

KIC 003849414

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})
003849414-01	OBS	No	0.534262	131.985267	48.5	2.041	12.9	10.8	1.57	7196	1.27	26457.87
003849414-02	OBS	No	0.534246	131.623694	46.9	3.504	10.9	6.6	1.57	7196	1.09	26458.90
003849414-03	OBS	No	1.398891	132.182144	294.0	1.524	7.9	7.2	1.57	7196	3.21	7331.32
003849414-04	OBS	No	2.367152	133.383050	311.5	4.010	8.2	6.1	1.57	7196	2.81	3635.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849414-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849414-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003849414-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED
003849414-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

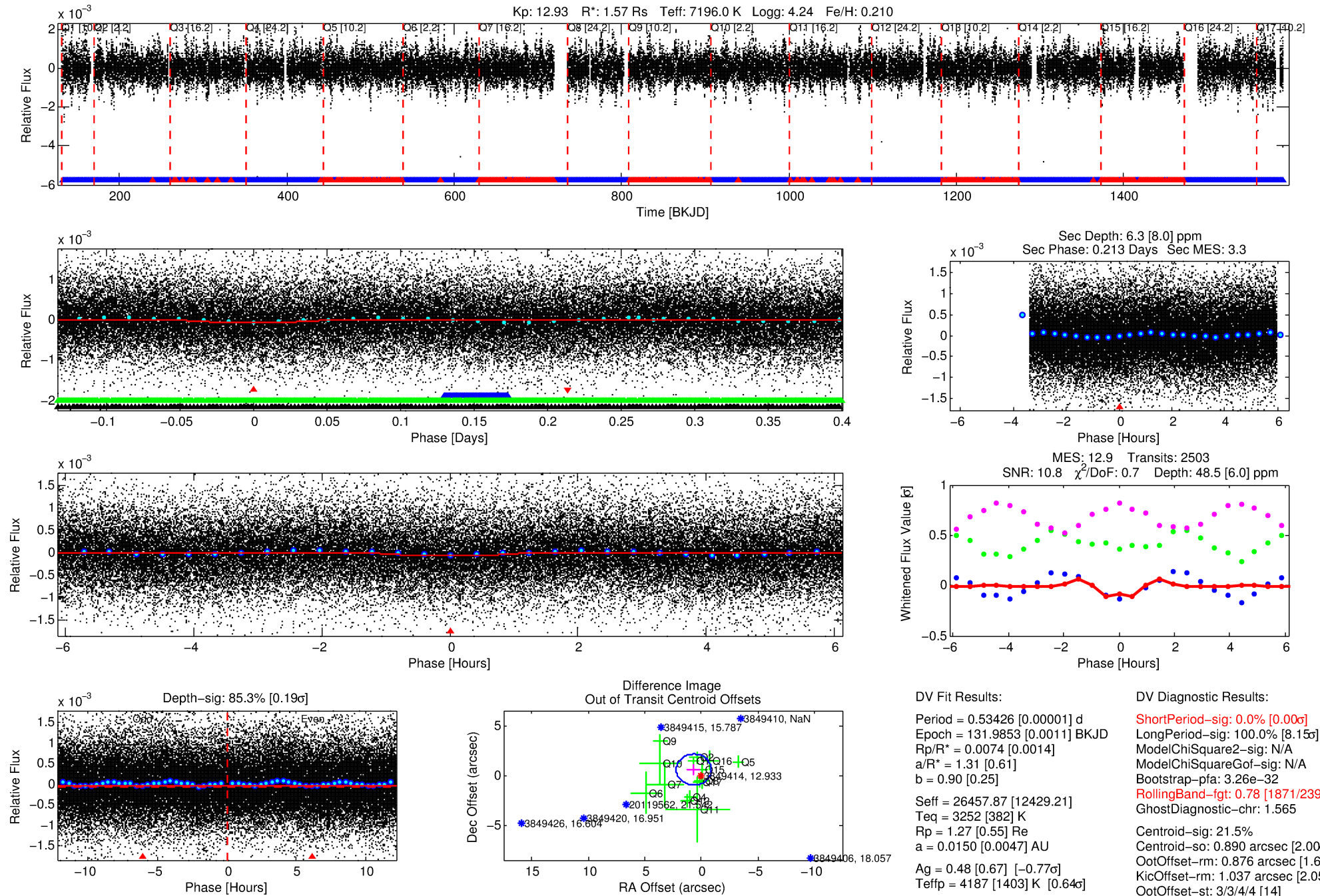
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849414-01

No Significant Match Found

DV One-Page Summary

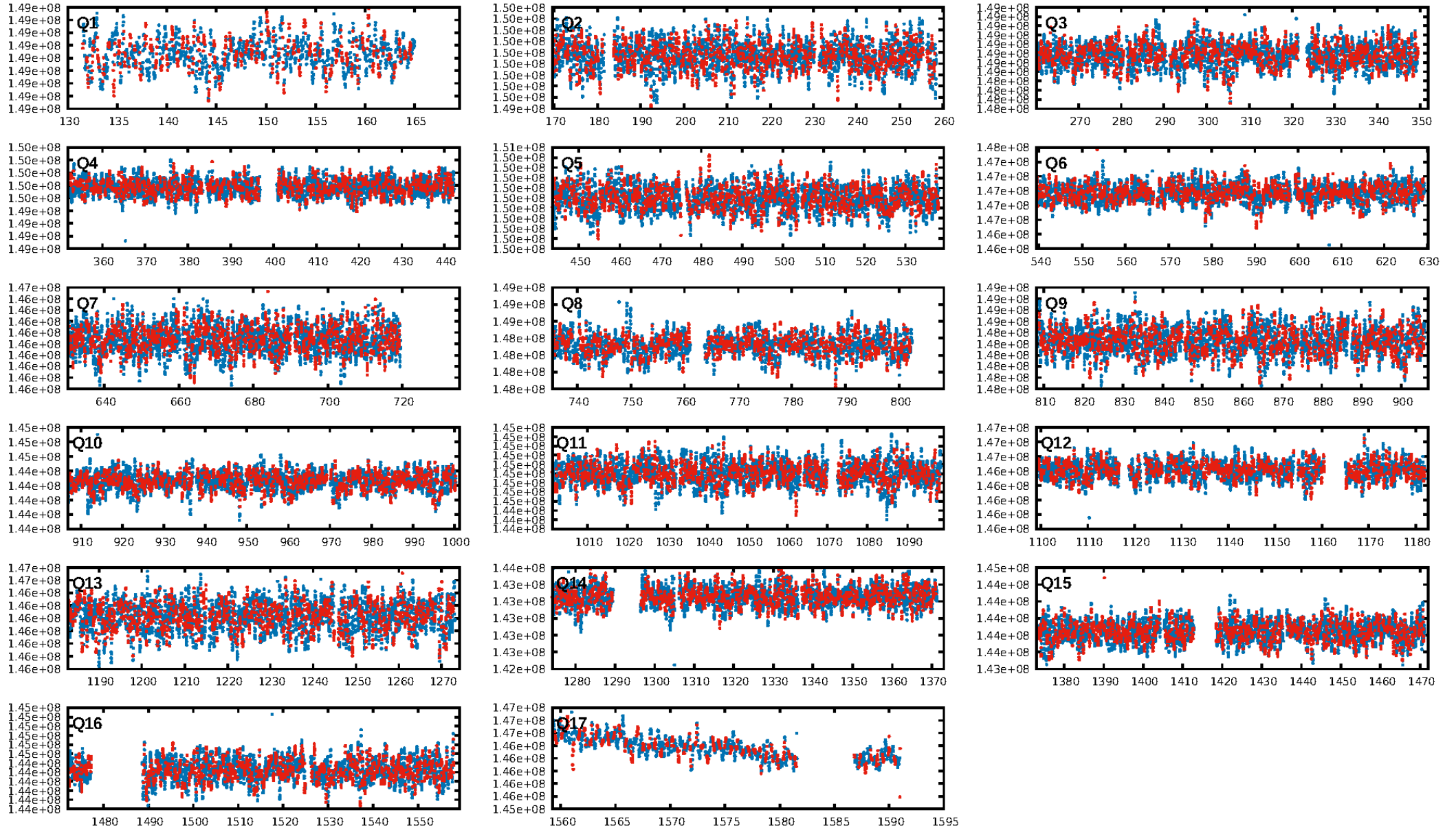
KIC: 3849414 Candidate: 1 of 4 Period: 0.534 d



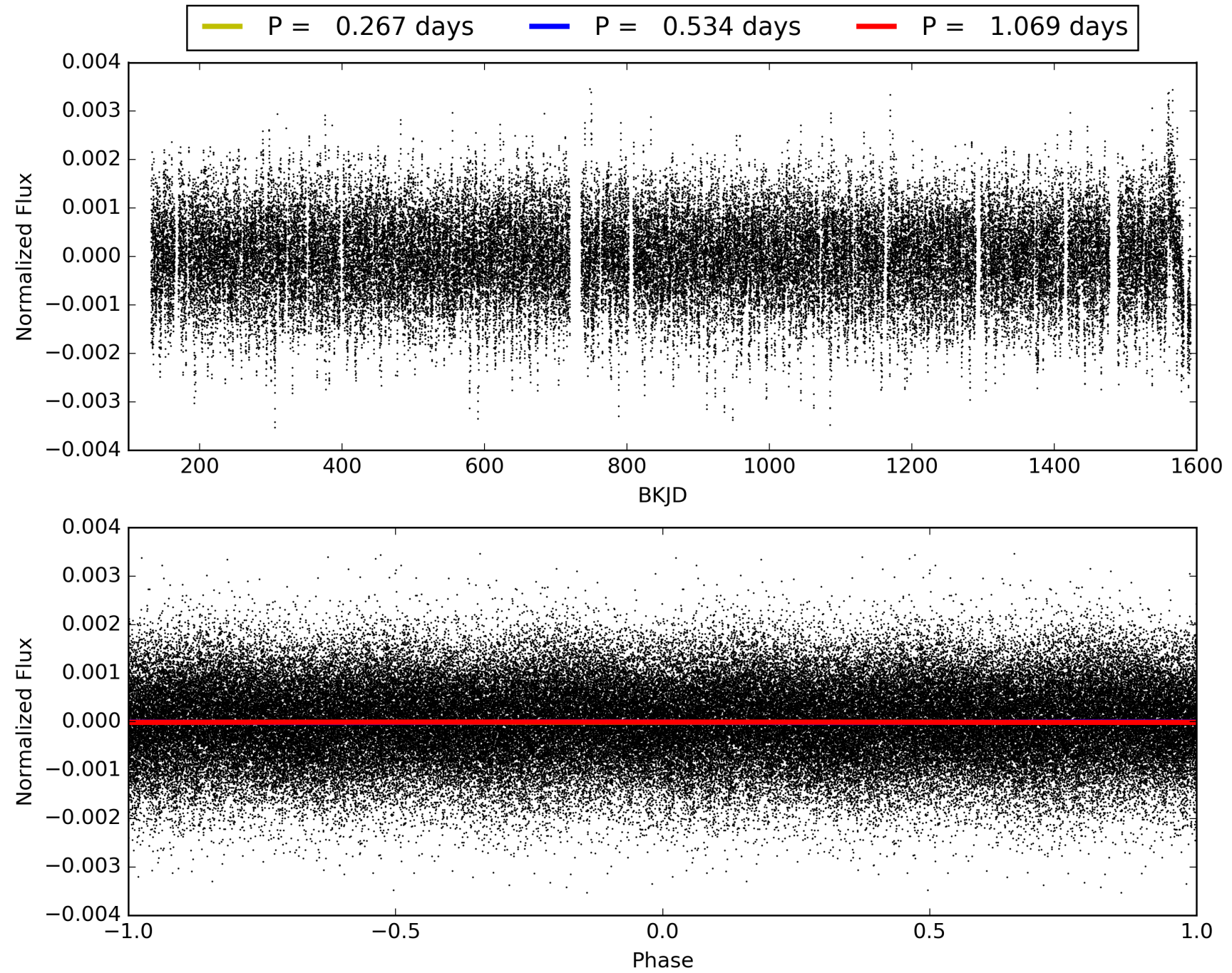
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:17:10 Z

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

TCE 003849414-01, PDC Light Curves

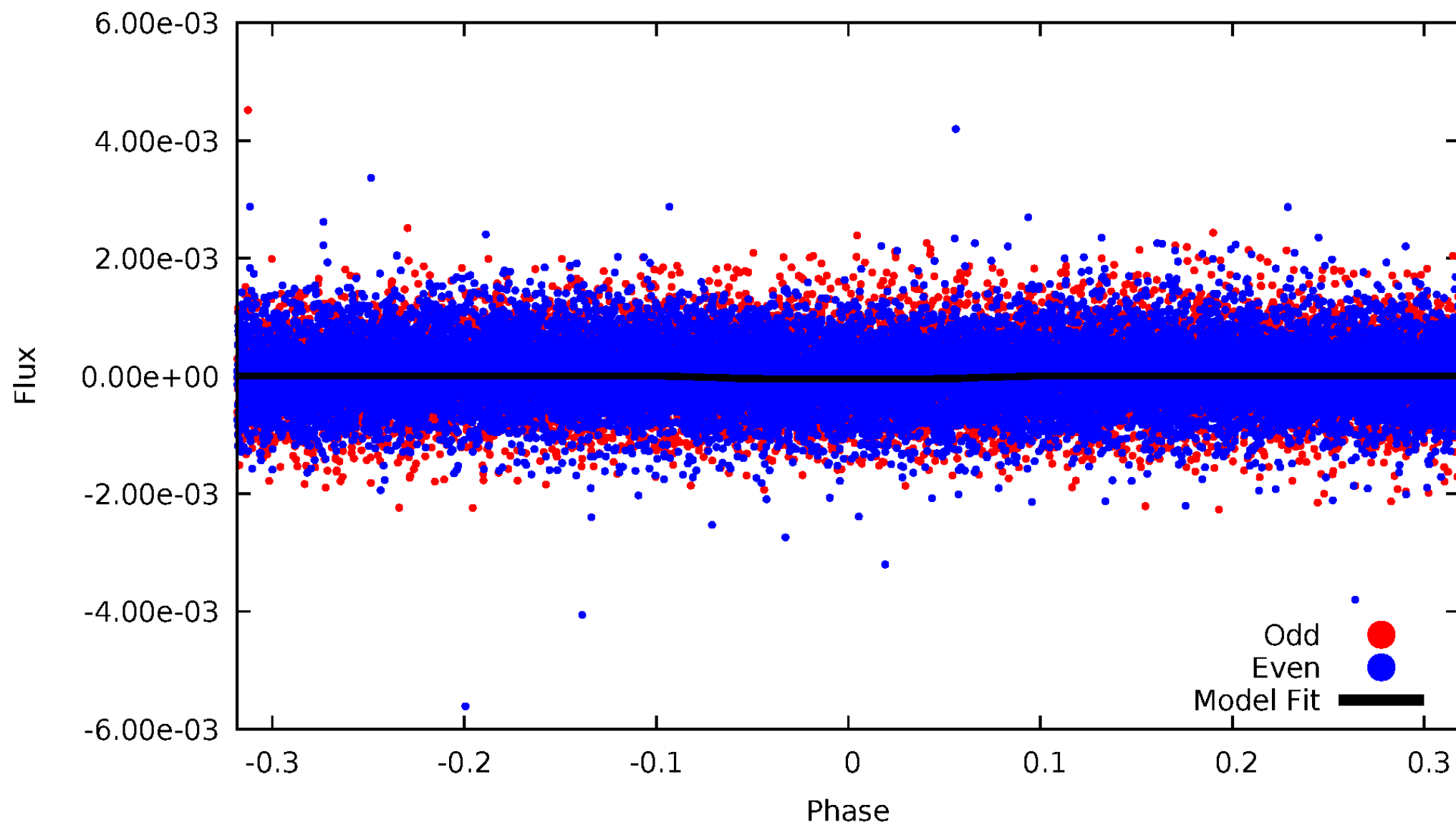


TCE 003849414-01



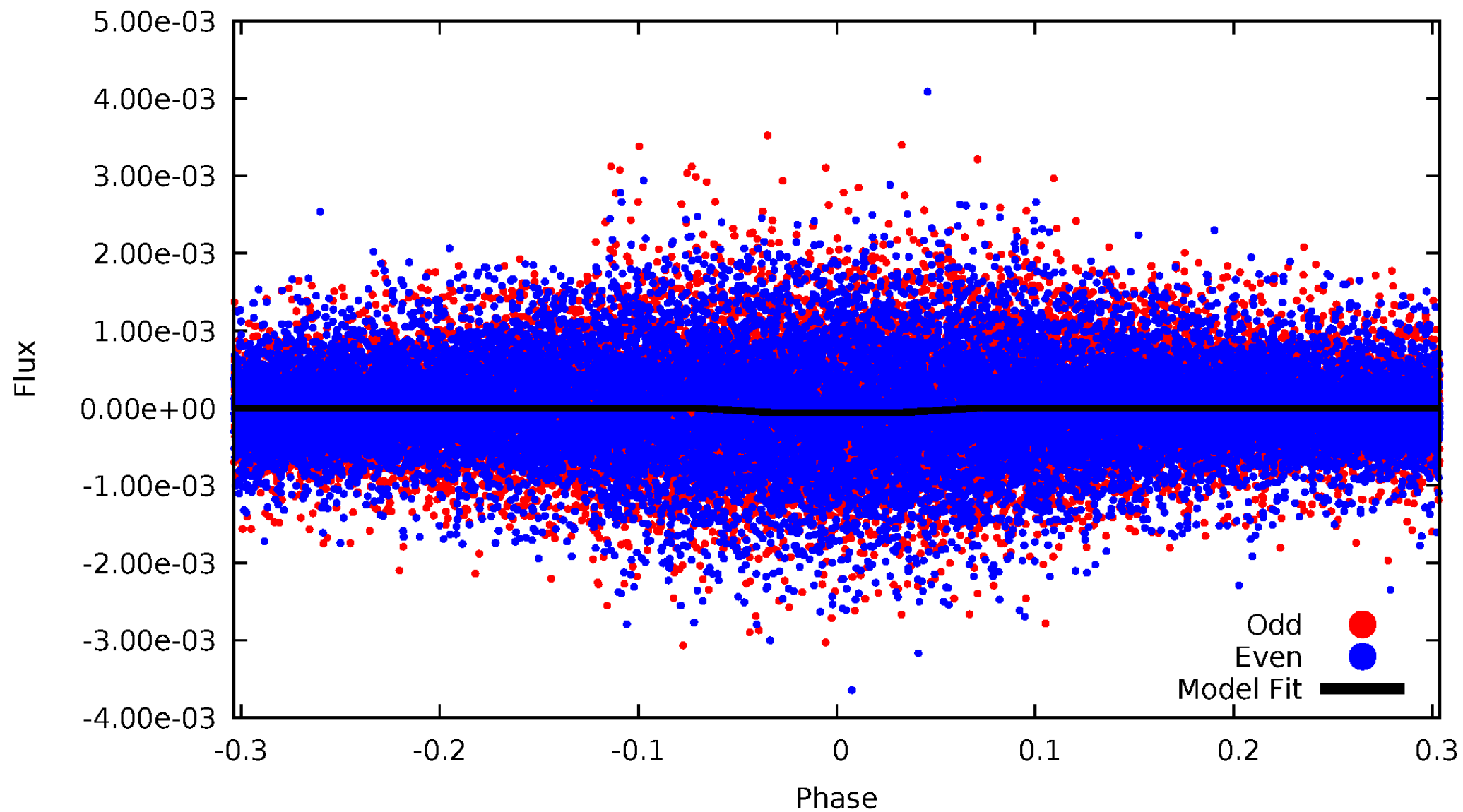
DV Odd/Even

TCE 003849414-01



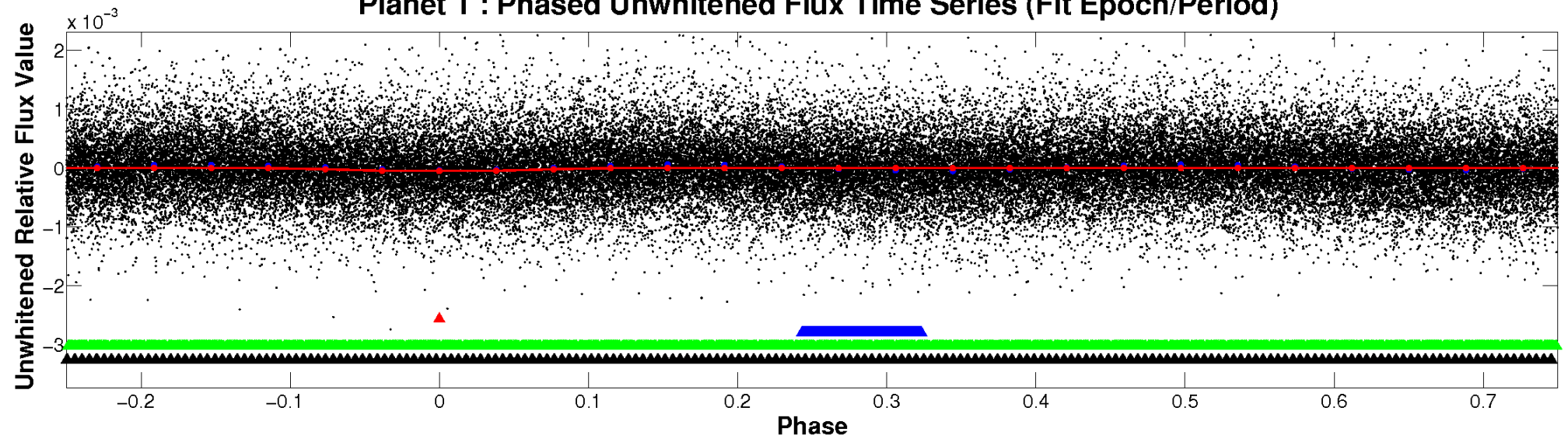
ALT Odd/Even

TCE 003849414-01

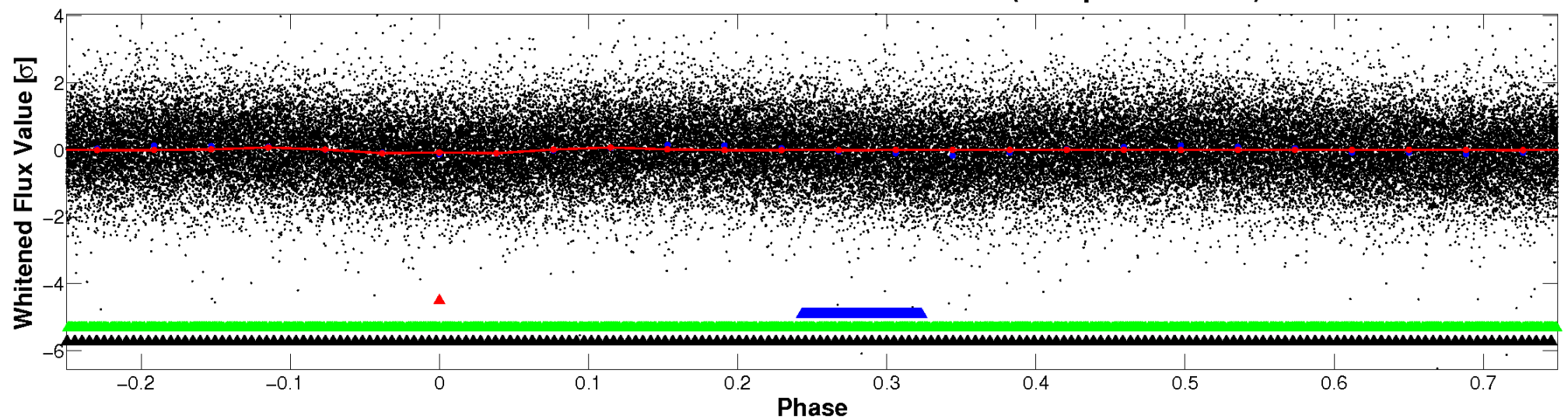


Non-Whitened Vs. Whitened Light Curve

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

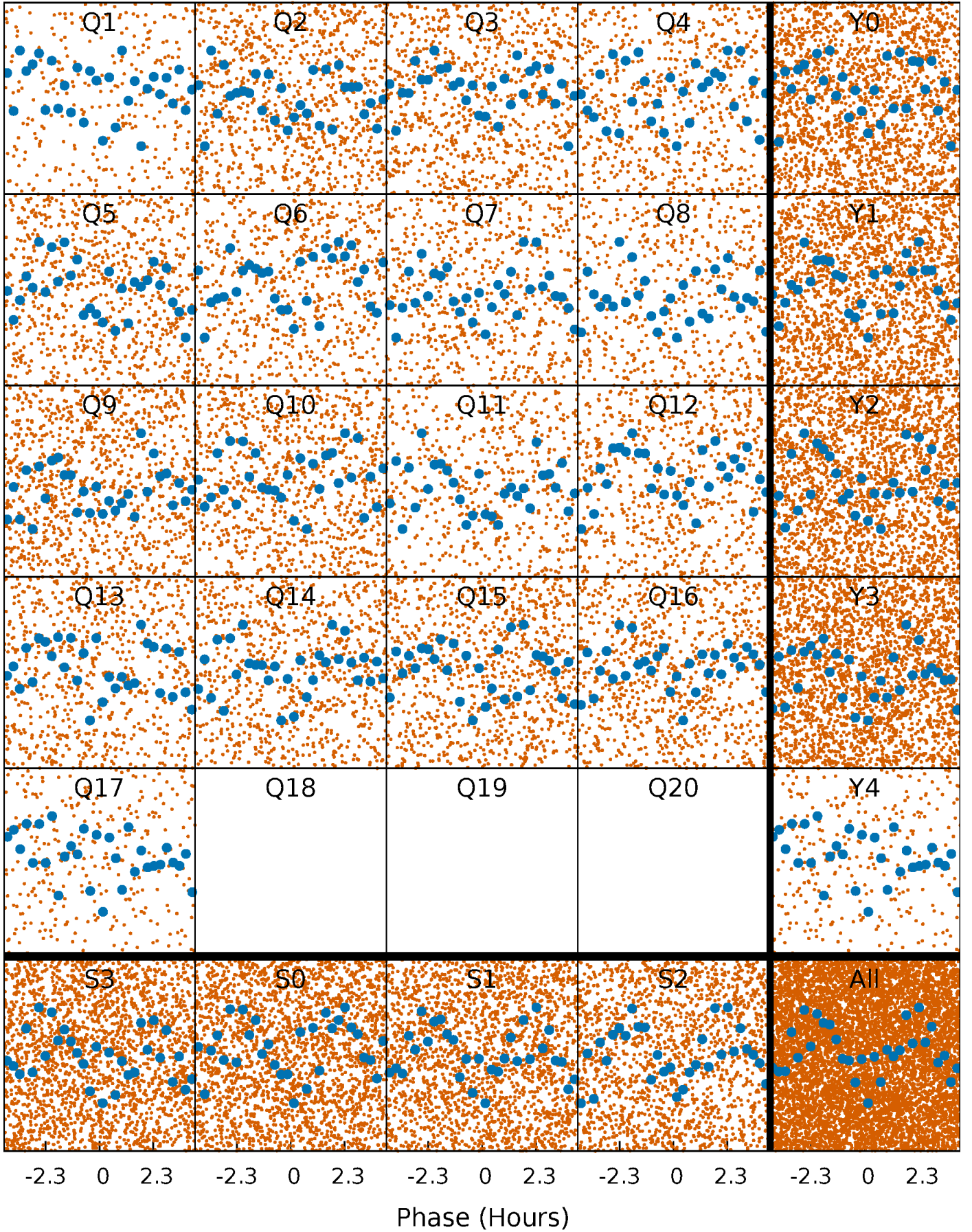


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



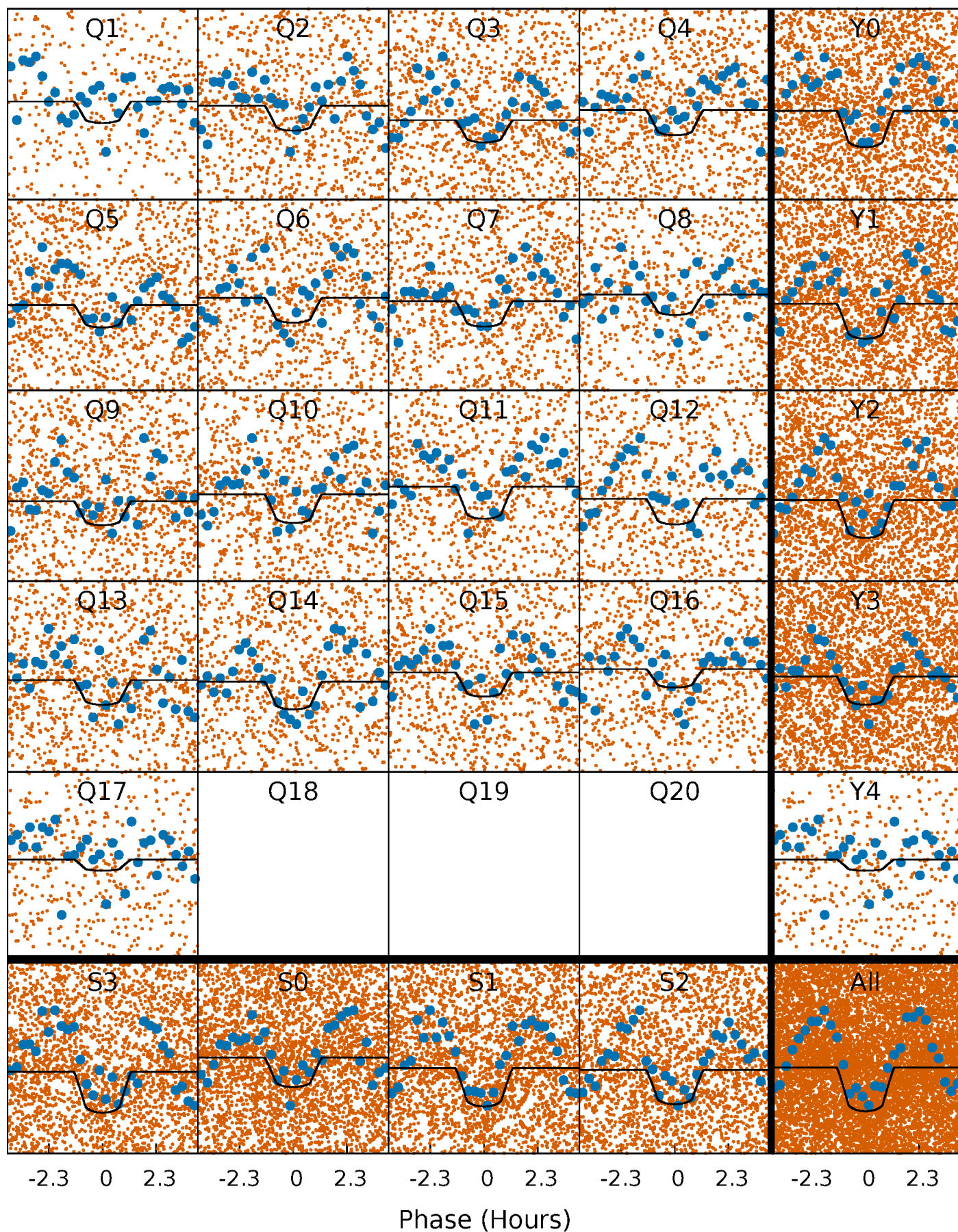
PDC Quarter-Phased Transit Curves

TCE 003849414-01 P= 0.534262 Days $T_0=131.985267$ (BKJD)



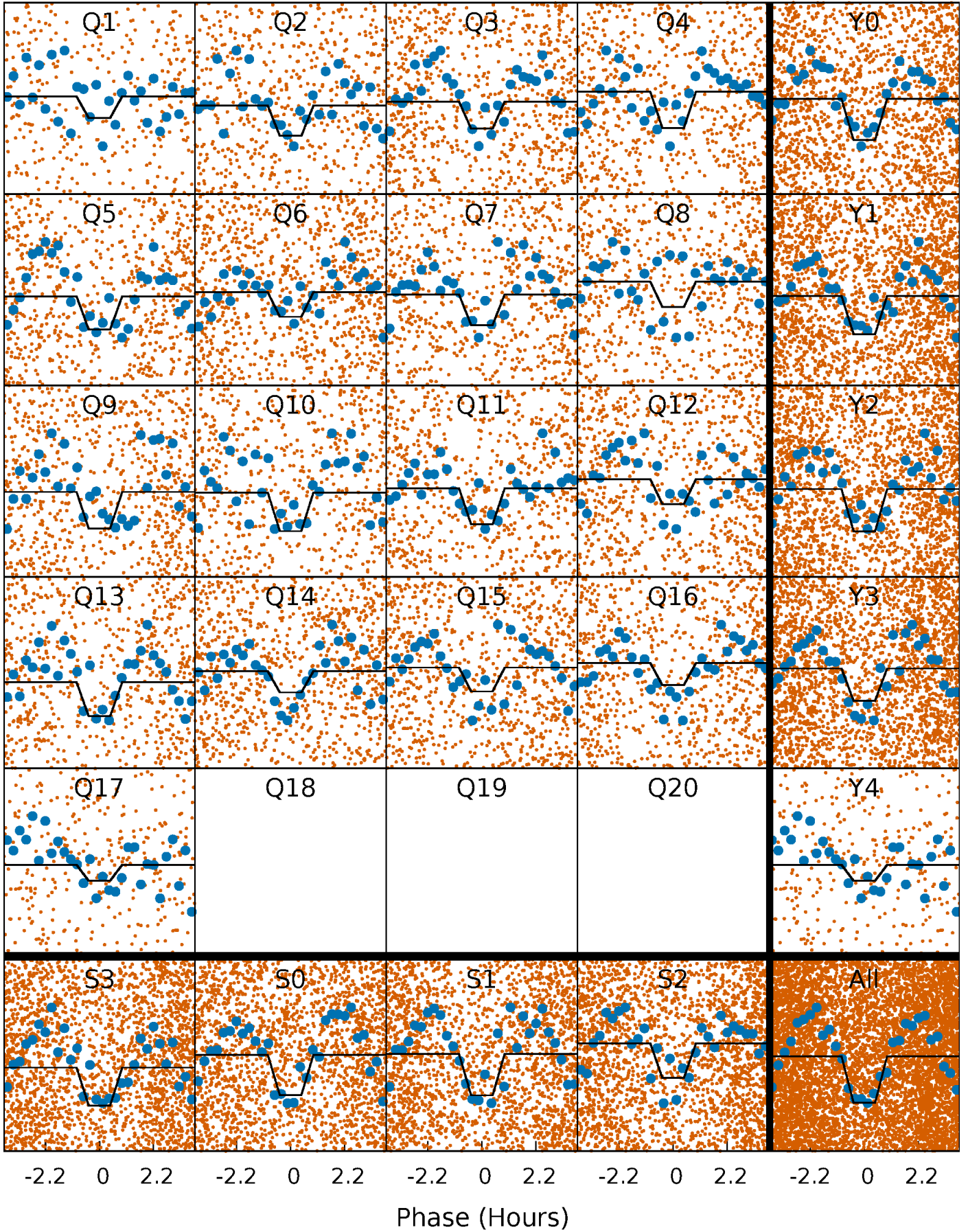
DV Quarter-Phased Transit Curves

TCE 003849414-01 P= 0.534262 Days $T_0=131.985267$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

