

KIC 008414159

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})
008414159-01	OBS	7035.01	11.931221	142.844808	296918.1	3.500	14431.8	-1.0	0.96	6089	49.26	112.73
008414159-02	OBS	No	11.931131	136.886437	45553.9	5.454	2265.2	1847.3	0.96	6089	24.56	112.73
008414159-03	OBS	No	3.977275	134.388784	1583.7	47.727	797.6	64.9	0.96	6089	4.20	487.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008414159-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008414159-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
008414159-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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.

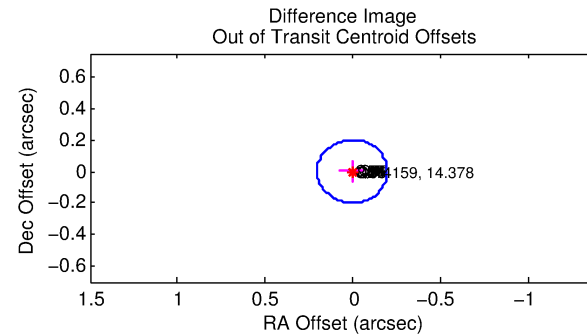
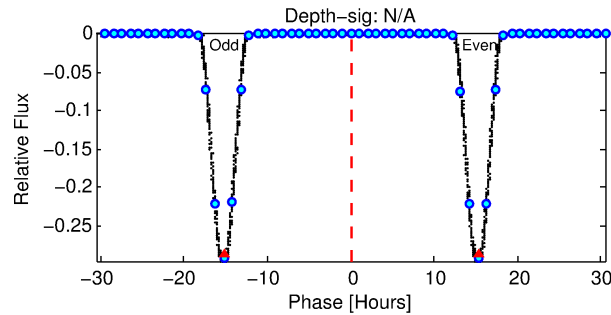
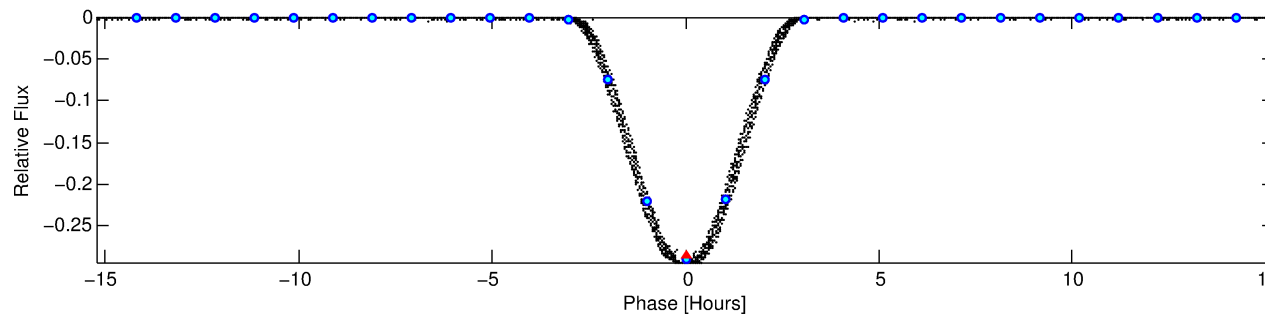
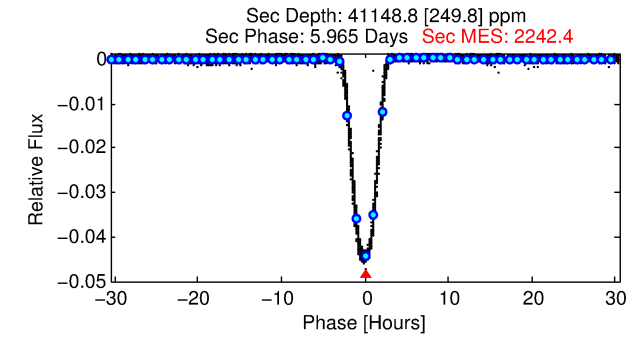
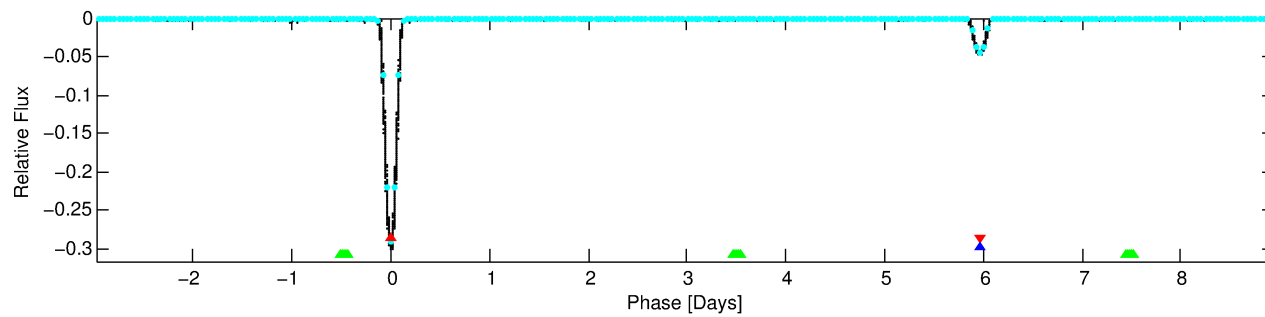
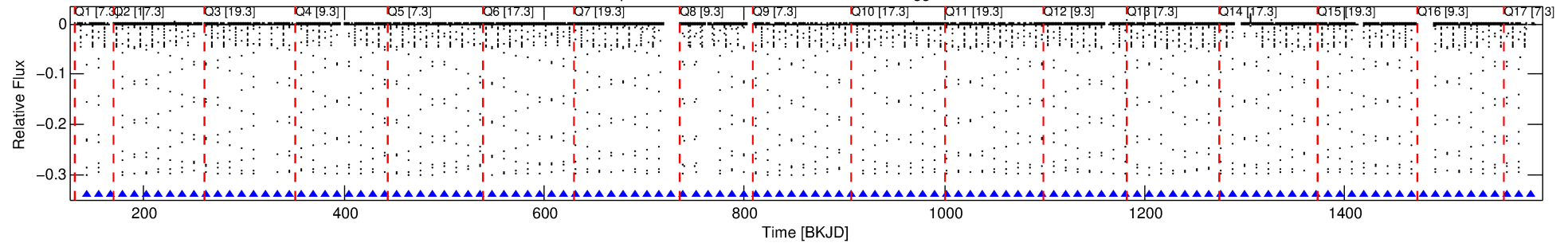
Ephemeris Match Information For 008414159-01

No Significant Match Found

DV One-Page Summary

KIC: 8414159 Candidate: 1 of 3 Period: 11.931 d
KOI: K07035.01 Corr: 0.788

Kp: 14.38 R*: 0.96 Rs Teff: 6089.0 K Logg: 4.45 Fe/H: -0.380



TPS TCE Results:

Period = 11.93122 d
Epoch = 142.8448 BKJD

DV fit results are unavailable

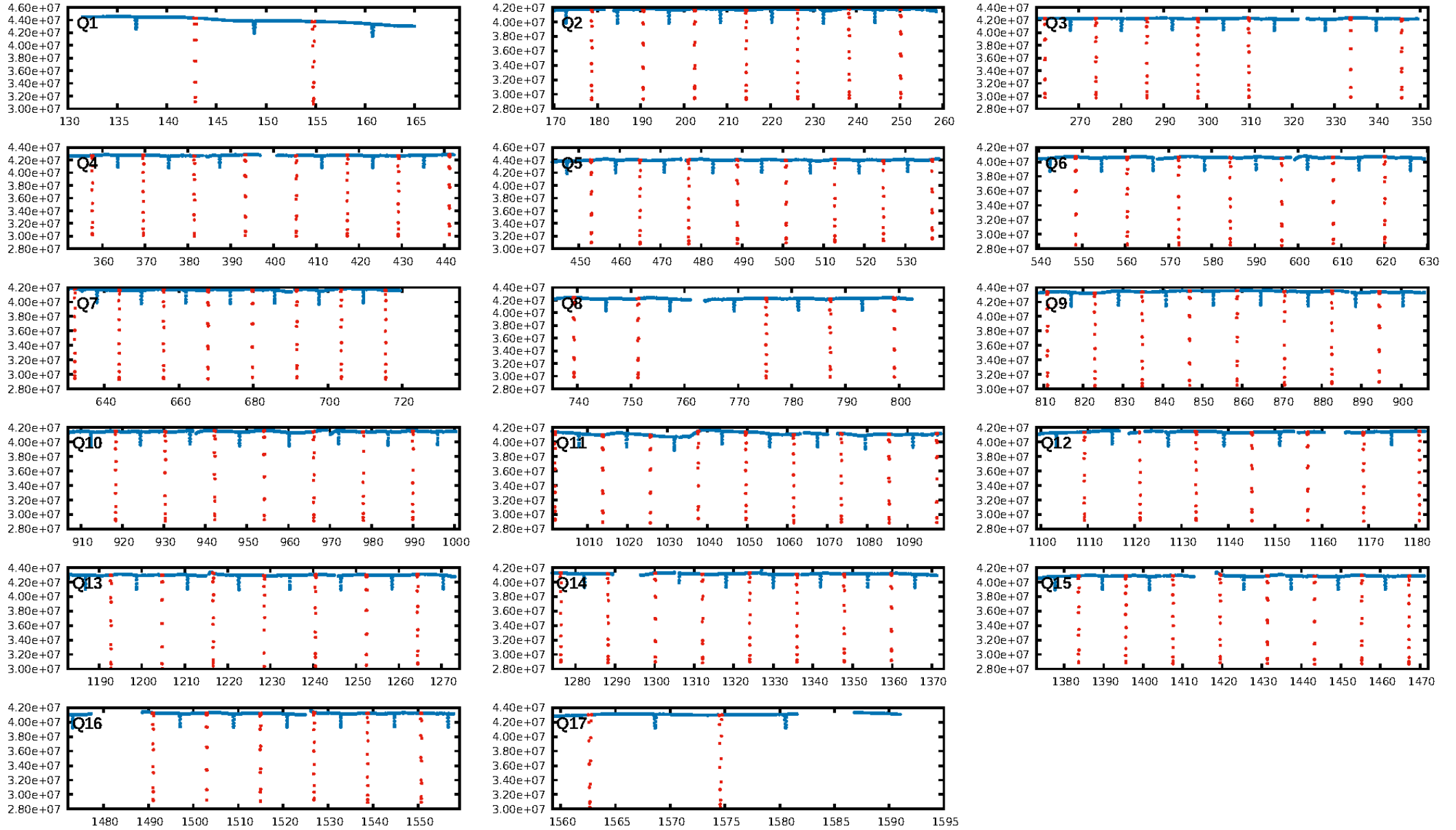
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [110/110]
GhostDiagnostic-chr: 1.85
Centroid-sig: 0.0%
Centroid-so: 0.456 arcsec [802.20 σ]
OotOffset-rm: 0.006 arcsec [0.09 σ]
KicOffset-rm: 0.452 arcsec [6.52 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

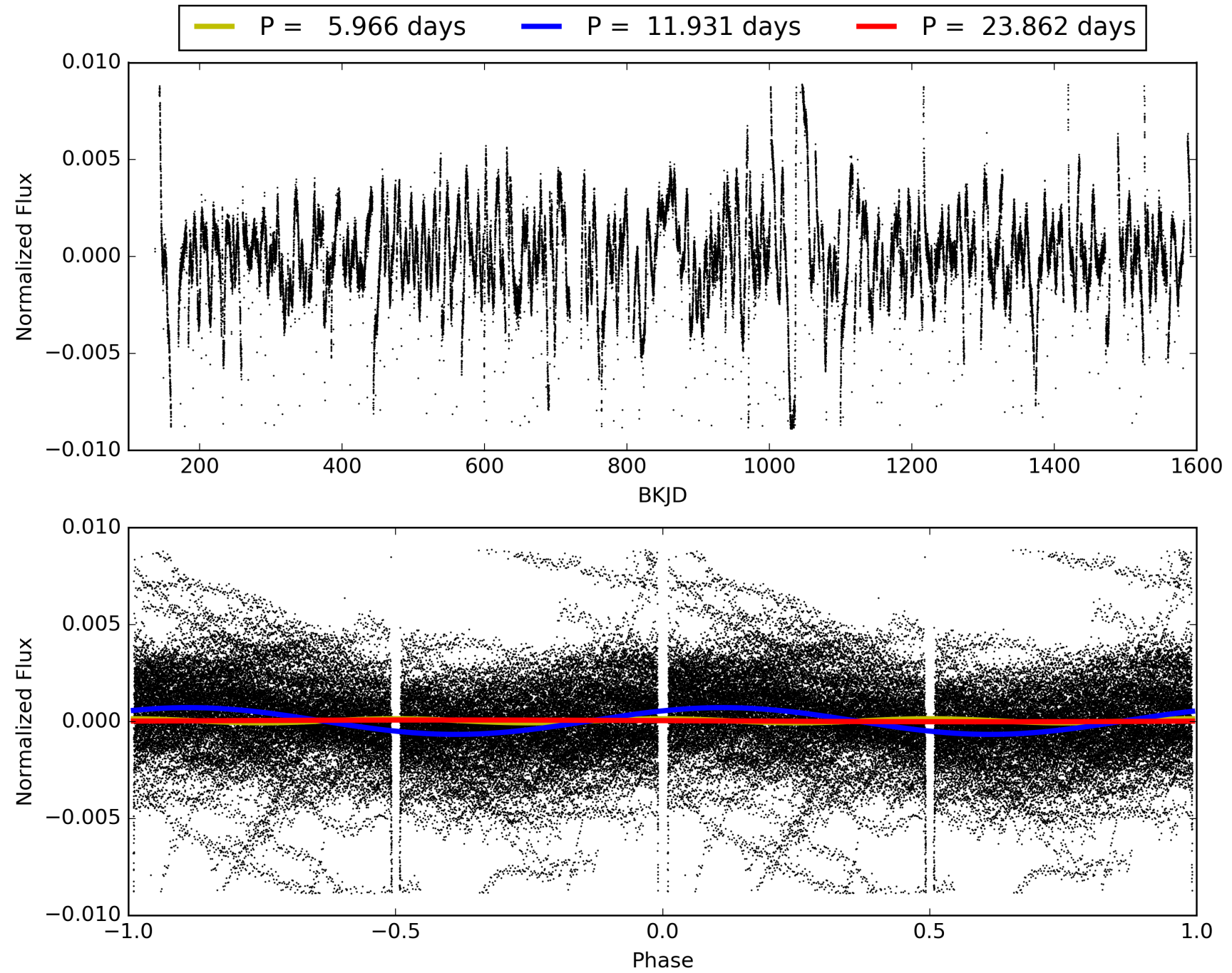
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:03:05 Z

