

KIC 005343976

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})
005343976-01	OBS	6565.01	4.331393	134.727414	201321.5	3.729	22089.1	13238.4	0.85	5655	38.96	289.35
005343976-02	OBS	No	4.331390	132.562369	9657.3	3.582	1237.6	1214.5	0.85	5655	9.62	289.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005343976-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005343976-02	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.

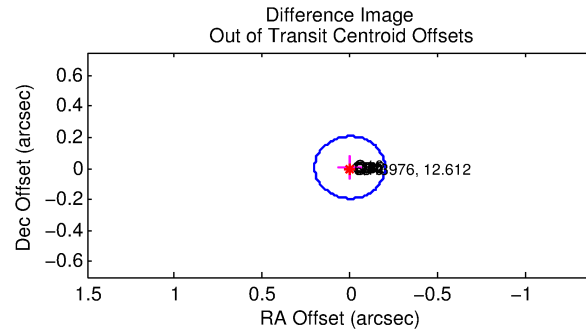
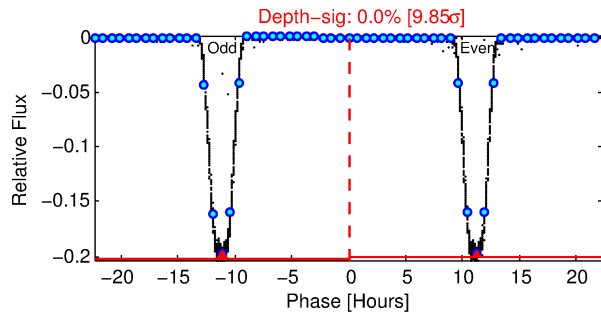
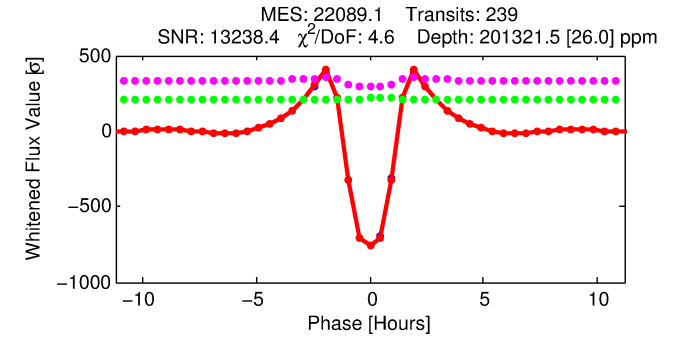
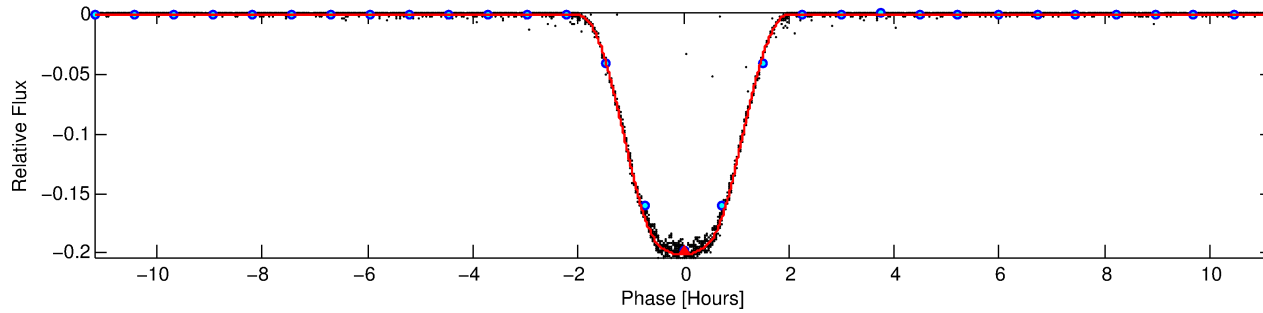
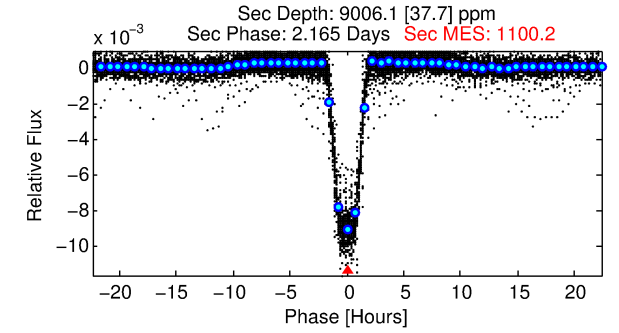
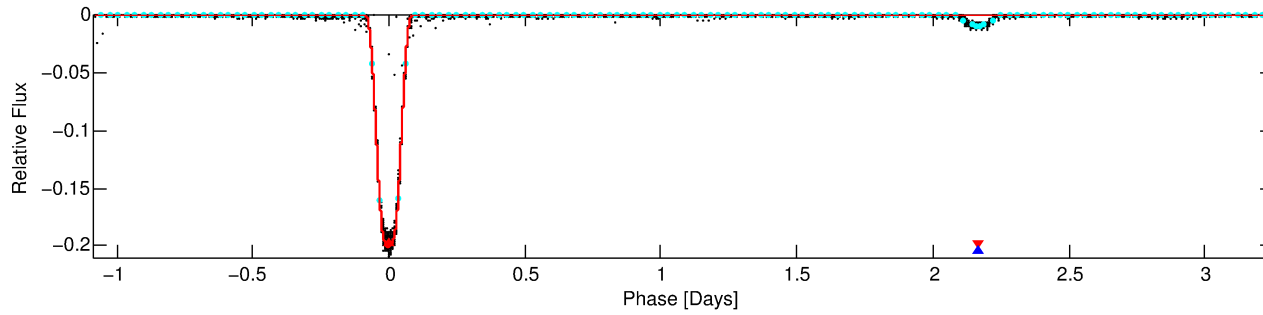
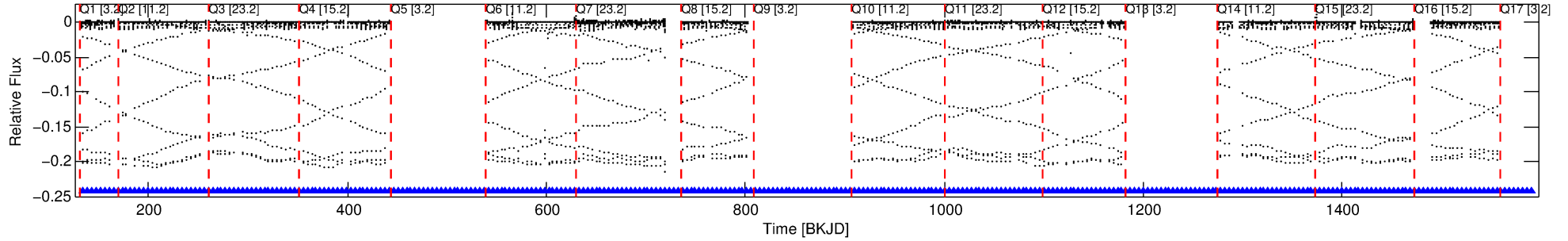
Ephemeris Match Information For 005343976-01

No Significant Match Found

DV One-Page Summary

KIC: 5343976 Candidate: 1 of 2 Period: 4.331 d
KOI: K06565.01 Corr: 0.999

Kp: 12.61 R*: 0.85 Rs Teff: 5655.0 K Logg: 4.47 Fe/H: -0.440



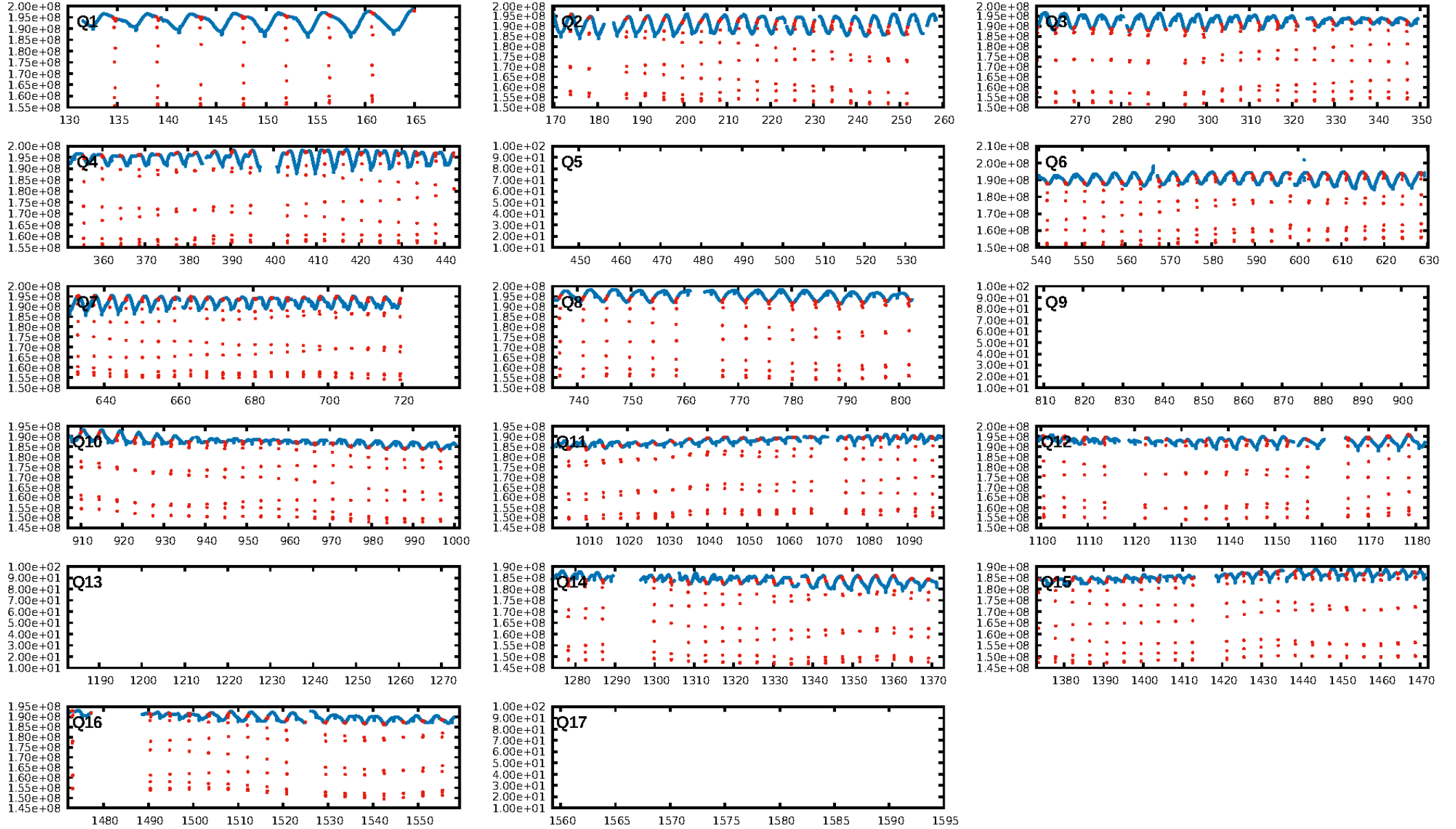
DV Fit Results:

Period = 4.33139 [0.00000] d
Epoch = 134.7274 [0.0000] BKJD
Rp/R* = 0.4180 [0.0000]
a/R* = 12.31 [0.00]
b = 0.31 [0.00]
Seff = 289.35 [92.99]
Teff = 1052 [84] K
Rp = 38.96 [9.08] Re
a = 0.0481 [0.0096] AU
Ag = 7.54 [2.21] [2.96σ]
Teffp = 2694 [89] K [13.41σ]

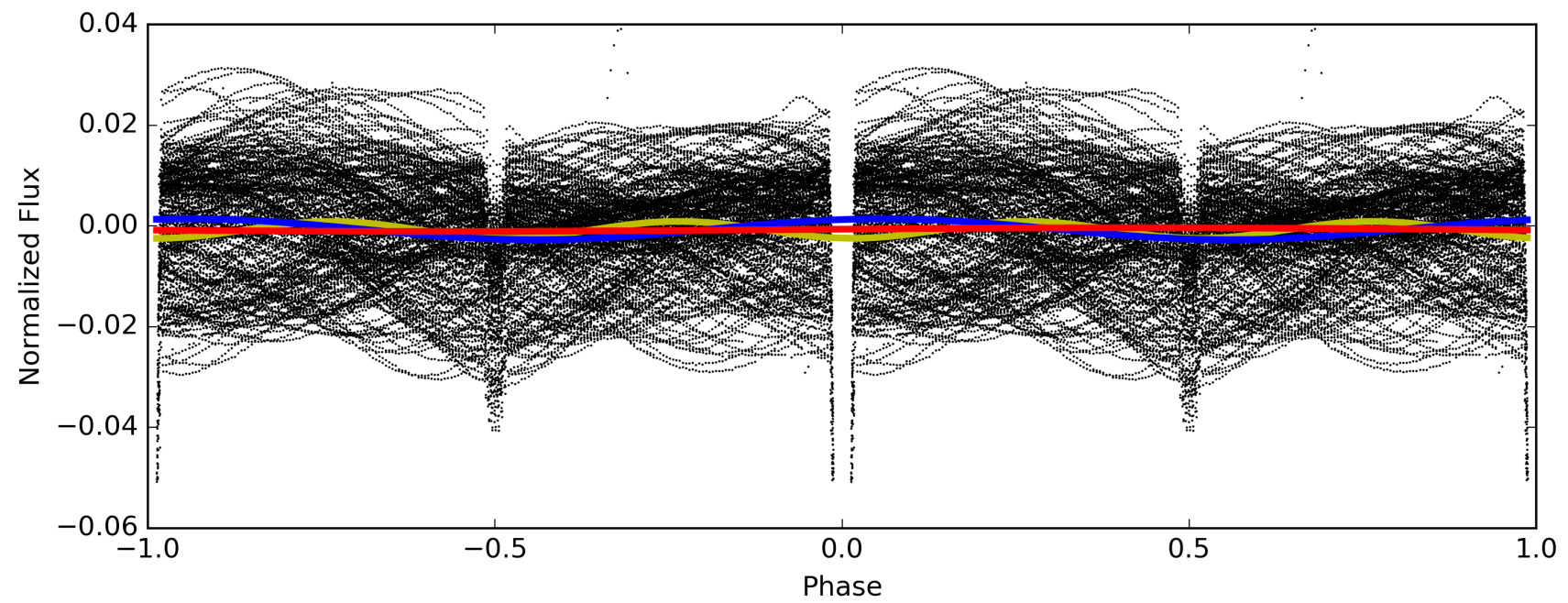
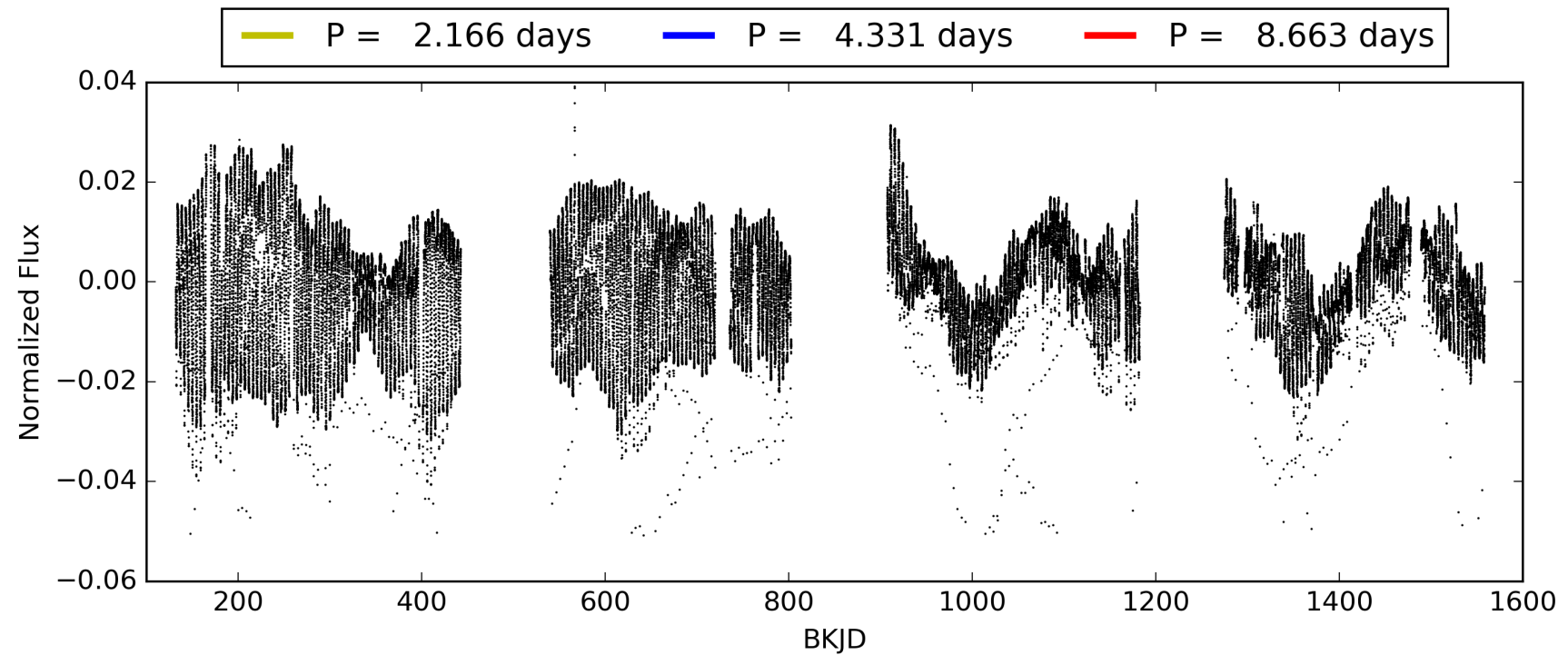
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [231/231]
GhostDiagnostic-chr: 1.965
Centroid-sig: 0.0%
Centroid-so: 0.112 arcsec [340.72σ]
OotOffset-rm: 0.007 arcsec [0.11σ]
KicOffset-rm: 0.167 arcsec [2.41σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 005343976-01, PDC Light Curves

