

KIC 008396901

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})
008396901-01	OBS	No	0.639023	132.039348	58.9	2.625	9.4	9.1	1.77	6848	1.58	23259.83
008396901-02	OBS	No	0.639003	131.610282	36.4	3.801	9.3	5.2	1.77	6848	1.15	23260.81
008396901-03	OBS	No	18.234297	136.342581	1055.4	0.959	11.8	8.7	1.77	6848	5.87	266.75
008396901-04	OBS	No	15.167958	139.565243	1276.6	1.742	10.4	12.1	1.77	6848	6.56	340.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008396901-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008396901-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008396901-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
008396901-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

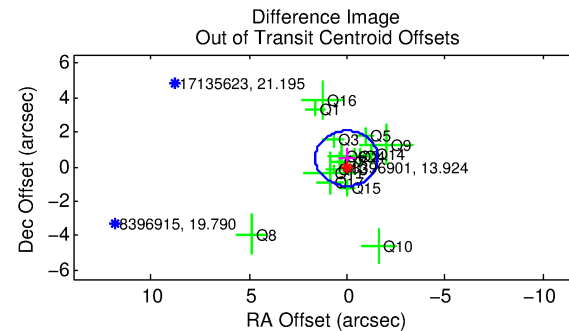
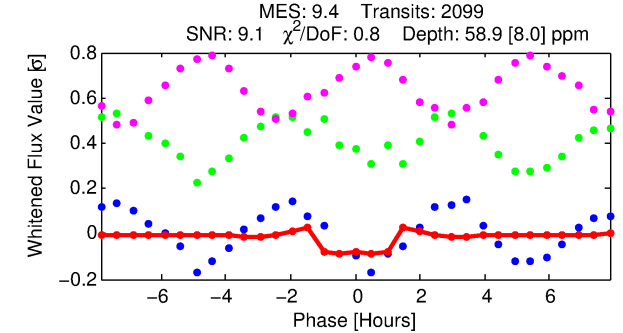
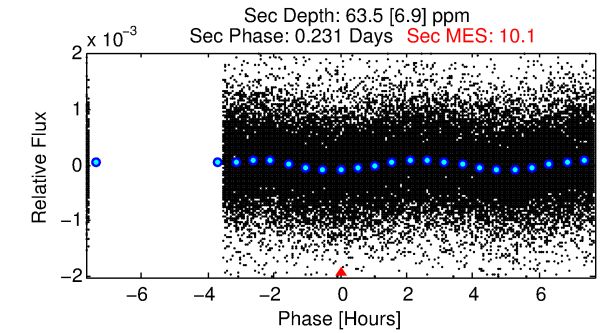
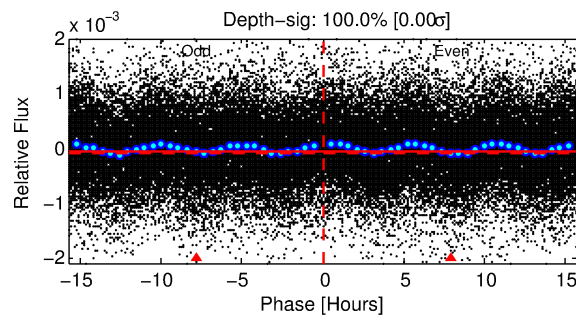
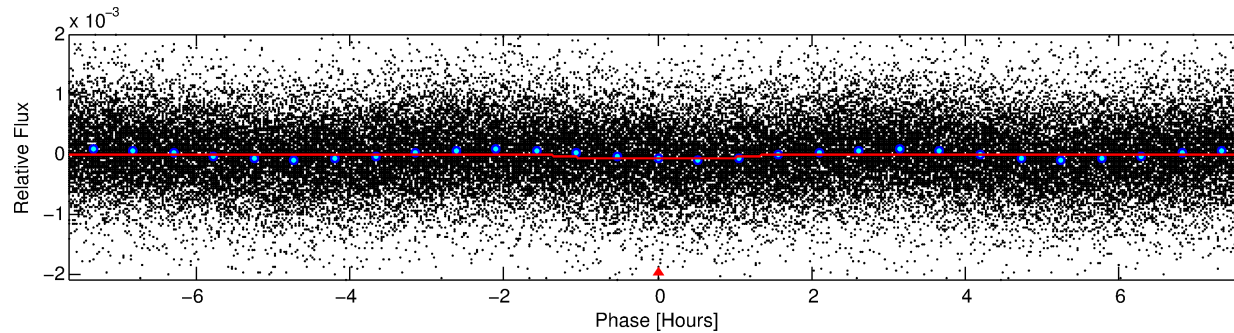
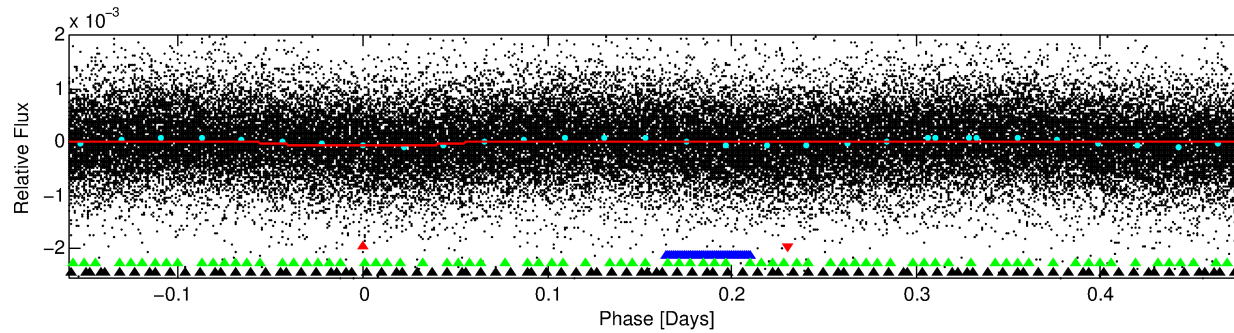
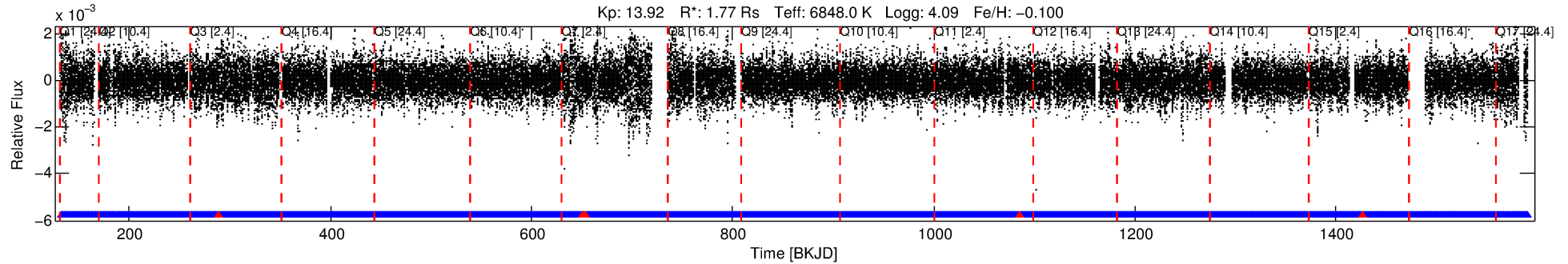
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008396901-01

No Significant Match Found

DV One-Page Summary

KIC: 8396901 Candidate: 1 of 4 Period: 0.639 d



DV Fit Results:

Period = 0.63902 [0.00001] d
Epoch = 132.0393 [0.0021] BKJD
Rp/R* = 0.0082 [0.0030]
a/R* = 1.26 [1.02]
b = 0.90 [0.46]
Seff = 23259.83 [9341.39]
Teq = 3149 [316] K
Rp = 1.58 [0.76] Re
a = 0.0163 [0.0042] AU
Ag = 3.70 [3.02] [0.89σ]
Teffp = 6755 [1275] K [2.74σ]

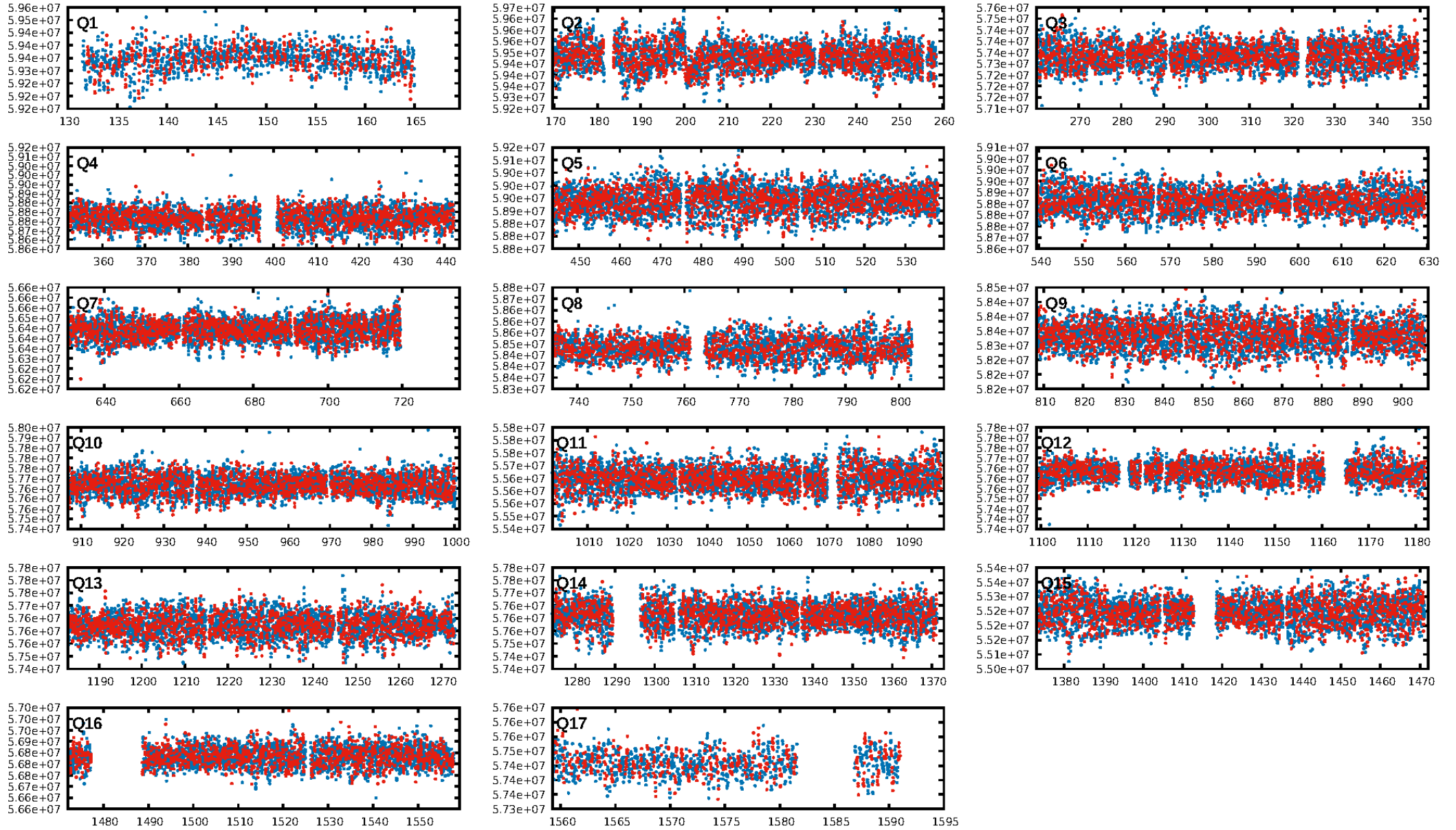
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [110.67σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.32e-02
RollingBand-fgt: 1.00 [2000/2005]
GhostDiagnostic-chr: 1.822
Centroid-sig: 0.3%
Centroid-so: 2.323 arcsec [3.29σ]
OotOffset-rm: 0.482 arcsec [0.90σ]
KicOffset-rm: 0.559 arcsec [0.97σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 0.00 [0/17]

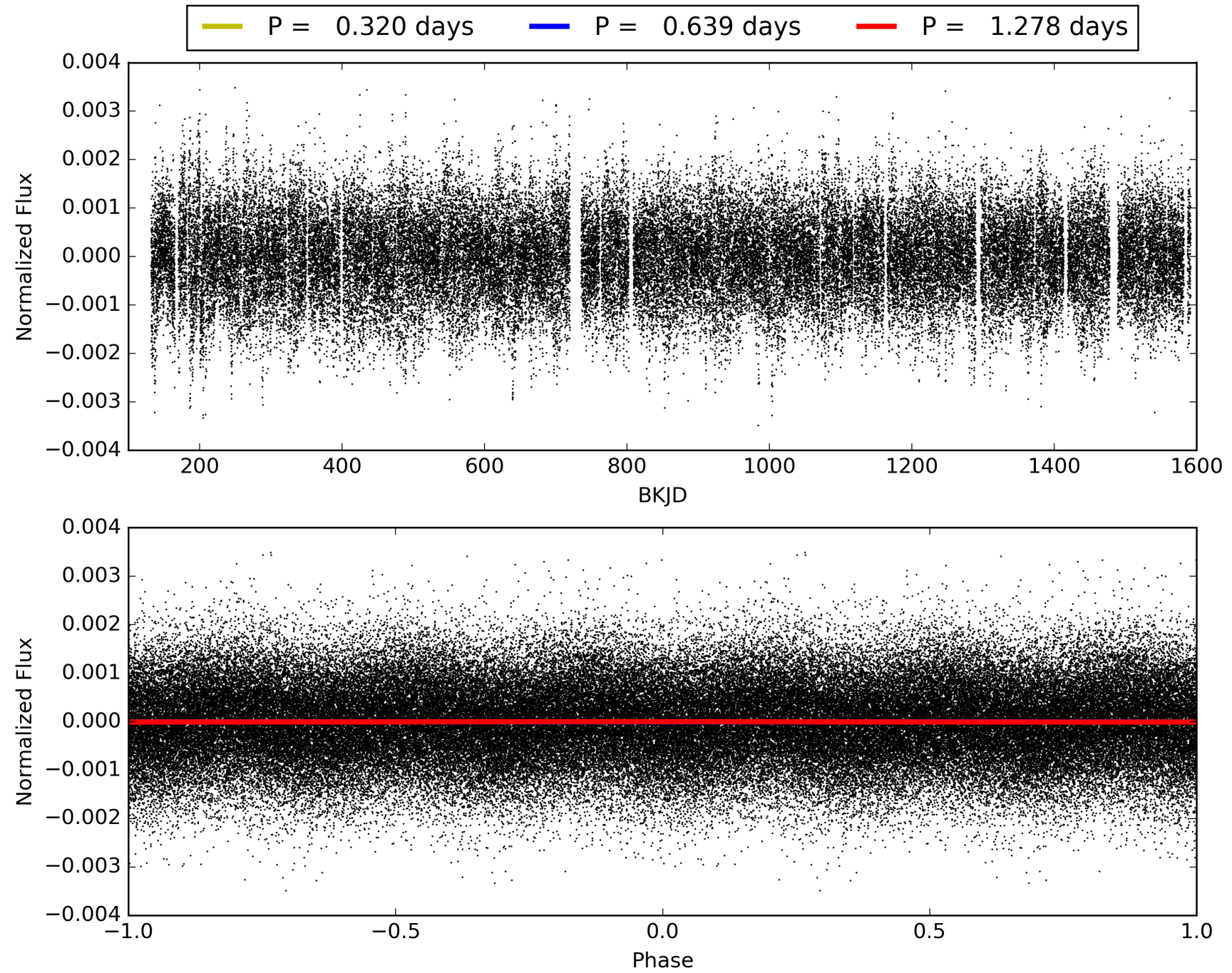
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008396901-01, PDC Light Curves

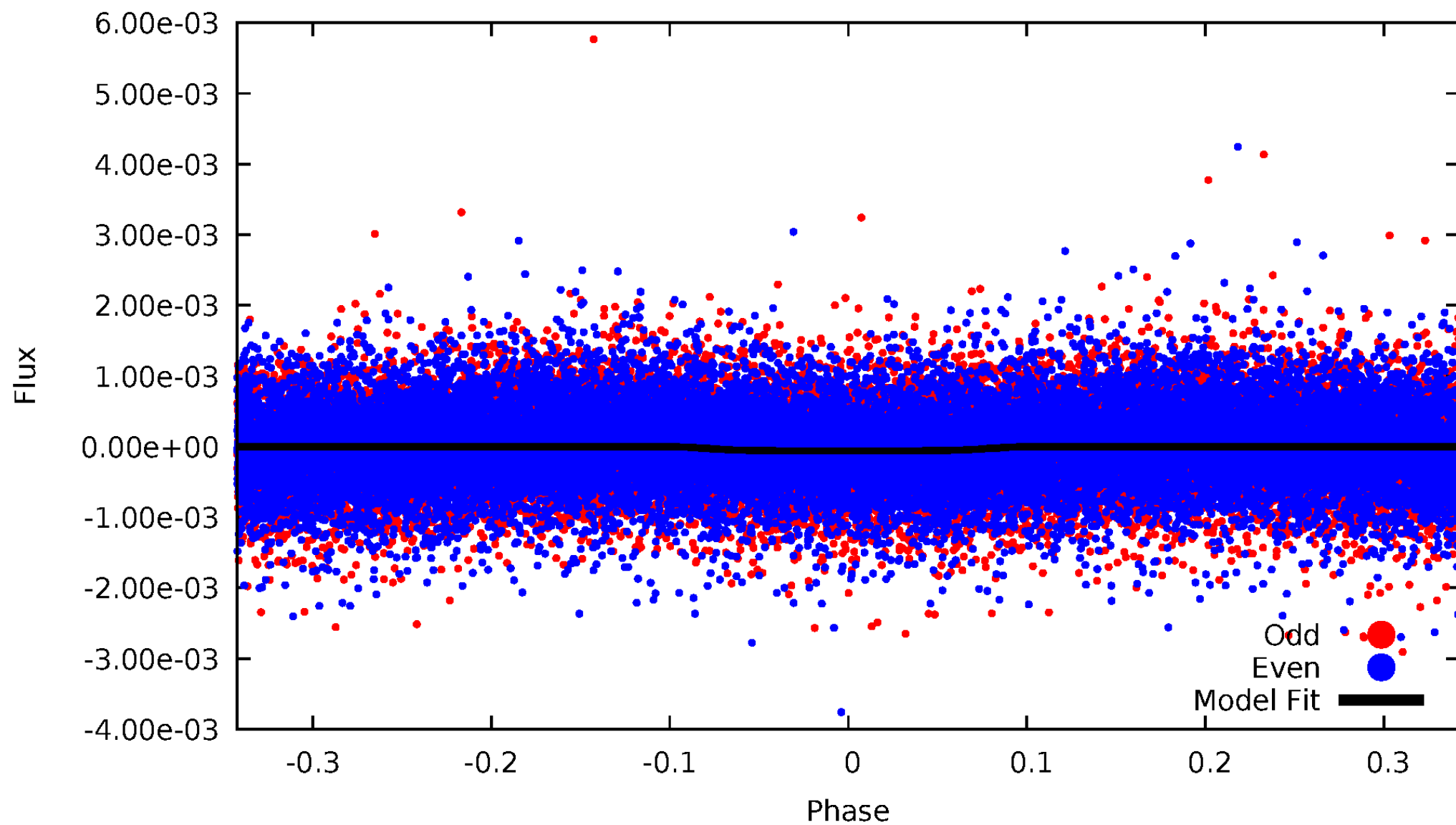


TCE 008396901-01



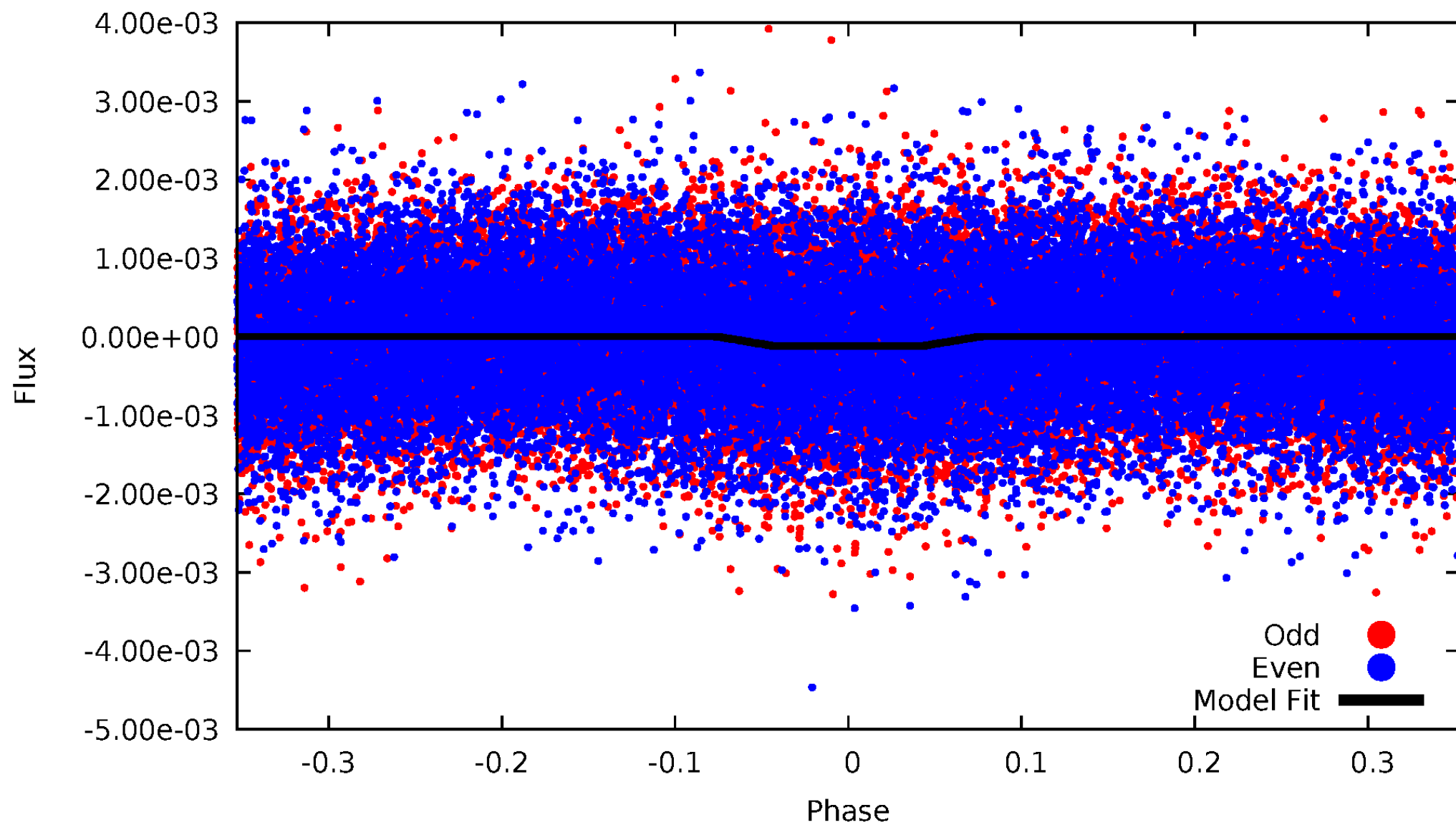
DV Odd/Even

TCE 008396901-01

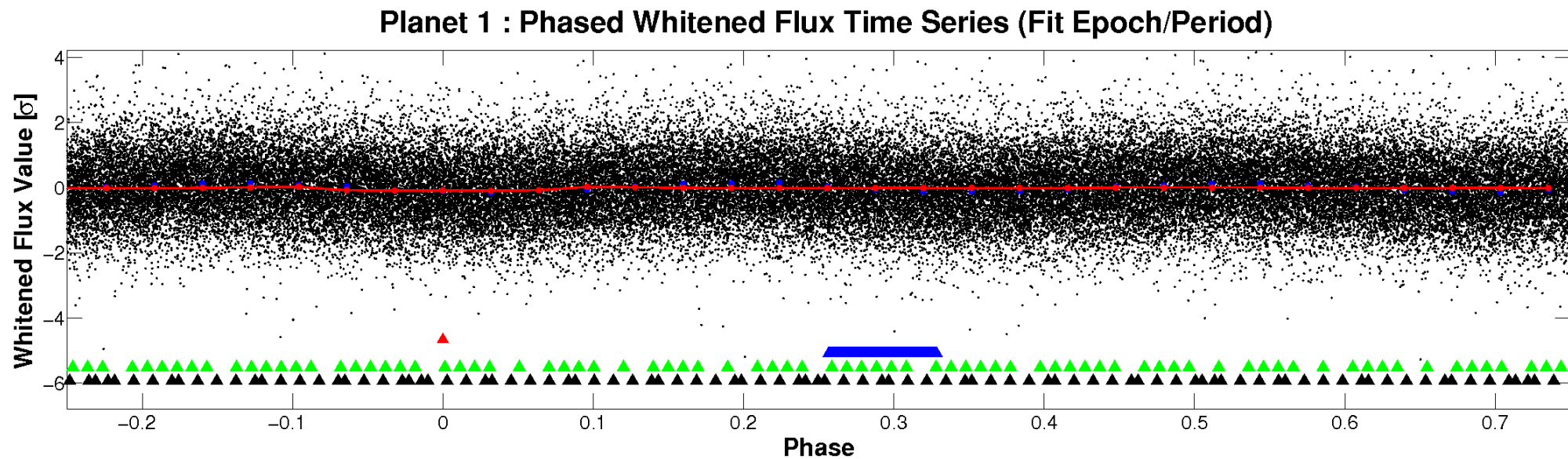
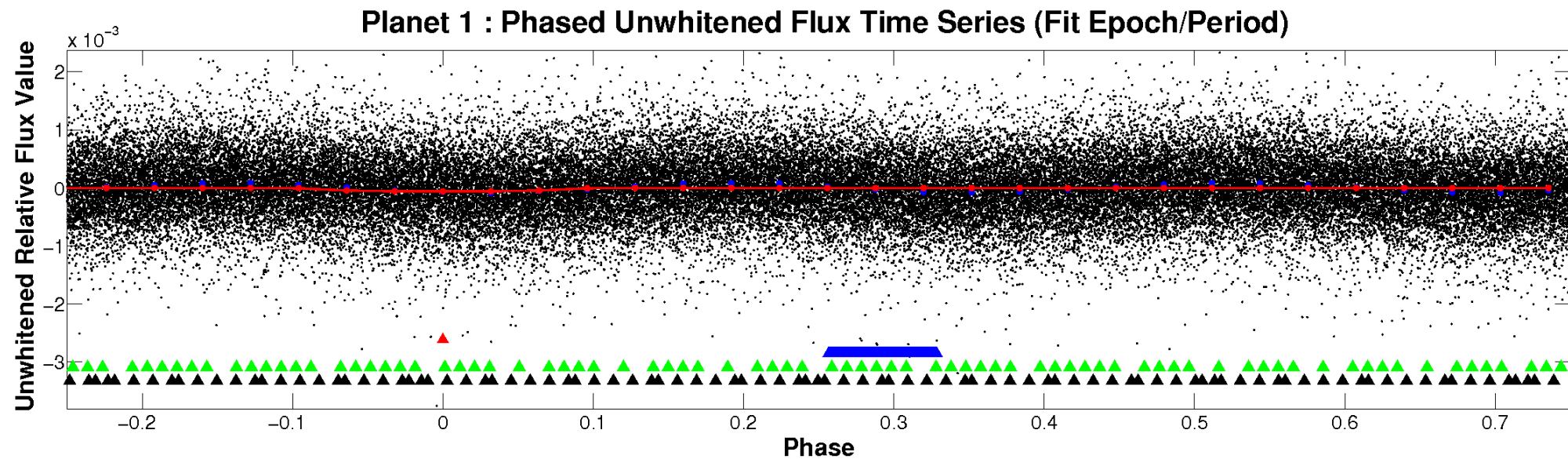


ALT Odd/Even

TCE 008396901-01

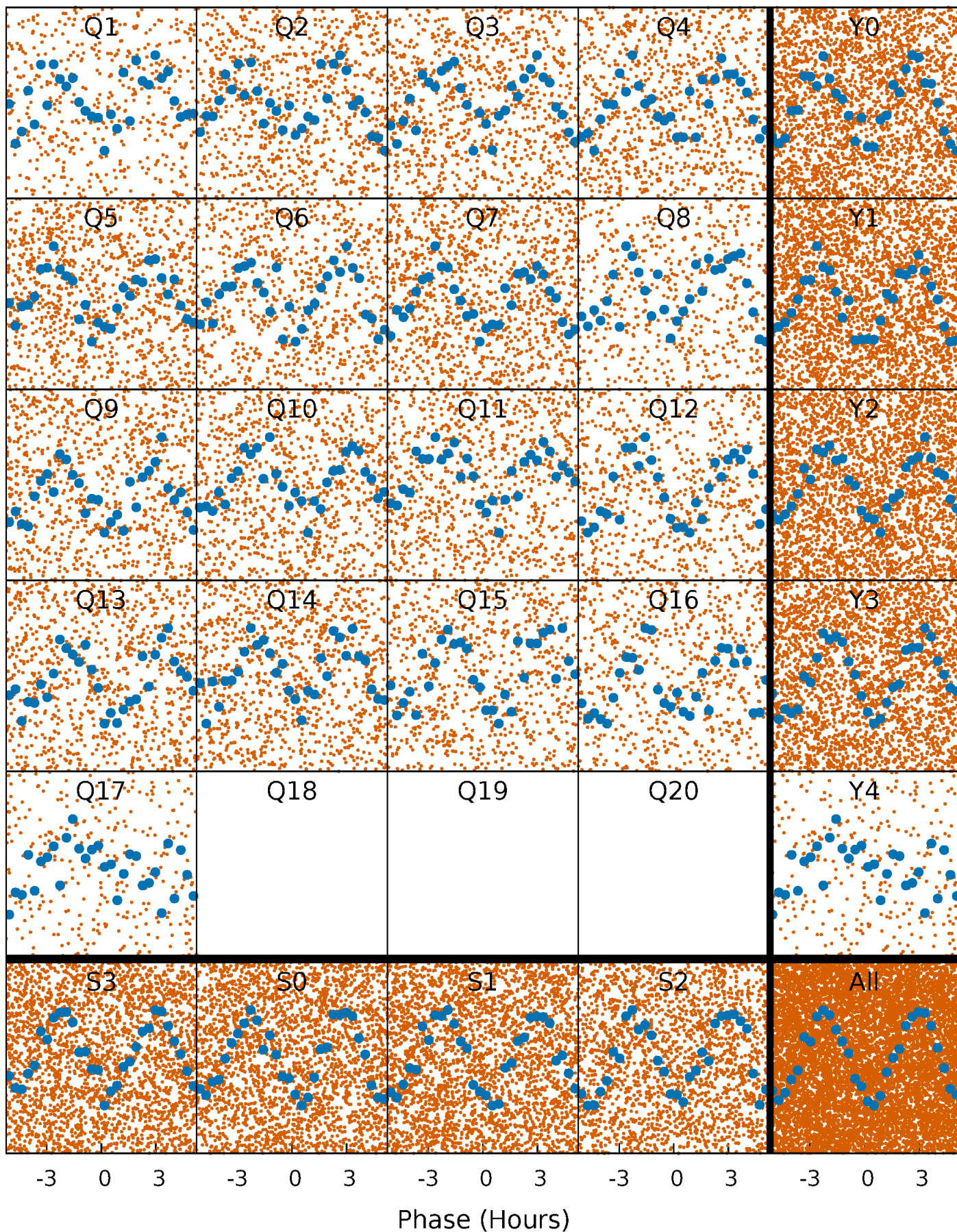


Non-Whitened Vs. Whitened Light Curve



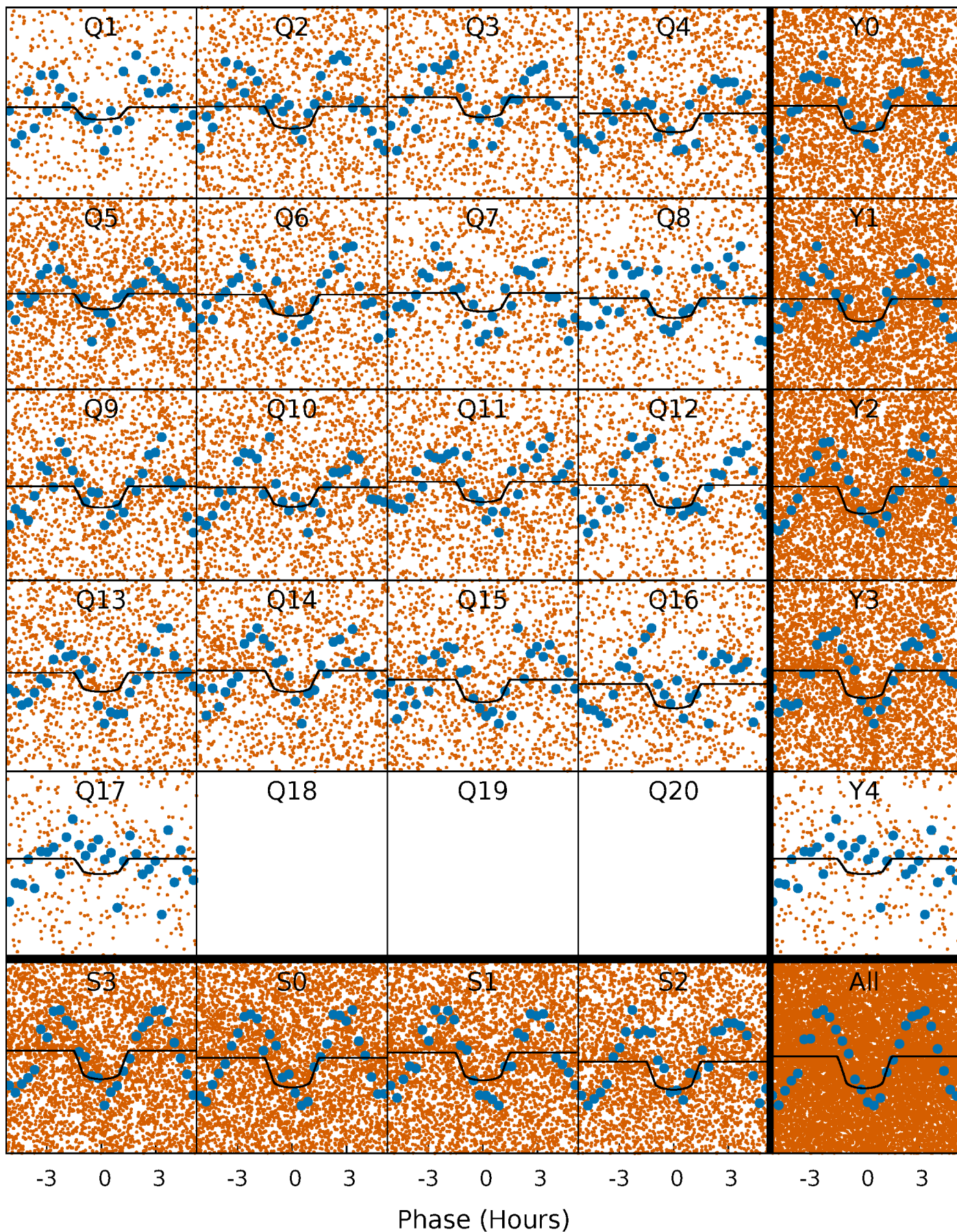
PDC Quarter-Phased Transit Curves

TCE 008396901-01 P= 0.639023 Days $T_0=132.039348$ (BKJD)



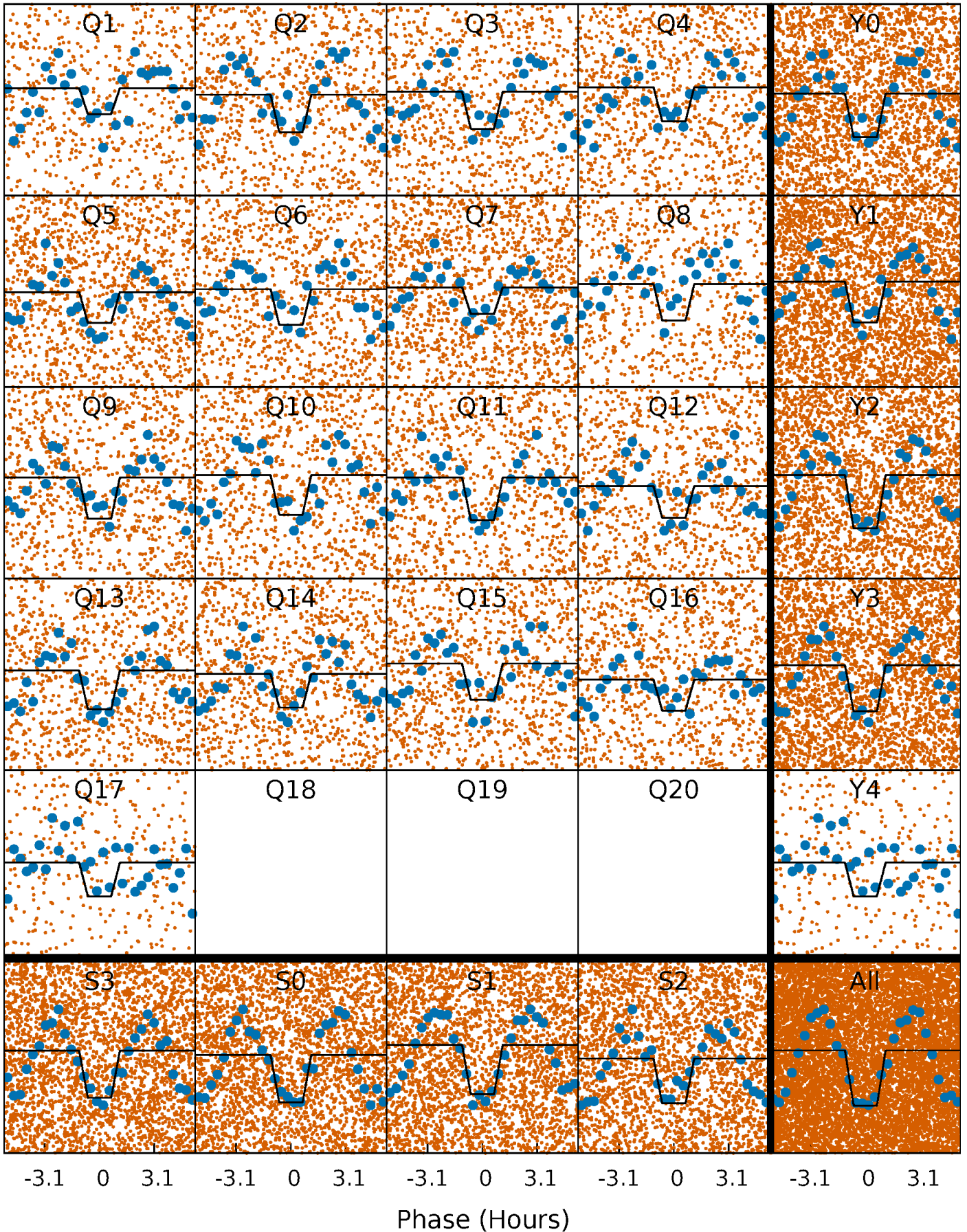
DV Quarter-Phased Transit Curves

TCE 008396901-01 P= 0.639023 Days $T_0=132.039348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

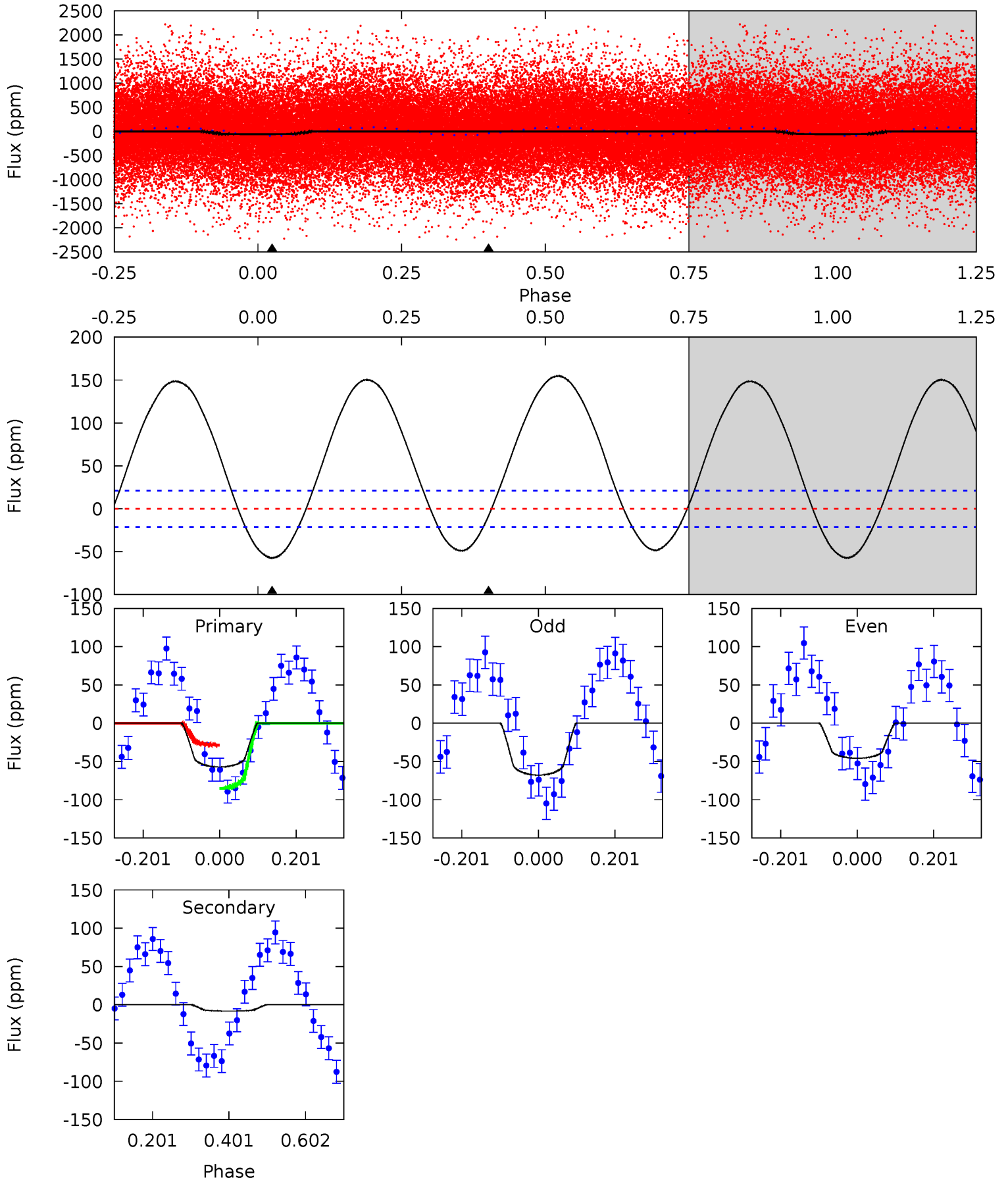
TCE 008396901-01 P= 0.639040 Days $T_0=132.036918$ (BKJD)



