

KIC 011228612

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})
011228612-01	OBS	7420.01	2.980467	134.400778	370476.8	2.000	16859.5	-1.0	1.05	6065	57.13	835.22
011228612-02	OBS	No	2.980479	132.906827	70175.9	2.500	4073.6	-1.0	1.05	6065	27.89	835.22
011228612-03	OBS	No	5.960772	137.157468	20002.0	15.000	2487.9	-1.0	1.05	6065	14.82	331.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011228612-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
011228612-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
011228612-03	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST

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

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

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

Ephemeris Match Information For 011228612-01

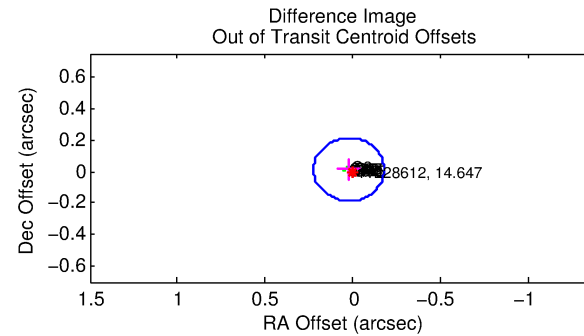
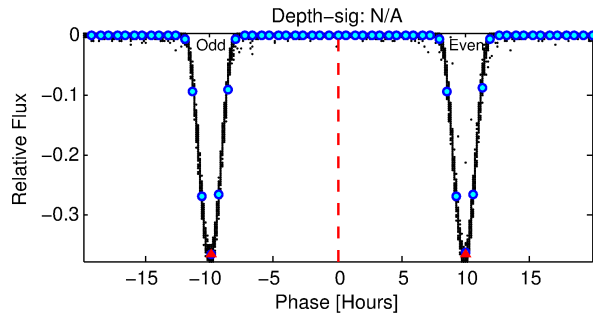
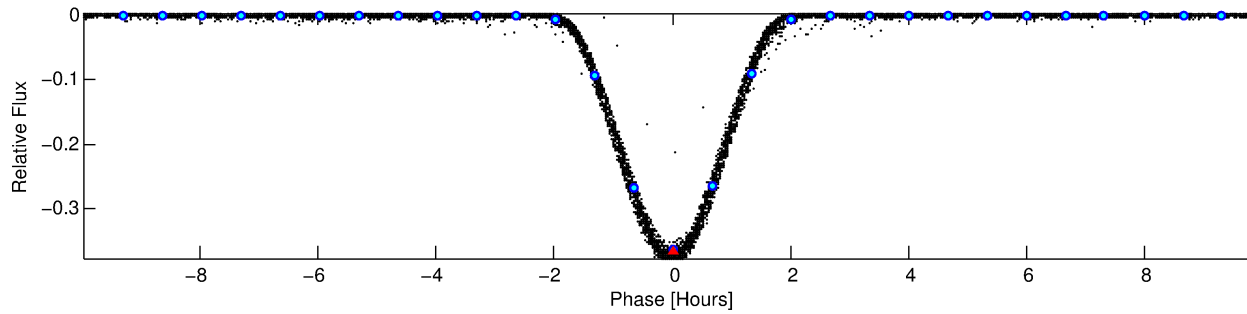
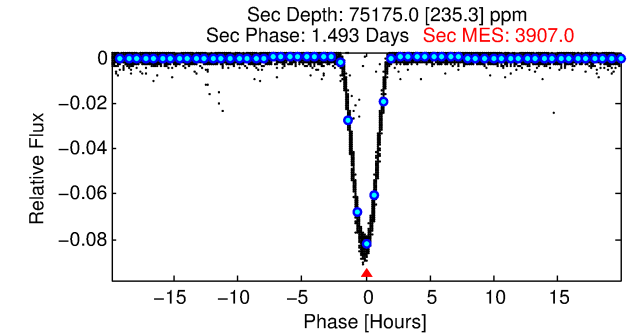
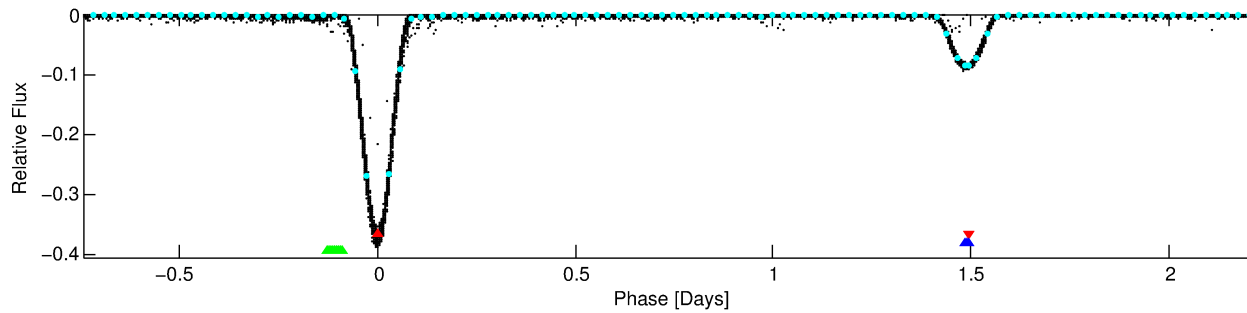
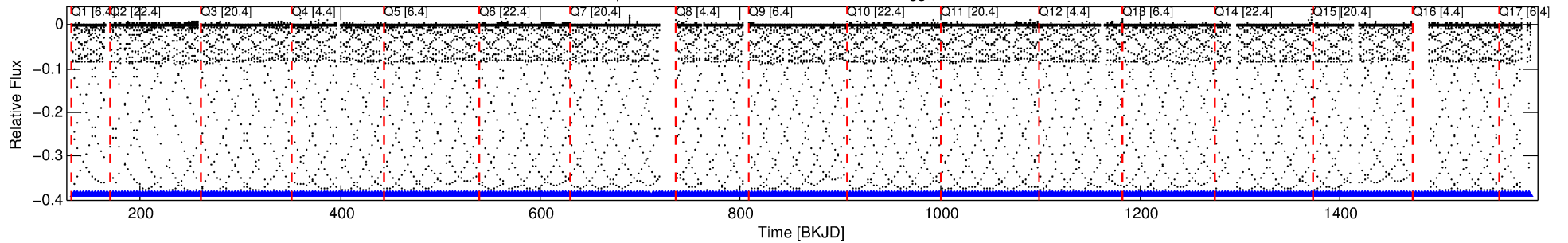
No Significant Match Found

DV One-Page Summary

KIC: 11228612 Candidate: 1 of 3 Period: 2.980 d

KOI: K07420 Corr: No Ephemeris Match

Kp: 14.65 R*: 1.05 Rs Teff: 6065.0 K Logg: 4.38 Fe/H: -0.300



TPS TCE Results:

Period = 2.98047 d
Epoch = 134.4008 BKJD

DV fit results are unavailable

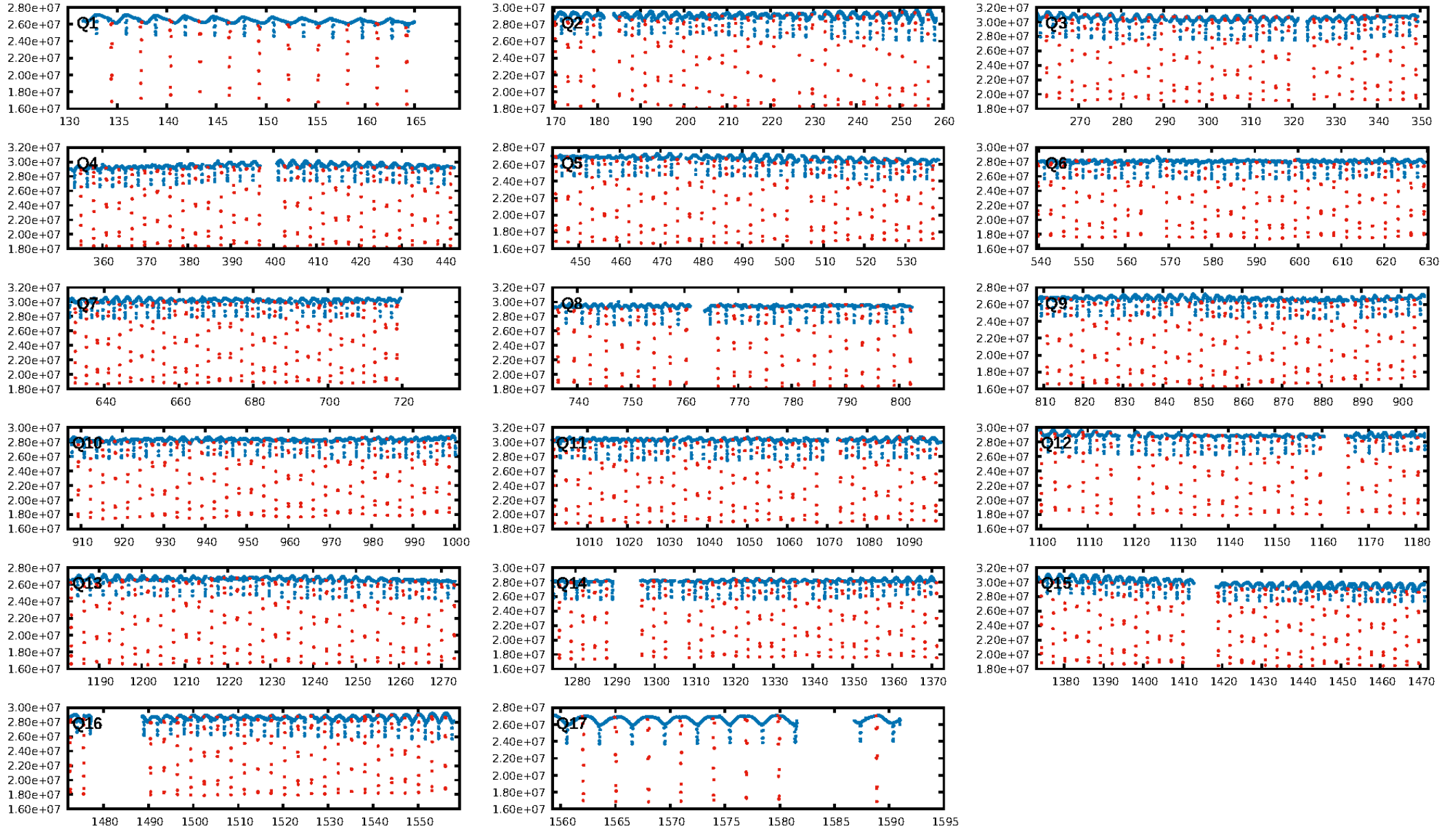
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [437/437]
GhostDiagnostic-chr: 1.161
Centroid-sig: N/A
Centroid-so: 0.483 arcsec [896.71 σ]
OotOffset-rm: 0.027 arcsec [0.40 σ]
KicOffset-rm: 0.132 arcsec [1.65 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

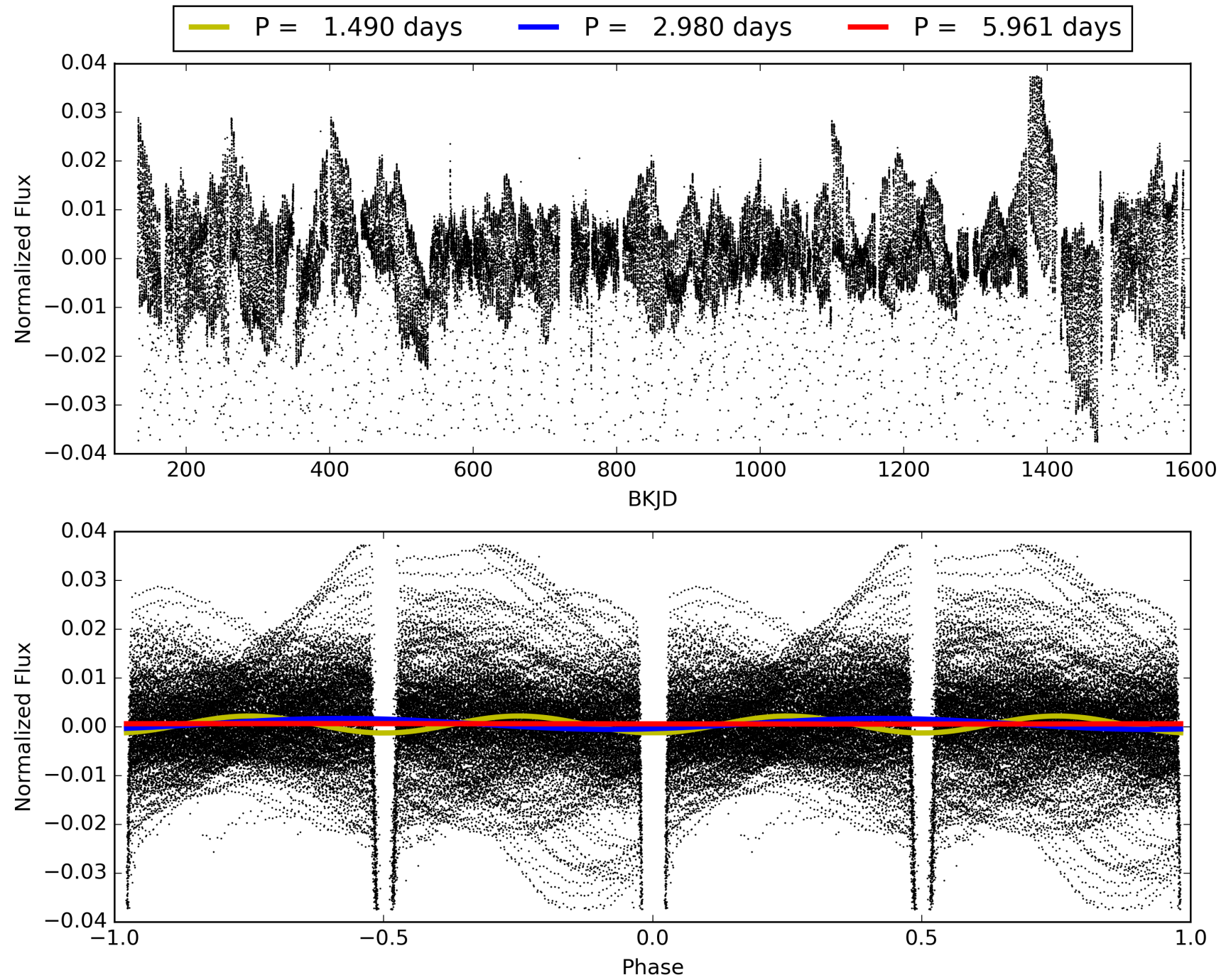
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:06:09 Z

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

TCE 011228612-01, PDC Light Curves

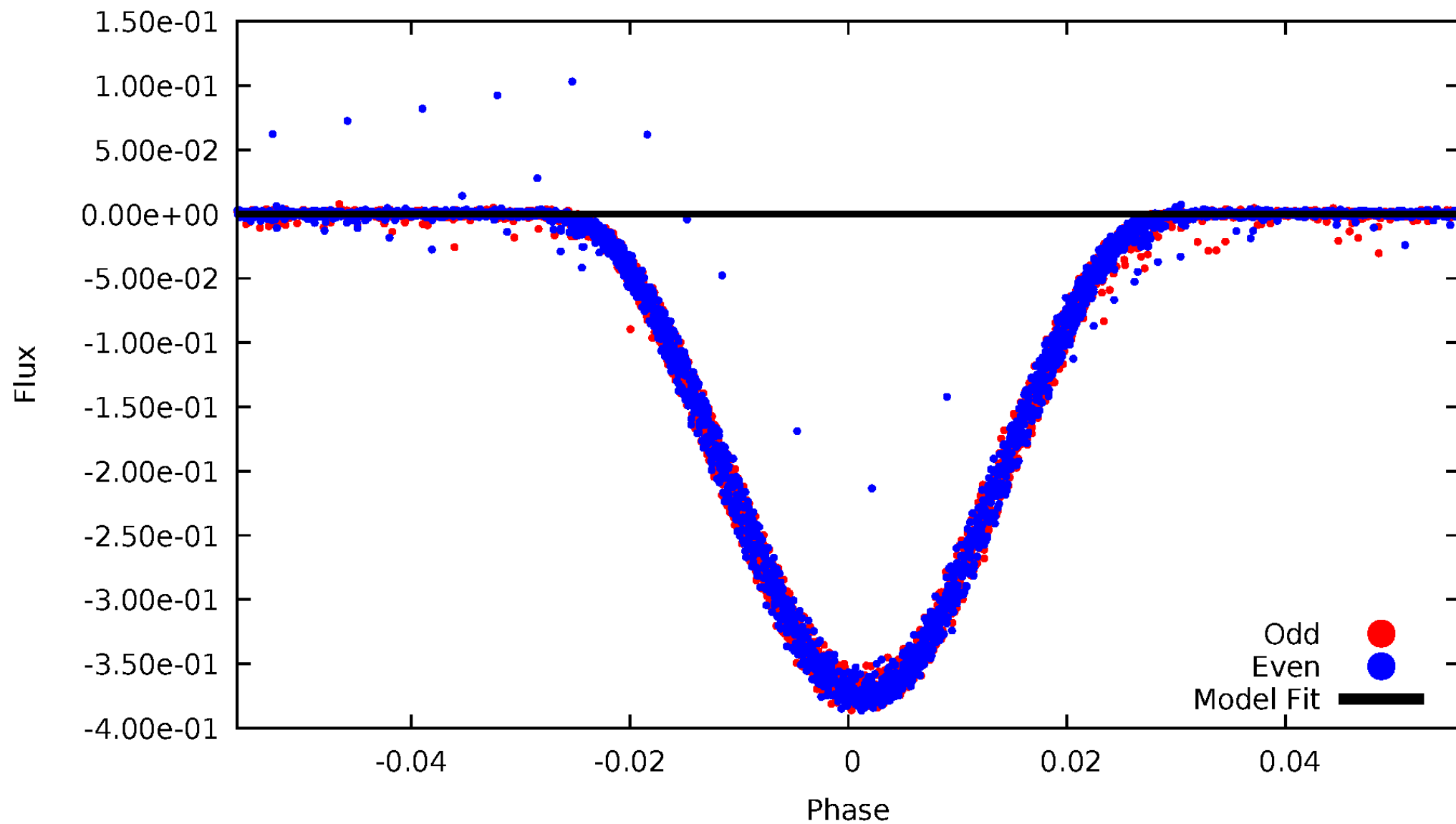


TCE 011228612-01



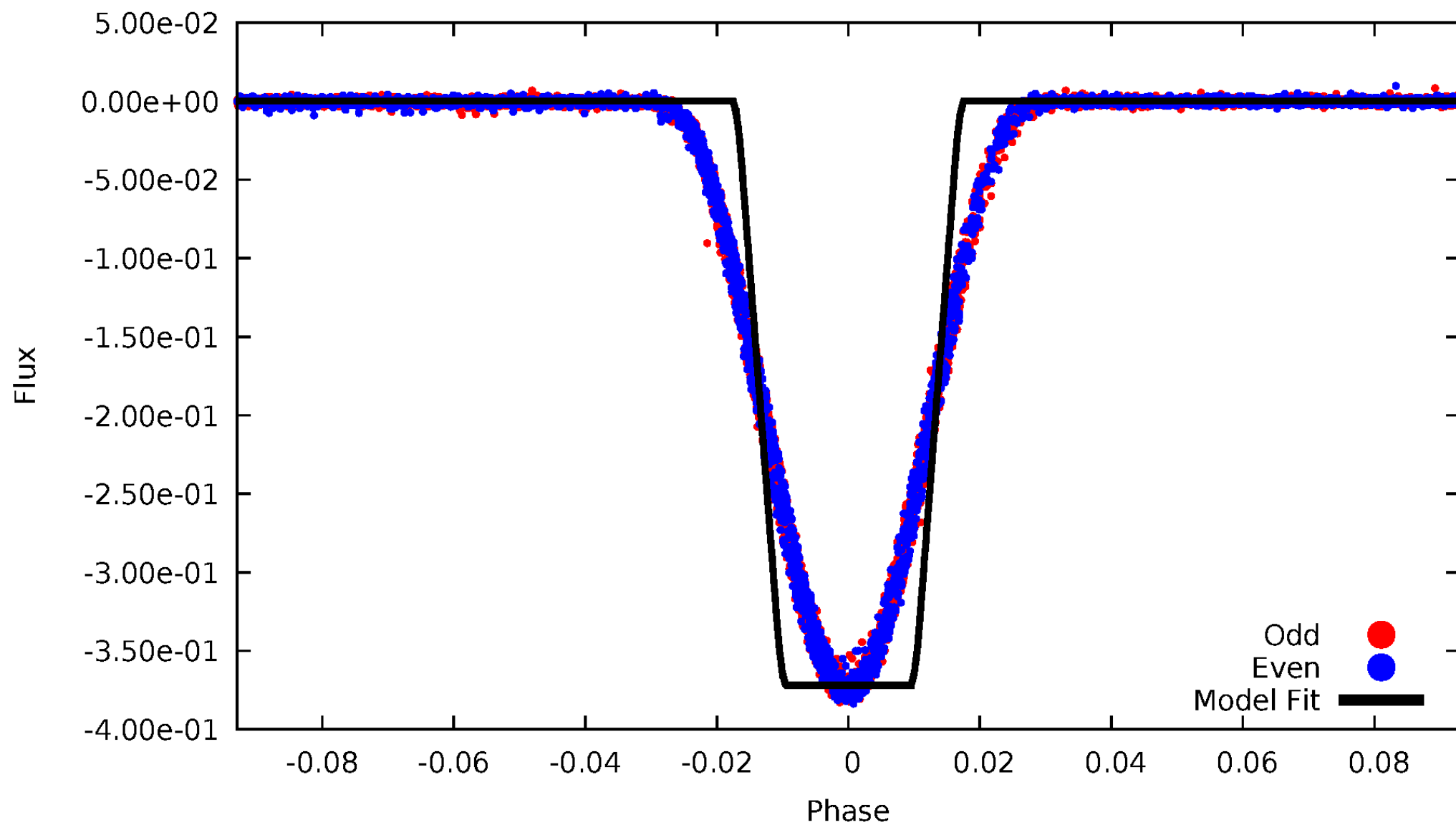
DV Odd/Even

TCE 011228612-01



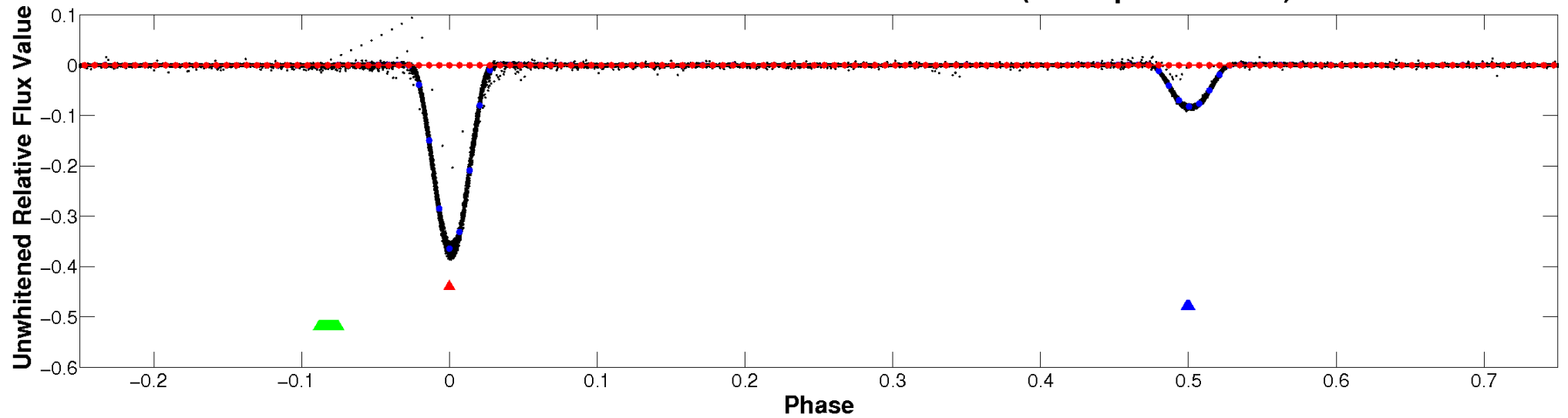
ALT Odd/Even

TCE 011228612-01



Non-Whitened Vs. Whitened Light Curve

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

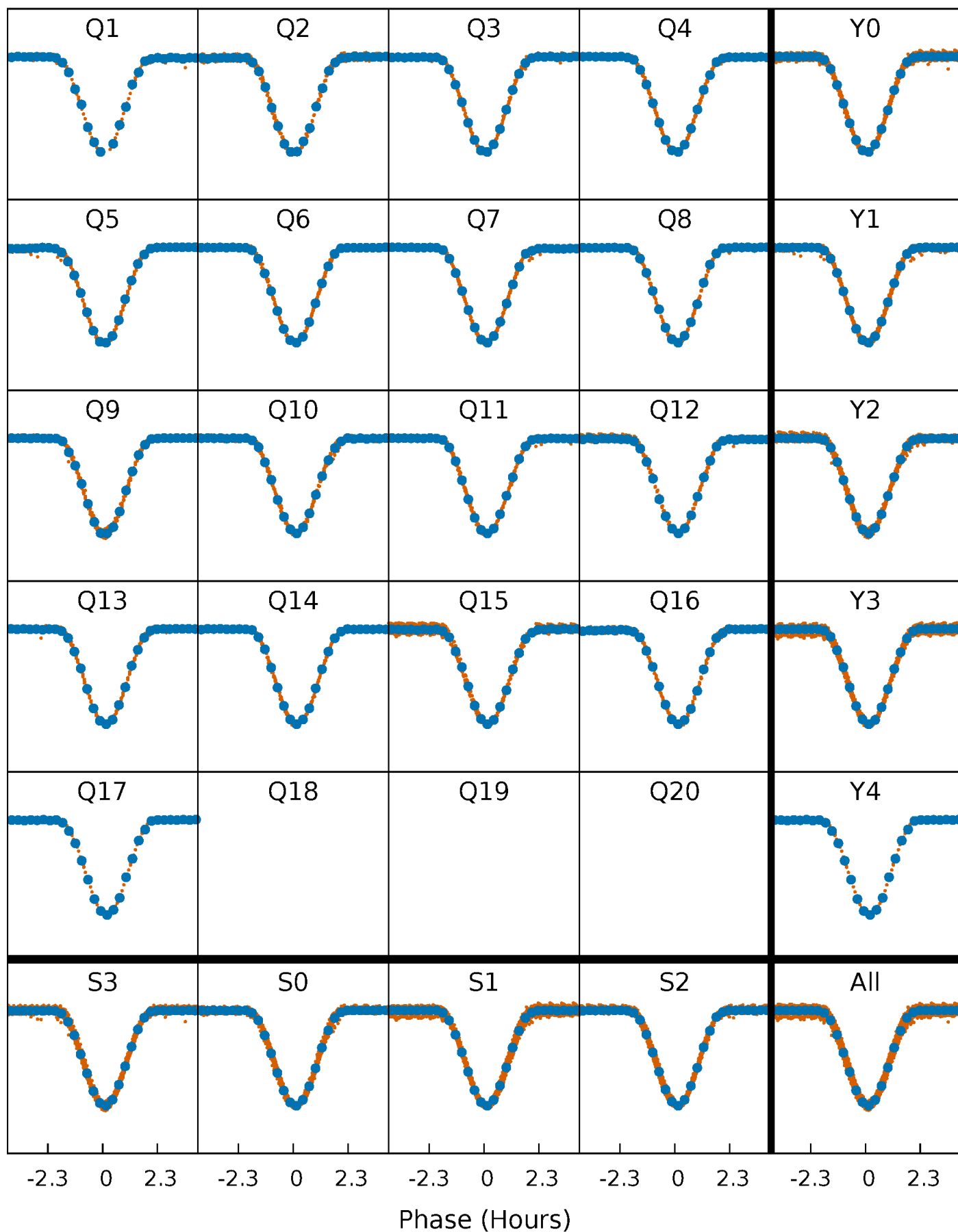


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



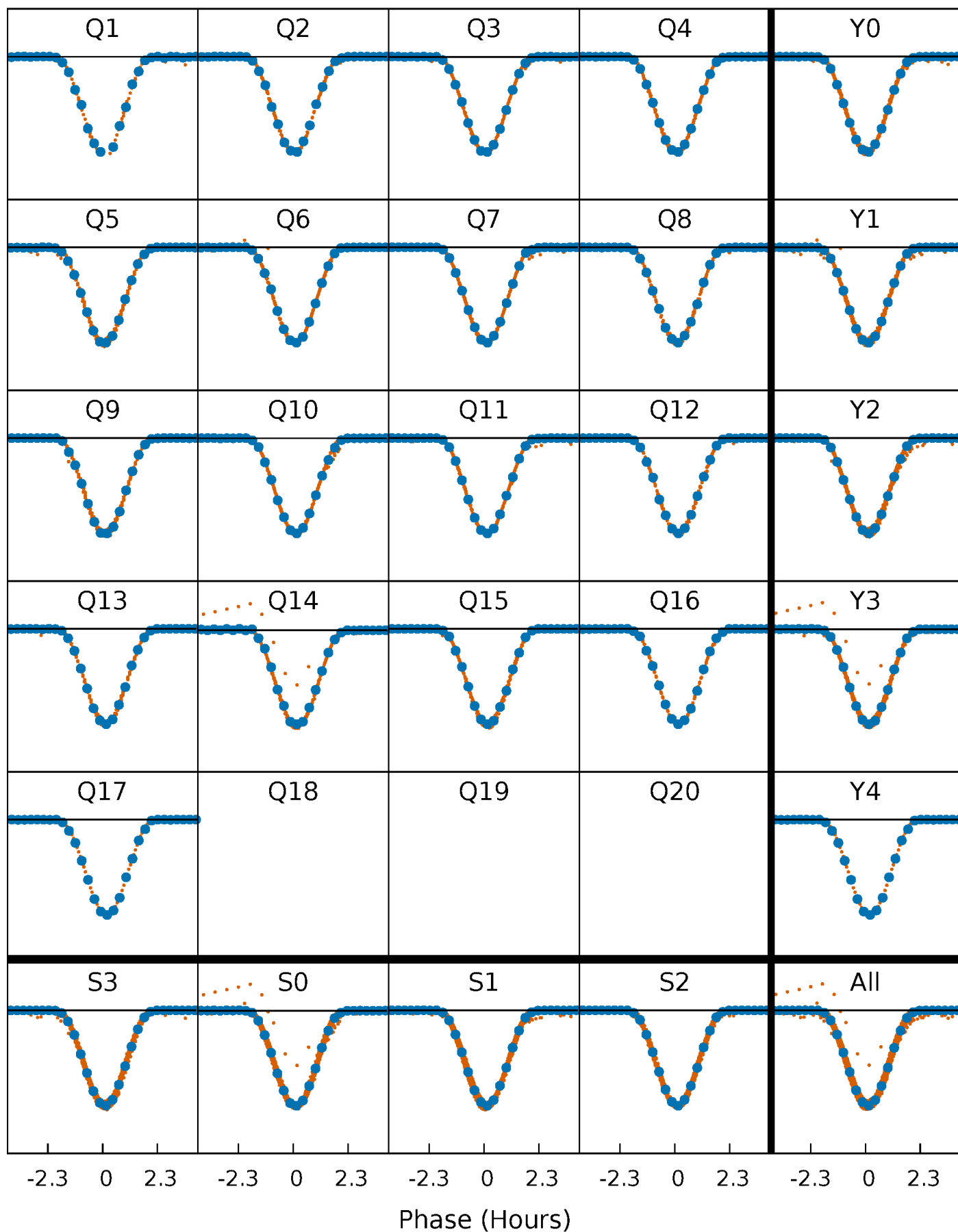
PDC Quarter-Phased Transit Curves

TCE 011228612-01 P= 2.980467 Days $T_0=134.400778$ (BKJD)