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

TCE 008414159-01, PDC Light Curves

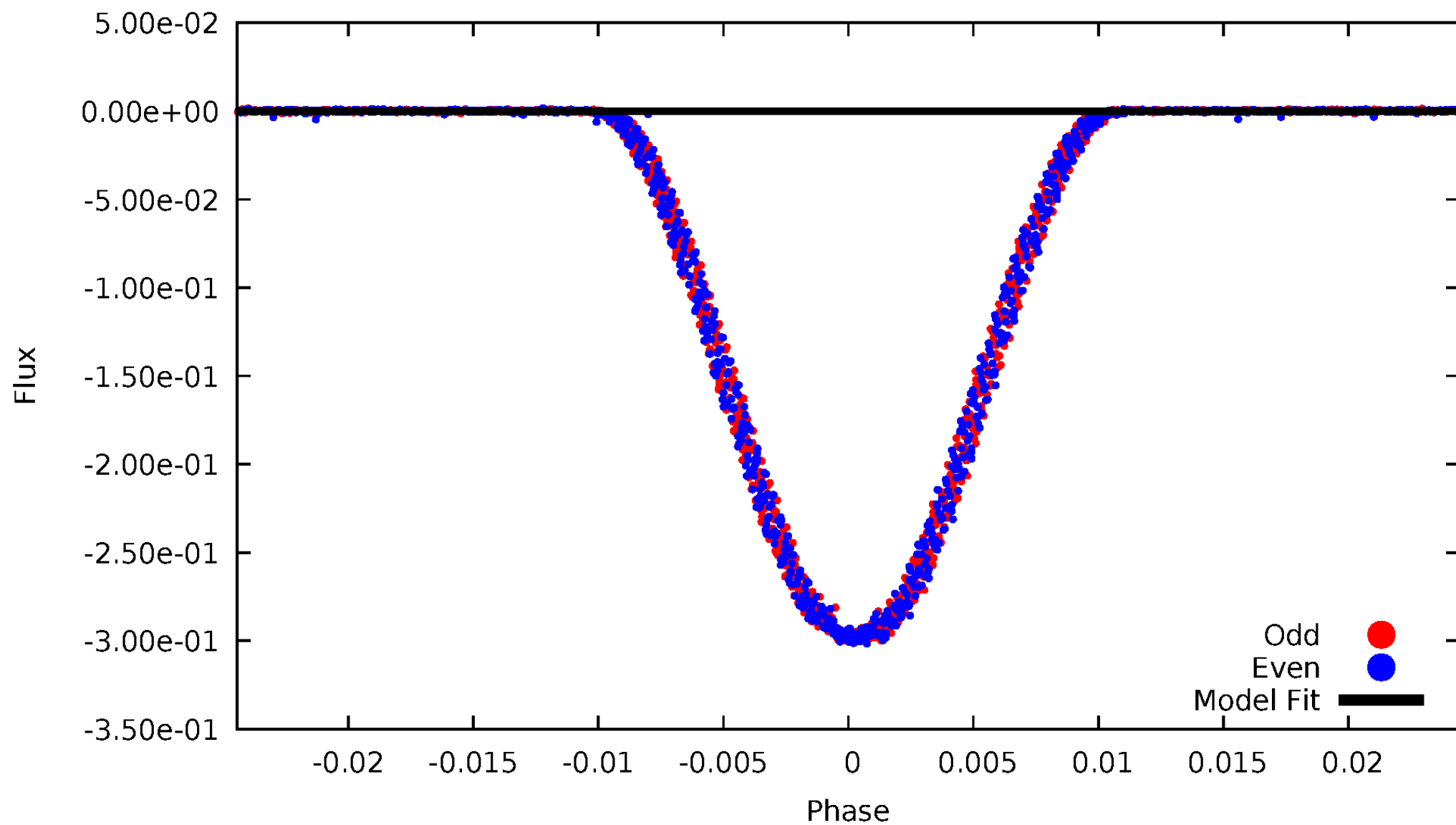


TCE 008414159-01



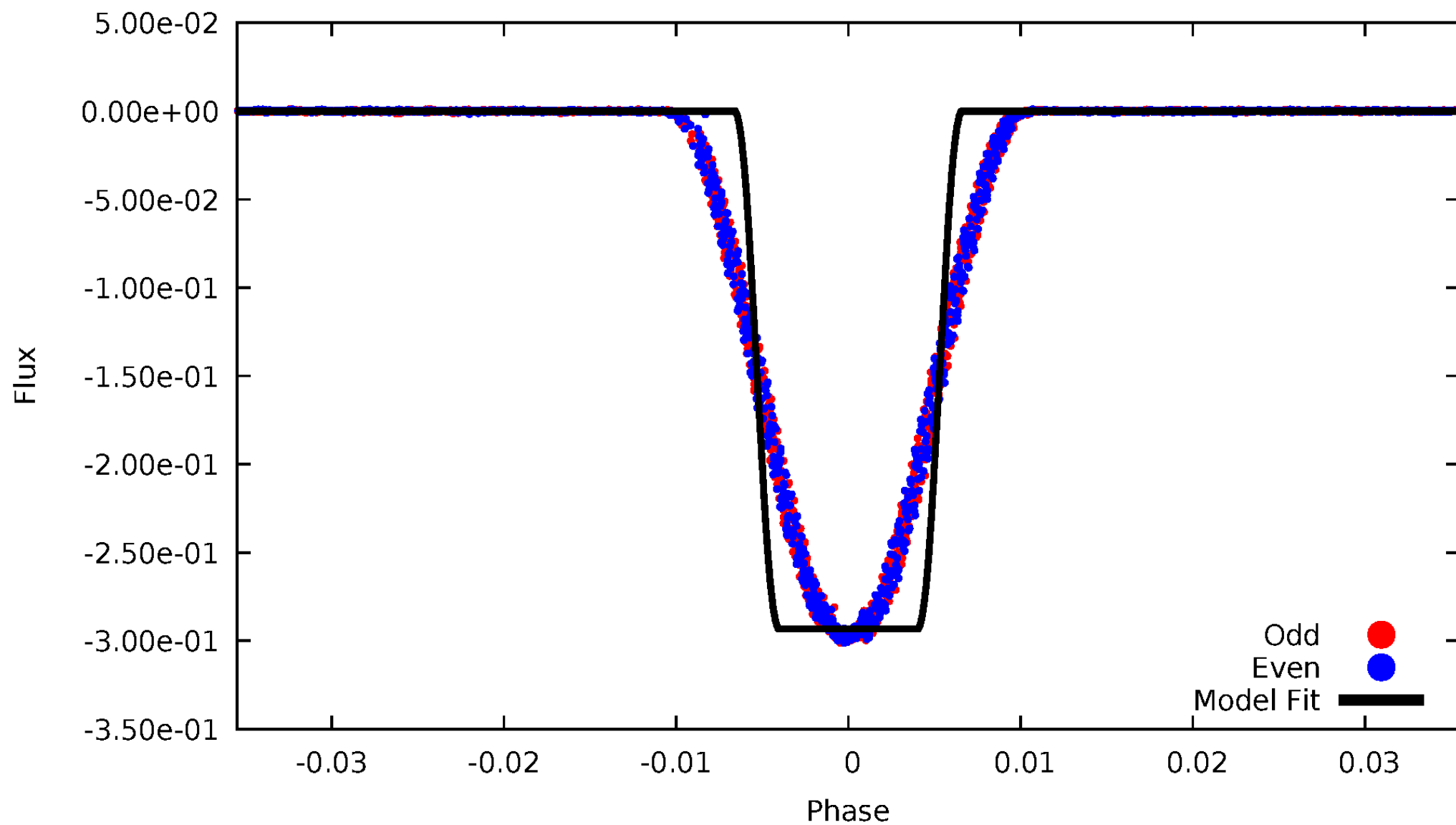
DV Odd/Even

TCE 008414159-01



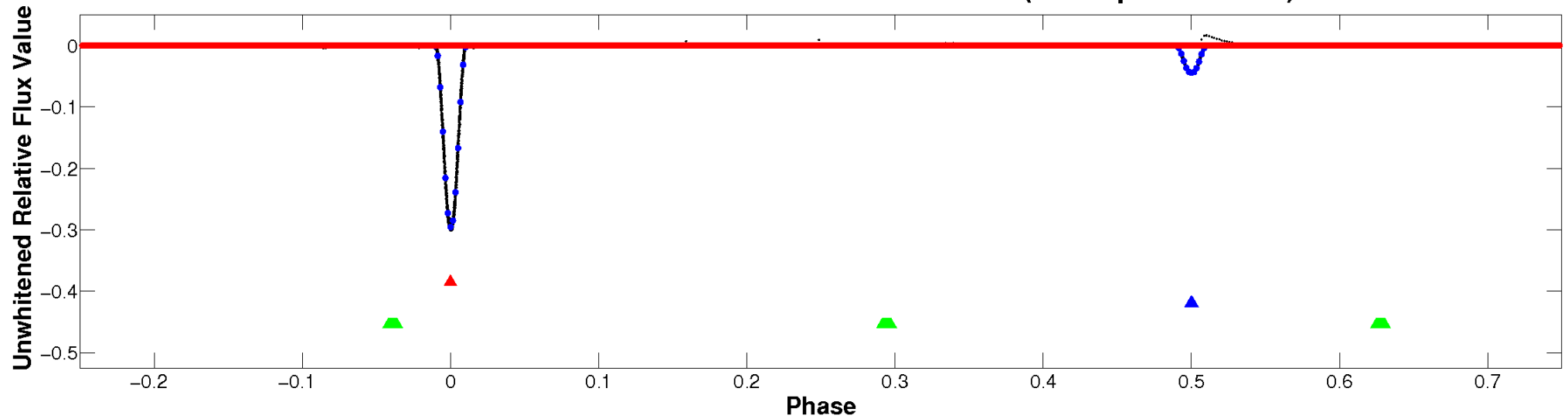
ALT Odd/Even

TCE 008414159-01

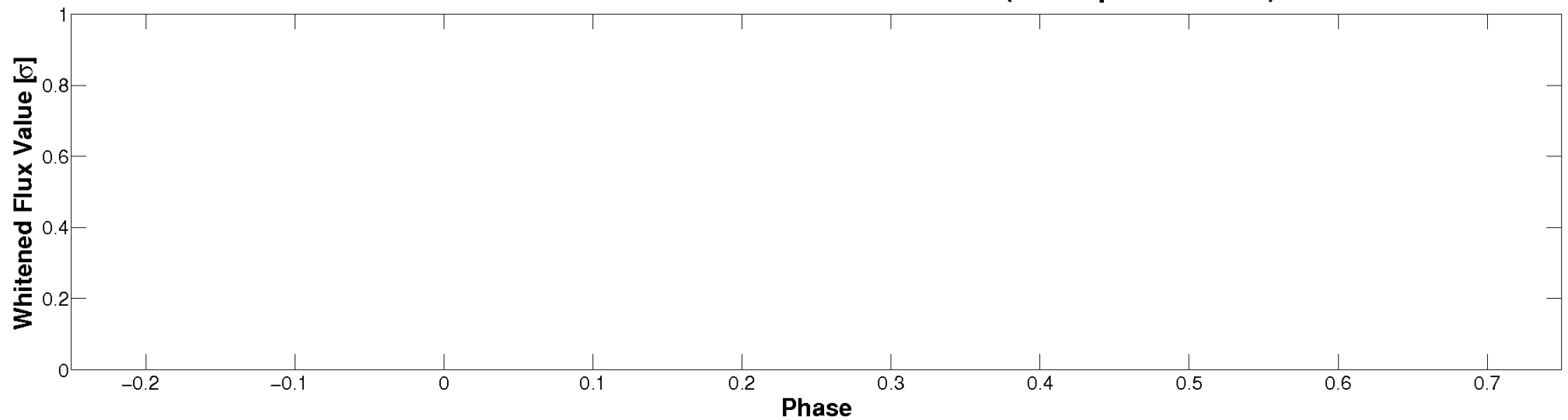


Non-Whitened Vs. Whitened Light Curve

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

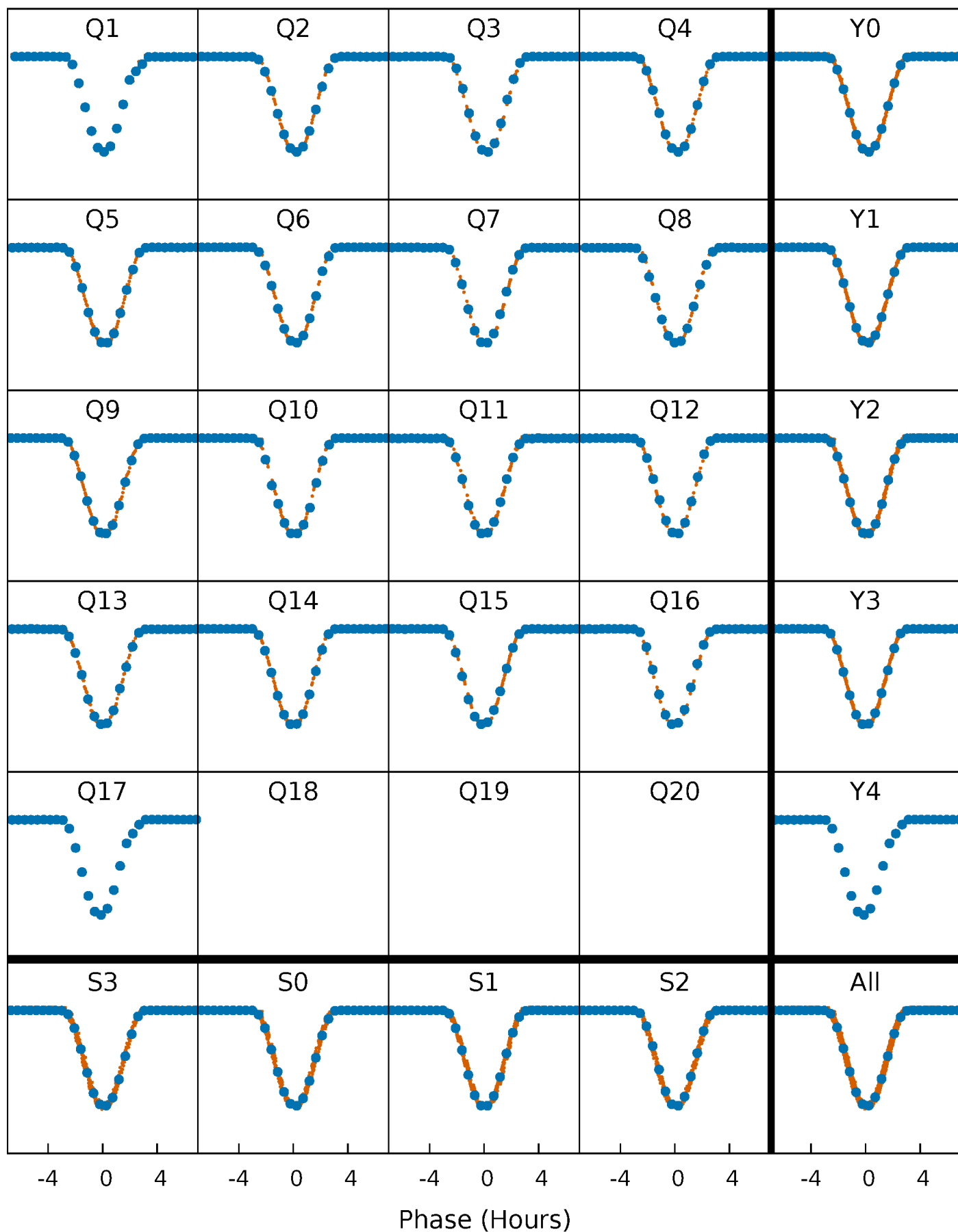


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



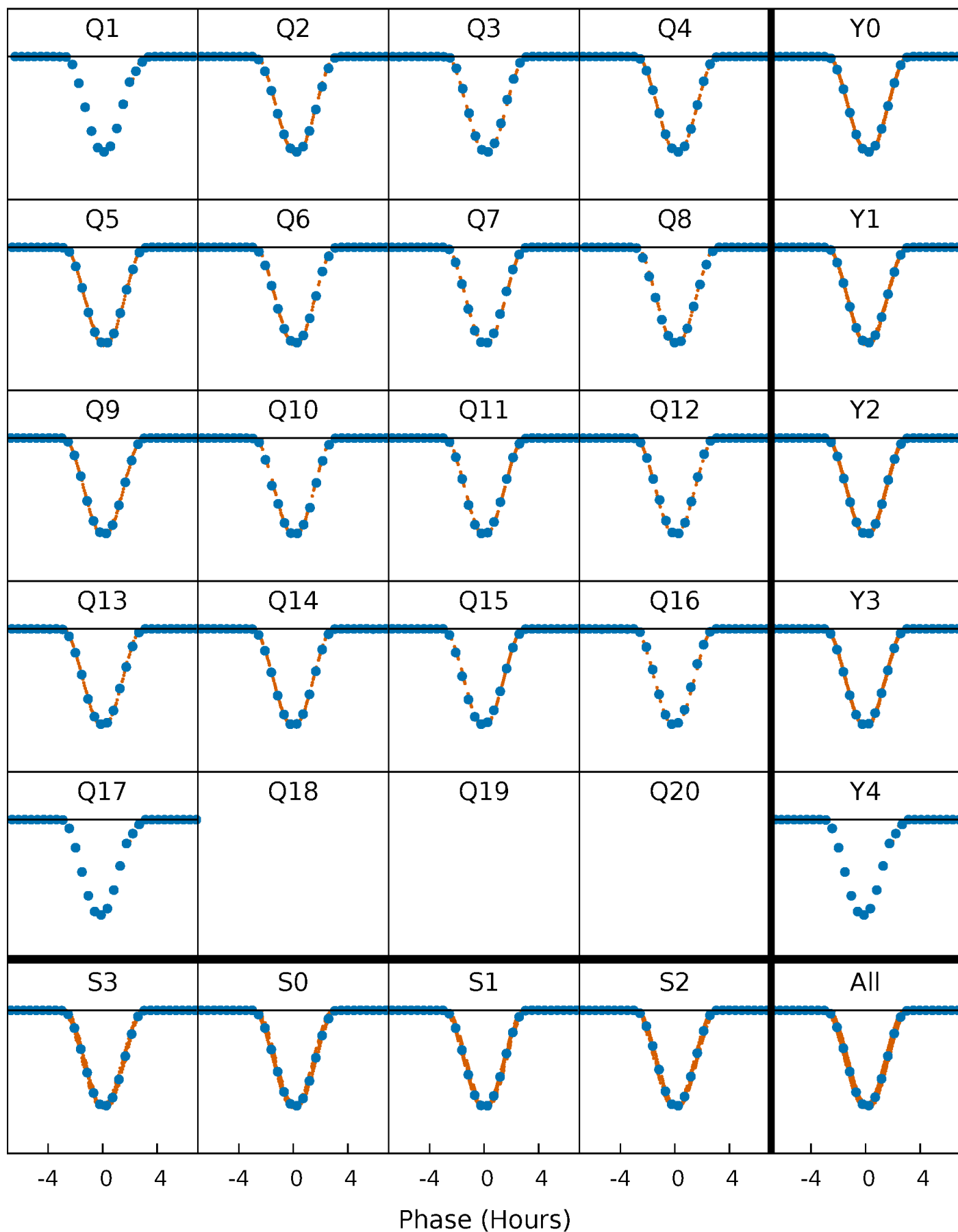
PDC Quarter-Phased Transit Curves

TCE 008414159-01 P= 11.931221 Days $T_0=142.844808$ (BKJD)



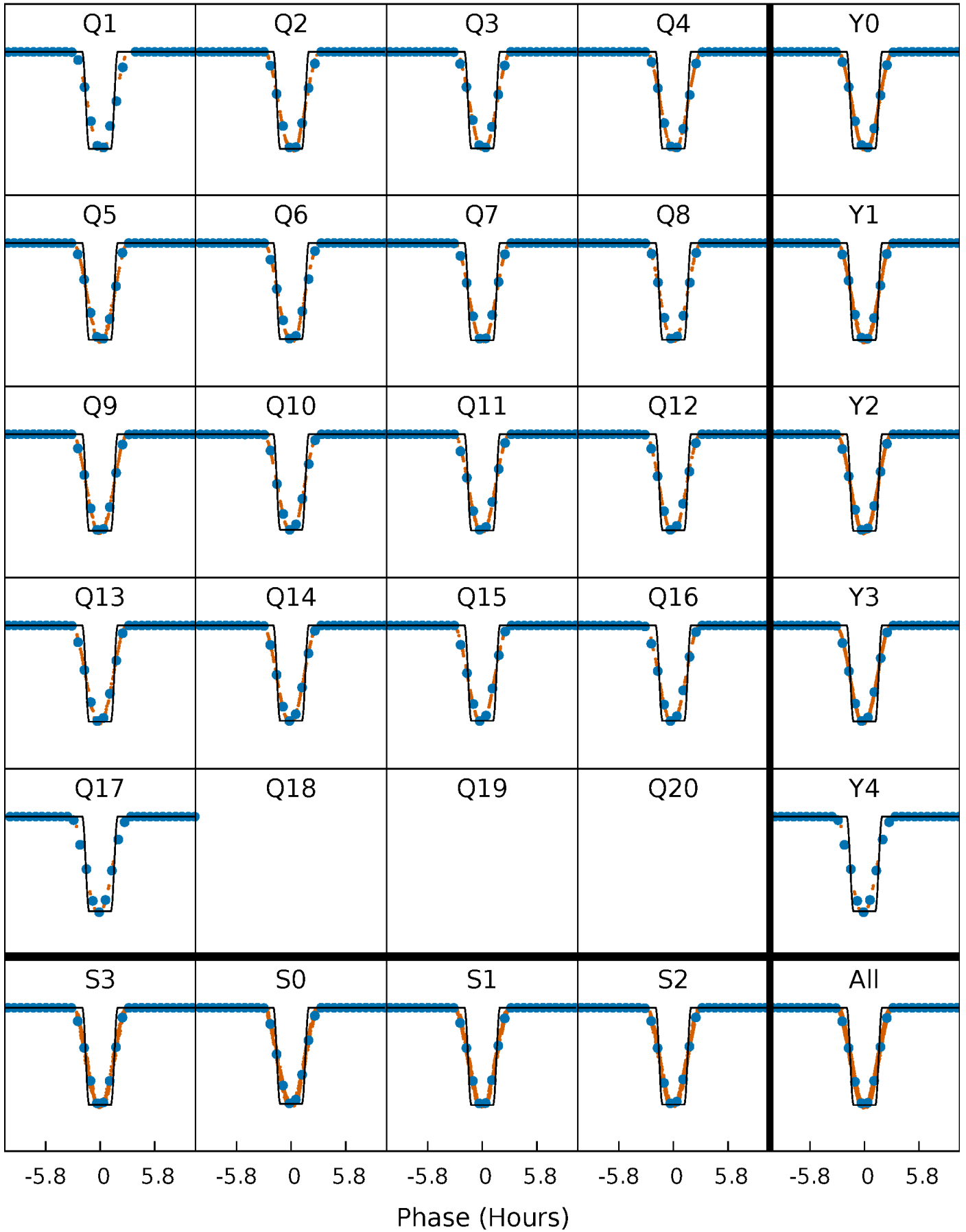
DV Quarter-Phased Transit Curves

TCE 008414159-01 P= 11.931221 Days $T_0=142.844808$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

