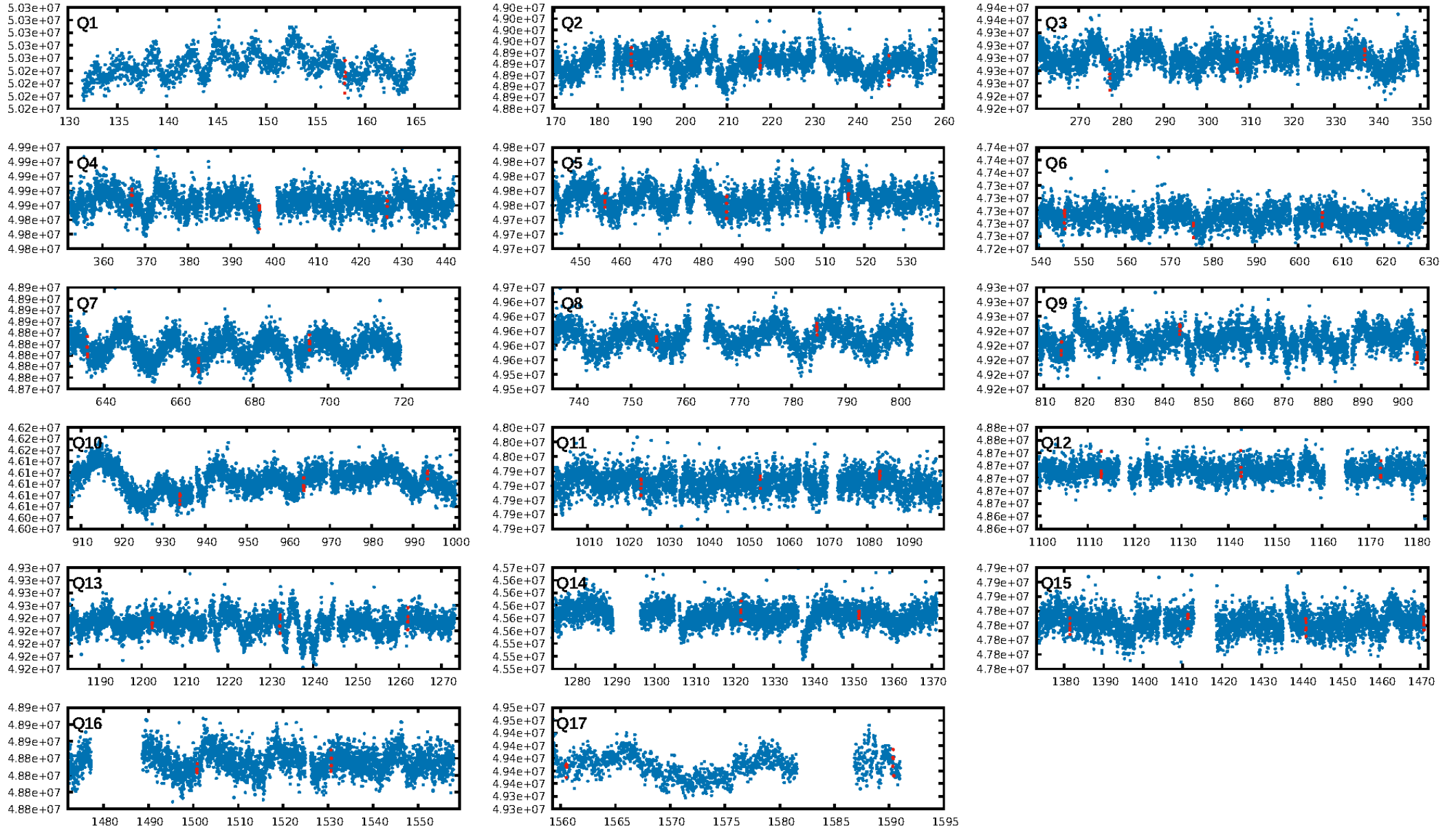
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.12σ]
LongPeriod-sig: 100.0% [35.74σ]
ModelChiSquare2-sig: 8.3%
ModelChiSquareGof-sig: 88.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.2787
Centroid-sig: 0.5%
Centroid-so: 1.309 arcsec [1.60σ]
OotOffset-rm: 2.590 arcsec [1.55σ]
KicOffset-rm: 2.420 arcsec [1.68σ]
OotOffset-st: 1/1/1/3 [6]
KicOffset-st: 1/1/1/3 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 0.47 [8/17]

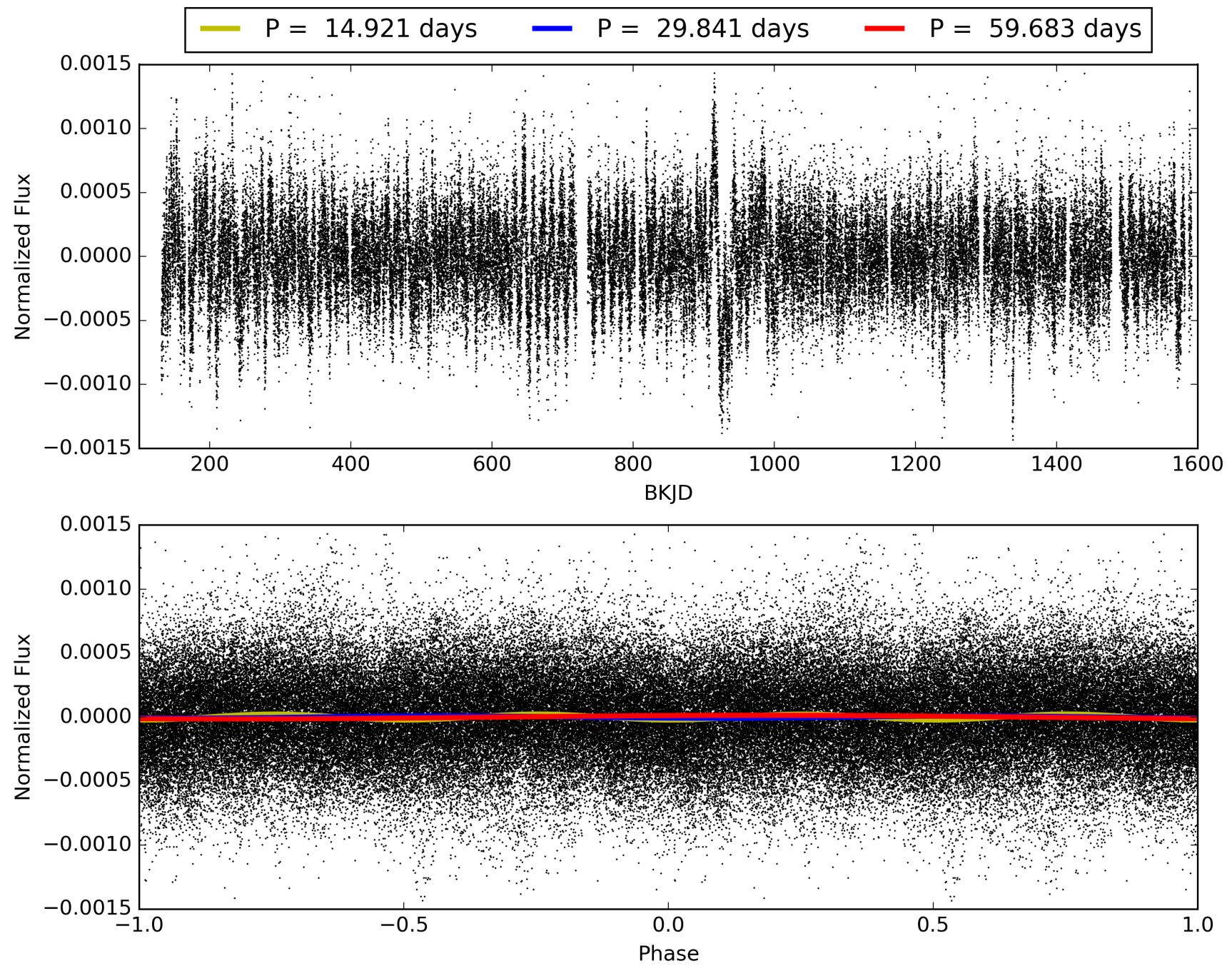
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:42:24 Z

