

KIC 004862968

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})
004862968-01	OBS	No	2.015166	131.572495	318.5	13.791	8.7	10.6	1.63	7257	3.17	5205.68
004862968-02	OBS	No	87.425018	170.680800	2691.0	13.137	29.3	8.8	1.63	7257	9.24	34.15
004862968-03	OBS	No	0.770160	131.769354	1306.2	9.242	13.0	16.1	1.63	7257	7.49	18769.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004862968-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
004862968-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
004862968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—HALO_GHOST

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

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

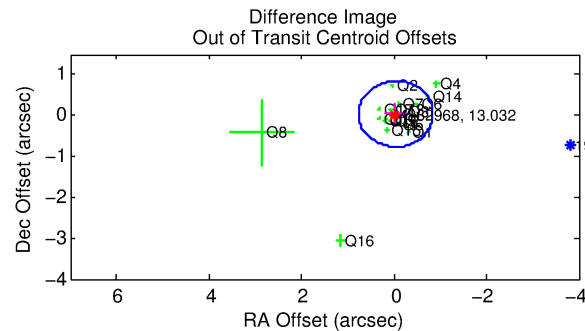
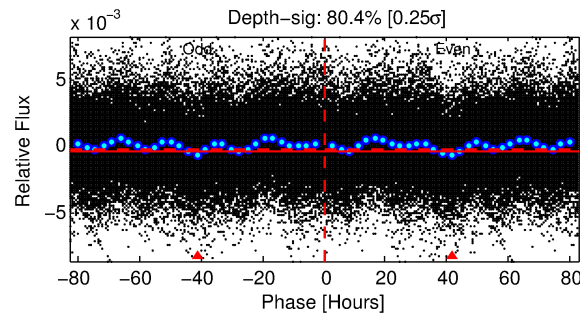
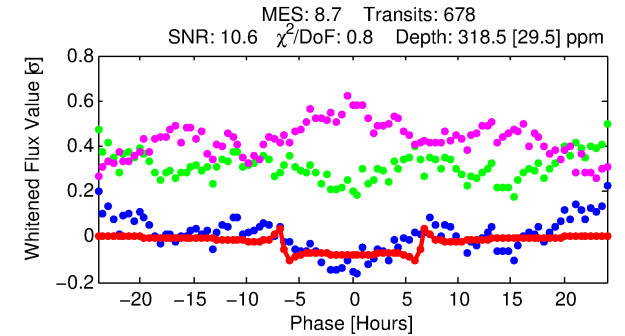
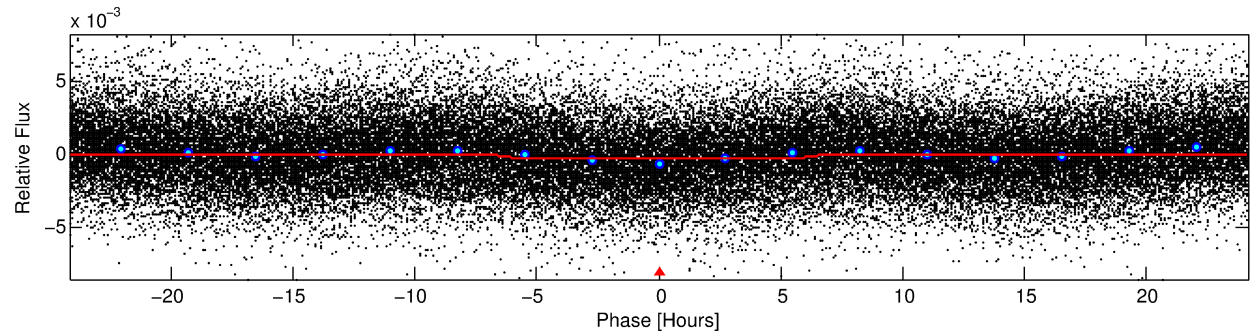
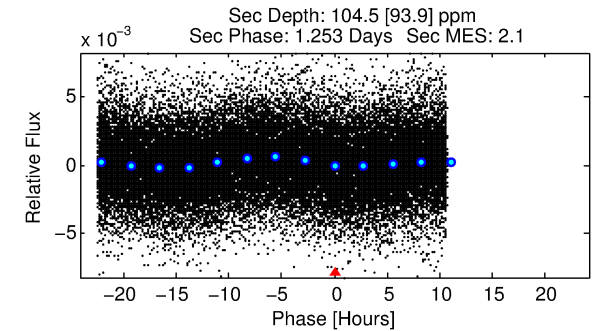
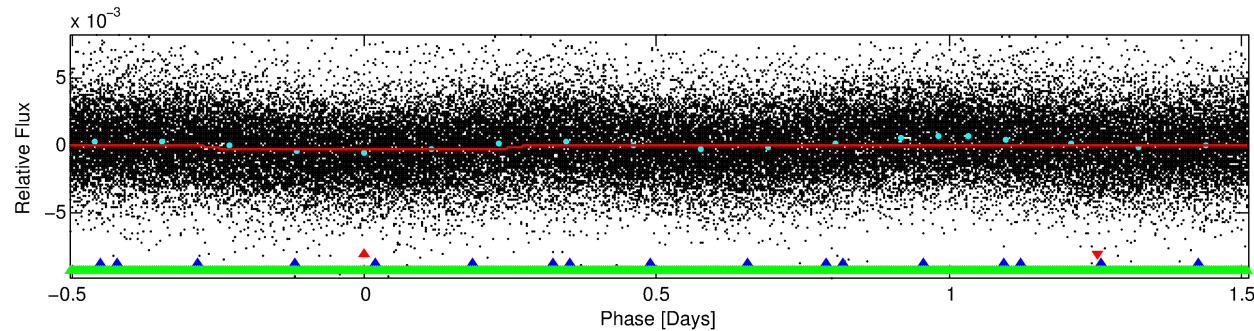
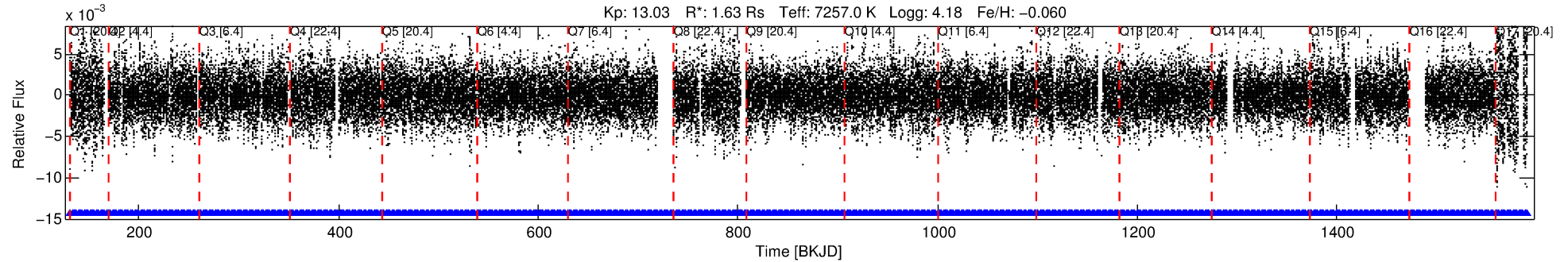
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004862968-01

No Significant Match Found

DV One-Page Summary

KIC: 4862968 Candidate: 1 of 3 Period: 2.015 d



DV Fit Results:

Period = 2.01517 [0.00002] d
Epoch = 131.5725 [0.0043] BKJD
Rp/R* = 0.0178 [0.0012]
a/R* = 1.15 [0.09]
b = 0.76 [0.17]
Seff = 5205.68 [2186.42]
Teff = 2166 [227] K
Rp = 3.17 [1.07] Re
a = 0.0356 [0.0096] AU
Ag = 7.26 [7.15] [0.88σ]
Teffp = 5497 [1274] K [2.57σ]

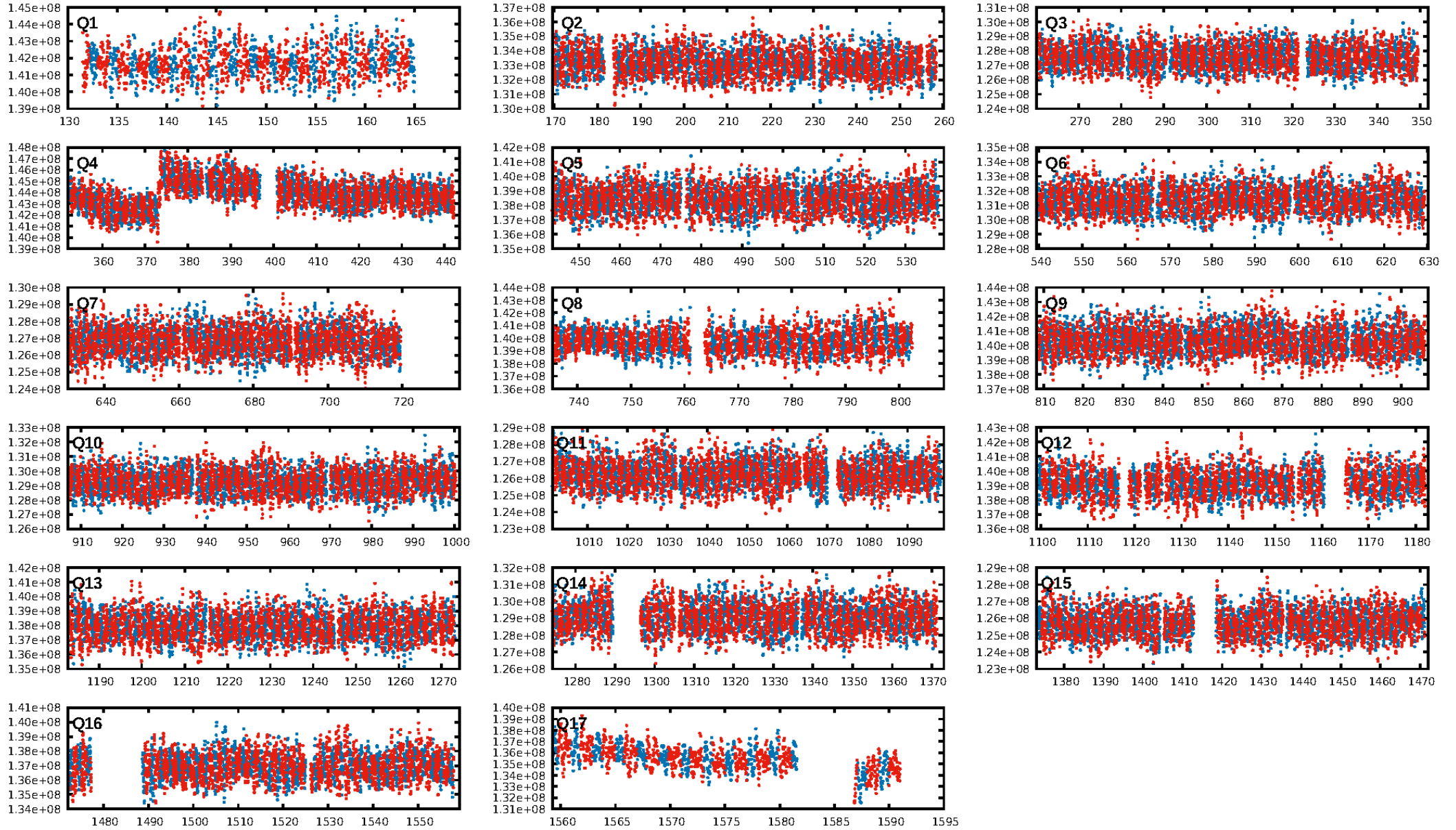
DV Diagnostic Results:

ShortPeriod-sig: 92.8% [1.80σ]
LongPeriod-sig: 100.0% [107.62σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [648/648]
GhostDiagnostic-chr: 0.4919
Centroid-sig: 0.1%
Centroid-so: 0.261 arcsec [3.38σ]
OotOffset-rm: 0.053 arcsec [0.20σ]
KicOffset-rm: 0.198 arcsec [1.10σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

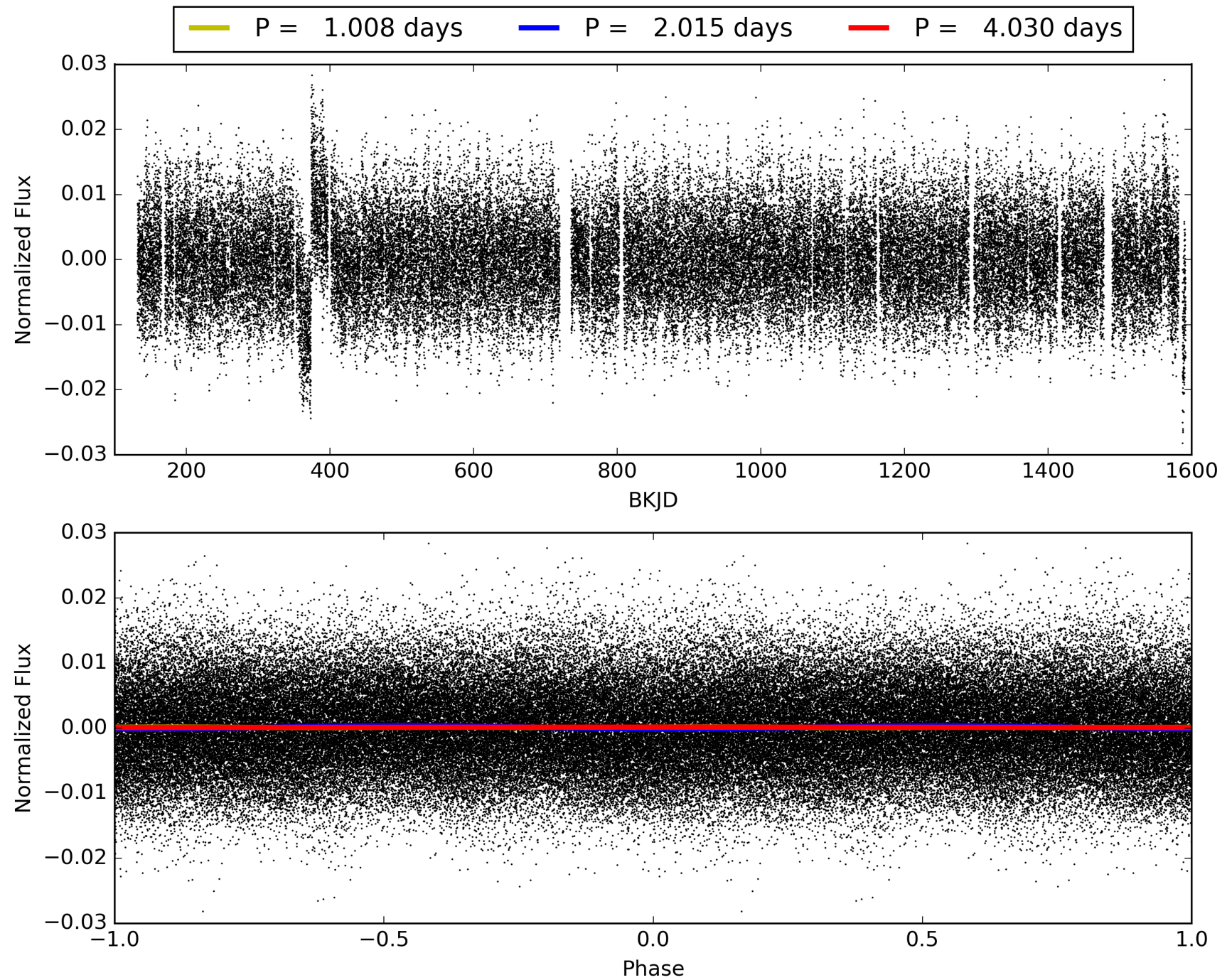
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:47:31 Z

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

TCE 004862968-01, PDC Light Curves

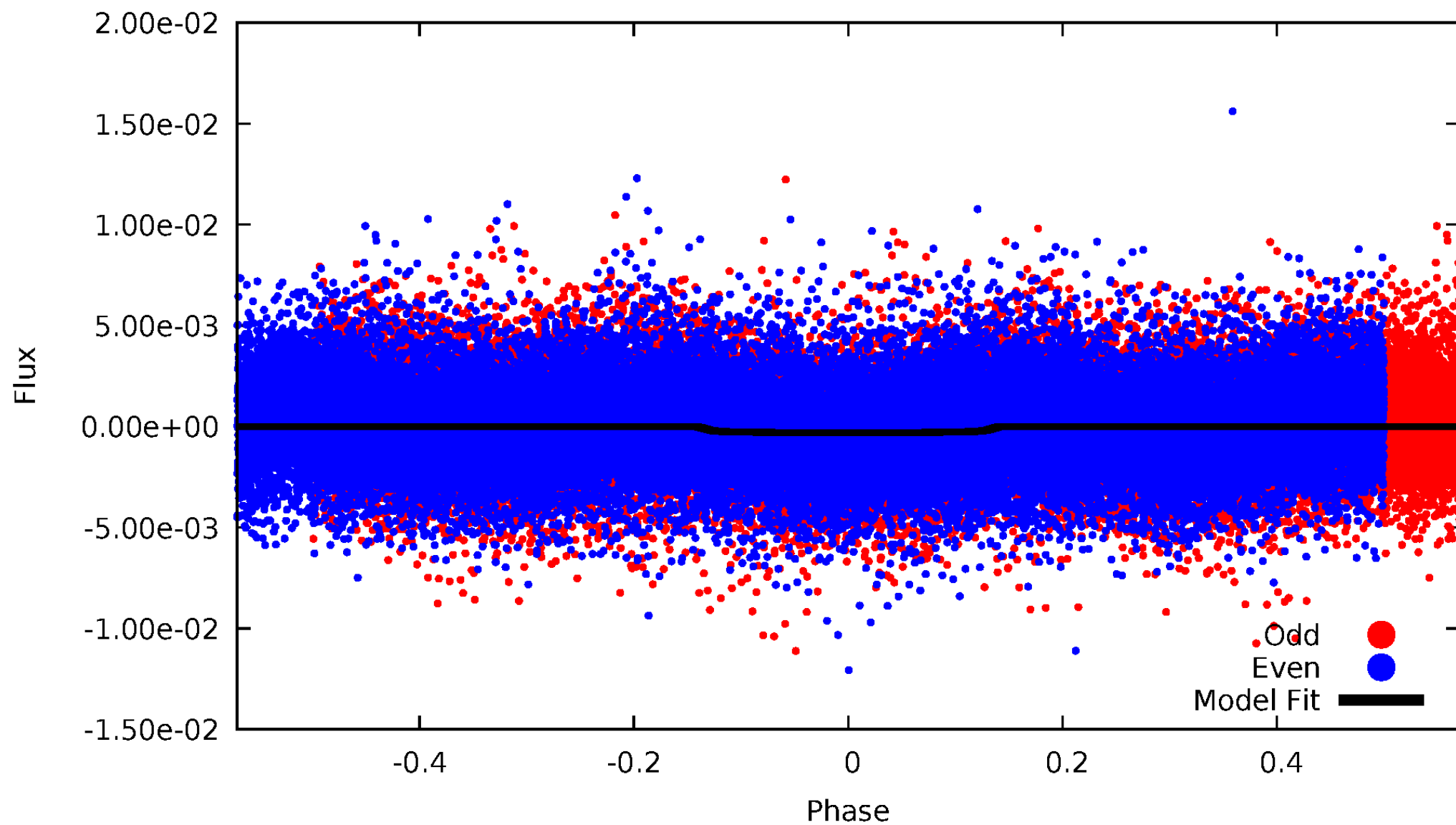


TCE 004862968-01



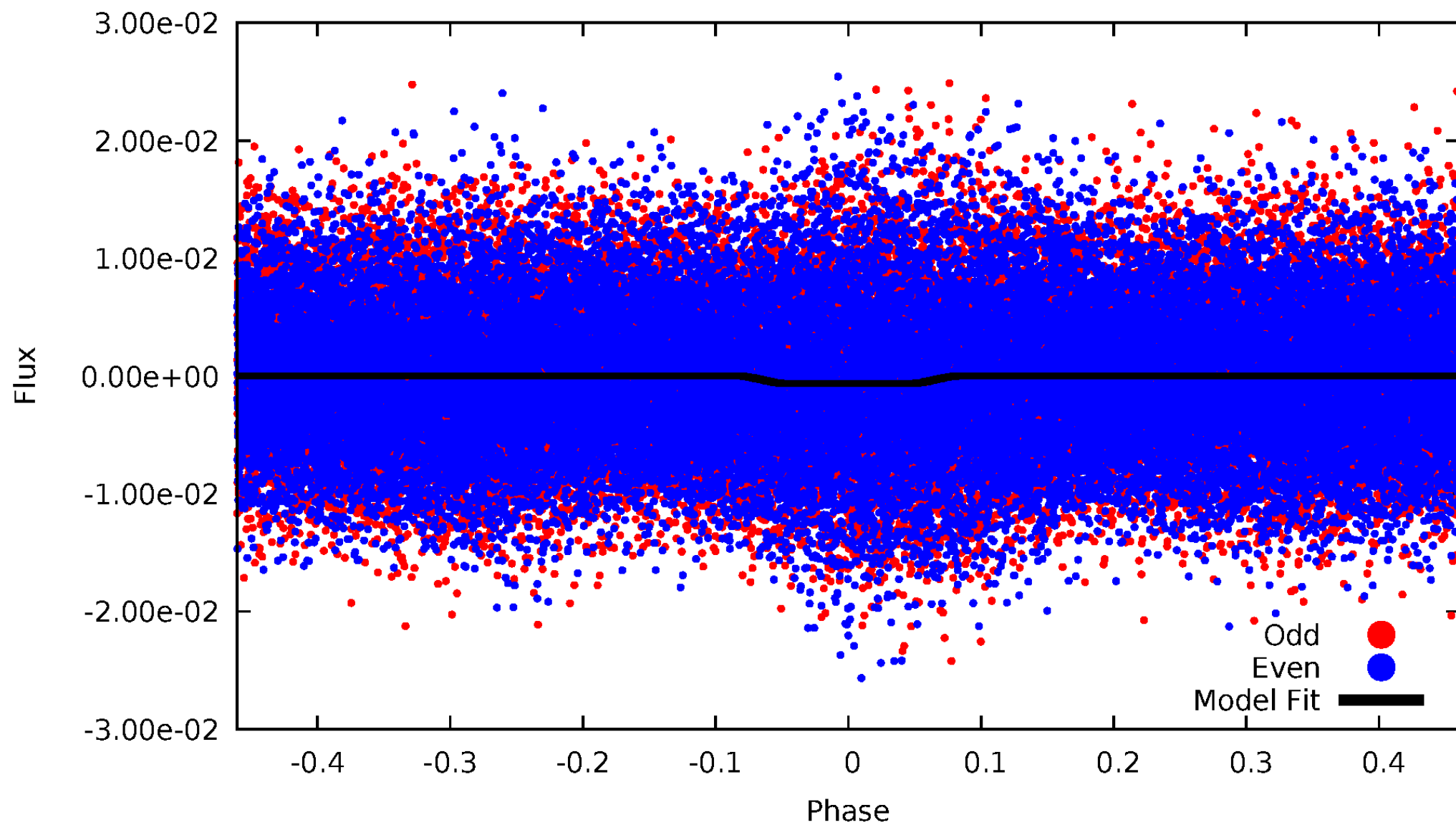
DV Odd/Even

TCE 004862968-01

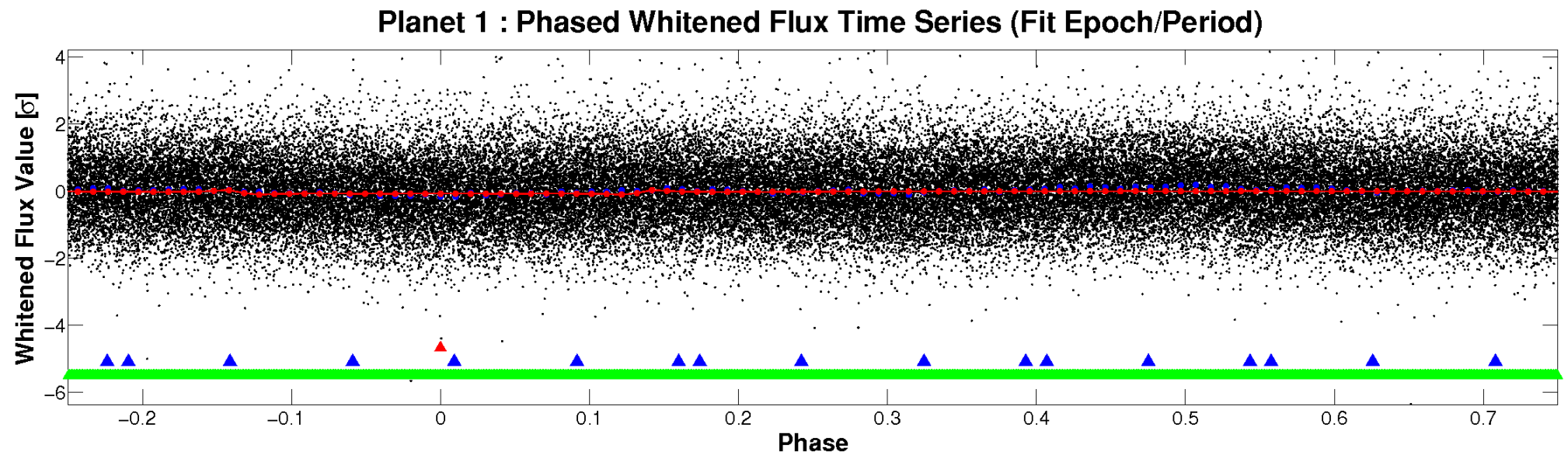
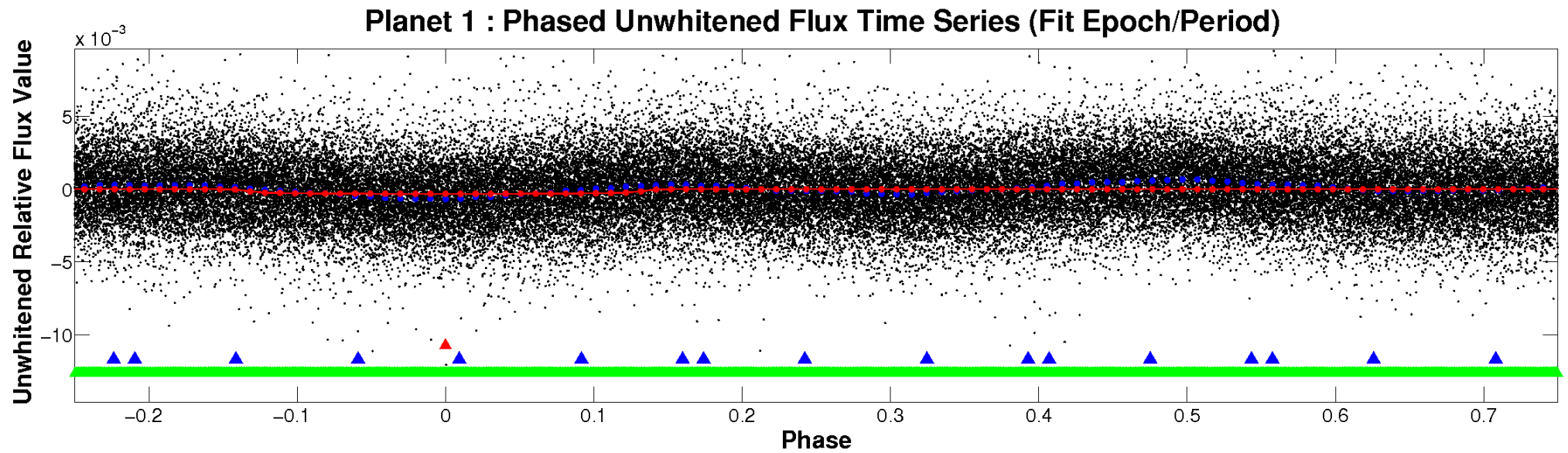


