

KIC 011923819

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})
011923819-01	OBS	7496.01	33.159476	159.812675	217434.8	9.181	11930.5	5611.8	2.38	7967	141.96	308.22
011923819-02	OBS	No	33.159226	137.773562	110379.2	11.949	5968.4	5083.7	2.38	7967	122.68	308.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011923819-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
011923819-02	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 011923819-01

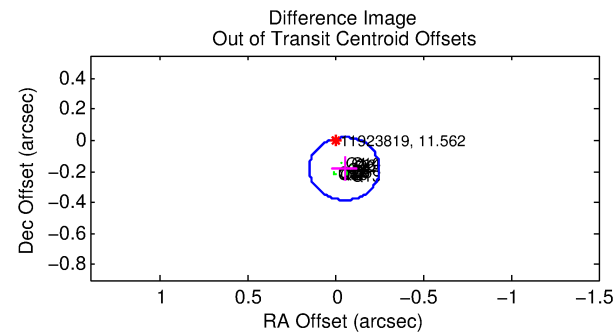
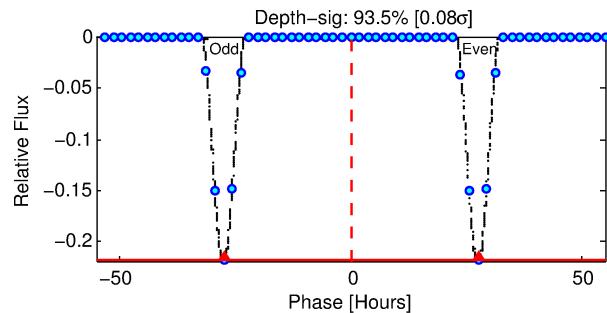
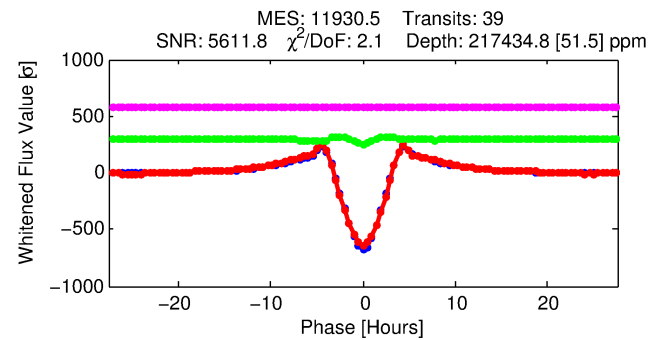
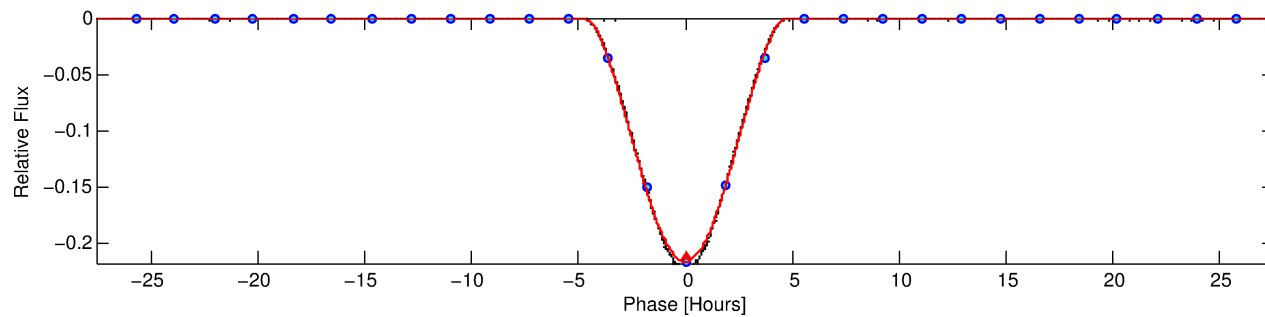
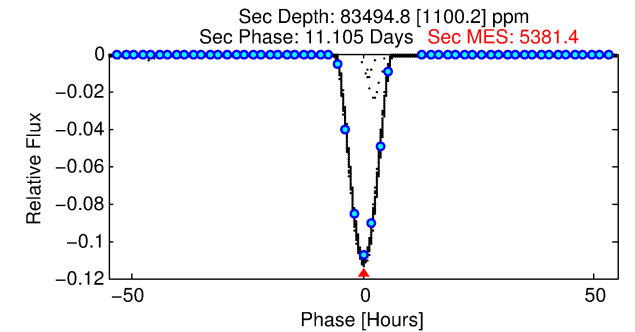
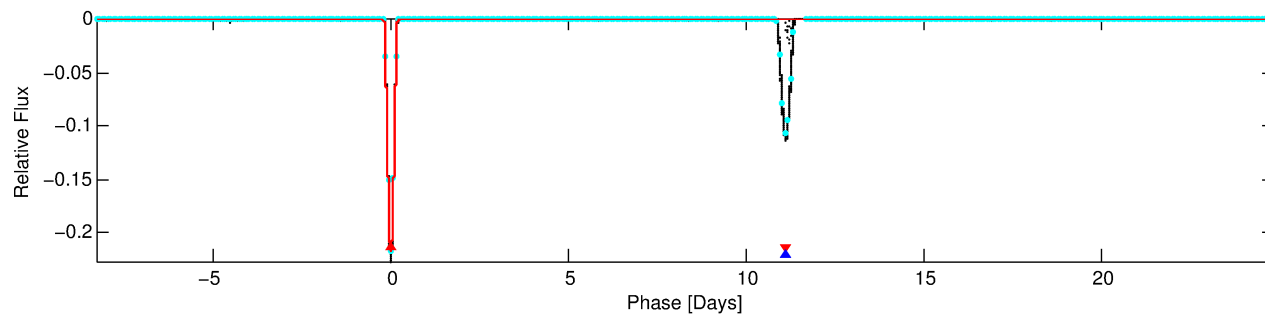
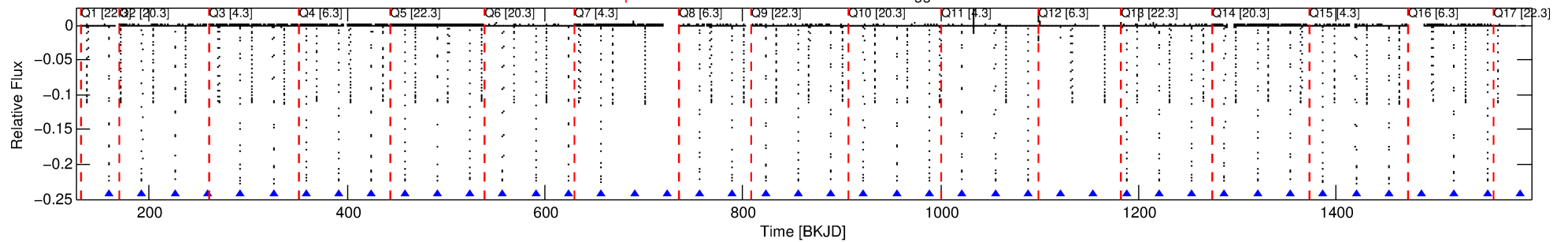
No Significant Match Found

DV One-Page Summary

KIC: 11923819 Candidate: 1 of 2 Period: 33.159 d

KOI: K07496.01 Corr: 0.993

Kp: 11.56 R*: 2.38 Rs Teff: 7967.0 K Logg: 4.00 Fe/H: 0.360



DV Fit Results:

Period = 33.15948 [0.00000] d
Epoch = 159.8127 [0.0000] BKJD
Rp/R* = 0.5468 [0.0082]
a/R* = 37.31 [0.06]
b = 0.75 [0.01]
Seff = 308.22 [174.75]
Teq = 1068 [151] K
Rp = 141.95 [47.43] Re
a = 0.2575 [0.0694] AU
Ag = 151.09 [57.13] [2.63sigma]
Teffp = 5791 [615] K [7.45sigma]

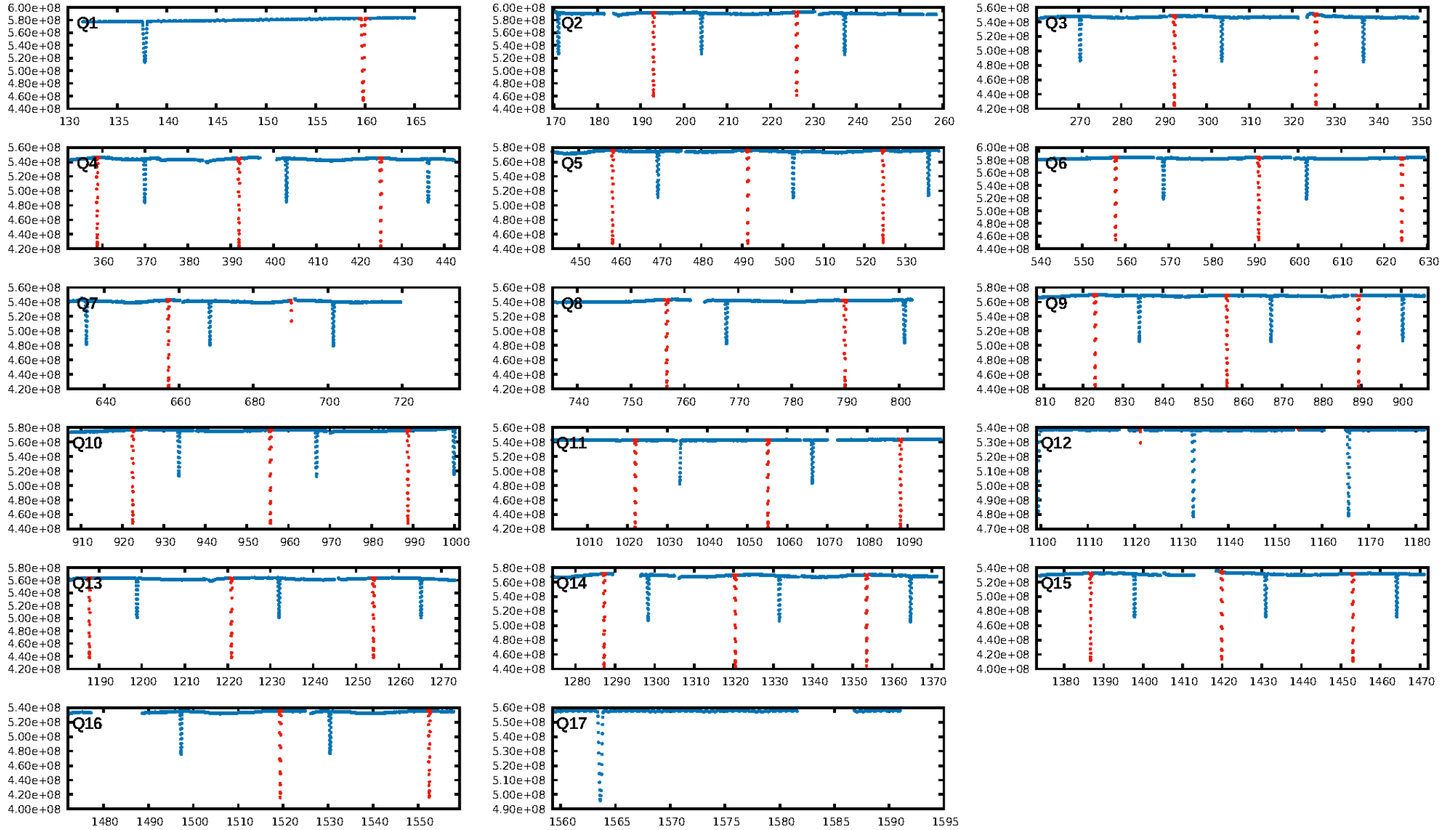
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00sigma]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [38/38]
GhostDiagnostic-chr: 6.153
Centroid-sig: 0.0%
Centroid-so: 0.358 arcsec [781.56sigma]
OotOffset-rm: 0.189 arcsec [2.81sigma]
KicOffset-rm: 0.304 arcsec [4.52sigma]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

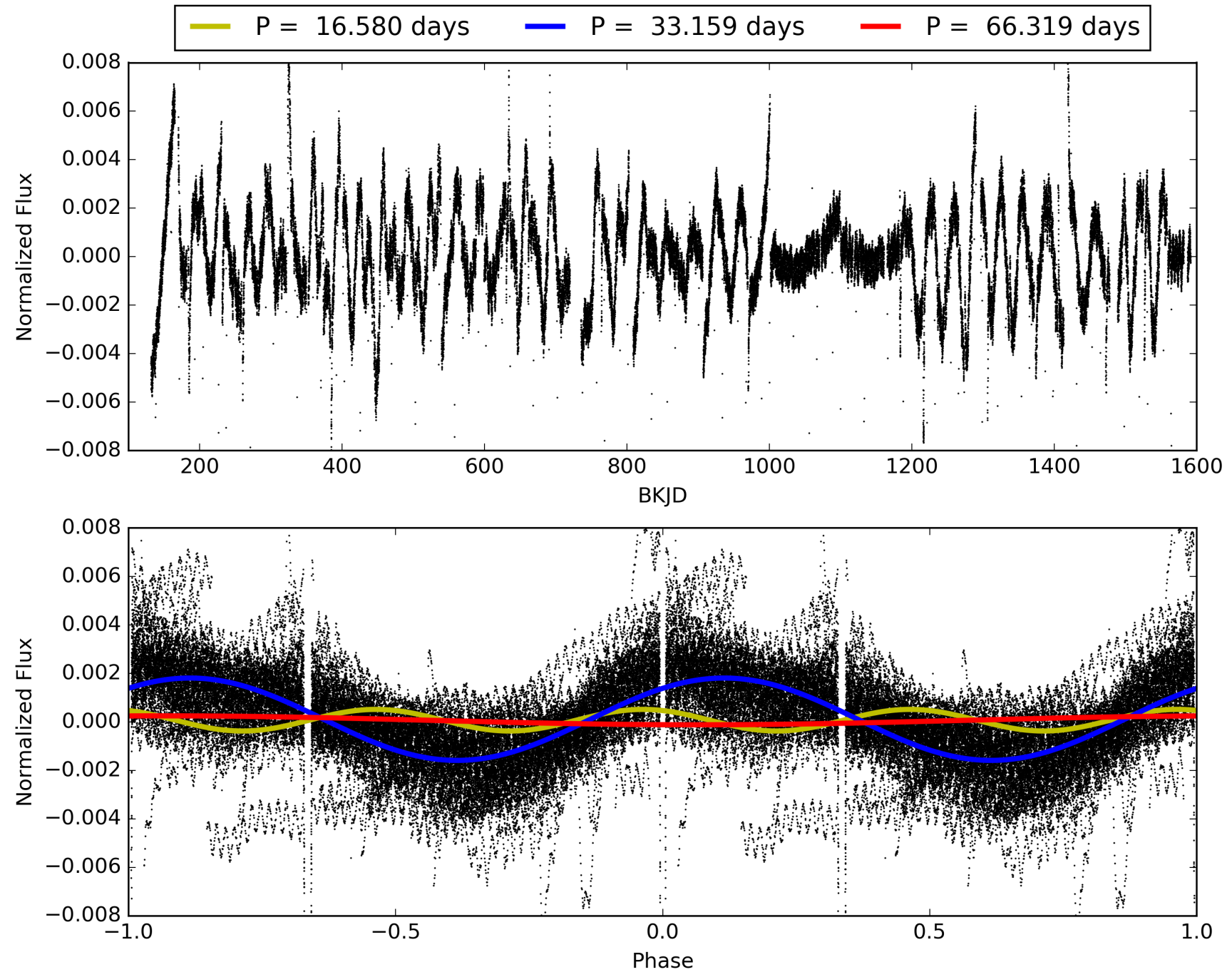
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:23:22 Z