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

TCE 003848572-08, PDC Light Curves

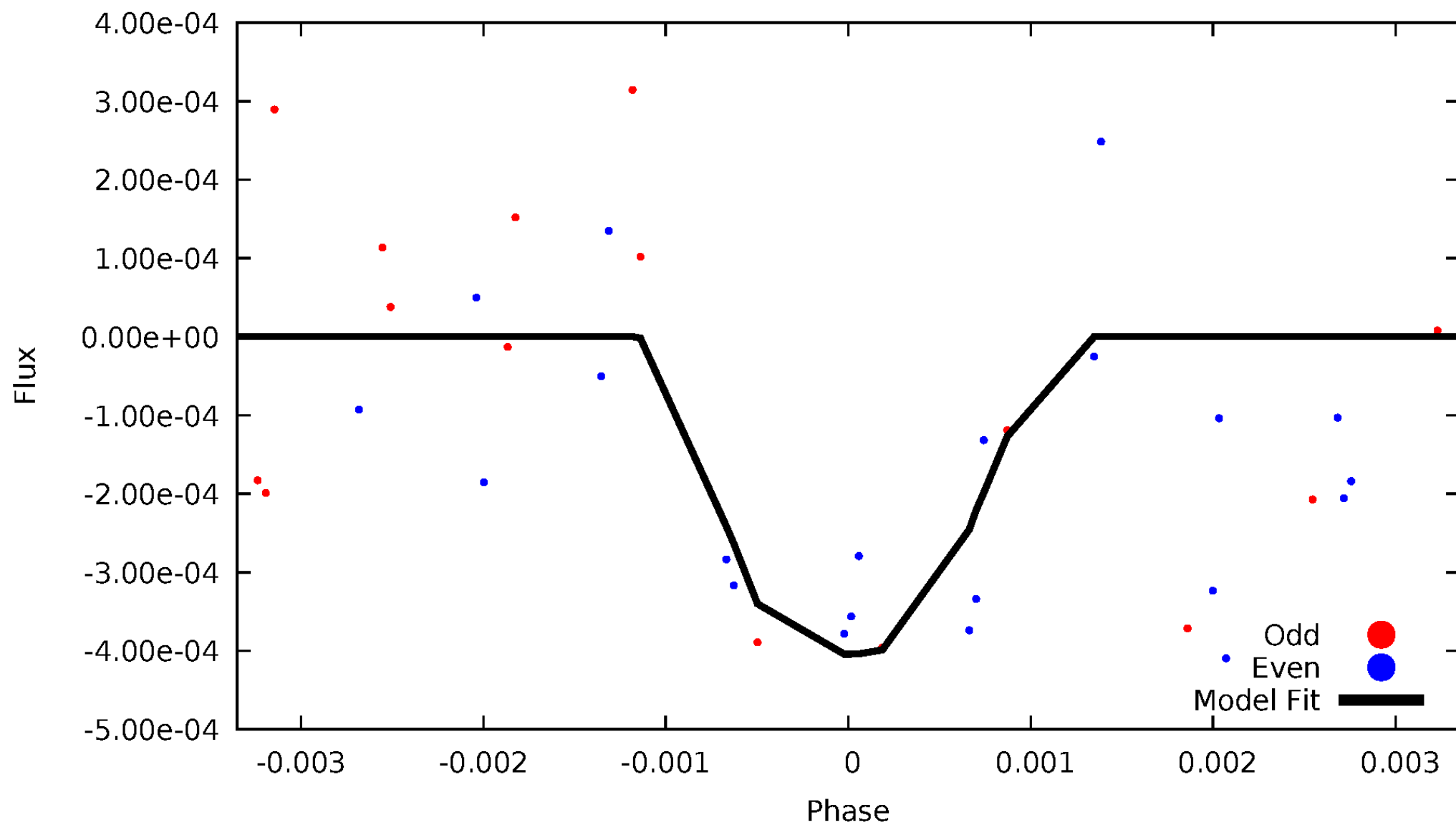


TCE 003848572-08



DV Odd/Even

TCE 003848572-08

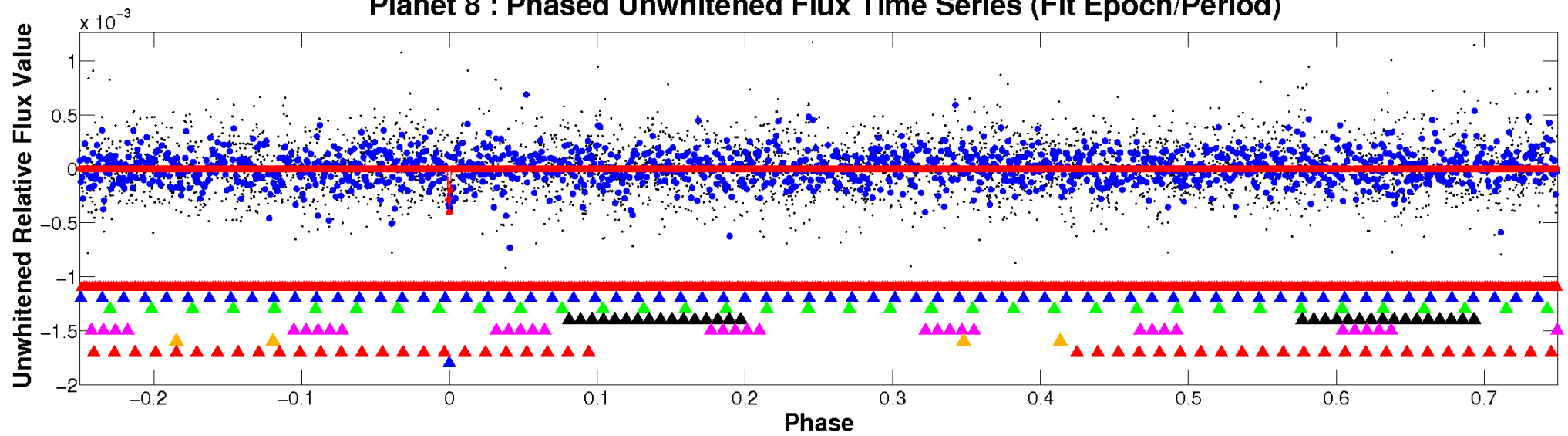


ALT Odd/Even

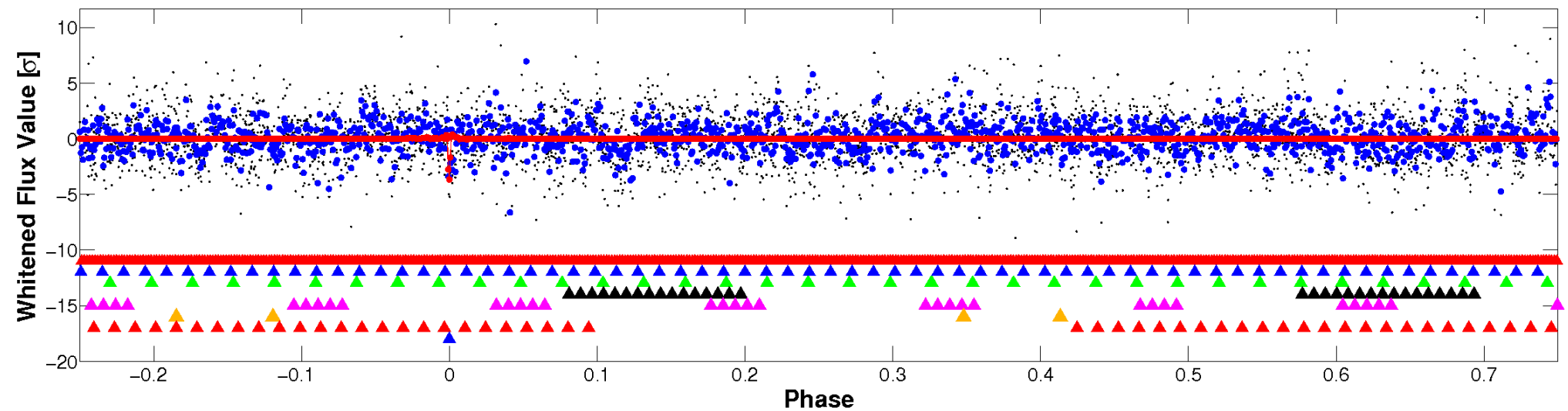
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

