

KIC 010125352

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})
010125352-01	OBS	0021.01	4.288514	134.838503	3402.1	2.279	563.3	546.6	2.00	6378	20.67	2083.85
010125352-02	OBS	No	4.288514	132.694563	267.8	2.075	39.1	46.2	2.00	6378	4.34	2083.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010125352-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
010125352-02	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 010125352-01

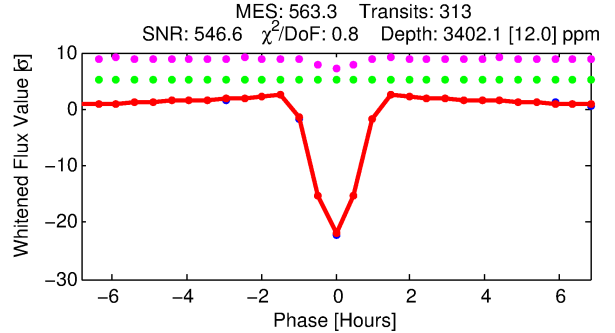
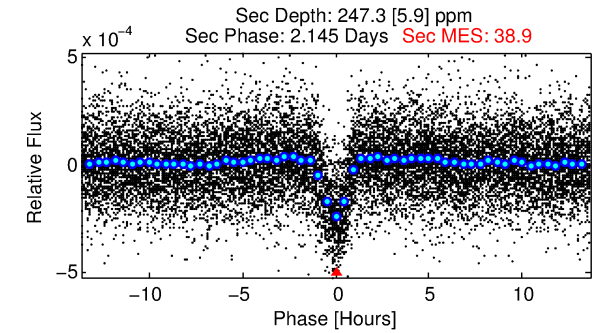
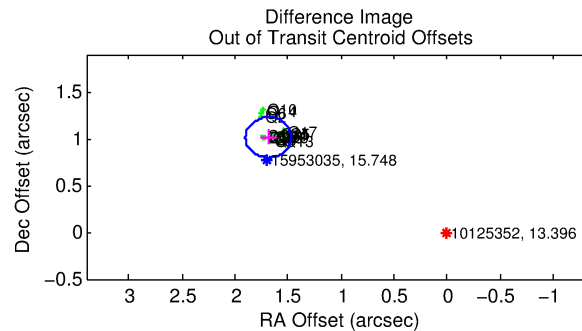
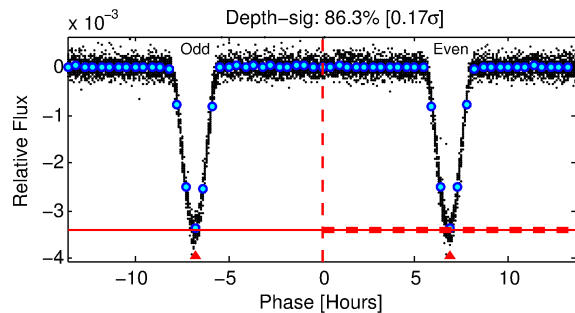
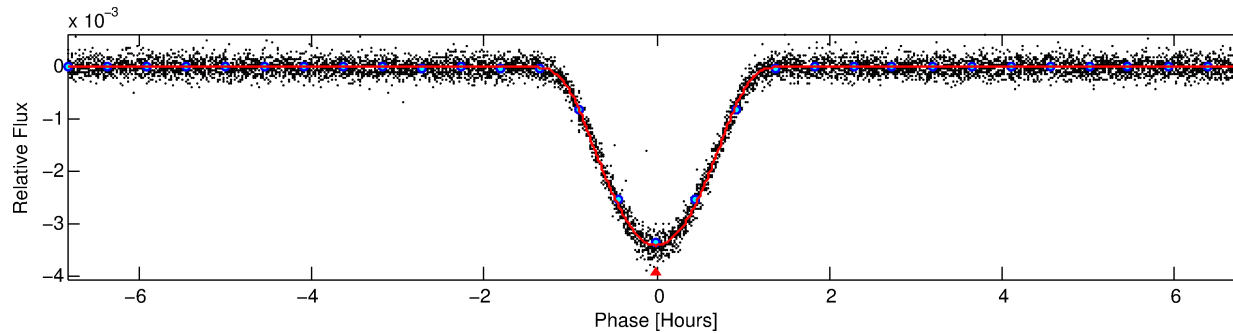
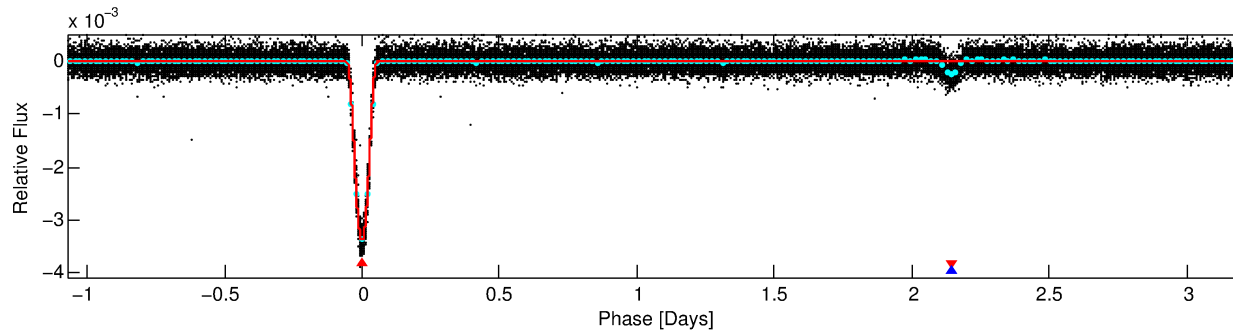
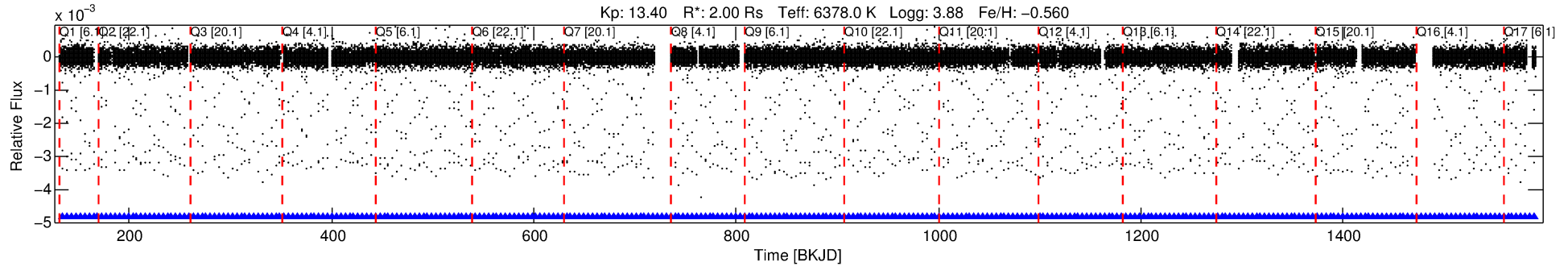
No Significant Match Found

DV One-Page Summary

KIC: 10125352 Candidate: 1 of 2 Period: 4.289 d

KOI: K00021.01 Corr: 0.998

Kp: 13.40 R*: 2.00 Rs Teff: 6378.0 K Logg: 3.88 Fe/H: -0.560



DV Fit Results:

Period = 4.28851 [0.00000] d
Epoch = 134.8385 [0.0001] BKJD
Rp/R* = 0.0946 [0.0079]
a/R* = 6.65 [0.12]
b = 0.99 [0.01]
Seff = 2083.85 [1137.91]
Teq = 1723 [235] K
Rp = 20.67 [7.29] Re
a = 0.0534 [0.0178] AU
Ag = 0.91 [0.51] [-0.18σ]
Teff = 2600 [131] K [3.26σ]

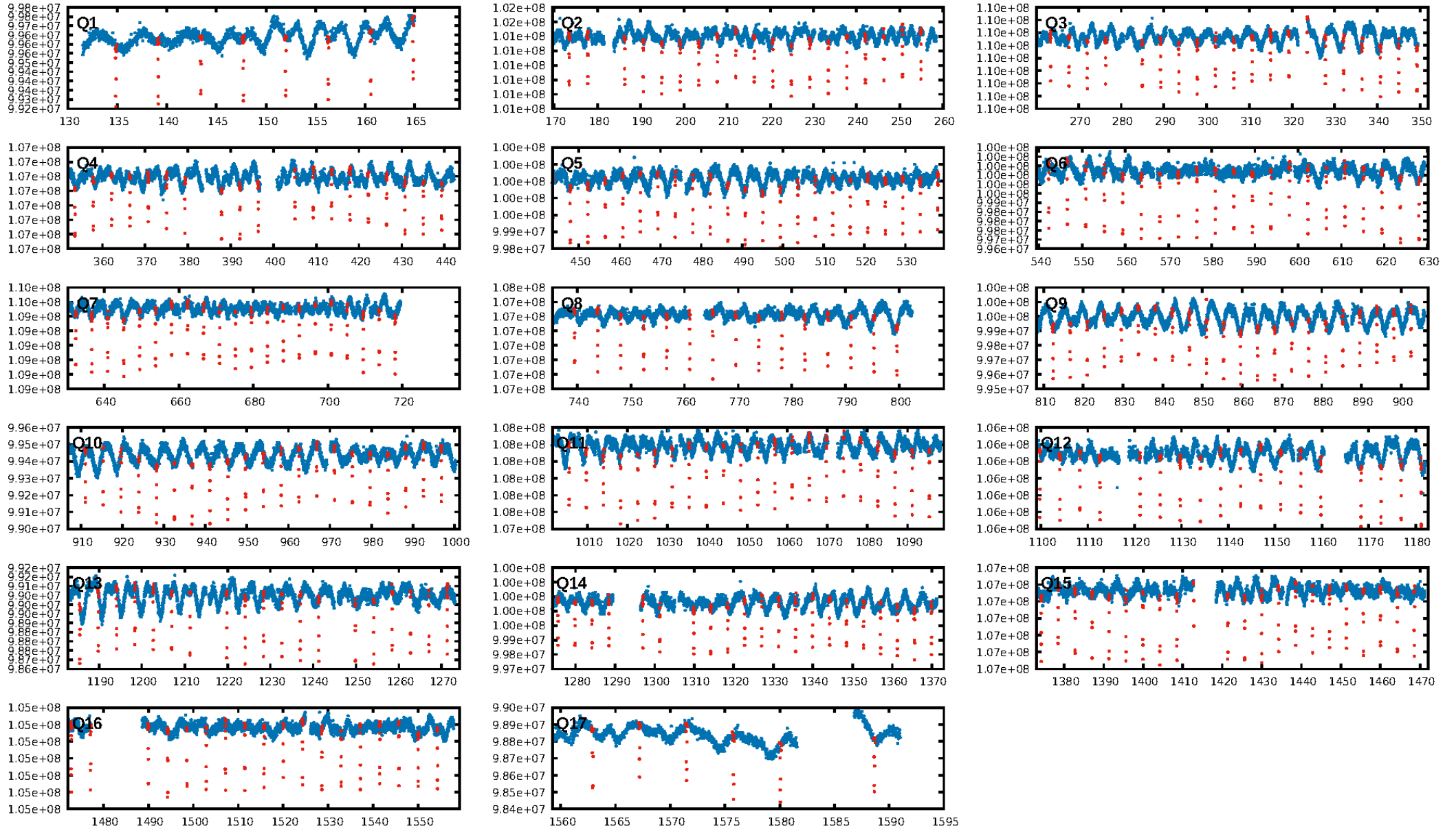
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [299/299]
GhostDiagnostic-chr: 3.91
Centroid-sig: 0.0%
Centroid-so: 1.985 arcsec [91.00σ]
OotOffset-rm: 1.967 arcsec [27.49σ]
KicOffset-rm: 1.940 arcsec [26.36σ]
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]

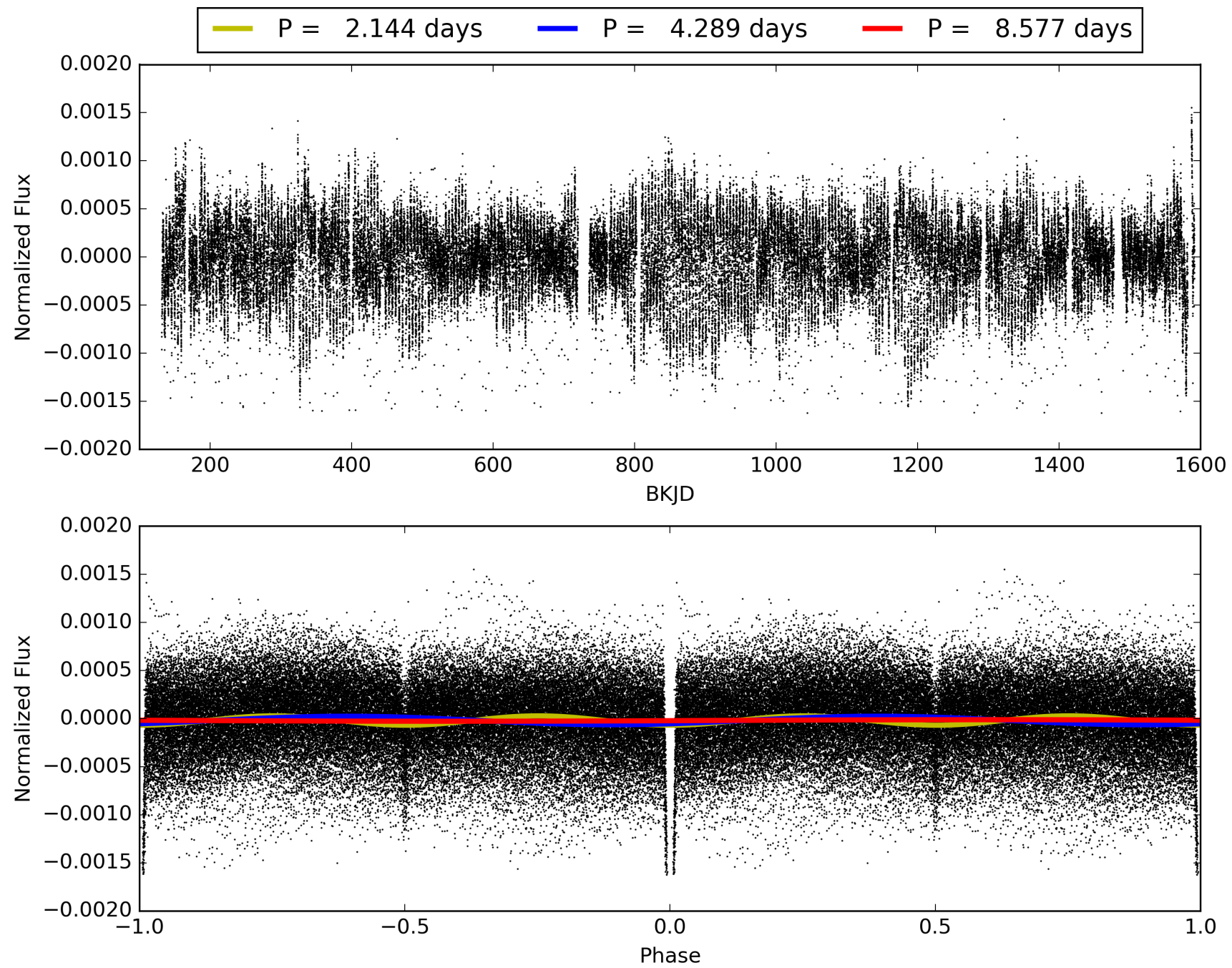
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:26:59 Z