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

TCE 011923819-01, PDC Light Curves

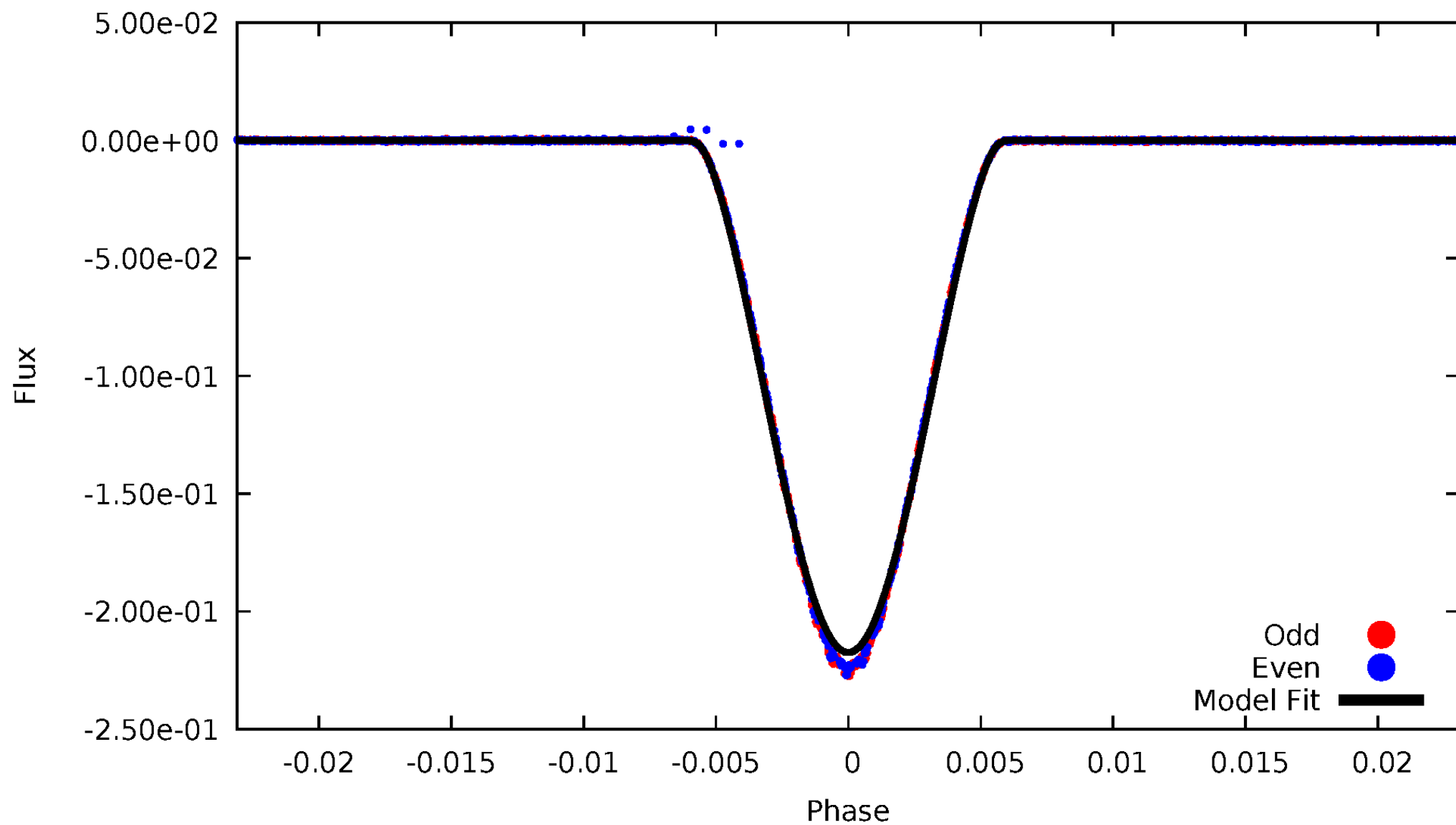


TCE 011923819-01



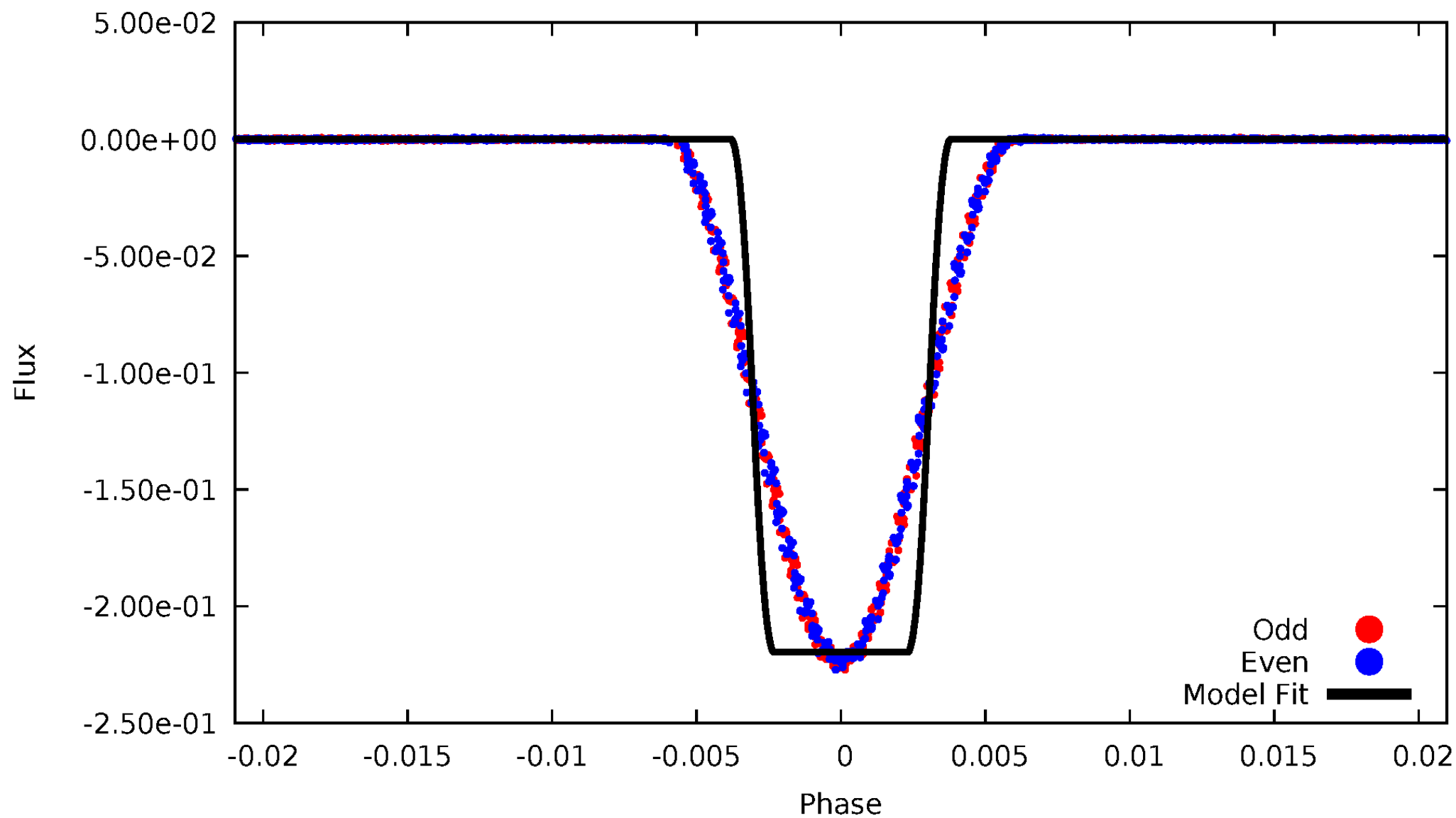
DV Odd/Even

TCE 011923819-01



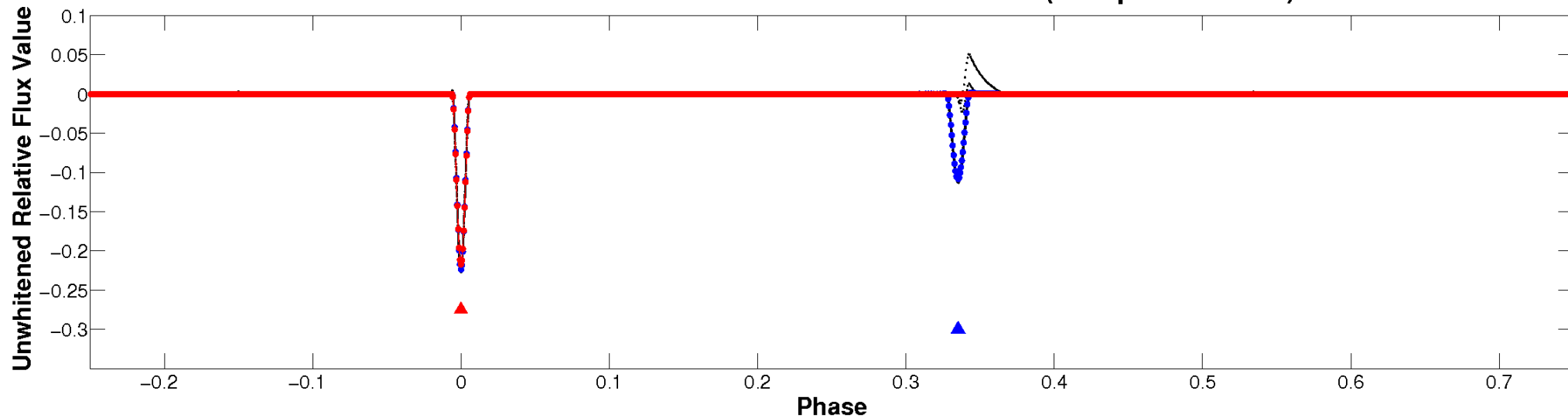
ALT Odd/Even

TCE 011923819-01

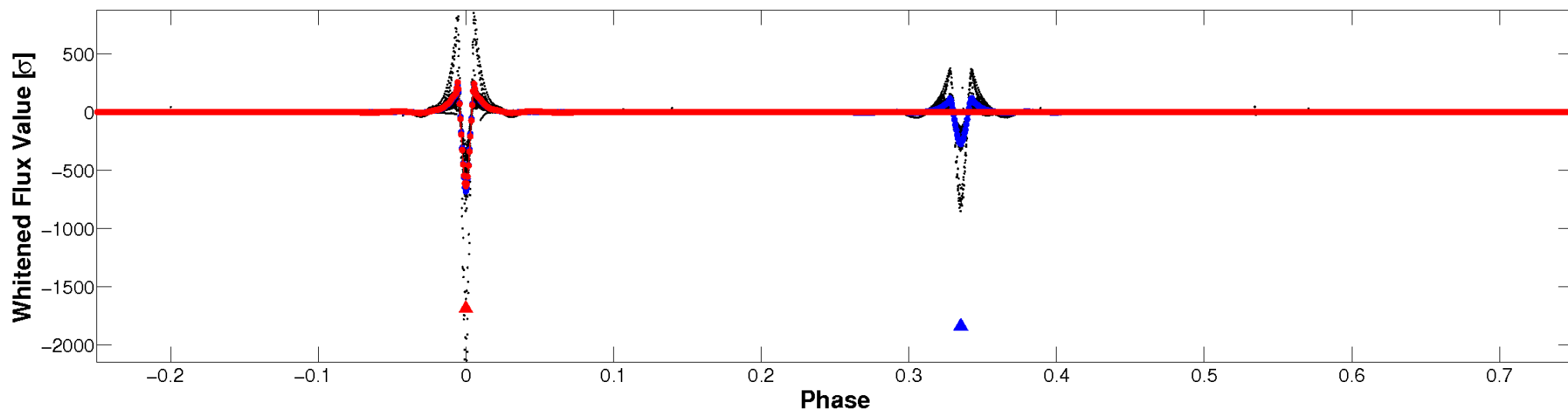


Non-Whitened Vs. Whitened Light Curve

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

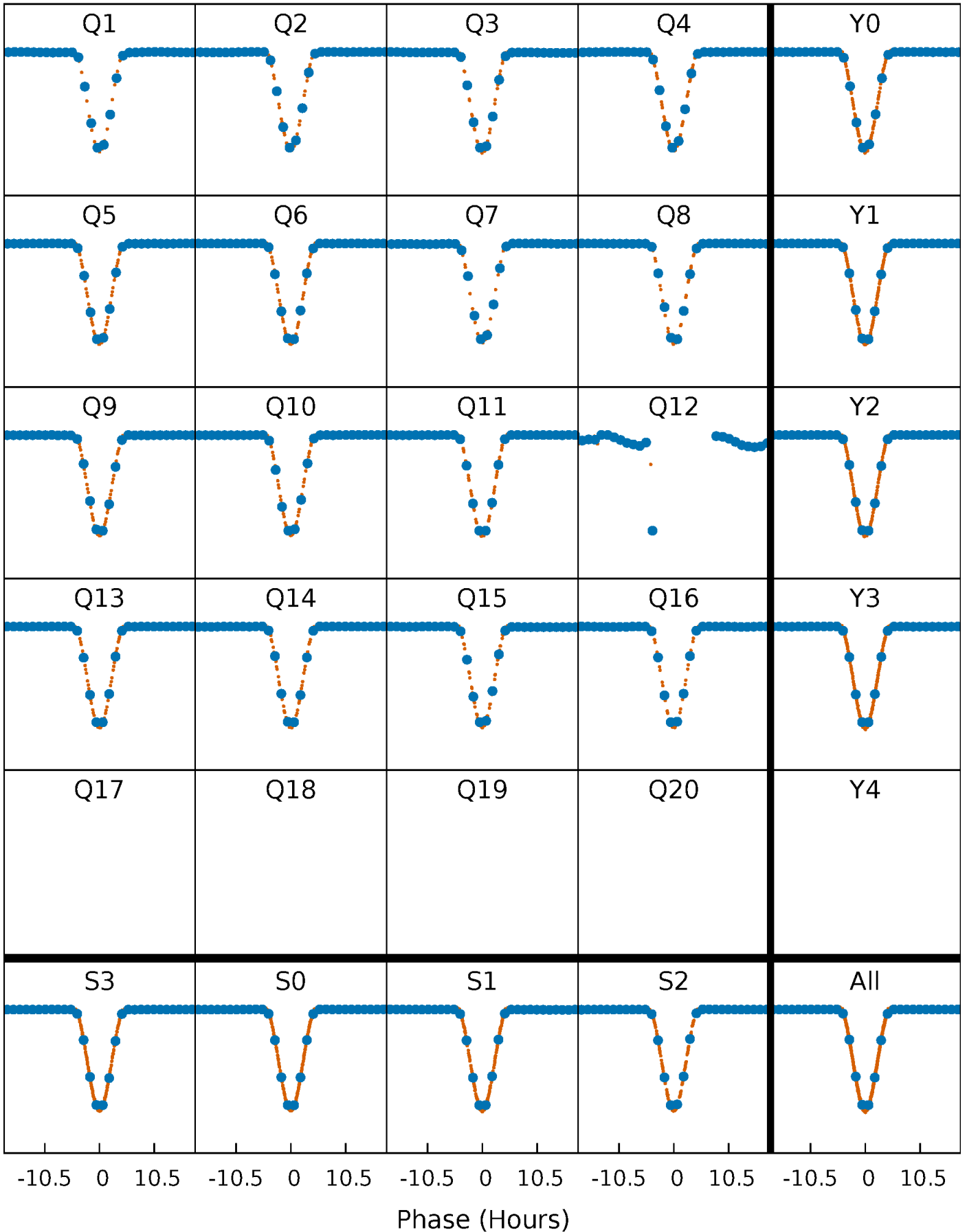


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



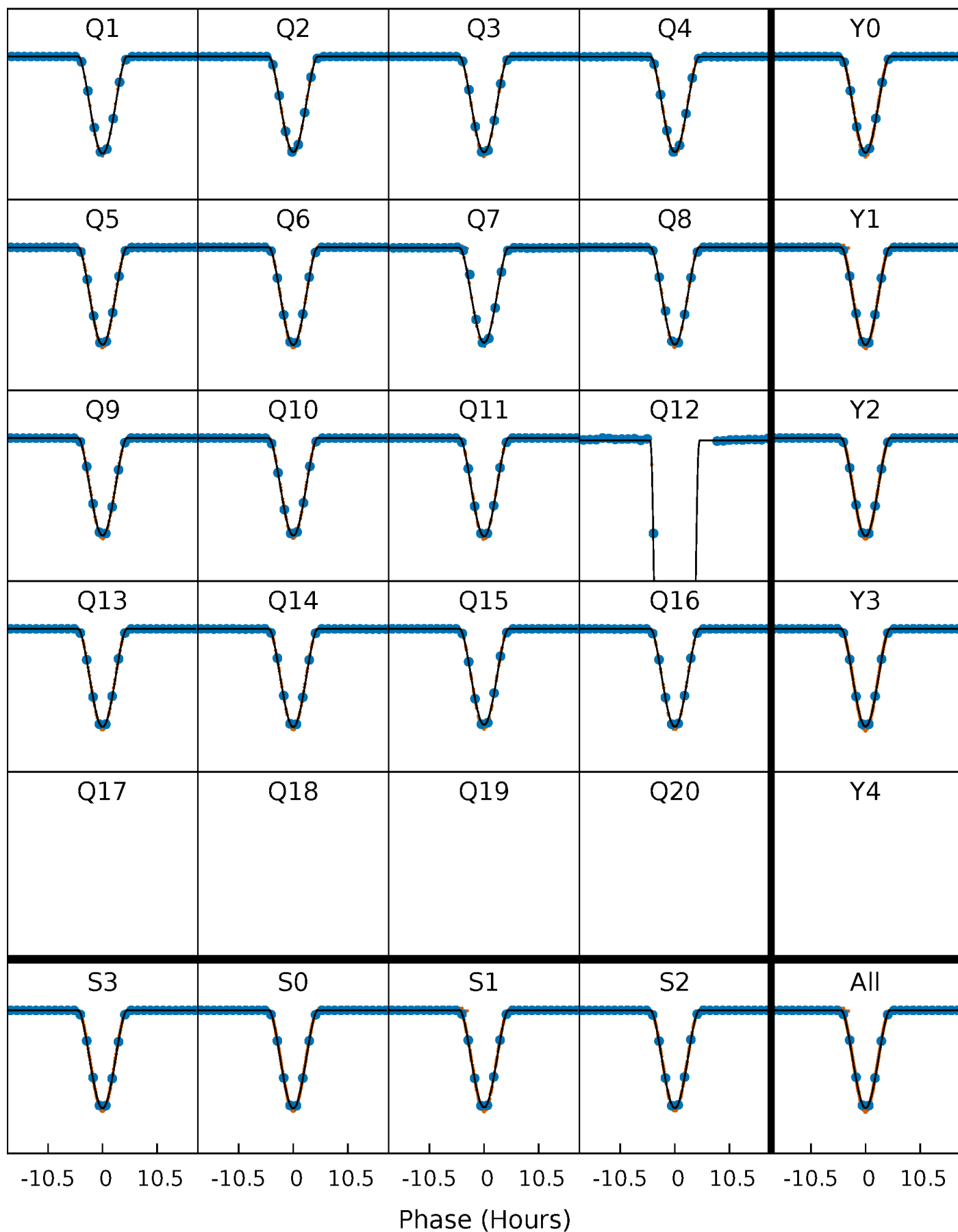
PDC Quarter-Phased Transit Curves

TCE 011923819-01 P= 33.159476 Days $T_0=159.812675$ (BKJD)



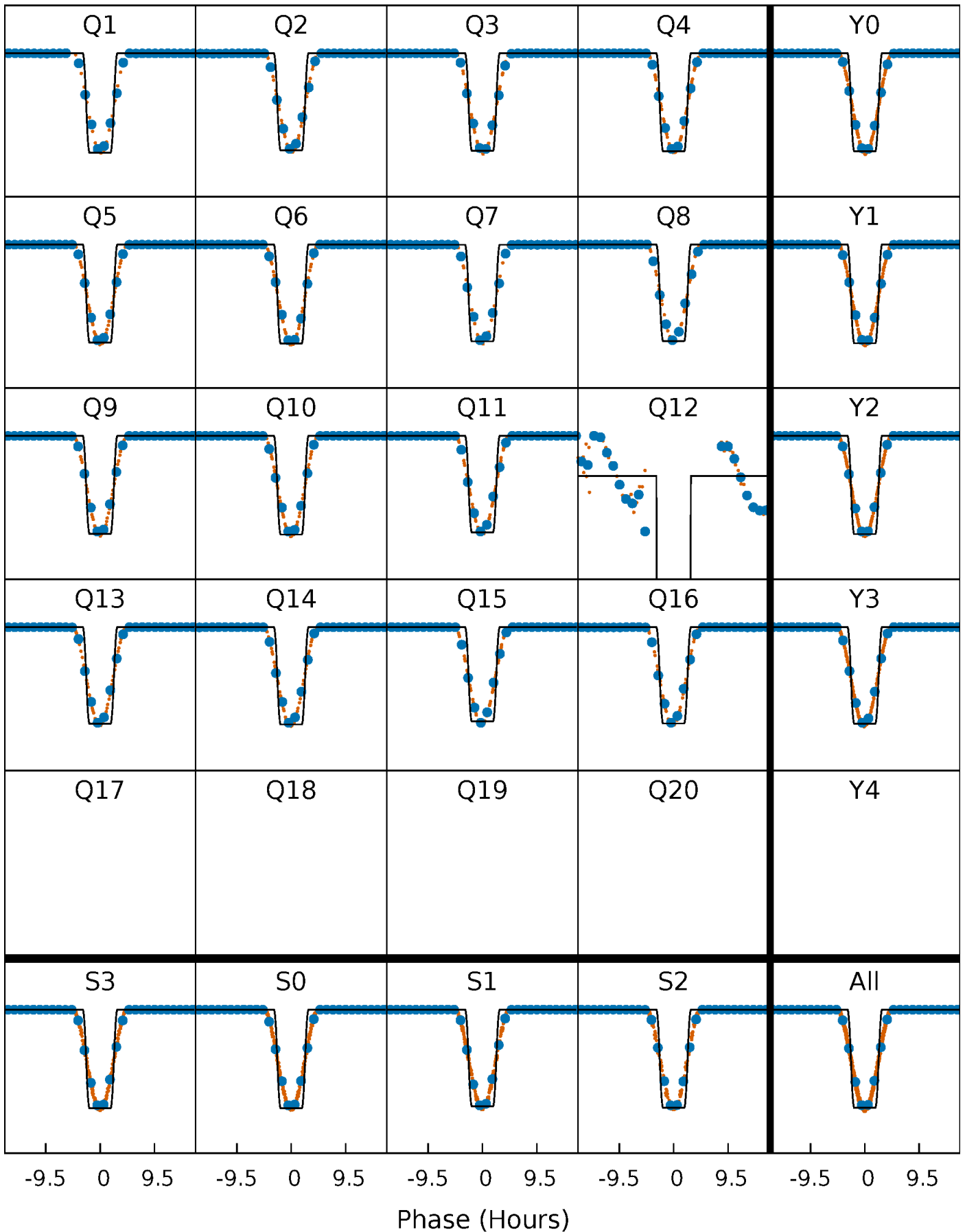
DV Quarter-Phased Transit Curves

TCE 011923819-01 P= 33.159476 Days $T_0=159.812675$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