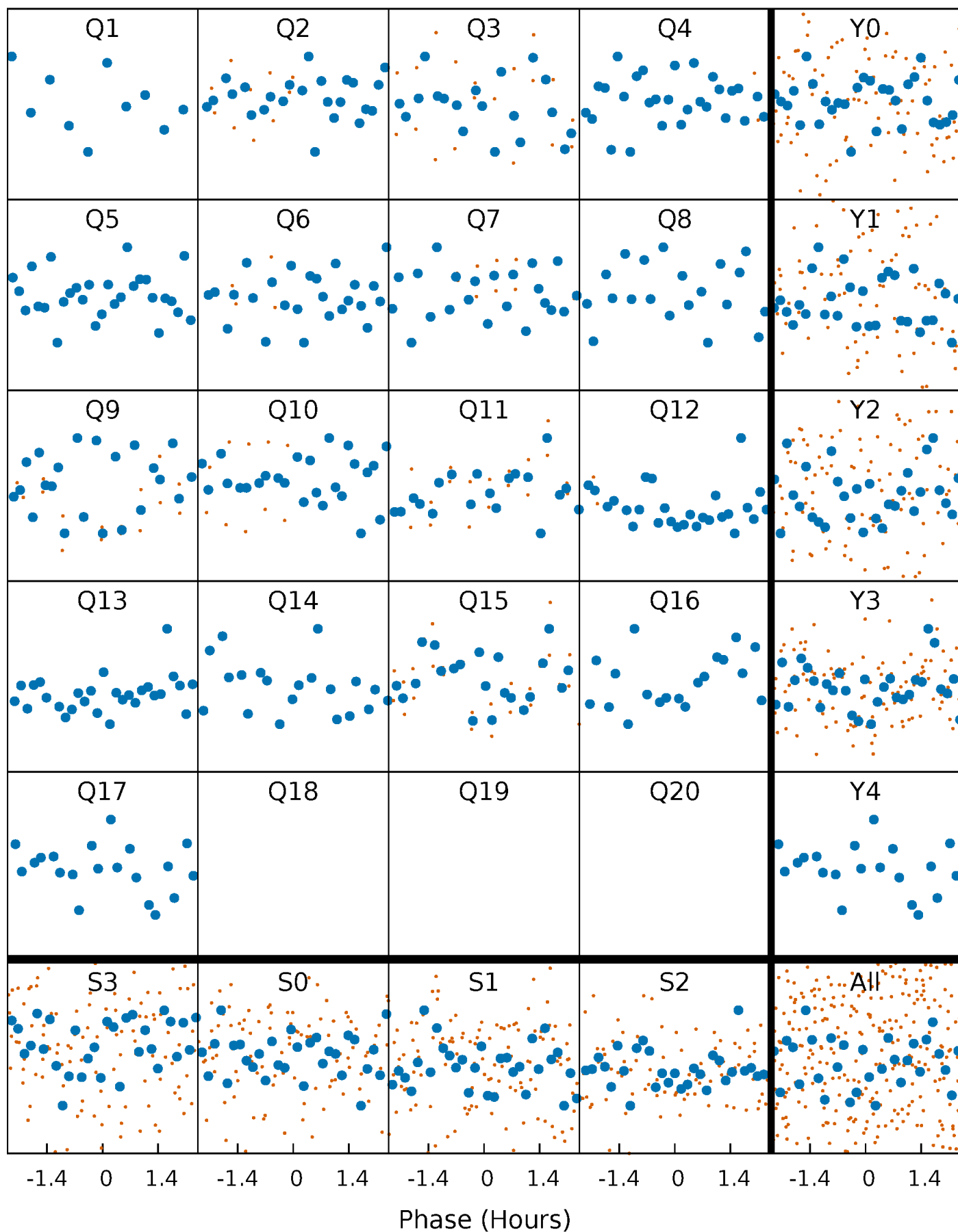


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



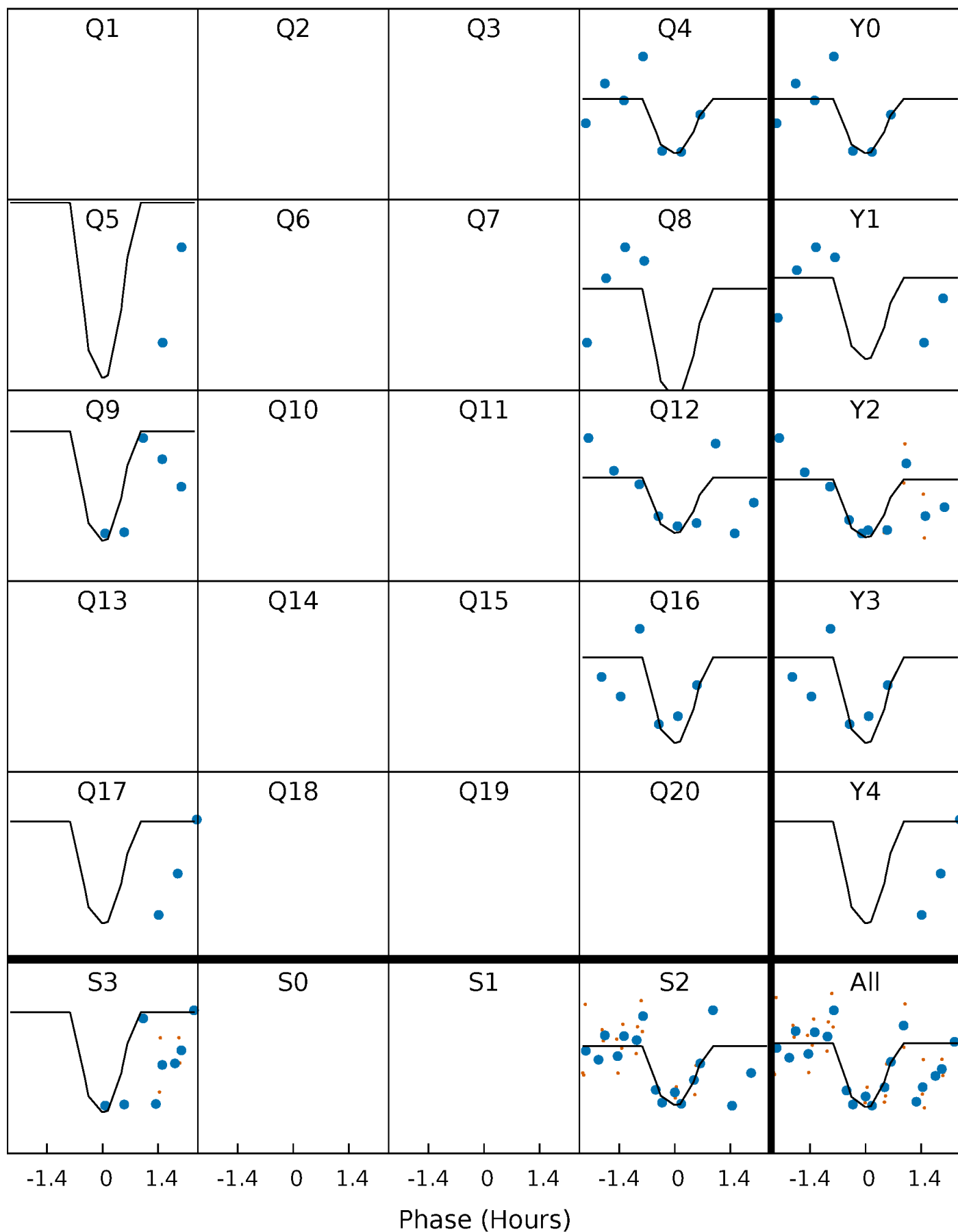
PDC Quarter-Phased Transit Curves

TCE 003848572-08 P= 29.841435 Days $T_0=157.971576$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003848572-08 P= 29.841435 Days $T_0=157.971576$ (BKJD)

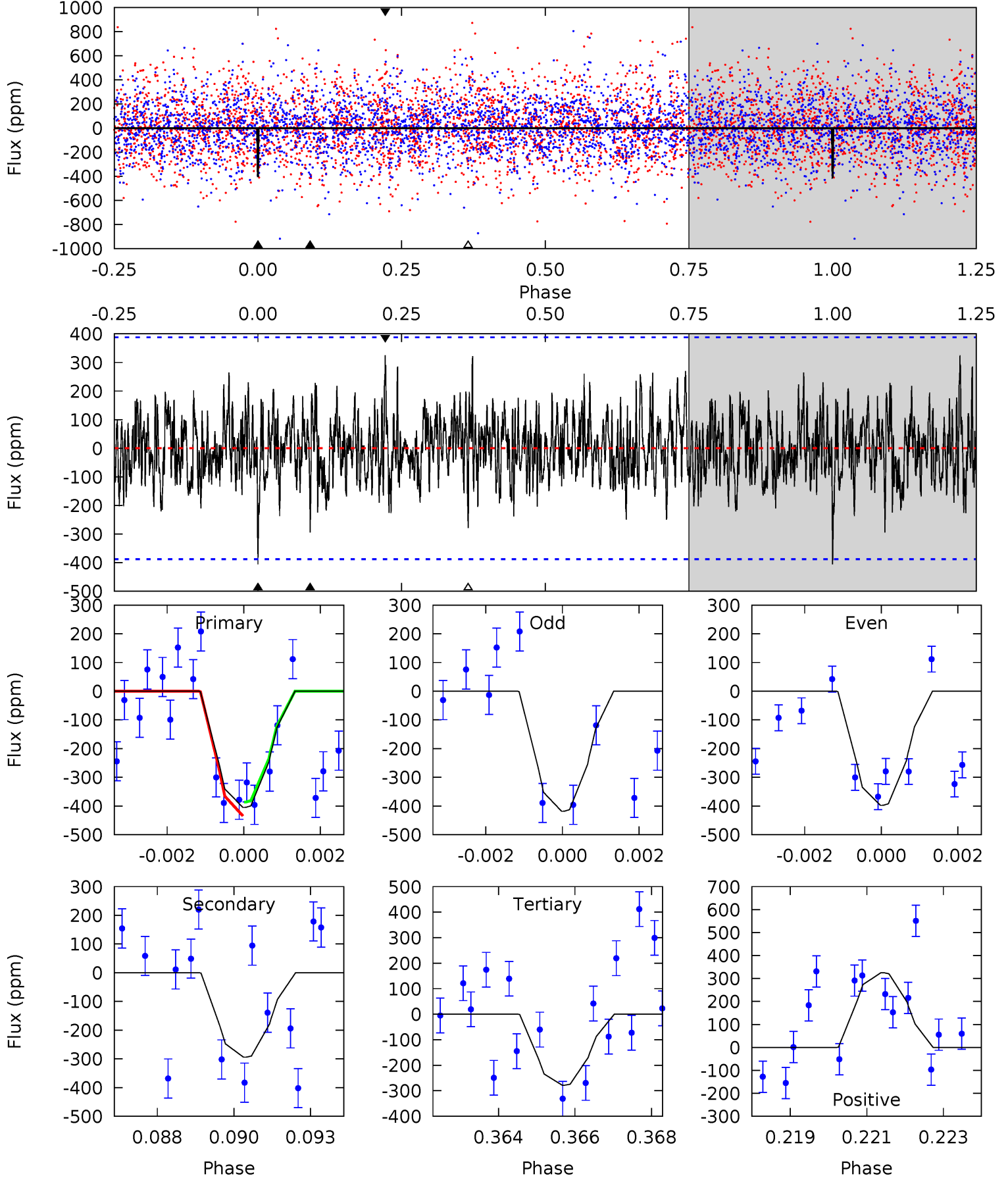


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003848572-08, P = 29.841435 Days, E = 128.130141 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.56	4.04	3.82	4.46	5.33	3.09	1.30	1.74	1.10	0.22	-0.43	0.12	0.95	0.45	0.32