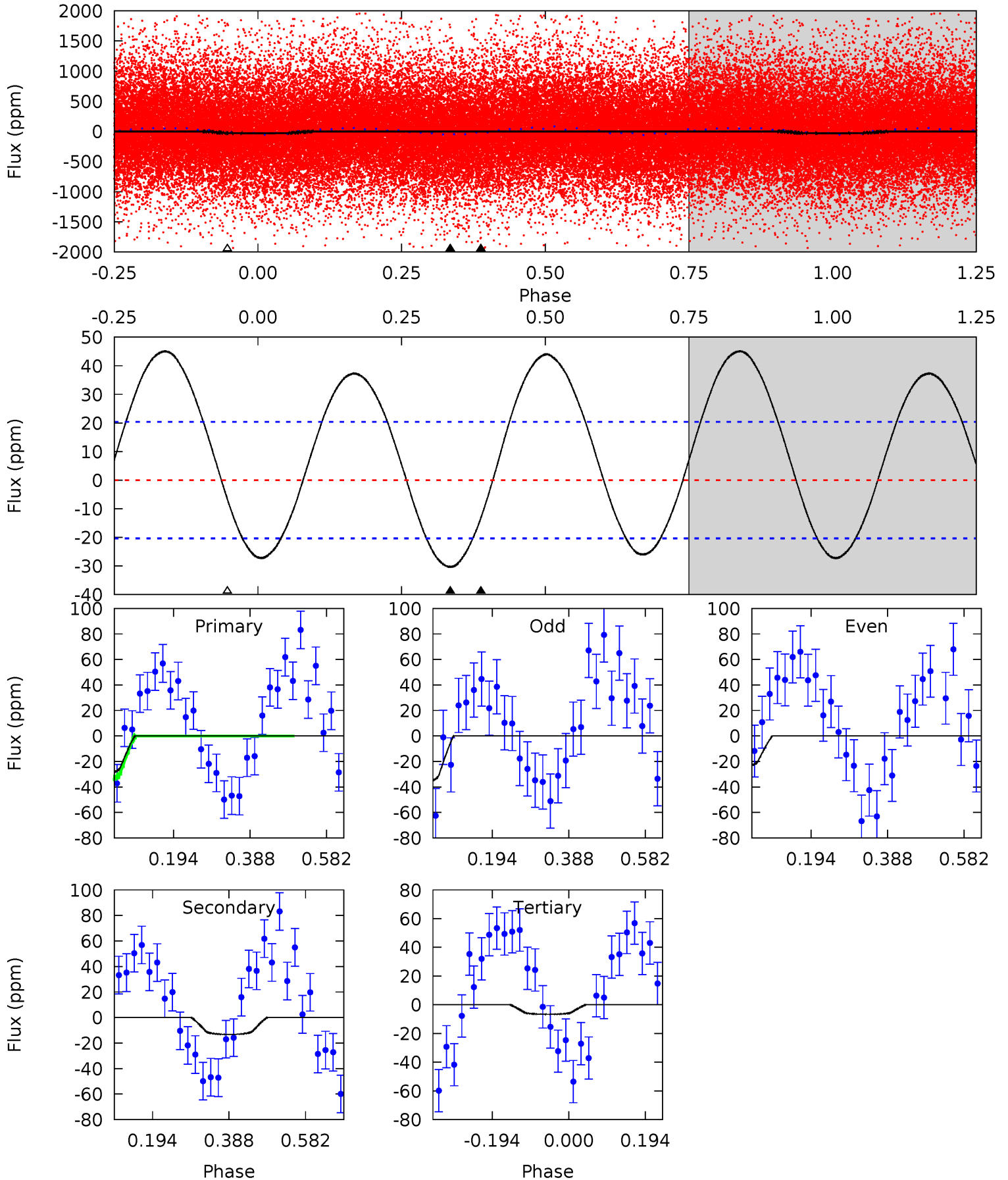
TCE 003849414-01 P= 0.534264 Days $T_0=131.985692$ (BKJD)



DV Model-Shift Uniqueness Test

003849414-01, P = 0.534262 Days, E = 131.451005 Days

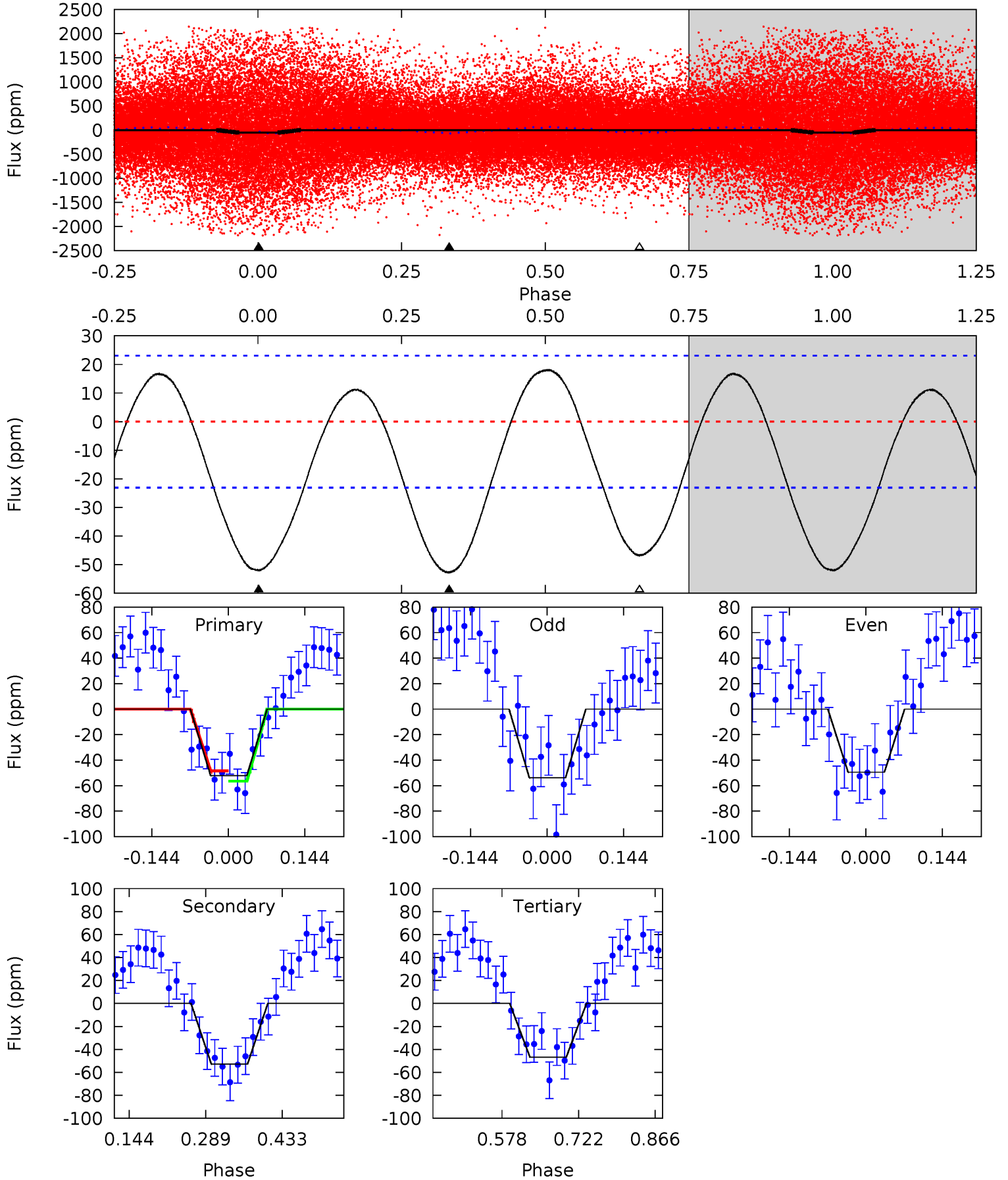
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.58	2.88	1.45	0	4.42	1.30	5.16	5.14	6.58	1.44	2.88	1.38	0.70	0.60	0.97



Alt Model-Shift Uniqueness Test

003849414-01, P = 0.534264 Days, E = 131.451428 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	10.3	9.11	0	4.49	1.46	4.51	1.02	10.1	1.15	10.3	0.42	0.72	0.26	0.58



Stellar Parameters For KIC 003849414

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7196^{+200}_{-300}	$4.241^{+0.058}_{-0.232}$	$0.210^{+0.150}_{-0.350}$	$1.572^{+0.606}_{-0.202}$	$1.575^{+0.211}_{-0.190}$	$0.571^{+0.184}_{-0.323}$
	+3%/-4%	+1%/-5%	+71%/-167%	+39%/-13%	+13%/-12%	+32%/-56%
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 003849414-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 5	$1.34^{+0.35}_{-0.29}$	4654^{+390}_{-275}	4621^{+768}_{-904}	$0.870^{+0.658}_{-0.412}$
Alt.	-53 ± 5	$1.37^{+0.35}_{-0.28}$	4654^{+400}_{-249}	6784^{+1050}_{-689}	$3.427^{+2.040}_{-1.248}$

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 $A_{obs} \gg 1.0$

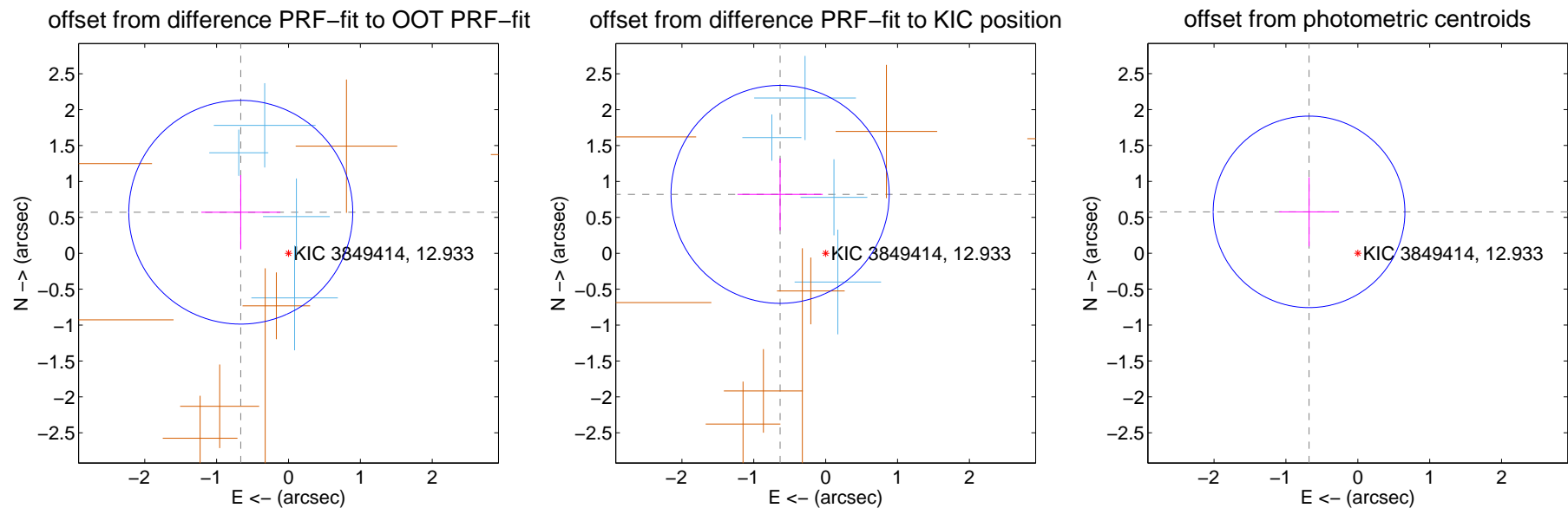
DV Centroid Data

Supplemental centroid analysis for 003849414-01. Kepler magnitude: 12.93. Transit SNR 10.82

There are 4 quarters with good PRF difference image offsets

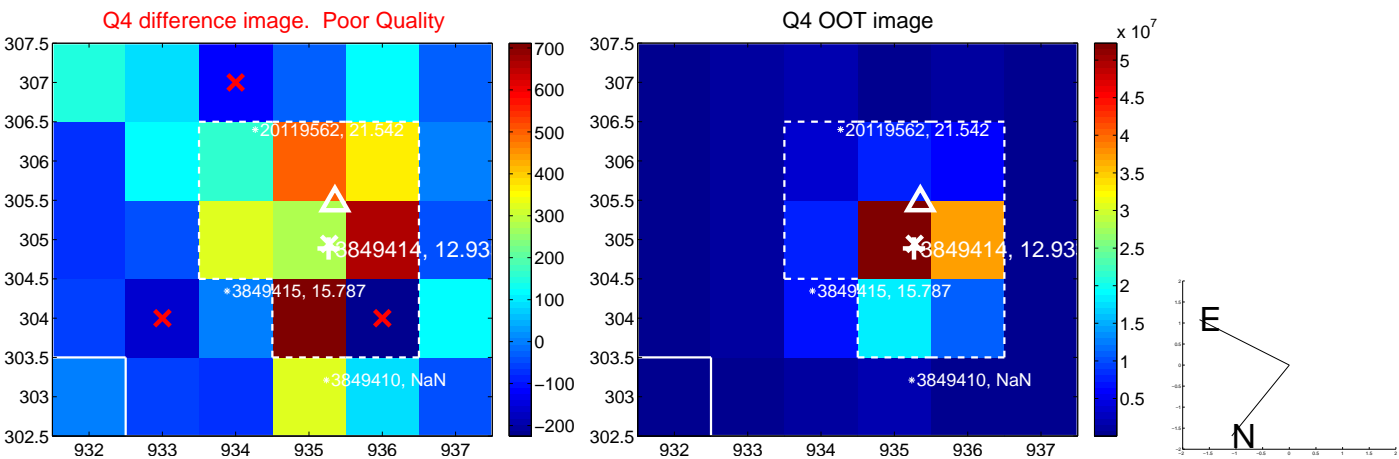
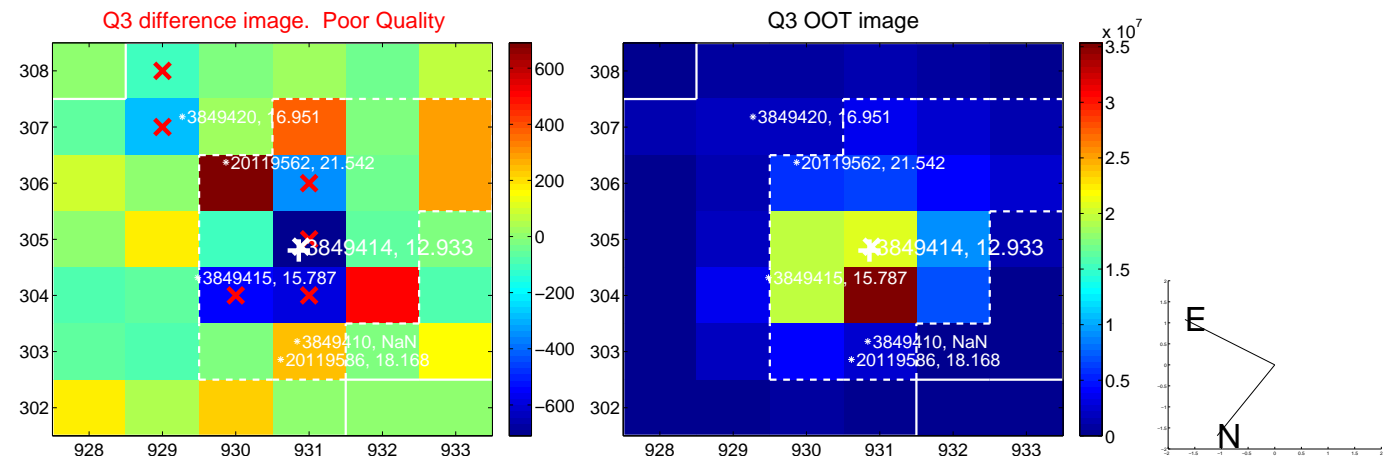
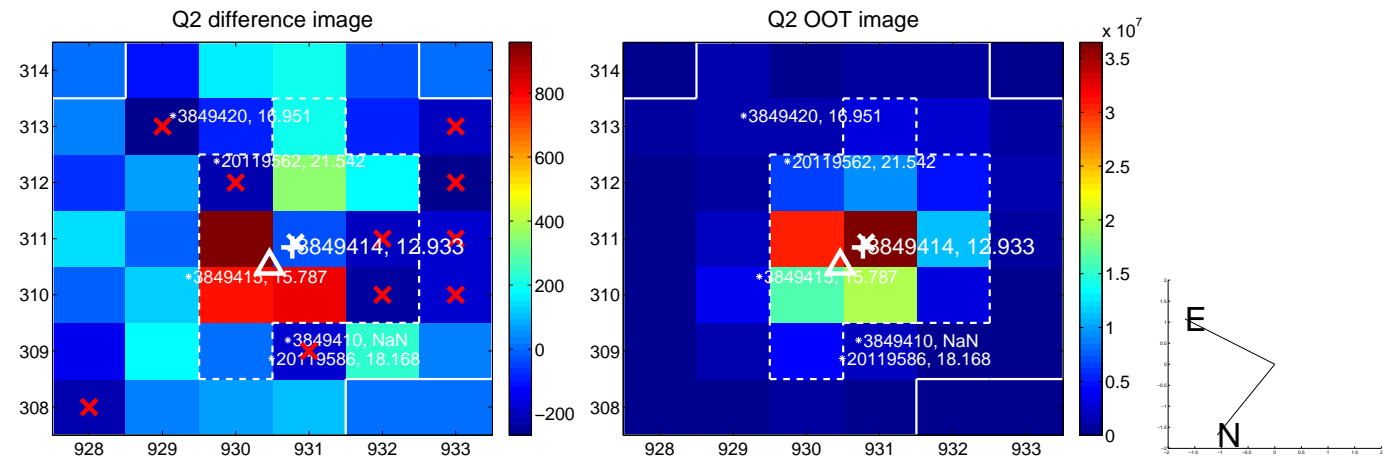
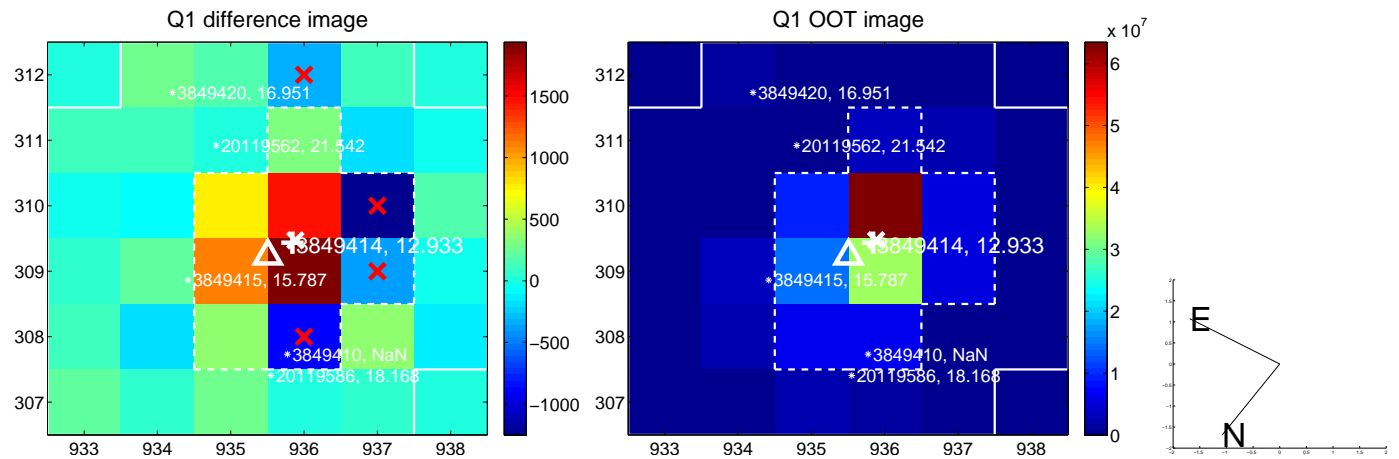
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.876 ± 0.519	1.69	0.664 ± 0.550	0.572 ± 0.517
PRF-fit source offset from KIC position	1.037 ± 0.506	2.05	0.634 ± 0.593	0.820 ± 0.502
photometric centroid source offset	0.89 ± 0.44	2.00	0.68 ± 0.42	0.58 ± 0.48

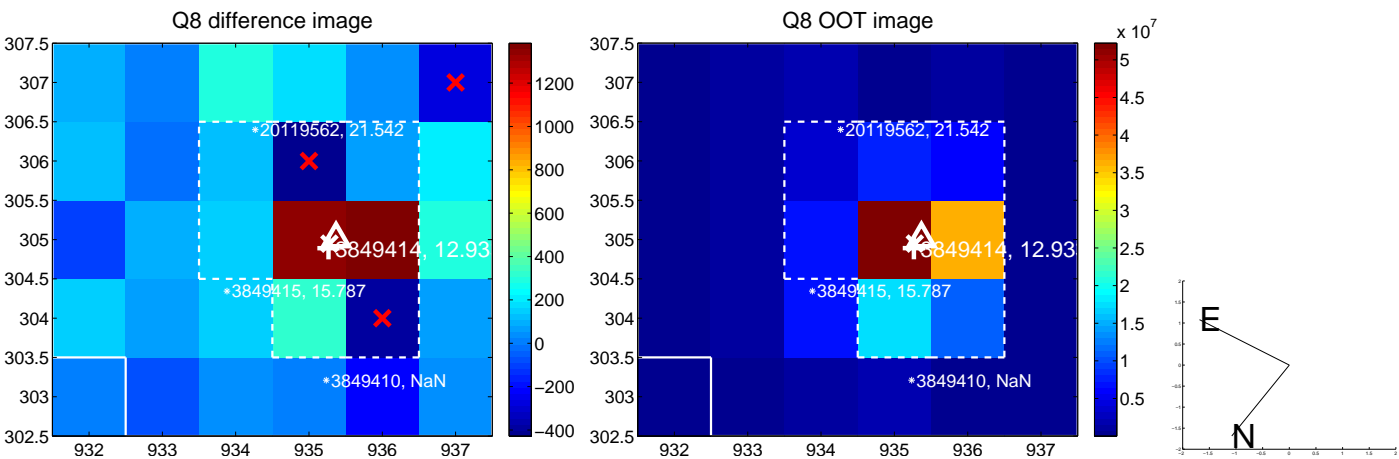
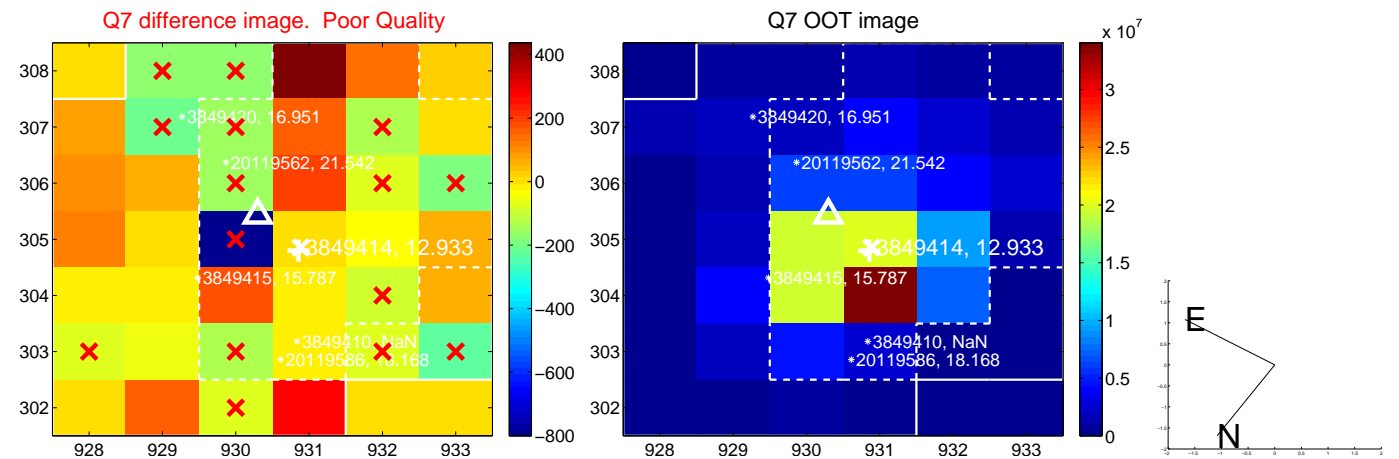
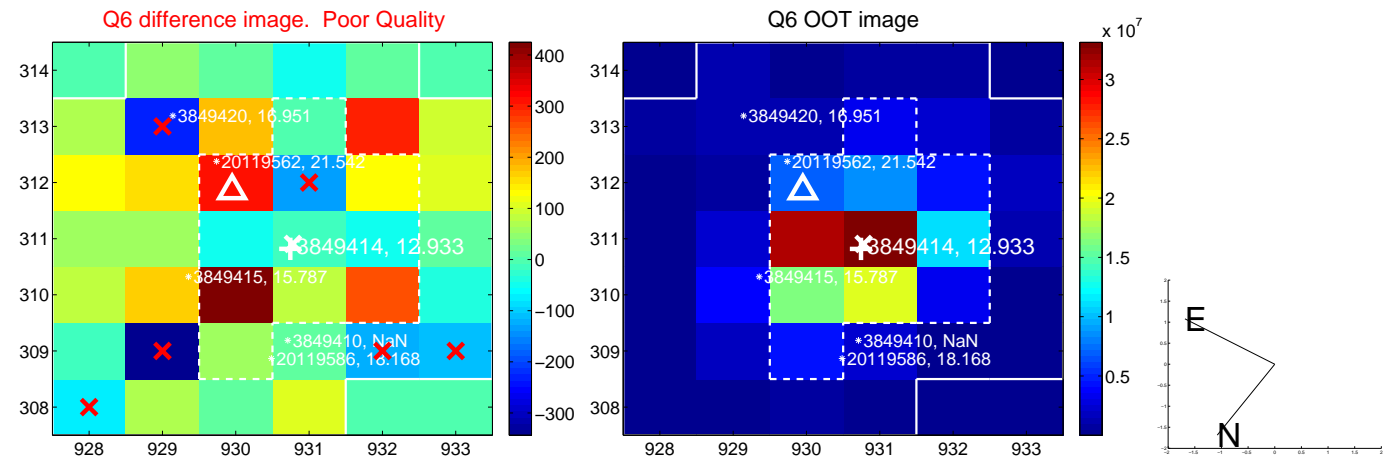
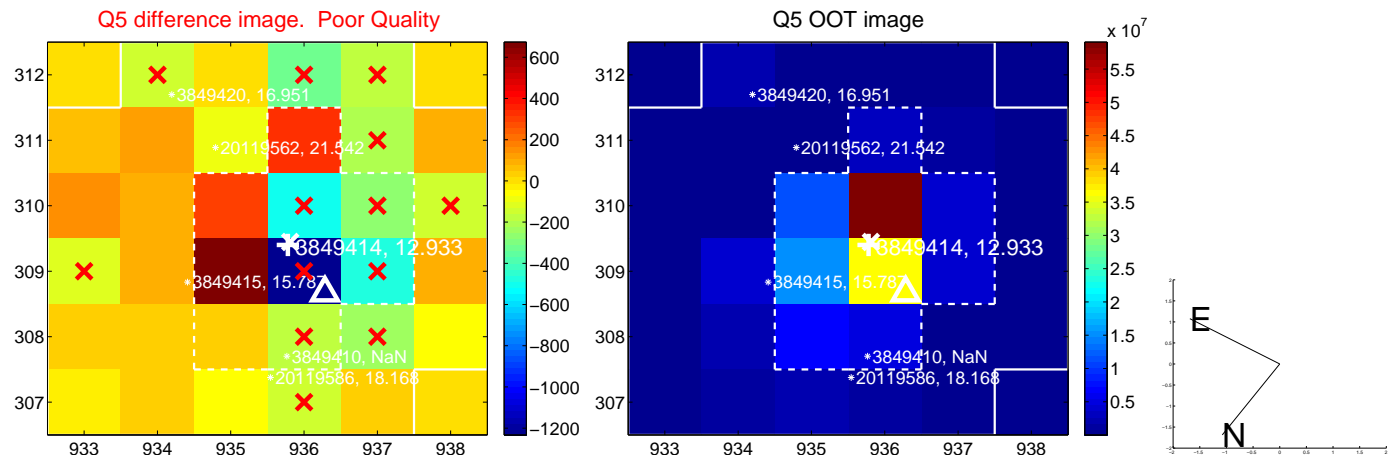


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

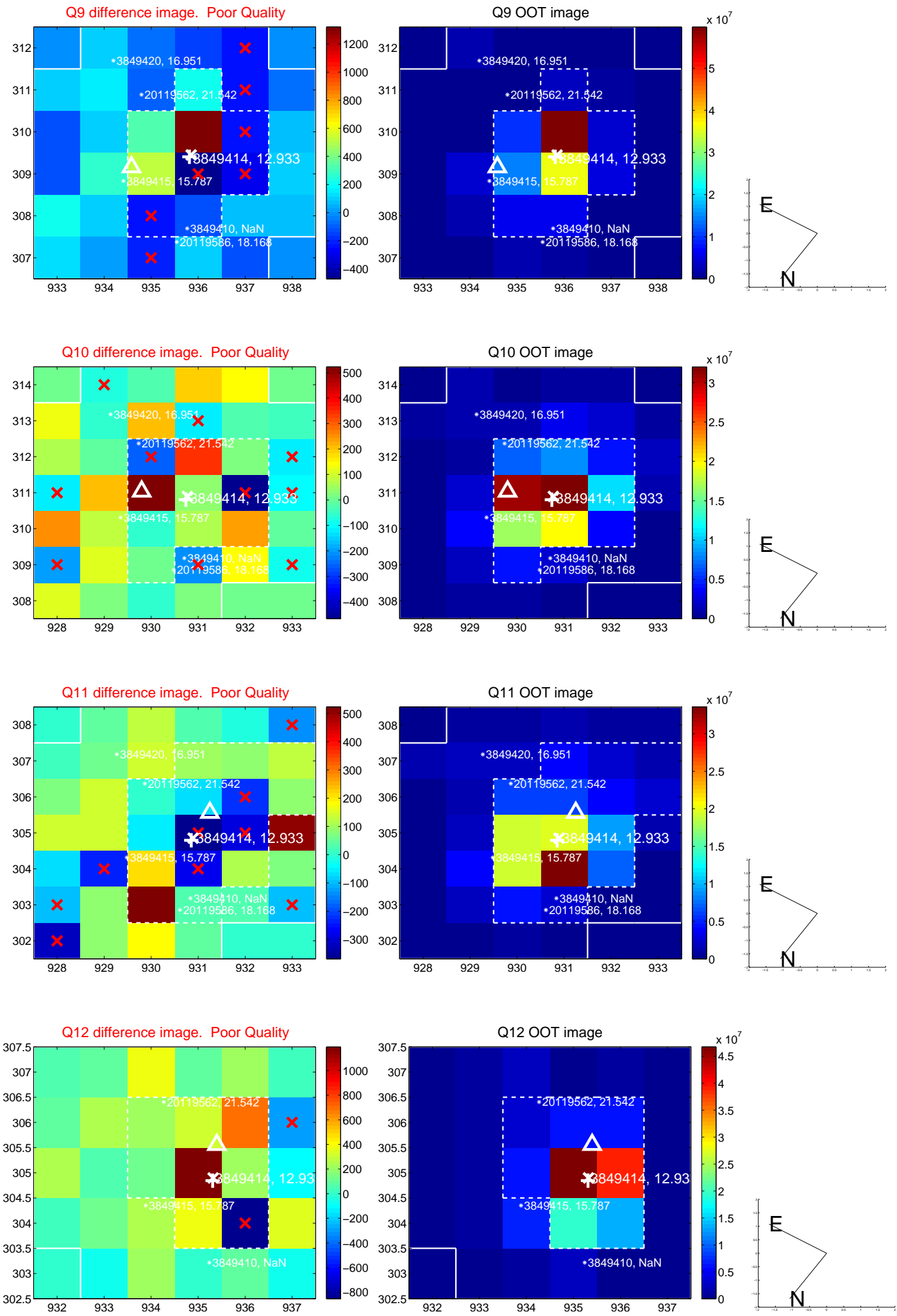
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



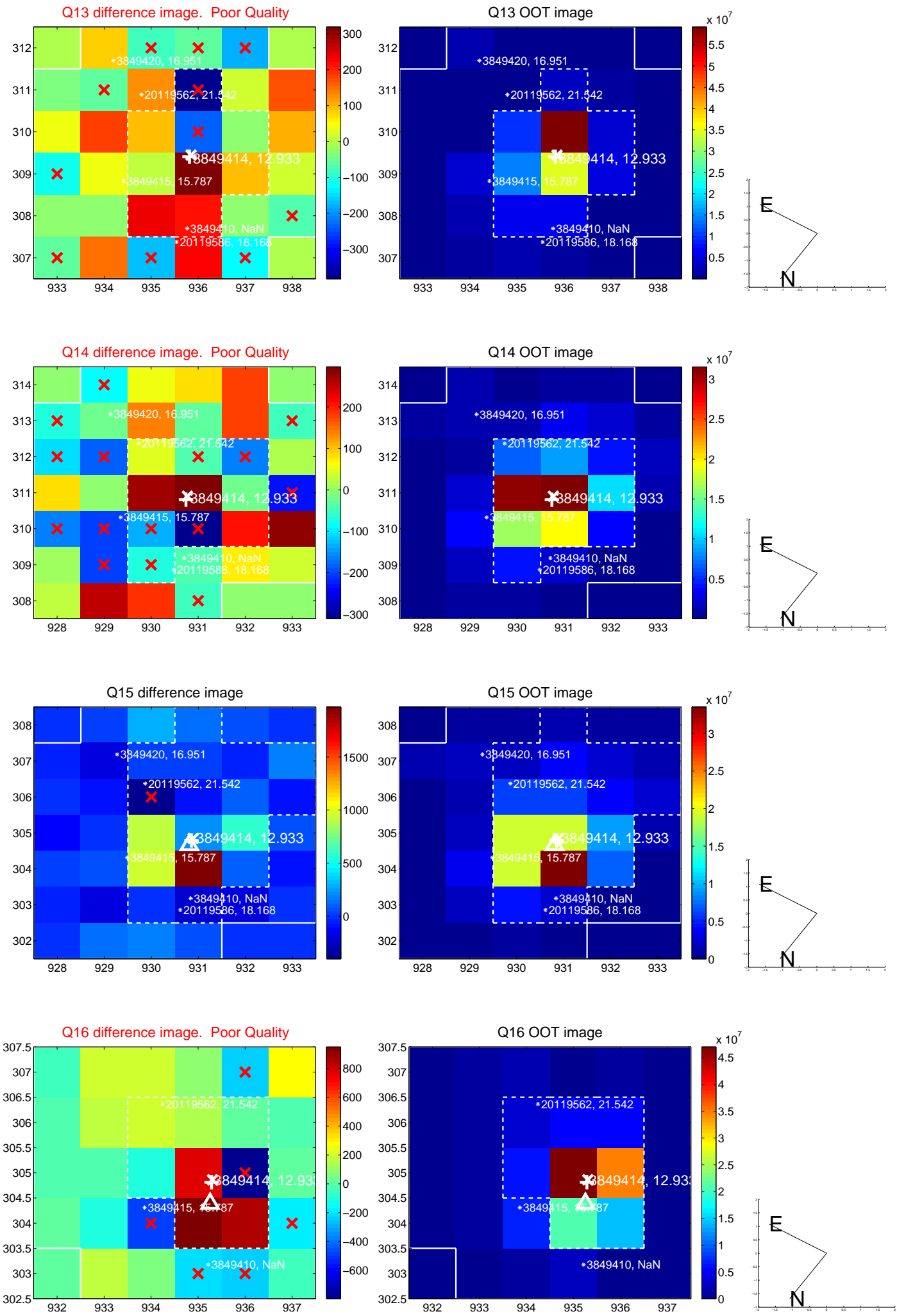
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