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

TCE 010125352-01, PDC Light Curves

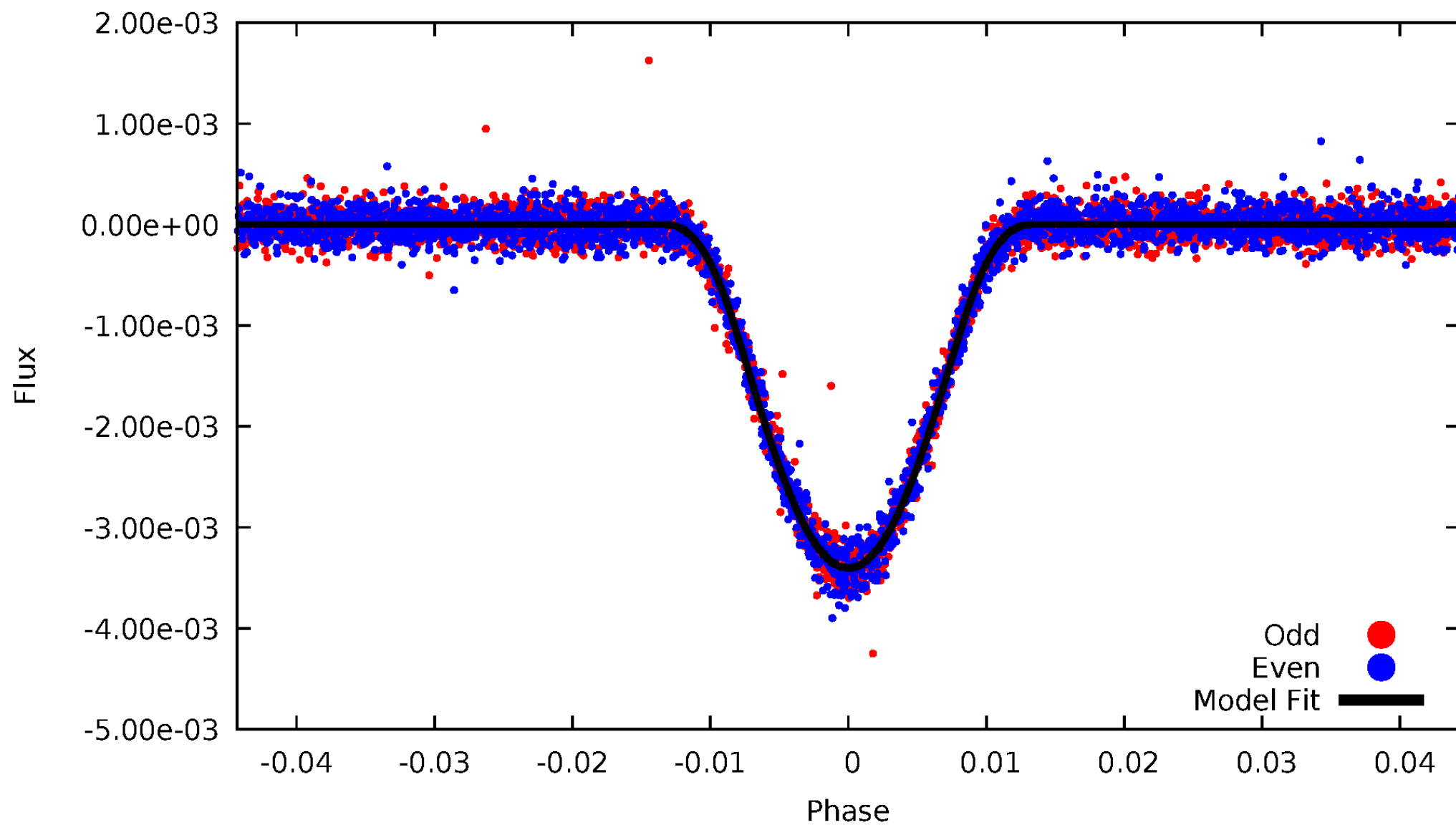


TCE 010125352-01



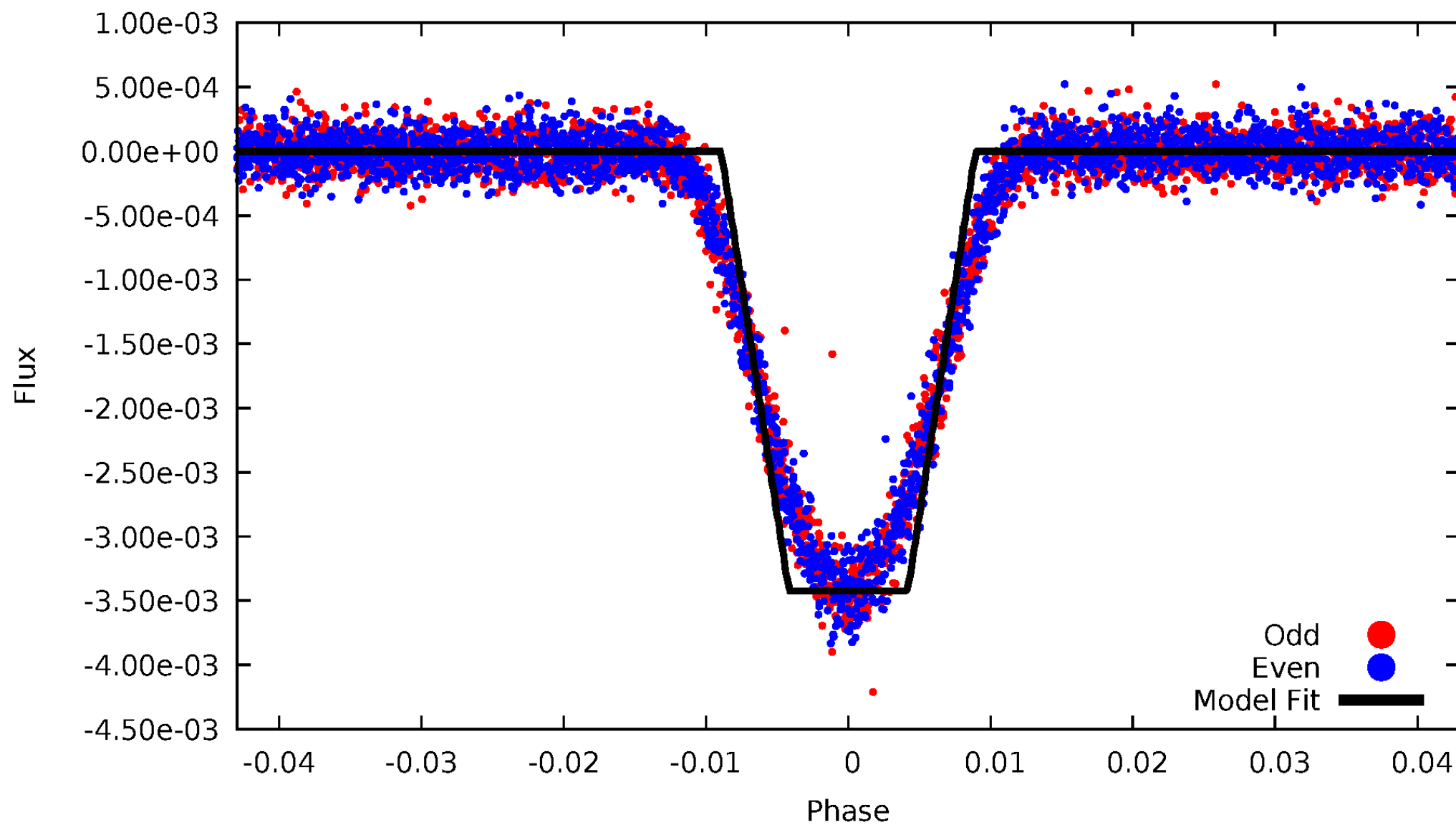
DV Odd/Even

TCE 010125352-01



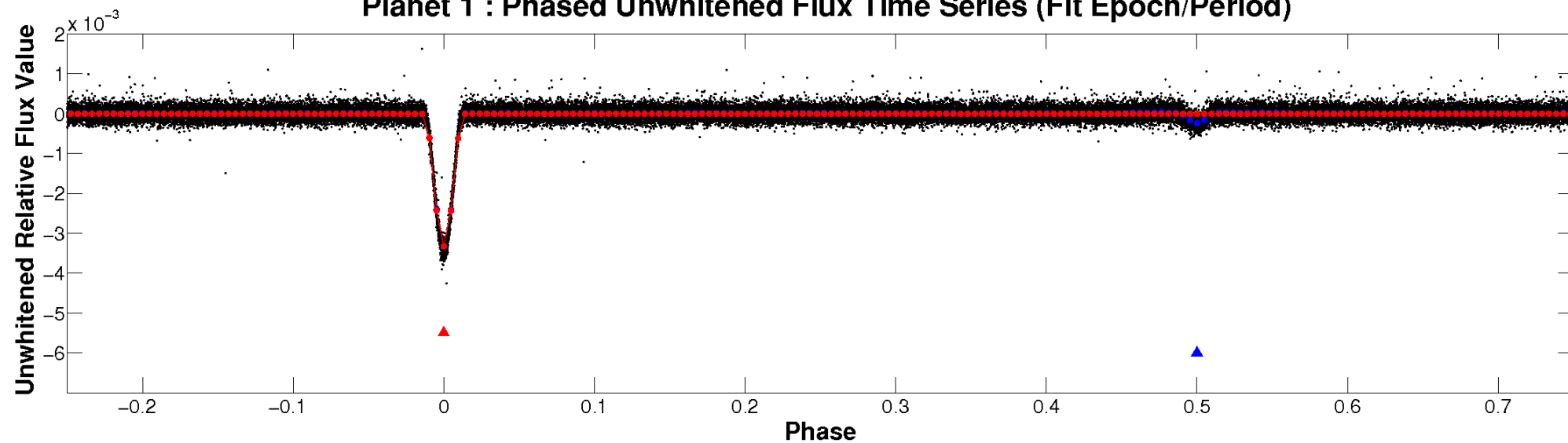
ALT Odd/Even

TCE 010125352-01

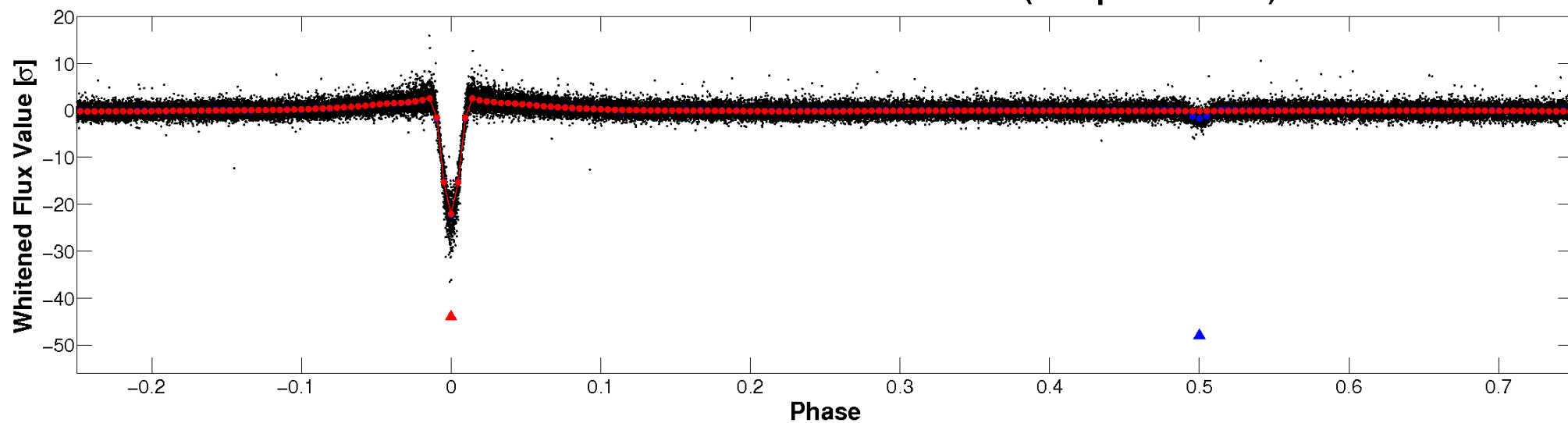


Non-Whitened Vs. Whitened Light Curve

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

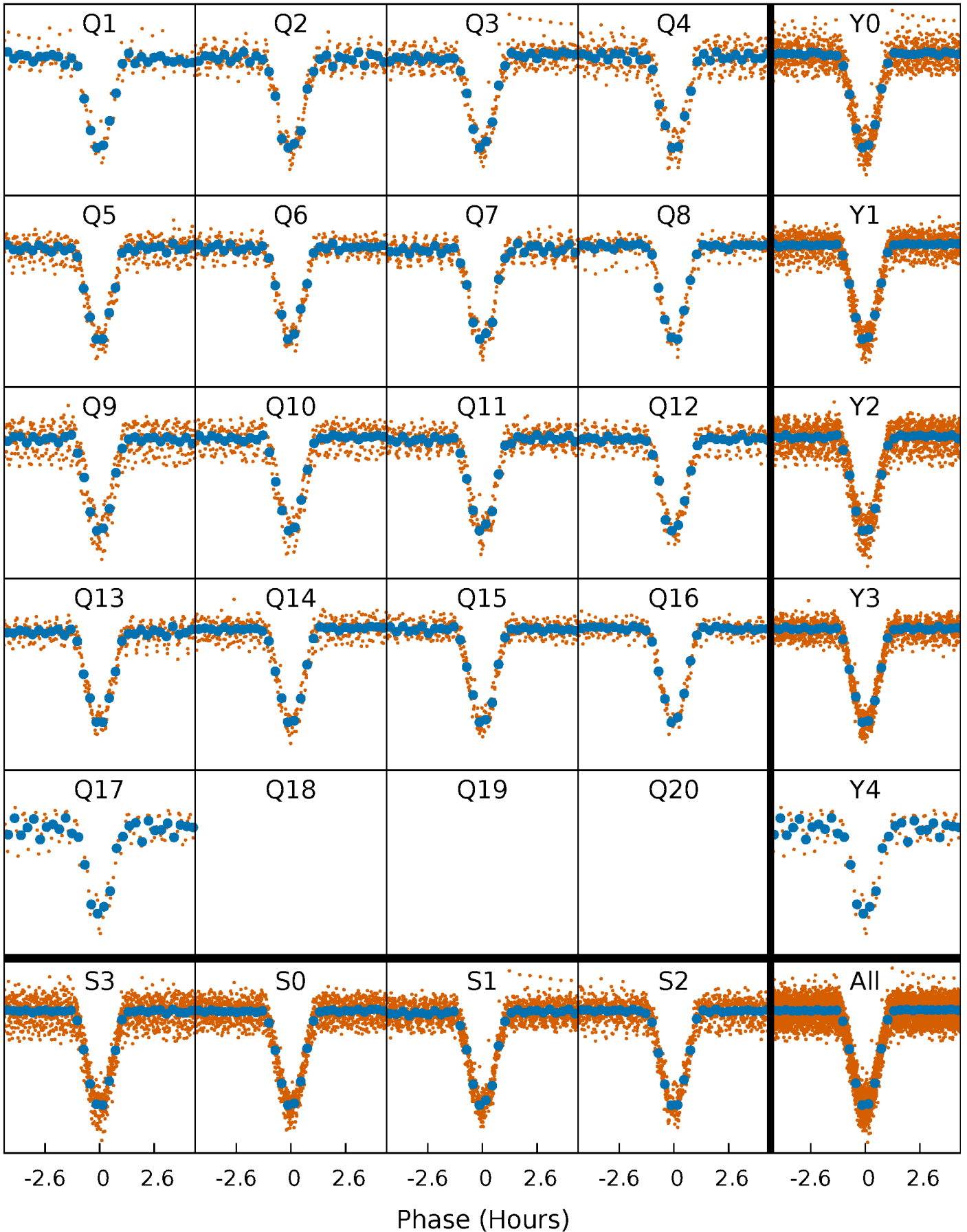


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



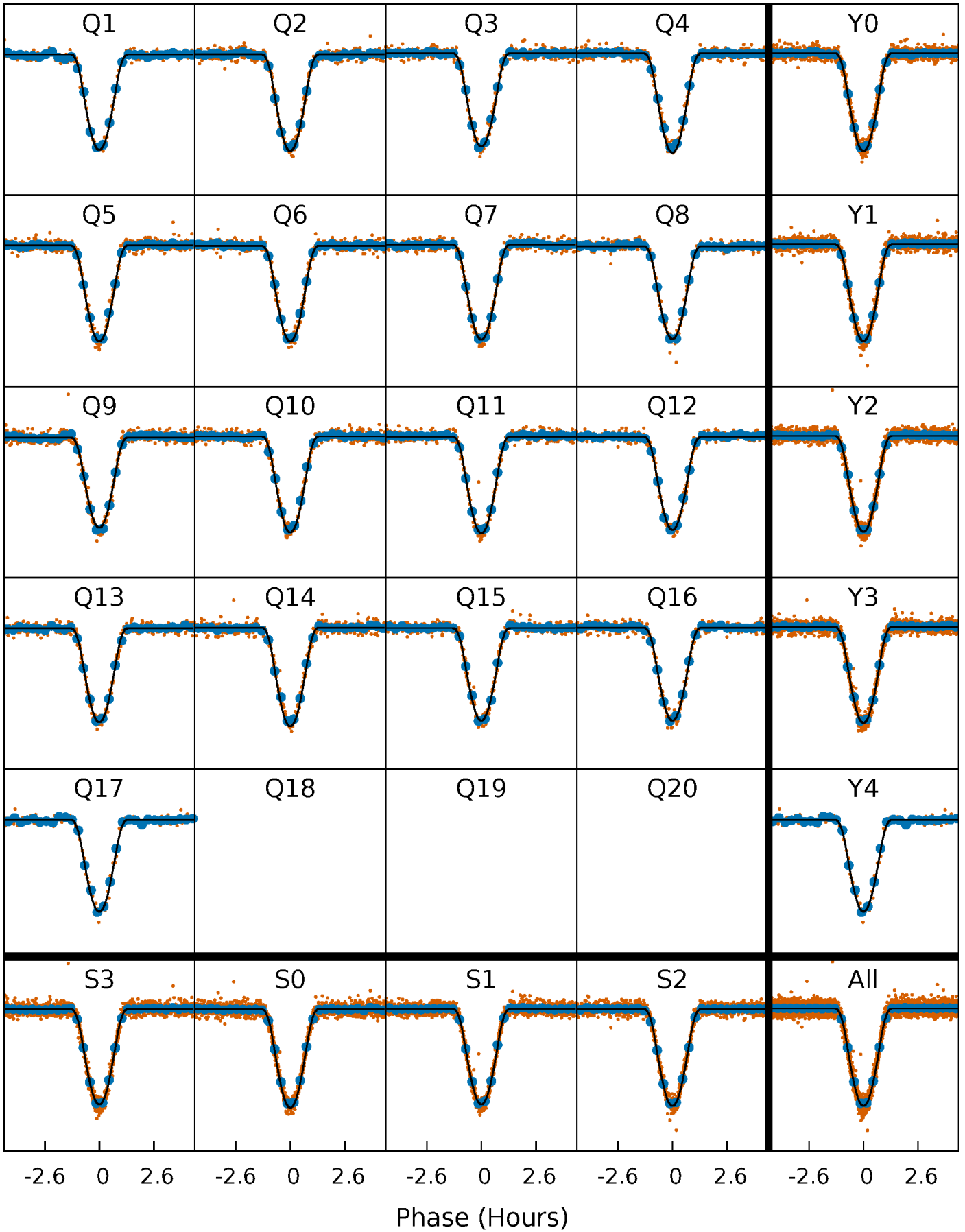
PDC Quarter-Phased Transit Curves

TCE 010125352-01 P= 4.288514 Days $T_0=134.838503$ (BKJD)