ALT Odd/Even

TCE 004862968-01

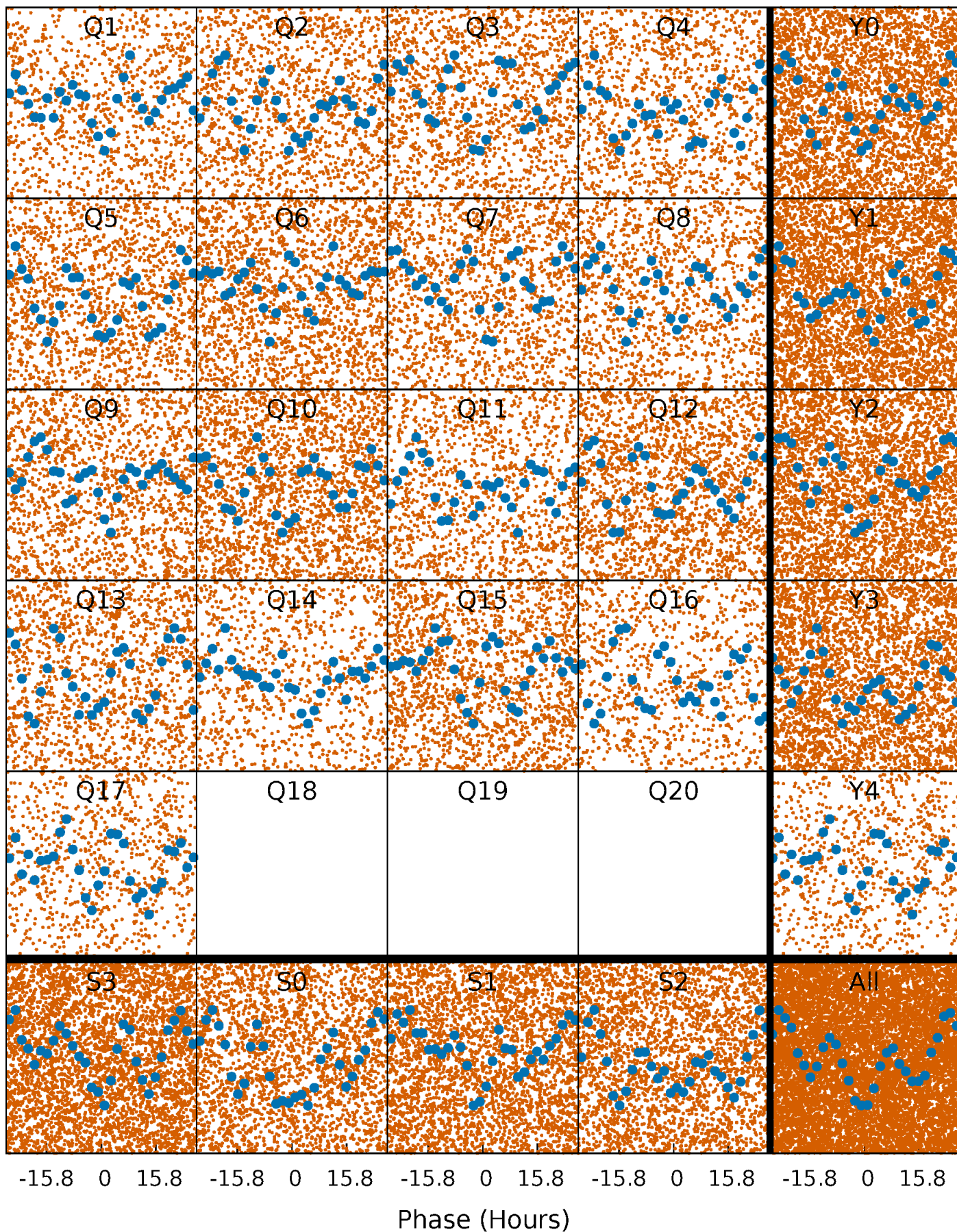


Non-Whitened Vs. Whitened Light Curve



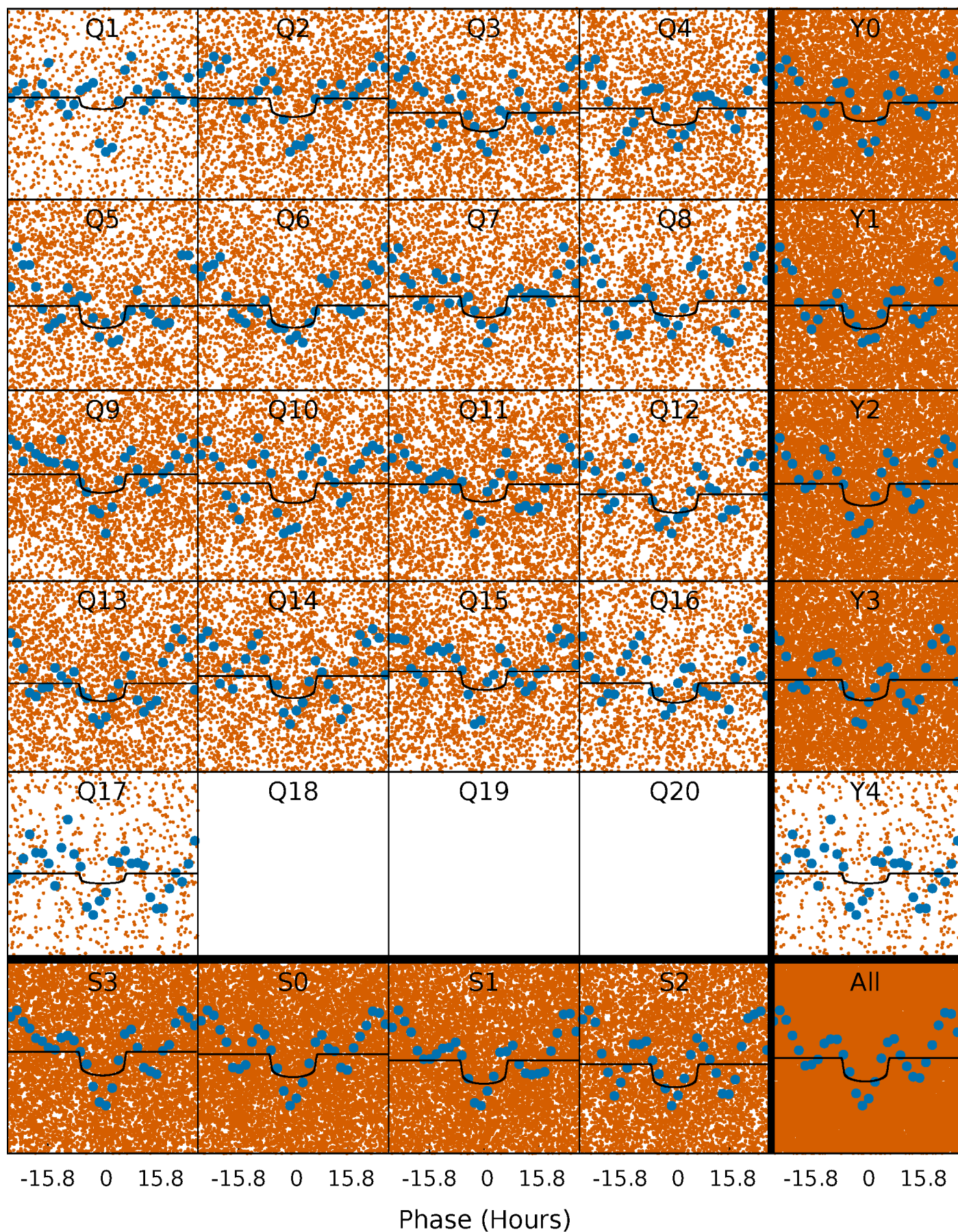
PDC Quarter-Phased Transit Curves

TCE 004862968-01 P= 2.015166 Days $T_0=131.572495$ (BKJD)



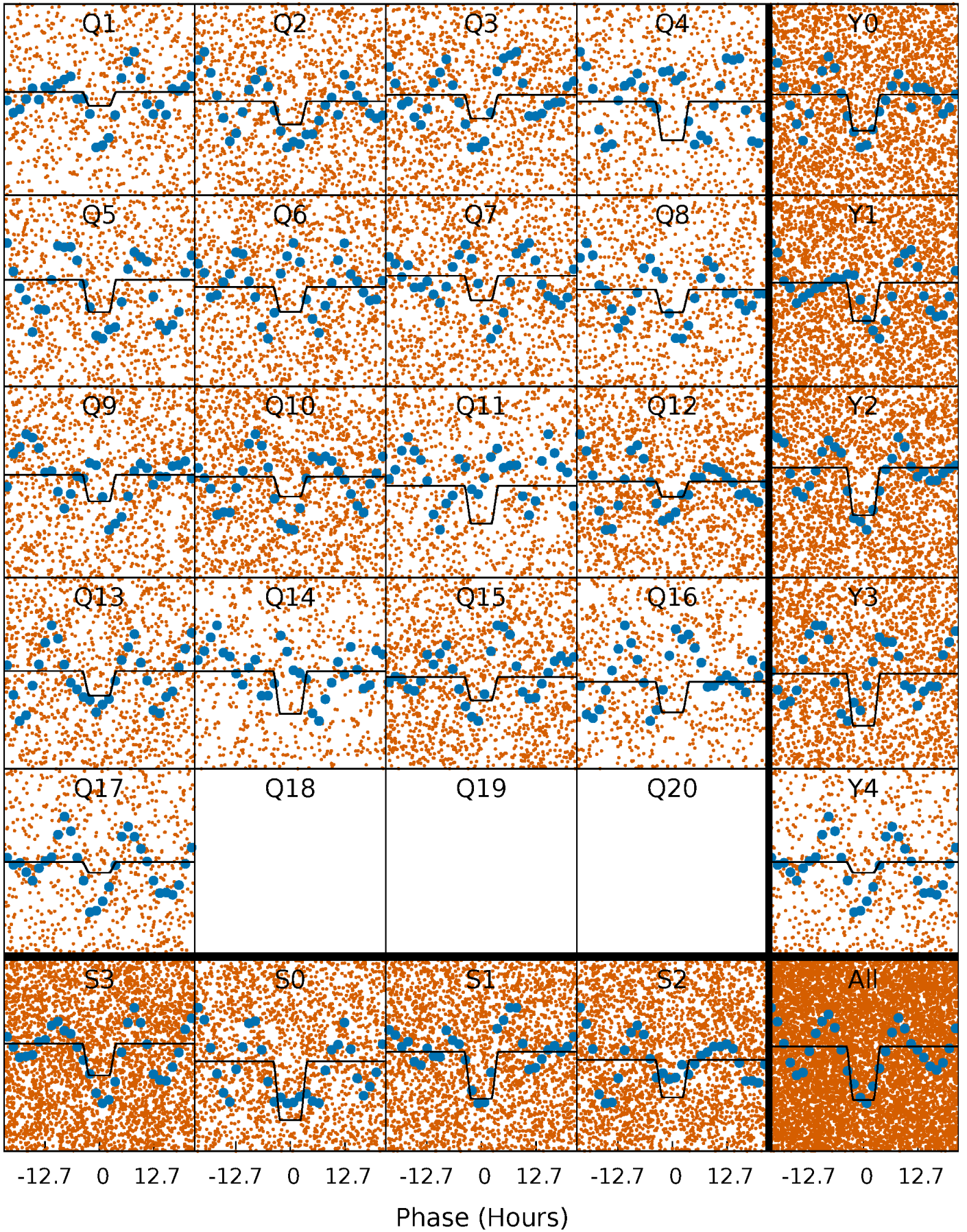
DV Quarter-Phased Transit Curves

TCE 004862968-01 P= 2.015166 Days $T_0=131.572495$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

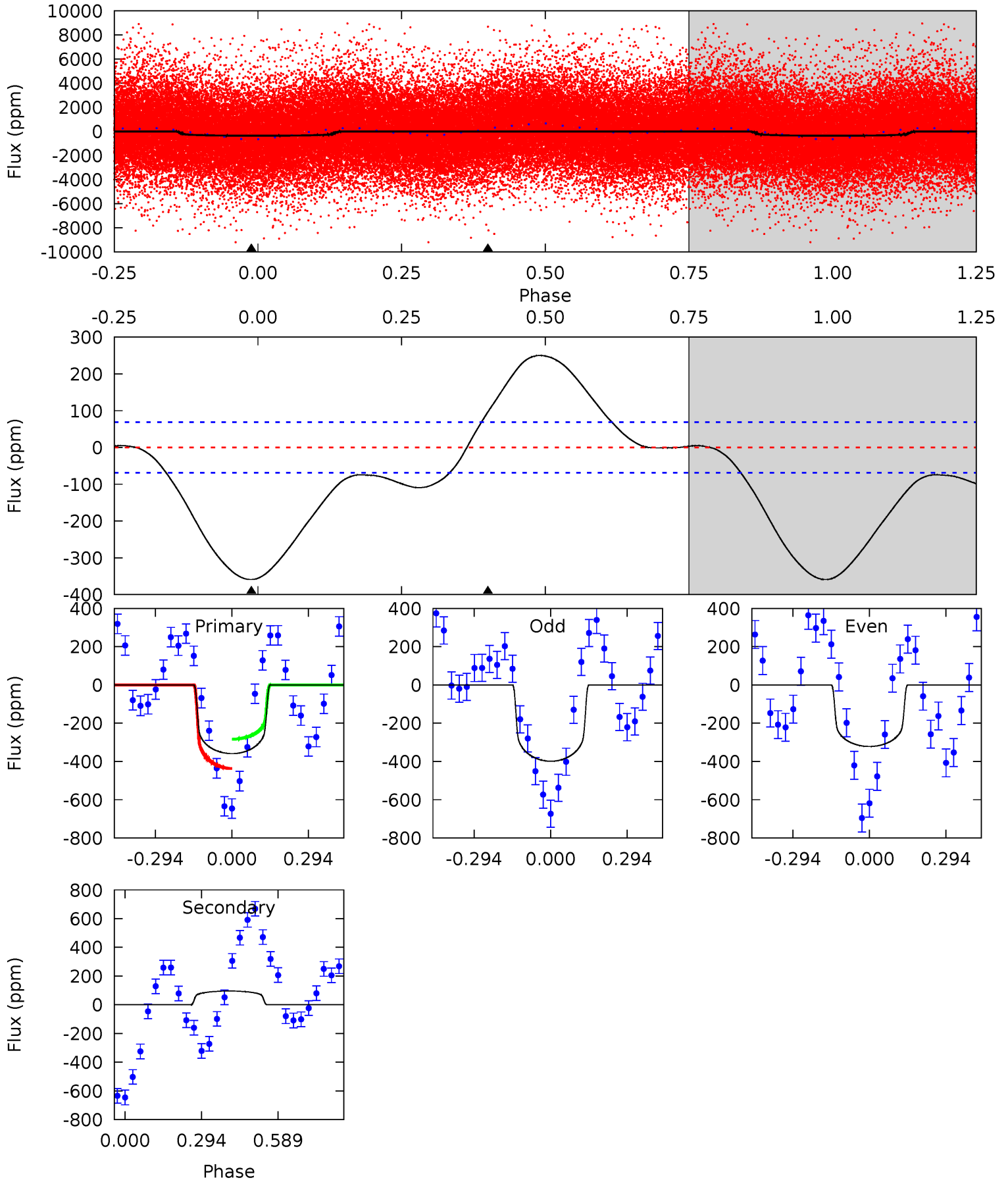
TCE 004862968-01 P= 2.015015 Days $T_0=131.577443$ (BKJD)



DV Model-Shift Uniqueness Test

004862968-01, P = 2.015166 Days, E = 129.557329 Days

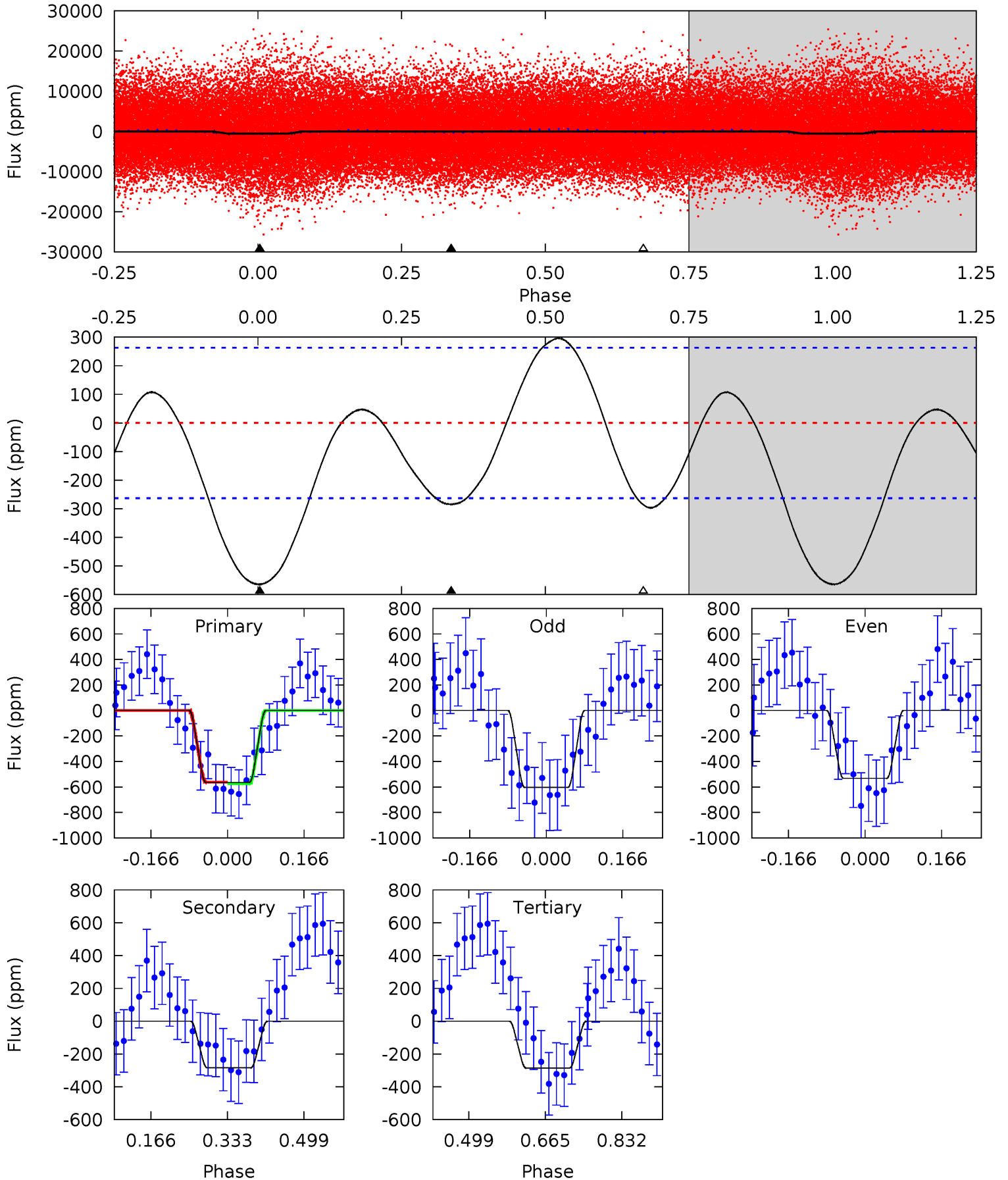
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	-6.04	0	0	4.33	1.05	0.47	22.6	22.6	-6.04	-6.04	2.46	1.04	0.41	4.98



Alt Model-Shift Uniqueness Test

004862968-01, P = 2.015015 Days, E = 129.562428 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.56	4.82	4.84	0	4.46	1.38	3.33	4.72	9.56	-0.02	4.82	0.60	1.42	0.34	0.10



Stellar Parameters For KIC 004862968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7257^{+226}_{-327}	$4.185^{+0.108}_{-0.201}$	$-0.060^{+0.200}_{-0.350}$	$1.631^{+0.540}_{-0.291}$	$1.487^{+0.212}_{-0.236}$	$0.483^{+0.250}_{-0.262}$
	+3%/-5%	+3%/-5%	+333%/-583%	+33%/-18%	+14%/-16%	+52%/-54%
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 004862968-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	96 ± 16	$3.23^{+0.55}_{-0.42}$	3053^{+240}_{-196}	-5380^{+285}_{-321}	$-6.296^{+1.853}_{-2.111}$
Alt.	-285 ± 59	$4.56^{+0.84}_{-0.56}$	3054^{+232}_{-198}	5787^{+427}_{-368}	$9.134^{+3.814}_{-2.795}$

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 $A_{obs} \gg 1.0$

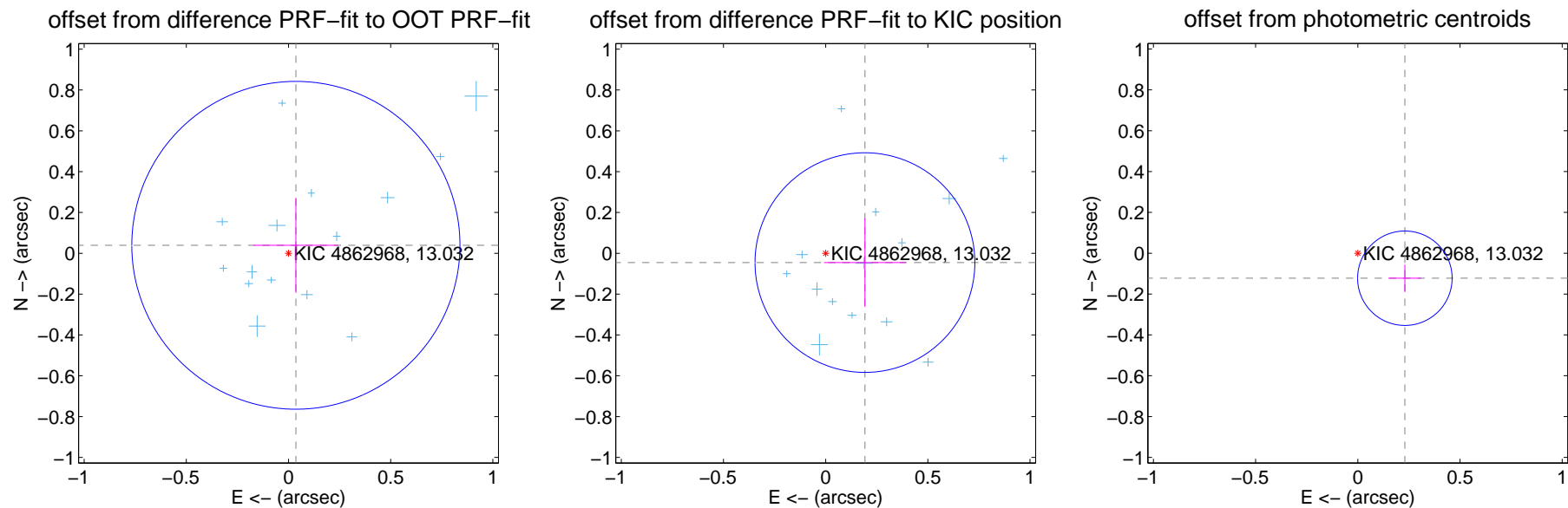
DV Centroid Data

Supplemental centroid analysis for 004862968-01. Kepler magnitude: 13.03. Transit SNR 10.59

There are 16 quarters with good PRF difference image offsets

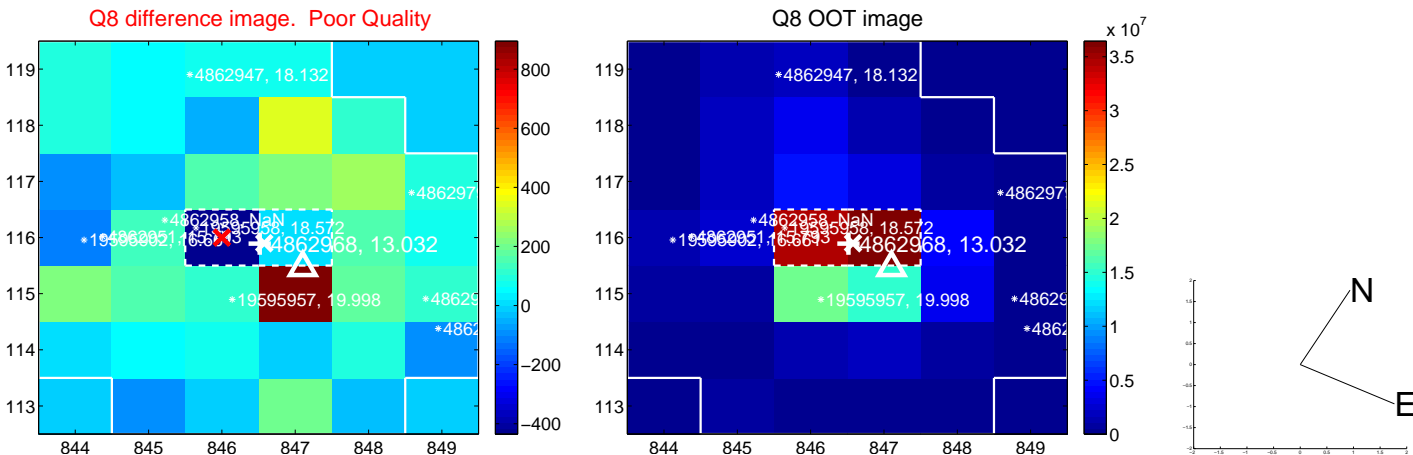
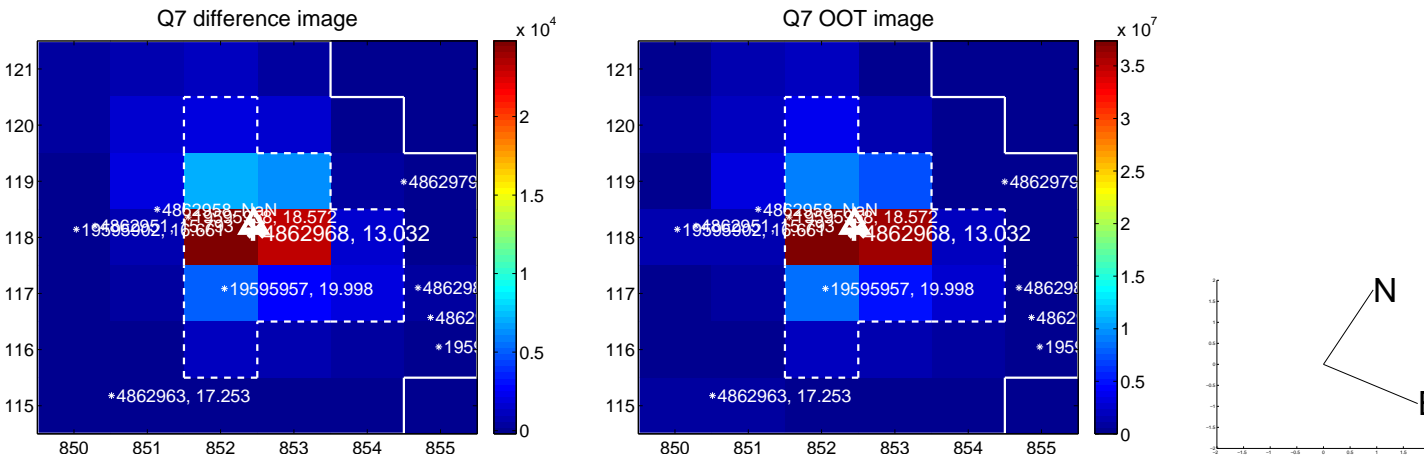
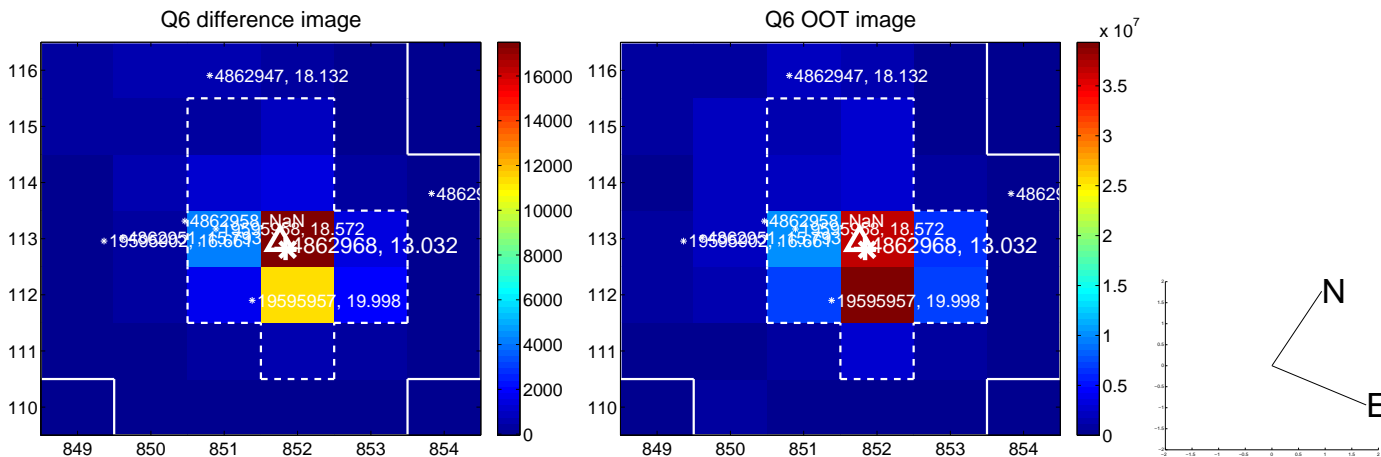
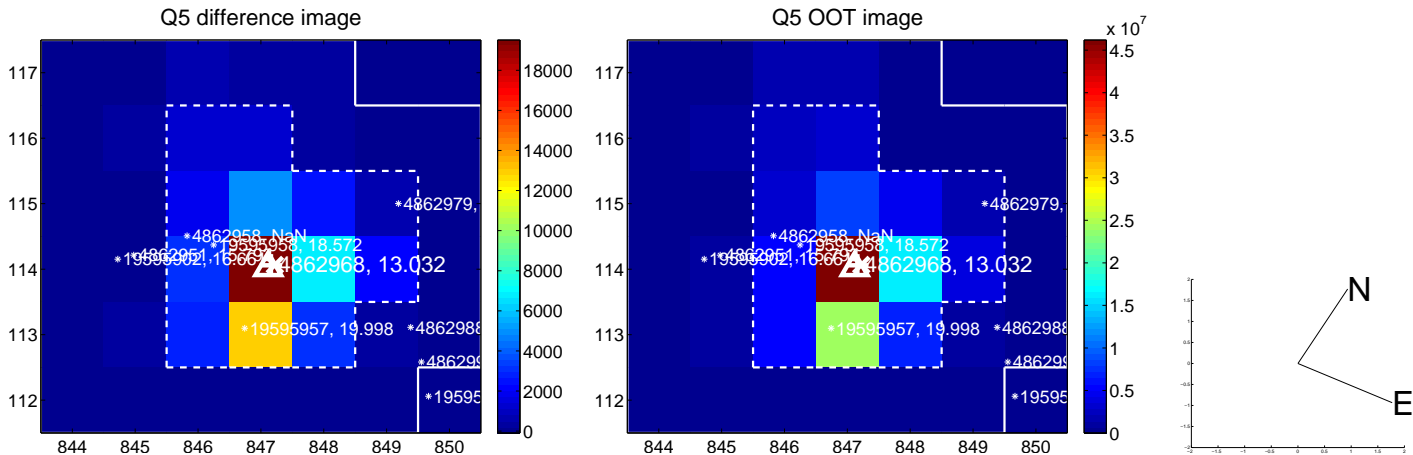
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.268	0.20	-0.036 ± 0.207	0.039 ± 0.232
PRF-fit source offset from KIC position	0.198 ± 0.179	1.10	-0.192 ± 0.200	-0.046 ± 0.216
photometric centroid source offset	0.26 ± 0.08	3.38	-0.23 ± 0.08	-0.12 ± 0.07

