

KIC 002450944

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})
002450944-01	OBS	No	0.554157	131.897437	215.9	0.786	12.1	11.2	1.33	6780	2.12	15550.86
002450944-02	OBS	No	0.554159	131.712835	160.3	1.977	10.0	10.5	1.33	6780	1.97	15550.79
002450944-03	OBS	No	1.015526	132.171679	1298.2	3.500	8.6	-1.0	1.33	6780	4.84	6934.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002450944-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002450944-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
002450944-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

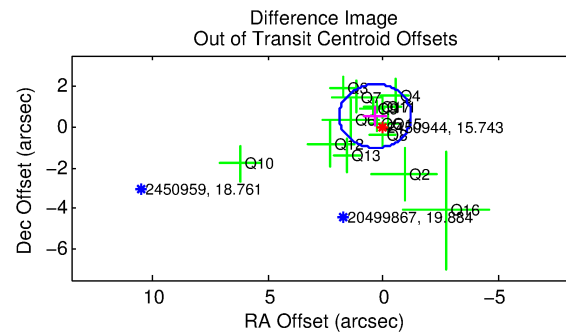
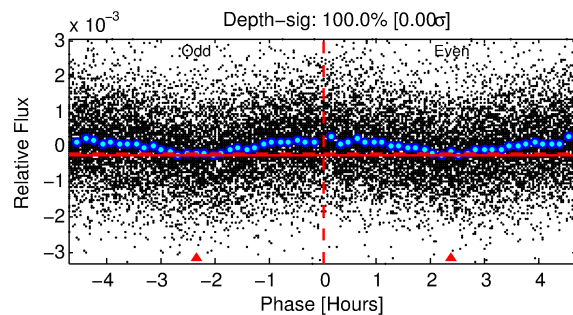
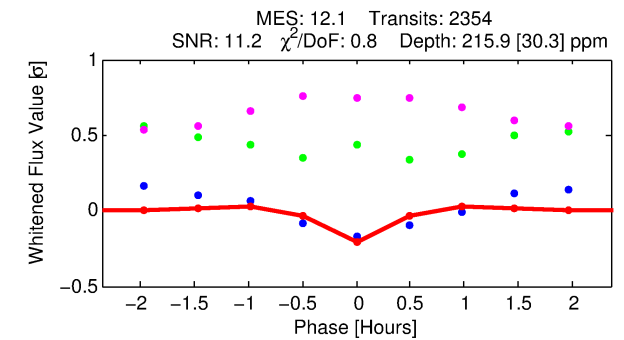
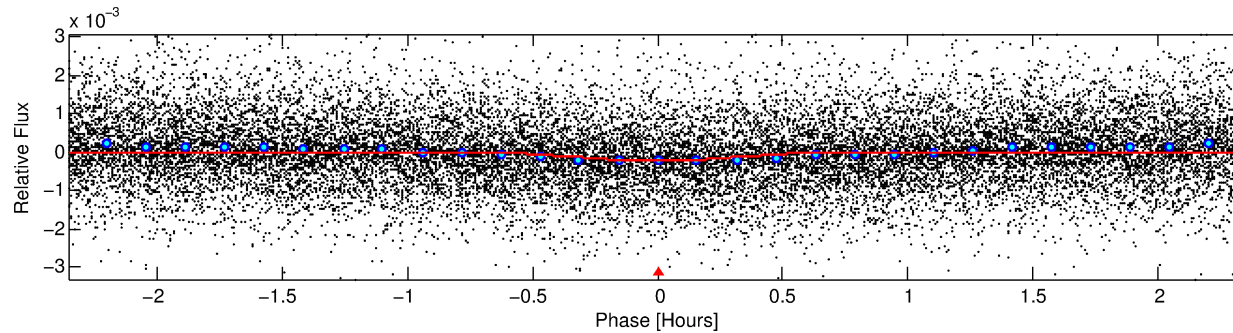
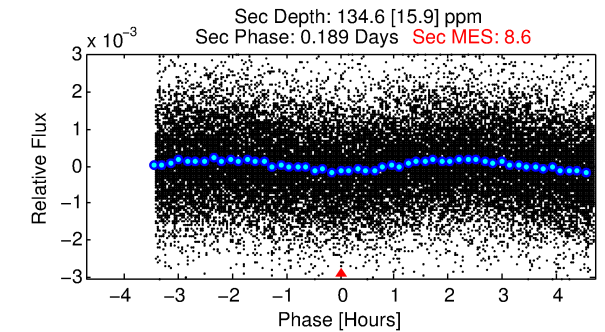
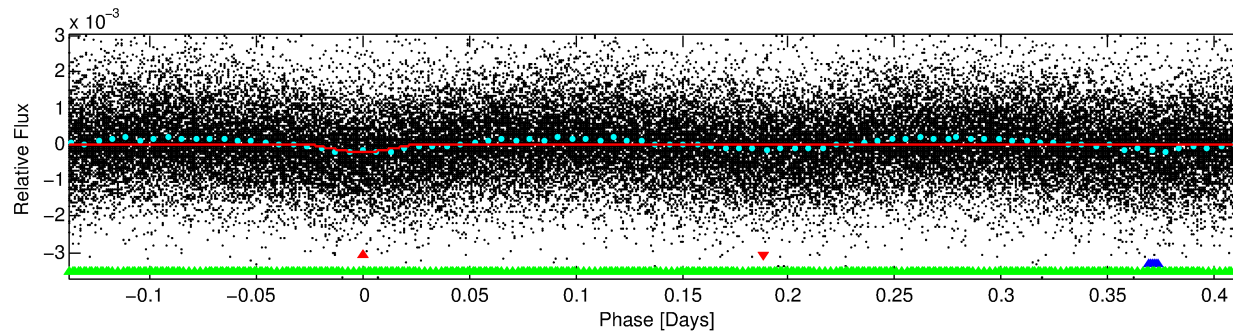
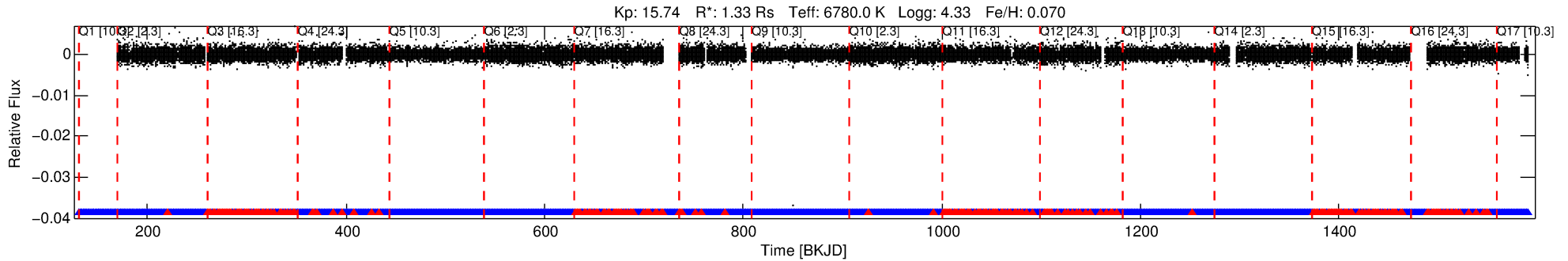
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002450944-01

No Significant Match Found

DV One-Page Summary

KIC: 2450944 Candidate: 1 of 3 Period: 0.554 d



DV Fit Results:

Period = 0.55416 [0.00001] d
Epoch = 131.8974 [0.0012] BKJD
Rp/R* = 0.0146 [0.0052]
a/R* = 4.04 [7.51]
b = 0.70 [1.45]
Seff = 15550.86 [6132.46]
Teq = 2848 [281] K
Rp = 2.12 [0.98] Re
a = 0.0147 [0.0036] AU
Ag = 3.55 [2.86] [0.89σ]
Teffp = 6041 [1127] K [2.75σ]

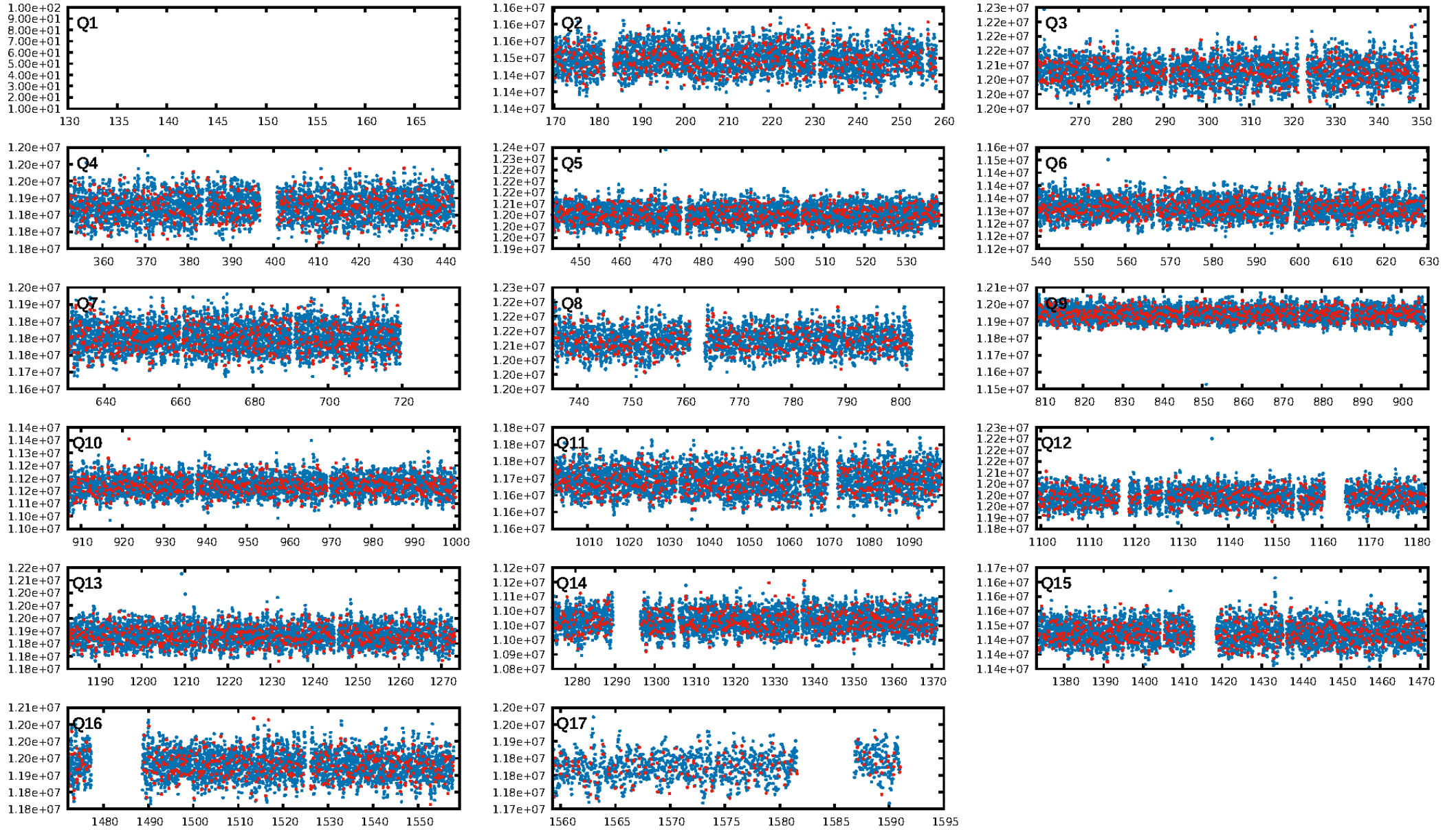
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.87 [2008/2305]
GhostDiagnostic-chr: 3.375
Centroid-sig: 24.4%
Centroid-so: 0.609 arcsec [0.48σ]
OotOffset-rm: 0.638 arcsec [1.23σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-rm: 0.528 arcsec [1.15σ]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.00 [0/16]

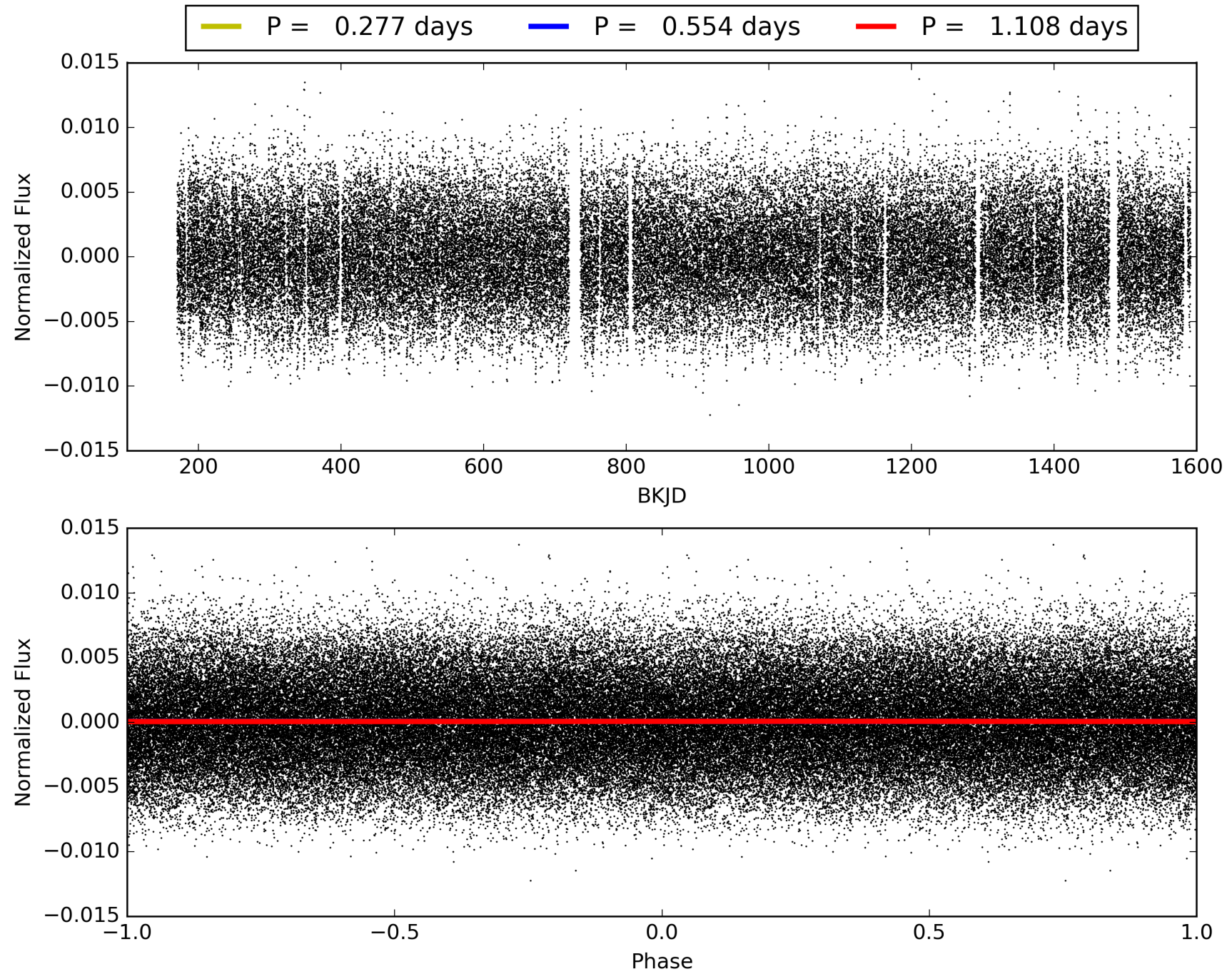
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:25:41 Z

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

TCE 002450944-01, PDC Light Curves

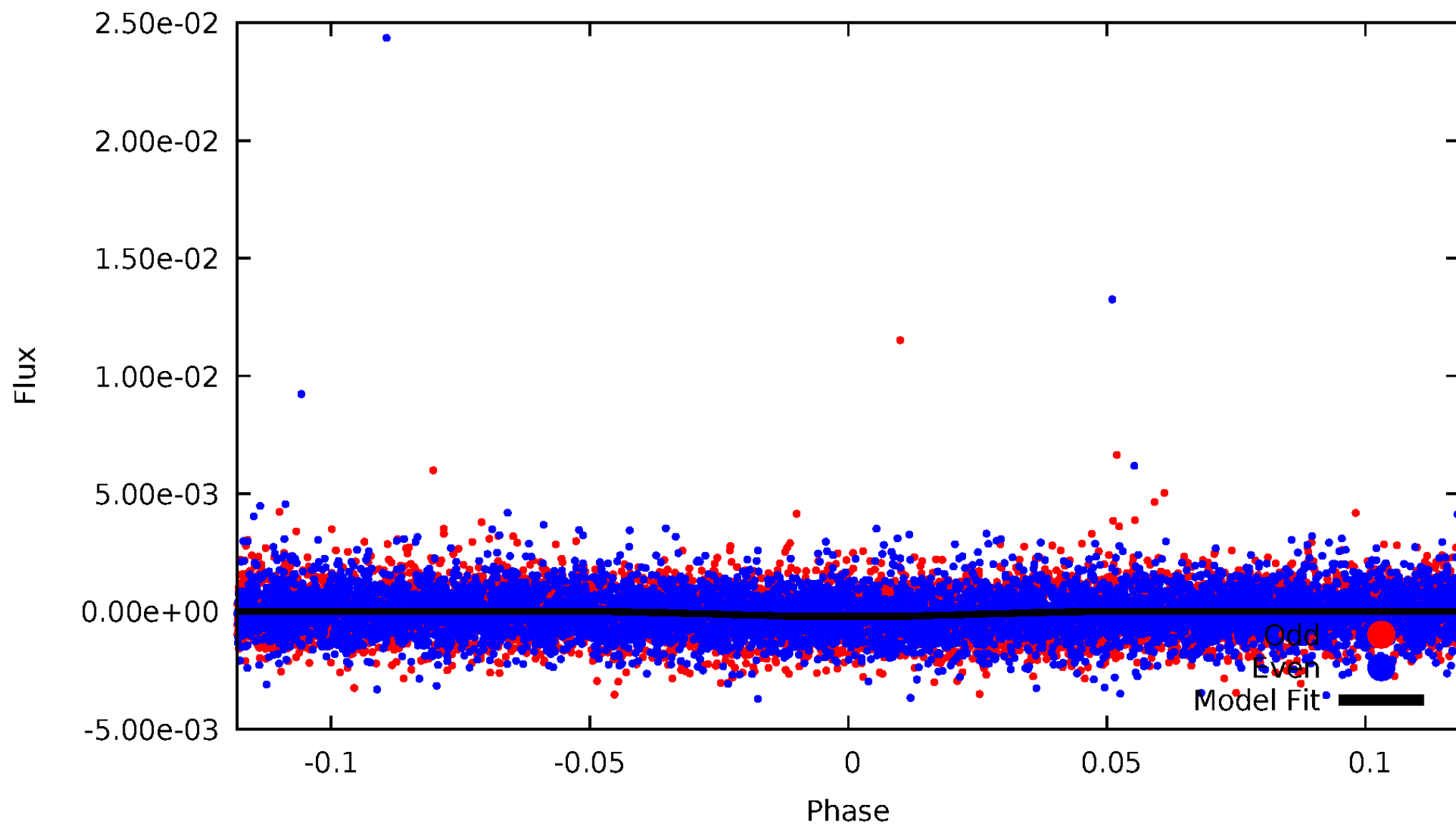


TCE 002450944-01



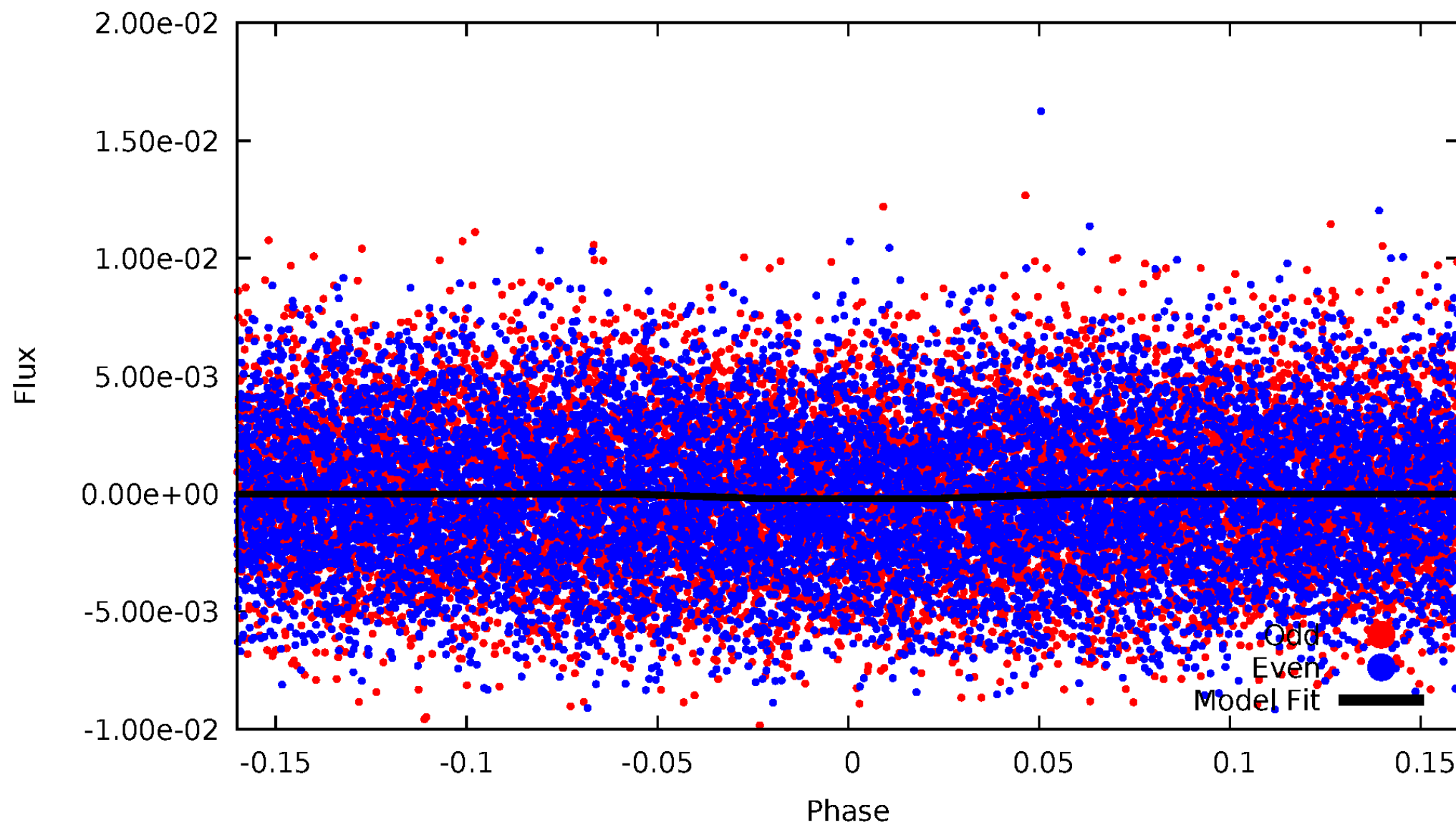
DV Odd/Even

TCE 002450944-01



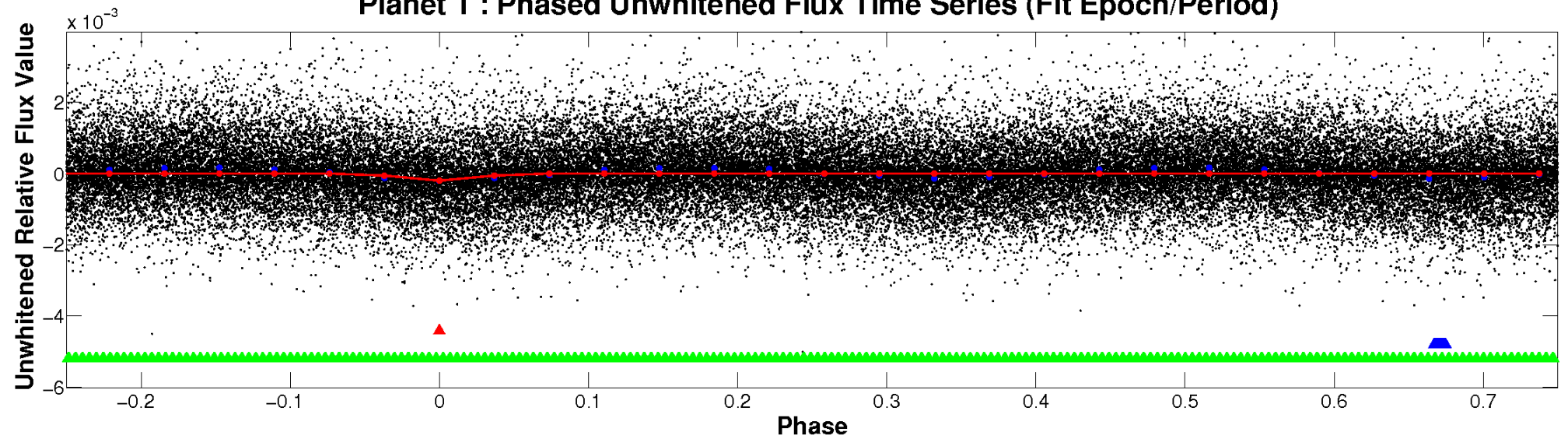
ALT Odd/Even

TCE 002450944-01

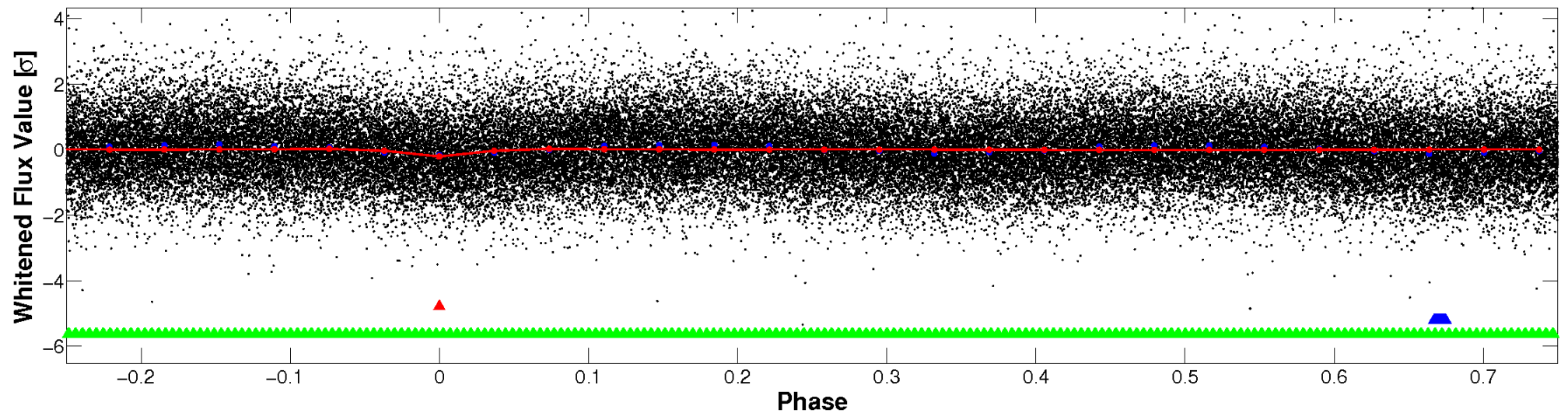


Non-Whitened Vs. Whitened Light Curve

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

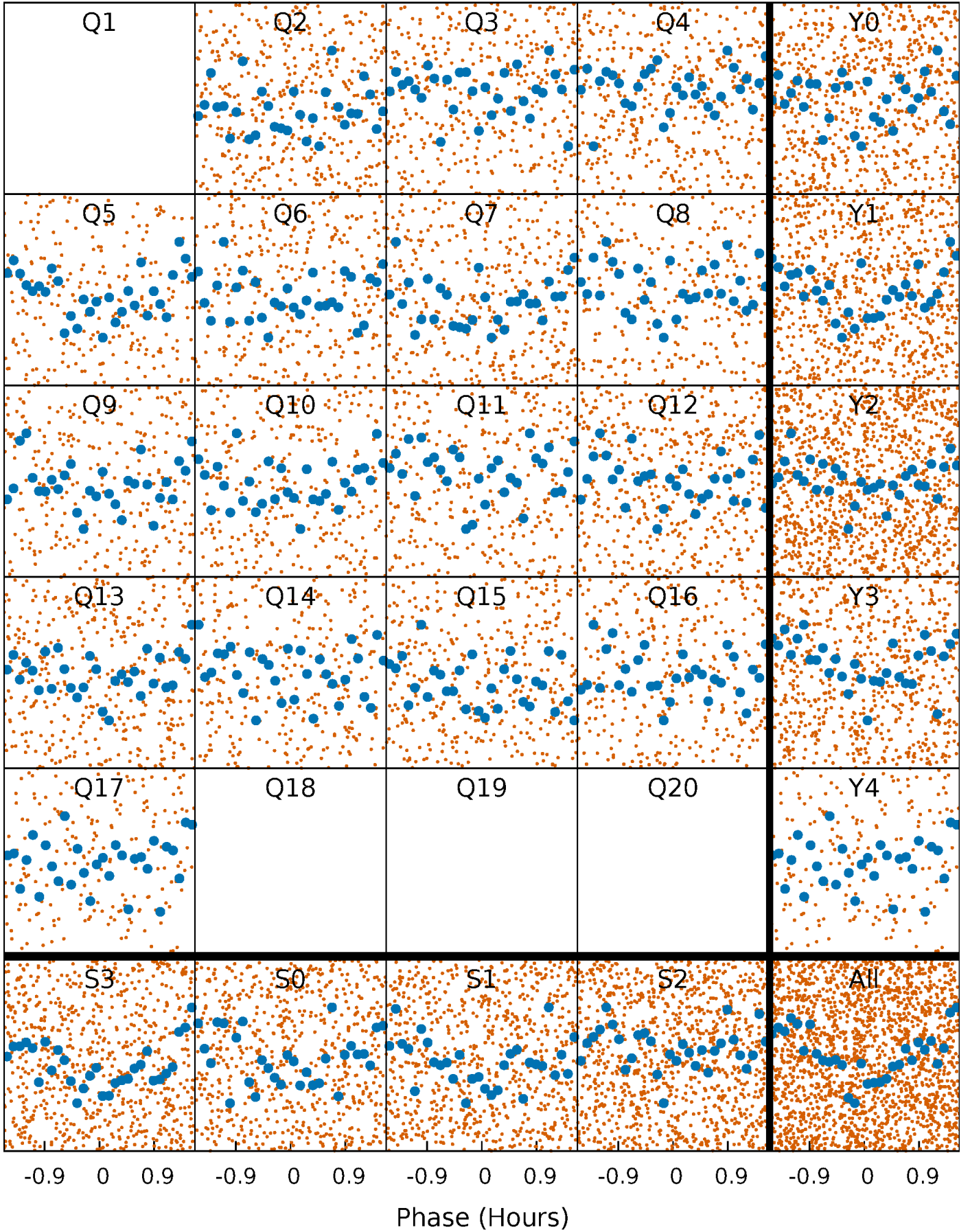


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



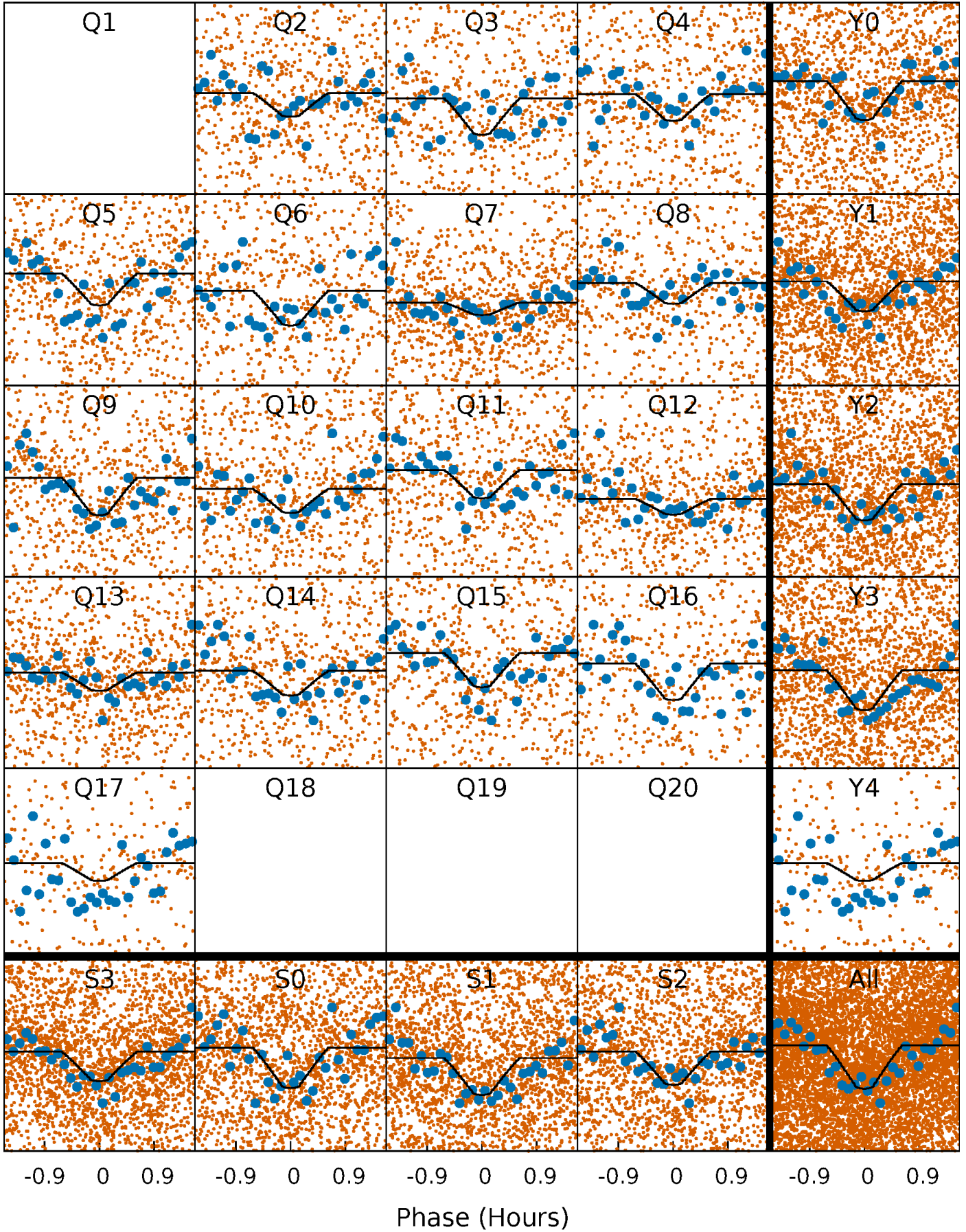
PDC Quarter-Phased Transit Curves

TCE 002450944-01 P= 0.554157 Days $T_0=131.897437$ (BKJD)



