

KIC 001162345

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})
001162345-01	OBS	No	1.109127	131.912010	30.6	3.708	8.5	10.0	5.14	6495	3.32	60131.01
001162345-02	OBS	No	0.554544	131.641600	25.0	4.881	10.0	10.9	5.14	6495	2.75	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001162345-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
001162345-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

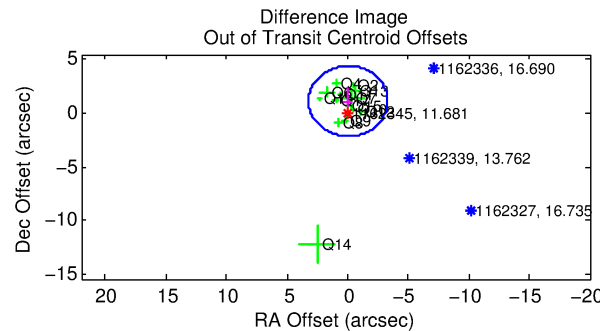
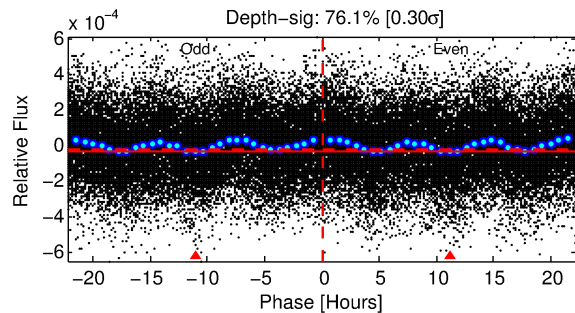
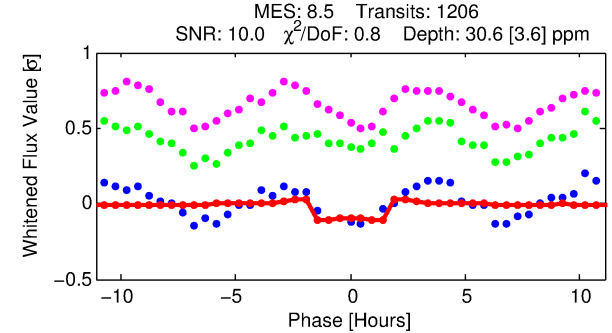
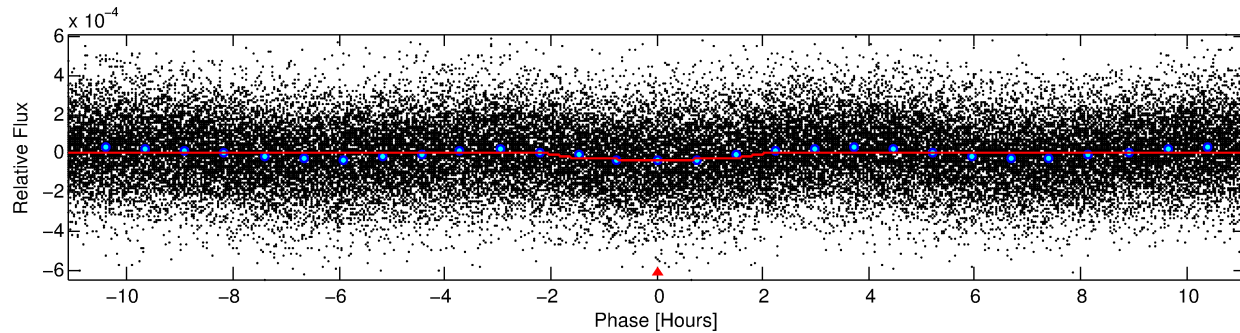
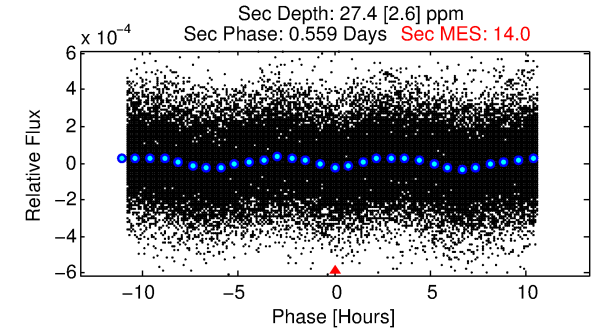
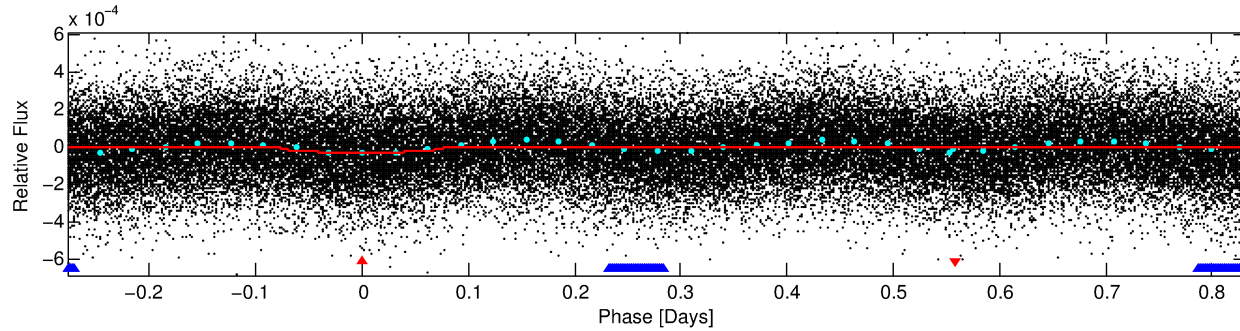
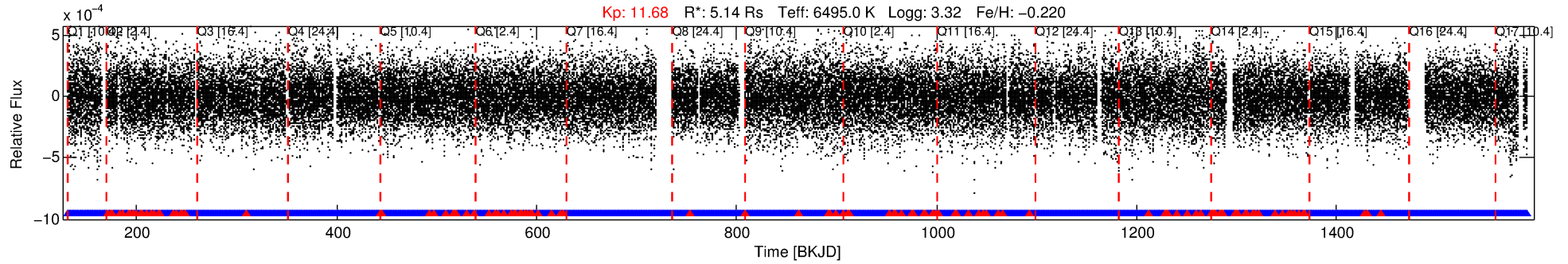
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001162345-01

No Significant Match Found

DV One-Page Summary

KIC: 1162345 Candidate: 1 of 2 Period: 1.109 d



DV Fit Results:

Period = 1.10913 [0.00001] d
Epoch = 131.9120 [0.0022] BKJD
 $R_p/R^* = 0.0059$ [0.0013]
 $a/R^* = 1.39$ [0.81]
 $b = 0.90$ [0.25]
 $S_{\text{eff}} = 60131.02$ [41806.87]
 $T_{\text{eq}} = 3993$ [694] K
 $R_p = 3.32$ [1.69] R_e
 $a = 0.0265$ [0.0115] AU
 $A_g = 0.96$ [0.78] [-0.06σ]
 $T_{\text{eff}} = 6106$ [692] K [2.16σ]

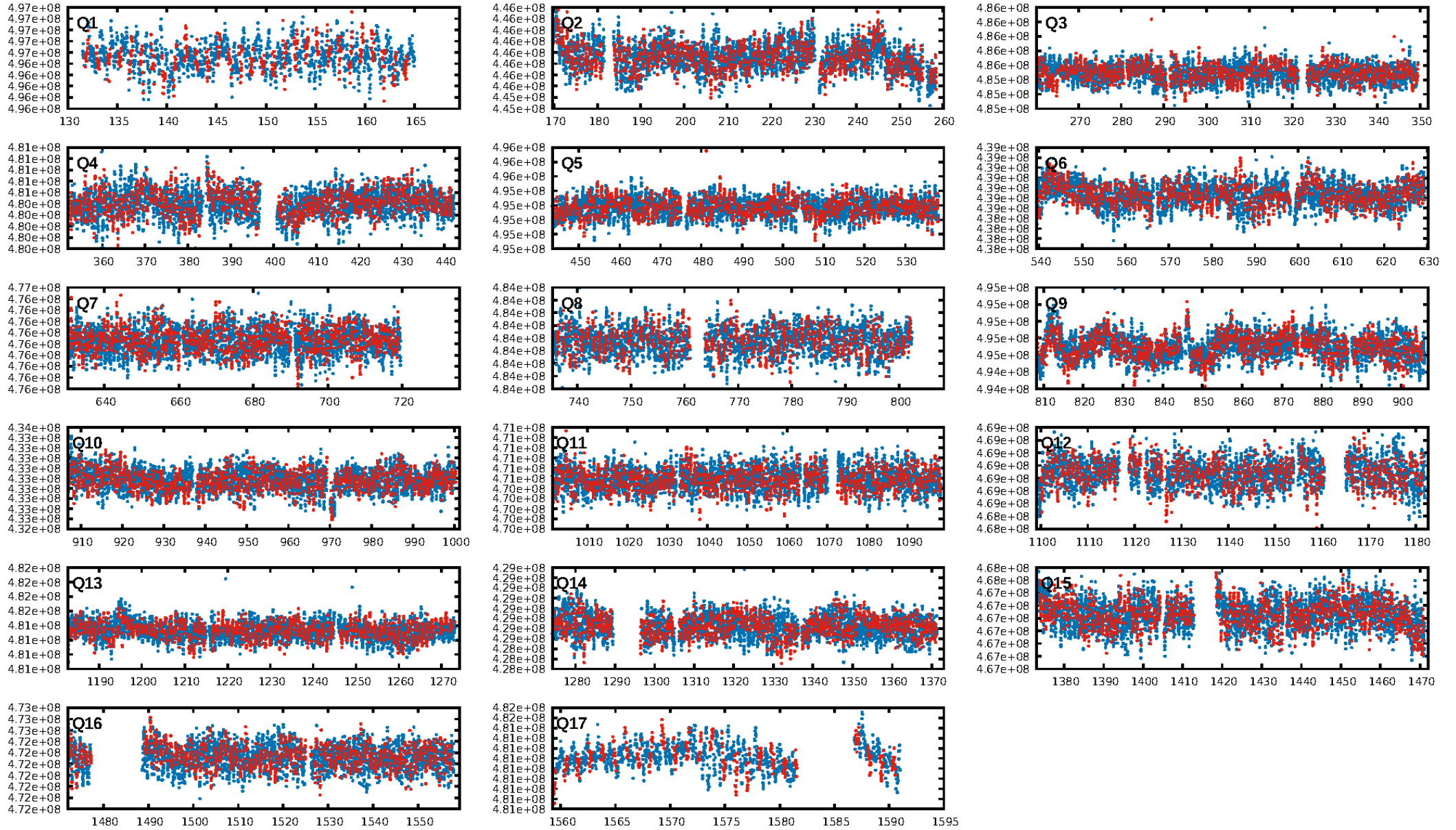
DV Diagnostic Results:

ShortPeriod-sig: 97.0% [2.17σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [1033/1151]
GhostDiagnostic-chr: 1.164
Centroid-sig: 38.6%
Centroid-so: 0.345 arcsec [0.62σ]
OotOffset-rm: 1.125 arcsec [1.03σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-rm: 1.075 arcsec [1.16σ]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 0.00 [0/17]

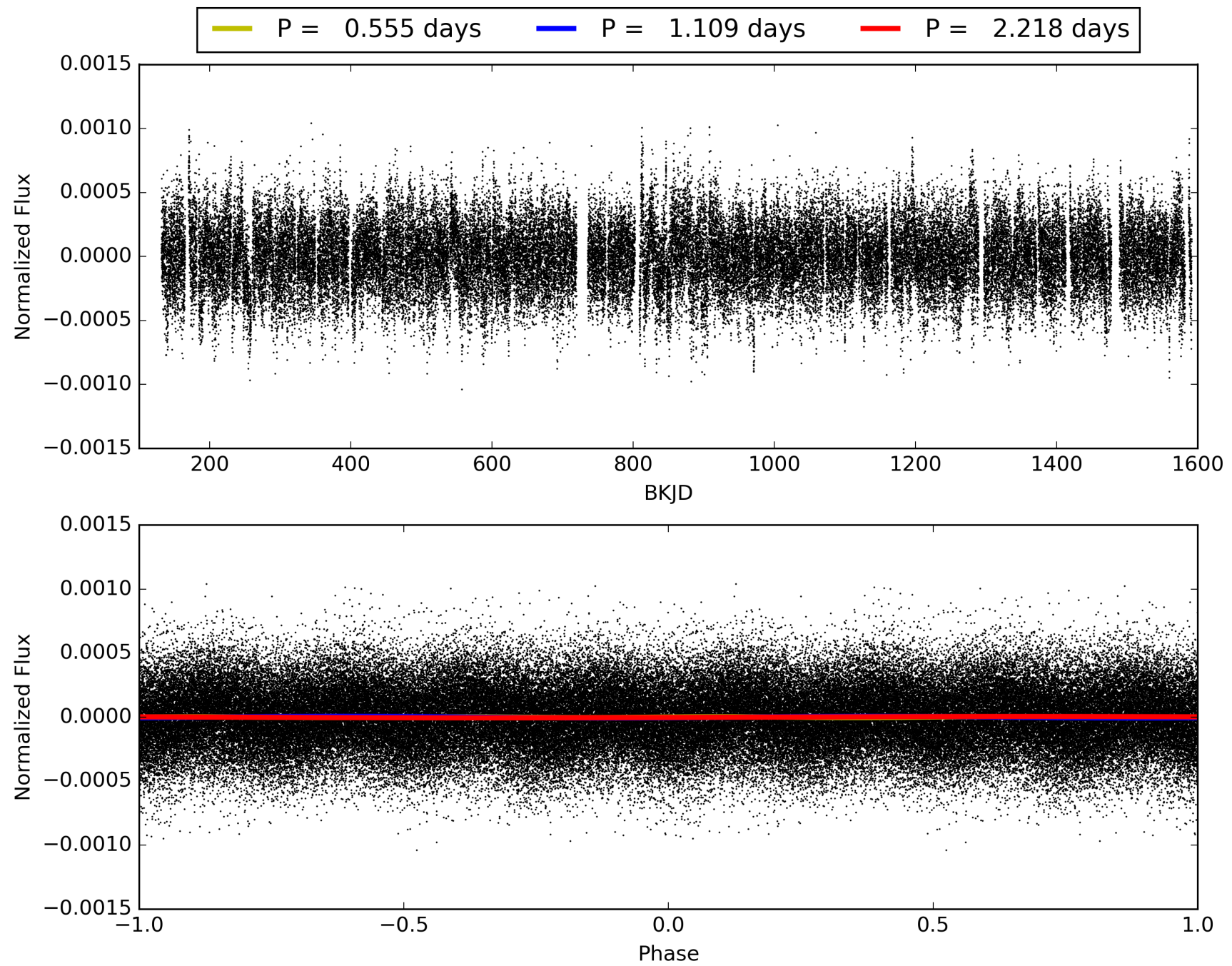
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:17:42 Z

