

KIC 009550833

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})
009550833-01	OBS	No	1.844914	131.840337	17.4	13.473	7.8	7.1	10.80	6732	4.98	0.00
009550833-03	OBS	No	37.530612	143.813729	441.5	2.223	13.3	12.4	10.80	6732	26.35	2028.92
009550833-05	OBS	No	32.196401	136.851755	536.9	1.194	11.6	10.3	10.80	6732	27.41	2489.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009550833-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009550833-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009550833-05	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

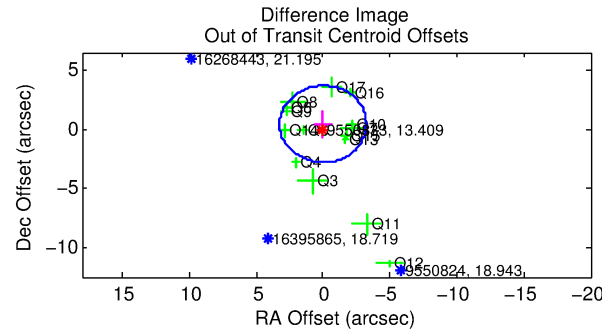
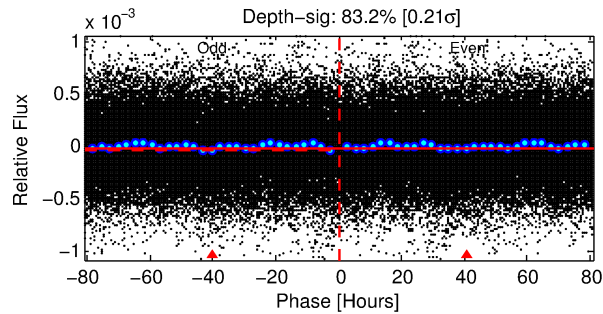
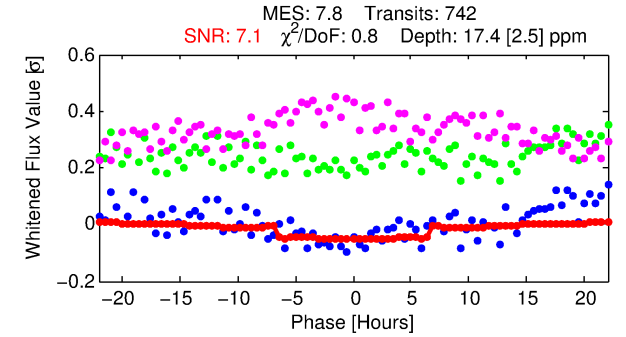
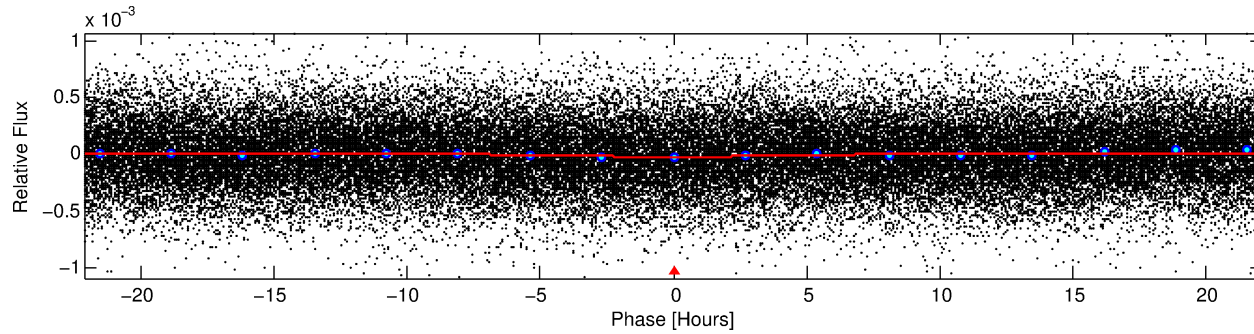
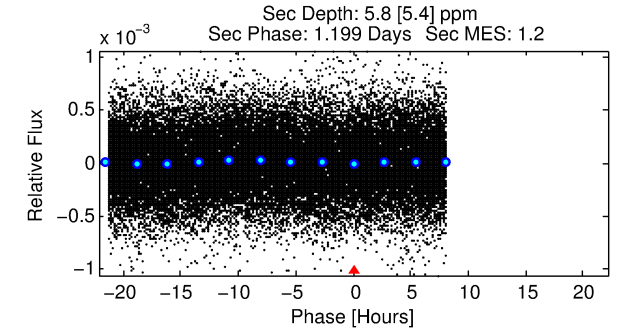
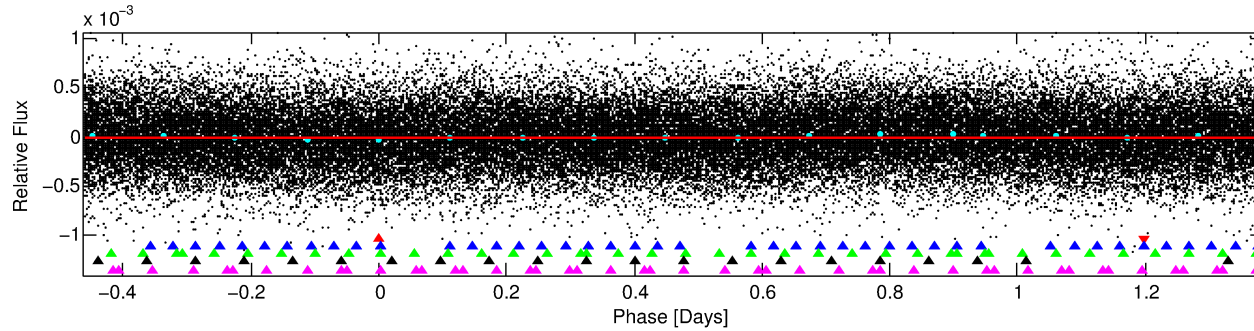
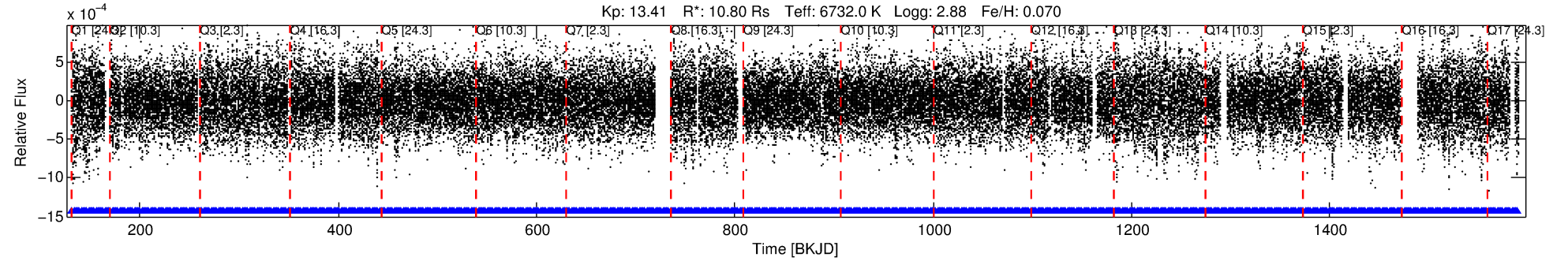
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009550833-01

No Significant Match Found

DV One-Page Summary

KIC: 9550833 Candidate: 1 of 5 Period: 1.845 d



DV Fit Results:

Period = 1.84491 [0.00005] d
Epoch = 131.8403 [0.0116] BKJD
Rp/R* = 0.0042 [0.0027]
a/R* = 1.09 [0.65]
b = 0.81 [1.64]
Seff = N/A
Teq = N/A
Rp = 4.98 [4.39] Re
a = N/A
Ag = N/A
Teffp = N/A

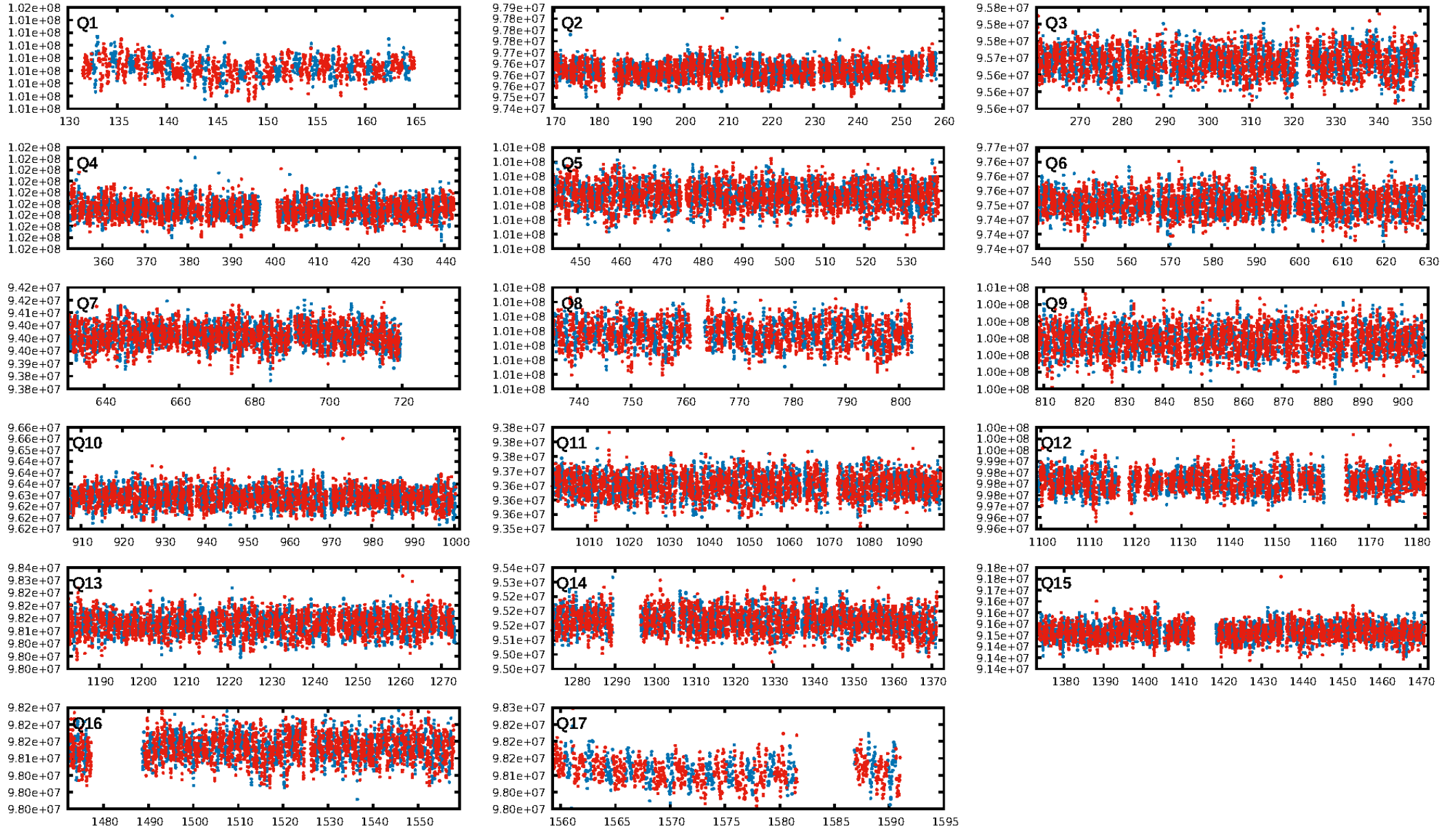
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [53.86 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.40e-27
RollingBand-fgt: 1.00 [708/708]
GhostDiagnostic-chr: 2.206
Centroid-sig: 12.2%
Centroid-so: 1.662 arcsec [1.30 σ]
OotOffset-rm: 0.437 arcsec [0.40 σ]
KicOffset-rm: 0.336 arcsec [0.48 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 1.00 [17/17]

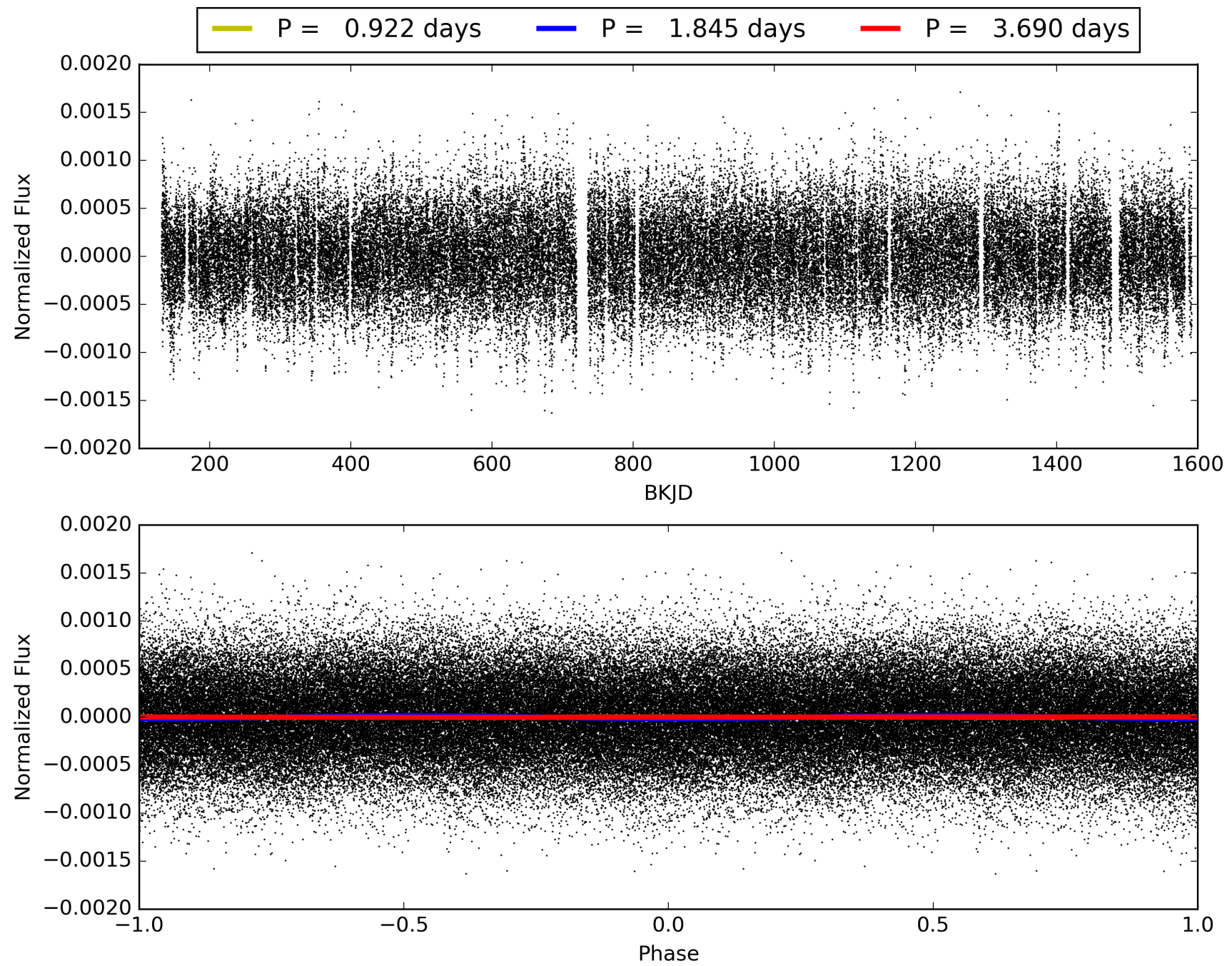
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:27:15 Z

