

KIC 006029214

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})
006029214-01	OBS	No	1.638138	131.980767	40543.3	2.500	732.8	964.2	1.29	6175	41.48	2595.68
006029214-02	OBS	No	0.819082	131.954944	22365.7	2.000	1903.6	-1.0	1.29	6175	19.29	6540.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006029214-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT
006029214-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SAME_NTL_PERIOD—CENT_NOFITS

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

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

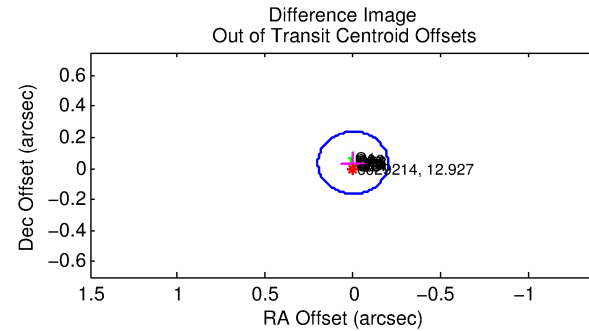
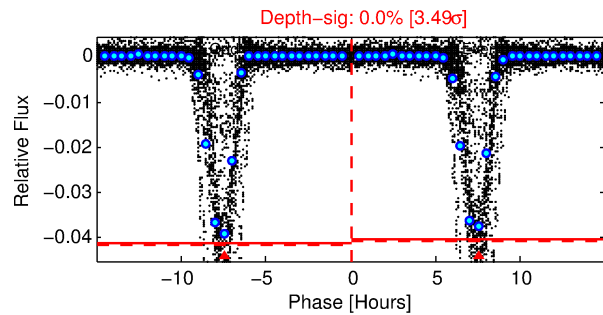
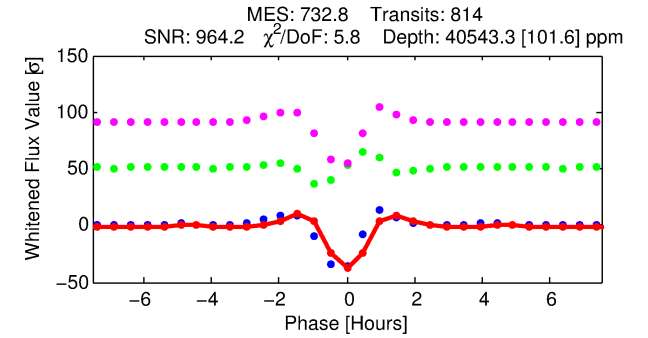
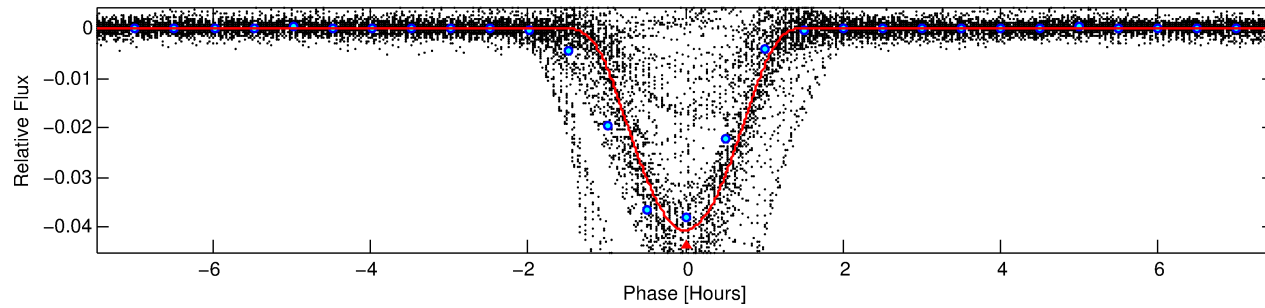
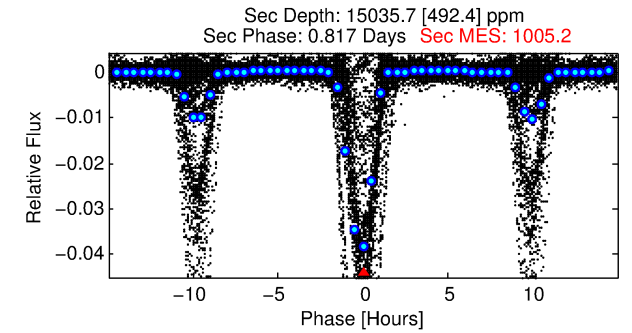
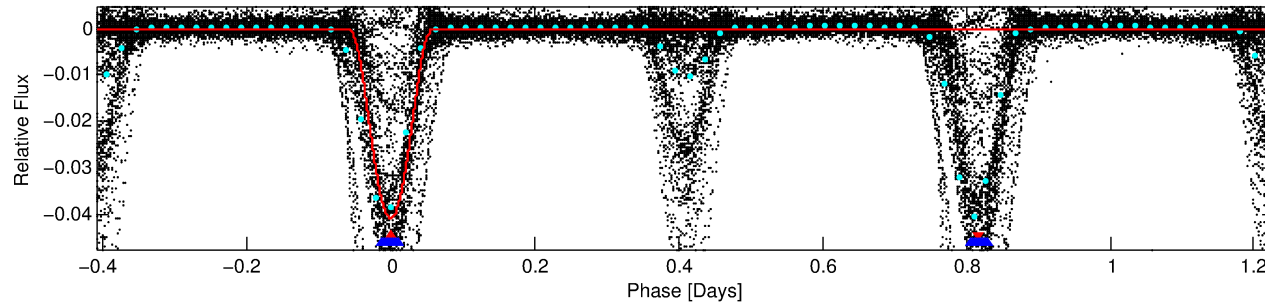
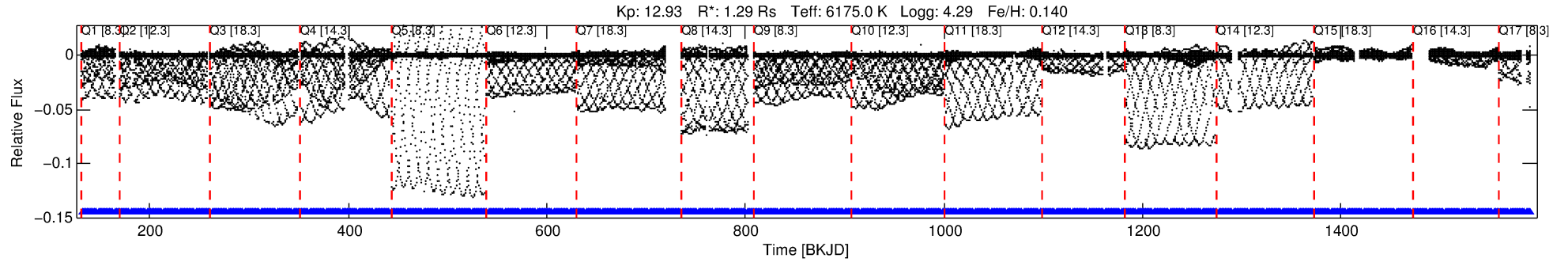
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006029214-01

No Significant Match Found

DV One-Page Summary

KIC: 6029214 Candidate: 1 of 2 Period: 1.638 d



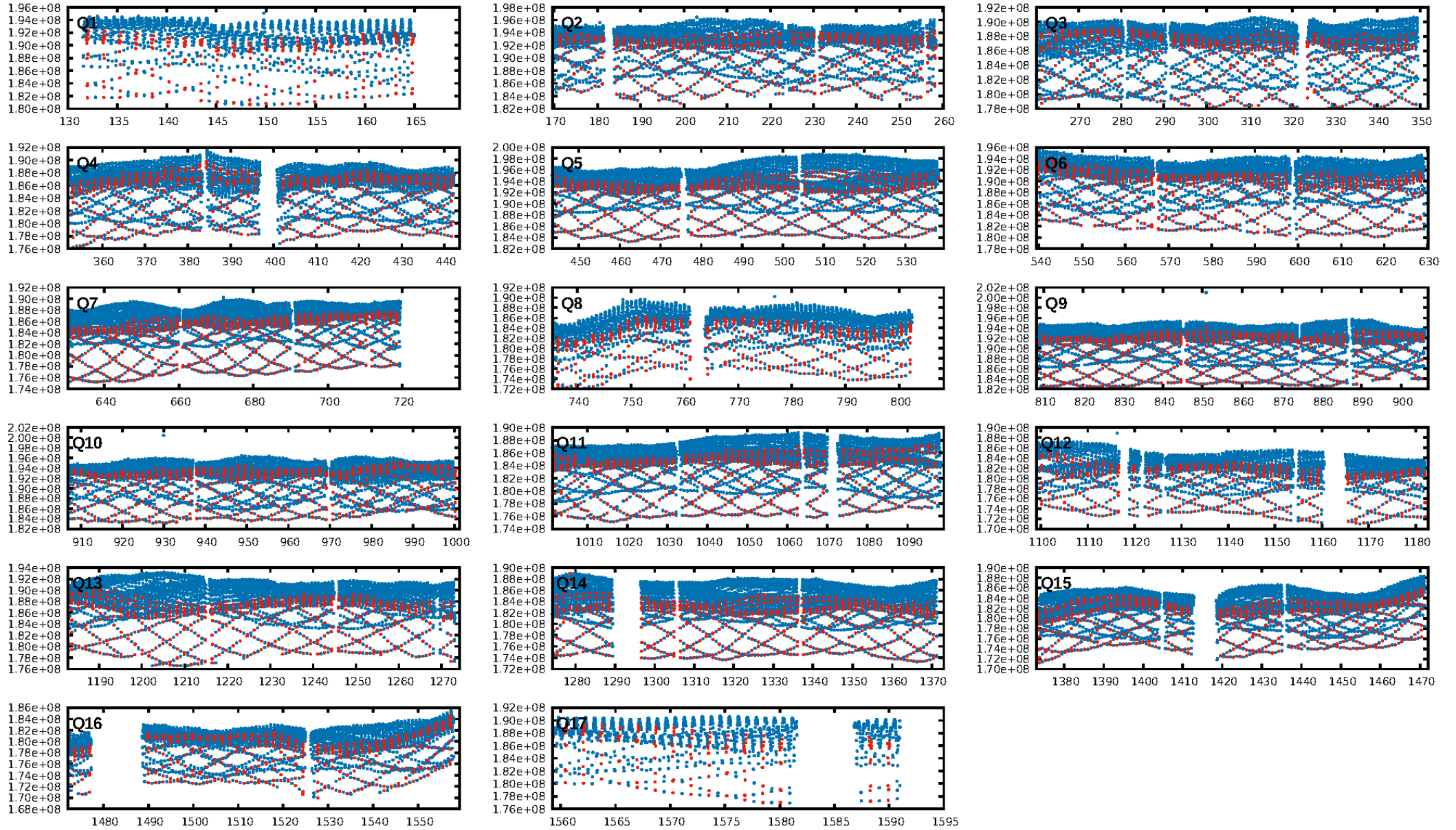
DV Fit Results:

Period = 1.63814 [0.00000] d
Epoch = 131.9808 [0.0000] BKJD
Rp/R* = 0.2951 [0.0206]
a/R* = 4.46 [0.01]
b = 0.96 [0.03]
Seff = 2595.68 [1075.48]
Teff = 1820 [189] K
Rp = 41.48 [13.20] Re
a = 0.0289 [0.0075] AU
Ag = 4.00 [1.63] [1.84σ]
Teffp = 3980 [217] K [7.52σ]

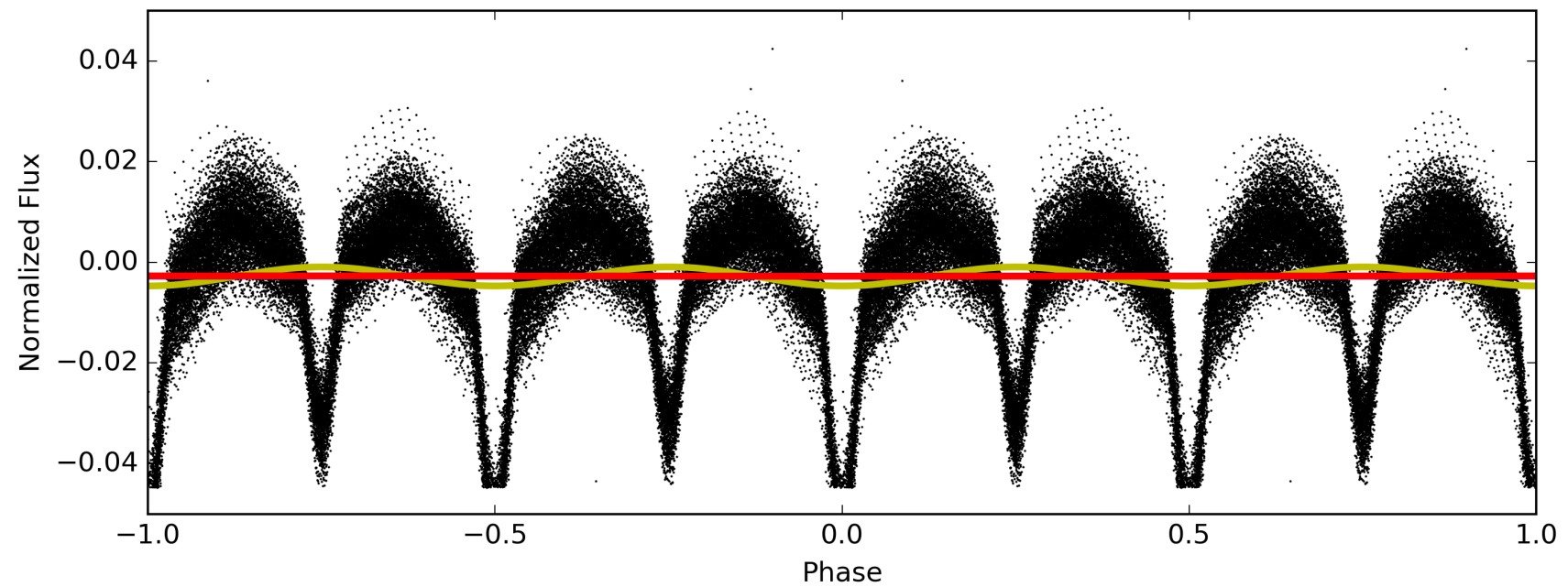
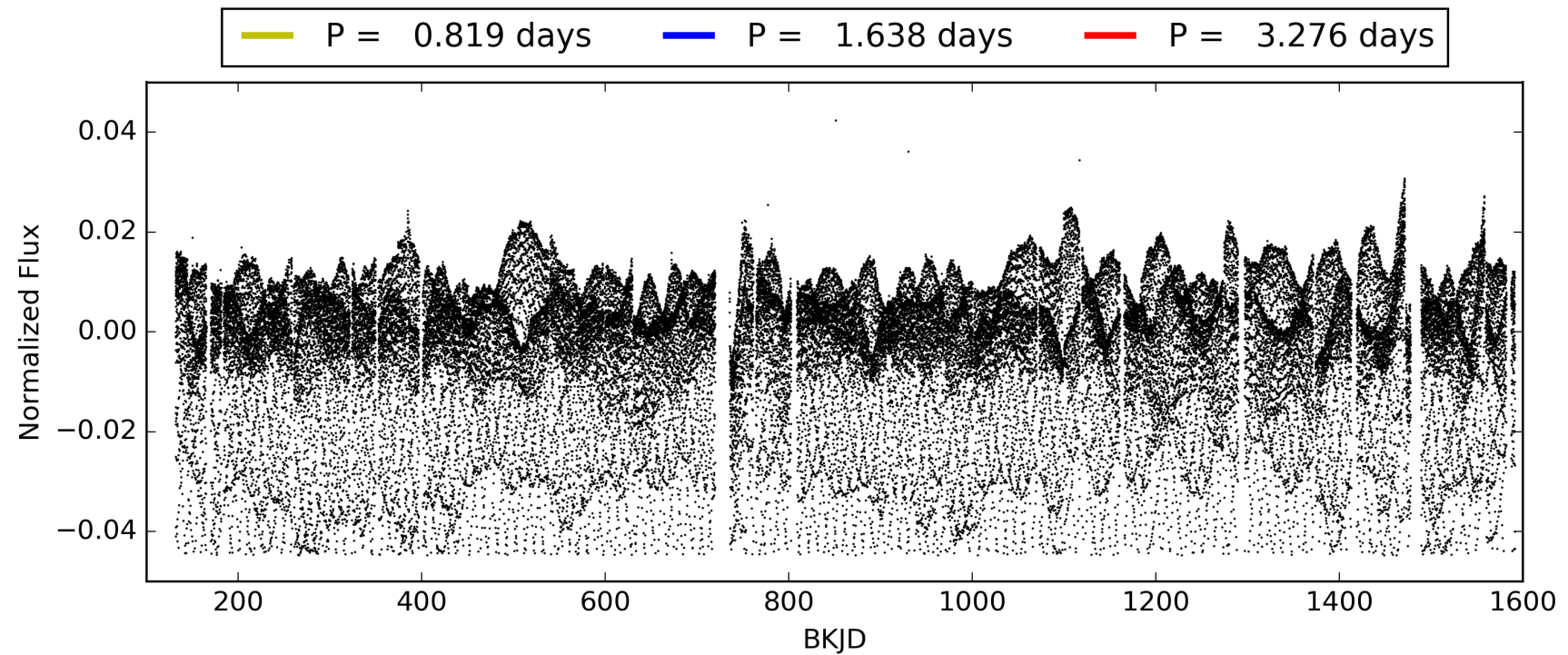
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.14σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [778/778]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.125 arcsec [112.43σ]
OotOffset-rm: 0.036 arcsec [0.55σ]
KicOffset-rm: 0.045 arcsec [0.66σ]
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]

