

KIC 008395203

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})
008395203-01	OBS	No	2.114341	131.814966	28.4	8.129	9.4	10.0	1.73	7263	1.06	5597.41
008395203-02	OBS	No	2.114168	133.022655	13.4	12.303	9.2	6.3	1.73	7263	0.64	5598.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008395203-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008395203-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

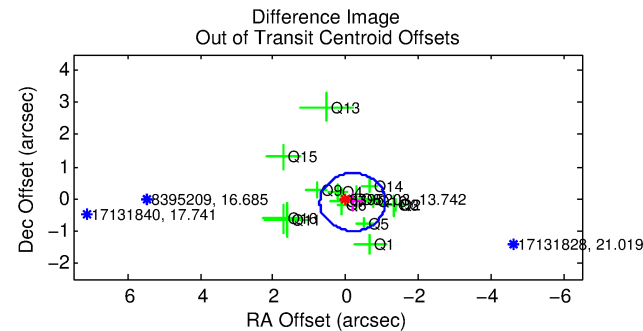
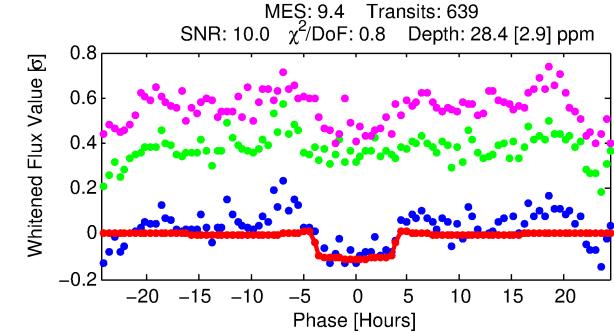
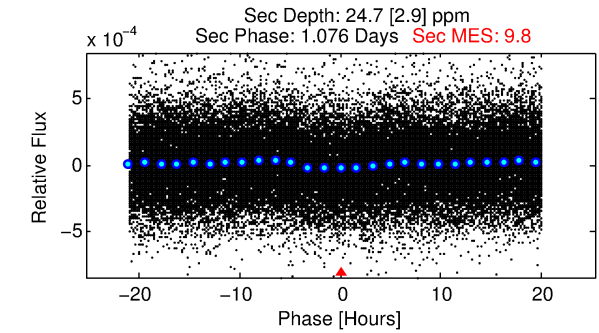
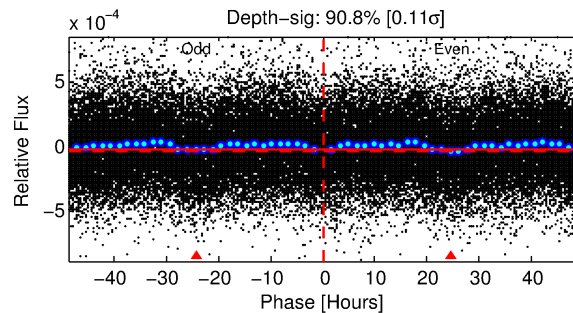
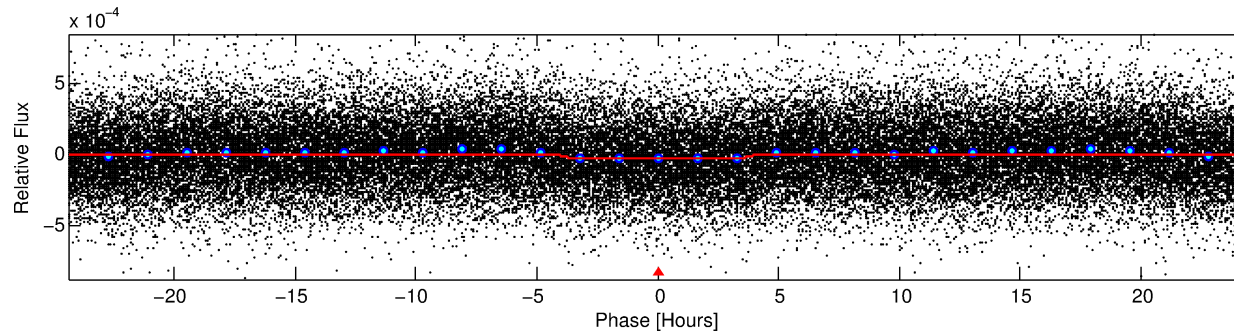
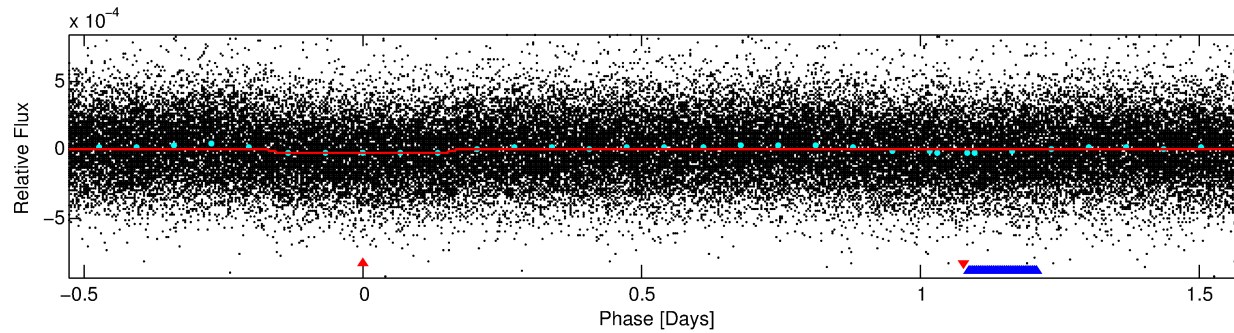
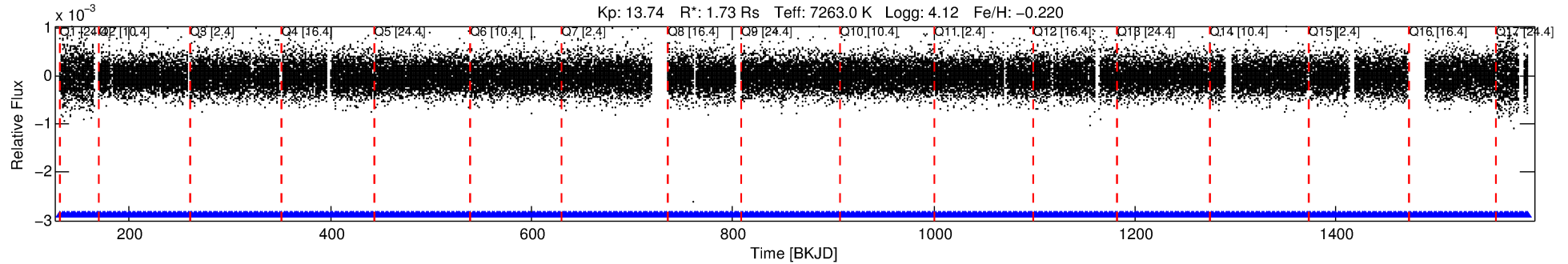
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008395203-01

No Significant Match Found

DV One-Page Summary

KIC: 8395203 Candidate: 1 of 2 Period: 2.114 d



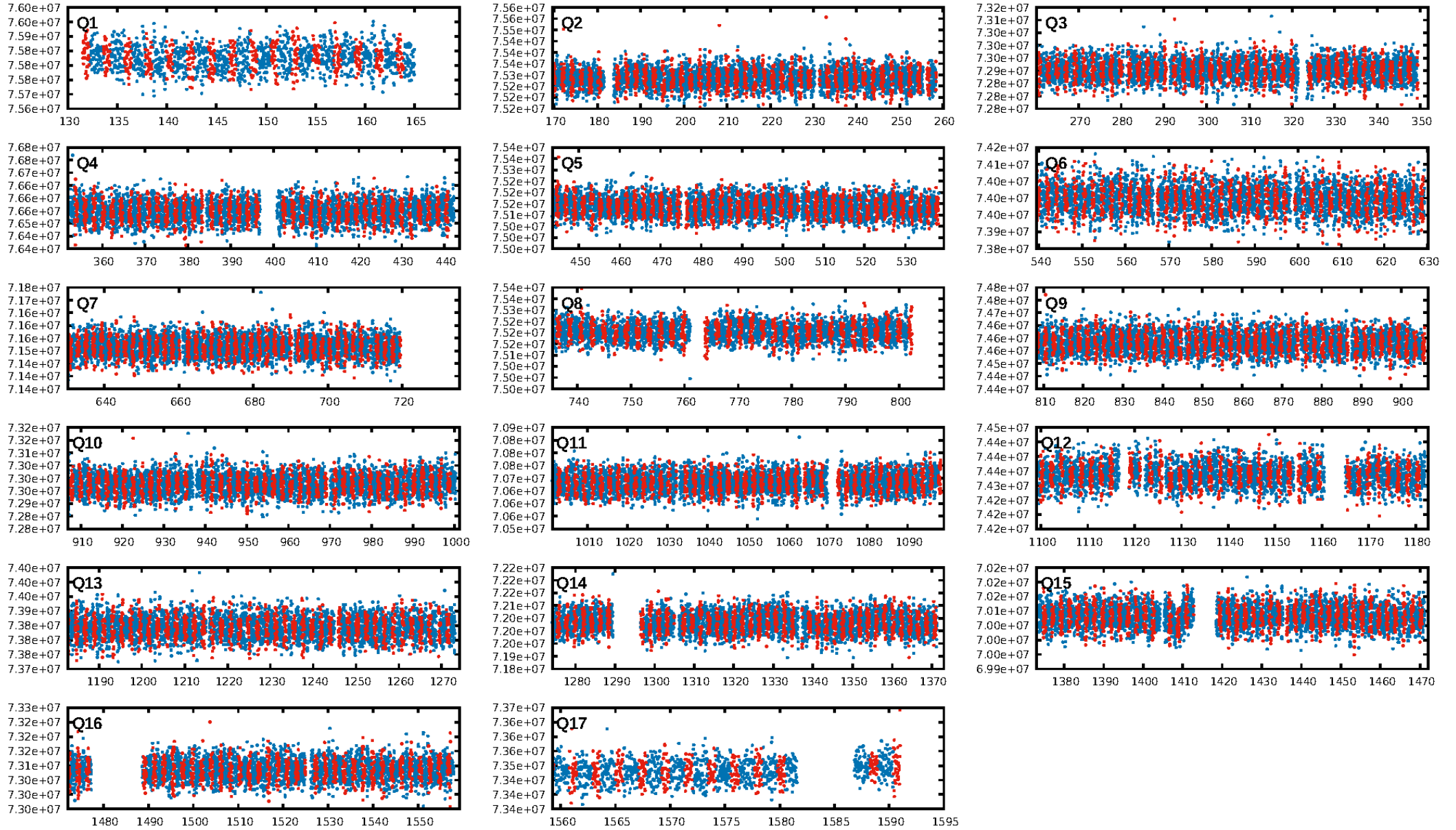
DV Fit Results:

Period = 2.11434 [0.00003] d
Epoch = 131.8150 [0.0074] BKJD
Rp/R* = 0.0056 [0.0017]
a/R* = 1.31 [1.09]
b = 0.89 [0.46]
Seff = 5597.41 [2165.78]
Teq = 2206 [213] K
Rp = 1.06 [0.45] Re
a = 0.0364 [0.0087] AU
Ag = 16.09 [11.50] [1.31 σ]
Teffp = 6829 [1132] K [4.01 σ]

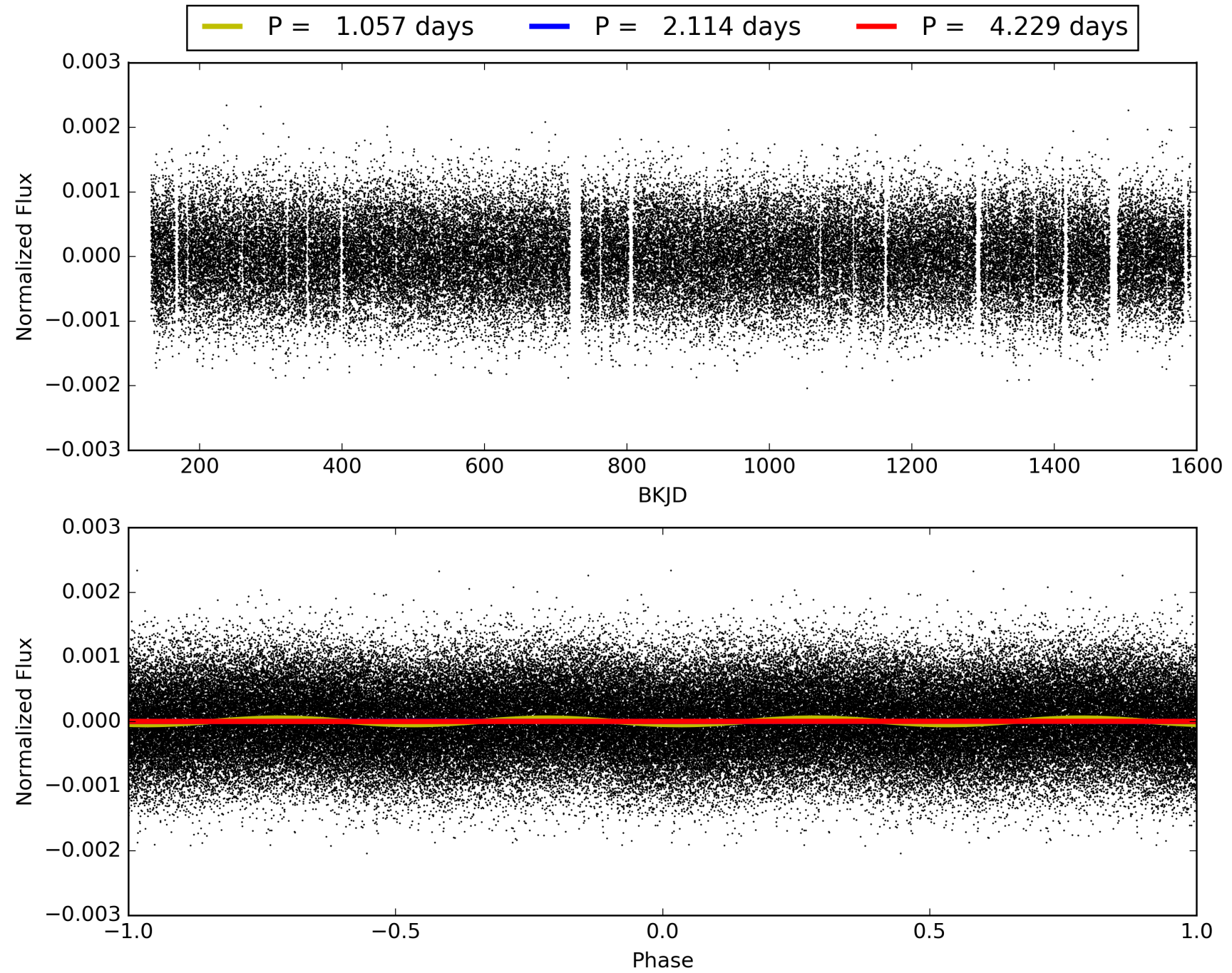
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [611/611]
GhostDiagnostic-chr: 1.098
Centroid-sig: N/A
Centroid-so: 1.422 arcsec [1.16 σ]
OotOffset-rm: 0.217 arcsec [0.72 σ]
KicOffset-rm: 0.317 arcsec [1.15 σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008395203-01, PDC Light Curves