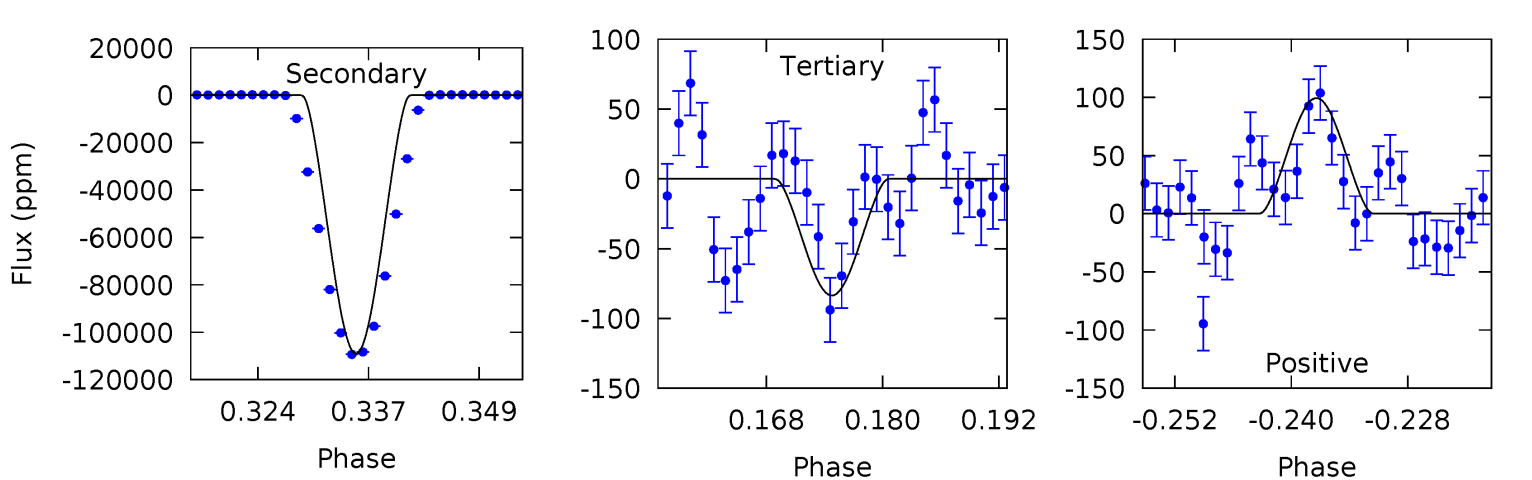
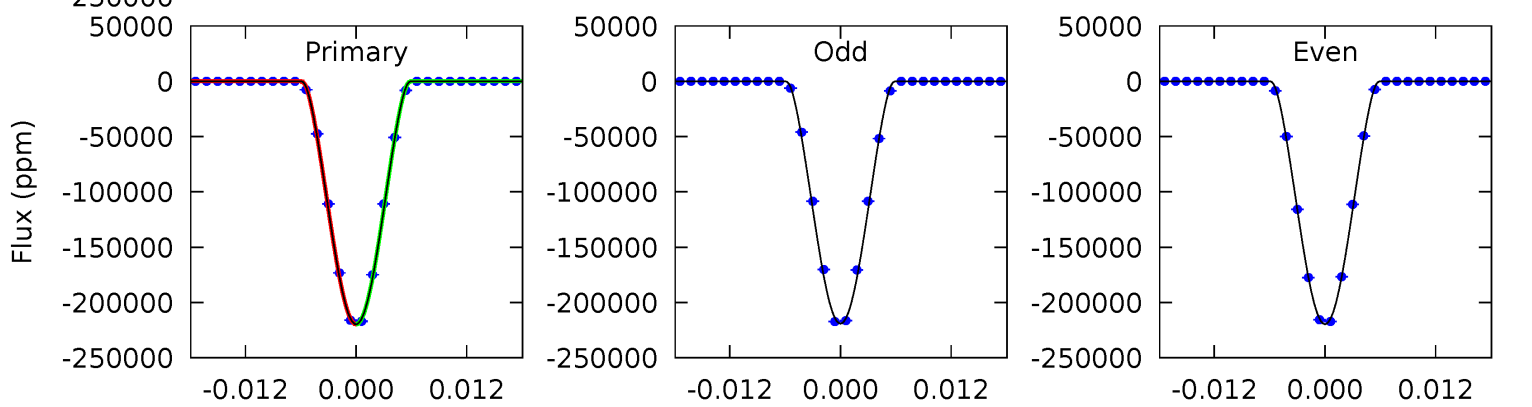
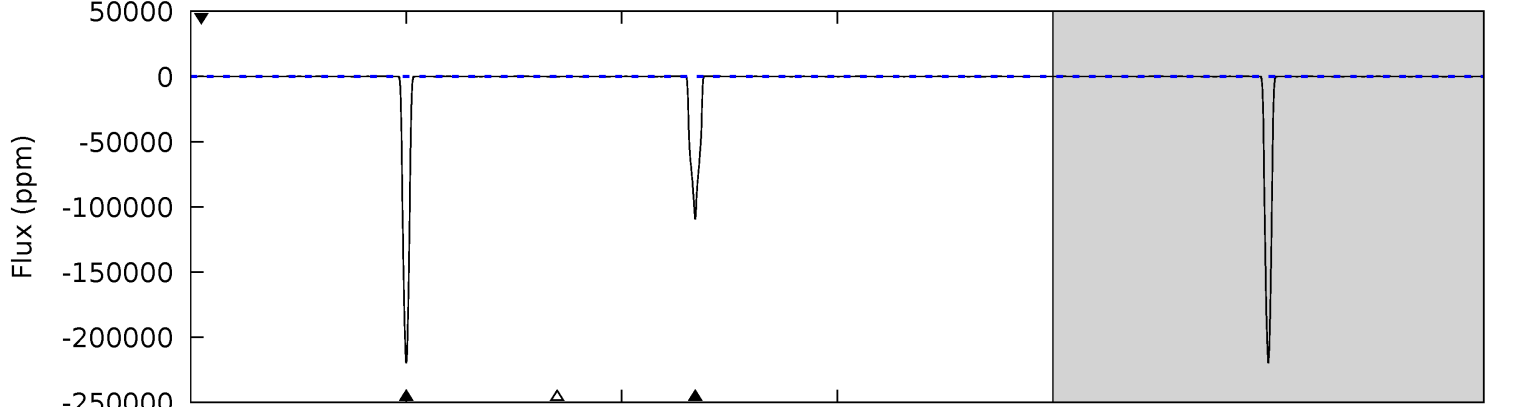
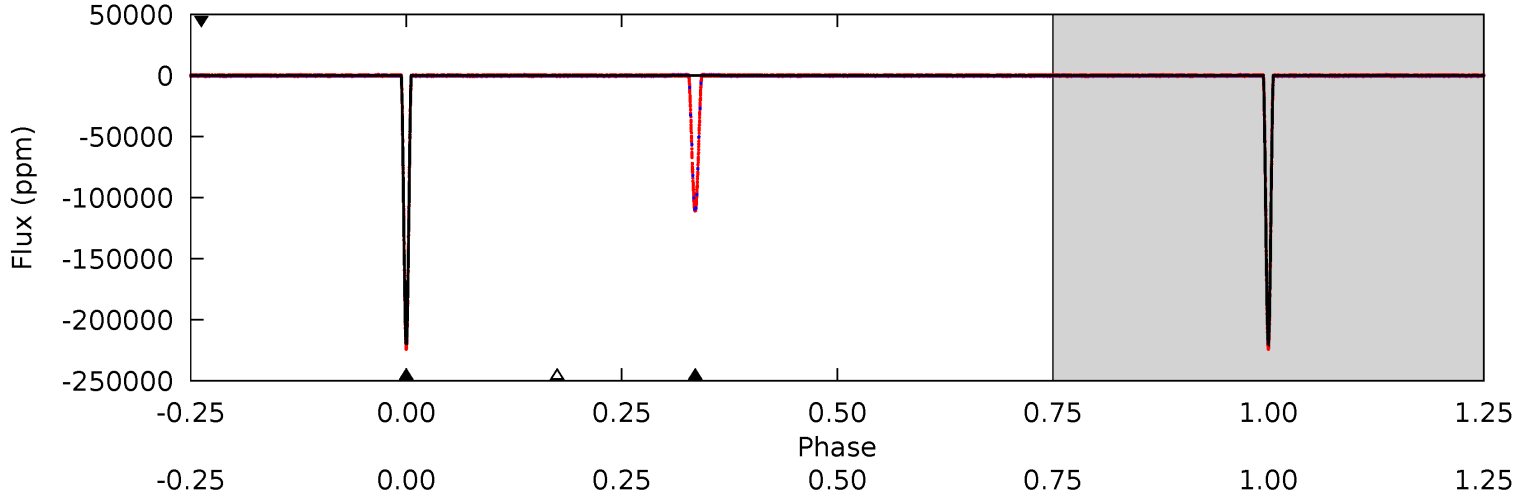
TCE 011923819-01 P= 33.159741 Days $T_0=159.806938$ (BKJD)



DV Model-Shift Uniqueness Test

011923819-01, P = 33.159476 Days, E = 126.653199 Days

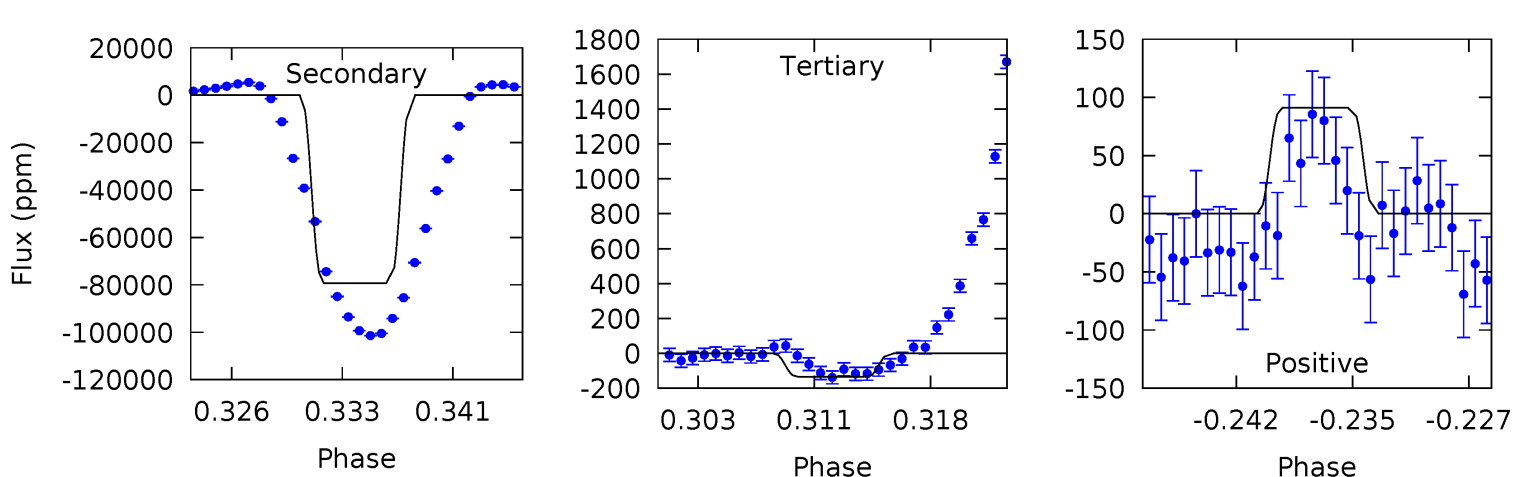
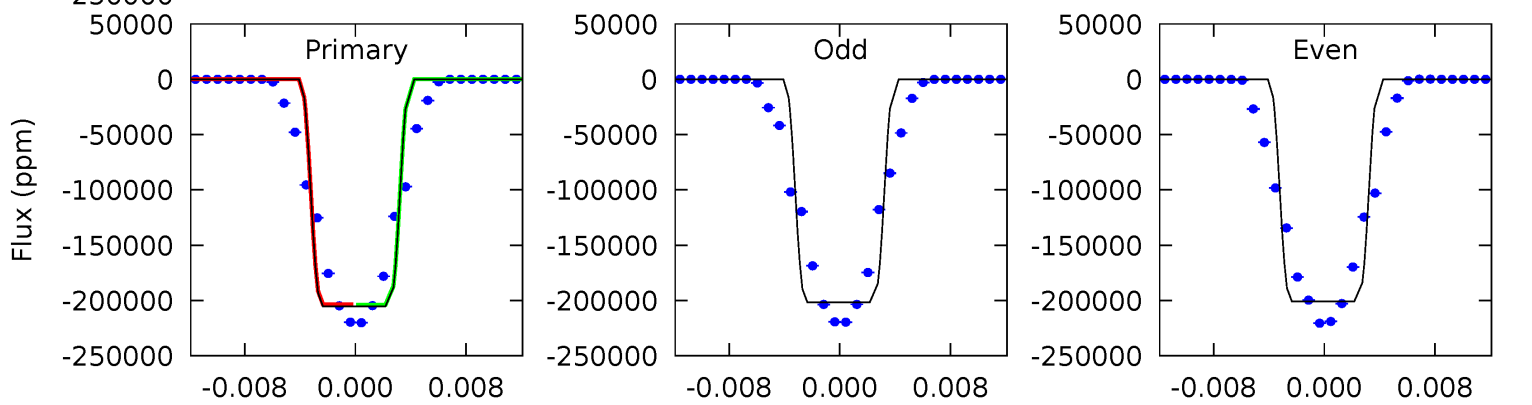
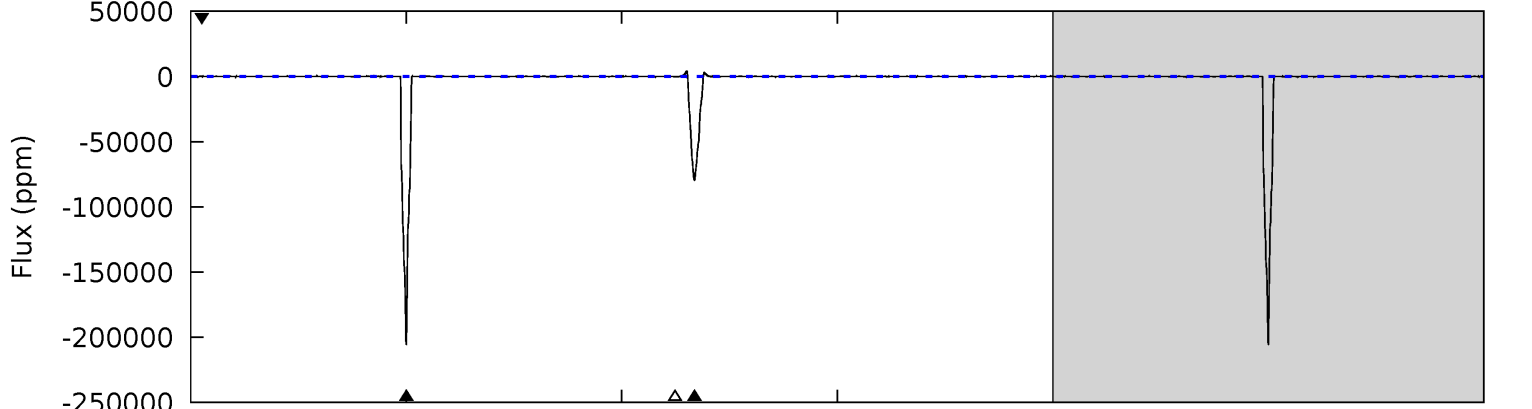
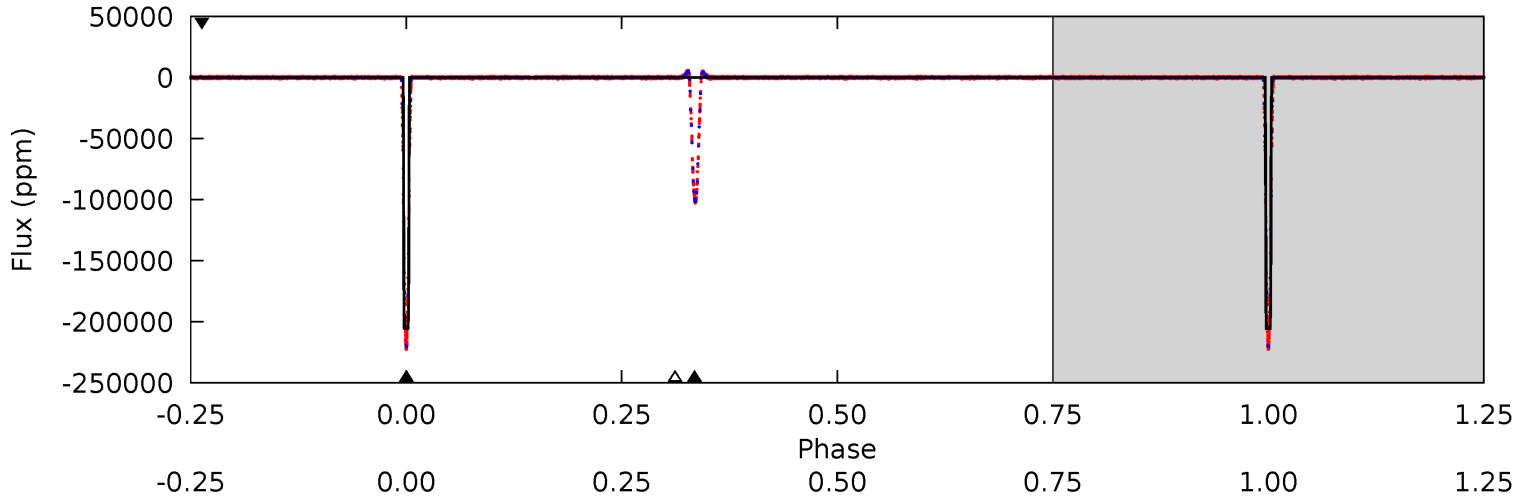
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24269	12050	9.24	11.0	4.99	2.51	5.18	24259	24258	12041	12039	26.4	0.98	0.00	0.12



Alt Model-Shift Uniqueness Test

011923819-01, P = 33.159741 Days, E = 126.647197 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5872	2270	3.83	2.61	5.08	2.67	8.26	5868	5870	2266	2268	13.7	1.00	0.02	0



Stellar Parameters For KIC 011923819

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7967^{+454}_{-844}	$4.001^{+0.162}_{-0.198}$	$0.360^{+0.050}_{-0.200}$	$2.379^{+0.794}_{-0.529}$	$2.069^{+0.349}_{-0.384}$	$0.216^{+0.184}_{-0.115}$
	+6%/-11%	+4%/-5%	+14%/-56%	+33%/-22%	+17%/-19%	+85%/-53%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011923819-01 / KOI 7496.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-109037 ± 9	$143.72^{+26.59}_{-18.15}$	1487^{+141}_{-160}	6178^{+330}_{-542}	215^{+58}_{-56}
Alt.	-79381 ± 35	$121.69^{+22.17}_{-14.95}$	1481^{+165}_{-174}	6109^{+326}_{-505}	208^{+59}_{-53}

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

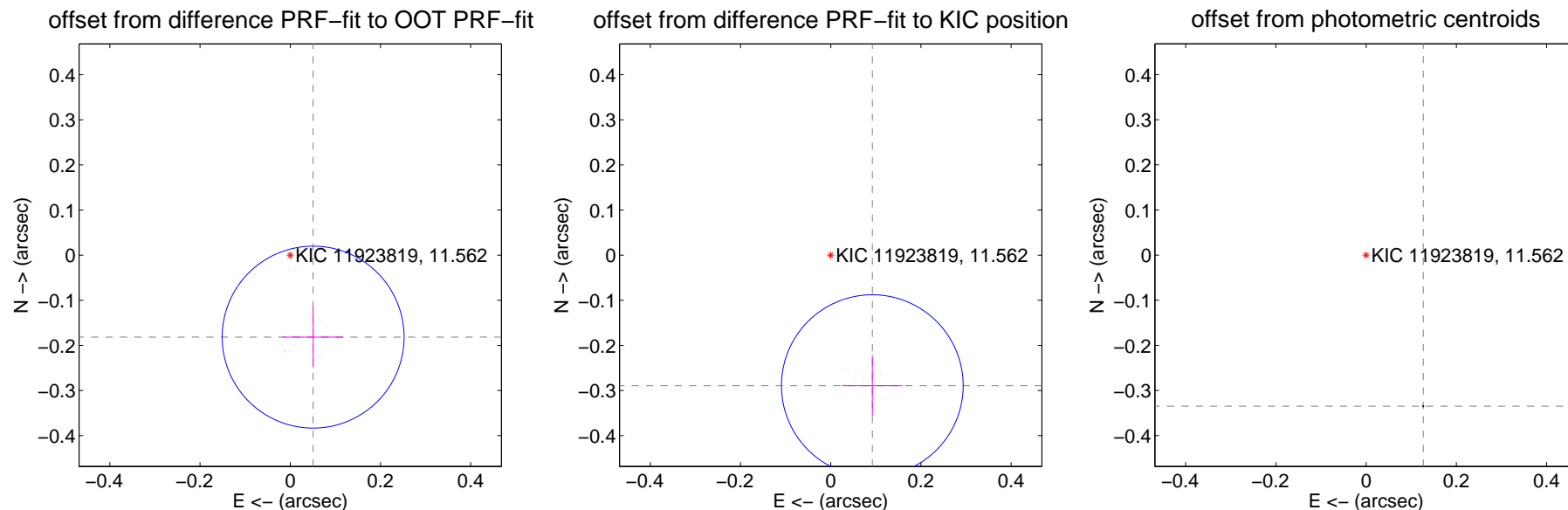
DV Centroid Data

Supplemental centroid analysis for 011923819-01. **Kepler magnitude: 11.56.** Transit SNR 5611.76

There are 15 quarters with good PRF difference image offsets

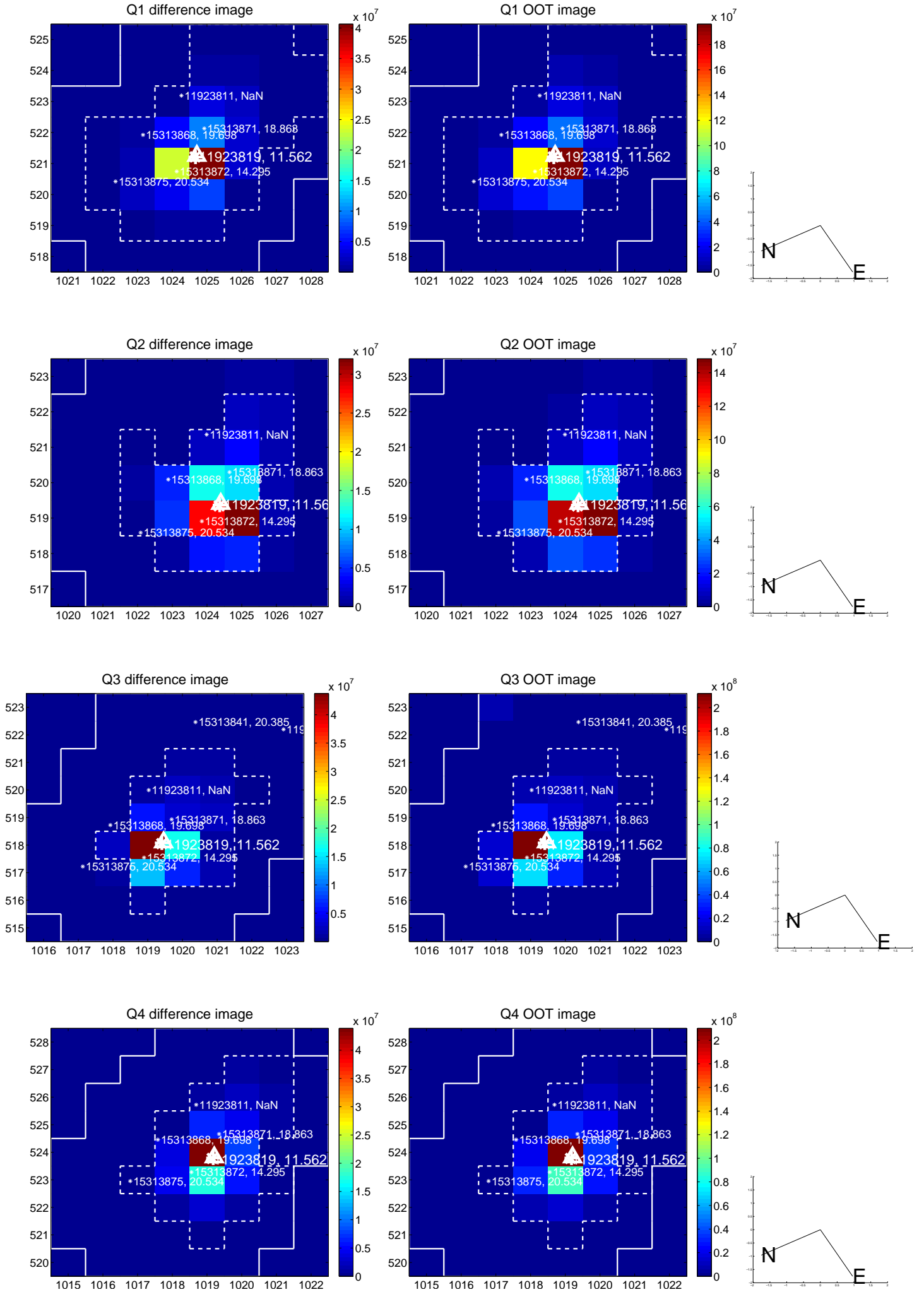
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.189 ± 0.067	2.81	-0.051 ± 0.067	-0.182 ± 0.067
PRF-fit source offset from KIC position	0.304 ± 0.067	4.52	-0.092 ± 0.067	-0.289 ± 0.067
photometric centroid source offset	0.36 ± 0.00	781.56	-0.13 ± 0.00	-0.33 ± 0.00