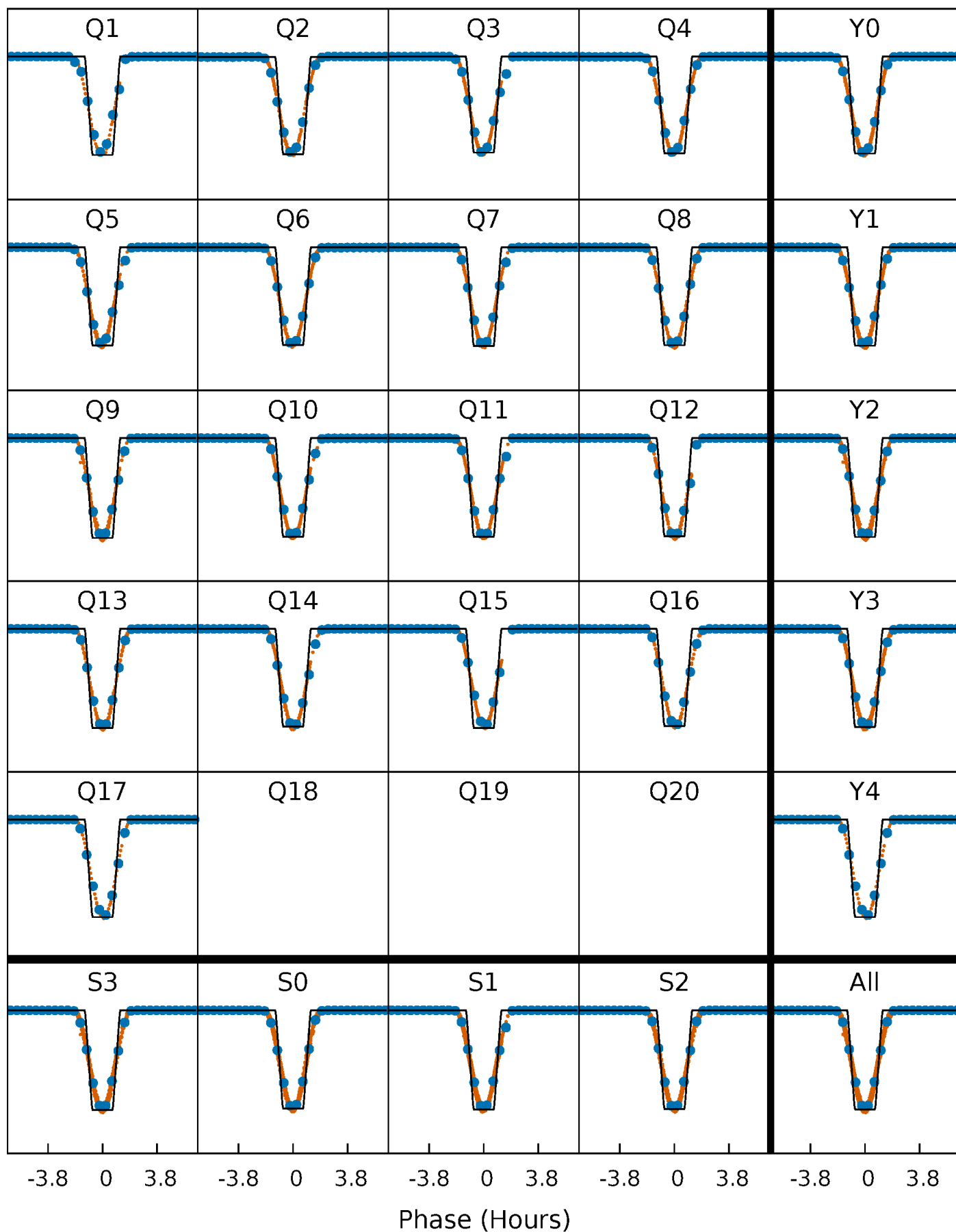
DV Quarter-Phased Transit Curves

TCE 011228612-01 P= 2.980467 Days $T_0=134.400778$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

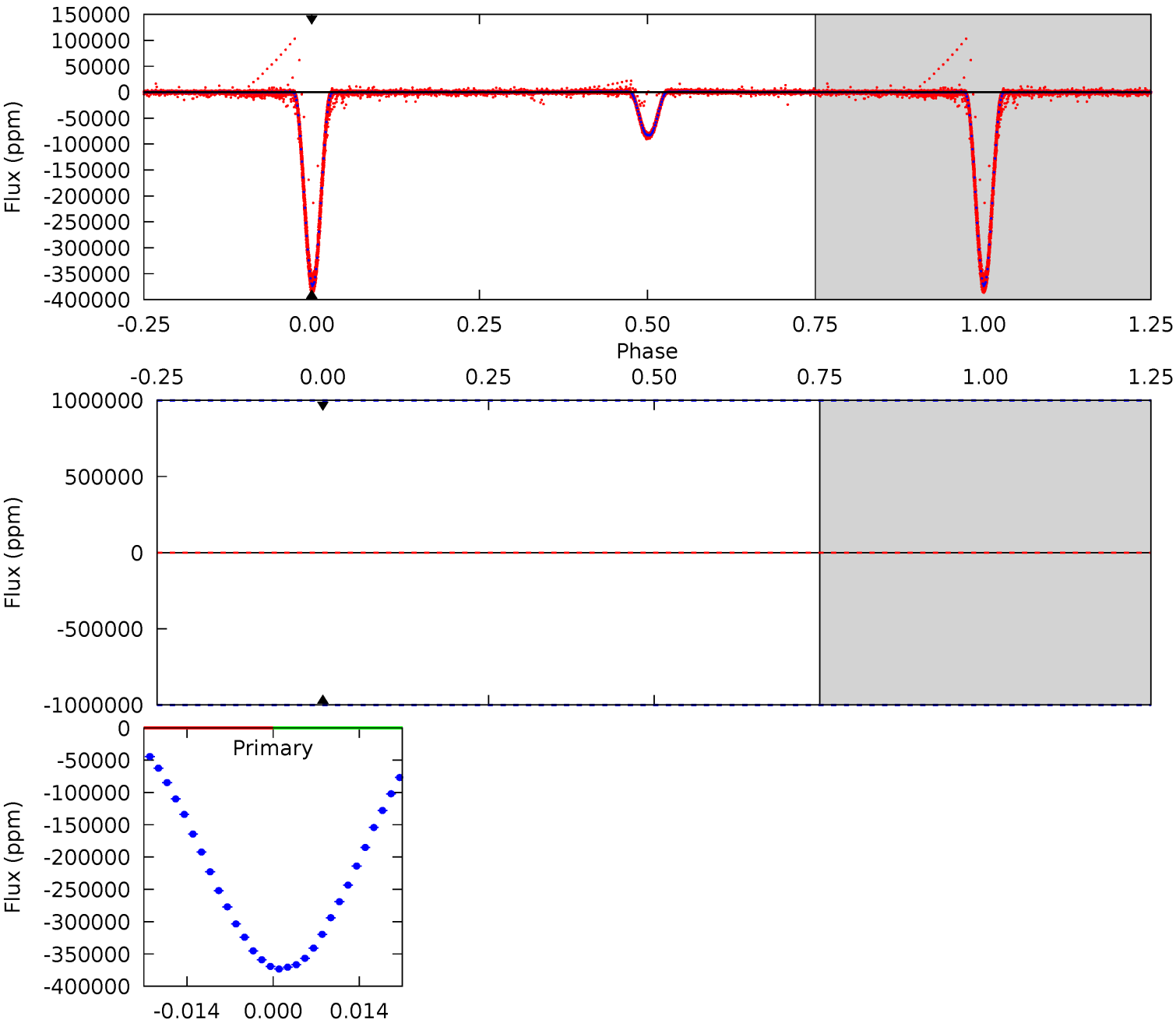
TCE 011228612-01 P= 2.980467 Days $T_0=134.405249$ (BKJD)



DV Model-Shift Uniqueness Test

011228612-01, P = 2.980467 Days, E = 131.420311 Days

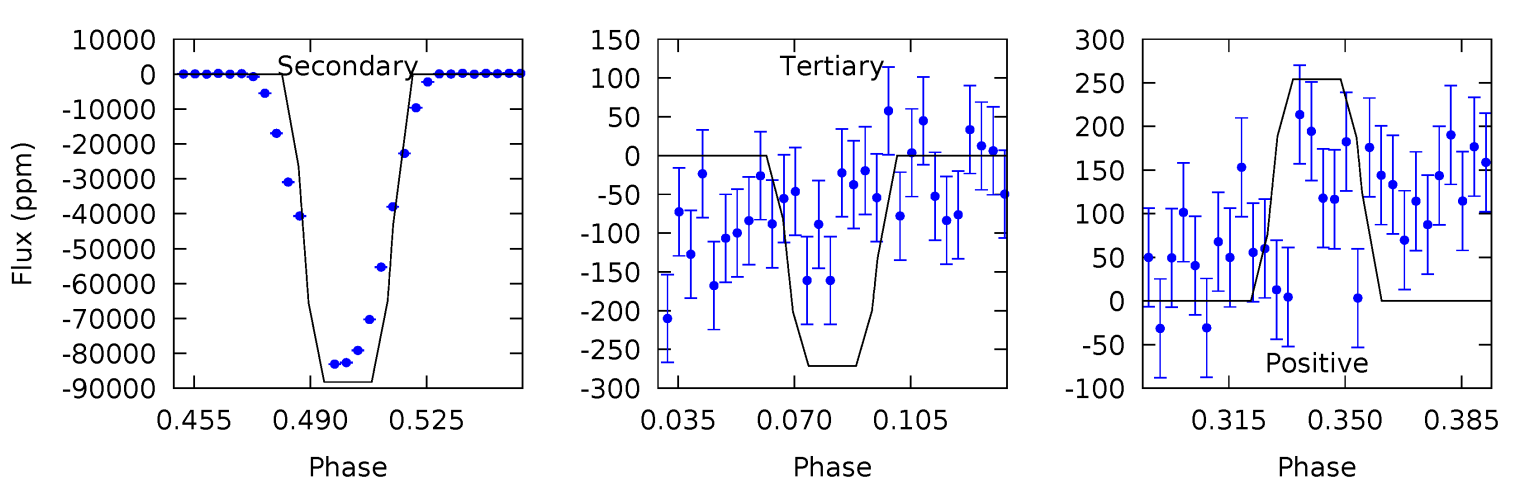
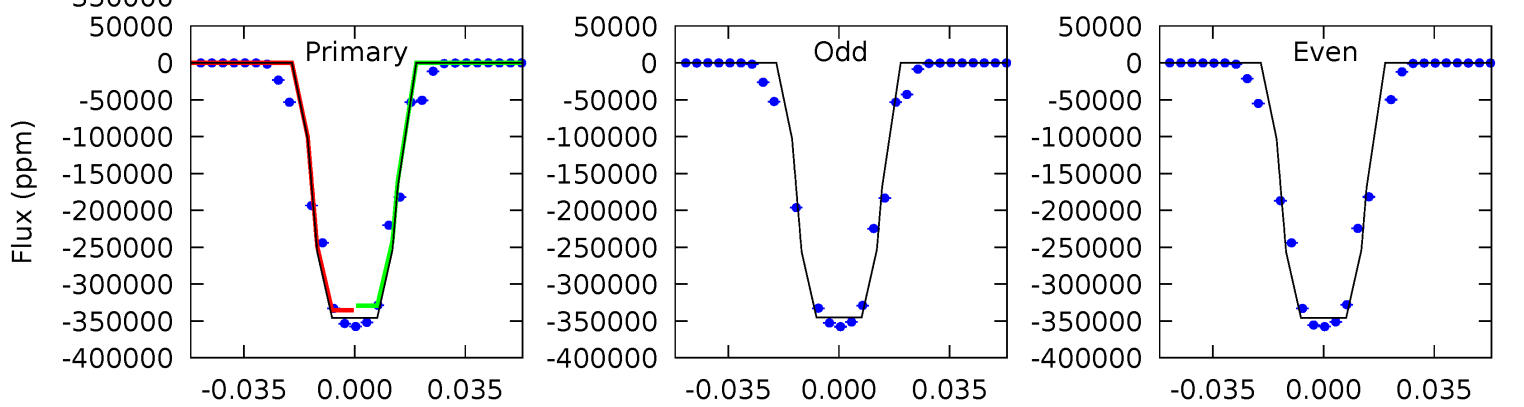
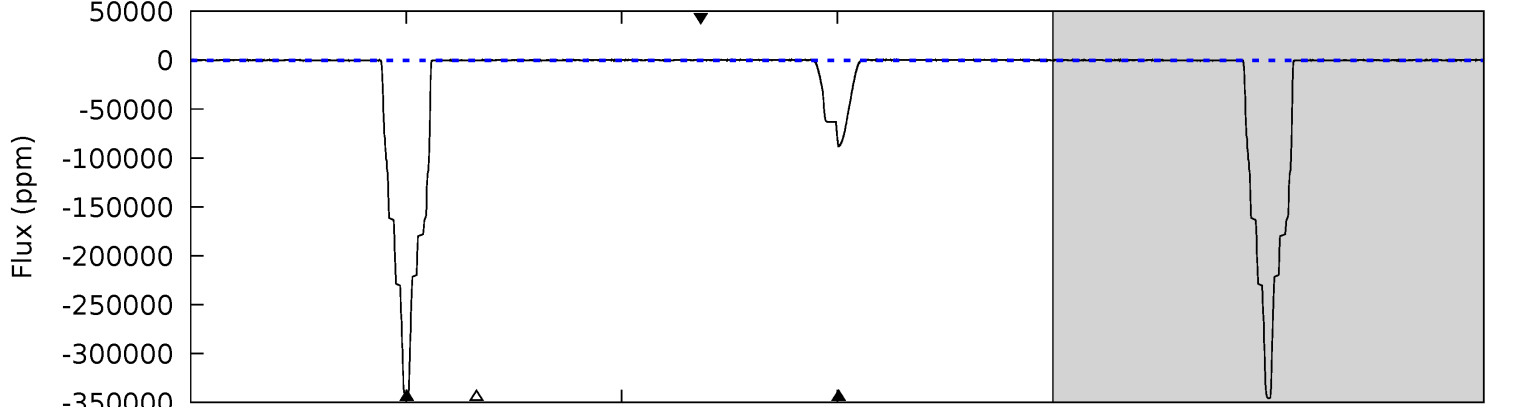
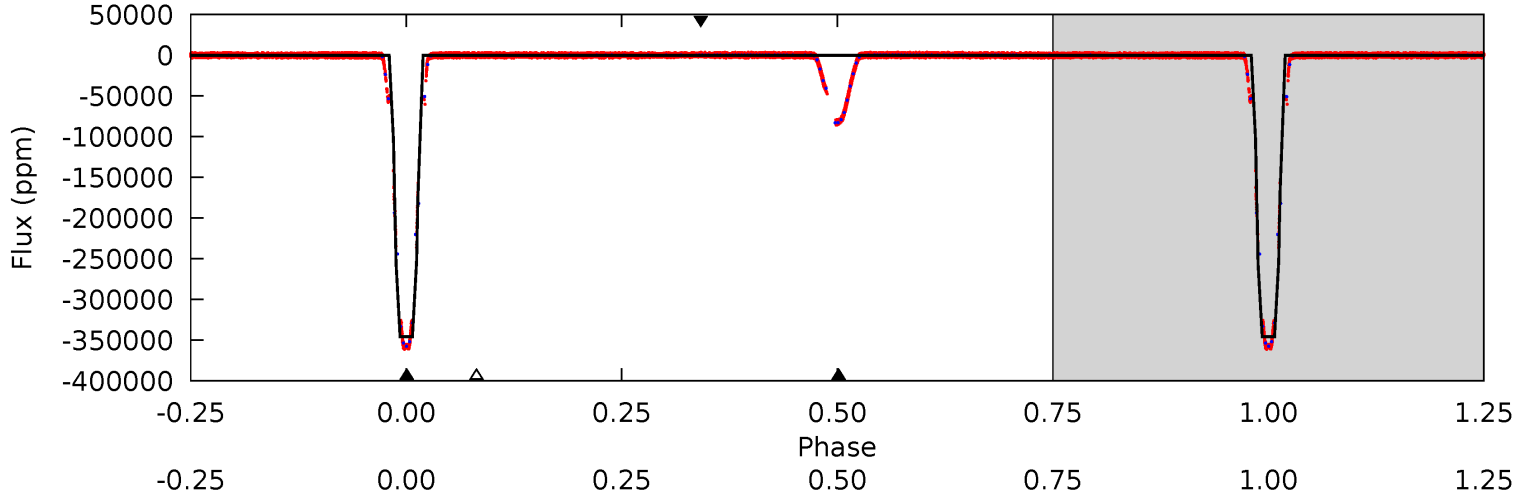
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011228612-01, P = 2.980467 Days, E = 131.424782 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5357	1367	4.20	3.94	4.78	2.11	1.59	5352	5353	1363	1363	5.63	1.00	0.00	0



Stellar Parameters For KIC 011228612

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6065^{+164}_{-182}	$4.377^{+0.124}_{-0.186}$	$-0.300^{+0.300}_{-0.300}$	$1.047^{+0.309}_{-0.167}$	$0.954^{+0.143}_{-0.107}$	$1.170^{+0.657}_{-0.567}$
	+3%/-3%	+3%/-4%	+100%/-100%	+30%/-16%	+15%/-11%	+56%/-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 011228612-01 / KOI 7420.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$58.96^{+14.40}_{-12.98}$	1920^{+140}_{-108}	2970^{+2109}_{-7685}	$1.589^{+29.583}_{-22.219}$
Alt.	-88253 ± 65	$70.45^{+16.39}_{-13.41}$	1925^{+141}_{-111}	4508^{+332}_{-273}	17^{+9}_{-6}

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 $A_{obs} \gg 1.0$

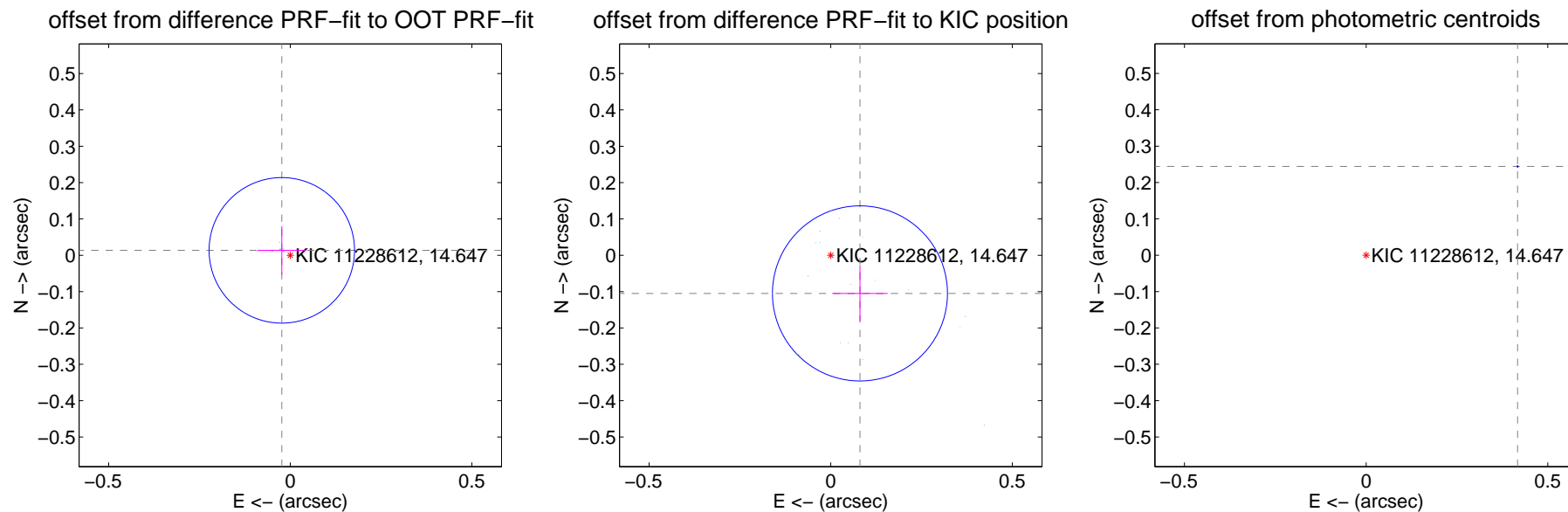
DV Centroid Data

Supplemental centroid analysis for 011228612-01. Kepler magnitude: 14.65. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

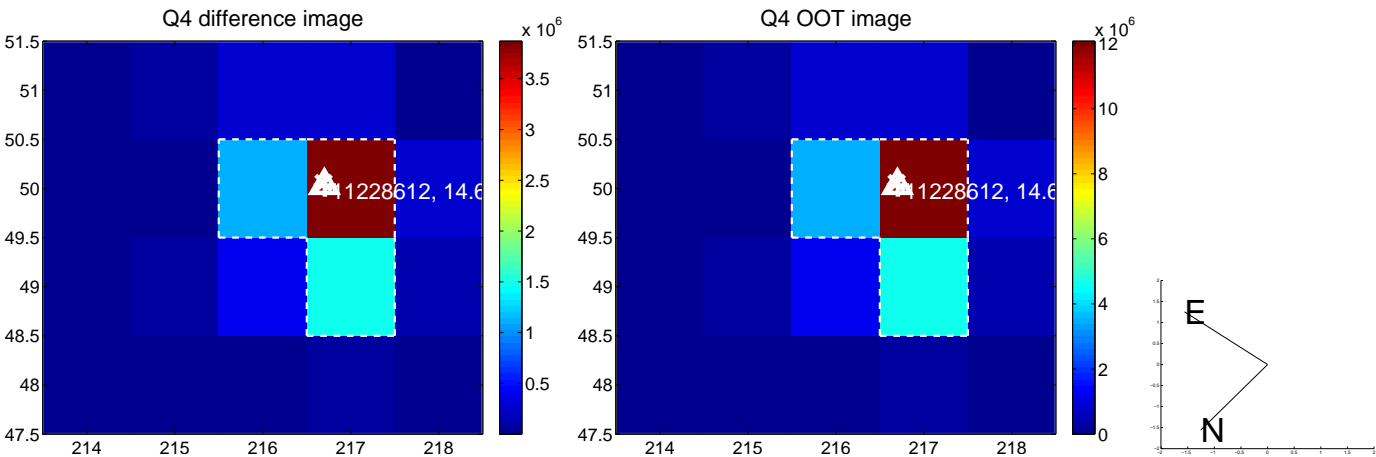
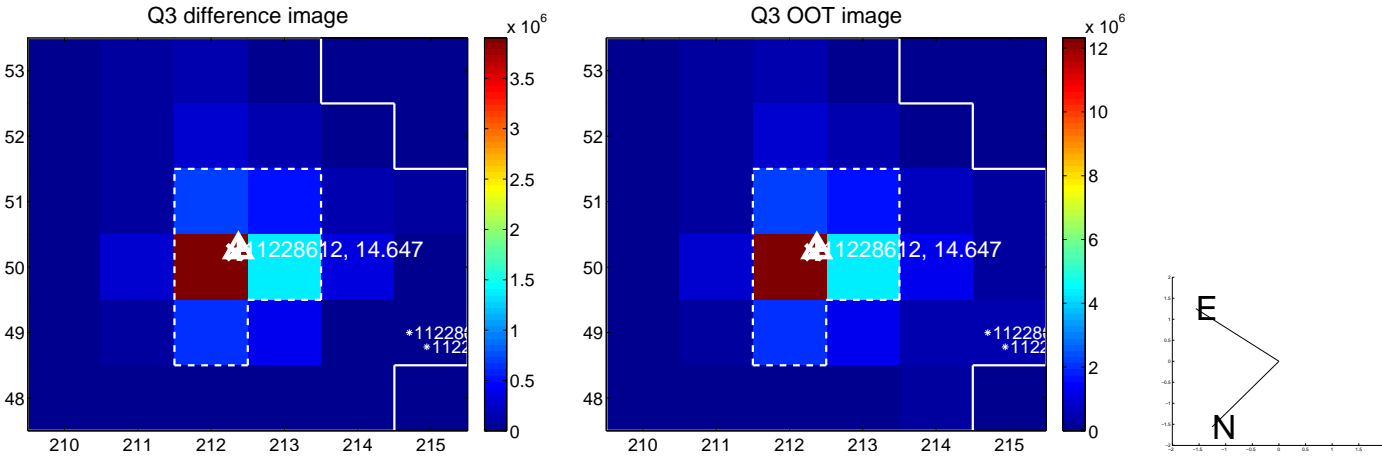
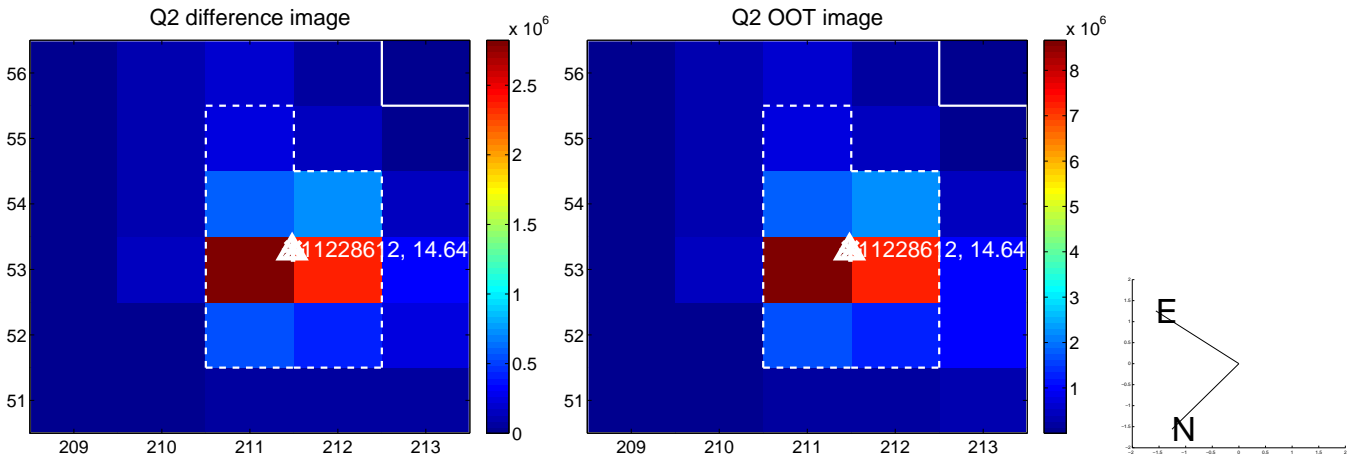
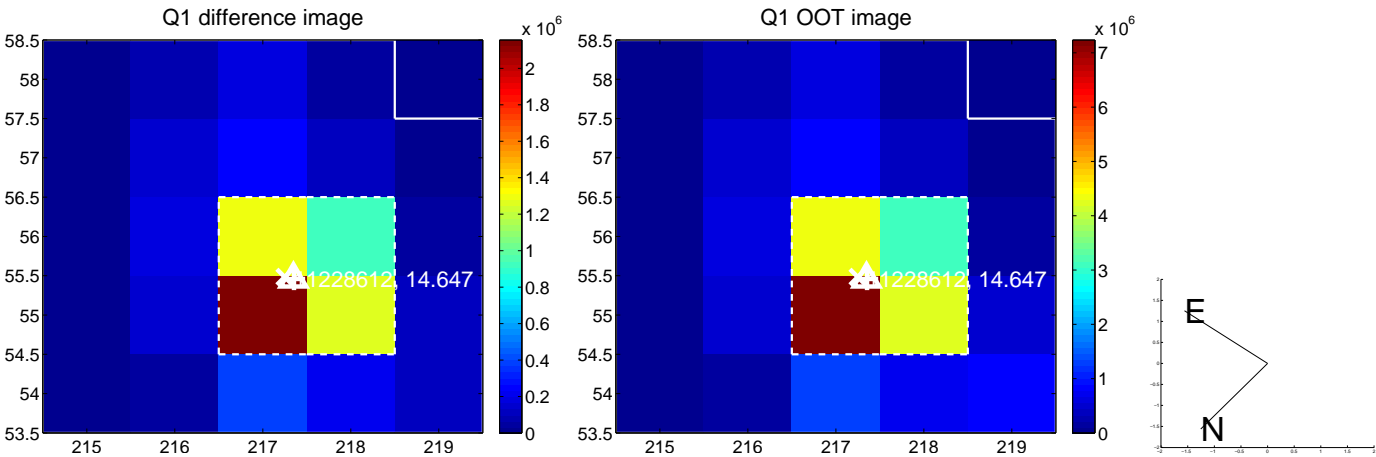
The direct PRF centroid is offset from the target star catalog position by about 0.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.027 ± 0.067	0.40	0.023 ± 0.067	0.014 ± 0.067
PRF-fit source offset from KIC position	0.132 ± 0.080	1.65	-0.081 ± 0.076	-0.105 ± 0.077
photometric centroid source offset	0.48 ± 0.00	896.71	-0.42 ± 0.00	0.24 ± 0.00