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003848572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+160}_{-195}	$4.461^{+0.067}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.989^{+0.307}_{-0.109}$	$1.030^{+0.129}_{-0.129}$	$1.501^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-11%	+13%/-13%	+28%/-53%
Source	PHO1	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 003848572-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-294 ± 73	$3.35^{+3.29}_{-2.15}$	853^{+62}_{-42}	4632^{+3161}_{-1028}	503^{+3581}_{-385}
Alt.	N/A	N/A	N/A	N/A	N/A

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

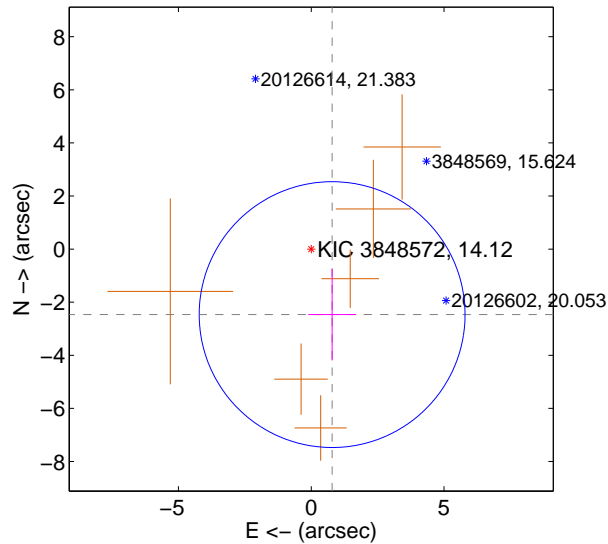
Supplemental centroid analysis for 003848572-08. Kepler magnitude: 14.12. Transit SNR 9.66

There are 0 quarters with good PRF difference image offsets

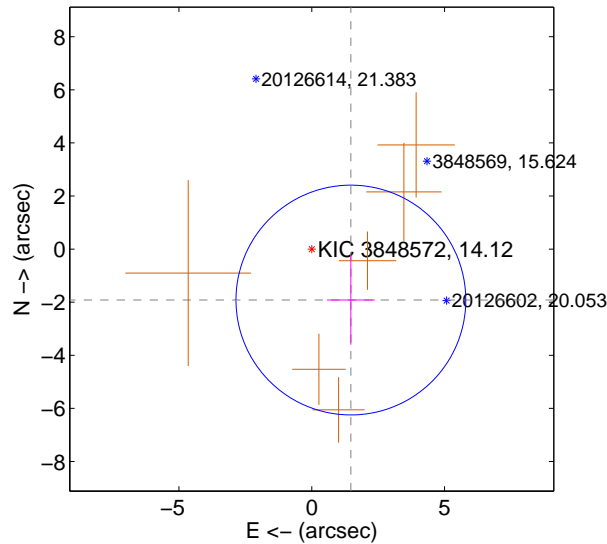
The direct PRF centroid is offset from the target star catalog position by about 0.93 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.590 ± 1.669	1.55	-0.787 ± 0.902	-2.467 ± 1.728
PRF-fit source offset from KIC position	2.420 ± 1.443	1.68	-1.475 ± 0.900	-1.919 ± 1.683
photometric centroid source offset	1.31 ± 0.82	1.60	-0.77 ± 0.77	-1.06 ± 0.84

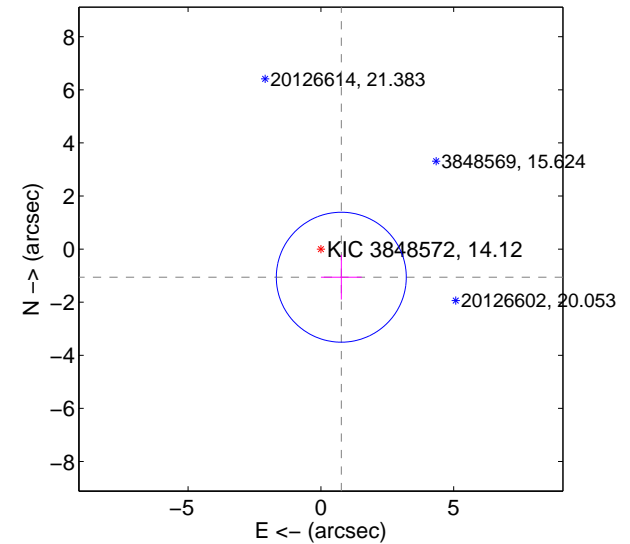
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