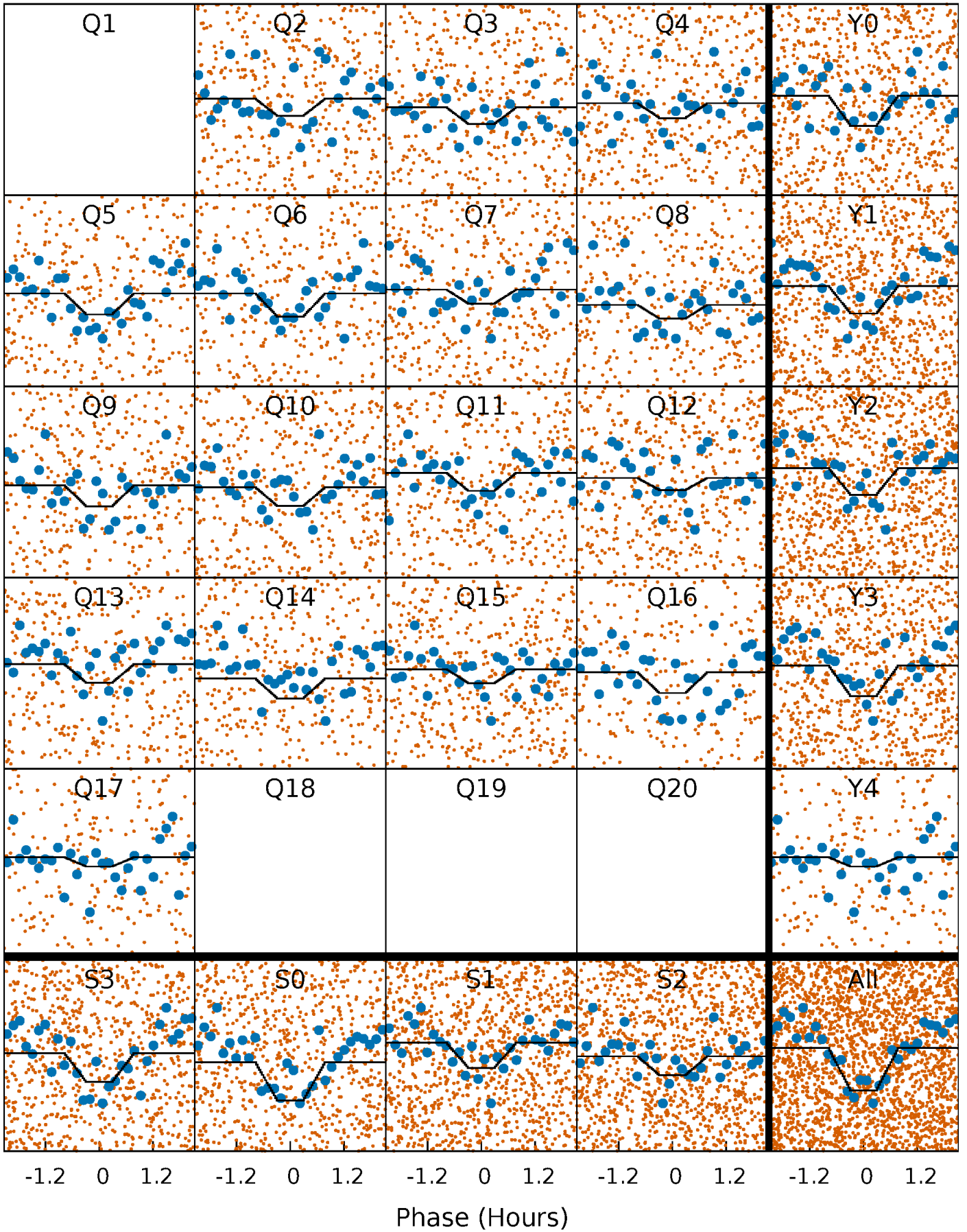
DV Quarter-Phased Transit Curves

TCE 002450944-01 P= 0.554157 Days $T_0=131.897437$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

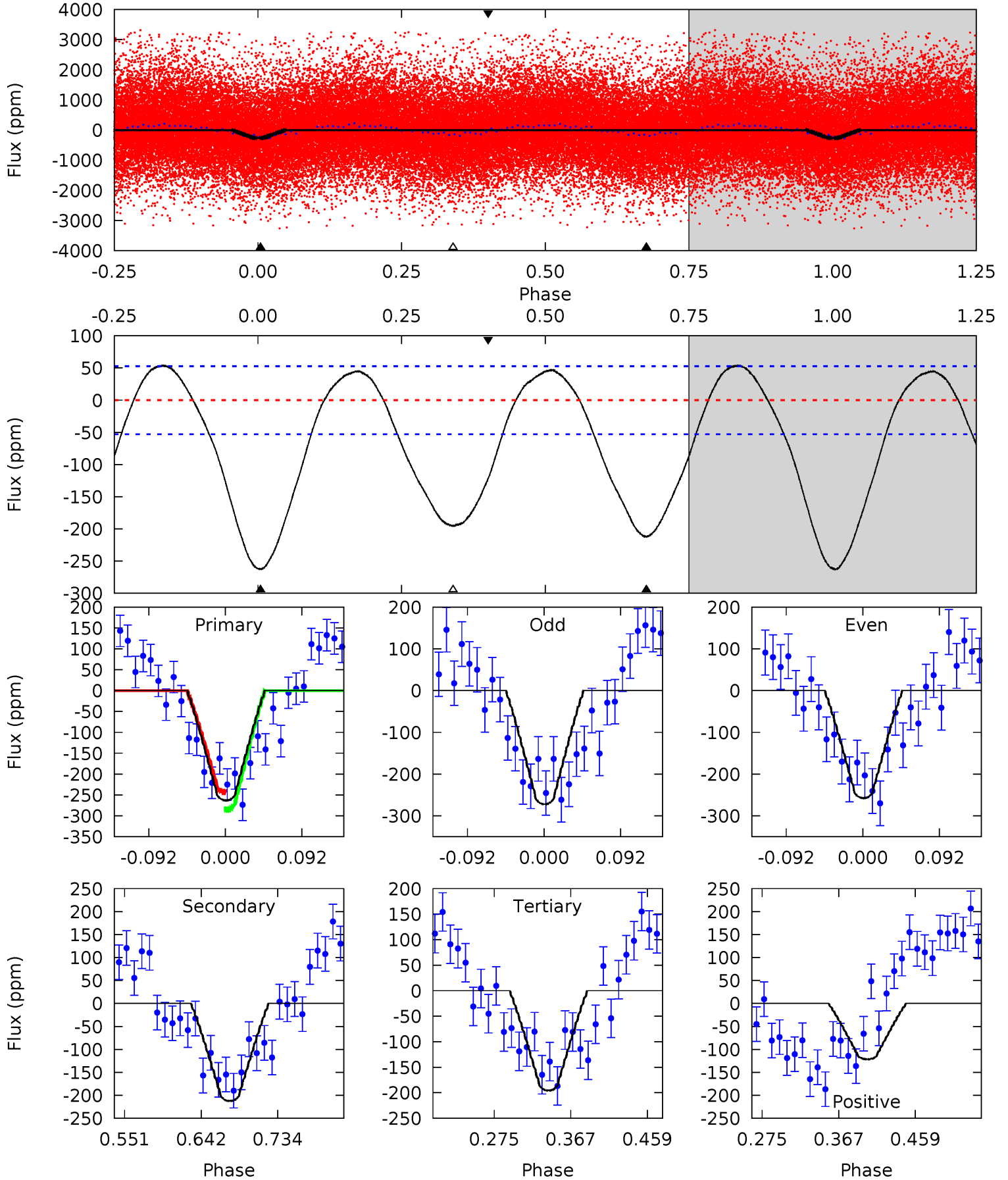
TCE 002450944-01 P= 0.554158 Days $T_0=131.897389$ (BKJD)



DV Model-Shift Uniqueness Test

002450944-01, P = 0.554157 Days, E = 131.897437 Days

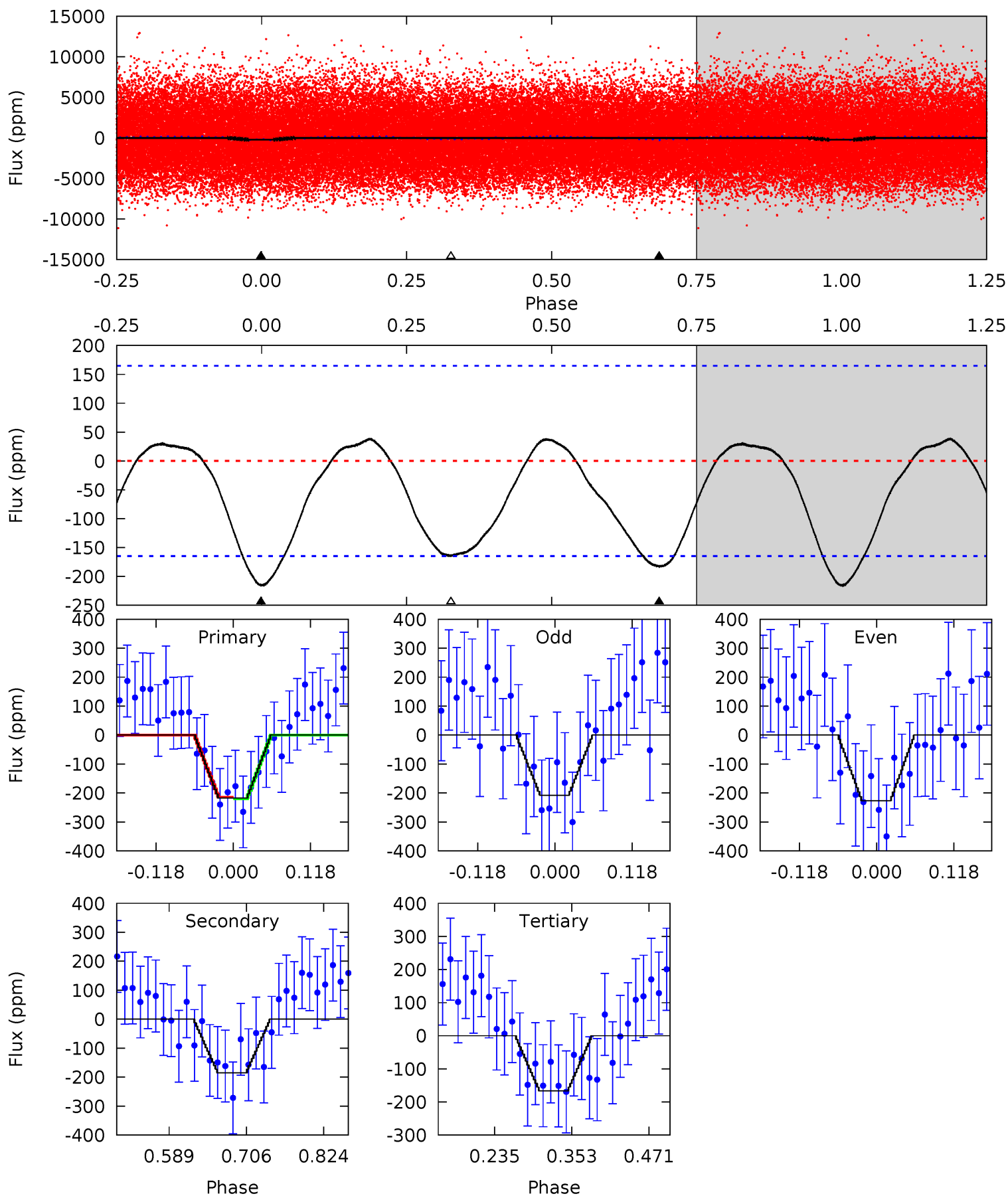
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	18.4	17.0	-10.5	4.58	1.69	6.87	5.84	33.3	1.45	28.9	0.64	1.03	0.17	1.82



Alt Model-Shift Uniqueness Test

002450944-01, P = 0.554158 Days, E = 131.897389 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.97	5.08	4.57	0	4.53	1.56	1.96	1.41	5.97	0.51	5.08	0.26	0.81	0.15	0.08



Stellar Parameters For KIC 002450944

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6780^{+187}_{-295}	$4.328^{+0.060}_{-0.192}$	$0.070^{+0.200}_{-0.350}$	$1.331^{+0.391}_{-0.168}$	$1.373^{+0.168}_{-0.206}$	$0.821^{+0.279}_{-0.408}$
	+3%/-4%	+1%/-4%	+286%/-500%	+29%/-13%	+12%/-15%	+34%/-50%
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 002450944-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-213 ± 12	$2.23^{+0.80}_{-0.82}$	4047^{+262}_{-216}	6616^{+1989}_{-986}	$5.053^{+7.034}_{-2.394}$
Alt.	-185 ± 36	$2.30^{+0.83}_{-0.78}$	4028^{+289}_{-207}	6246^{+1717}_{-963}	$4.070^{+5.574}_{-1.958}$

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 $A_{obs} \gg 1.0$

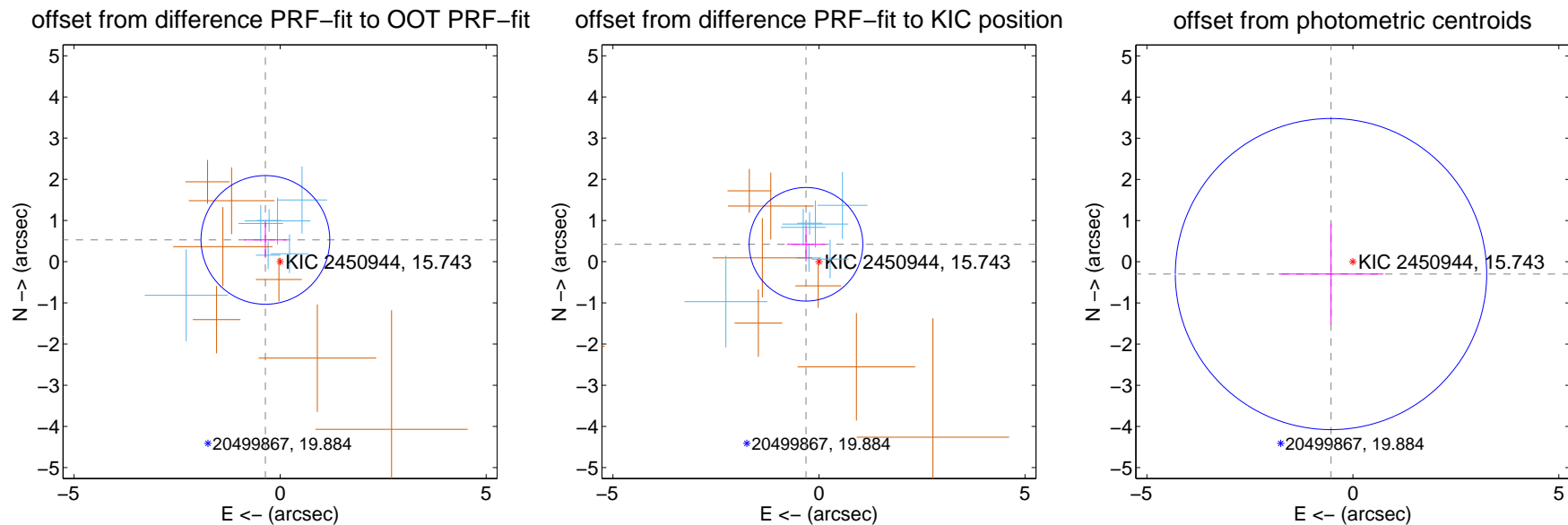
DV Centroid Data

Supplemental centroid analysis for 002450944-01. Kepler magnitude: 15.74. Transit SNR 11.22

There are 7 quarters with good PRF difference image offsets

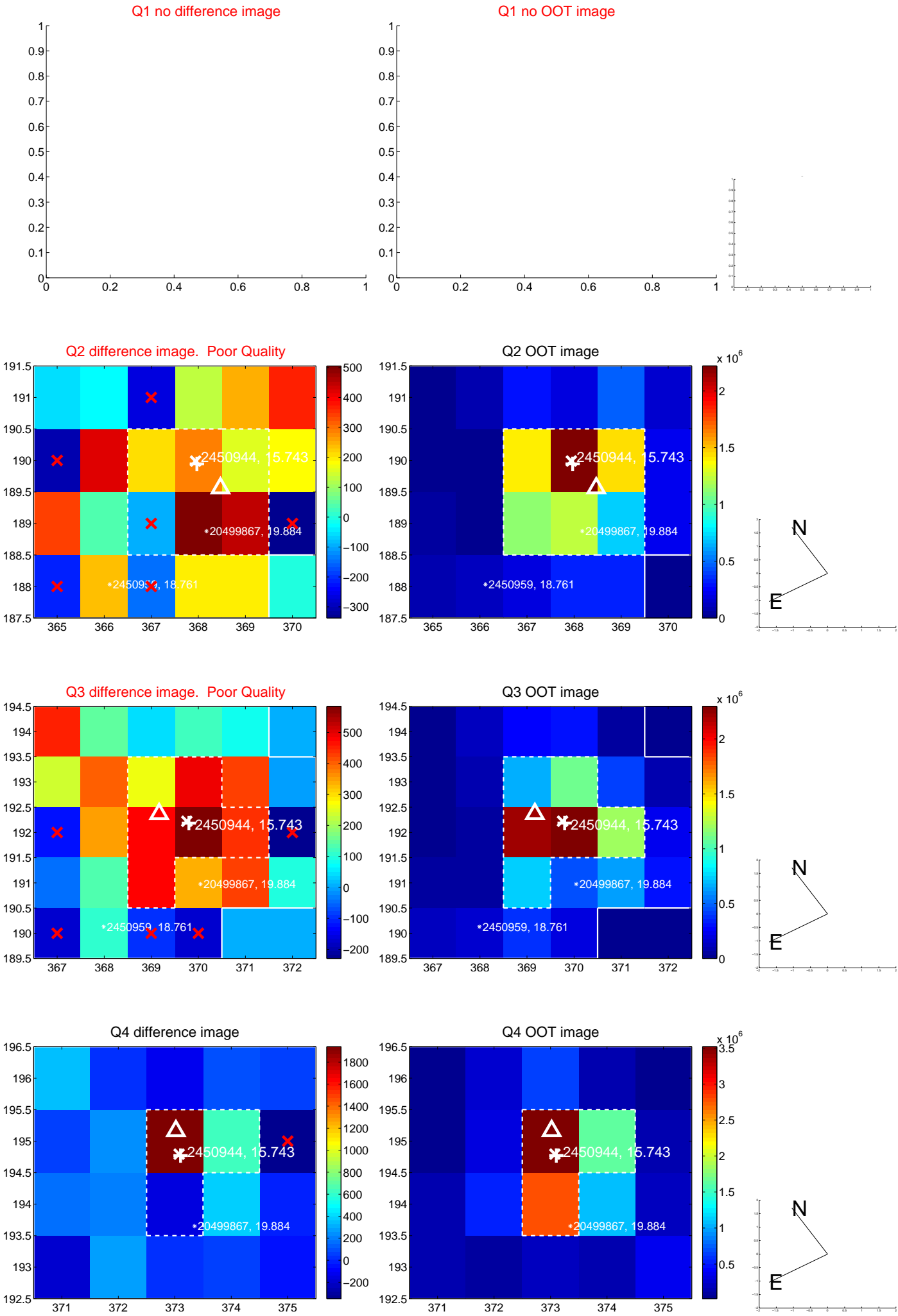
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.638 ± 0.521	1.23	0.357 ± 0.519	0.529 ± 0.432
PRF-fit source offset from KIC position	0.528 ± 0.460	1.15	0.316 ± 0.461	0.423 ± 0.417
photometric centroid source offset	0.61 ± 1.26	0.48	0.53 ± 1.27	-0.30 ± 1.22

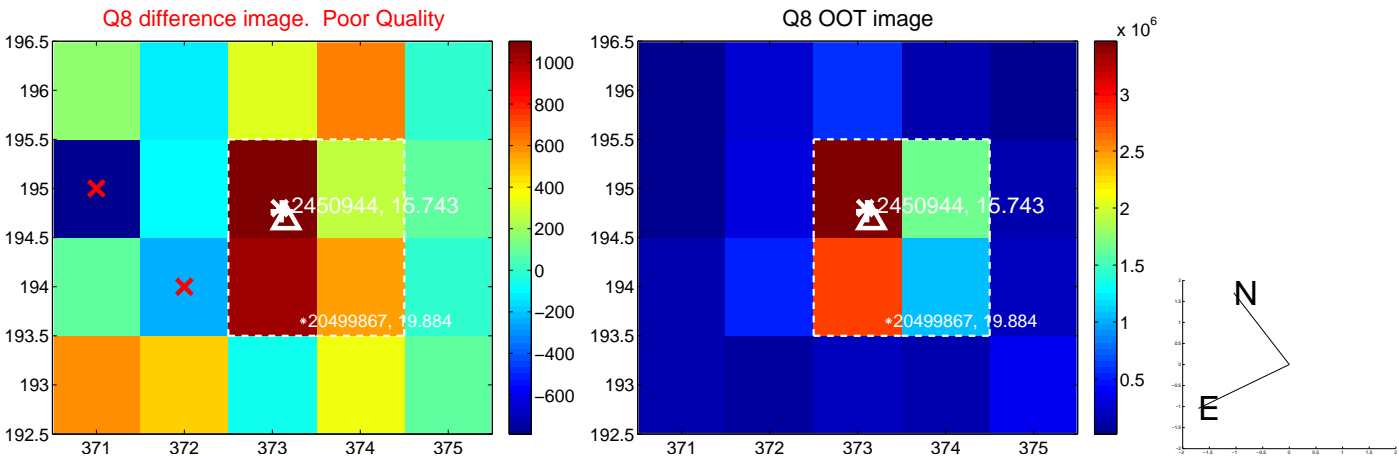
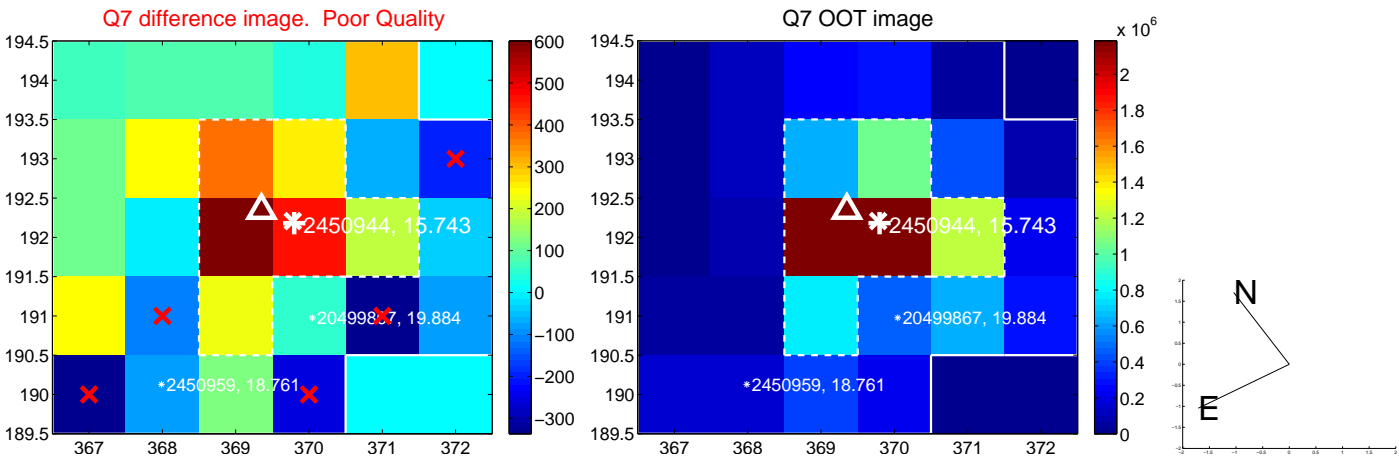
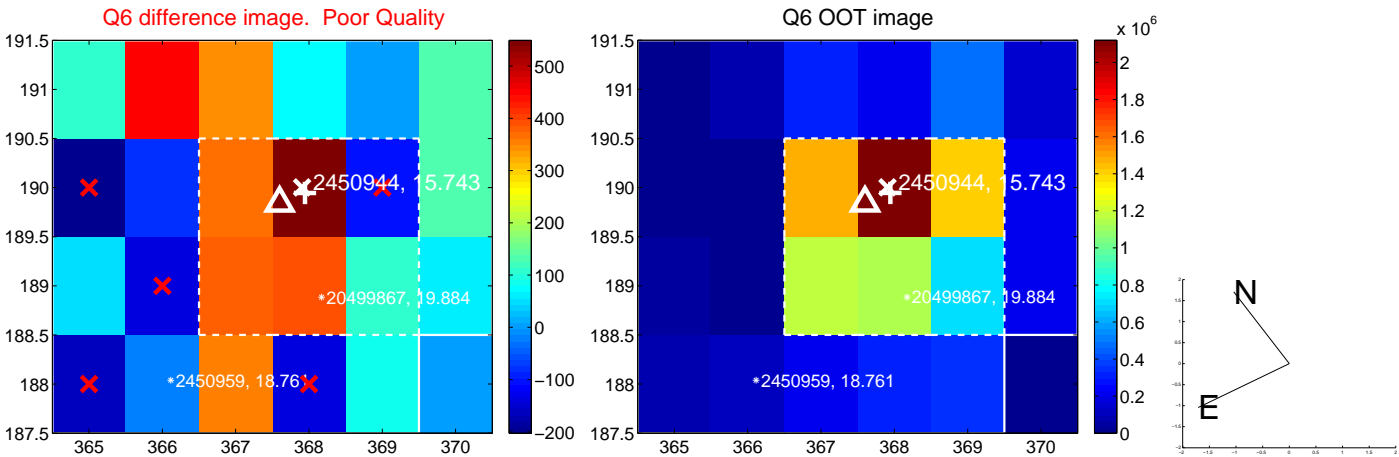
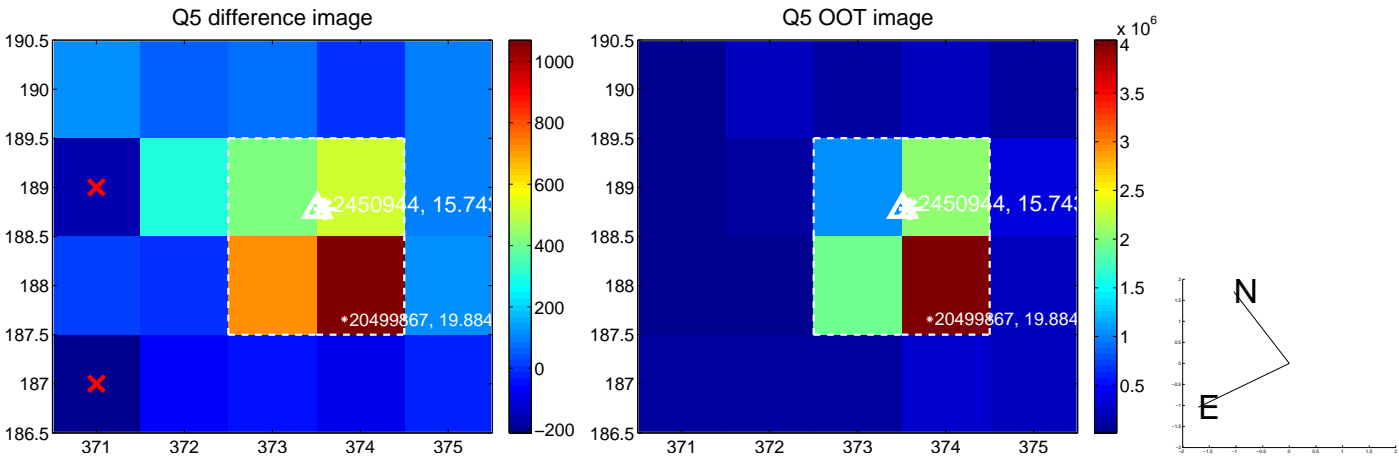