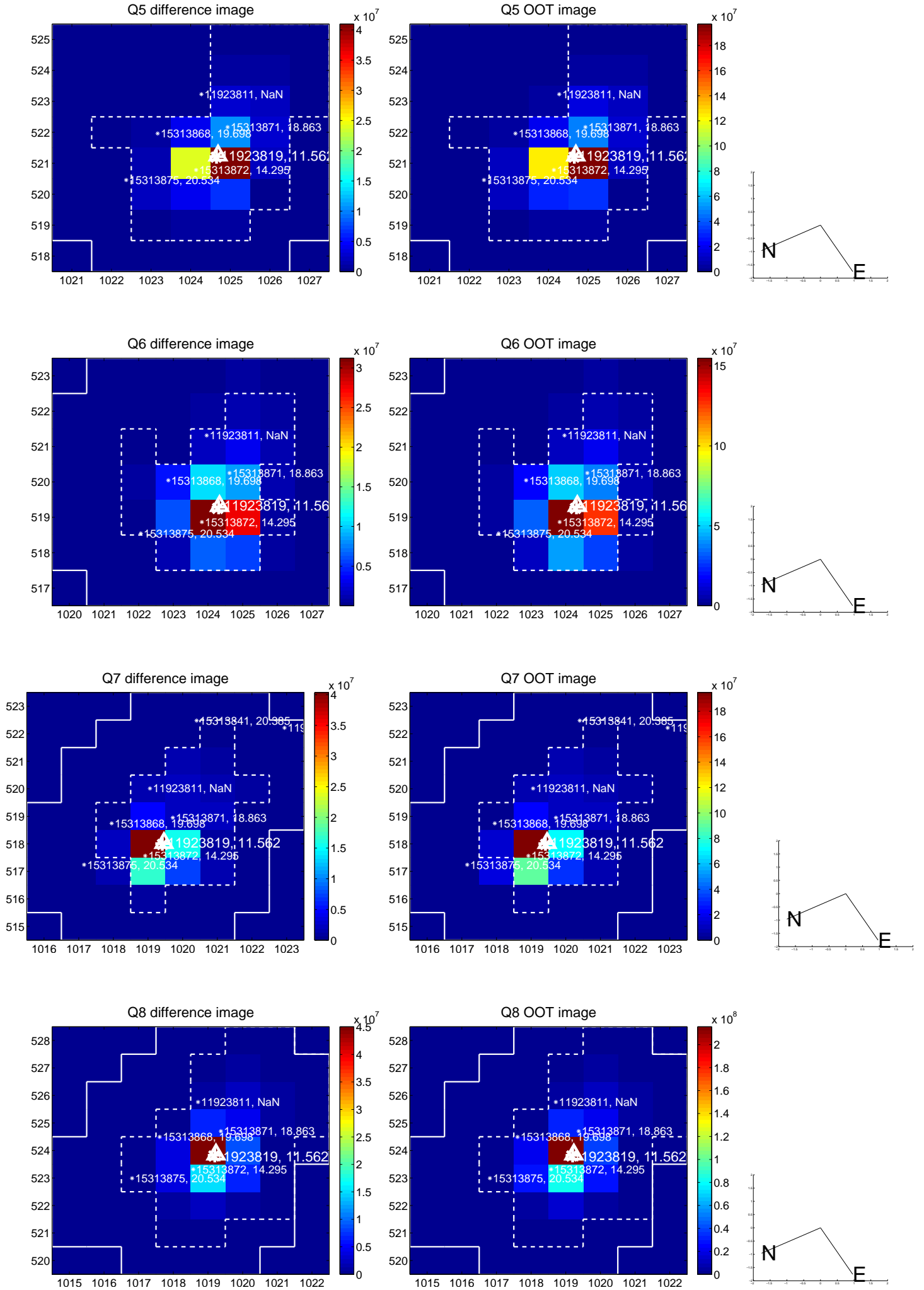


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

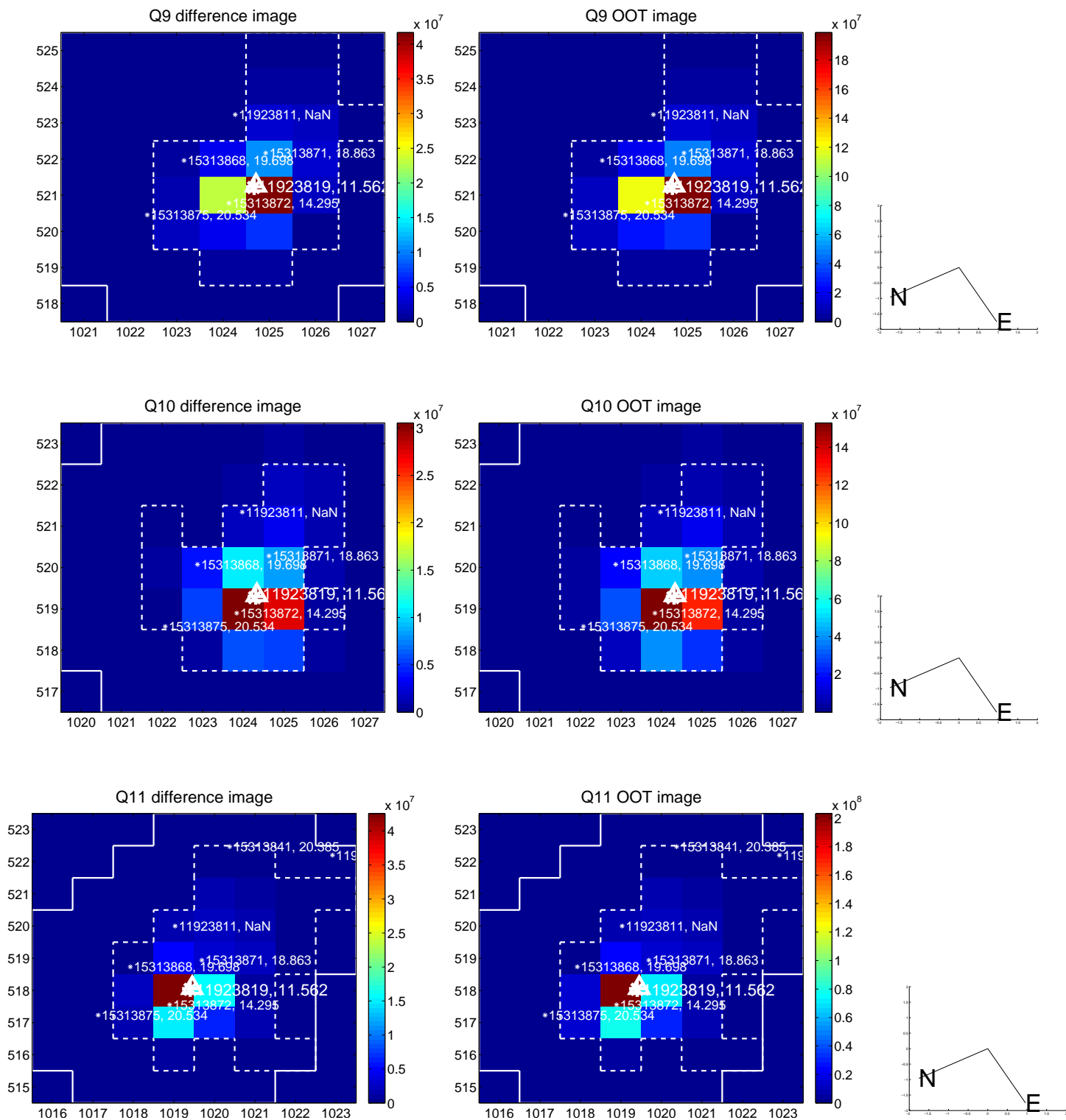
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



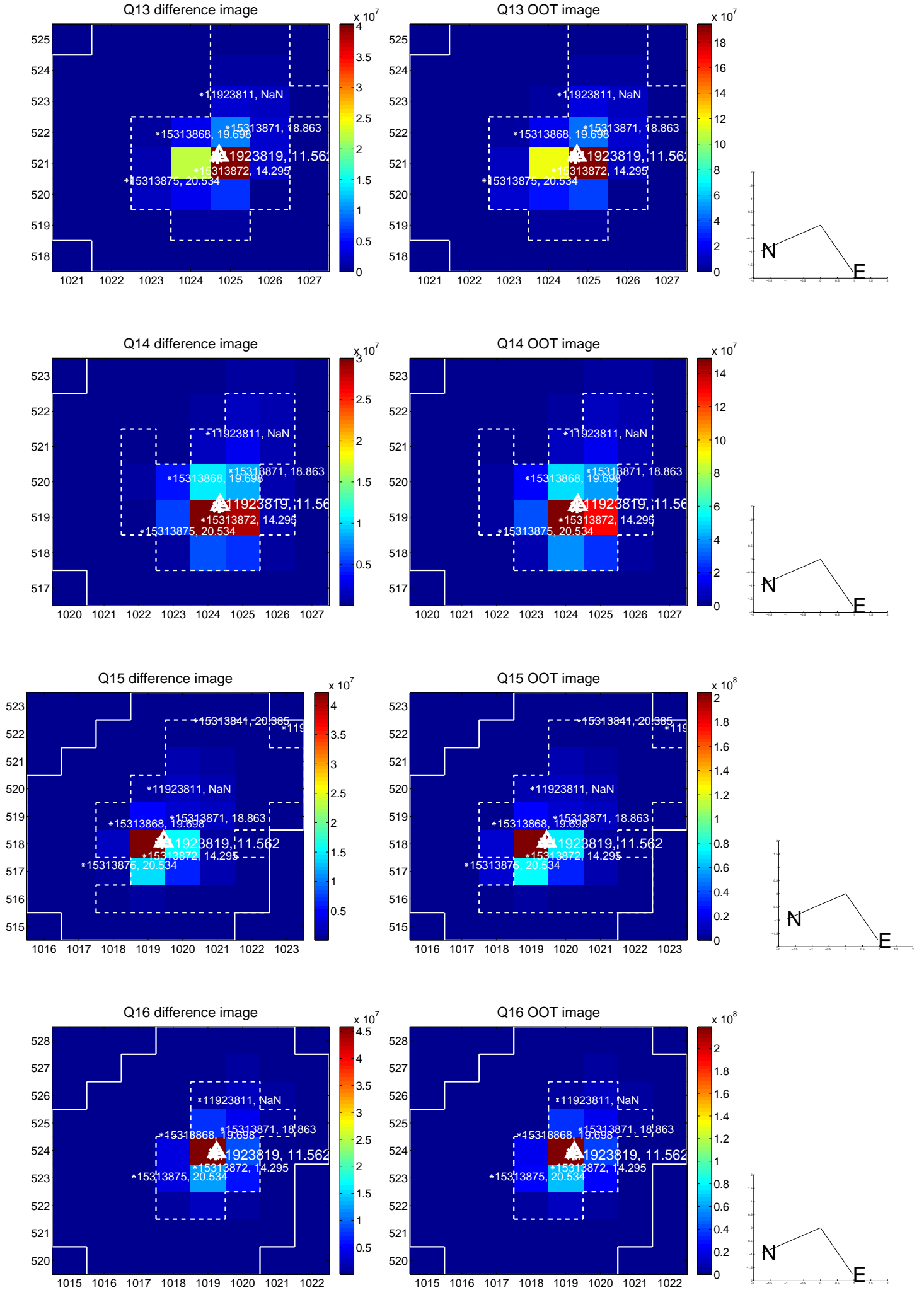
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



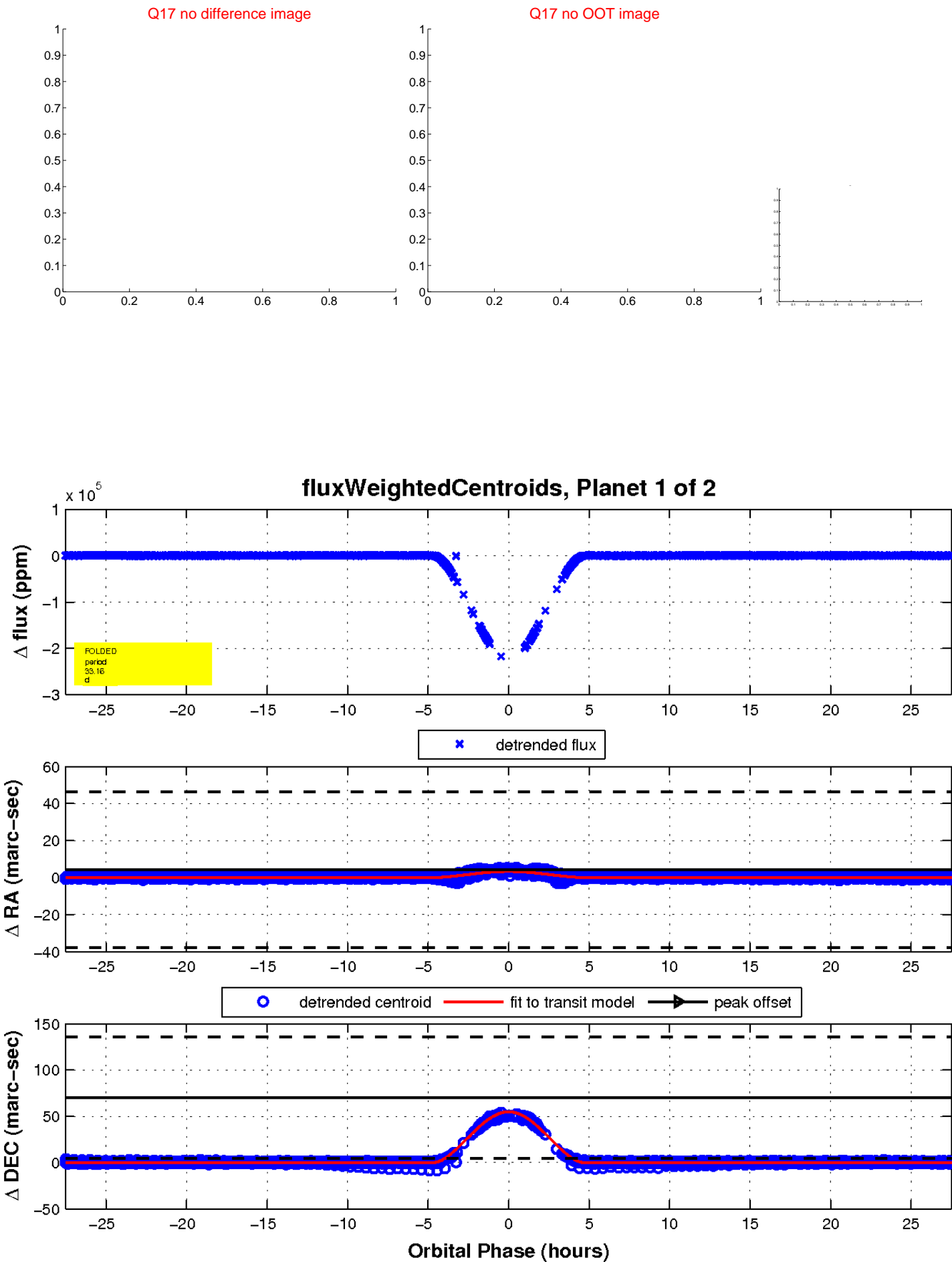
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

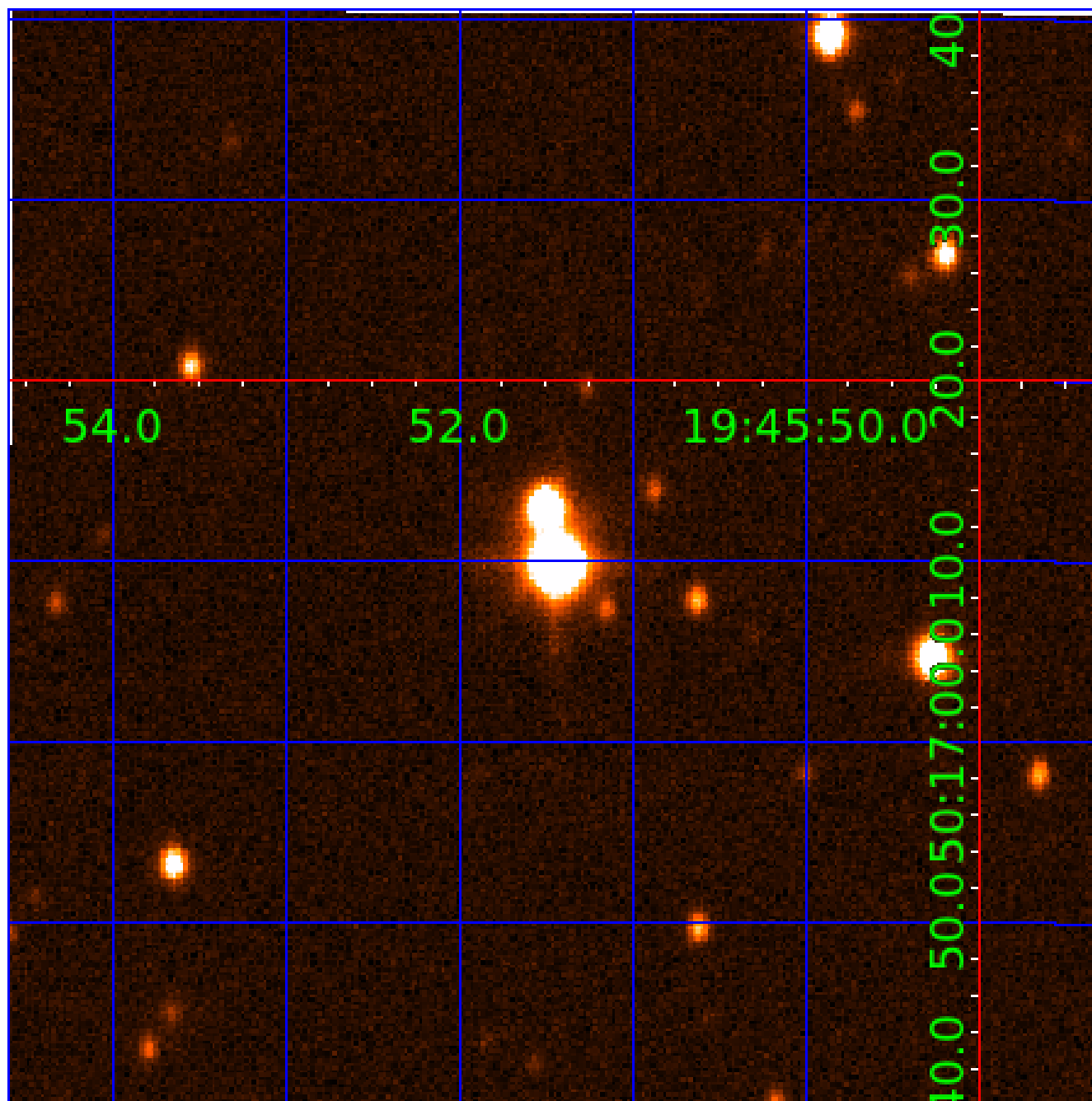


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011923819

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})
011923819-01	OBS	7496.01	33.159476	159.812675	217434.8	9.181	11930.5	5611.8	2.38	7967	141.96	308.22
011923819-02	OBS	No	33.159226	137.773562	110379.2	11.949	5968.4	5083.7	2.38	7967	122.68	308.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011923819-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
011923819-02	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 011923819-02