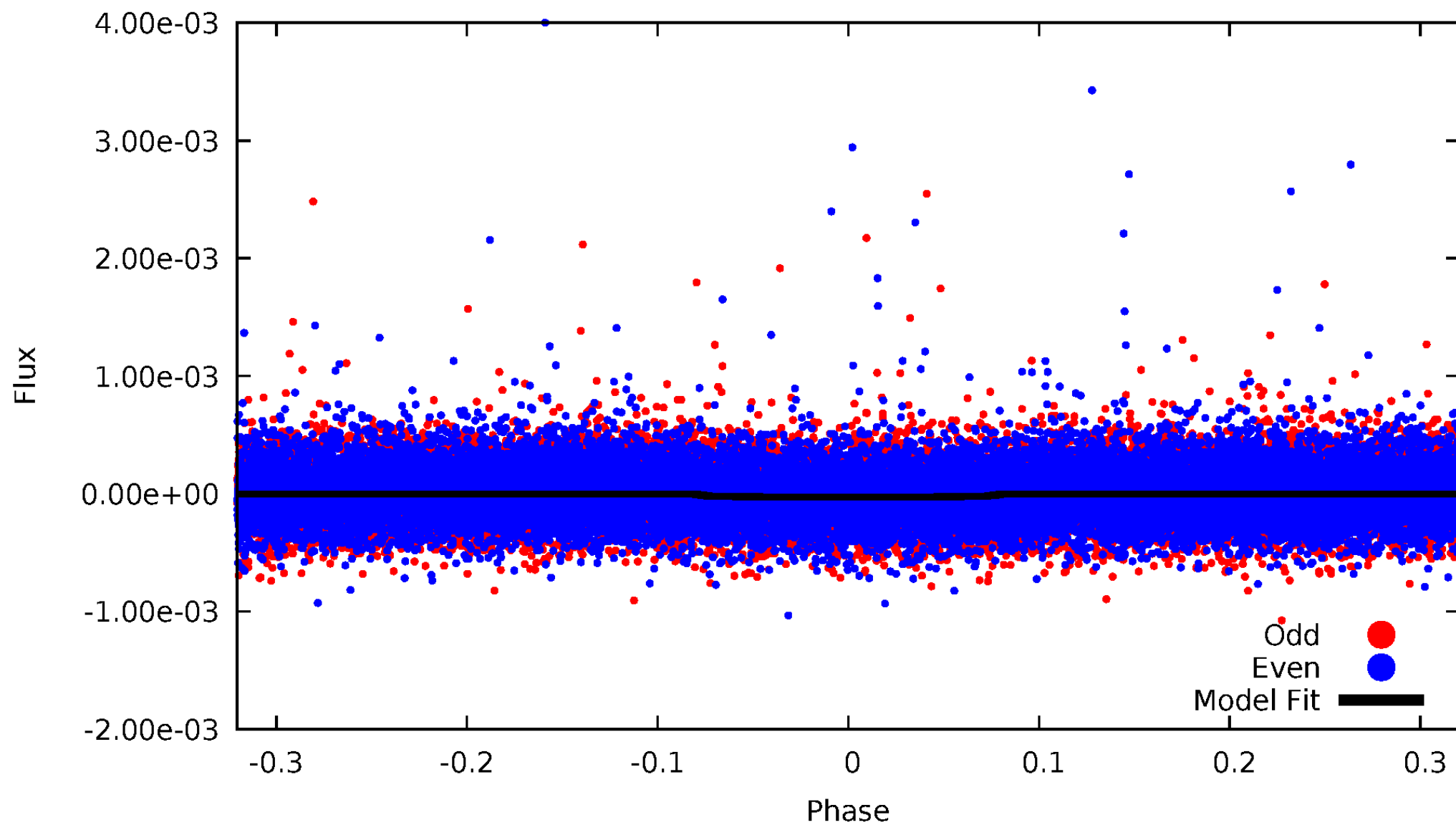


TCE 008395203-01



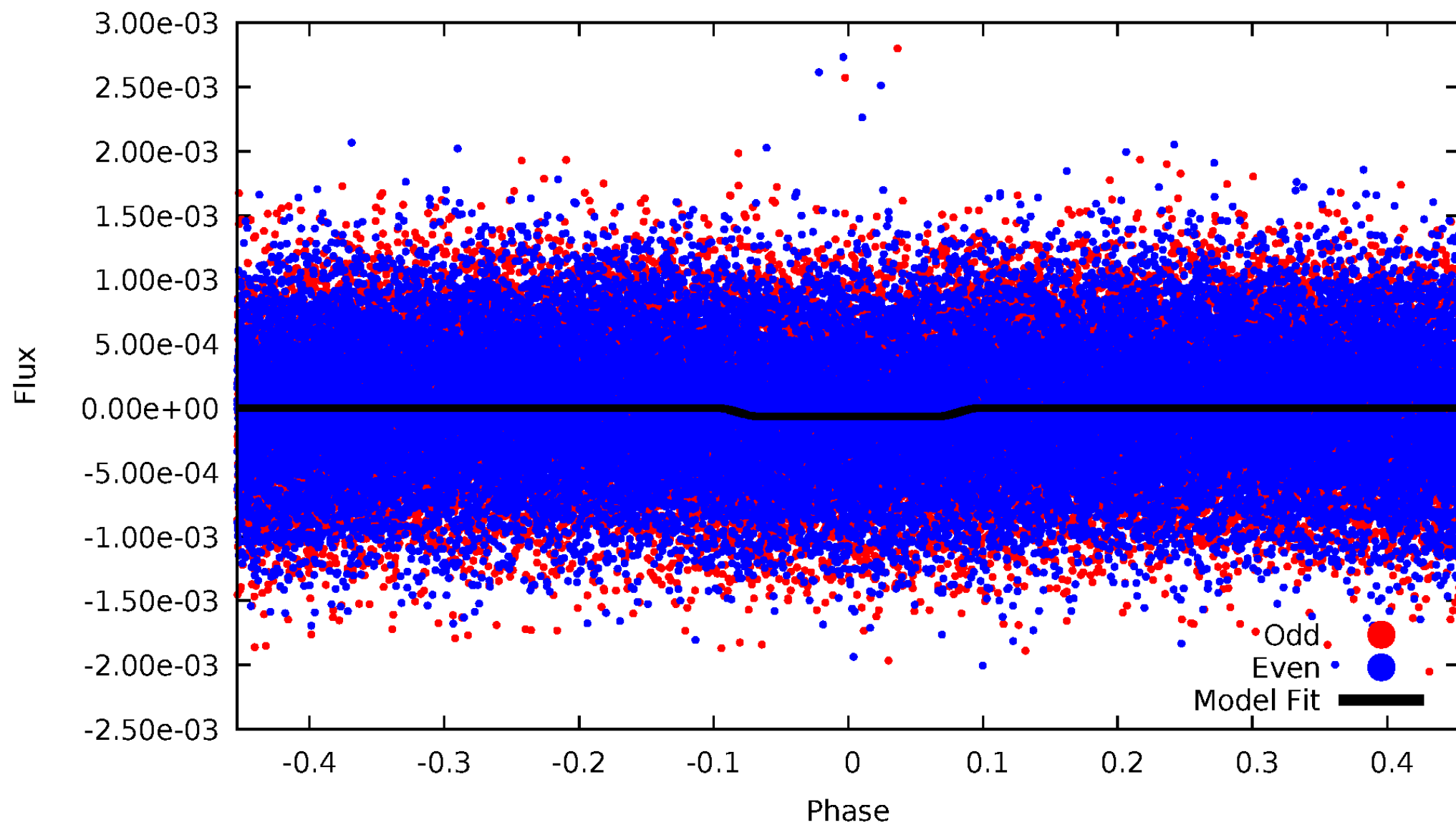
DV Odd/Even

TCE 008395203-01



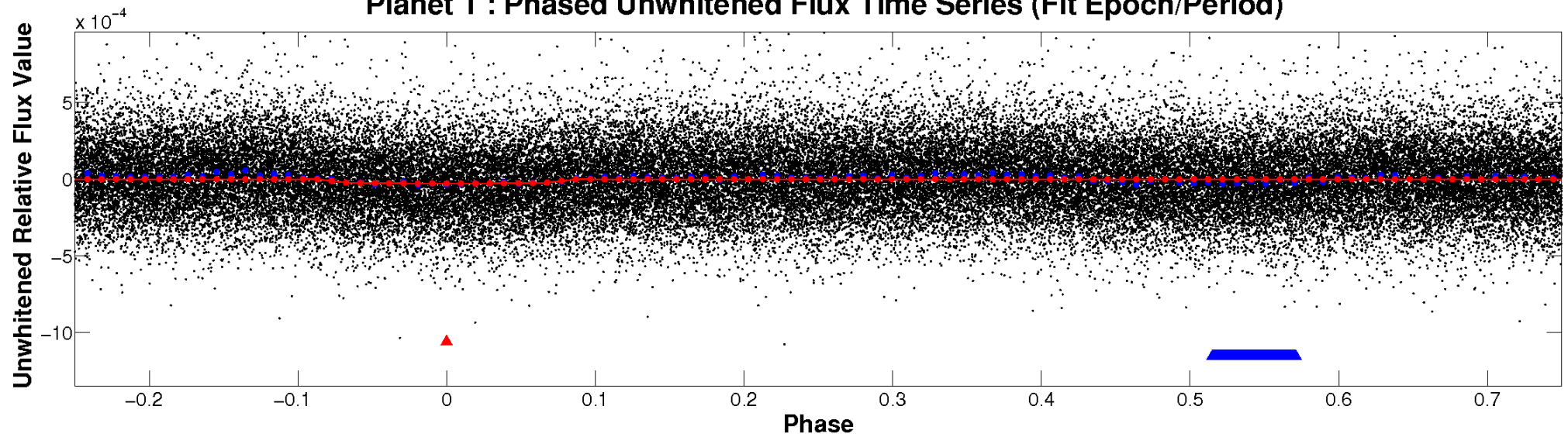
ALT Odd/Even

TCE 008395203-01

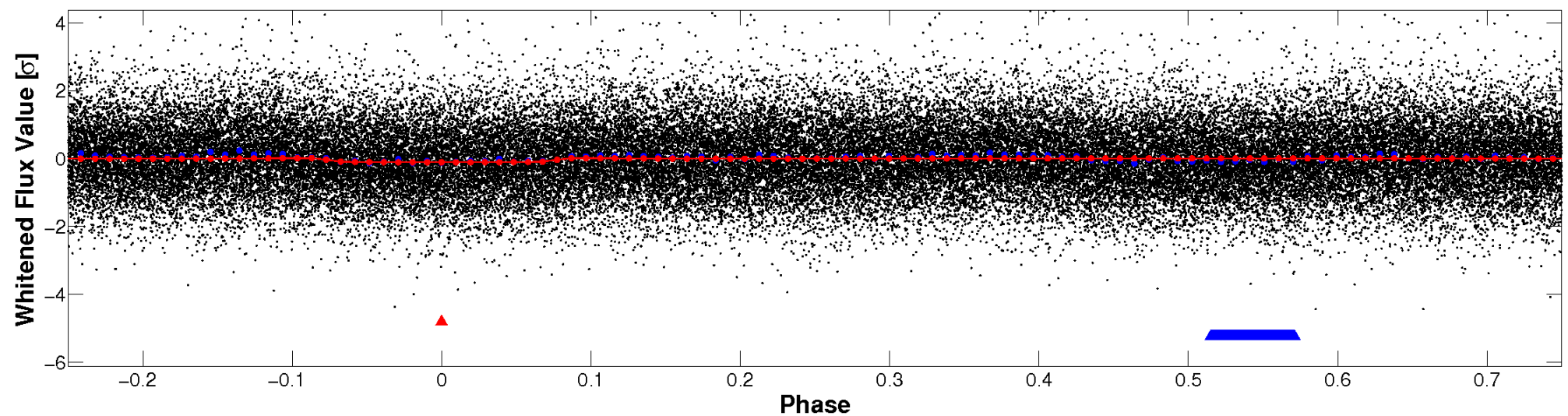


Non-Whitened Vs. Whitened Light Curve

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

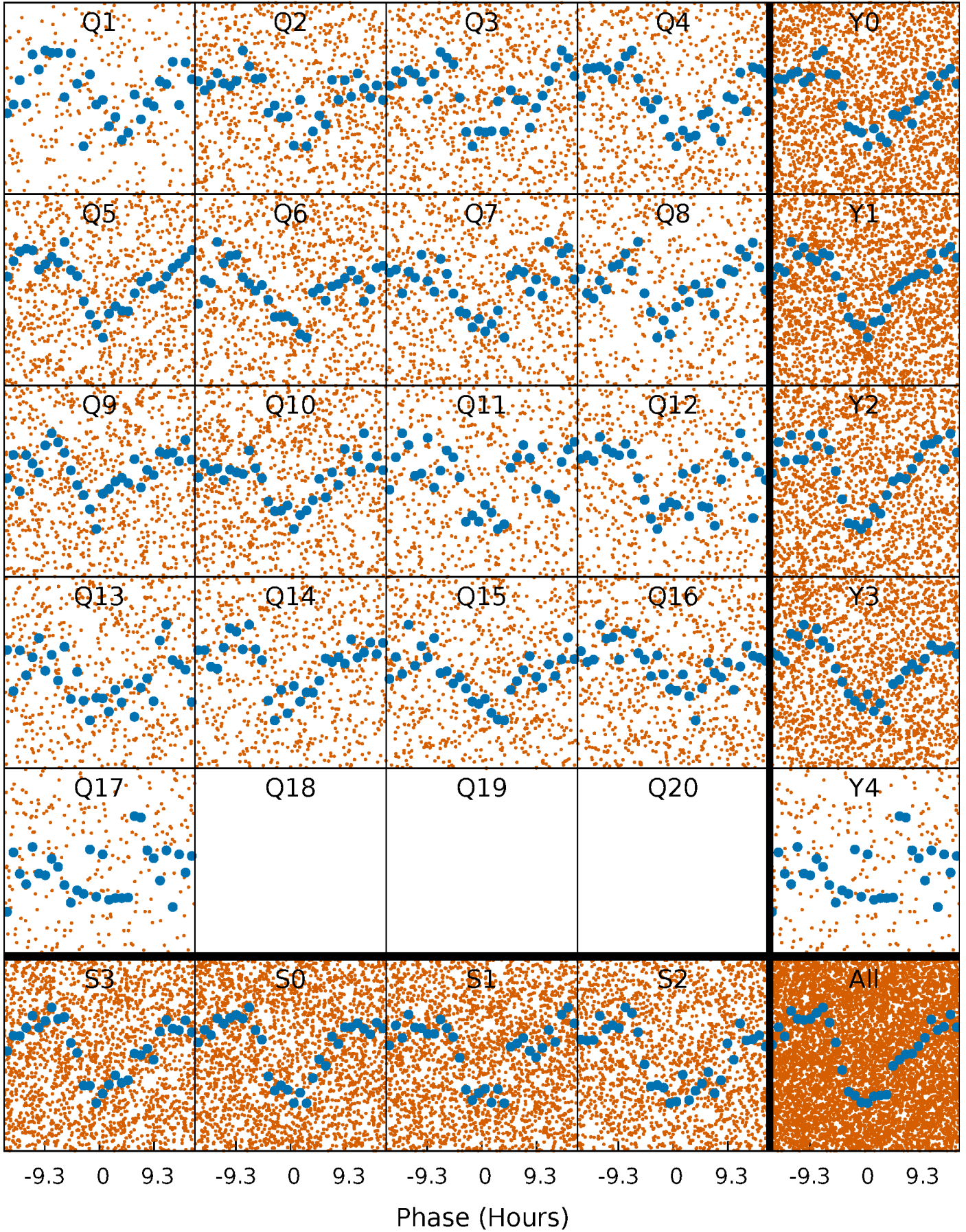


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



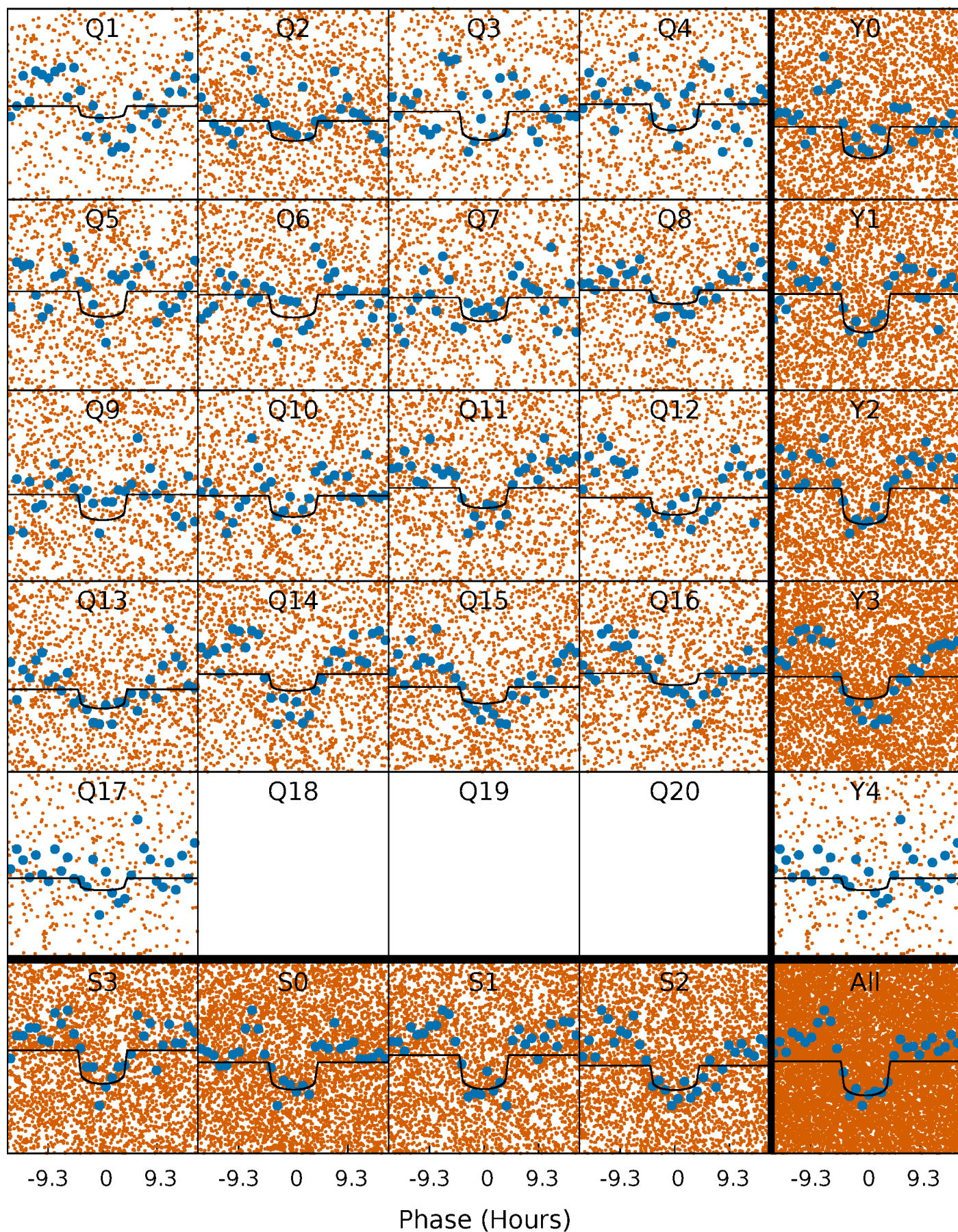
PDC Quarter-Phased Transit Curves

TCE 008395203-01 P= 2.114341 Days $T_0=131.814966$ (BKJD)



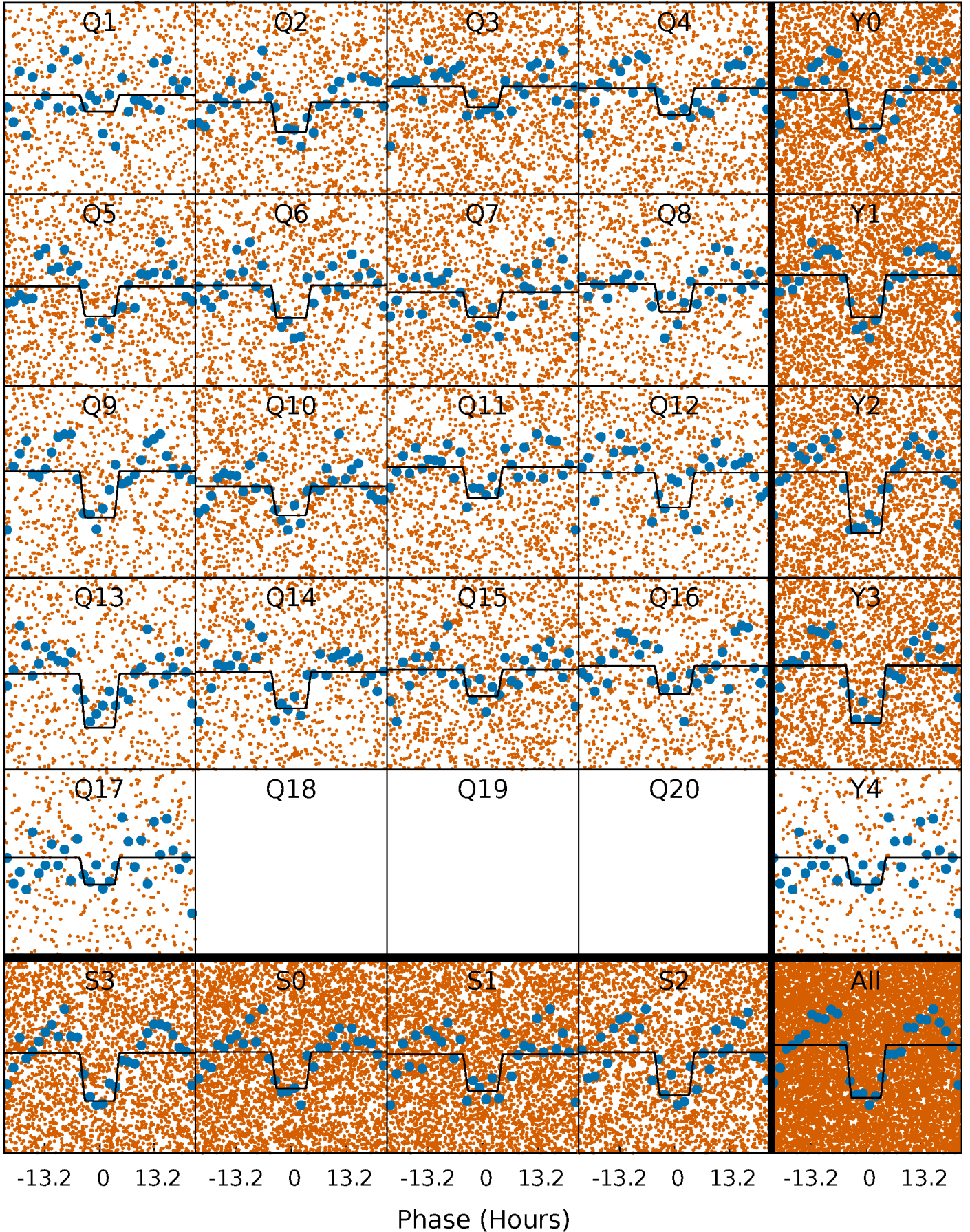
DV Quarter-Phased Transit Curves

TCE 008395203-01 P= 2.114341 Days $T_0=131.814966$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

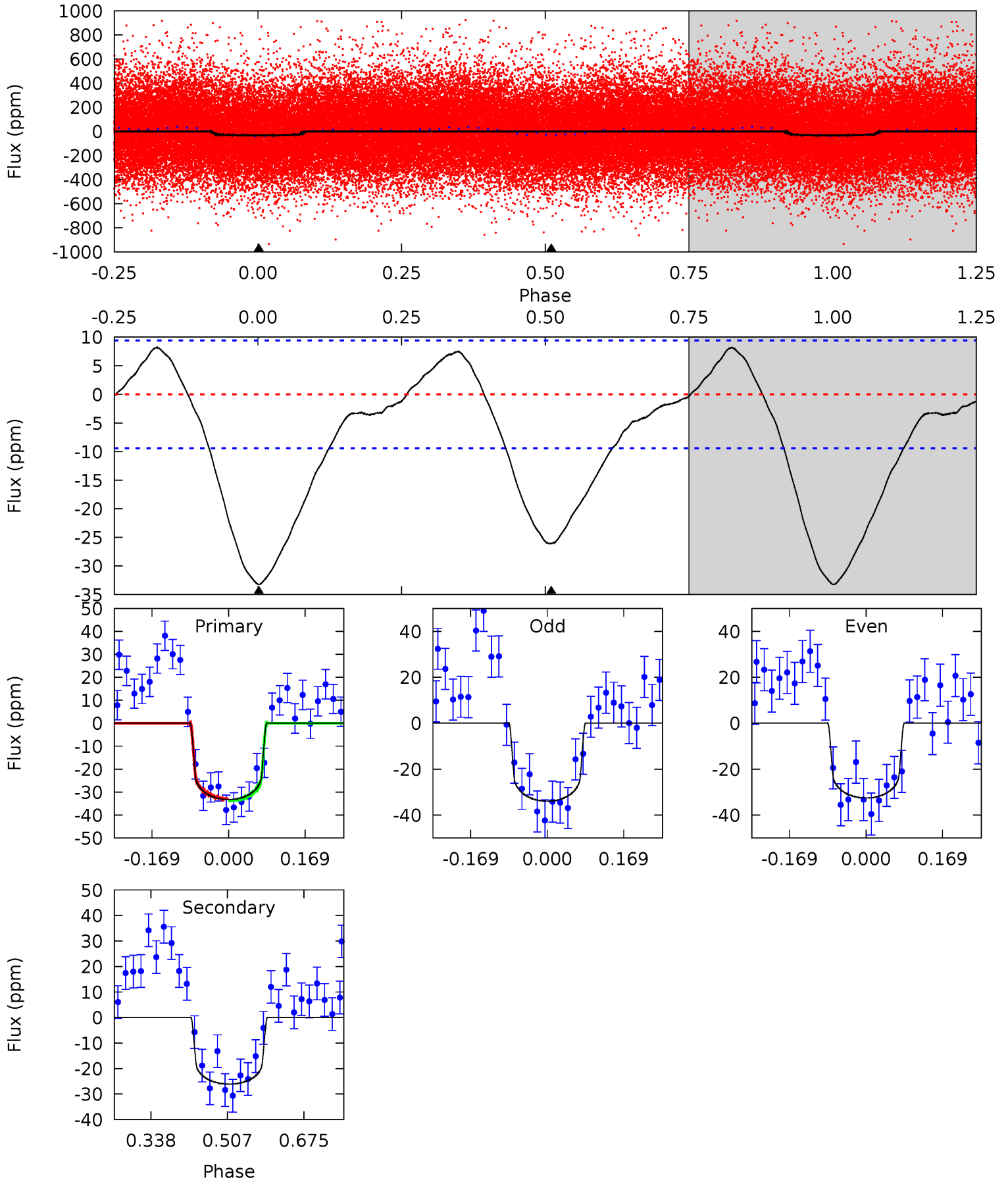
TCE 008395203-01 P= 2.114391 Days $T_0=131.823465$ (BKJD)



DV Model-Shift Uniqueness Test

008395203-01, P = 2.114341 Days, E = 129.700625 Days

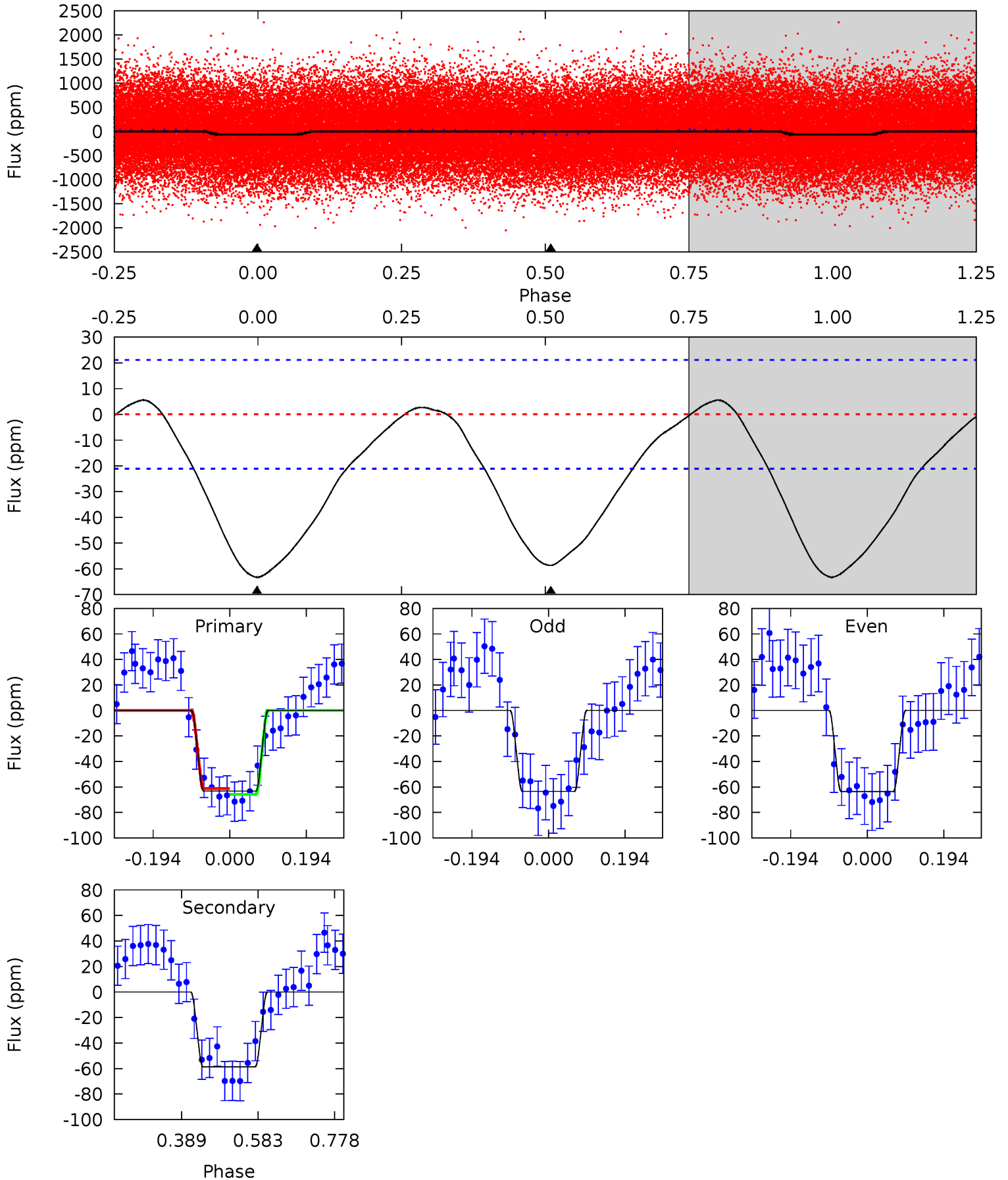
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	12.3	0	0	4.45	1.38	1.77	15.7	15.7	12.3	12.3	0.34	1.02	0.20	0.19



