

KIC 008195877

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})
008195877-01	OBS	No	3.020398	134.226656	70477.2	2.556	847.8	1487.9	1.21	6038	48.12	1155.99
008195877-02	OBS	6989.01	0.755105	131.961014	41701.5	2.328	2844.7	1084.3	1.21	6038	26.86	7340.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008195877-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_ALT
008195877-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD

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.

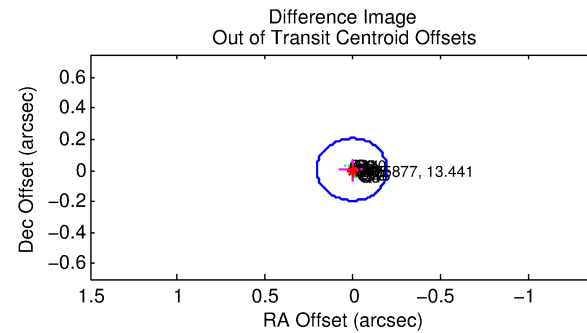
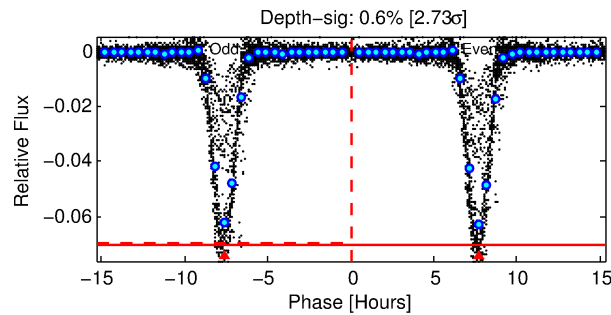
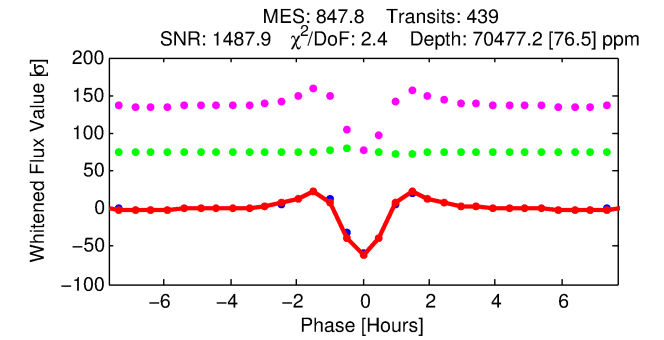
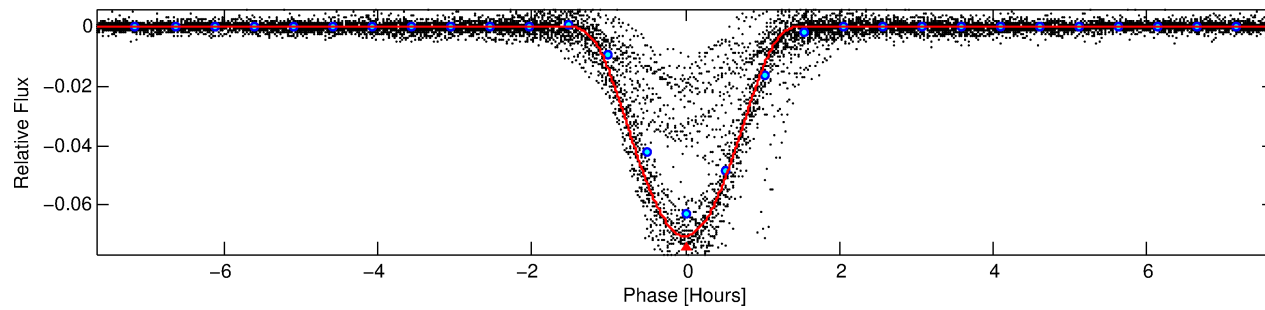
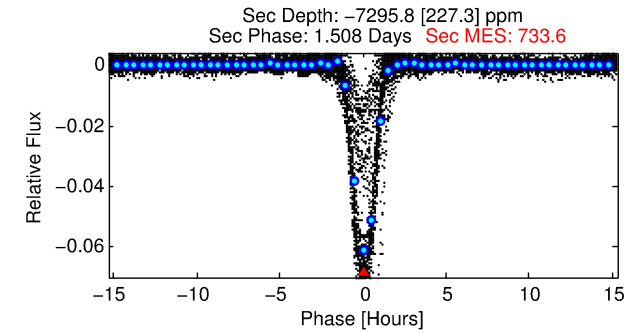
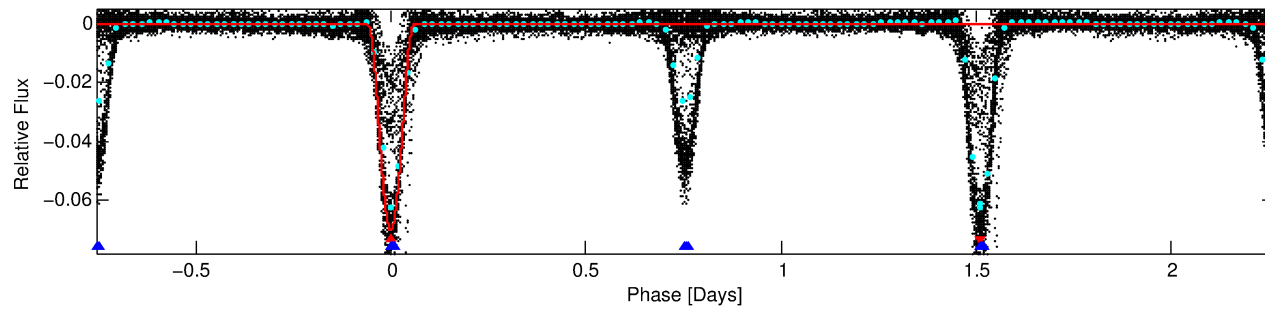
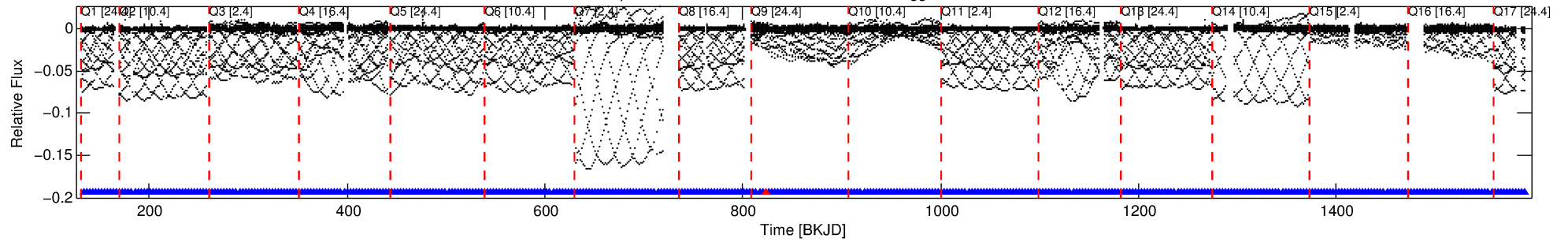
Ephemeris Match Information For 008195877-01

No Significant Match Found

DV One-Page Summary

KIC: 8195877 Candidate: 1 of 2 Period: 3.020 d
KOI: K06989 Corr: No Ephemeris Match

Kp: 13.44 R*: 1.21 Rs Teff: 6038.0 K Logg: 4.21 Fe/H: -0.540



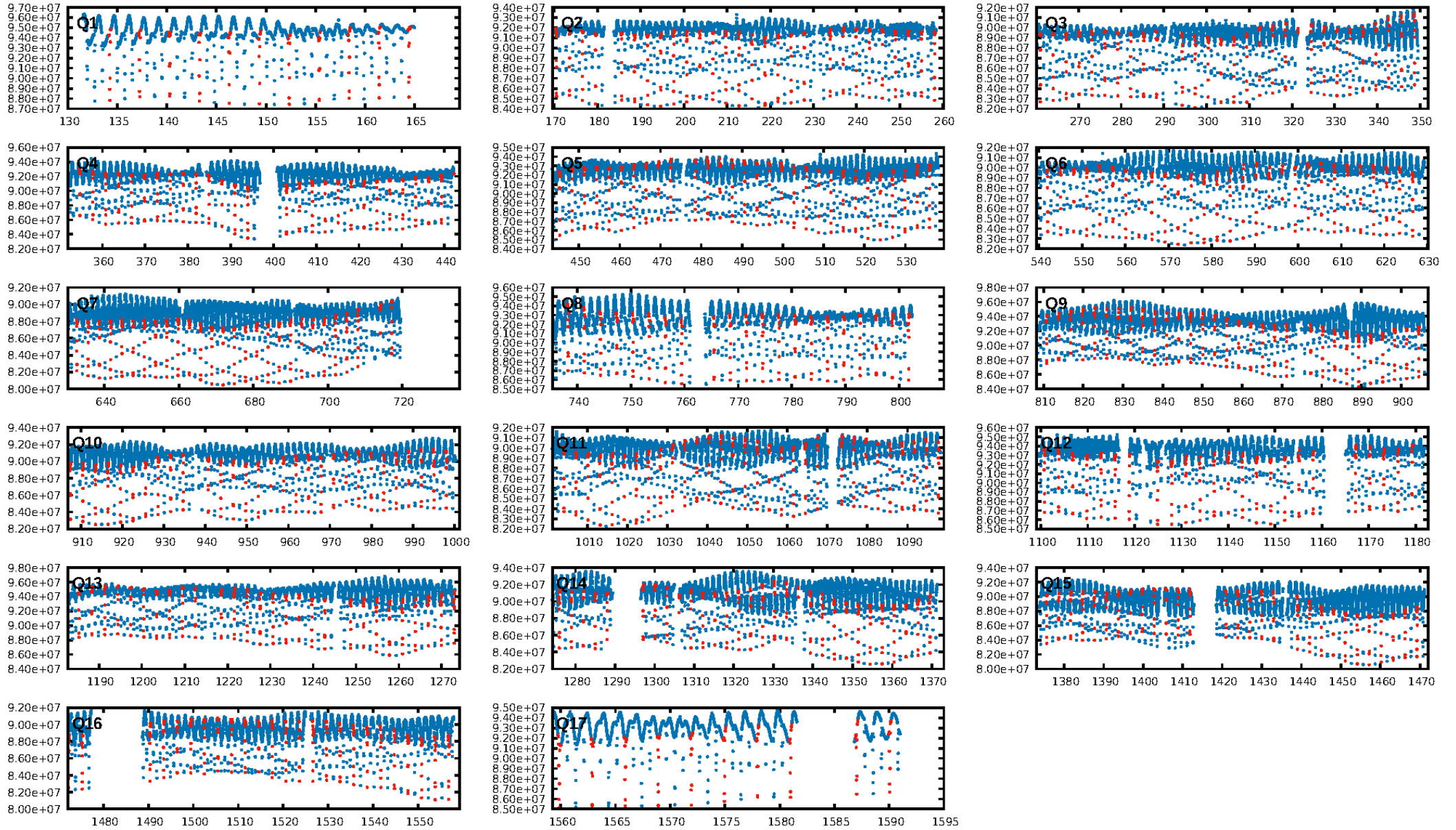
DV Fit Results:

Period = 3.02040 [0.00000] d
Epoch = 134.2267 [0.0000] BKJD
Rp/R* = 0.3636 [0.0154]
a/R* = 9.12 [0.01]
b = 0.92 [0.02]
Seff = 1155.99 [559.87]
Teq = 1487 [180] K
Rp = 48.12 [14.70] Re
a = 0.0389 [0.0114] AU
Ag = N/A
Teffp = N/A

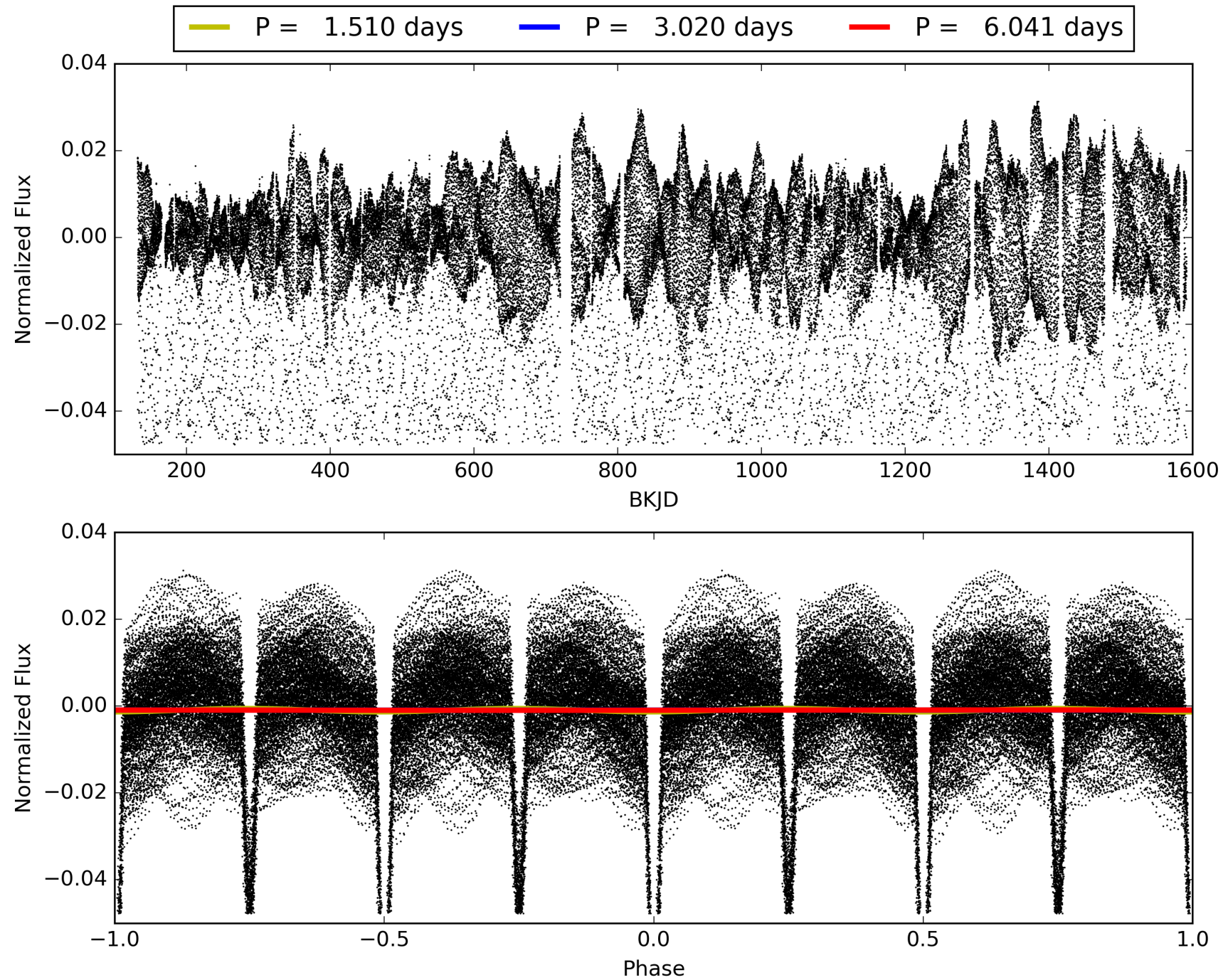
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.73σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [417/418]
GhostDiagnostic-chr: 1.231
Centroid-sig: 0.0%
Centroid-so: 0.710 arcsec [500.55σ]
OotOffset-rm: 0.009 arcsec [0.13σ]
KicOffset-rm: 0.101 arcsec [1.42σ]
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 008195877-01, PDC Light Curves

