

KIC 006044064

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})
006044064-01	OBS	6652.01	5.063303	133.687168	654124.3	9.000	5770.5	-1.0	0.75	5375	22.11	160.93
006044064-02	OBS	No	5.063136	136.235956	91719.2	13.956	684.8	879.0	0.75	5375	24.64	160.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006044064-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006044064-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

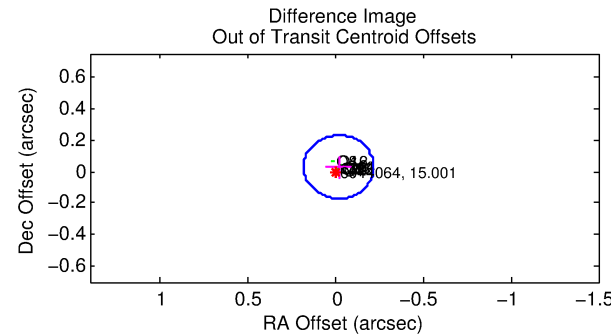
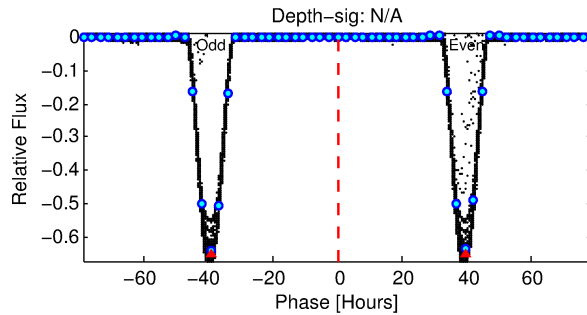
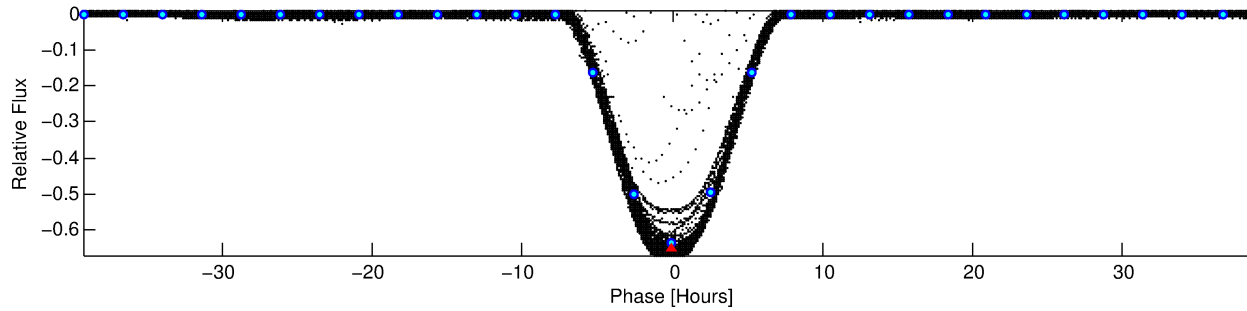
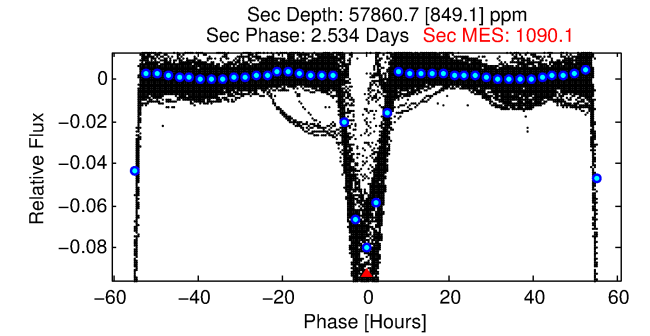
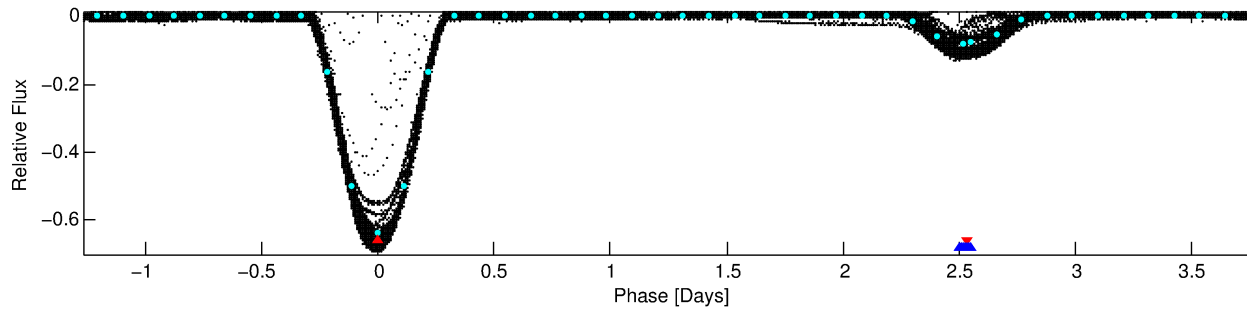
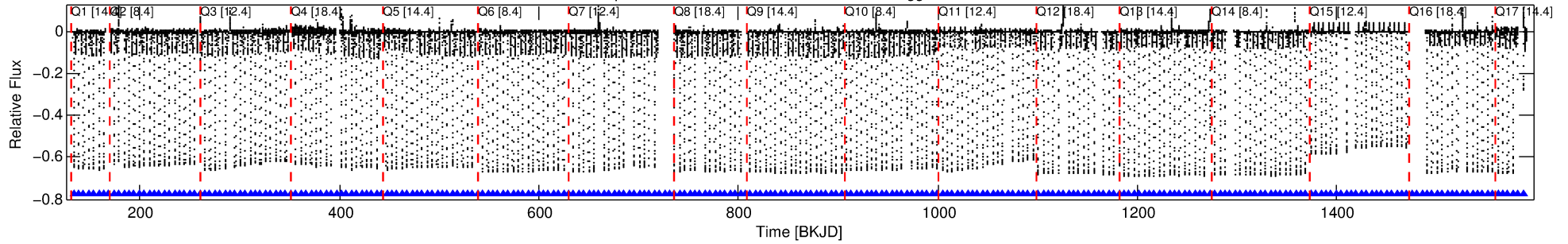
Ephemeris Match Information For 006044064-01

No Significant Match Found

DV One-Page Summary

KIC: 6044064 Candidate: 1 of 2 Period: 5.063 d
KOI: K06652 Corr: No Ephemeris Match

Kp: 15.00 R*: 0.75 Rs Teff: 5375.0 K Logg: 4.53 Fe/H: -0.560



TPS TCE Results:

Period = 5.06330 d
Epoch = 133.6872 BKJD

DV fit results are unavailable

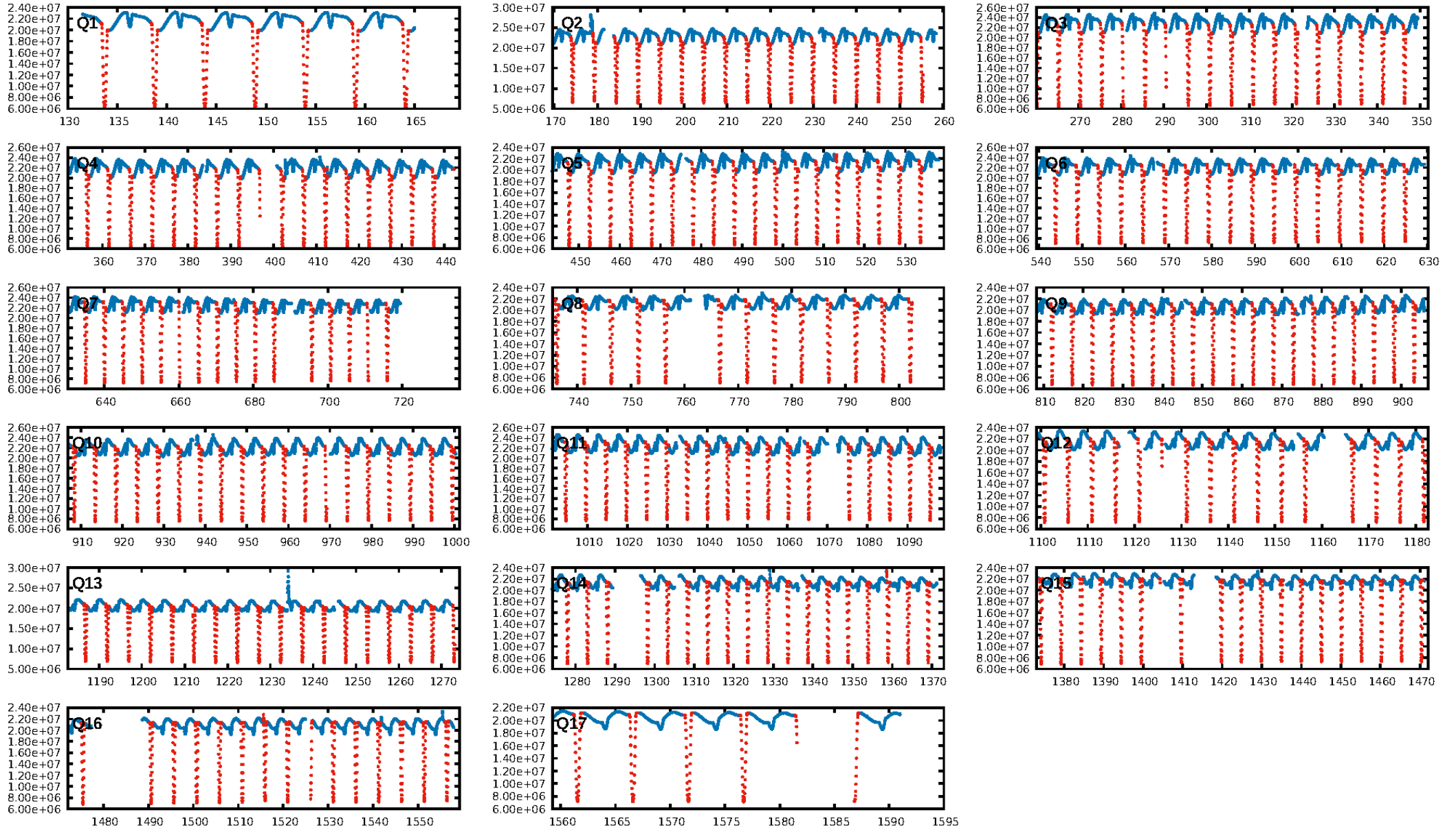
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [257/257]
GhostDiagnostic-chr: 0.9347
Centroid-sig: N/A
Centroid-so: 0.425 arcsec [664.32 σ]
OotOffset-rm: 0.035 arcsec [0.52 σ]
KicOffset-rm: 0.012 arcsec [0.17 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]

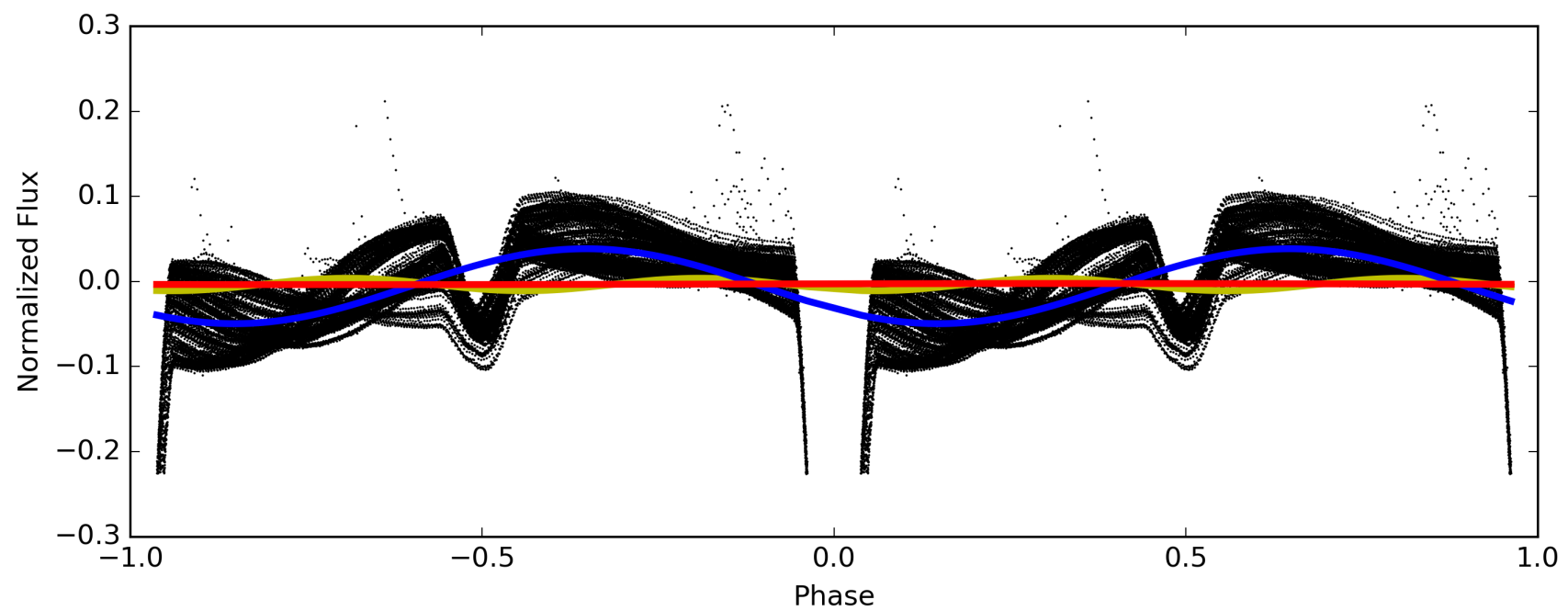
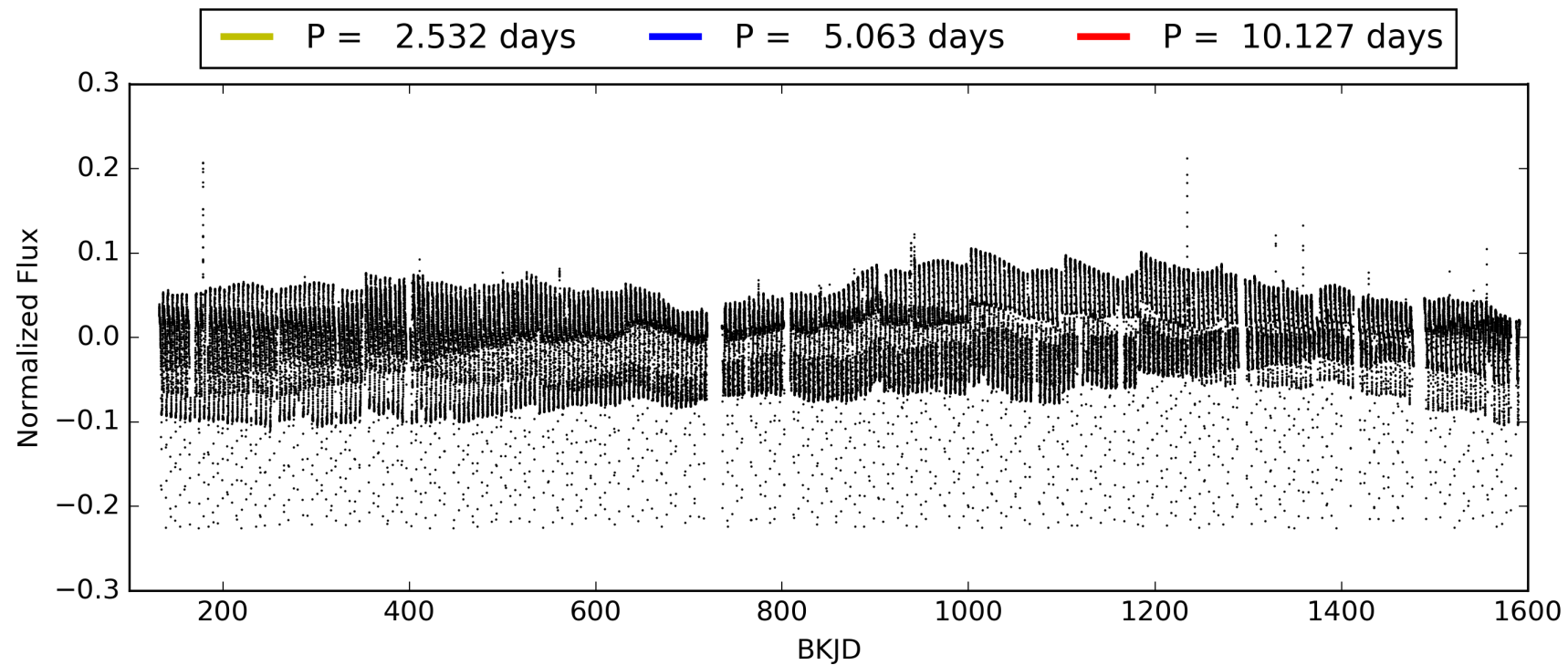
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:55:26 Z