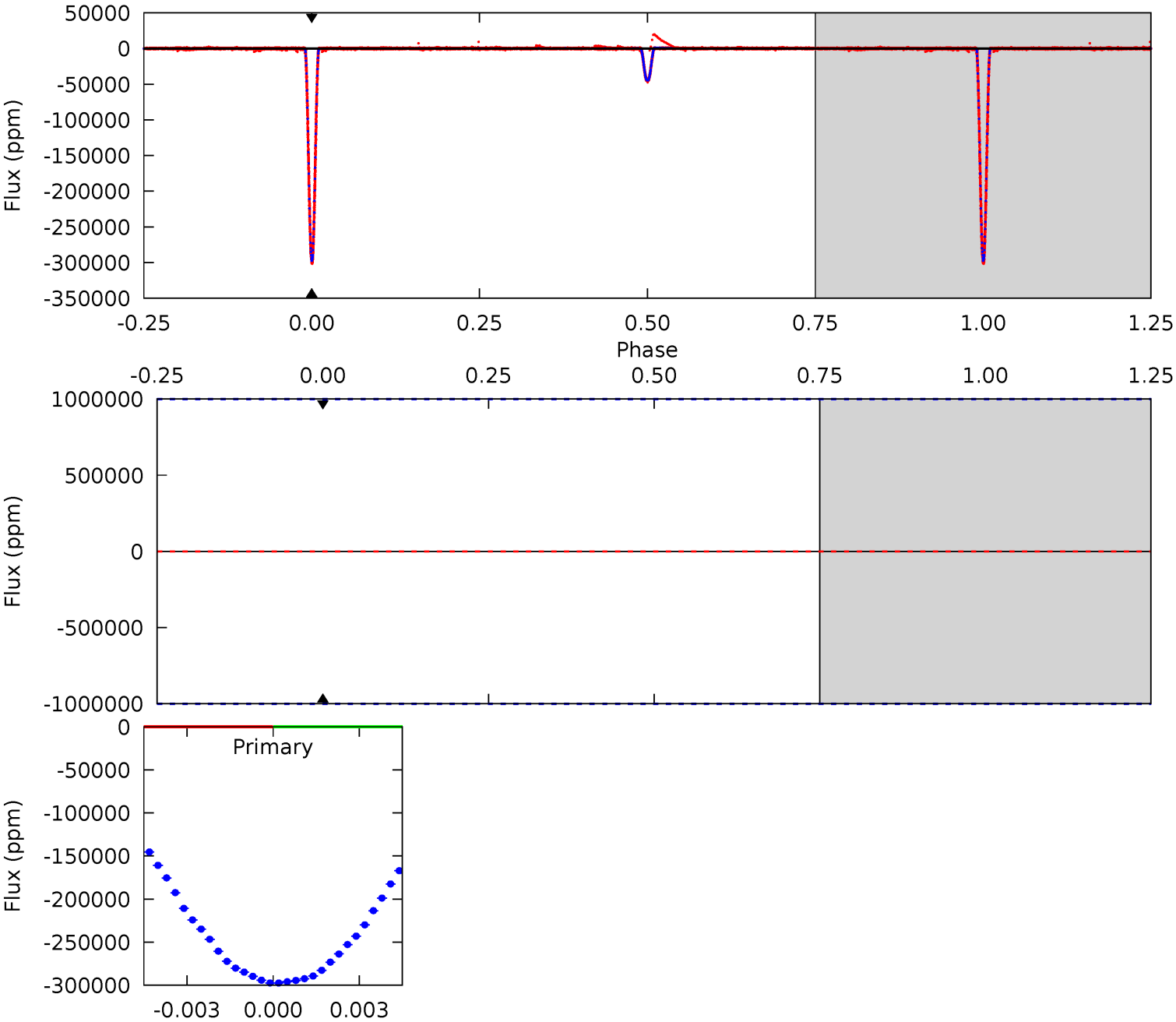
TCE 008414159-01 P= 11.931221 Days $T_0=142.848326$ (BKJD)



DV Model-Shift Uniqueness Test

008414159-01, P = 11.931221 Days, E = 130.913587 Days

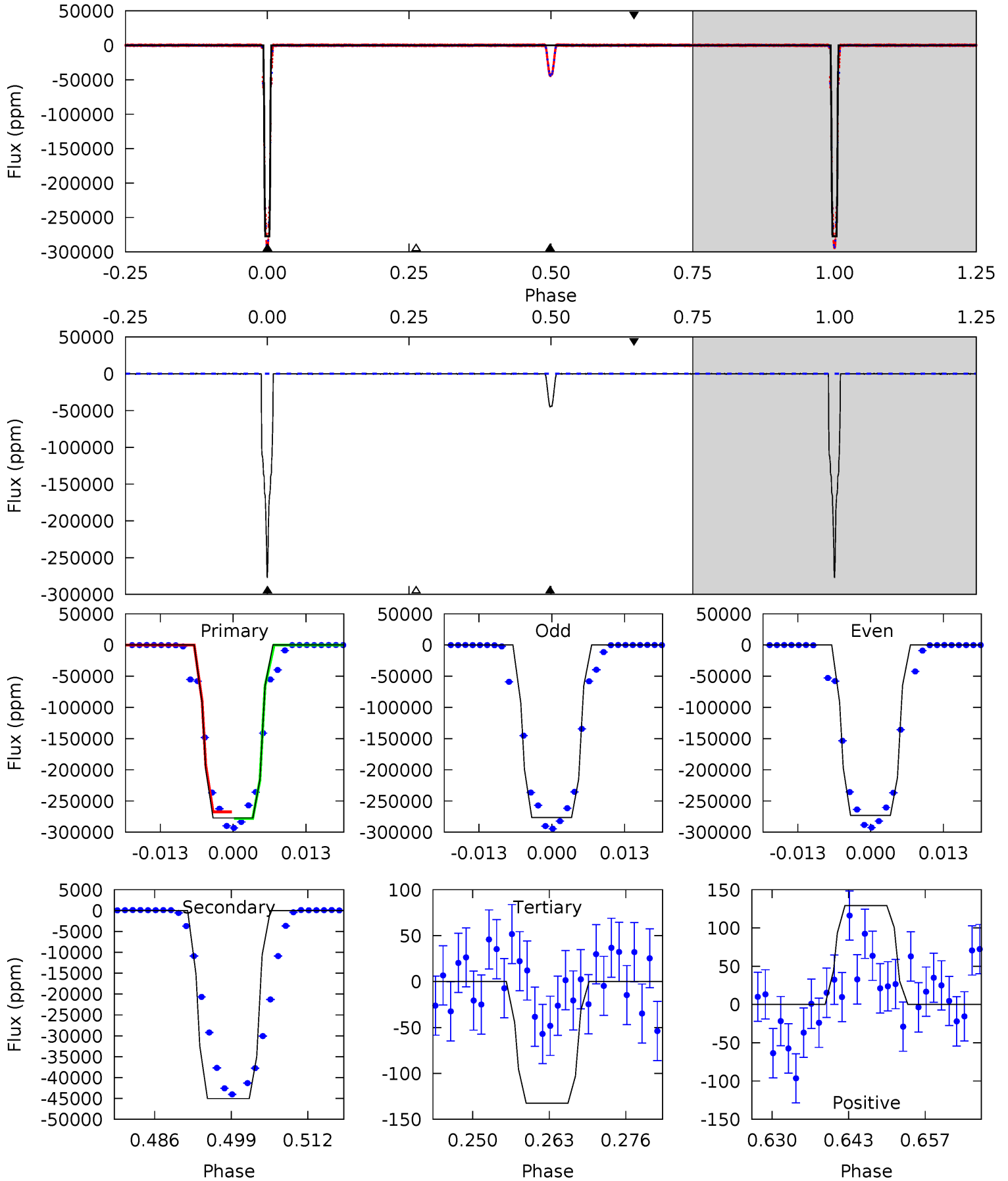
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008414159-01, P = 11.931221 Days, E = 130.917105 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7933	1289	3.79	3.70	4.97	2.48	1.12	7929	7929	1285	1285	49.8	1.00	0.00	0



Stellar Parameters For KIC 008414159

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6089^{+165}_{-183}	$4.449^{+0.084}_{-0.196}$	$-0.380^{+0.300}_{-0.300}$	$0.959^{+0.267}_{-0.114}$	$0.942^{+0.119}_{-0.108}$	$1.505^{+0.531}_{-0.760}$
	+3%/-3%	+2%/-4%	+79%/-79%	+28%/-12%	+13%/-11%	+35%/-51%
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 008414159-01 / KOI 7035.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$51.39^{+12.66}_{-11.61}$	1175^{+82}_{-61}	2417^{+2725}_{-7474}	$3.004^{+224.251}_{-205.421}$
Alt.	-45039 ± 35	$59.70^{+12.85}_{-13.79}$	1177^{+87}_{-58}	4121^{+341}_{-266}	73^{+44}_{-23}

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

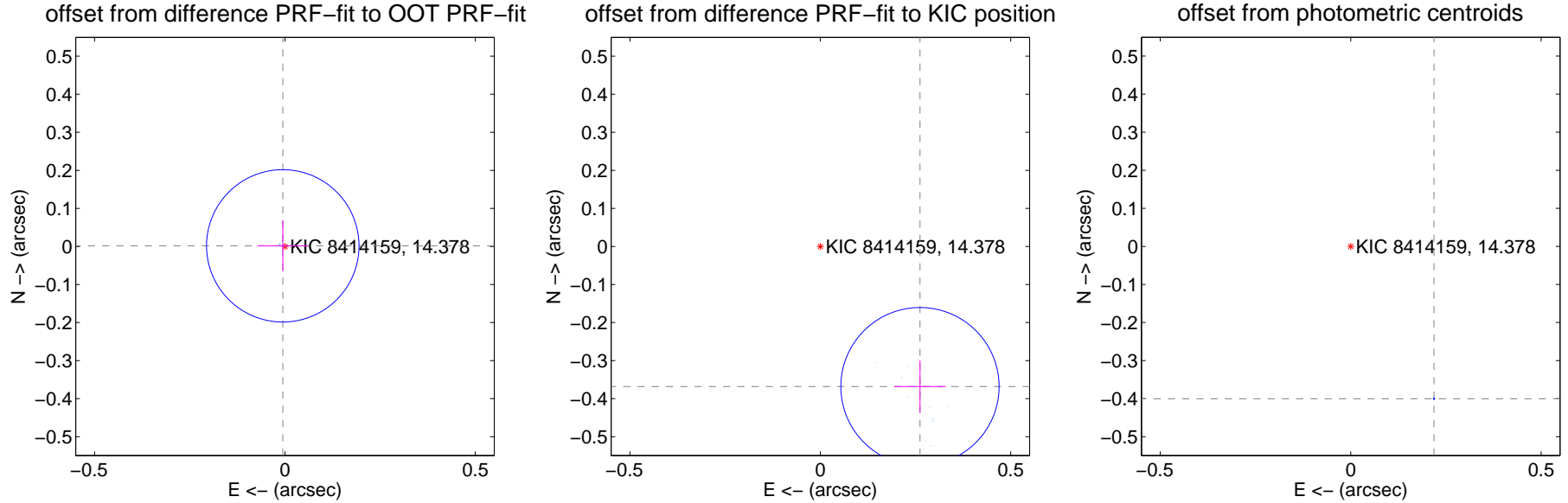
DV Centroid Data

Supplemental centroid analysis for 008414159-01. Kepler magnitude: 14.38. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

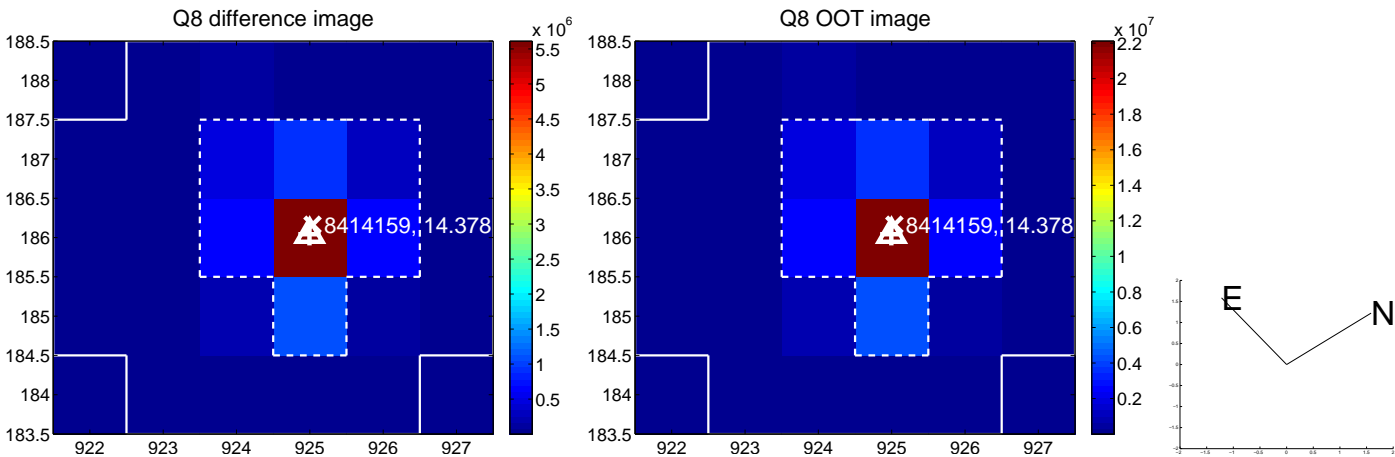
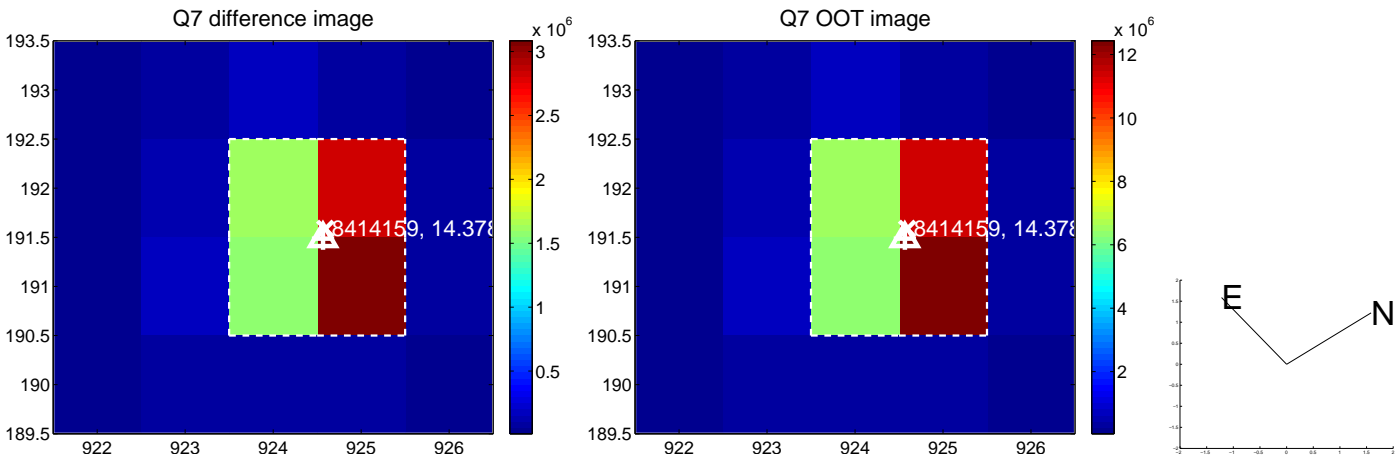
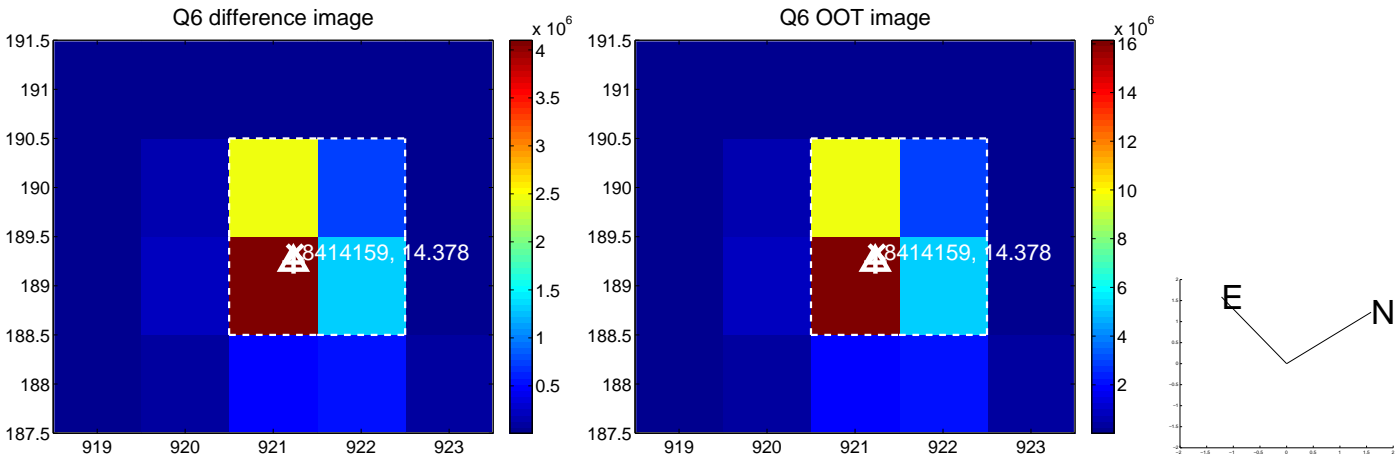
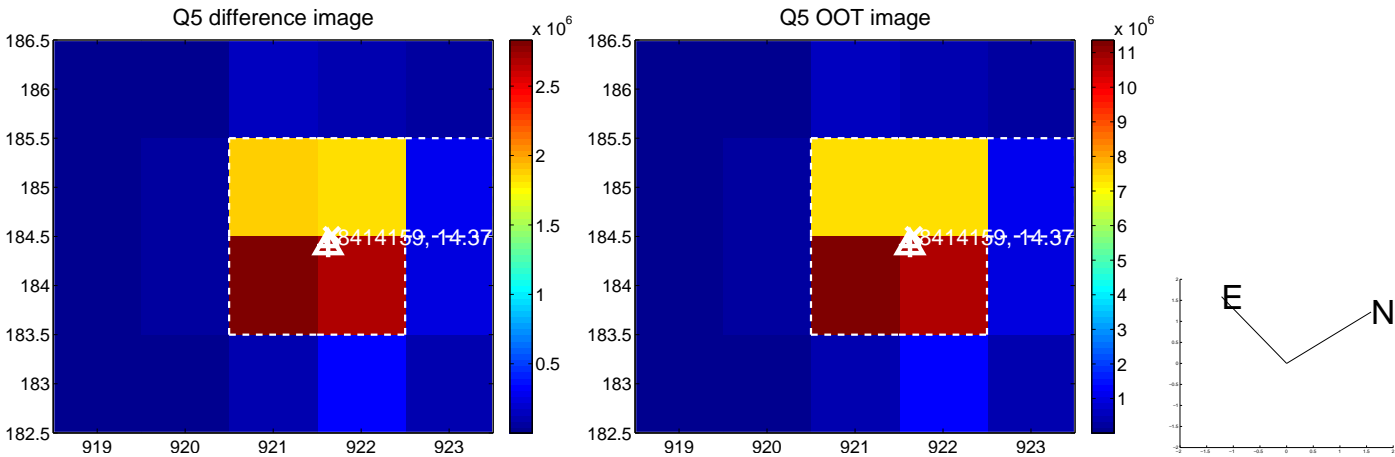
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.006 ± 0.067	0.09	0.006 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.452 ± 0.069	6.52	-0.262 ± 0.068	-0.368 ± 0.069
photometric centroid source offset	0.46 ± 0.00	802.20	-0.22 ± 0.00	-0.40 ± 0.00