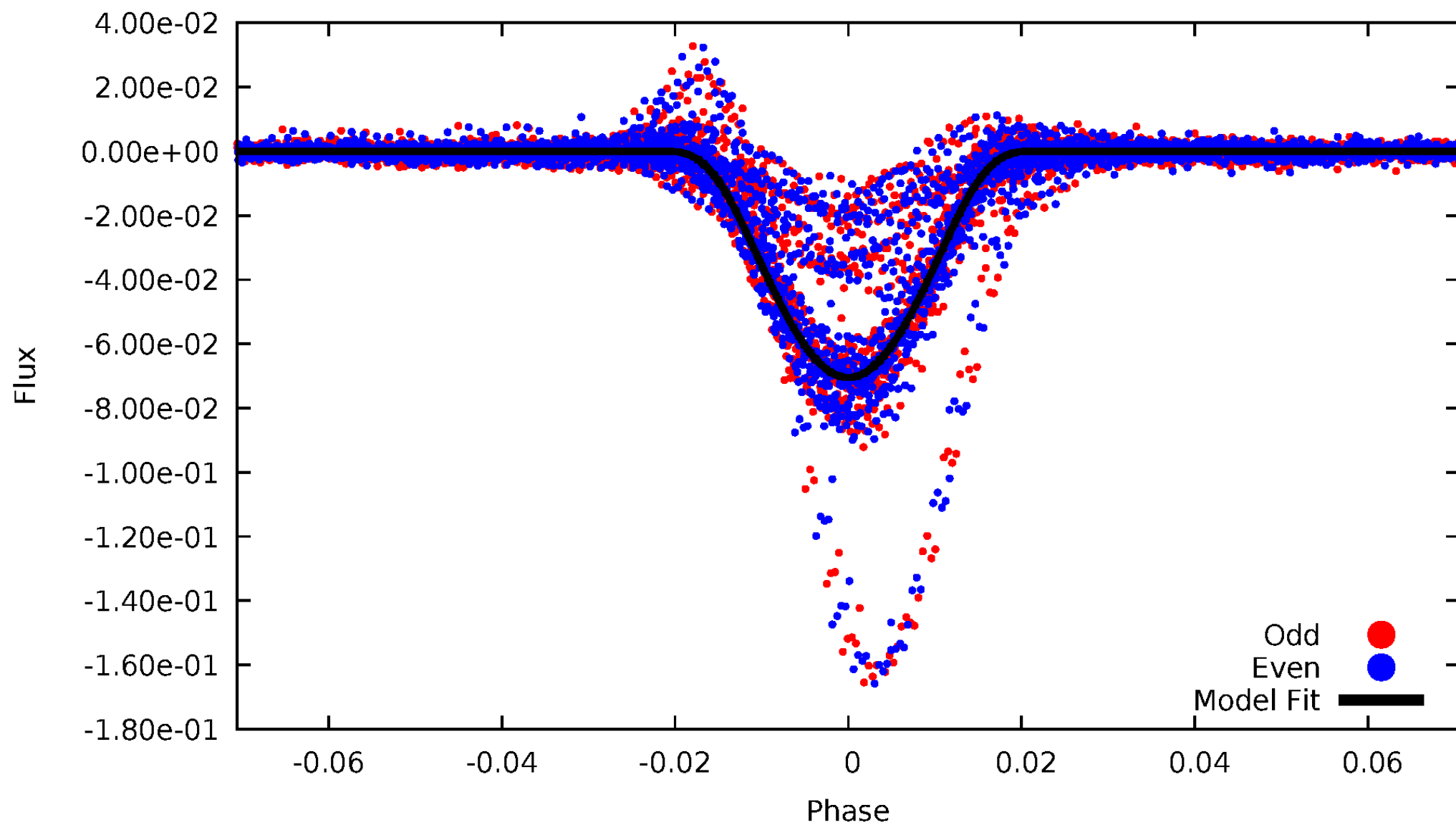


TCE 008195877-01



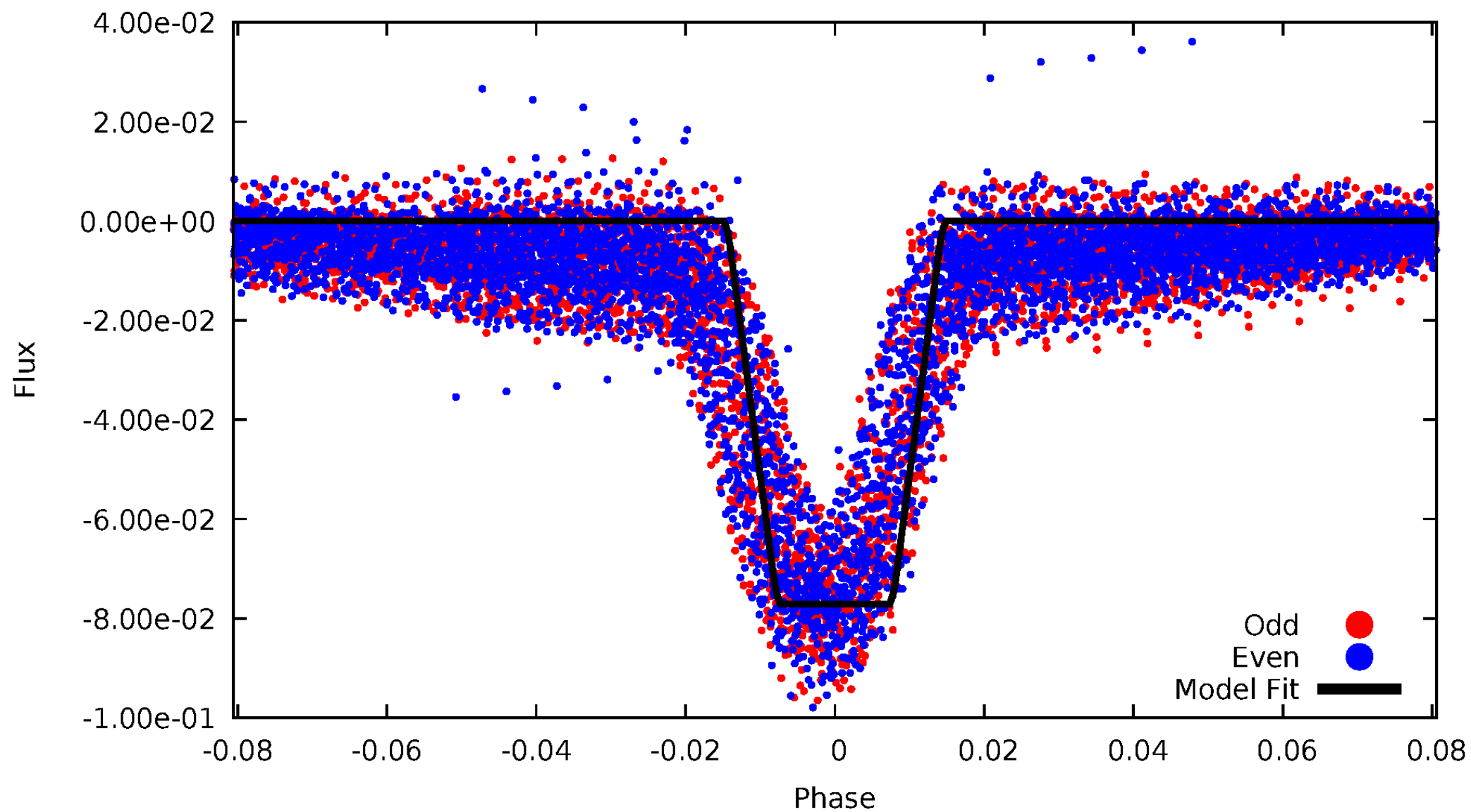
DV Odd/Even

TCE 008195877-01



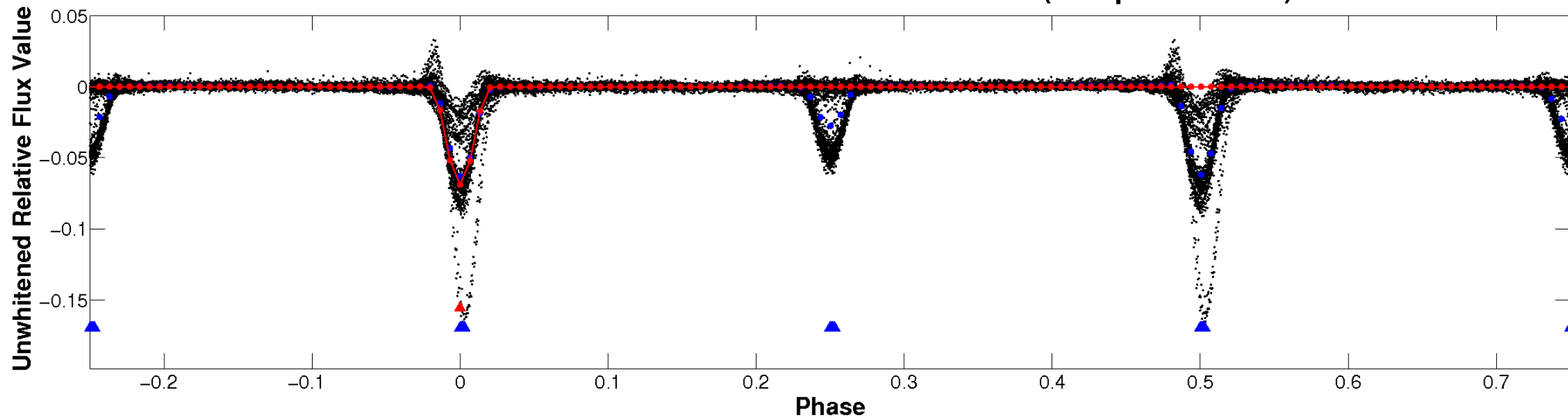
ALT Odd/Even

TCE 008195877-01

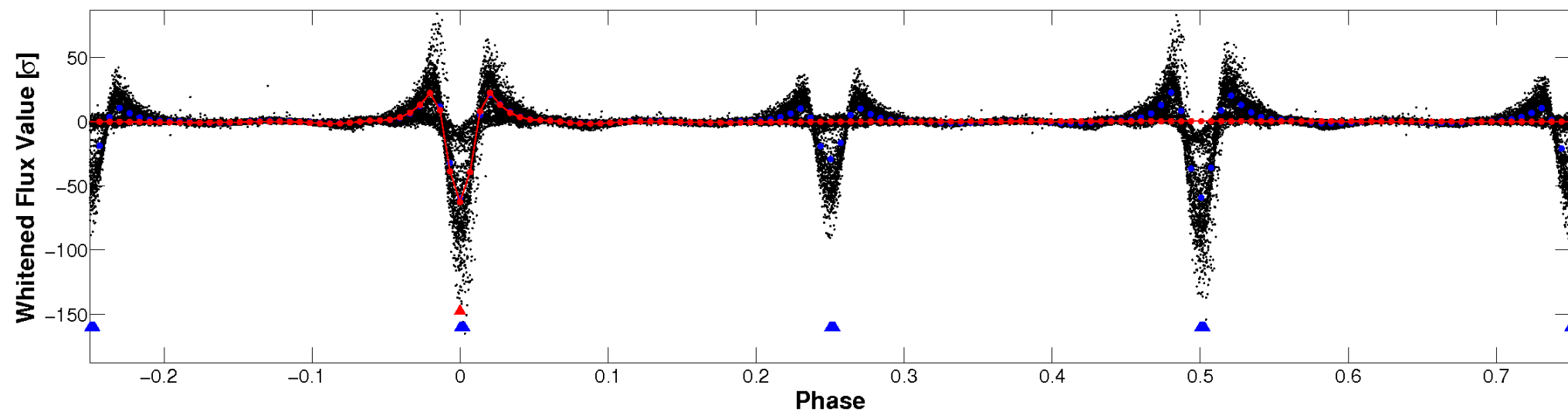


Non-Whitened Vs. Whitened Light Curve

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

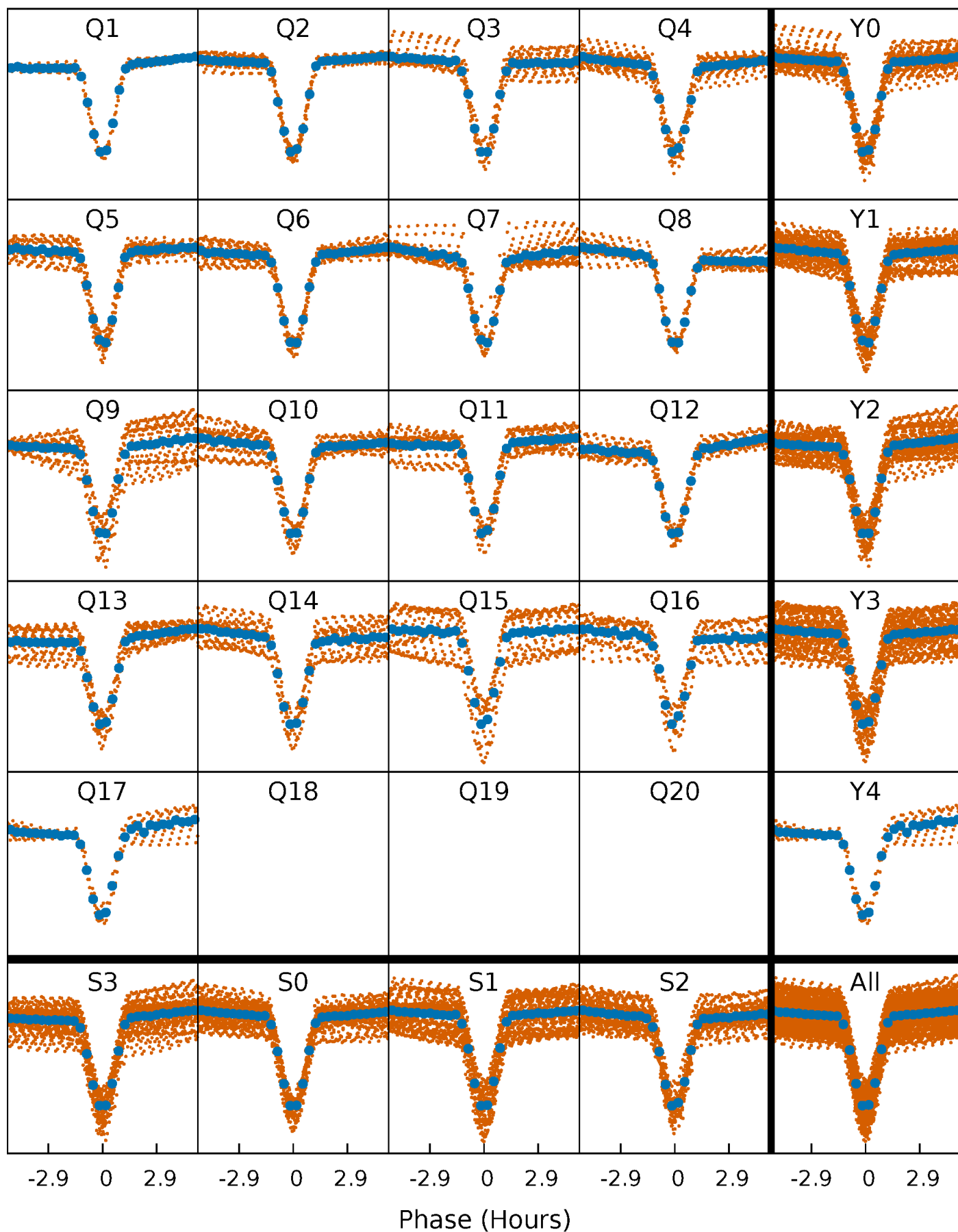


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



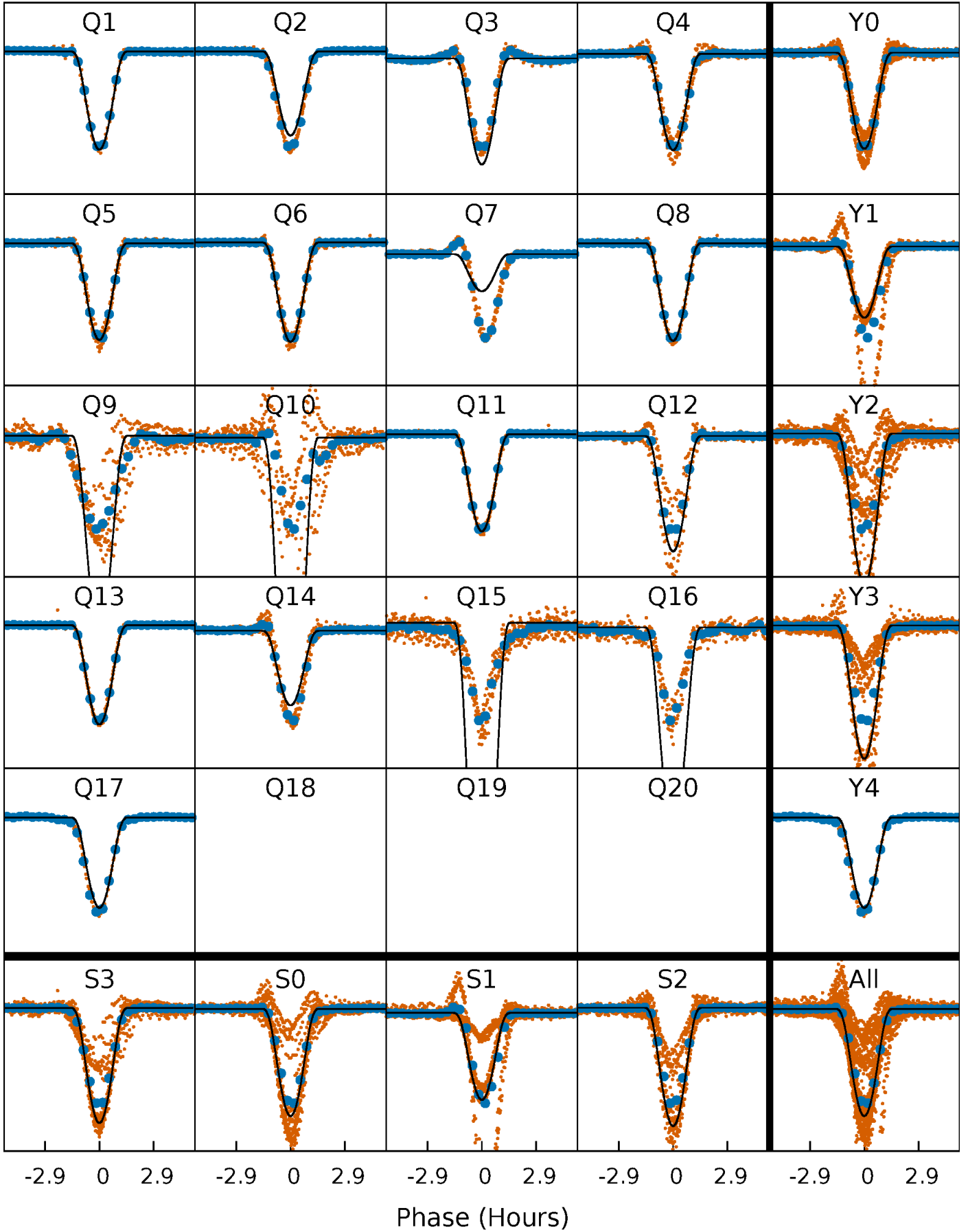
PDC Quarter-Phased Transit Curves

TCE 008195877-01 P= 3.020398 Days $T_0=134.226656$ (BKJD)



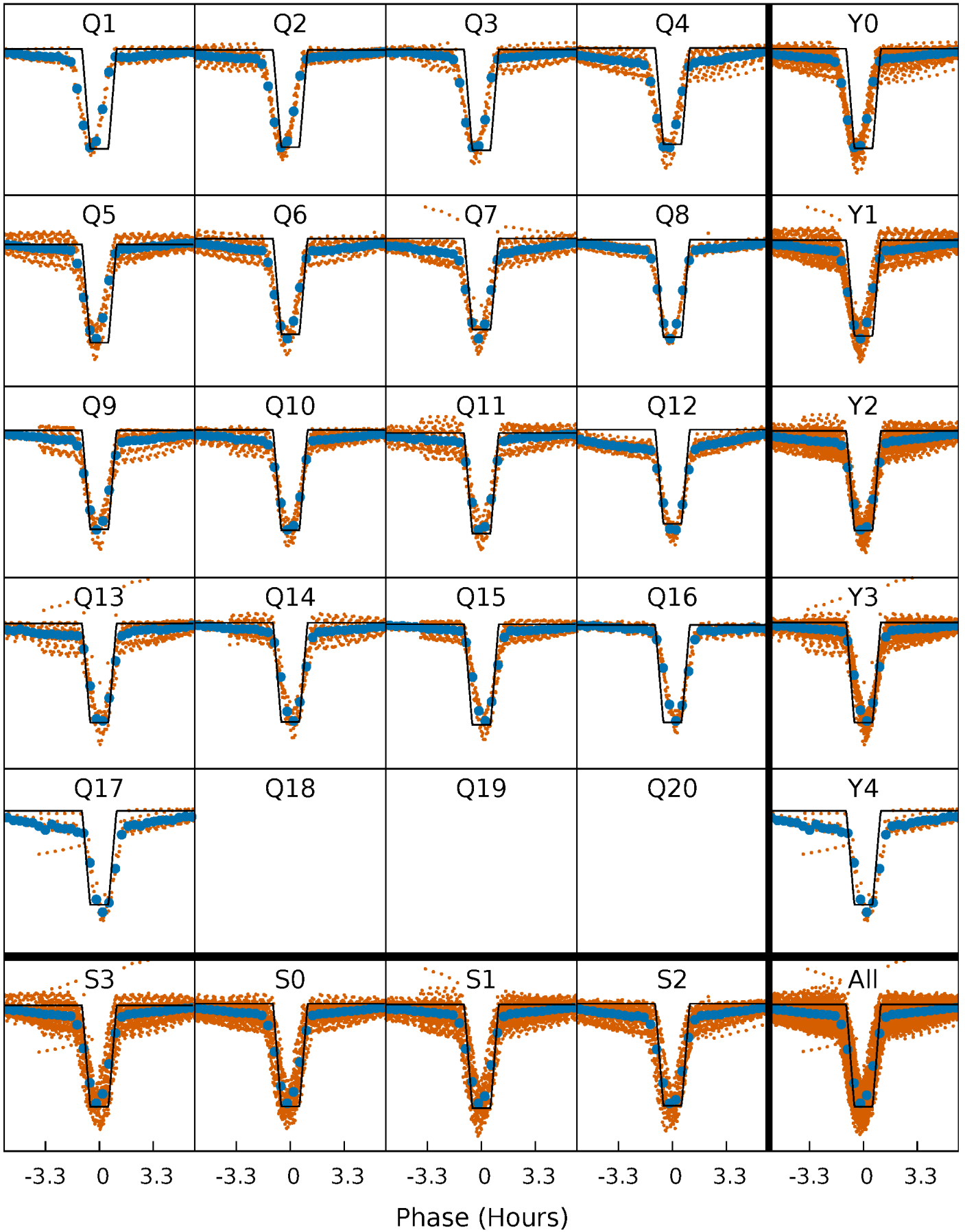
DV Quarter-Phased Transit Curves

TCE 008195877-01 P= 3.020398 Days $T_0=134.226656$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