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

TCE 001162345-01, PDC Light Curves

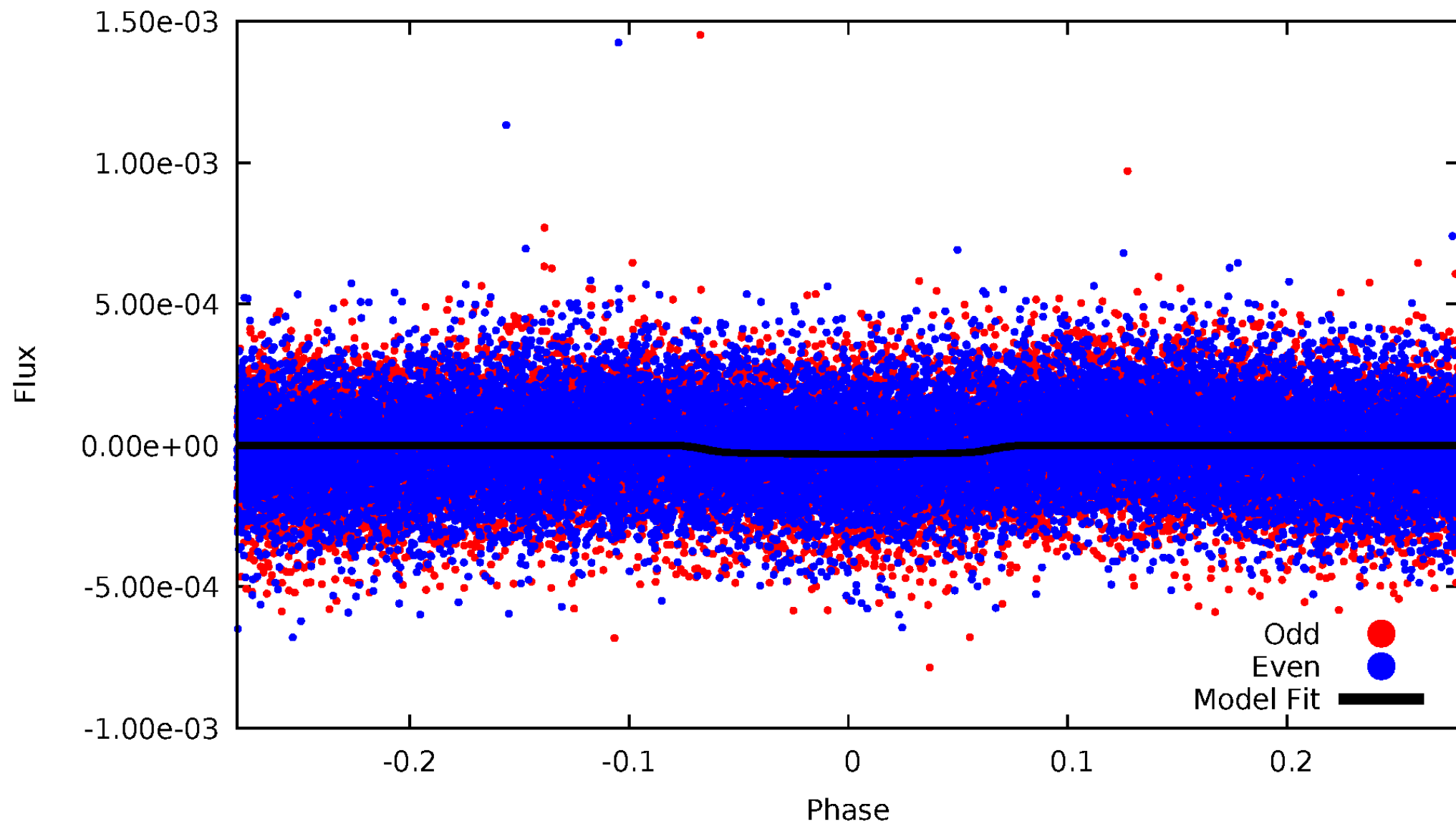


TCE 001162345-01



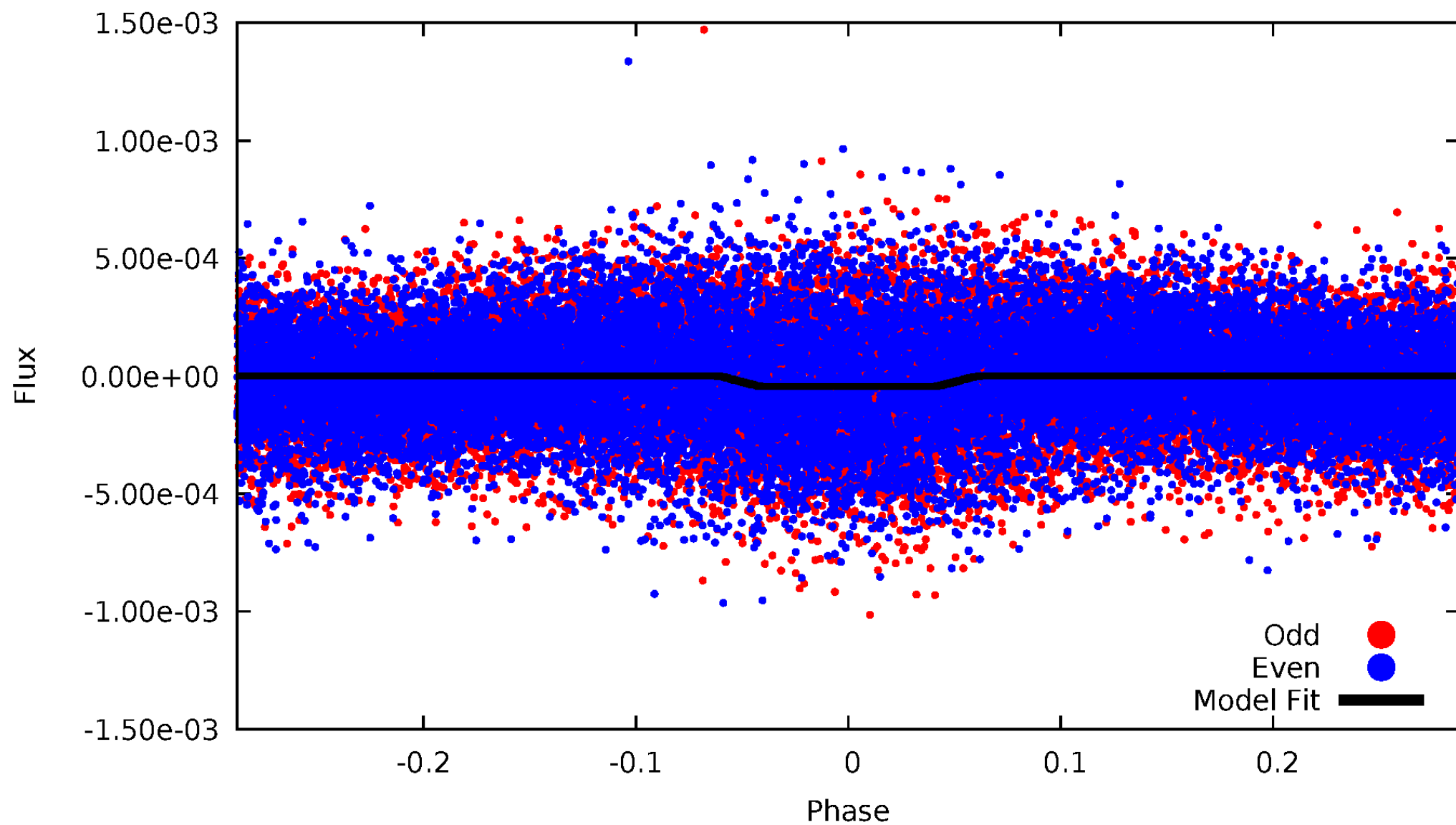
DV Odd/Even

TCE 001162345-01



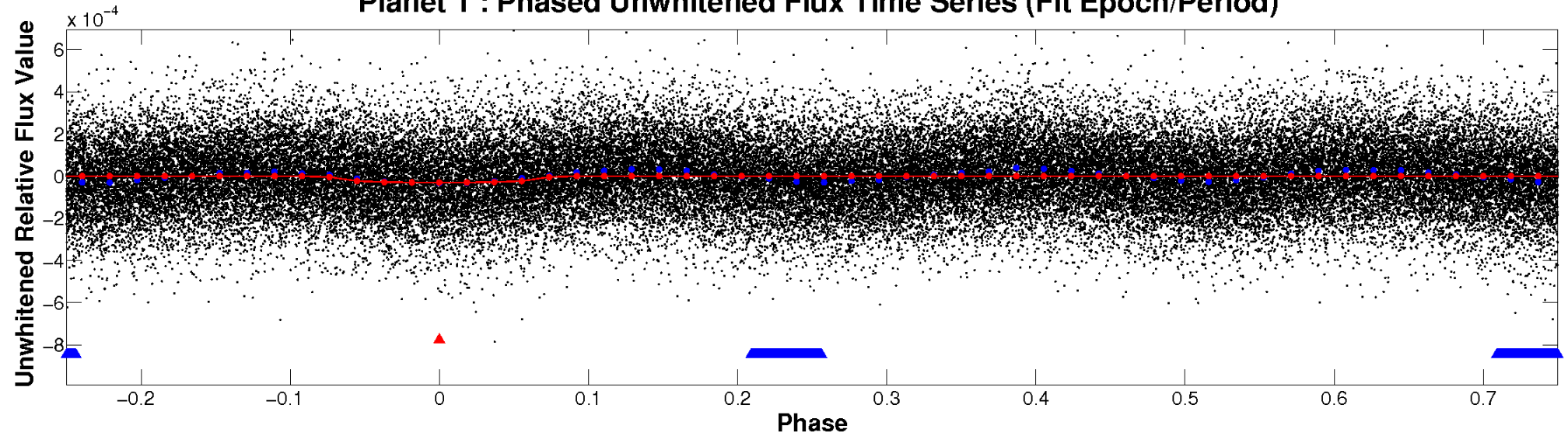
ALT Odd/Even

TCE 001162345-01

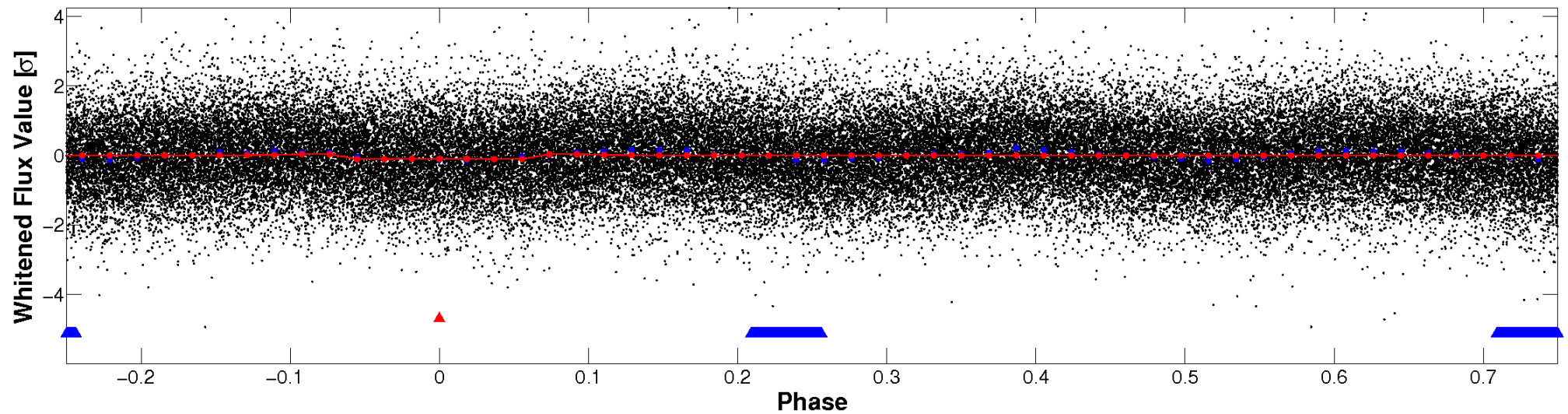


Non-Whitened Vs. Whitened Light Curve

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

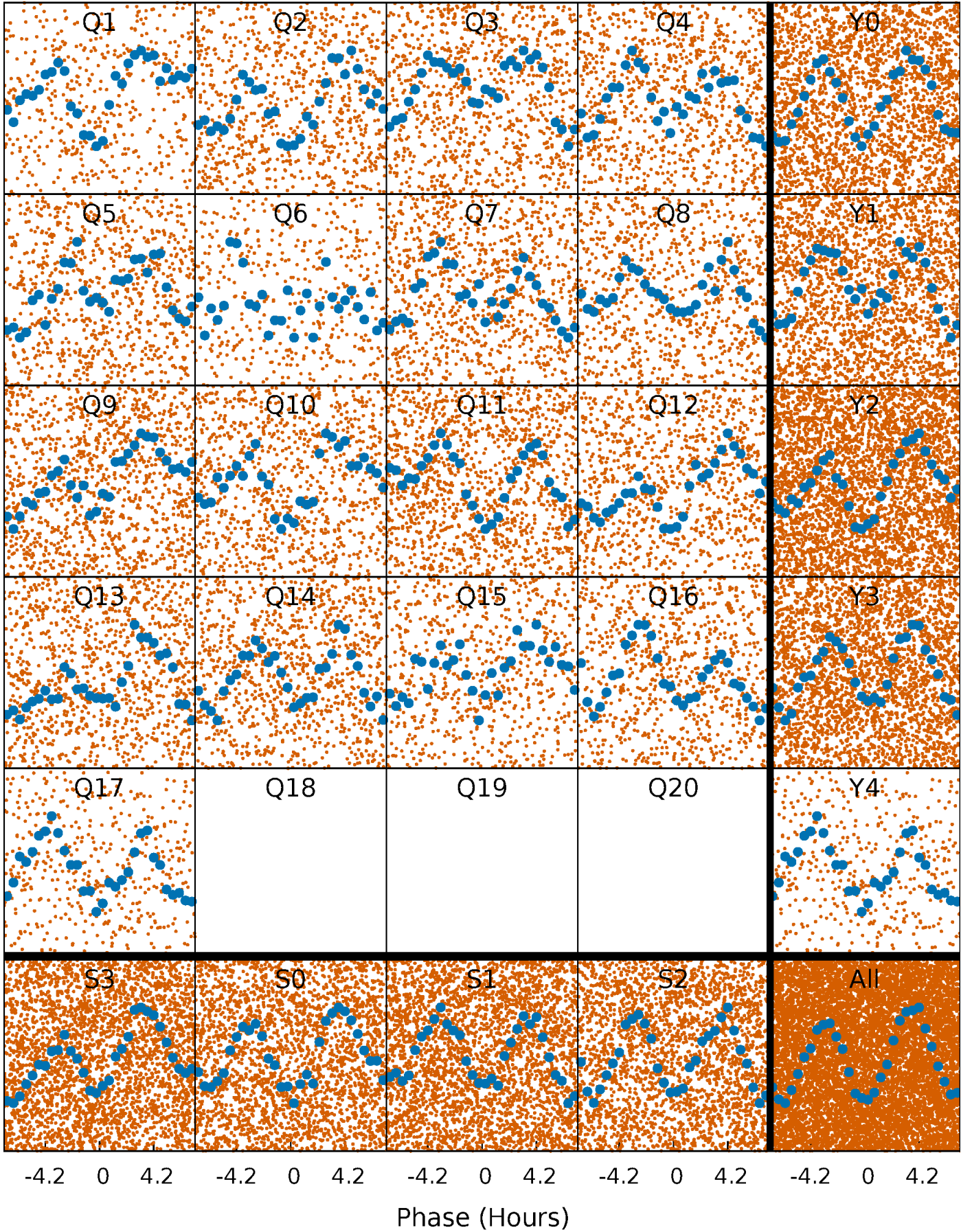


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



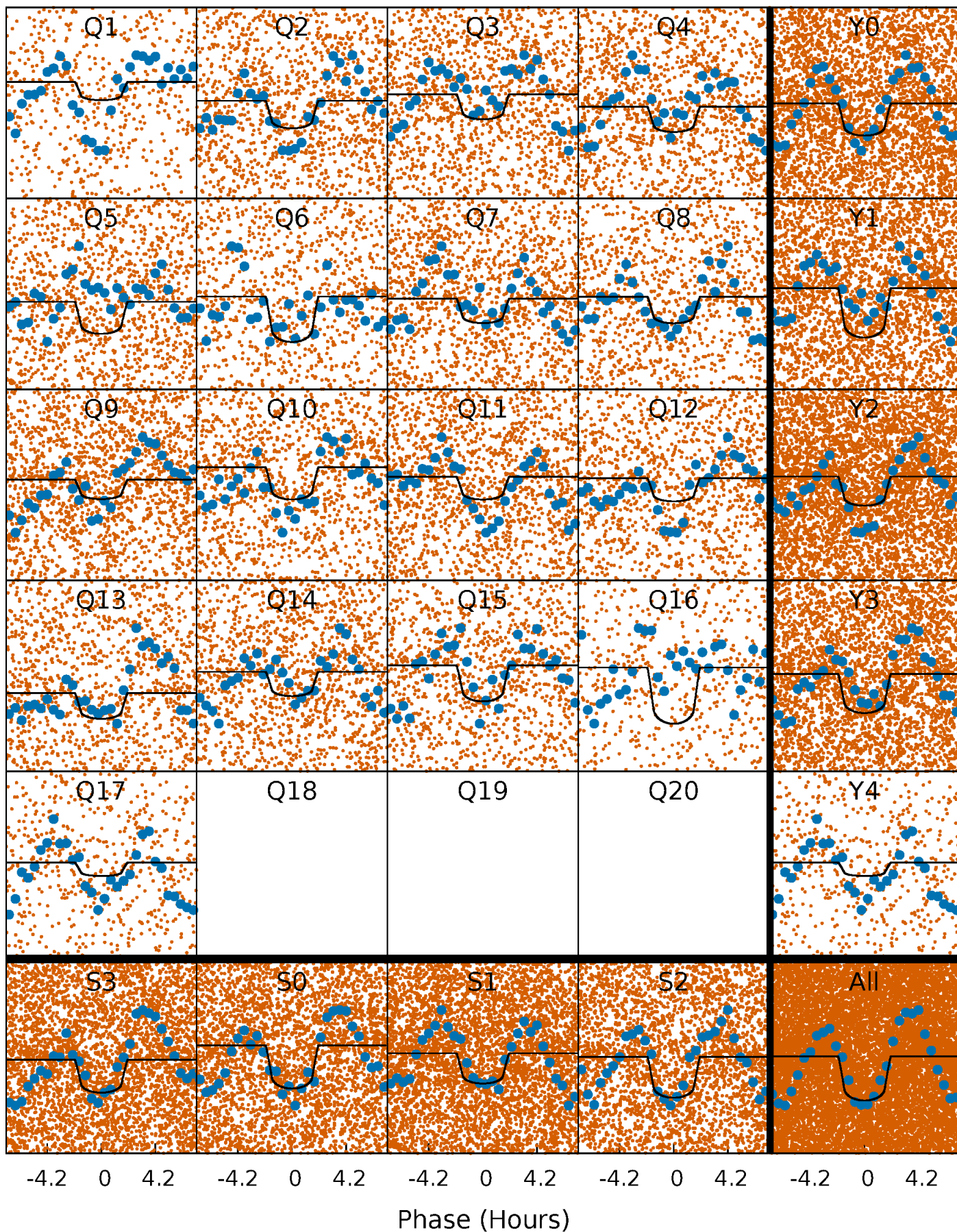
PDC Quarter-Phased Transit Curves

TCE 001162345-01 P= 1.109127 Days $T_0=131.912010$ (BKJD)



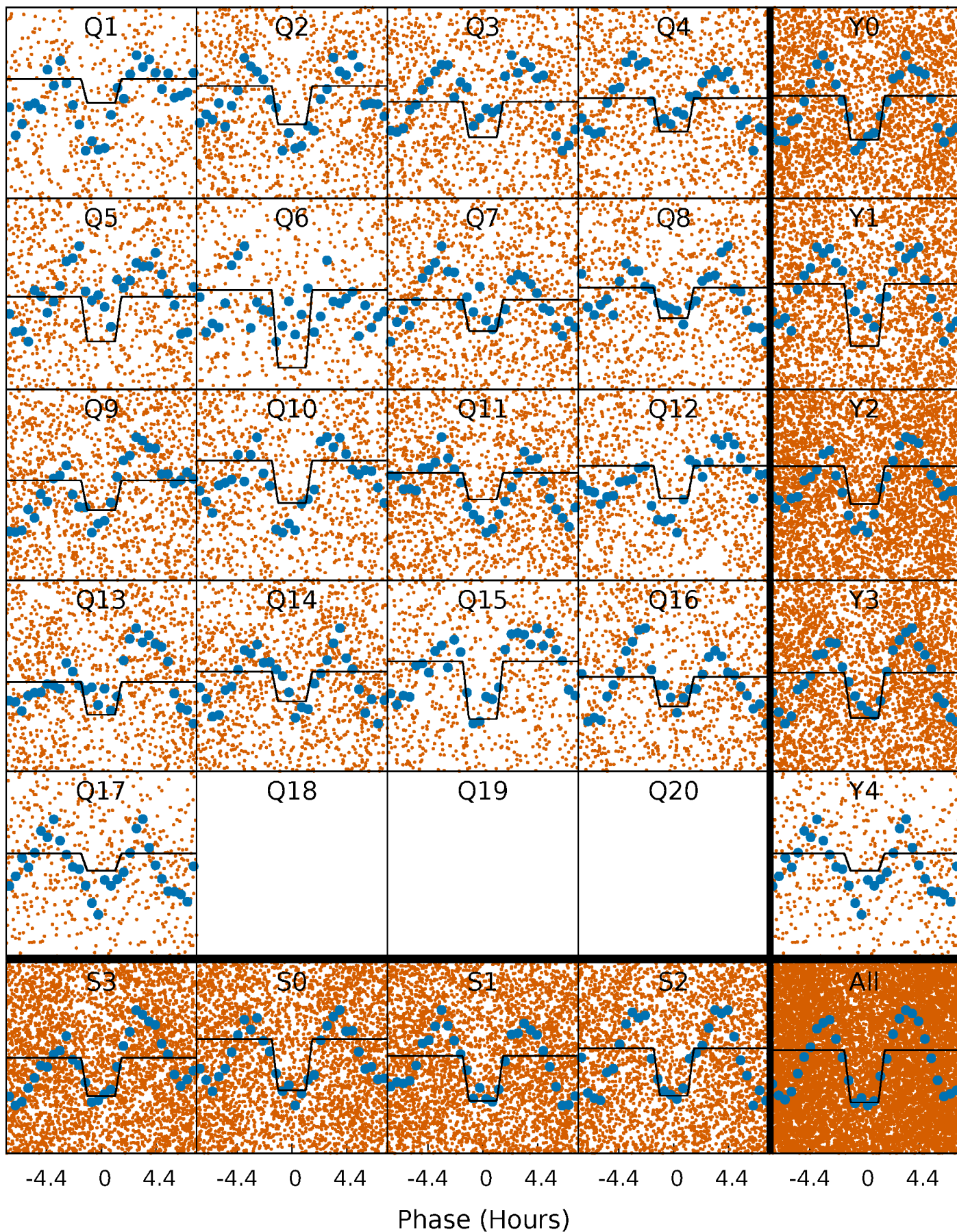
DV Quarter-Phased Transit Curves

TCE 001162345-01 P= 1.109127 Days $T_0=131.912010$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