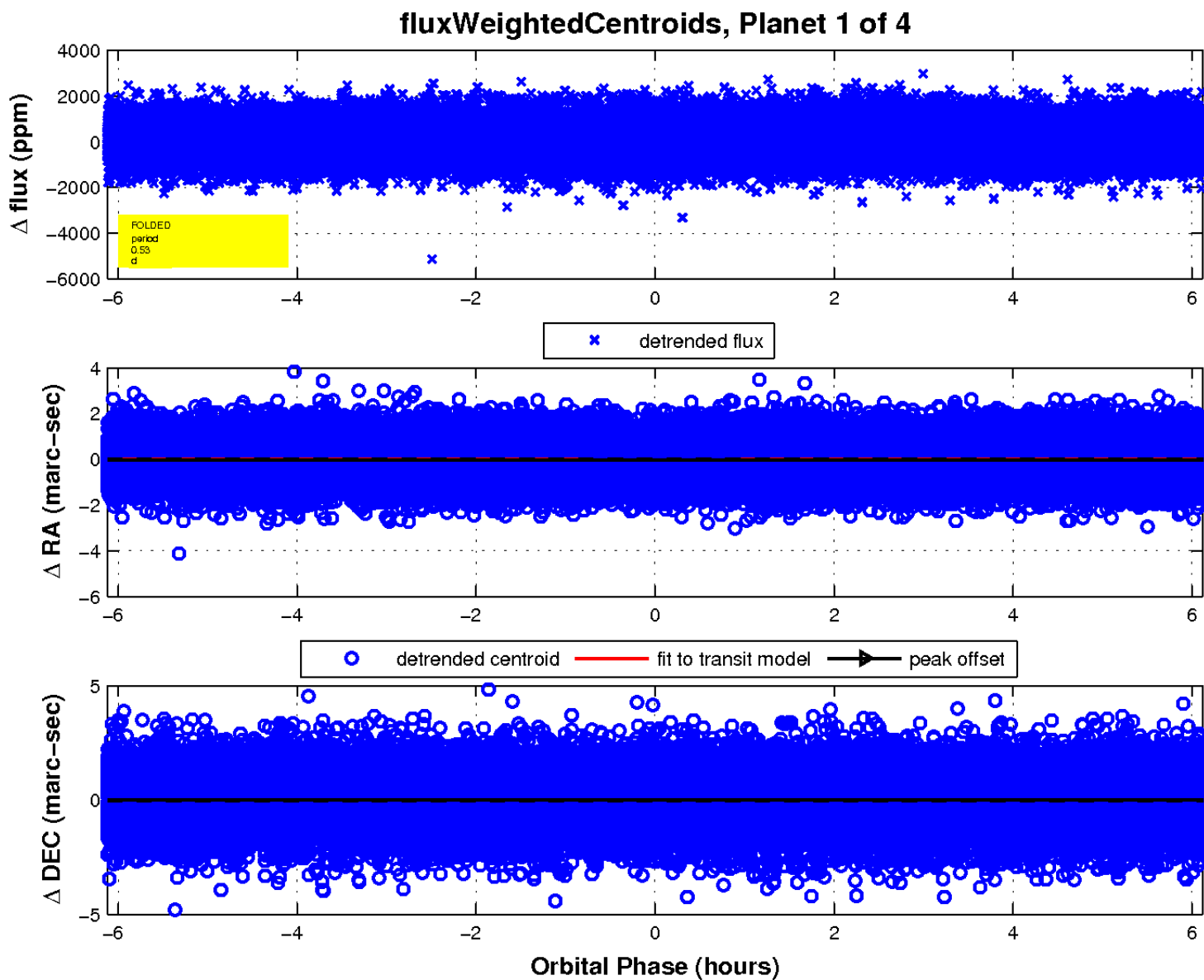
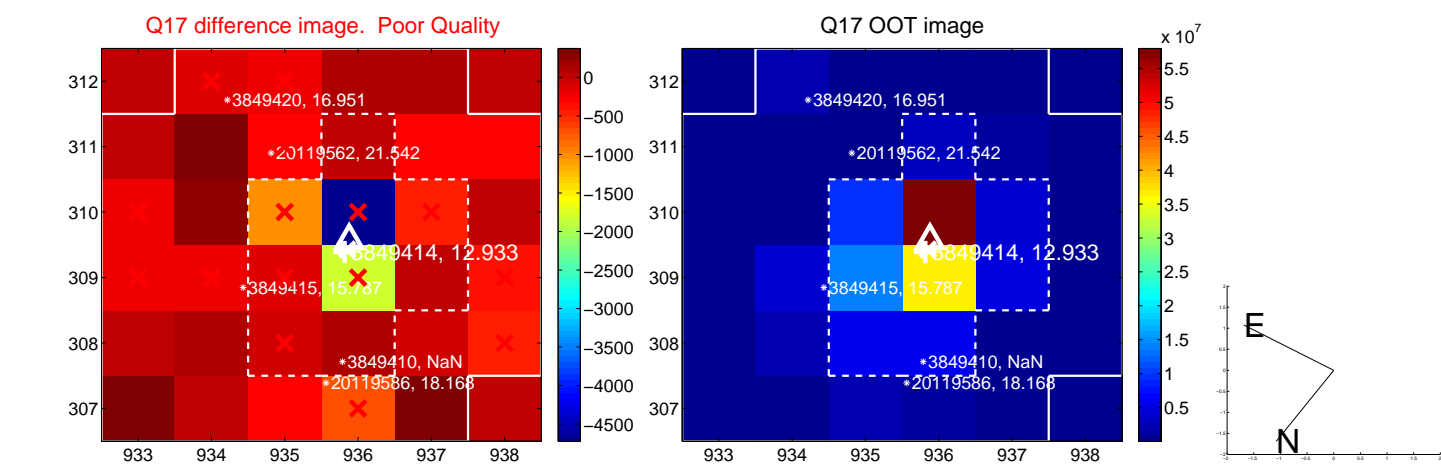
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

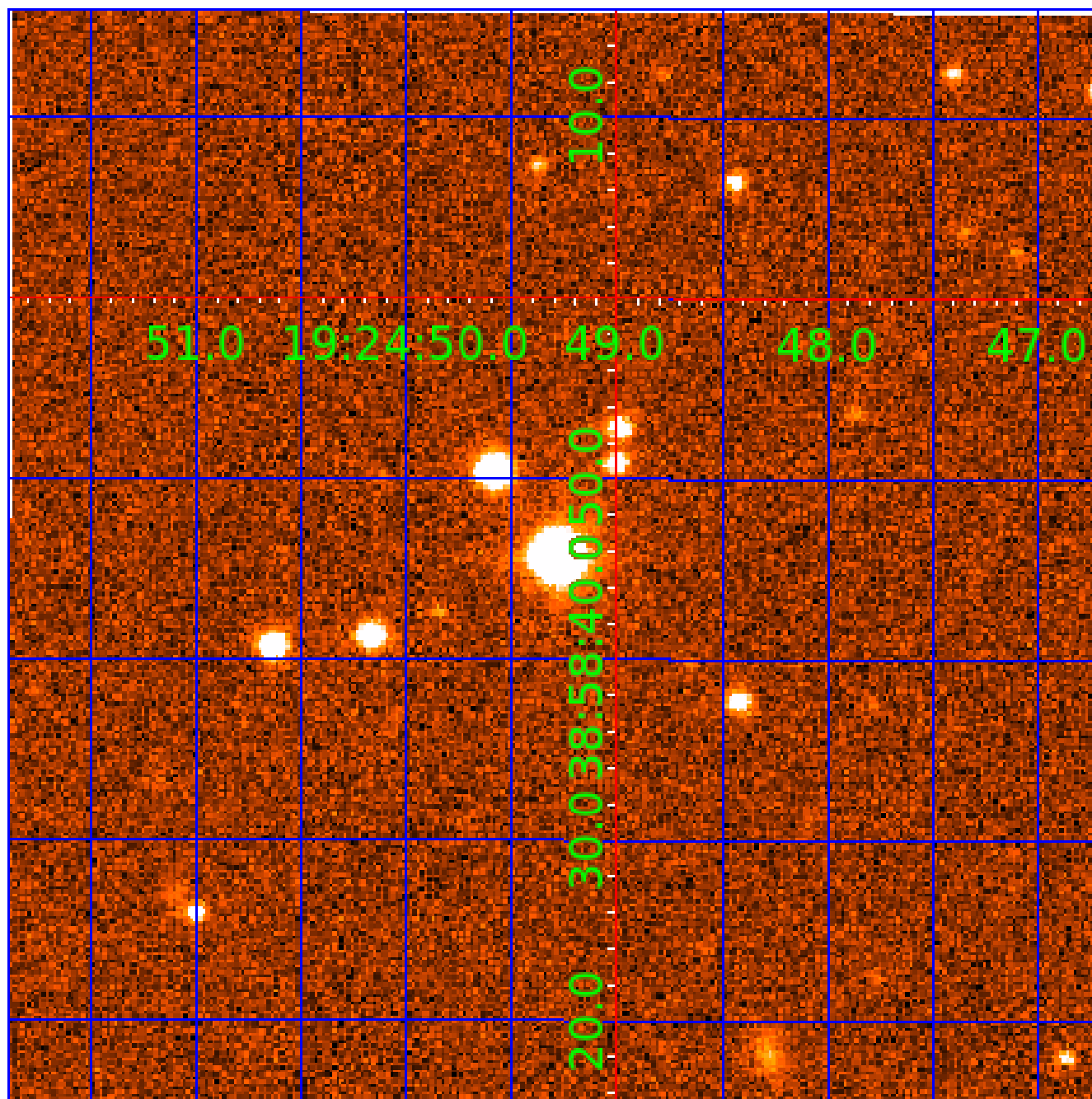


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003849414

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})
003849414-01	OBS	No	0.534262	131.985267	48.5	2.041	12.9	10.8	1.57	7196	1.27	26457.87
003849414-02	OBS	No	0.534246	131.623694	46.9	3.504	10.9	6.6	1.57	7196	1.09	26458.90
003849414-03	OBS	No	1.398891	132.182144	294.0	1.524	7.9	7.2	1.57	7196	3.21	7331.32
003849414-04	OBS	No	2.367152	133.383050	311.5	4.010	8.2	6.1	1.57	7196	2.81	3635.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849414-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849414-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003849414-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED
003849414-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

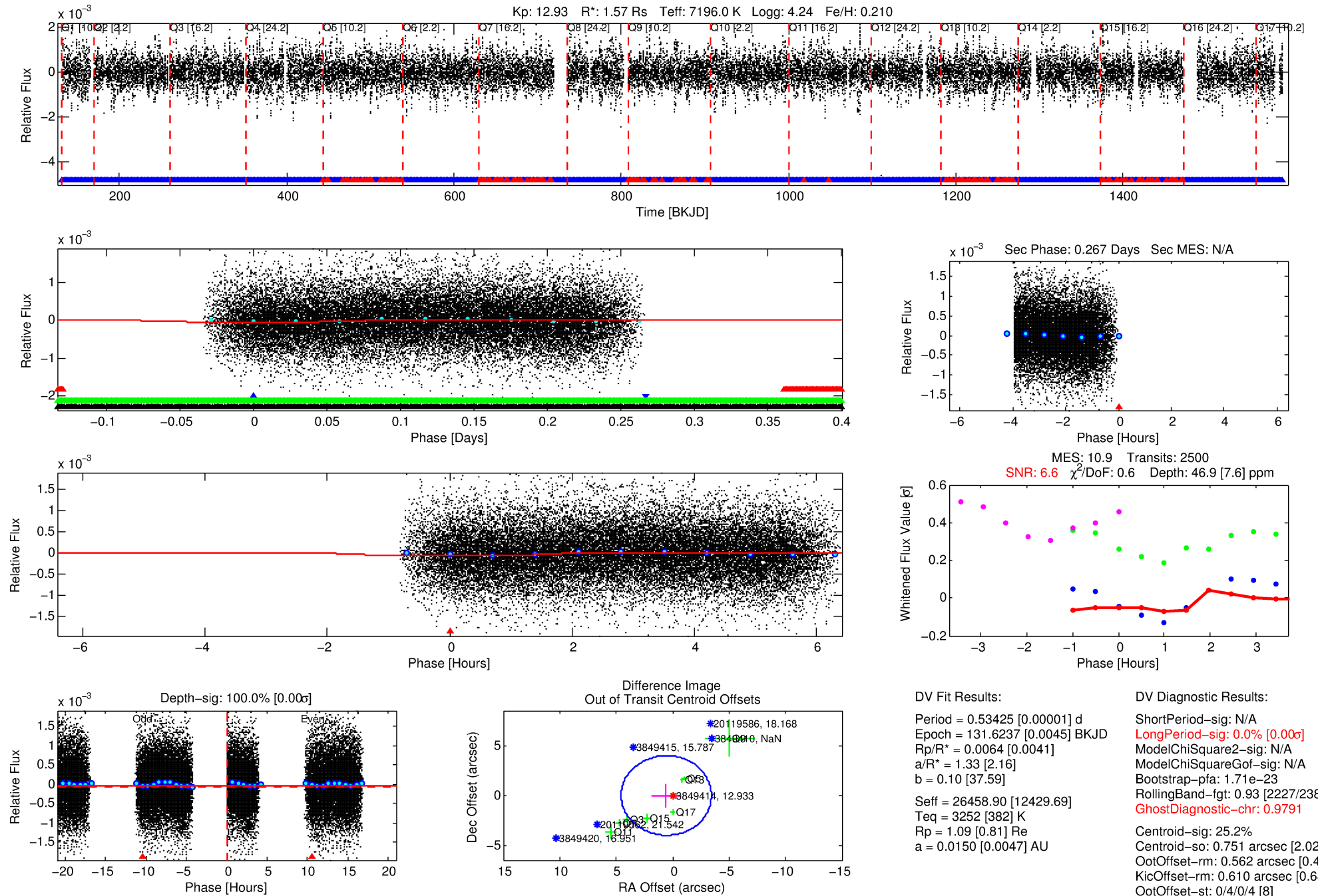
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849414-02

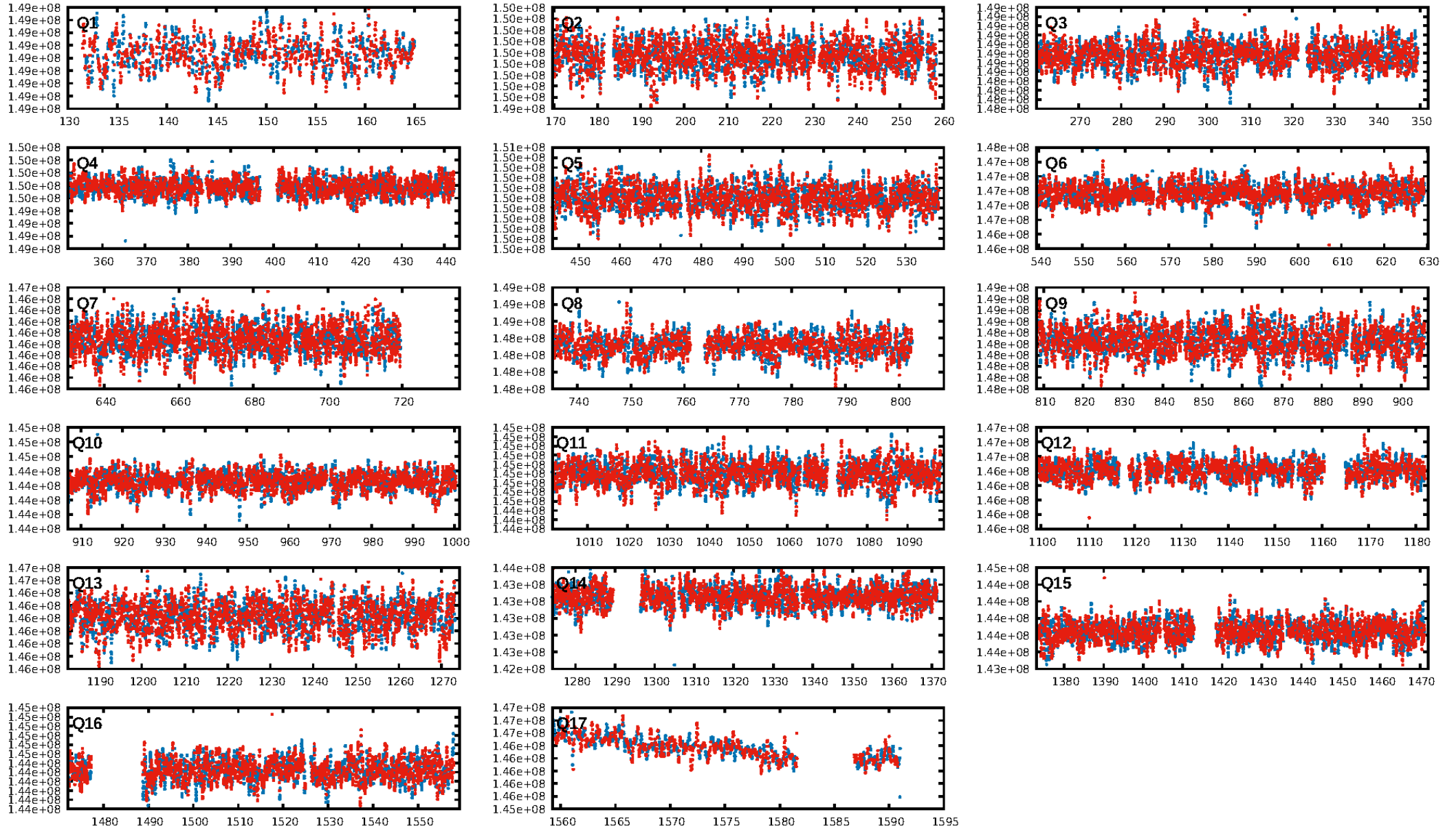
No Significant Match Found

DV One-Page Summary

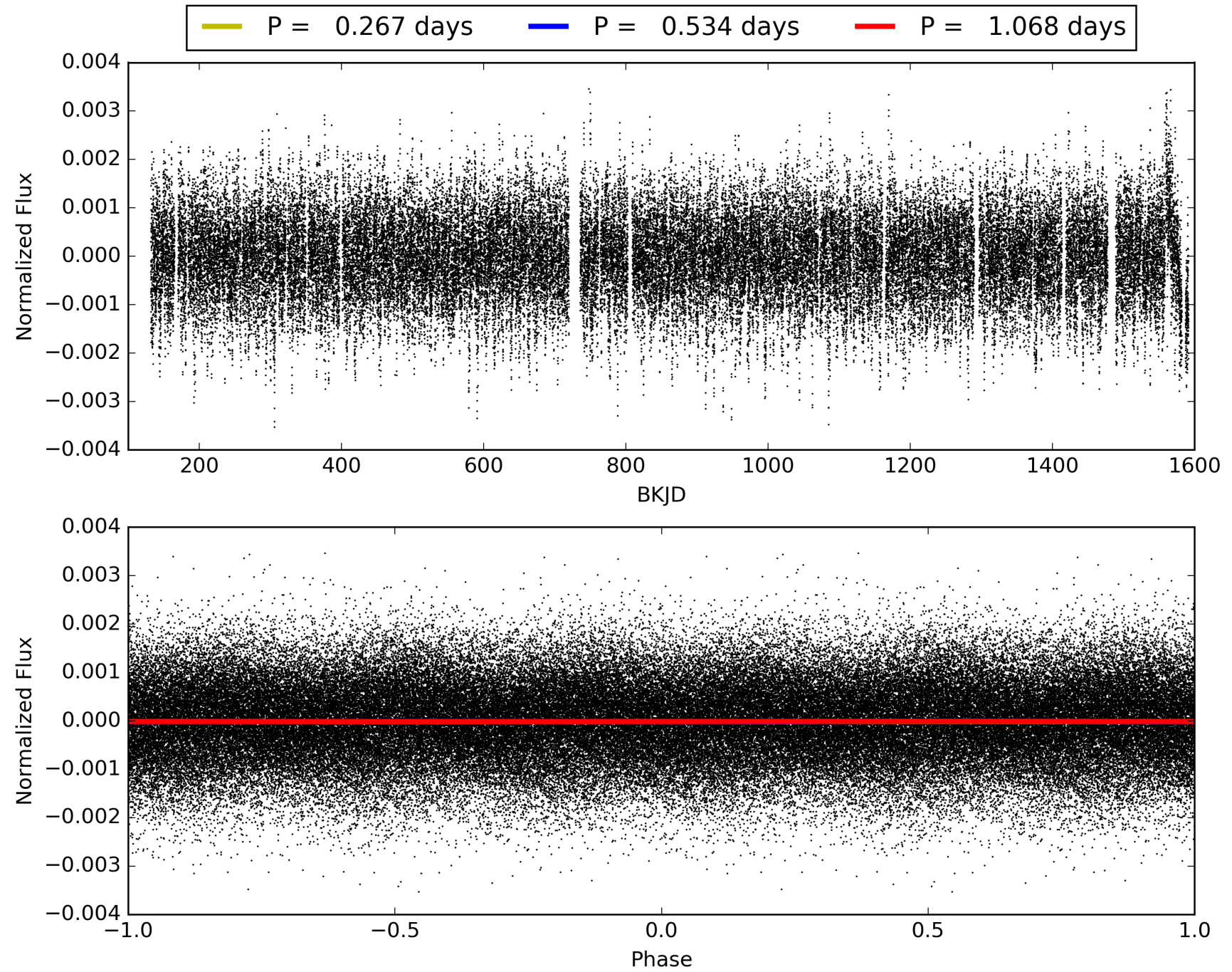
KIC: 3849414 Candidate: 2 of 4 Period: 0.534 d



TCE 003849414-02, PDC Light Curves

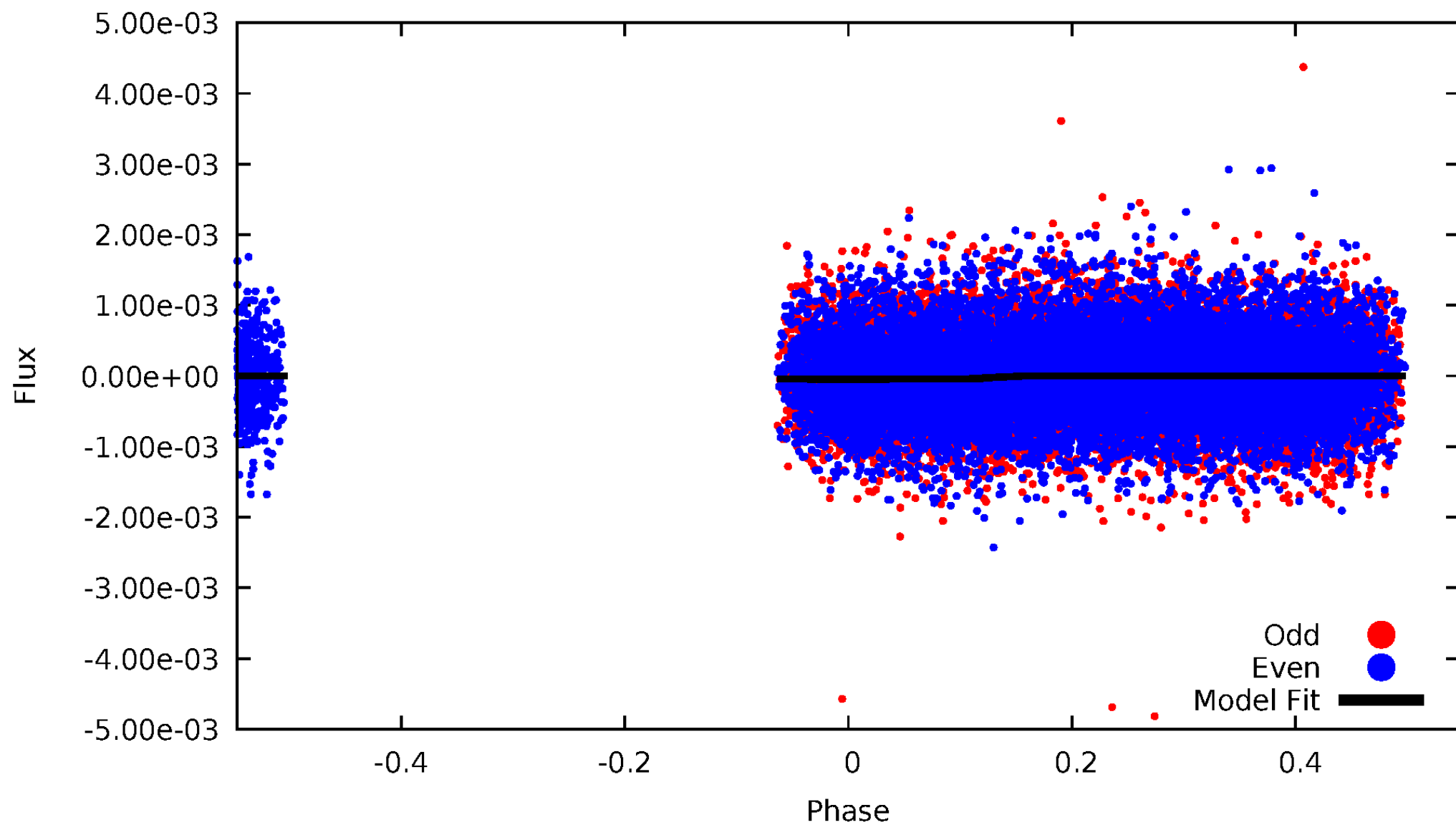


TCE 003849414-02



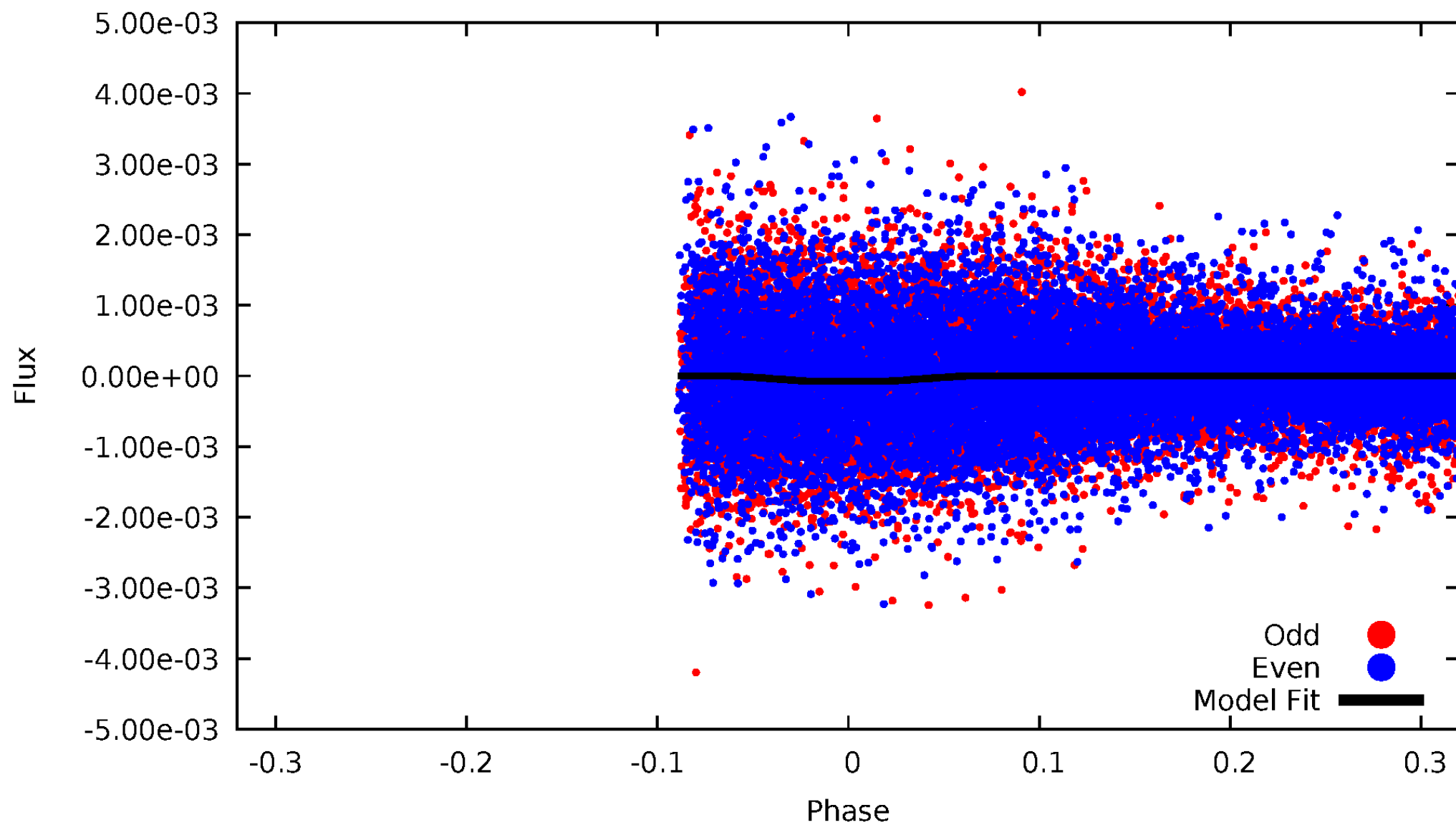
DV Odd/Even

TCE 003849414-02



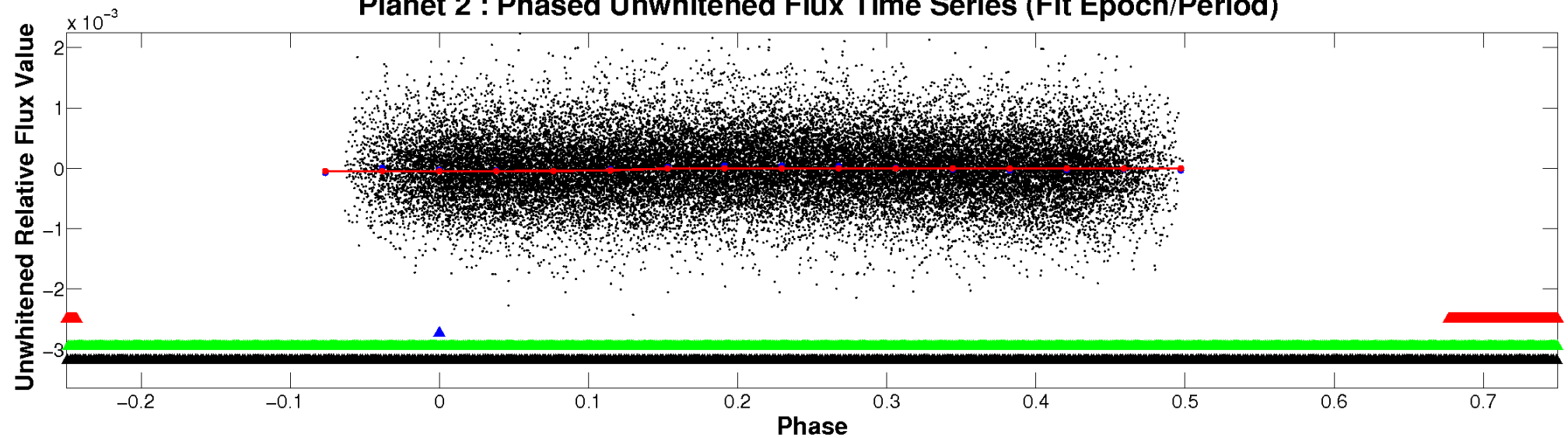
ALT Odd/Even

TCE 003849414-02

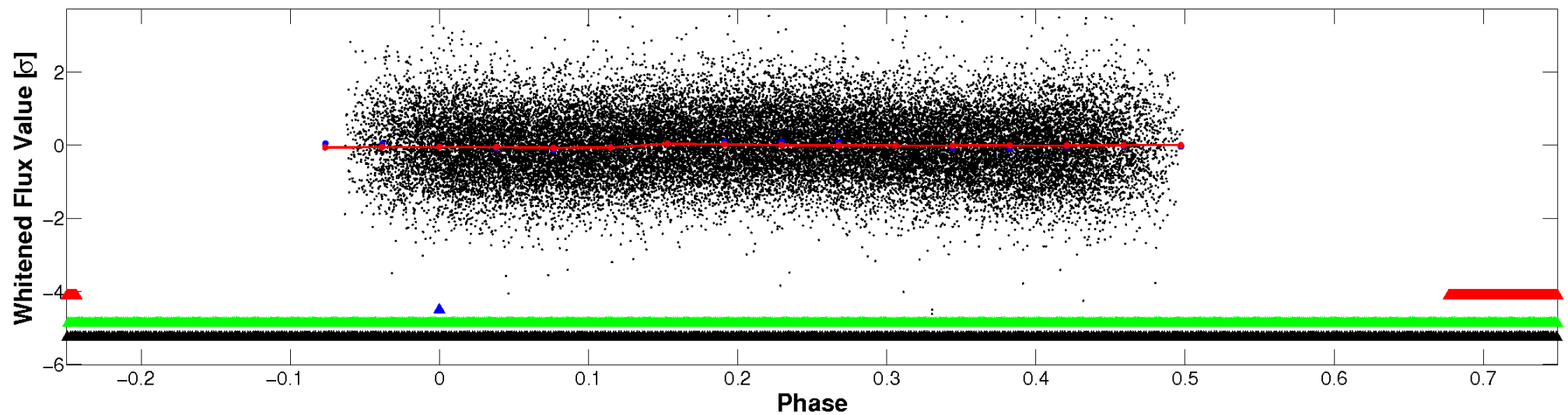


Non-Whitened Vs. Whitened Light Curve

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

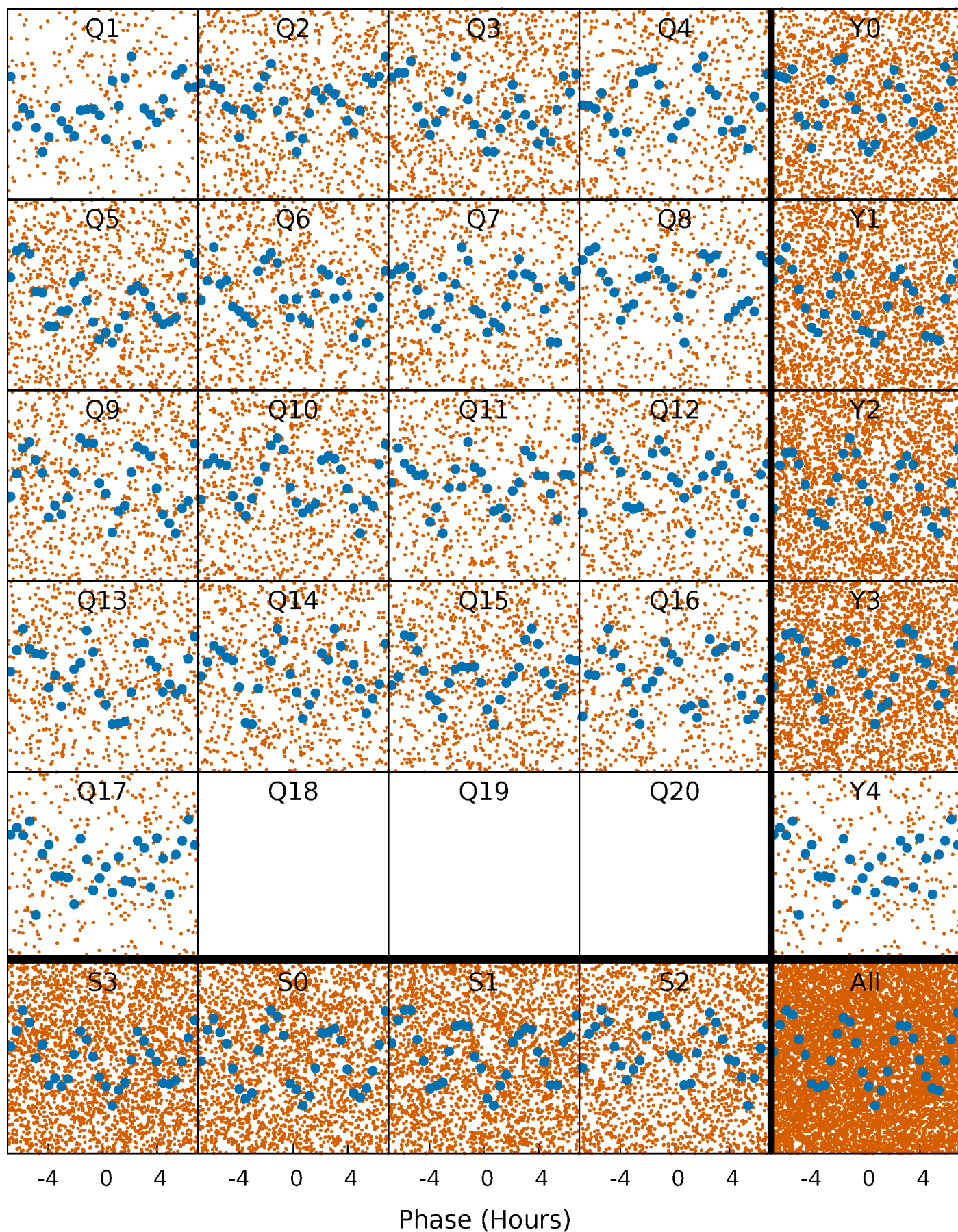


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



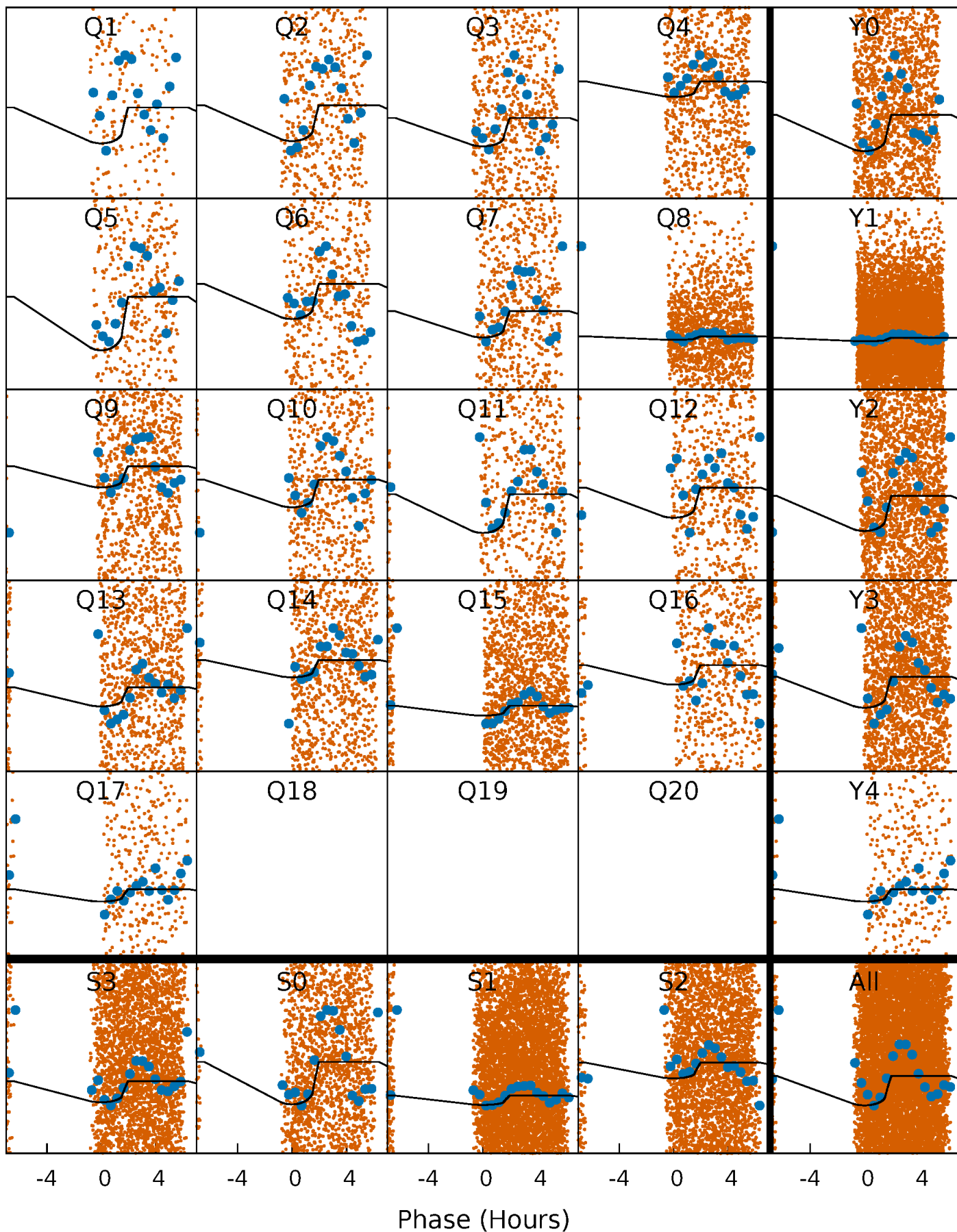
PDC Quarter-Phased Transit Curves

TCE 003849414-02 P= 0.534246 Days $T_0=131.623694$ (BKJD)