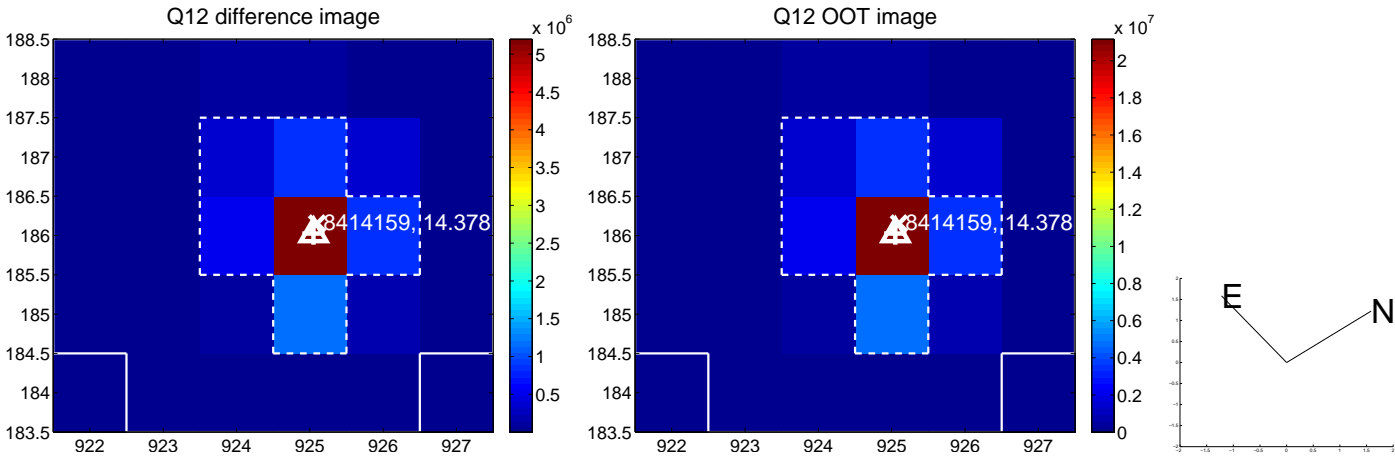
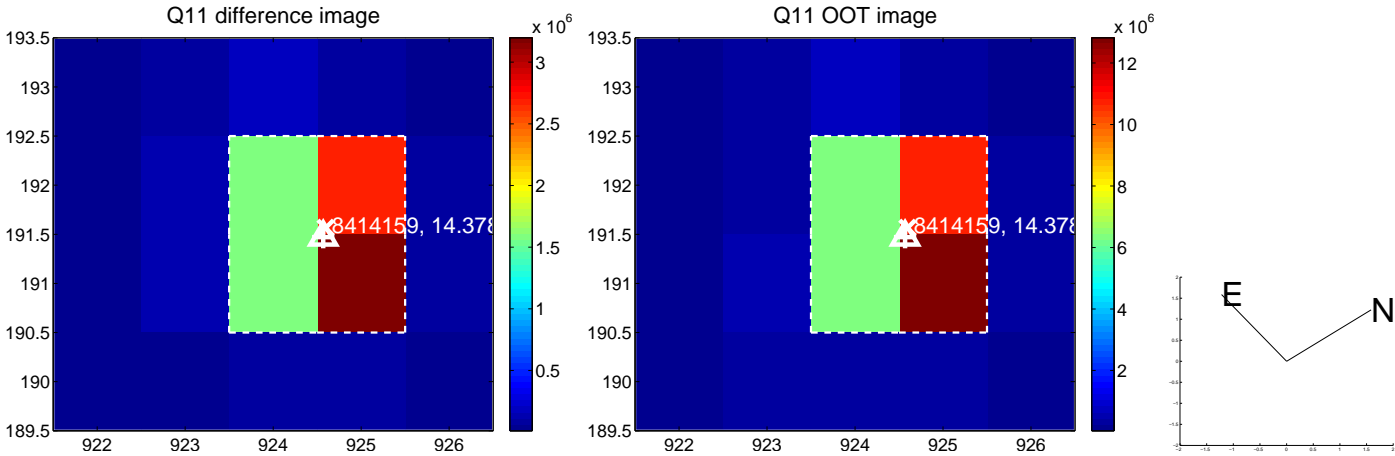
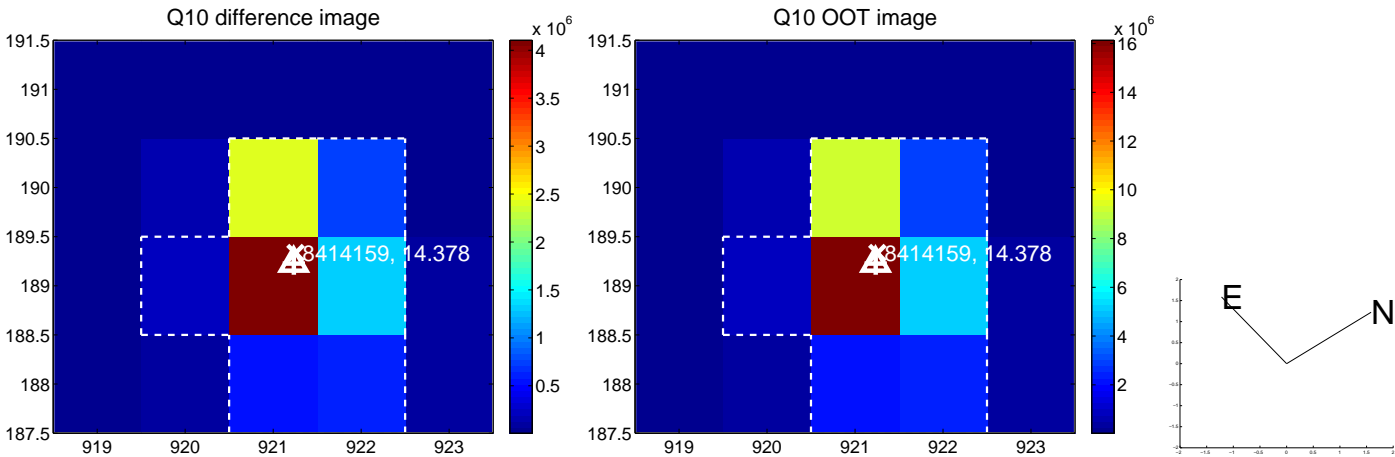
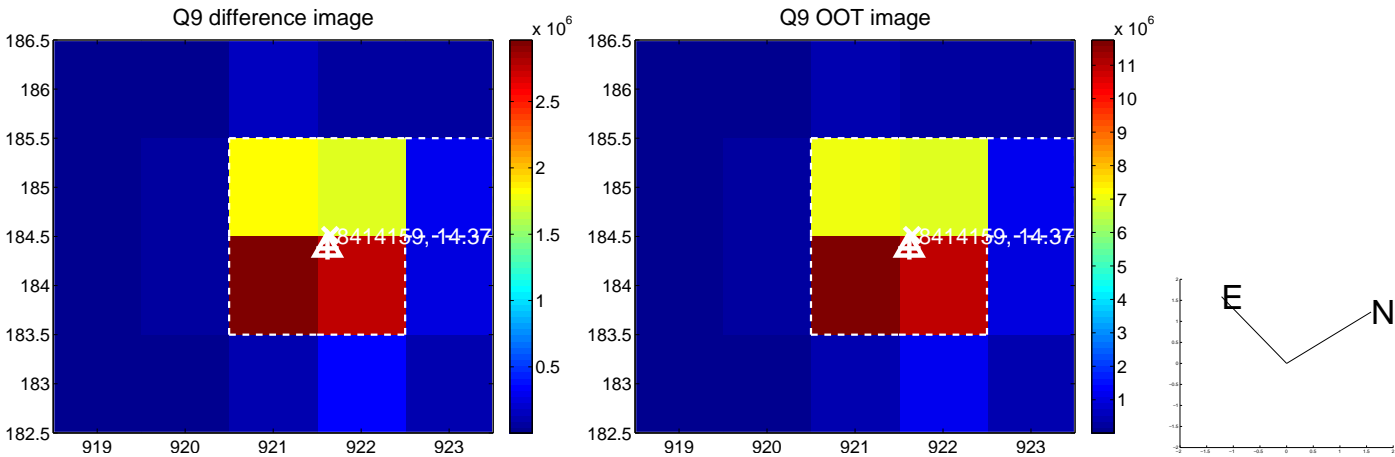


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

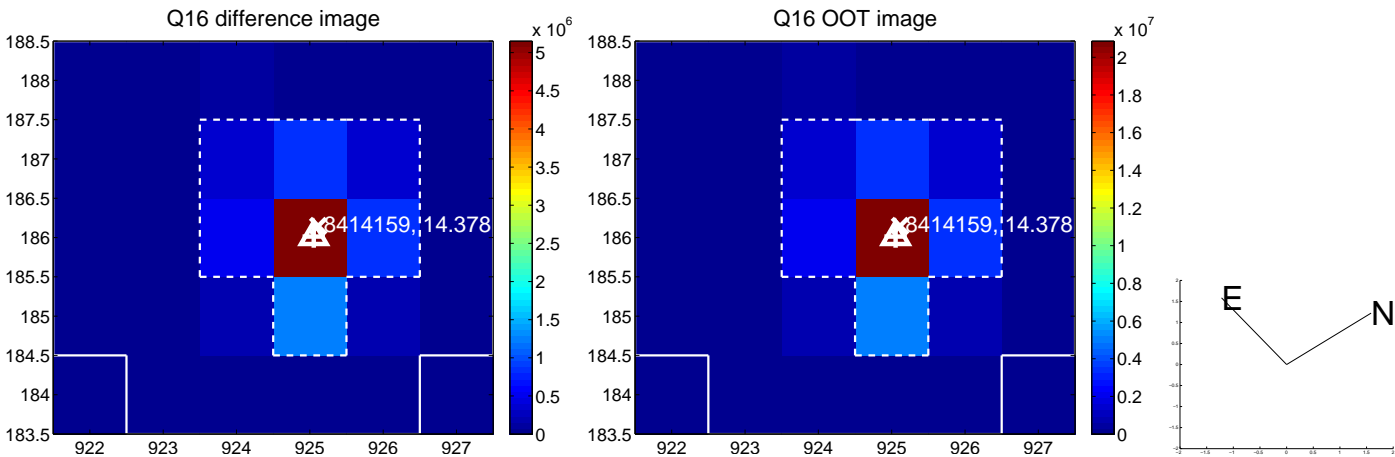
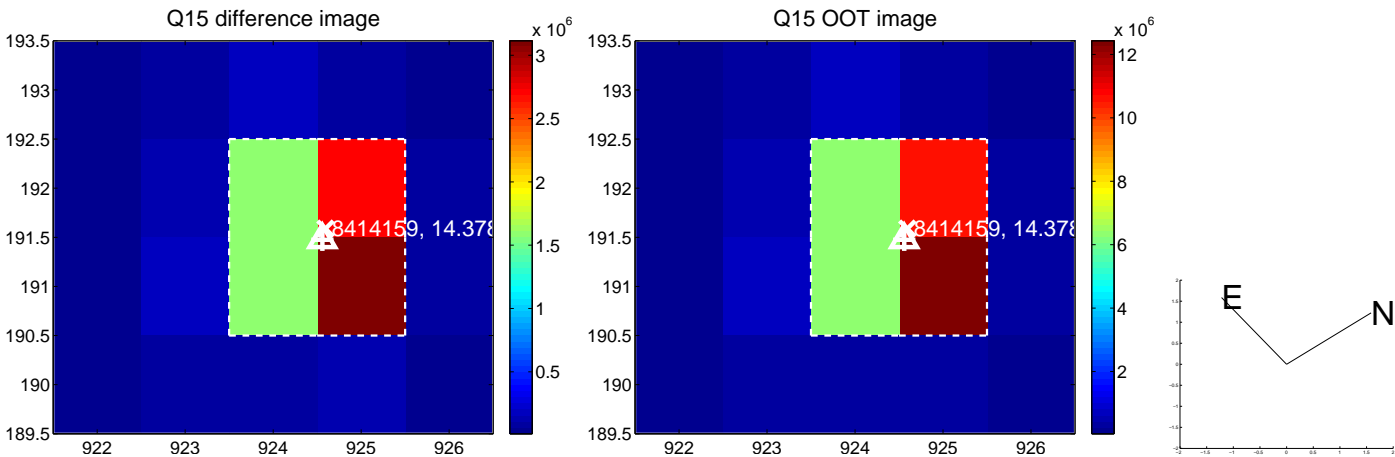
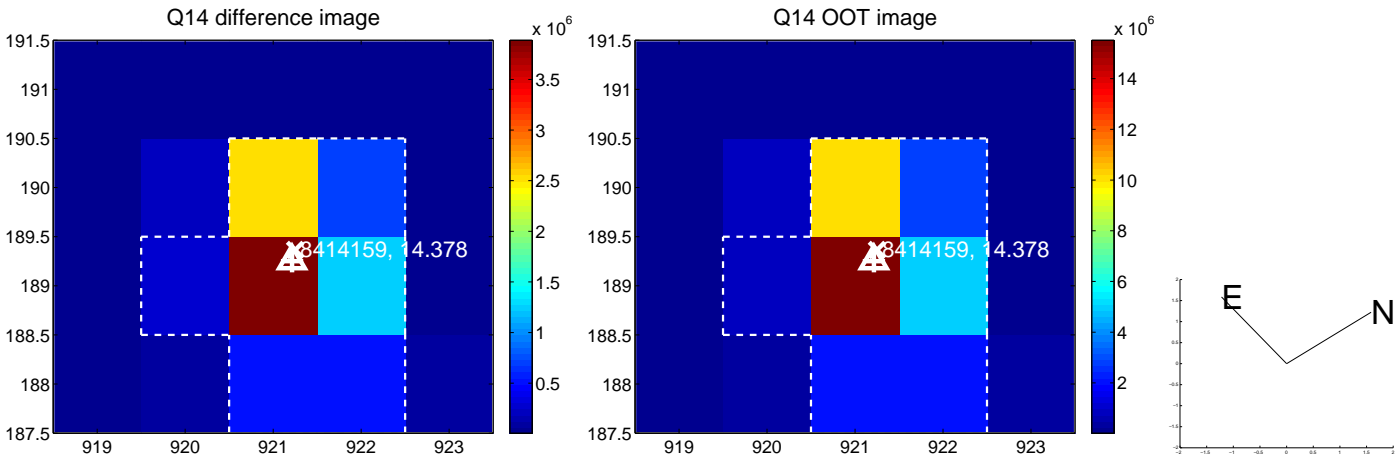
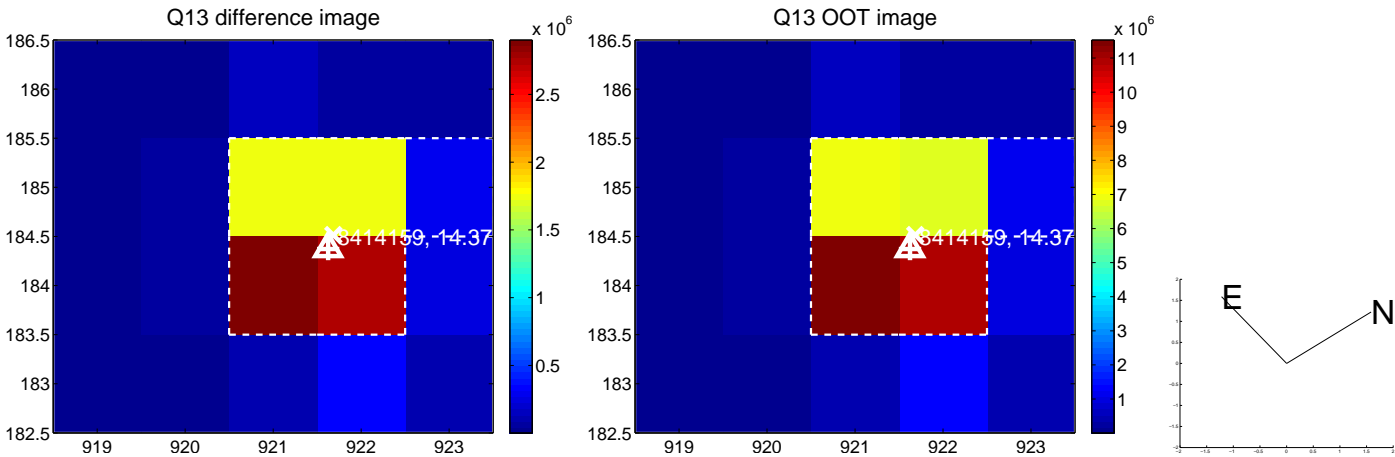
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



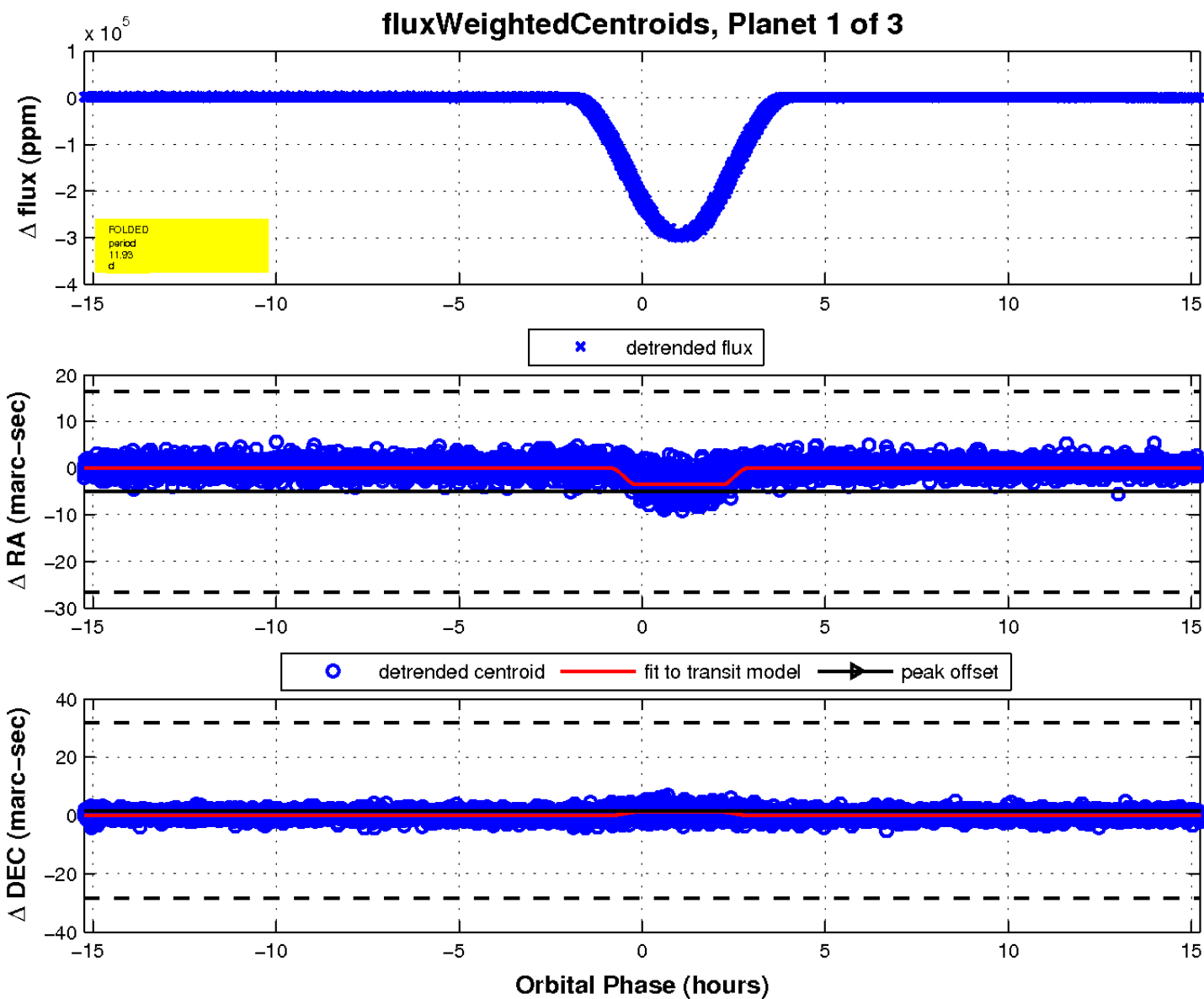
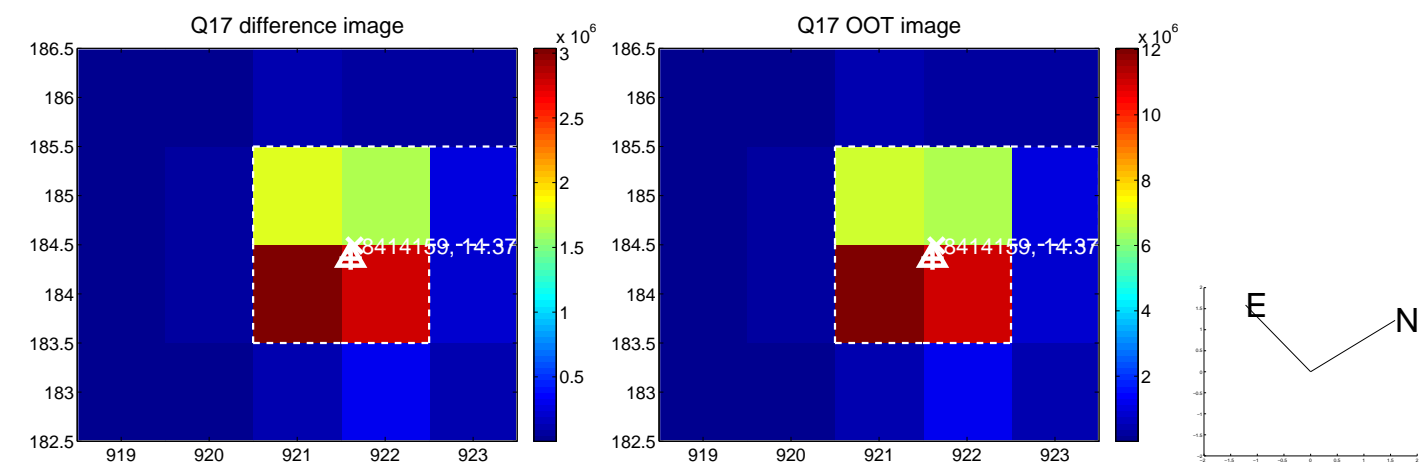
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

