

KIC 002693092

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})
002693092-01	OBS	6285.01	39.841514	168.141917	143894.0	8.813	7545.5	4640.3	2.07	6078	116.07	81.06
002693092-02	OBS	No	39.841510	141.996626	4875.9	7.349	319.2	327.8	2.07	6078	26.46	81.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002693092-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
002693092-02	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.

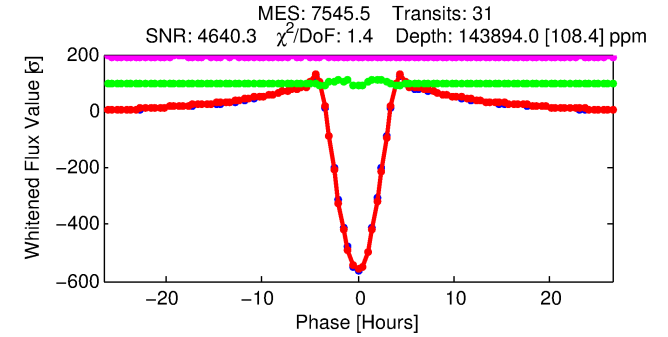
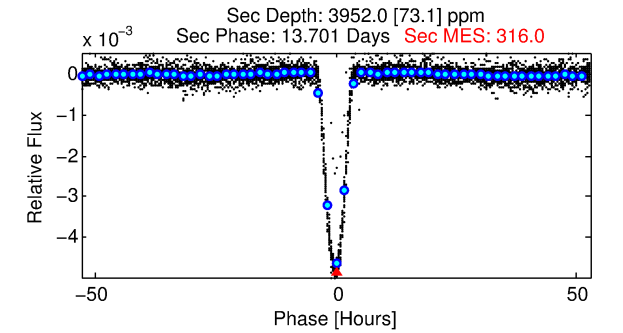
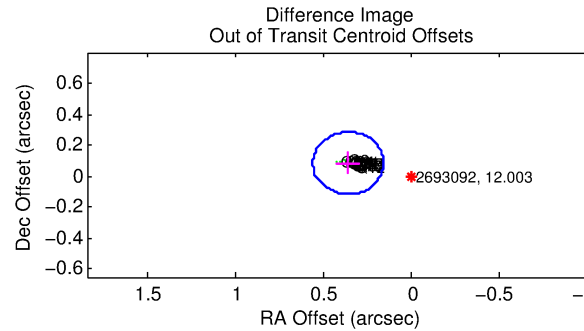
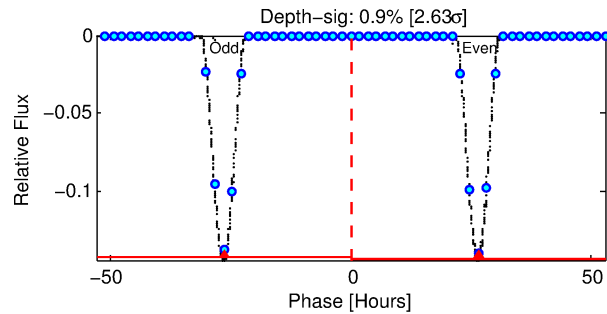
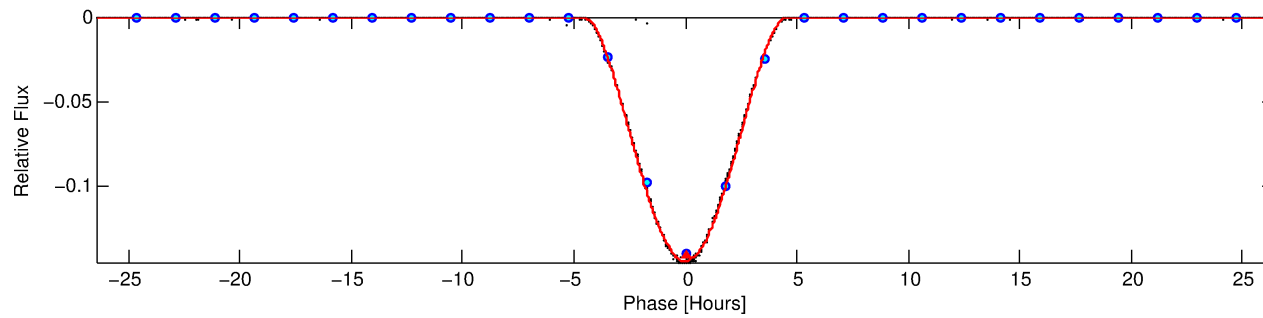
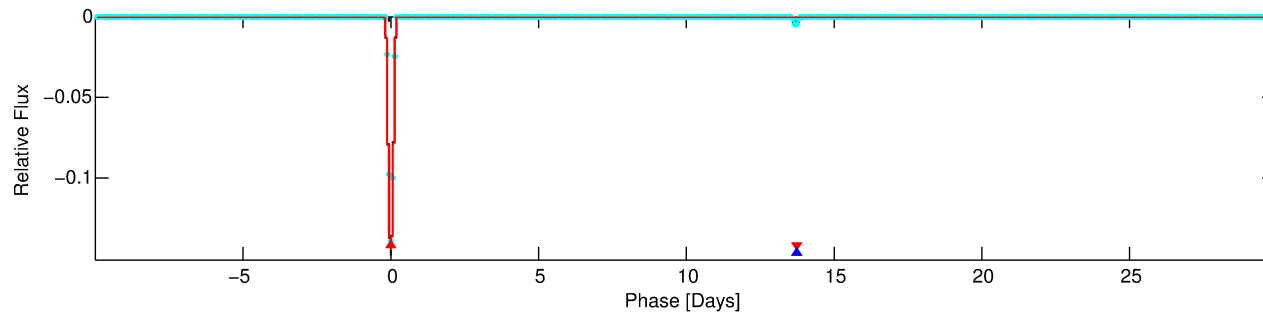
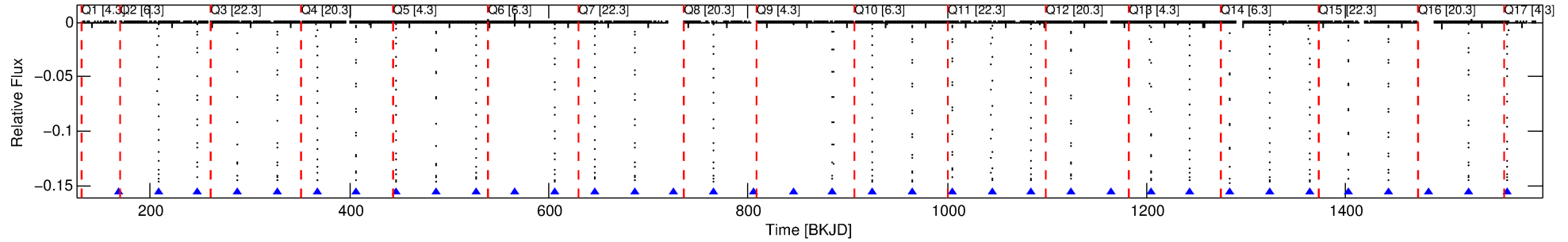
Ephemeris Match Information For 002693092-01

No Significant Match Found

DV One-Page Summary

KIC: 2693092 Candidate: 1 of 2 Period: 39.842 d
KOI: K06285.01 Corr: 0.999

Kp: 12.00 R*: 2.07 Rs Teff: 6078.0 K Logg: 3.95 Fe/H: 0.100



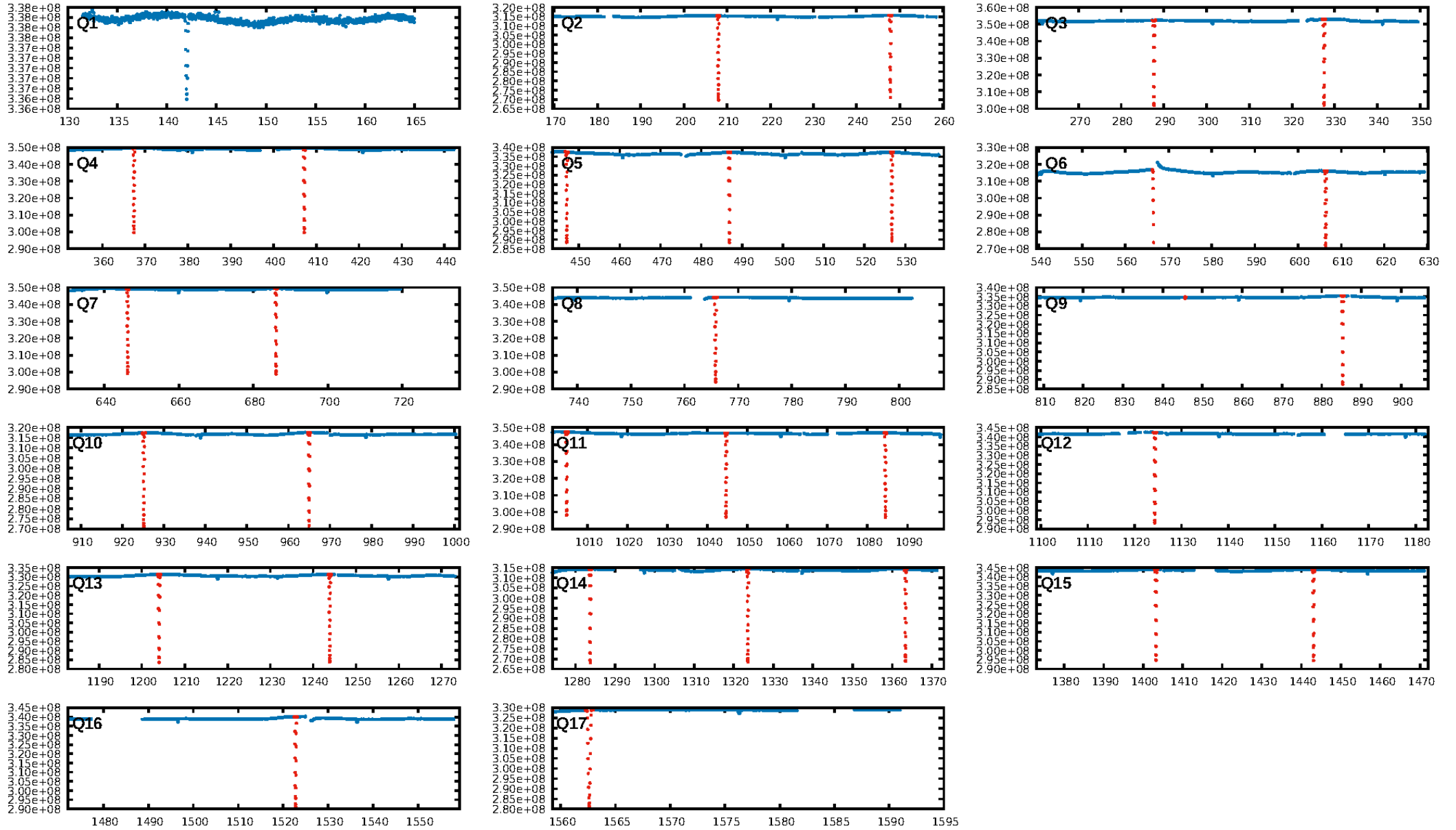
DV Fit Results:

Period = 39.84151 [0.00000] d
Epoch = 168.1419 [0.0000] BKJD
Rp/R* = 0.5139 [0.0321]
a/R* = 42.08 [0.23]
b = 0.90 [0.05]
Seff = 81.06 [40.31]
Teff = 765 [95] K
Rp = 116.07 [40.36] Re
a = 0.2542 [0.0793] AU
Ag = 10.43 [5.20] [1.81σ]
Teffp = 2126 [93] K [10.24σ]

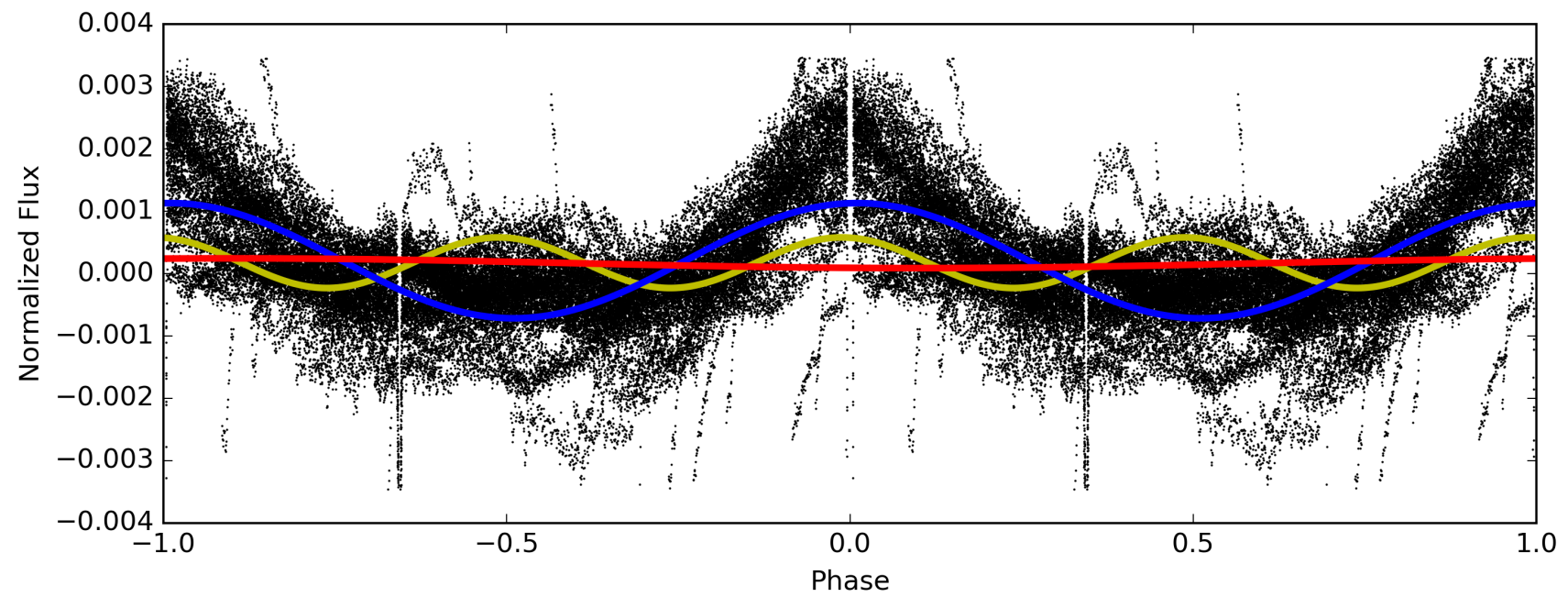
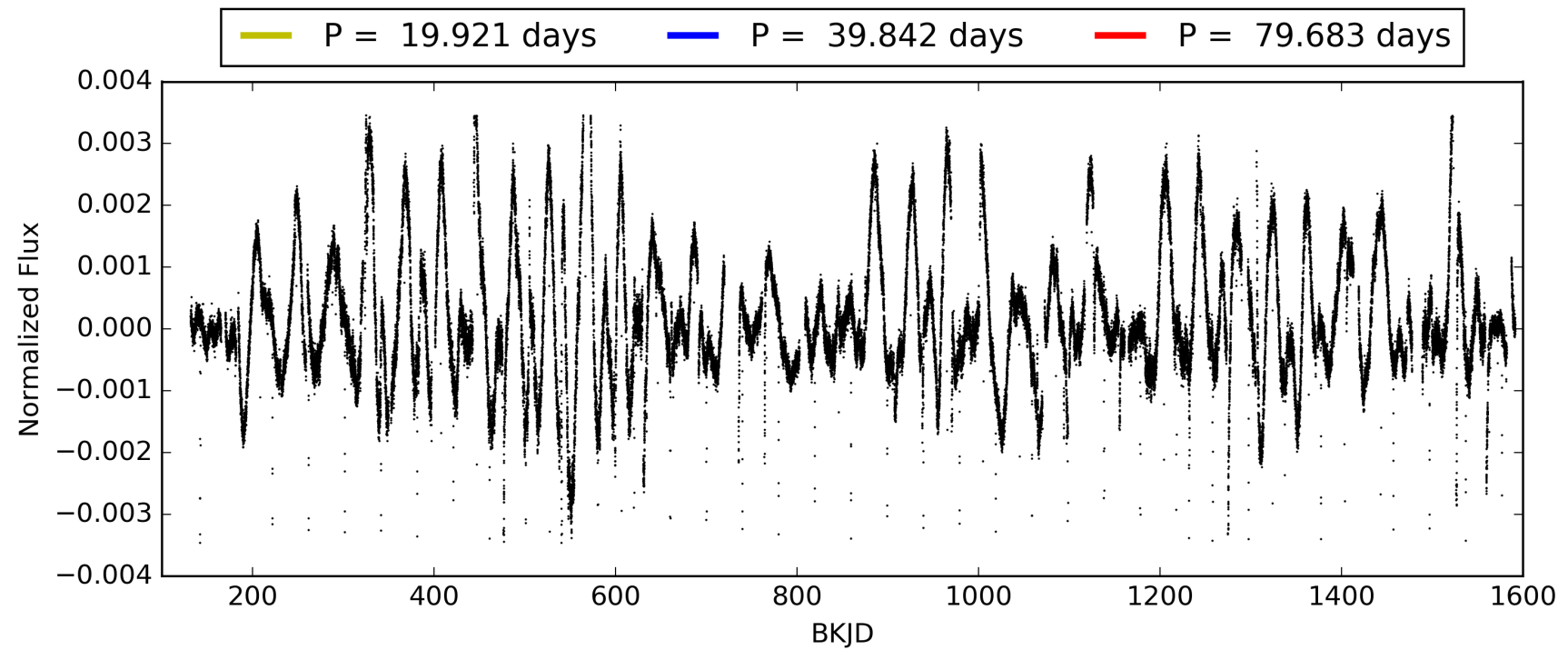
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [30/30]
GhostDiagnostic-chr: 6.422
Centroid-sig: 0.0%
Centroid-so: 0.273 arcsec [392.93σ]
OotOffset-rm: 0.371 arcsec [5.54σ]
KicOffset-rm: 0.250 arcsec [3.71σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 002693092-01, PDC Light Curves