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

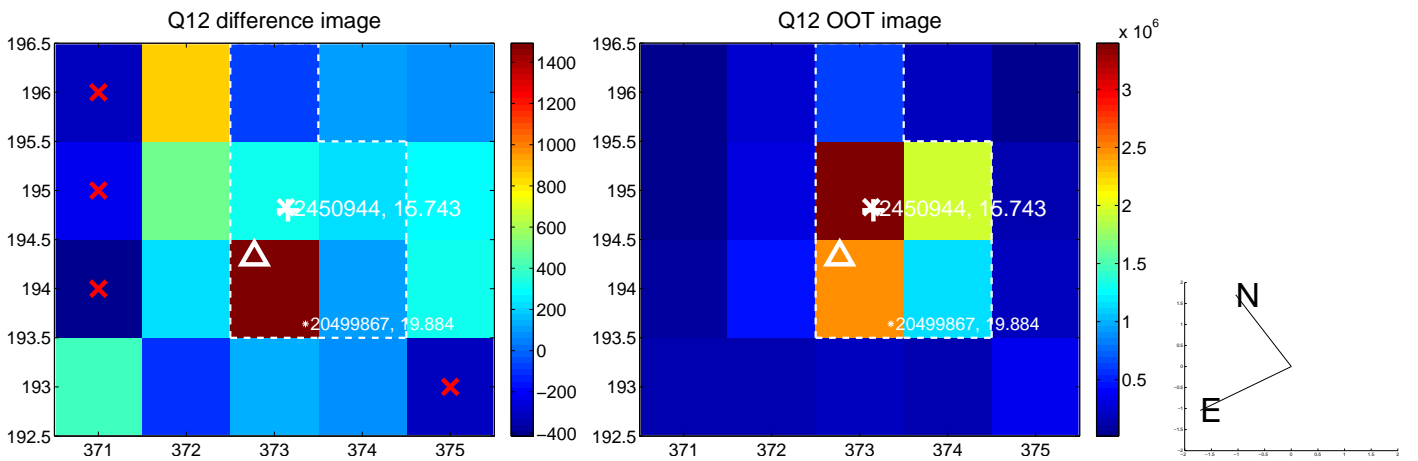
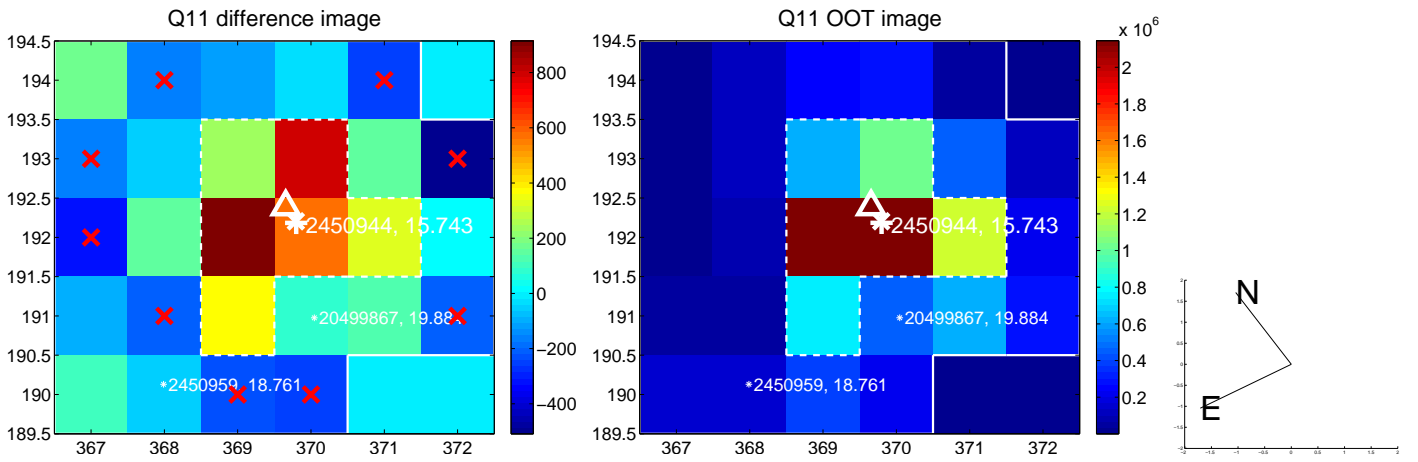
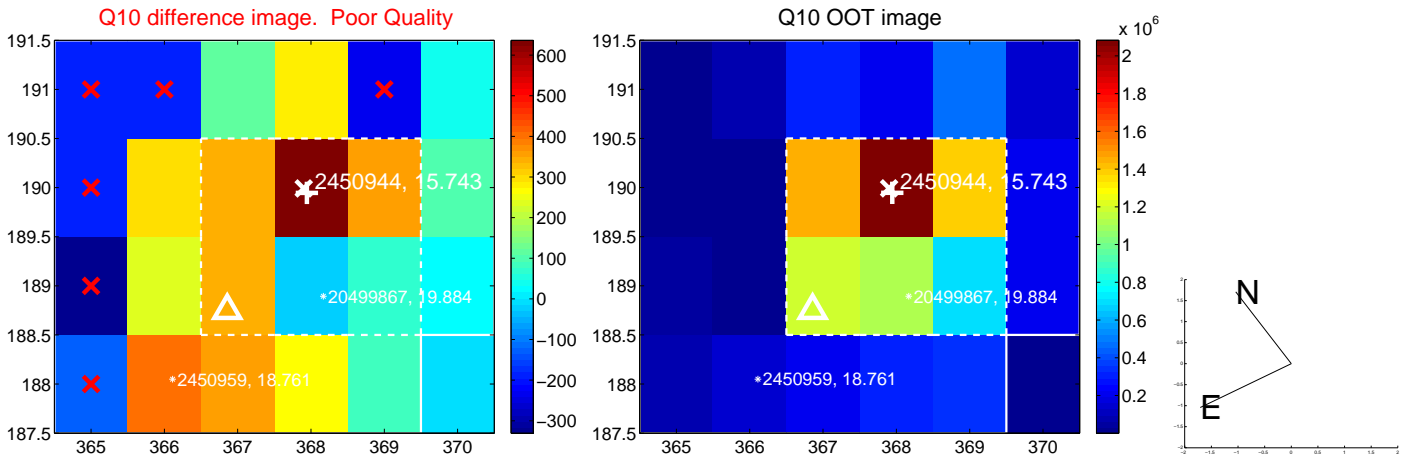
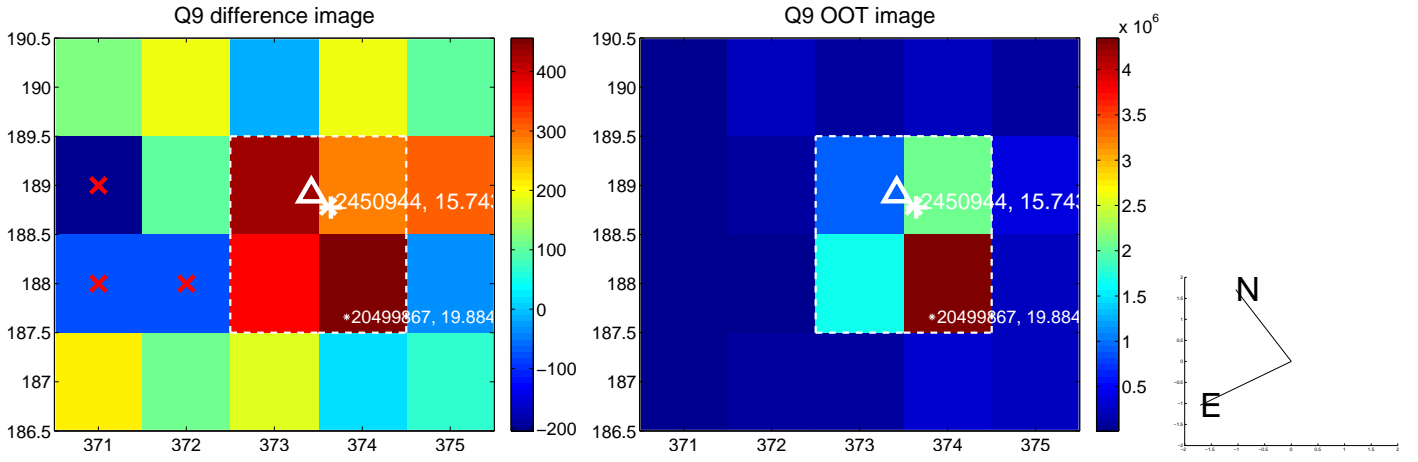
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



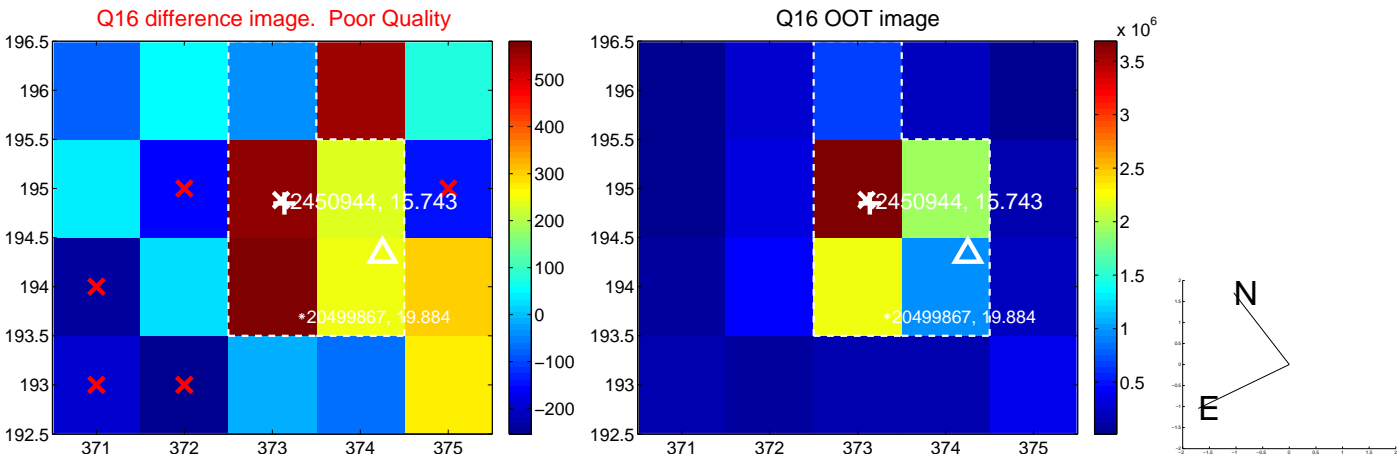
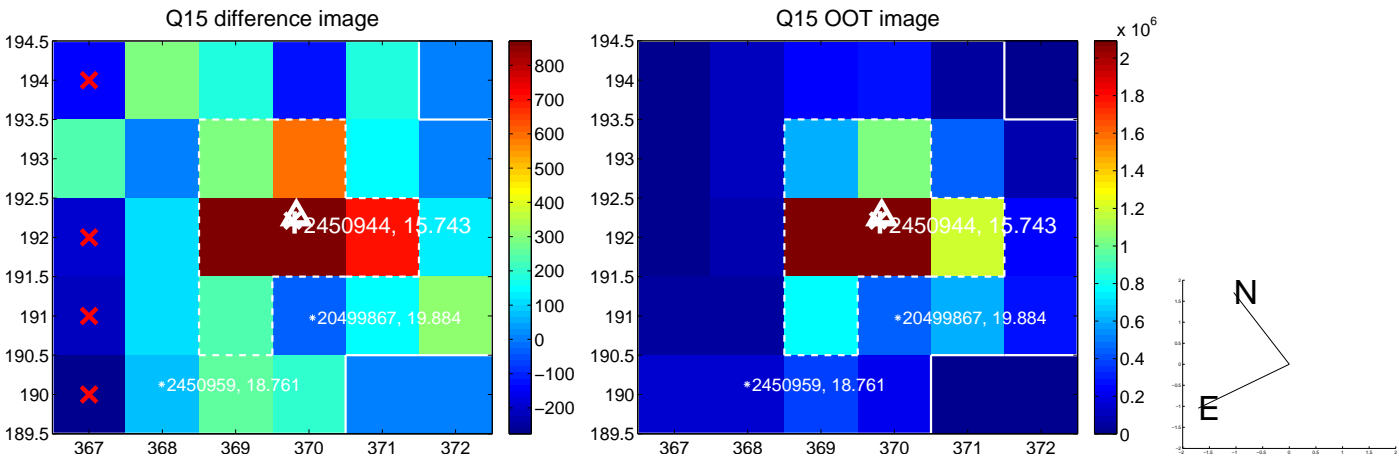
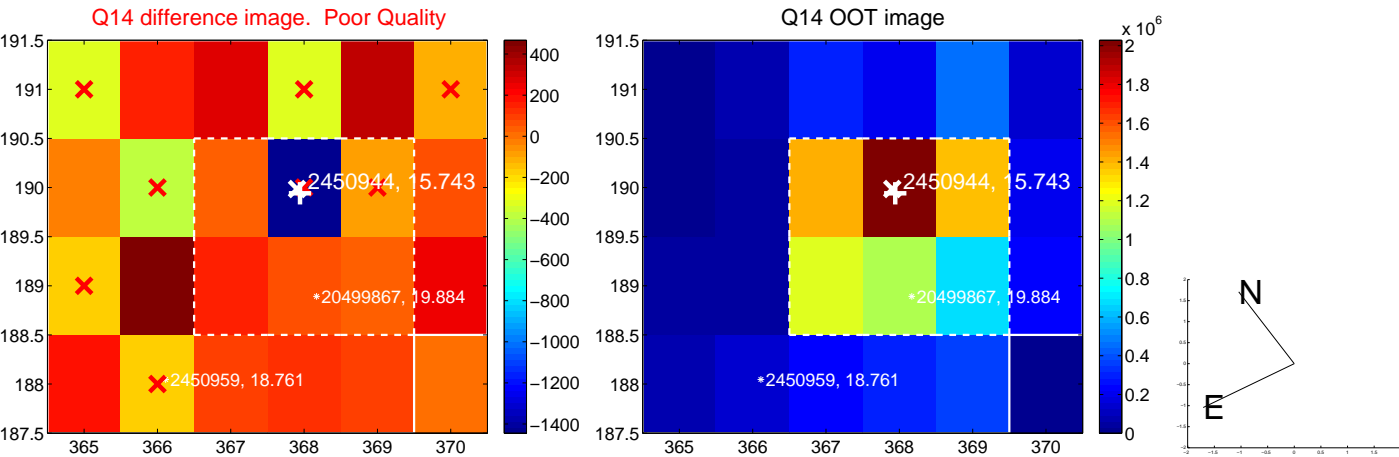
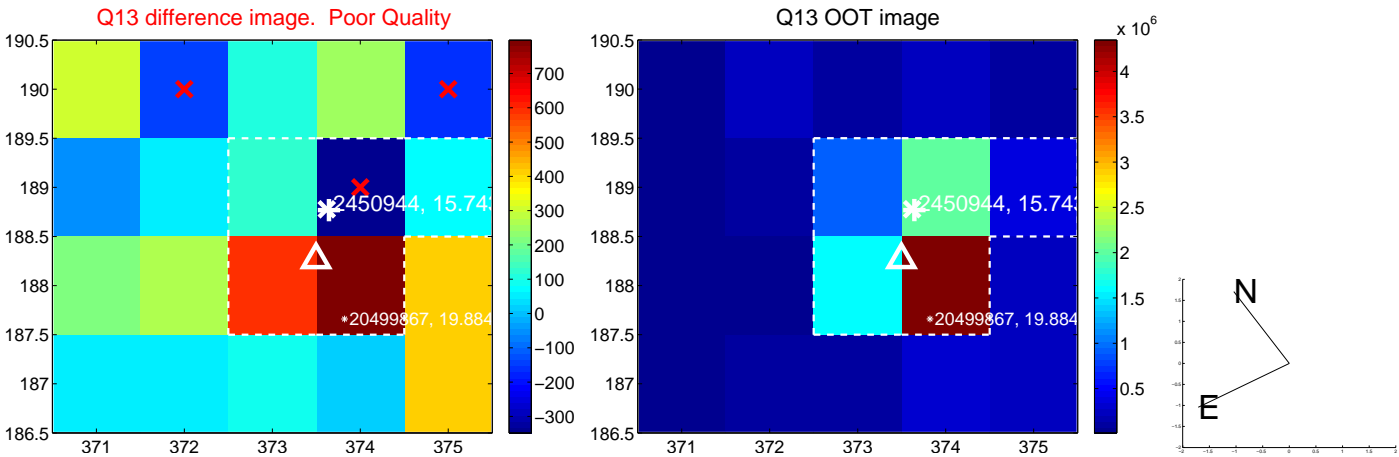
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



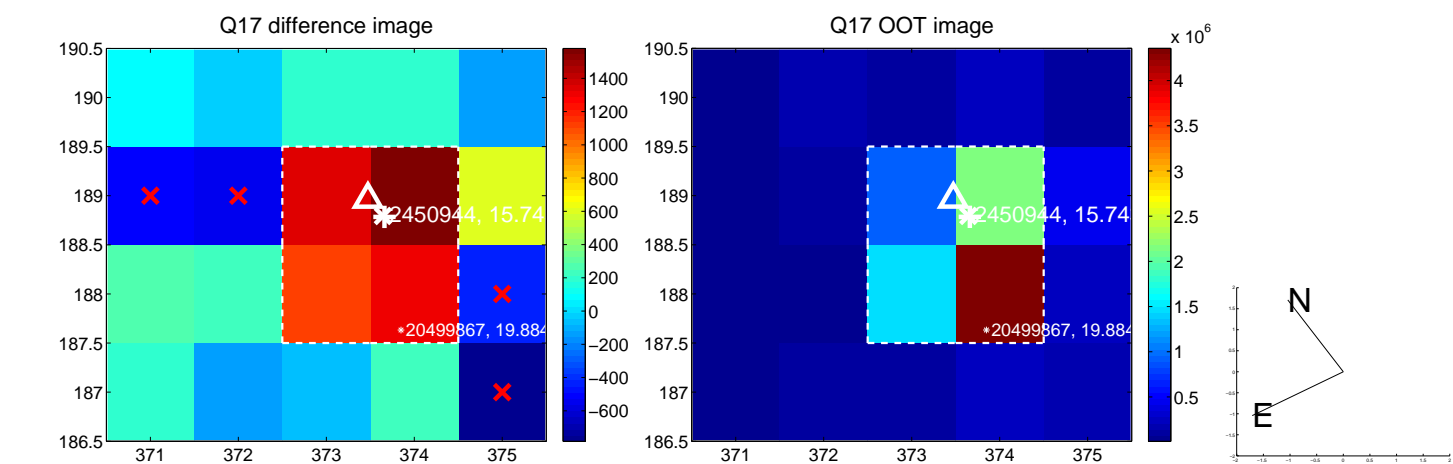
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



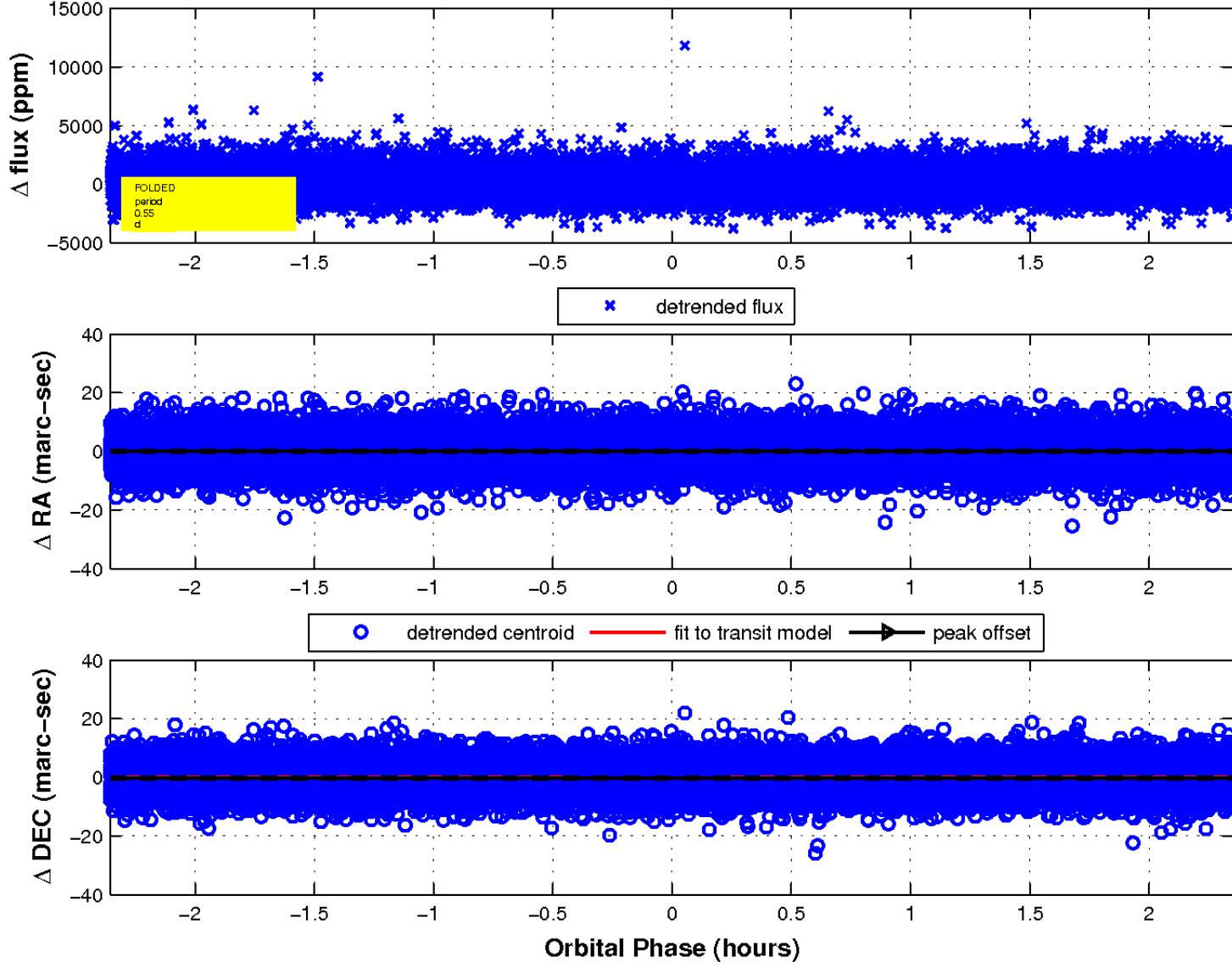
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

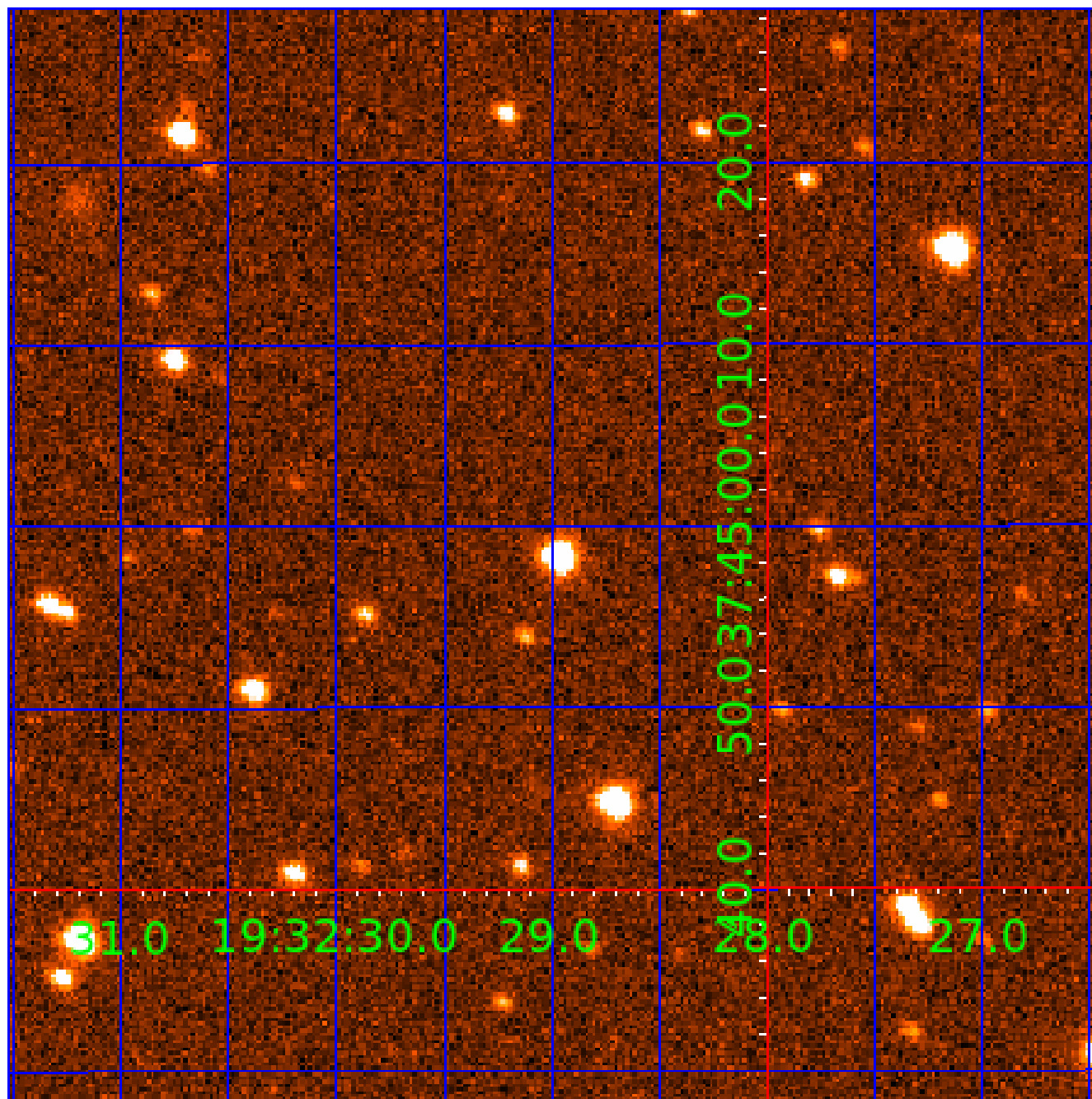


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 002450944

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})
002450944-01	OBS	No	0.554157	131.897437	215.9	0.786	12.1	11.2	1.33	6780	2.12	15550.86
002450944-02	OBS	No	0.554159	131.712835	160.3	1.977	10.0	10.5	1.33	6780	1.97	15550.79
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002450944-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002450944-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
002450944-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

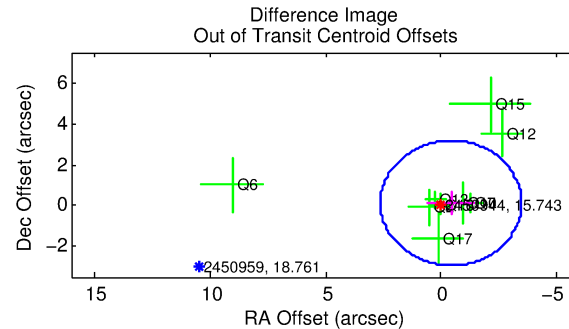
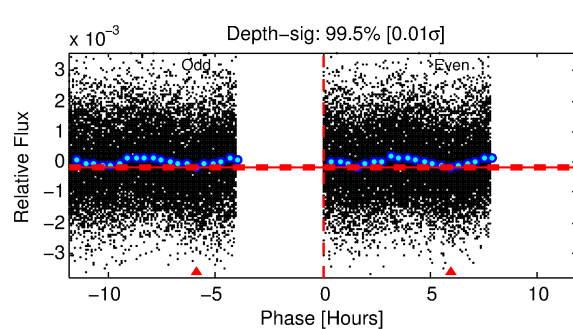
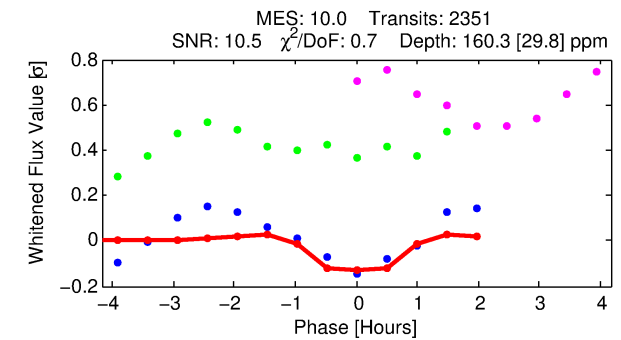
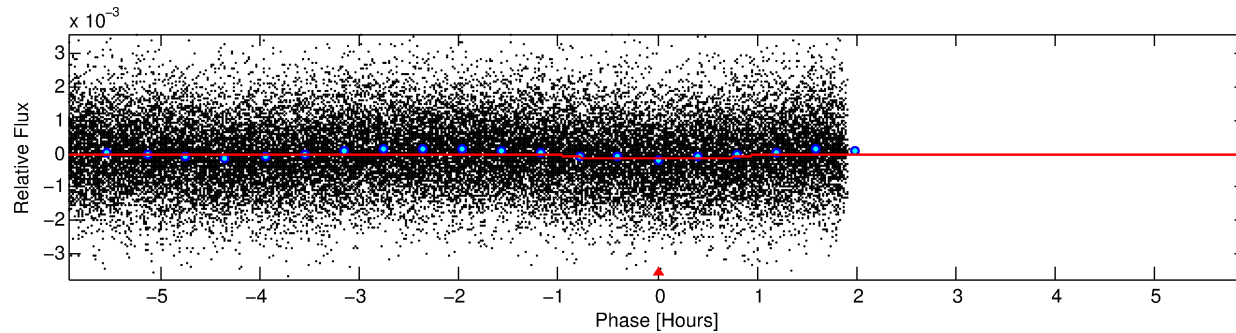
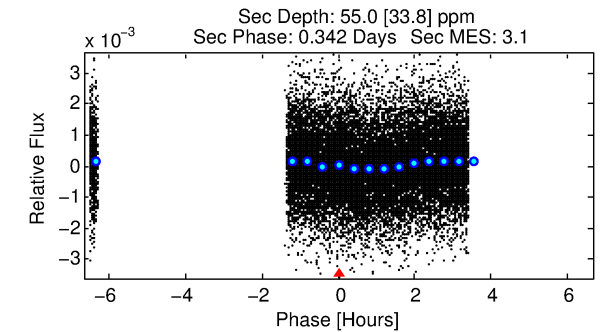
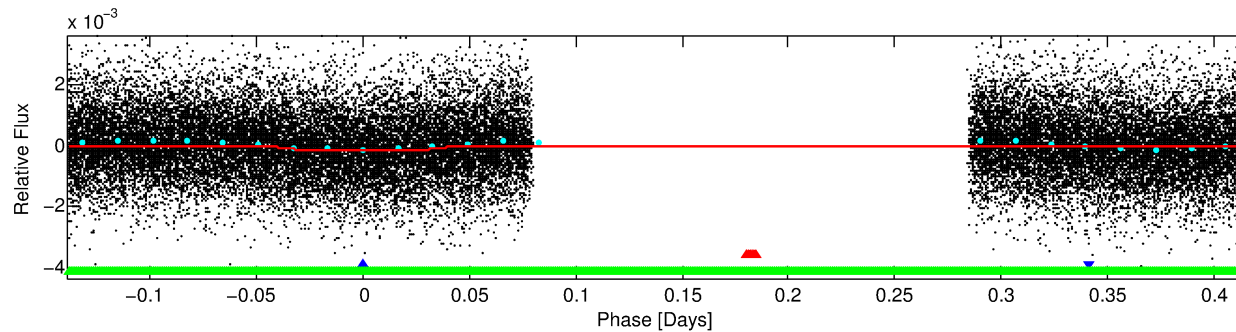
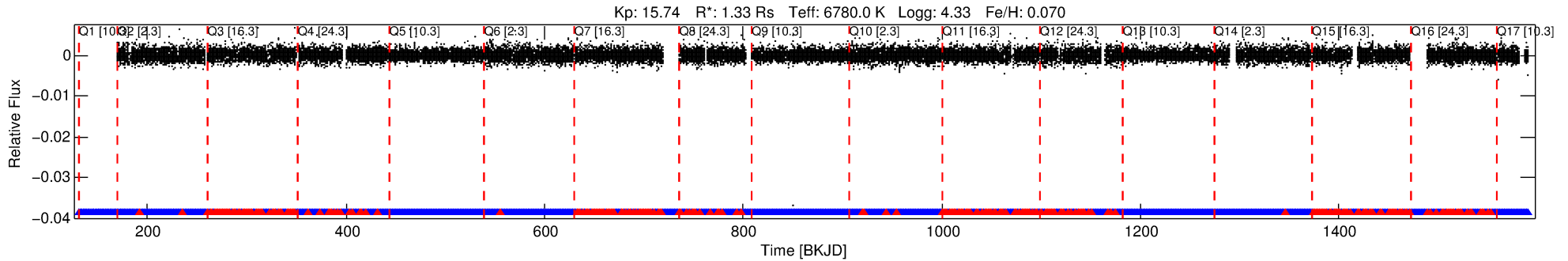
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002450944-02

No Significant Match Found

DV One-Page Summary

KIC: 2450944 Candidate: 2 of 3 Period: 0.554 d



DV Fit Results:

Period = 0.55416 [0.00002] d
Epoch = 131.7128 [0.0020] BKJD
Rp/R* = 0.0135 [0.0060]
a/R* = 1.38 [1.63]
b = 0.90 [0.55]
Seff = 15550.79 [6132.44]
Teff = 2848 [281] K
Rp = 1.97 [1.04] Re
a = 0.0147 [0.0036] AU
Ag = 1.69 [1.91] [0.36 σ]
Teffp = 5019 [1365] K [1.56 σ]