TCE 006029214-01, PDC Light Curves

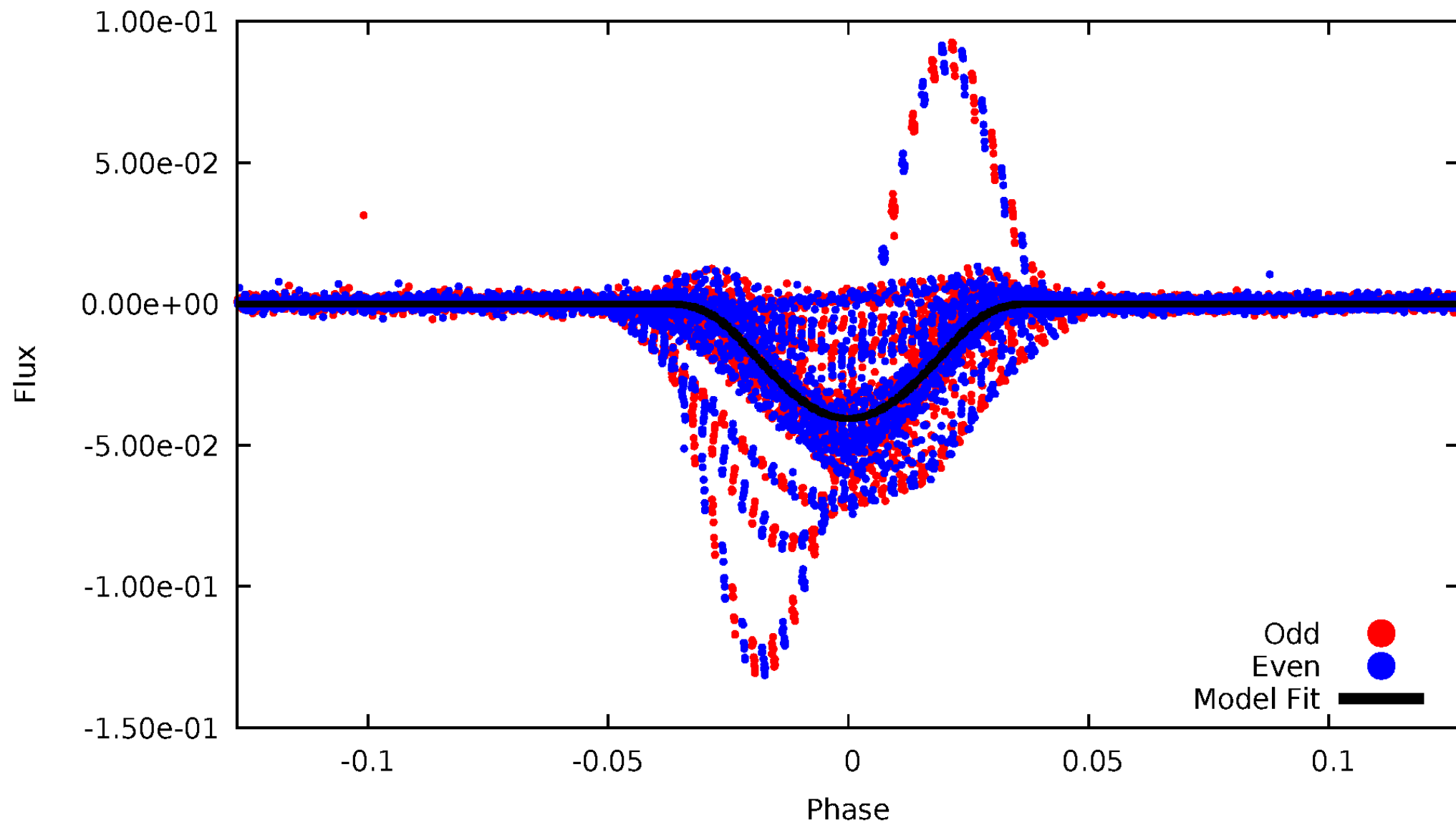


TCE 006029214-01



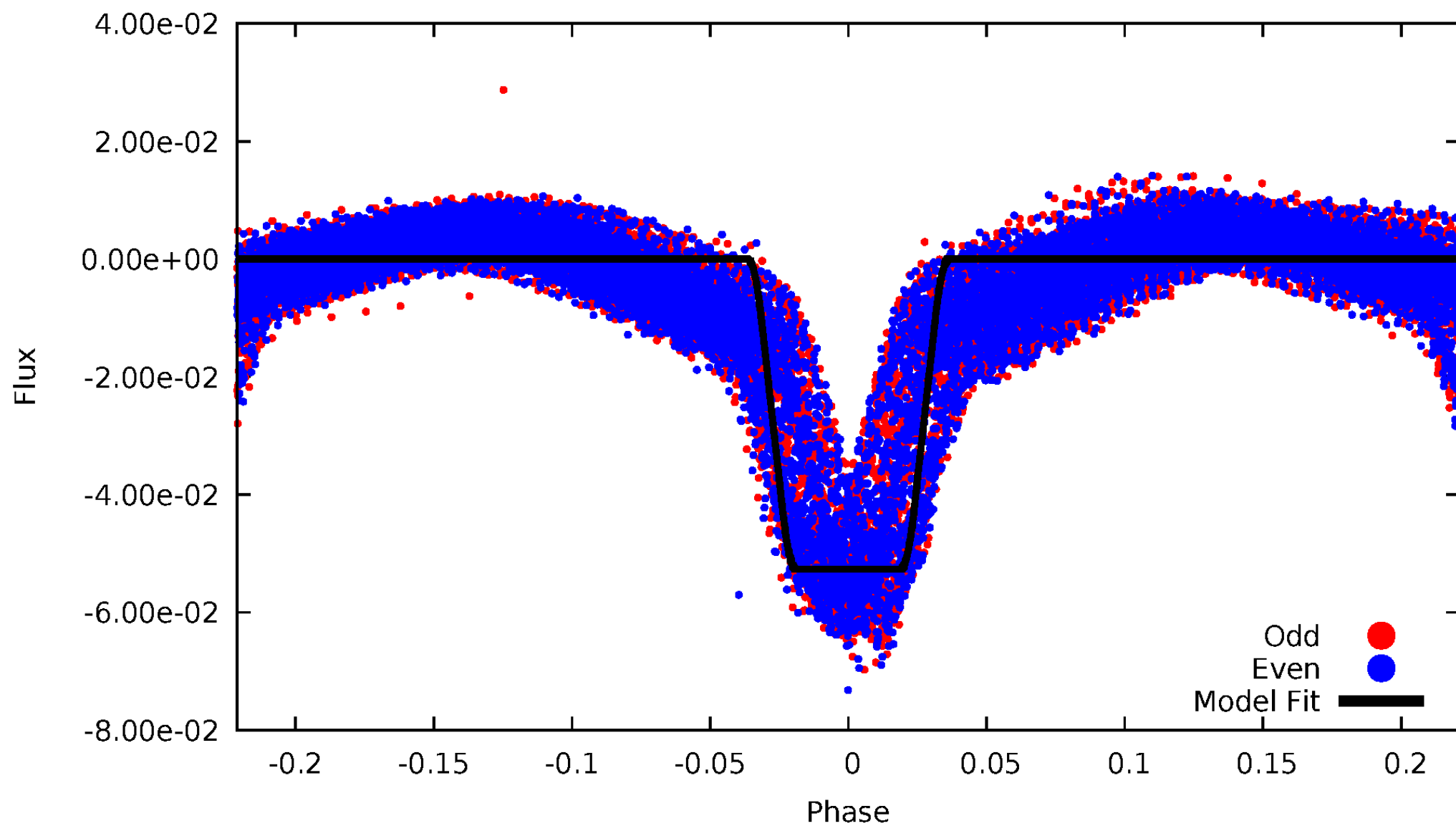
DV Odd/Even

TCE 006029214-01



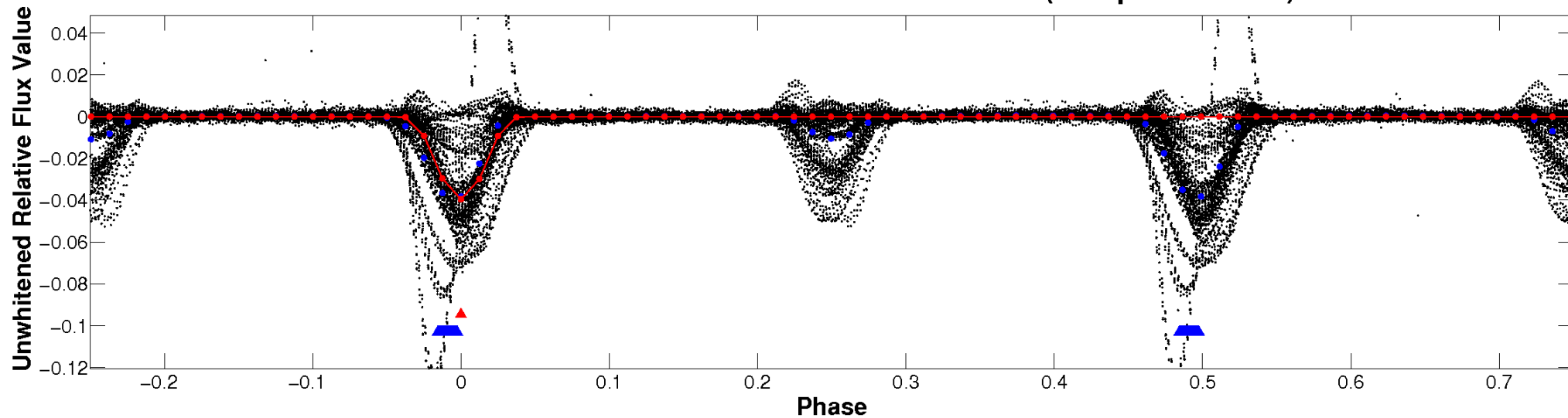
ALT Odd/Even

TCE 006029214-01

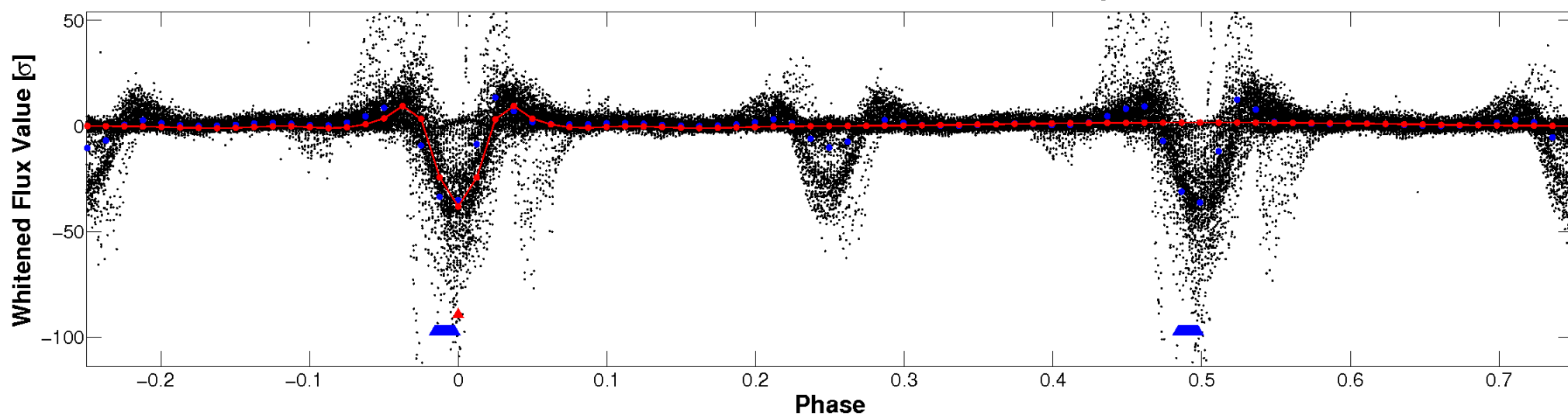


Non-Whitened Vs. Whitened Light Curve

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

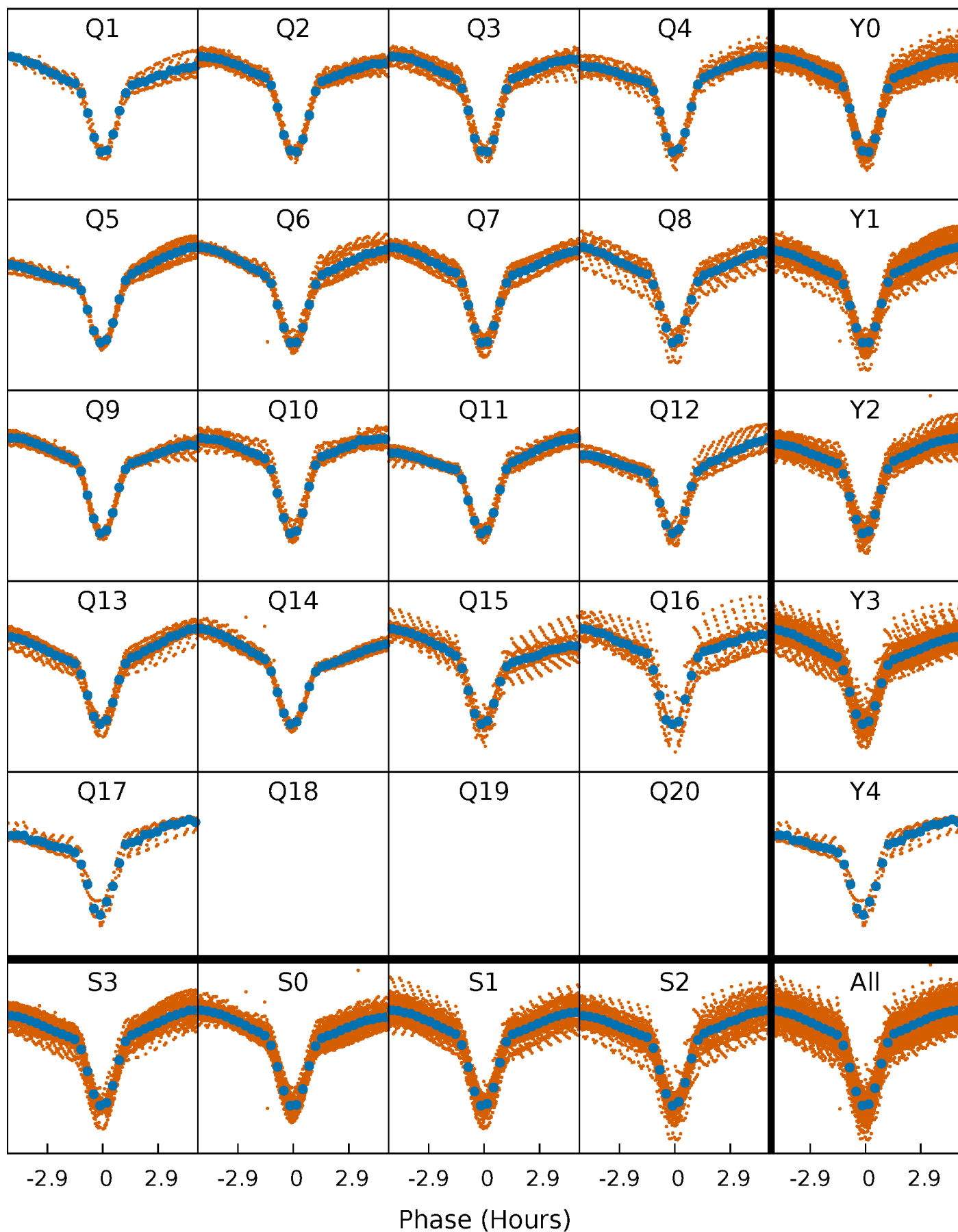


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



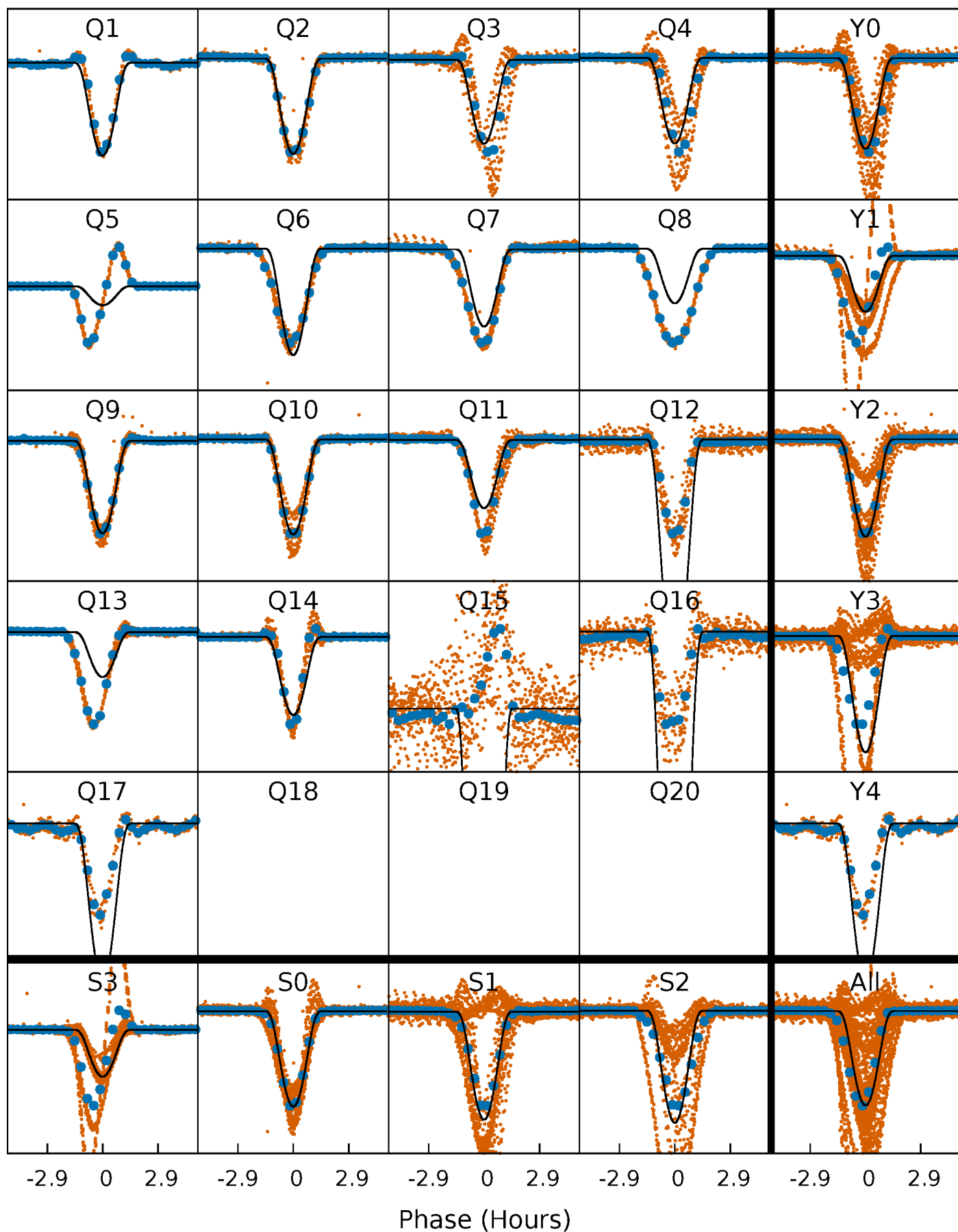
PDC Quarter-Phased Transit Curves

TCE 006029214-01 P= 1.638138 Days $T_0=131.980767$ (BKJD)