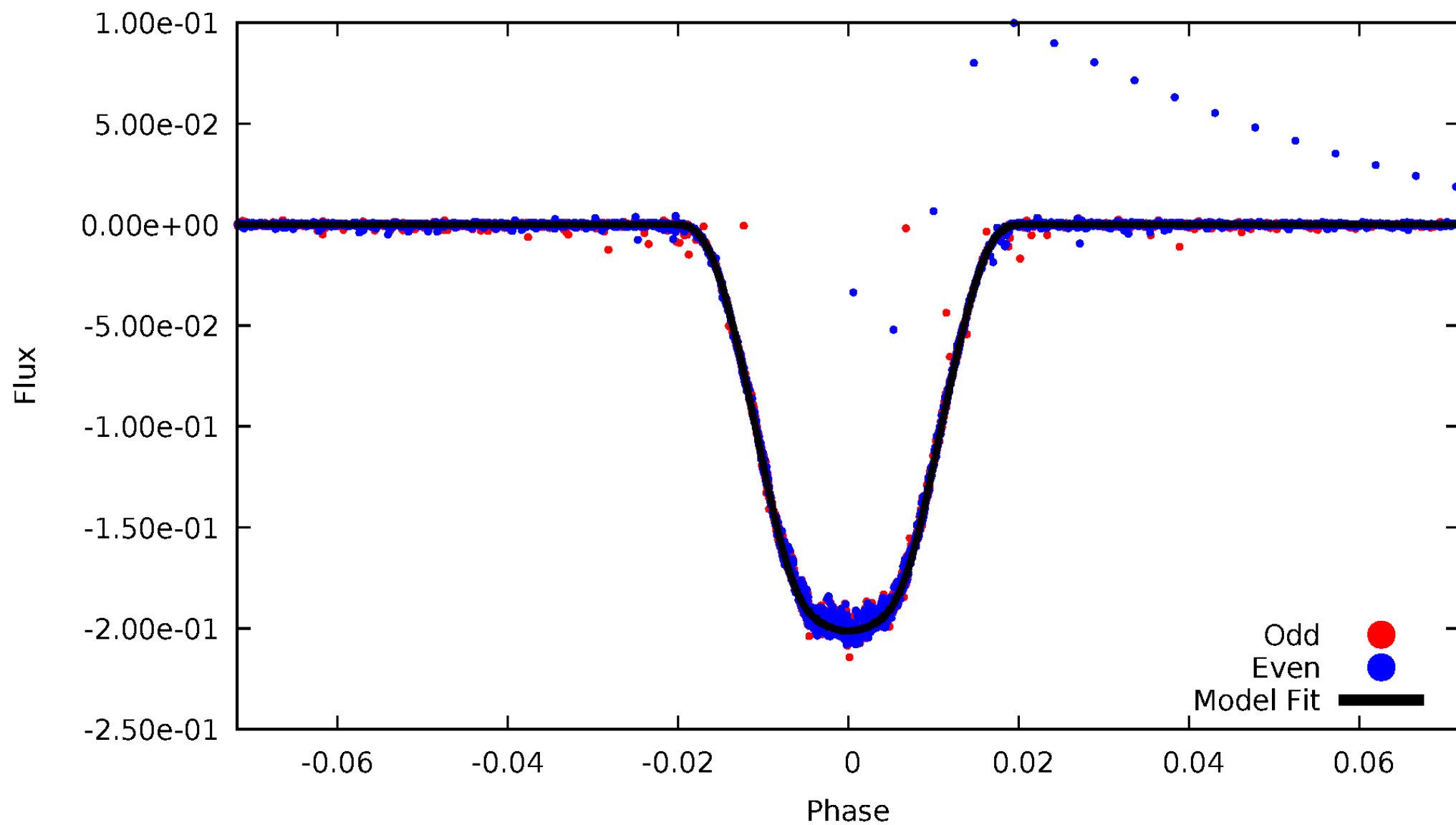


TCE 005343976-01



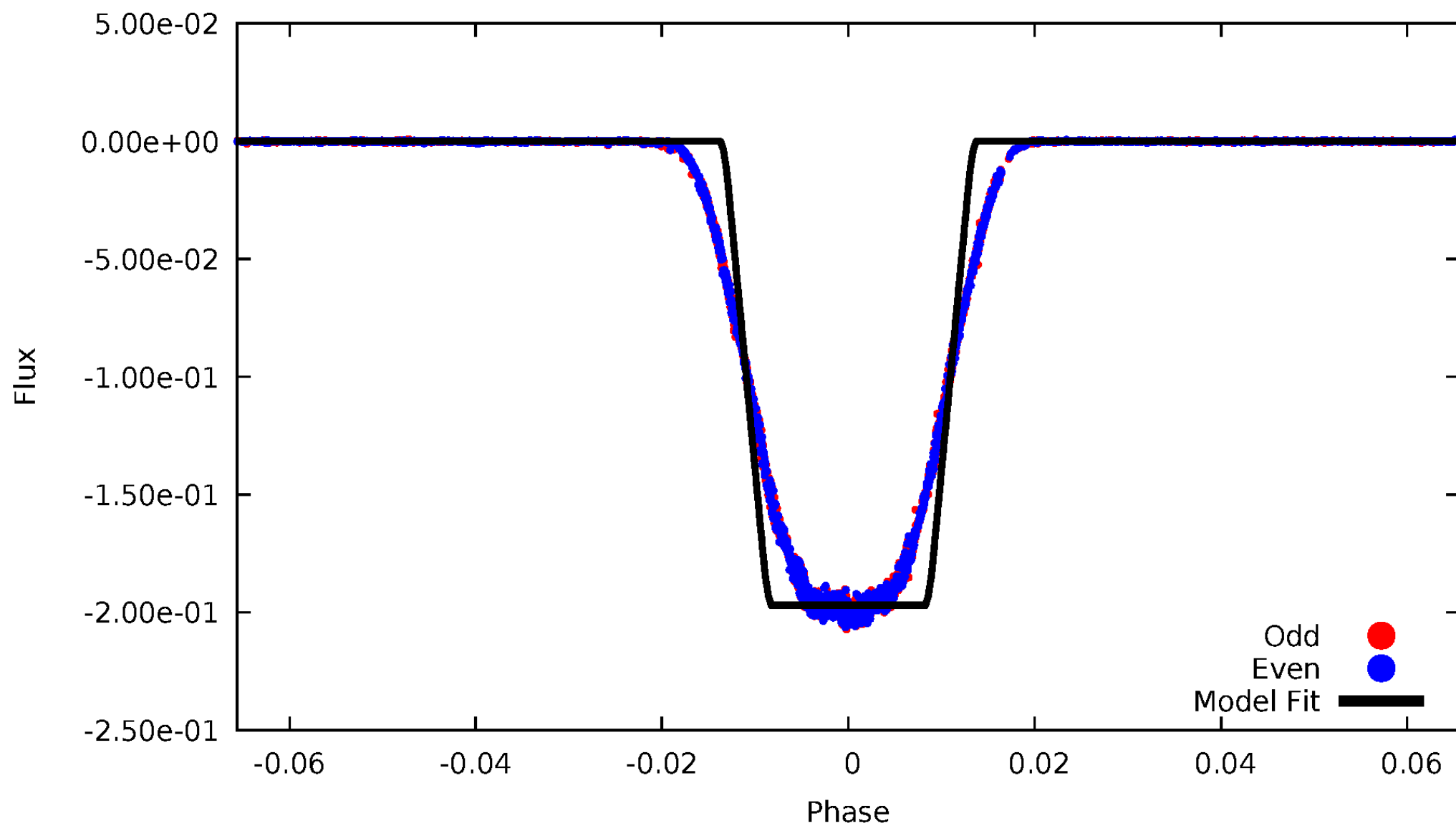
DV Odd/Even

TCE 005343976-01



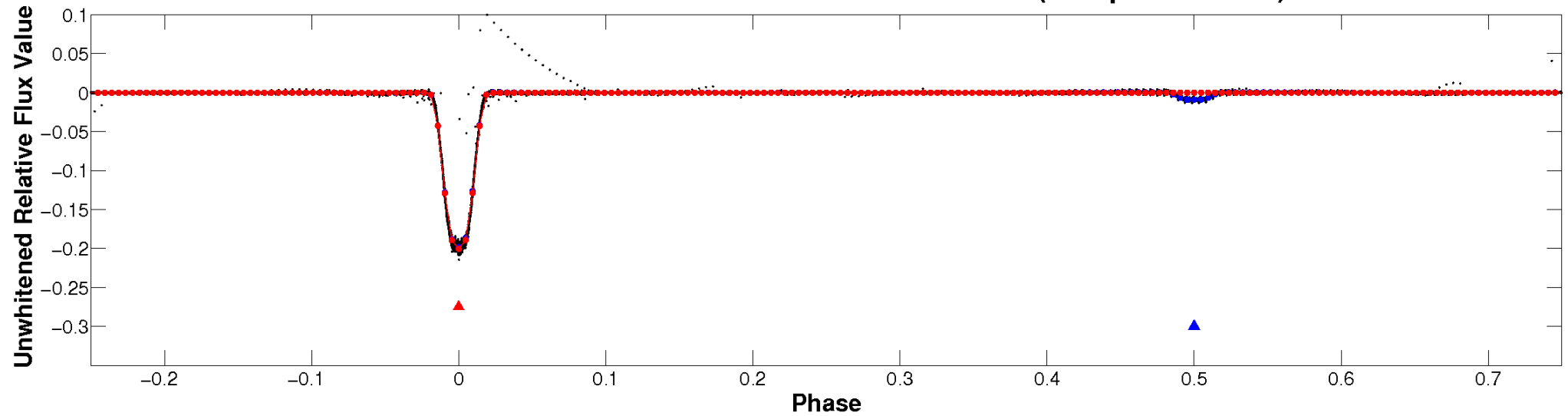
ALT Odd/Even

TCE 005343976-01

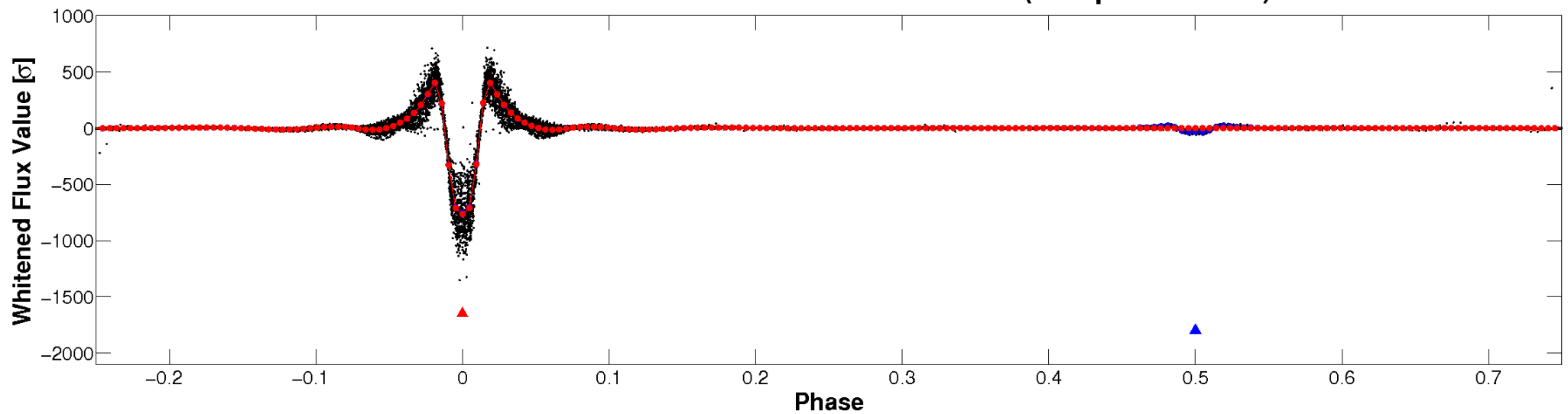


Non-Whitened Vs. Whitened Light Curve

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

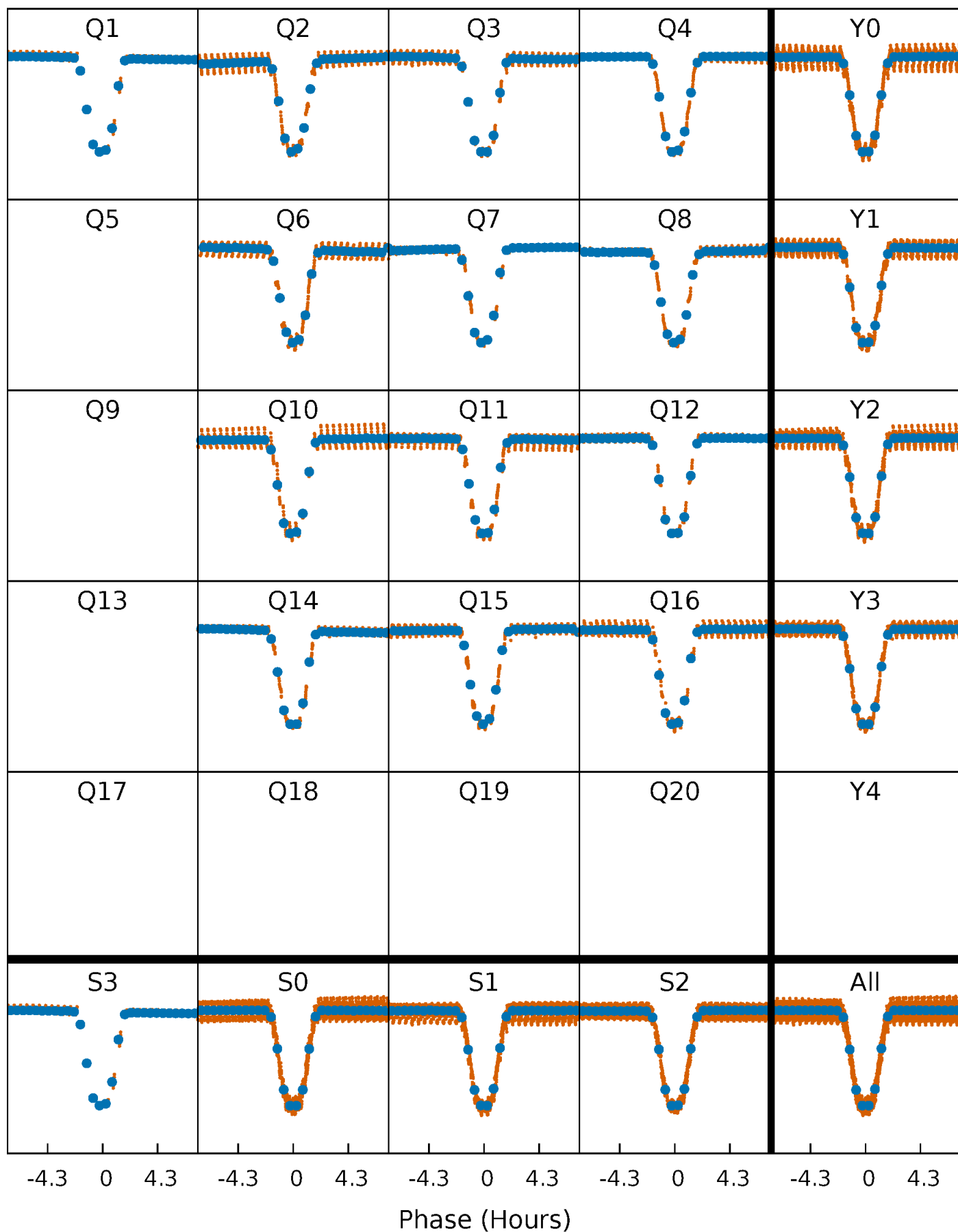


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



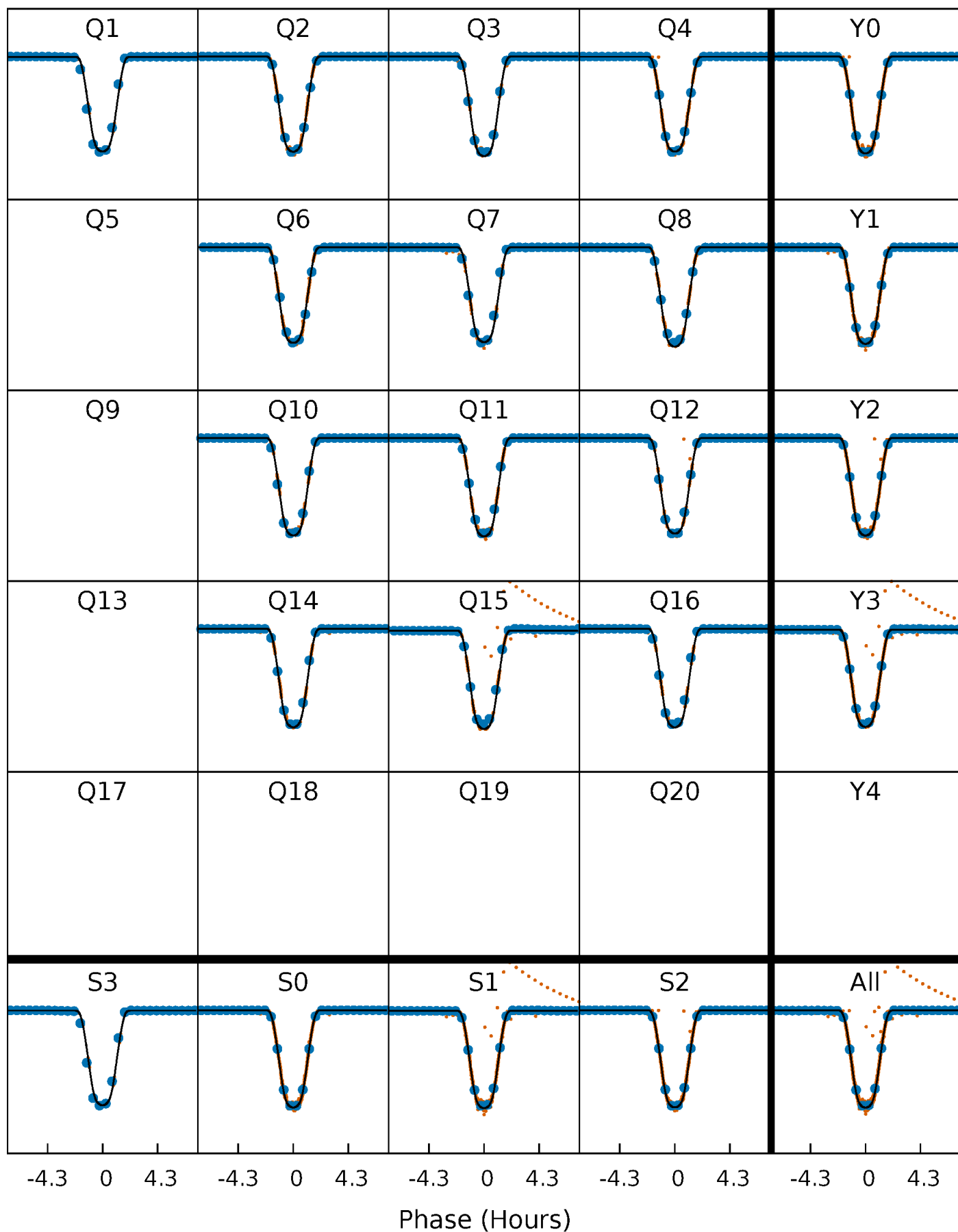
PDC Quarter-Phased Transit Curves

TCE 005343976-01 P= 4.331393 Days $T_0=134.727414$ (BKJD)