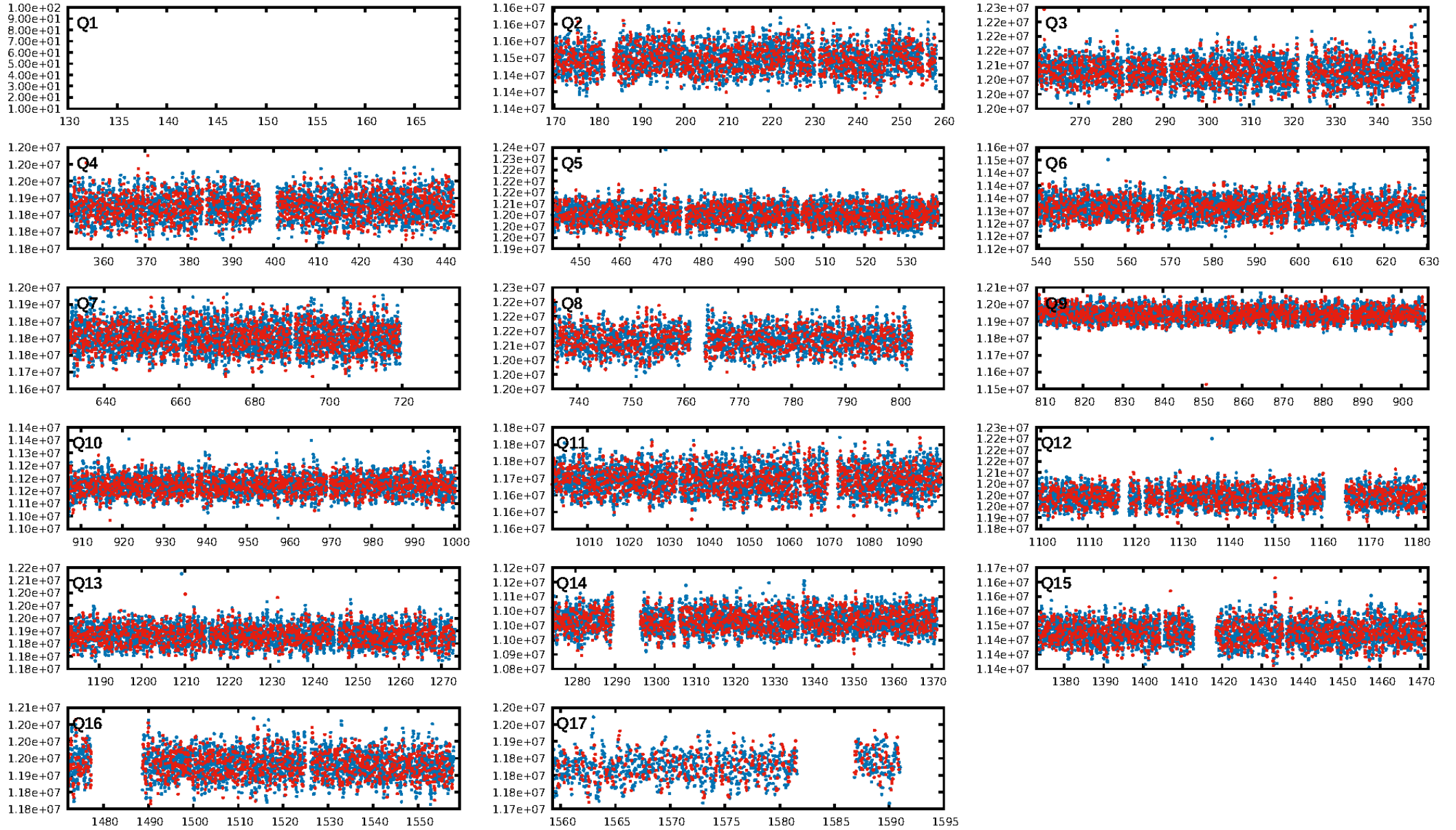
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 99.4% [2.75 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.85 [1952/2302]
GhostDiagnostic-chr: 2.488
Centroid-sig: 85.9%
Centroid-so: 1.031 arcsec [1.00 σ]
OotOffset-rm: 0.437 arcsec [0.43 σ]
KicOffset-rm: 0.465 arcsec [0.41 σ]
OotOffset-st: 3/2/2/2 [9]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 0.00 [0/16]

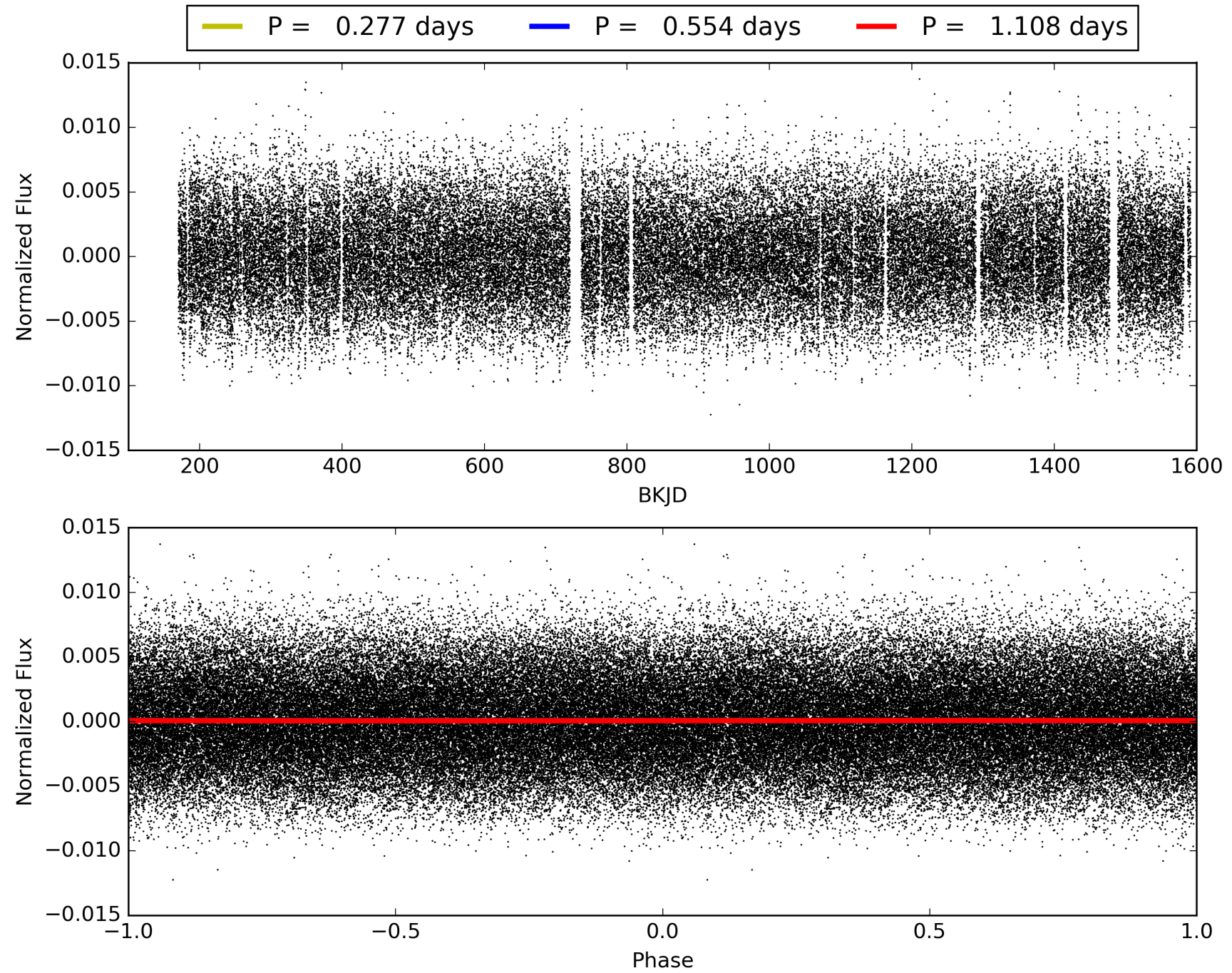
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:25:51 Z

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

TCE 002450944-02, PDC Light Curves

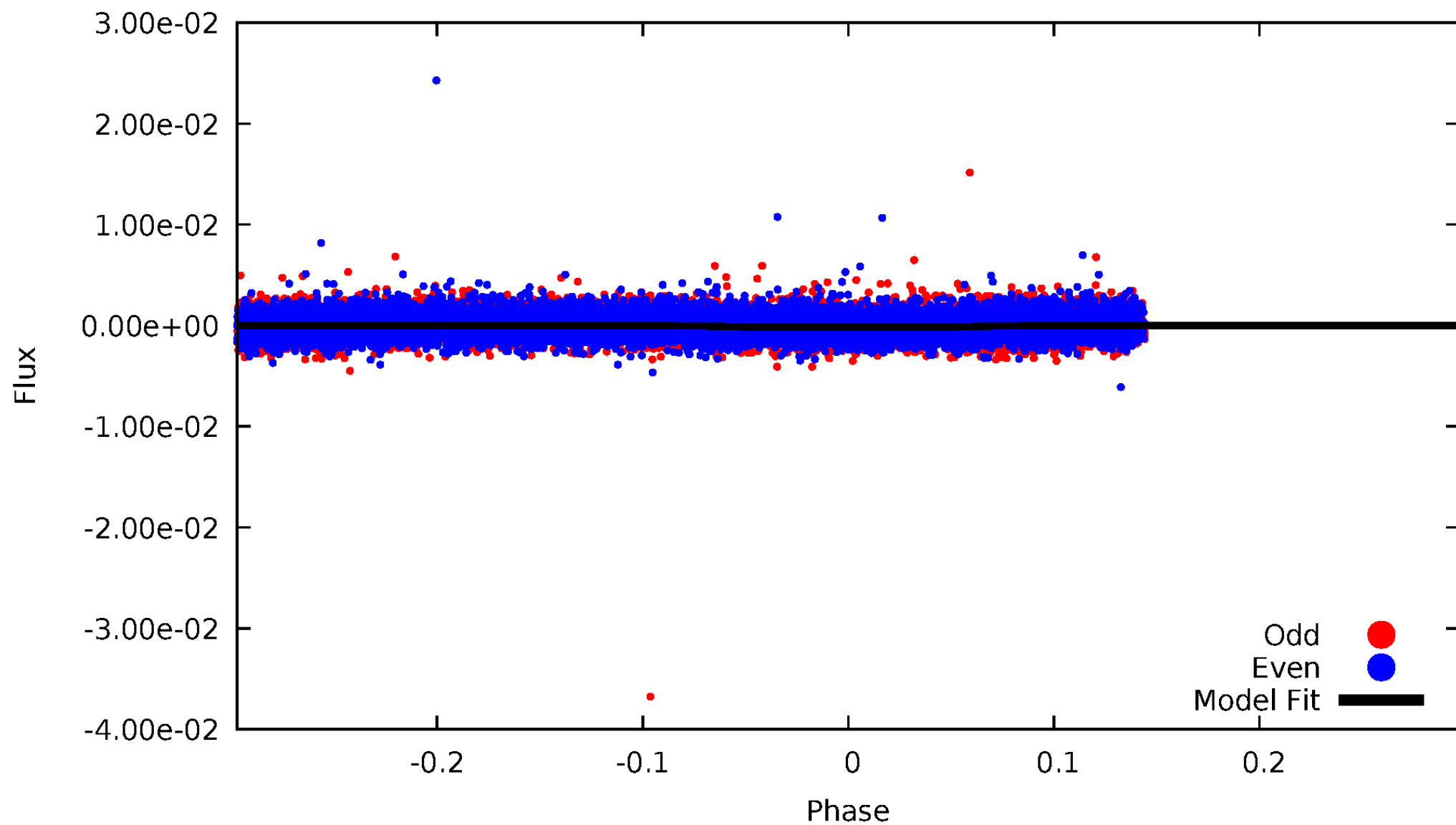


TCE 002450944-02



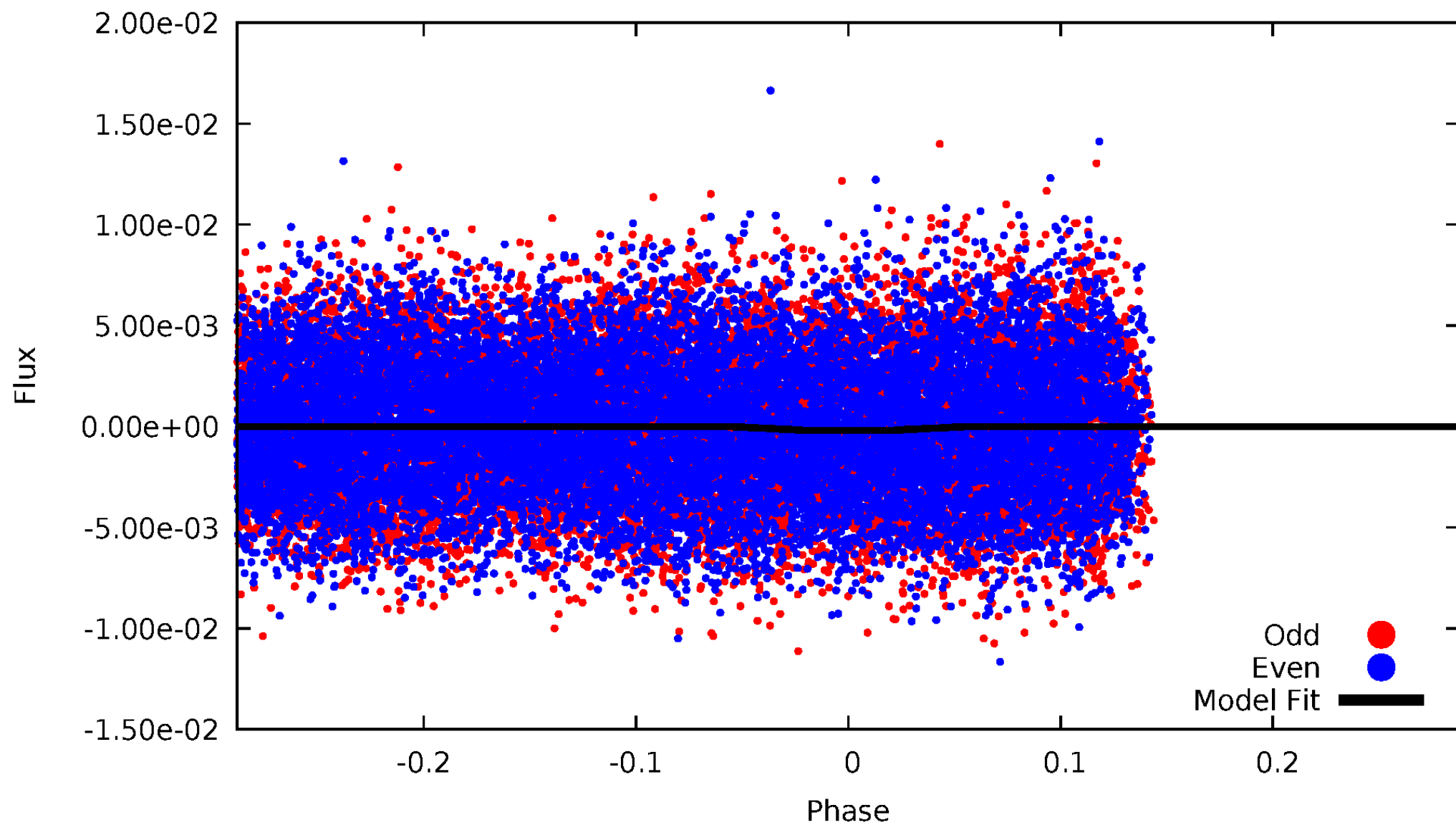
DV Odd/Even

TCE 002450944-02



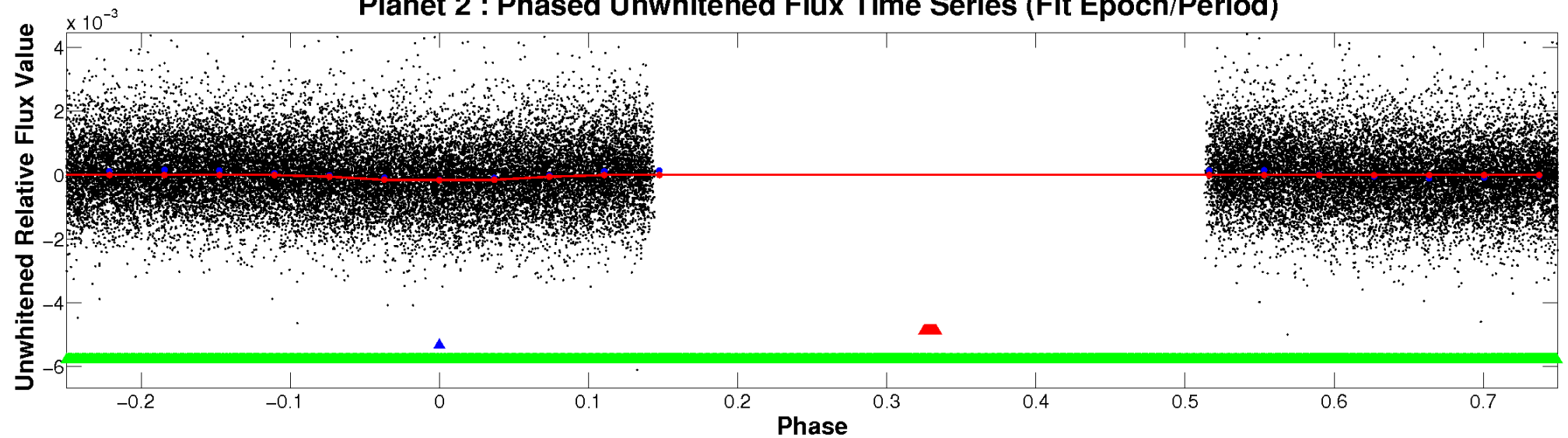
ALT Odd/Even

TCE 002450944-02

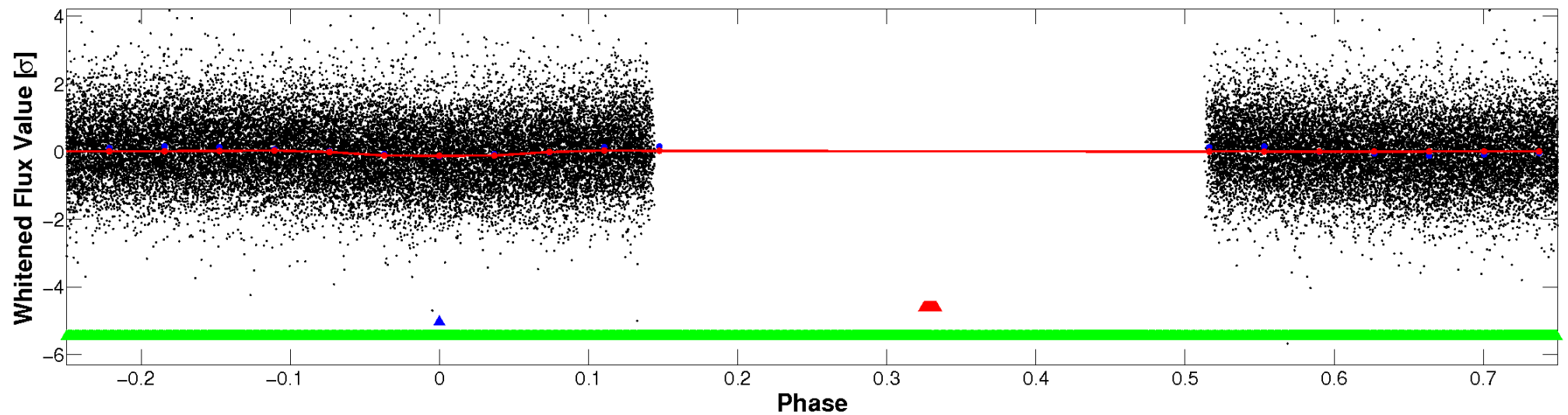


Non-Whitened Vs. Whitened Light Curve

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

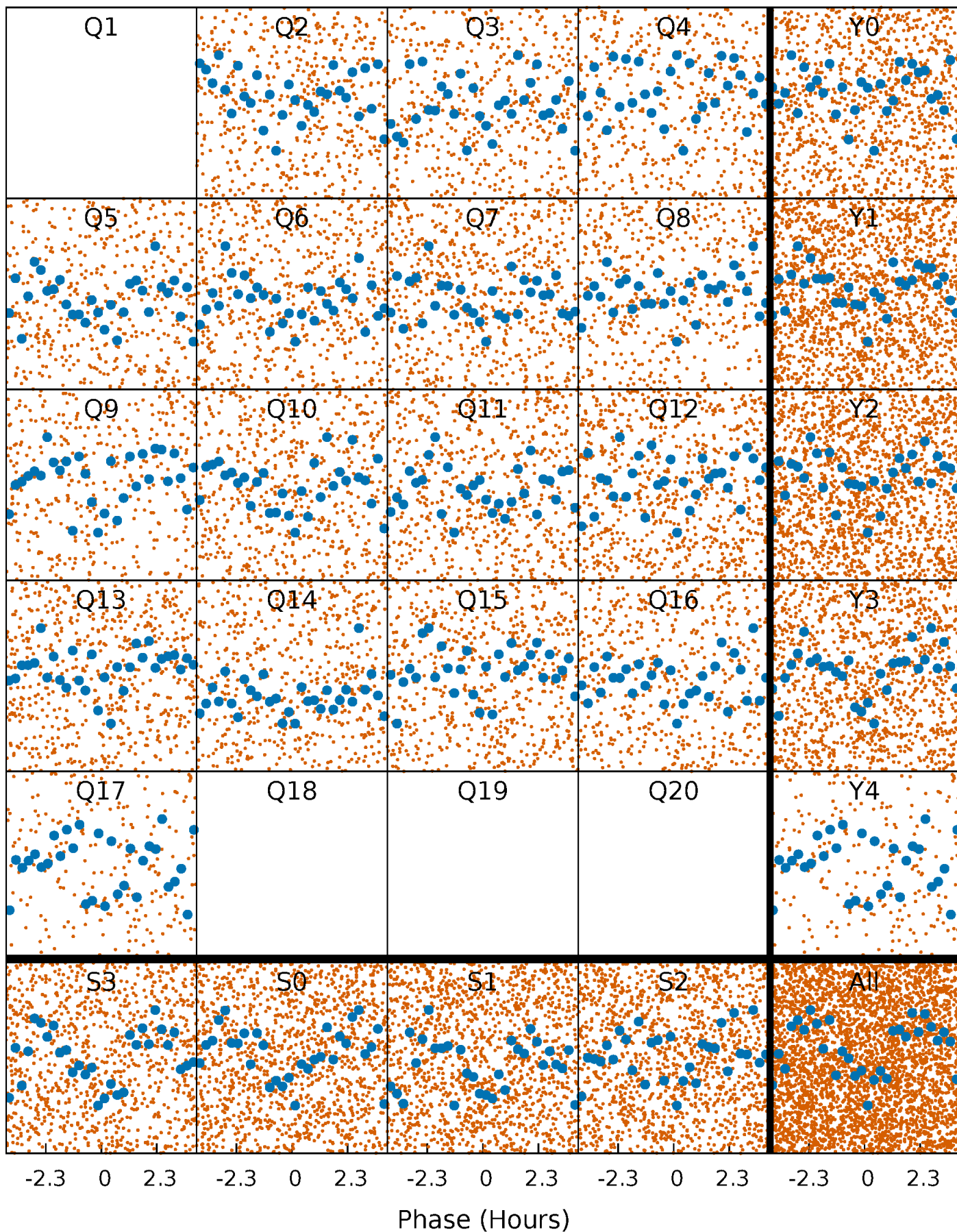


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



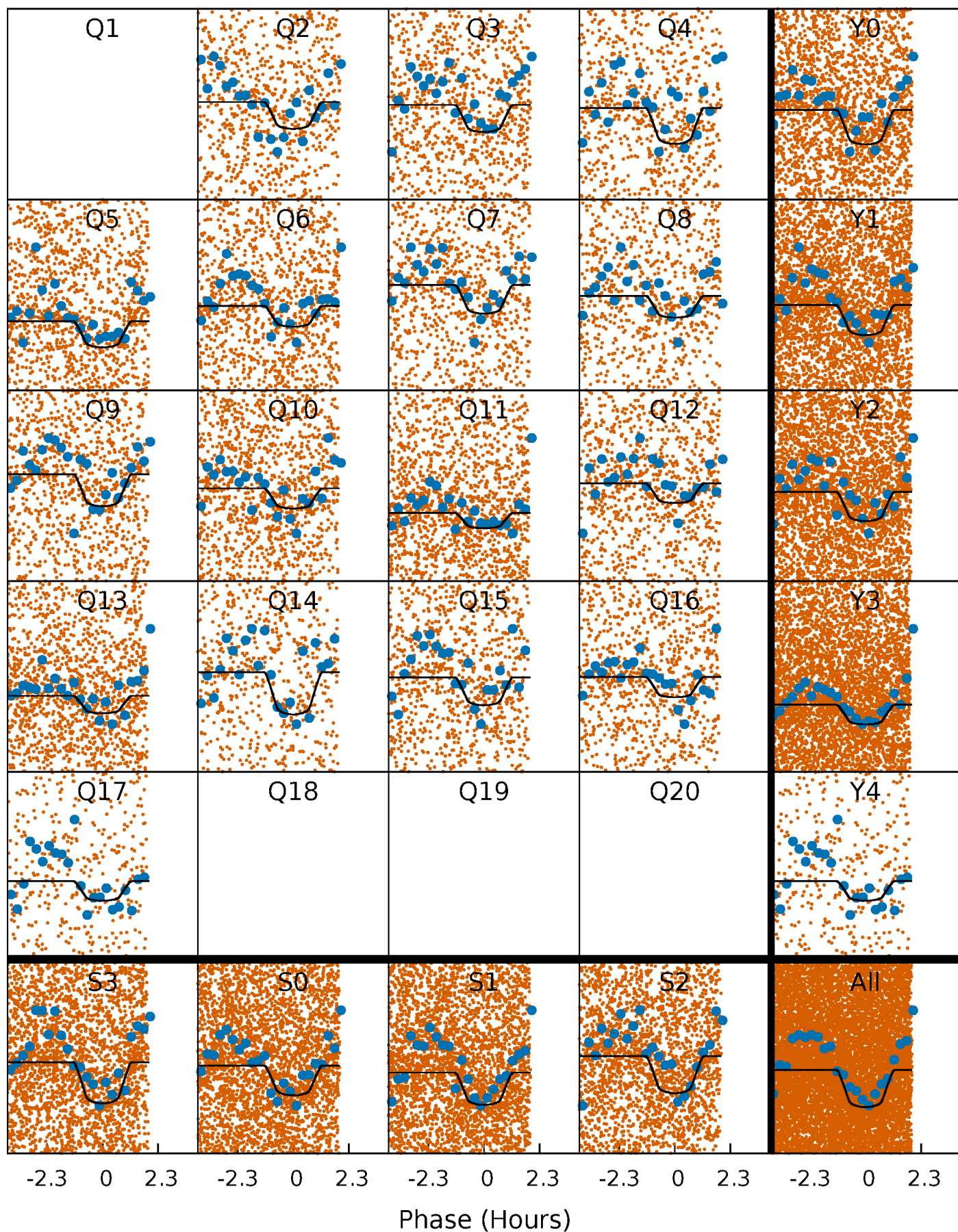
PDC Quarter-Phased Transit Curves

TCE 002450944-02 P= 0.554159 Days $T_0=131.712836$ (BKJD)



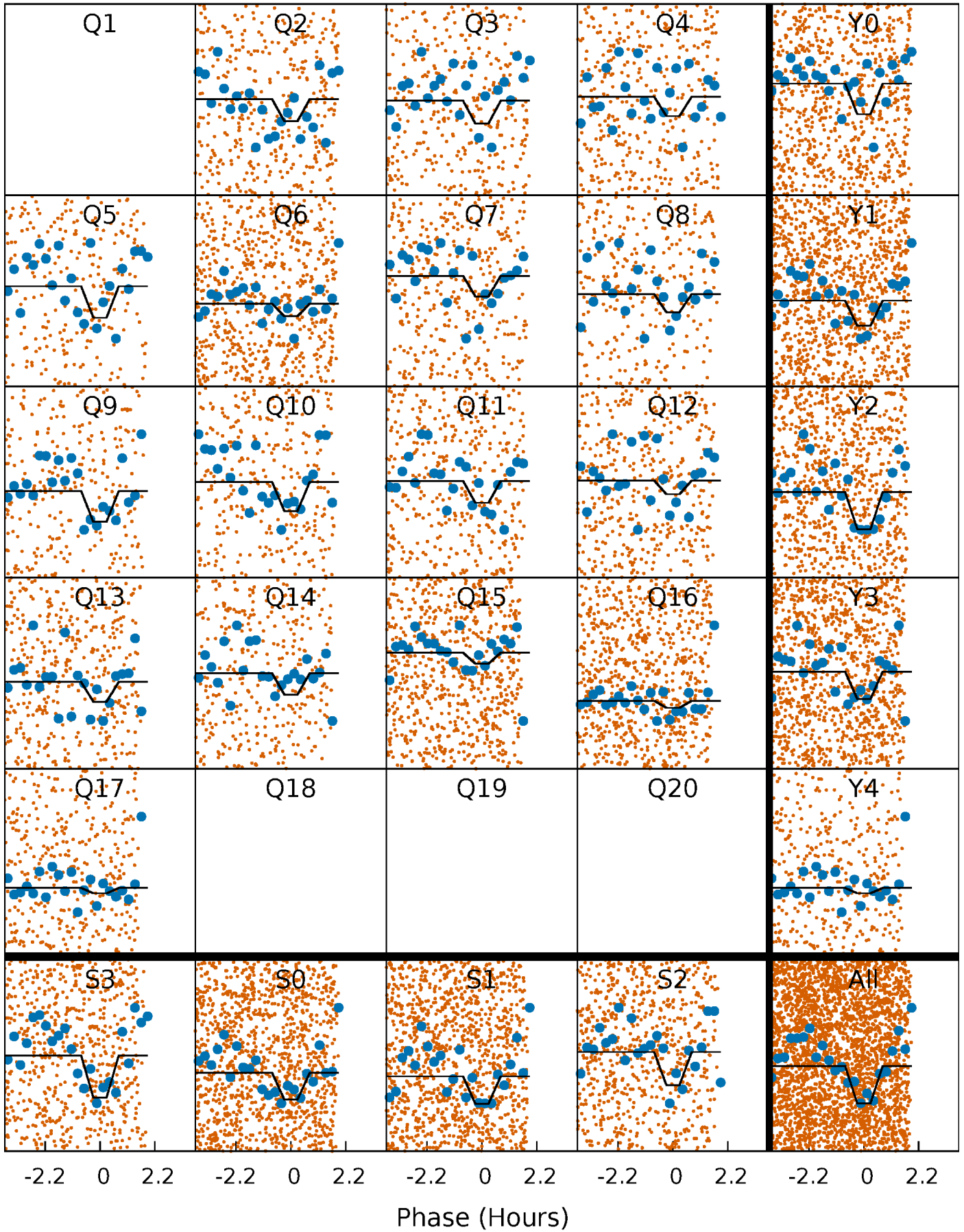
DV Quarter-Phased Transit Curves

TCE 002450944-02 P= 0.554159 Days $T_0=131.712836$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

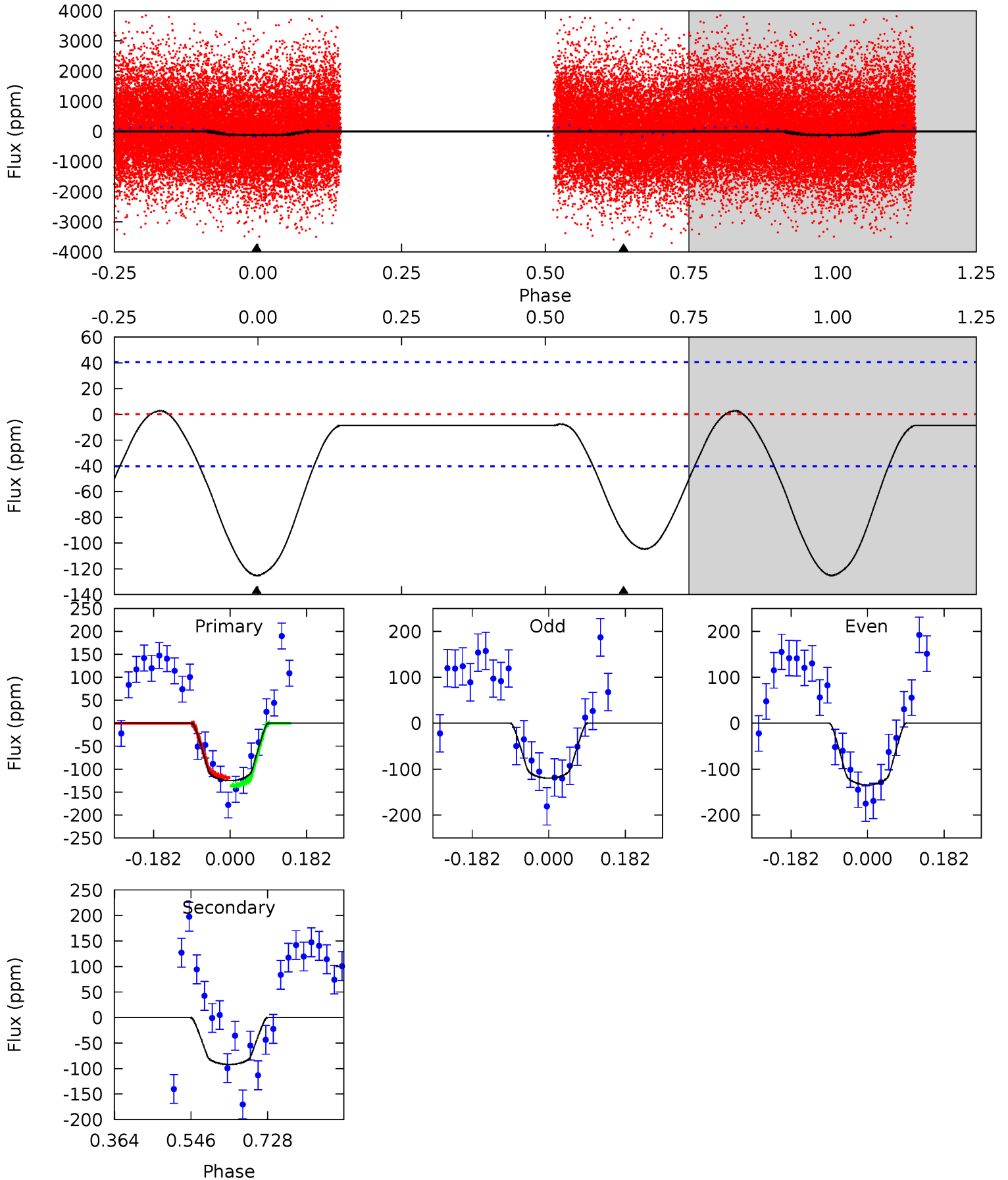
TCE 002450944-02 P= 0.554164 Days $T_0=131.712992$ (BKJD)