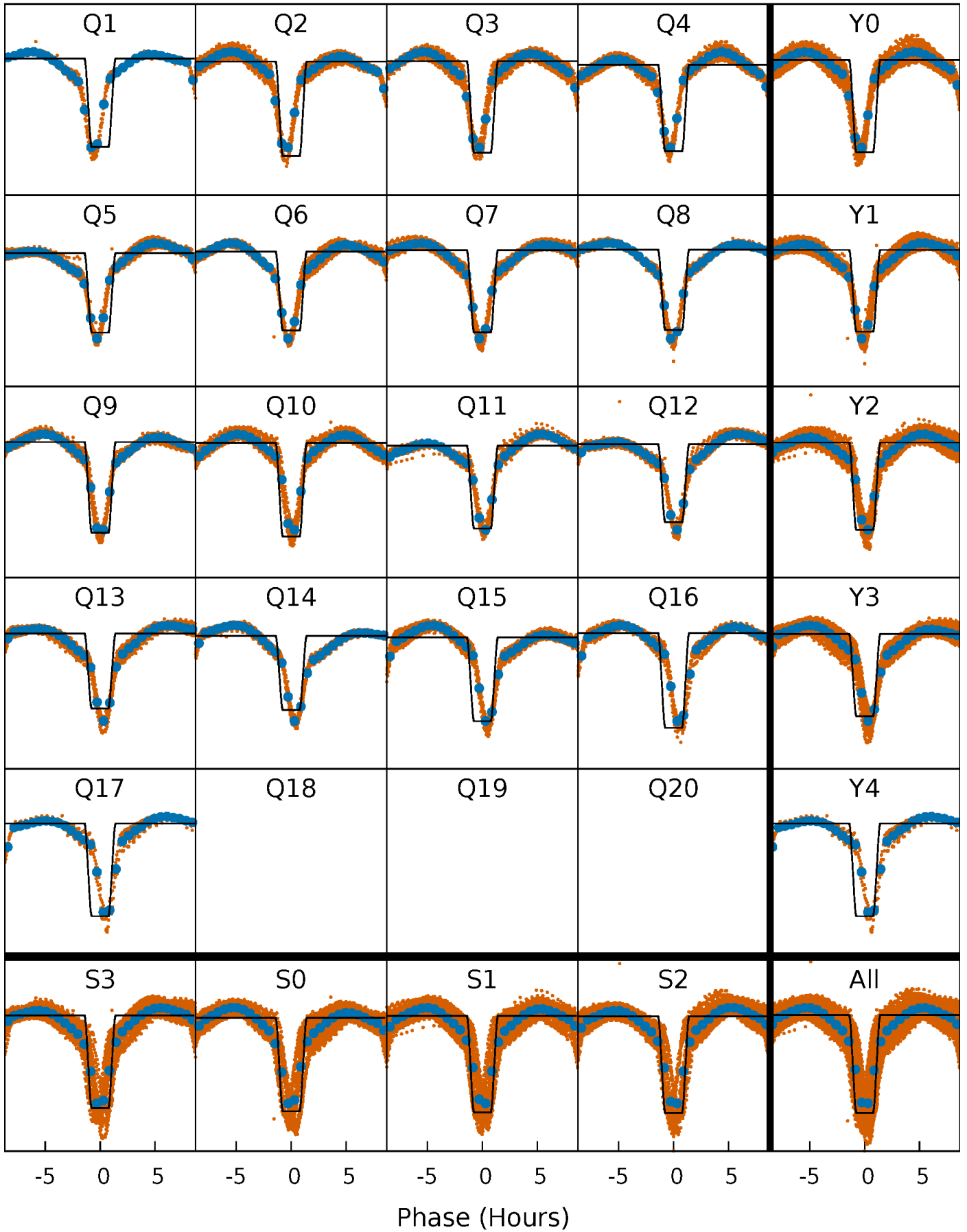
DV Quarter-Phased Transit Curves

TCE 006029214-01 P= 1.638138 Days $T_0=131.980767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

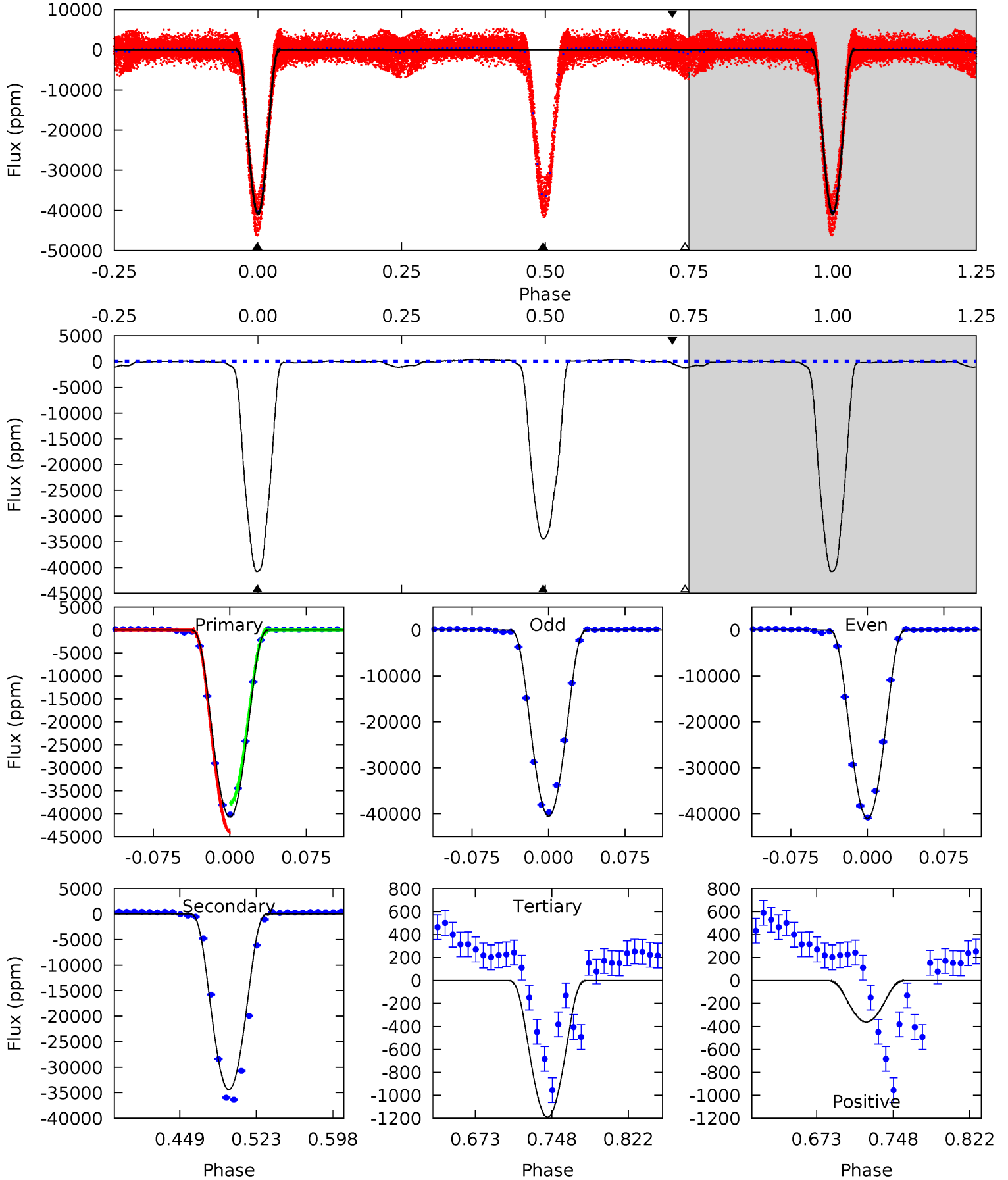
TCE 006029214-01 P= 1.638078 Days $T_0=132.005825$ (BKJD)



DV Model-Shift Uniqueness Test

006029214-01, P = 1.638138 Days, E = 130.342629 Days

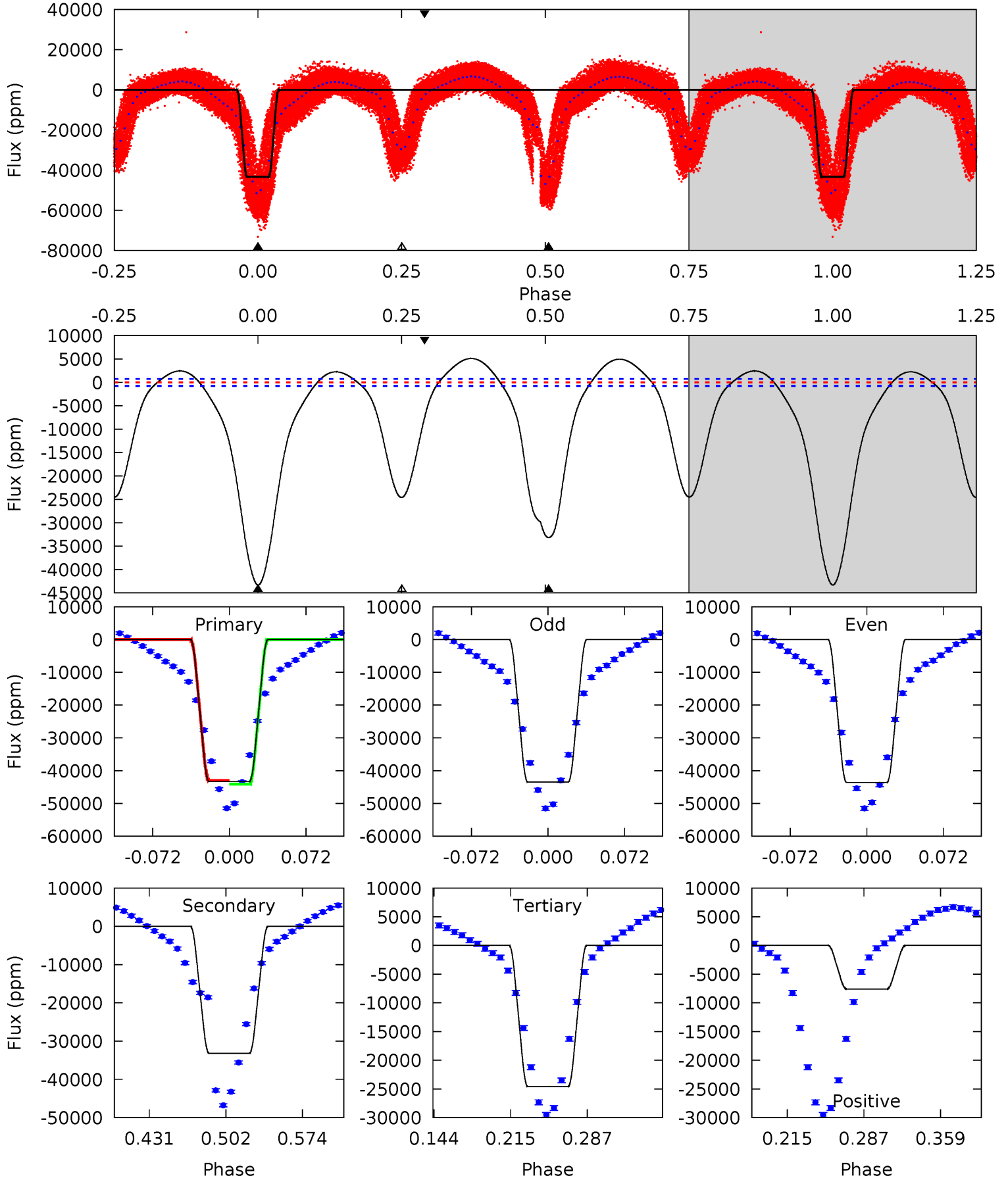
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1435	1210	41.9	-12.7	4.63	1.78	11.7	1393	1447	1168	1223	9.41	1.01	0.01	0



Alt Model-Shift Uniqueness Test

006029214-01, P = 1.638078 Days, E = 130.367747 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
270.9	207.4	153.8	-47.4	4.63	1.80	53.4	117.1	318.3	53.7	254.8	0.35	0.98	0.11	3.27



Stellar Parameters For KIC 006029214

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6175^{+190}_{-253}	$4.295^{+0.112}_{-0.208}$	$0.140^{+0.200}_{-0.300}$	$1.288^{+0.400}_{-0.234}$	$1.197^{+0.164}_{-0.180}$	$0.790^{+0.507}_{-0.418}$
	+3%/-4%	+3%/-5%	+143%/-214%	+31%/-18%	+14%/-15%	+64%/-53%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006029214-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-34395 ± 28	$42.63^{+7.89}_{-5.52}$	2575^{+197}_{-164}	4990^{+186}_{-234}	$8.882^{+2.696}_{-2.318}$
Alt.	-33181 ± 160	$33.36^{+5.18}_{-4.60}$	2576^{+202}_{-165}	5516^{+330}_{-275}	14^{+4}_{-3}

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 $A_{obs} \gg 1.0$

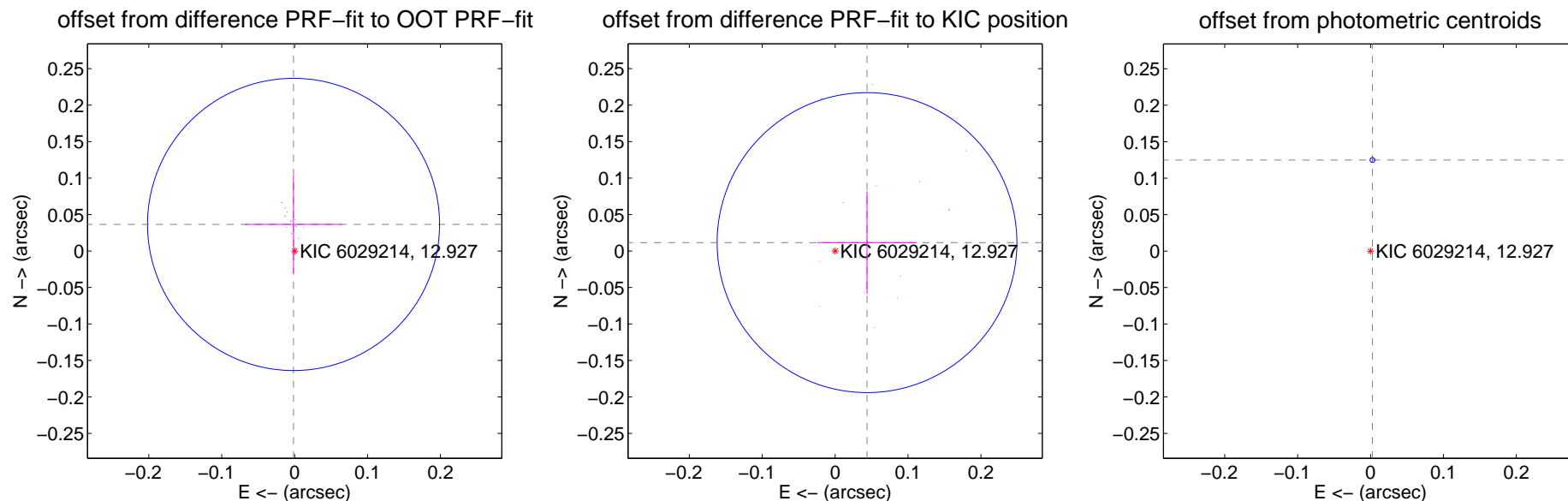
DV Centroid Data

Supplemental centroid analysis for 006029214-01. Kepler magnitude: 12.93. Transit SNR 964.23

There are 17 quarters with good PRF difference image offsets

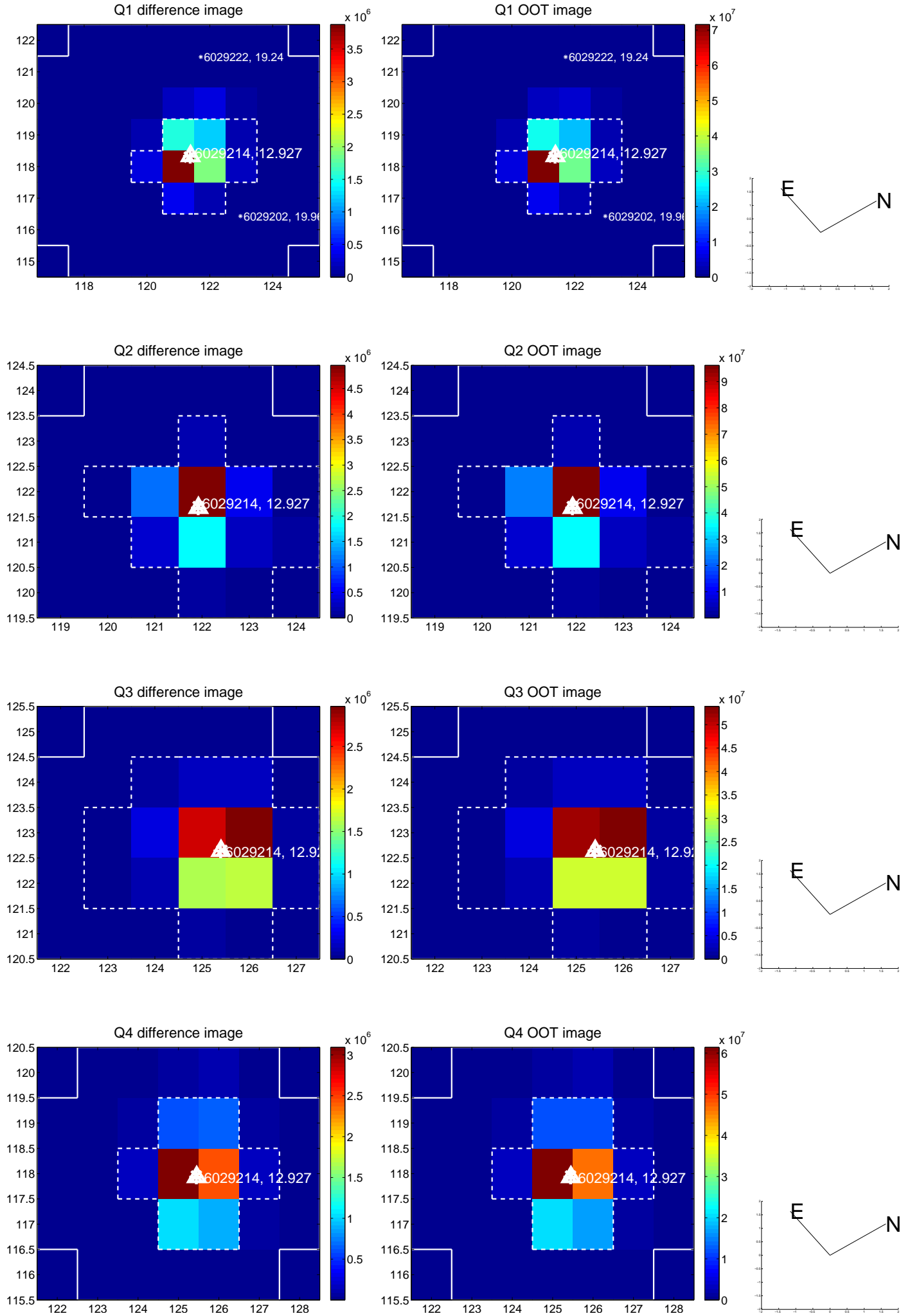
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.036 ± 0.067	0.55	0.002 ± 0.067	0.036 ± 0.067
PRF-fit source offset from KIC position	0.045 ± 0.069	0.66	-0.044 ± 0.068	0.012 ± 0.070
photometric centroid source offset	0.12 ± 0.00	112.43	-0.00 ± 0.00	0.12 ± 0.00