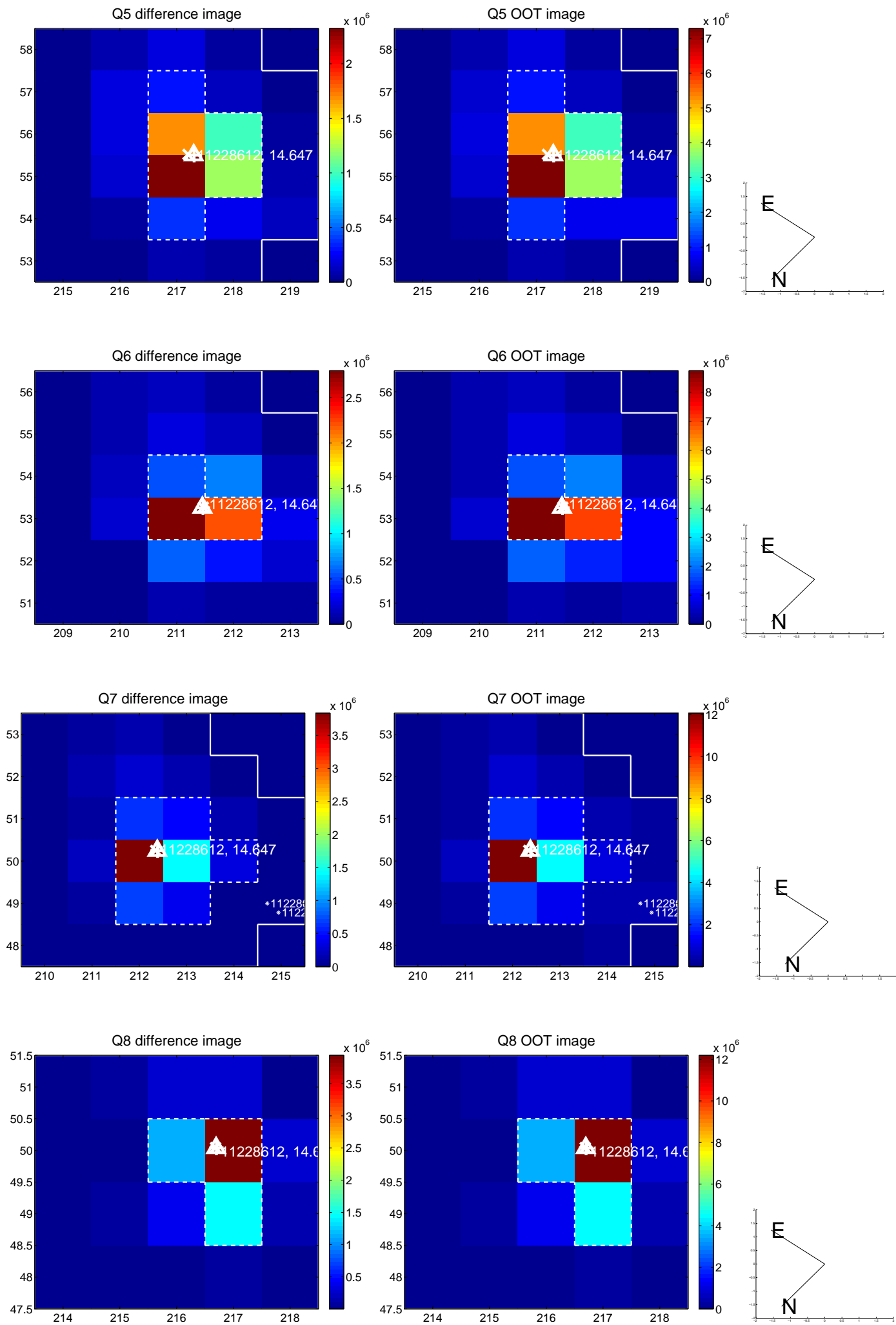


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

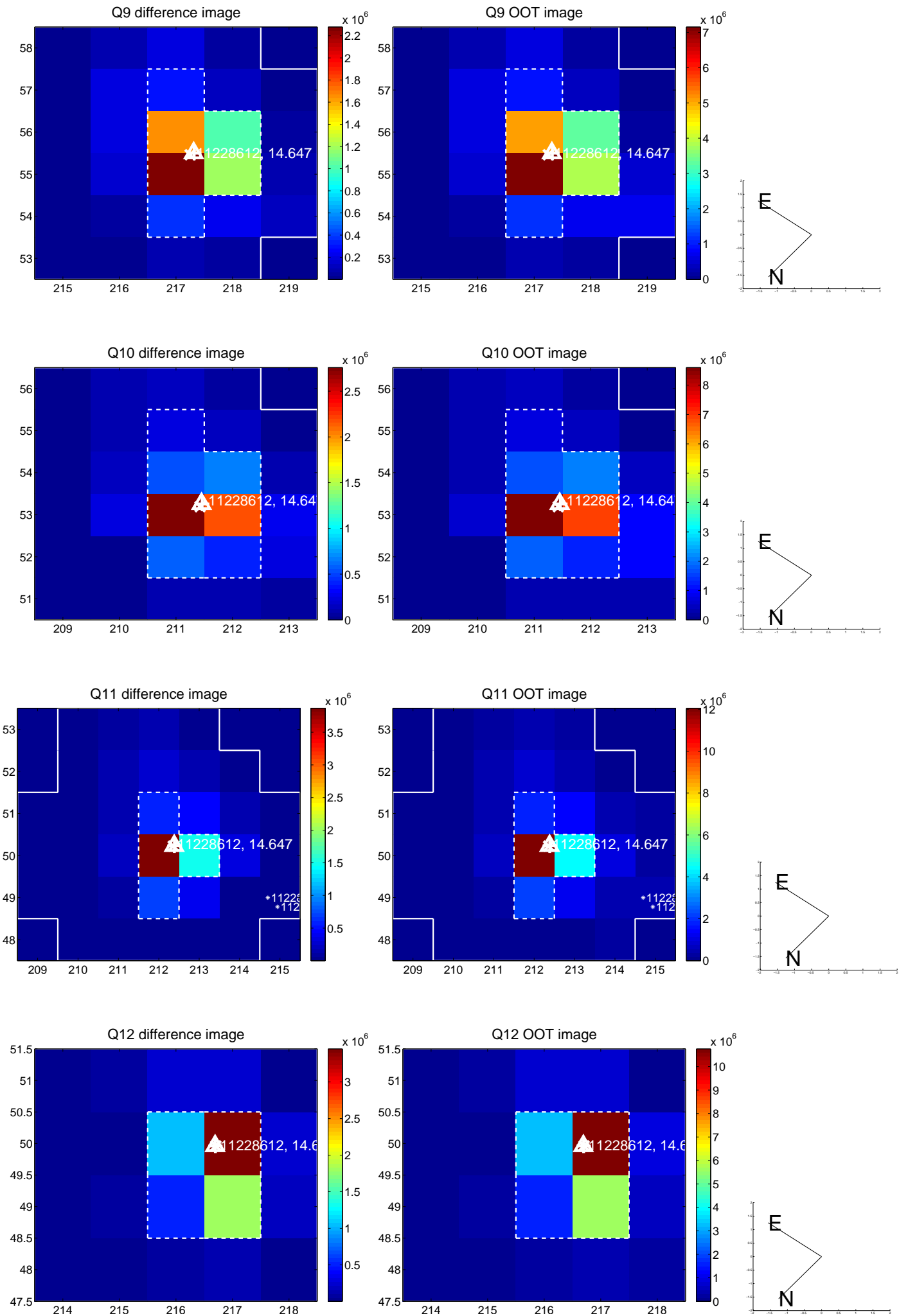
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



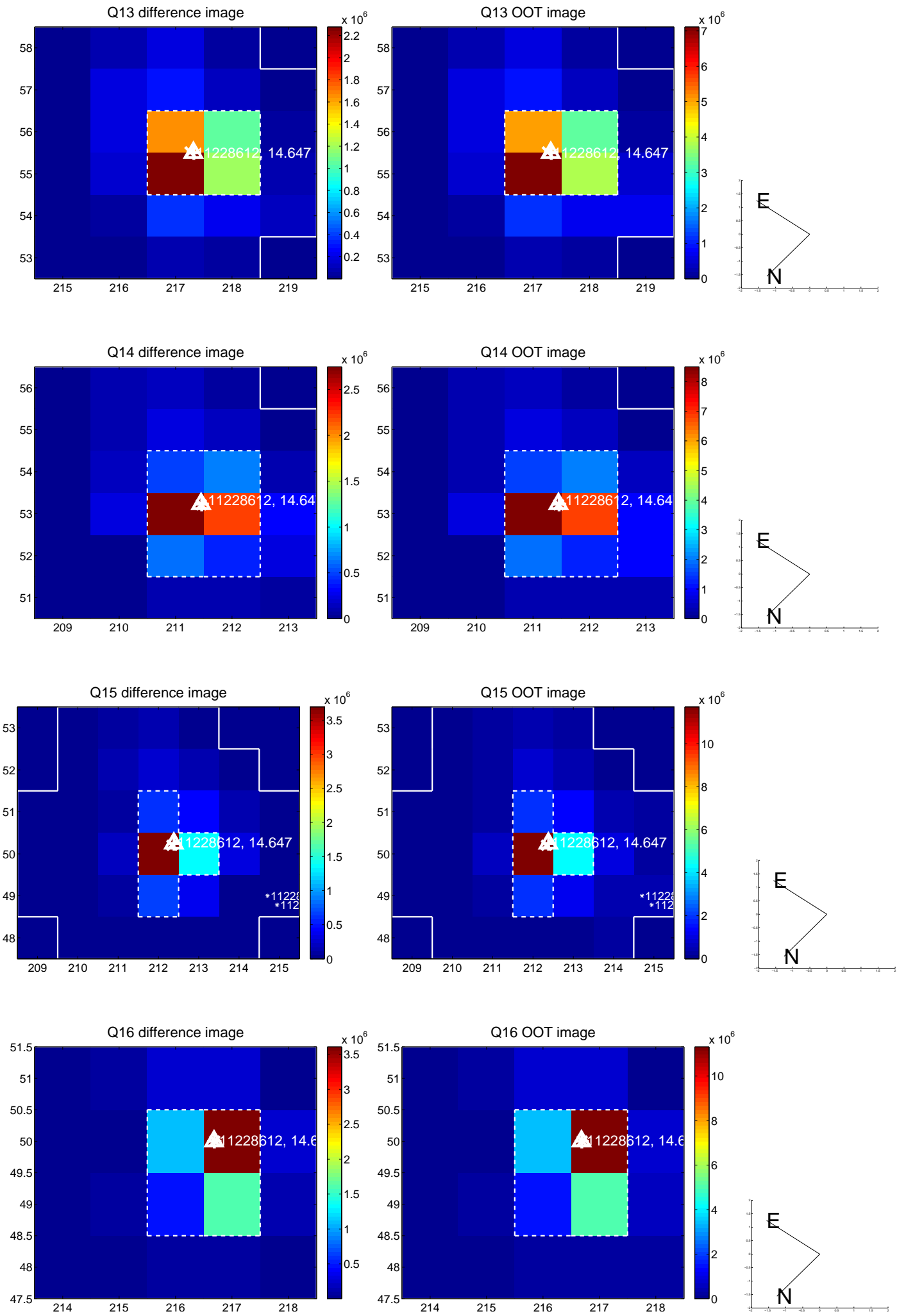
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



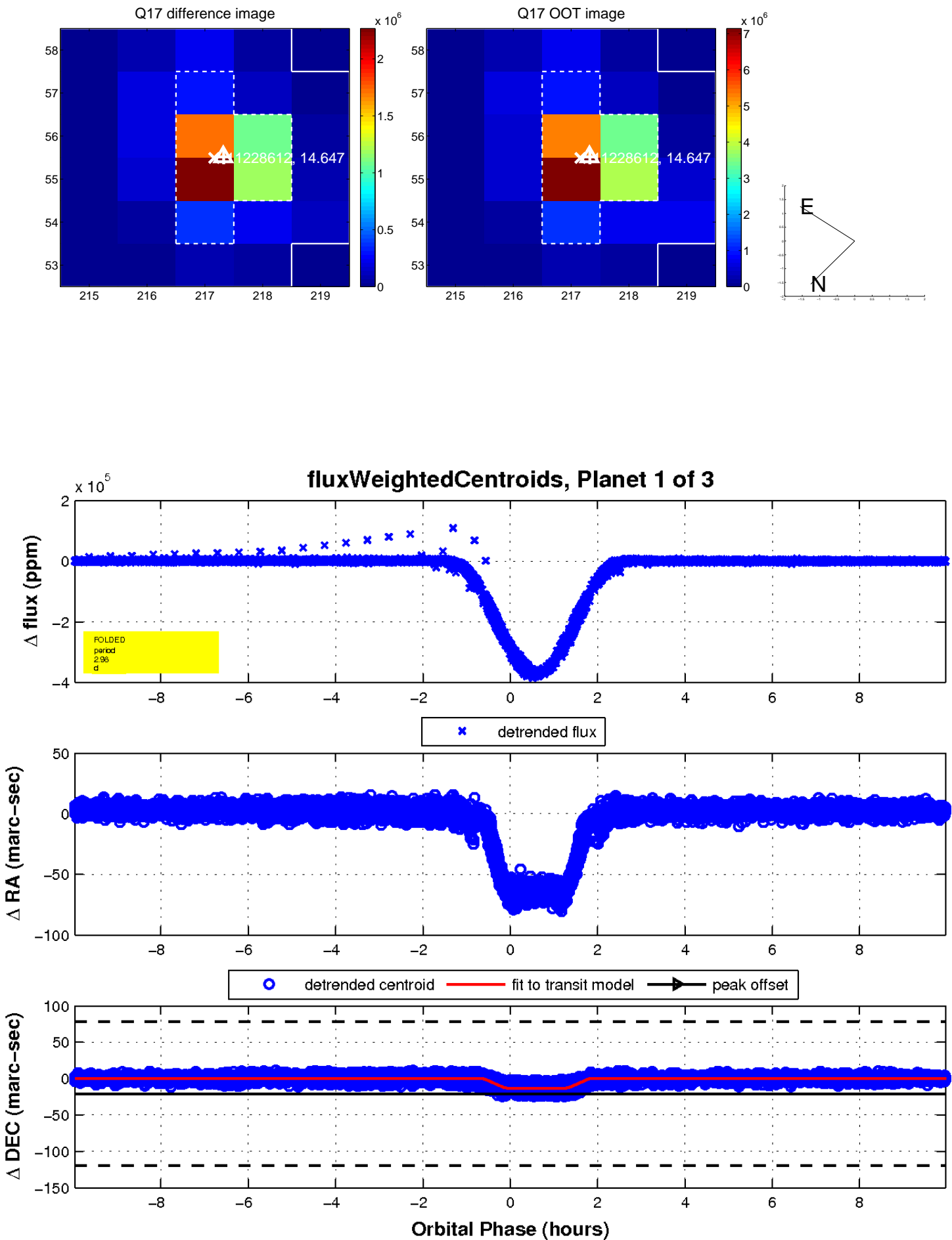
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

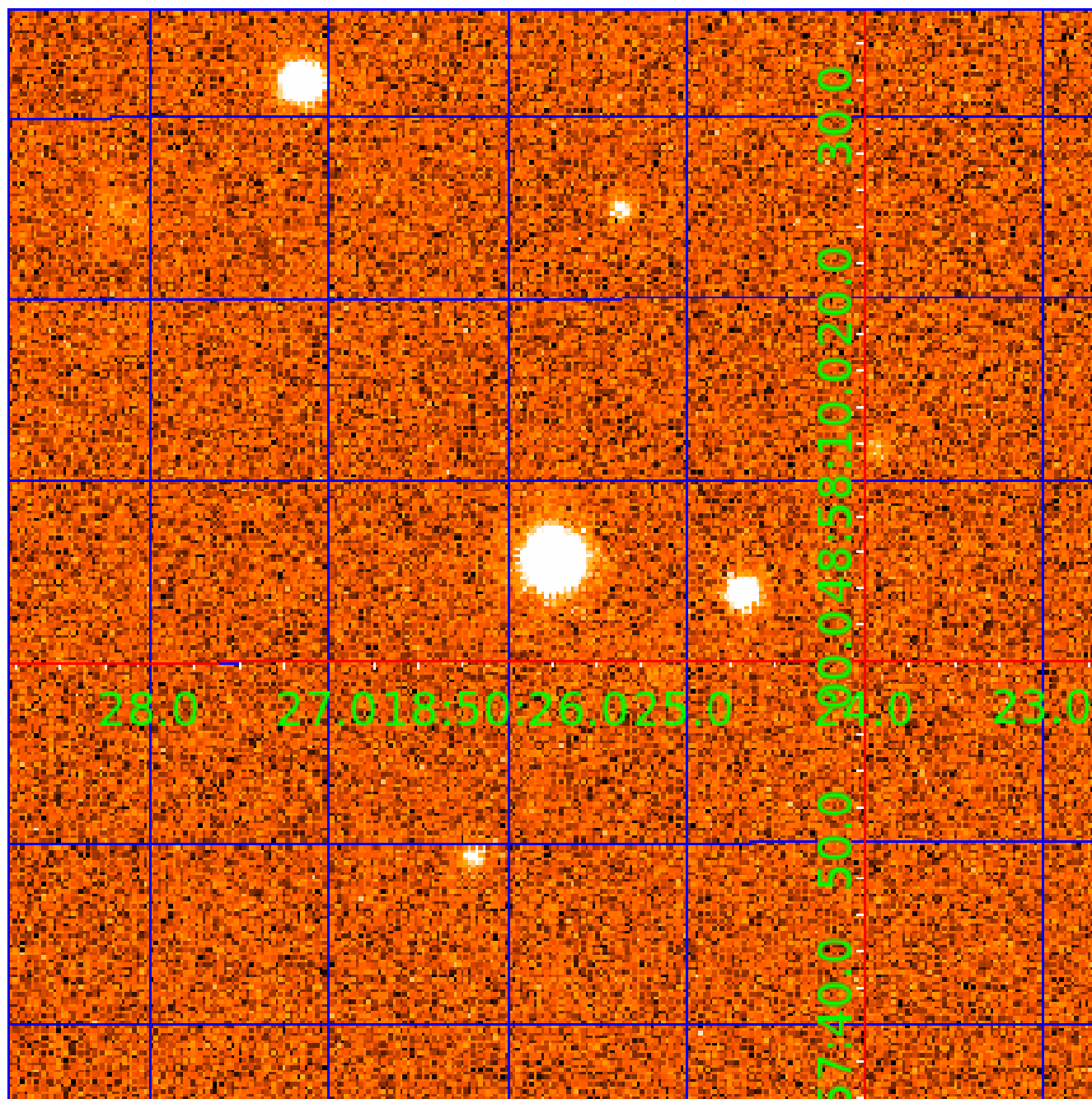


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011228612

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})
011228612-01	OBS	7420.01	2.980467	134.400778	370476.8	2.000	16859.5	-1.0	1.05	6065	57.13	835.22
011228612-02	OBS	No	2.980479	132.906827	70175.9	2.500	4073.6	-1.0	1.05	6065	27.89	835.22
011228612-03	OBS	No	5.960772	137.157468	20002.0	15.000	2487.9	-1.0	1.05	6065	14.82	331.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011228612-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
011228612-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
011228612-03	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST

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

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

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

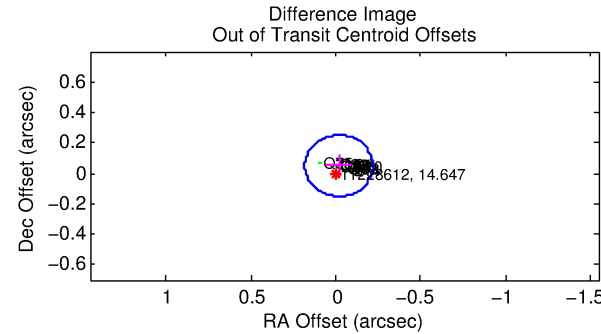
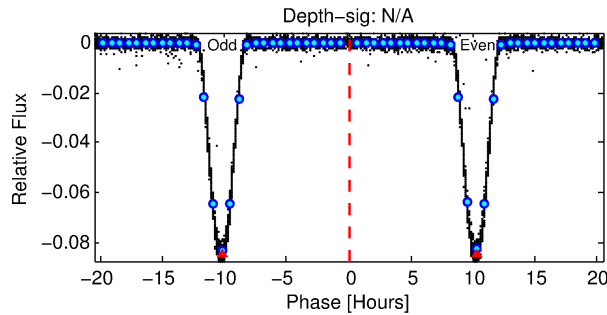
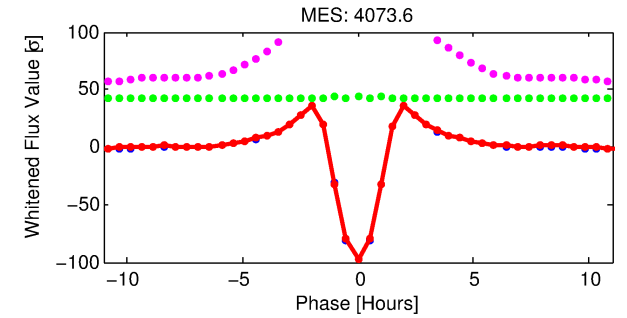
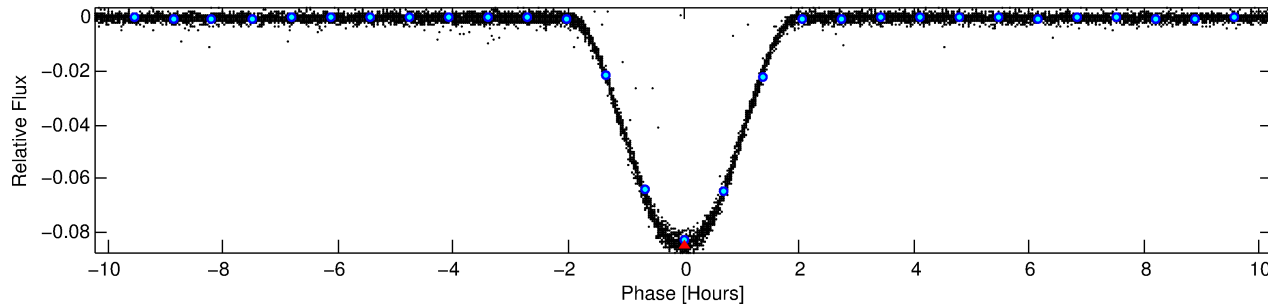
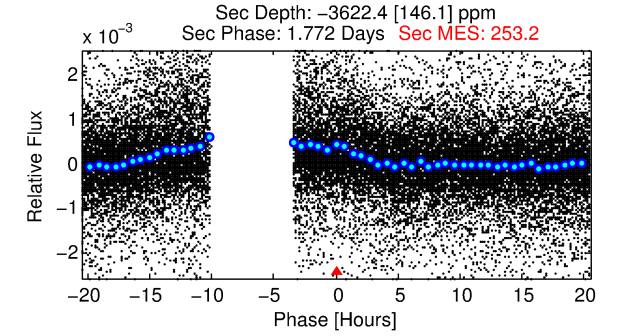
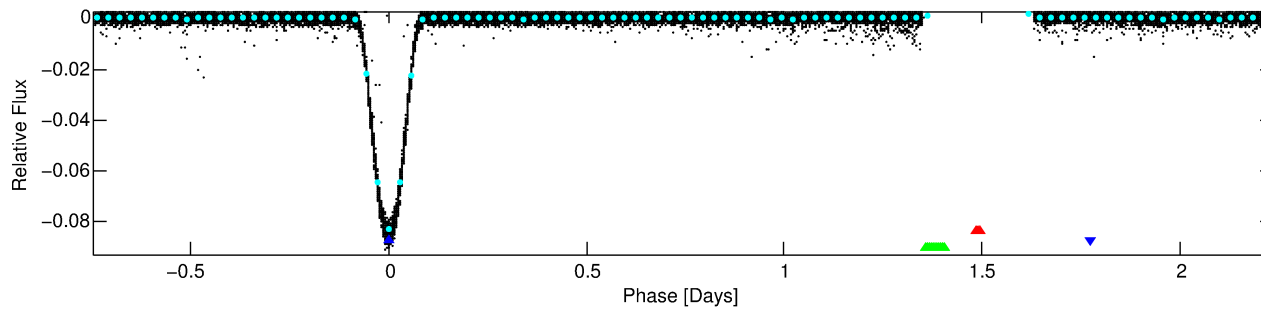
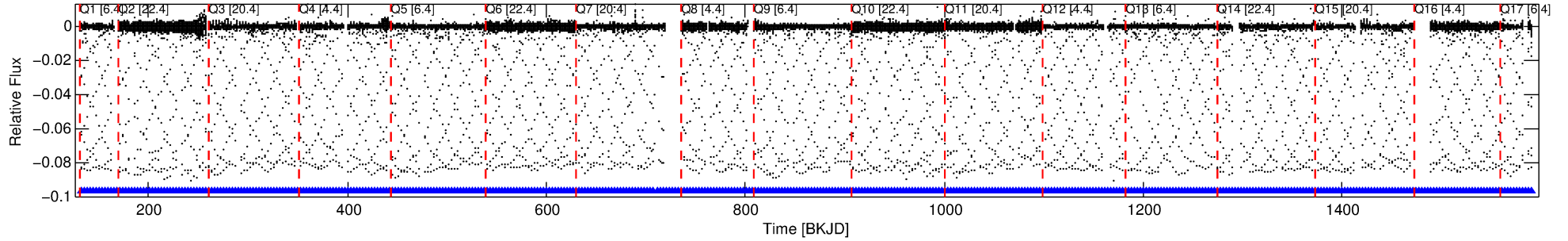
Ephemeris Match Information For 011228612-02