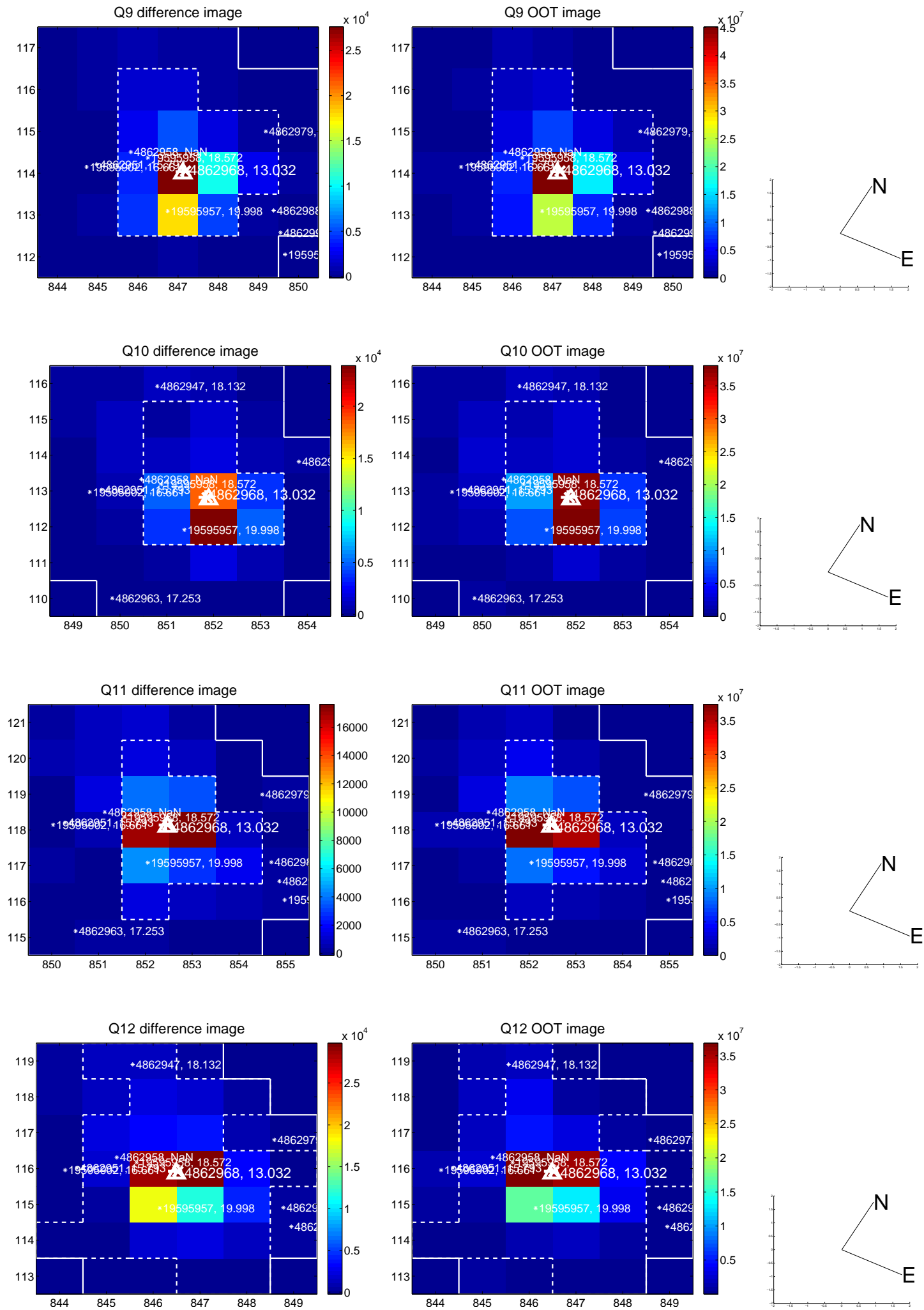


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

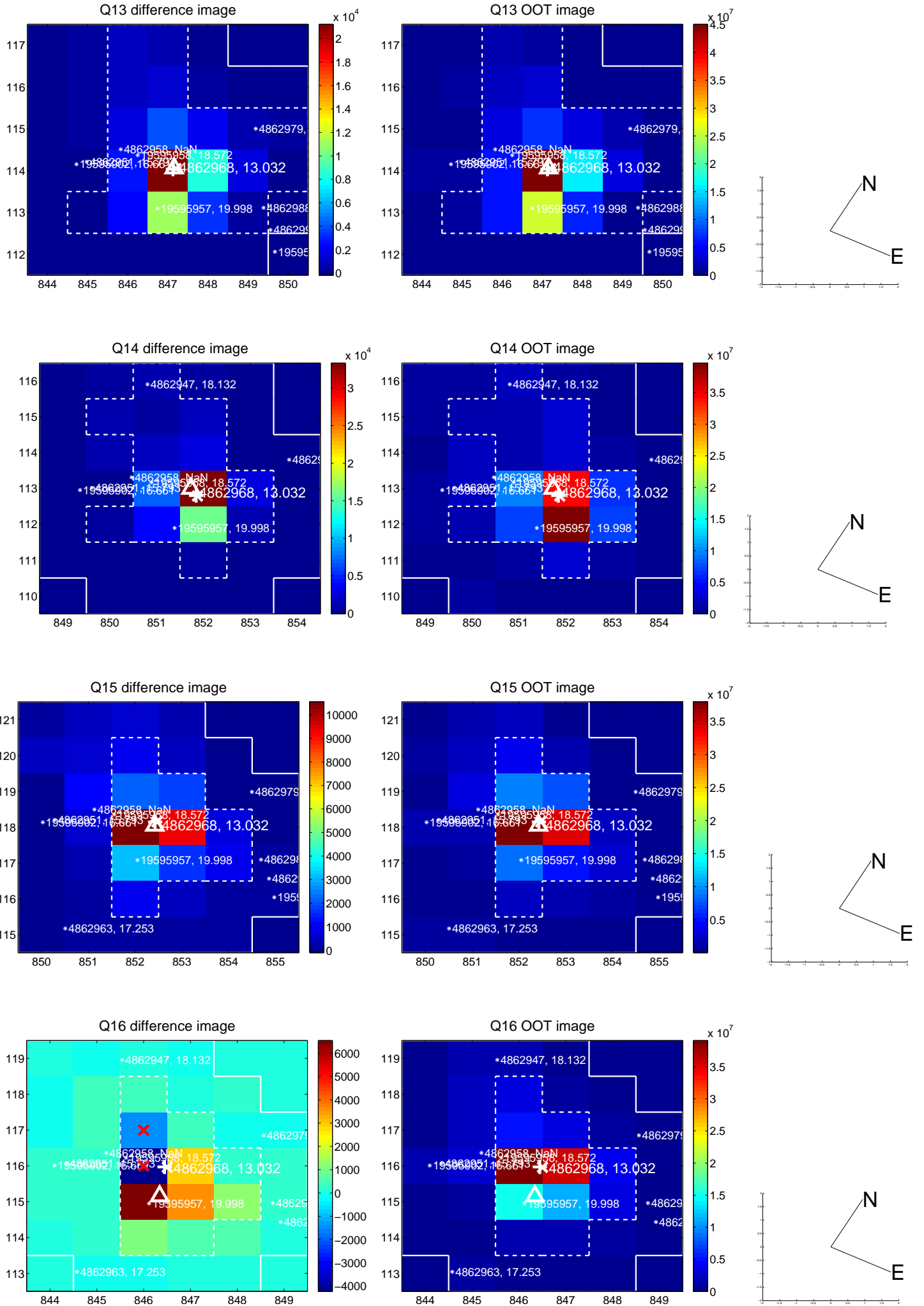
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

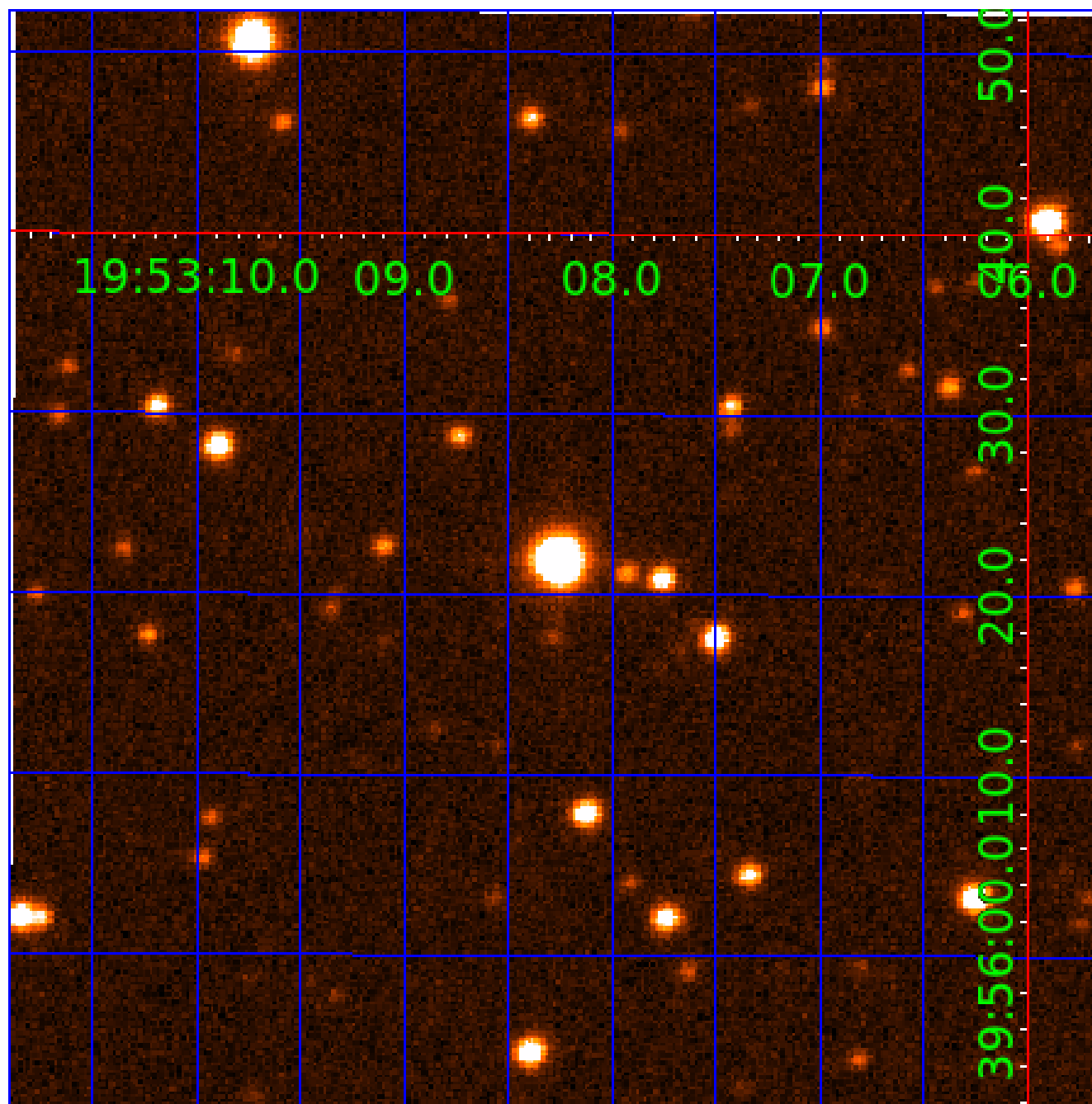


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004862968

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})
004862968-01	OBS	No	2.015166	131.572495	318.5	13.791	8.7	10.6	1.63	7257	3.17	5205.68
004862968-02	OBS	No	87.425018	170.680800	2691.0	13.137	29.3	8.8	1.63	7257	9.24	34.15
004862968-03	OBS	No	0.770160	131.769354	1306.2	9.242	13.0	16.1	1.63	7257	7.49	18769.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004862968-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
004862968-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
004862968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—HALO_GHOST

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

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

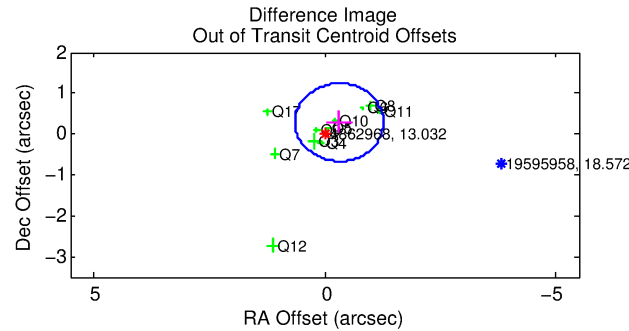
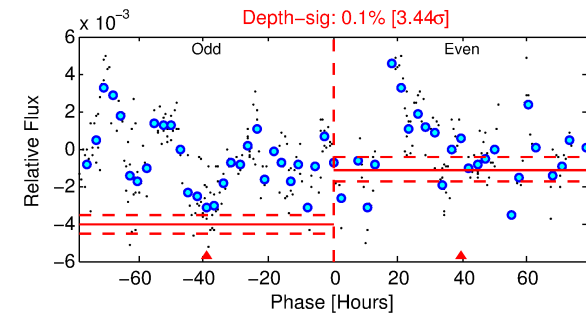
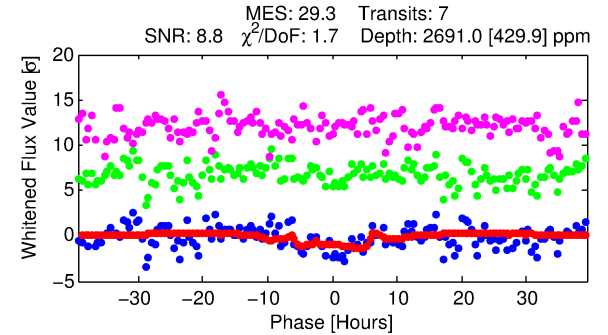
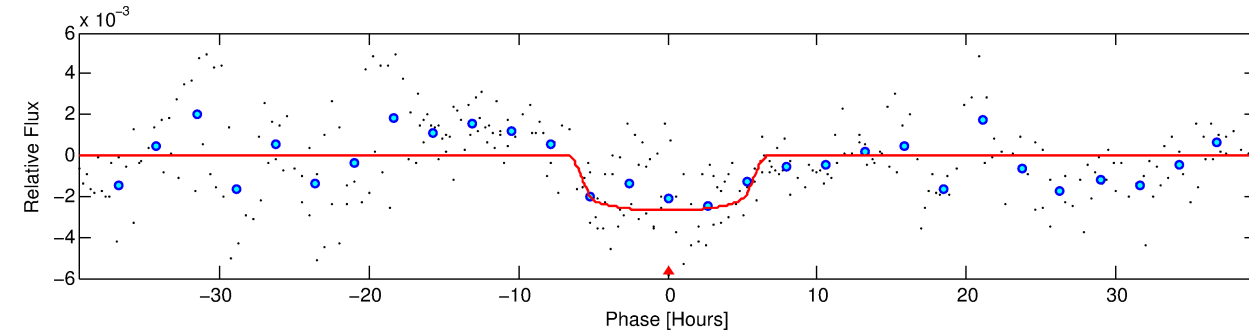
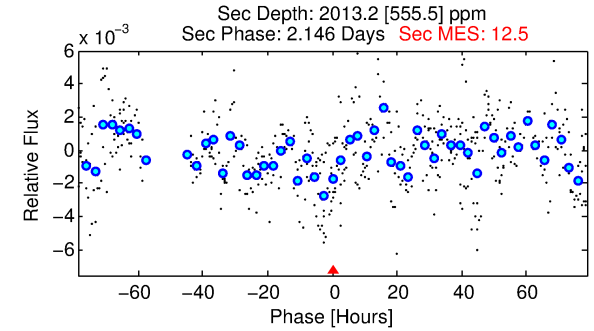
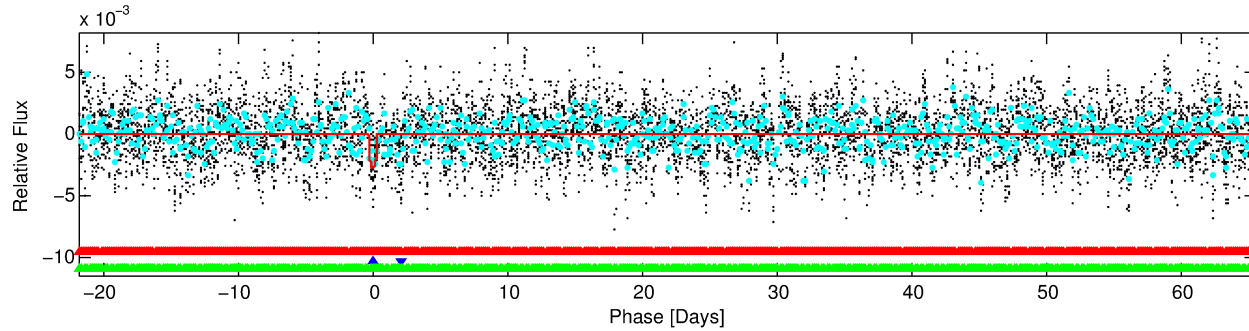
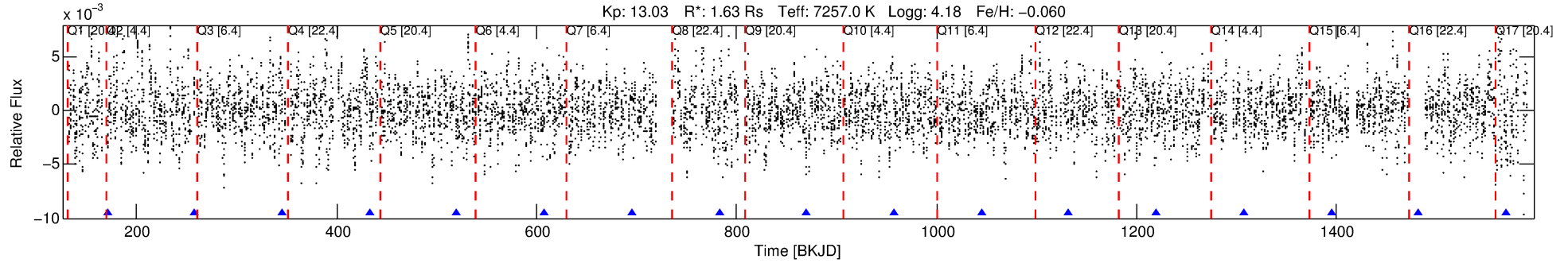
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004862968-02

No Significant Match Found

DV One-Page Summary

KIC: 4862968 Candidate: 2 of 3 Period: 87.425 d



DV Fit Results:

Period = 87.42502 [0.00232] d
Epoch = 170.6808 [0.0219] BKJD
Rp/R* = 0.0519 [0.0056]
a/R* = 36.32 [14.11]
b = 0.77 [0.20]
Seff = 34.15 [14.34]
Teq = 616 [65] K
Rp = 9.24 [3.22] Re
a = 0.4400 [0.1185] AU
Ag = 2509.44 [1295.91] [1.94σ]
Teffp = 6745 [664] K [9.18σ]

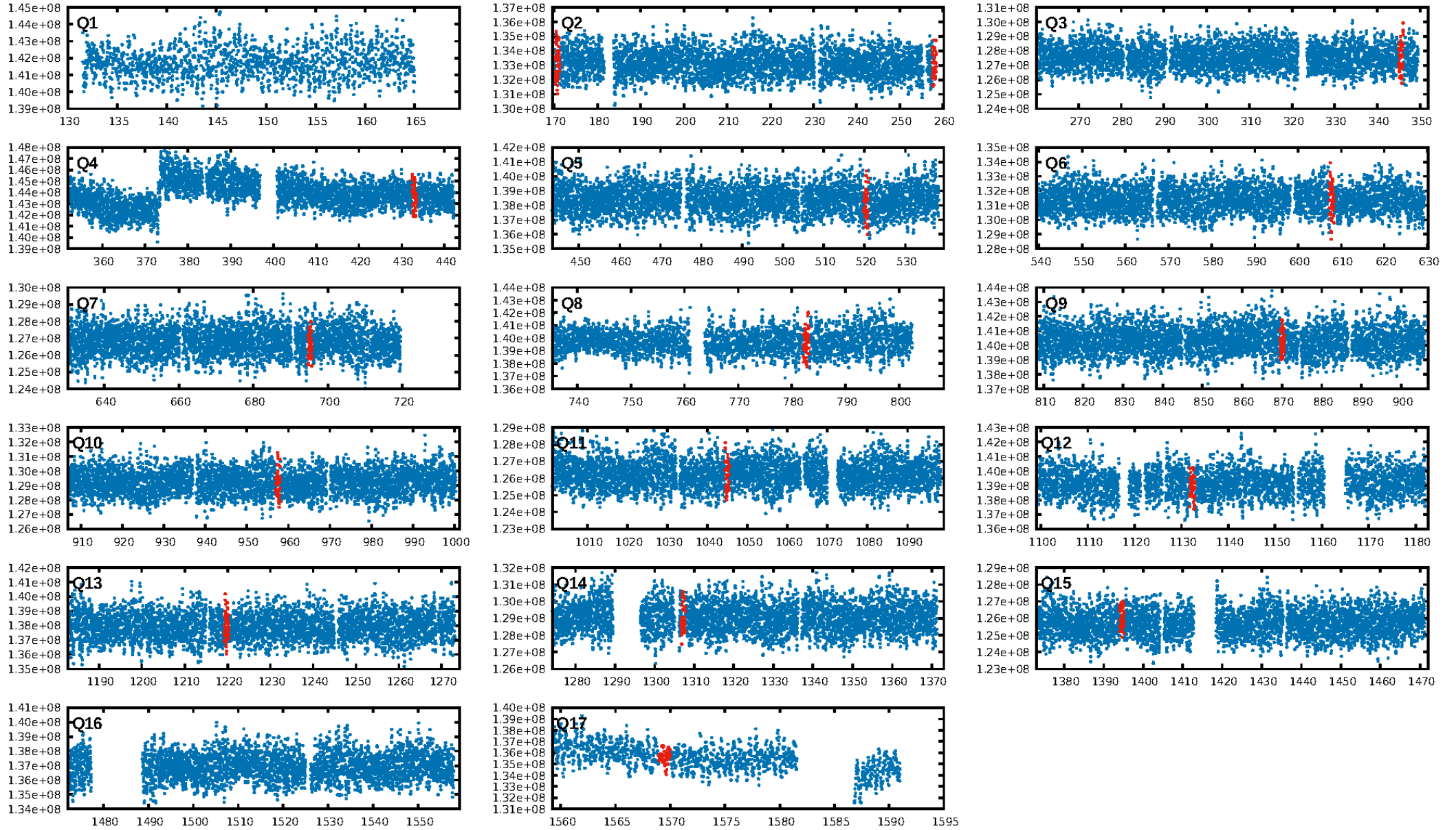
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [107.62σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.0958
Centroid-sig: 9.0%
Centroid-so: 0.248 arcsec [4.37σ]
OotOffset-rm: 0.424 arcsec [1.33σ]
KicOffset-rm: 0.503 arcsec [1.61σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/12]