DV Model-Shift Uniqueness Test

002450944-02, P = 0.554159 Days, E = 131.712836 Days

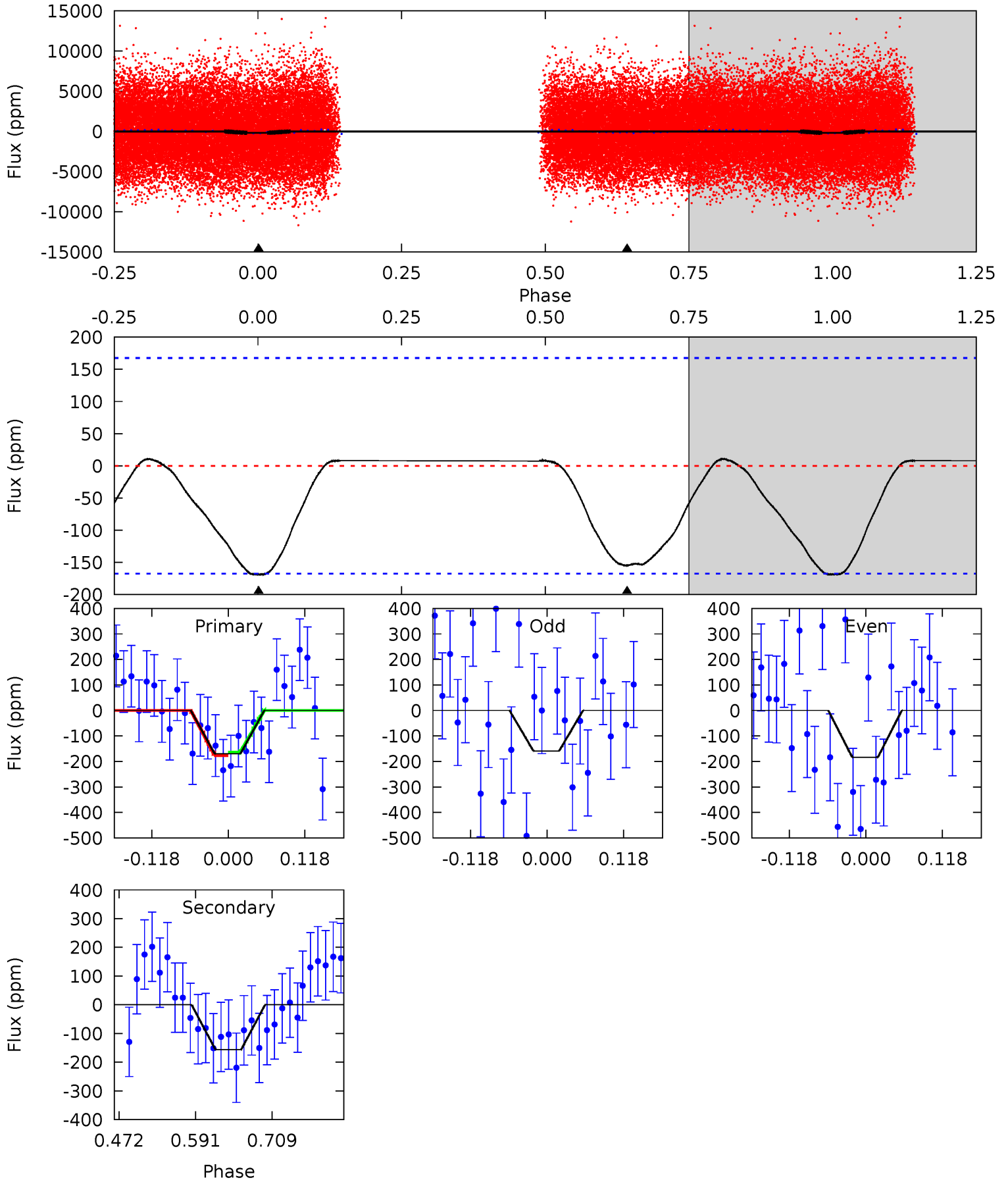
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	10.1	0	0	4.44	1.33	0.57	13.7	13.7	10.1	10.1	0.80	0.86	0.02	1.00



Alt Model-Shift Uniqueness Test

002450944-02, P = 0.554164 Days, E = 131.712992 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.60	4.23	0	0	4.53	1.56	0.47	4.60	4.60	4.23	4.23	0.33	0.62	0.07	0.18



Stellar Parameters For KIC 002450944

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6780^{+187}_{-295}	$4.328^{+0.060}_{-0.192}$	$0.070^{+0.200}_{-0.350}$	$1.331^{+0.391}_{-0.168}$	$1.373^{+0.168}_{-0.206}$	$0.821^{+0.279}_{-0.408}$
	+3%/-4%	+1%/-4%	+286%/-500%	+29%/-13%	+12%/-15%	+34%/-50%
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 002450944-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-92 ± 9	$2.03^{+0.93}_{-0.88}$	4054^{+286}_{-230}	5511^{+1965}_{-914}	$2.559^{+5.401}_{-1.361}$
Alt.	-156 ± 37	$2.08^{+0.95}_{-0.81}$	4054^{+273}_{-217}	6240^{+2235}_{-1124}	$4.190^{+7.214}_{-2.364}$

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 $A_{obs} \gg 1.0$

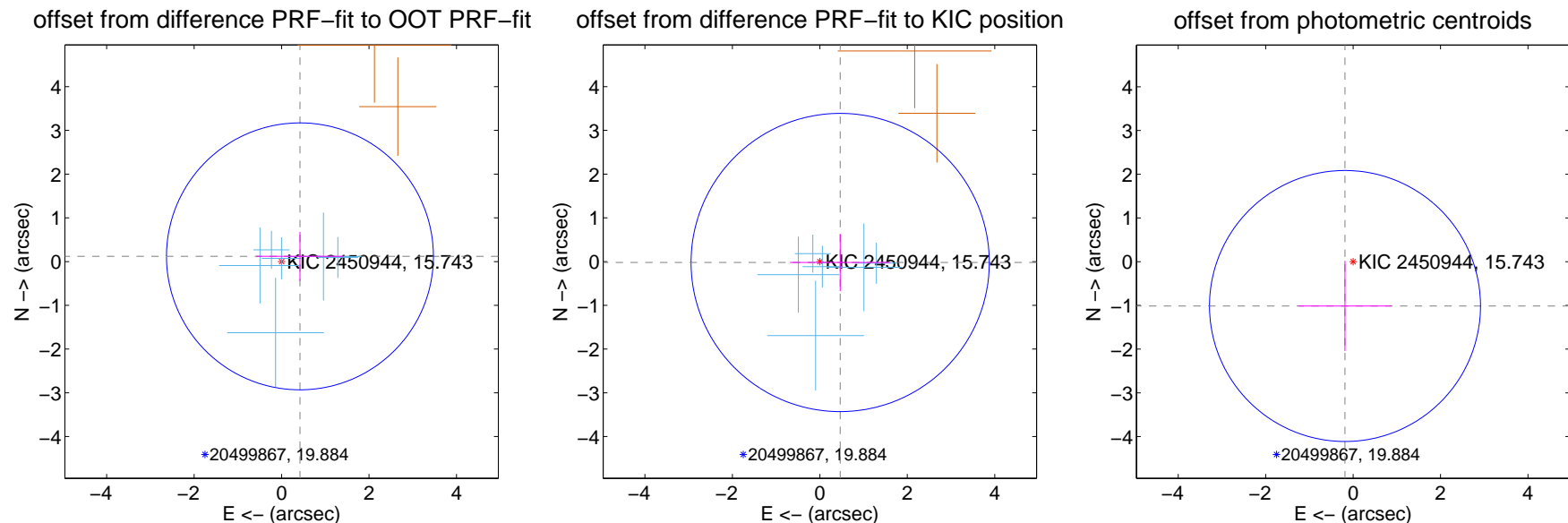
DV Centroid Data

Supplemental centroid analysis for 002450944-02. Kepler magnitude: 15.74. Transit SNR 10.49

There are 6 quarters with good PRF difference image offsets

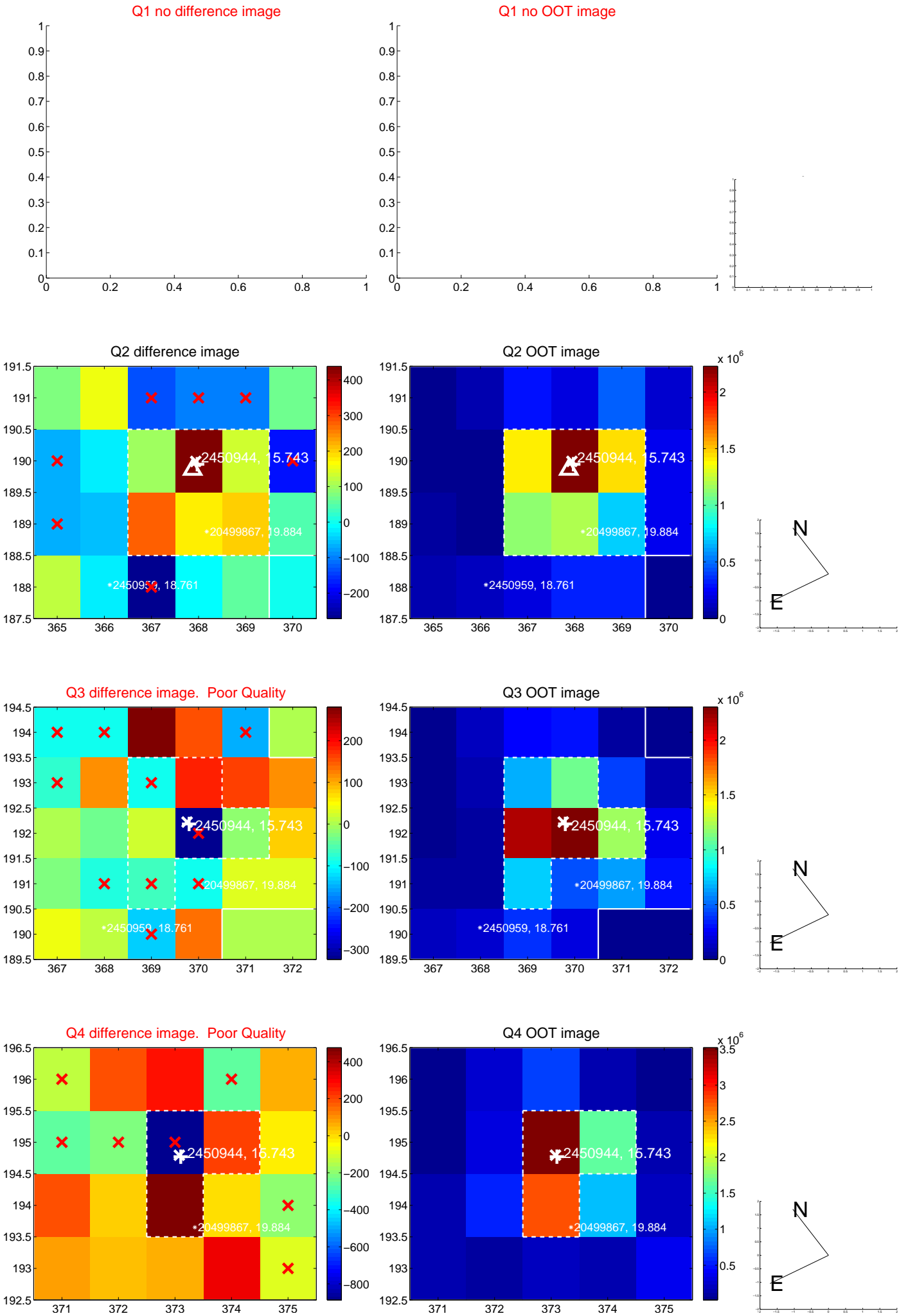
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.437 ± 1.017	0.43	-0.420 ± 0.998	0.120 ± 0.559
PRF-fit source offset from KIC position	0.465 ± 1.137	0.41	-0.465 ± 1.148	-0.021 ± 0.655
photometric centroid source offset	1.03 ± 1.03	1.00	0.19 ± 1.06	-1.01 ± 1.03

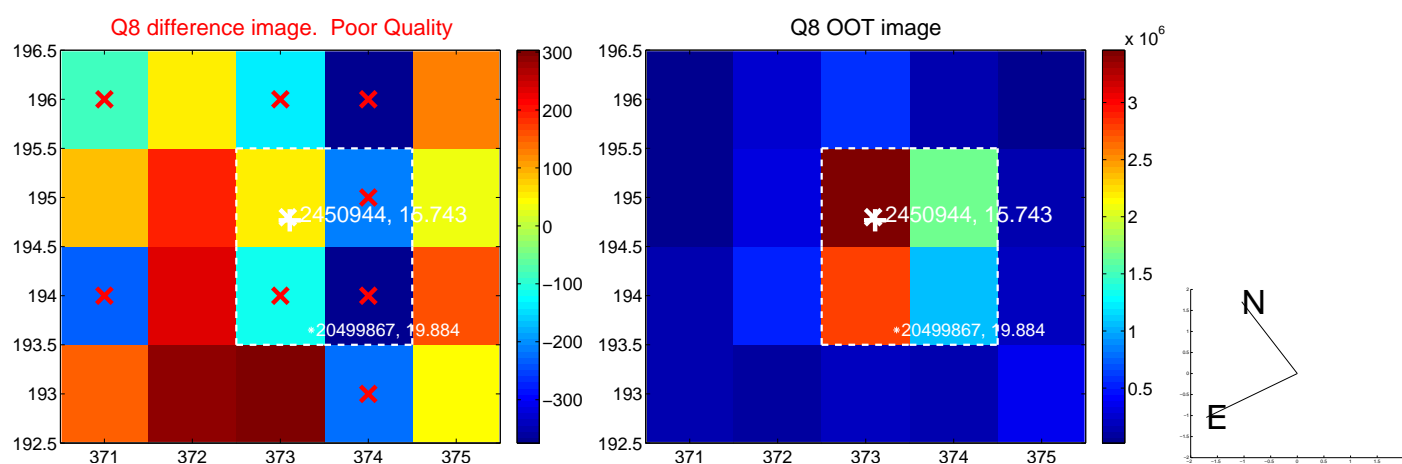
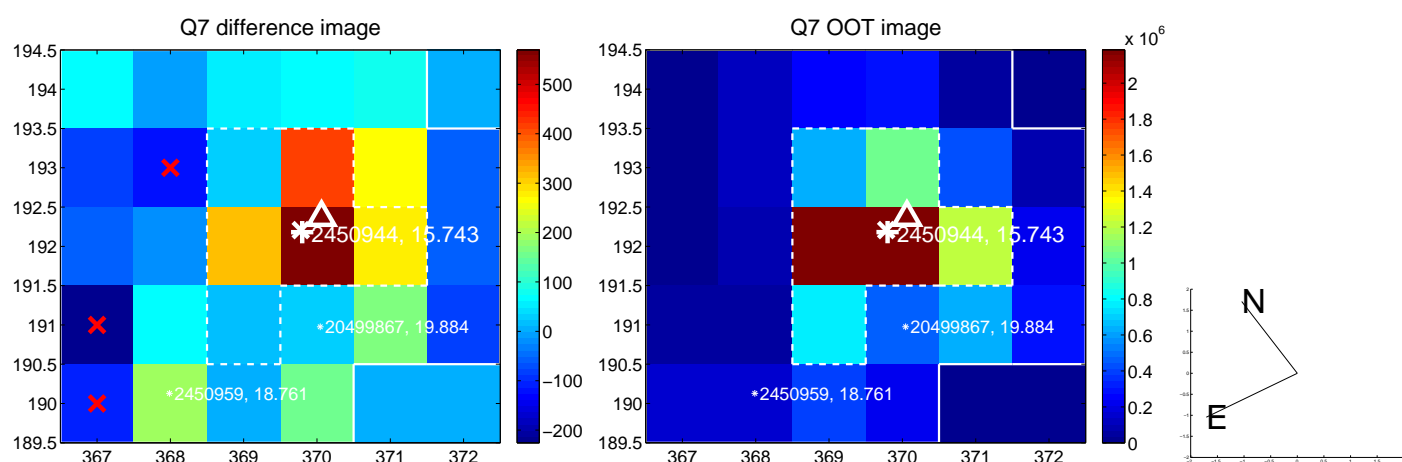
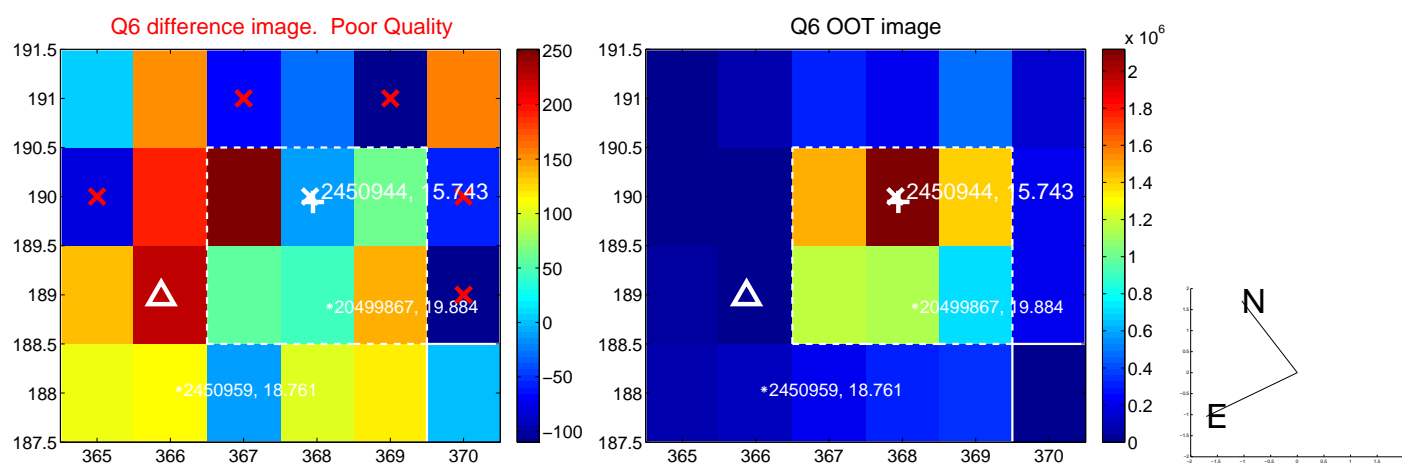
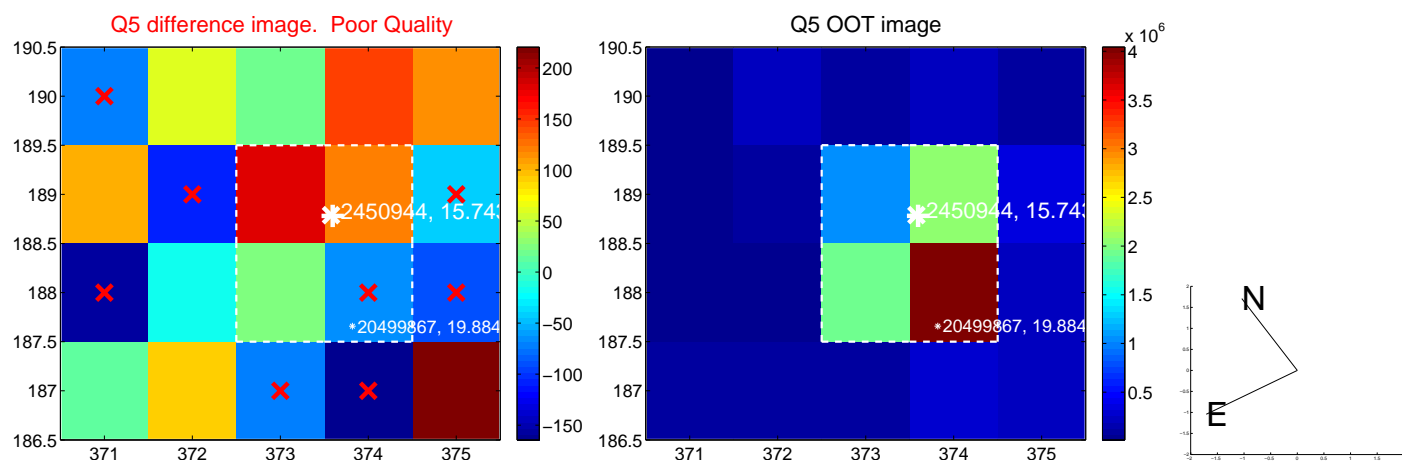


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

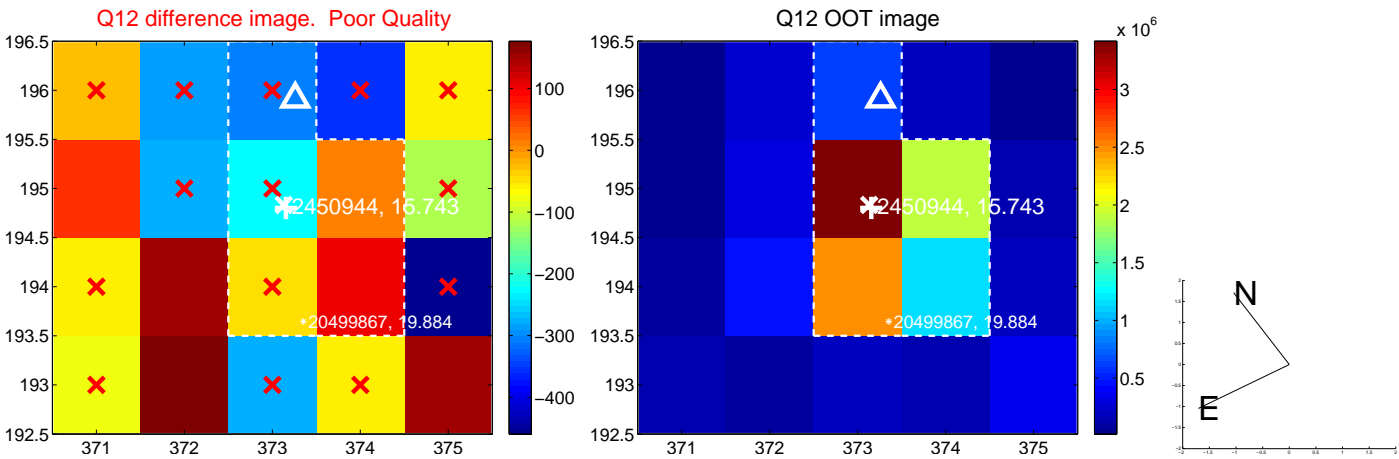
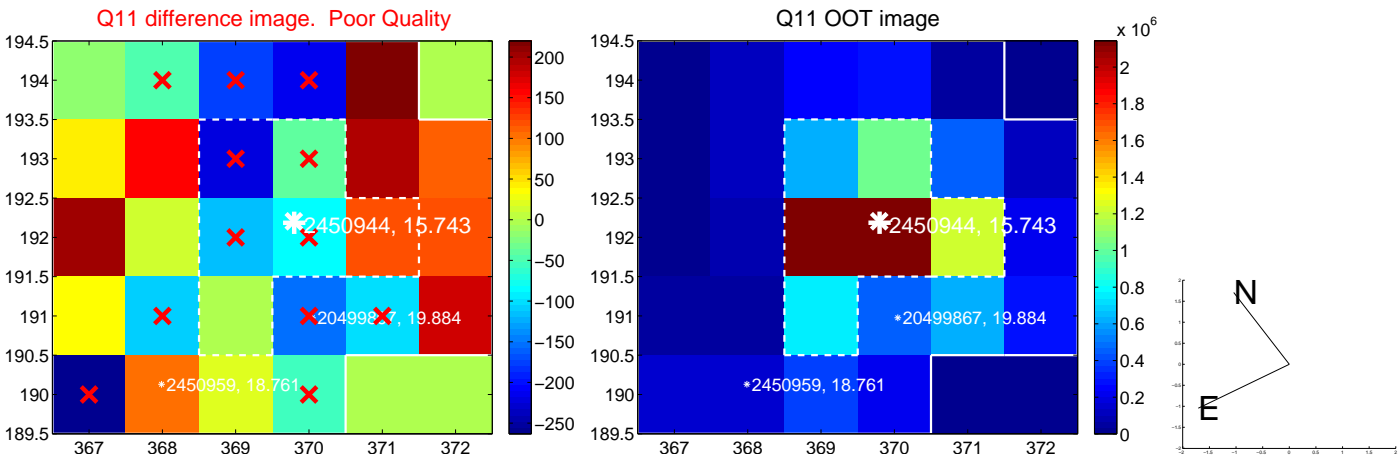
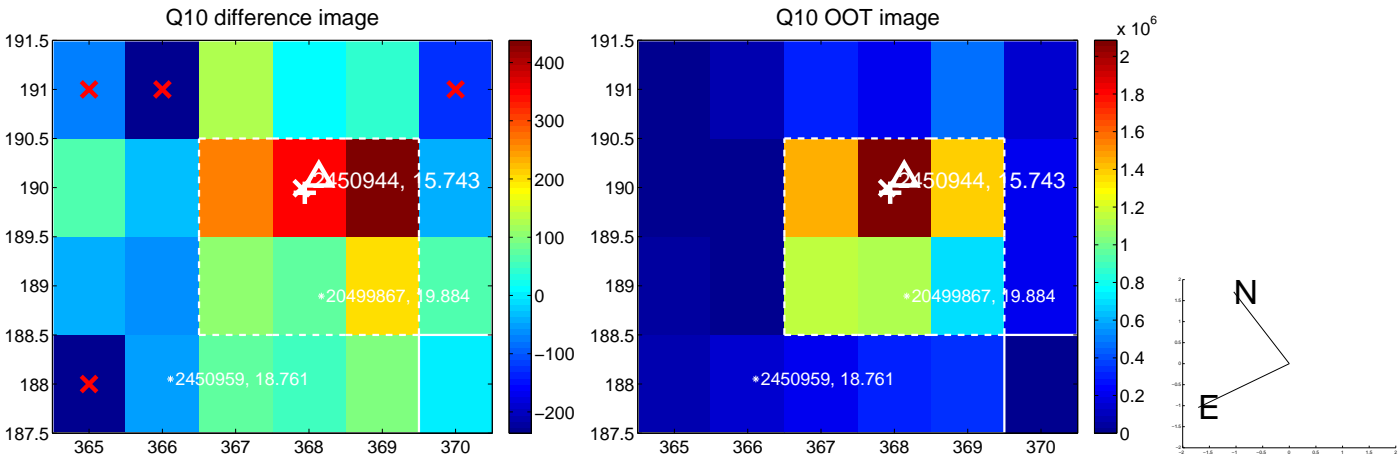
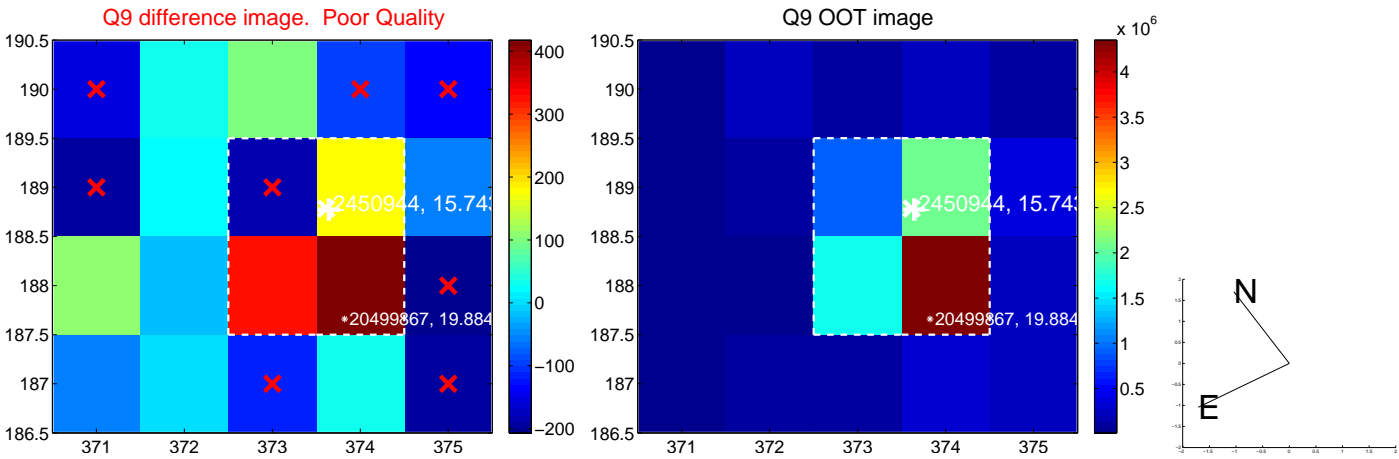
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



