

KIC 010923260

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})
010923260-01	OBS	7387.01	7.436017	136.518195	107021.4	4.182	7121.0	5270.7	0.93	6214	31.52	208.22
010923260-02	OBS	No	7.436014	134.550624	4120.3	3.000	284.7	275.9	0.93	6214	6.81	208.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010923260-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010923260-02	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.

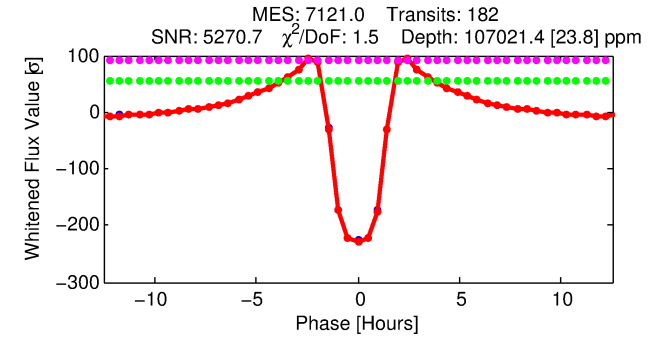
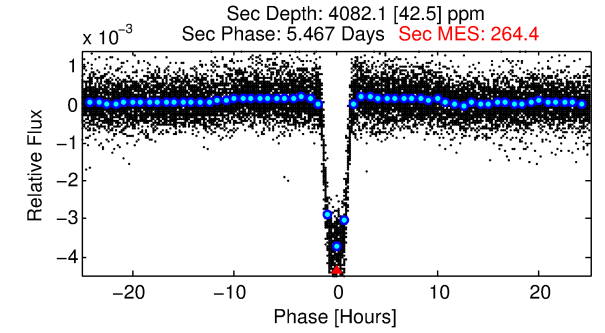
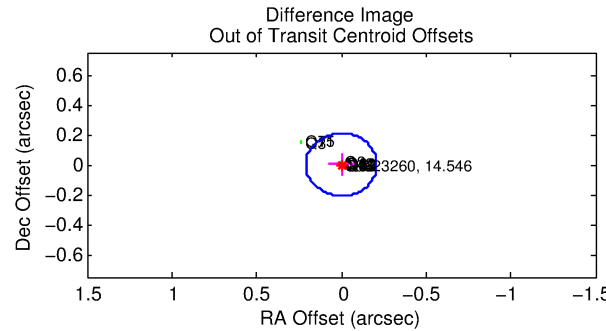
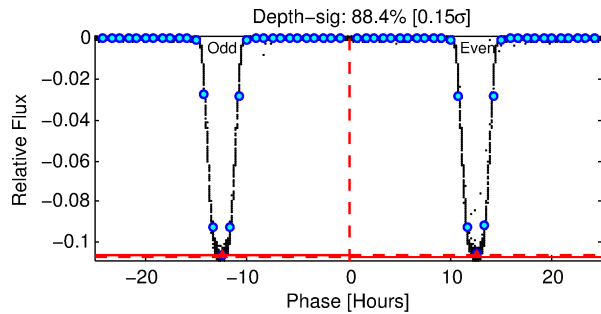
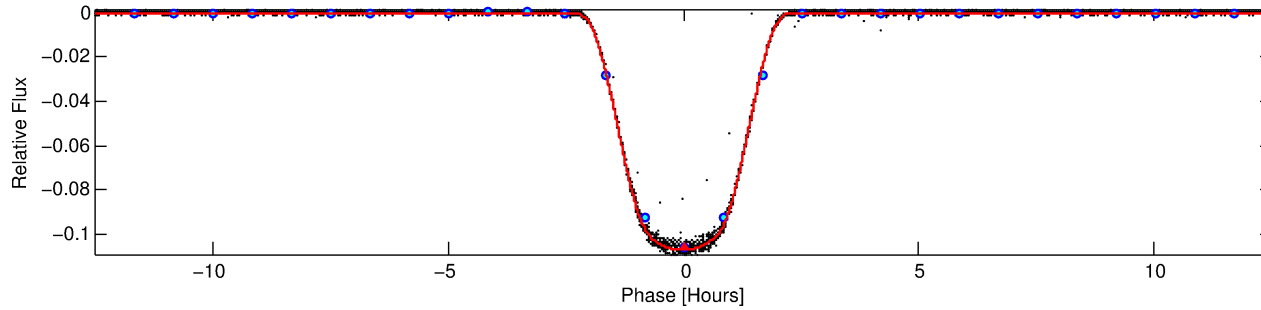
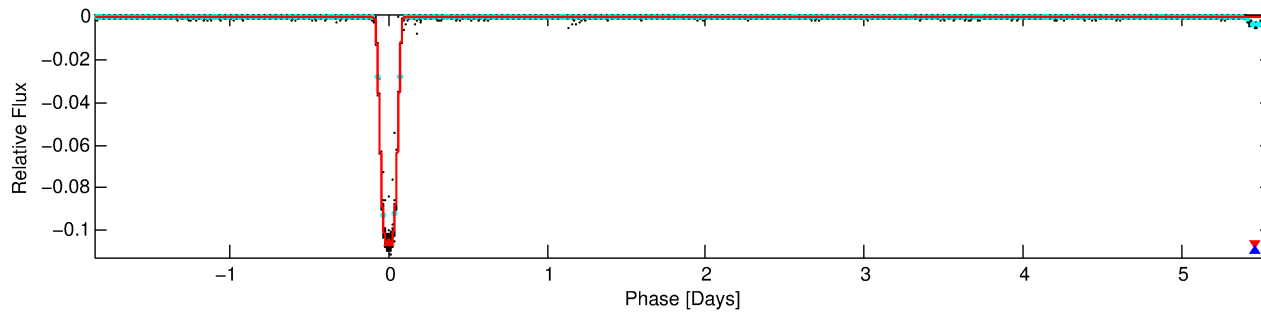
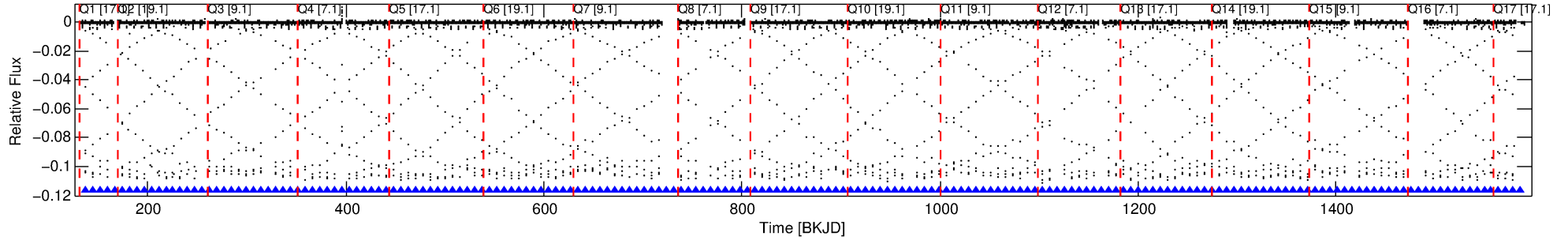
Ephemeris Match Information For 010923260-01

No Significant Match Found

DV One-Page Summary

KIC: 10923260 Candidate: 1 of 2 Period: 7.436 d
KOI: K07387.01 Corr: 0.997

Kp: 14.55 R*: 0.93 Rs Teff: 6214.0 K Logg: 4.50 Fe/H: -0.360



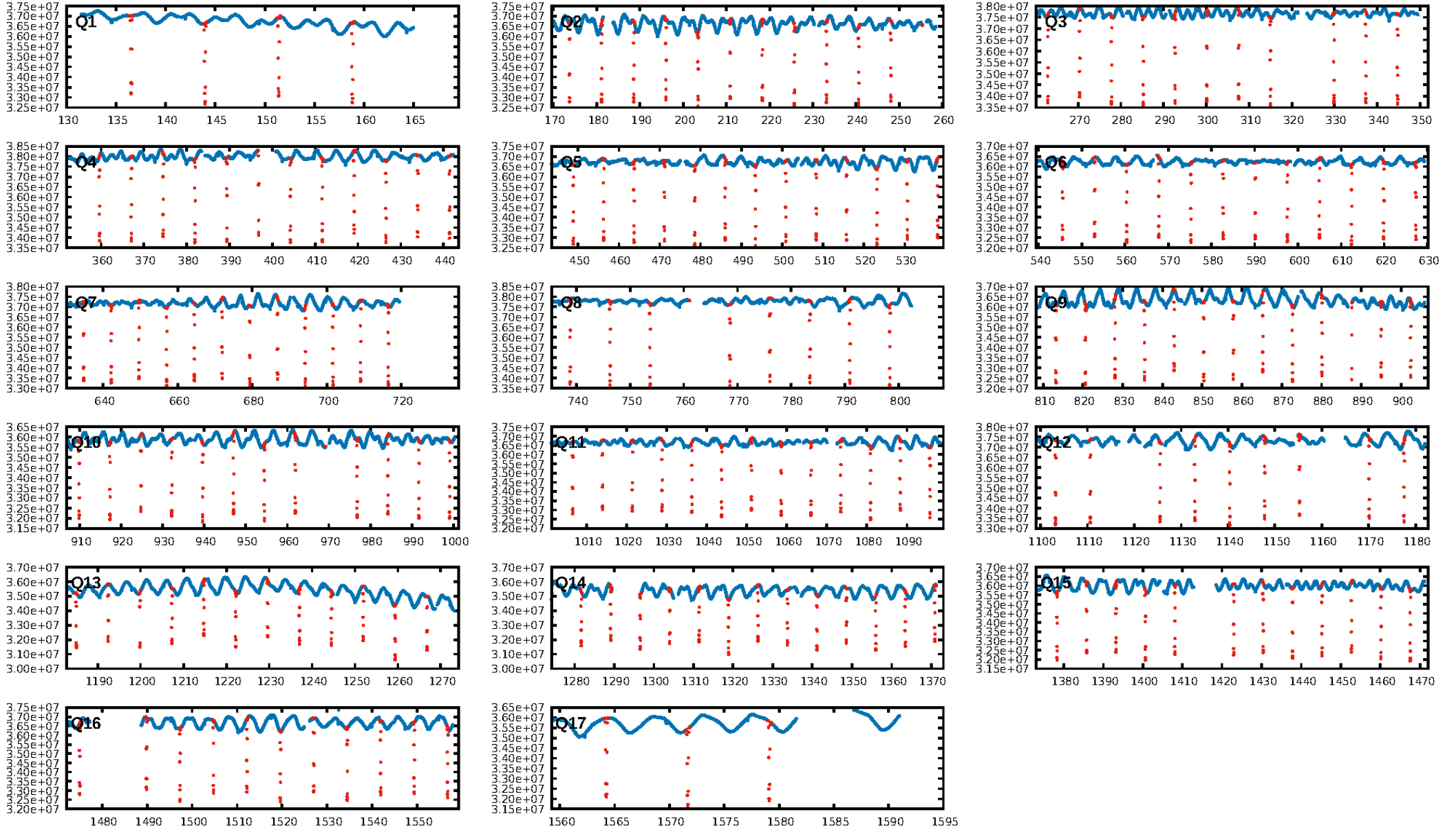
DV Fit Results:

Period = 7.43602 [0.00000] d
Epoch = 136.5182 [0.0000] BKJD
Rp/R* = 0.3096 [0.0001]
a/R* = 16.74 [0.01]
b = 0.45 [0.00]
Seff = 208.22 [86.62]
Teff = 969 [101] K
Rp = 31.52 [9.83] Re
a = 0.0747 [0.0199] AU
Ag = 12.62 [4.94] [2.35σ]
Teffp = 2823 [100] K [13.08σ]

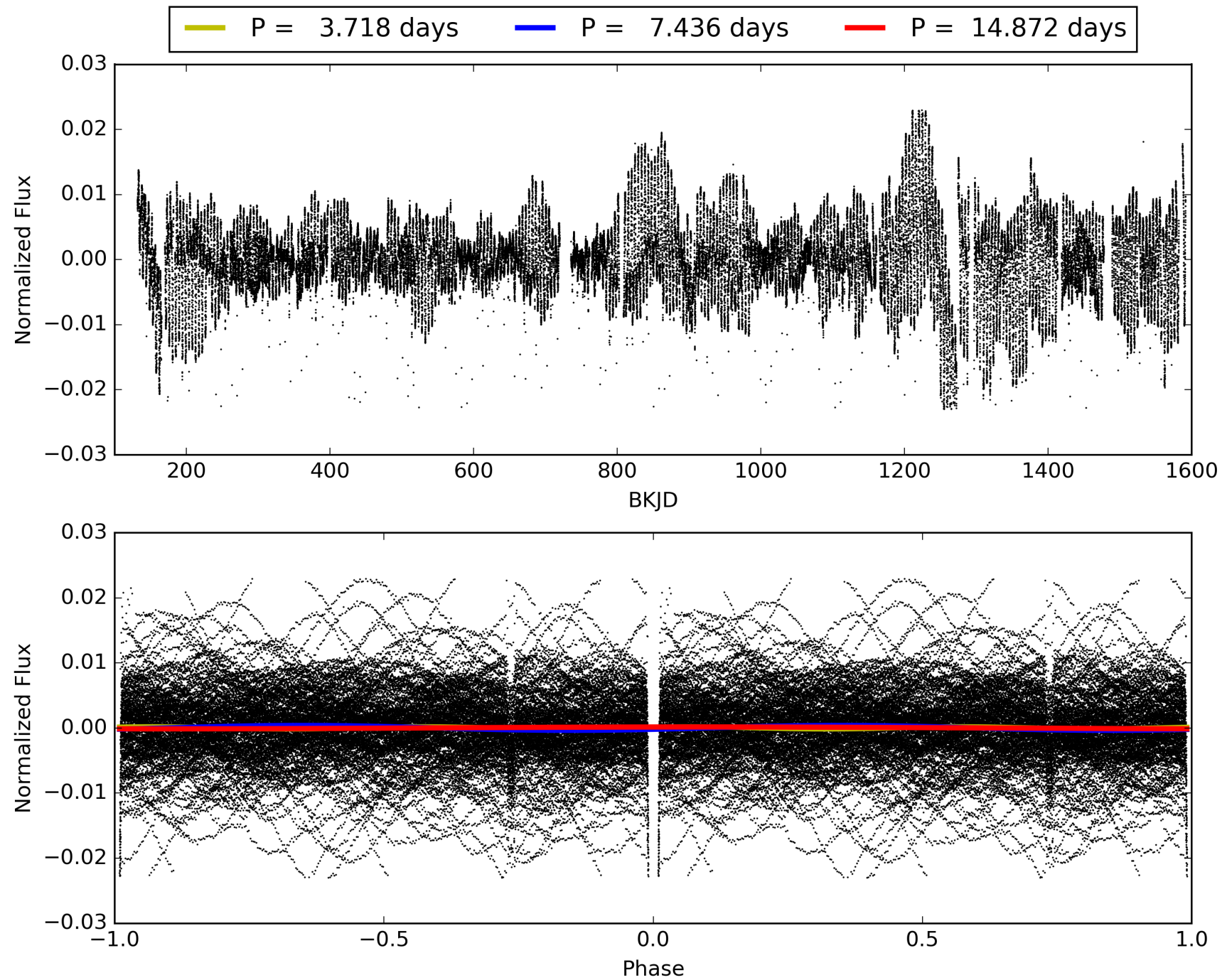
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [175/175]
GhostDiagnostic-chr: 3.147
Centroid-sig: 0.0%
Centroid-so: 0.109 arcsec [101.72σ]
OotOffset-rm: 0.000 arcsec [0.01σ]
KicOffset-rm: 0.039 arcsec [0.58σ]
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 010923260-01, PDC Light Curves

