

KIC 007708193

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})
007708193-01	OBS	3666.01	7.942583	134.817153	87756.1	7.065	1274.0	1136.2	2.18	5516	80.67	644.88
007708193-02	OBS	No	3.971295	134.815751	32369.9	6.996	502.6	433.5	2.18	5516	51.75	1625.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007708193-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
007708193-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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.

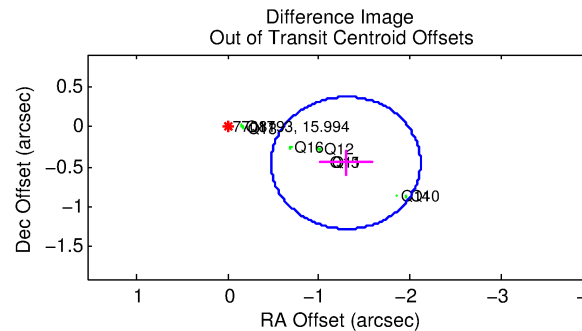
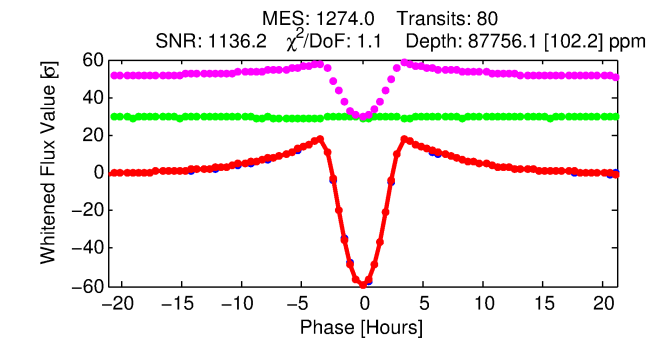
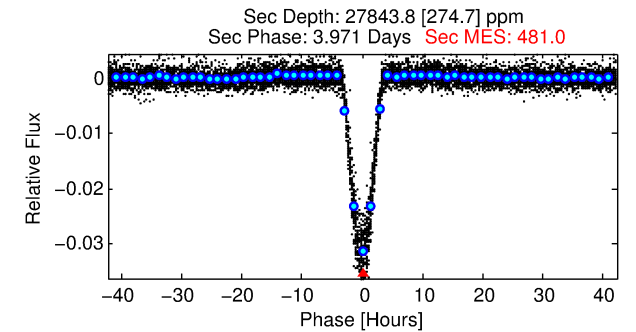
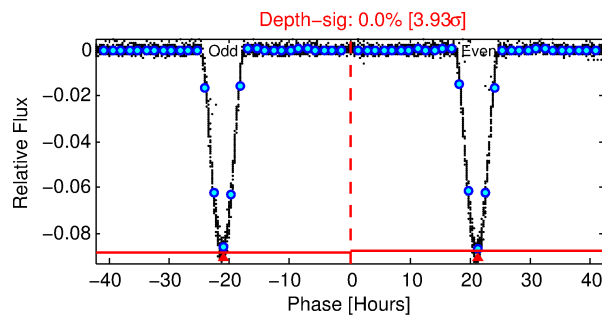
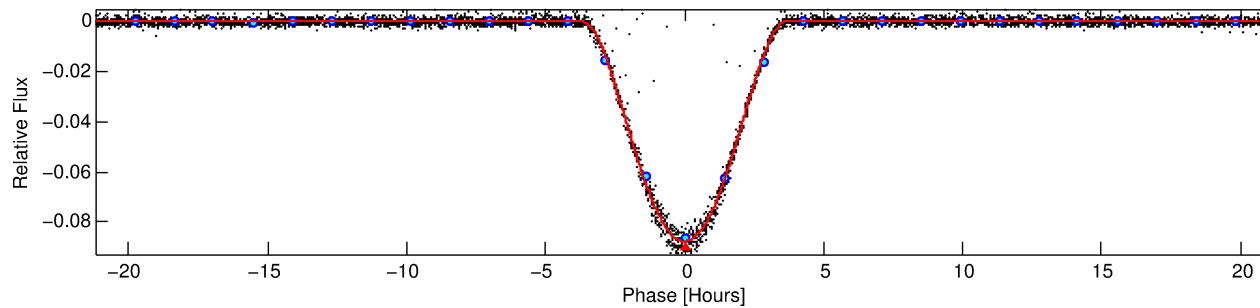
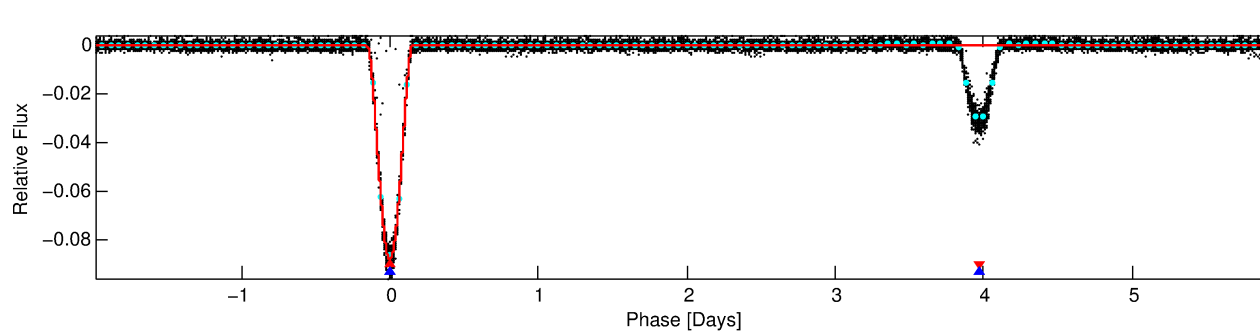
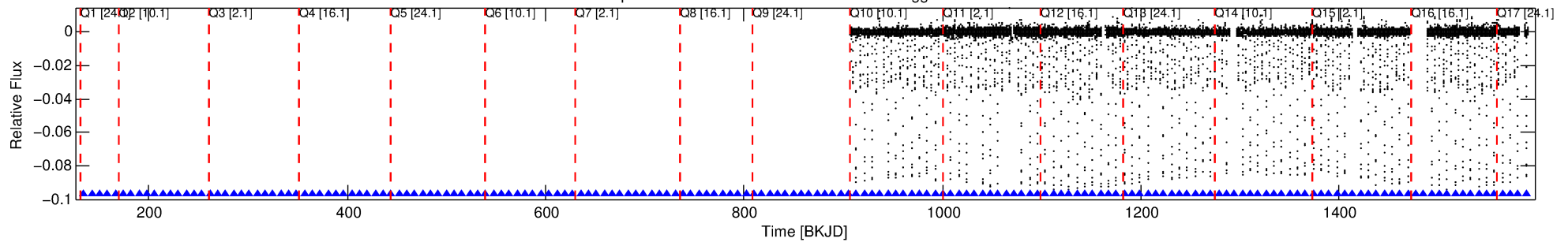
Ephemeris Match Information For 007708193-01

No Significant Match Found

DV One-Page Summary

KIC: 7708193 Candidate: 1 of 2 Period: 7.943 d
KOI: K03666.01 Corr: 0.995

Kp: 15.99 R*: 2.18 Rs Teff: 5516.0 K Logg: 3.77 Fe/H: -0.480



DV Fit Results:

Period = 7.94258 [0.00000] d
Epoch = 134.8172 [0.0003] BKJD
Rp/R* = 0.3394 [0.0045]
a/R* = 9.20 [0.02]
b = 0.81 [0.01]
Seff = 644.88 [818.36]
Teq = 1285 [408] K
Rp = 80.67 [51.09] Re
a = 0.0781 [0.0568] AU
Ag = 14.36 [18.07] [0.74σ]
Teffp = 3867 [164] K [5.88σ]

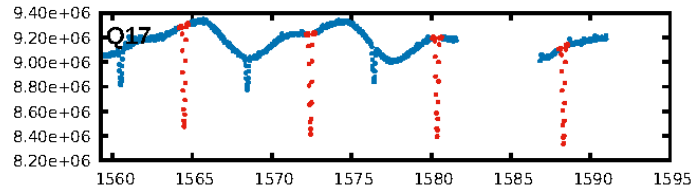
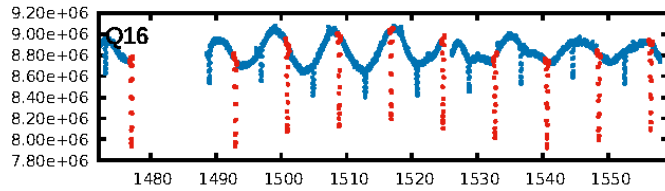
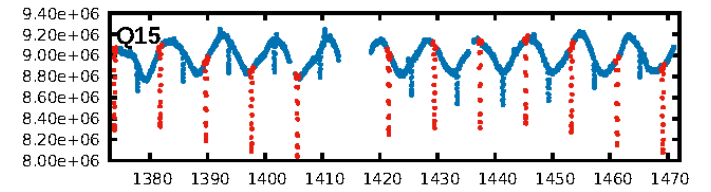
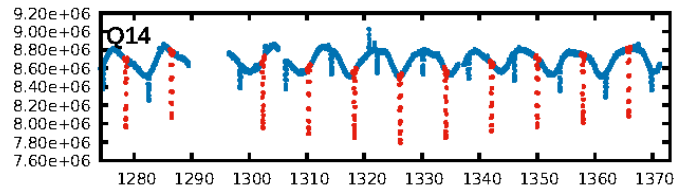
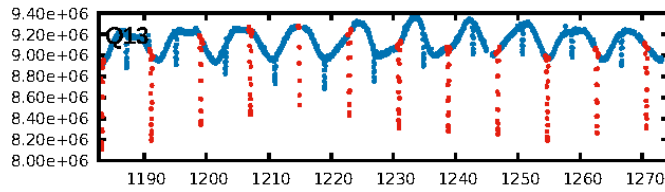
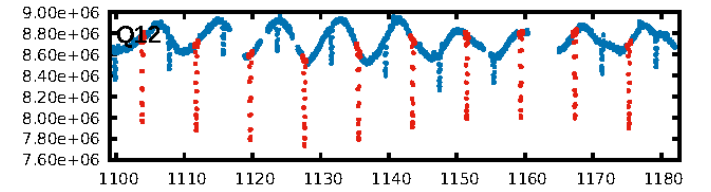
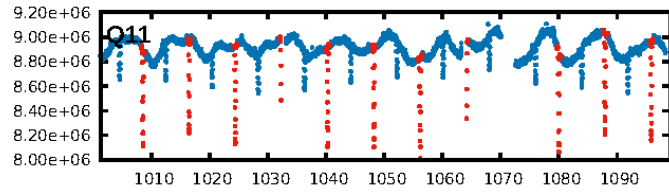
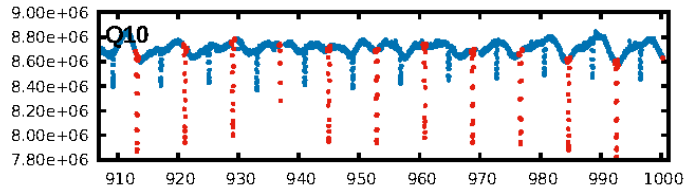
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.59σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [76/76]
GhostDiagnostic-chr: 2.317
Centroid-sig: 0.0%
Centroid-so: 1.015 arcsec [91.77σ]
OotOffset-rm: 1.373 arcsec [5.00σ]
KicOffset-rm: 0.211 arcsec [2.77σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 0.00 [0/8]

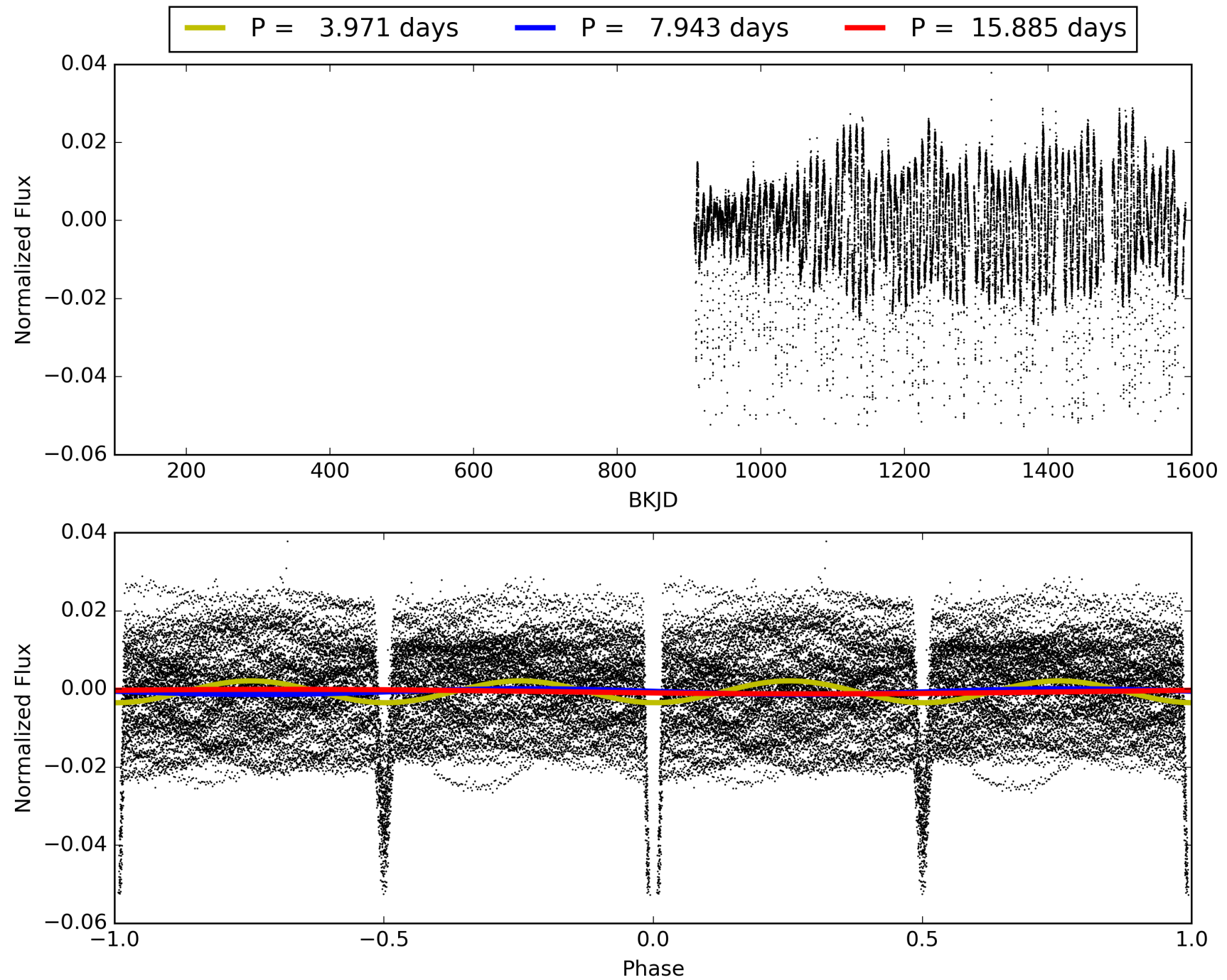
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007708193-01, PDC Light Curves