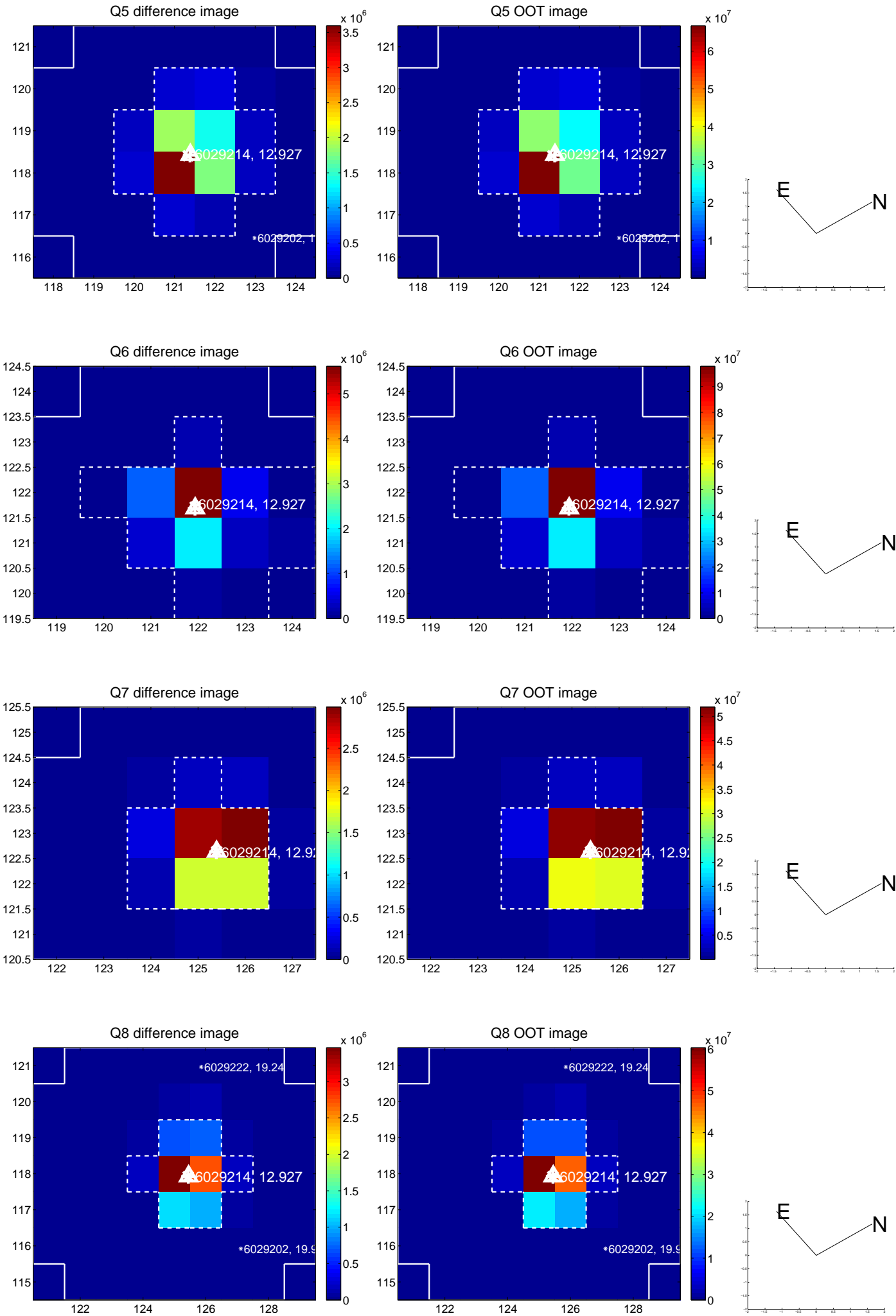


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

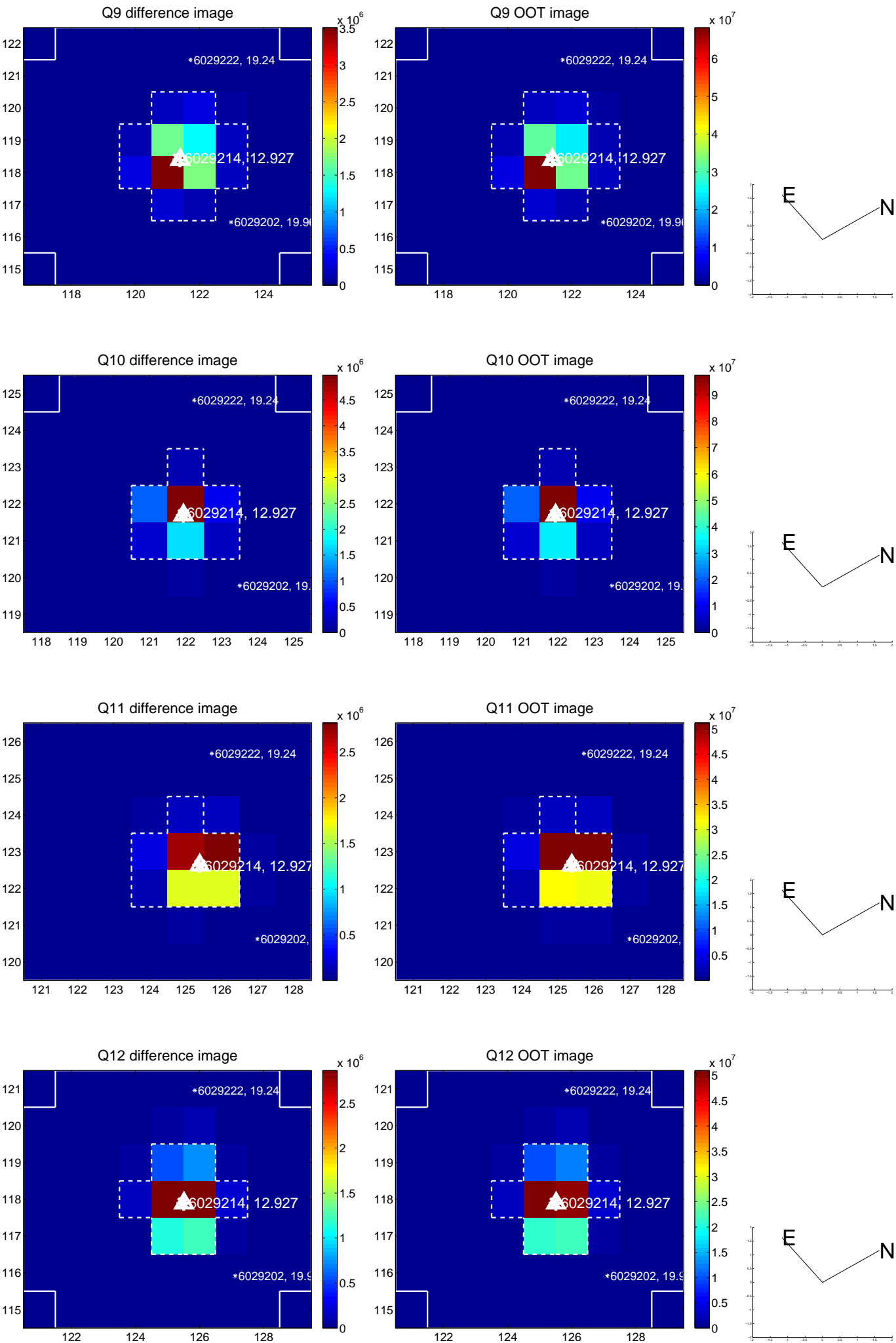
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



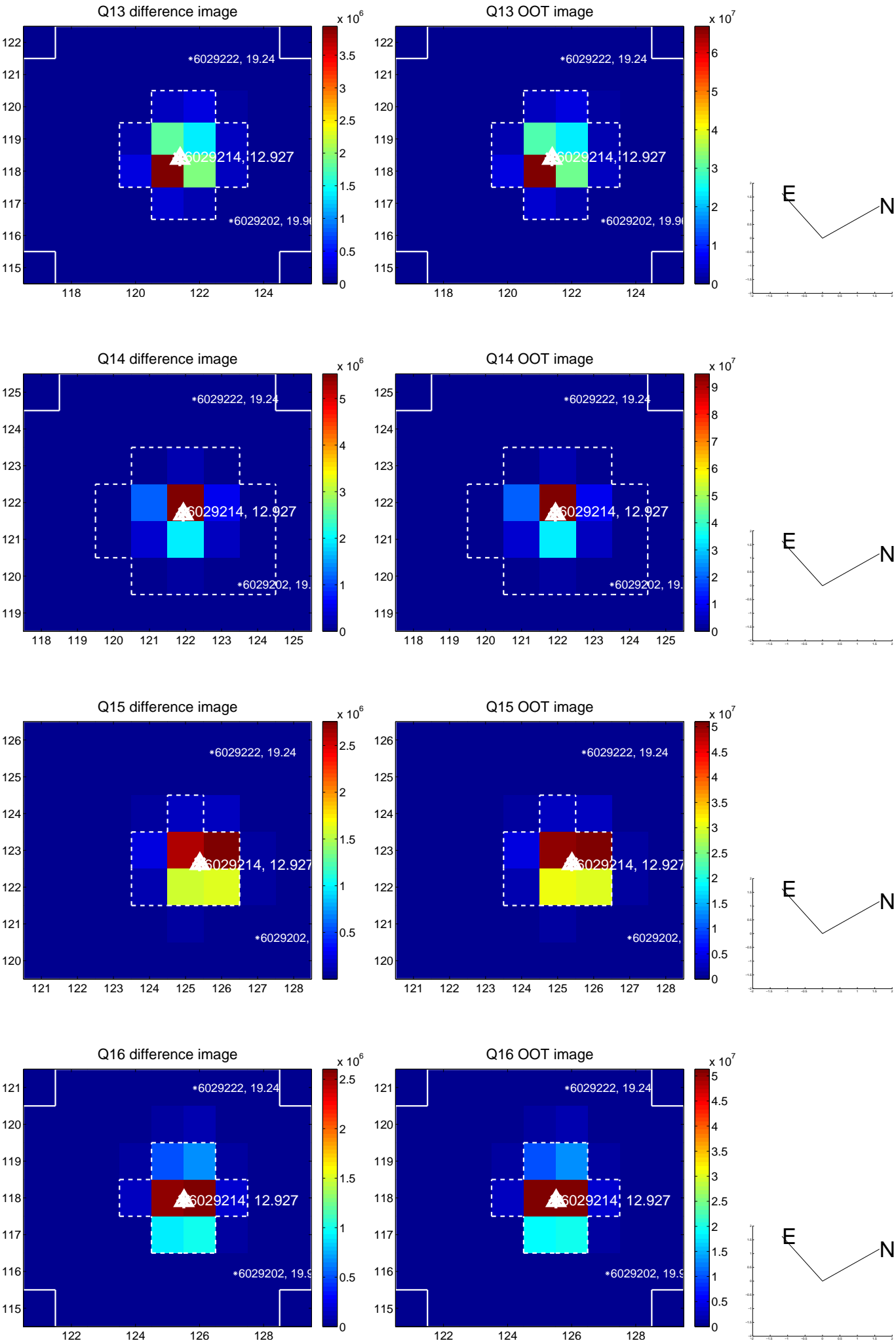
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



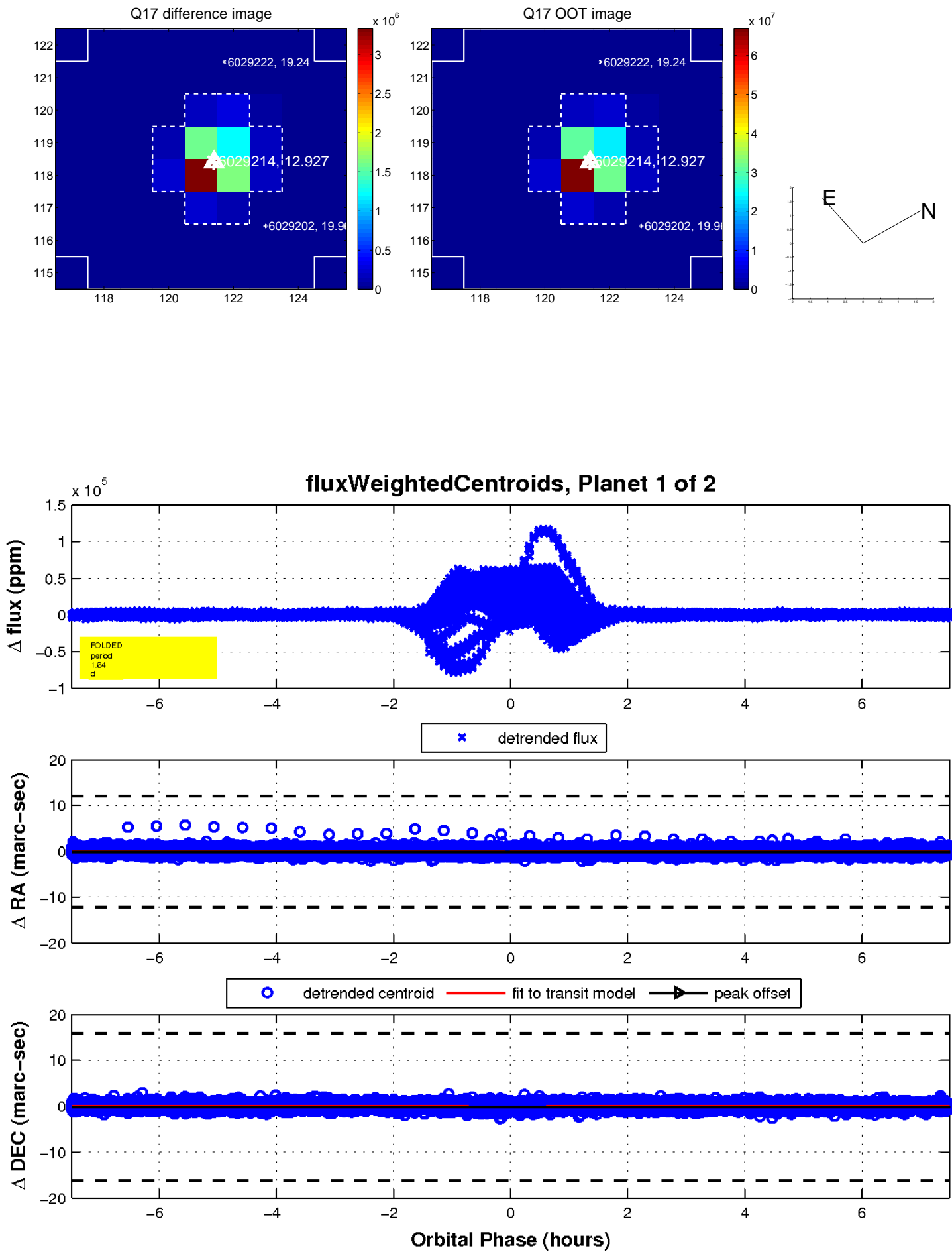
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

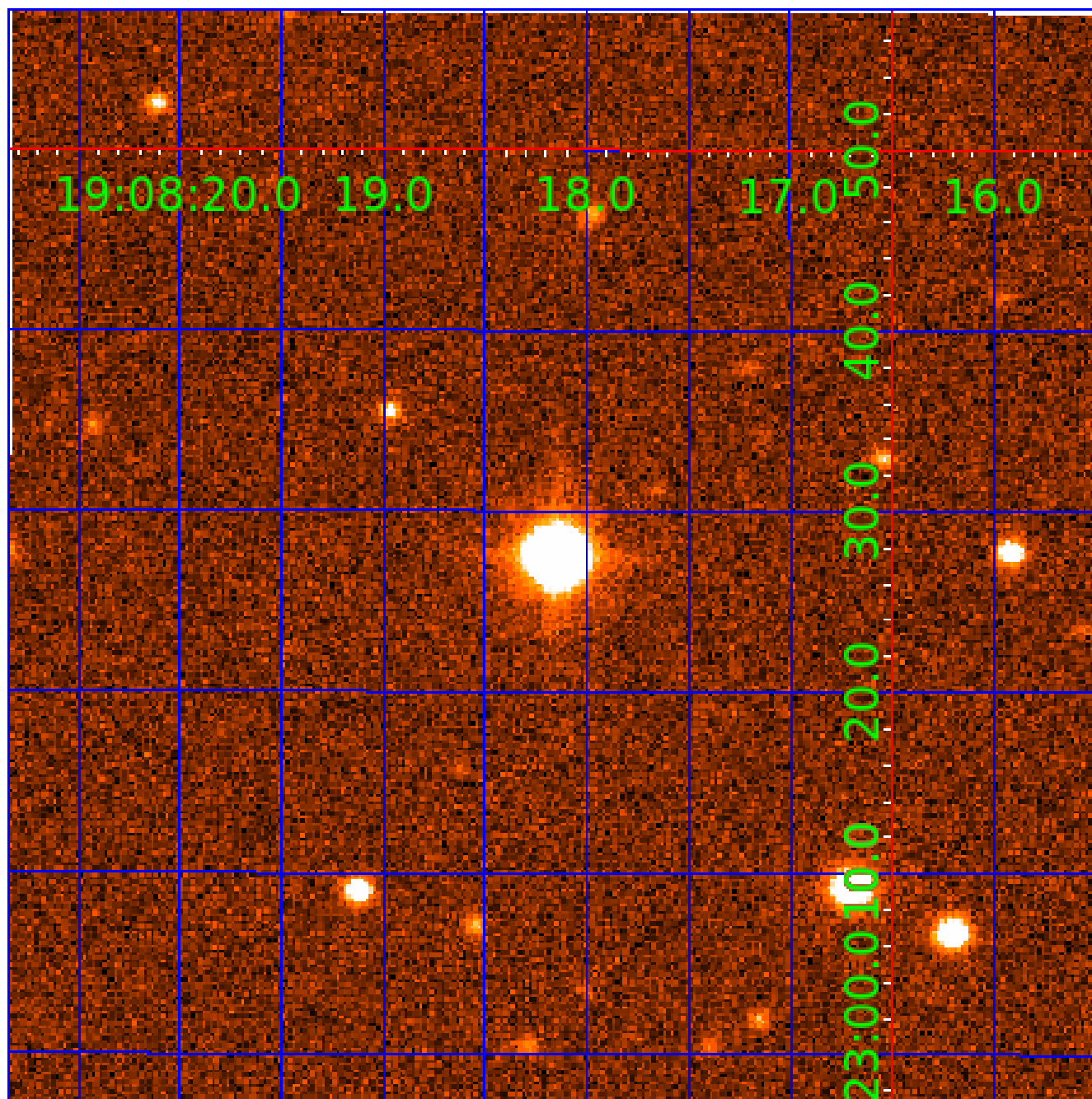


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006029214

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})
006029214-01	OBS	No	1.638138	131.980767	40543.3	2.500	732.8	964.2	1.29	6175	41.48	2595.68
006029214-02	OBS	No	0.819082	131.954944	22365.7	2.000	1903.6	-1.0	1.29	6175	19.29	6540.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006029214-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT
006029214-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SAME_NTL_PERIOD—CENT_NOFITS