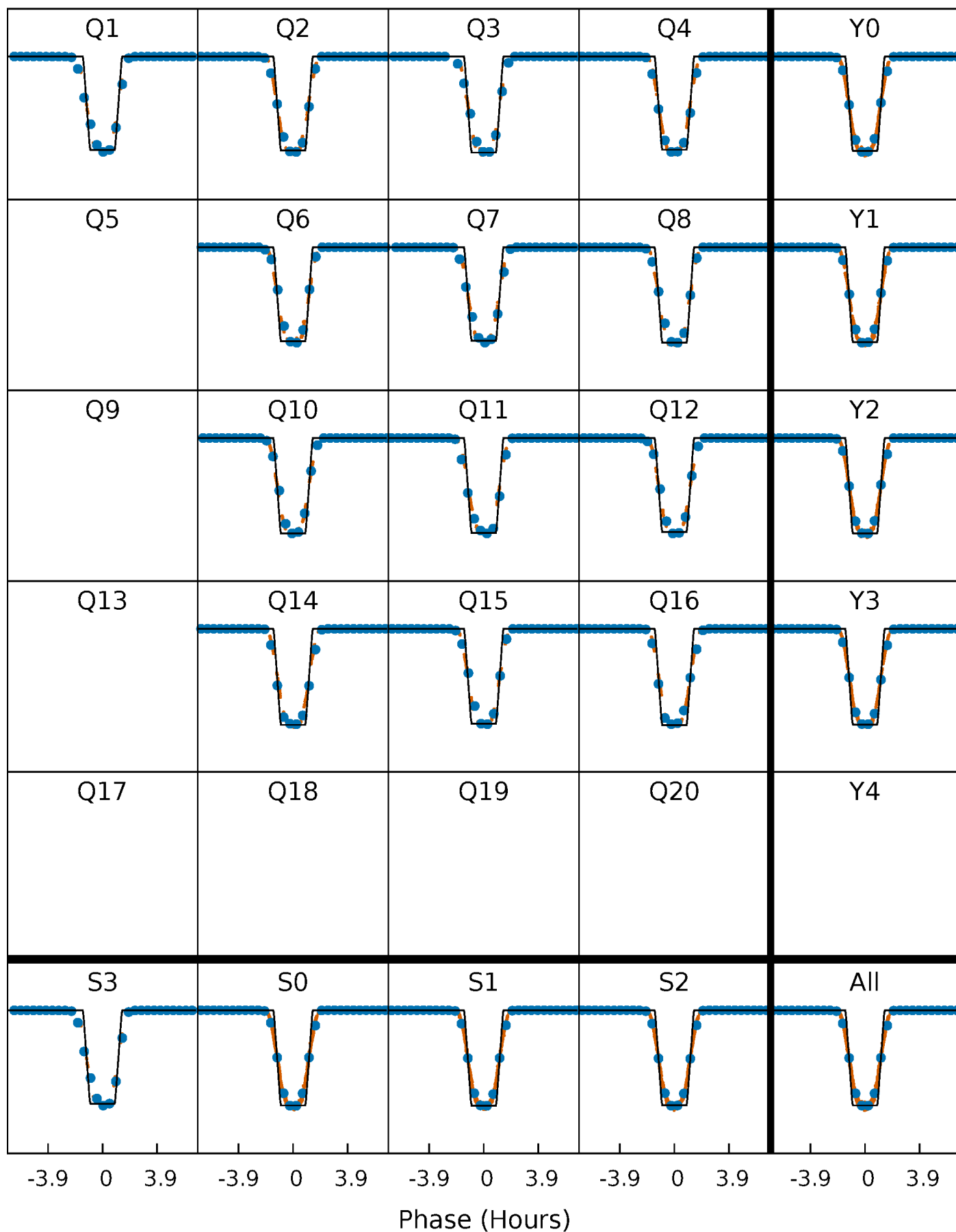
DV Quarter-Phased Transit Curves

TCE 005343976-01 P= 4.331393 Days $T_0=134.727414$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

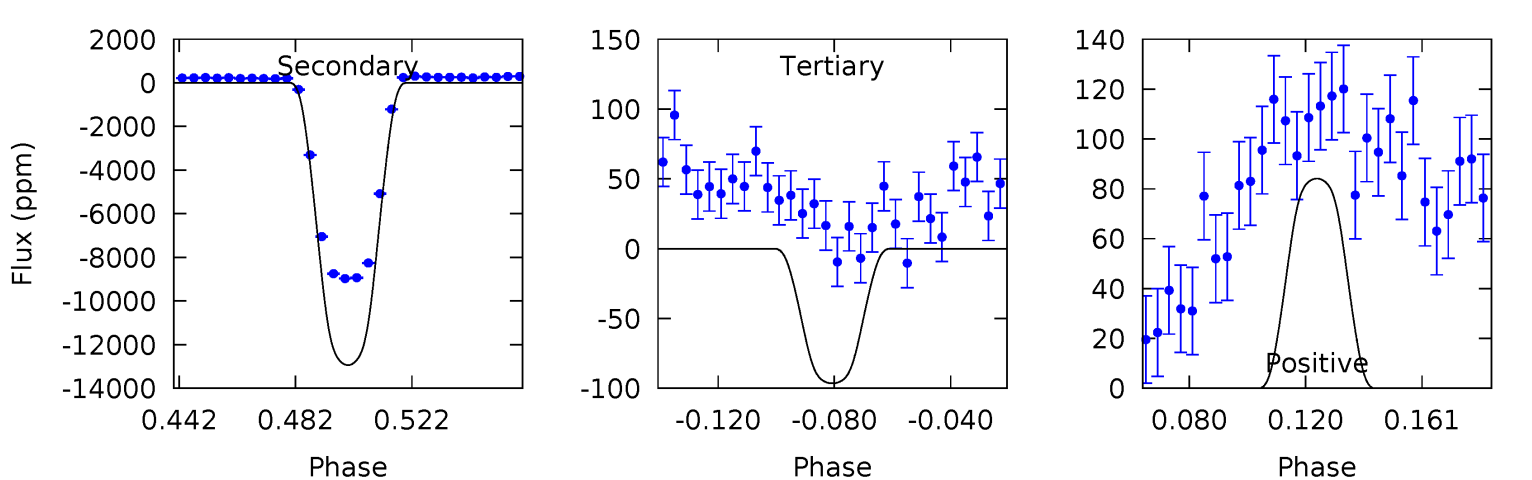
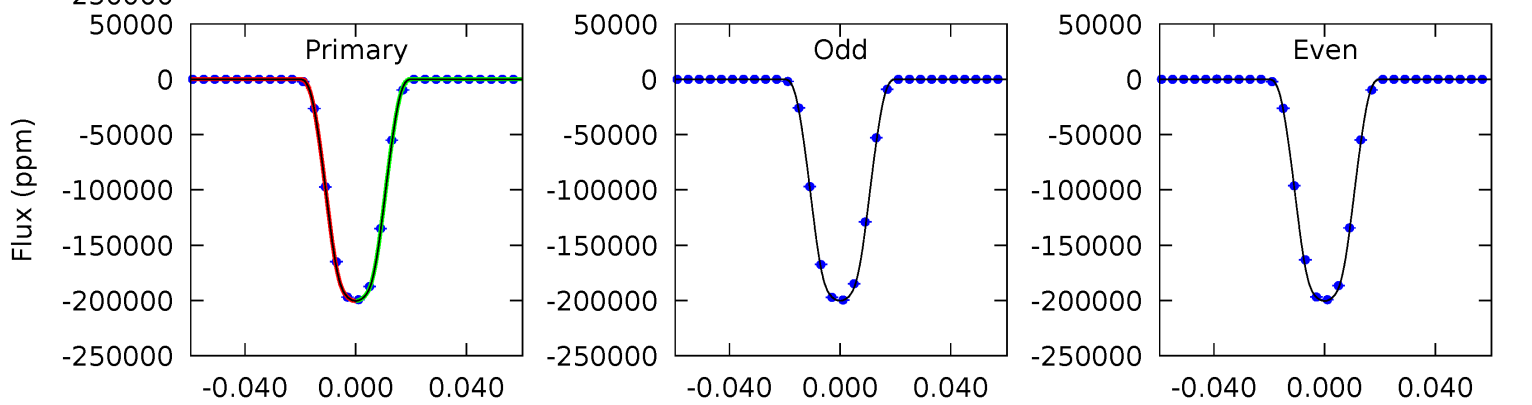
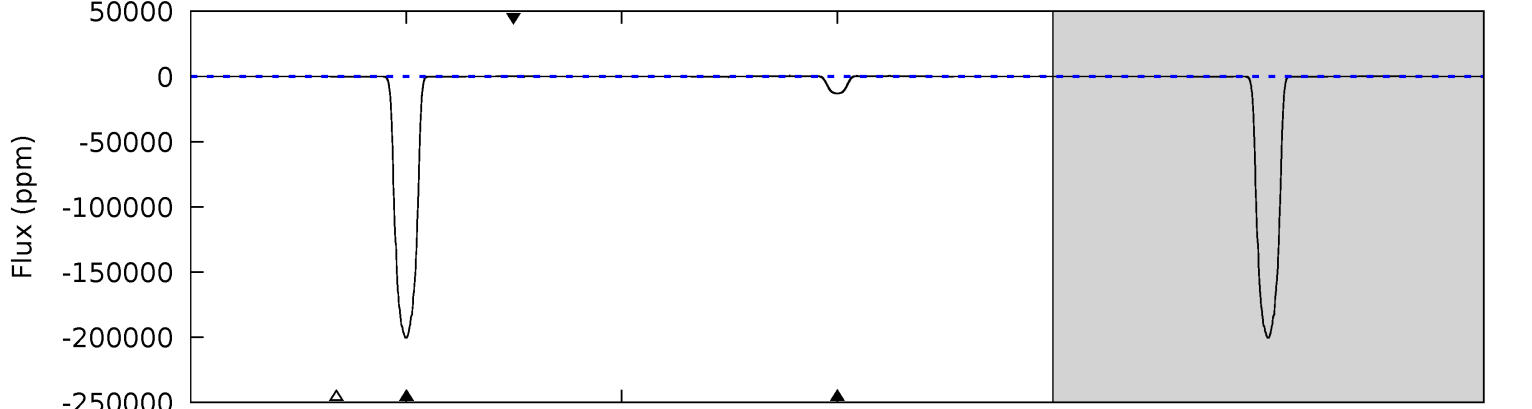
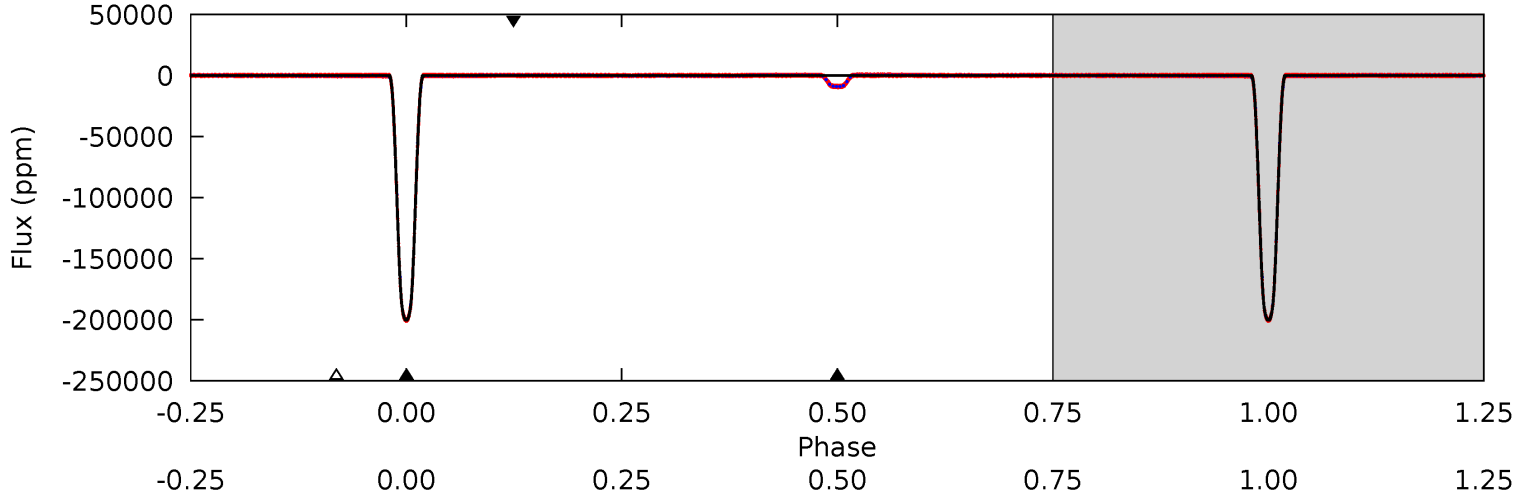
TCE 005343976-01 P= 4.331389 Days $T_0=134.728035$ (BKJD)



DV Model-Shift Uniqueness Test

005343976-01, P = 4.331393 Days, E = 130.396021 Days

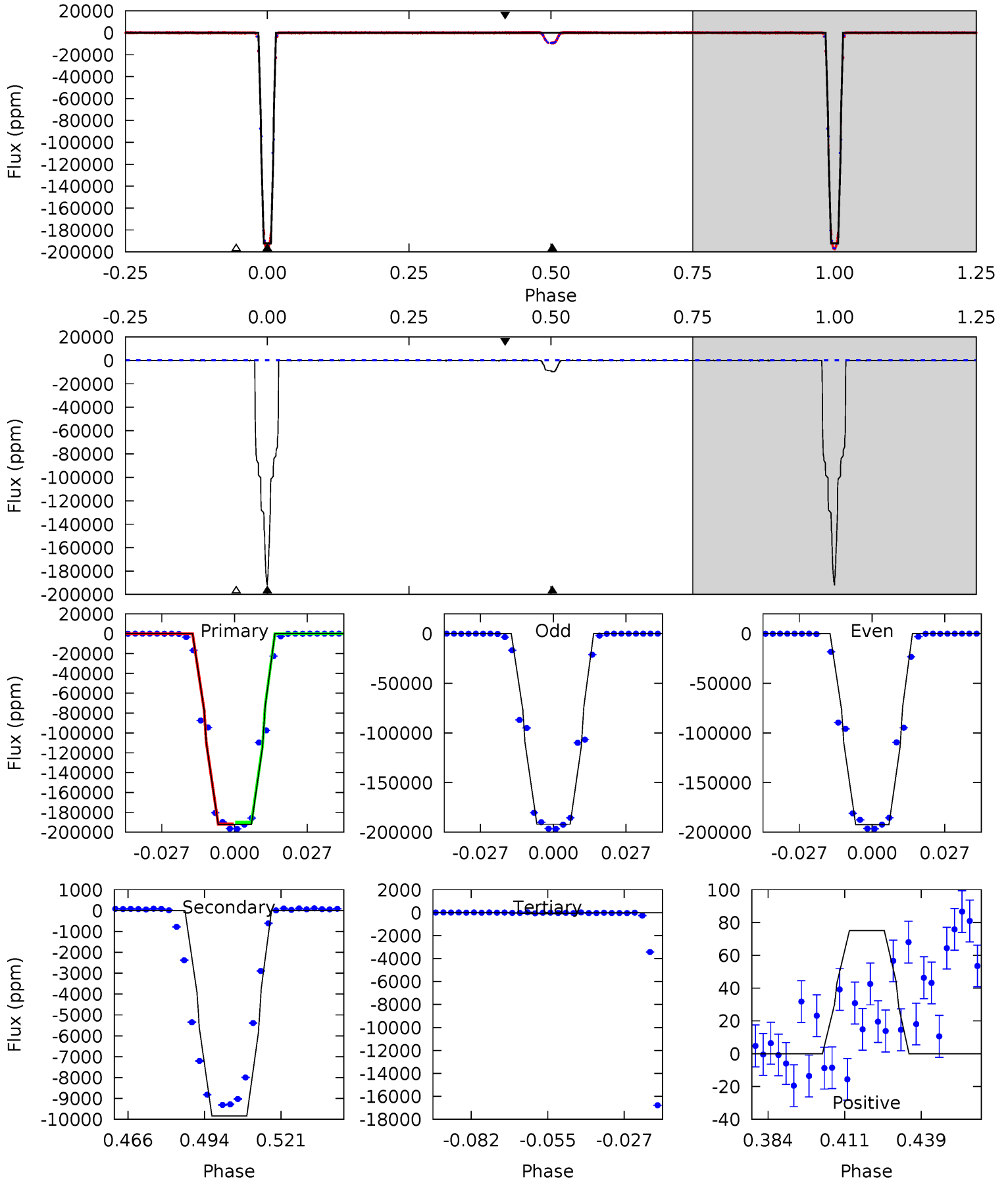
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19223	1242	9.26	8.07	4.75	2.05	9.13	19213	19214	1232	1233	10.1	0.99	0.00	0



Alt Model-Shift Uniqueness Test

005343976-01, P = 4.331389 Days, E = 130.396646 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12059	617.4	5.00	4.71	4.83	2.21	1.82	12054	12054	612.4	612.7	16.8	1.00	0.00	0



Stellar Parameters For KIC 005343976

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5655^{+186}_{-186}	$4.472^{+0.108}_{-0.162}$	$-0.440^{+0.300}_{-0.300}$	$0.854^{+0.199}_{-0.123}$	$0.788^{+0.112}_{-0.056}$	$1.782^{+0.949}_{-0.766}$
	+3%/-3%	+2%/-4%	+68%/-68%	+23%/-14%	+14%/-7%	+53%/-43%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005343976-01 / KOI 6565.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12939 ± 10	$39.25^{+5.13}_{-3.01}$	1478^{+94}_{-82}	3441^{+73}_{-75}	11^{+2}_{-2}
Alt.	-9838 ± 16	$42.10^{+5.34}_{-3.51}$	1488^{+90}_{-86}	3233^{+63}_{-69}	$7.183^{+1.282}_{-1.477}$