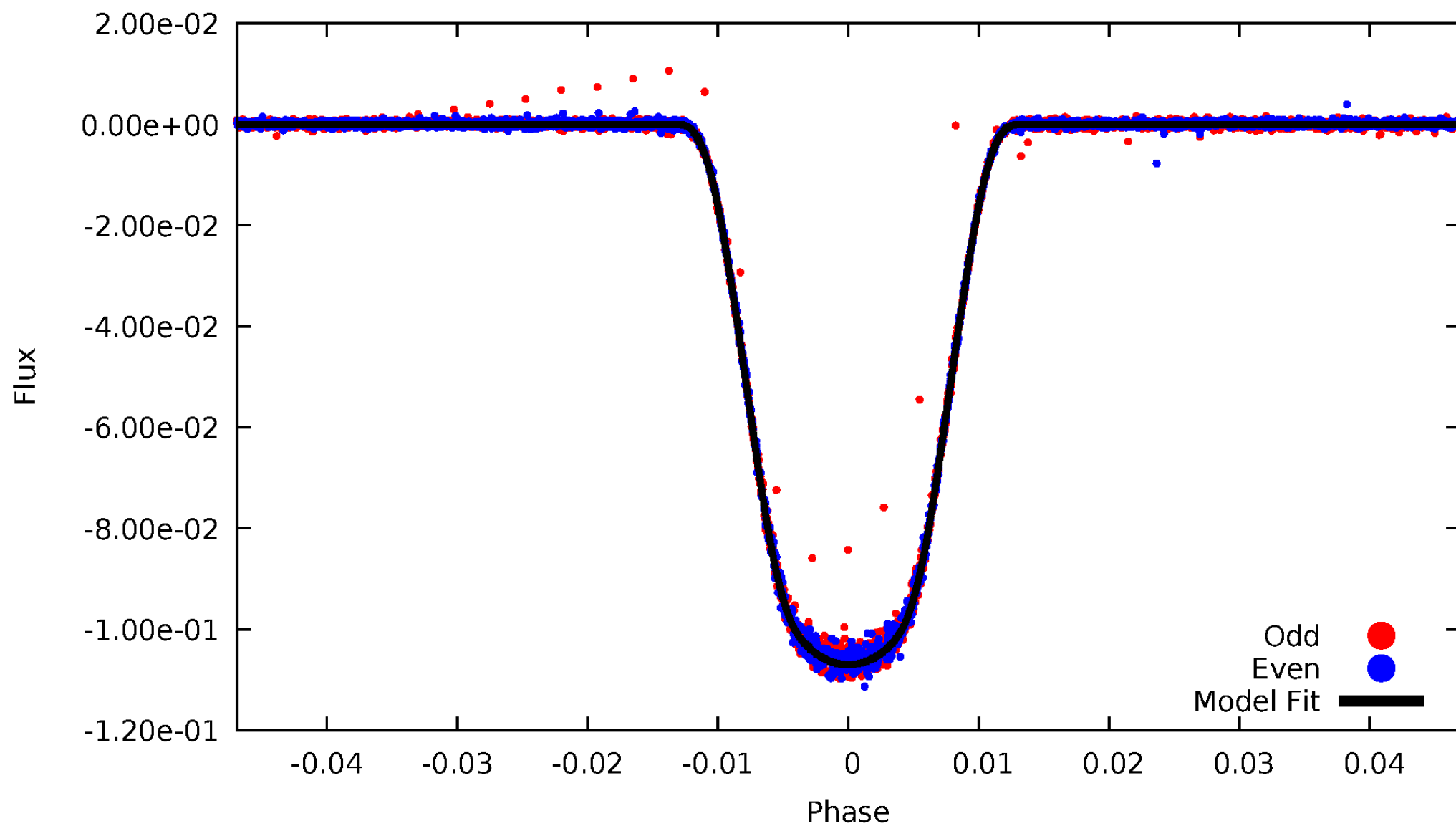


TCE 010923260-01



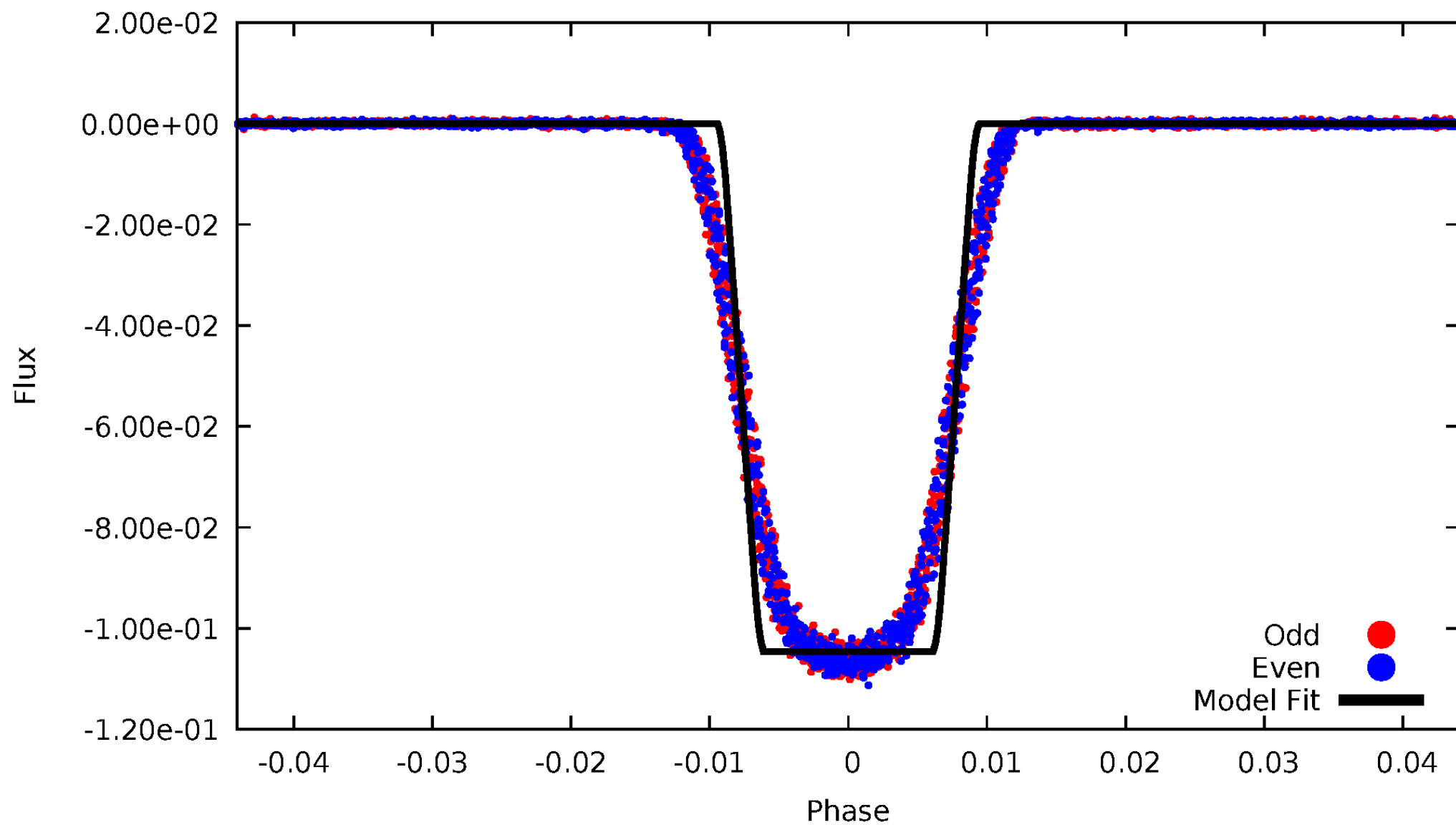
DV Odd/Even

TCE 010923260-01



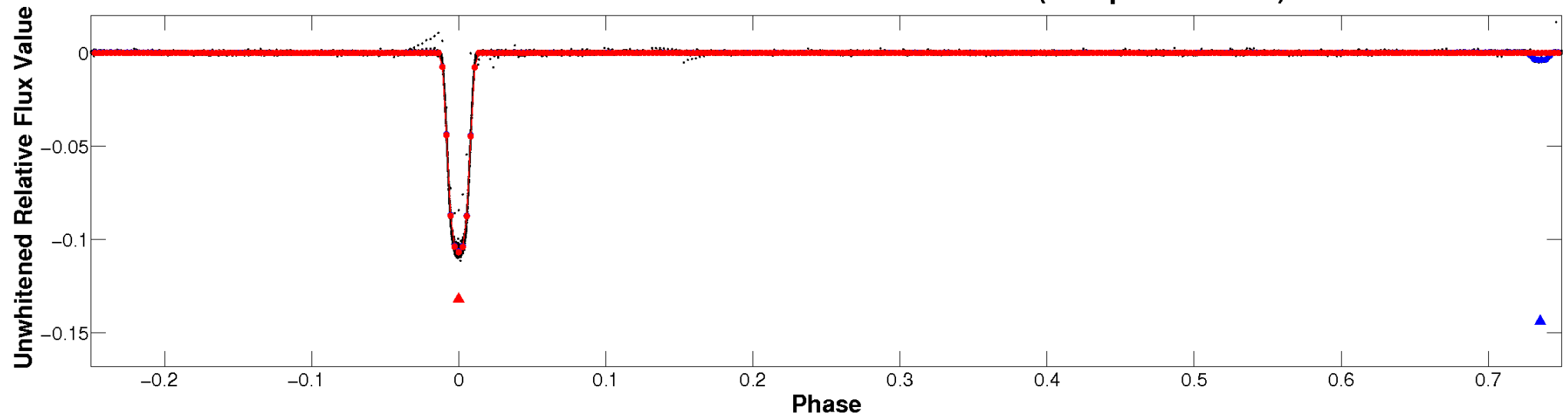
ALT Odd/Even

TCE 010923260-01

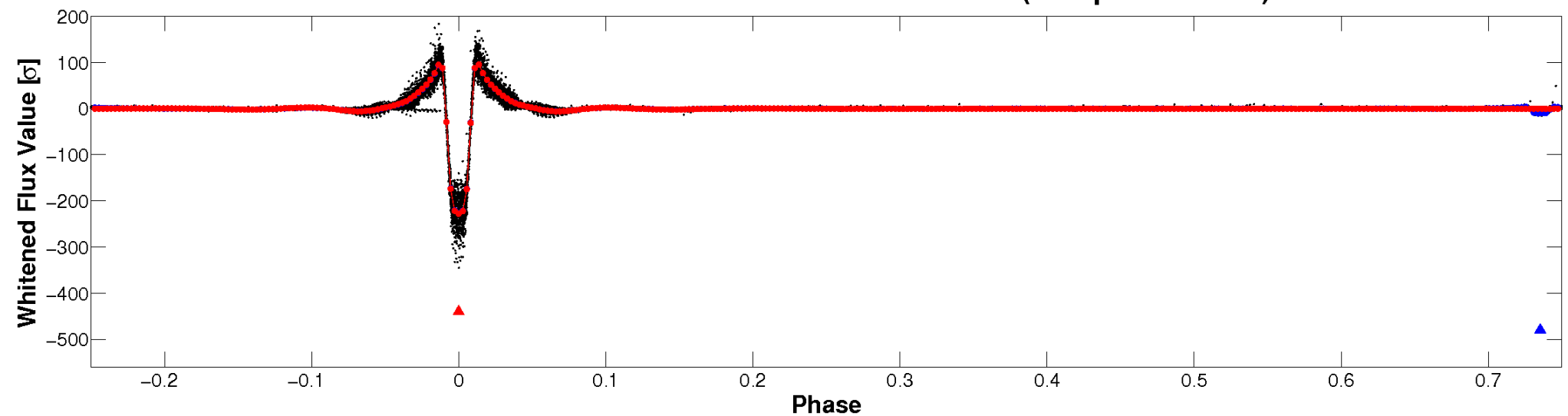


Non-Whitened Vs. Whitened Light Curve

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

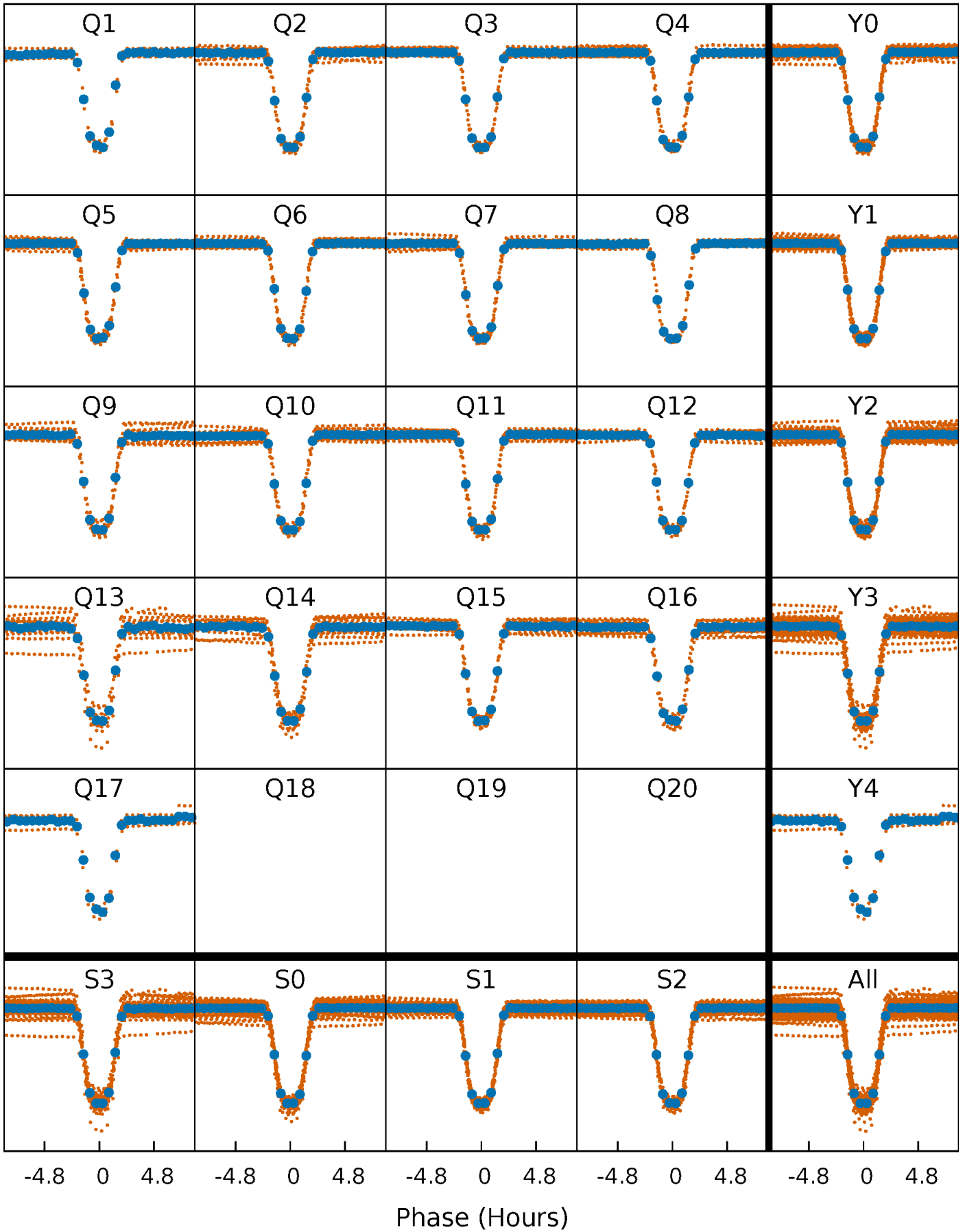


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



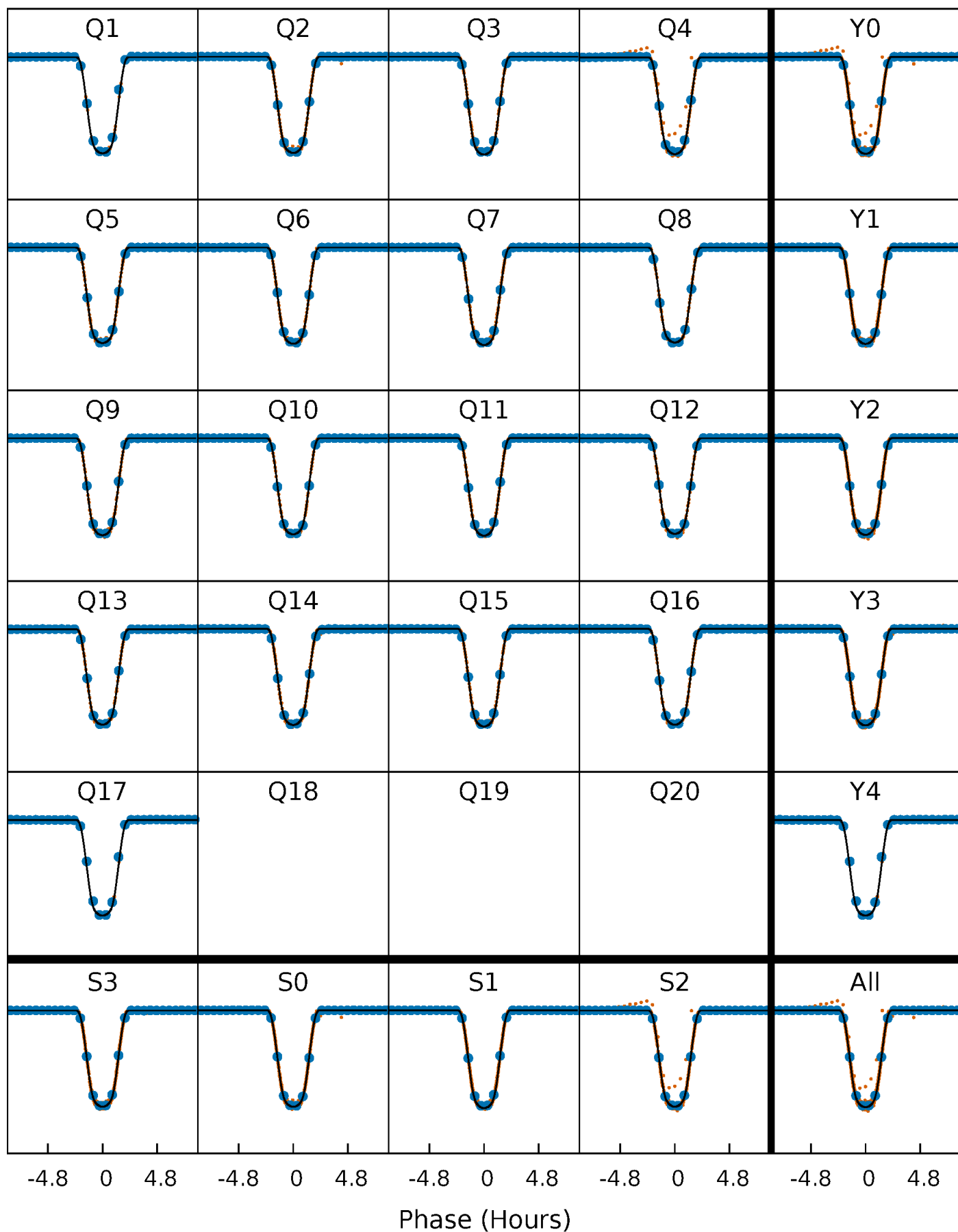
PDC Quarter-Phased Transit Curves

TCE 010923260-01 P= 7.436017 Days $T_0=136.518195$ (BKJD)



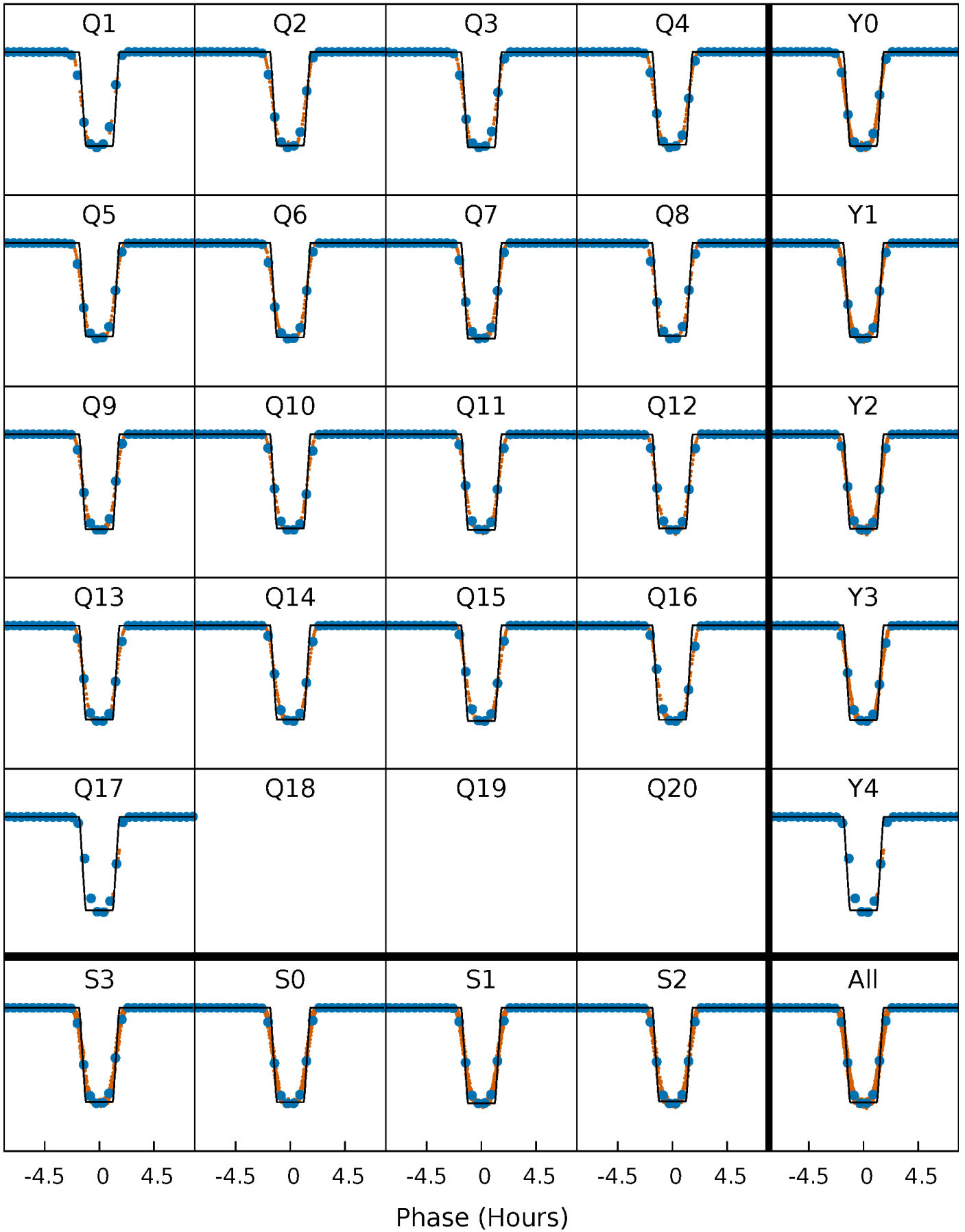
DV Quarter-Phased Transit Curves

TCE 010923260-01 P= 7.436017 Days $T_0=136.518195$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

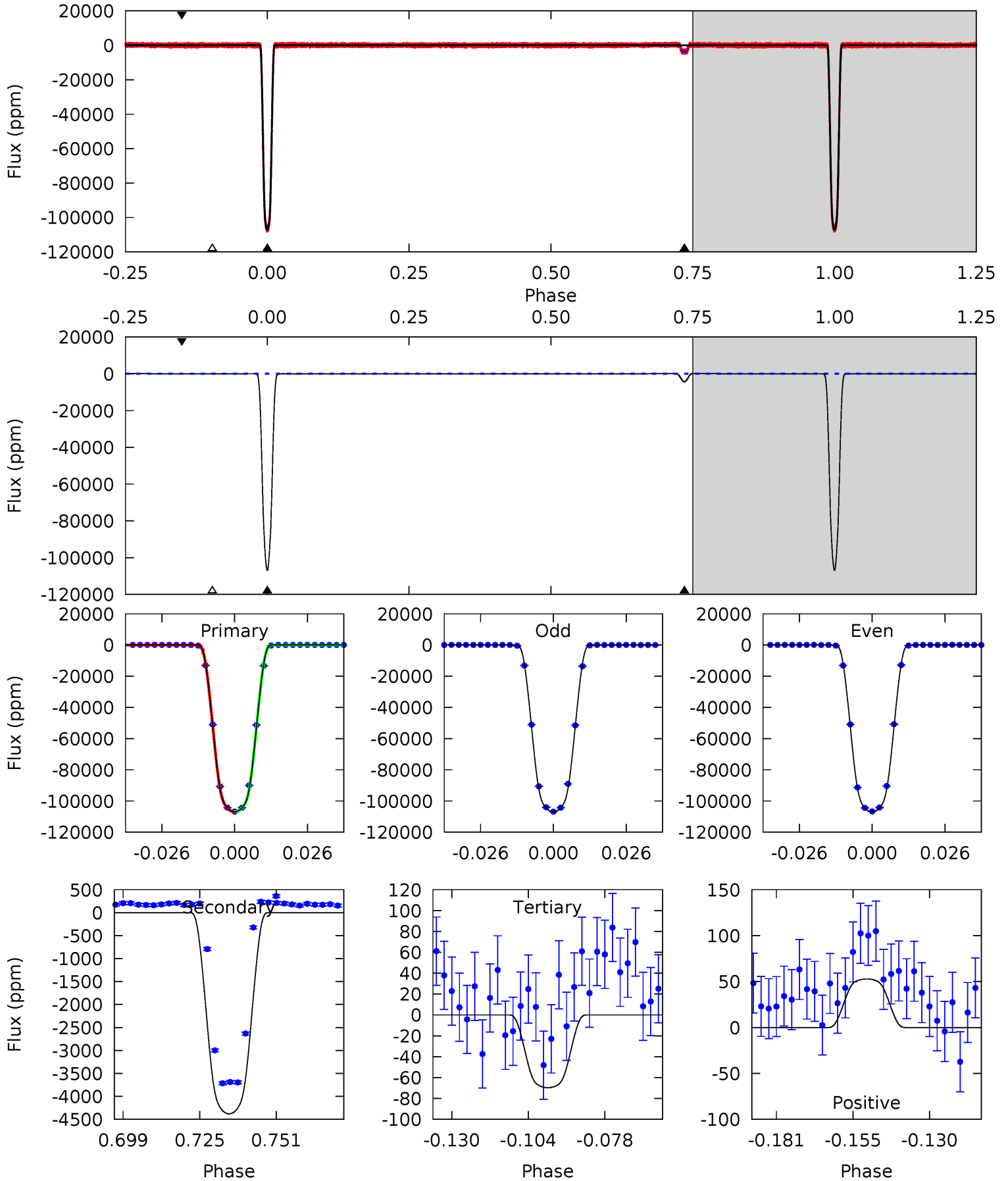
TCE 010923260-01 P= 7.435965 Days $T_0=136.523466$ (BKJD)