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

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

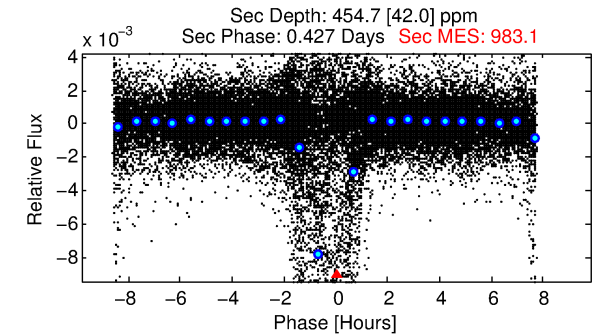
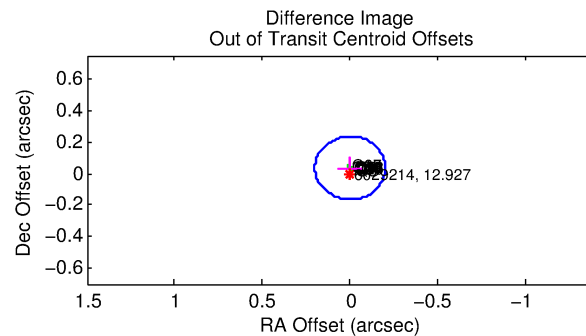
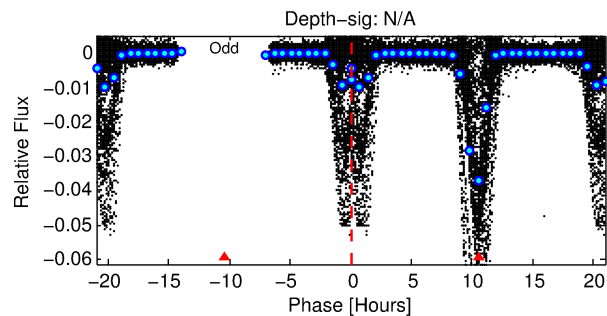
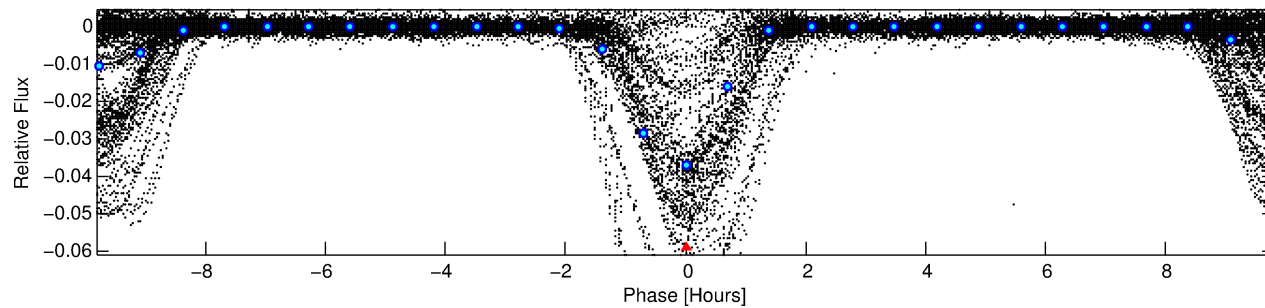
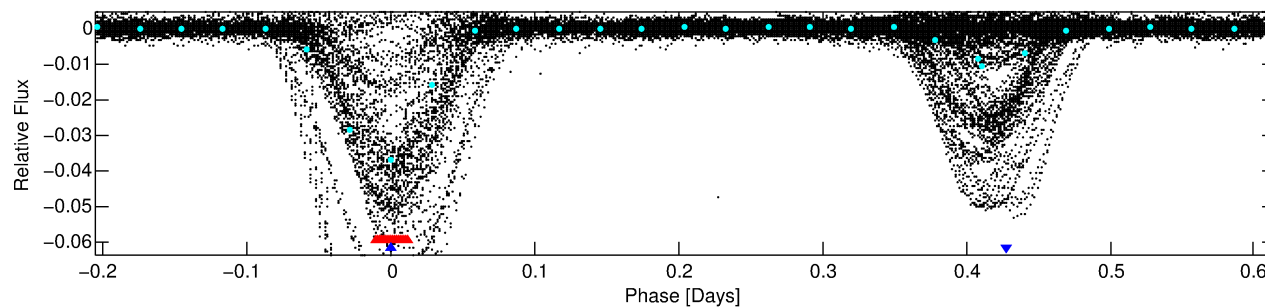
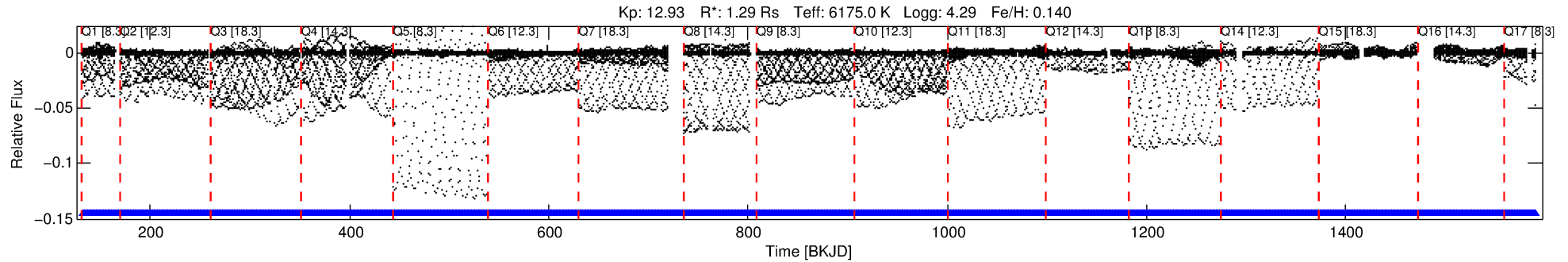
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006029214-02

No Significant Match Found

DV One-Page Summary

KIC: 6029214 Candidate: 2 of 2 Period: 0.819 d



TPS TCE Results:

Period = 0.81908 d
Epoch = 131.9549 BKJD

DV fit results are unavailable

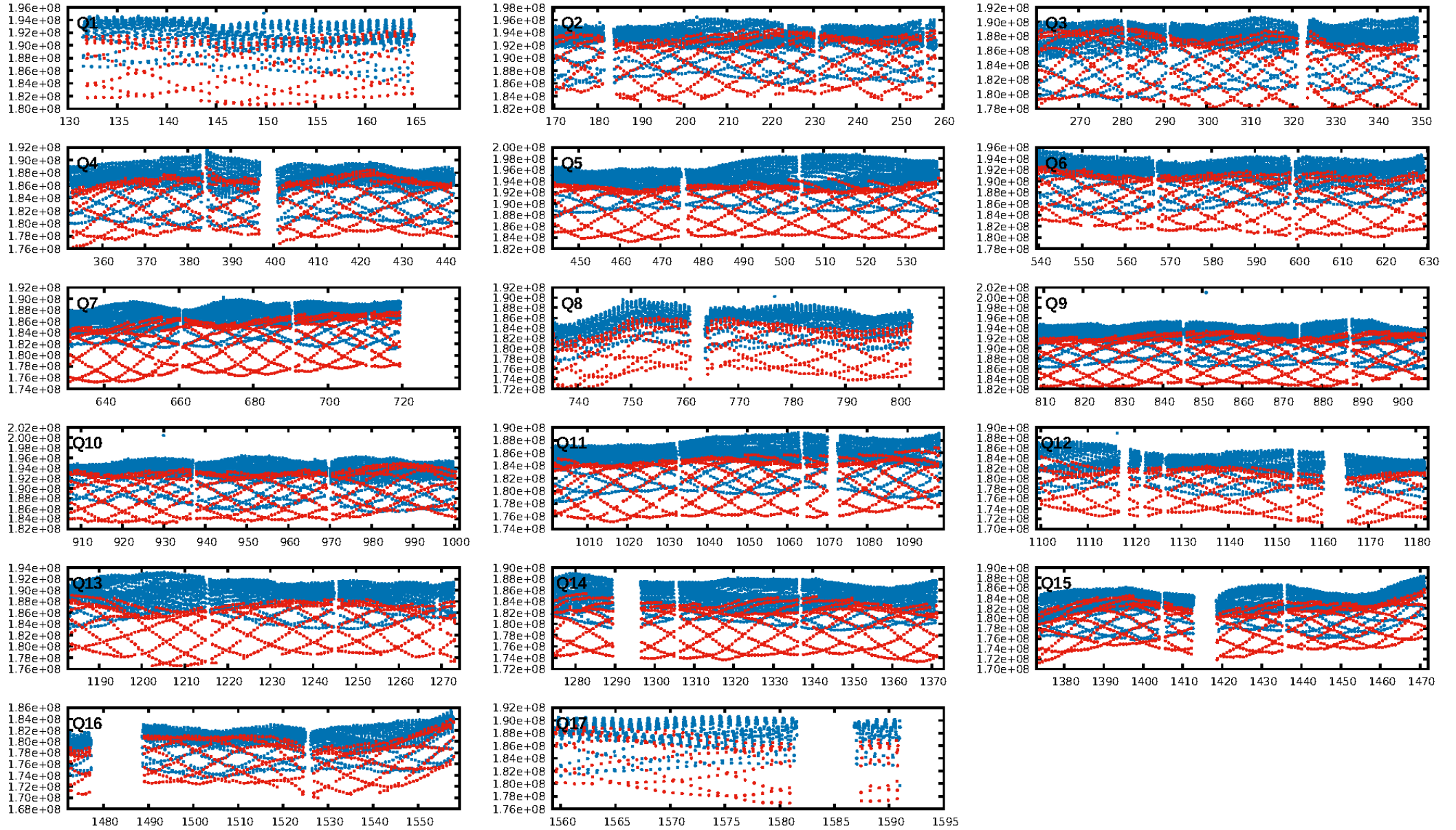
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [785/785]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.125 arcsec [251.64σ]
OotOffset-rm: 0.037 arcsec [0.55σ]
KicOffset-rm: 0.044 arcsec [0.64σ]
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]

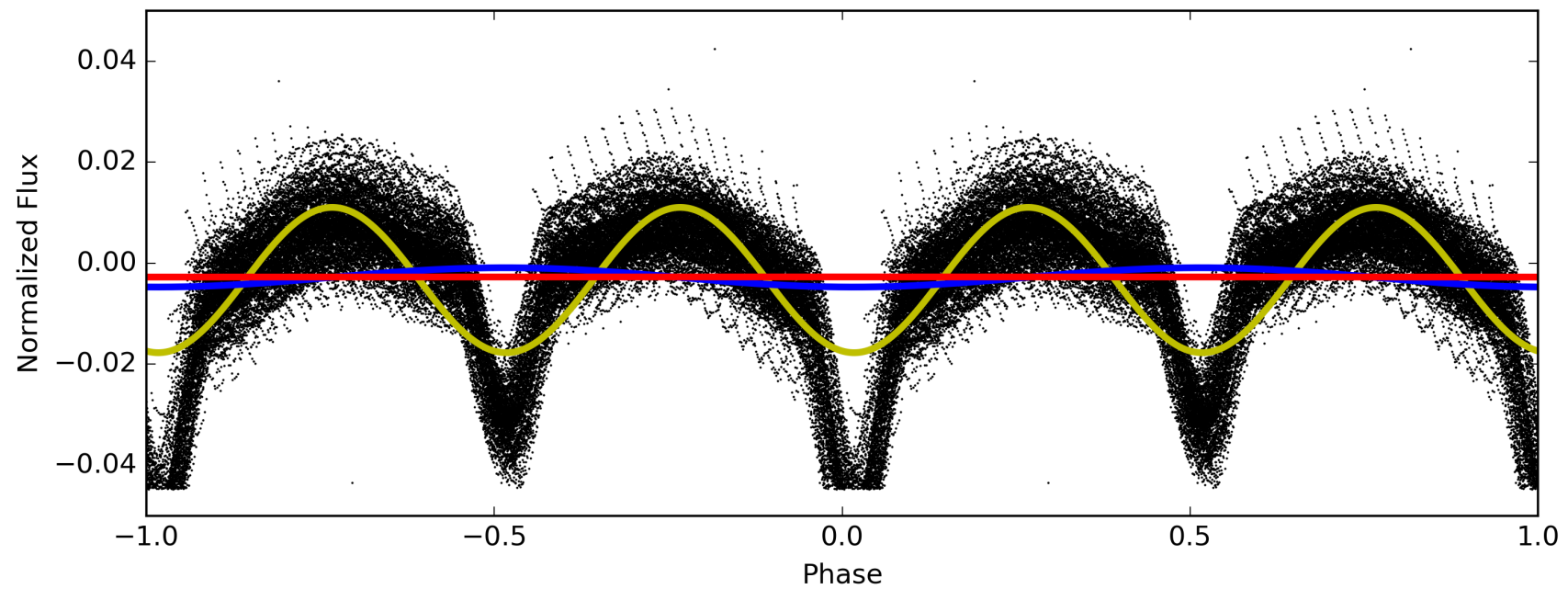
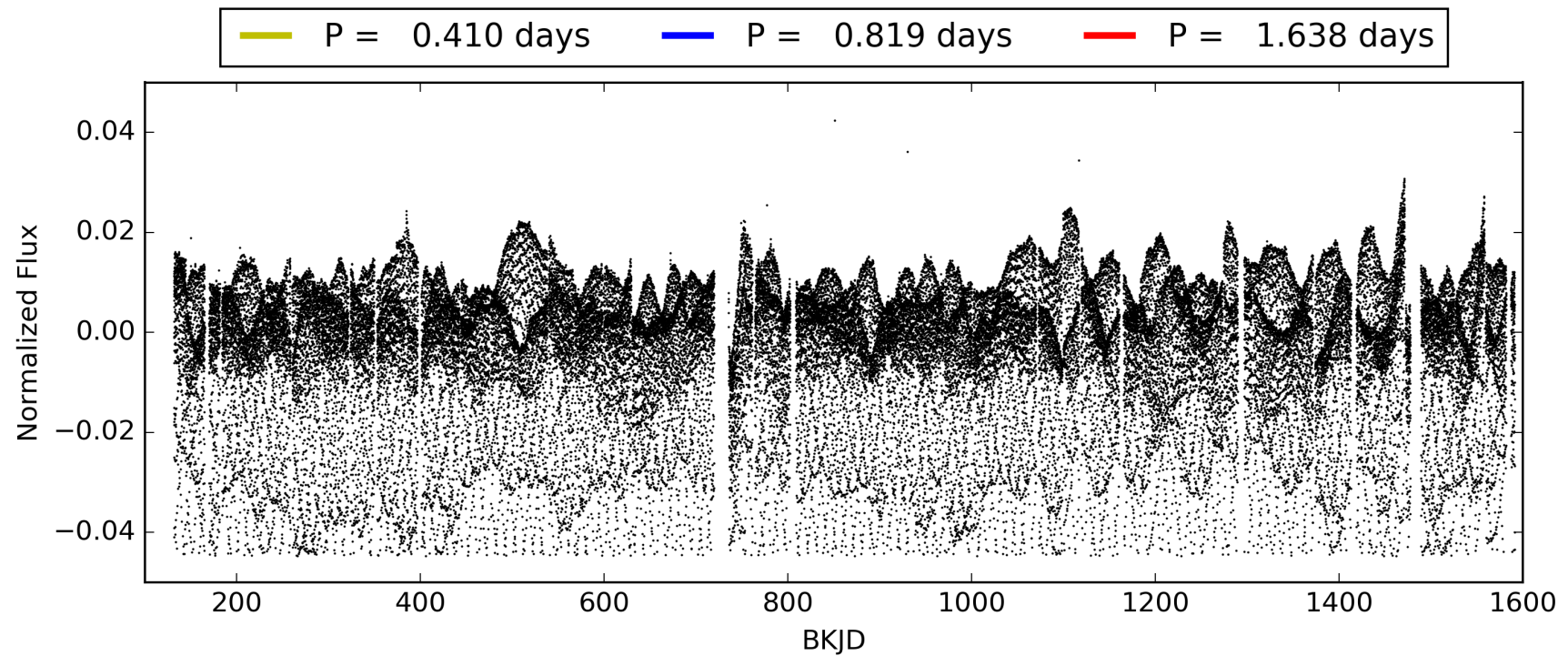
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:39:27 Z