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

TCE 006044064-01, PDC Light Curves

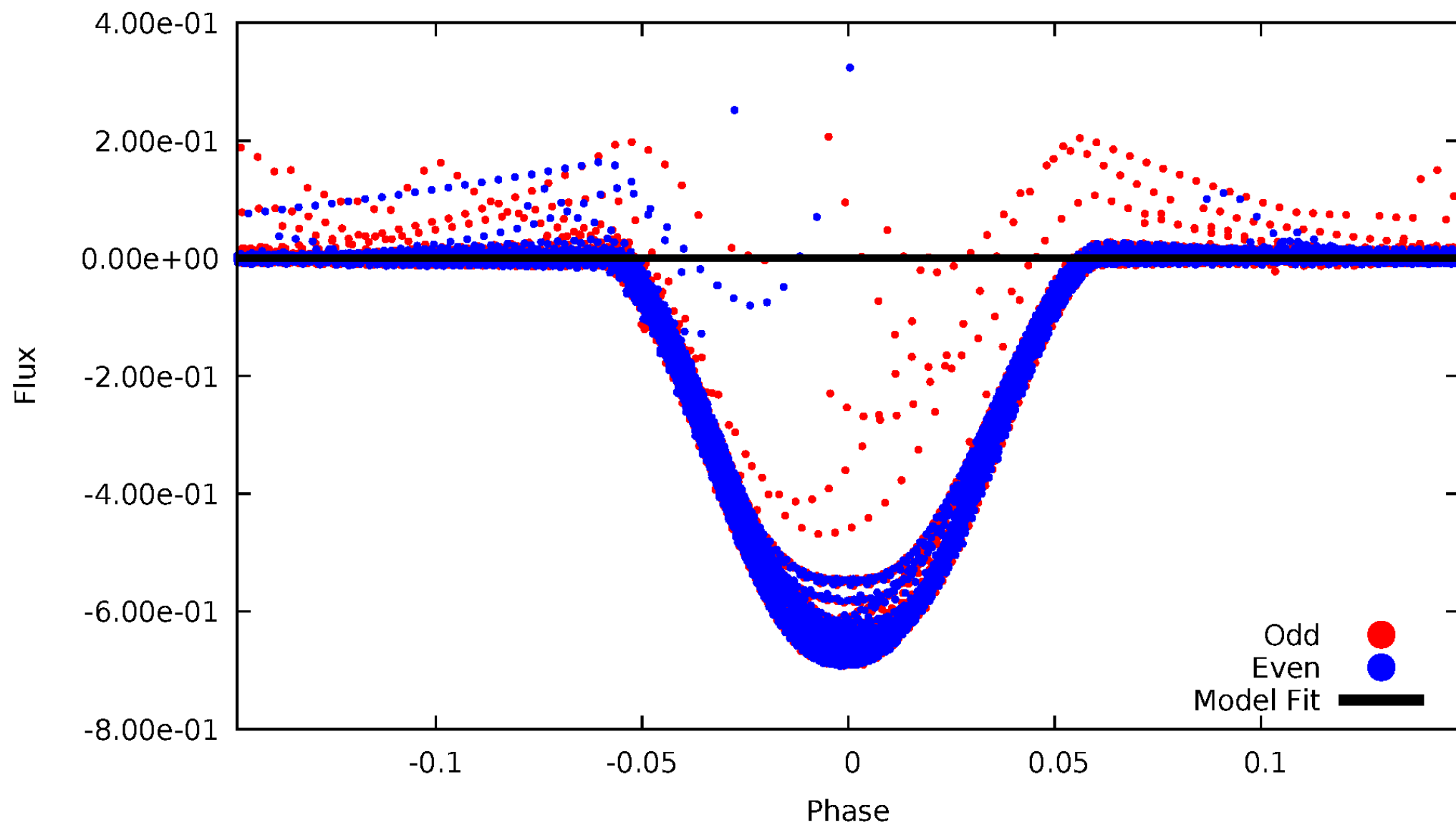


TCE 006044064-01



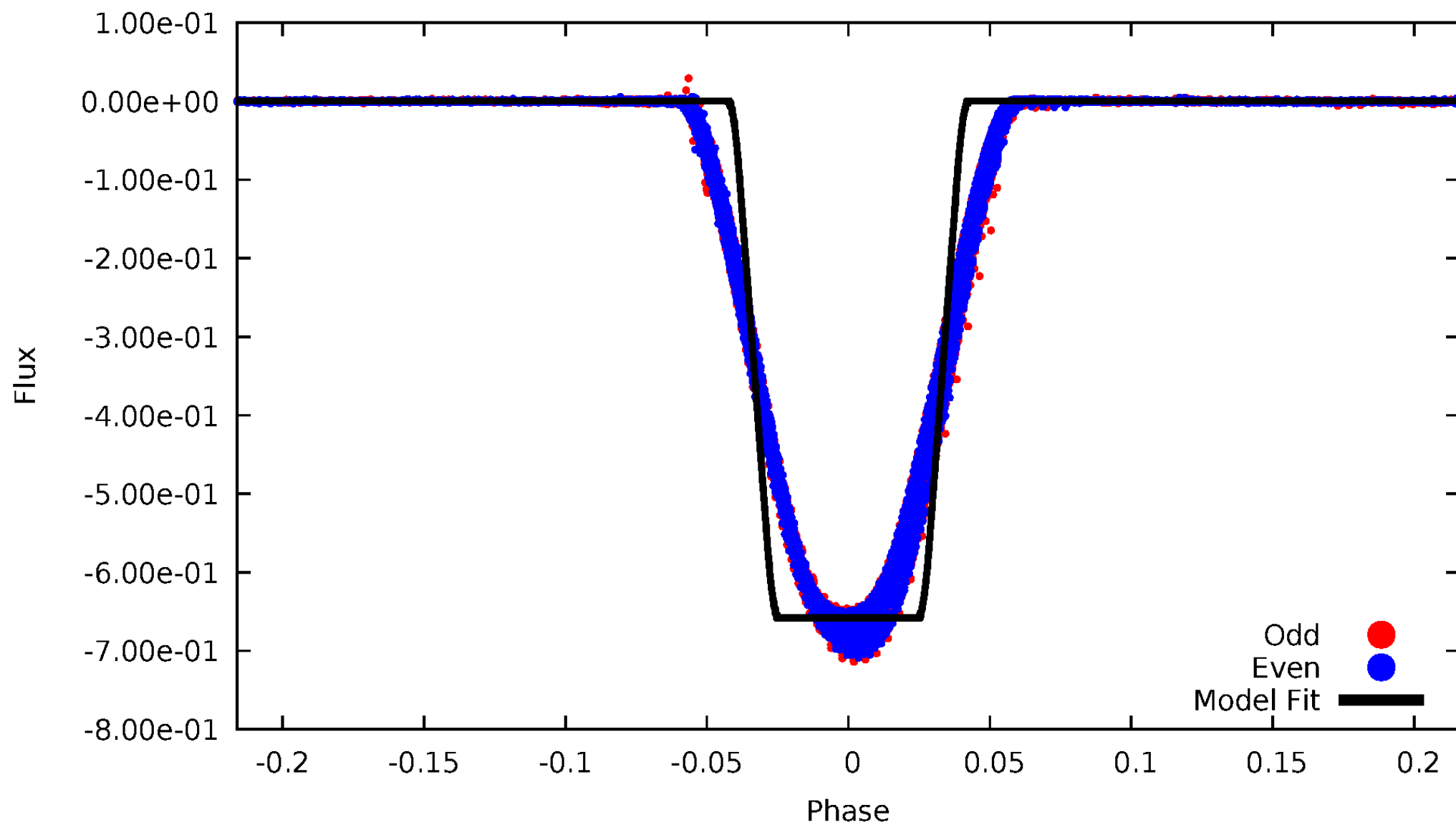
DV Odd/Even

TCE 006044064-01



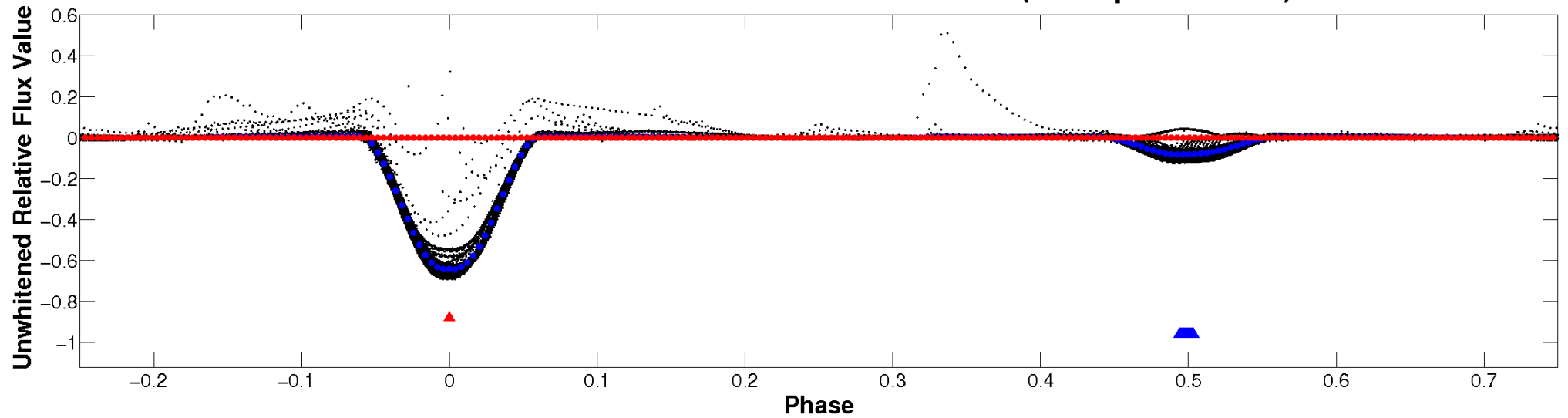
ALT Odd/Even

TCE 006044064-01



Non-Whitened Vs. Whitened Light Curve

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

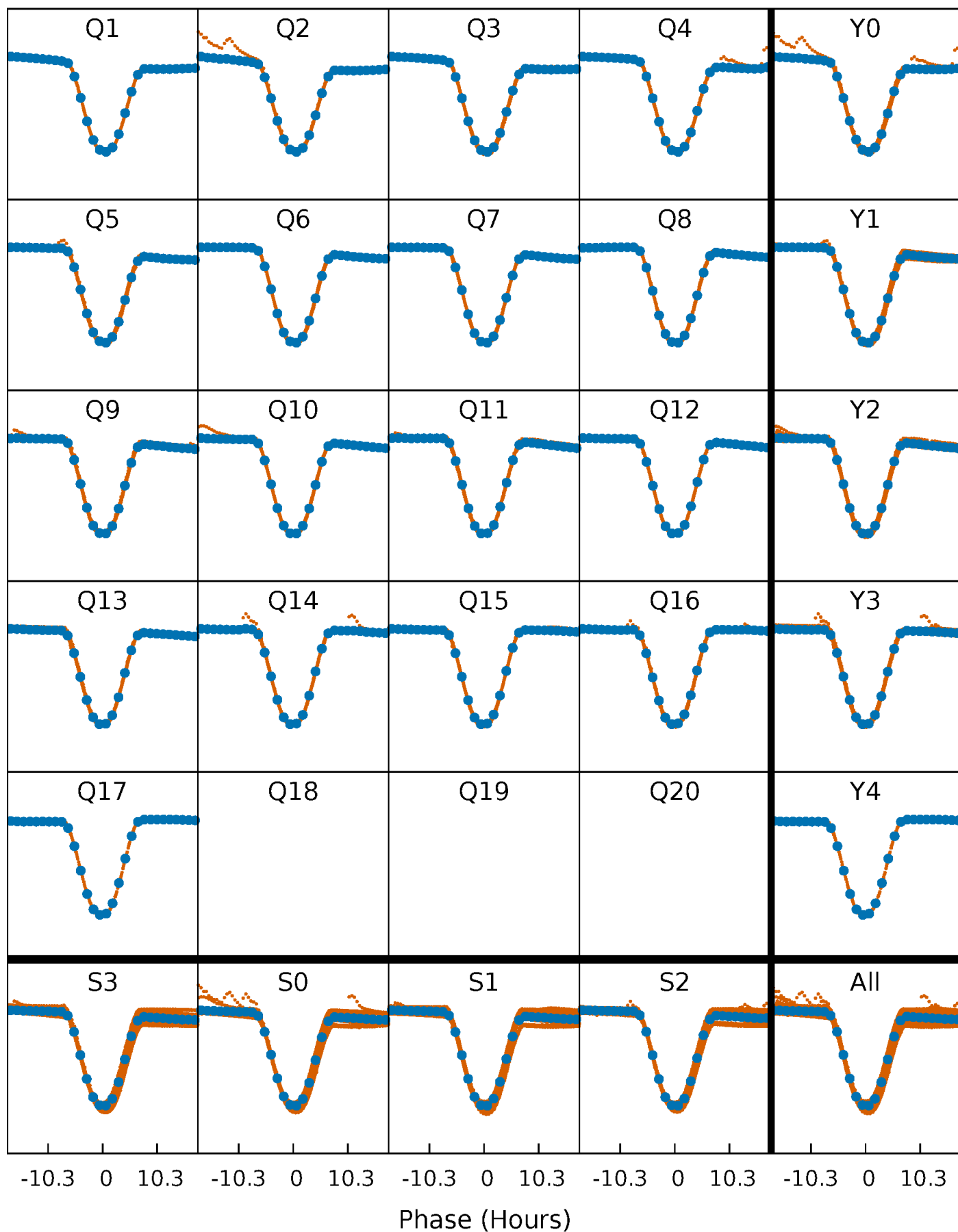


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



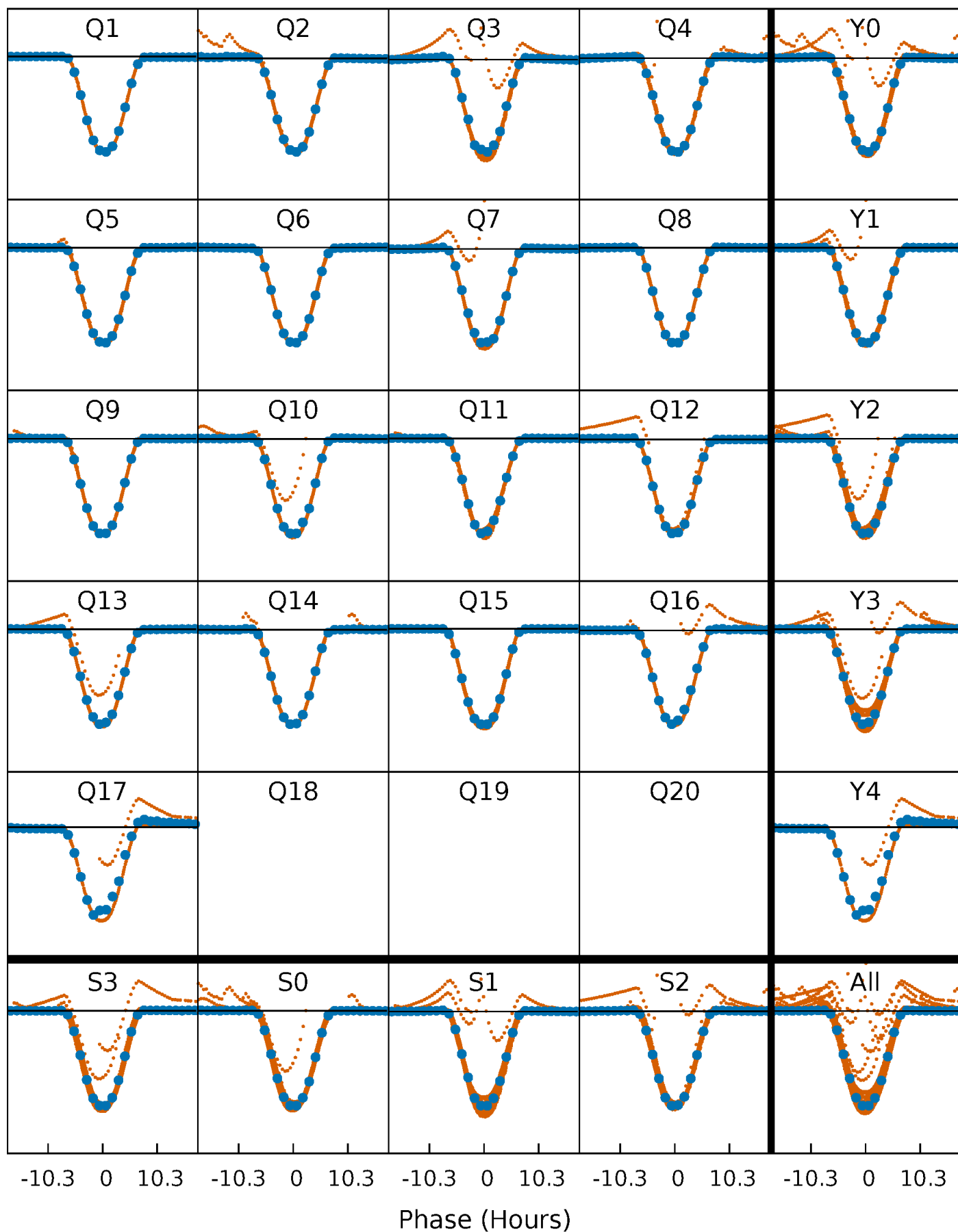
PDC Quarter-Phased Transit Curves

TCE 006044064-01 P= 5.063303 Days $T_0=133.687168$ (BKJD)



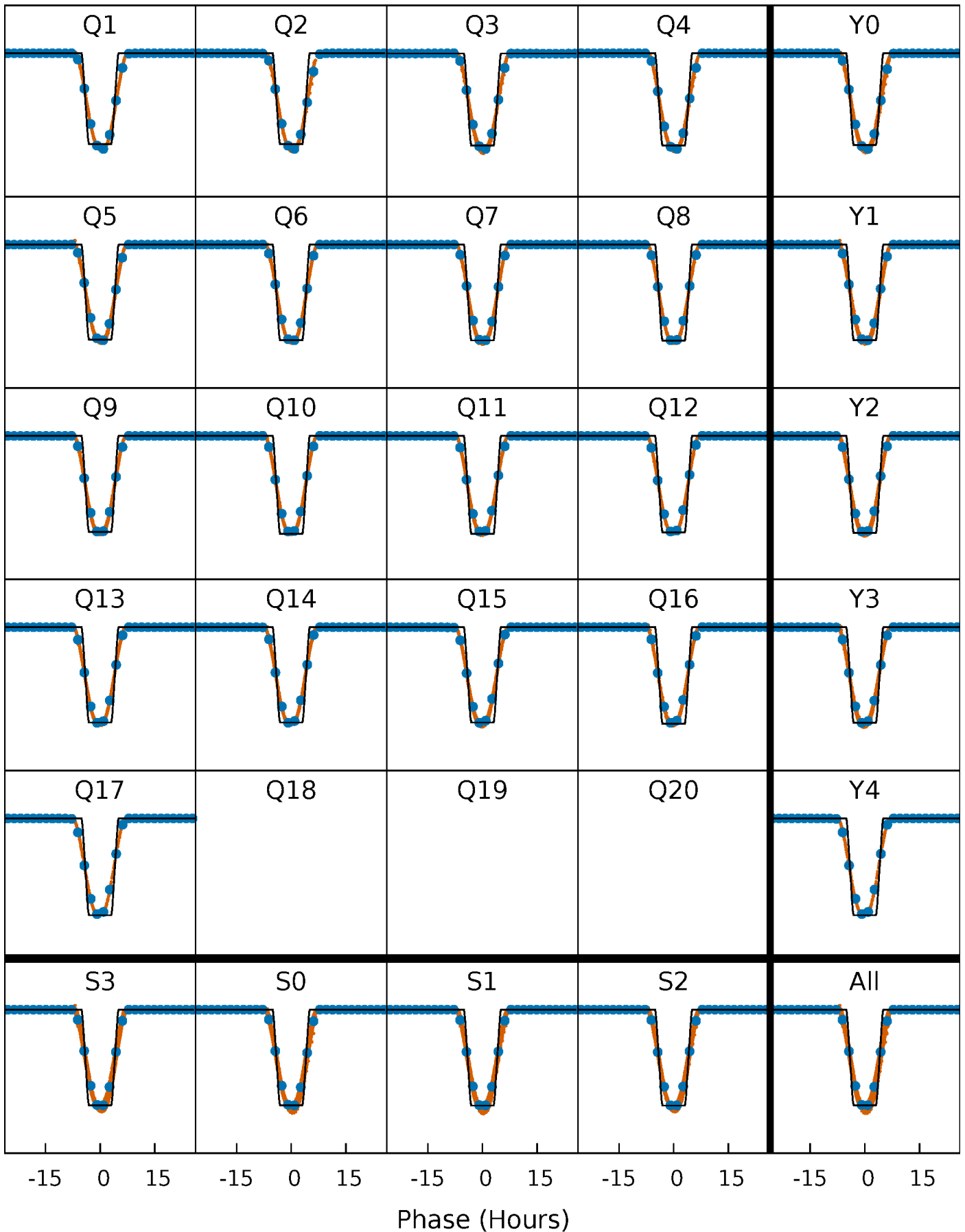
DV Quarter-Phased Transit Curves

TCE 006044064-01 P= 5.063303 Days $T_0=133.687168$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

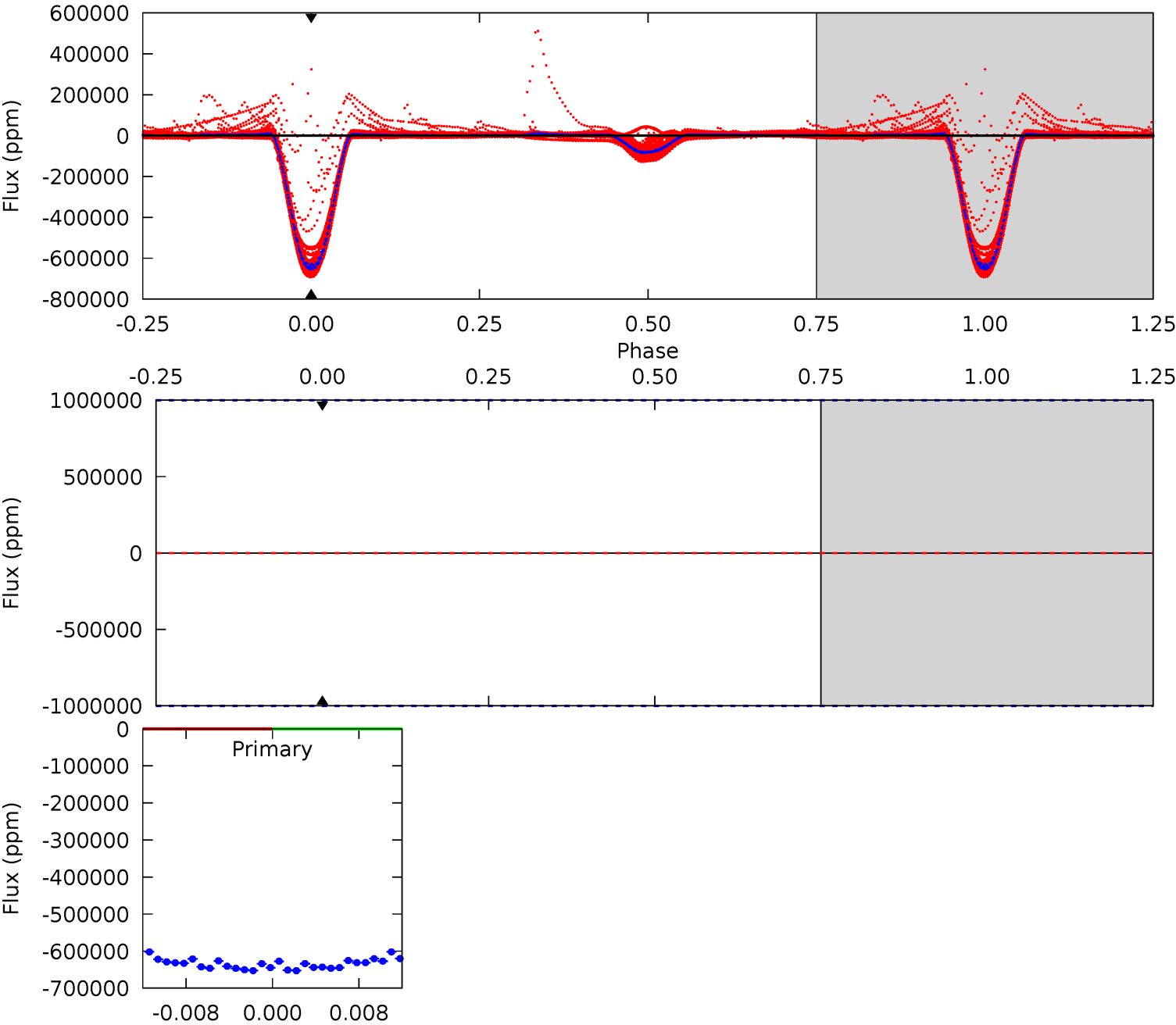
TCE 006044064-01 P= 5.063303 Days $T_0=133.689518$ (BKJD)