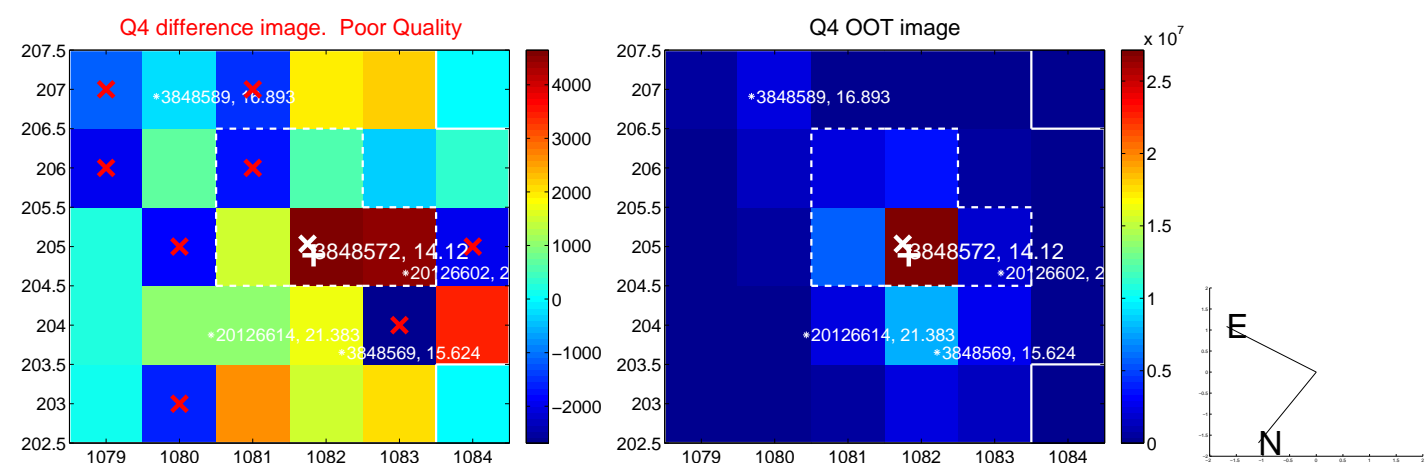
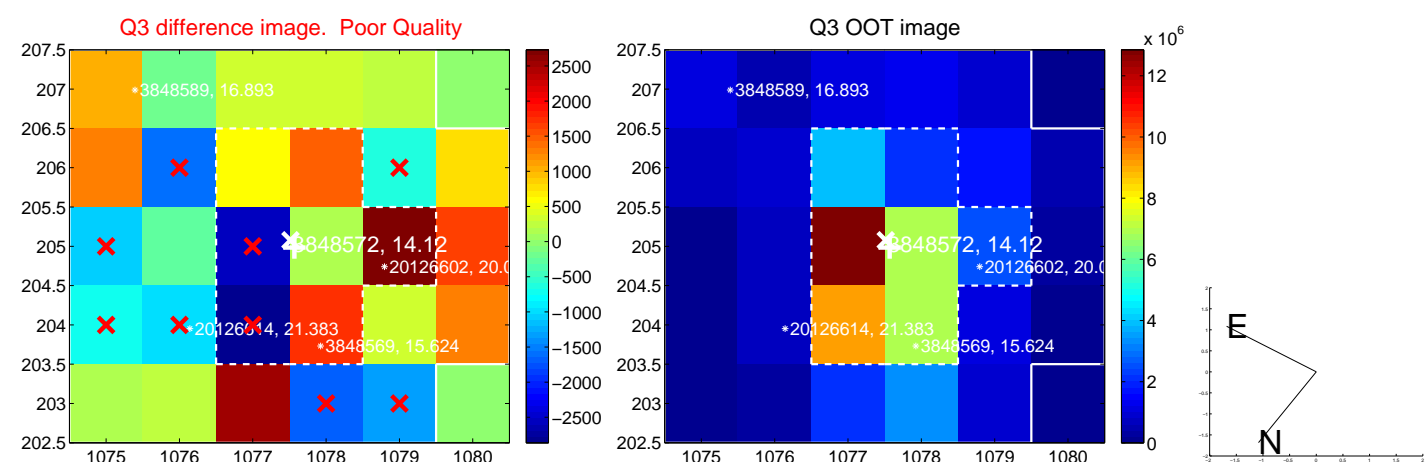
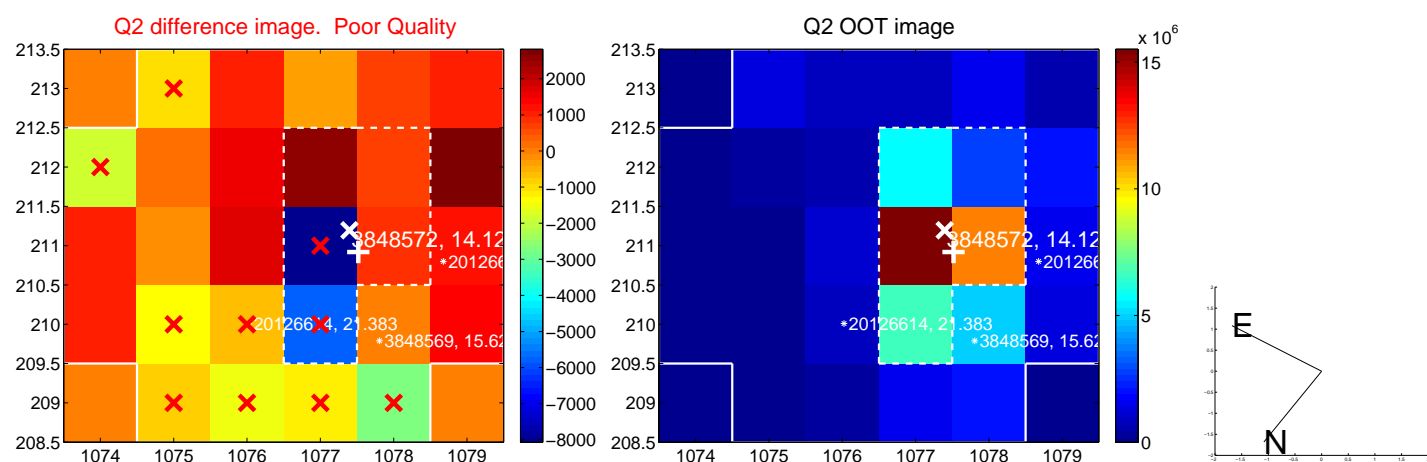
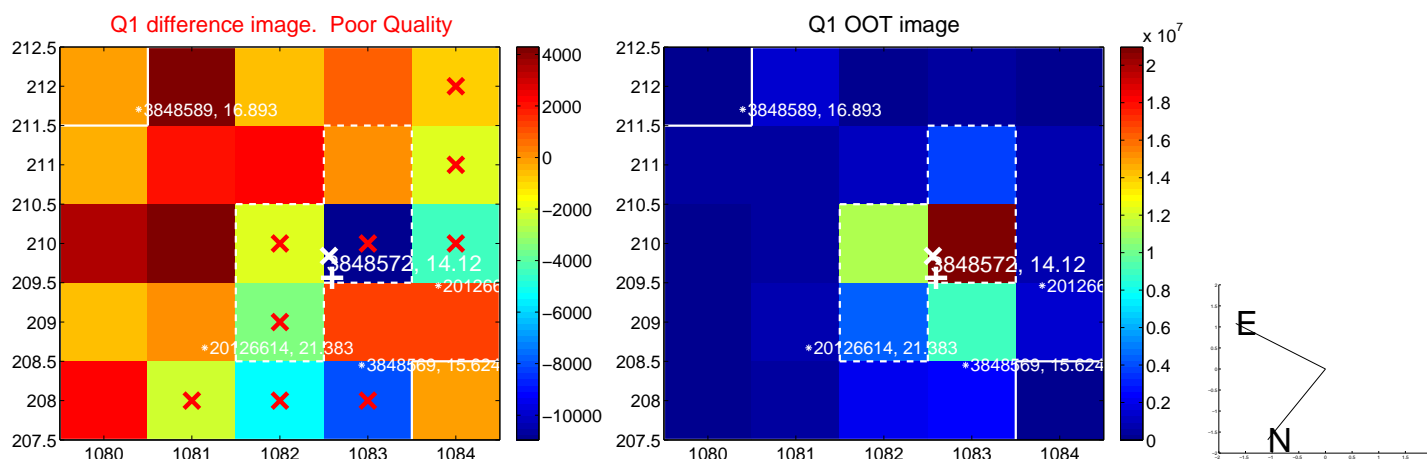


offset from photometric centroids

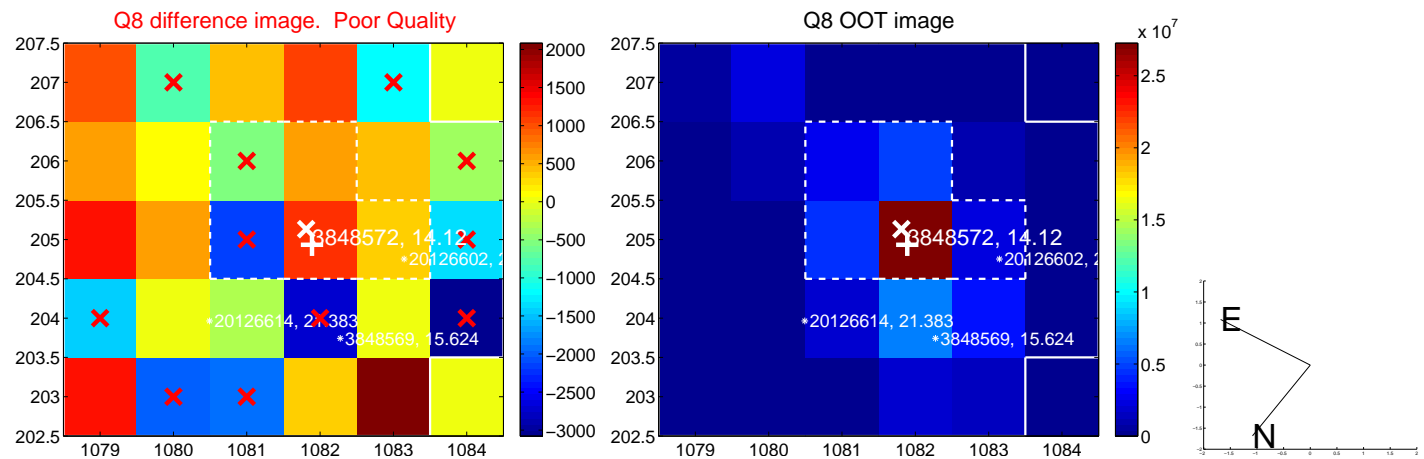
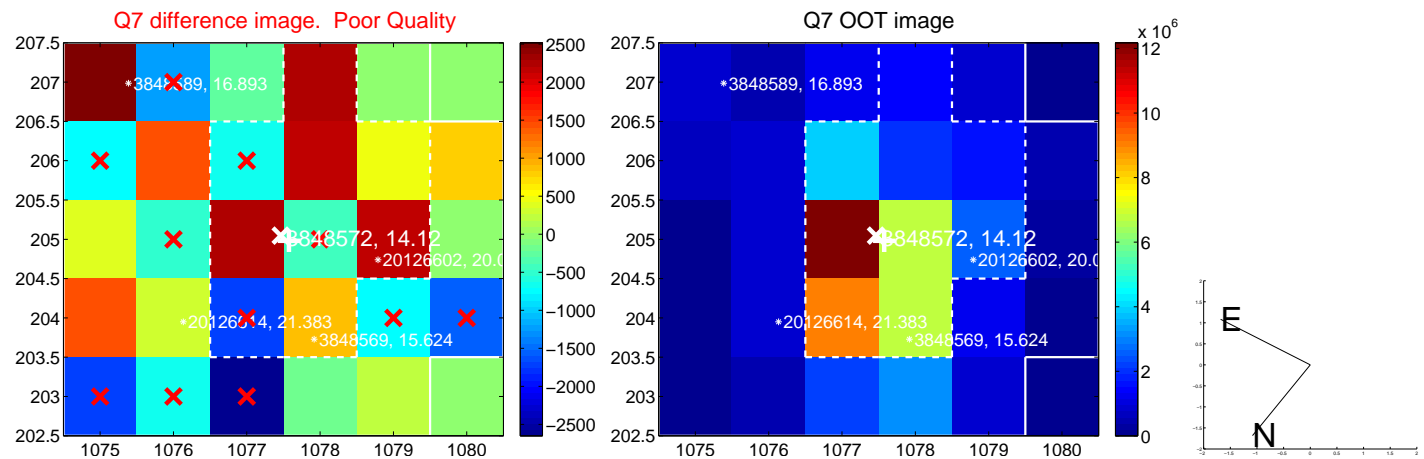
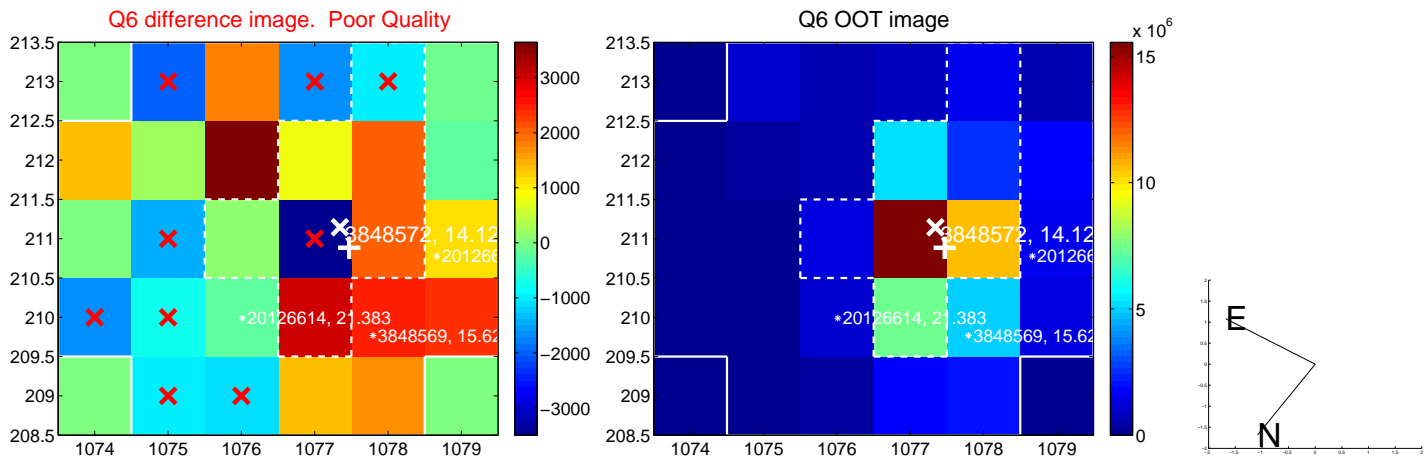
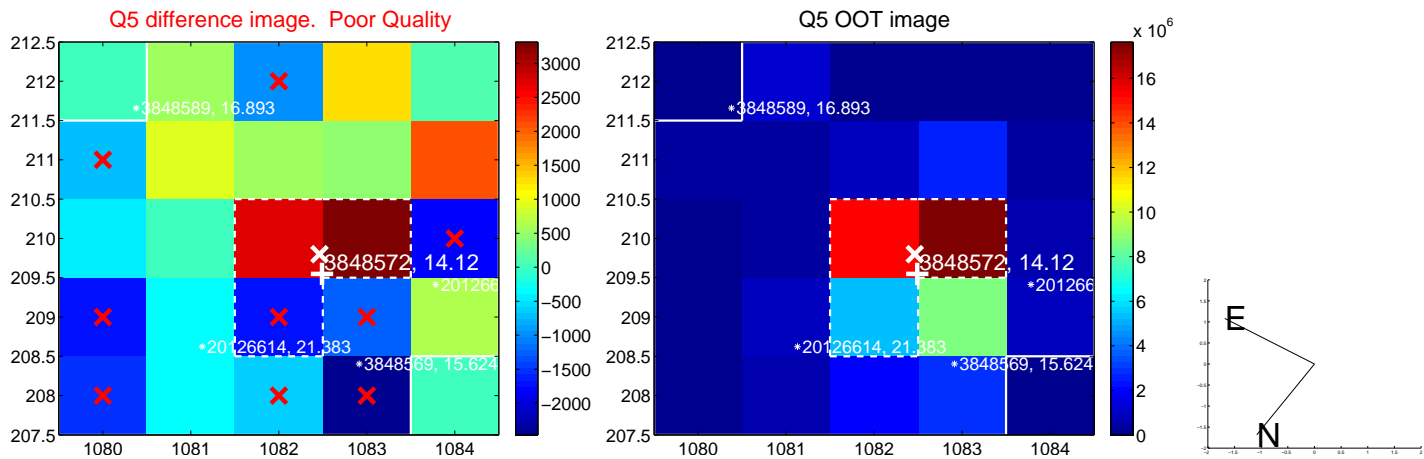