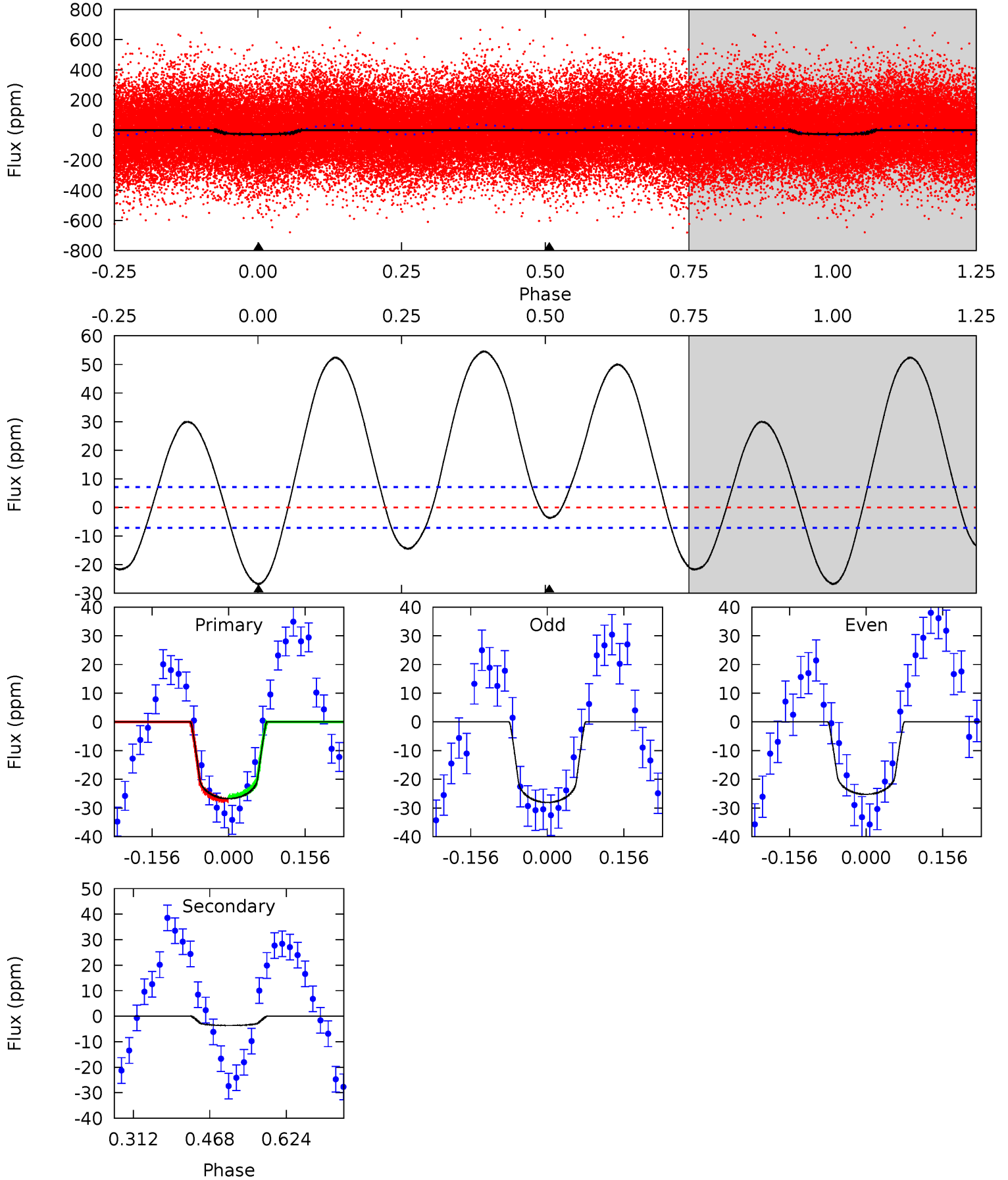
TCE 001162345-01 P= 1.109138 Days $T_0=131.909193$ (BKJD)



DV Model-Shift Uniqueness Test

001162345-01, P = 1.109127 Days, E = 130.802883 Days

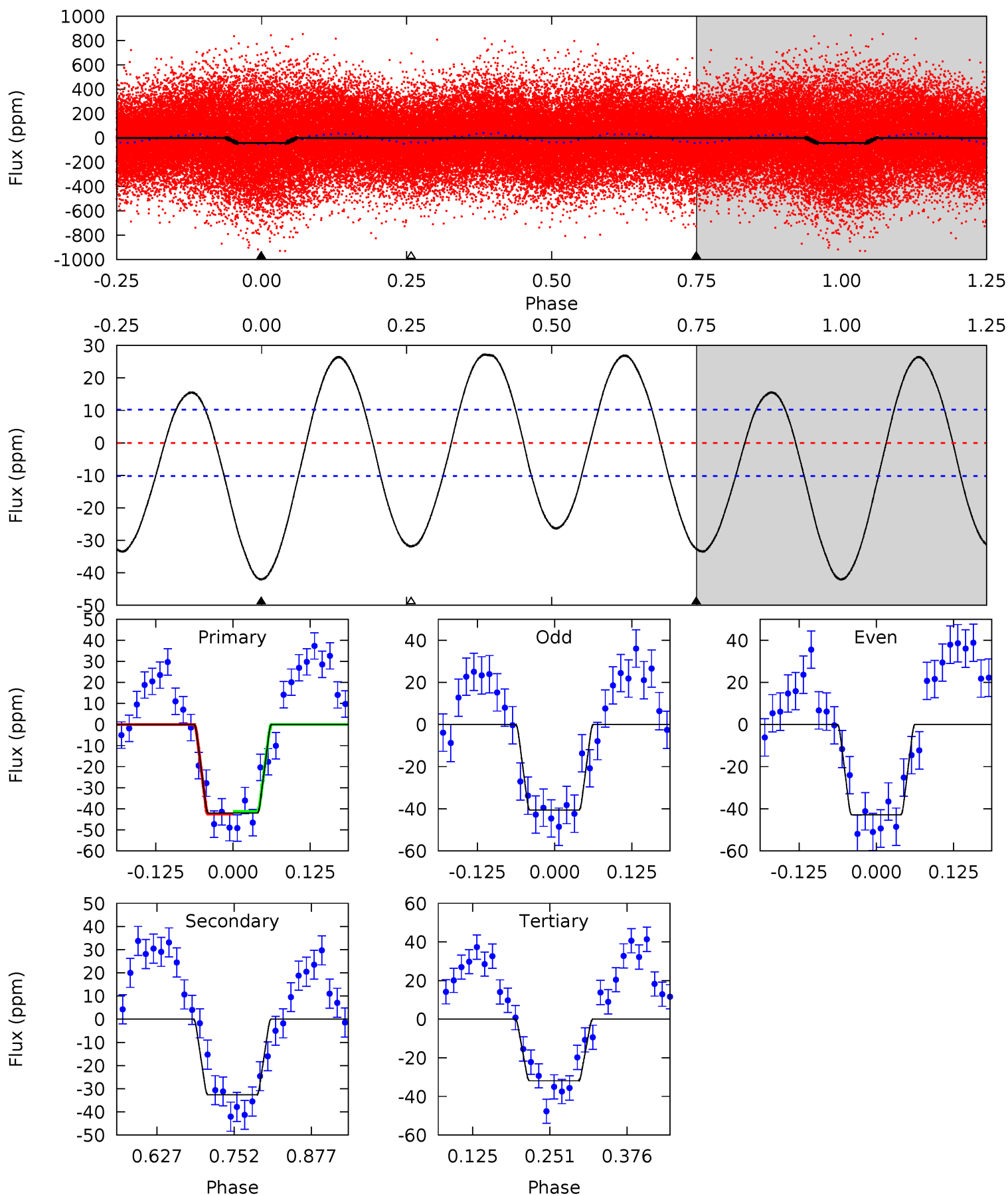
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	2.28	0	0	4.47	1.42	11.8	16.8	16.8	2.28	2.28	0.88	1.02	0.67	0.42



Alt Model-Shift Uniqueness Test

001162345-01, P = 1.109138 Days, E = 130.800055 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	14.4	14.1	0	4.52	1.53	8.95	4.50	18.6	0.32	14.4	0.50	1.23	0.39	0.29



Stellar Parameters For KIC 001162345

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6495^{+177}_{-177}	$3.319^{+0.400}_{-0.047}$	$-0.220^{+0.350}_{-0.300}$	$5.138^{+0.263}_{-2.369}$	$2.006^{+0.124}_{-0.464}$	$0.021^{+0.080}_{-0.003}$
	+3%/-3%	+12%/-1%	+159%/-136%	+5%/-46%	+6%/-23%	+382%/-16%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001162345-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 2	$3.07^{+0.78}_{-0.91}$	5454^{+266}_{-568}	-3994^{+6737}_{-439}	$0.154^{+0.162}_{-0.081}$
Alt.	-33 ± 2	$3.45^{+0.79}_{-0.99}$	5452^{+263}_{-563}	5562^{+857}_{-654}	$1.059^{+0.912}_{-0.365}$

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 $A_{obs} \gg 1.0$

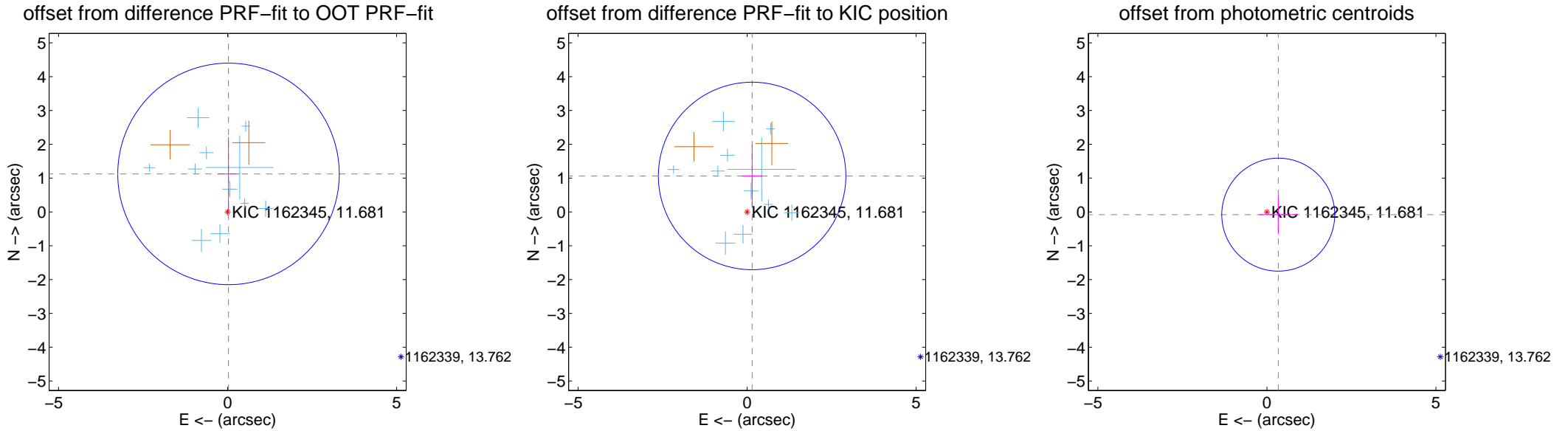
DV Centroid Data

Supplemental centroid analysis for 001162345-01. **Kepler magnitude: 11.68.** Transit SNR 9.99

There are 11 quarters with good PRF difference image offsets

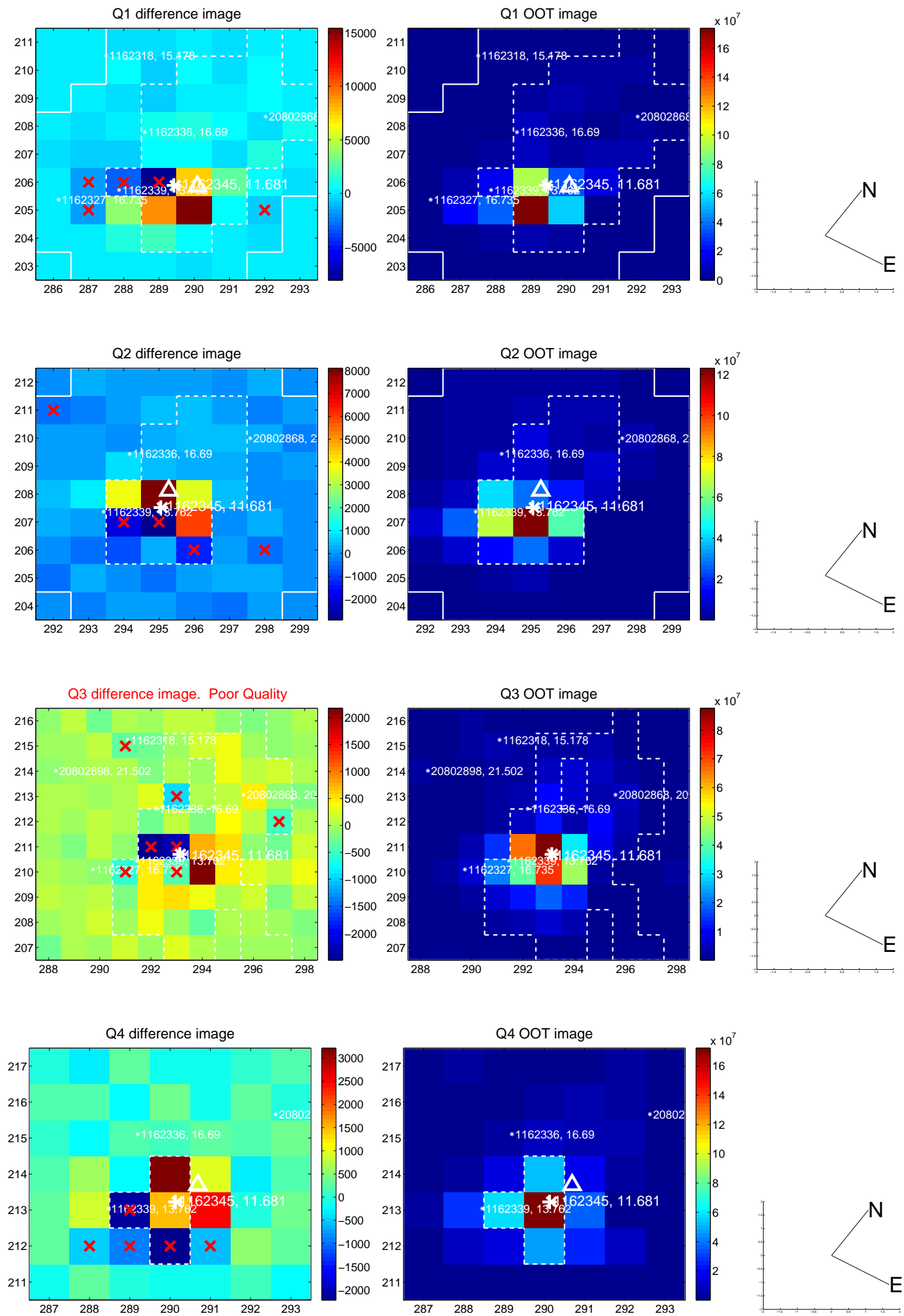
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.125 ± 1.092	1.03	-0.027 ± 0.318	1.124 ± 1.088
PRF-fit source offset from KIC position	1.075 ± 0.924	1.16	-0.148 ± 0.301	1.065 ± 0.916
photometric centroid source offset	0.34 ± 0.56	0.62	-0.34 ± 0.56	-0.08 ± 0.57