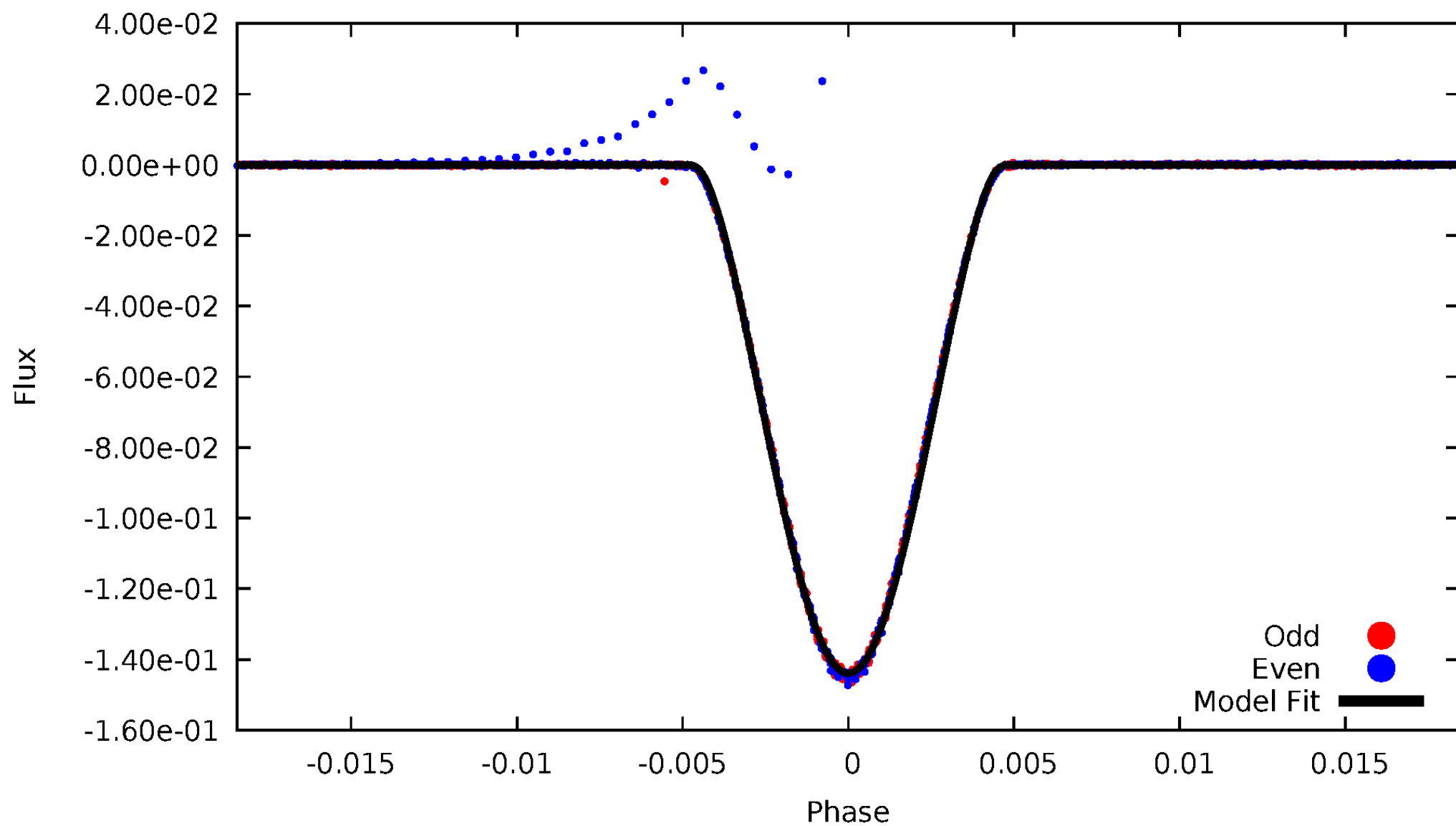


TCE 002693092-01



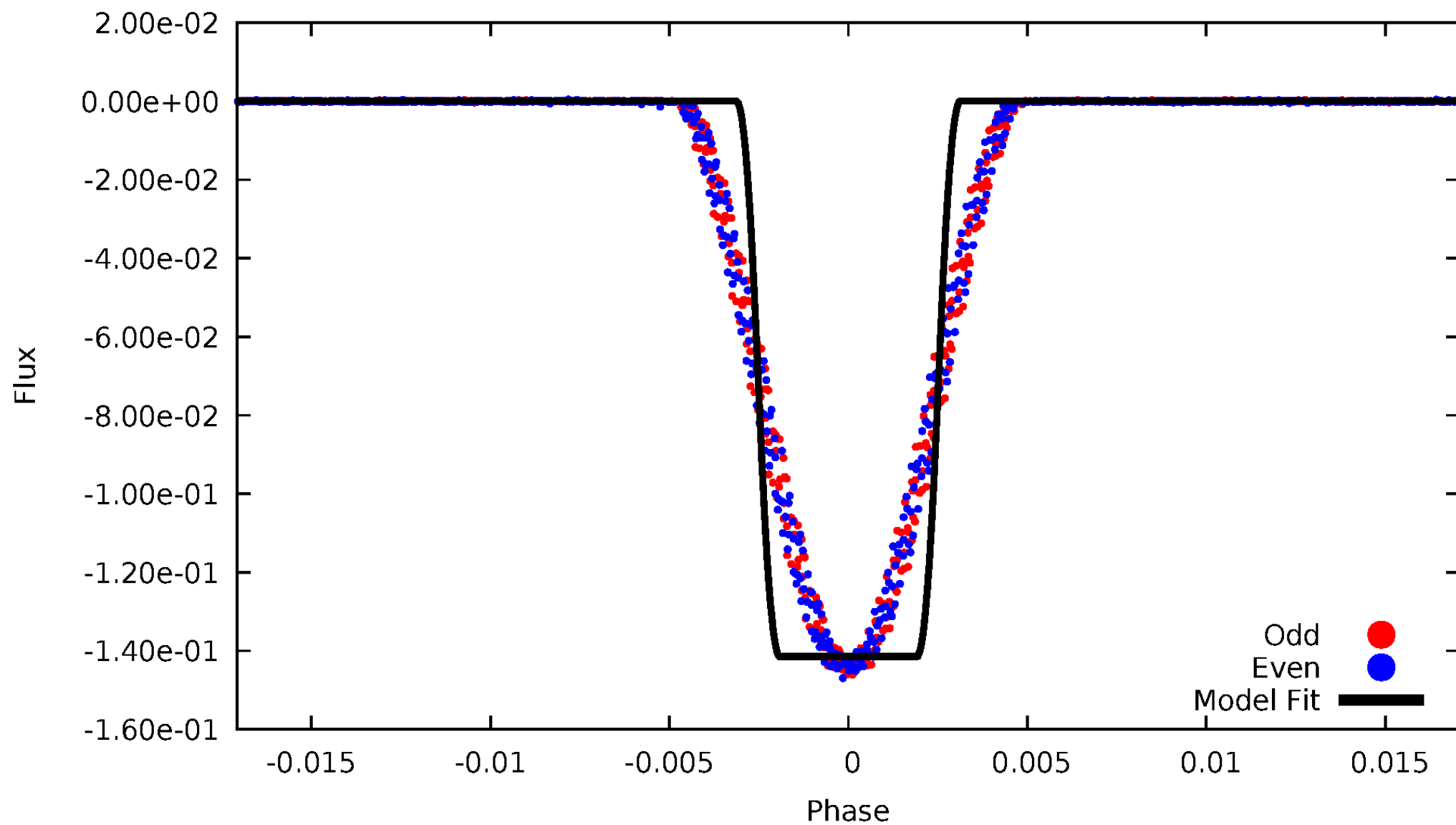
DV Odd/Even

TCE 002693092-01



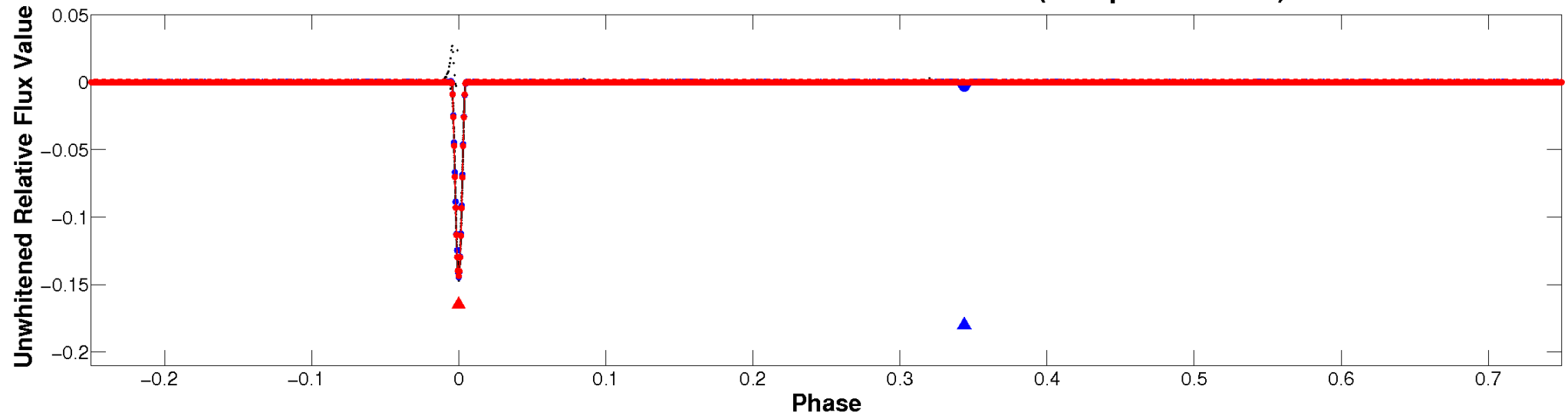
ALT Odd/Even

TCE 002693092-01

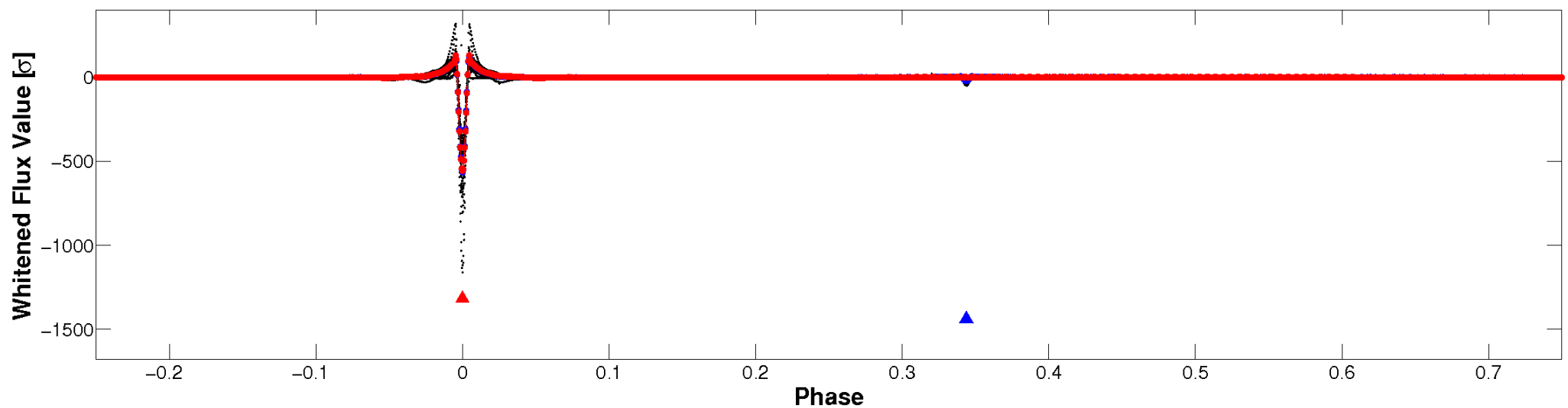


Non-Whitened Vs. Whitened Light Curve

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

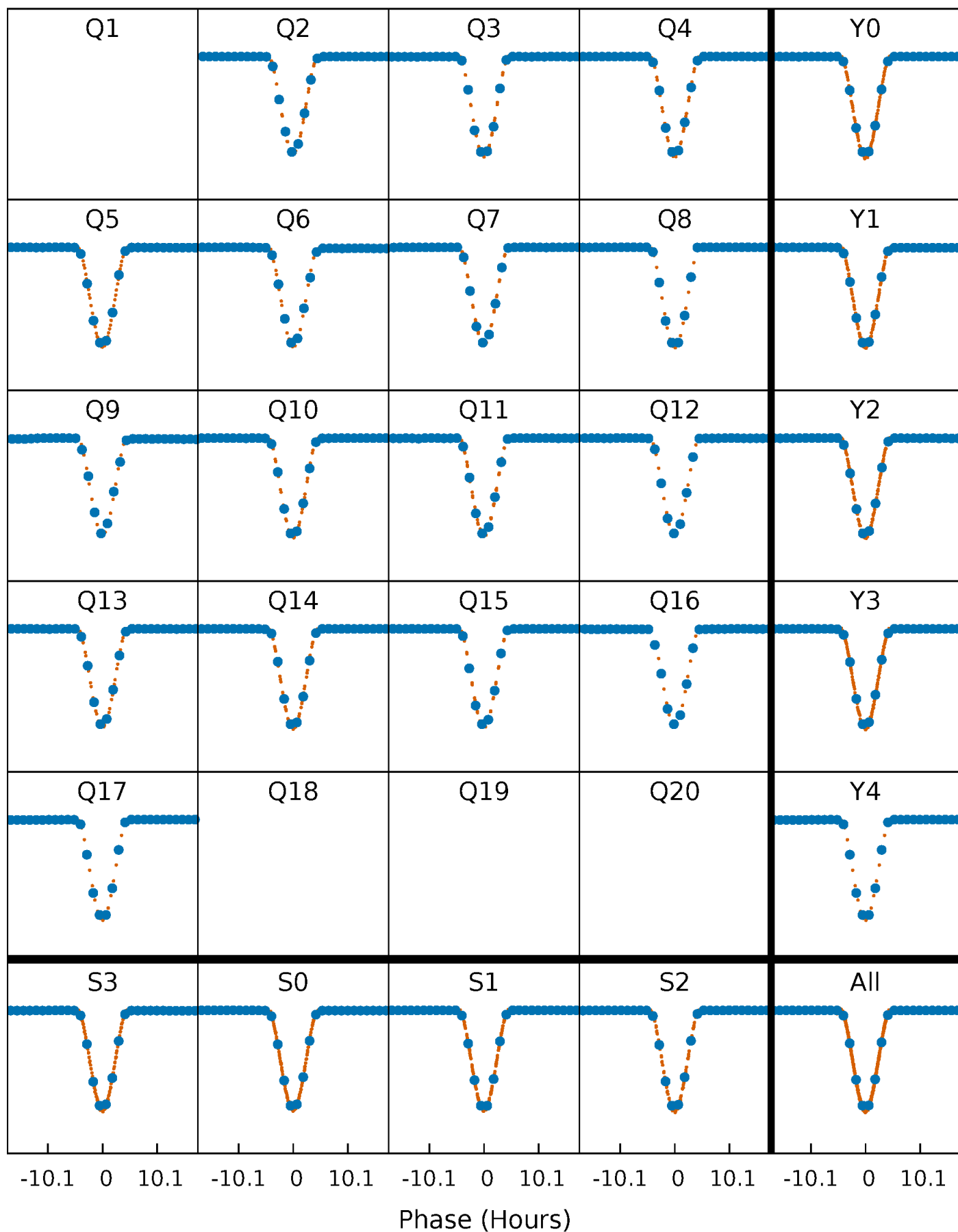


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



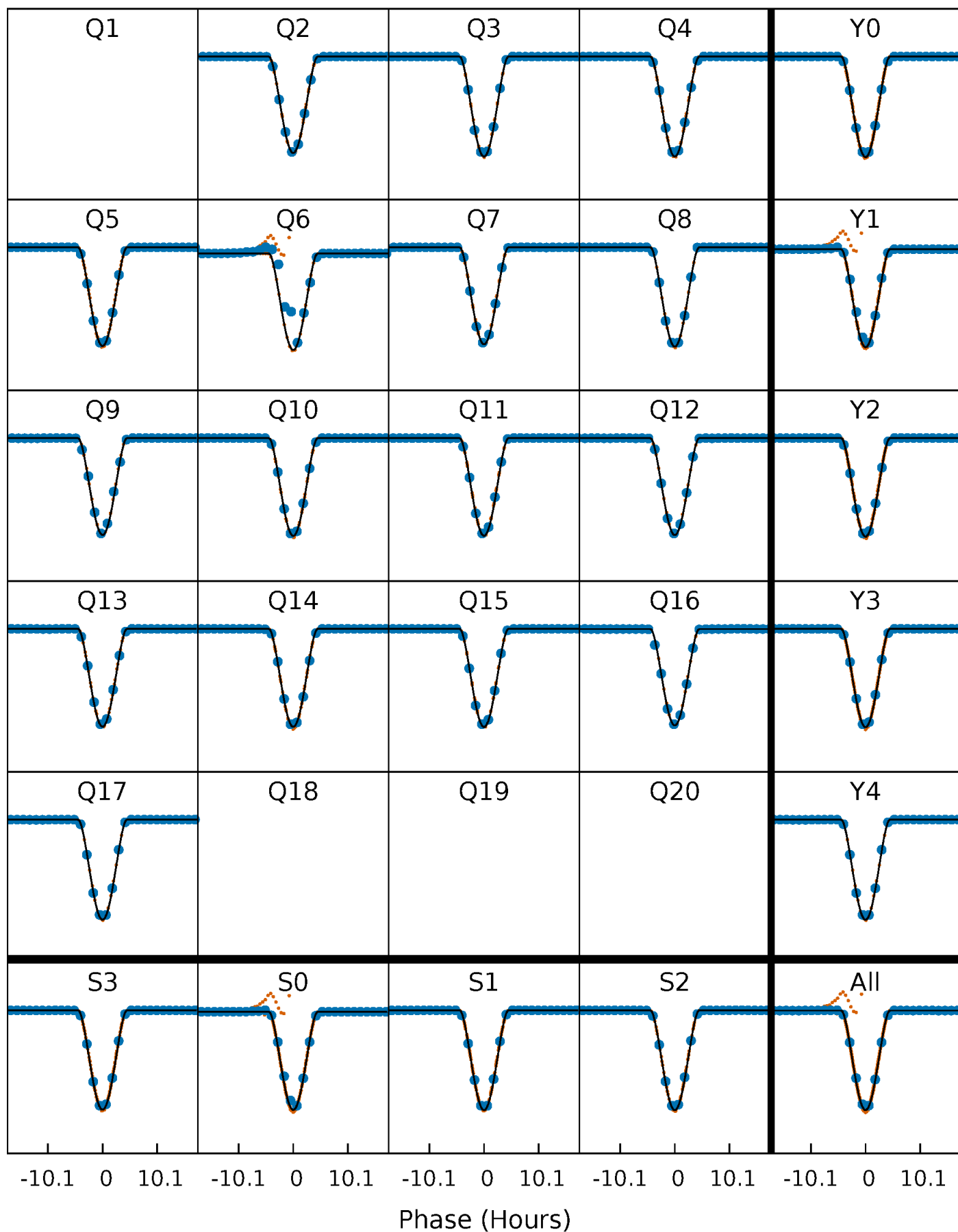
PDC Quarter-Phased Transit Curves

TCE 002693092-01 P= 39.841514 Days $T_0=168.141917$ (BKJD)