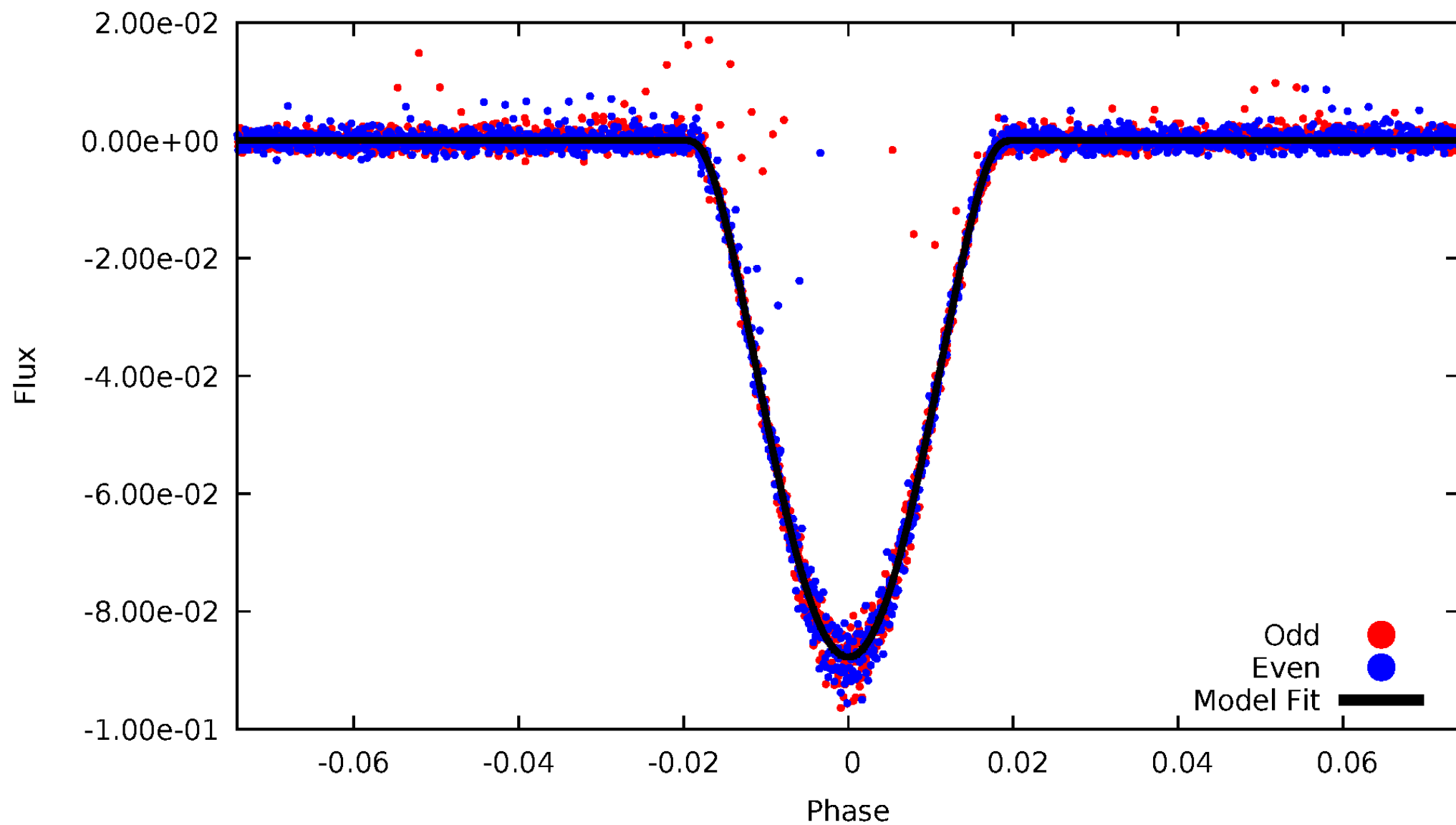


TCE 007708193-01



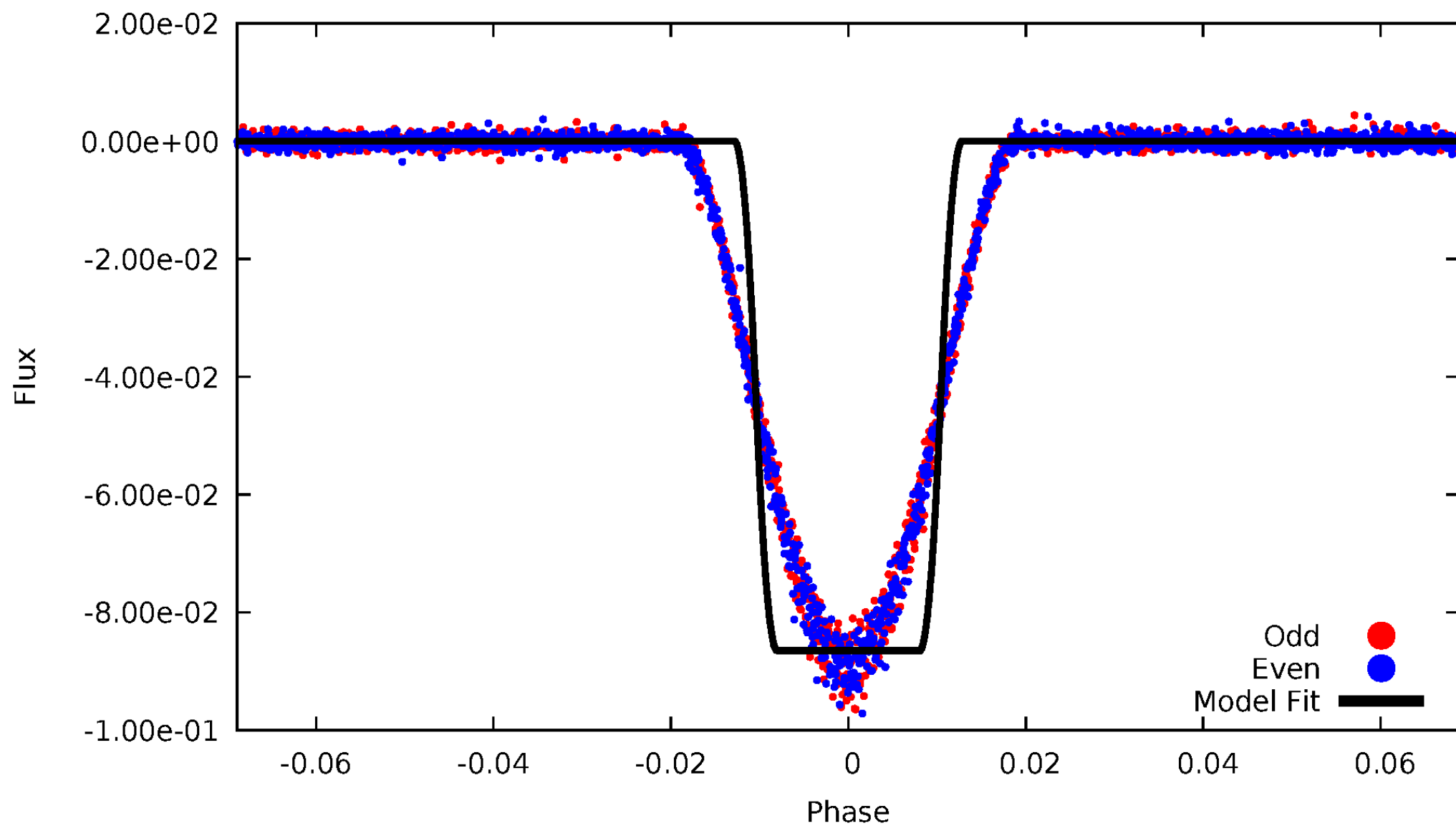
DV Odd/Even

TCE 007708193-01



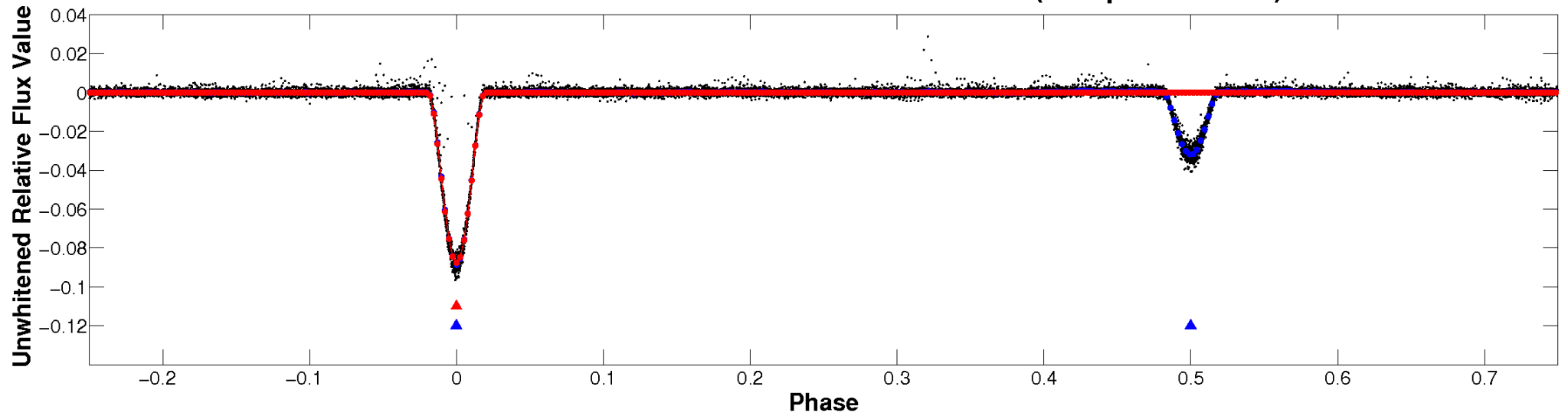
ALT Odd/Even

TCE 007708193-01

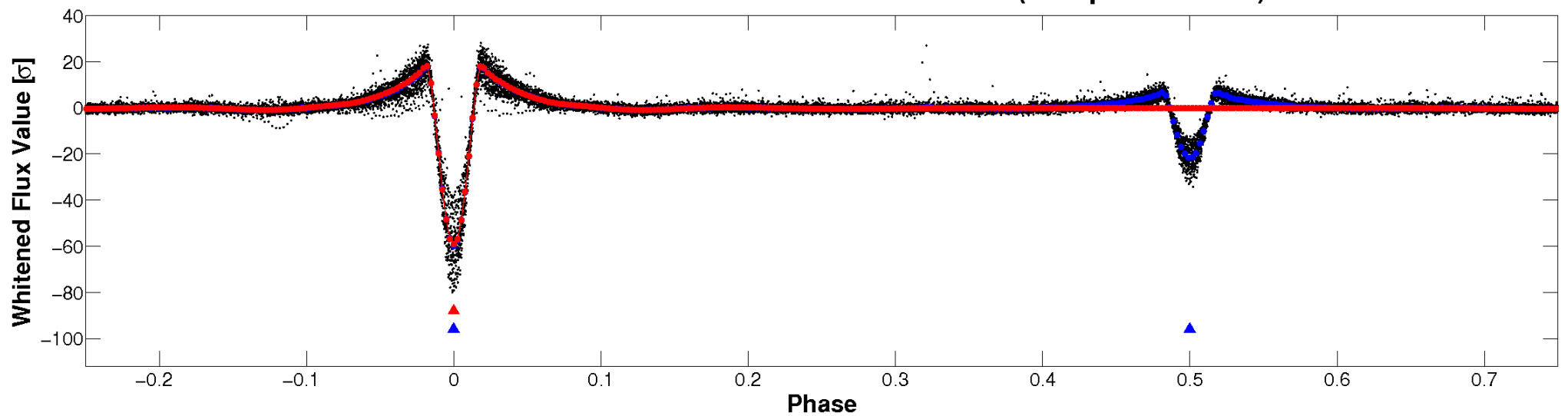


Non-Whitened Vs. Whitened Light Curve

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

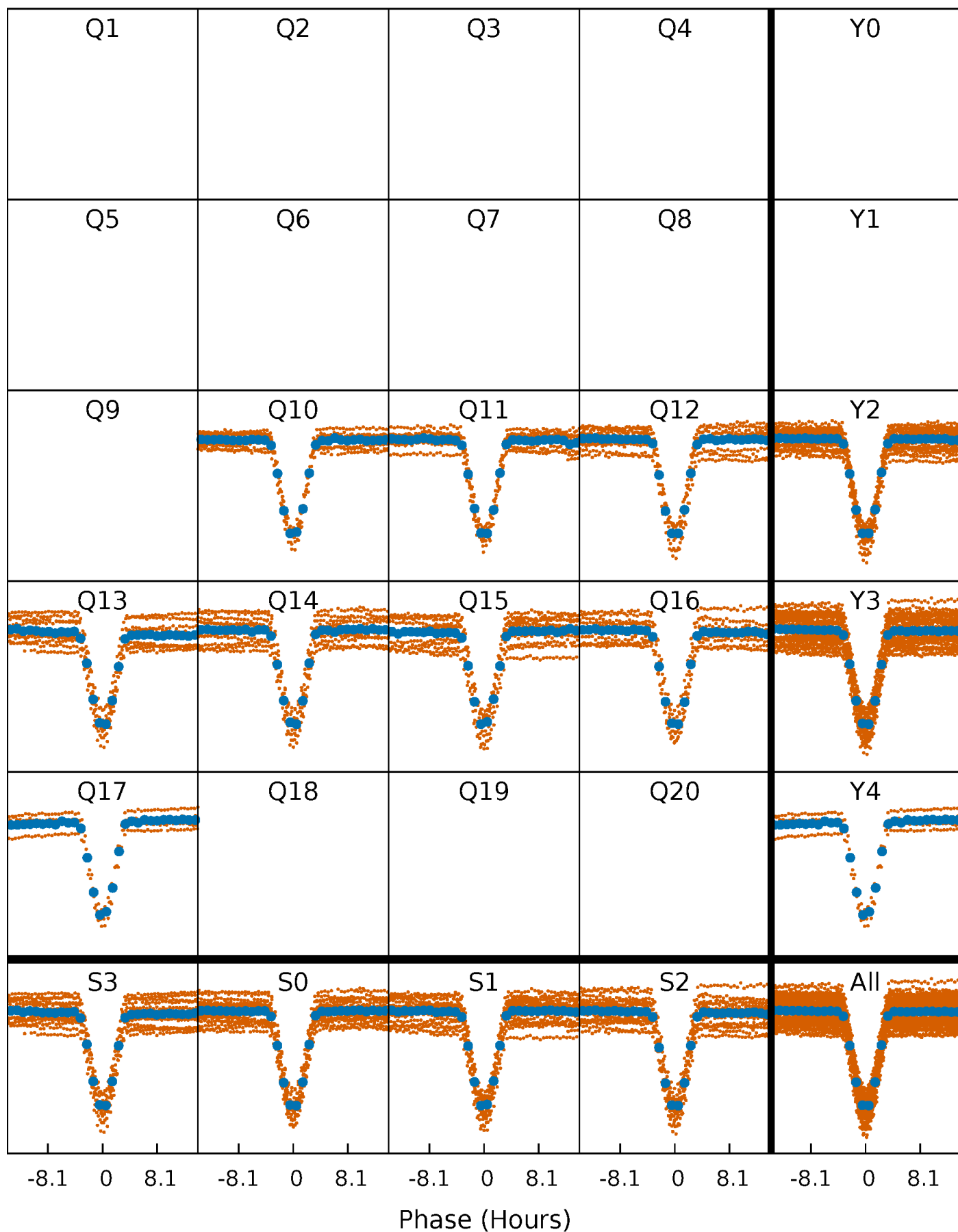


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



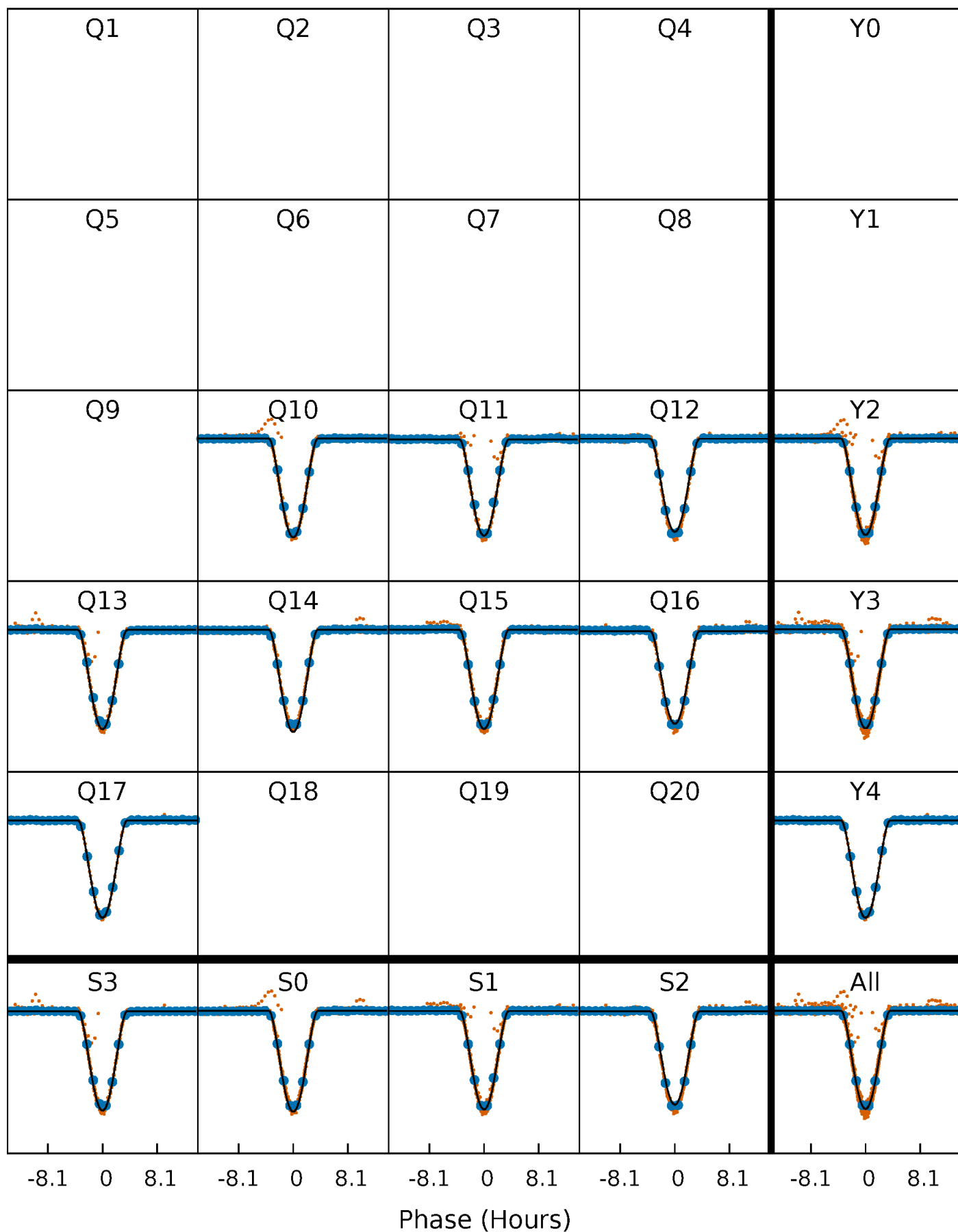
PDC Quarter-Phased Transit Curves

TCE 007708193-01 P= 7.942583 Days $T_0=134.817153$ (BKJD)