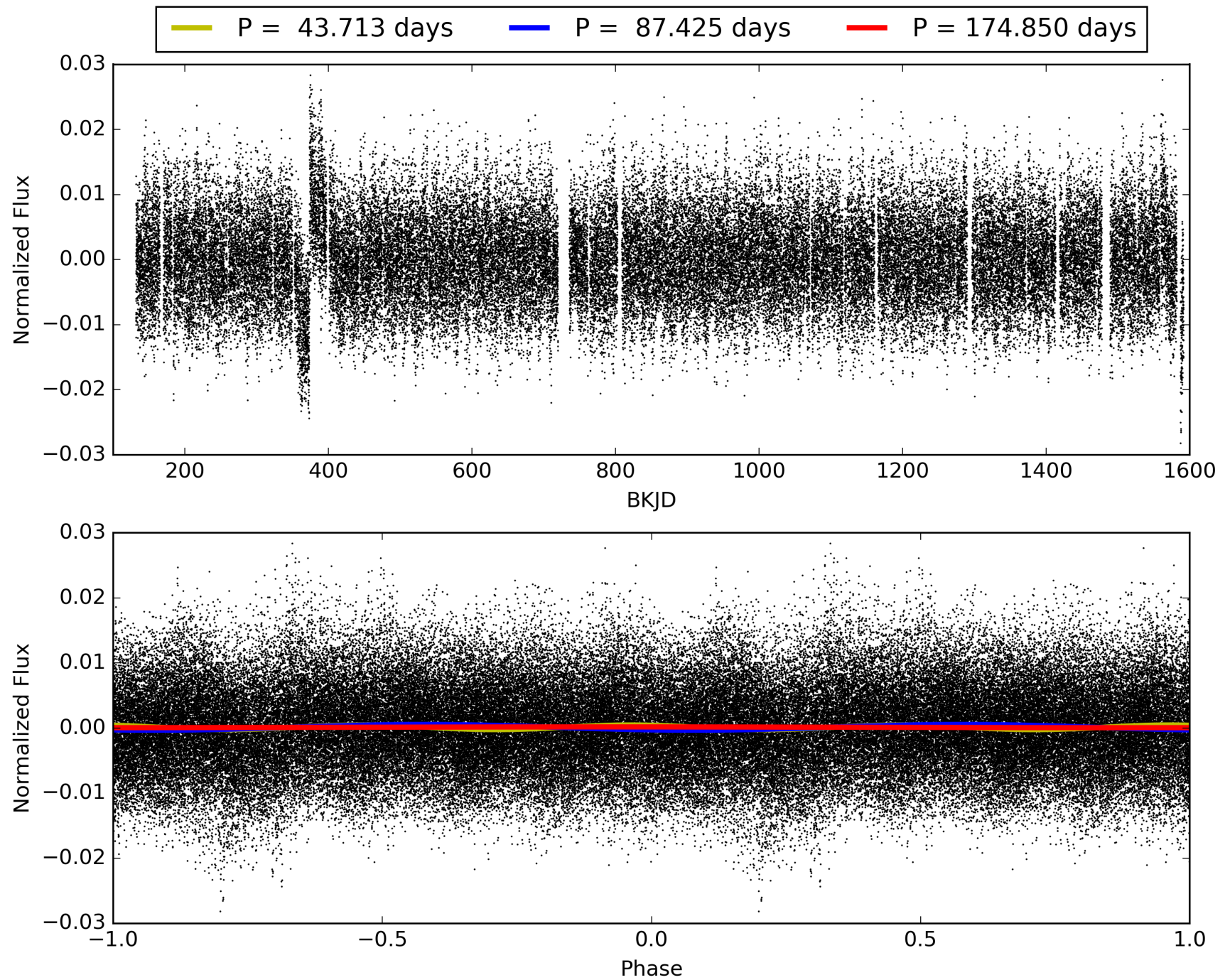
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:47:42 Z

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

TCE 004862968-02, PDC Light Curves

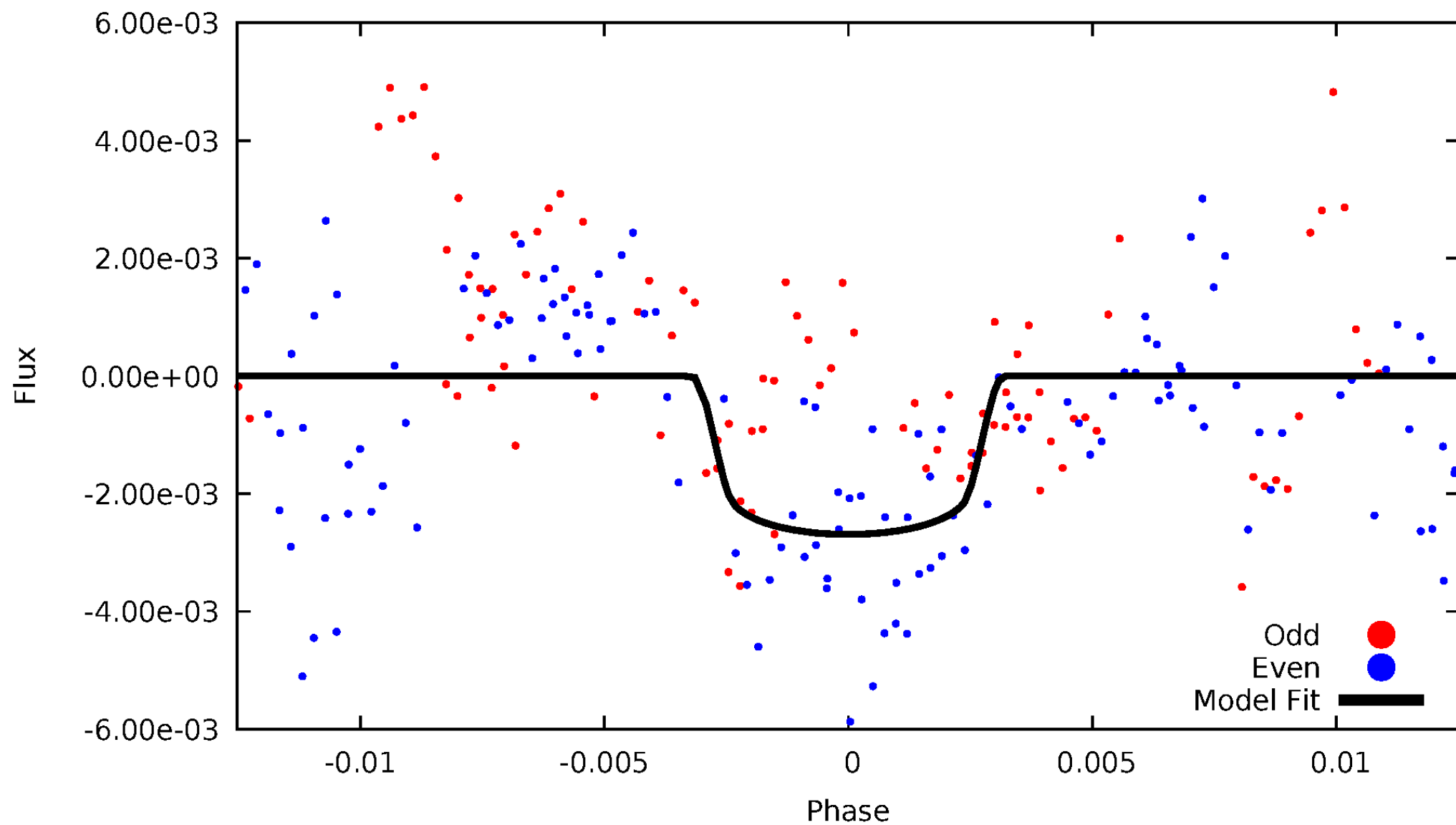


TCE 004862968-02



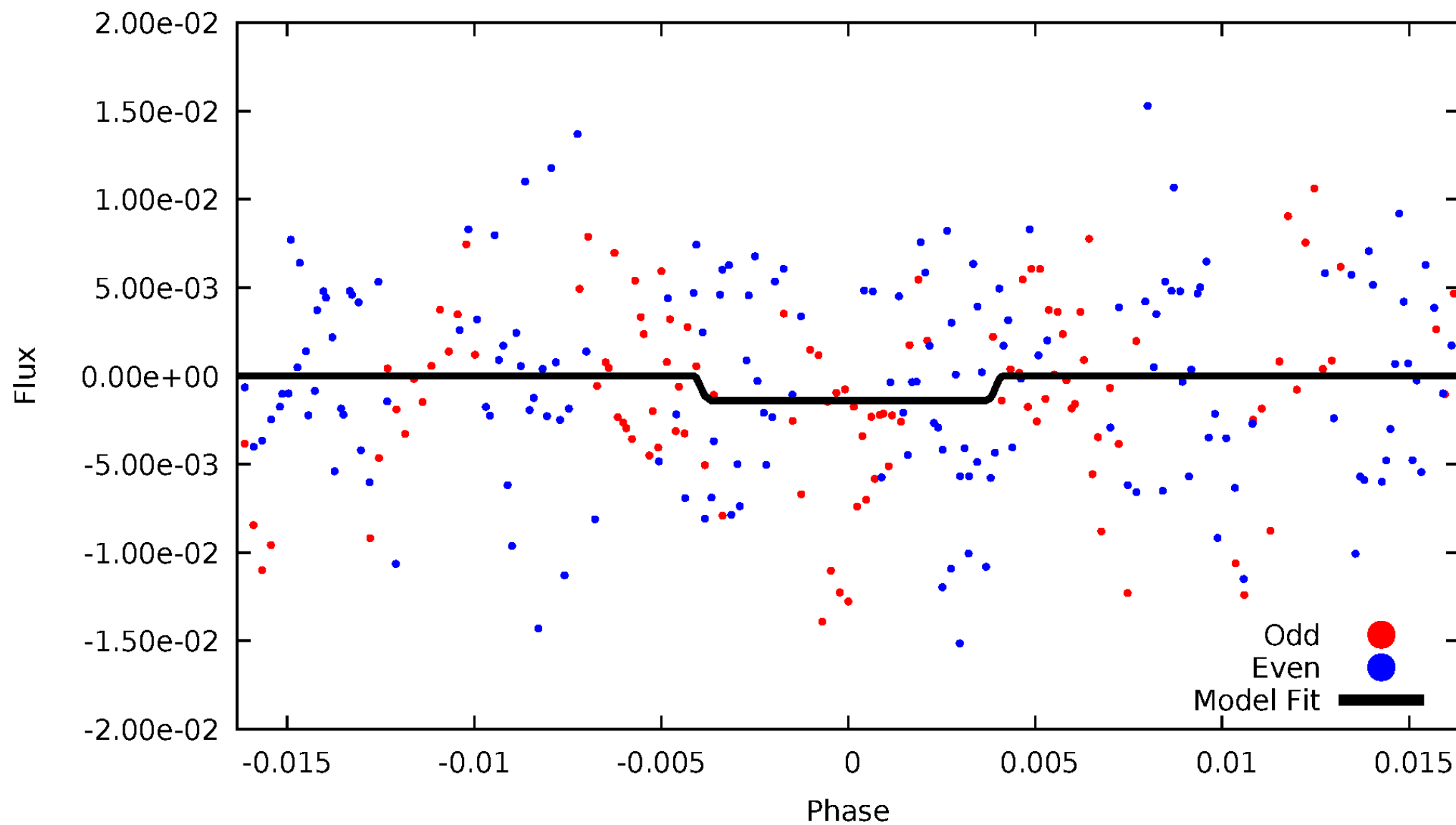
DV Odd/Even

TCE 004862968-02



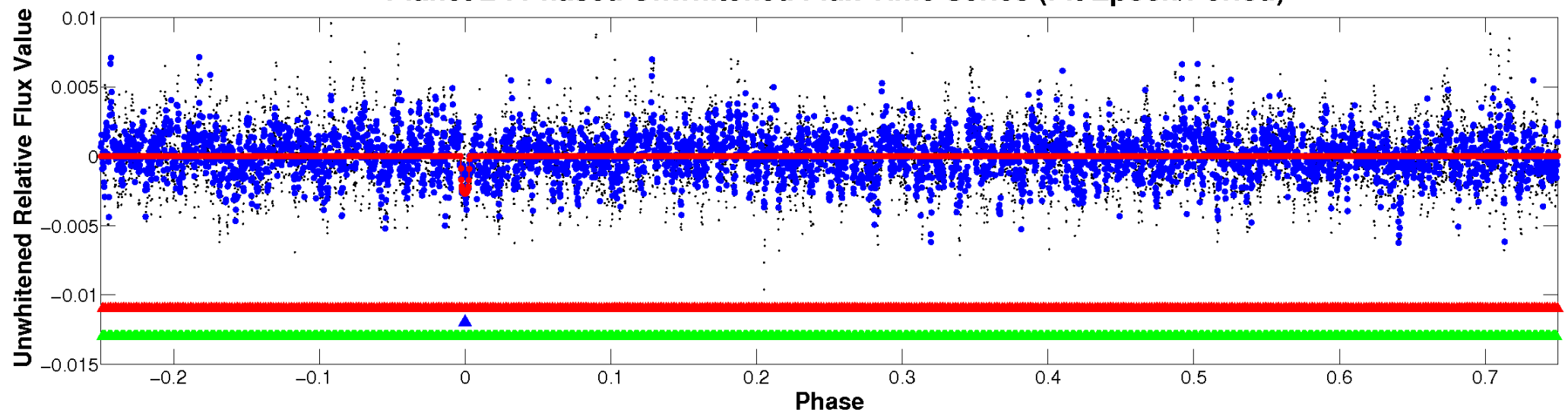
ALT Odd/Even

TCE 004862968-02

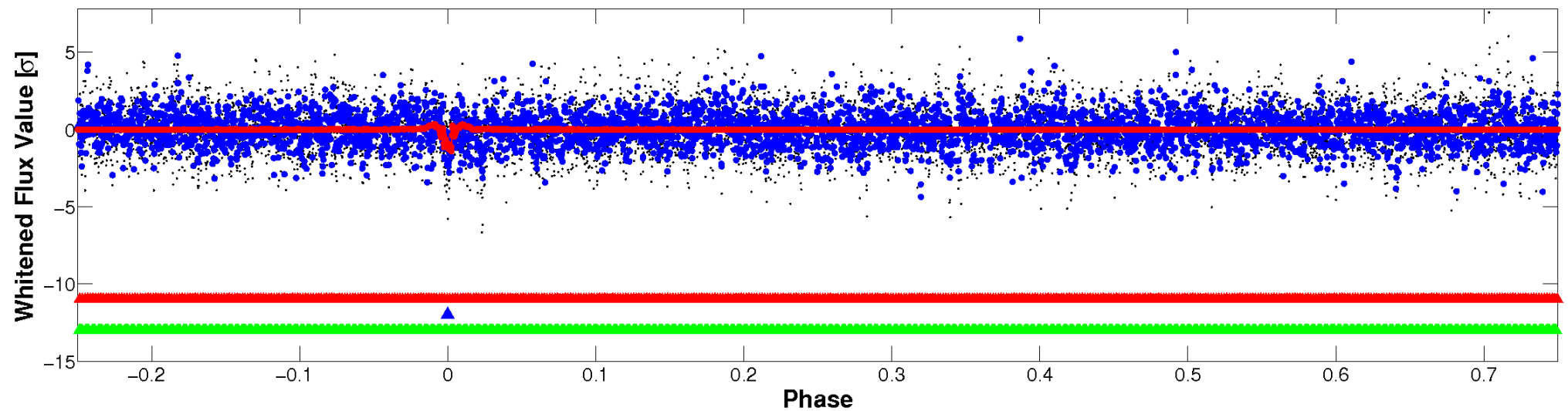


Non-Whitened Vs. Whitened Light Curve

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

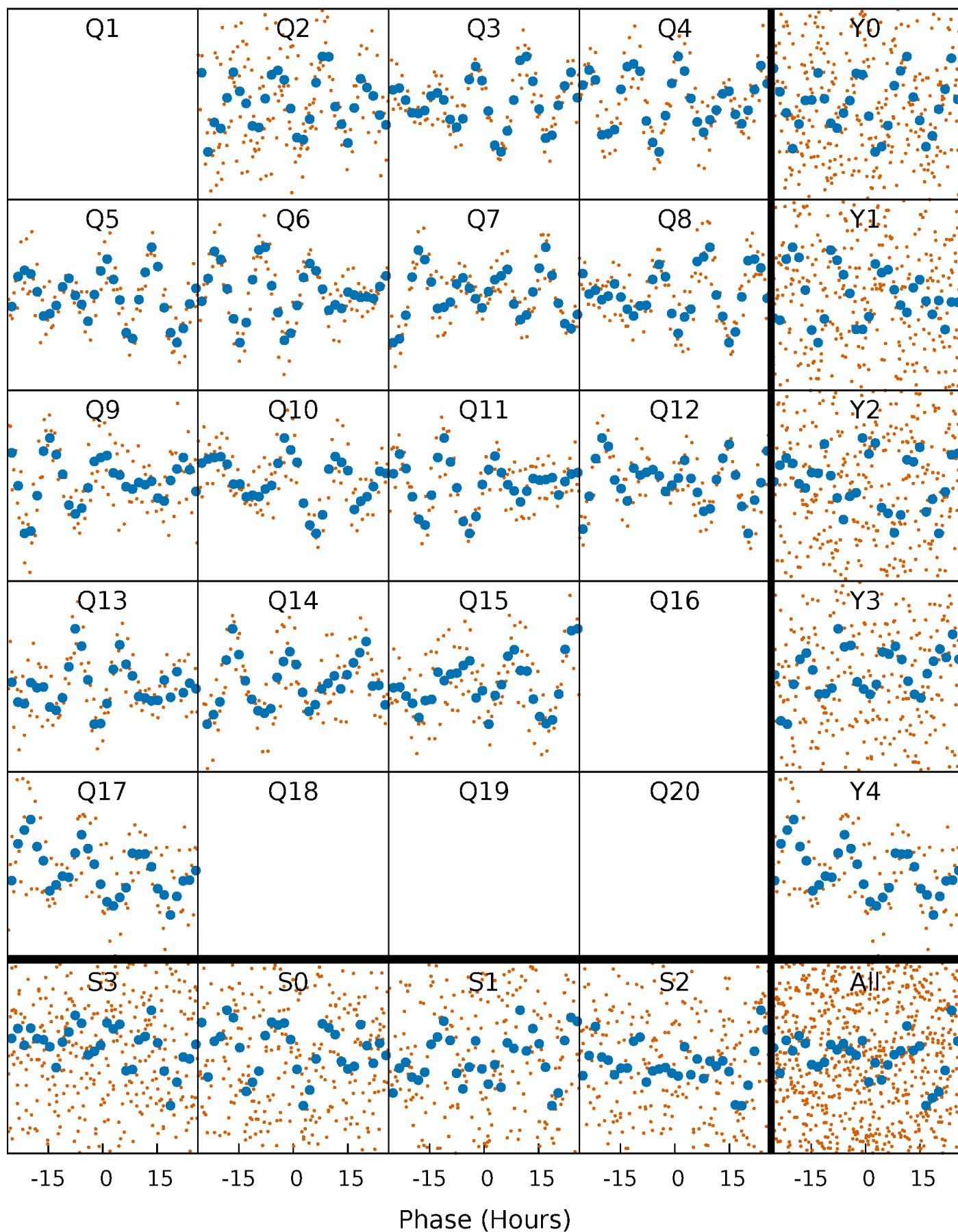


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



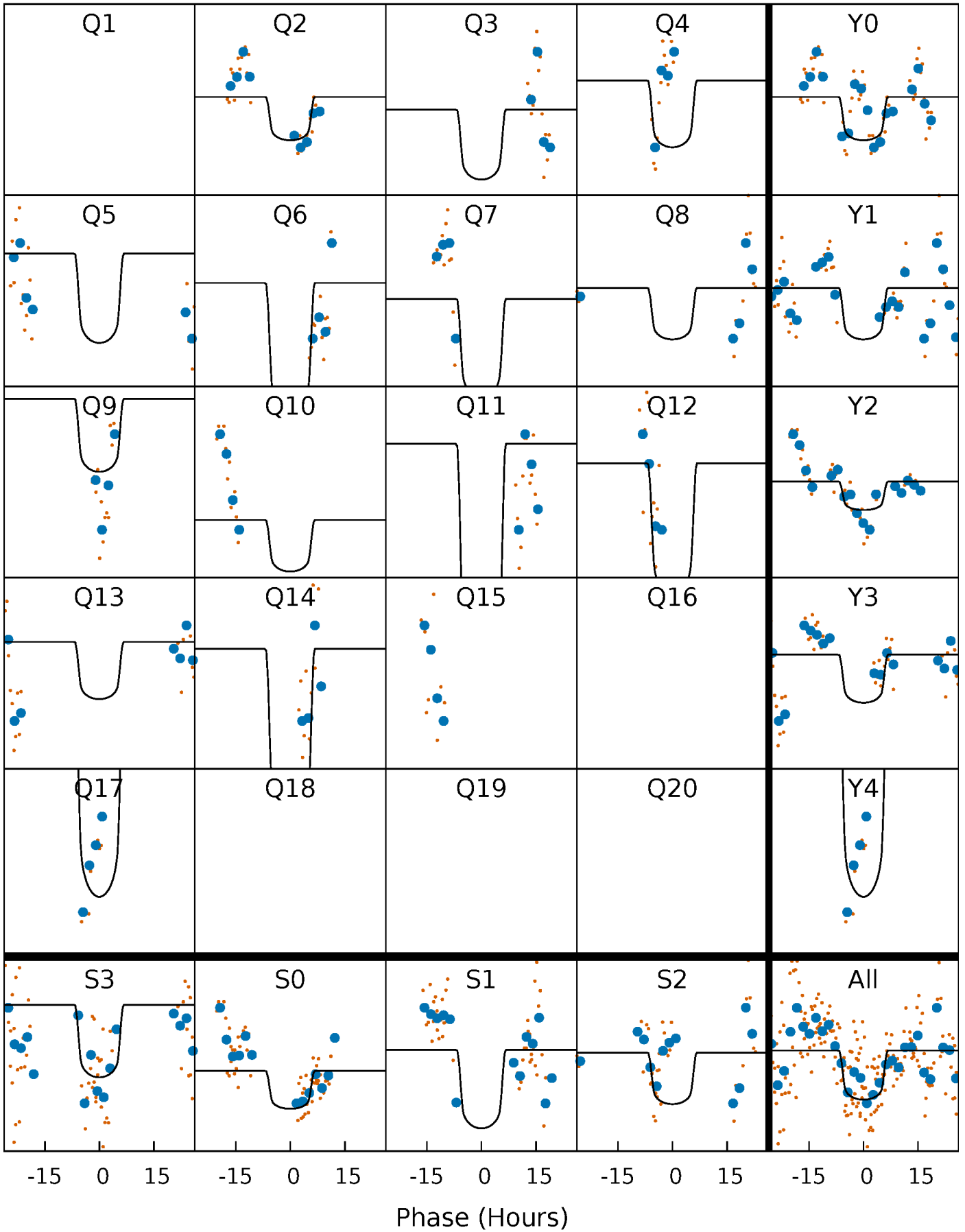
PDC Quarter-Phased Transit Curves

TCE 004862968-02 P= 87.425018 Days $T_0=170.680800$ (BKJD)



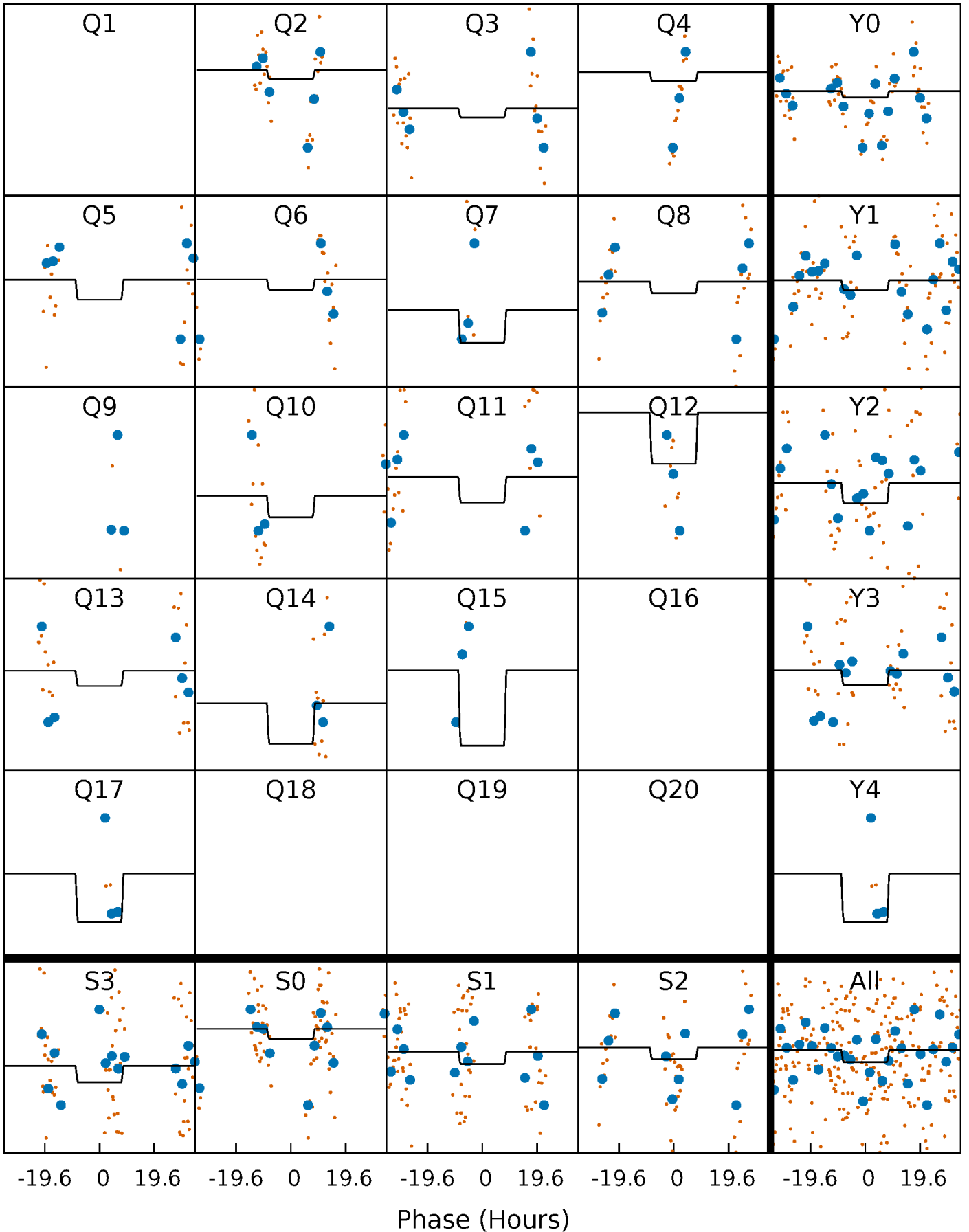
DV Quarter-Phased Transit Curves

TCE 004862968-02 P= 87.425018 Days $T_0=170.680800$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