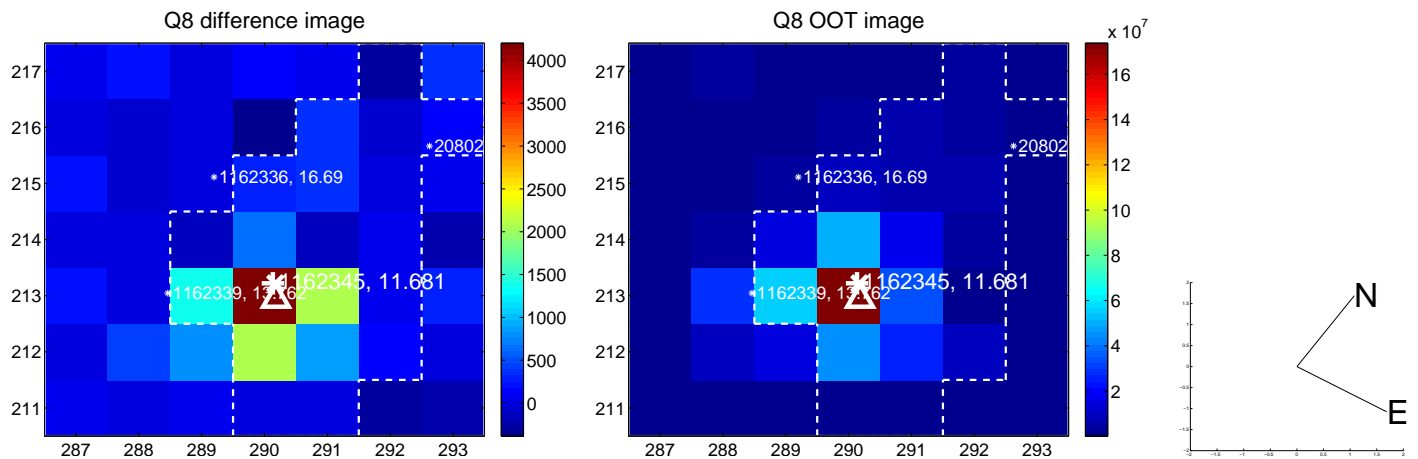
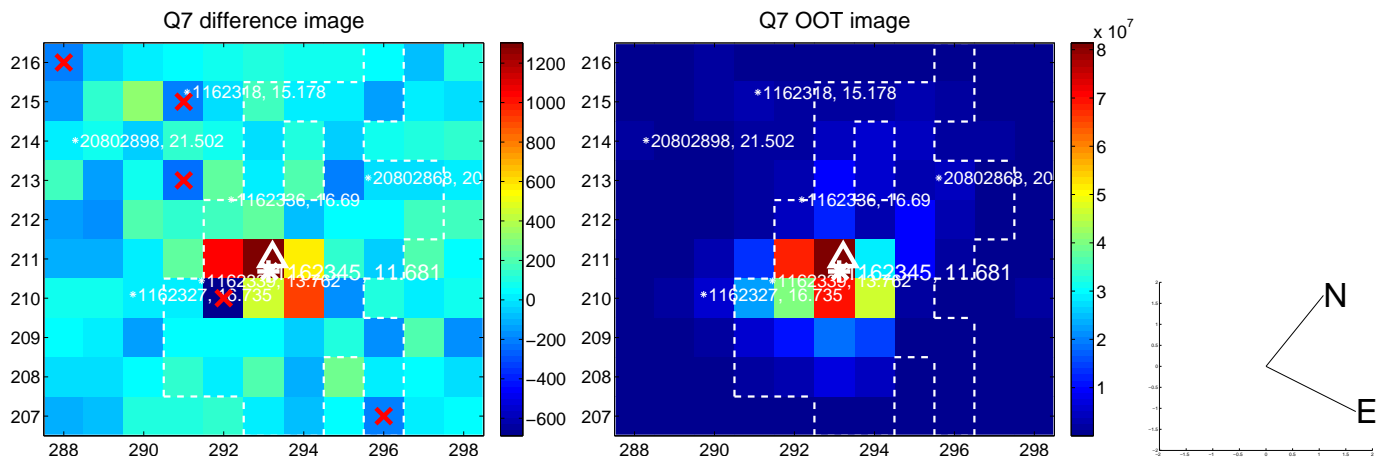
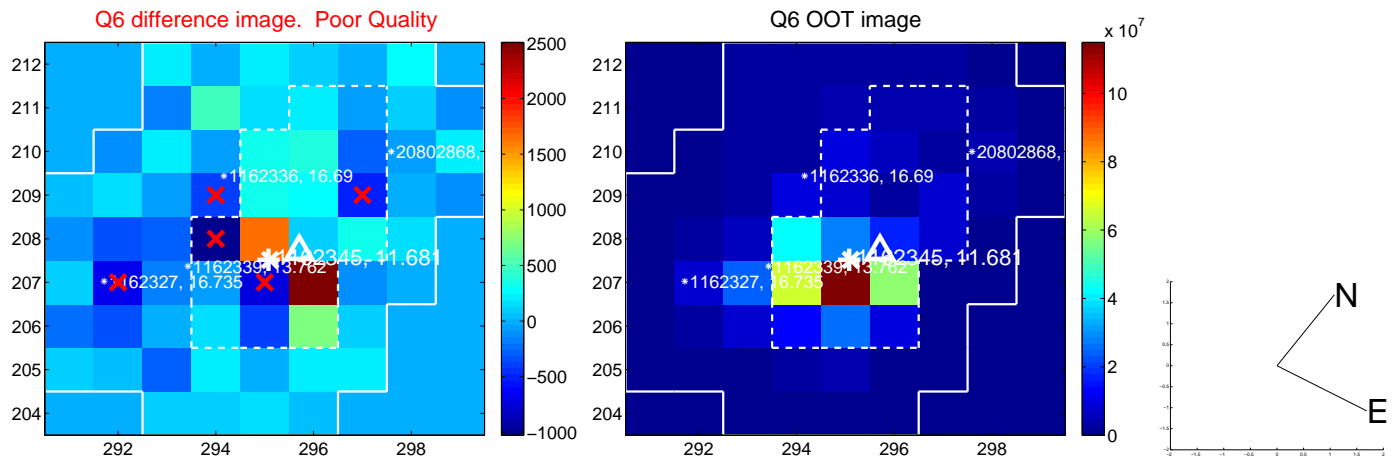
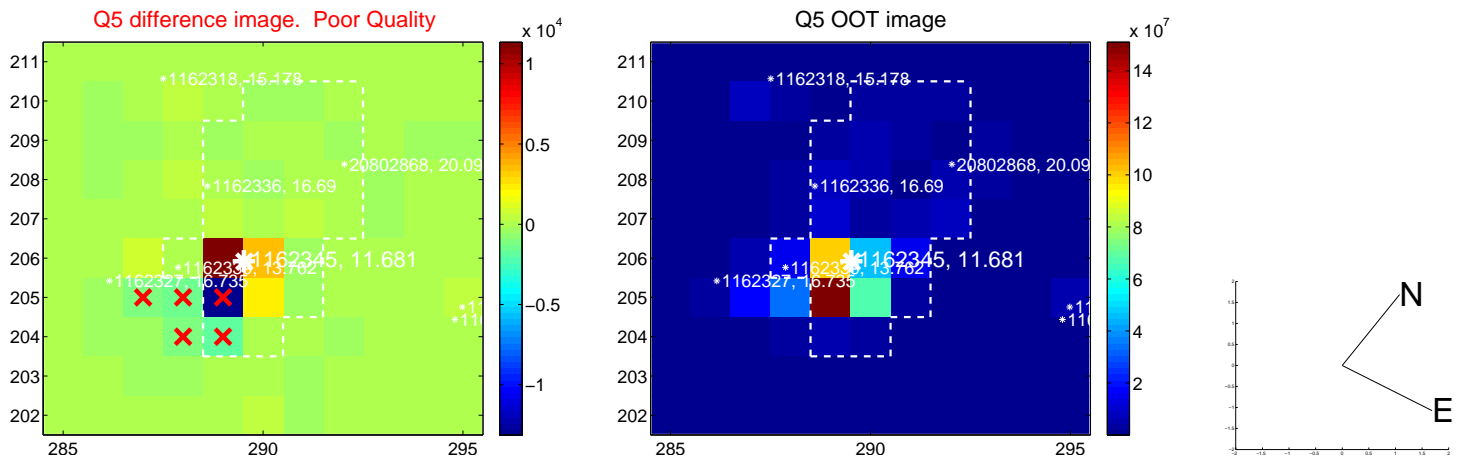


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

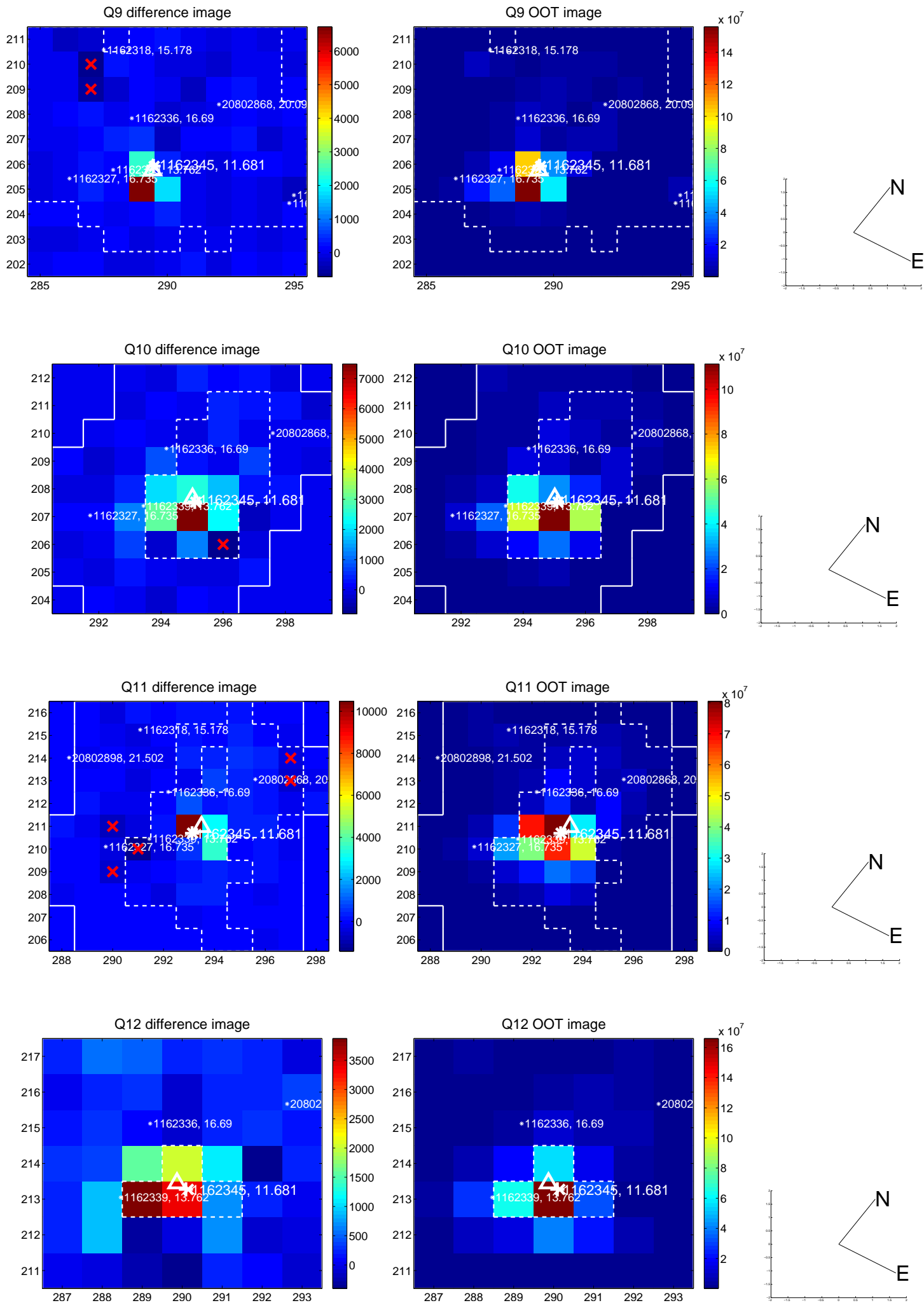
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



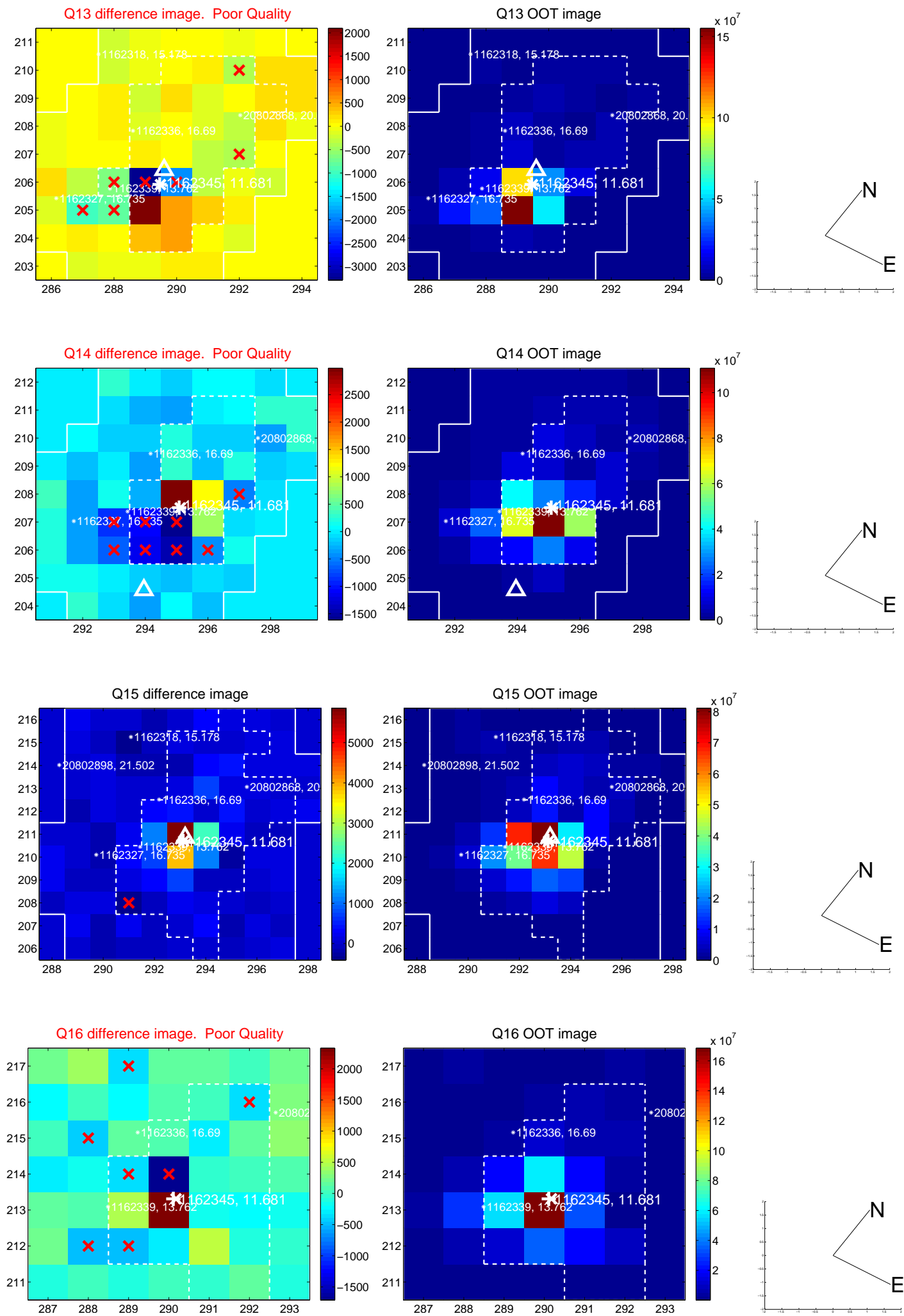
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



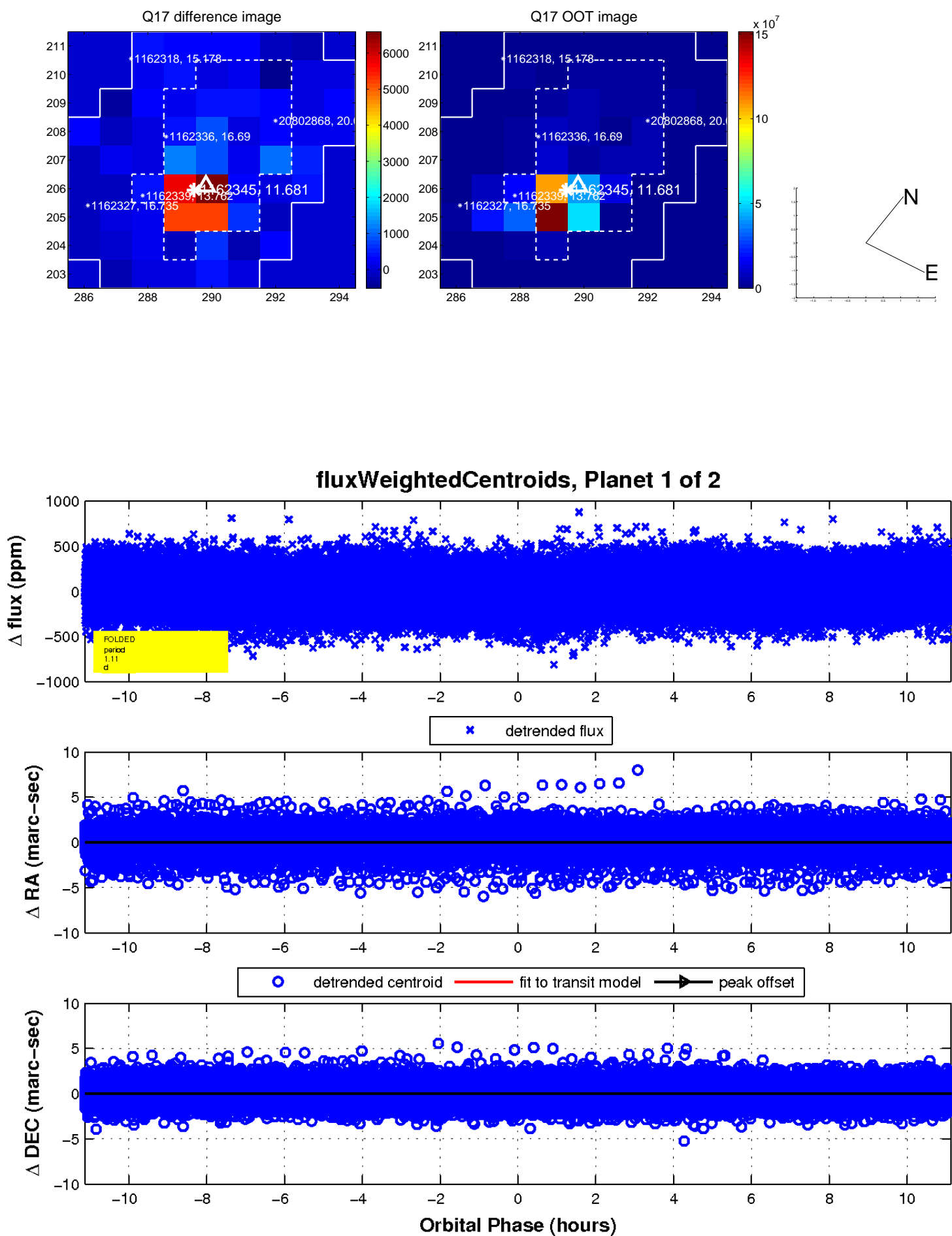
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



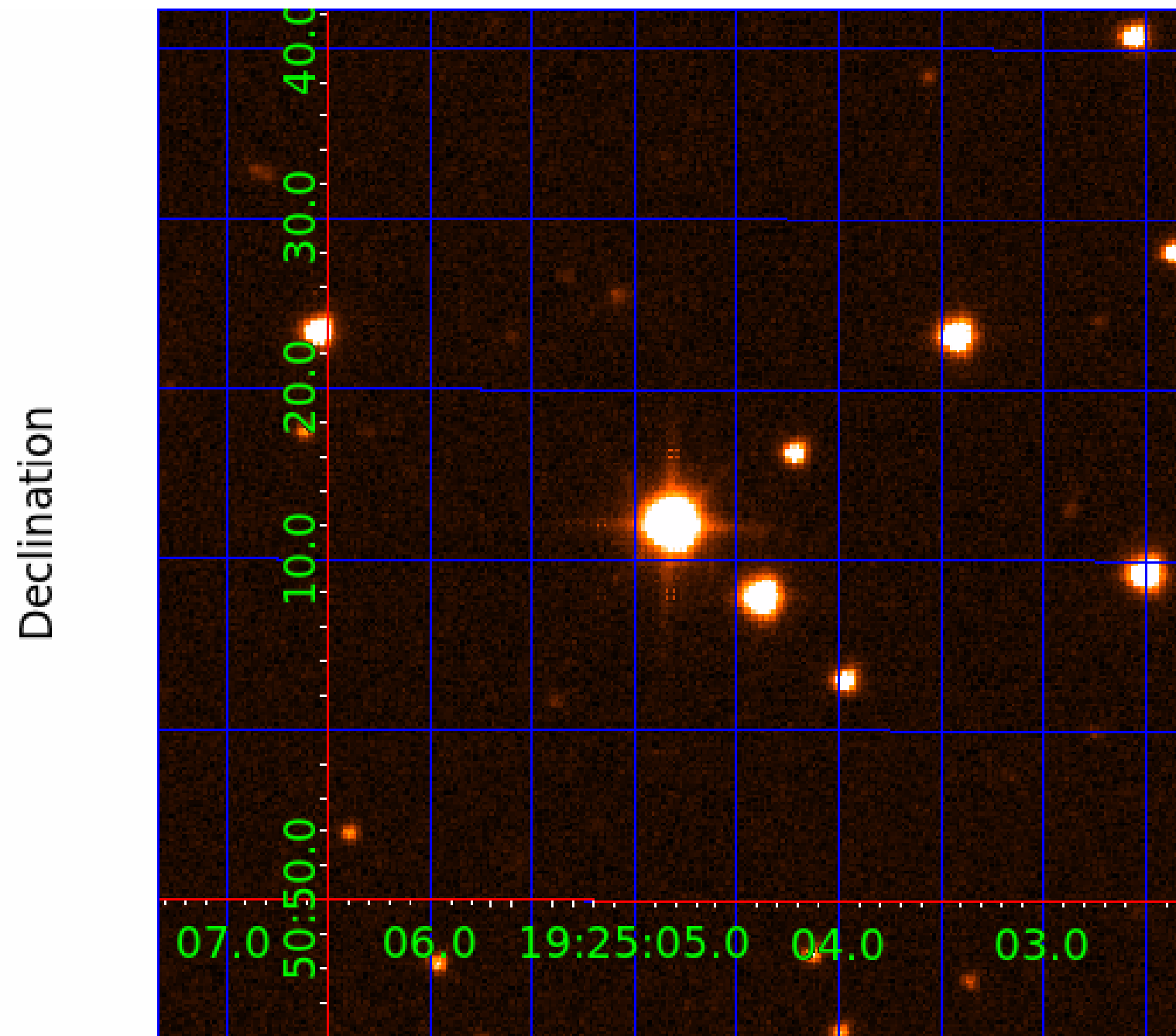
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 001162345