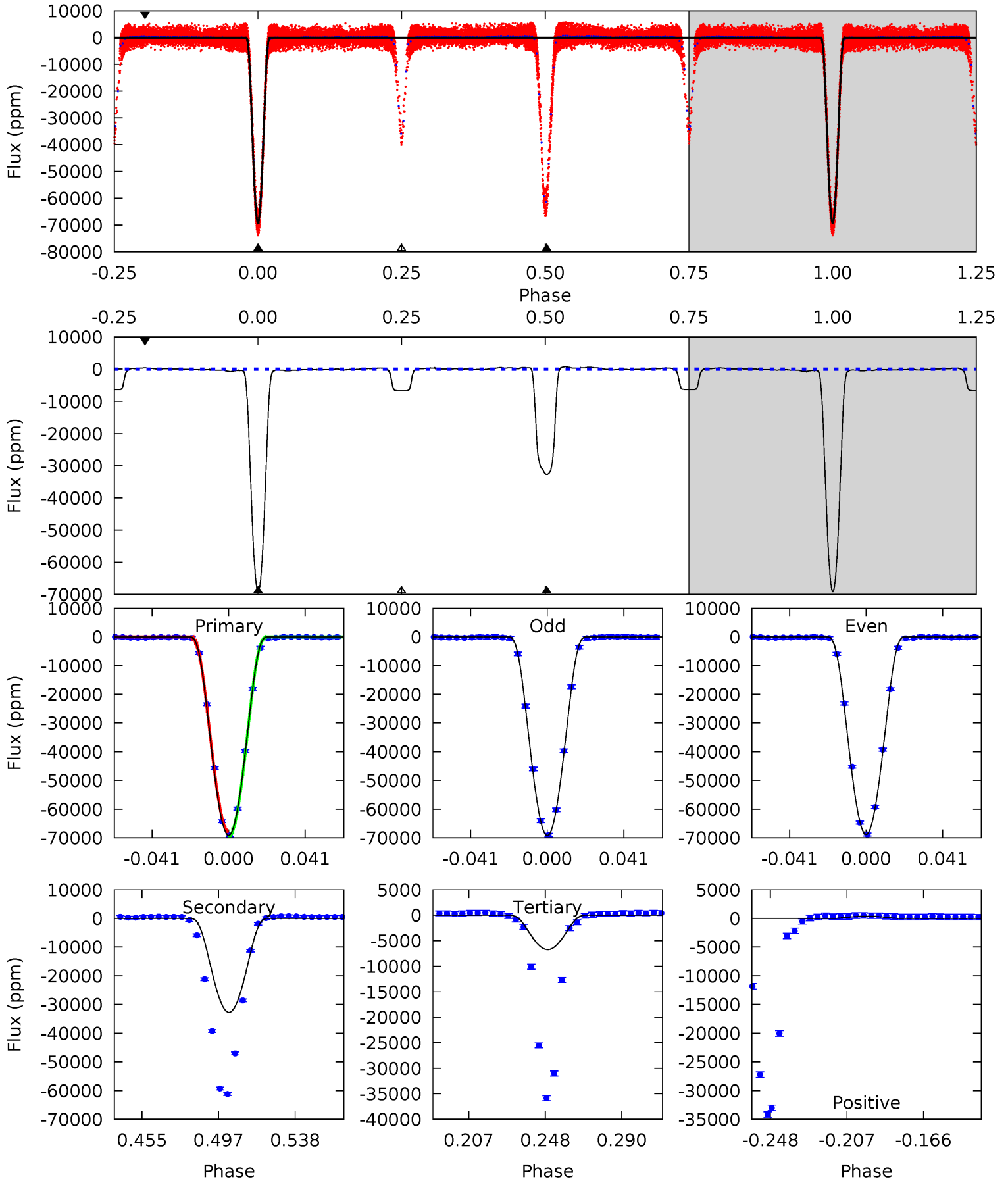
TCE 008195877-01 P= 3.020332 Days $T_0=134.246700$ (BKJD)



DV Model-Shift Uniqueness Test

008195877-01, P = 3.020398 Days, E = 131.206258 Days

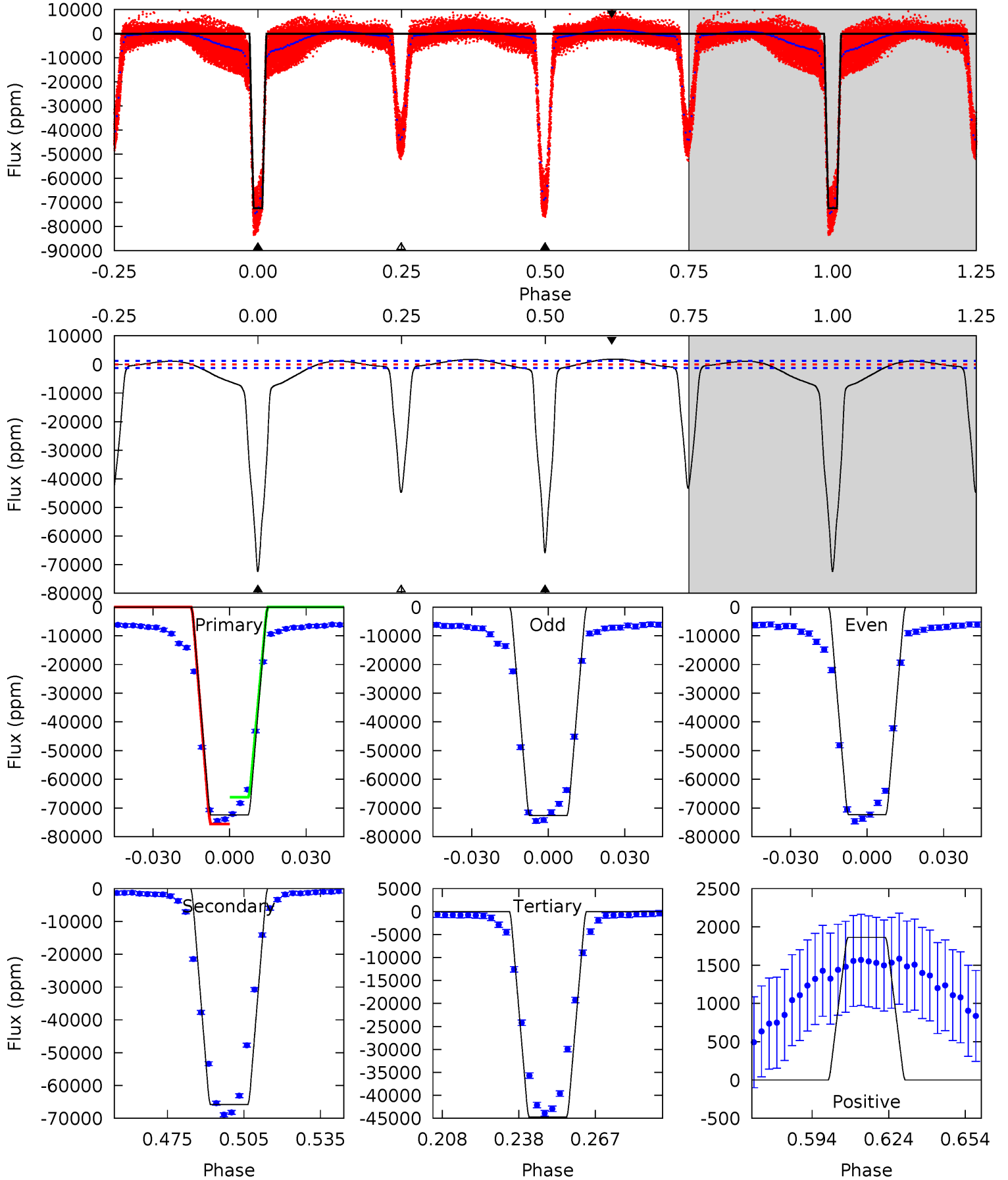
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1326	628.1	129.1	7.60	4.75	2.04	16.6	1197	1319	499.0	620.5	3.81	0.92	0.01	0



Alt Model-Shift Uniqueness Test

008195877-01, P = 3.020332 Days, E = 131.226368 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
278.0	252.7	171.8	7.15	4.81	2.17	28.1	106.2	270.8	80.9	245.6	0.67	1.00	0.03	17.6



Stellar Parameters For KIC 008195877

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6038^{+181}_{-163}	$4.206^{+0.276}_{-0.184}$	$-0.540^{+0.300}_{-0.300}$	$1.213^{+0.334}_{-0.367}$	$0.864^{+0.119}_{-0.069}$	$0.681^{+1.138}_{-0.328}$
	+3%/-3%	+7%/-4%	+56%/-56%	+28%/-30%	+14%/-8%	+167%/-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 008195877-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32739 ± 52	$48.13^{+7.99}_{-8.68}$	2063^{+169}_{-188}	4467^{+122}_{-114}	12^{+6}_{-3}
Alt.	-65829 ± 260	$37.22^{+6.09}_{-6.06}$	2080^{+175}_{-163}	5901^{+228}_{-210}	44^{+18}_{-12}

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

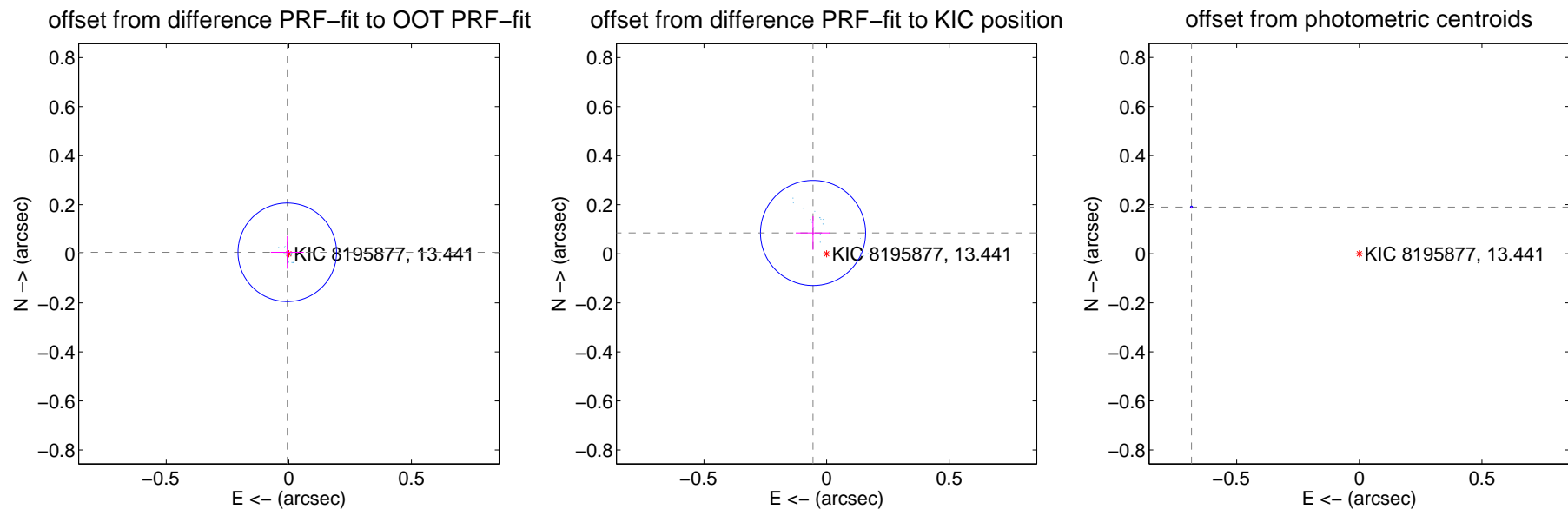
DV Centroid Data

Supplemental centroid analysis for 008195877-01. Kepler magnitude: 13.44. Transit SNR 1487.87

There are 17 quarters with good PRF difference image offsets

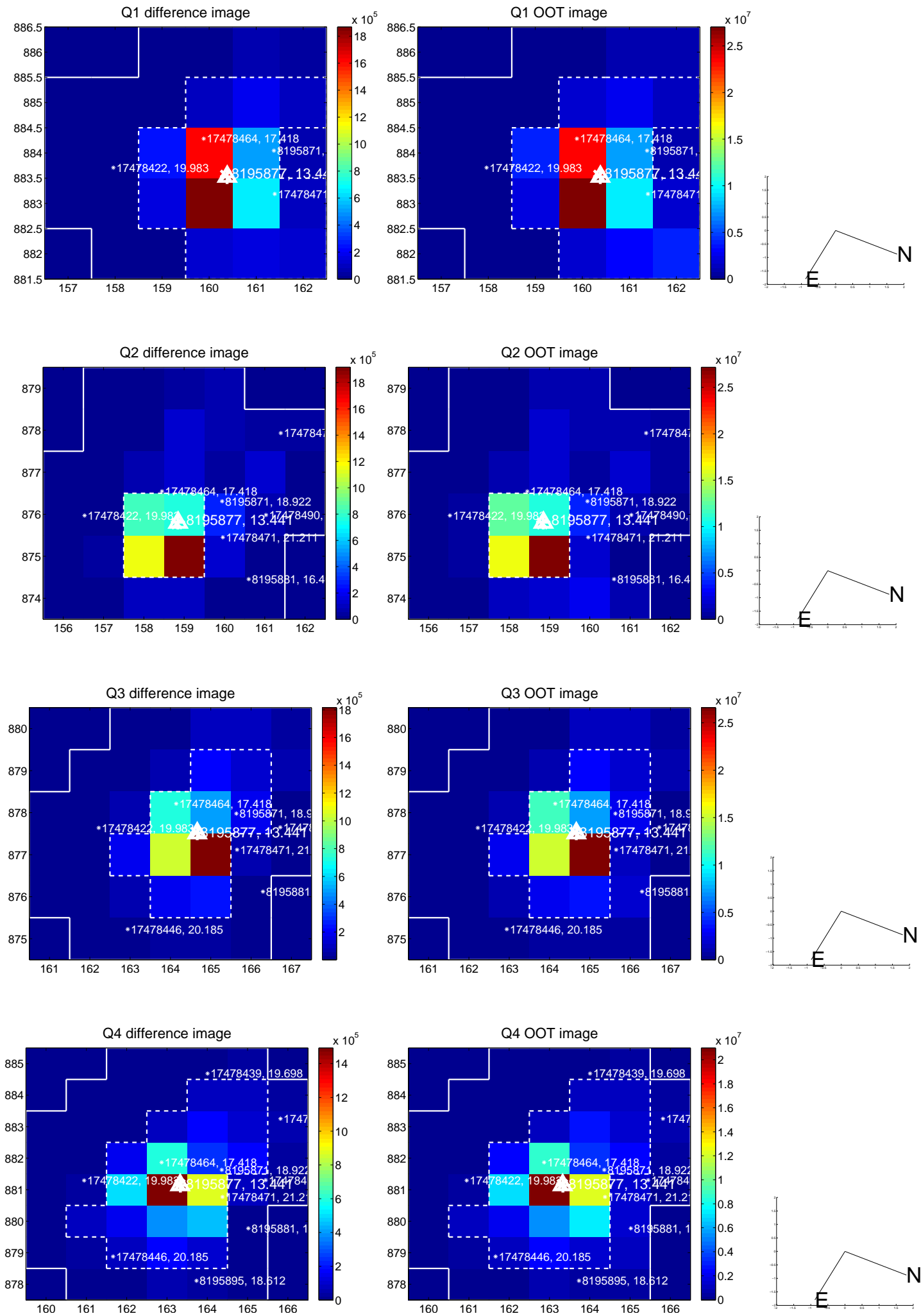
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.13	0.006 ± 0.067	0.006 ± 0.067
PRF-fit source offset from KIC position	0.101 ± 0.071	1.42	0.055 ± 0.070	0.085 ± 0.069
photometric centroid source offset	0.71 ± 0.00	500.55	0.68 ± 0.00	0.19 ± 0.00