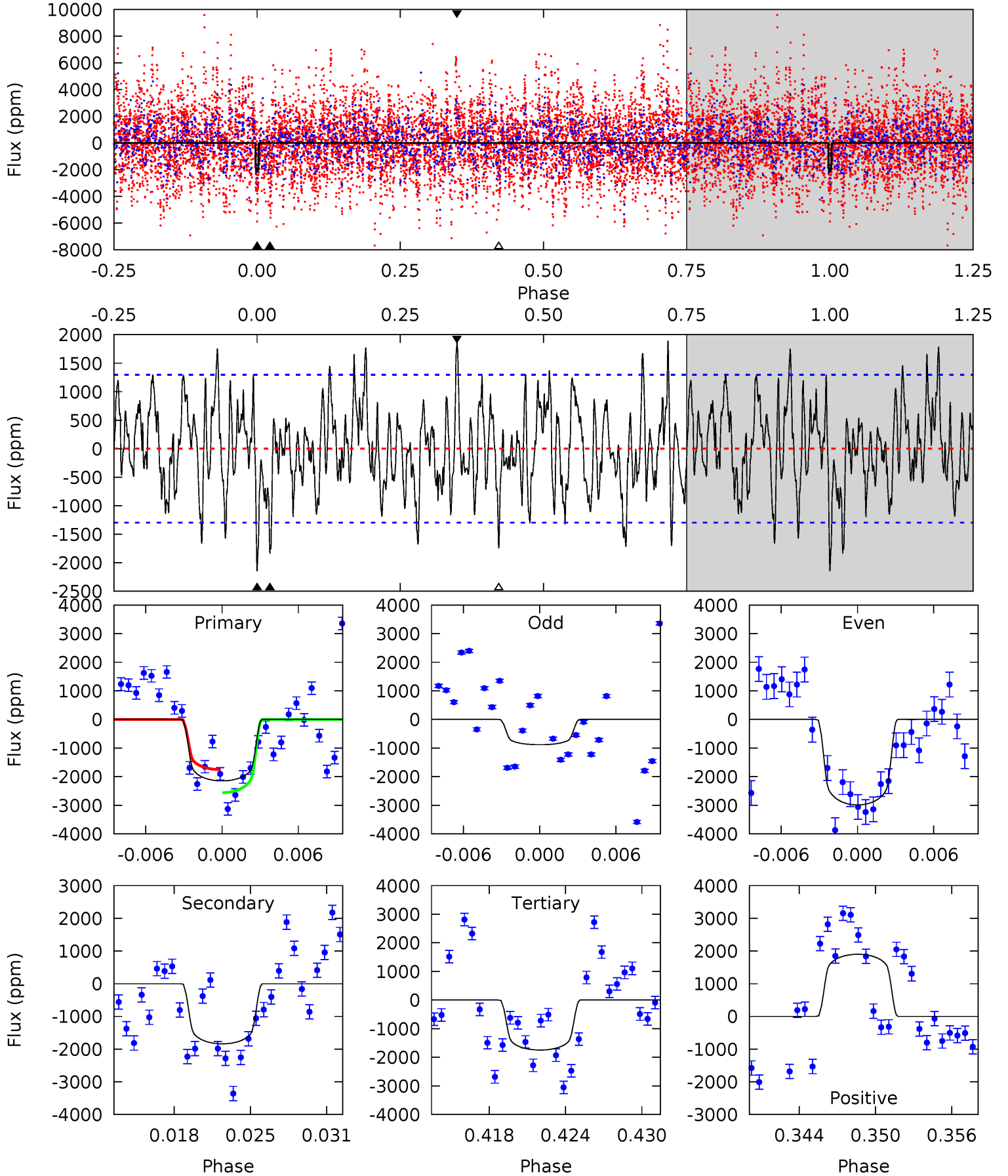
TCE 004862968-02 P= 87.418458 Days $T_0=170.526546$ (BKJD)



DV Model-Shift Uniqueness Test

004862968-02, P = 87.425018 Days, E = 83.255782 Days

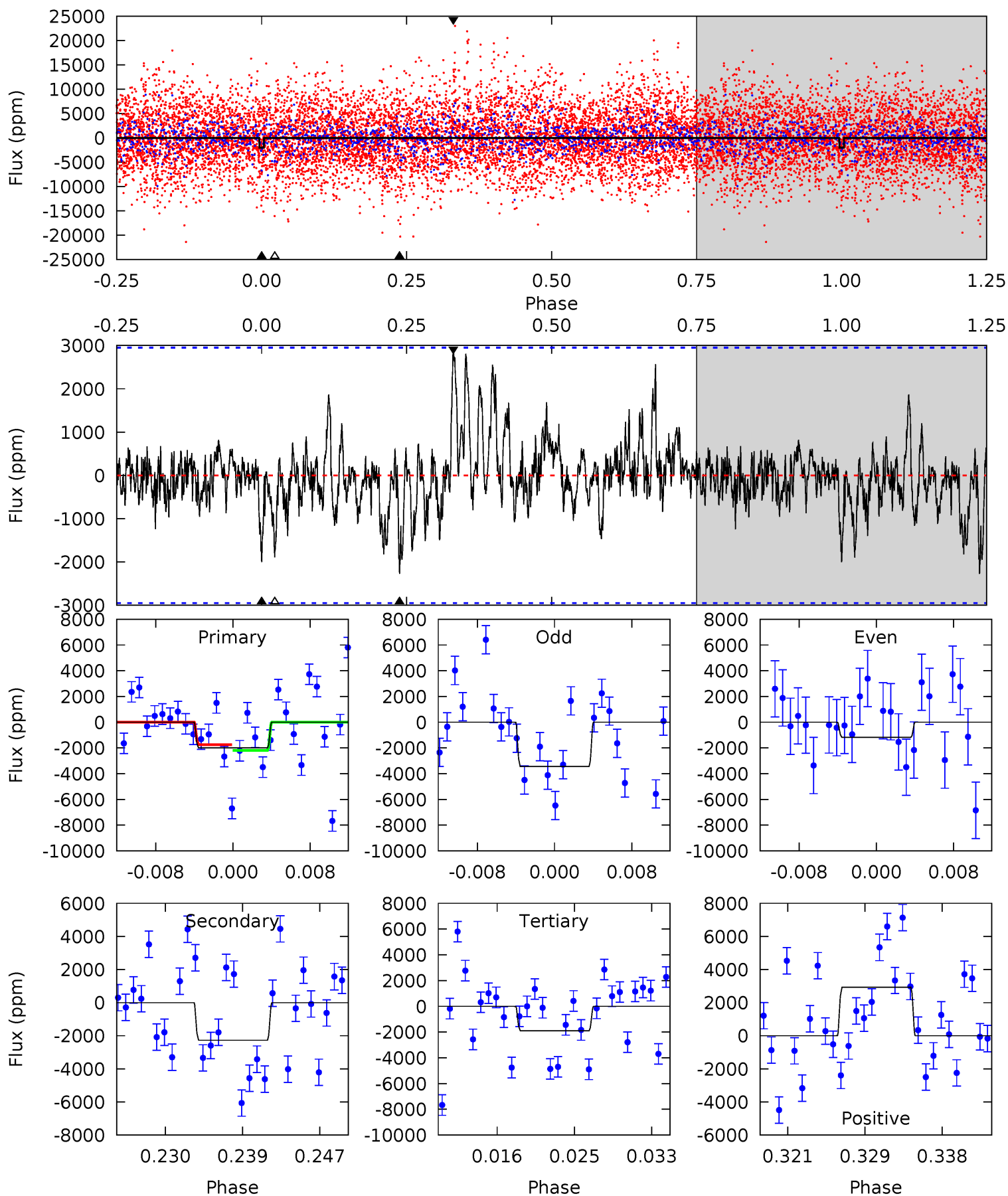
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.48	7.26	6.90	7.50	5.12	2.74	2.66	1.58	0.98	0.36	-0.24	4.15	0.87	0.47	1.58



Alt Model-Shift Uniqueness Test

004862968-02, P = 87.418458 Days, E = 83.108088 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.43	3.90	3.25	5.03	5.06	2.64	1.22	0.18	-1.60	0.65	-1.13	1.87	3.97	0.56	0.38



Stellar Parameters For KIC 004862968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7257^{+226}_{-327}	$4.185^{+0.108}_{-0.201}$	$-0.060^{+0.200}_{-0.350}$	$1.631^{+0.540}_{-0.291}$	$1.487^{+0.212}_{-0.236}$	$0.483^{+0.250}_{-0.262}$
	+3%/-5%	+3%/-5%	+333%/-583%	+33%/-18%	+14%/-16%	+52%/-54%
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 004862968-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1839 ± 253	$9.36^{+1.82}_{-1.49}$	865^{+73}_{-58}	6506^{+569}_{-471}	2226^{+930}_{-714}
Alt.	-2271 ± 583	$6.72^{+1.52}_{-1.25}$	866^{+71}_{-52}	8311^{+1377}_{-962}	5183^{+3000}_{-1994}

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 $A_{obs} \gg 1.0$

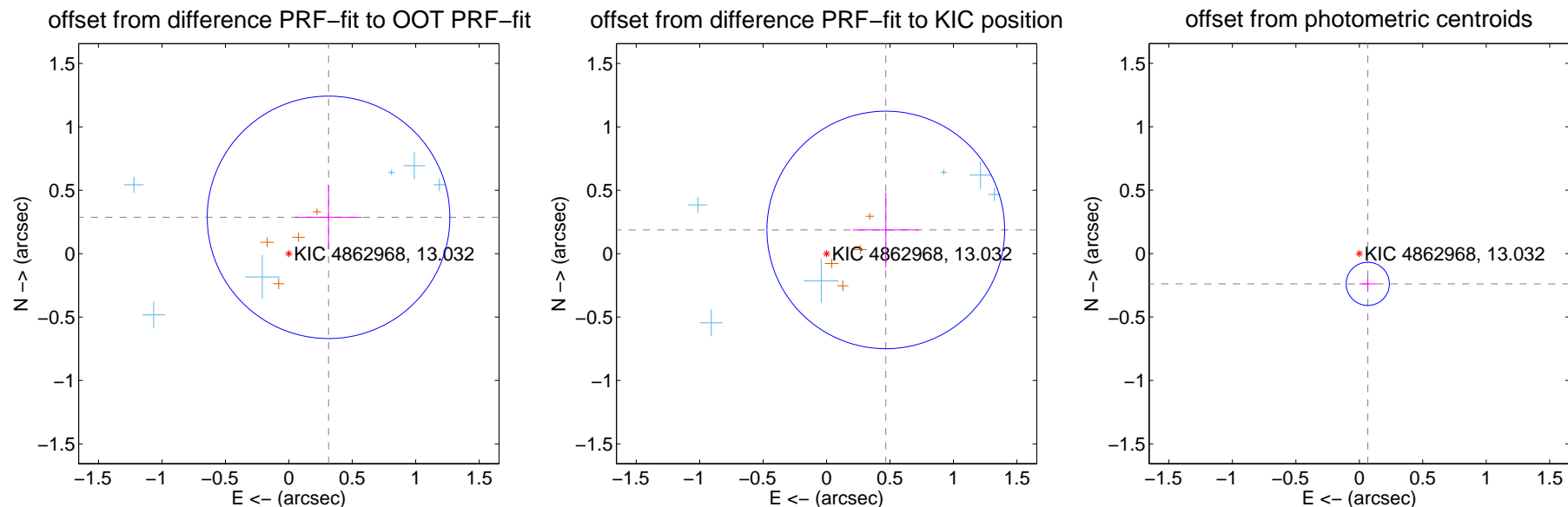
DV Centroid Data

Supplemental centroid analysis for 004862968-02. Kepler magnitude: 13.03. Transit SNR 8.79

There are 6 quarters with good PRF difference image offsets

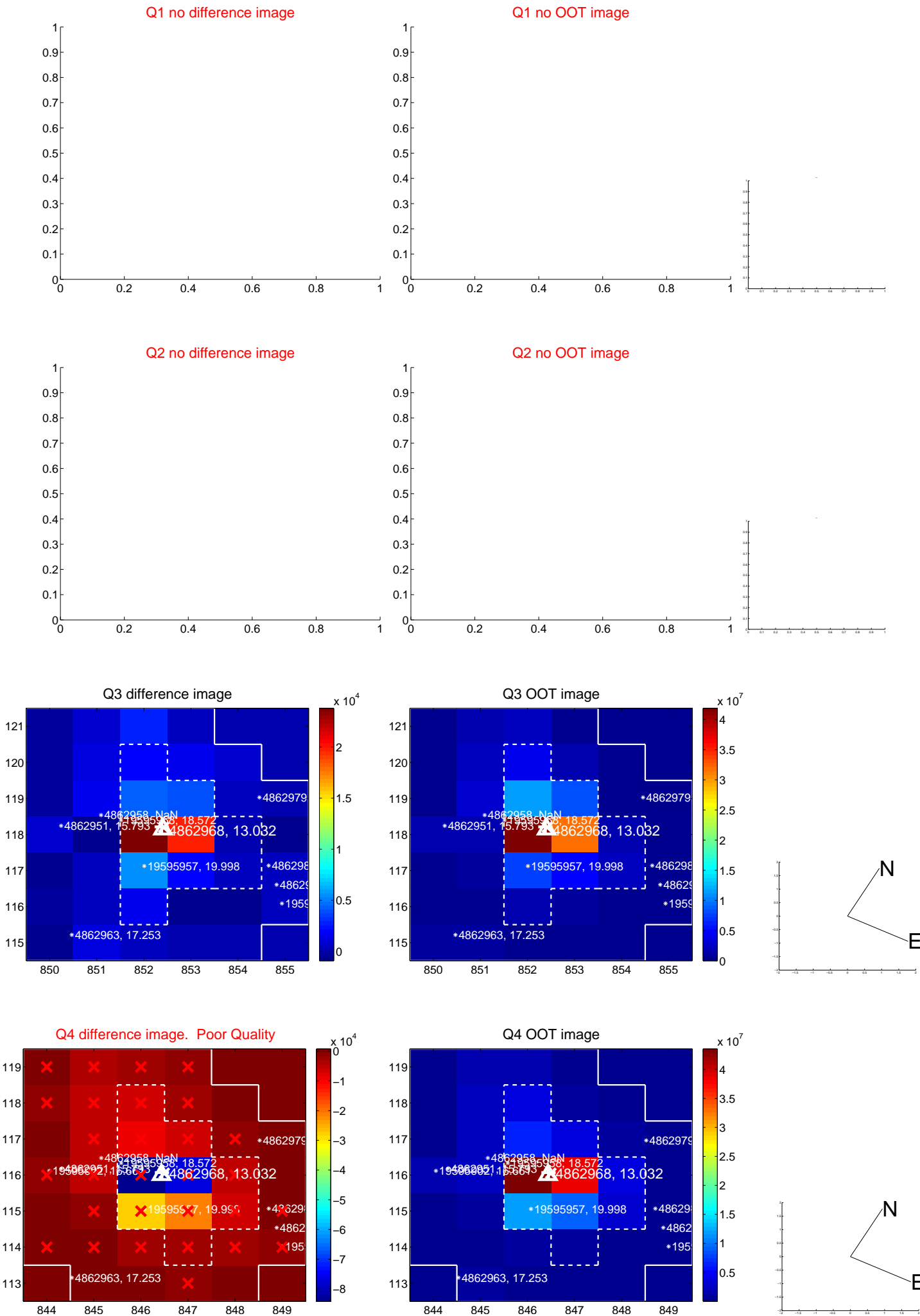
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.424 ± 0.319	1.33	-0.313 ± 0.263	0.286 ± 0.254
PRF-fit source offset from KIC position	0.503 ± 0.312	1.61	-0.467 ± 0.261	0.187 ± 0.295
photometric centroid source offset	0.25 ± 0.06	4.37	-0.07 ± 0.07	-0.24 ± 0.06

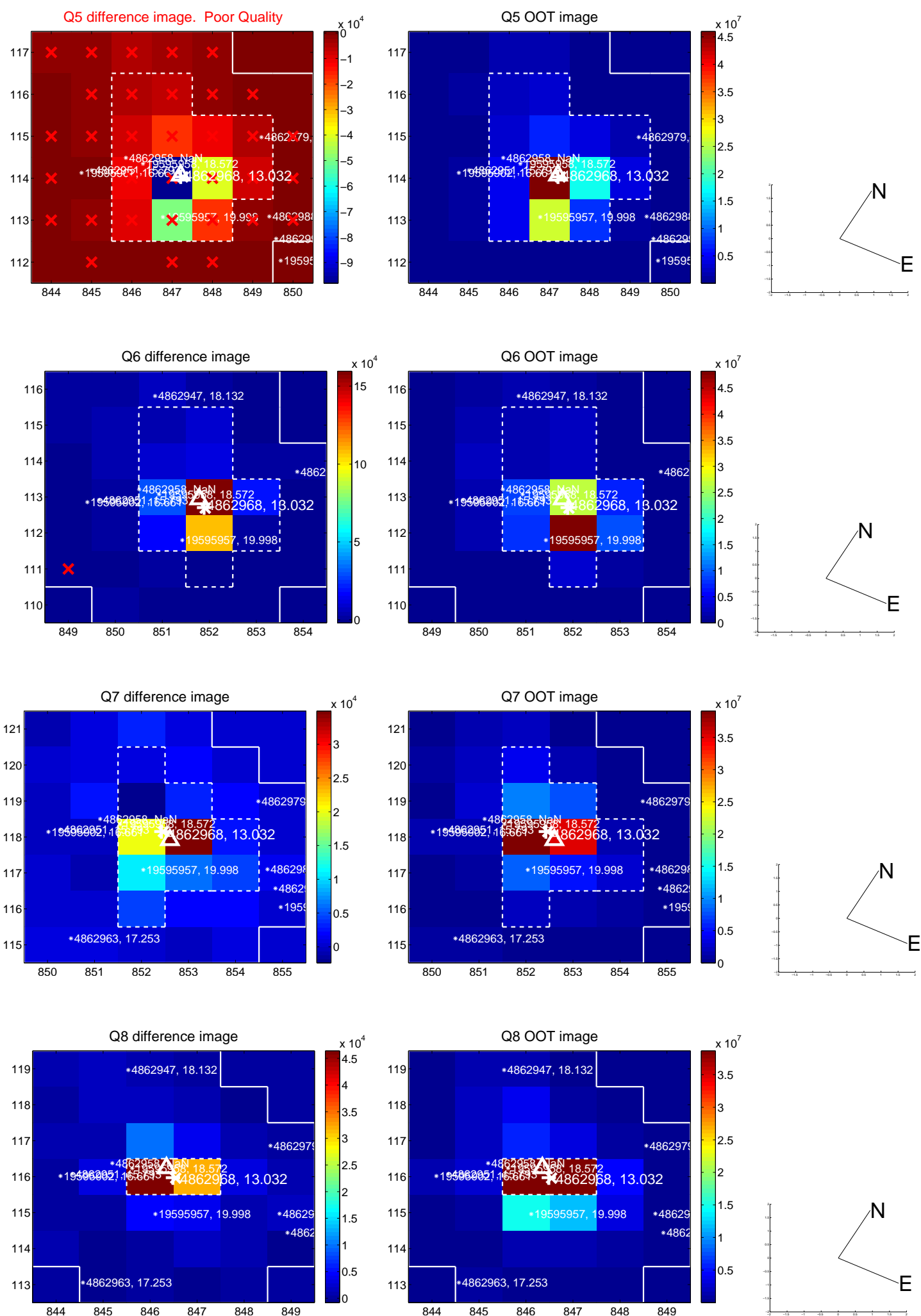


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

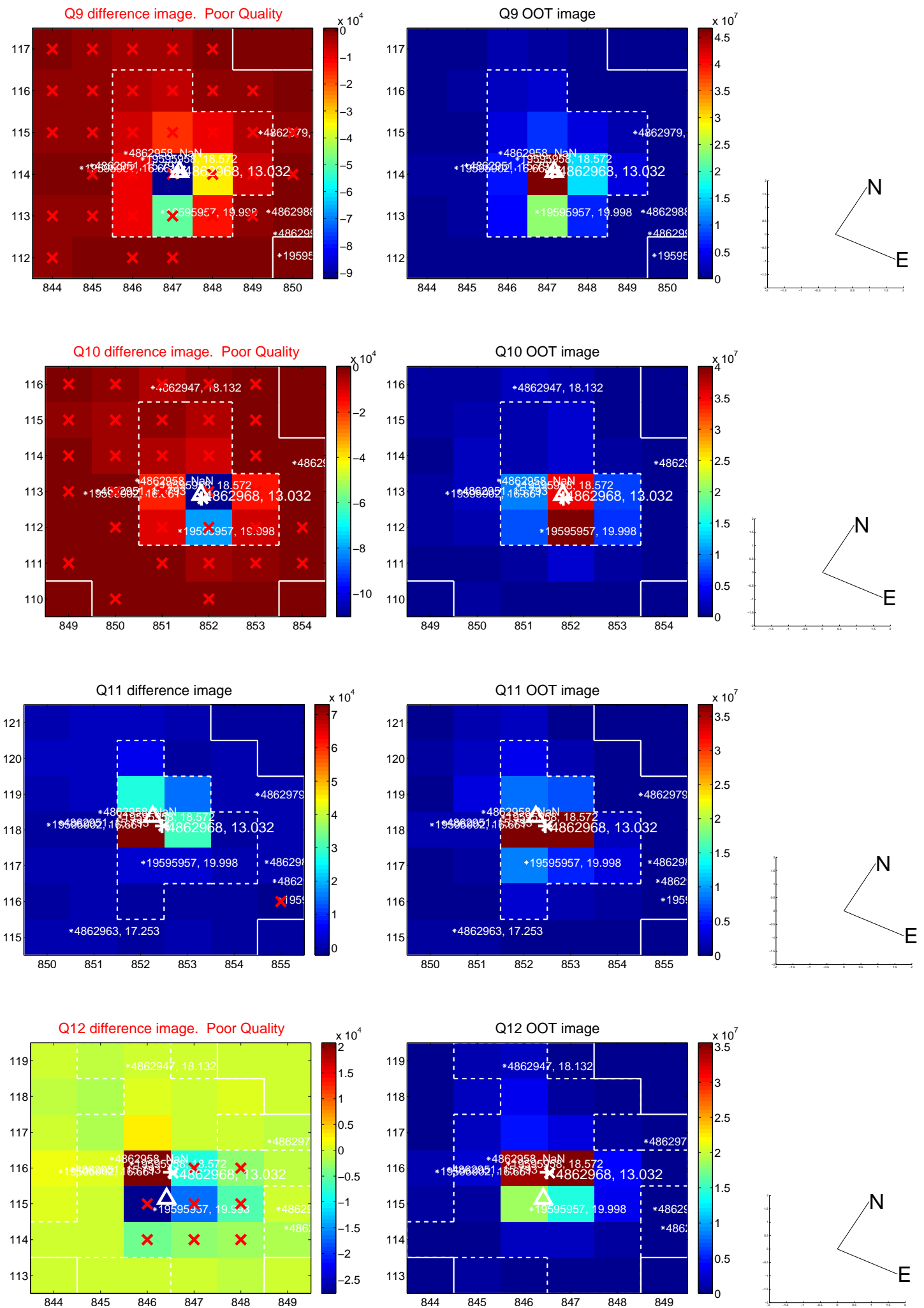
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



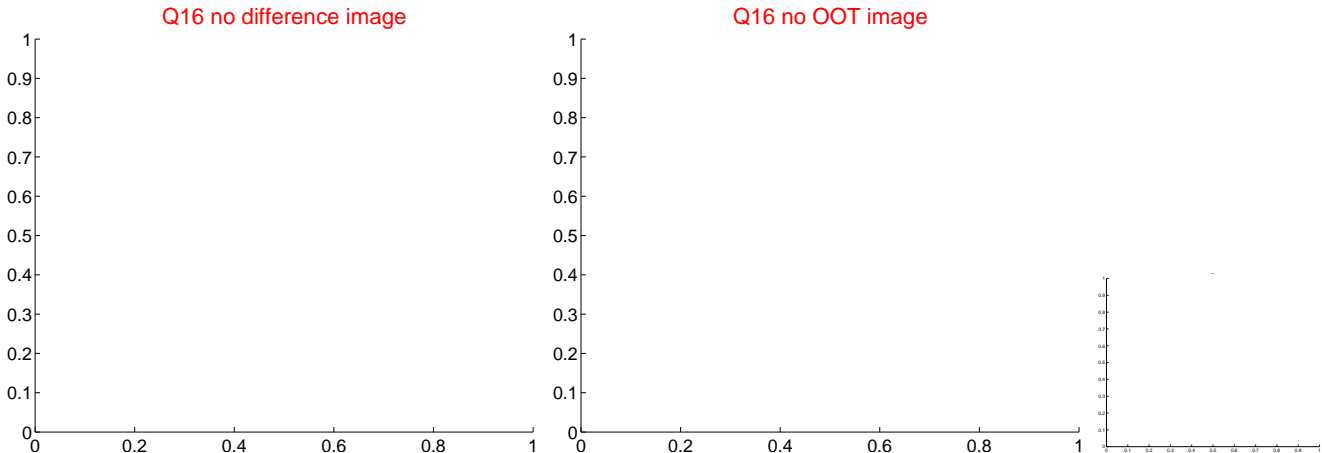
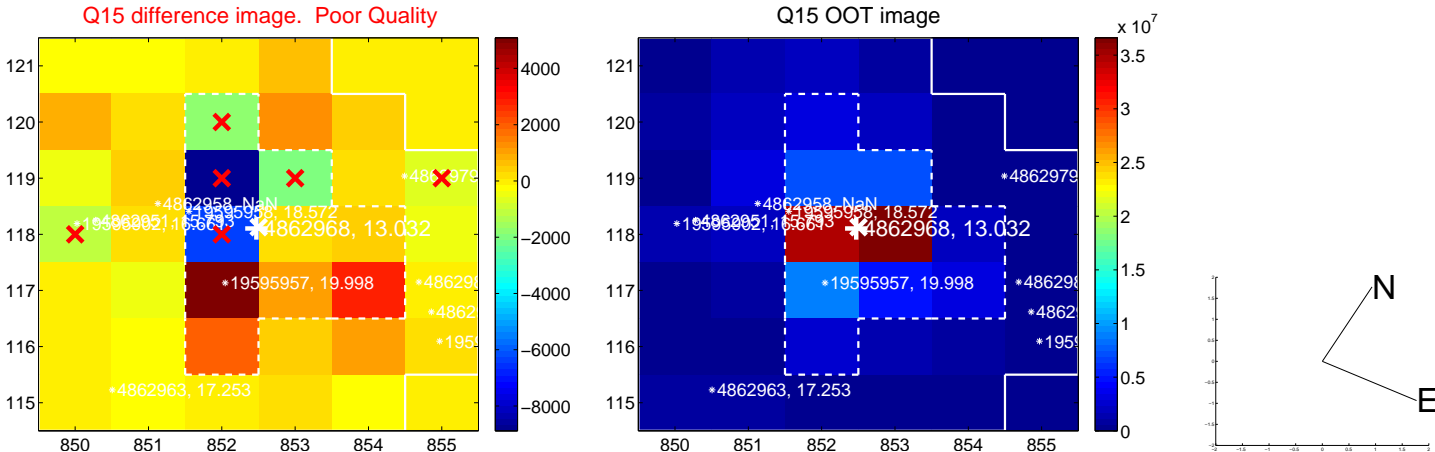
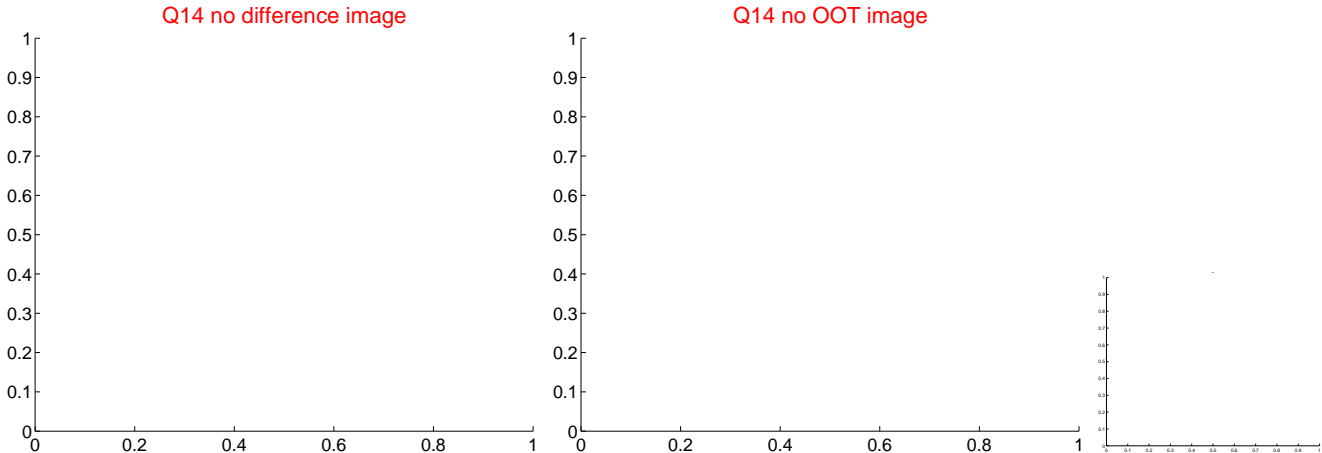
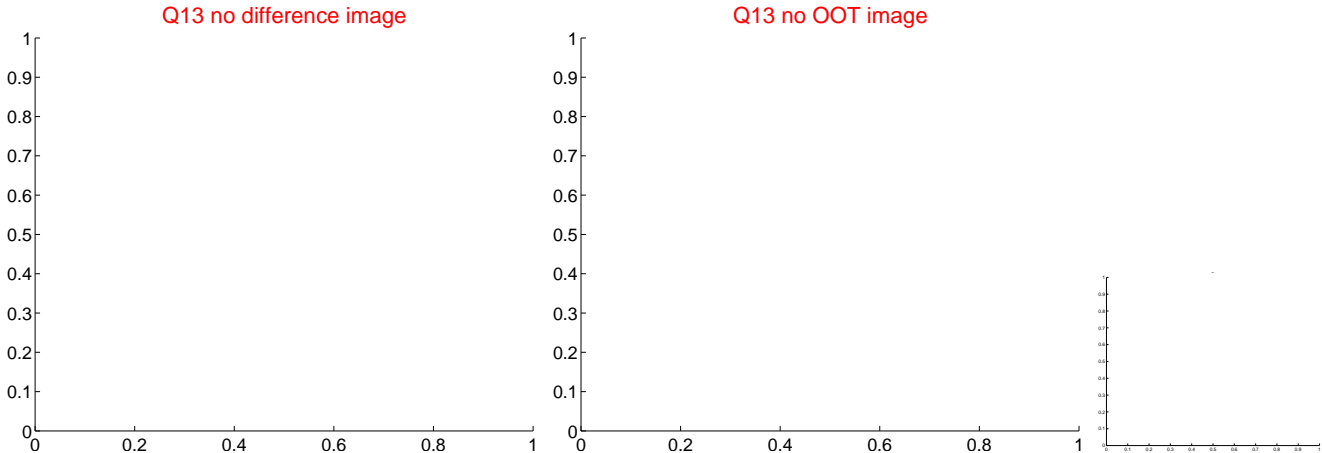
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