DV Model-Shift Uniqueness Test

006044064-01, P = 5.063303 Days, E = 128.623865 Days

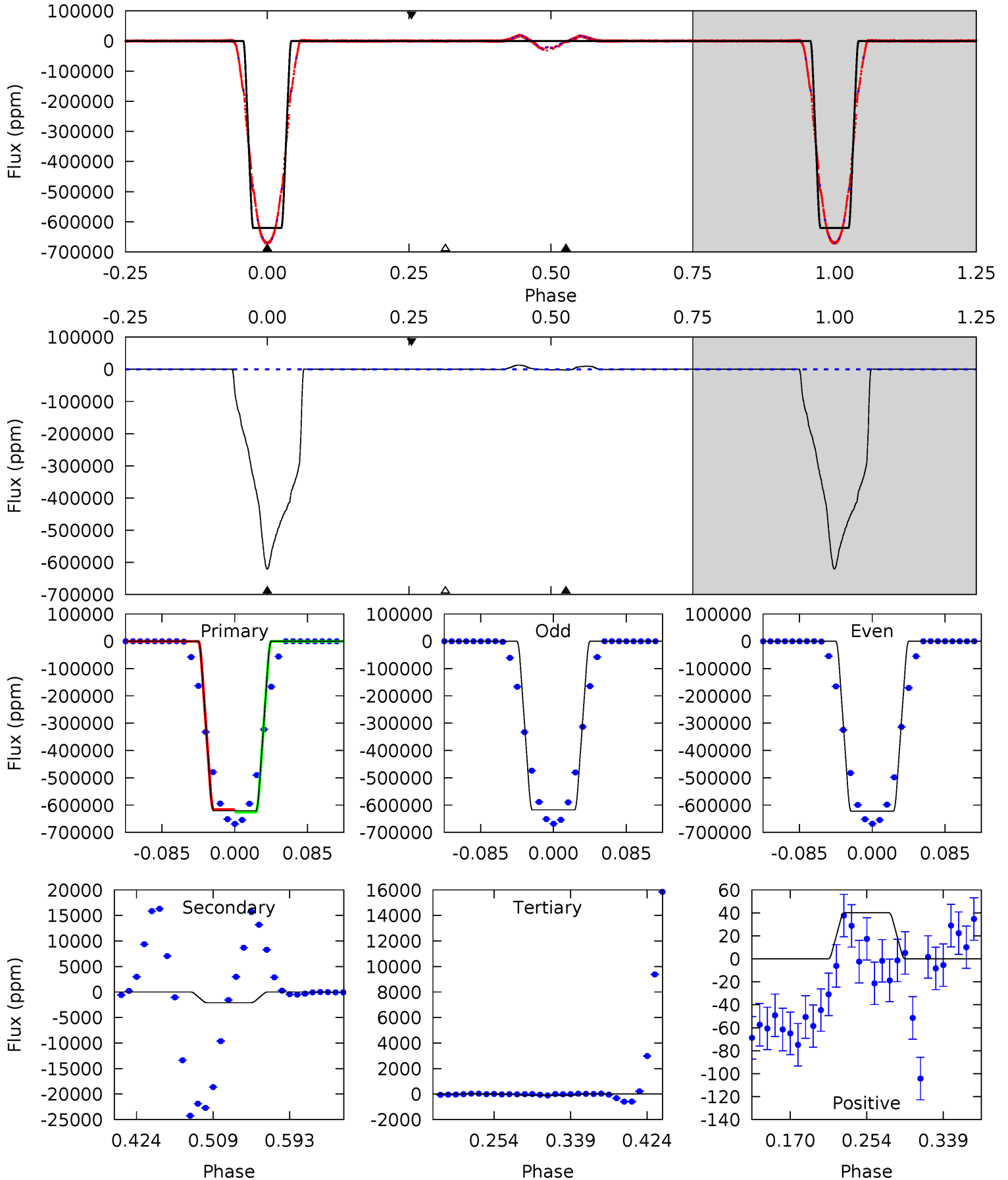
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006044064-01, P = 5.063303 Days, E = 128.626215 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13631	45.9	2.29	0.88	4.60	1.72	19.5	13629	13630	43.6	45.0	59.4	1.00	0.02	215.0



Stellar Parameters For KIC 006044064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5375^{+189}_{-170}	$4.531^{+0.099}_{-0.081}$	$-0.560^{+0.350}_{-0.300}$	$0.752^{+0.102}_{-0.092}$	$0.700^{+0.097}_{-0.037}$	$2.318^{+0.972}_{-0.629}$
	+4%/-3%	+2%/-2%	+62%/-54%	+14%/-12%	+14%/-5%	+42%/-27%
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 006044064-01 / KOI 6652.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$22.69^{+8.49}_{-7.86}$	1268^{+62}_{-63}	3023^{+3188}_{-8778}	$8.804^{+371.867}_{-310.795}$
Alt.	-2087 ± 46	$66.50^{+10.09}_{-9.92}$	1268^{+61}_{-61}	2083^{+114}_{-109}	$0.695^{+0.254}_{-0.169}$

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 $A_{obs} \gg 1.0$

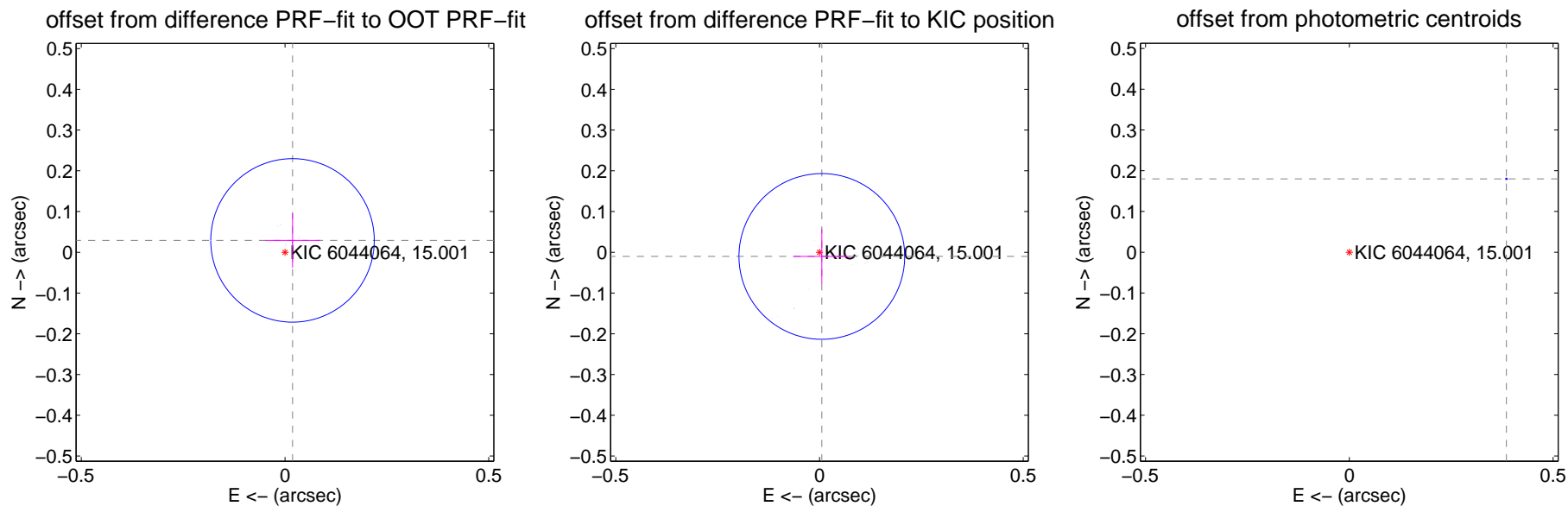
DV Centroid Data

Supplemental centroid analysis for 006044064-01. Kepler magnitude: 15.00. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

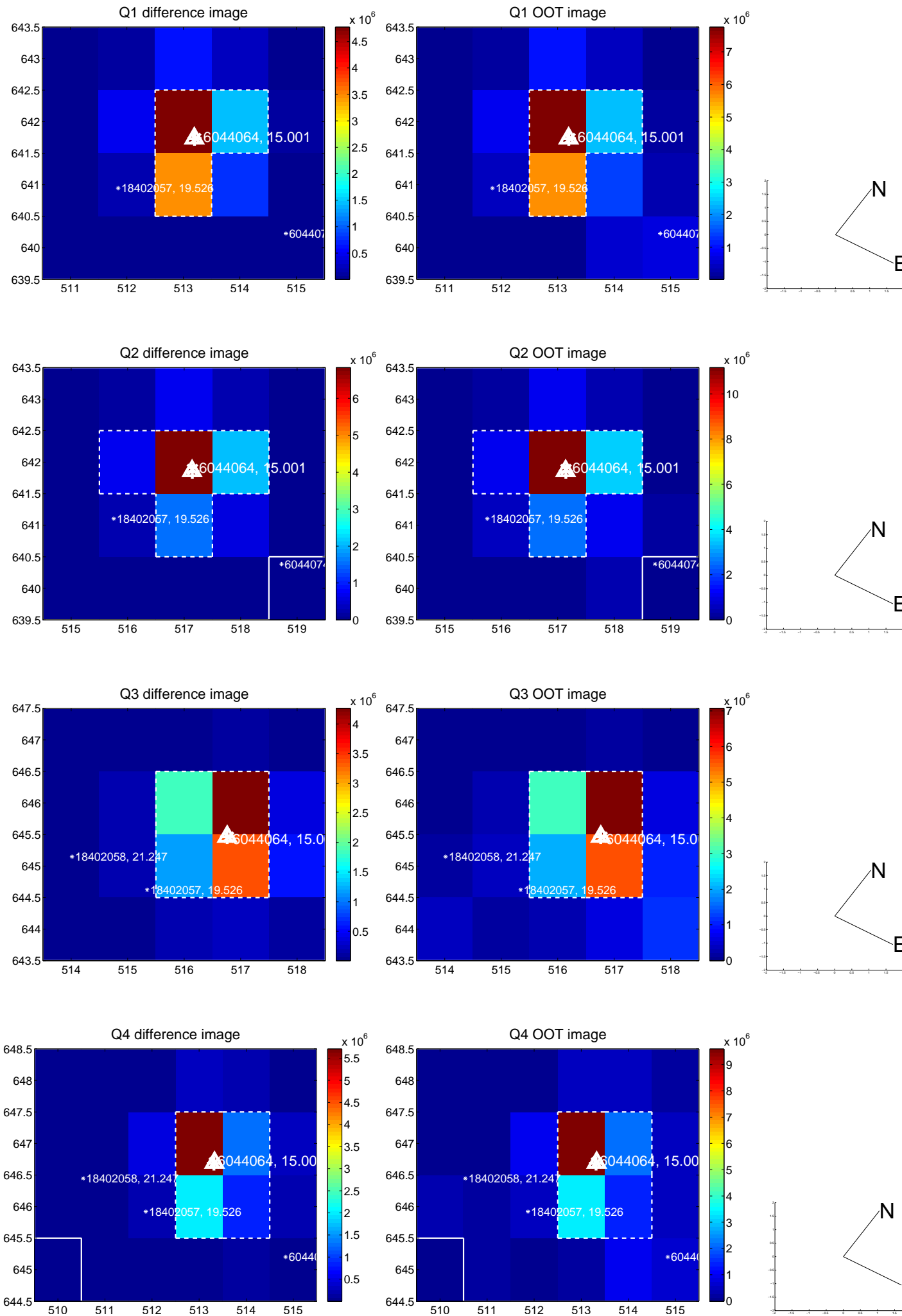
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.035 ± 0.067	0.52	-0.018 ± 0.067	0.029 ± 0.067
PRF-fit source offset from KIC position	0.012 ± 0.068	0.17	-0.006 ± 0.070	-0.010 ± 0.067
photometric centroid source offset	0.43 ± 0.00	664.32	-0.39 ± 0.00	0.18 ± 0.00

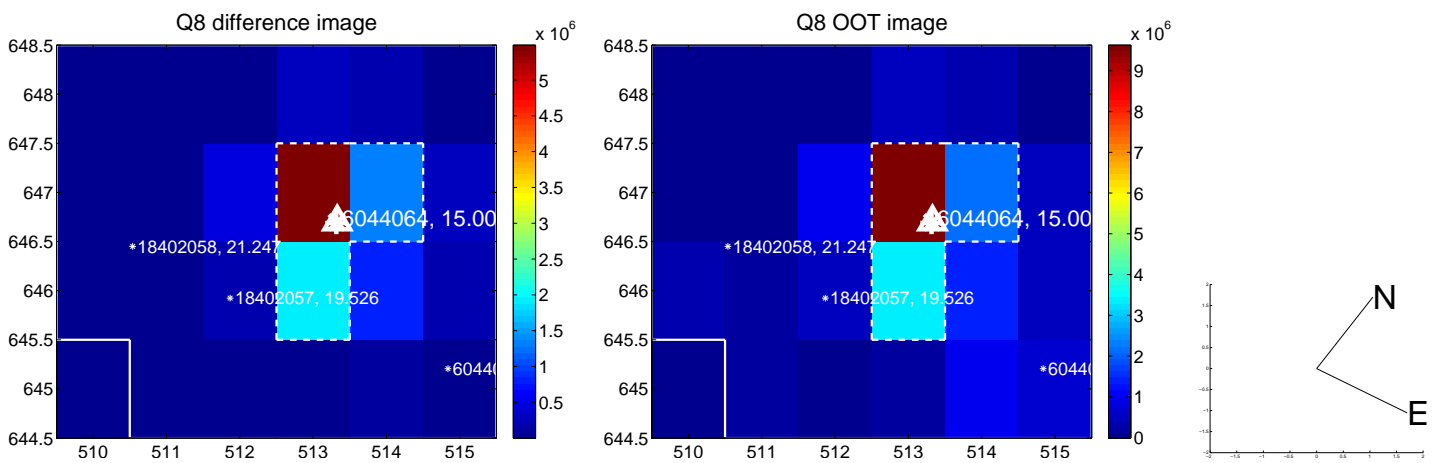
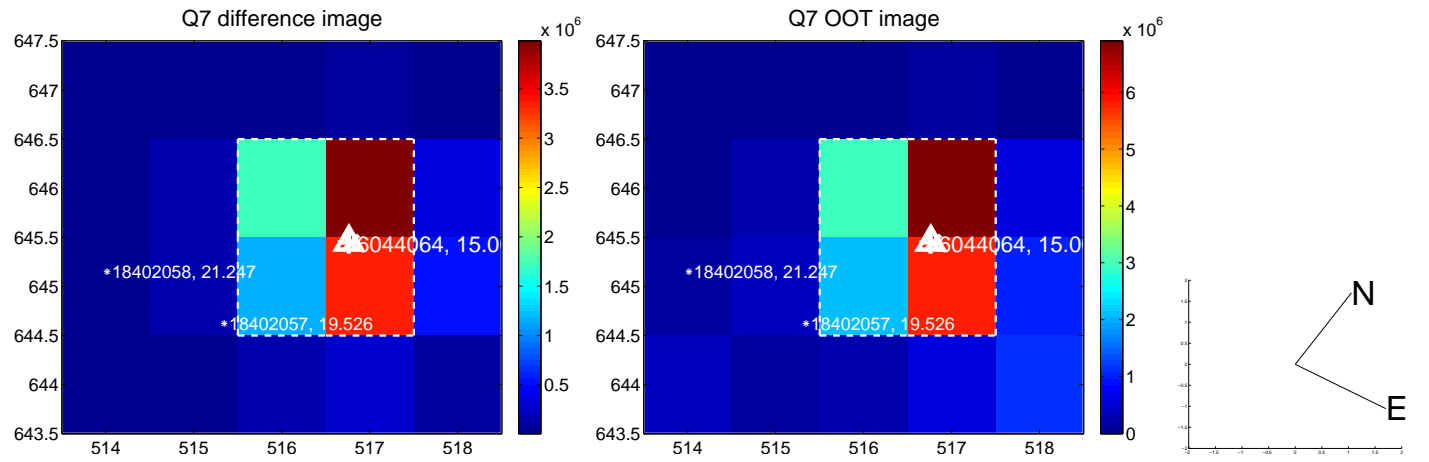
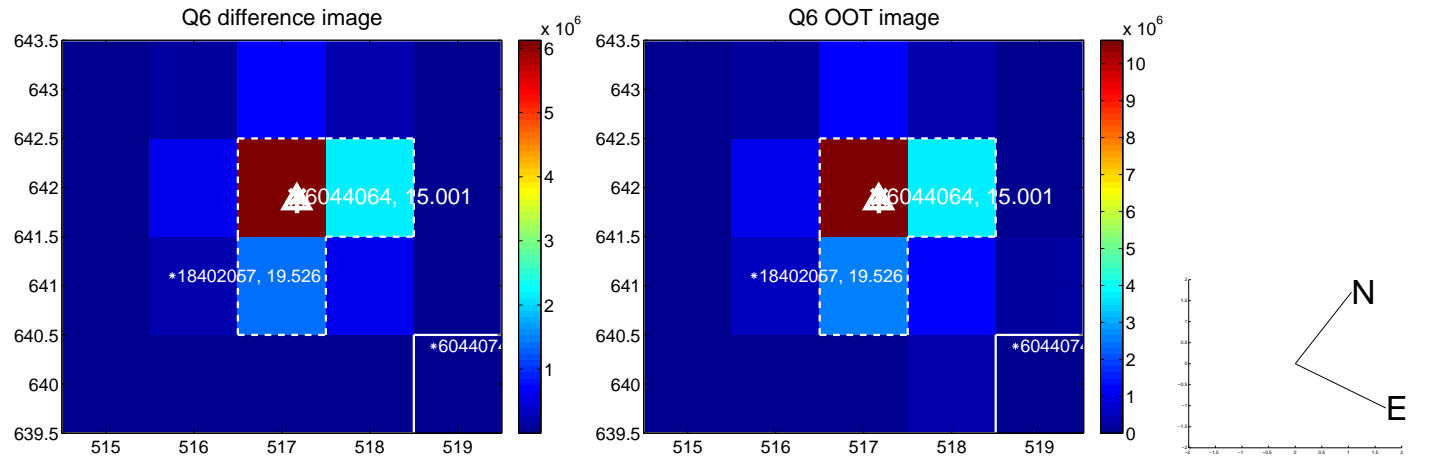
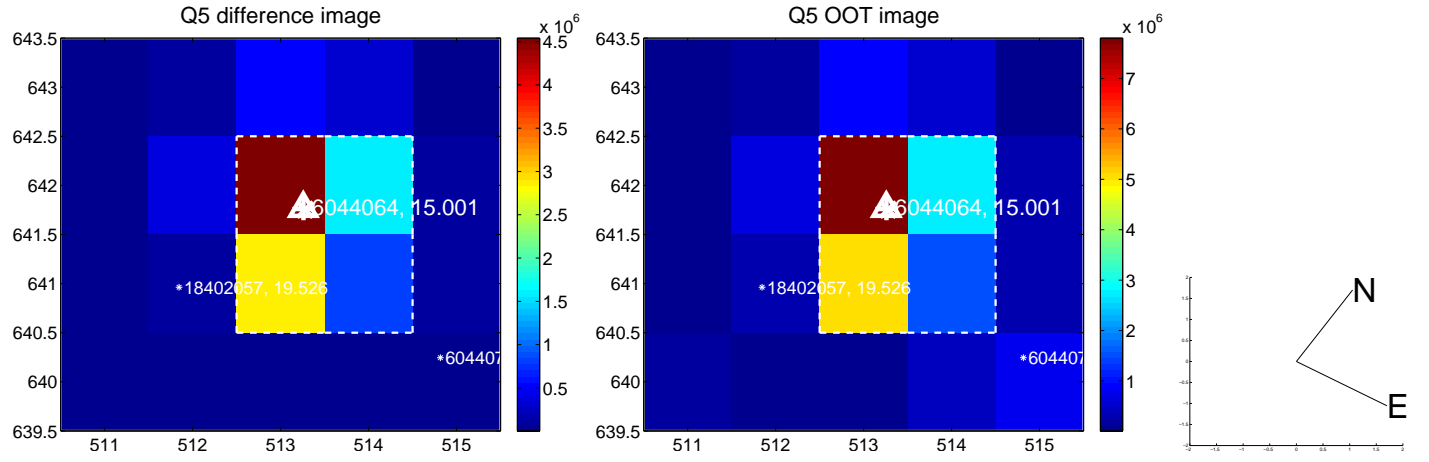