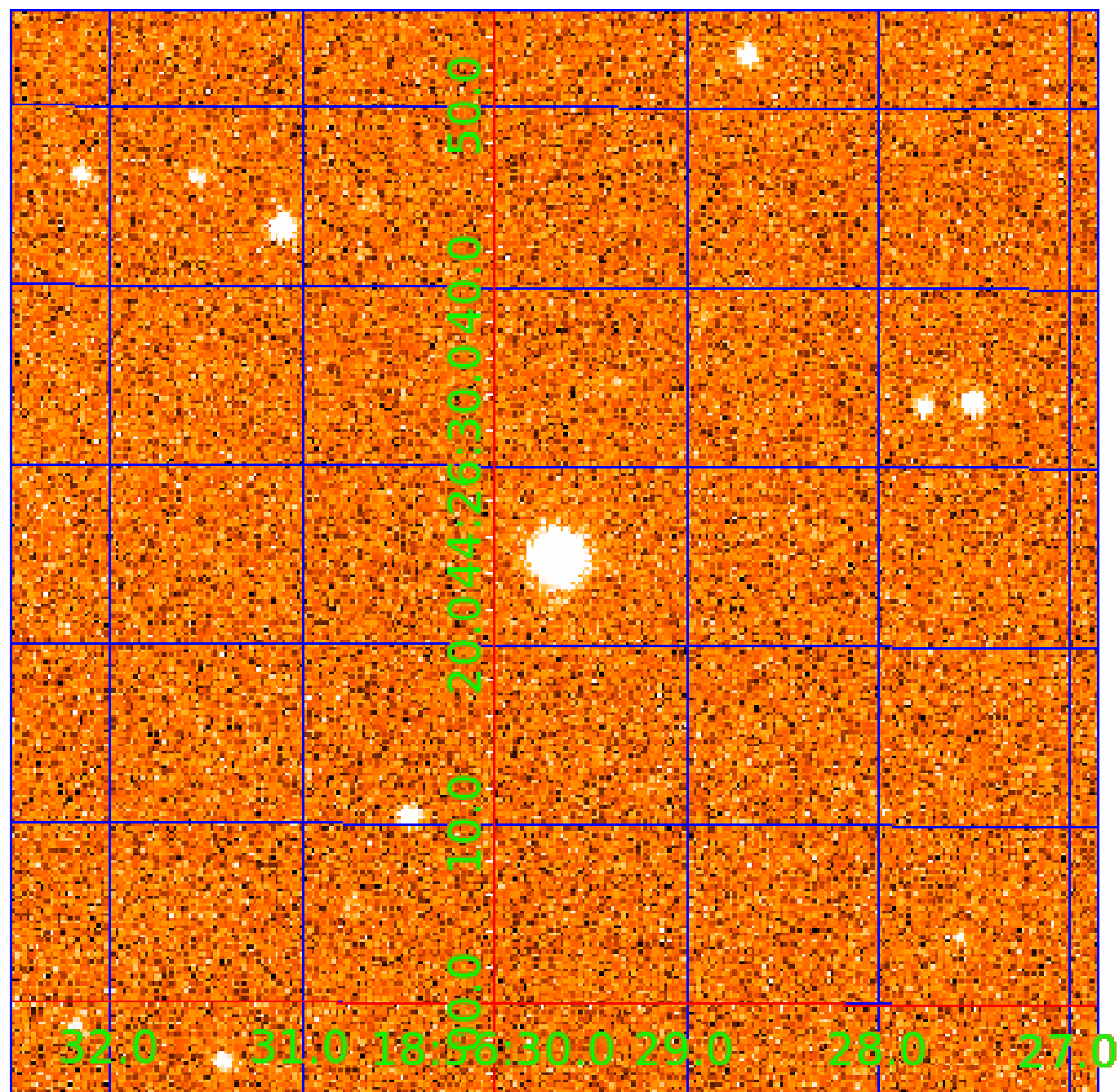


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008414159

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})
008414159-01	OBS	7035.01	11.931221	142.844808	296918.1	3.500	14431.8	-1.0	0.96	6089	49.26	112.73
008414159-02	OBS	No	11.931131	136.886437	45553.9	5.454	2265.2	1847.3	0.96	6089	24.56	112.73
008414159-03	OBS	No	3.977275	134.388784	1583.7	47.727	797.6	64.9	0.96	6089	4.20	487.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008414159-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008414159-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
008414159-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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 008414159-02

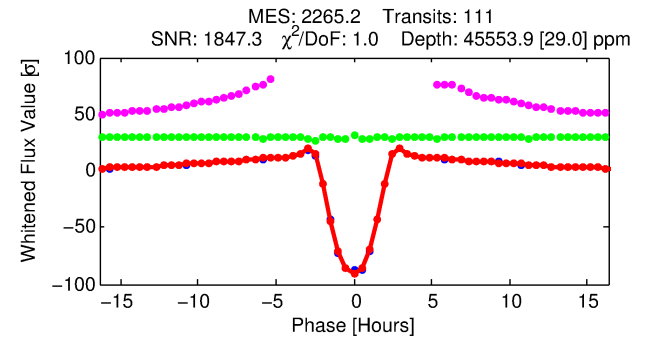
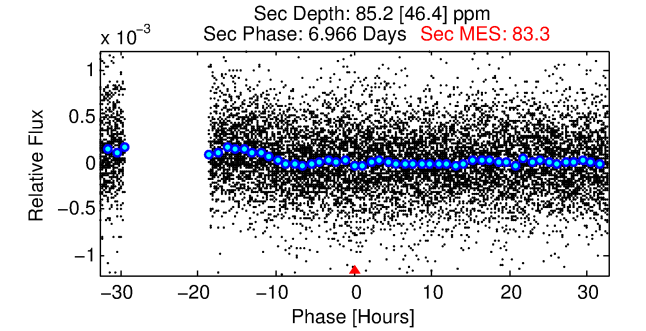
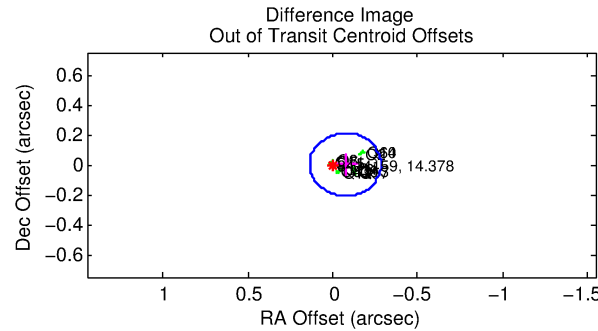
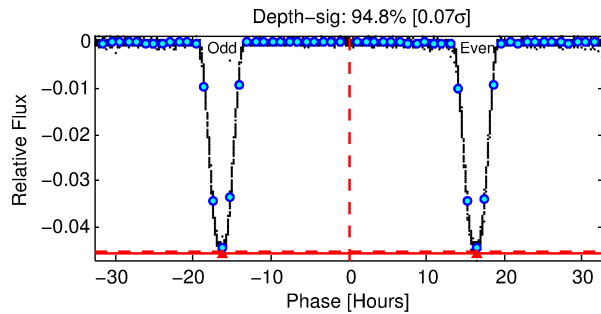
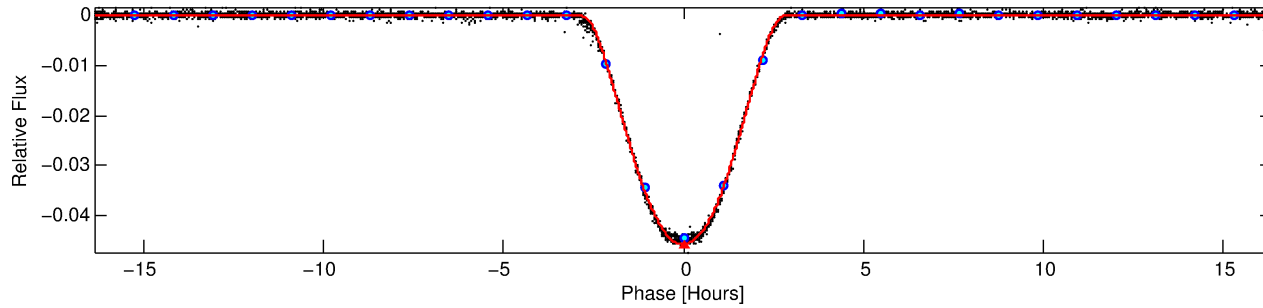
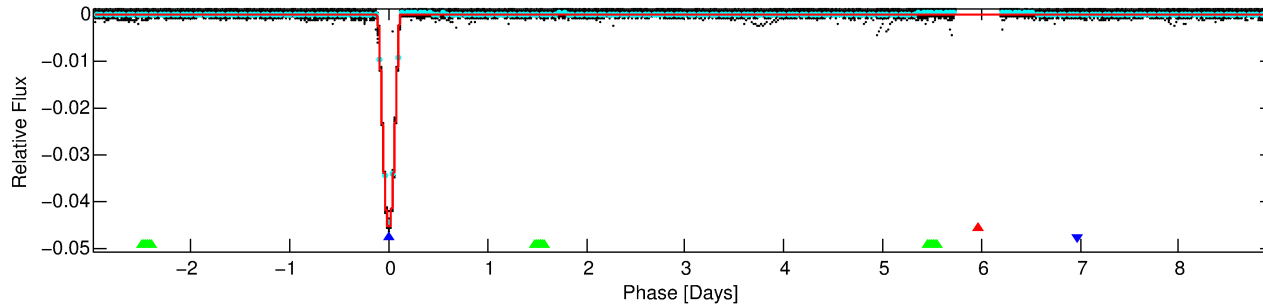
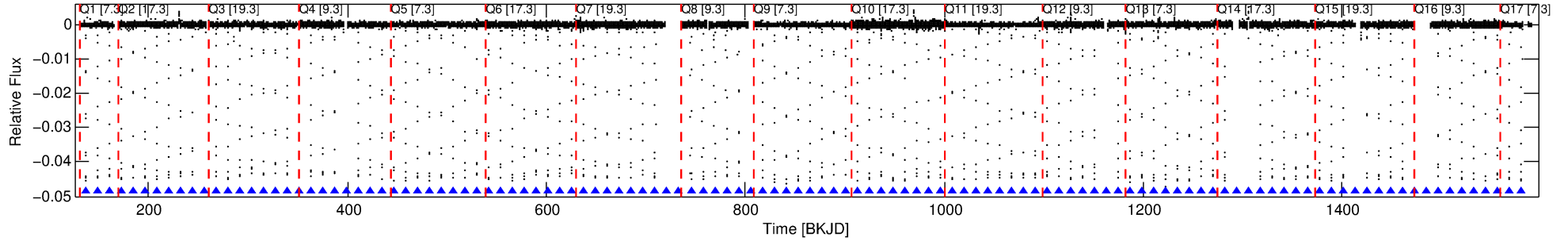
No Significant Match Found

DV One-Page Summary

KIC: 8414159 Candidate: 2 of 3 Period: 11.931 d

KOI: K07035 Corr: No Ephemeris Match

Kp: 14.38 R*: 0.96 Rs Teff: 6089.0 K Logg: 4.45 Fe/H: -0.380



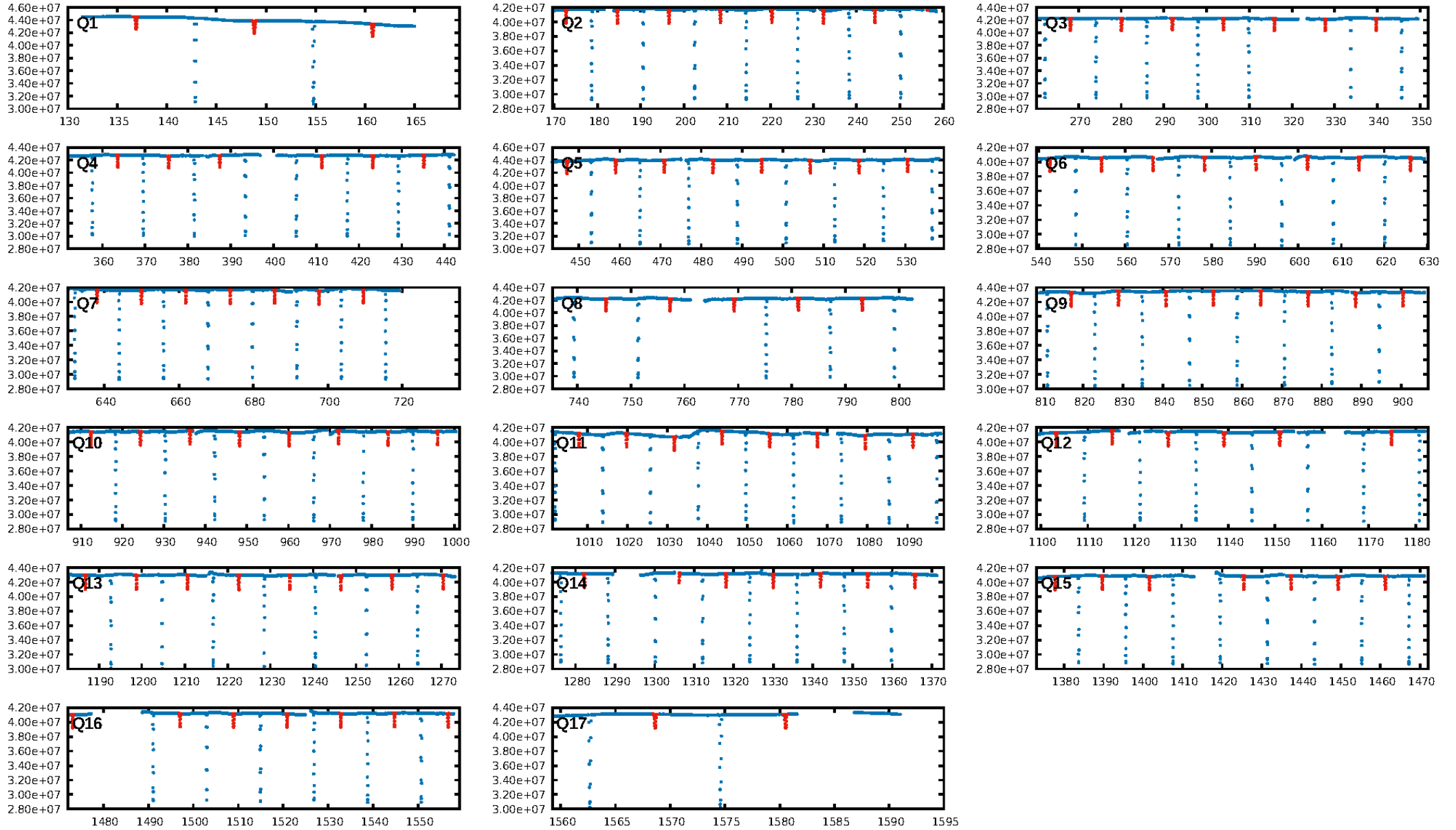
DV Fit Results:

Period = 11.93113 [0.00000] d
Epoch = 136.8864 [0.0001] BKJD
Rp/R* = 0.2347 [0.0007]
a/R* = 15.26 [0.02]
b = 0.83 [0.00]
Seff = 112.73 [42.09]
Teff = 831 [78] K
Rp = 24.56 [6.84] Re
a = 0.1002 [0.0239] AU
Ag = 0.78 [0.51] [-0.43σ]
Teffp = 1207 [168] K [2.03σ]