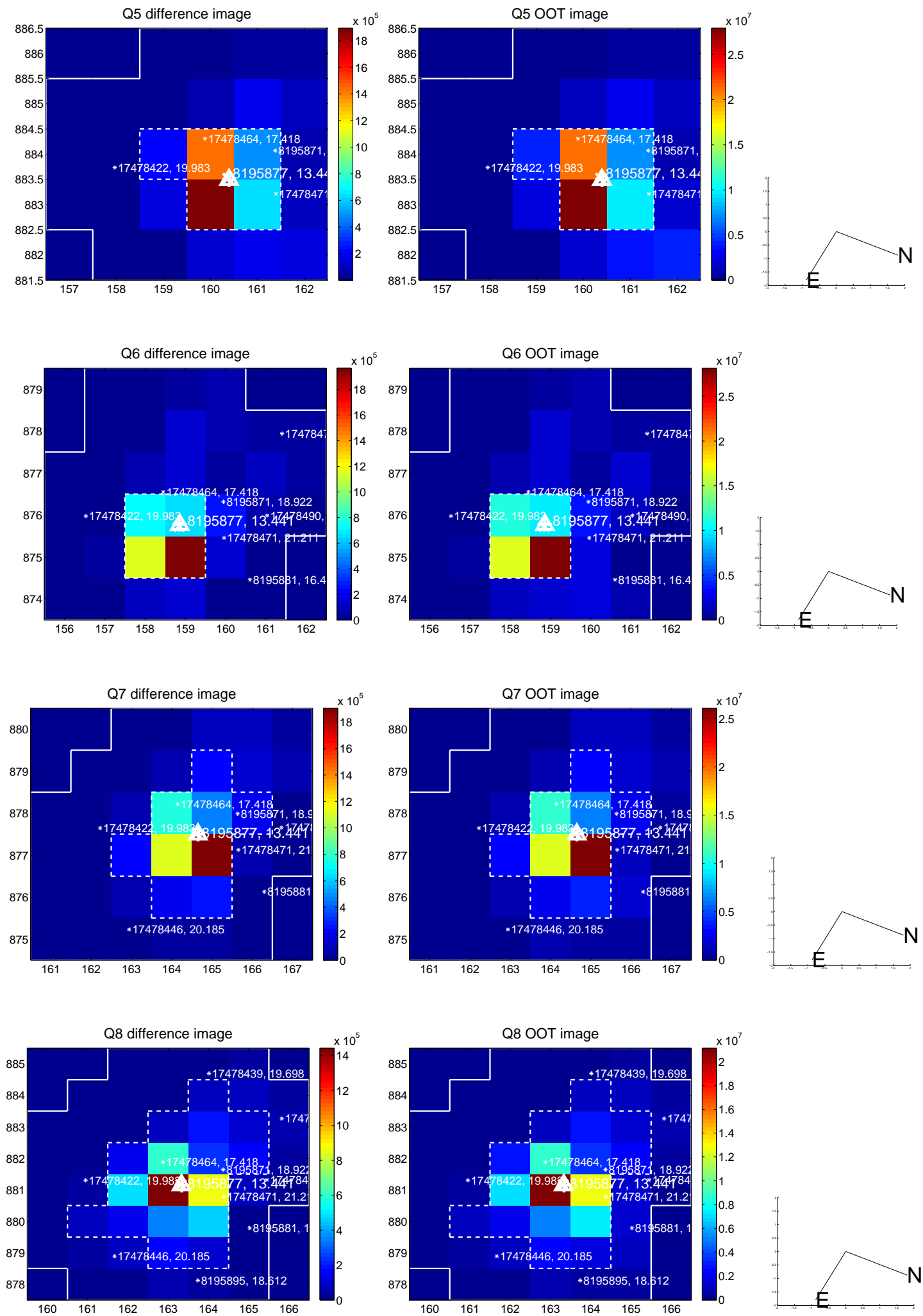


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

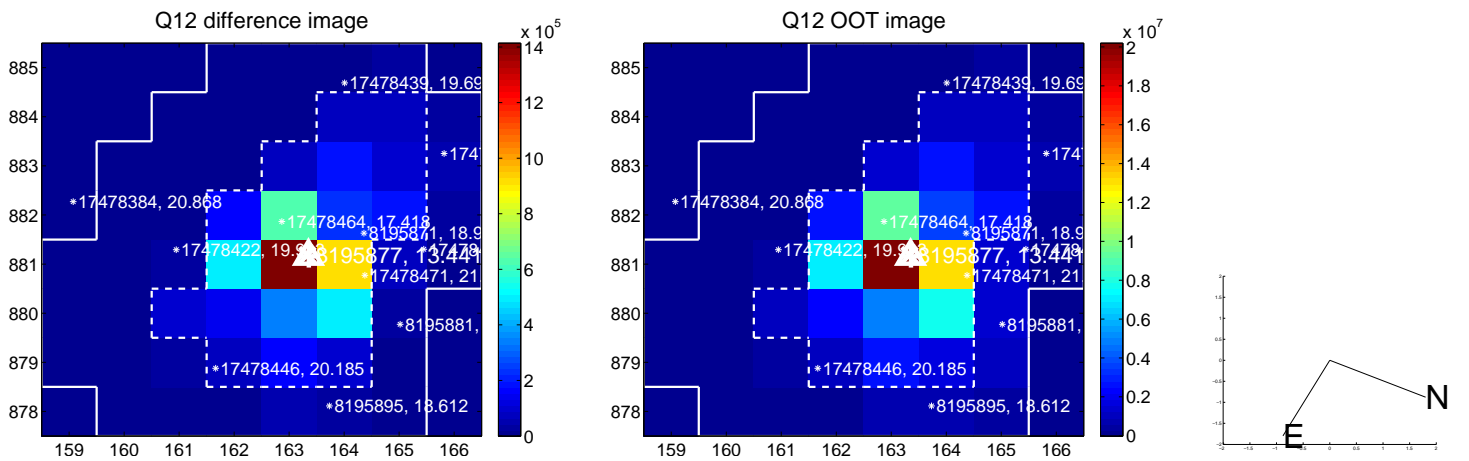
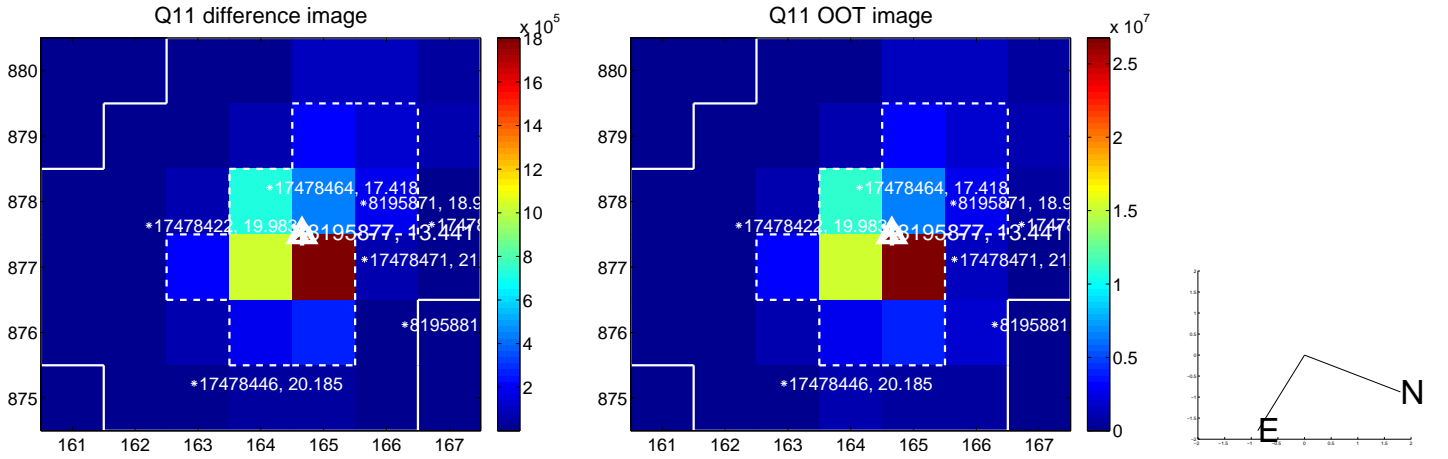
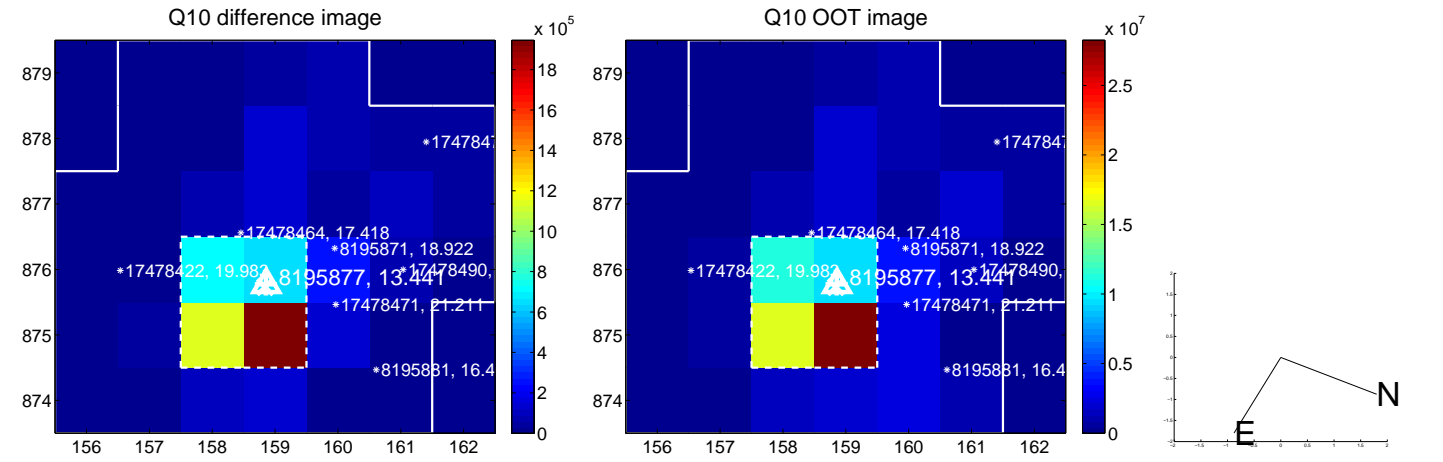
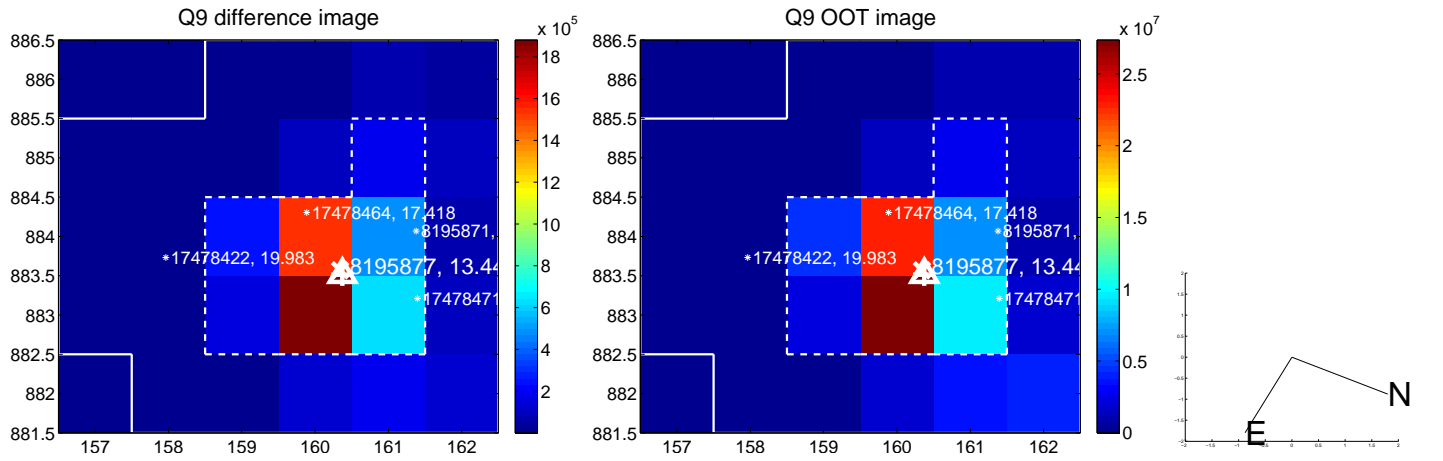
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



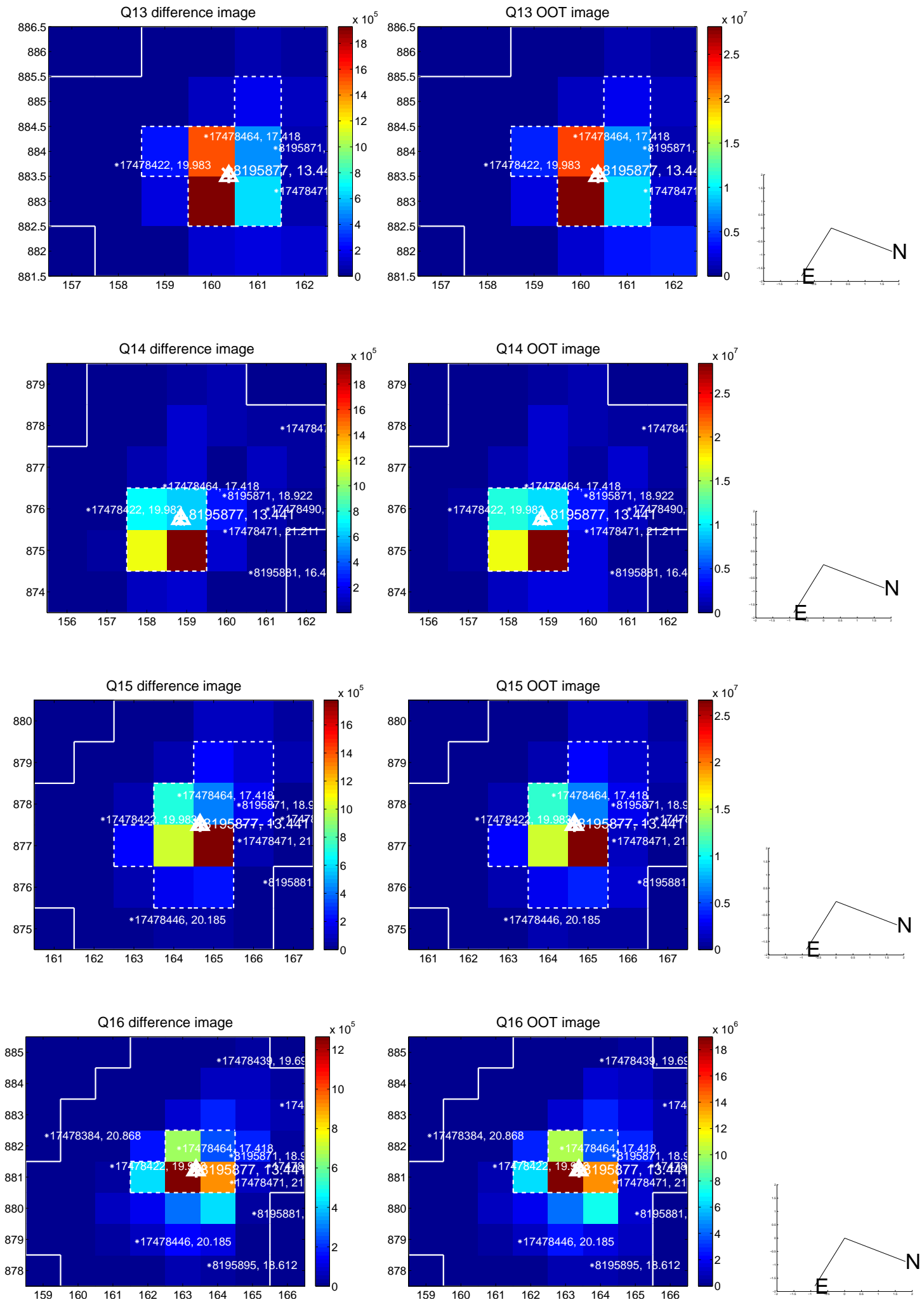
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



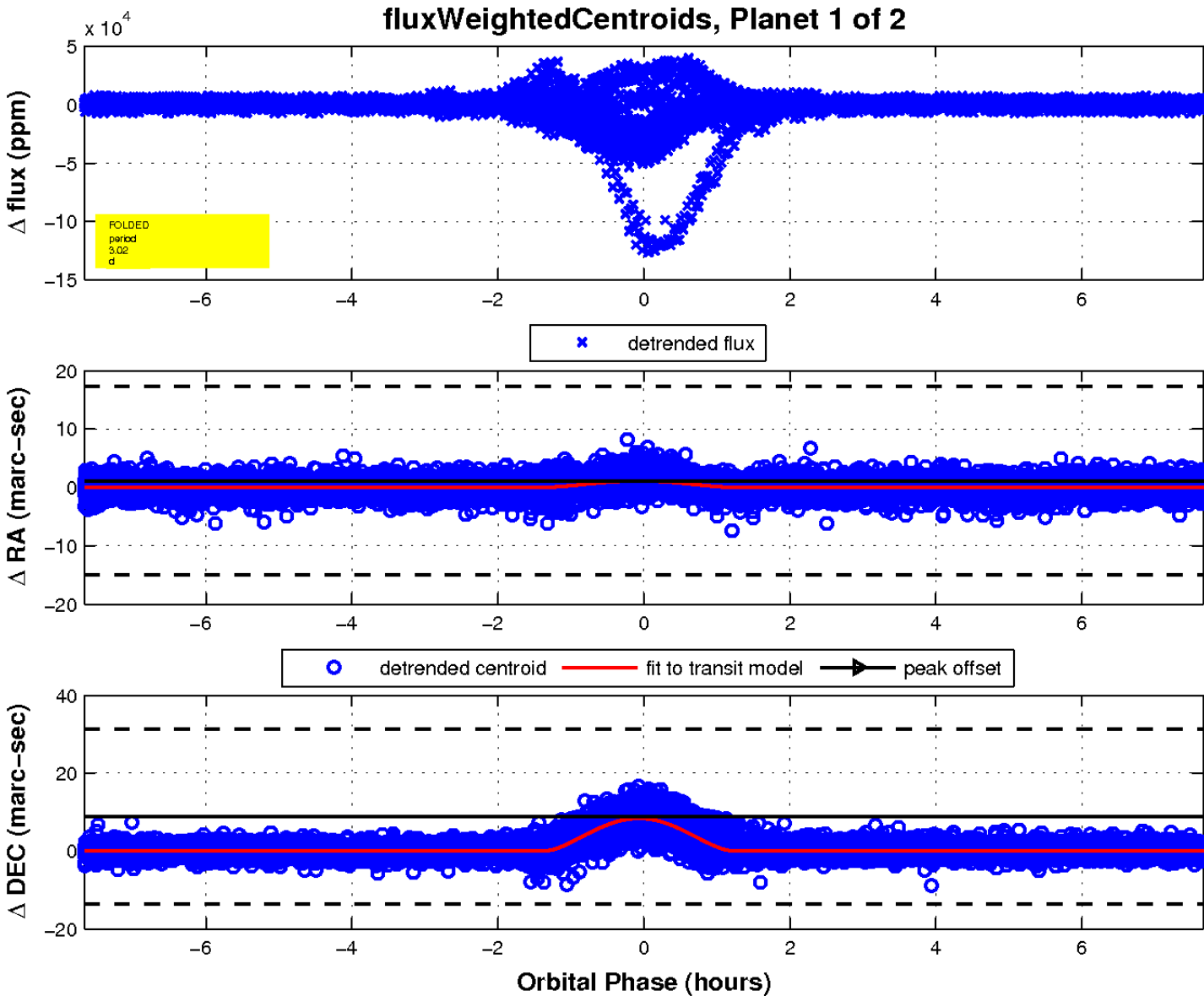
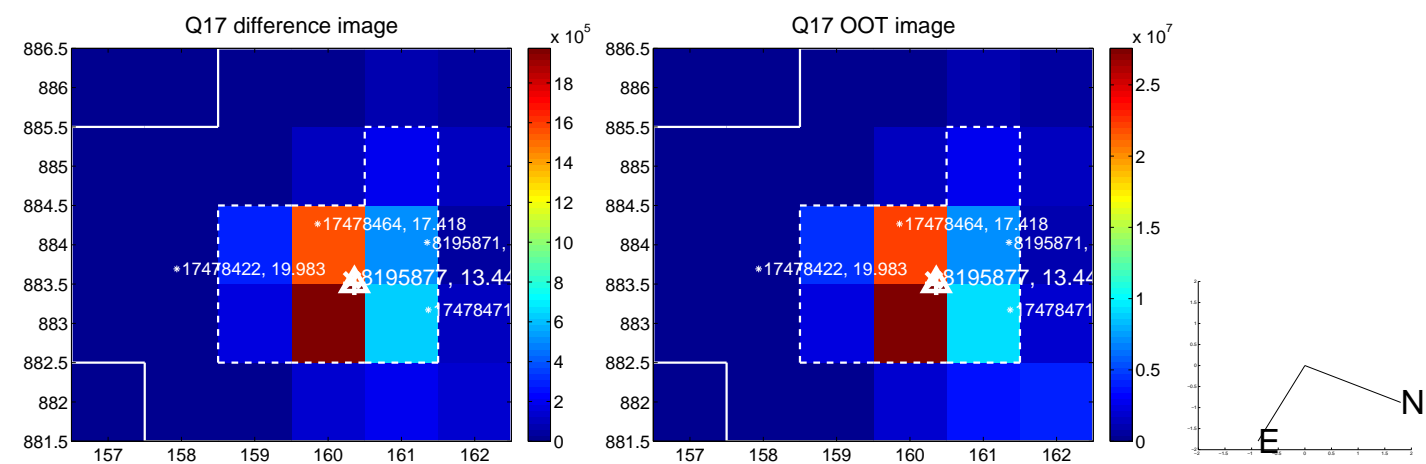
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