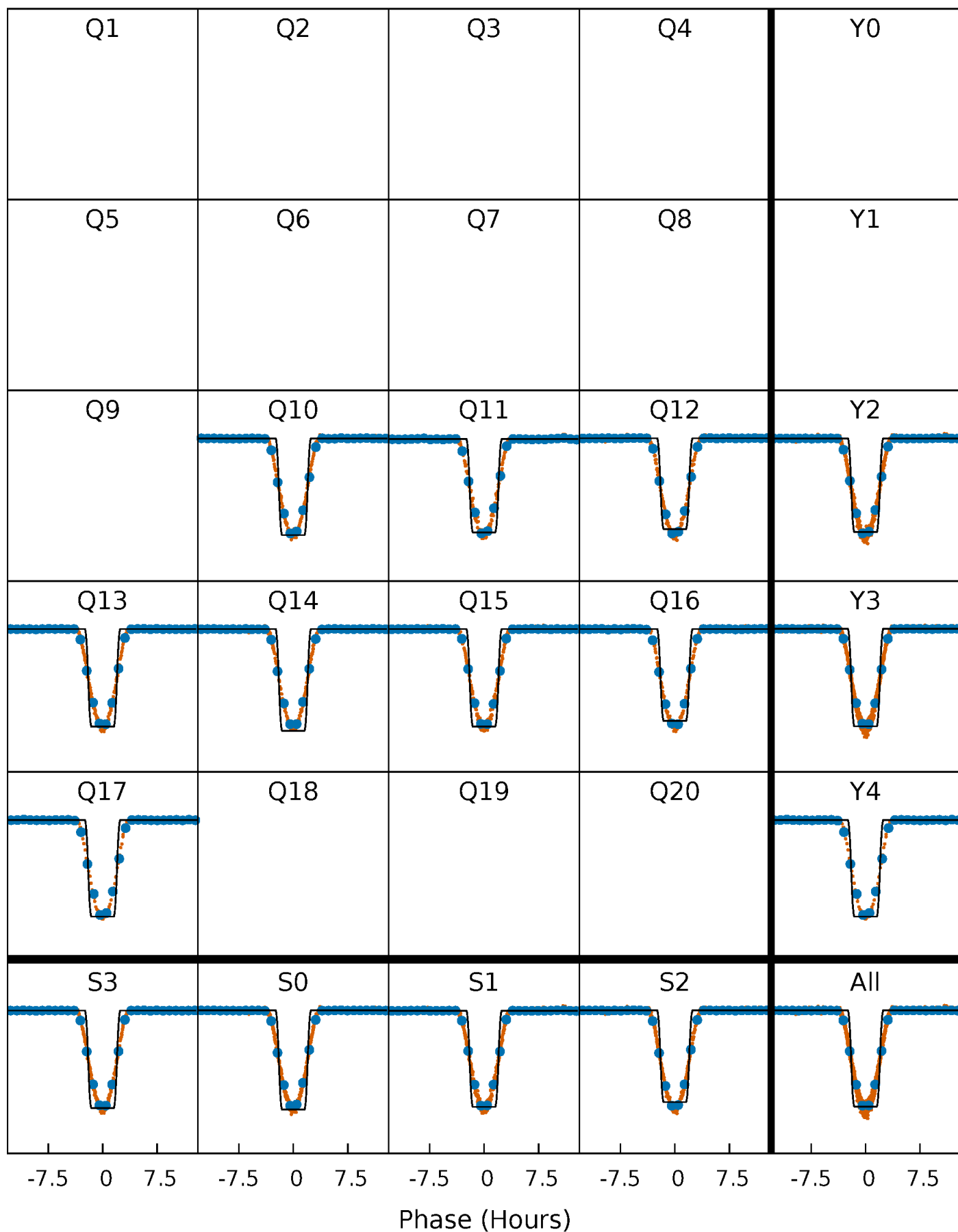
DV Quarter-Phased Transit Curves

TCE 007708193-01 P= 7.942583 Days $T_0=134.817153$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

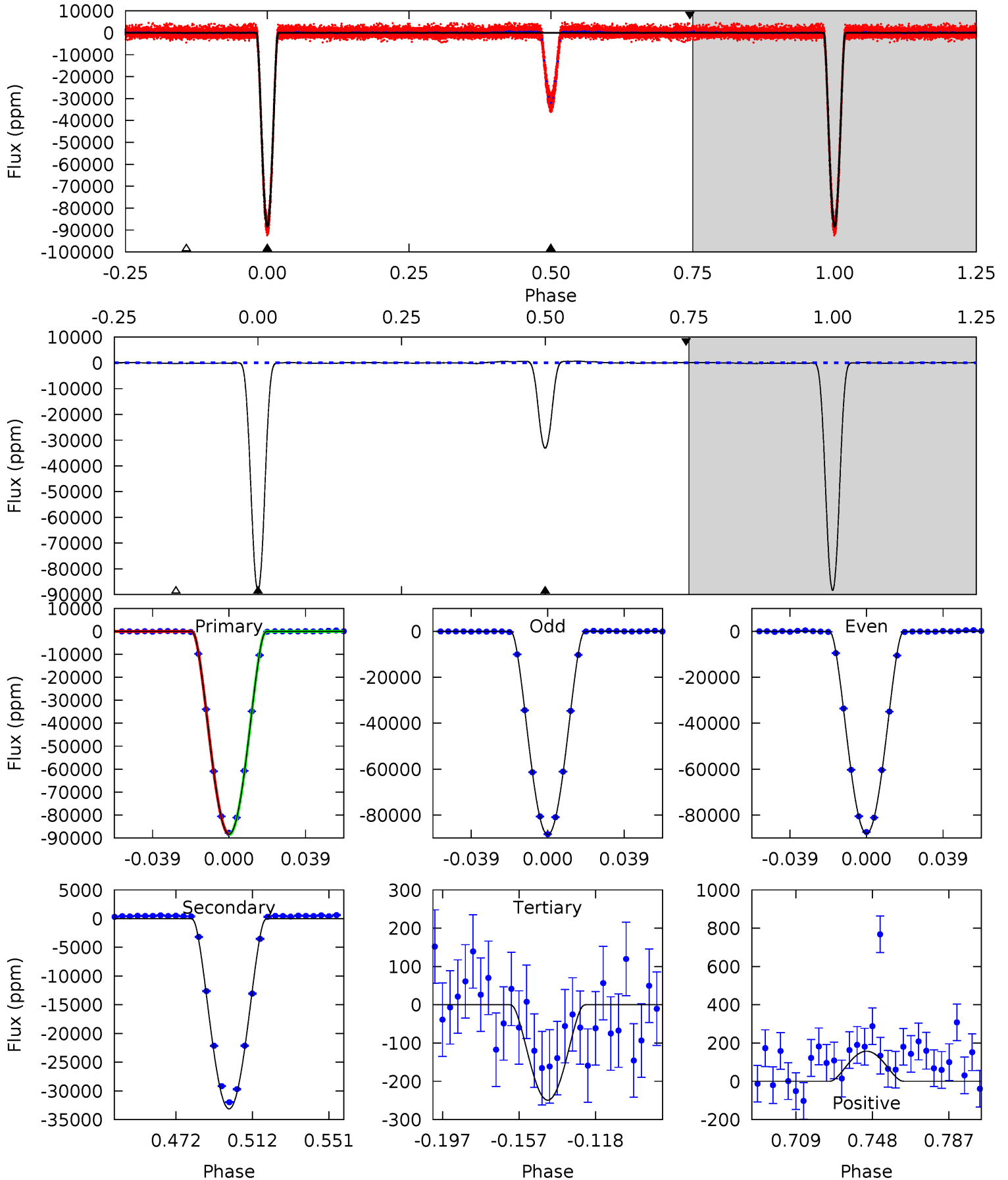
TCE 007708193-01 P= 7.942555 Days $T_0=134.821216$ (BKJD)



DV Model-Shift Uniqueness Test

007708193-01, P = 7.942583 Days, E = 134.817153 Days

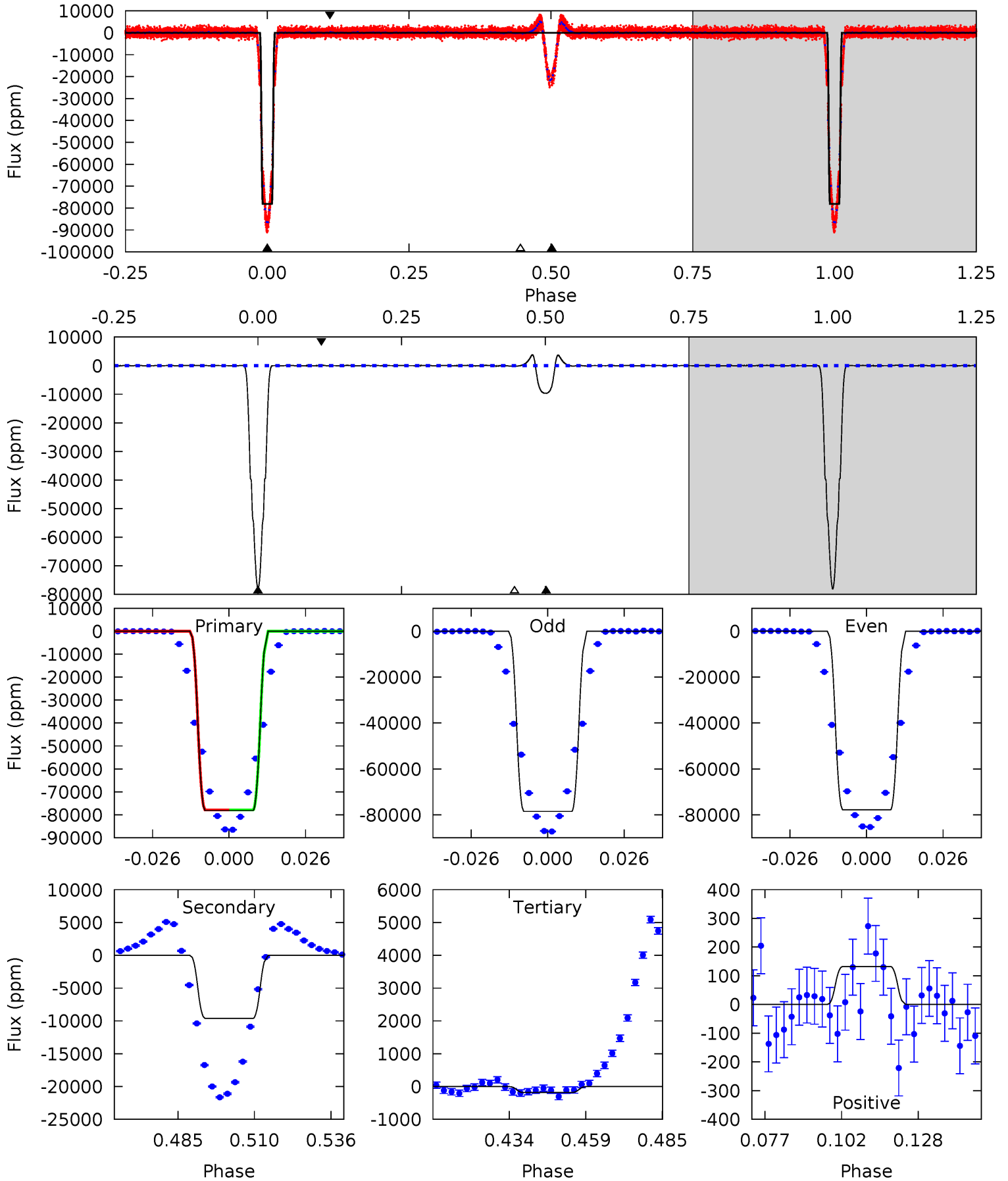
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2657	996.5	7.50	4.74	4.76	2.06	6.03	2650	2652	989.0	991.8	7.82	0.96	0.01	4.11



Alt Model-Shift Uniqueness Test

007708193-01, P = 7.942555 Days, E = 134.821216 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1816	223.5	4.30	3.07	4.84	2.23	6.52	1812	1813	219.2	220.4	8.56	1.00	0.05	0.12



Stellar Parameters For KIC 007708193

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5516^{+230}_{-192}	$3.765^{+0.772}_{-0.257}$	$-0.480^{+0.350}_{-0.250}$	$2.178^{+0.920}_{-1.379}$	$1.007^{+0.204}_{-0.224}$	$0.137^{+2.106}_{-0.084}$
	+4%/-3%	+21%/-7%	+73%/-52%	+42%/-63%	+20%/-22%	+1535%/-61%
Source	KIC0	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 007708193-01 / KOI 3666.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-33127 ± 33	$76.55^{+20.02}_{-23.99}$	1753^{+214}_{-294}	4284^{+139}_{-125}	20^{+22}_{-7}
Alt.	-9612 ± 43	$68.19^{+18.85}_{-23.32}$	1760^{+239}_{-313}	3592^{+108}_{-95}	$7.063^{+8.553}_{-2.591}$

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

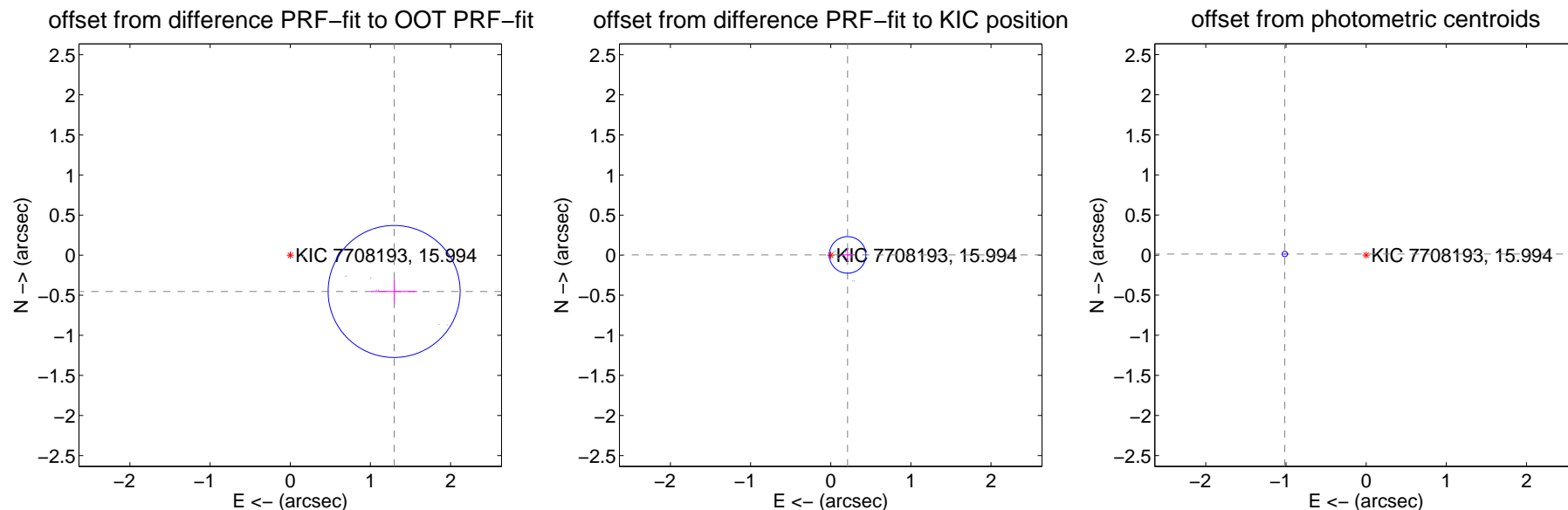
DV Centroid Data

Supplemental centroid analysis for 007708193-01. Kepler magnitude: 15.99. Transit SNR 1136.23

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.373 ± 0.274	5.00	-1.296 ± 0.286	-0.453 ± 0.149
PRF-fit source offset from KIC position	0.211 ± 0.076	2.77	-0.211 ± 0.076	0.003 ± 0.071
photometric centroid source offset	1.01 ± 0.01	91.77	1.01 ± 0.01	0.01 ± 0.01



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.