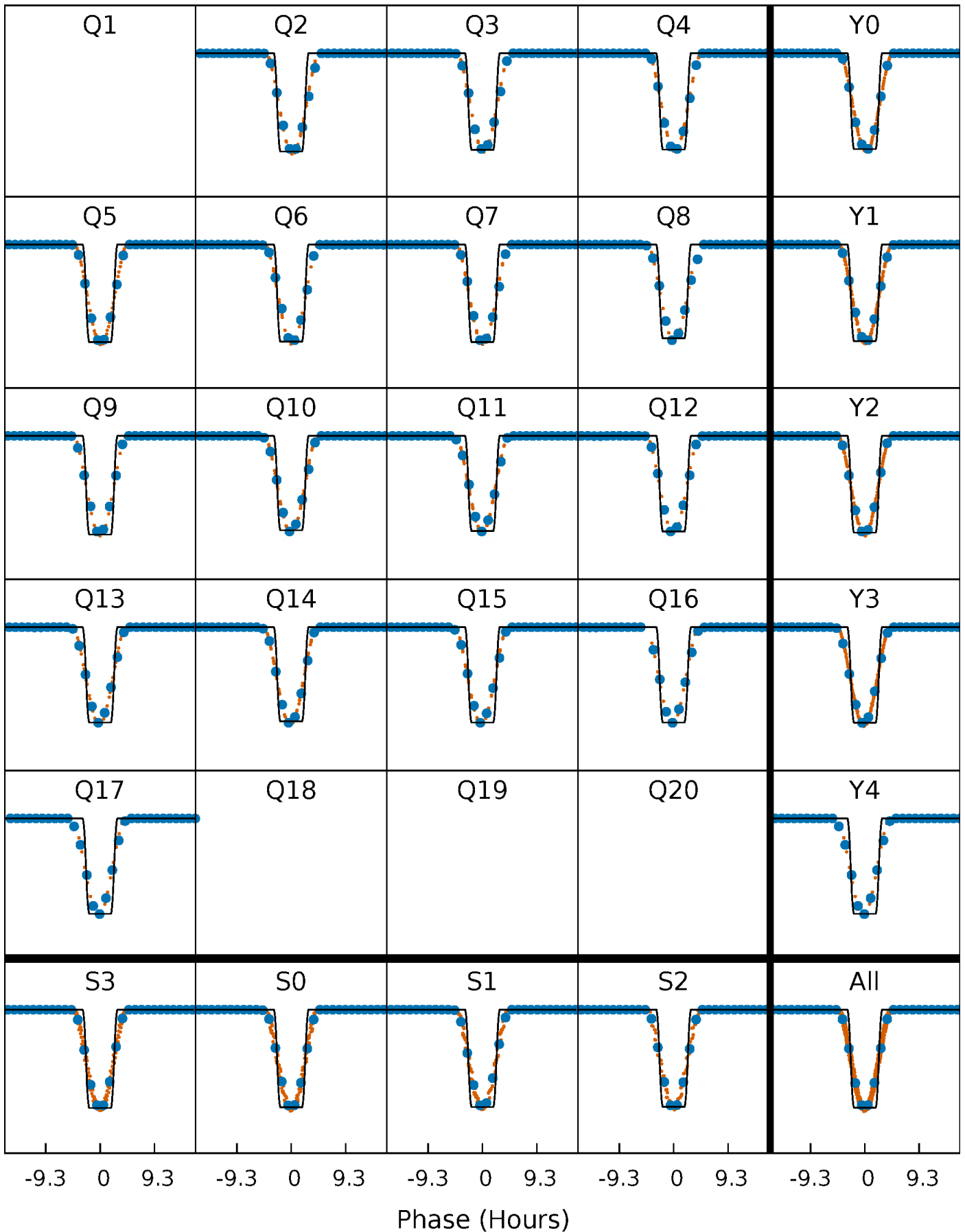
DV Quarter-Phased Transit Curves

TCE 002693092-01 P= 39.841514 Days $T_0=168.141917$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

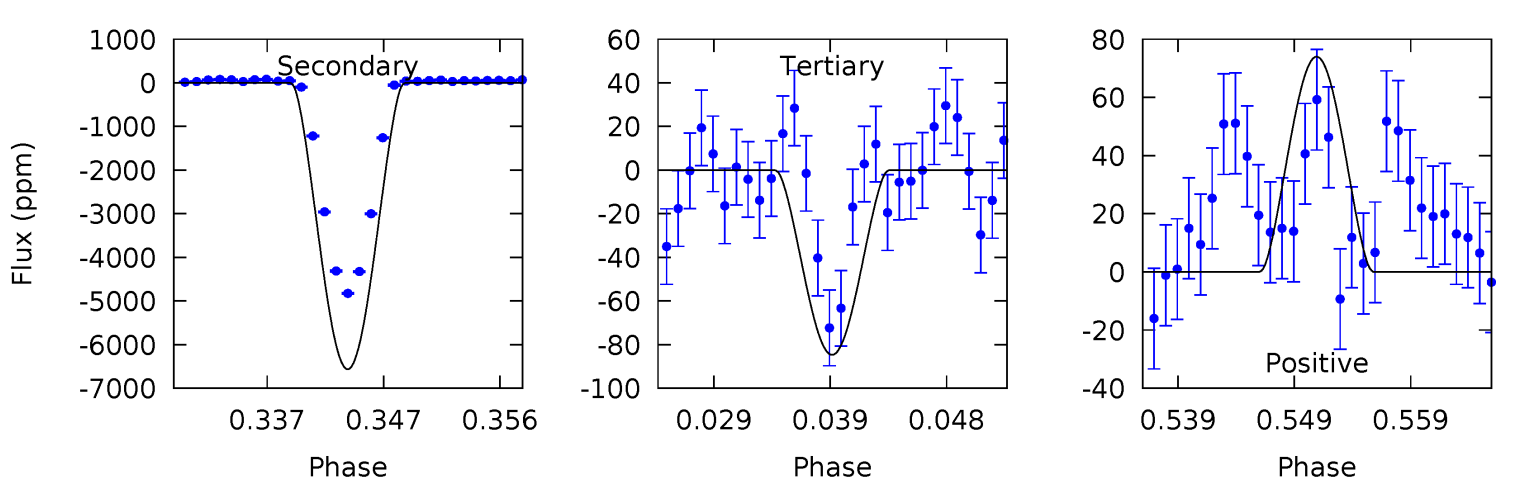
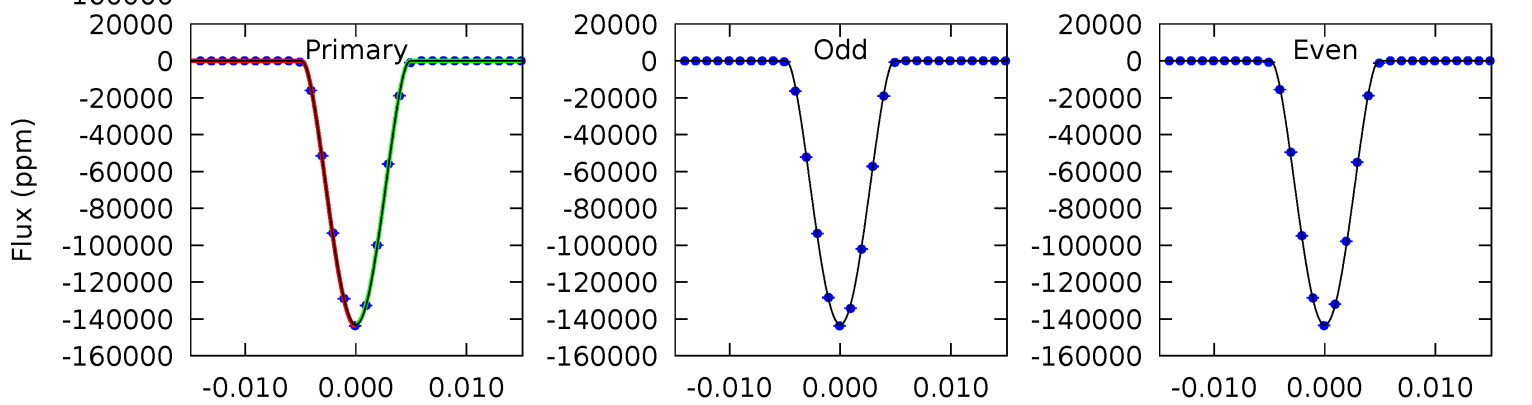
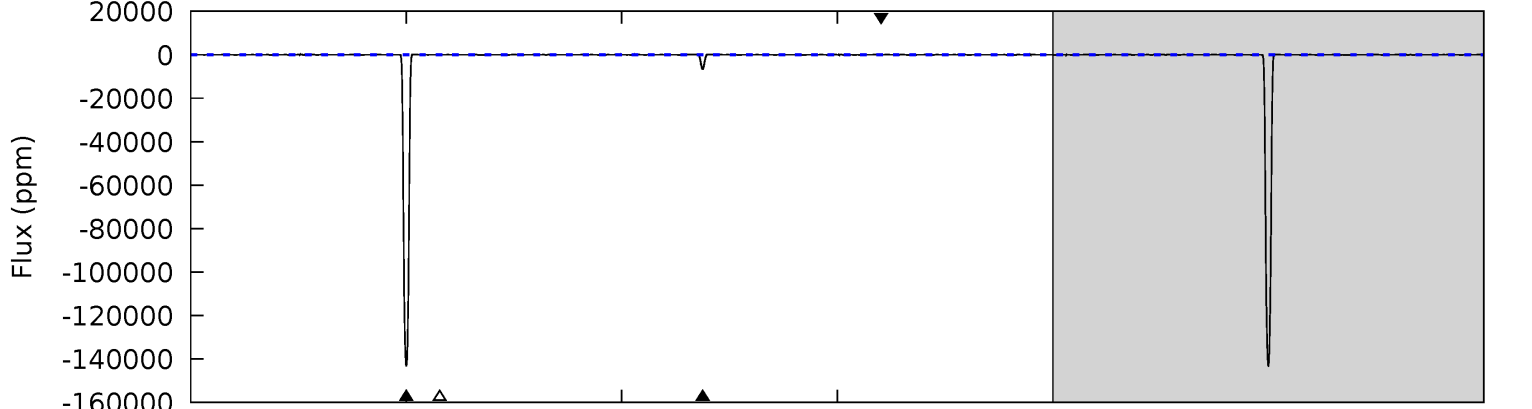
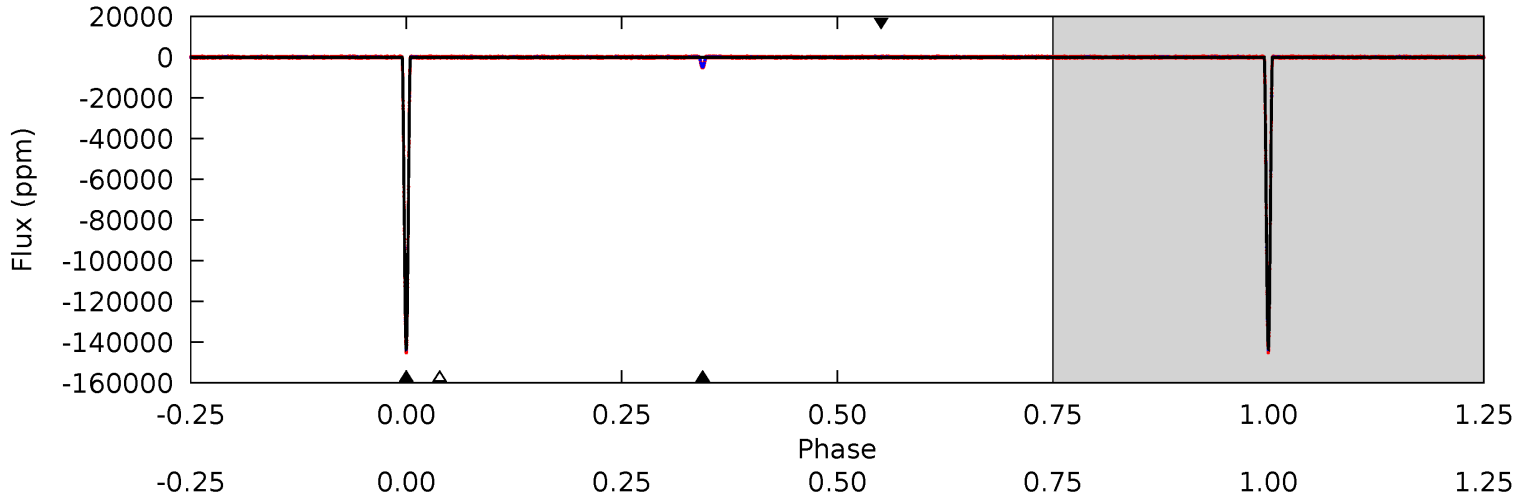
TCE 002693092-01 P= 39.842133 Days $T_0=168.129945$ (BKJD)



DV Model-Shift Uniqueness Test

002693092-01, P = 39.841514 Days, E = 128.300403 Days

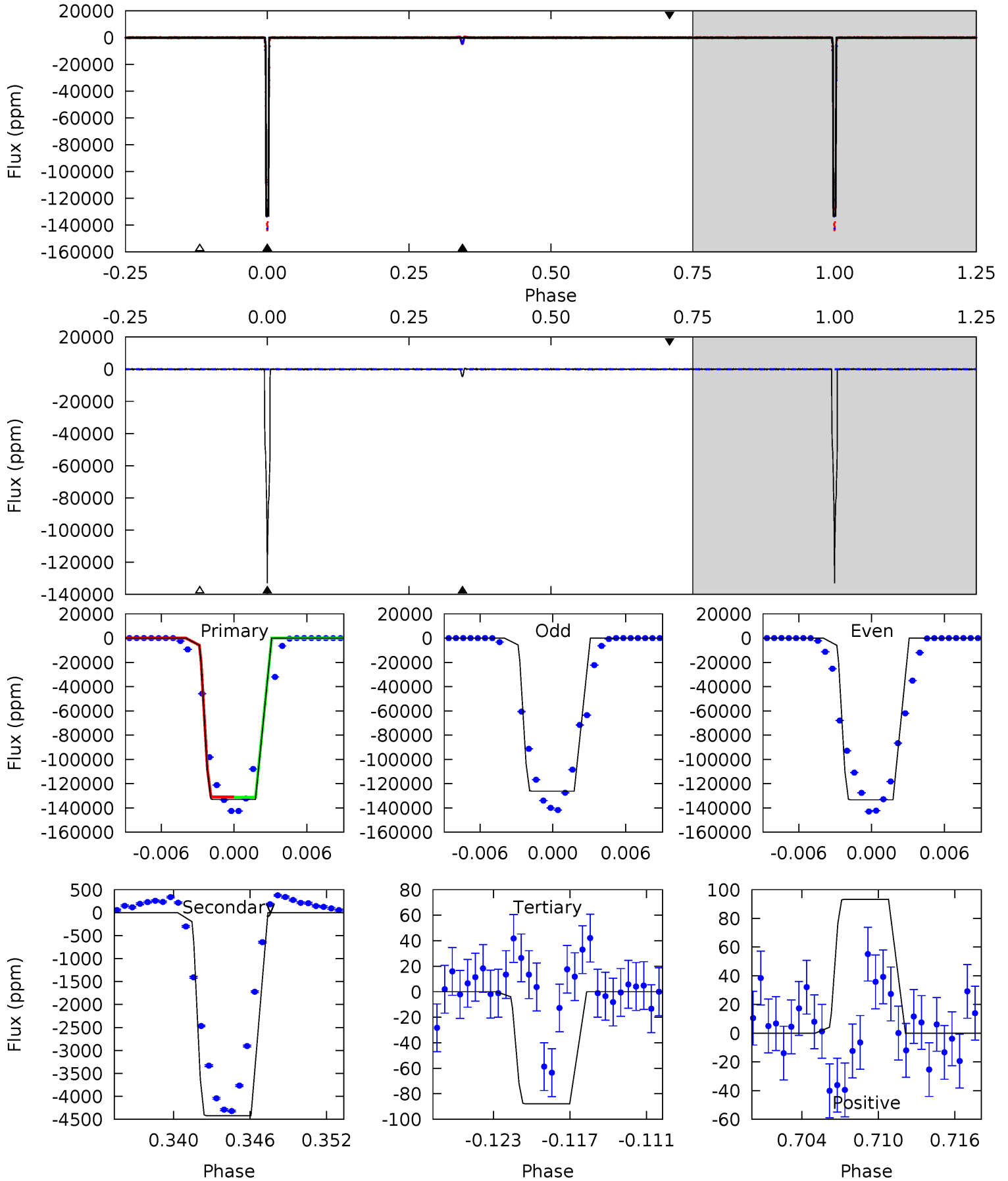
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19029	872.4	11.3	9.83	5.03	2.59	3.59	19018	19019	861.1	862.5	16.5	0.96	0.00	0



Alt Model-Shift Uniqueness Test

002693092-01, P = 39.842133 Days, E = 128.287812 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6114	203.1	4.03	4.28	5.12	2.74	1.17	6110	6110	199.0	198.8	200.5	1.00	0.00	1.73



Stellar Parameters For KIC 002693092

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6078^{+164}_{-183}	$3.946^{+0.277}_{-0.111}$	$0.100^{+0.250}_{-0.250}$	$2.070^{+0.381}_{-0.708}$	$1.380^{+0.157}_{-0.292}$	$0.219^{+0.380}_{-0.076}$
	+3%/-3%	+7%/-3%	+250%/-250%	+18%/-34%	+11%/-21%	+173%/-35%
Source	PHO1	FLK73	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 002693092-01 / KOI 6285.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6564 ± 8	$112.72^{+17.78}_{-20.18}$	1053^{+72}_{-88}	3054^{+82}_{-74}	18^{+8}_{-5}
Alt.	-4419 ± 22	$83.07^{+12.85}_{-15.55}$	1056^{+66}_{-89}	3158^{+99}_{-92}	23^{+10}_{-5}

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 $A_{obs} \gg 1.0$

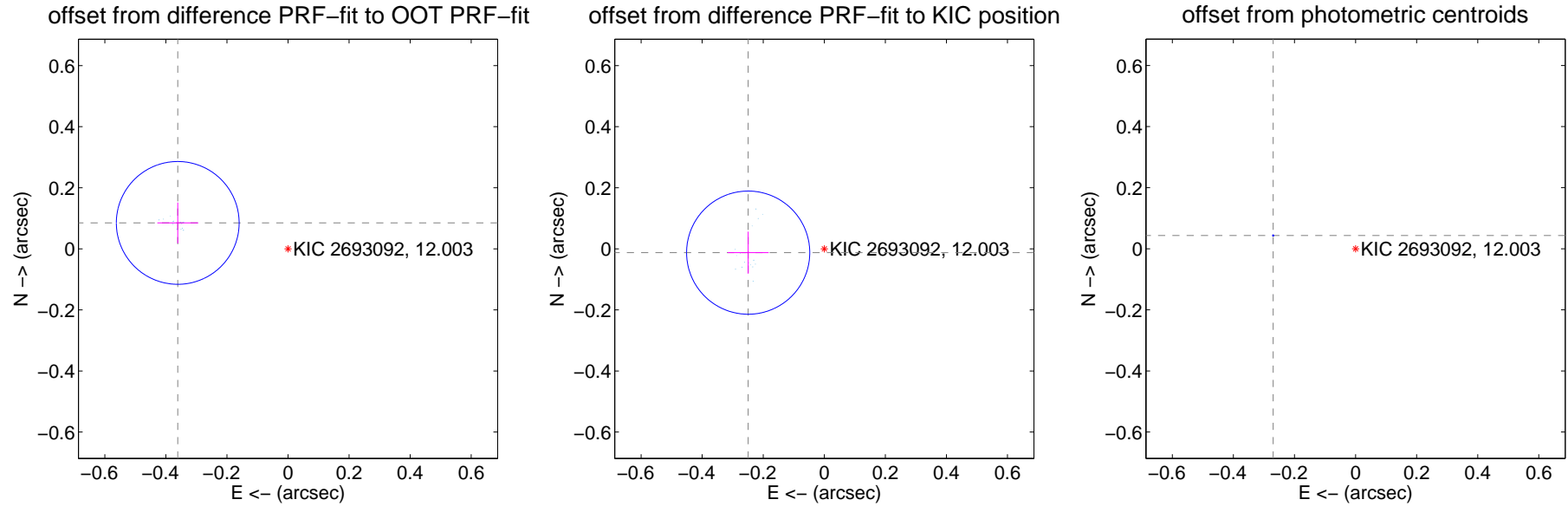
DV Centroid Data

Supplemental centroid analysis for 002693092-01. Kepler magnitude: 12.00. Transit SNR 4640.34