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 $A_{obs} \gg 1.0$

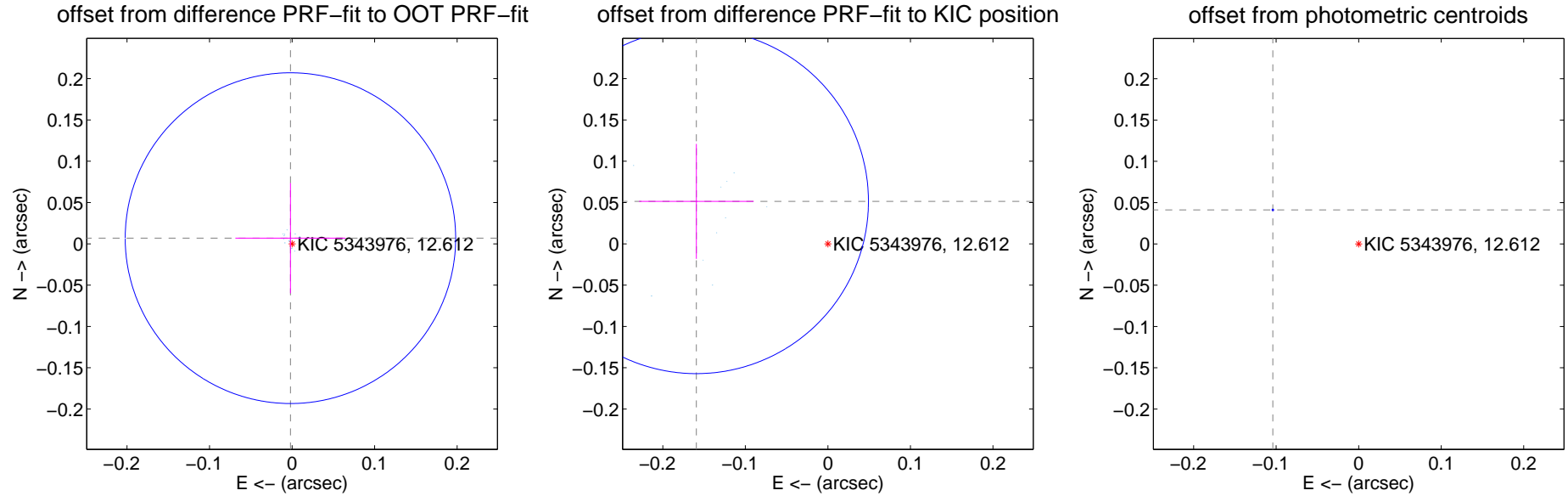
DV Centroid Data

Supplemental centroid analysis for 005343976-01. Kepler magnitude: 12.61. Transit SNR 13238.35

There are 13 quarters with good PRF difference image offsets

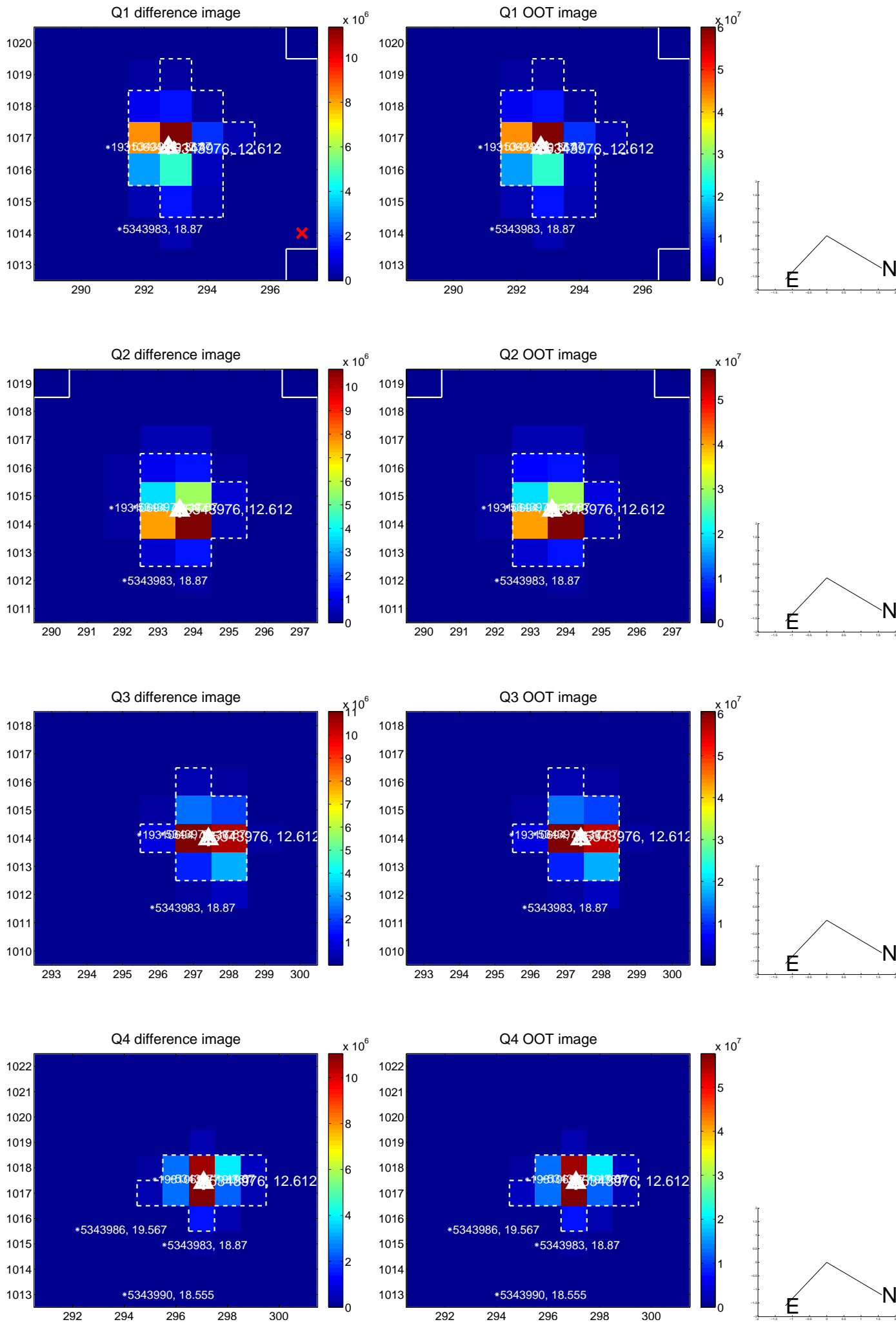
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.007 ± 0.067	0.11	0.002 ± 0.067	0.007 ± 0.067
PRF-fit source offset from KIC position	0.167 ± 0.070	2.41	0.159 ± 0.069	0.051 ± 0.070
photometric centroid source offset	0.11 ± 0.00	340.72	0.10 ± 0.00	0.04 ± 0.00

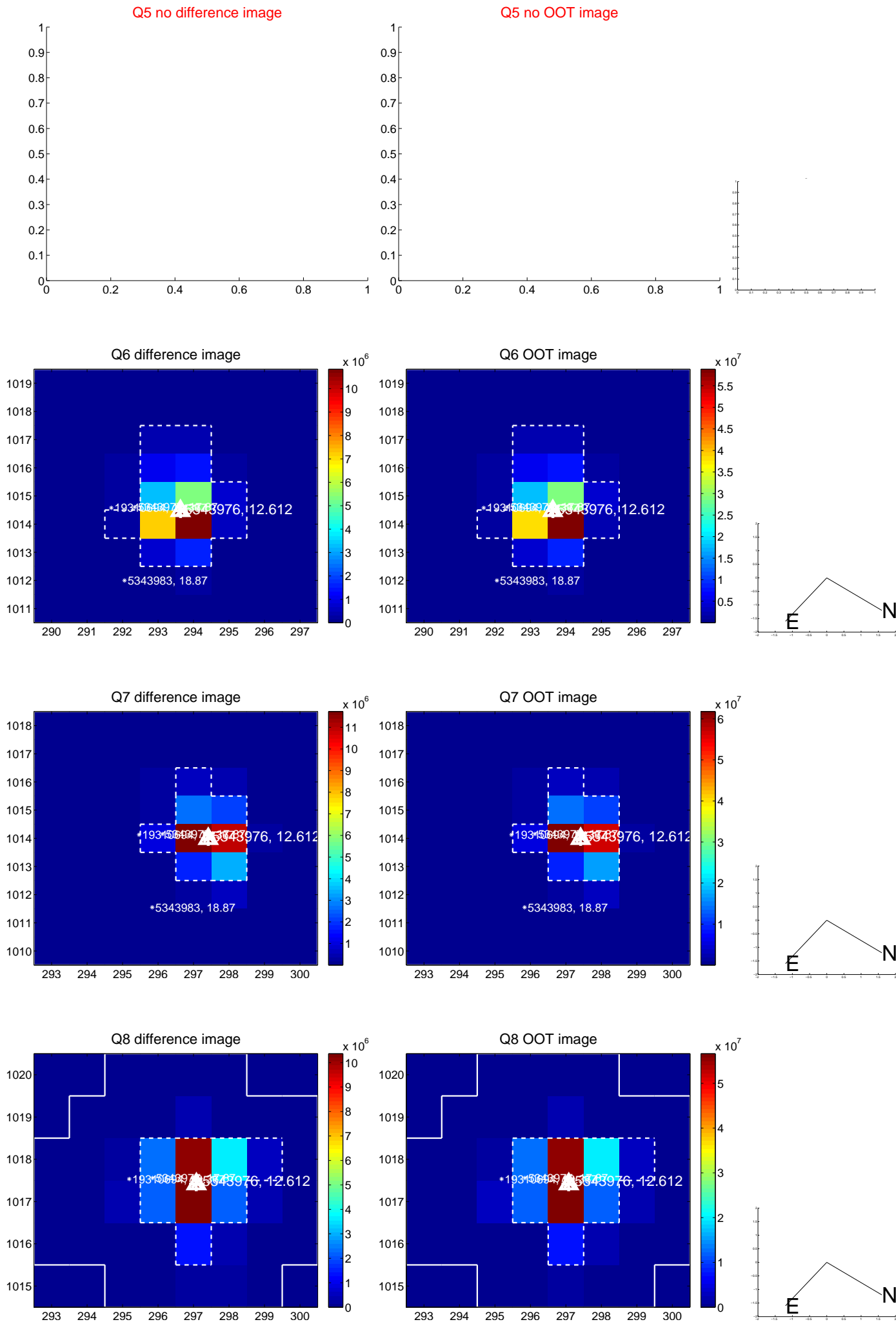


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

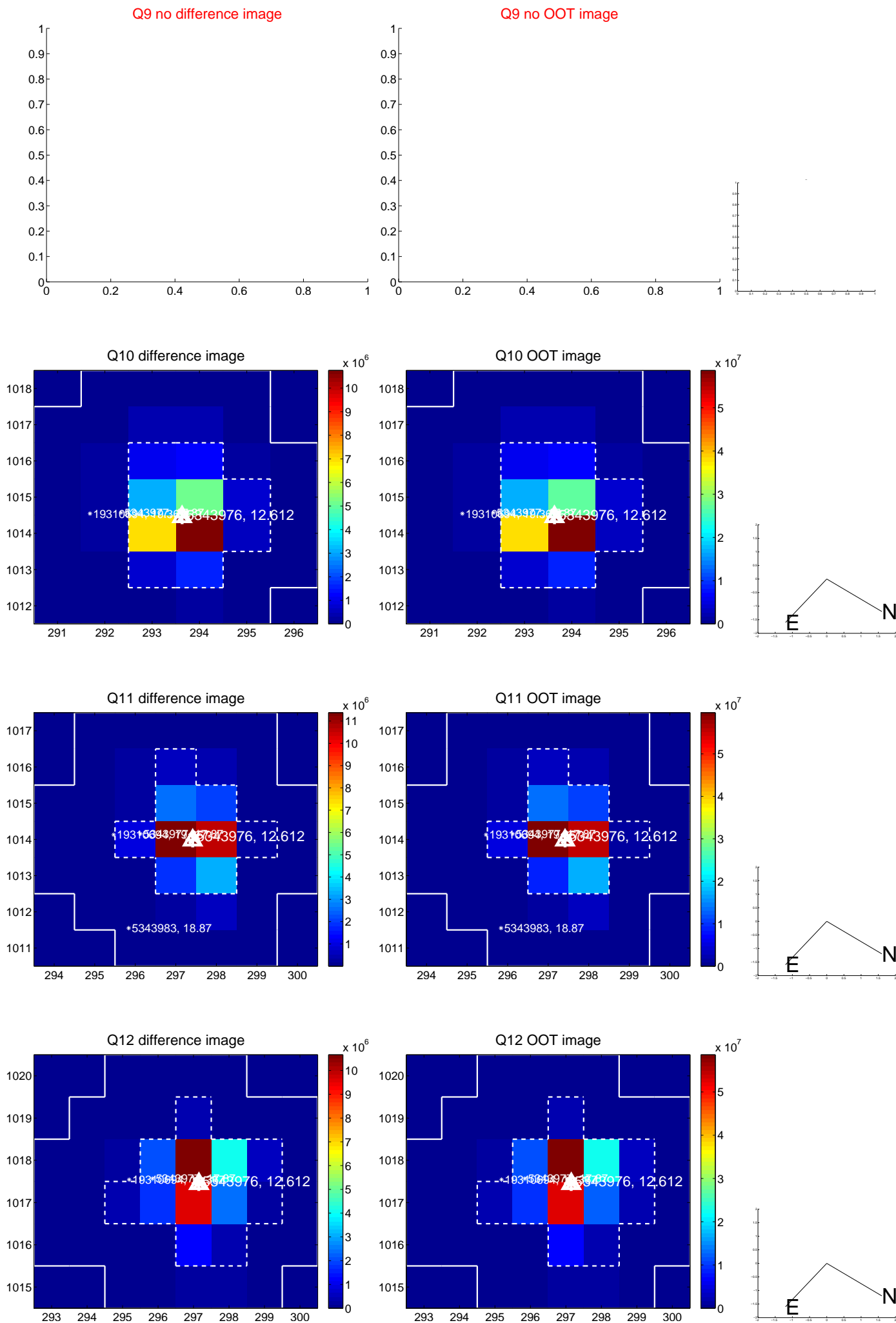
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



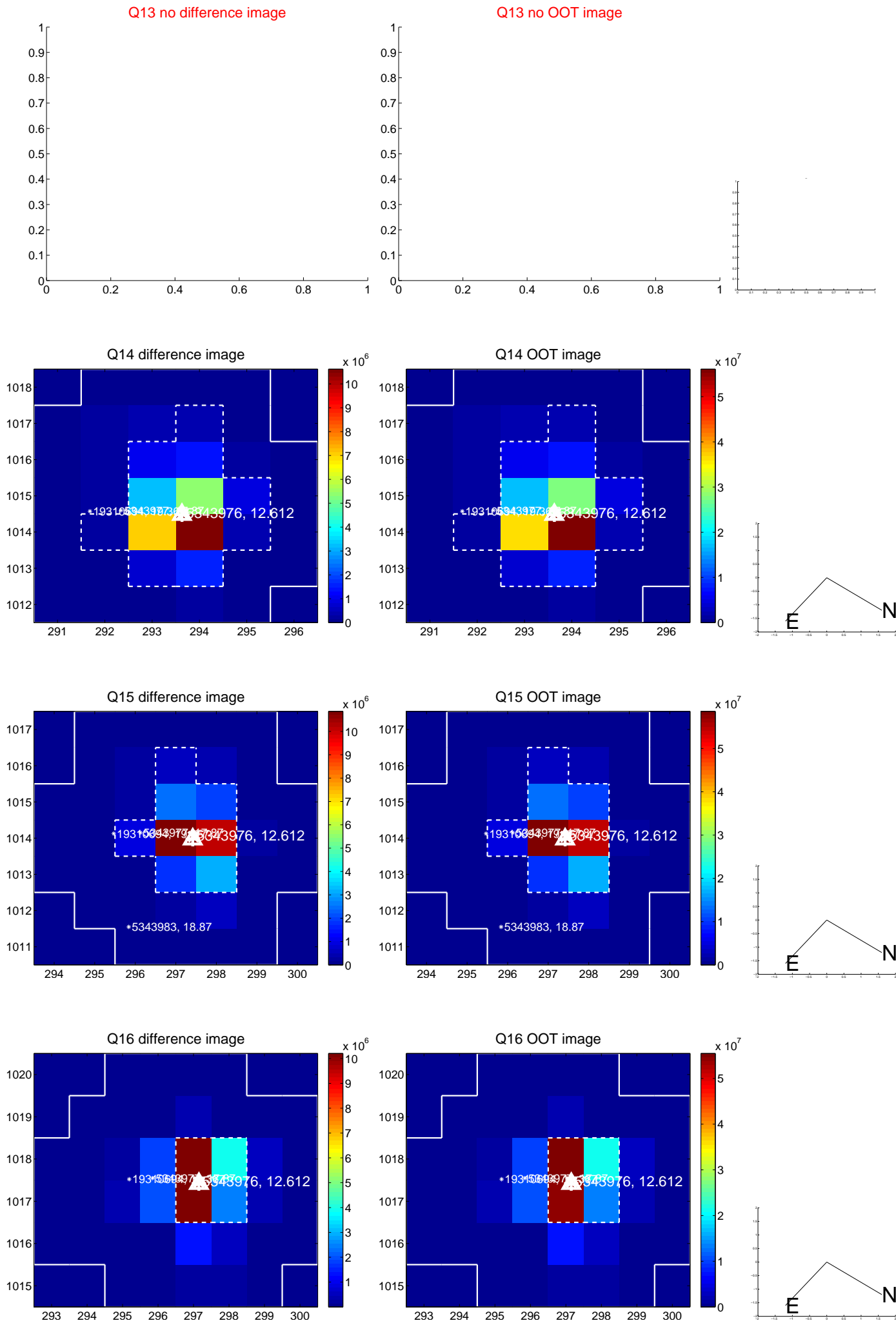
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



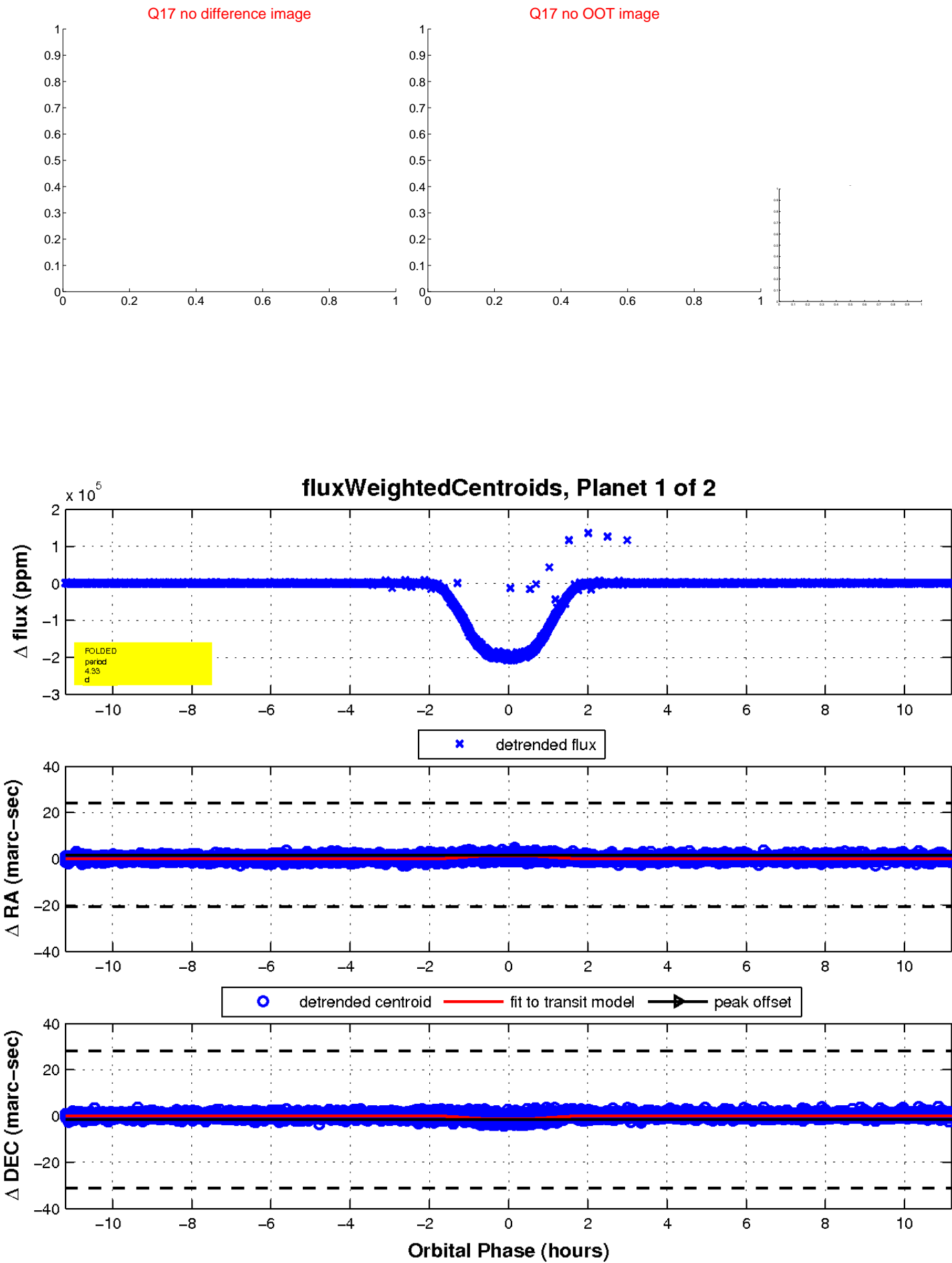
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