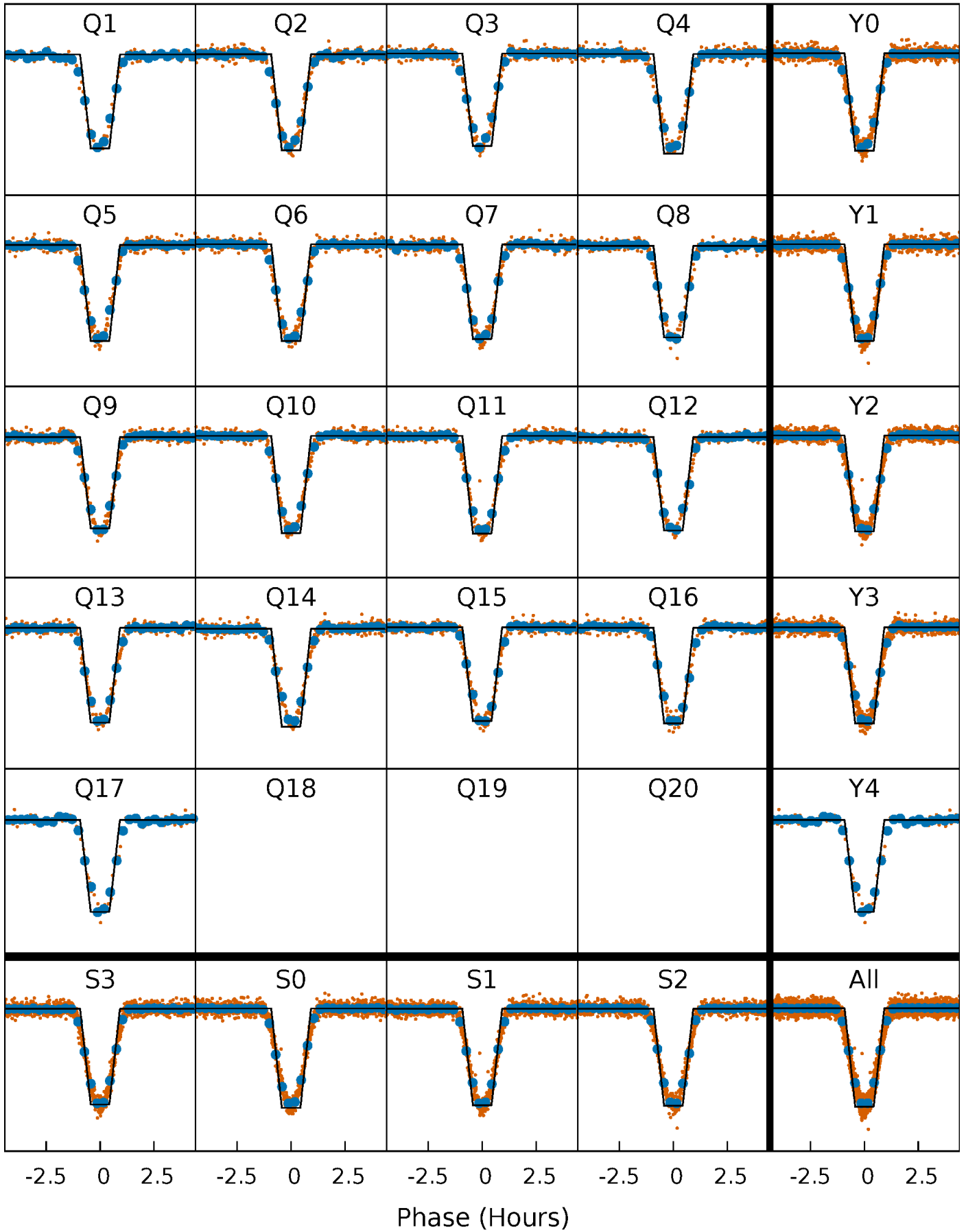
DV Quarter-Phased Transit Curves

TCE 010125352-01 P= 4.288514 Days $T_0=134.838503$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

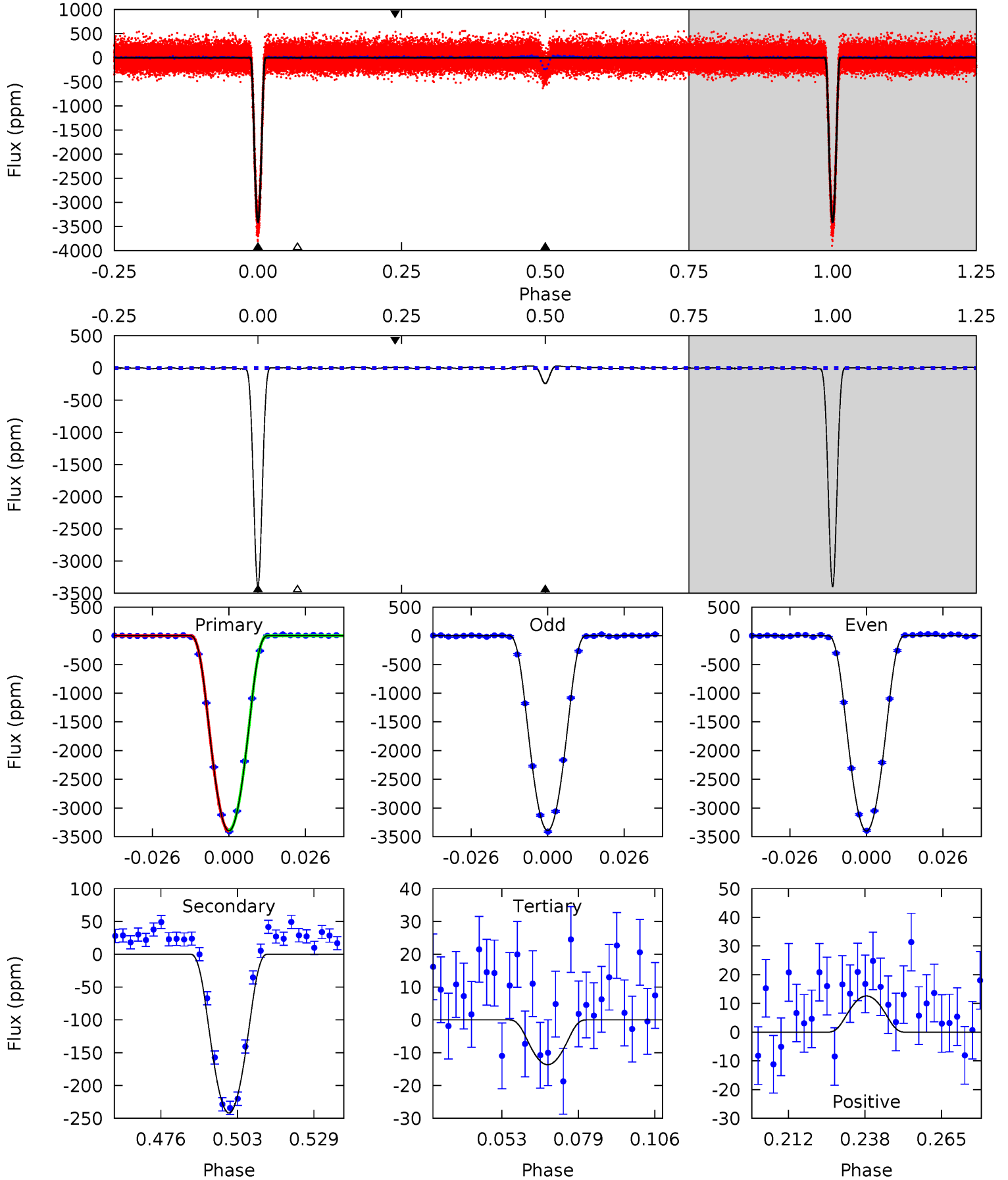
TCE 010125352-01 P= 4.288502 Days $T_0=134.840561$ (BKJD)



DV Model-Shift Uniqueness Test

010125352-01, P = 4.288514 Days, E = 130.549989 Days

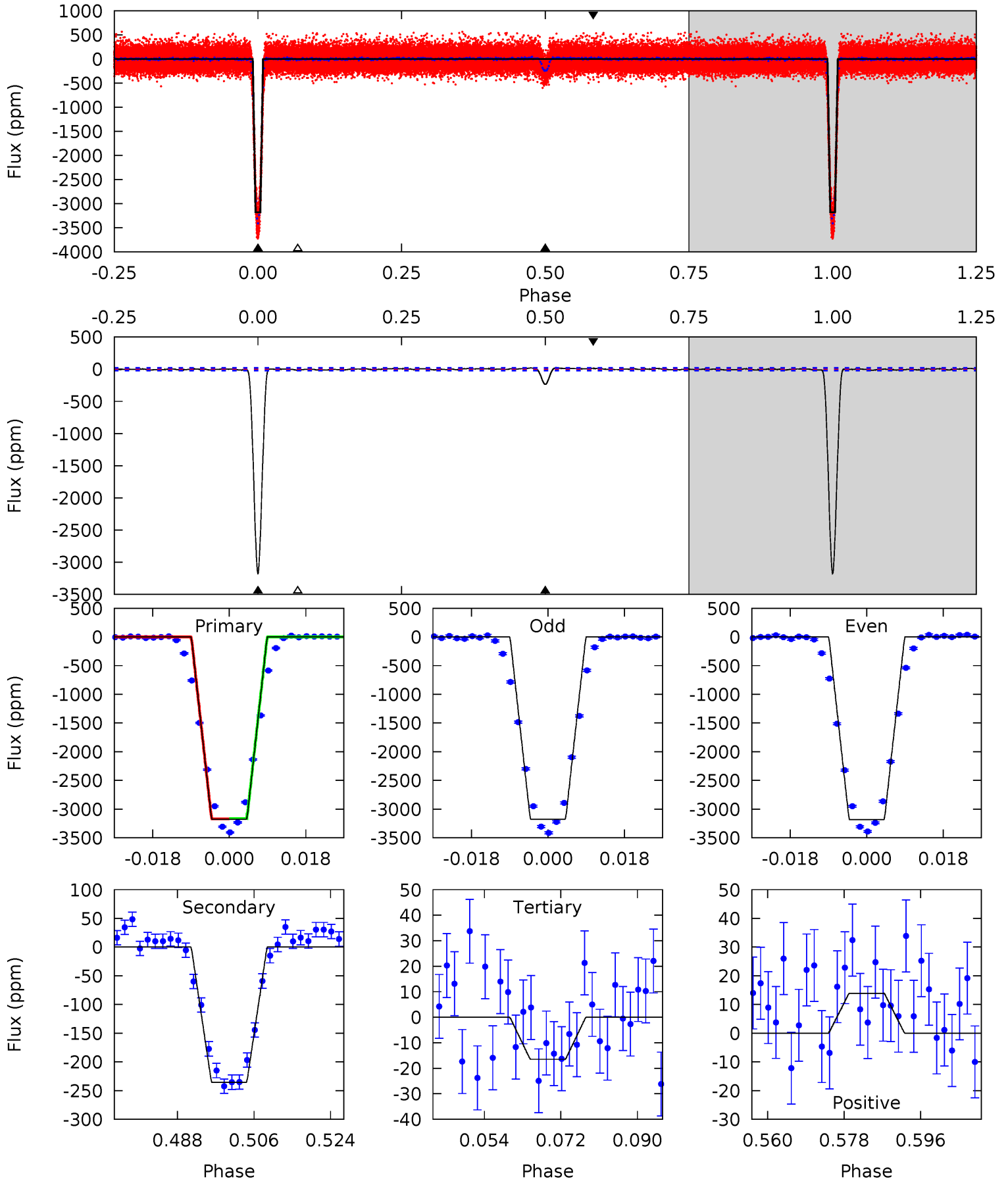
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1044	74.4	4.20	3.88	4.84	2.22	2.40	1040	1040	70.2	70.5	1.18	1.00	0.01	1.97



Alt Model-Shift Uniqueness Test

010125352-01, P = 4.288502 Days, E = 130.552059 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
764.0	56.7	3.96	3.34	4.91	2.36	1.68	760.0	760.7	52.7	53.3	0.75	1.00	0.01	0.54



Stellar Parameters For KIC 010125352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6378^{+176}_{-176}	$3.878^{+0.315}_{-0.105}$	$-0.560^{+0.350}_{-0.300}$	$2.002^{+0.422}_{-0.686}$	$1.104^{+0.192}_{-0.173}$	$0.194^{+0.428}_{-0.062}$
	+3%/-3%	+8%/-3%	+62%/-54%	+21%/-34%	+17%/-16%	+221%/-32%
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 010125352-01 / KOI 0021.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-242 ± 3	$20.06^{+3.18}_{-4.02}$	2369^{+152}_{-220}	3020^{+128}_{-125}	$0.960^{+0.492}_{-0.234}$
Alt.	-236 ± 4	$12.22^{+2.60}_{-2.70}$	2352^{+159}_{-216}	3607^{+207}_{-173}	$2.554^{+1.543}_{-0.836}$

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 $A_{obs} \gg 1.0$

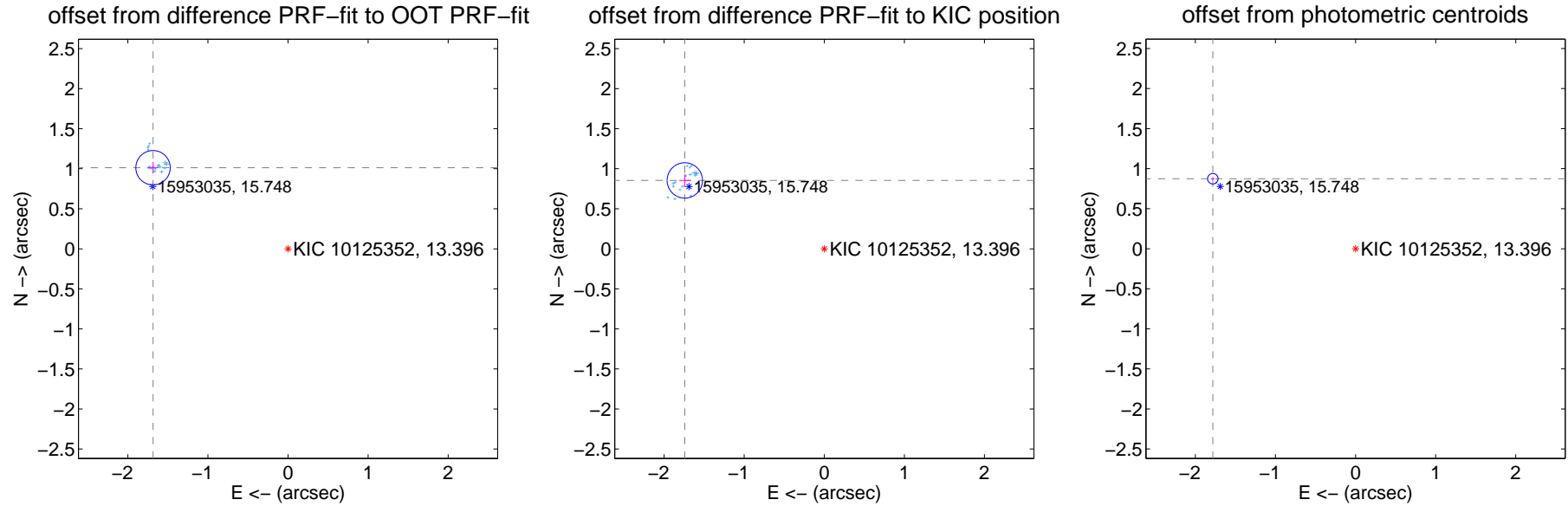
DV Centroid Data

Supplemental centroid analysis for 010125352-01. Kepler magnitude: 13.40. Transit SNR 546.63

There are 17 quarters with good PRF difference image offsets

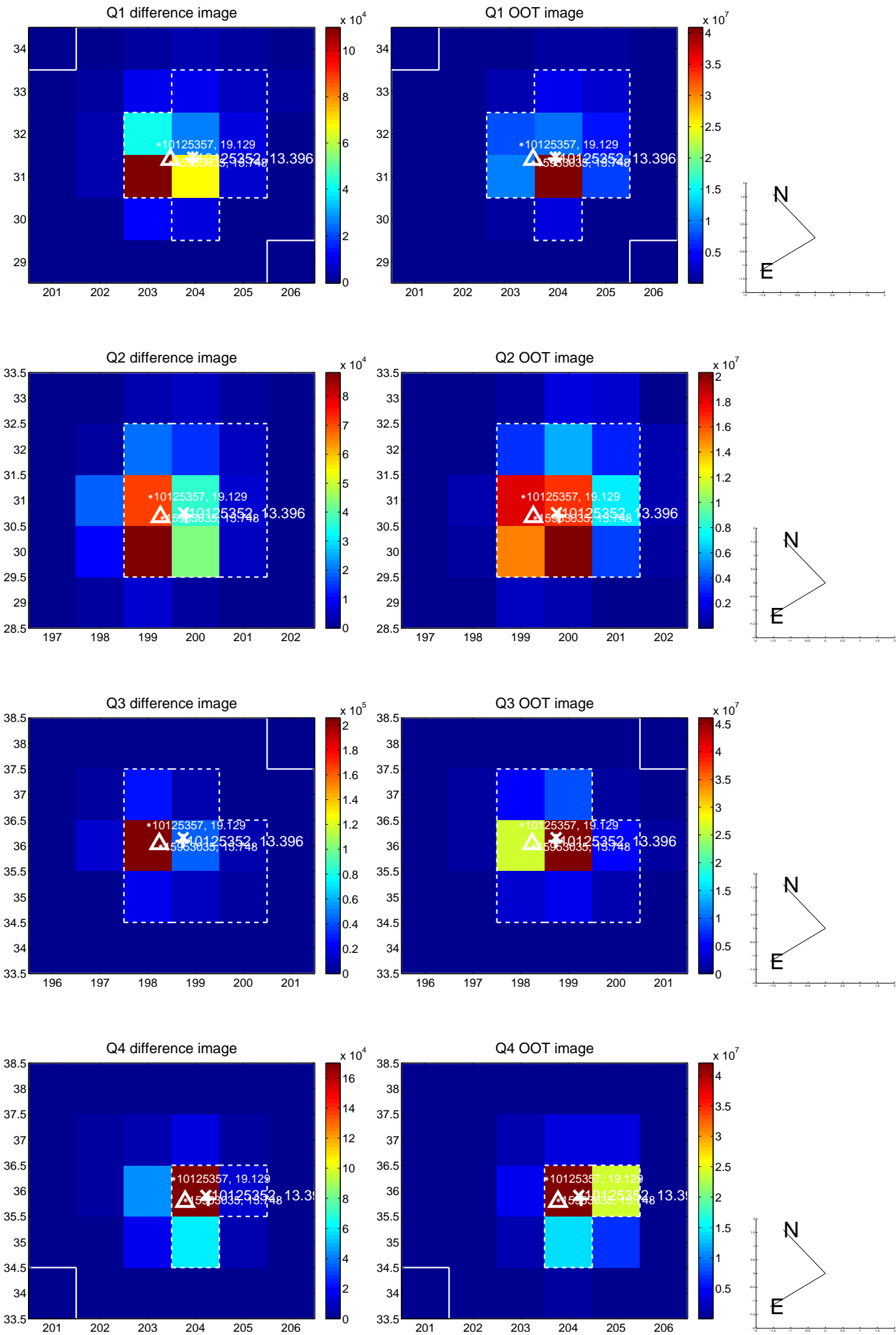
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.967 ± 0.072	27.49	1.686 ± 0.069	1.013 ± 0.072
PRF-fit source offset from KIC position	1.940 ± 0.074	26.36	1.742 ± 0.072	0.854 ± 0.079
photometric centroid source offset	1.99 ± 0.02	91.00	1.78 ± 0.02	0.87 ± 0.02