DV Model-Shift Uniqueness Test

010923260-01, P = 7.436017 Days, E = 129.082178 Days

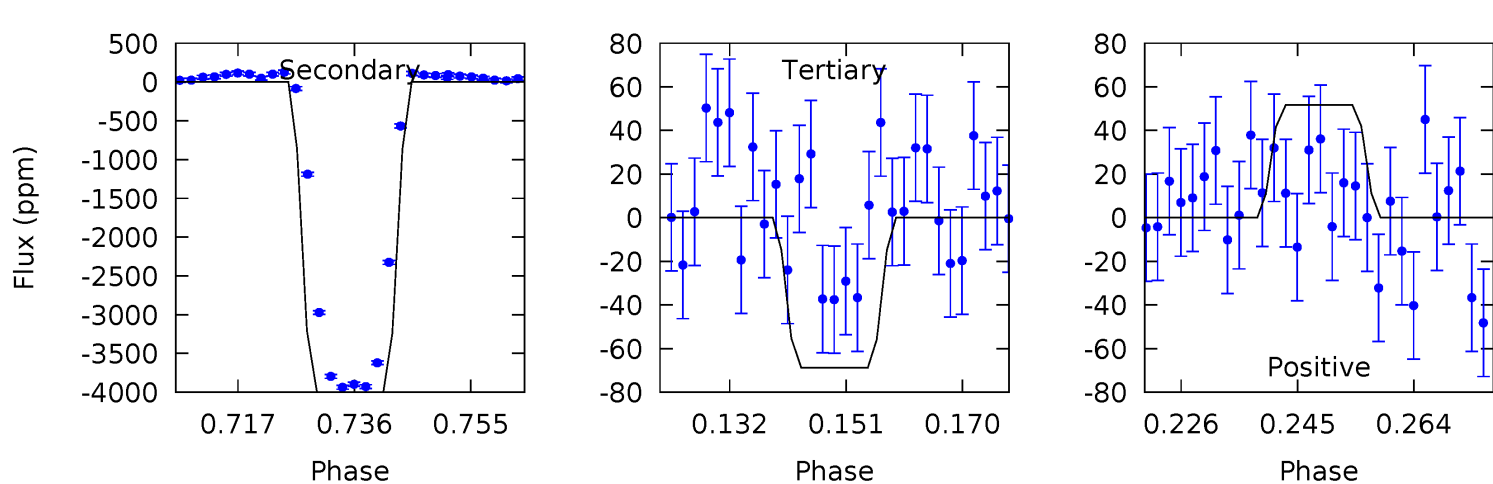
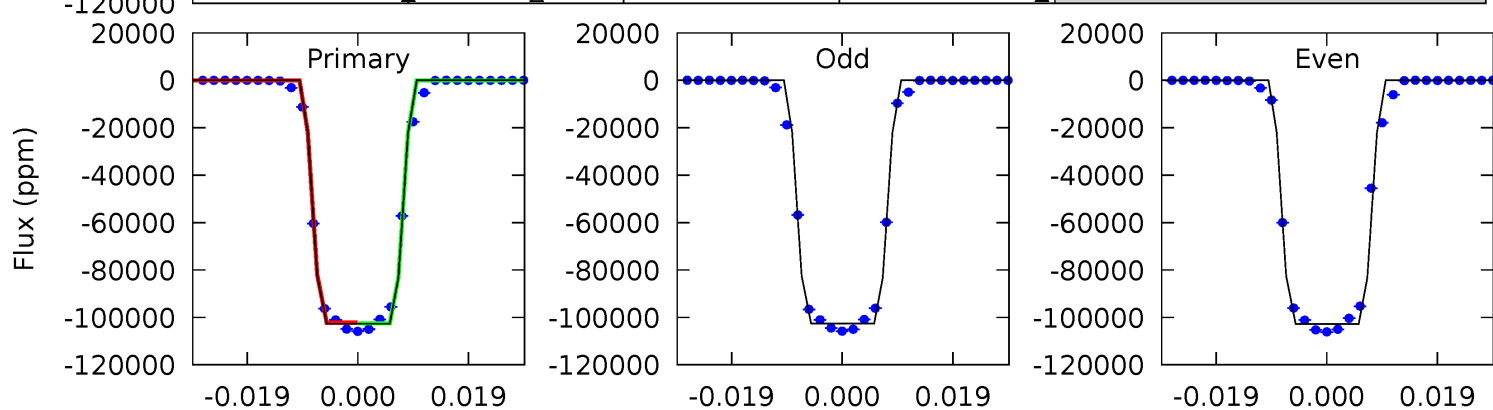
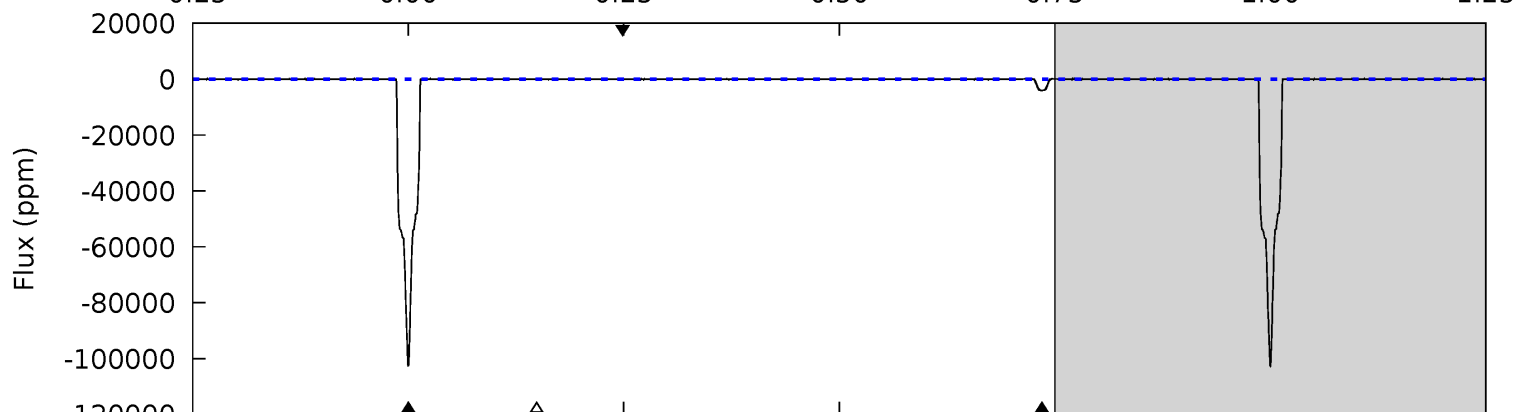
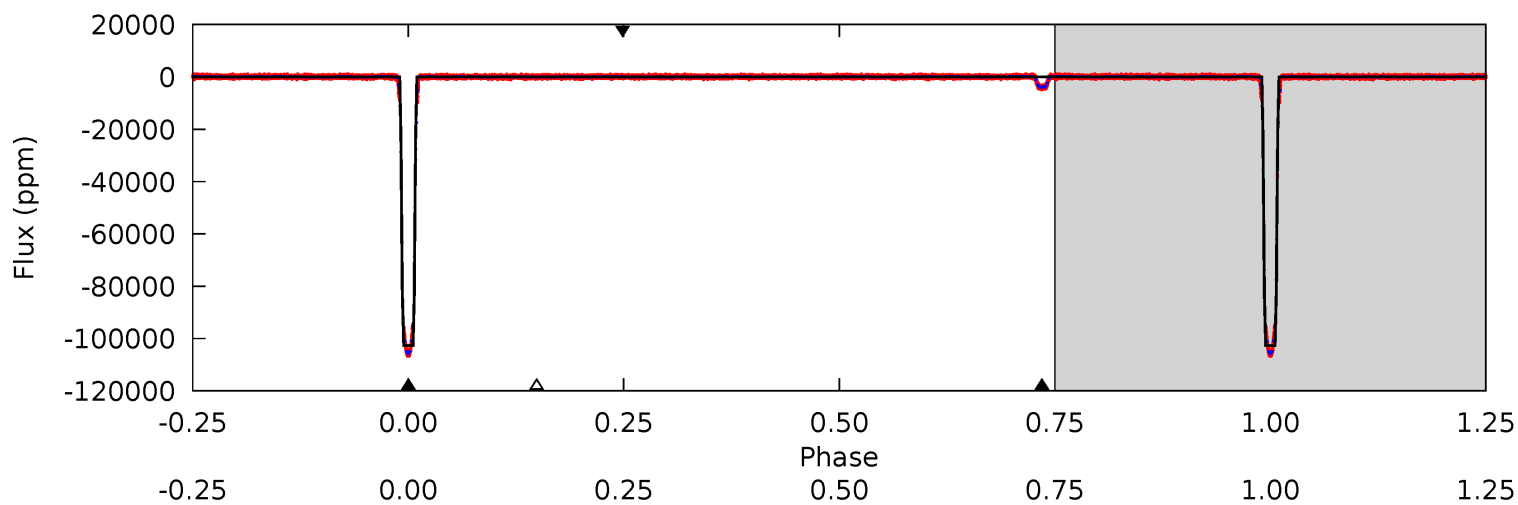
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10633	435.7	6.94	5.25	4.84	2.23	4.66	10626	10628	428.8	430.5	1.43	1.00	0.00	2.02



Alt Model-Shift Uniqueness Test

010923260-01, P = 7.435965 Days, E = 129.087501 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6240	242.8	4.18	3.15	4.90	2.35	1.19	6235	6236	238.6	239.6	5.11	1.00	0.00	0



Stellar Parameters For KIC 010923260

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+153}_{-219}	$4.501^{+0.054}_{-0.216}$	$-0.360^{+0.300}_{-0.350}$	$0.933^{+0.291}_{-0.097}$	$1.005^{+0.134}_{-0.134}$	$1.745^{+0.375}_{-0.947}$
	+2%/-4%	+1%/-5%	+83%/-97%	+31%/-10%	+13%/-13%	+21%/-54%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010923260-01 / KOI 7387.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4381 ± 10	$32.28^{+5.28}_{-2.41}$	1378^{+97}_{-67}	3384^{+47}_{-76}	13^{+2}_{-3}
Alt.	-3995 ± 16	$33.89^{+5.87}_{-2.66}$	1380^{+106}_{-70}	3295^{+45}_{-71}	11^{+2}_{-3}

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

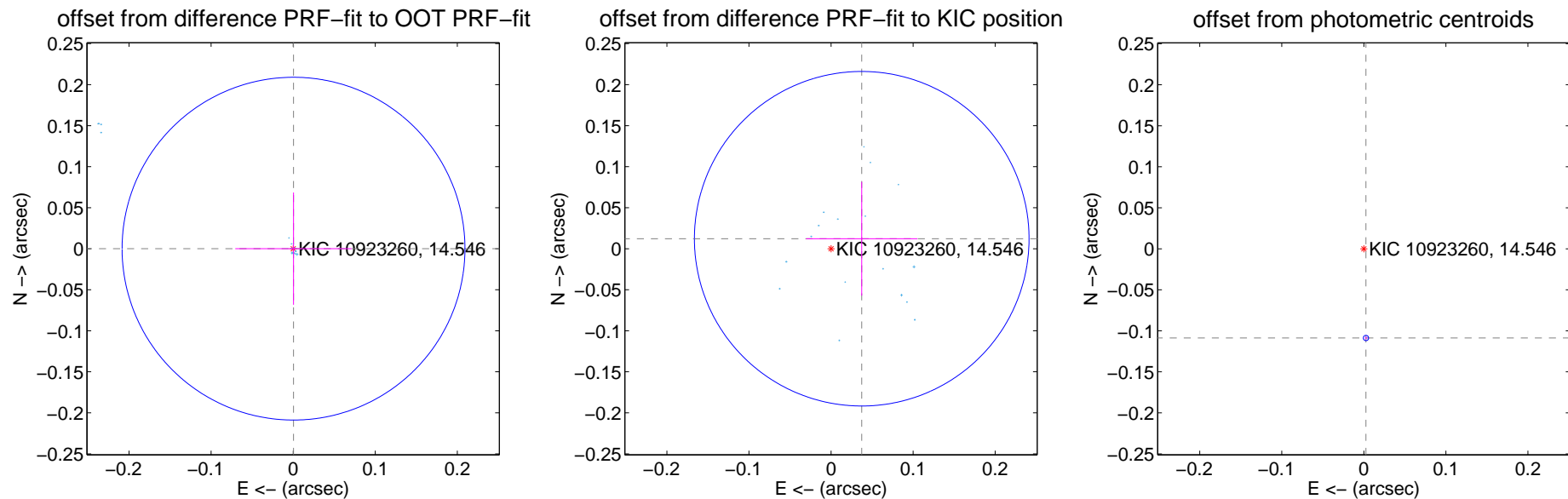
DV Centroid Data

Supplemental centroid analysis for 010923260-01. Kepler magnitude: 14.55. Transit SNR 5270.68

There are 17 quarters with good PRF difference image offsets

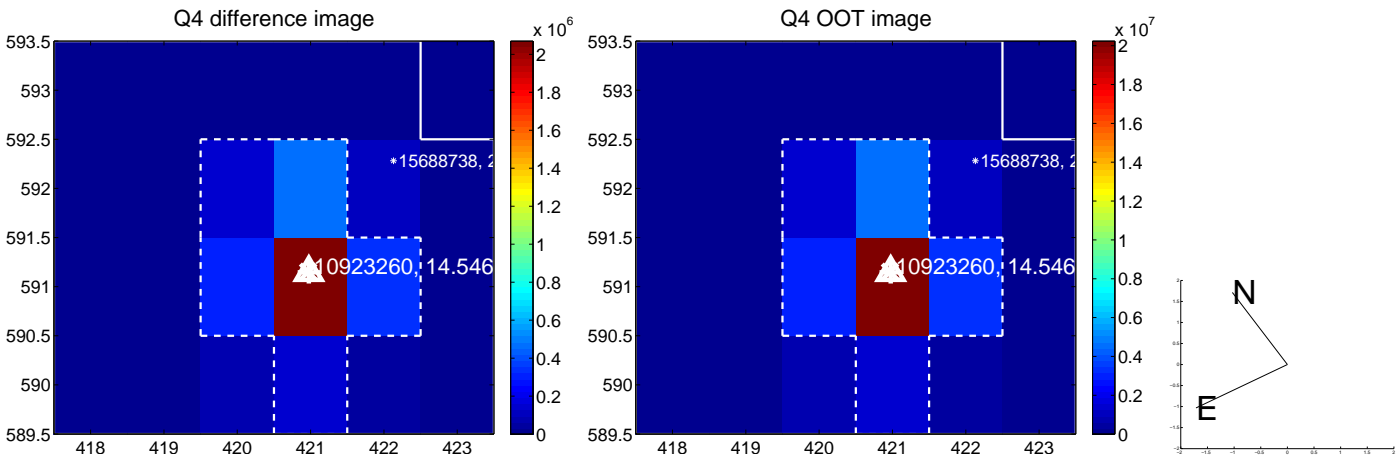
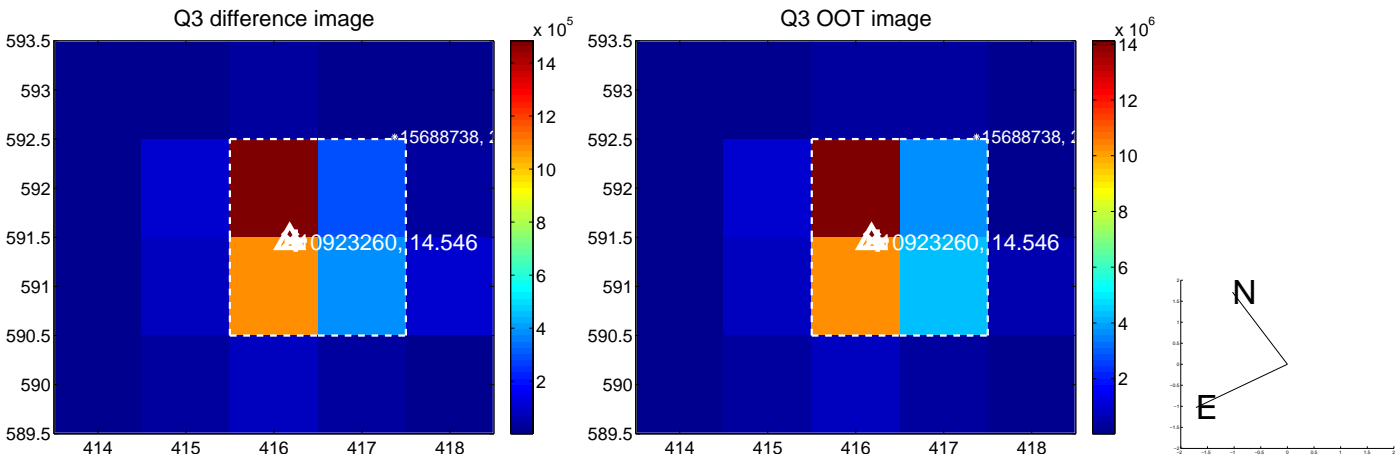
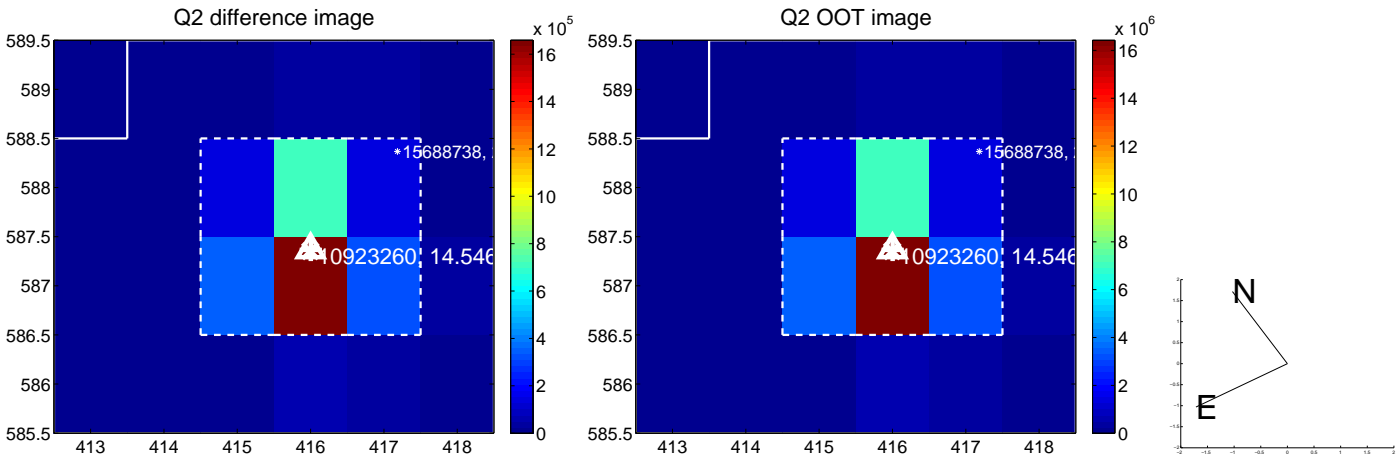
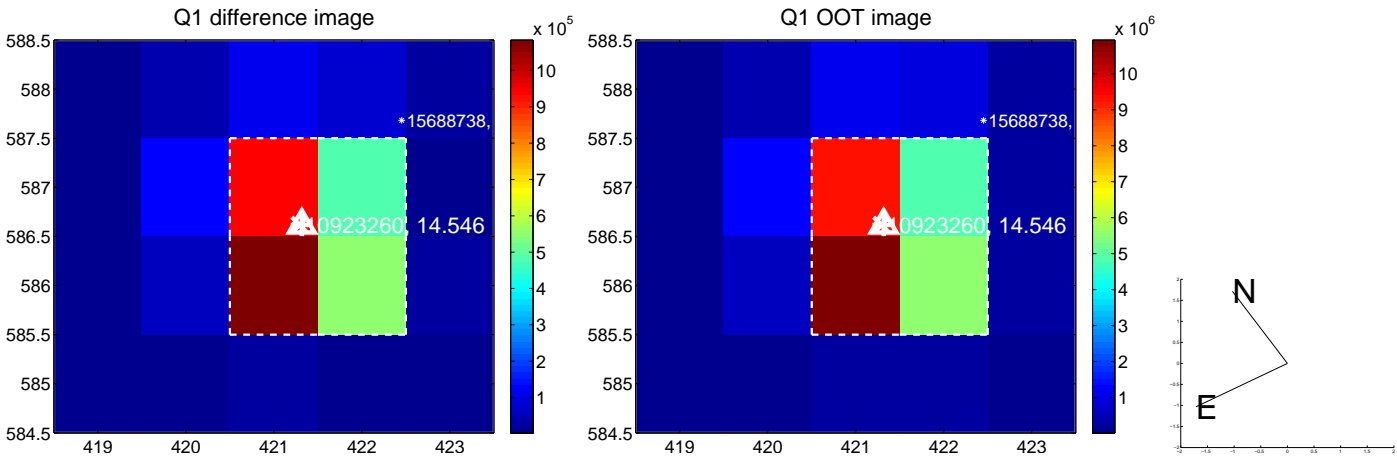
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.000 ± 0.070	0.01	-0.000 ± 0.071	0.000 ± 0.068
PRF-fit source offset from KIC position	0.039 ± 0.068	0.58	-0.037 ± 0.068	0.012 ± 0.069
photometric centroid source offset	0.11 ± 0.00	101.72	-0.00 ± 0.00	-0.11 ± 0.00

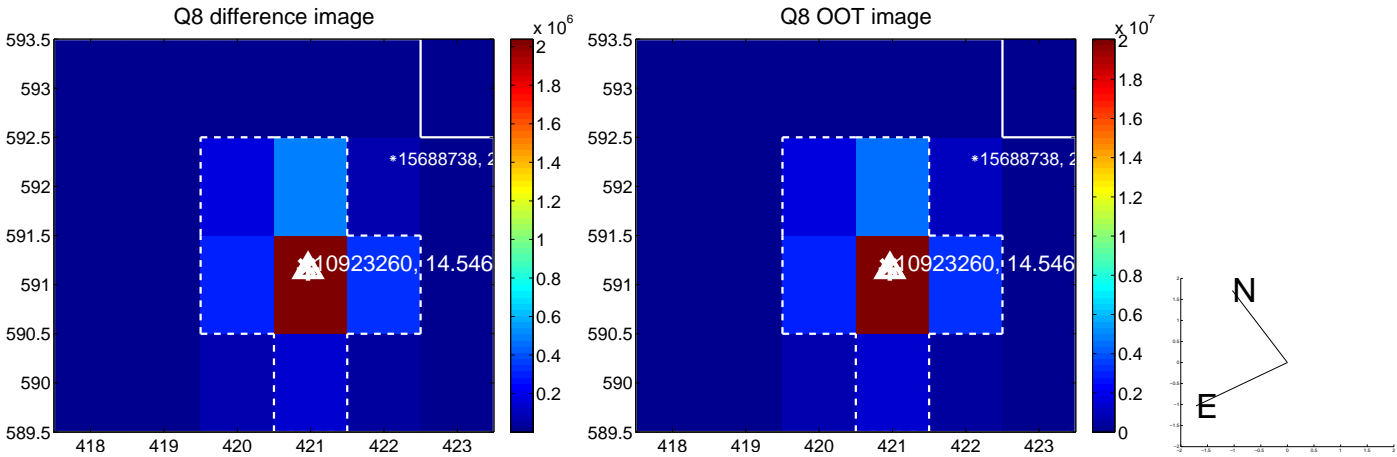
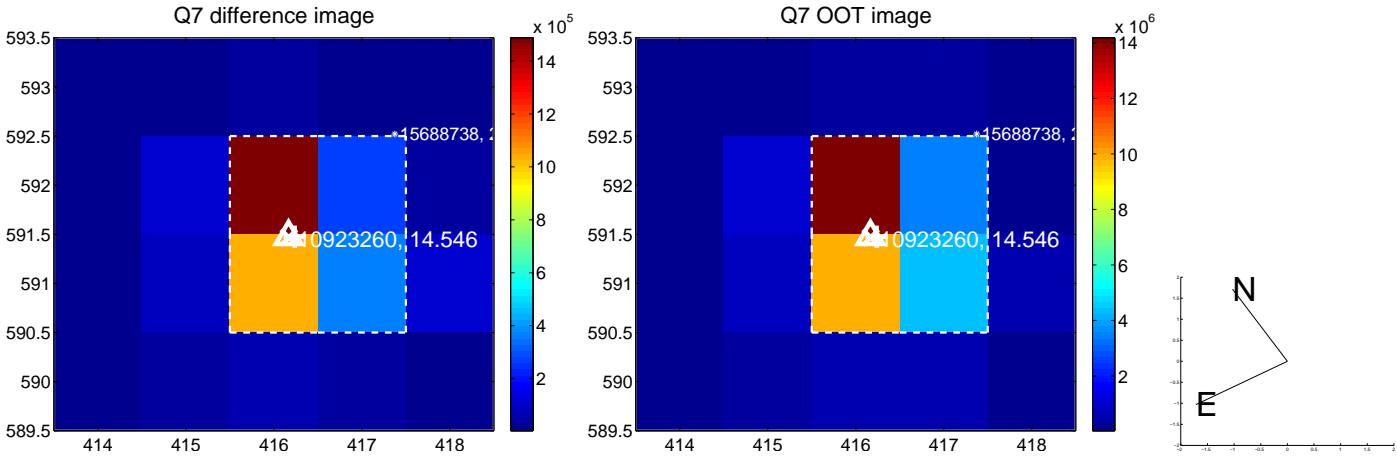
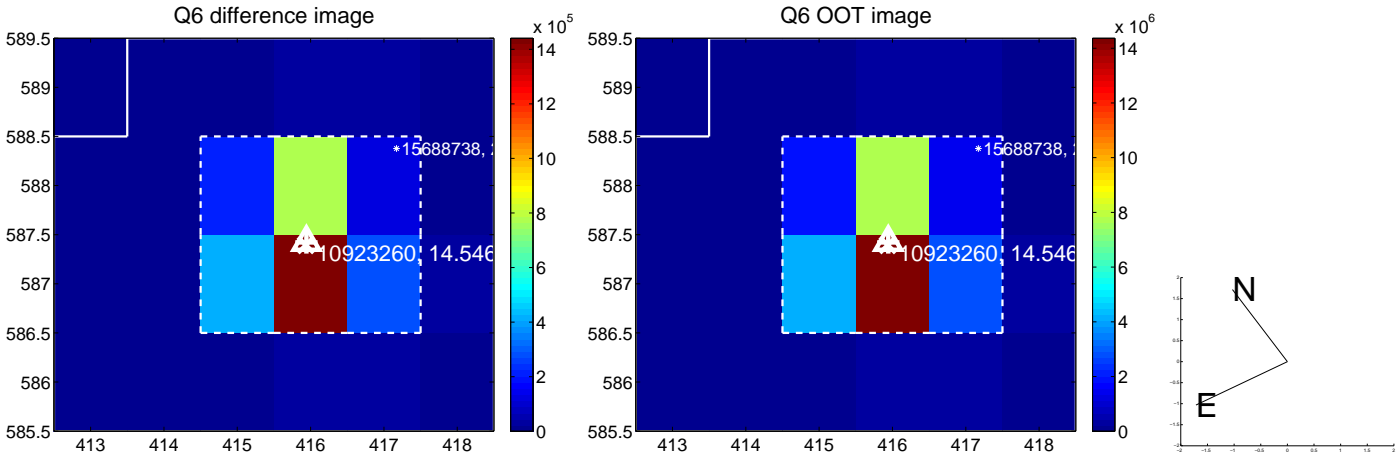
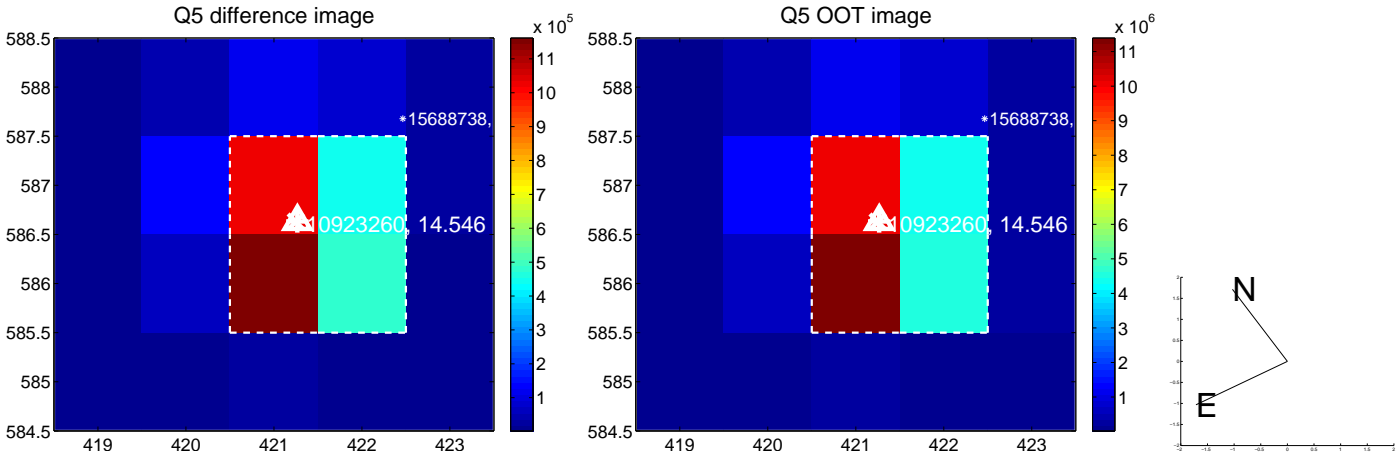