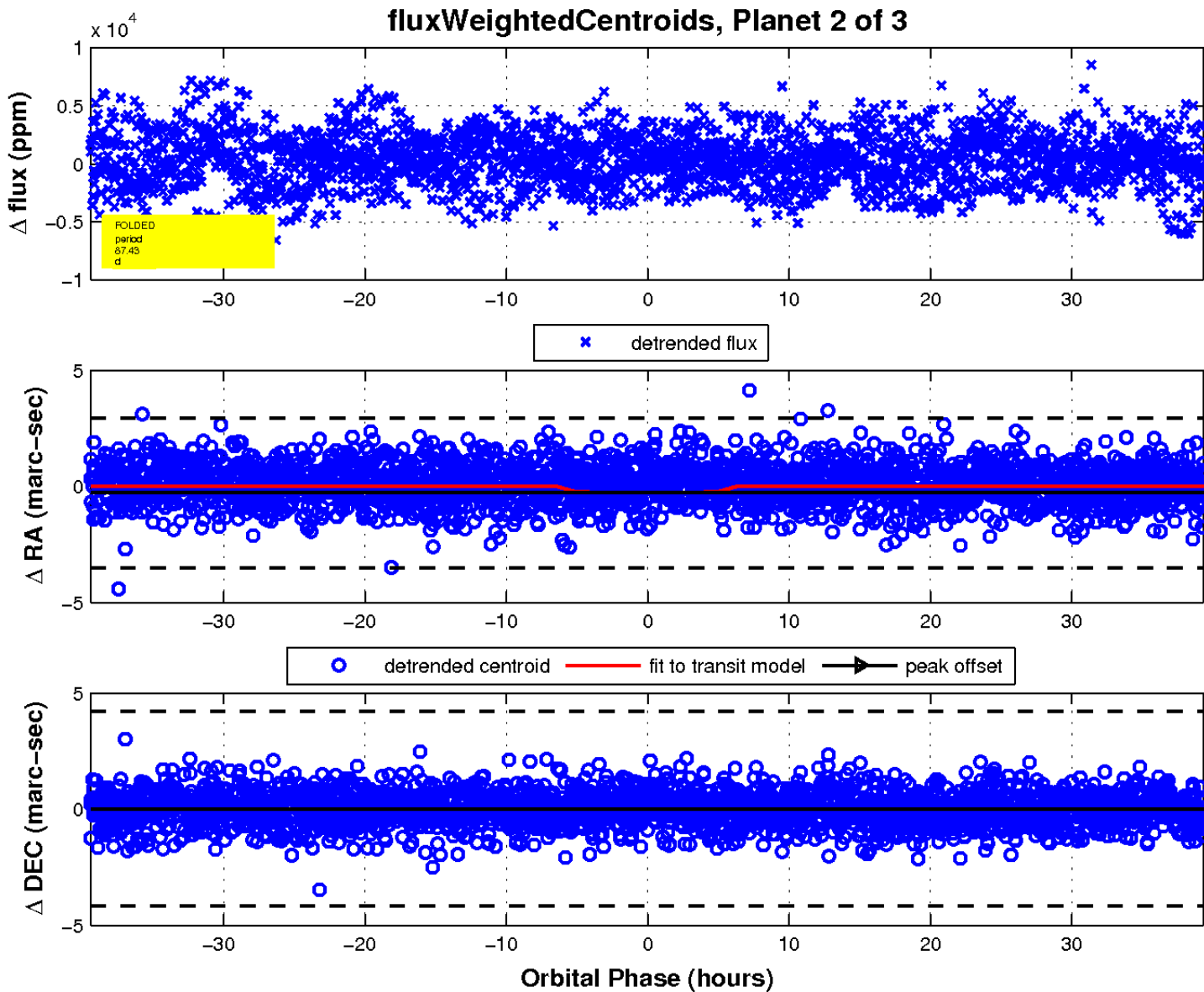
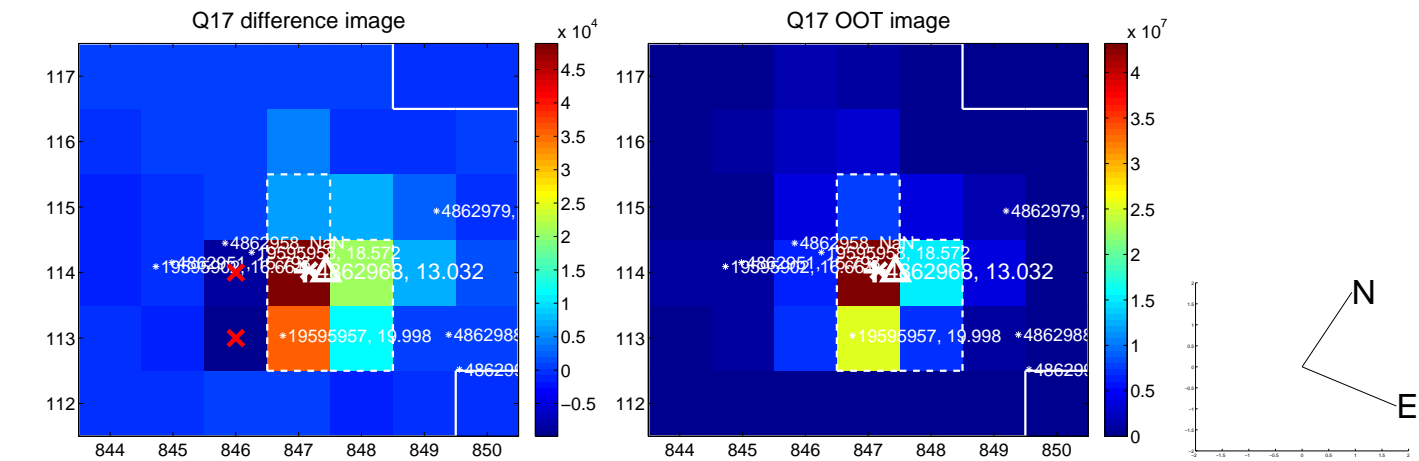
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

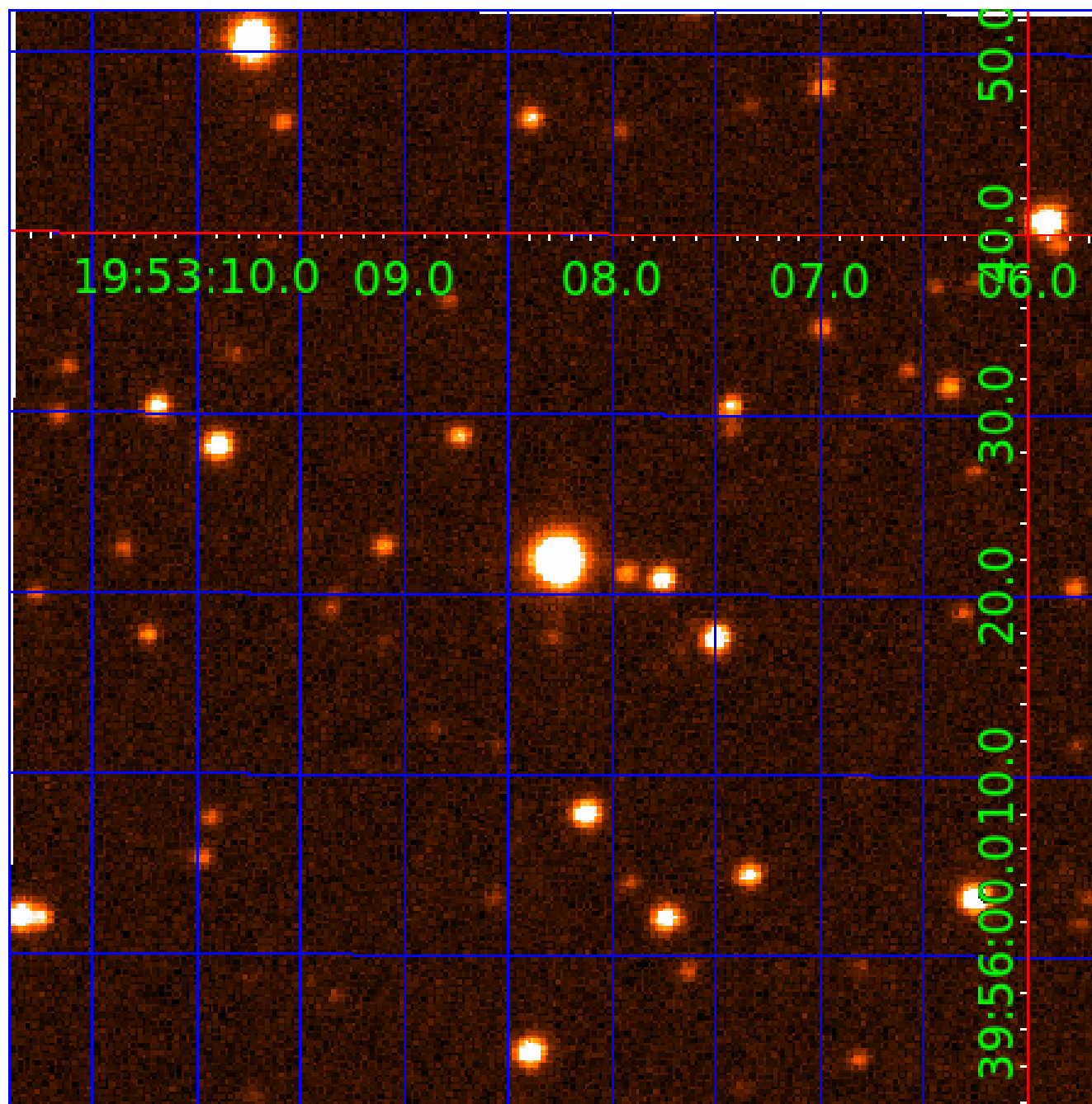


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004862968

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})
004862968-01	OBS	No	2.015166	131.572495	318.5	13.791	8.7	10.6	1.63	7257	3.17	5205.68
004862968-02	OBS	No	87.425018	170.680800	2691.0	13.137	29.3	8.8	1.63	7257	9.24	34.15
004862968-03	OBS	No	0.770160	131.769354	1306.2	9.242	13.0	16.1	1.63	7257	7.49	18769.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004862968-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
004862968-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
004862968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—HALO_GHOST

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

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

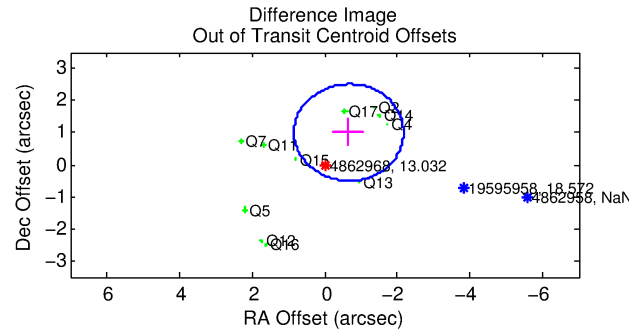
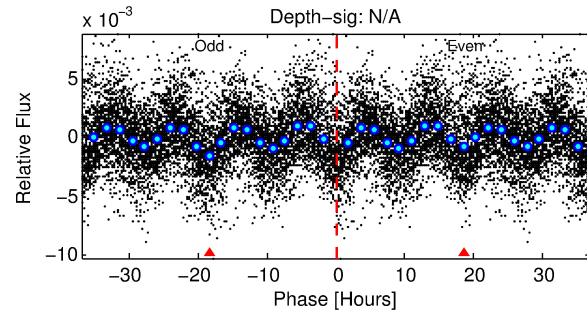
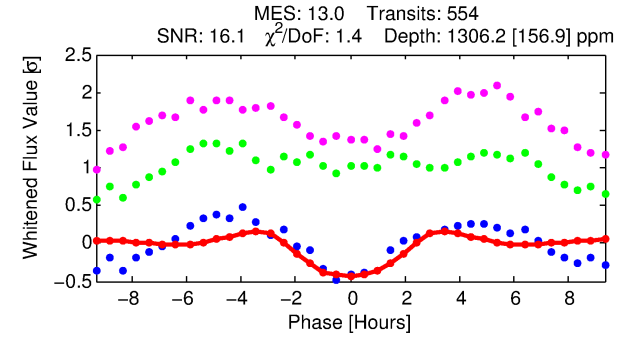
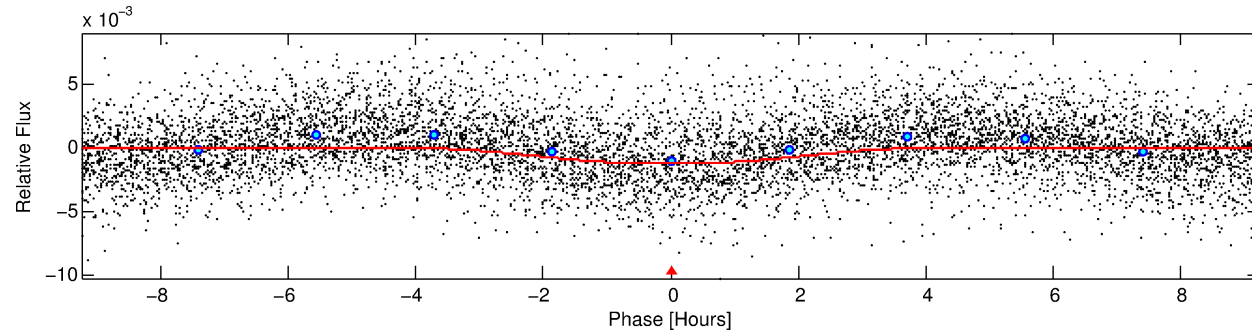
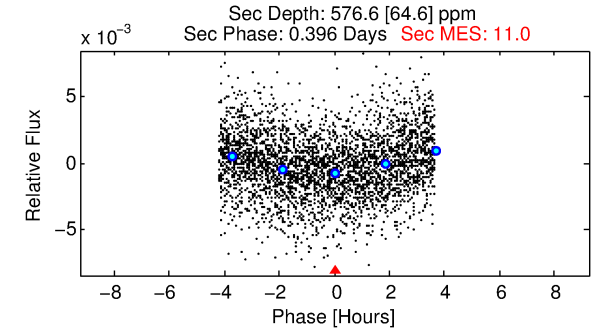
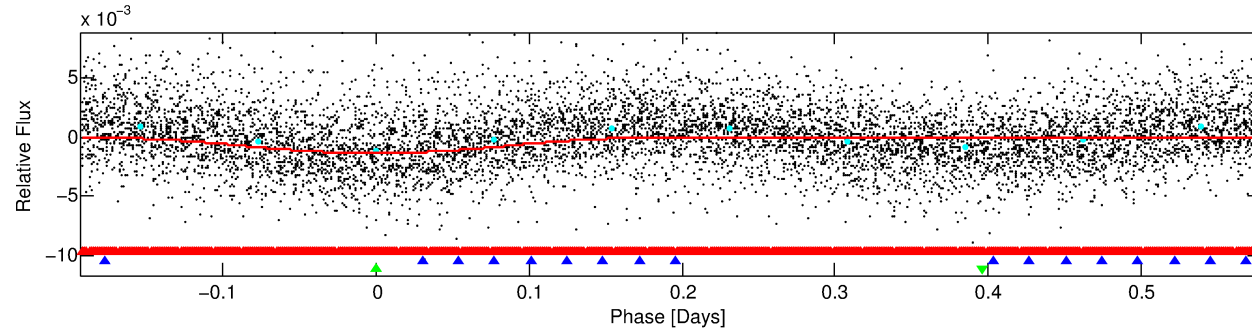
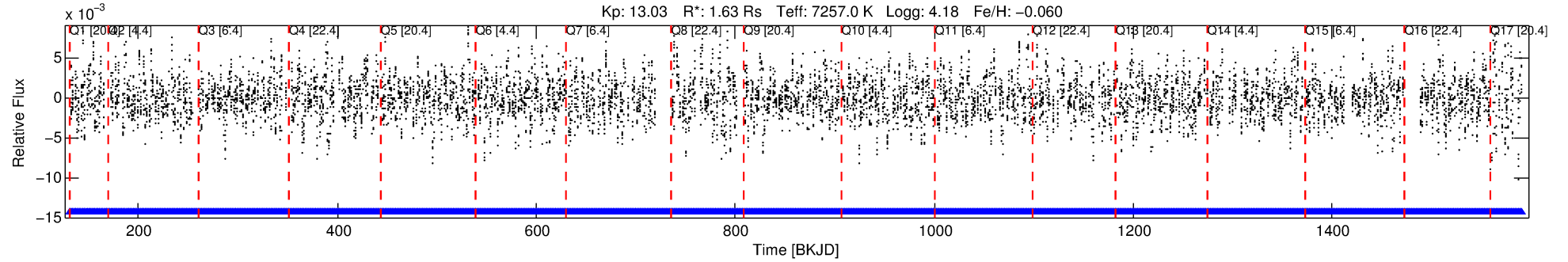
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004862968-03

No Significant Match Found

DV One-Page Summary

KIC: 4862968 Candidate: 3 of 3 Period: 0.770 d



DV Fit Results:

Period = 0.77016 [0.00001] d
Epoch = 131.7694 [0.0050] BKJD
Rp/R* = 0.0421 [0.0038]
a/R* = 1.04 [0.00]
b = 0.96 [0.01]
Seff = 18769.41 [7883.29]
Teq = 2985 [313] K
Rp = 7.49 [2.57] Re
a = 0.0188 [0.0051] AU
Ag = 1.99 [0.87] [1.15 σ]
Teffp = 5484 [382] K [5.06 σ]

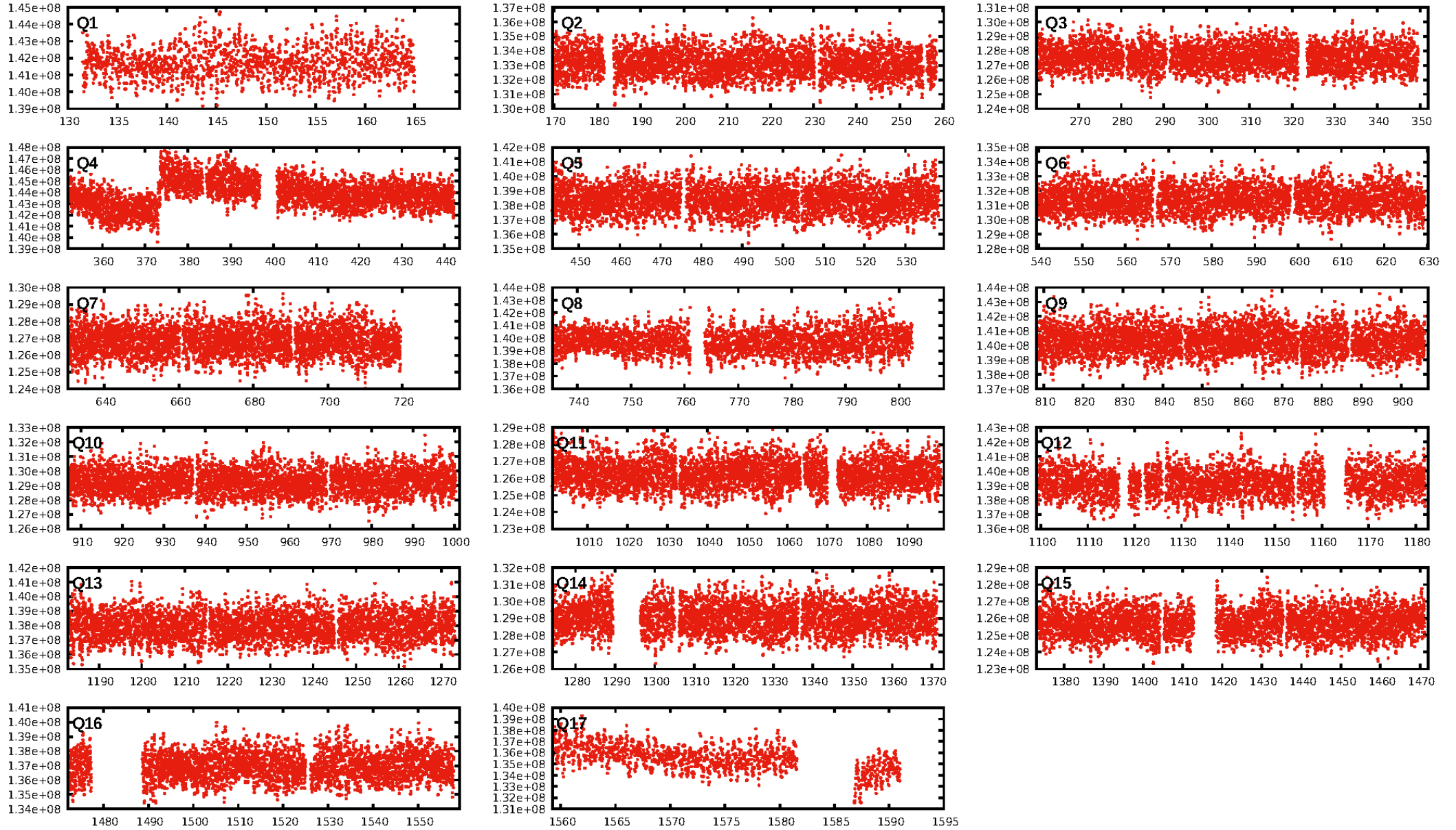
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 92.8% [1.80 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [527/527]
GhostDiagnostic-chr: 0.0929
Centroid-sig: 98.7%
Centroid-so: 0.287 arcsec [15.93 σ]
OotOffset-rm: 1.202 arcsec [2.39 σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-rm: 1.232 arcsec [2.02 σ]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [17/17]

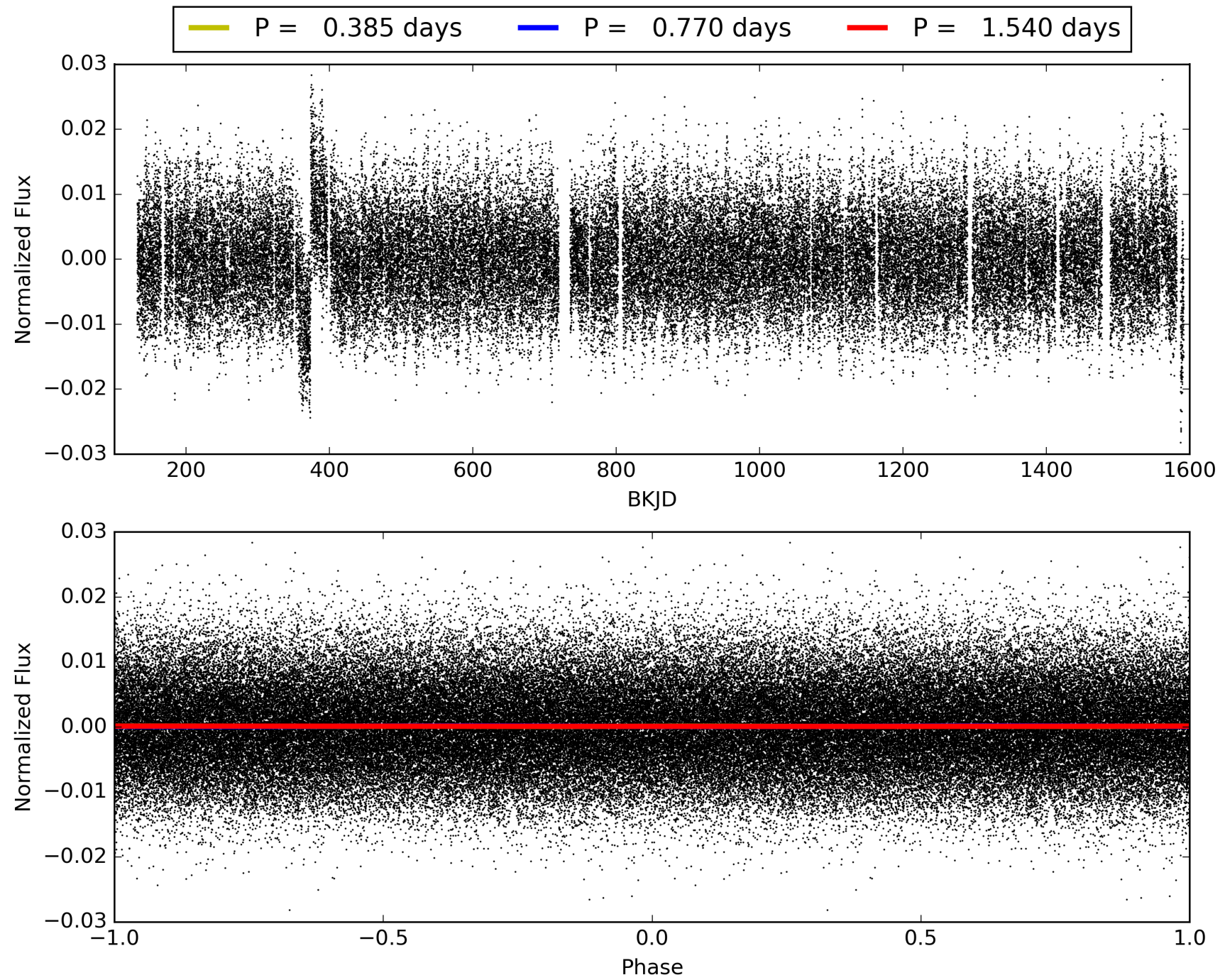
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:47:52 Z