DV Model-Shift Uniqueness Test

008396901-01, P = 0.639023 Days, E = 131.400325 Days

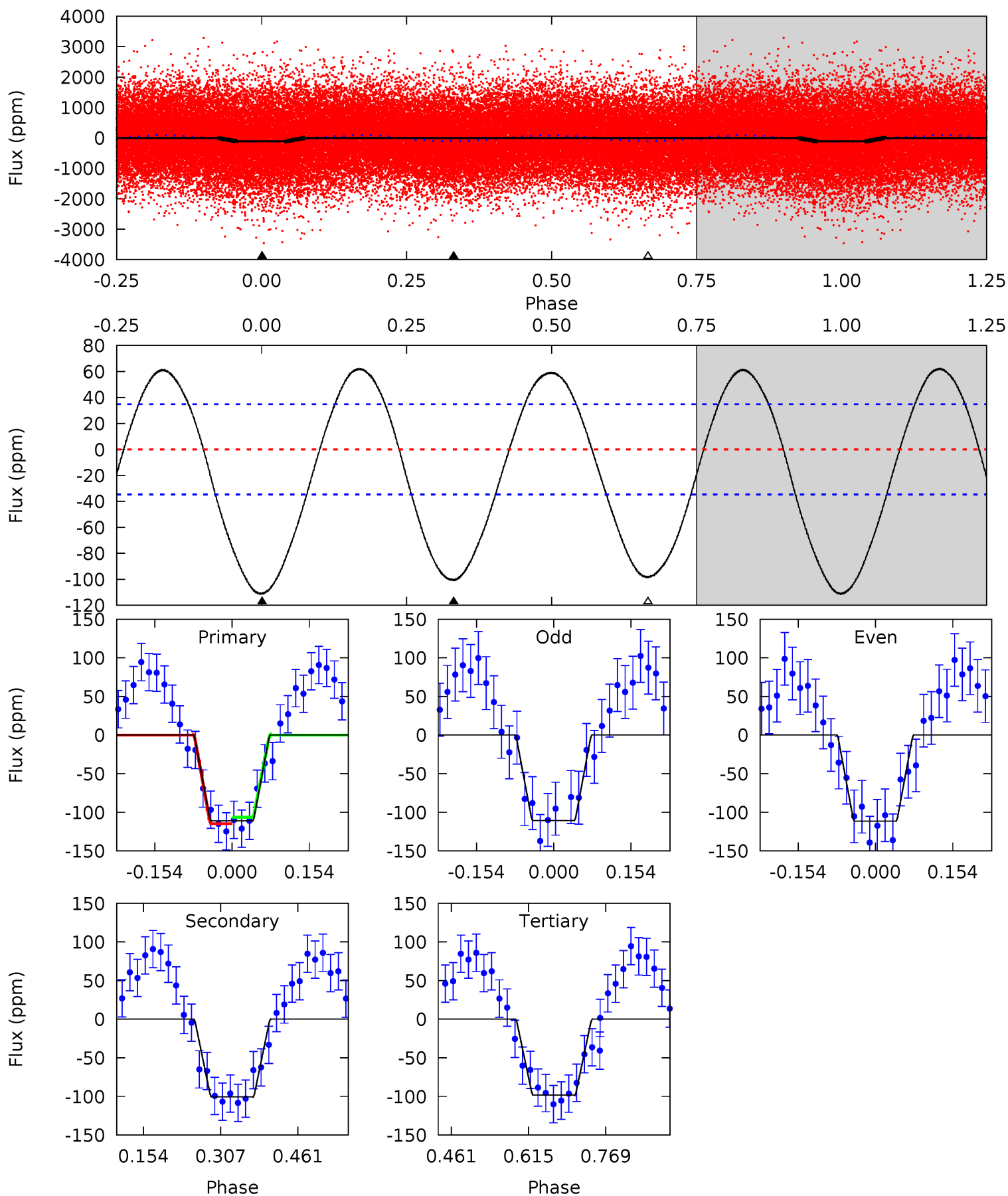
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	1.72	0	0	4.42	1.28	11.1	12.0	12.0	1.72	1.72	2.27	1.18	0.73	5.88



Alt Model-Shift Uniqueness Test

008396901-01, P = 0.639040 Days, E = 131.397878 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	13.0	12.6	0	4.47	1.43	7.56	1.65	14.3	0.31	13.0	0.05	1.15	0.36	0.49



Stellar Parameters For KIC 008396901

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6848^{+214}_{-309}	$4.092^{+0.190}_{-0.190}$	$-0.100^{+0.250}_{-0.300}$	$1.771^{+0.555}_{-0.505}$	$1.420^{+0.202}_{-0.269}$	$0.360^{+0.426}_{-0.167}$
	+3%/-5%	+5%/-5%	+250%/-300%	+31%/-29%	+14%/-19%	+118%/-46%
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 008396901-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 5	$1.54^{+0.70}_{-0.60}$	4386^{+366}_{-350}	3566^{+1343}_{-7064}	$0.473^{+0.844}_{-0.310}$
Alt.	-101 ± 8	$2.06^{+0.69}_{-0.60}$	4385^{+417}_{-367}	6396^{+1436}_{-833}	$3.438^{+3.452}_{-1.505}$

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

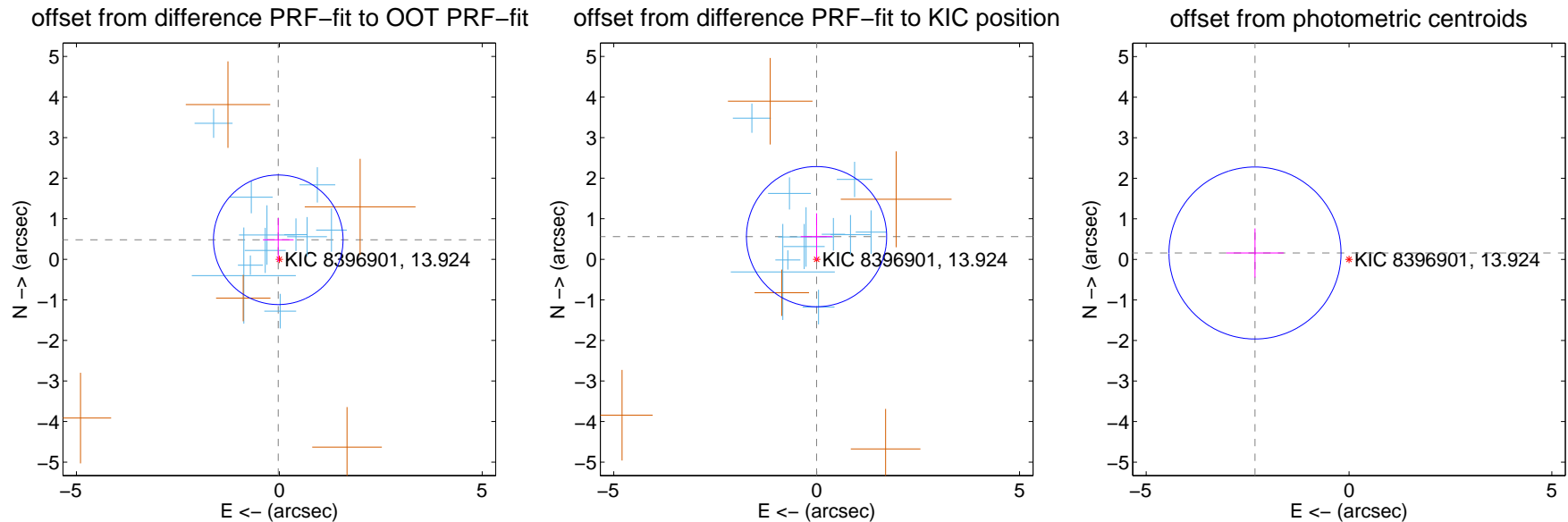
DV Centroid Data

Supplemental centroid analysis for 008396901-01. Kepler magnitude: 13.92. Transit SNR 9.06

There are 11 quarters with good PRF difference image offsets

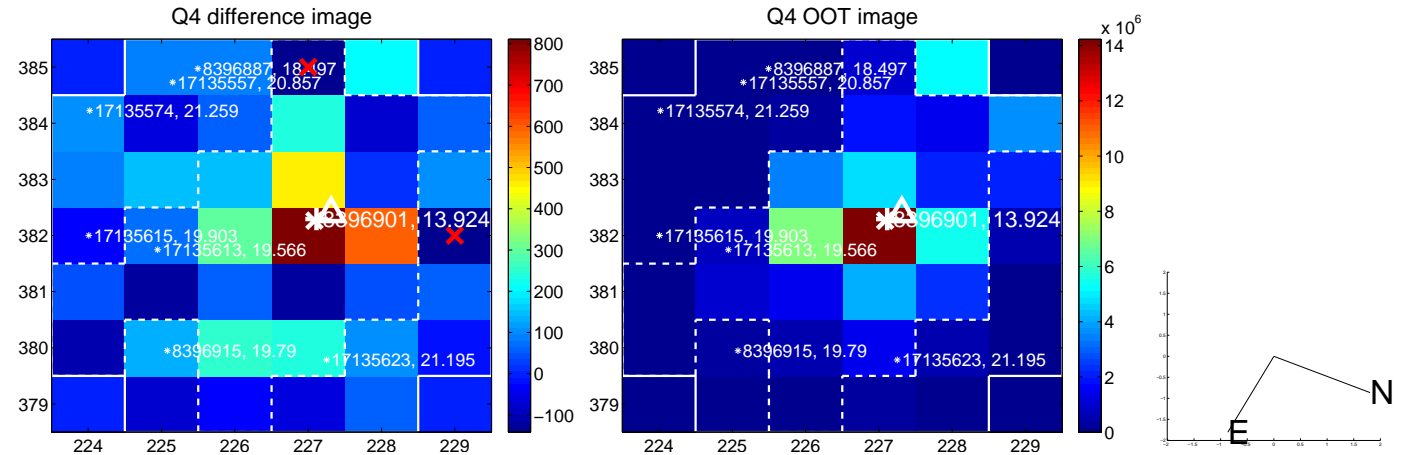
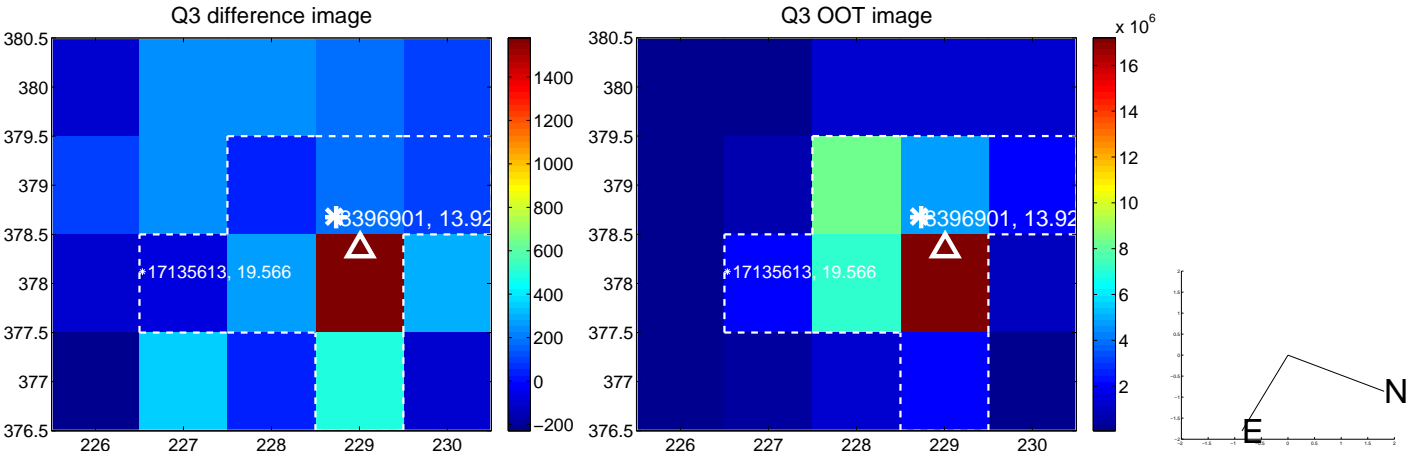
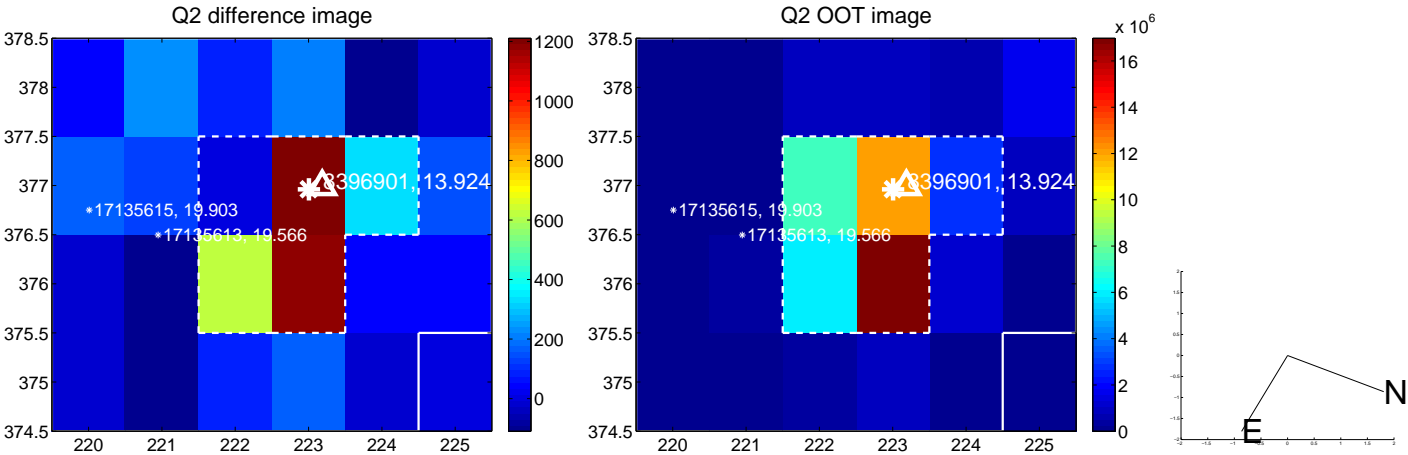
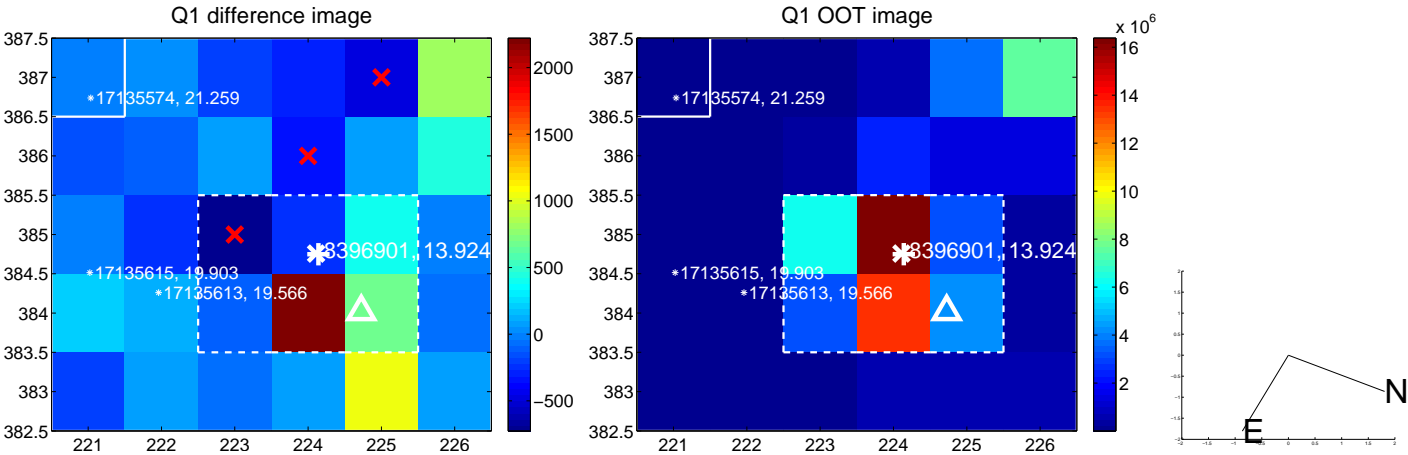
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.482 ± 0.532	0.90	0.026 ± 0.378	0.481 ± 0.536
PRF-fit source offset from KIC position	0.559 ± 0.576	0.97	0.002 ± 0.389	0.559 ± 0.576
photometric centroid source offset	2.32 ± 0.71	3.29	2.32 ± 0.71	0.16 ± 0.61

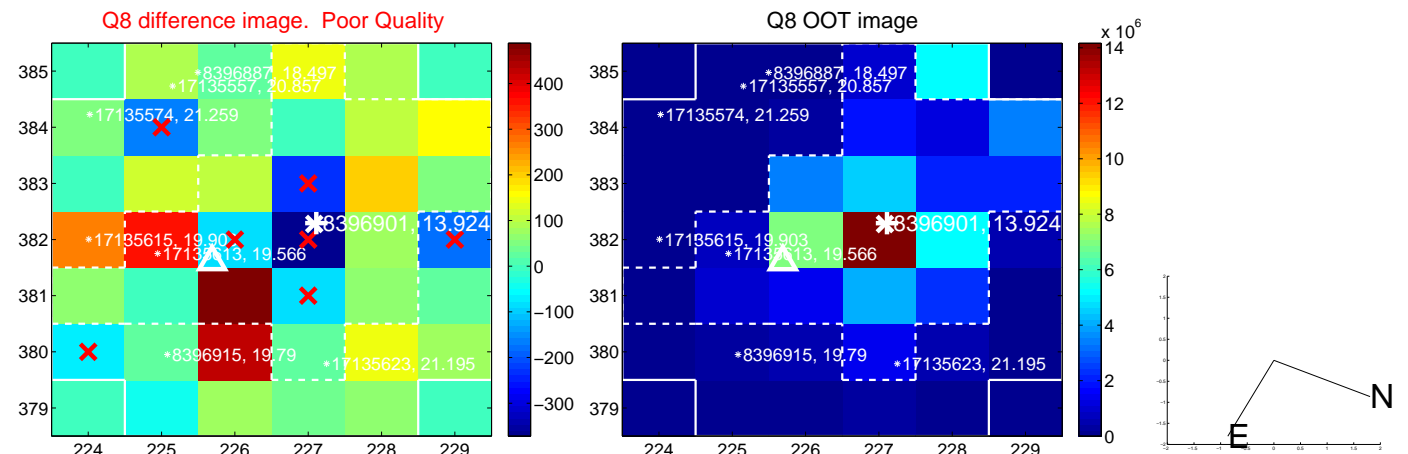
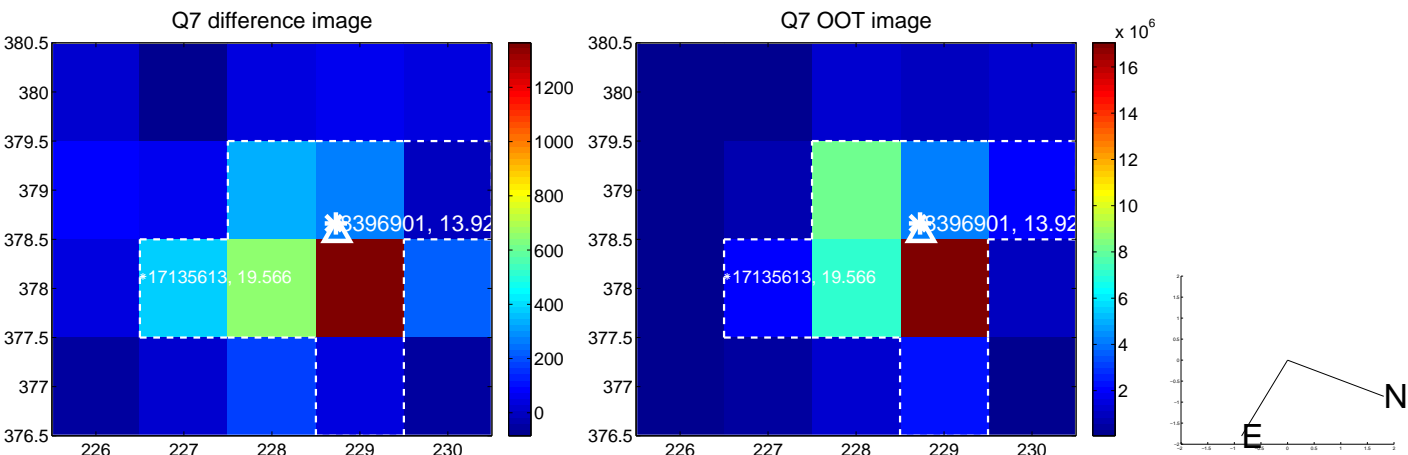
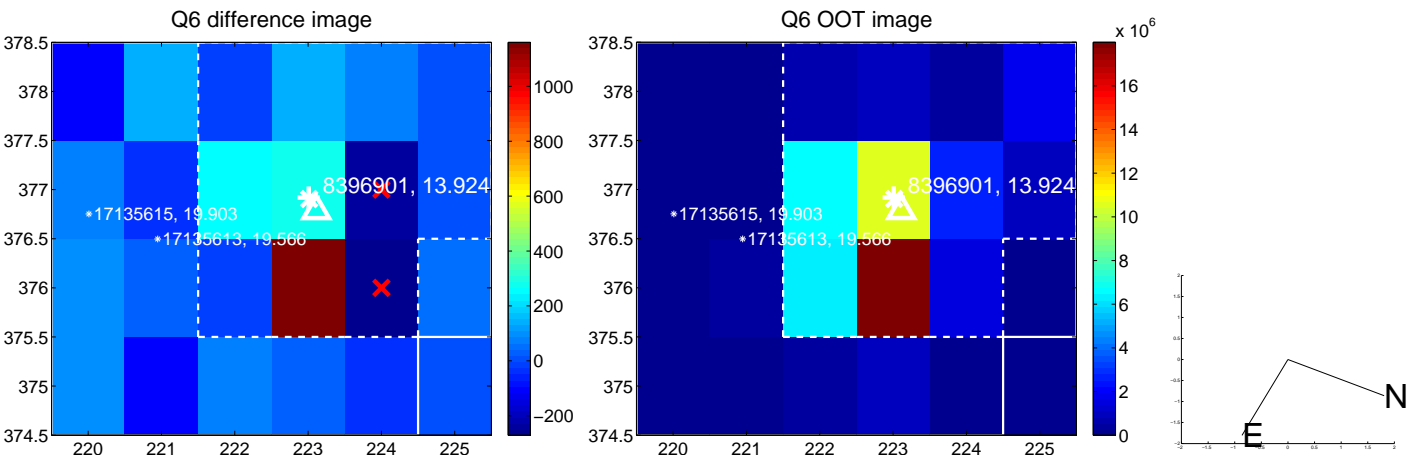
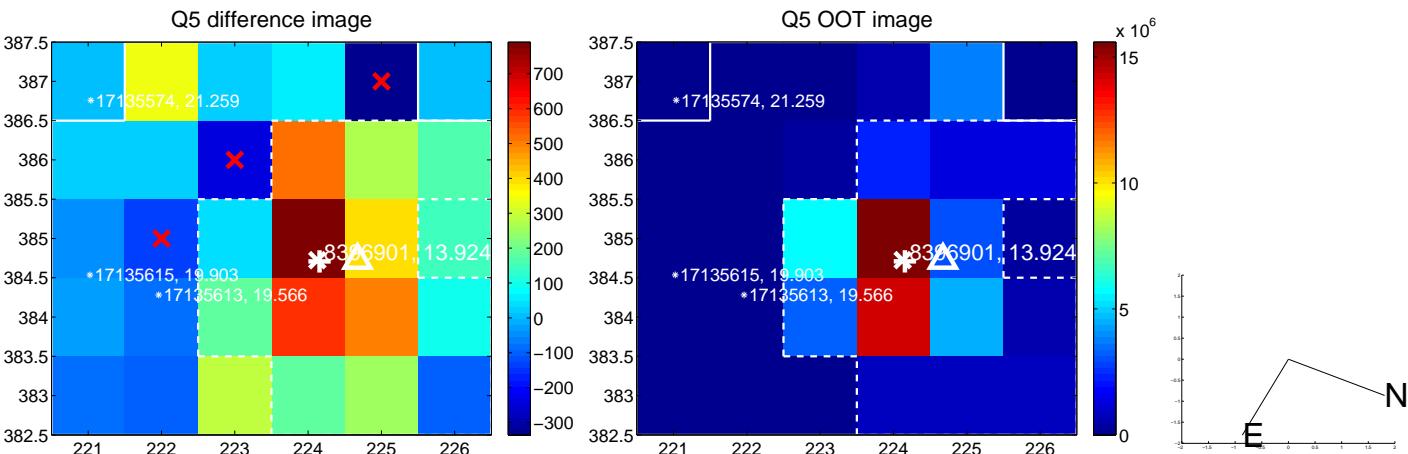


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

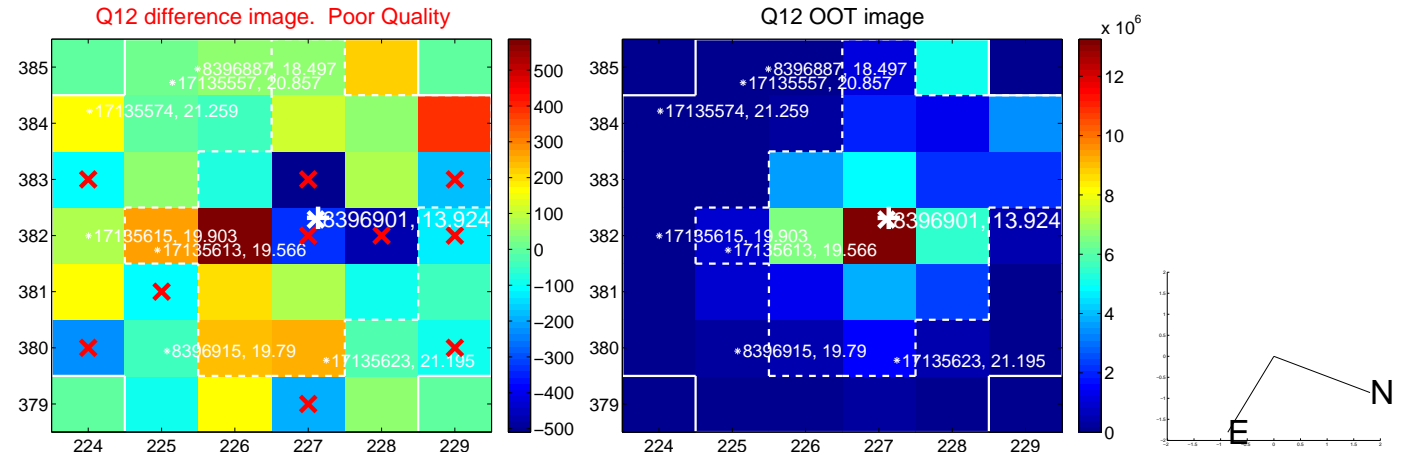
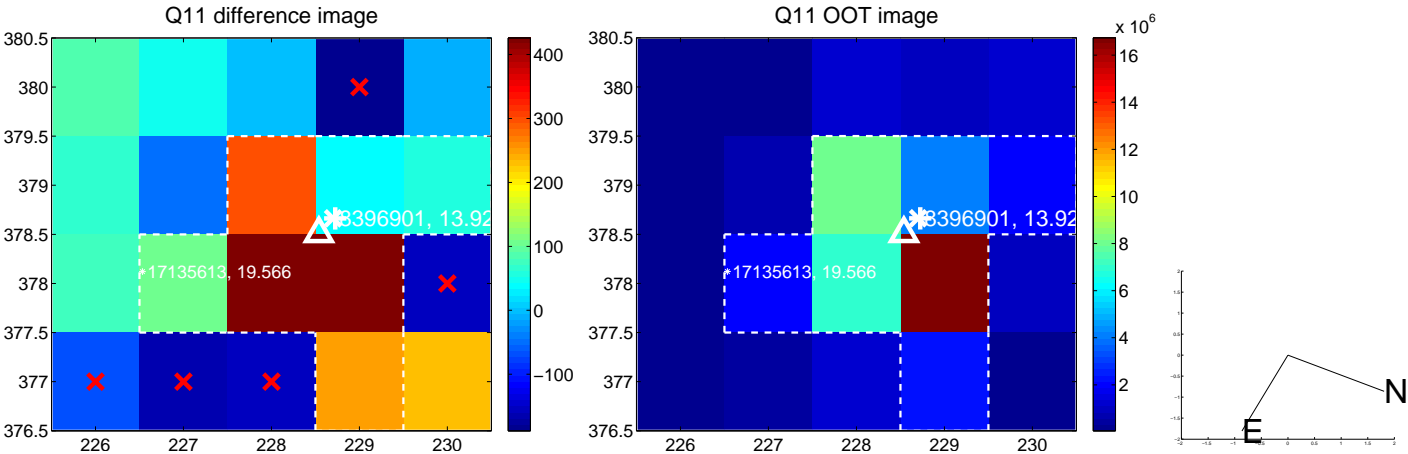
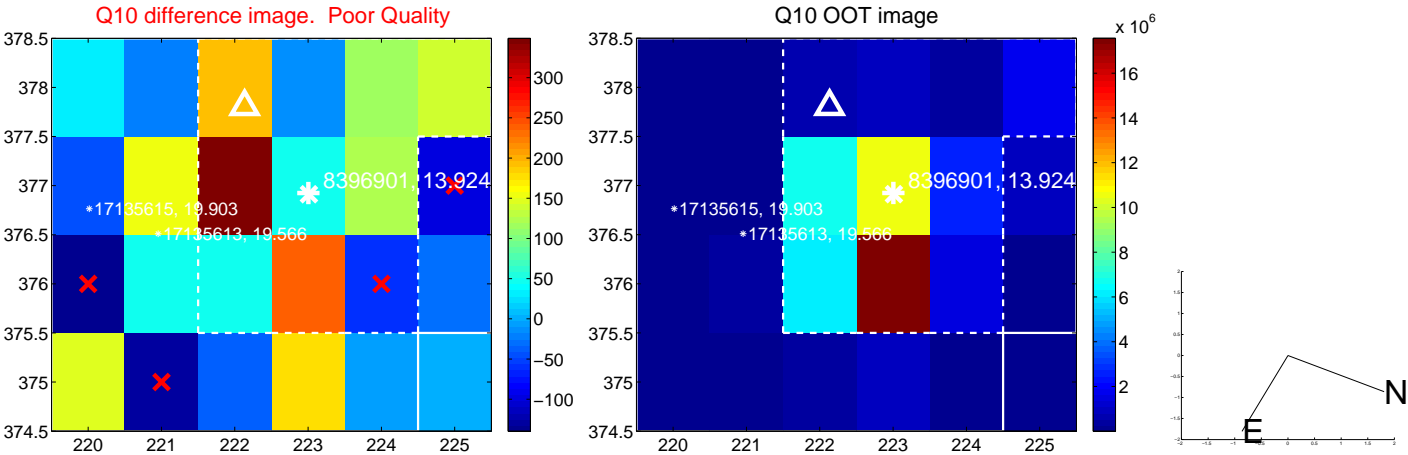
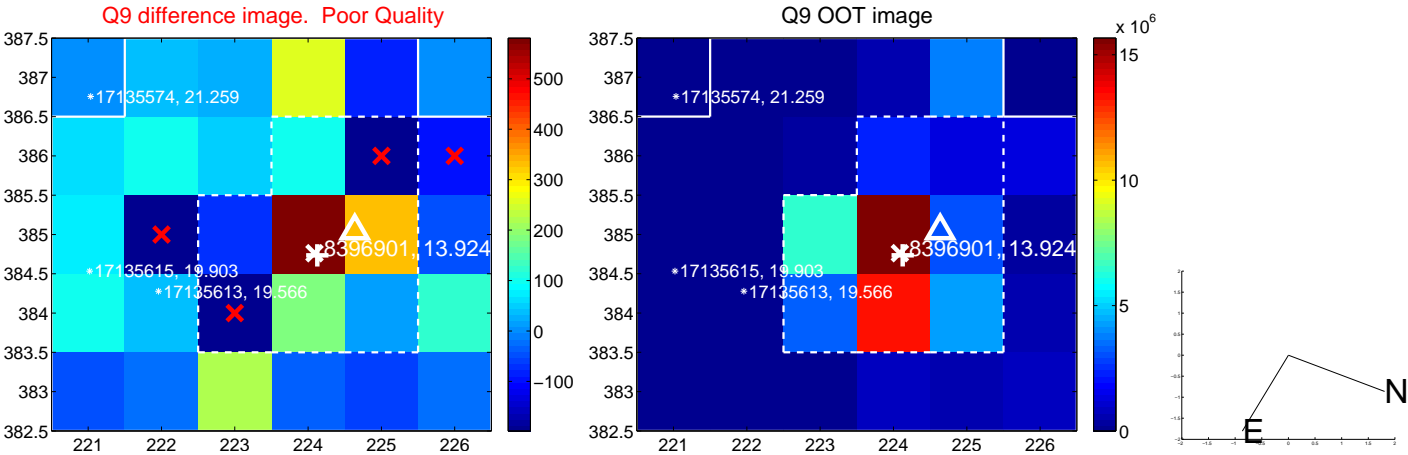
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



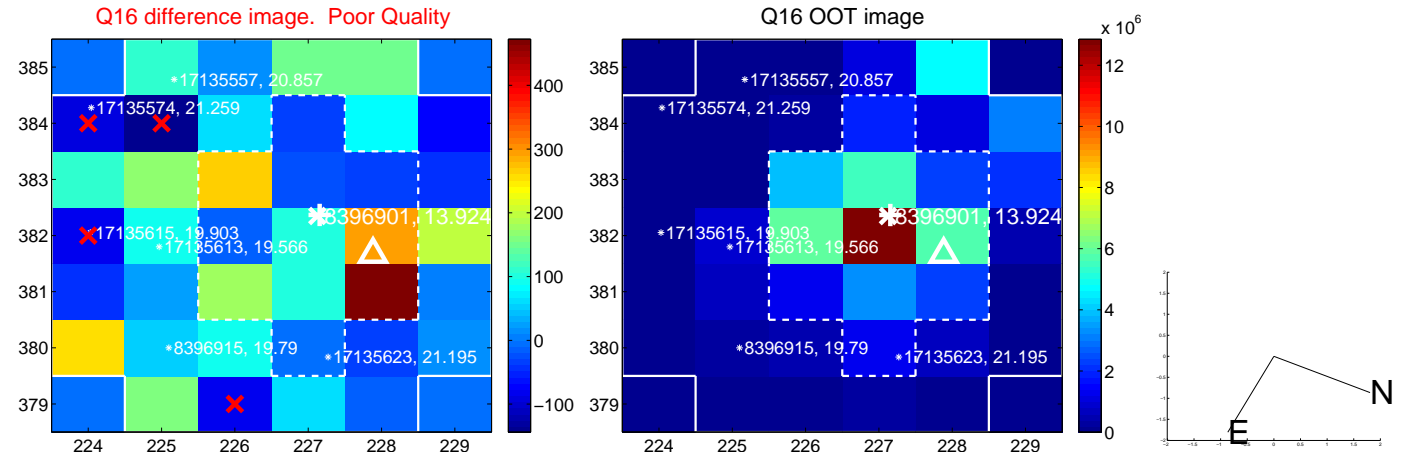
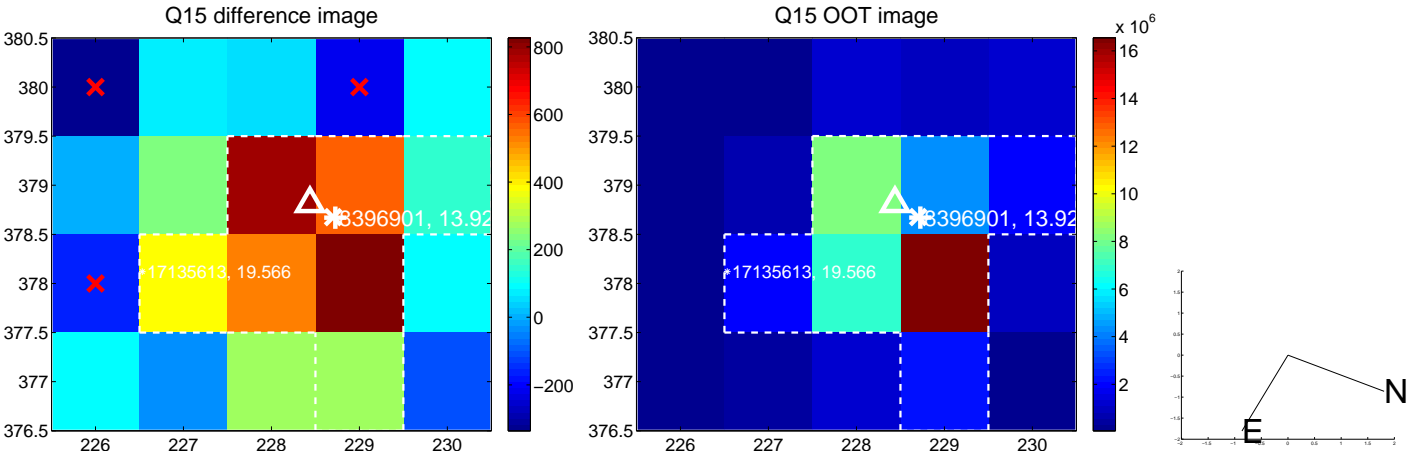
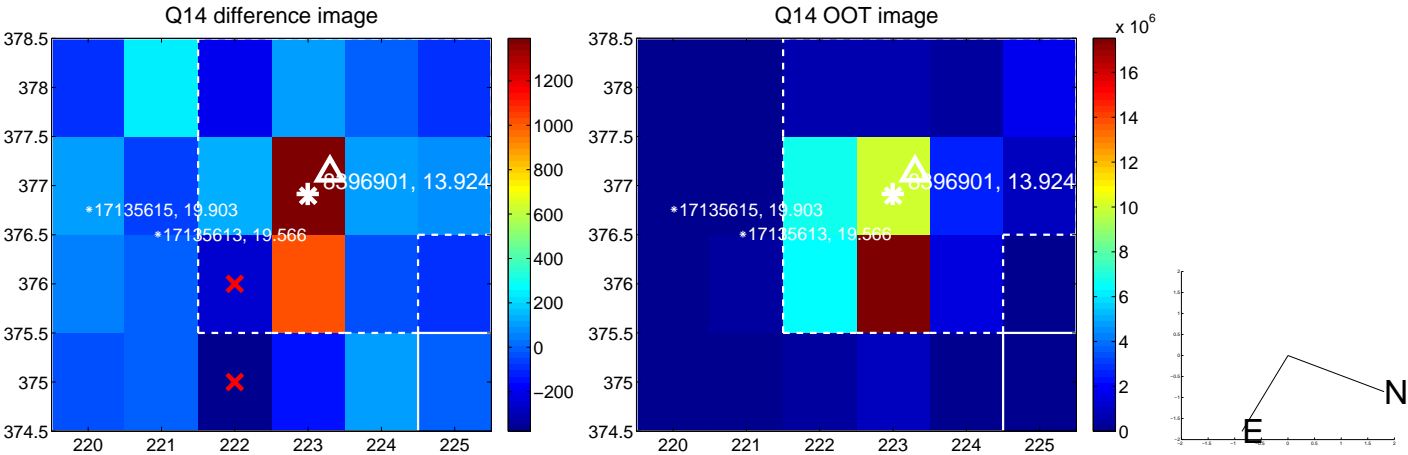
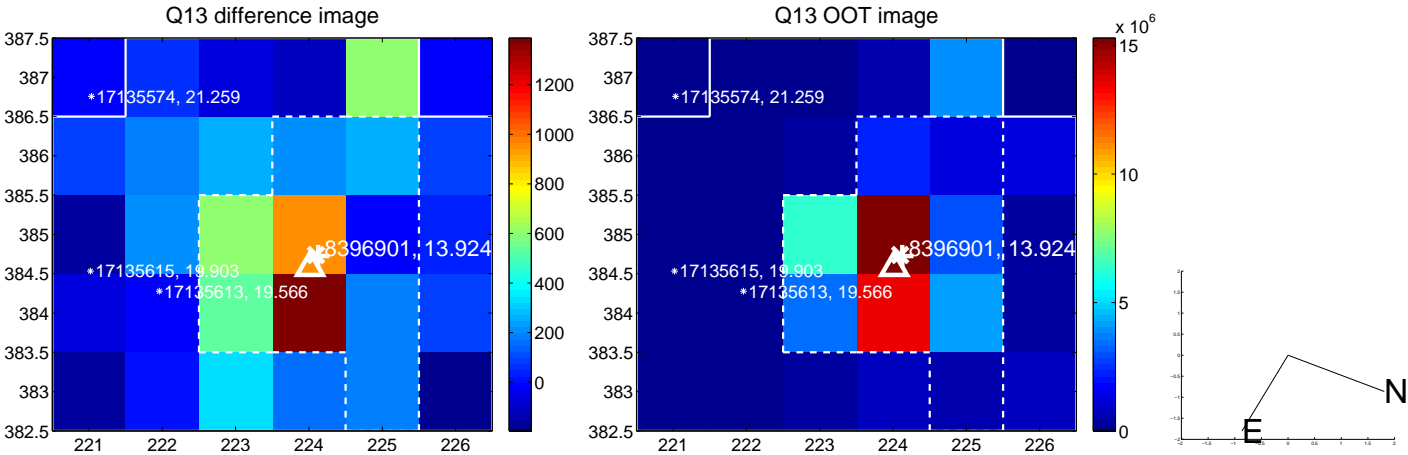
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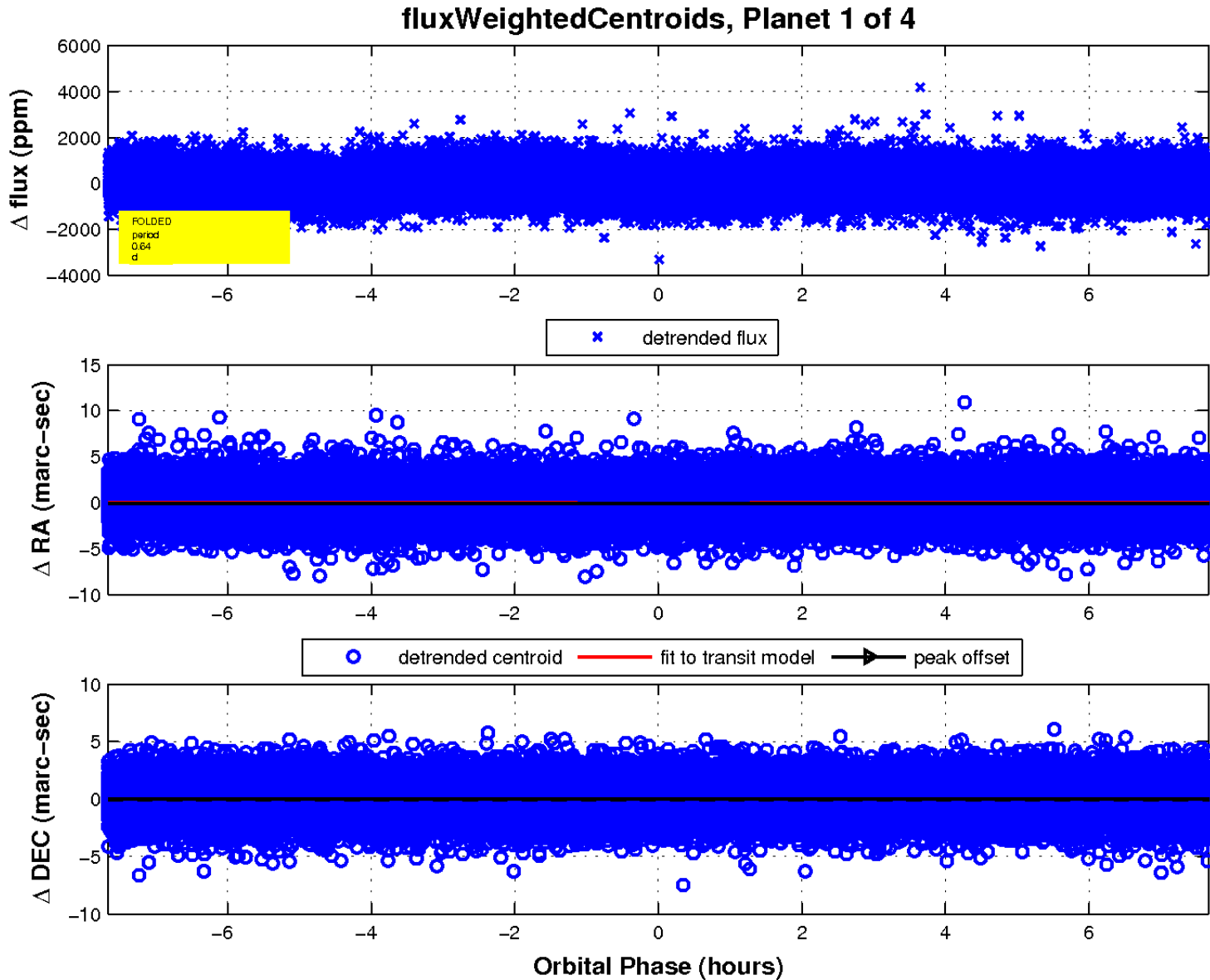
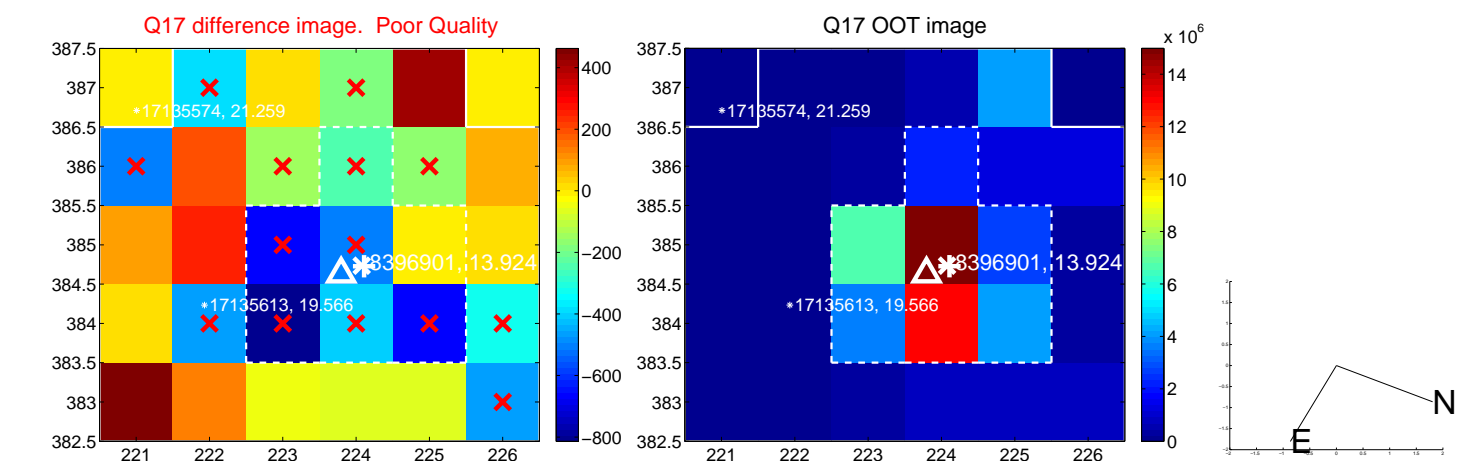
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