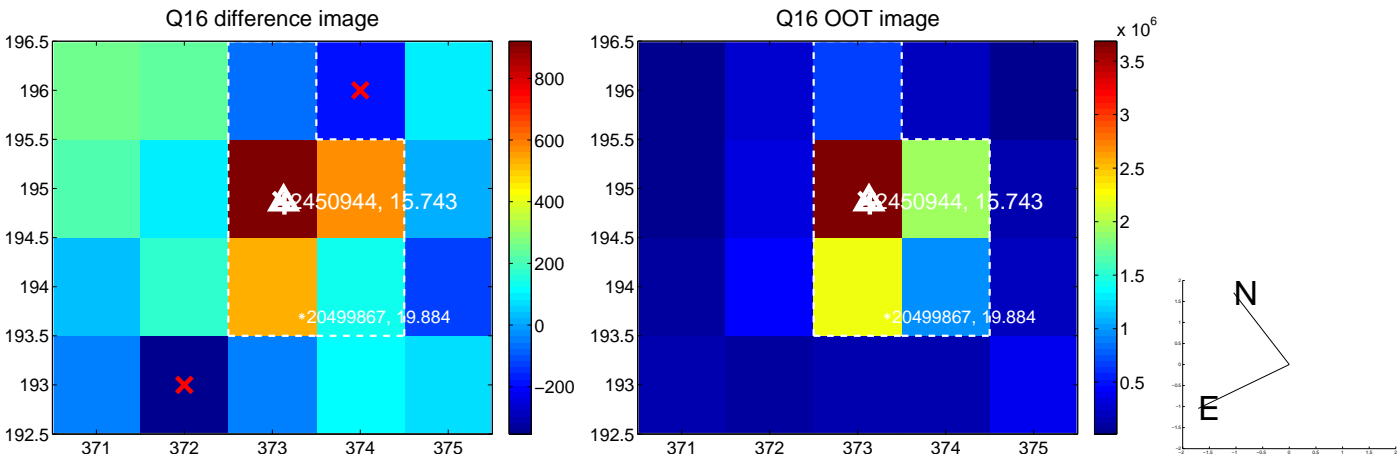
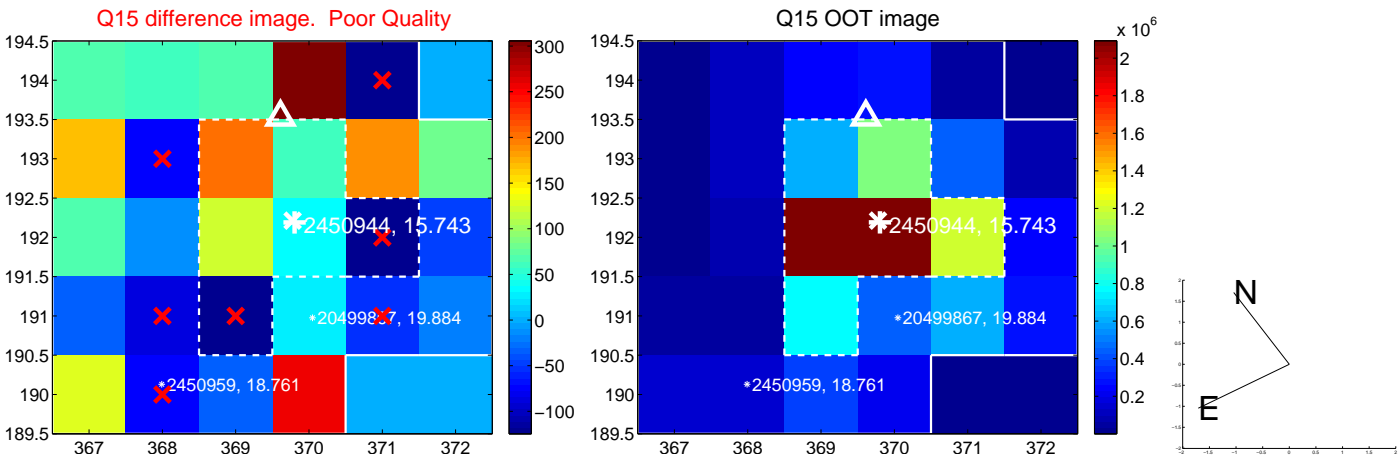
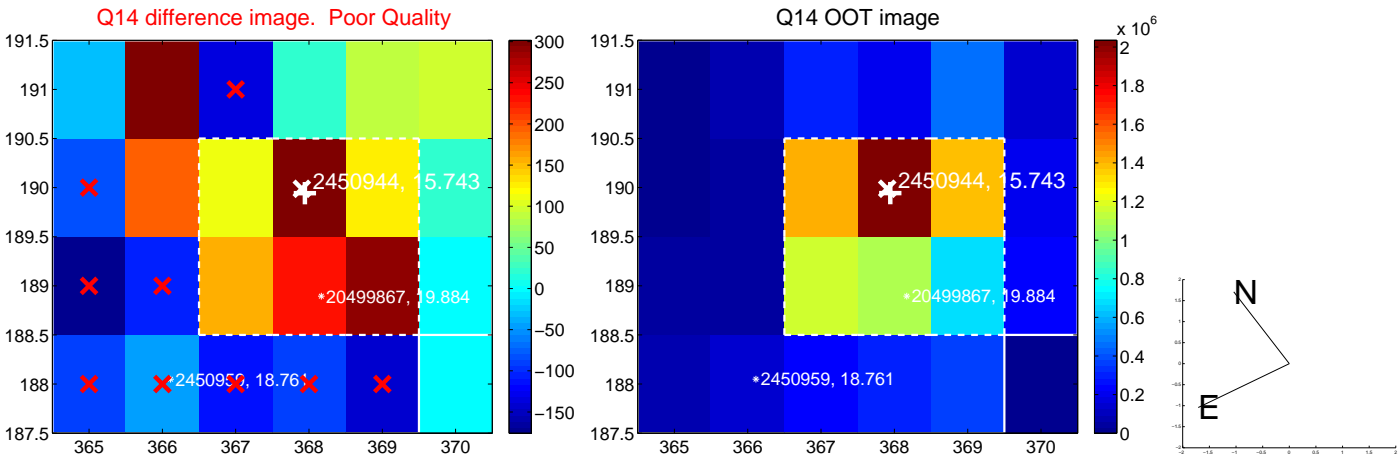
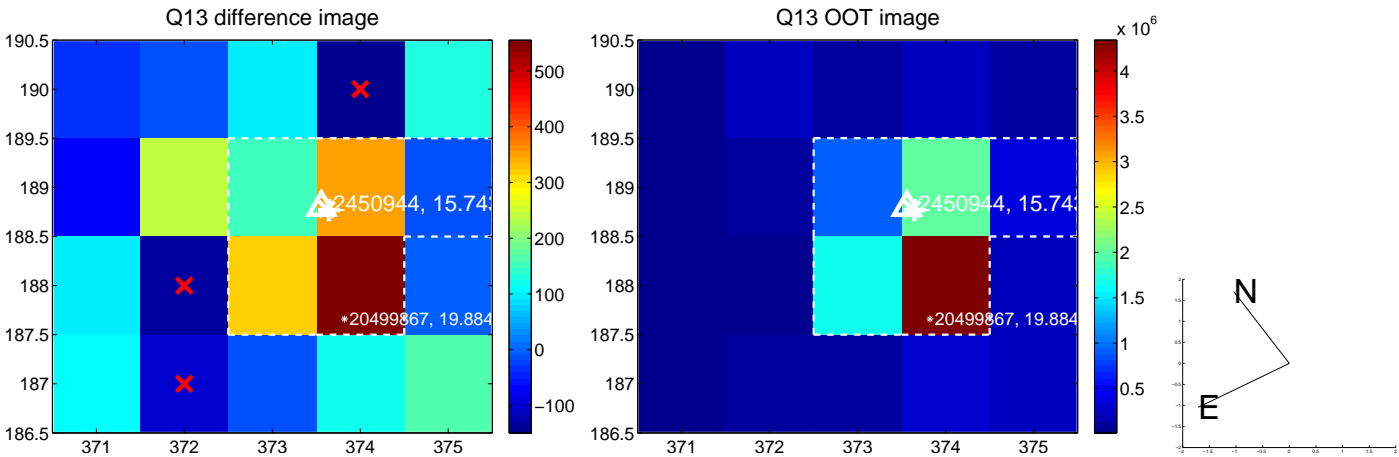
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



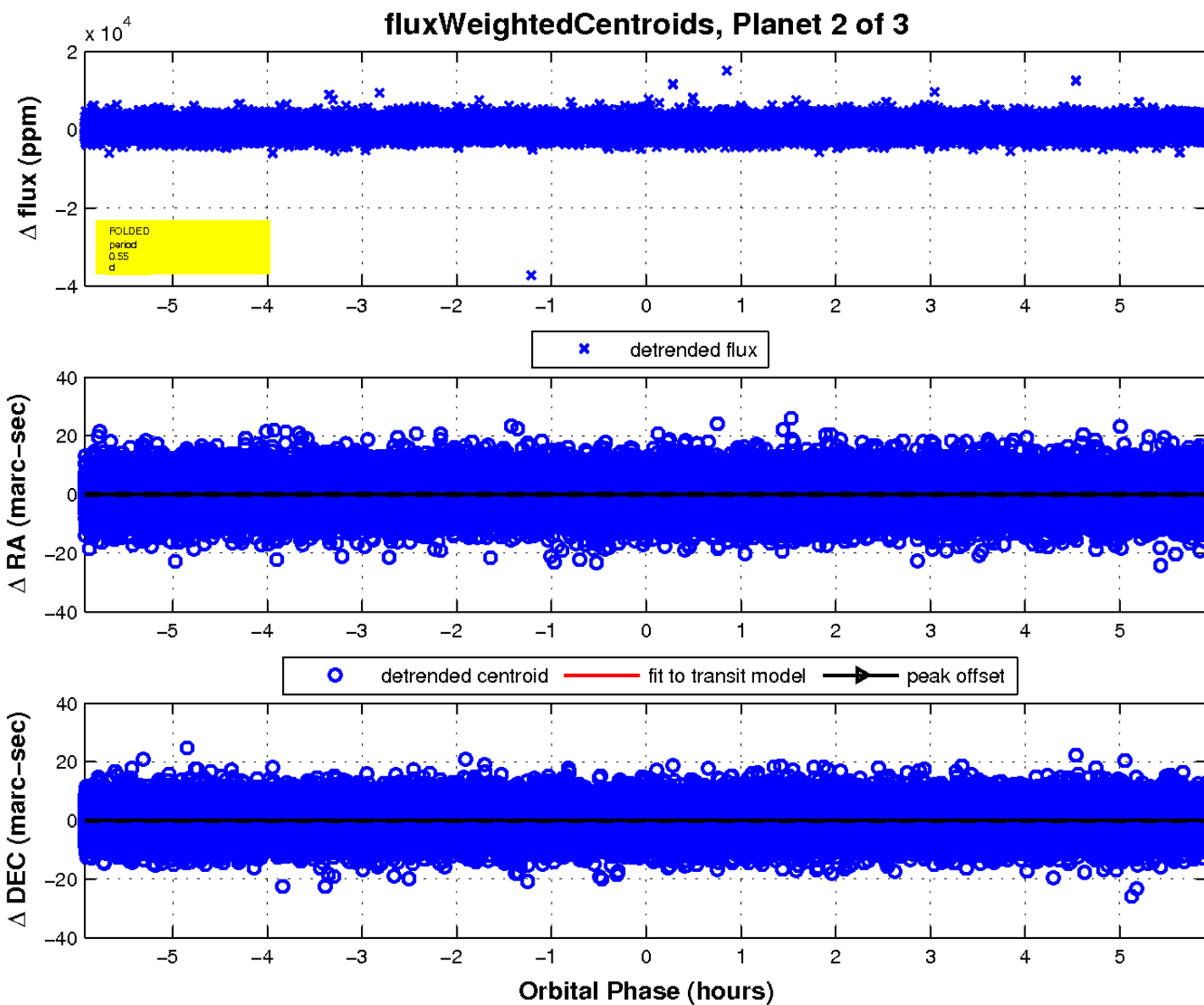
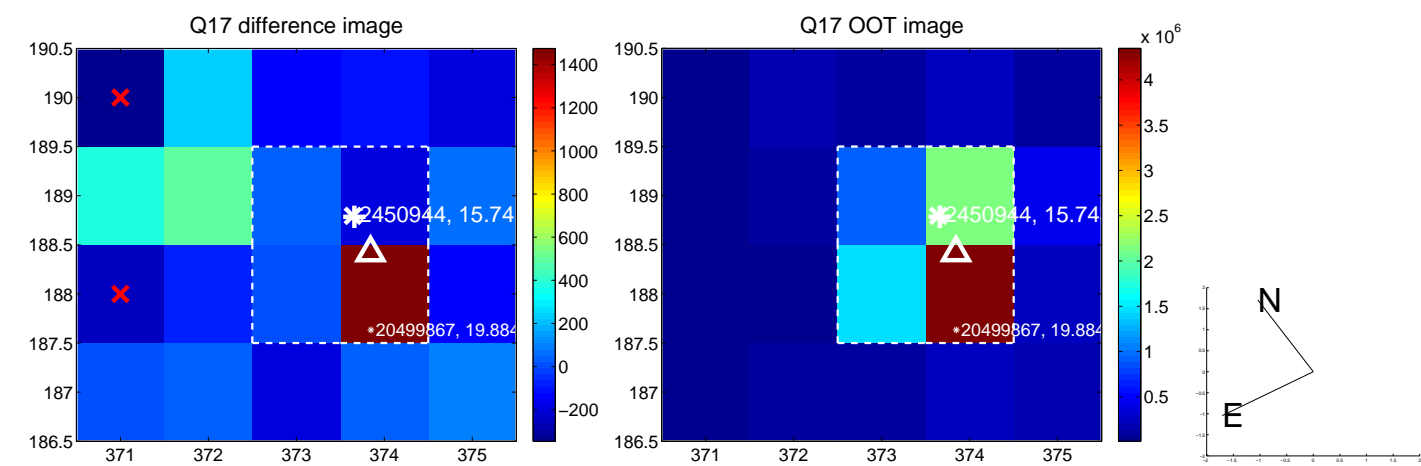
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

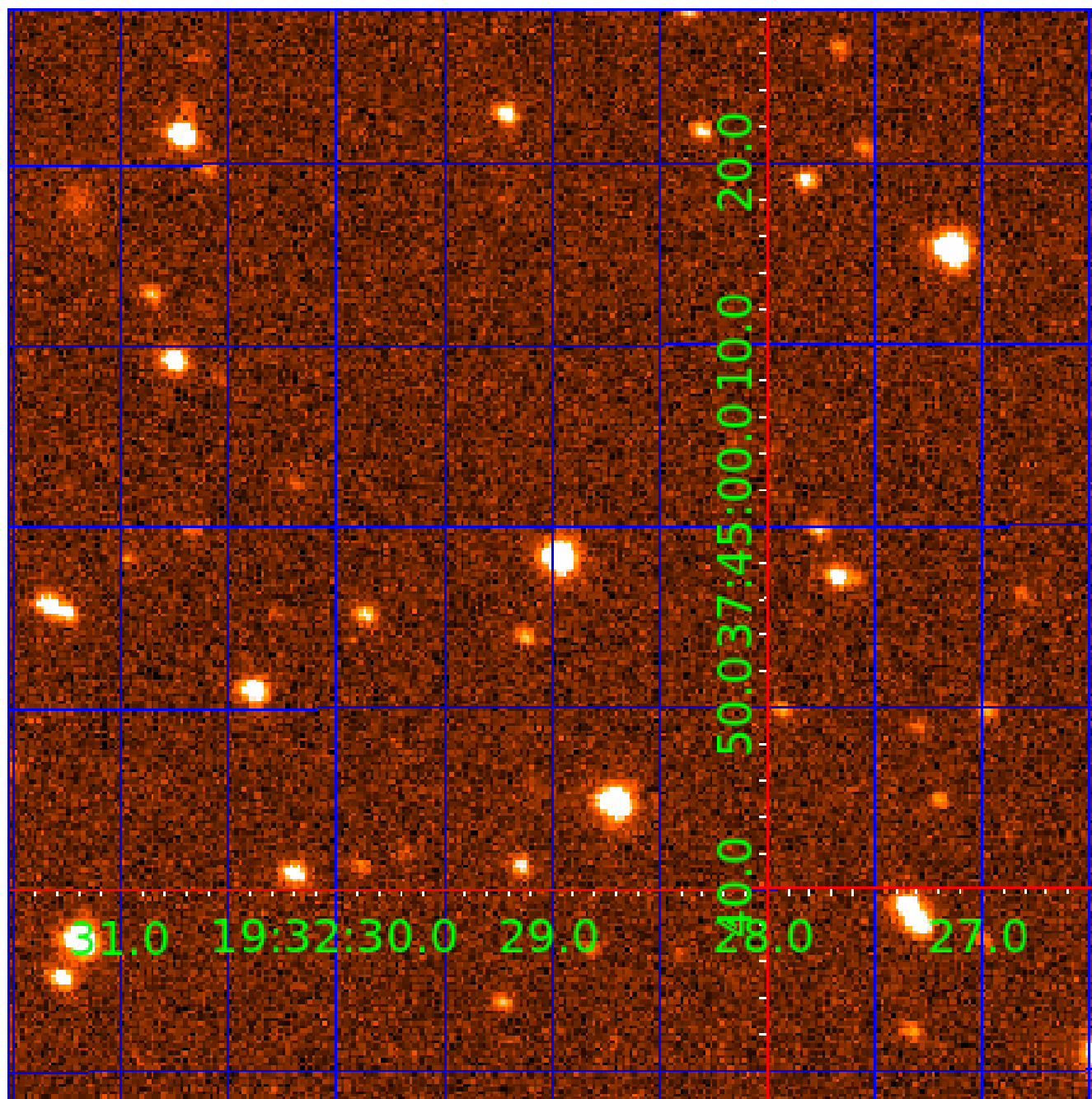


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002450944

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})
002450944-01	OBS	No	0.554157	131.897437	215.9	0.786	12.1	11.2	1.33	6780	2.12	15550.86
002450944-02	OBS	No	0.554159	131.712835	160.3	1.977	10.0	10.5	1.33	6780	1.97	15550.79
002450944-03	OBS	No	1.015526	132.171679	1298.2	3.500	8.6	-1.0	1.33	6780	4.84	6934.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002450944-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002450944-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
002450944-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

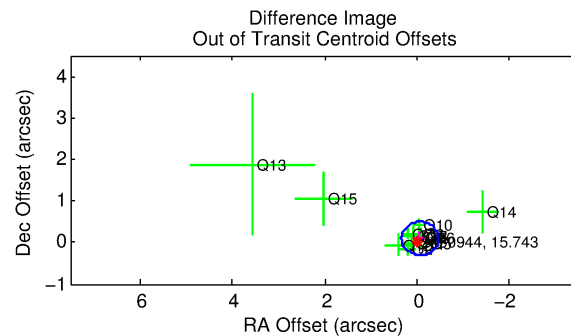
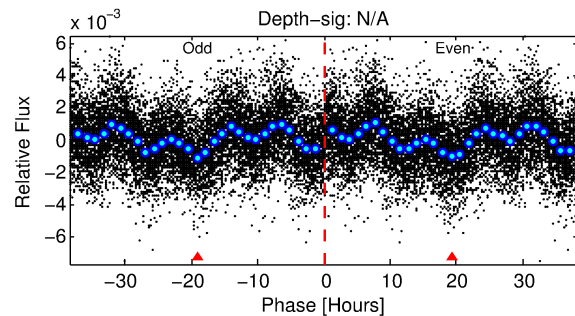
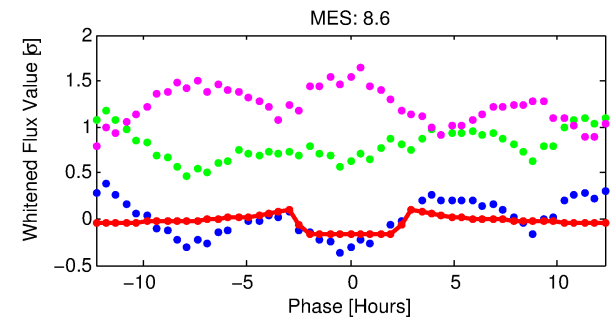
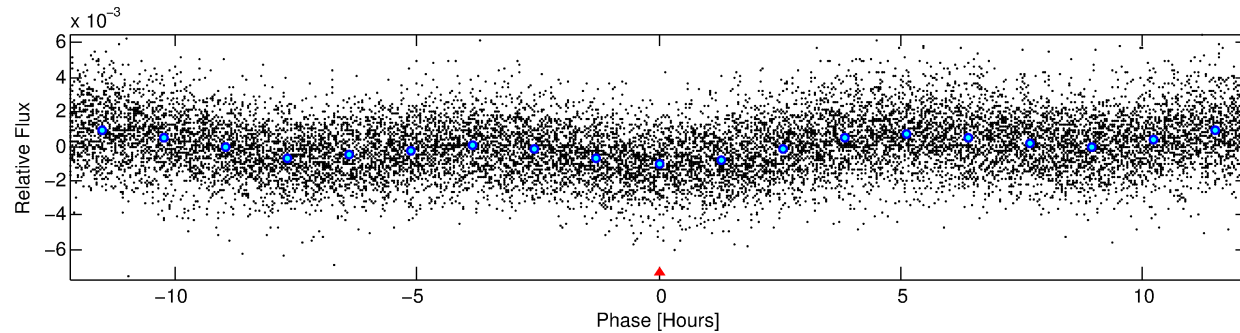
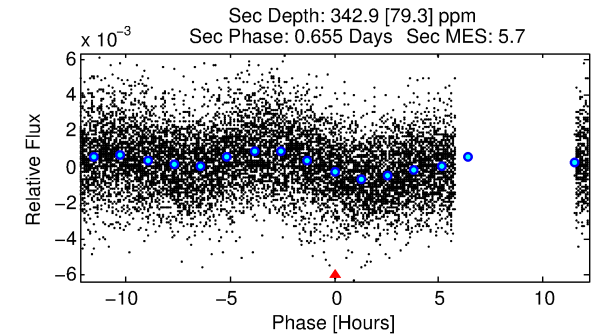
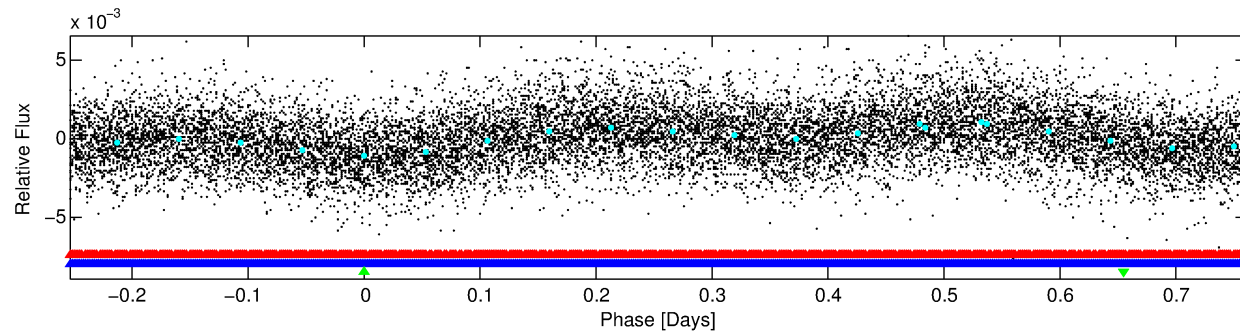
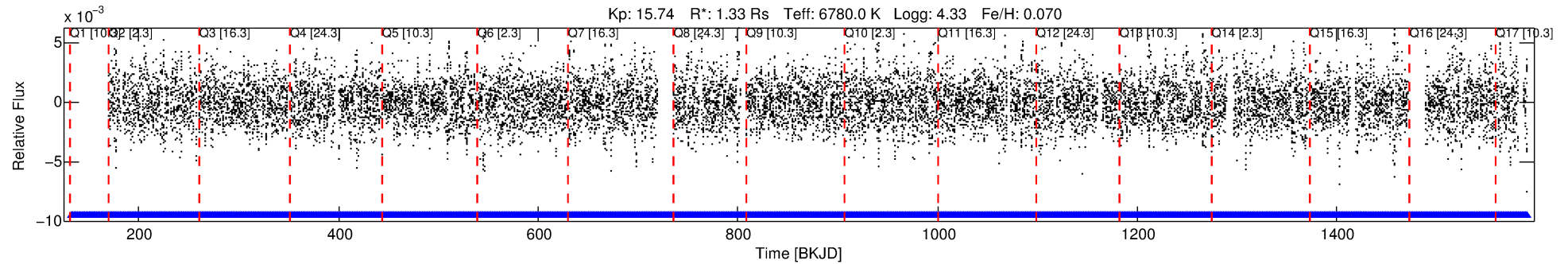
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002450944-03

No Significant Match Found

DV One-Page Summary

KIC: 2450944 Candidate: 3 of 3 Period: 1.016 d



TPS TCE Results:

Period = 1.01553 d
Epoch = 132.1717 BKJD

DV fit results are unavailable

DV Diagnostic Results:

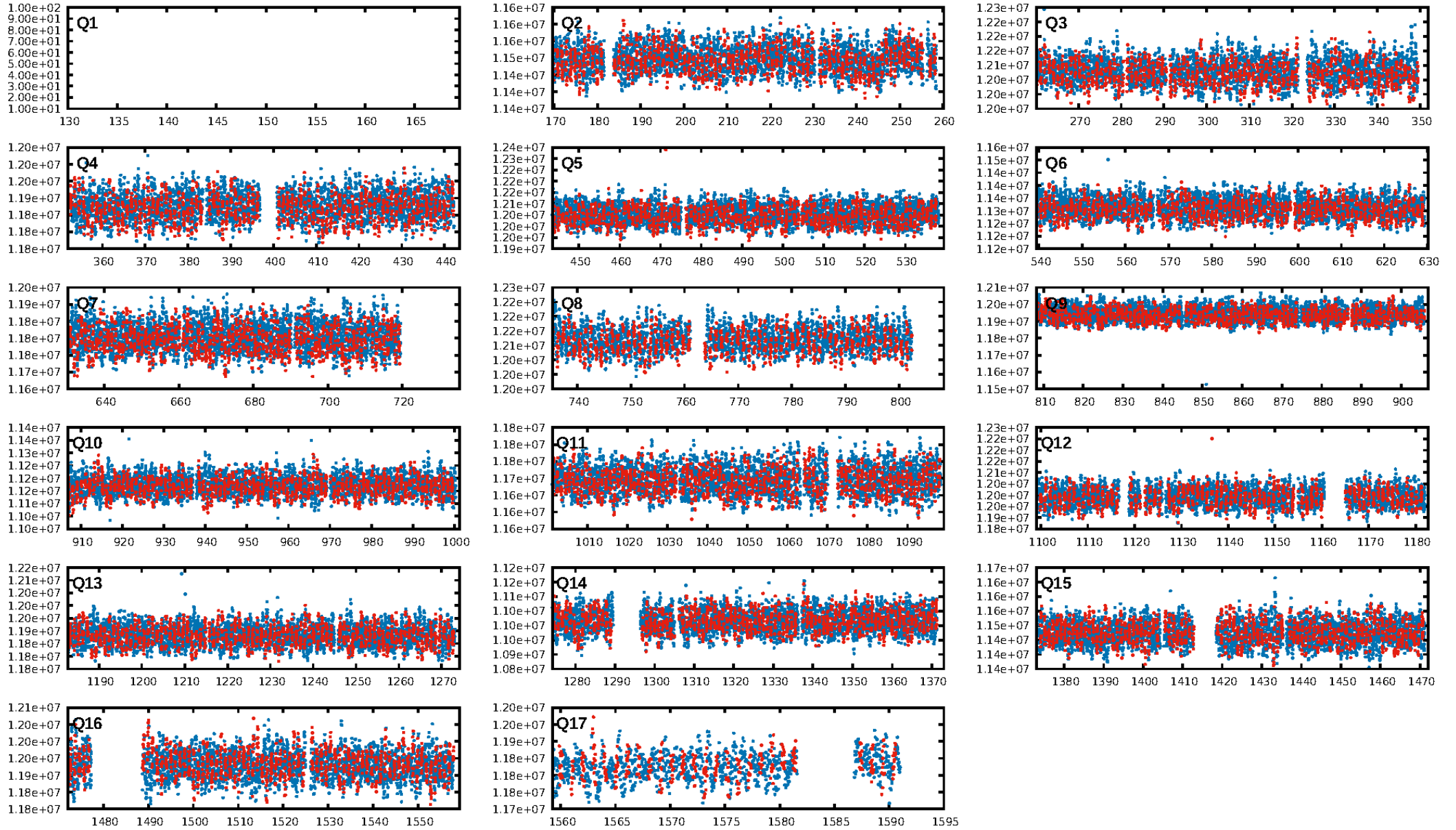
ShortPeriod-sig: 99.4% [2.75σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [914/914]
GhostDiagnostic-chr: 1.084

Centroid-sig: 8.9%
Centroid-so: 1.392 arcsec [10.77σ]
OotOffset-rm: 0.110 arcsec [0.83σ]
KicOffset-rm: 0.138 arcsec [0.46σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 0.00 [0/16]

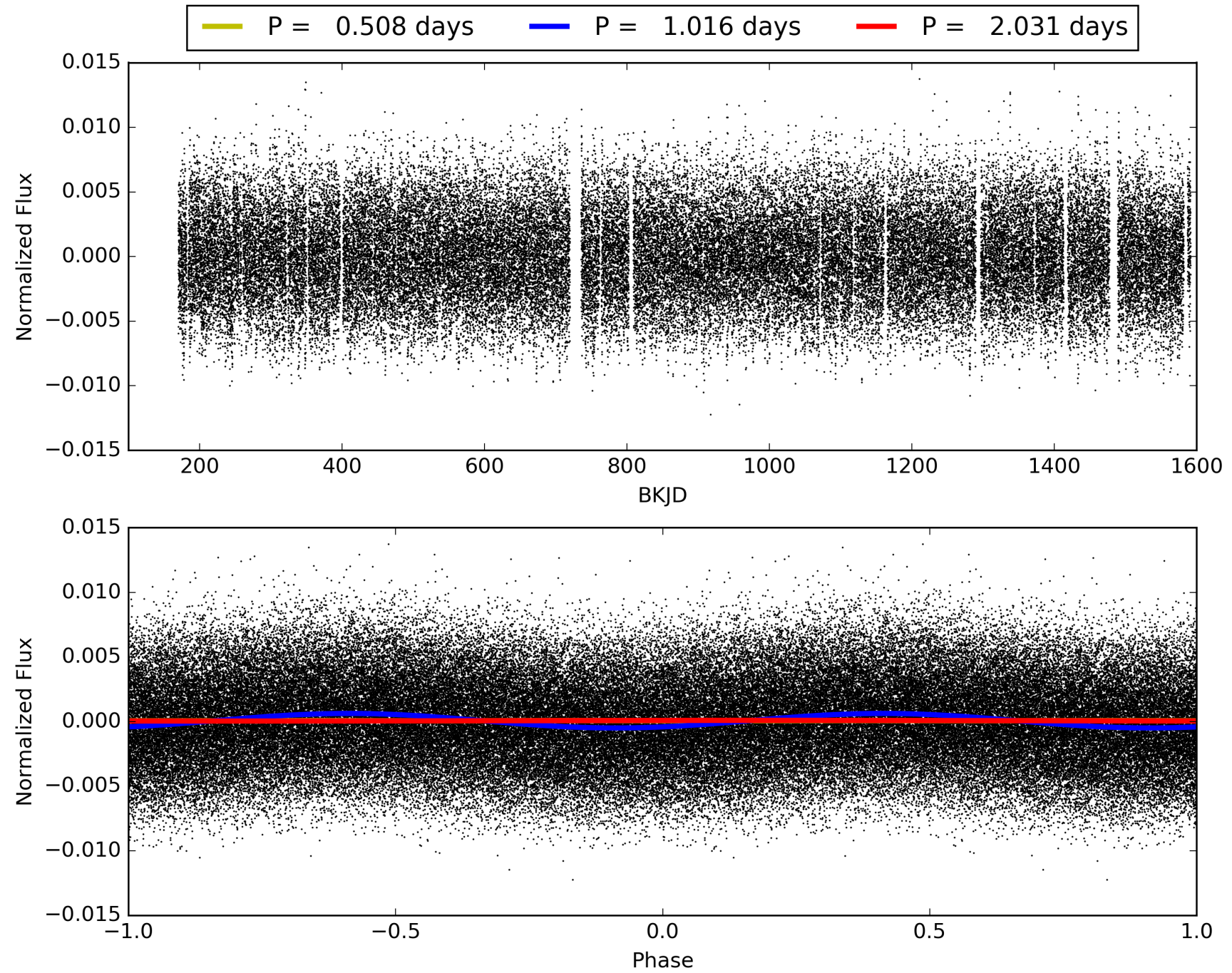
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:26:00 Z