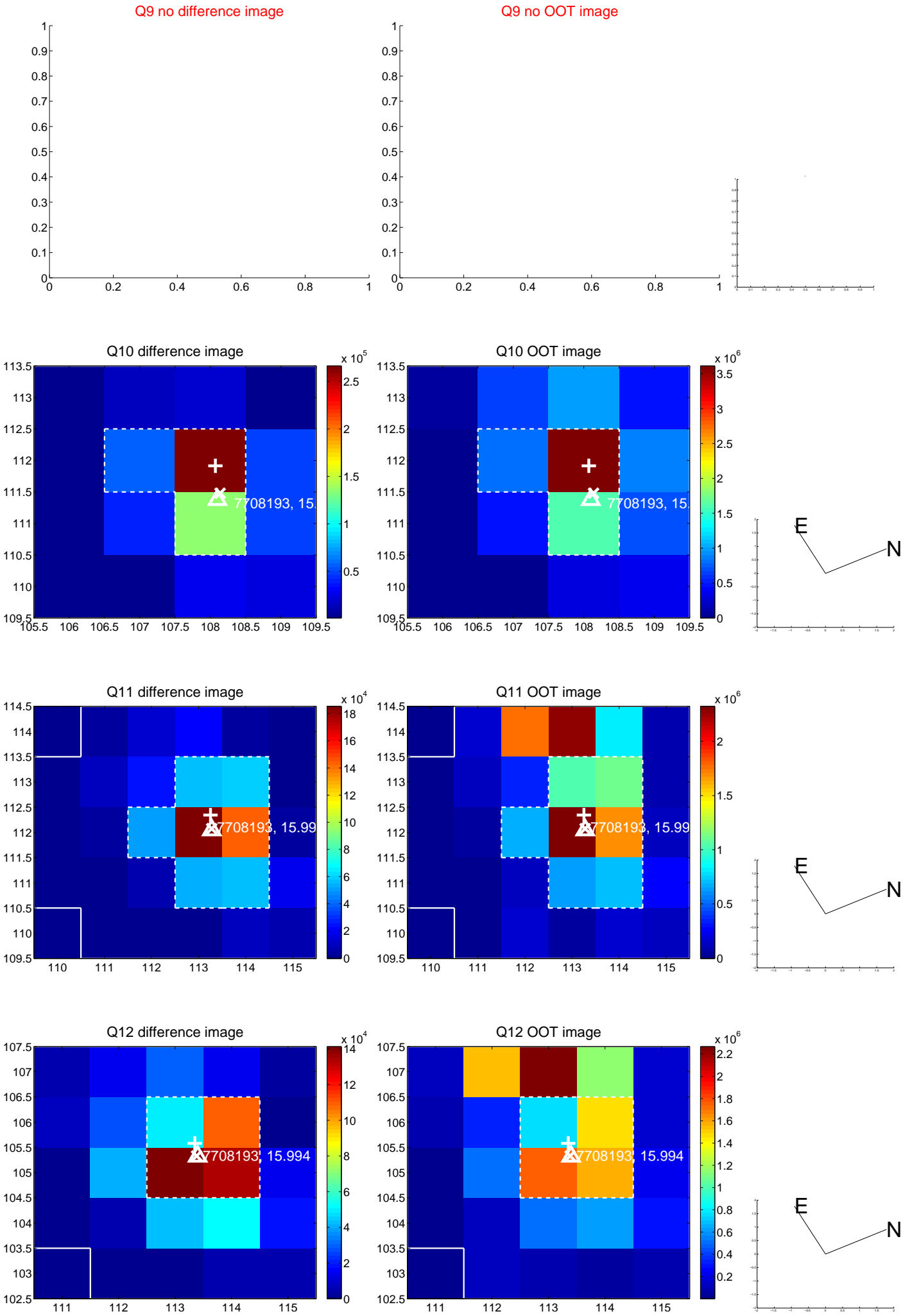
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



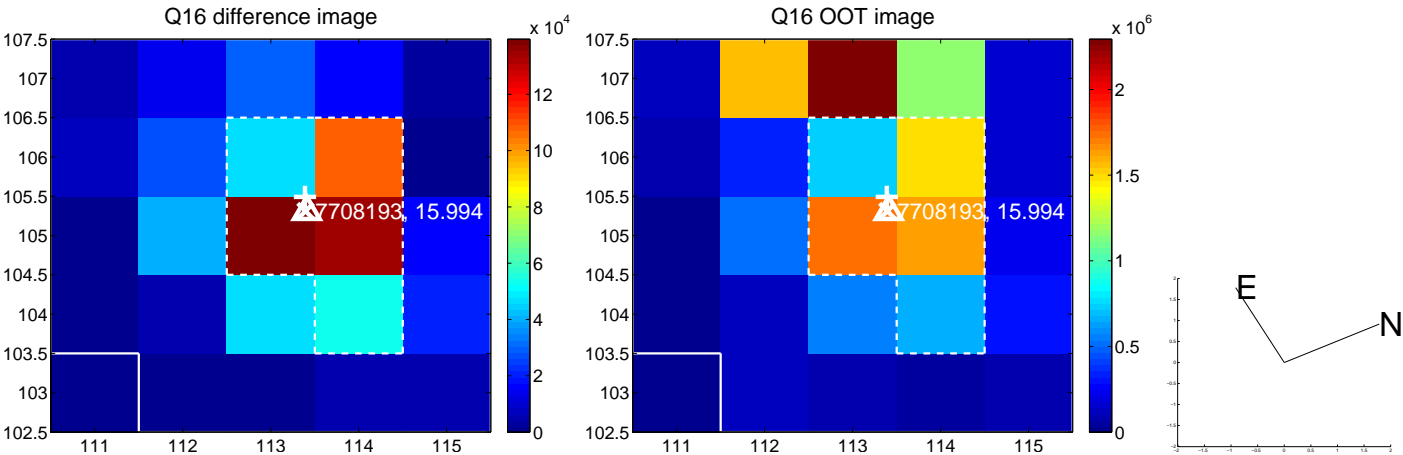
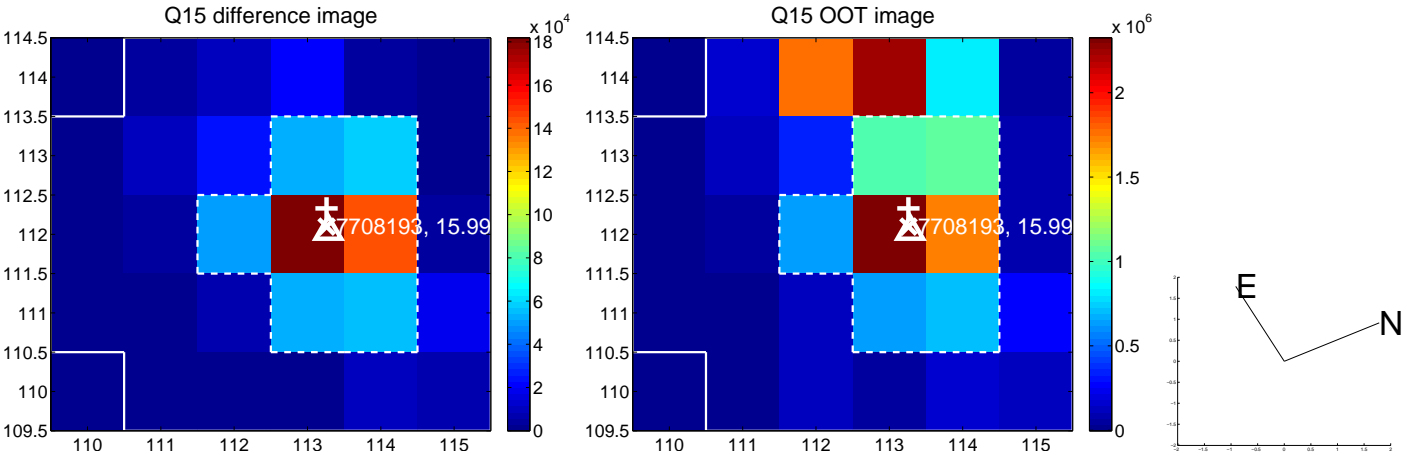
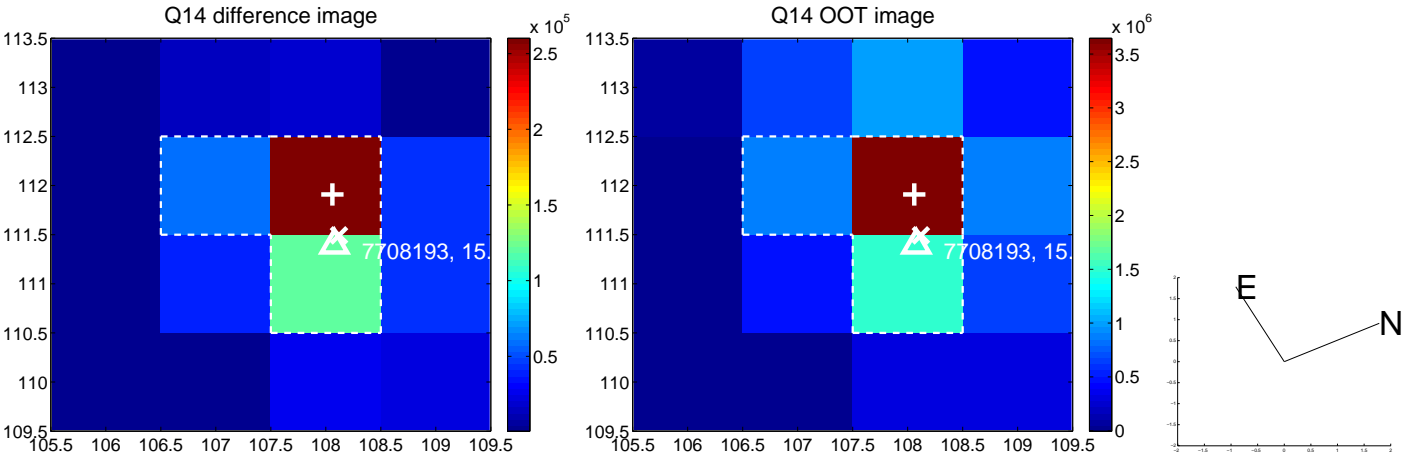
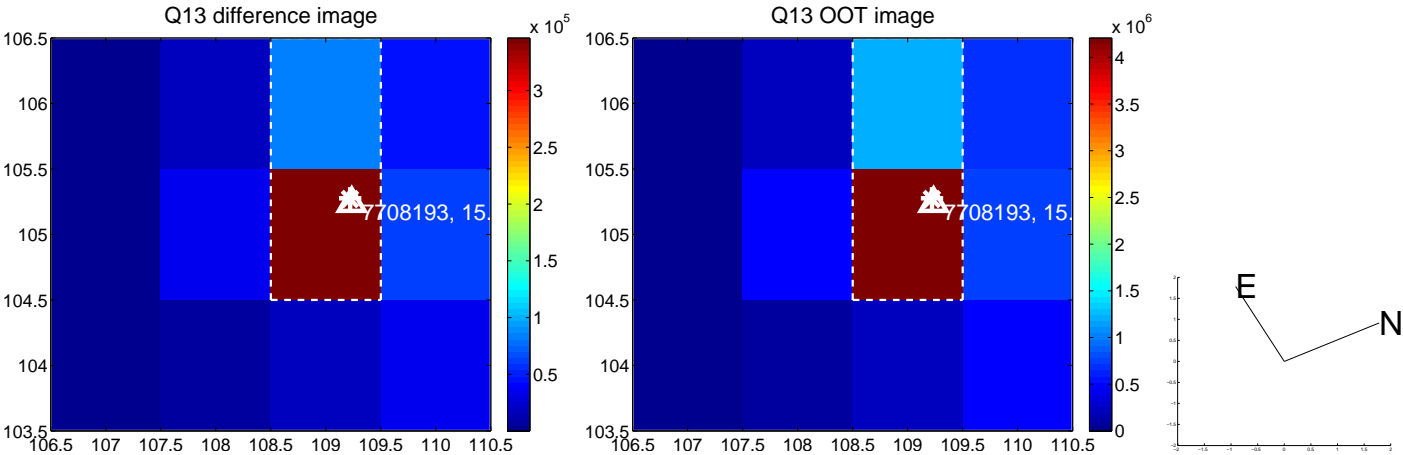
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



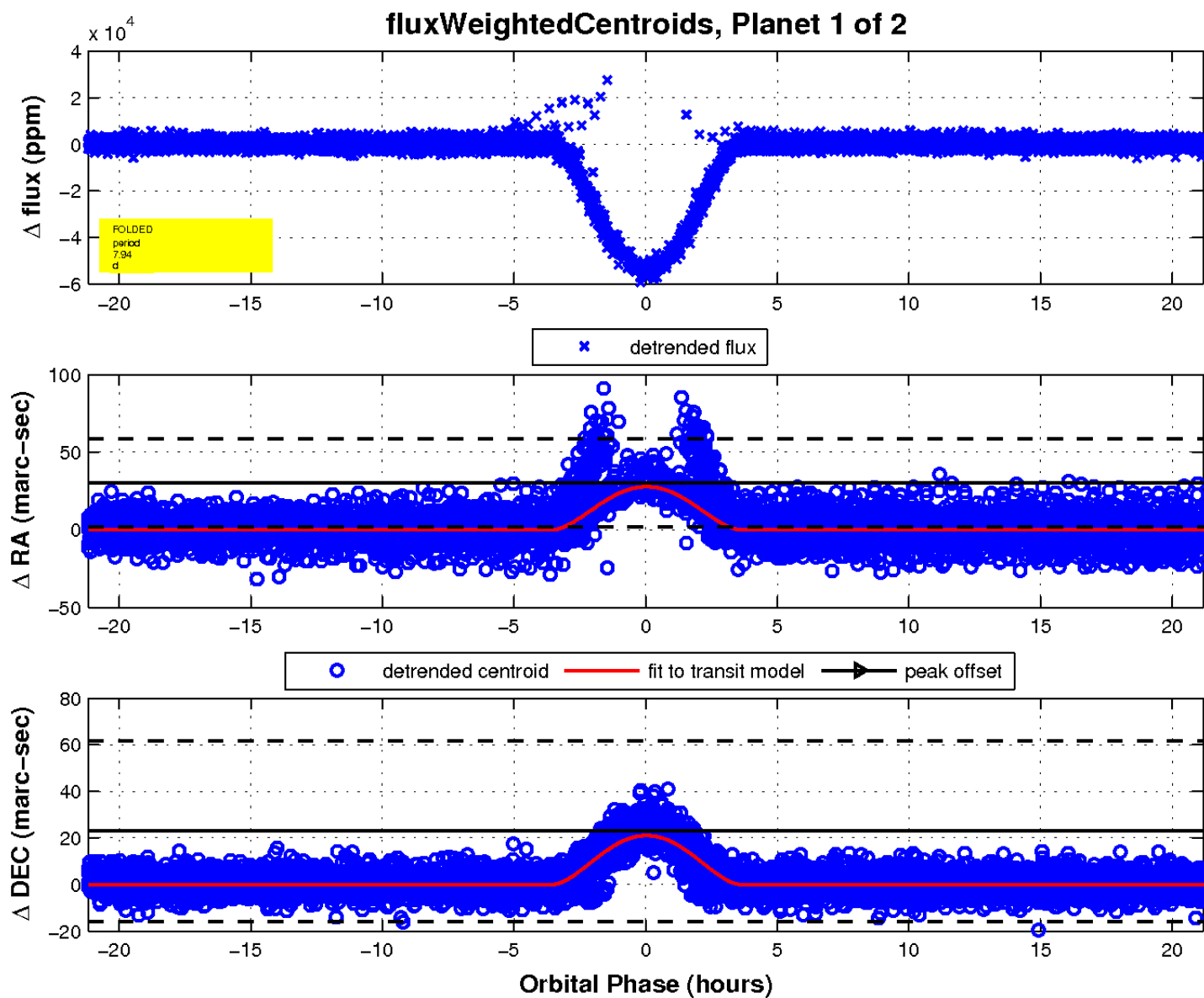
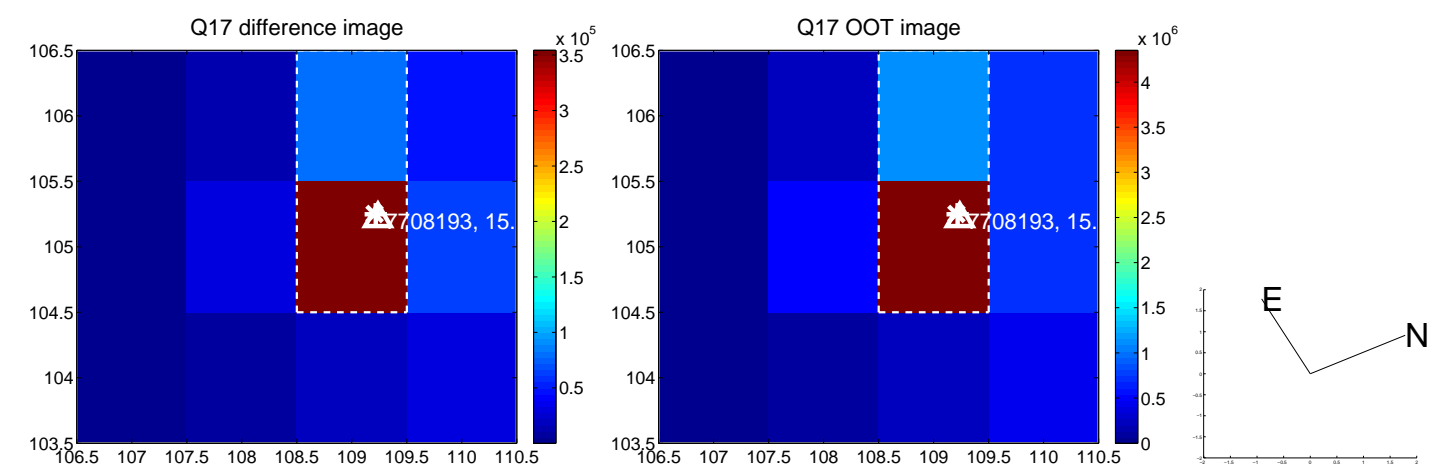
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

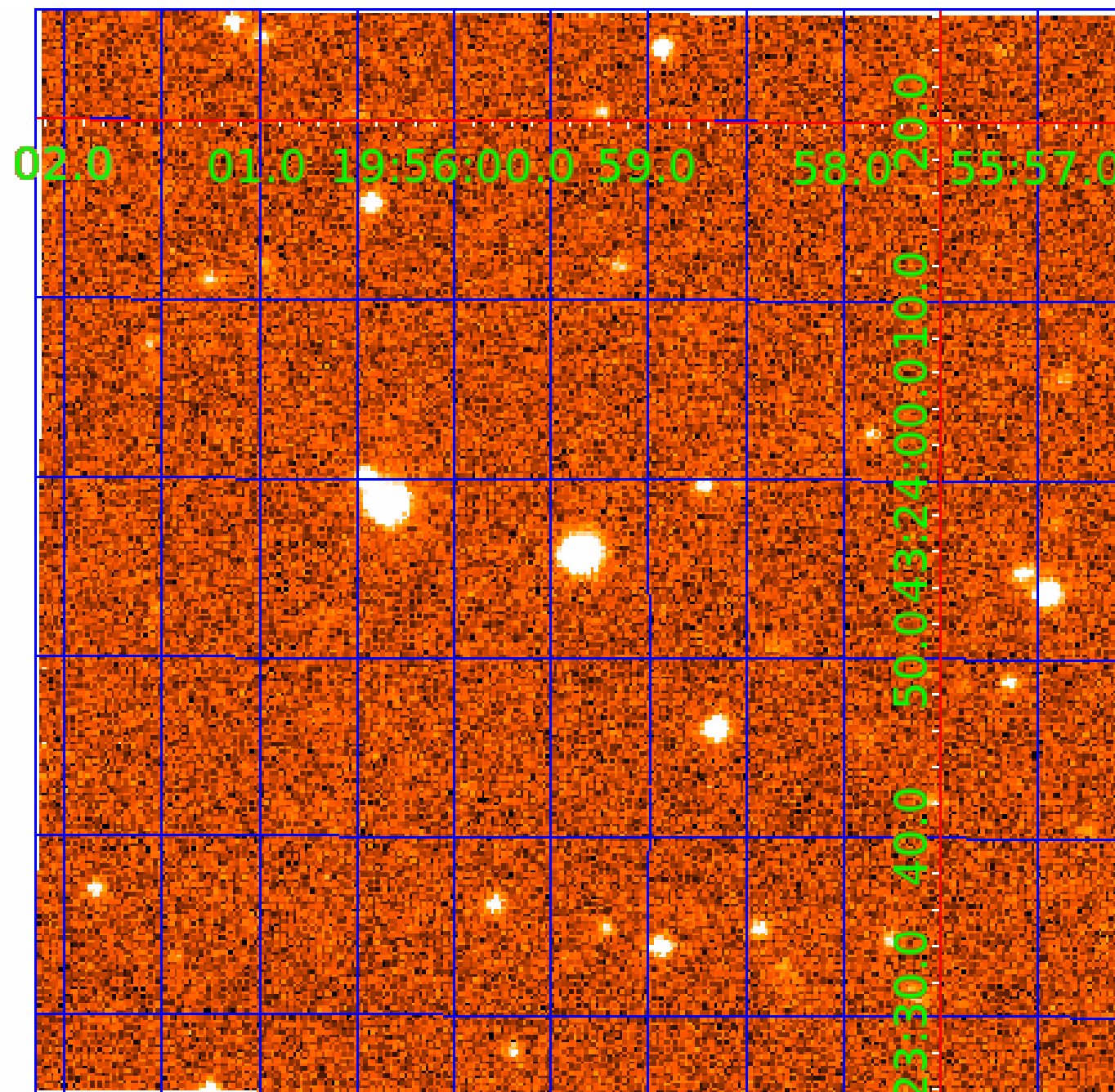


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007708193

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})
007708193-01	OBS	3666.01	7.942583	134.817153	87756.1	7.065	1274.0	1136.2	2.18	5516	80.67	644.88
007708193-02	OBS	No	3.971295	134.815751	32369.9	6.996	502.6	433.5	2.18	5516	51.75	1625.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007708193-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
007708193-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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.