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

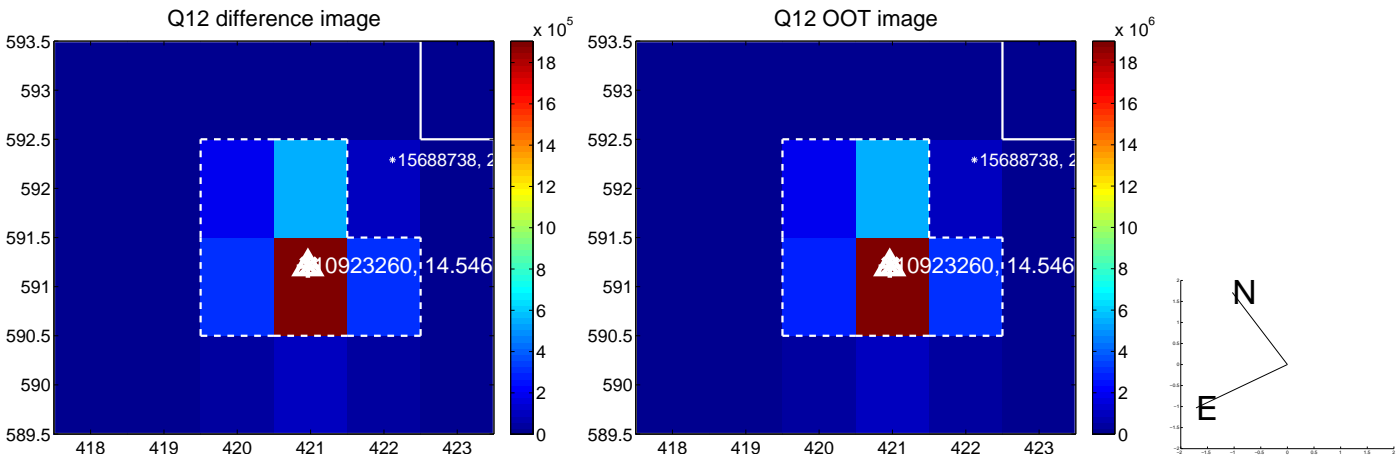
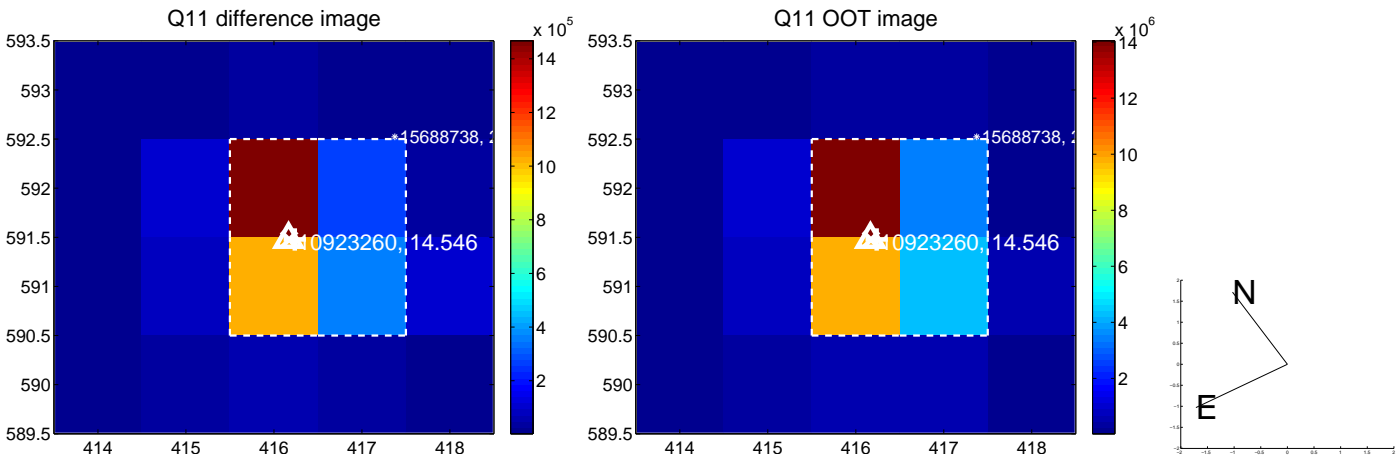
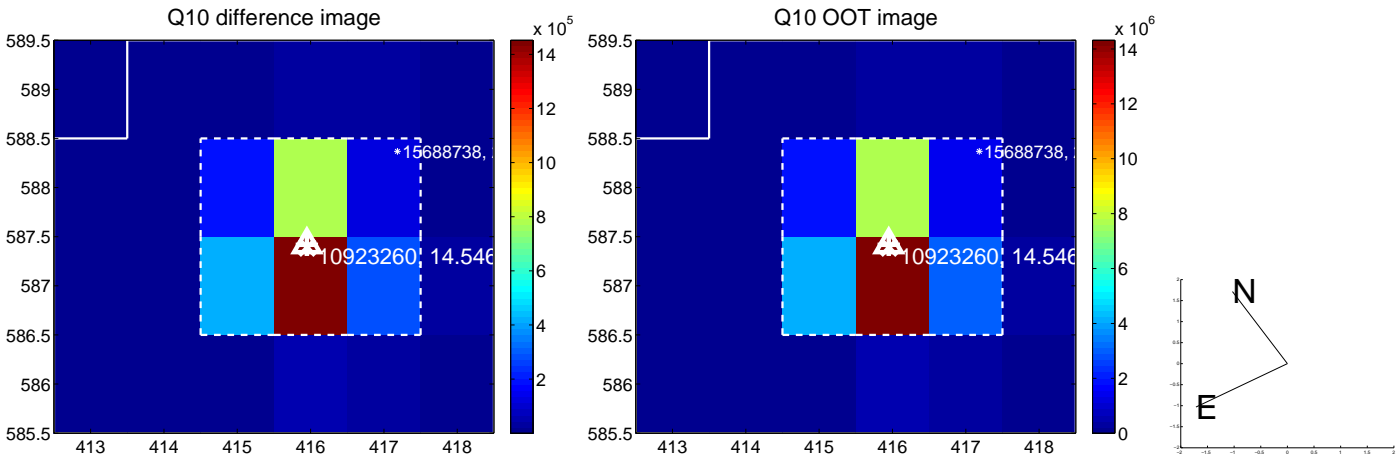
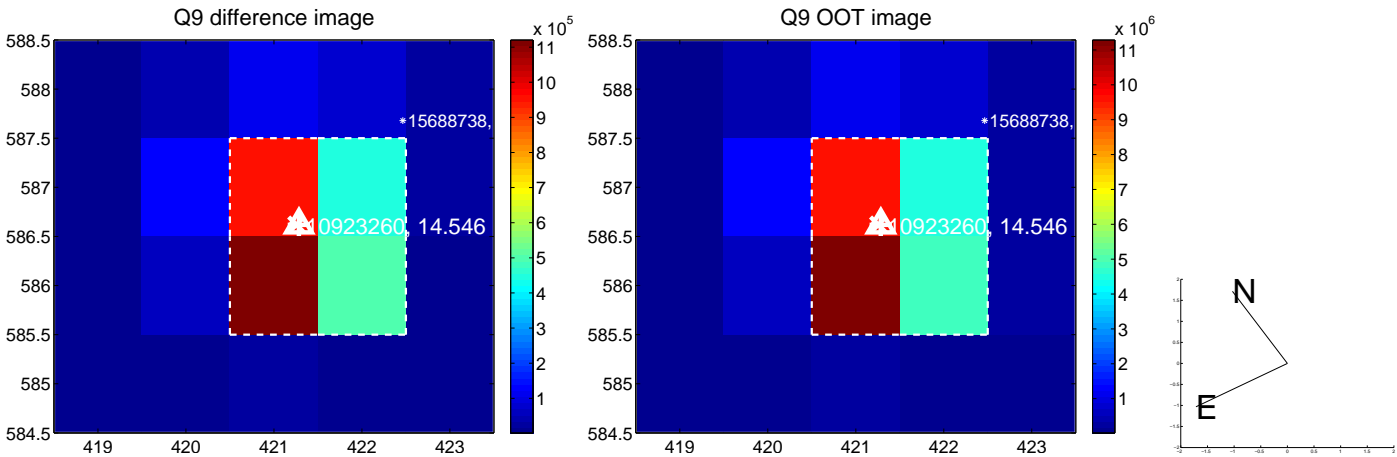
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



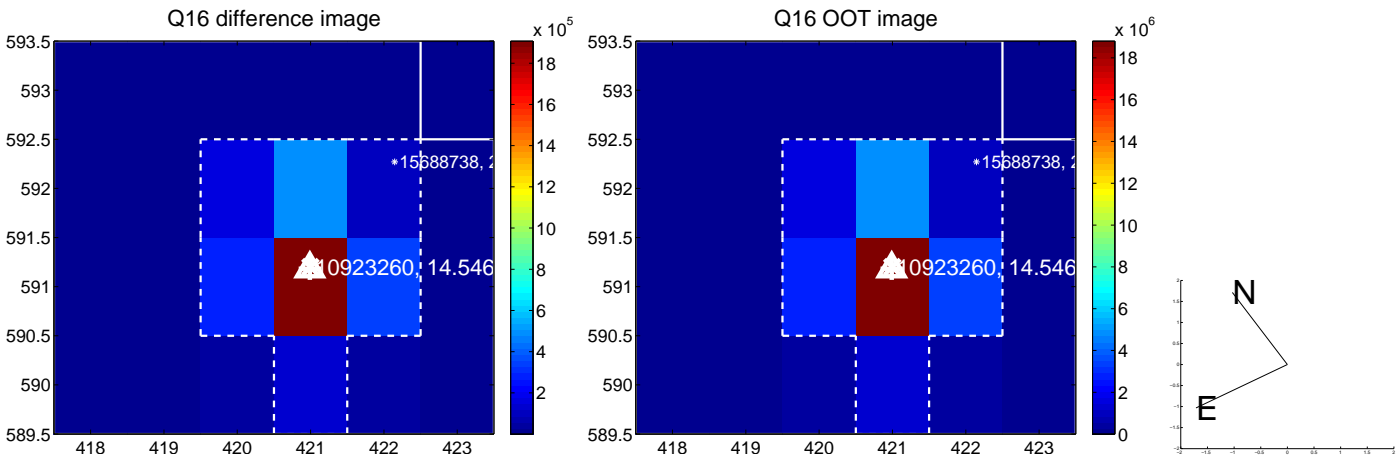
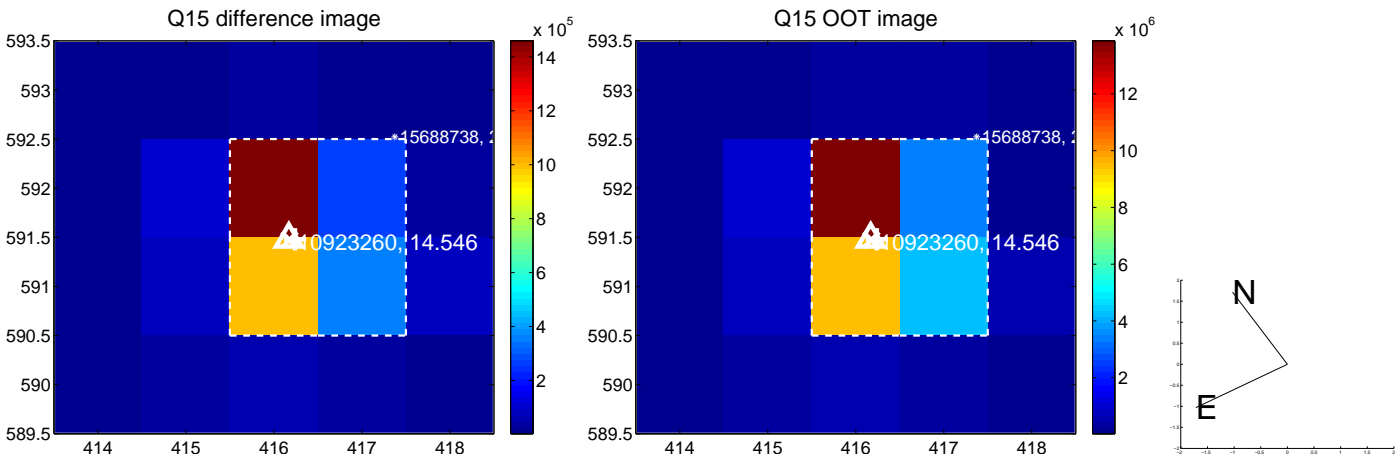
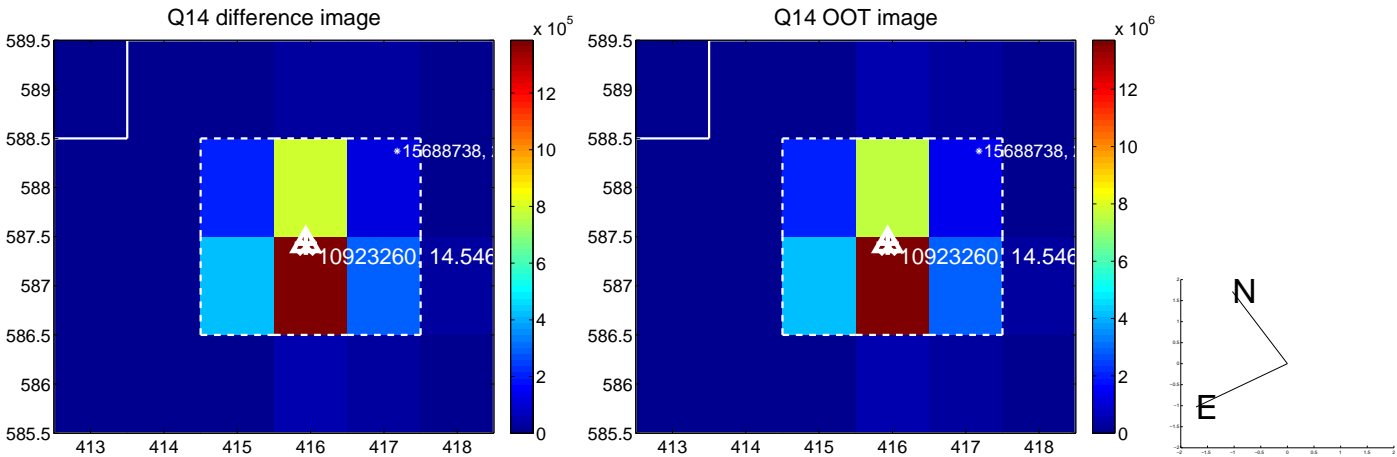
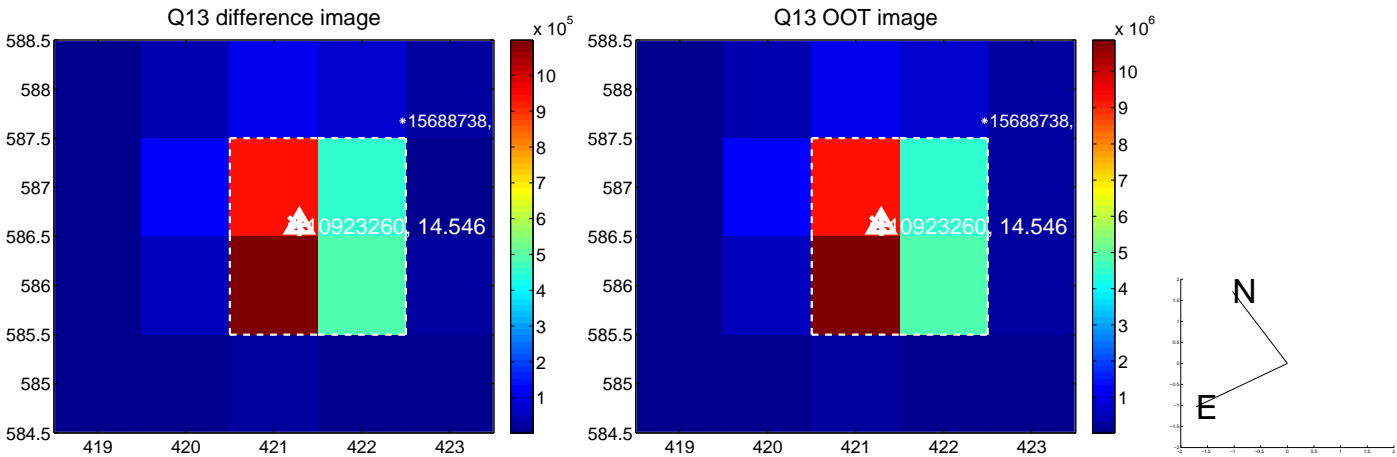
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



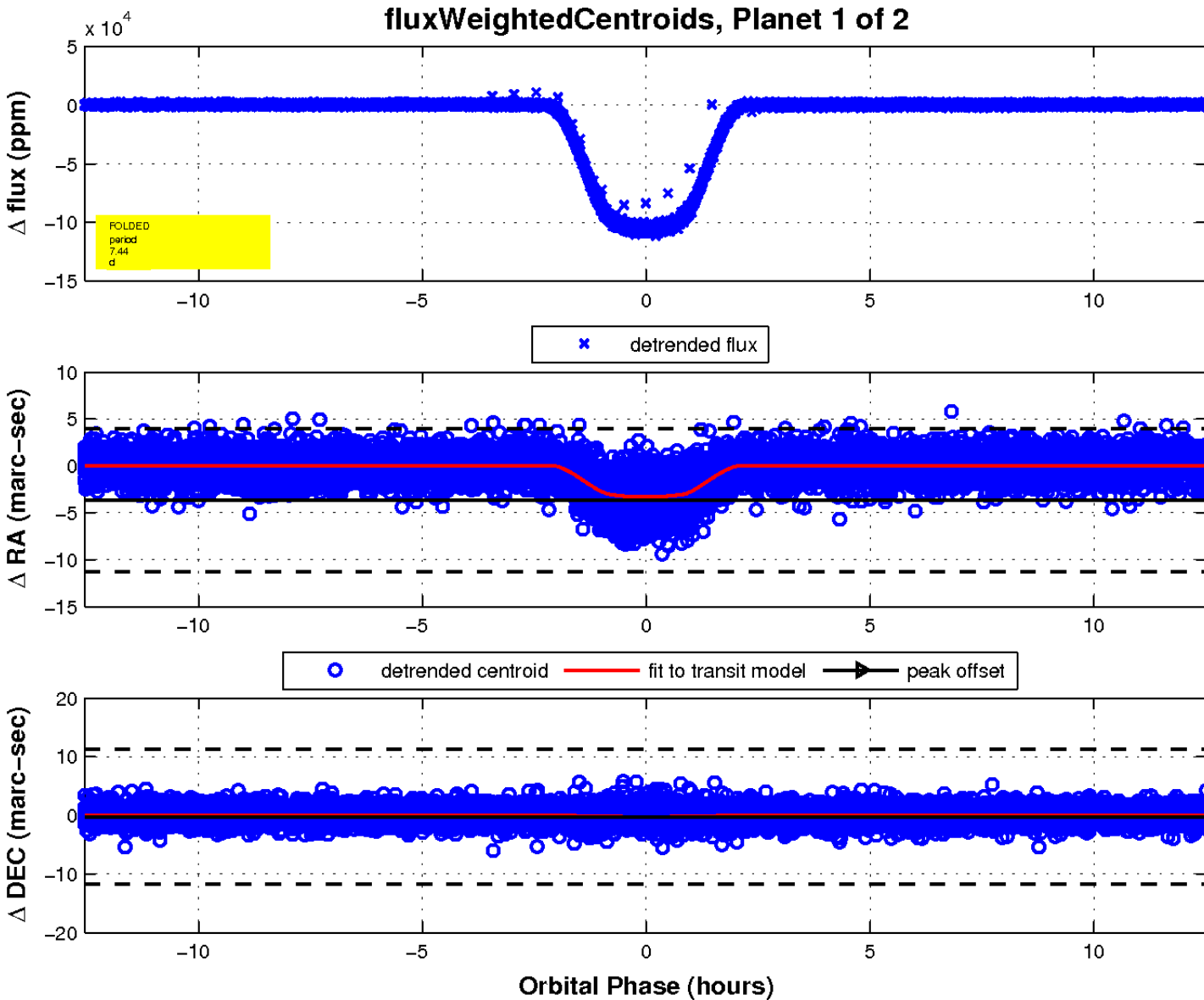
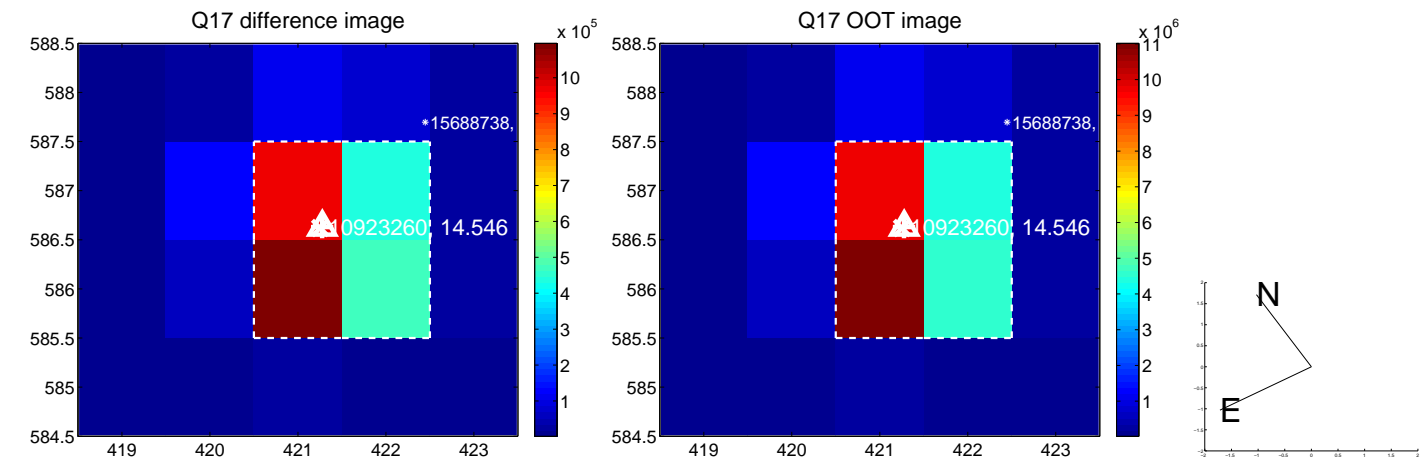
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