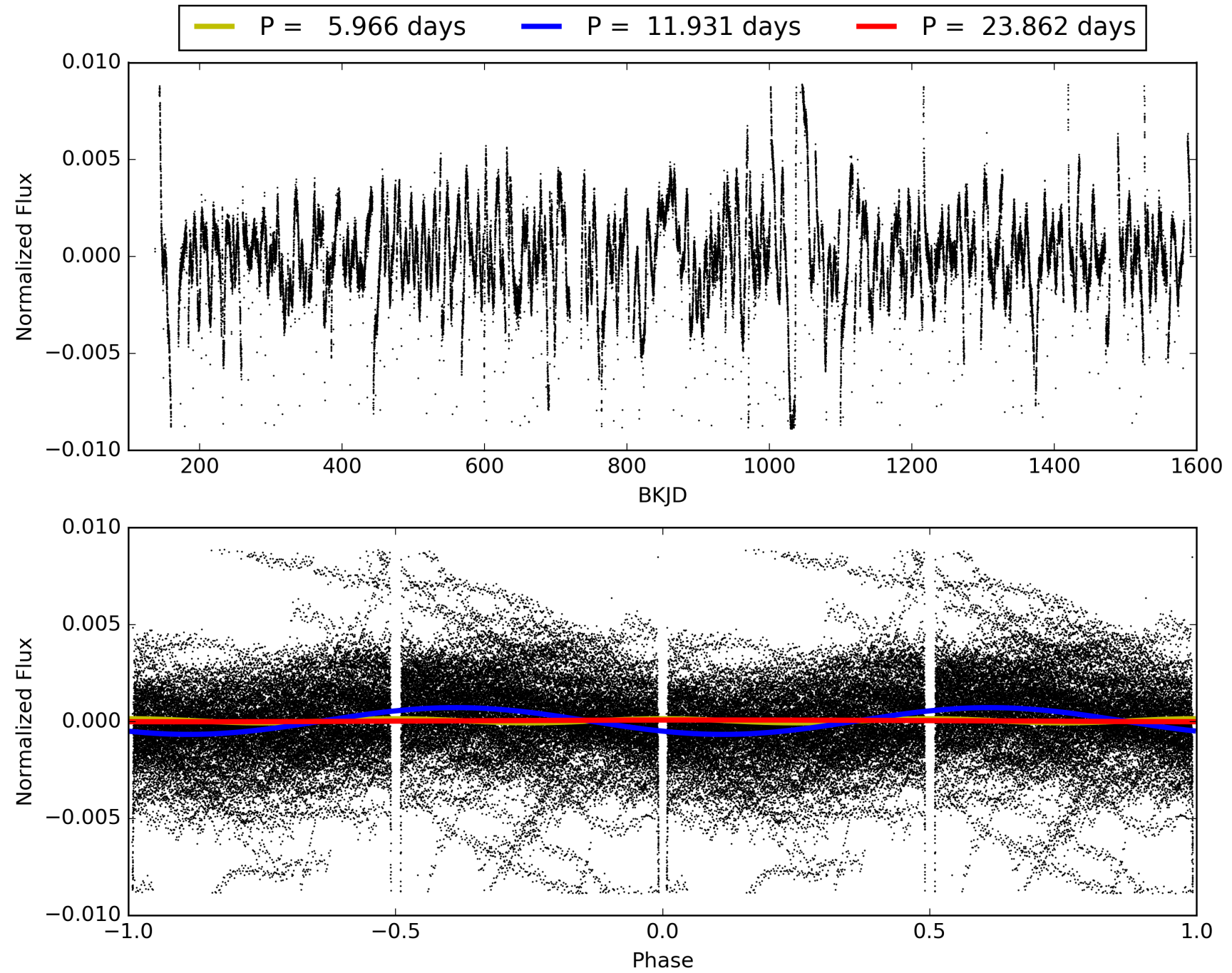
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.97σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 2.1%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [106/106]
GhostDiagnostic-chr: 4.599
Centroid-sig: 0.0%
Centroid-so: 0.499 arcsec [169.60σ]
OotOffset-rm: 0.074 arcsec [1.06σ]
KicOffset-rm: 0.501 arcsec [6.91σ]
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 008414159-02, PDC Light Curves

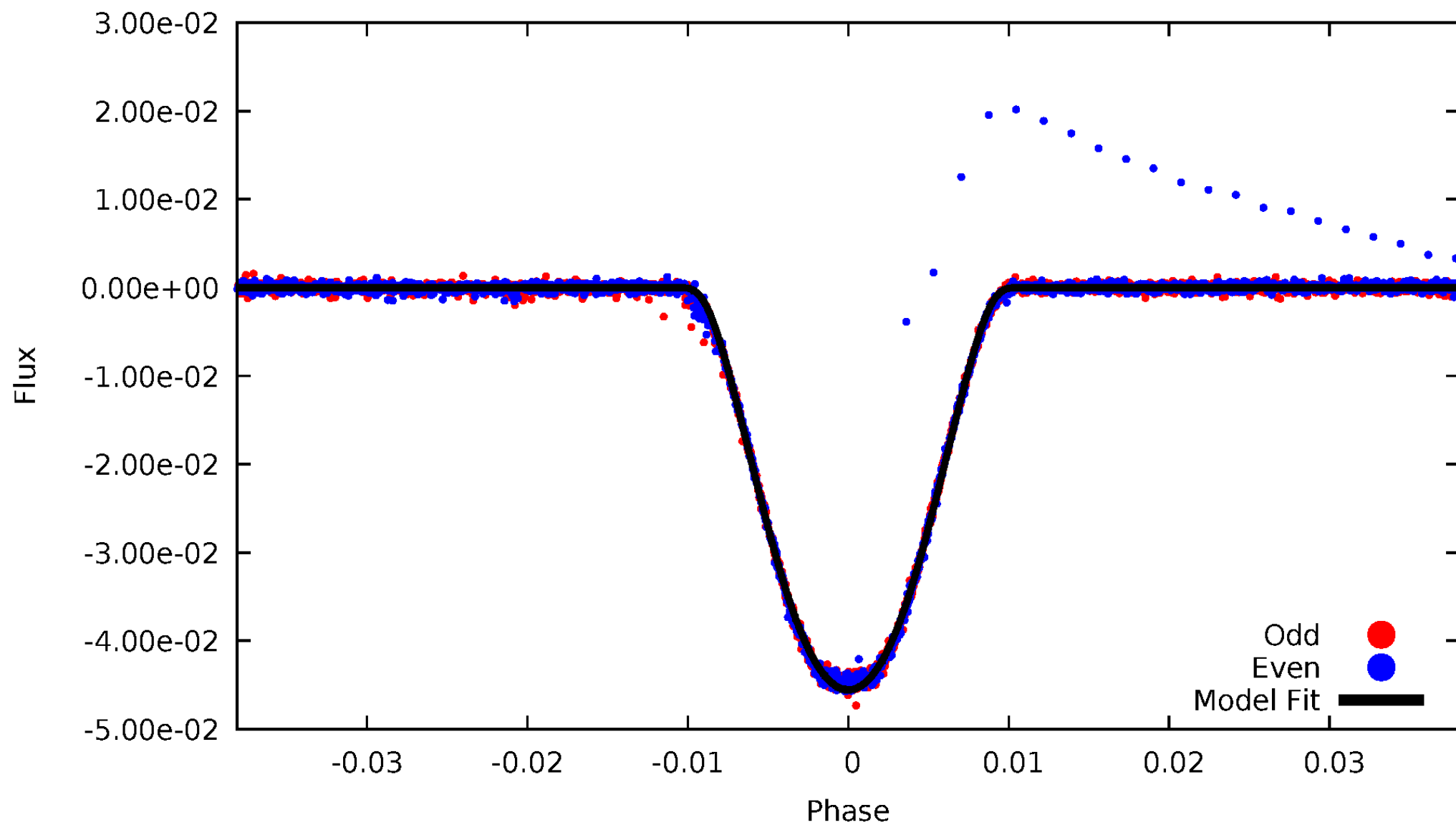


TCE 008414159-02



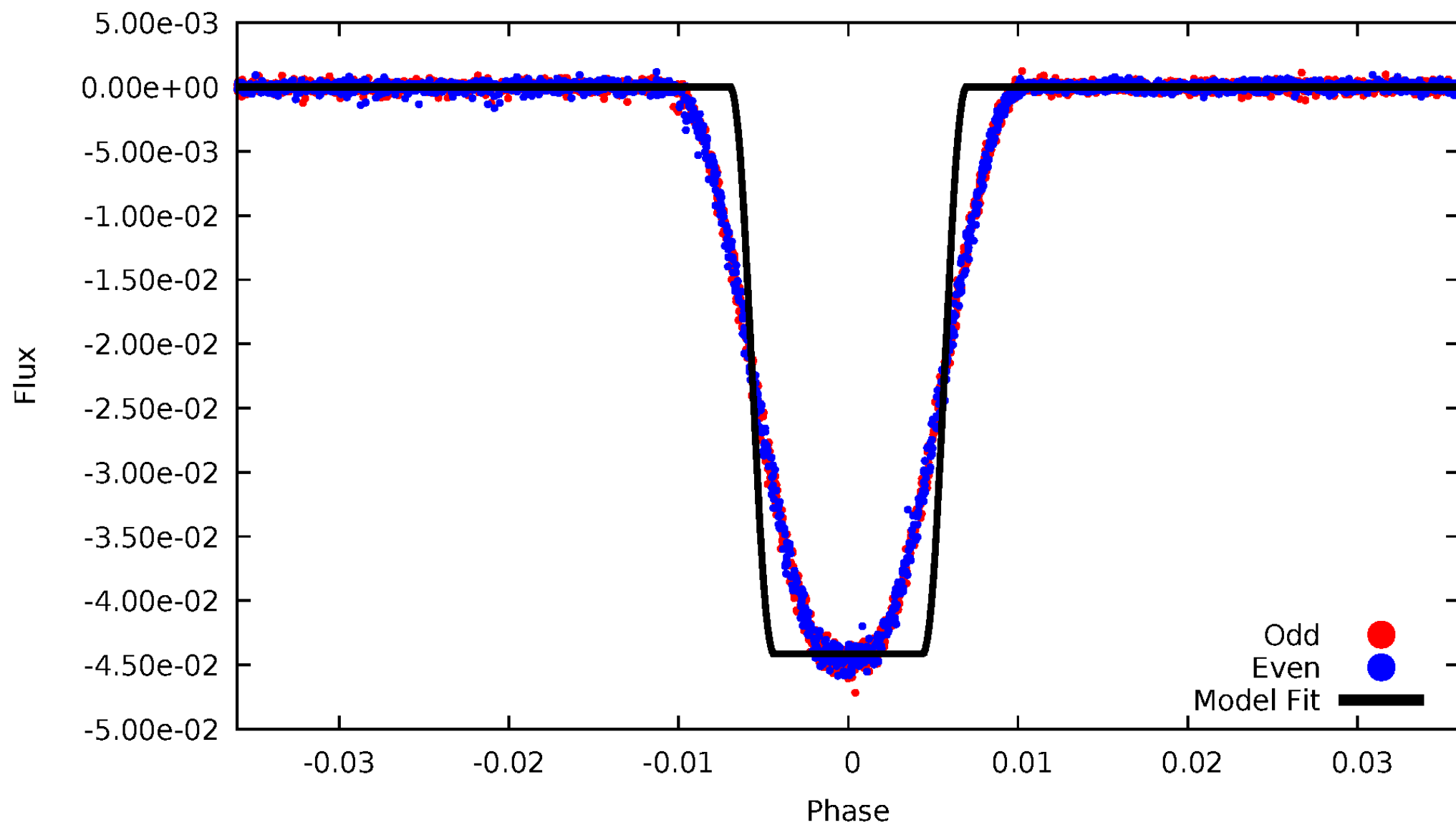
DV Odd/Even

TCE 008414159-02



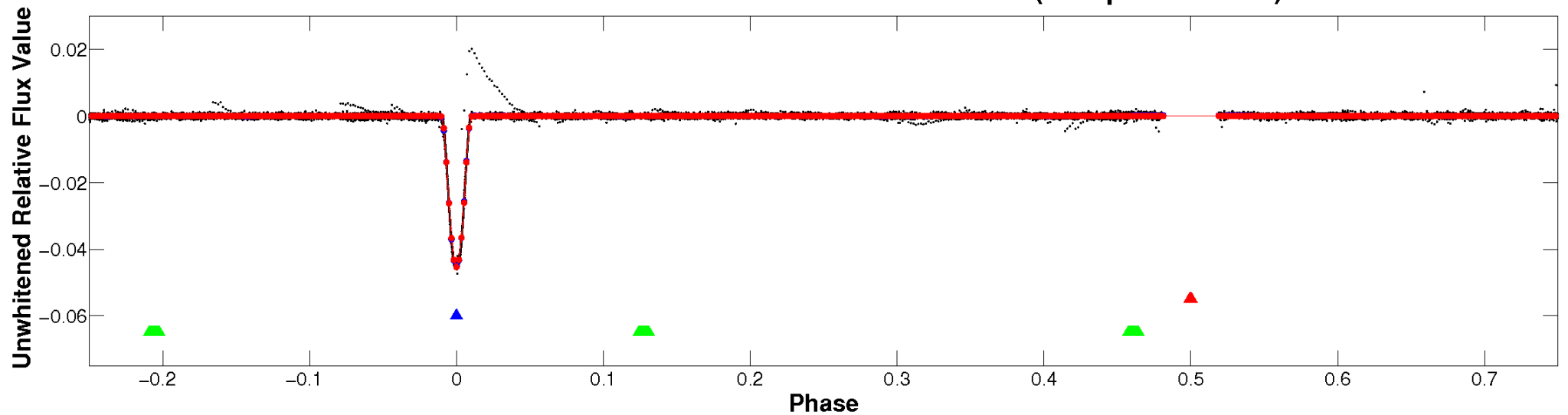
ALT Odd/Even

TCE 008414159-02

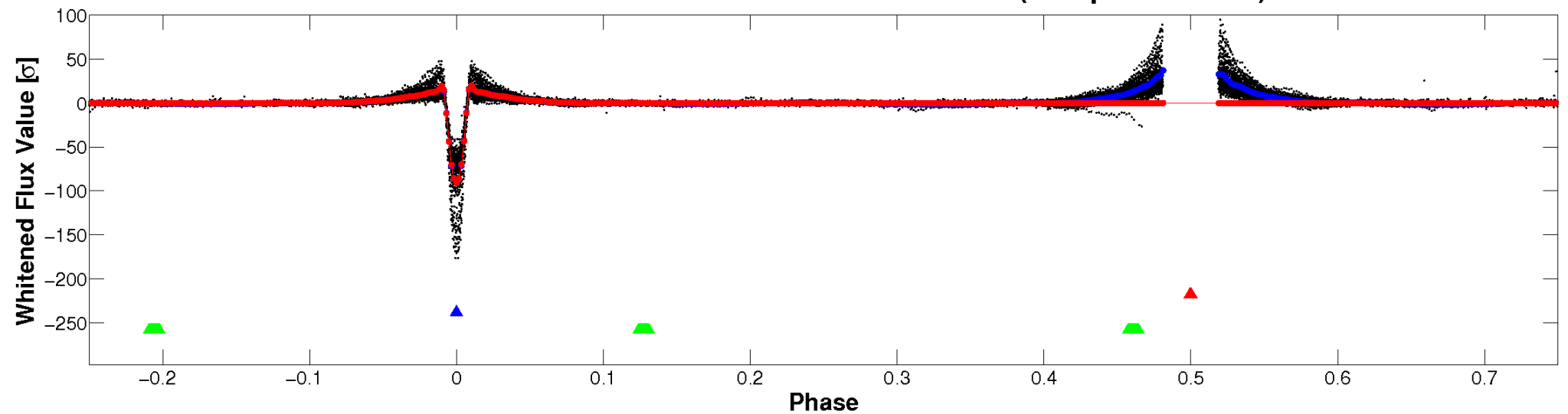


Non-Whitened Vs. Whitened Light Curve

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

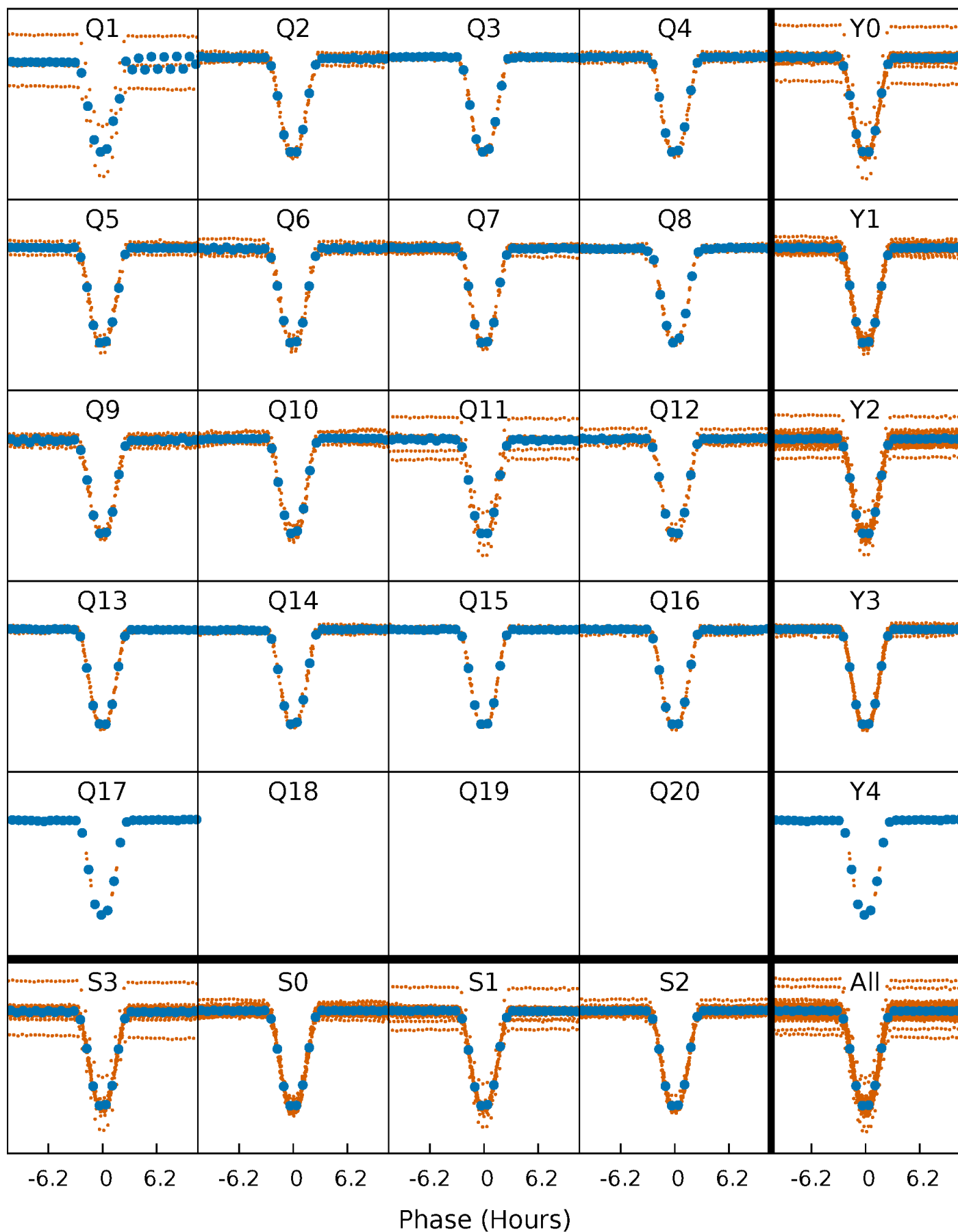


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



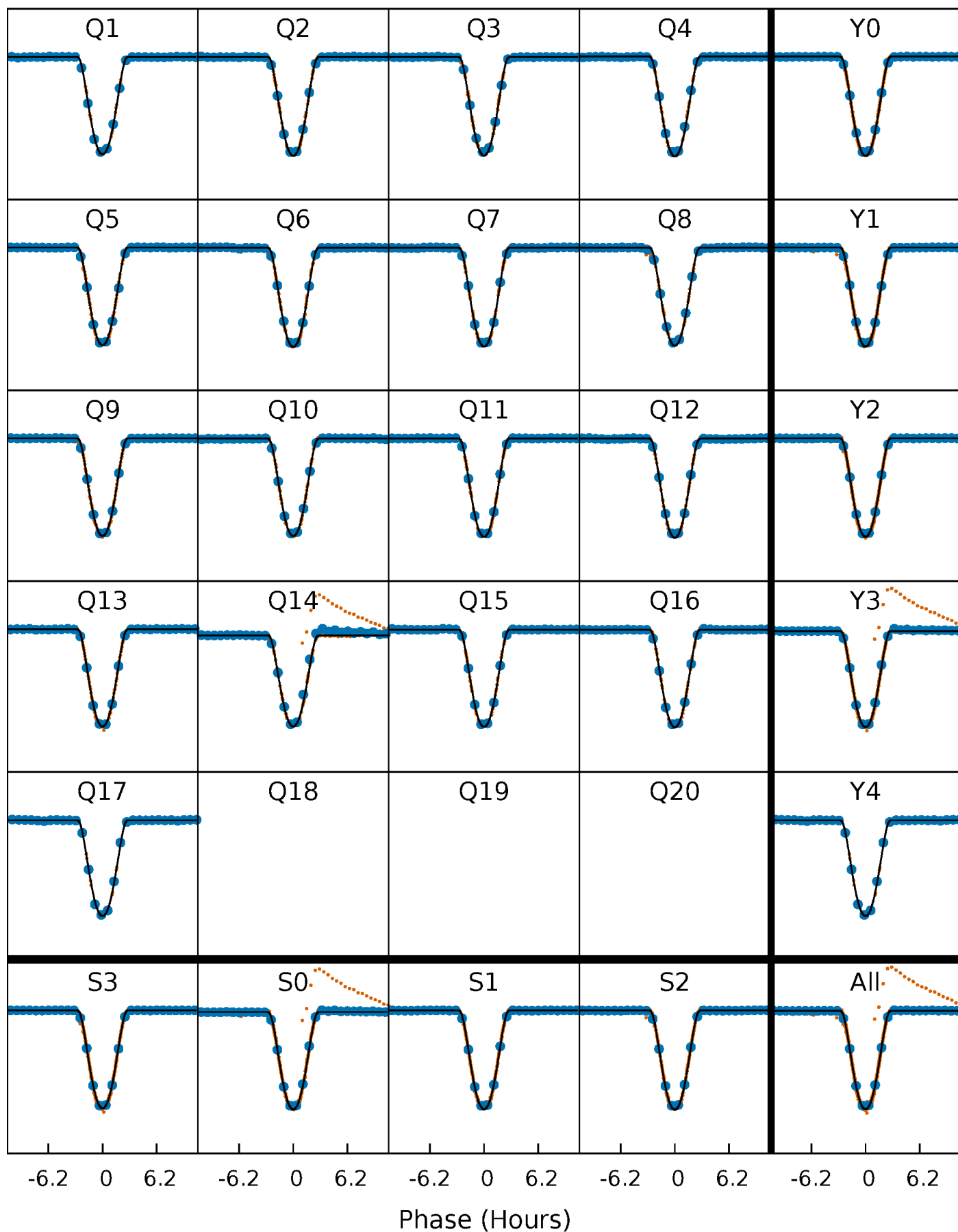
PDC Quarter-Phased Transit Curves

TCE 008414159-02 P= 11.931131 Days $T_0=136.886437$ (BKJD)