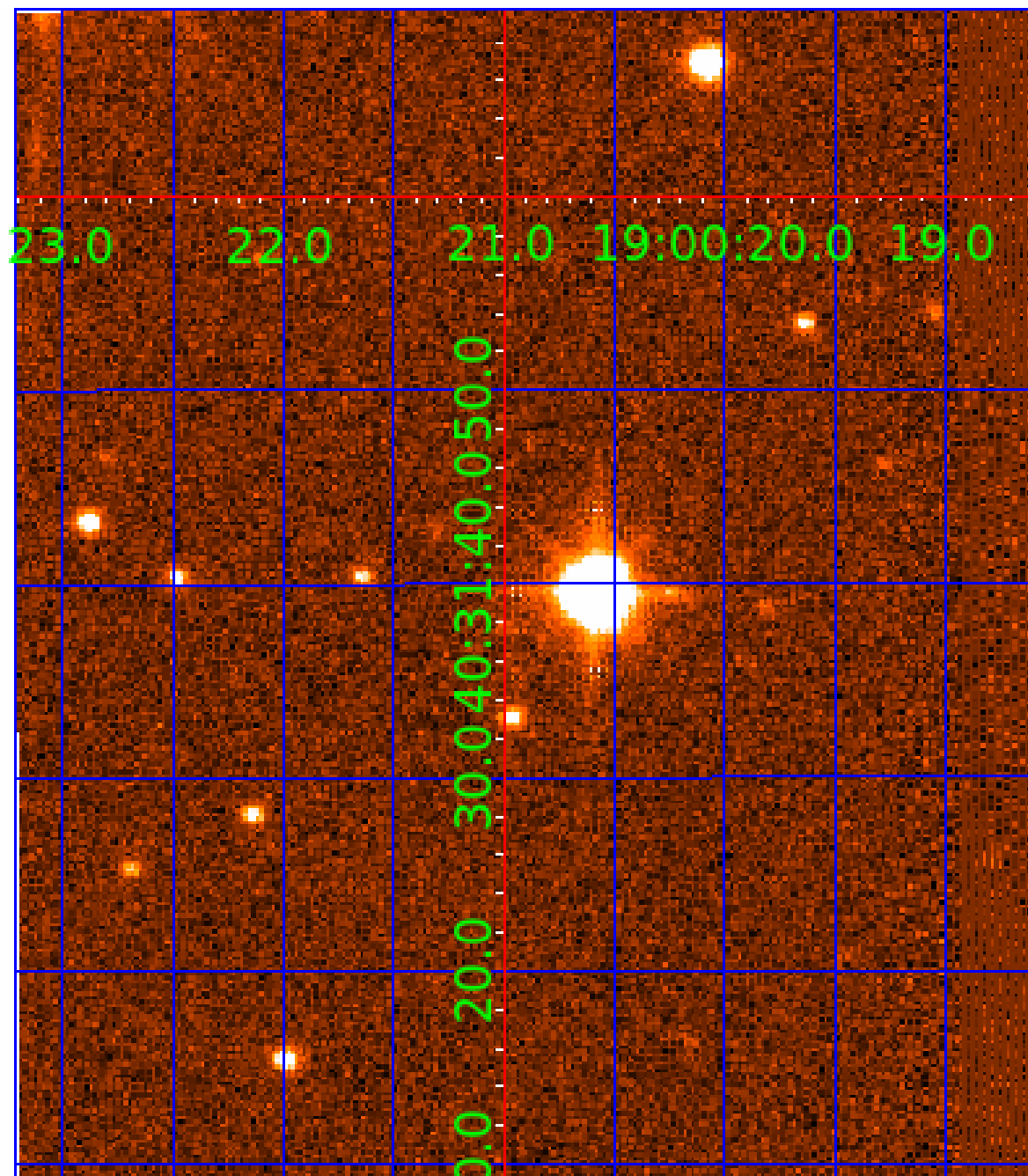


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005343976

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})
005343976-01	OBS	6565.01	4.331393	134.727414	201321.5	3.729	22089.1	13238.4	0.85	5655	38.96	289.35
005343976-02	OBS	No	4.331390	132.562369	9657.3	3.582	1237.6	1214.5	0.85	5655	9.62	289.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005343976-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005343976-02	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 005343976-02

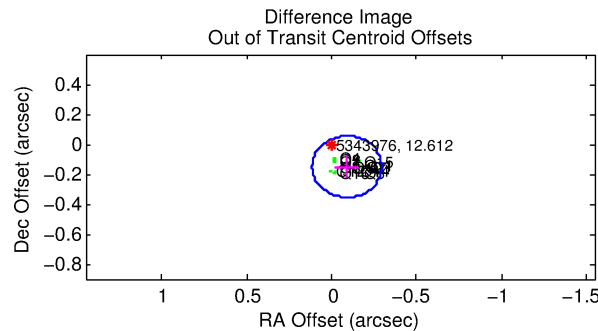
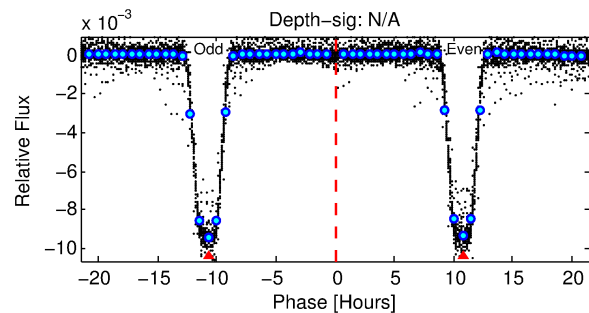
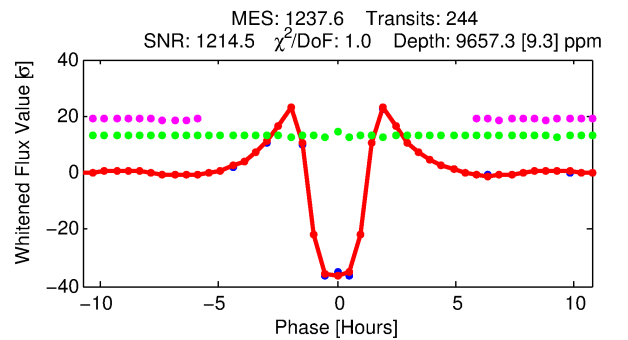
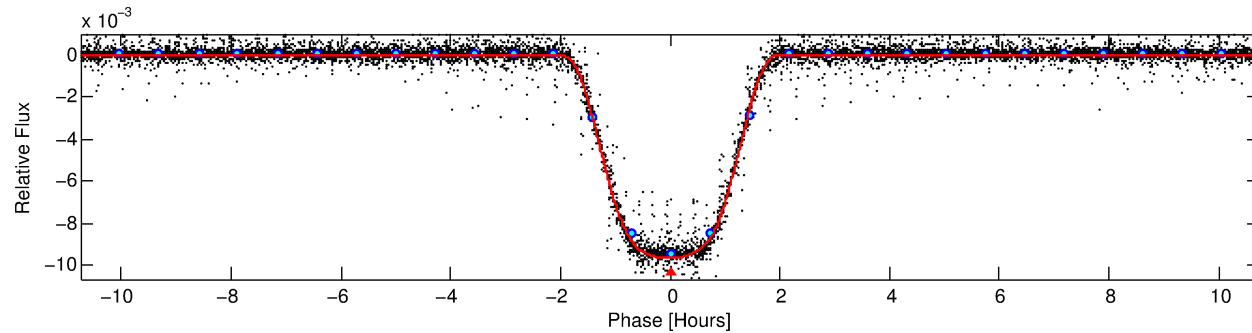
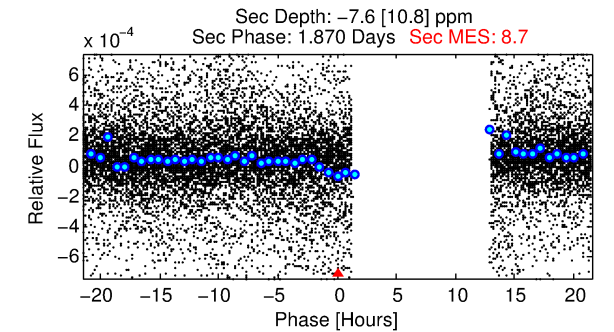
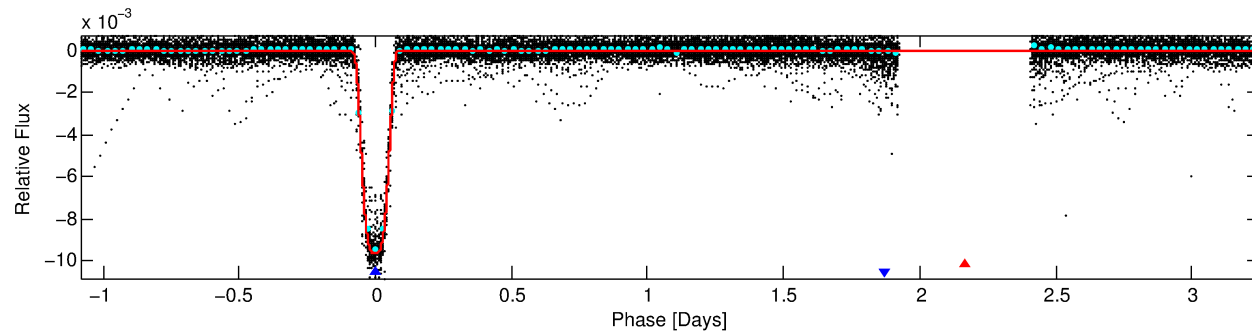
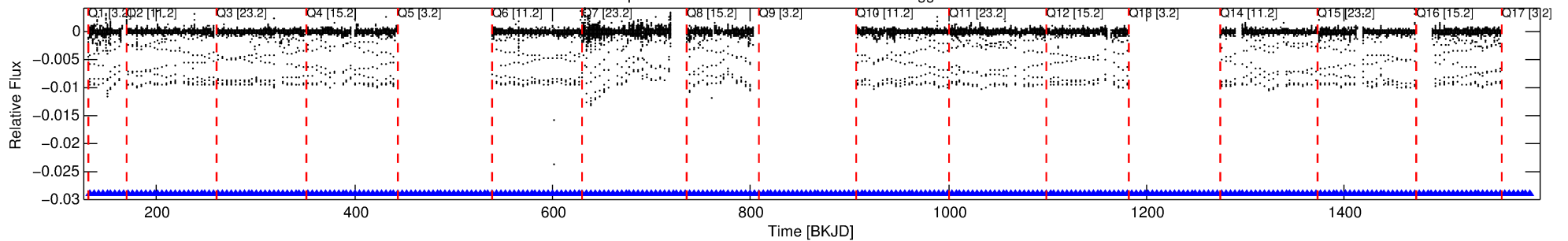
No Significant Match Found

DV One-Page Summary

KIC: 5343976 Candidate: 2 of 2 Period: 4.331 d

KOI: K06565 Corr: No Ephemeris Match

Kp: 12.61 R*: 0.85 Rs Teff: 5655.0 K Logg: 4.47 Fe/H: -0.440



DV Fit Results:

Period = 4.33139 [0.00000] d
Epoch = 132.5624 [0.0000] BKJD
Rp/R* = 0.1032 [0.0001]
a/R* = 6.58 [0.01]
b = 0.85 [0.00]
Seff = 289.35 [92.99]
Teq = 1052 [84] K
Rp = 9.62 [2.24] Re
a = 0.0481 [0.0096] AU
Ag = N/A
Teffp = N/A

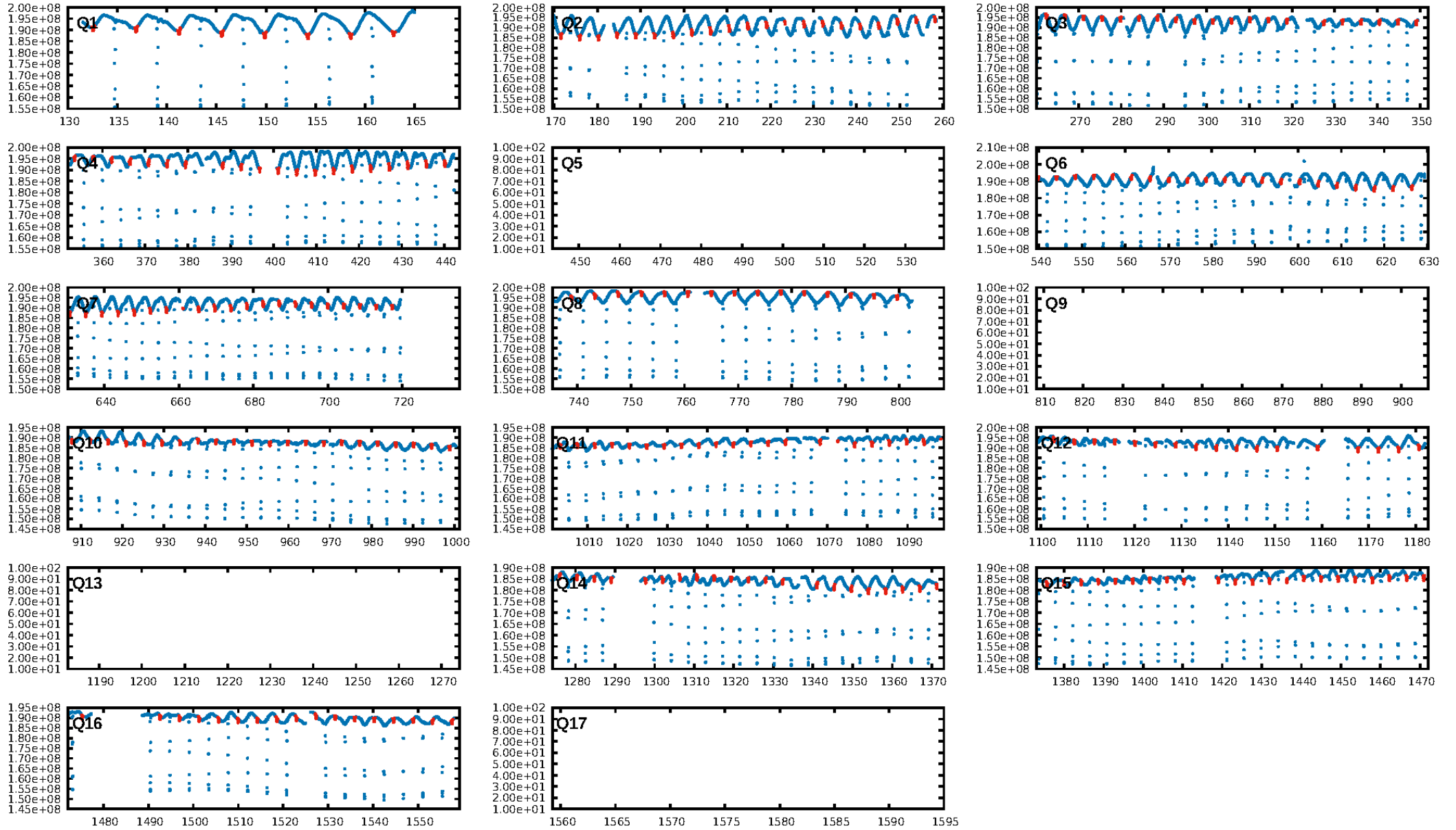
DV Diagnostic Results:

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 [236/236]
GhostDiagnostic-chr: 2.2
Centroid-sig: 0.0%
Centroid-so: 0.073 arcsec [14.83σ]
OotOffset-rm: 0.175 arcsec [2.56σ]
KicOffset-rm: 0.129 arcsec [1.84σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