There are 16 quarters with good PRF difference image offsets

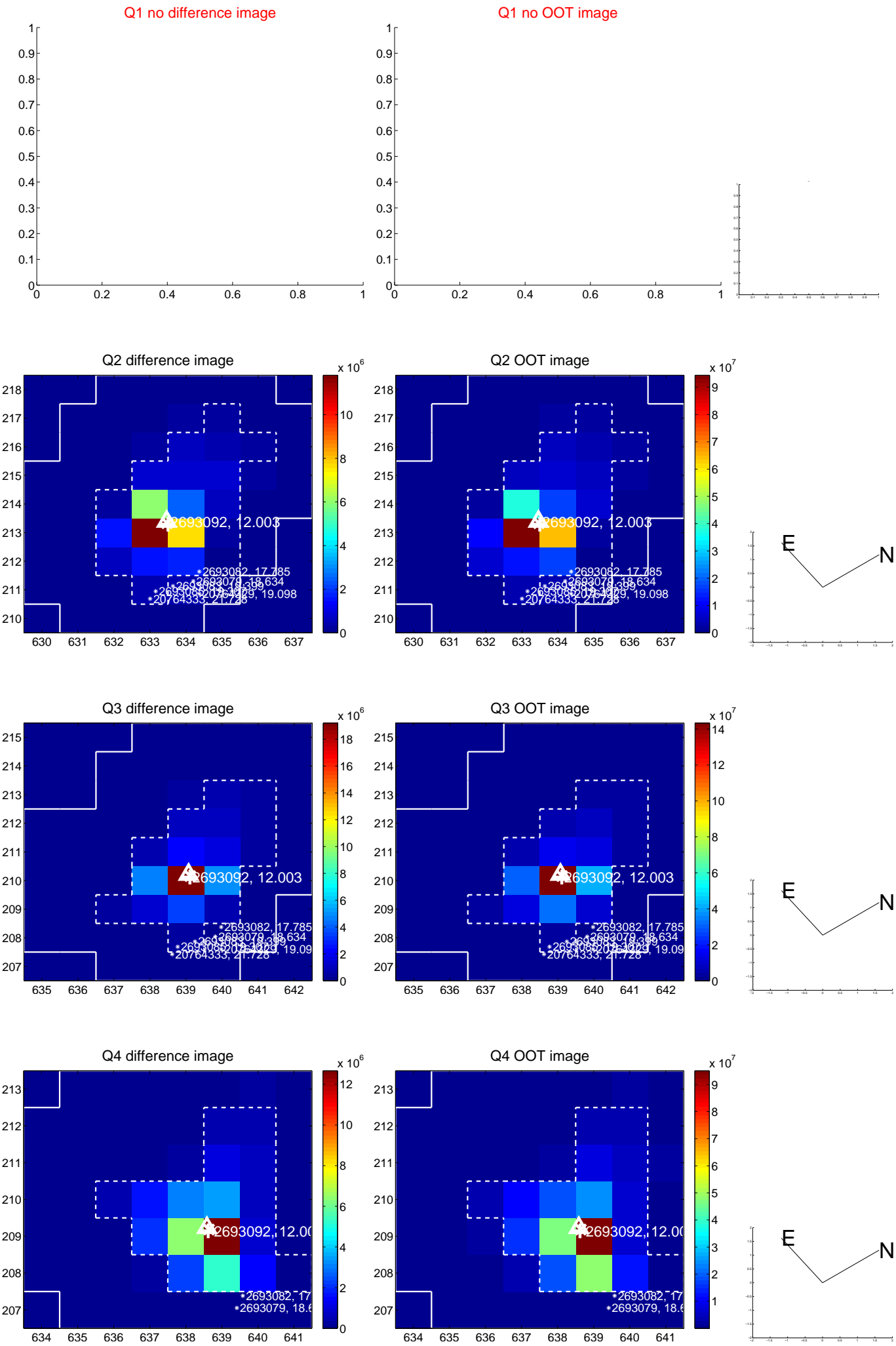
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.371 ± 0.067	5.54	0.361 ± 0.067	0.085 ± 0.067
PRF-fit source offset from KIC position	0.250 ± 0.067	3.71	0.249 ± 0.067	-0.013 ± 0.069
photometric centroid source offset	0.27 ± 0.00	392.93	0.27 ± 0.00	0.04 ± 0.00

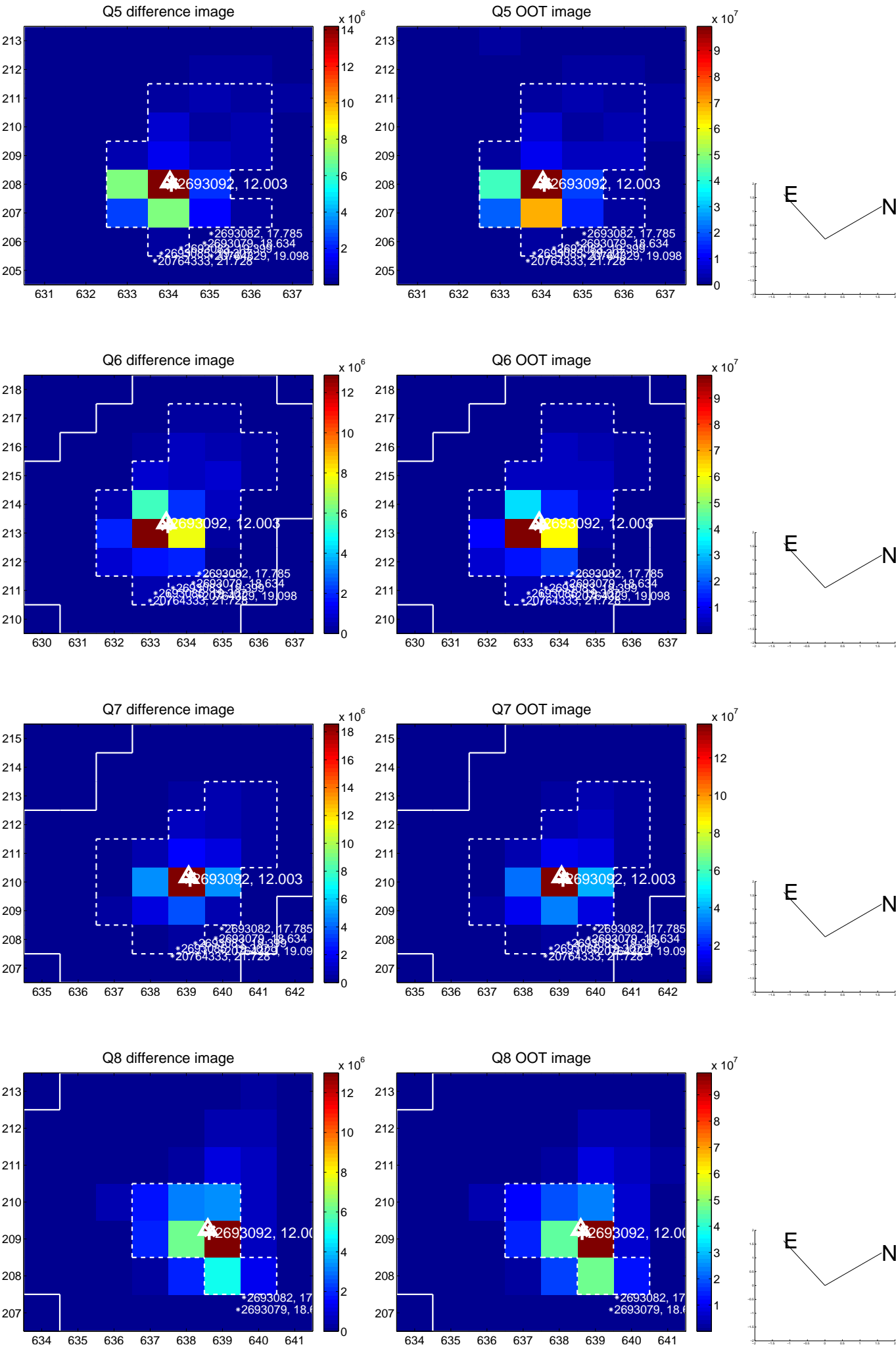


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

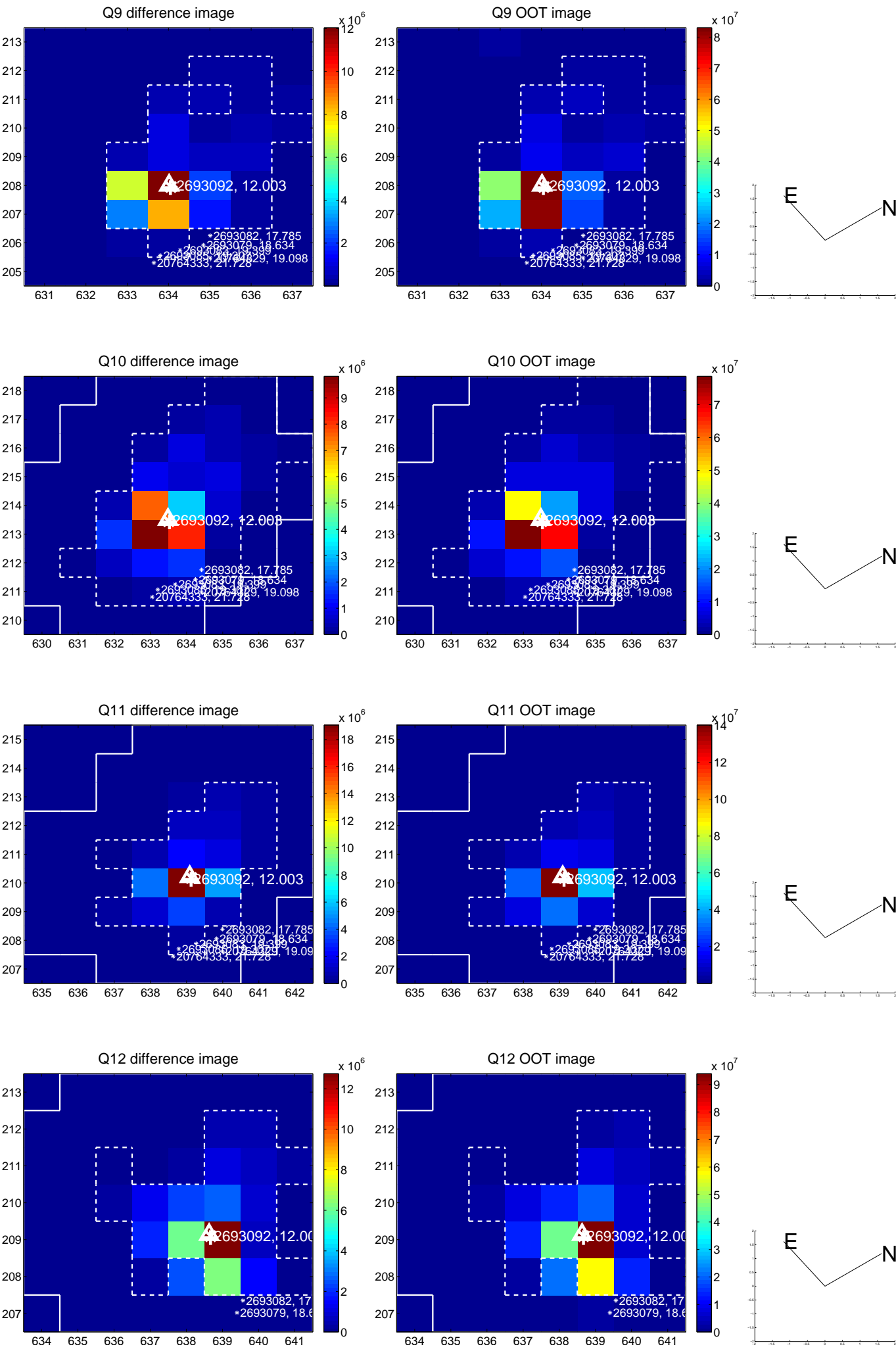
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



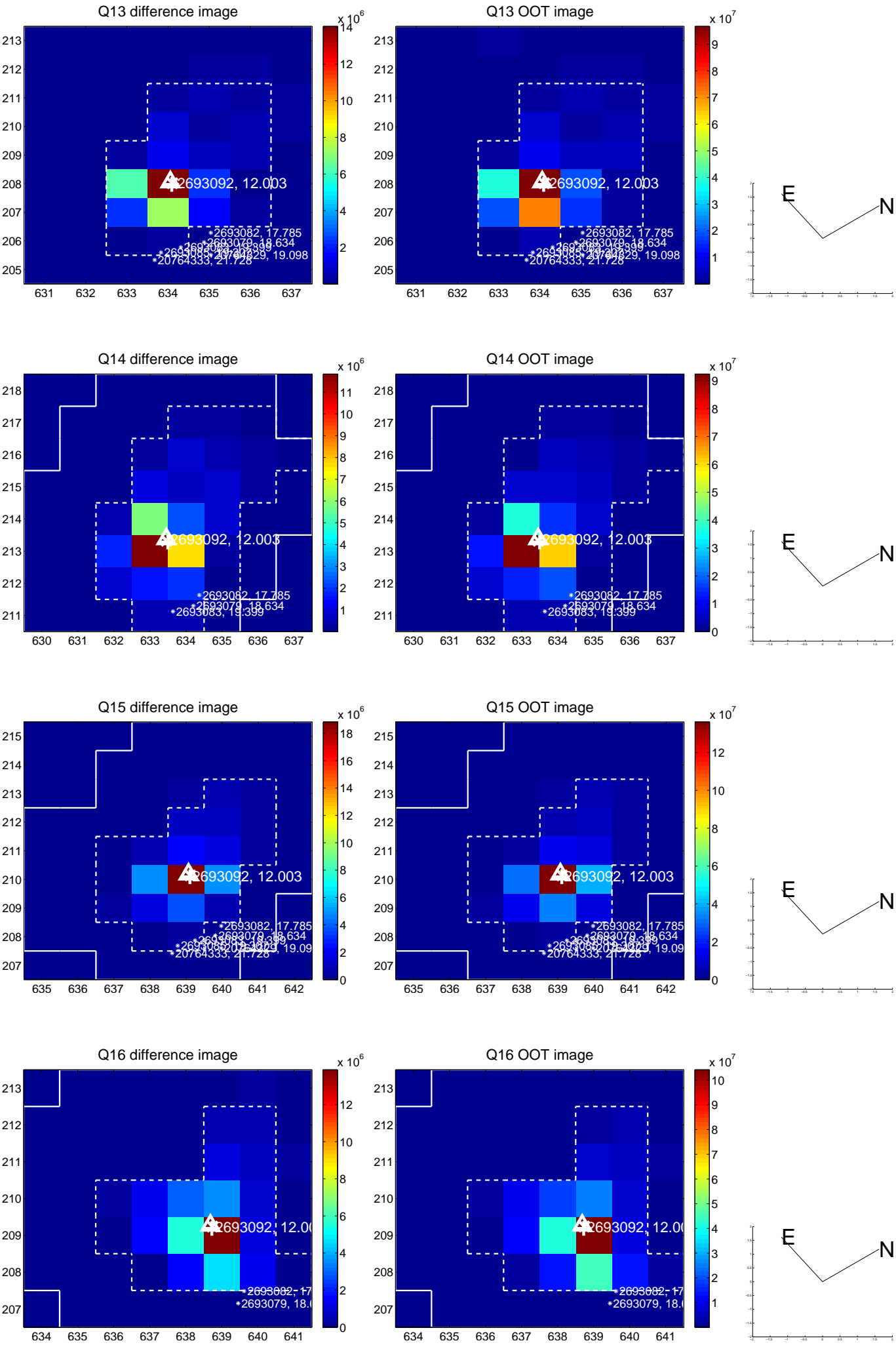
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



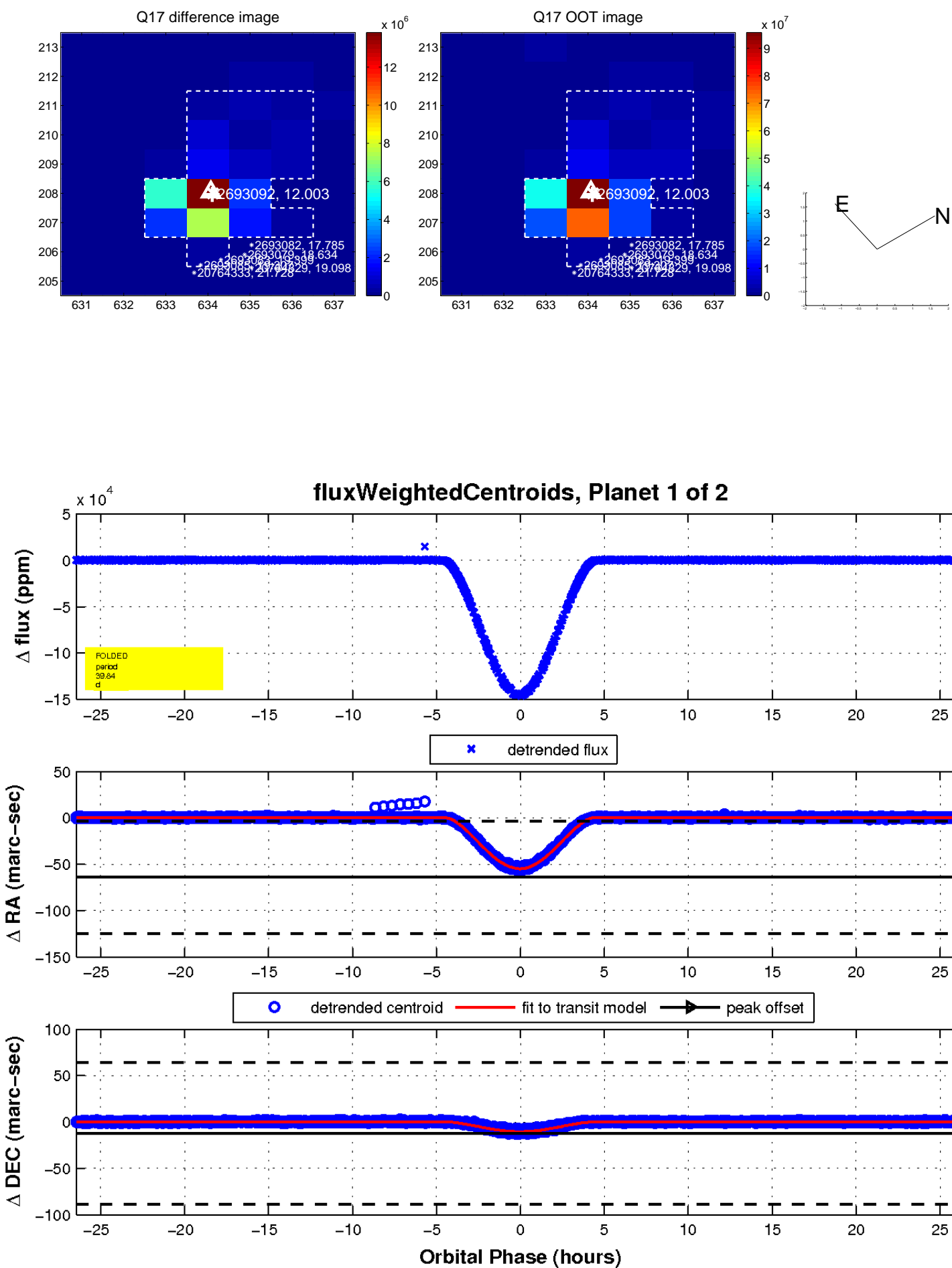
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