No Significant Match Found

DV One-Page Summary

KIC: 11228612 Candidate: 2 of 3 Period: 2.980 d
KOI: K07420 Corr: No Ephemeris Match

Kp: 14.65 R*: 1.05 Rs Teff: 6065.0 K Logg: 4.38 Fe/H: -0.300



TPS TCE Results:

Period = 2.98048 d
Epoch = 132.9068 BKJD

DV fit results are unavailable

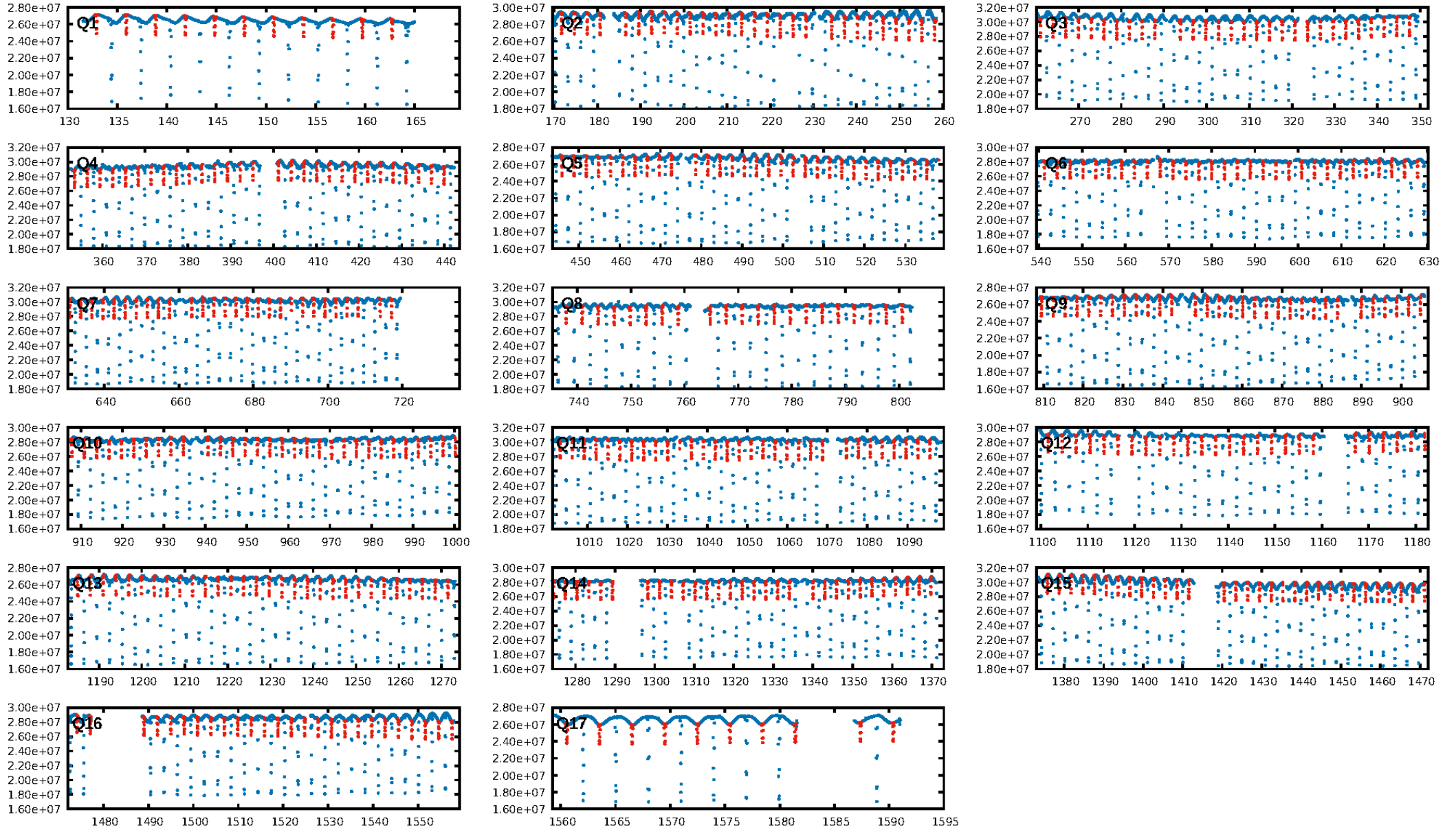
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [4.70σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [428/428]
GhostDiagnostic-chr: 1.64
Centroid-sig: N/A
Centroid-so: 0.543 arcsec [326.69σ]
OotOffset-rm: 0.053 arcsec [0.79σ]
KicOffset-rm: 0.142 arcsec [1.71σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

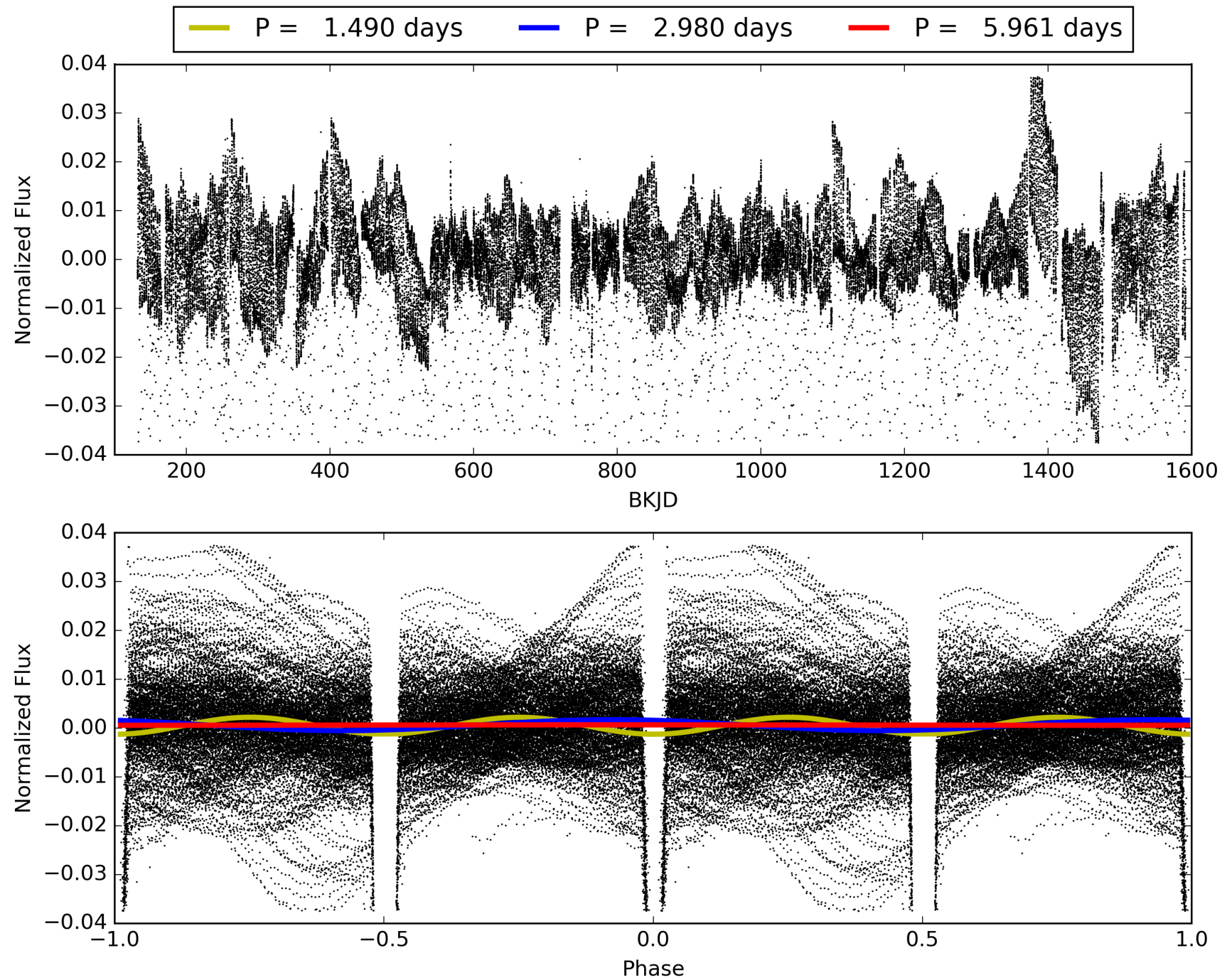
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:06:14 Z

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

TCE 011228612-02, PDC Light Curves

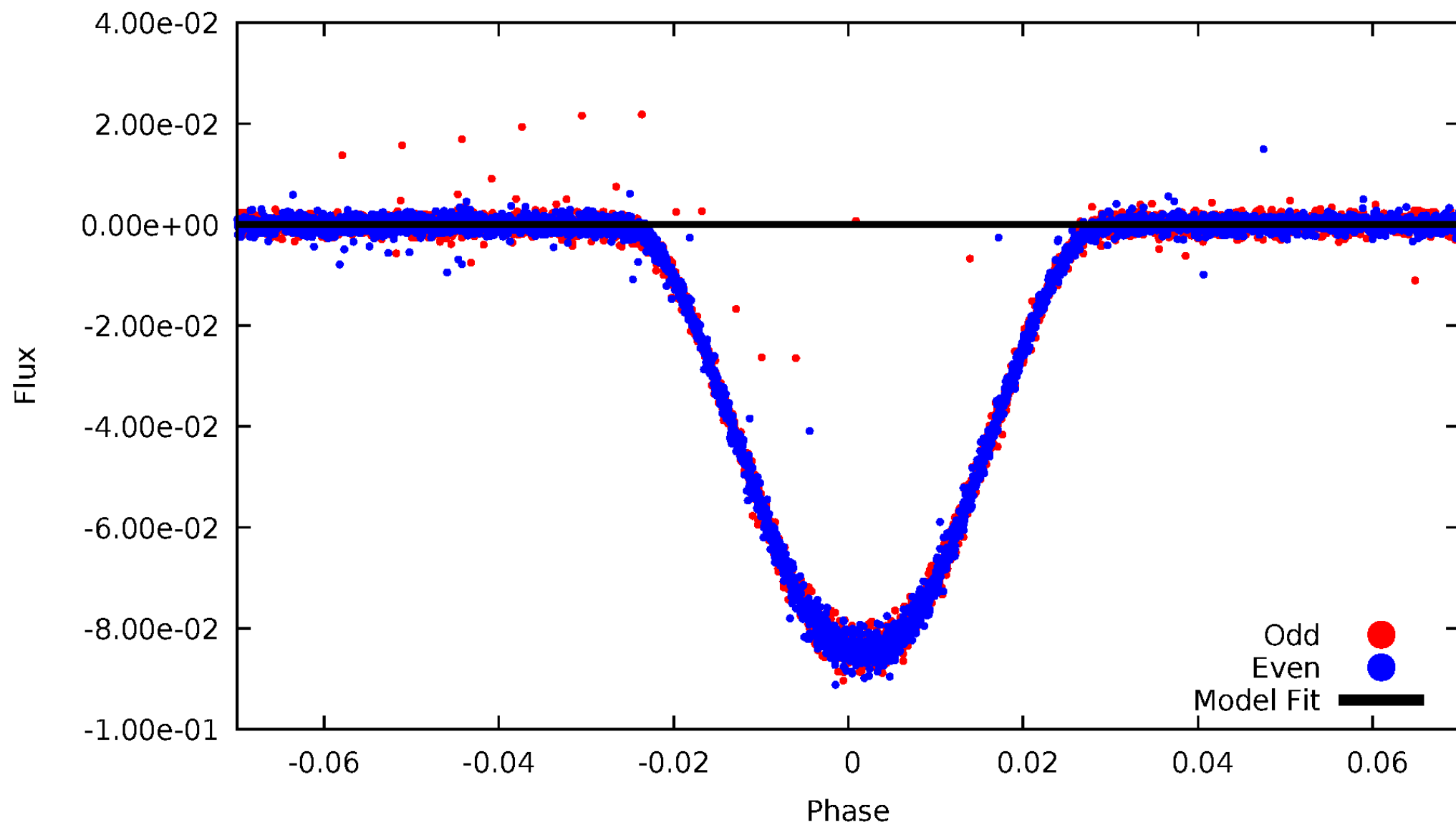


TCE 011228612-02



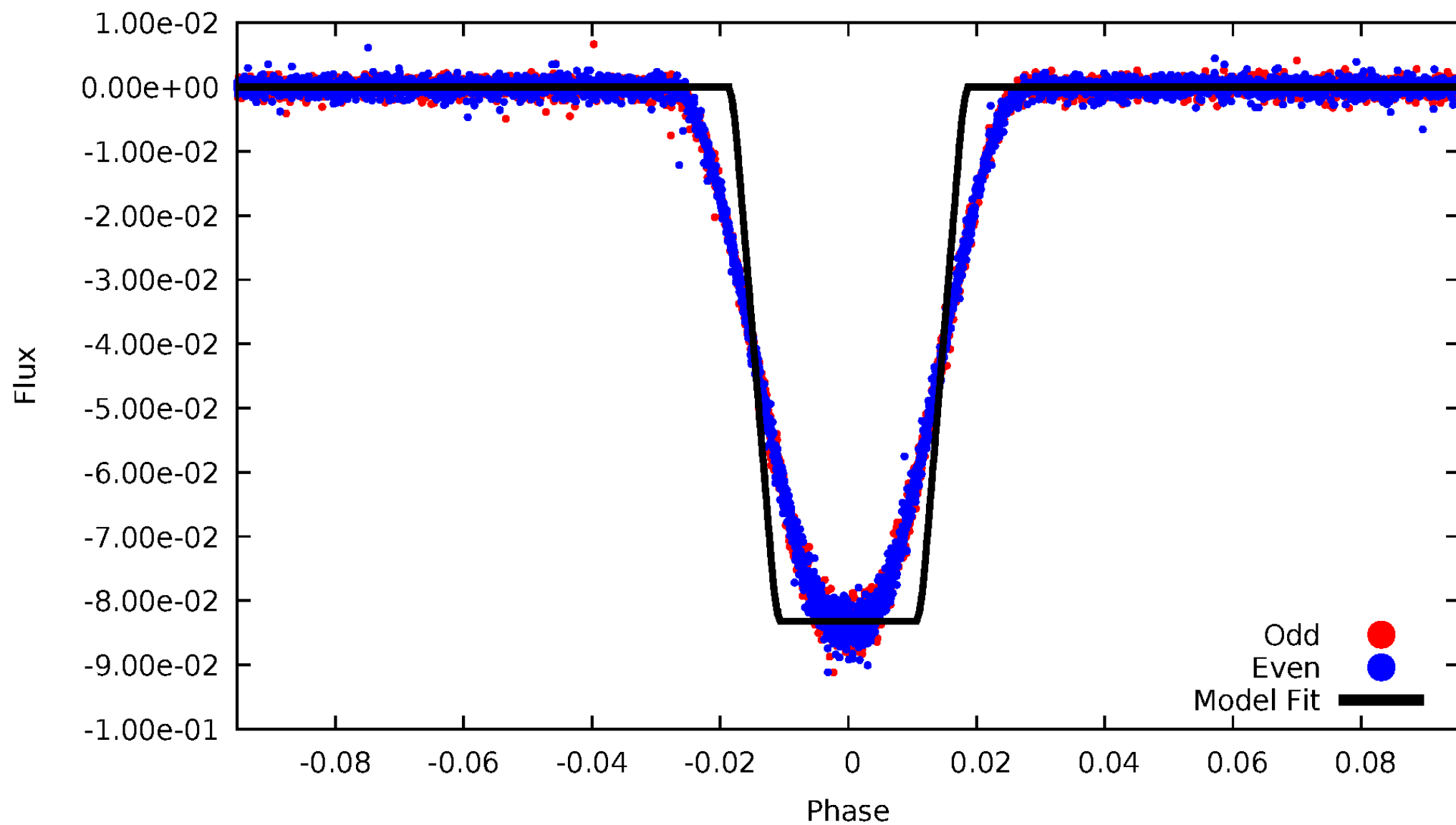
DV Odd/Even

TCE 011228612-02



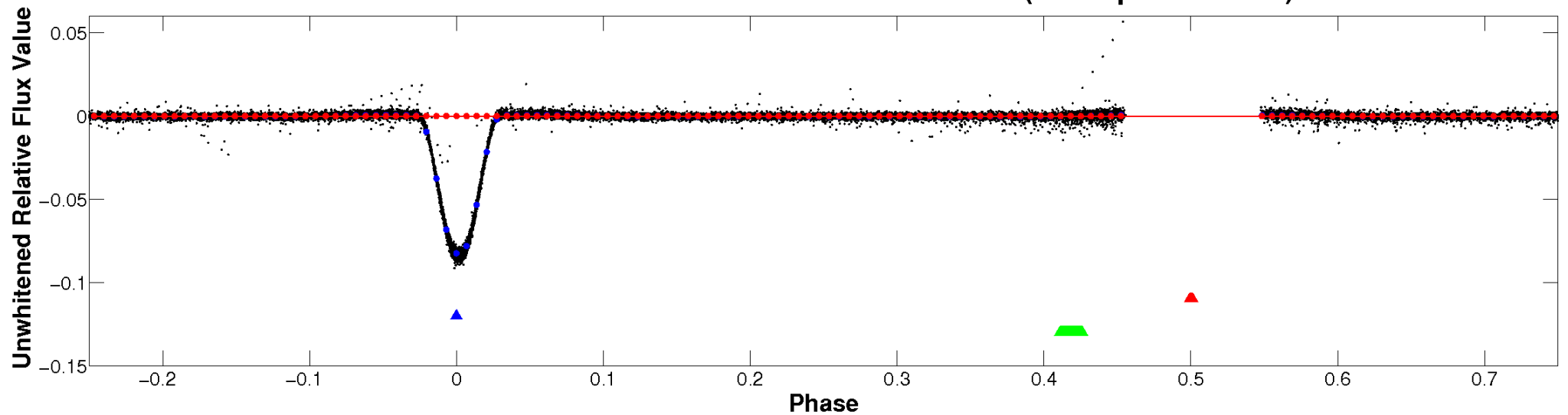
ALT Odd/Even

TCE 011228612-02



Non-Whitened Vs. Whitened Light Curve

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

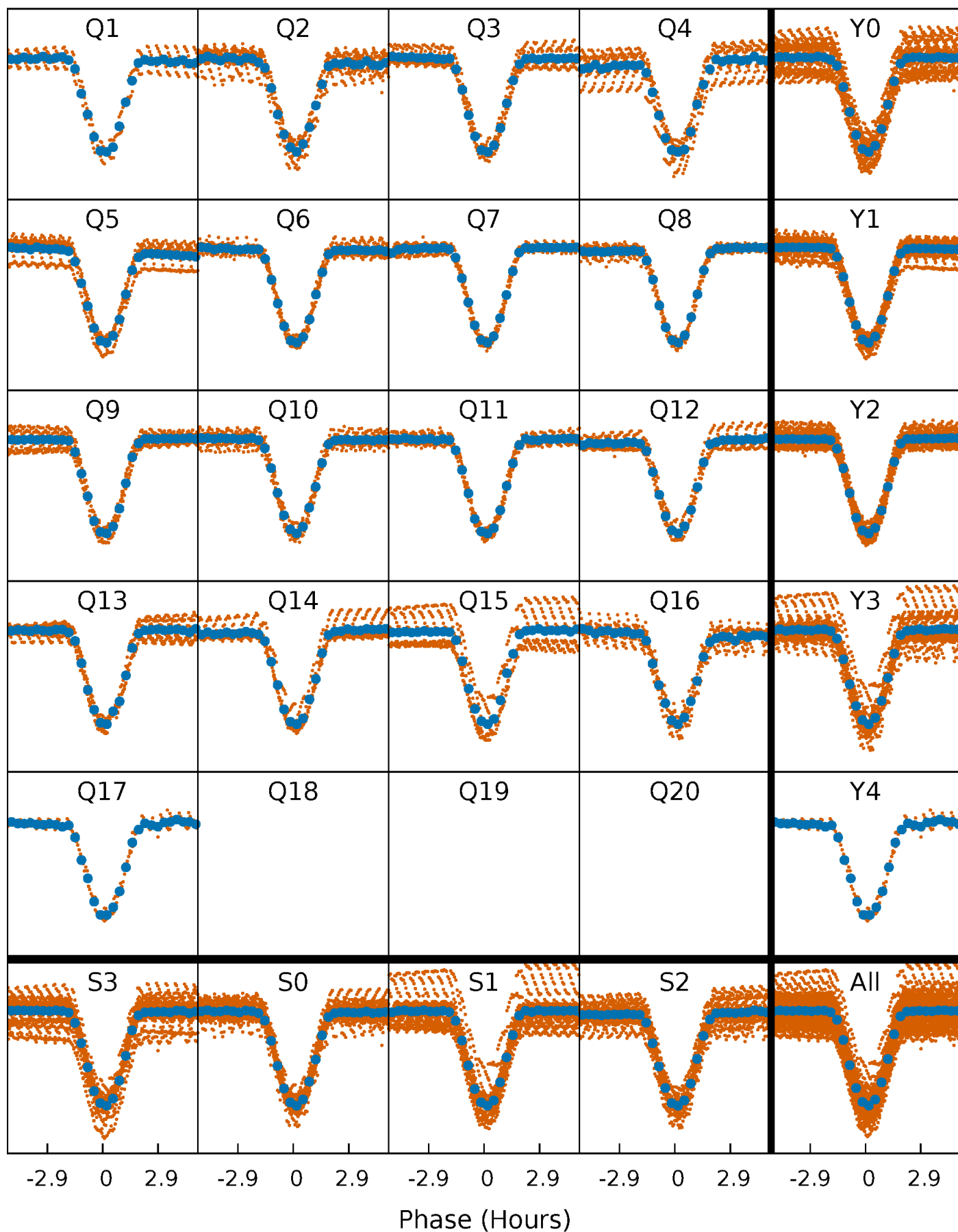


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



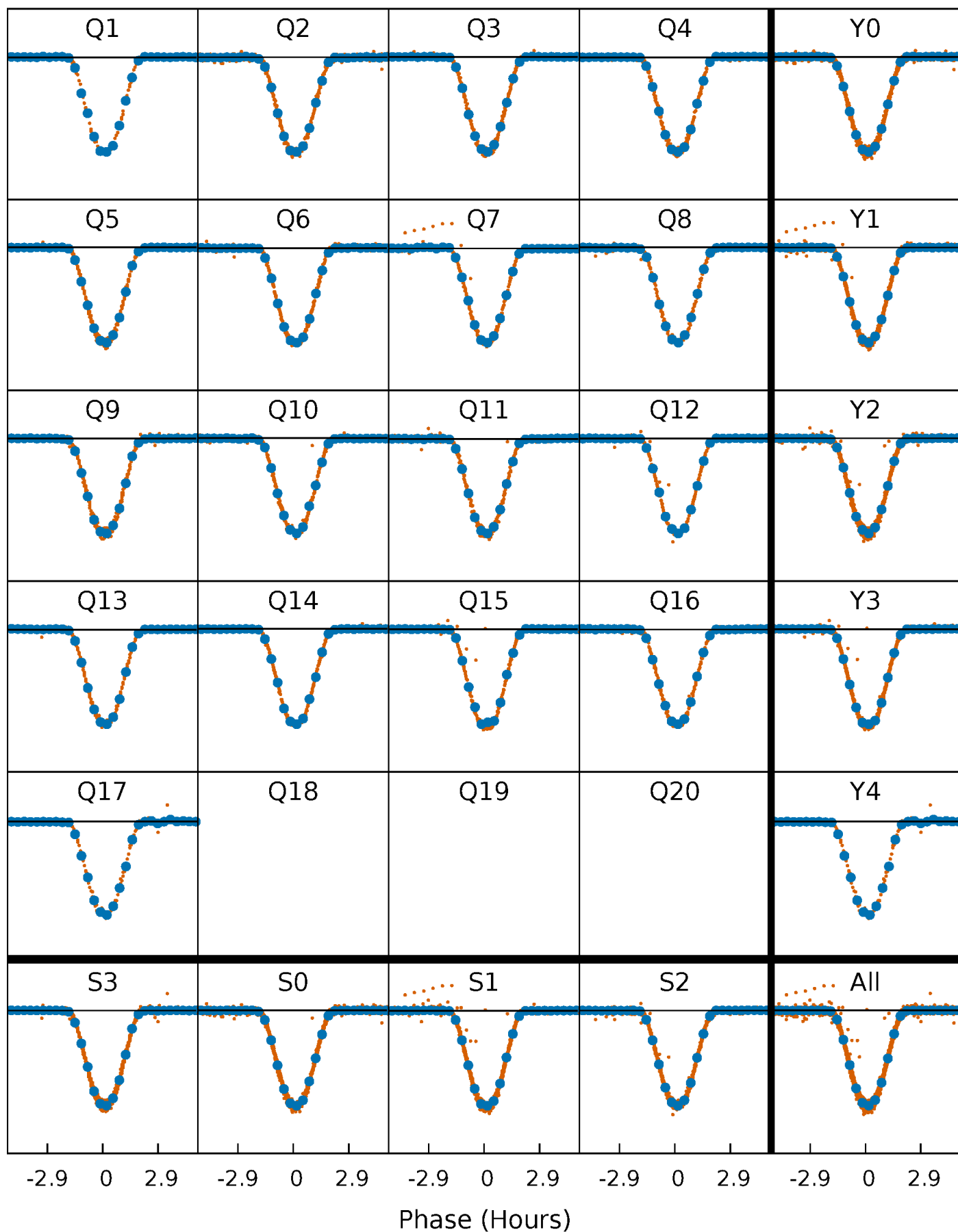
PDC Quarter-Phased Transit Curves

TCE 011228612-02 P= 2.980479 Days $T_0=132.906827$ (BKJD)