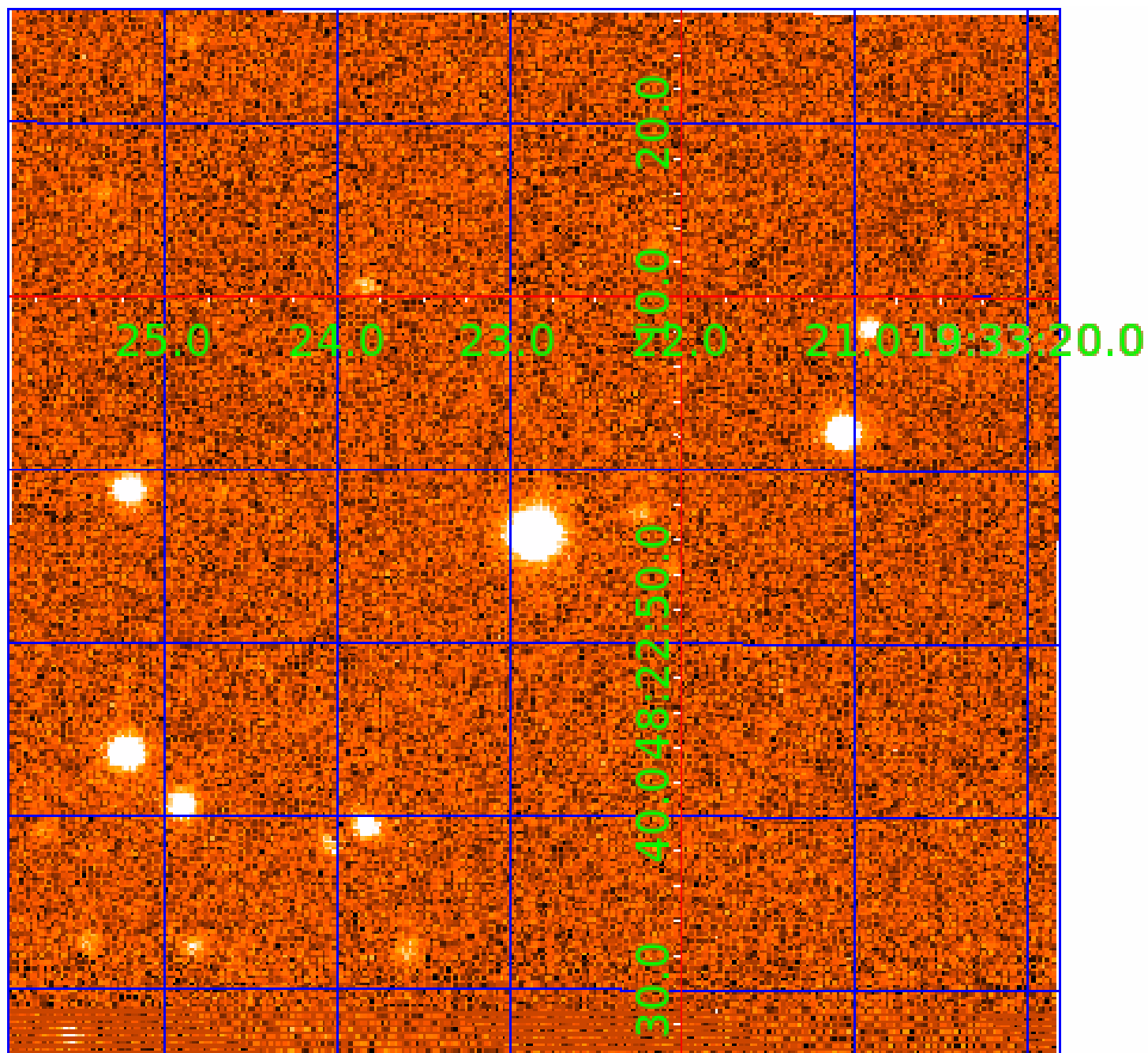


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010923260

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})
010923260-01	OBS	7387.01	7.436017	136.518195	107021.4	4.182	7121.0	5270.7	0.93	6214	31.52	208.22
010923260-02	OBS	No	7.436014	134.550624	4120.3	3.000	284.7	275.9	0.93	6214	6.81	208.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010923260-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010923260-02	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 010923260-02

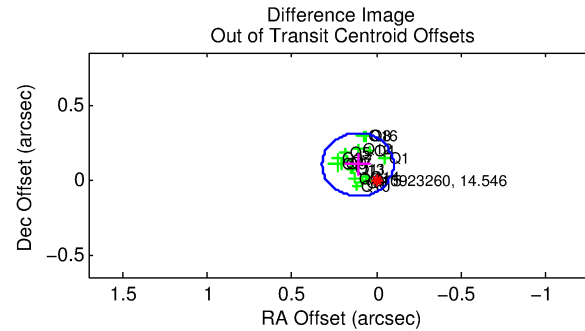
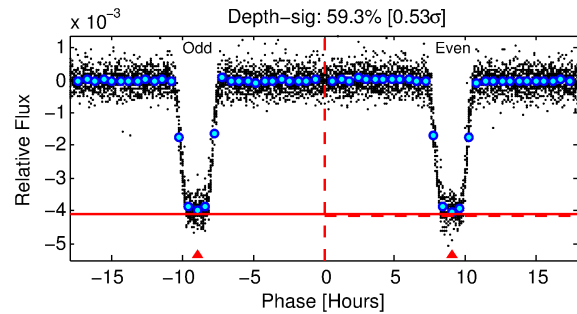
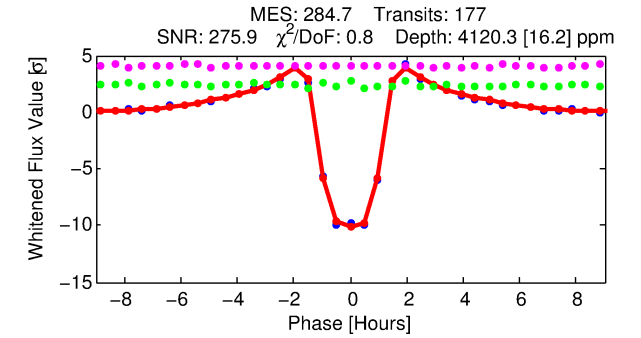
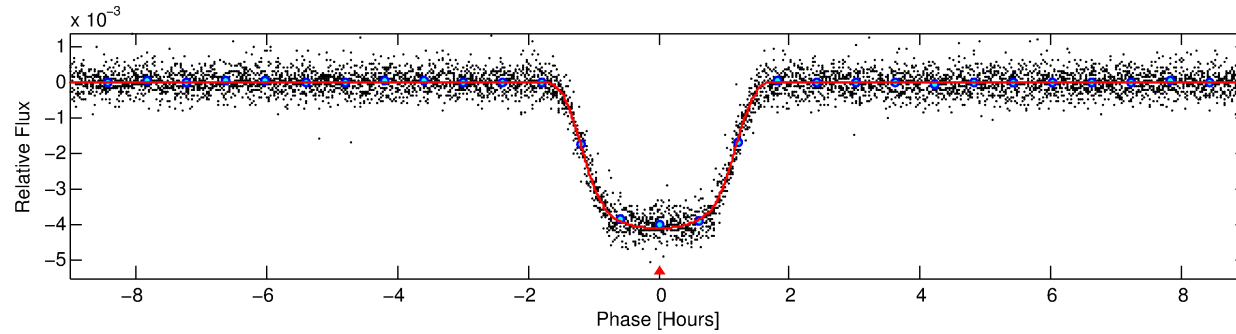
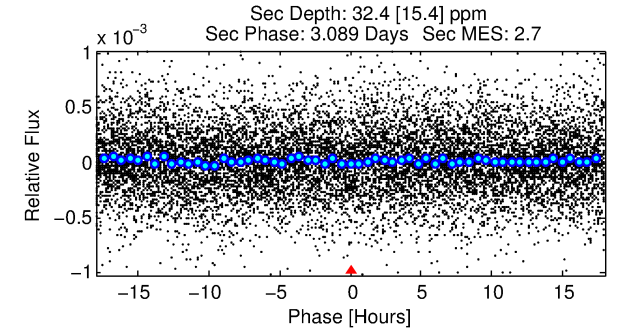
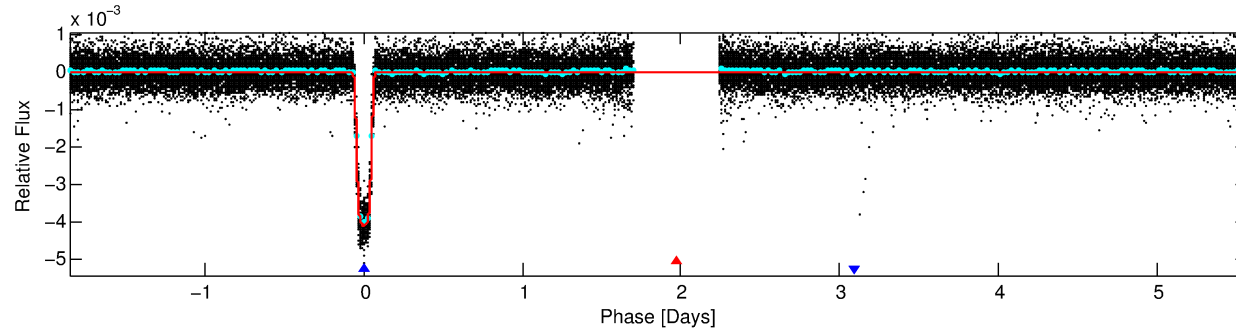
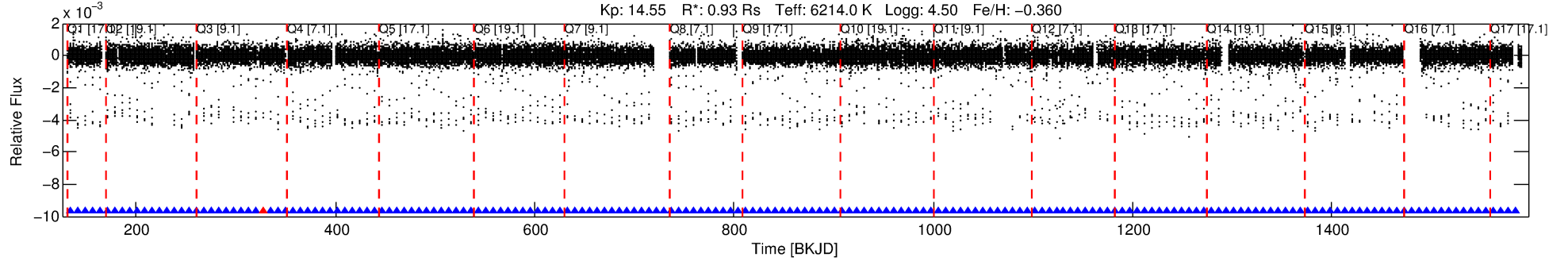
No Significant Match Found

DV One-Page Summary

KIC: 10923260 Candidate: 2 of 2 Period: 7.436 d

KOI: K07387 Corr: No Ephemeris Match

Kp: 14.55 R*: 0.93 Rs Teff: 6214.0 K Logg: 4.50 Fe/H: -0.360



DV Fit Results:

Period = 7.43601 [0.00000] d
Epoch = 134.5506 [0.0002] BKJD
Rp/R* = 0.0669 [0.0003]
a/R* = 12.18 [0.19]
b = 0.85 [0.01]
Seff = 208.22 [86.62]
Teq = 969 [101] K
Rp = 6.81 [2.12] Re
a = 0.0747 [0.0199] AU
Ag = 2.14 [1.32] [0.87σ]
Teffp = 1812 [225] K [3.43σ]

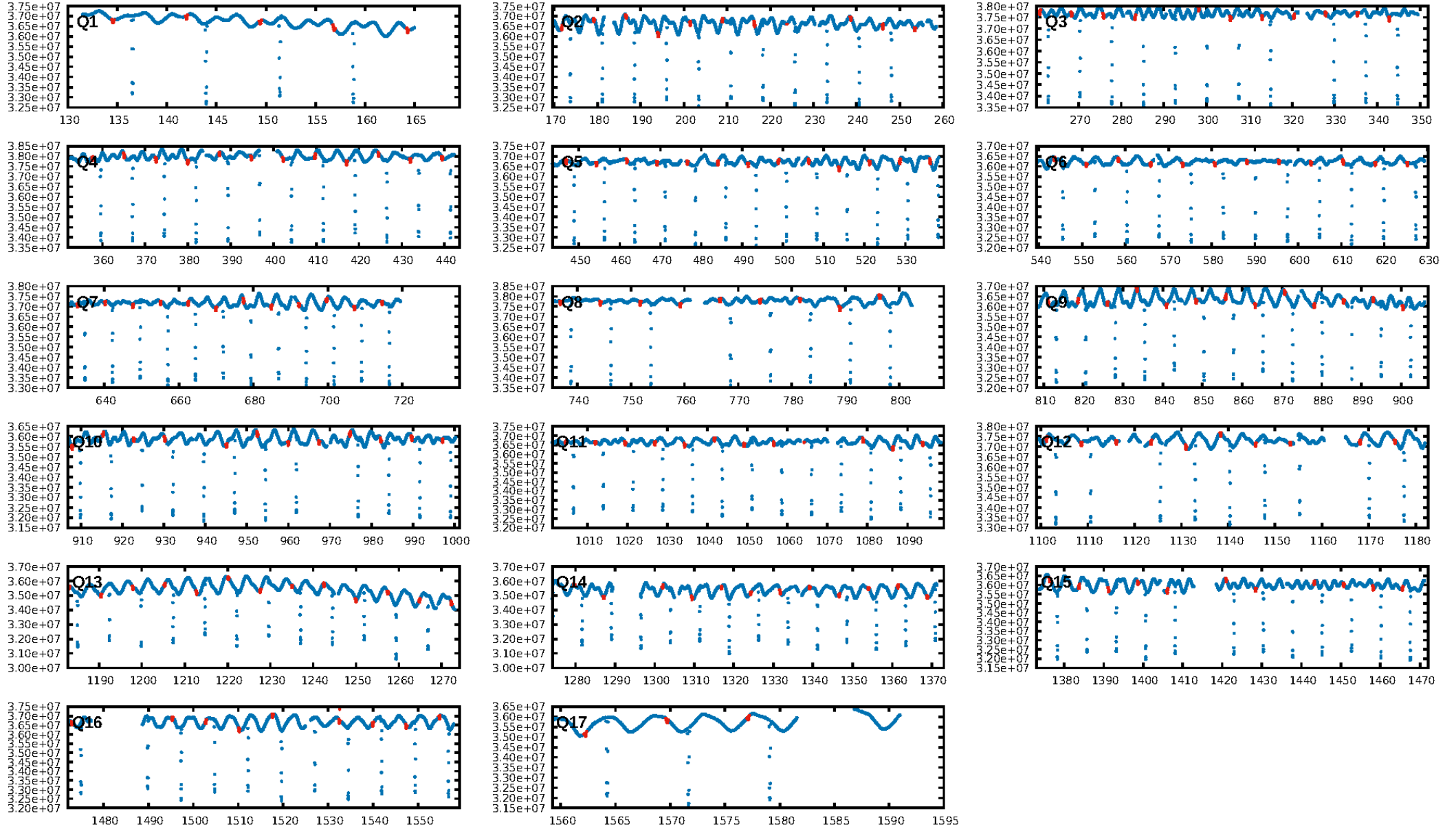
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 8.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [168/169]
GhostDiagnostic-chr: 2.95
Centroid-sig: 0.0%
Centroid-so: 0.040 arcsec [1.36σ]
OotOffset-rm: 0.150 arcsec [2.13σ]
KicOffset-rm: 0.079 arcsec [1.10σ]
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]

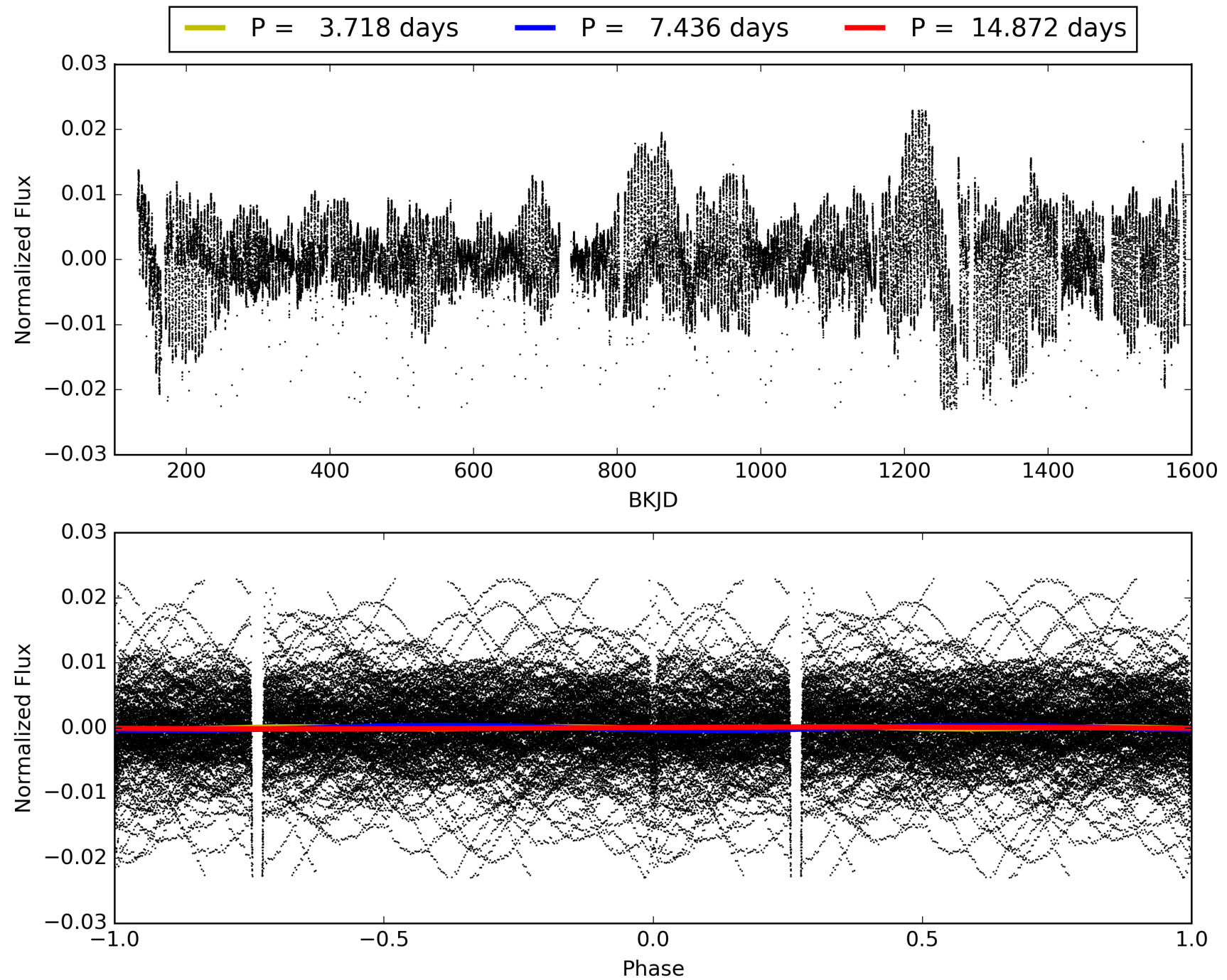
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:06:00 Z