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

TCE 002450944-03, PDC Light Curves

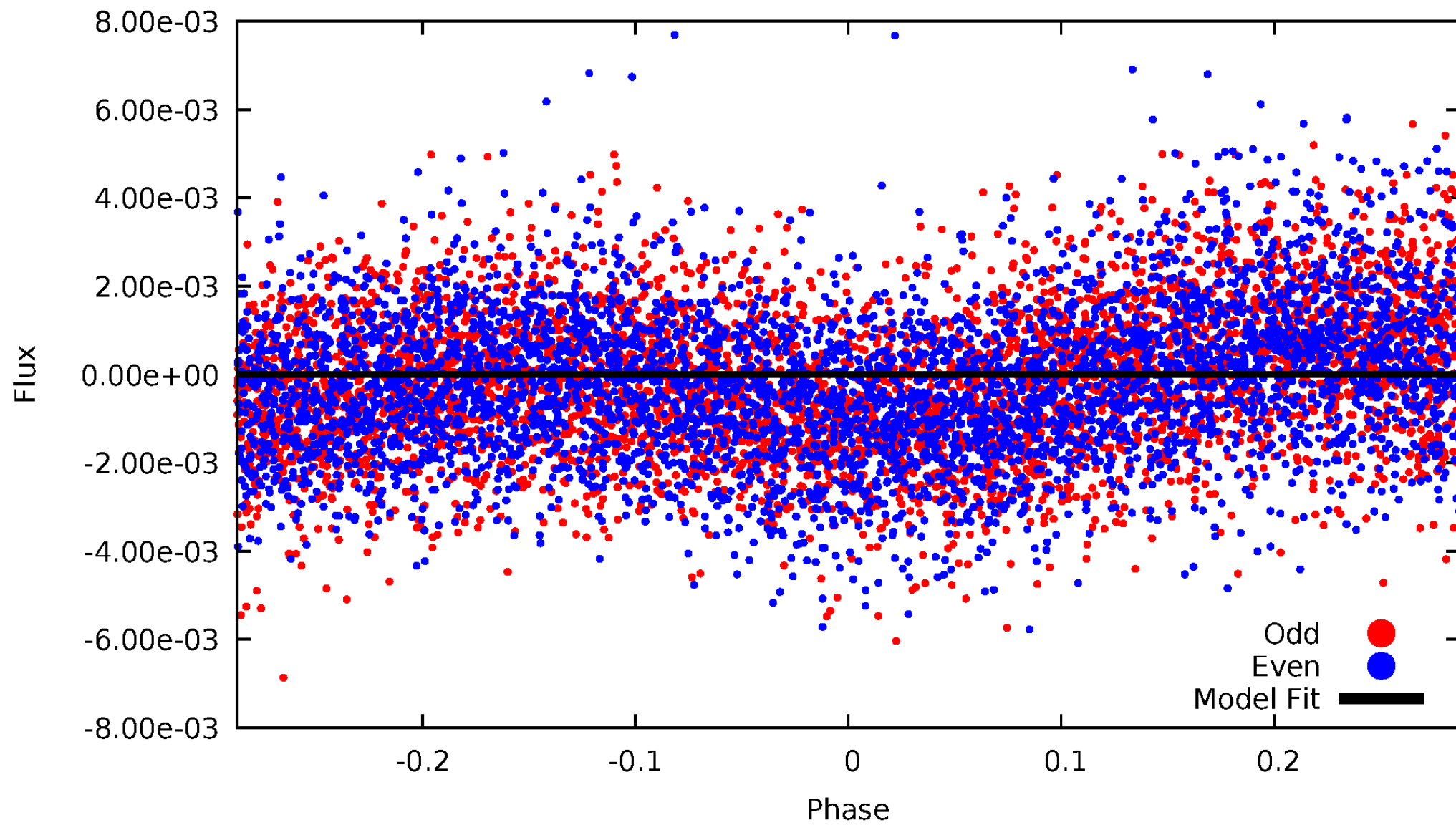


TCE 002450944-03



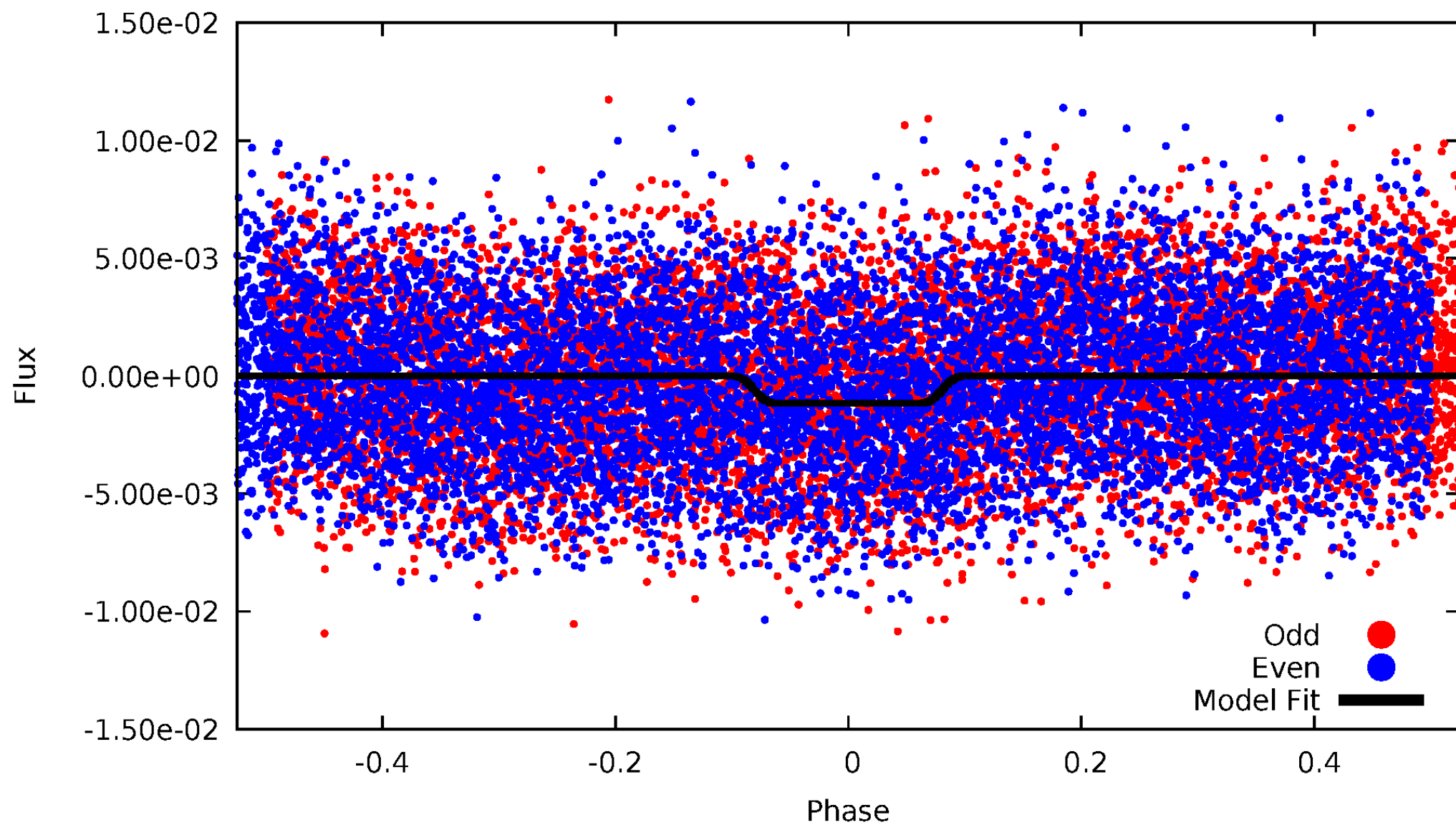
DV Odd/Even

TCE 002450944-03



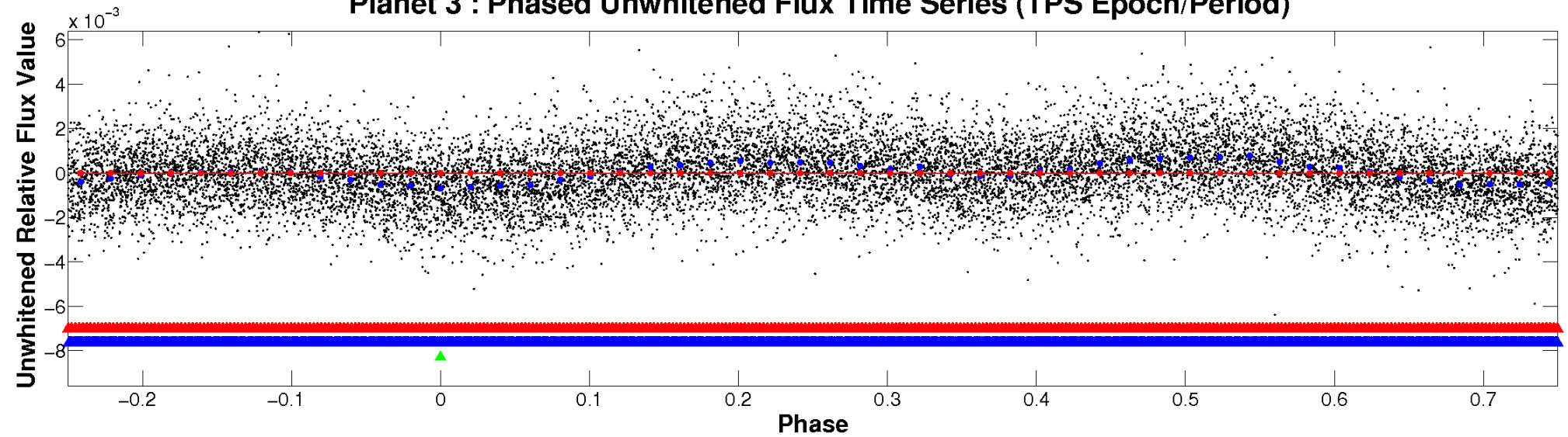
ALT Odd/Even

TCE 002450944-03

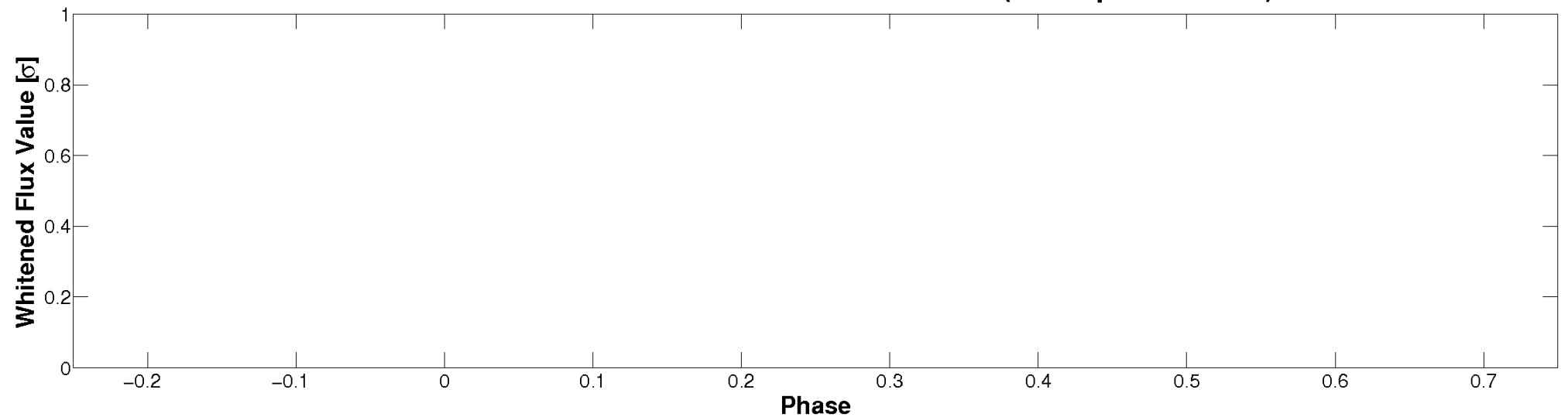


Non-Whitened Vs. Whitened Light Curve

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

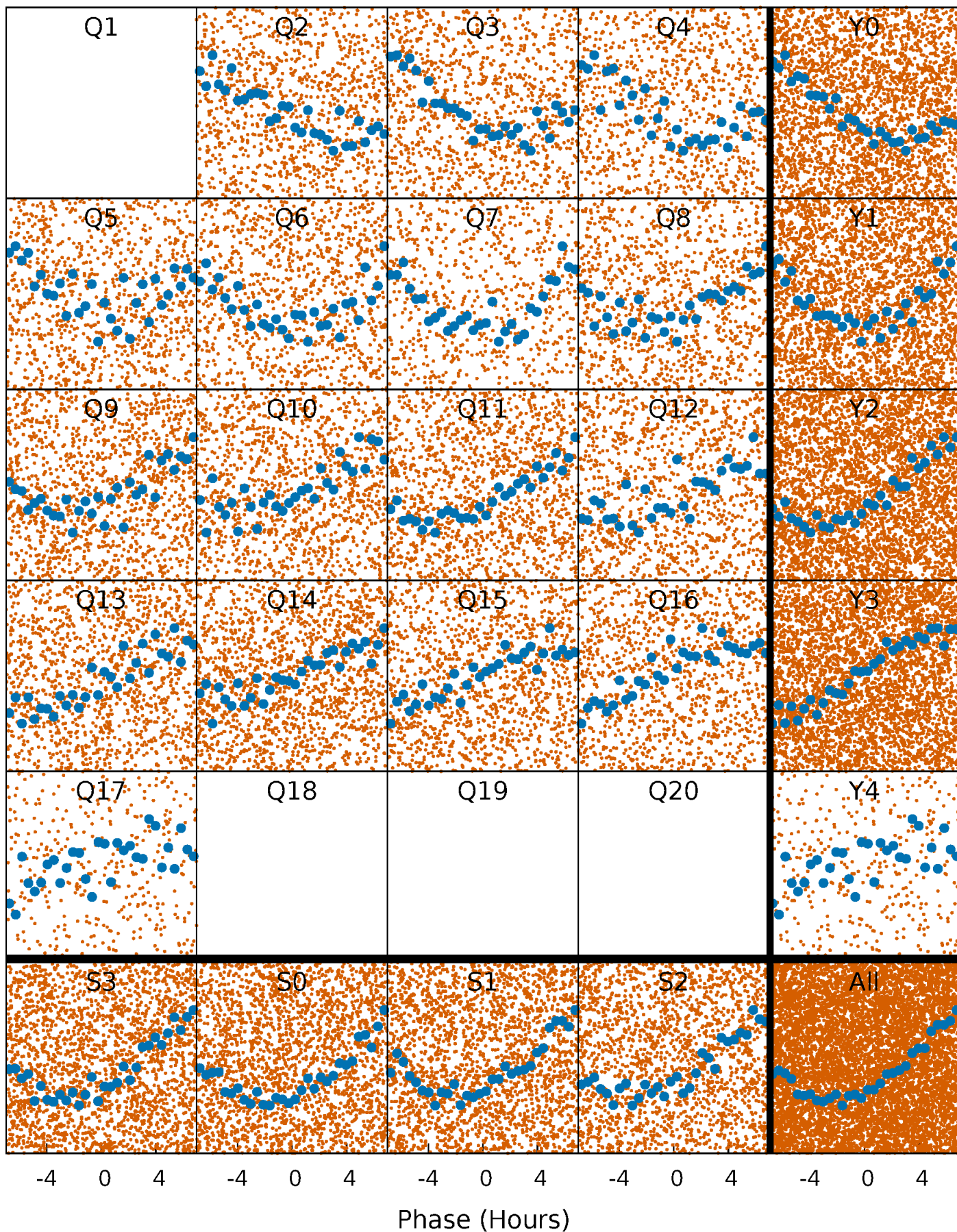


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



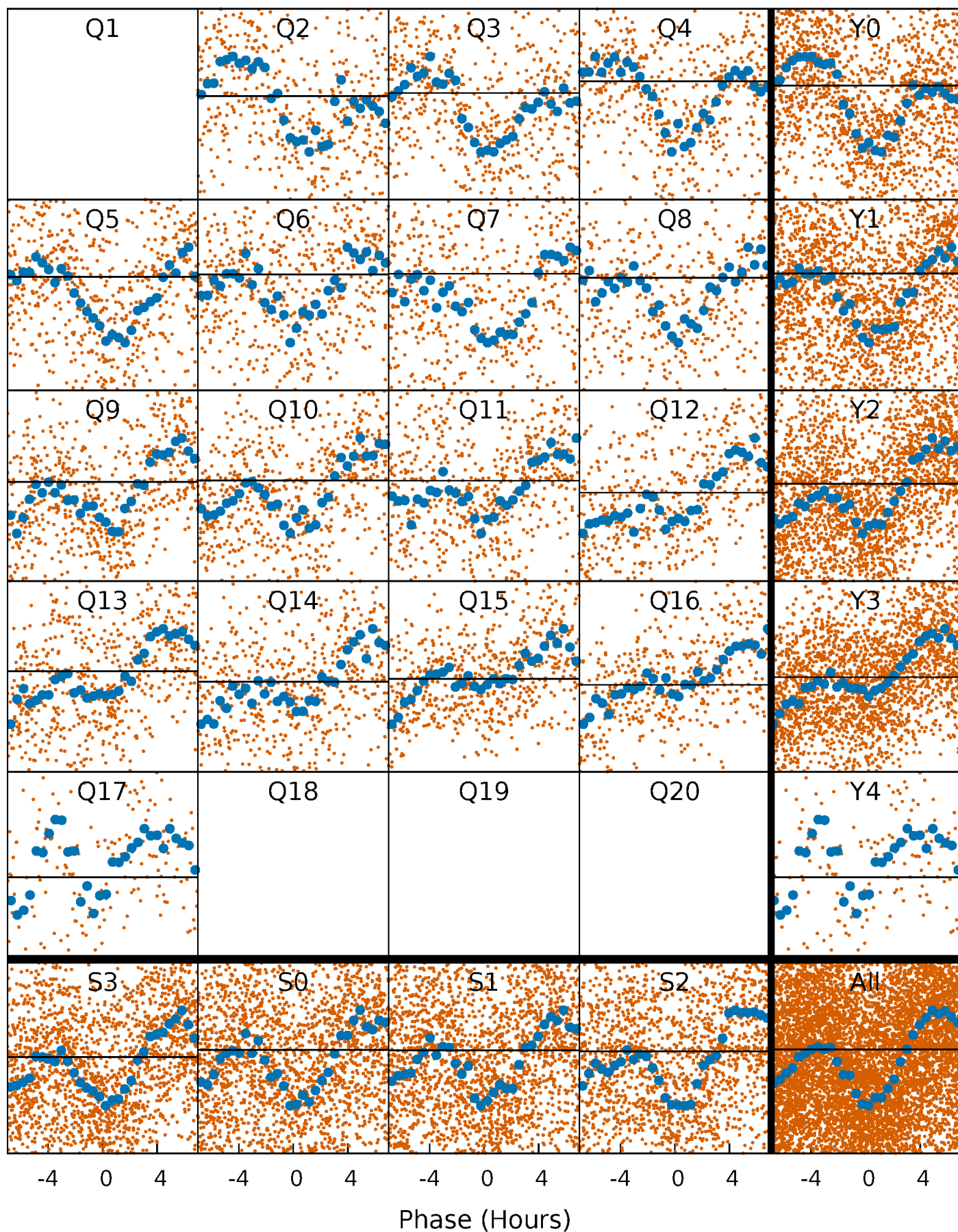
PDC Quarter-Phased Transit Curves

TCE 002450944-03 P= 1.015526 Days $T_0=132.171679$ (BKJD)



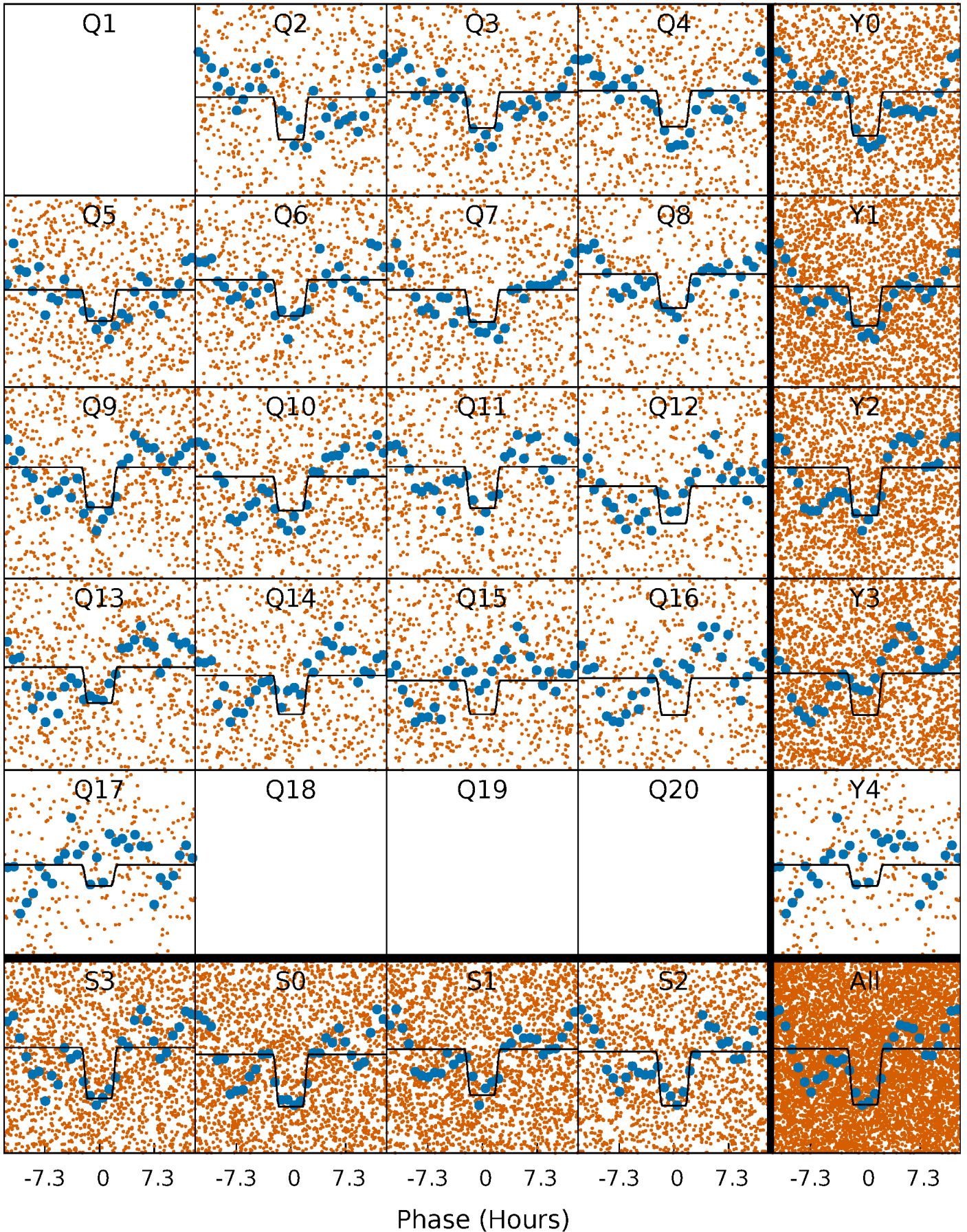
DV Quarter-Phased Transit Curves

TCE 002450944-03 P= 1.015526 Days $T_0=132.171679$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

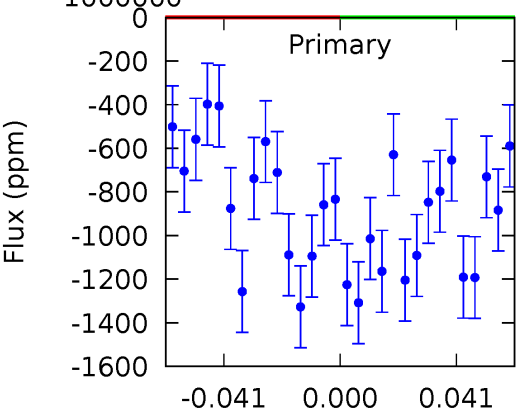
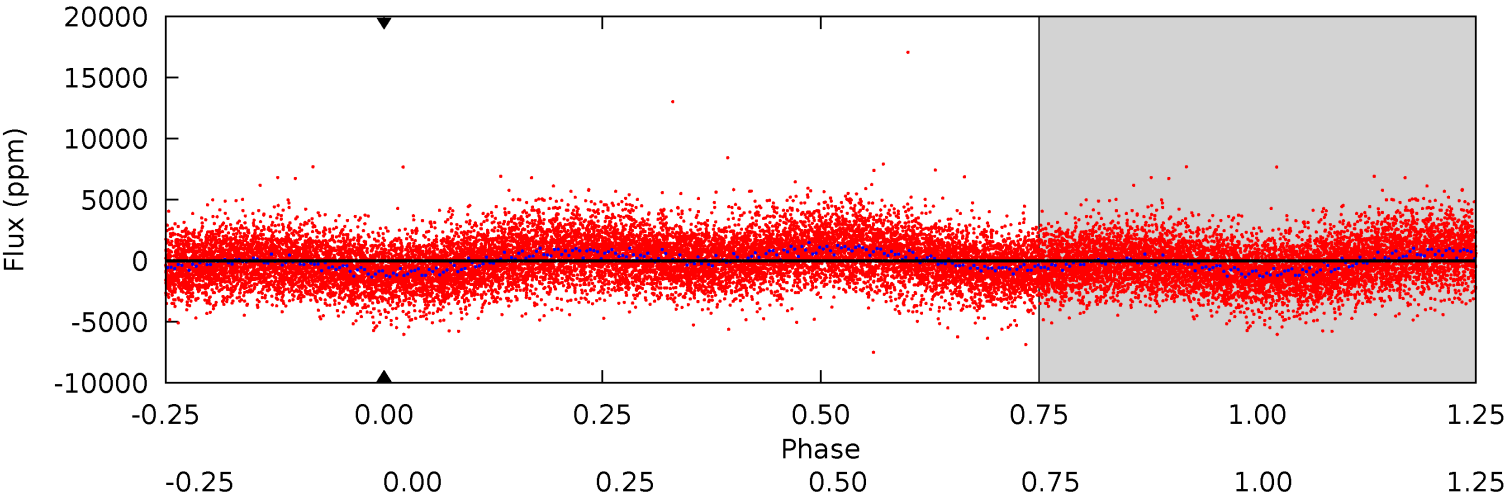
TCE 002450944-03 P= 1.015526 Days $T_0=132.181339$ (BKJD)



DV Model-Shift Uniqueness Test

002450944-03, P = 1.015526 Days, E = 132.171679 Days

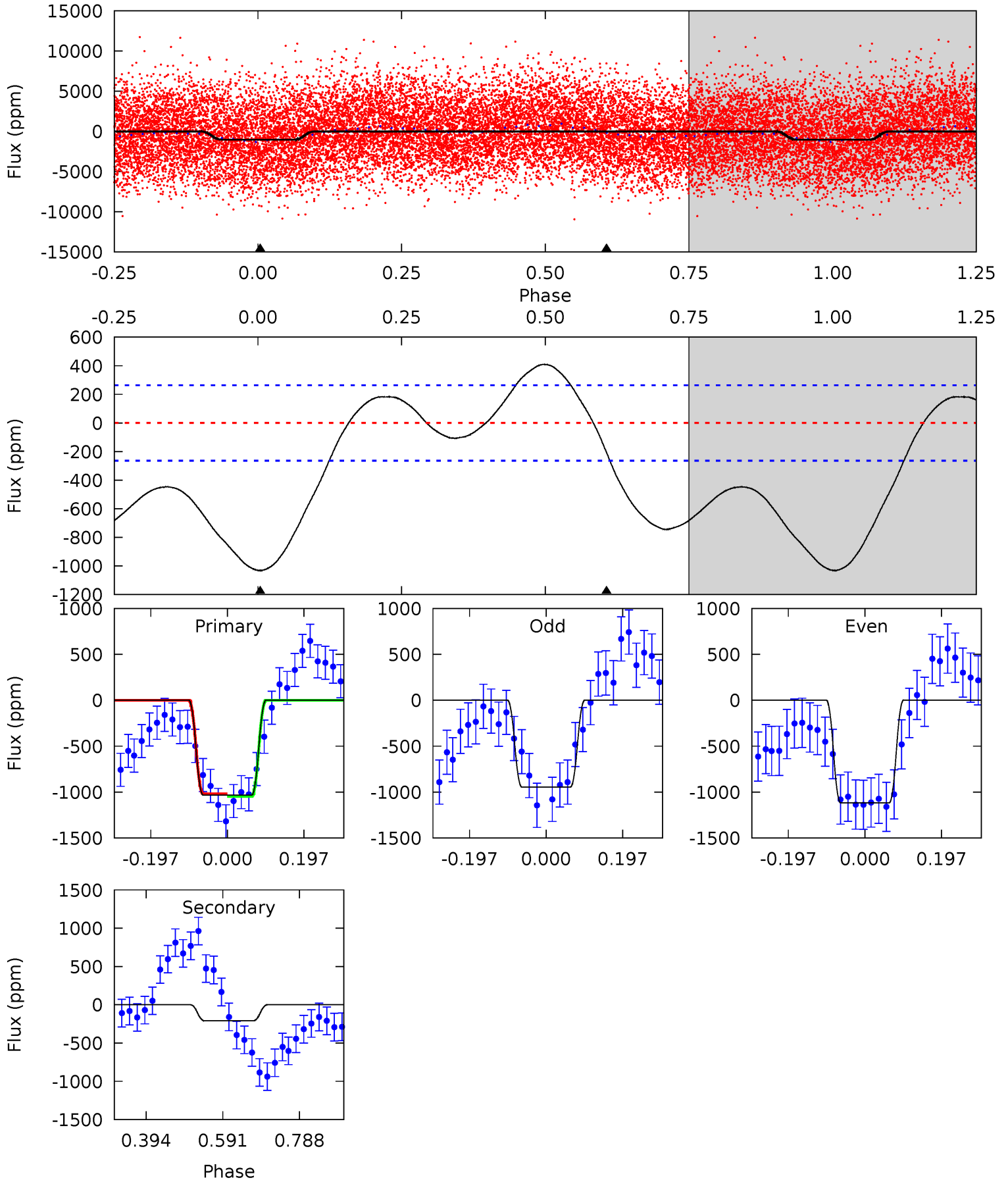
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

002450944-03, P = 1.015526 Days, E = 132.181339 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	3.52	0	0	4.42	1.29	2.11	17.3	17.3	3.52	3.52	1.44	0.79	0.28	0.23



Stellar Parameters For KIC 002450944

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6780^{+187}_{-295}	$4.328^{+0.060}_{-0.192}$	$0.070^{+0.200}_{-0.350}$	$1.331^{+0.391}_{-0.168}$	$1.373^{+0.168}_{-0.206}$	$0.821^{+0.279}_{-0.408}$
	+3%/-4%	+1%/-4%	+286%/-500%	+29%/-13%	+12%/-15%	+34%/-50%
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 002450944-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$11.96^{+13.09}_{-8.07}$	3306^{+217}_{-186}	-5292^{+31728}_{-18189}	$-3.276^{+313.577}_{-257.947}$
Alt.	-210 ± 60	$12.57^{+11.58}_{-9.13}$	3299^{+214}_{-161}	2416^{+2813}_{-5537}	$0.335^{+4.252}_{-0.250}$

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

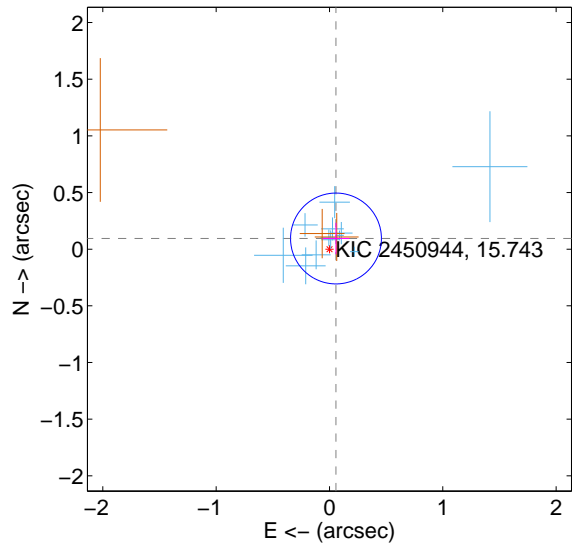
Supplemental centroid analysis for 002450944-03. Kepler magnitude: 15.74. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

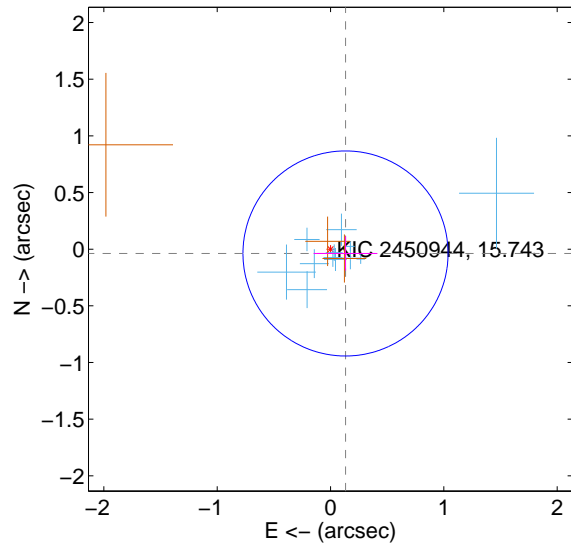
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.110 ± 0.134	0.83	-0.057 ± 0.119	0.094 ± 0.139
PRF-fit source offset from KIC position	0.138 ± 0.302	0.46	-0.132 ± 0.282	-0.038 ± 0.151
photometric centroid source offset	1.39 ± 0.13	10.77	0.34 ± 0.13	-1.35 ± 0.13

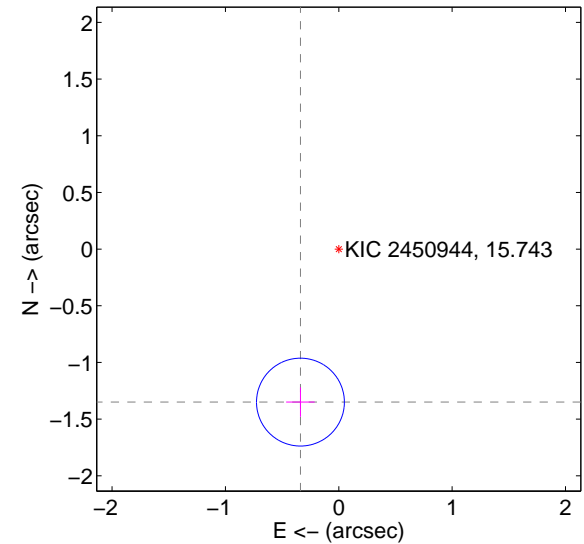
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