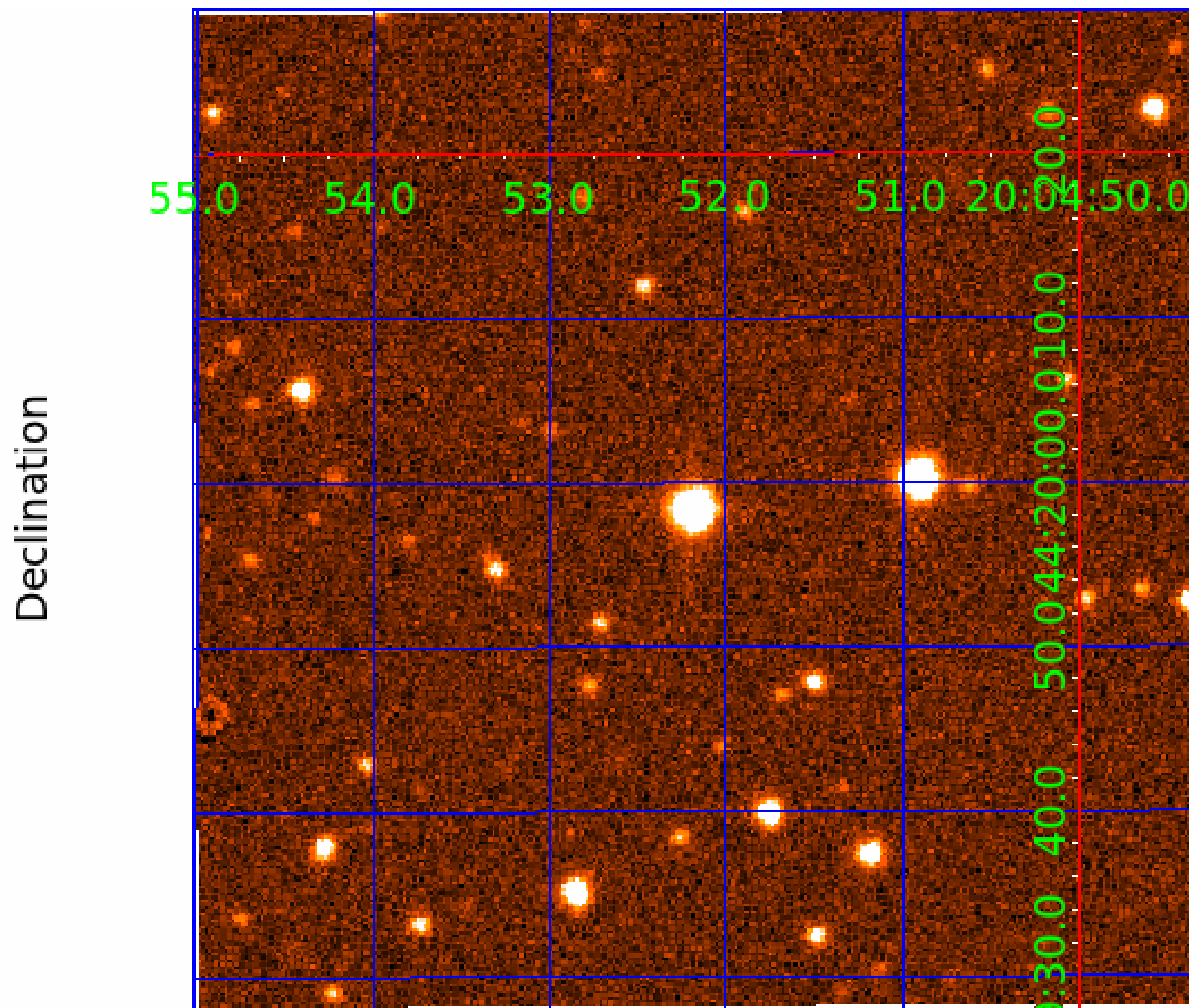
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008396901

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})
008396901-01	OBS	No	0.639023	132.039348	58.9	2.625	9.4	9.1	1.77	6848	1.58	23259.83
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008396901-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008396901-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
008396901-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

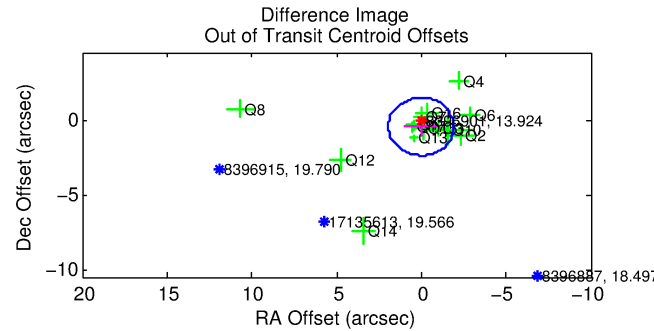
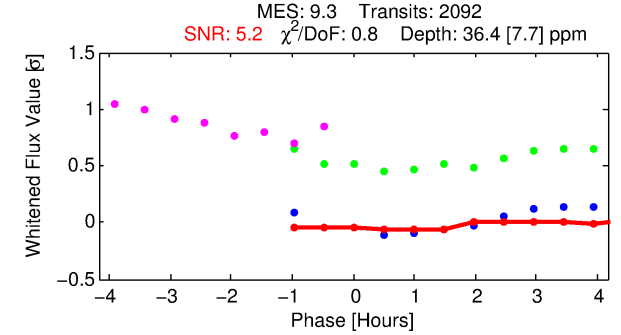
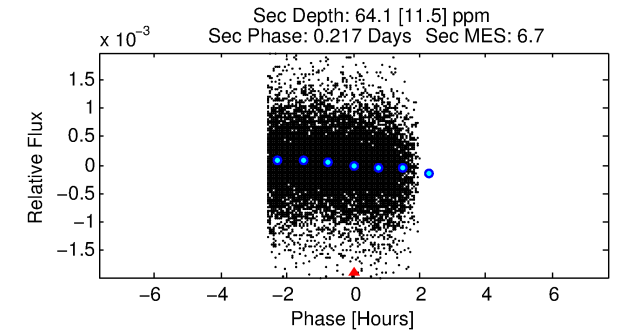
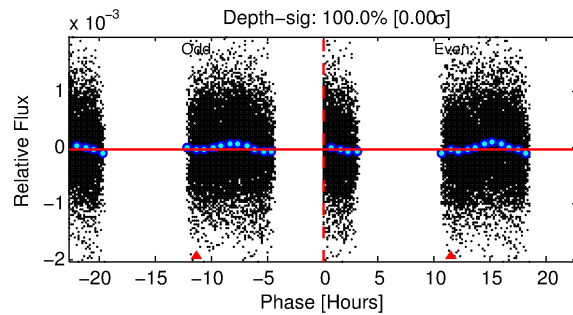
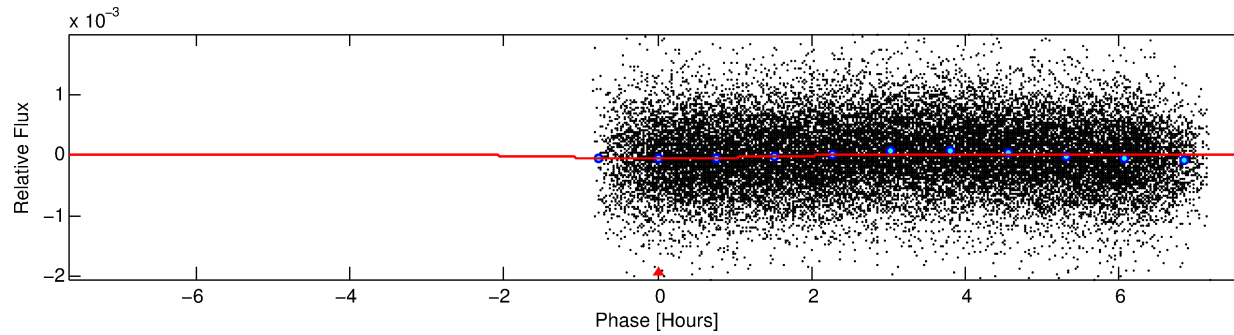
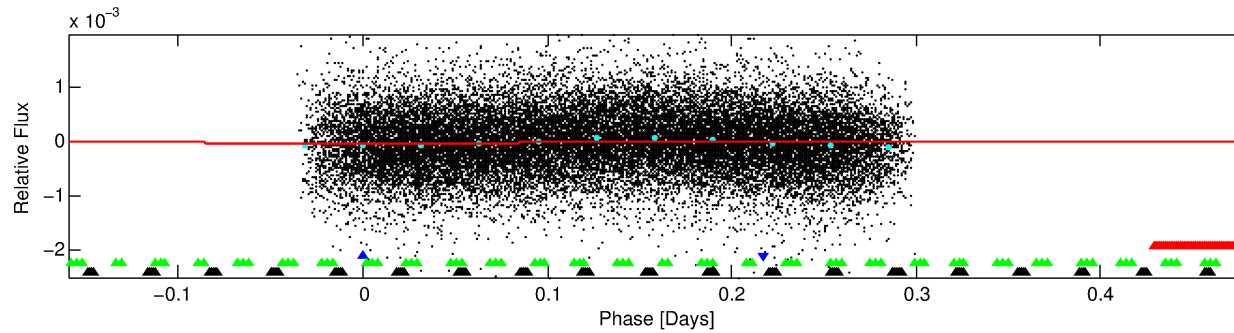
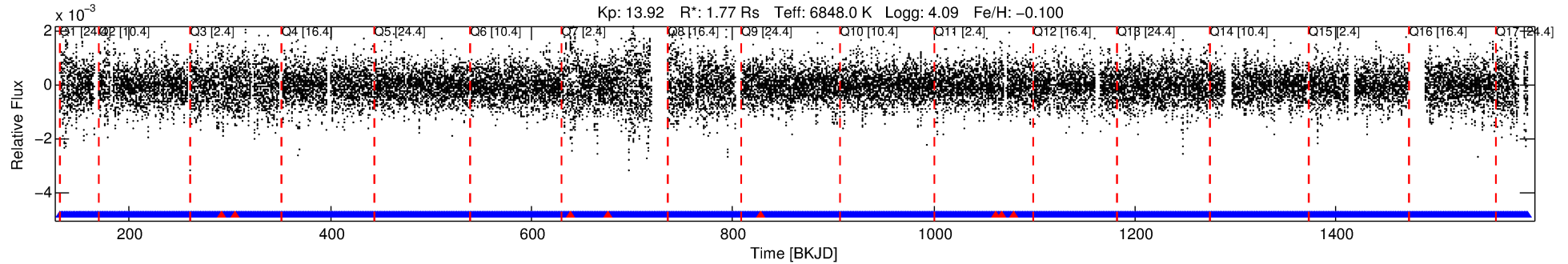
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008396901-02

No Significant Match Found

DV One-Page Summary

KIC: 8396901 Candidate: 2 of 4 Period: 0.639 d



DV Fit Results:

Period = 0.63900 [0.00002] d
Epoch = 131.6103 [0.0166] BKJD
Rp/R* = 0.0059 [0.0054]
a/R* = 1.24 [2.32]
b = 0.70 [3.88]
Seff = 23260.80 [9341.79]
Teq = 3149 [316] K
Rp = 1.15 [1.10] Re
a = 0.0163 [0.0042] AU
Ag = 7.15 [13.32] [0.46σ]
Teffp = 7961 [3658] K [1.31σ]

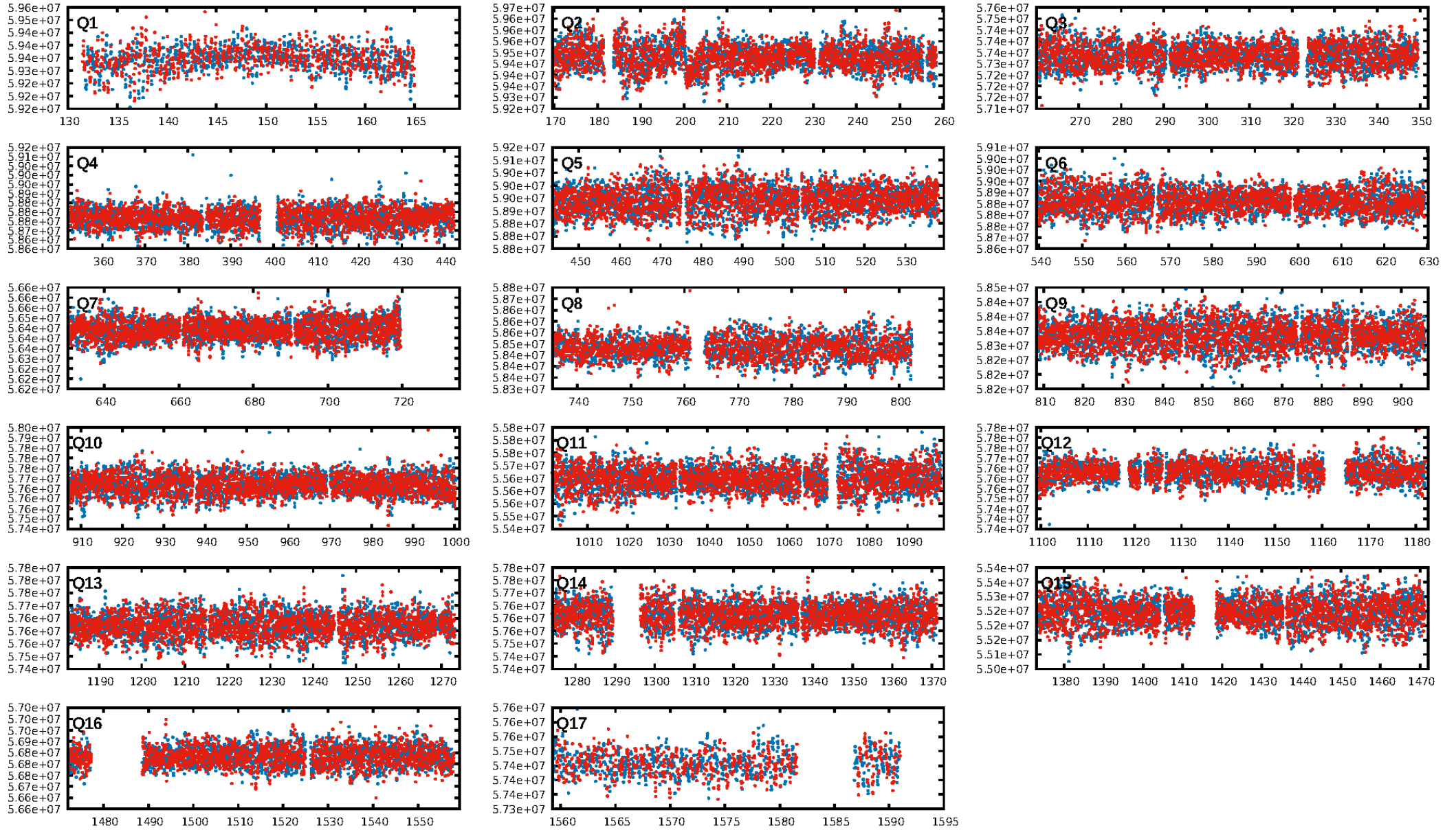
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.26e-02
RollingBand-fgt: 1.00 [1990/1998]
GhostDiagnostic-chr: -1.809
Centroid-sig: 0.3%
Centroid-so: 2.592 arcsec [2.77σ]
OotOffset-rm: 0.457 arcsec [0.71σ]
KicOffset-rm: 0.354 arcsec [0.60σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/17]

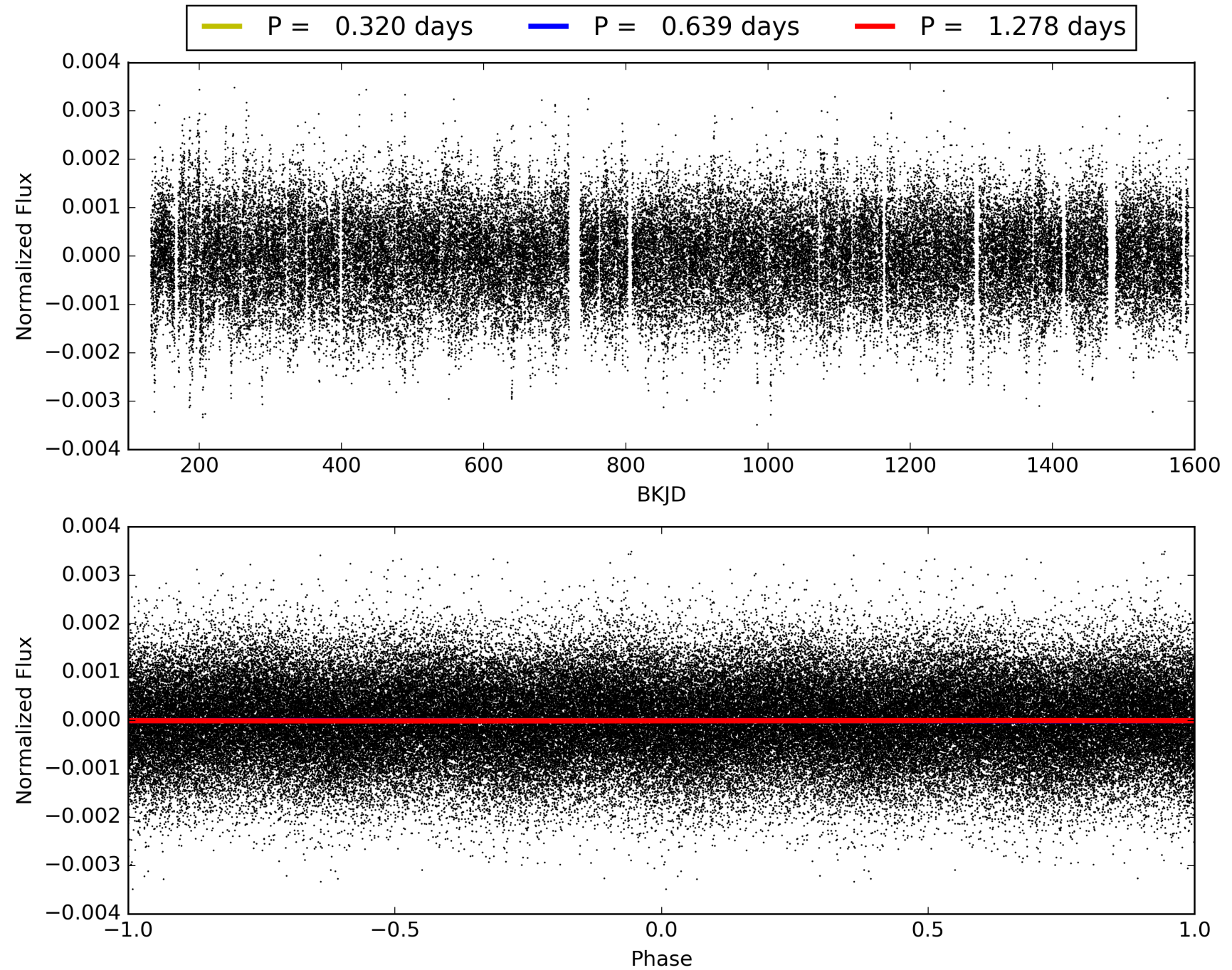
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:28:42 Z

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

TCE 008396901-02, PDC Light Curves

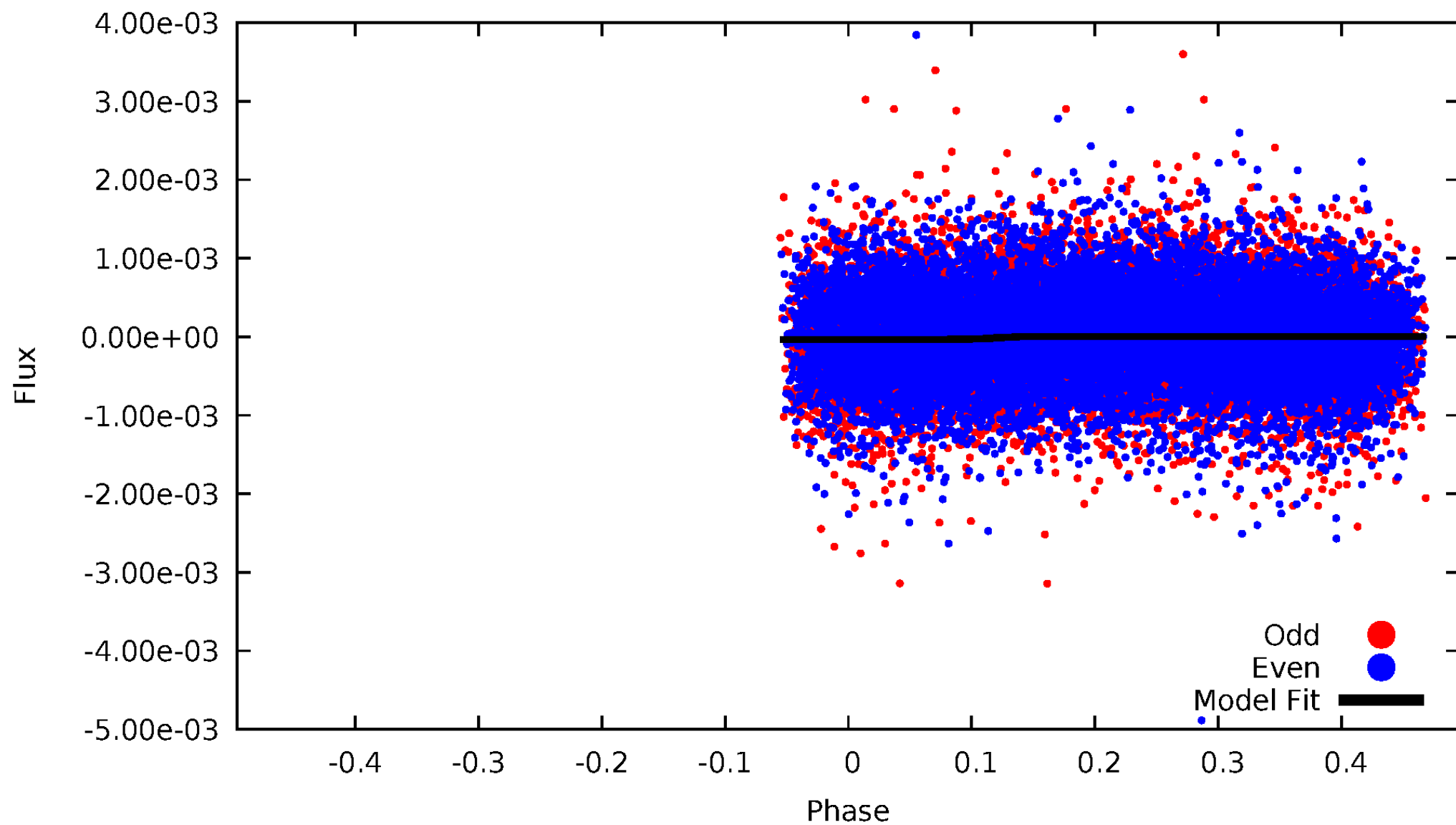


TCE 008396901-02



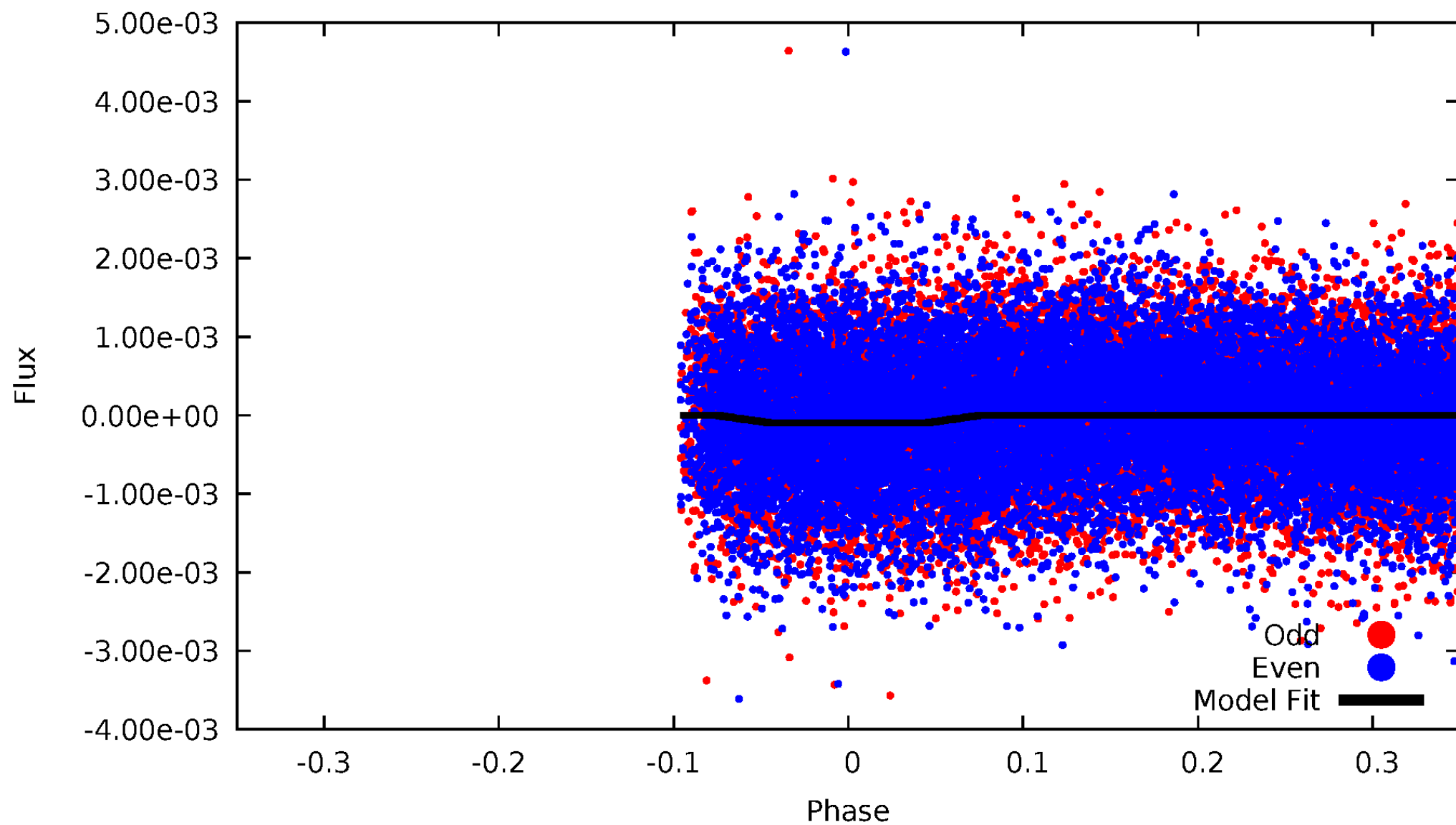
DV Odd/Even

TCE 008396901-02



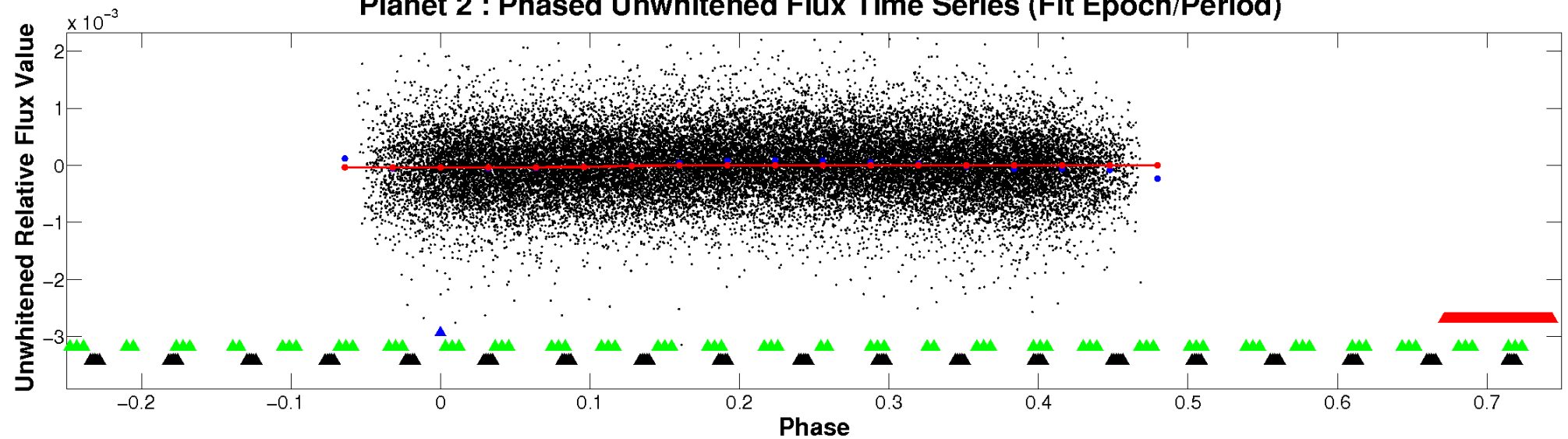
ALT Odd/Even

TCE 008396901-02

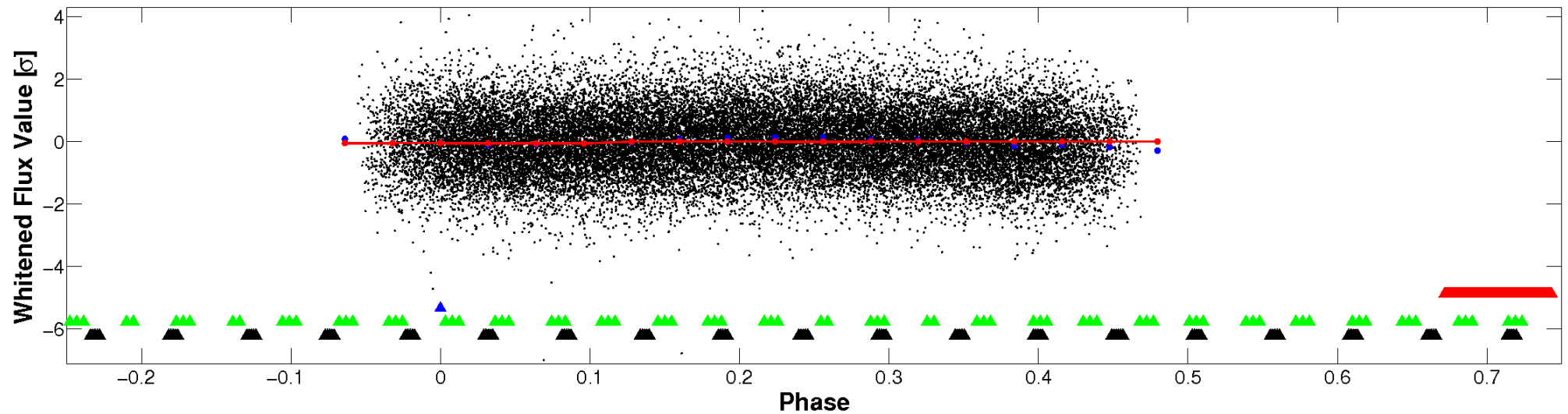


Non-Whitened Vs. Whitened Light Curve

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

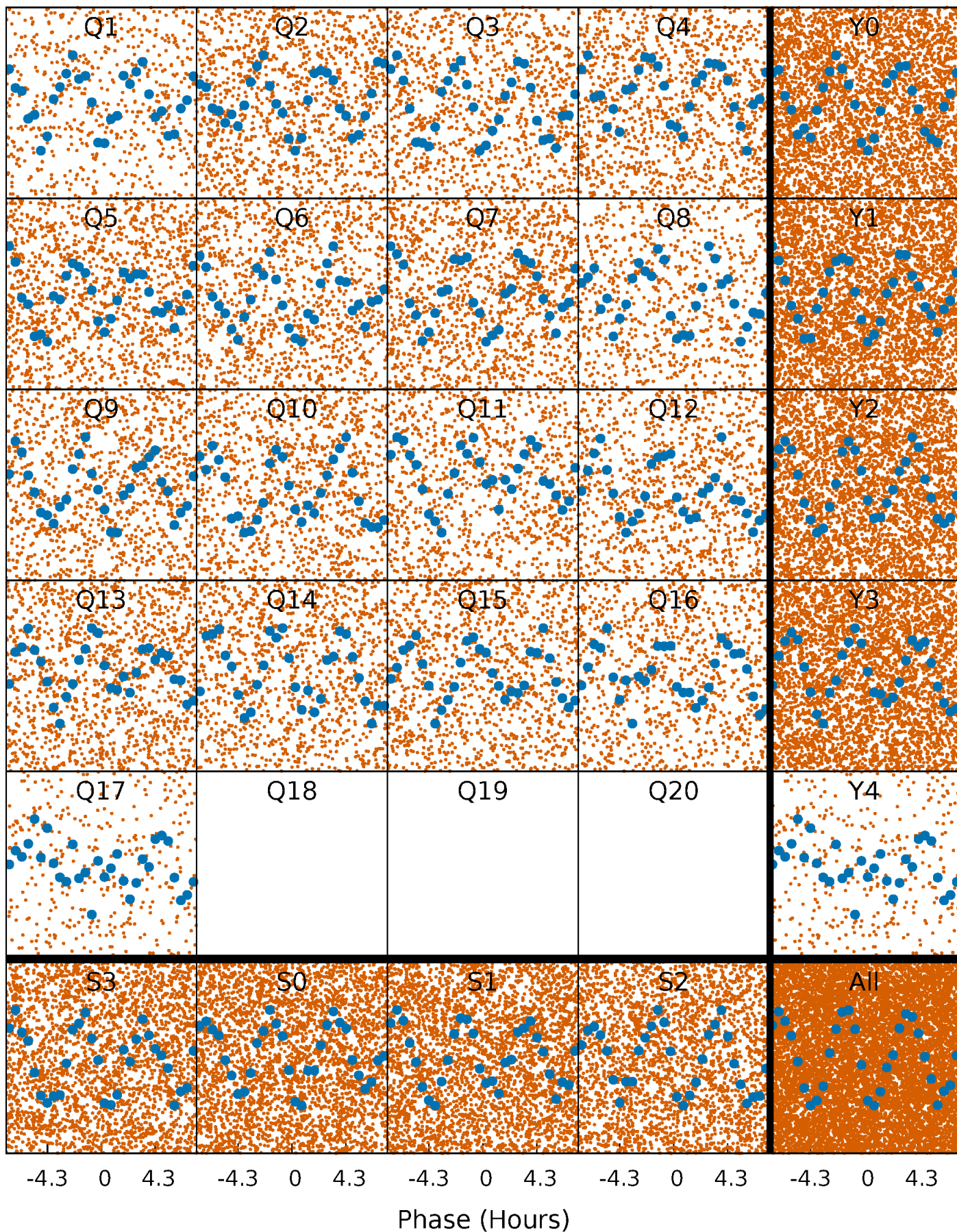


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



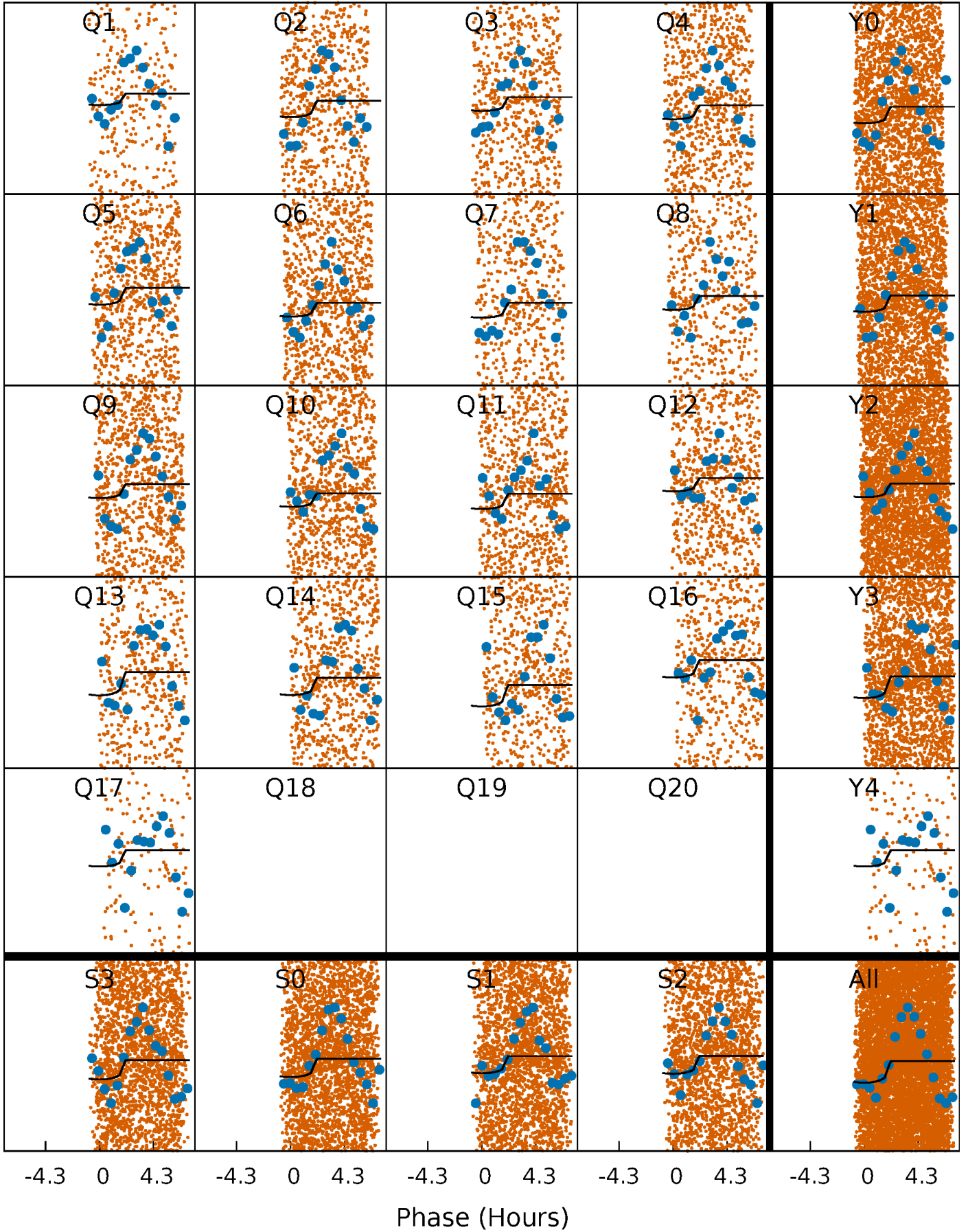
PDC Quarter-Phased Transit Curves

TCE 008396901-02 P= 0.639003 Days $T_0=131.610282$ (BKJD)