Alt Model-Shift Uniqueness Test

008395203-01, P = 2.114391 Days, E = 129.709074 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	12.3	0	0	4.42	1.30	0.95	13.2	13.2	12.3	12.3	0.02	0.96	0.08	0.47



Stellar Parameters For KIC 008395203

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7263^{+228}_{-359}	$4.123^{+0.175}_{-0.175}$	$-0.220^{+0.250}_{-0.350}$	$1.727^{+0.508}_{-0.416}$	$1.442^{+0.211}_{-0.234}$	$0.394^{+0.363}_{-0.188}$
	+3%/-5%	+4%/-4%	+114%/-159%	+29%/-24%	+15%/-16%	+92%/-48%
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 008395203-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 2	$1.04^{+0.38}_{-0.35}$	3047^{+256}_{-226}	6862^{+1748}_{-1002}	17^{+22}_{-8}
Alt.	-59 ± 5	$1.46^{+0.46}_{-0.35}$	3058^{+240}_{-237}	7023^{+1230}_{-823}	20^{+15}_{-8}

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

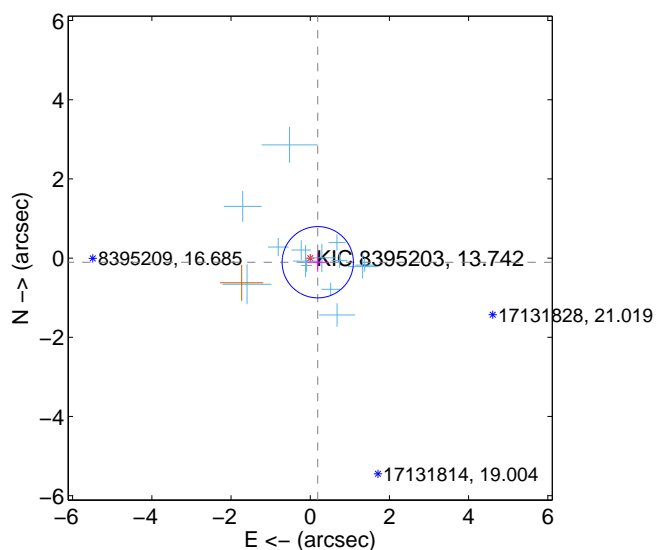
Supplemental centroid analysis for 008395203-01. Kepler magnitude: 13.74. Transit SNR 10.02

There are 14 quarters with good PRF difference image offsets

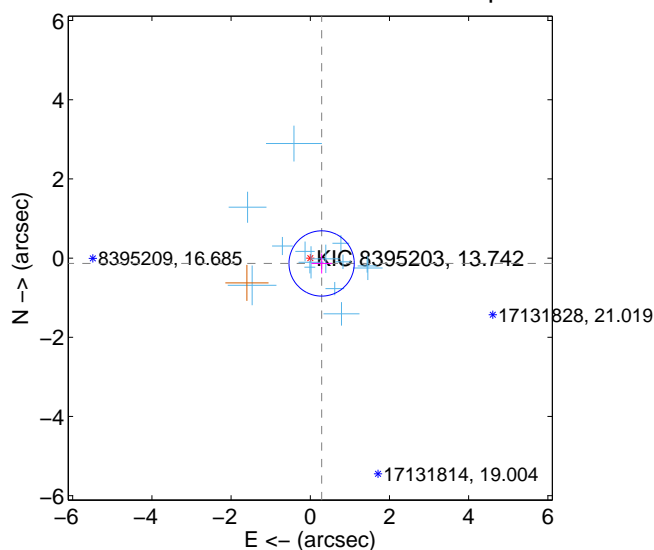
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.217 ± 0.300	0.72	-0.190 ± 0.282	-0.105 ± 0.241
PRF-fit source offset from KIC position	0.317 ± 0.275	1.15	-0.286 ± 0.258	-0.135 ± 0.253
photometric centroid source offset	1.42 ± 1.22	1.16	-0.28 ± 1.23	-1.39 ± 1.22

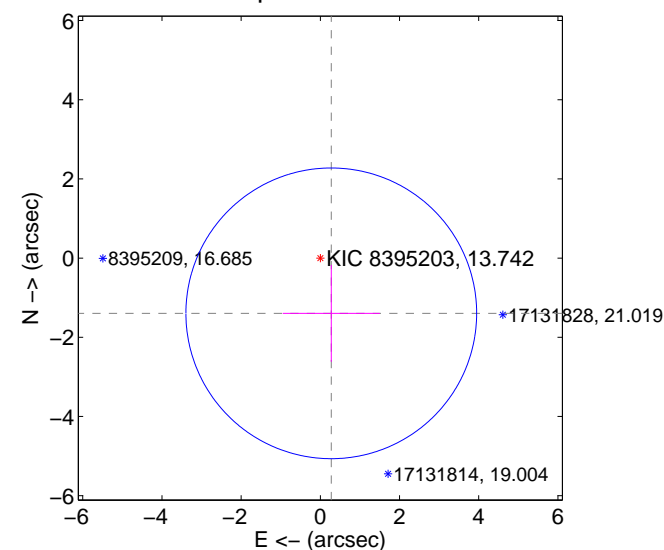
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

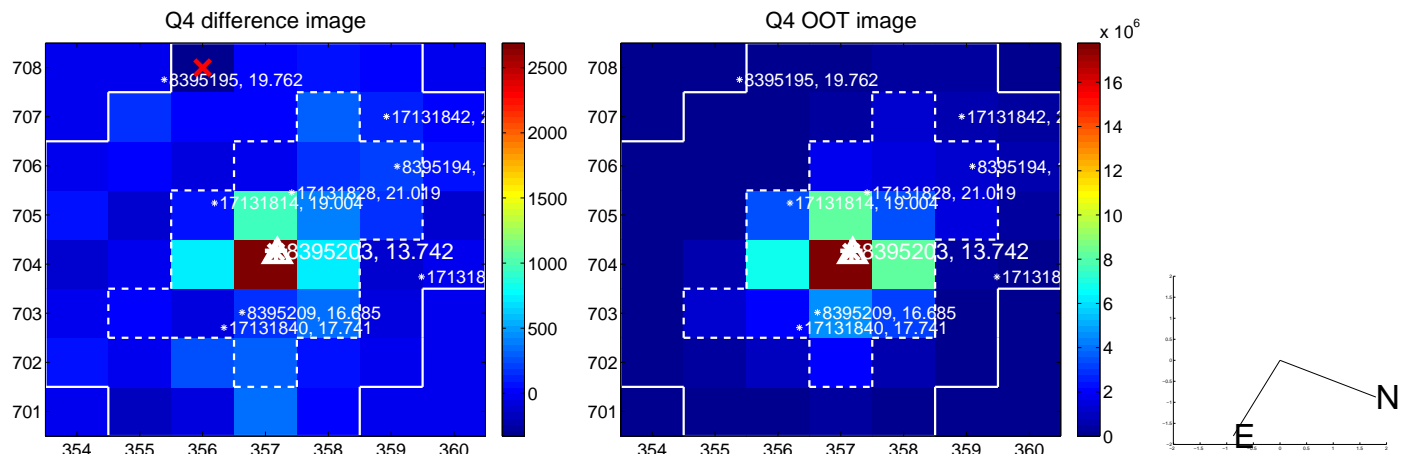
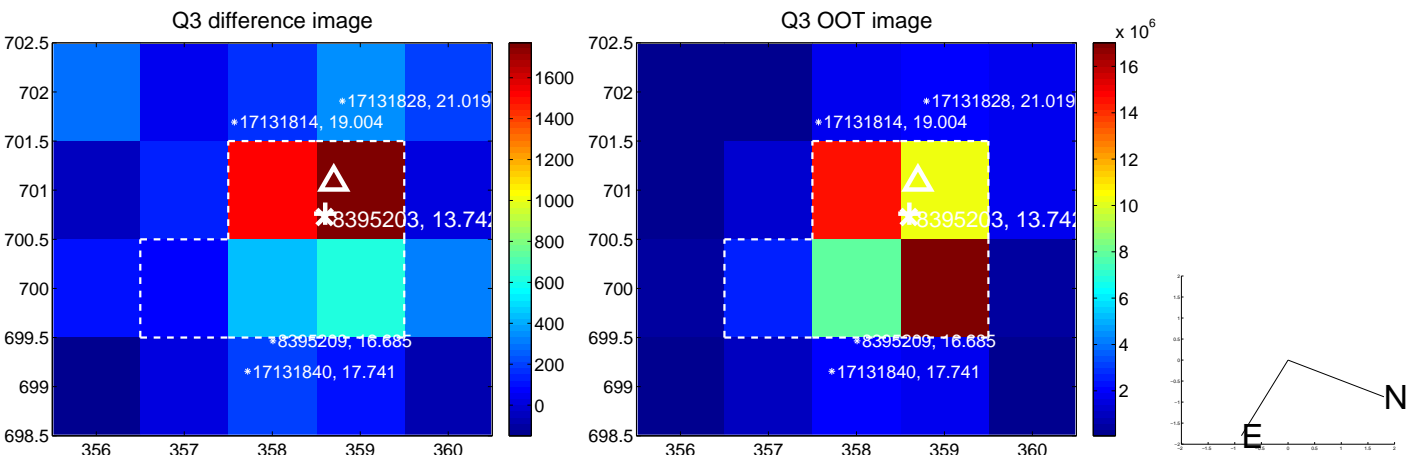
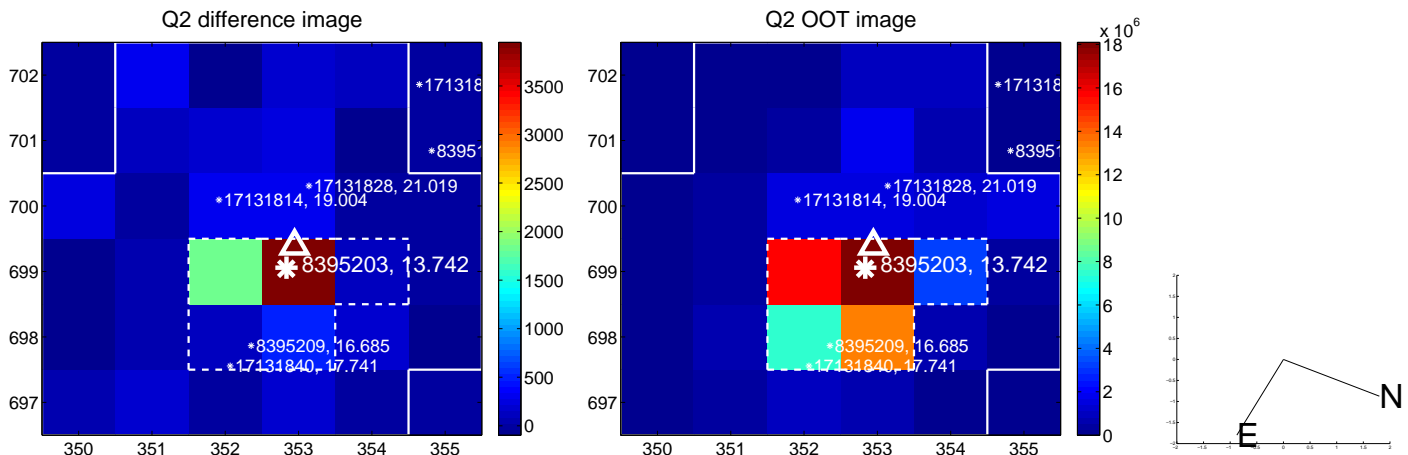
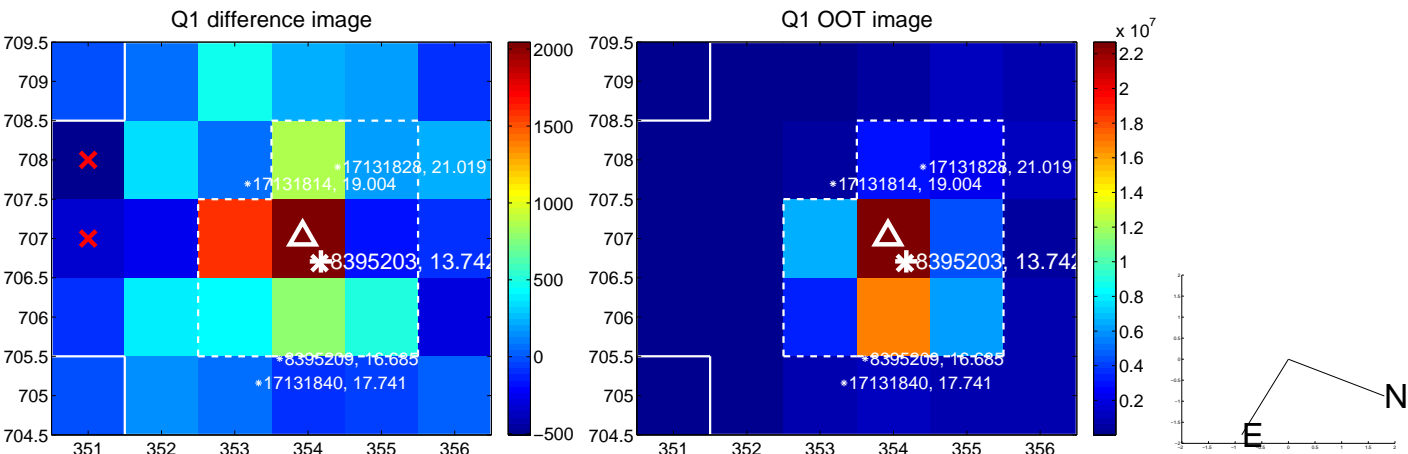


offset from photometric centroids

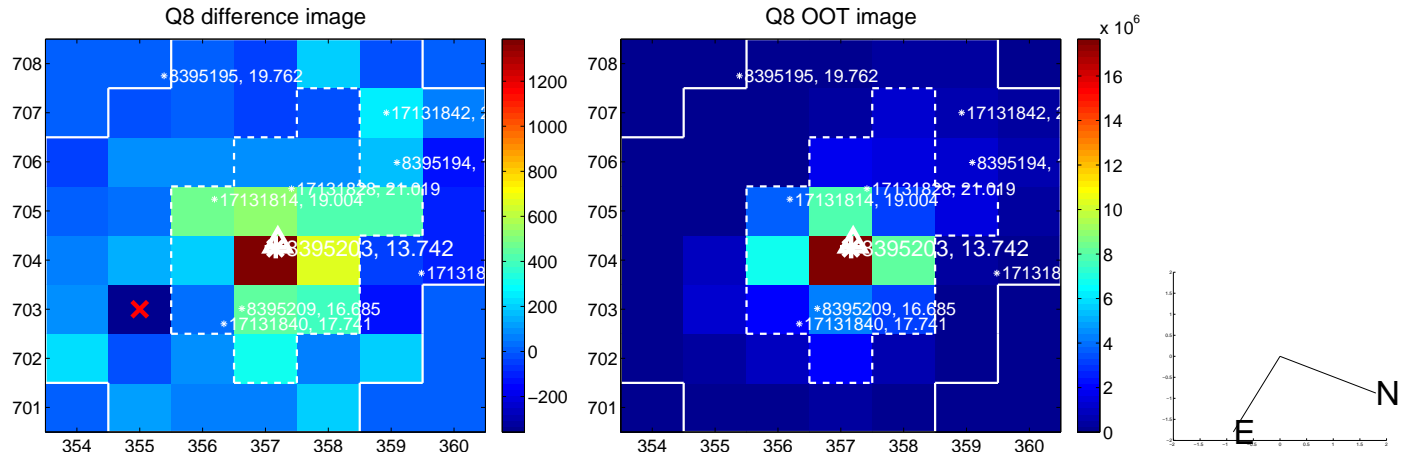
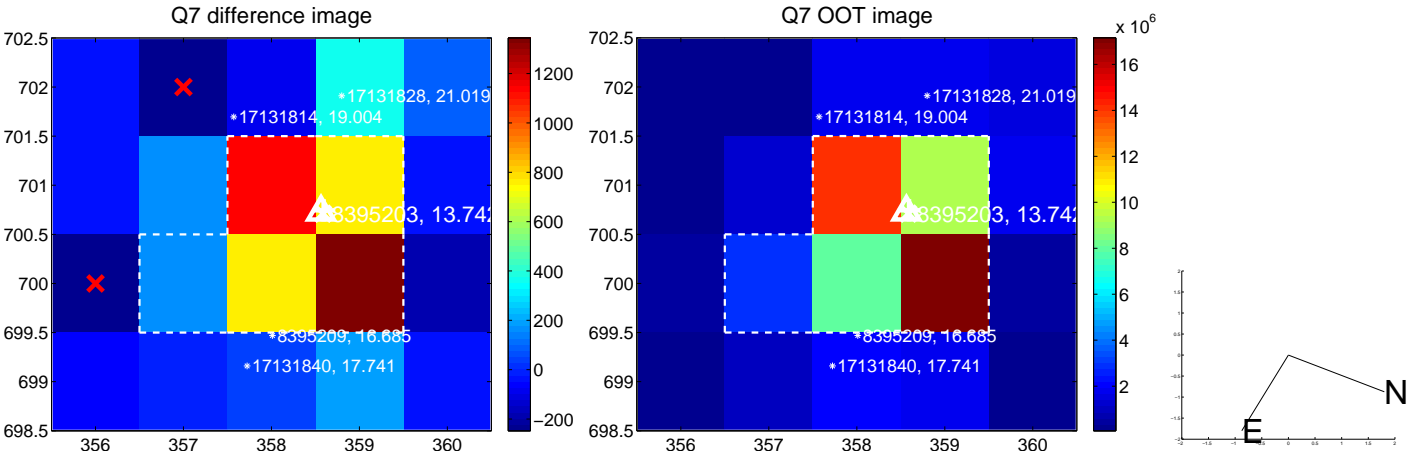
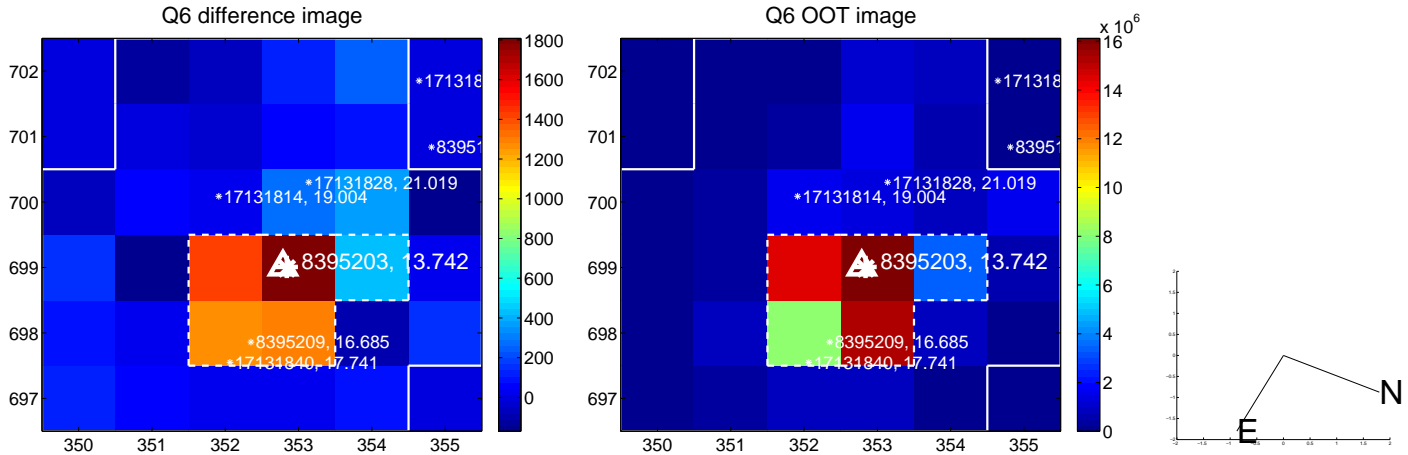
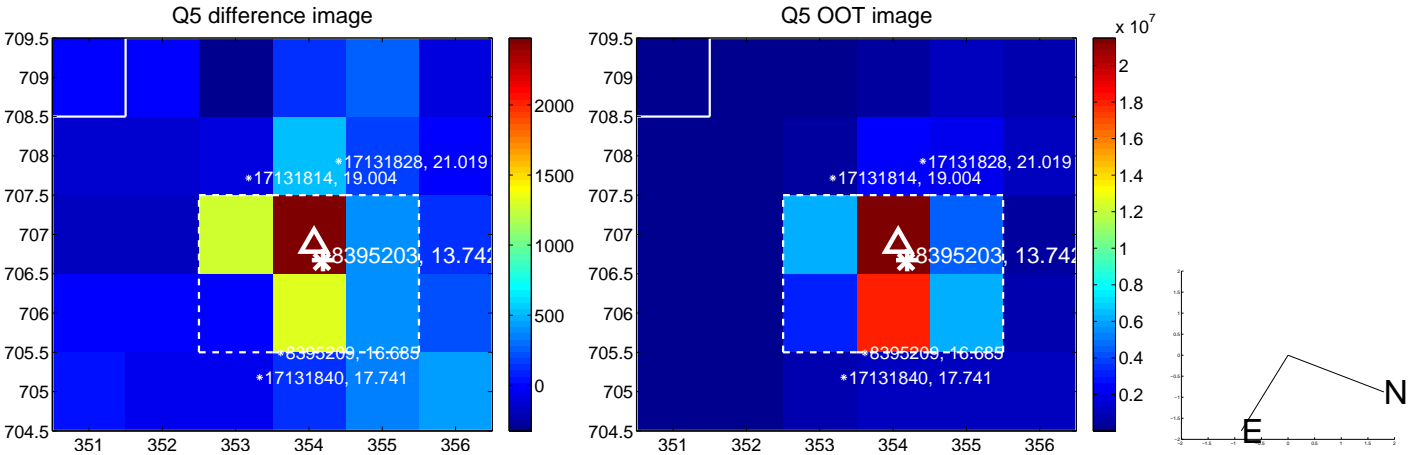