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

TCE 009550833-01, PDC Light Curves

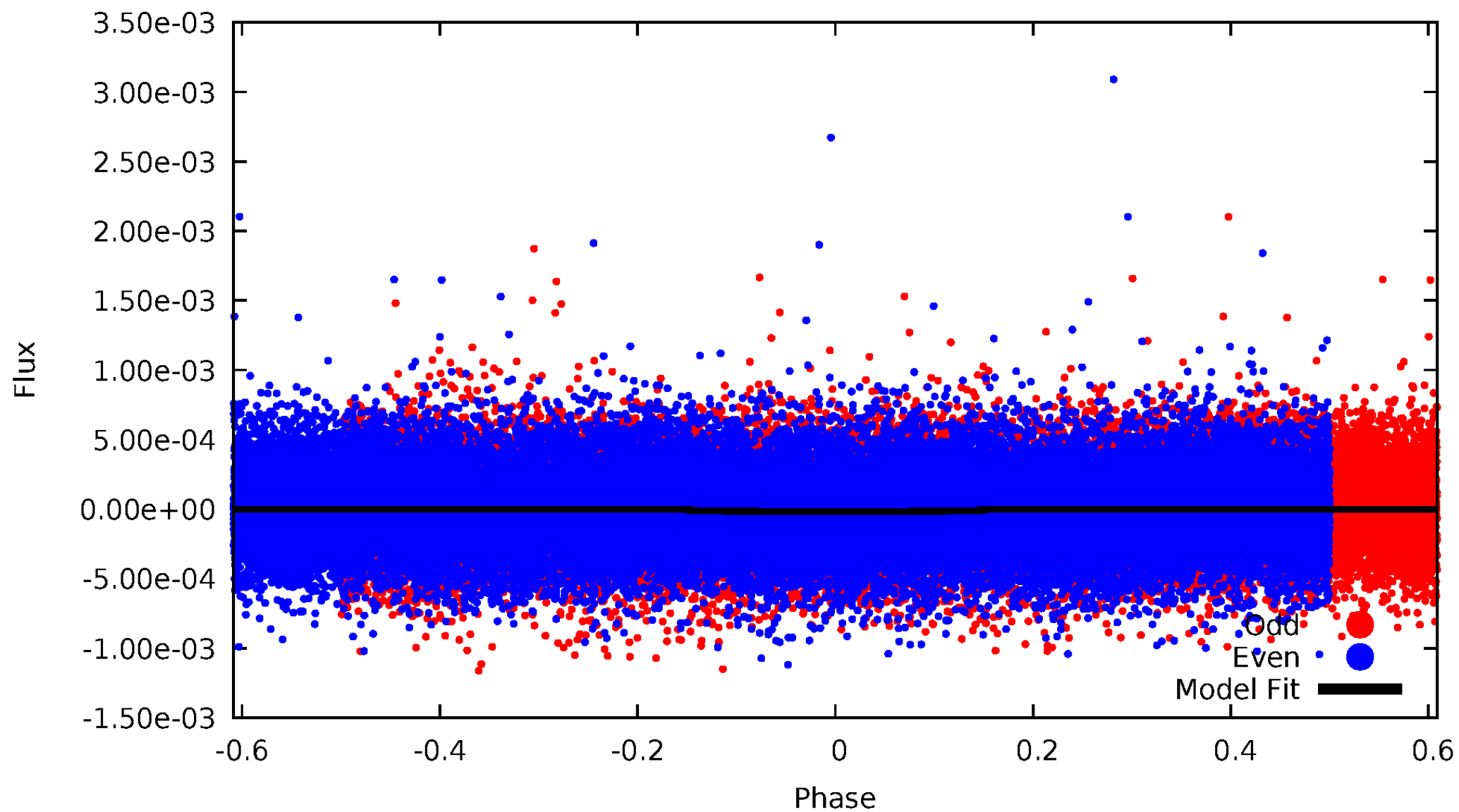


TCE 009550833-01



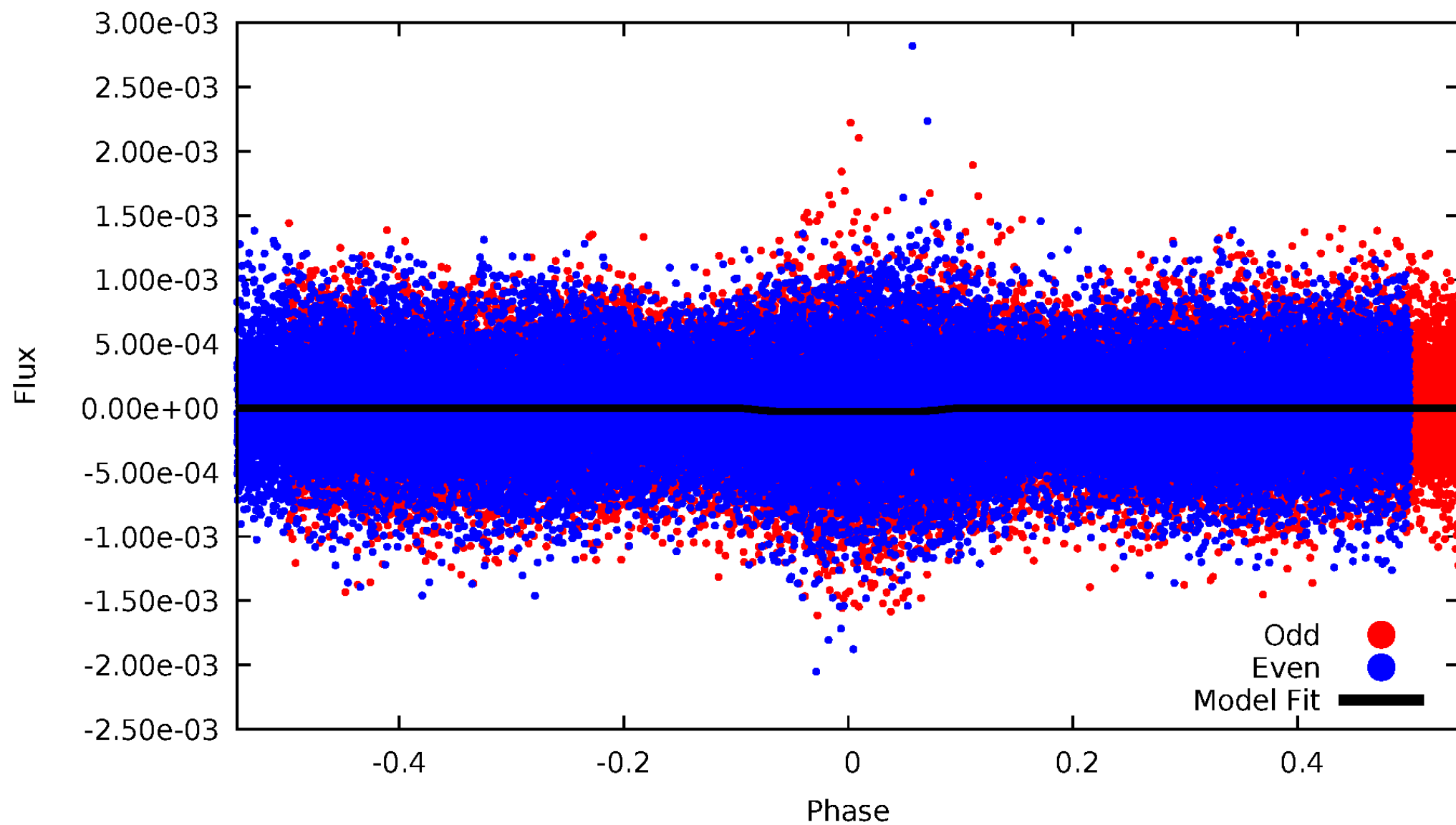
DV Odd/Even

TCE 009550833-01



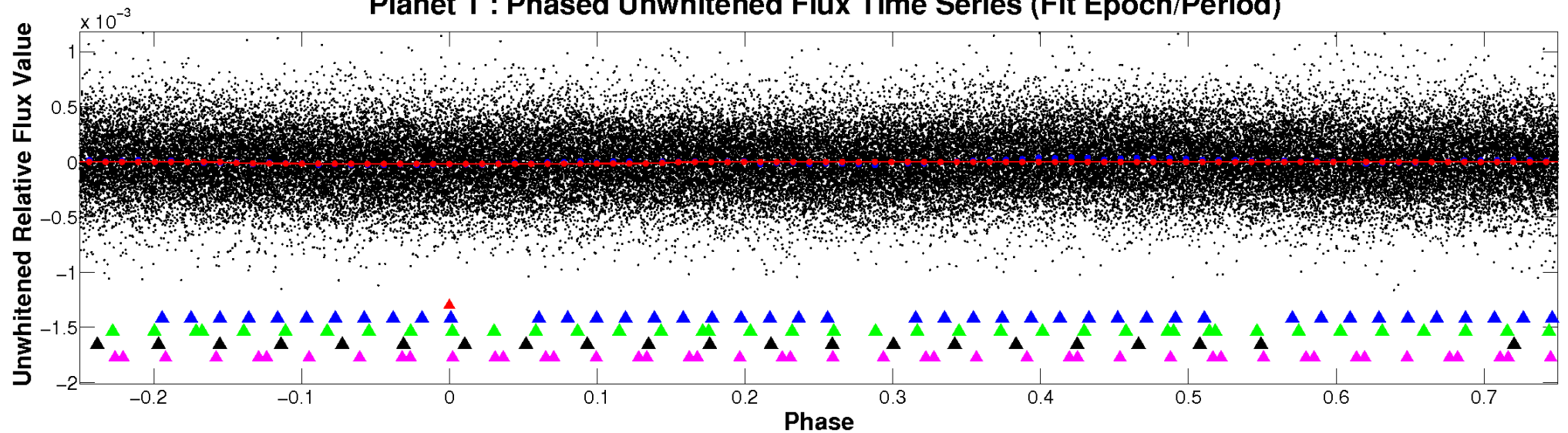
ALT Odd/Even

TCE 009550833-01

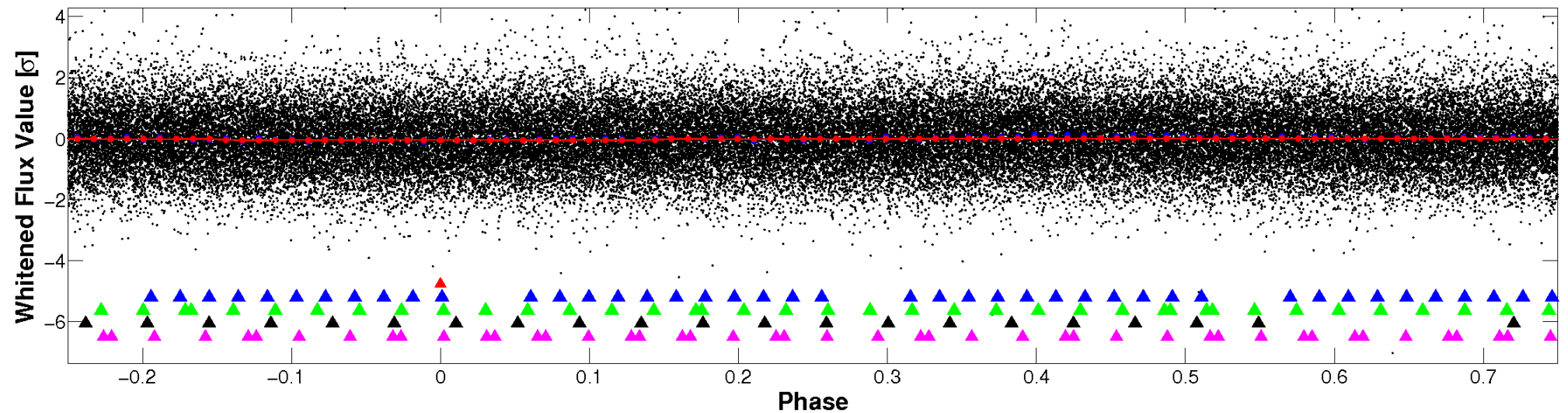


Non-Whitened Vs. Whitened Light Curve

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

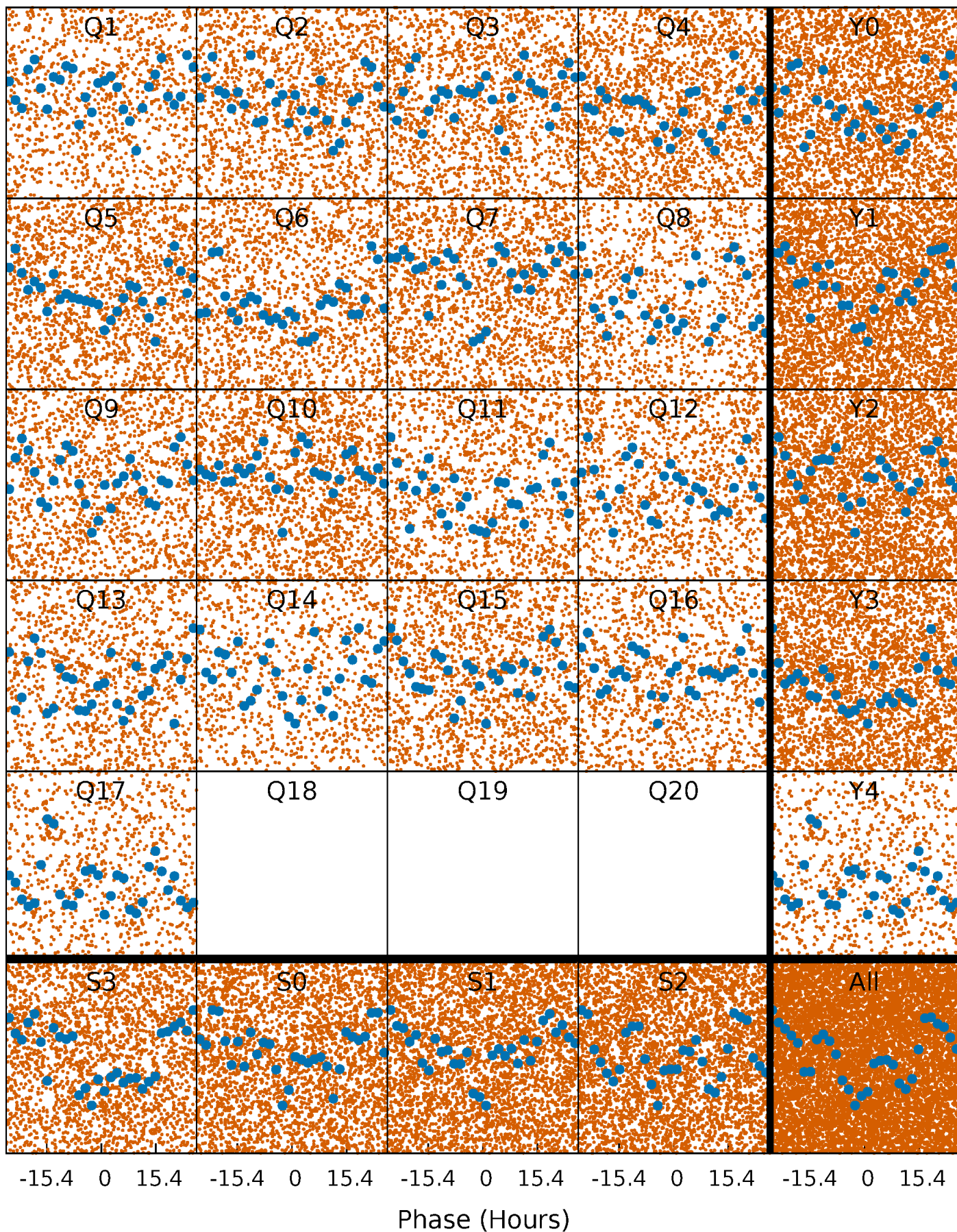


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



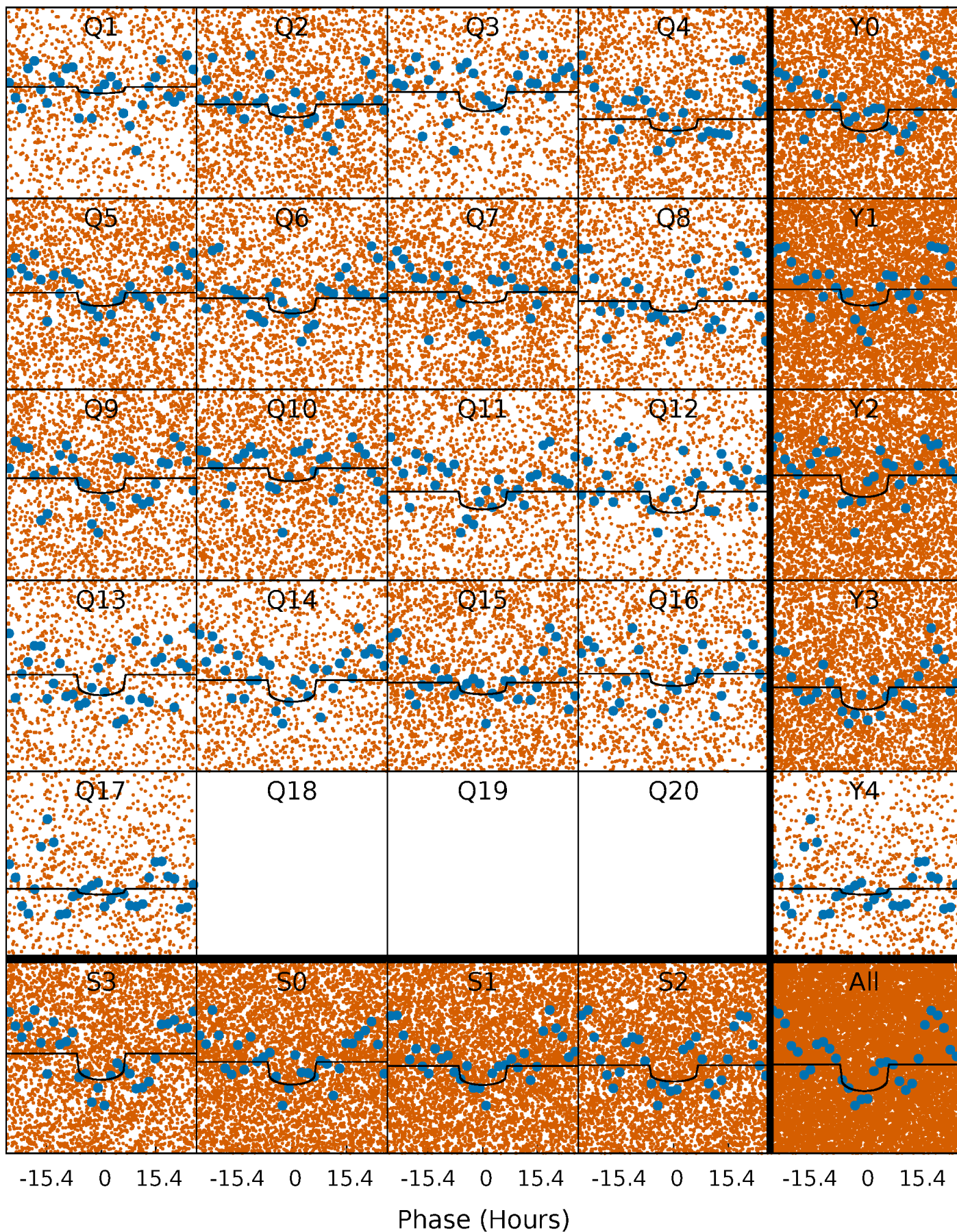
PDC Quarter-Phased Transit Curves

TCE 009550833-01 P= 1.844914 Days $T_0=131.840337$ (BKJD)



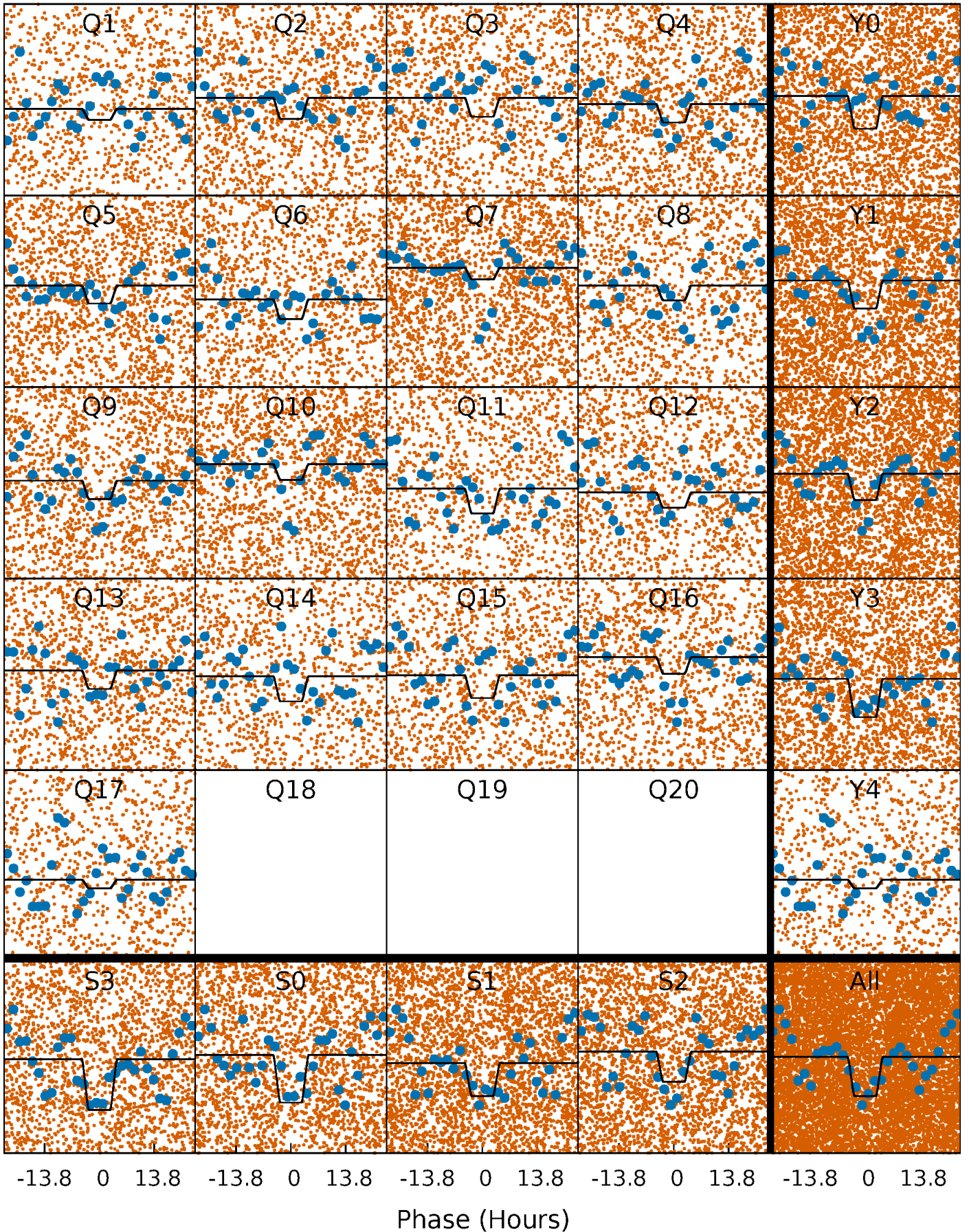
DV Quarter-Phased Transit Curves

TCE 009550833-01 P= 1.844914 Days $T_0=131.840337$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

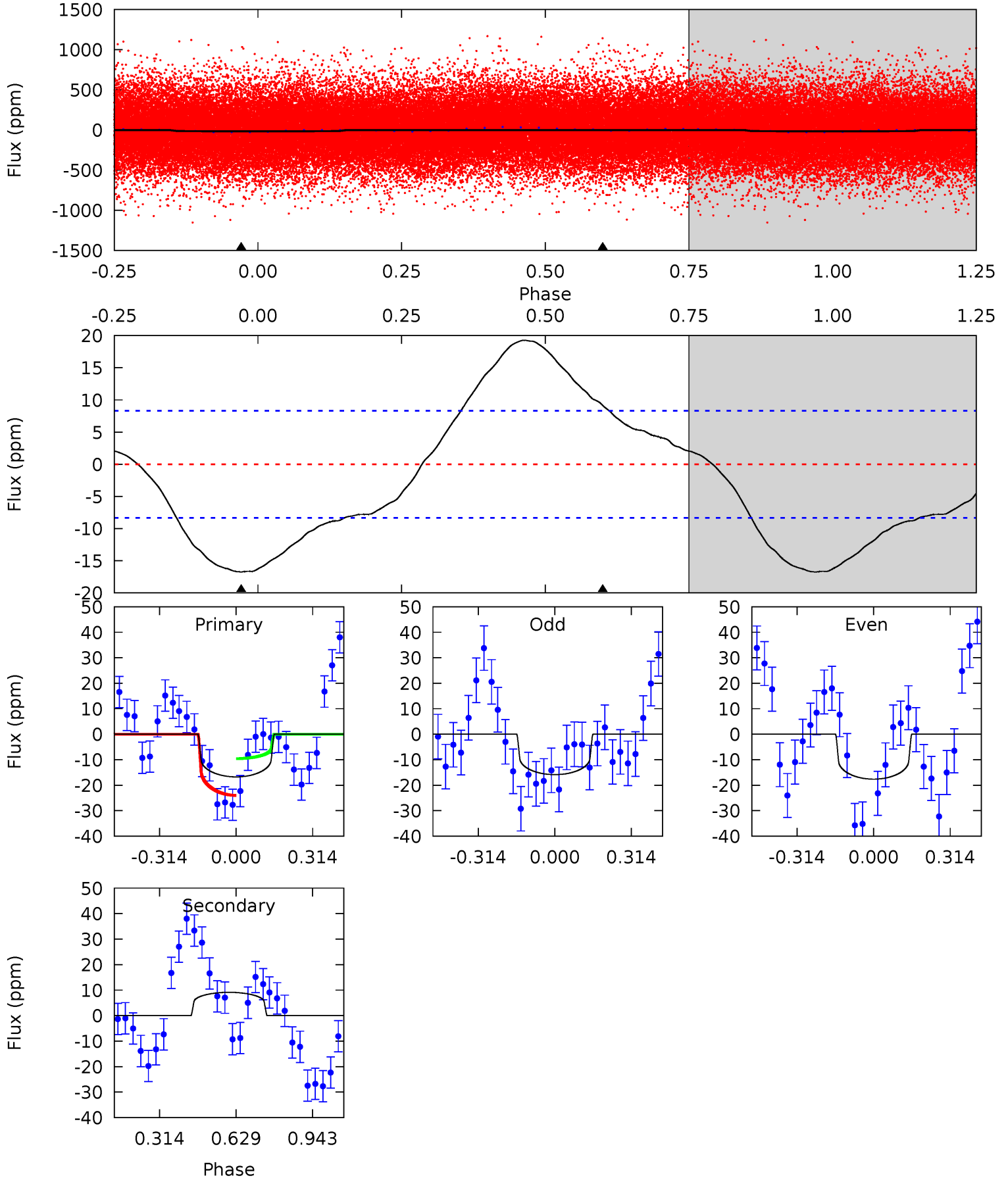
TCE 009550833-01 P= 1.844616 Days $T_0=131.862614$ (BKJD)



DV Model-Shift Uniqueness Test

009550833-01, P = 1.844914 Days, E = 129.995423 Days

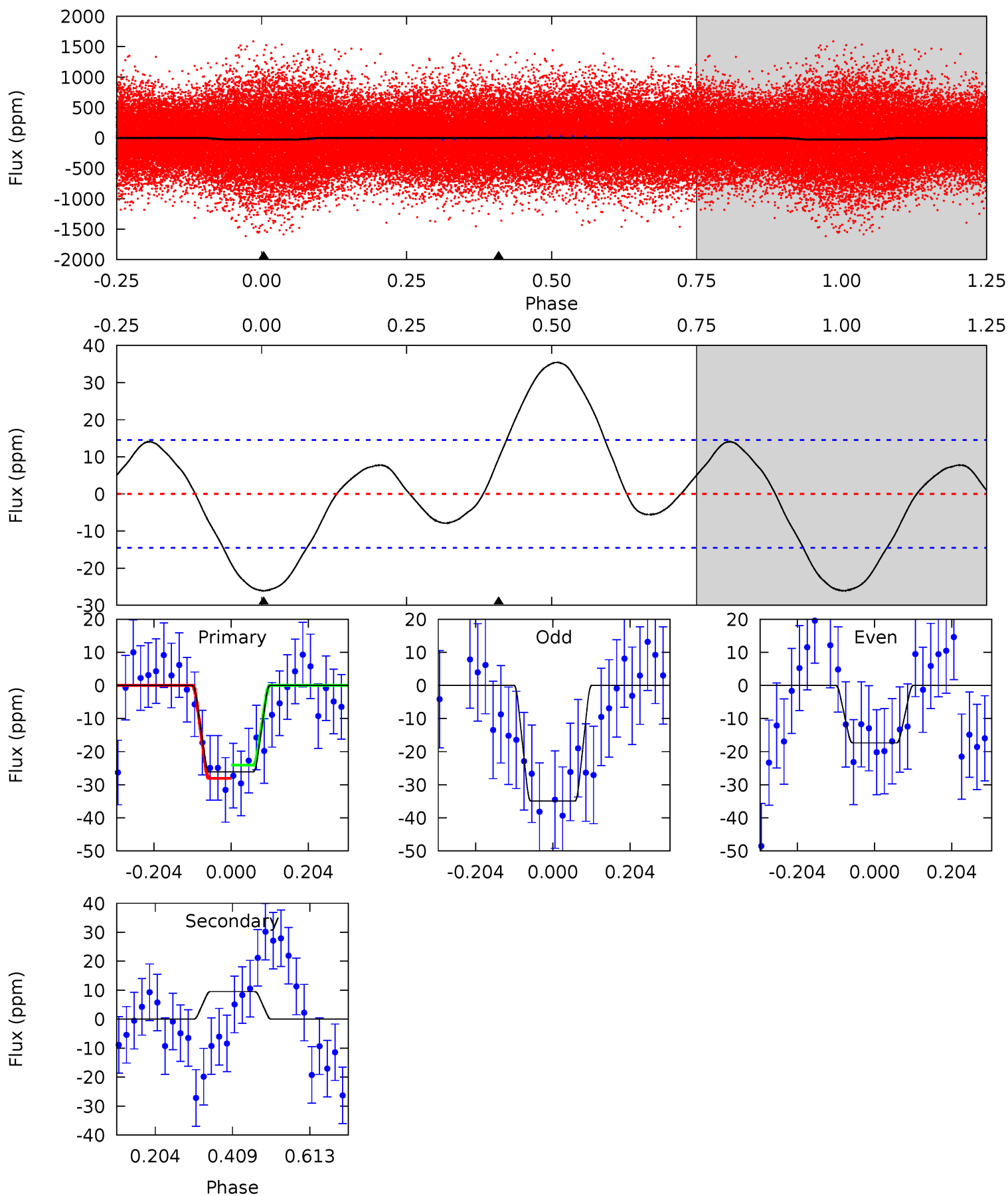
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.69	-4.74	0	0	4.32	1.01	1.83	8.69	8.69	-4.74	-4.74	0.46	0.83	0.54	3.69



Alt Model-Shift Uniqueness Test

009550833-01, P = 1.844616 Days, E = 130.017998 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.92	-2.90	0	0	4.41	1.27	1.81	7.92	7.92	-2.90	-2.90	2.51	0.97	0.58	0.62



Stellar Parameters For KIC 009550833

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6732^{+162}_{-263}	$2.884^{+0.648}_{-0.072}$	$0.070^{+0.250}_{-0.450}$	$10.801^{+1.167}_{-6.612}$	$3.255^{+0.070}_{-1.335}$	$0.004^{+0.039}_{-0.001}$
	+2%/-4%	+22%/-2%	+357%/-643%	+11%/-61%	+2%/-41%	+1065%/-24%
Source	PHO1	FLK73	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 009550833-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	9 ± 2	$4.23^{+3.36}_{-2.45}$	6235^{+450}_{-1065}	-6276^{+684}_{-2256}	$-0.483^{+0.325}_{-2.205}$
Alt.	10 ± 3	$5.01^{+3.46}_{-2.59}$	6220^{+499}_{-1051}	-6012^{+590}_{-1403}	$-0.356^{+0.239}_{-1.083}$

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 $A_{obs} \gg 1.0$

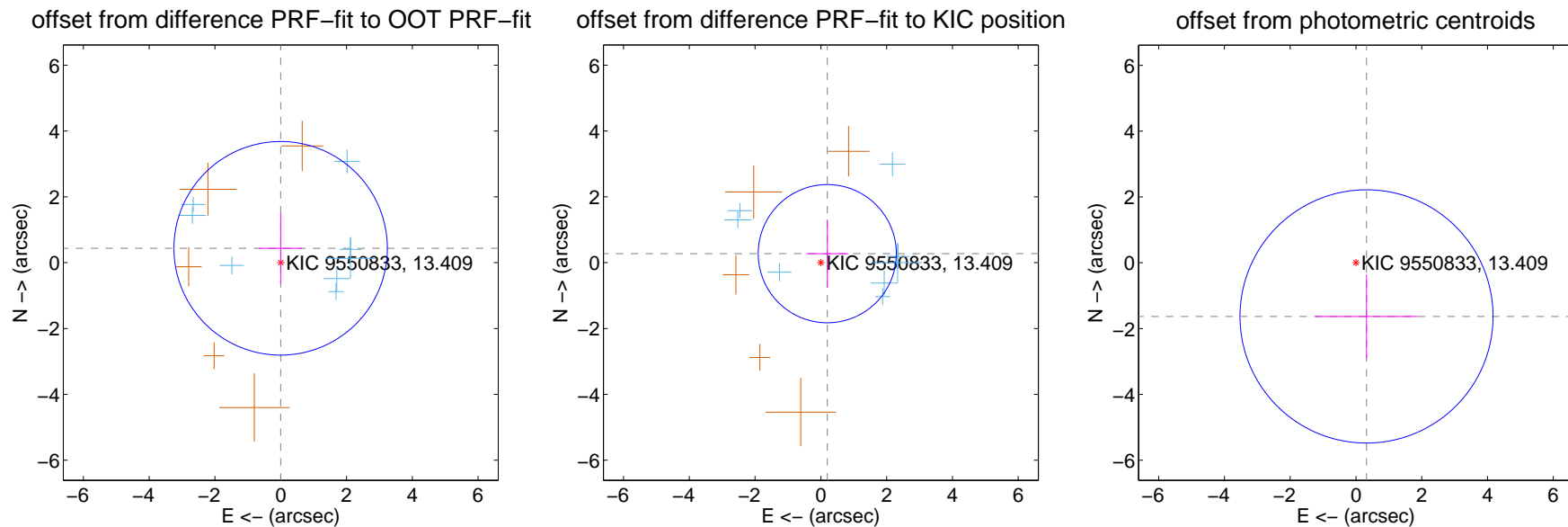
DV Centroid Data

Supplemental centroid analysis for 009550833-01. Kepler magnitude: 13.41. Transit SNR 7.06

There are 8 quarters with good PRF difference image offsets

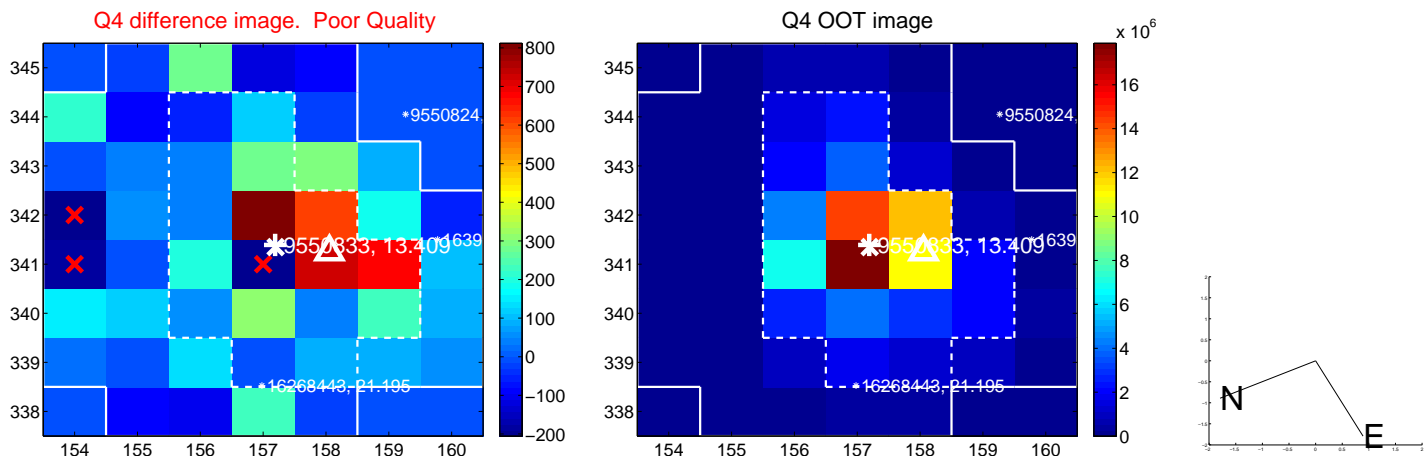
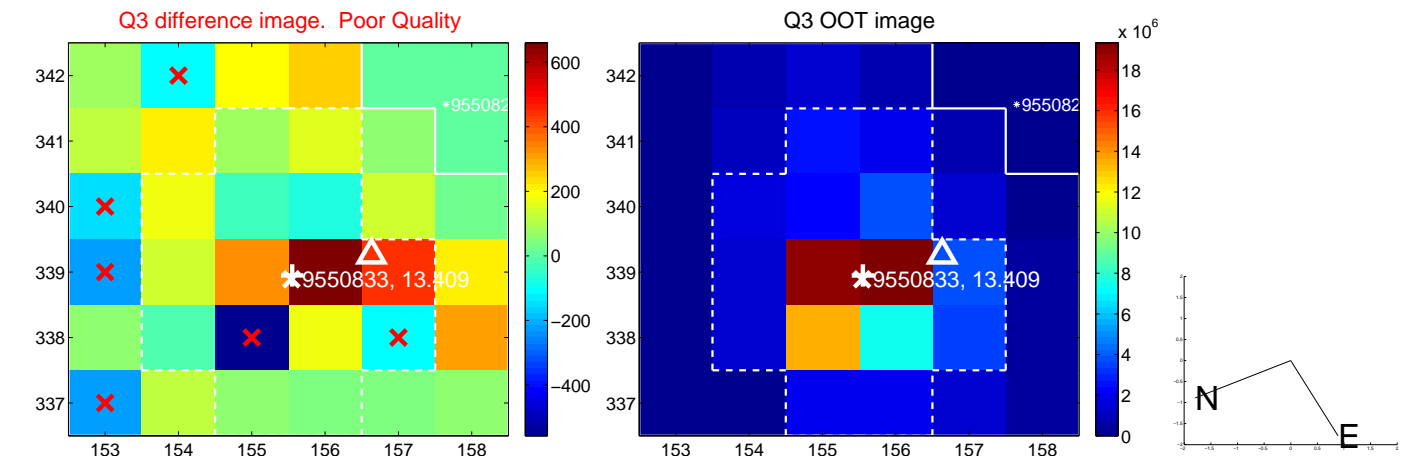
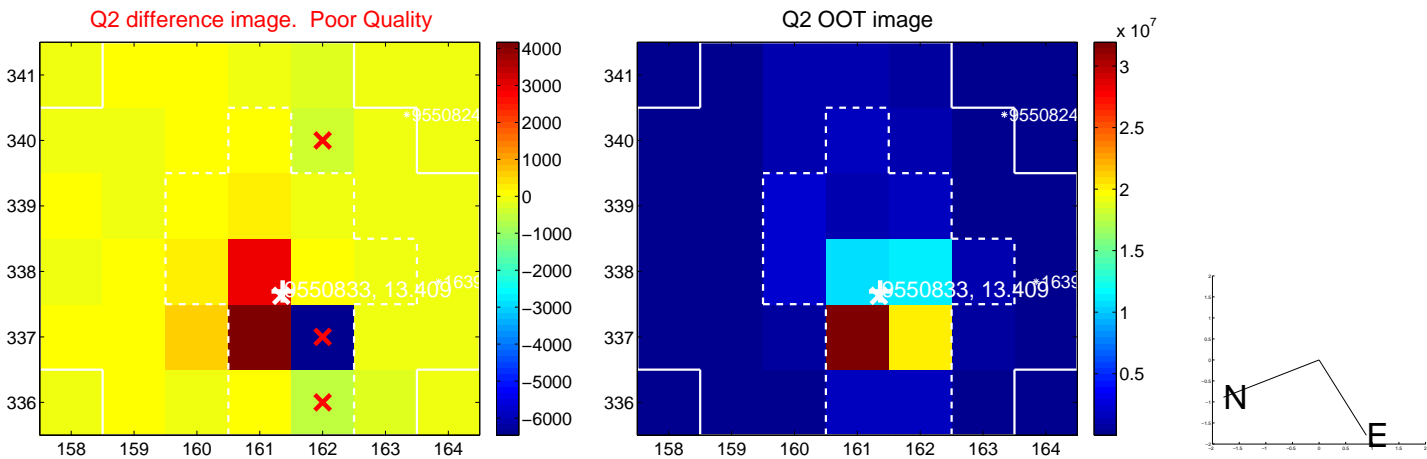
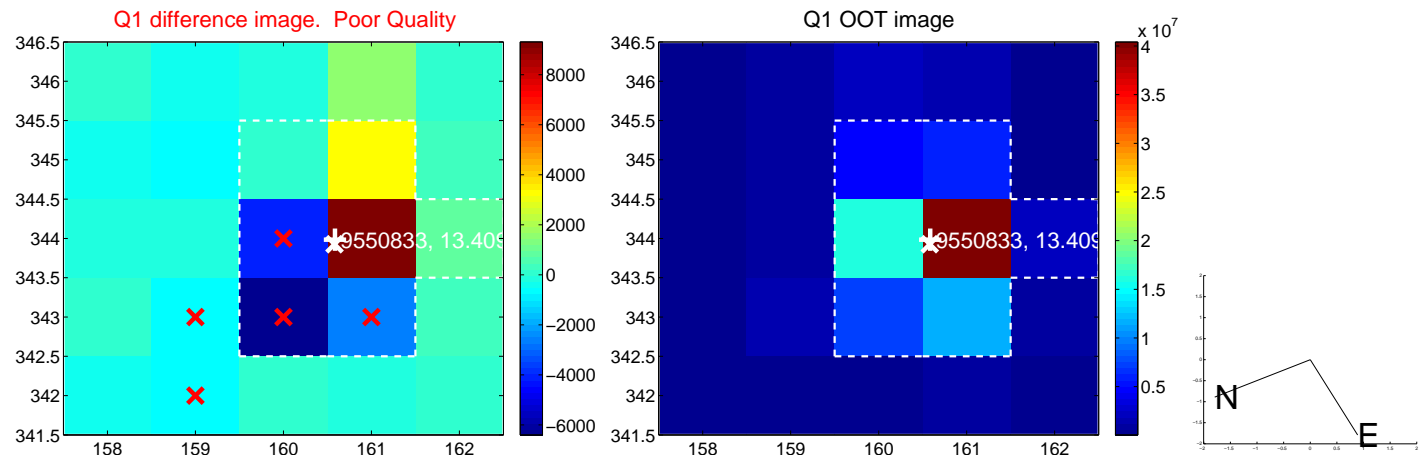
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.437 ± 1.081	0.40	0.003 ± 0.657	0.437 ± 1.079
PRF-fit source offset from KIC position	0.336 ± 0.700	0.48	-0.195 ± 0.637	0.274 ± 1.031
photometric centroid source offset	1.66 ± 1.28	1.30	-0.32 ± 1.56	-1.63 ± 1.27