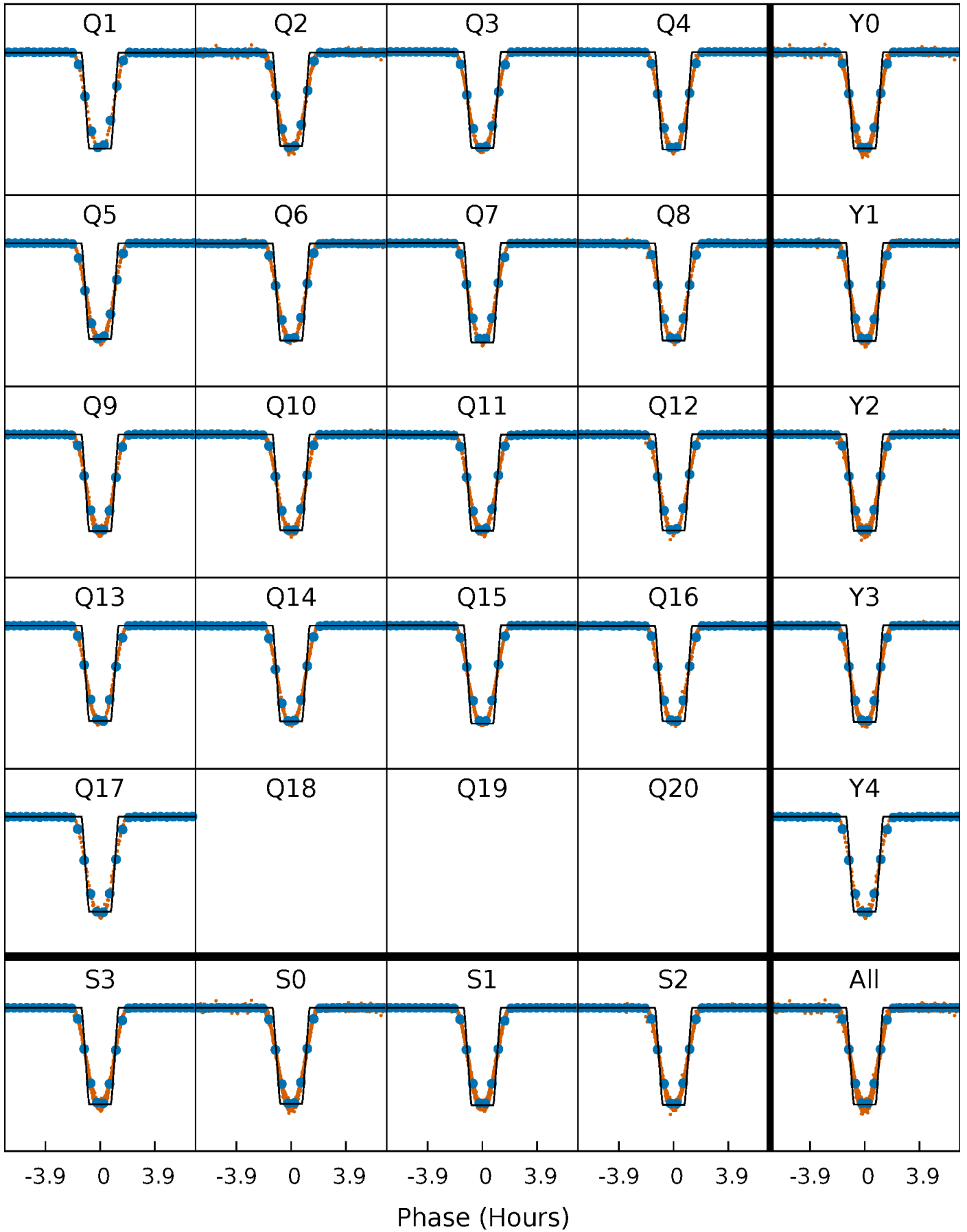
DV Quarter-Phased Transit Curves

TCE 011228612-02 P= 2.980479 Days $T_0=132.906827$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

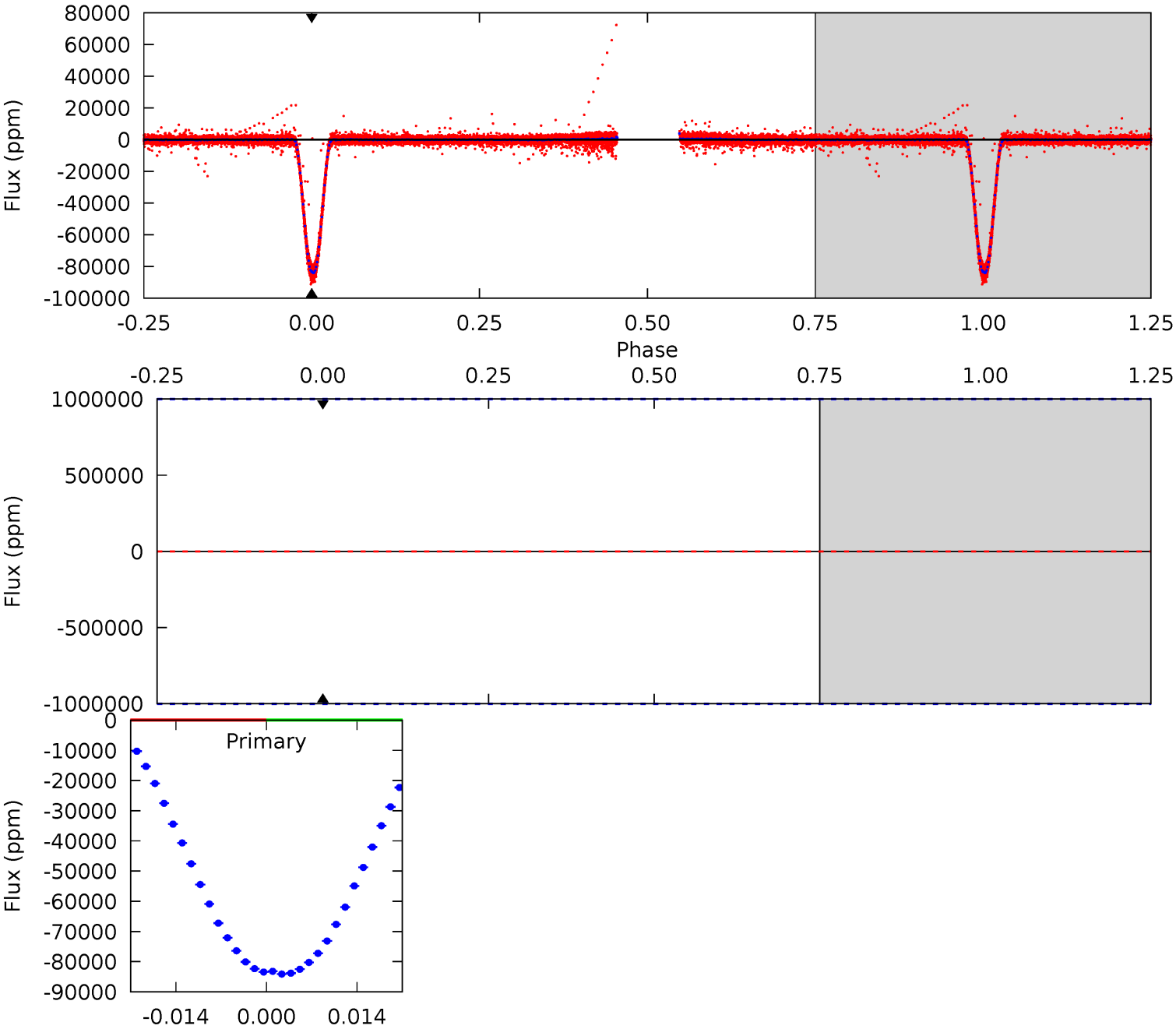
TCE 011228612-02 P= 2.980479 Days $T_0=132.911968$ (BKJD)



DV Model-Shift Uniqueness Test

011228612-02, P = 2.980479 Days, E = 129.926348 Days

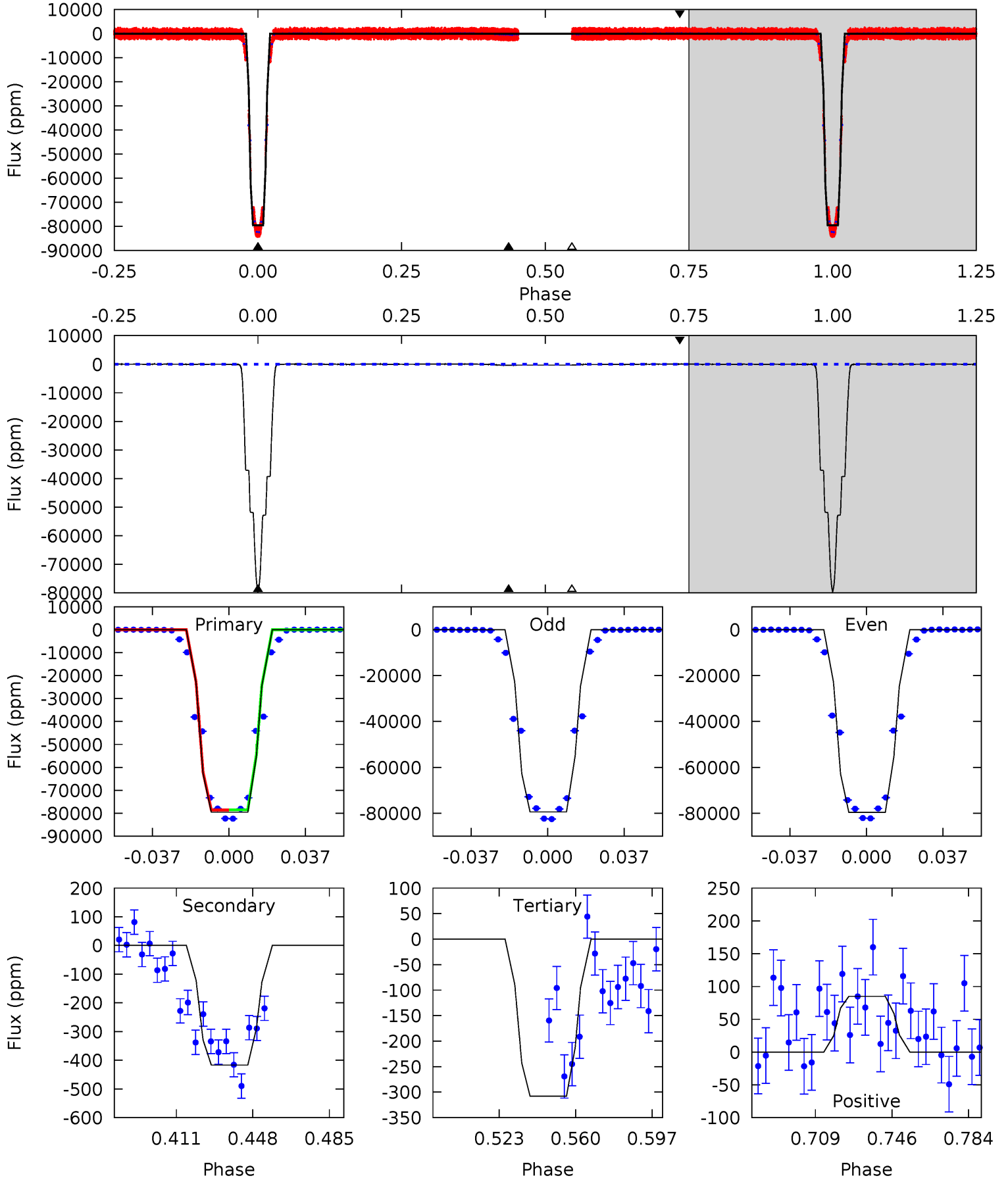
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011228612-02, P = 2.980479 Days, E = 129.931489 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3610	18.9	14.0	3.86	4.77	2.08	2.20	3596	3606	4.95	15.1	4.88	1.00	0.00	0



Stellar Parameters For KIC 011228612

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6065^{+164}_{-182}	$4.377^{+0.124}_{-0.186}$	$-0.300^{+0.300}_{-0.300}$	$1.047^{+0.309}_{-0.167}$	$0.954^{+0.143}_{-0.107}$	$1.170^{+0.657}_{-0.567}$
	+3%/-3%	+3%/-4%	+100%/-100%	+30%/-16%	+15%/-11%	+56%/-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 011228612-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$28.19^{+13.68}_{-11.21}$	1931^{+133}_{-114}	3756^{+3924}_{-10692}	$5.895^{+141.605}_{-115.427}$
Alt.	-417 ± 22	$33.94^{+13.04}_{-12.82}$	1929^{+138}_{-114}	1797^{+817}_{-4044}	$0.315^{+0.497}_{-0.148}$

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

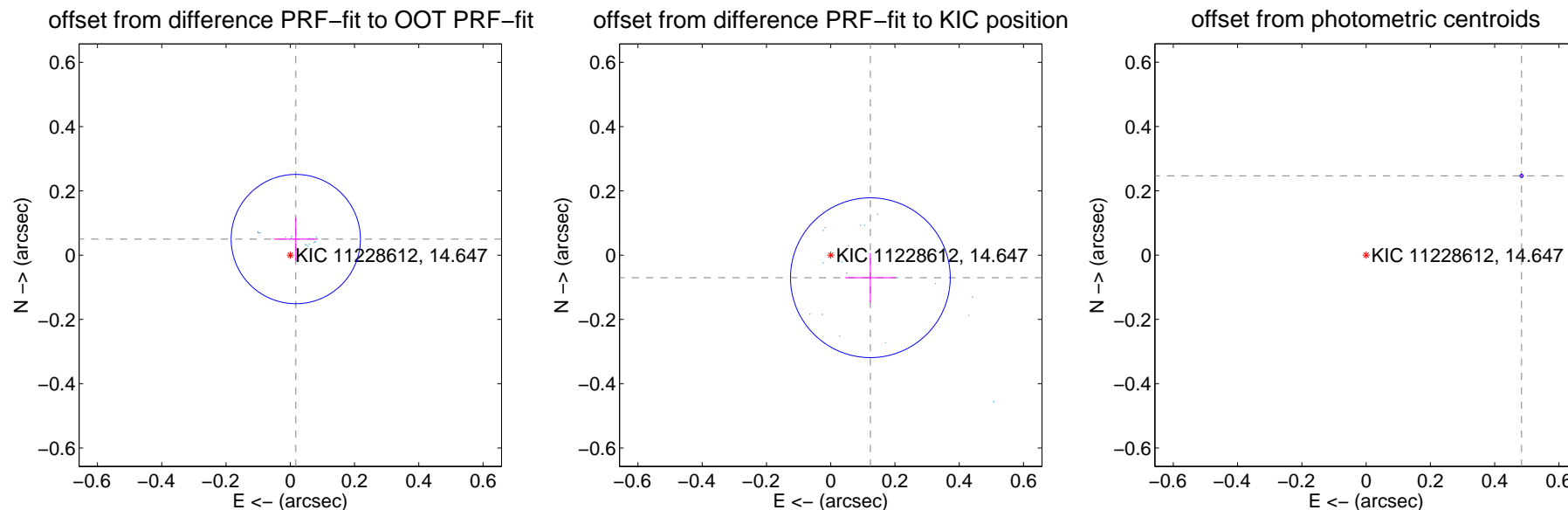
DV Centroid Data

Supplemental centroid analysis for 011228612-02. Kepler magnitude: 14.65. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

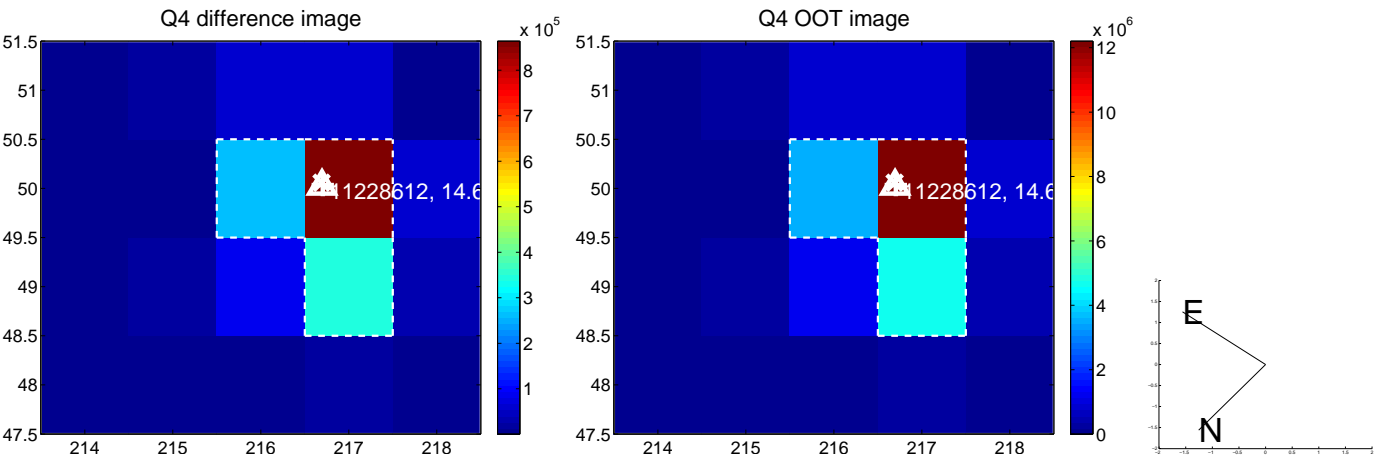
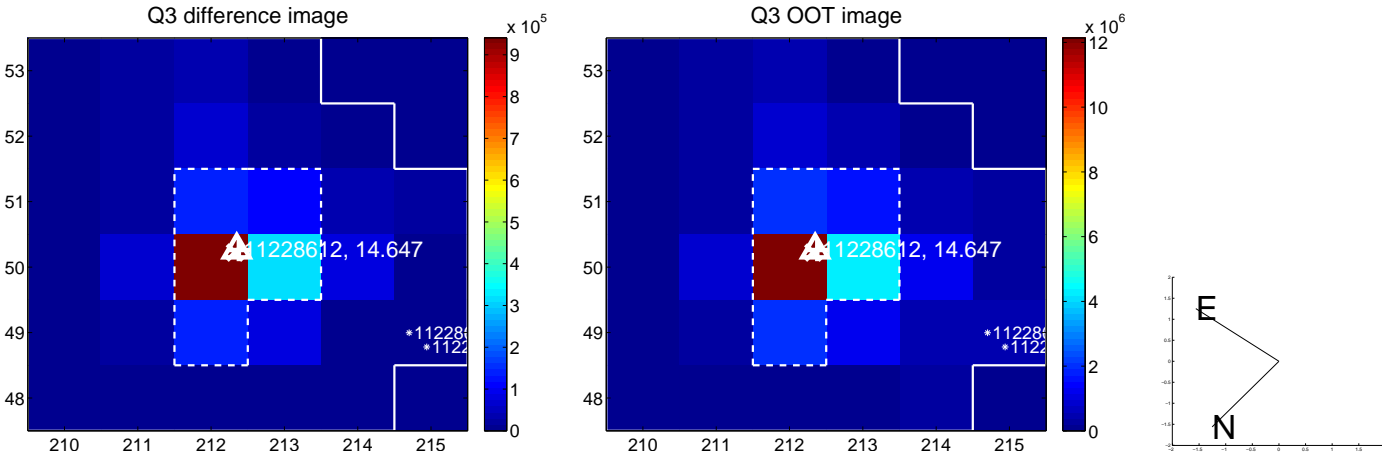
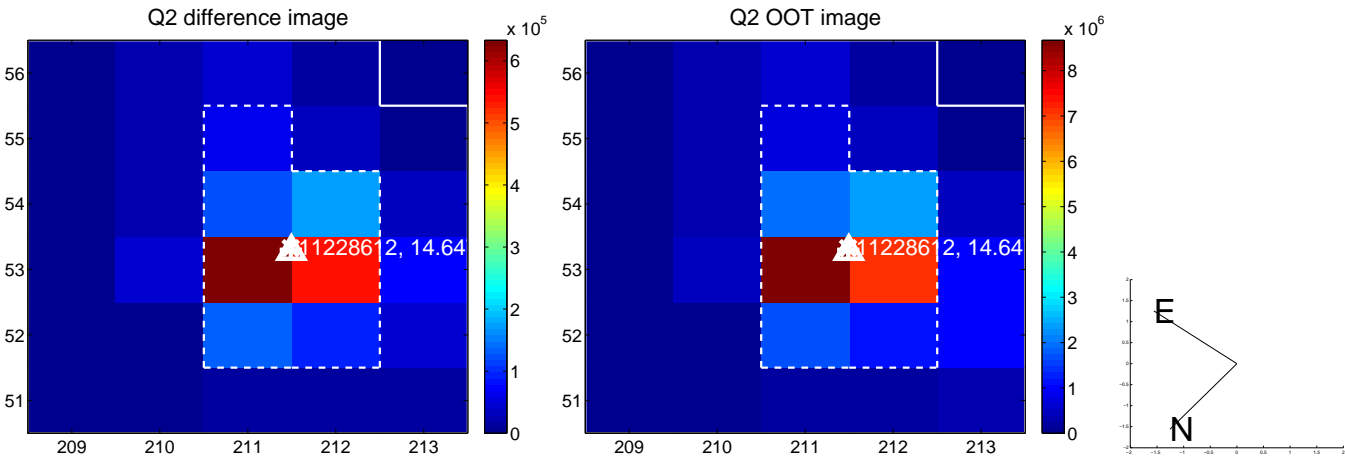
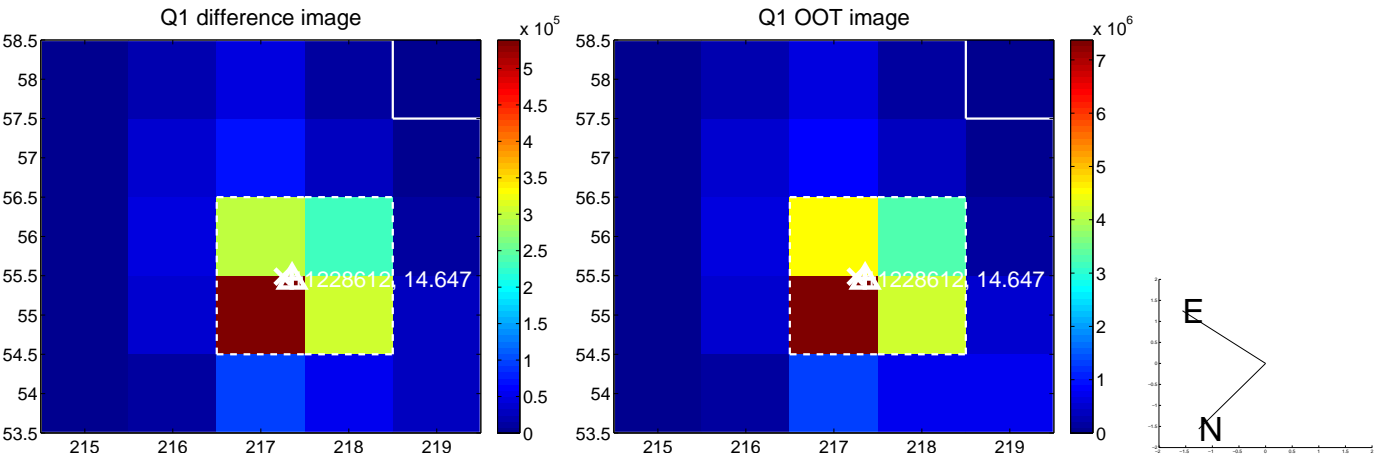
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.067	0.79	-0.017 ± 0.069	0.050 ± 0.067
PRF-fit source offset from KIC position	0.142 ± 0.083	1.71	-0.123 ± 0.079	-0.070 ± 0.077
photometric centroid source offset	0.54 ± 0.00	326.69	-0.48 ± 0.00	0.25 ± 0.00

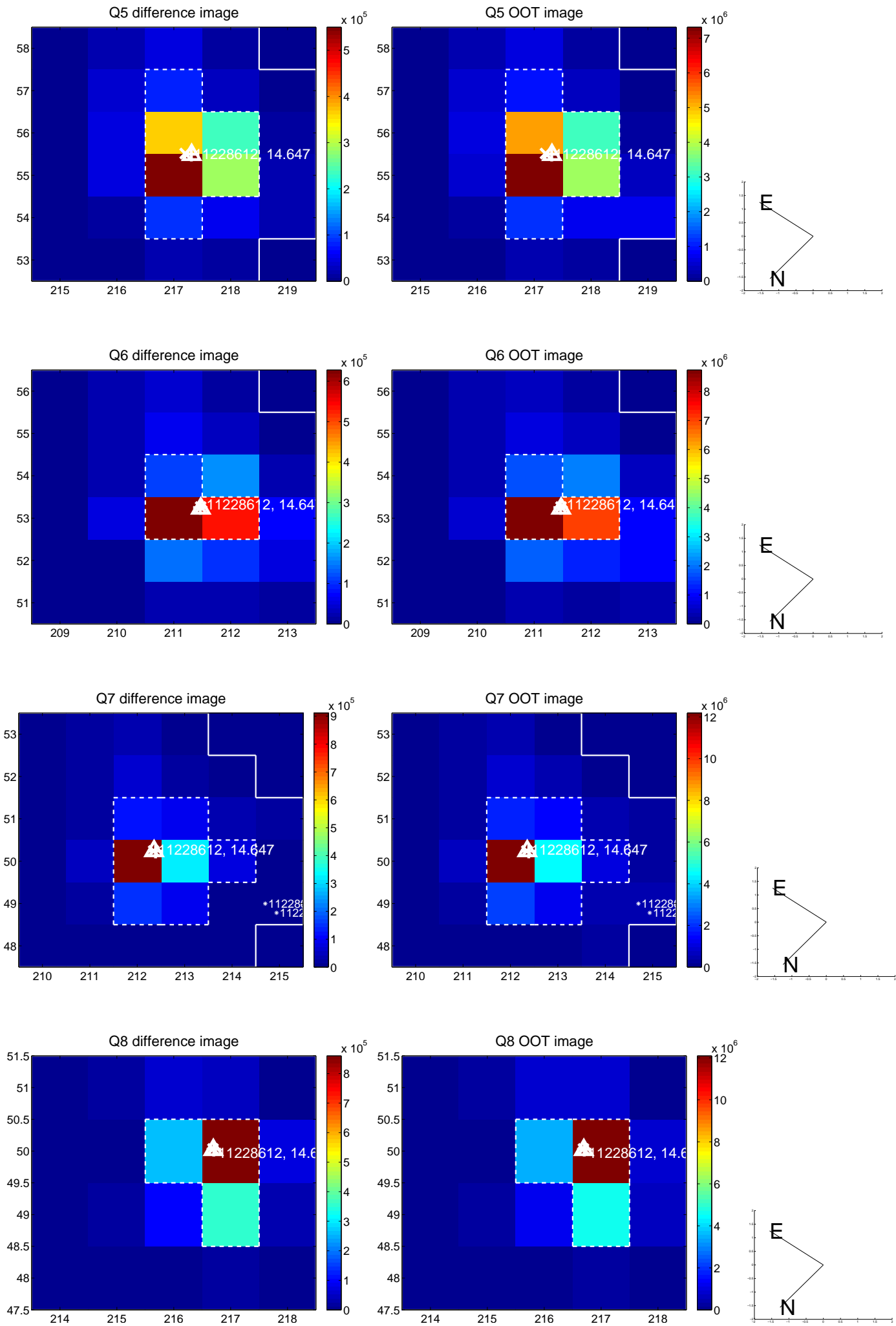


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

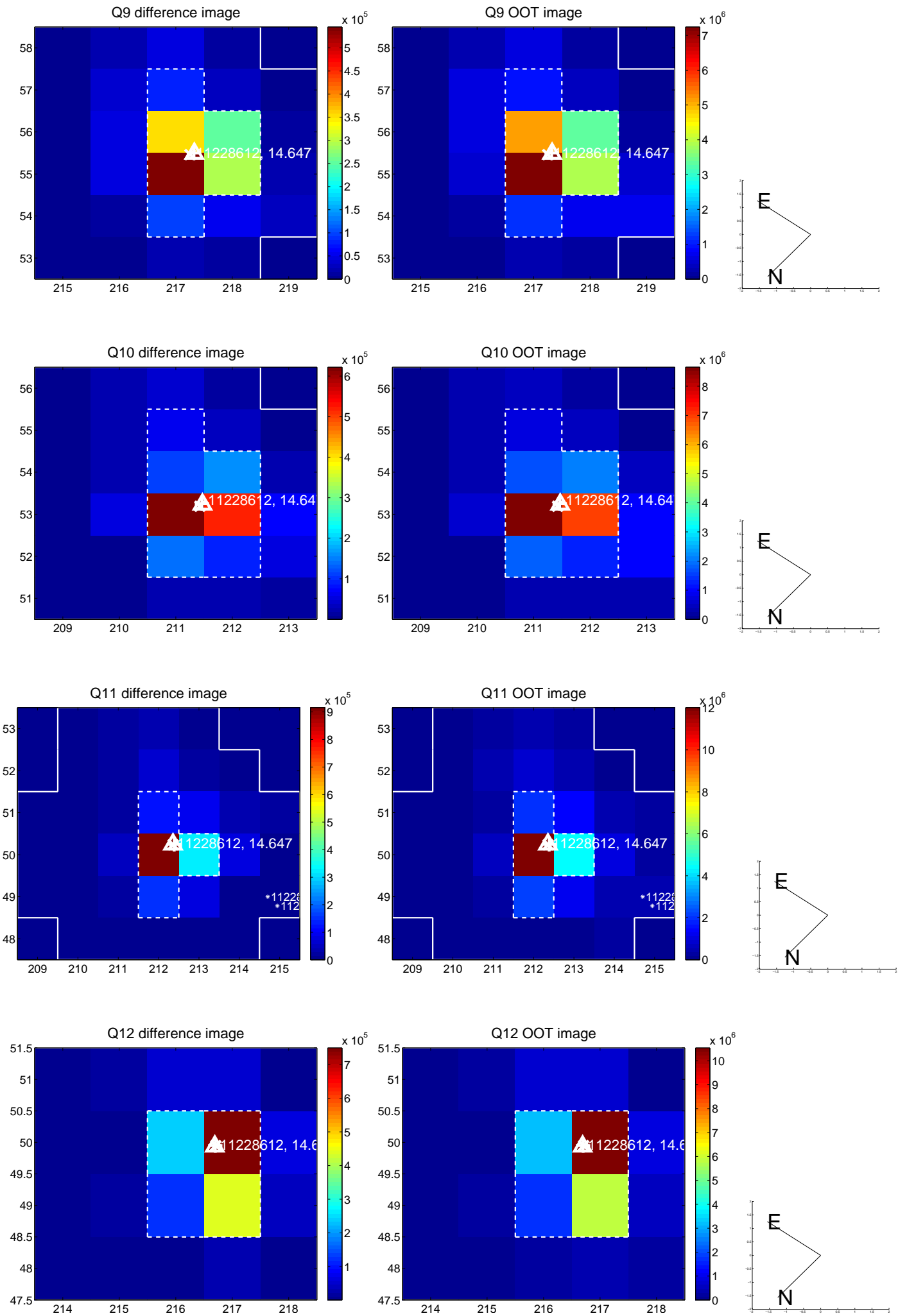
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