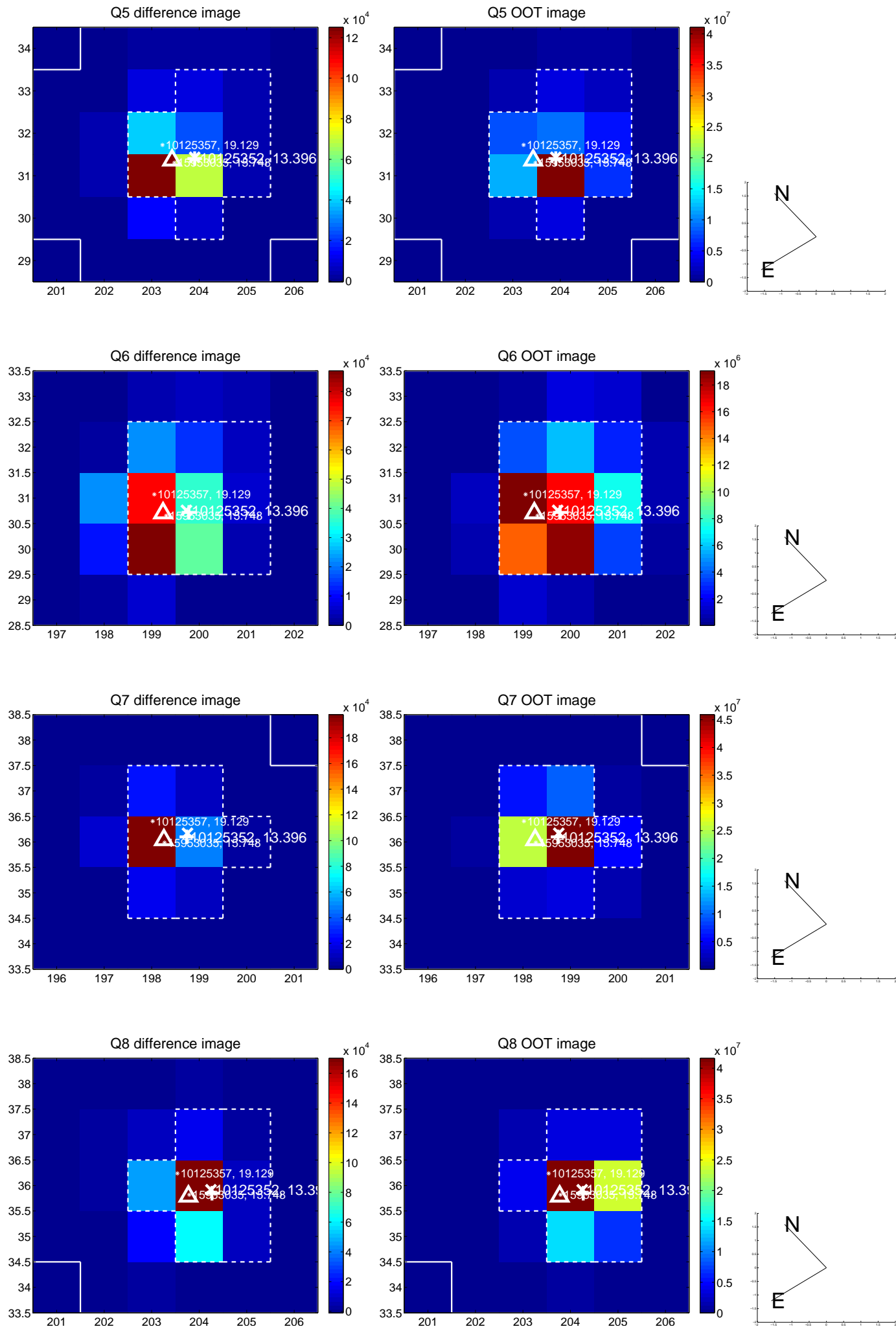


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

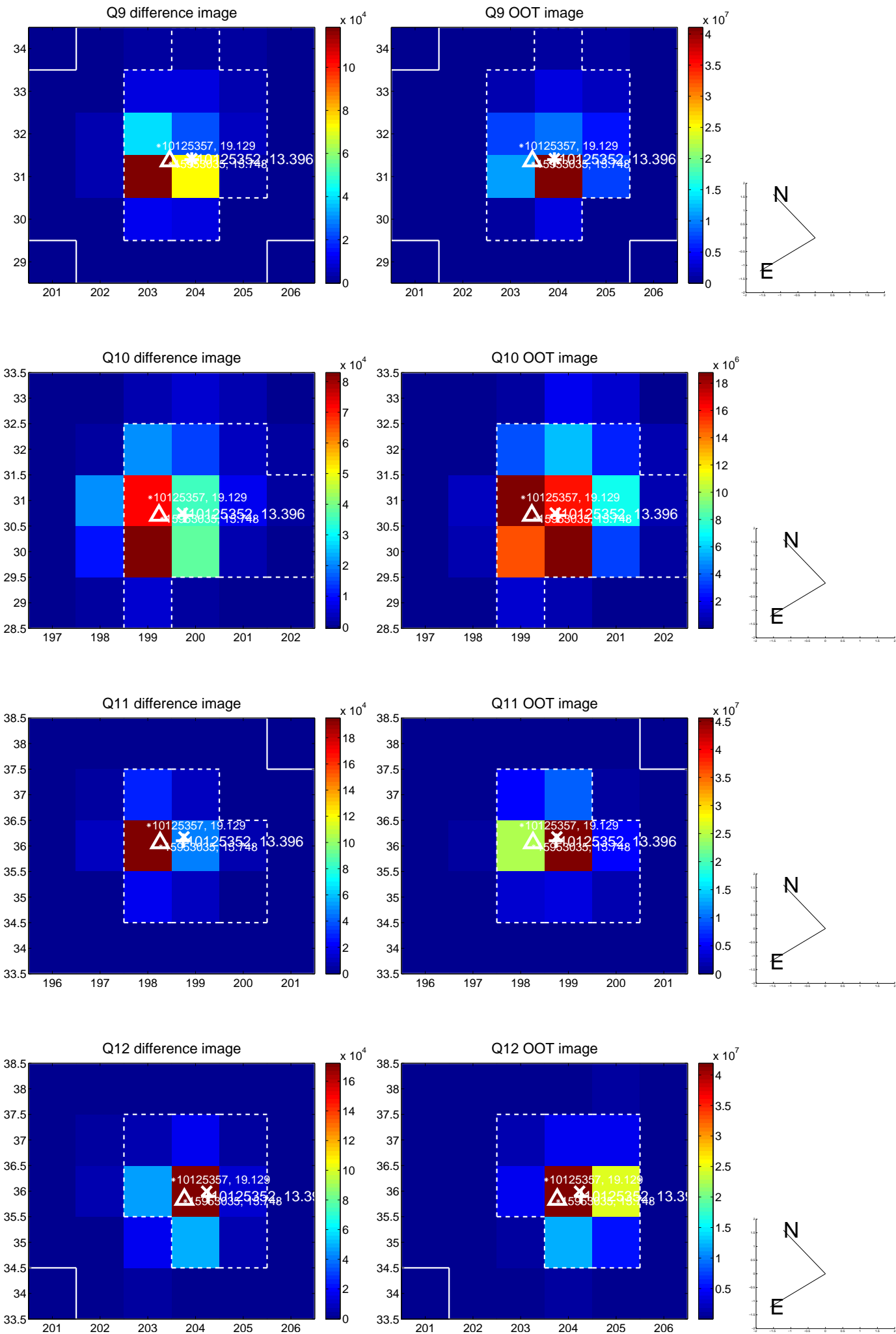
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



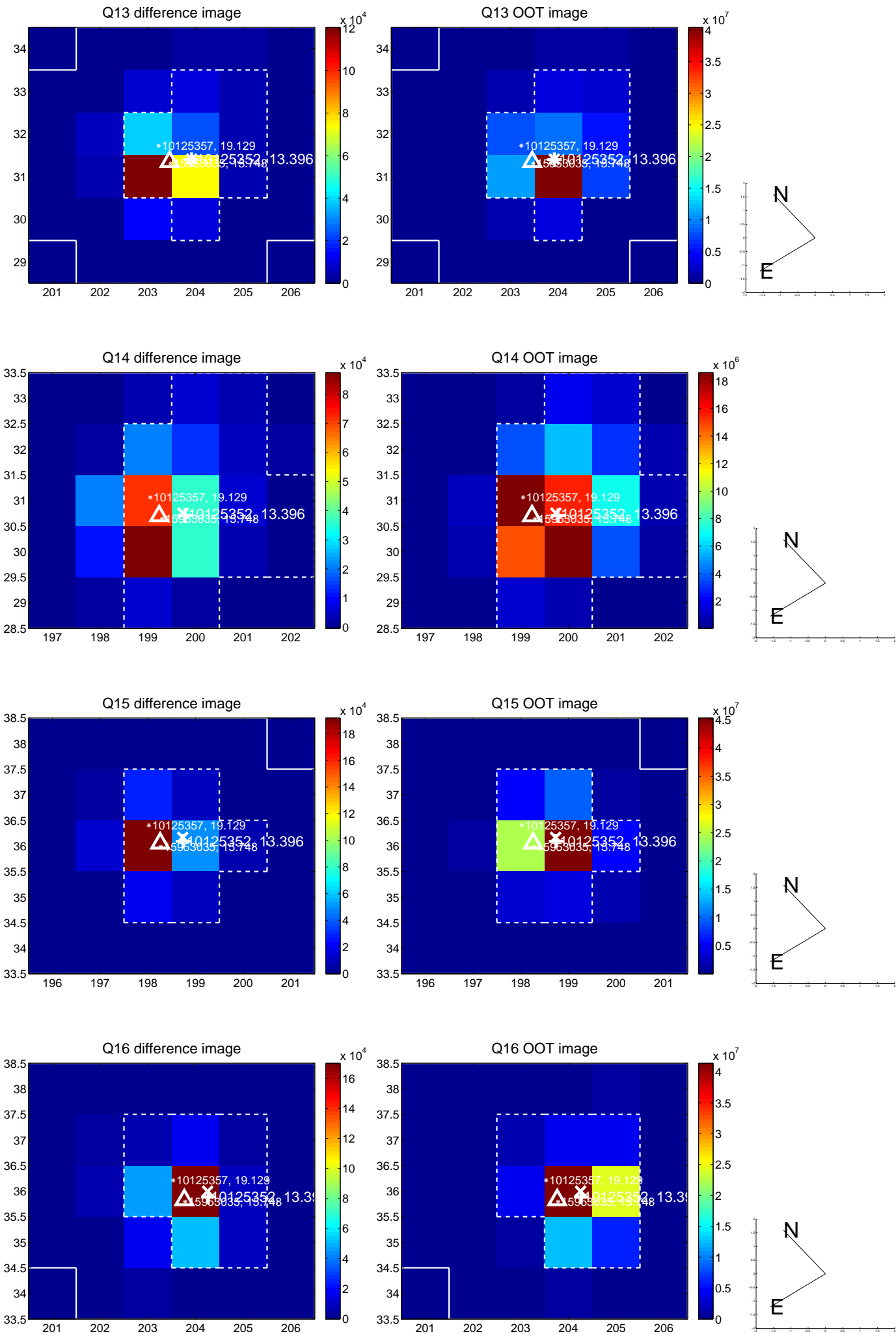
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



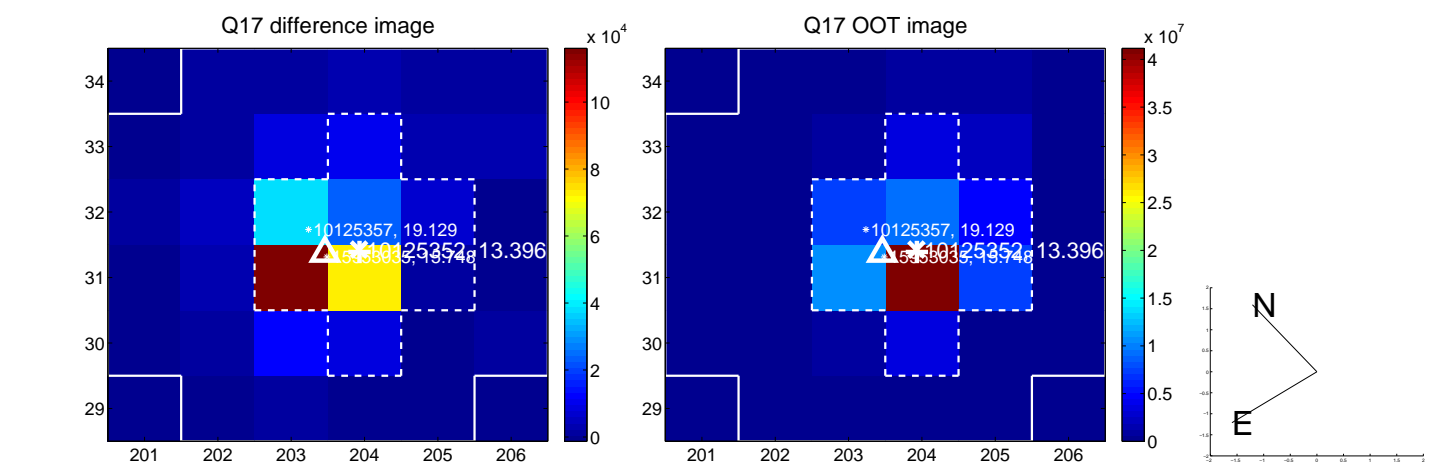
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



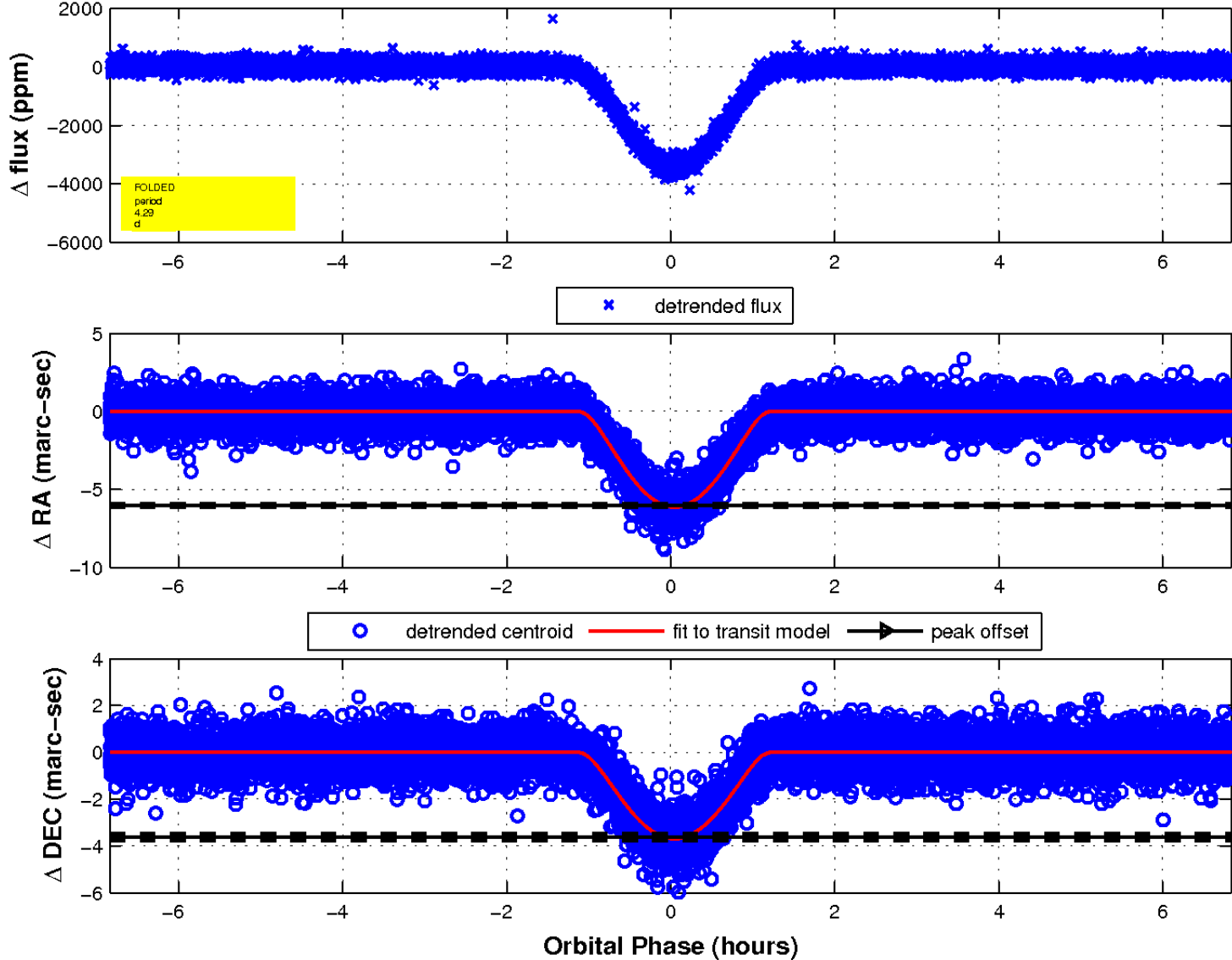
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