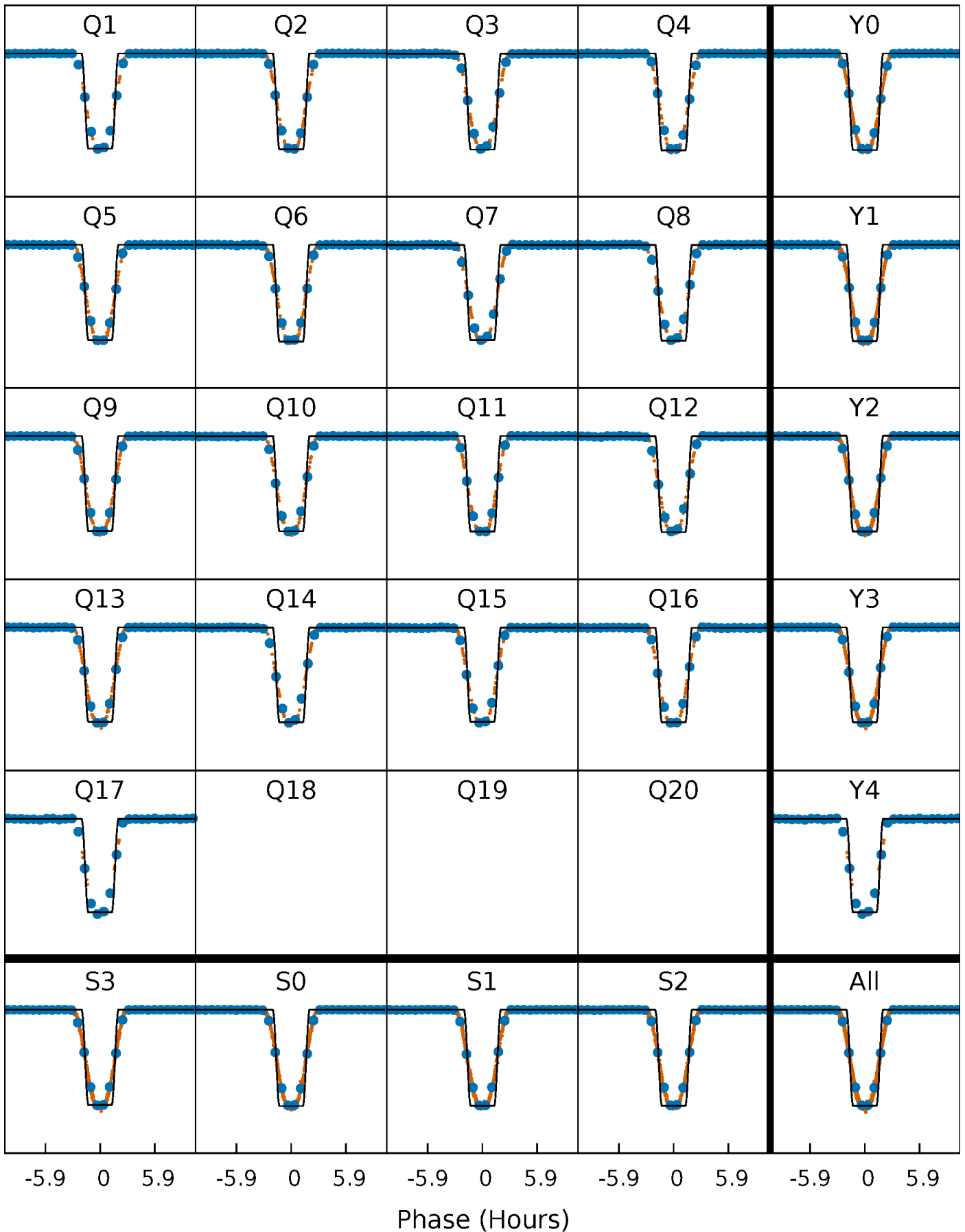
DV Quarter-Phased Transit Curves

TCE 008414159-02 P= 11.931131 Days $T_0=136.886437$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

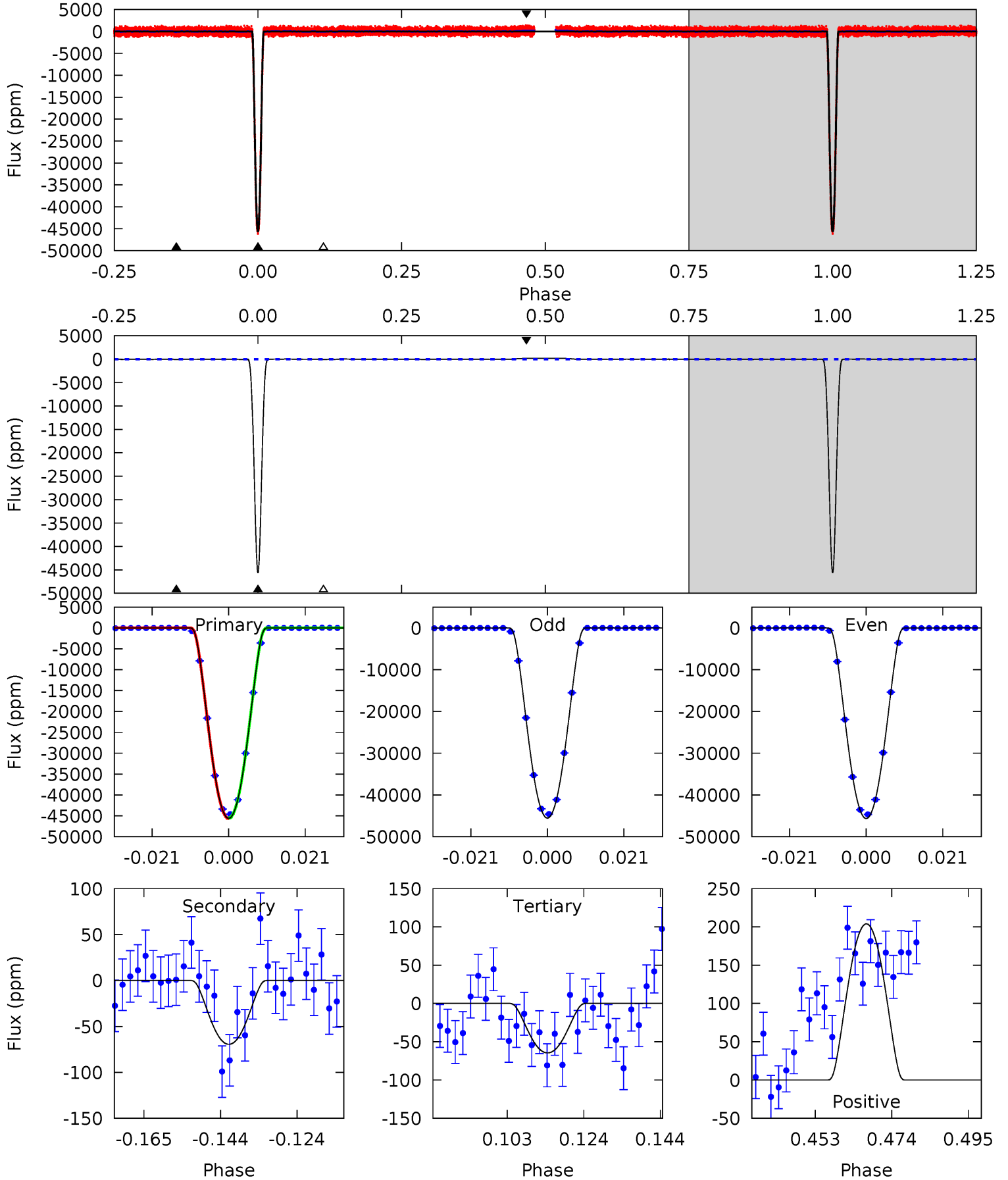
TCE 008414159-02 P= 11.931169 Days $T_0=136.884020$ (BKJD)



DV Model-Shift Uniqueness Test

008414159-02, P = 11.931131 Days, E = 124.955306 Days

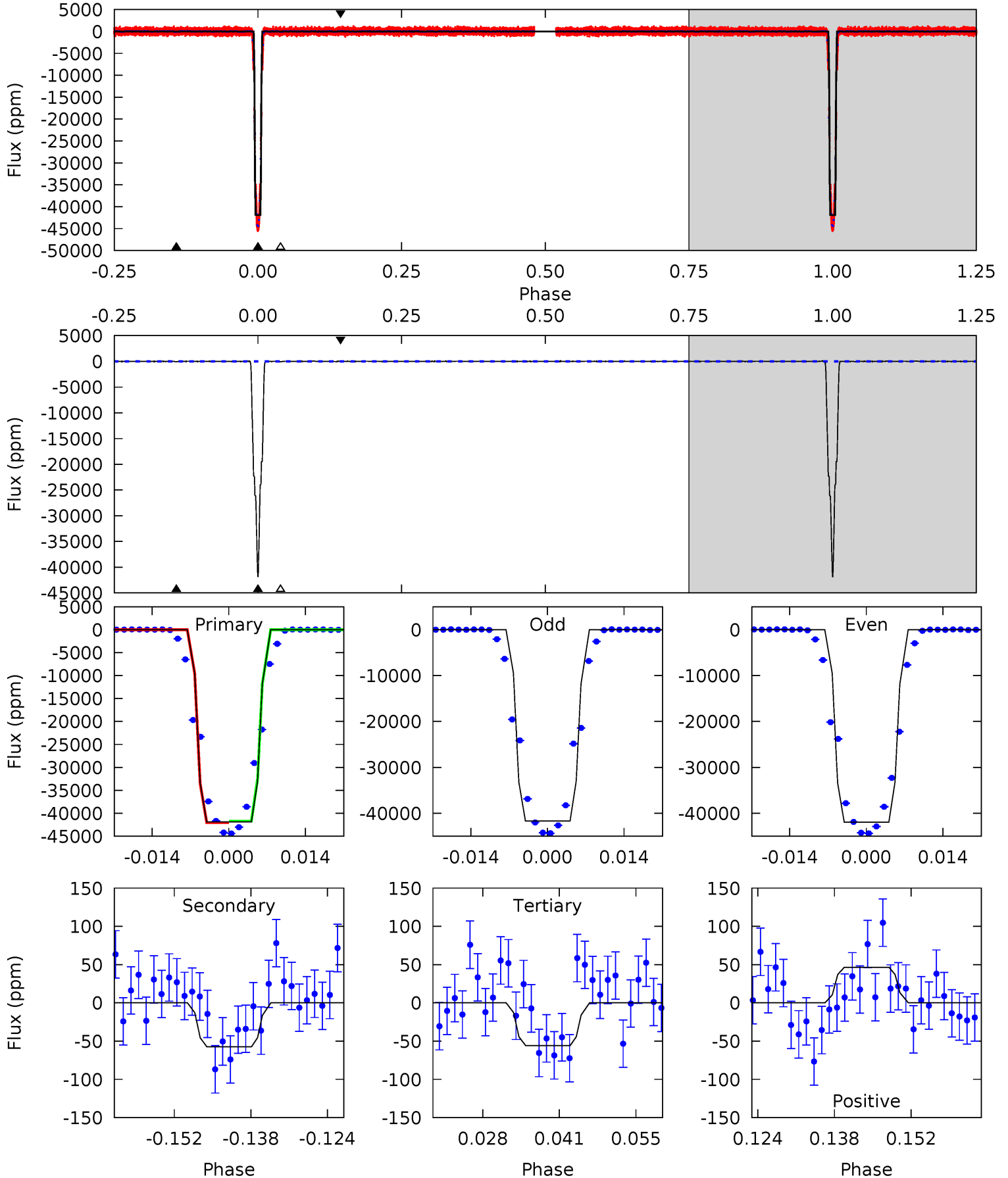
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4858	7.41	6.88	21.7	4.89	2.32	5.20	4852	4837	0.52	-14.3	5.29	0.99	0.00	3.90



Alt Model-Shift Uniqueness Test

008414159-02, P = 11.931169 Days, E = 124.952851 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3372	4.61	4.48	3.75	4.96	2.46	1.21	3367	3368	0.13	0.87	10.2	1.00	0.00	11.6



Stellar Parameters For KIC 008414159

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6089^{+165}_{-183}	$4.449^{+0.084}_{-0.196}$	$-0.380^{+0.300}_{-0.300}$	$0.959^{+0.267}_{-0.114}$	$0.942^{+0.119}_{-0.108}$	$1.505^{+0.531}_{-0.760}$
	+3%/-3%	+2%/-4%	+79%/-79%	+28%/-12%	+13%/-11%	+35%/-51%
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 008414159-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-69 ± 9	$24.65^{+4.23}_{-1.85}$	1171^{+81}_{-59}	1971^{+62}_{-98}	$0.612^{+0.141}_{-0.166}$
Alt.	-57 ± 12	$22.10^{+3.46}_{-1.47}$	1175^{+79}_{-56}	1976^{+82}_{-113}	$0.611^{+0.185}_{-0.164}$

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

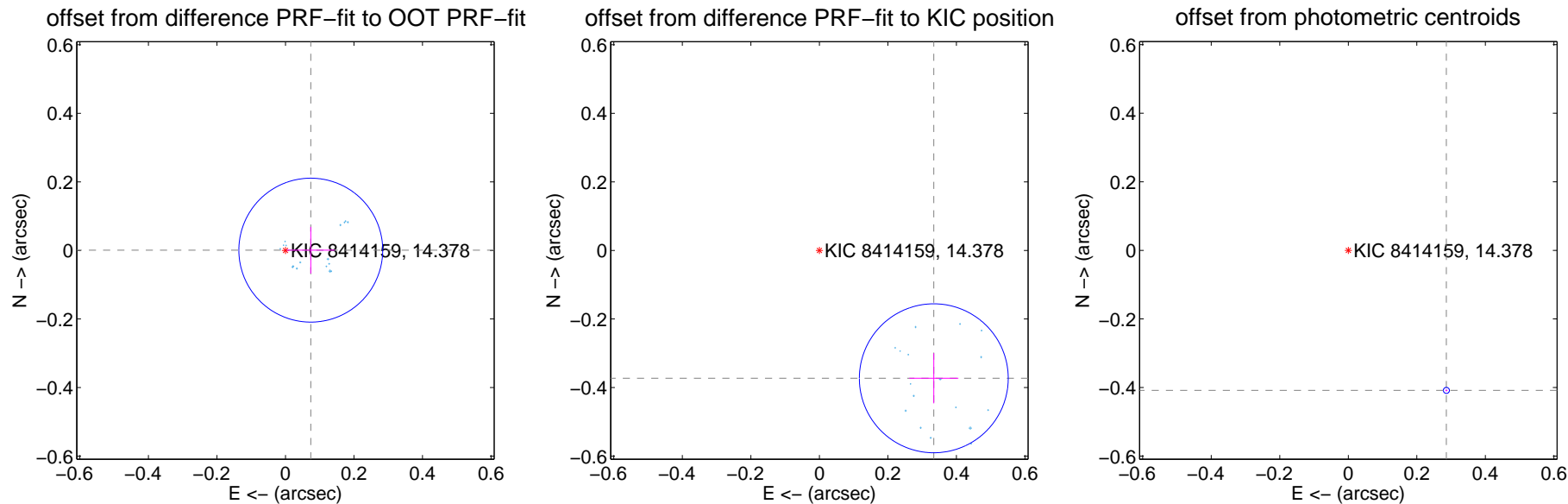
DV Centroid Data

Supplemental centroid analysis for 008414159-02. Kepler magnitude: 14.38. Transit SNR 1847.31