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

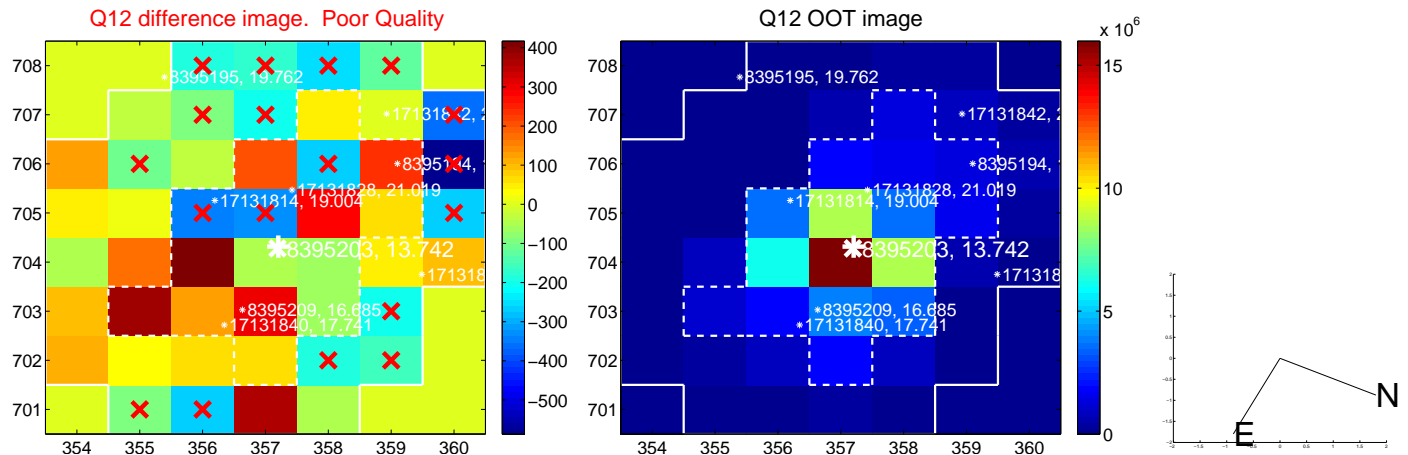
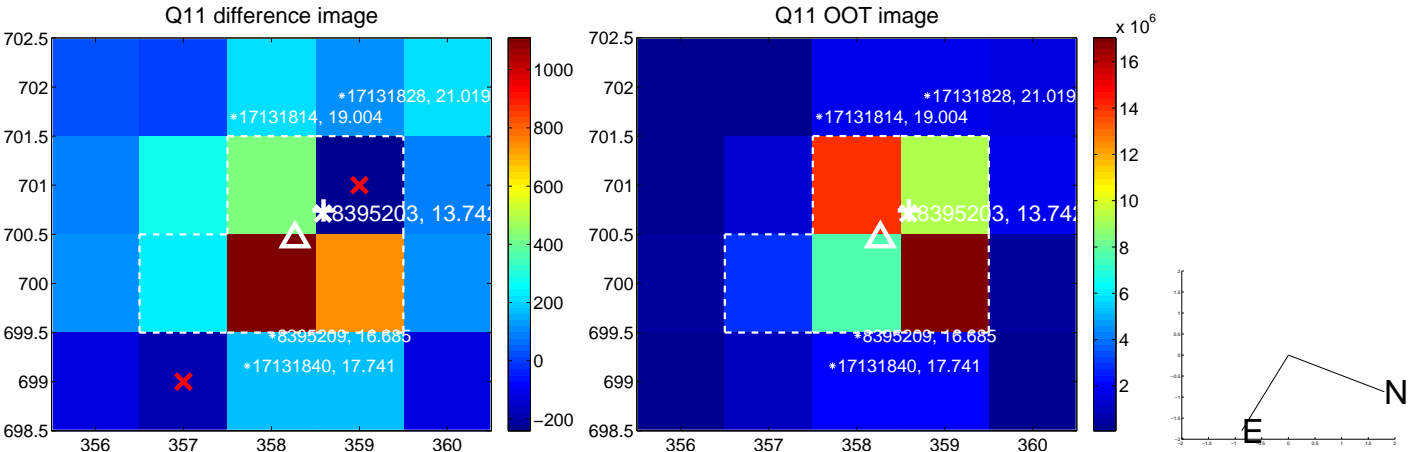
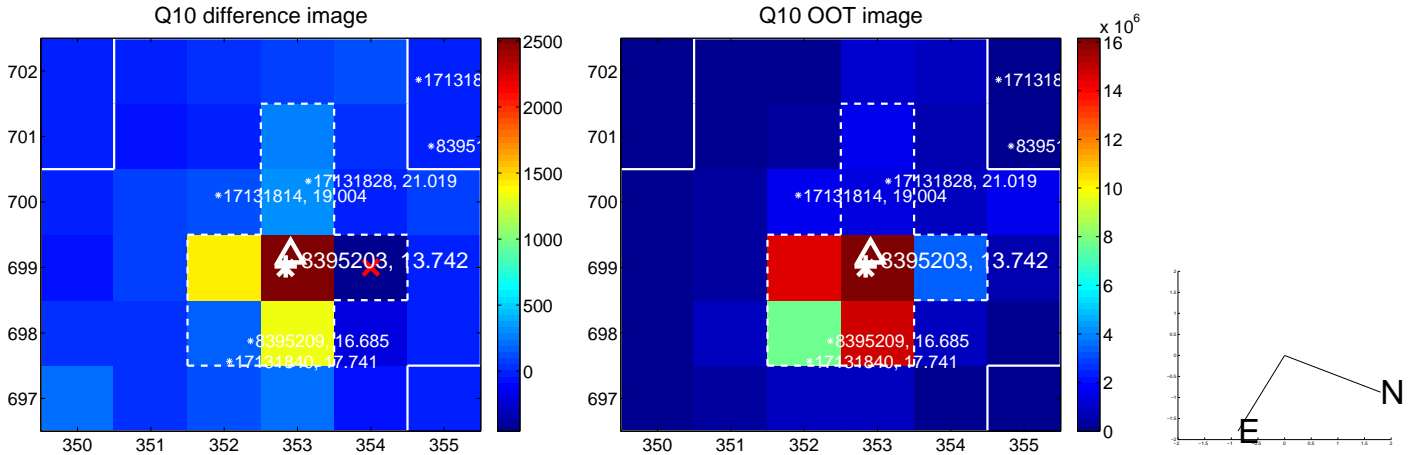
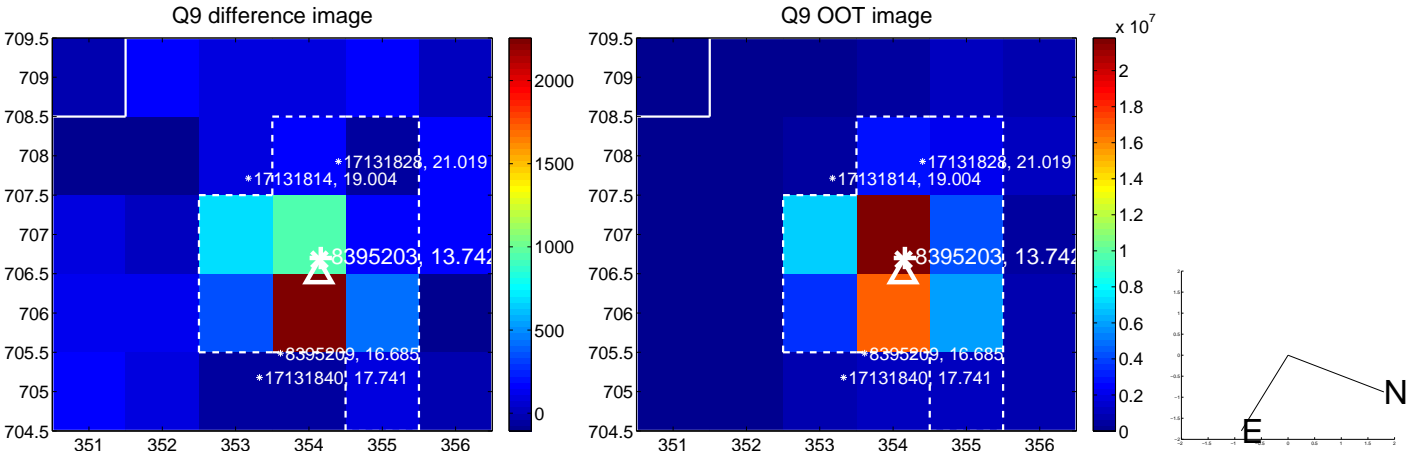
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



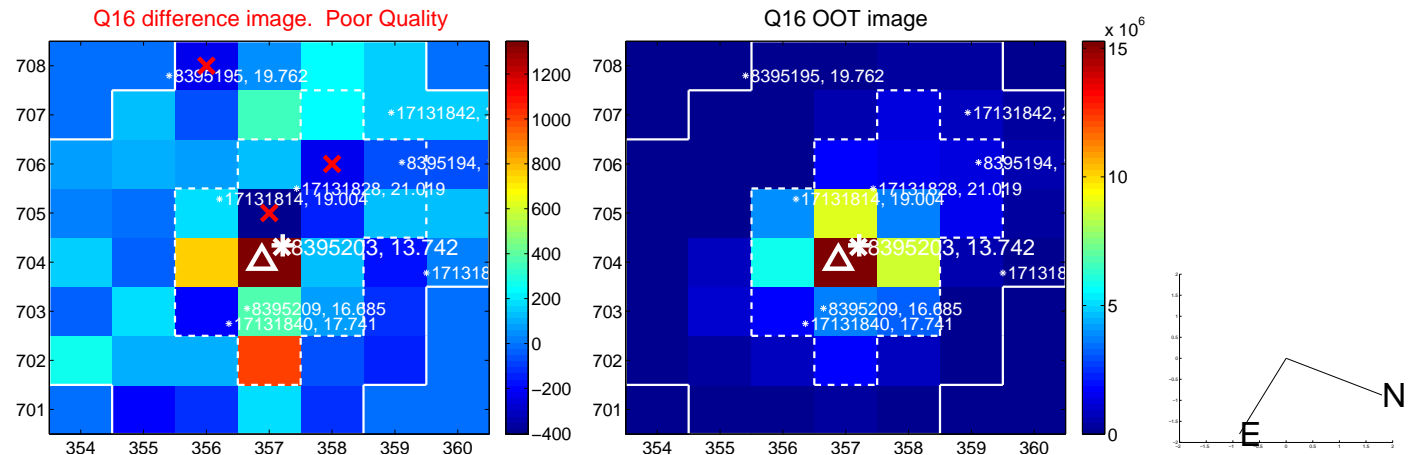
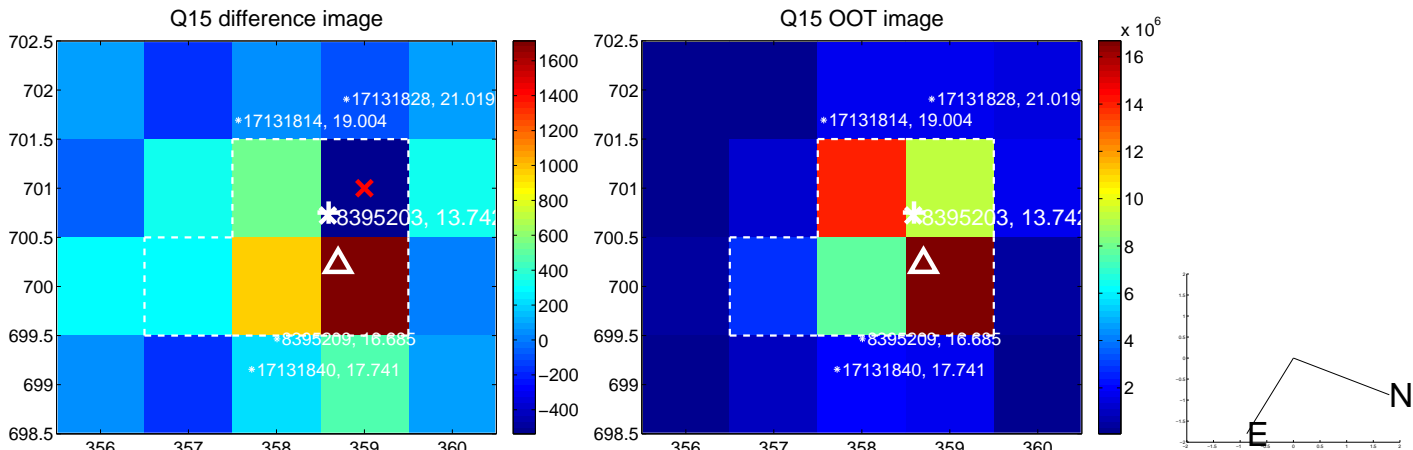
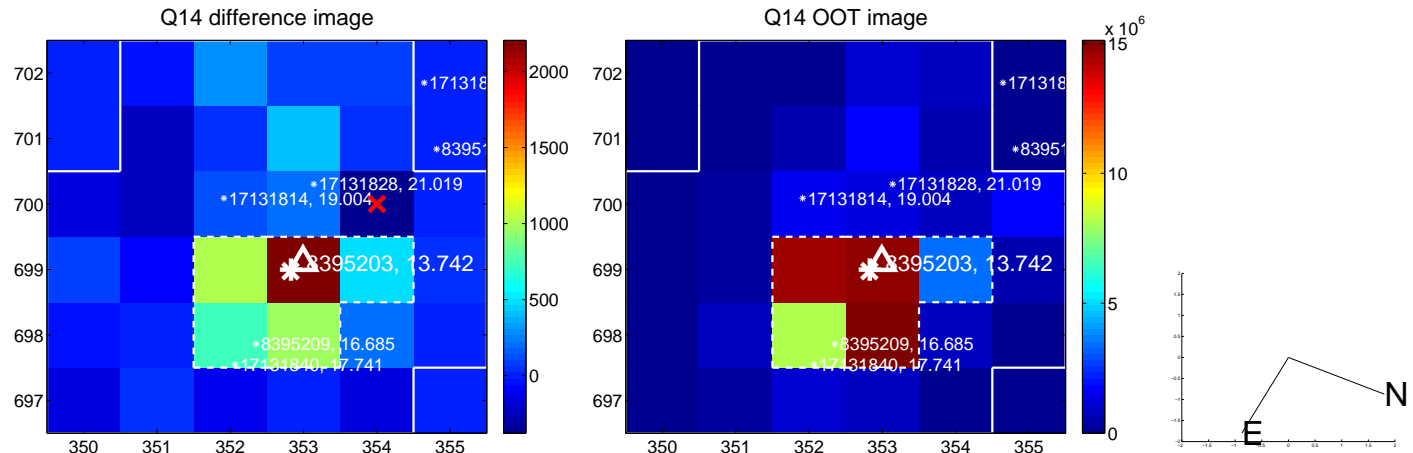
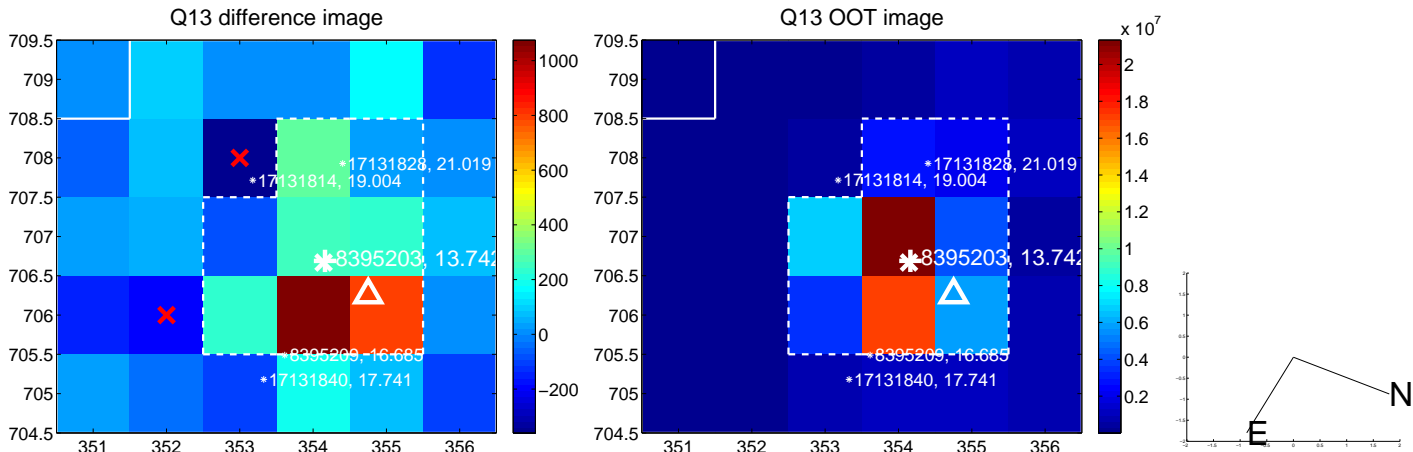
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



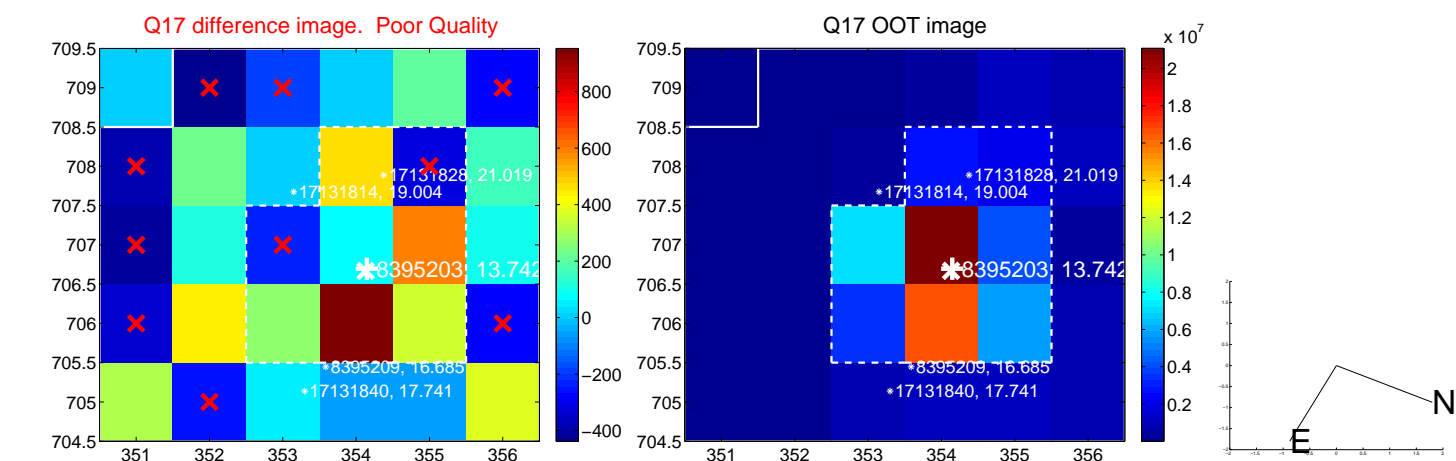
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



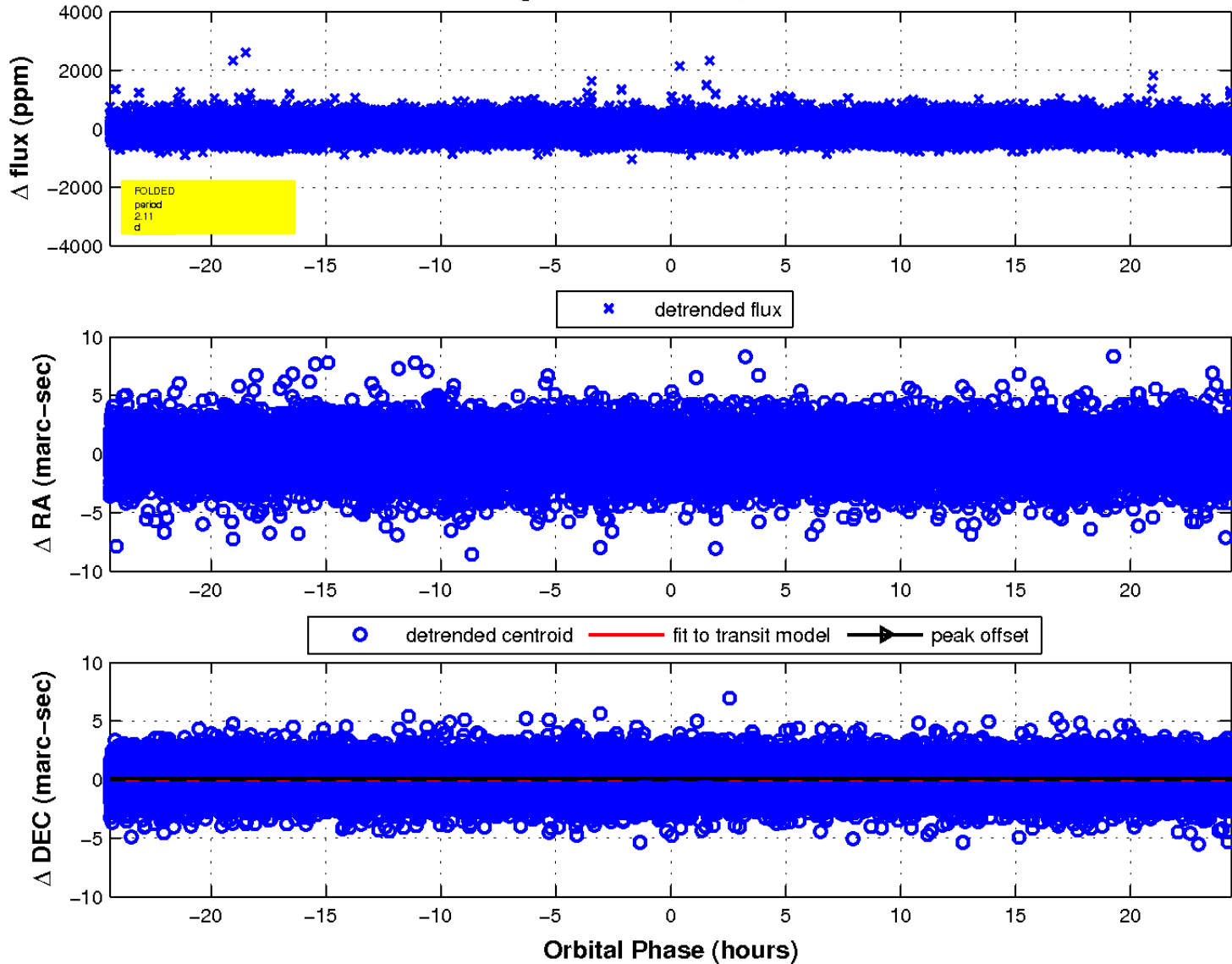
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