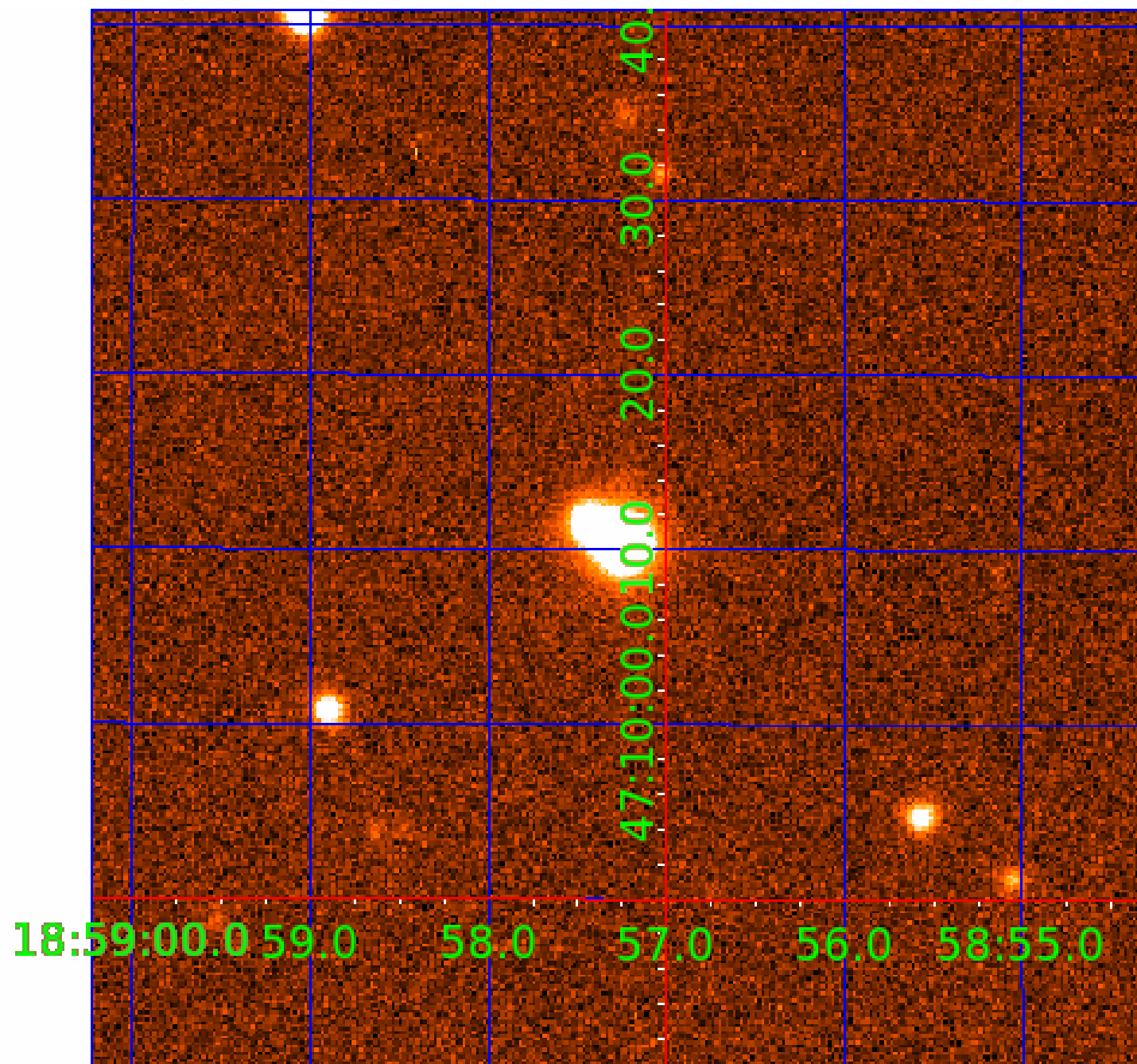


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 010125352

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})
010125352-01	OBS	0021.01	4.288514	134.838503	3402.1	2.279	563.3	546.6	2.00	6378	20.67	2083.85
010125352-02	OBS	No	4.288514	132.694563	267.8	2.075	39.1	46.2	2.00	6378	4.34	2083.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010125352-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
010125352-02	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.

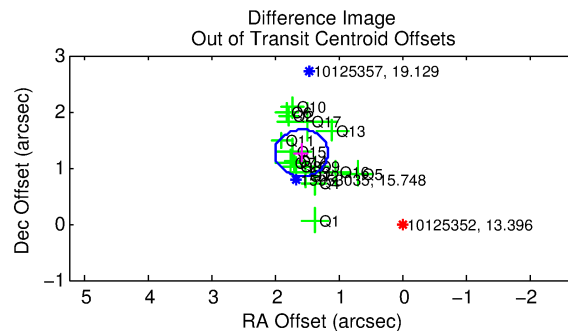
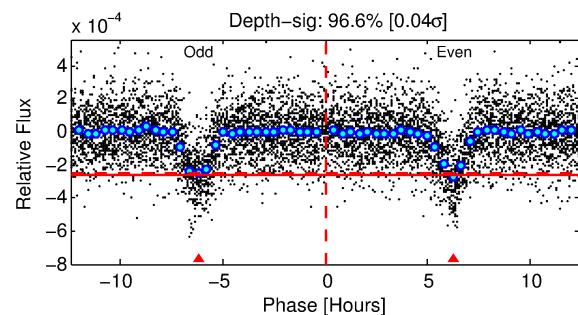
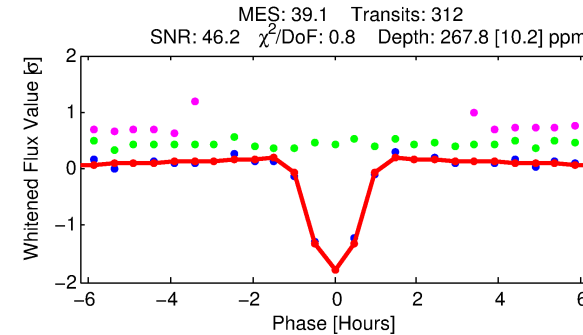
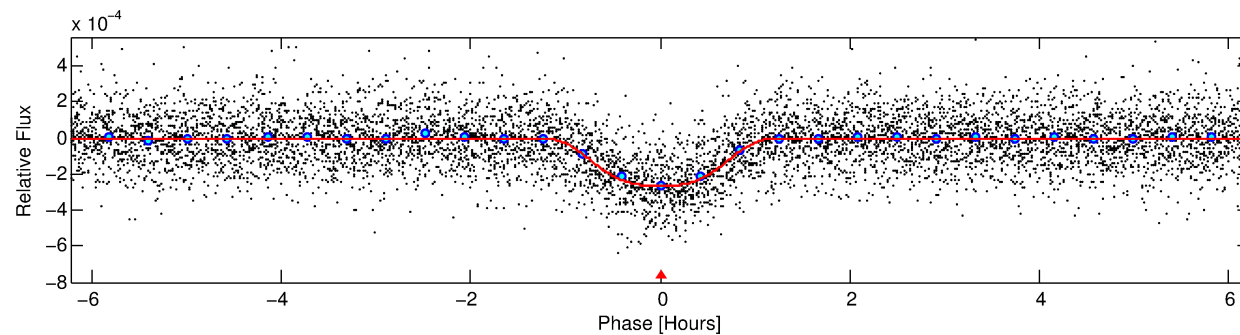
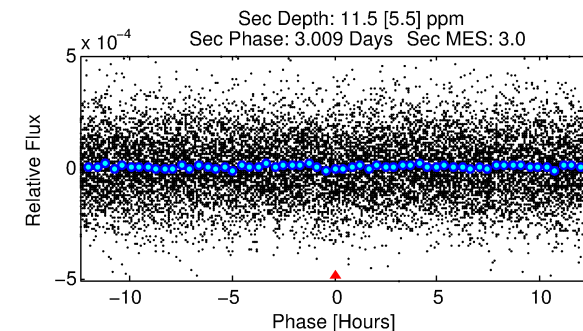
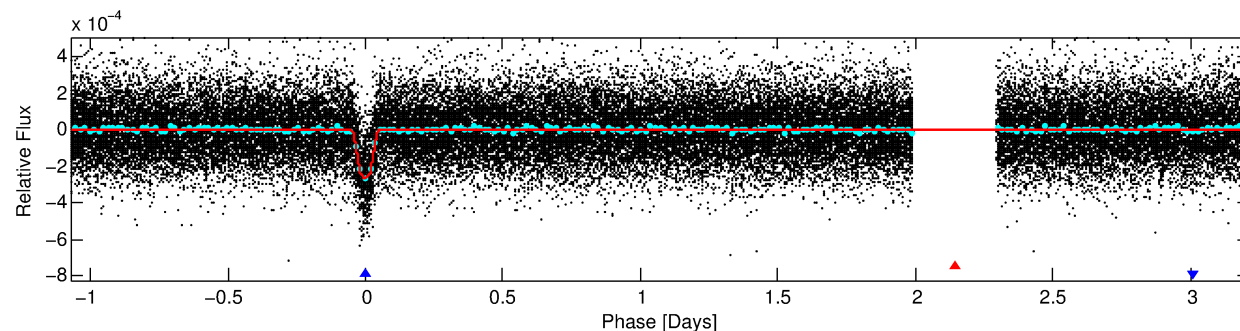
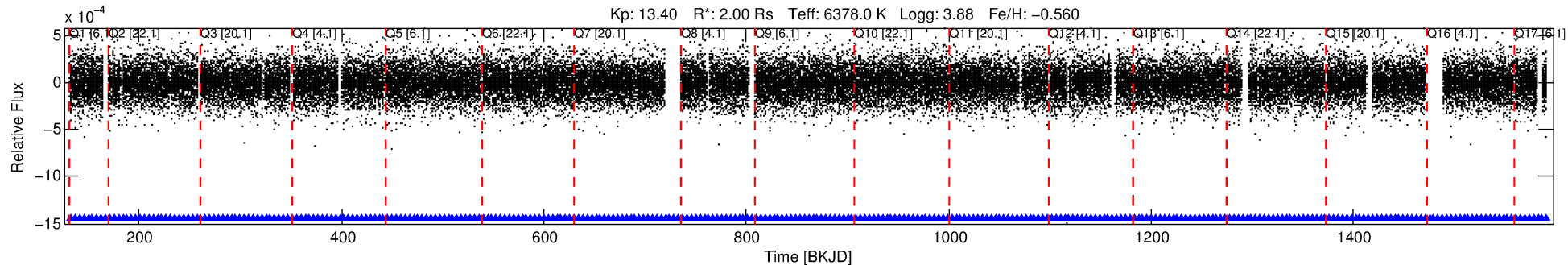
Ephemeris Match Information For 010125352-02

No Significant Match Found

DV One-Page Summary

KIC: 10125352 Candidate: 2 of 2 Period: 4.289 d
KOI: K00021 Corr: No Ephemeris Match

Kp: 13.40 R*: 2.00 Rs Teff: 6378.0 K Logg: 3.88 Fe/H: -0.560



DV Fit Results:

Period = 4.28851 [0.00001] d
Epoch = 132.6946 [0.0008] BKJD
Rp/R* = 0.0199 [0.0006]
a/R* = 4.67 [0.30]
b = 0.98 [0.00]
Seff = 2083.85 [1137.91]
Teq = 1723 [235] K
Rp = 4.34 [1.49] Re
a = 0.0534 [0.0178] AU
Ag = 0.96 [0.69] [-0.06σ]
Teffp = 2636 [328] K [2.26σ]

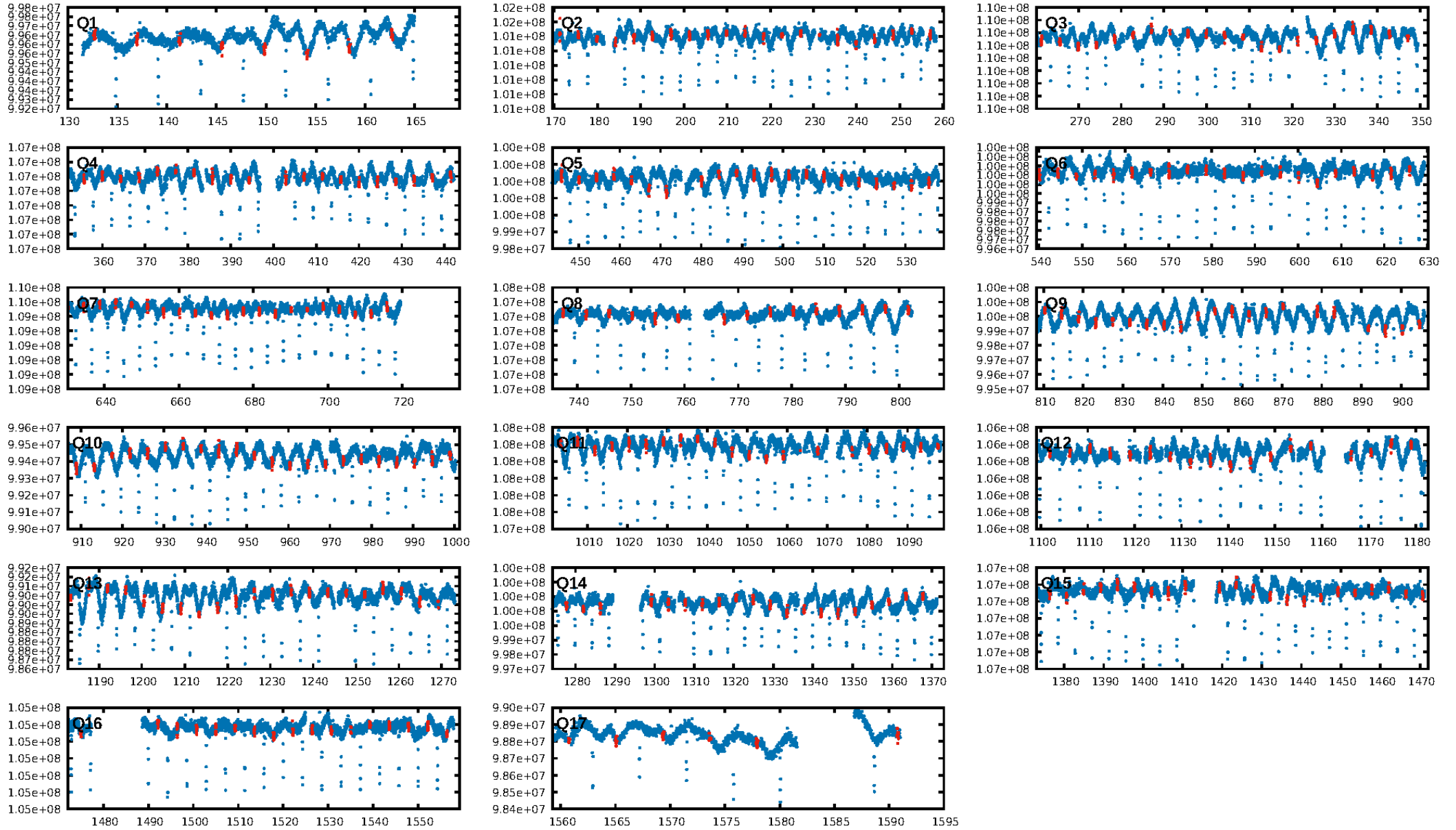
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [298/298]
GhostDiagnostic-chr: 4.195
Centroid-sig: 0.0%
Centroid-so: 2.091 arcsec [7.95σ]
OotOffset-rm: 2.035 arcsec [14.69σ]
KicOffset-rm: 1.962 arcsec [16.73σ]
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]

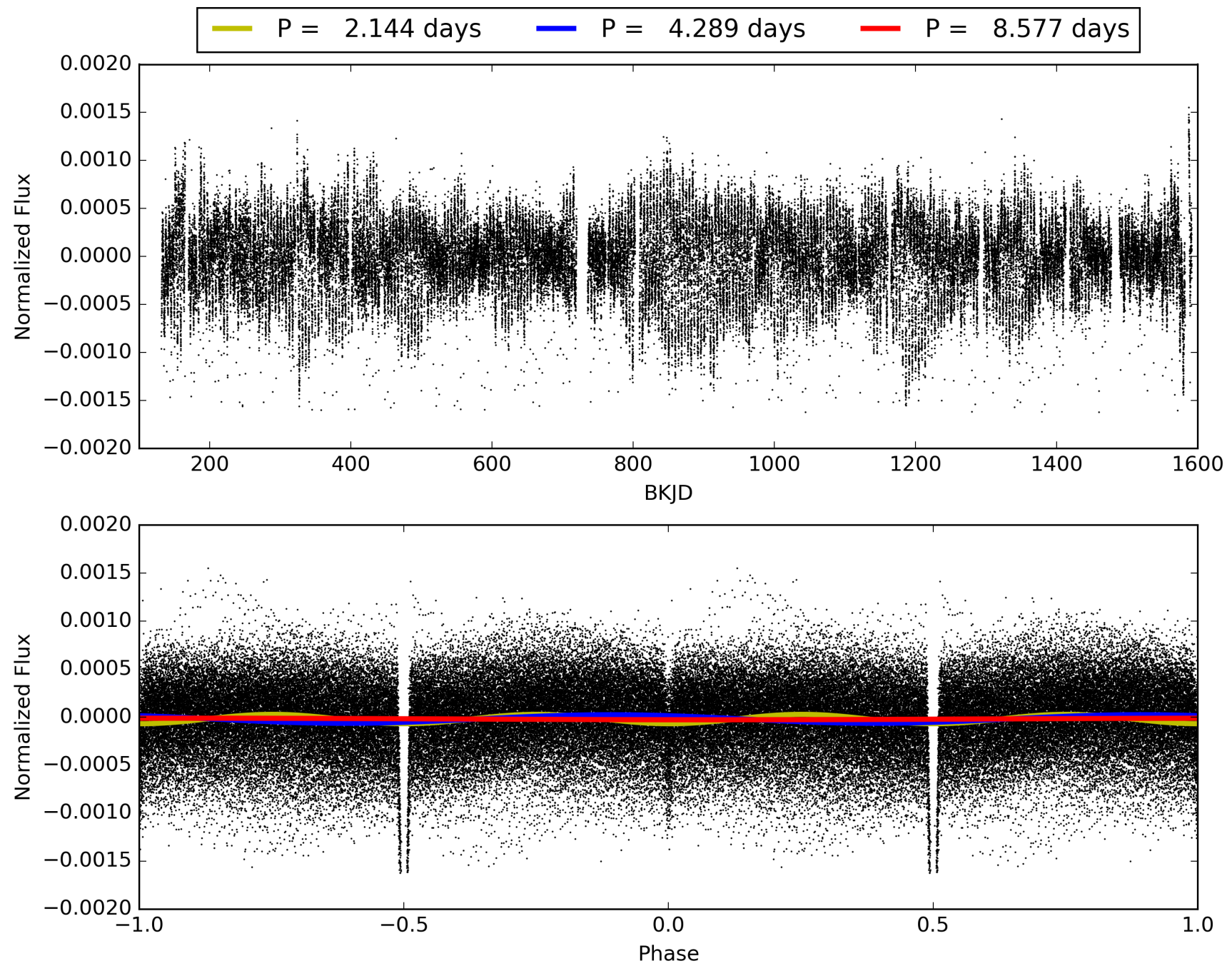
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:27:06 Z