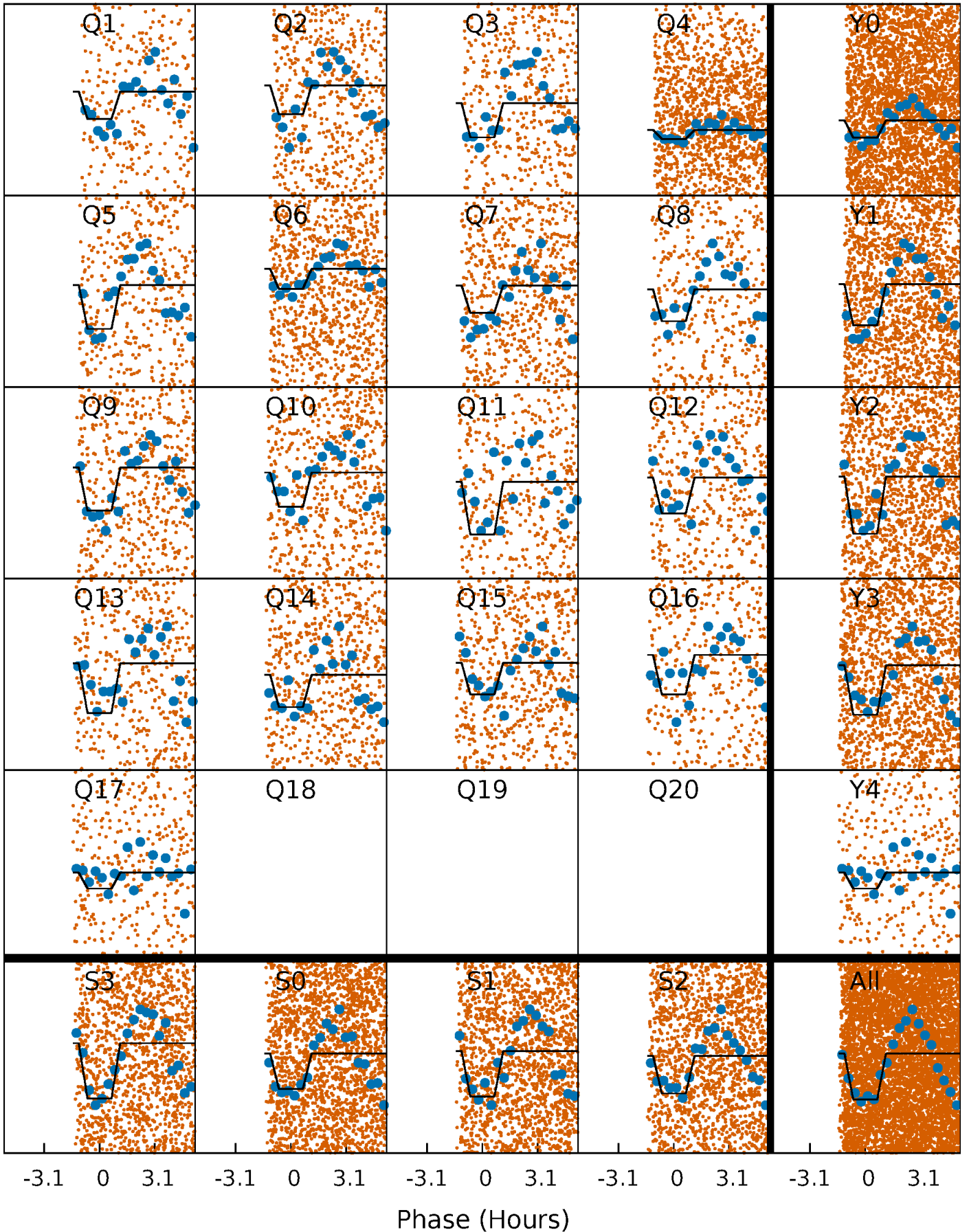
DV Quarter-Phased Transit Curves

TCE 008396901-02 P= 0.639003 Days $T_0=131.610282$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

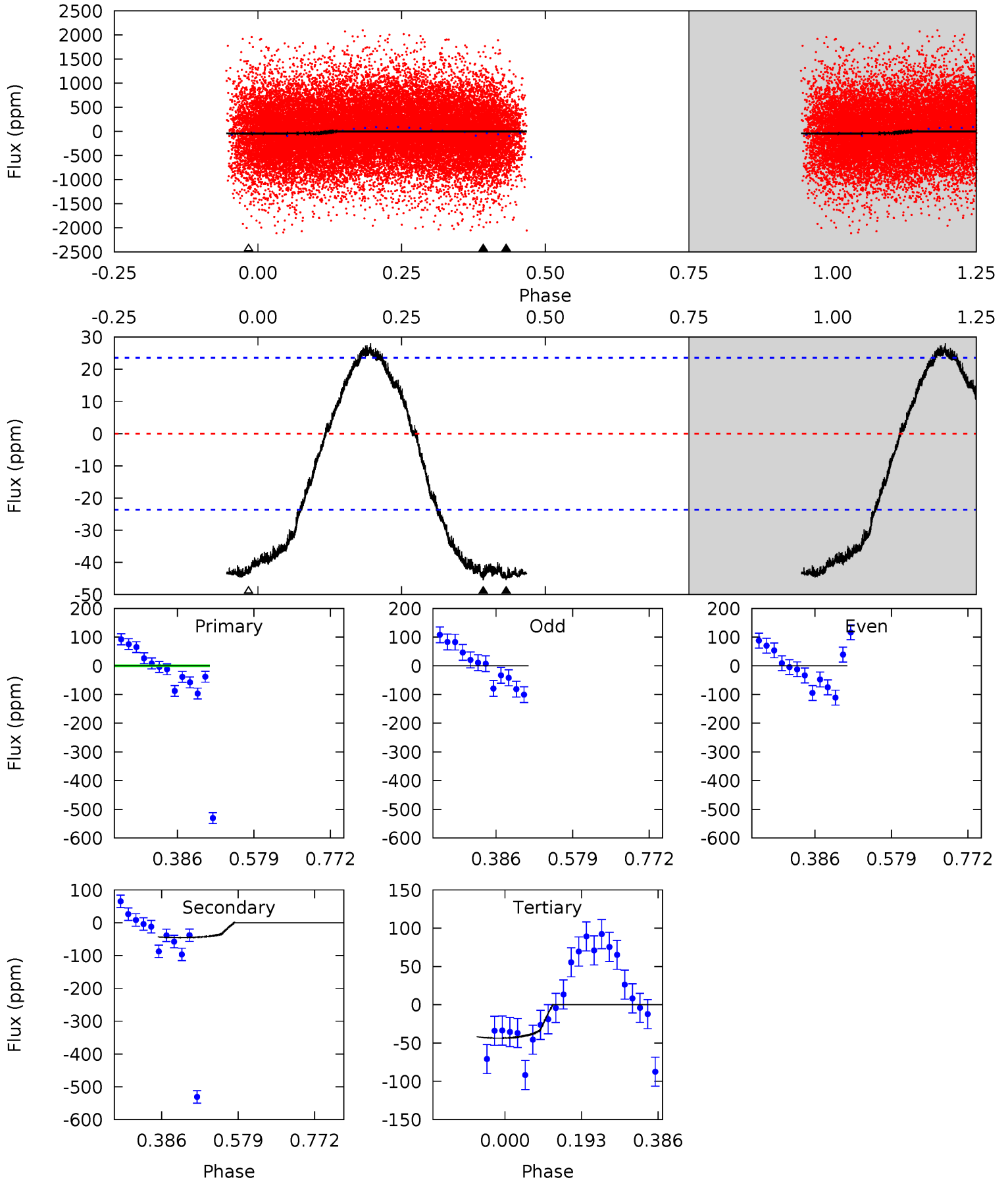
TCE 008396901-02 $P = 0.639032$ Days $T_0 = 131.615823$ (BKJD)



DV Model-Shift Uniqueness Test

008396901-02, P = 0.639003 Days, E = 130.971279 Days

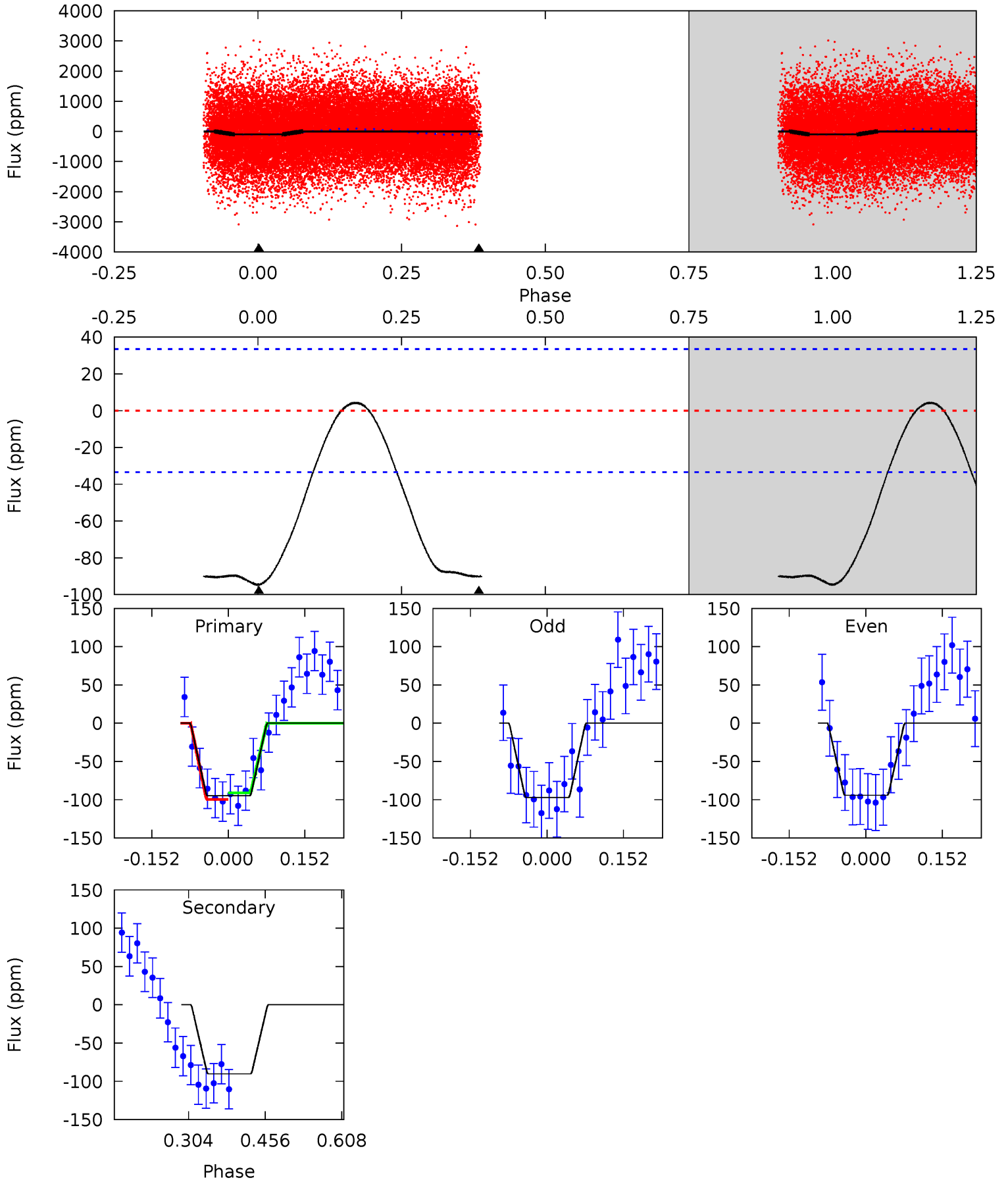
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.54	8.49	8.20	0	4.42	1.30	4.55	0.34	8.54	0.30	8.49	3.50	0.93	0.38	0.76



Alt Model-Shift Uniqueness Test

008396901-02, P = 0.639032 Days, E = 130.976791 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	12.1	0	0	4.48	1.43	1.20	12.7	12.7	12.1	12.1	0.20	0.90	0.04	0.53



Stellar Parameters For KIC 008396901

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6848^{+214}_{-309}	$4.092^{+0.190}_{-0.190}$	$-0.100^{+0.250}_{-0.300}$	$1.771^{+0.555}_{-0.505}$	$1.420^{+0.202}_{-0.269}$	$0.360^{+0.426}_{-0.167}$
	+3%/-5%	+5%/-5%	+250%/-300%	+31%/-29%	+14%/-19%	+118%/-46%
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 008396901-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-45 ± 5	$1.40^{+1.00}_{-0.94}$	4394^{+396}_{-356}	6480^{+7378}_{-1748}	$3.410^{+27.731}_{-2.302}$
Alt.	-90 ± 7	$2.00^{+1.13}_{-1.02}$	4403^{+344}_{-376}	6230^{+3667}_{-1228}	$3.265^{+10.633}_{-1.932}$

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

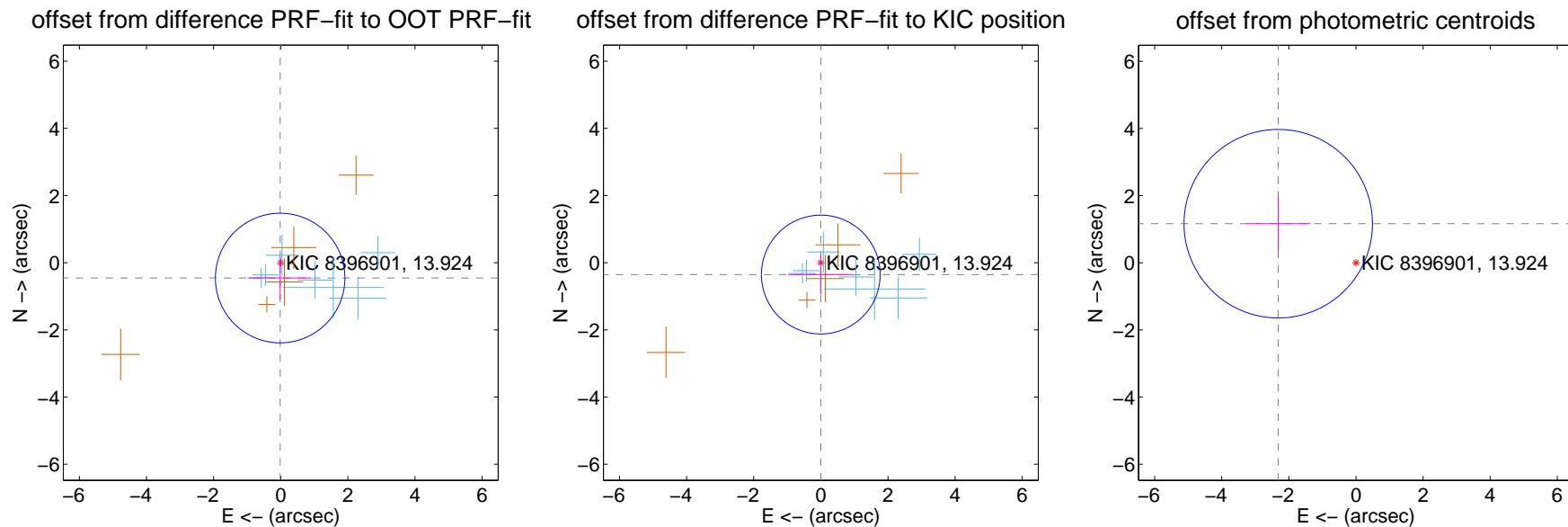
DV Centroid Data

Supplemental centroid analysis for 008396901-02. Kepler magnitude: 13.92. Transit SNR 5.15

There are 7 quarters with good PRF difference image offsets

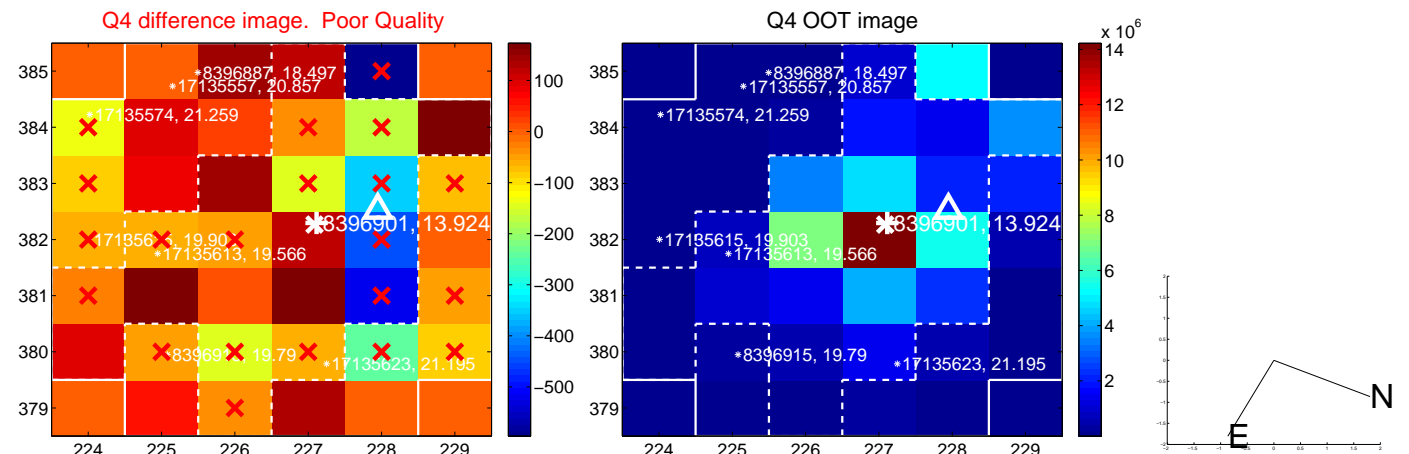
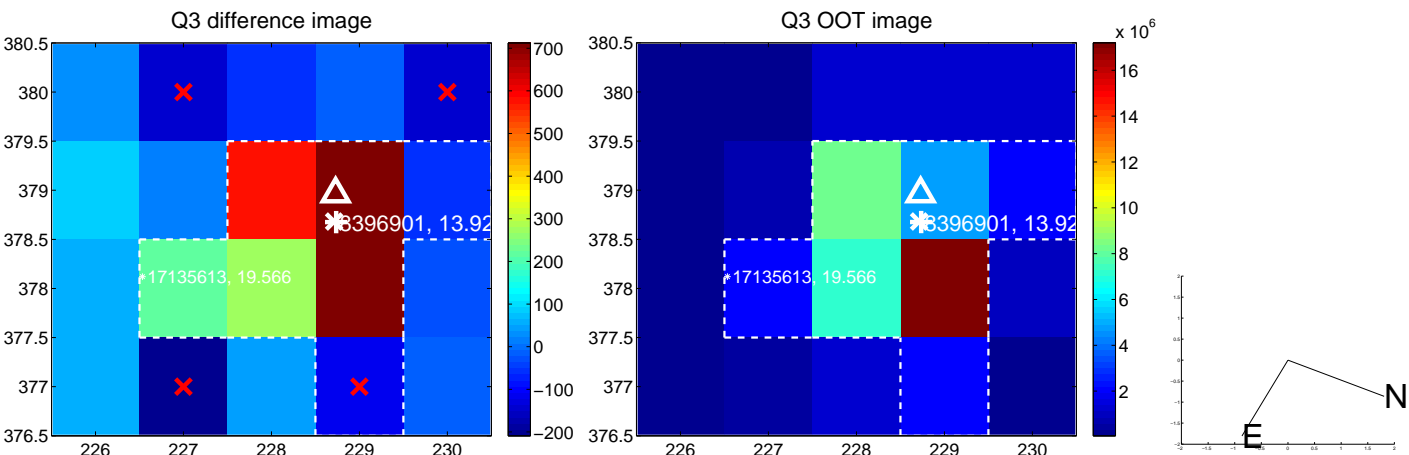
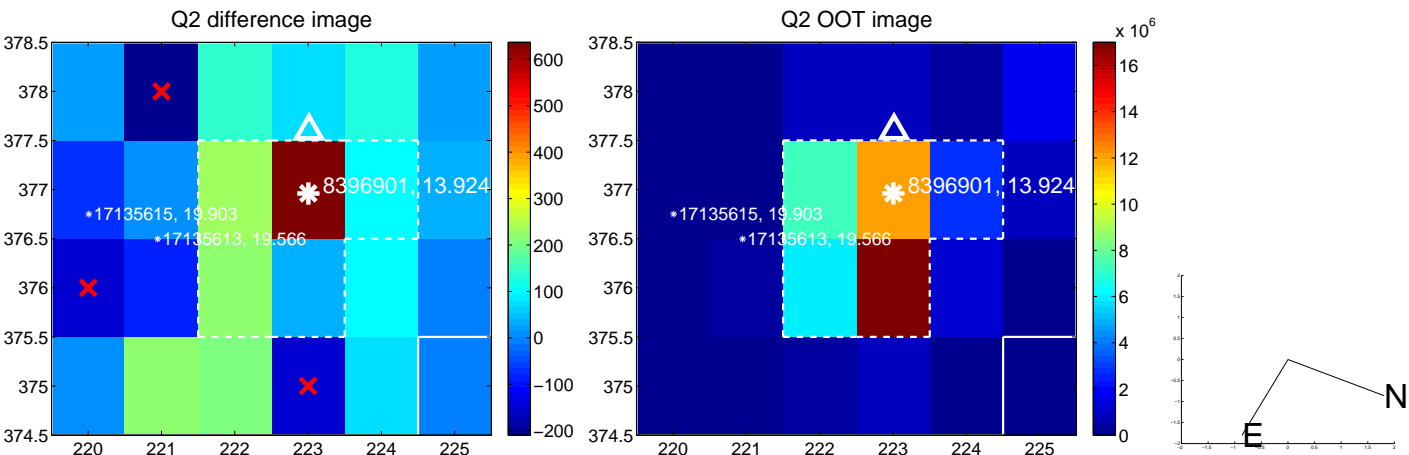
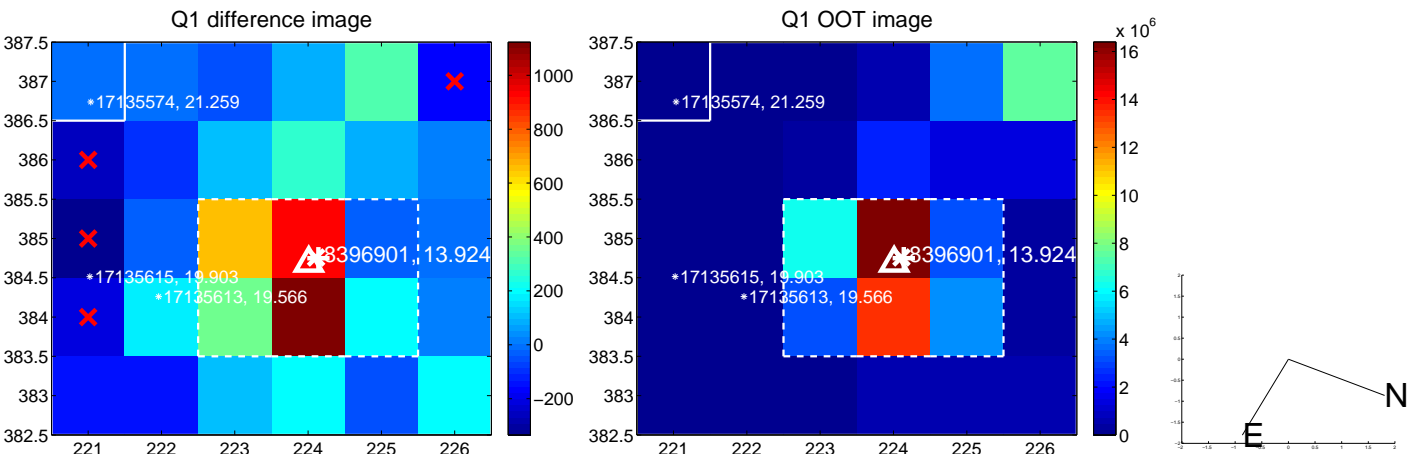
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.457 ± 0.643	0.71	0.018 ± 0.933	-0.457 ± 0.632
PRF-fit source offset from KIC position	0.354 ± 0.590	0.60	0.002 ± 0.968	-0.354 ± 0.588
photometric centroid source offset	2.59 ± 0.94	2.77	2.32 ± 0.96	1.16 ± 0.81

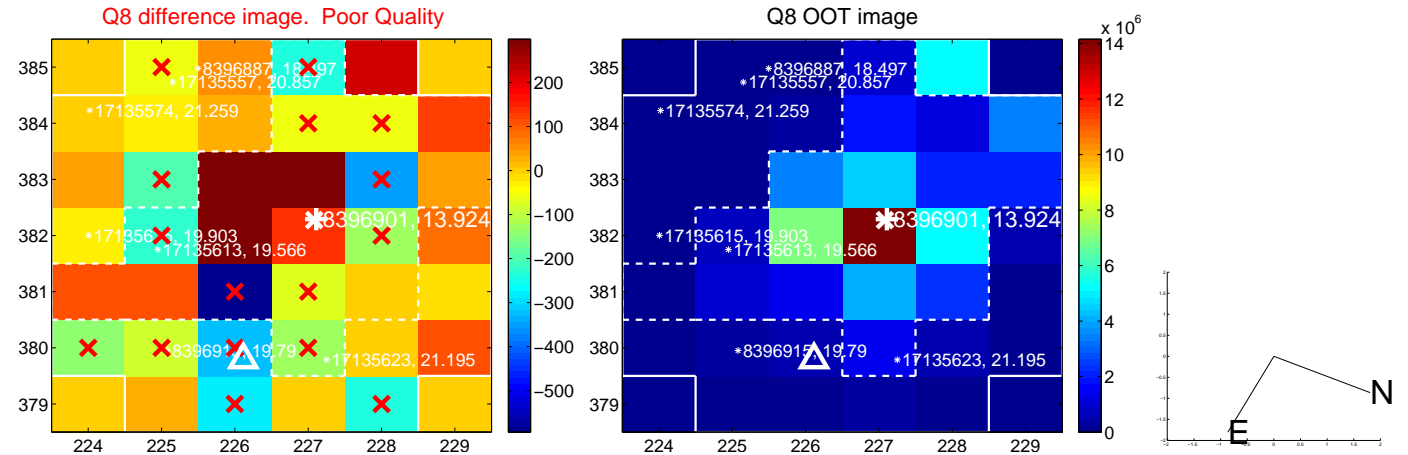
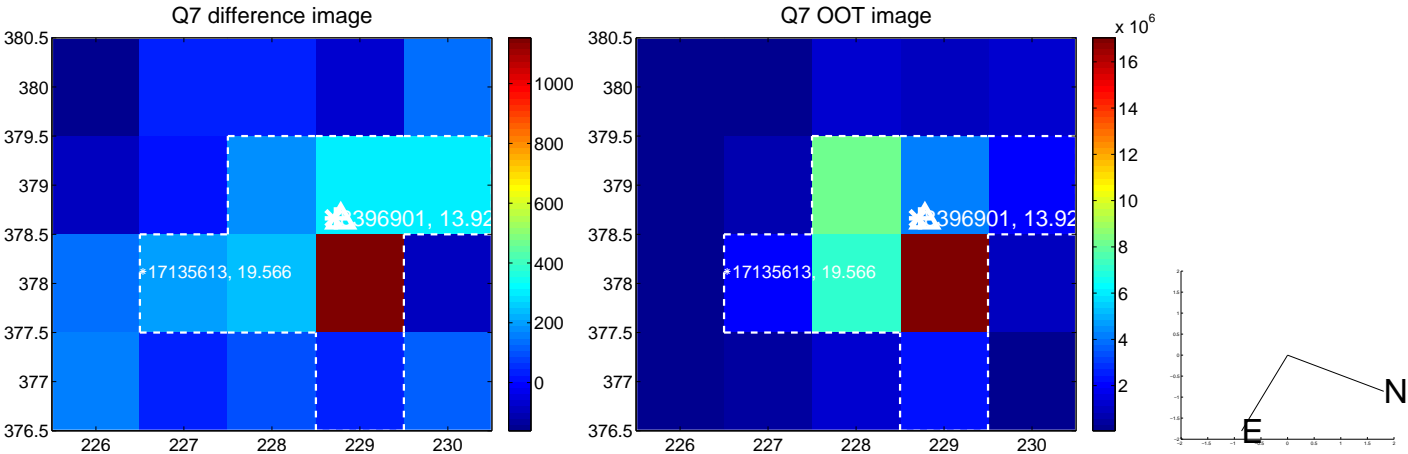
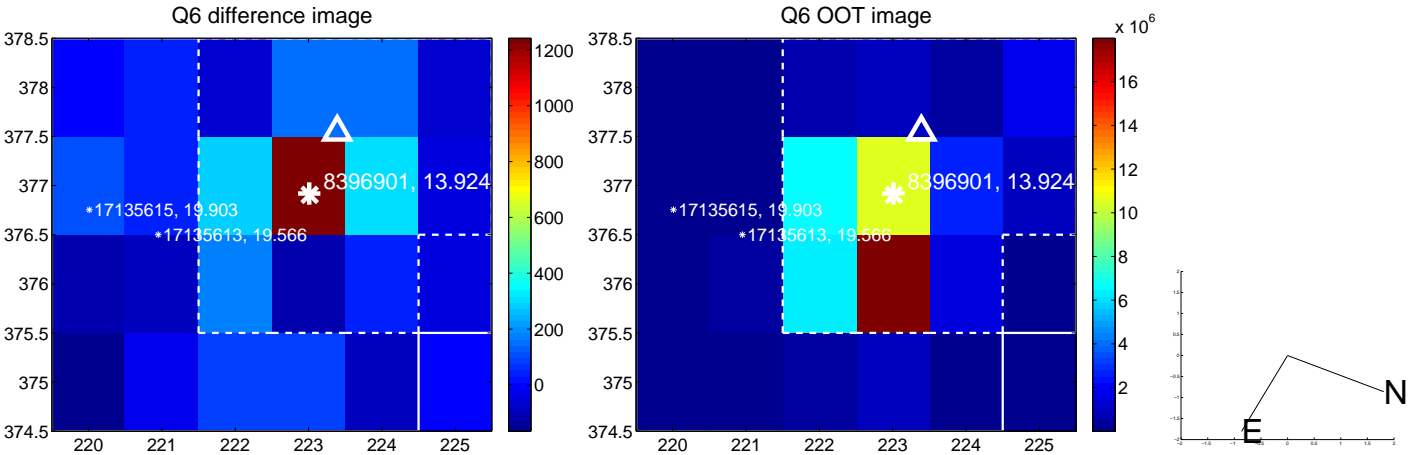
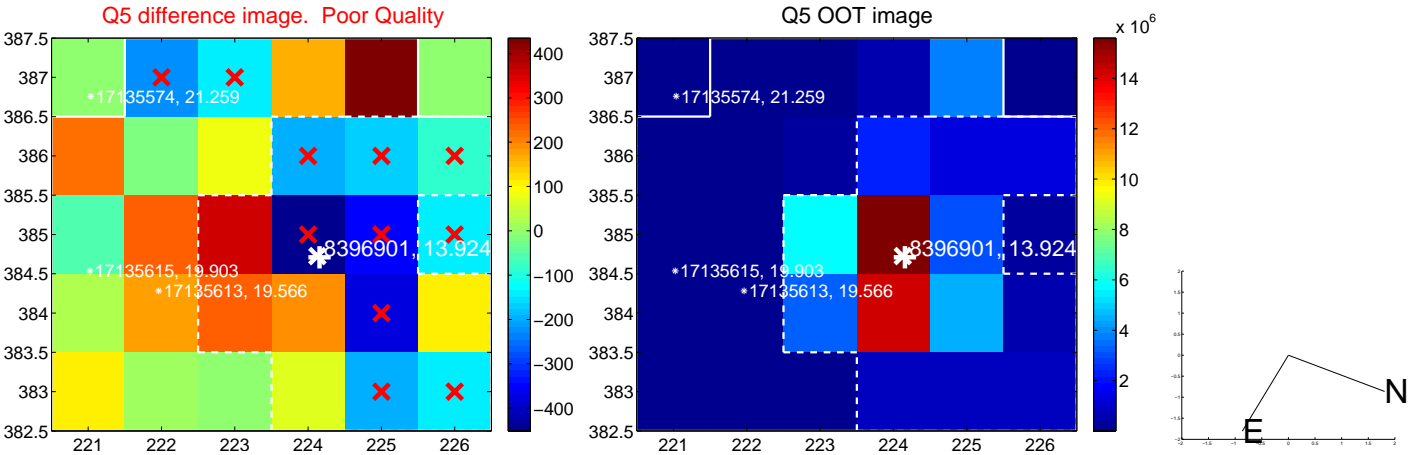


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

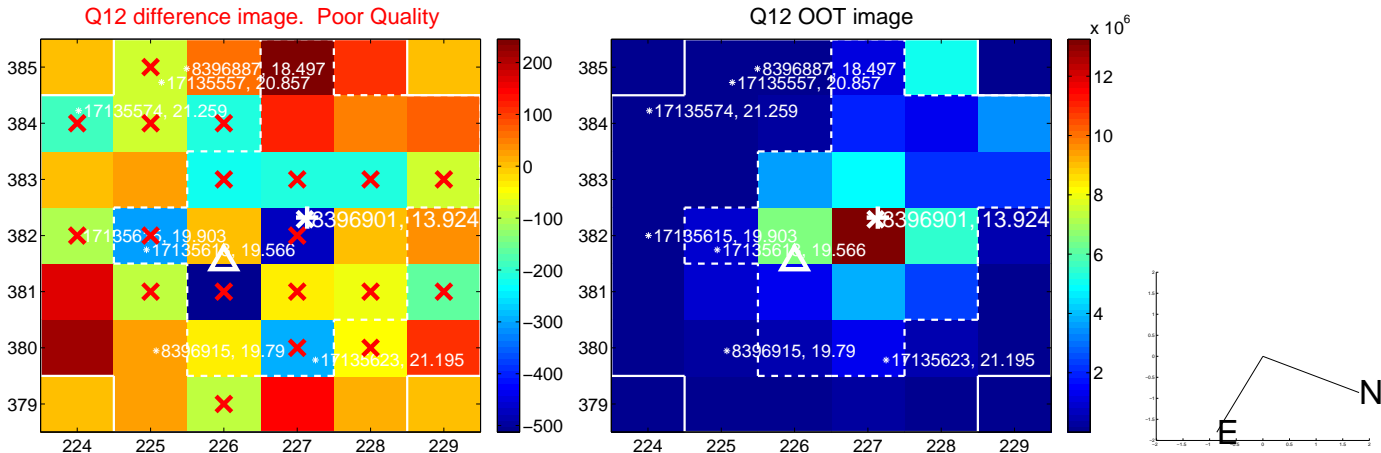
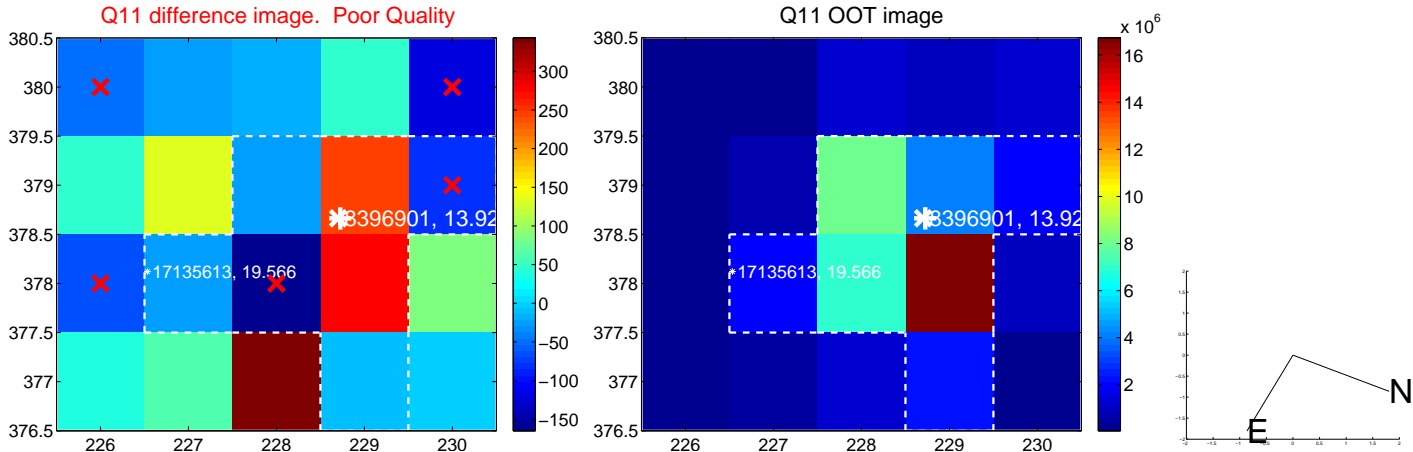
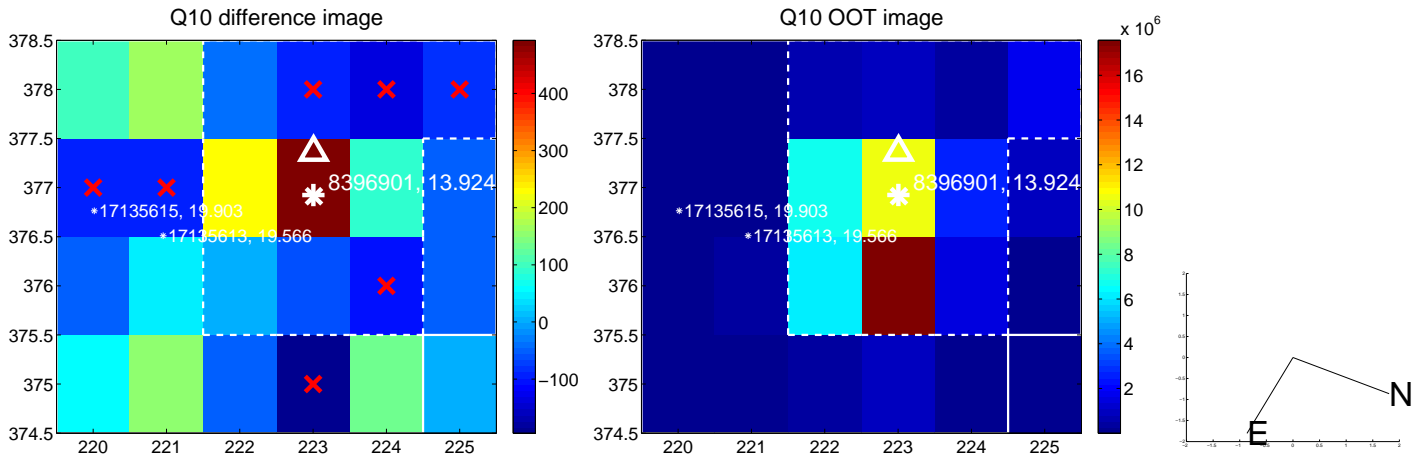
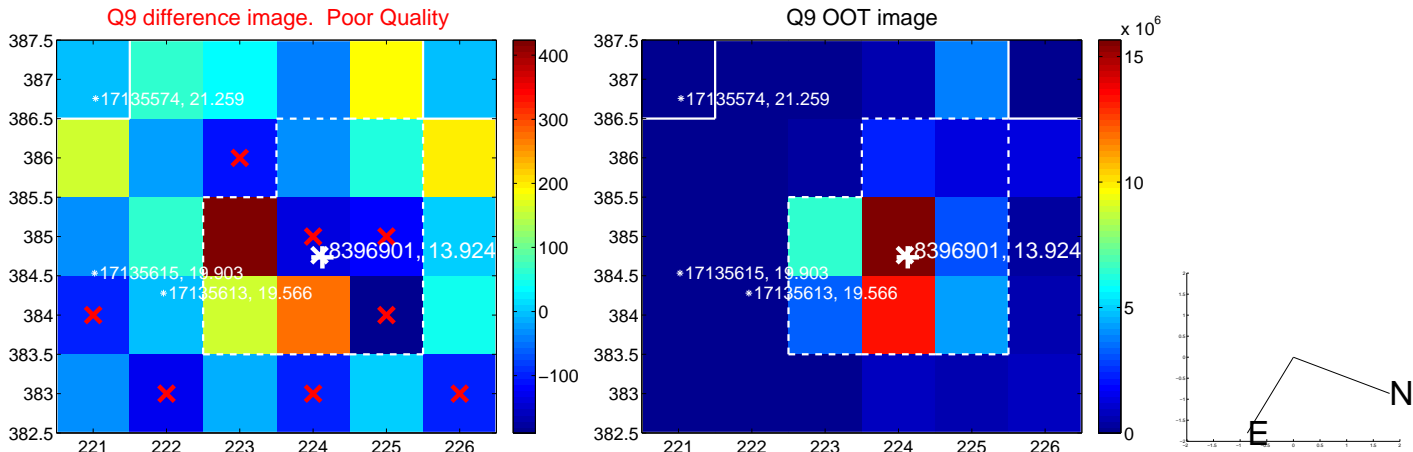
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