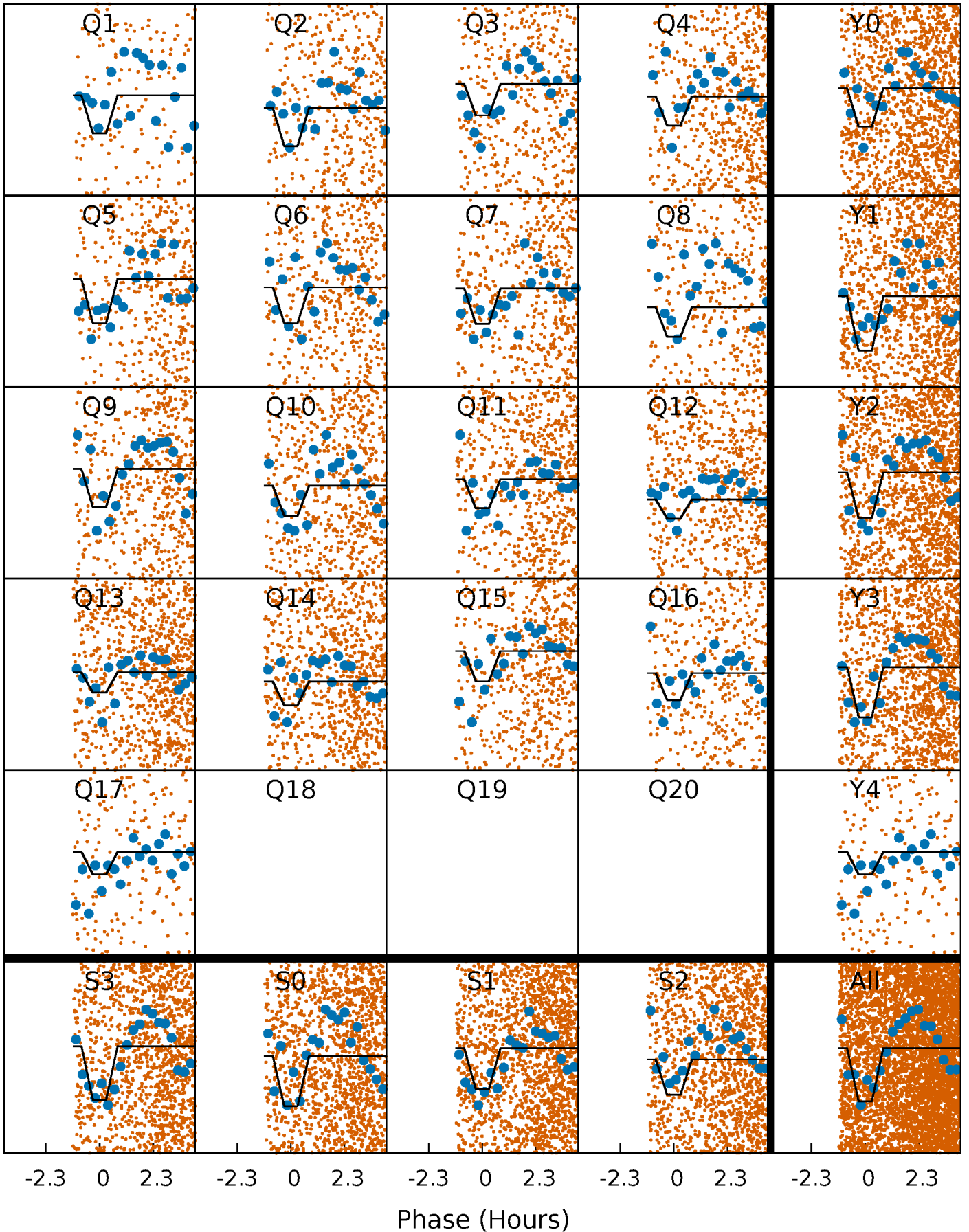
DV Quarter-Phased Transit Curves

TCE 003849414-02 P= 0.534246 Days $T_0=131.623694$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

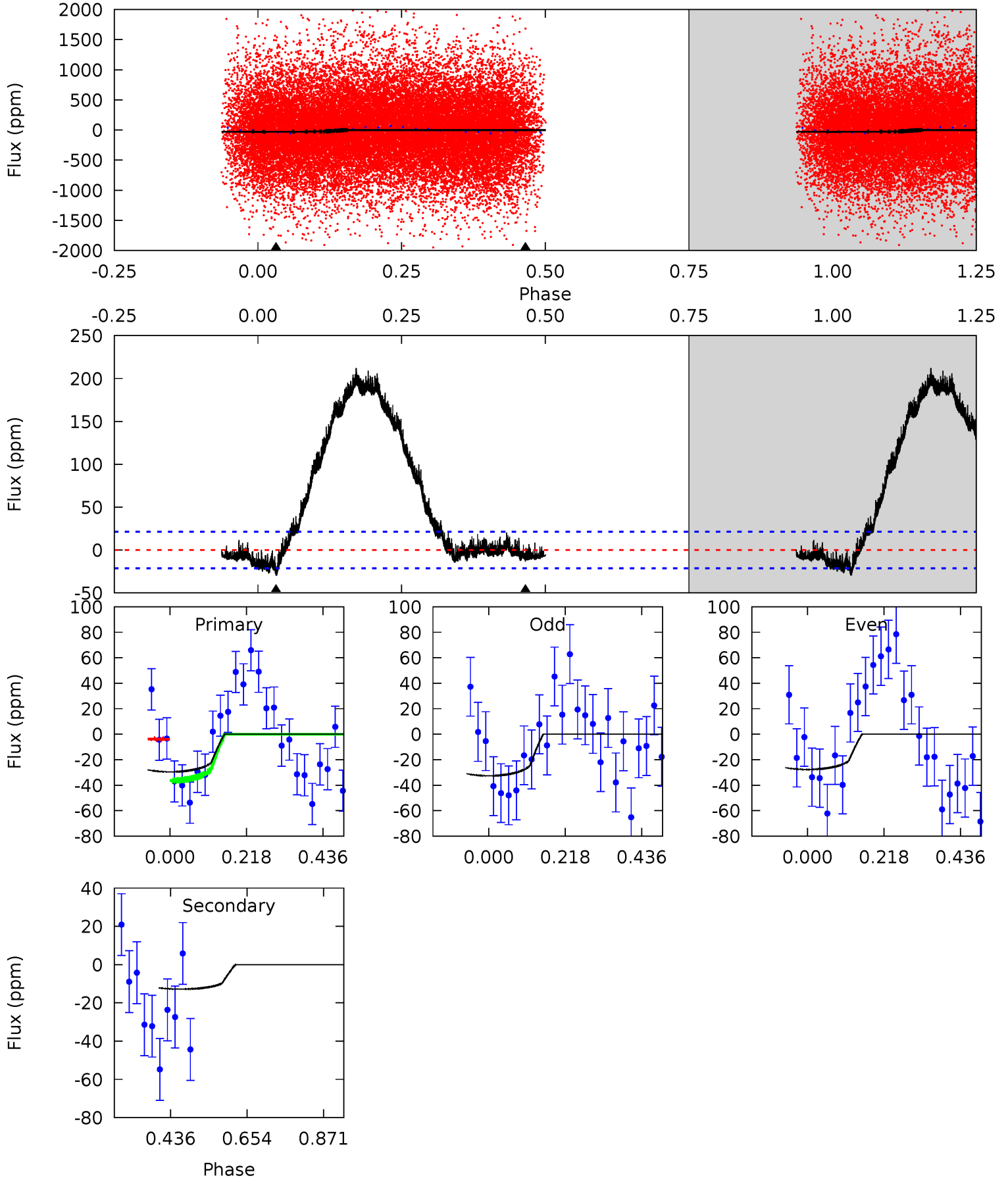
TCE 003849414-02 P= 0.534264 Days $T_0=131.630717$ (BKJD)



DV Model-Shift Uniqueness Test

003849414-02, P = 0.534246 Days, E = 131.089448 Days

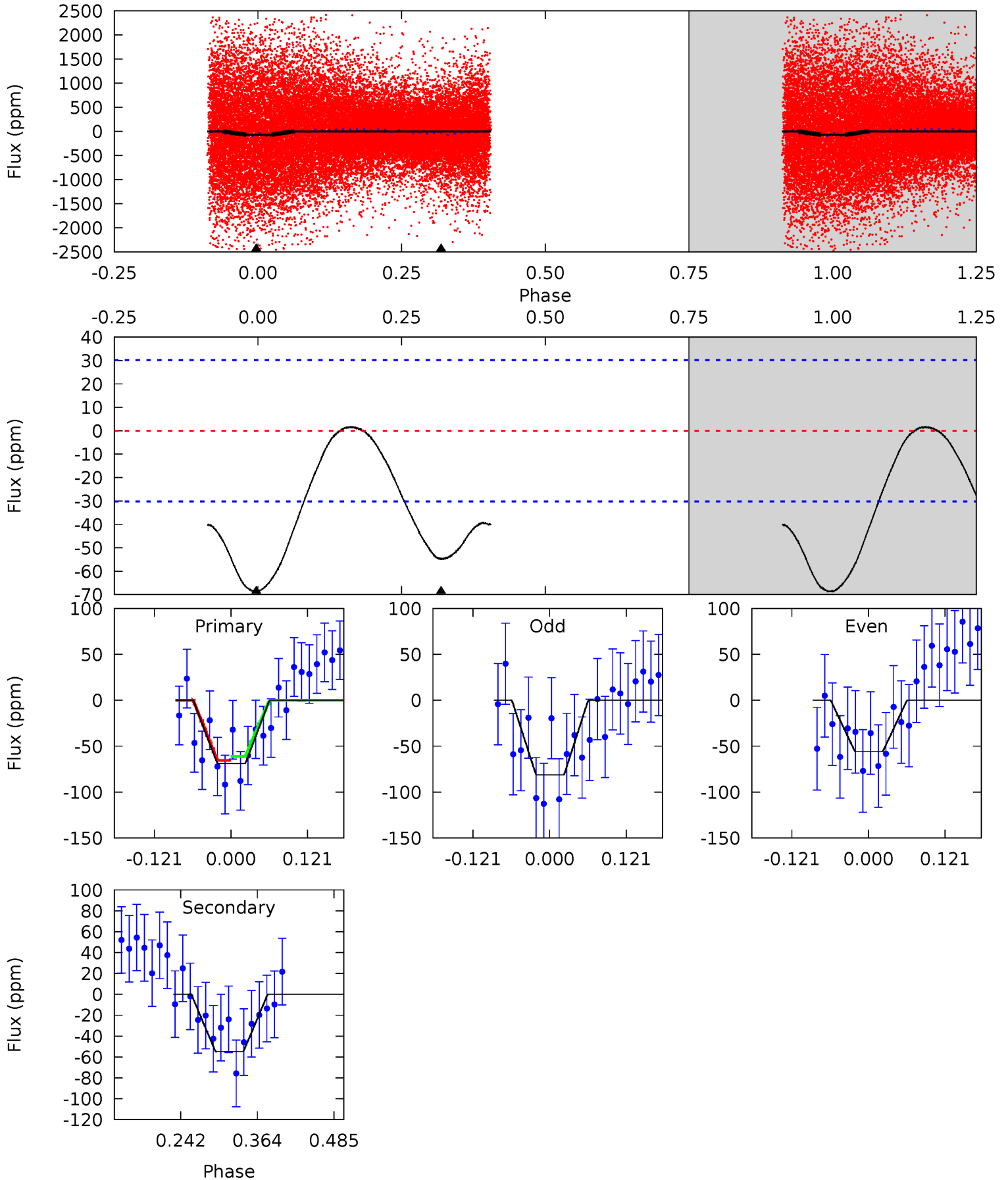
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.09	2.65	0	0	4.40	1.23	2.63	6.09	6.09	2.65	2.65	0.52	0.78	0.88	2.42



Alt Model-Shift Uniqueness Test

003849414-02, P = 0.534264 Days, E = 131.096453 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	8.22	0	0	4.52	1.55	0.34	10.3	10.3	8.22	8.22	1.92	0.83	0.02	0.26



Stellar Parameters For KIC 003849414

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7196^{+200}_{-300}	$4.241^{+0.058}_{-0.232}$	$0.210^{+0.150}_{-0.350}$	$1.572^{+0.606}_{-0.202}$	$1.575^{+0.211}_{-0.190}$	$0.571^{+0.184}_{-0.323}$
	+3%/-4%	+1%/-5%	+71%/-167%	+39%/-13%	+13%/-12%	+32%/-56%
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 003849414-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13 ± 5	$1.26^{+0.79}_{-0.76}$	4656^{+352}_{-257}	4726^{+3205}_{-1903}	$0.956^{+4.401}_{-0.629}$
Alt.	-55 ± 7	$1.60^{+0.82}_{-0.77}$	4638^{+375}_{-269}	6335^{+3037}_{-1350}	$2.557^{+7.166}_{-1.424}$

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 $A_{obs} \gg 1.0$

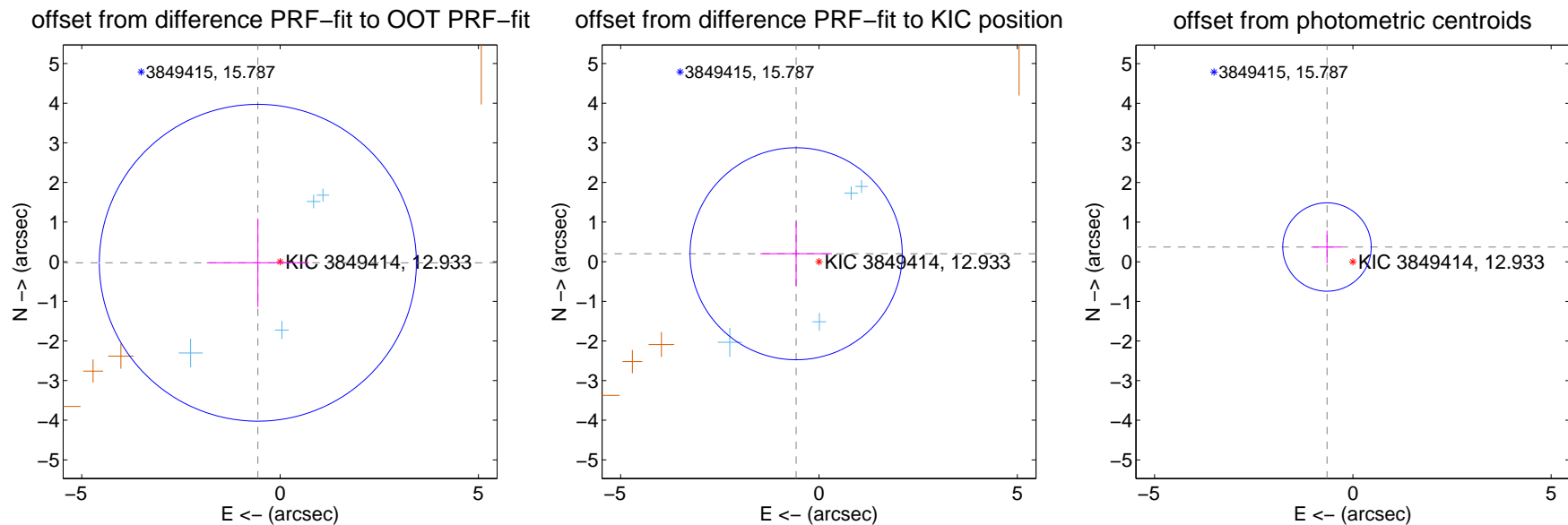
DV Centroid Data

Supplemental centroid analysis for 003849414-02. Kepler magnitude: 12.93. Transit SNR 6.56

There are 4 quarters with good PRF difference image offsets

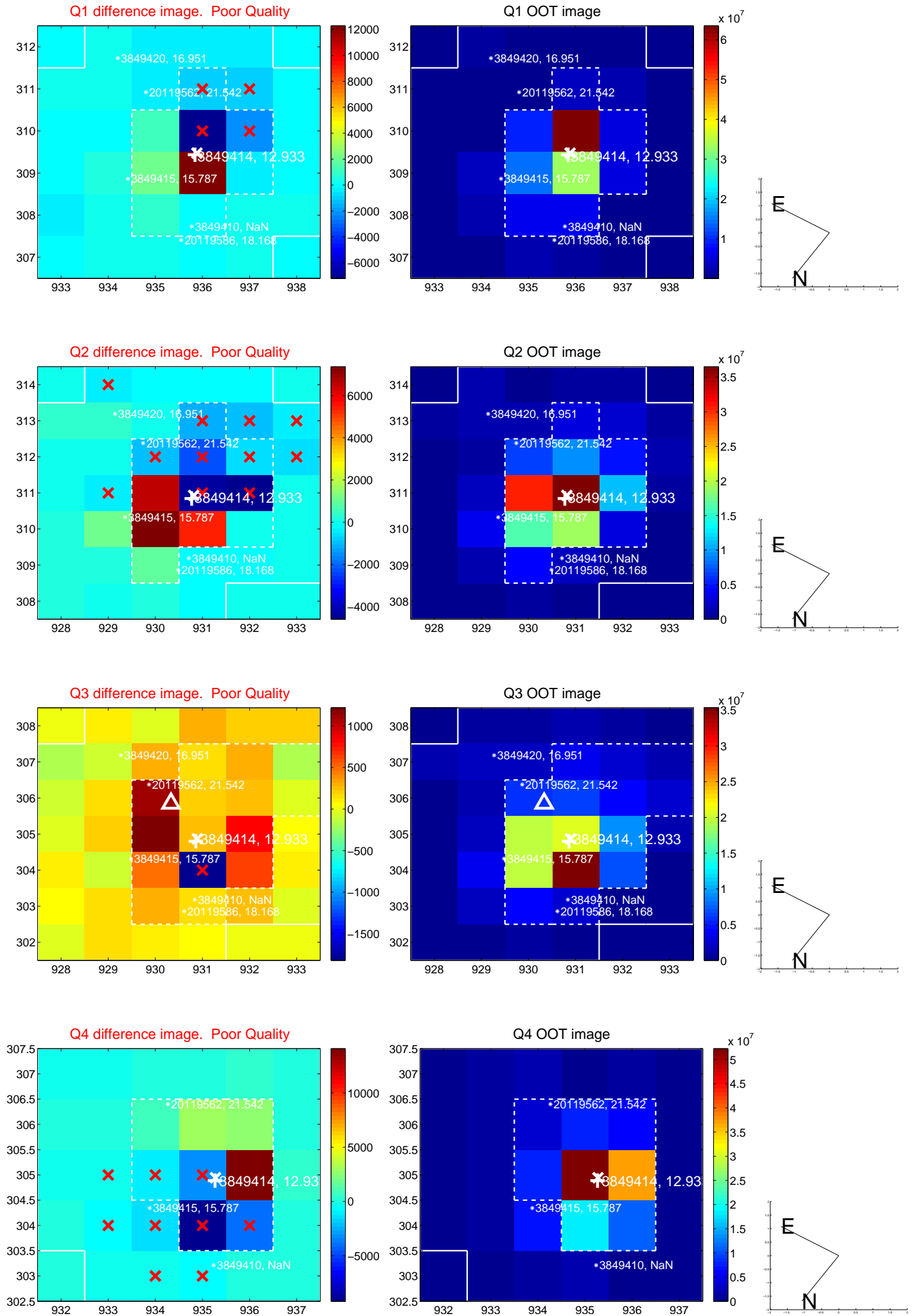
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.562 ± 1.332	0.42	0.561 ± 1.283	-0.027 ± 1.117
PRF-fit source offset from KIC position	0.610 ± 0.892	0.68	0.576 ± 0.901	0.201 ± 0.813
photometric centroid source offset	0.75 ± 0.37	2.02	0.65 ± 0.36	0.37 ± 0.41

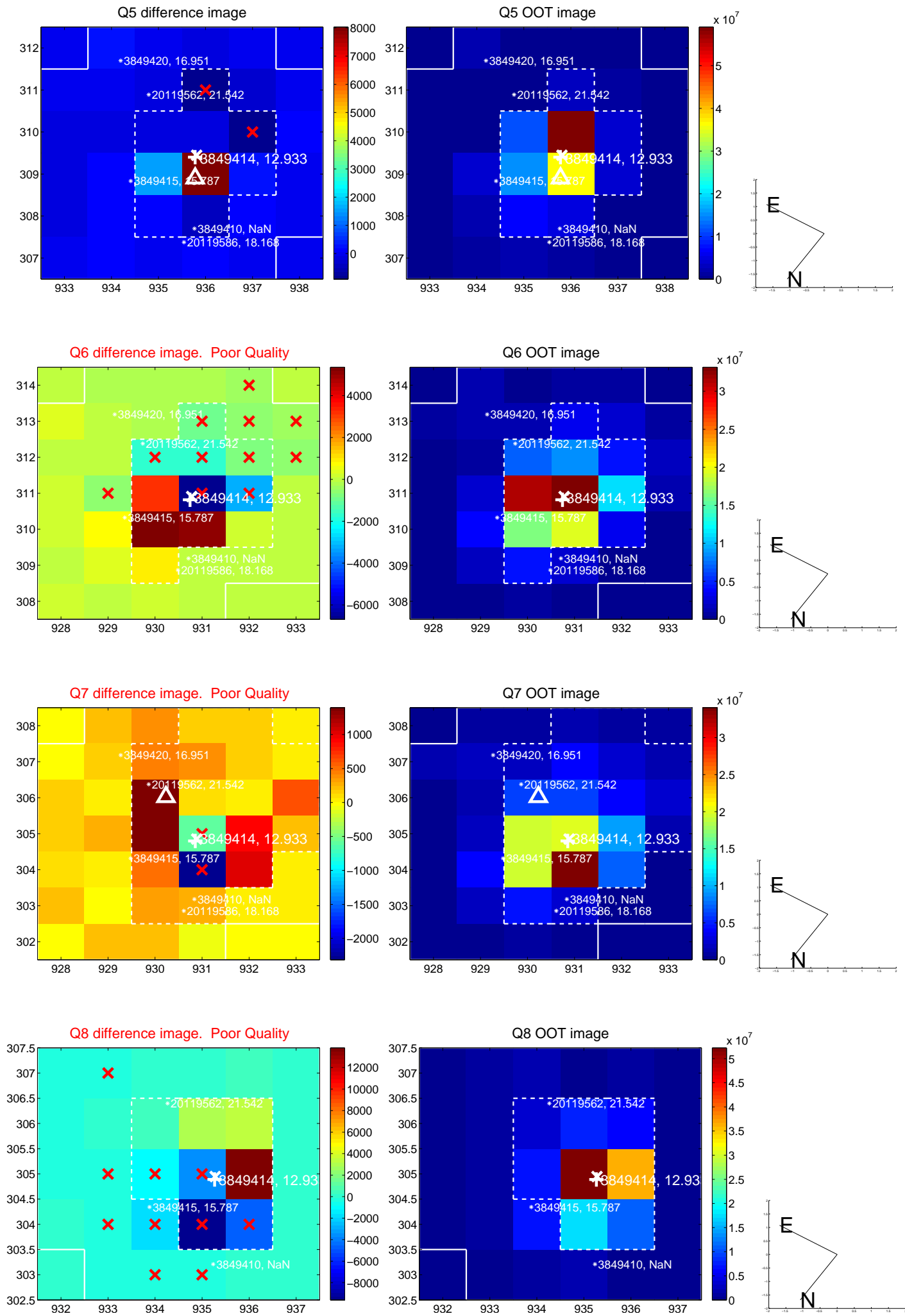


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

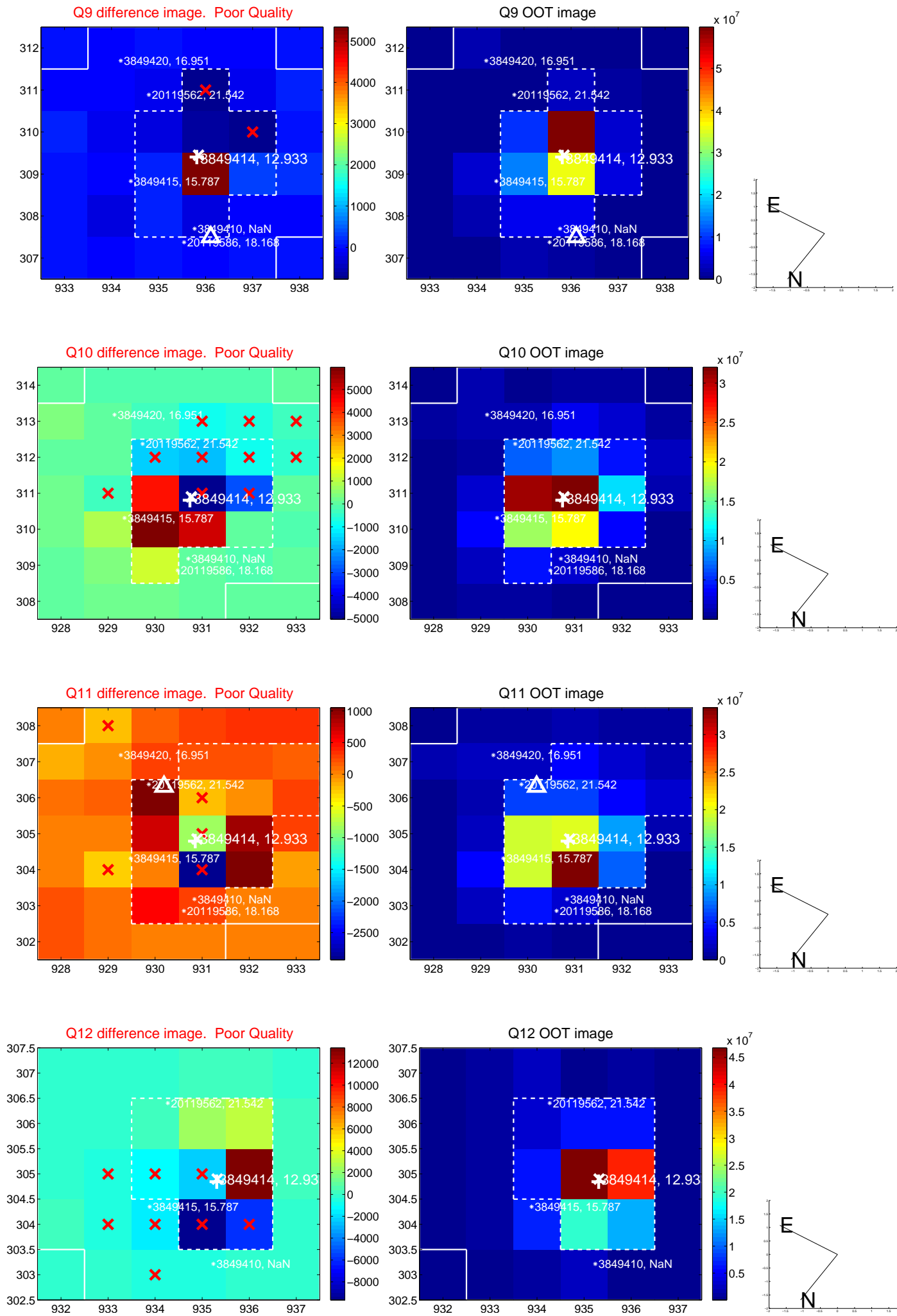
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



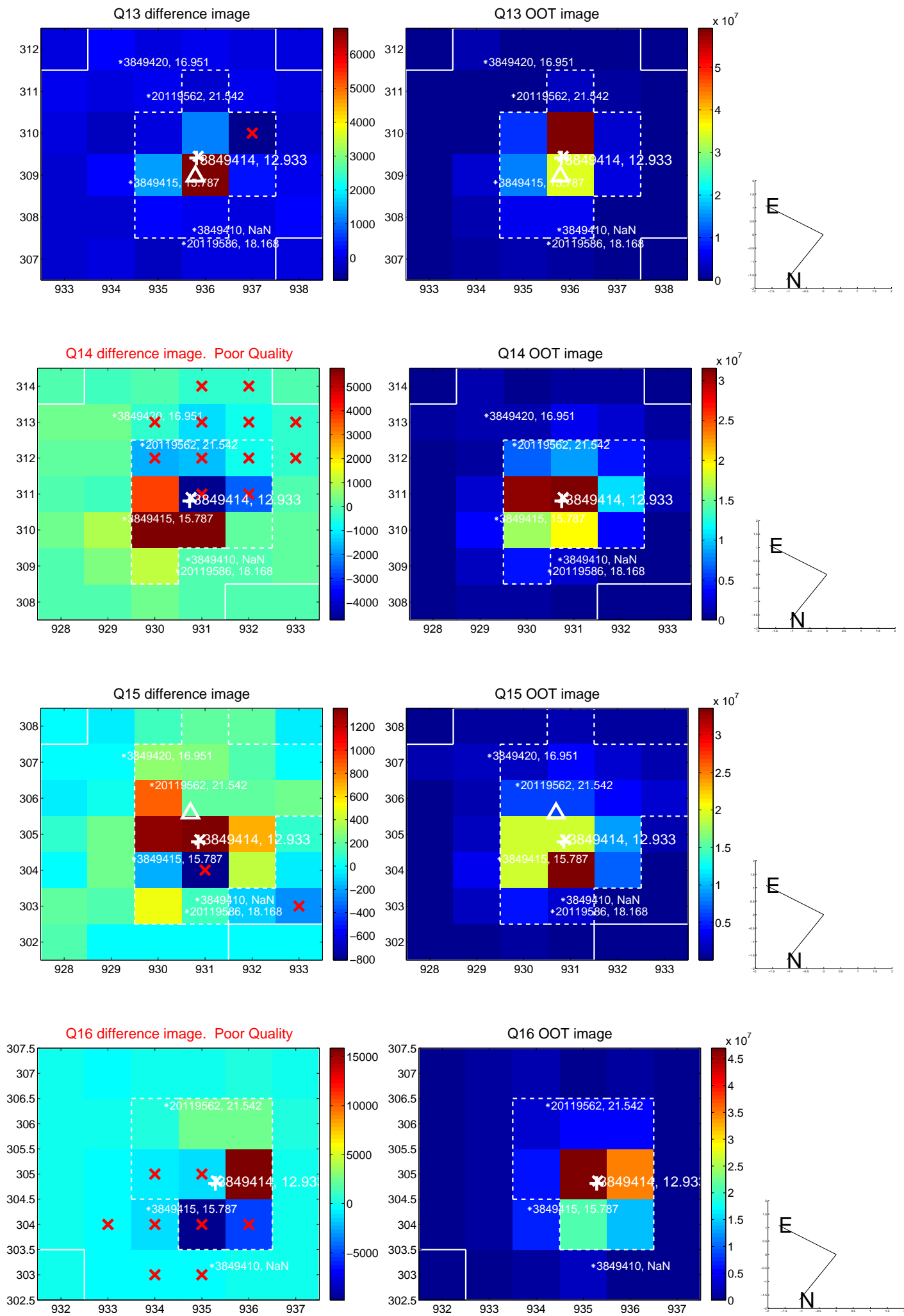
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



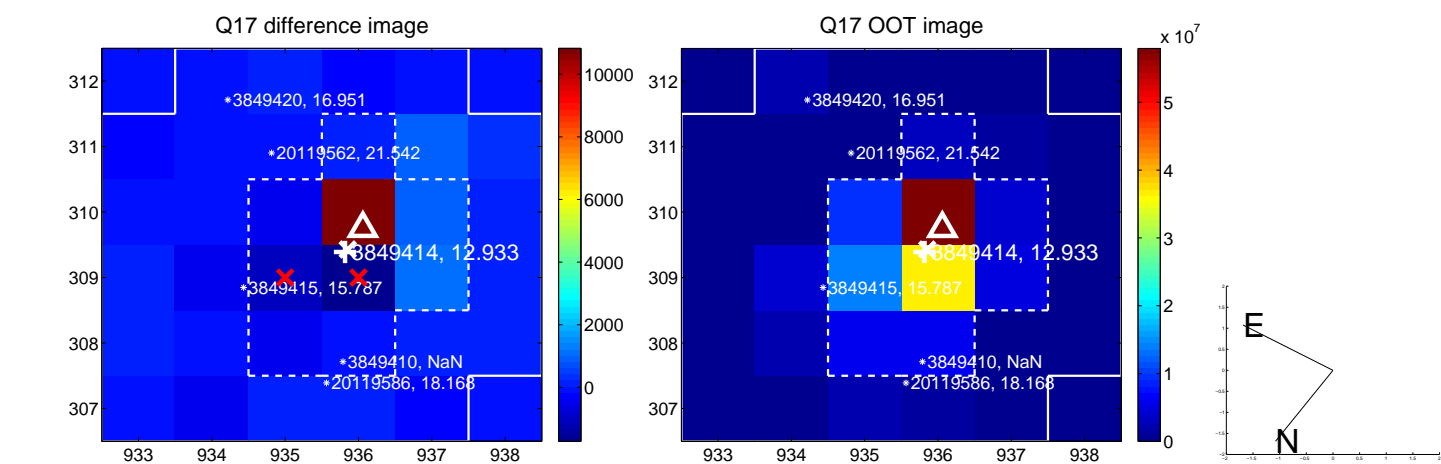
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