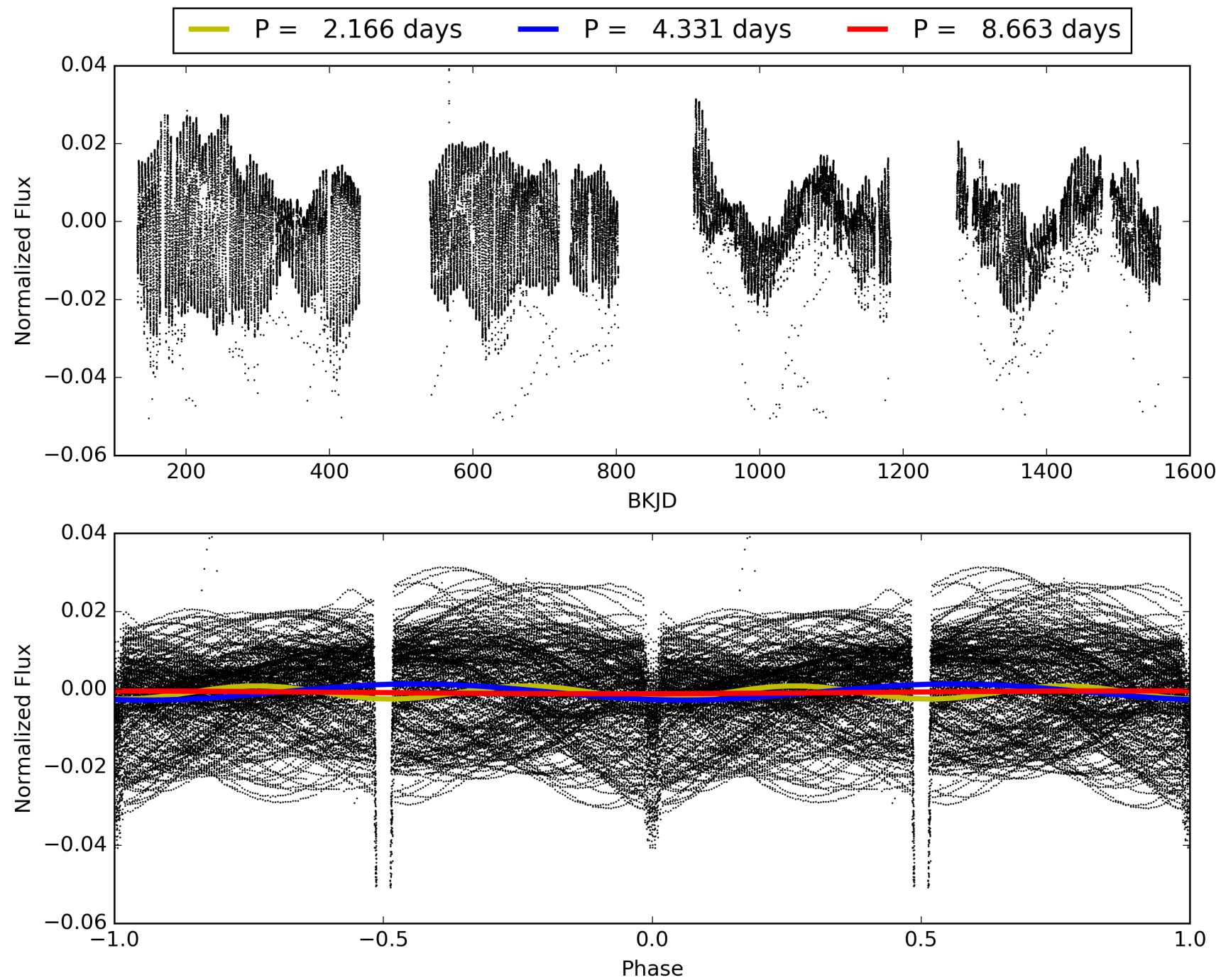
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:32:02 Z

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

TCE 005343976-02, PDC Light Curves

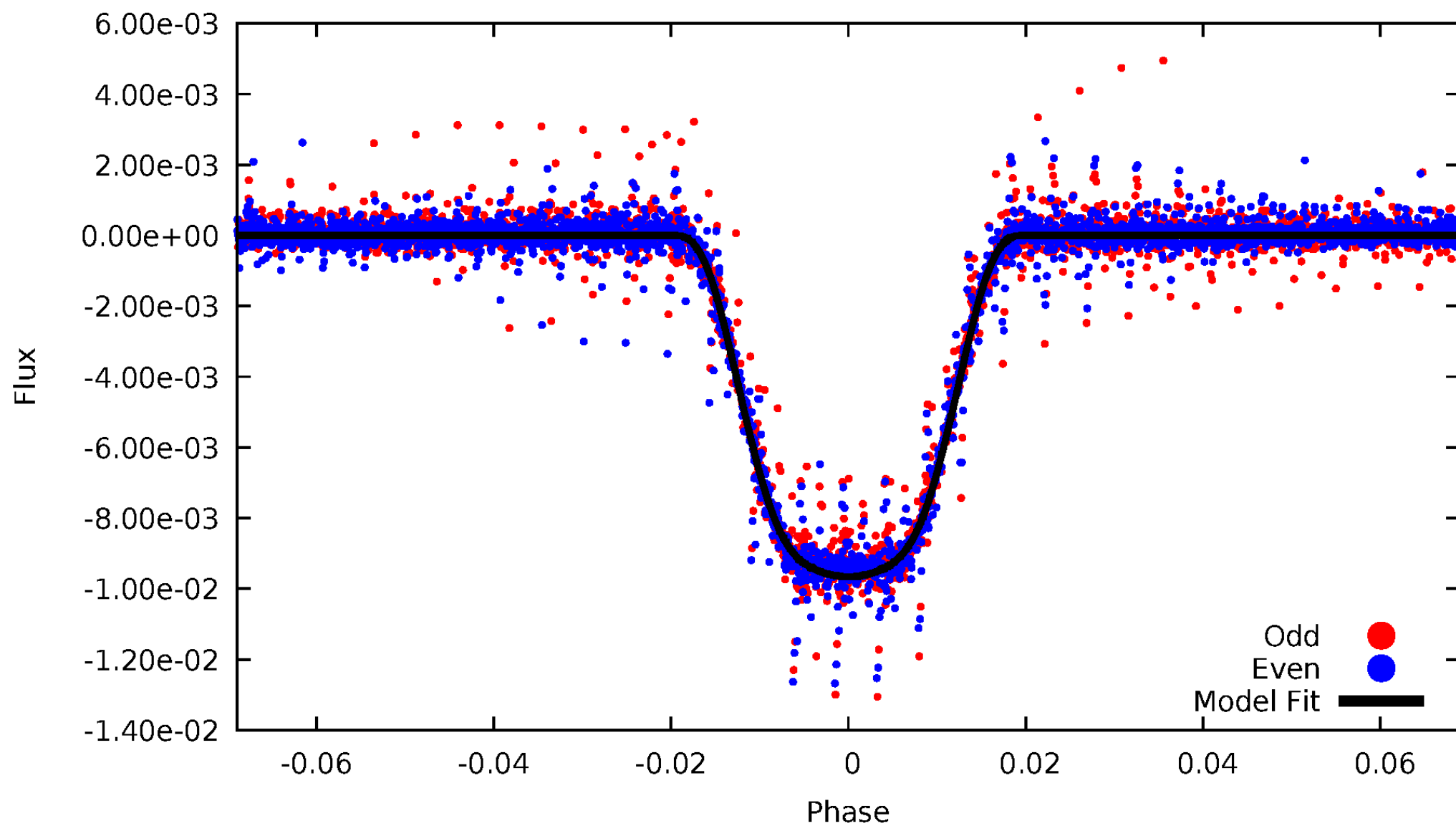


TCE 005343976-02



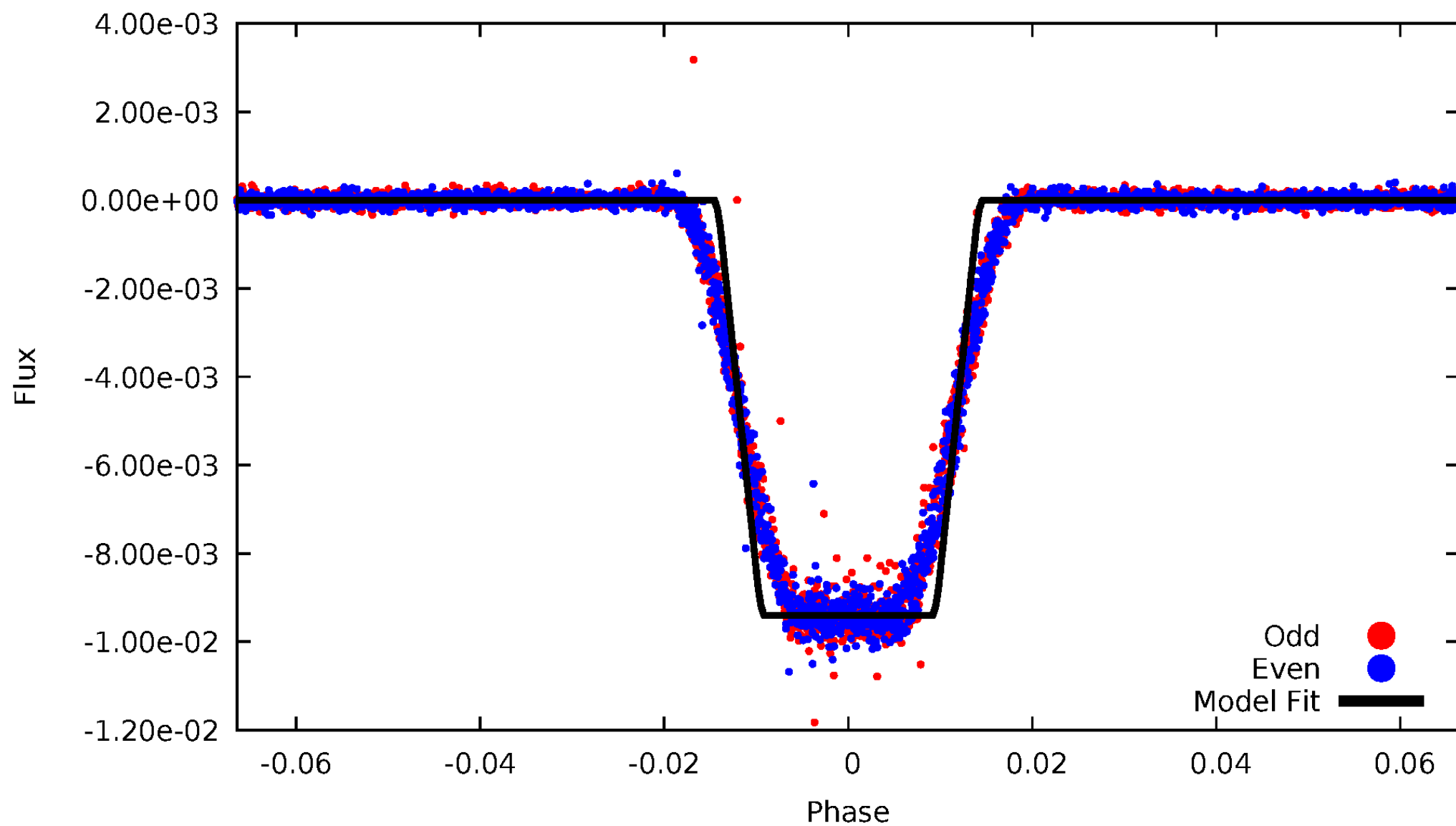
DV Odd/Even

TCE 005343976-02



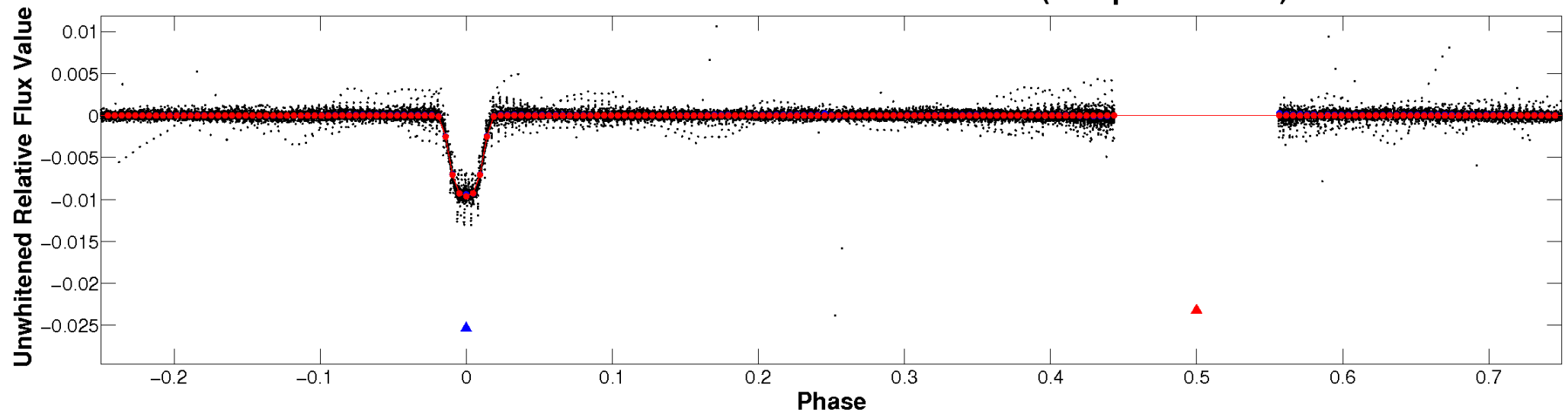
ALT Odd/Even

TCE 005343976-02

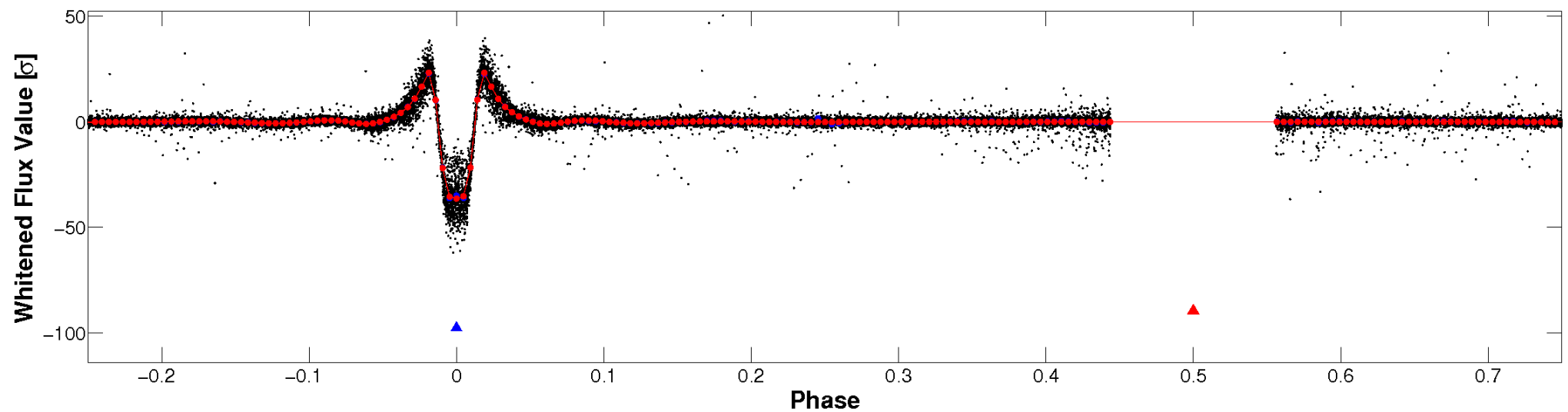


Non-Whitened Vs. Whitened Light Curve

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

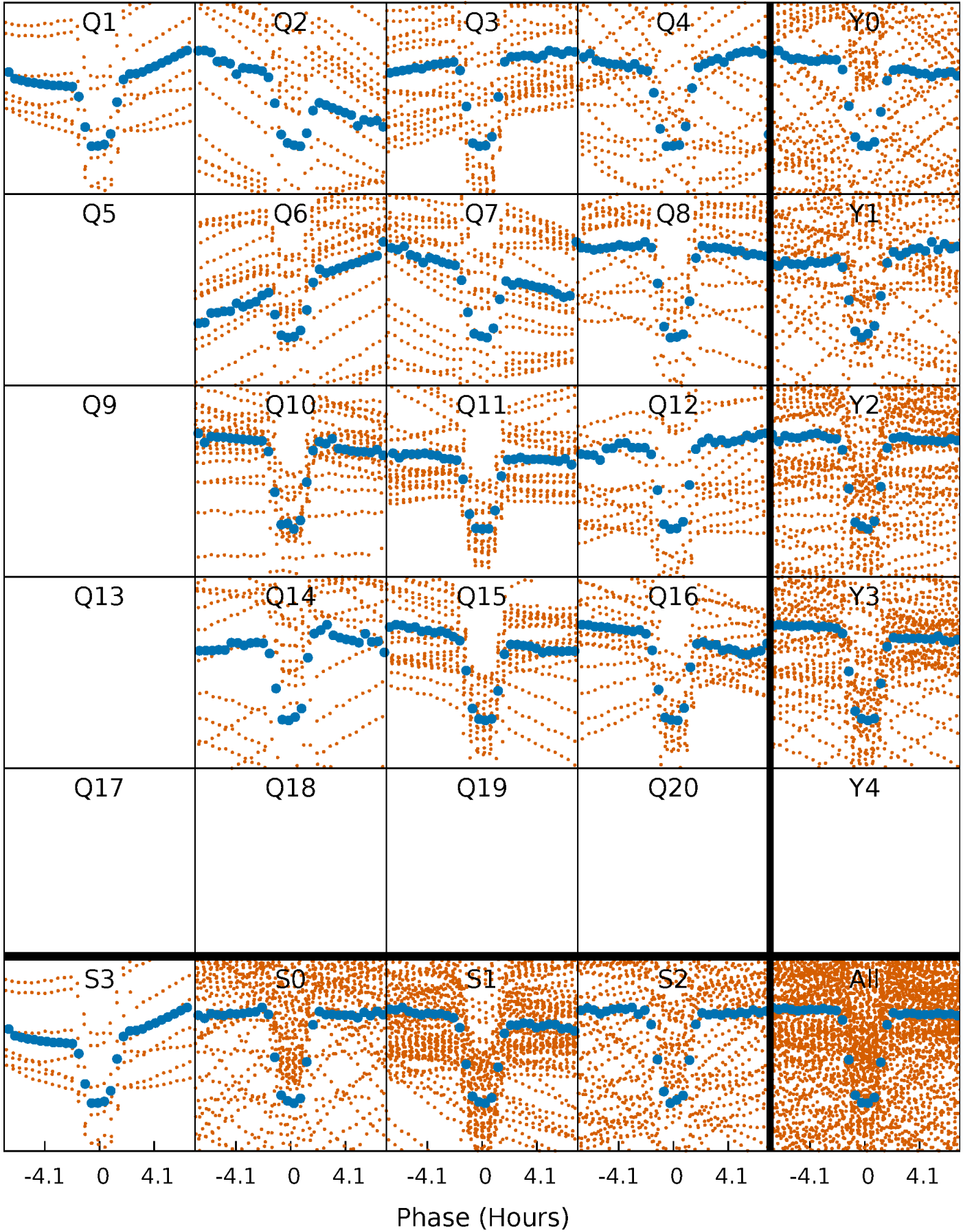


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



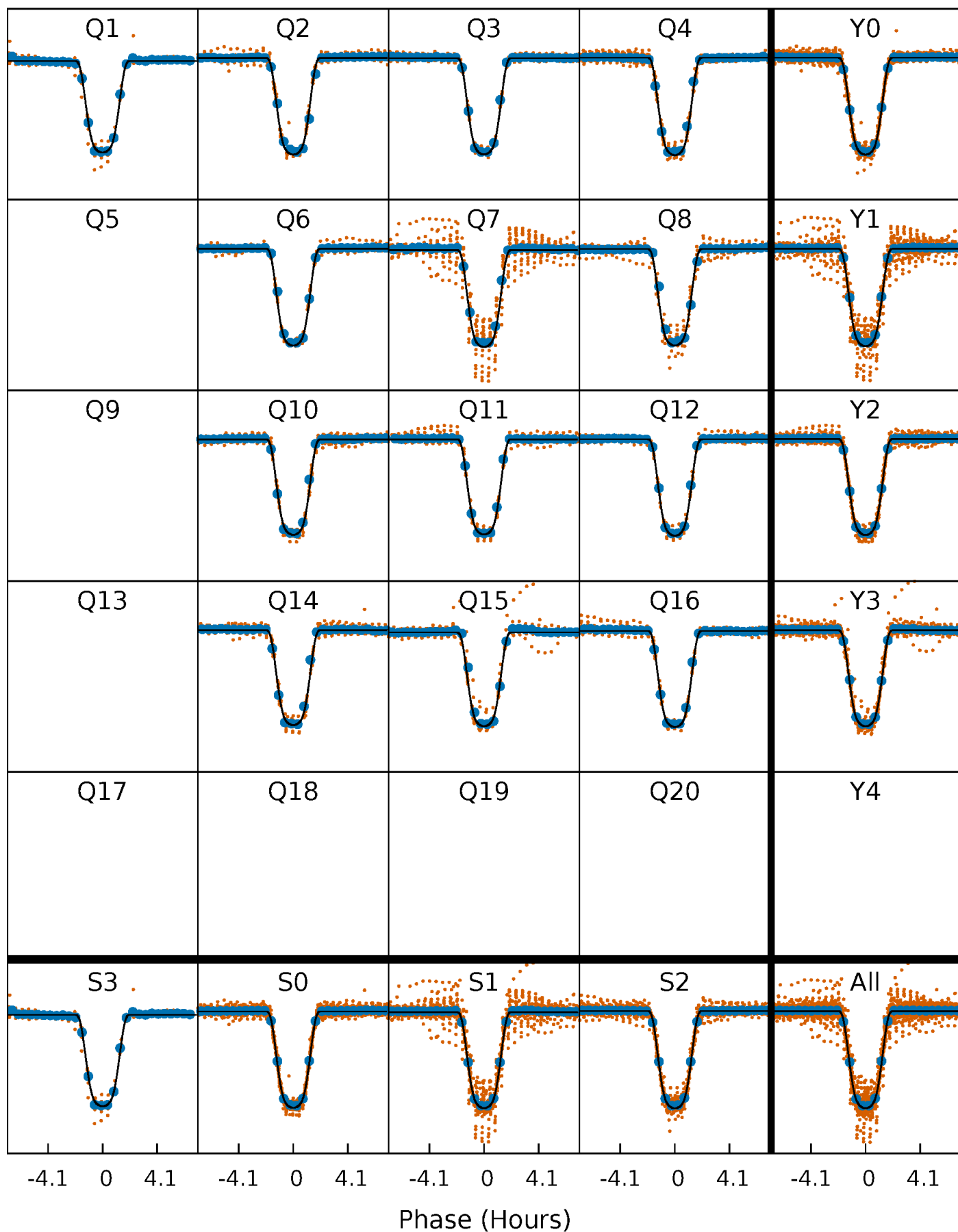
PDC Quarter-Phased Transit Curves

TCE 005343976-02 P= 4.331390 Days $T_0=132.562369$ (BKJD)