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

TCE 010923260-02, PDC Light Curves

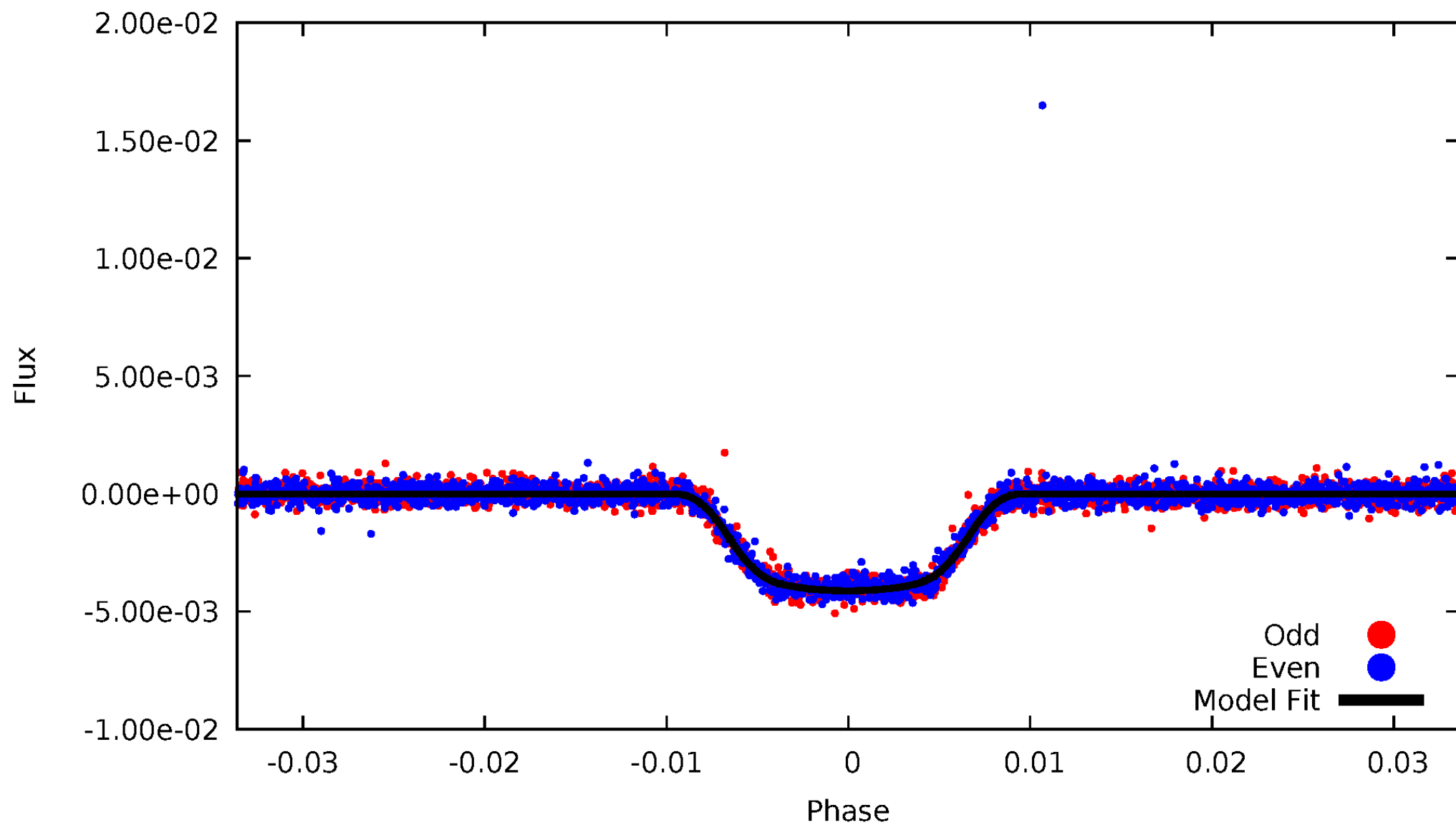


TCE 010923260-02



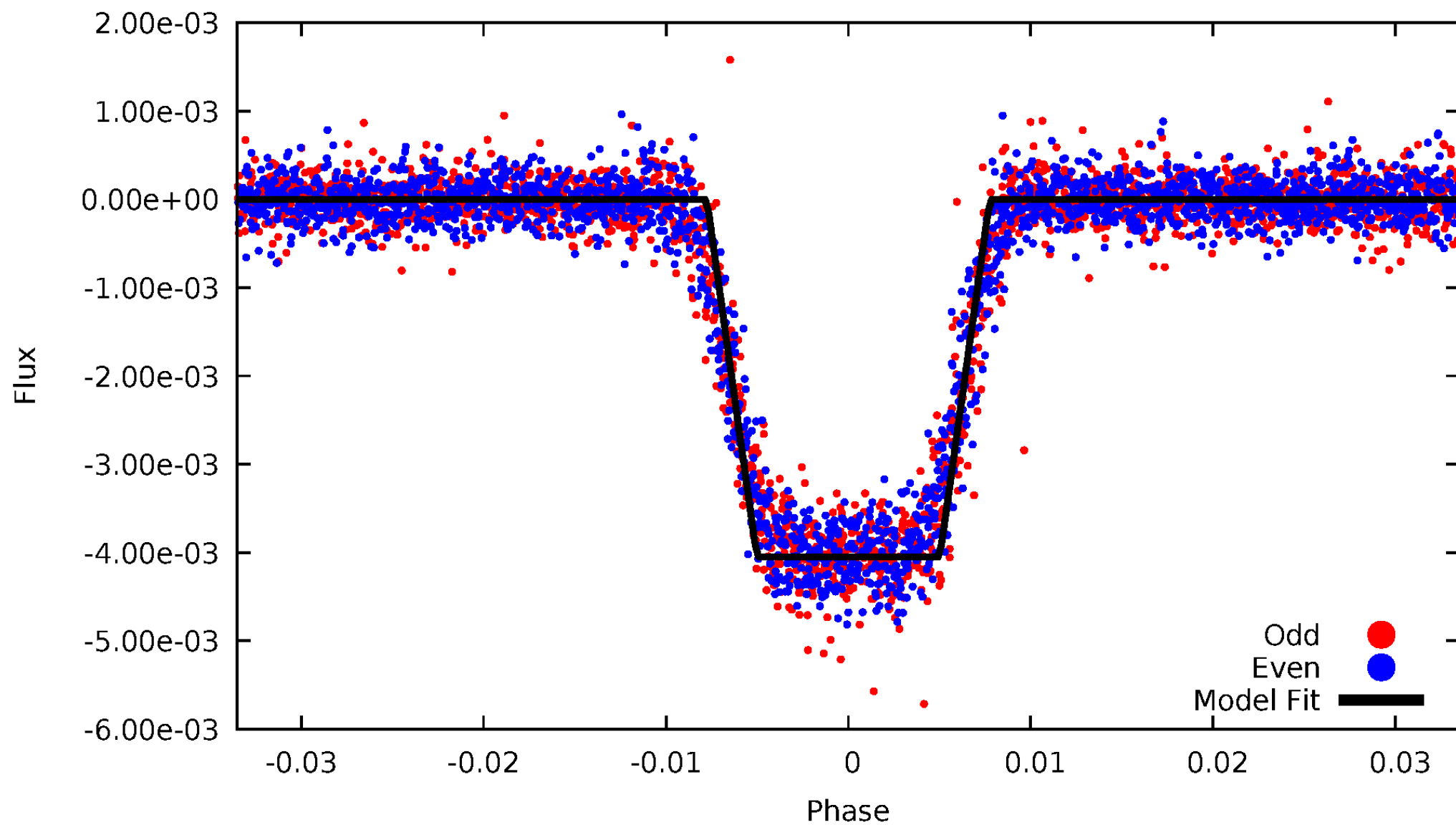
DV Odd/Even

TCE 010923260-02



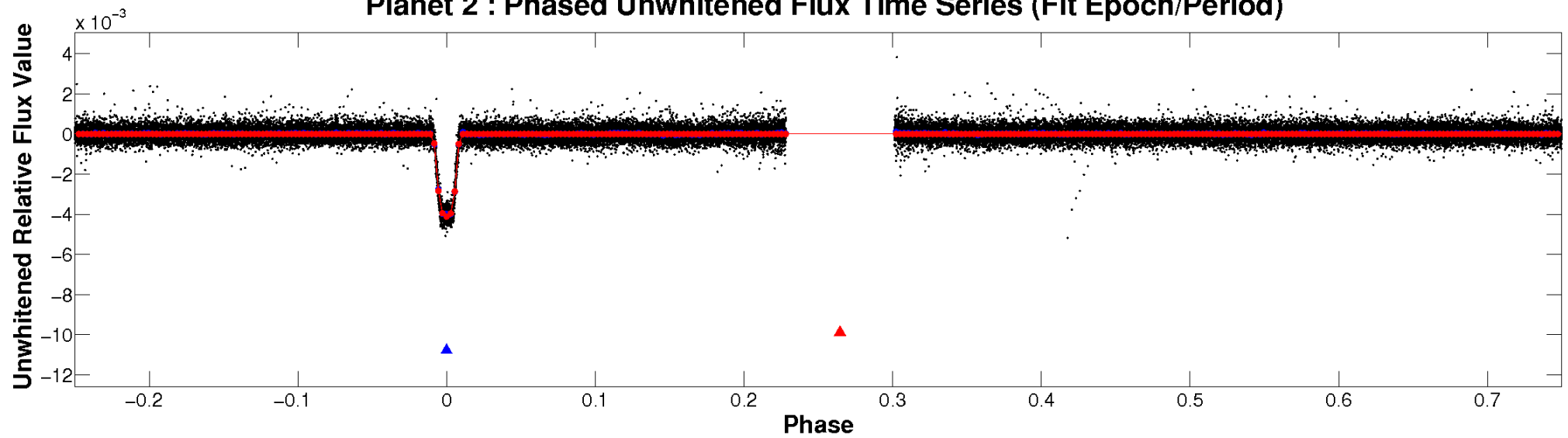
ALT Odd/Even

TCE 010923260-02

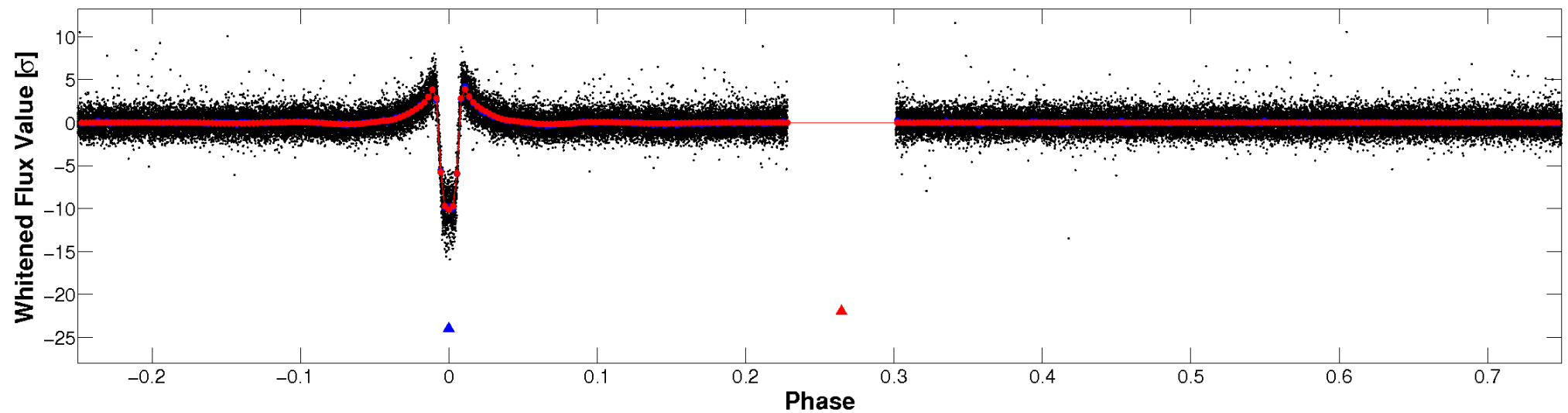


Non-Whitened Vs. Whitened Light Curve

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

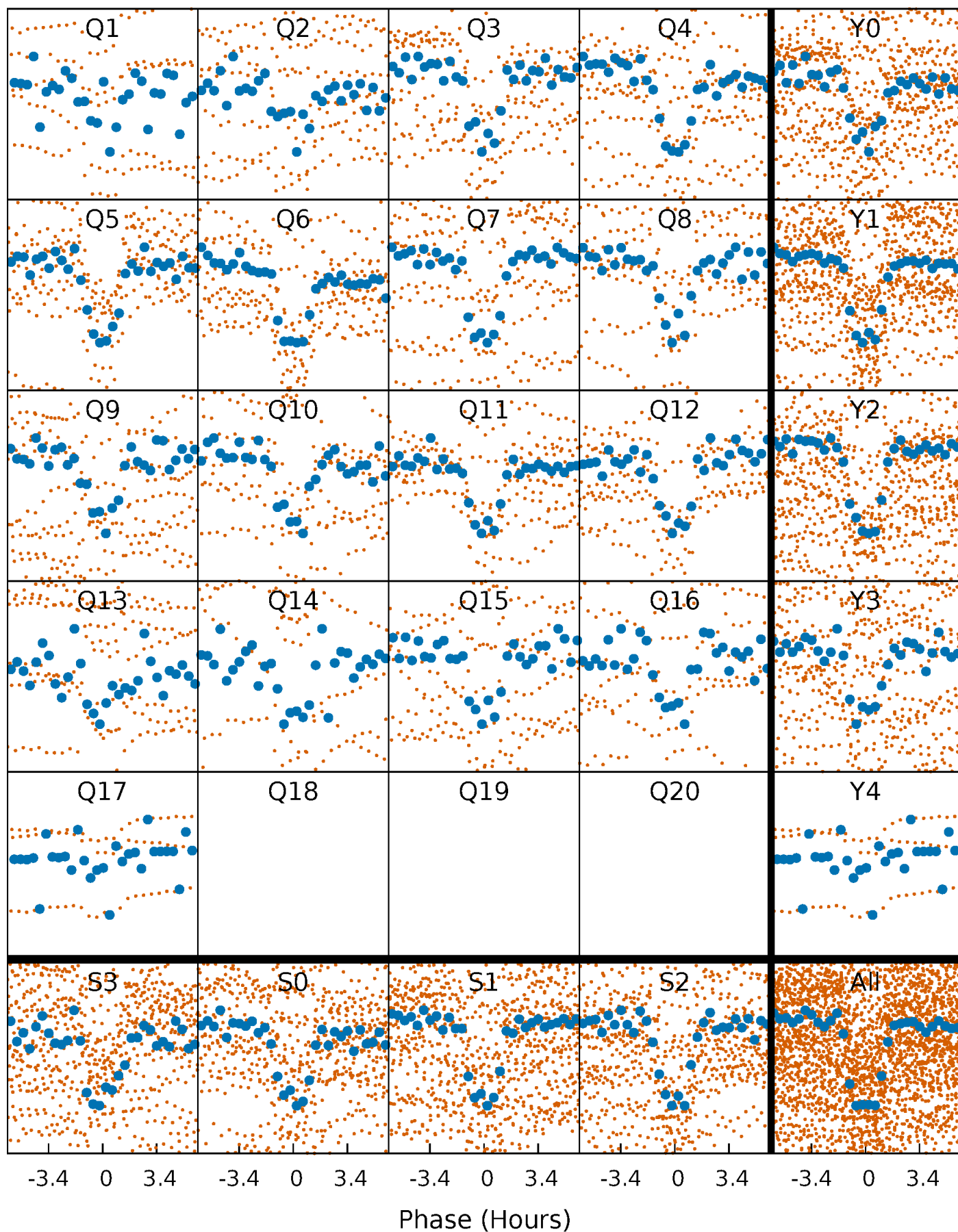


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



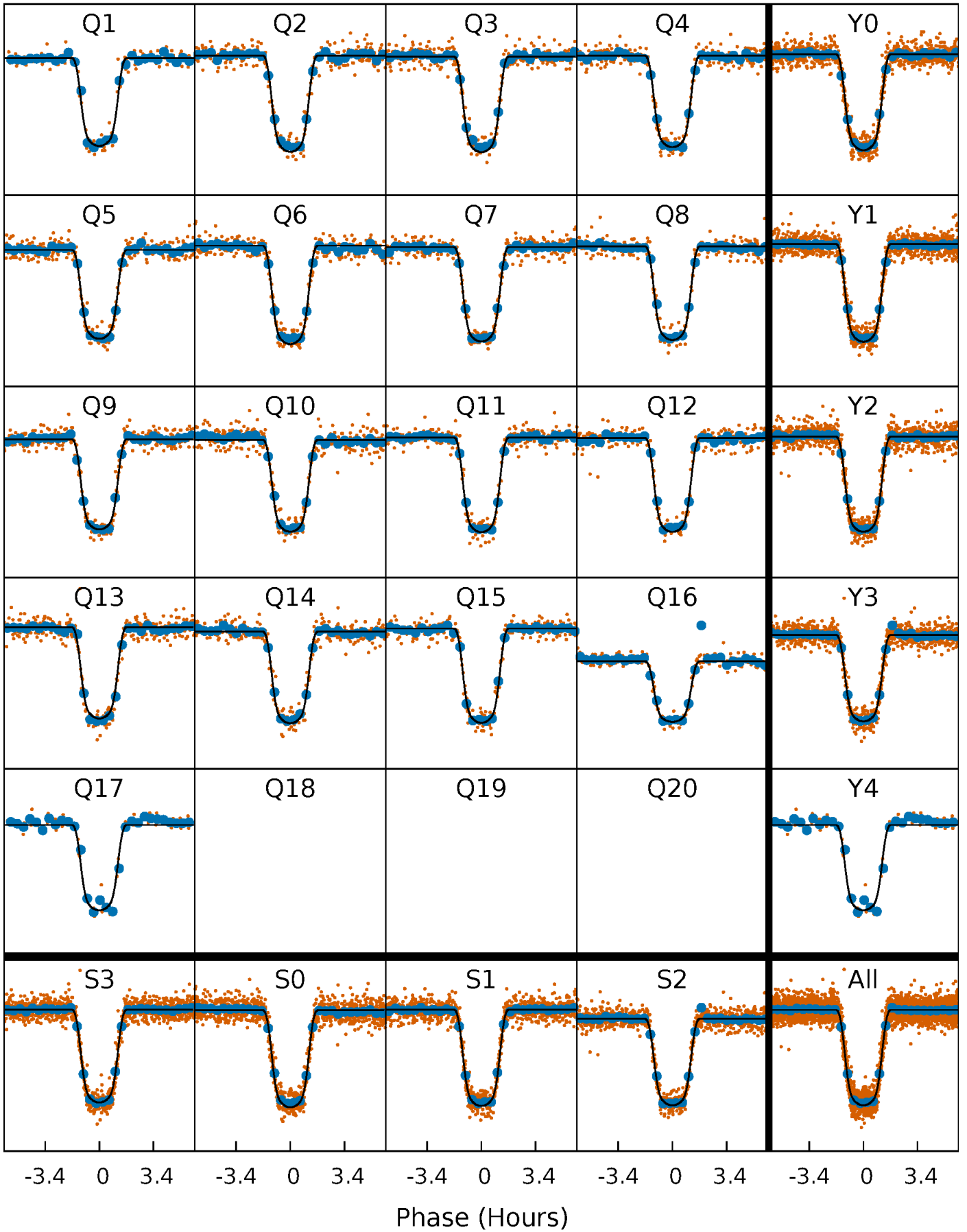
PDC Quarter-Phased Transit Curves

TCE 010923260-02 P= 7.436014 Days $T_0=134.550624$ (BKJD)



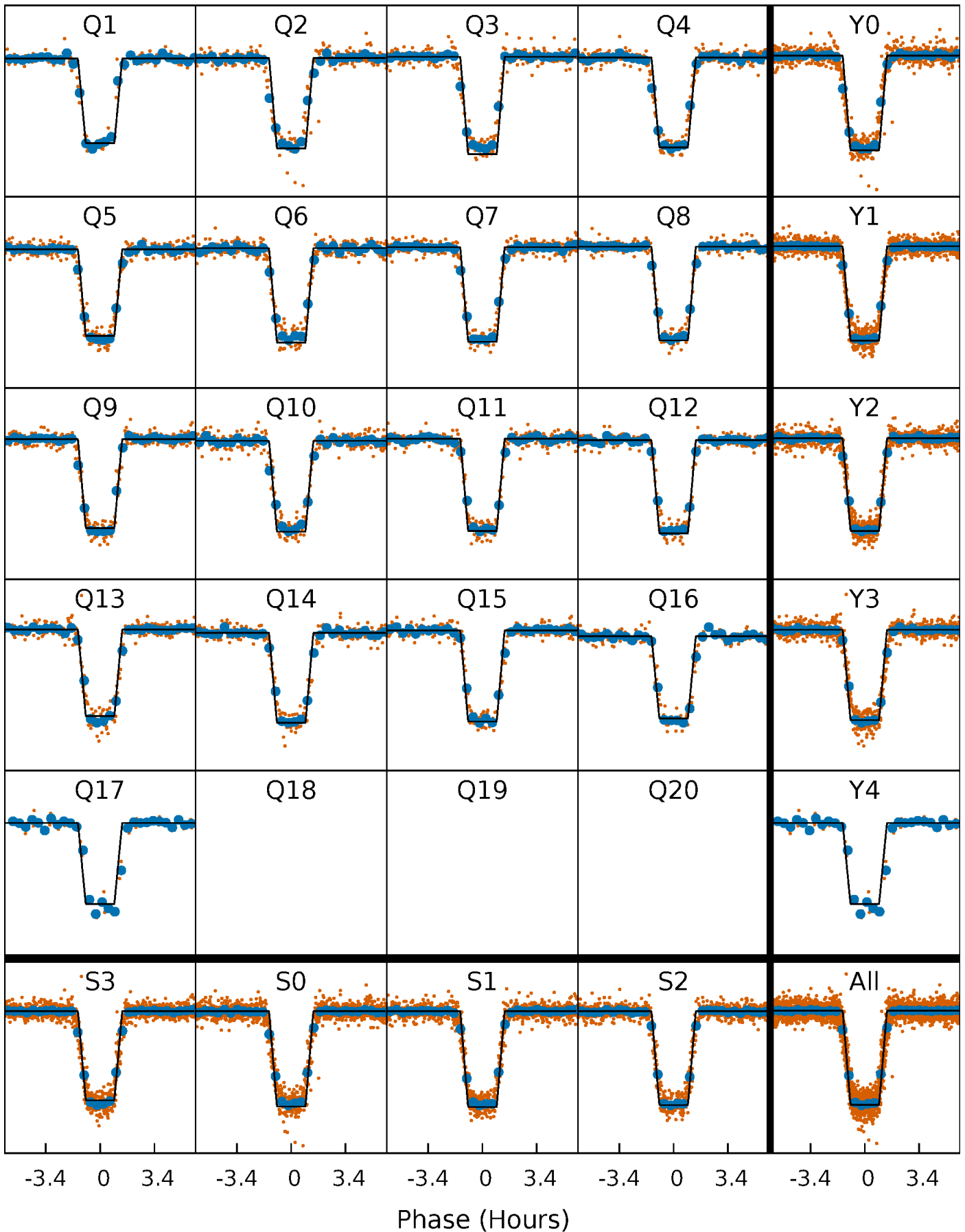
DV Quarter-Phased Transit Curves

TCE 010923260-02 P= 7.436014 Days $T_0=134.550624$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

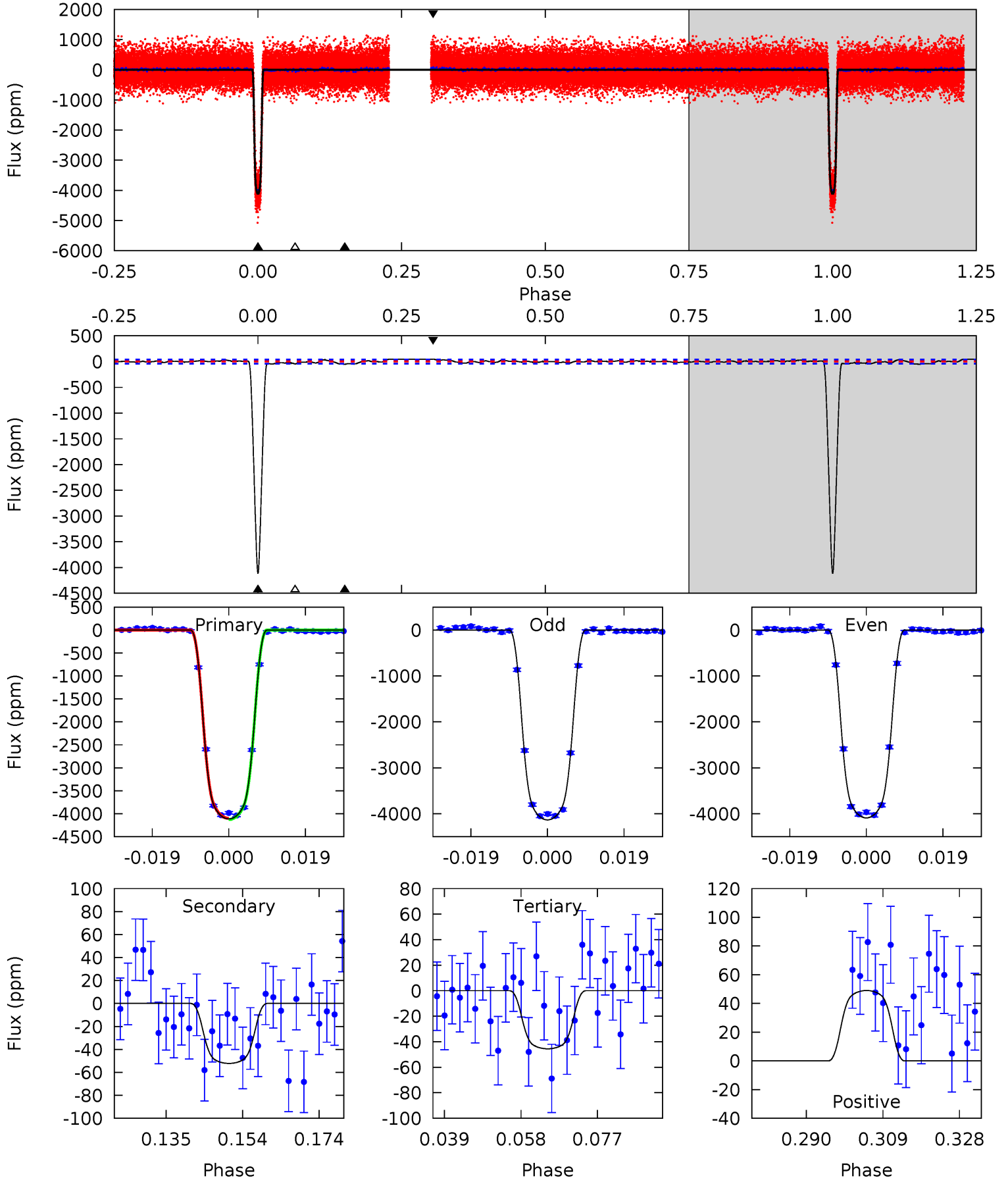
TCE 010923260-02 $P = 7.435966$ Days $T_0 = 134.555480$ (BKJD)