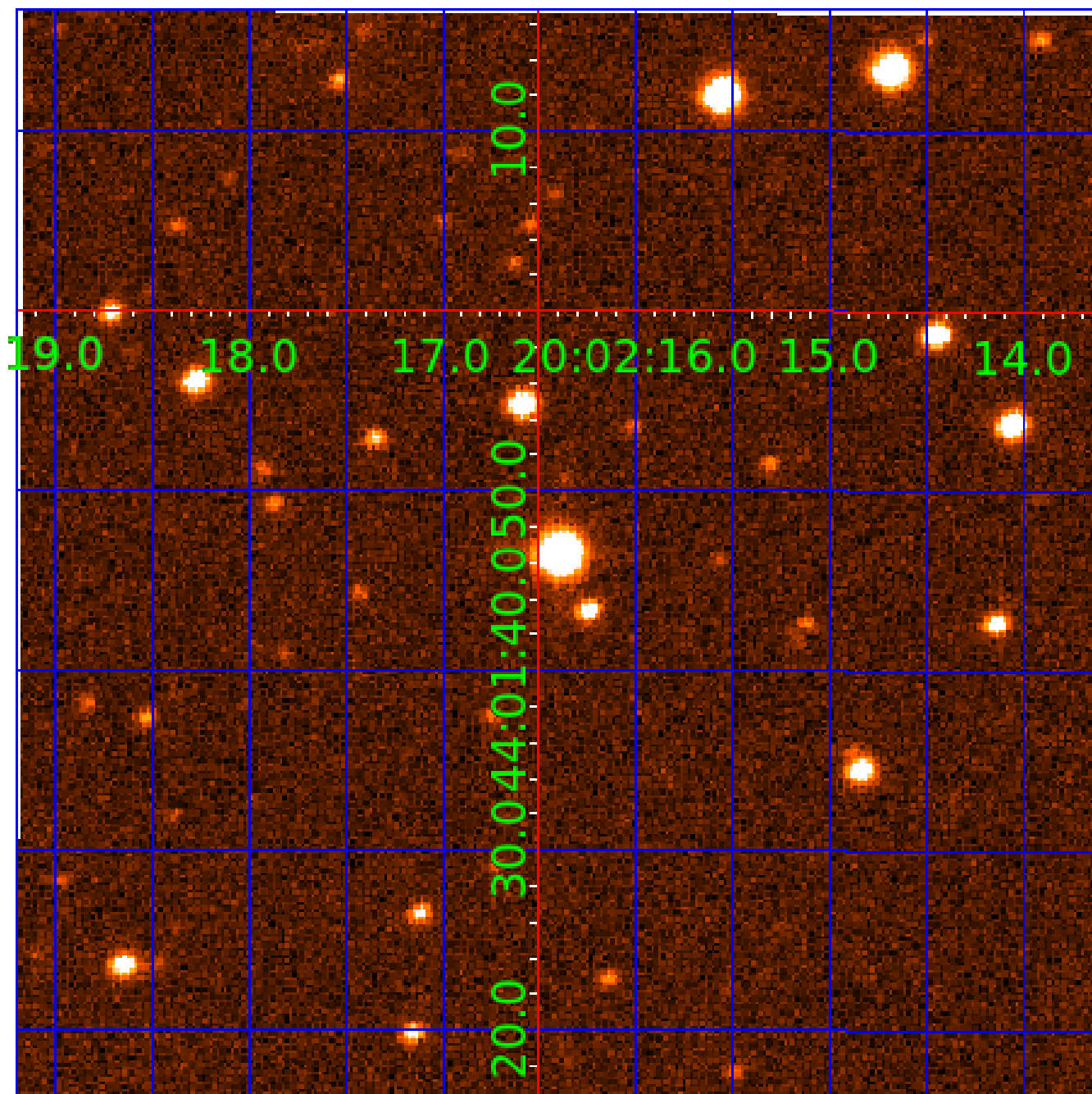


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008195877

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})
008195877-01	OBS	No	3.020398	134.226656	70477.2	2.556	847.8	1487.9	1.21	6038	48.12	1155.99
008195877-02	OBS	6989.01	0.755105	131.961014	41701.5	2.328	2844.7	1084.3	1.21	6038	26.86	7340.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008195877-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_ALT
008195877-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD

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.

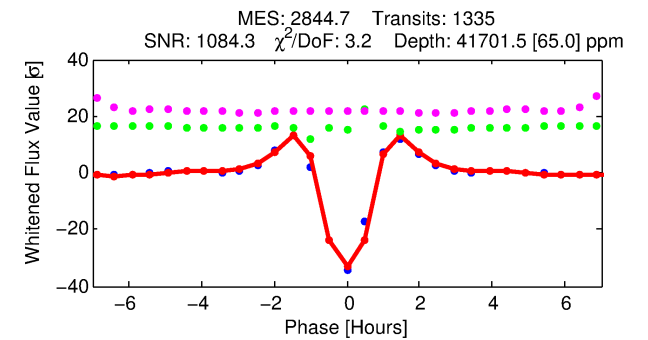
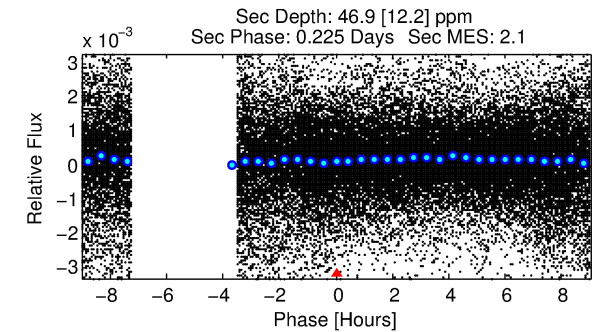
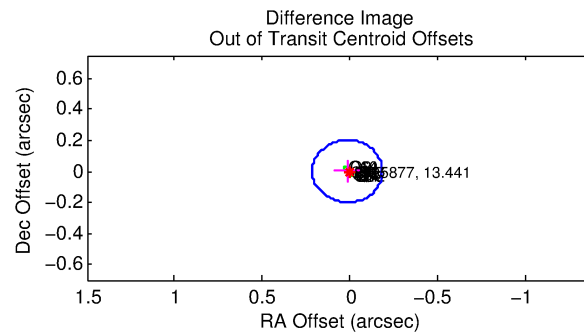
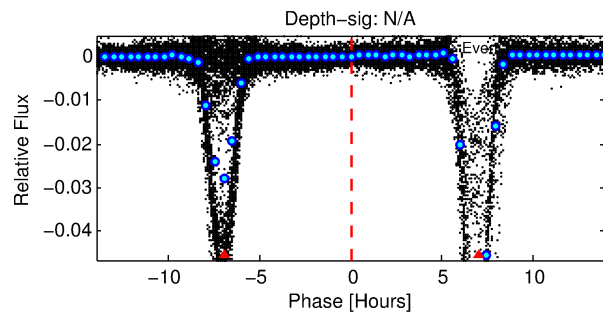
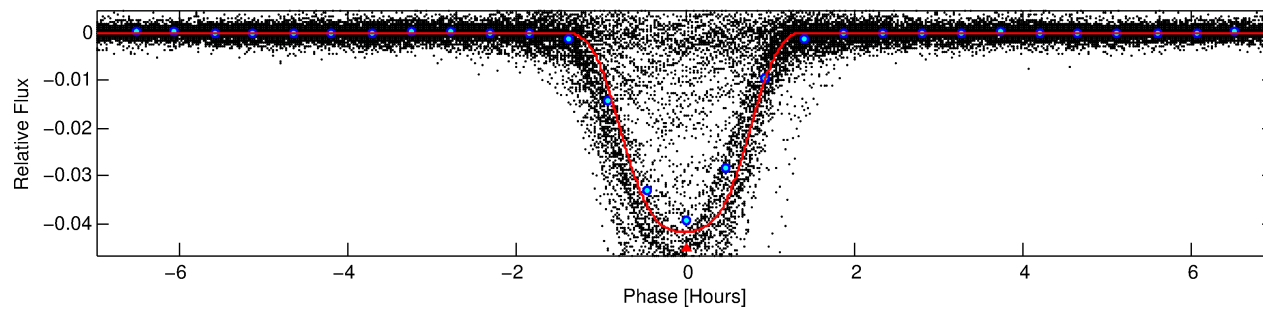
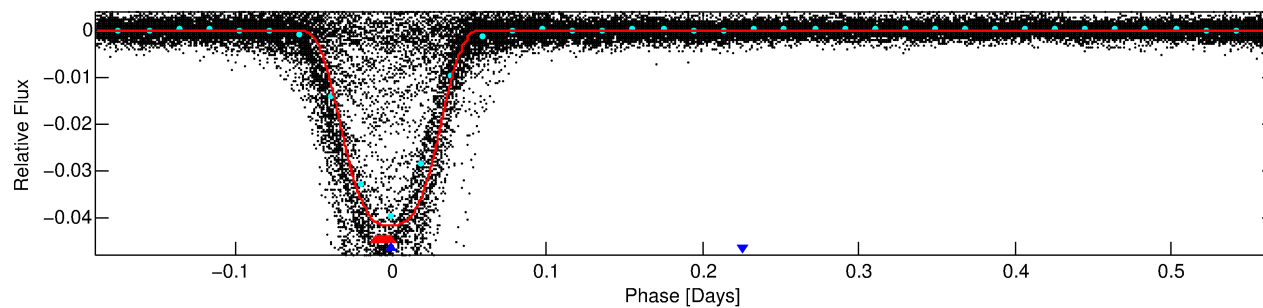
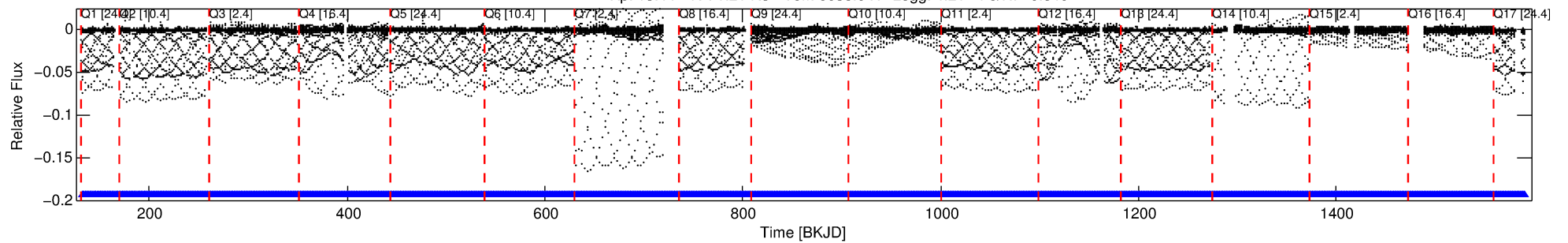
Ephemeris Match Information For 008195877-02

No Significant Match Found

DV One-Page Summary

KIC: 8195877 Candidate: 2 of 2 Period: 0.755 d
KOI: K06989.01 Corr: 0.942

Kp: 13.44 R*: 1.21 Rs Teff: 6038.0 K Logg: 4.21 Fe/H: -0.540



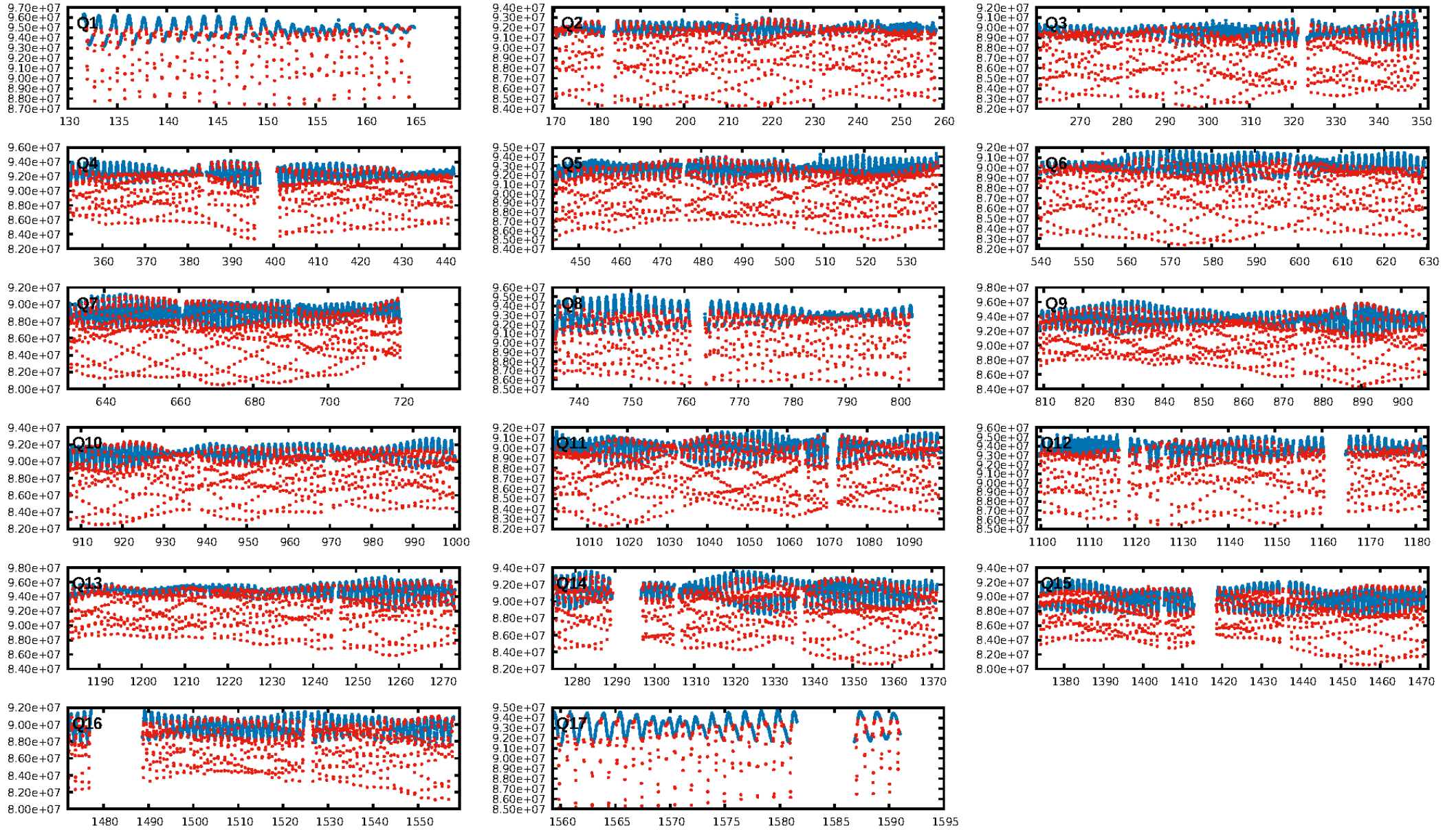
DV Fit Results:

Period = 0.75510 [0.00000] d
Epoch = 131.9610 [0.0000] BKJD
Rp/R* = 0.2029 [0.0002]
a/R* = 2.57 [0.01]
b = 0.71 [0.00]
Seff = 7340.03 [3554.90]
Teff = 2360 [286] K
Rp = 26.86 [8.13] Re
a = 0.0155 [0.0045] AU
Ag = 0.01 [0.00] [-216.43σ]
Teffp = 1109 [79] K [-4.22σ]

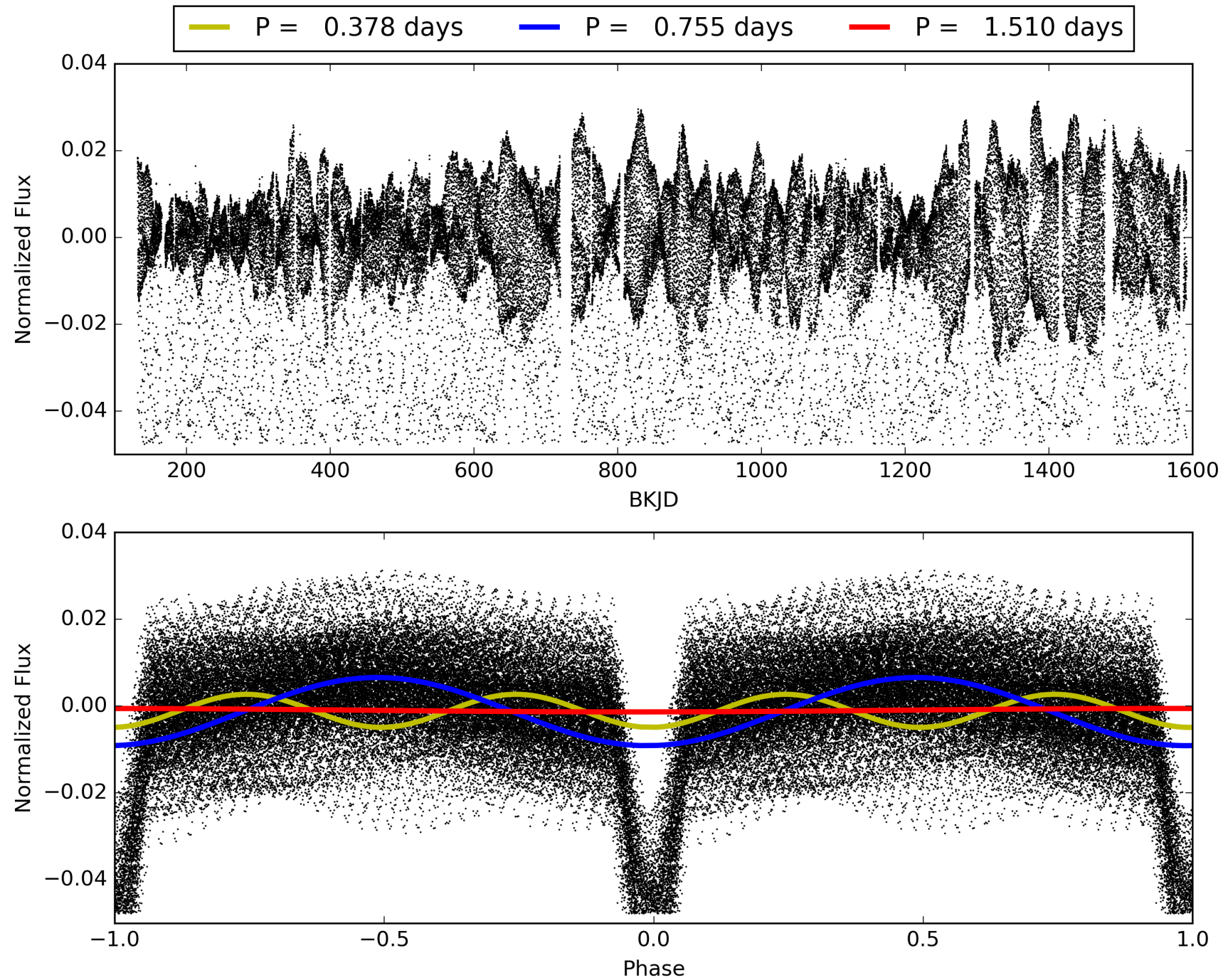
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [15.73σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1277/1277]
GhostDiagnostic-chr: 1.44
Centroid-sig: 0.0%
Centroid-so: 0.708 arcsec [634.65σ]
OotOffset-rm: 0.017 arcsec [0.25σ]
KicOffset-rm: 0.105 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: 1.00 [17/17]