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})
001162345-01	OBS	No	1.109127	131.912010	30.6	3.708	8.5	10.0	5.14	6495	3.32	60131.01
001162345-02	OBS	No	0.554544	131.641600	25.0	4.881	10.0	10.9	5.14	6495	2.75	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001162345-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
001162345-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

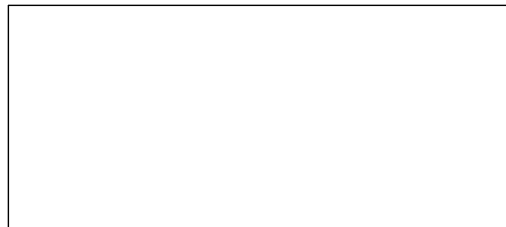
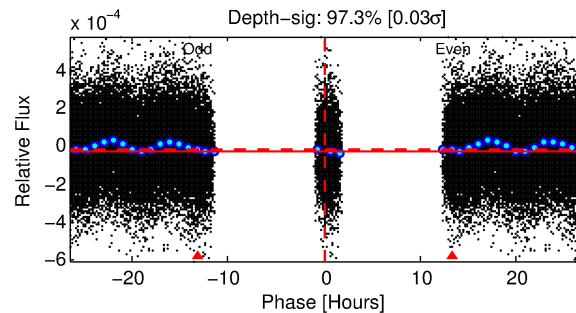
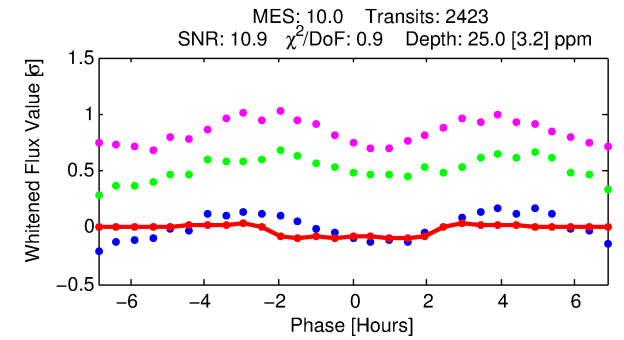
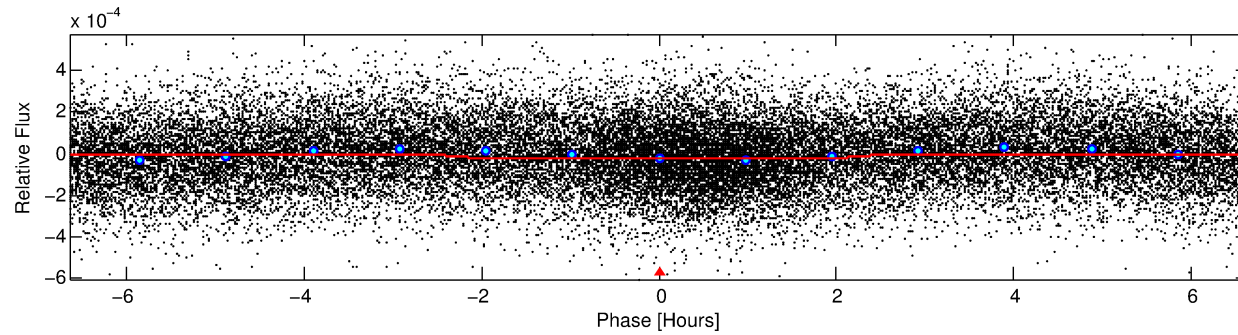
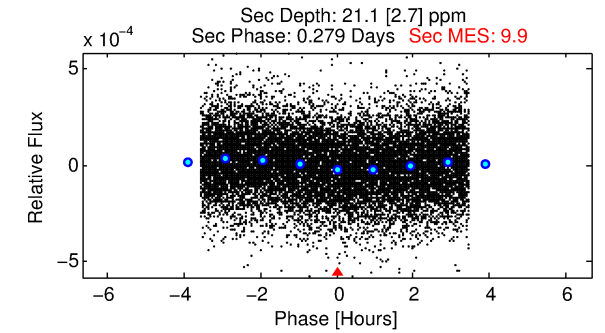
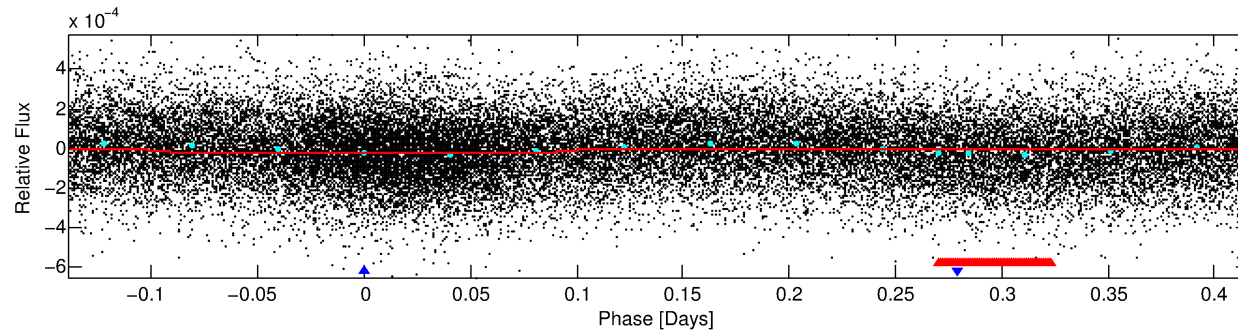
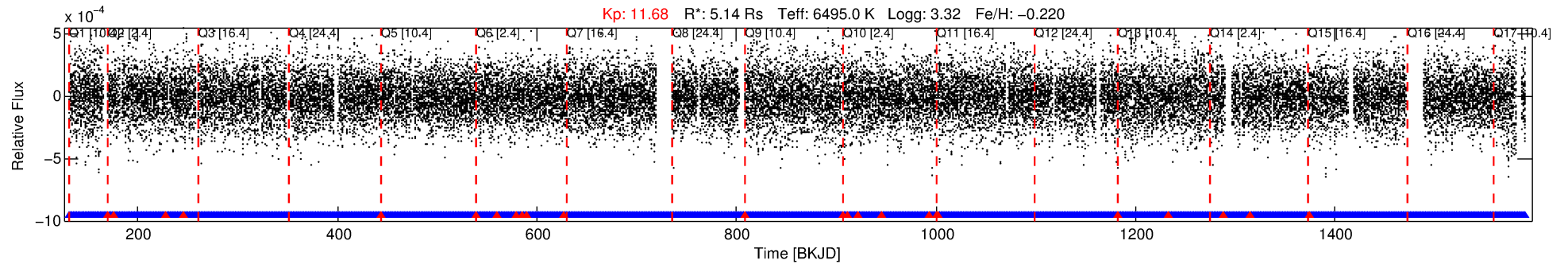
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001162345-02

No Significant Match Found

DV One-Page Summary

KIC: 1162345 Candidate: 2 of 2 Period: 0.555 d



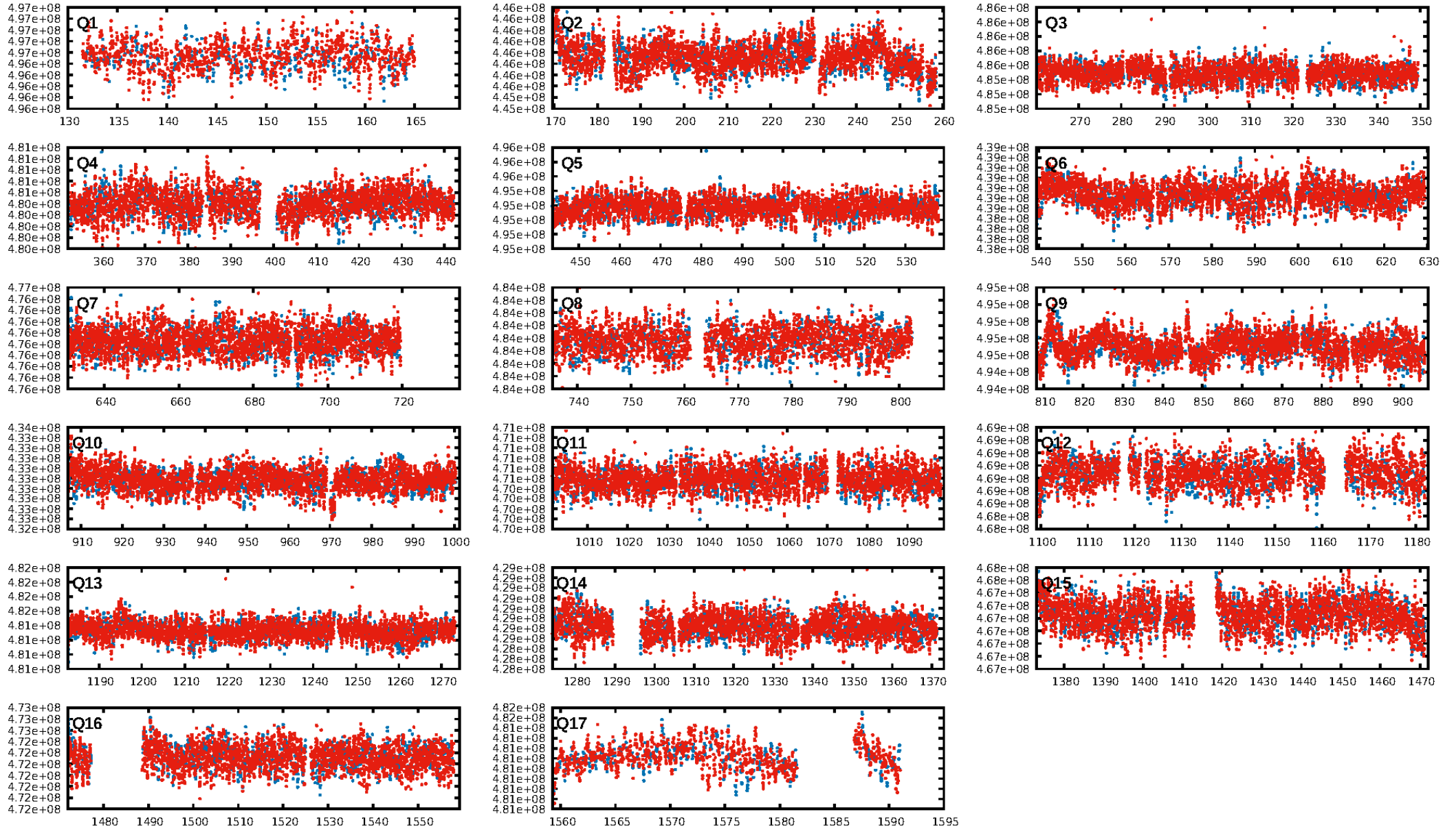
DV Fit Results:

Period = 0.55454 [0.00001] d
Epoch = 131.6416 [0.0030] BKJD
Rp/R* = 0.0049 [0.0031]
a/R* = 1.05 [0.37]
b = 0.70 [2.58]
Seff = N/A
Teq = N/A
Rp = 2.75 [2.14] Re
a = N/A
Ag = N/A
Teffp = N/A

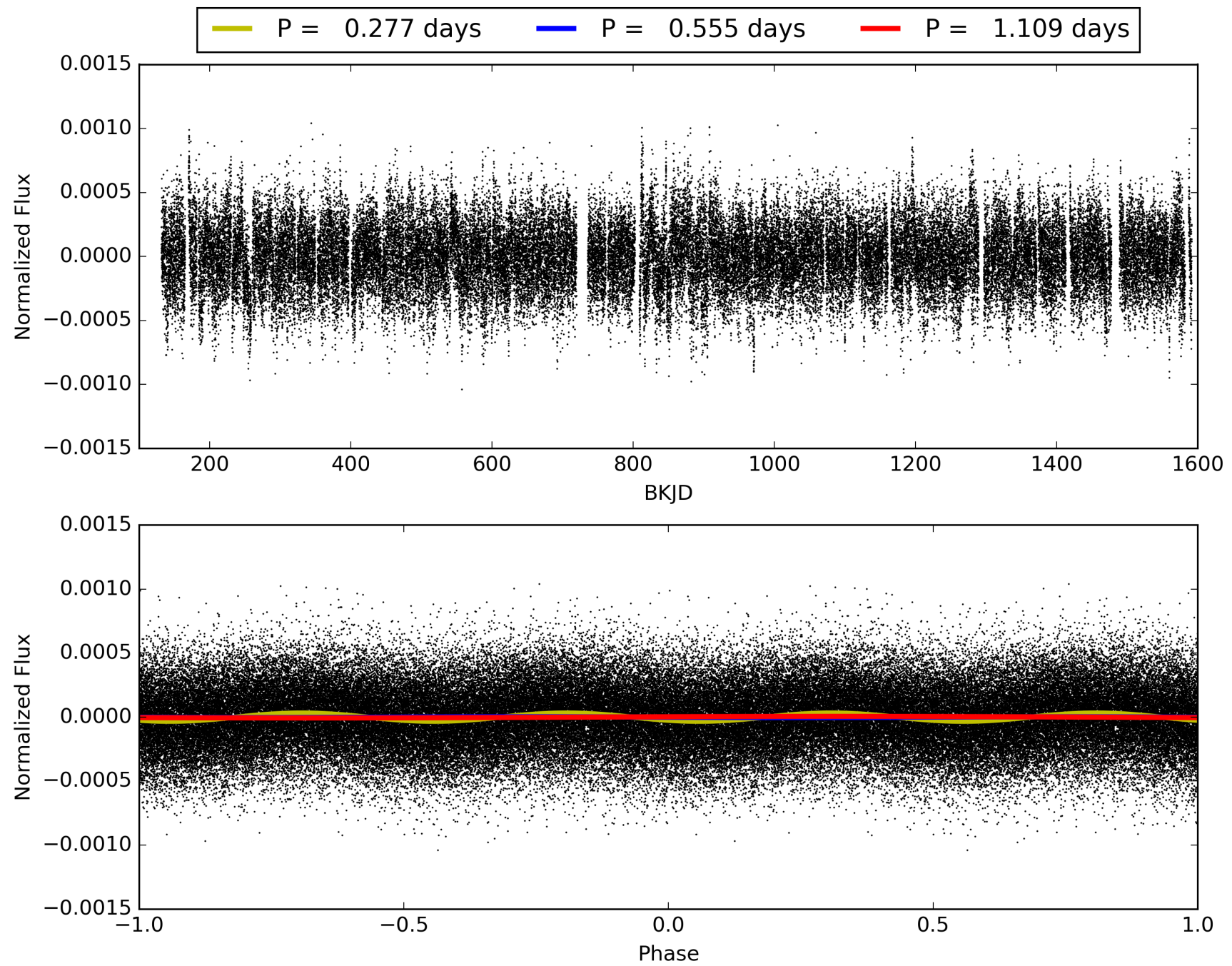
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 97.0% [2.17σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [2287/2314]
GhostDiagnostic-chr: 1.572
Centroid-sig: 16.8%
Centroid-so: 0.316 arcsec [0.73σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.29 [5/17]