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

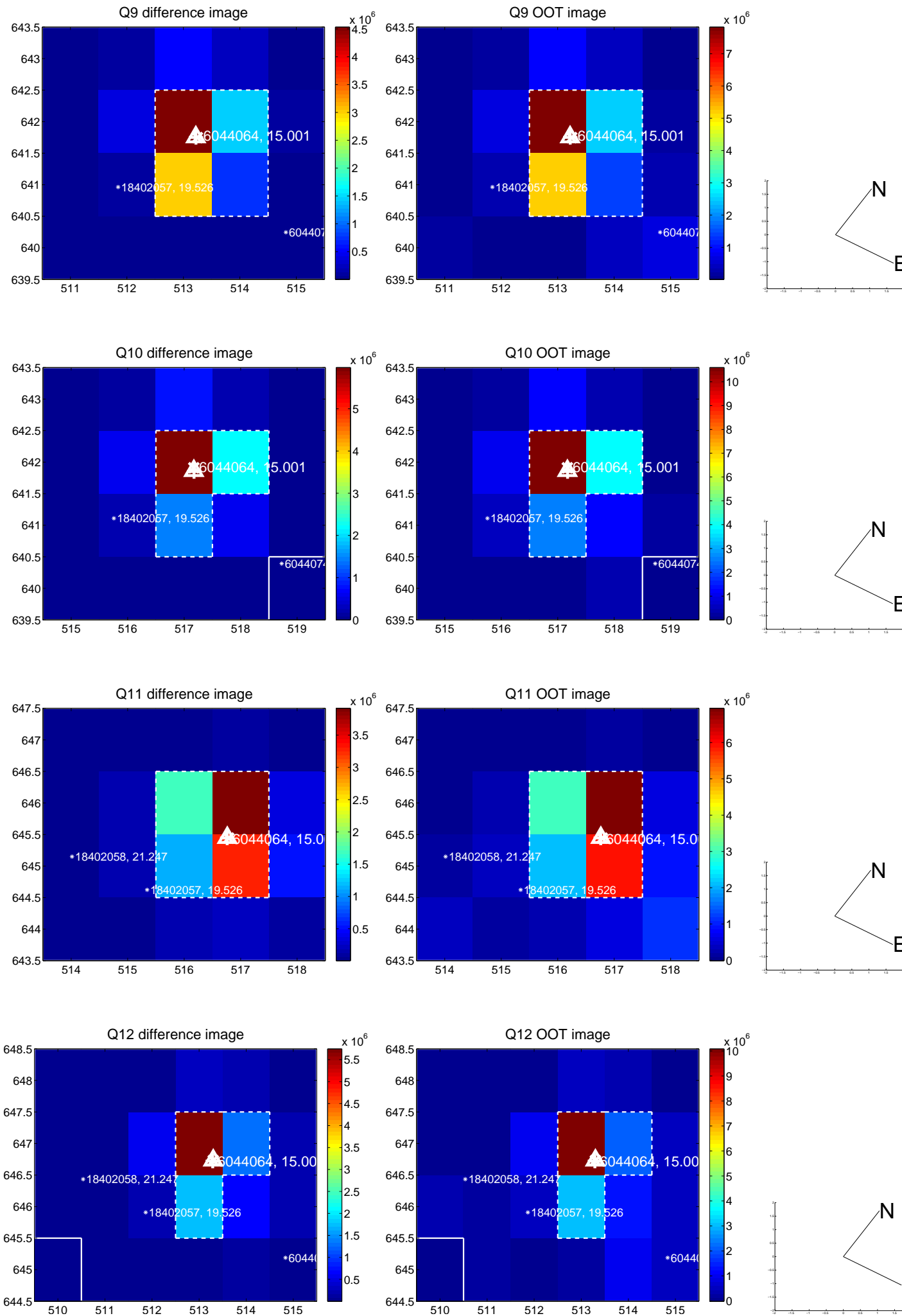
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



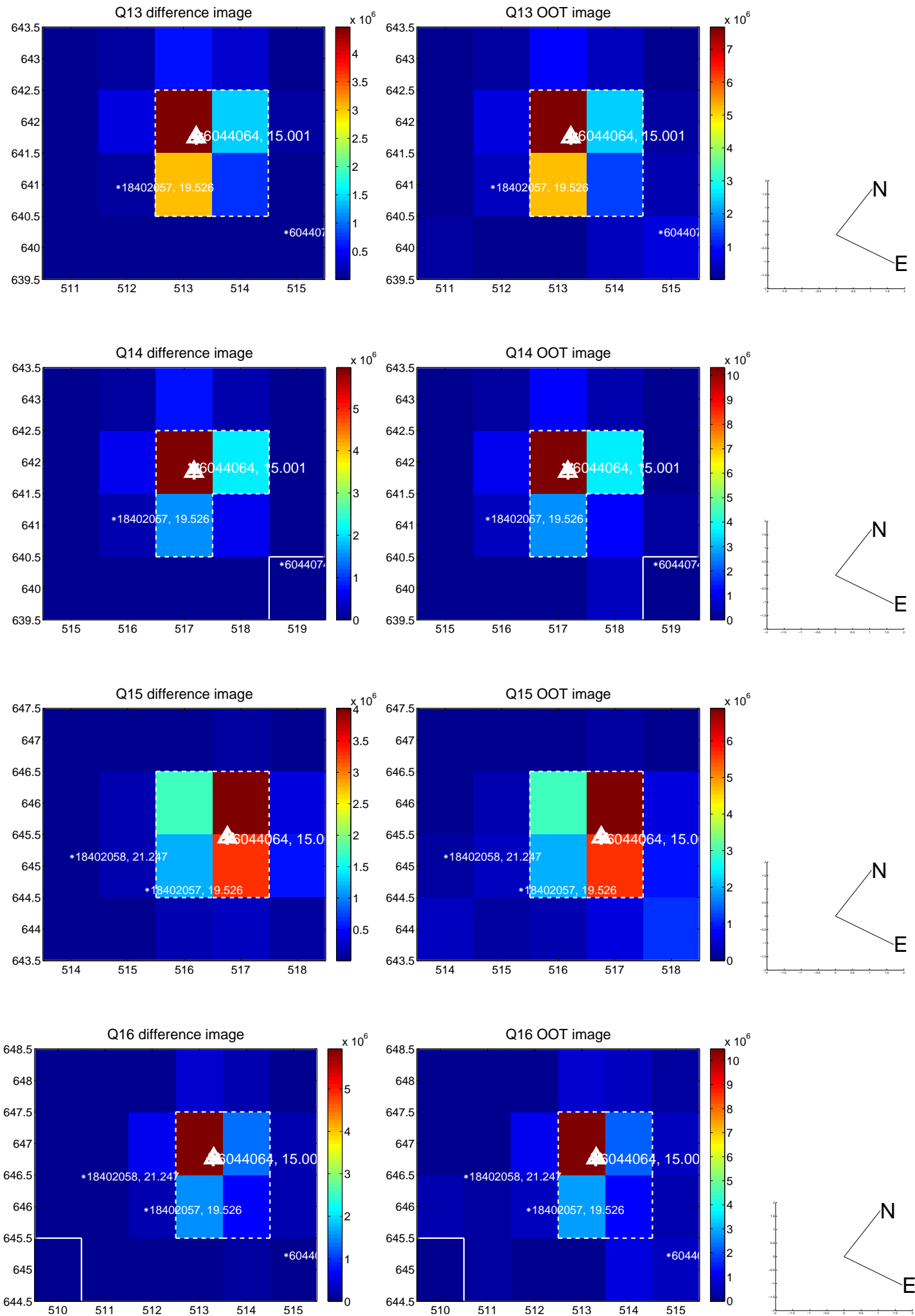
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



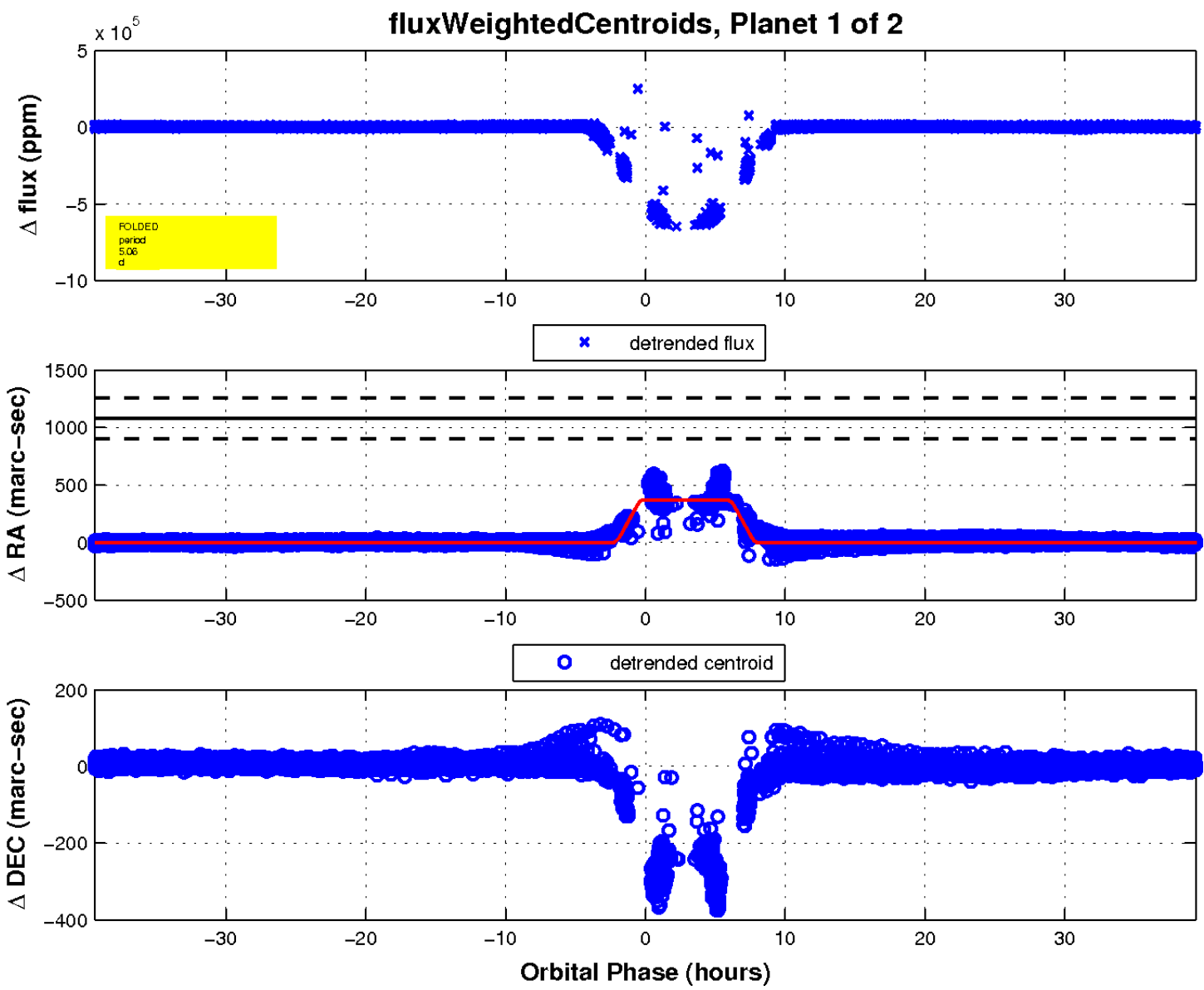
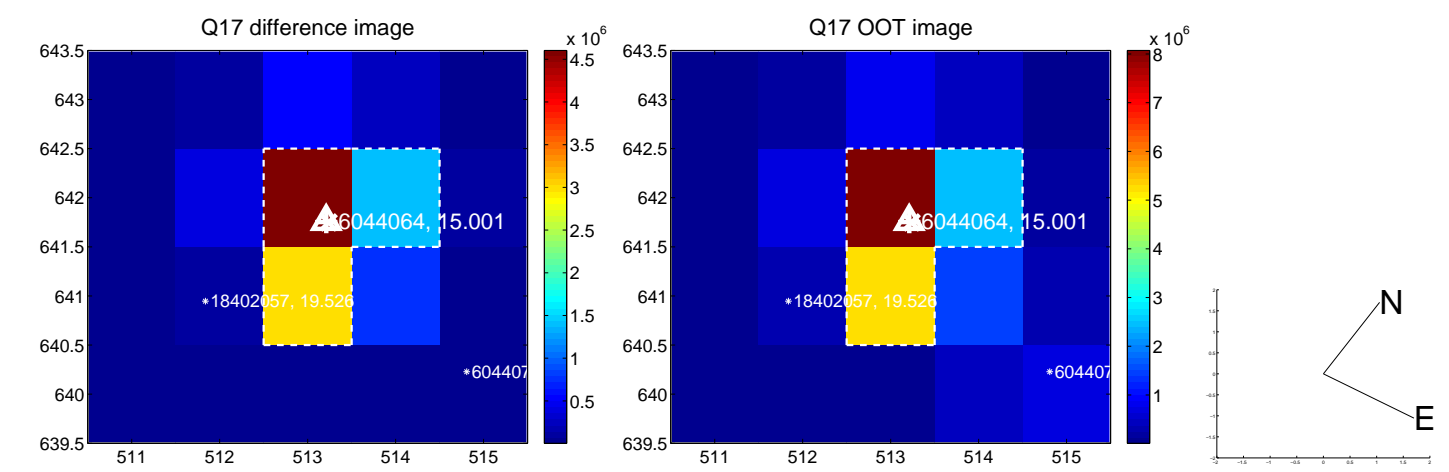
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

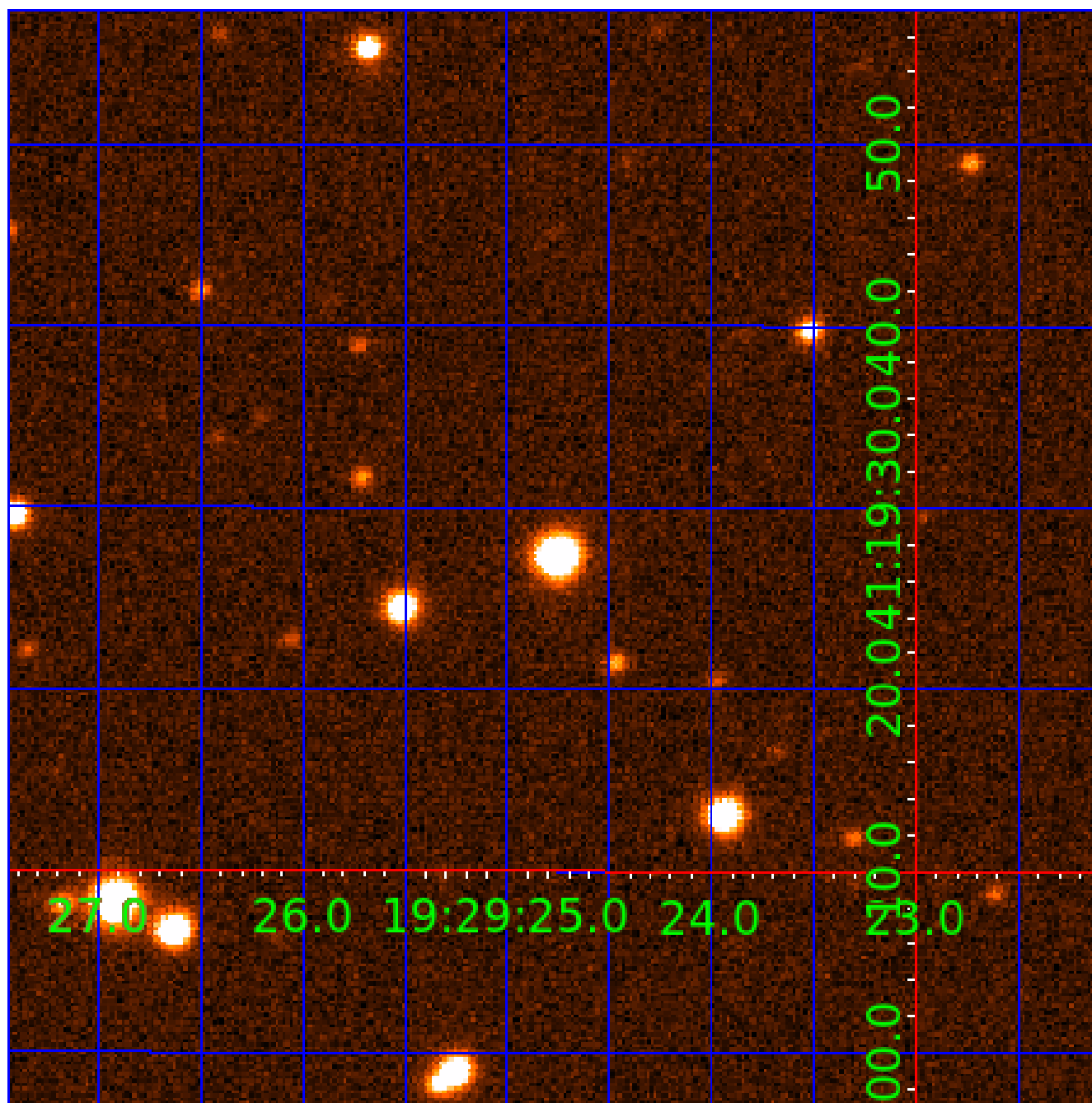


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006044064

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})
006044064-01	OBS	6652.01	5.063303	133.687168	654124.3	9.000	5770.5	-1.0	0.75	5375	22.11	160.93
006044064-02	OBS	No	5.063136	136.235956	91719.2	13.956	684.8	879.0	0.75	5375	24.64	160.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006044064-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006044064-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