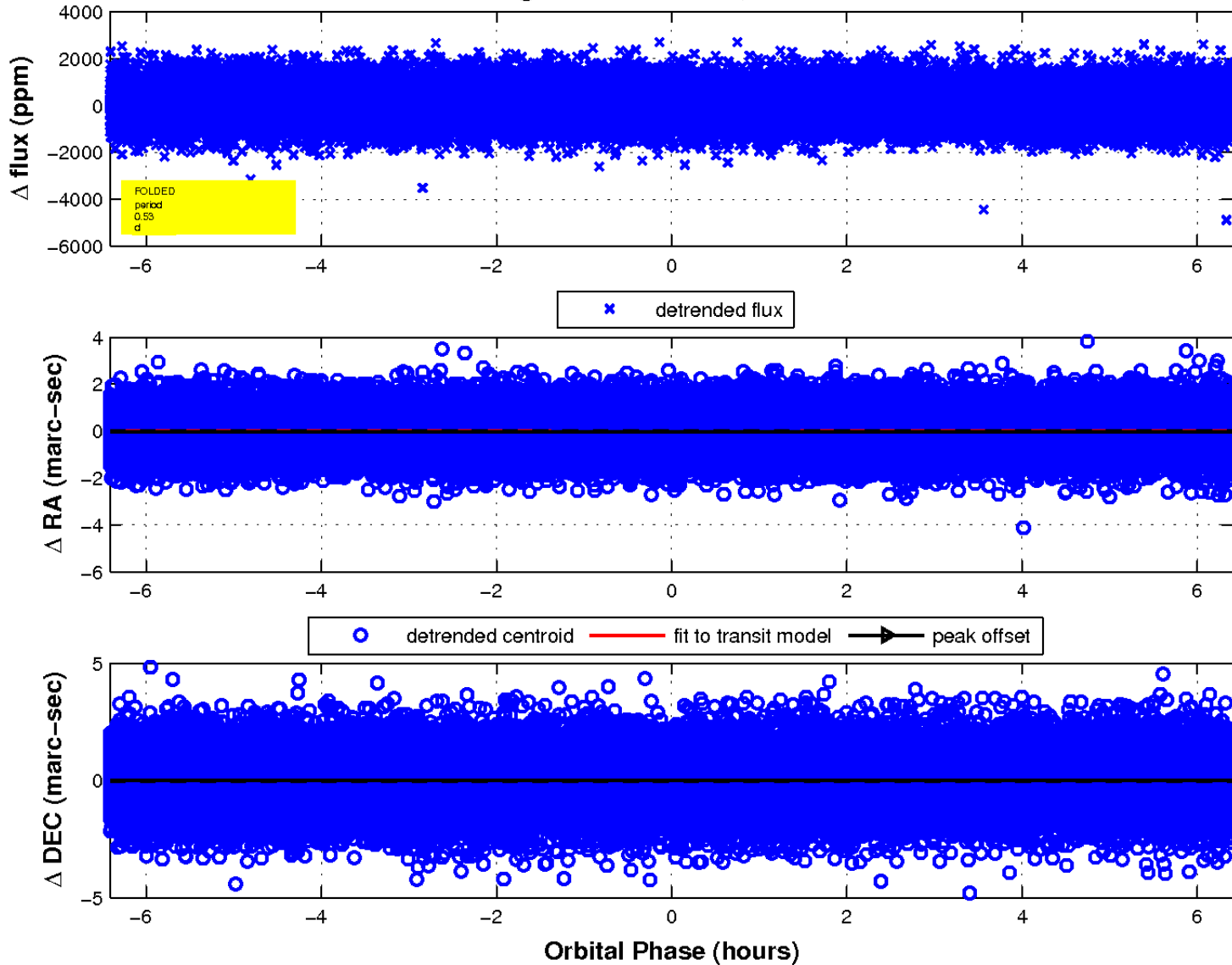
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

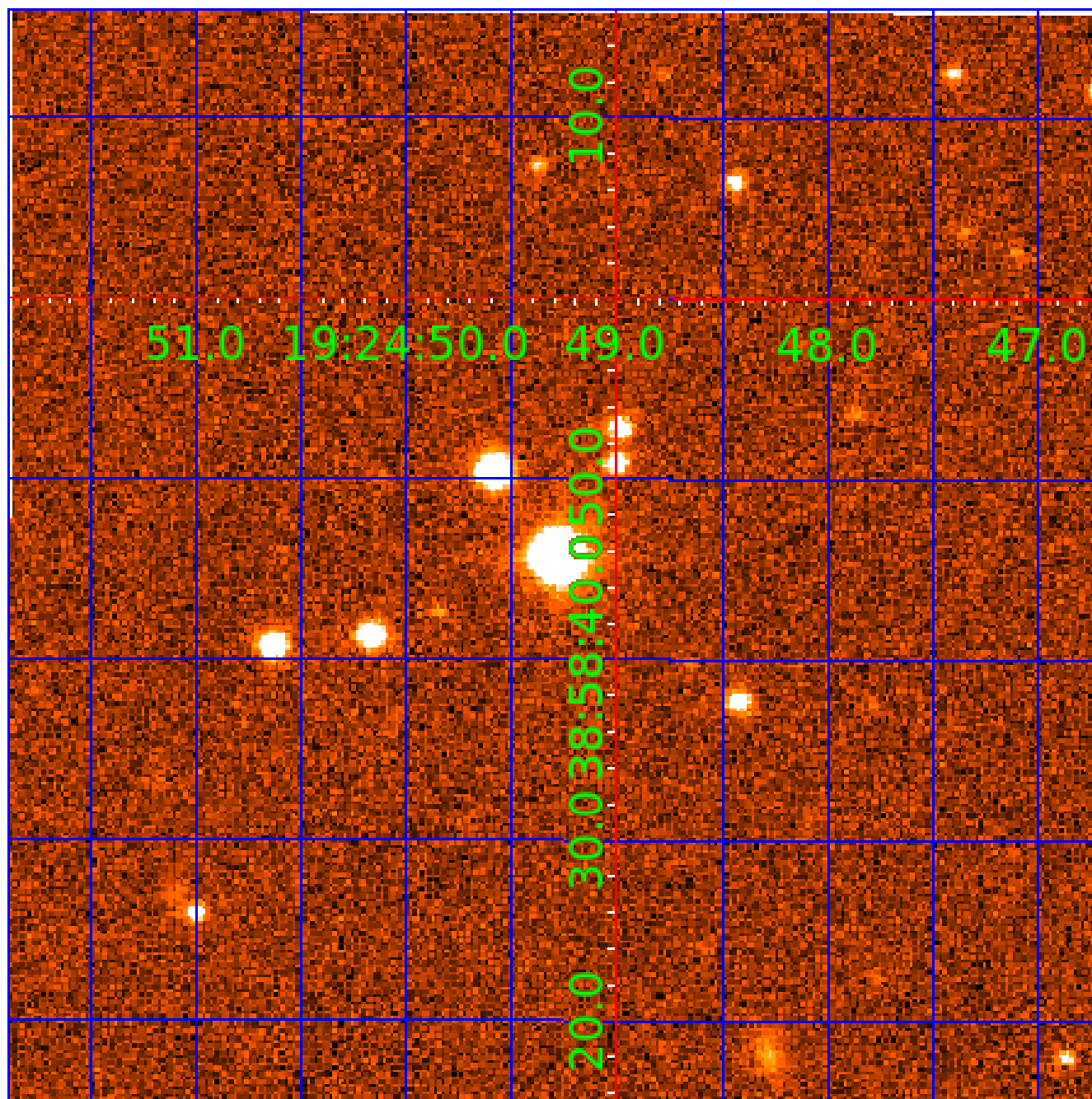


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 003849414

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})
003849414-01	OBS	No	0.534262	131.985267	48.5	2.041	12.9	10.8	1.57	7196	1.27	26457.87
003849414-02	OBS	No	0.534246	131.623694	46.9	3.504	10.9	6.6	1.57	7196	1.09	26458.90
003849414-03	OBS	No	1.398891	132.182144	294.0	1.524	7.9	7.2	1.57	7196	3.21	7331.32
003849414-04	OBS	No	2.367152	133.383050	311.5	4.010	8.2	6.1	1.57	7196	2.81	3635.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849414-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849414-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003849414-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED
003849414-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

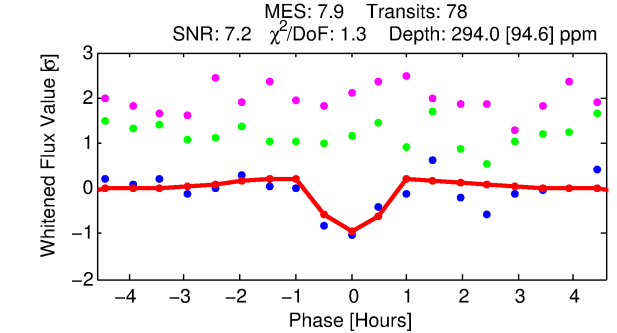
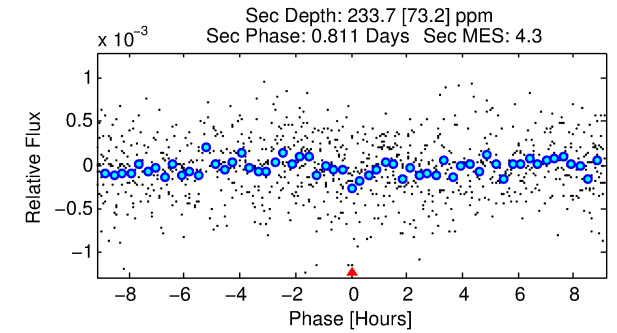
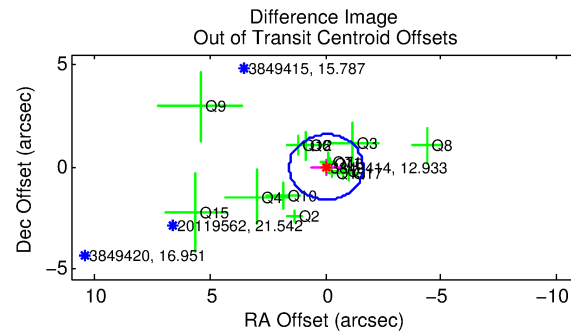
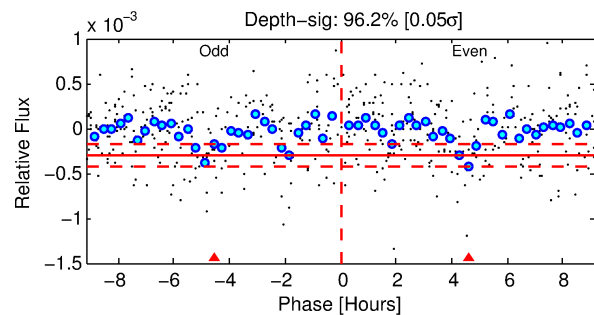
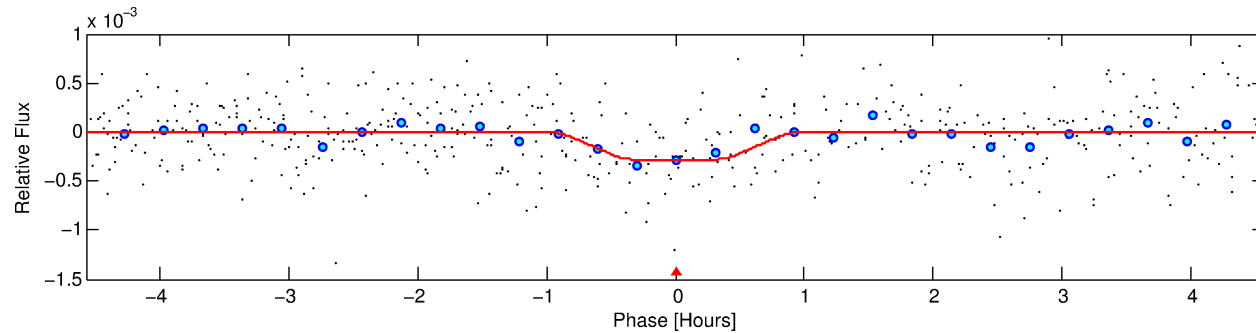
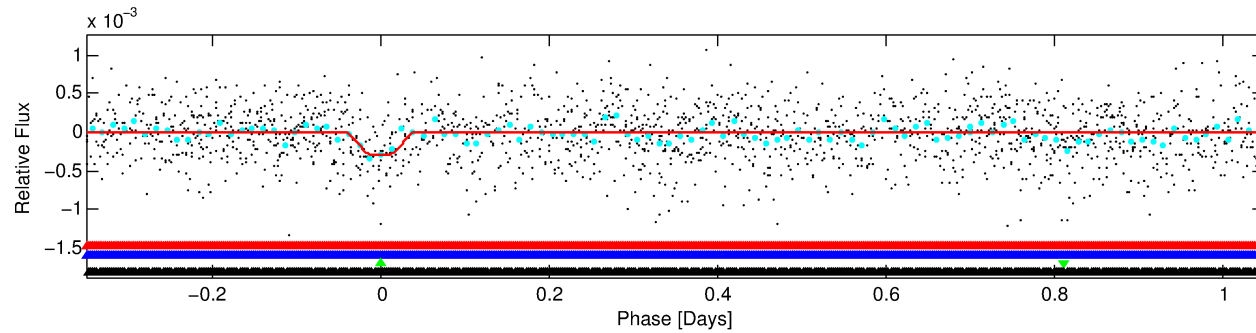
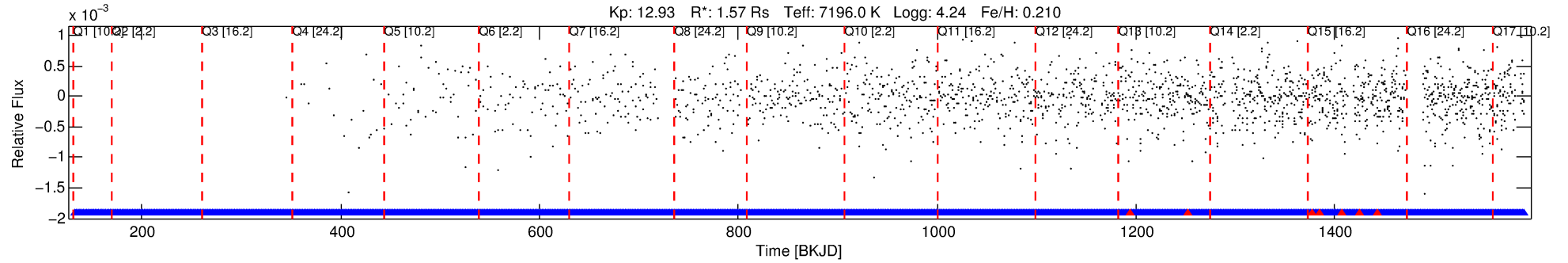
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849414-03

No Significant Match Found

DV One-Page Summary

KIC: 3849414 Candidate: 3 of 4 Period: 1.399 d



DV Fit Results:

Period = 1.39889 [0.00002] d
Epoch = 132.1821 [0.0033] BKJD
Rp/R* = 0.0187 [0.0095]
a/R* = 3.10 [7.91]
b = 0.93 [0.43]
Seff = 7331.32 [3444.06]
Teff = 2360 [277] K
Rp = 3.21 [2.05] Re
a = 0.0285 [0.0089] AU
Ag = 10.07 [11.56] [0.79 σ]
Teffp = 6499 [1743] K [2.35 σ]

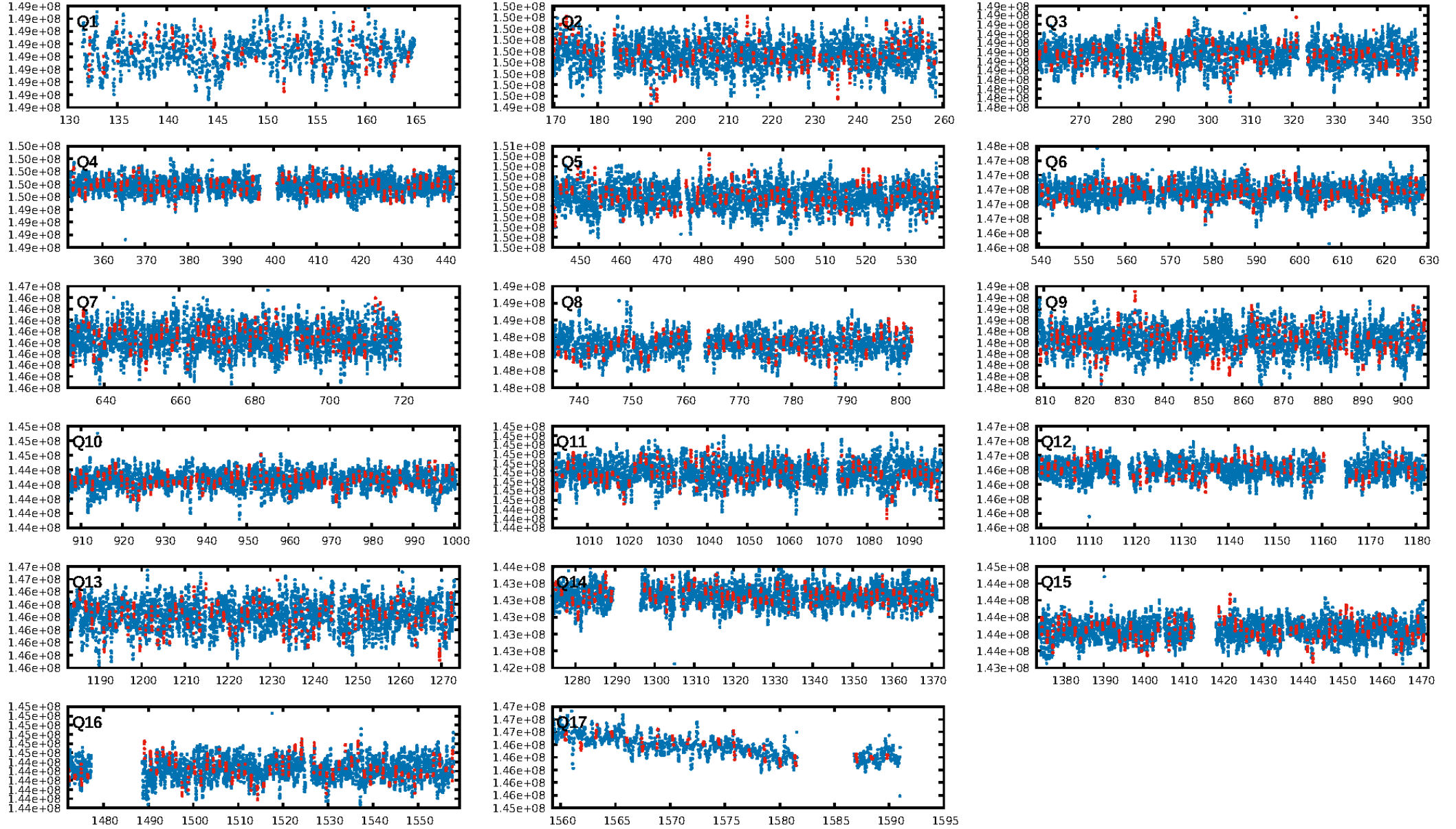
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.15 σ]
LongPeriod-sig: 100.0% [5.42 σ]
ModelChiSquare2-sig: 67.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.37e-13
RollingBand-fgt: 0.91 [67/74]
GhostDiagnostic-chr: 0.9869
Centroid-sig: 3.8%
Centroid-so: 0.400 arcsec [3.00 σ]
OotOffset-rm: 0.039 arcsec [0.07 σ]
KicOffset-rm: 0.209 arcsec [0.51 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.33 [5/15]
DiffImageOverlap-fno: 0.00 [0/17]

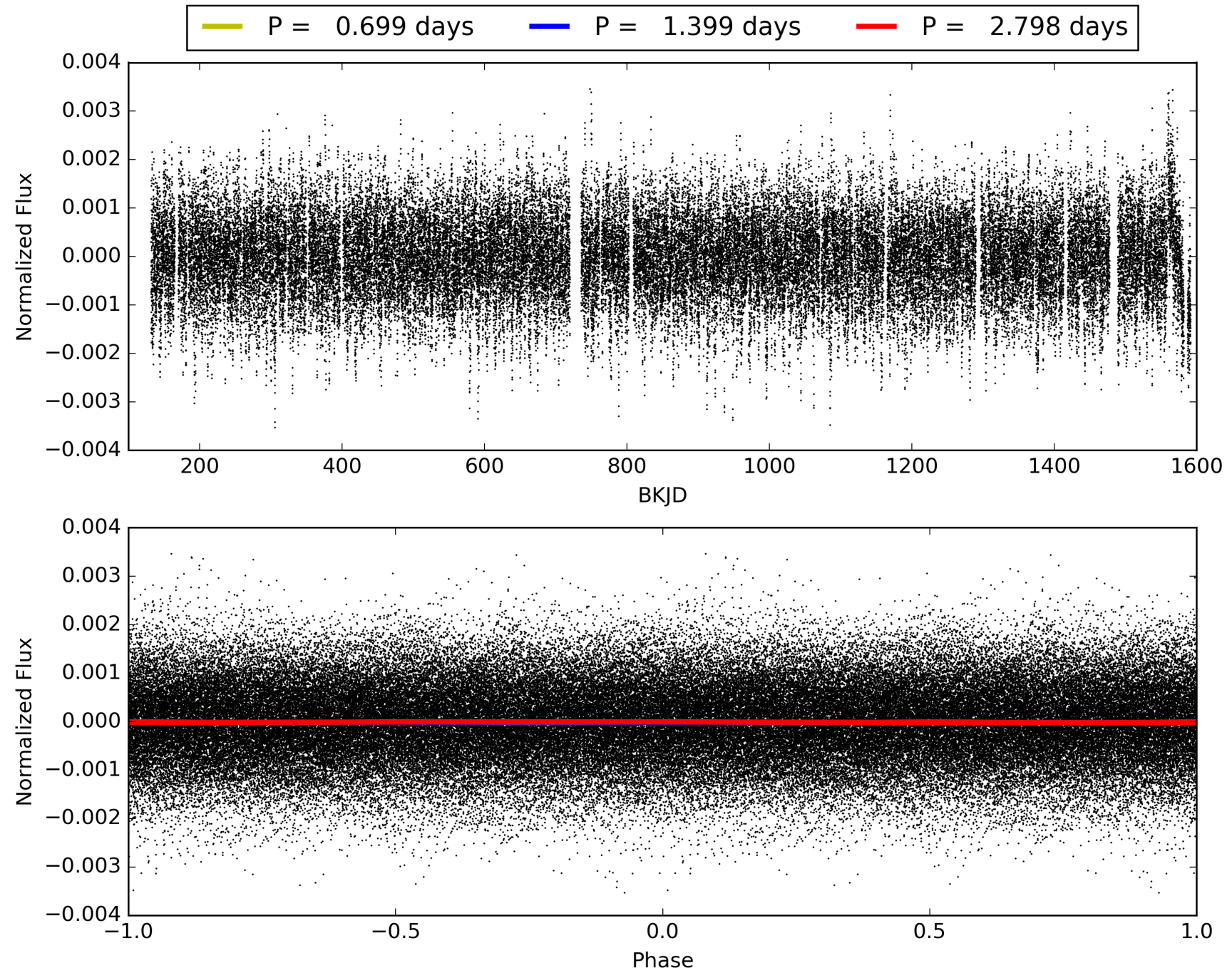
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:17:32 Z

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

TCE 003849414-03, PDC Light Curves

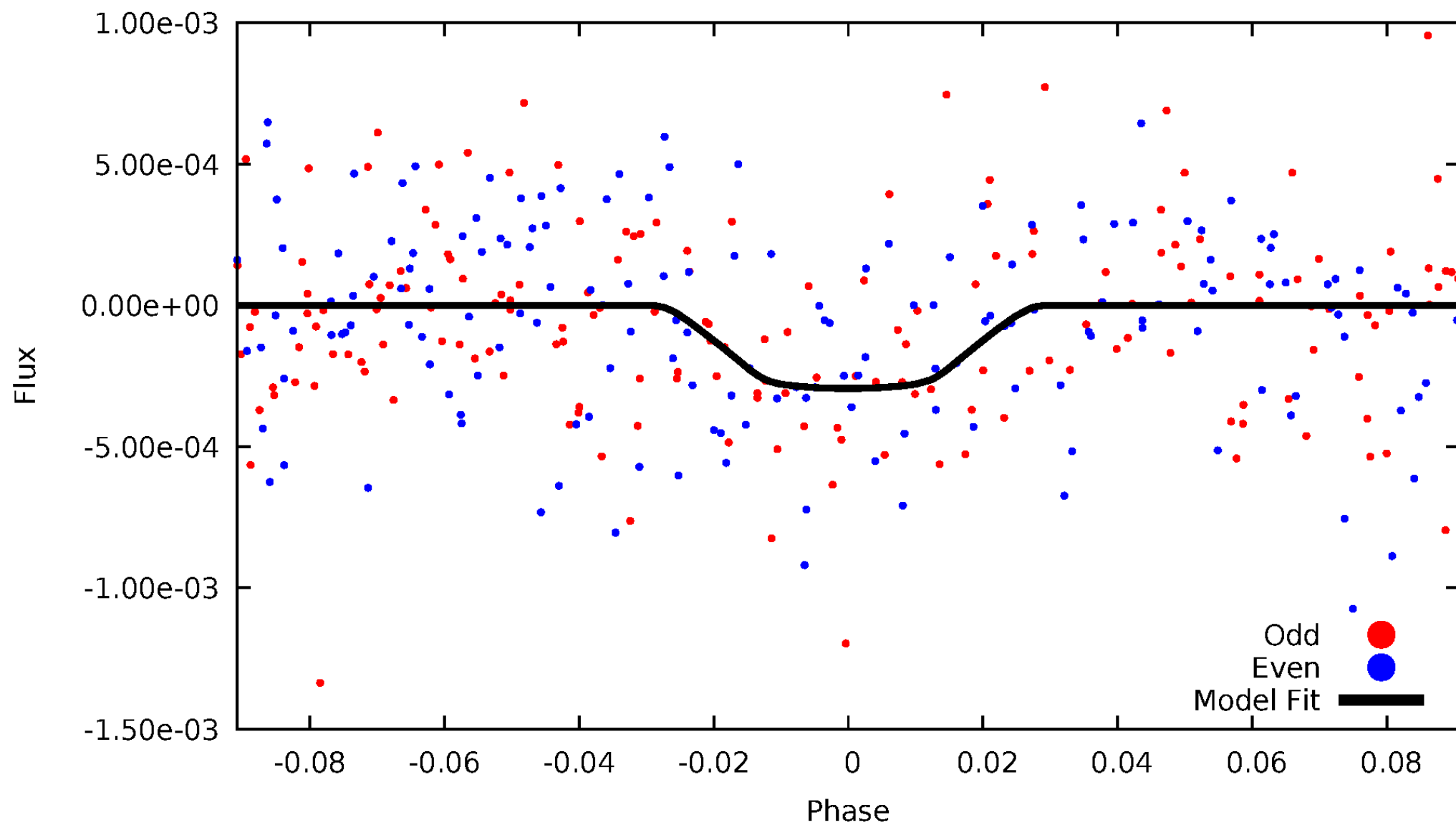


TCE 003849414-03



DV Odd/Even

TCE 003849414-03

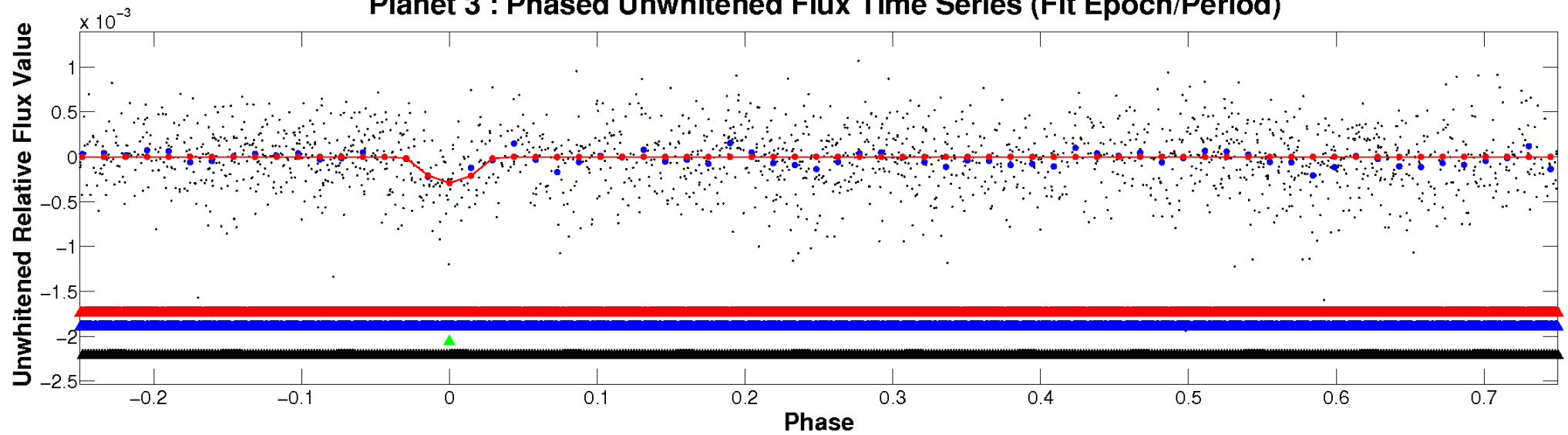


ALT Odd/Even

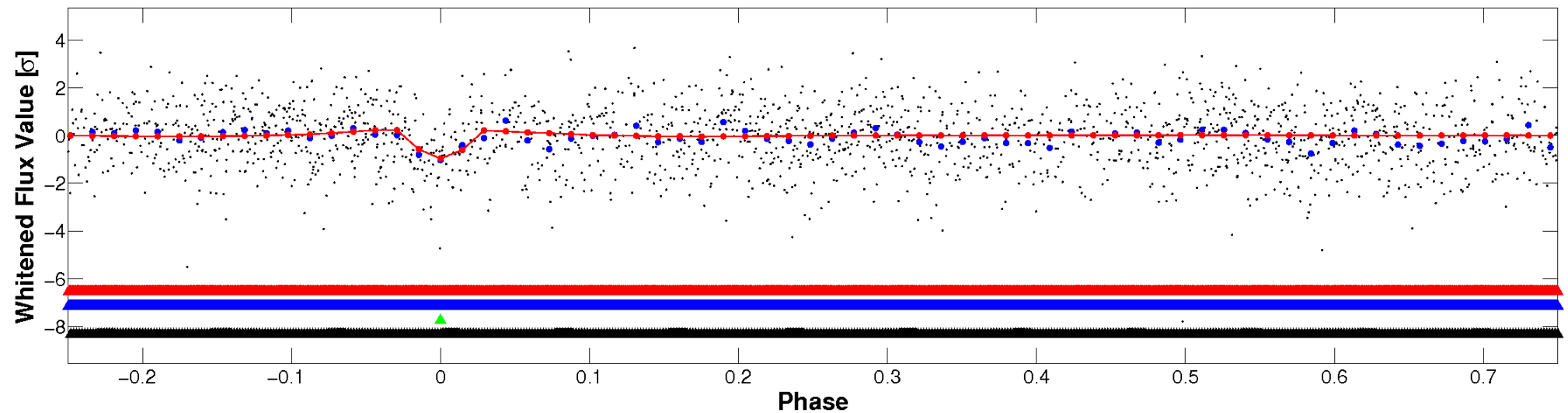
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

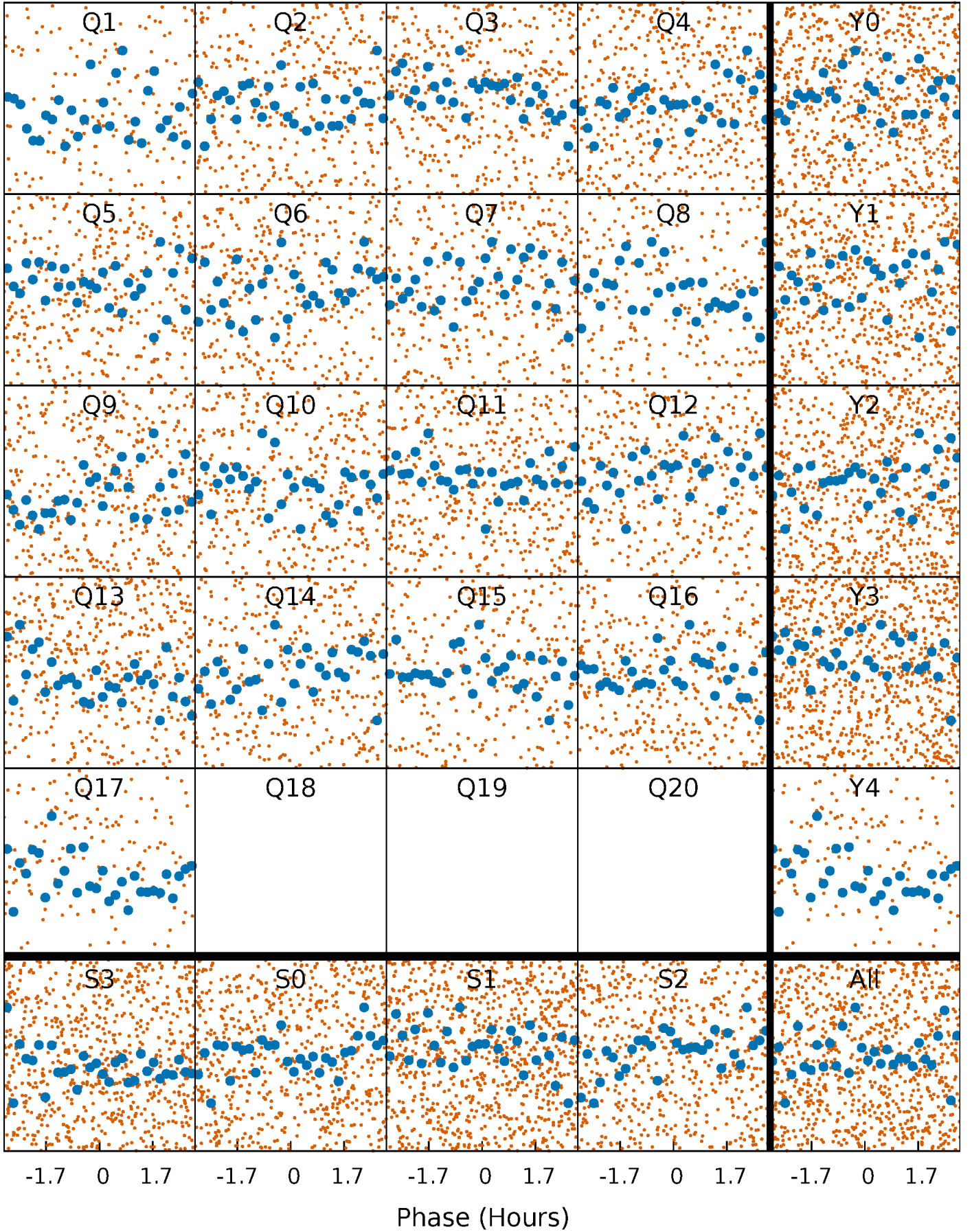


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



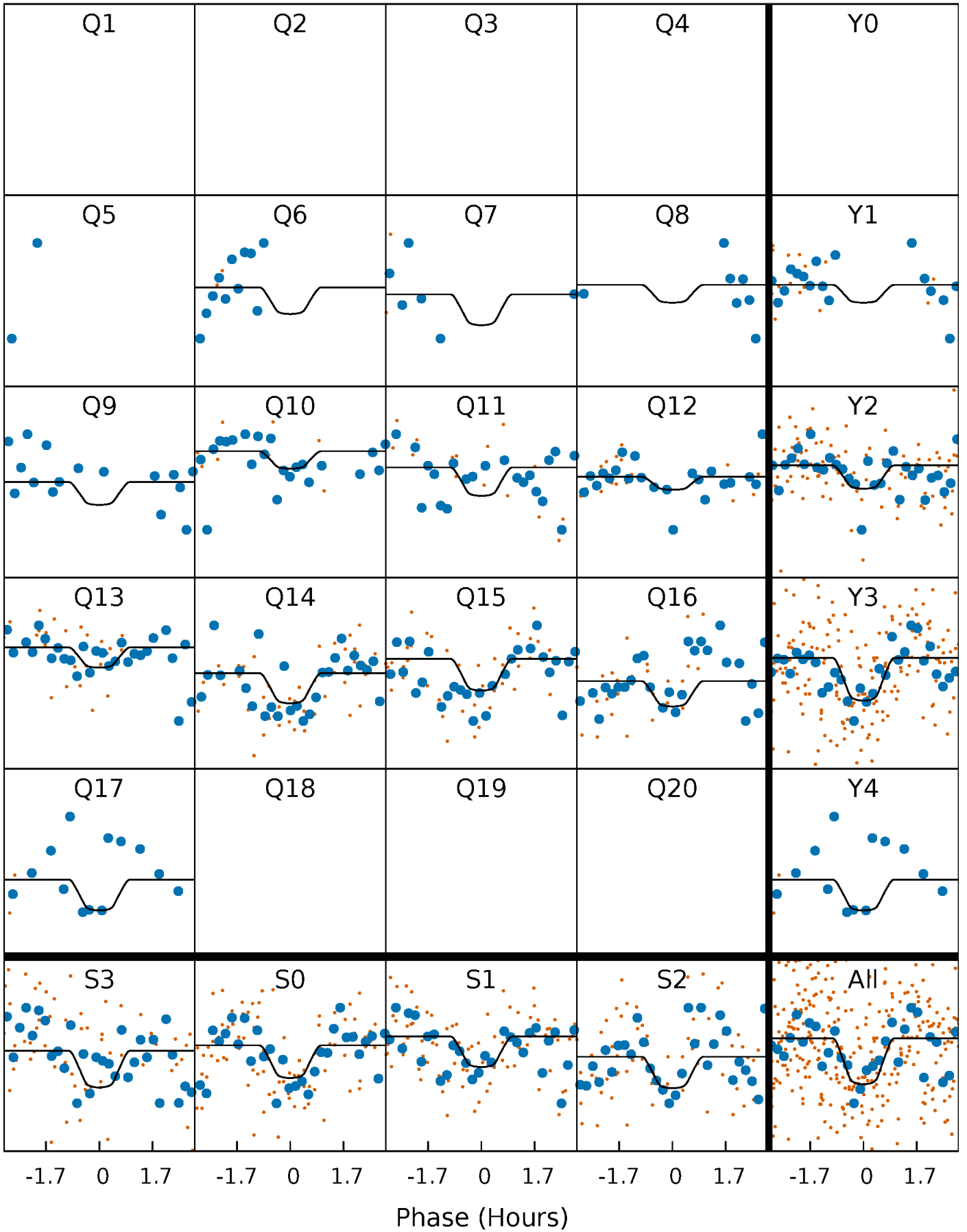
PDC Quarter-Phased Transit Curves

TCE 003849414-03 P= 1.398891 Days $T_0=132.182144$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003849414-03 P= 1.398891 Days $T_0=132.182144$ (BKJD)