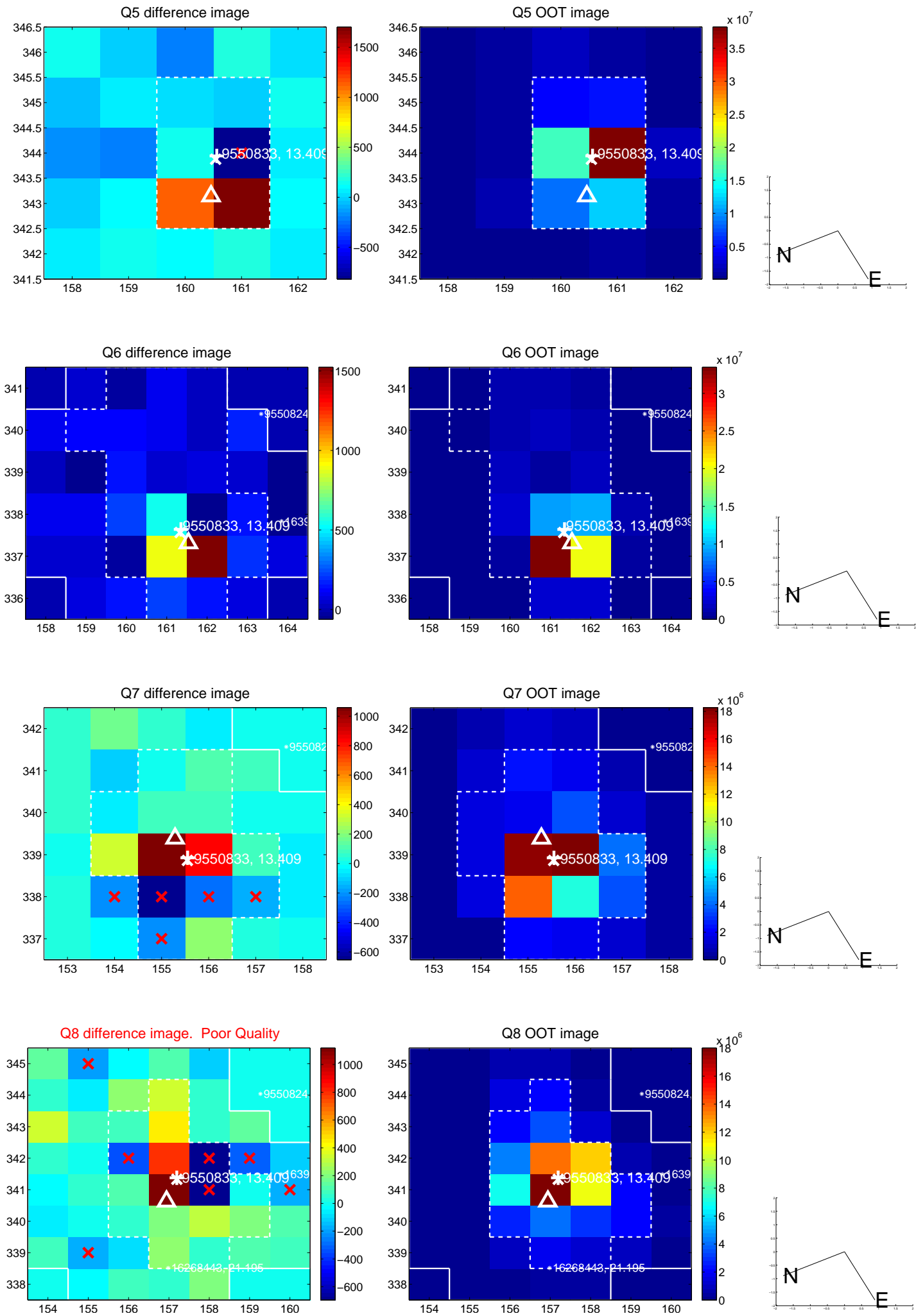


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

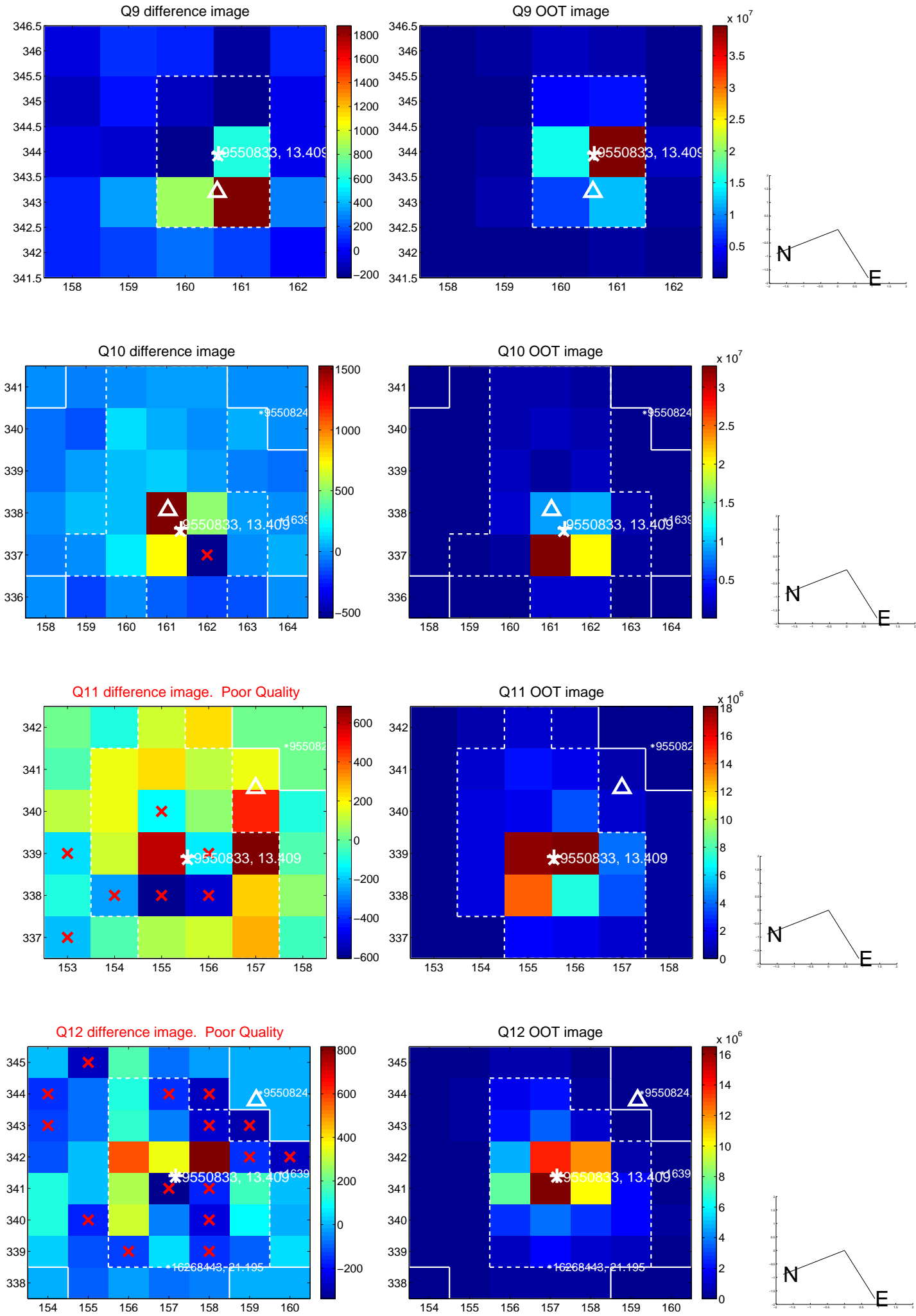
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



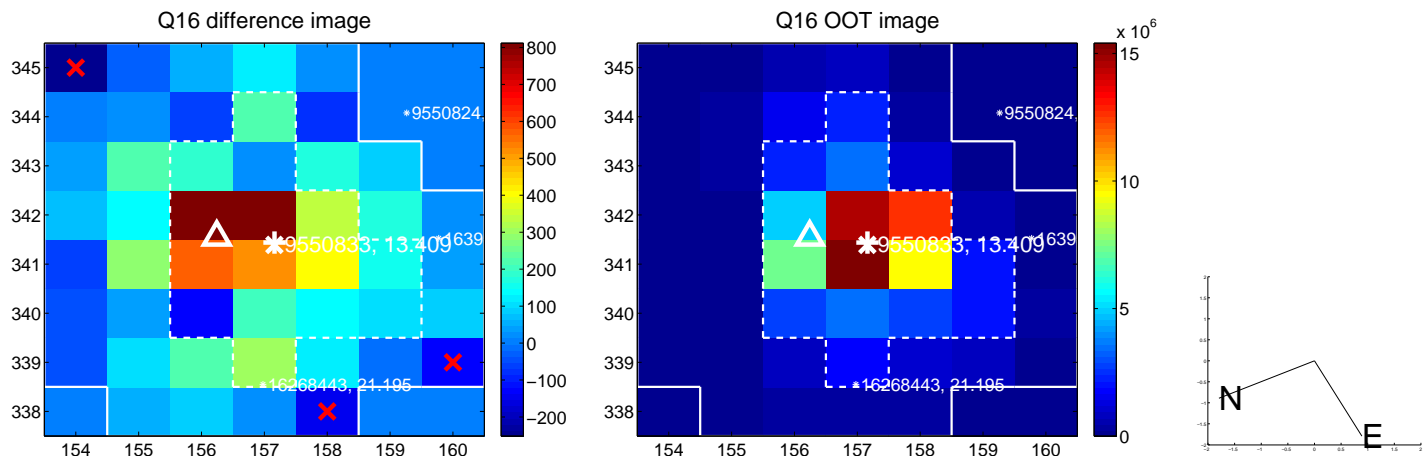
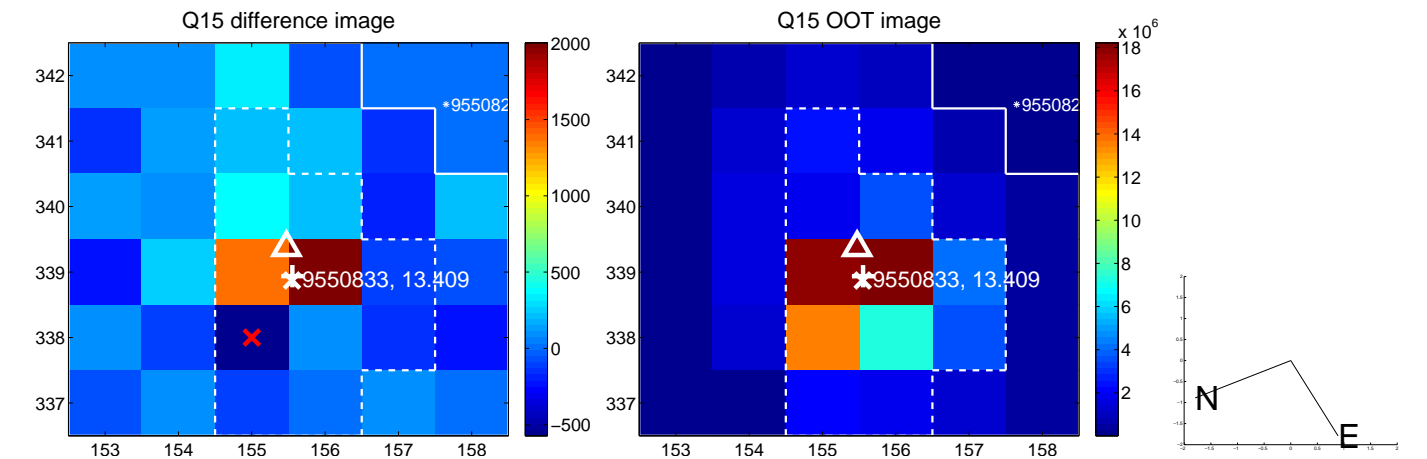
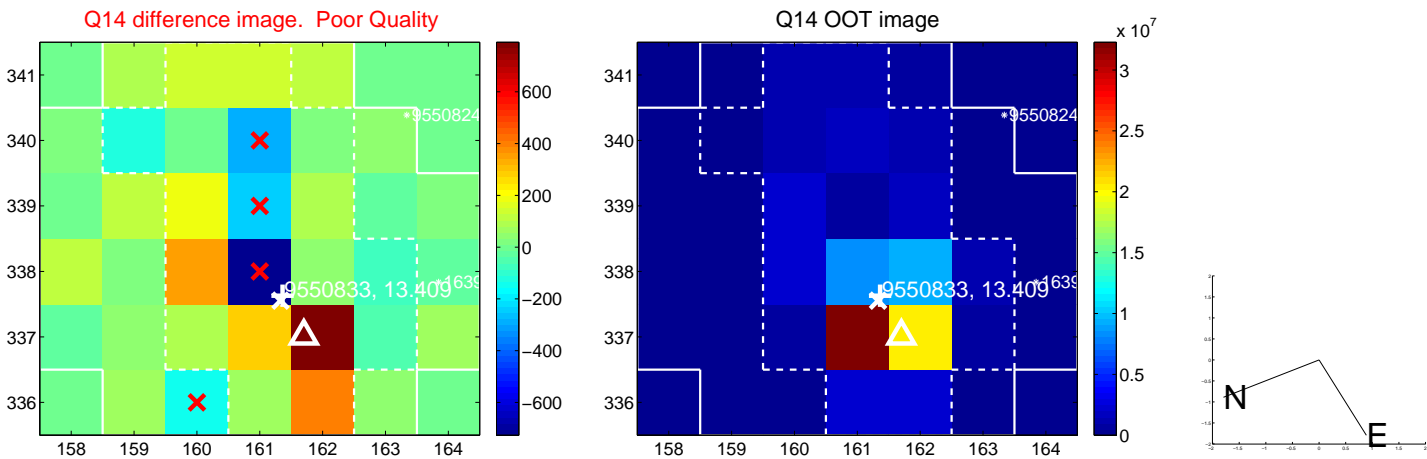
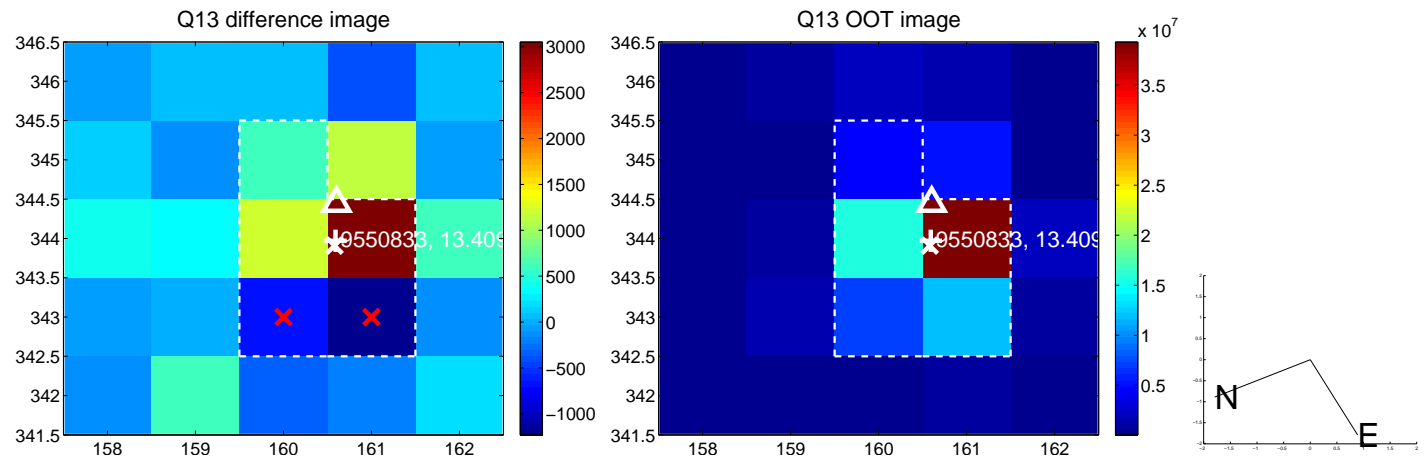
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



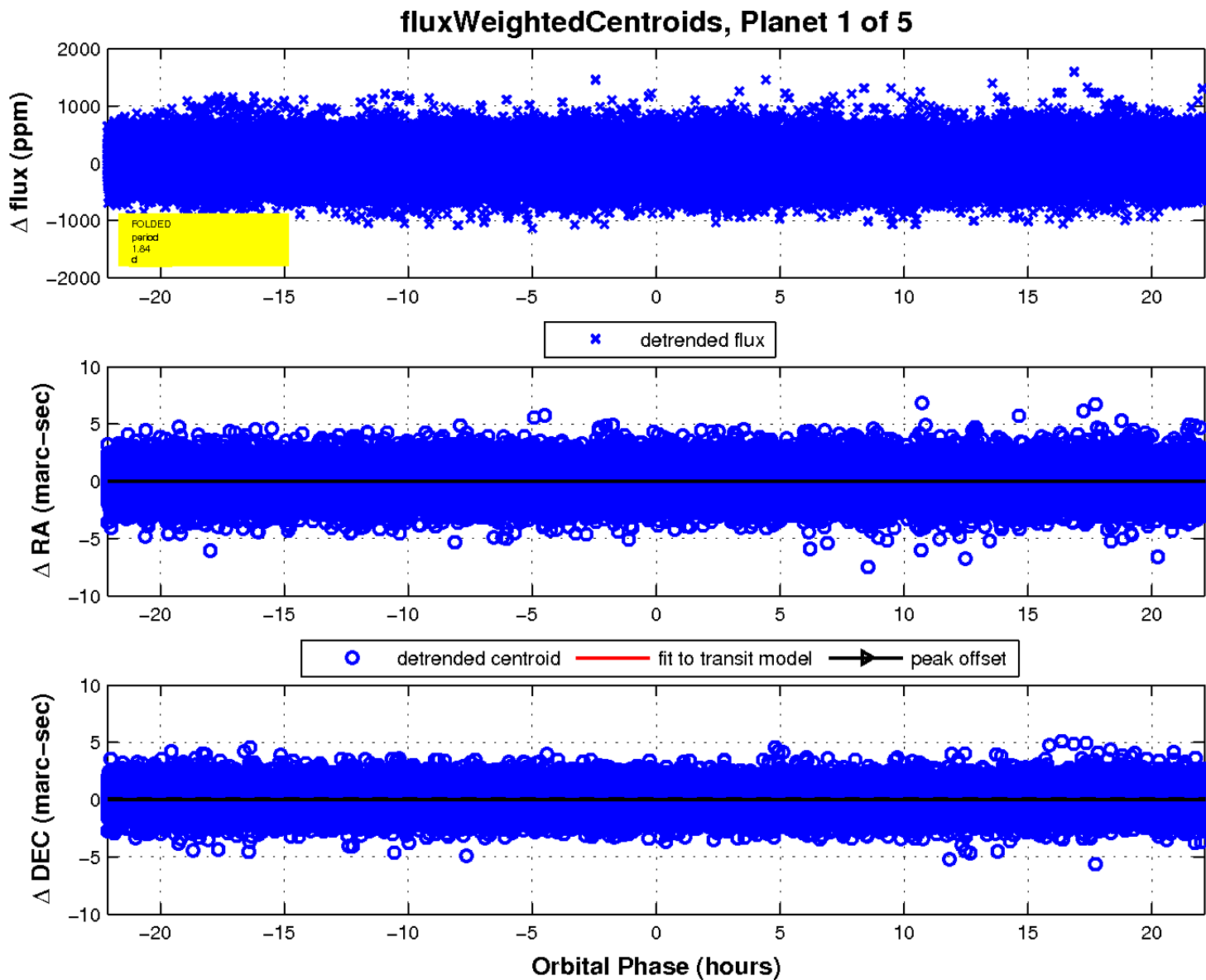
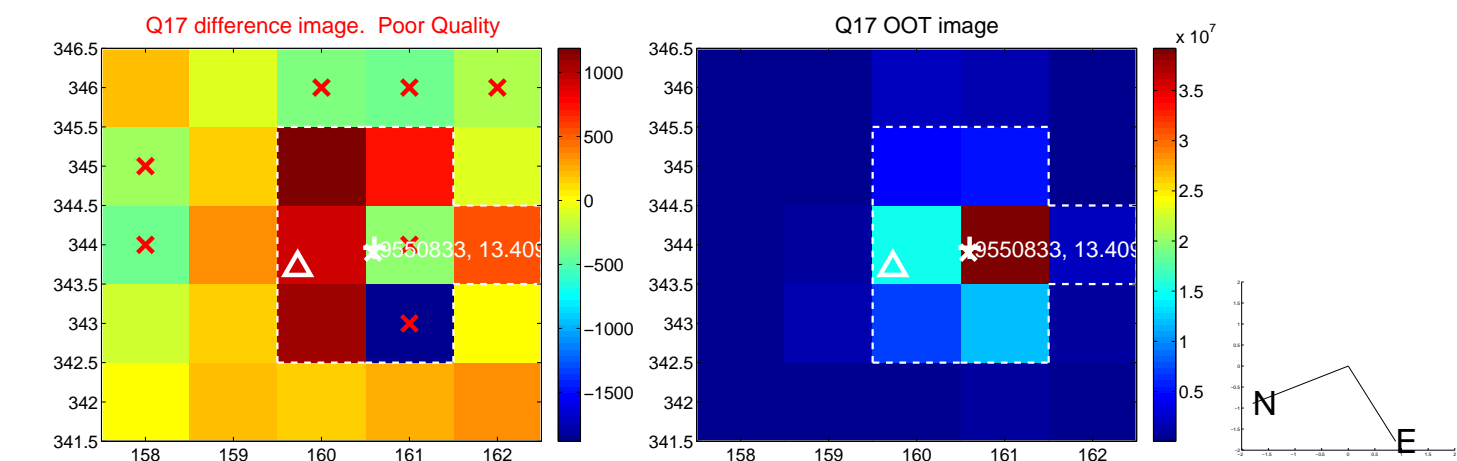
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

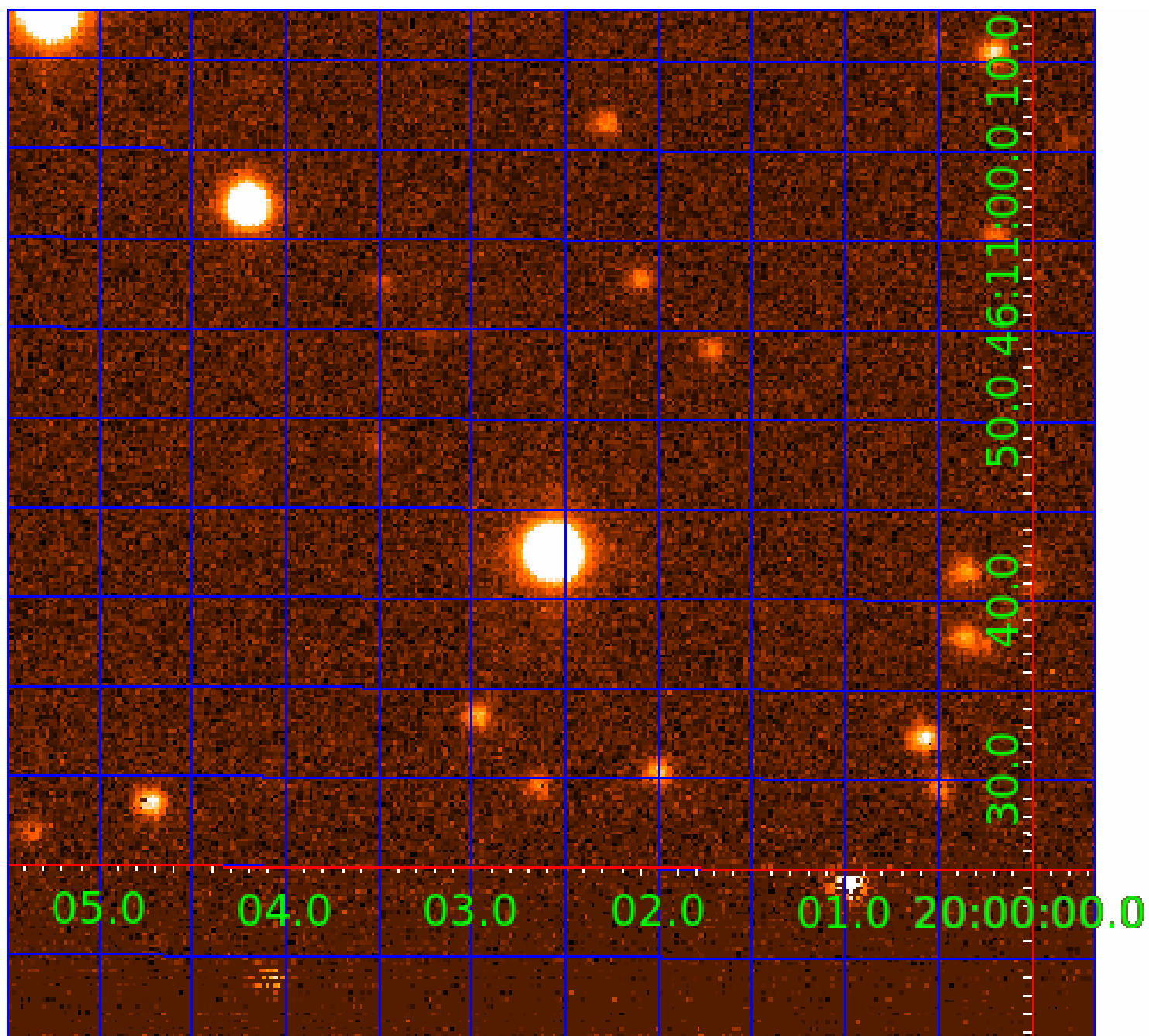


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009550833

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})
009550833-01	OBS	No	1.844914	131.840337	17.4	13.473	7.8	7.1	10.80	6732	4.98	0.00
009550833-03	OBS	No	37.530612	143.813729	441.5	2.223	13.3	12.4	10.80	6732	26.35	2028.92
009550833-05	OBS	No	32.196401	136.851755	536.9	1.194	11.6	10.3	10.80	6732	27.41	2489.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009550833-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009550833-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009550833-05	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

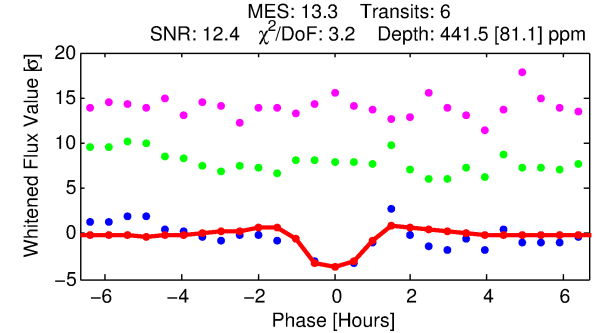
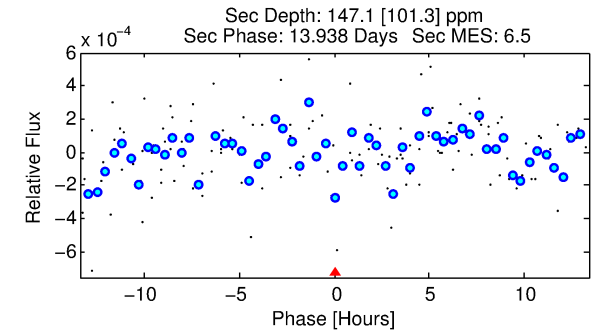
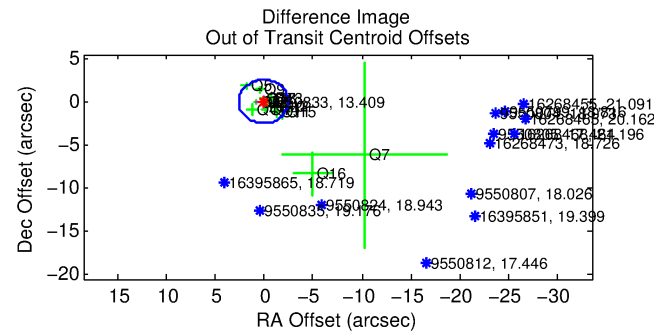
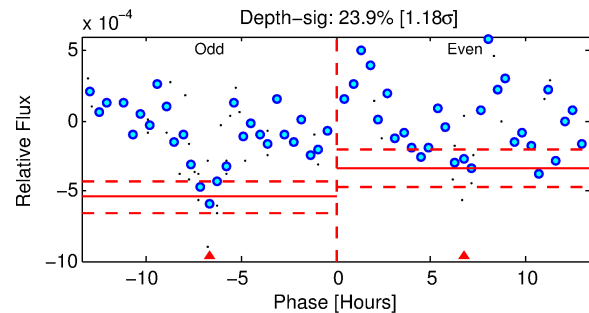
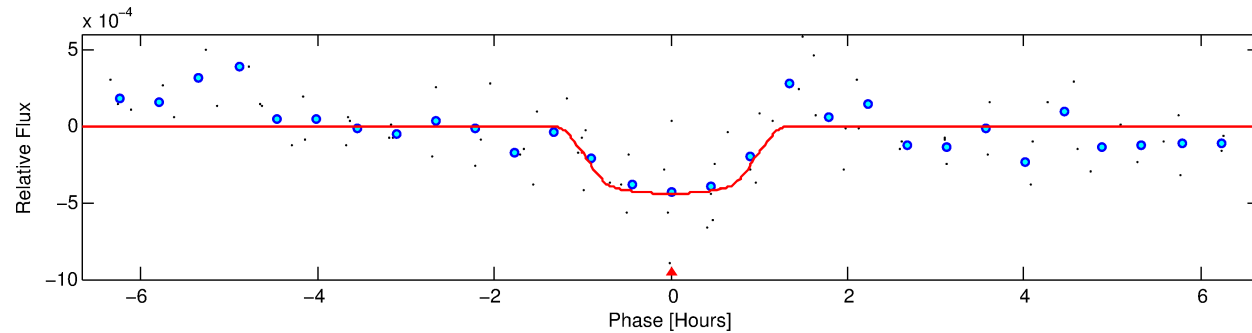
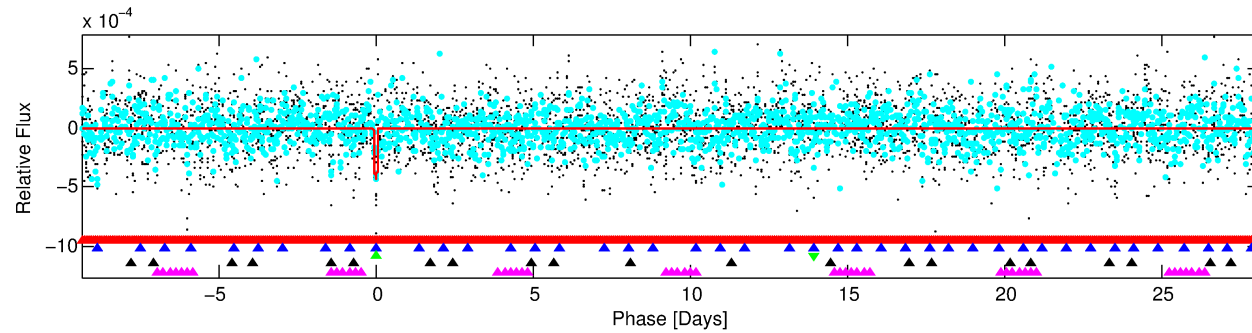
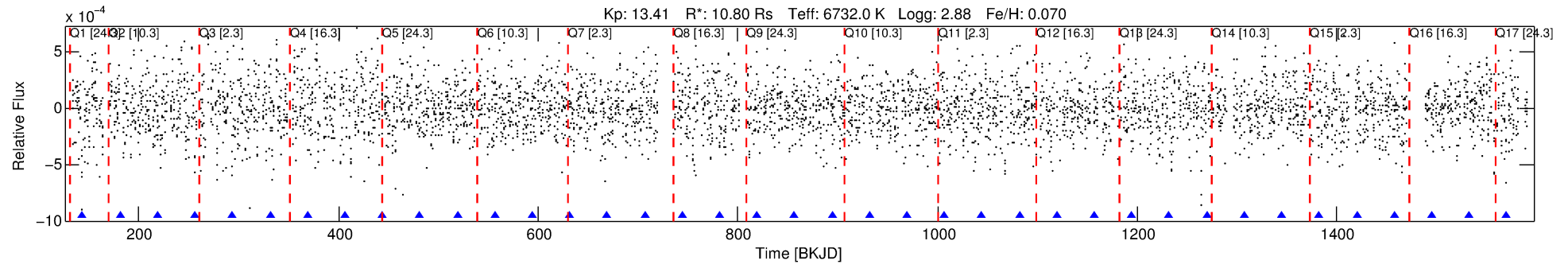
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009550833-03