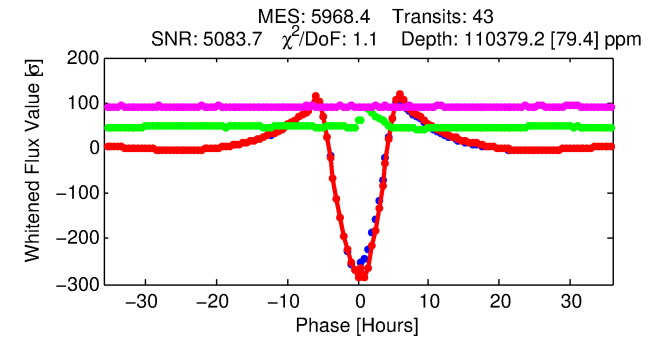
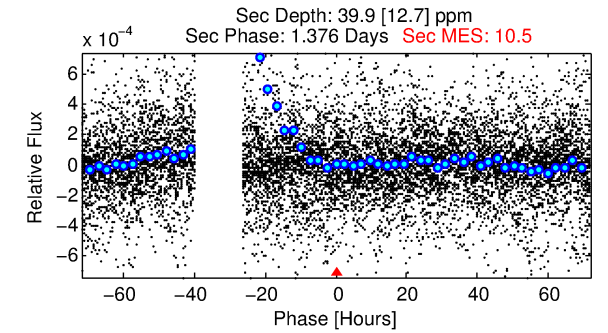
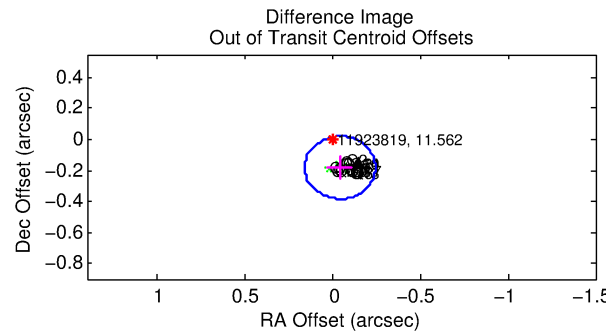
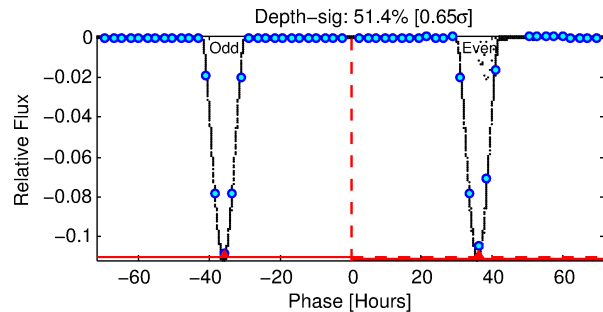
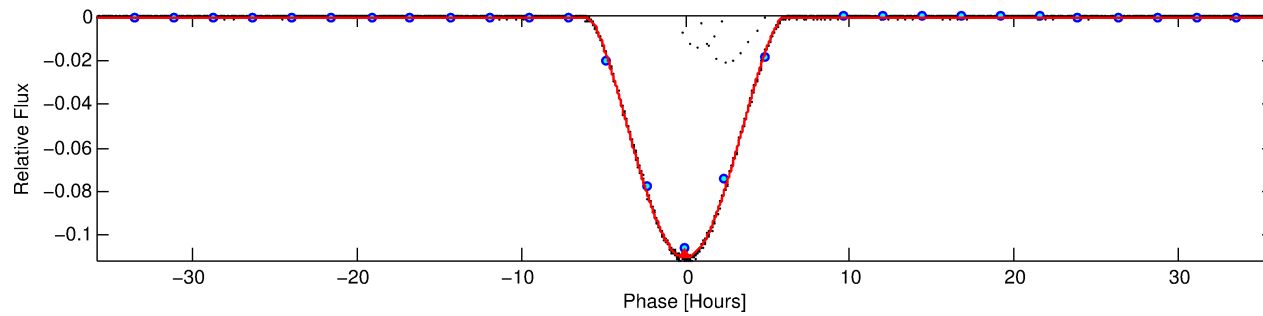
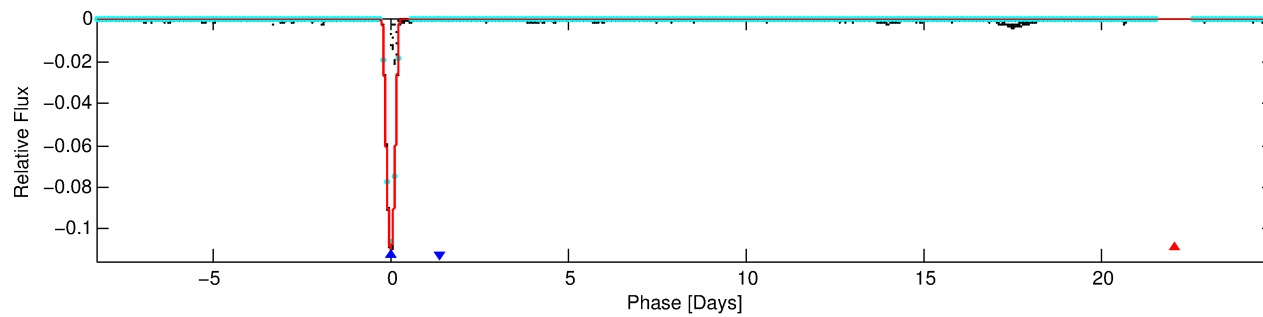
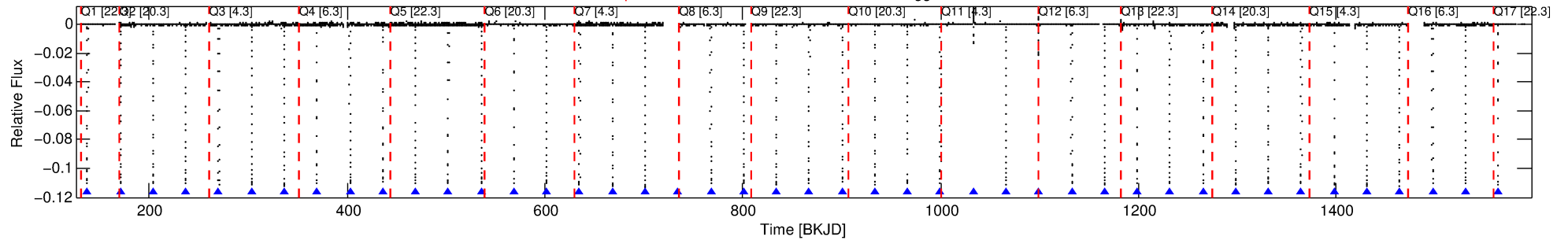
No Significant Match Found

DV One-Page Summary

KIC: 11923819 Candidate: 2 of 2 Period: 33.159 d

KOI: K07496 Corr: No Ephemeris Match

Kp: 11.56 R*: 2.38 Rs Teff: 7967.0 K Logg: 4.00 Fe/H: 0.360



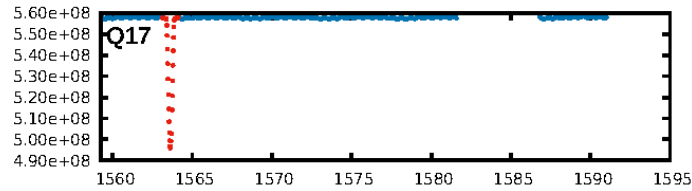
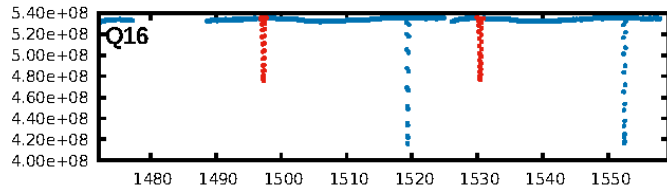
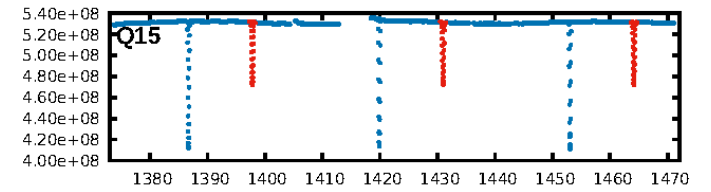
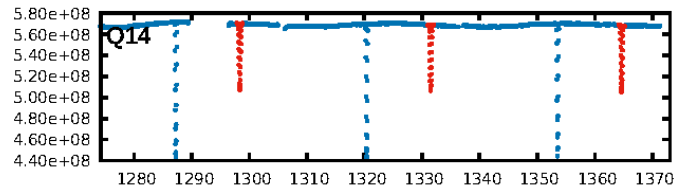
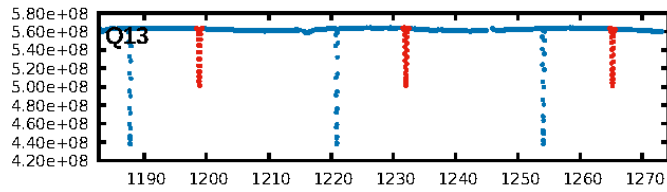
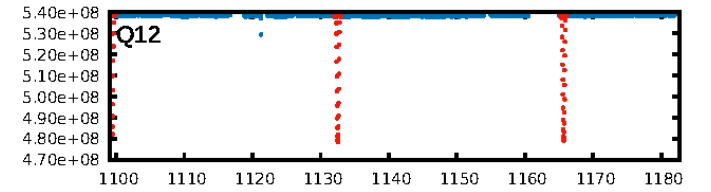
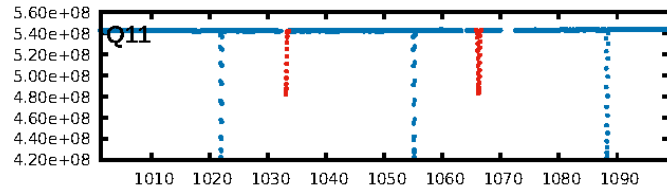
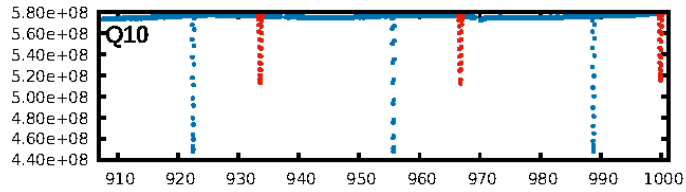
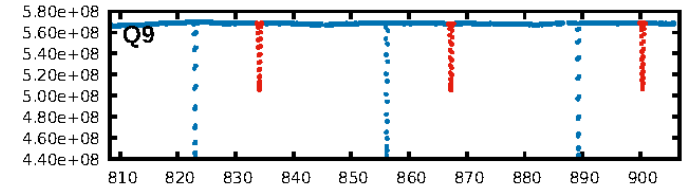
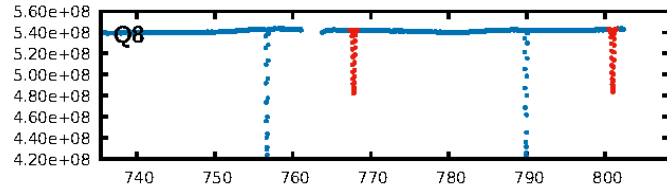
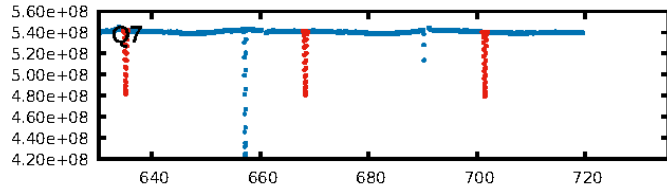
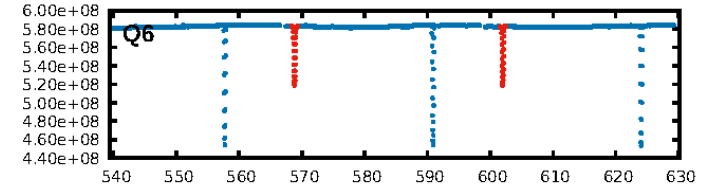
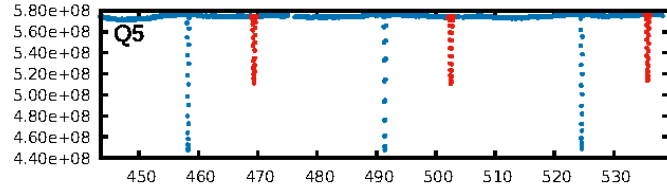
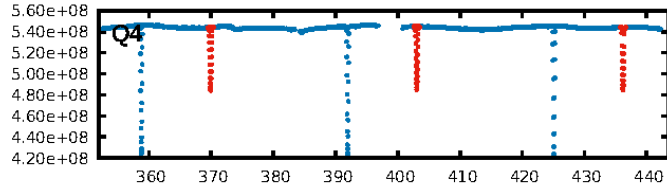
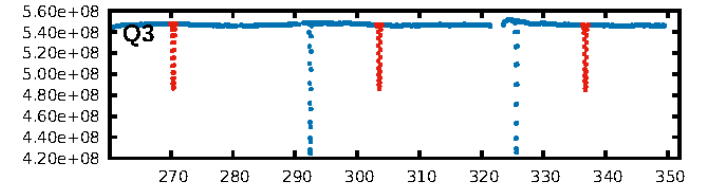
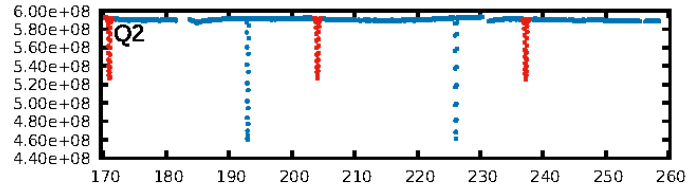
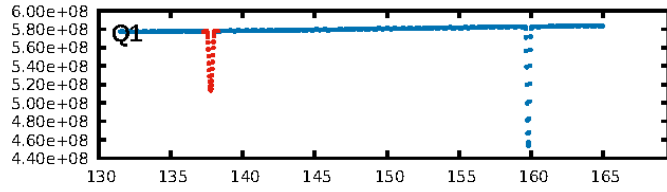
DV Fit Results:

Period = 33.15923 [0.00000] d
Epoch = 137.7736 [0.0001] BKJD
Rp/R* = 0.4726 [0.0240]
a/R* = 23.96 [0.07]
b = 0.95 [0.03]
Seff = 308.22 [174.75]
Teq = 1068 [151] K
Rp = 122.68 [41.42] Re
a = 0.2575 [0.0694] AU
Ag = 0.10 [0.05] [-18.55σ]
Teffp = 921 [124] K [-0.75σ]

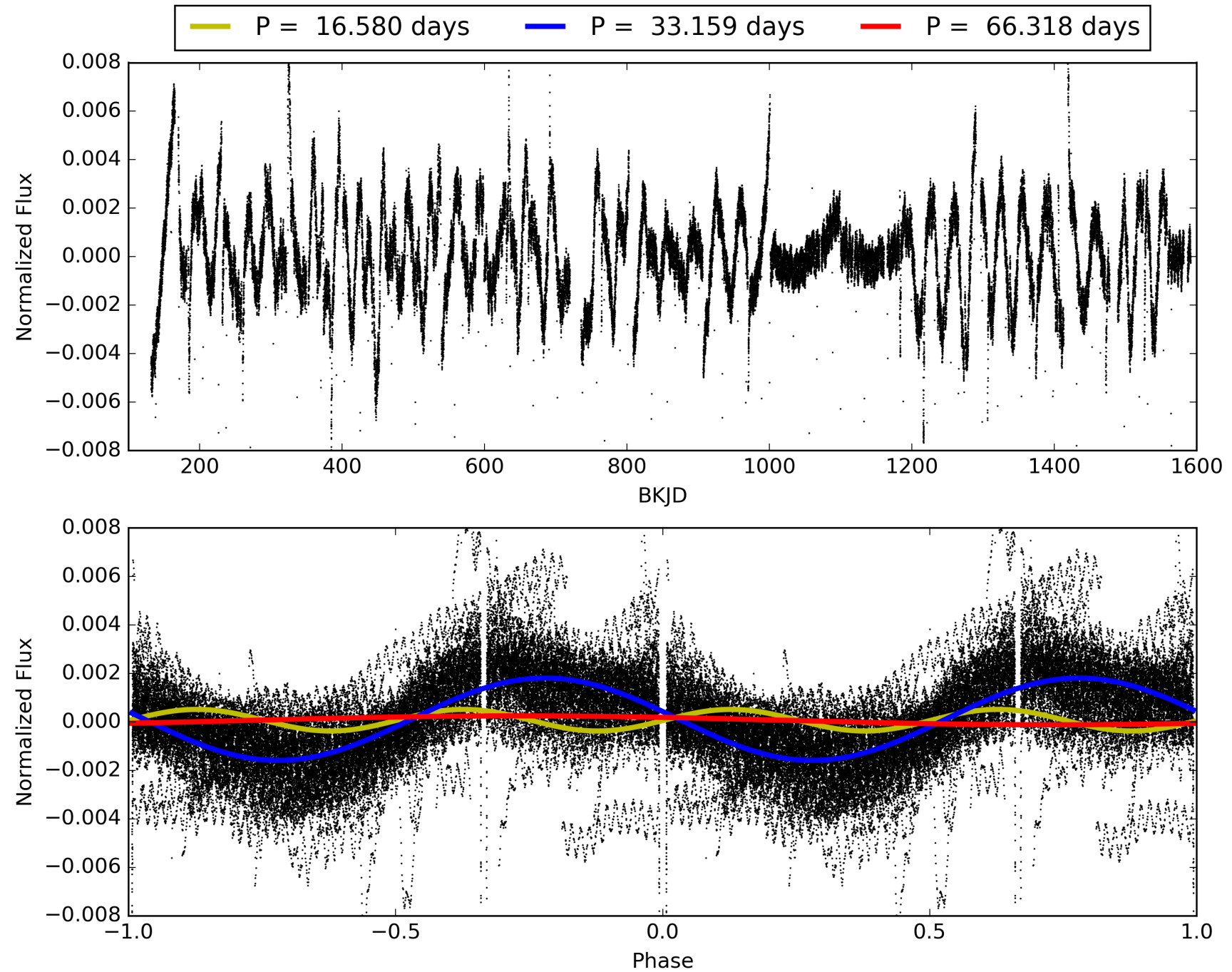
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: 8.196
Centroid-sig: 0.0%
Centroid-so: 0.328 arcsec [382.55σ]
OotOffset-rm: 0.186 arcsec [2.76σ]
KicOffset-rm: 0.300 arcsec [4.45σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011923819-02, PDC Light Curves