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

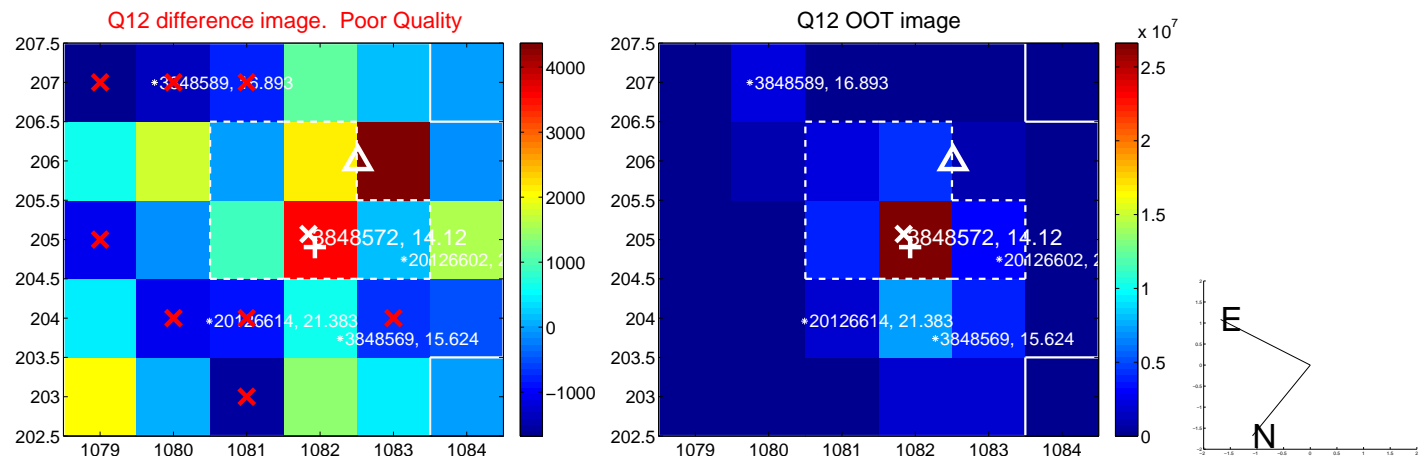
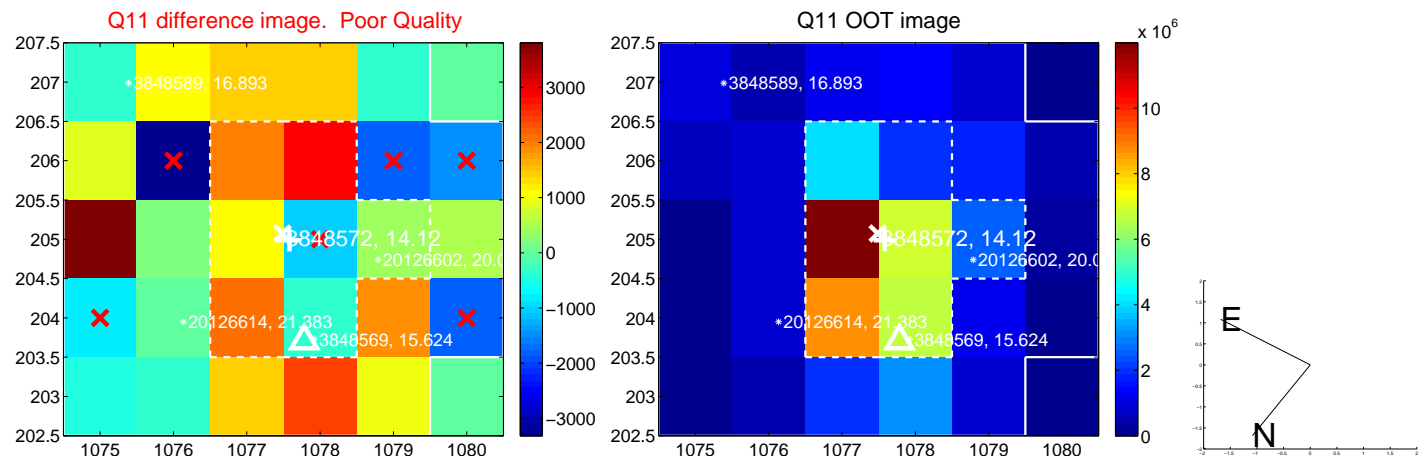
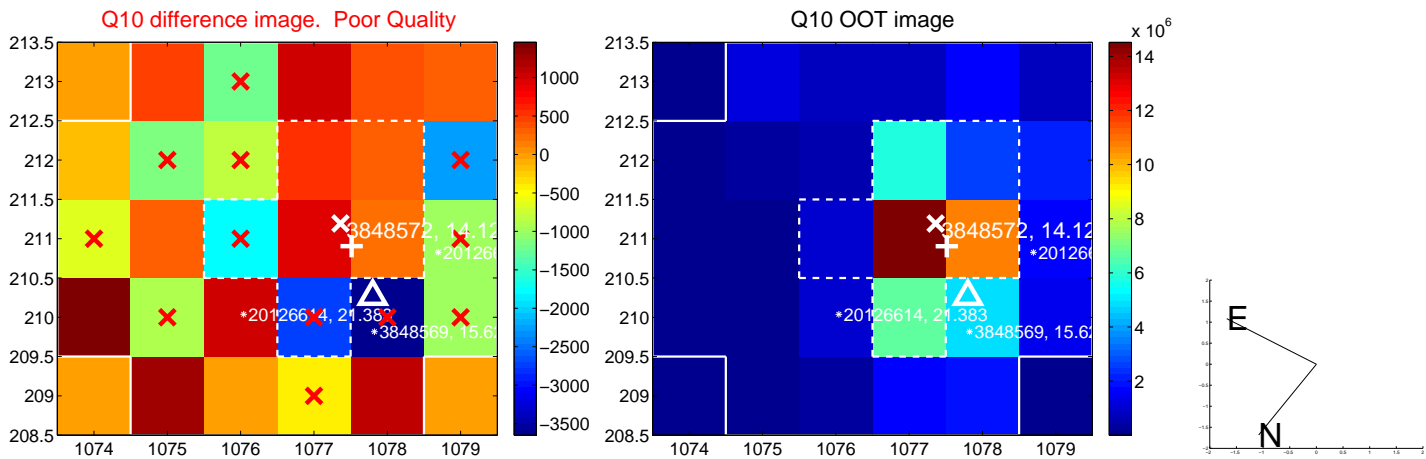
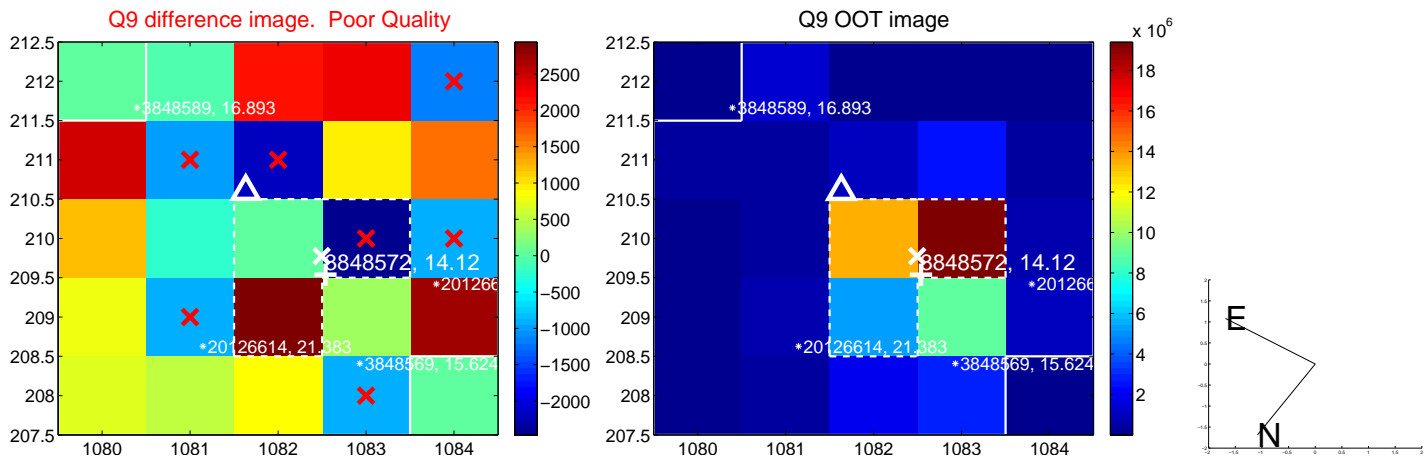
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