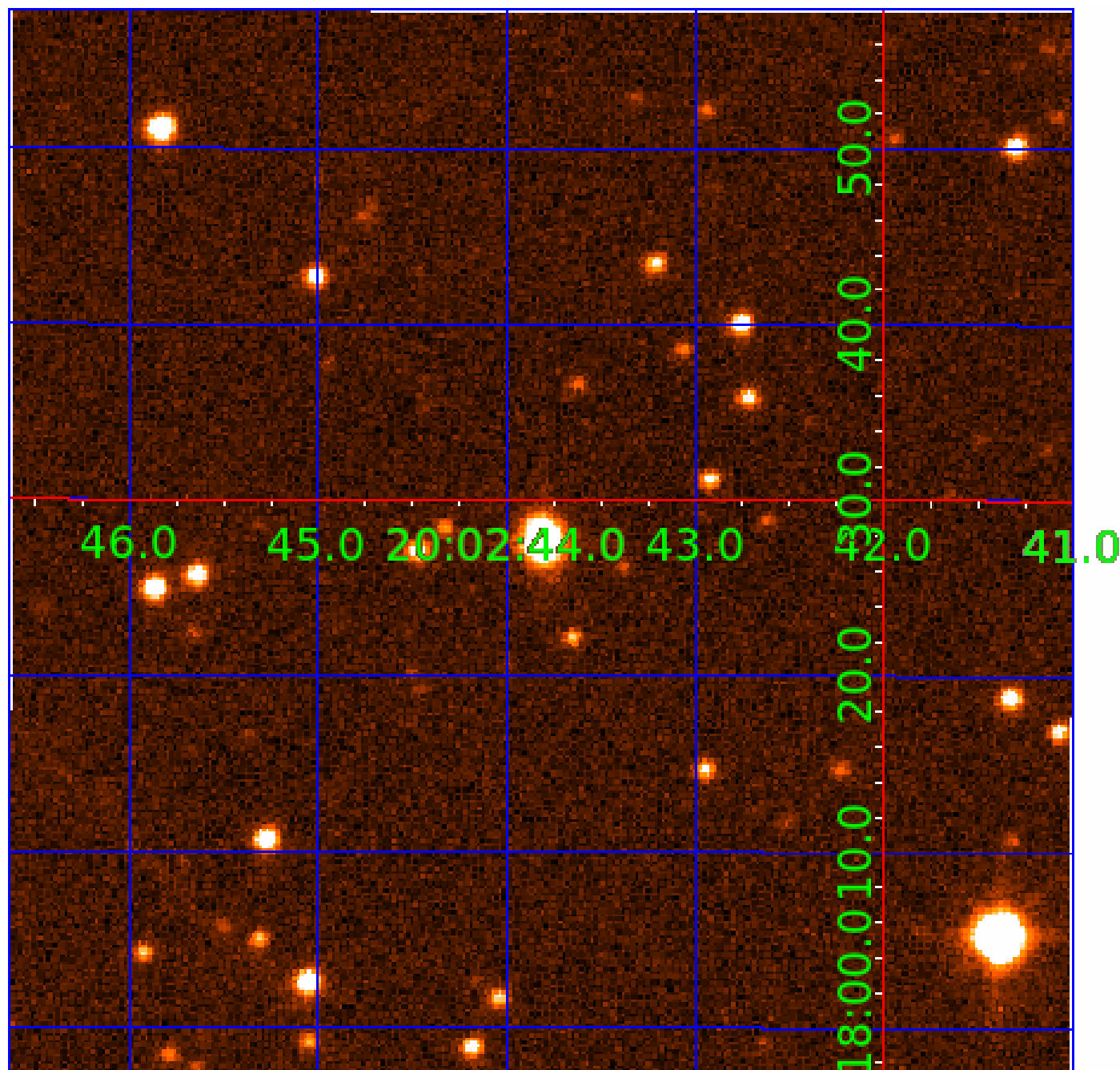


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008395203

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})
008395203-01	OBS	No	2.114341	131.814966	28.4	8.129	9.4	10.0	1.73	7263	1.06	5597.41
008395203-02	OBS	No	2.114168	133.022655	13.4	12.303	9.2	6.3	1.73	7263	0.64	5598.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008395203-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008395203-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

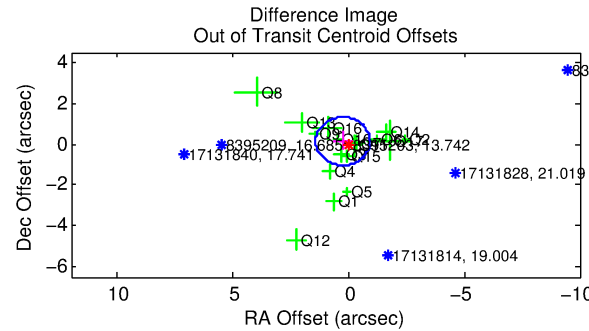
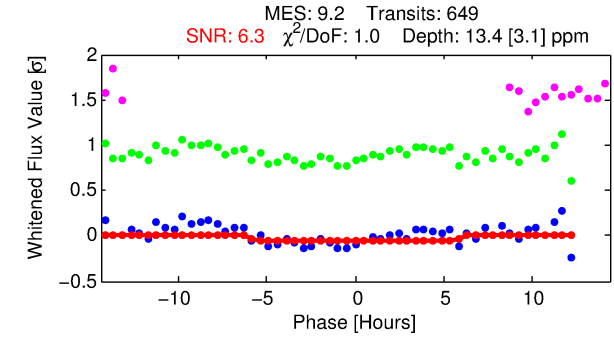
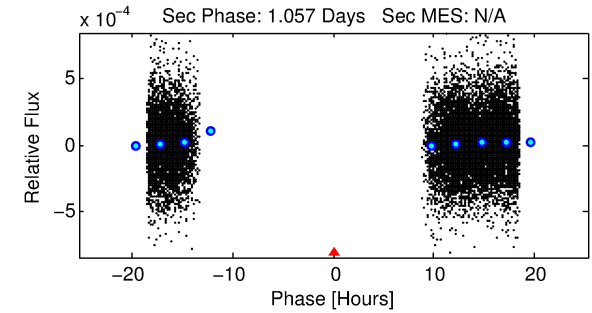
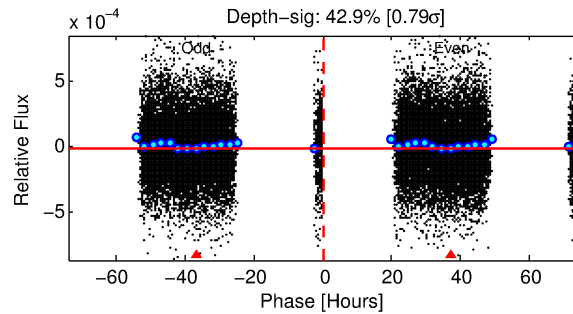
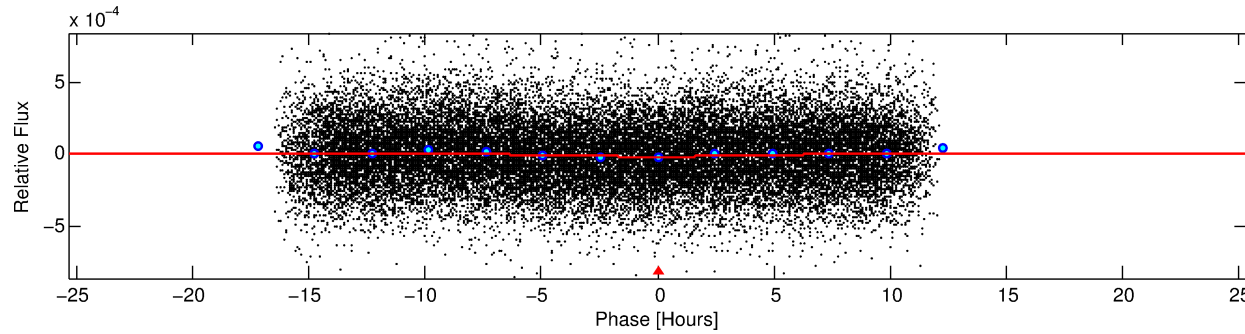
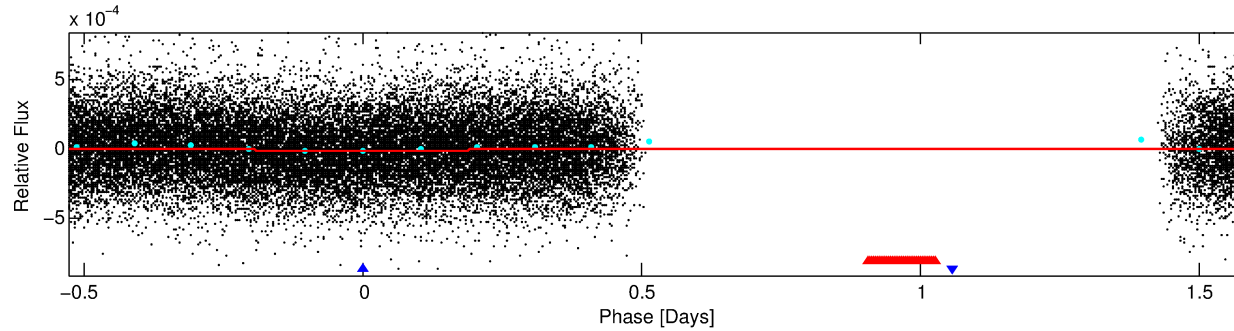
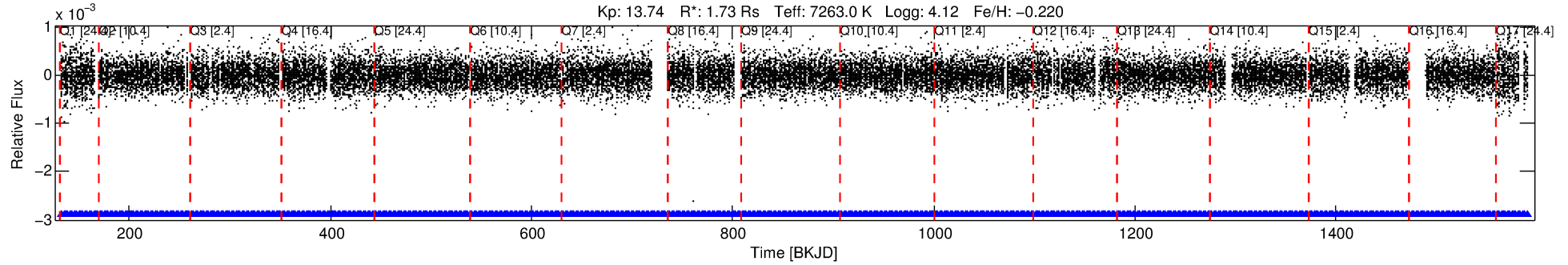
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008395203-02

No Significant Match Found

DV One-Page Summary

KIC: 8395203 Candidate: 2 of 2 Period: 2.114 d



DV Fit Results:

Period = 2.11417 [0.00007] d
Epoch = 133.0227 [0.0172] BKJD
Rp/R* = 0.0034 [0.0064]
a/R* = 1.44 [8.34]
b = 0.15 [70.62]
Seff = 5598.01 [2166.02]
Teq = 2206 [213] K
Rp = 0.64 [1.21] Re
a = 0.0364 [0.0087] AU

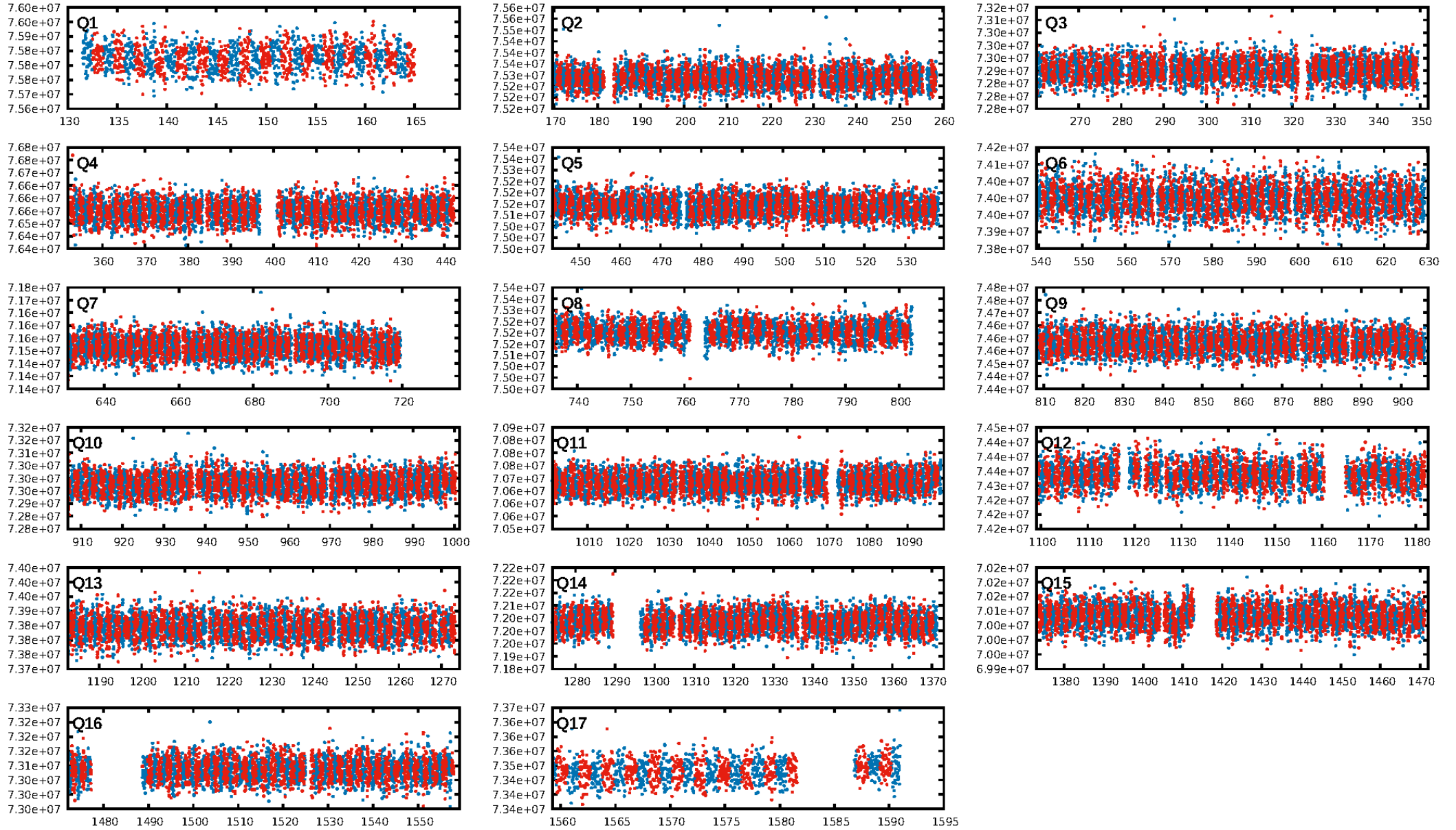
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [620/620]
GhostDiagnostic-chr: 2.8
Centroid-sig: N/A
Centroid-so: 5.332 arcsec [2.47σ]
OotOffset-rm: 0.299 arcsec [0.76σ]
KicOffset-rm: 0.200 arcsec [0.49σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 0.00 [0/17]

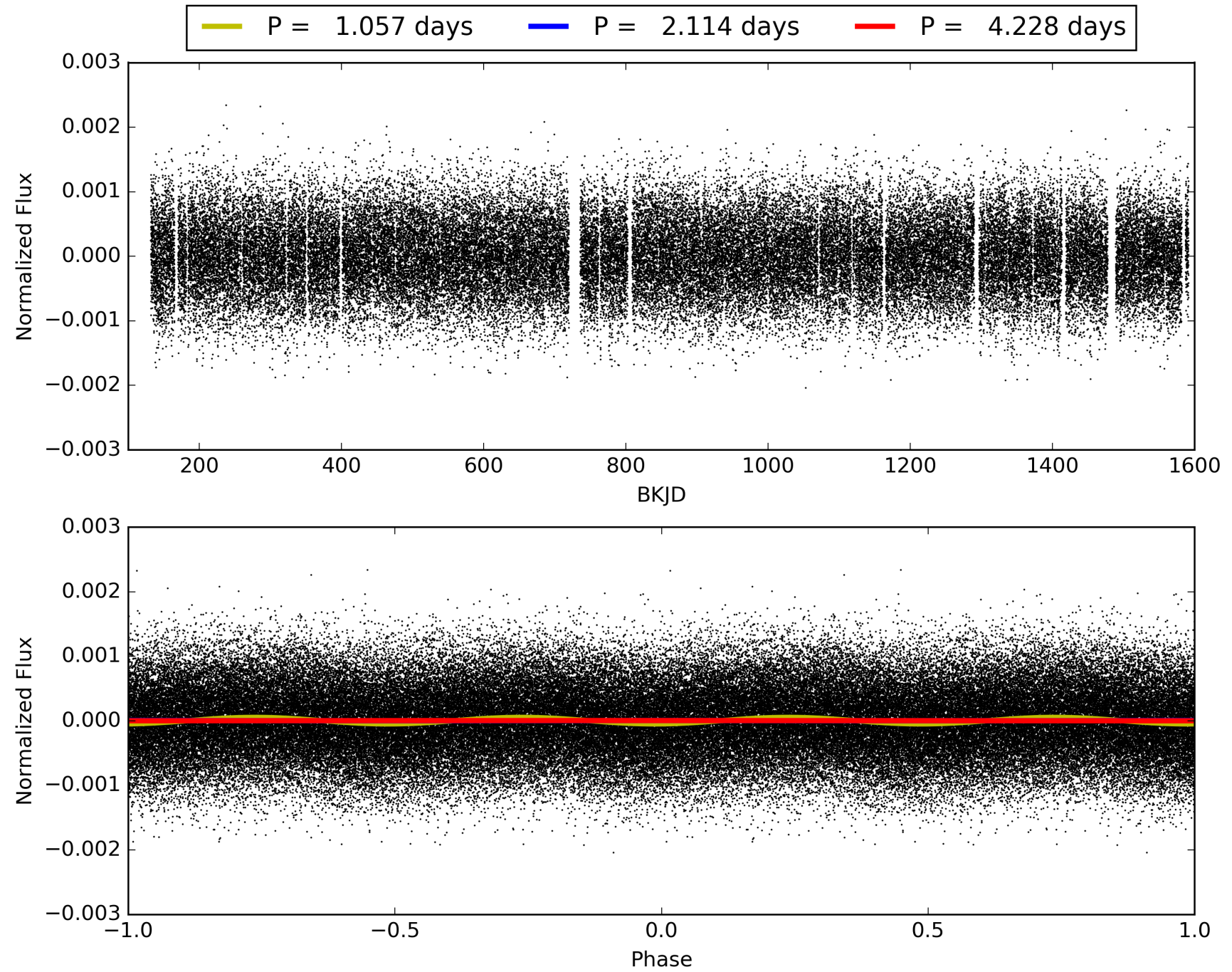
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:03:00 Z