No Significant Match Found

DV One-Page Summary

KIC: 9550833 Candidate: 3 of 5 Period: 37.531 d



DV Fit Results:

Period = 37.53061 [0.00025] d
Epoch = 143.8137 [0.0065] BKJD
Rp/R* = 0.0224 [0.0281]
a/R* = 64.08 [473.40]
b = 0.89 [1.70]
Seff = 2028.92 [2204.38]
Teff = 1711 [465] K
Rp = 26.35 [36.79] Re
a = 0.3253 [0.2093] AU
Ag = 12.34 [34.74] [0.33 σ]
Teffp = 4959 [3233] K [0.99 σ]

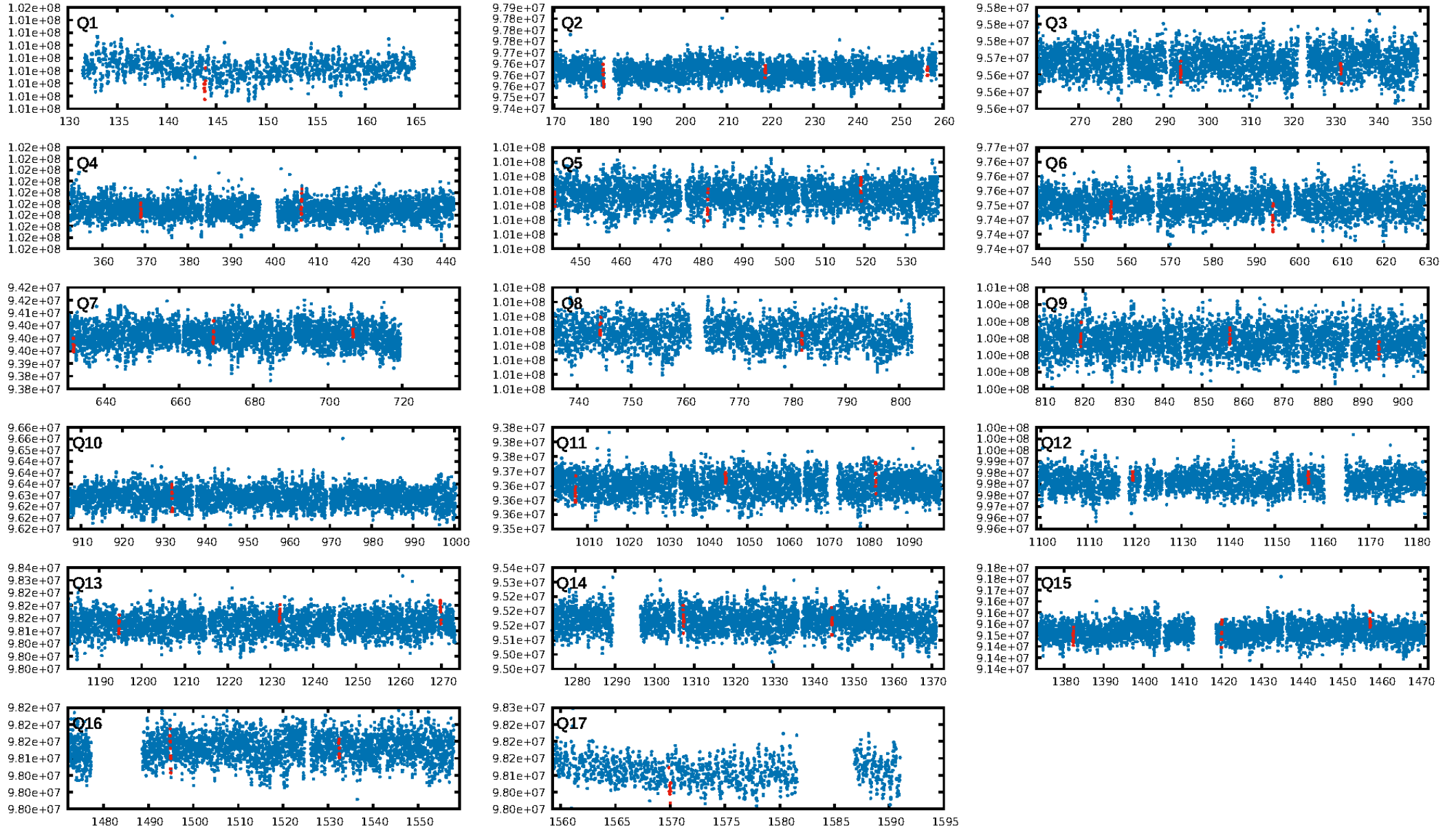
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.37 σ]
LongPeriod-sig: 100.0% [186.88 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 5.4%
Bootstrap-pfa: 5.37e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -211.6
Centroid-sig: 53.8%
Centroid-so: 0.516 arcsec [0.99 σ]
OotOffset-rm: 0.104 arcsec [0.12 σ]
KicOffset-rm: 0.144 arcsec [0.16 σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 0.82 [14/17]

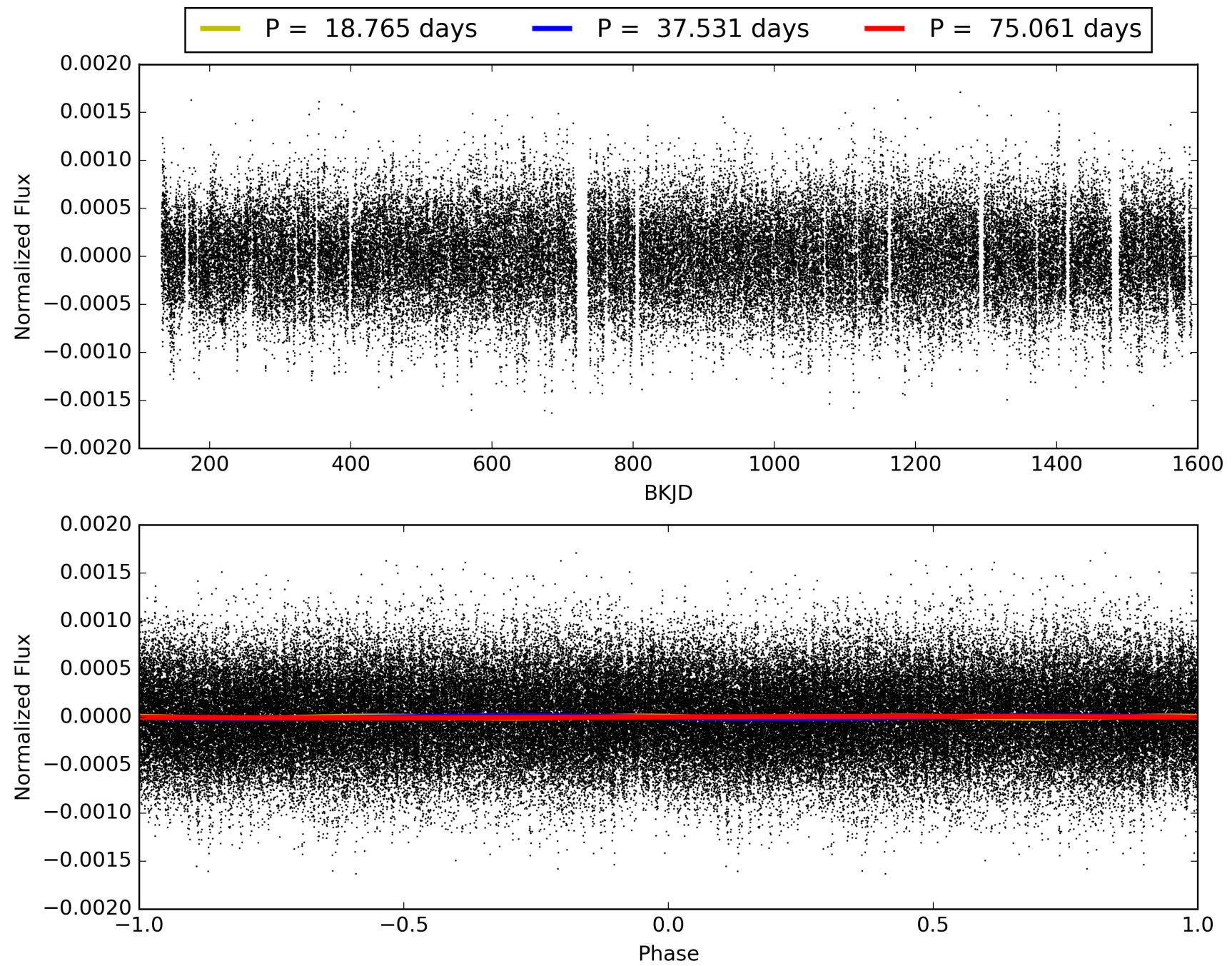
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:27:29 Z

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

TCE 009550833-03, PDC Light Curves

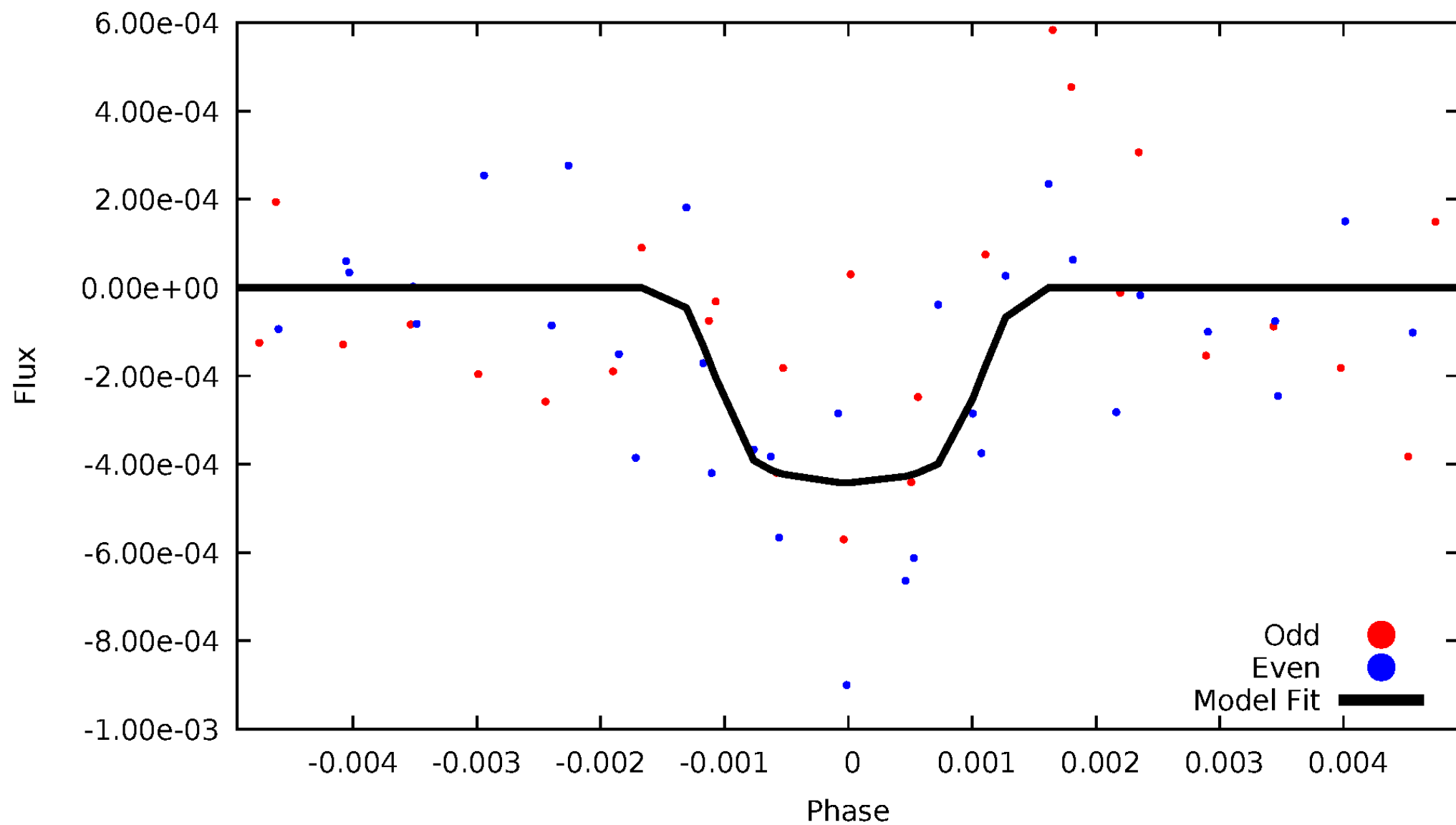


TCE 009550833-03



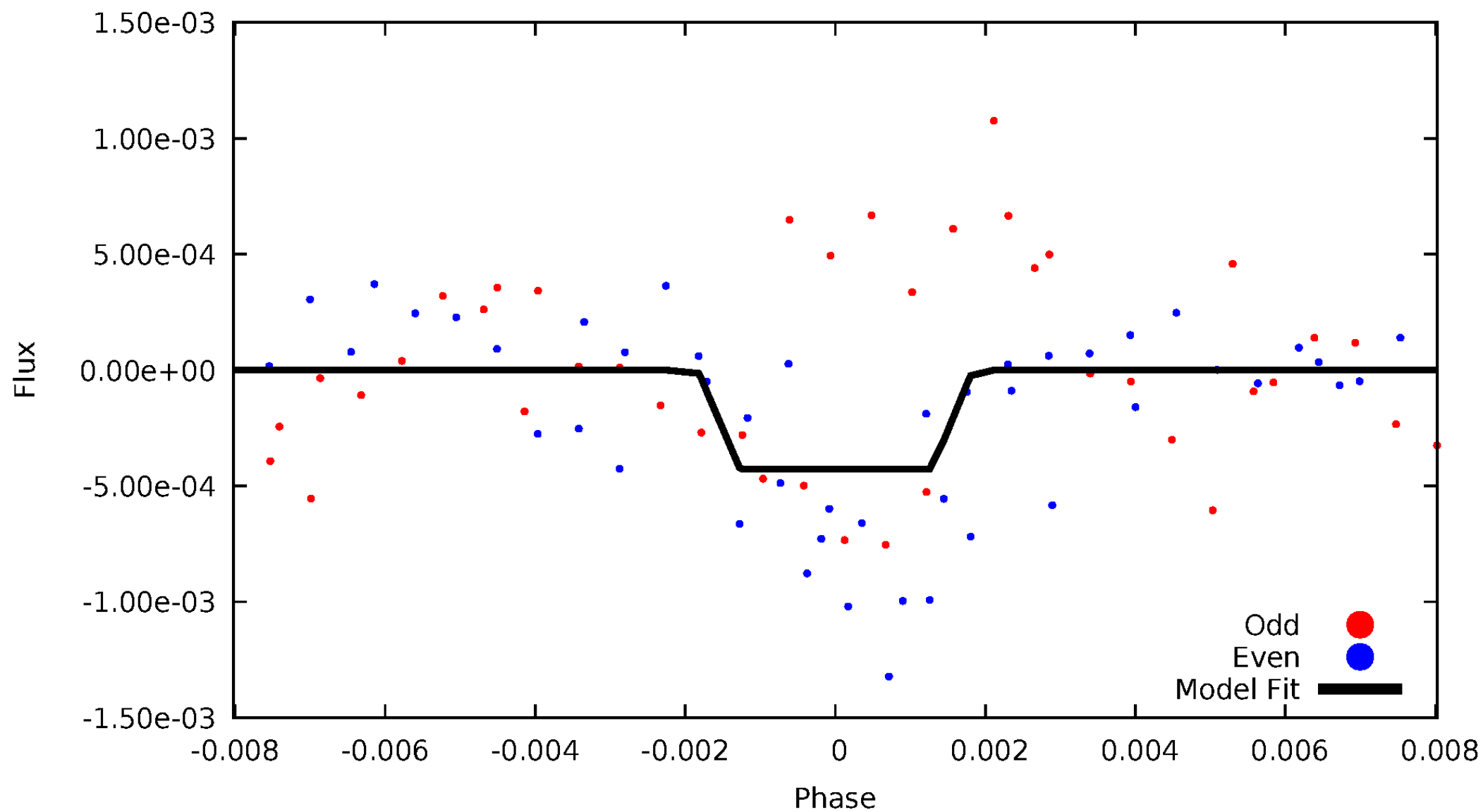
DV Odd/Even

TCE 009550833-03



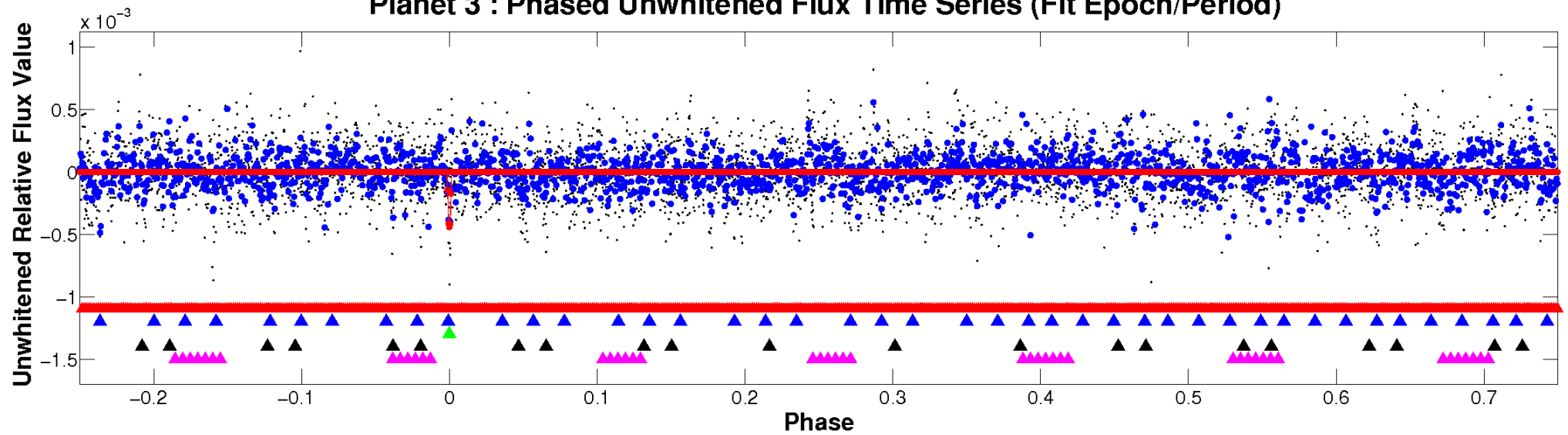
ALT Odd/Even

TCE 009550833-03

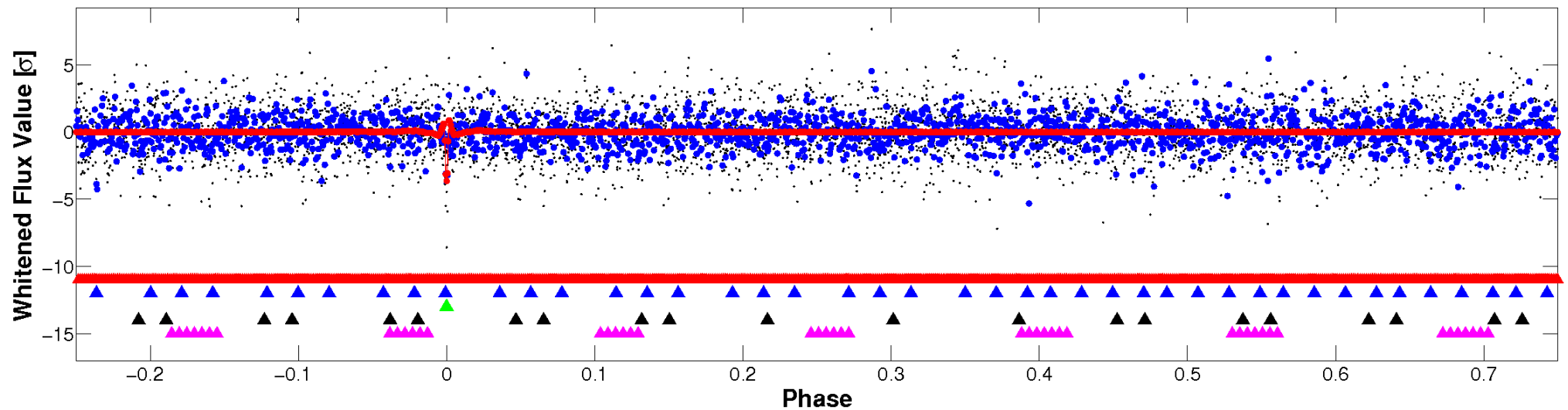


Non-Whitened Vs. Whitened Light Curve

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

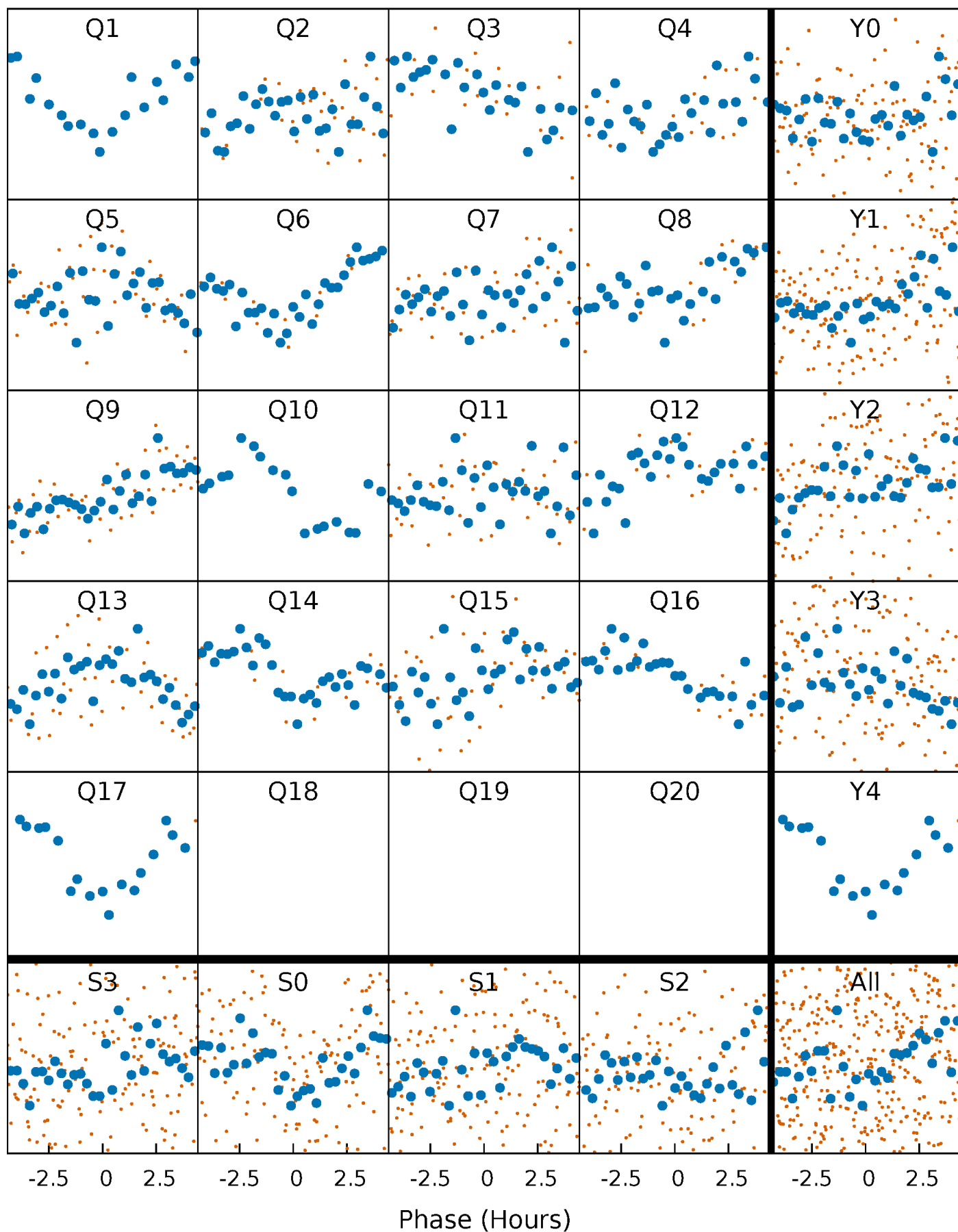


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



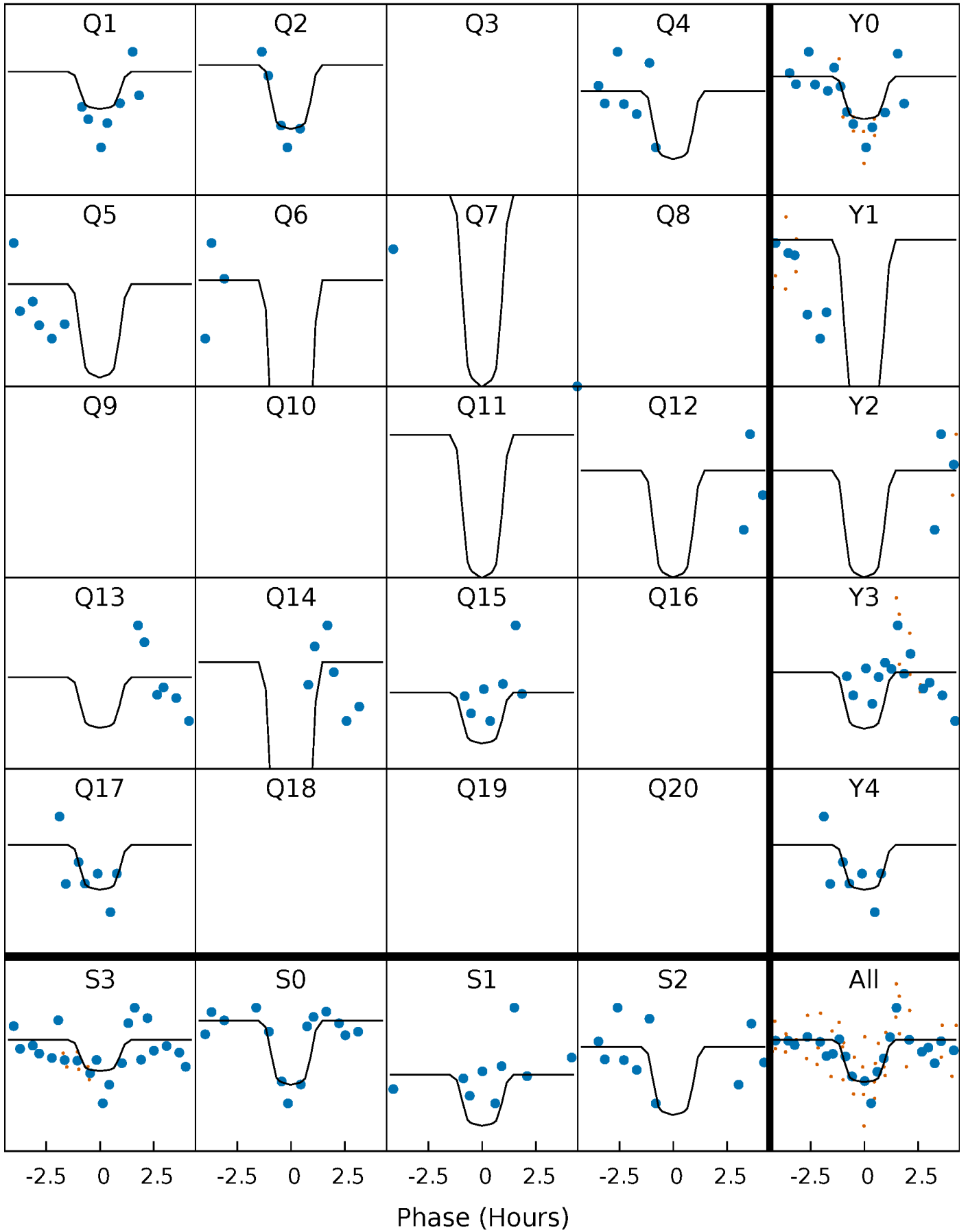
PDC Quarter-Phased Transit Curves

TCE 009550833-03 P= 37.530612 Days $T_0=143.813729$ (BKJD)