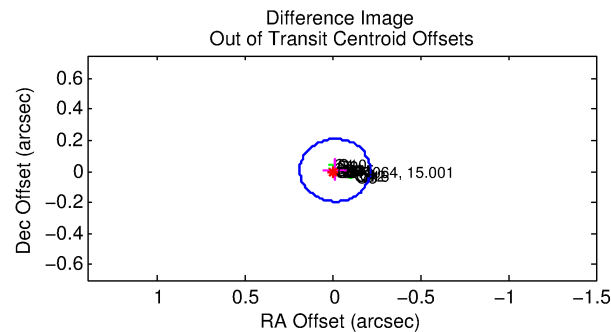
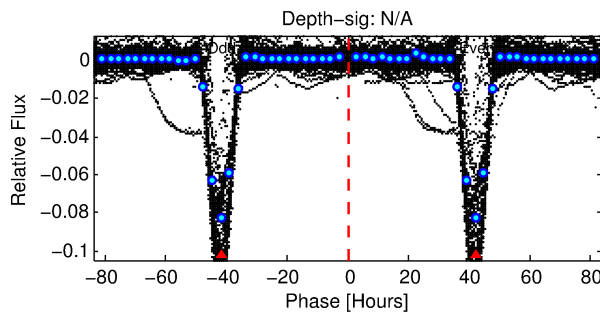
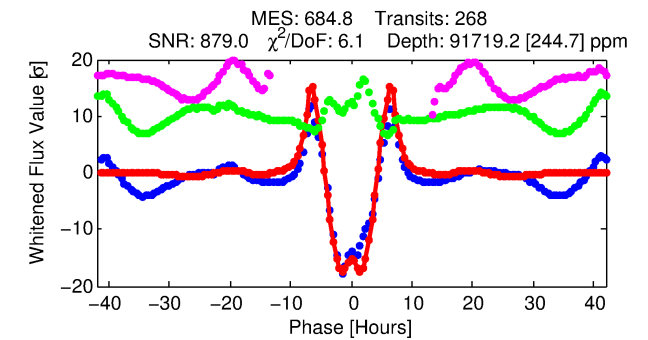
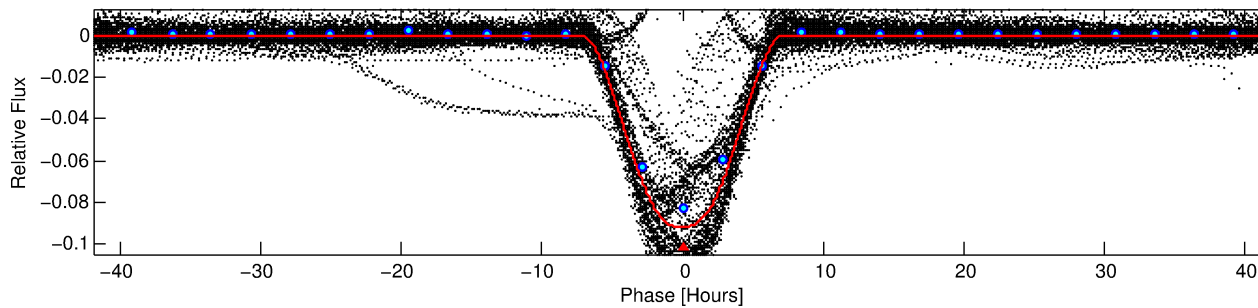
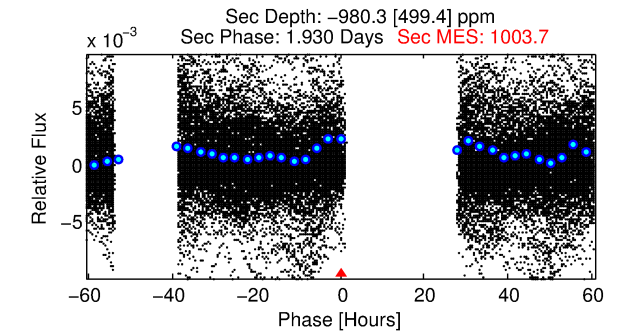
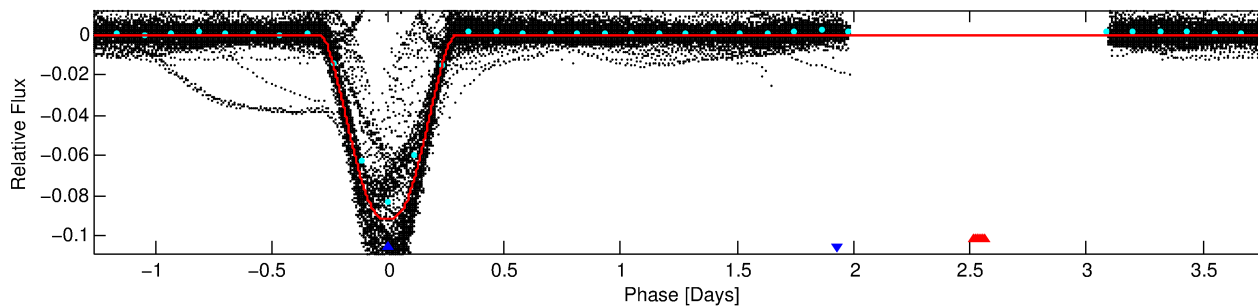
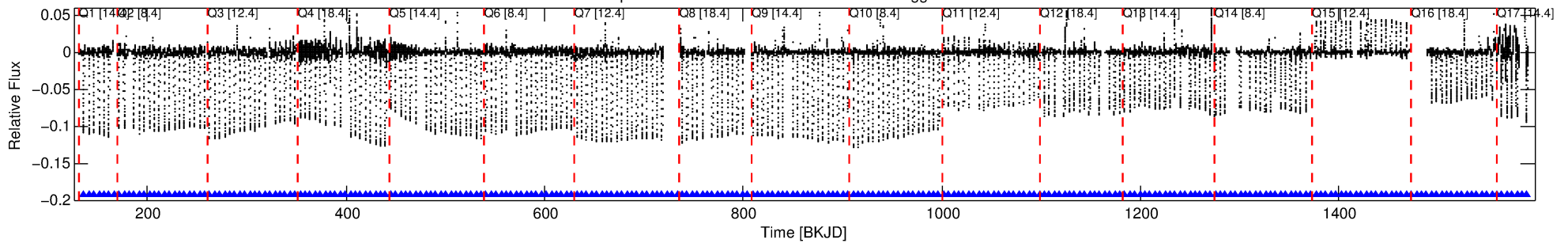
Ephemeris Match Information For 006044064-02

No Significant Match Found

DV One-Page Summary

KIC: 6044064 Candidate: 2 of 2 Period: 5.063 d
KOI: K06652 Corr: No Ephemeris Match

Kp: 15.00 R*: 0.75 Rs Teff: 5375.0 K Logg: 4.53 Fe/H: -0.560



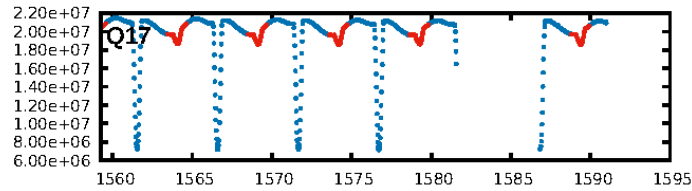
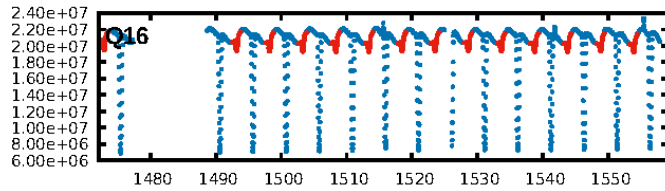
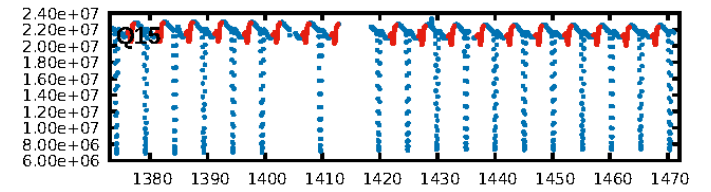
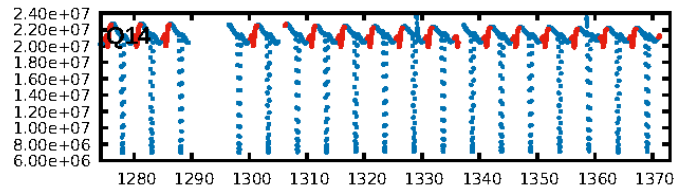
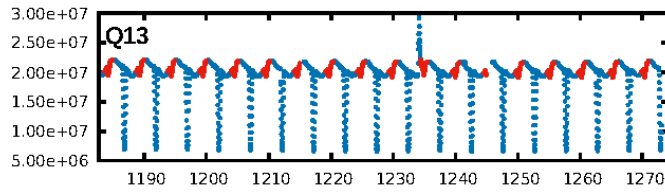
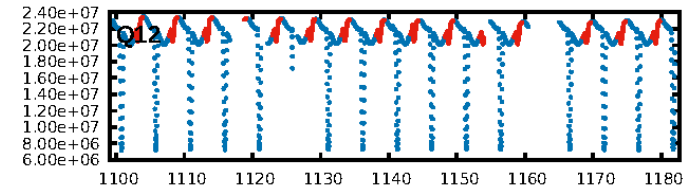
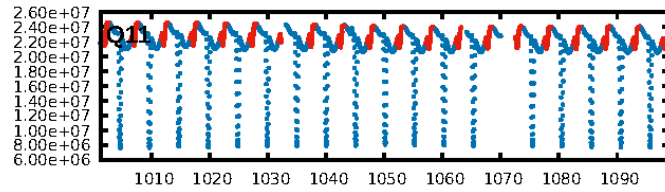
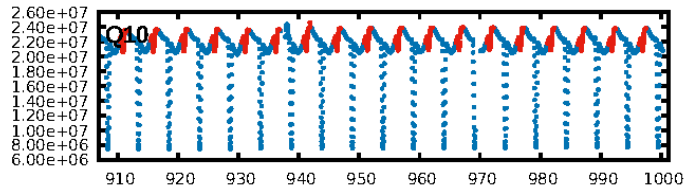
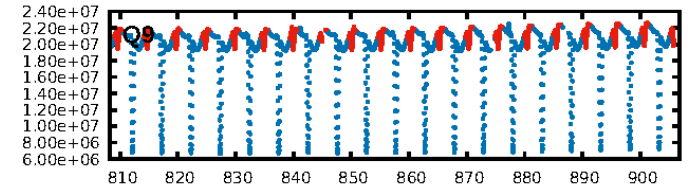
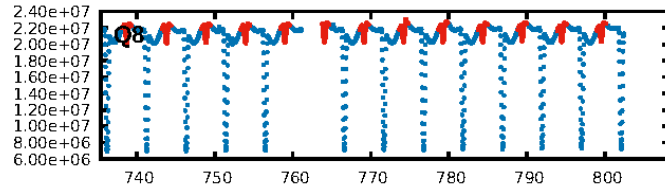
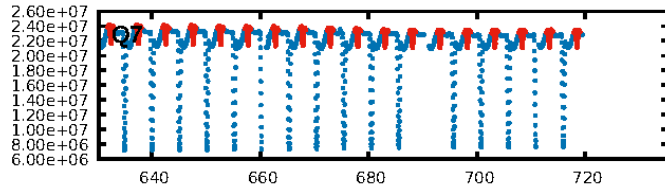
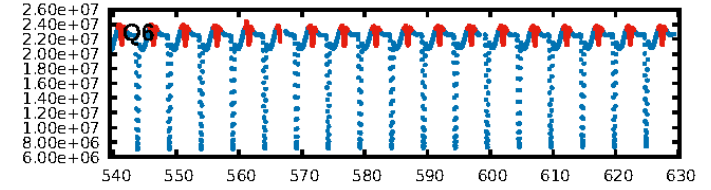
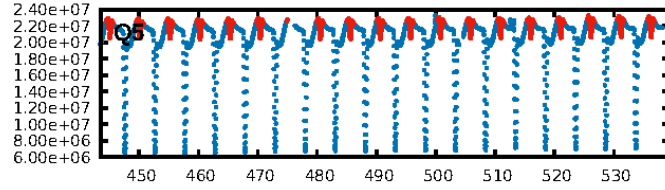
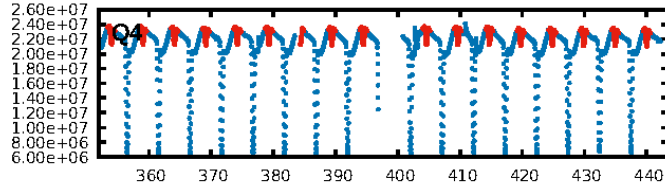
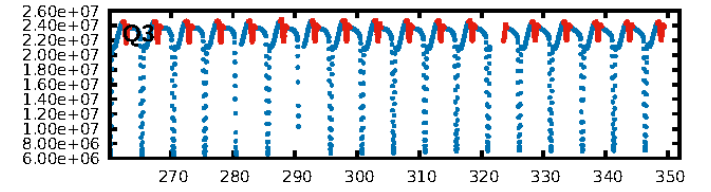
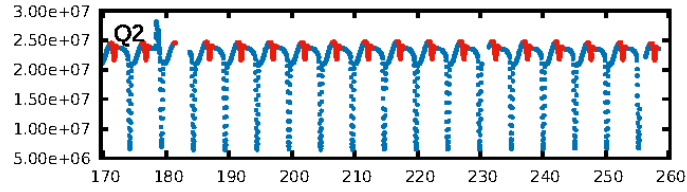
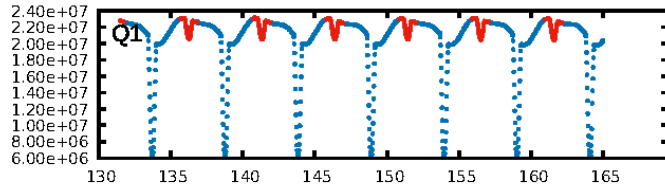
DV Fit Results:

Period = 5.06314 [0.00000] d
Epoch = 136.2360 [0.0004] BKJD
Rp/R* = 0.3003 [0.0004]
a/R* = 3.21 [0.00]
b = 0.68 [0.00]
Seff = 160.94 [36.36]
Teq = 908 [51] K
Rp = 24.64 [3.34] Re
a = 0.0513 [0.0061] AU
Ag = N/A
Teffp = N/A

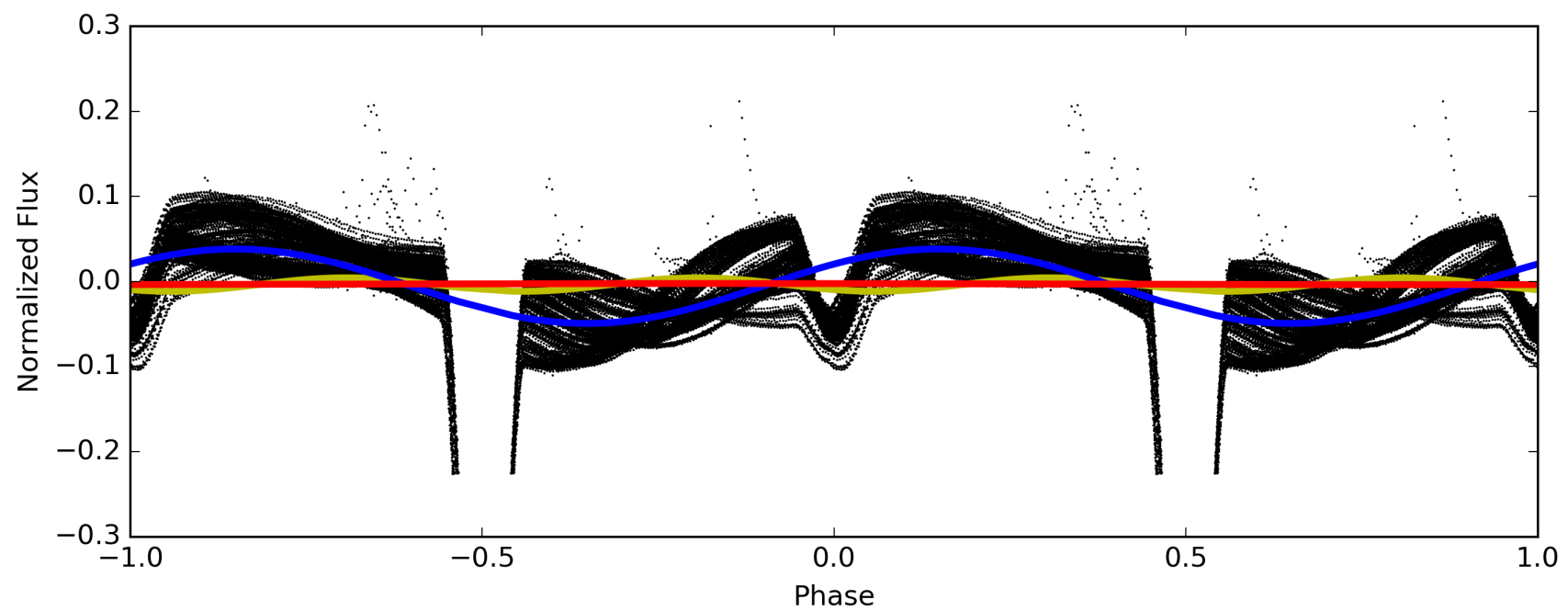
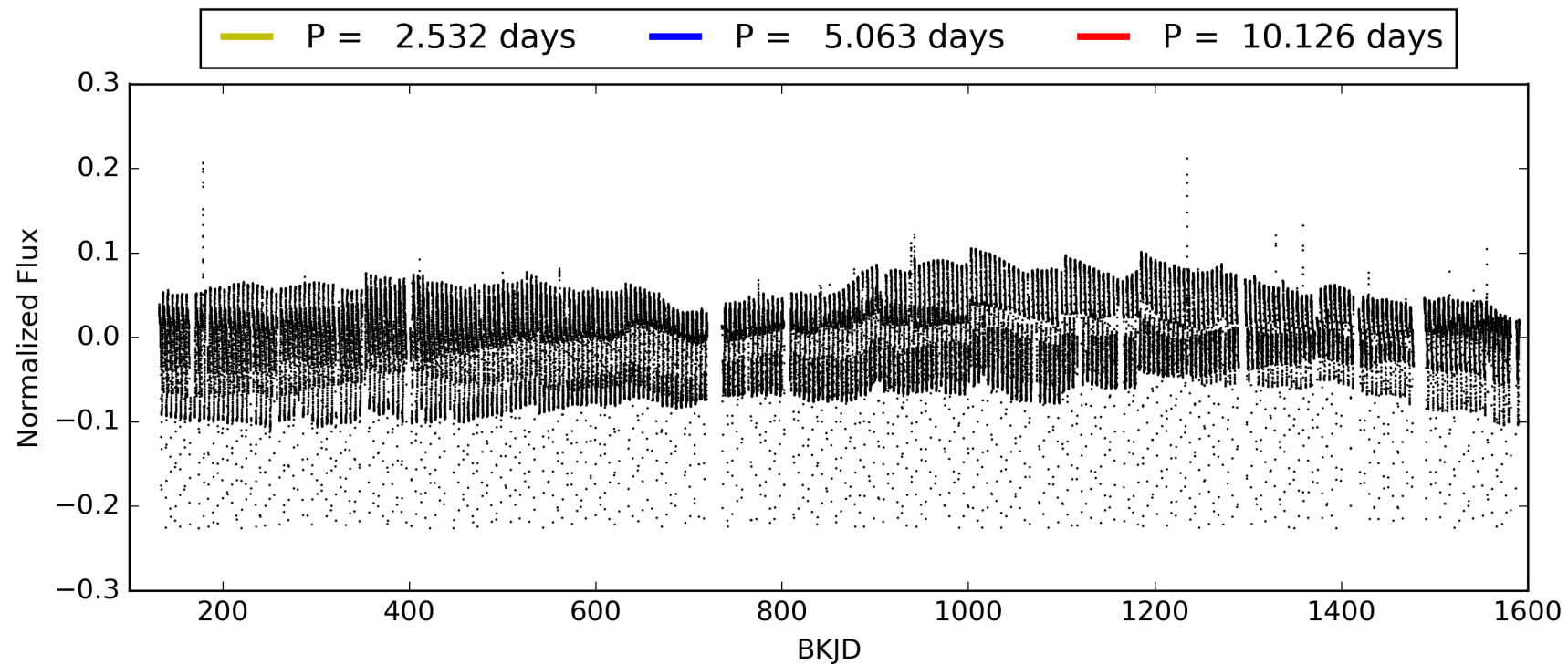
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [256/256]
GhostDiagnostic-chr: 1.01
Centroid-sig: N/A
Centroid-so: 0.244 arcsec [62.62σ]
OotOffset-rm: 0.015 arcsec [0.22σ]
KicOffset-rm: 0.069 arcsec [1.00σ]
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]