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

TCE 010125352-02, PDC Light Curves

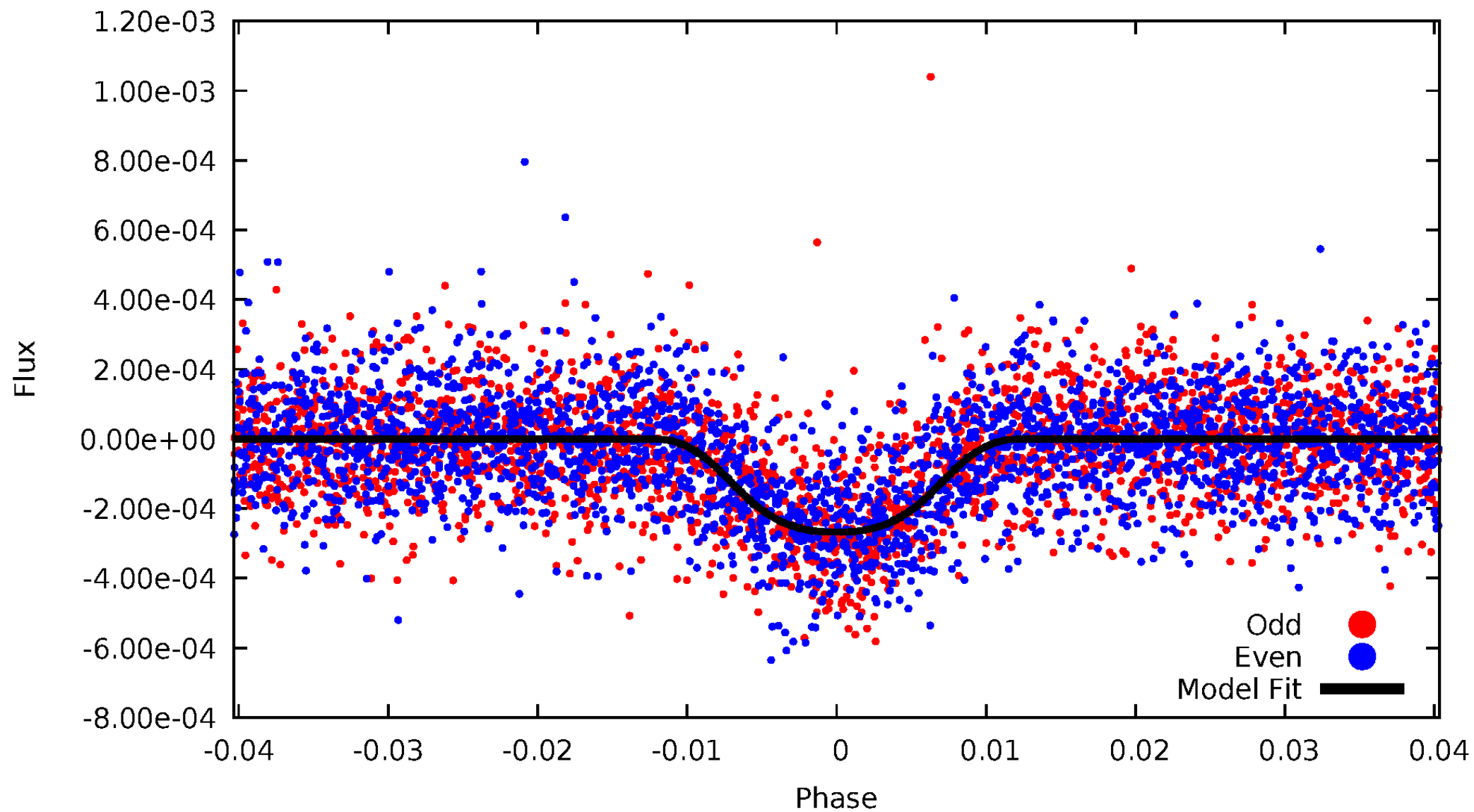


TCE 010125352-02



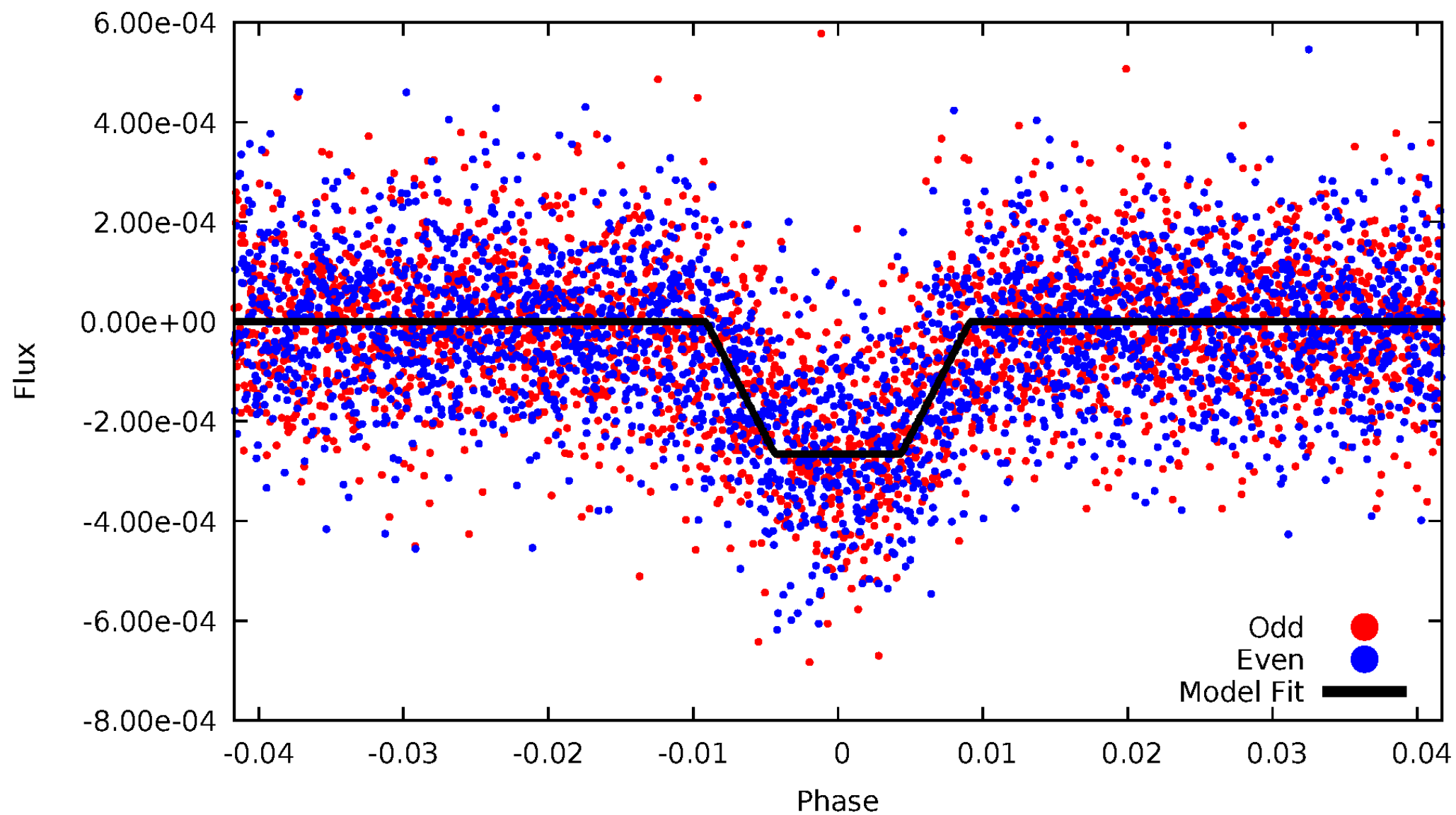
DV Odd/Even

TCE 010125352-02



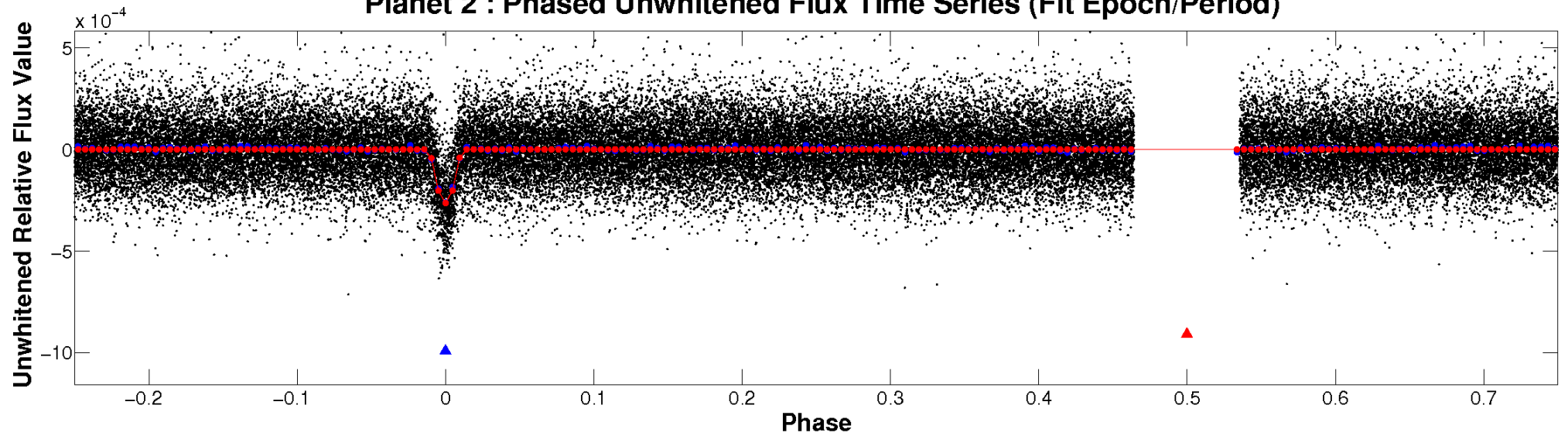
ALT Odd/Even

TCE 010125352-02

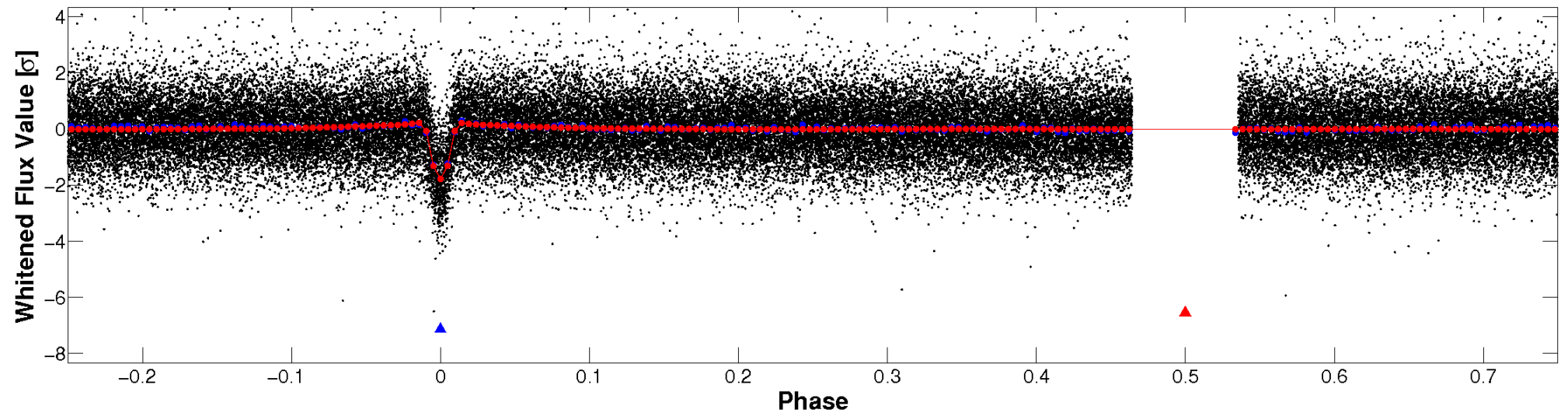


Non-Whitened Vs. Whitened Light Curve

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

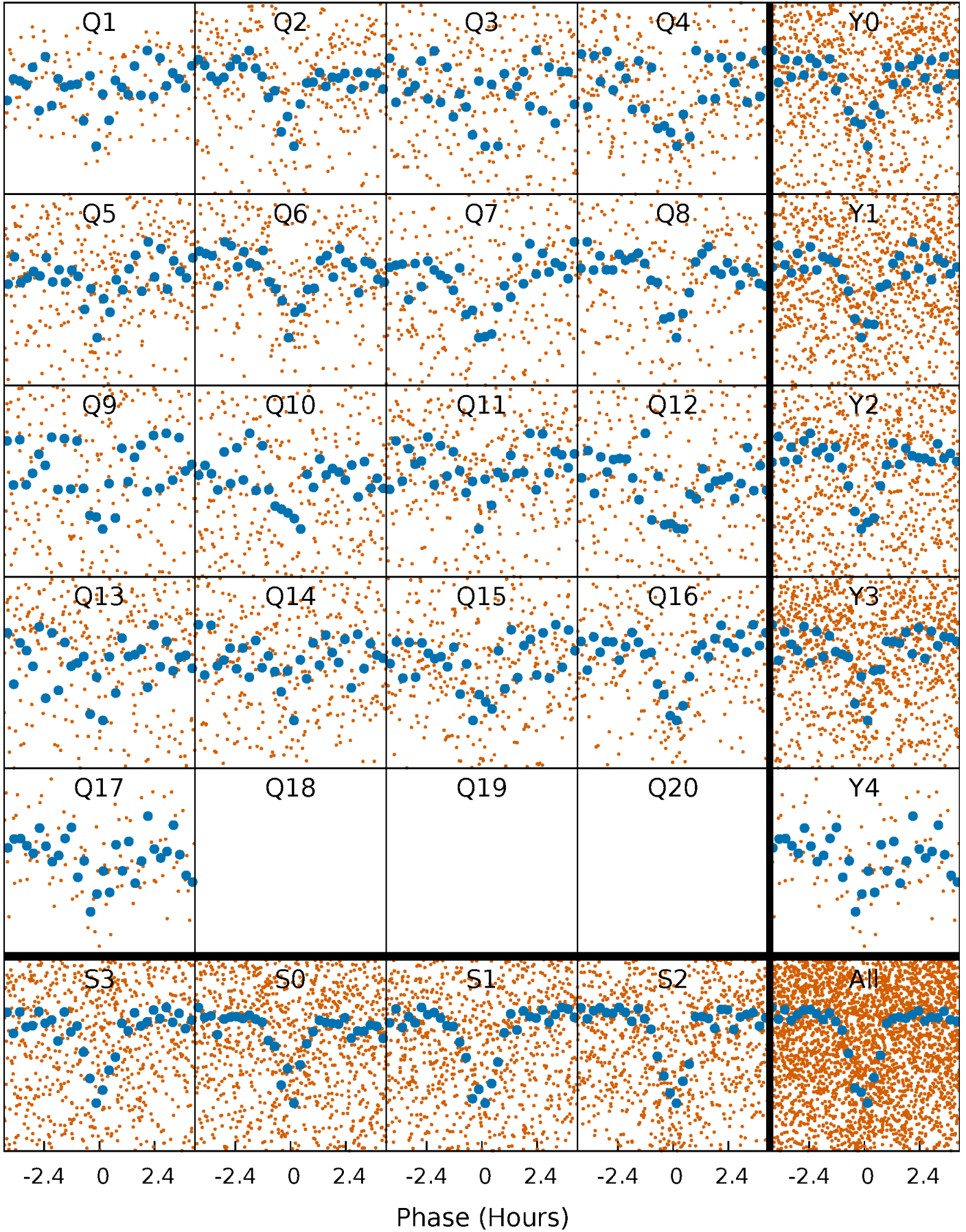


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



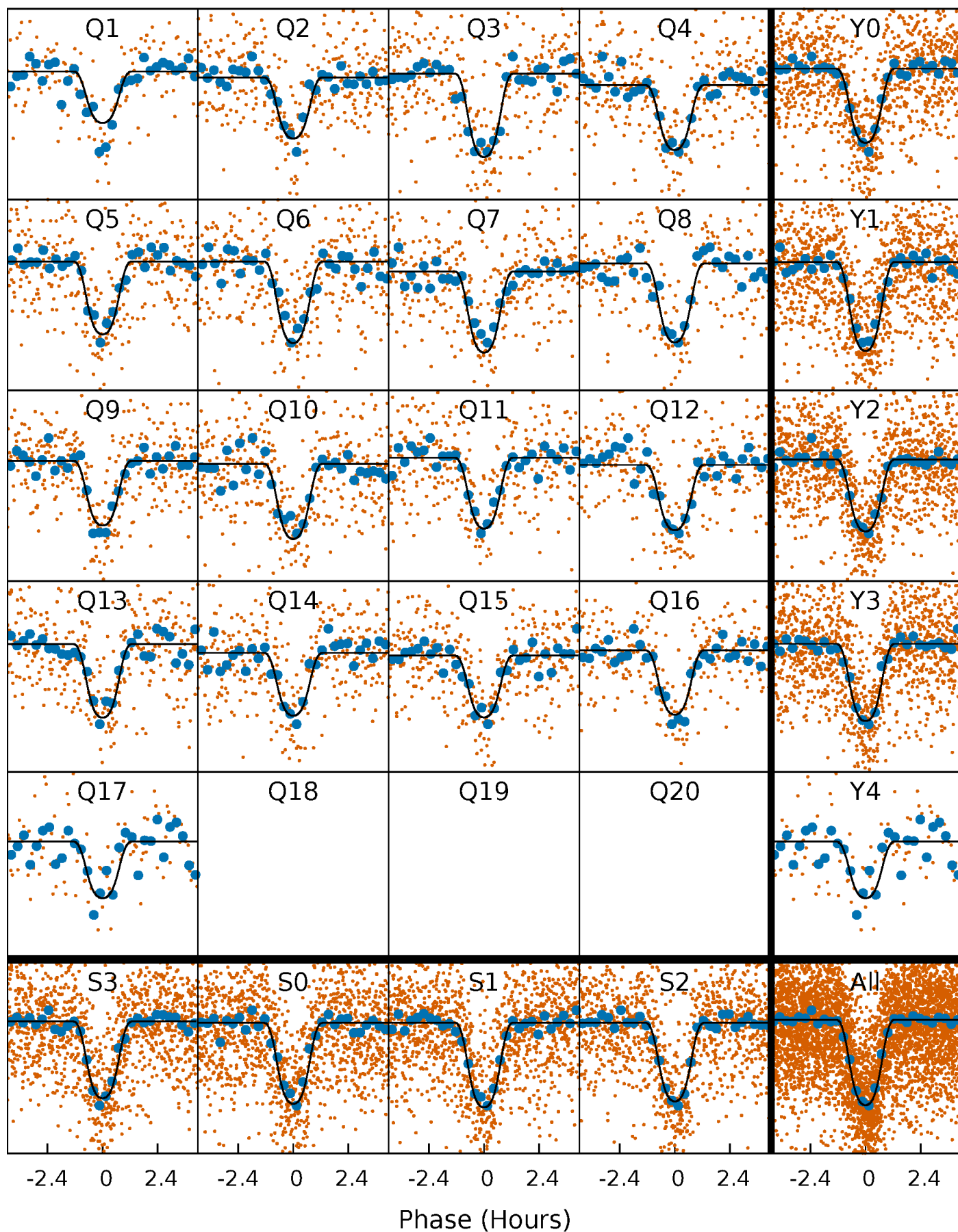
PDC Quarter-Phased Transit Curves

TCE 010125352-02 P= 4.288514 Days $T_0=132.694563$ (BKJD)