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

TCE 004862968-03, PDC Light Curves

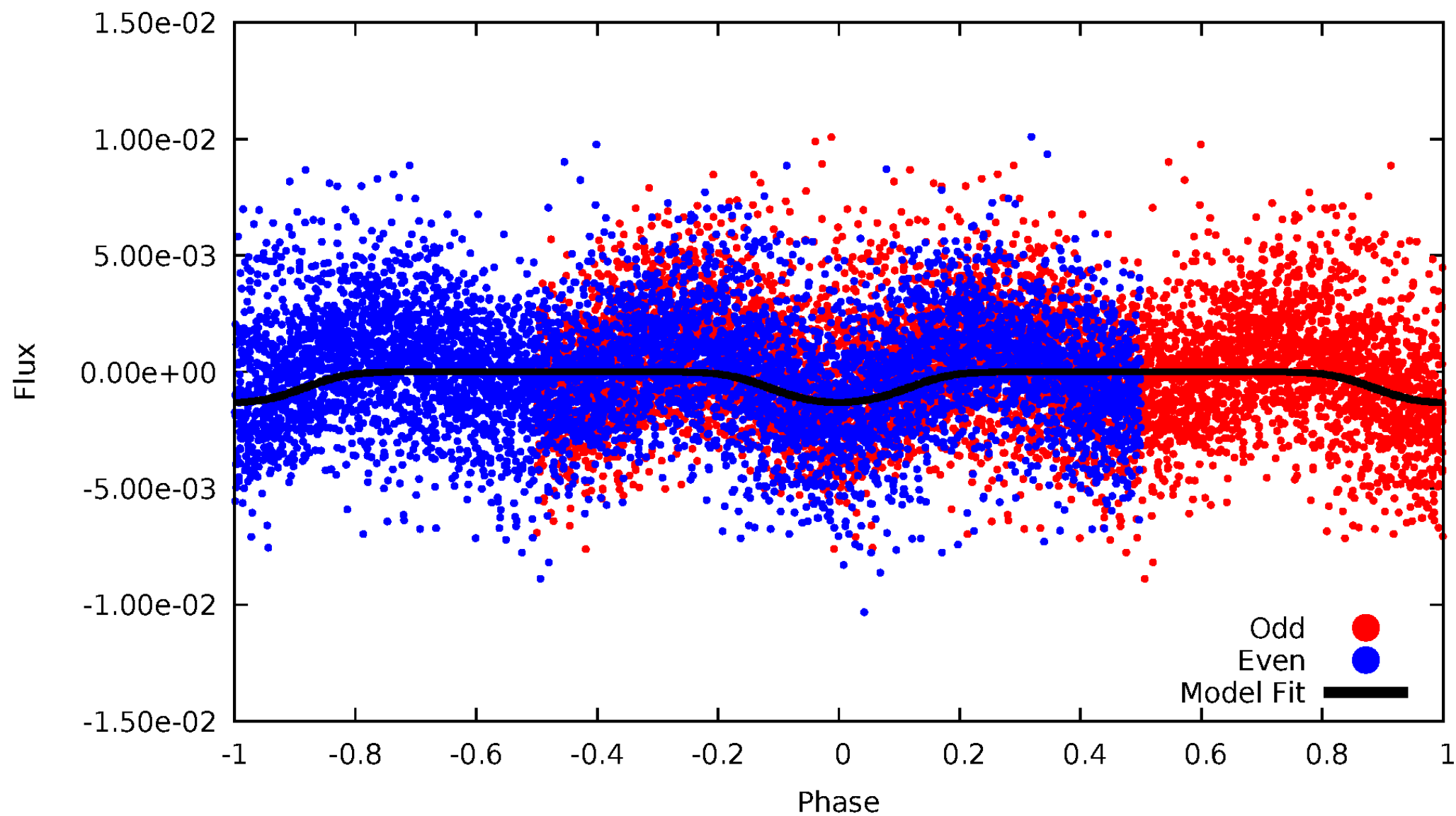


TCE 004862968-03



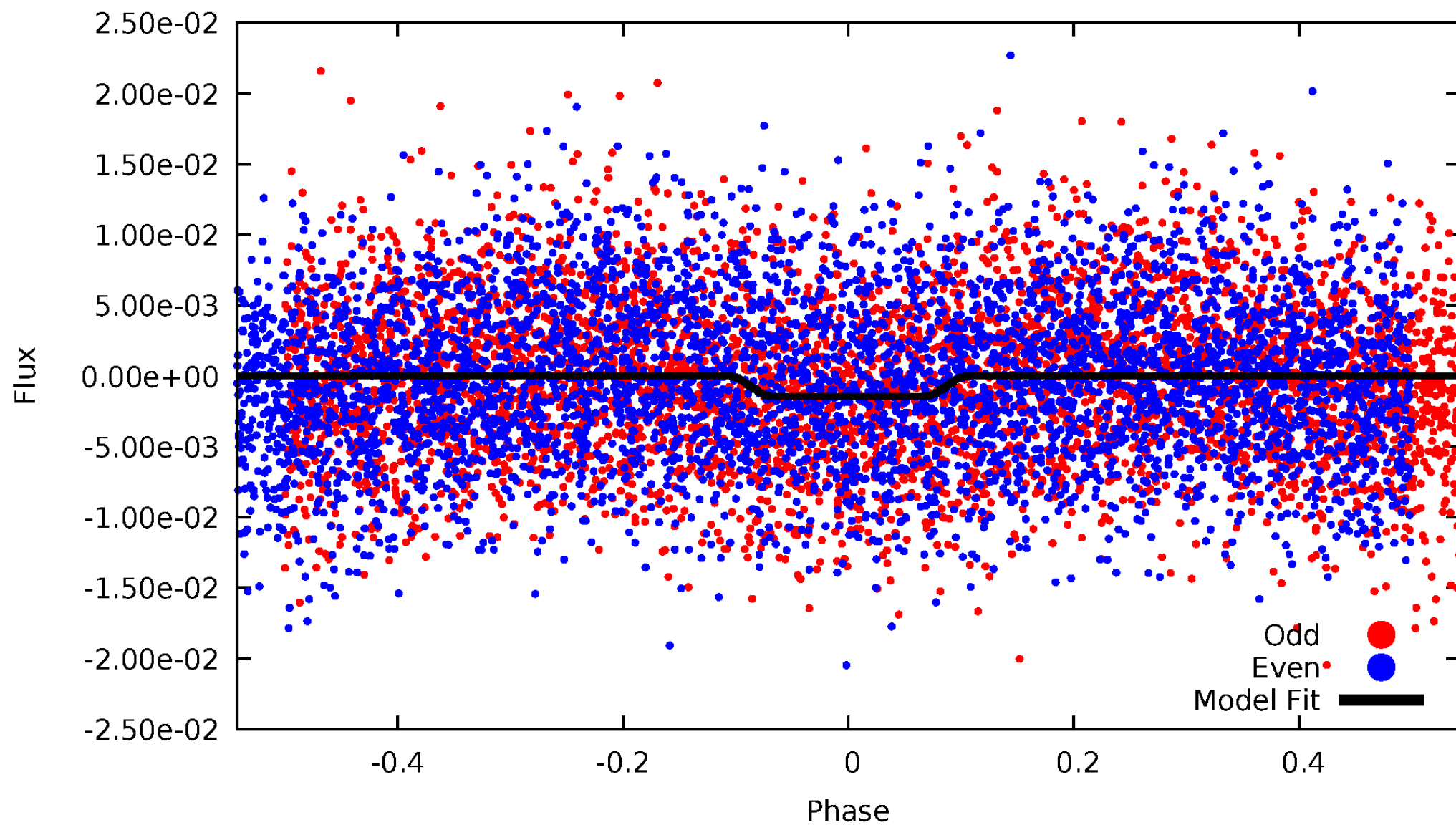
DV Odd/Even

TCE 004862968-03



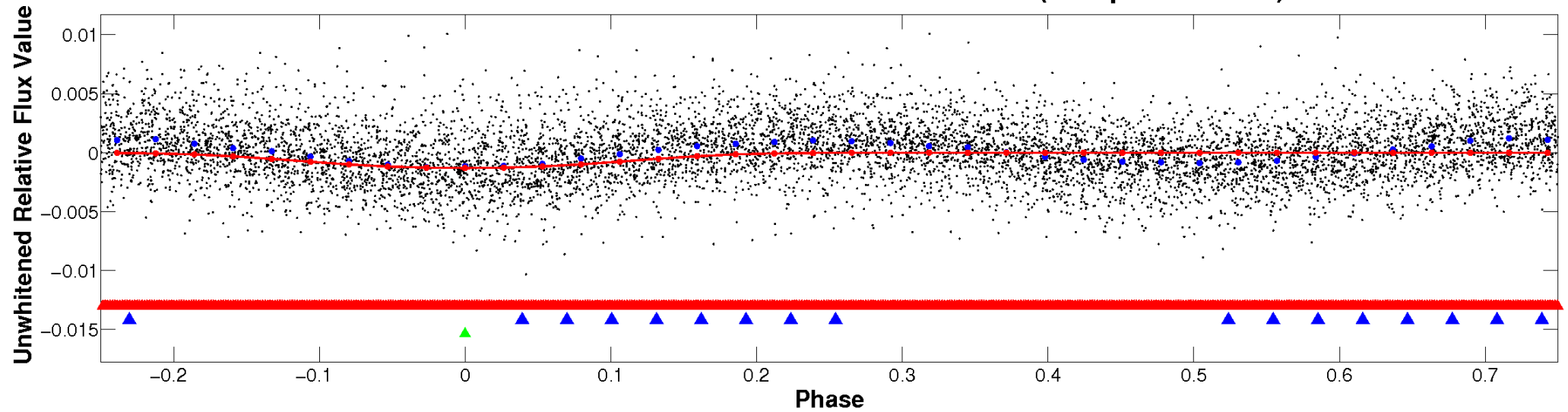
ALT Odd/Even

TCE 004862968-03

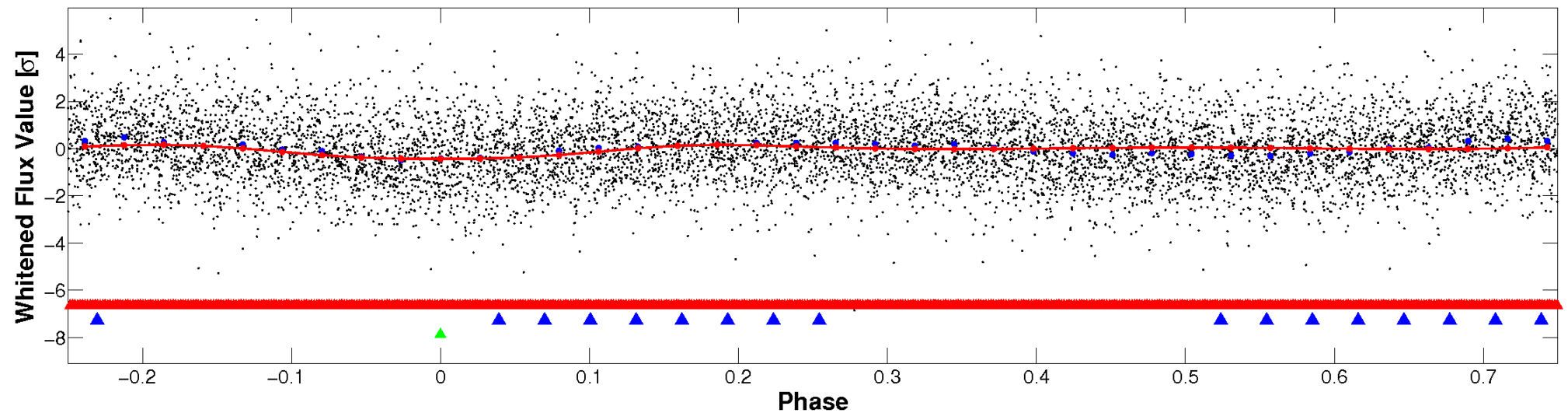


Non-Whitened Vs. Whitened Light Curve

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

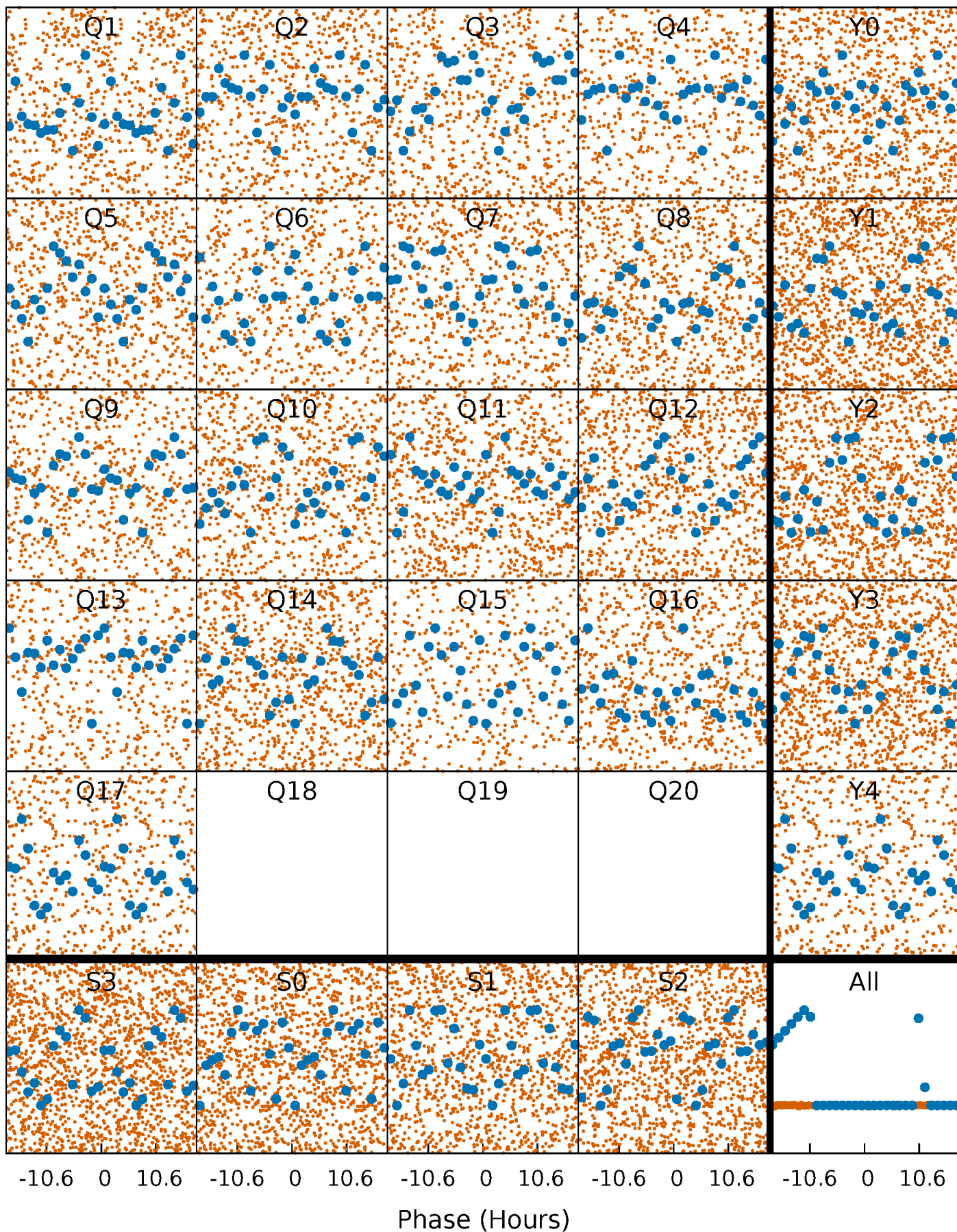


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



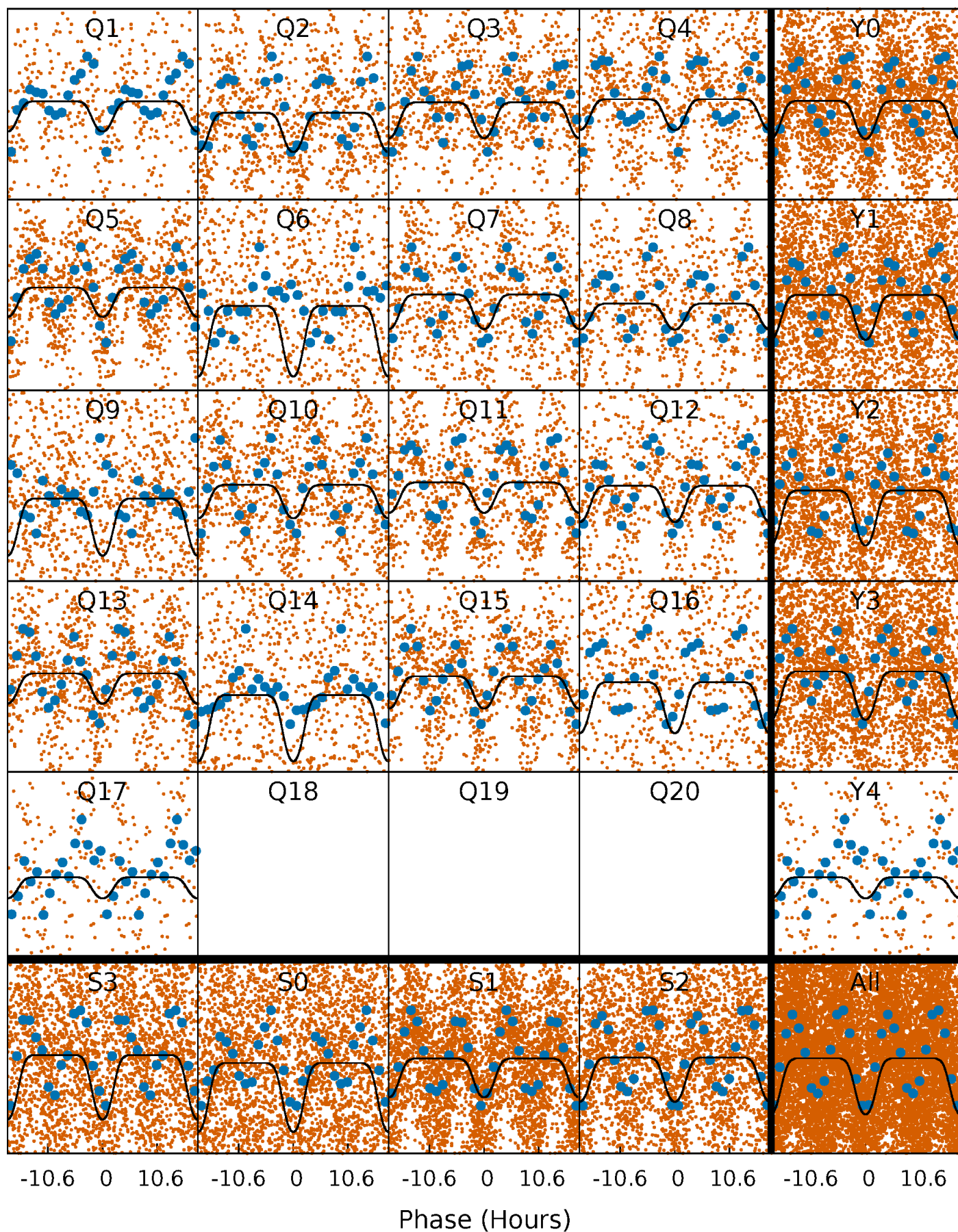
PDC Quarter-Phased Transit Curves

TCE 004862968-03 P= 0.770160 Days $T_0=131.769354$ (BKJD)



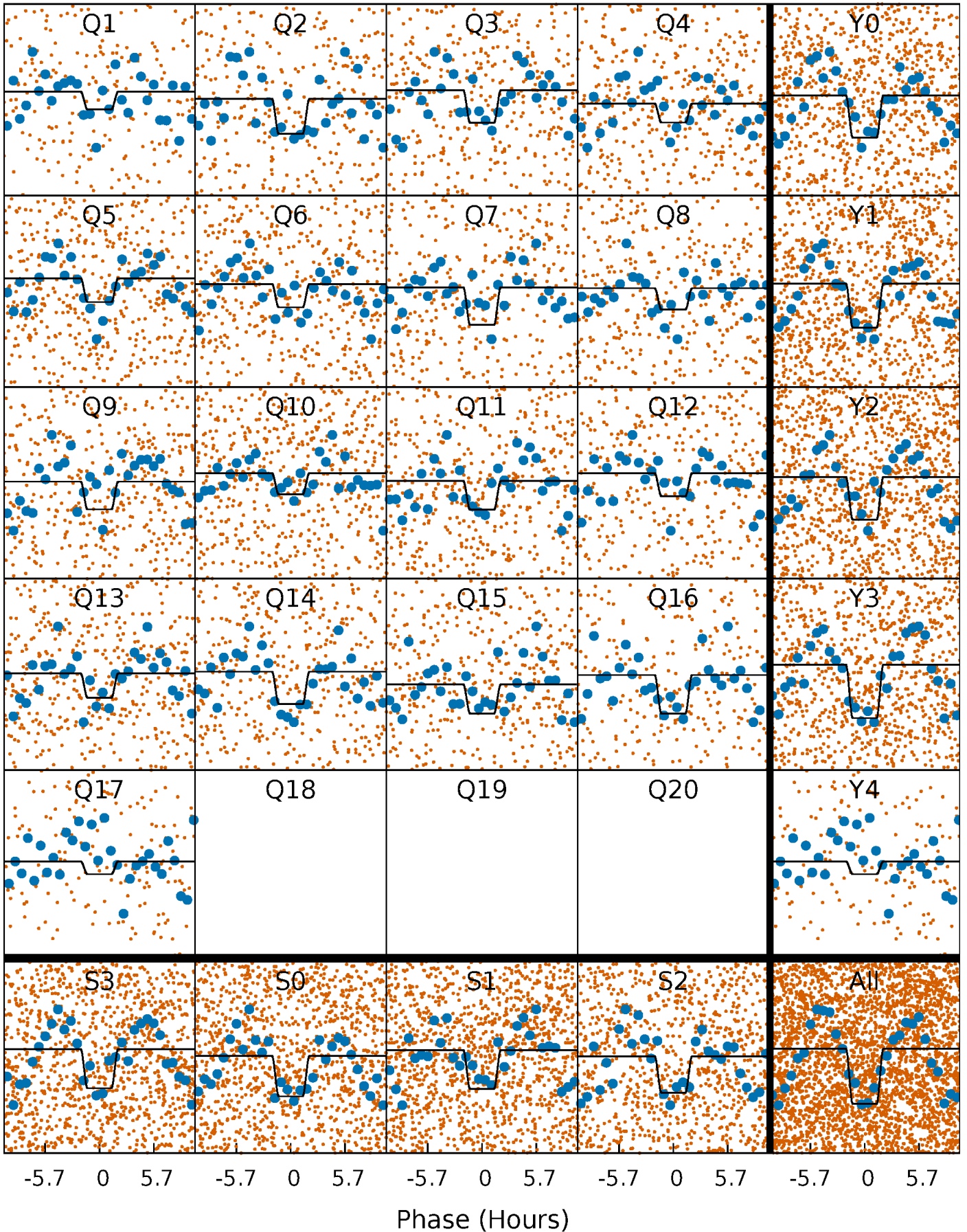
DV Quarter-Phased Transit Curves

TCE 004862968-03 P= 0.770160 Days $T_0=131.769354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

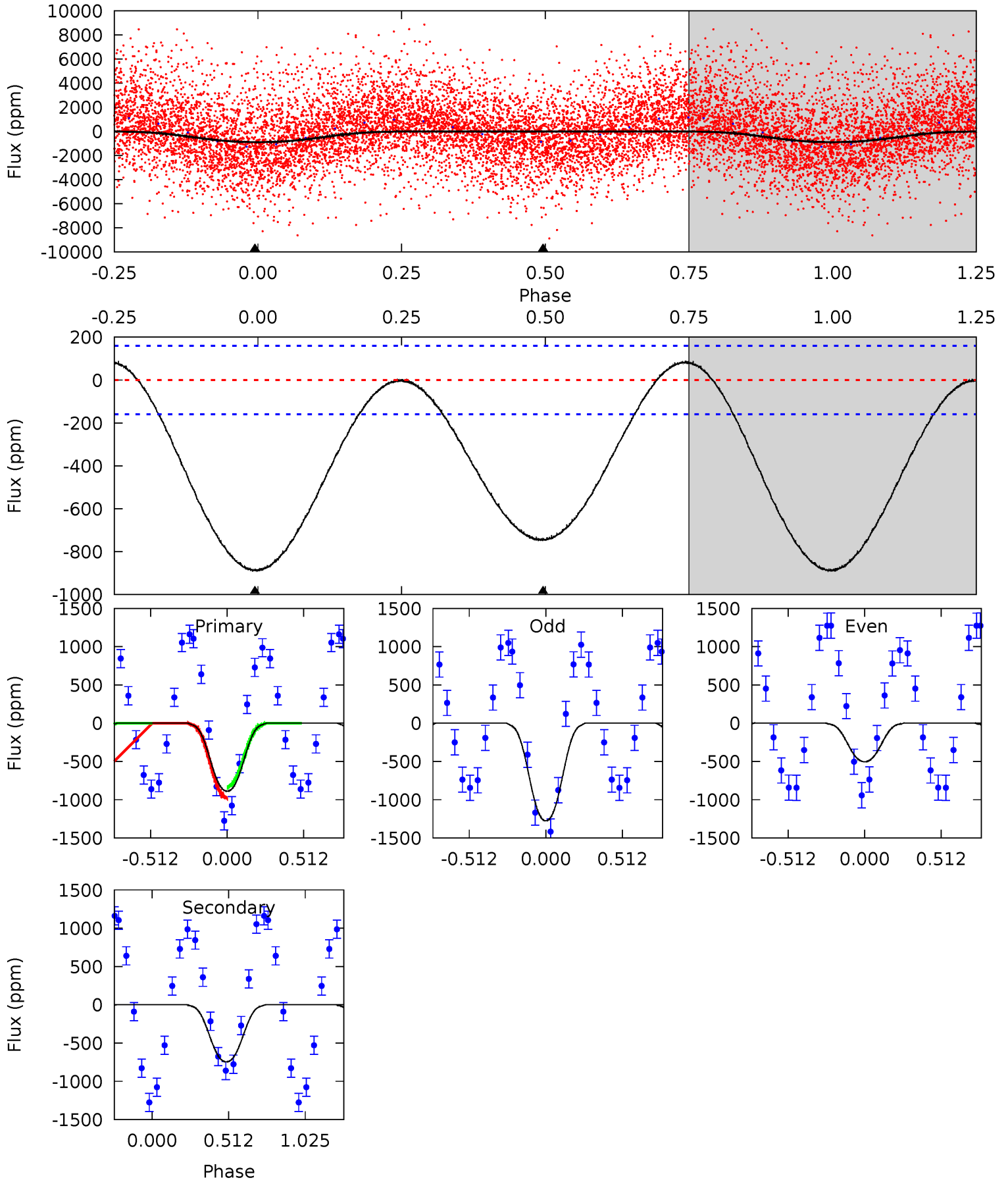
TCE 004862968-03 P= 0.770104 Days $T_0=131.812091$ (BKJD)