TCE 008195877-02, PDC Light Curves

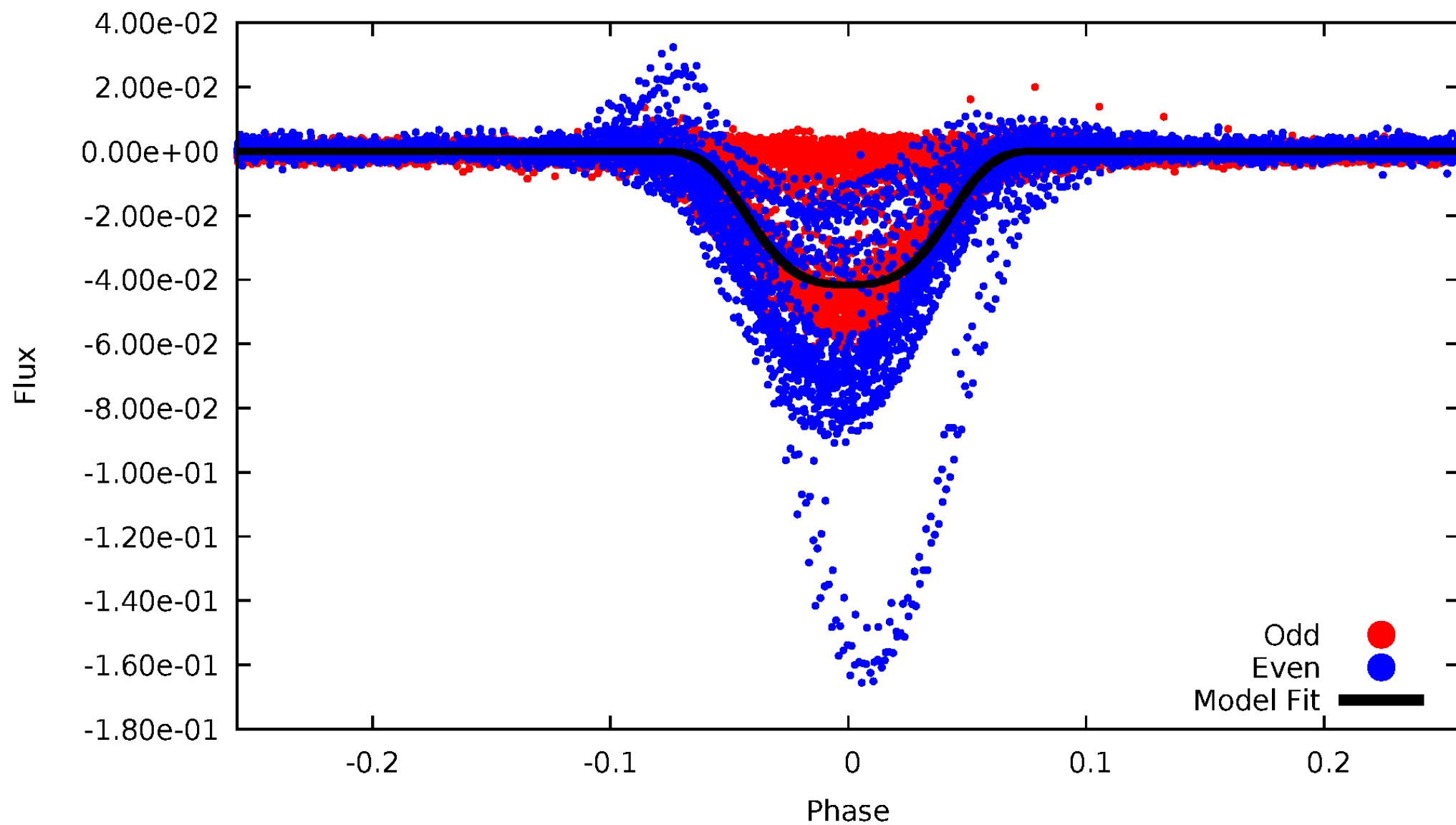


TCE 008195877-02



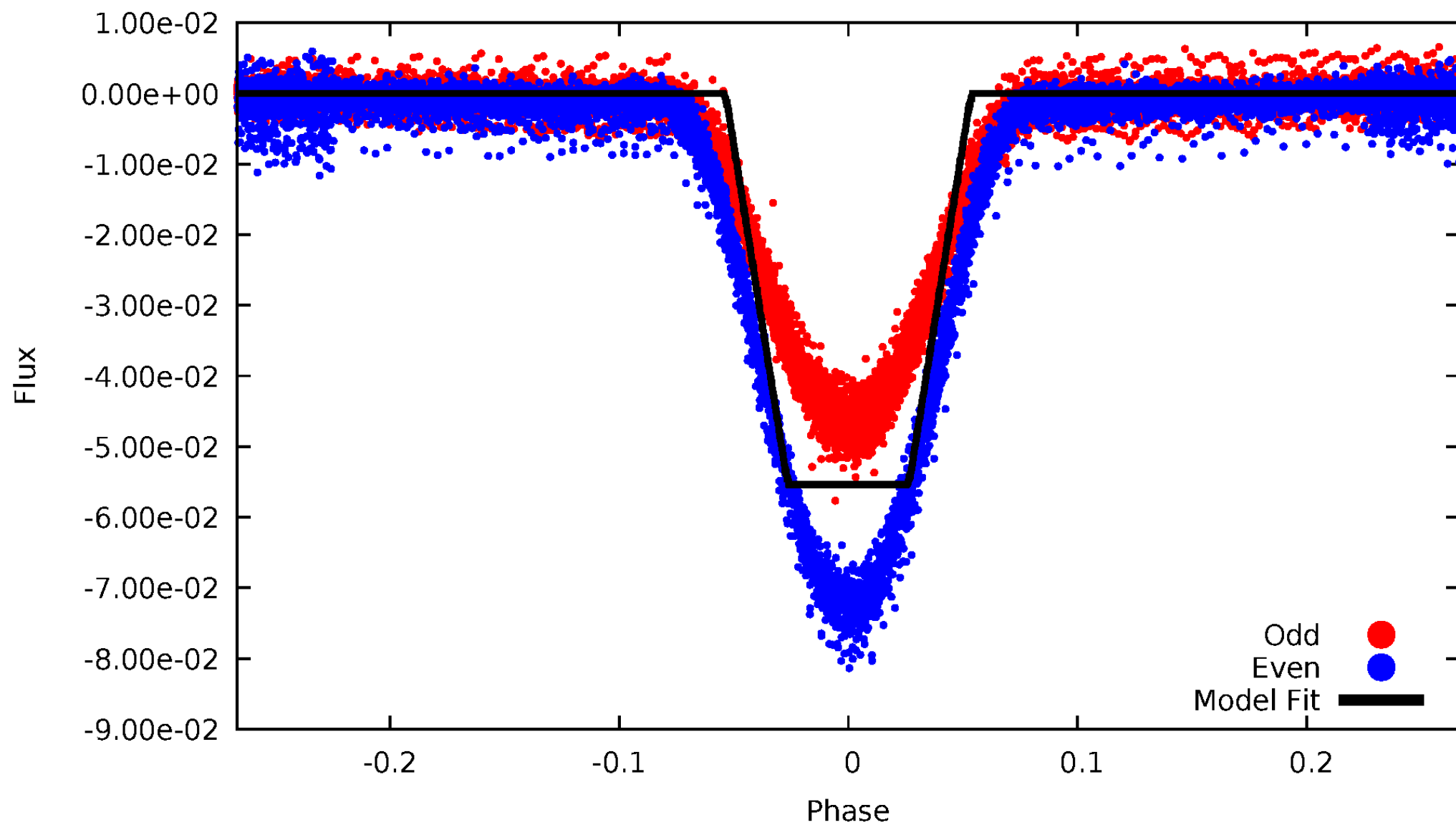
DV Odd/Even

TCE 008195877-02



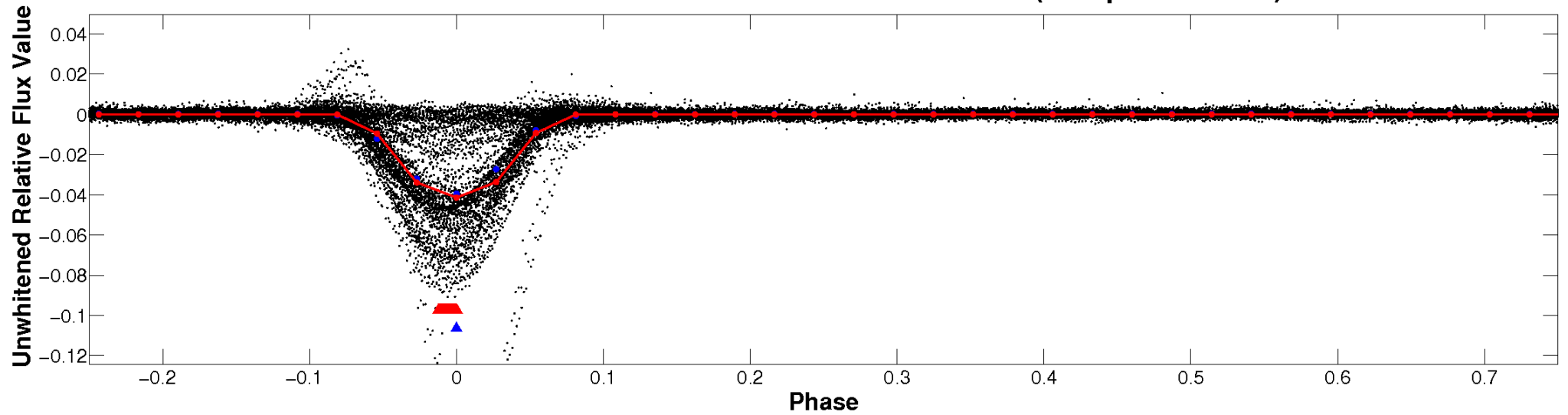
ALT Odd/Even

TCE 008195877-02

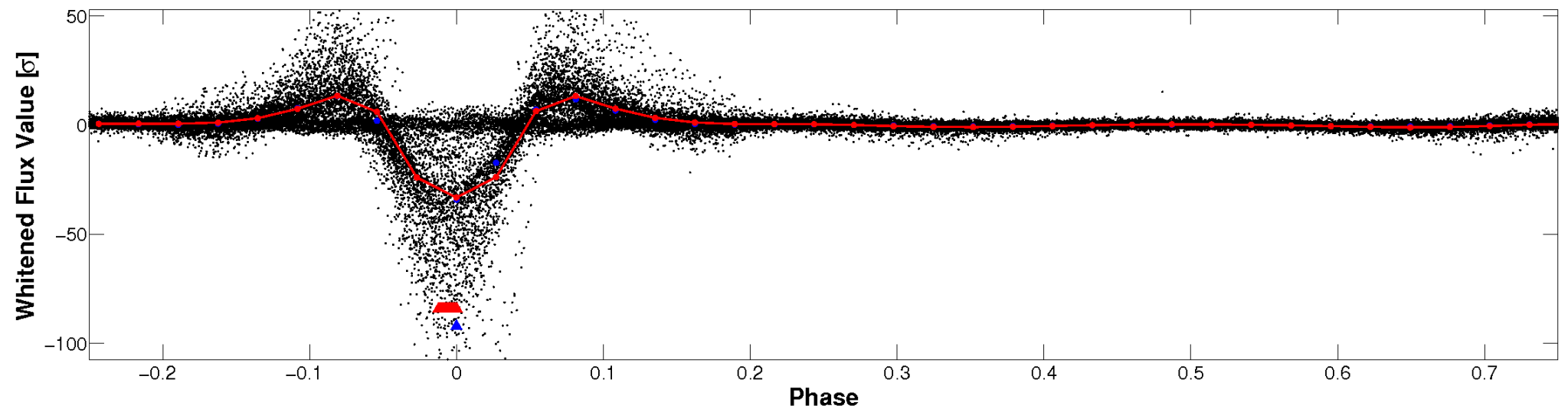


Non-Whitened Vs. Whitened Light Curve

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

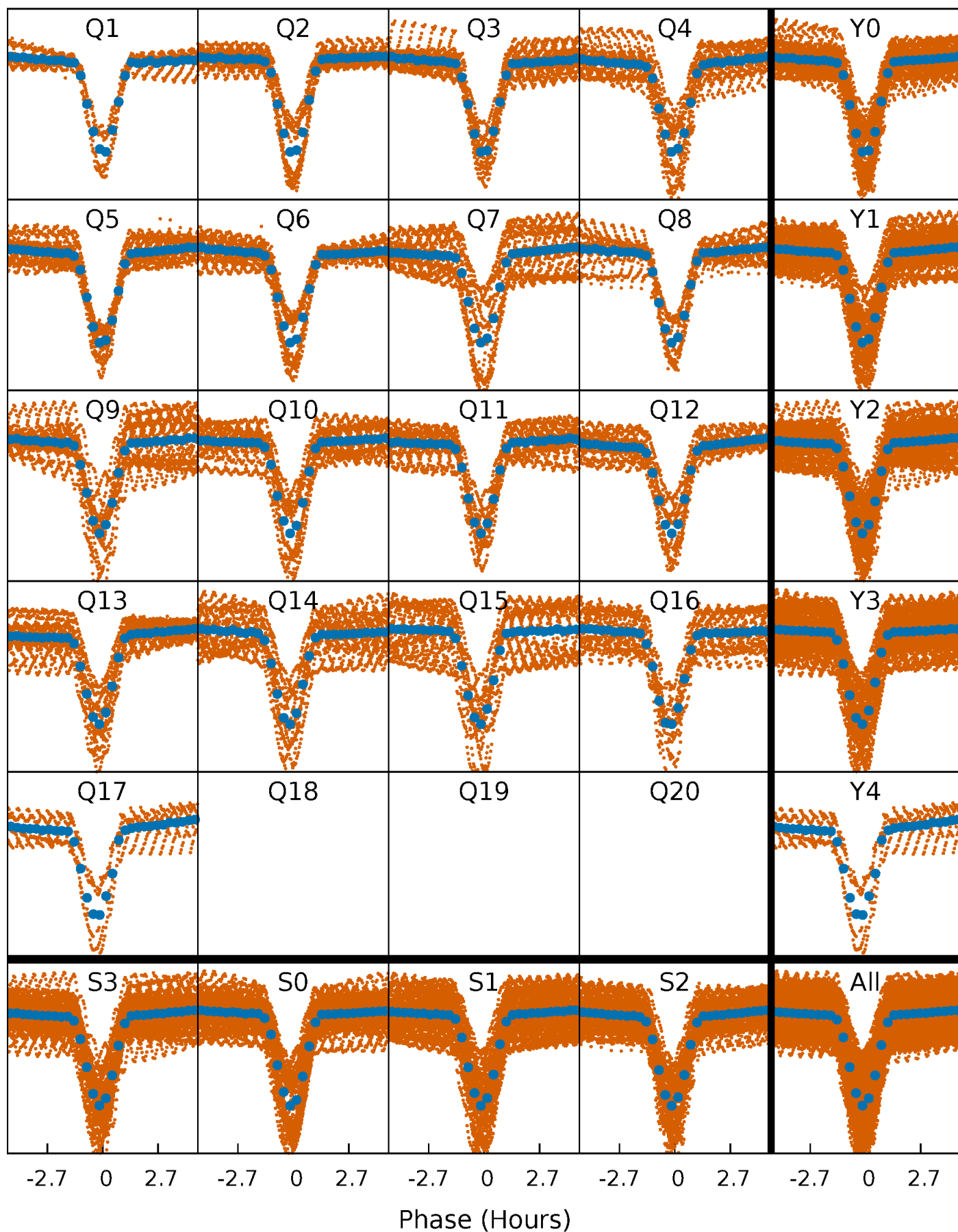


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



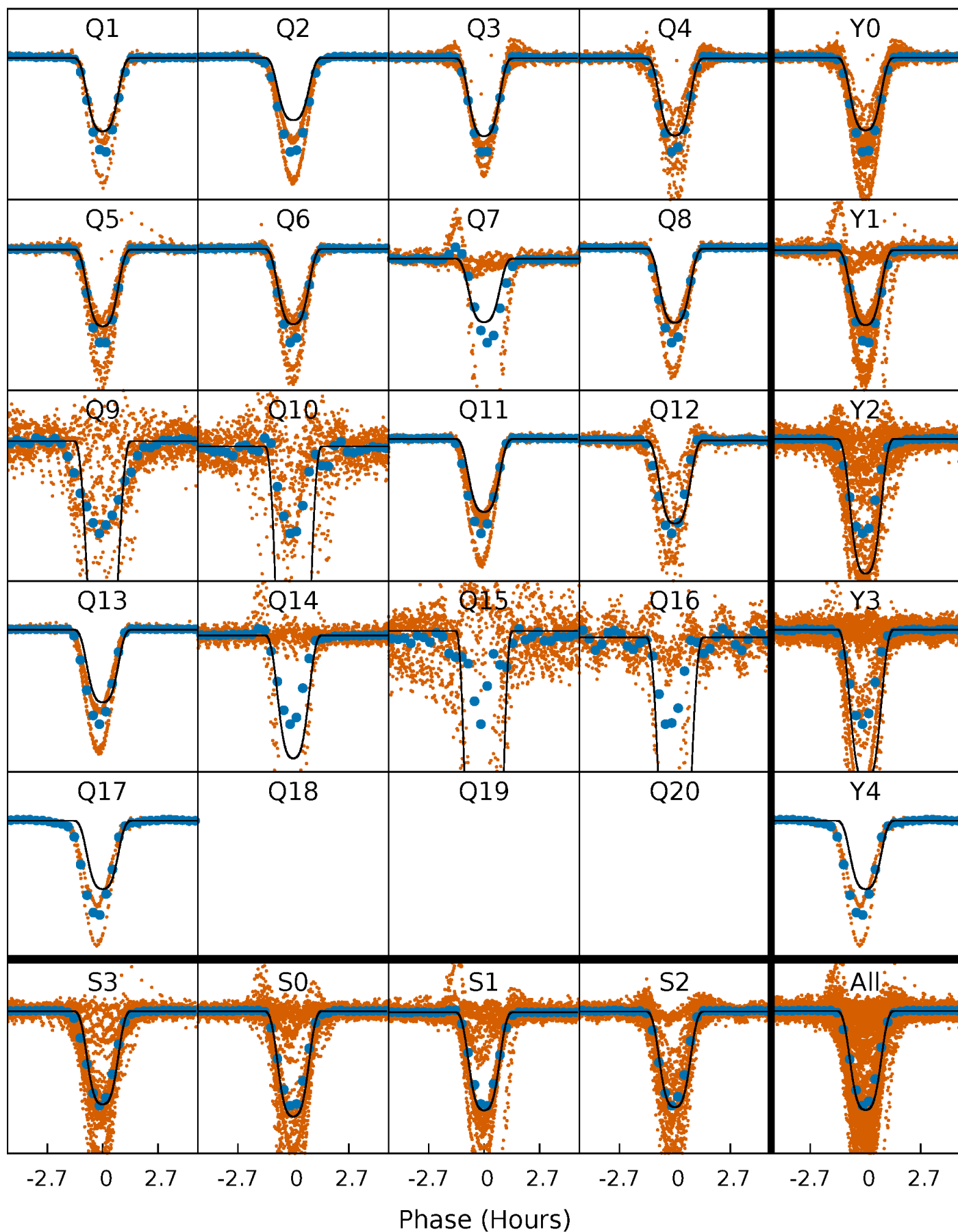
PDC Quarter-Phased Transit Curves

TCE 008195877-02 P= 0.755105 Days $T_0=131.961014$ (BKJD)