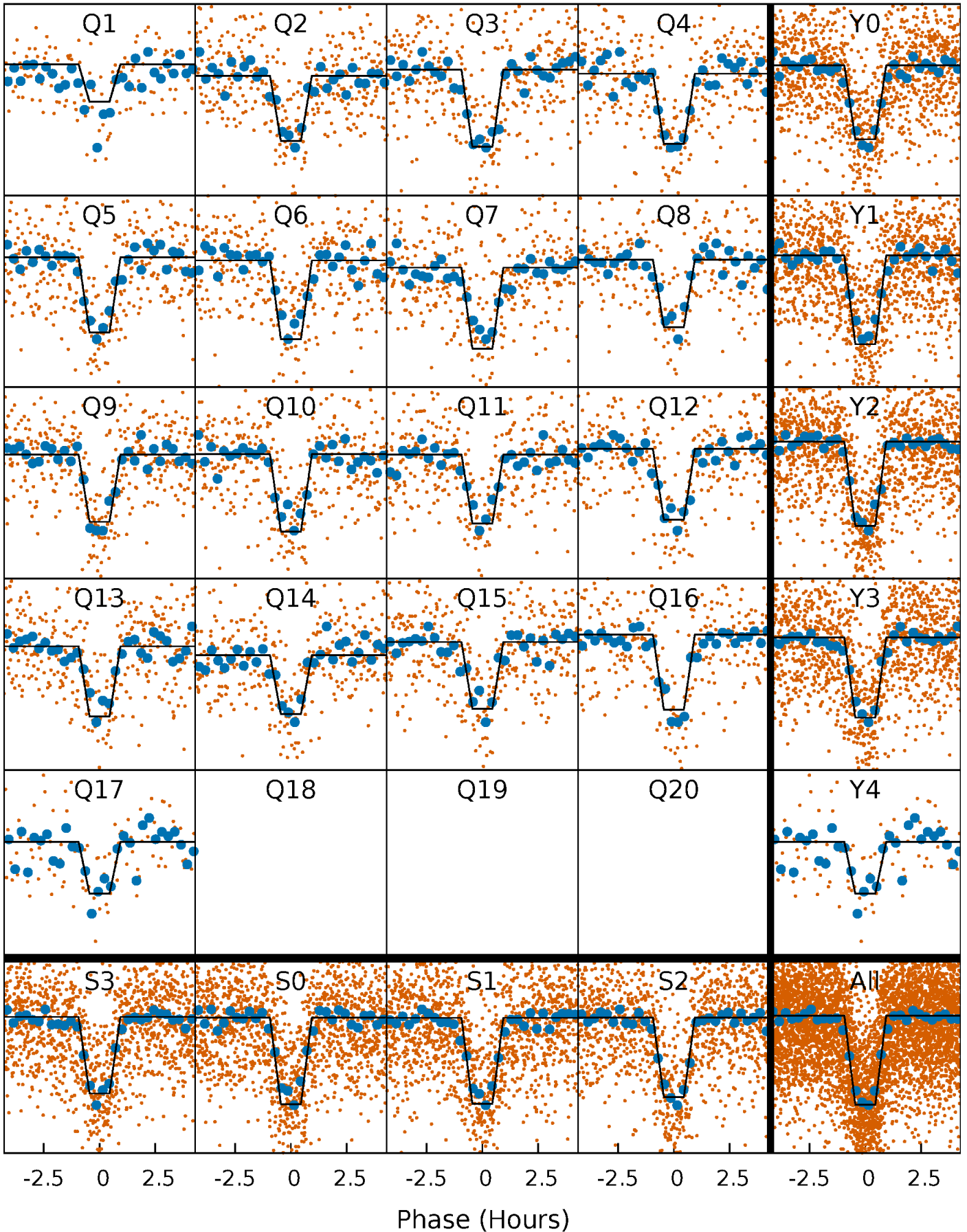
DV Quarter-Phased Transit Curves

TCE 010125352-02 $P = 4.288514$ Days $T_0 = 132.694563$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

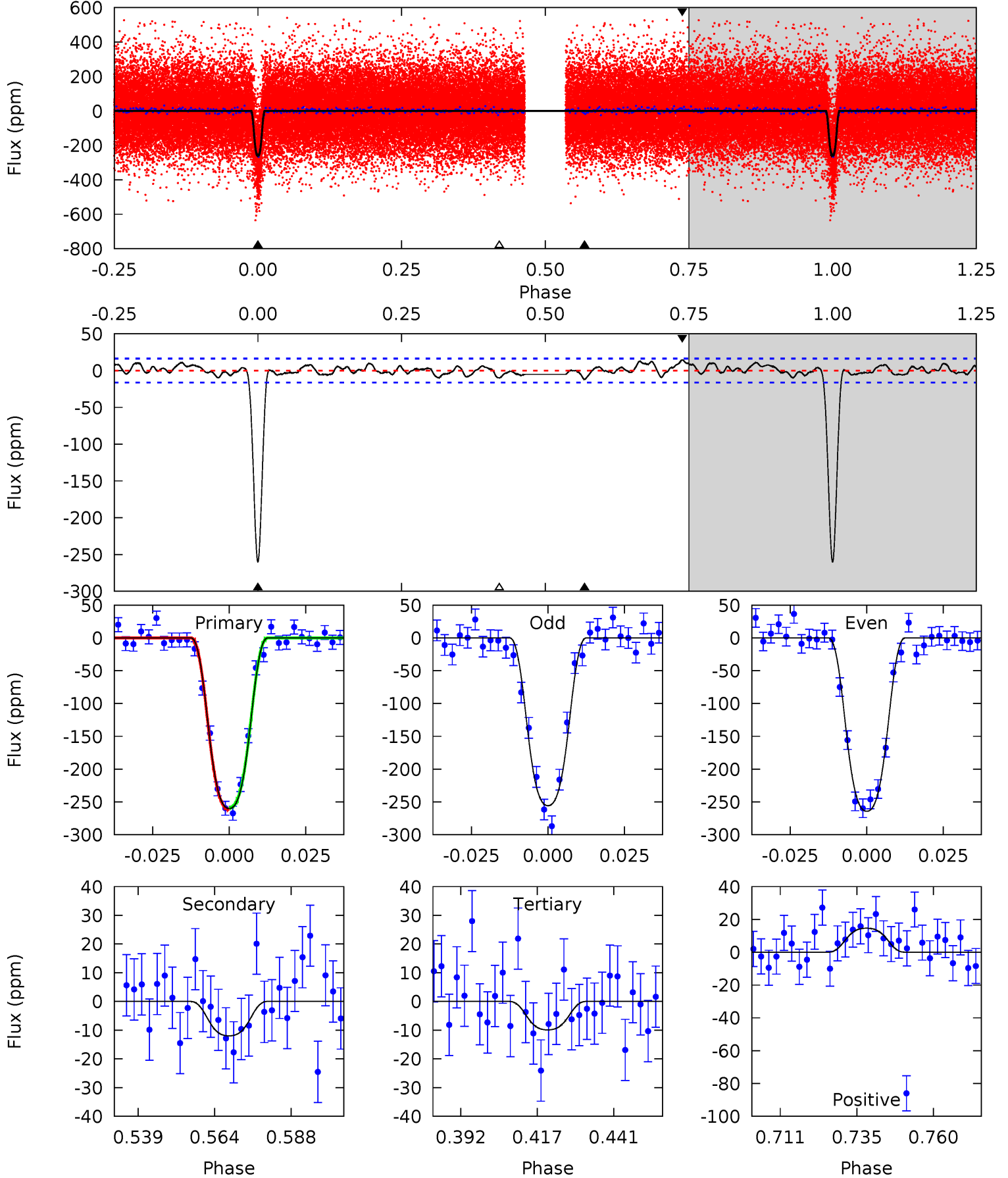
TCE 010125352-02 $P = 4.288515$ Days $T_0 = 132.693719$ (BKJD)



DV Model-Shift Uniqueness Test

010125352-02, P = 4.288514 Days, E = 128.406049 Days

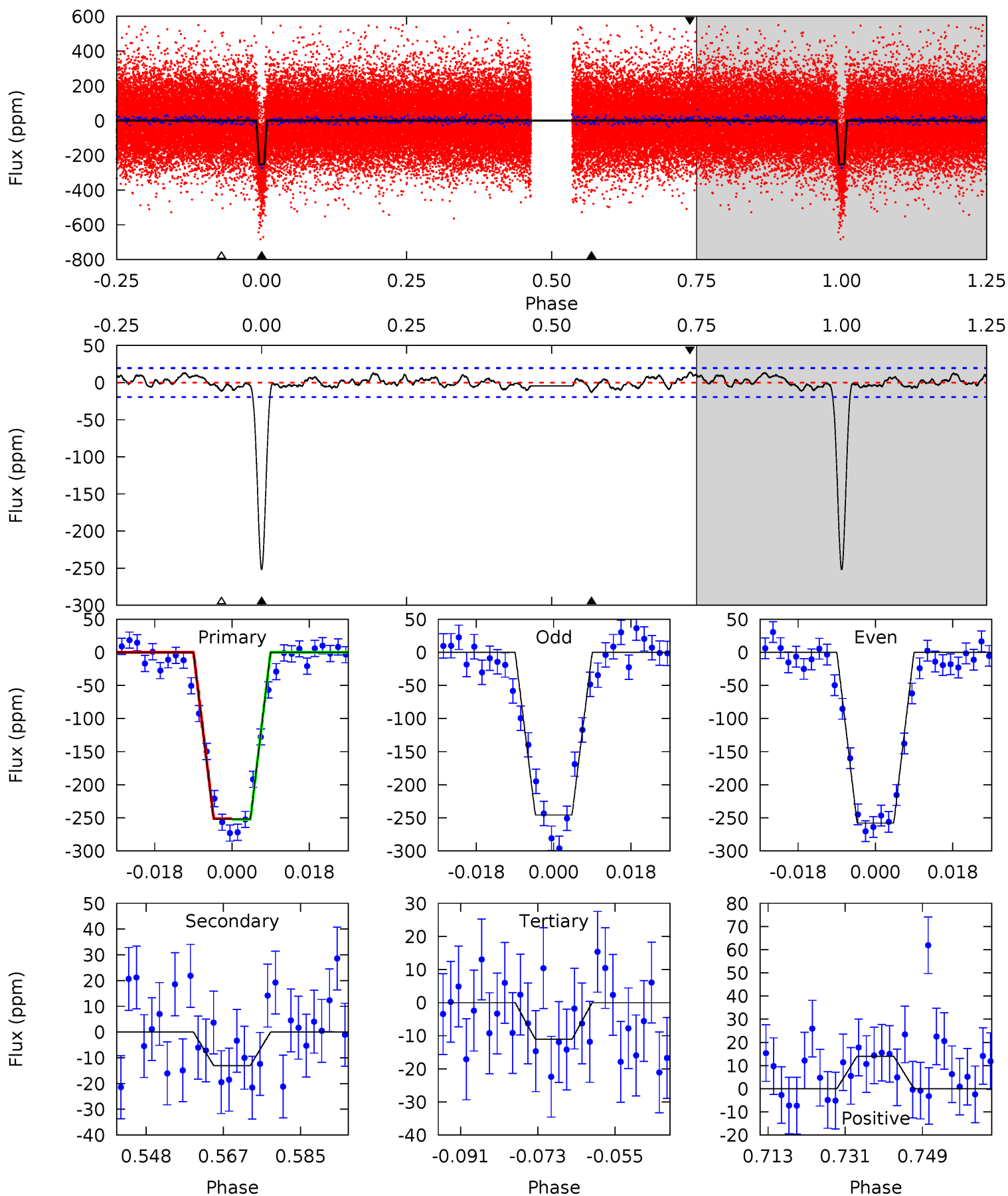
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.3	3.56	2.94	4.35	4.85	2.25	1.56	74.4	73.0	0.62	-0.79	1.27	0.96	0.05	0.42



Alt Model-Shift Uniqueness Test

010125352-02, P = 4.288515 Days, E = 128.405204 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.5	3.27	2.78	3.53	4.91	2.36	1.39	60.7	59.9	0.49	-0.25	1.56	0.99	0.05	0.19



Stellar Parameters For KIC 010125352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6378^{+176}_{-176}	$3.878^{+0.315}_{-0.105}$	$-0.560^{+0.350}_{-0.300}$	$2.002^{+0.422}_{-0.686}$	$1.104^{+0.192}_{-0.173}$	$0.194^{+0.428}_{-0.062}$
	+3%/-3%	+8%/-3%	+62%/-54%	+21%/-34%	+17%/-16%	+221%/-32%
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 010125352-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 3	$4.30^{+0.53}_{-0.81}$	2379^{+138}_{-218}	3089^{+173}_{-221}	$1.074^{+0.540}_{-0.349}$
Alt.	-13 ± 4	$3.46^{+0.49}_{-0.63}$	2363^{+143}_{-214}	3387^{+179}_{-238}	$1.744^{+1.036}_{-0.625}$

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 $A_{obs} \gg 1.0$

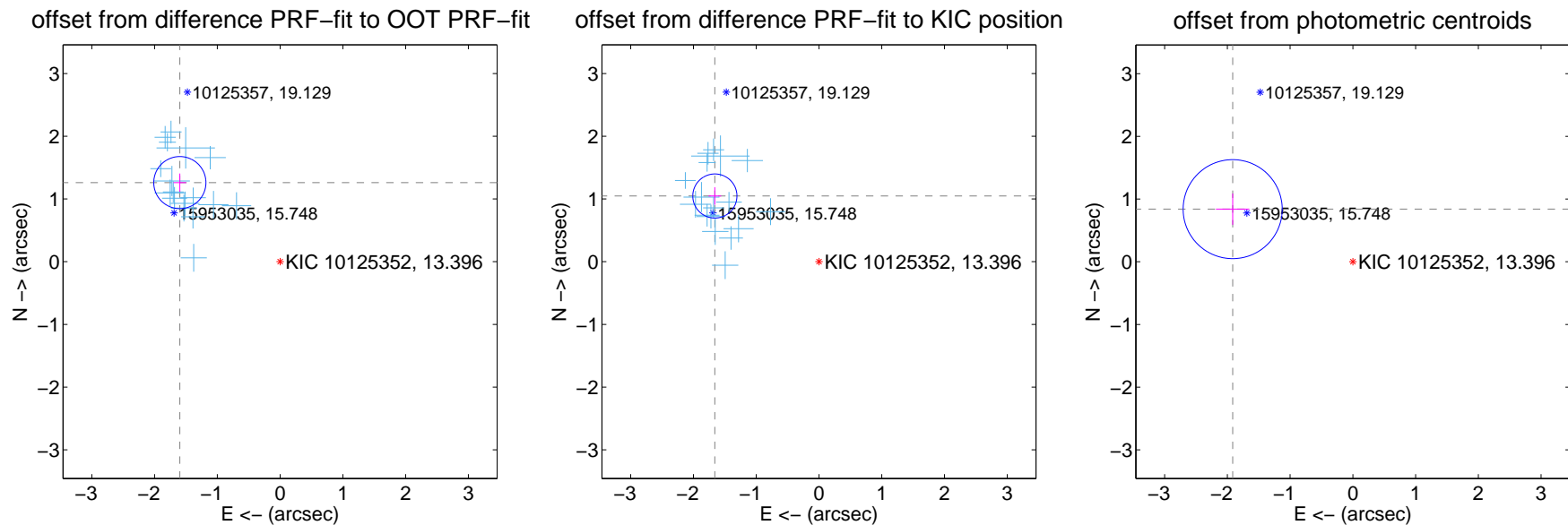
DV Centroid Data

Supplemental centroid analysis for 010125352-02. Kepler magnitude: 13.40. Transit SNR 46.18