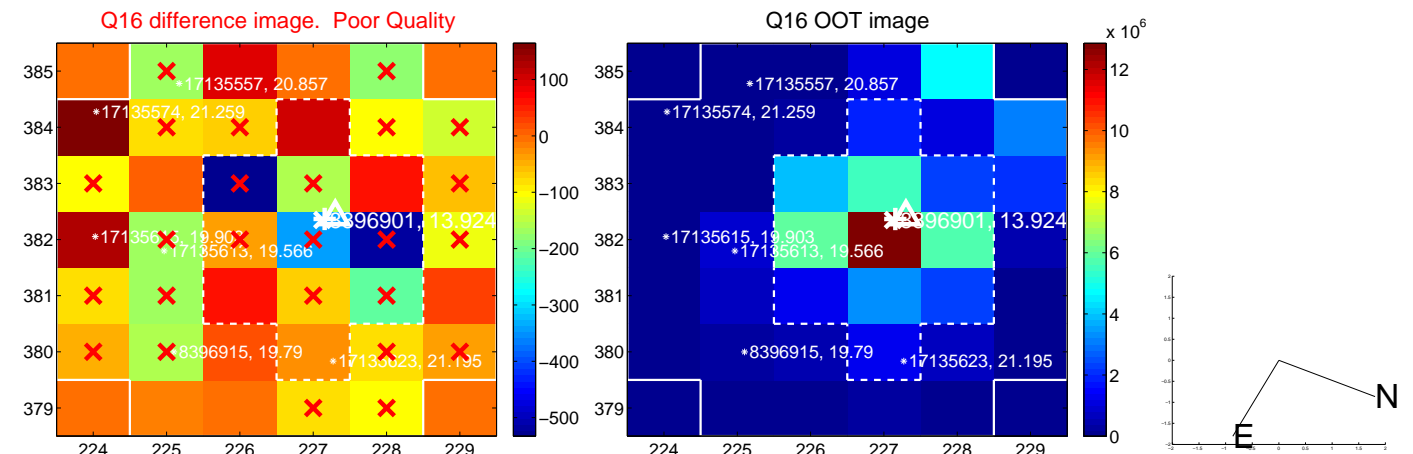
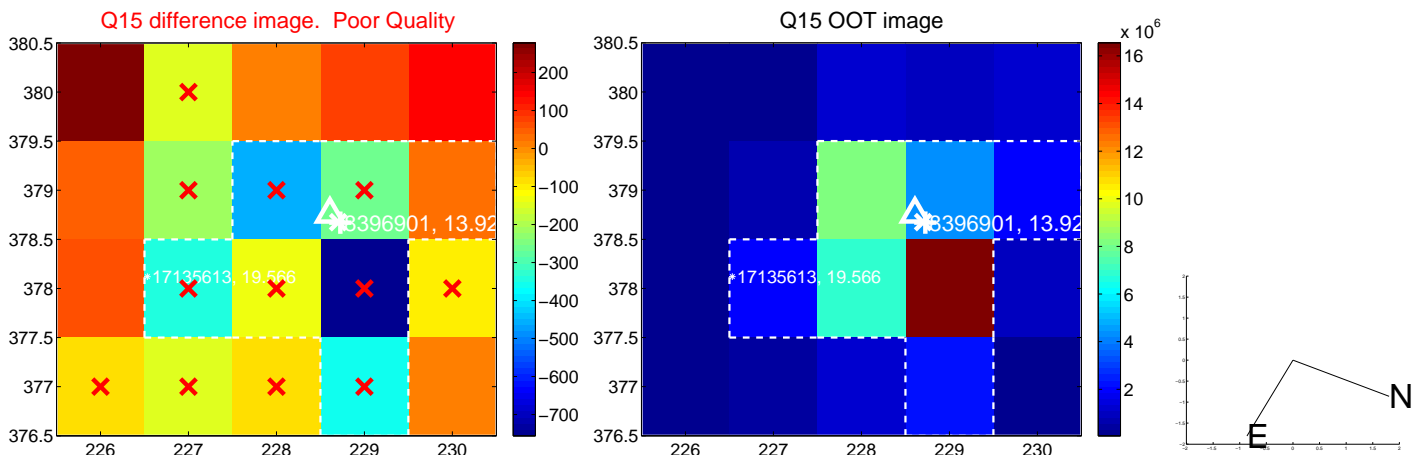
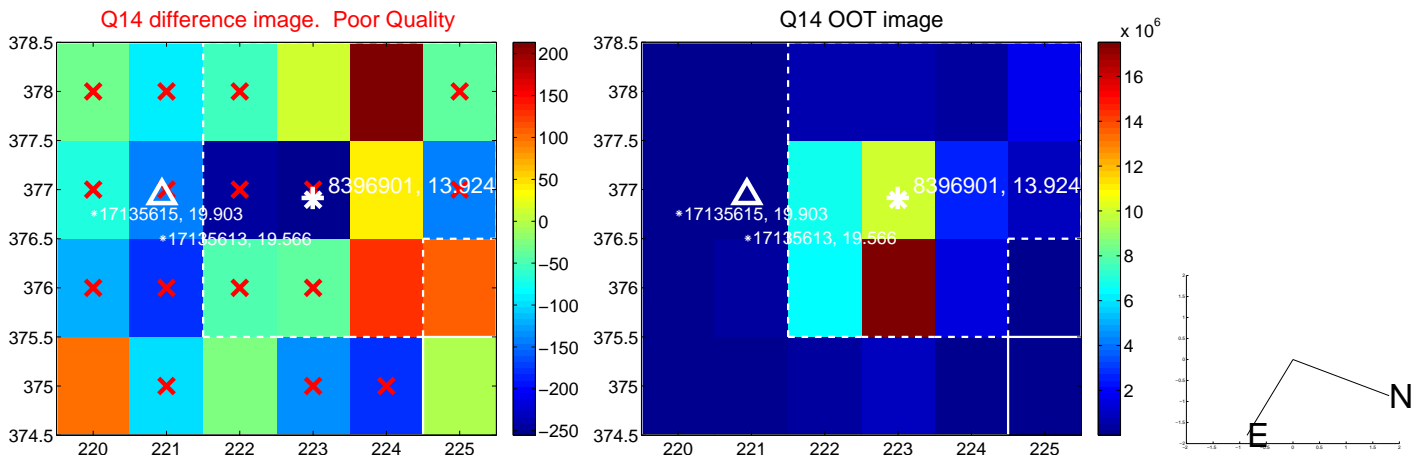
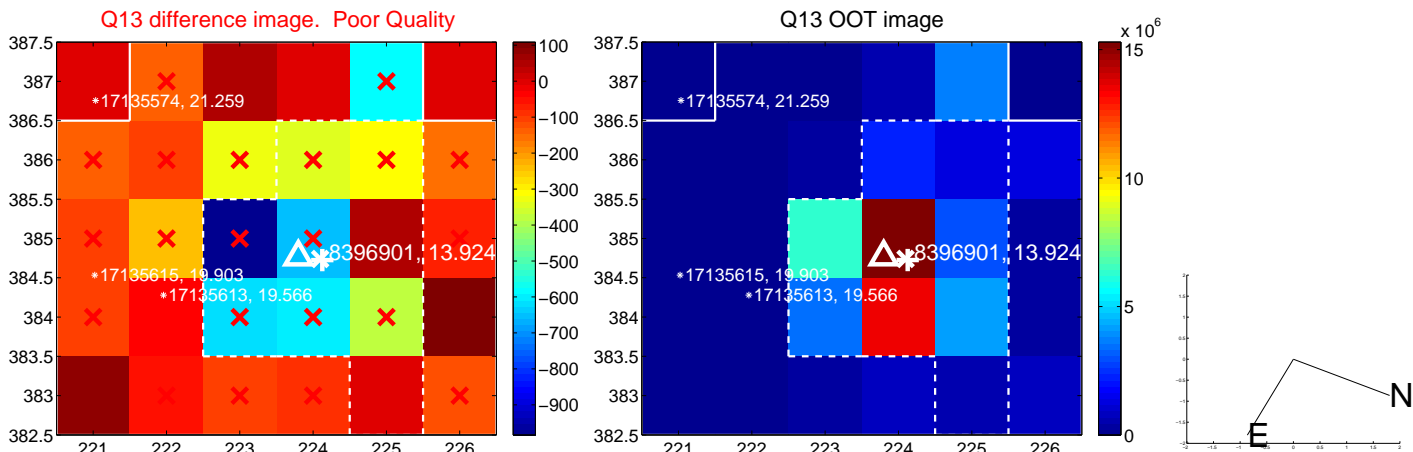
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



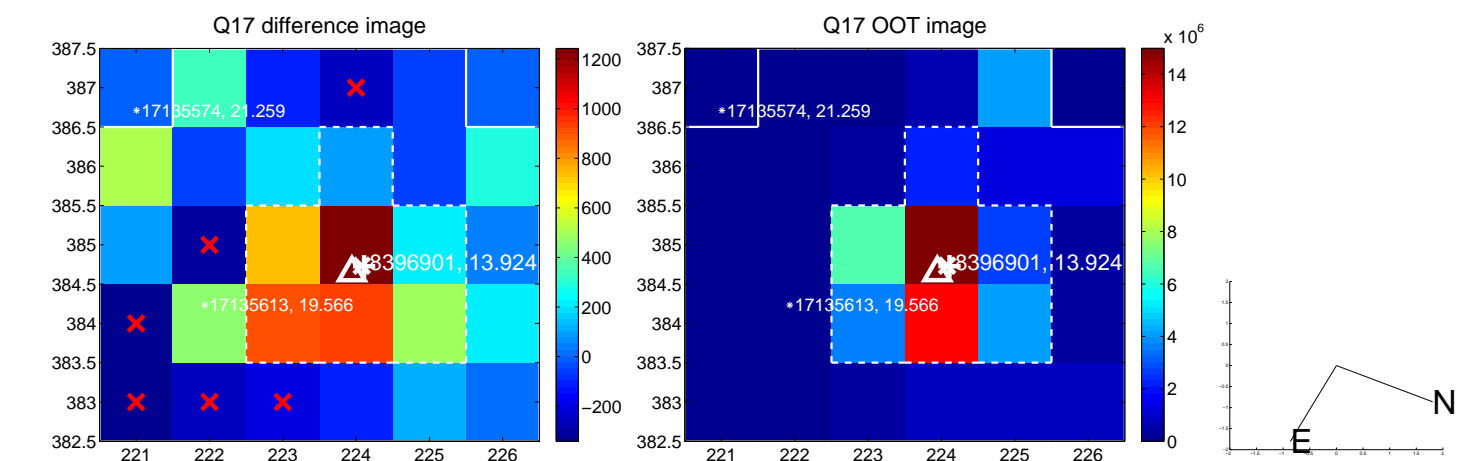
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



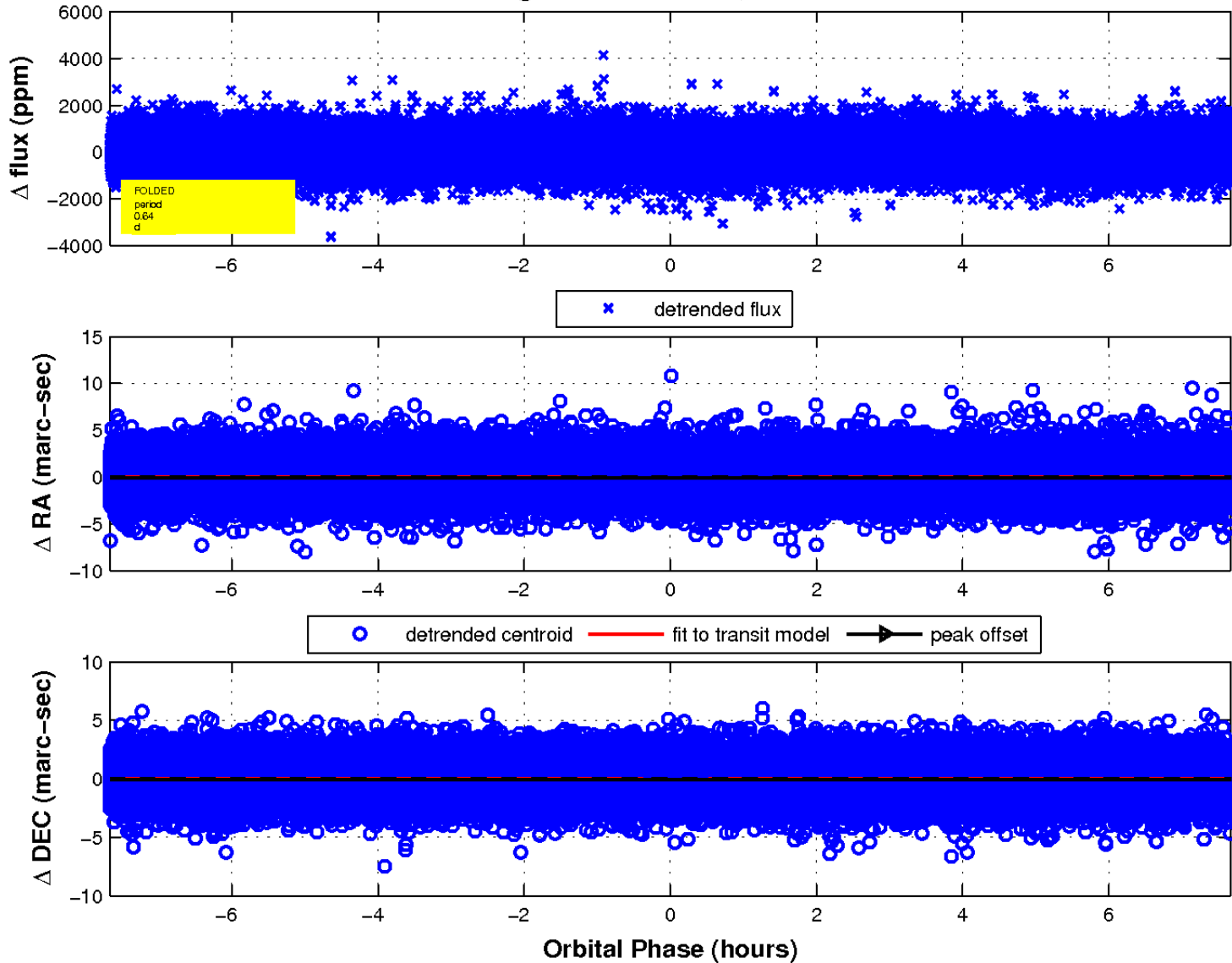
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



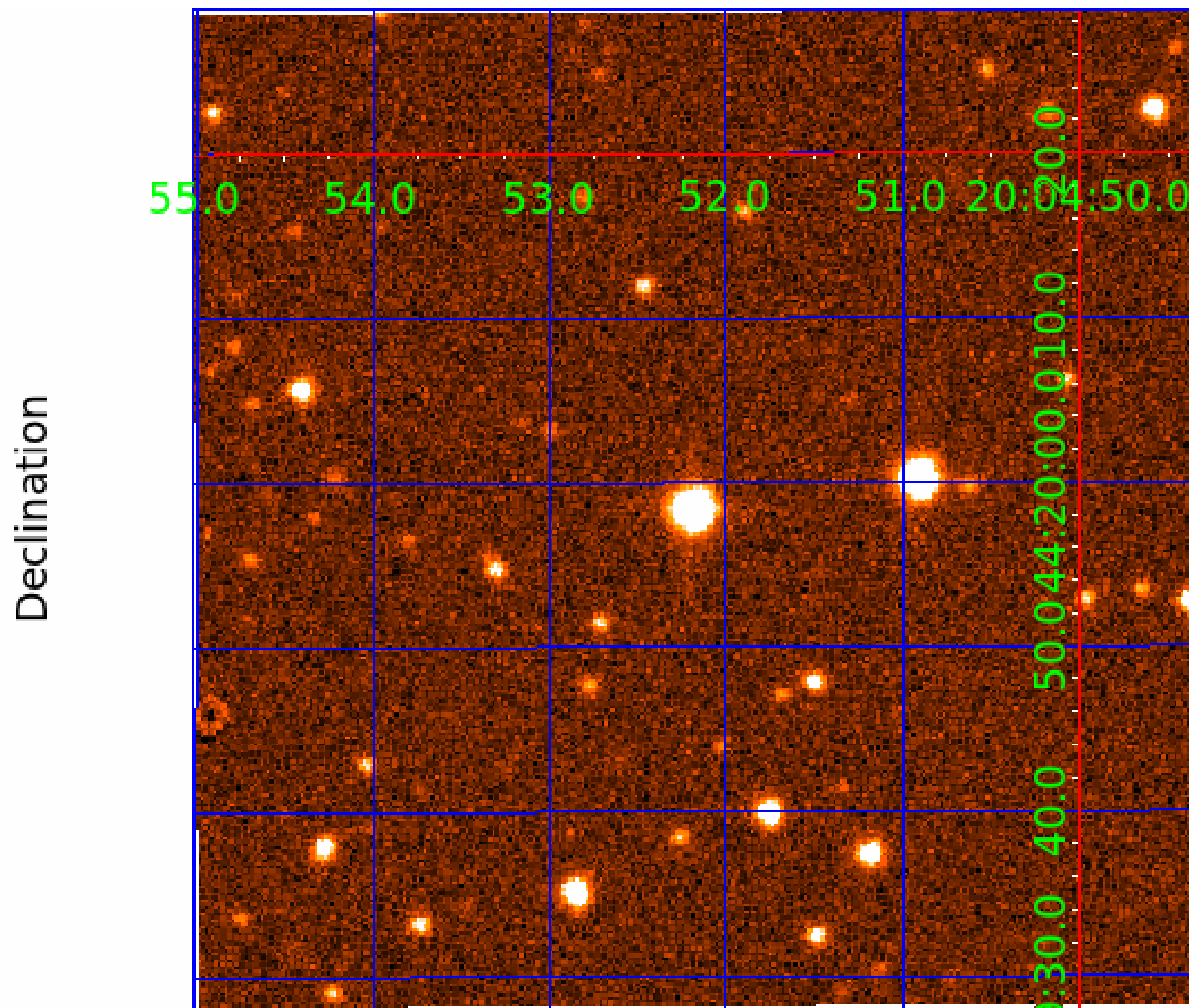
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 4



UKIRT Image



KIC 008396901

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})
008396901-01	OBS	No	0.639023	132.039348	58.9	2.625	9.4	9.1	1.77	6848	1.58	23259.83
008396901-02	OBS	No	0.639003	131.610282	36.4	3.801	9.3	5.2	1.77	6848	1.15	23260.81
008396901-03	OBS	No	18.234297	136.342581	1055.4	0.959	11.8	8.7	1.77	6848	5.87	266.75
008396901-04	OBS	No	15.167958	139.565243	1276.6	1.742	10.4	12.1	1.77	6848	6.56	340.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008396901-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008396901-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008396901-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
008396901-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

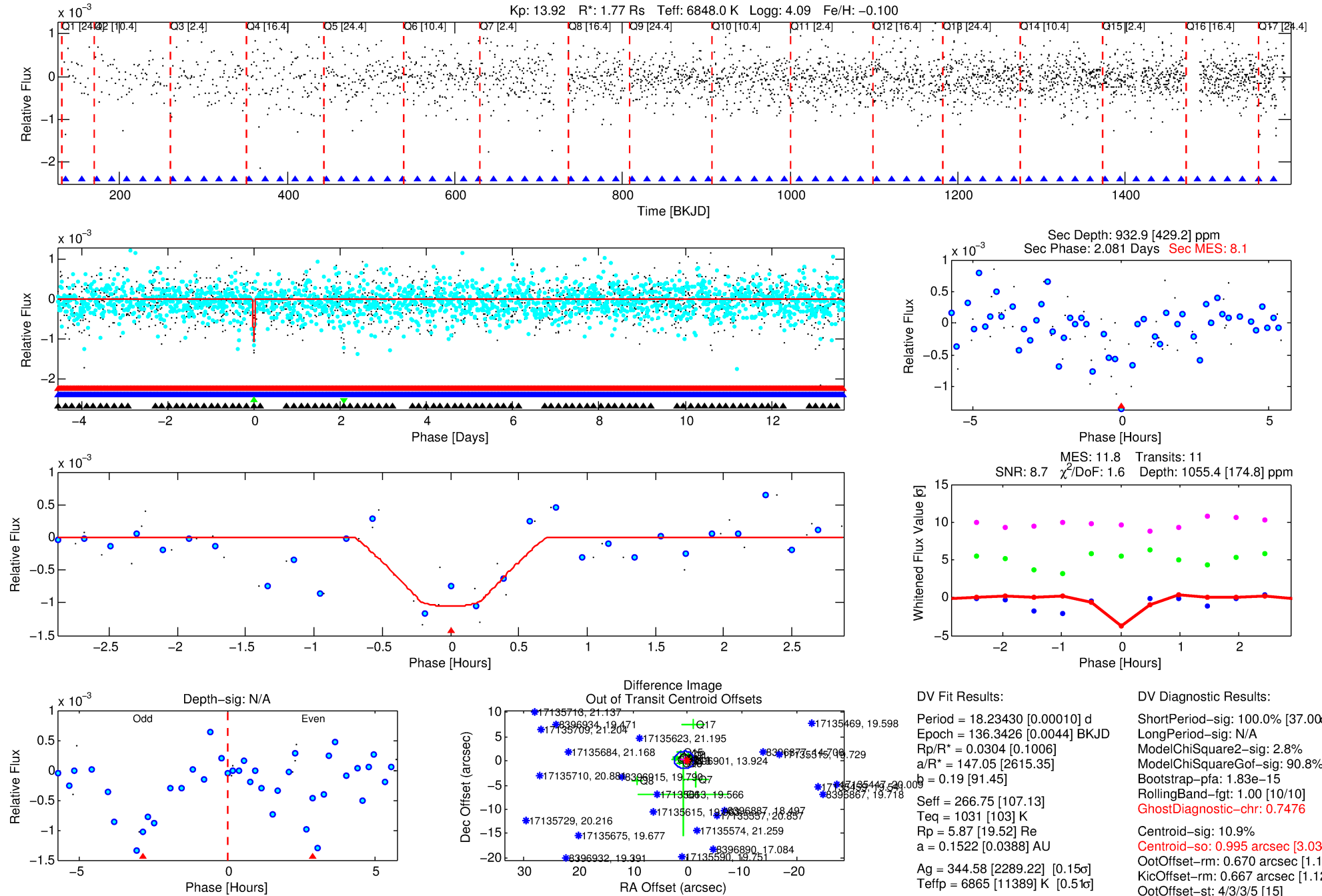
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008396901-03

No Significant Match Found

DV One-Page Summary

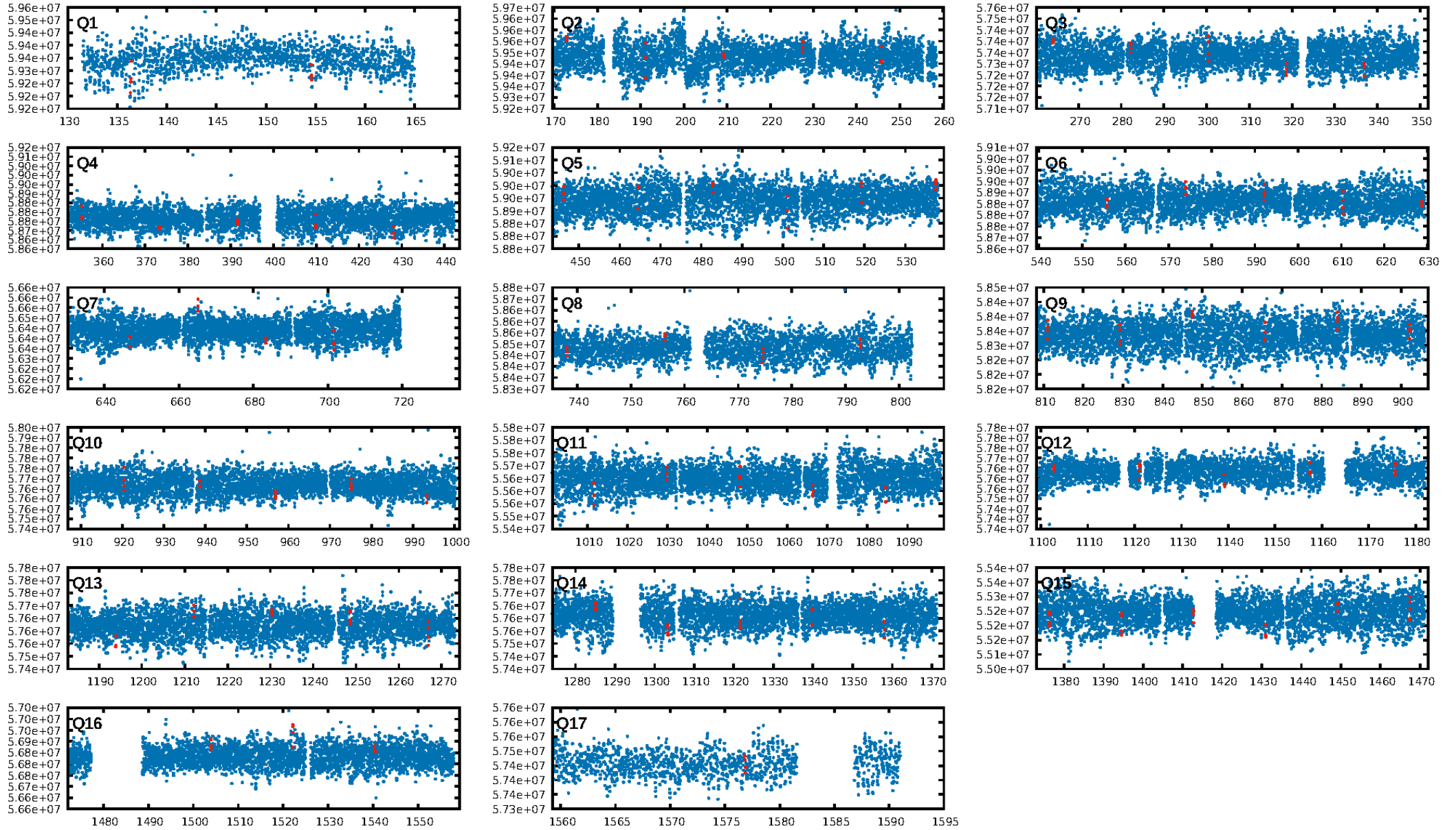
KIC: 8396901 Candidate: 3 of 4 Period: 18.234 d



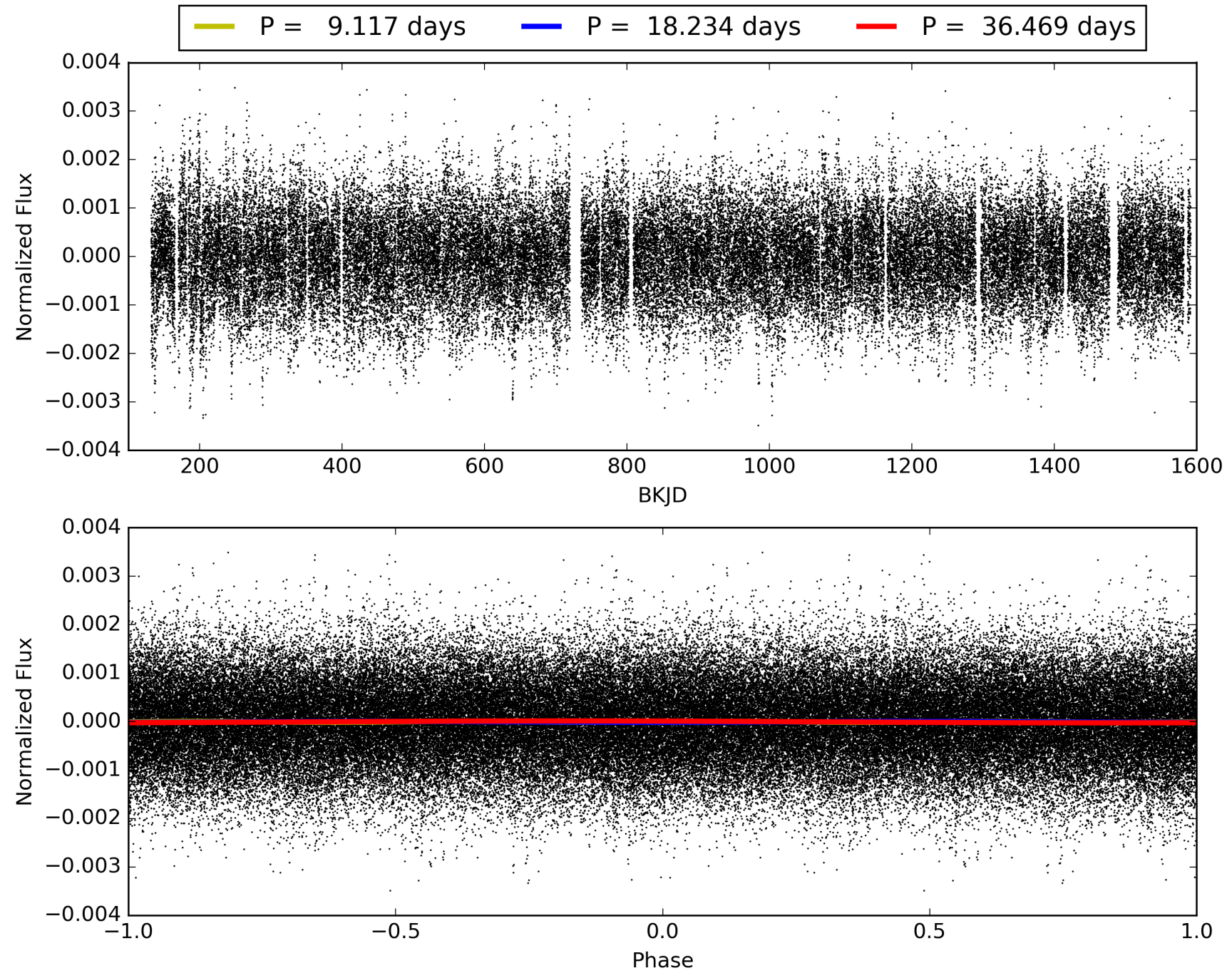
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:28:49 Z

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

TCE 008396901-03, PDC Light Curves

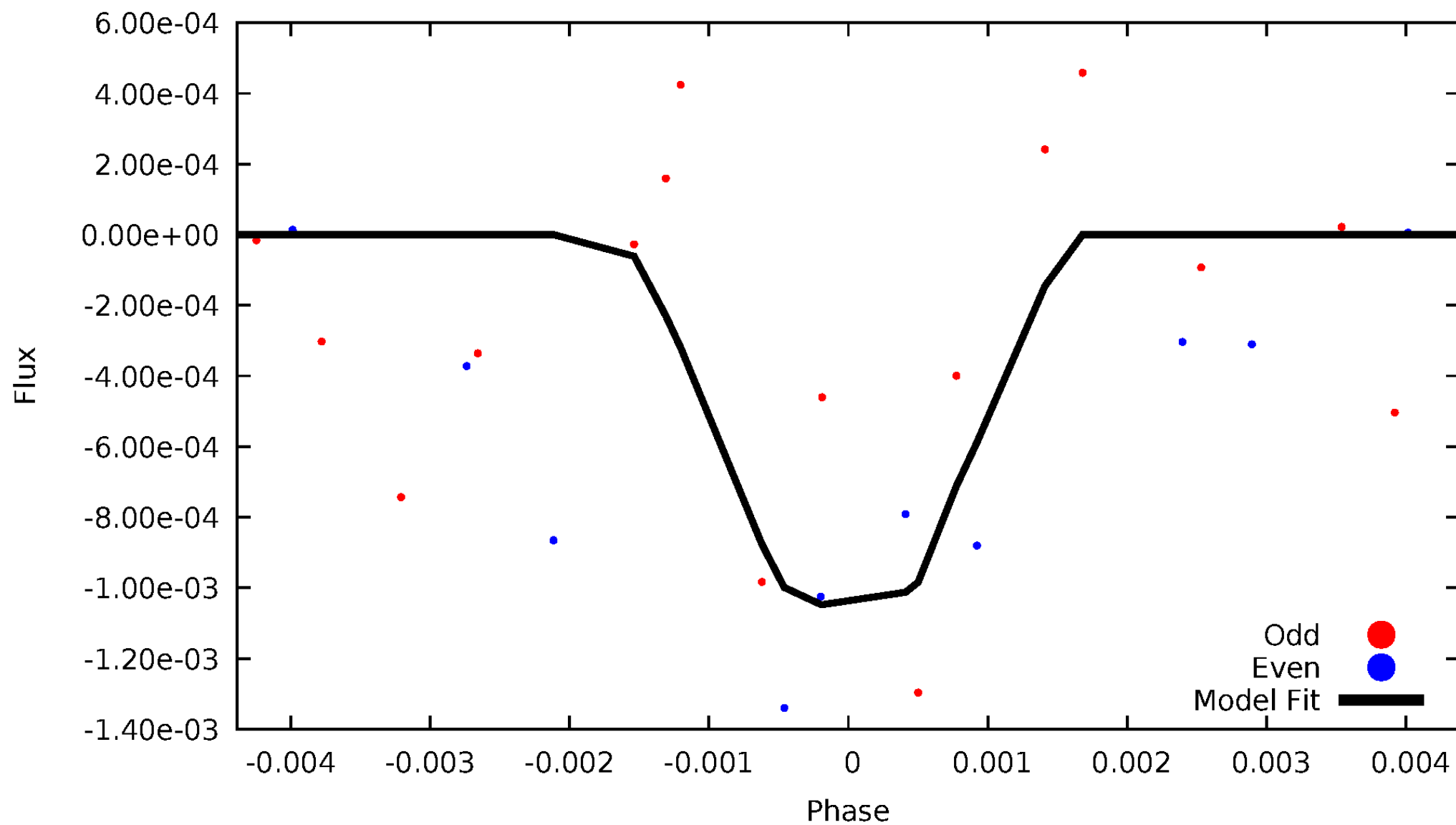


TCE 008396901-03



DV Odd/Even

TCE 008396901-03

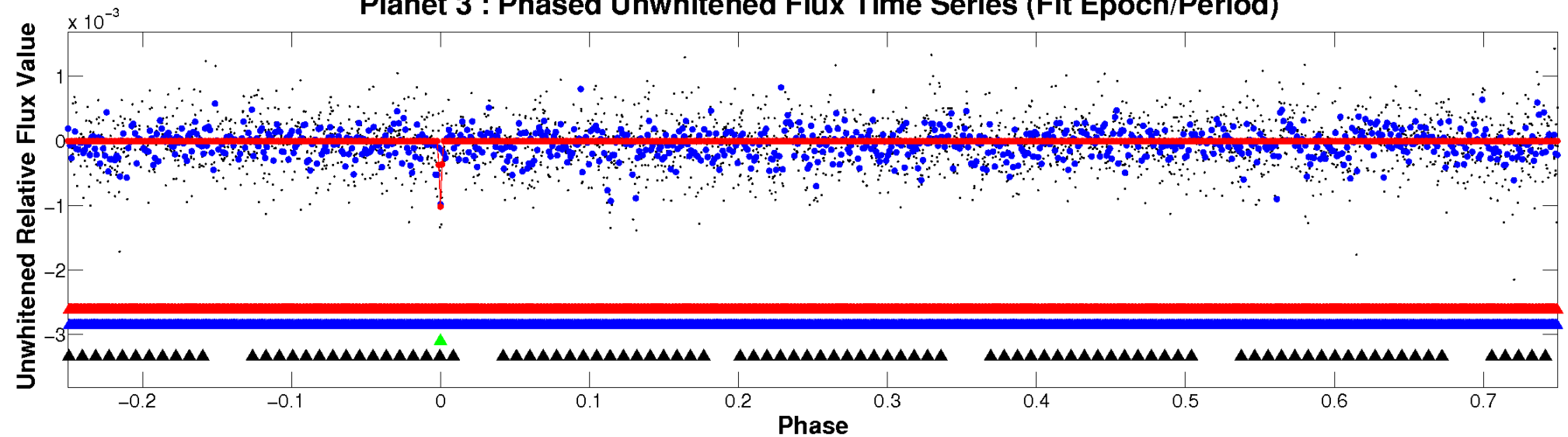


ALT Odd/Even

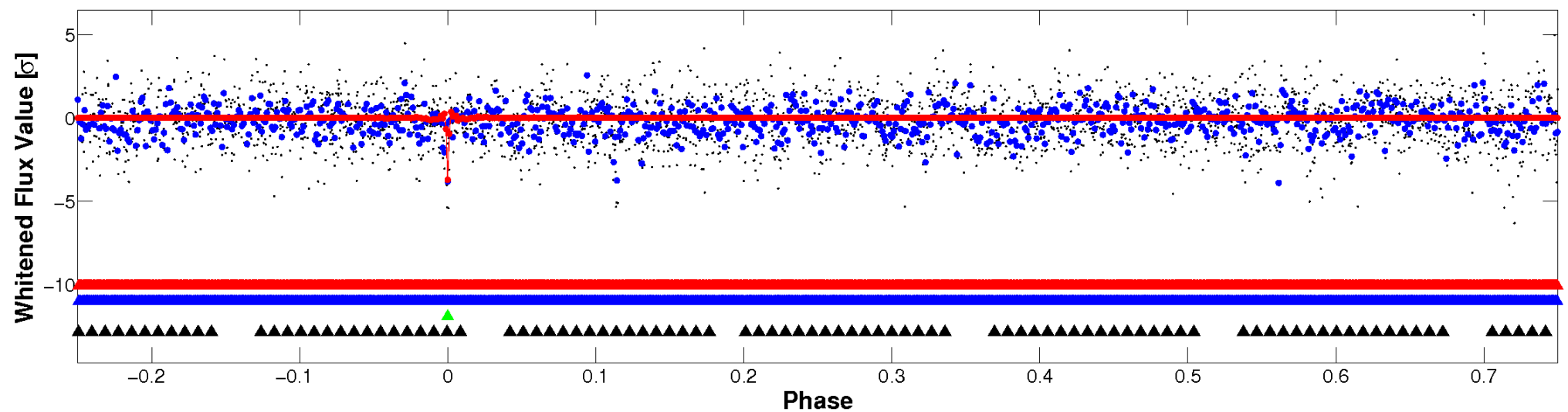
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

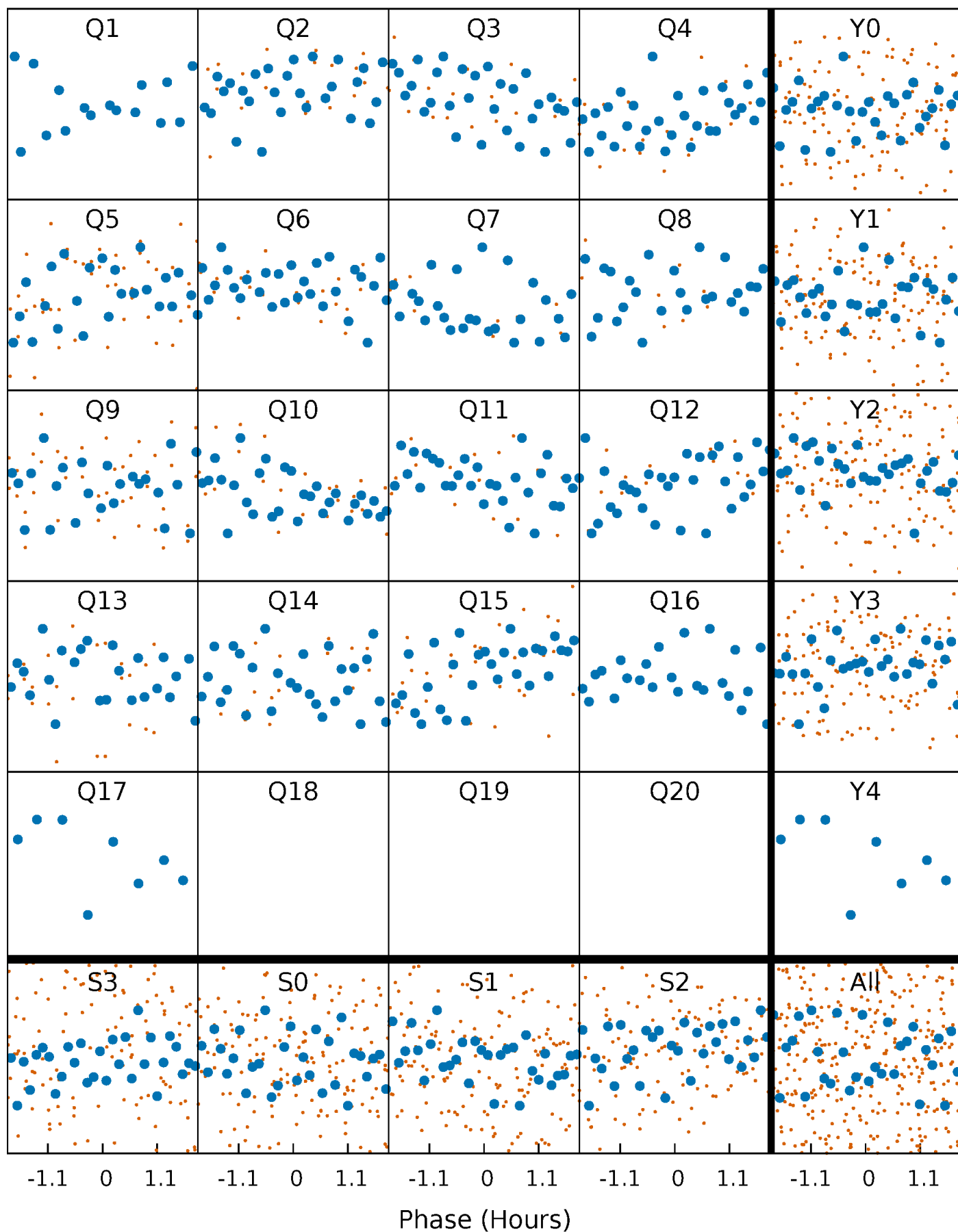


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



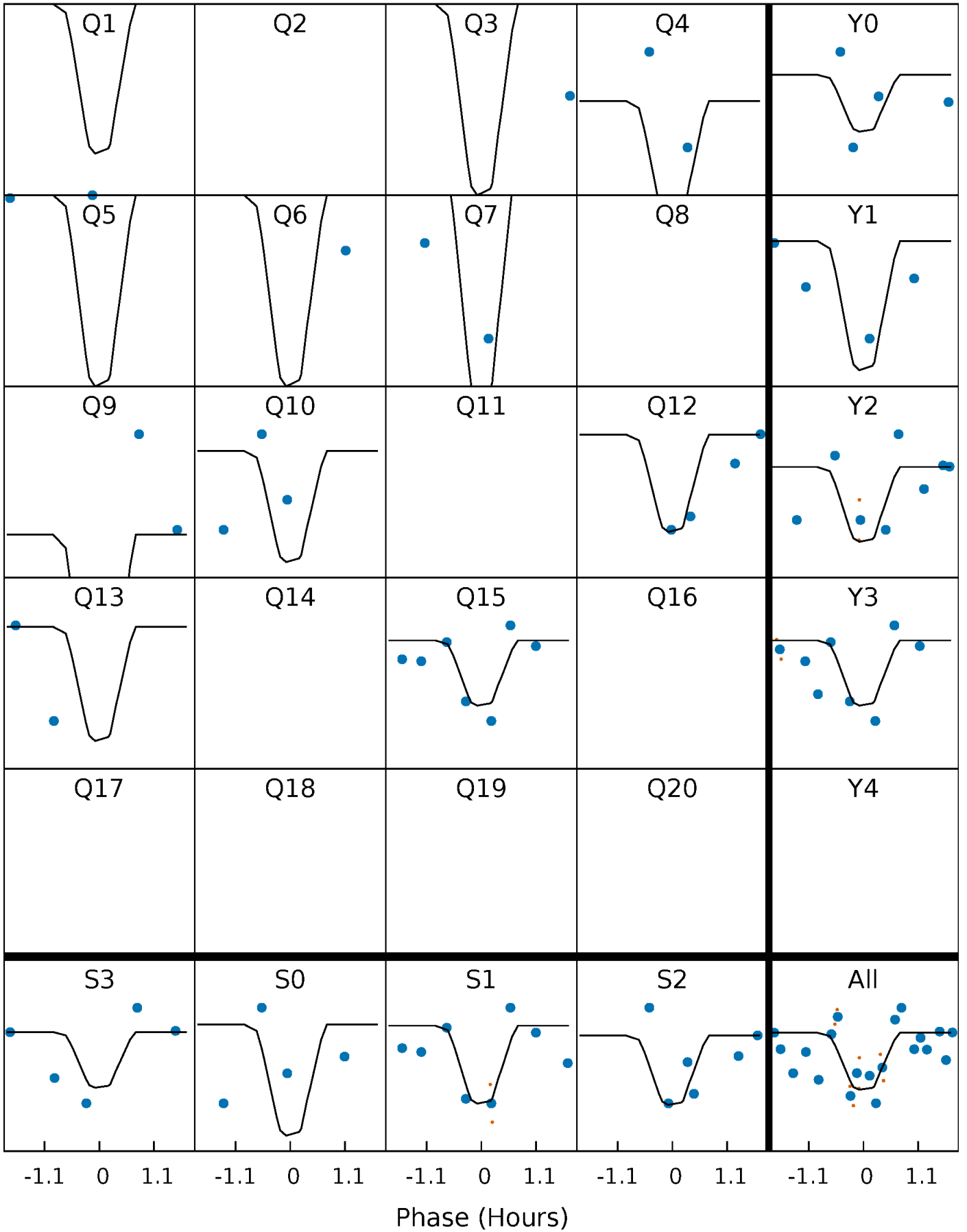
PDC Quarter-Phased Transit Curves

TCE 008396901-03 P= 18.234297 Days $T_0=136.342581$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008396901-03 P= 18.234297 Days $T_0=136.342581$ (BKJD)