DV Model-Shift Uniqueness Test

010923260-02, P = 7.436014 Days, E = 127.114610 Days

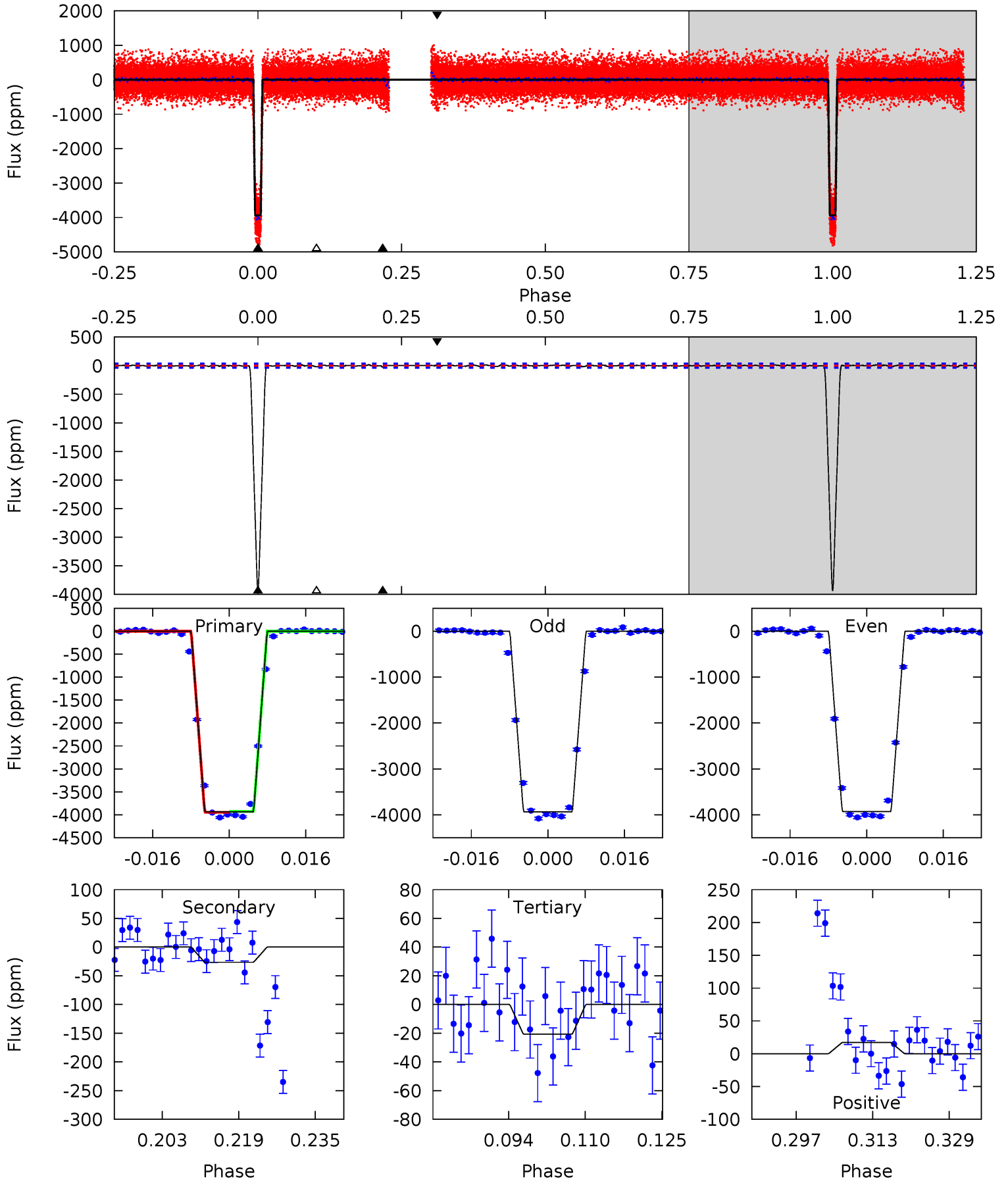
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
492.8	6.26	5.46	5.87	4.90	2.34	1.89	487.4	487.0	0.80	0.39	2.61	0.99	0.01	1.47



Alt Model-Shift Uniqueness Test

010923260-02, P = 7.435966 Days, E = 127.119514 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
536.6	3.60	2.82	2.33	4.94	2.42	0.79	533.8	534.3	0.78	1.27	0.32	1.00	0.00	1.32



Stellar Parameters For KIC 010923260

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+153}_{-219}	$4.501^{+0.054}_{-0.216}$	$-0.360^{+0.300}_{-0.350}$	$0.933^{+0.291}_{-0.097}$	$1.005^{+0.134}_{-0.134}$	$1.745^{+0.375}_{-0.947}$
	+2%/-4%	+1%/-5%	+83%/-97%	+31%/-10%	+13%/-13%	+21%/-54%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010923260-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-52 ± 8	$6.99^{+1.29}_{-0.56}$	1381^{+107}_{-71}	2746^{+75}_{-83}	$3.095^{+0.857}_{-0.818}$
Alt.	-26 ± 7	$6.70^{+1.14}_{-0.56}$	1385^{+105}_{-73}	2519^{+102}_{-127}	$1.687^{+0.626}_{-0.571}$

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

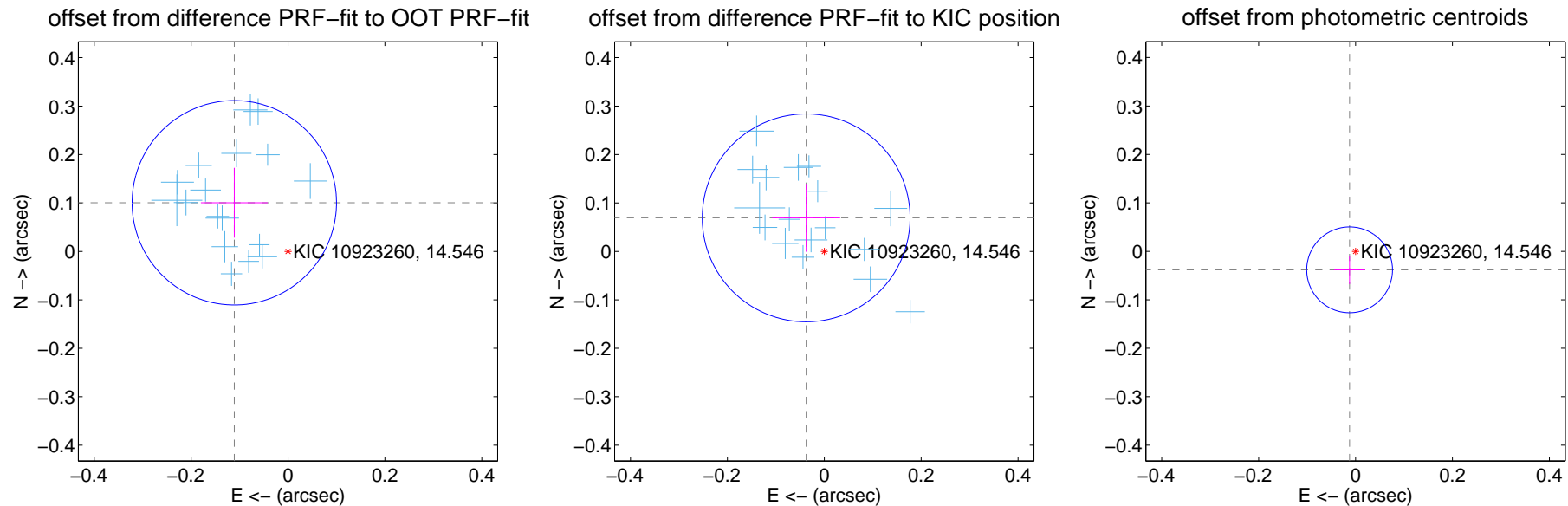
DV Centroid Data

Supplemental centroid analysis for 010923260-02. Kepler magnitude: 14.55. Transit SNR 275.85

There are 17 quarters with good PRF difference image offsets

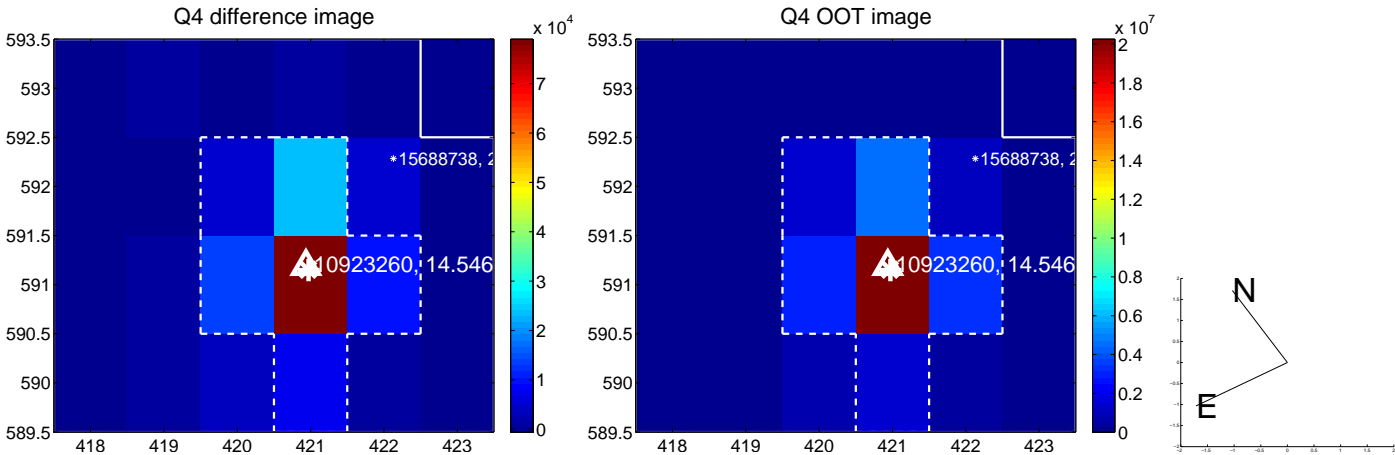
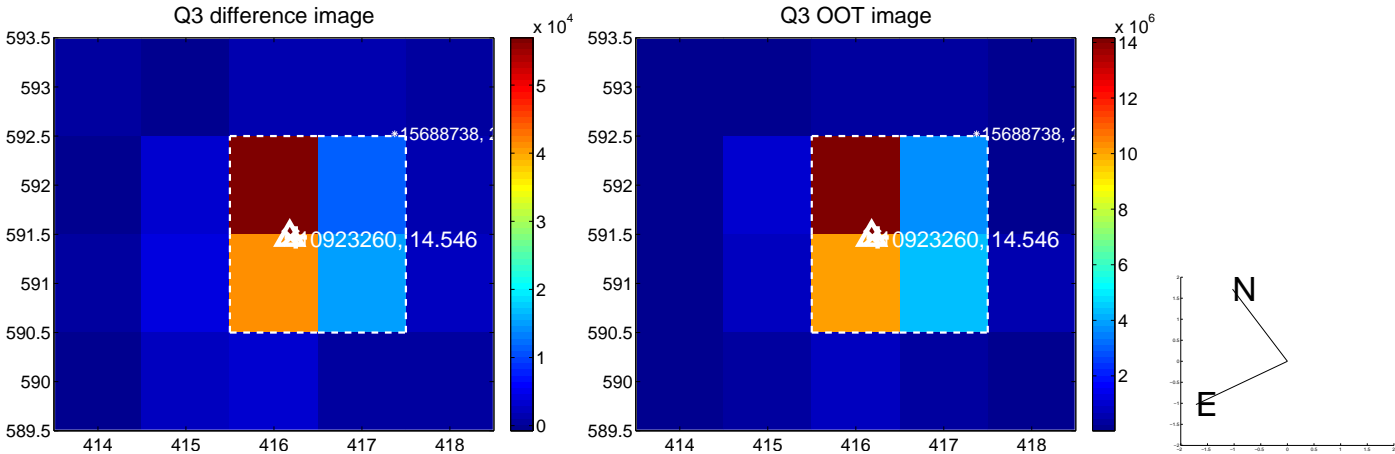
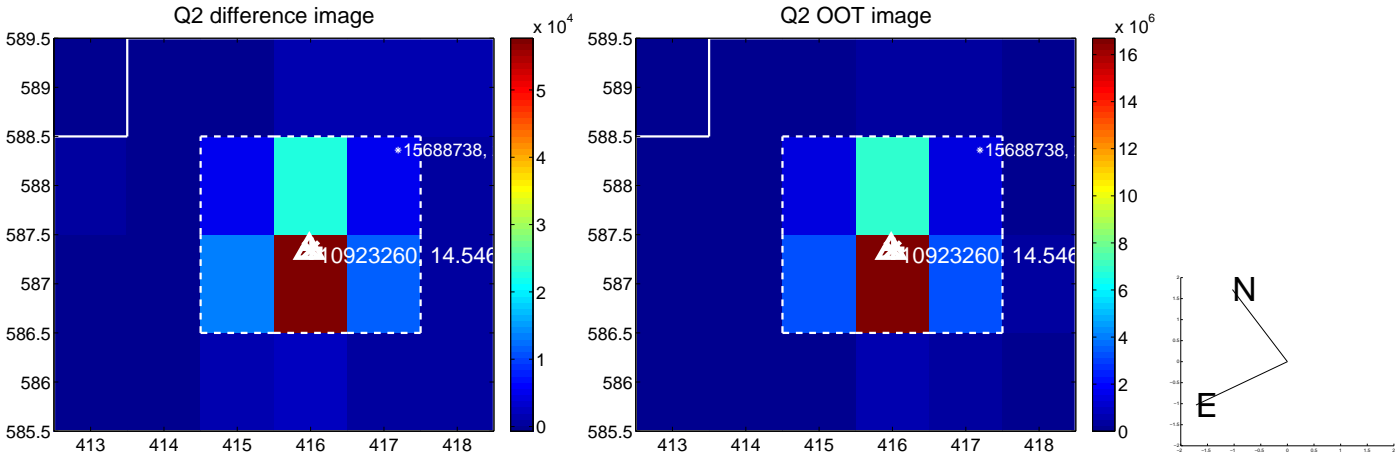
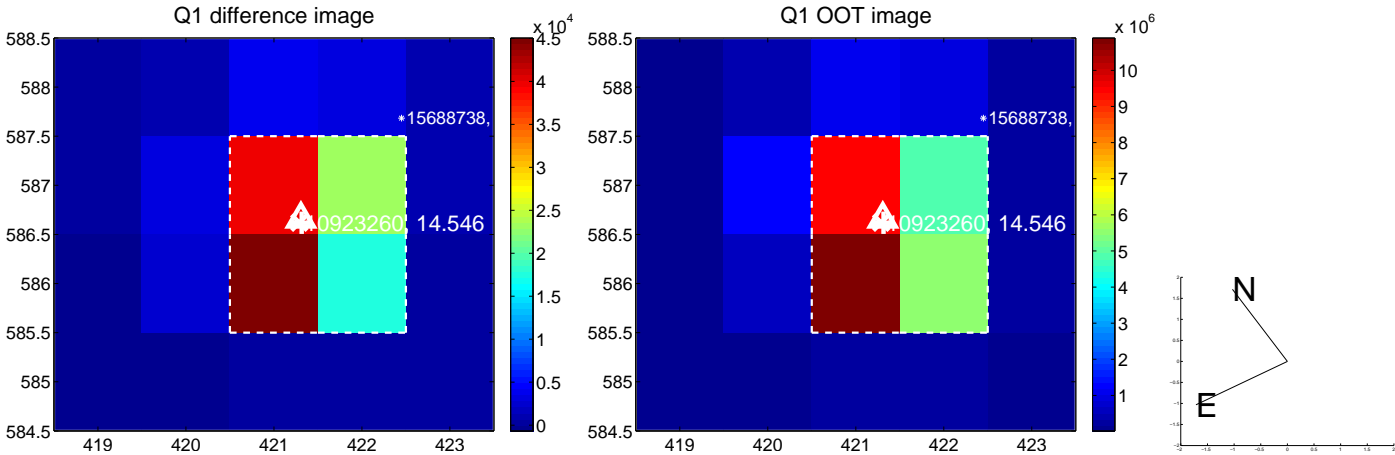
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.150 ± 0.070	2.13	0.111 ± 0.069	0.100 ± 0.072
PRF-fit source offset from KIC position	0.079 ± 0.072	1.10	0.037 ± 0.070	0.069 ± 0.070
photometric centroid source offset	0.04 ± 0.03	1.36	0.01 ± 0.03	-0.04 ± 0.03

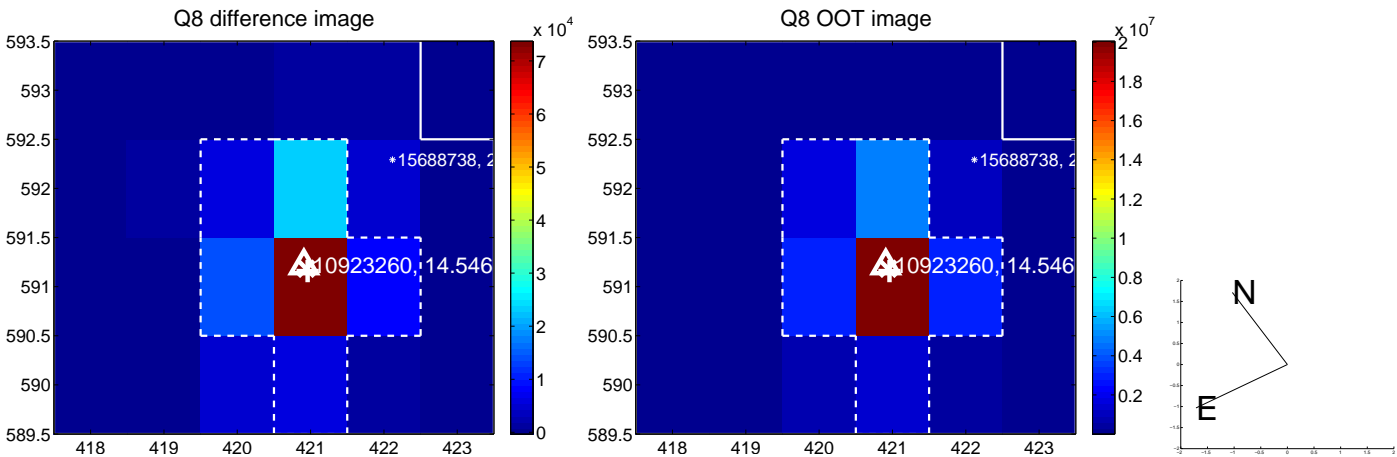
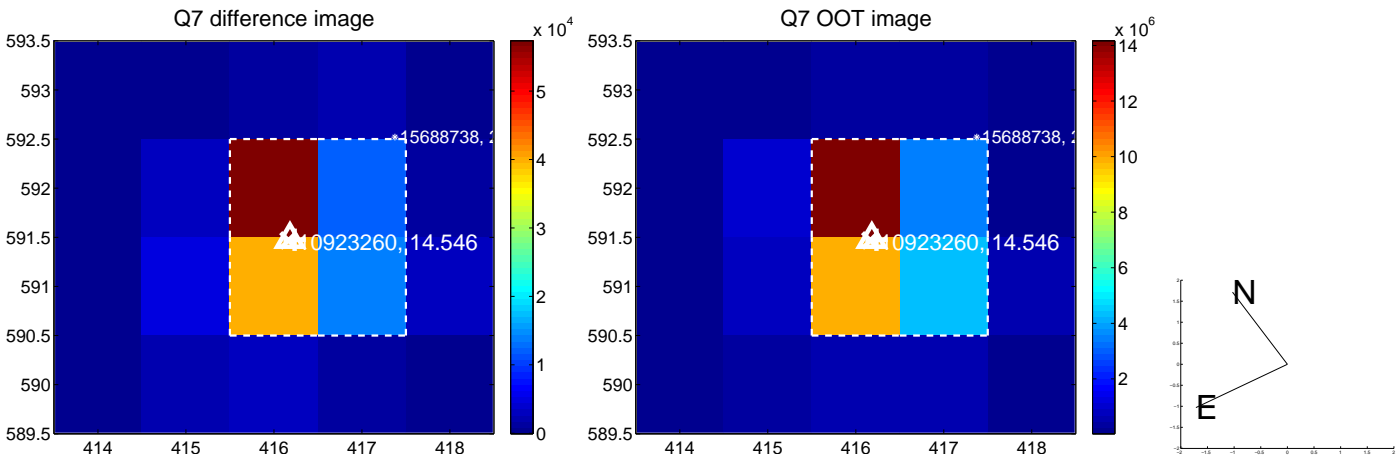
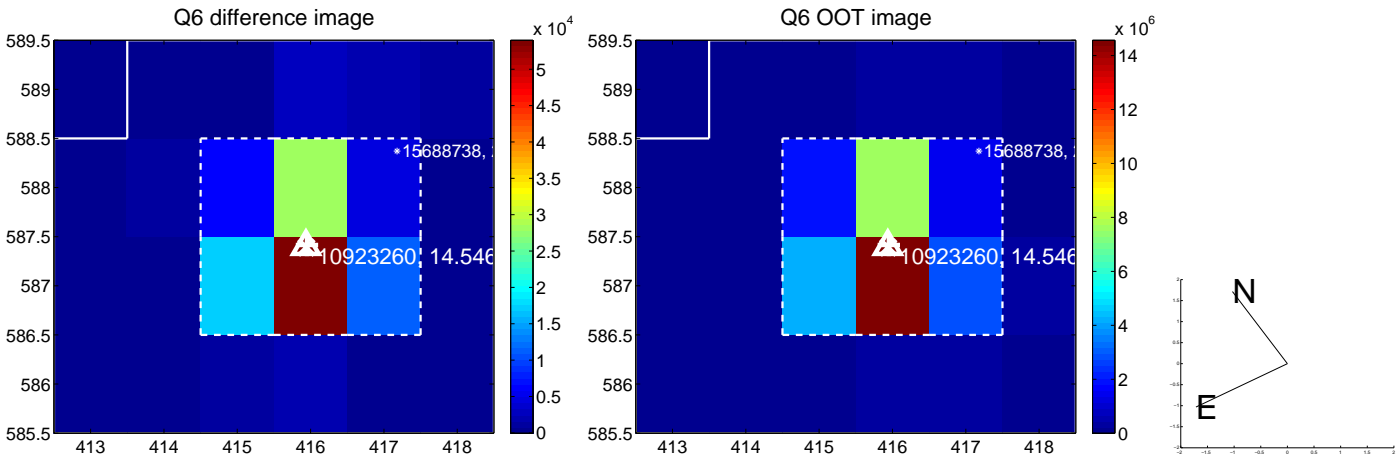
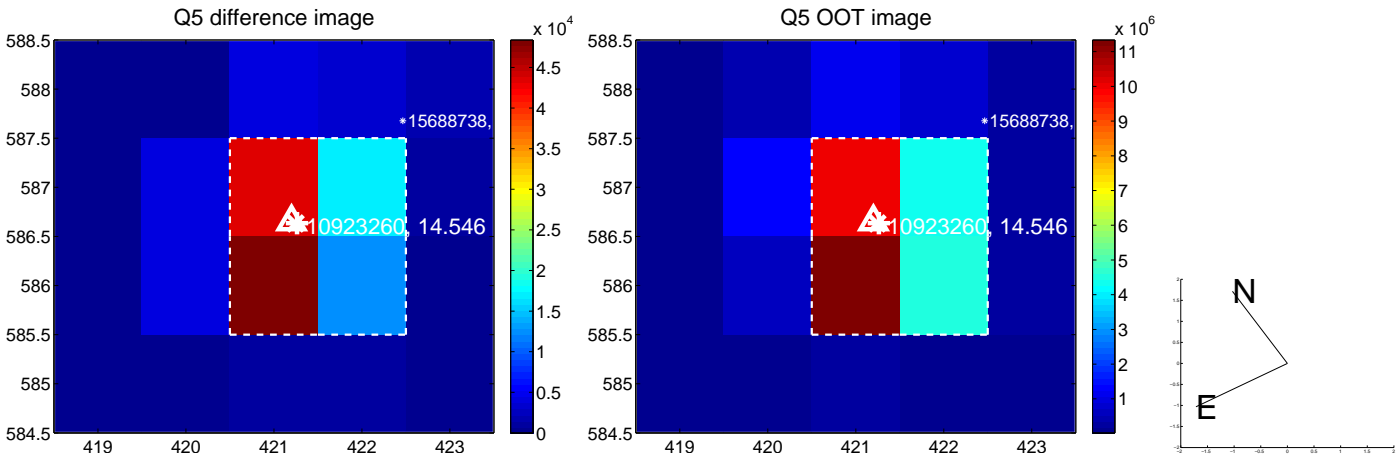