There are 17 quarters with good PRF difference image offsets

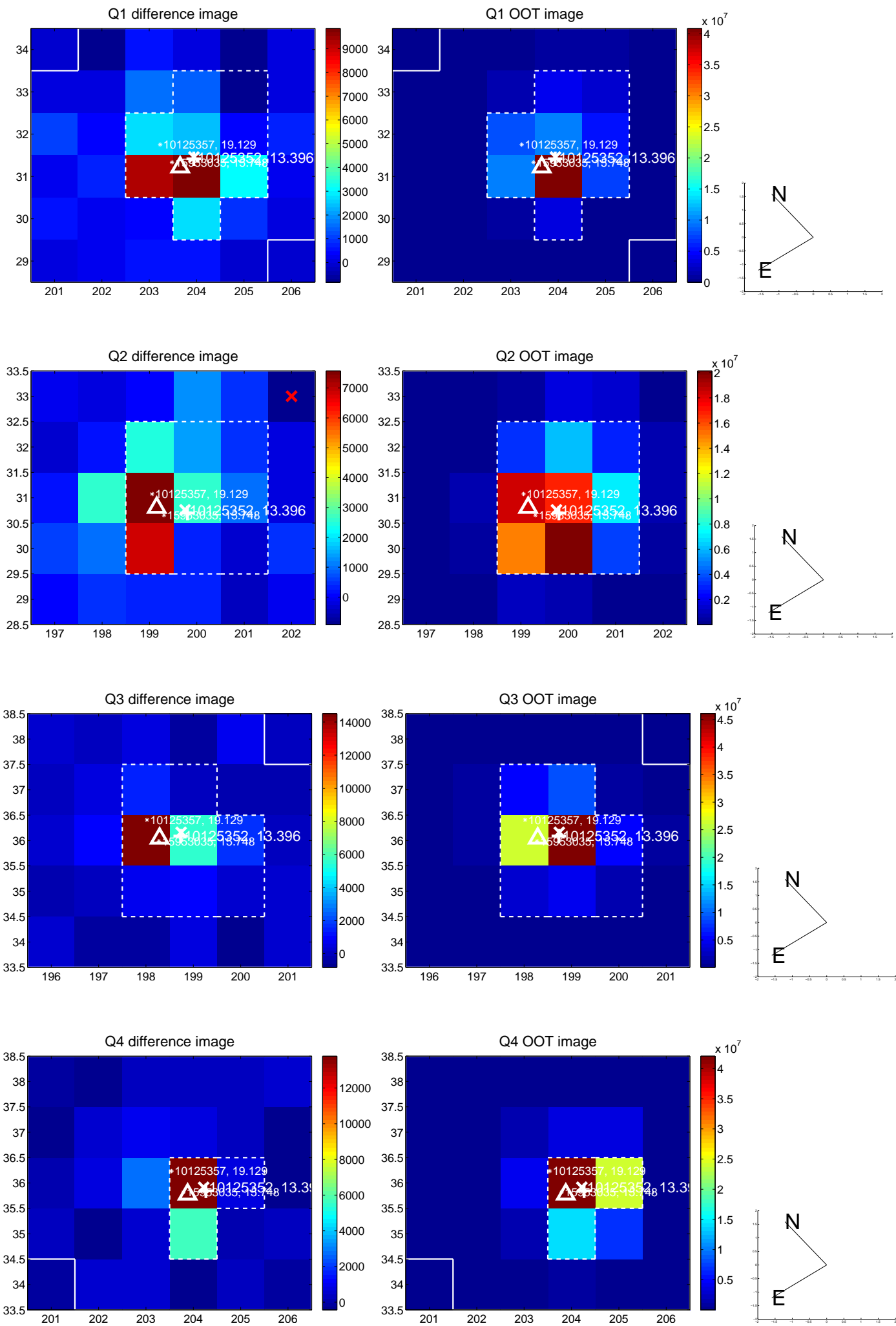
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.035 ± 0.138	14.69	1.597 ± 0.102	1.261 ± 0.145
PRF-fit source offset from KIC position	1.962 ± 0.117	16.73	1.659 ± 0.100	1.047 ± 0.139
photometric centroid source offset	2.09 ± 0.26	7.95	1.92 ± 0.27	0.84 ± 0.25

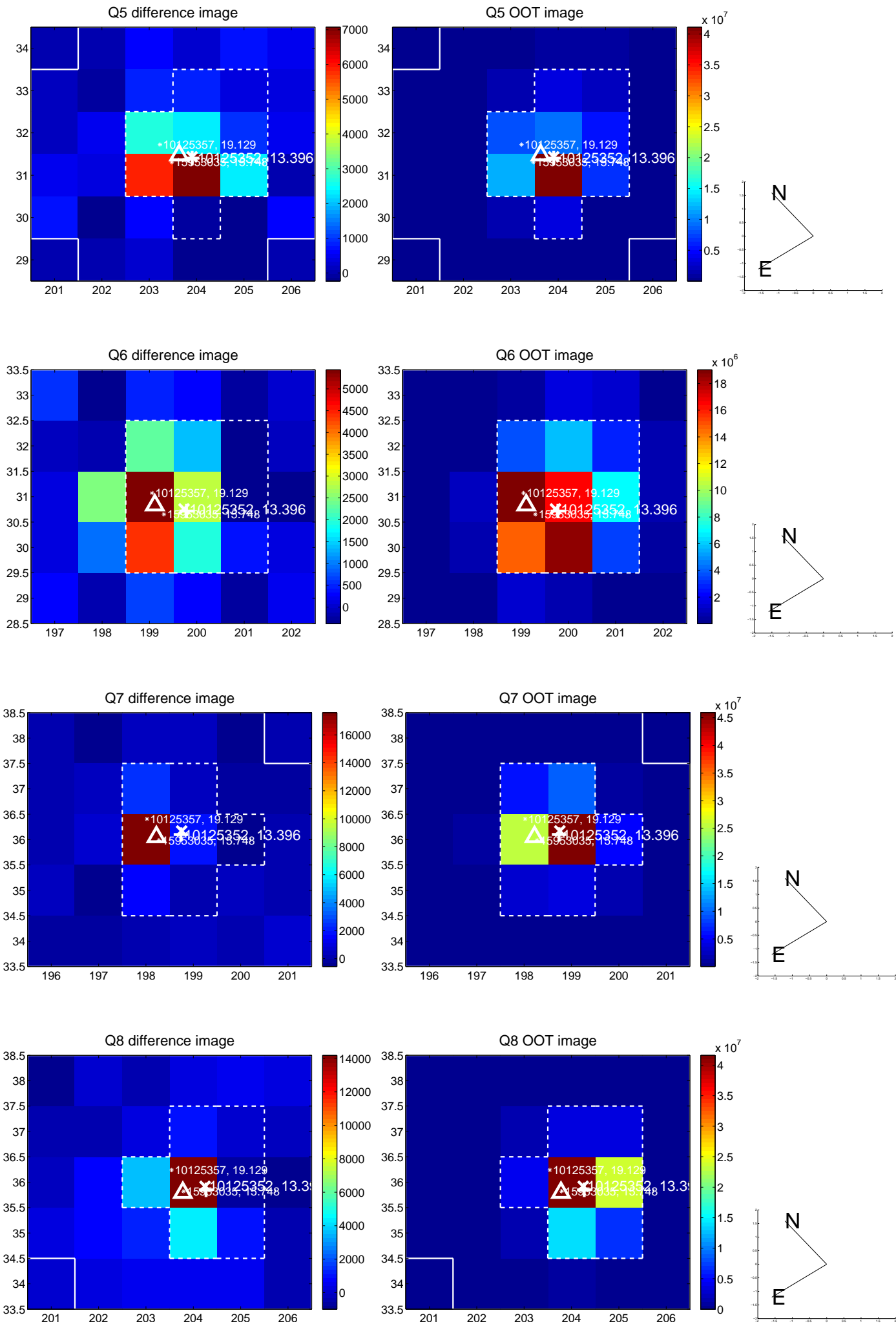


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

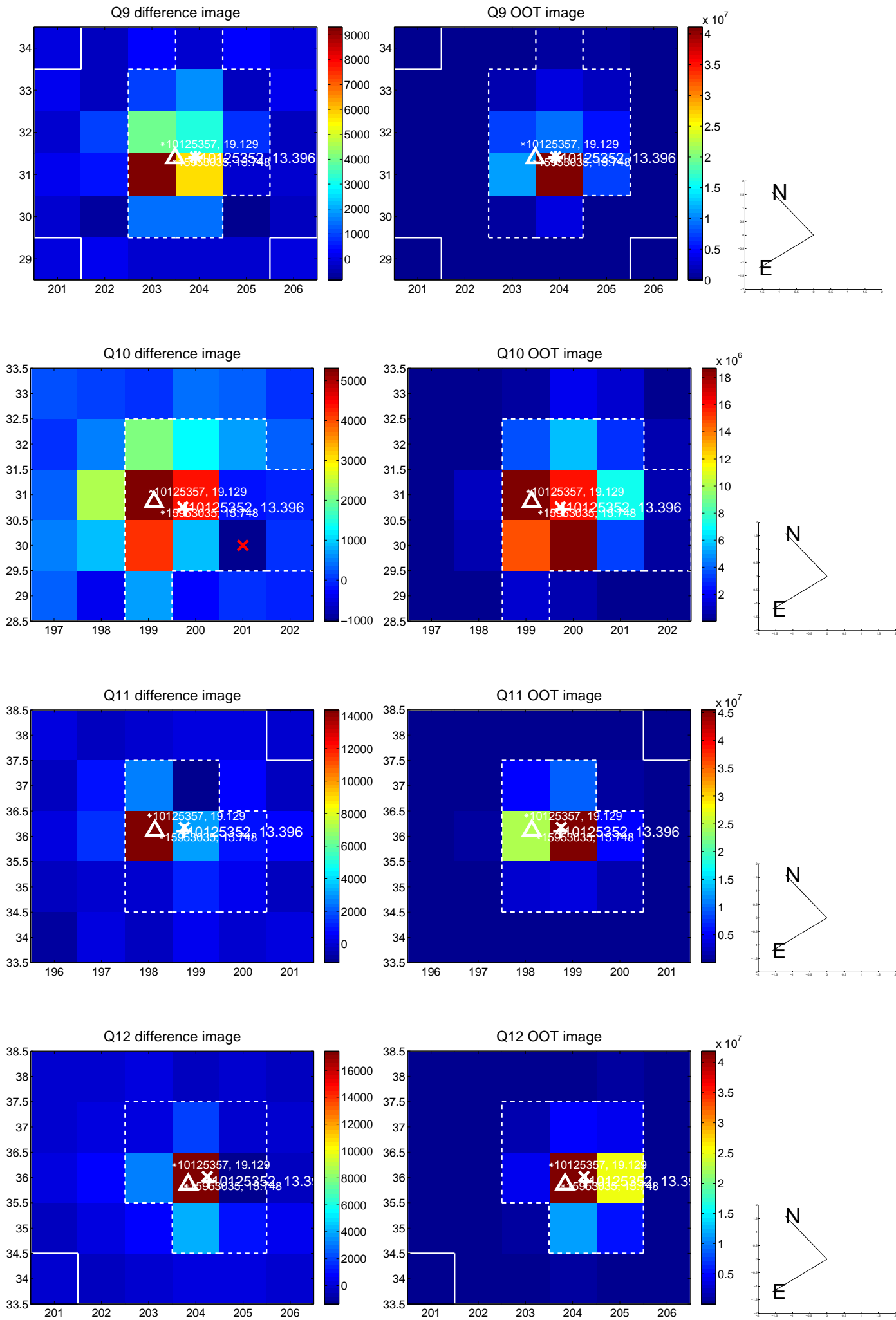
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



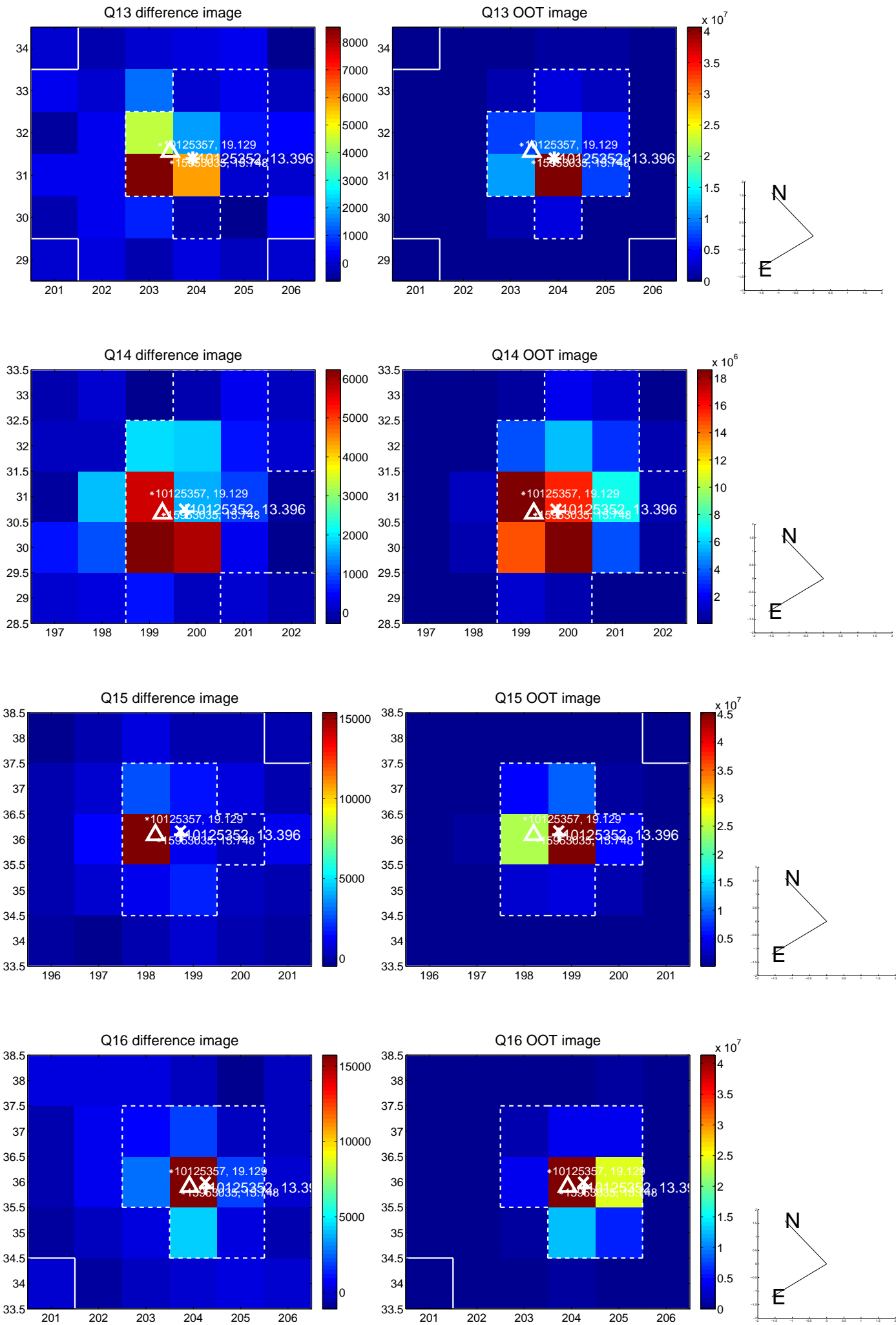
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



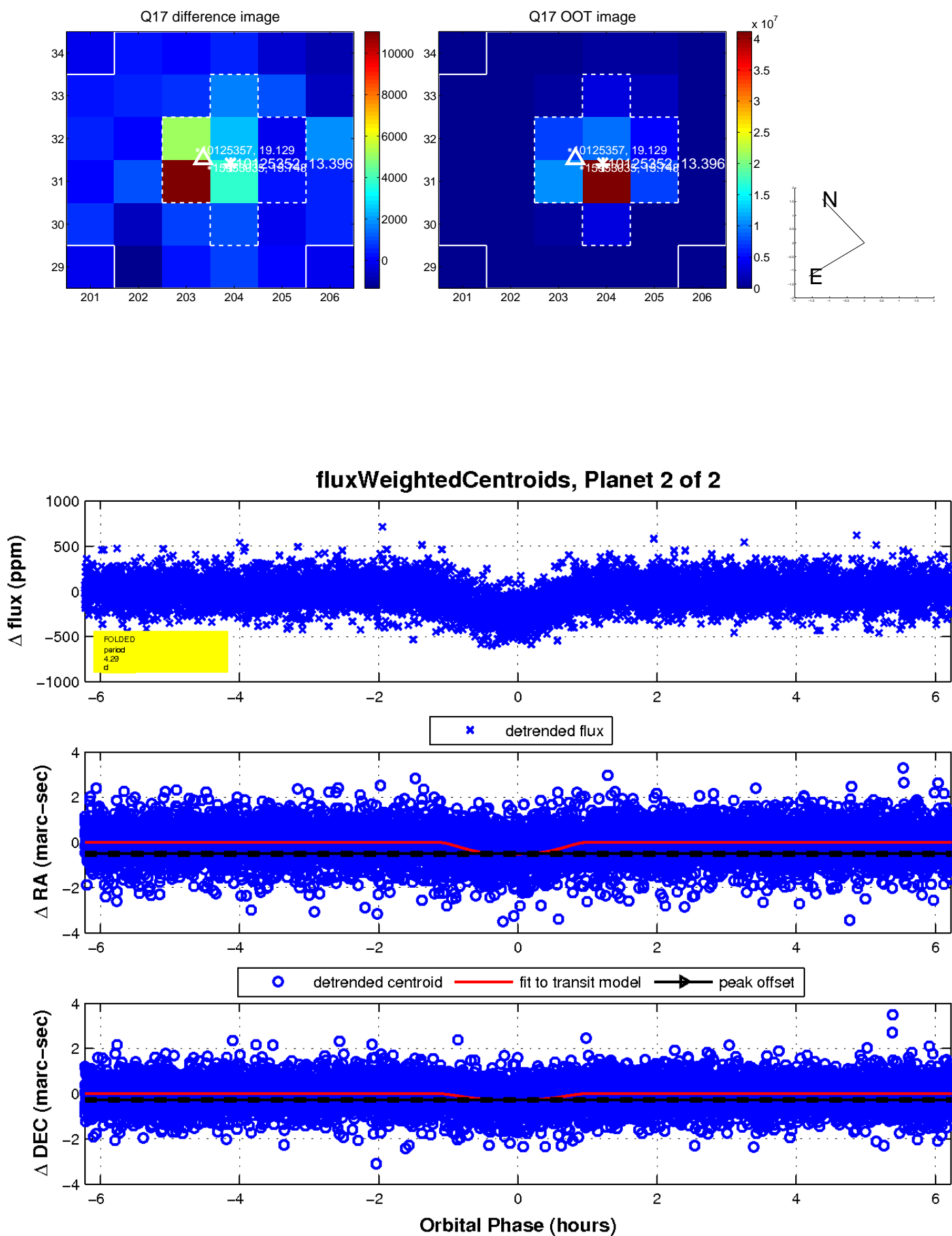
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