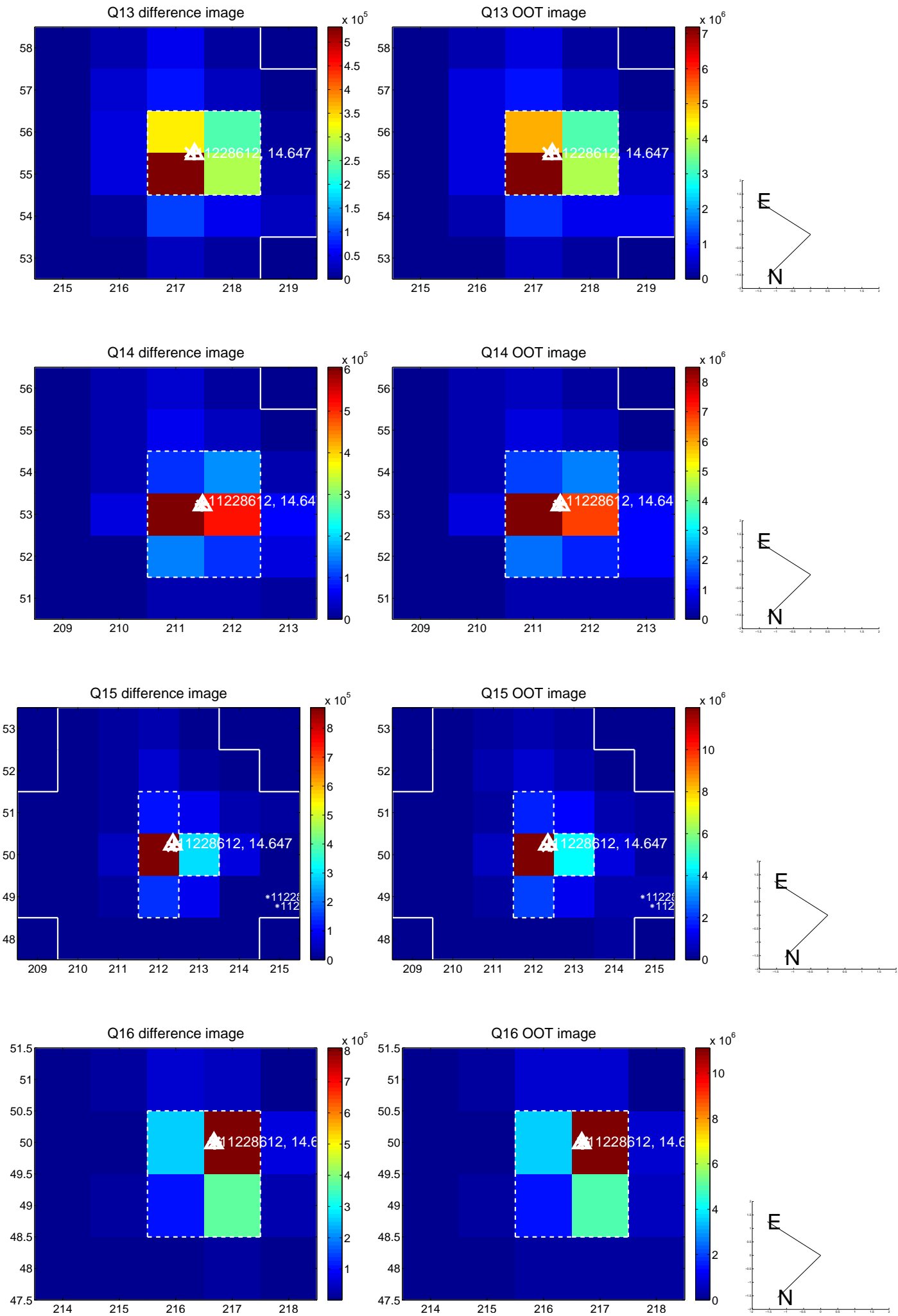
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



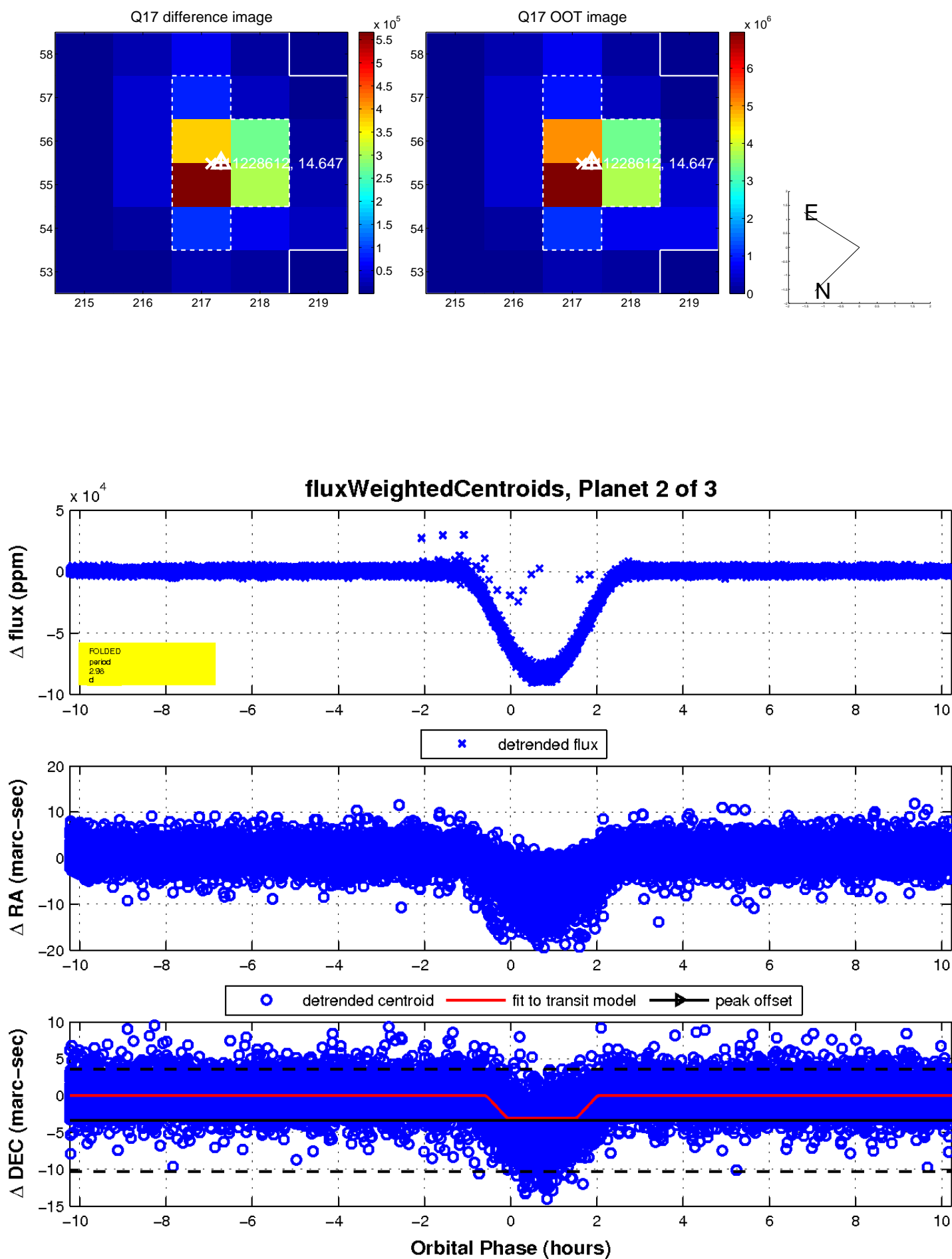
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

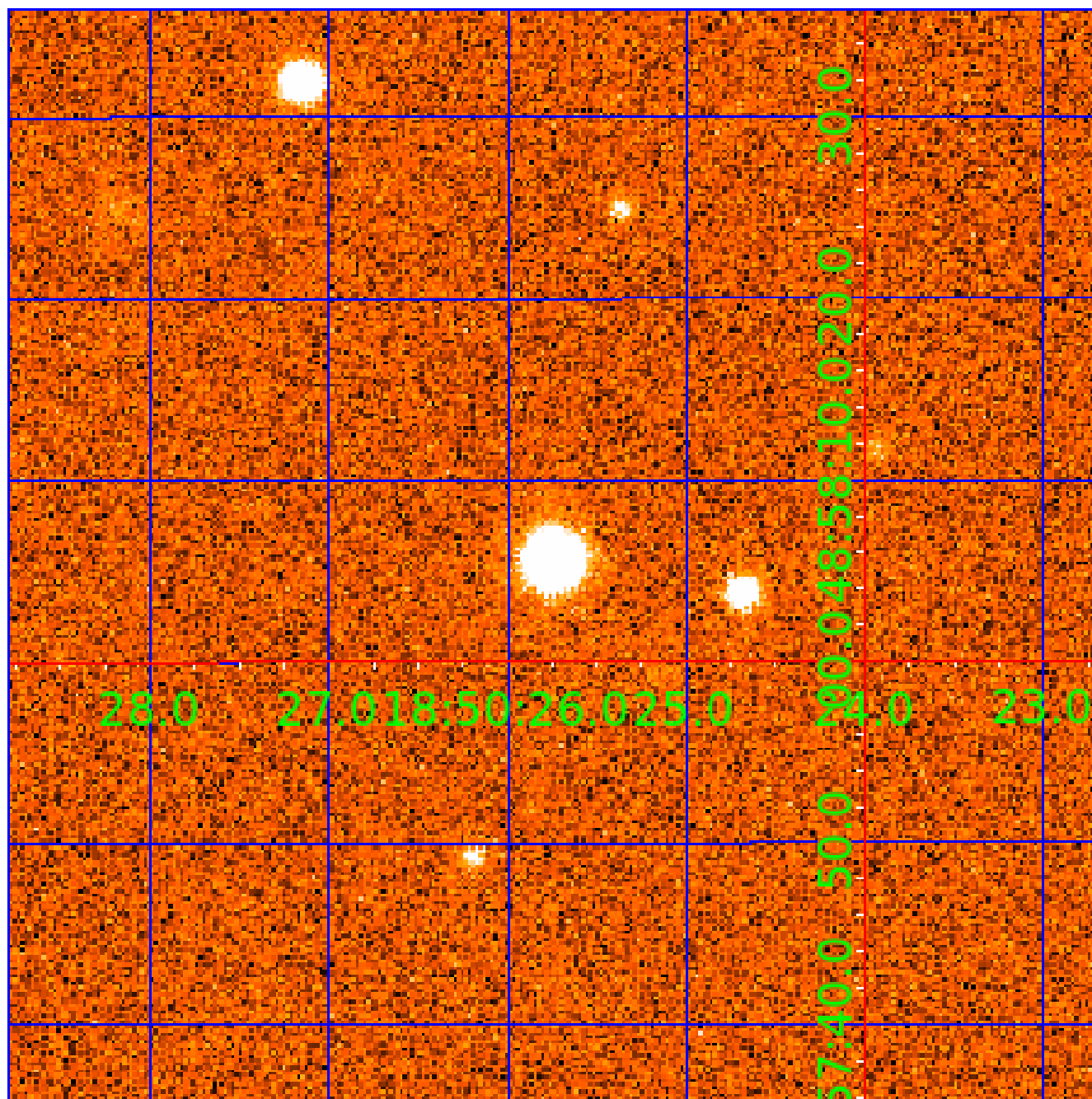


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011228612

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})
011228612-01	OBS	7420.01	2.980467	134.400778	370476.8	2.000	16859.5	-1.0	1.05	6065	57.13	835.22
011228612-02	OBS	No	2.980479	132.906827	70175.9	2.500	4073.6	-1.0	1.05	6065	27.89	835.22
011228612-03	OBS	No	5.960772	137.157468	20002.0	15.000	2487.9	-1.0	1.05	6065	14.82	331.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011228612-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
011228612-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
011228612-03	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST

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

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

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

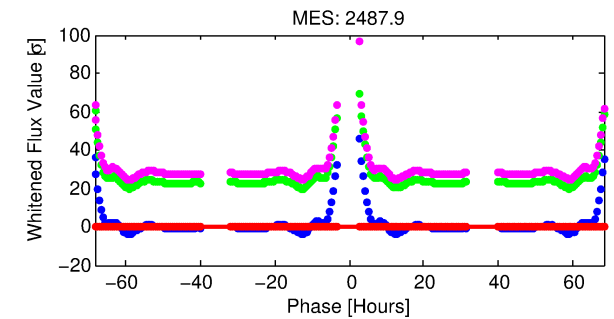
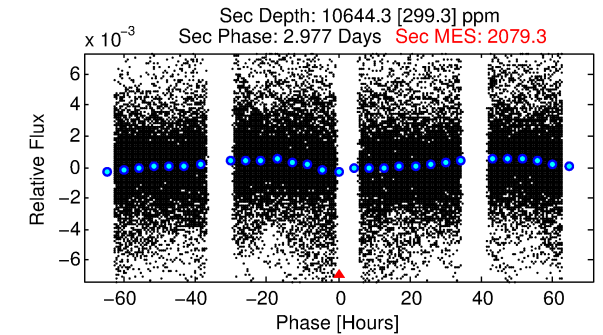
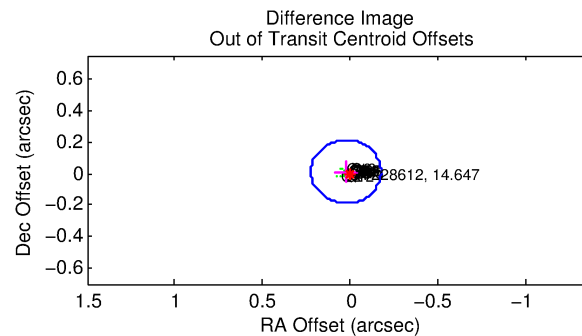
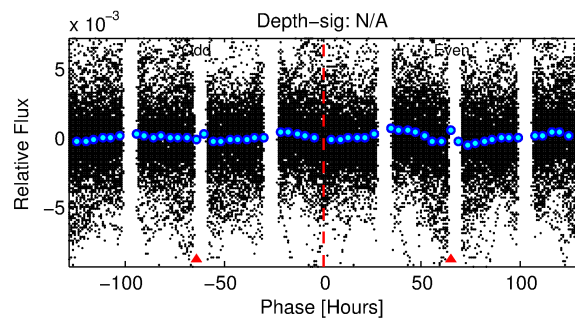
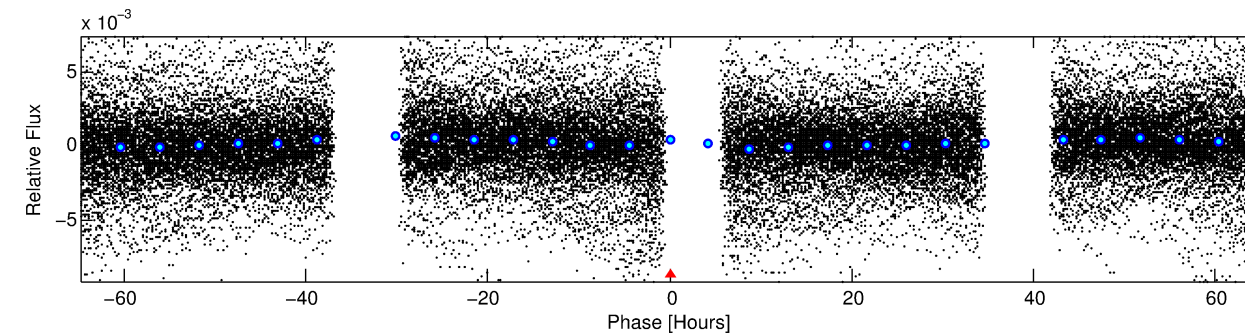
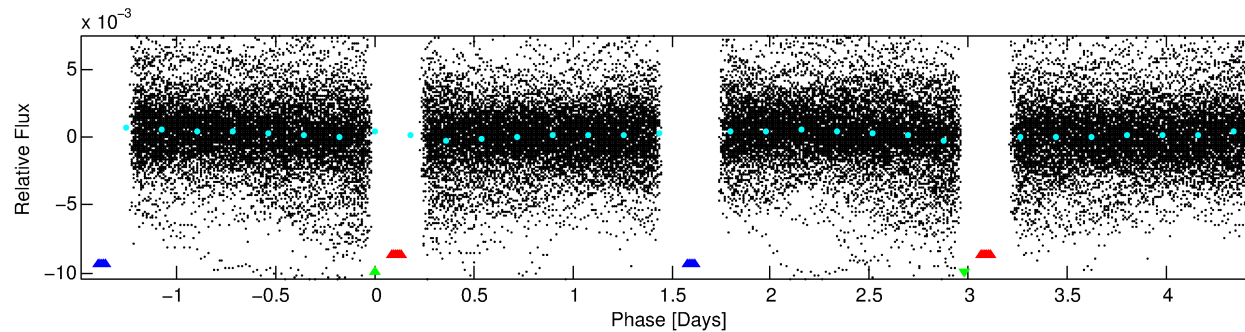
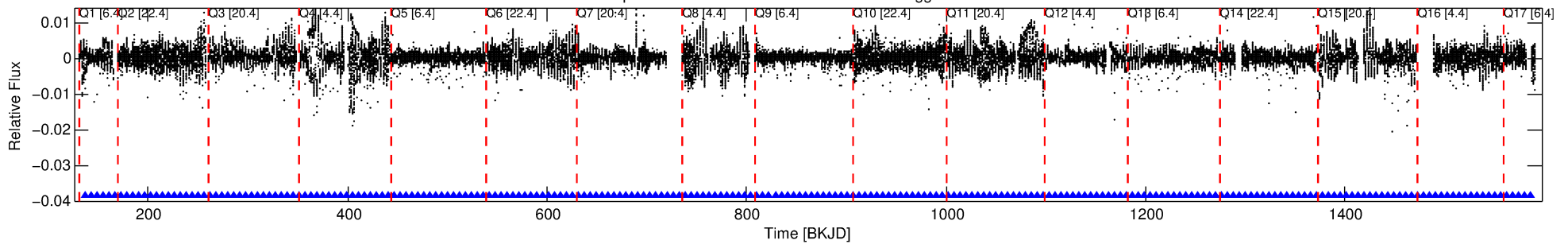
Ephemeris Match Information For 011228612-03

No Significant Match Found

DV One-Page Summary

KIC: 11228612 Candidate: 3 of 3 Period: 5.961 d
KOI: K07420 Corr: No Ephemeris Match

Kp: 14.65 R*: 1.05 Rs Teff: 6065.0 K Logg: 4.38 Fe/H: -0.300



TPS TCE Results:

Period = 5.96077 d
Epoch = 137.1575 BKJD

DV fit results are unavailable

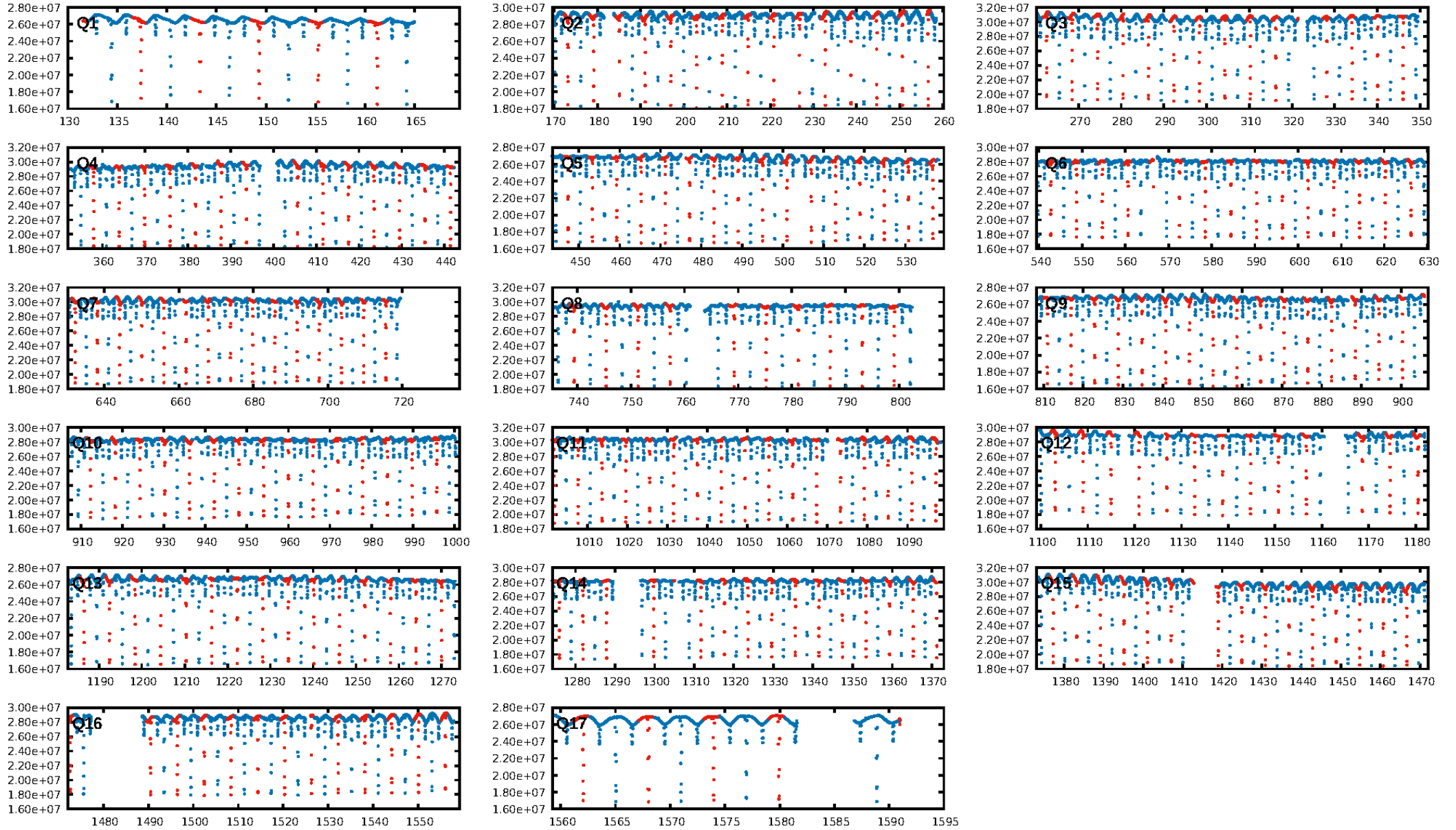
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.70σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [219/219]
GhostDiagnostic-chr: 0.1095
Centroid-sig: N/A
Centroid-so: 1.044 arcsec [13.79σ]
OotOffset-rm: 0.028 arcsec [0.42σ]
KicOffset-rm: 0.118 arcsec [1.47σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

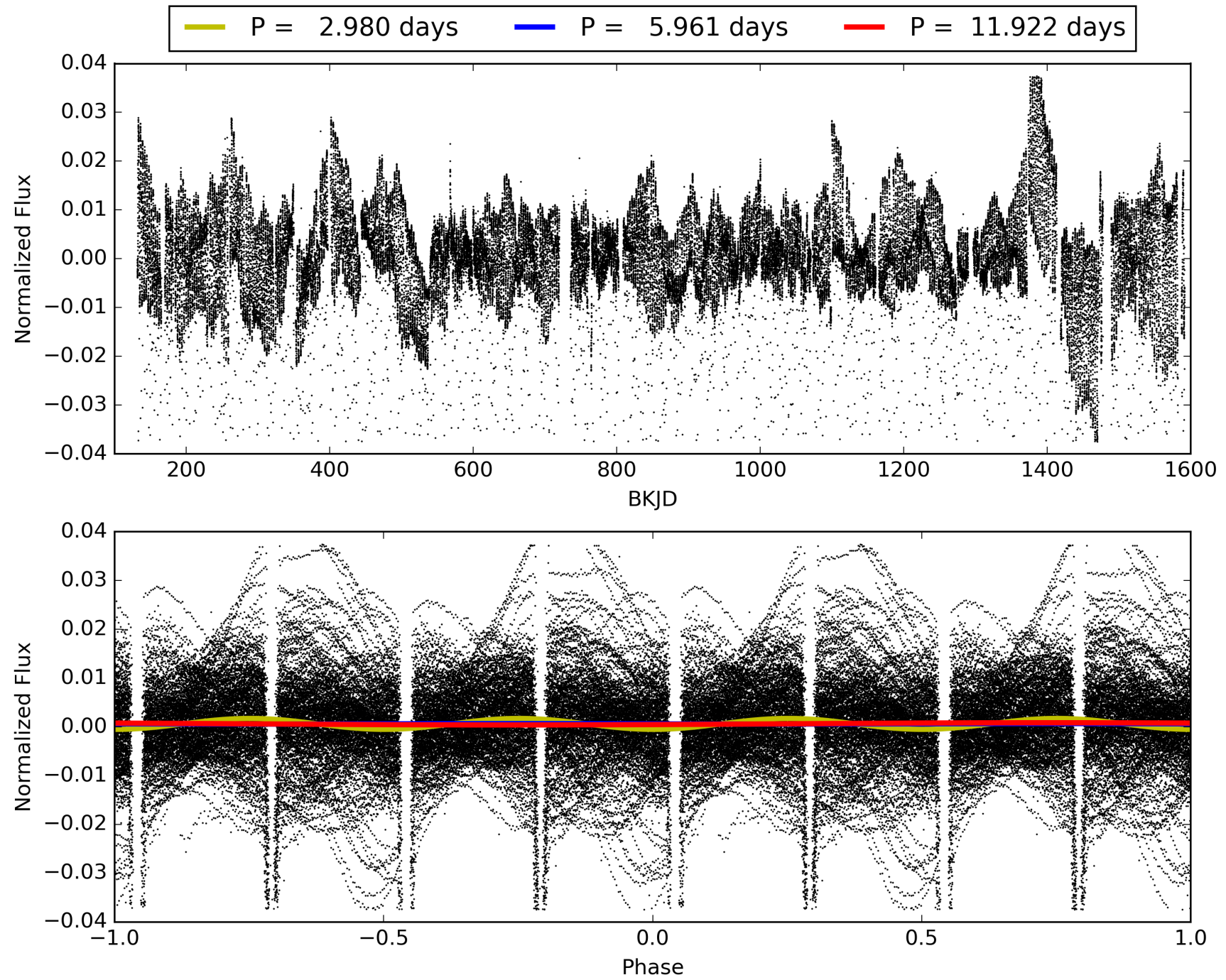
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:06:22 Z