DV Model-Shift Uniqueness Test

004862968-03, P = 0.770160 Days, E = 131.769354 Days

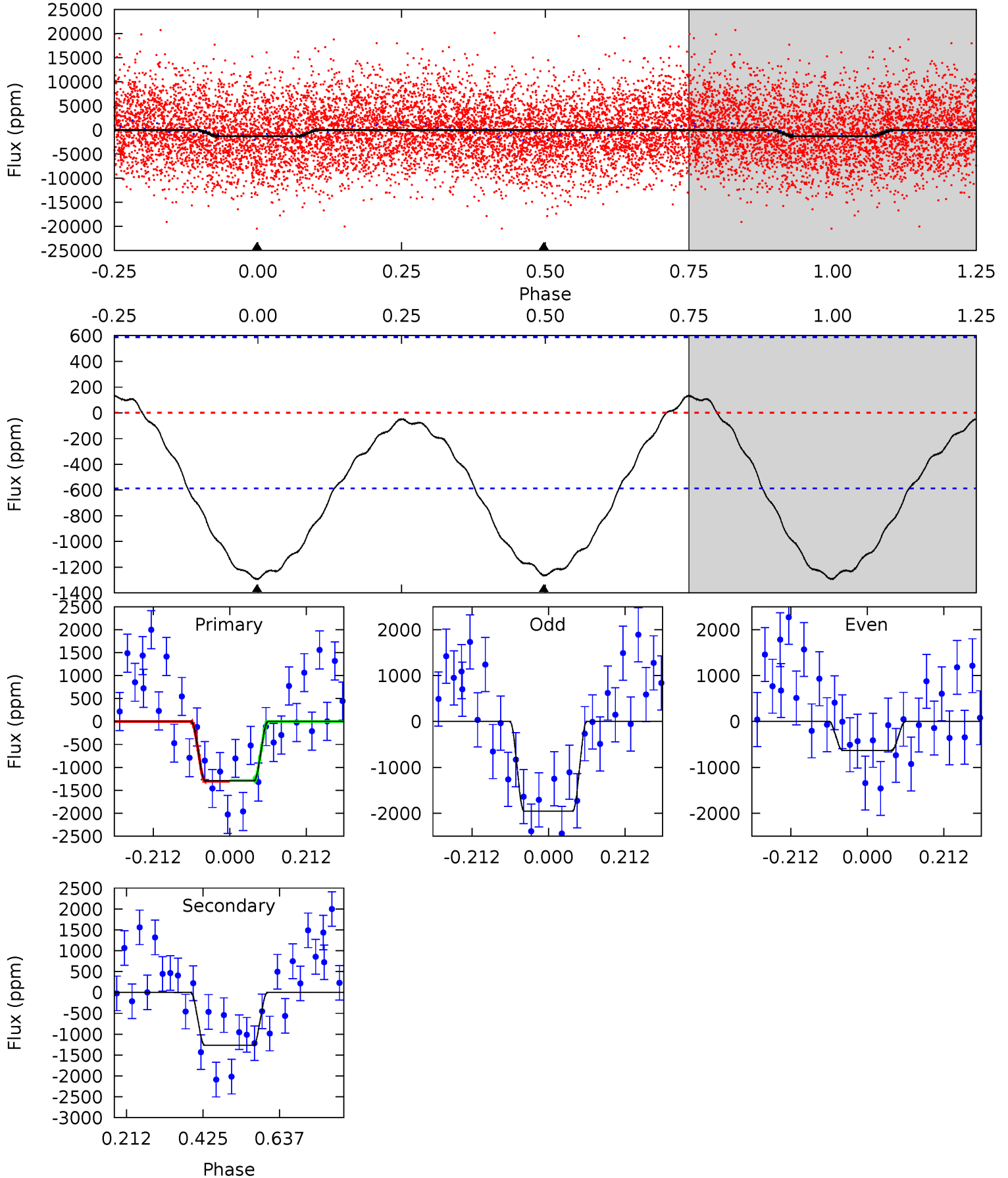
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	19.7	0	0	4.21	0.66	1.11	23.4	23.4	19.7	19.7	10.0	-22.4	0.09	1.93



Alt Model-Shift Uniqueness Test

004862968-03, P = 0.770104 Days, E = 131.812091 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	9.47	0	0	4.40	1.25	0.73	9.68	9.68	9.47	9.47	4.97	0.95	0.09	0.07



Stellar Parameters For KIC 004862968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7257^{+226}_{-327}	$4.185^{+0.108}_{-0.201}$	$-0.060^{+0.200}_{-0.350}$	$1.631^{+0.540}_{-0.291}$	$1.487^{+0.212}_{-0.236}$	$0.483^{+0.250}_{-0.262}$
	+3%/-5%	+3%/-5%	+333%/-583%	+33%/-18%	+14%/-16%	+52%/-54%
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 004862968-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-746 ± 38	$7.62^{+1.40}_{-1.11}$	4207^{+318}_{-285}	5586^{+338}_{-334}	$2.422^{+0.867}_{-0.653}$
Alt.	-1265 ± 134	$6.93^{+1.23}_{-1.08}$	4222^{+345}_{-299}	6877^{+539}_{-511}	$5.094^{+1.994}_{-1.524}$

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

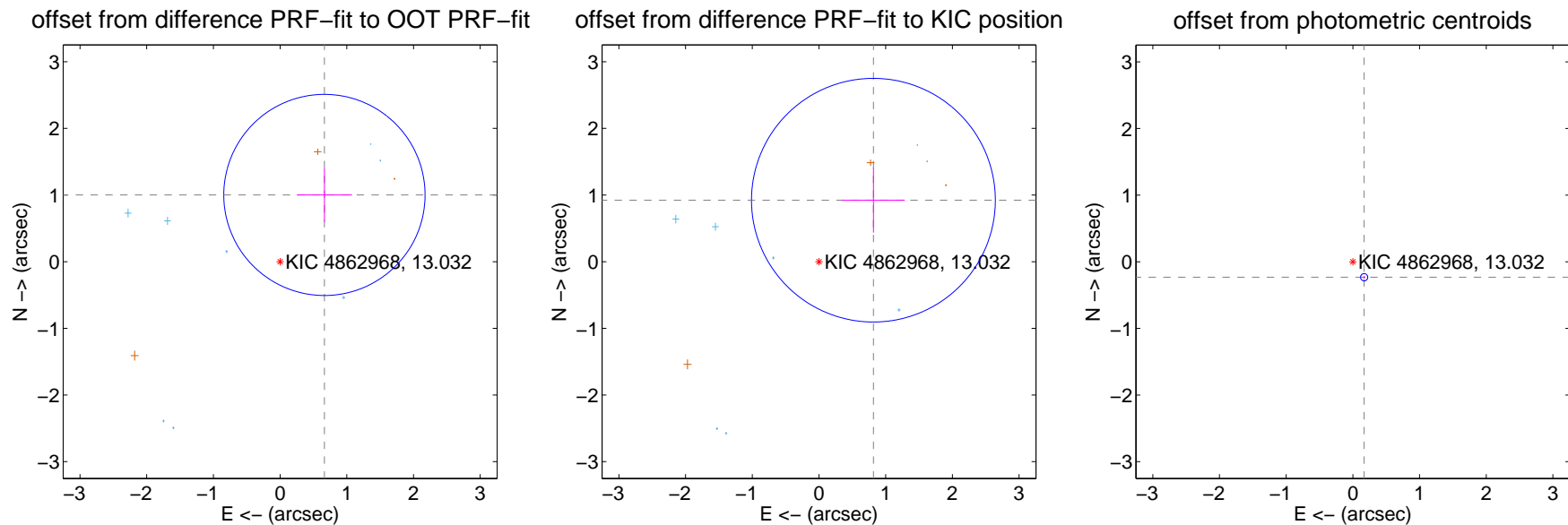
DV Centroid Data

Supplemental centroid analysis for 004862968-03. Kepler magnitude: 13.03. Transit SNR 16.09

There are 8 quarters with good PRF difference image offsets

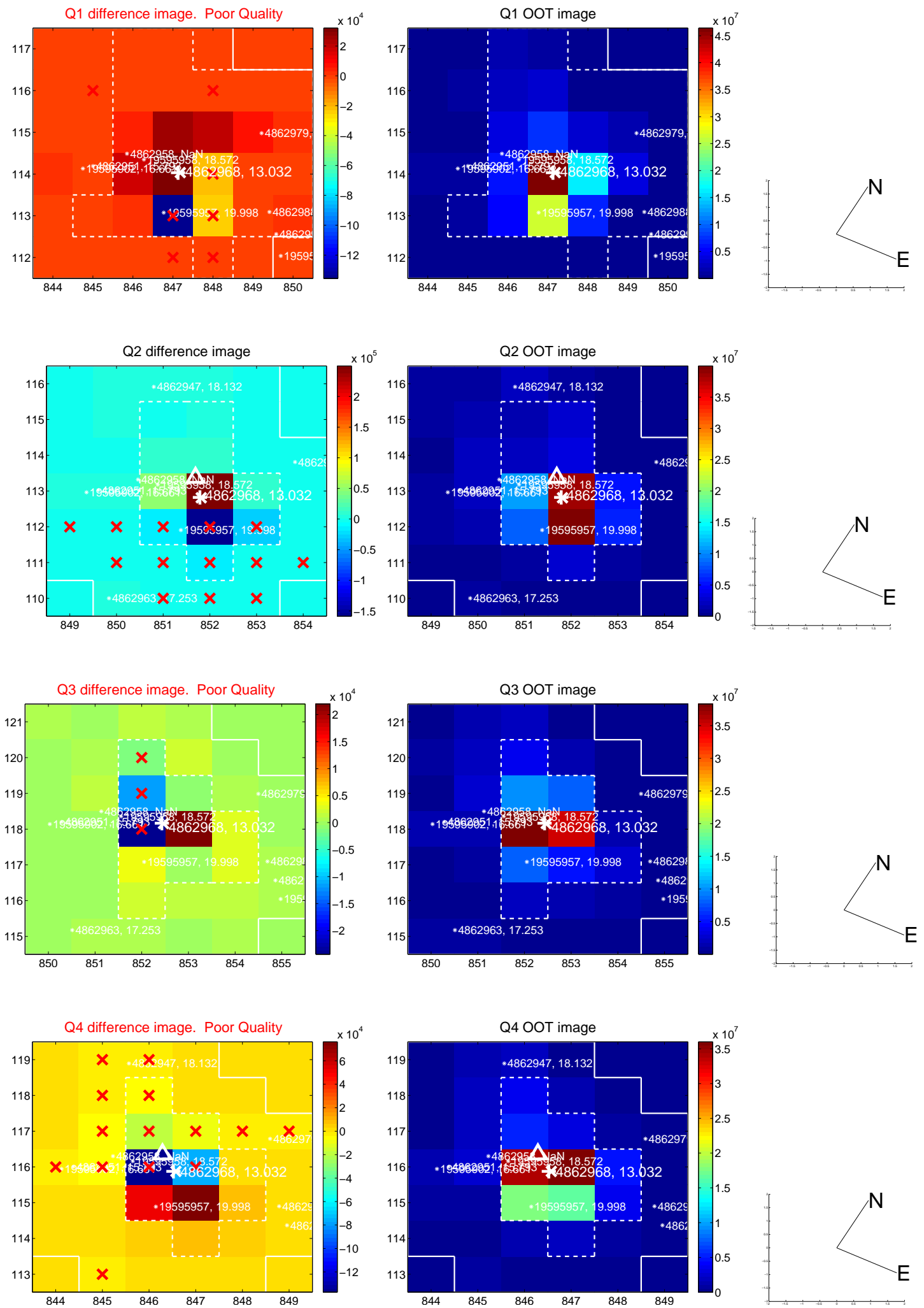
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.202 ± 0.503	2.39	-0.664 ± 0.414	1.001 ± 0.401
PRF-fit source offset from KIC position	1.232 ± 0.609	2.02	-0.816 ± 0.470	0.923 ± 0.486
photometric centroid source offset	0.29 ± 0.02	15.93	-0.17 ± 0.02	-0.23 ± 0.02

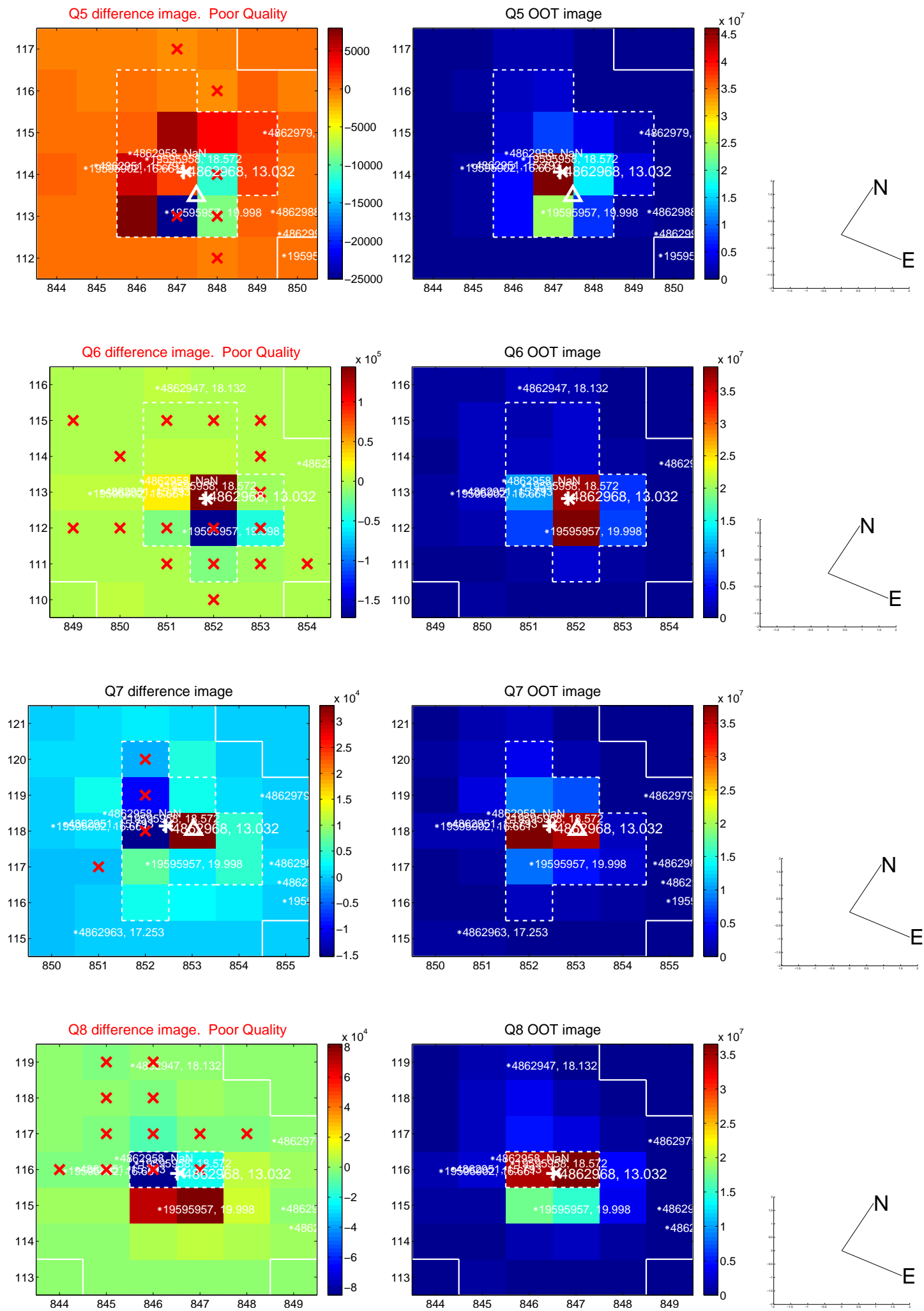


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

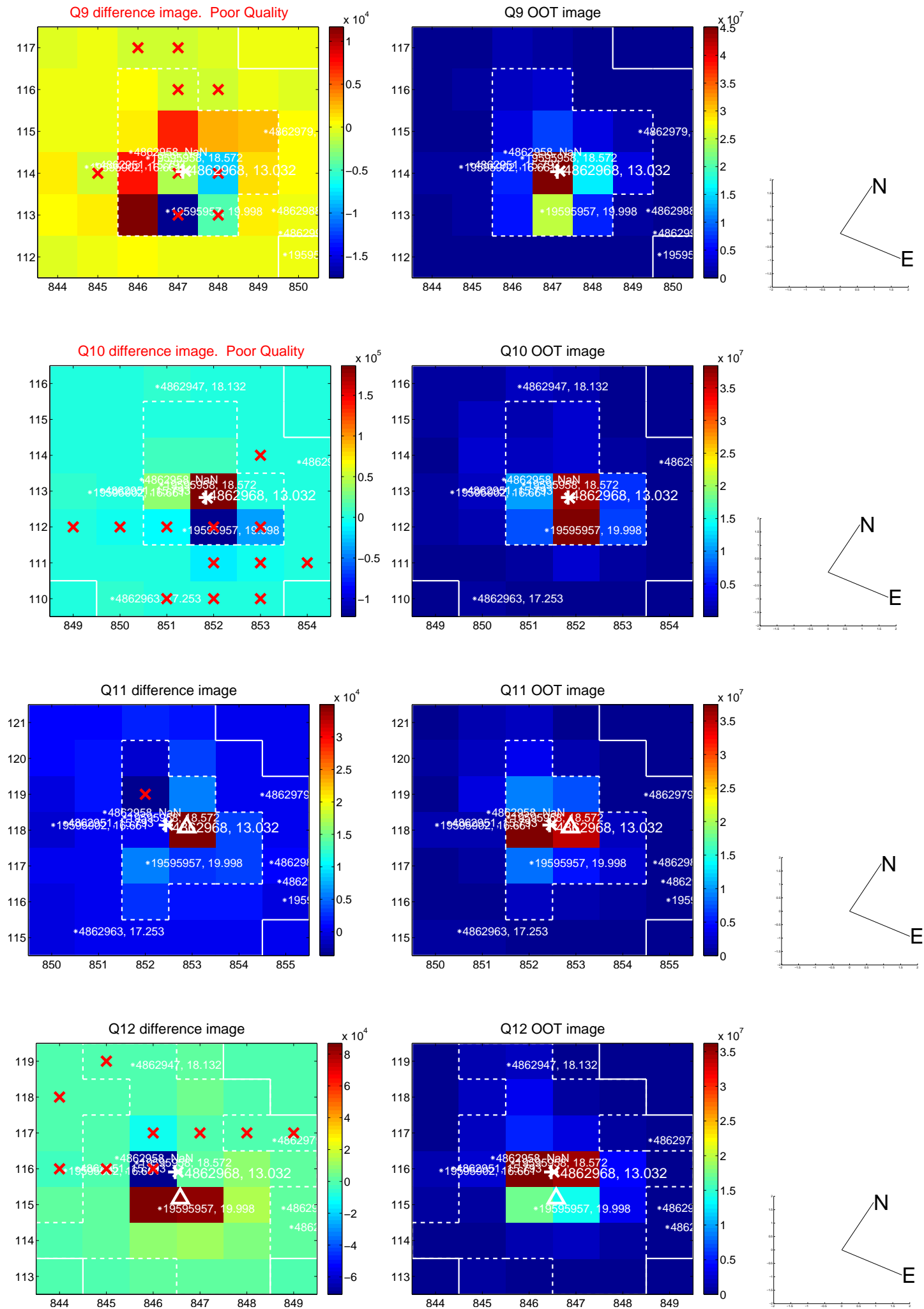
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



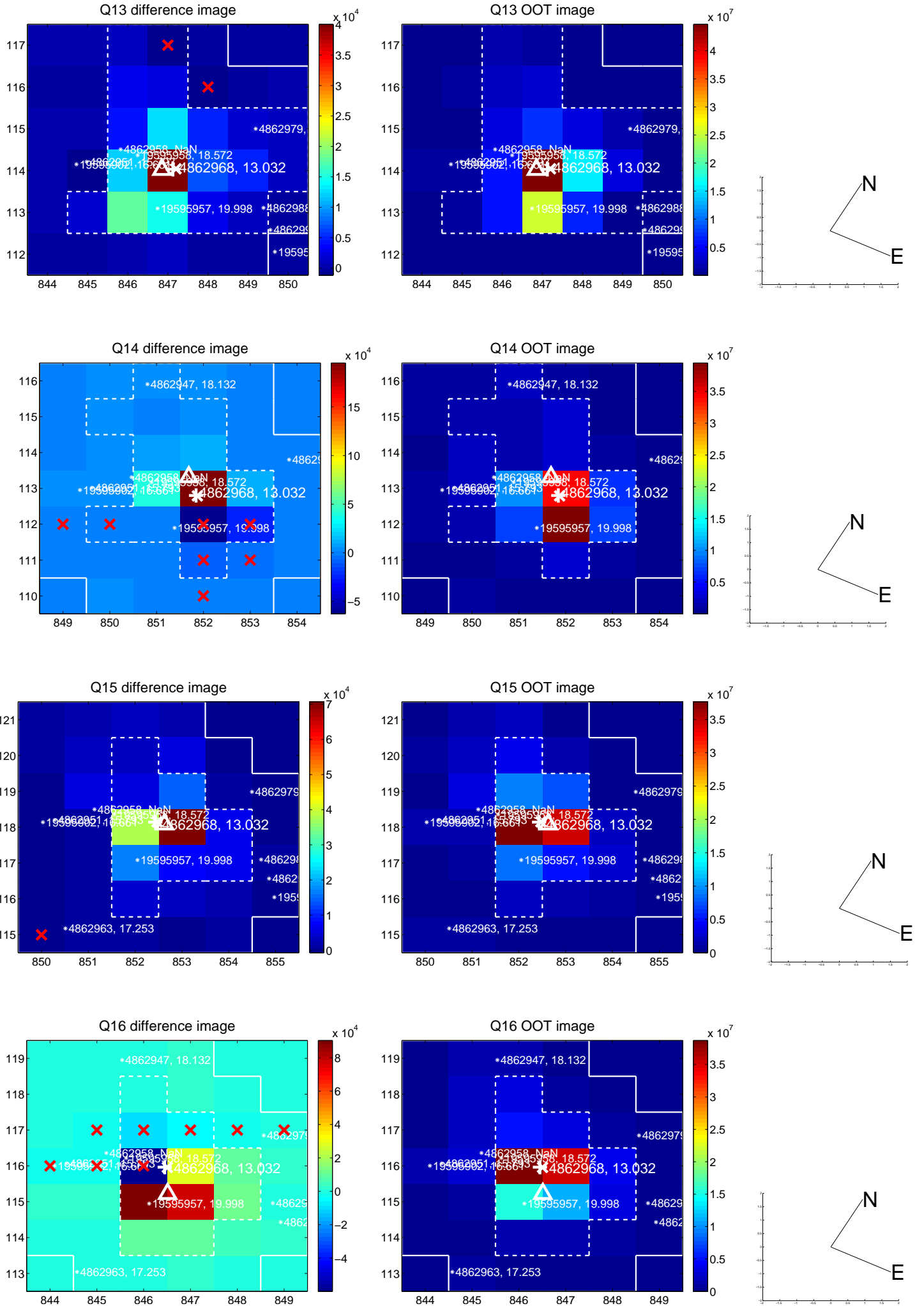
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



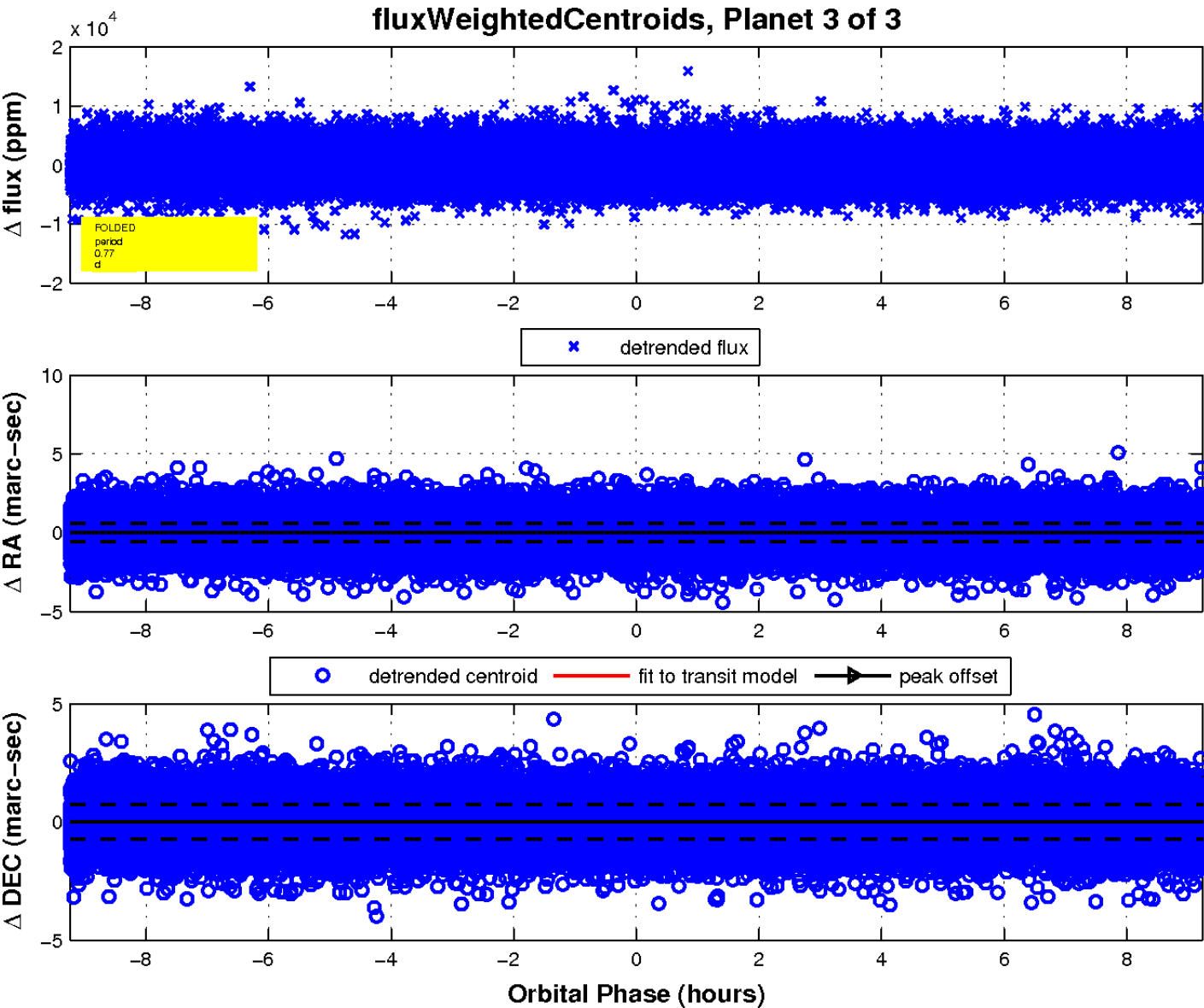
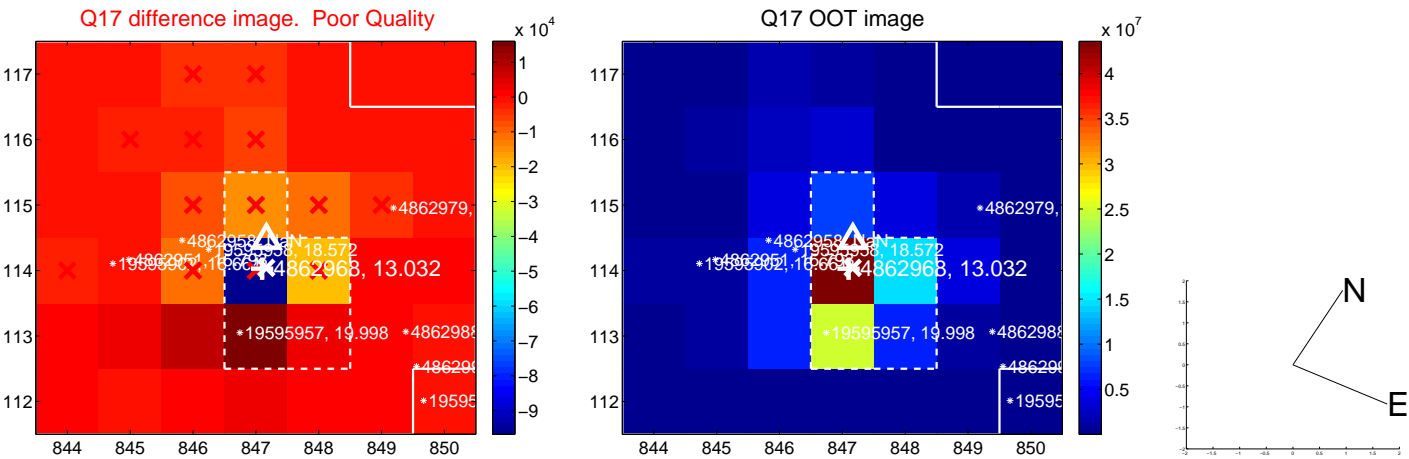
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