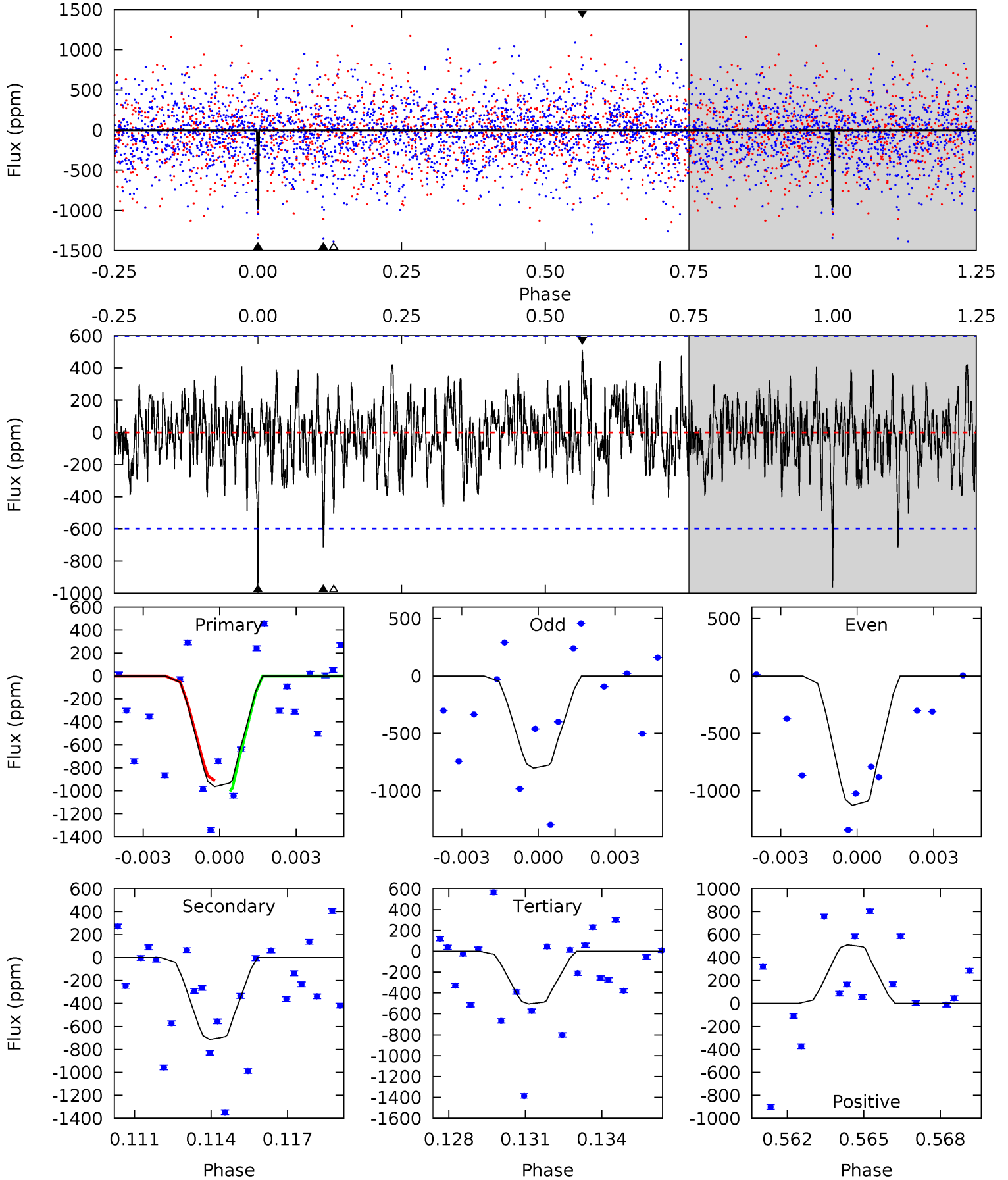


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008396901-03, P = 18.234297 Days, E = 118.108284 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.46	6.26	4.43	4.48	5.25	2.97	1.45	4.03	3.98	1.83	1.78	1.39	0.82	0.35	0.41



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008396901

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6848^{+214}_{-309}	$4.092^{+0.190}_{-0.190}$	$-0.100^{+0.250}_{-0.300}$	$1.771^{+0.555}_{-0.505}$	$1.420^{+0.202}_{-0.269}$	$0.360^{+0.426}_{-0.167}$
	+3%/-5%	+5%/-5%	+250%/-300%	+31%/-29%	+14%/-19%	+118%/-46%
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 008396901-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-713 ± 114	$16.26^{+14.72}_{-11.43}$	1440^{+127}_{-117}	4117^{+2764}_{-791}	34^{+340}_{-25}
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 $A_{\text{obs}} \gg 1.0$

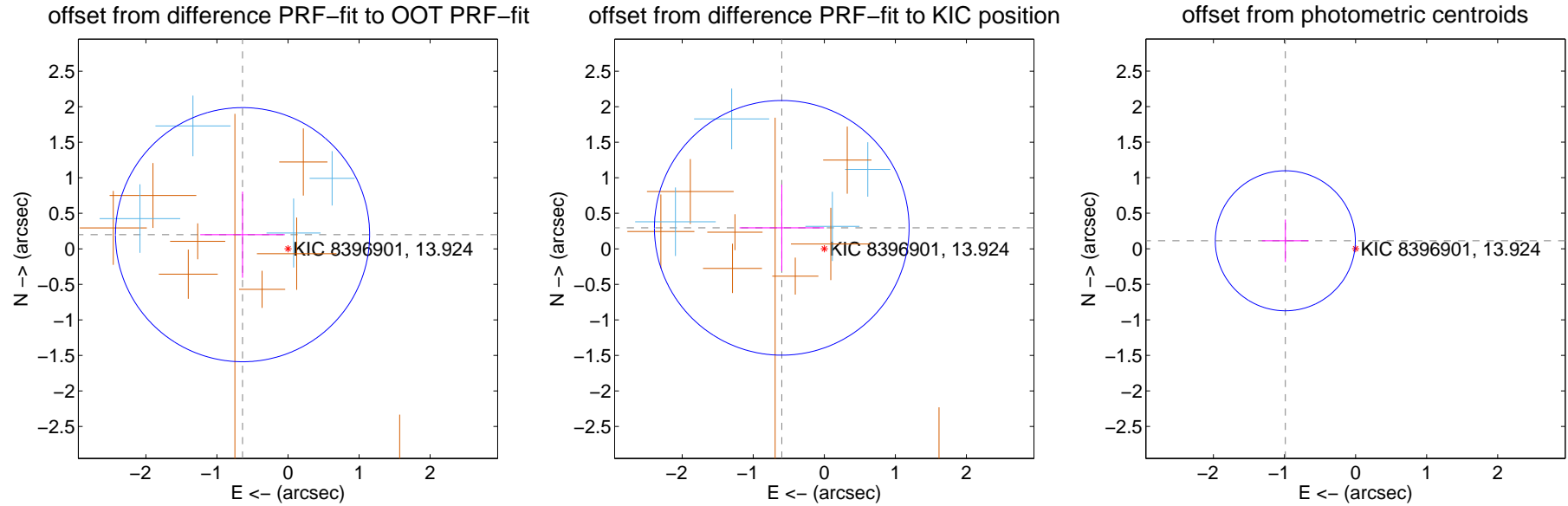
DV Centroid Data

Supplemental centroid analysis for 008396901-03. Kepler magnitude: 13.92. Transit SNR 8.70

There are 4 quarters with good PRF difference image offsets

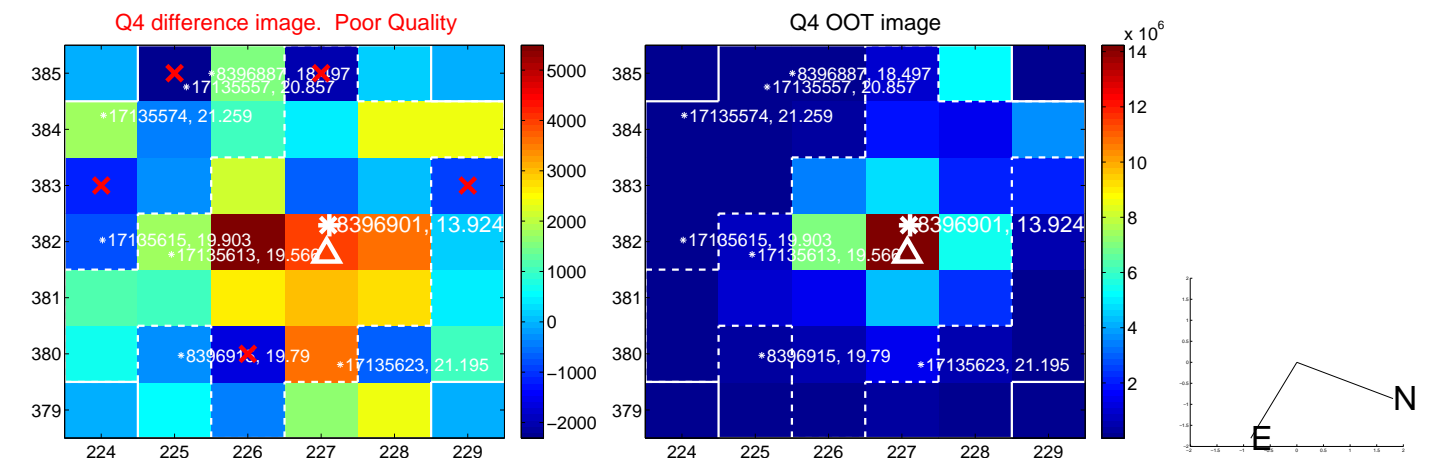
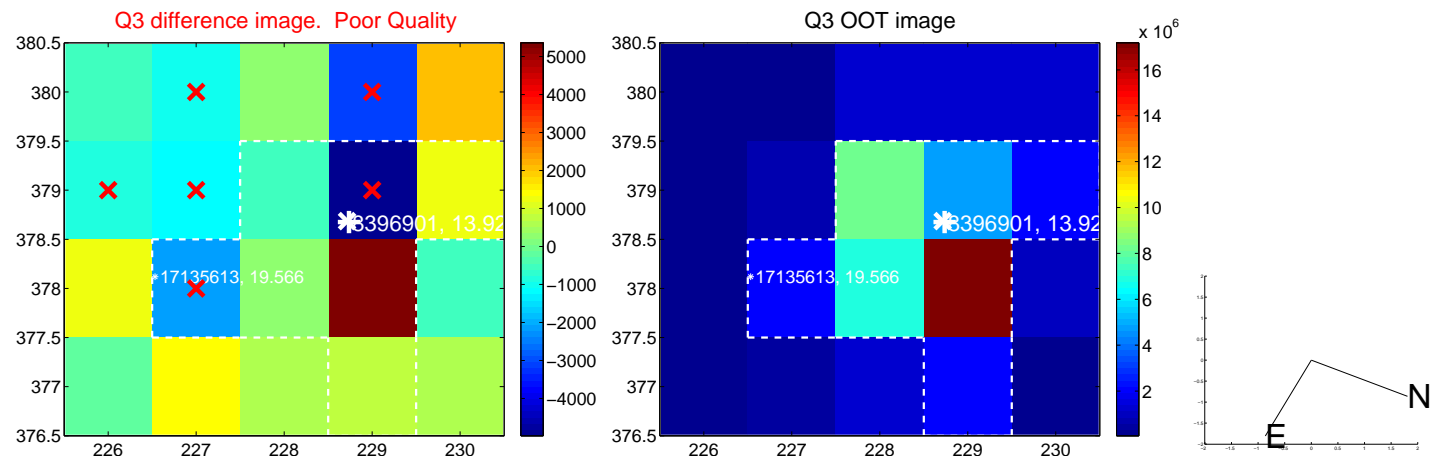
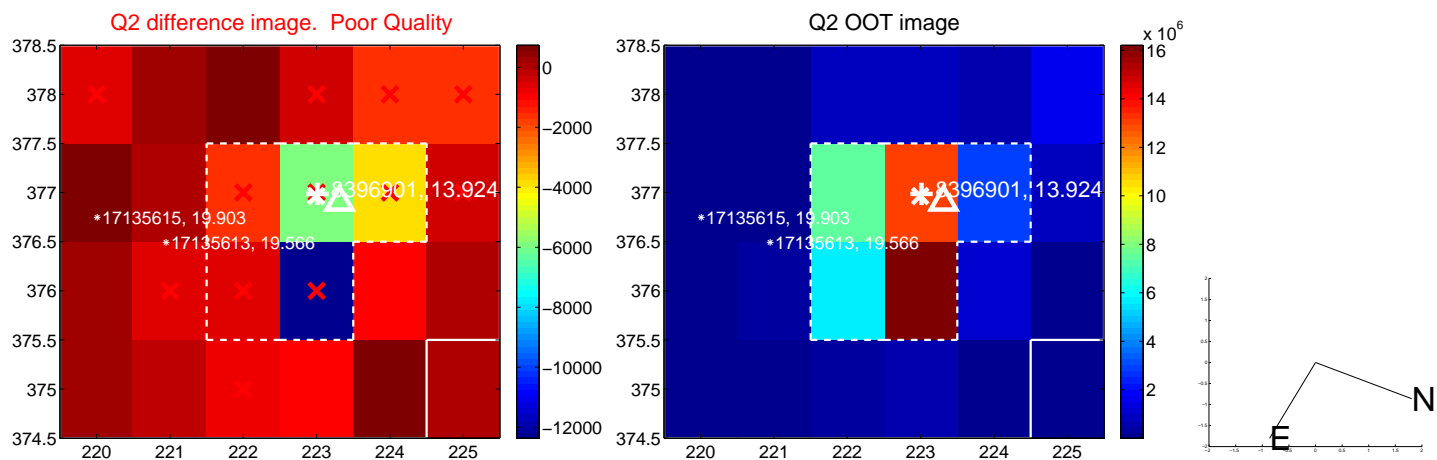
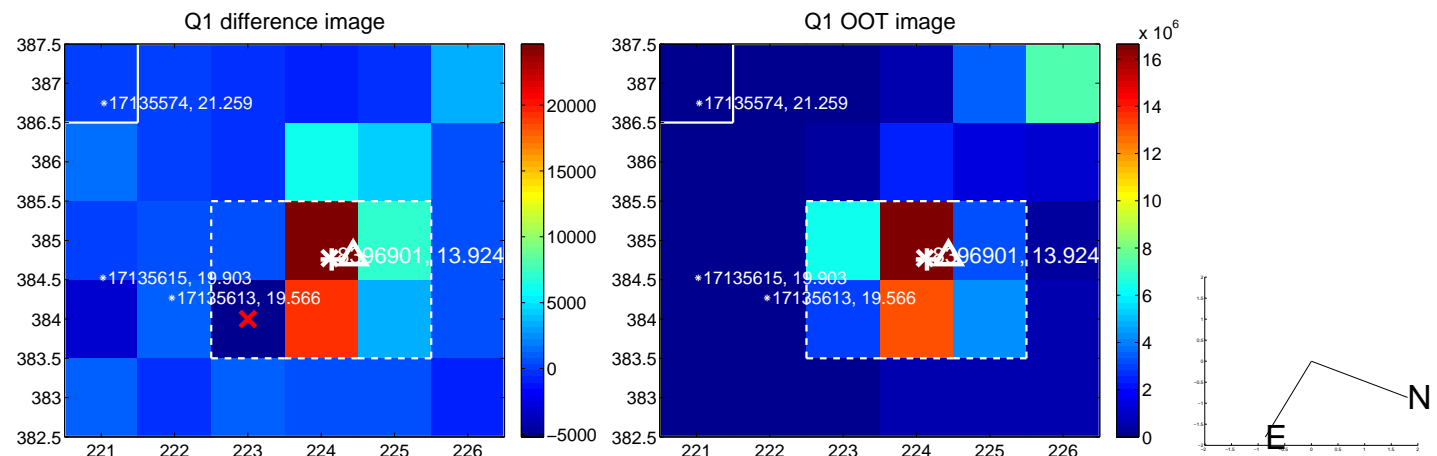
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.670 ± 0.596	1.12	0.640 ± 0.595	0.199 ± 0.606
PRF-fit source offset from KIC position	0.667 ± 0.597	1.12	0.599 ± 0.595	0.295 ± 0.606
photometric centroid source offset	0.99 ± 0.33	3.03	0.99 ± 0.33	0.11 ± 0.30

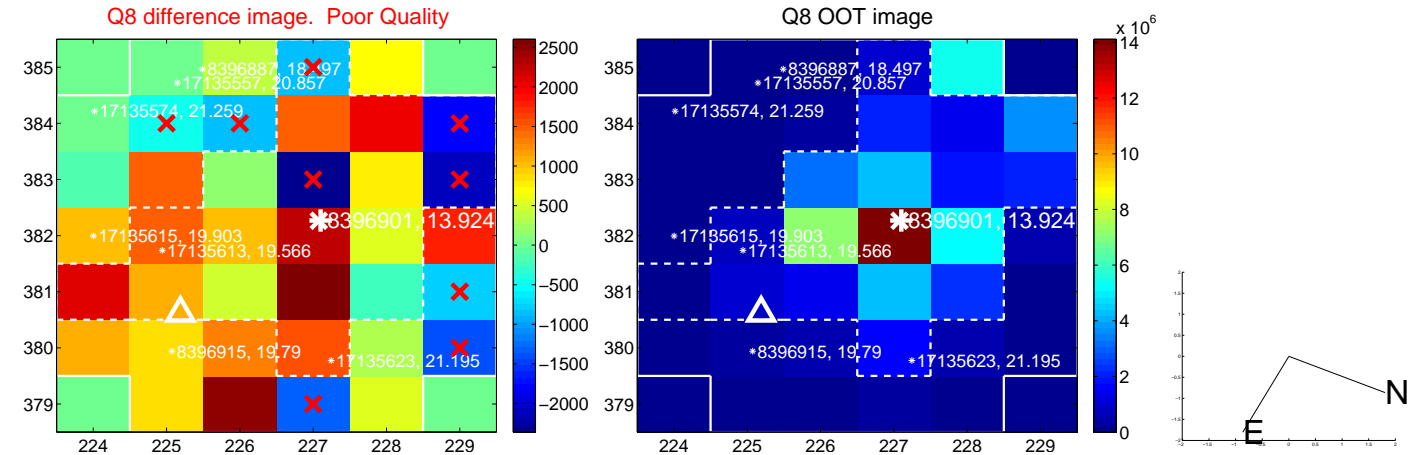
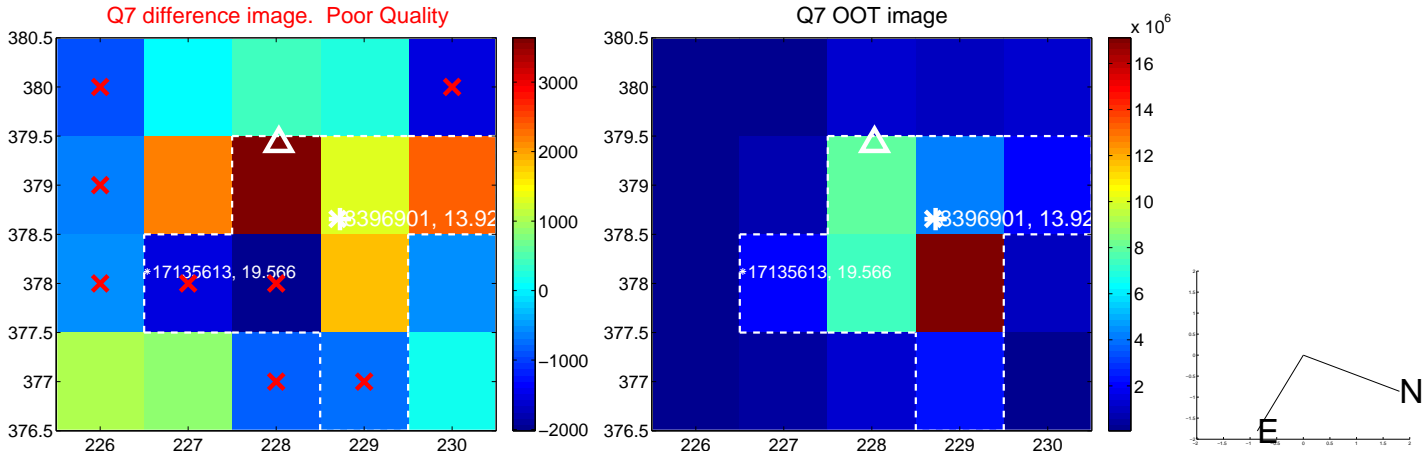
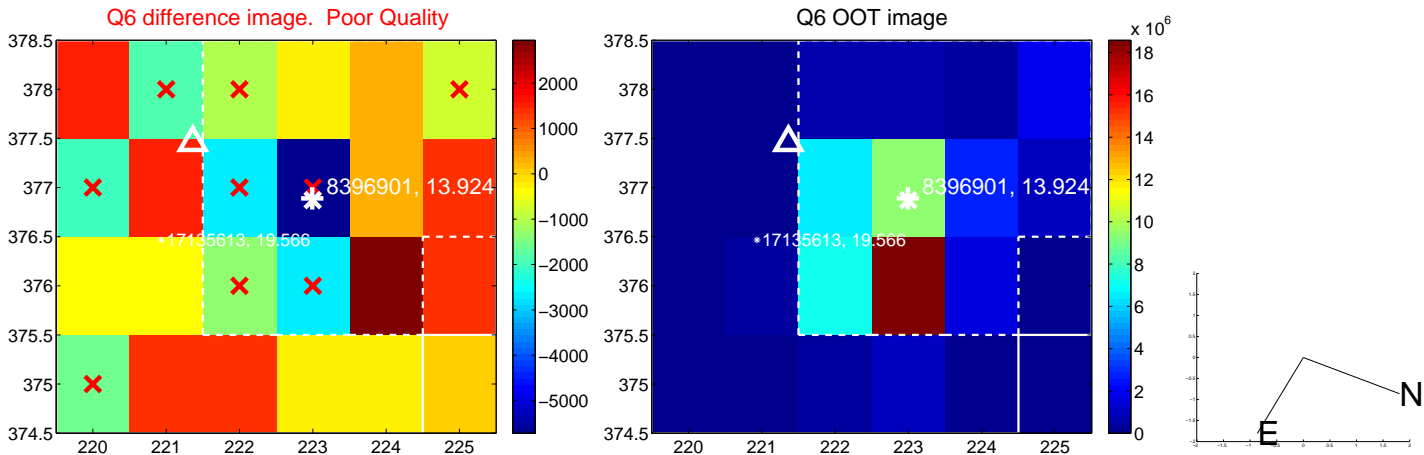
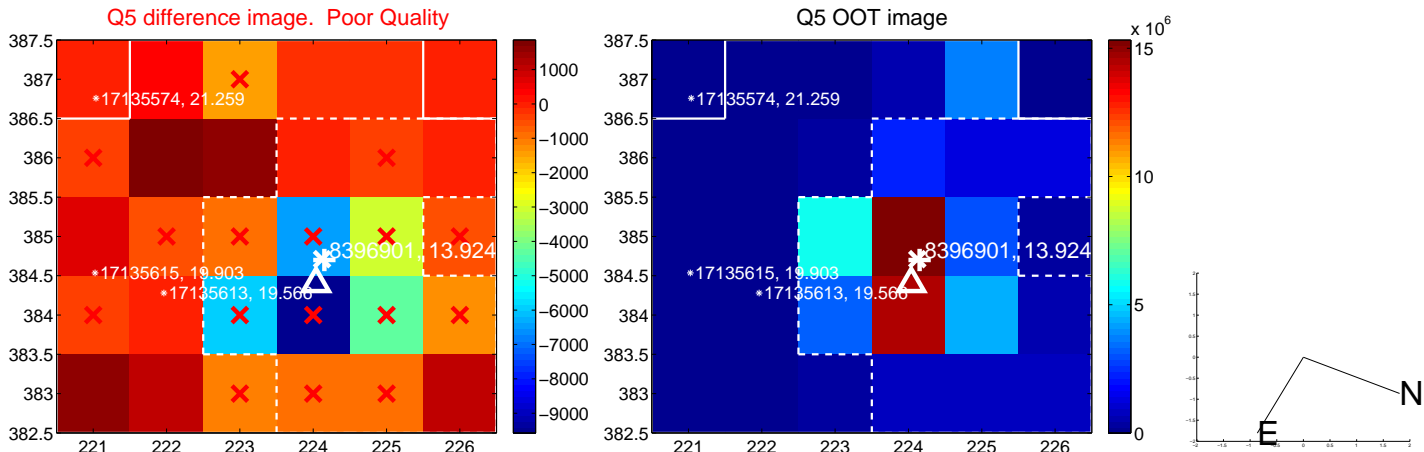


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

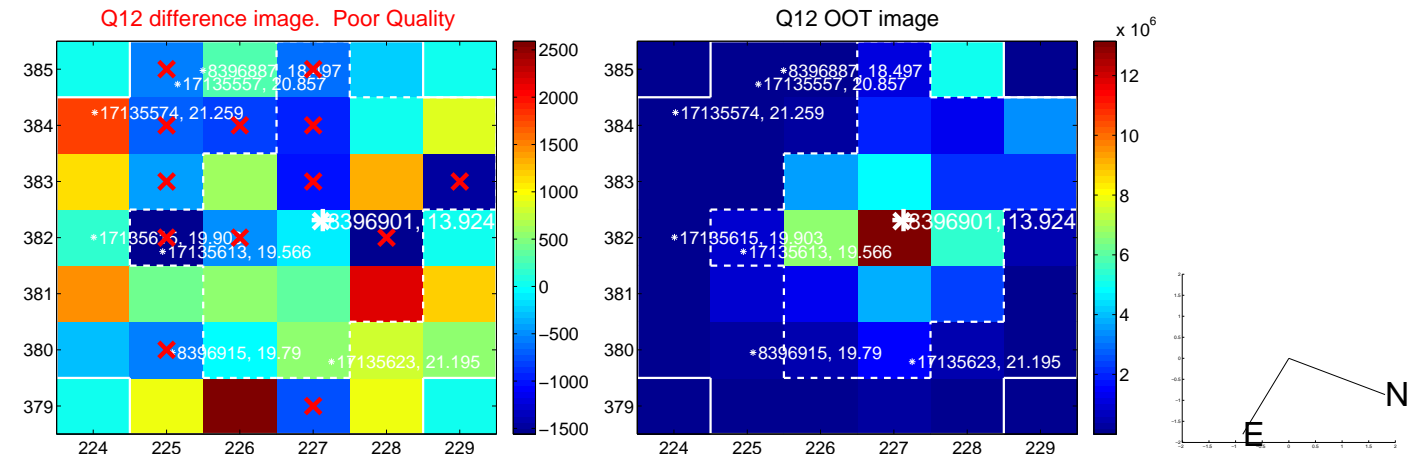
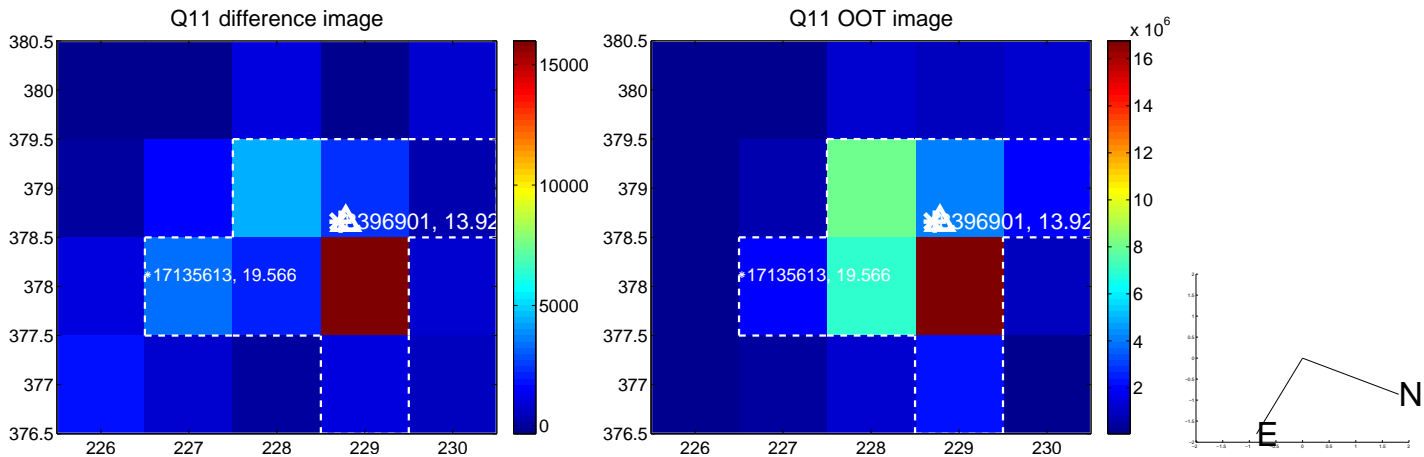
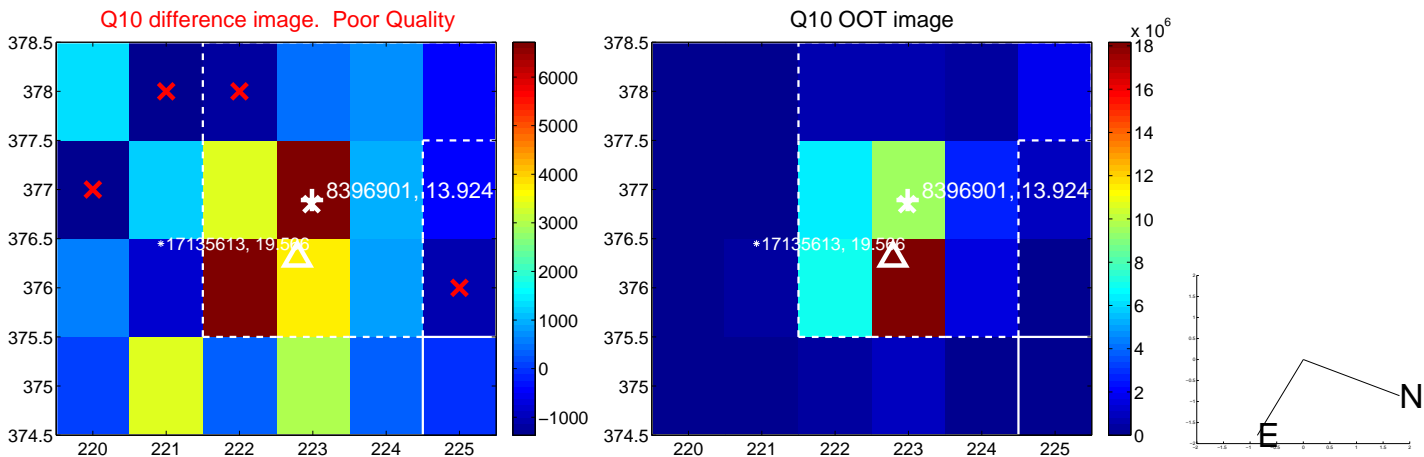
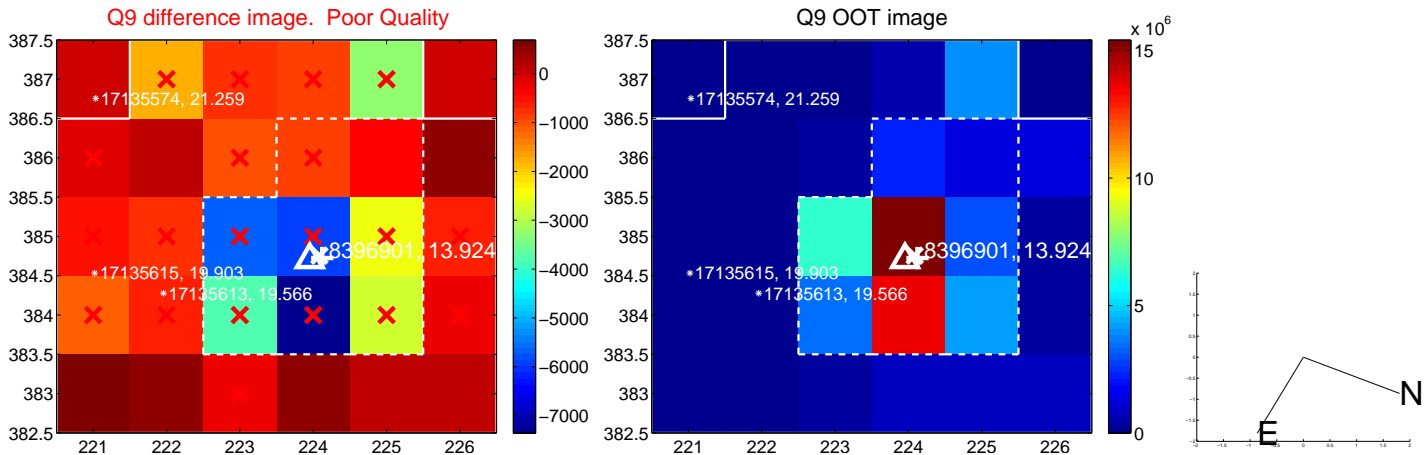
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



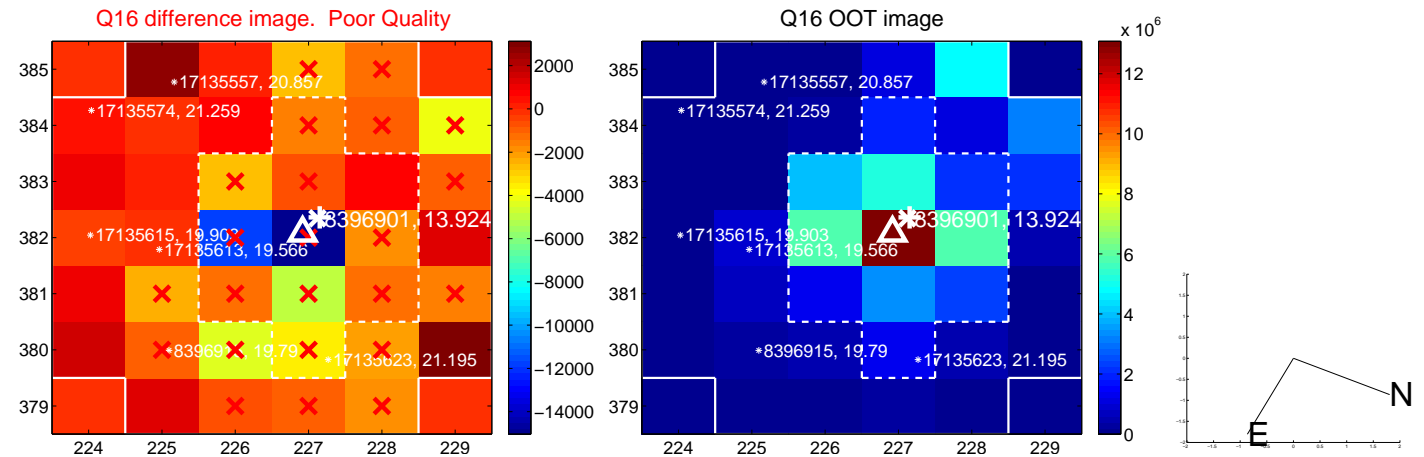
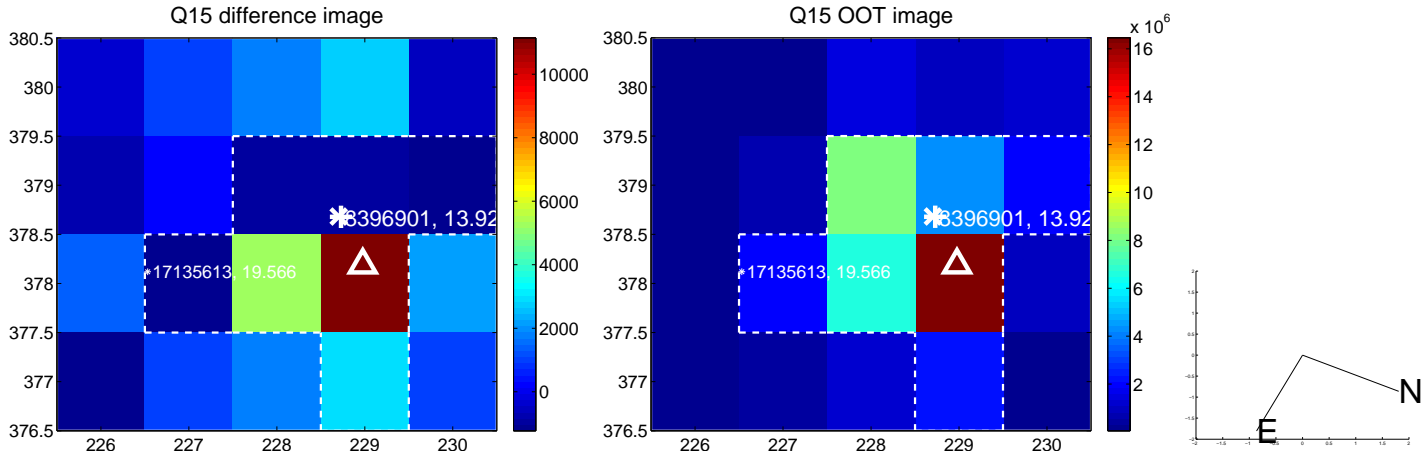
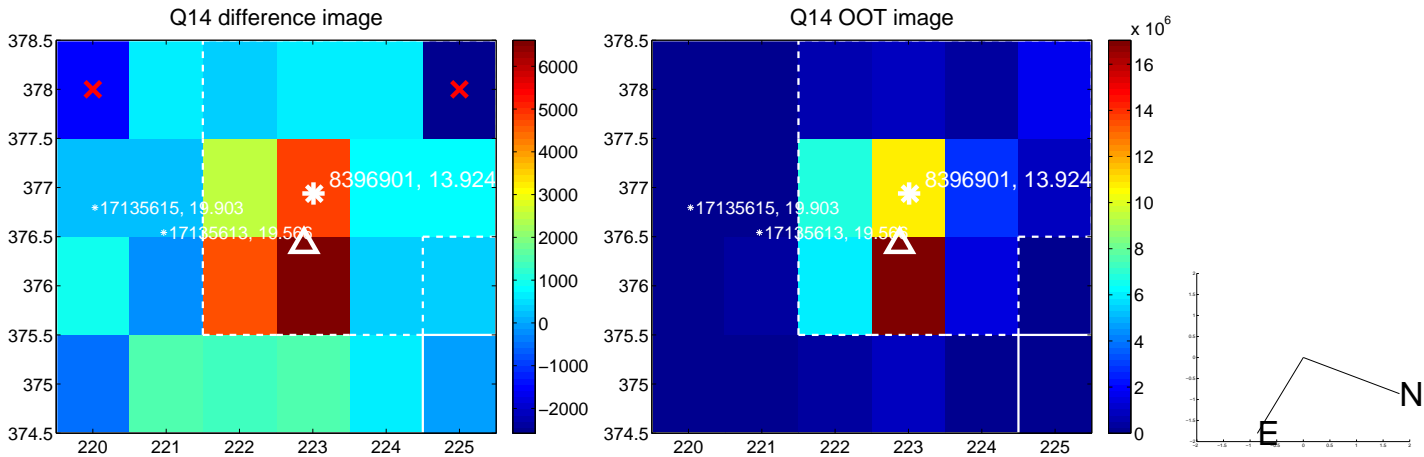
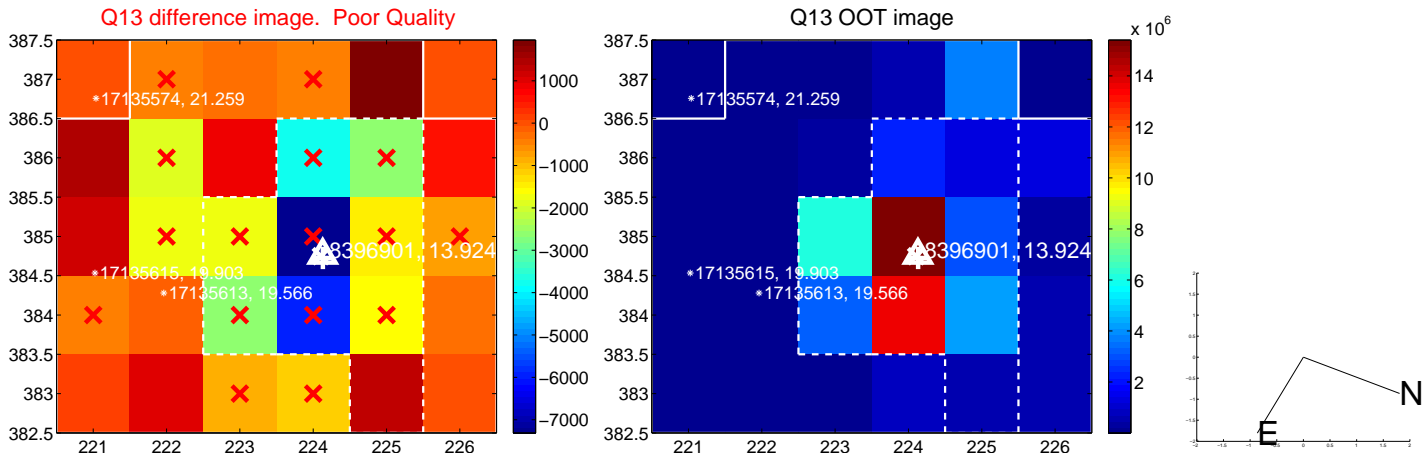
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