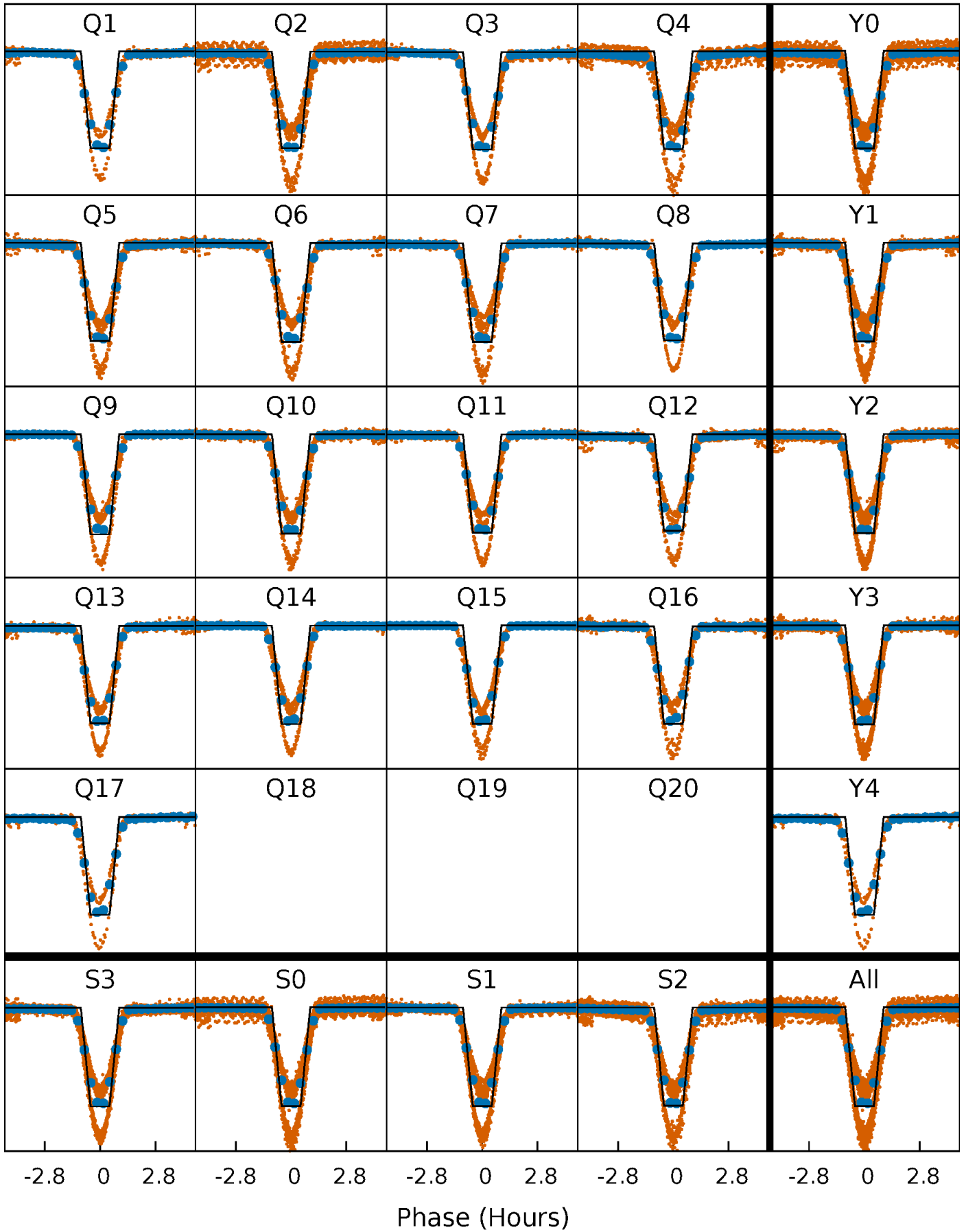
DV Quarter-Phased Transit Curves

TCE 008195877-02 P= 0.755105 Days $T_0=131.961014$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

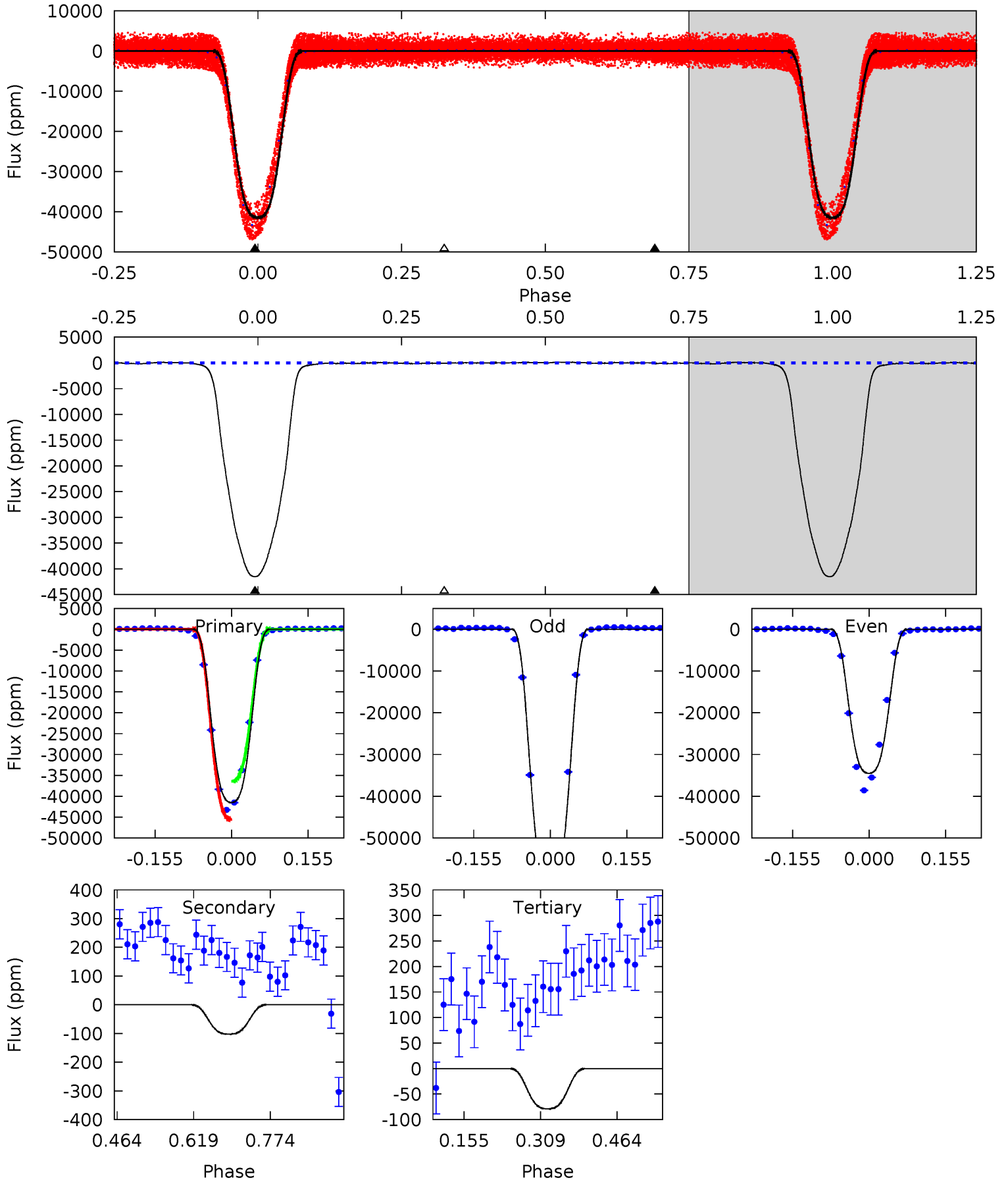
TCE 008195877-02 P= 0.755100 Days $T_0=131.960633$ (BKJD)



DV Model-Shift Uniqueness Test

008195877-02, P = 0.755105 Days, E = 131.205909 Days

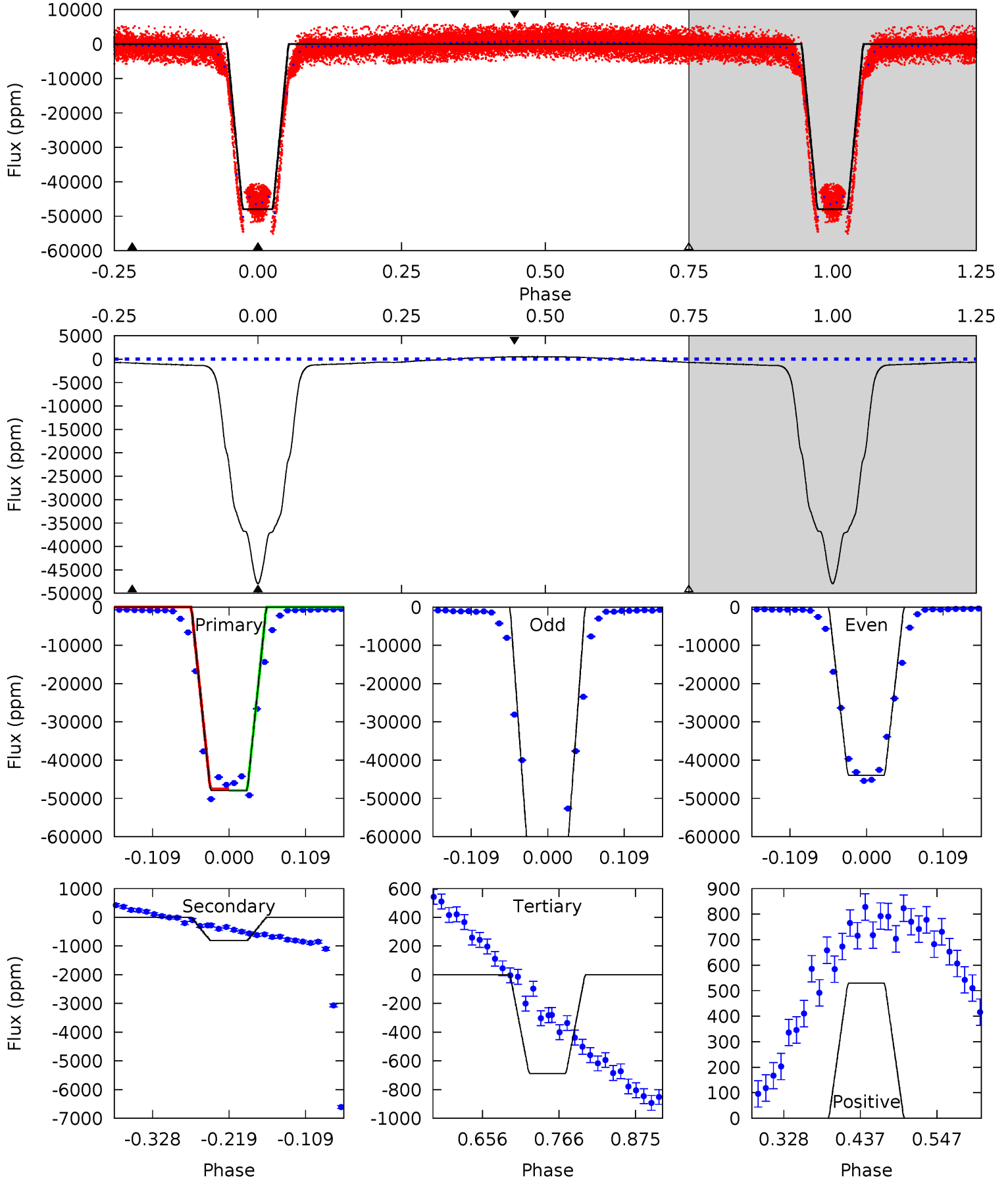
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2088	5.15	3.97	0	4.47	1.42	3.33	2084	2088	1.18	5.15	577.1	0.91	0.00	206.3



Alt Model-Shift Uniqueness Test

008195877-02, P = 0.755100 Days, E = 131.205533 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1550	26.3	22.2	17.1	4.55	1.60	16.2	1528	1533	4.03	9.14	441.3	1.13	0.01	6.01



Stellar Parameters For KIC 008195877

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6038^{+181}_{-163}	$4.206^{+0.276}_{-0.184}$	$-0.540^{+0.300}_{-0.300}$	$1.213^{+0.334}_{-0.367}$	$0.864^{+0.119}_{-0.069}$	$0.681^{+1.138}_{-0.328}$
	+3%/-3%	+7%/-4%	+56%/-56%	+28%/-30%	+14%/-8%	+167%/-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 008195877-02 / KOI 6989.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-102 ± 20	$27.13^{+4.00}_{-4.56}$	3293^{+262}_{-275}	-3238^{+177}_{-163}	$0.018^{+0.009}_{-0.006}$
Alt.	-813 ± 31	$31.20^{+4.82}_{-4.72}$	3286^{+268}_{-272}	-3054^{+247}_{-201}	$0.112^{+0.043}_{-0.027}$

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

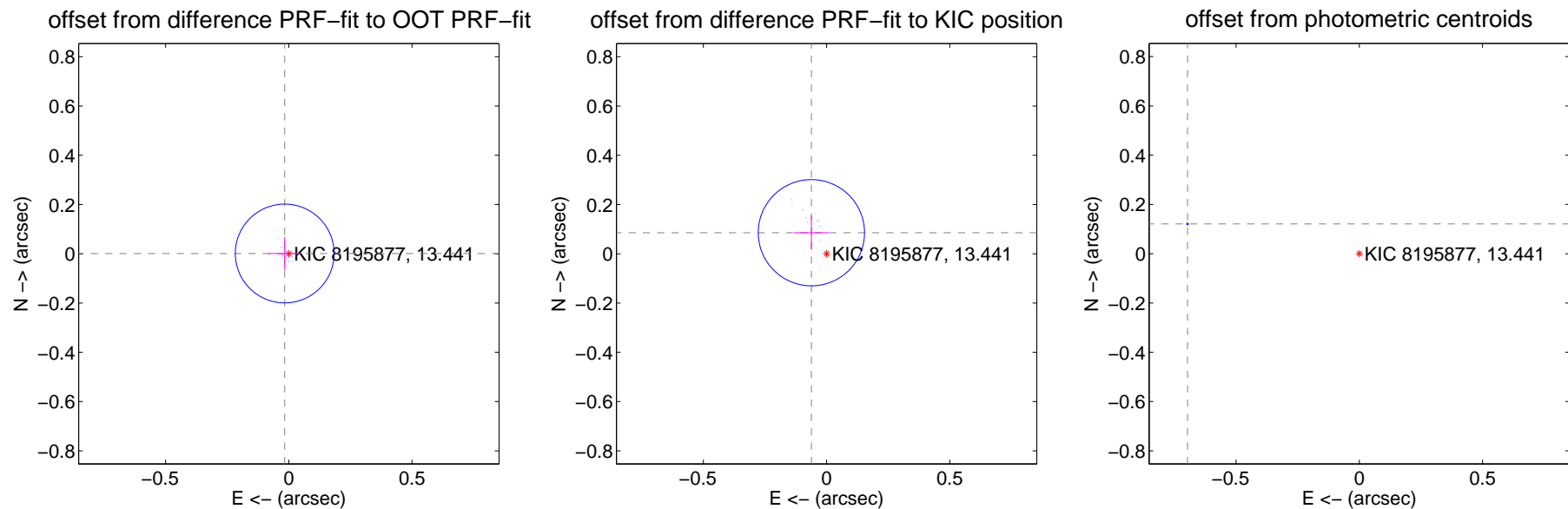
DV Centroid Data

Supplemental centroid analysis for 008195877-02. Kepler magnitude: 13.44. Transit SNR 1084.30

There are 17 quarters with good PRF difference image offsets

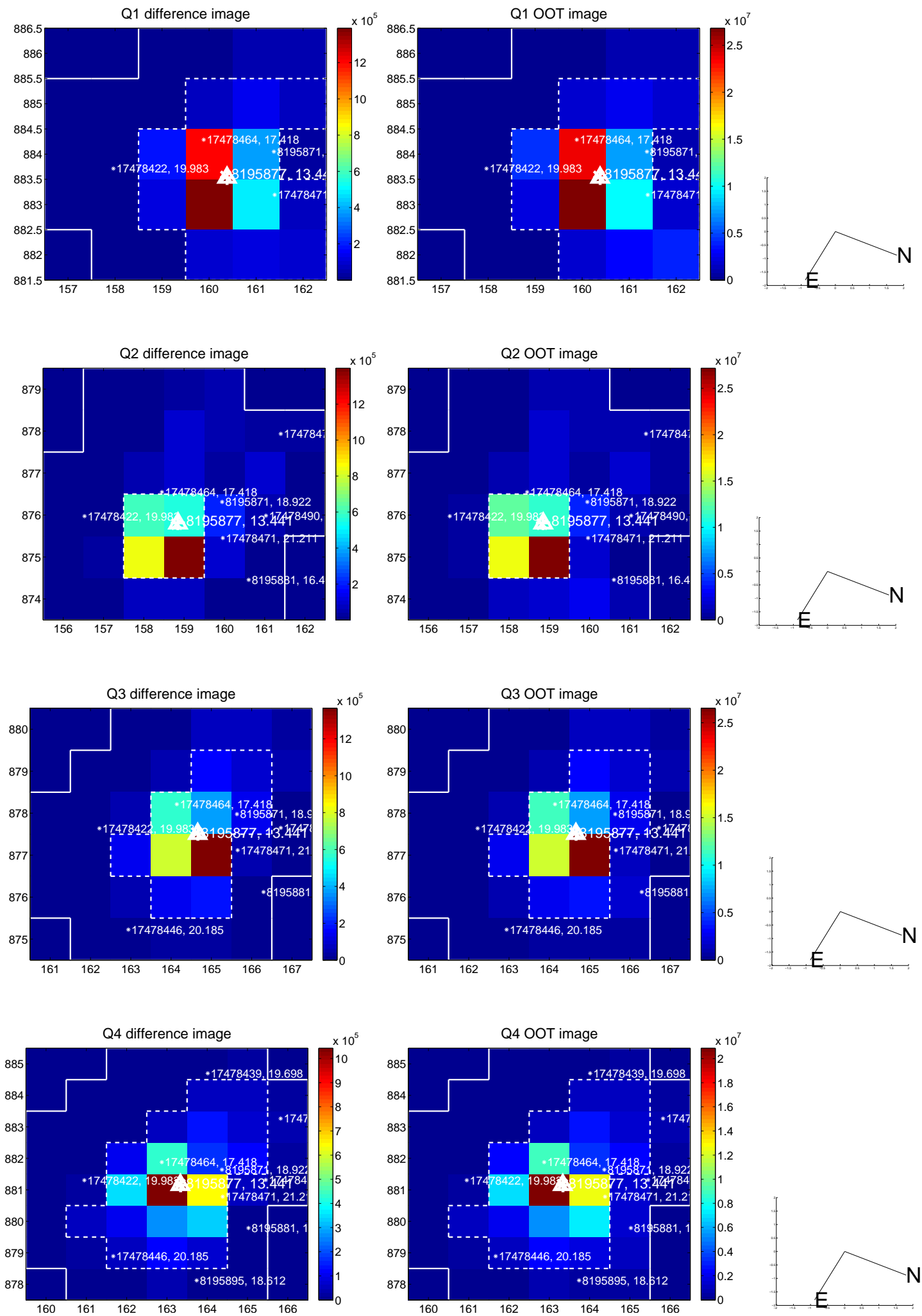
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.017 ± 0.067	0.25	0.017 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.105 ± 0.072	1.47	0.062 ± 0.071	0.086 ± 0.069
photometric centroid source offset	0.71 ± 0.00	634.65	0.70 ± 0.00	0.12 ± 0.00