TCE 006044064-02, PDC Light Curves

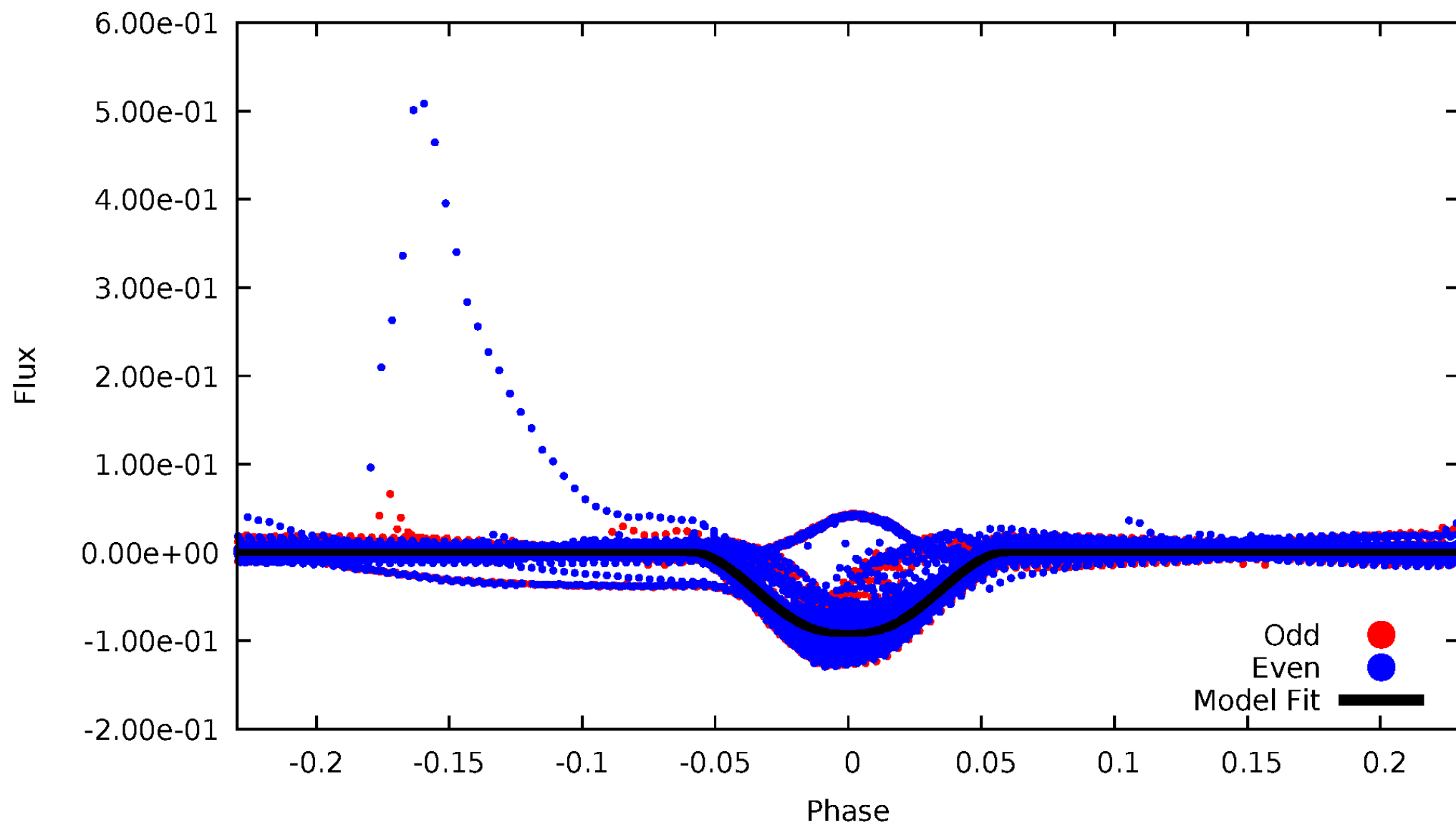


TCE 006044064-02



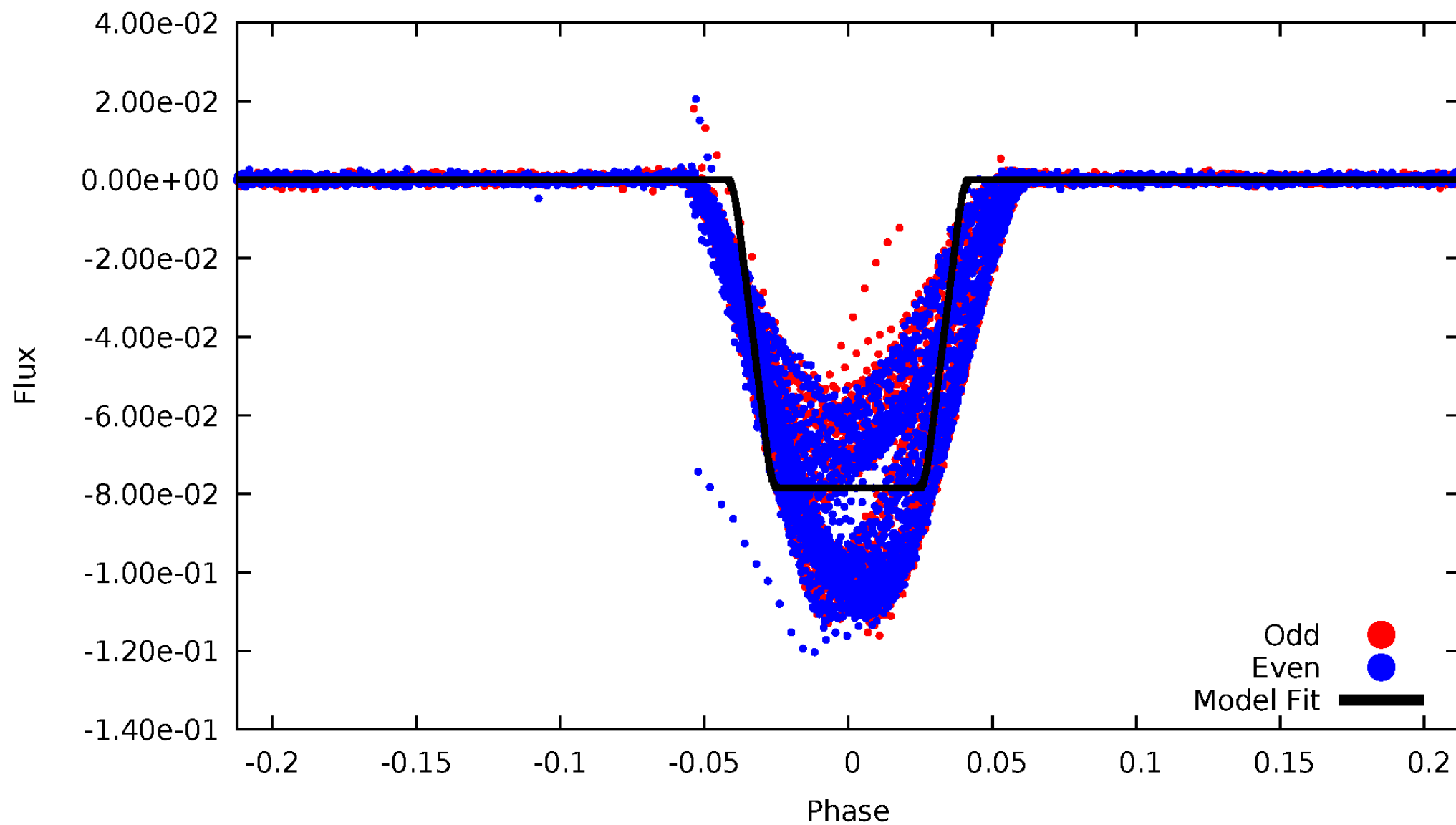
DV Odd/Even

TCE 006044064-02



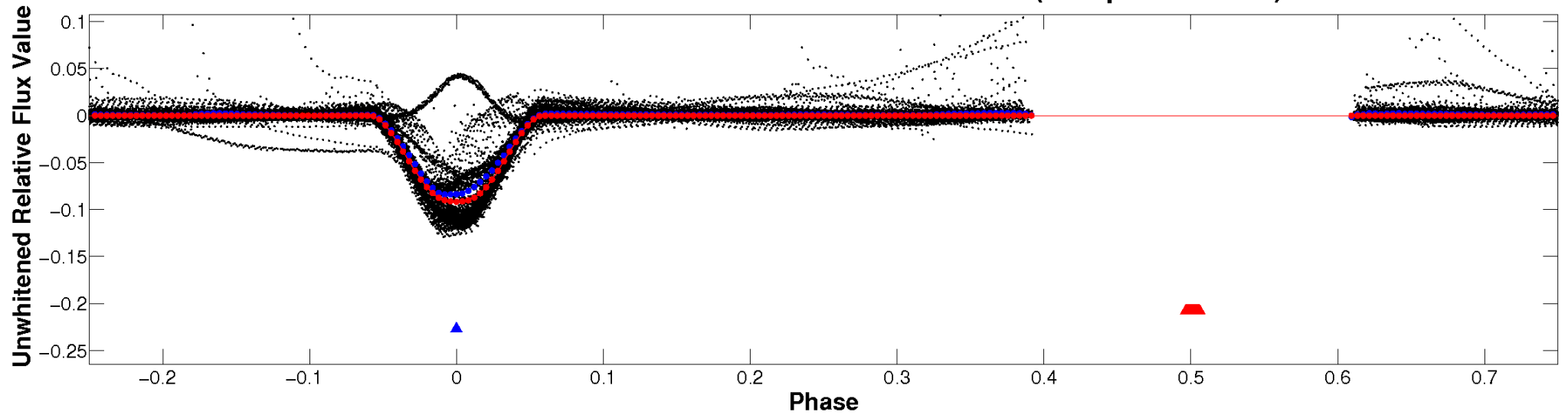
ALT Odd/Even

TCE 006044064-02

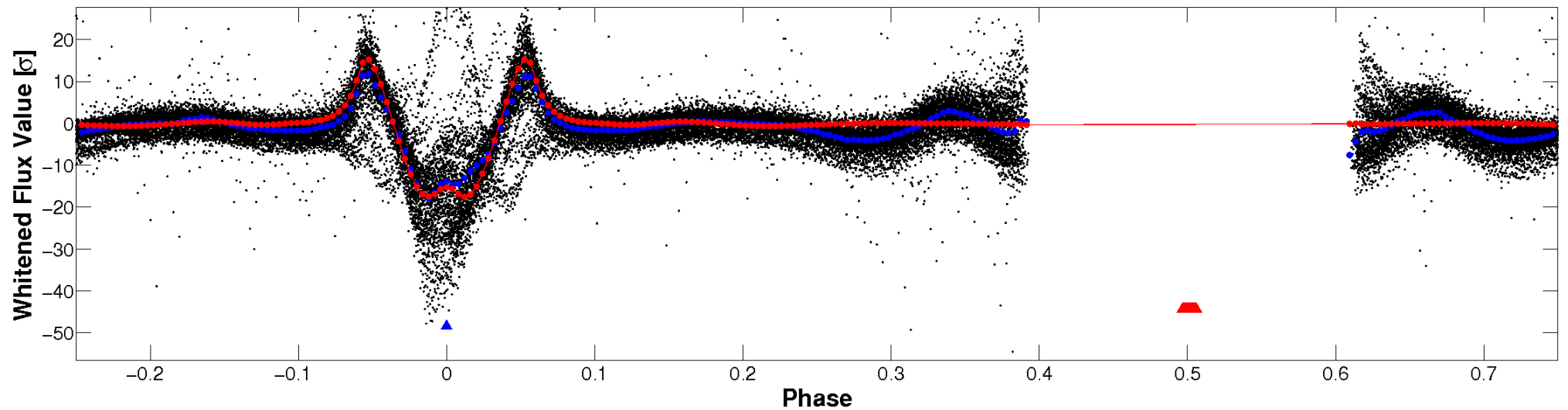


Non-Whitened Vs. Whitened Light Curve

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

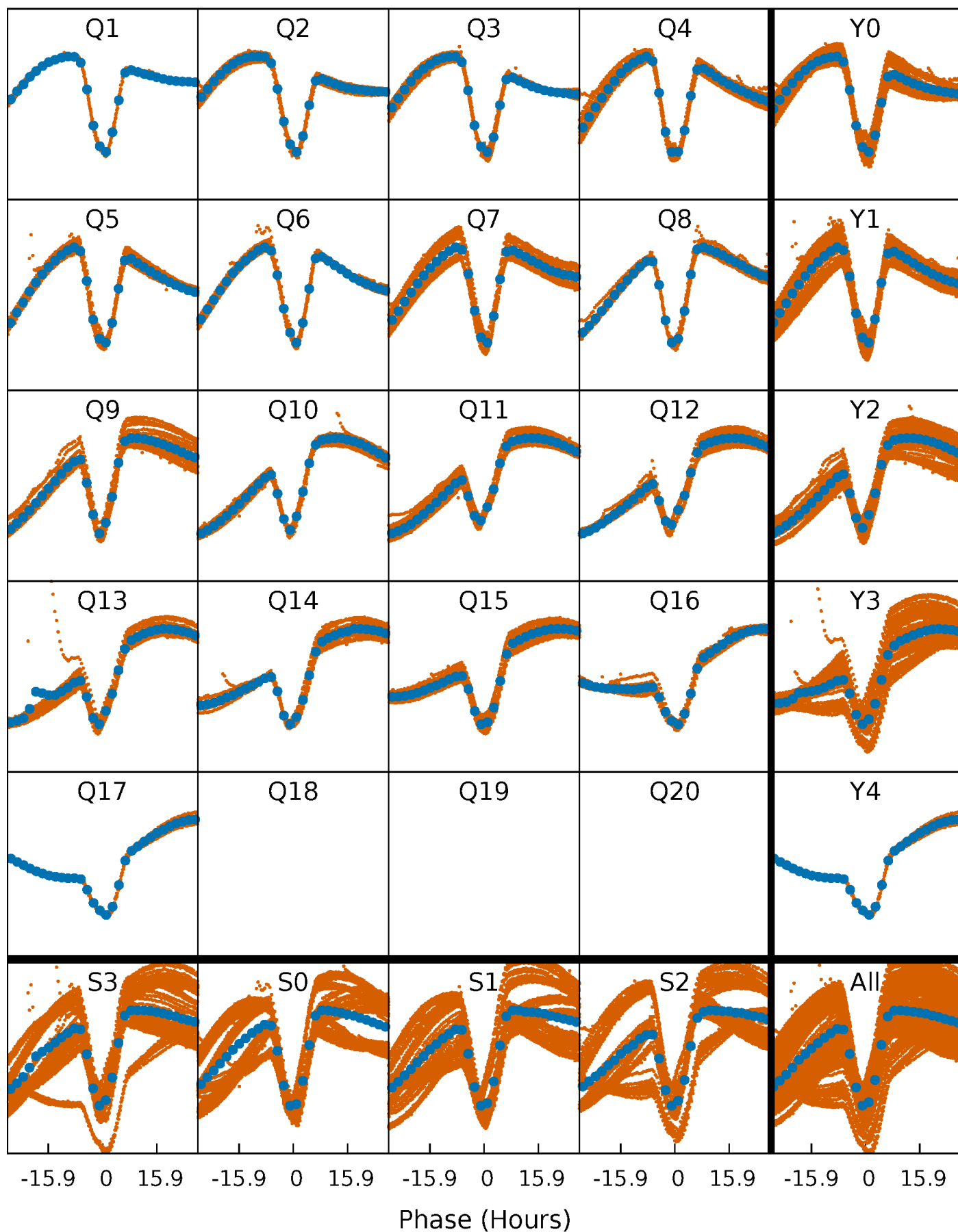


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



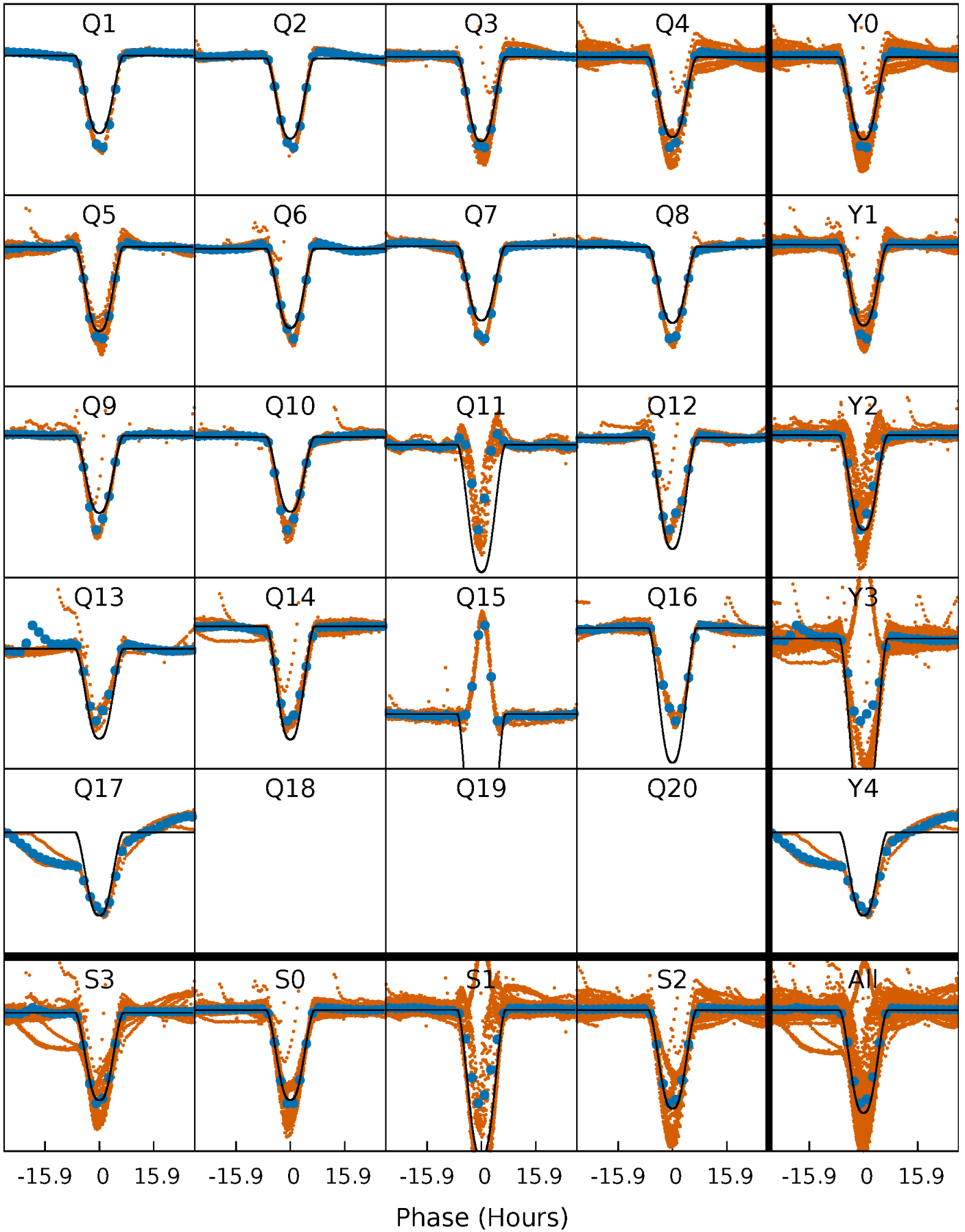
PDC Quarter-Phased Transit Curves

TCE 006044064-02 $P = 5.063136$ Days $T_0 = 136.235956$ (BKJD)