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

TCE 008395203-02, PDC Light Curves

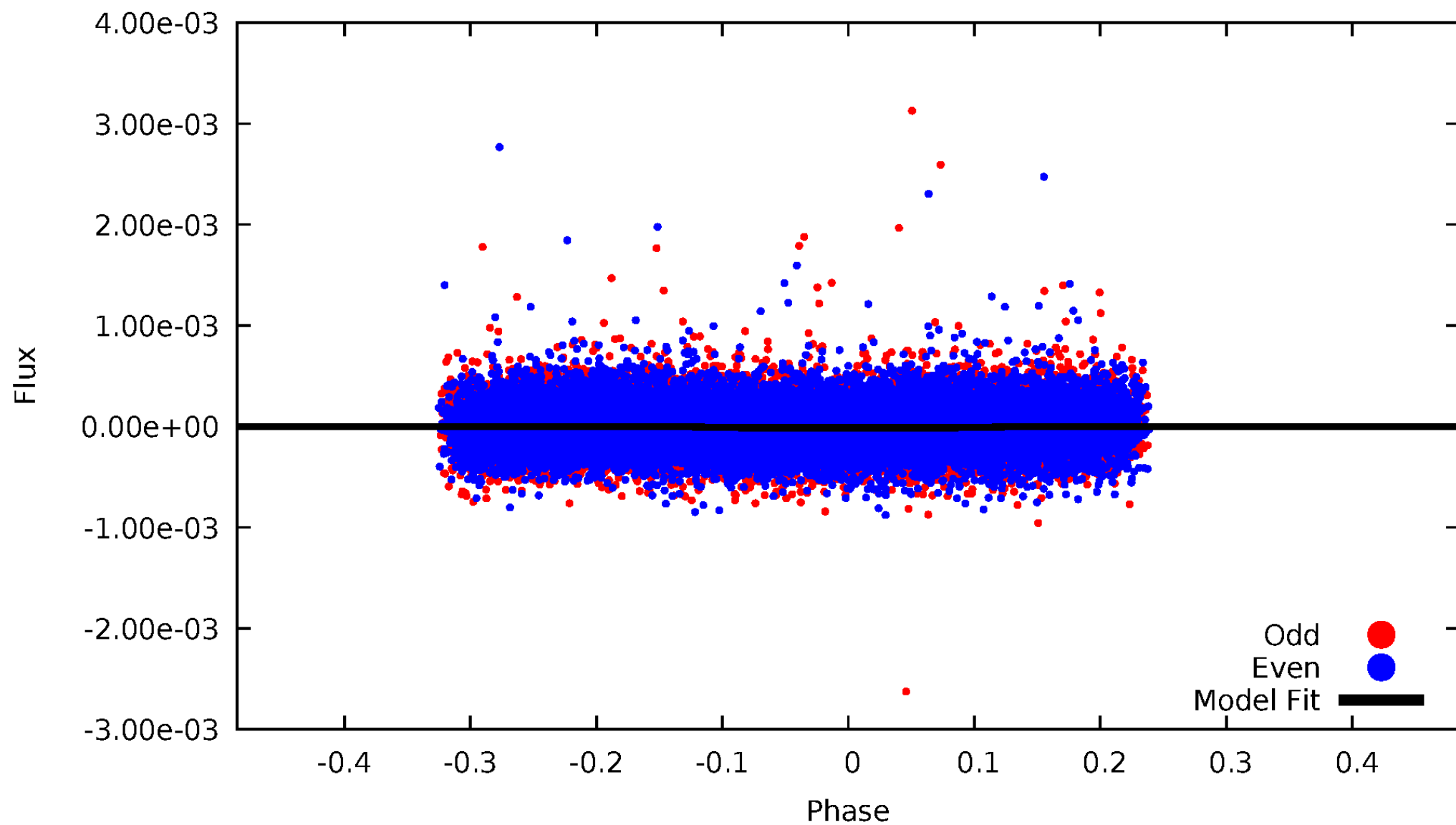


TCE 008395203-02



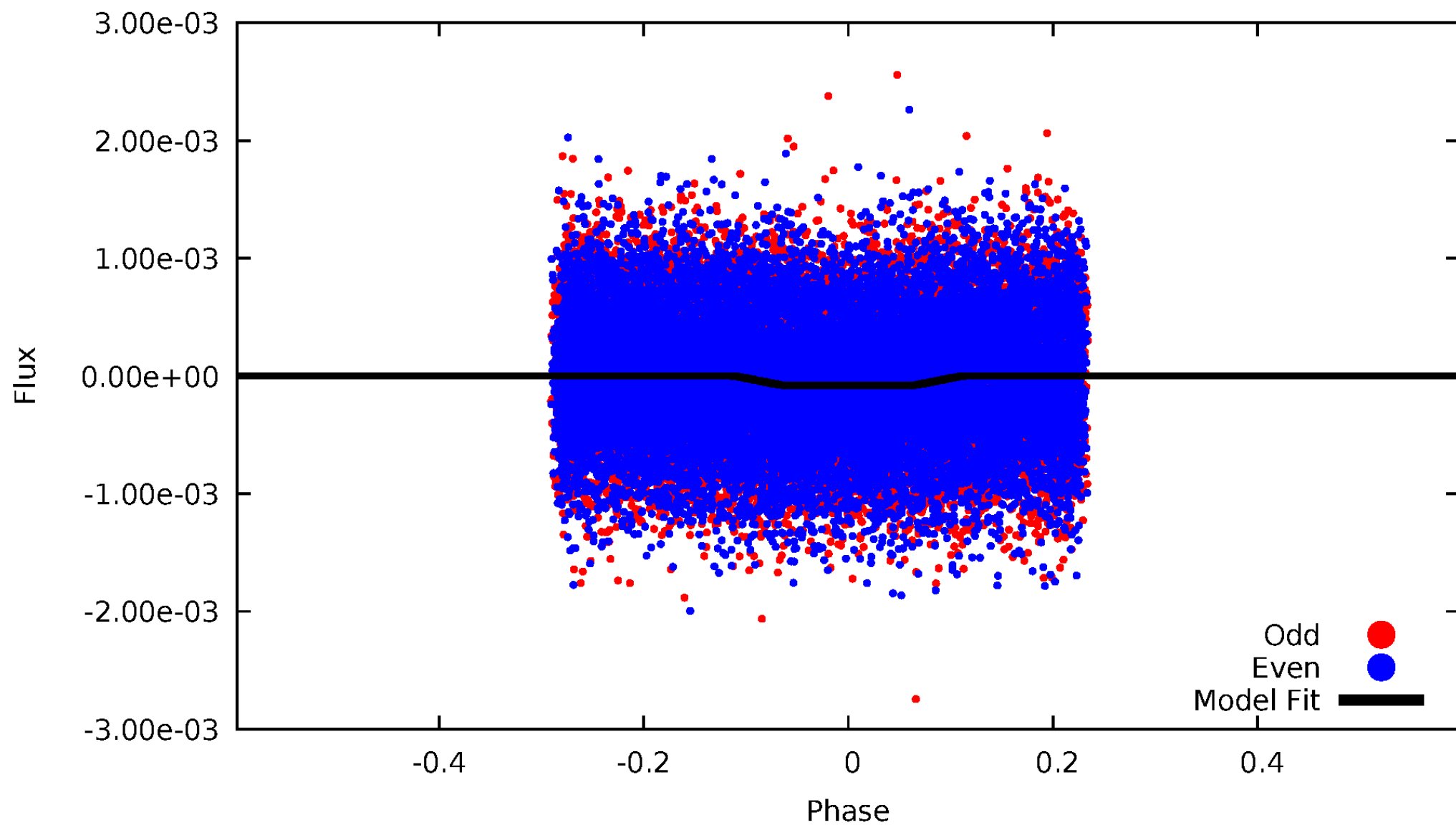
DV Odd/Even

TCE 008395203-02



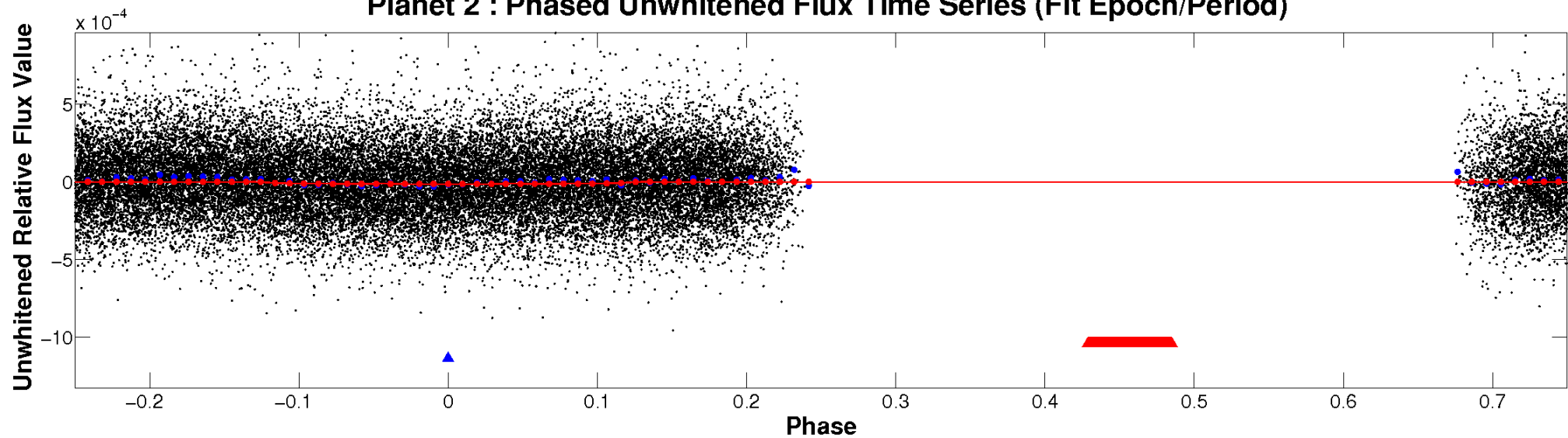
ALT Odd/Even

TCE 008395203-02

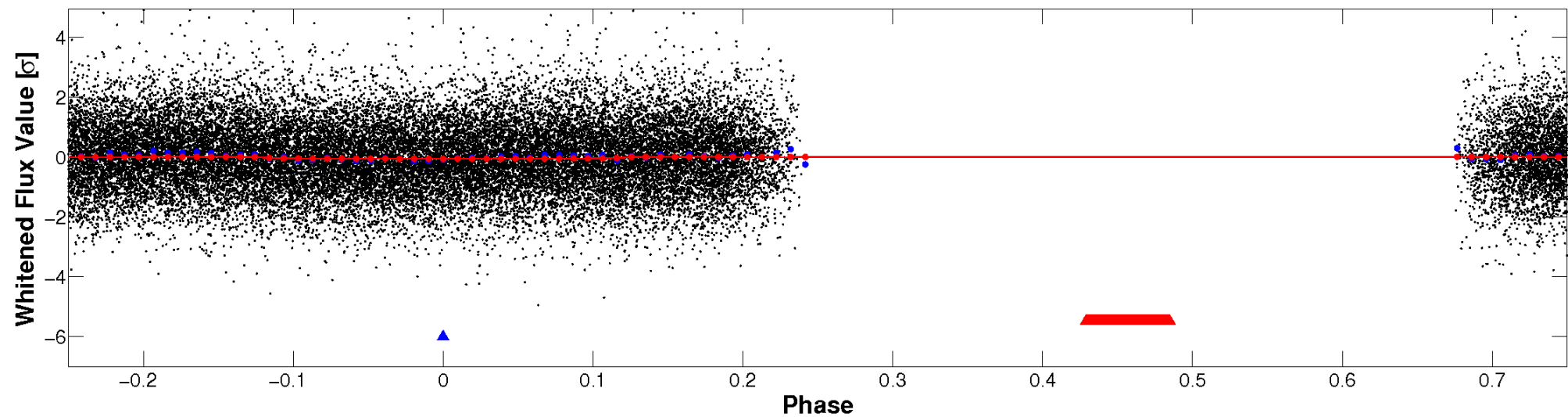


Non-Whitened Vs. Whitened Light Curve

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

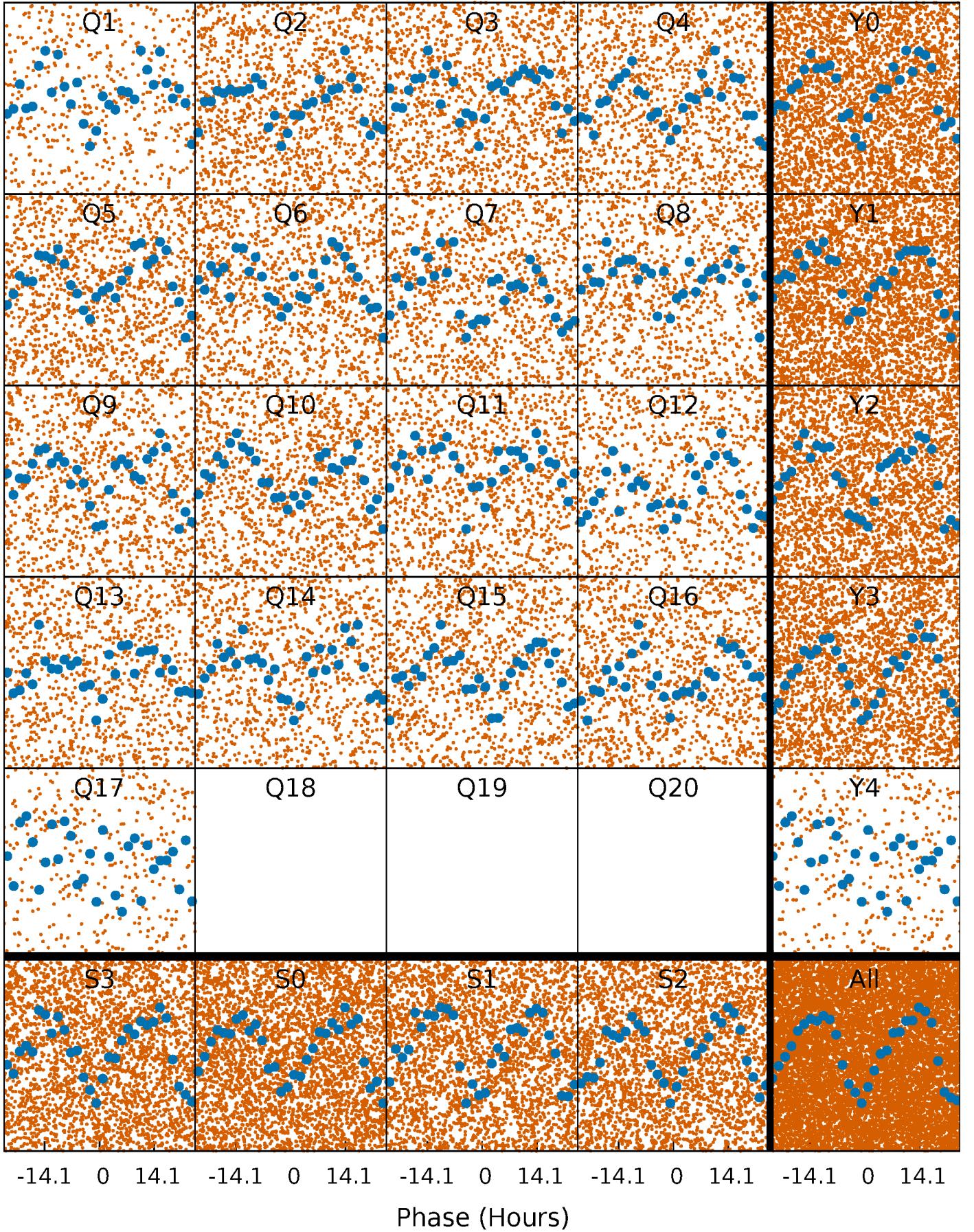


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



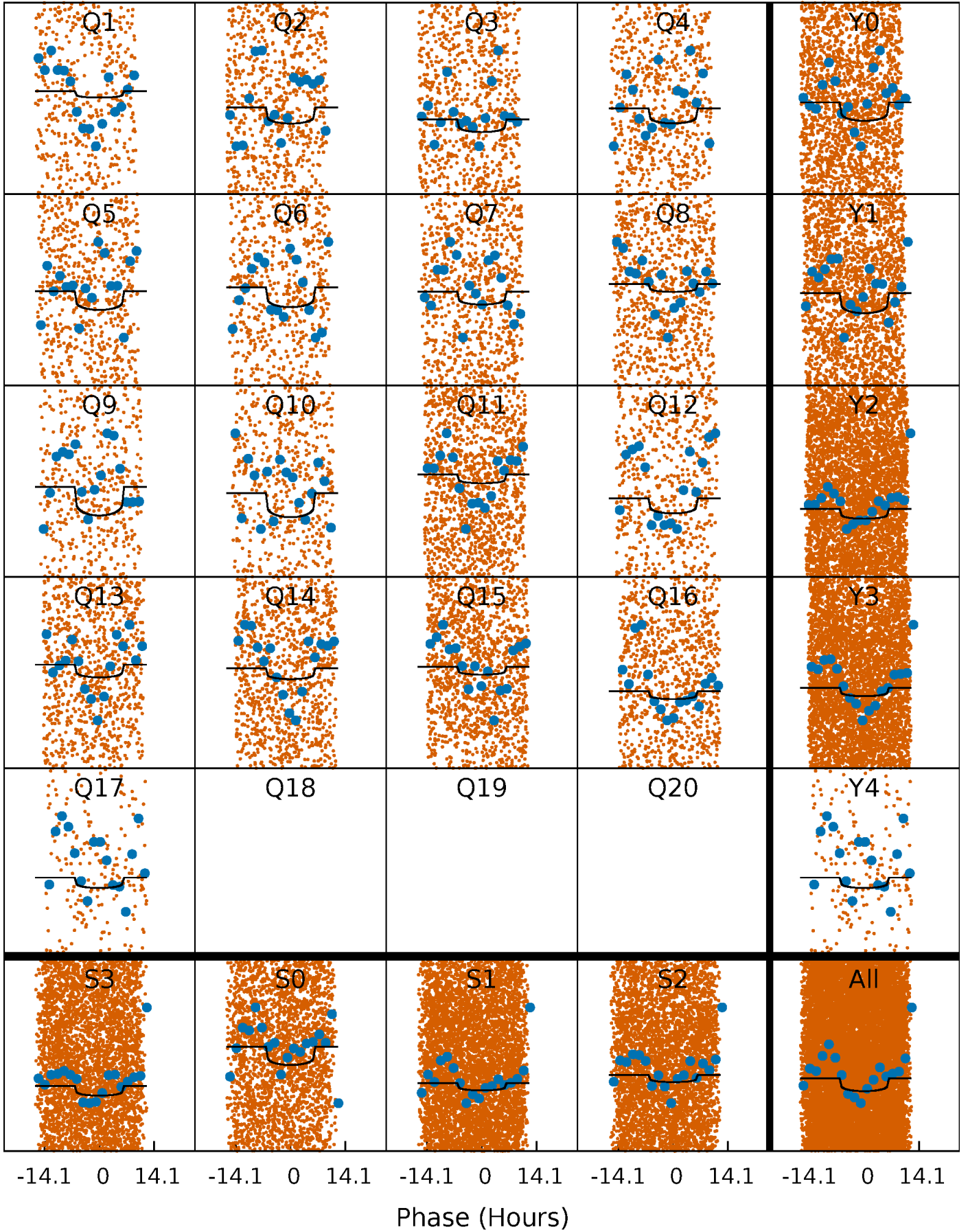
PDC Quarter-Phased Transit Curves

TCE 008395203-02 P= 2.114168 Days $T_0=133.022655$ (BKJD)



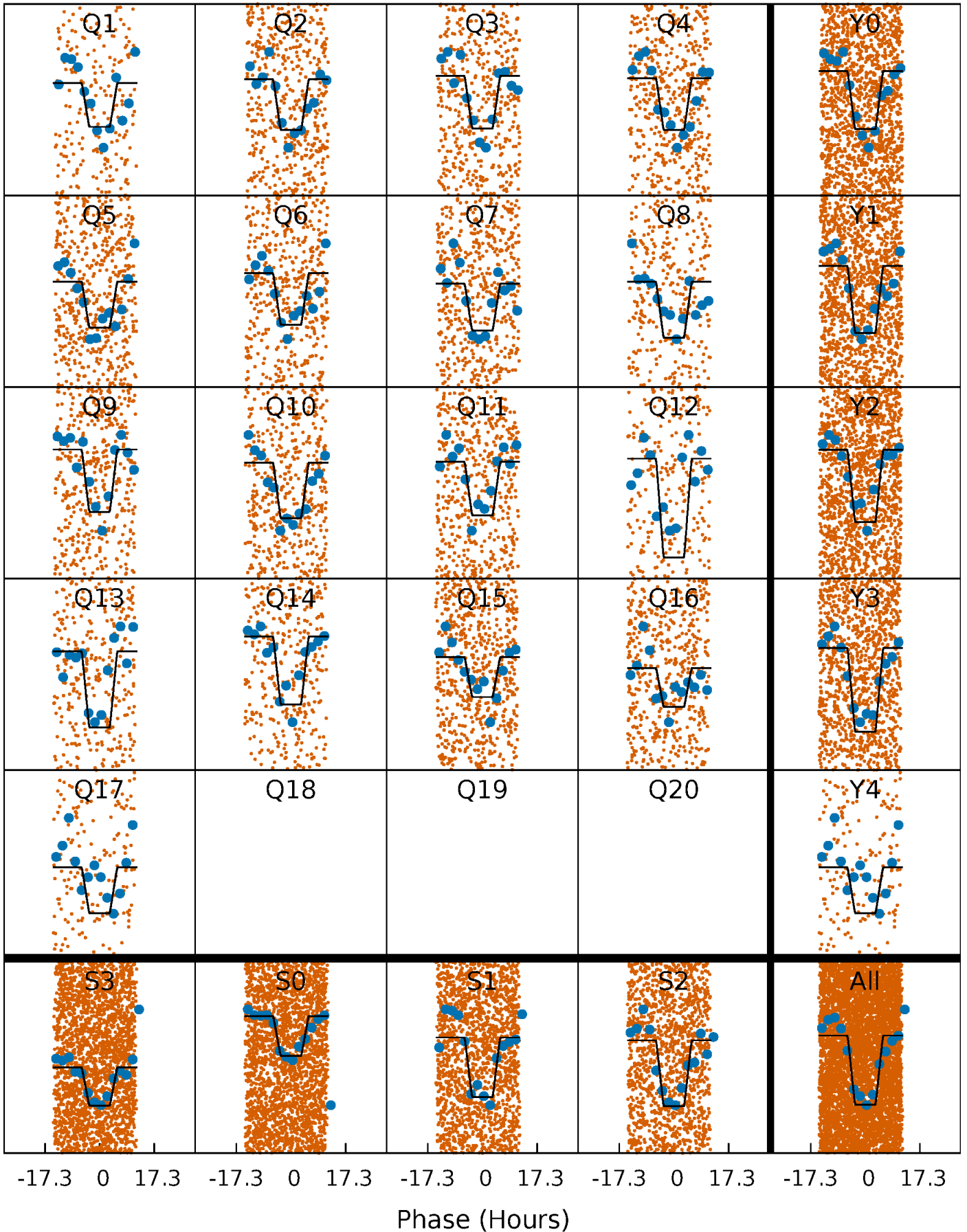
DV Quarter-Phased Transit Curves

TCE 008395203-02 P= 2.114168 Days $T_0=133.022655$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