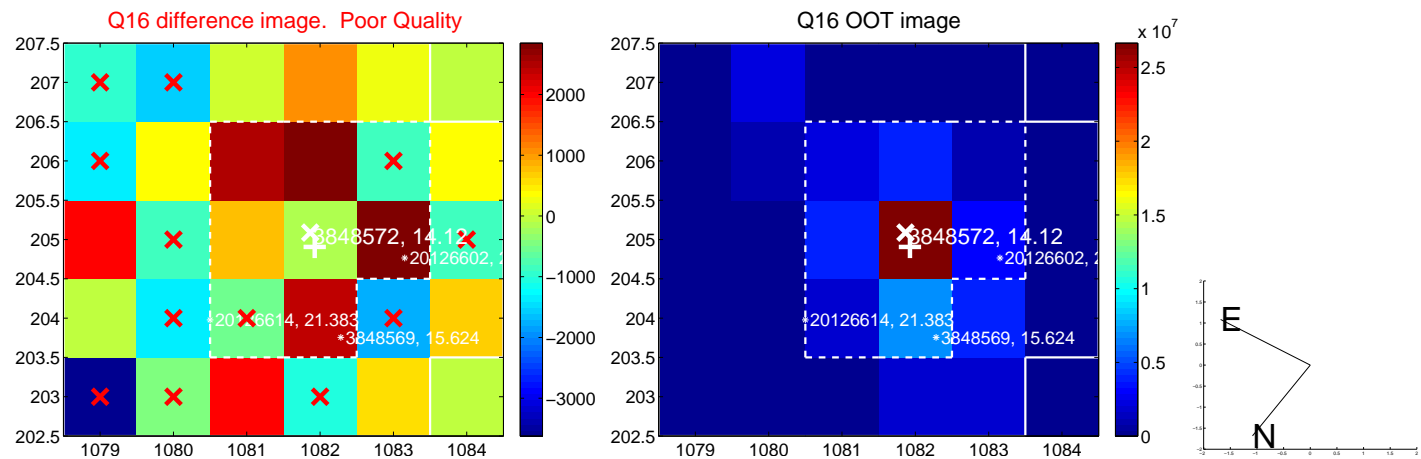
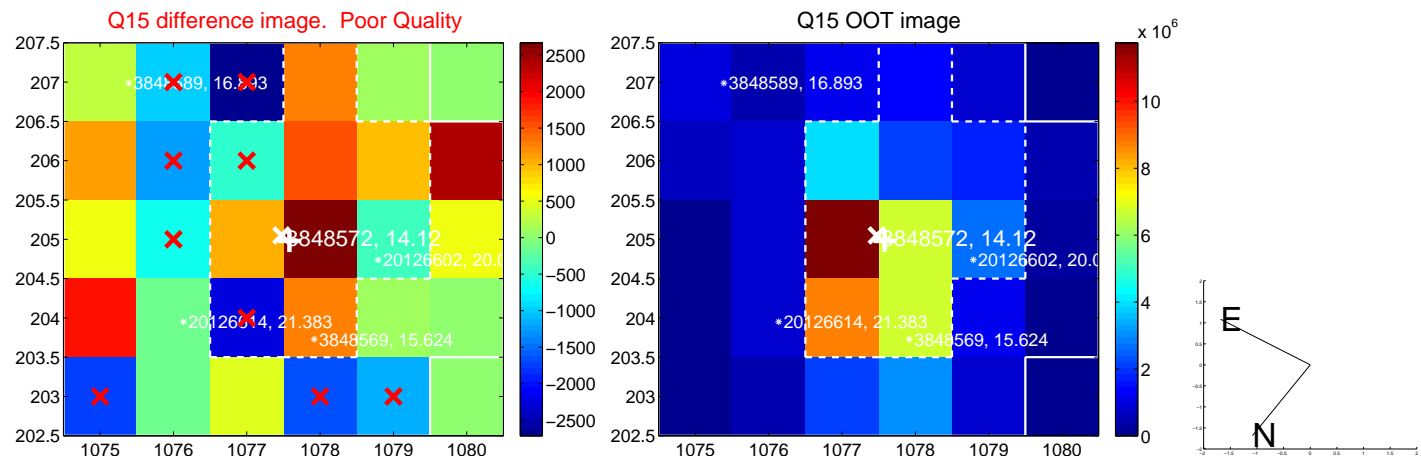
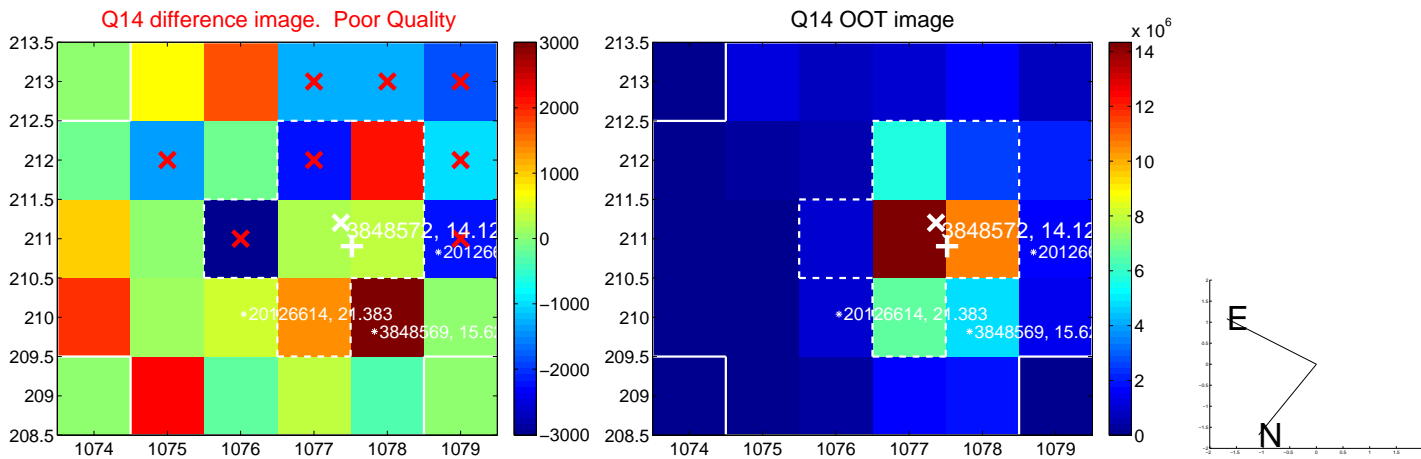
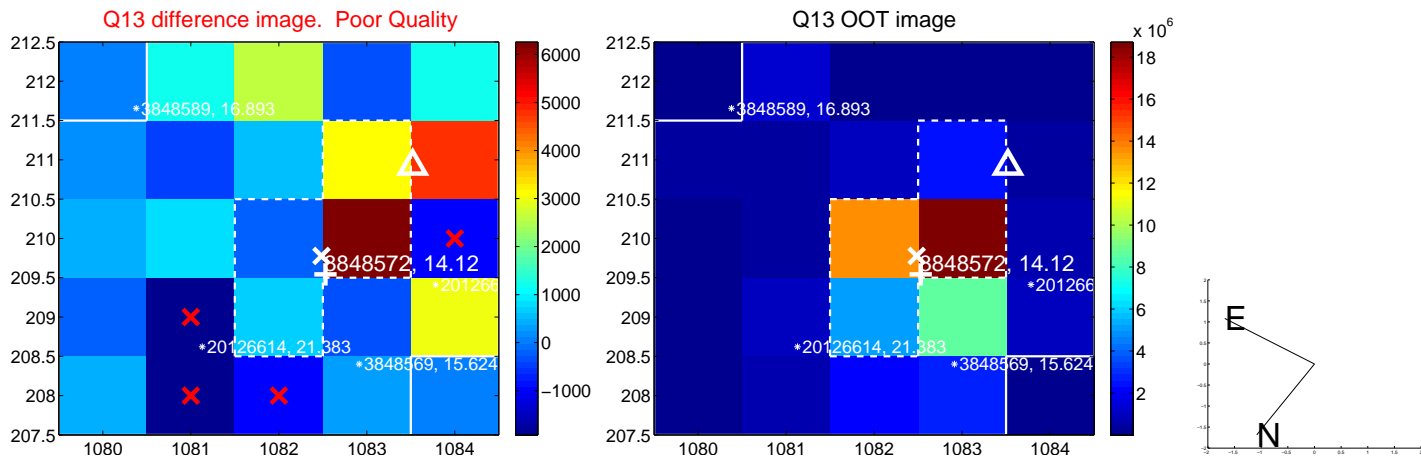
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