TCE 001162345-02, PDC Light Curves

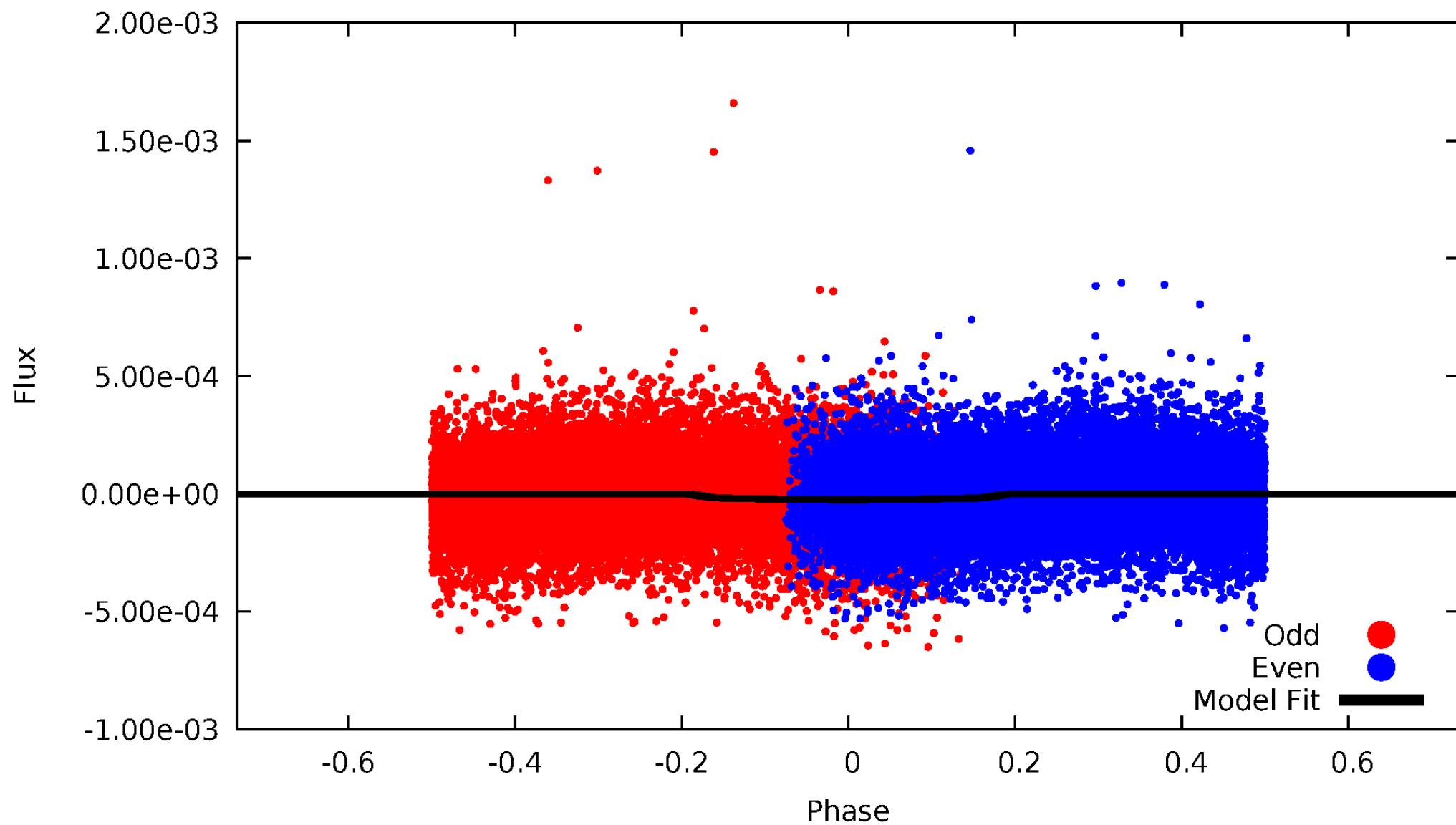


TCE 001162345-02



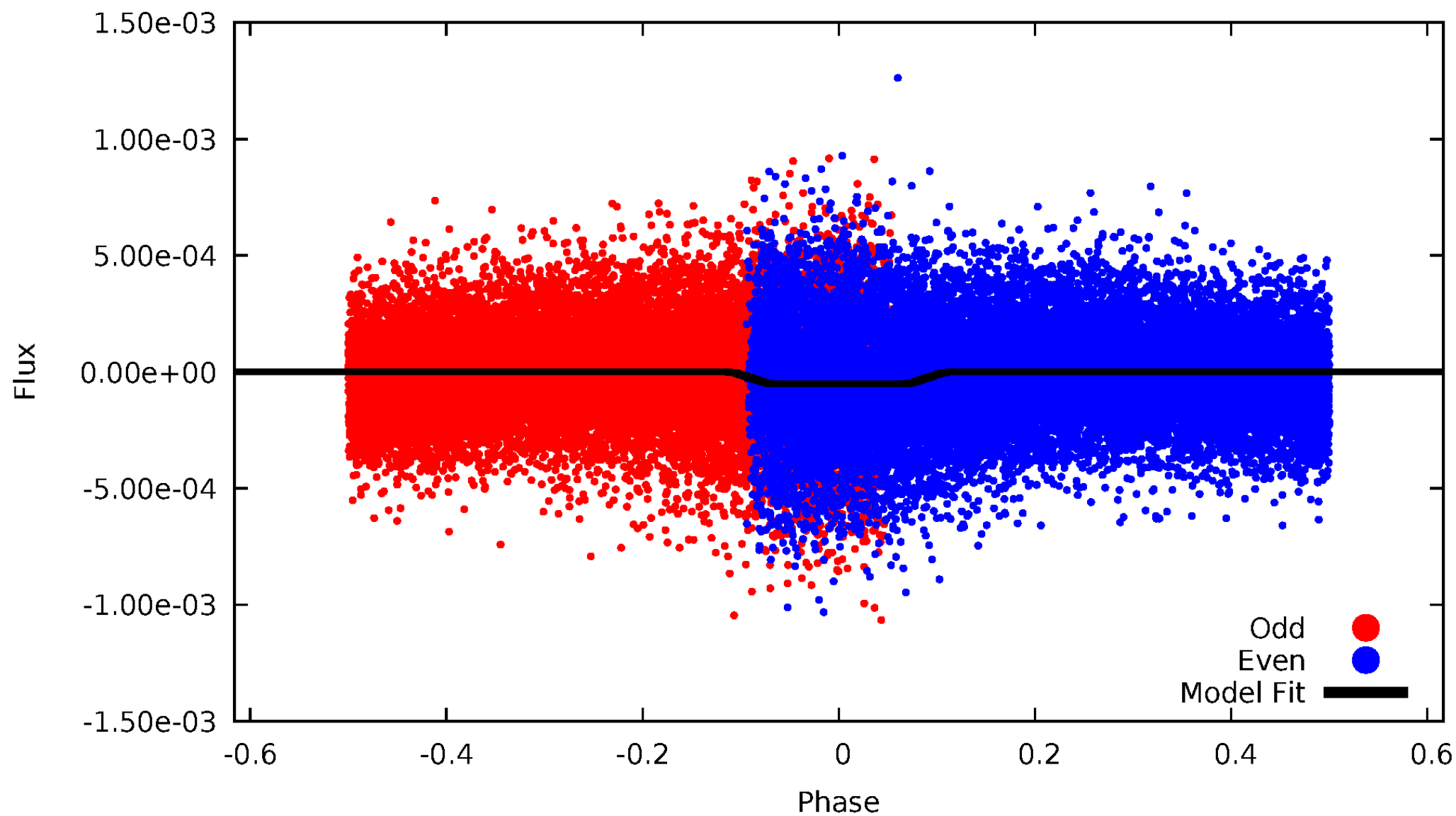
DV Odd/Even

TCE 001162345-02



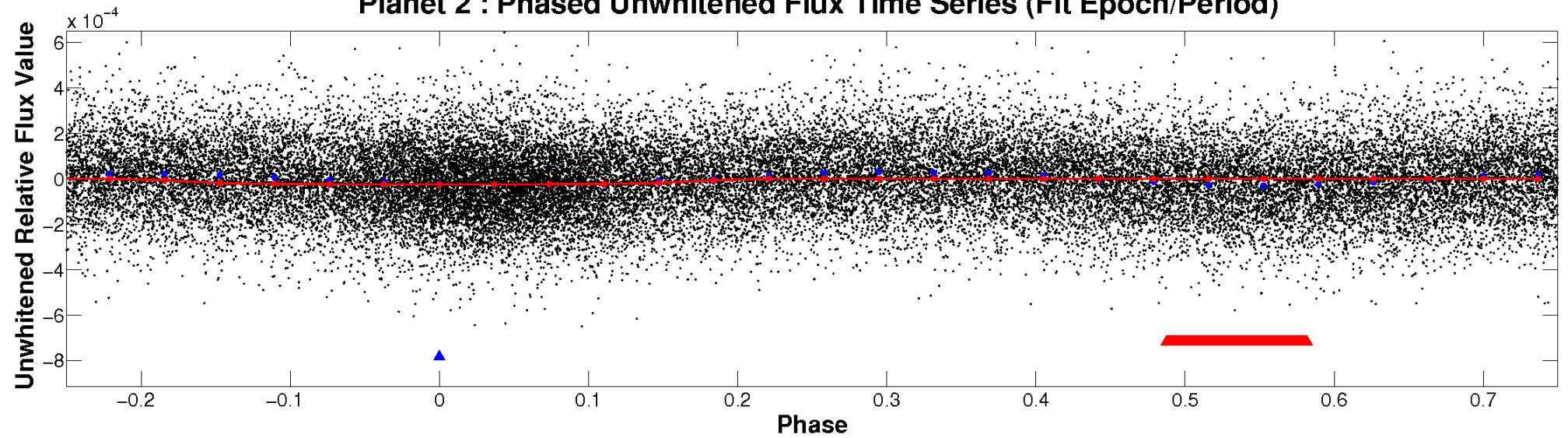
ALT Odd/Even

TCE 001162345-02

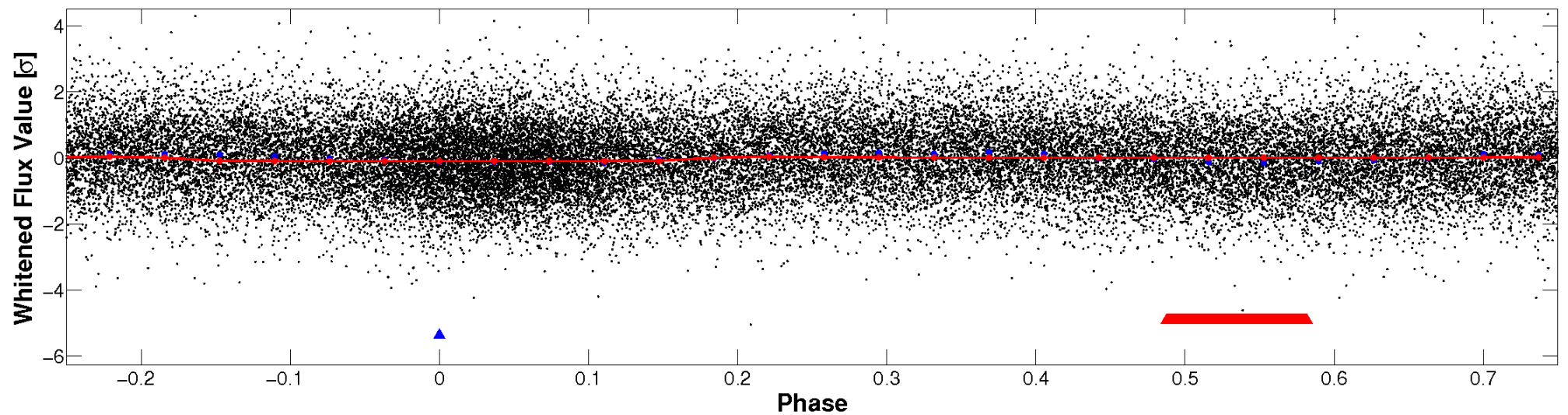


Non-Whitened Vs. Whitened Light Curve

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

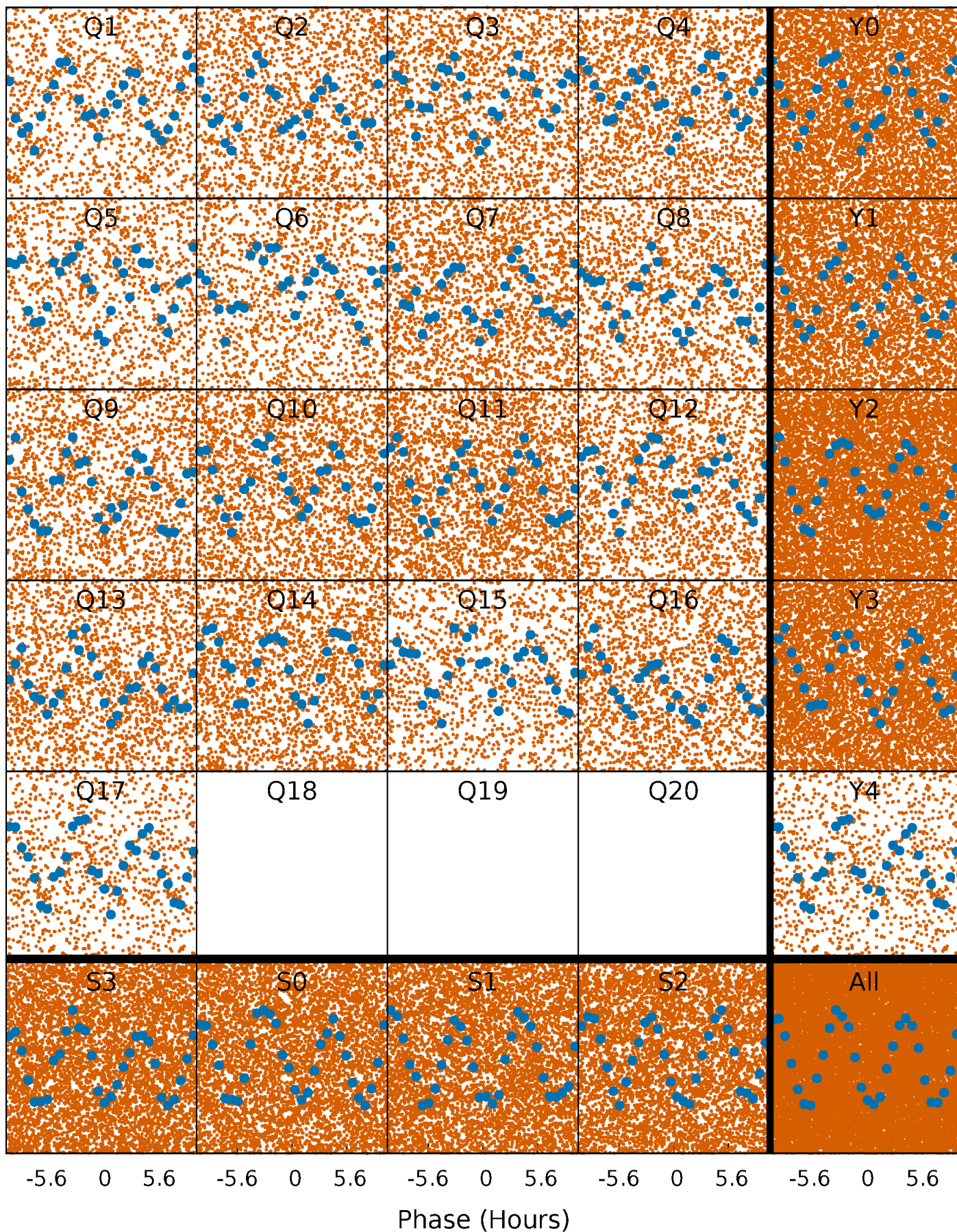


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



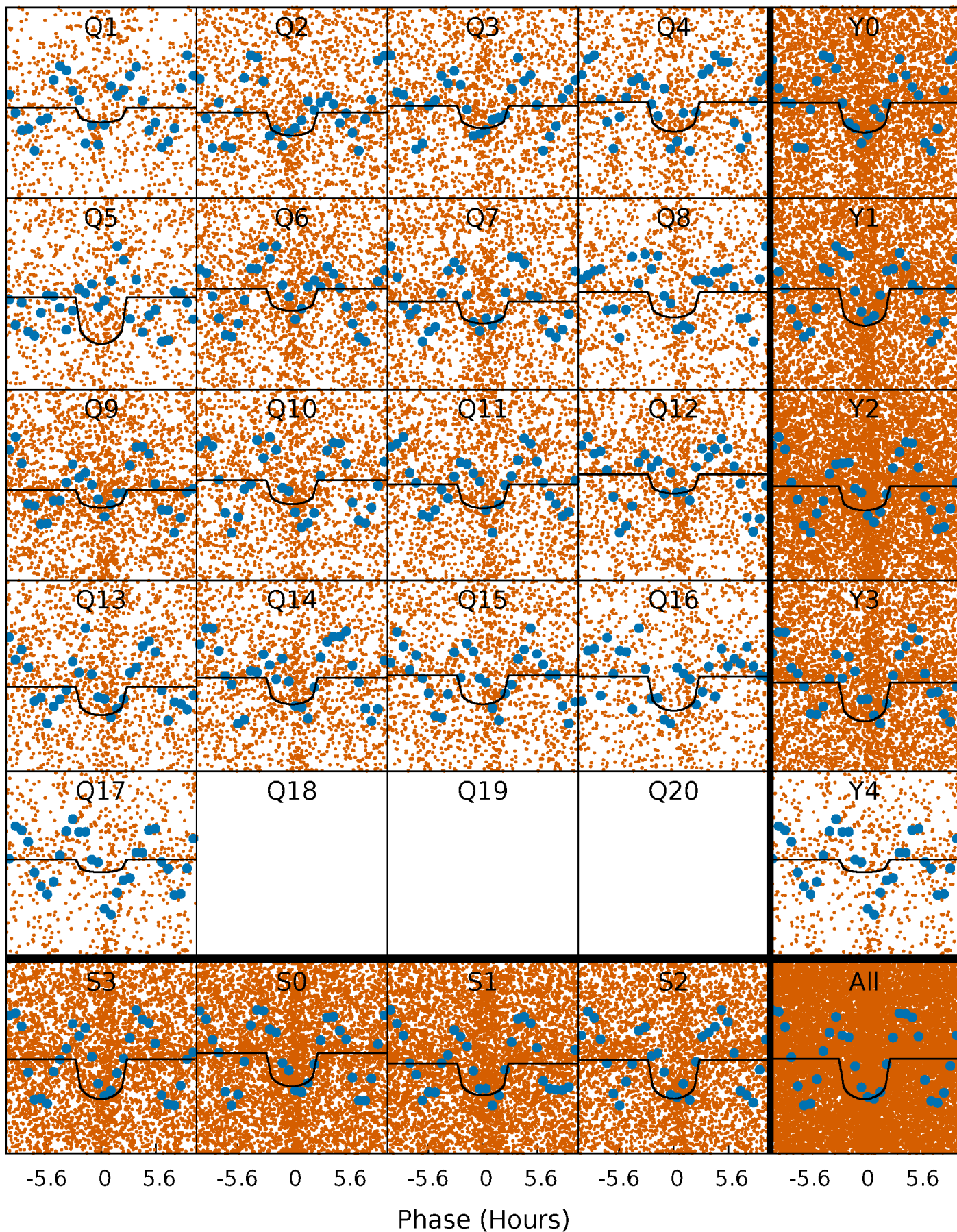
PDC Quarter-Phased Transit Curves

TCE 001162345-02 P= 0.554544 Days $T_0=131.641600$ (BKJD)



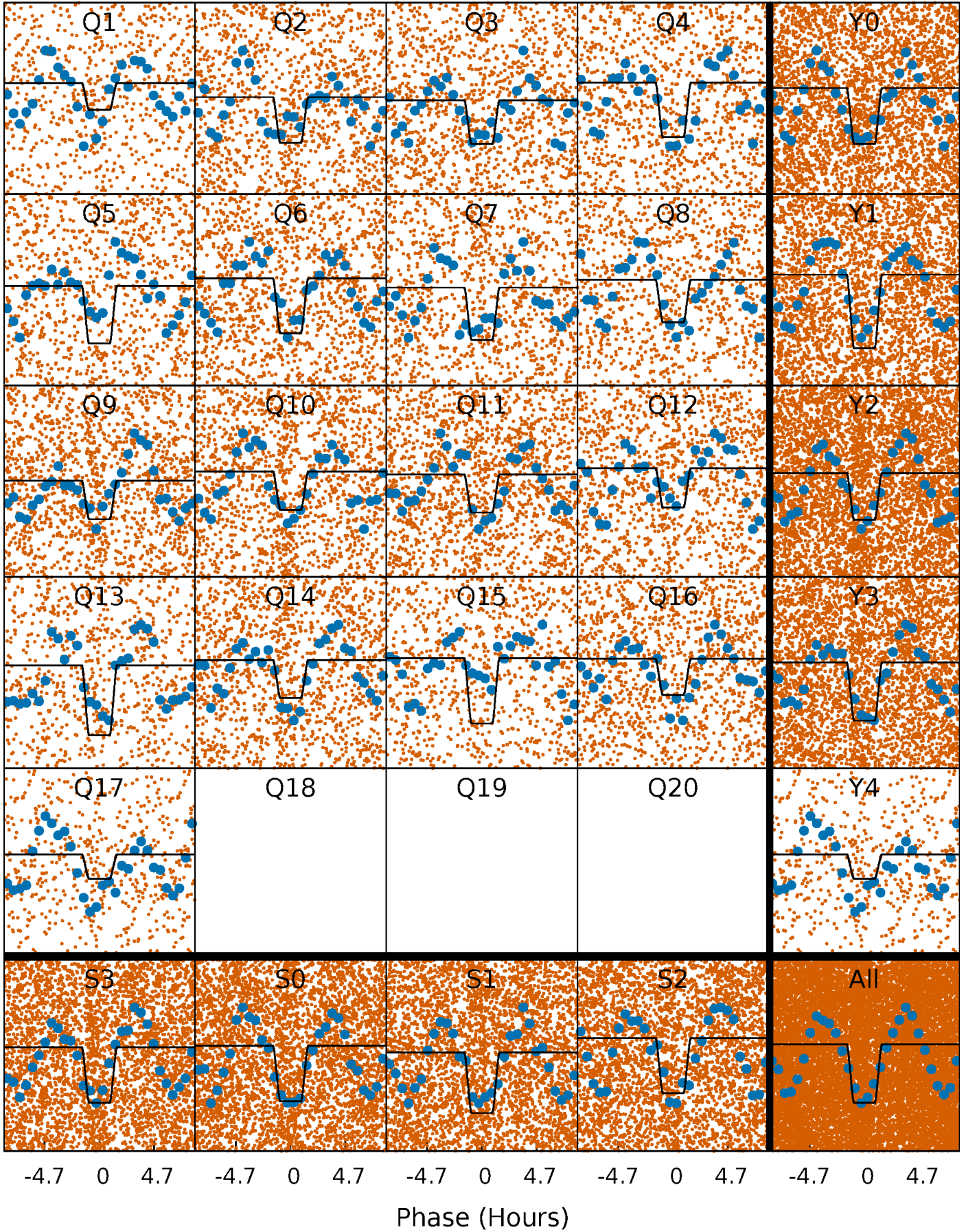
DV Quarter-Phased Transit Curves

TCE 001162345-02 P= 0.554544 Days $T_0=131.641600$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