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

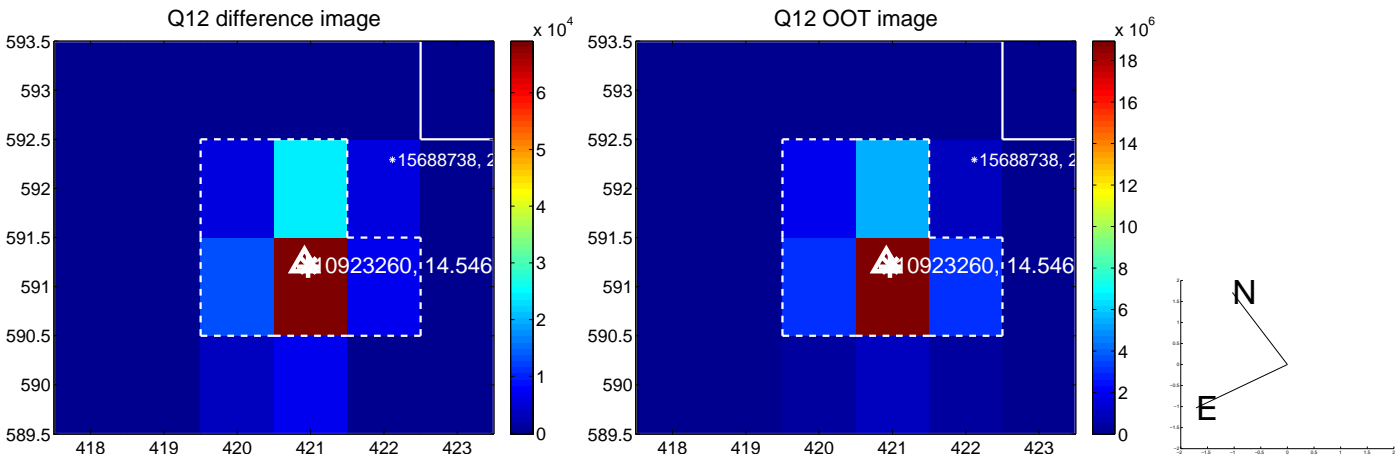
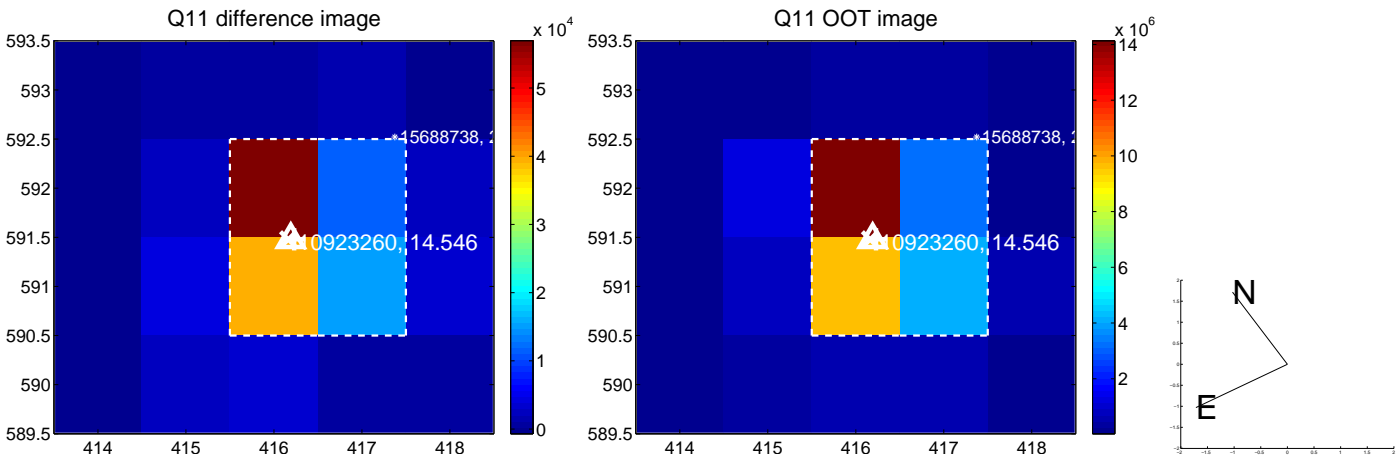
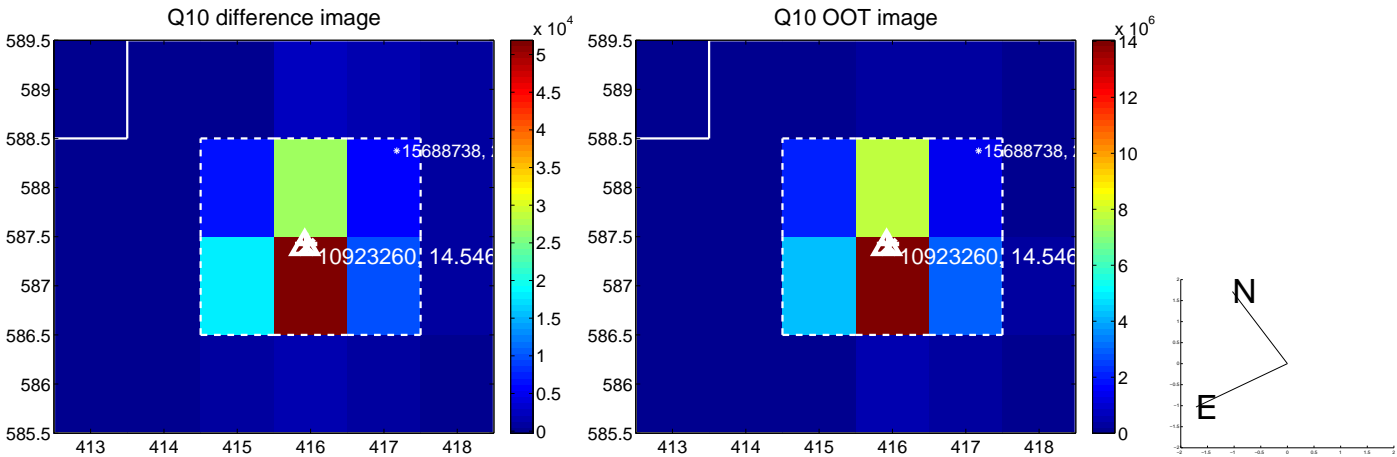
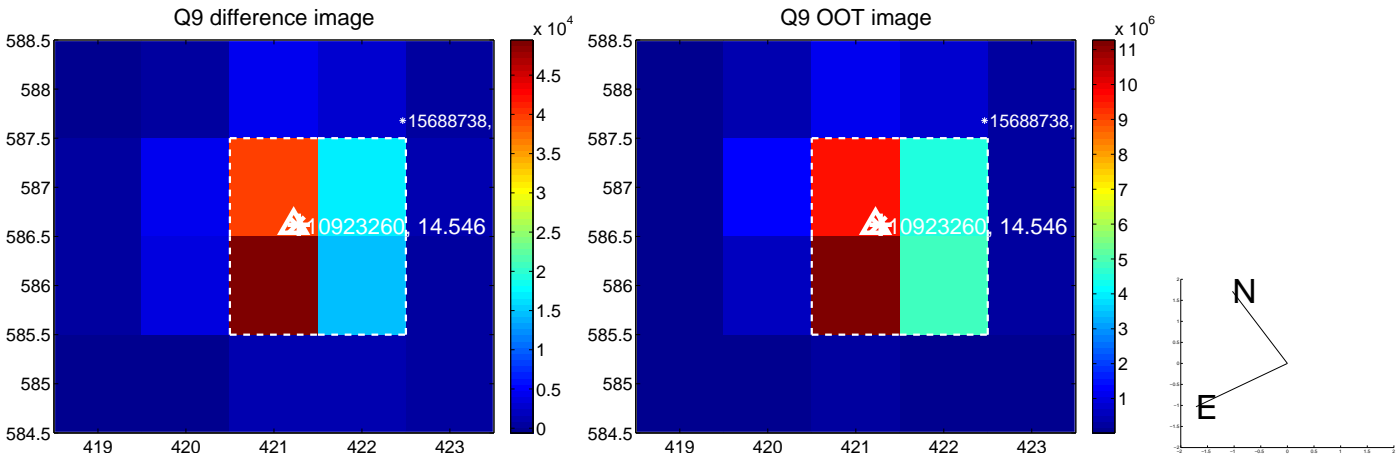
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



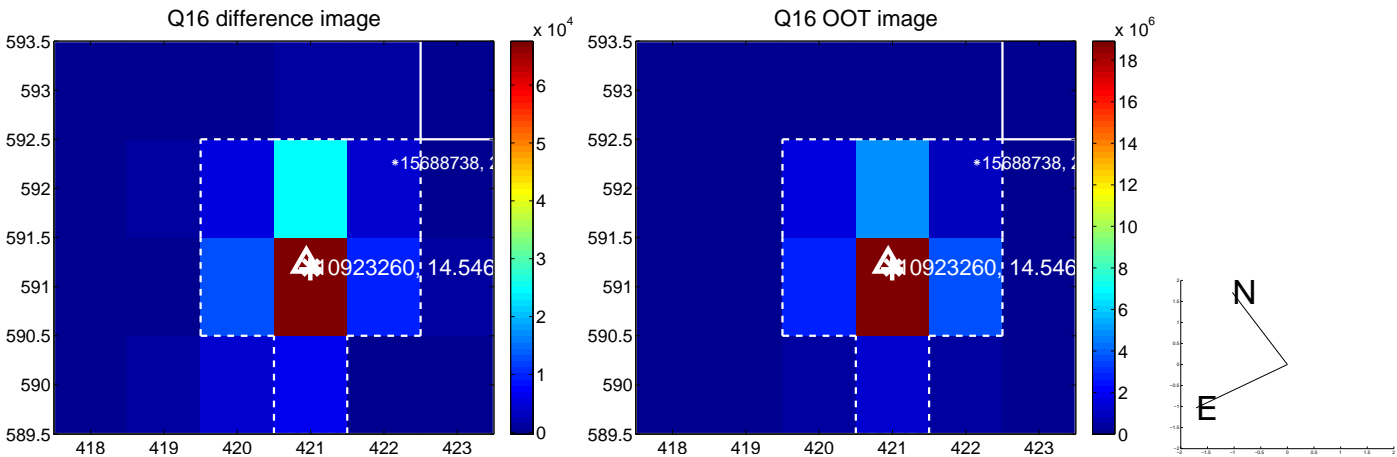
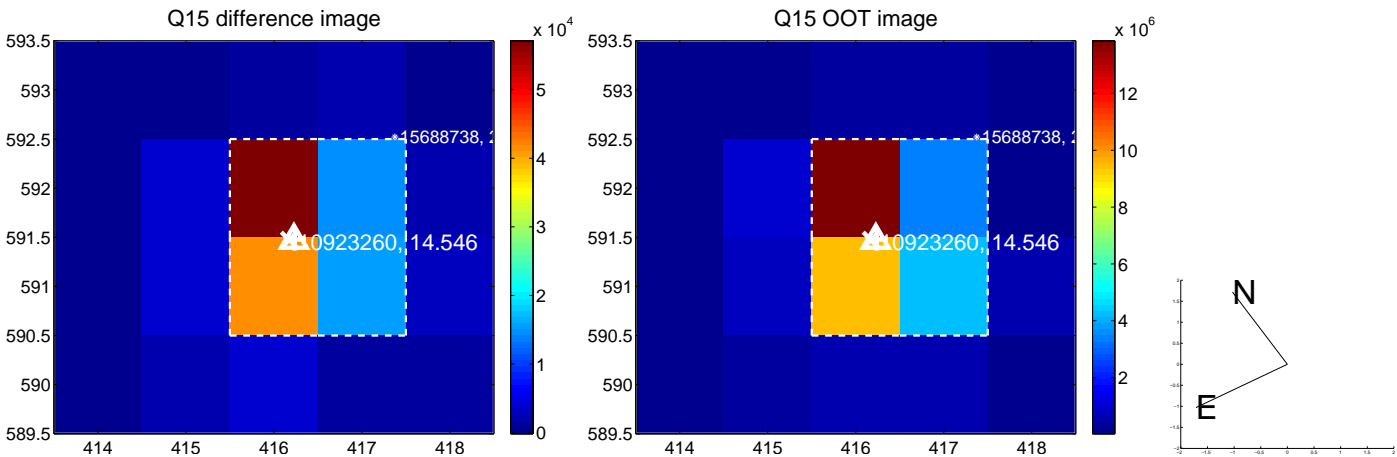
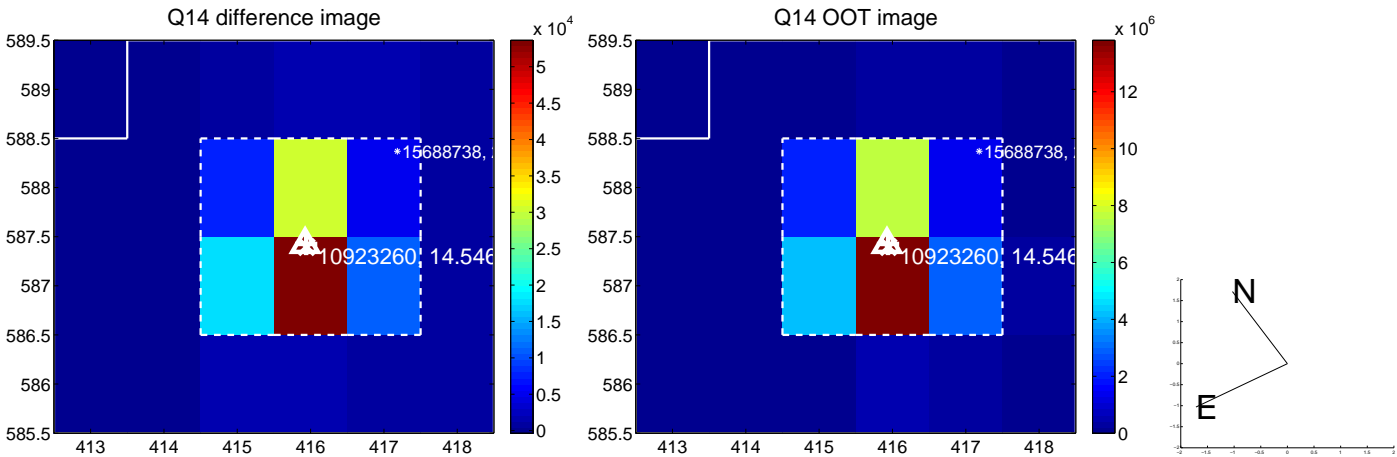
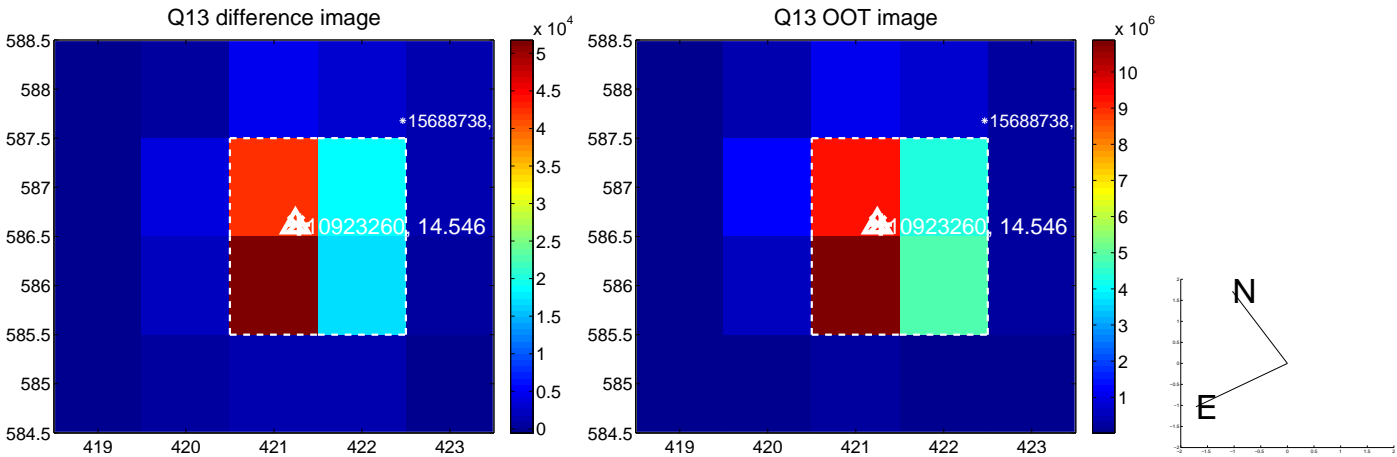
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



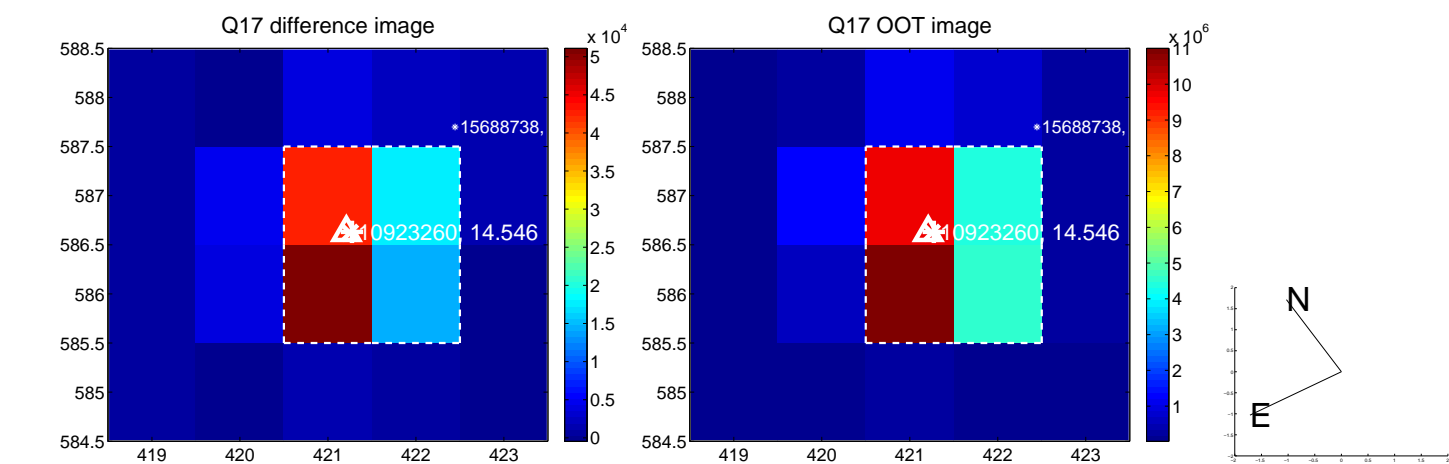
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



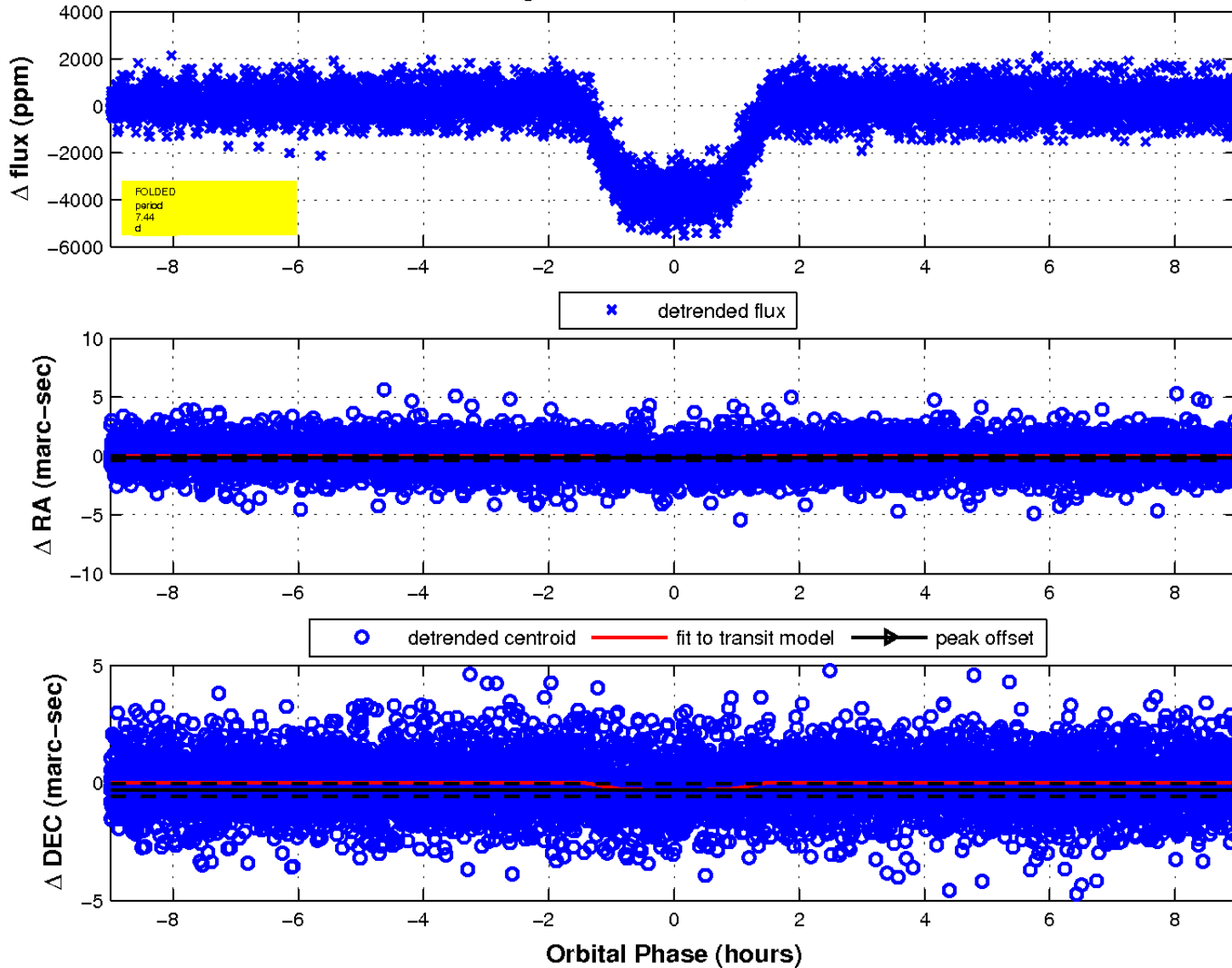
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