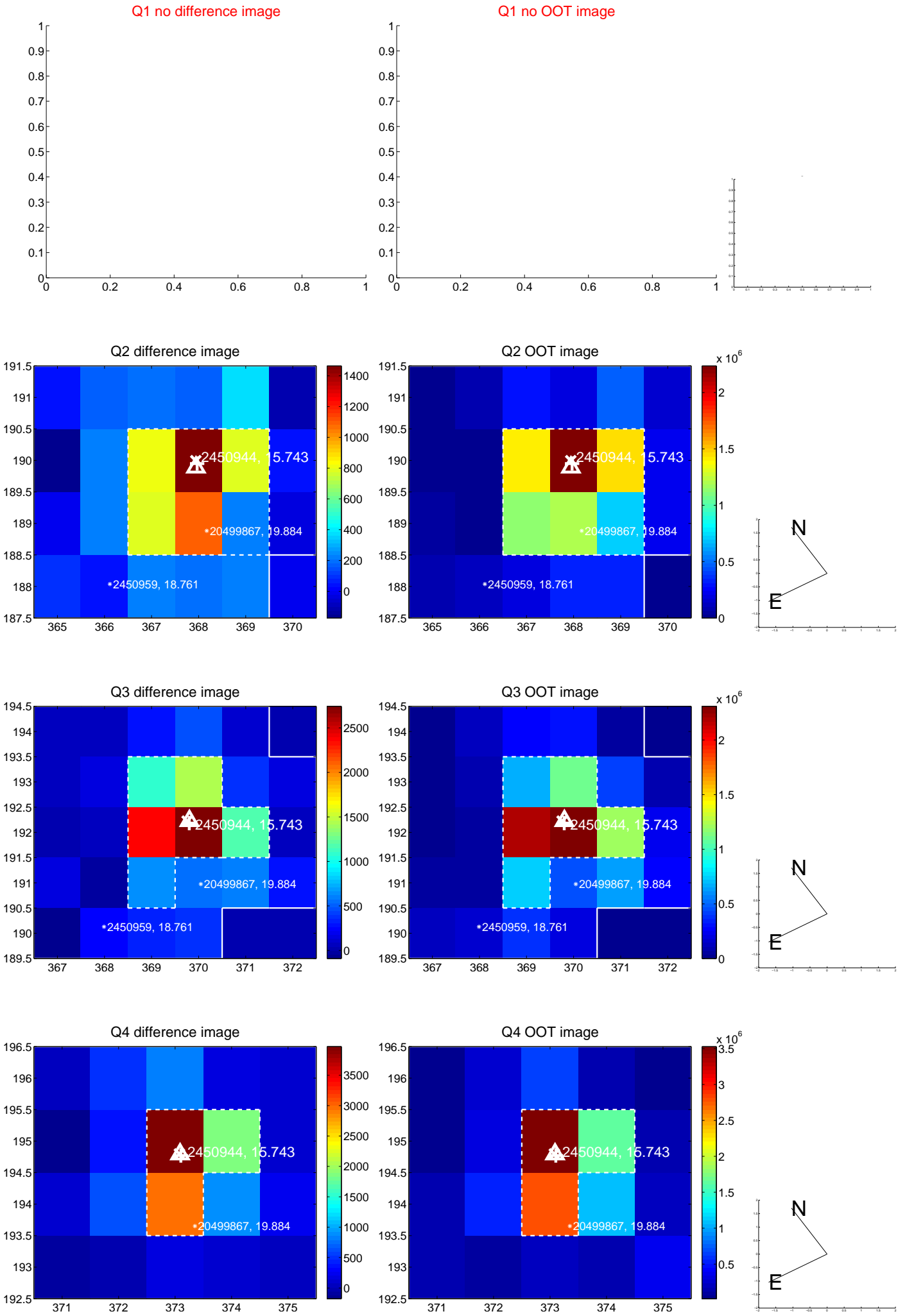


offset from photometric centroids

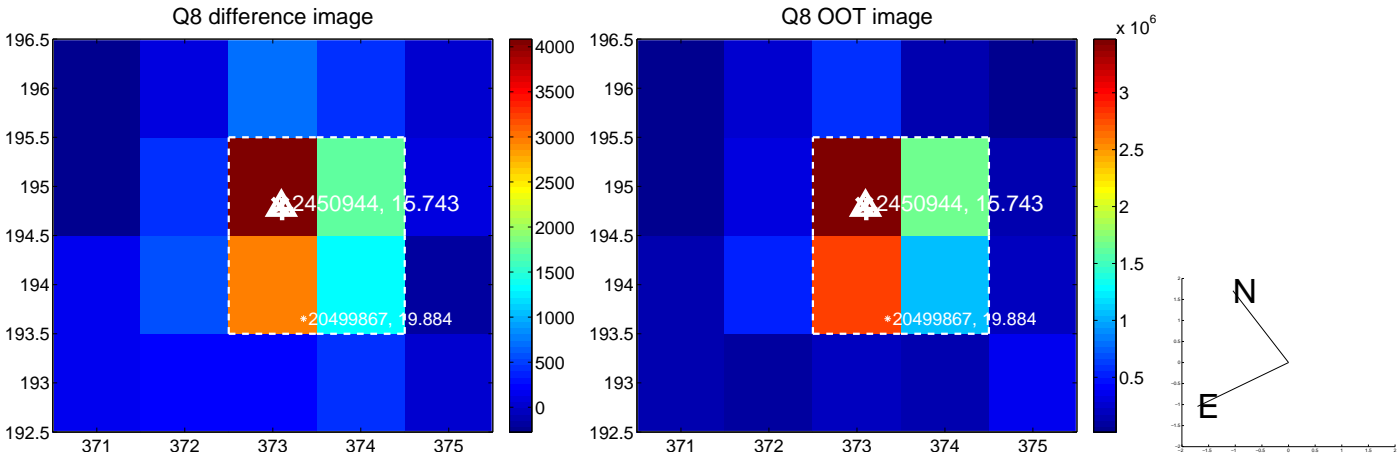
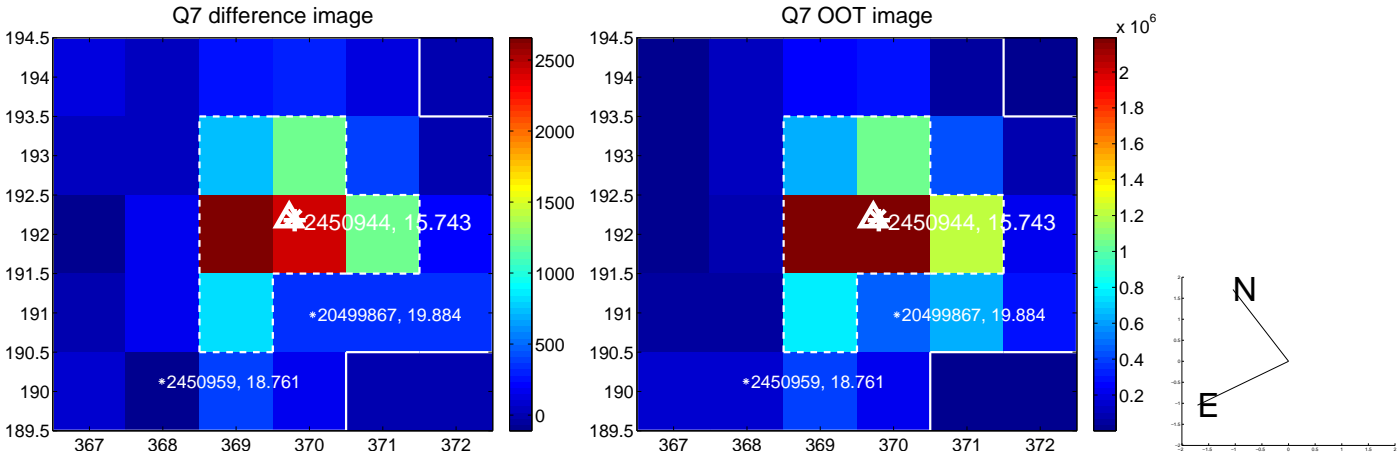
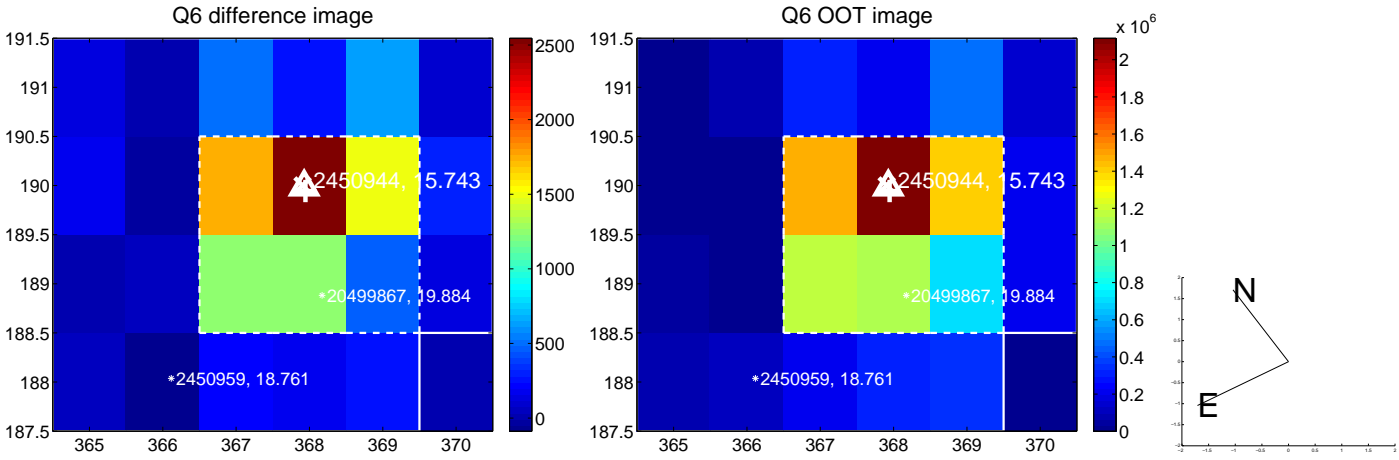
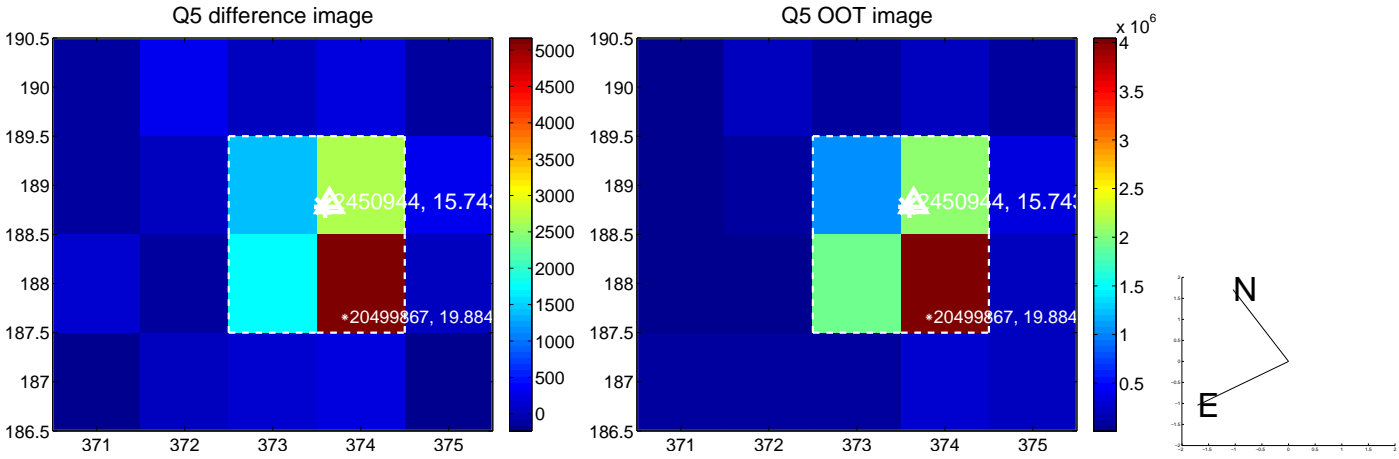


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

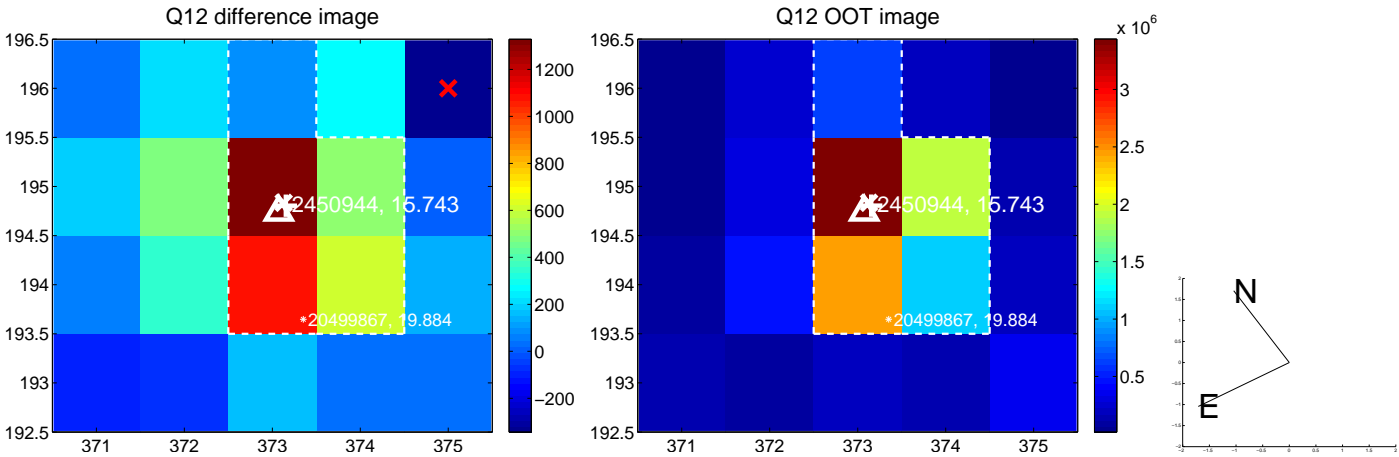
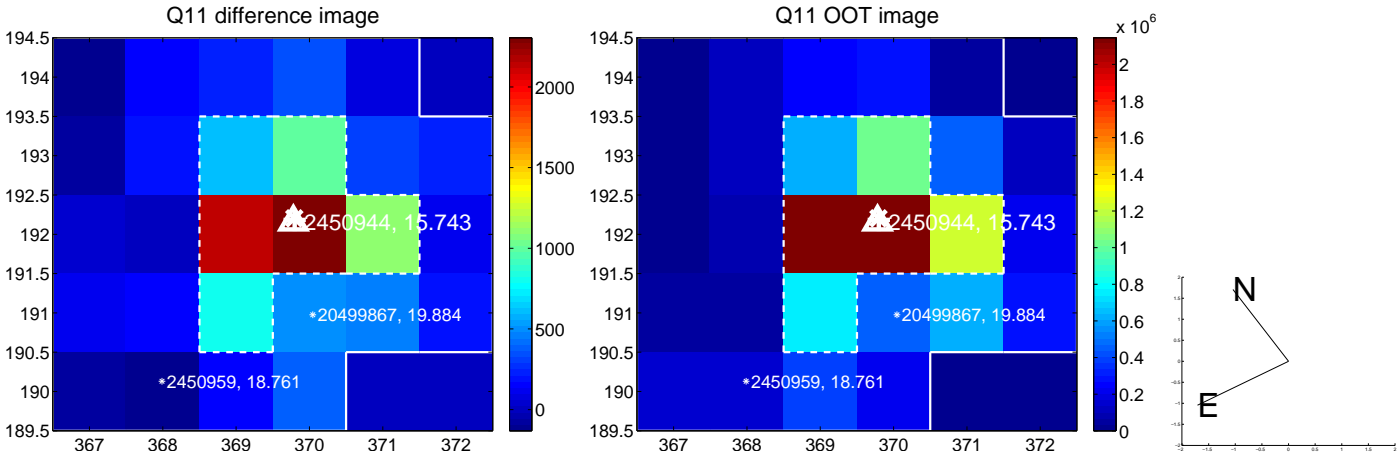
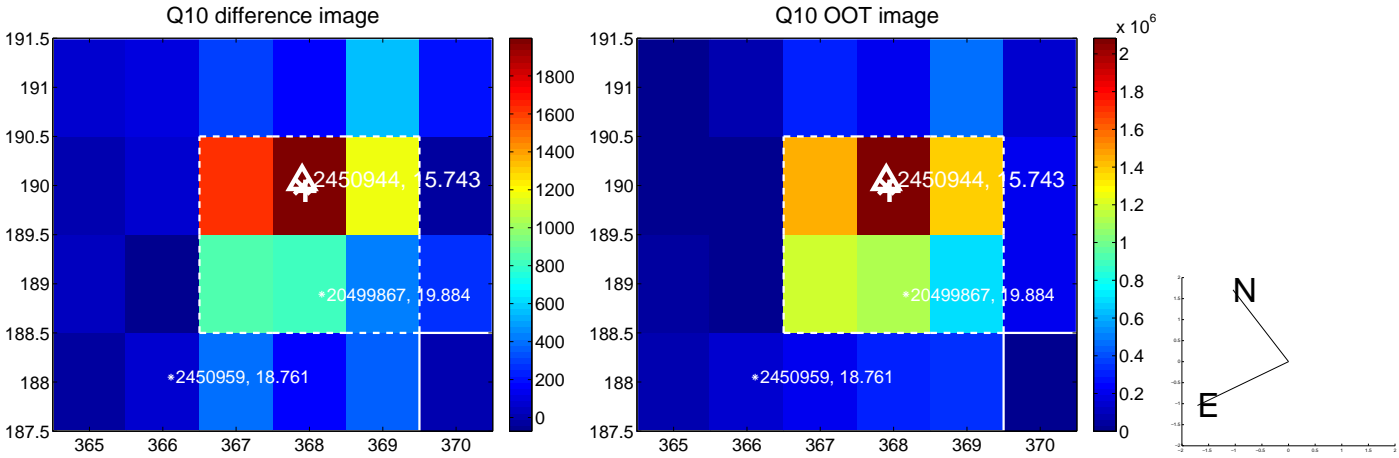
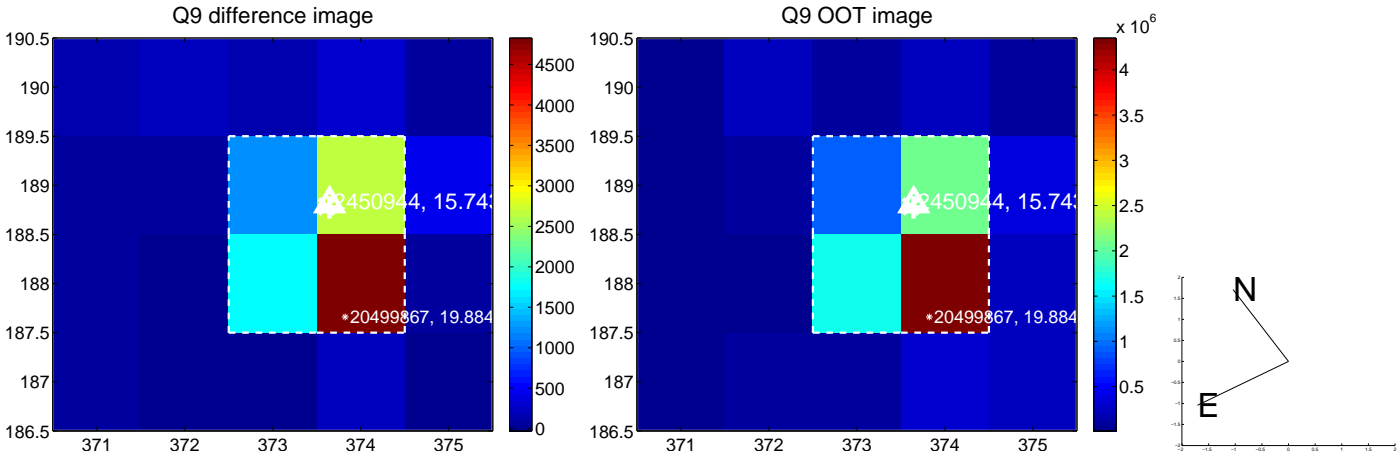
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



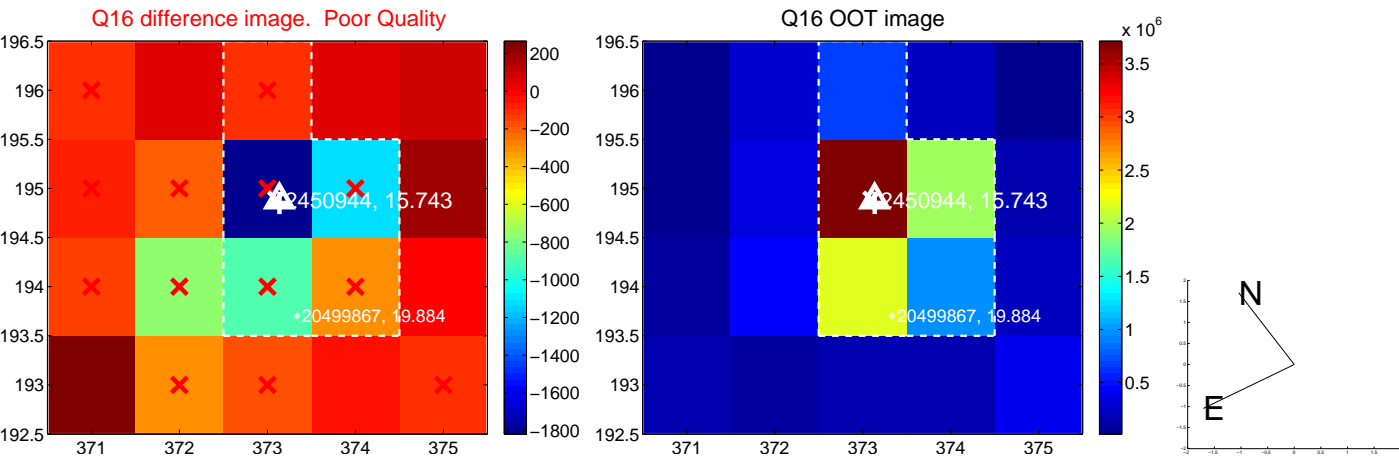
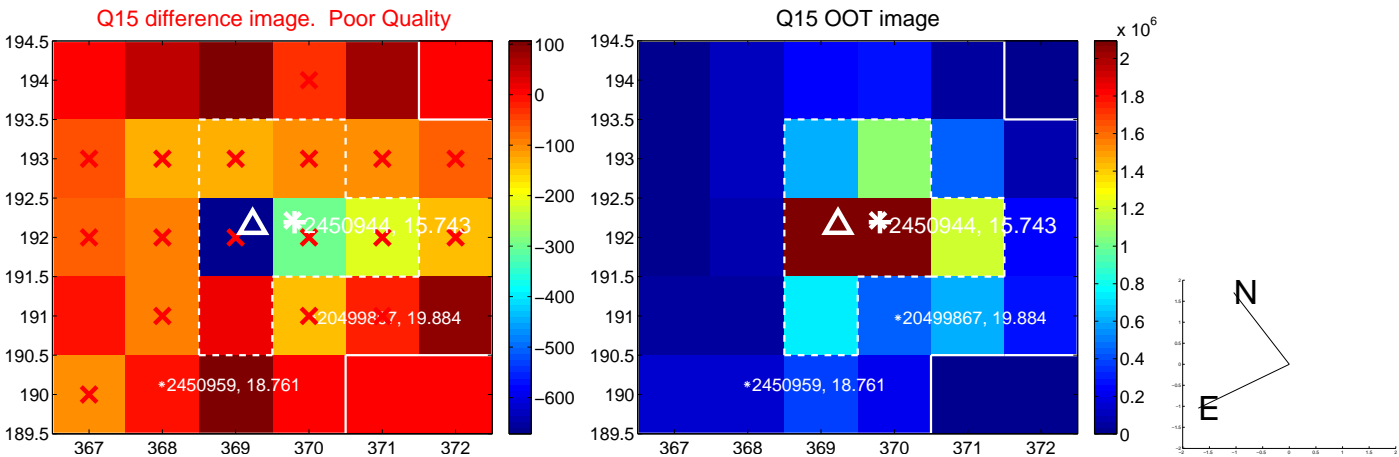
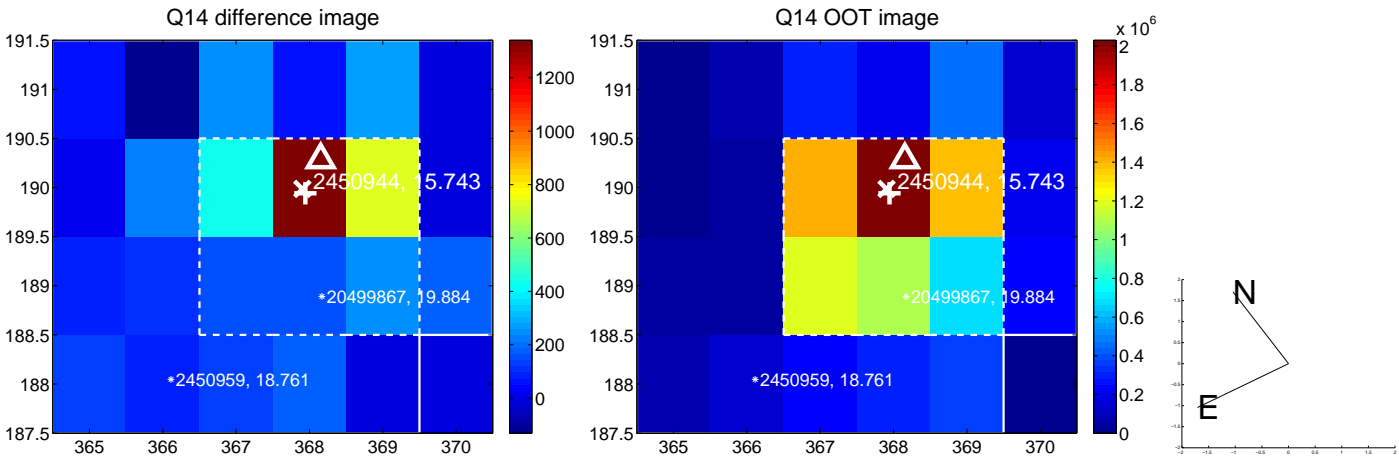
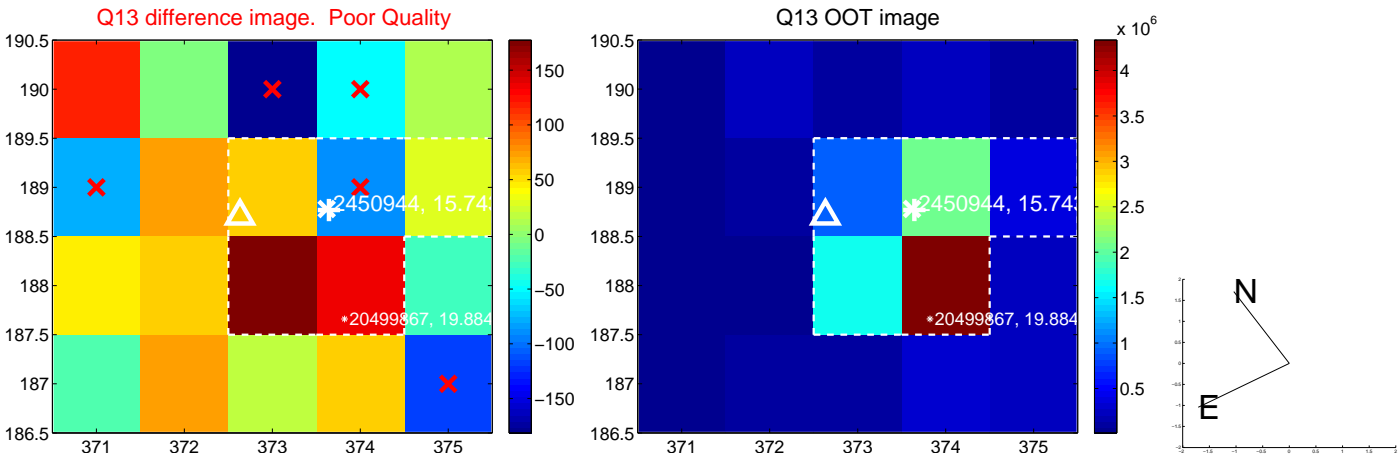
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



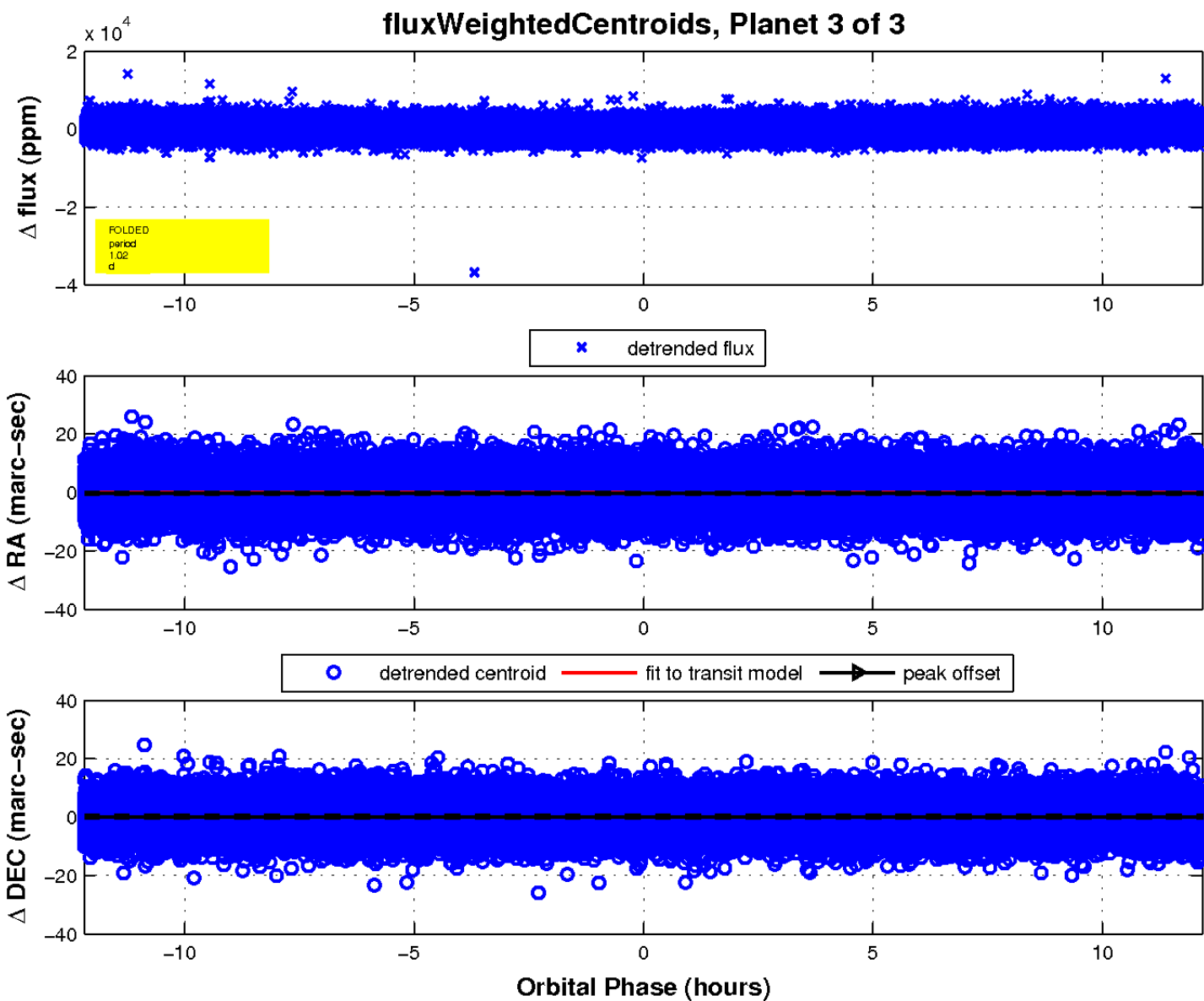
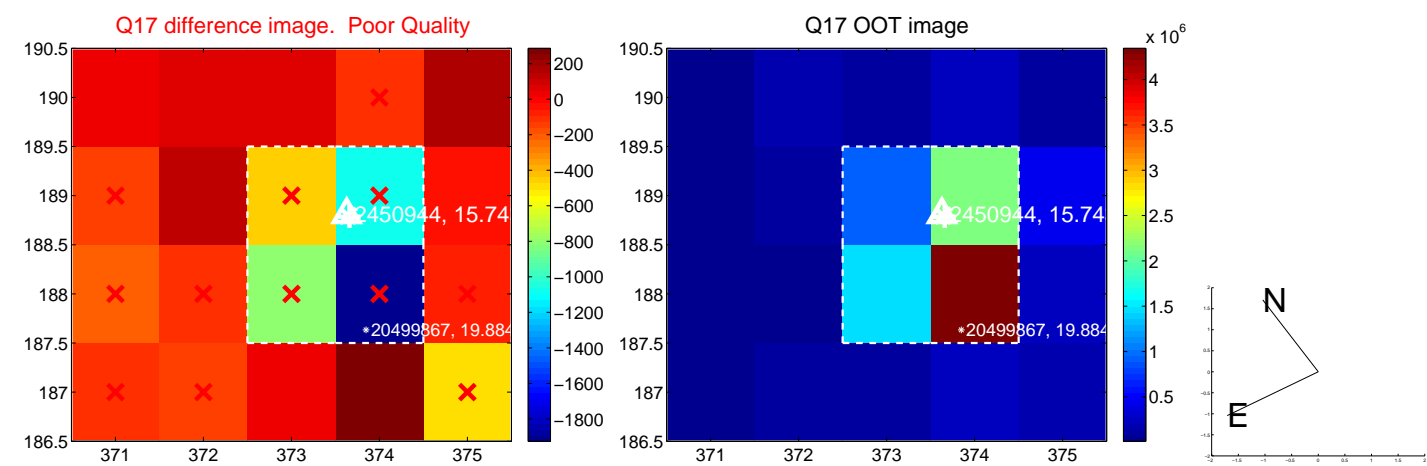
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