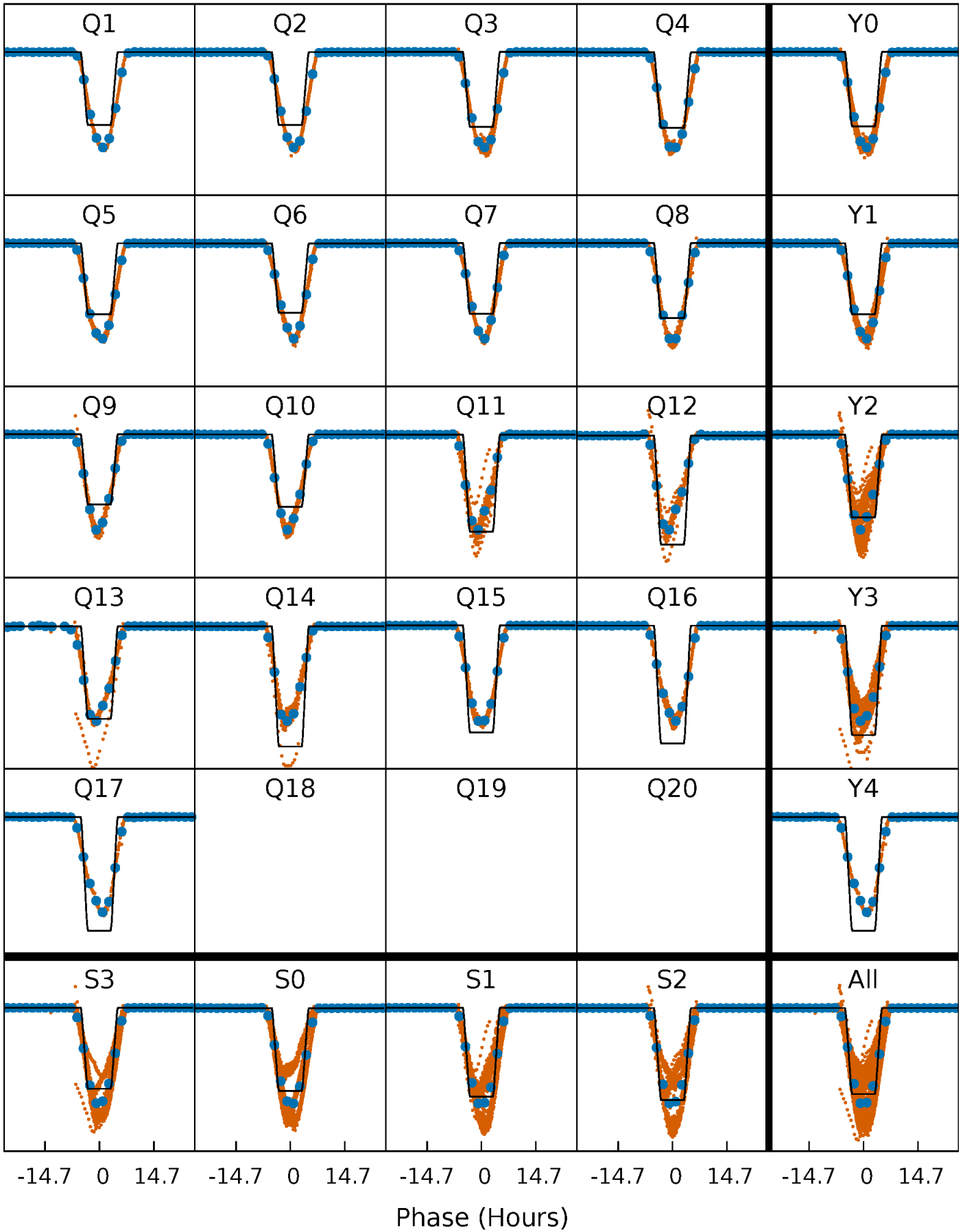
DV Quarter-Phased Transit Curves

TCE 006044064-02 P= 5.063136 Days $T_0=136.235956$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

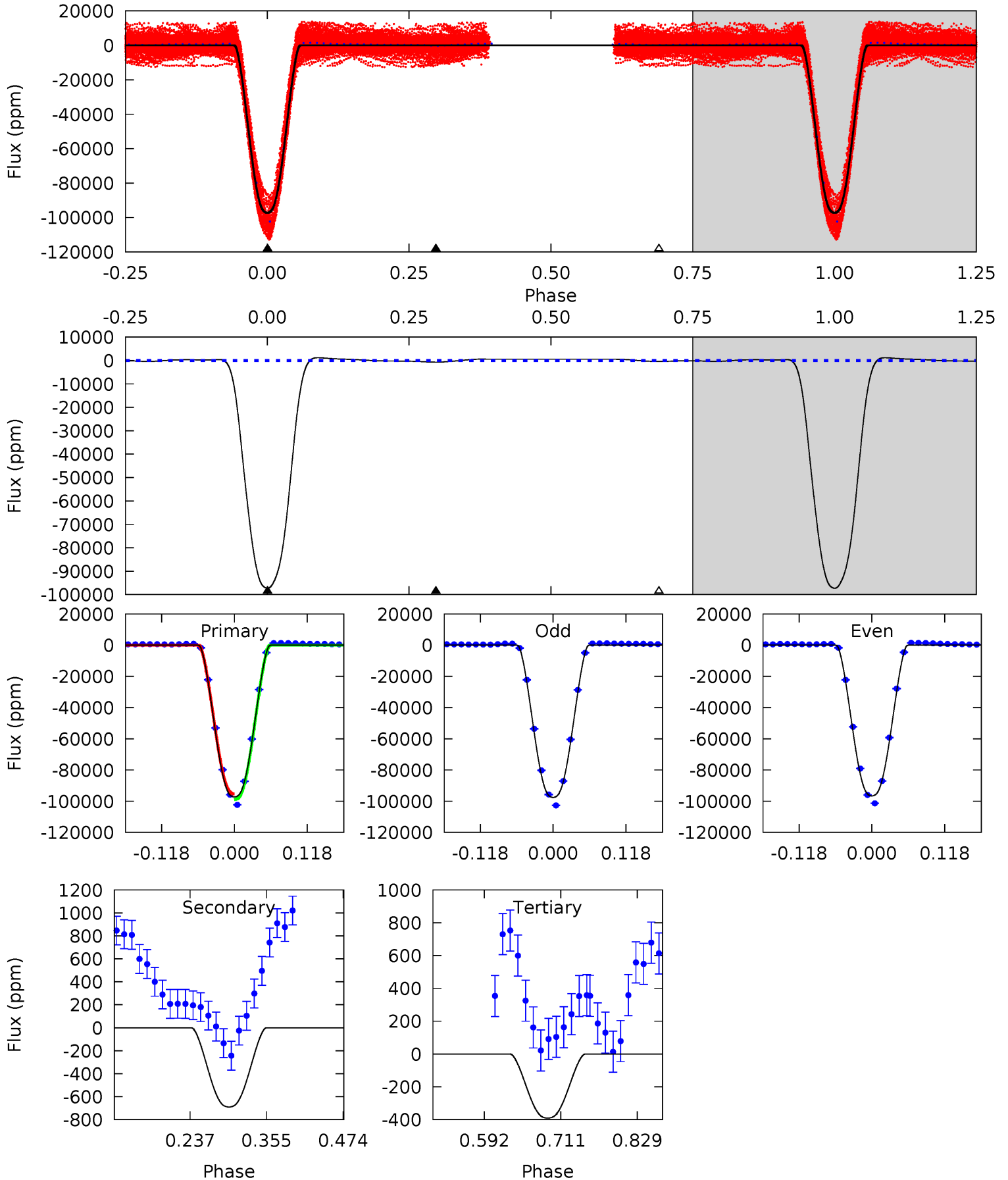
TCE 006044064-02 P= 5.063303 Days $T_0=136.208225$ (BKJD)



DV Model-Shift Uniqueness Test

006044064-02, P = 5.063136 Days, E = 131.172820 Days

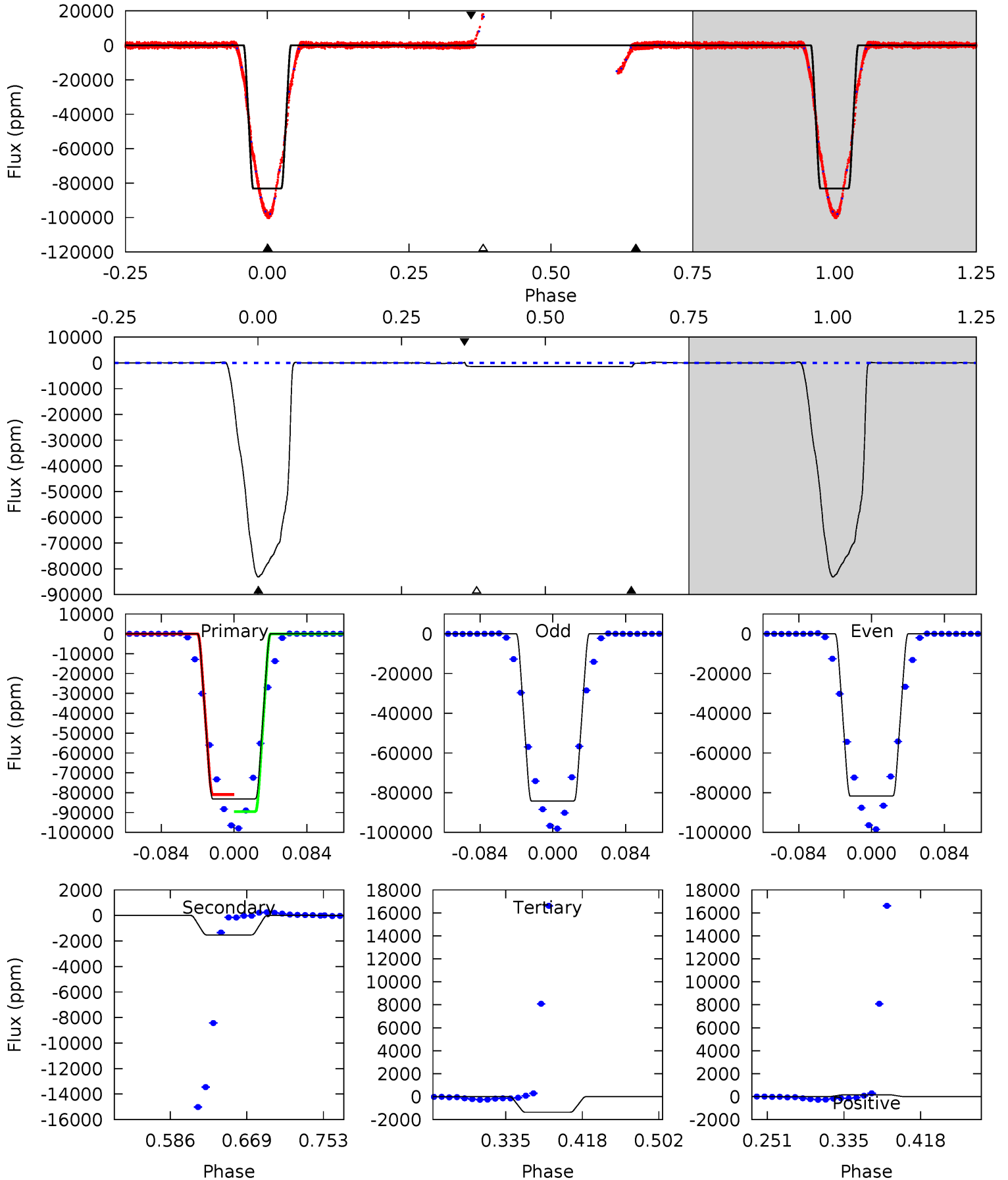
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2100	14.9	8.44	0	4.53	1.56	7.18	2092	2100	6.46	14.9	10.4	0.88	0.01	0



Alt Model-Shift Uniqueness Test

006044064-02, P = 5.063303 Days, E = 131.144922 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4162	76.5	68.2	8.10	4.60	1.73	5.21	4094	4154	8.23	68.4	52.6	0.90	0.00	257.3



Stellar Parameters For KIC 006044064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5375^{+189}_{-170}	$4.531^{+0.099}_{-0.081}$	$-0.560^{+0.350}_{-0.300}$	$0.752^{+0.102}_{-0.092}$	$0.700^{+0.097}_{-0.037}$	$2.318^{+0.972}_{-0.629}$
	+4%/-3%	+2%/-2%	+62%/-54%	+14%/-12%	+14%/-5%	+42%/-27%
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 006044064-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-690 ± 46	$24.68^{+1.98}_{-1.65}$	1265^{+62}_{-58}	2393^{+48}_{-48}	$1.653^{+0.253}_{-0.217}$
Alt.	-1527 ± 20	$23.22^{+1.74}_{-1.54}$	1273^{+58}_{-60}	2732^{+55}_{-51}	$4.161^{+0.595}_{-0.471}$

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 $A_{obs} \gg 1.0$

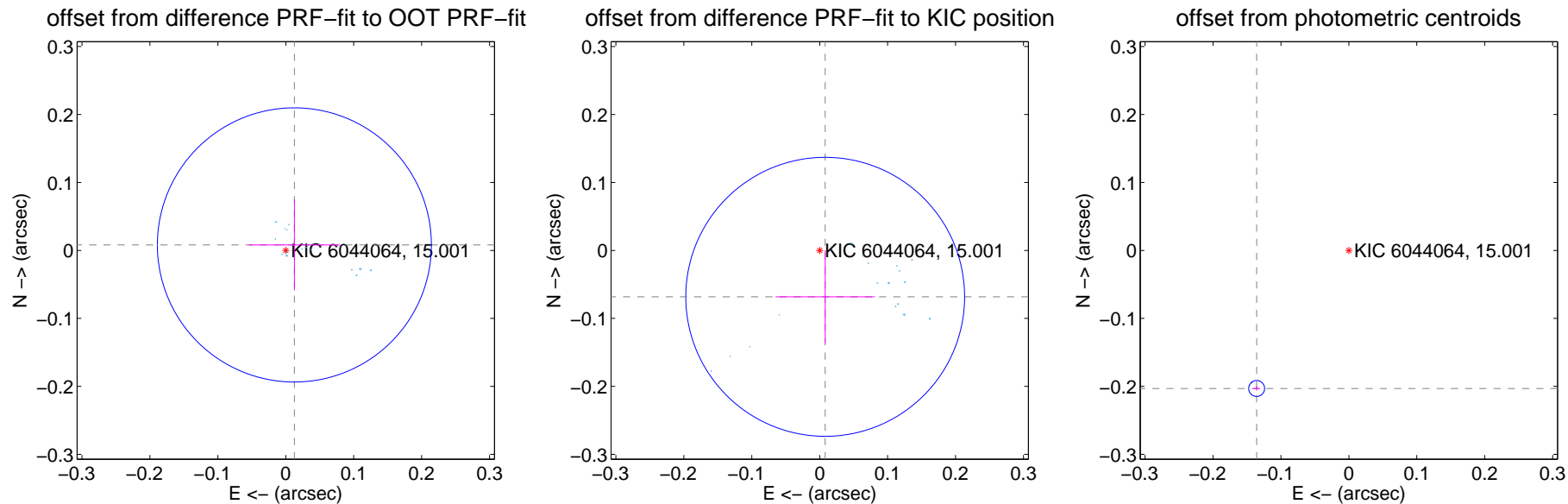
DV Centroid Data

Supplemental centroid analysis for 006044064-02. Kepler magnitude: 15.00. Transit SNR 878.96

There are 17 quarters with good PRF difference image offsets

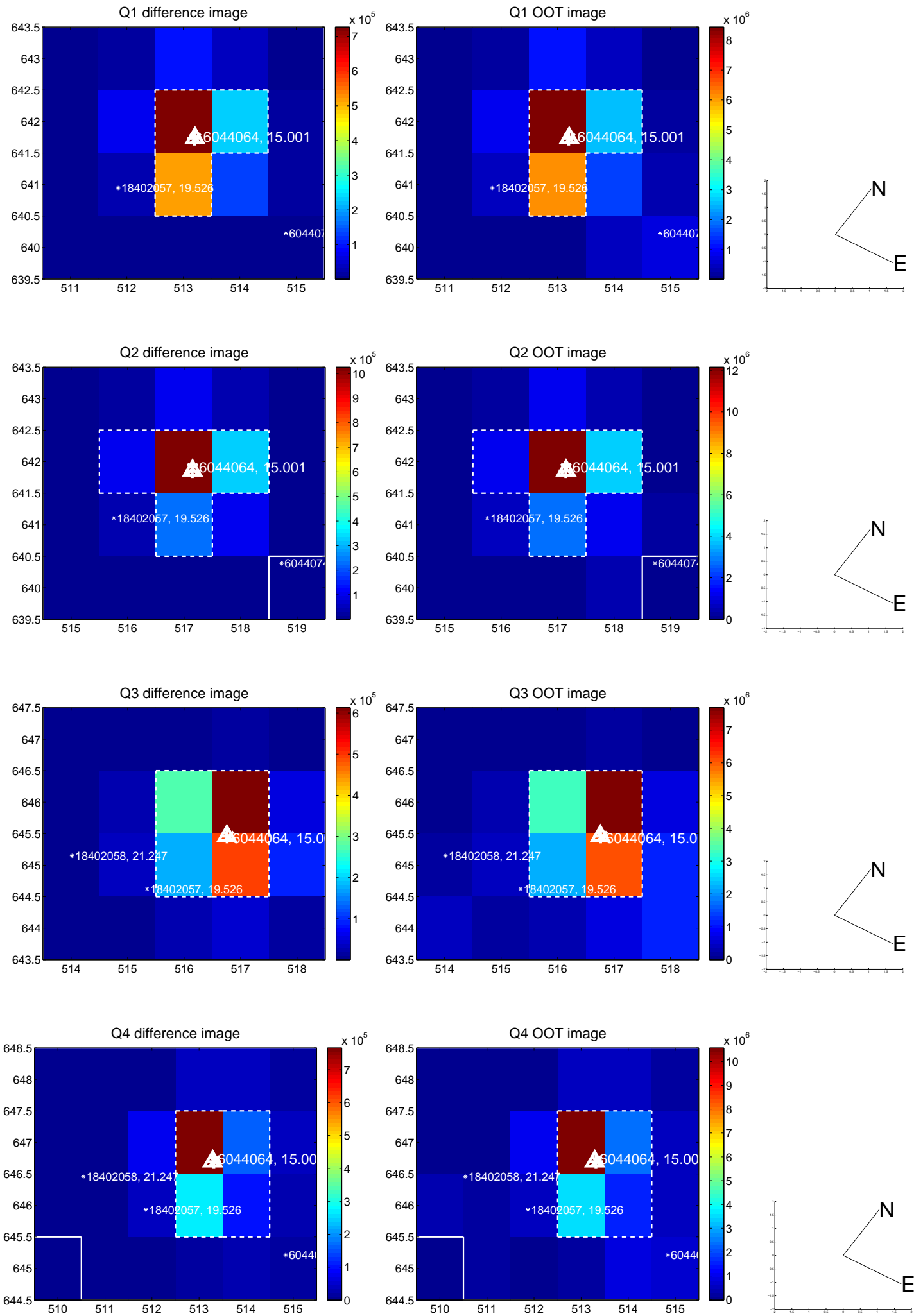
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.067	0.22	-0.013 ± 0.067	0.008 ± 0.067
PRF-fit source offset from KIC position	0.069 ± 0.068	1.00	-0.008 ± 0.073	-0.068 ± 0.068
photometric centroid source offset	0.24 ± 0.00	62.62	0.14 ± 0.00	-0.20 ± 0.00