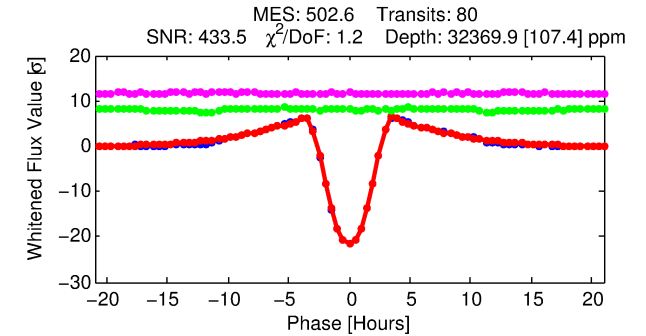
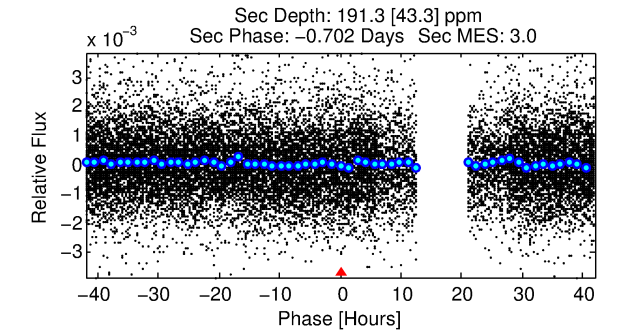
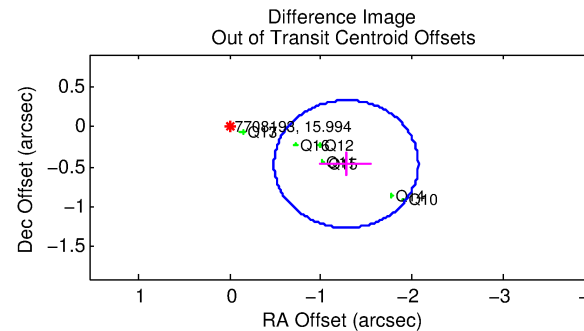
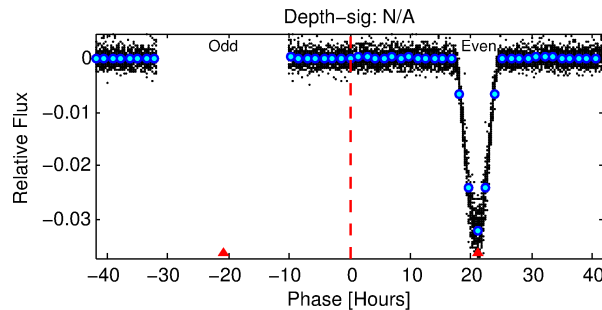
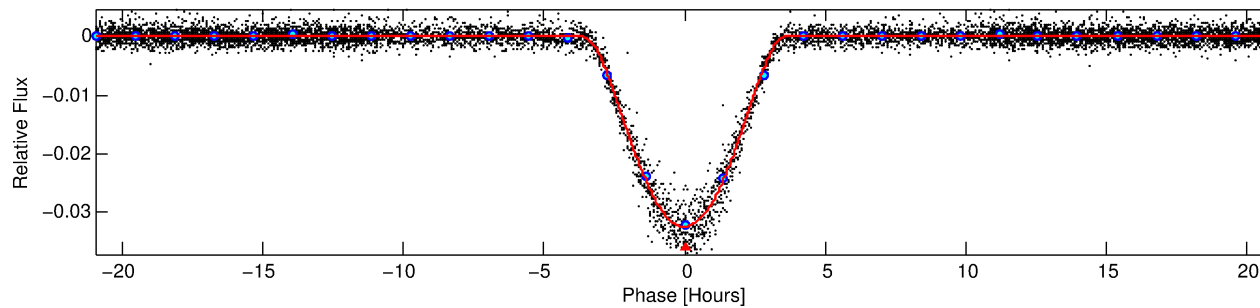
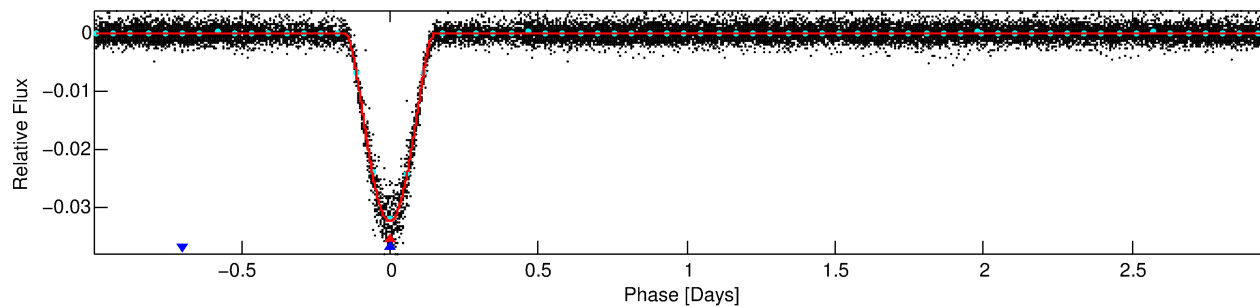
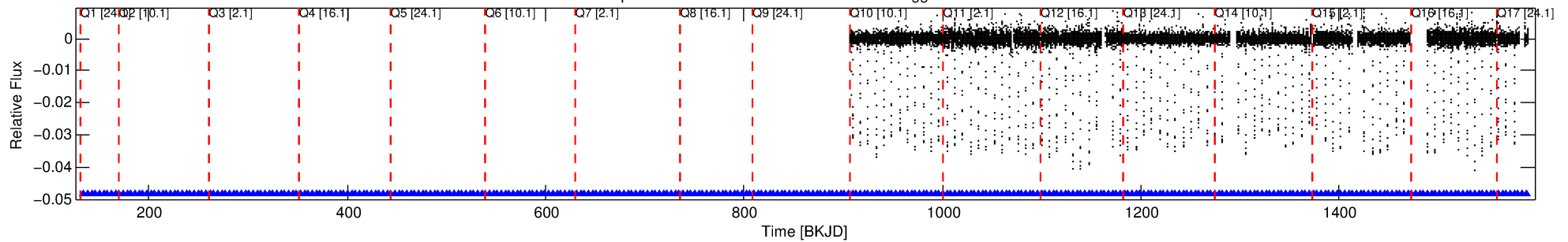
Ephemeris Match Information For 007708193-02

No Significant Match Found

DV One-Page Summary

KIC: 7708193 Candidate: 2 of 2 Period: 3.971 d
KOI: K03666 Corr: No Ephemeris Match

Kp: 15.99 R*: 2.18 Rs Teff: 5516.0 K Logg: 3.77 Fe/H: -0.480



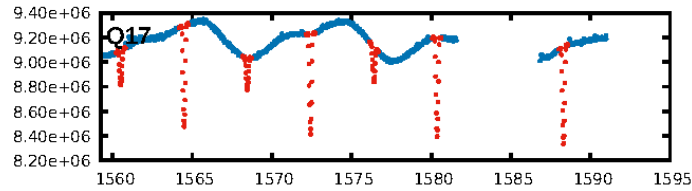
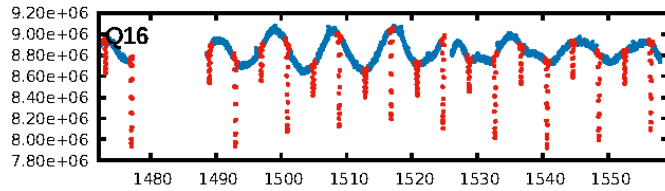
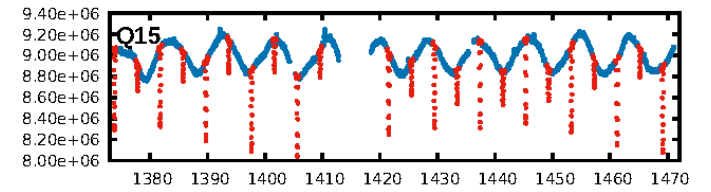
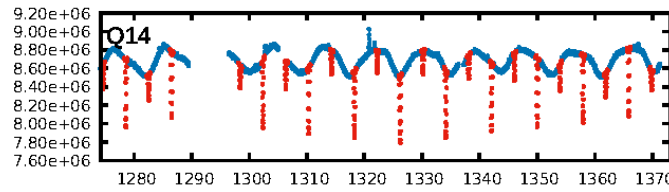
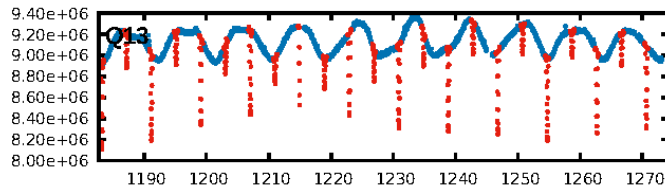
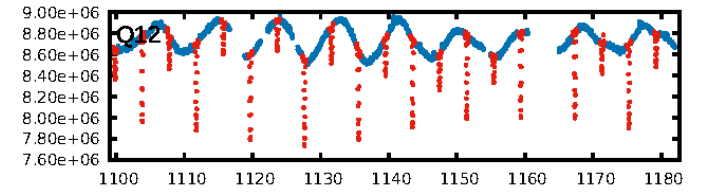
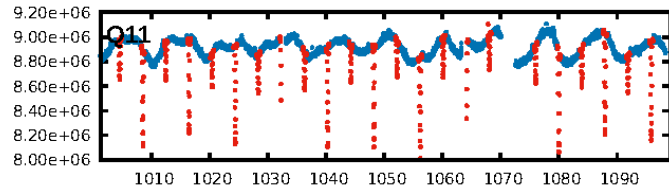
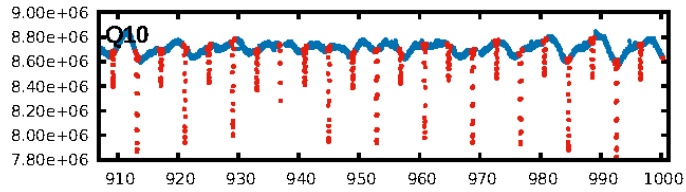
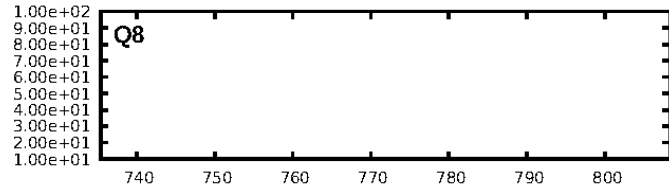
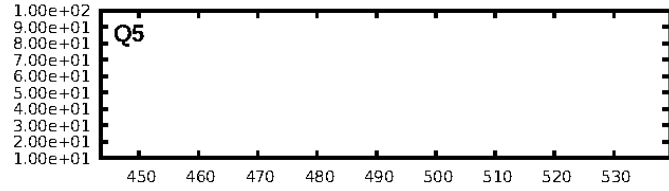
DV Fit Results:

Period = 3.97130 [0.00000] d
Epoch = 134.8158 [0.0007] BKJD
Rp/R* = 0.2177 [0.0071]
a/R* = 3.74 [0.03]
b = 0.89 [0.01]
Seff = 1625.00 [2062.13]
Teq = 1619 [514] K
Rp = 51.75 [32.81] Re
a = 0.0492 [0.0358] AU
Ag = 0.10 [0.12] [-7.43σ]
Teffp = 1390 [100] K [-0.44σ]

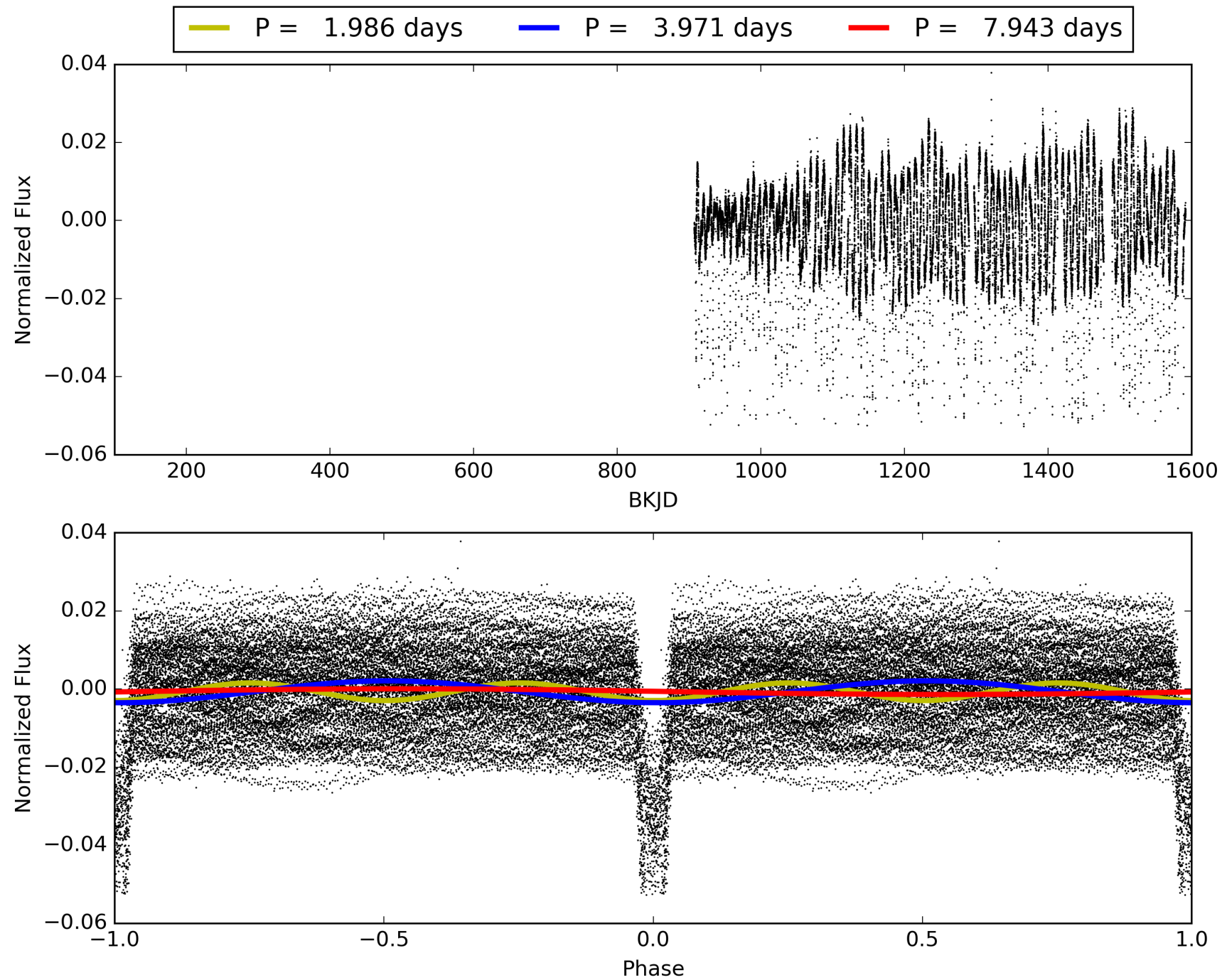
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [9.59σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 46.4%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [77/77]
GhostDiagnostic-chr: 2.323
Centroid-sig: 0.0%
Centroid-so: 0.456 arcsec [22.32σ]
OotOffset-rm: 1.362 arcsec [5.14σ]
KicOffset-rm: 0.204 arcsec [2.47σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 007708193-02, PDC Light Curves