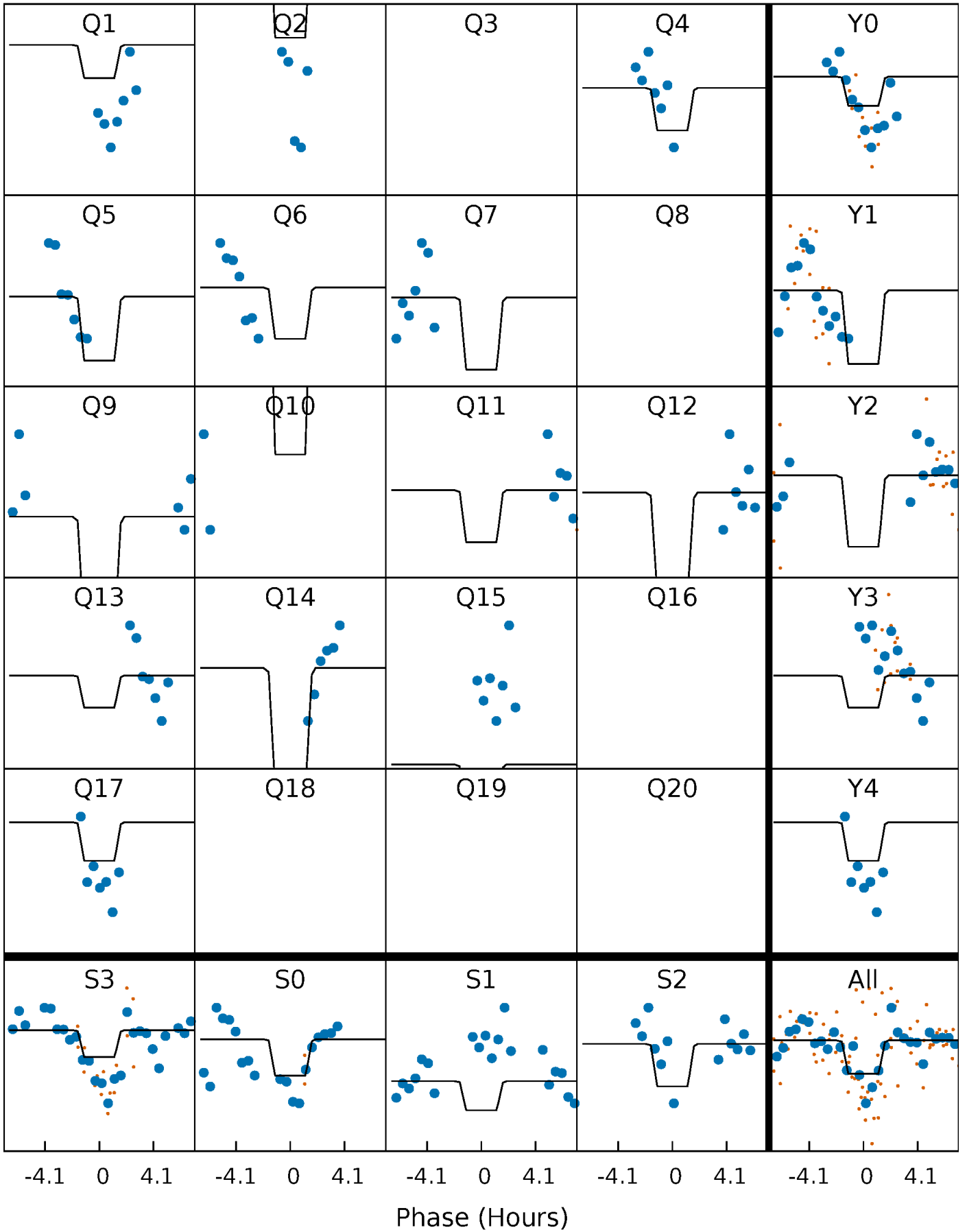
DV Quarter-Phased Transit Curves

TCE 009550833-03 P= 37.530612 Days $T_0=143.813729$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

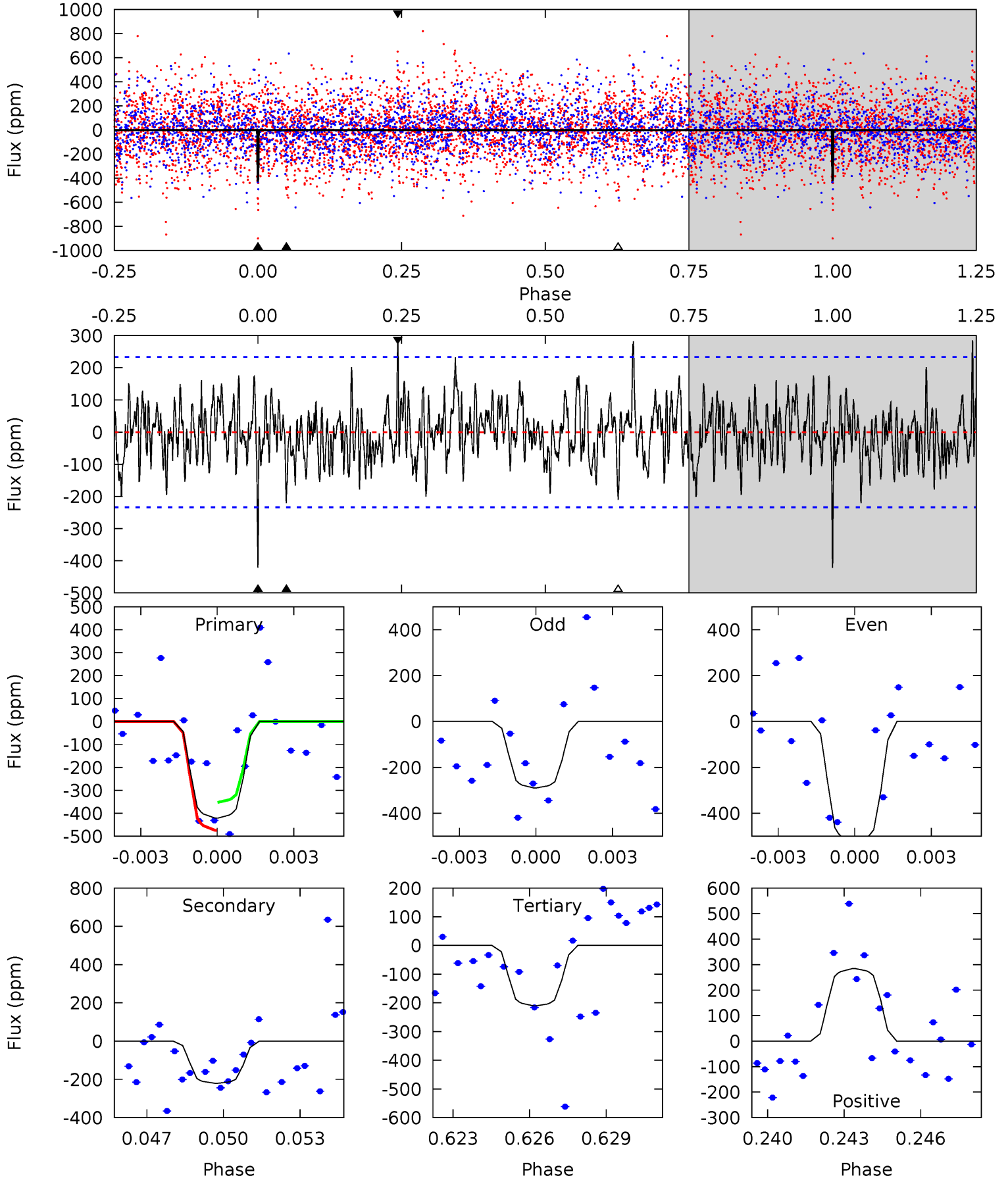
TCE 009550833-03 P= 37.530898 Days $T_0=143.786373$ (BKJD)



DV Model-Shift Uniqueness Test

009550833-03, P = 37.530612 Days, E = 106.283117 Days

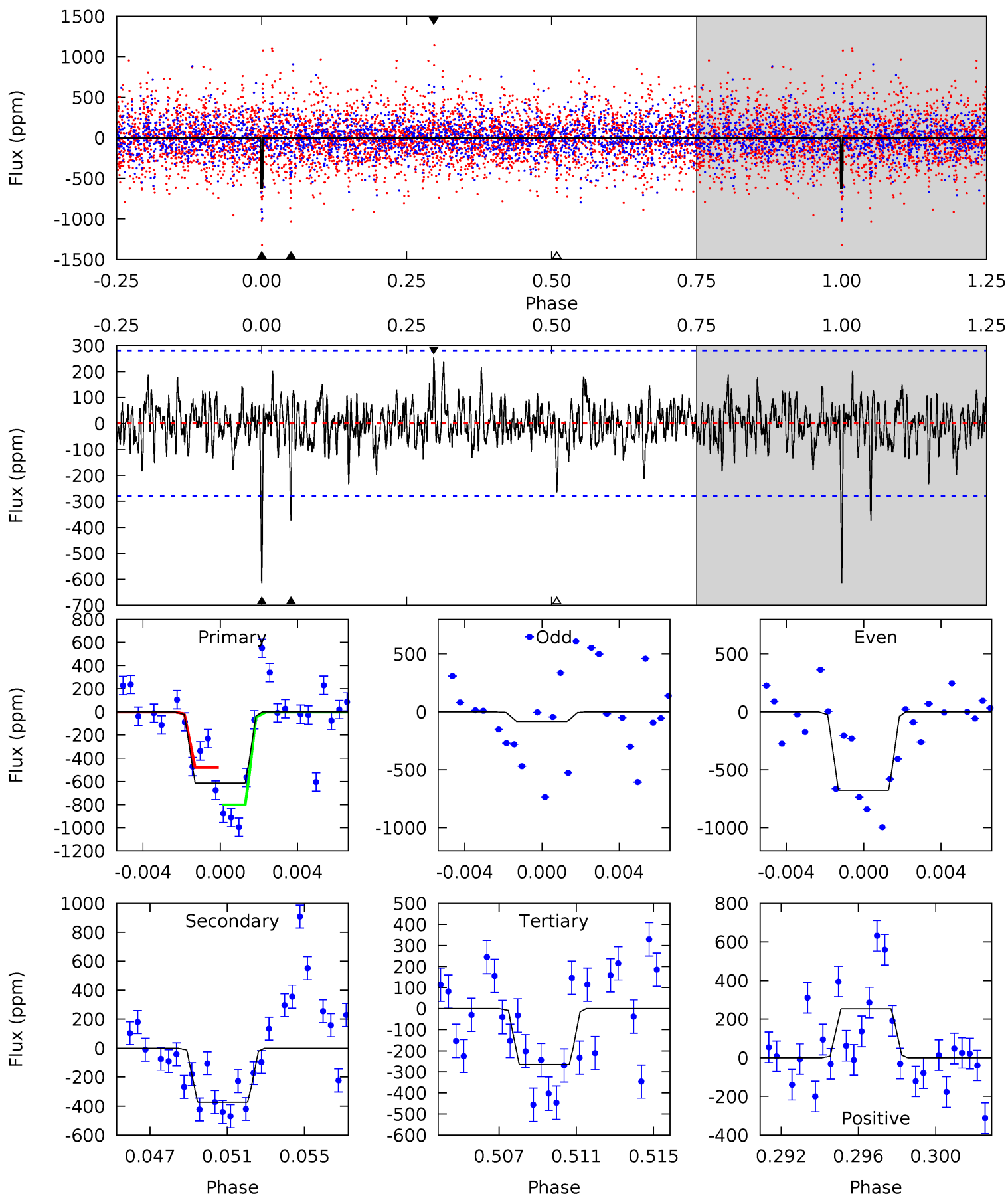
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.48	4.96	4.73	6.40	5.26	2.98	1.72	4.74	3.07	0.23	-1.44	2.61	0.87	0.40	1.37



Alt Model-Shift Uniqueness Test

009550833-03, P = 37.530898 Days, E = 106.255475 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	6.94	4.93	4.72	5.20	2.89	1.27	6.50	6.70	2.01	2.21	5.81	1.21	0.29	0



Stellar Parameters For KIC 009550833

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6732^{+162}_{-263}	$2.884^{+0.648}_{-0.072}$	$0.070^{+0.250}_{-0.450}$	$10.801^{+1.167}_{-6.612}$	$3.255^{+0.070}_{-1.335}$	$0.004^{+0.039}_{-0.001}$
	+2%/-4%	+22%/-2%	+357%/-643%	+11%/-61%	+2%/-41%	+1065%/-24%
Source	PHO1	FLK73	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 009550833-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-221 ± 44	$28.13^{+29.12}_{-18.59}$	2273^{+170}_{-364}	4704^{+3110}_{-934}	14^{+110}_{-10}
Alt.	-373 ± 54	$27.35^{+26.69}_{-18.87}$	2271^{+184}_{-374}	5479^{+4923}_{-1271}	27^{+241}_{-20}

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 $A_{obs} \gg 1.0$

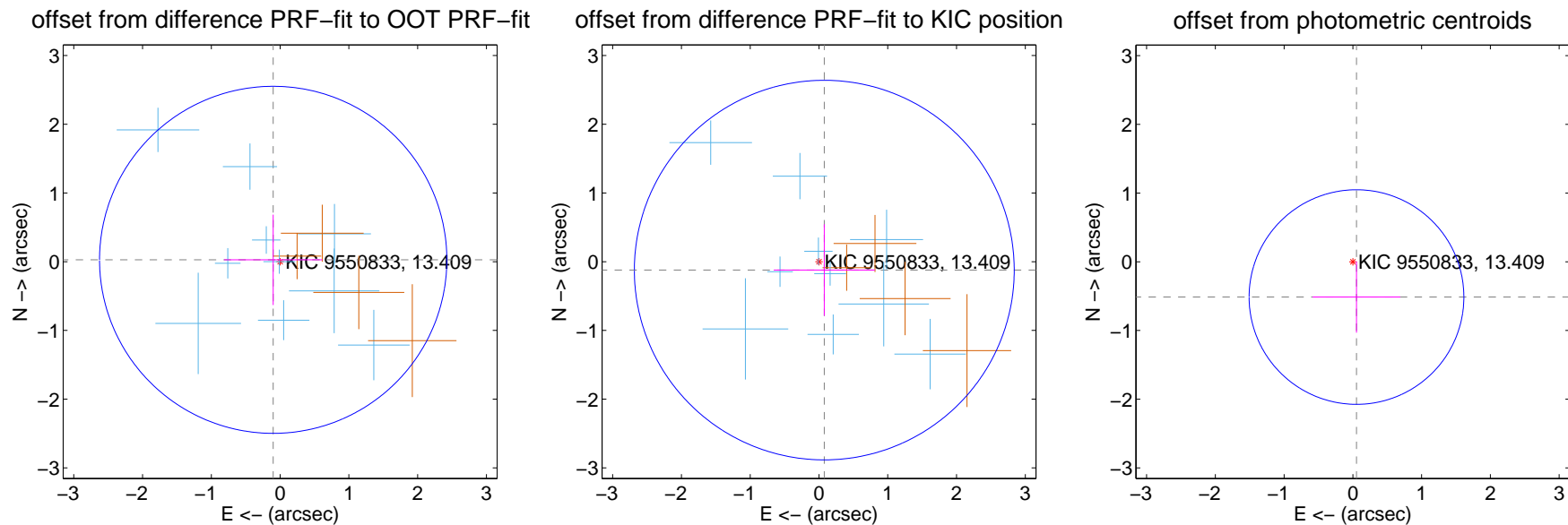
DV Centroid Data

Supplemental centroid analysis for 009550833-03. Kepler magnitude: 13.41. Transit SNR 12.43

There are 10 quarters with good PRF difference image offsets

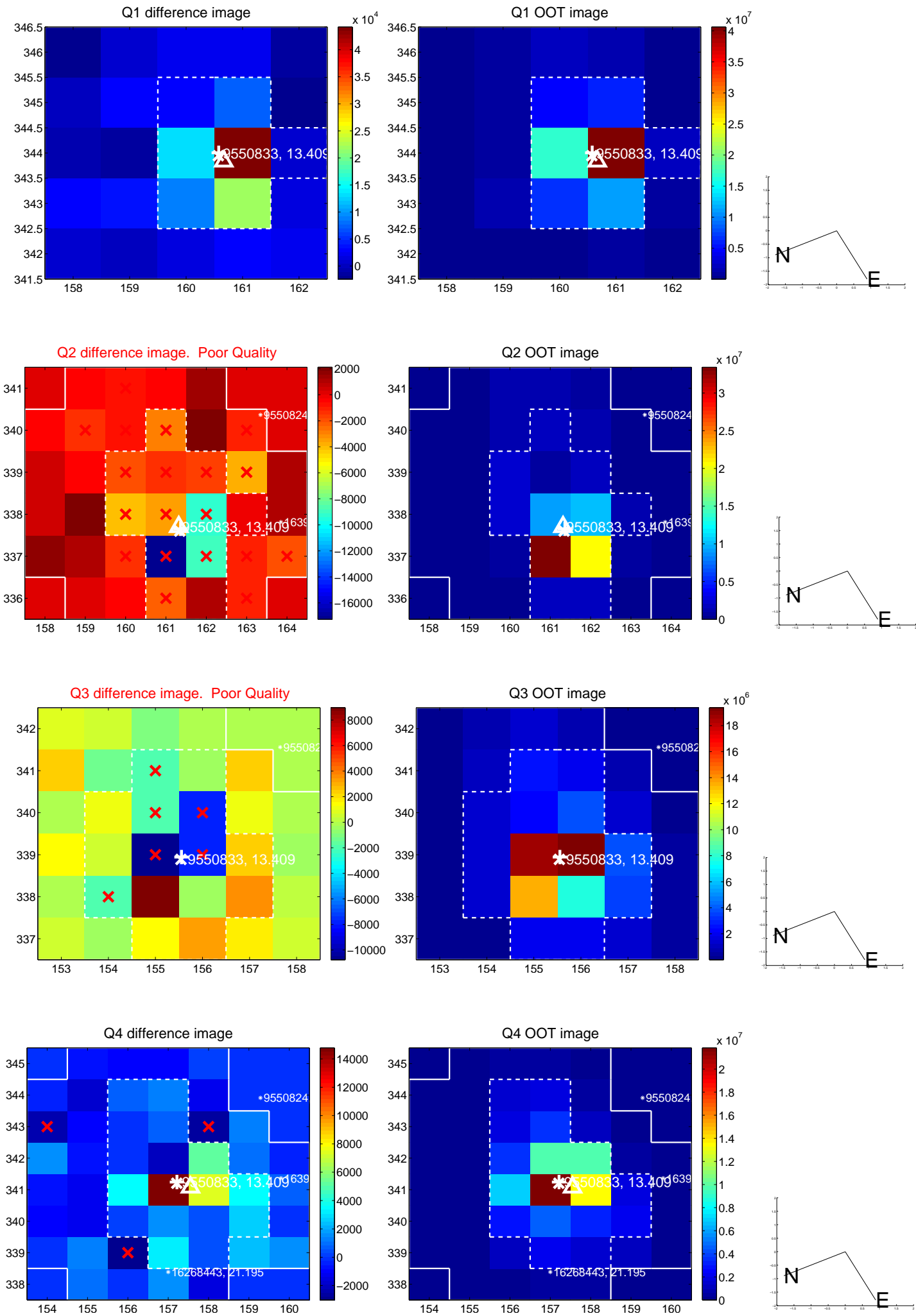
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.104 ± 0.841	0.12	0.101 ± 0.715	0.027 ± 0.658
PRF-fit source offset from KIC position	0.144 ± 0.920	0.16	-0.077 ± 0.735	-0.122 ± 0.666
photometric centroid source offset	0.52 ± 0.52	0.99	-0.05 ± 0.64	-0.51 ± 0.52

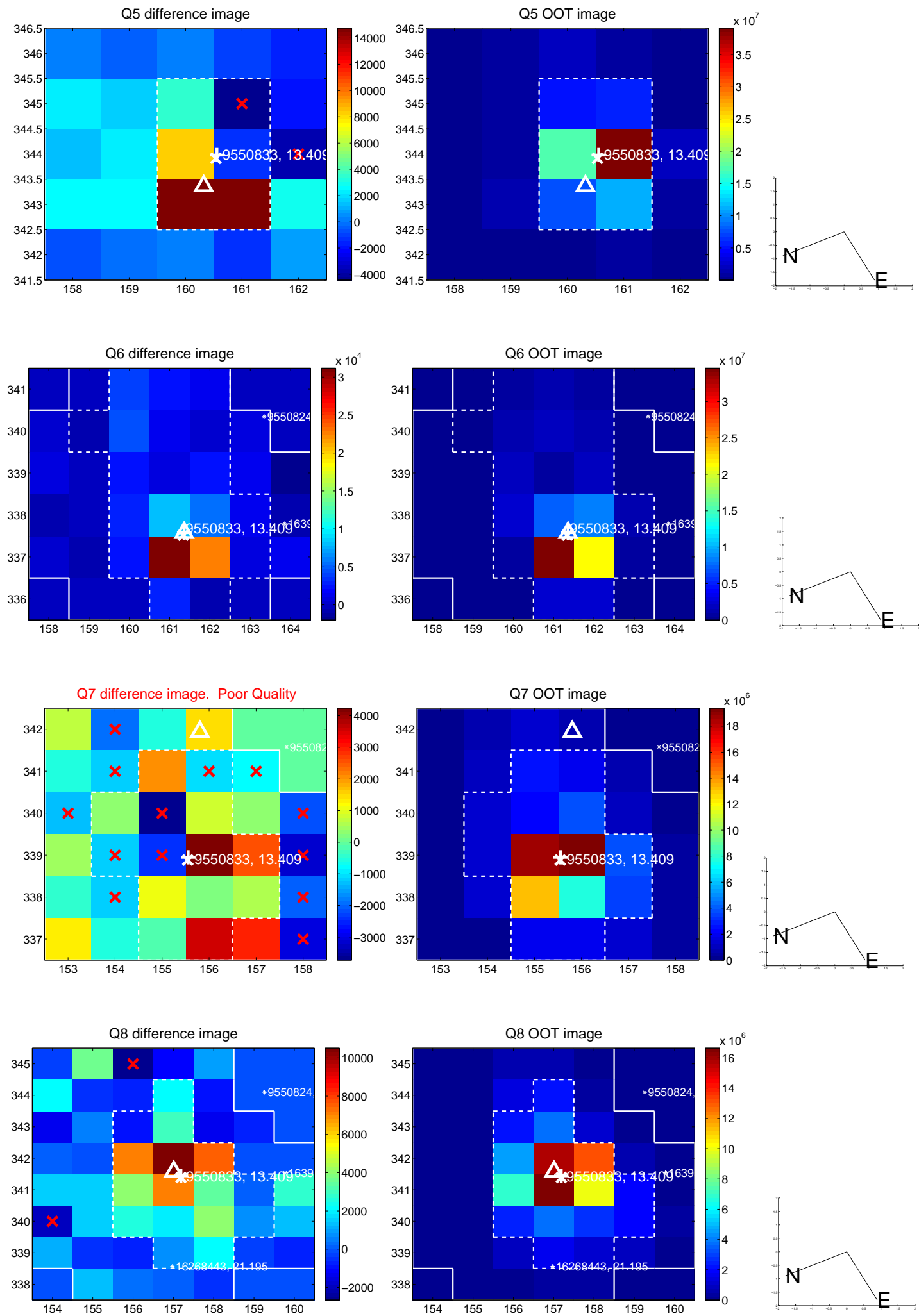


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

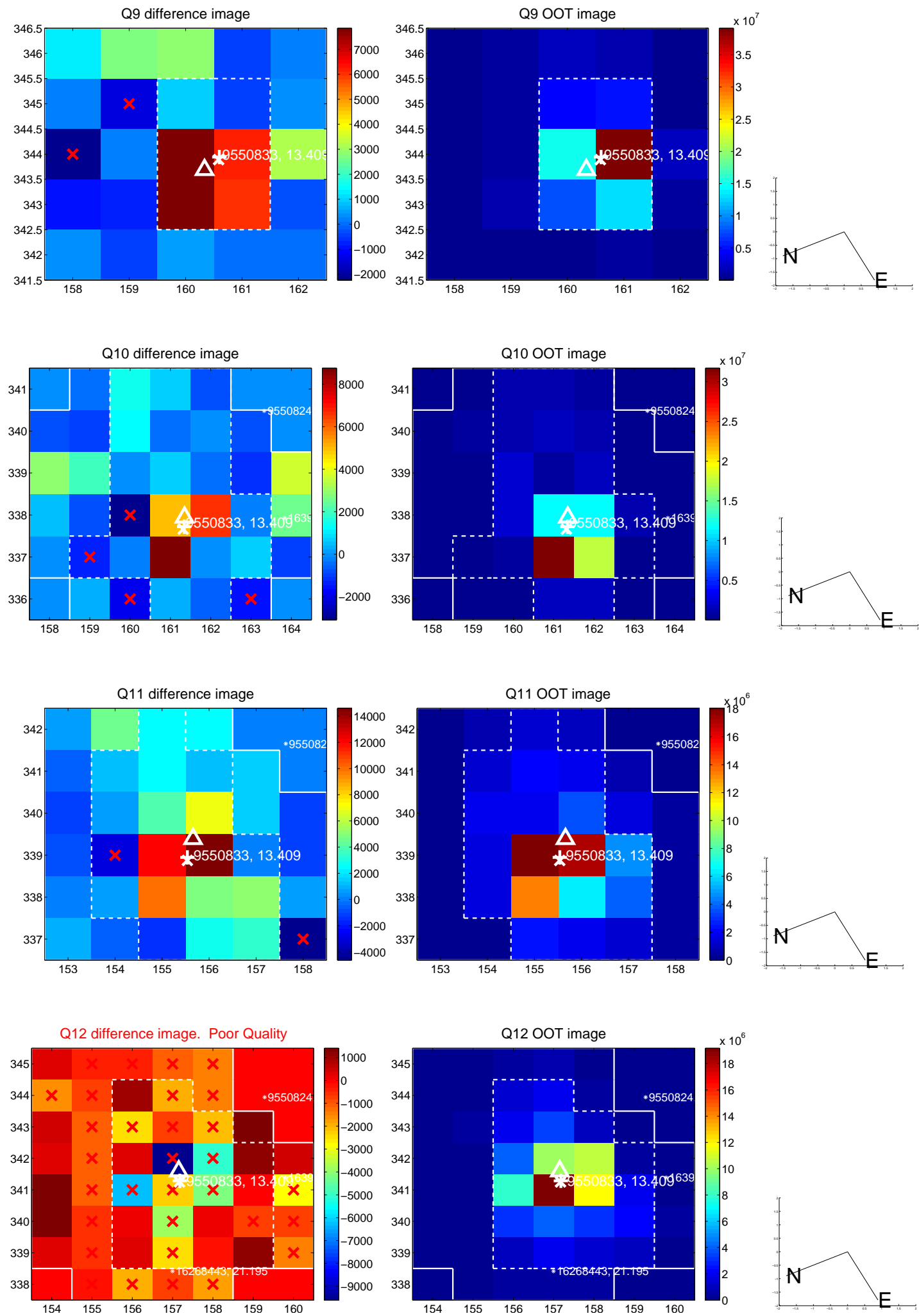
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



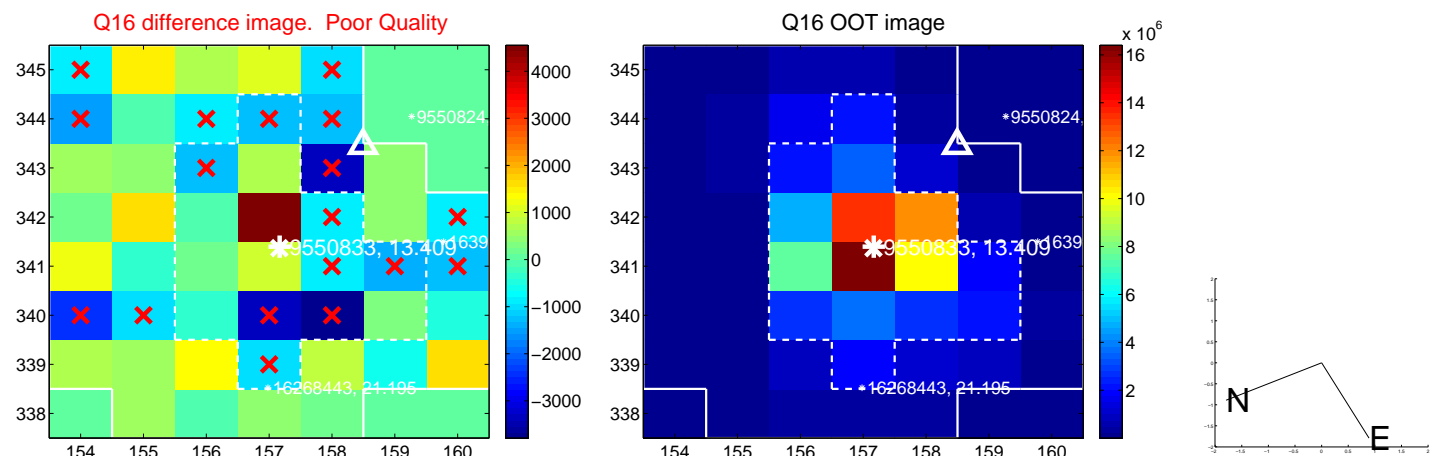
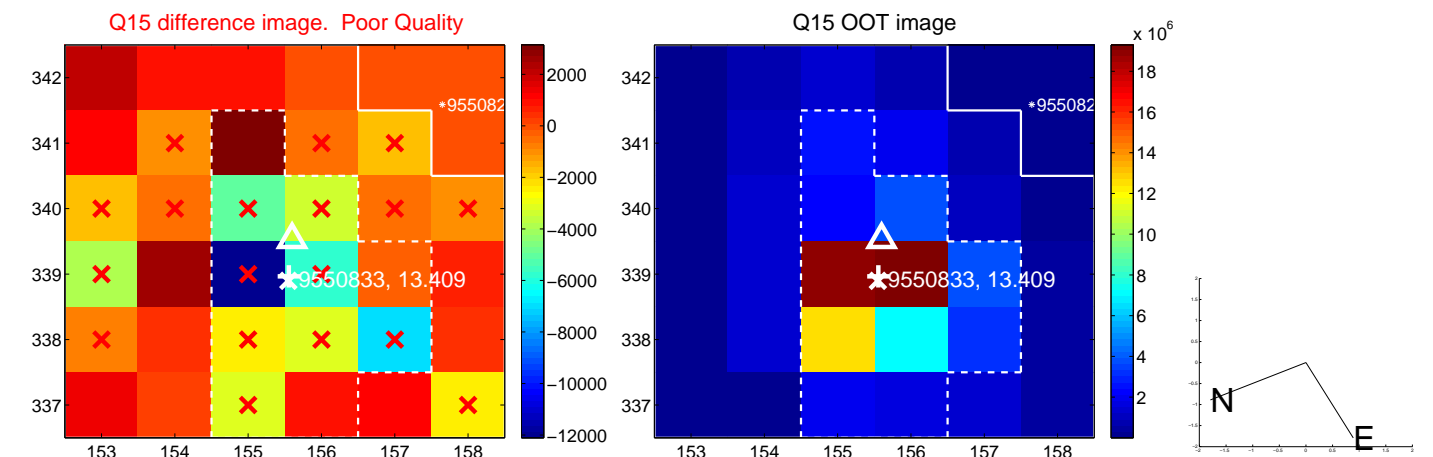
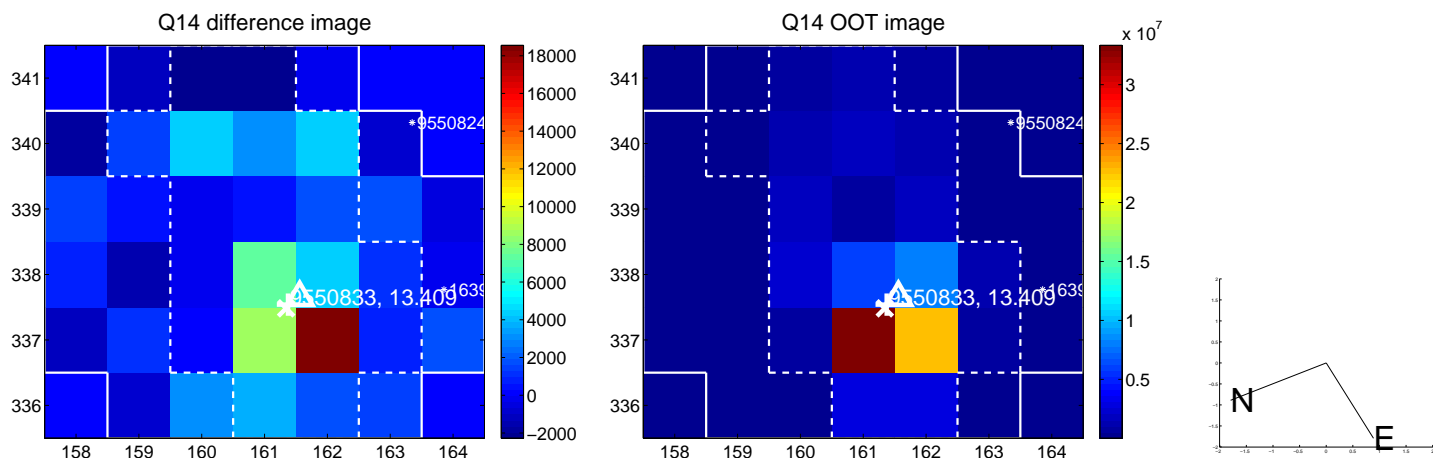
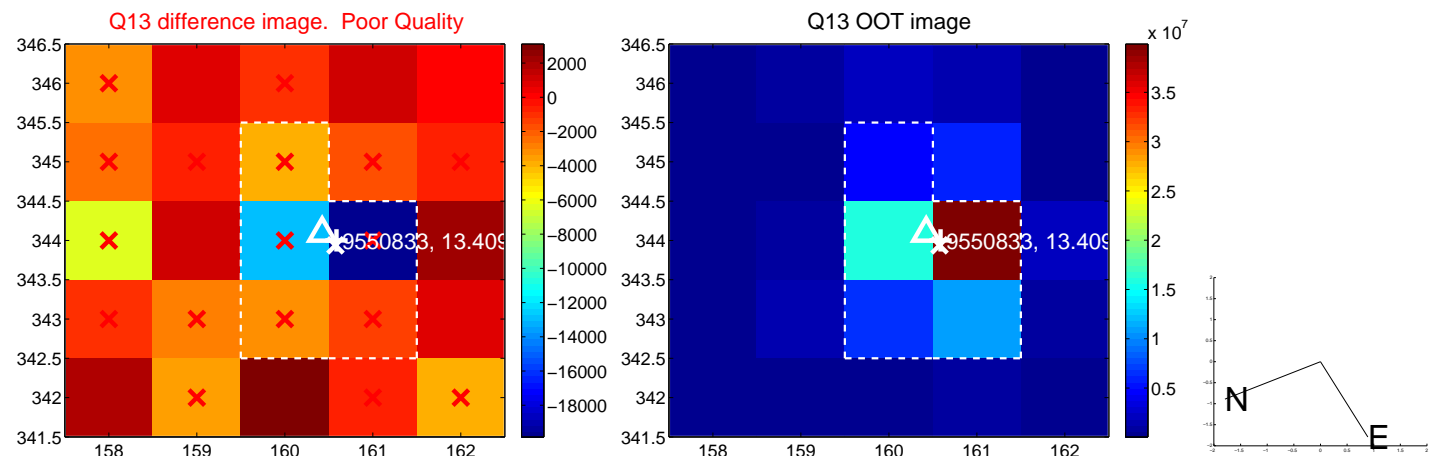
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