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

TCE 006029214-02, PDC Light Curves

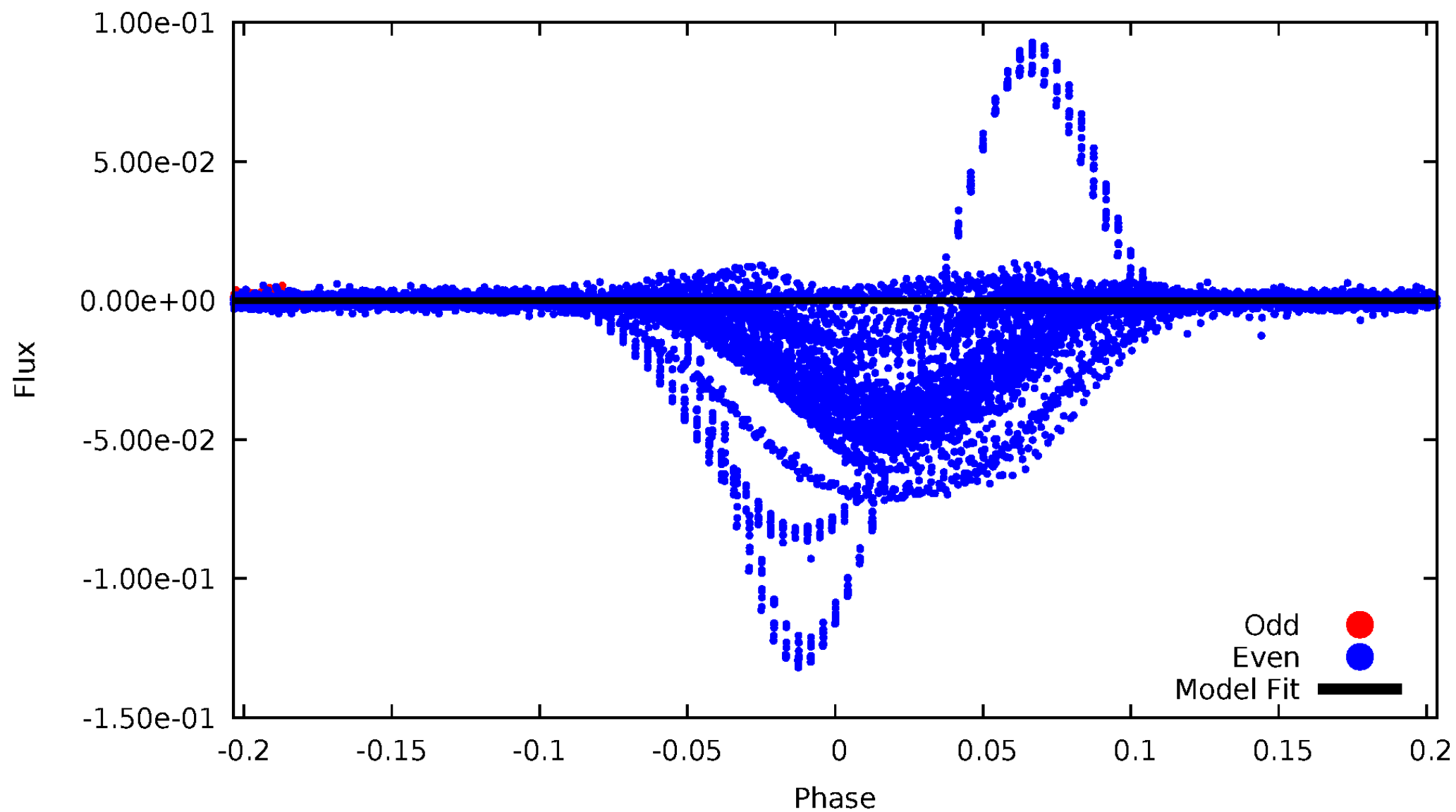


TCE 006029214-02



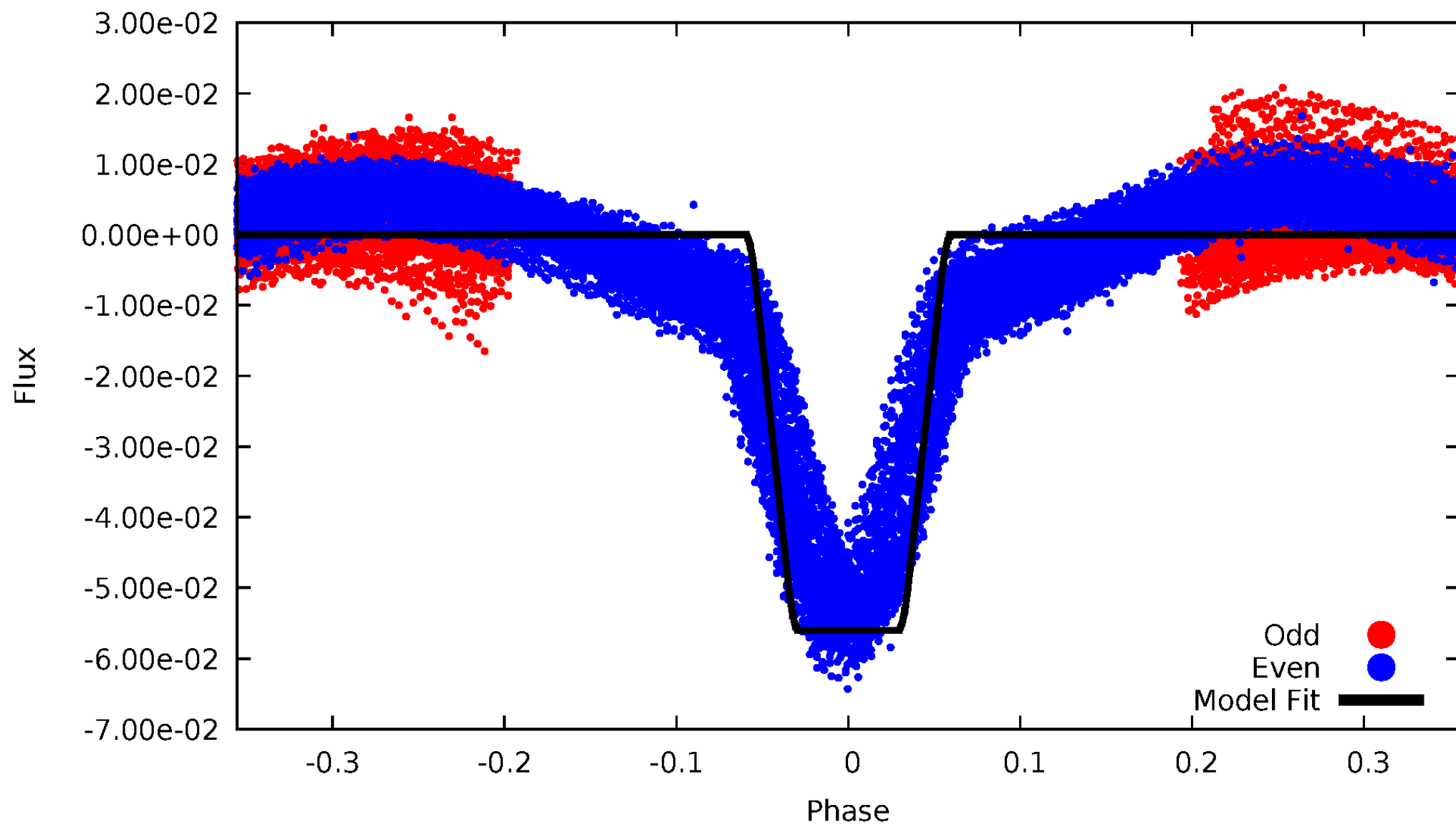
DV Odd/Even

TCE 006029214-02



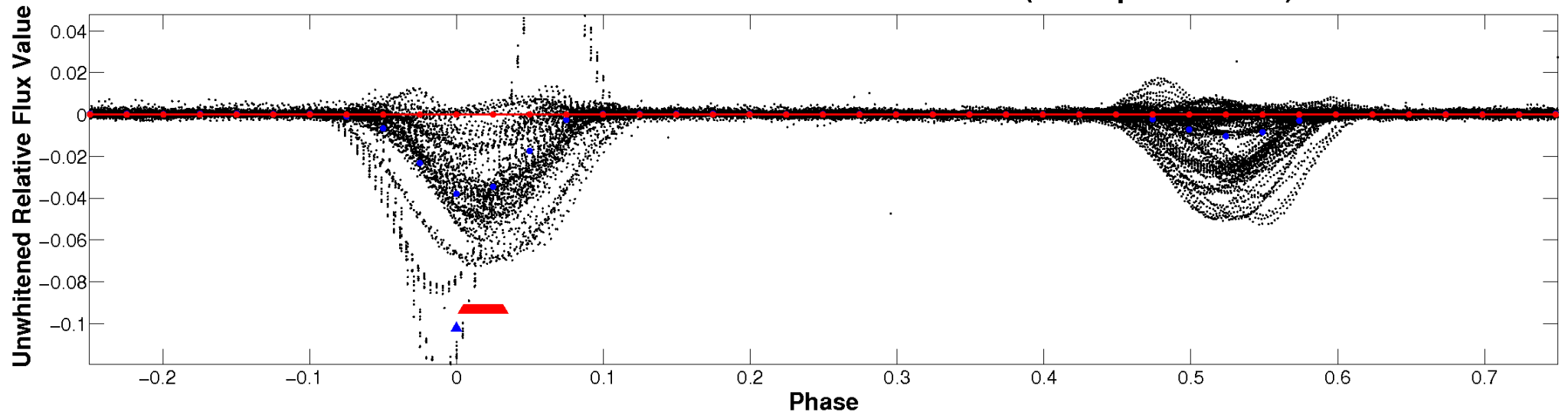
ALT Odd/Even

TCE 006029214-02

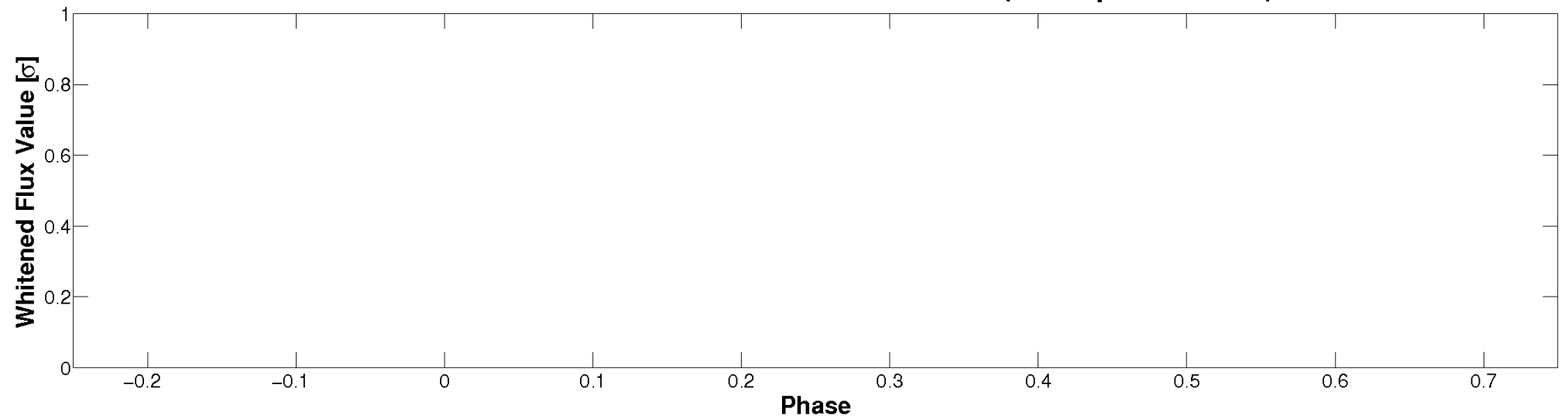


Non-Whitened Vs. Whitened Light Curve

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

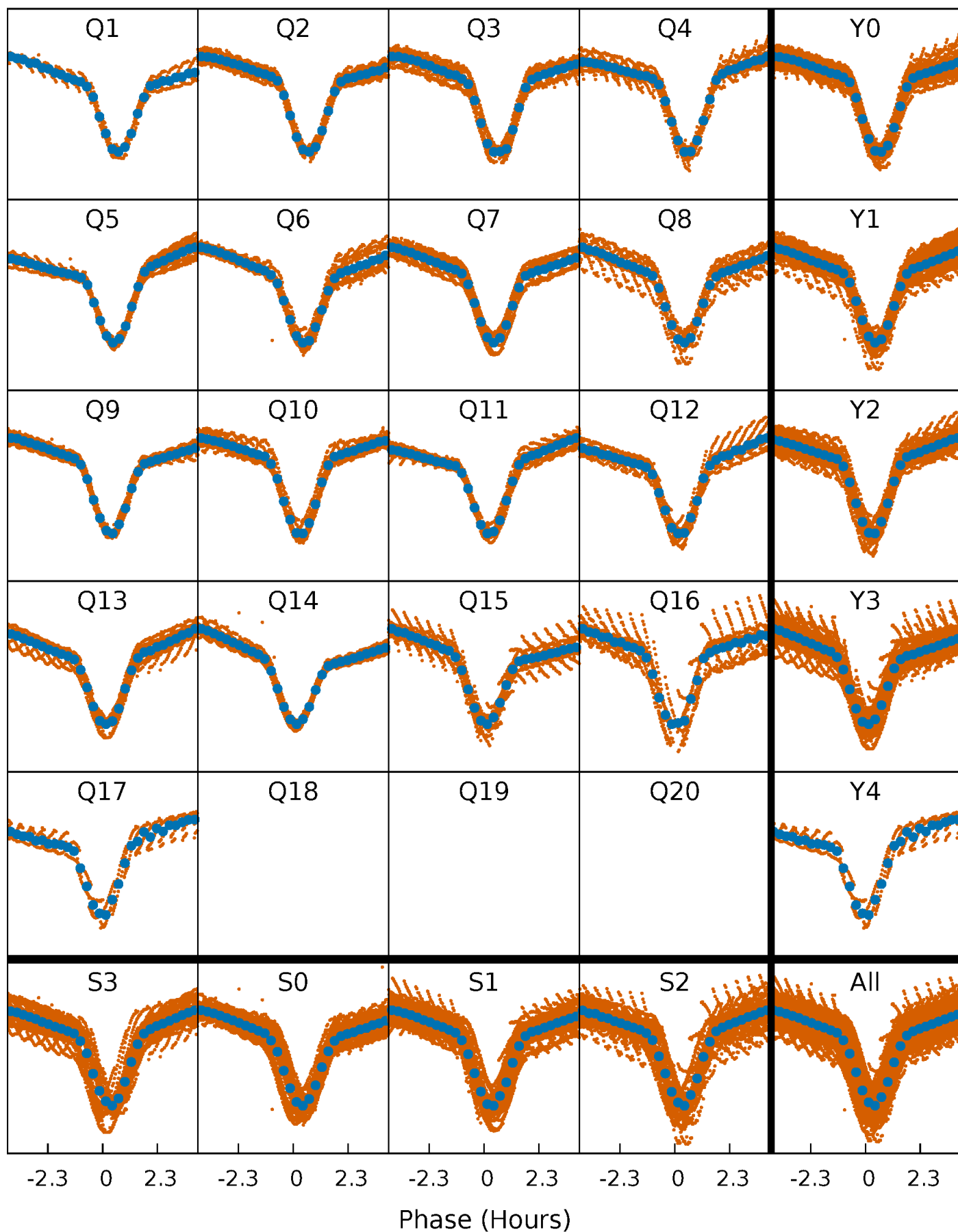


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



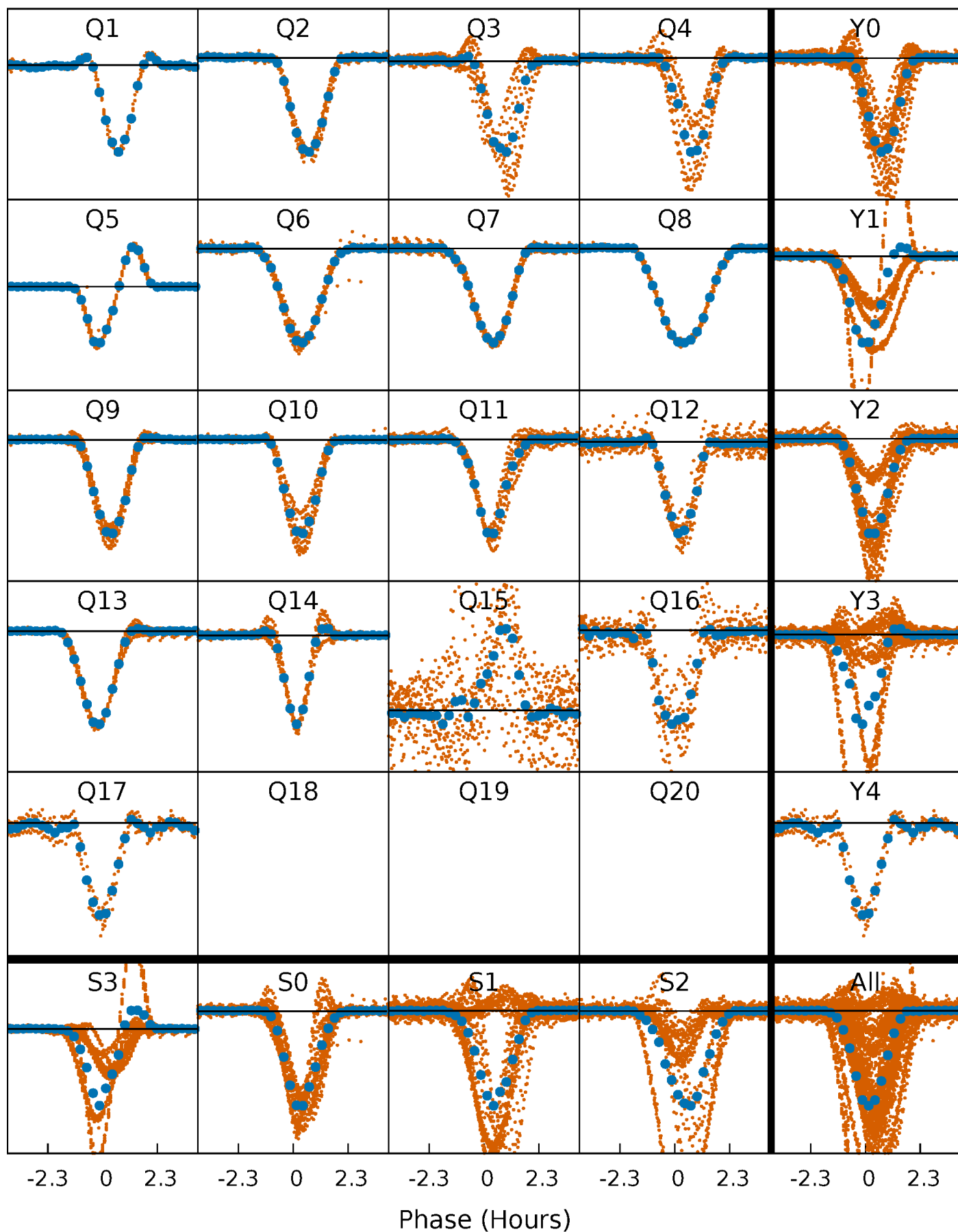
PDC Quarter-Phased Transit Curves

TCE 006029214-02 P= 0.819082 Days $T_0=131.954944$ (BKJD)