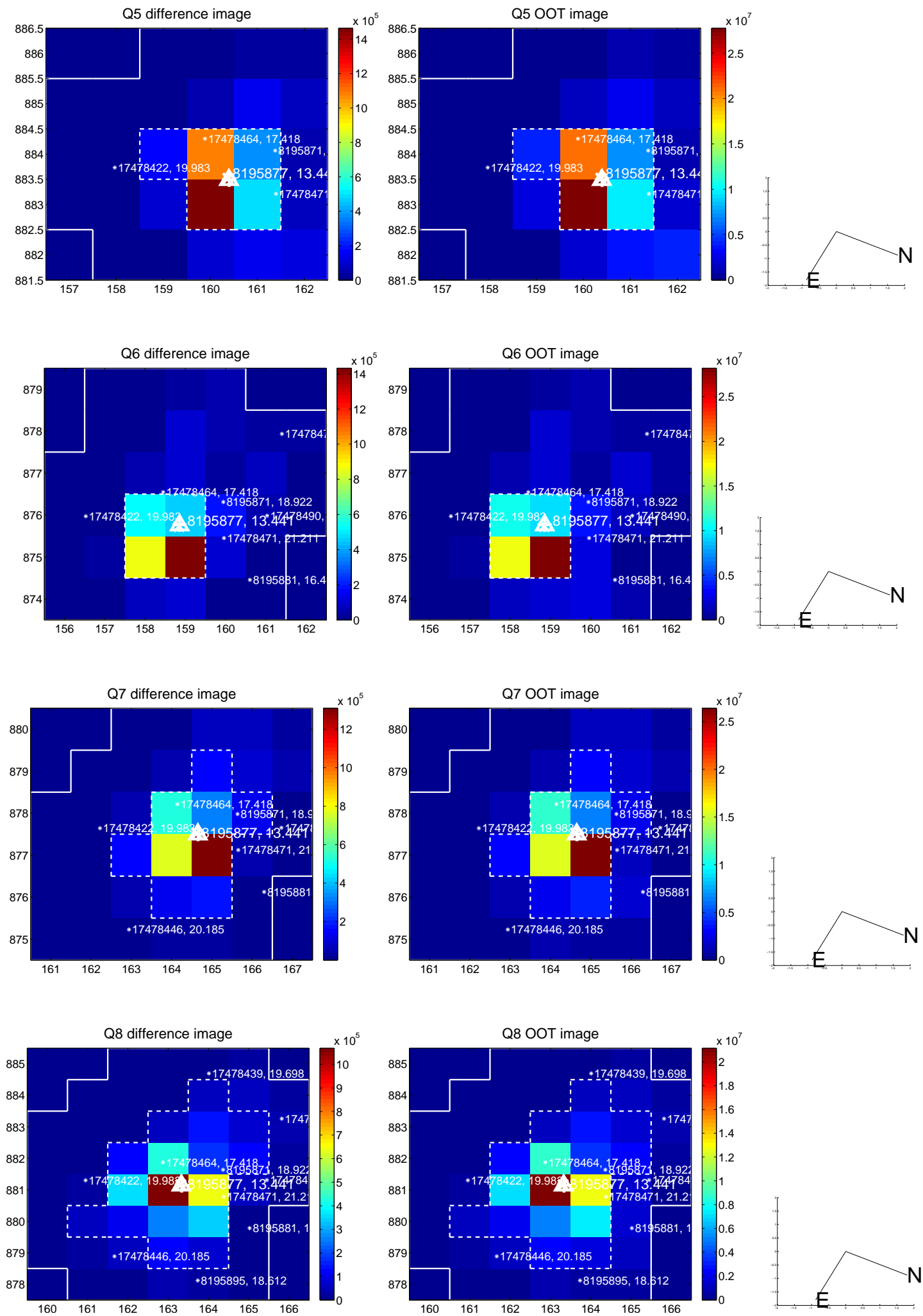


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

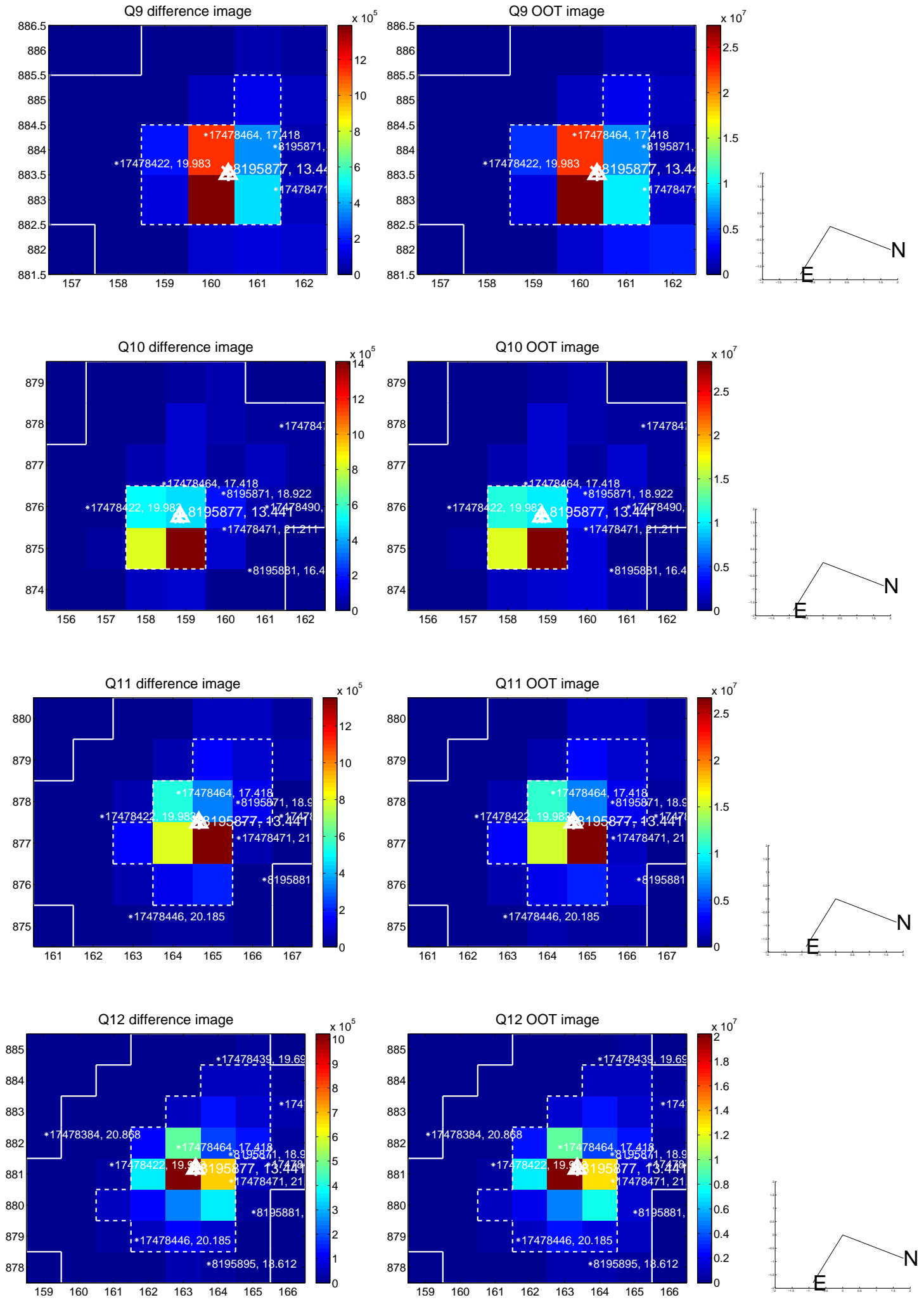
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



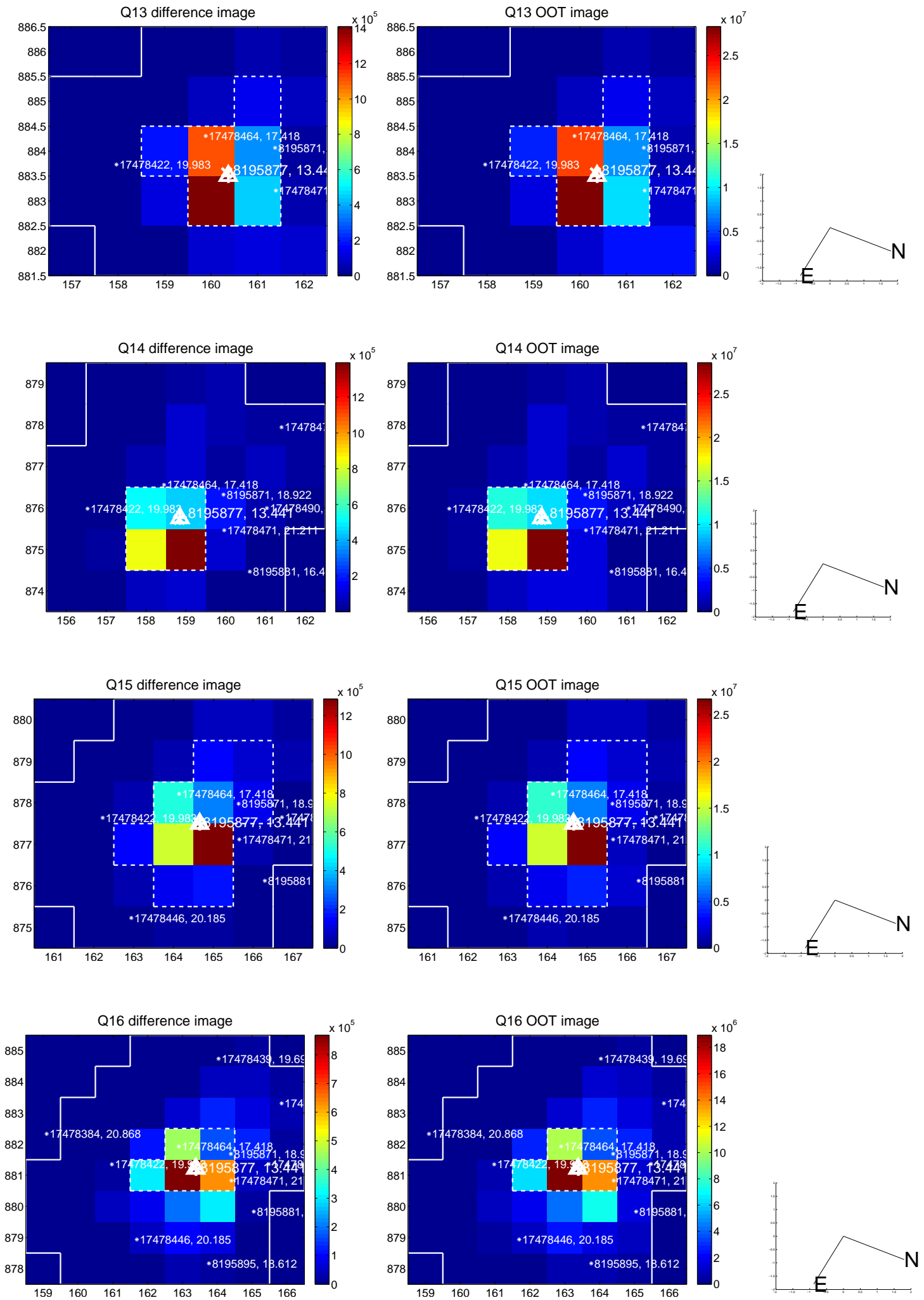
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



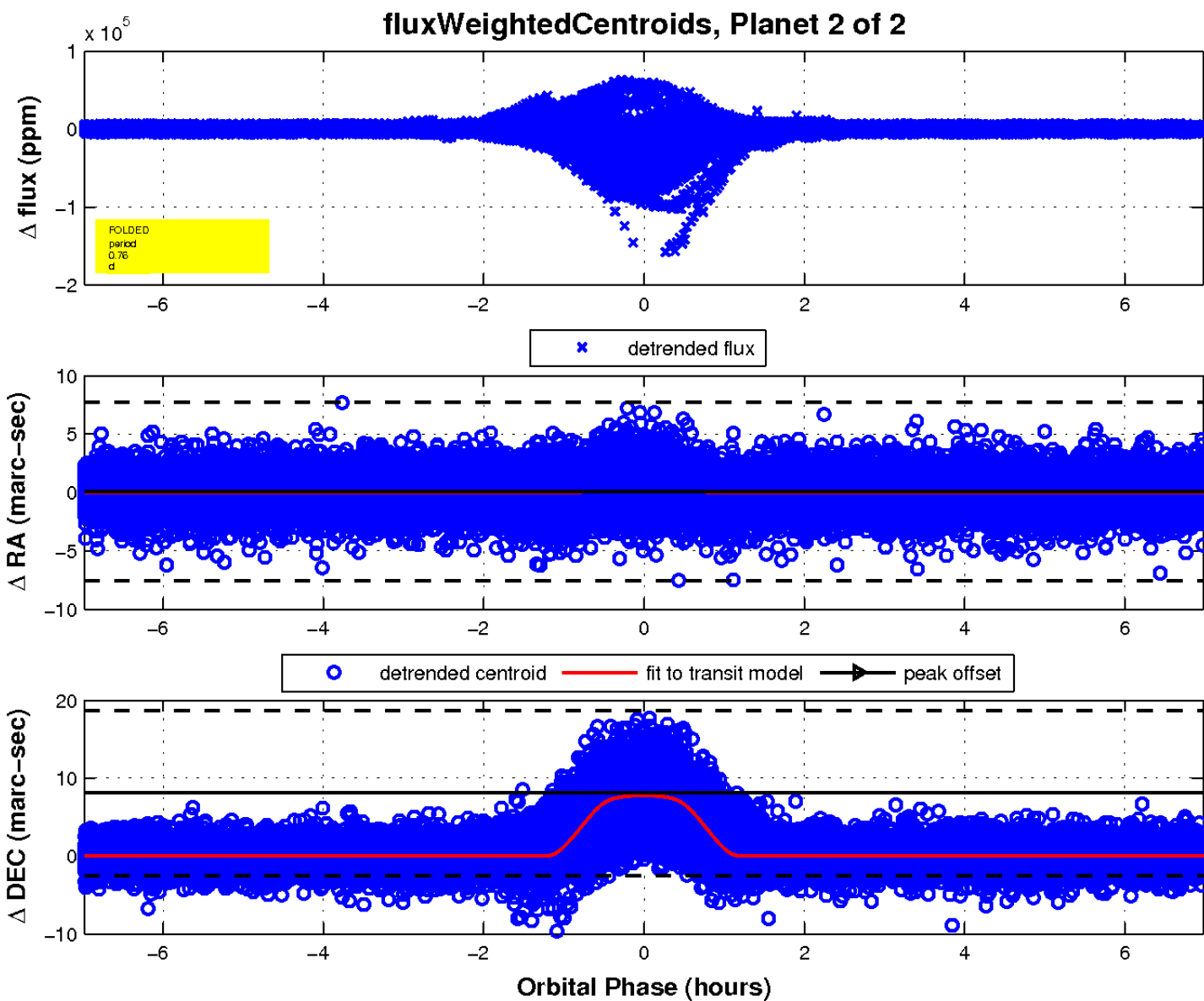
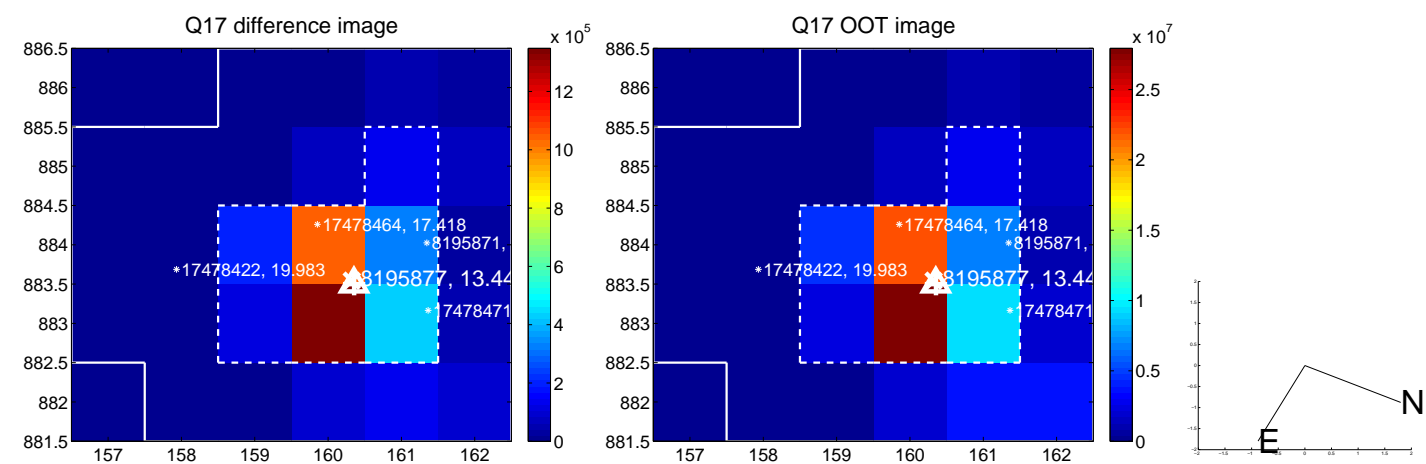
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