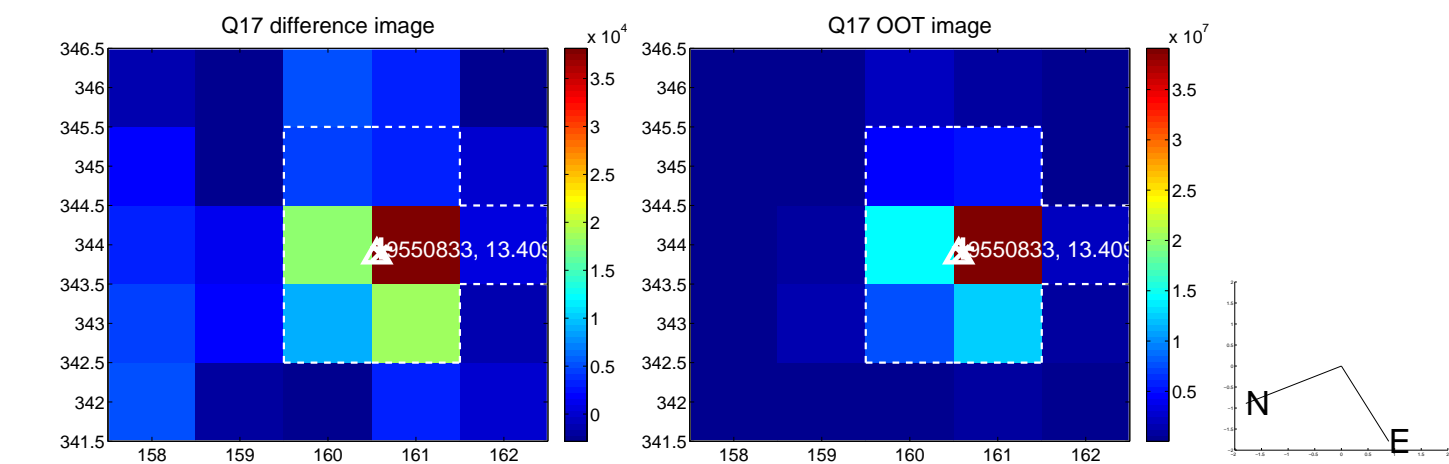
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



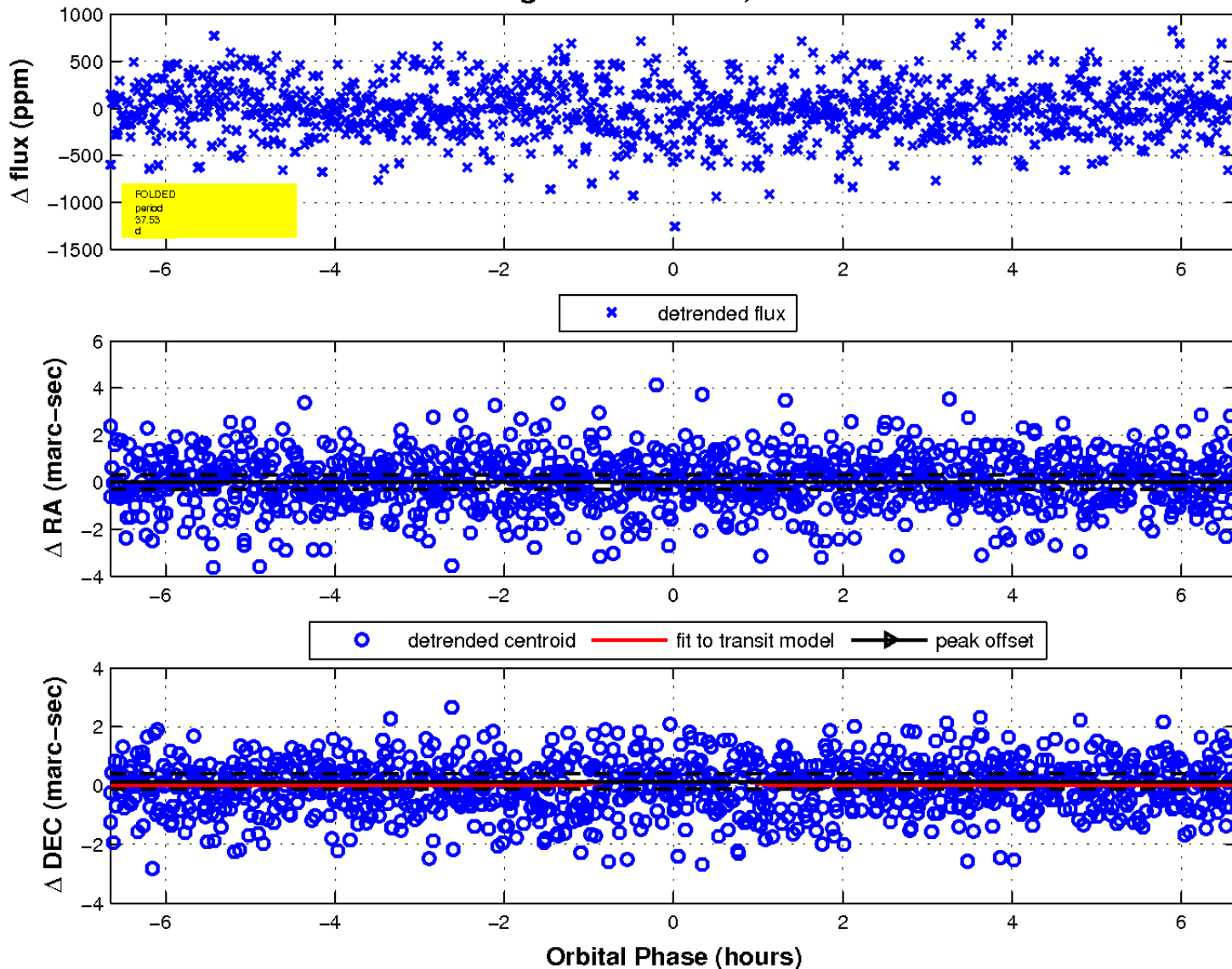
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

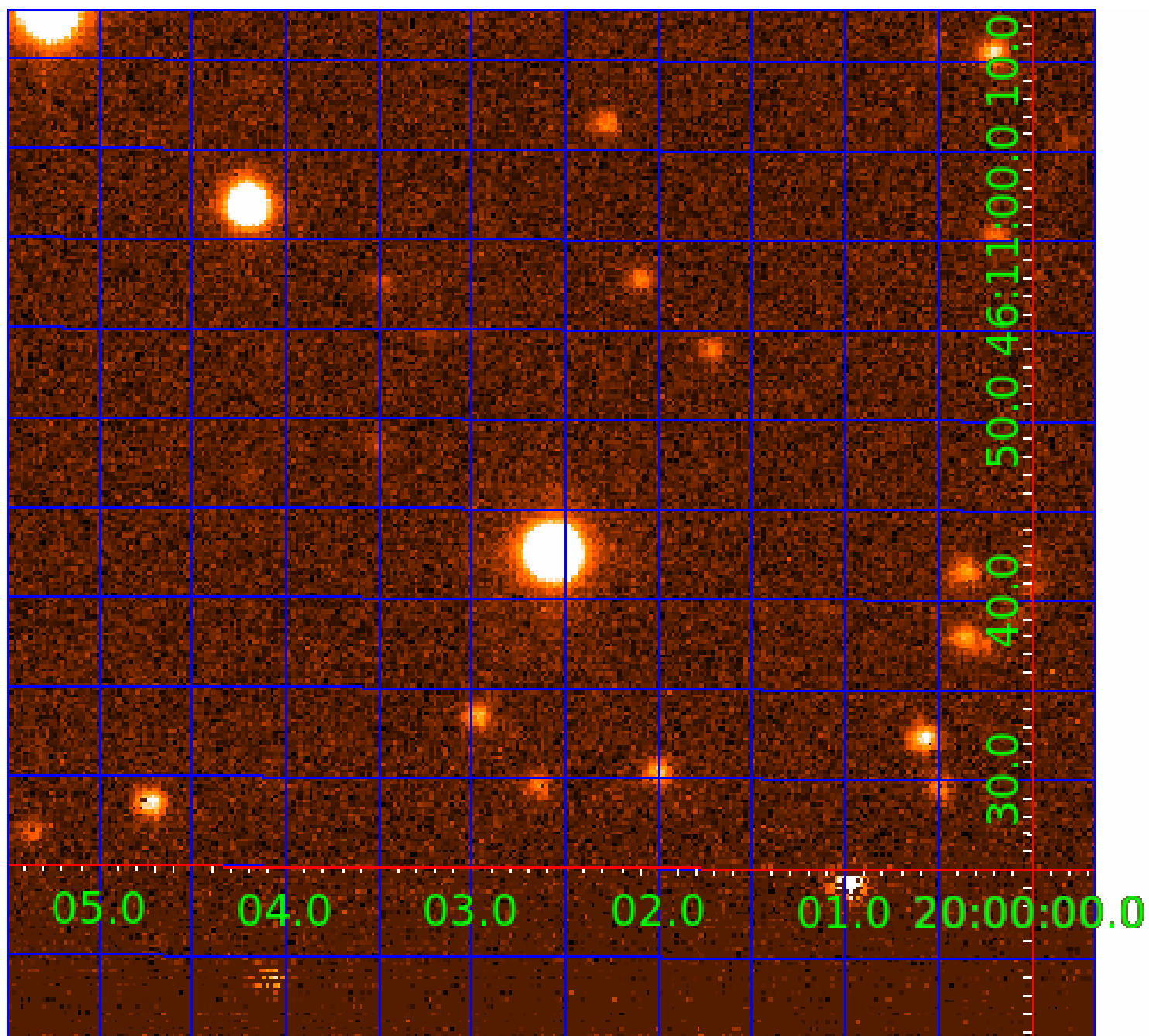


fluxWeightedCentroids, Planet 3 of 5



UKIRT Image

Declination



KIC 009550833

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})
009550833-01	OBS	No	1.844914	131.840337	17.4	13.473	7.8	7.1	10.80	6732	4.98	0.00
009550833-03	OBS	No	37.530612	143.813729	441.5	2.223	13.3	12.4	10.80	6732	26.35	2028.92
009550833-05	OBS	No	32.196401	136.851755	536.9	1.194	11.6	10.3	10.80	6732	27.41	2489.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009550833-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009550833-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009550833-05	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

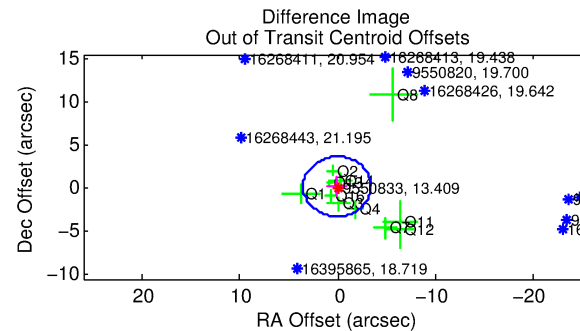
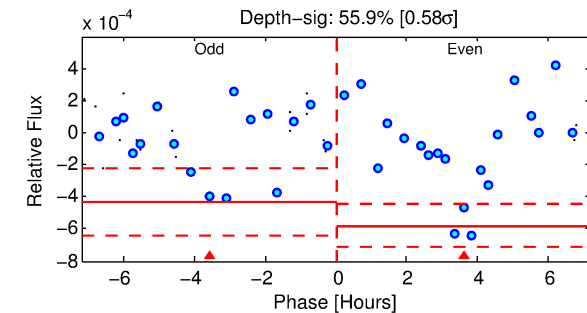
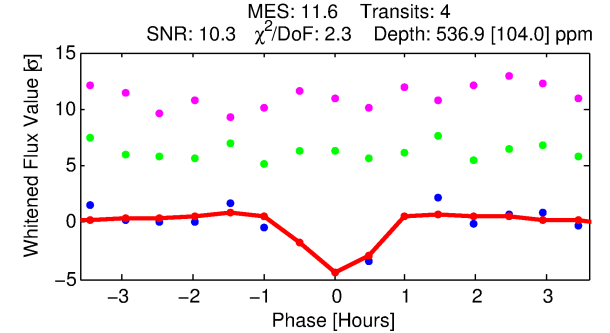
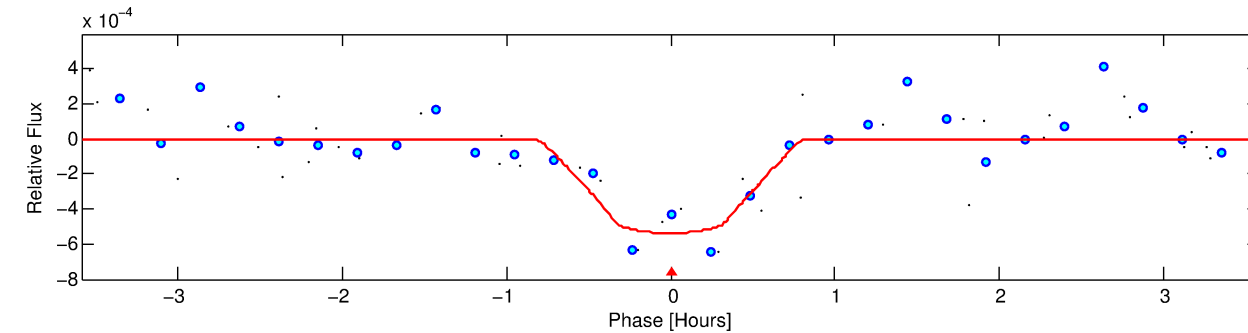
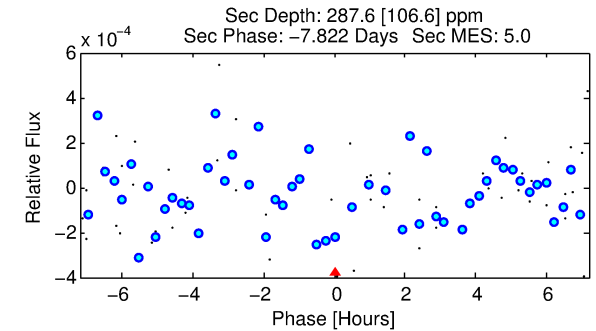
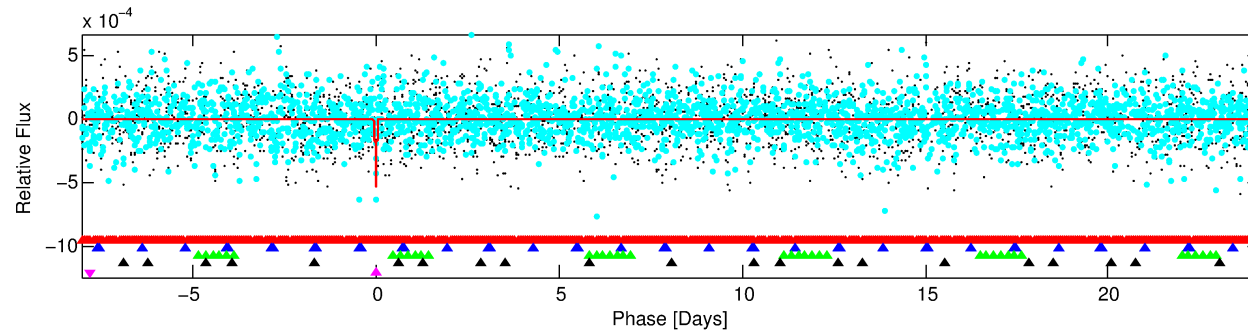
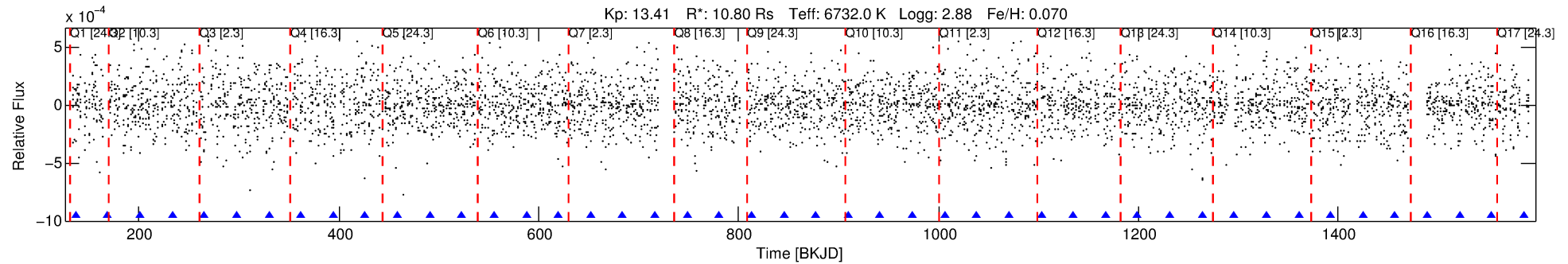
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009550833-05

No Significant Match Found

DV One-Page Summary

KIC: 9550833 Candidate: 5 of 5 Period: 32.196 d



DV Fit Results:

Period = 32.19640 [0.00028] d
Epoch = 136.8518 [0.0054] BKJD
Rp/R* = 0.0233 [0.0344]
a/R* = 140.83 [1179.33]
b = 0.76 [4.69]
Self = 2489.07 [2704.32]
Teff = 1801 [489] K
Rp = 27.41 [43.92] Re
a = 0.2937 [0.1889] AU
Ag = 18.16 [57.59] [0.30σ]
Teffp = 5748 [4294] K [0.91σ]

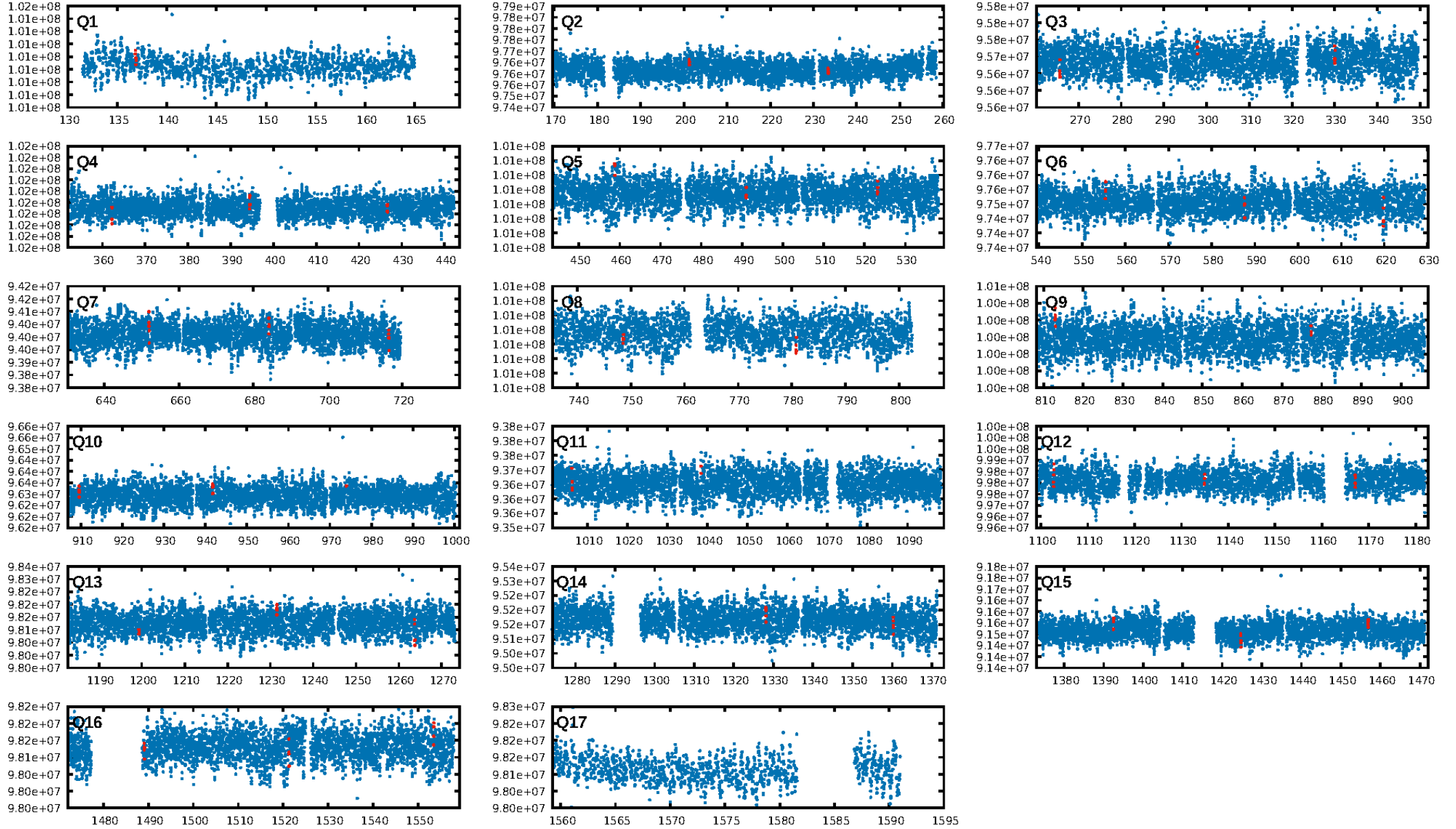
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [53.86σ]
LongPeriod-sig: 100.0% [11.58σ]
ModelChiSquare2-sig: 13.1%
ModelChiSquareGof-sig: 42.5%
Bootstrap-pfa: 1.04e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.2233
Centroid-sig: 10.3%
Centroid-so: 1.008 arcsec [1.44σ]
OotOffset-rm: 0.219 arcsec [0.19σ]
KicOffset-rm: 0.127 arcsec [0.13σ]
OotOffset-st: 2/3/4/2 [11]
KicOffset-st: 2/3/4/2 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 0.88 [14/16]

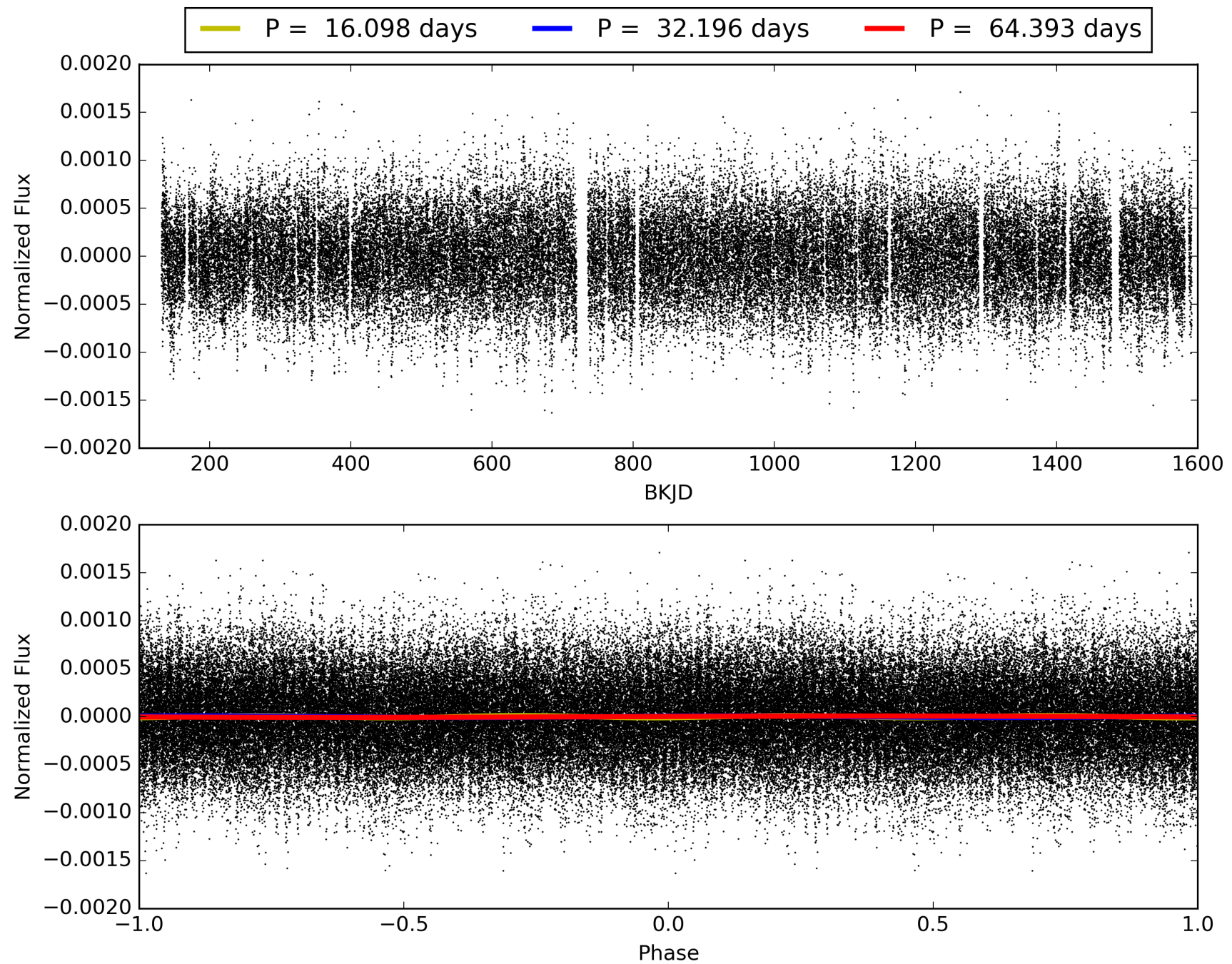
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:27:35 Z