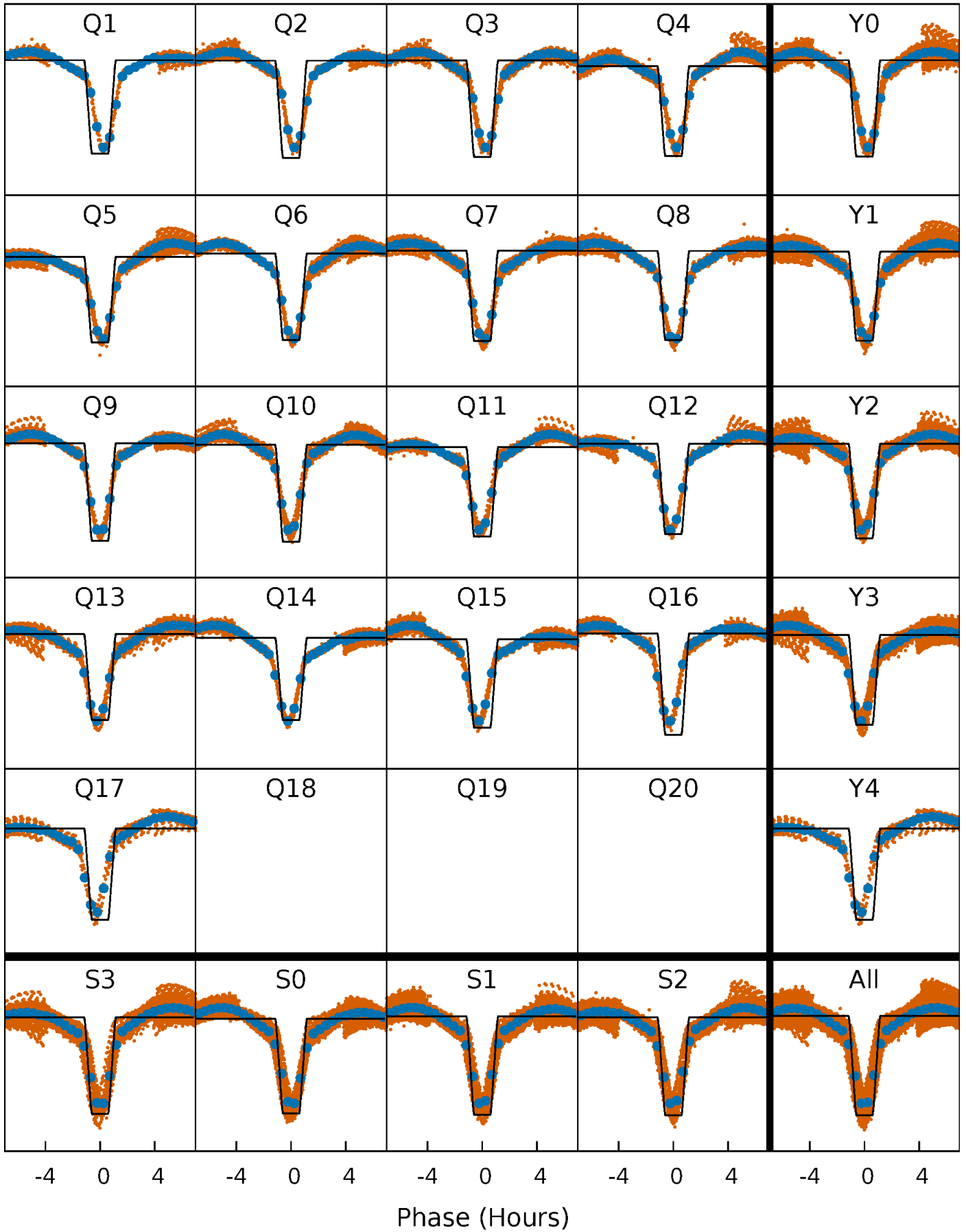
DV Quarter-Phased Transit Curves

TCE 006029214-02 P= 0.819082 Days $T_0=131.954944$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

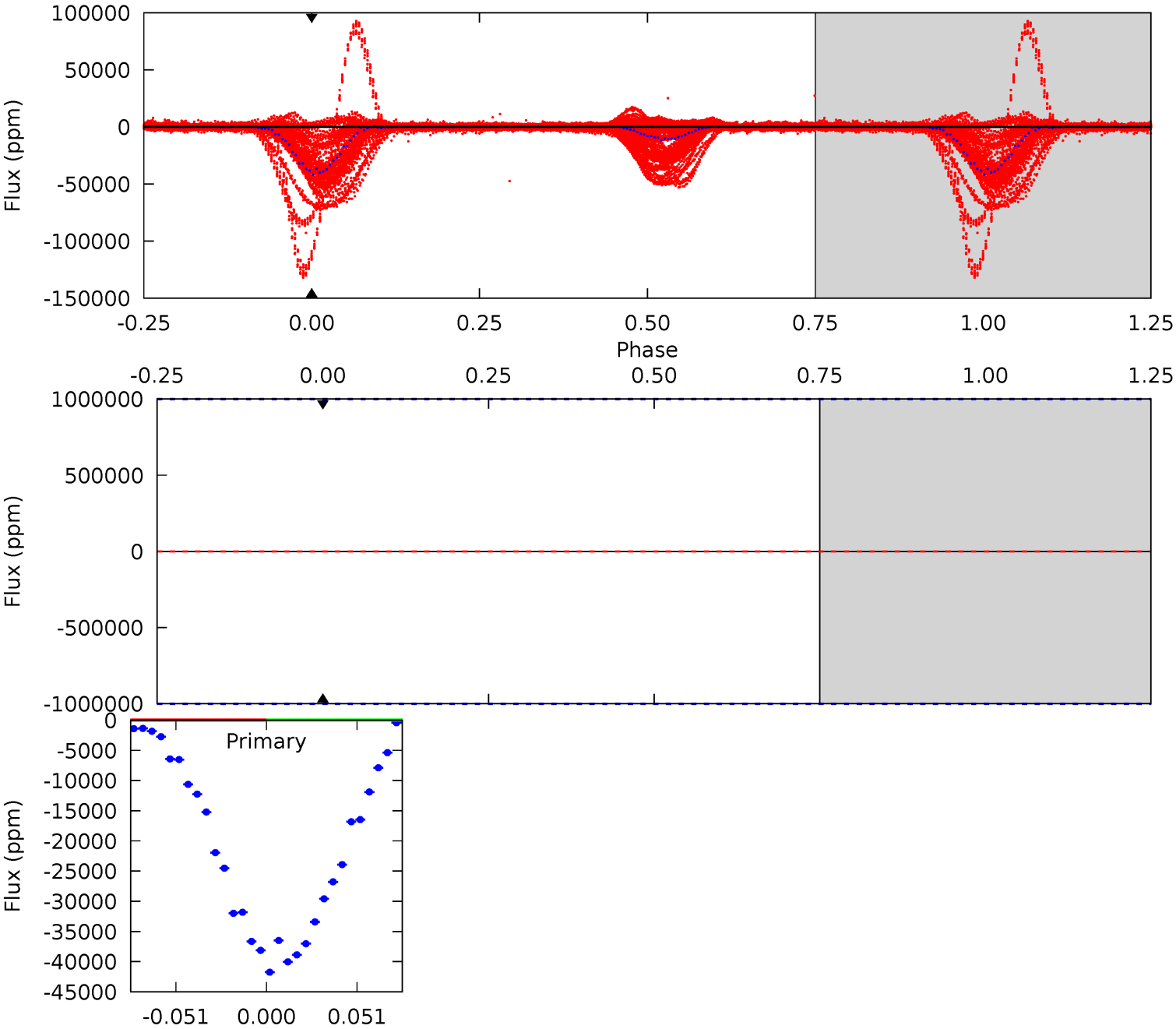
TCE 006029214-02 $P = 0.819082$ Days $T_0 = 131.969021$ (BKJD)



DV Model-Shift Uniqueness Test

006029214-02, P = 0.819082 Days, E = 131.135862 Days

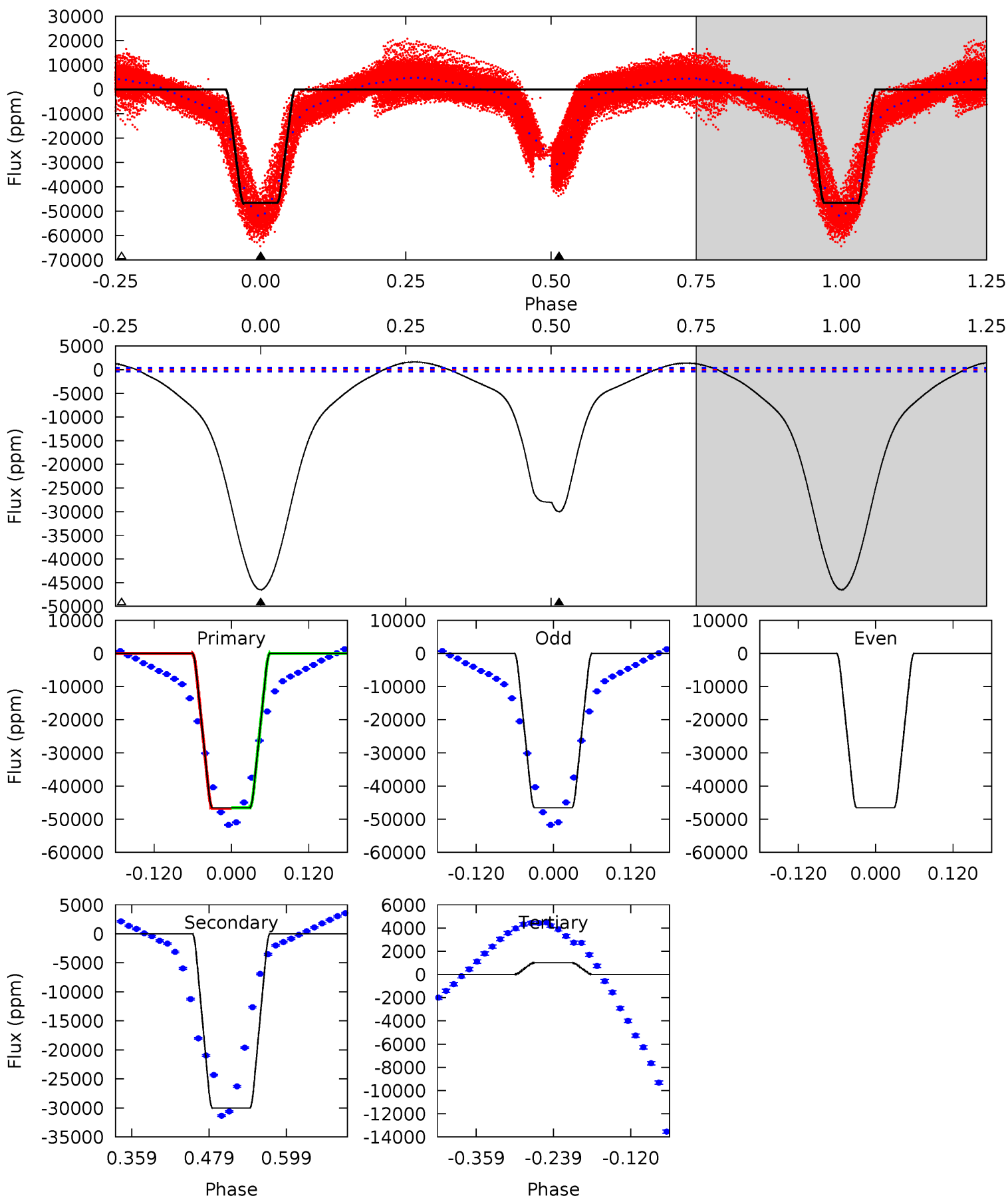
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006029214-02, P = 0.819082 Days, E = 131.149939 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
606.0	390.5	-13.2	0	4.53	1.56	28.1	619.2	606.0	403.7	390.5	0	0.99	0.03	1.47



Stellar Parameters For KIC 006029214

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6175^{+190}_{-253}	$4.295^{+0.112}_{-0.208}$	$0.140^{+0.200}_{-0.300}$	$1.288^{+0.400}_{-0.234}$	$1.197^{+0.164}_{-0.180}$	$0.790^{+0.507}_{-0.418}$
	+3%/-4%	+3%/-5%	+143%/-214%	+31%/-18%	+14%/-15%	+64%/-53%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006029214-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$20.84^{+14.19}_{-12.39}$	3240^{+246}_{-203}	2840^{+9553}_{-14209}	$0.419^{+75.686}_{-56.871}$
Alt.	-30008 ± 77	$35.00^{+16.05}_{-14.57}$	3243^{+260}_{-210}	5216^{+1696}_{-799}	$4.507^{+8.628}_{-2.329}$

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

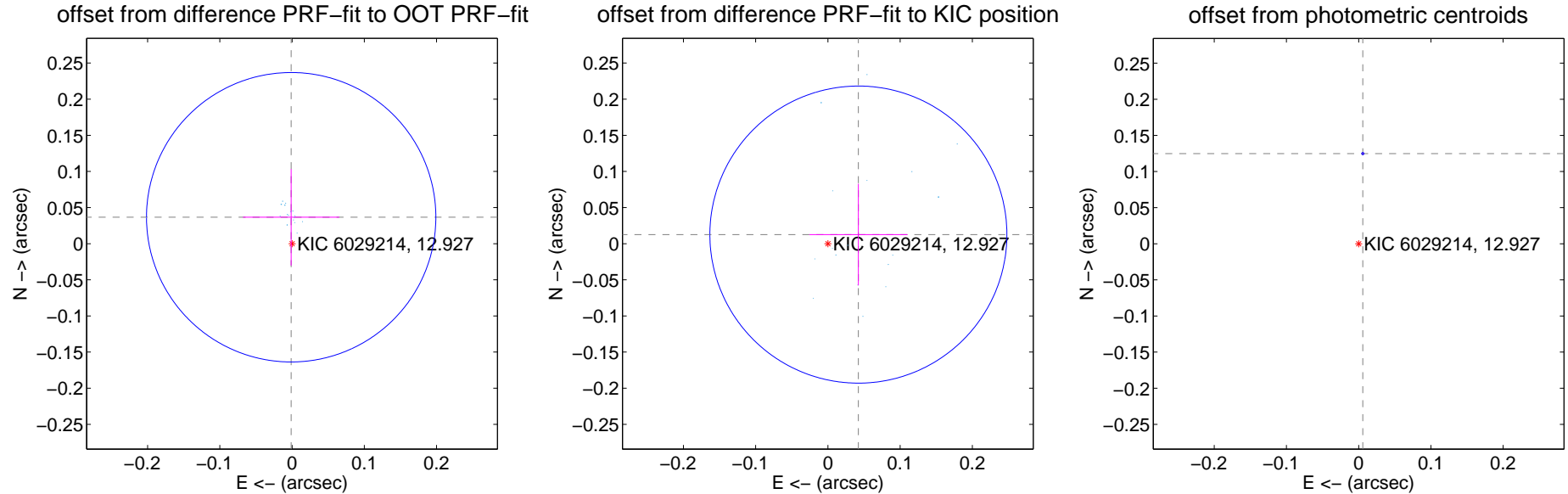
DV Centroid Data

Supplemental centroid analysis for 006029214-02. Kepler magnitude: 12.93. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

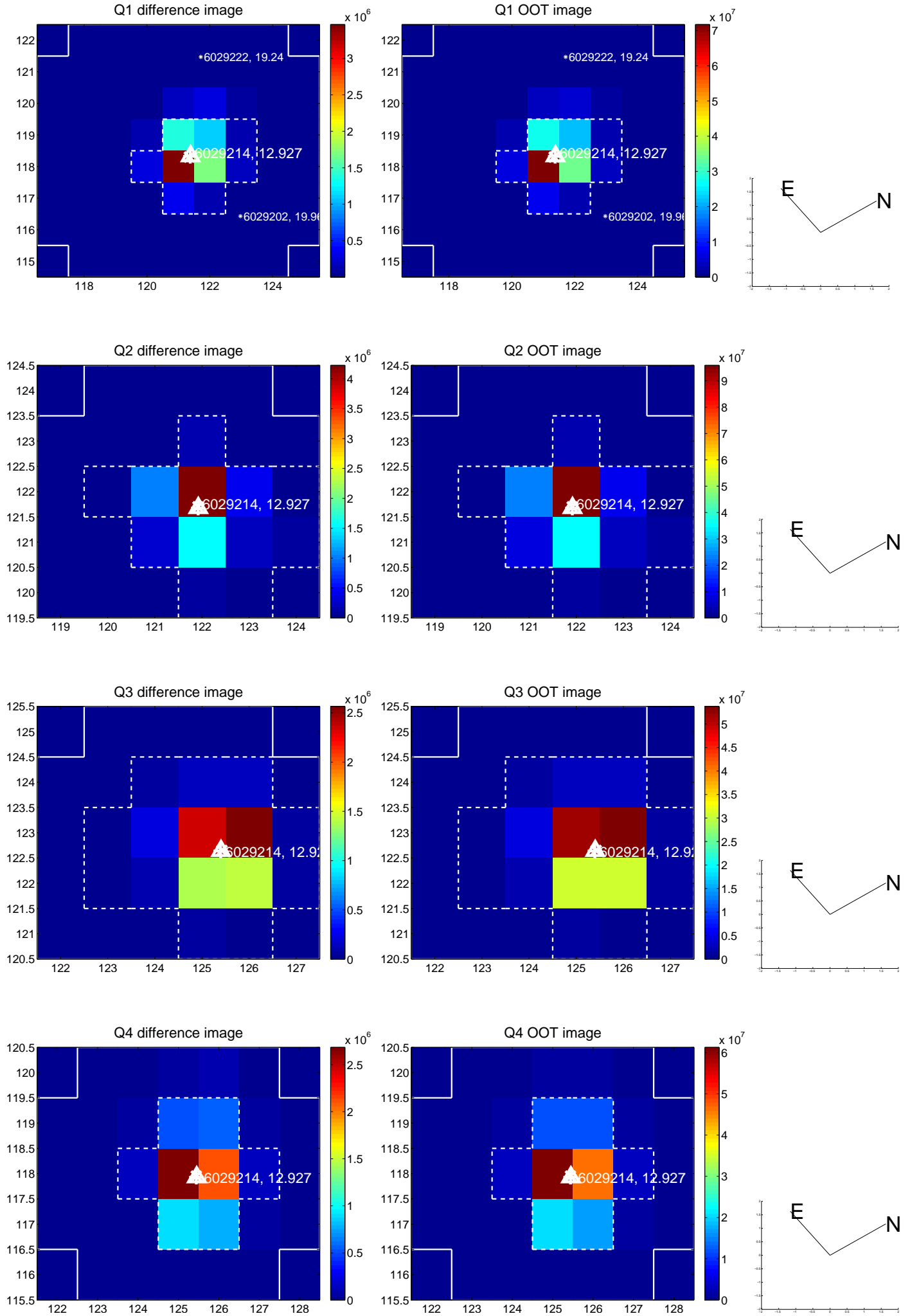
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.037 ± 0.067	0.55	0.001 ± 0.067	0.037 ± 0.067
PRF-fit source offset from KIC position	0.044 ± 0.069	0.64	-0.042 ± 0.068	0.013 ± 0.070
photometric centroid source offset	0.12 ± 0.00	251.64	-0.01 ± 0.00	0.12 ± 0.00