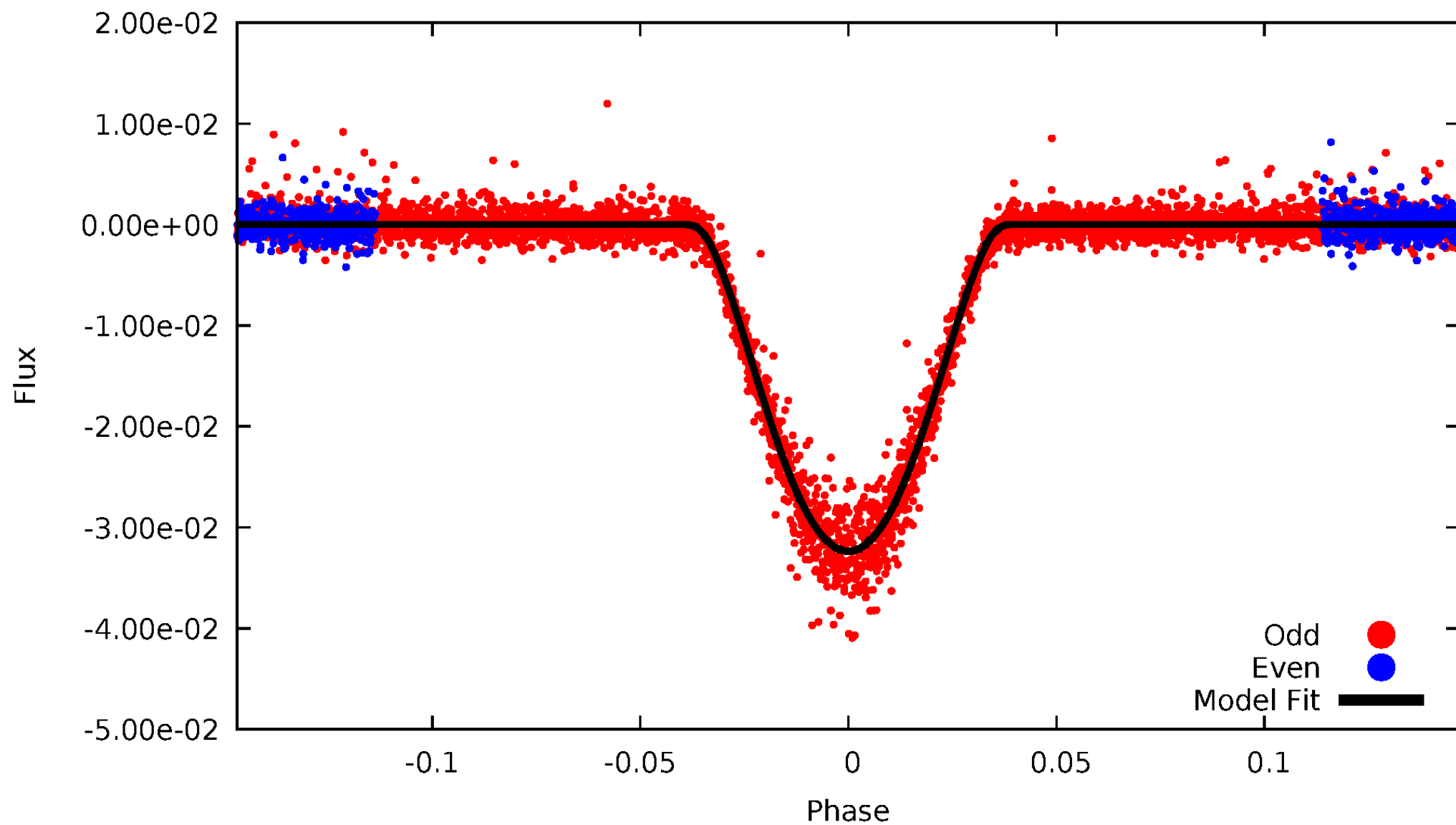


TCE 007708193-02



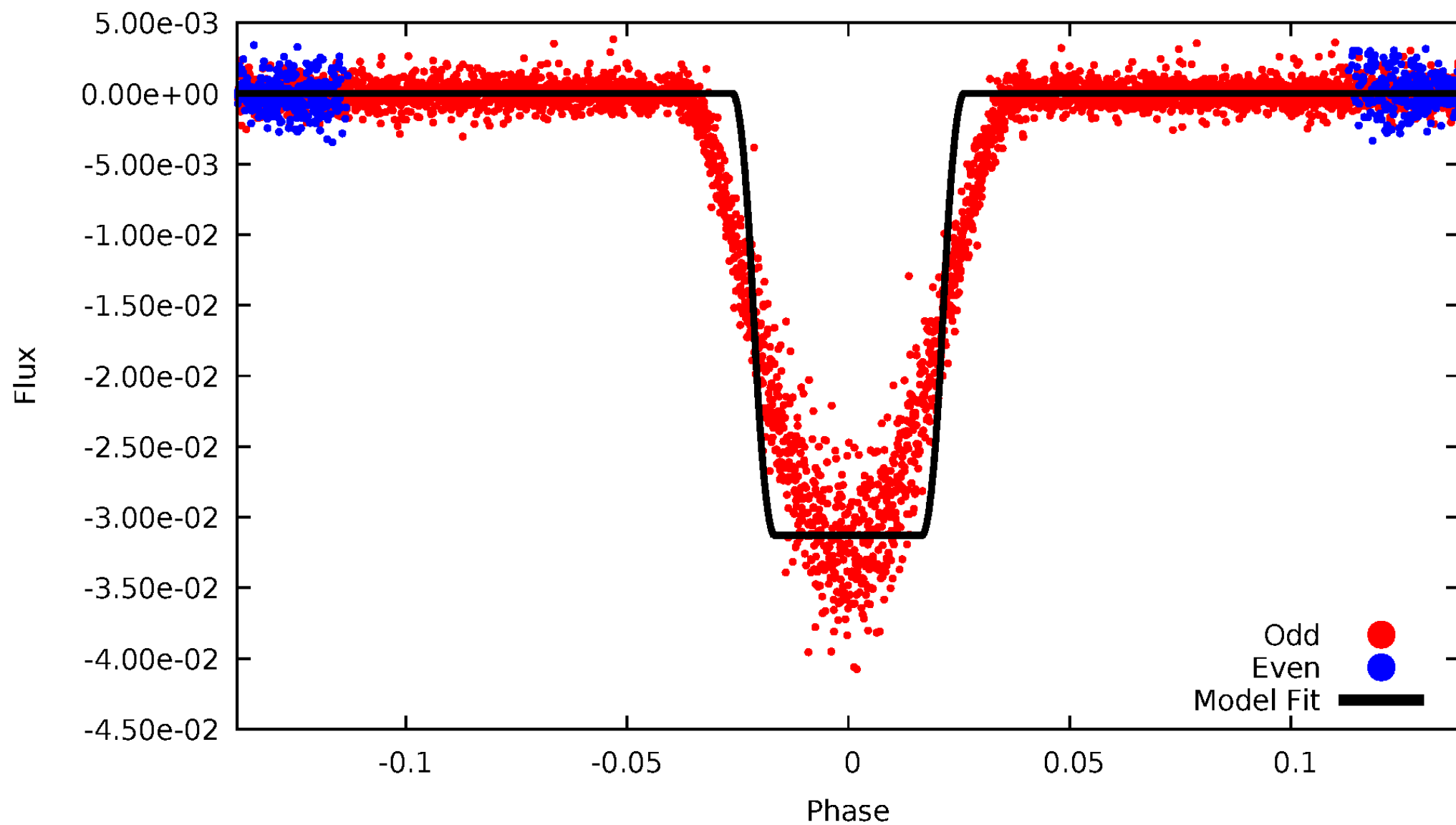
DV Odd/Even

TCE 007708193-02



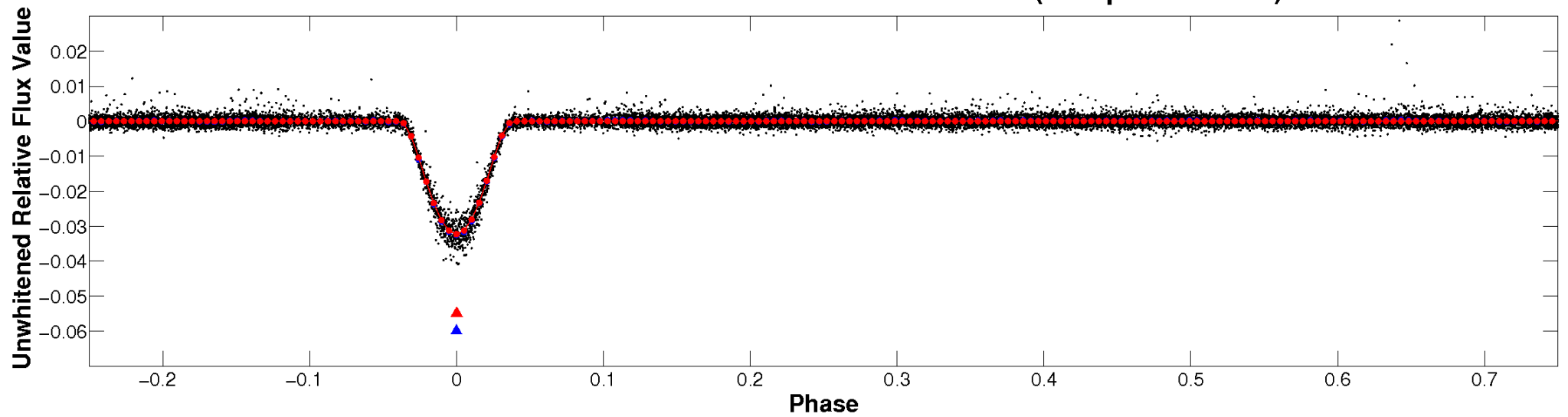
ALT Odd/Even

TCE 007708193-02

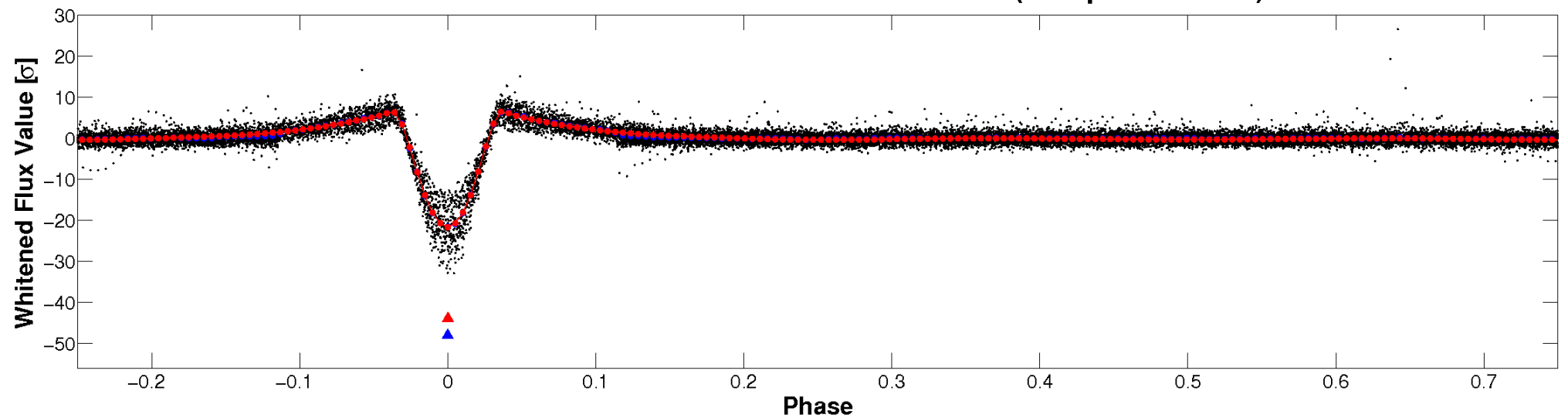


Non-Whitened Vs. Whitened Light Curve

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

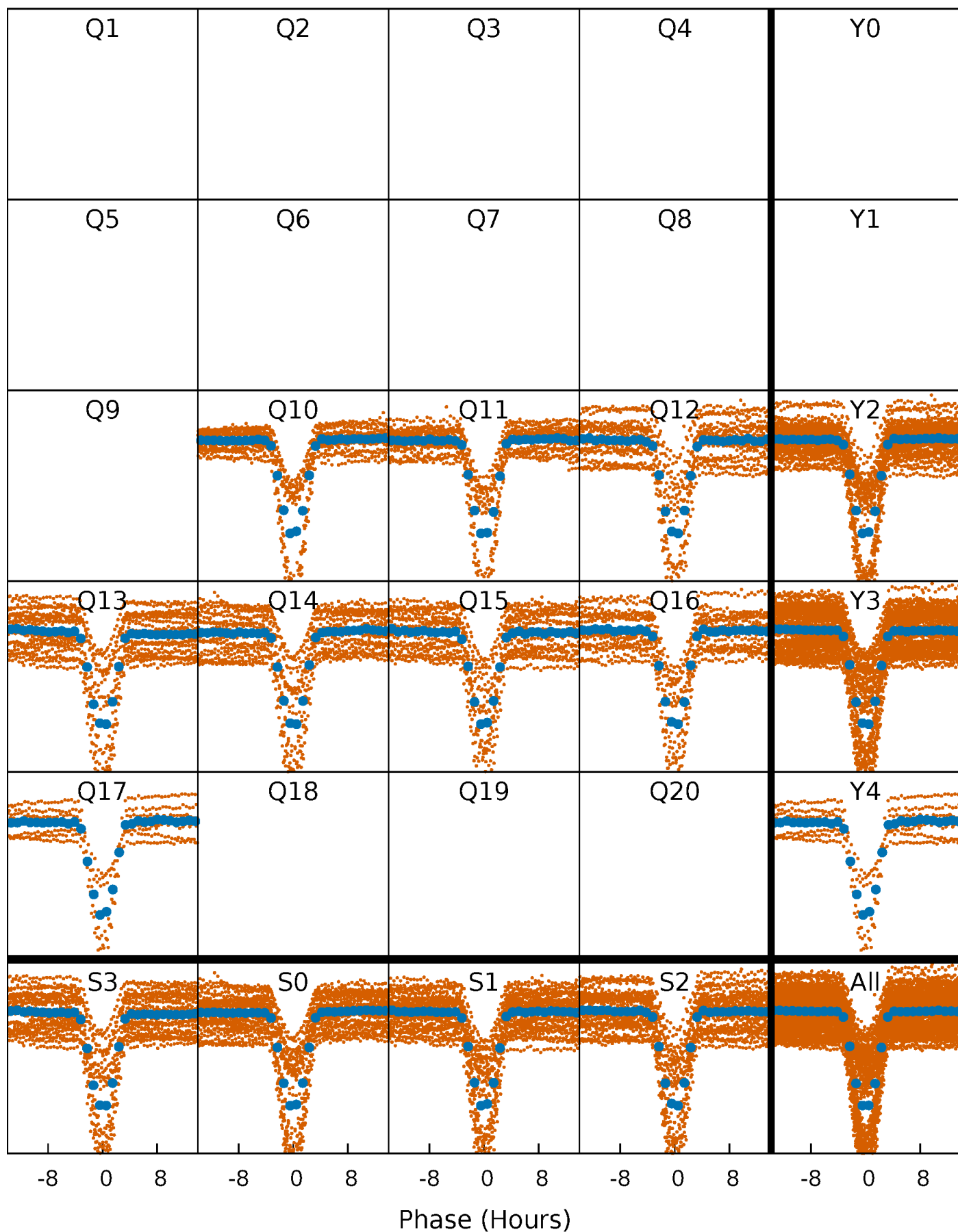


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



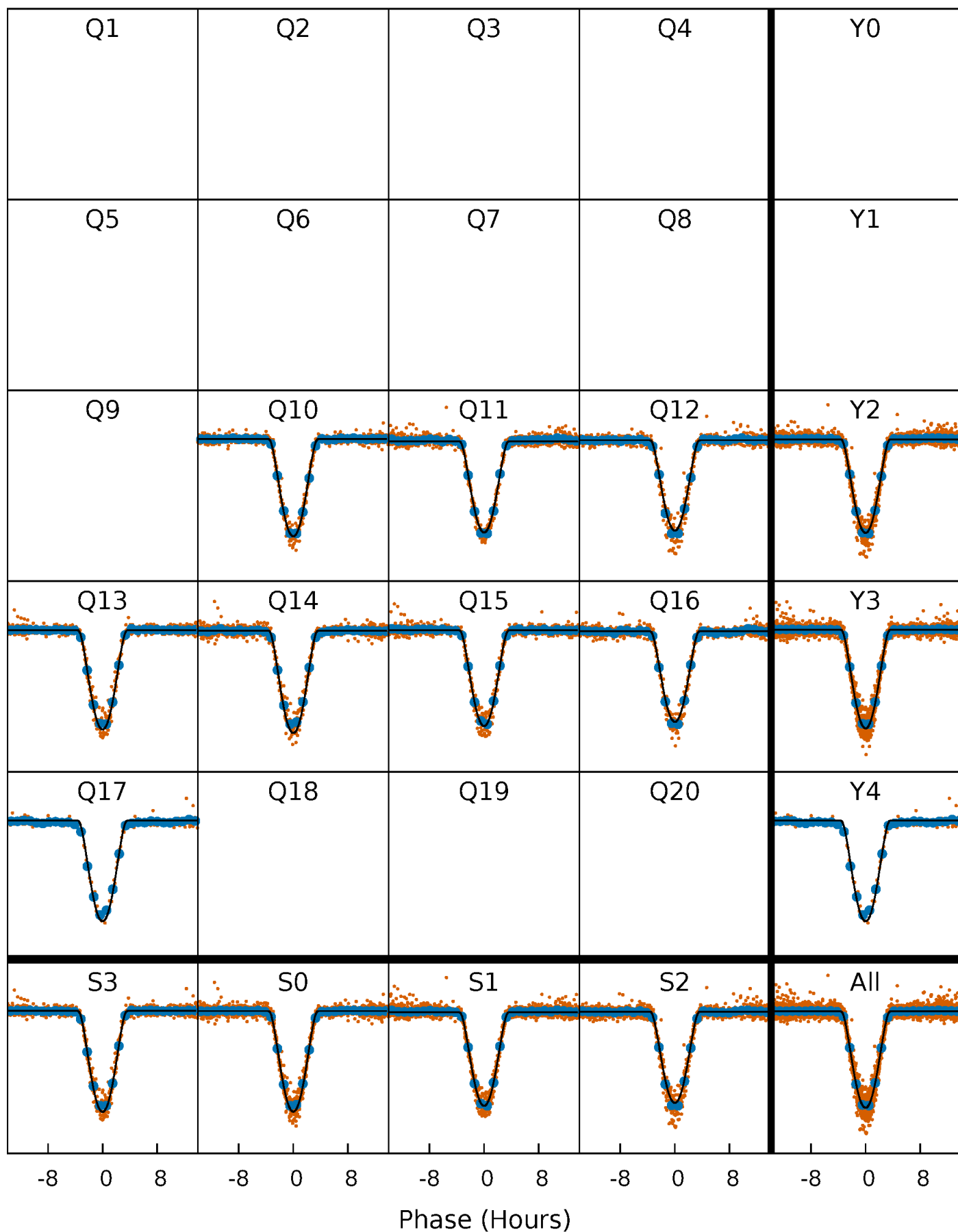
PDC Quarter-Phased Transit Curves

TCE 007708193-02 P= 3.971295 Days $T_0=134.815751$ (BKJD)