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

TCE 009550833-05, PDC Light Curves

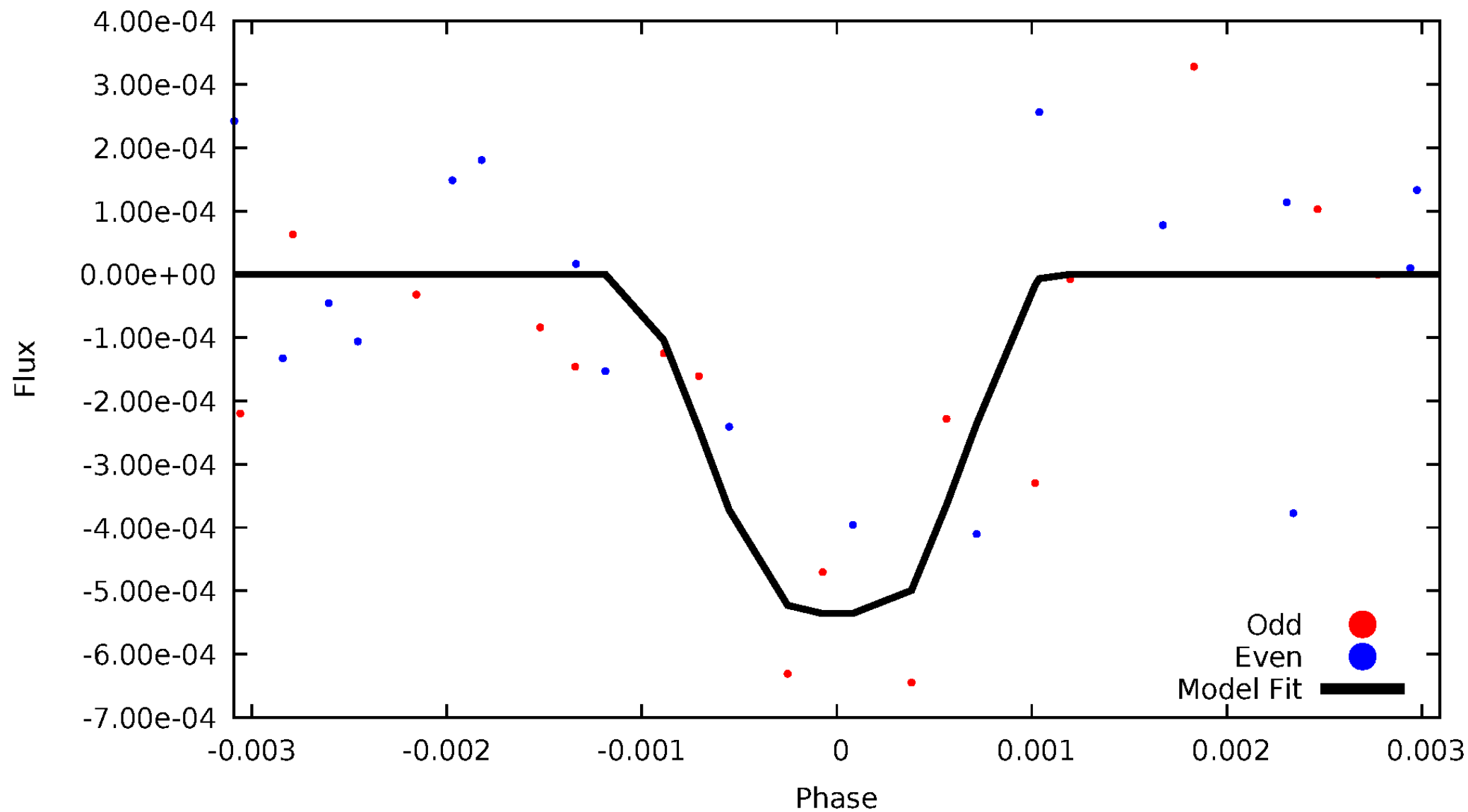


TCE 009550833-05



DV Odd/Even

TCE 009550833-05

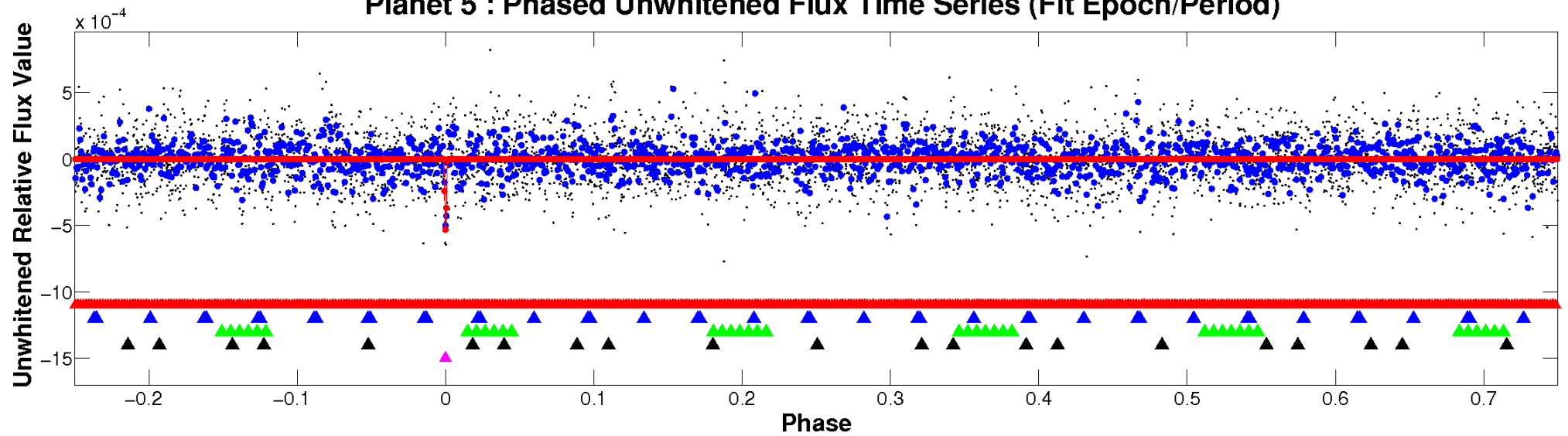


ALT Odd/Even

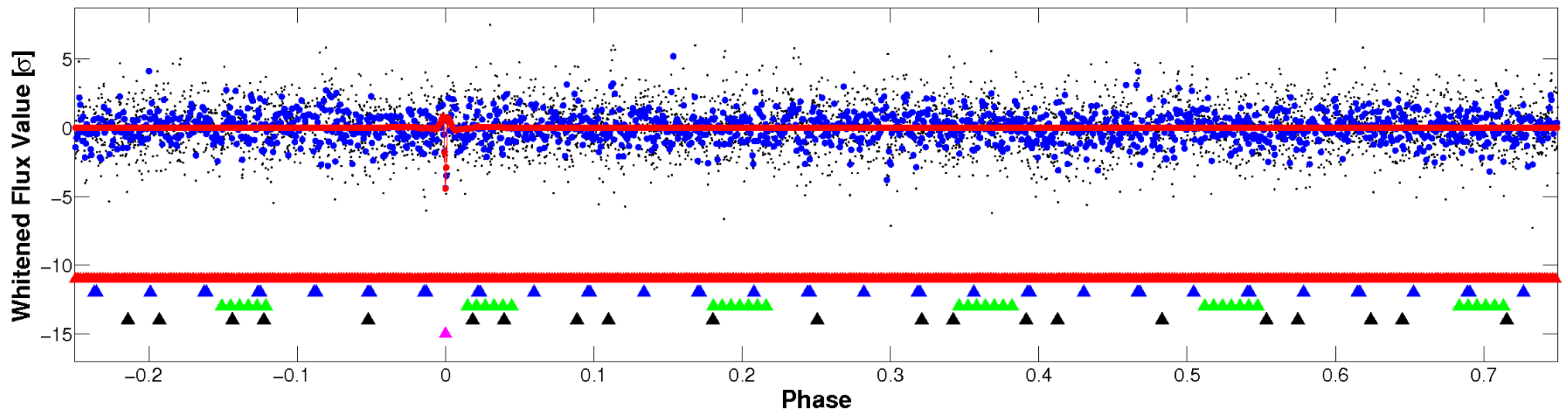
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

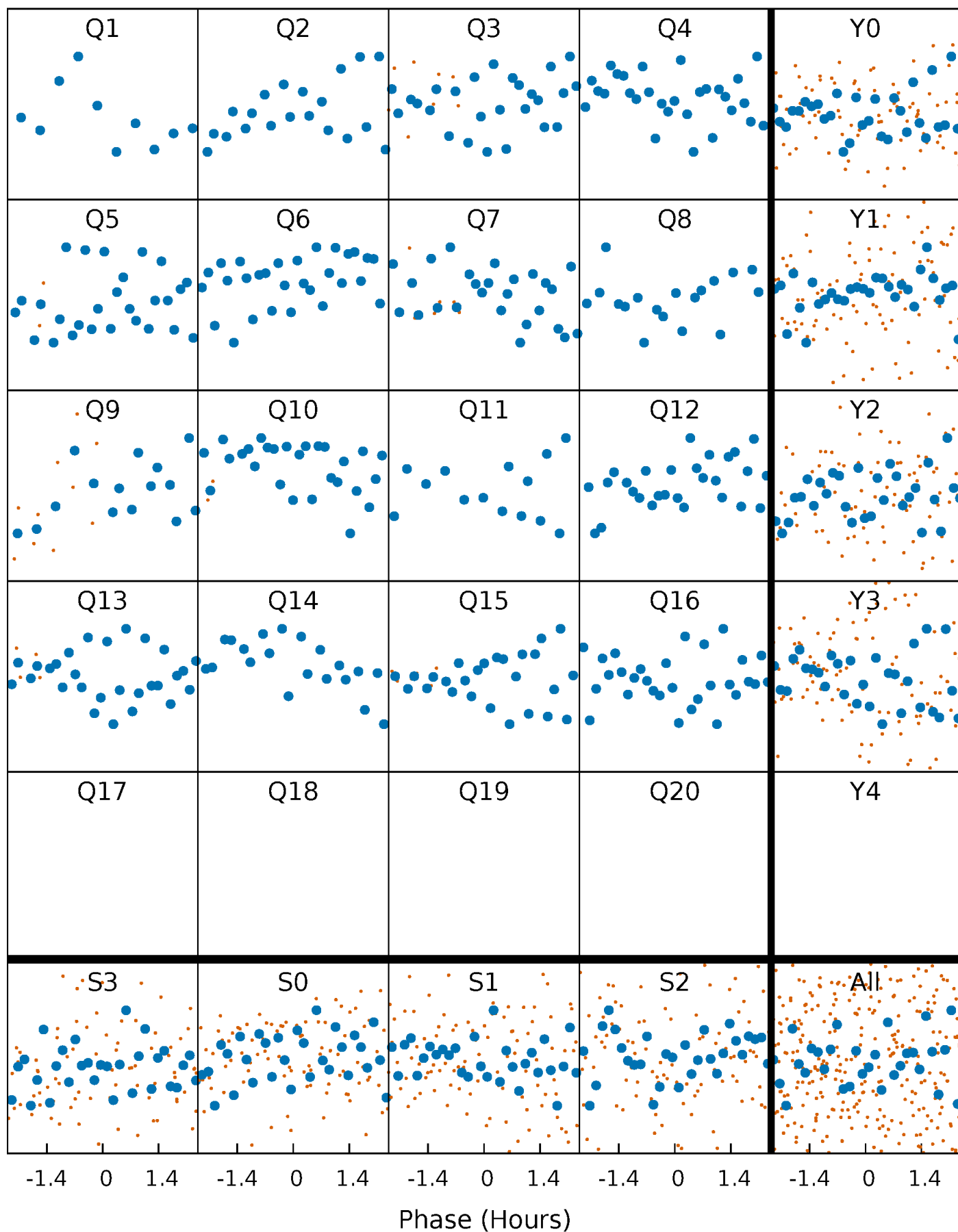


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



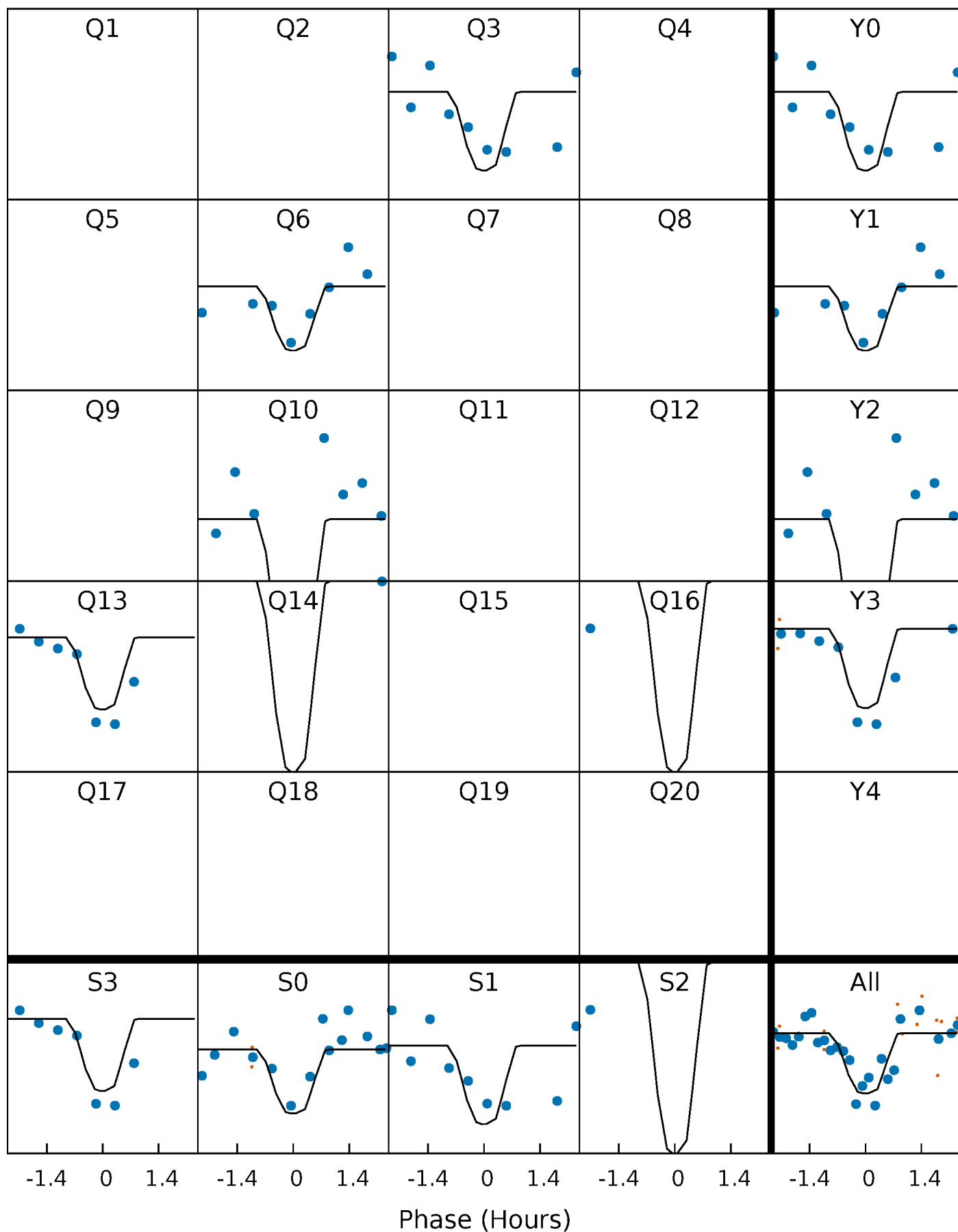
PDC Quarter-Phased Transit Curves

TCE 009550833-05 P= 32.196401 Days $T_0=136.851755$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009550833-05 P= 32.196401 Days $T_0=136.851755$ (BKJD)

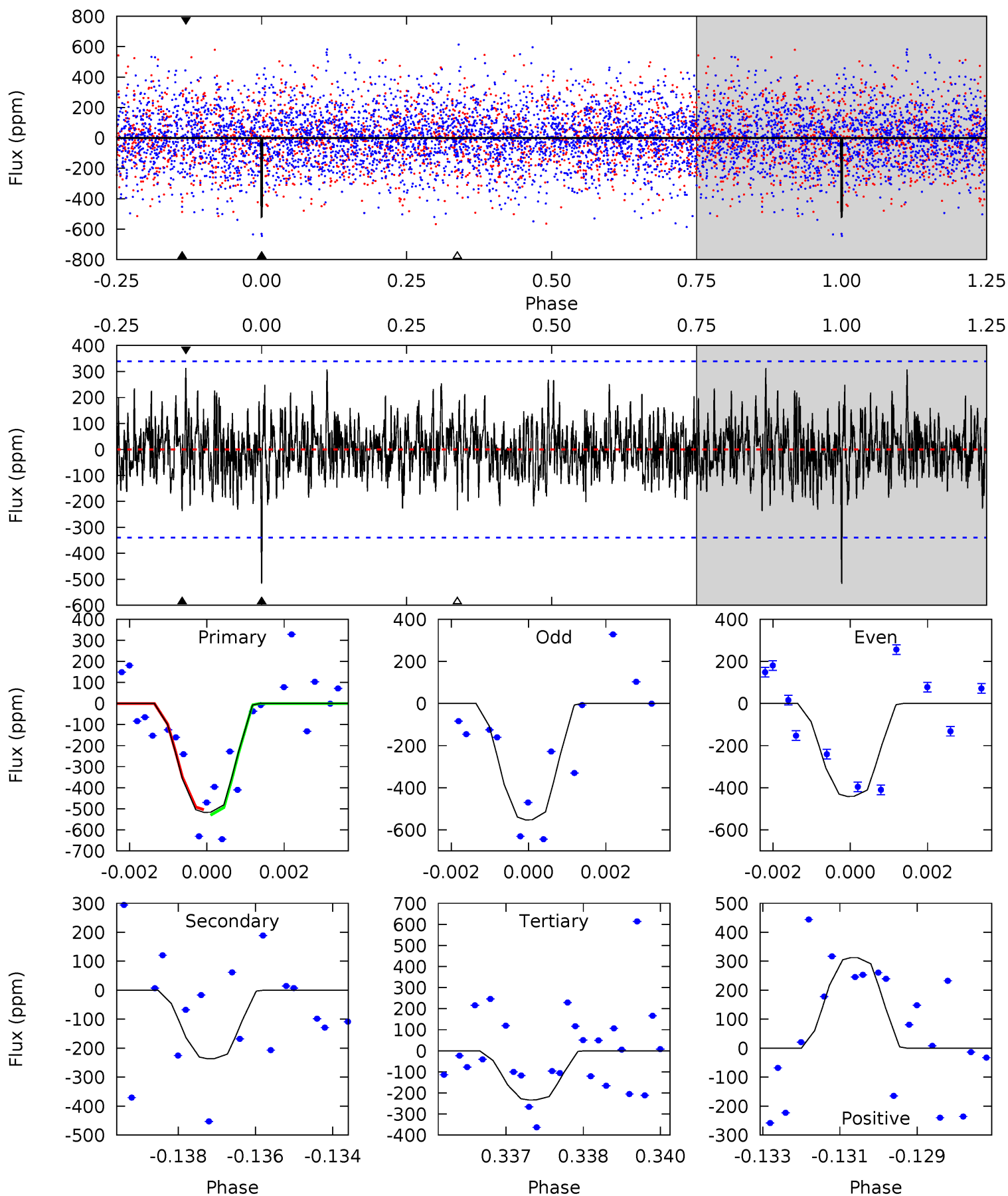


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009550833-05, P = 32.196401 Days, E = 104.655354 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.16	3.73	3.69	4.93	5.35	3.13	1.33	4.47	3.22	0.05	-1.20	0.85	1.15	0.38	0.20



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009550833

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6732^{+162}_{-263}	$2.884^{+0.648}_{-0.072}$	$0.070^{+0.250}_{-0.450}$	$10.801^{+1.167}_{-6.612}$	$3.255^{+0.070}_{-1.335}$	$0.004^{+0.039}_{-0.001}$
	+2%/-4%	+22%/-2%	+357%/-643%	+11%/-61%	+2%/-41%	+1065%/-24%
Source	PHO1	FLK73	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 009550833-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-236 ± 63	$33.70^{+31.44}_{-22.51}$	2403^{+190}_{-391}	4531^{+3196}_{-957}	$8.966^{+72.044}_{-6.577}$
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

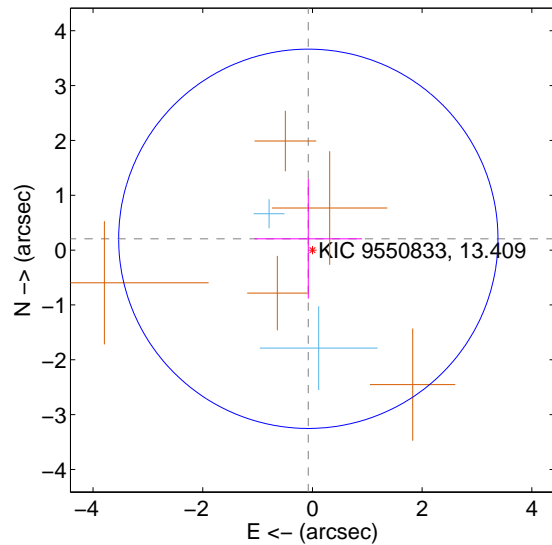
Supplemental centroid analysis for 009550833-05. Kepler magnitude: 13.41. Transit SNR 10.28

There are 2 quarters with good PRF difference image offsets

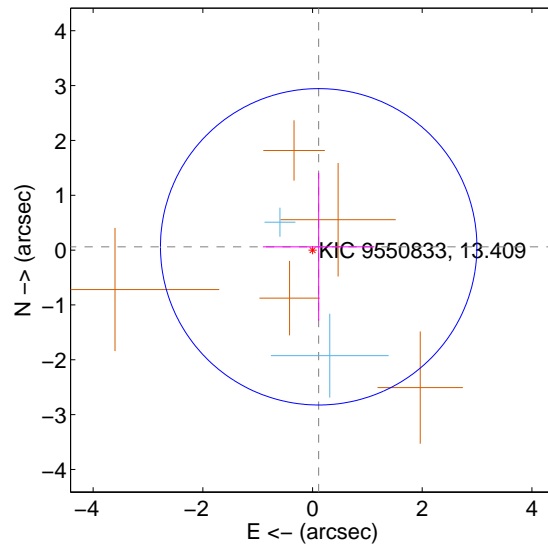
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.219 ± 1.152	0.19	0.075 ± 0.979	0.206 ± 1.090
PRF-fit source offset from KIC position	0.127 ± 0.961	0.13	-0.112 ± 1.017	0.060 ± 1.348
photometric centroid source offset	1.01 ± 0.70	1.44	1.01 ± 0.70	0.06 ± 0.56

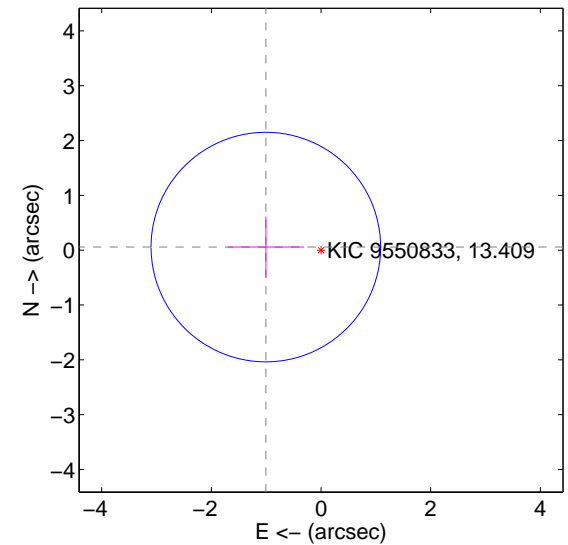
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

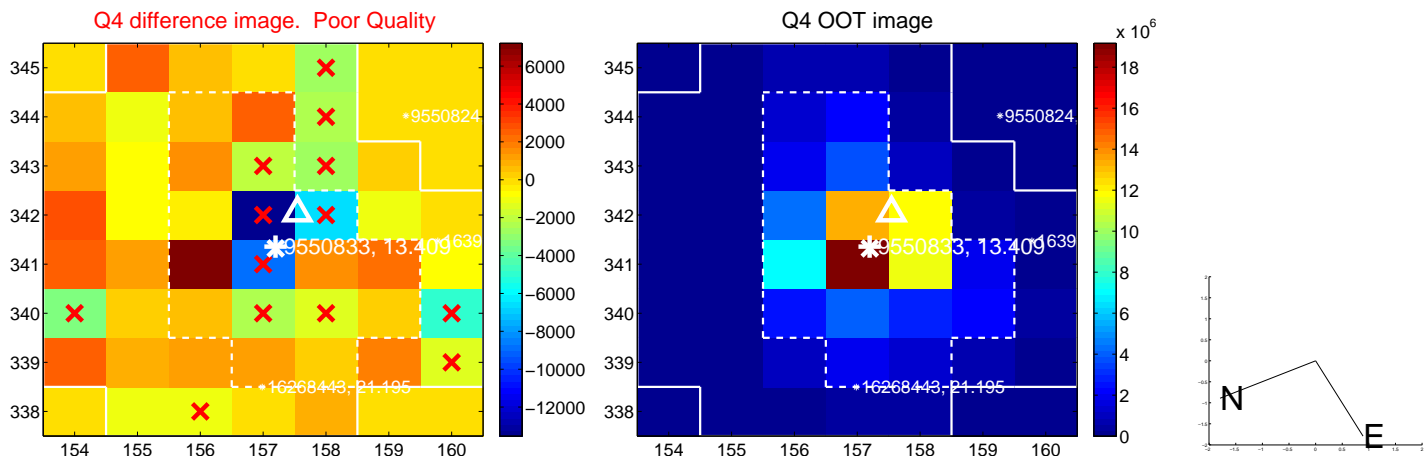
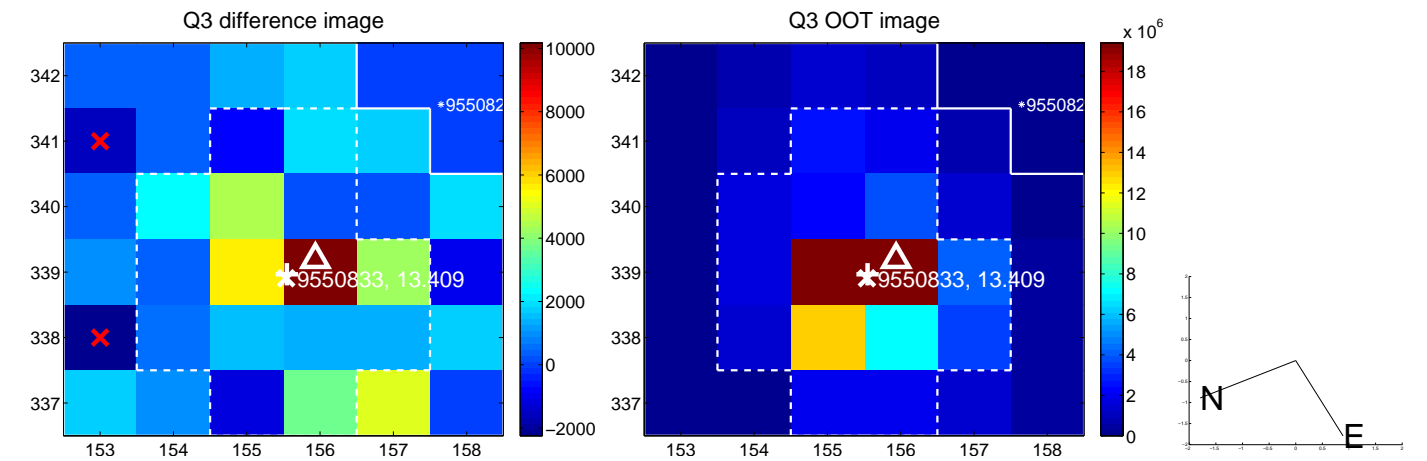
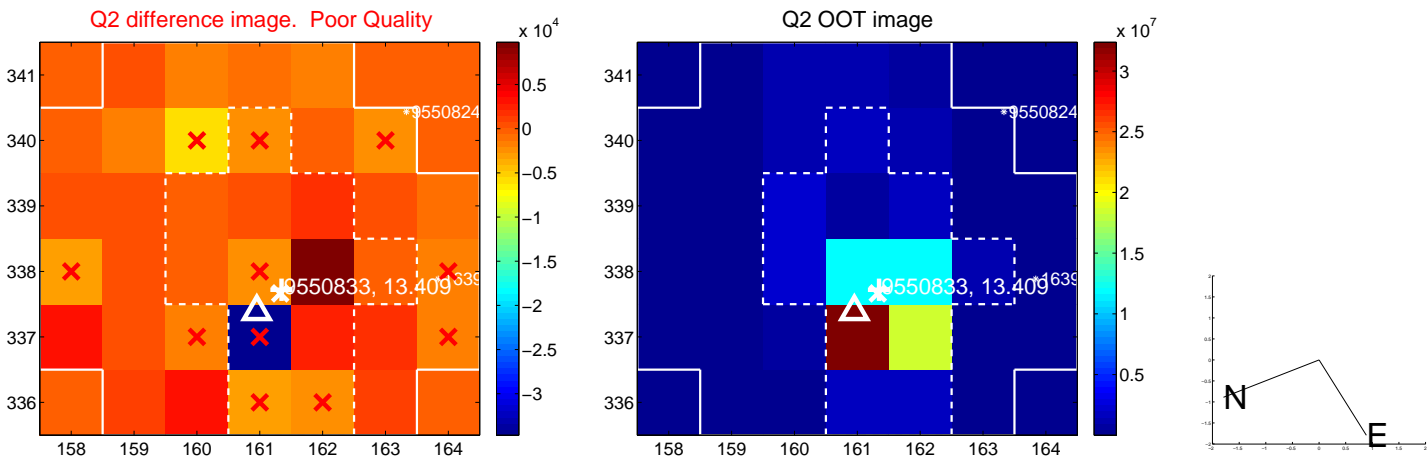
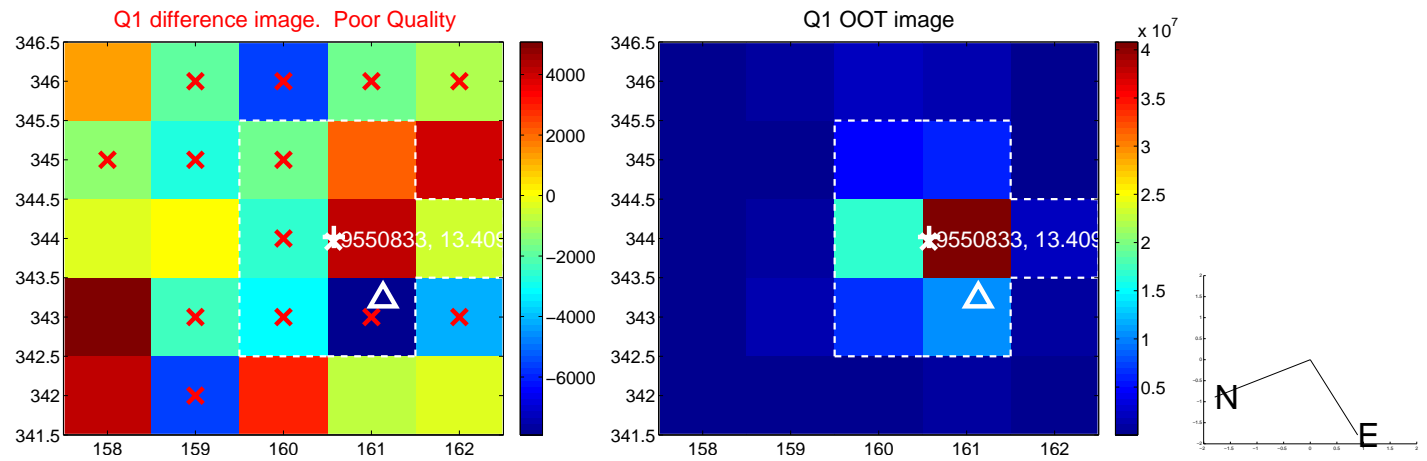