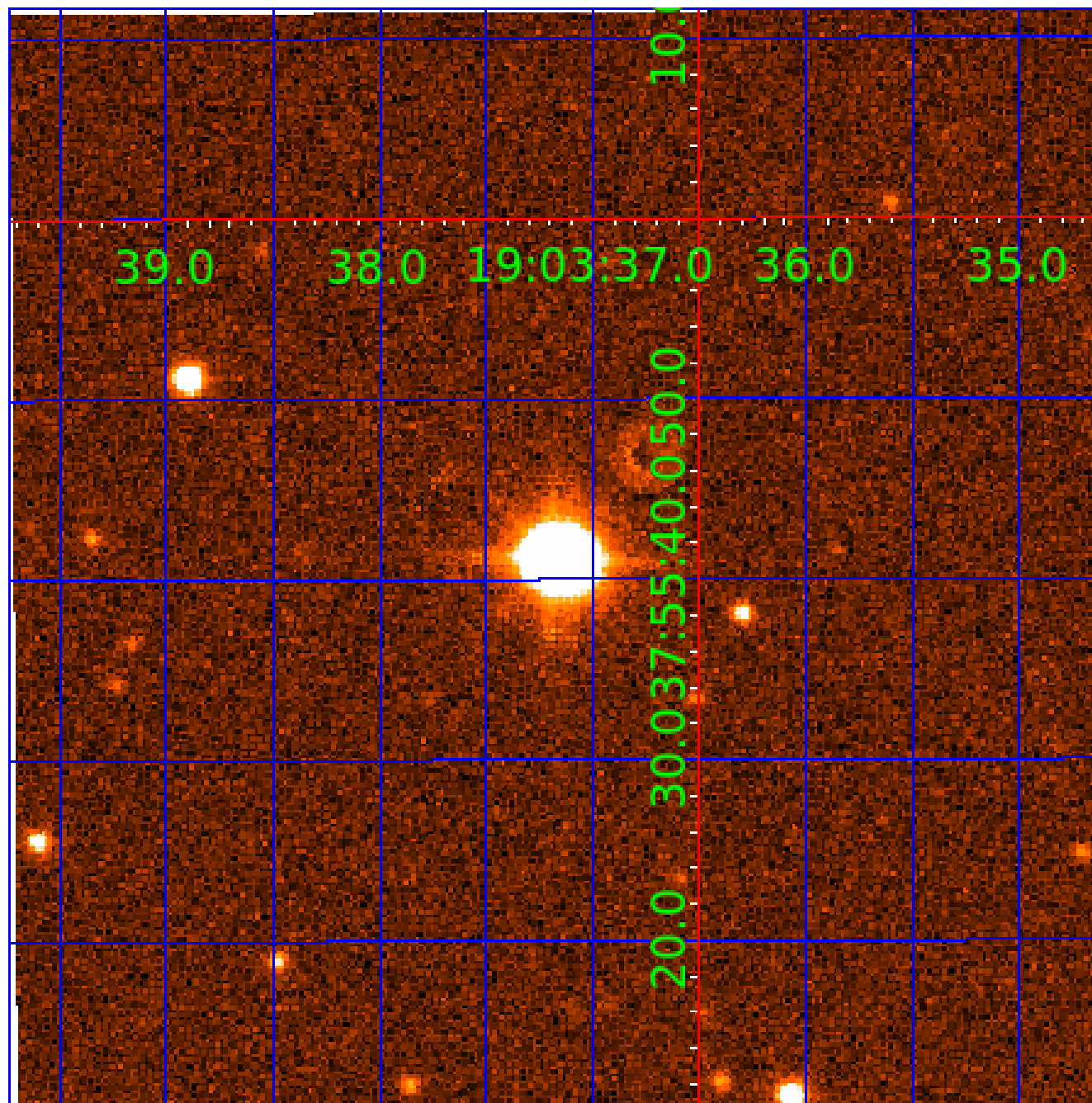


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002693092

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})
002693092-01	OBS	6285.01	39.841514	168.141917	143894.0	8.813	7545.5	4640.3	2.07	6078	116.07	81.06
002693092-02	OBS	No	39.841510	141.996626	4875.9	7.349	319.2	327.8	2.07	6078	26.46	81.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002693092-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
002693092-02	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.

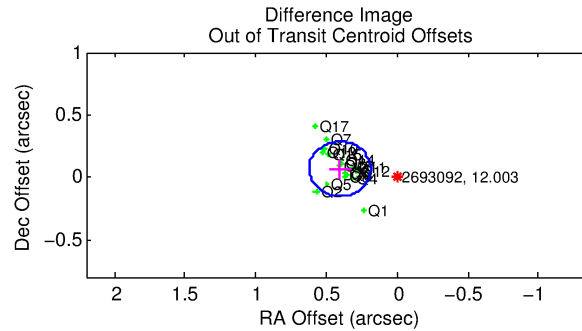
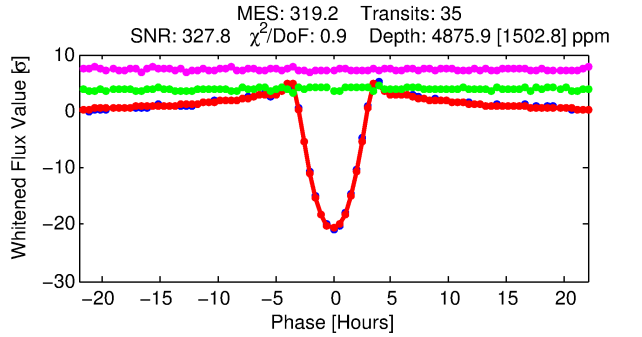
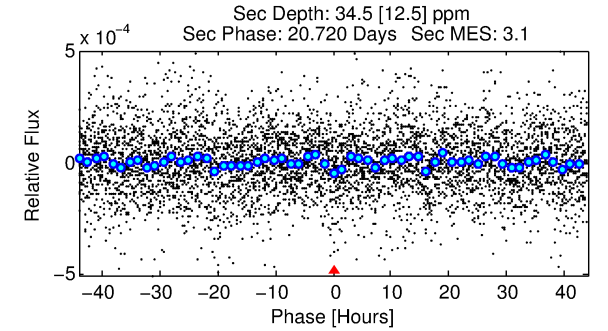
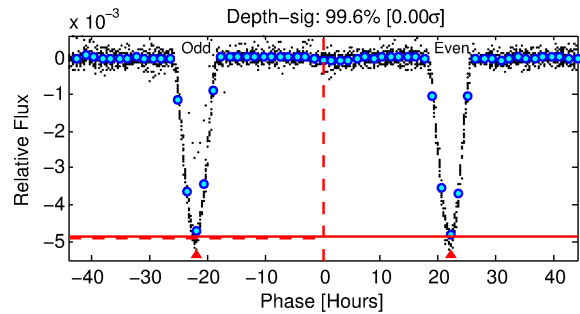
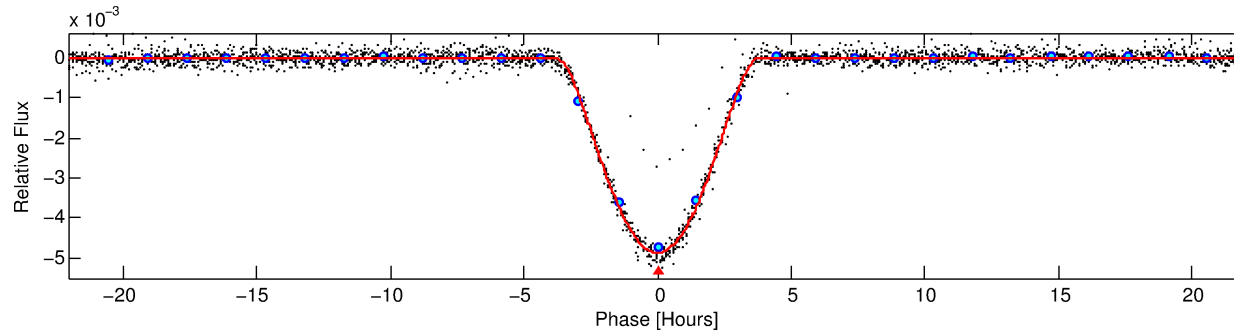
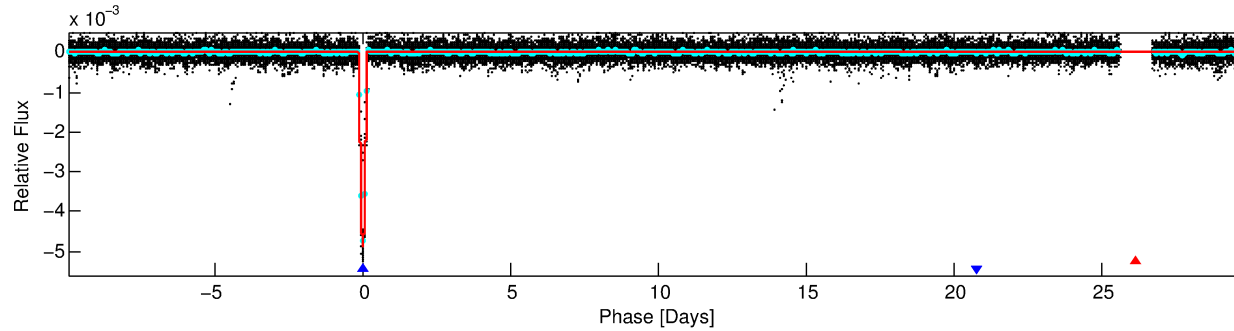
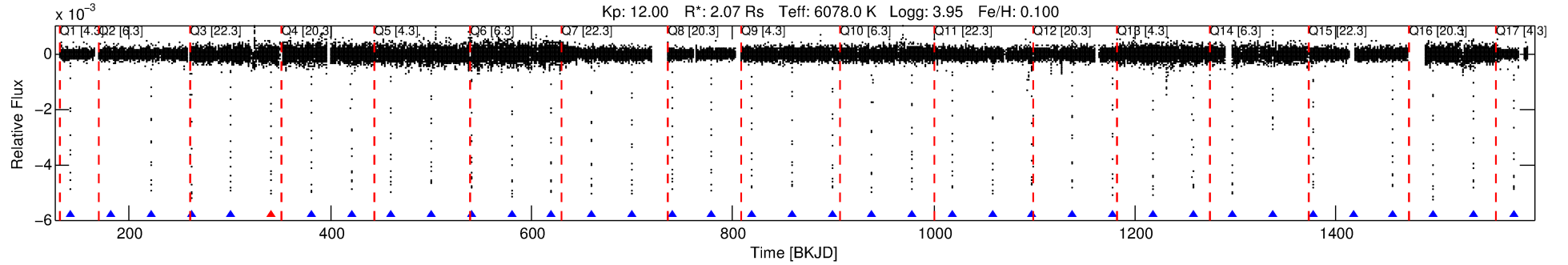
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002693092-02

No Significant Match Found

DV One-Page Summary

KIC: 2693092 Candidate: 2 of 2 Period: 39.842 d
KOI: K06285 Corr: No Ephemeris Match



DV Fit Results:

Period = 39.84151 [0.00002] d
Epoch = 141.9966 [0.0004] BKJD
Rp/R* = 0.1171 [0.0090]
a/R* = 20.65 [0.29]
b = 1.00 [0.01]
Seff = 81.06 [40.31]
Teq = 765 [95] K
Rp = 26.46 [9.28] Re
a = 0.2542 [0.0793] AU
Ag = 1.75 [1.09] [0.69σ]
Teffp = 1361 [140] K [3.52σ]

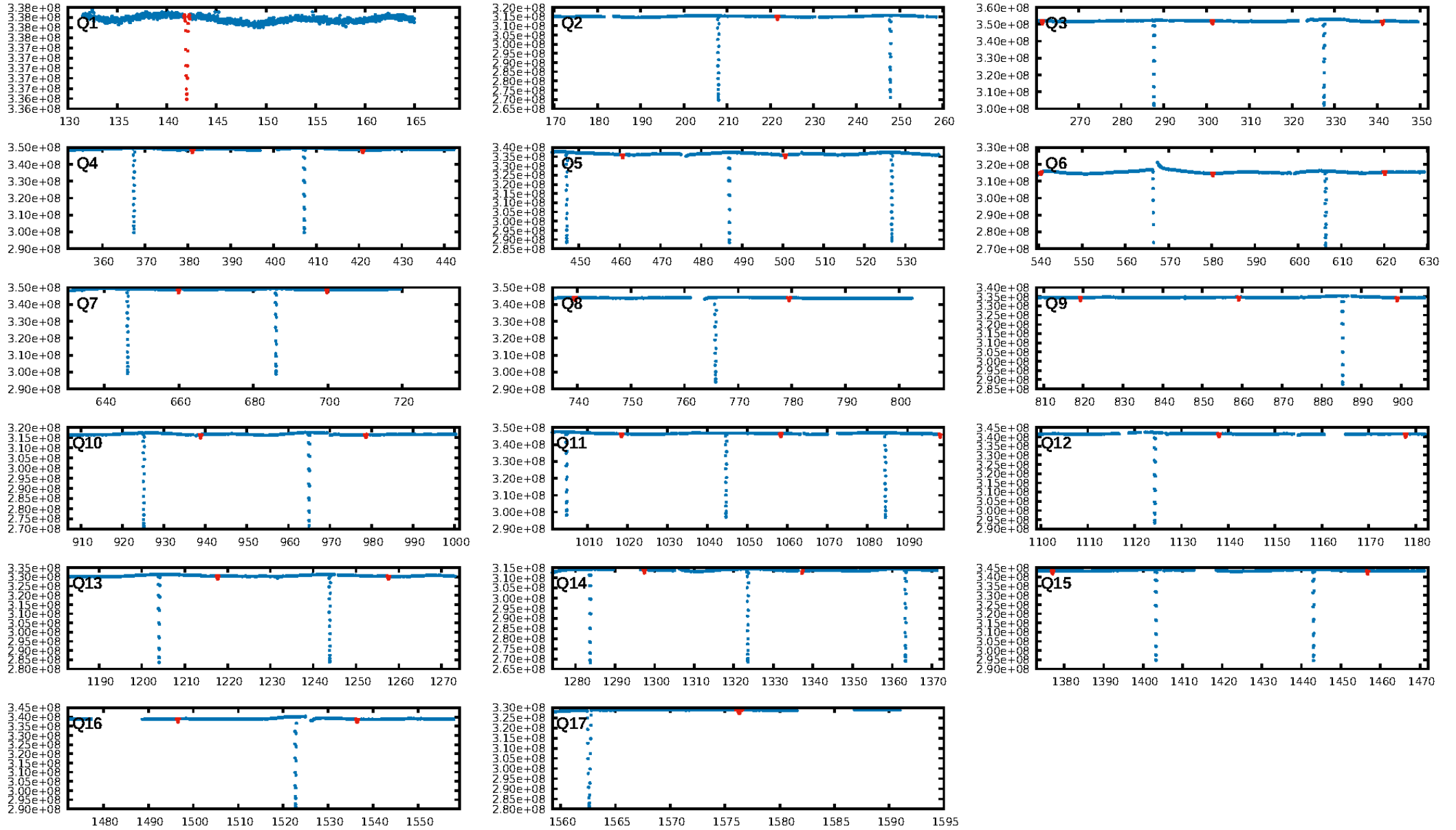
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [32/33]
GhostDiagnostic-chr: 7.63
Centroid-sig: 0.0%
Centroid-so: 0.214 arcsec [11.67σ]
OotOffset-rm: 0.410 arcsec [5.64σ]
KicOffset-rm: 0.306 arcsec [4.27σ]
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]

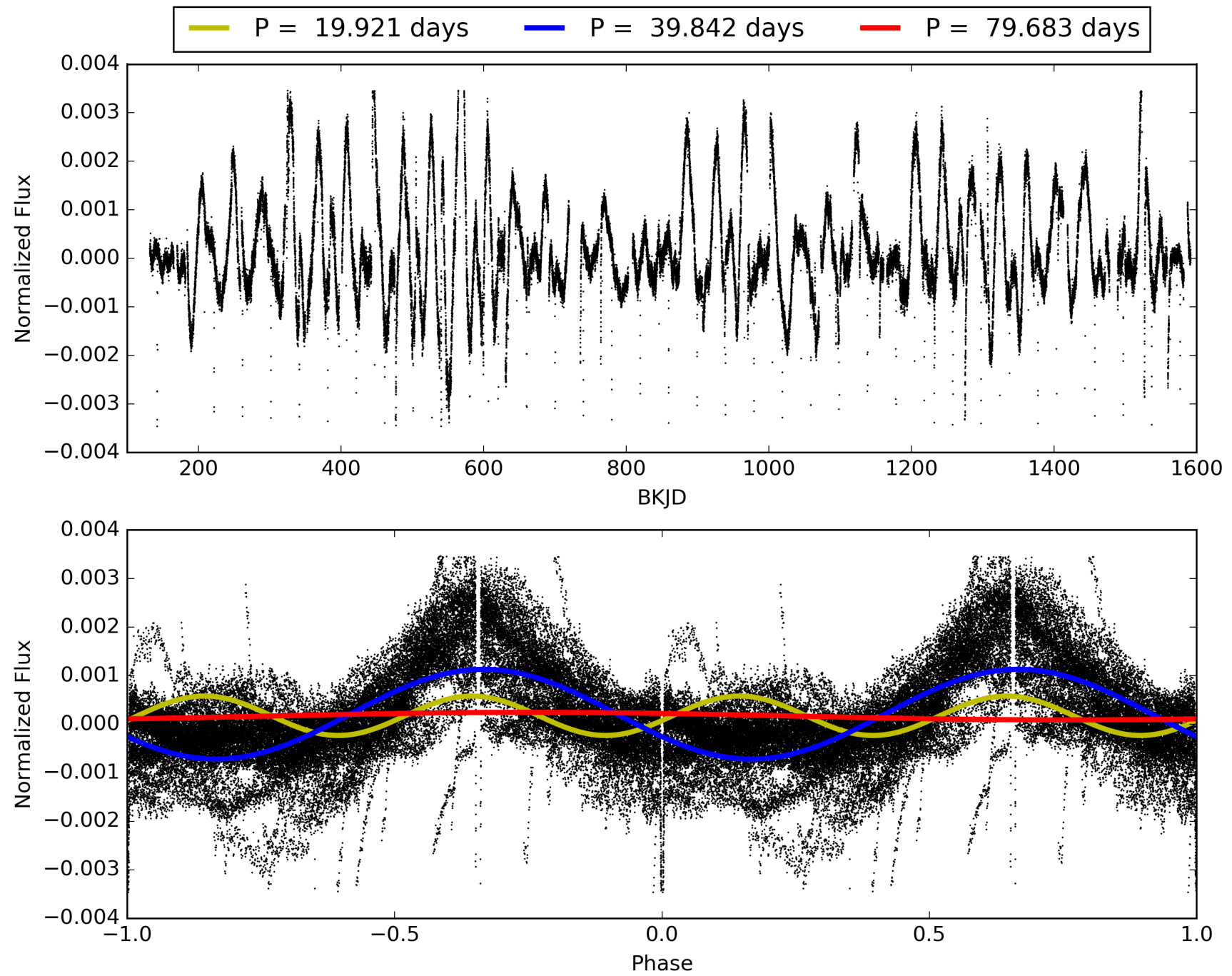
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:03:32 Z