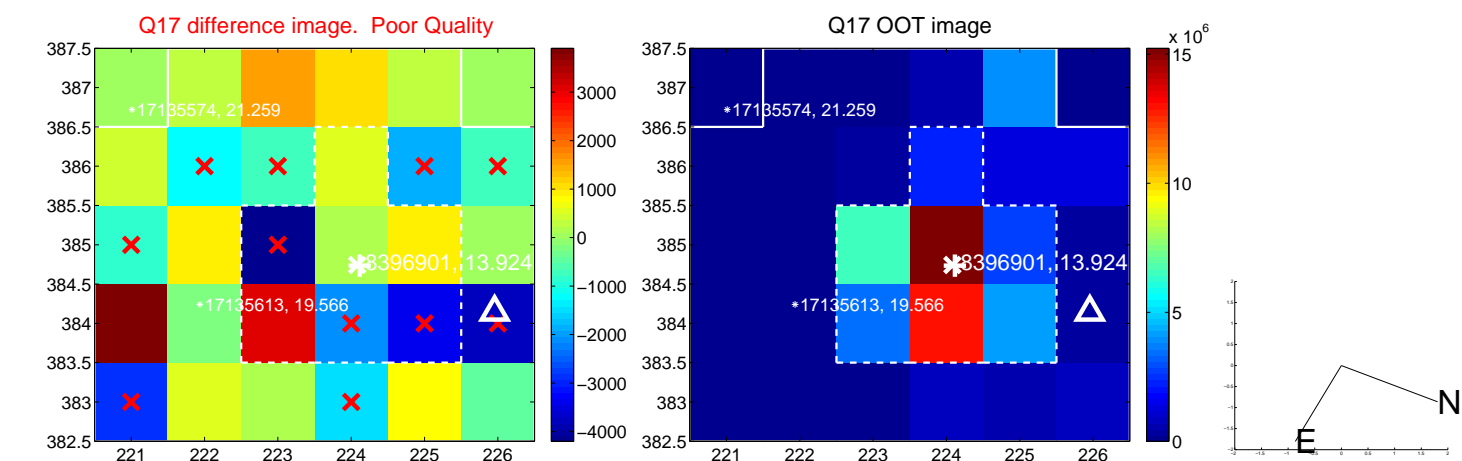
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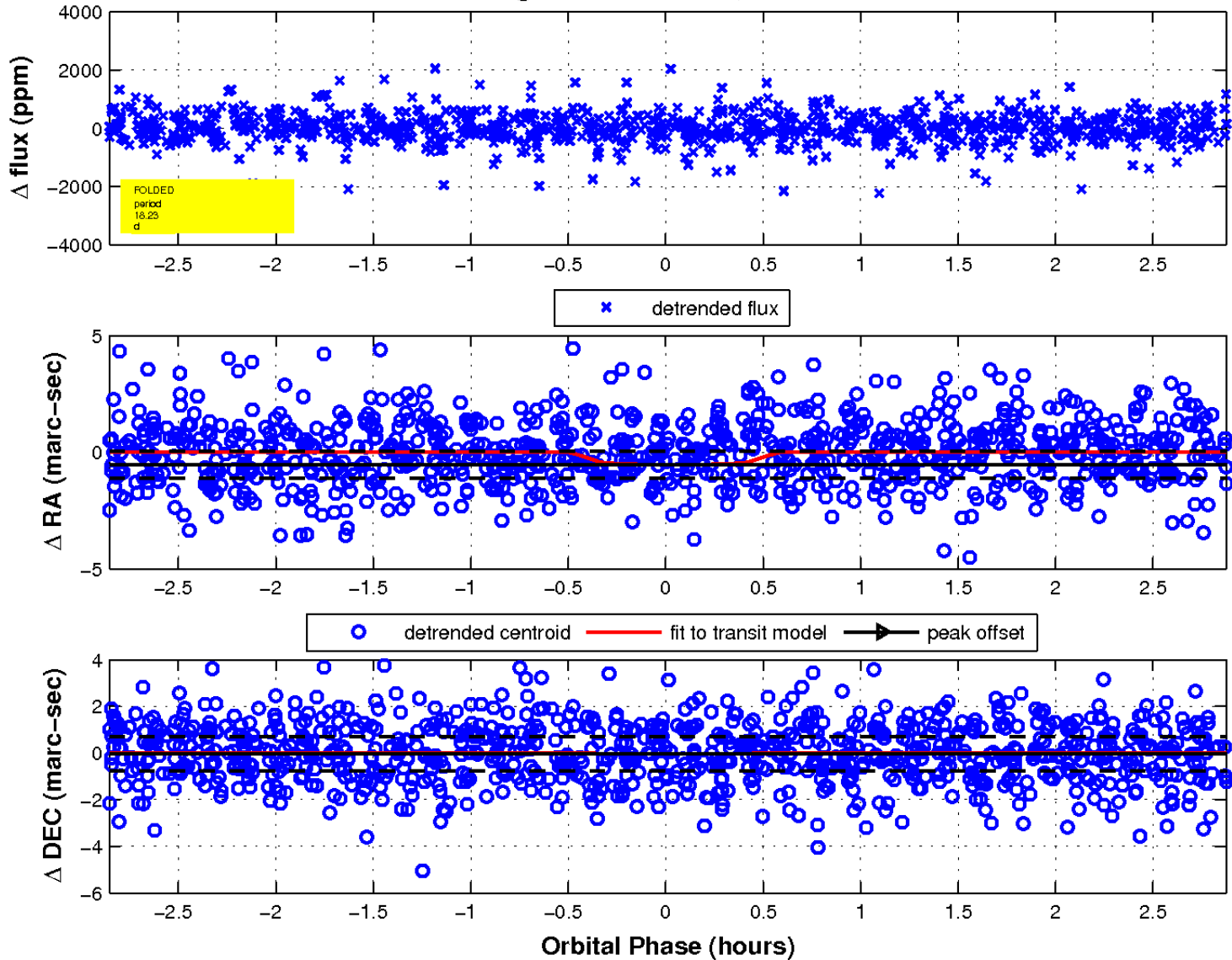
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



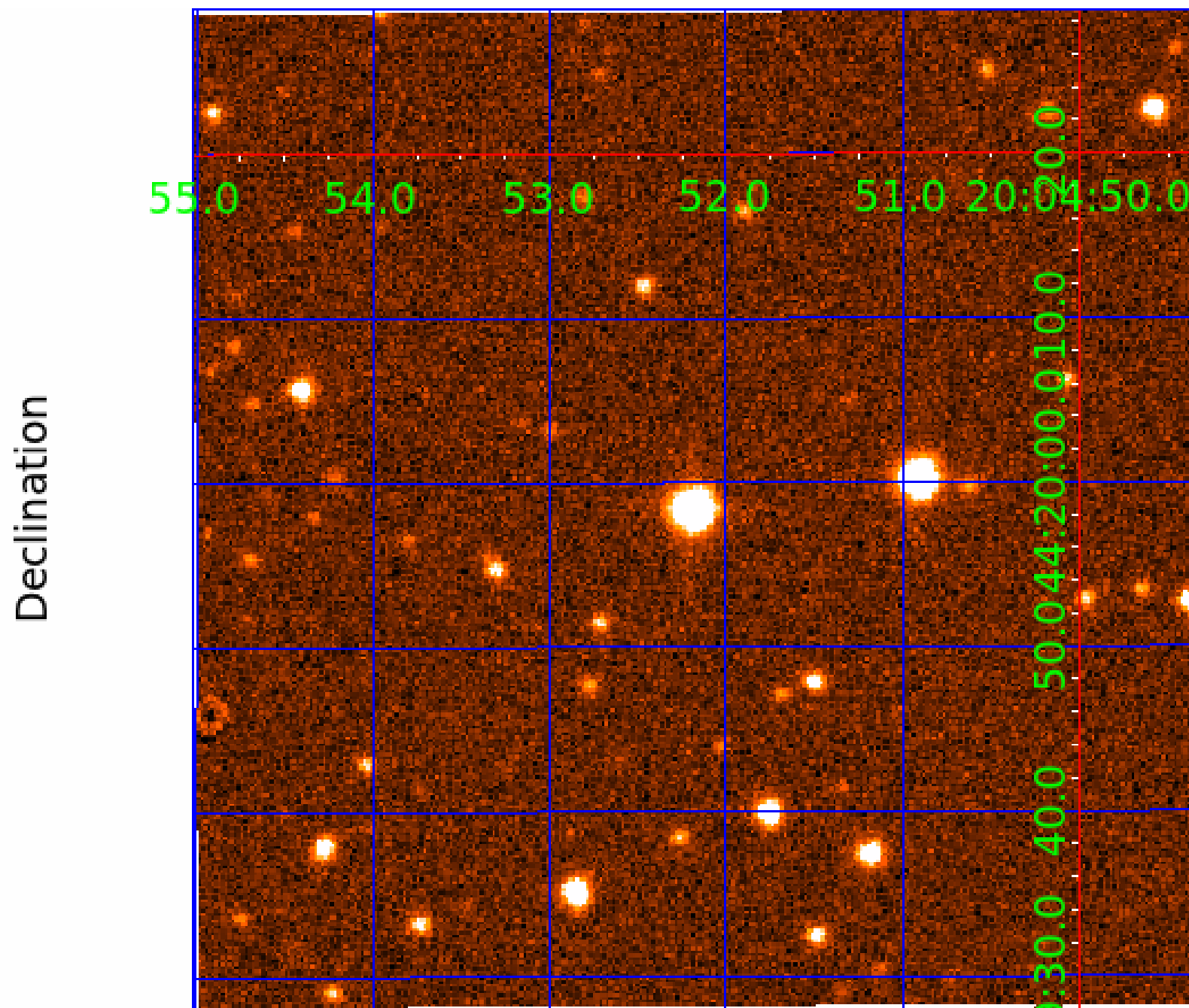
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 4



UKIRT Image



KIC 008396901

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})
008396901-01	OBS	No	0.639023	132.039348	58.9	2.625	9.4	9.1	1.77	6848	1.58	23259.83
008396901-02	OBS	No	0.639003	131.610282	36.4	3.801	9.3	5.2	1.77	6848	1.15	23260.81
008396901-03	OBS	No	18.234297	136.342581	1055.4	0.959	11.8	8.7	1.77	6848	5.87	266.75
008396901-04	OBS	No	15.167958	139.565243	1276.6	1.742	10.4	12.1	1.77	6848	6.56	340.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008396901-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008396901-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008396901-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
008396901-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

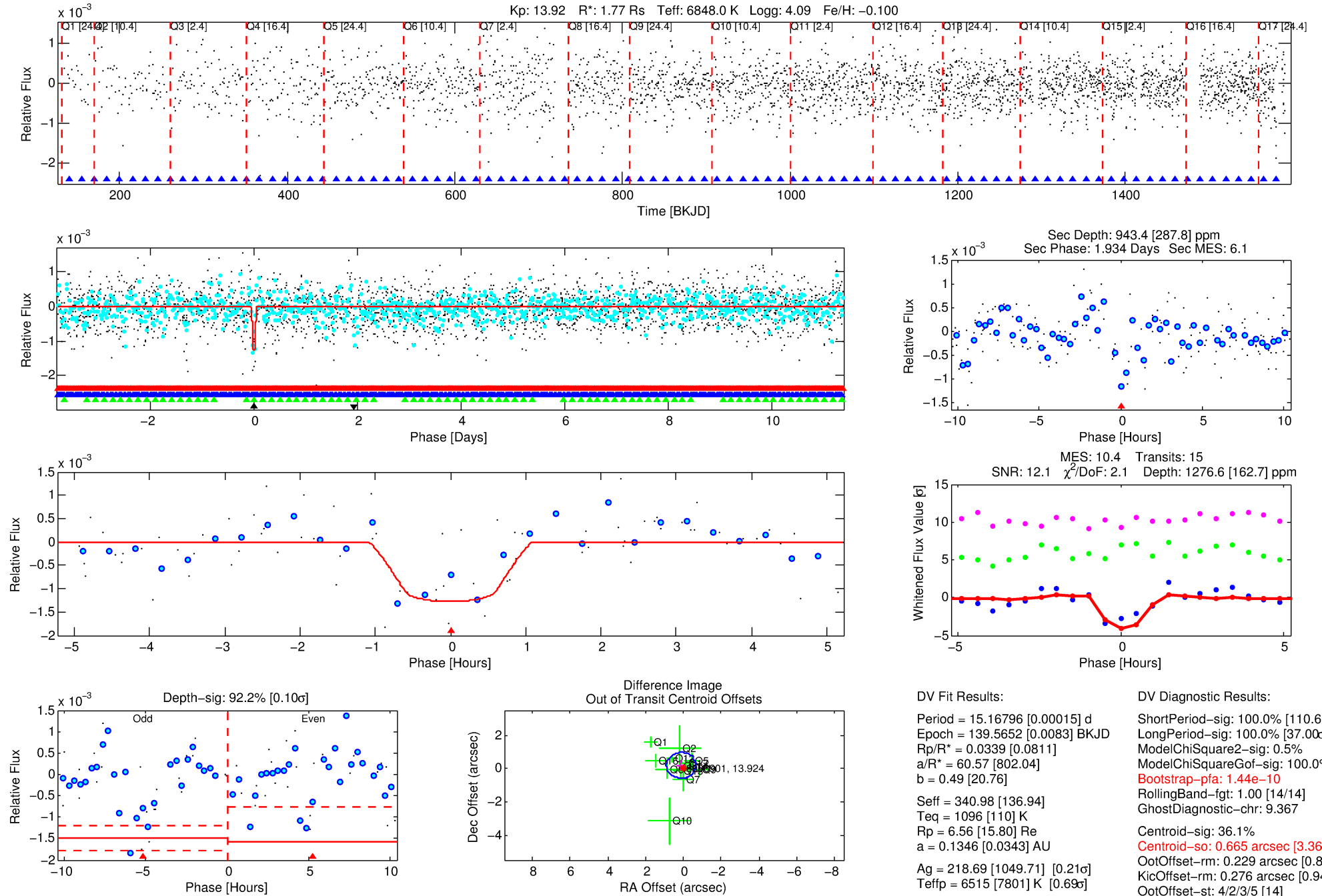
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008396901-04

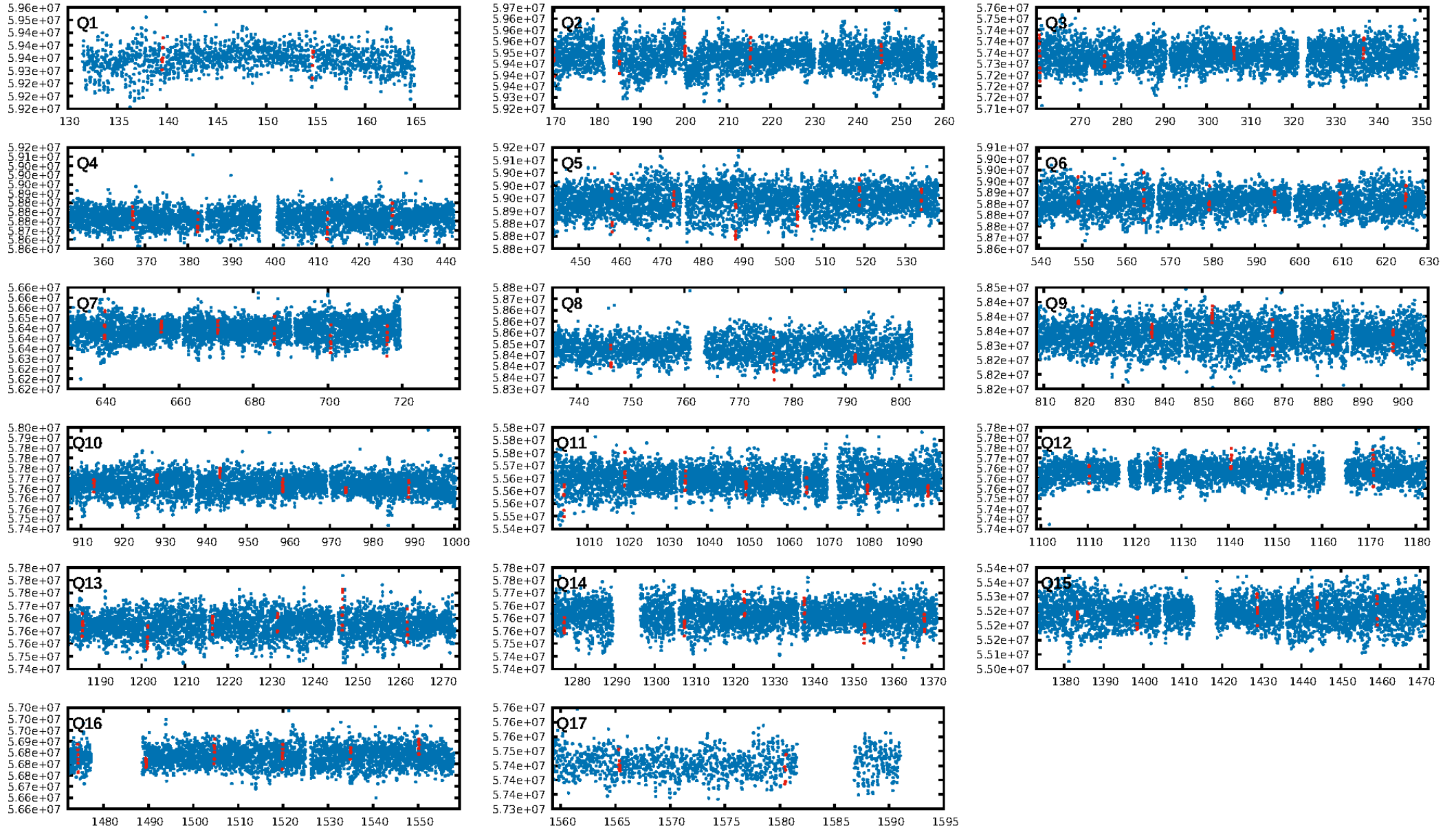
No Significant Match Found

DV One-Page Summary

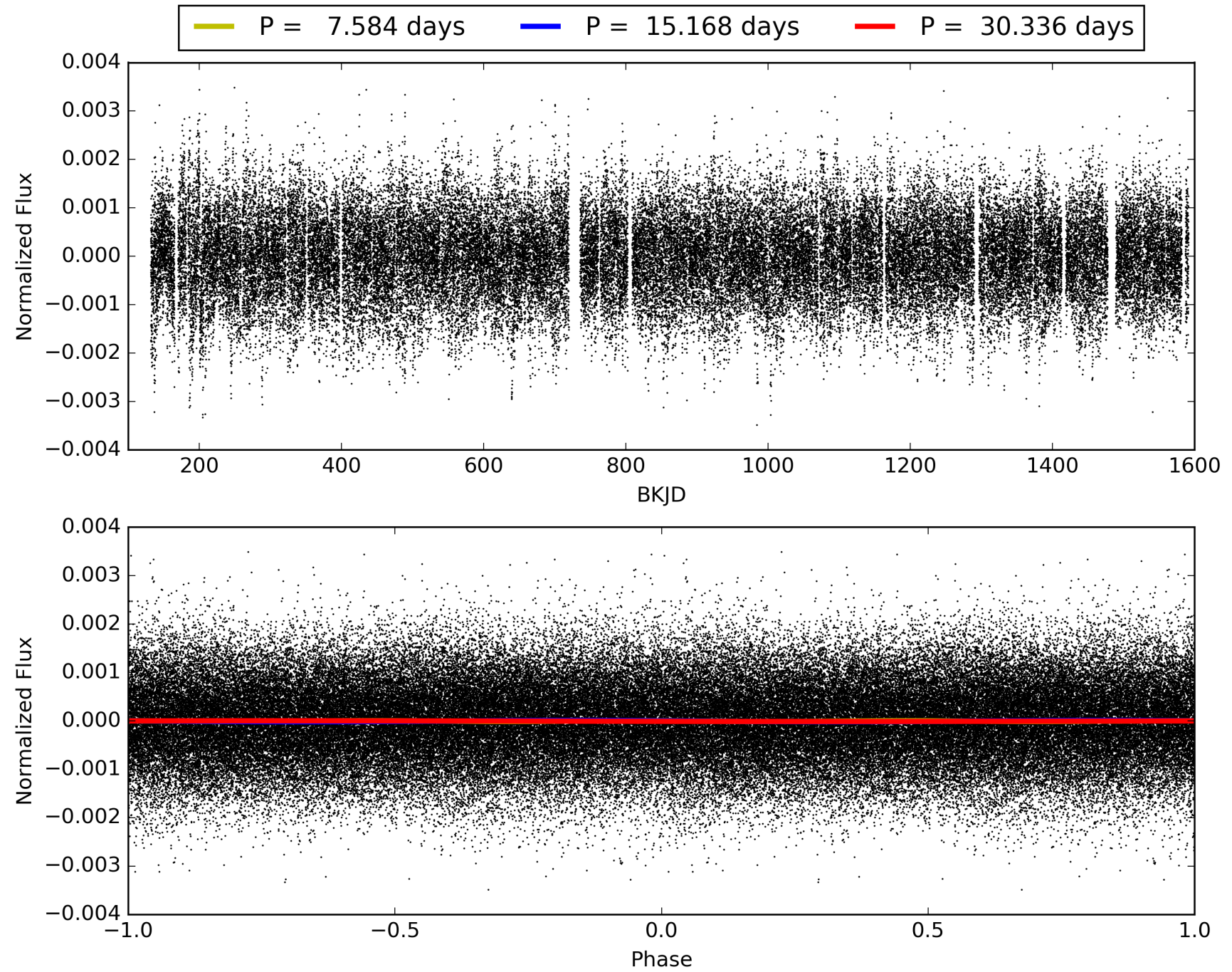
KIC: 8396901 Candidate: 4 of 4 Period: 15.168 d



TCE 008396901-04, PDC Light Curves

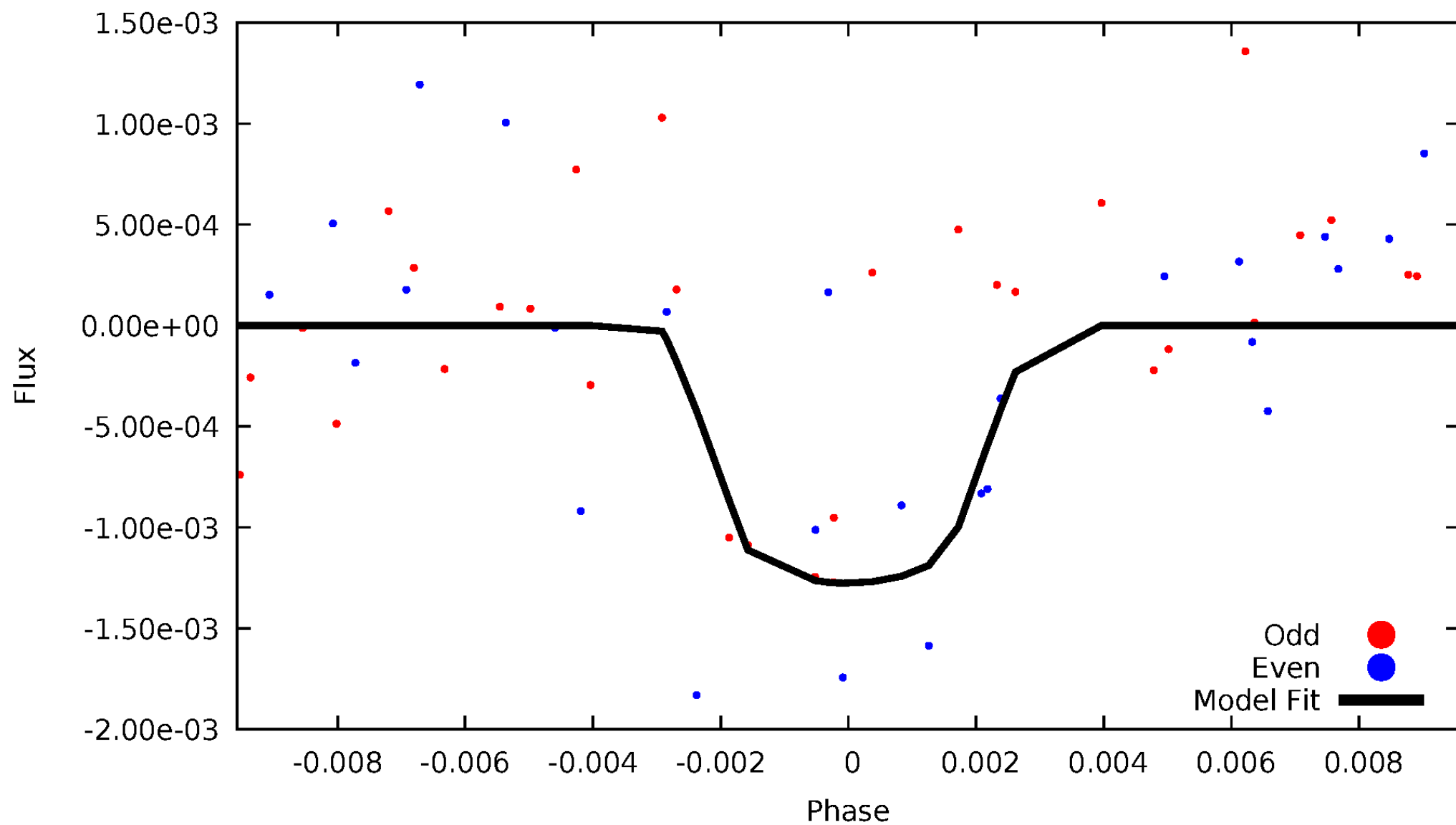


TCE 008396901-04



DV Odd/Even

TCE 008396901-04

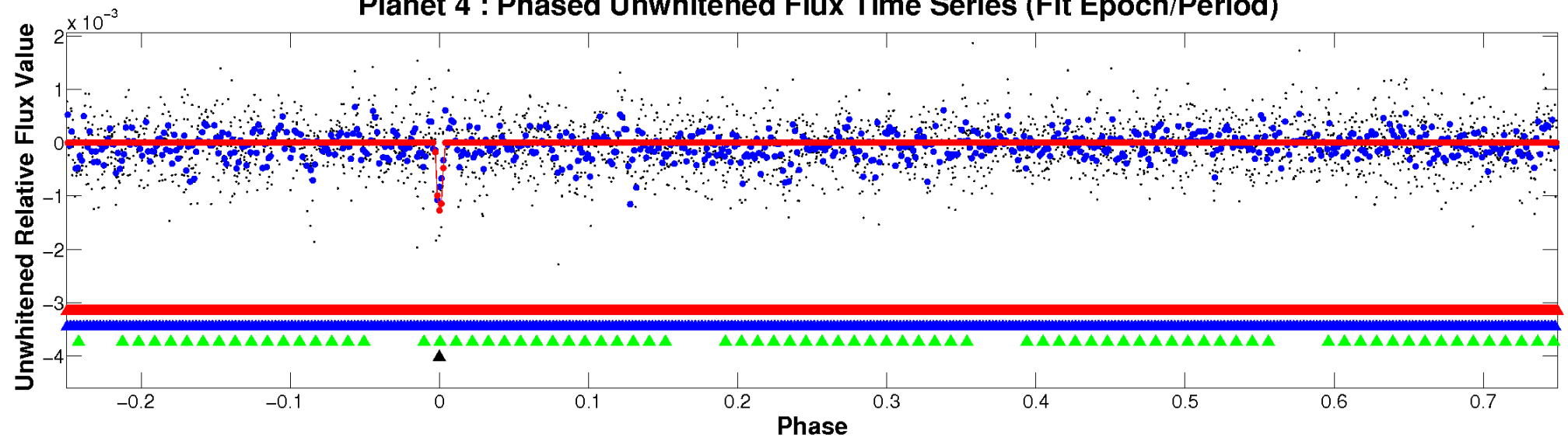


ALT Odd/Even

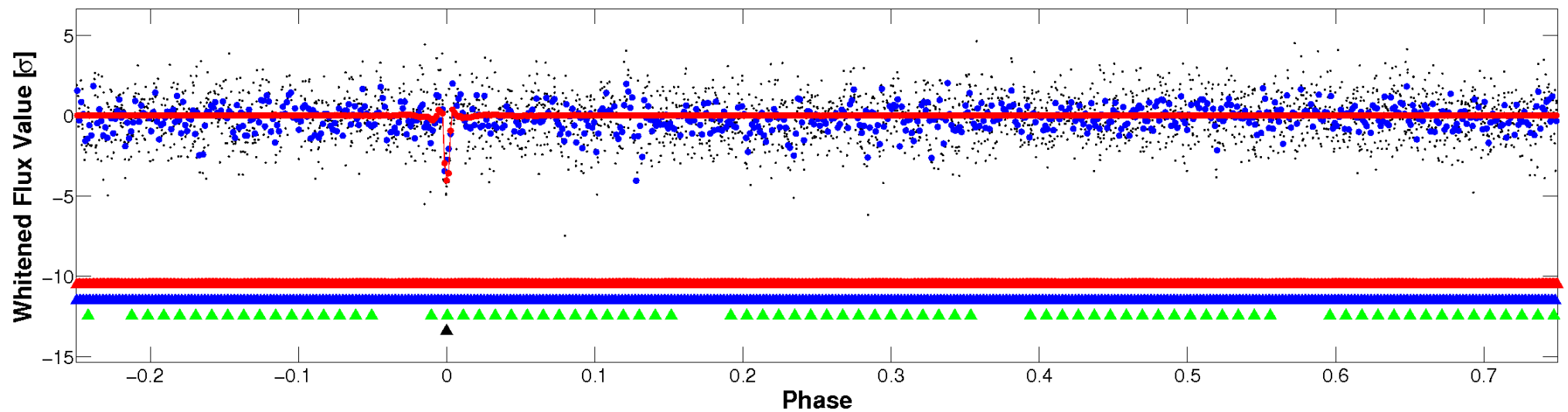
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

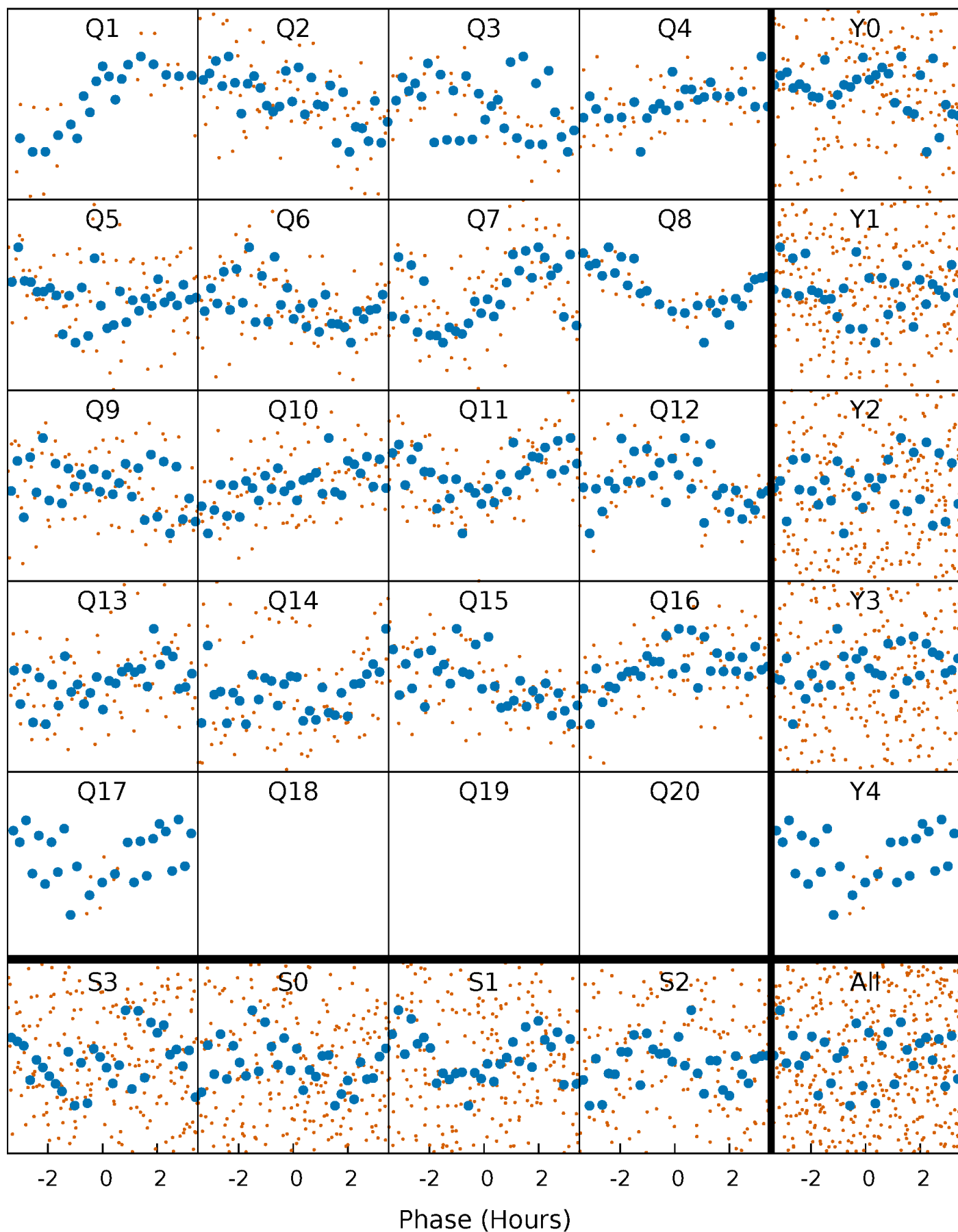


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



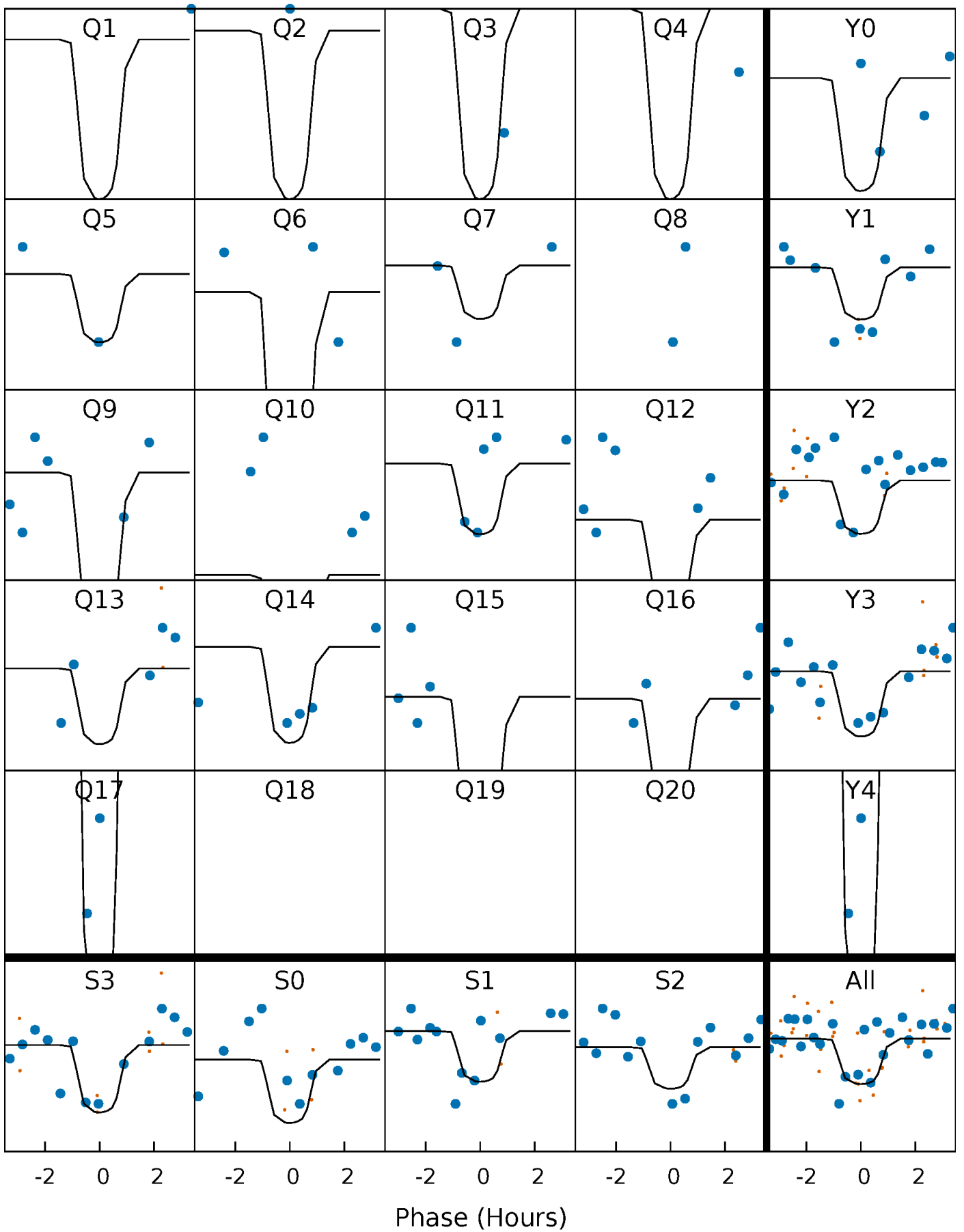
PDC Quarter-Phased Transit Curves

TCE 008396901-04 P= 15.167958 Days $T_0=139.565243$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008396901-04 P= 15.167958 Days $T_0=139.565243$ (BKJD)

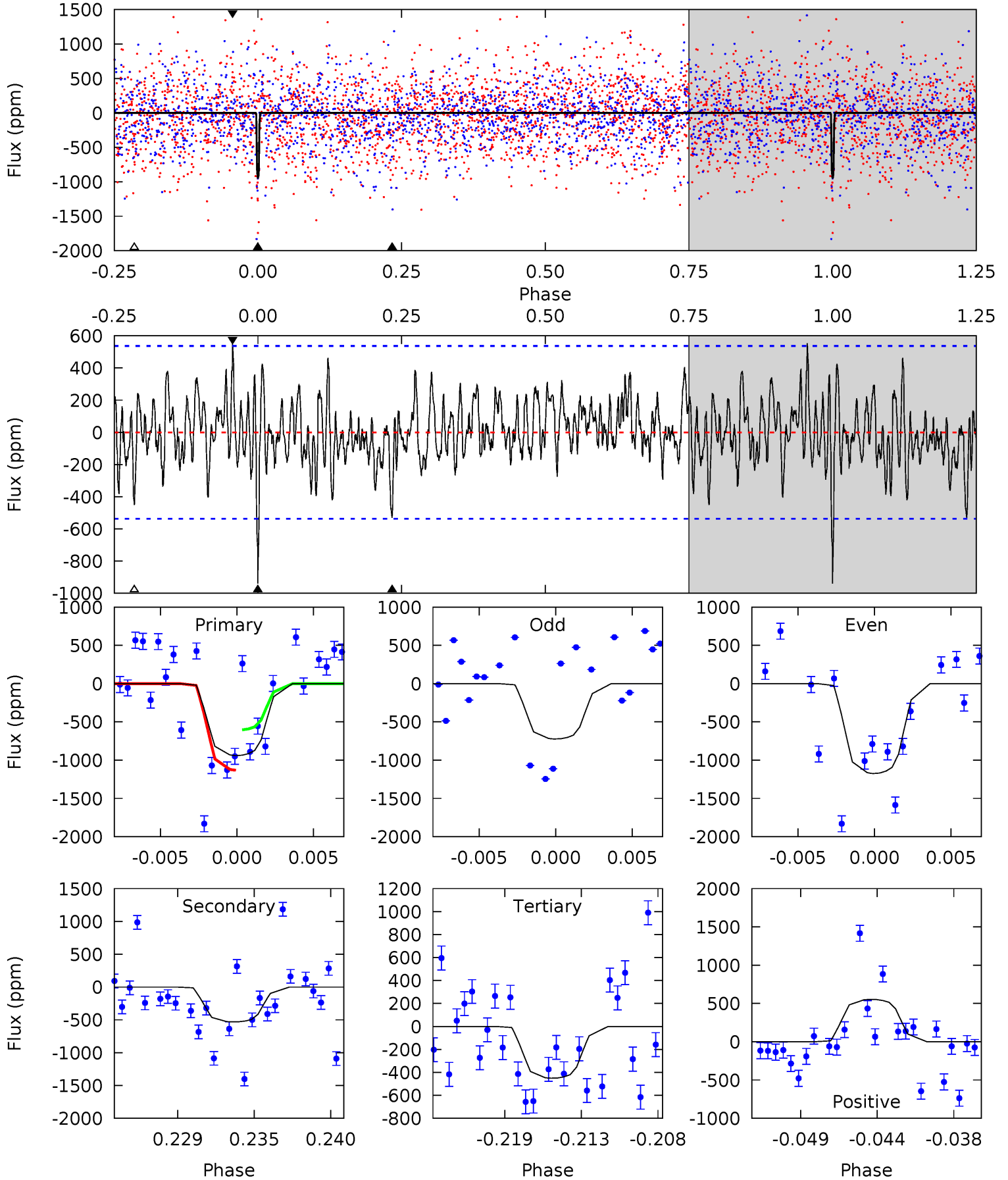


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008396901-04, $P = 15.167958$ Days, $E = 124.397285$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.99	5.08	4.31	5.29	5.14	2.78	1.51	4.68	3.70	0.77	-0.21	2.17	0.89	0.37	2.51



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008396901

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6848^{+214}_{-309}	$4.092^{+0.190}_{-0.190}$	$-0.100^{+0.250}_{-0.300}$	$1.771^{+0.555}_{-0.505}$	$1.420^{+0.202}_{-0.269}$	$0.360^{+0.426}_{-0.167}$
	+3%/-5%	+5%/-5%	+250%/-300%	+31%/-29%	+14%/-19%	+118%/-46%
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 008396901-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-531±105	$13.48^{+14.81}_{-8.69}$	1525^{+137}_{-117}	4172^{+2375}_{-883}	28^{+195}_{-21}
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 $A_{\text{obs}} \gg 1.0$