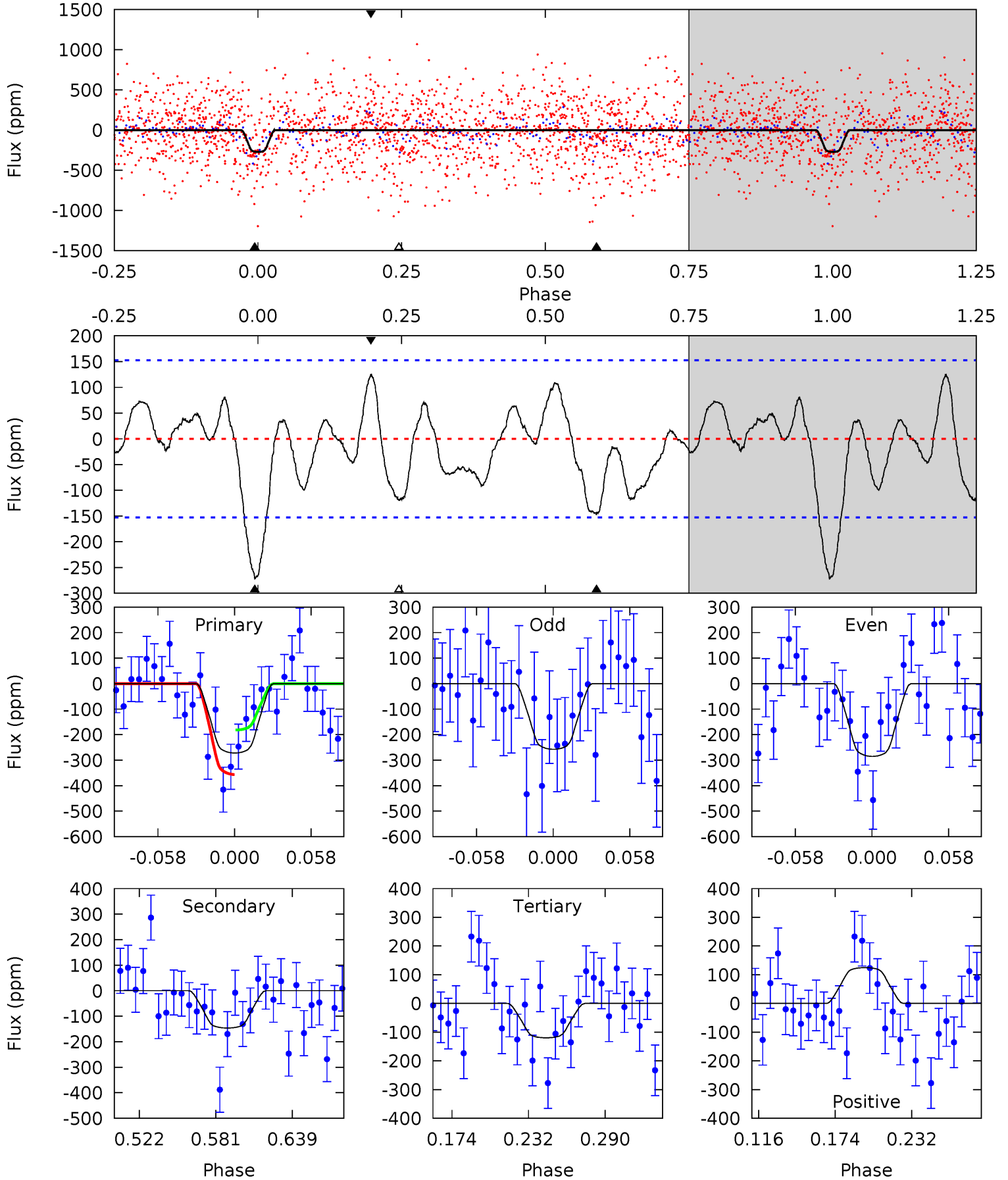


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003849414-03, P = 1.398891 Days, E = 132.182144 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.33	4.48	3.67	3.83	4.68	1.90	1.76	4.67	4.51	0.82	0.65	0.44	0.81	0.31	2.72



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003849414

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7196^{+200}_{-300}	$4.241^{+0.058}_{-0.232}$	$0.210^{+0.150}_{-0.350}$	$1.572^{+0.606}_{-0.202}$	$1.575^{+0.211}_{-0.190}$	$0.571^{+0.184}_{-0.323}$
	+3%/-4%	+1%/-5%	+71%/-167%	+39%/-13%	+13%/-12%	+32%/-56%
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 003849414-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-146 ± 33	$3.41^{+2.00}_{-1.71}$	3370^{+283}_{-196}	5578^{+2613}_{-1041}	$5.269^{+16.309}_{-3.098}$
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 $A_{obs} \gg 1.0$

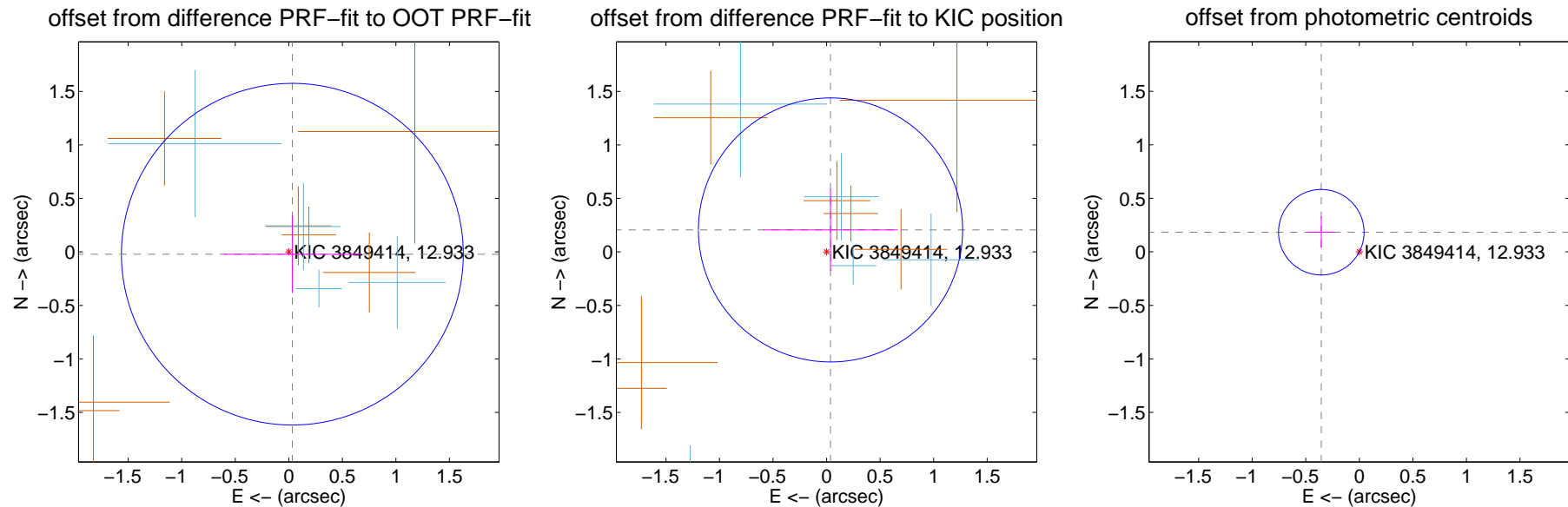
DV Centroid Data

Supplemental centroid analysis for 003849414-03. Kepler magnitude: 12.93. Transit SNR 7.16

There are 5 quarters with good PRF difference image offsets

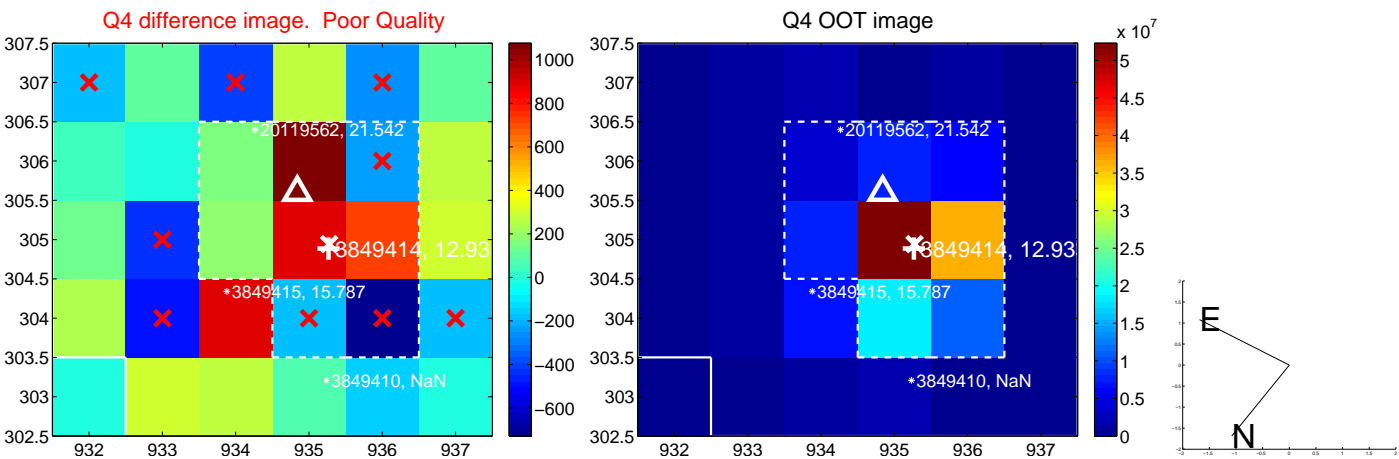
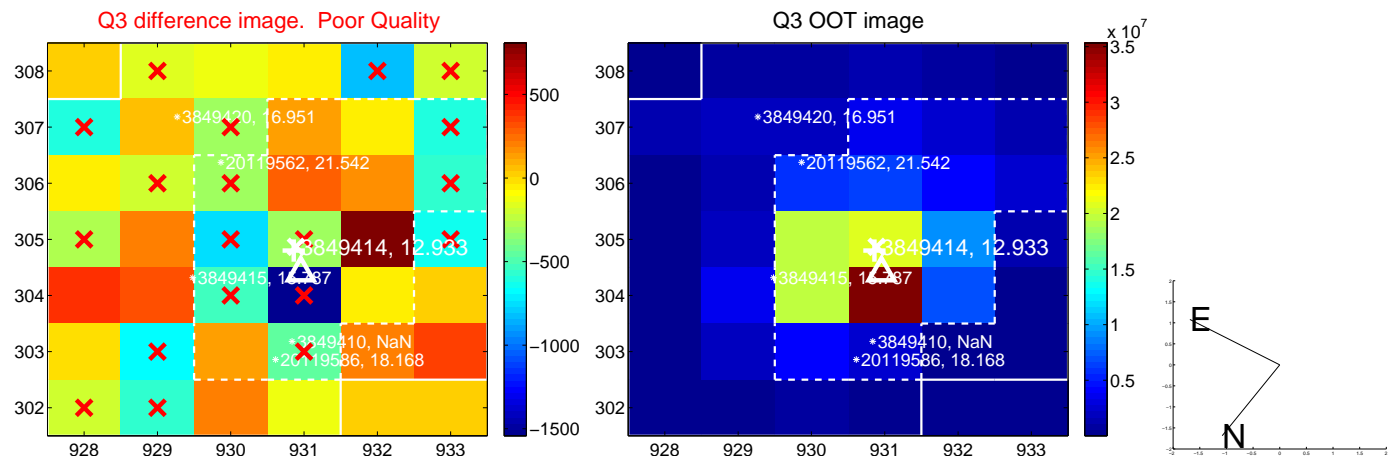
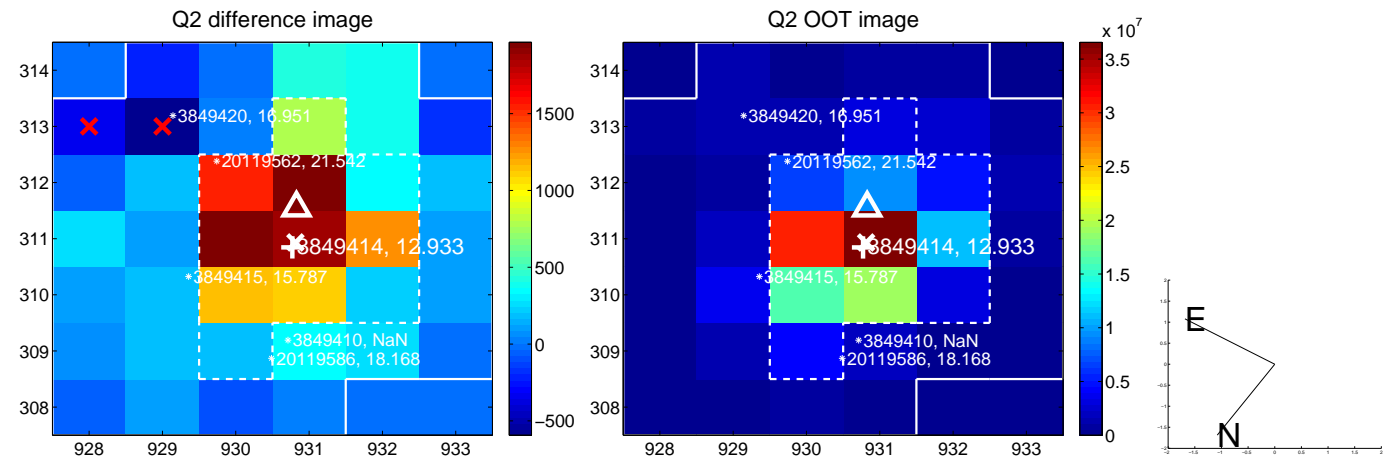
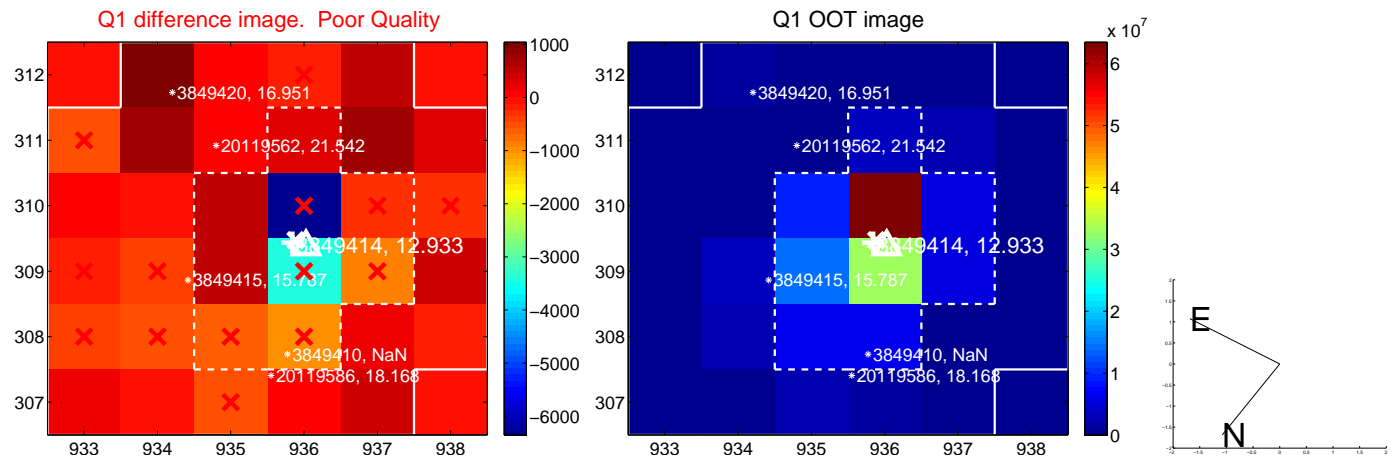
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.039 ± 0.532	0.07	-0.033 ± 0.640	-0.021 ± 0.363
PRF-fit source offset from KIC position	0.209 ± 0.411	0.51	-0.037 ± 0.629	0.205 ± 0.383
photometric centroid source offset	0.40 ± 0.13	3.00	0.35 ± 0.13	0.18 ± 0.15

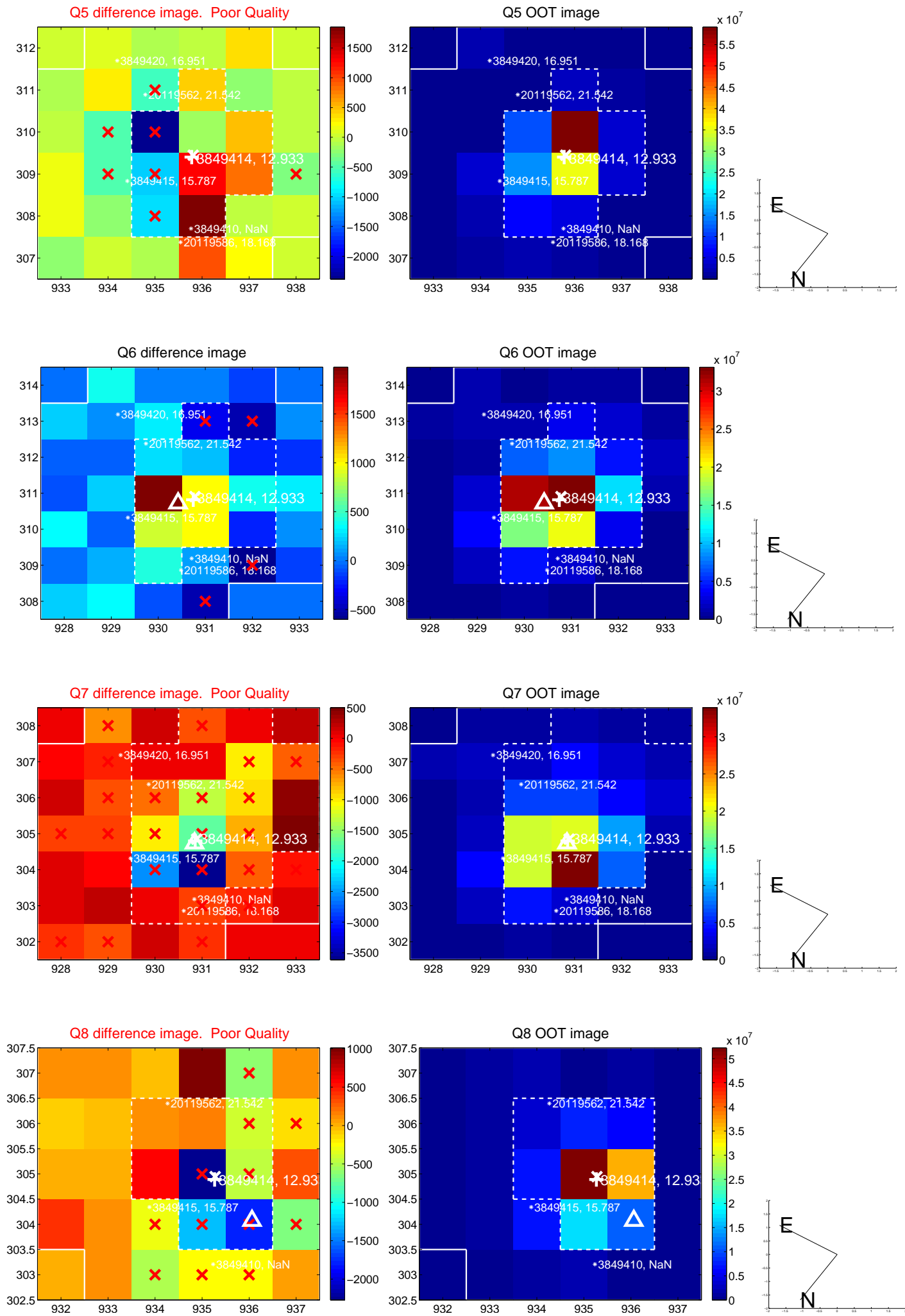


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

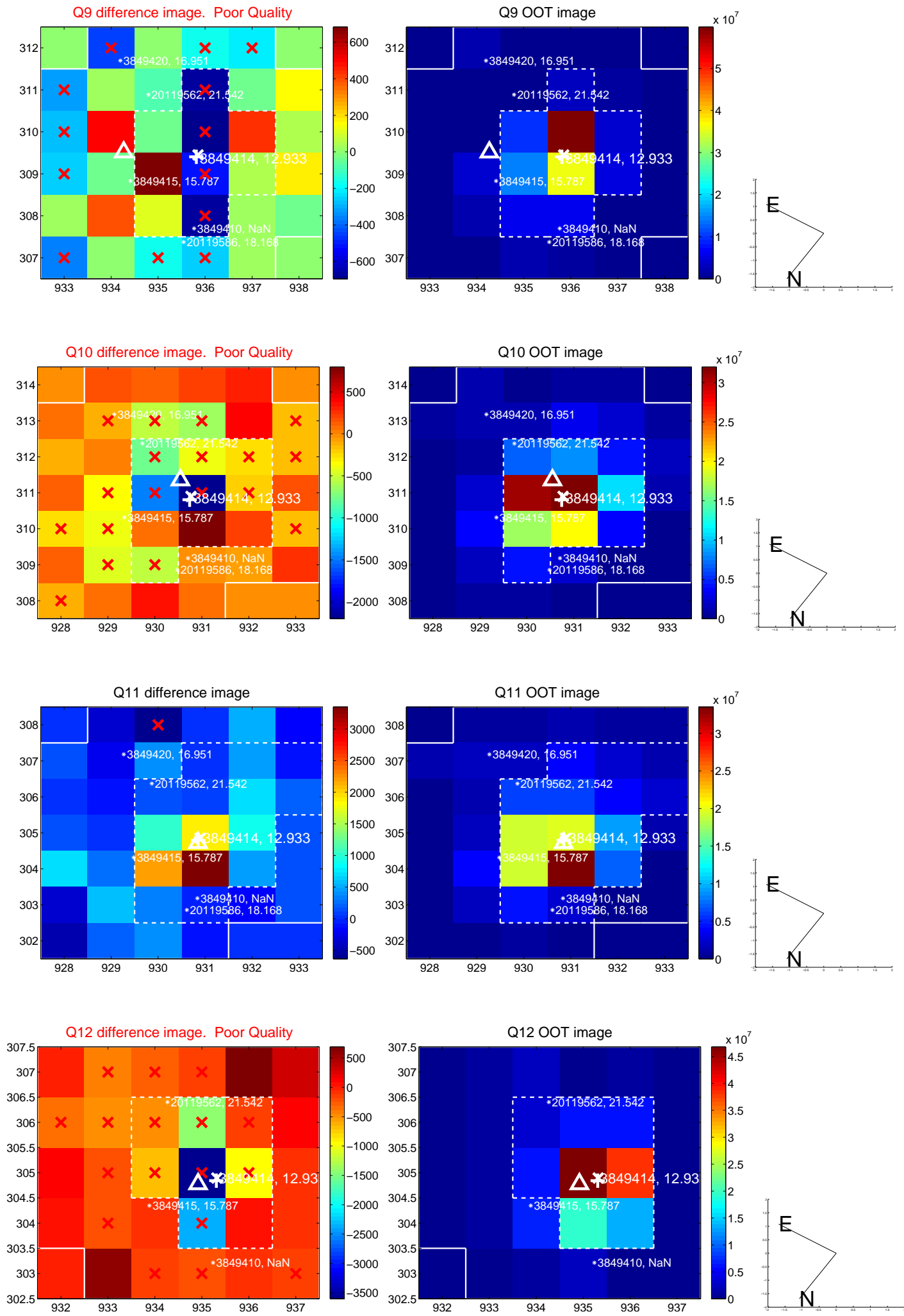
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



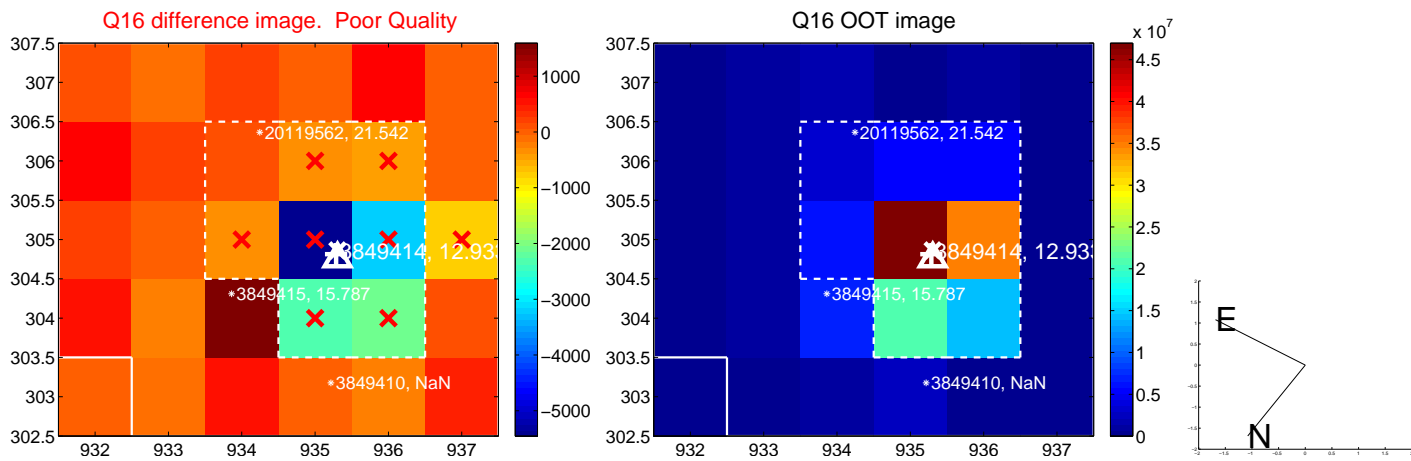
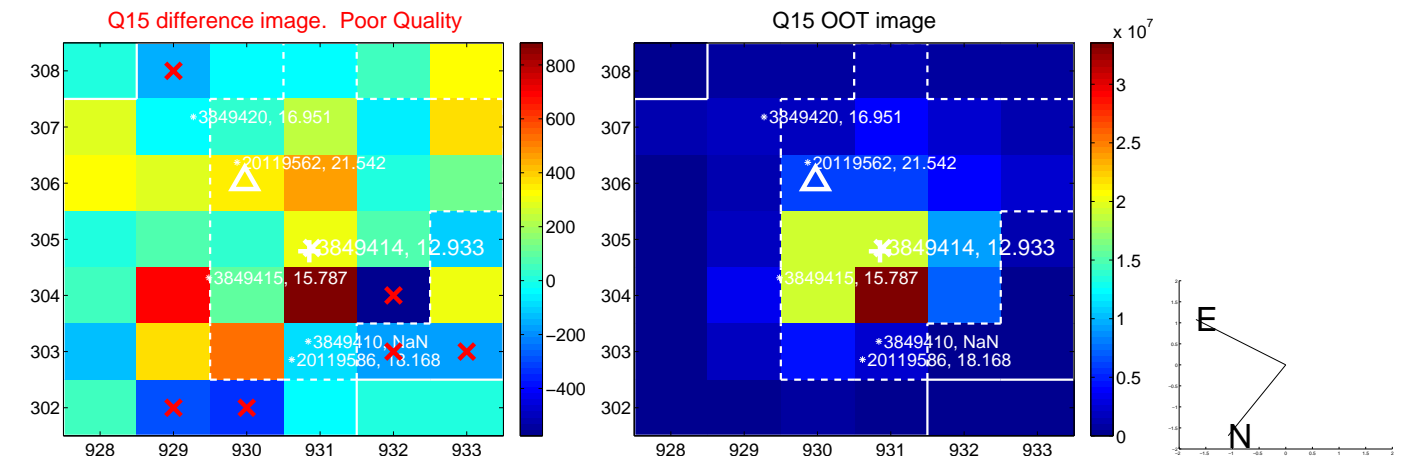
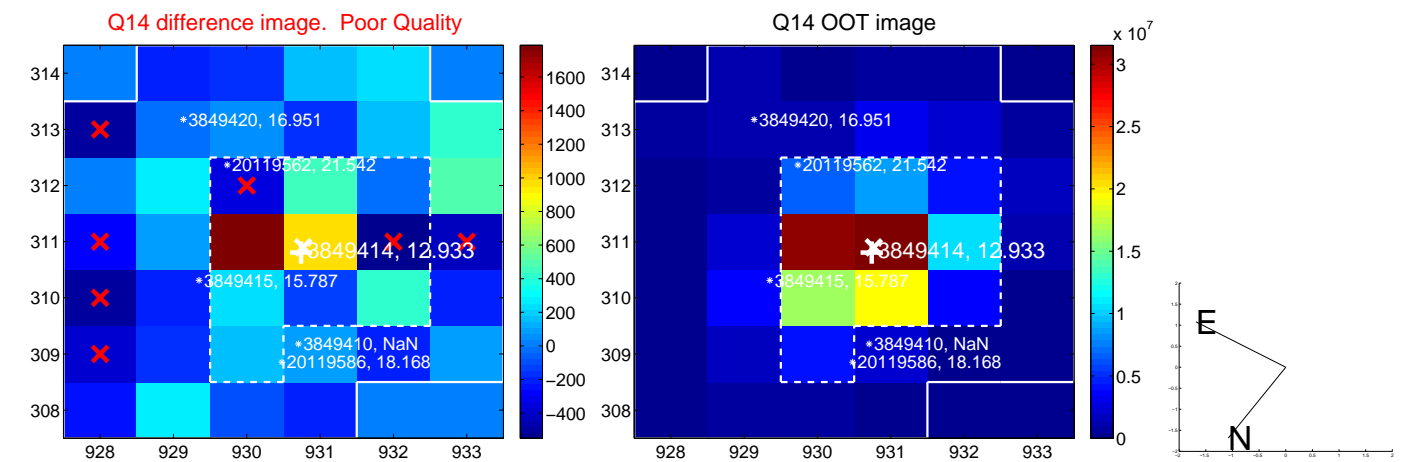
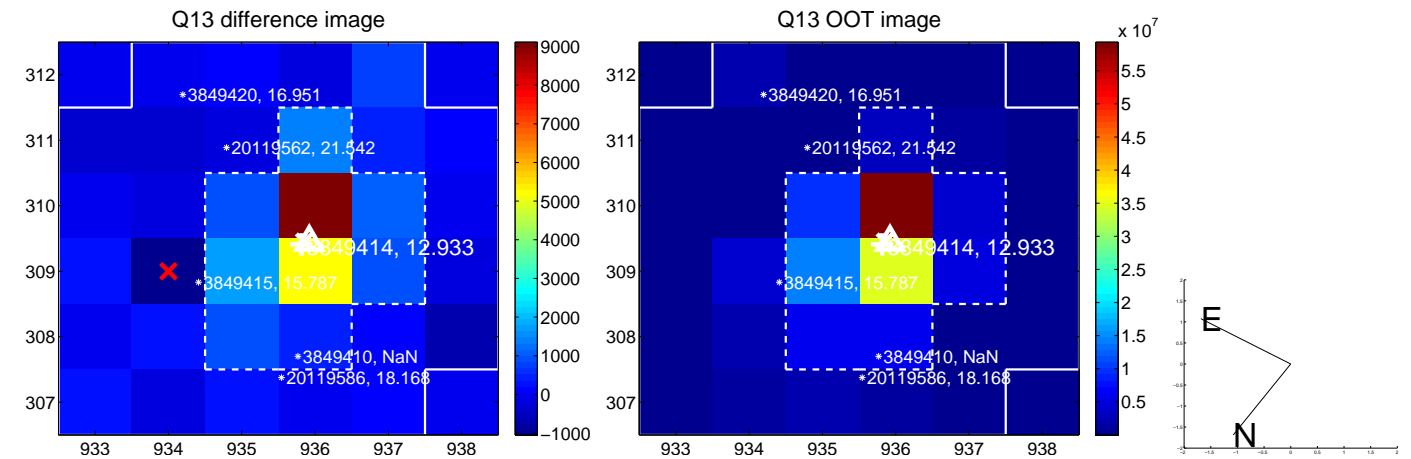
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



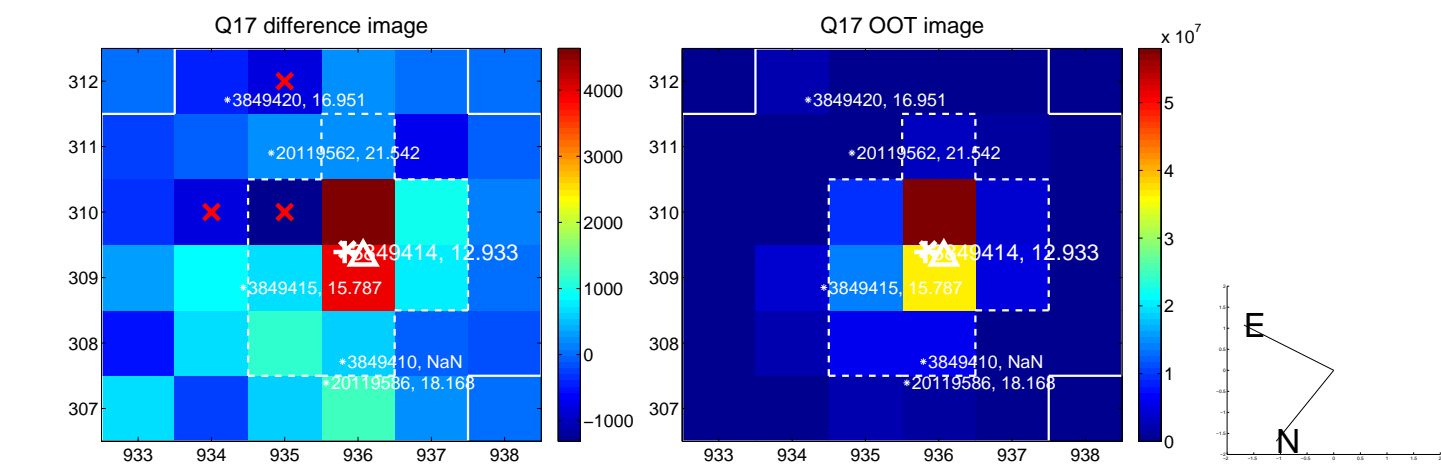
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