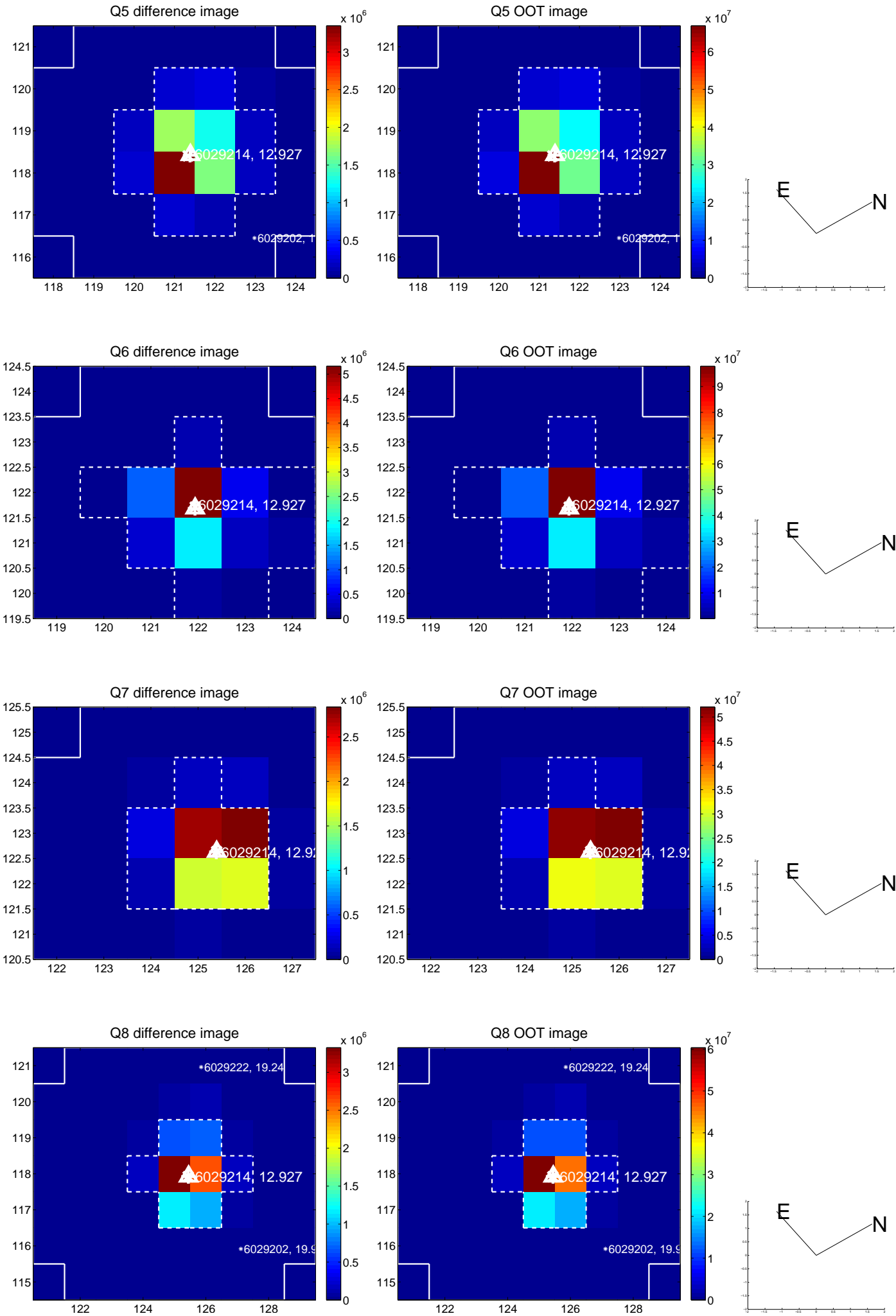


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

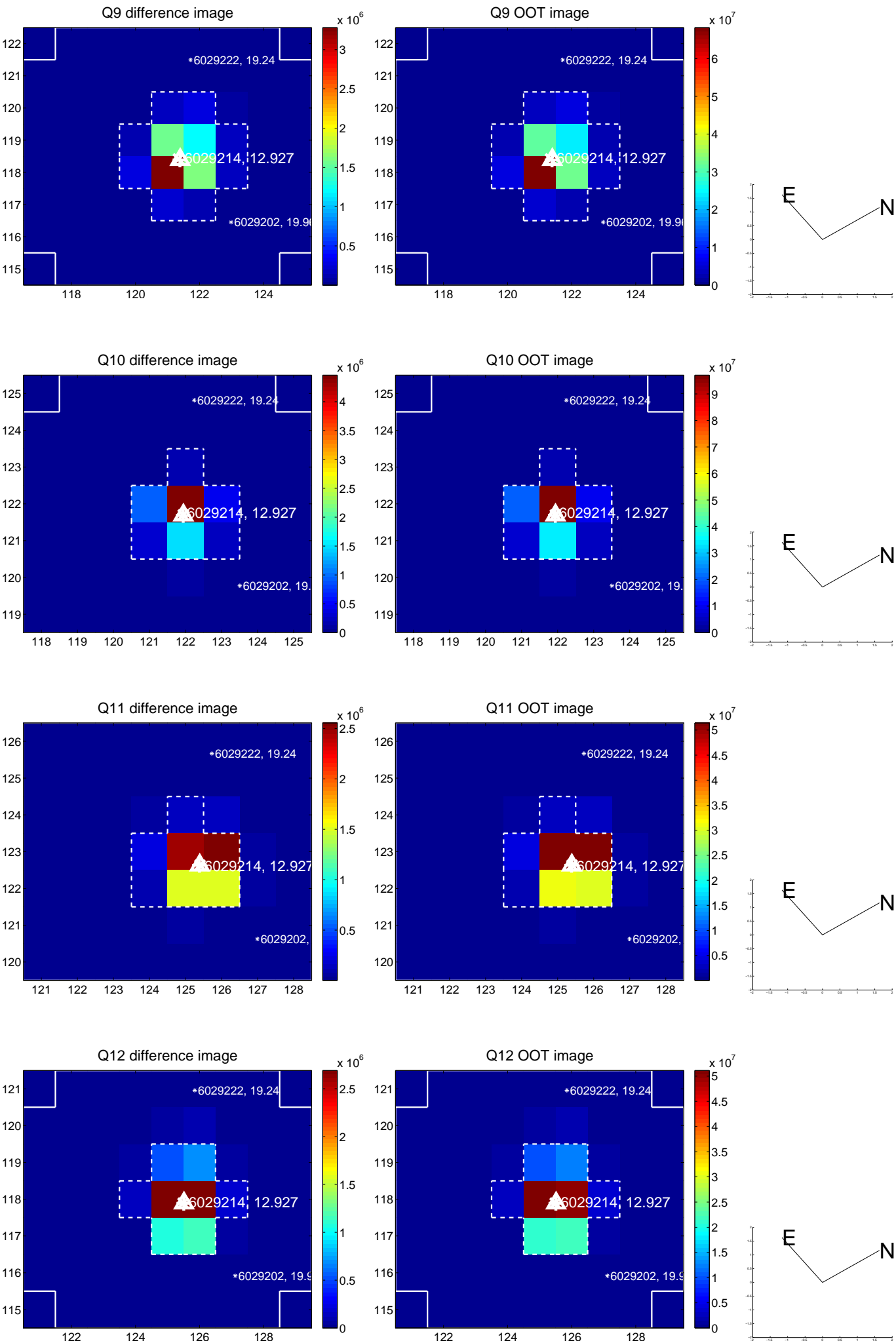
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



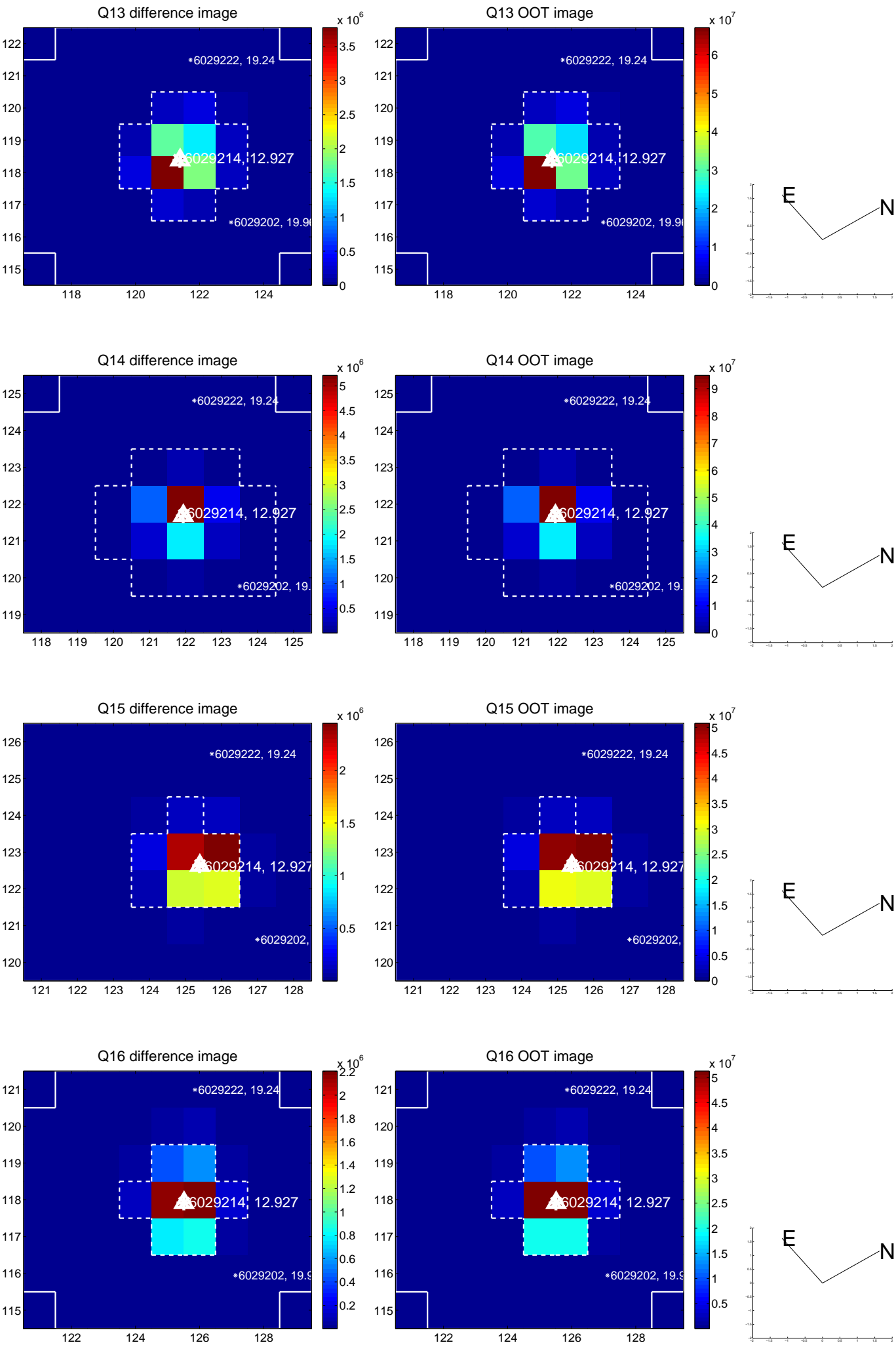
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



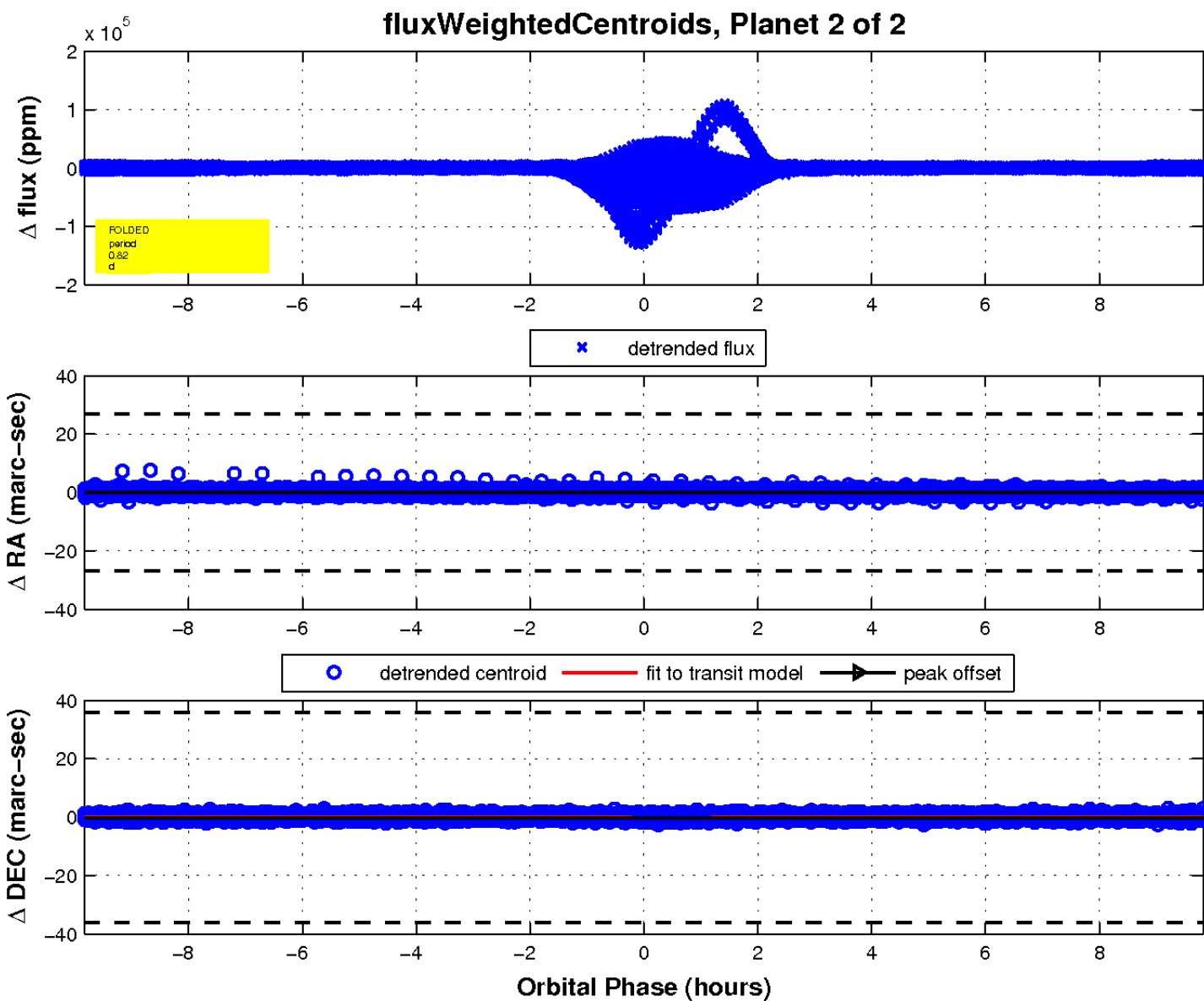
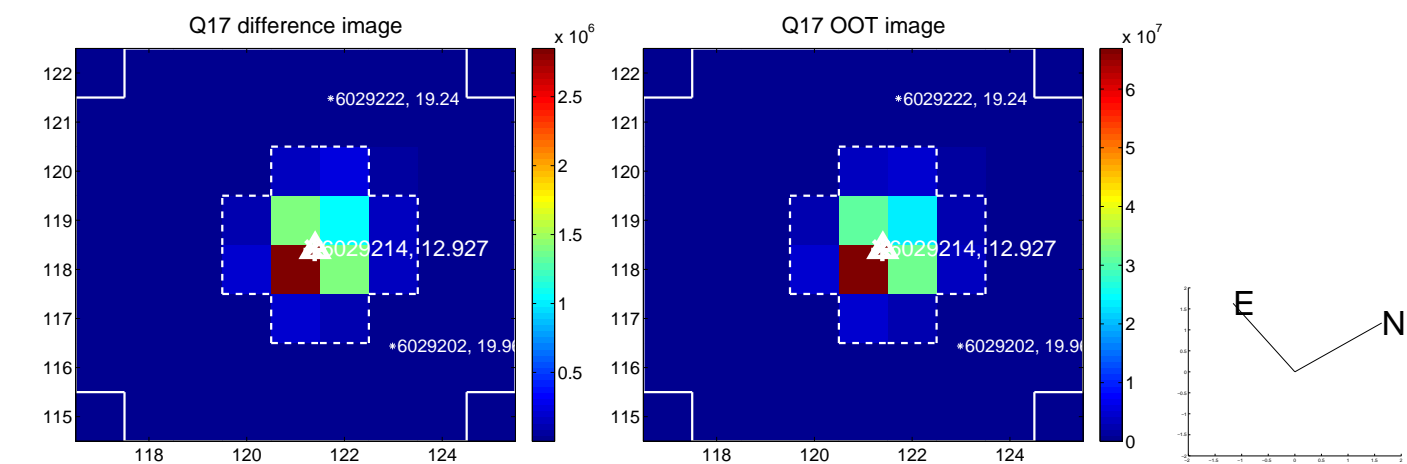
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