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

TCE 011228612-03, PDC Light Curves

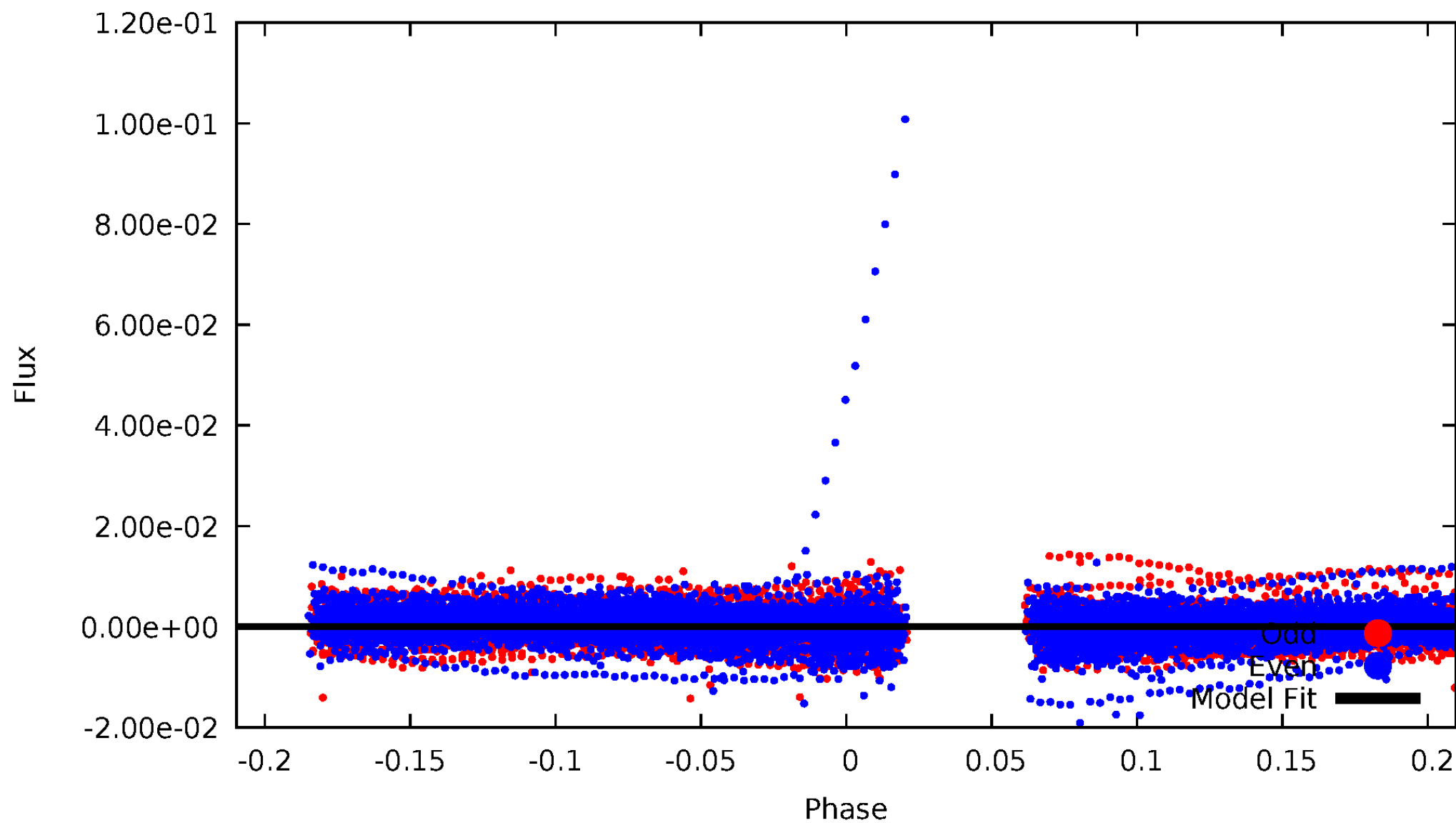


TCE 011228612-03



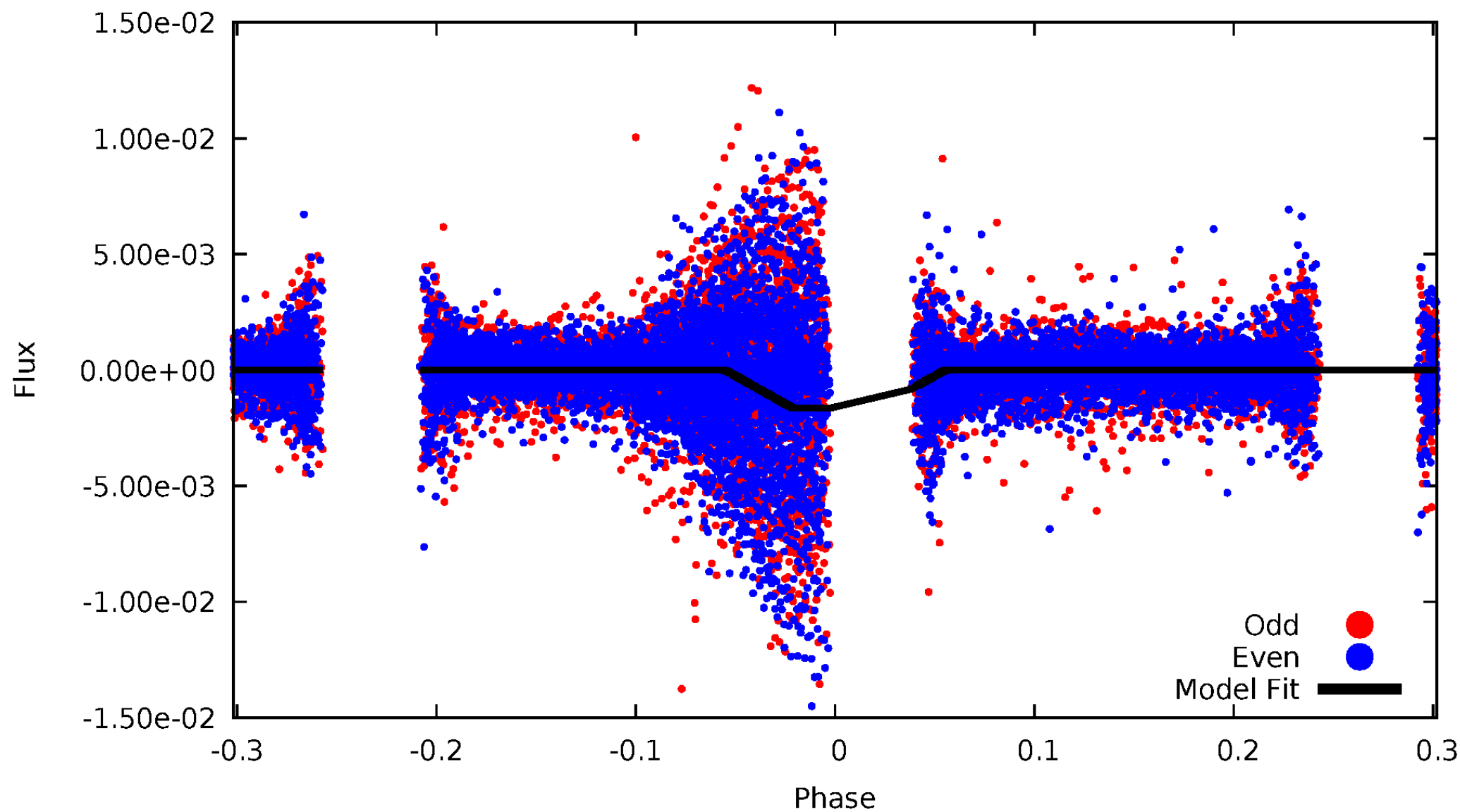
DV Odd/Even

TCE 011228612-03



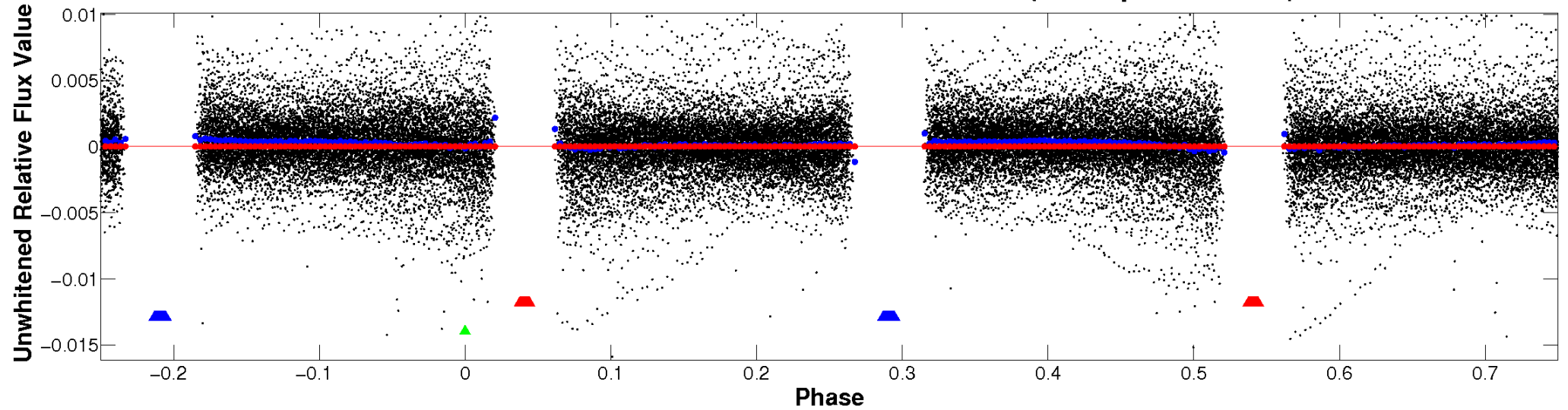
ALT Odd/Even

TCE 011228612-03

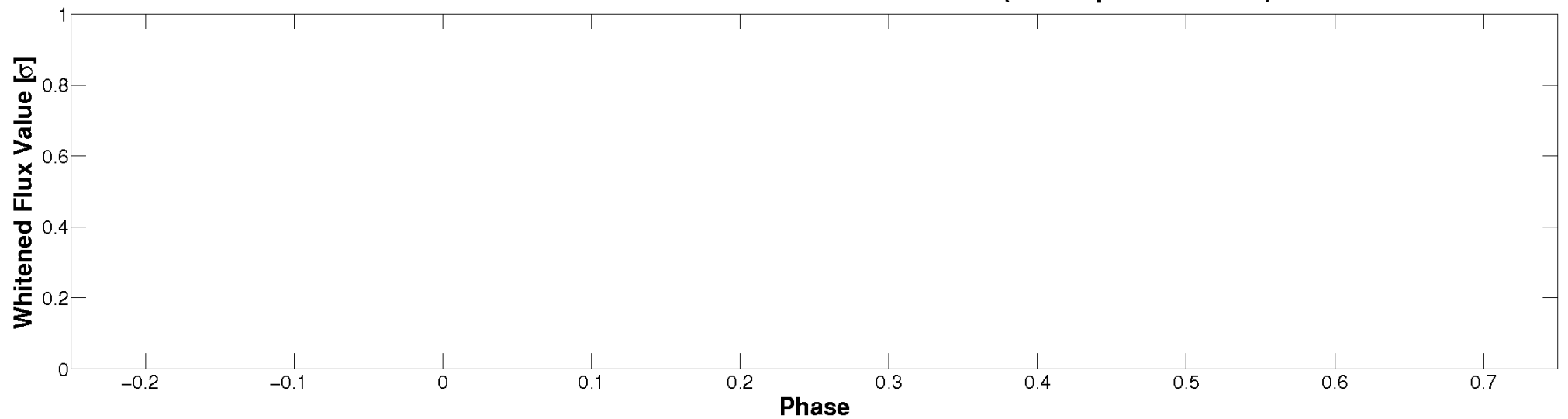


Non-Whitened Vs. Whitened Light Curve

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

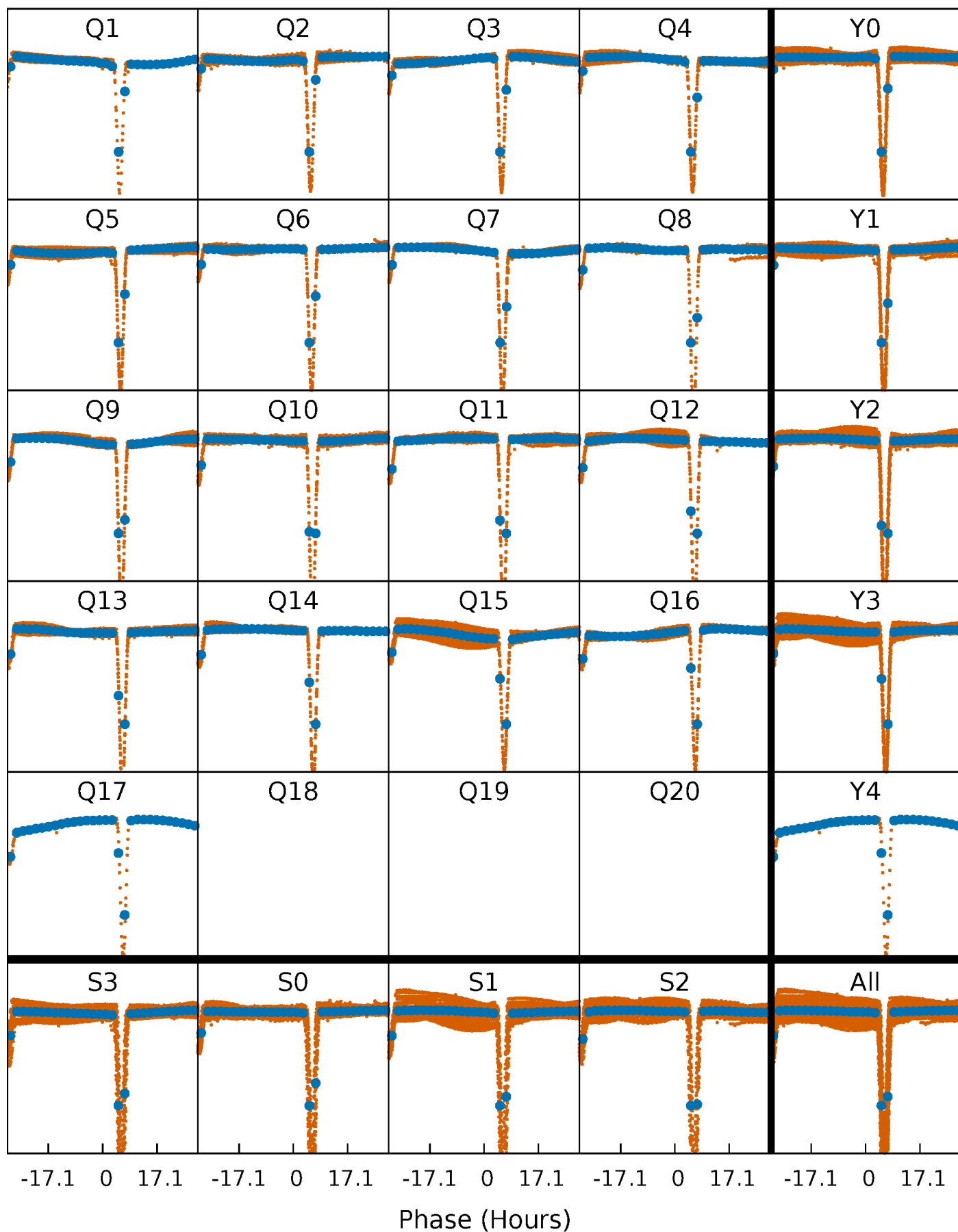


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



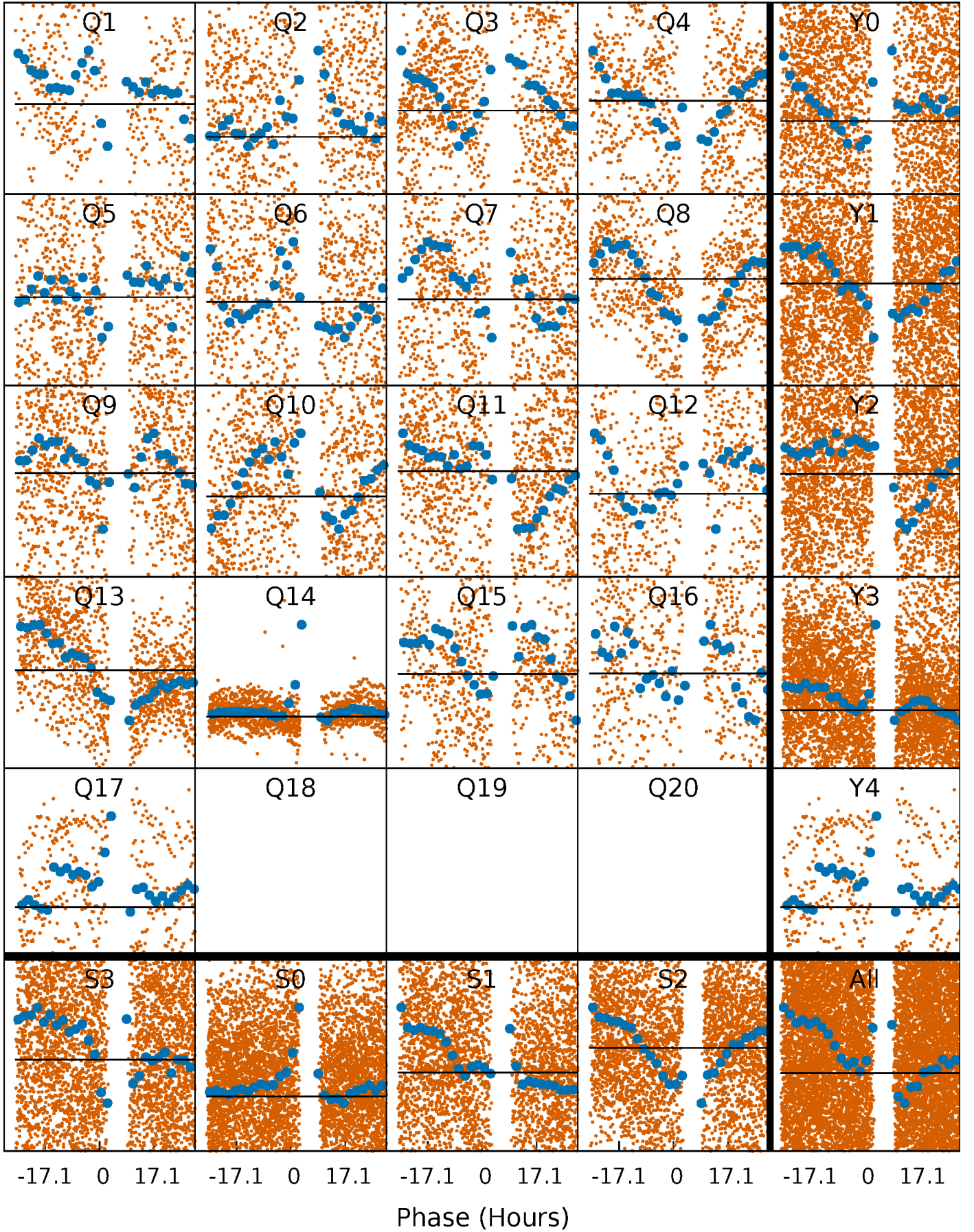
PDC Quarter-Phased Transit Curves

TCE 011228612-03 P= 5.960772 Days $T_0=137.157468$ (BKJD)



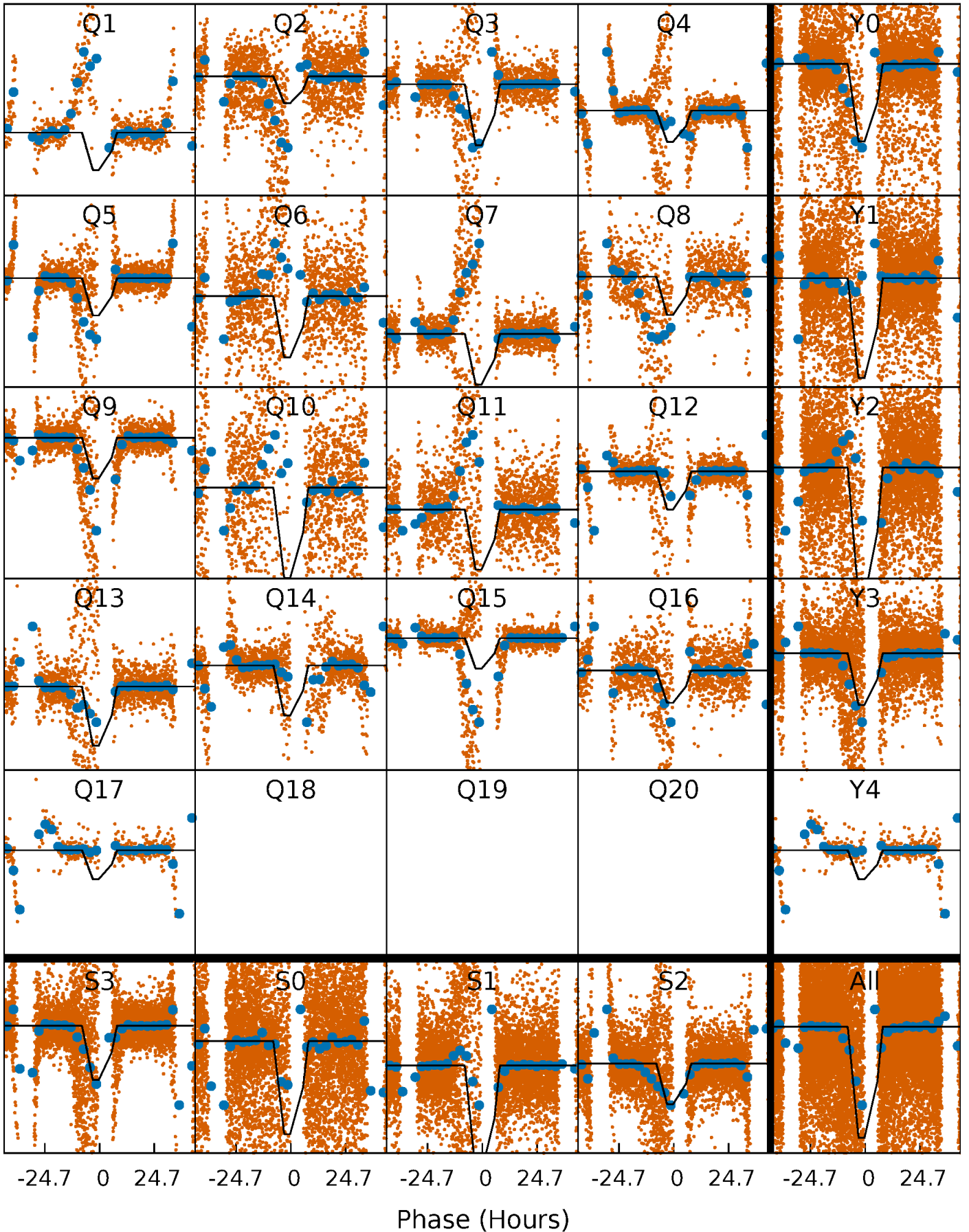
DV Quarter-Phased Transit Curves

TCE 011228612-03 P= 5.960772 Days $T_0=137.157468$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

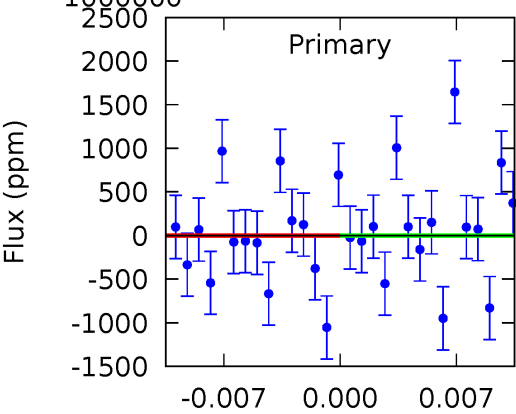
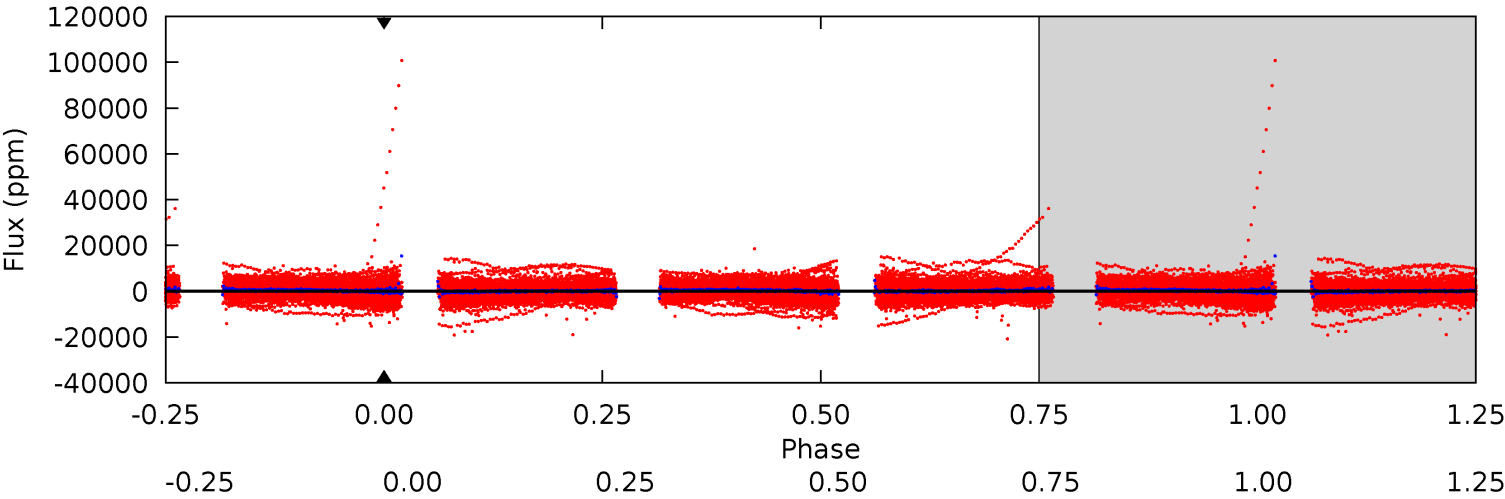
TCE 011228612-03 P= 5.960772 Days $T_0=137.296234$ (BKJD)



DV Model-Shift Uniqueness Test

011228612-03, P = 5.960772 Days, E = 131.196696 Days

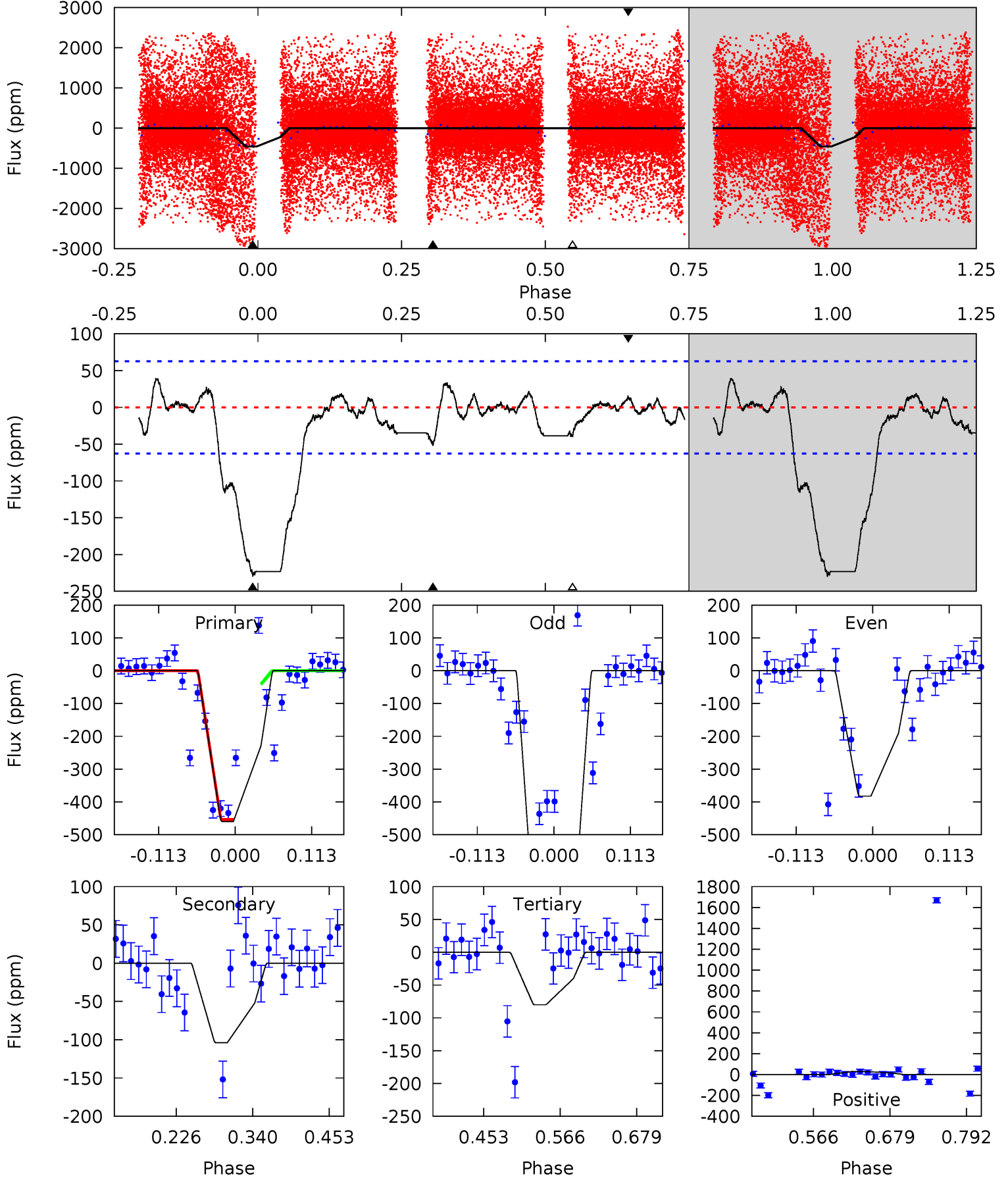
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011228612-03, P = 5.960772 Days, E = 131.335462 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	3.75	2.89	1.05	4.54	1.58	0.94	13.7	15.5	0.86	2.70	11.1	1.32	0.15	14.6