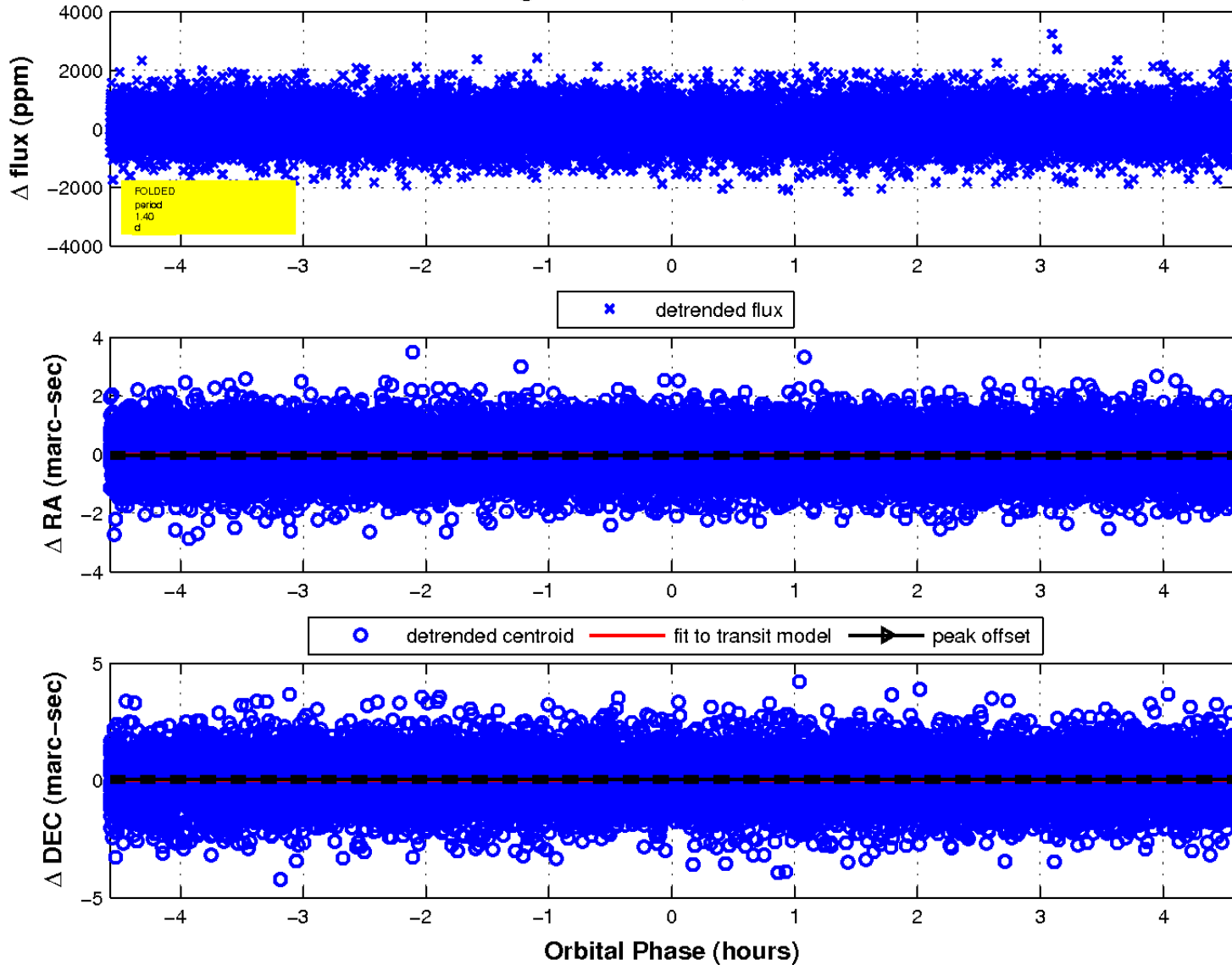
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

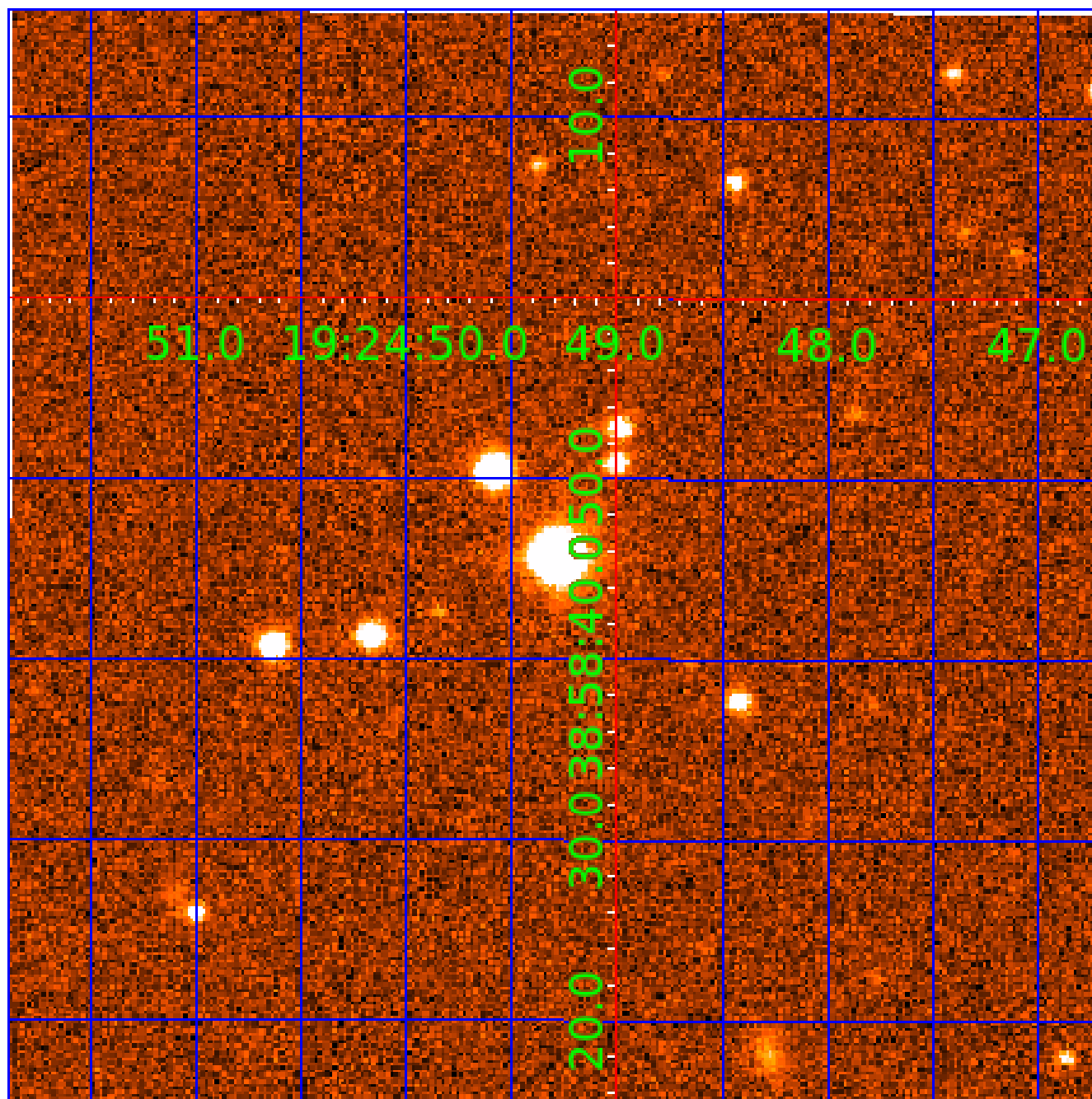


fluxWeightedCentroids, Planet 3 of 4



UKIRT Image

Declination



KIC 003849414

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})
003849414-01	OBS	No	0.534262	131.985267	48.5	2.041	12.9	10.8	1.57	7196	1.27	26457.87
003849414-02	OBS	No	0.534246	131.623694	46.9	3.504	10.9	6.6	1.57	7196	1.09	26458.90
003849414-03	OBS	No	1.398891	132.182144	294.0	1.524	7.9	7.2	1.57	7196	3.21	7331.32
003849414-04	OBS	No	2.367152	133.383050	311.5	4.010	8.2	6.1	1.57	7196	2.81	3635.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849414-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849414-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003849414-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED
003849414-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

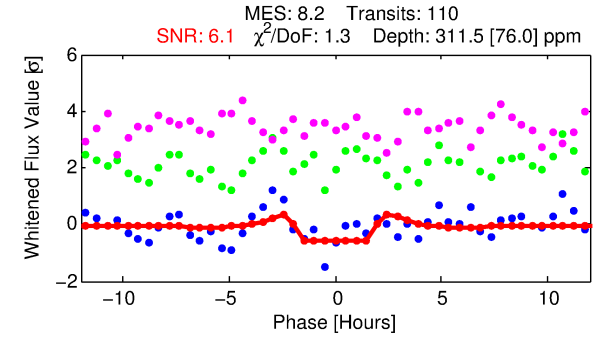
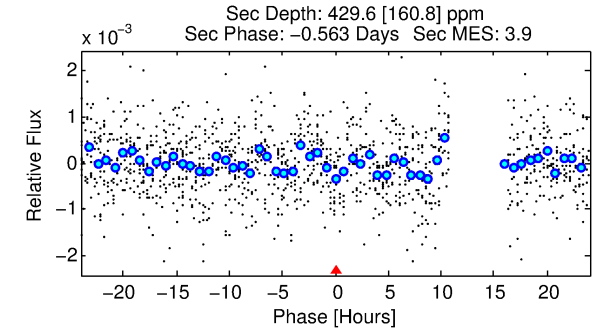
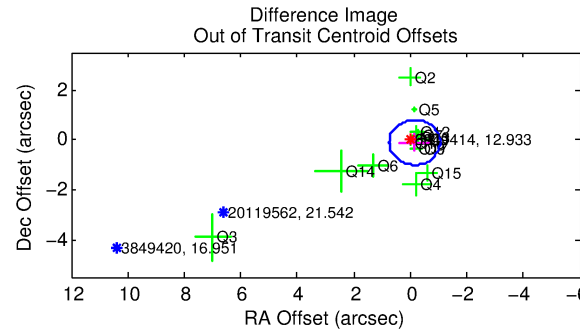
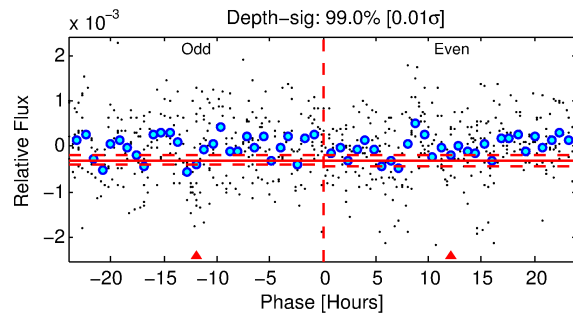
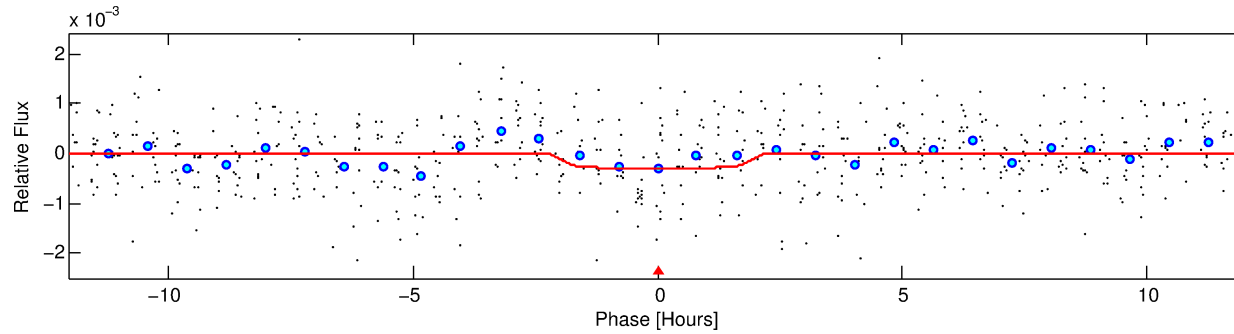
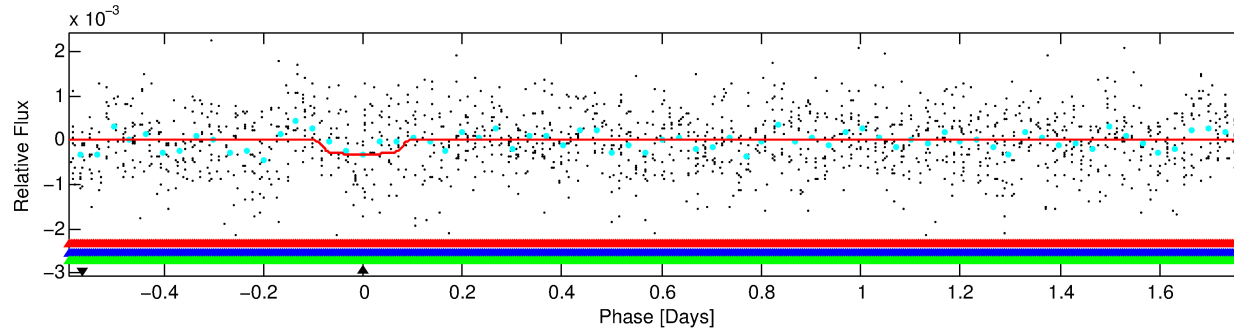
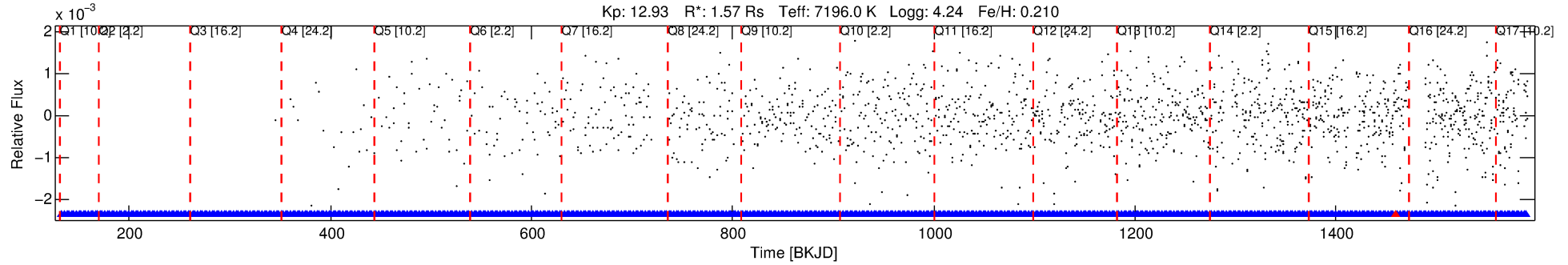
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849414-04

No Significant Match Found

DV One-Page Summary

KIC: 3849414 Candidate: 4 of 4 Period: 2.367 d



DV Fit Results:

Period = 2.36715 [0.00003] d
Epoch = 133.3830 [0.0065] BKJD
Rp/R* = 0.0164 [0.0316]
a/R* = 4.60 [49.01]
b = 0.10 [111.19]
Seff = 3635.74 [1707.97]
Teq = 1980 [233] K
Rp = 2.81 [5.52] Re
a = 0.0404 [0.0126] AU
Ag = 48.87 [190.45] [0.25 σ]
Teffp = 8094 [7843] K [0.78 σ]

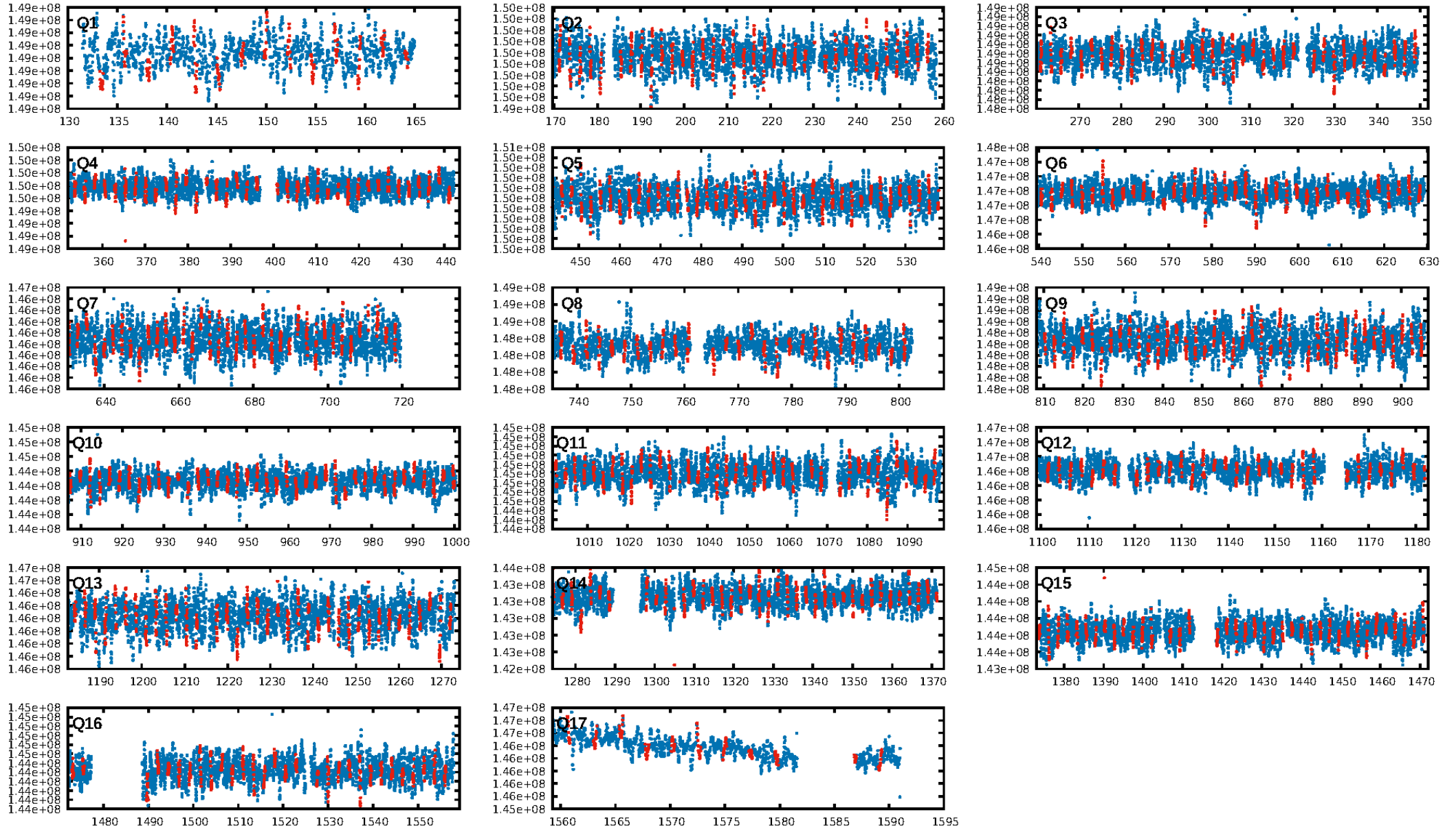
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.42 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.14e-16
RollingBand-fgt: 0.99 [106/107]
GhostDiagnostic-chr: -0.7428
Centroid-sig: 2.5%
Centroid-so: 0.292 arcsec [2.37 σ]
OotOffset-rm: 0.184 arcsec [0.61 σ]
KicOffset-rm: 0.199 arcsec [0.35 σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 0.00 [0/17]

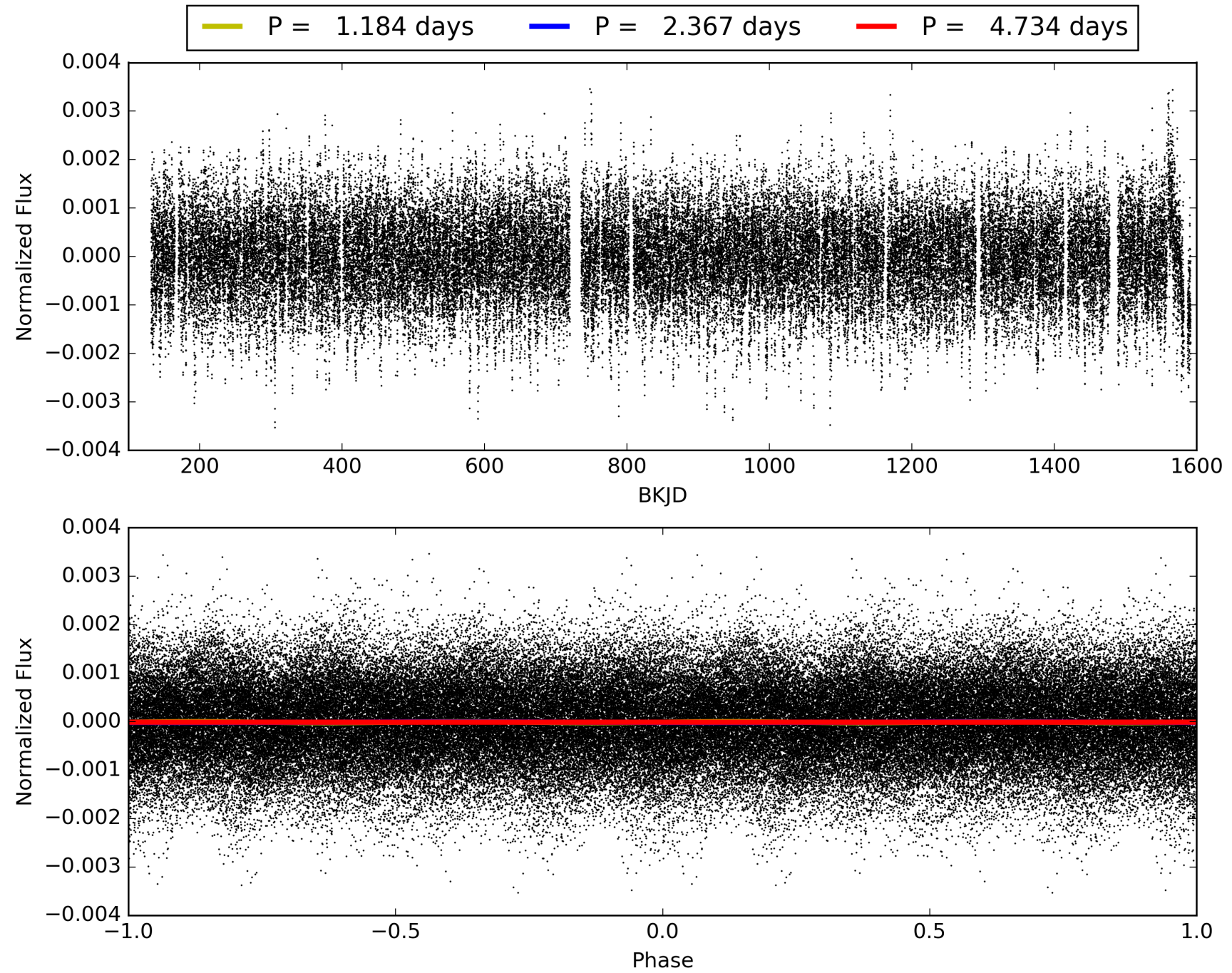
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:17:36 Z

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

TCE 003849414-04, PDC Light Curves

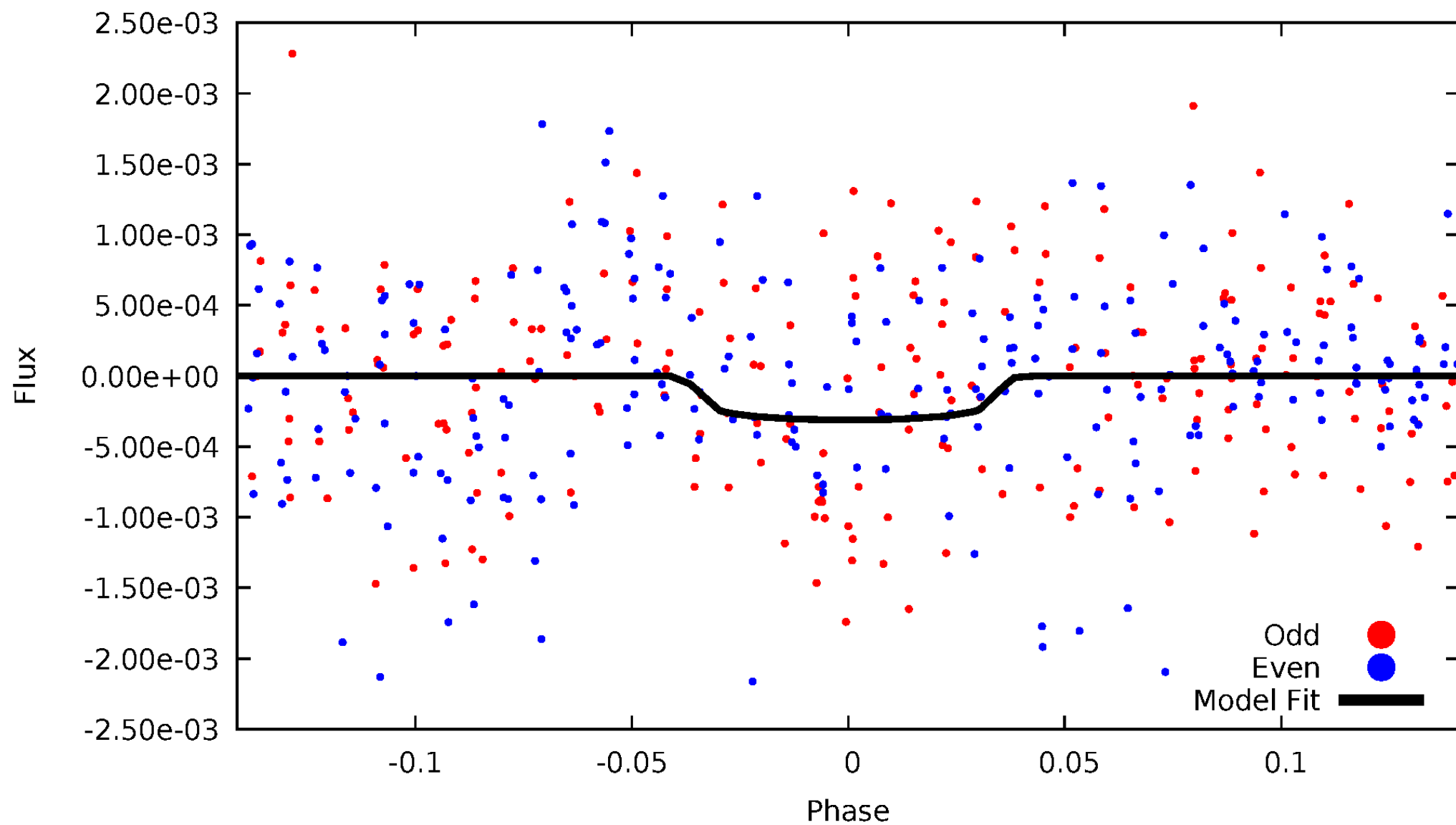


TCE 003849414-04



DV Odd/Even

TCE 003849414-04

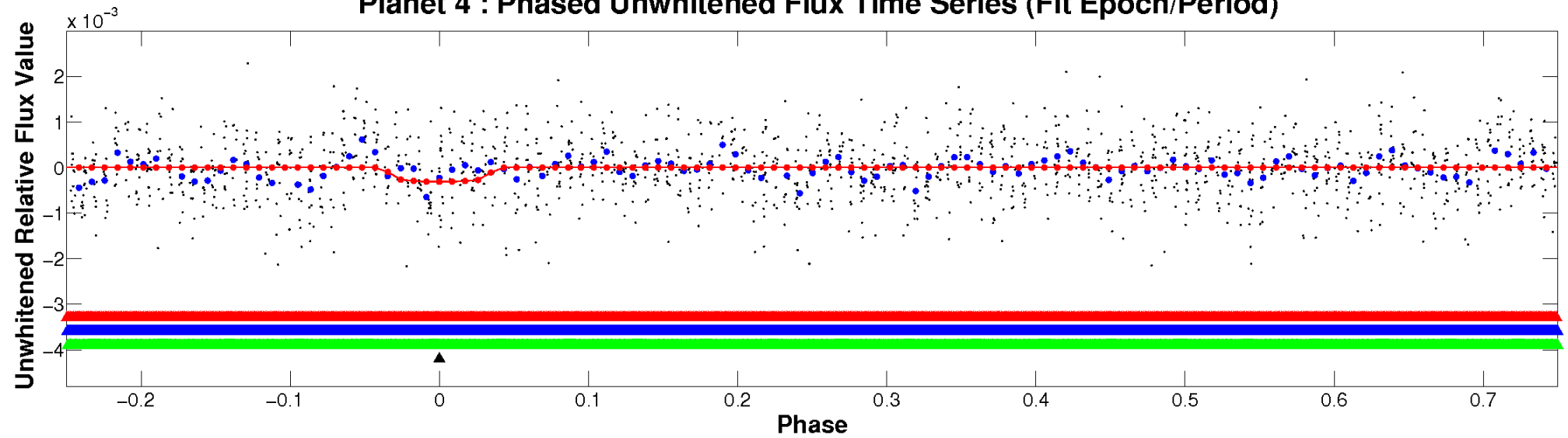


ALT Odd/Even

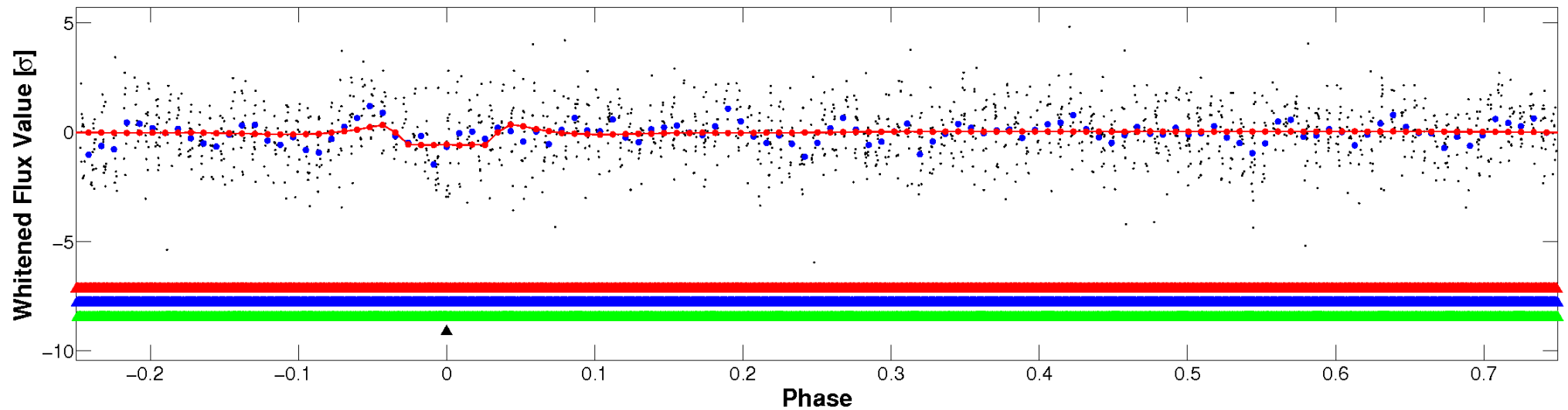
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

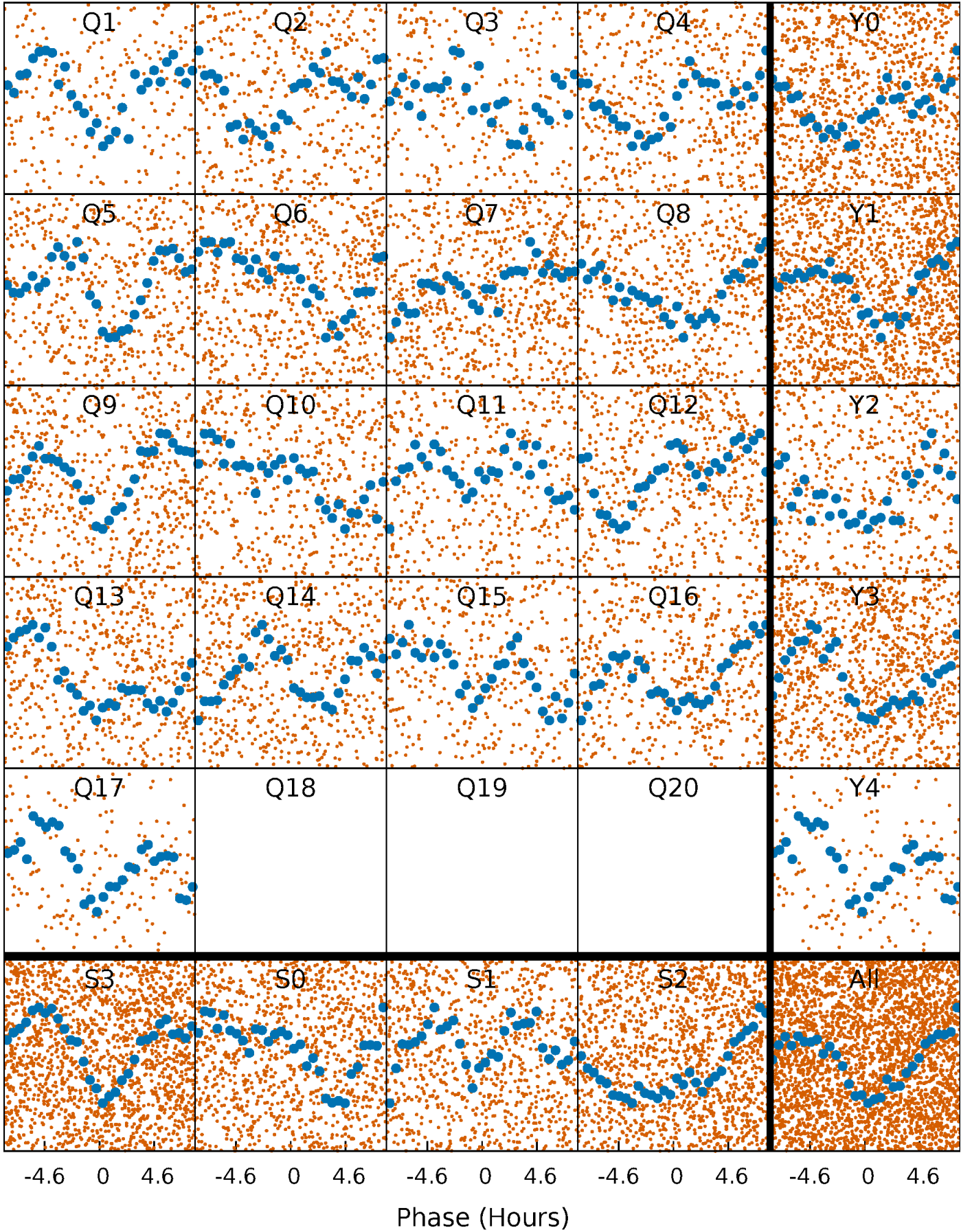


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



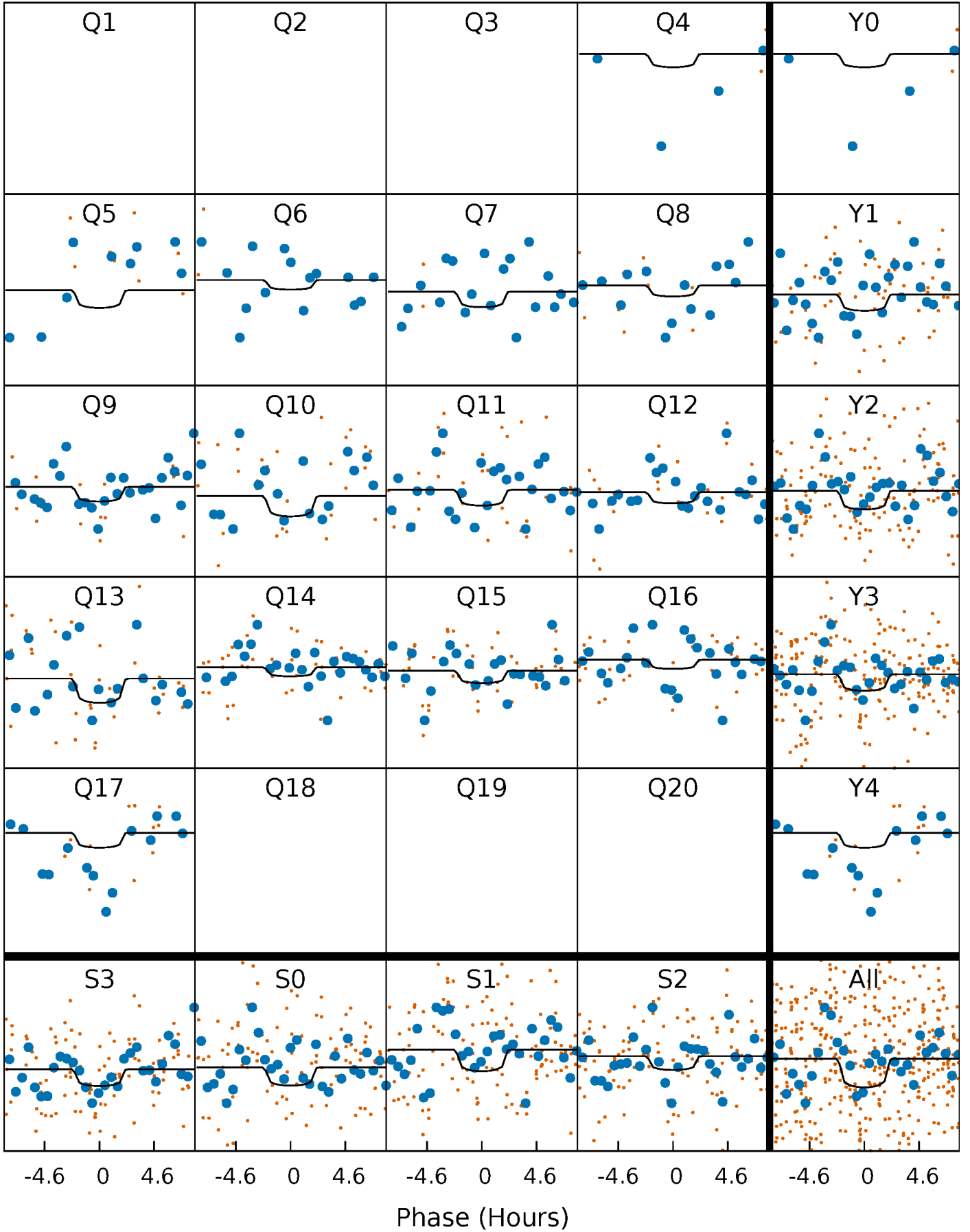
PDC Quarter-Phased Transit Curves

TCE 003849414-04 P= 2.367152 Days $T_0=133.383050$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003849414-04 $P = 2.367152$ Days $T_0 = 133.383050$ (BKJD)