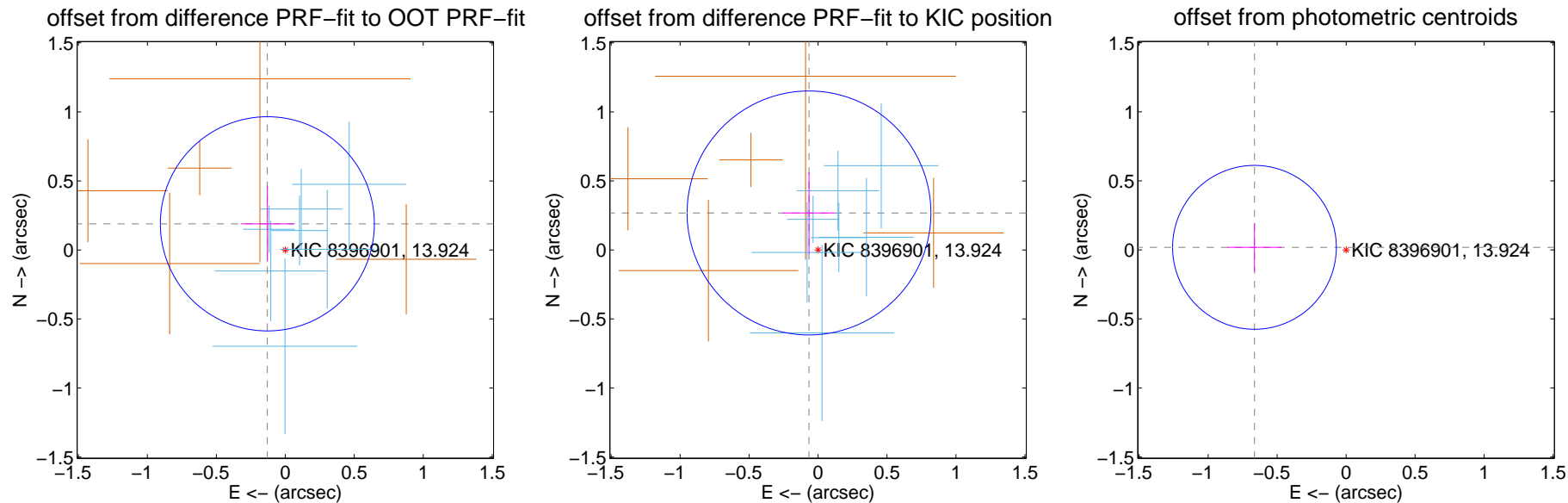
DV Centroid Data

Supplemental centroid analysis for 008396901-04. Kepler magnitude: 13.92. Transit SNR 12.14

There are 7 quarters with good PRF difference image offsets

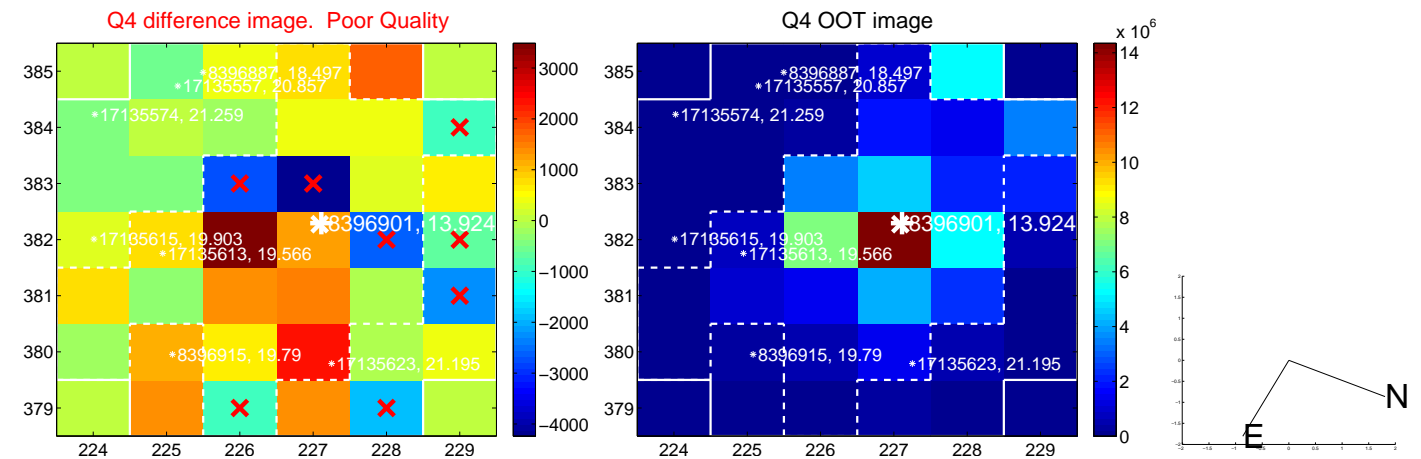
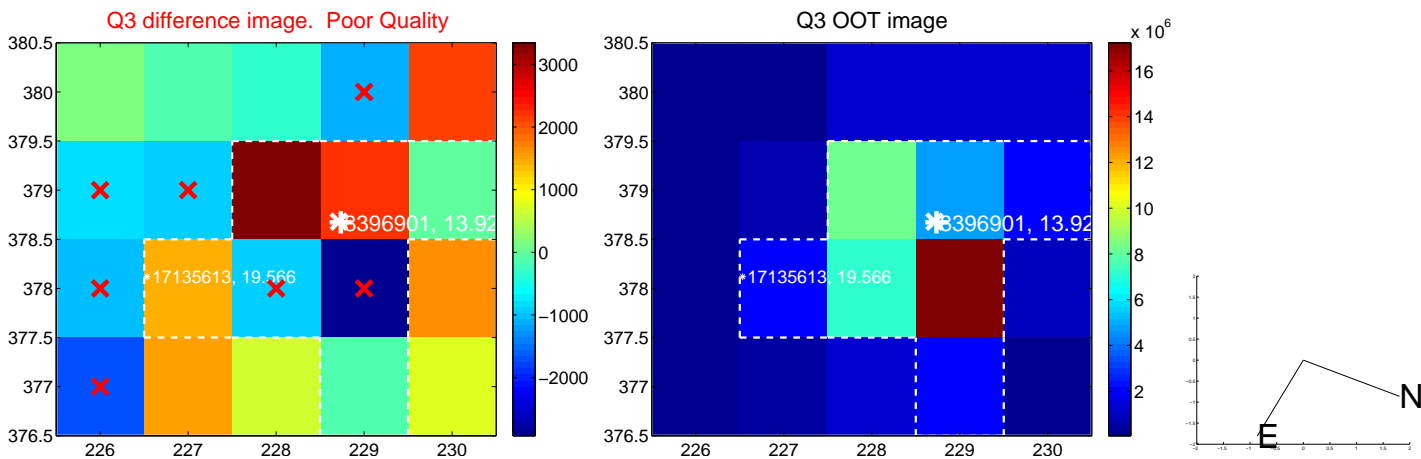
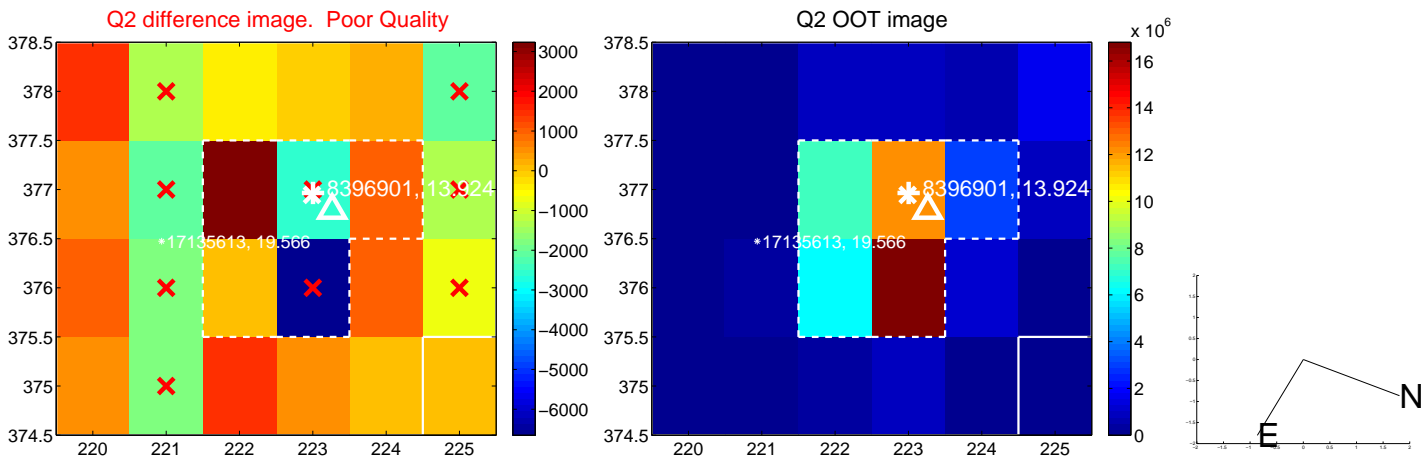
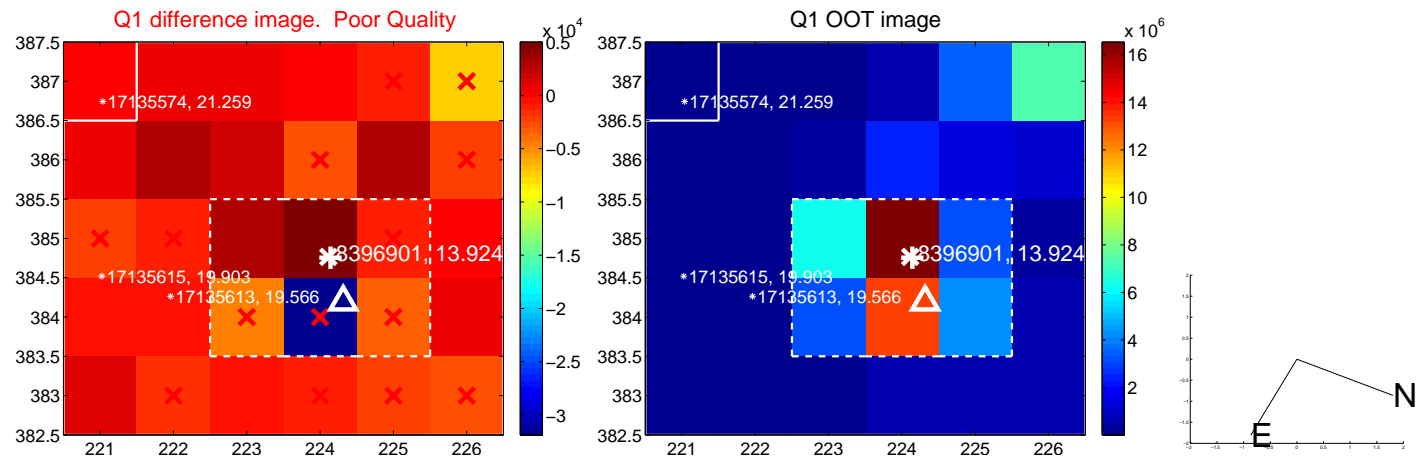
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.229 ± 0.259	0.89	0.130 ± 0.192	0.189 ± 0.272
PRF-fit source offset from KIC position	0.276 ± 0.295	0.94	0.065 ± 0.188	0.268 ± 0.295
photometric centroid source offset	0.66 ± 0.20	3.36	0.66 ± 0.20	0.02 ± 0.18

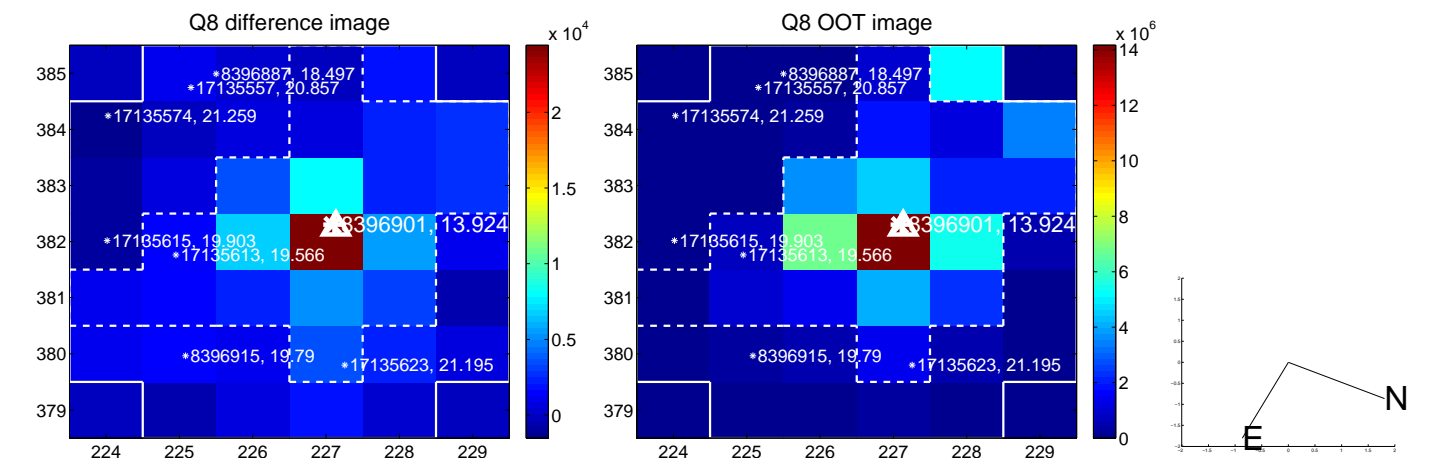
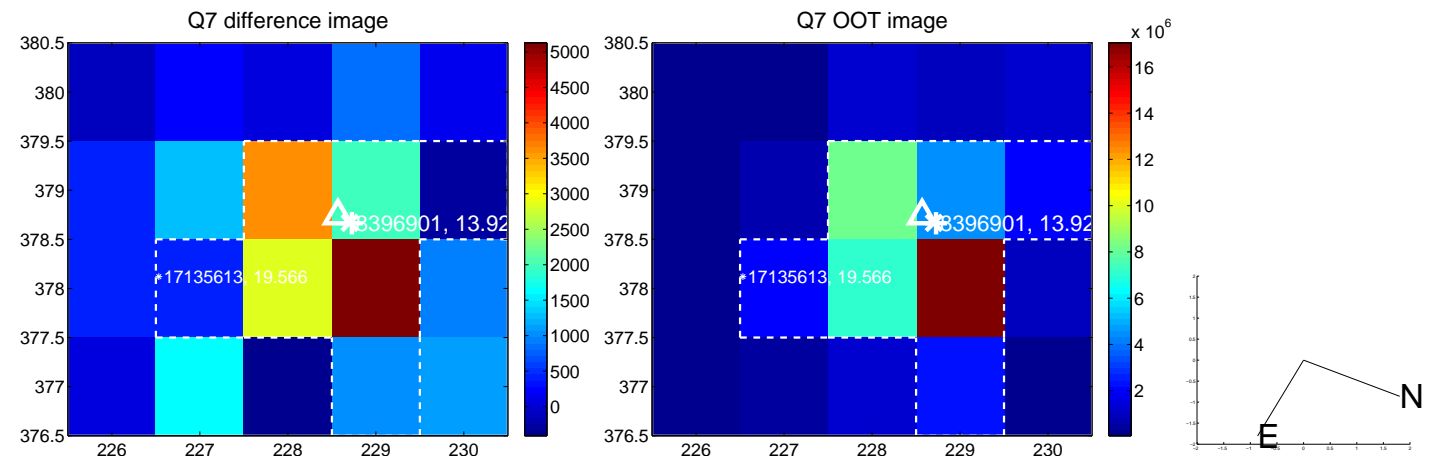
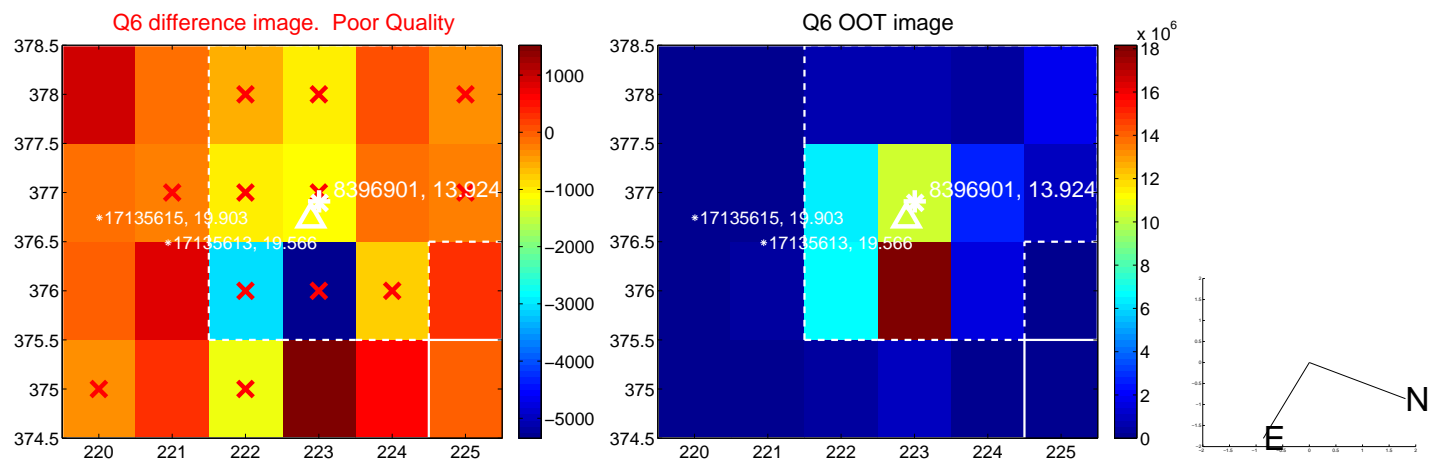
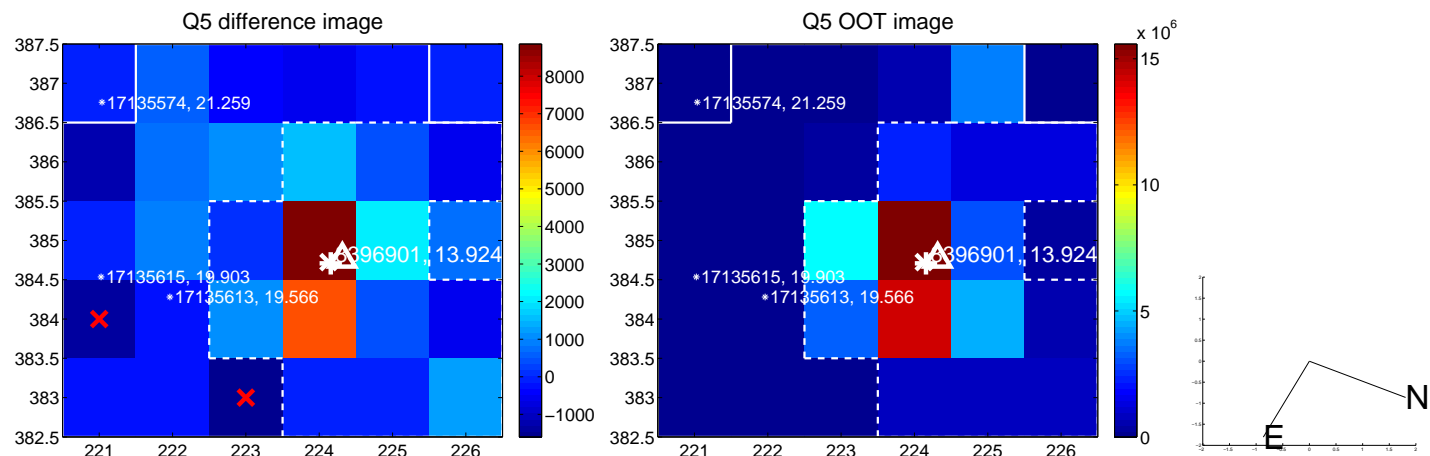


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

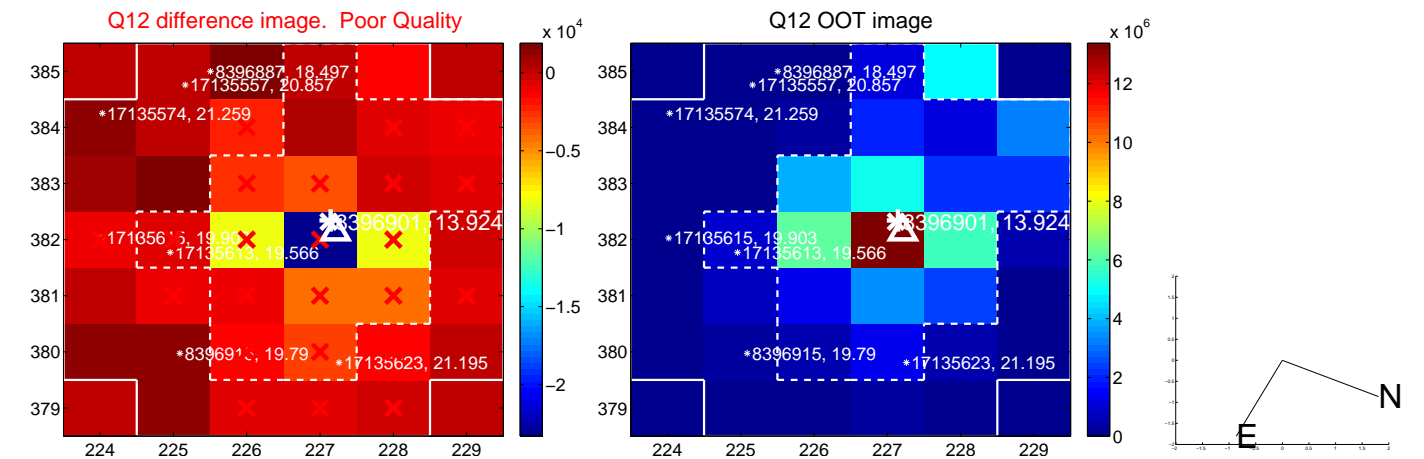
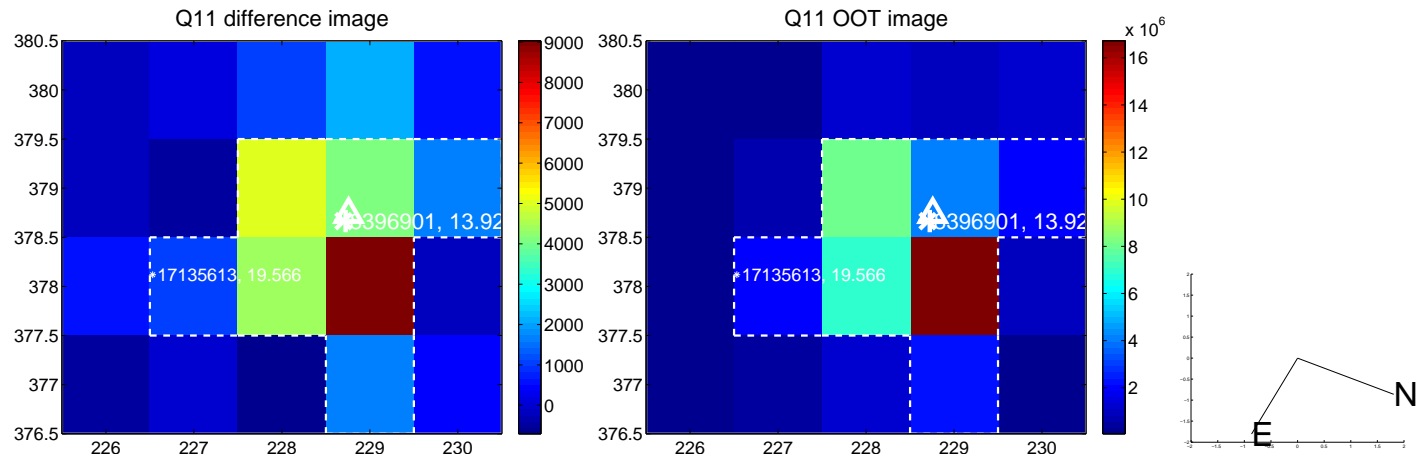
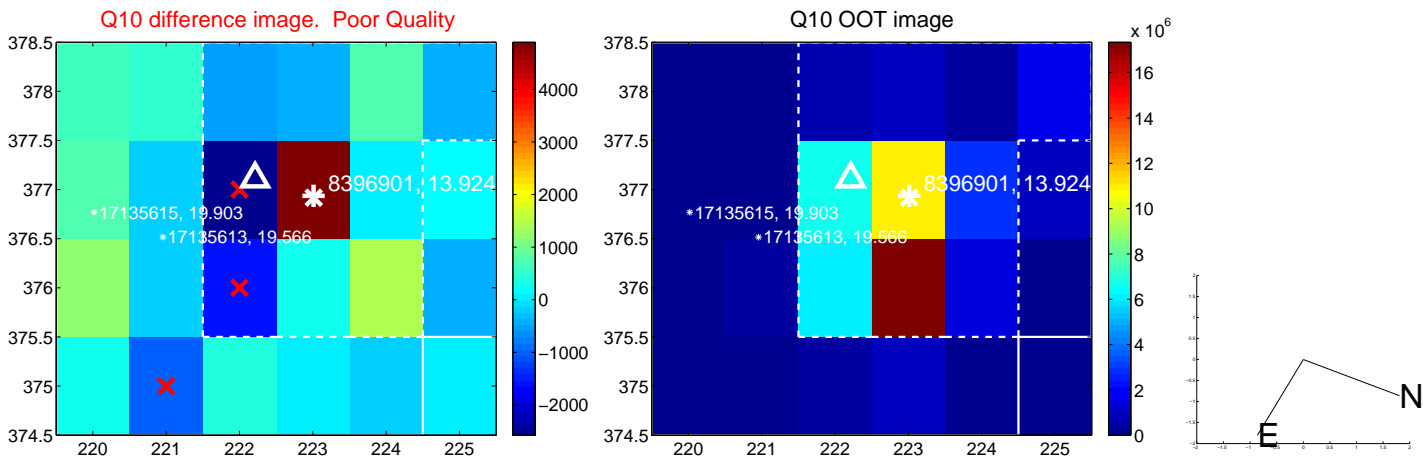
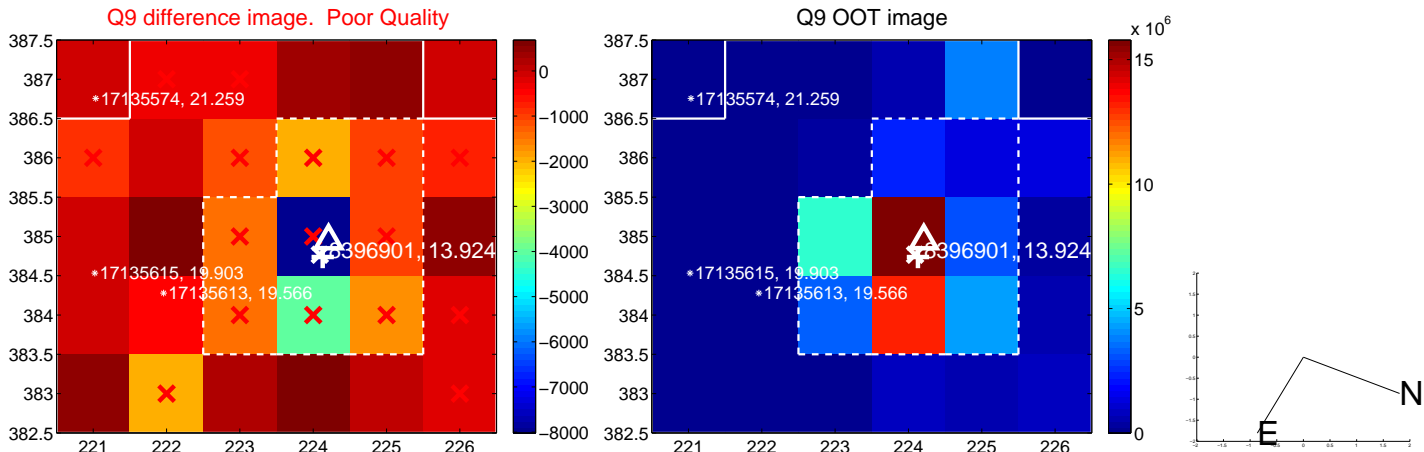
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



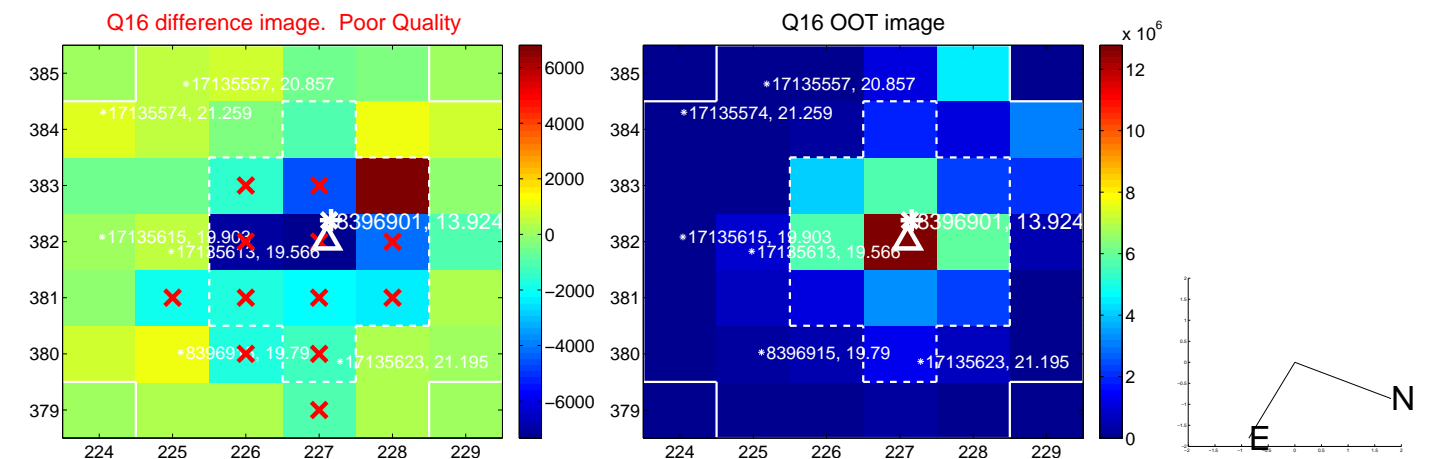
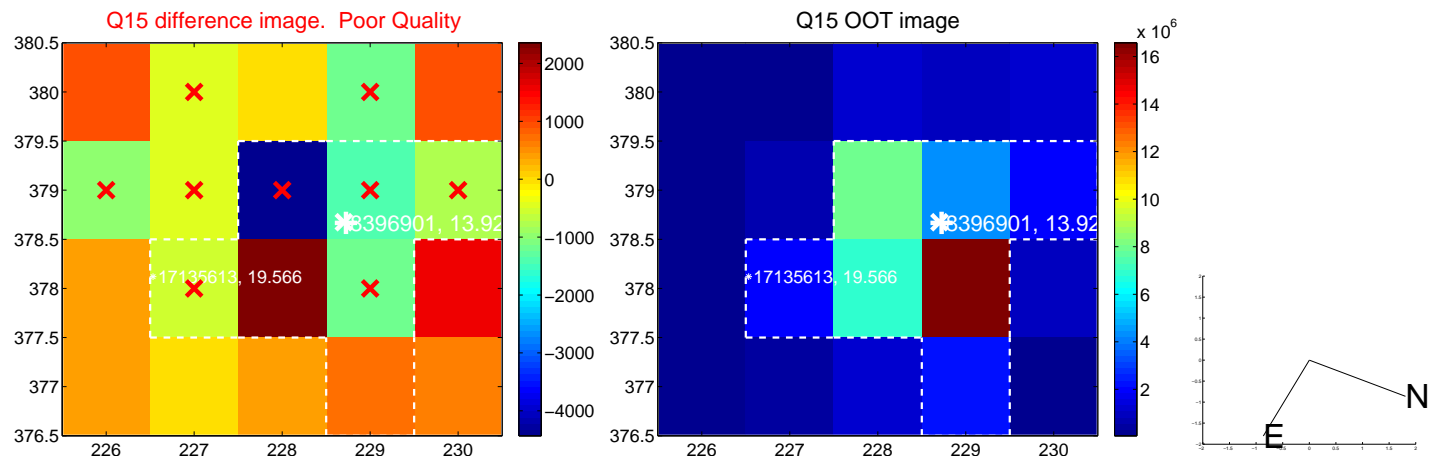
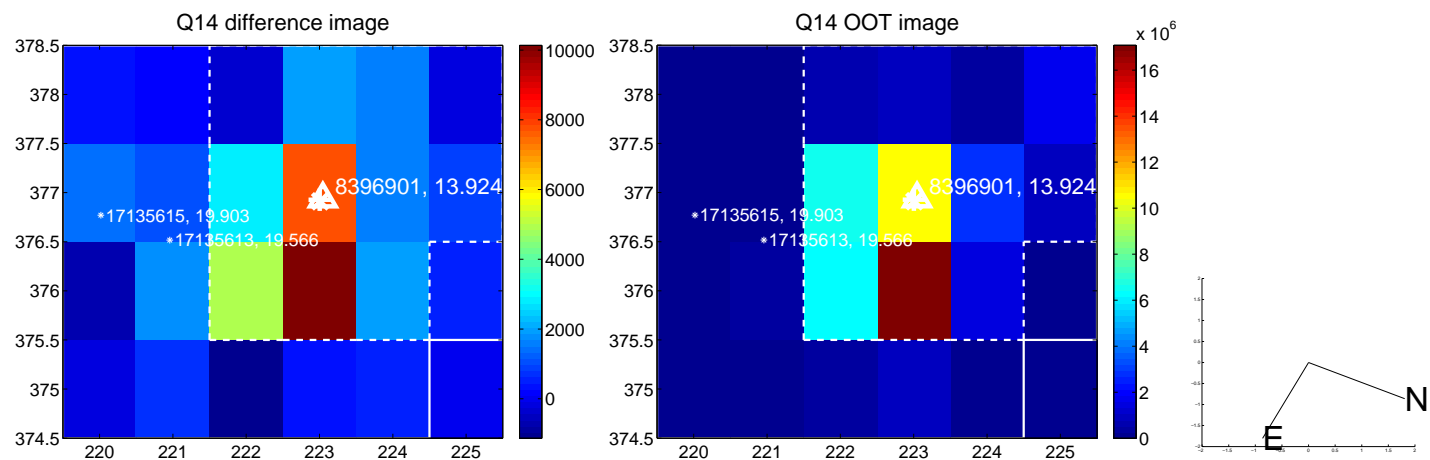
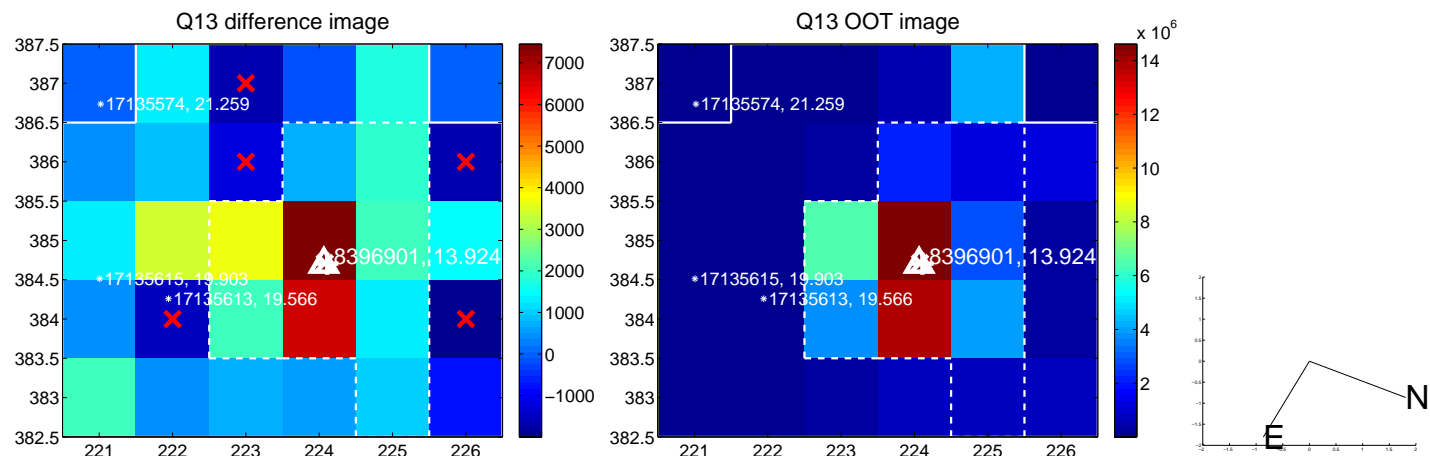
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



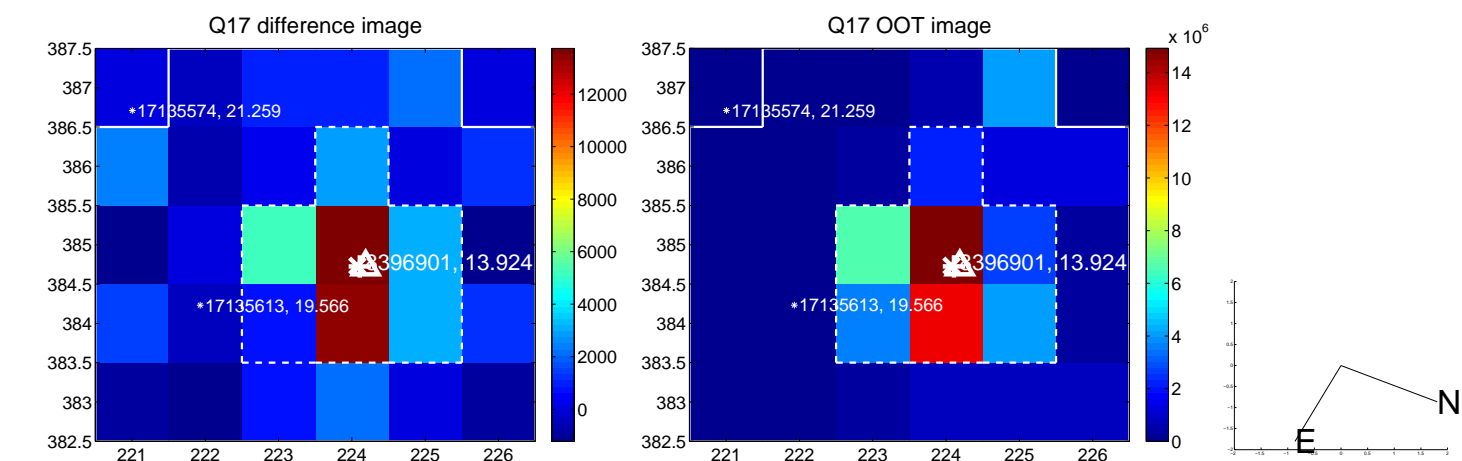
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



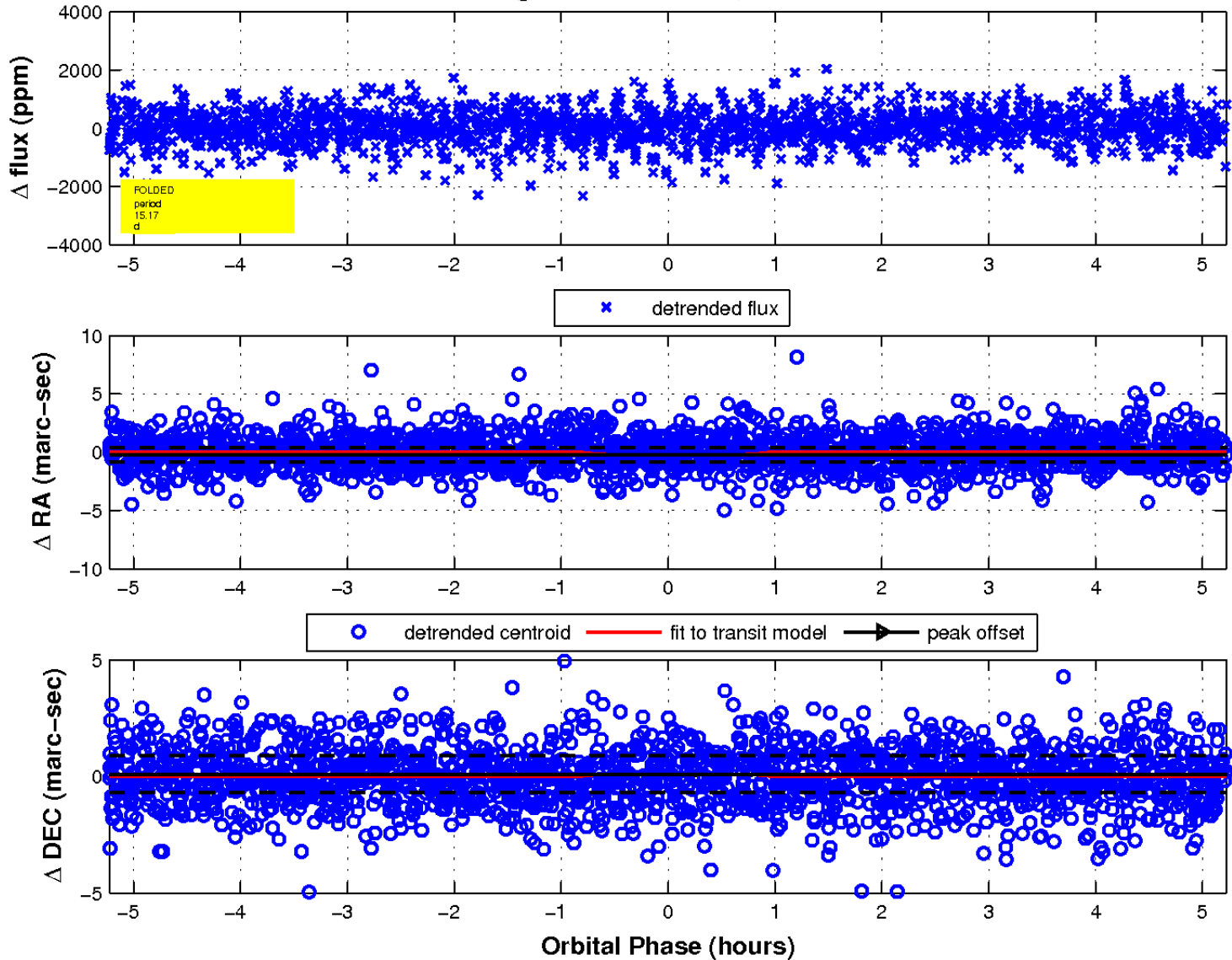
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