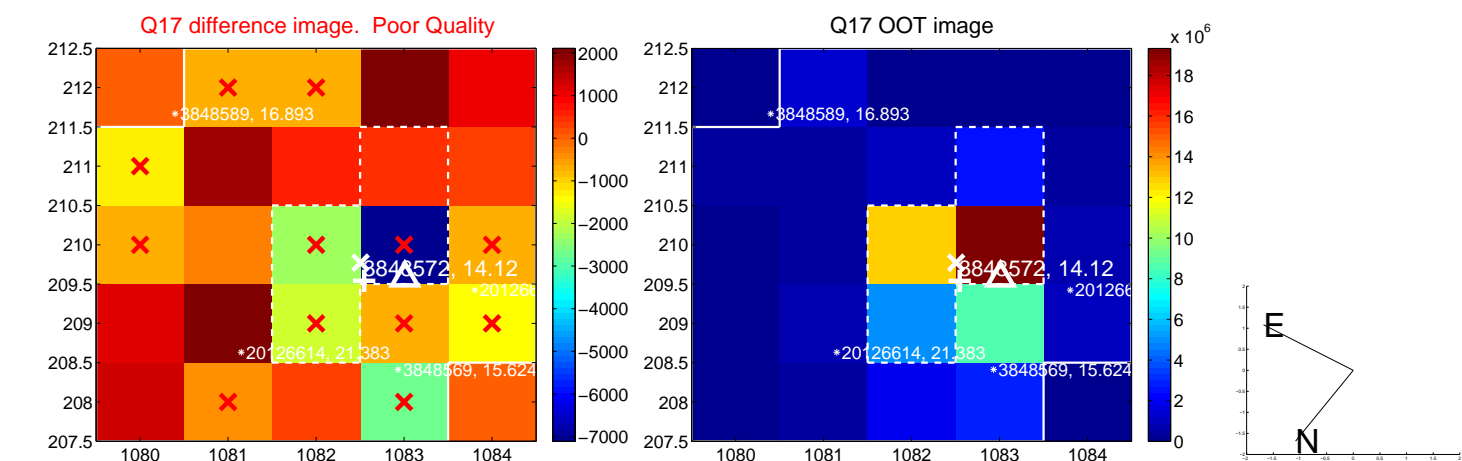
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



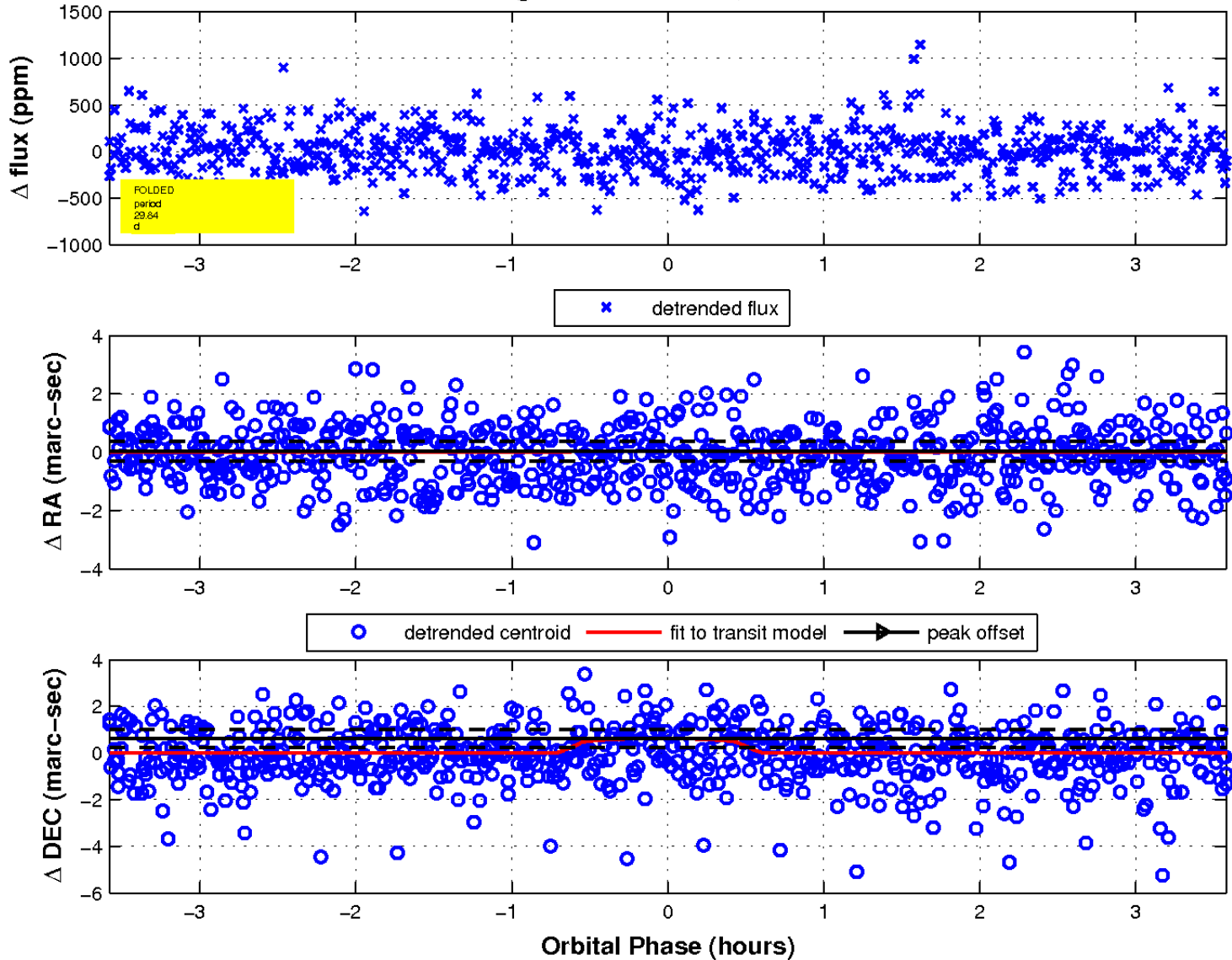
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 8 of 8



UKIRT Image

Declination