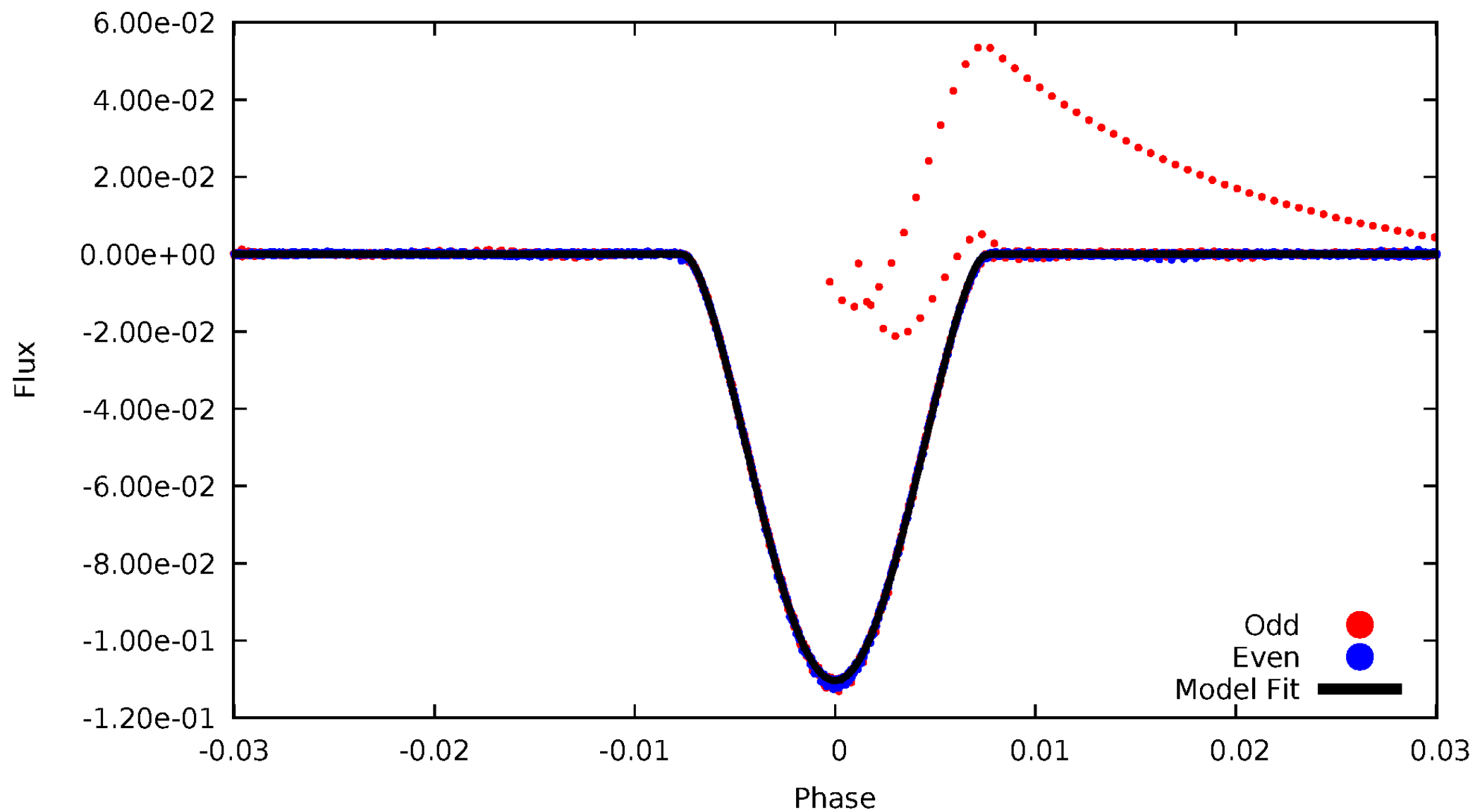


TCE 011923819-02



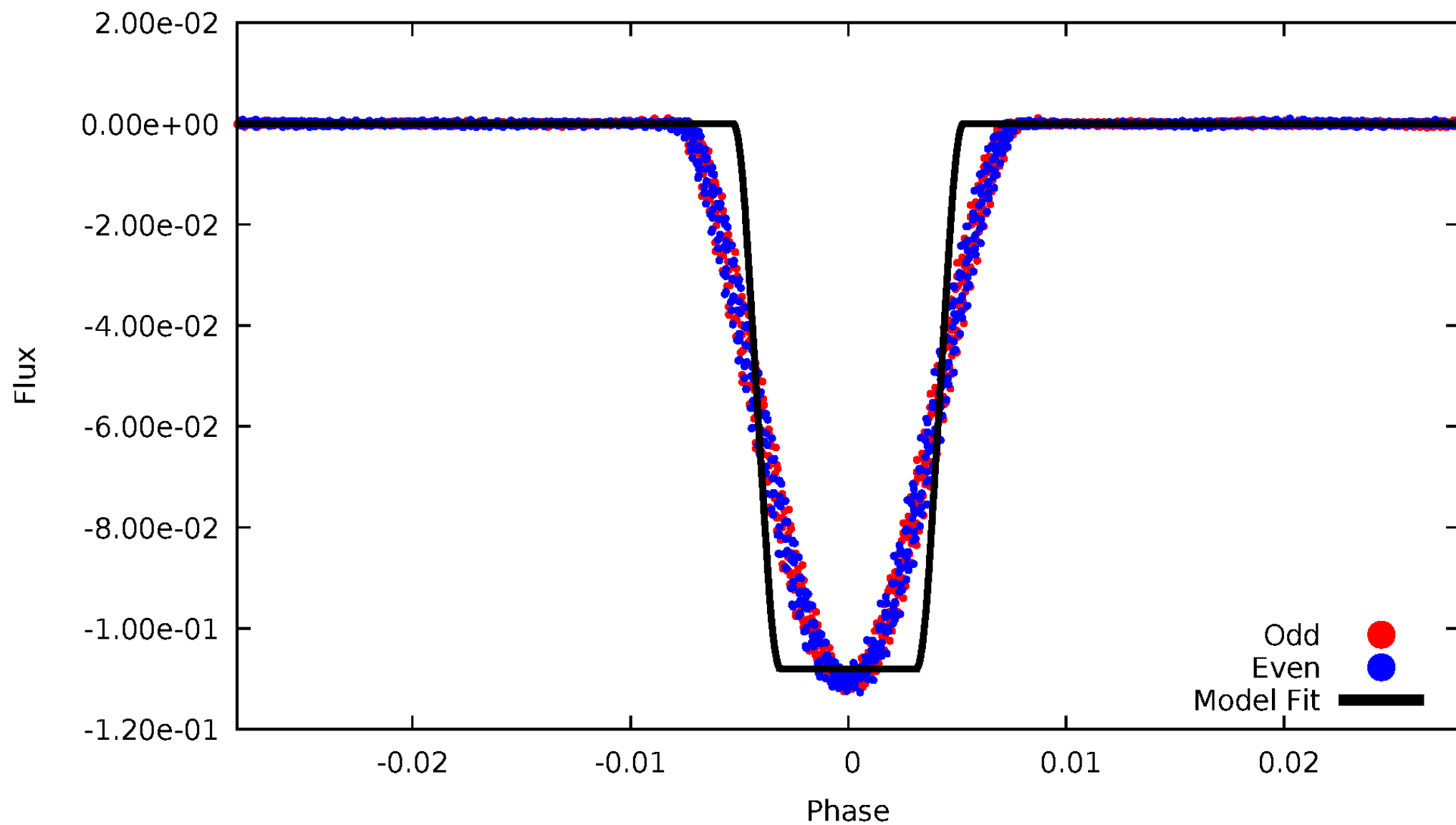
DV Odd/Even

TCE 011923819-02



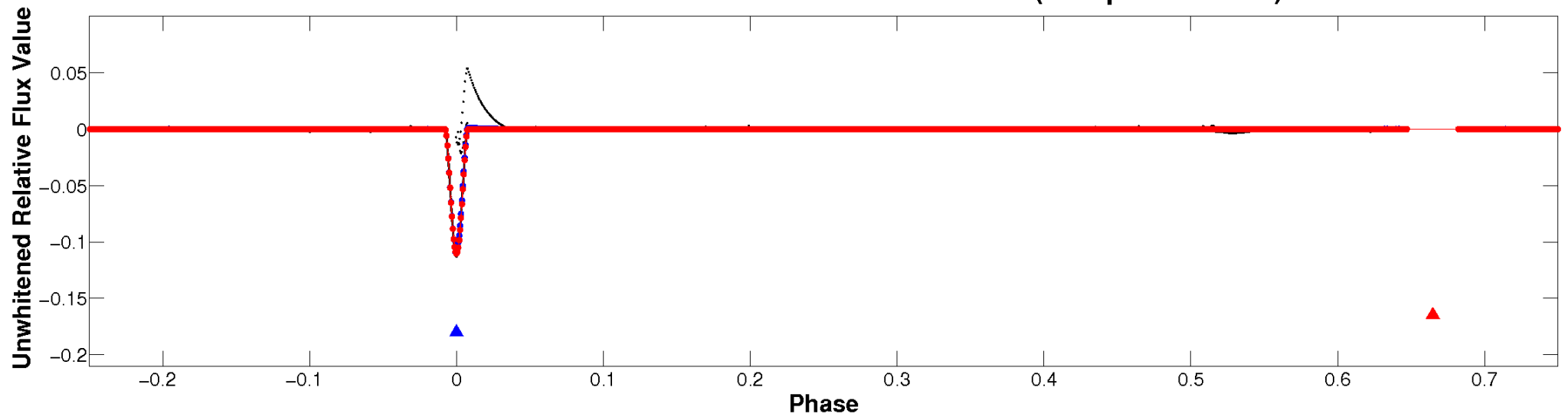
ALT Odd/Even

TCE 011923819-02

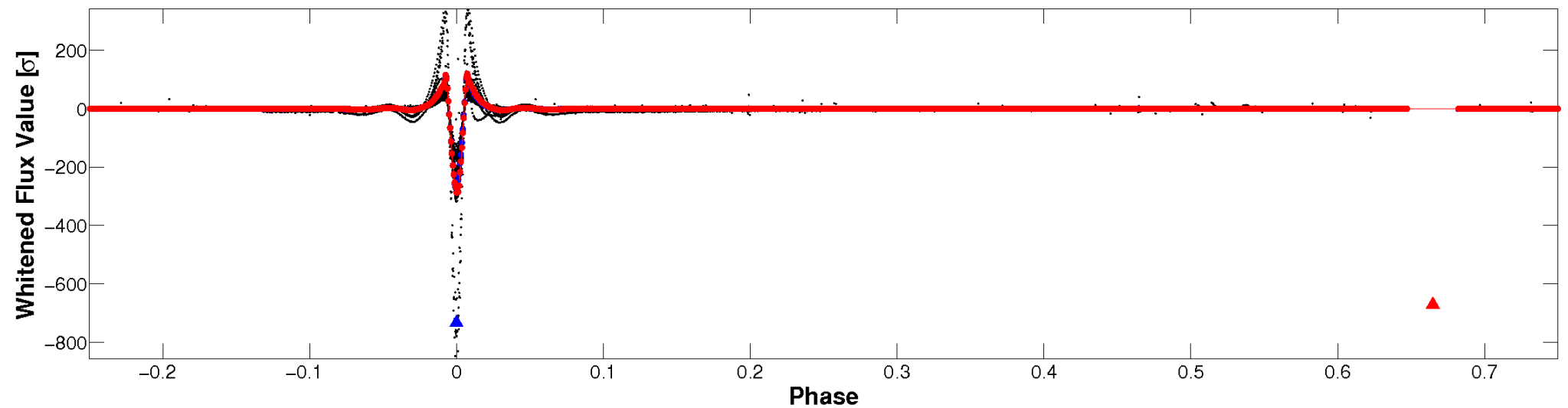


Non-Whitened Vs. Whitened Light Curve

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

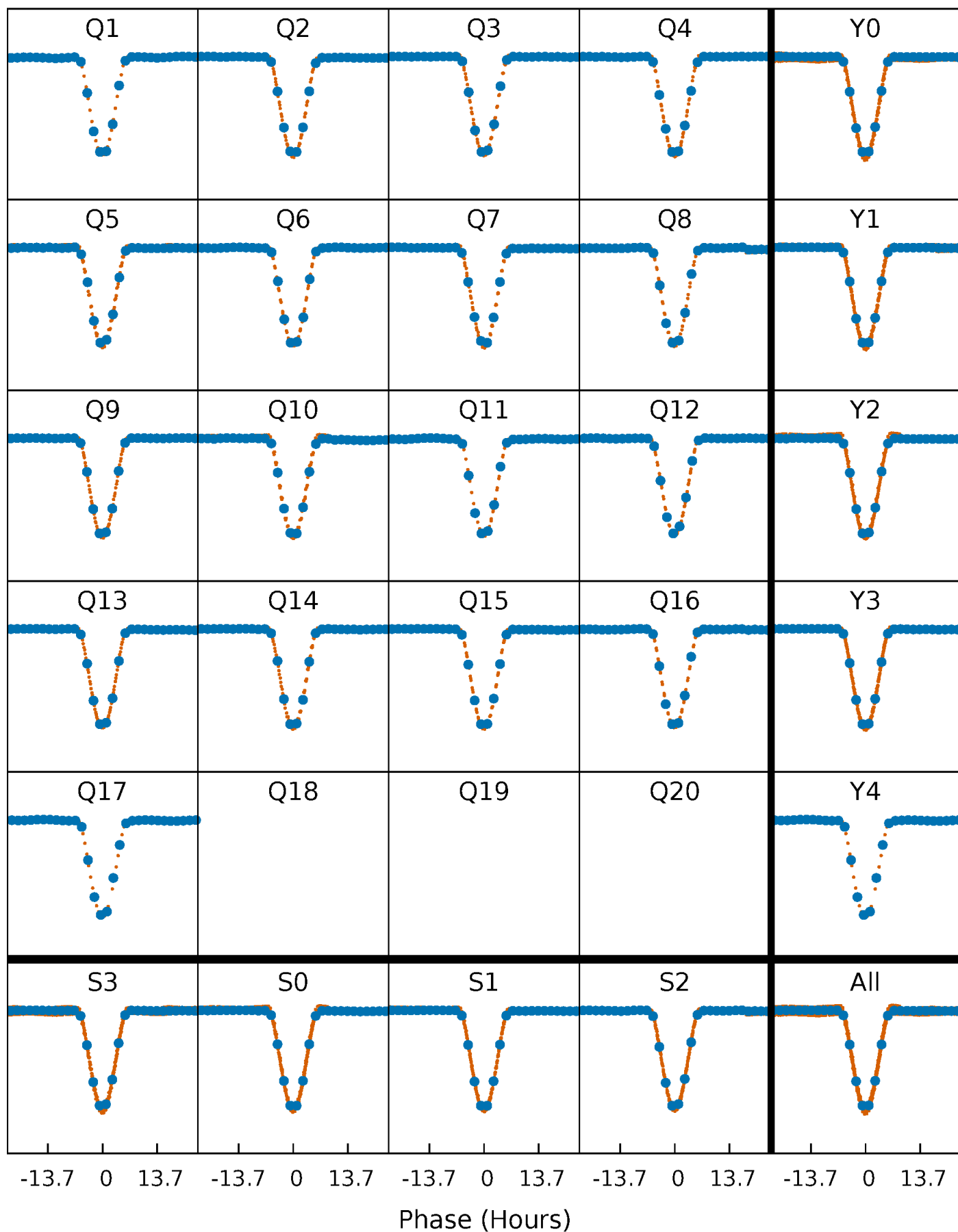


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



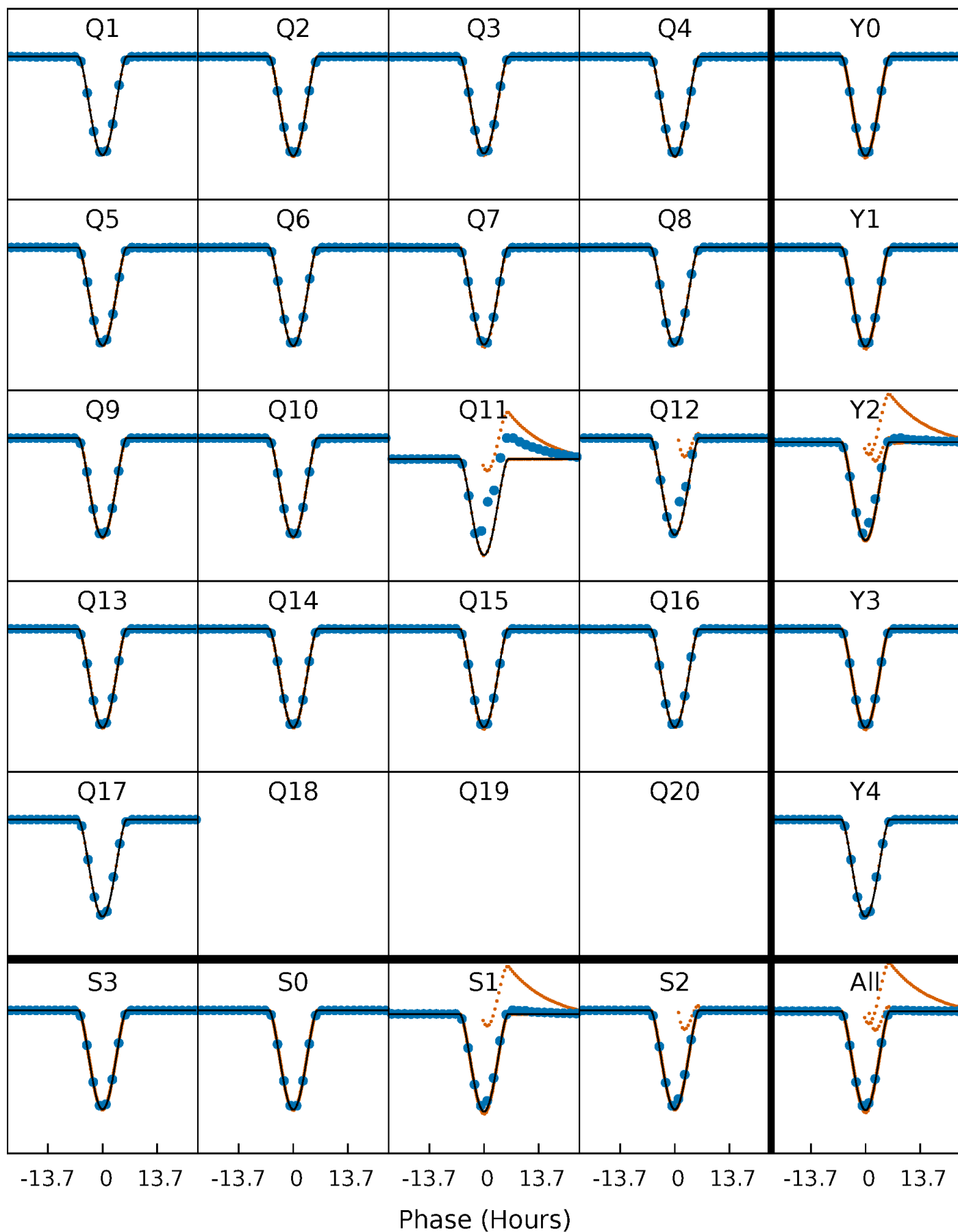
PDC Quarter-Phased Transit Curves

TCE 011923819-02 P= 33.159226 Days $T_0=137.773562$ (BKJD)



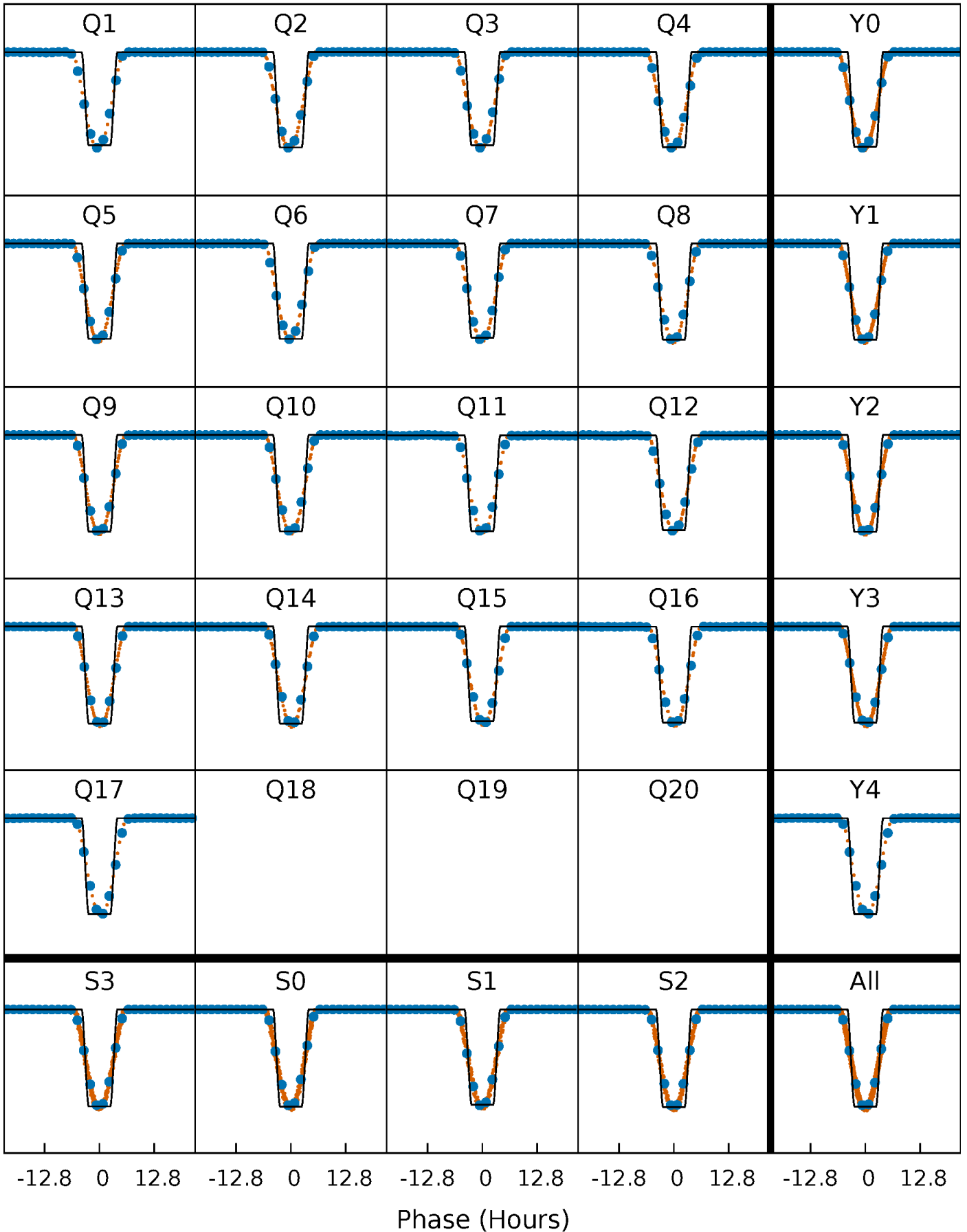
DV Quarter-Phased Transit Curves

TCE 011923819-02 P= 33.159226 Days $T_0=137.773562$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