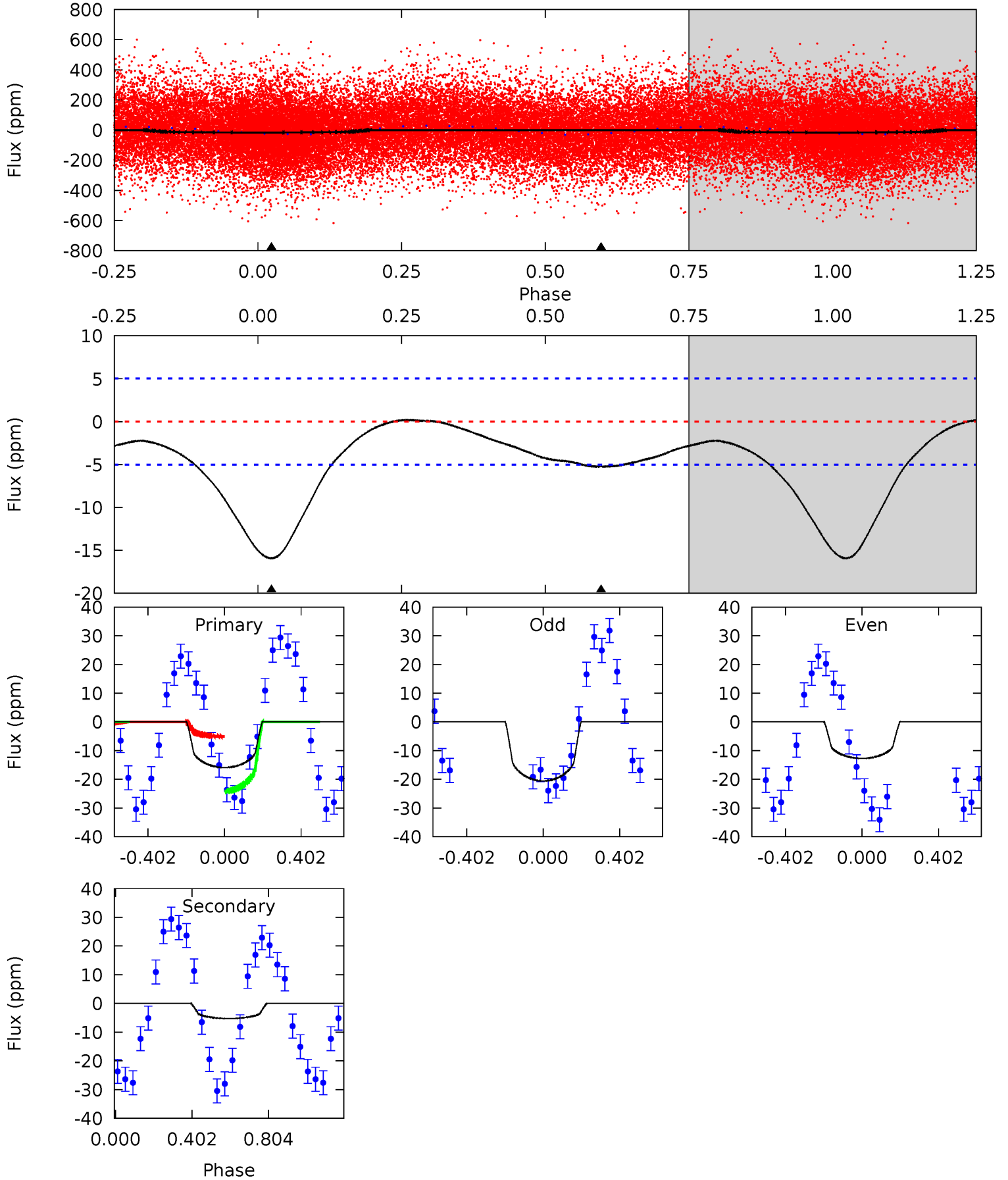
TCE 001162345-02 P= 0.554569 Days $T_0=131.639397$ (BKJD)



DV Model-Shift Uniqueness Test

001162345-02, P = 0.554544 Days, E = 131.087056 Days

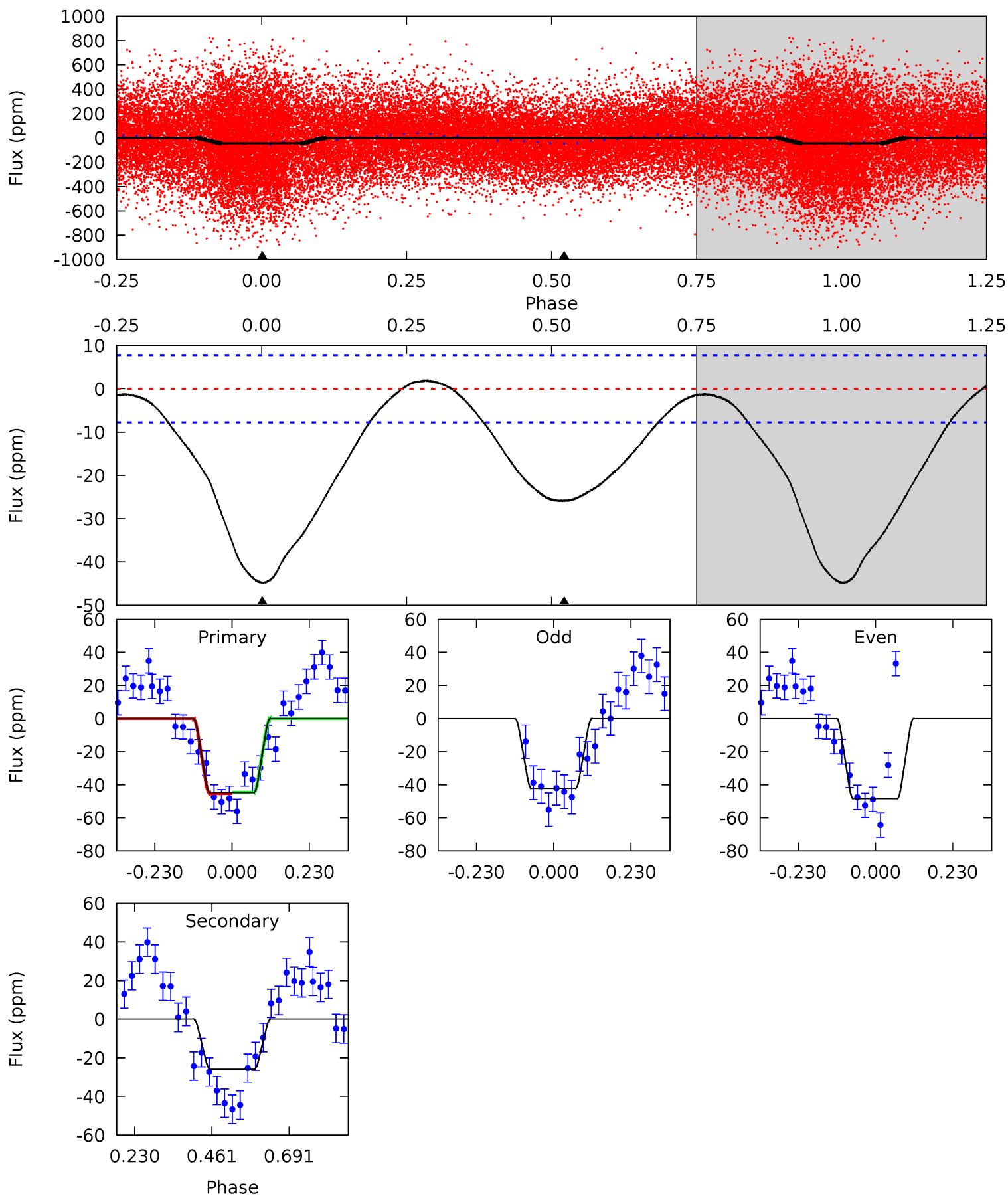
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	4.46	0	0	4.26	0.84	0.33	13.5	13.5	4.46	4.46	3.36	1.15	0.01	8.06



Alt Model-Shift Uniqueness Test

001162345-02, P = 0.554569 Days, E = 131.084828 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.3	14.6	0	0	4.39	1.20	0.82	25.3	25.3	14.6	14.6	1.67	0.96	0.04	0.19



Stellar Parameters For KIC 001162345

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6495^{+177}_{-177}	$3.319^{+0.400}_{-0.047}$	$-0.220^{+0.350}_{-0.300}$	$5.138^{+0.263}_{-2.369}$	$2.006^{+0.124}_{-0.464}$	$0.021^{+0.080}_{-0.003}$
	+3%/-3%	+12%/-1%	+159%/-136%	+5%/-46%	+6%/-23%	+382%/-16%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001162345-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 1	$2.61^{+1.67}_{-1.46}$	6900^{+297}_{-695}	-4927^{+10283}_{-624}	$0.115^{+0.465}_{-0.072}$
Alt.	-26 ± 2	$3.68^{+1.82}_{-1.54}$	6905^{+292}_{-756}	-3081^{+9255}_{-1952}	$0.288^{+0.538}_{-0.154}$

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

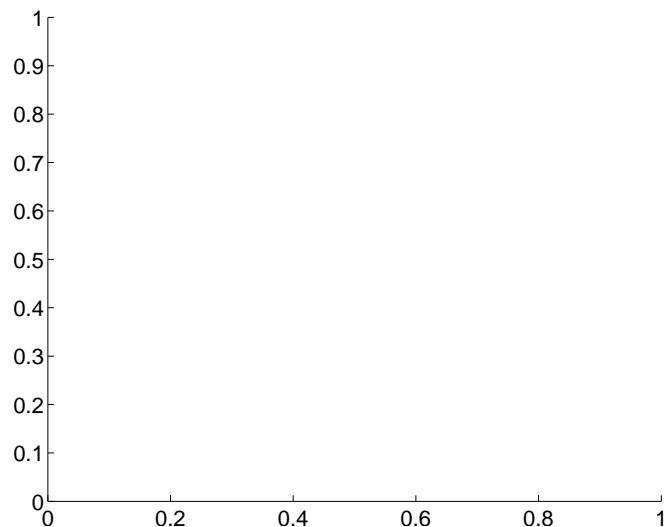
Supplemental centroid analysis for 001162345-02. **Kepler magnitude: 11.68.** Transit SNR 10.90

There are 0 quarters with good PRF difference image offsets

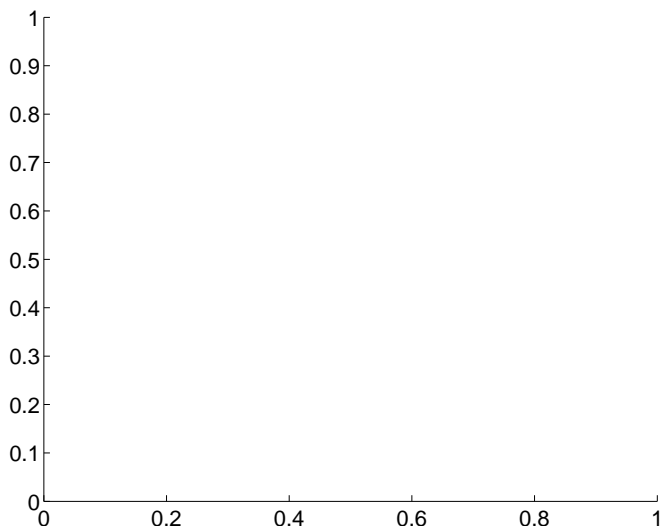
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.32 ± 0.43	0.73	-0.30 ± 0.43	-0.09 ± 0.43

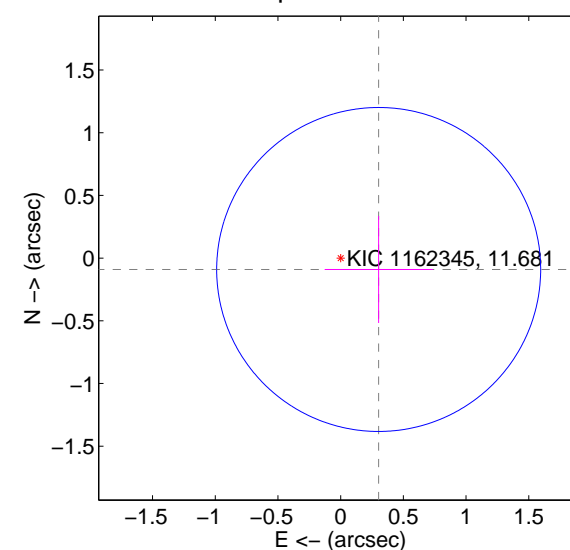
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