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

TCE 002693092-02, PDC Light Curves

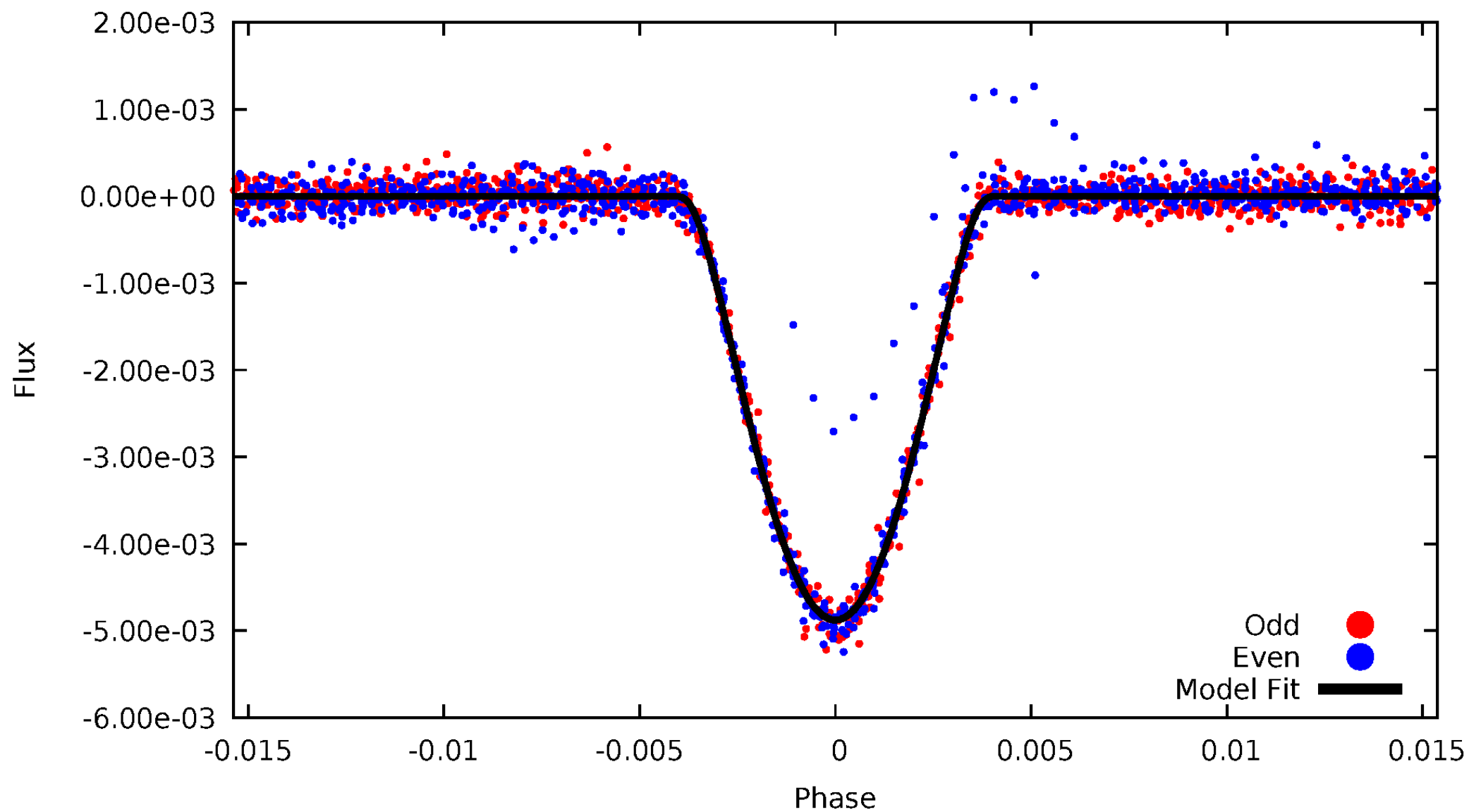


TCE 002693092-02



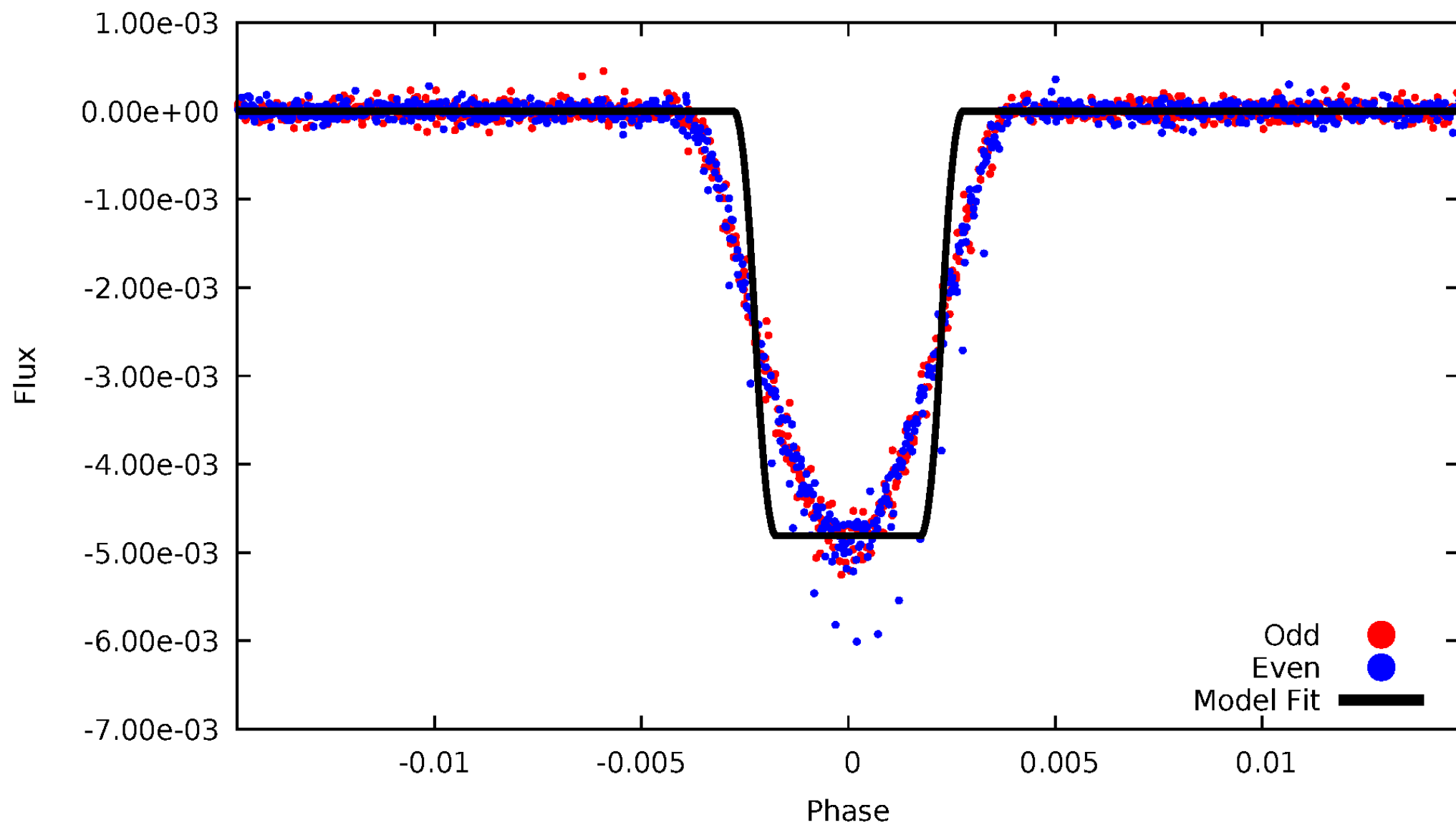
DV Odd/Even

TCE 002693092-02



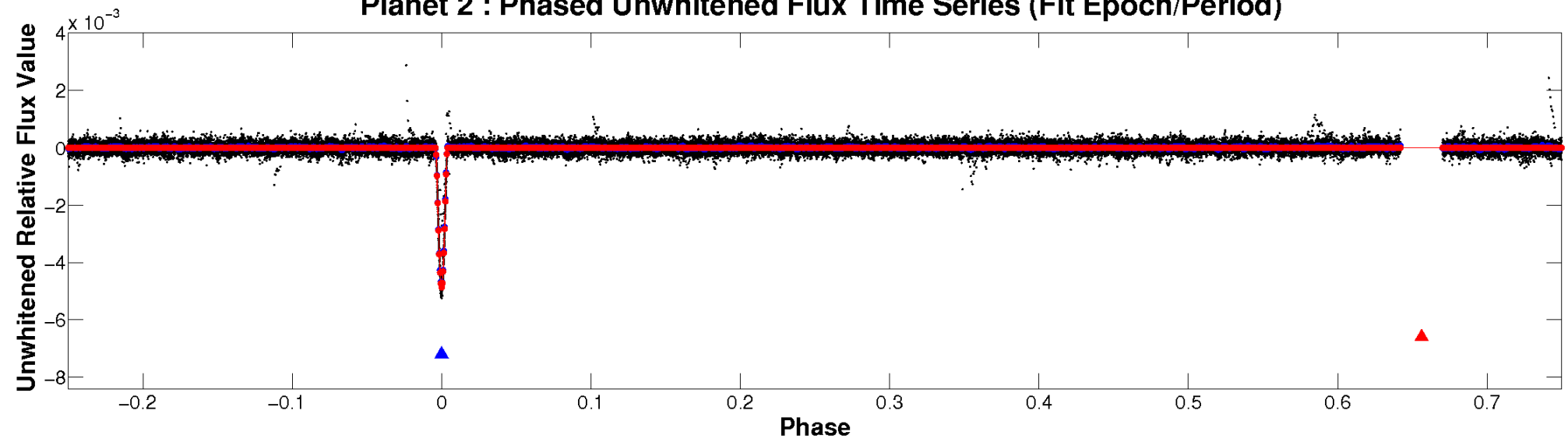
ALT Odd/Even

TCE 002693092-02

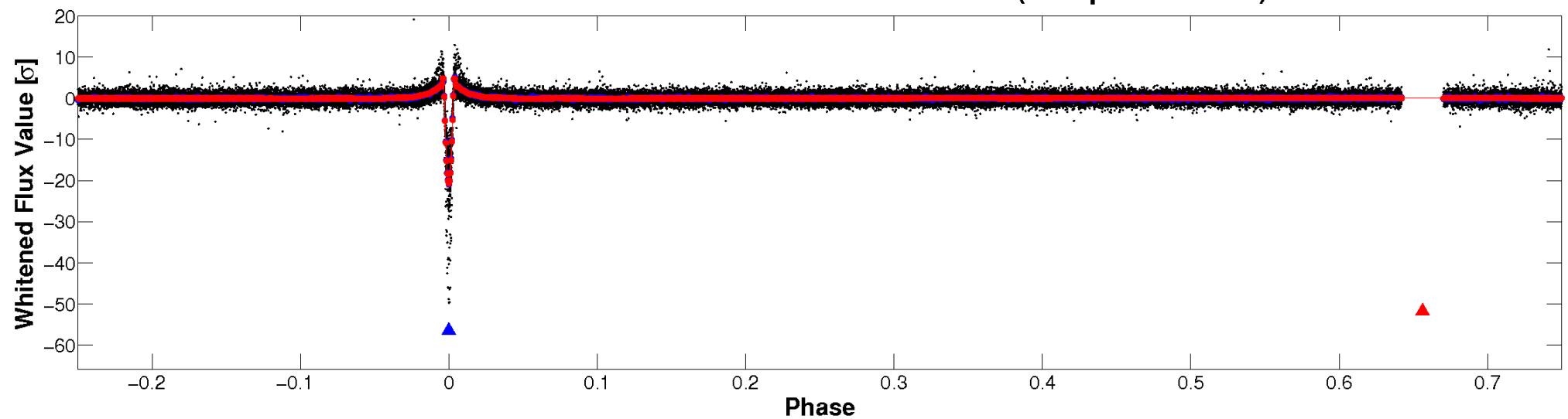


Non-Whitened Vs. Whitened Light Curve

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

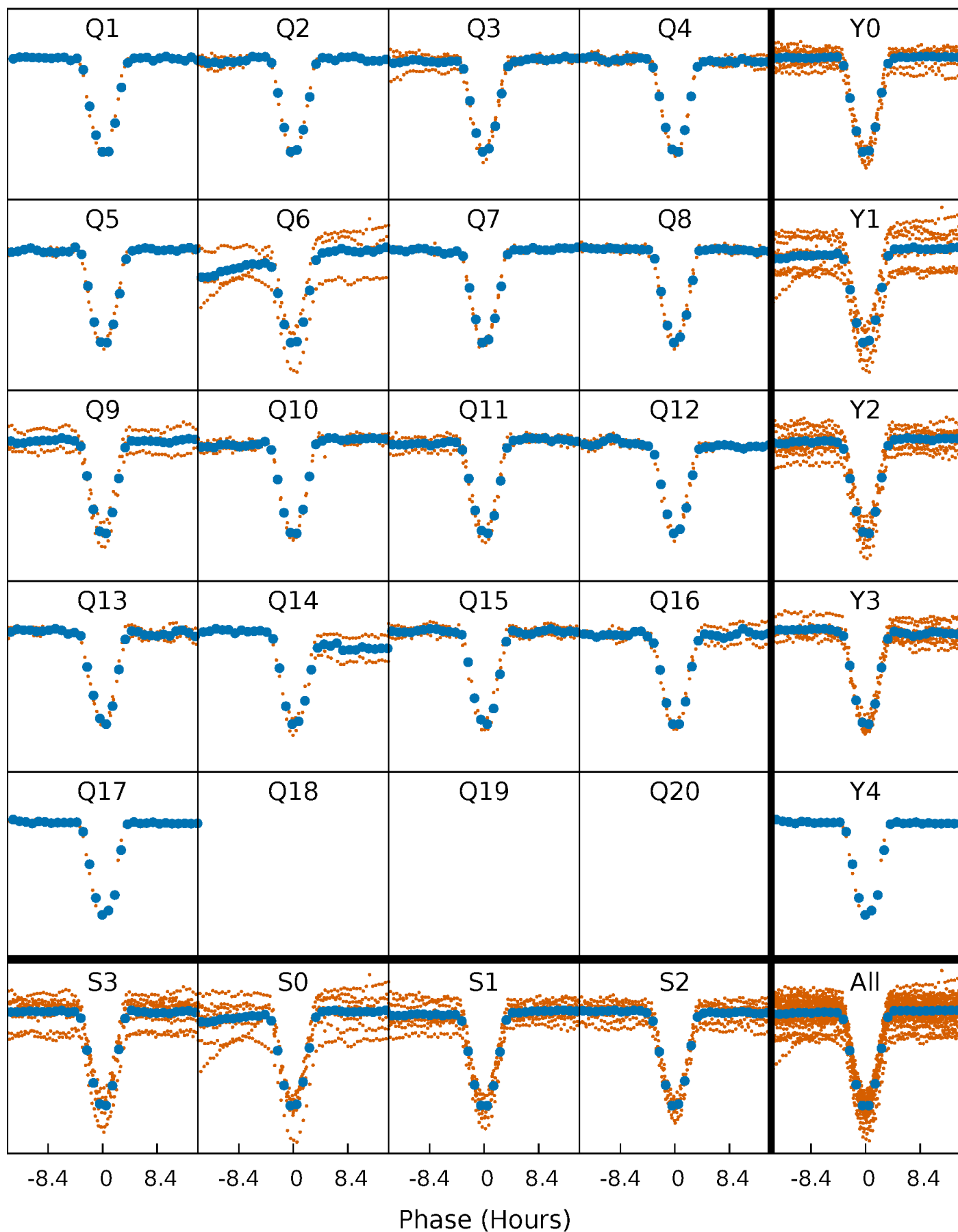


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



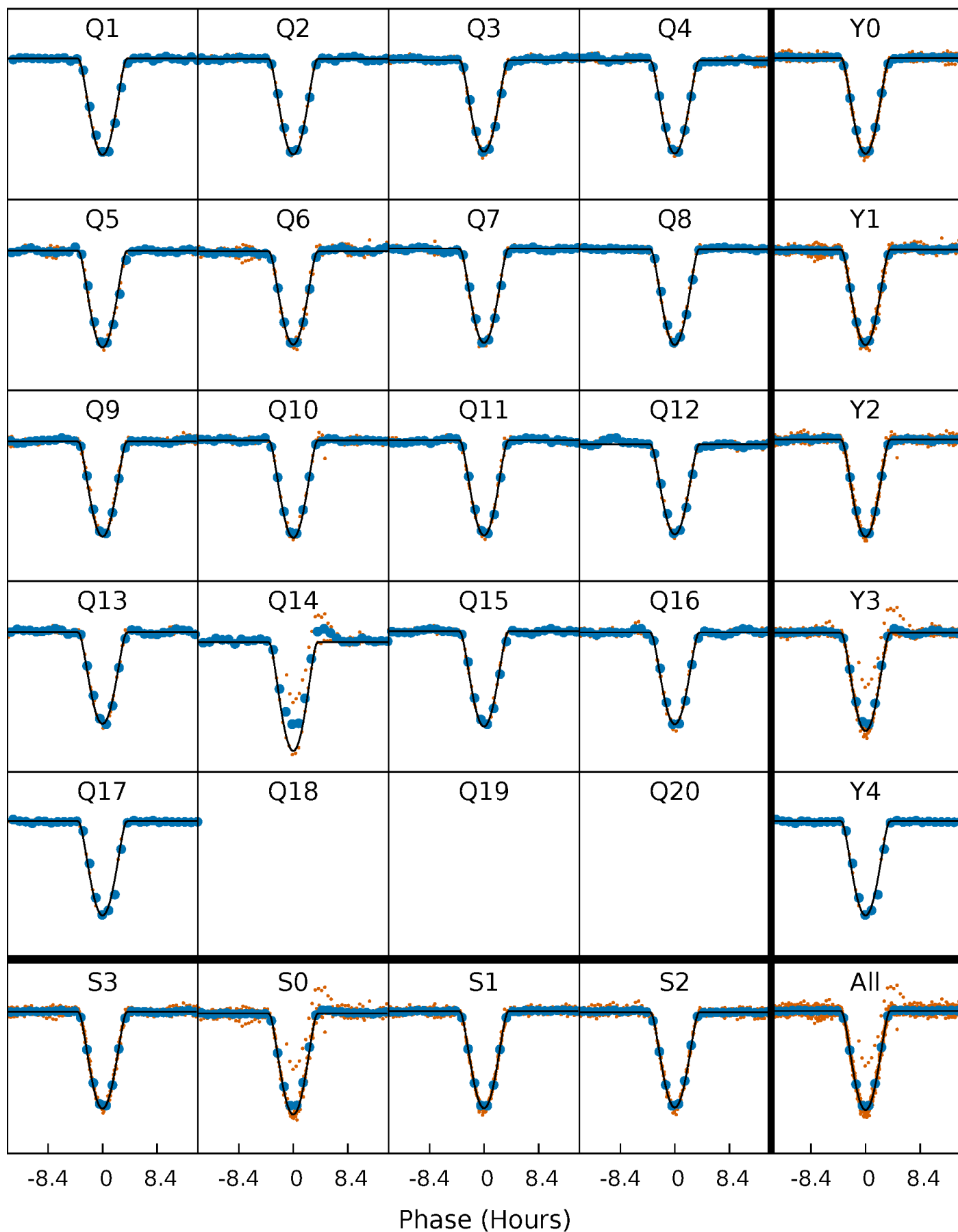
PDC Quarter-Phased Transit Curves

TCE 002693092-02 P= 39.841510 Days $T_0=141.996626$ (BKJD)