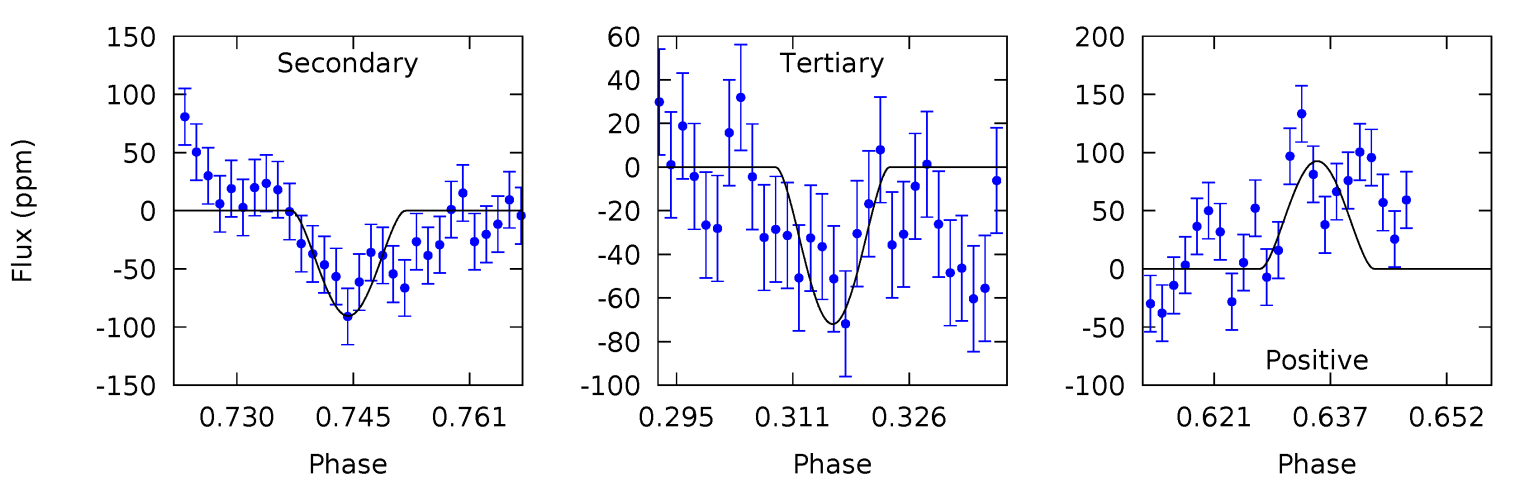
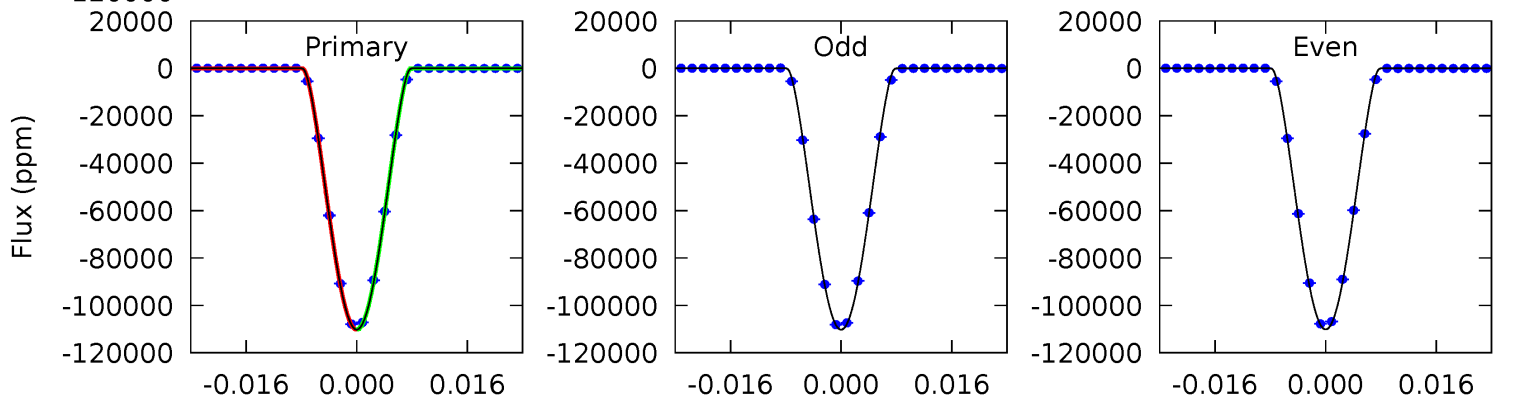
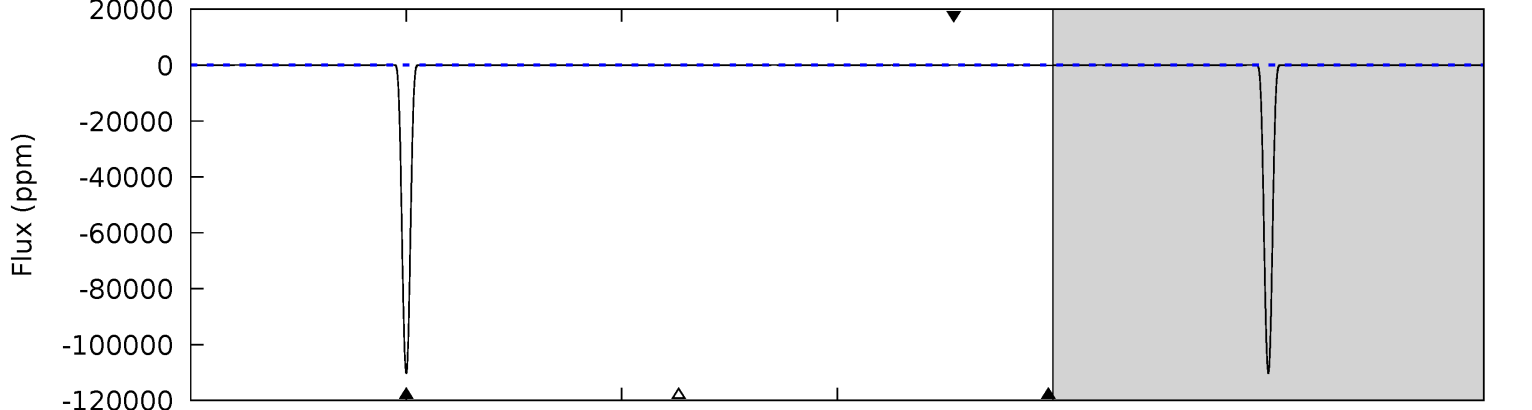
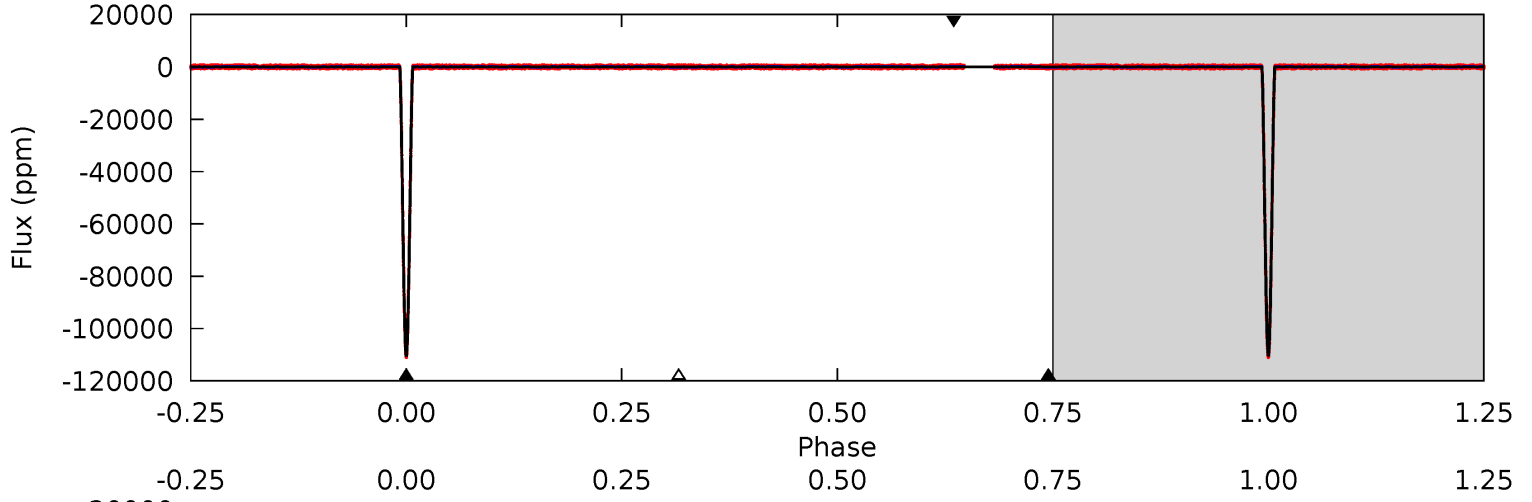
TCE 011923819-02 P= 33.158561 Days $T_0=137.789025$ (BKJD)



DV Model-Shift Uniqueness Test

011923819-02, P = 33.159226 Days, E = 104.614336 Days

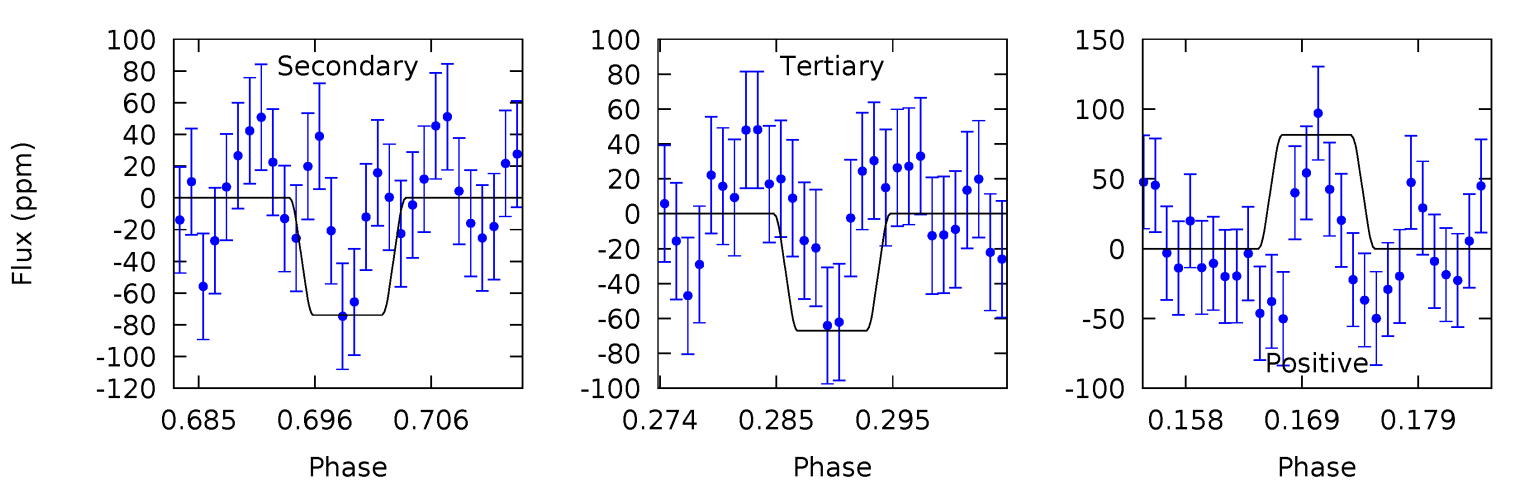
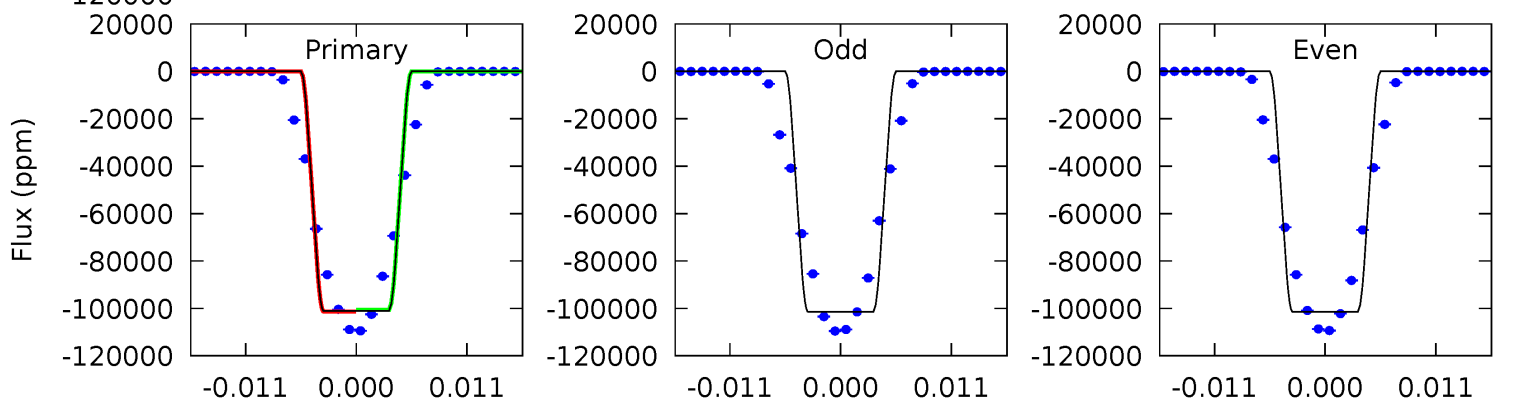
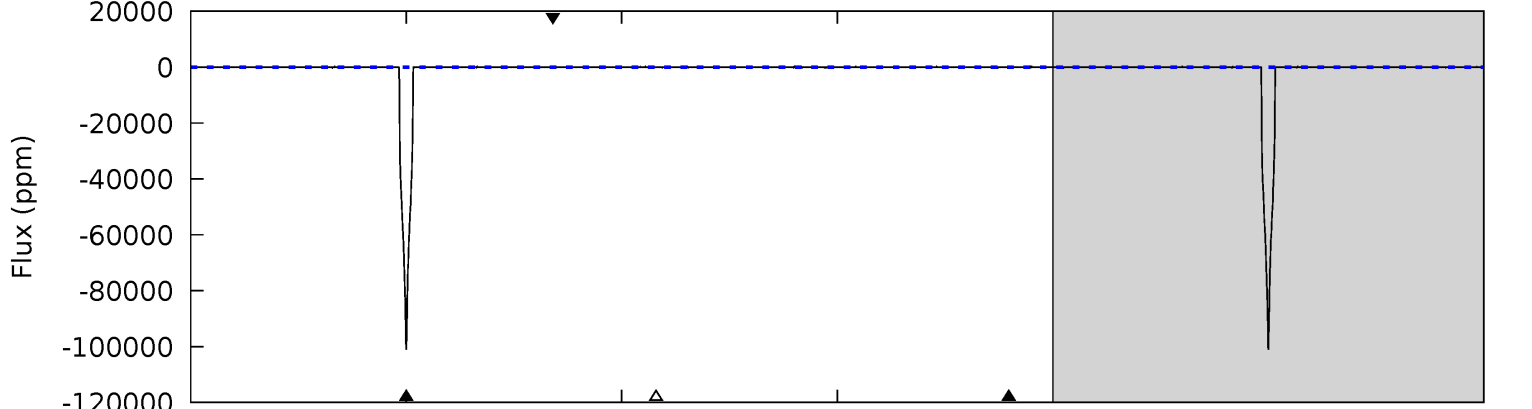
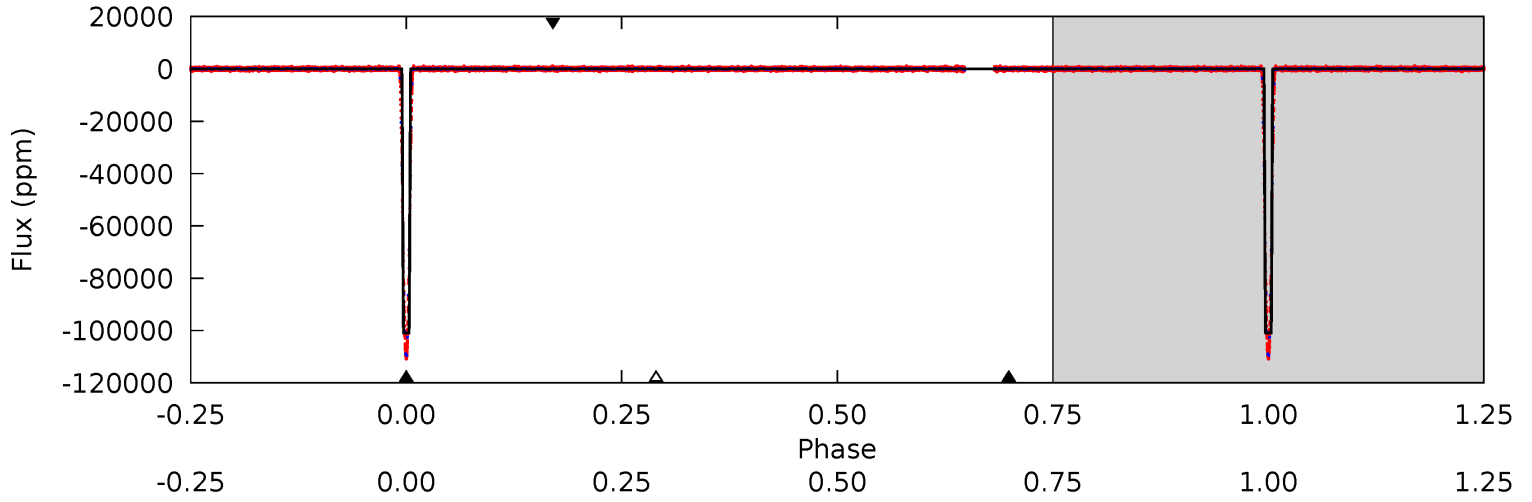
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14832	12.2	9.69	12.5	4.94	2.42	4.58	14822	14820	2.49	-0.30	6.65	0.96	0.00	0



Alt Model-Shift Uniqueness Test

011923819-02, P = 33.158561 Days, E = 104.630464 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4775	3.49	3.17	3.85	5.02	2.56	1.19	4772	4771	0.32	-0.36	0.57	1.00	0.00	0



Stellar Parameters For KIC 011923819

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7967^{+454}_{-844}	$4.001^{+0.162}_{-0.198}$	$0.360^{+0.050}_{-0.200}$	$2.379^{+0.794}_{-0.529}$	$2.069^{+0.349}_{-0.384}$	$0.216^{+0.184}_{-0.115}$
	+6%/-11%	+4%/-5%	+14%/-56%	+33%/-22%	+17%/-19%	+85%/-53%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011923819-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-90 ± 7	$123.57^{+22.25}_{-17.25}$	1487^{+146}_{-158}	-1884^{+284}_{-168}	$0.213^{+0.070}_{-0.057}$
Alt.	-74 ± 21	$85.95^{+17.21}_{-12.59}$	1480^{+164}_{-170}	1742^{+302}_{-3659}	$0.340^{+0.182}_{-0.123}$

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

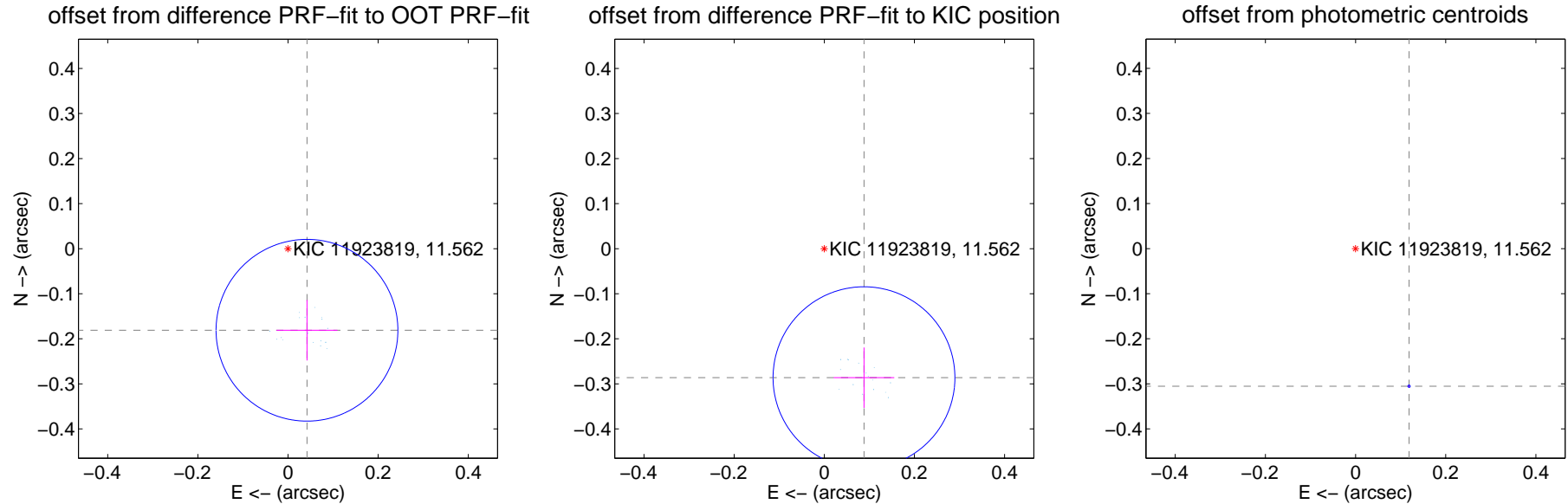
DV Centroid Data

Supplemental centroid analysis for 011923819-02. **Kepler magnitude: 11.56**. Transit SNR 5083.71