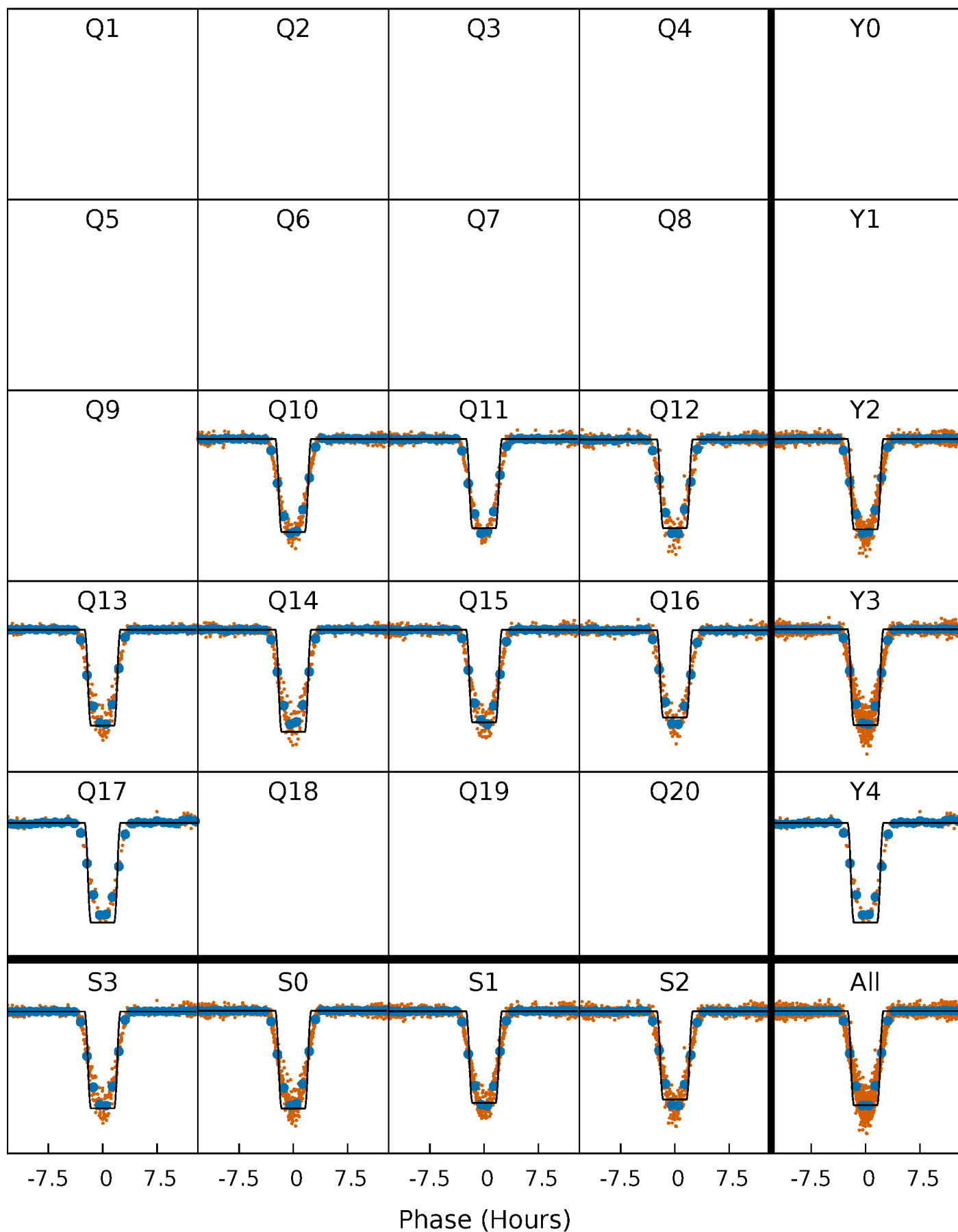
DV Quarter-Phased Transit Curves

TCE 007708193-02 P= 3.971295 Days $T_0=134.815751$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

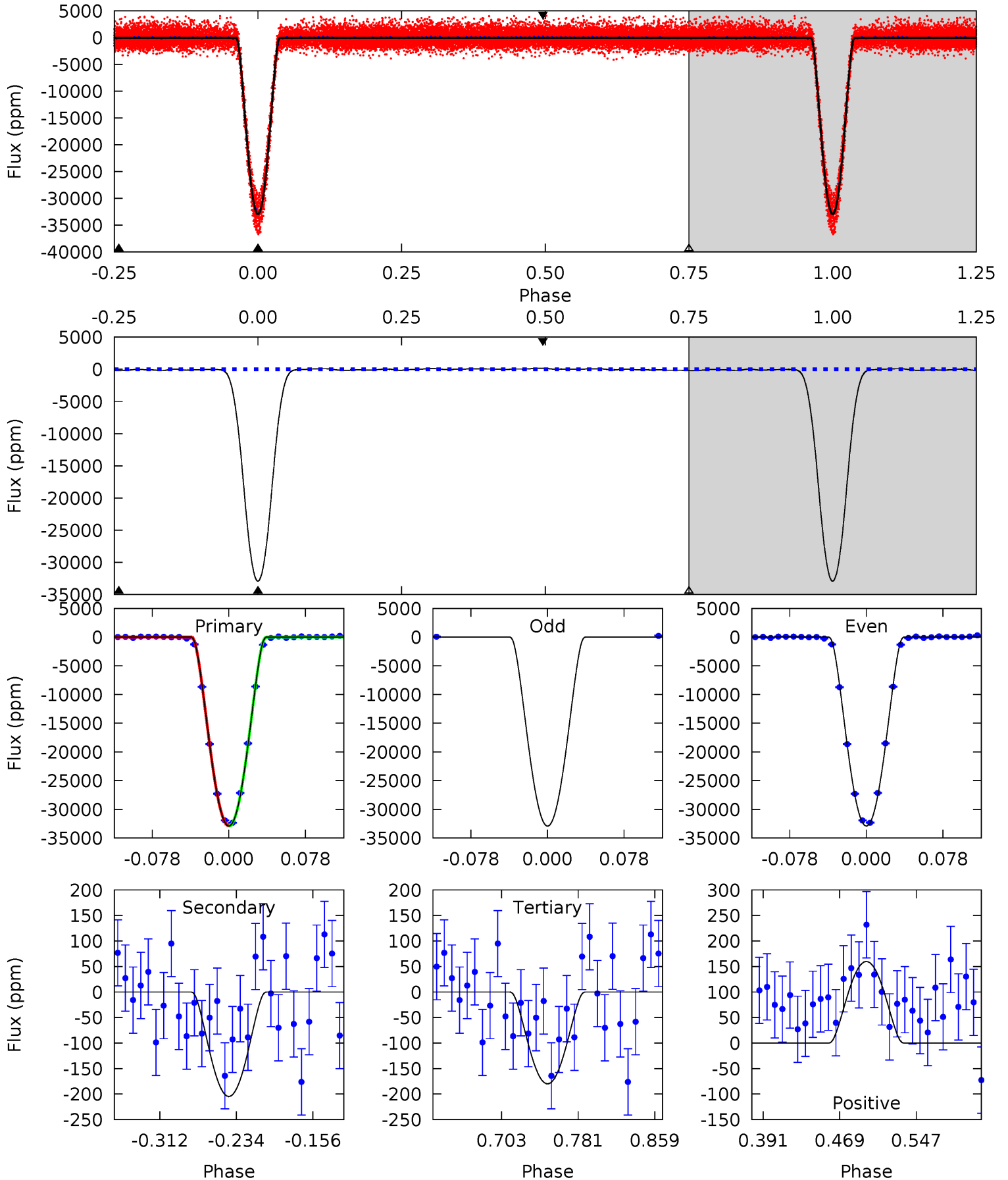
TCE 007708193-02 $P = 3.971245$ Days $T_0 = 134.829712$ (BKJD)



DV Model-Shift Uniqueness Test

007708193-02, P = 3.971295 Days, E = 134.815751 Days

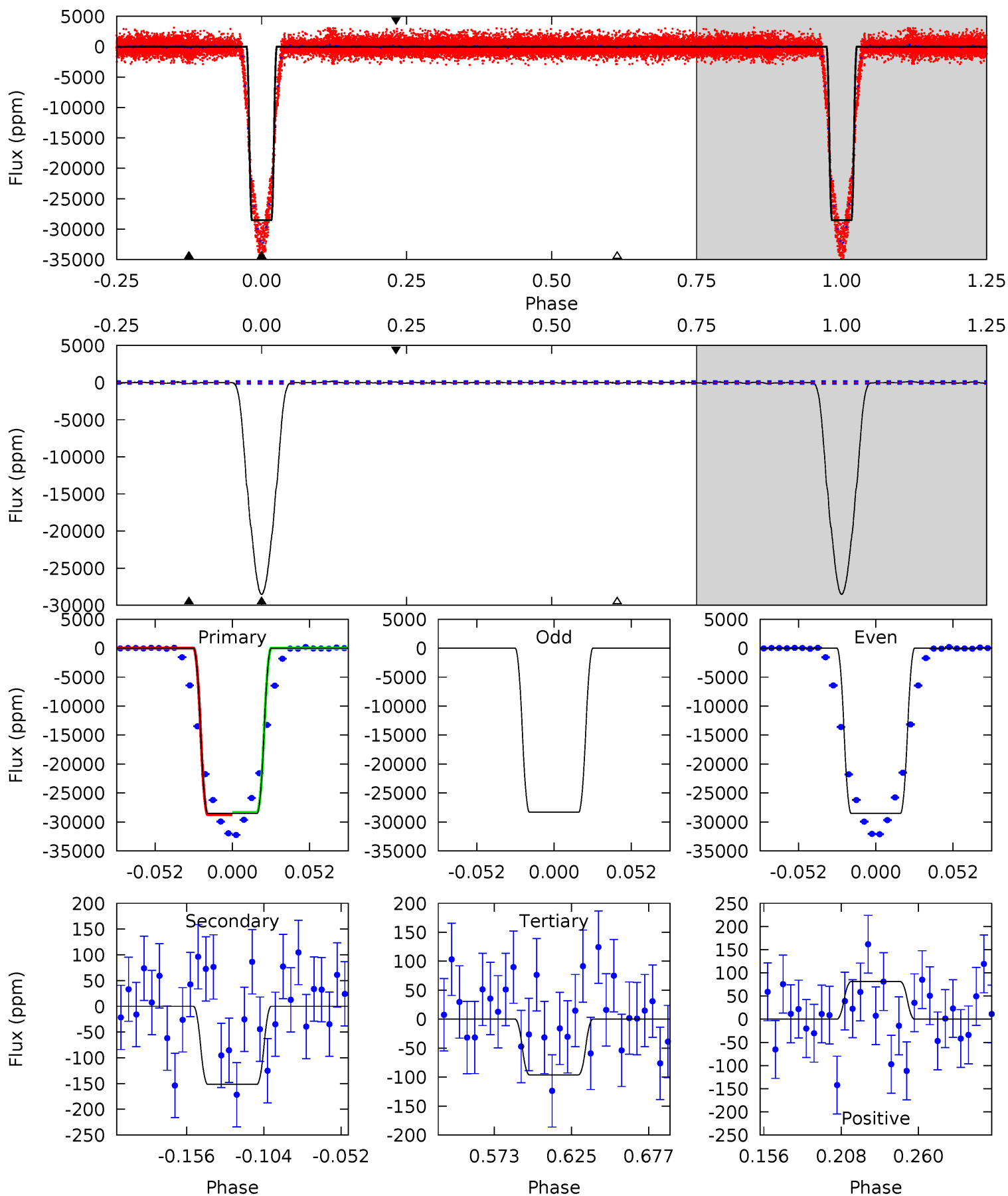
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1052	6.54	5.75	5.11	4.62	1.76	2.49	1046	1047	0.79	1.43	0.31	1.00	0.00	1.28



Alt Model-Shift Uniqueness Test

007708193-02, P = 3.971245 Days, E = 134.829712 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
825.1	4.38	2.78	2.35	4.70	1.94	1.03	822.3	822.8	1.60	2.04	3.29	1.00	0.01	0



Stellar Parameters For KIC 007708193

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5516^{+230}_{-192}	$3.765^{+0.772}_{-0.257}$	$-0.480^{+0.350}_{-0.250}$	$2.178^{+0.920}_{-1.379}$	$1.007^{+0.204}_{-0.224}$	$0.137^{+2.106}_{-0.084}$
	+4%/-3%	+21%/-7%	+73%/-52%	+42%/-63%	+20%/-22%	+1535%/-61%
Source	KIC0	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 007708193-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-205 ± 31	$50.86^{+13.44}_{-17.93}$	2239^{+276}_{-442}	-2491^{+552}_{-206}	$0.109^{+0.143}_{-0.042}$
Alt.	-151 ± 35	$39.66^{+11.55}_{-12.47}$	2204^{+290}_{-367}	-2434^{+630}_{-241}	$0.128^{+0.155}_{-0.054}$

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 $A_{obs} \gg 1.0$

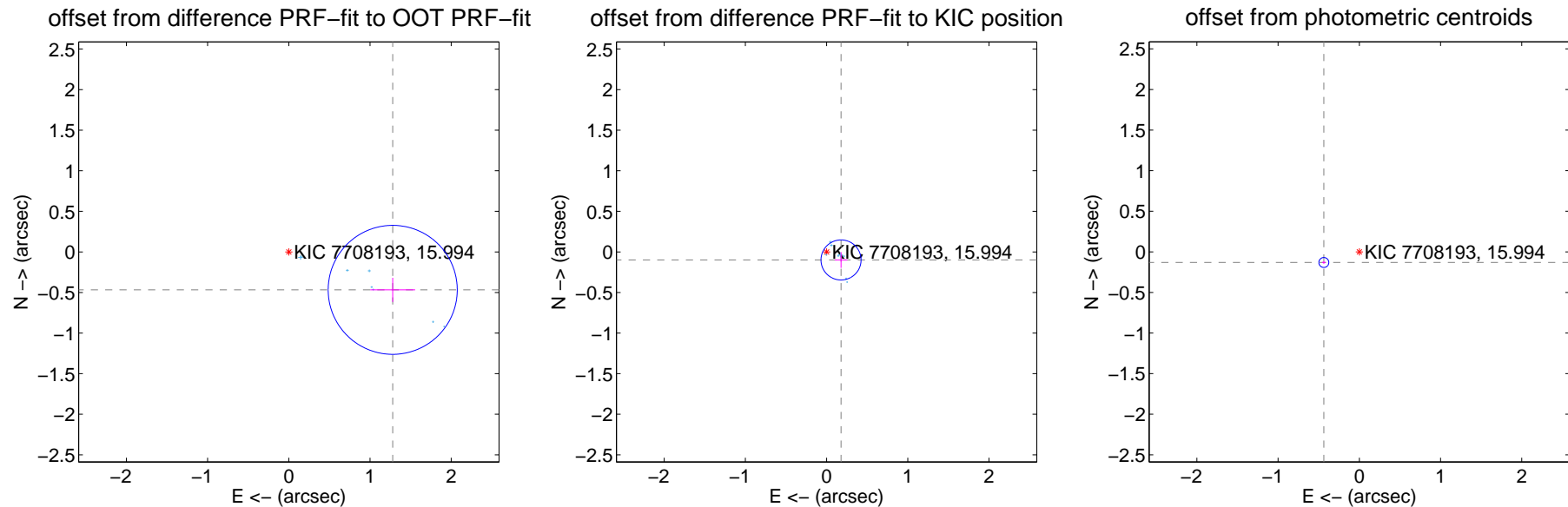
DV Centroid Data

Supplemental centroid analysis for 007708193-02. Kepler magnitude: 15.99. Transit SNR 433.45

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.362 ± 0.265	5.14	-1.279 ± 0.277	-0.467 ± 0.149
PRF-fit source offset from KIC position	0.204 ± 0.082	2.47	-0.178 ± 0.077	-0.099 ± 0.098
photometric centroid source offset	0.46 ± 0.02	22.32	0.44 ± 0.02	-0.13 ± 0.02



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.