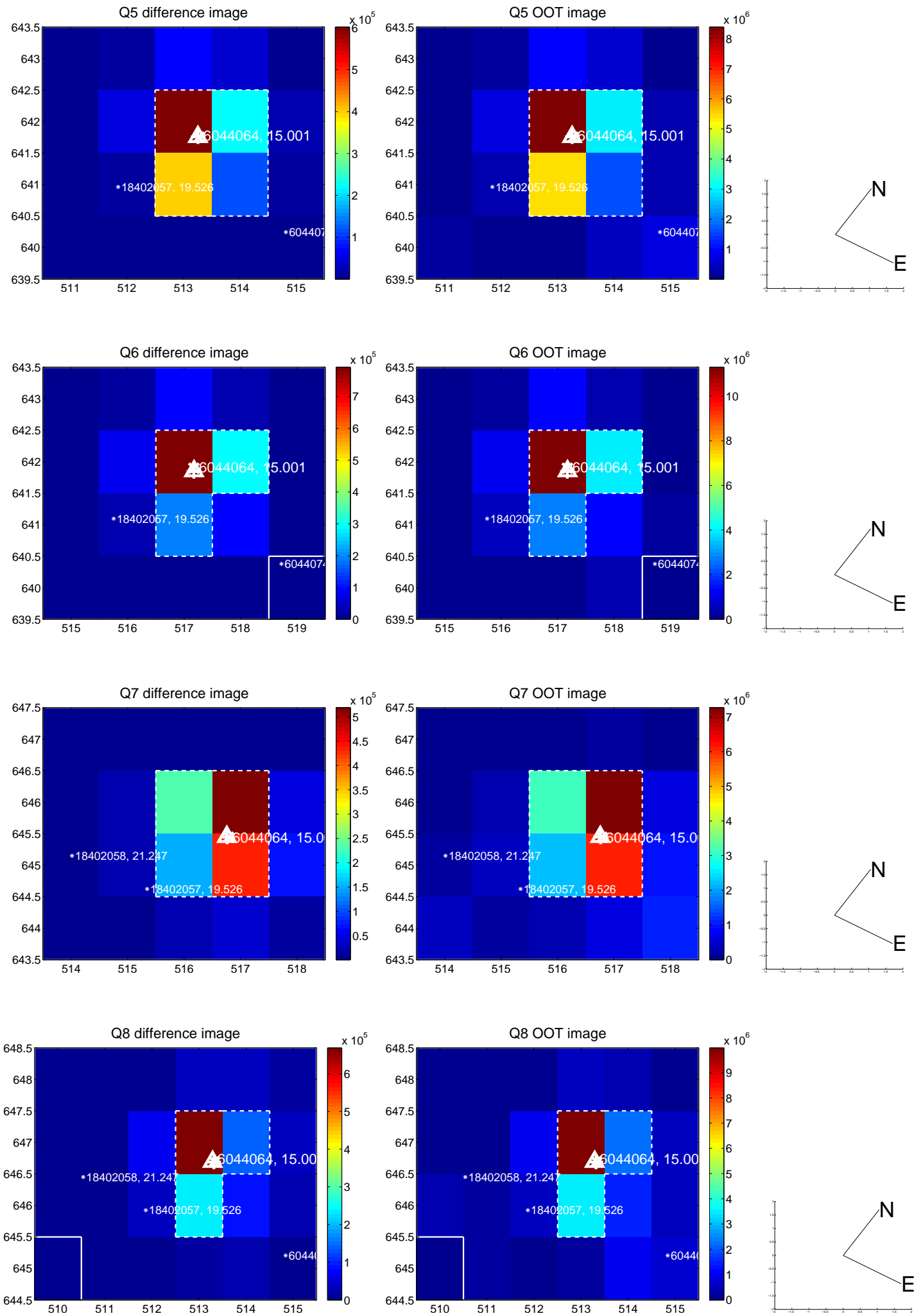


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

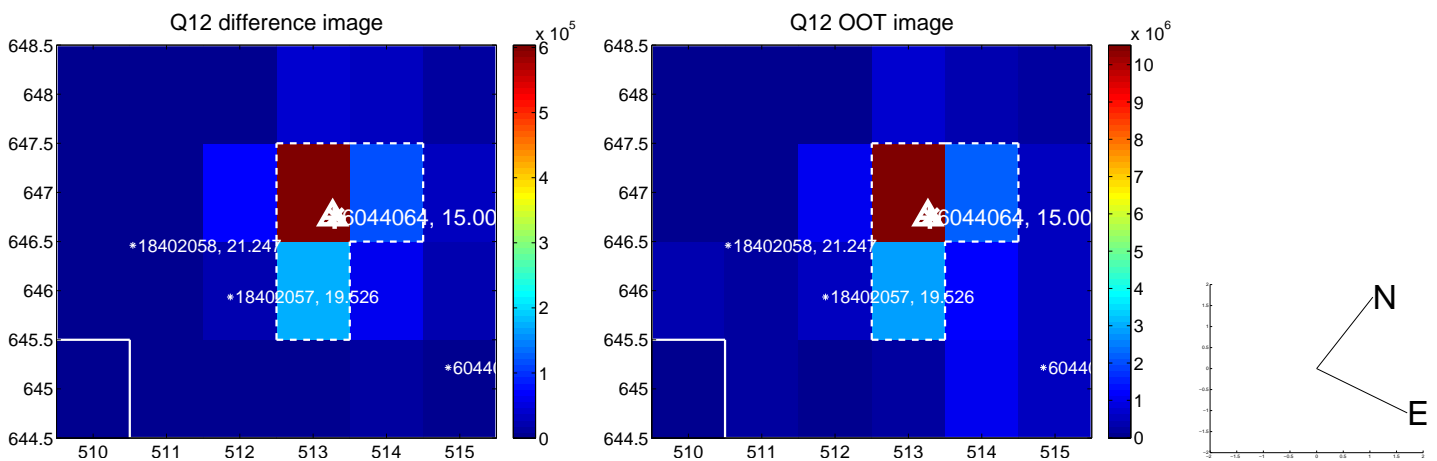
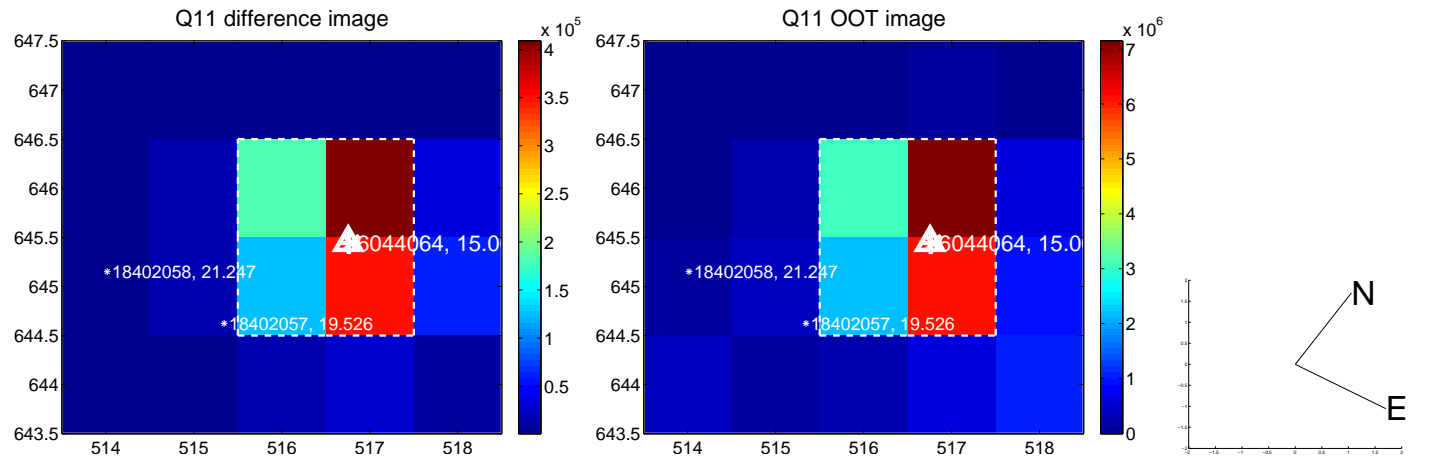
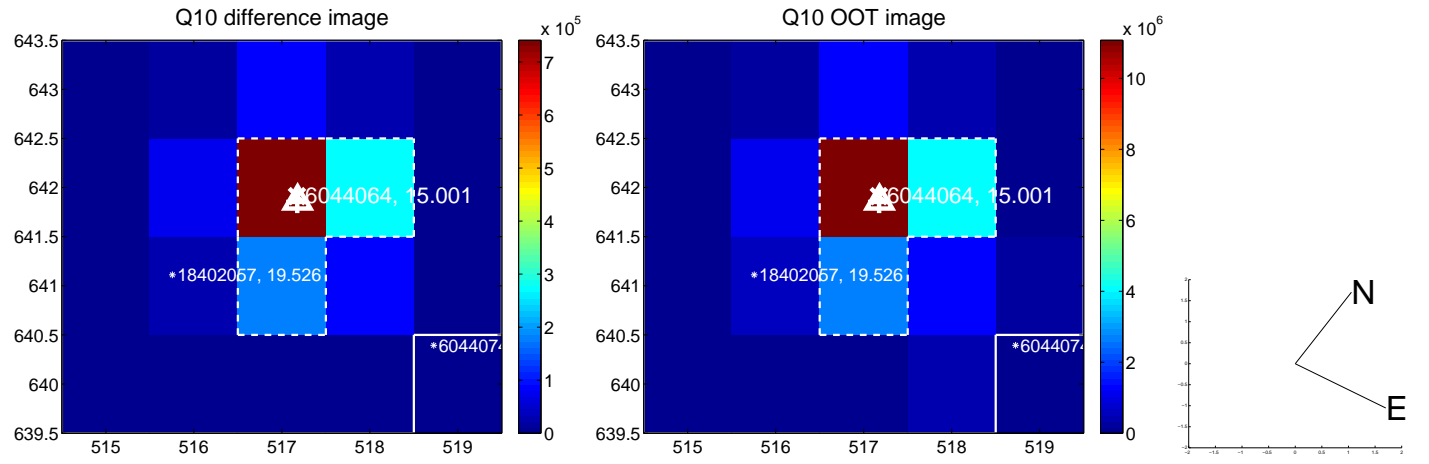
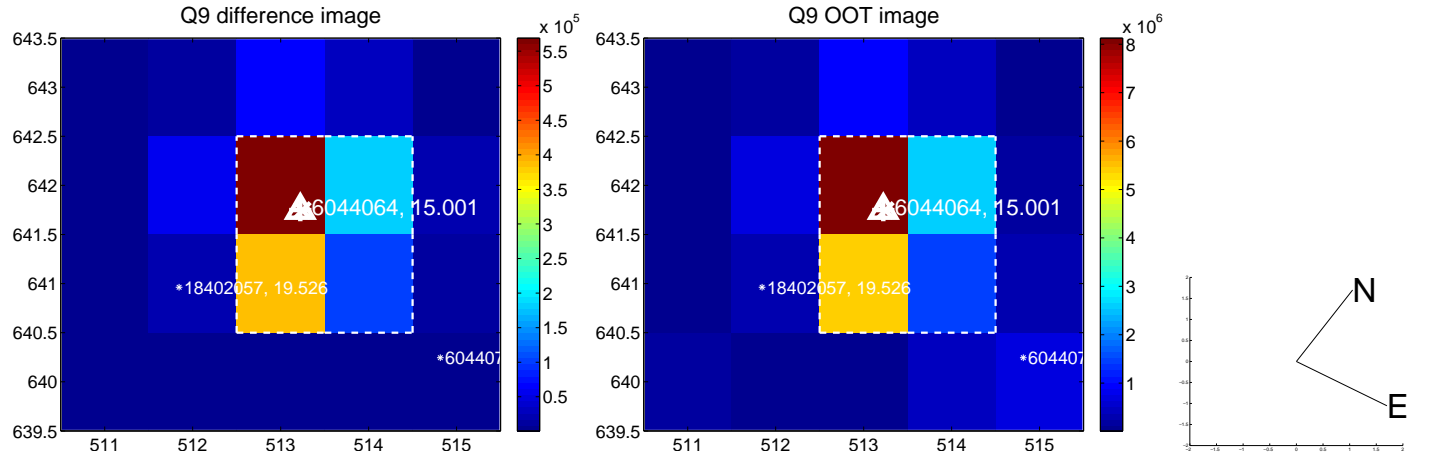
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



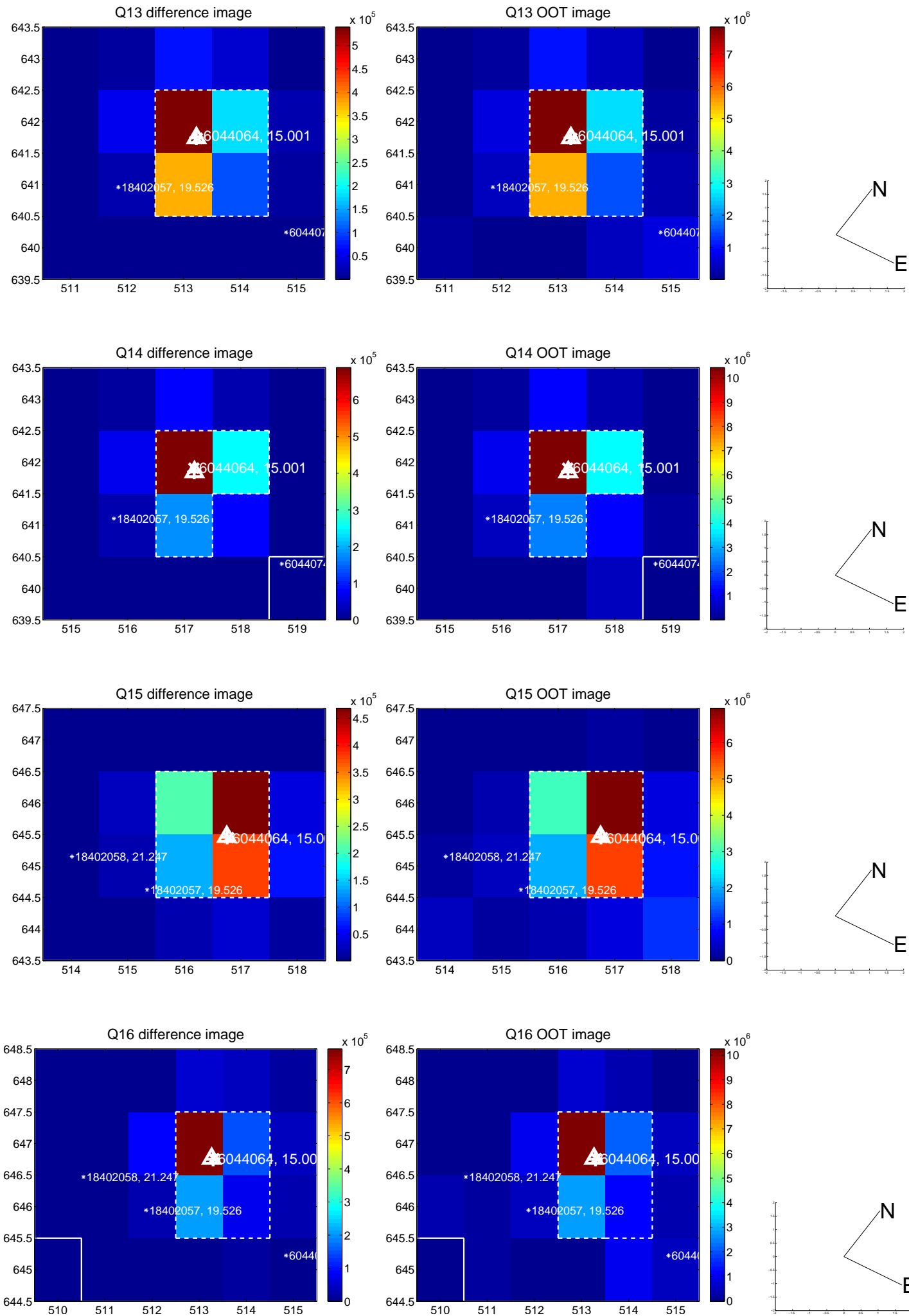
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



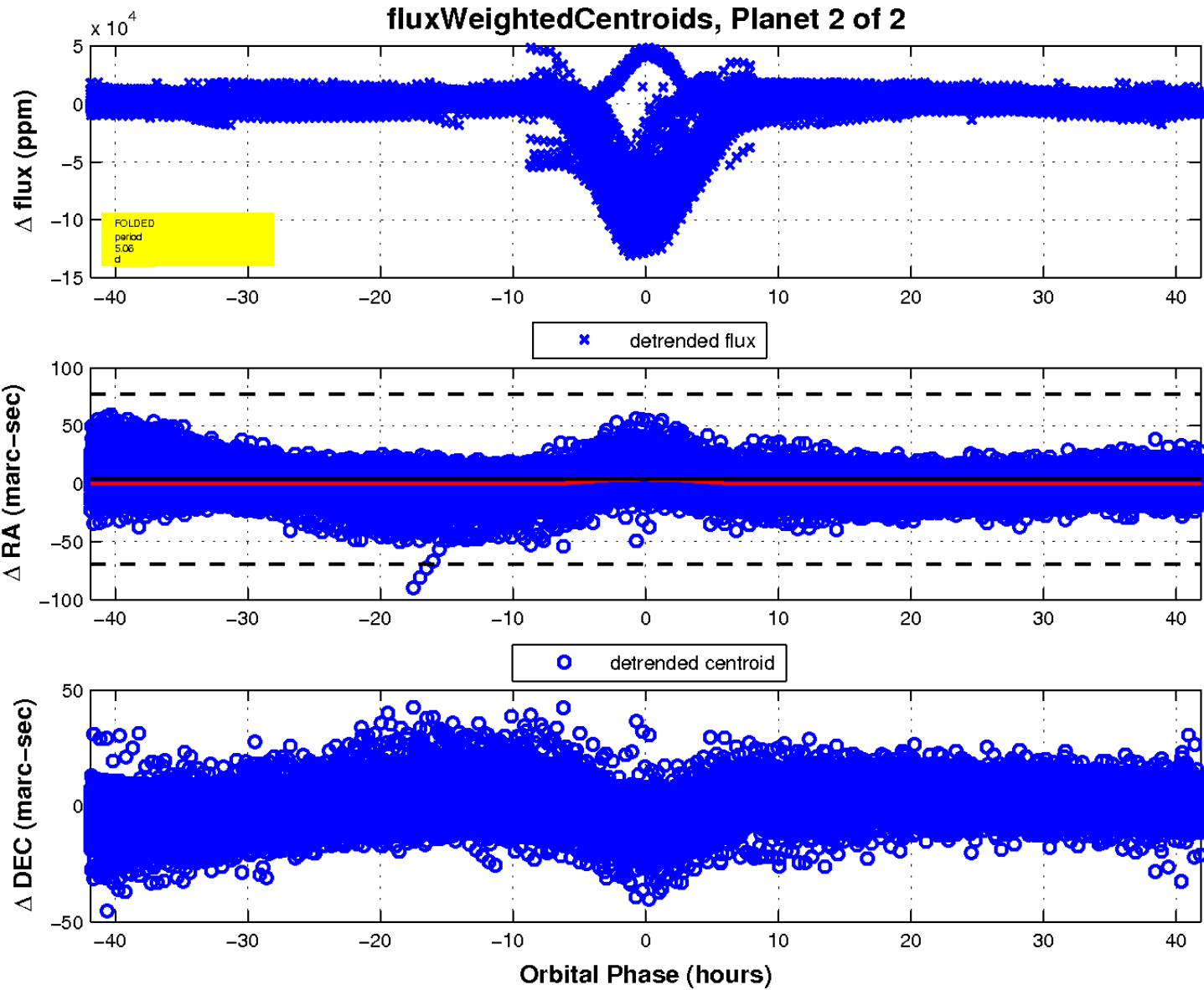
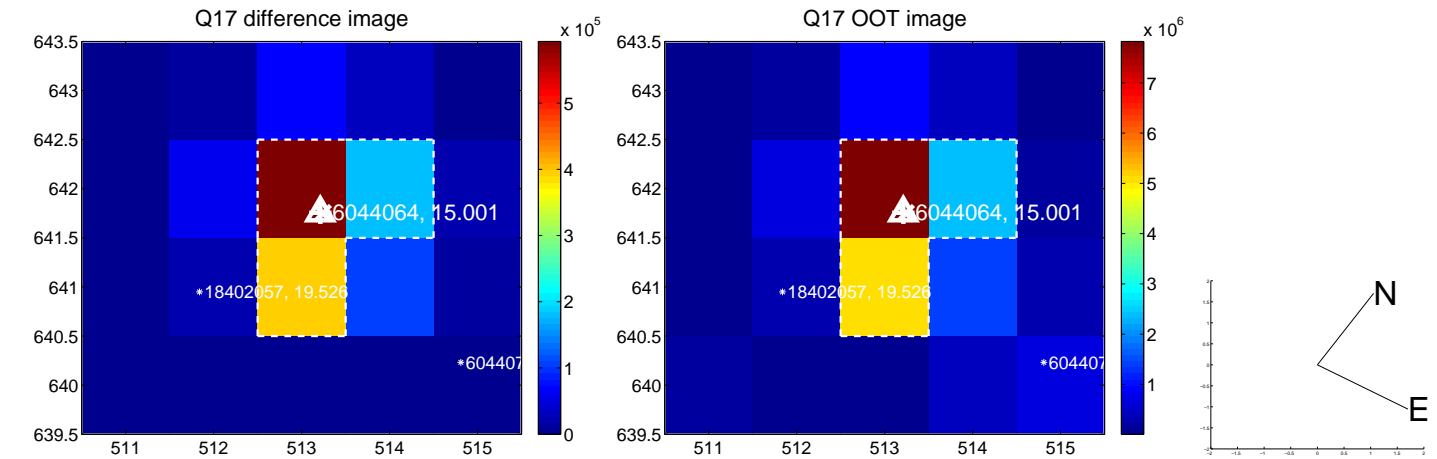
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