offset from photometric centroids

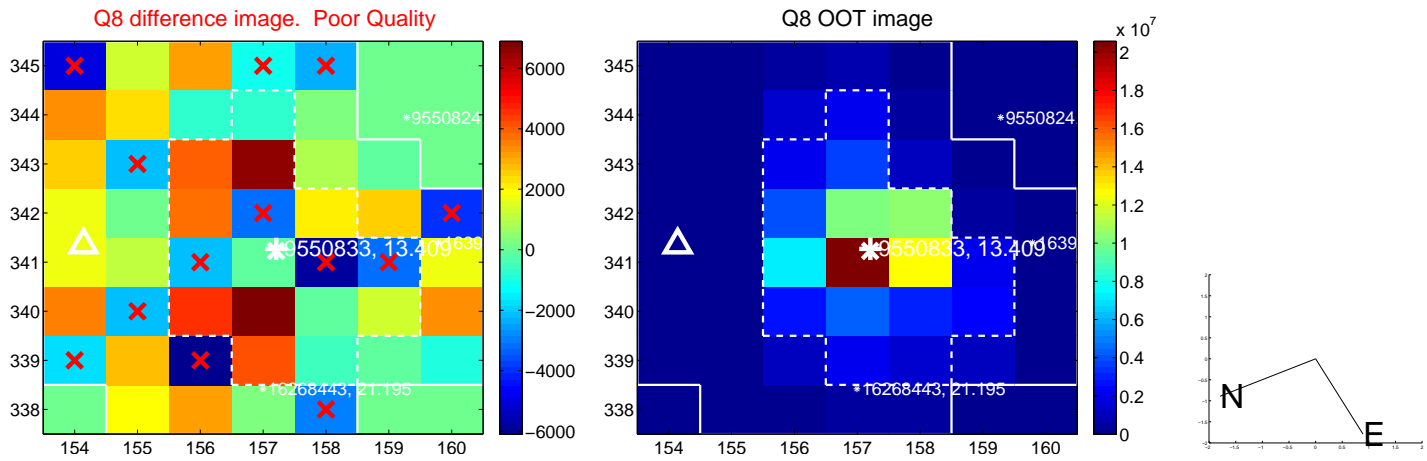
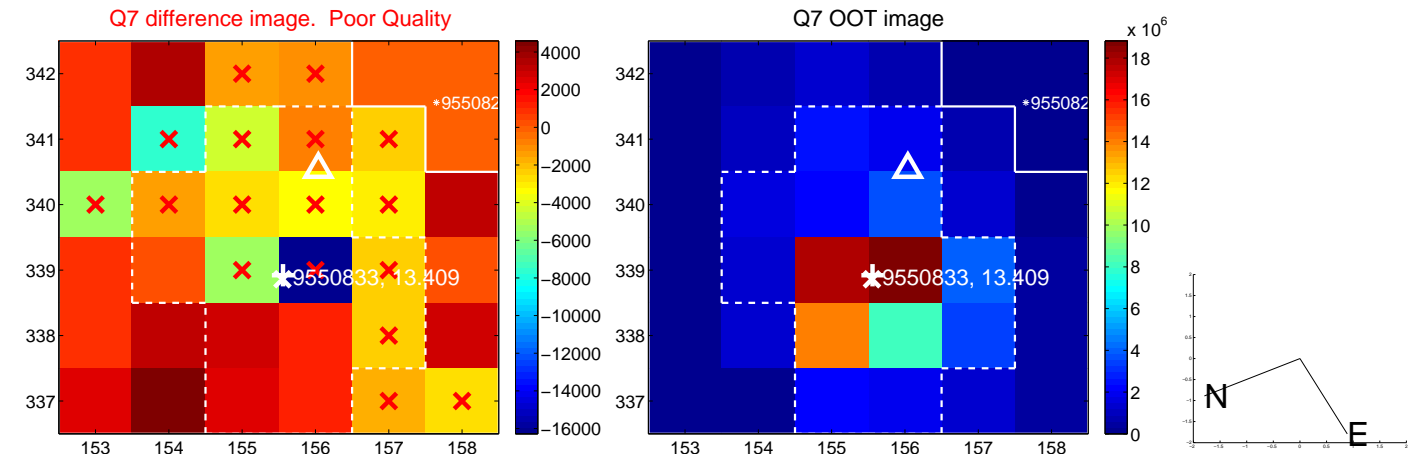
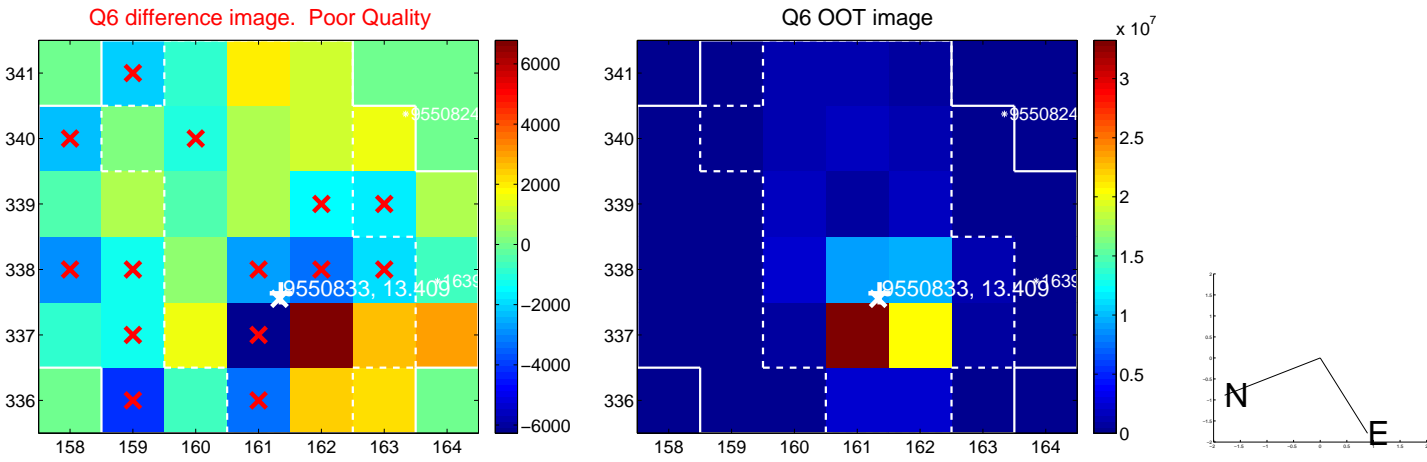
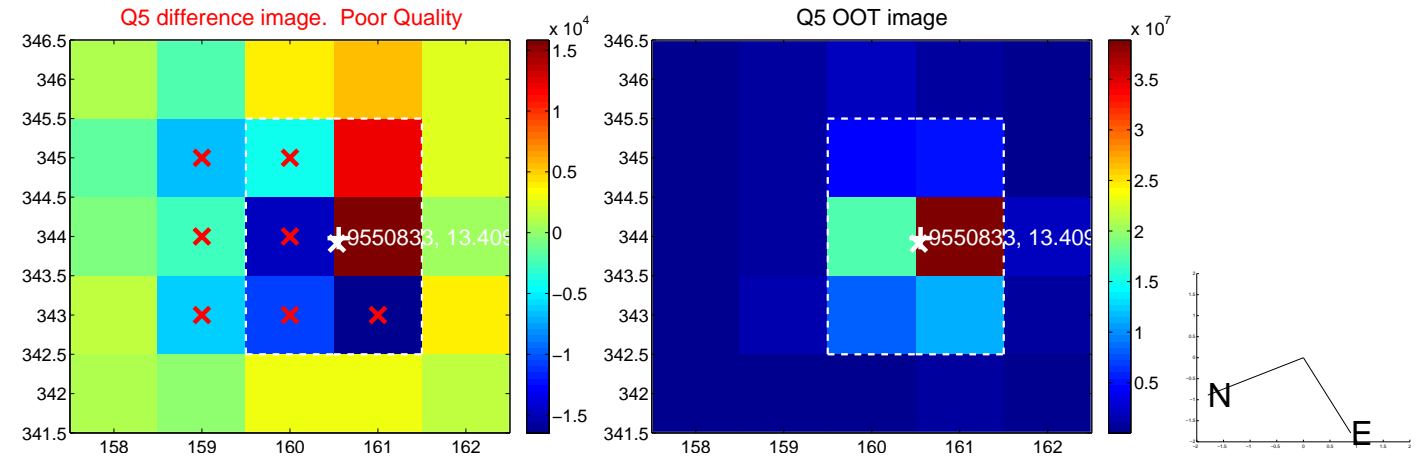


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

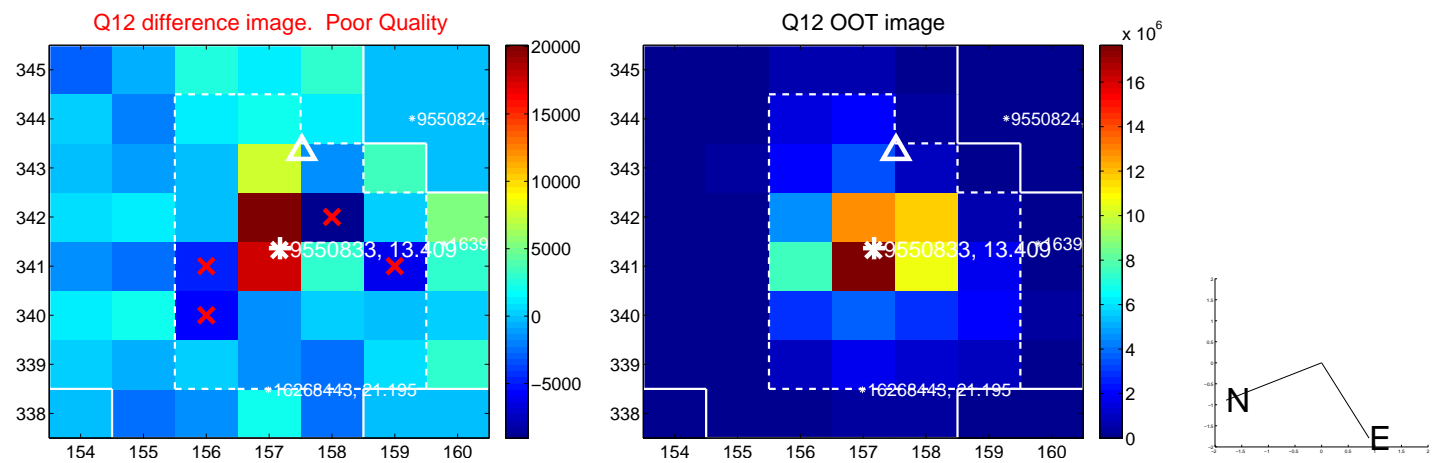
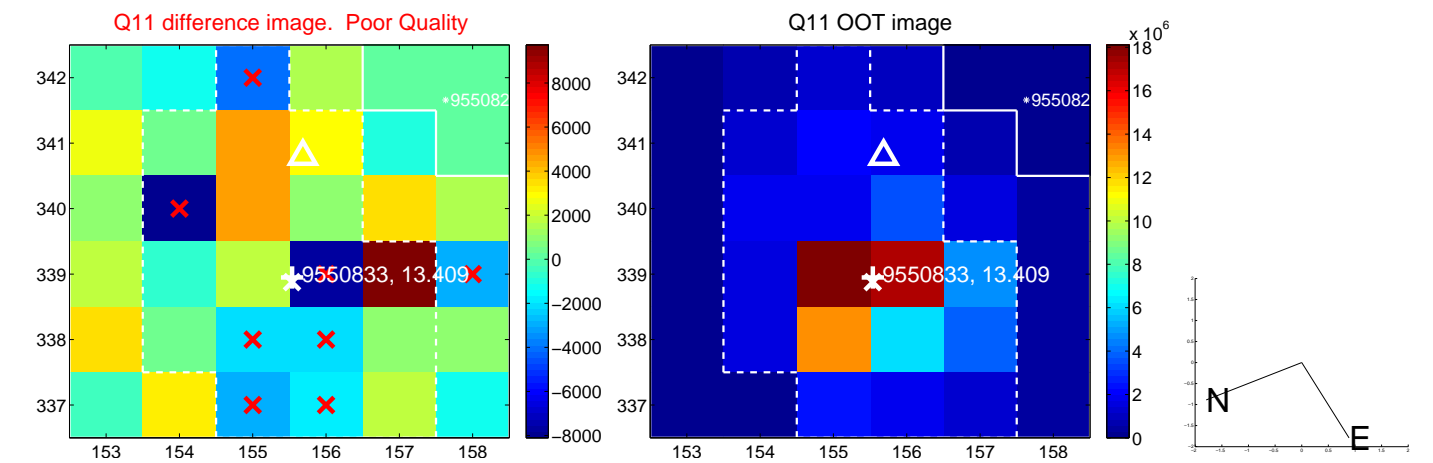
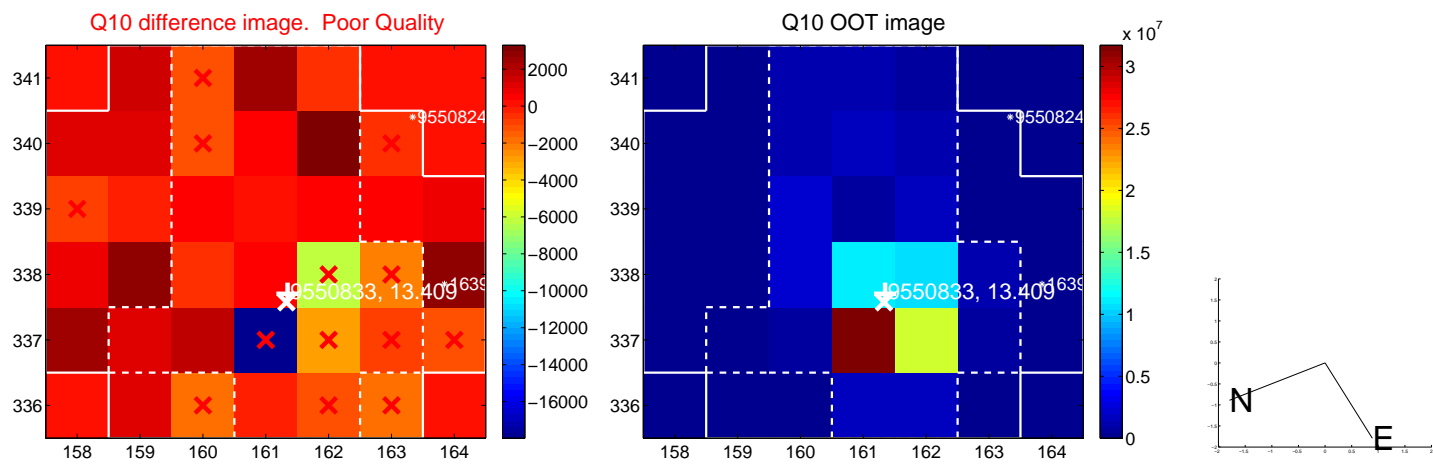
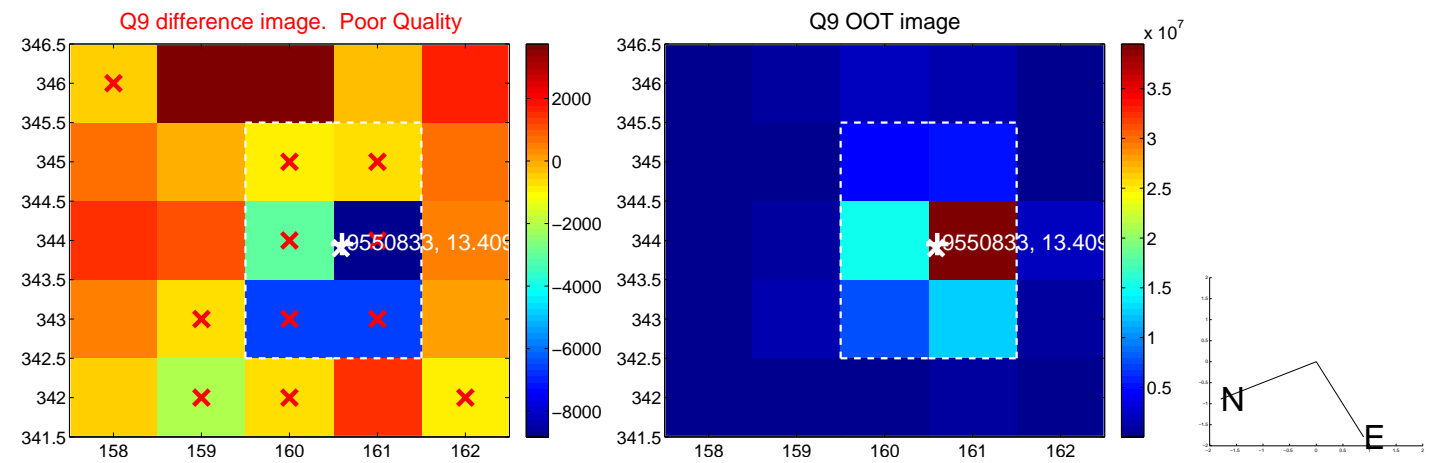
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



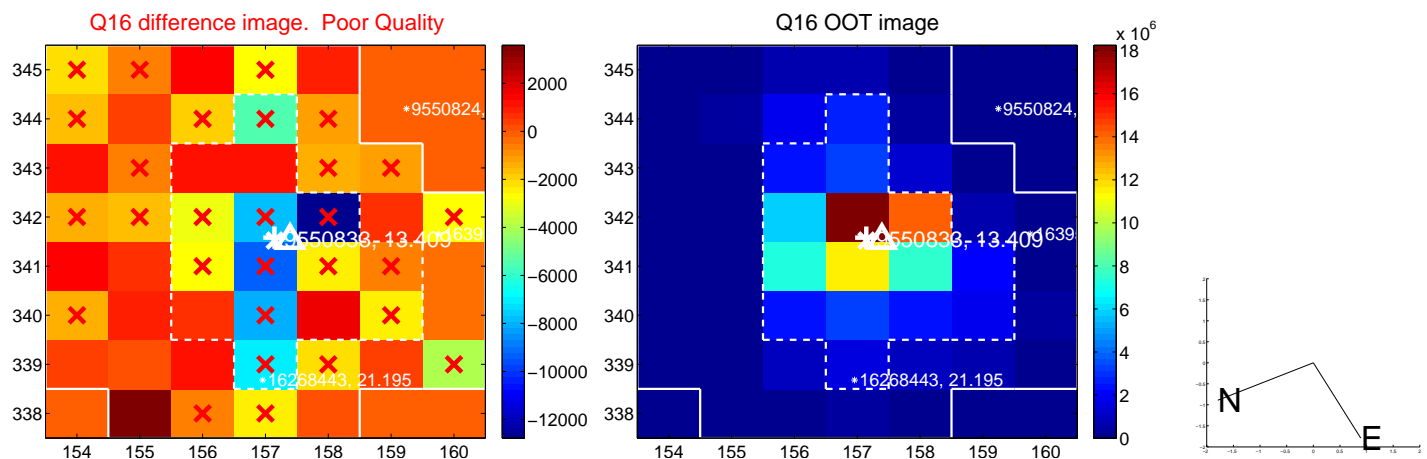
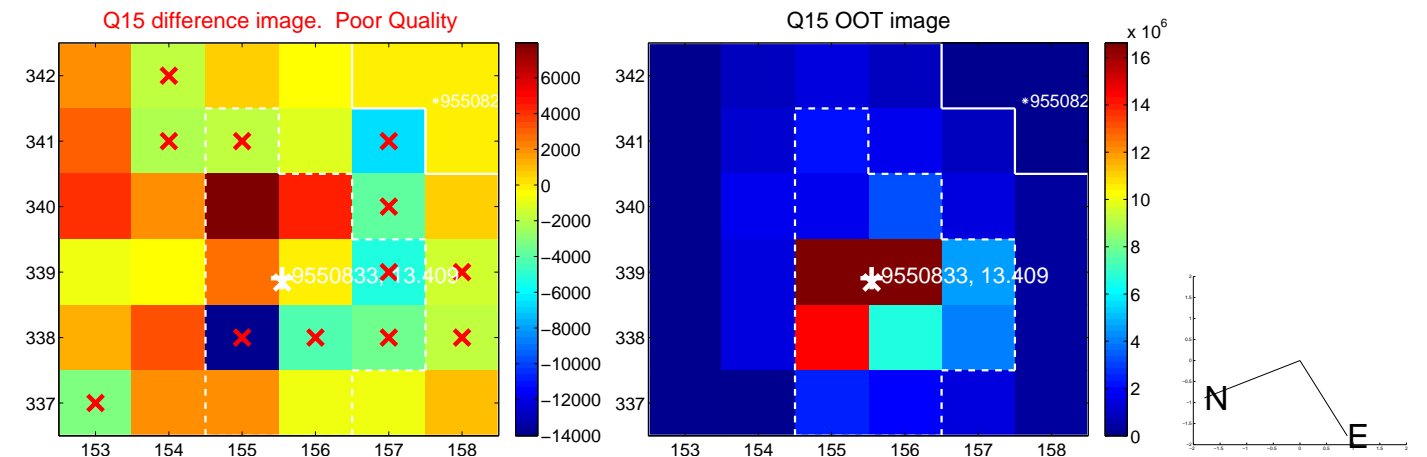
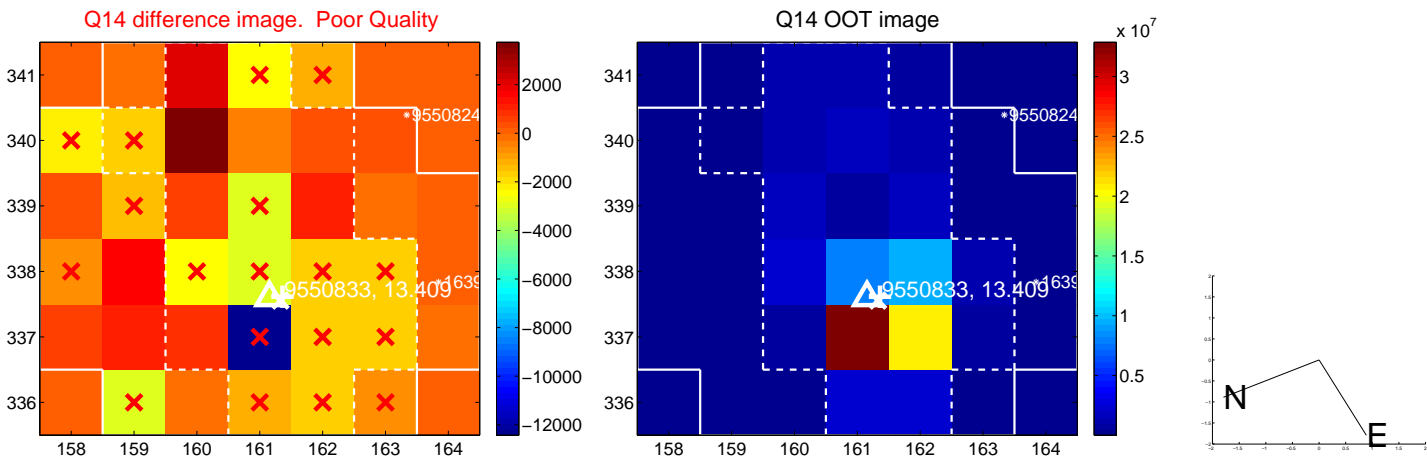
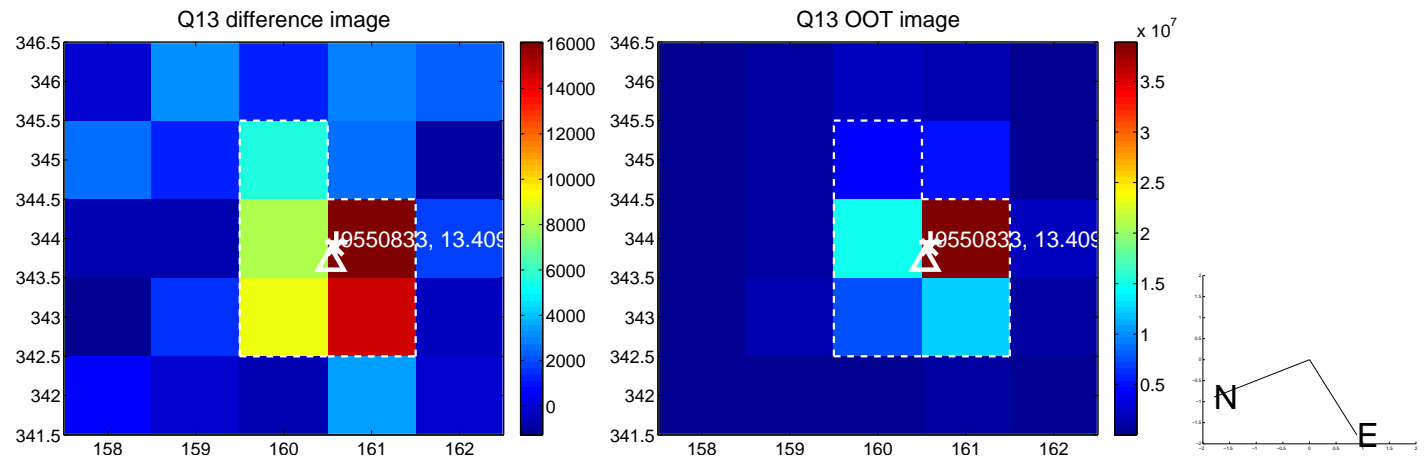
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



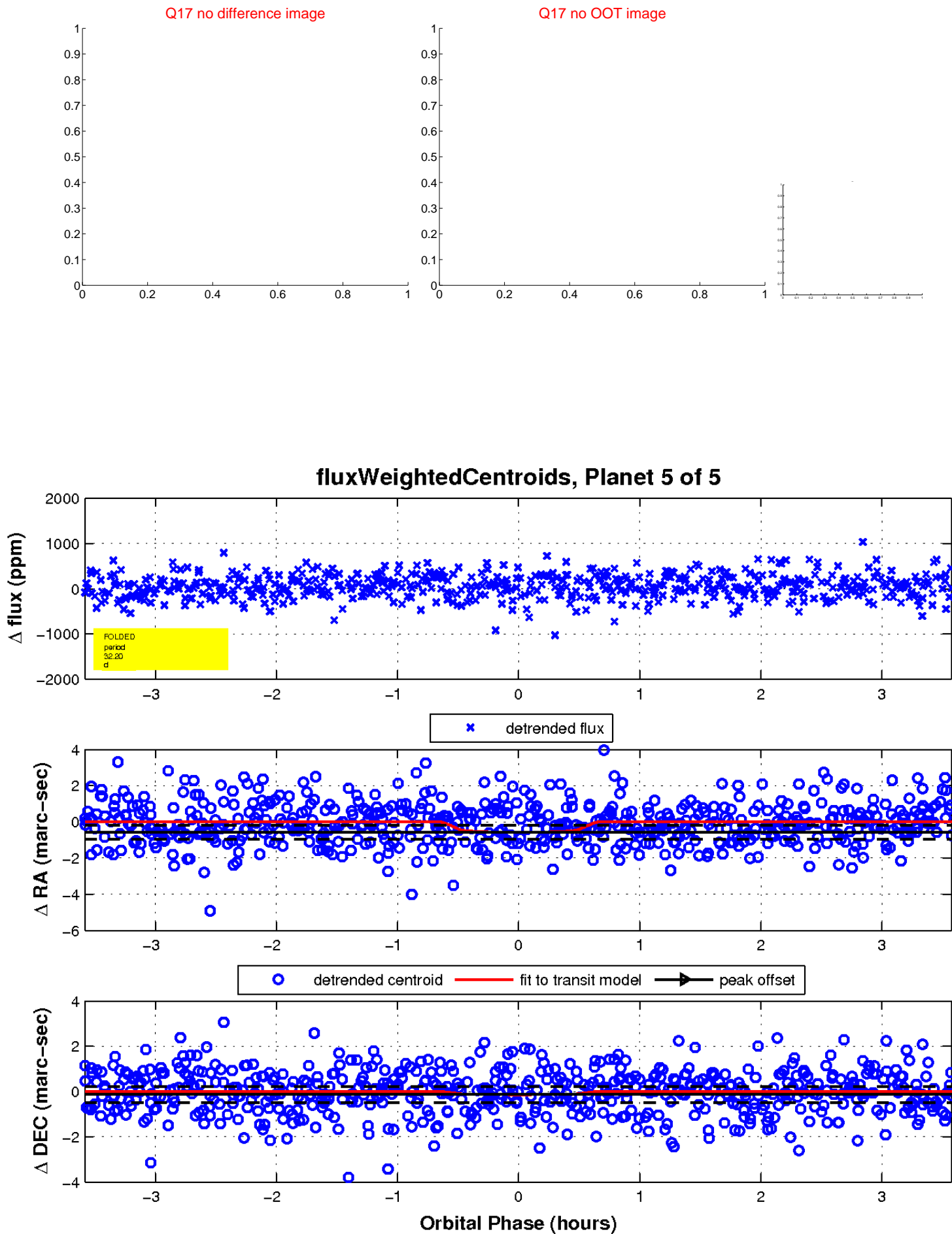
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