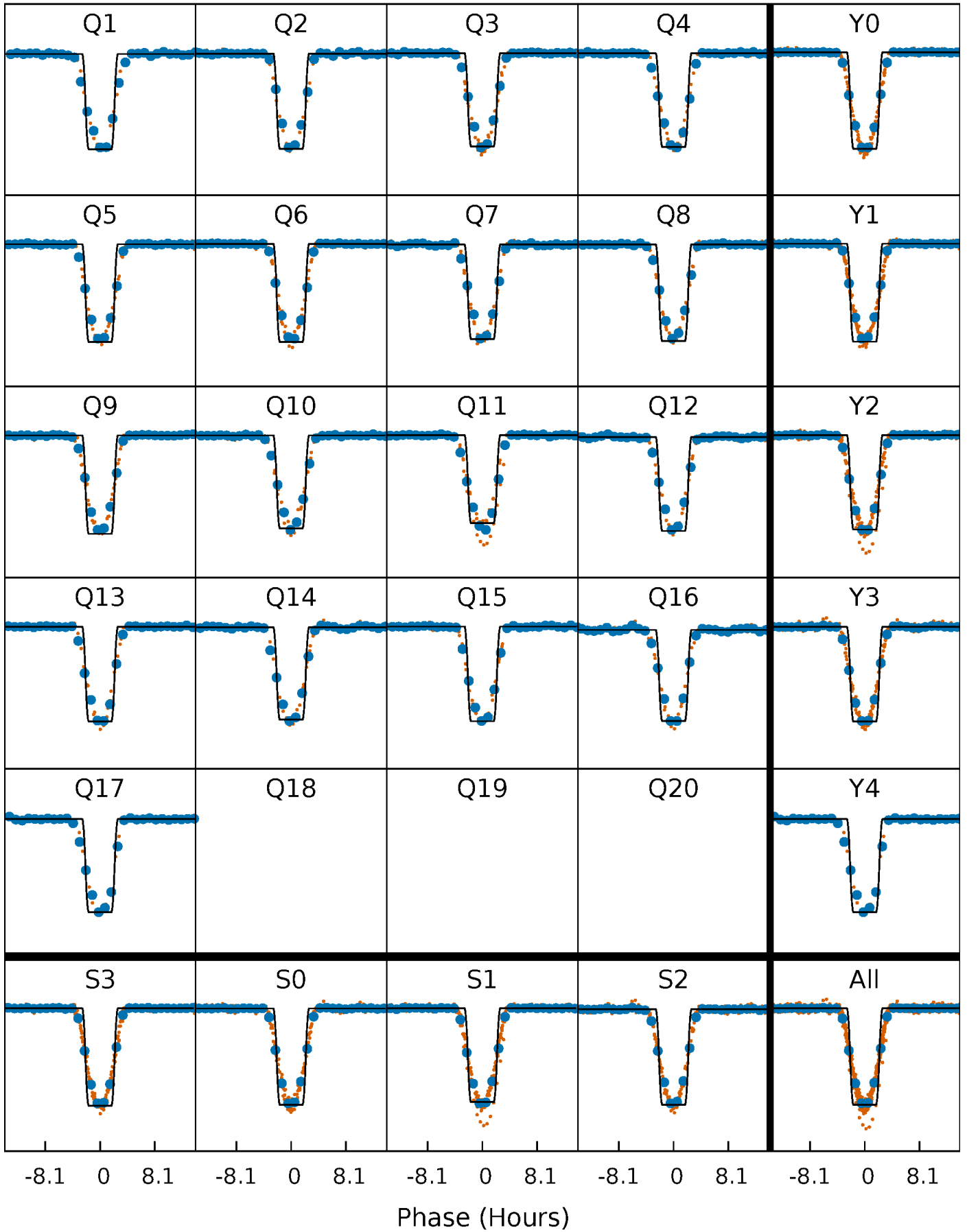
DV Quarter-Phased Transit Curves

TCE 002693092-02 P= 39.841510 Days $T_0=141.996626$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

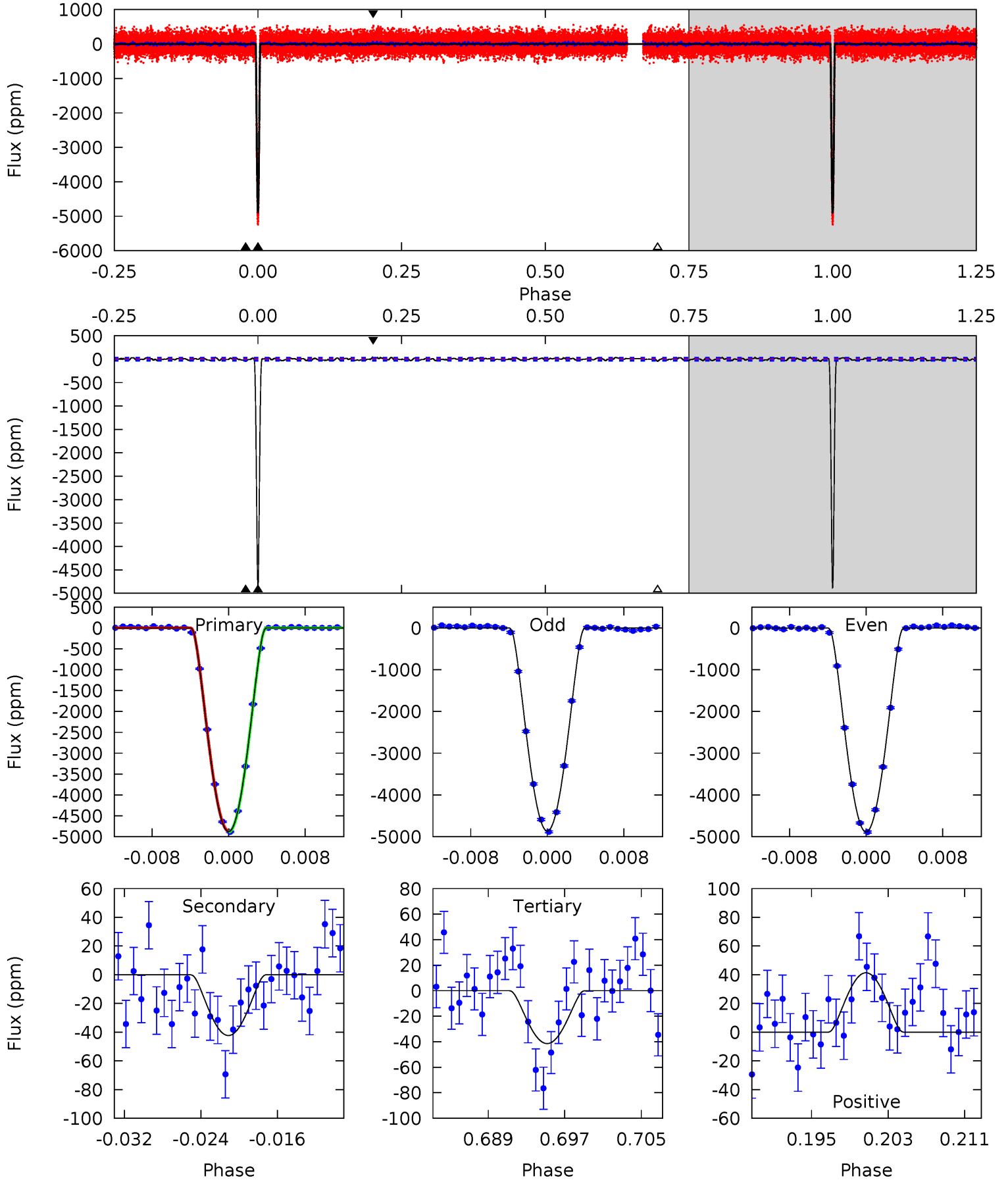
TCE 002693092-02 P= 39.841704 Days $T_0=141.993452$ (BKJD)



DV Model-Shift Uniqueness Test

002693092-02, P = 39.841510 Days, E = 102.155116 Days

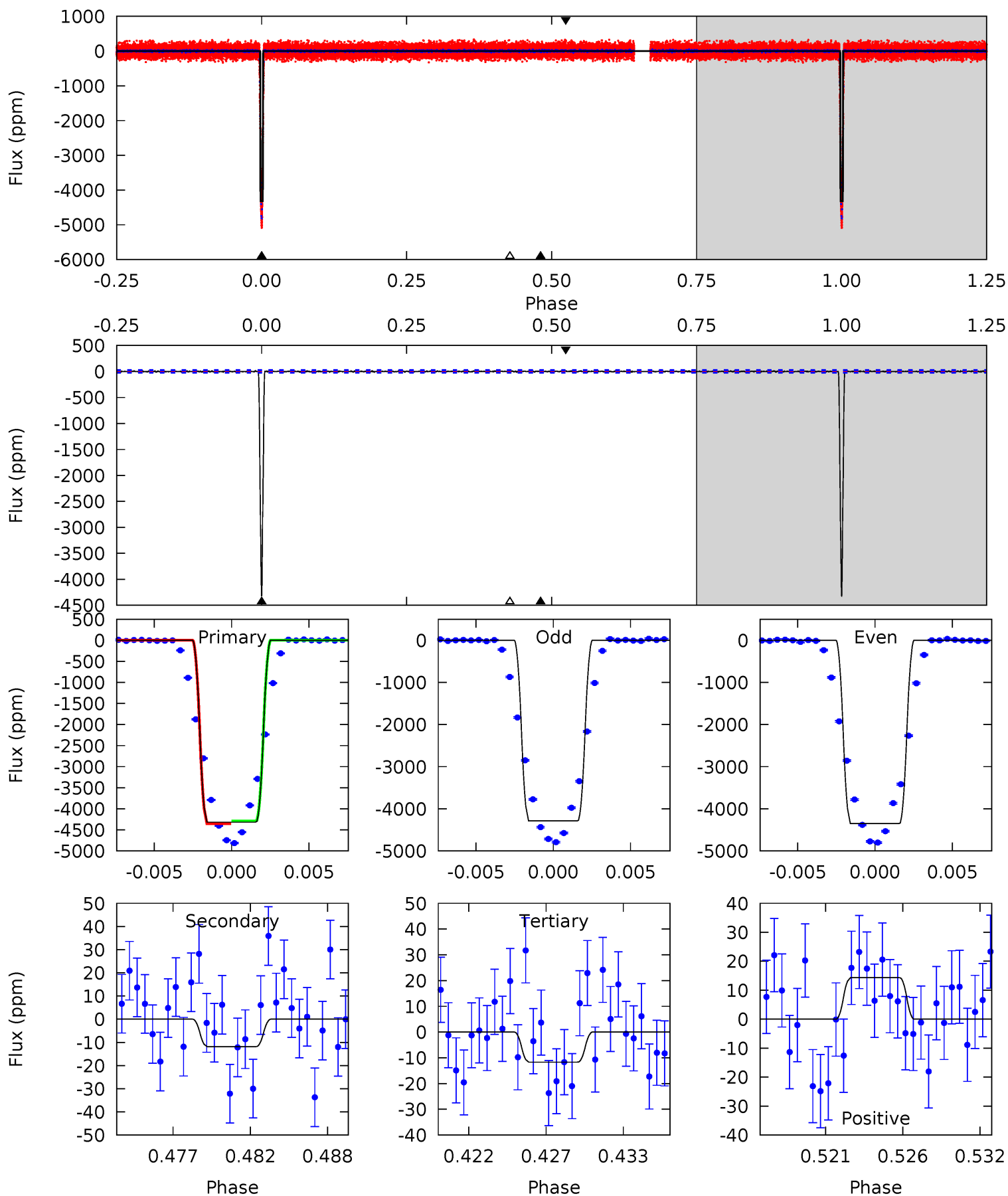
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
813.7	7.06	6.91	6.90	5.07	2.65	2.69	806.8	806.8	0.15	0.16	1.86	0.99	0.01	2.22



Alt Model-Shift Uniqueness Test

002693092-02, P = 39.841704 Days, E = 102.151748 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
896.9	2.46	2.42	2.97	5.14	2.78	0.83	894.4	893.9	0.03	-0.52	6.39	1.01	0.00	0



Stellar Parameters For KIC 002693092

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6078^{+164}_{-183}	$3.946^{+0.277}_{-0.111}$	$0.100^{+0.250}_{-0.250}$	$2.070^{+0.381}_{-0.708}$	$1.380^{+0.157}_{-0.292}$	$0.219^{+0.380}_{-0.076}$
	+3%/-3%	+7%/-3%	+250%/-250%	+18%/-34%	+11%/-21%	+173%/-35%
Source	PHO1	FLK73	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 002693092-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-42 ± 6	$25.77^{+3.98}_{-4.68}$	1057^{+67}_{-92}	2301^{+73}_{-75}	$2.266^{+1.037}_{-0.625}$
Alt.	-12 ± 5	$15.15^{+2.98}_{-3.36}$	1053^{+69}_{-91}	2233^{+149}_{-165}	$1.865^{+1.352}_{-0.853}$

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

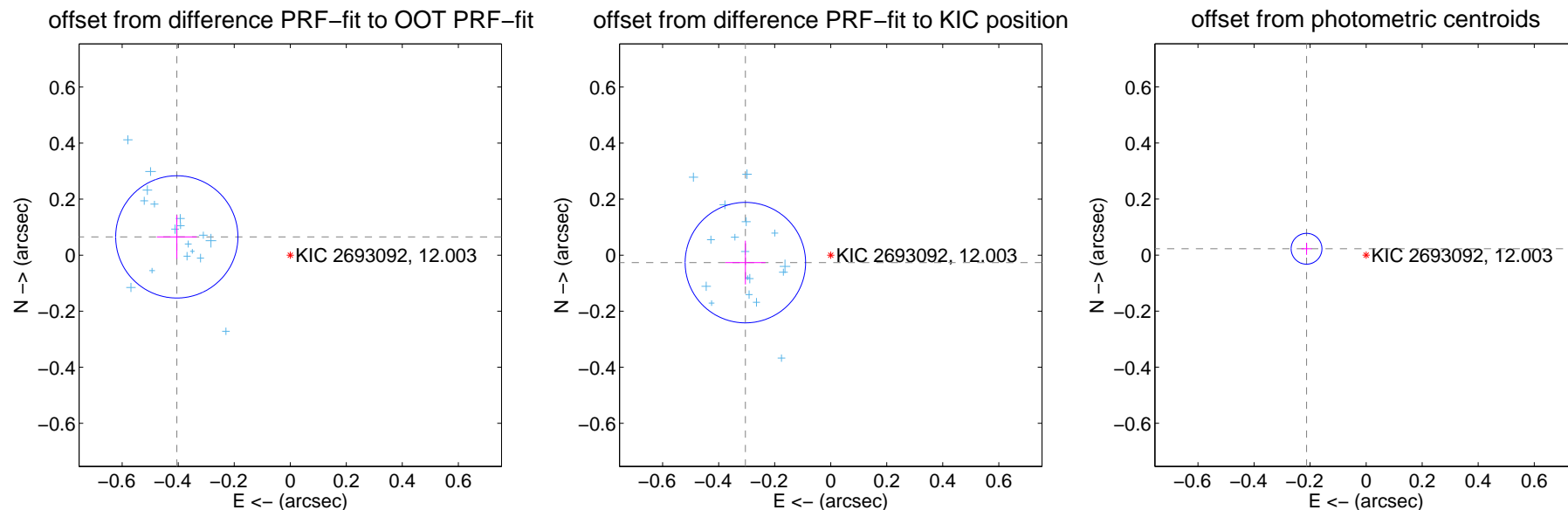
DV Centroid Data

Supplemental centroid analysis for 002693092-02. Kepler magnitude: 12.00. Transit SNR 327.84

There are 17 quarters with good PRF difference image offsets

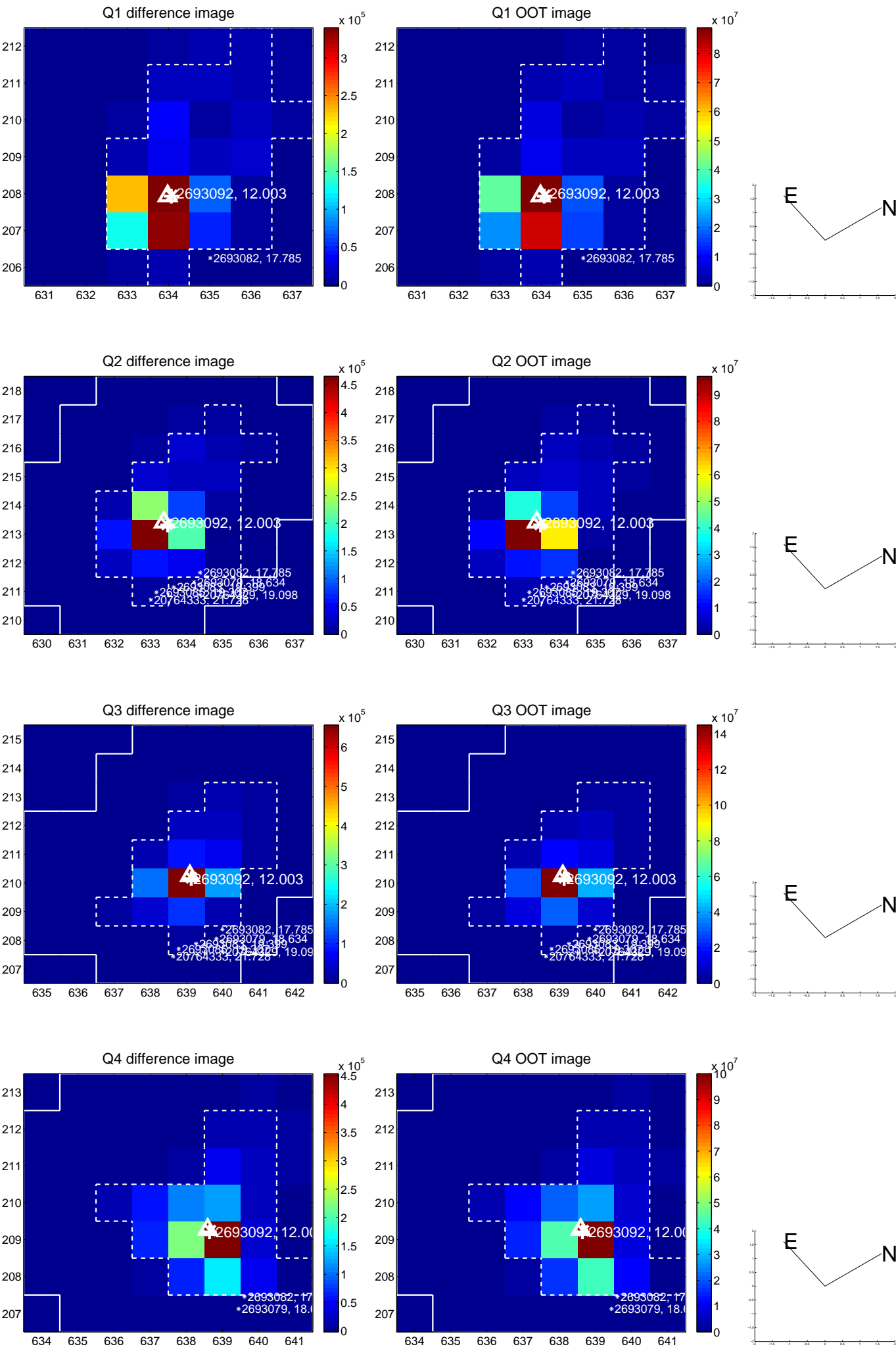
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.410 ± 0.073	5.64	0.405 ± 0.071	0.065 ± 0.077
PRF-fit source offset from KIC position	0.306 ± 0.072	4.27	0.305 ± 0.072	-0.027 ± 0.078
photometric centroid source offset	0.21 ± 0.02	11.67	0.21 ± 0.02	0.02 ± 0.02