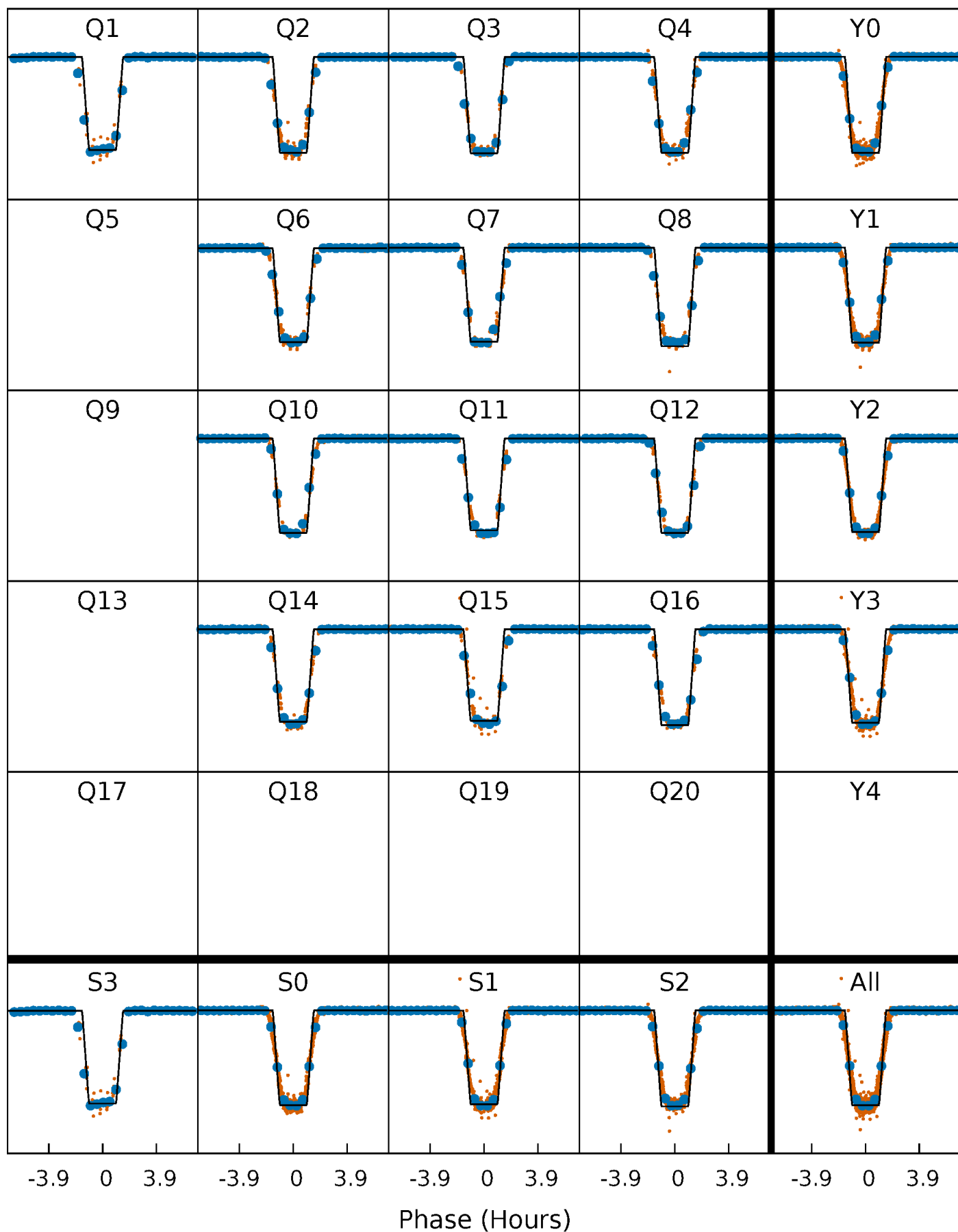
DV Quarter-Phased Transit Curves

TCE 005343976-02 P= 4.331390 Days $T_0=132.562369$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

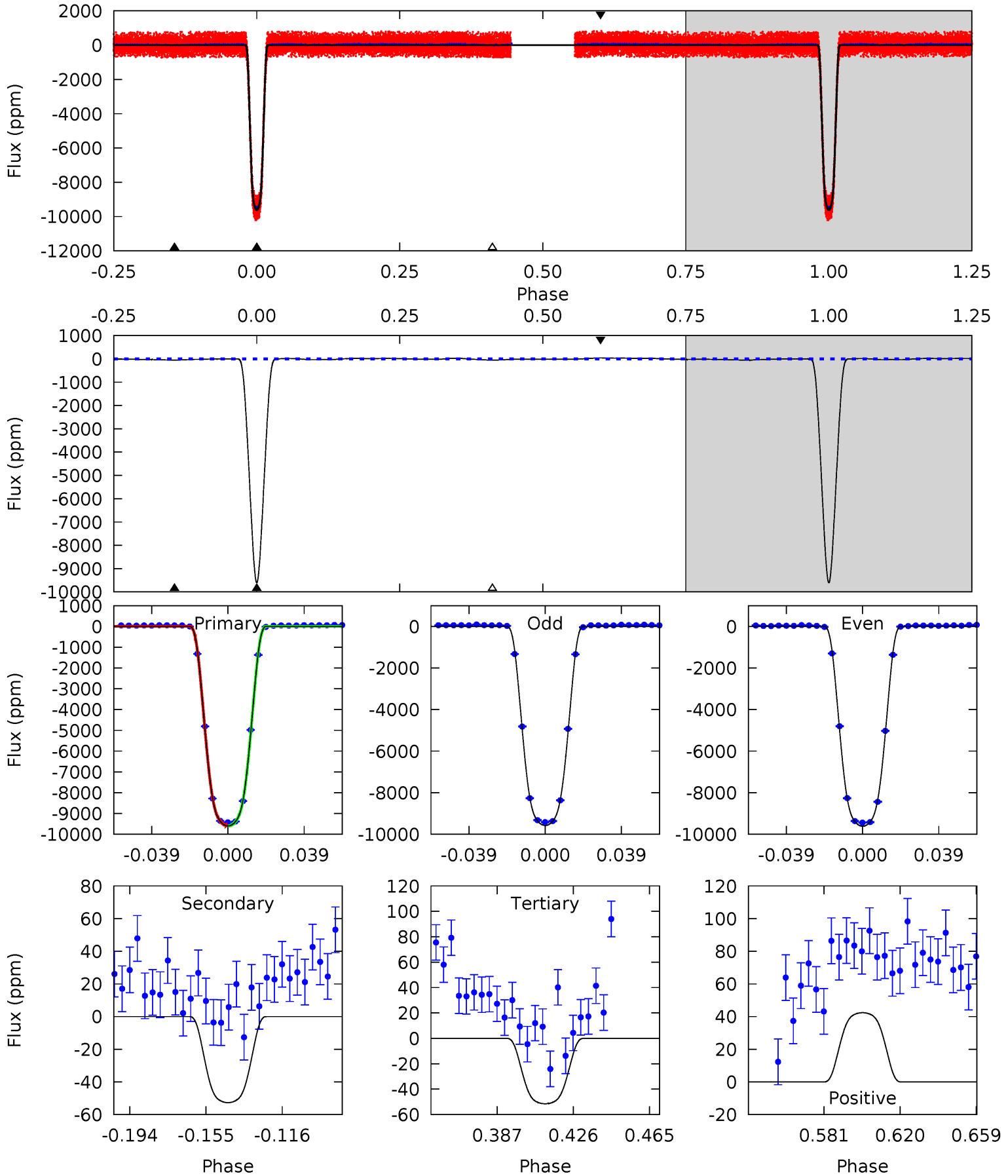
TCE 005343976-02 P= 4.331371 Days $T_0=132.565382$ (BKJD)



DV Model-Shift Uniqueness Test

005343976-02, P = 4.331390 Days, E = 128.230979 Days

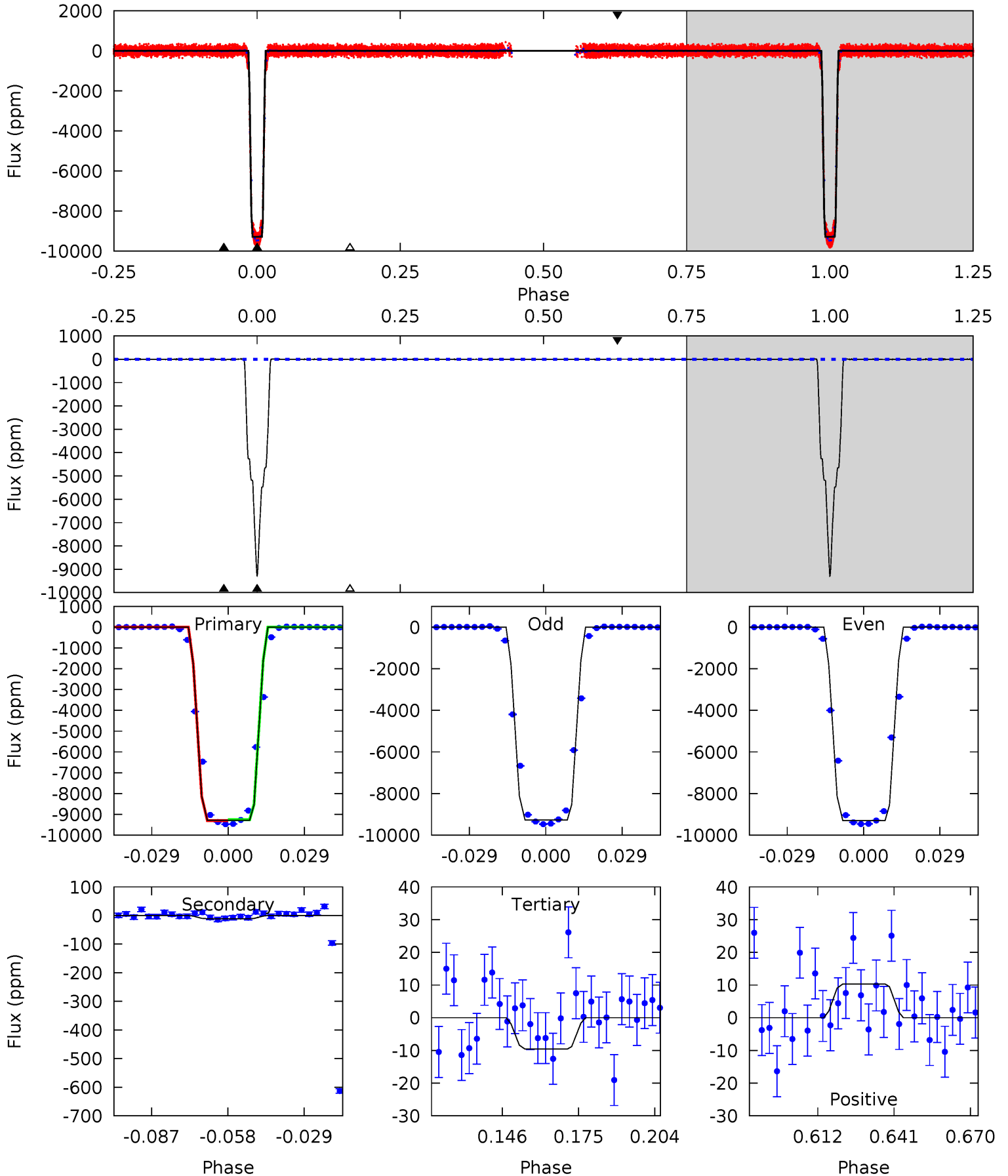
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1724	9.46	9.25	7.61	4.76	2.07	3.99	1714	1716	0.21	1.85	3.11	1.00	0.00	1.04



Alt Model-Shift Uniqueness Test

005343976-02, P = 4.331371 Days, E = 128.234011 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2604	3.13	2.69	2.90	4.82	2.18	0.98	2602	2602	0.43	0.23	4.33	1.00	0.00	6.28



Stellar Parameters For KIC 005343976

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5655^{+186}_{-186}	$4.472^{+0.108}_{-0.162}$	$-0.440^{+0.300}_{-0.300}$	$0.854^{+0.199}_{-0.123}$	$0.788^{+0.112}_{-0.056}$	$1.782^{+0.949}_{-0.766}$
	+3%/-3%	+2%/-4%	+68%/-68%	+23%/-14%	+14%/-7%	+53%/-43%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005343976-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-53 ± 6	$9.83^{+1.28}_{-0.82}$	1485^{+96}_{-76}	2234^{+67}_{-80}	$0.696^{+0.149}_{-0.150}$
Alt.	-11 ± 4	$9.13^{+1.14}_{-0.78}$	1477^{+91}_{-83}	-1987^{+172}_{-114}	$0.169^{+0.072}_{-0.056}$

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

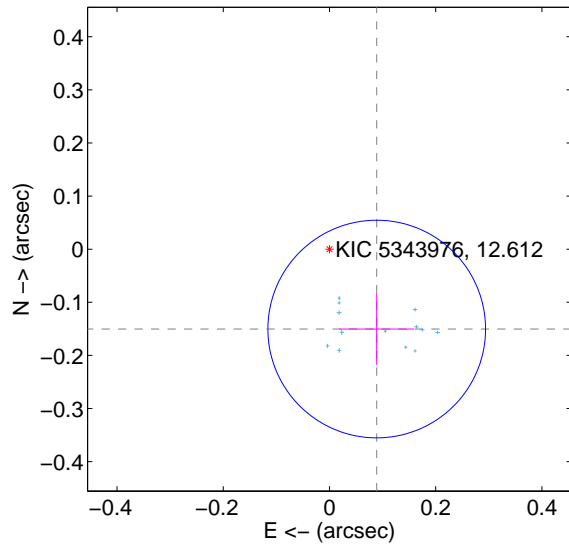
Supplemental centroid analysis for 005343976-02. Kepler magnitude: 12.61. Transit SNR 1214.51

There are 13 quarters with good PRF difference image offsets

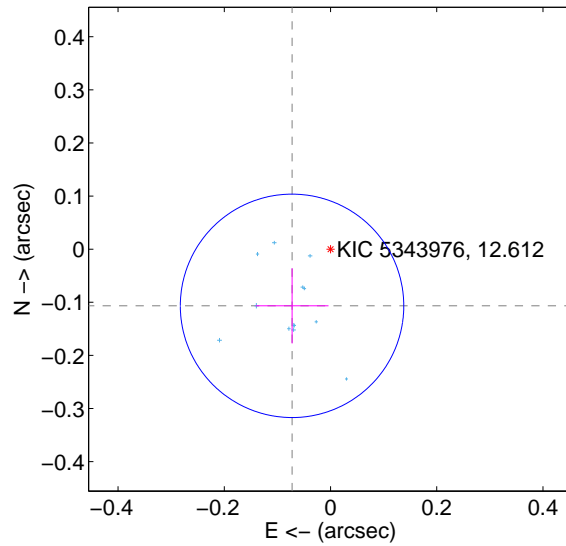
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.175 ± 0.068	2.56	-0.089 ± 0.071	-0.150 ± 0.067
PRF-fit source offset from KIC position	0.129 ± 0.070	1.84	0.072 ± 0.069	-0.107 ± 0.071
photometric centroid source offset	0.07 ± 0.00	14.83	0.03 ± 0.01	-0.07 ± 0.00

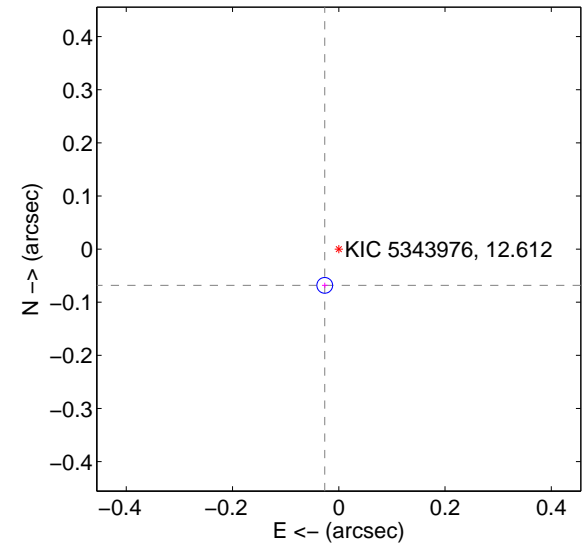
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