Stellar Parameters For KIC 011228612

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6065^{+164}_{-182}	$4.377^{+0.124}_{-0.186}$	$-0.300^{+0.300}_{-0.300}$	$1.047^{+0.309}_{-0.167}$	$0.954^{+0.143}_{-0.107}$	$1.170^{+0.657}_{-0.567}$
	+3%/-3%	+3%/-4%	+100%/-100%	+30%/-16%	+15%/-11%	+56%/-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 011228612-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$16.22^{+11.60}_{-10.00}$	1524^{+117}_{-83}	-3467^{+15160}_{-7821}	$-9.900^{+1355.249}_{-1239.049}$
Alt.	-52 ± 14	$10.69^{+10.00}_{-6.93}$	1533^{+111}_{-87}	2427^{+945}_{-4250}	$0.940^{+7.133}_{-0.686}$

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 $A_{obs} \gg 1.0$

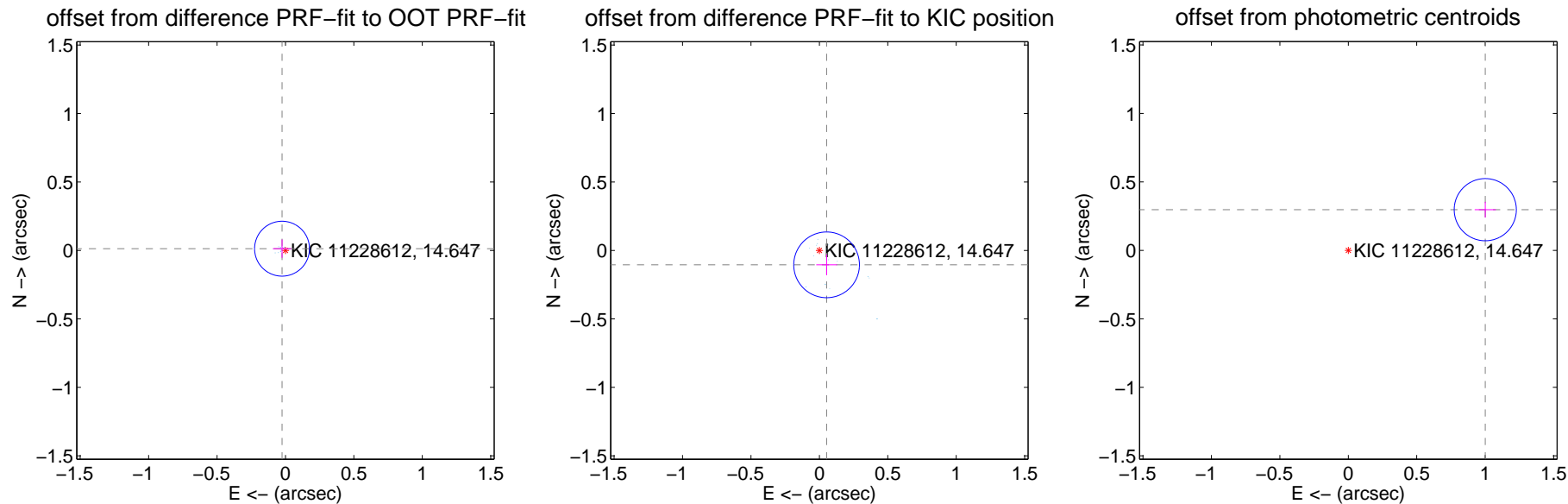
DV Centroid Data

Supplemental centroid analysis for 011228612-03. Kepler magnitude: 14.65. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

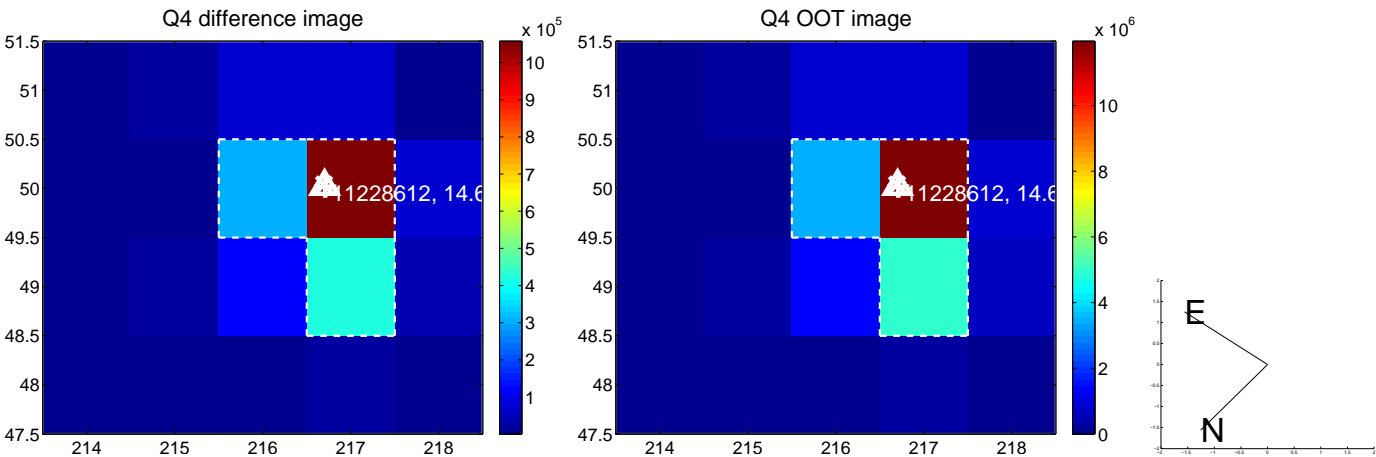
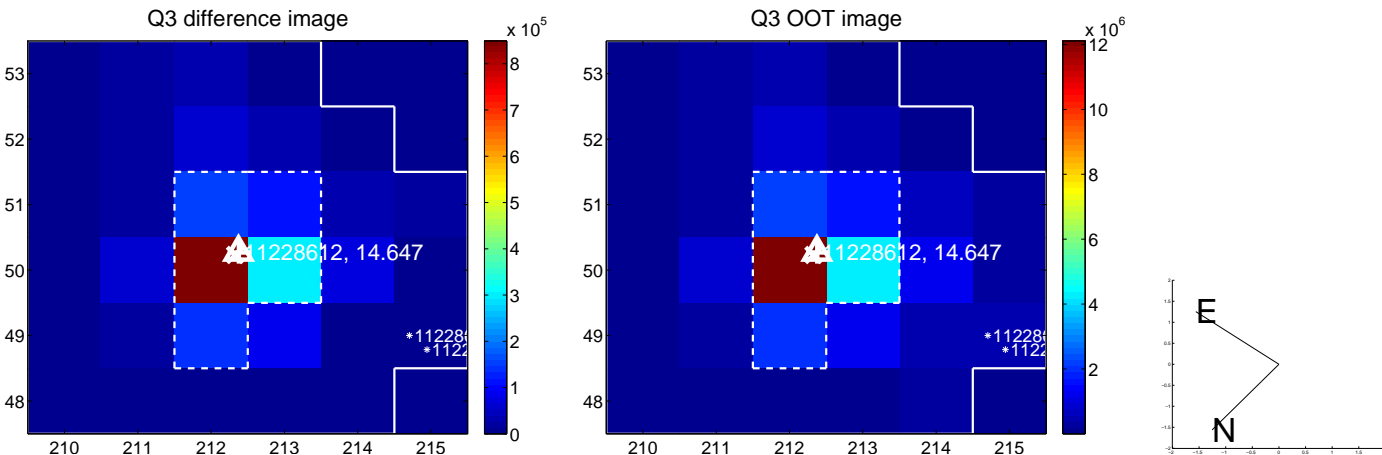
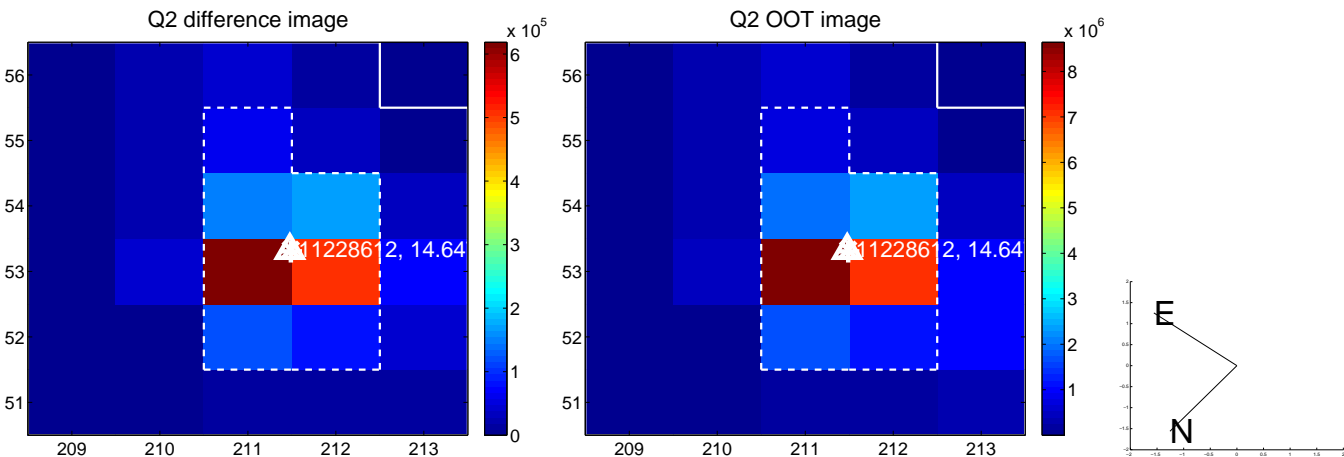
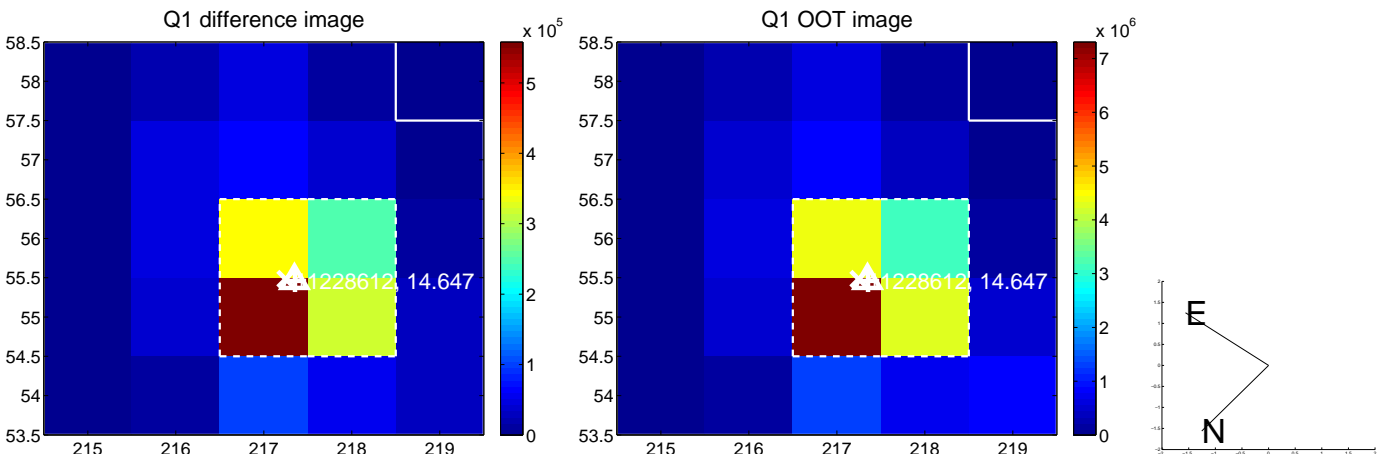
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.028 ± 0.067	0.42	0.025 ± 0.067	0.013 ± 0.067
PRF-fit source offset from KIC position	0.118 ± 0.080	1.47	-0.053 ± 0.076	-0.105 ± 0.076
photometric centroid source offset	1.04 ± 0.08	13.79	-1.00 ± 0.08	0.30 ± 0.06

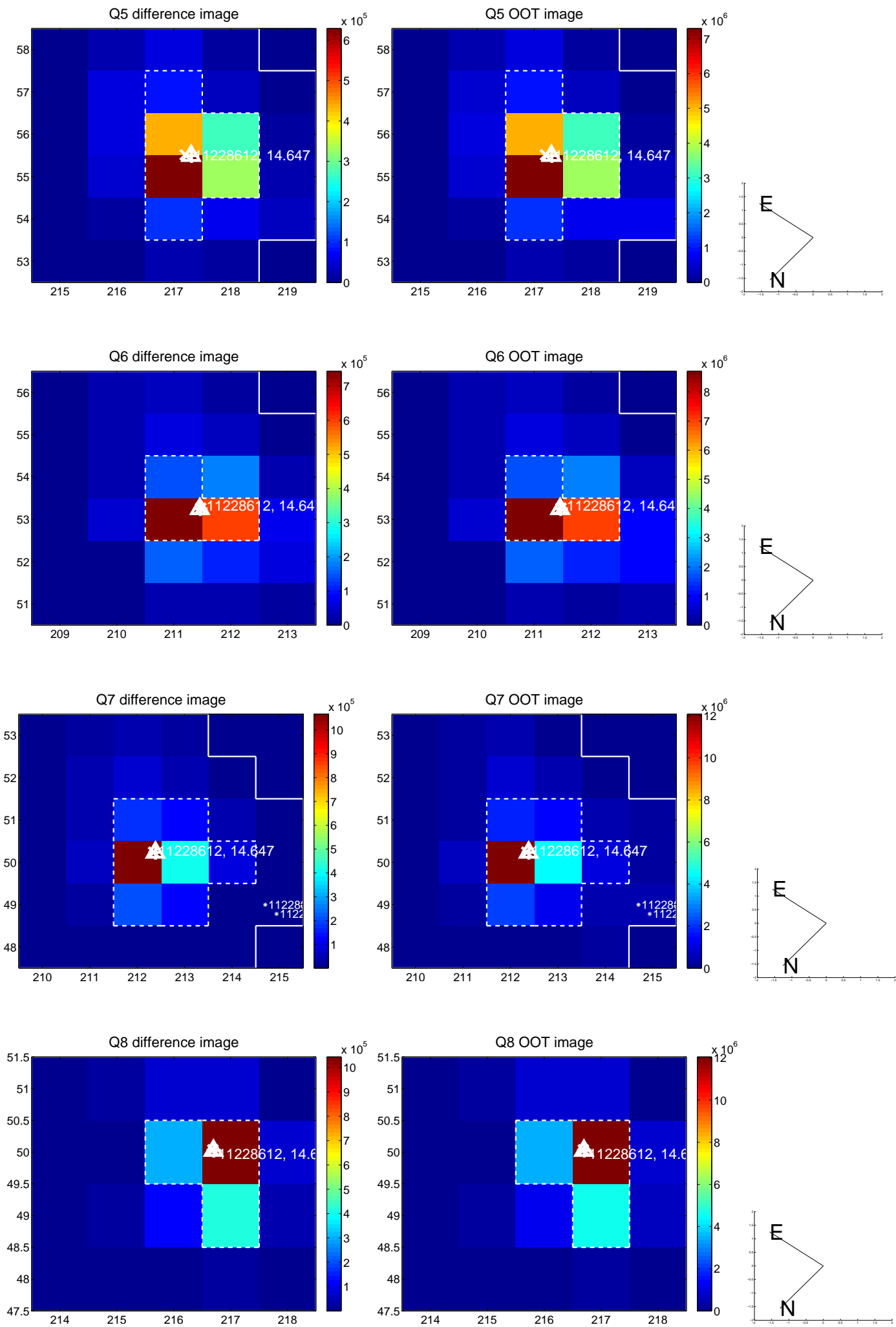


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

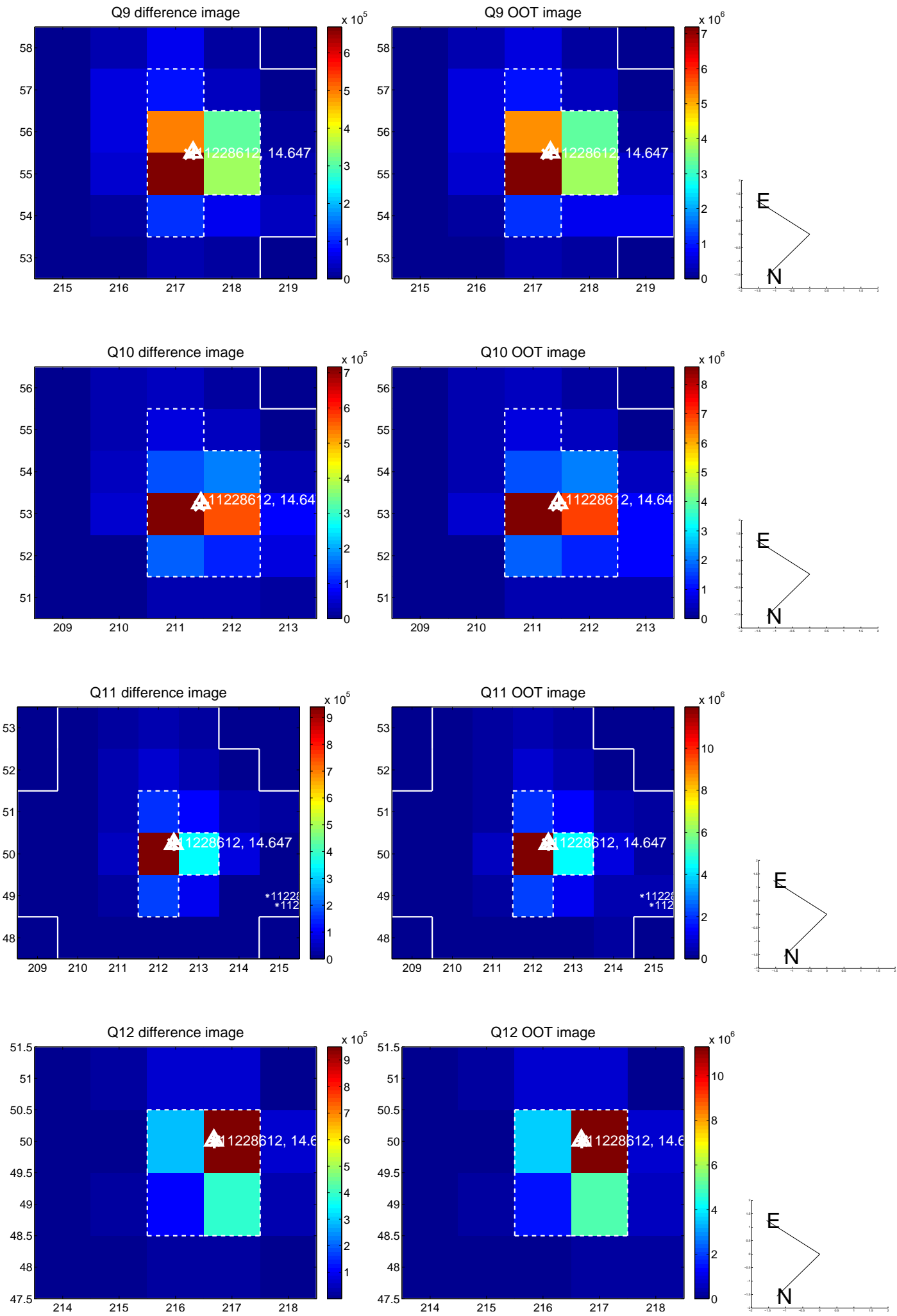
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



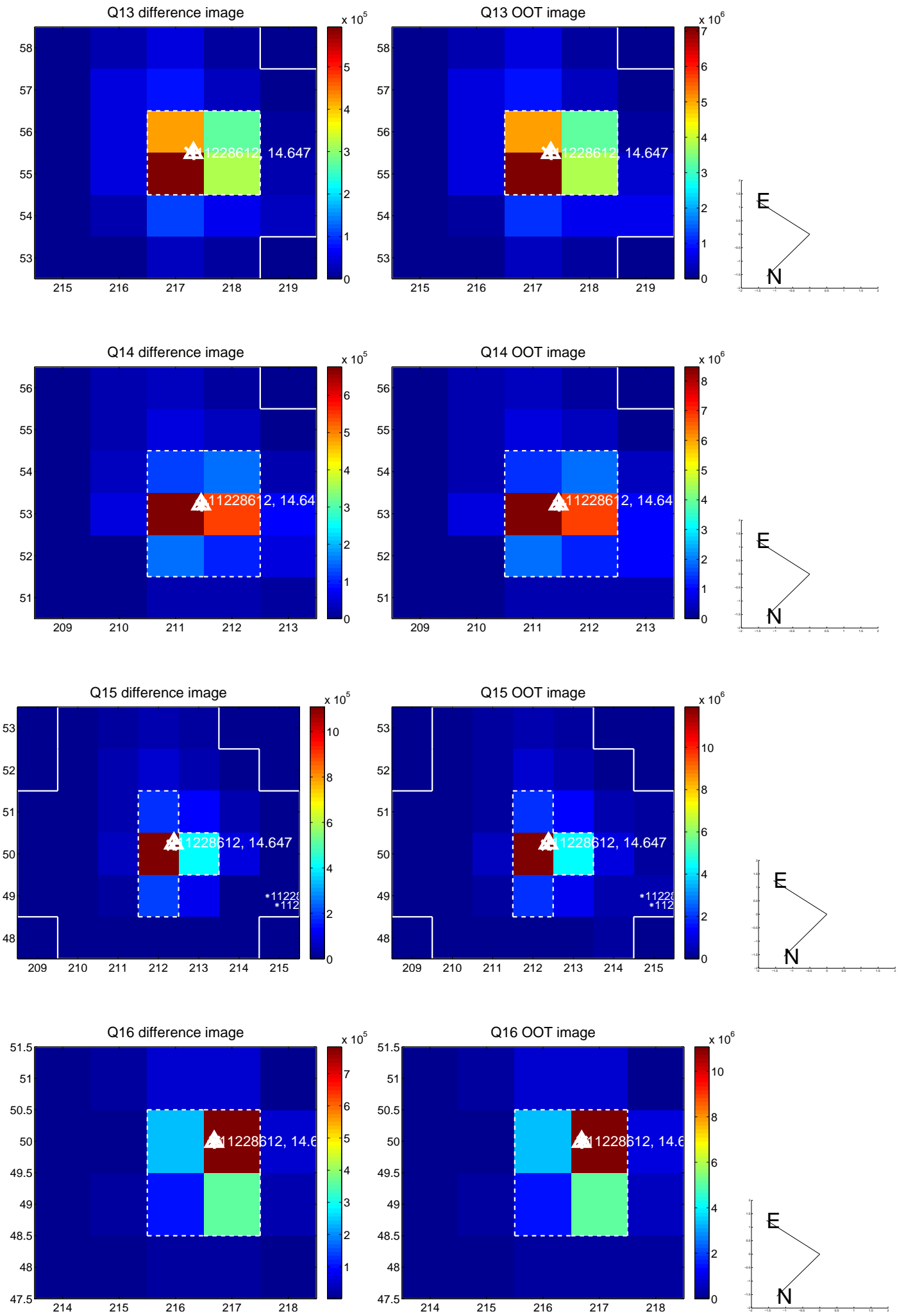
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



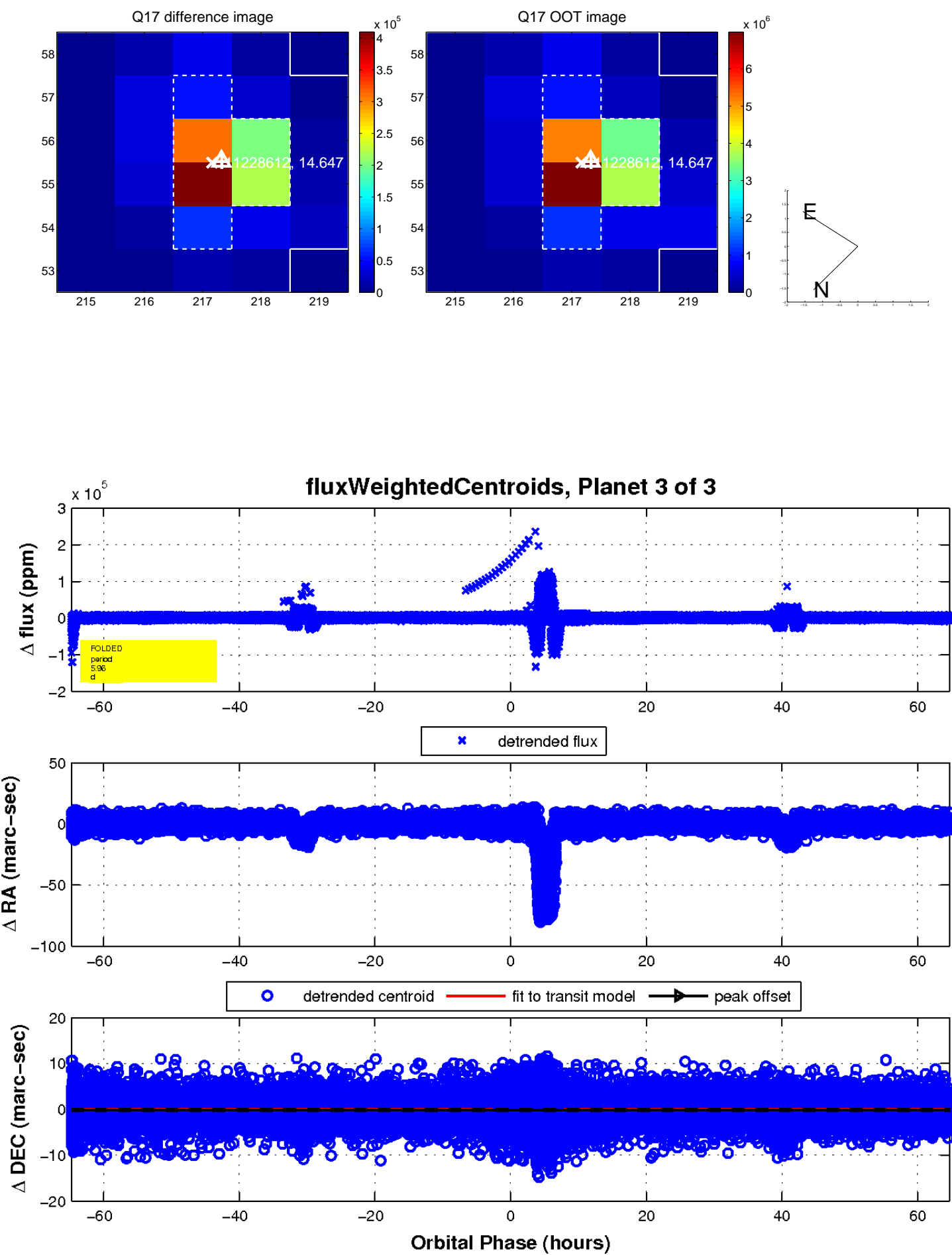
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