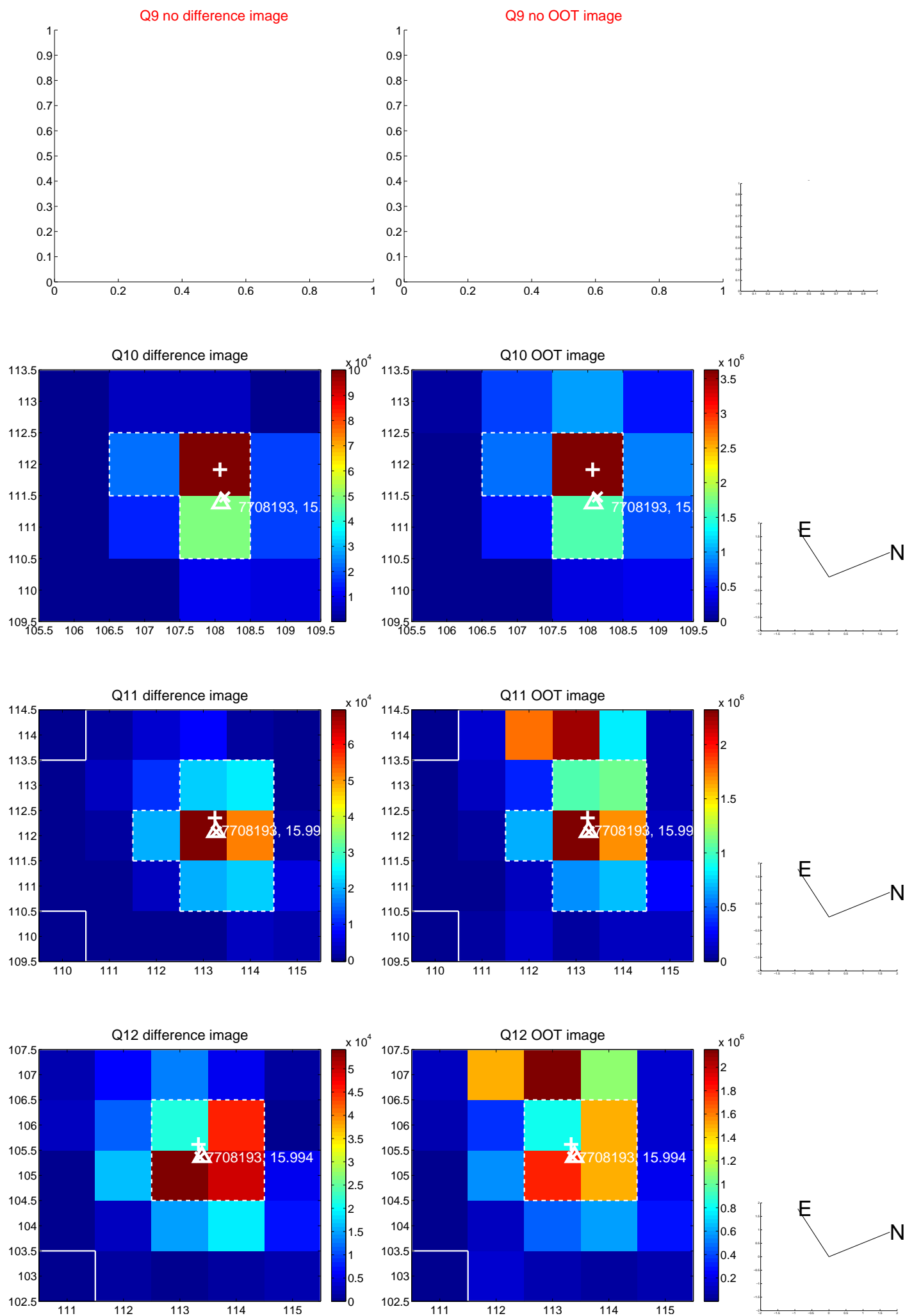
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



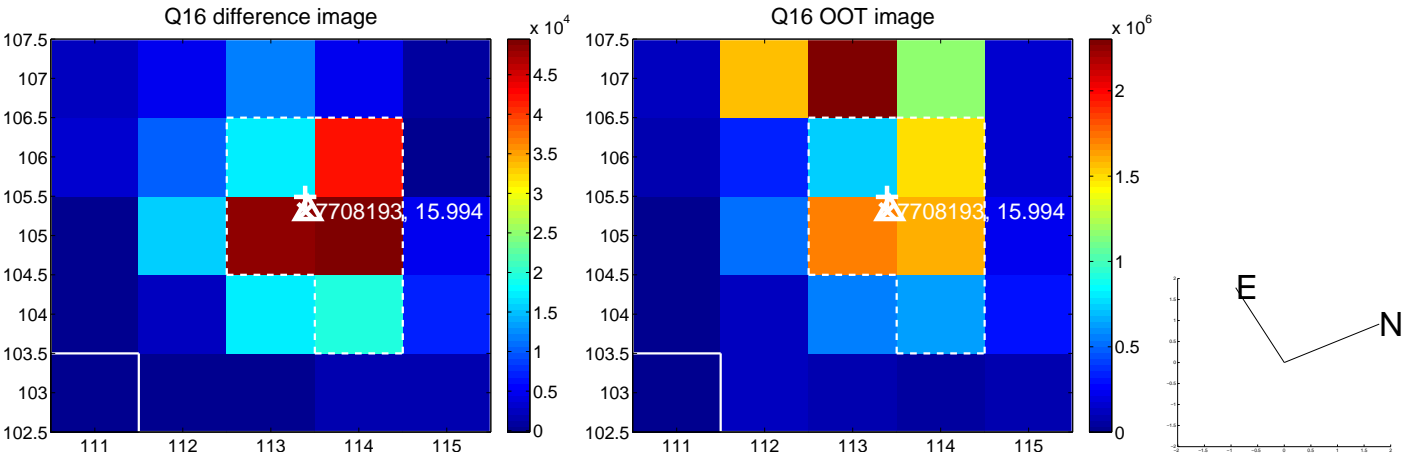
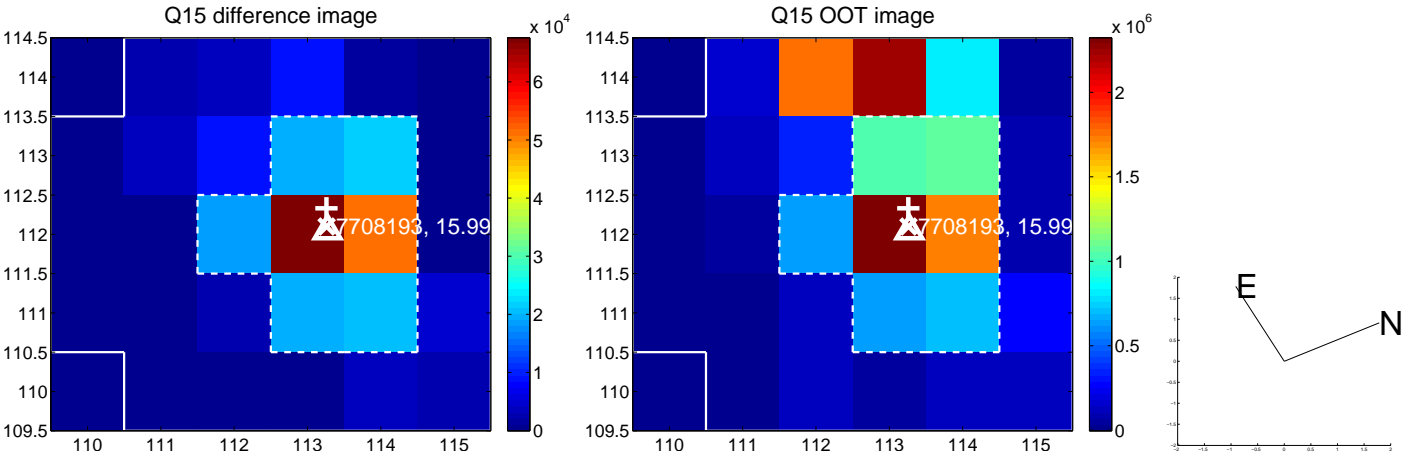
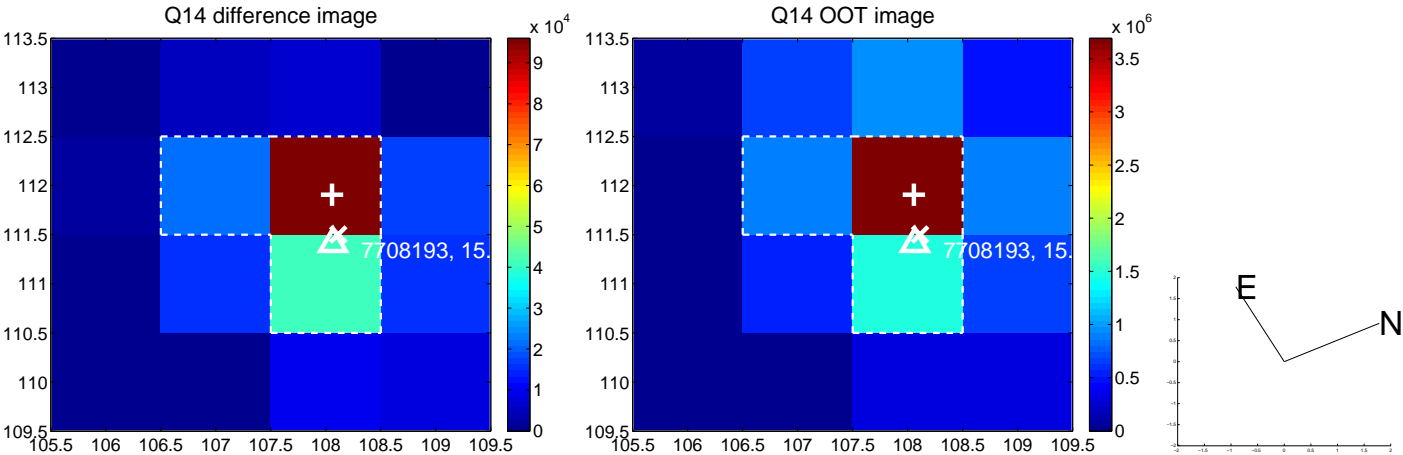
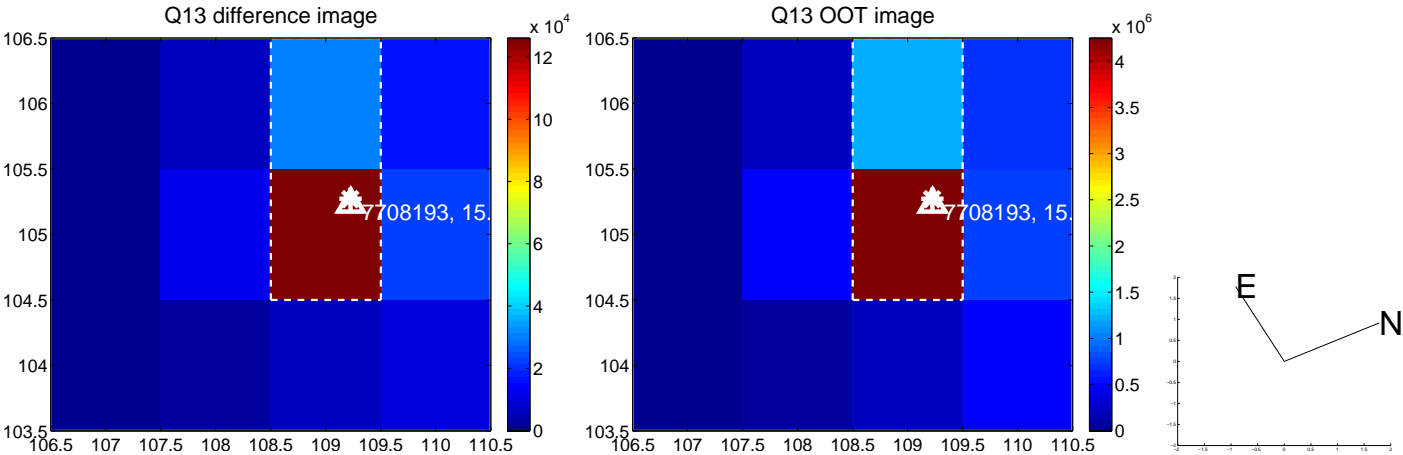
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



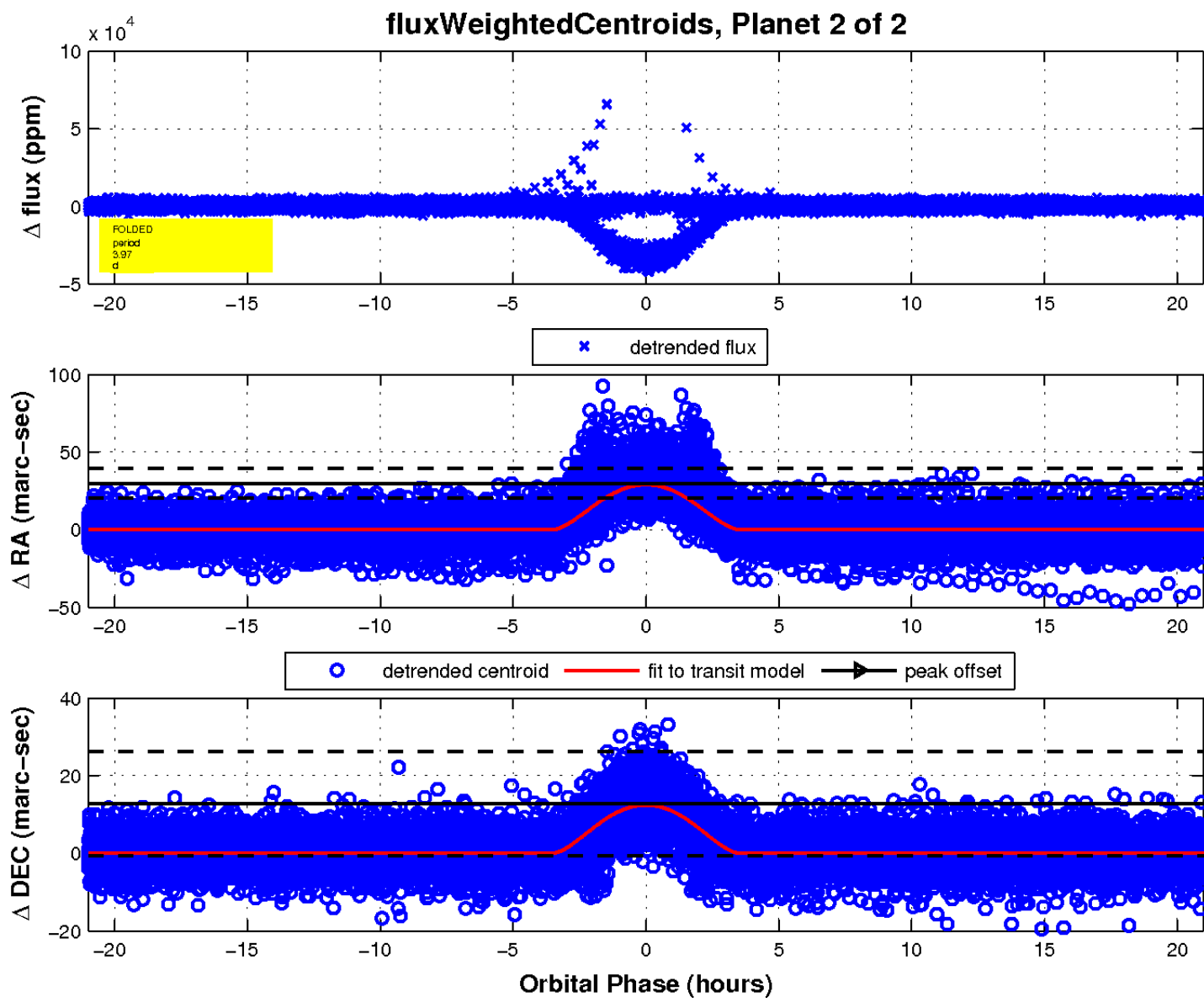
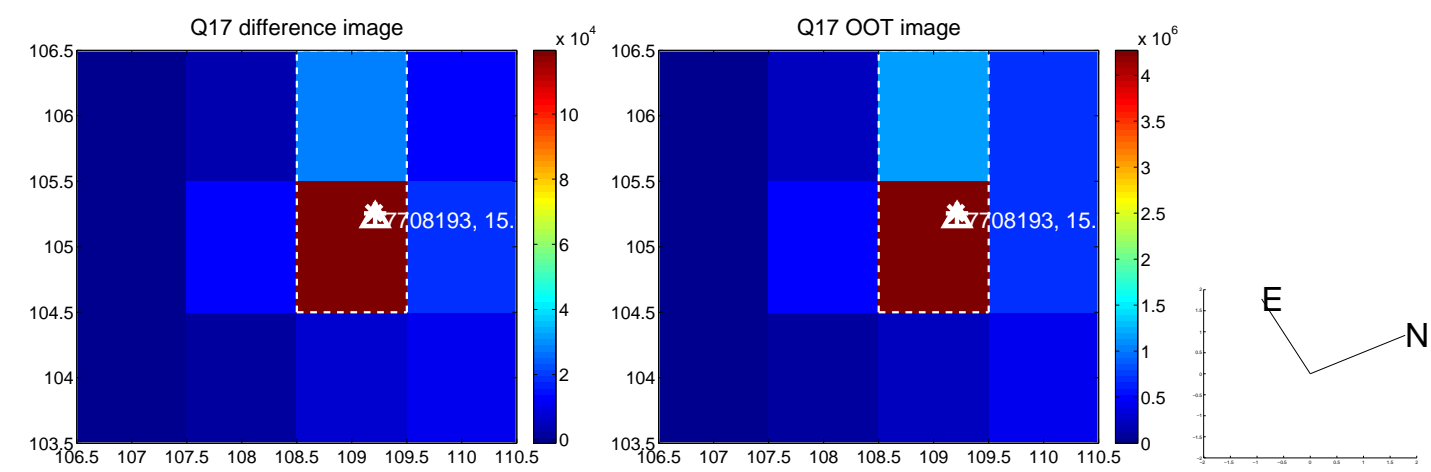
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