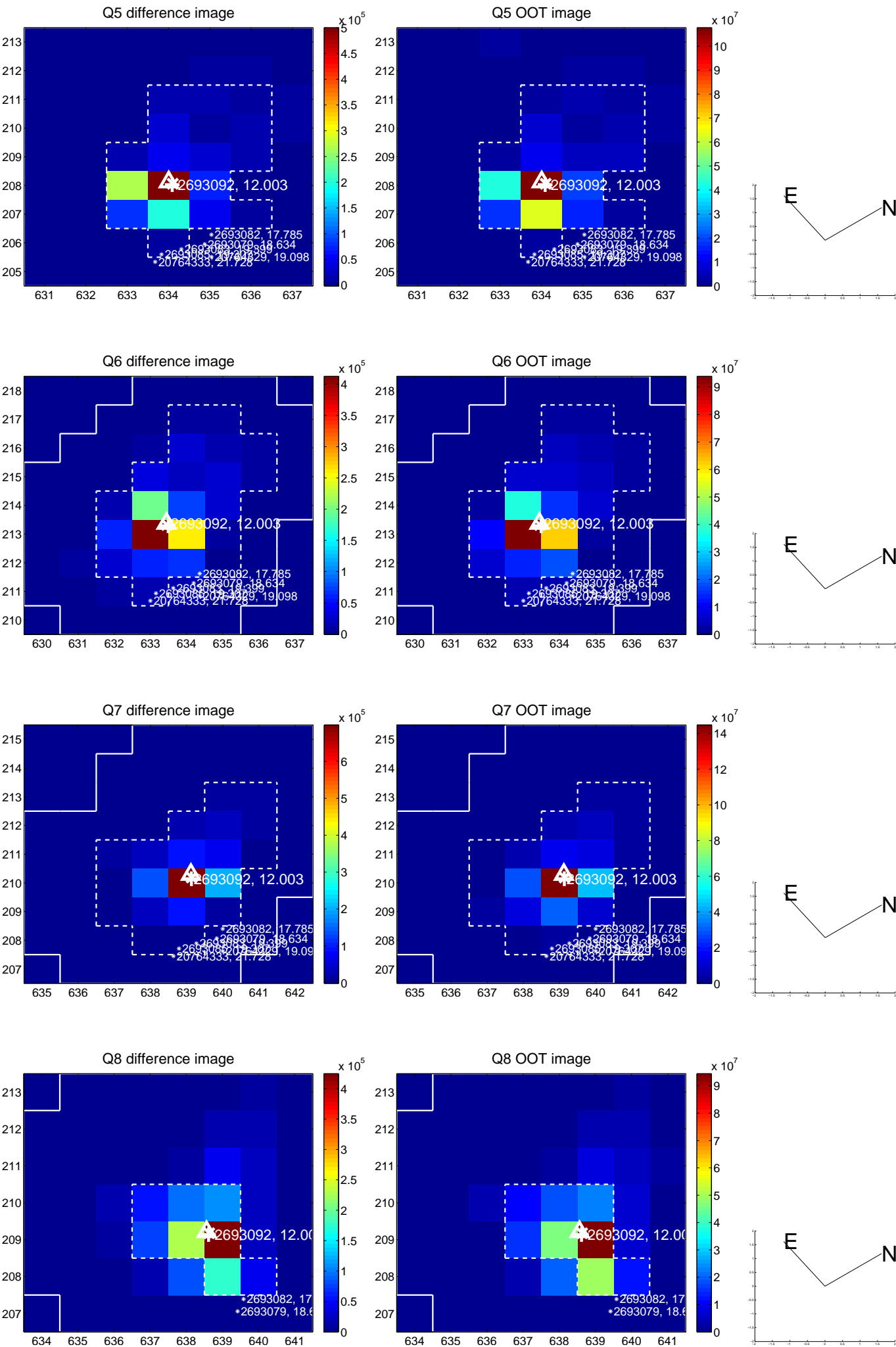


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

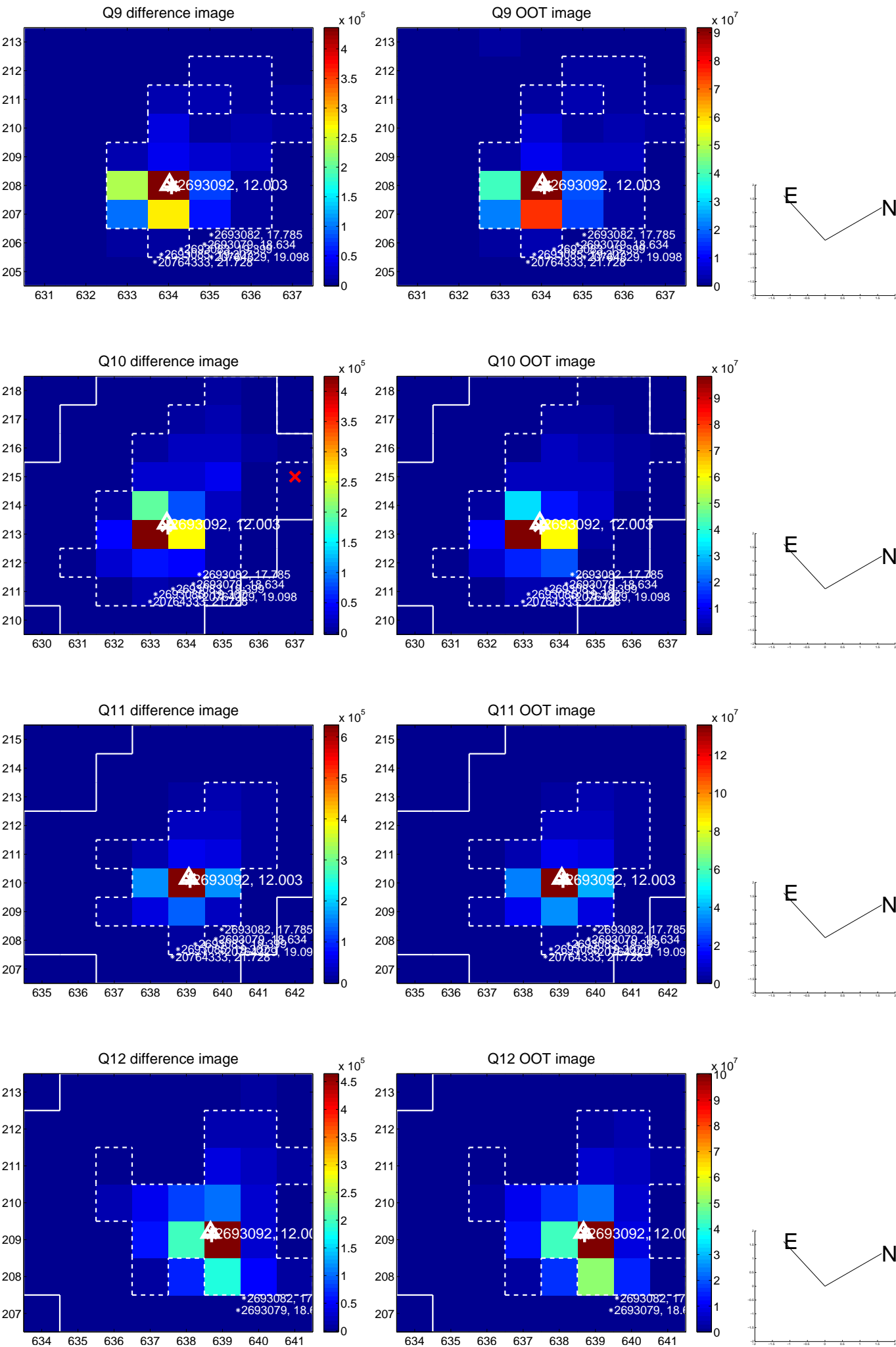
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



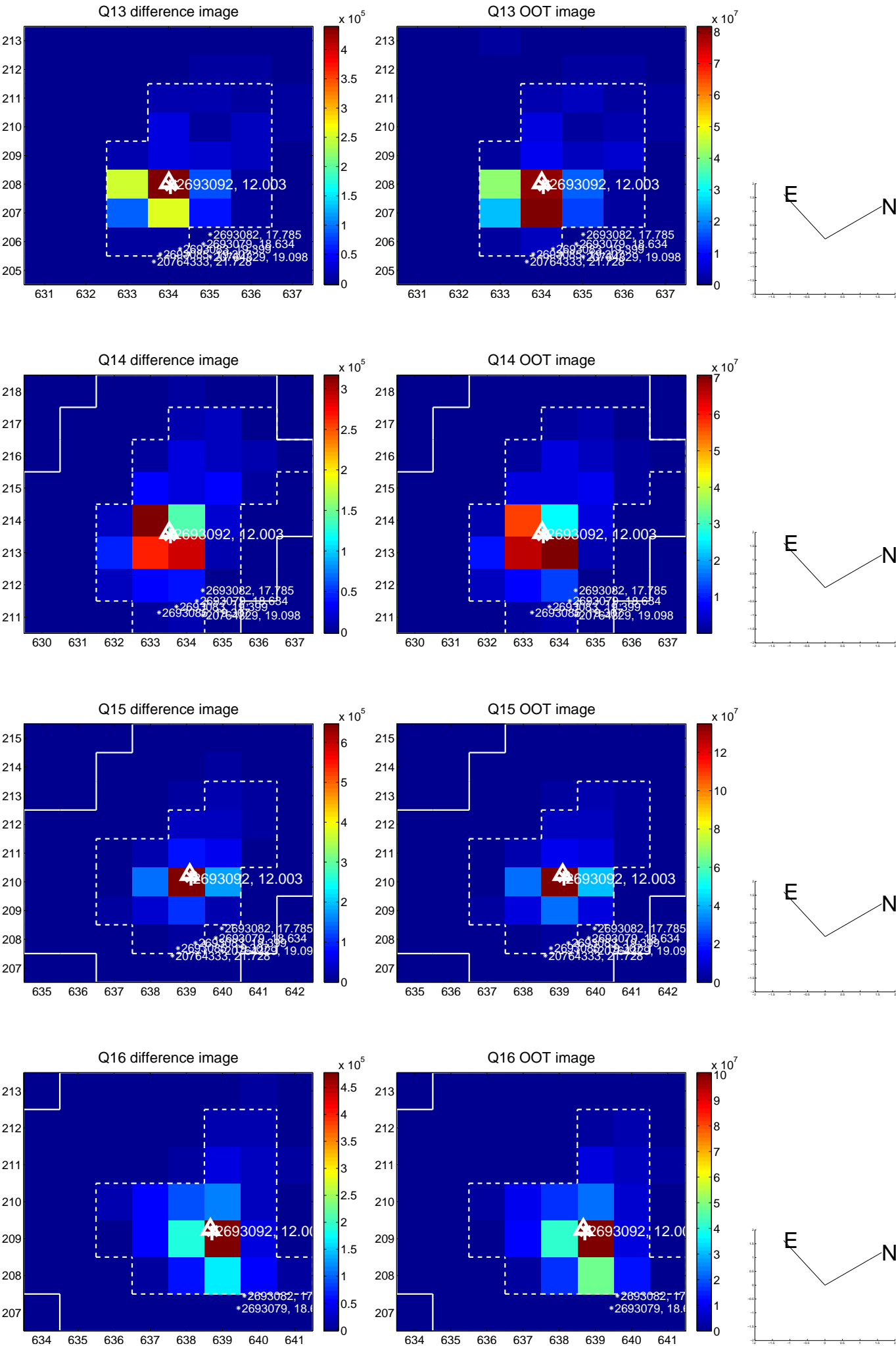
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



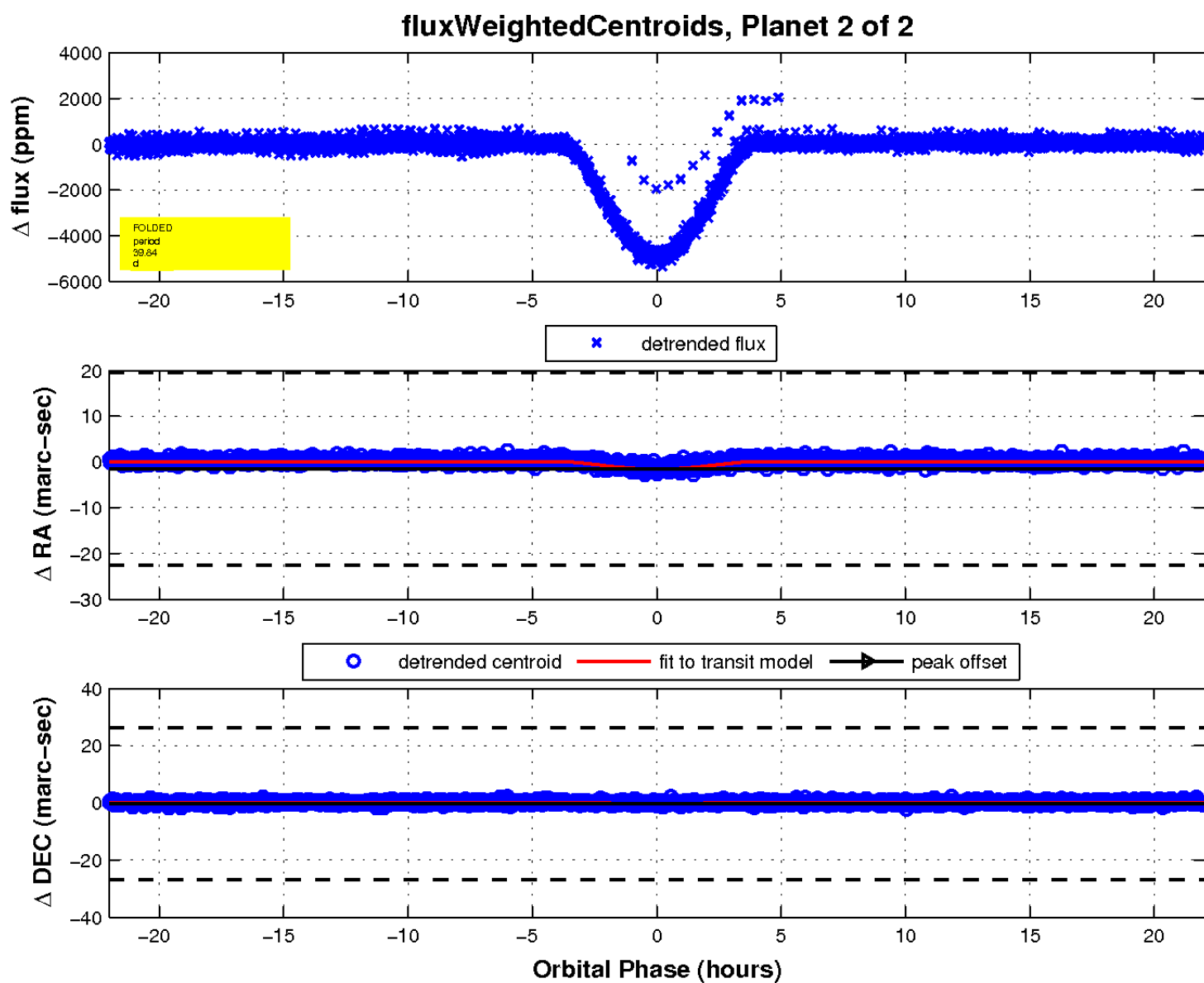
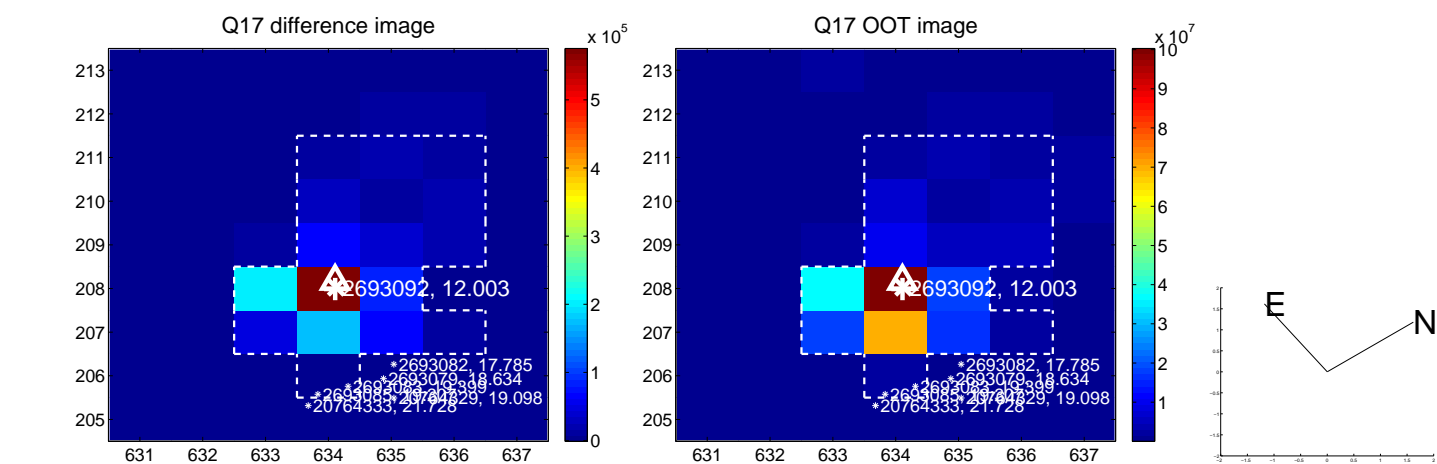
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