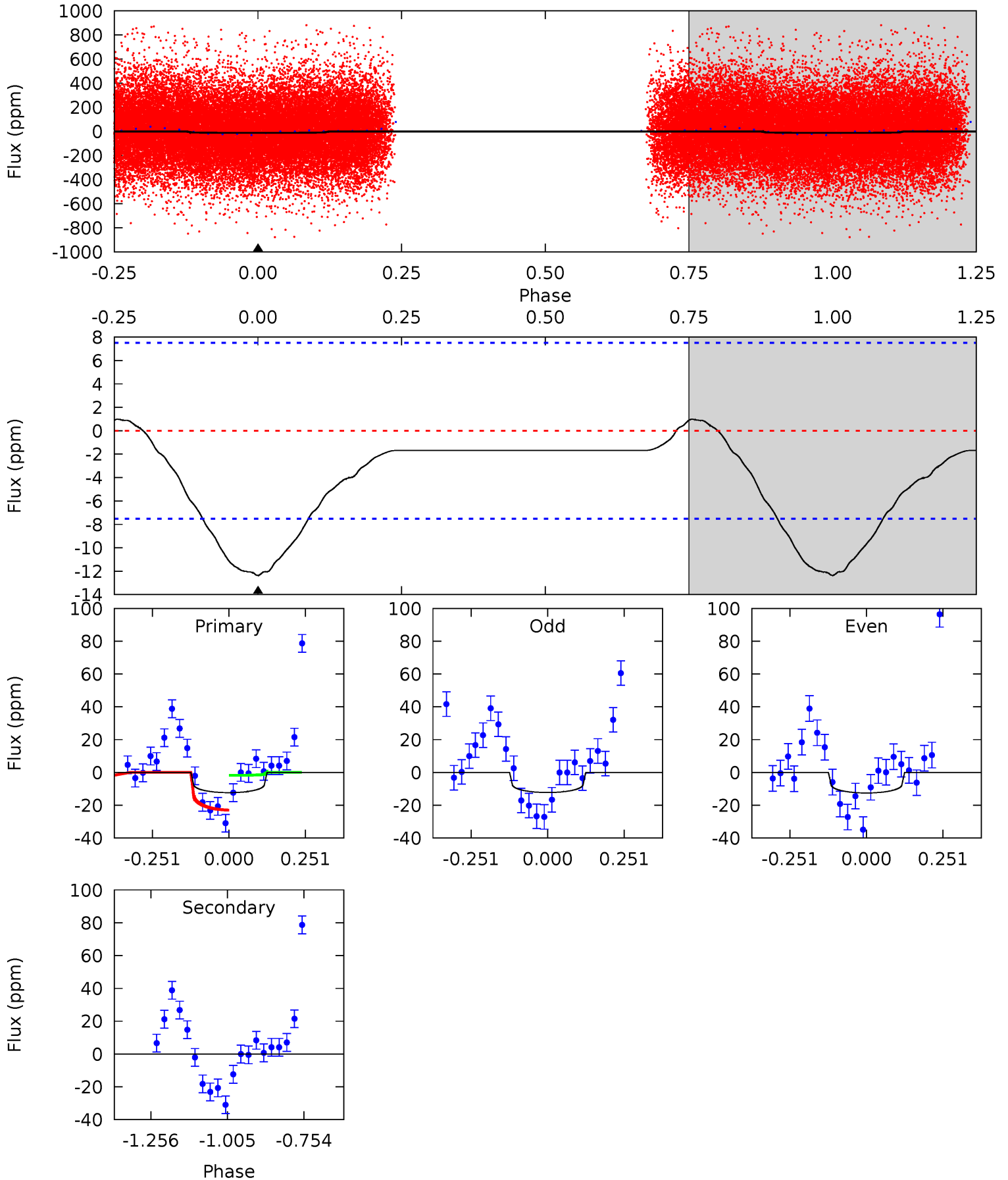
TCE 008395203-02 P= 2.114391 Days $T_0=132.914041$ (BKJD)



DV Model-Shift Uniqueness Test

008395203-02, P = 2.114168 Days, E = 130.908487 Days

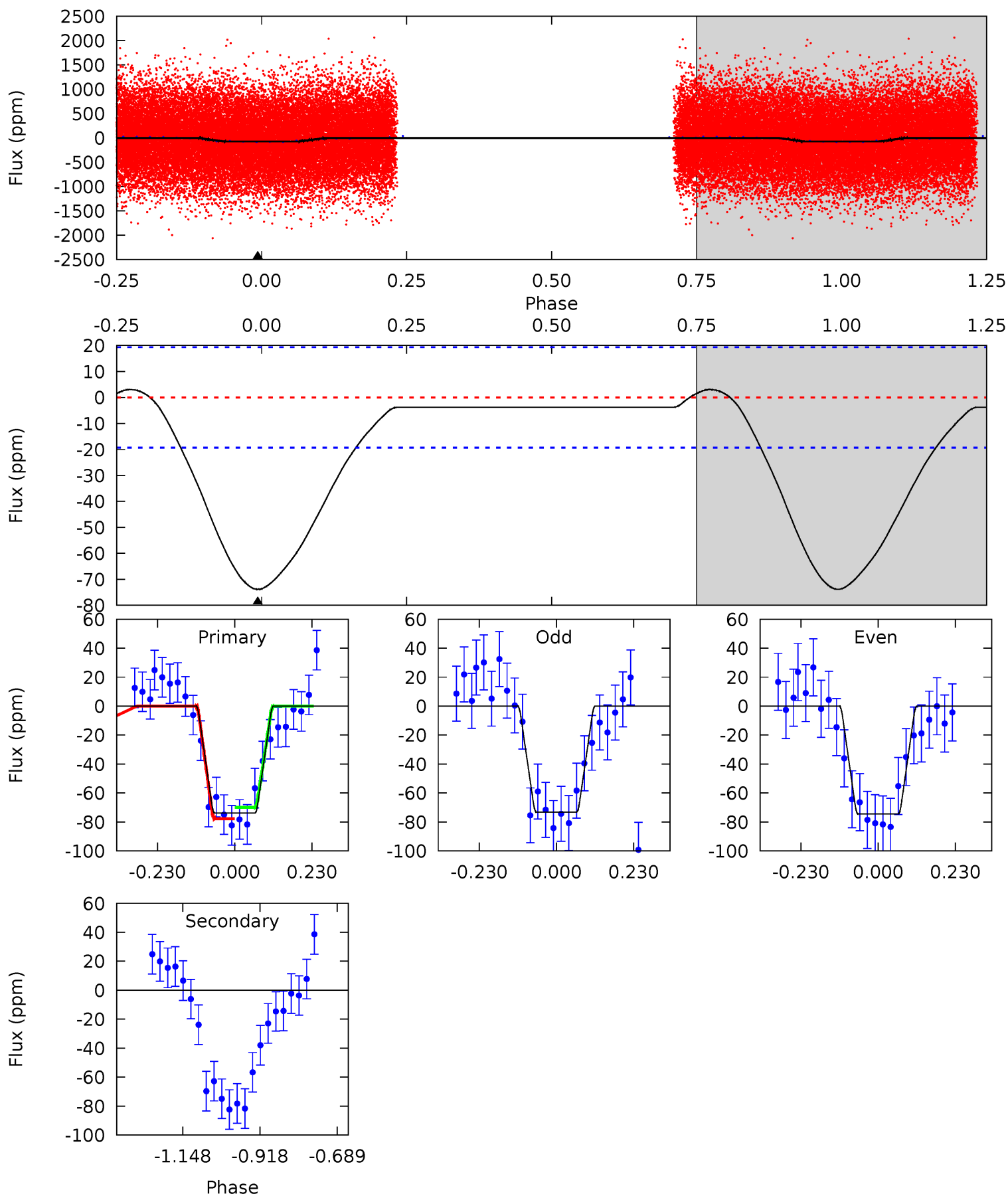
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.19	0	0	0	4.37	1.15	0.47	7.19	7.19	0	0	0.08	1.04	0.07	6.19



Alt Model-Shift Uniqueness Test

008395203-02, P = 2.114391 Days, E = 130.799650 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	0	0	0	4.39	1.20	0.50	16.8	16.8	0	0	0.16	1.08	0.04	0.88



Stellar Parameters For KIC 008395203

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7263^{+228}_{-359}	$4.123^{+0.175}_{-0.175}$	$-0.220^{+0.250}_{-0.350}$	$1.727^{+0.508}_{-0.416}$	$1.442^{+0.211}_{-0.234}$	$0.394^{+0.363}_{-0.188}$
	+3%/-5%	+4%/-4%	+114%/-159%	+29%/-24%	+15%/-16%	+92%/-48%
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 008395203-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 2	$1.08^{+1.05}_{-0.75}$	3082^{+222}_{-226}	-3141^{+7208}_{-1201}	$-0.005^{+1.935}_{-1.989}$
Alt.	0 ± 4	$1.79^{+1.16}_{-0.98}$	3077^{+242}_{-244}	-3084^{+6827}_{-1071}	$0.034^{+1.254}_{-1.570}$

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 $A_{obs} \gg 1.0$

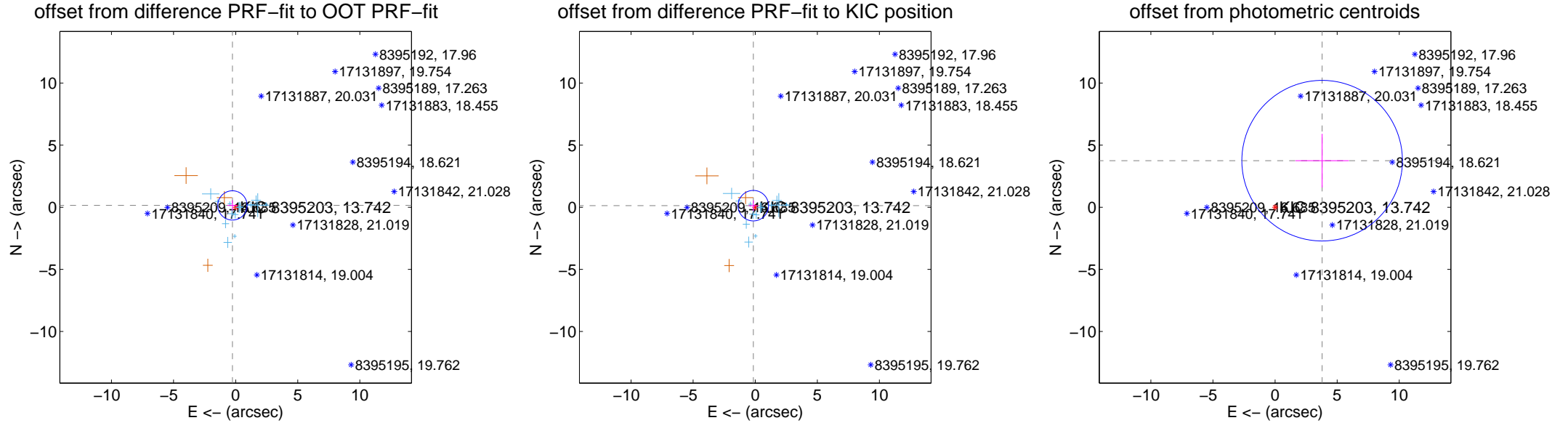
DV Centroid Data

Supplemental centroid analysis for 008395203-02. Kepler magnitude: 13.74. Transit SNR 6.34

There are 14 quarters with good PRF difference image offsets

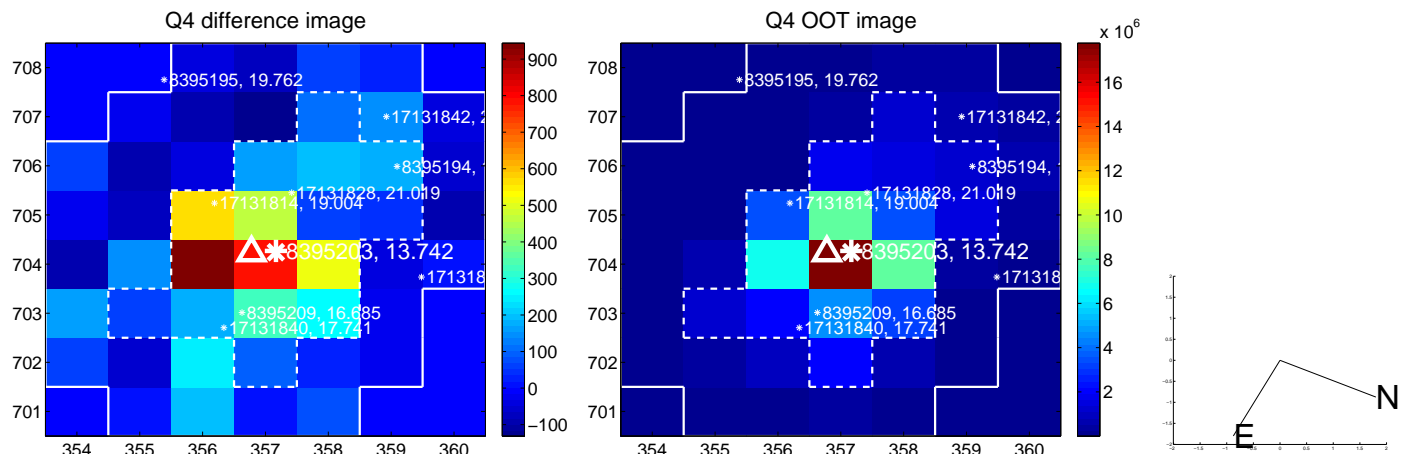
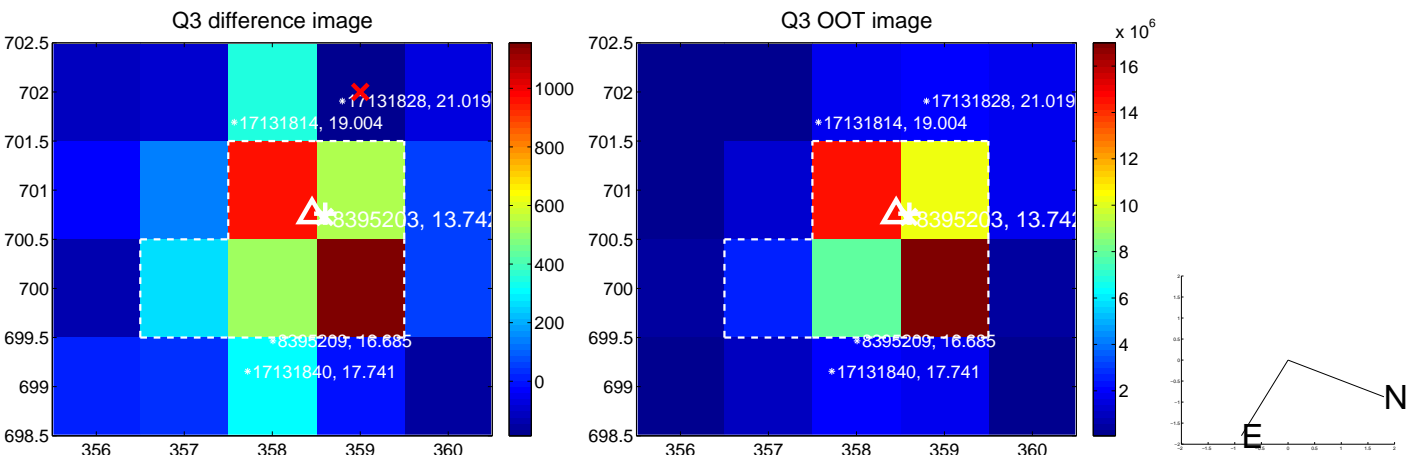
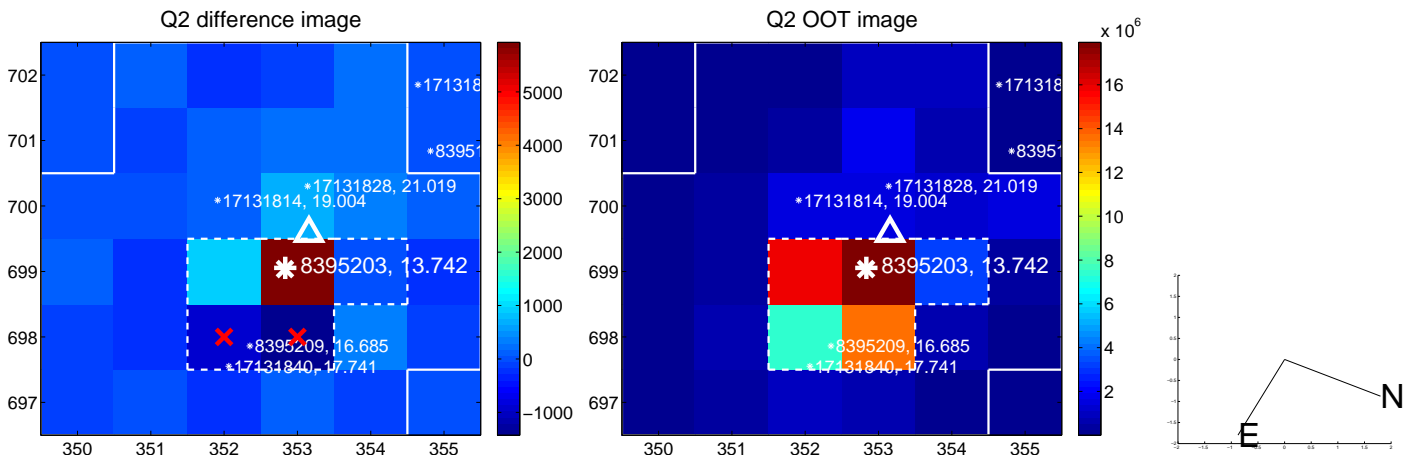
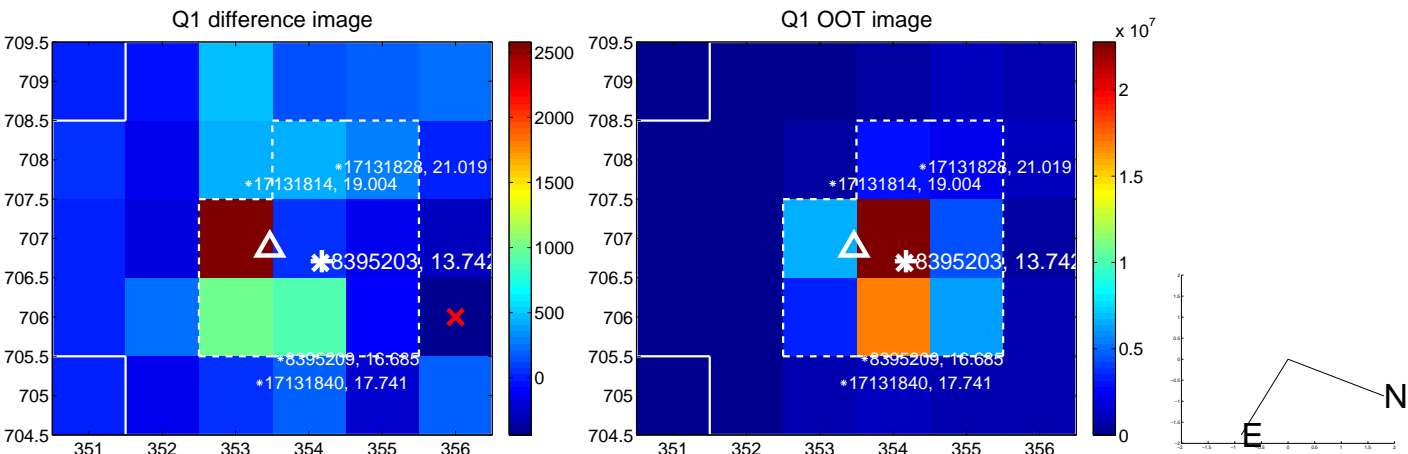
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.299 ± 0.393	0.76	0.259 ± 0.393	0.148 ± 0.410
PRF-fit source offset from KIC position	0.200 ± 0.409	0.49	0.154 ± 0.370	0.128 ± 0.424
photometric centroid source offset	5.33 ± 2.15	2.47	-3.79 ± 2.15	3.75 ± 2.16