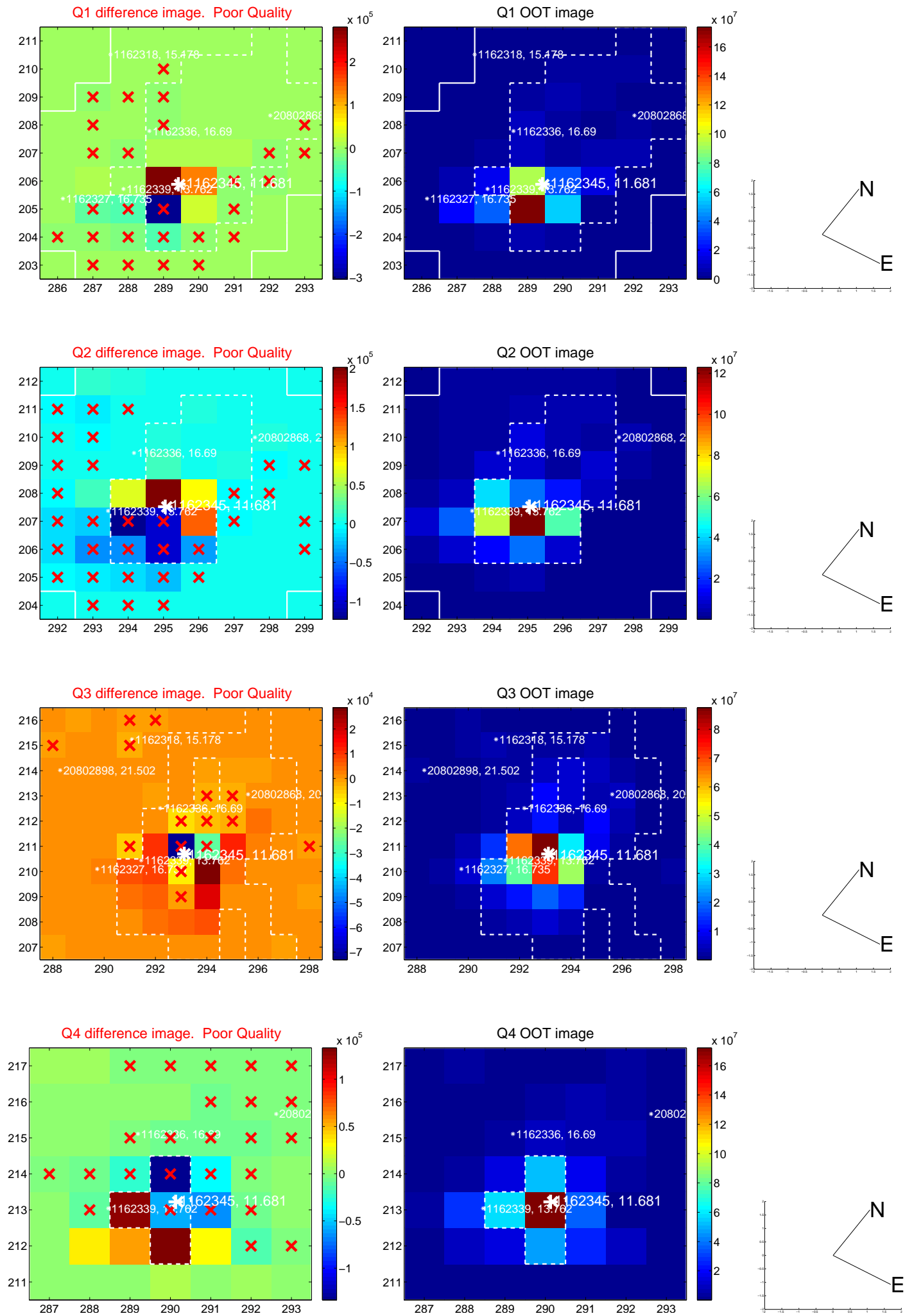


offset from photometric centroids

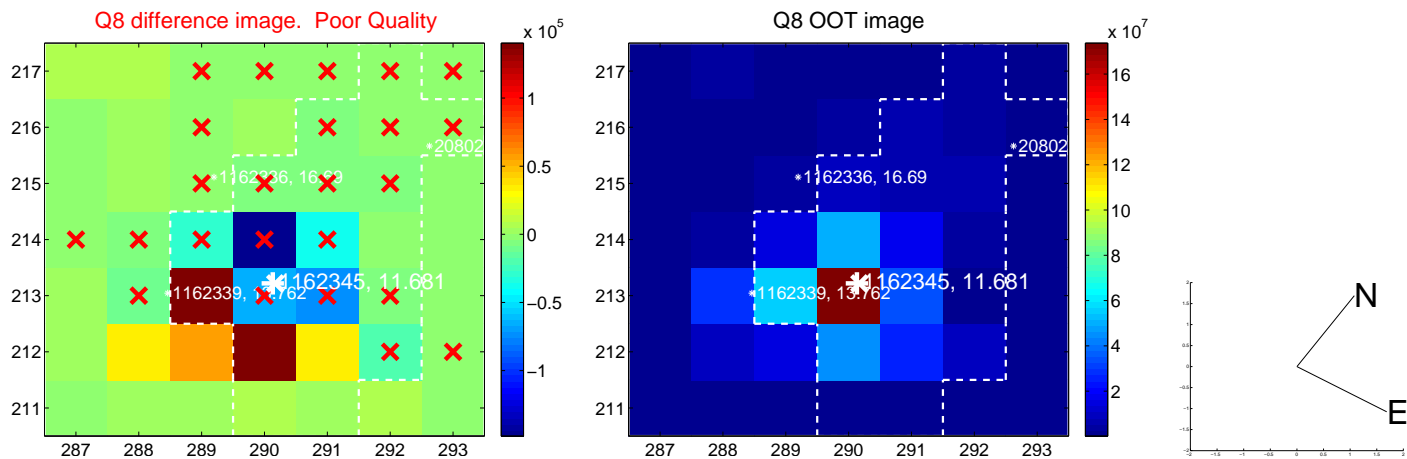
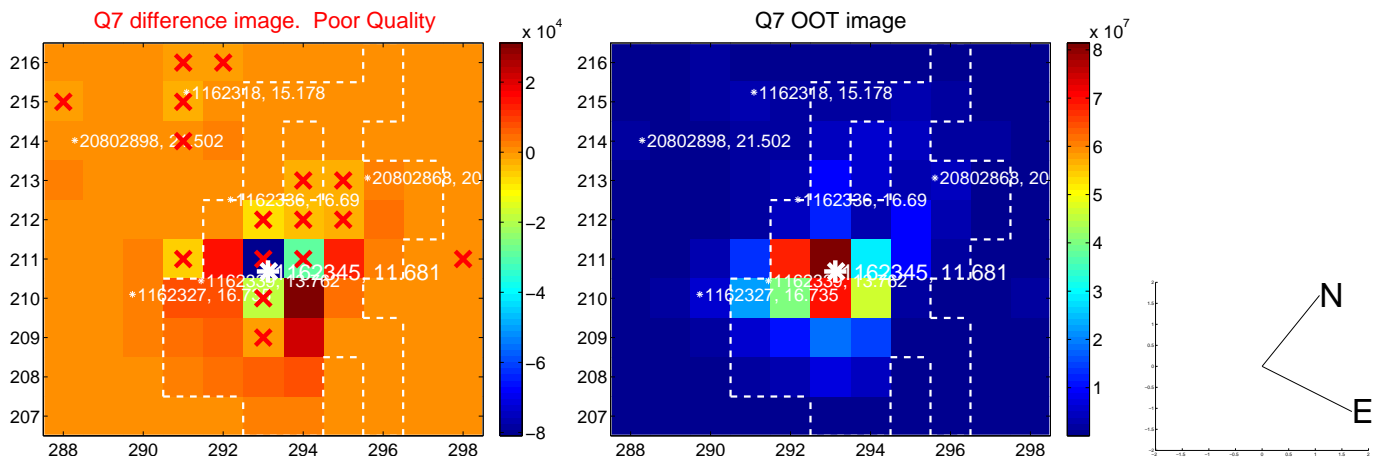
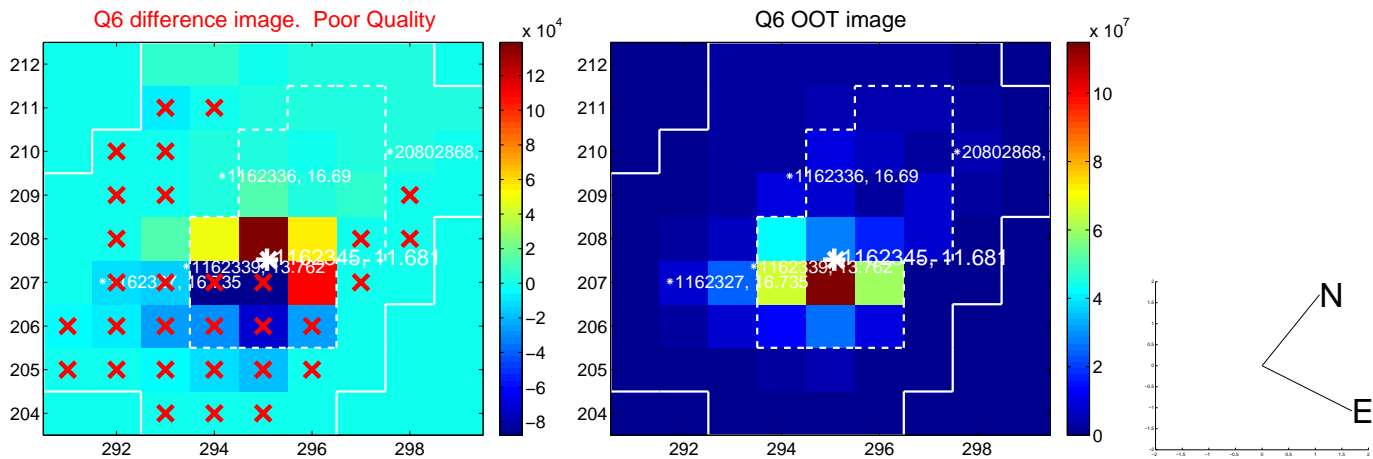
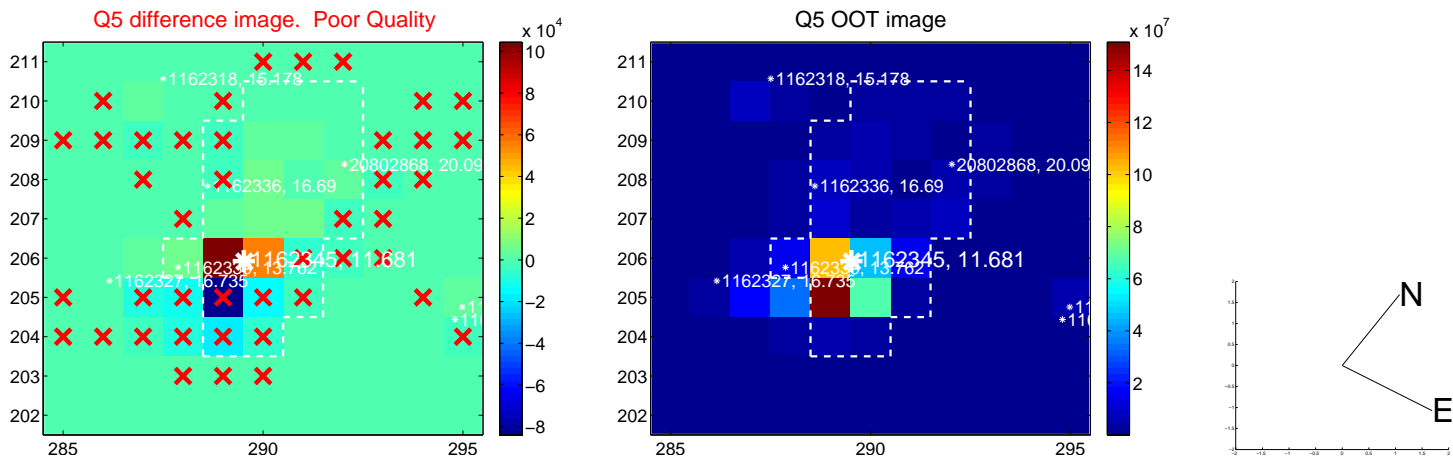


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

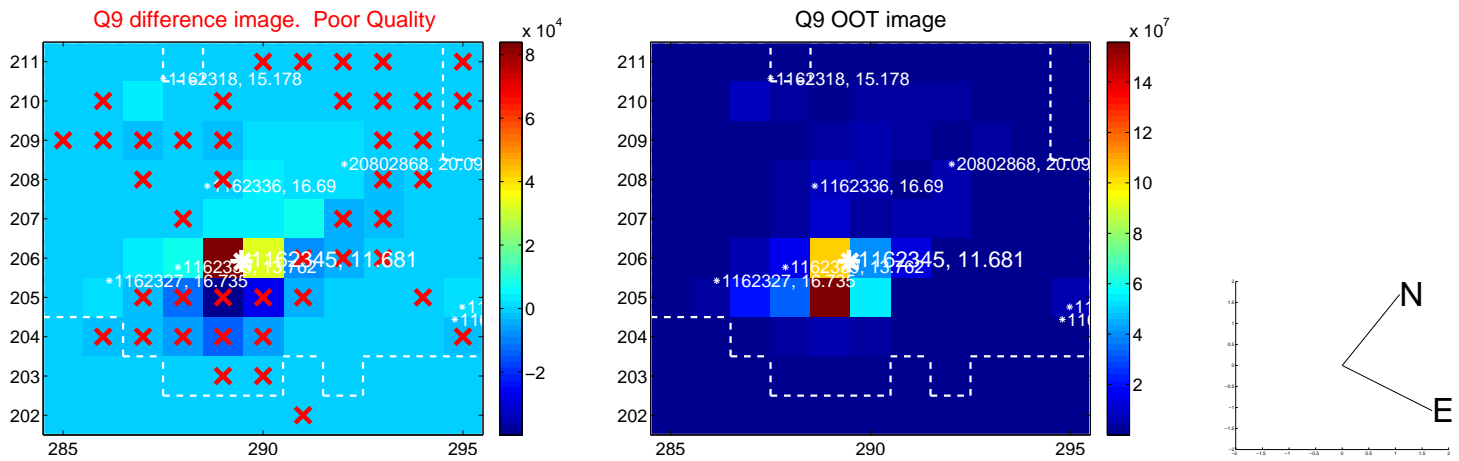
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



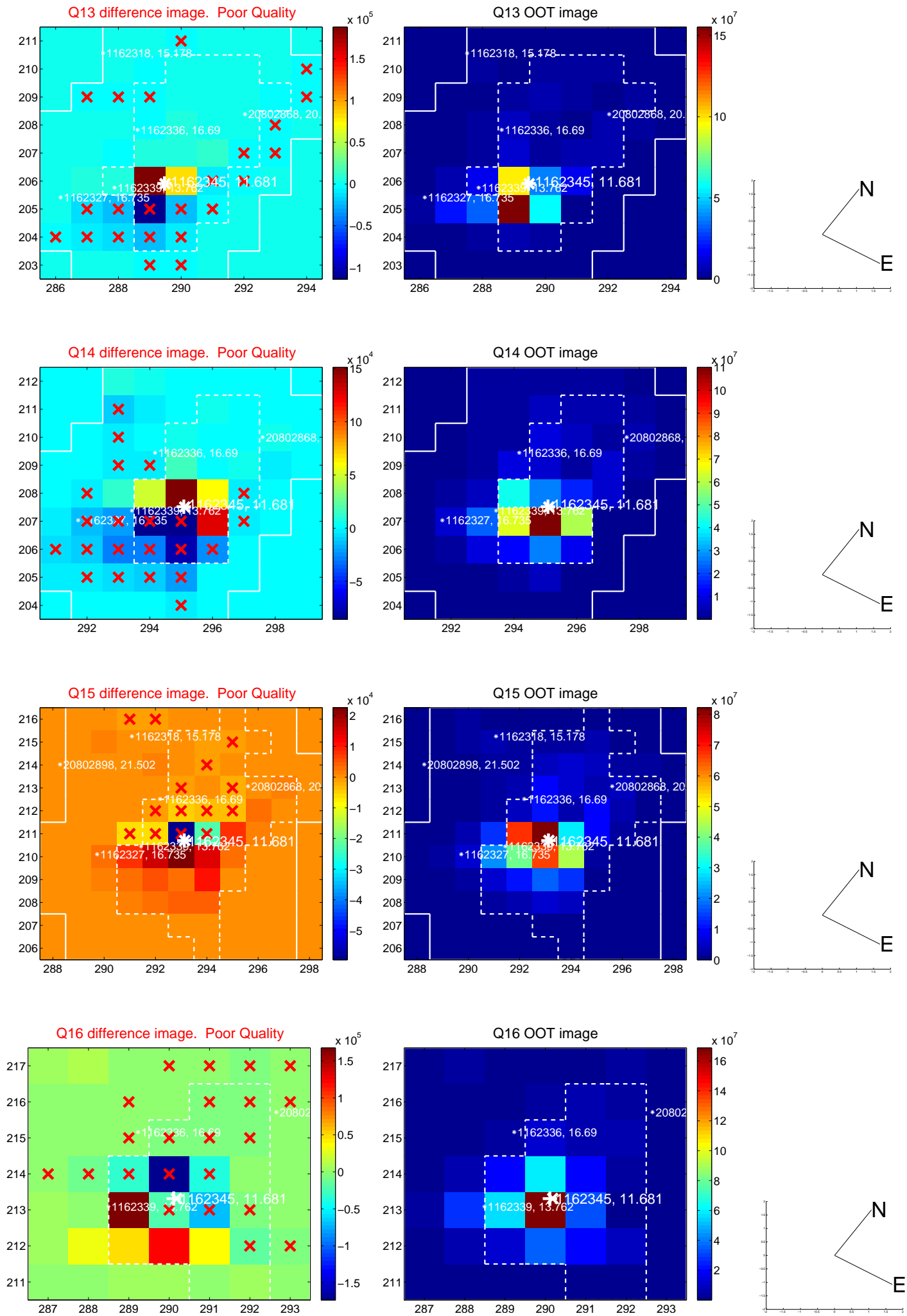
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



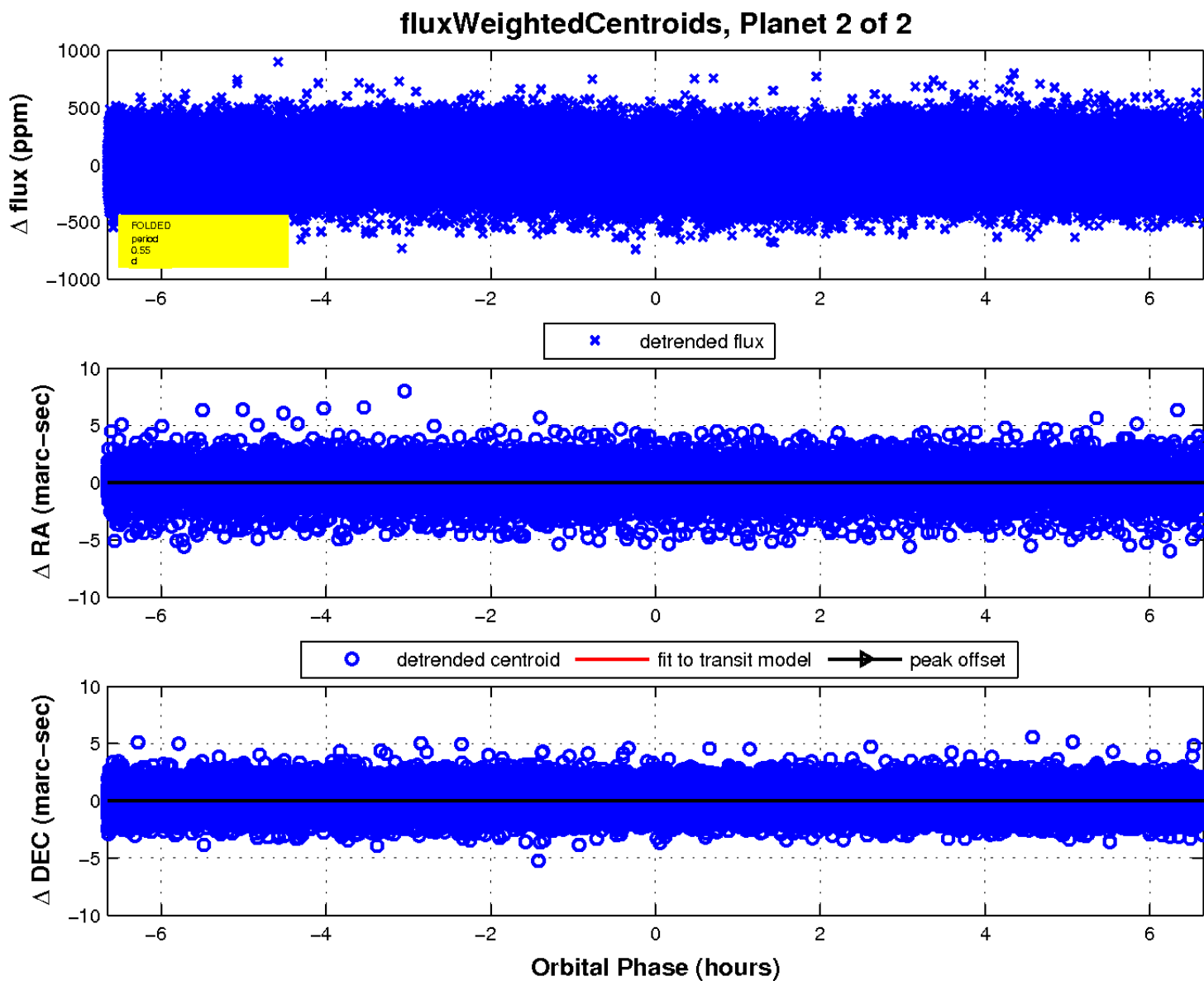
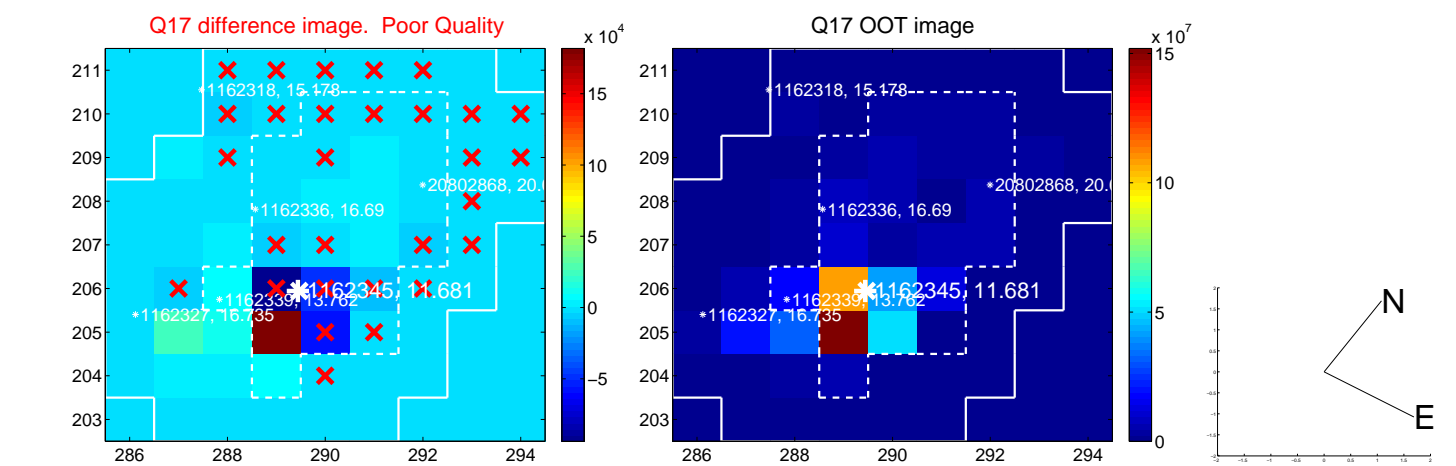
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