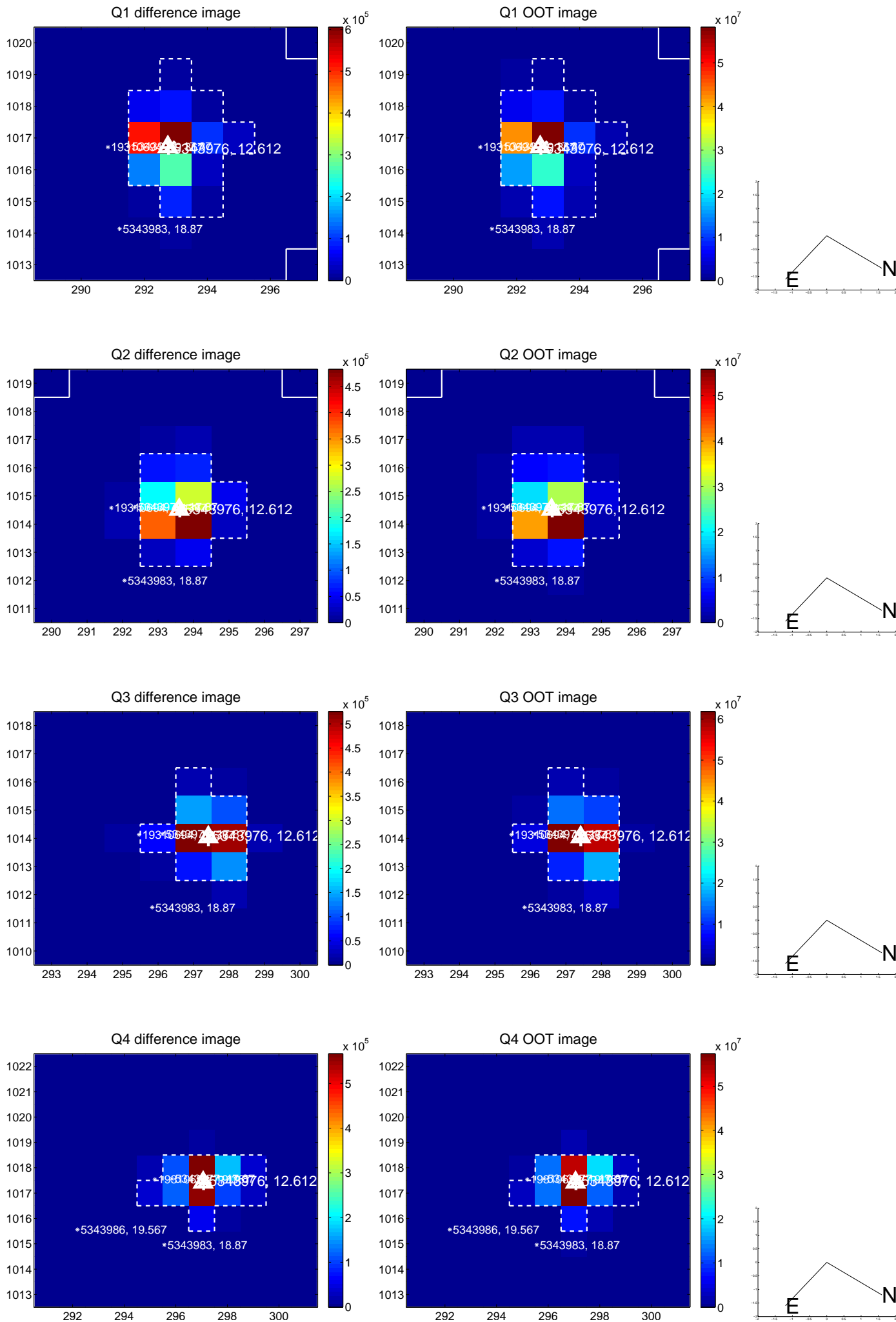


offset from photometric centroids

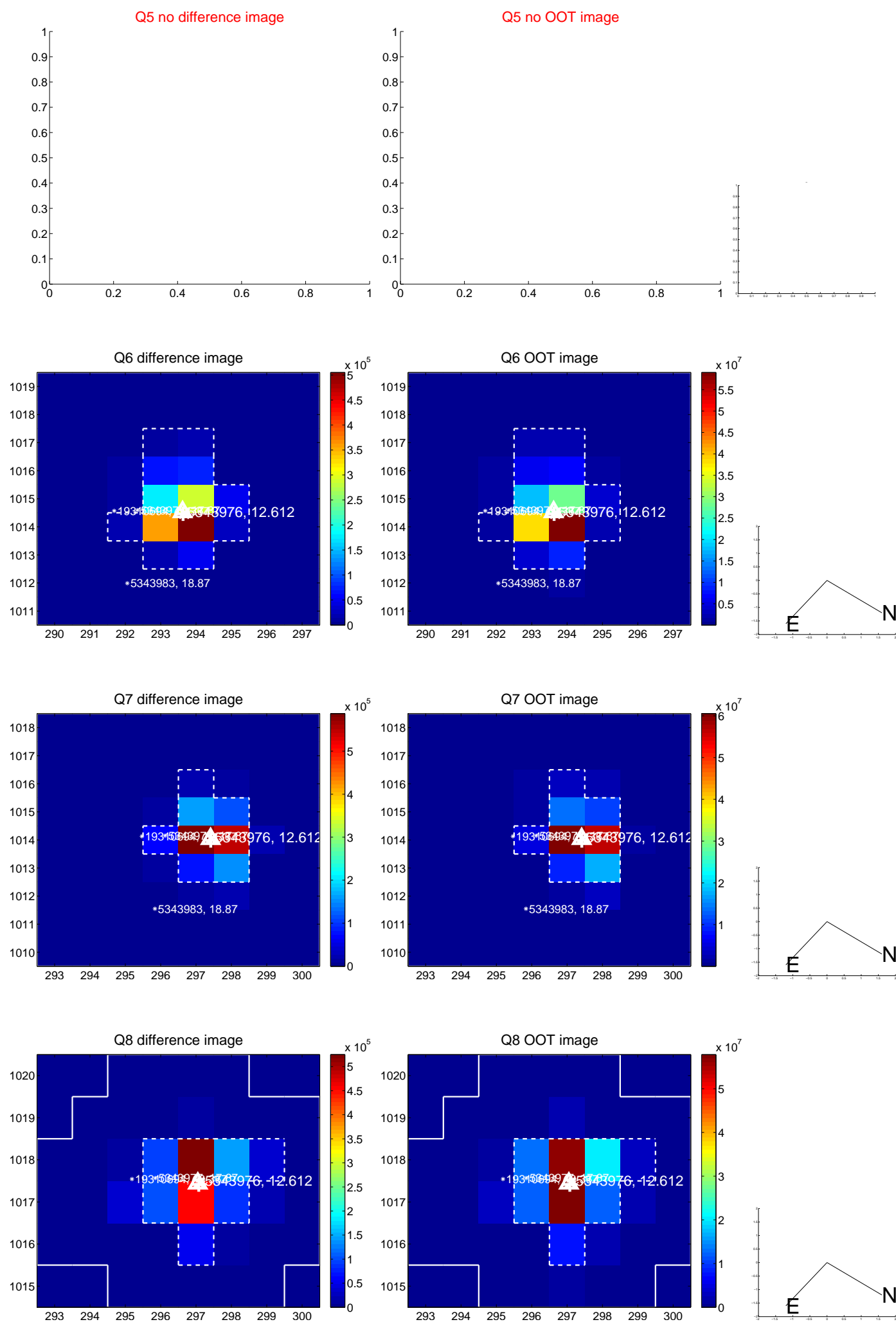


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

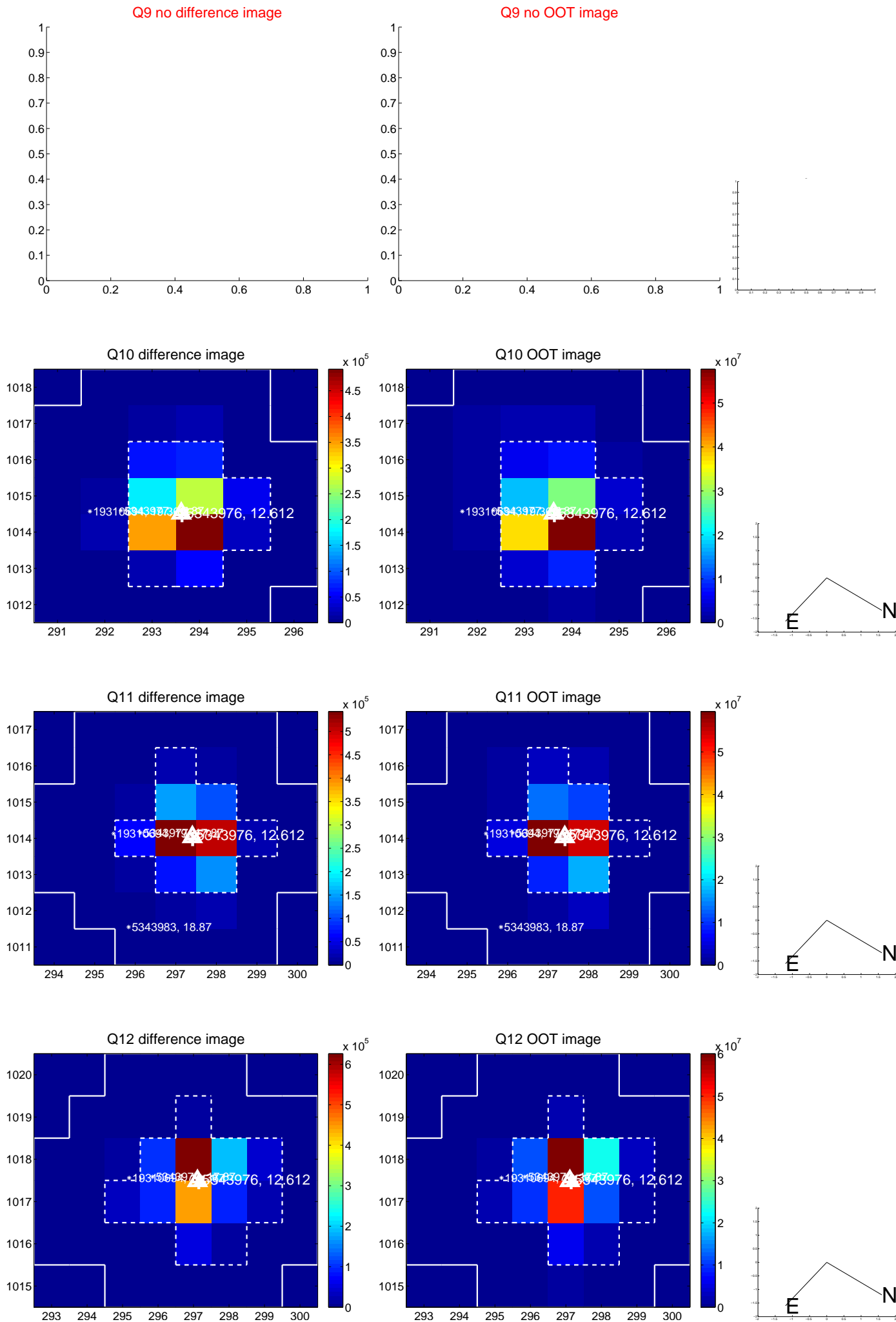
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



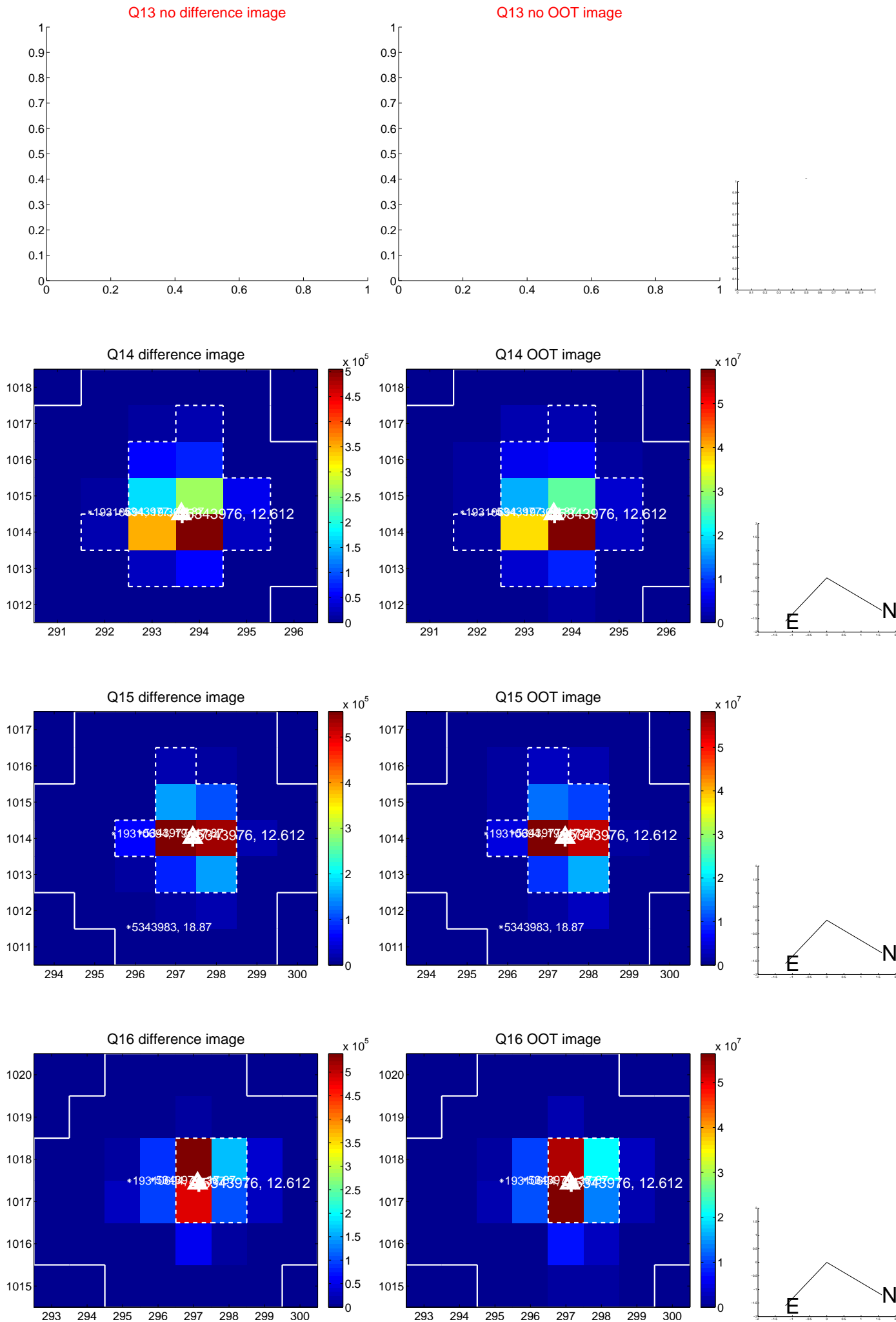
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



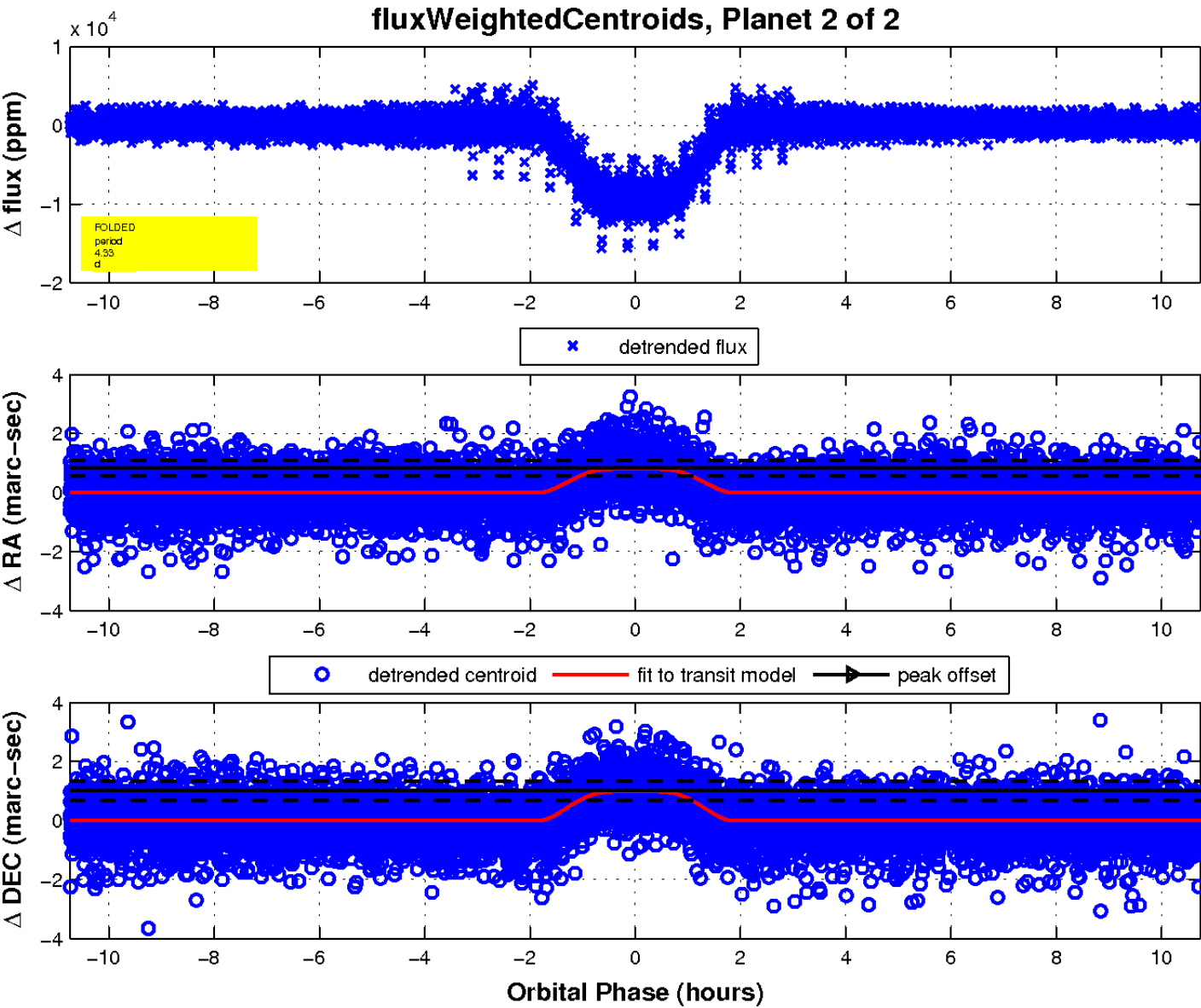
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