There are 17 quarters with good PRF difference image offsets

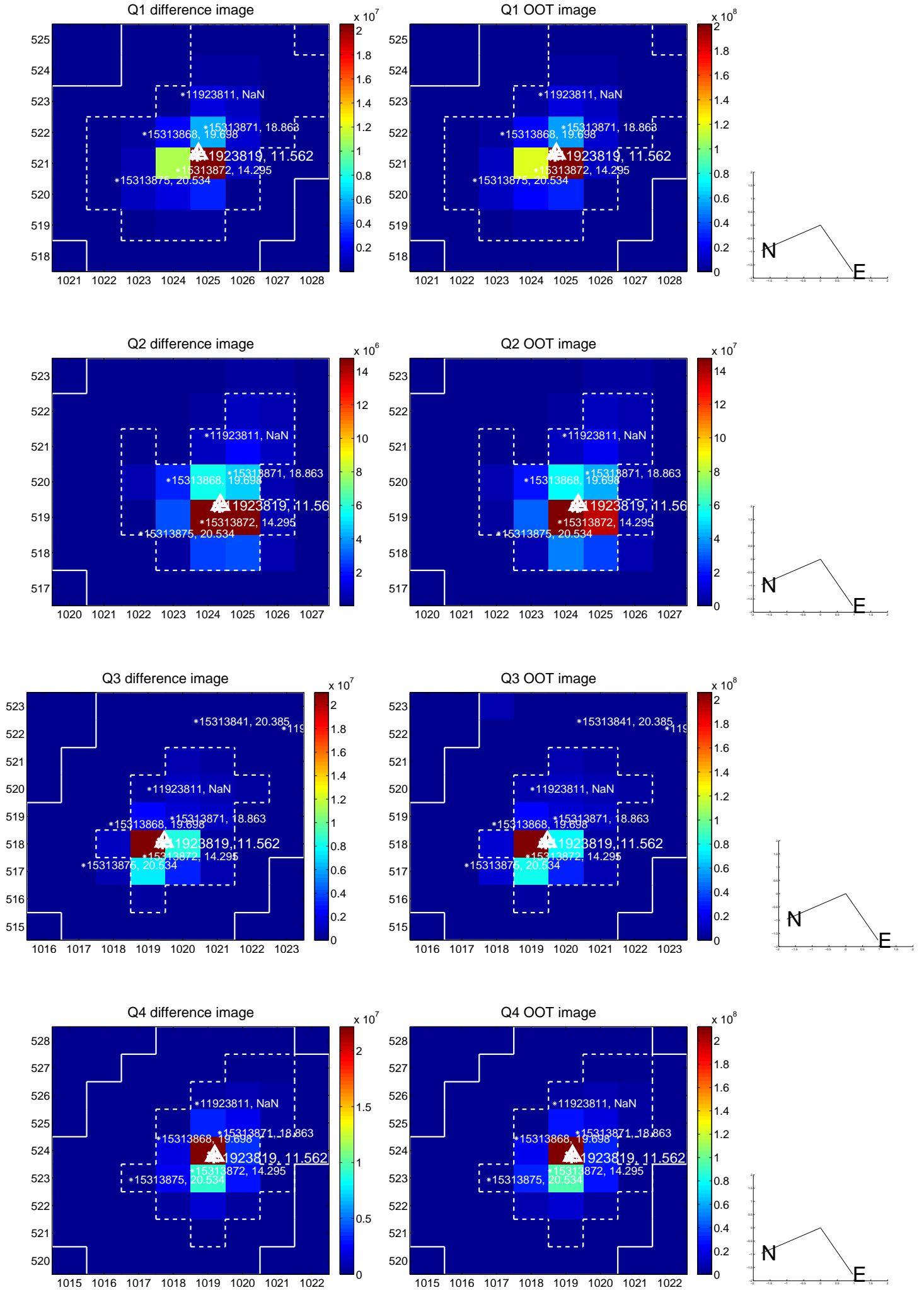
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.186 ± 0.067	2.76	-0.042 ± 0.068	-0.181 ± 0.067
PRF-fit source offset from KIC position	0.300 ± 0.067	4.45	-0.088 ± 0.067	-0.286 ± 0.067
photometric centroid source offset	0.33 ± 0.00	382.55	-0.12 ± 0.00	-0.31 ± 0.00

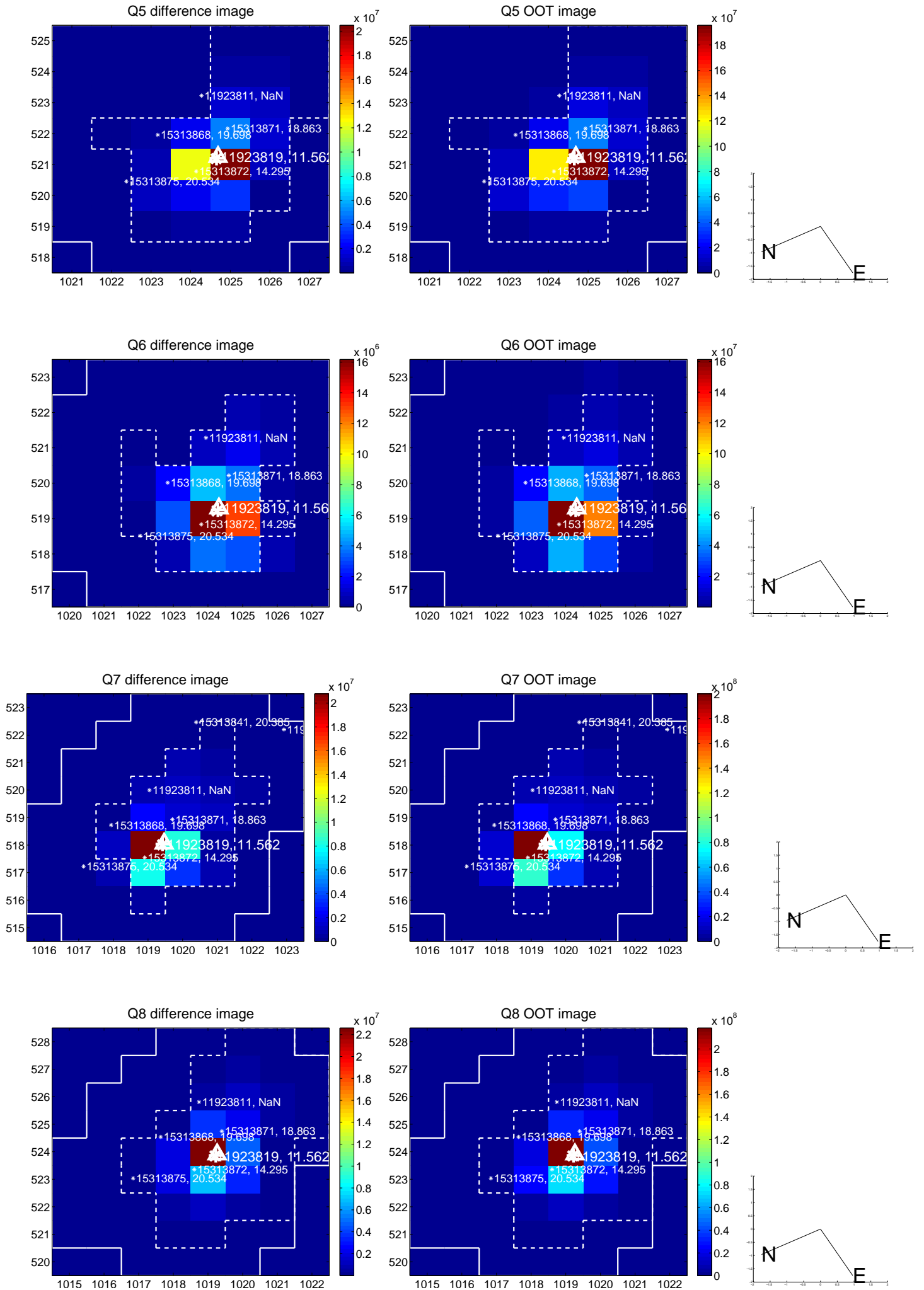


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

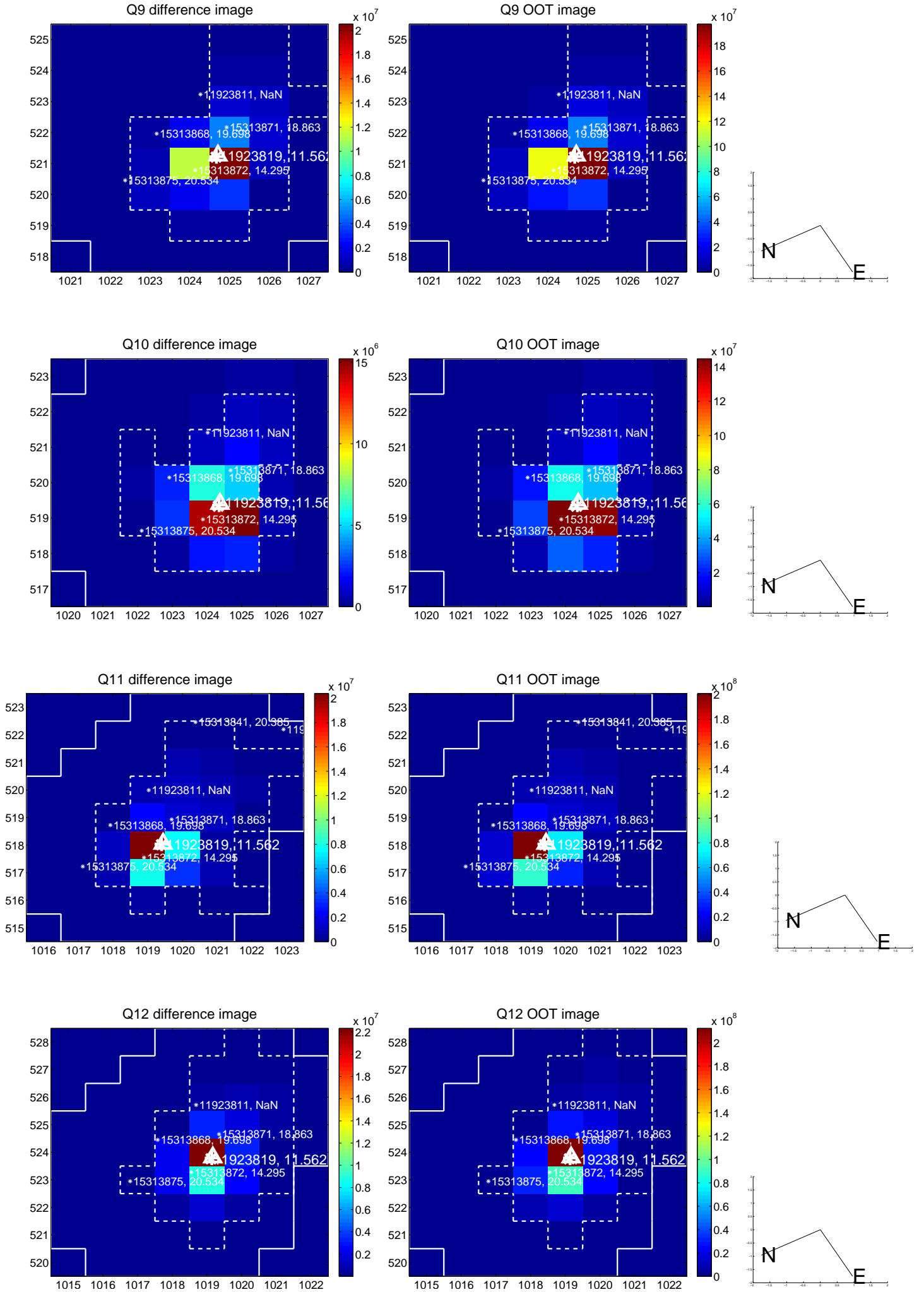
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



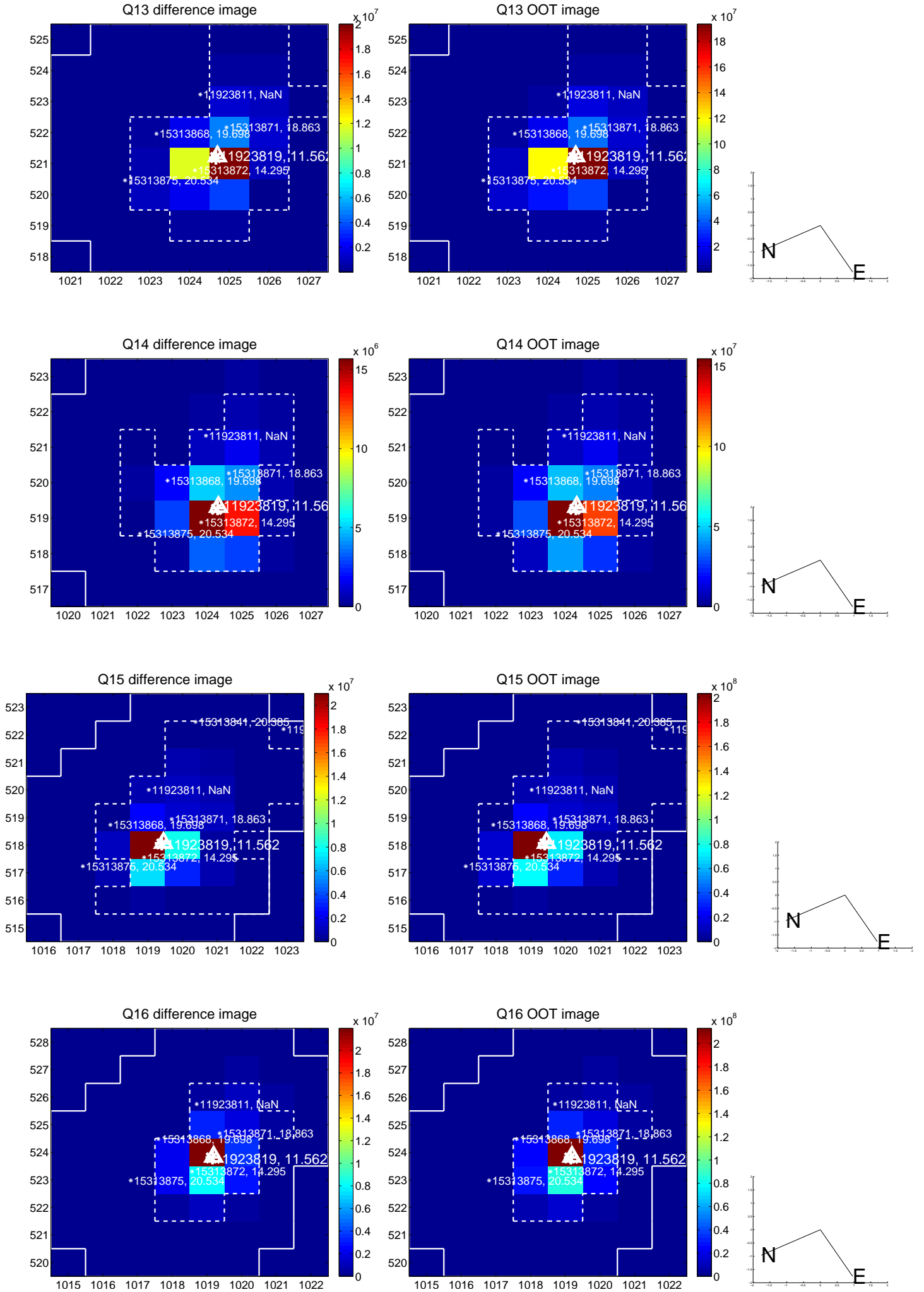
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



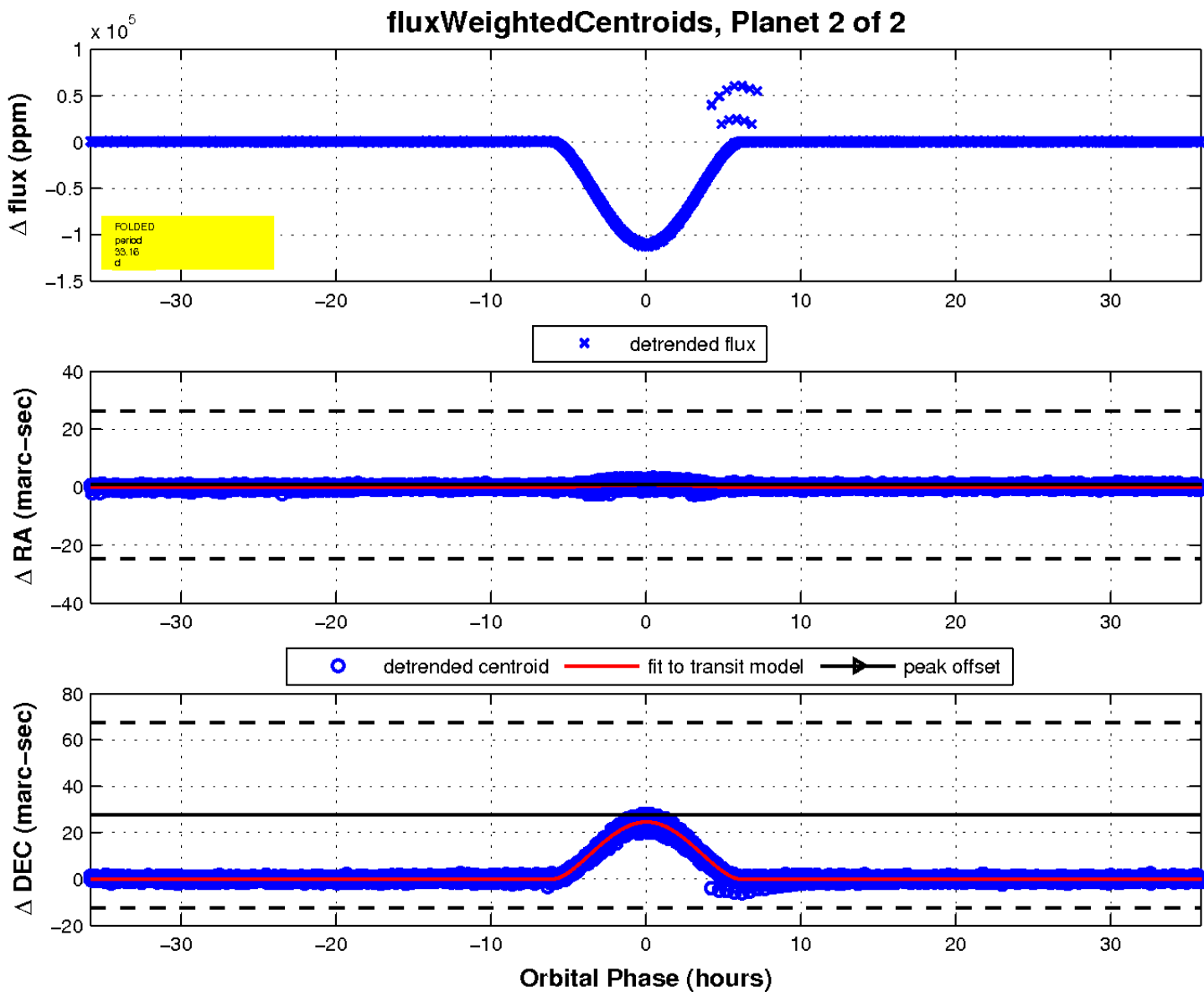
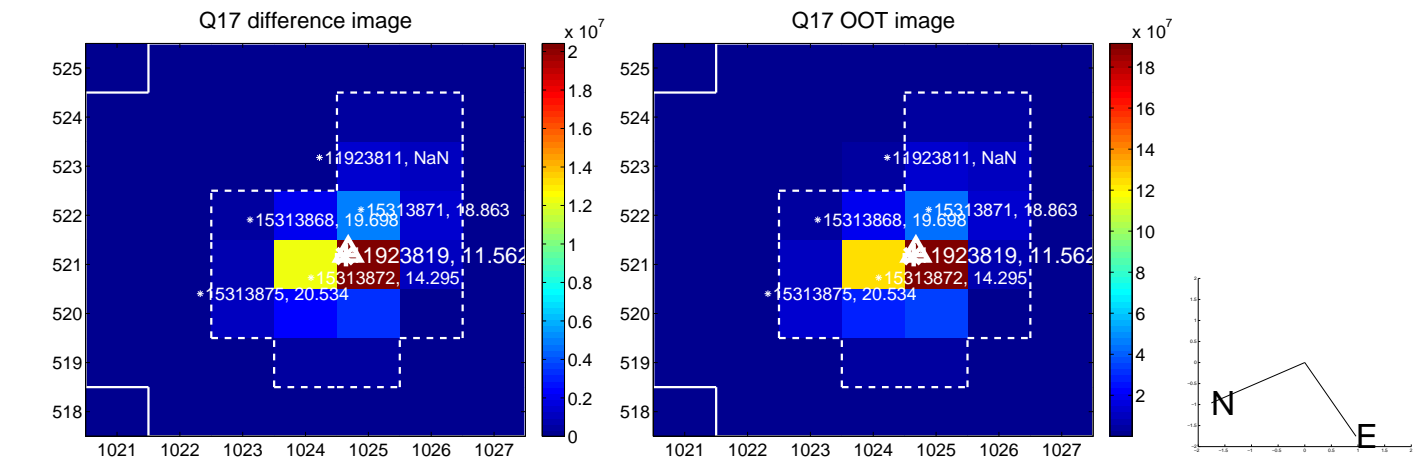
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