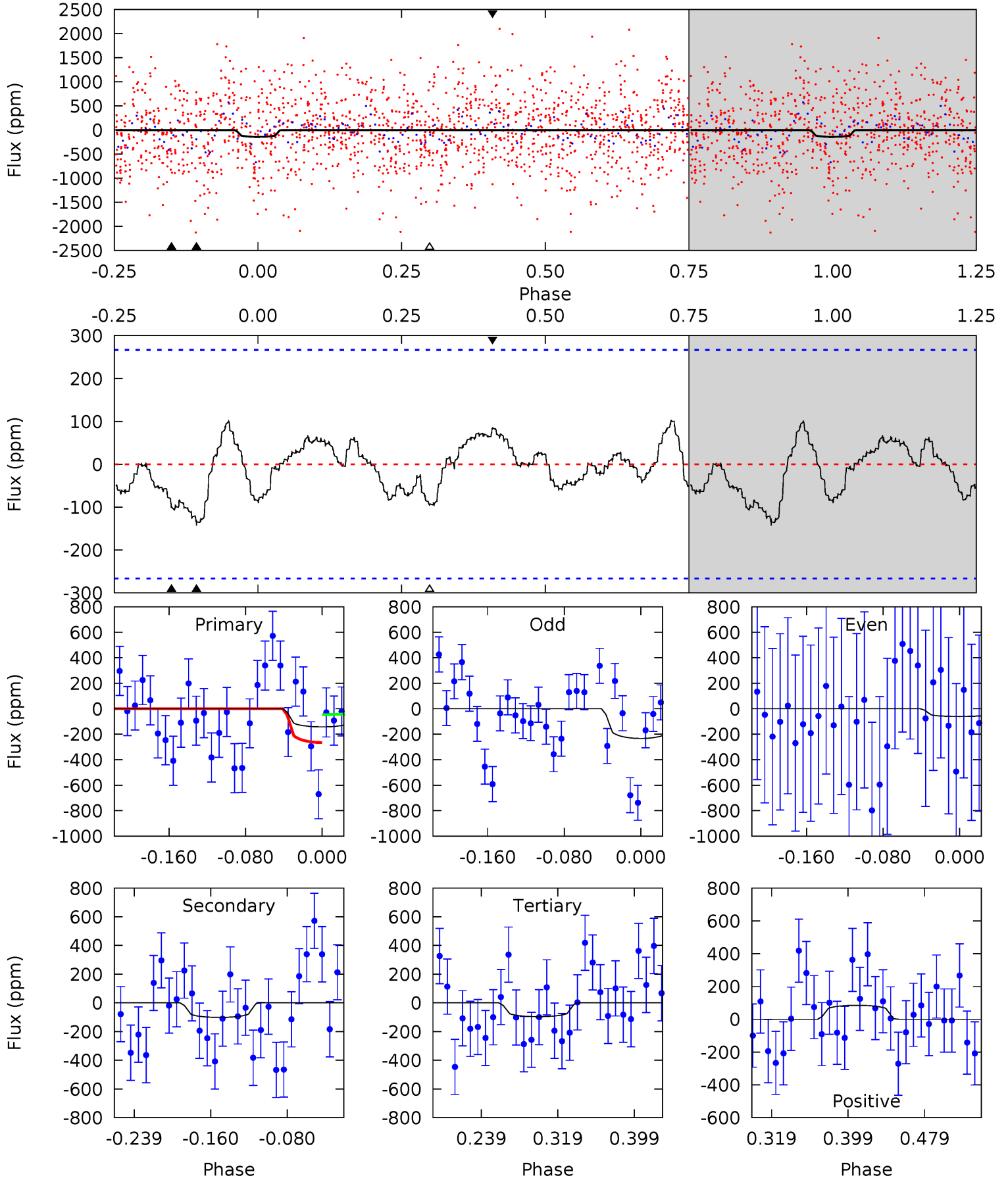


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003849414-04, P = 2.367152 Days, E = 133.383050 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.46	1.75	1.66	1.47	4.61	1.75	0.82	0.80	0.99	0.09	0.28	1.53	0.58	0.42	1.88



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003849414

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7196^{+200}_{-300}	$4.241^{+0.058}_{-0.232}$	$0.210^{+0.150}_{-0.350}$	$1.572^{+0.606}_{-0.202}$	$1.575^{+0.211}_{-0.190}$	$0.571^{+0.184}_{-0.323}$
	+3%/-4%	+1%/-5%	+71%/-167%	+39%/-13%	+13%/-12%	+32%/-56%
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 003849414-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-101±58	$5.06^{+4.49}_{-3.46}$	2821^{+221}_{-154}	4279^{+3292}_{-1257}	$2.955^{+27.739}_{-2.338}$
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 $A_{obs} \gg 1.0$

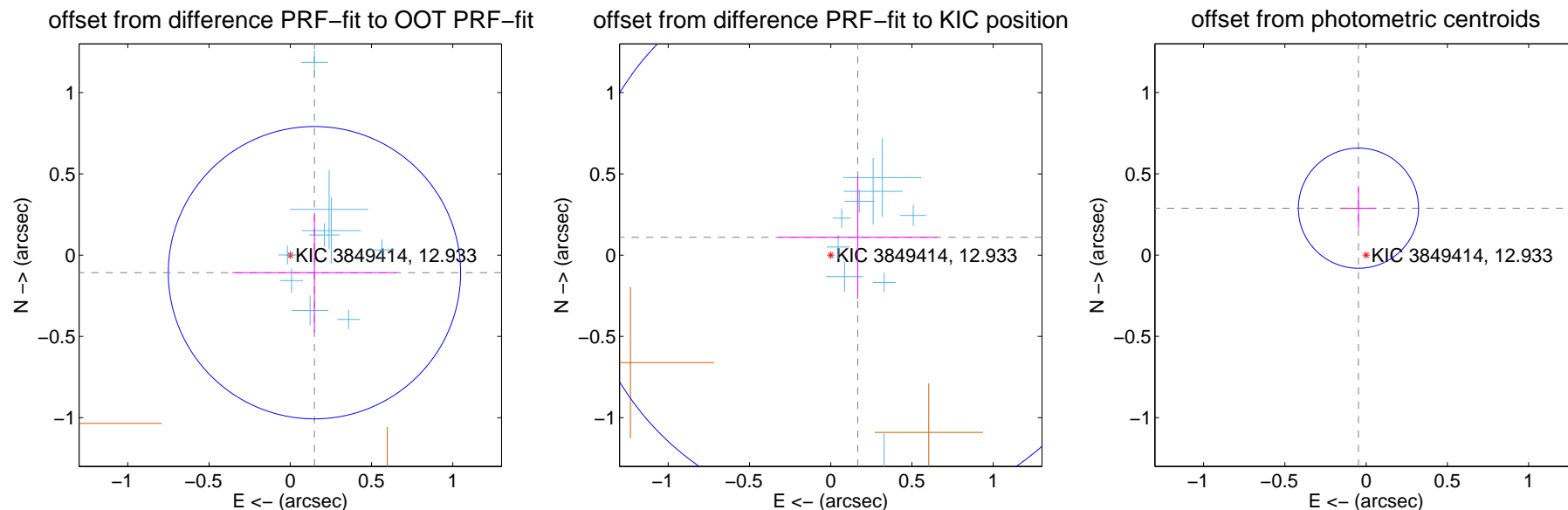
DV Centroid Data

Supplemental centroid analysis for 003849414-04. Kepler magnitude: 12.93. Transit SNR 6.13

There are 11 quarters with good PRF difference image offsets

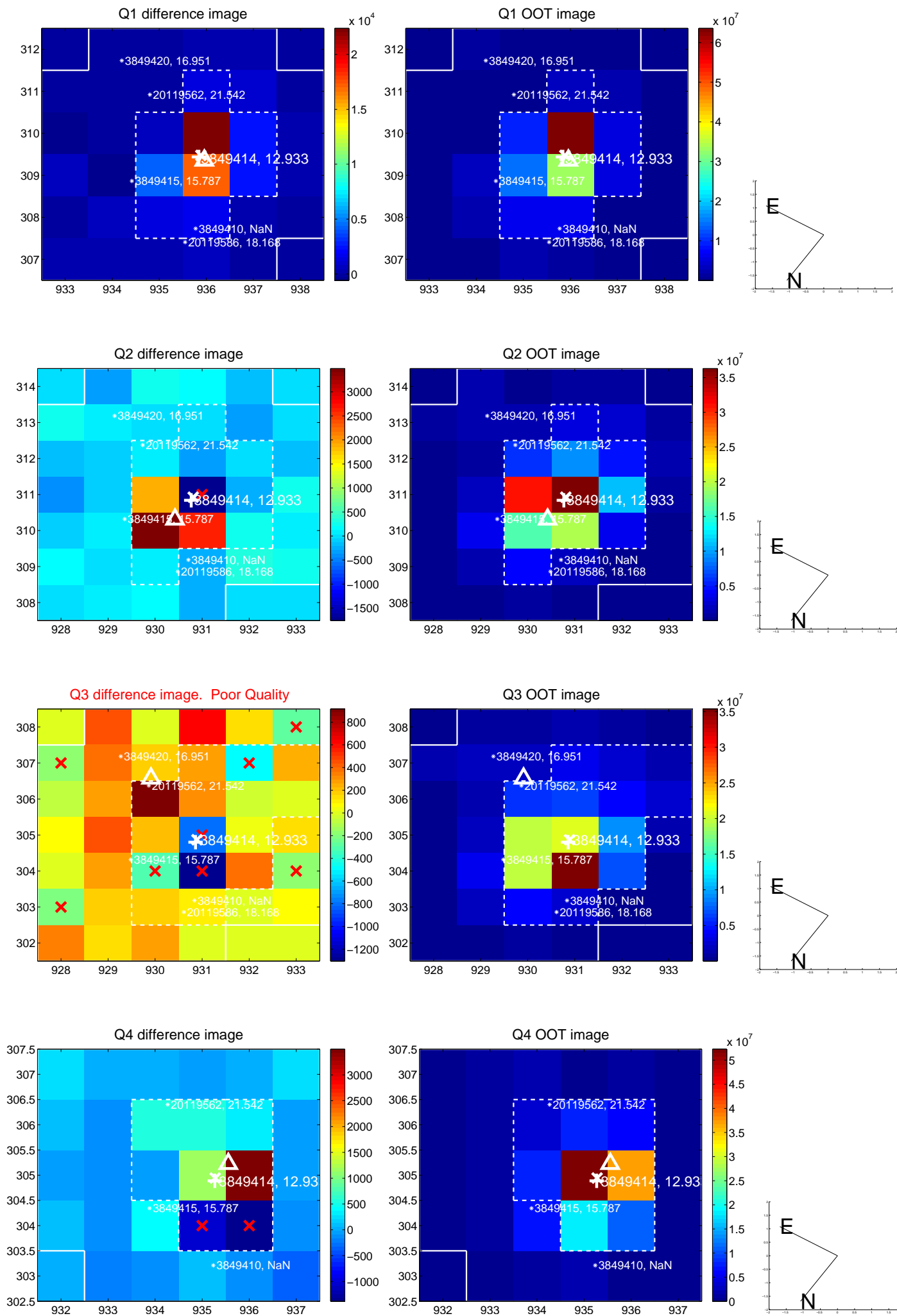
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.300	0.61	-0.149 ± 0.506	-0.108 ± 0.366
PRF-fit source offset from KIC position	0.199 ± 0.571	0.35	-0.166 ± 0.491	0.110 ± 0.377
photometric centroid source offset	0.29 ± 0.12	2.37	0.05 ± 0.11	0.29 ± 0.12

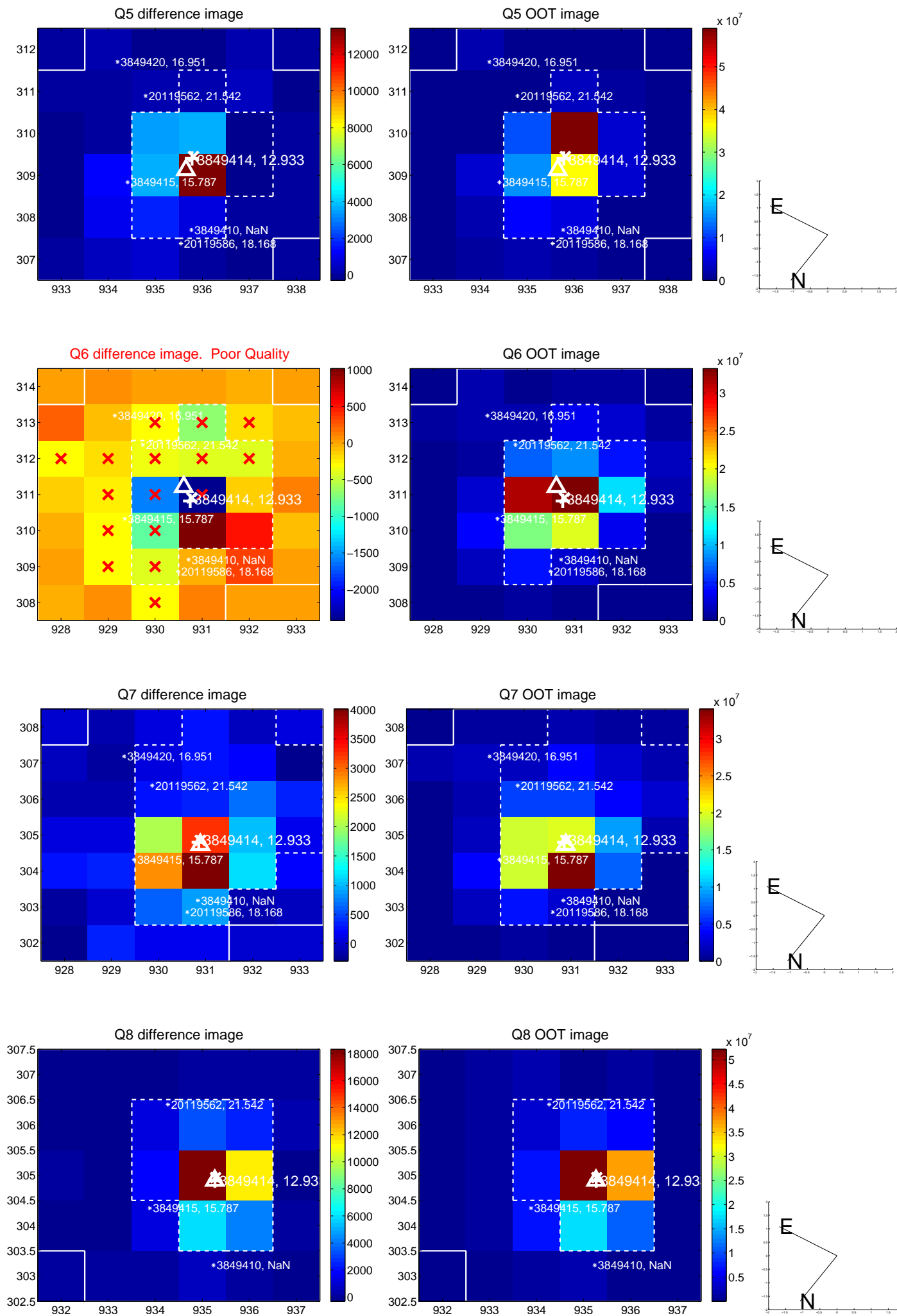


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

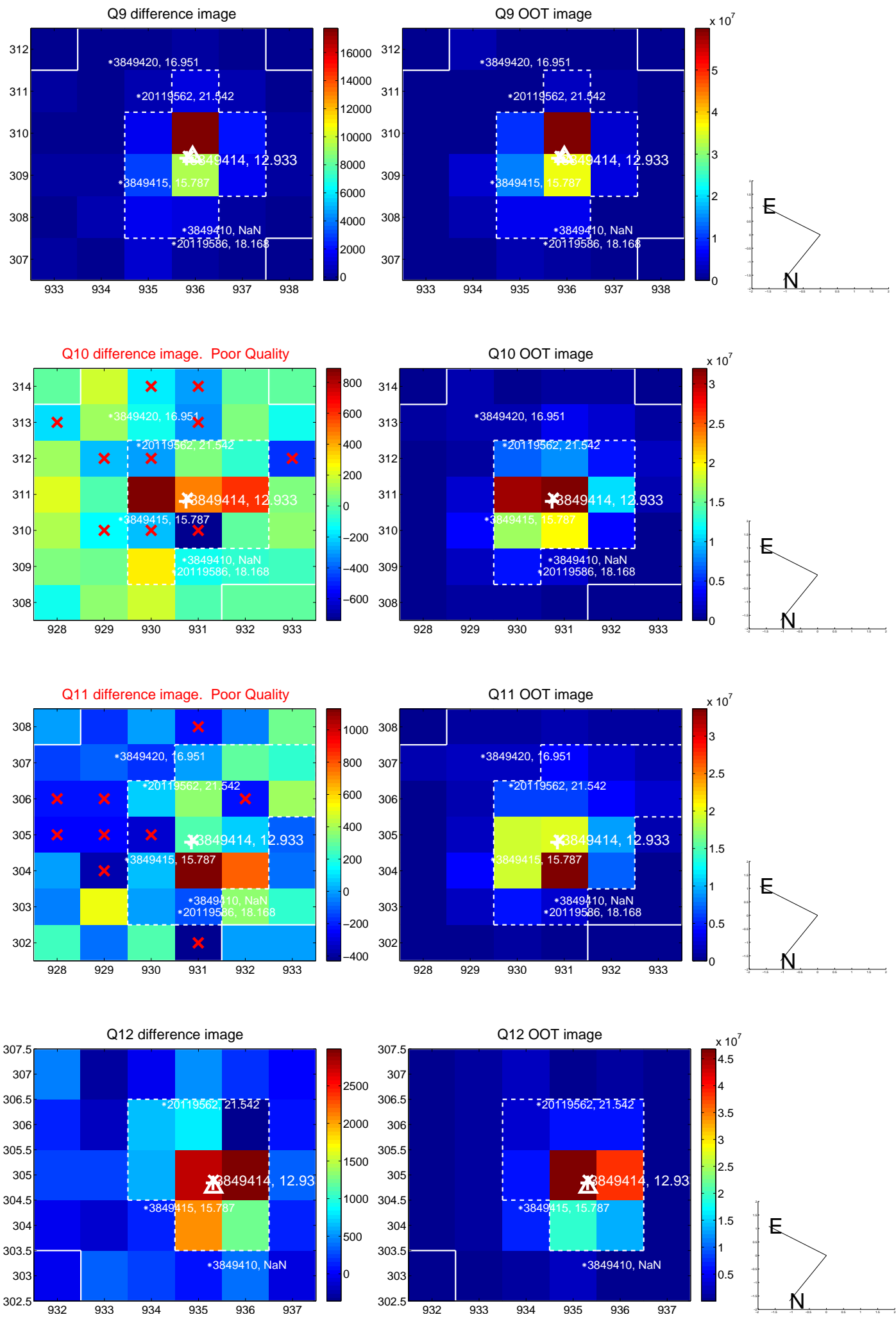
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



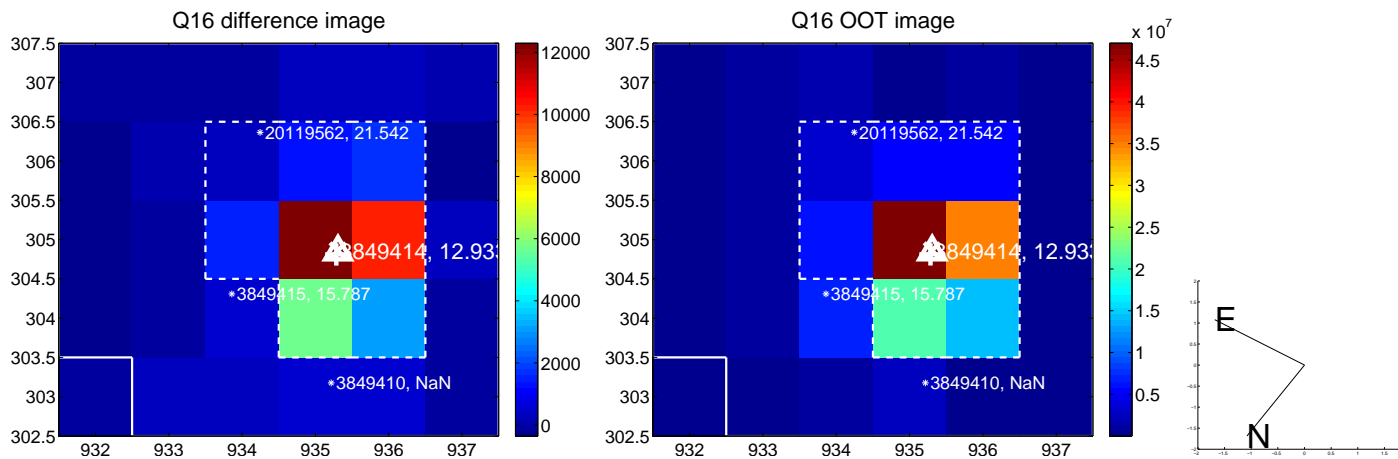
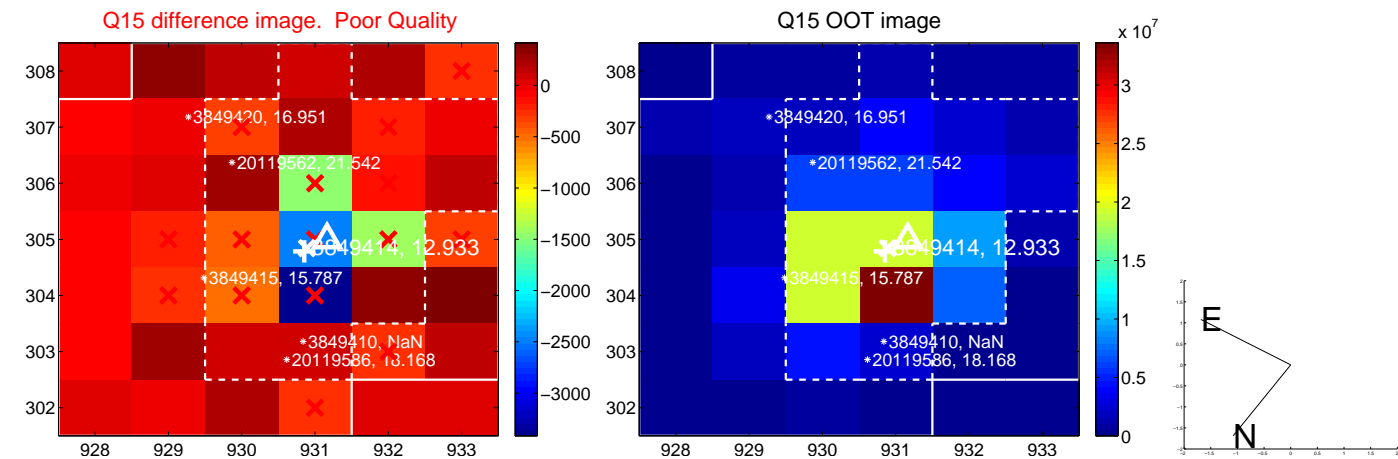
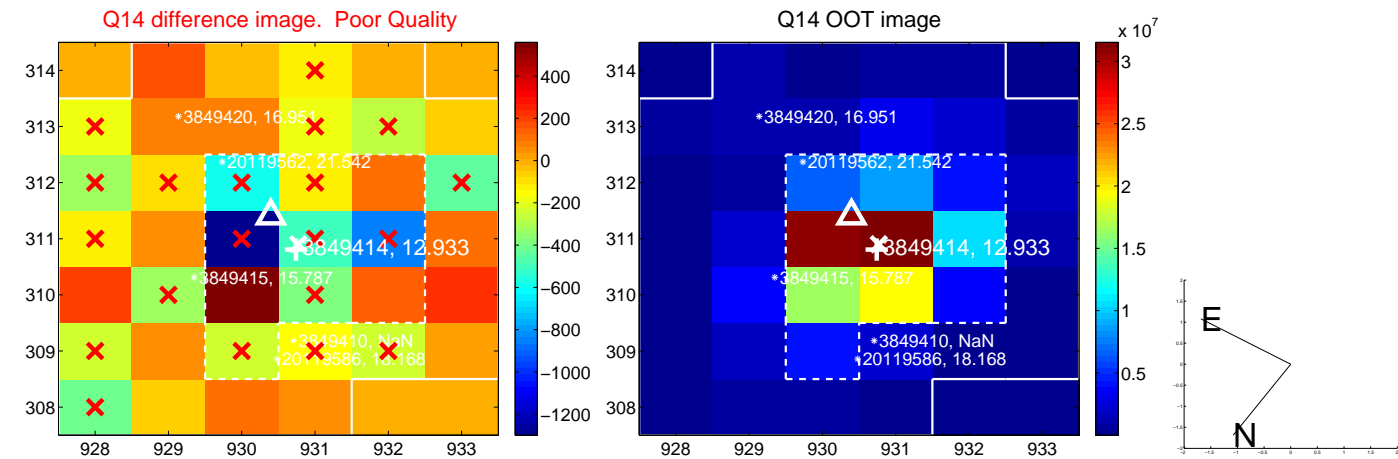
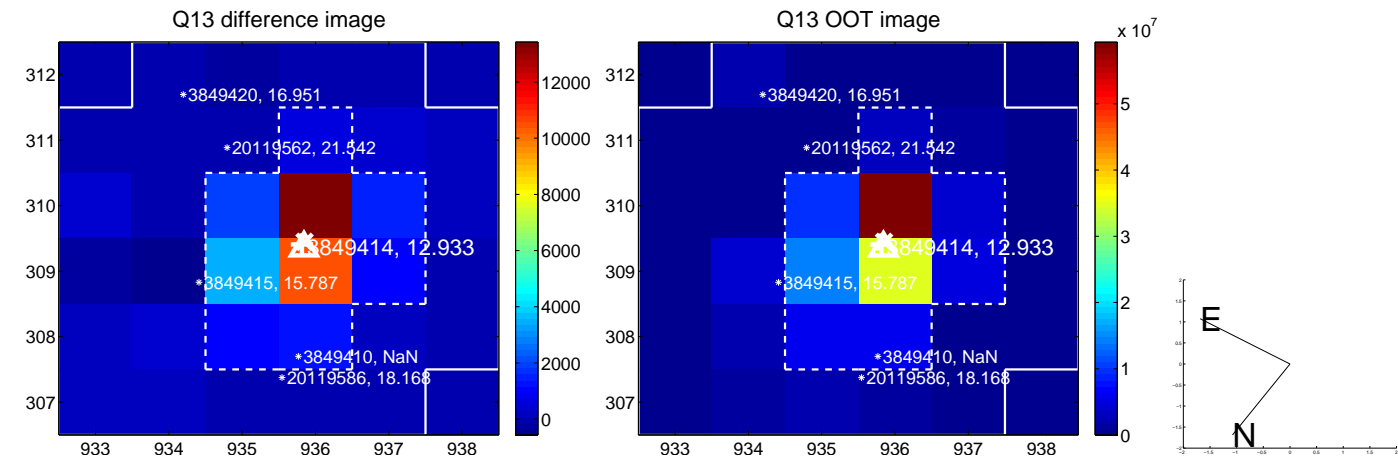
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



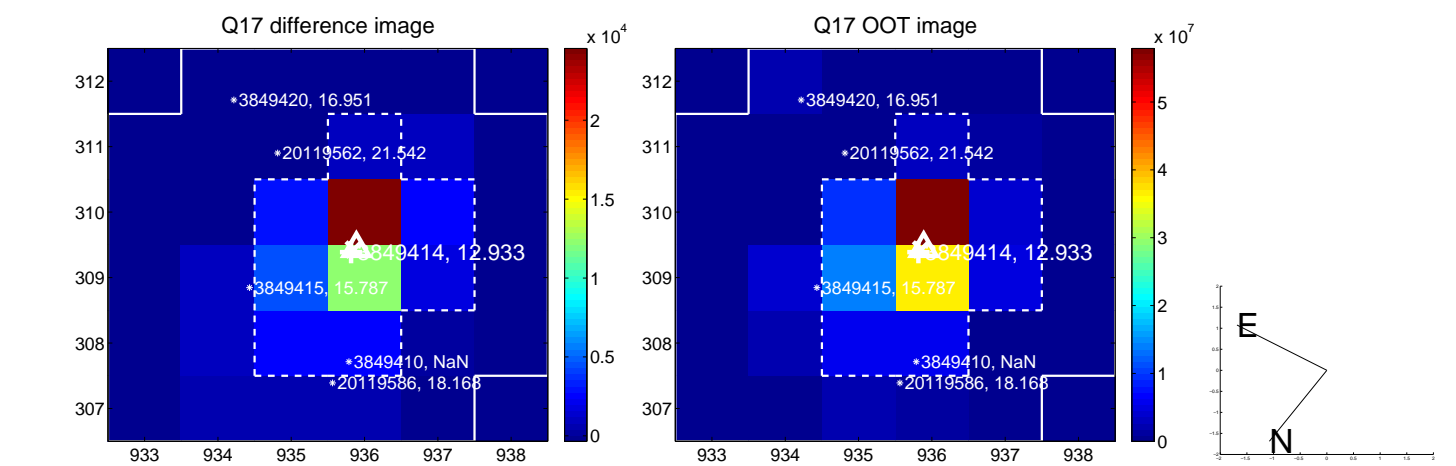
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



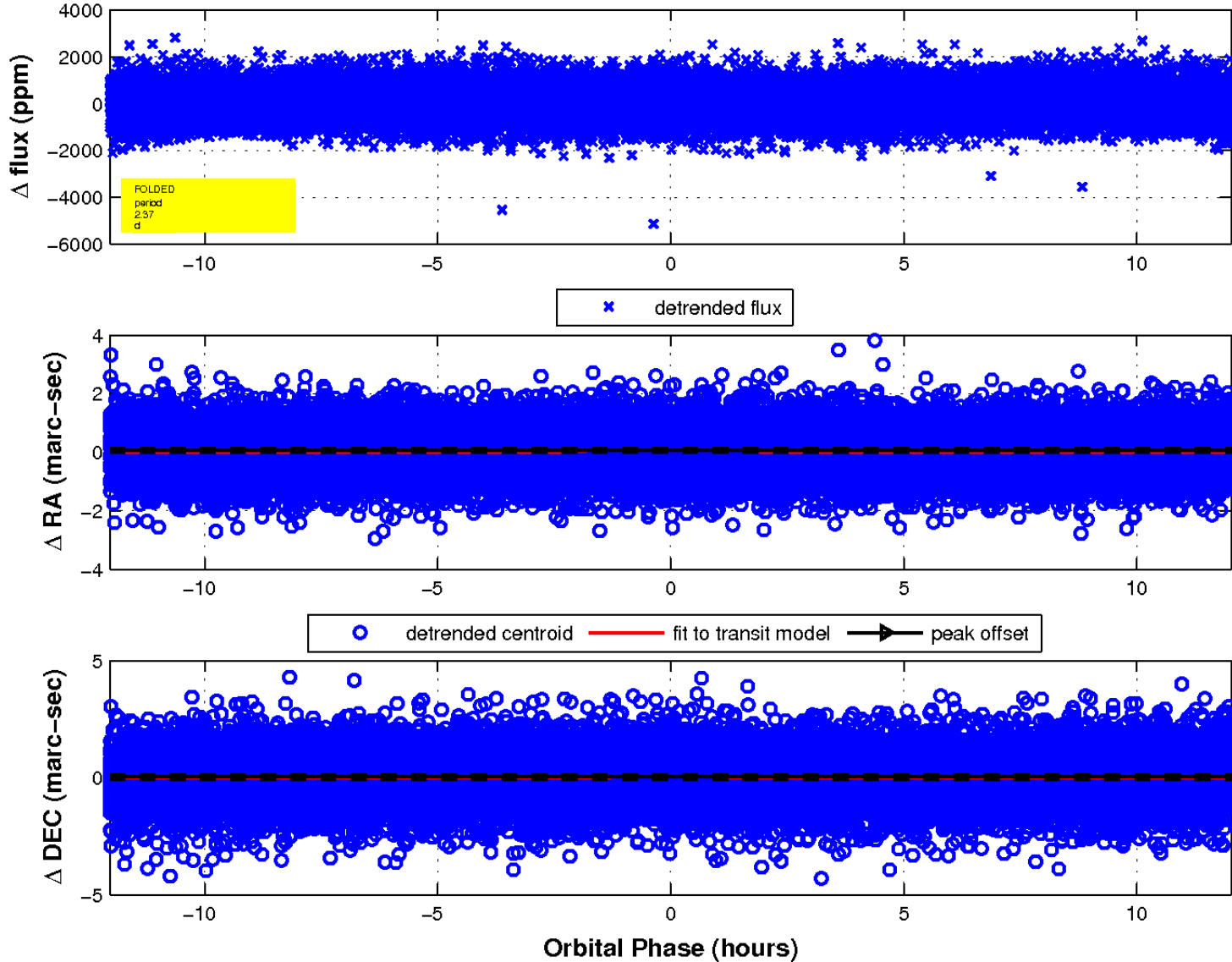
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fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