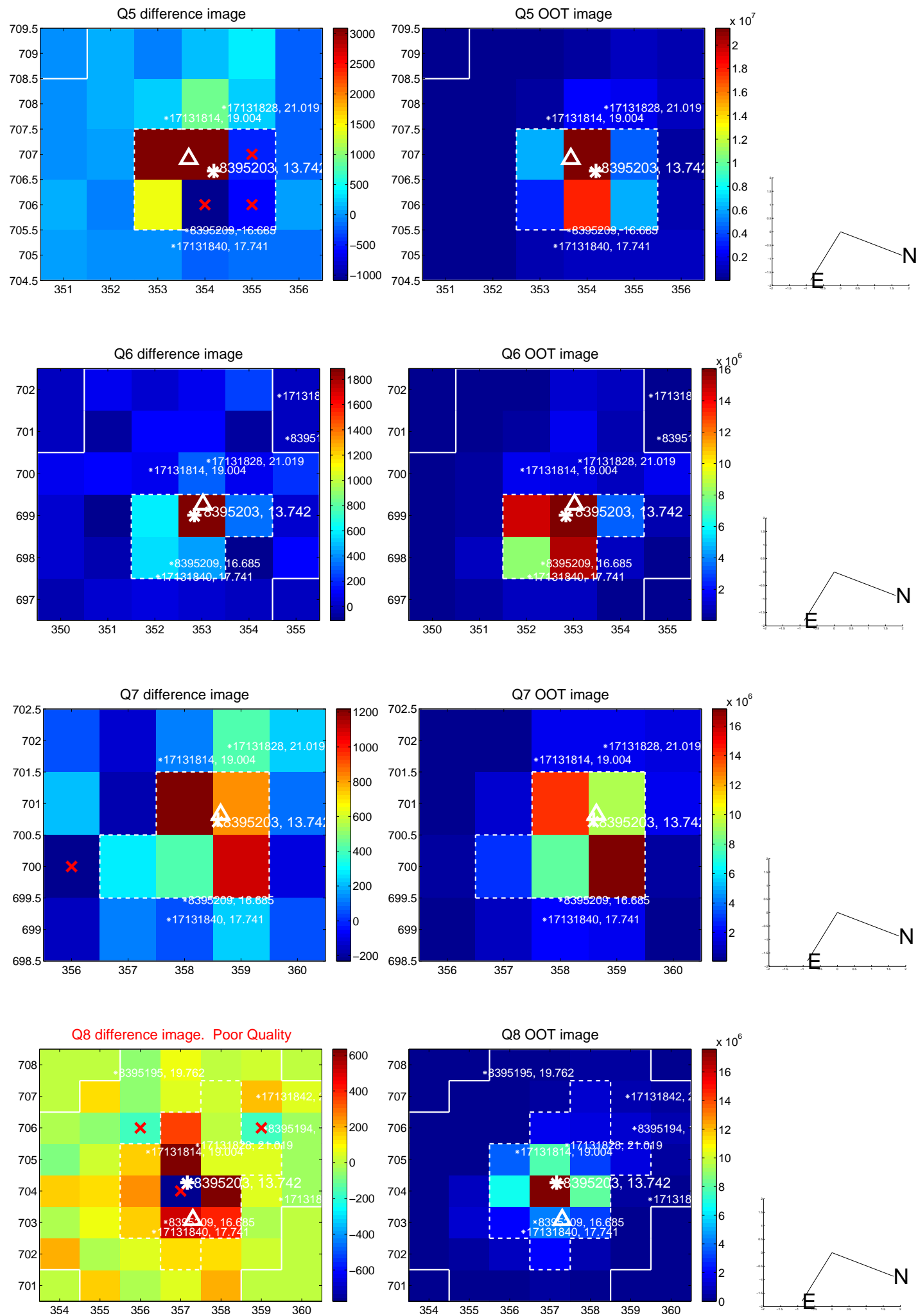


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

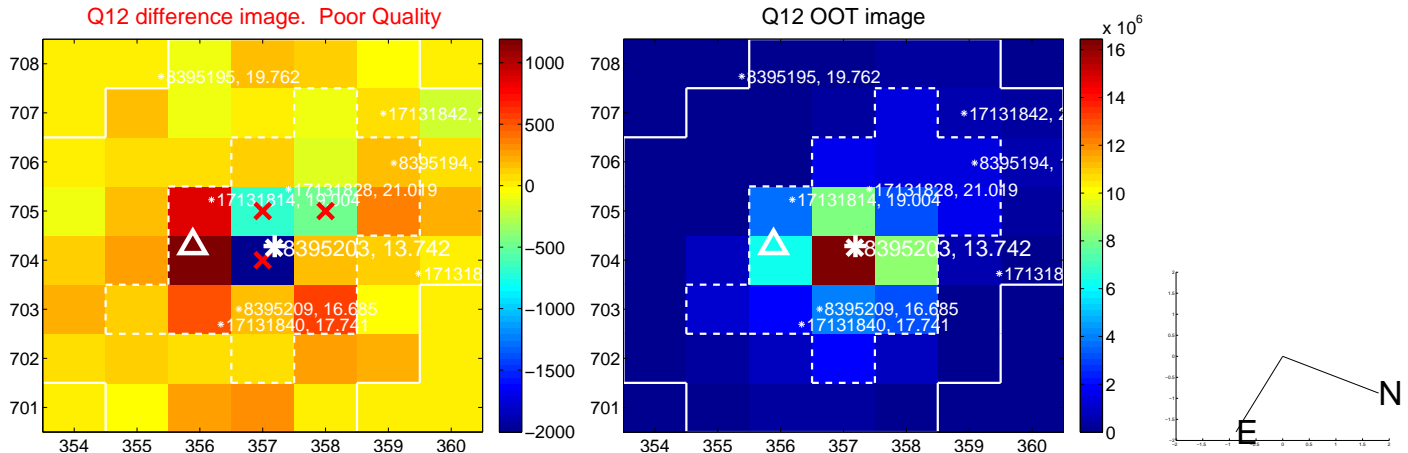
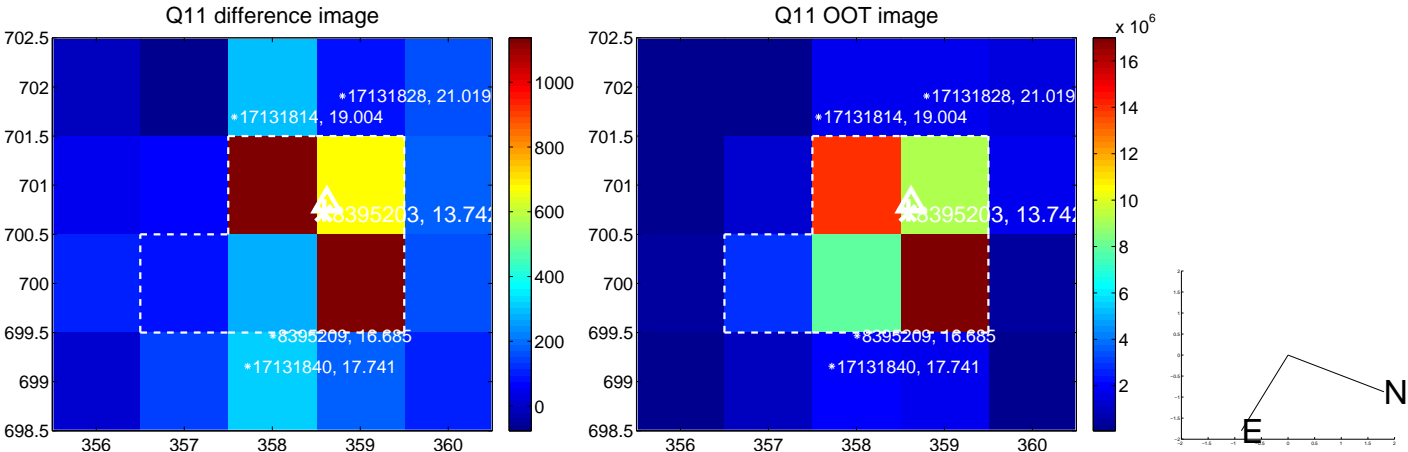
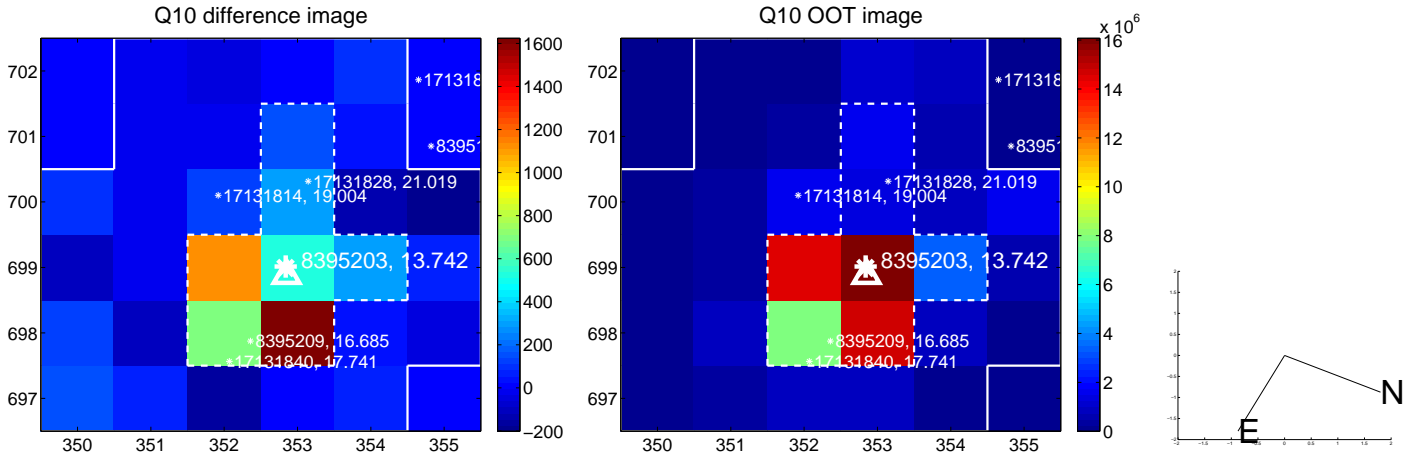
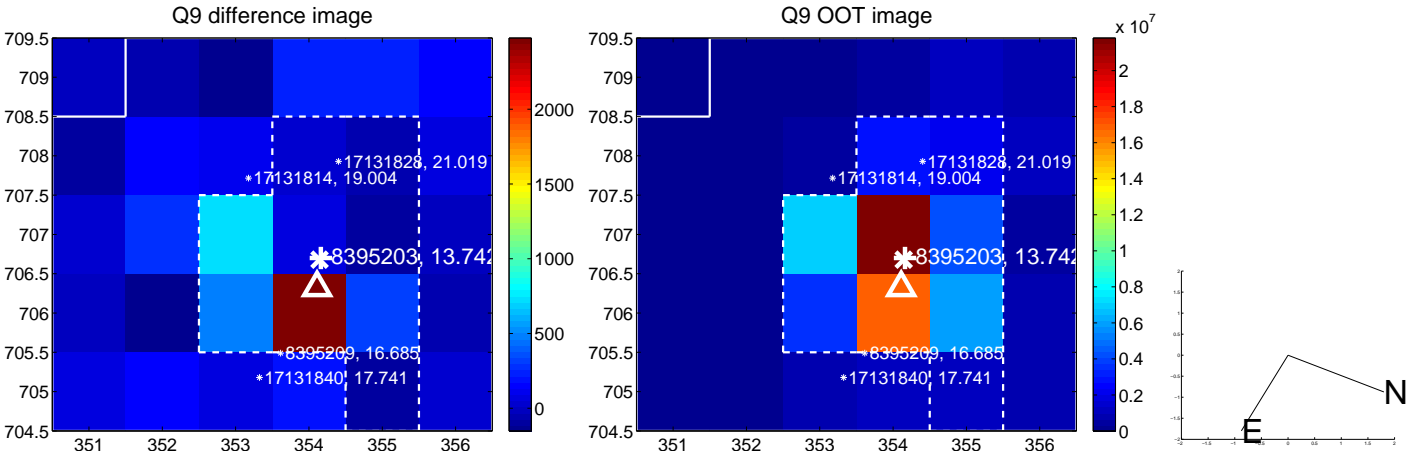
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



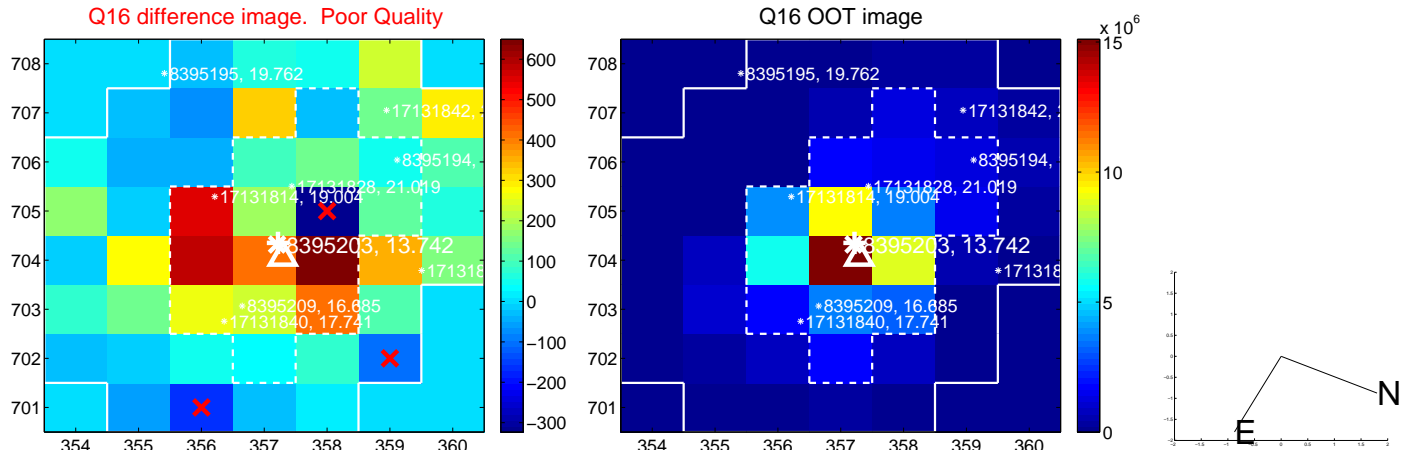
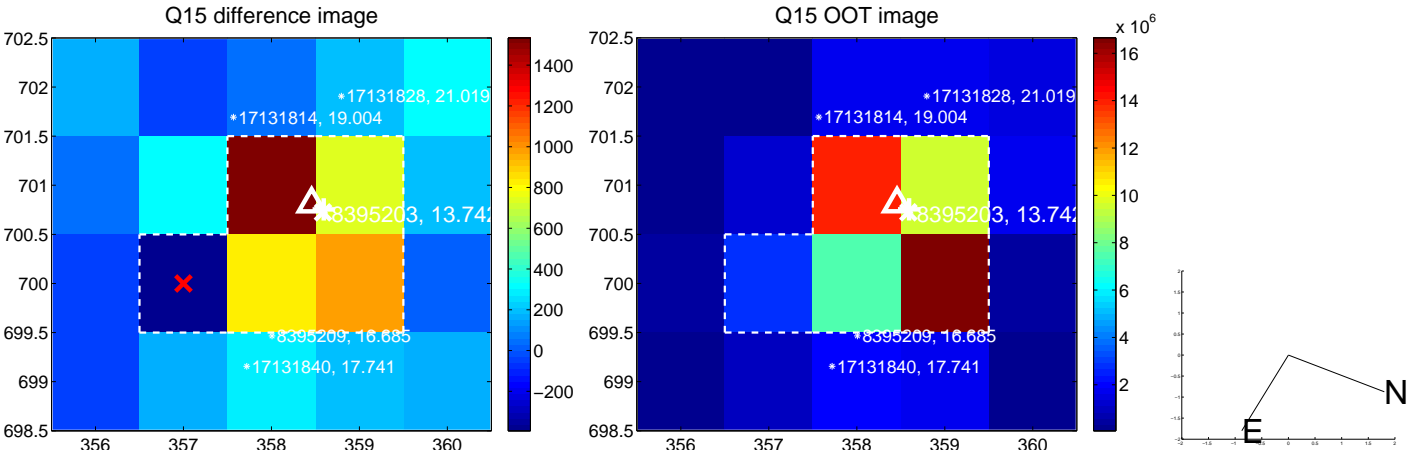
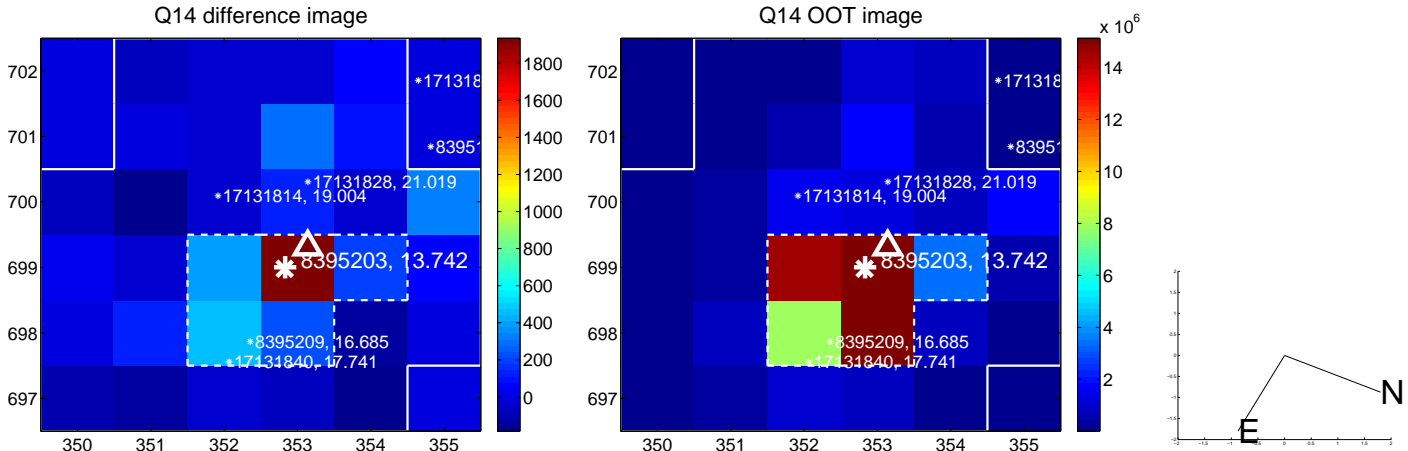
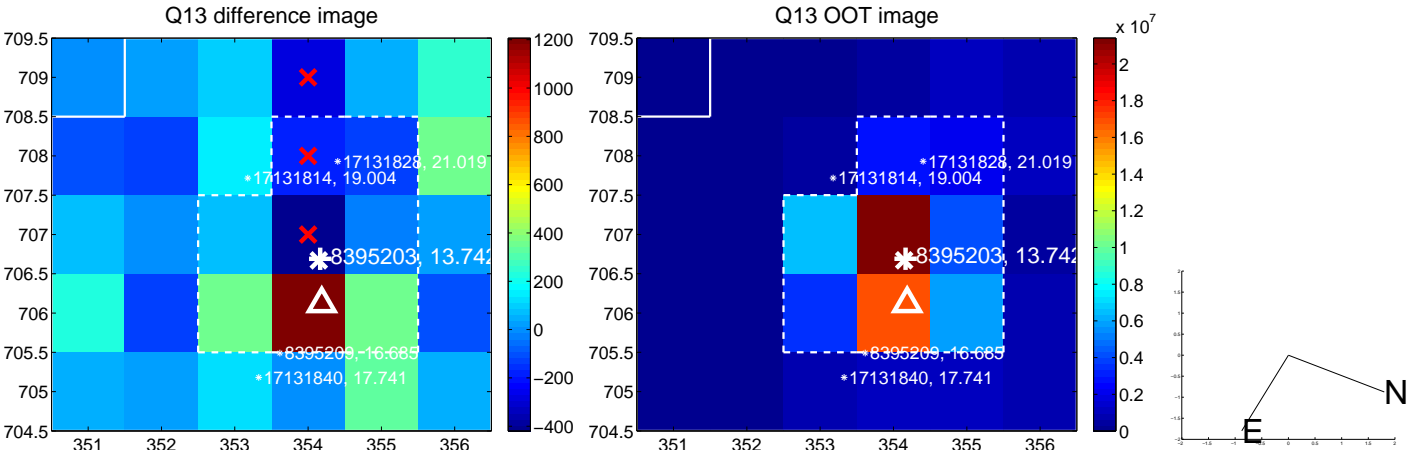
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



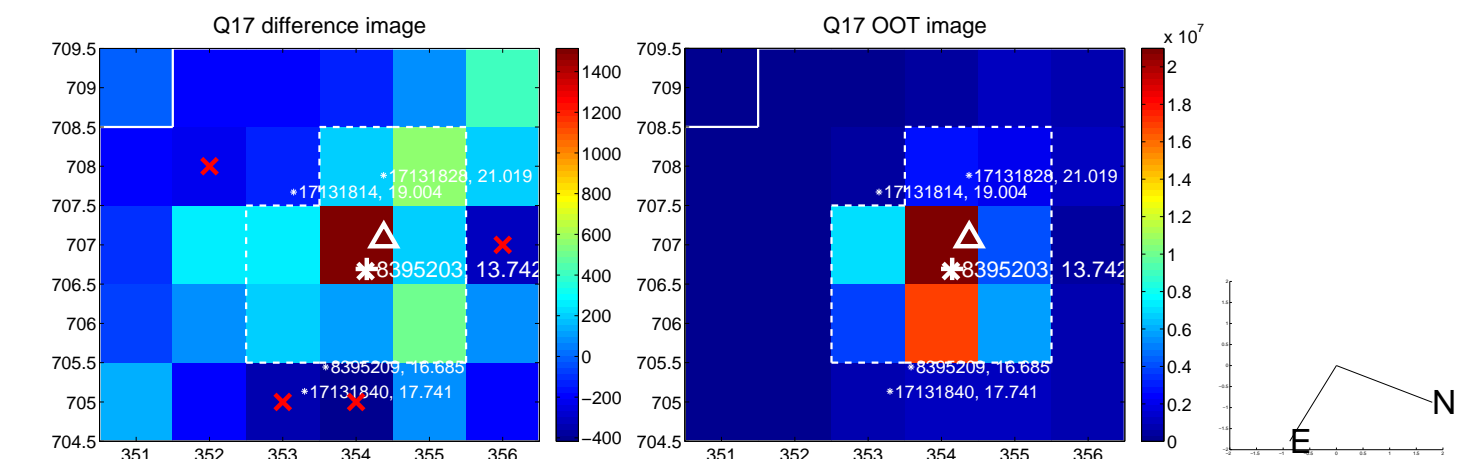
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



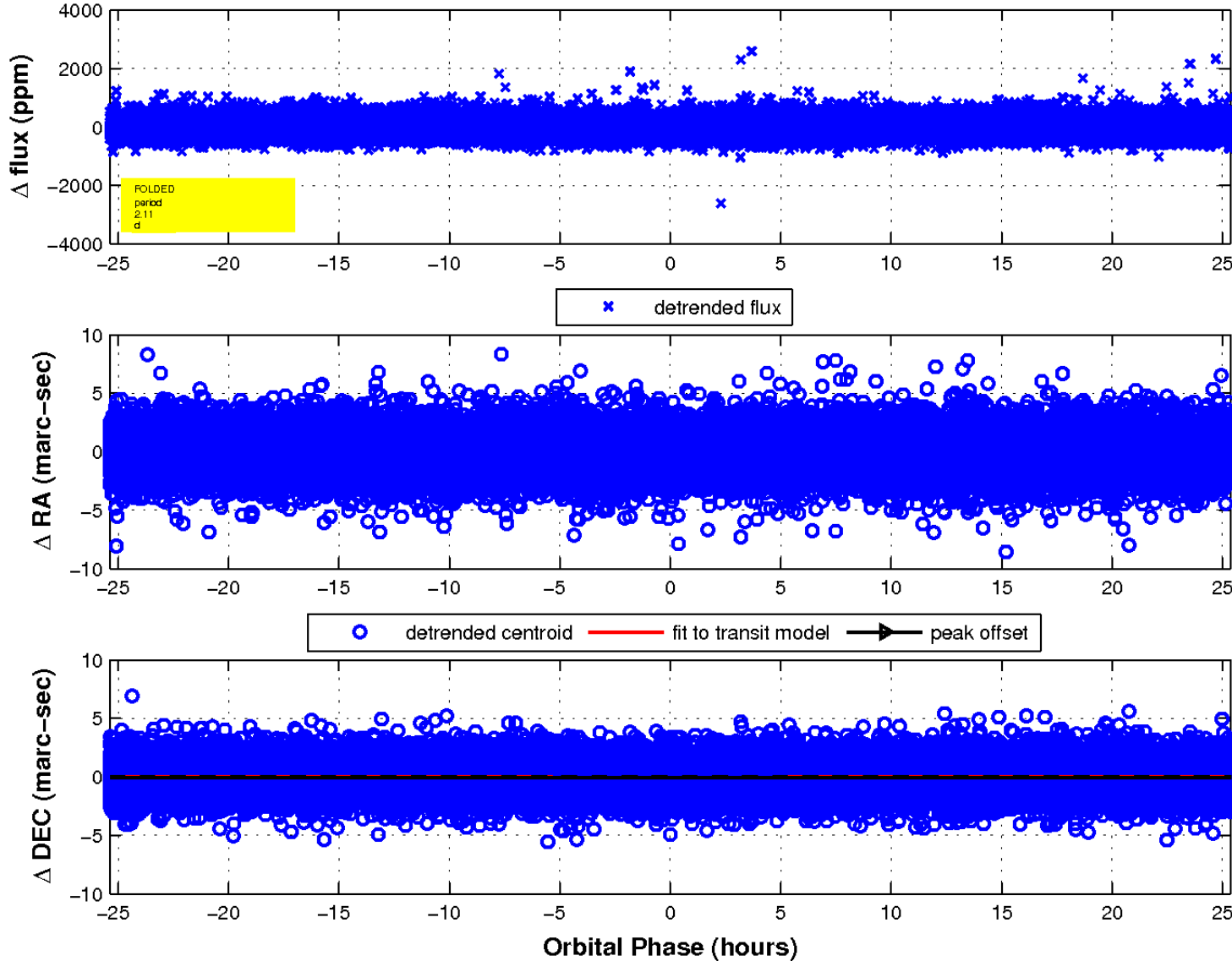
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