There are 17 quarters with good PRF difference image offsets

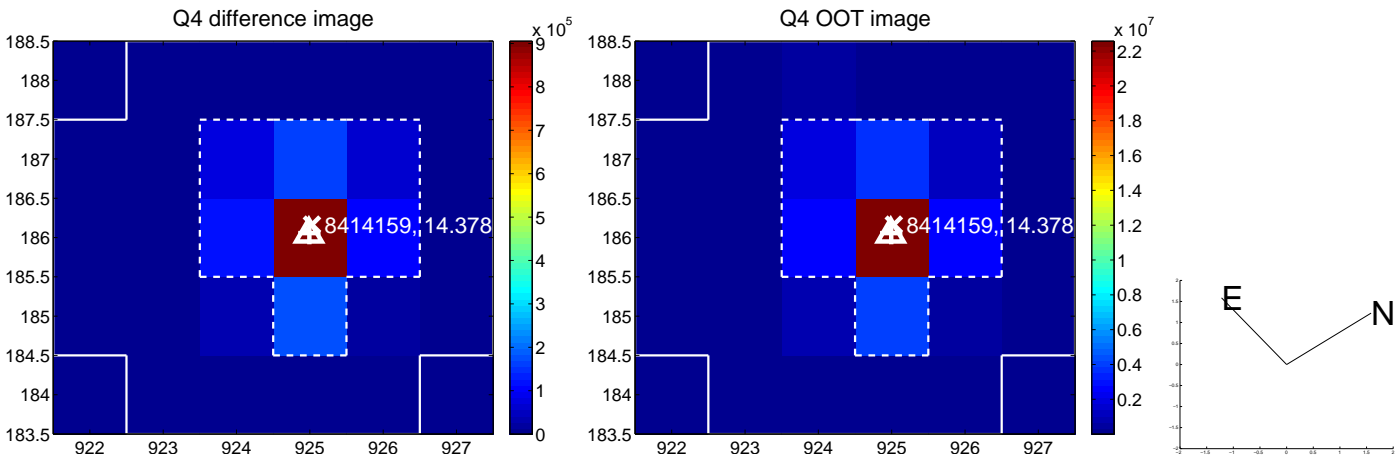
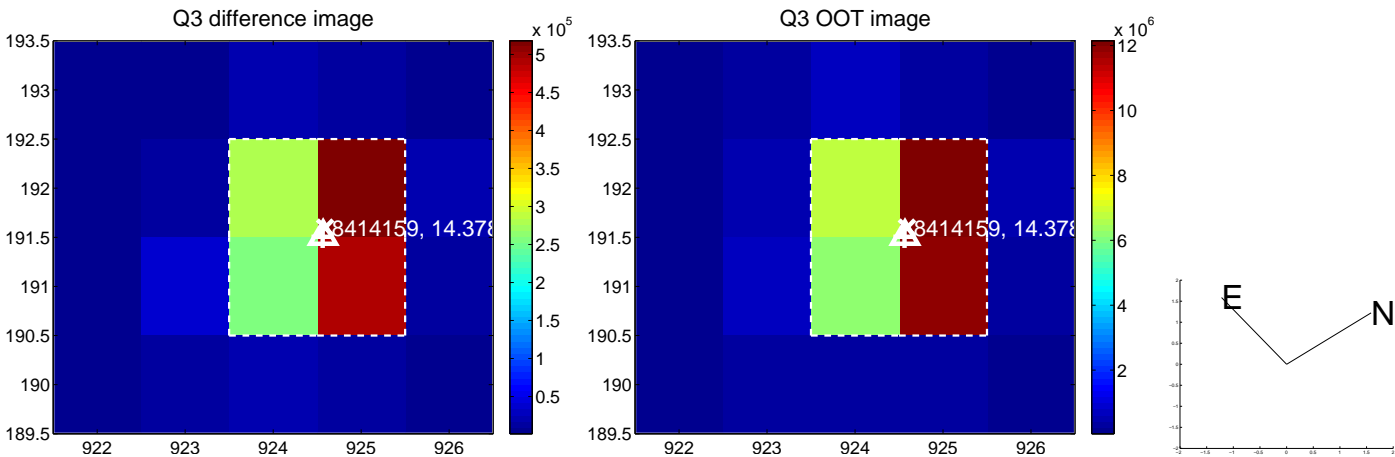
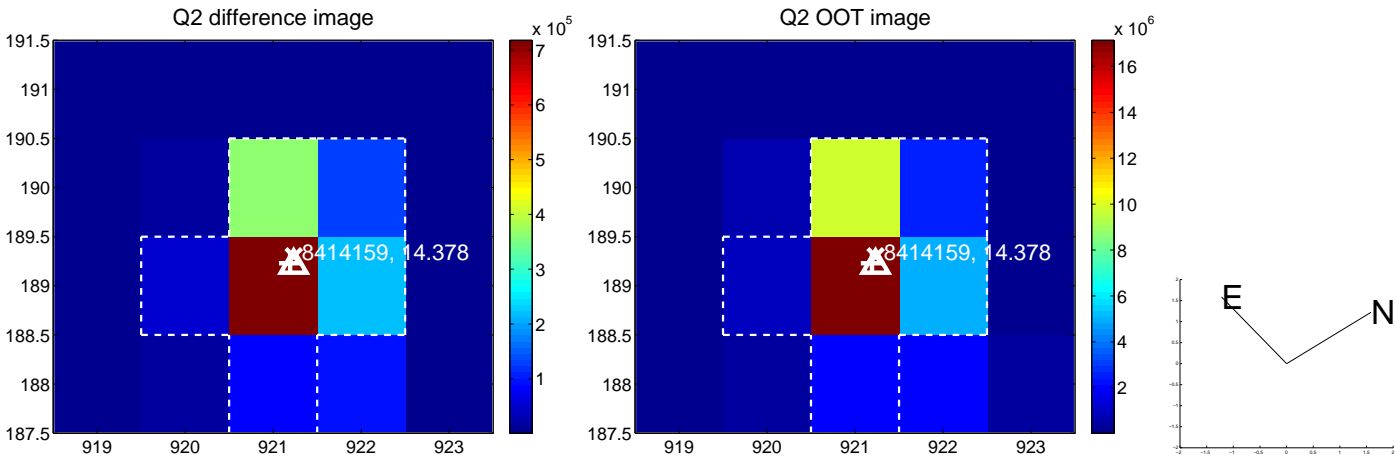
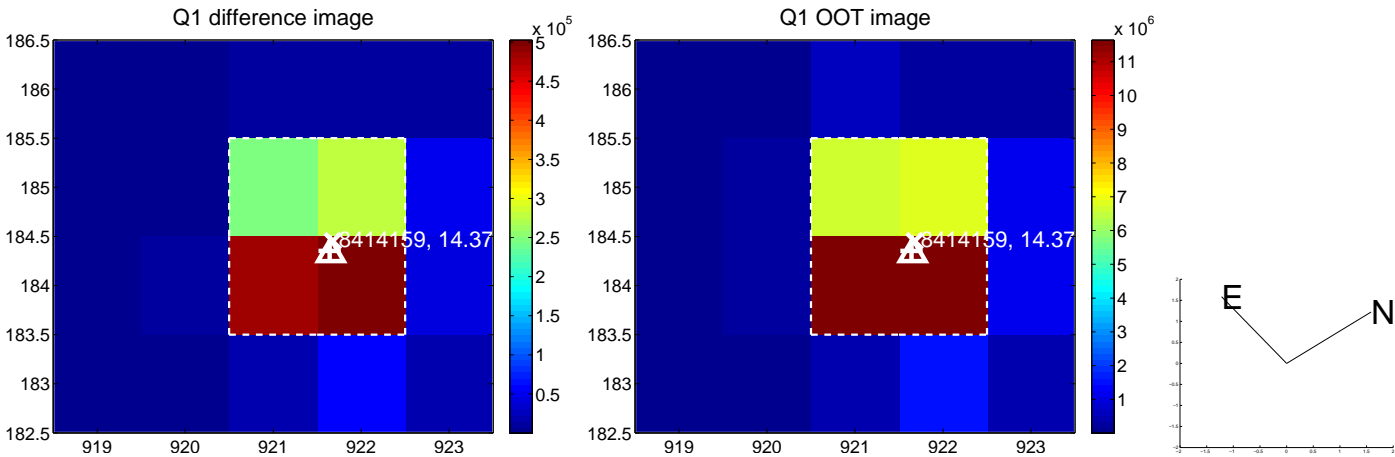
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.074 ± 0.070	1.06	-0.074 ± 0.070	0.001 ± 0.068
PRF-fit source offset from KIC position	0.501 ± 0.072	6.91	-0.334 ± 0.072	-0.373 ± 0.073
photometric centroid source offset	0.50 ± 0.00	169.60	-0.29 ± 0.00	-0.41 ± 0.00

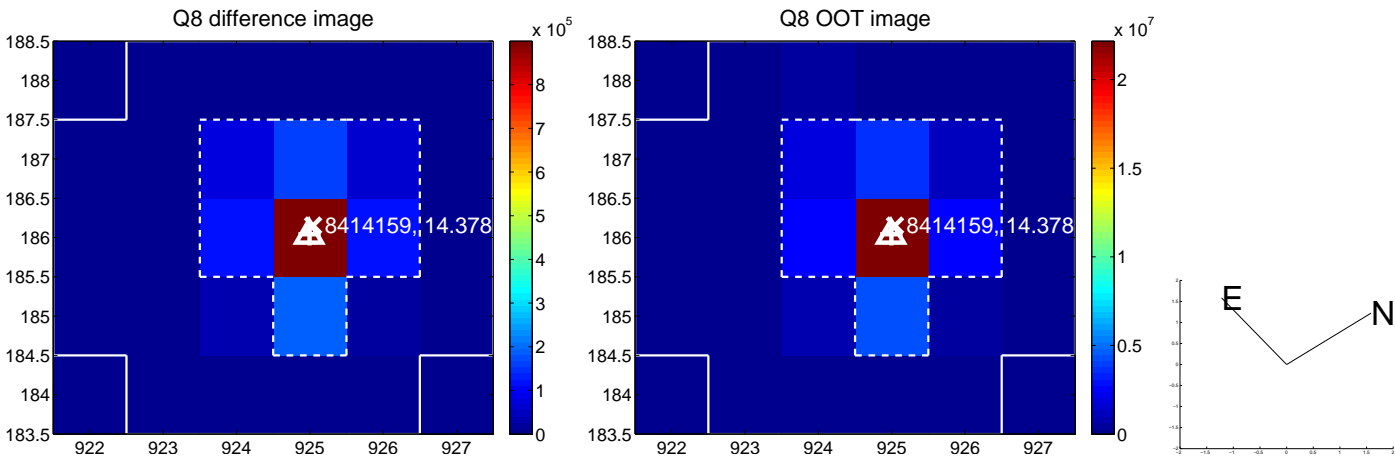
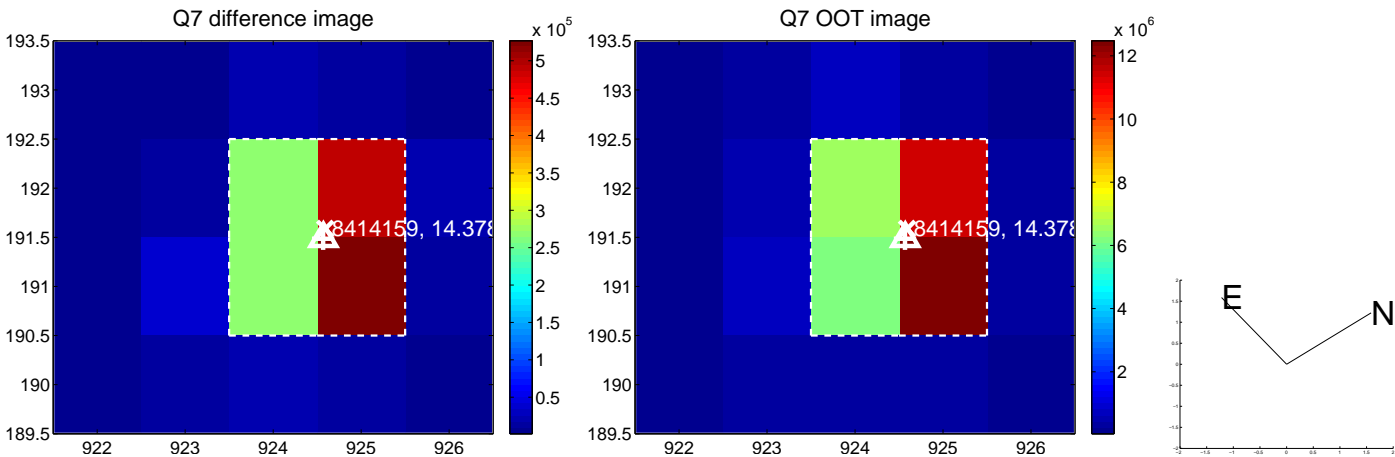
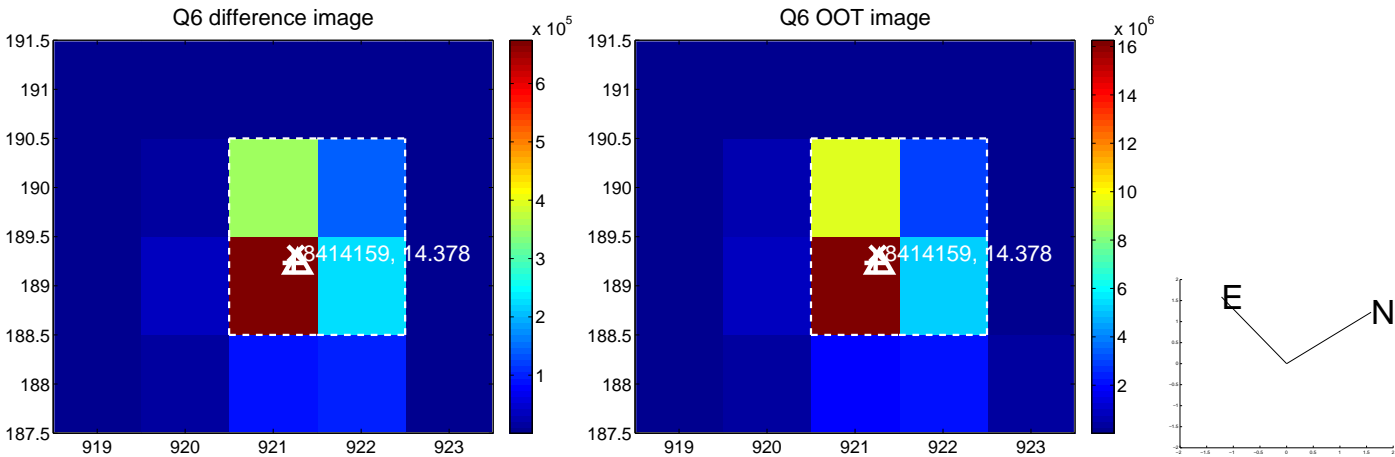
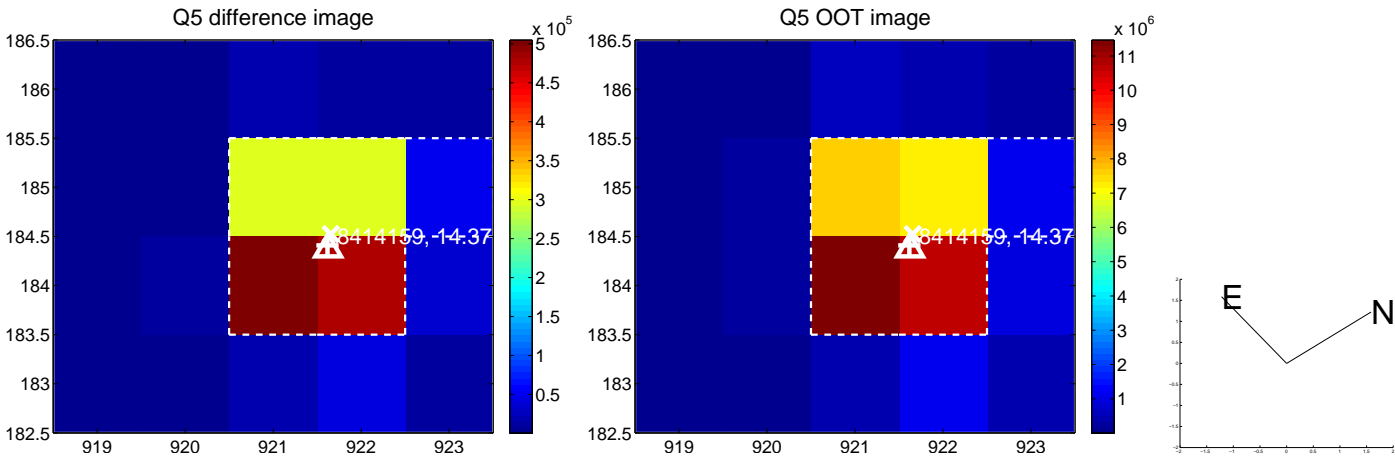


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

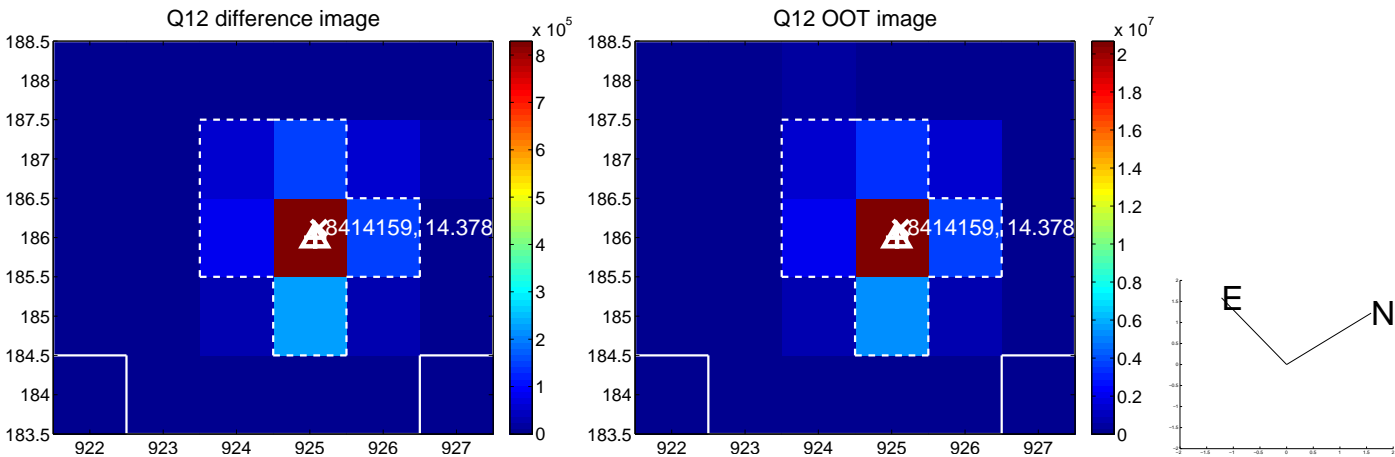
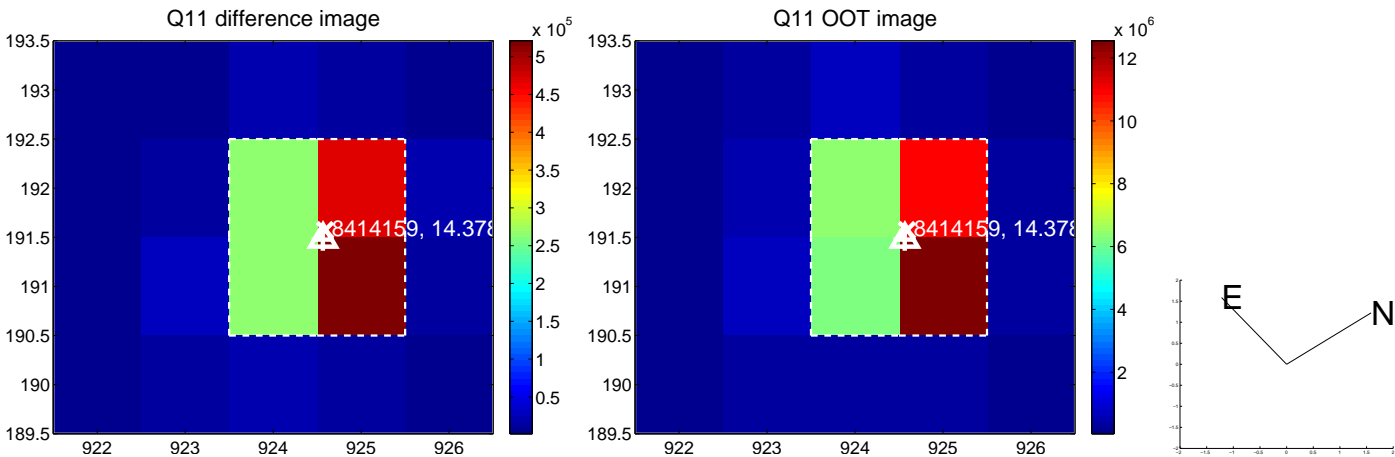
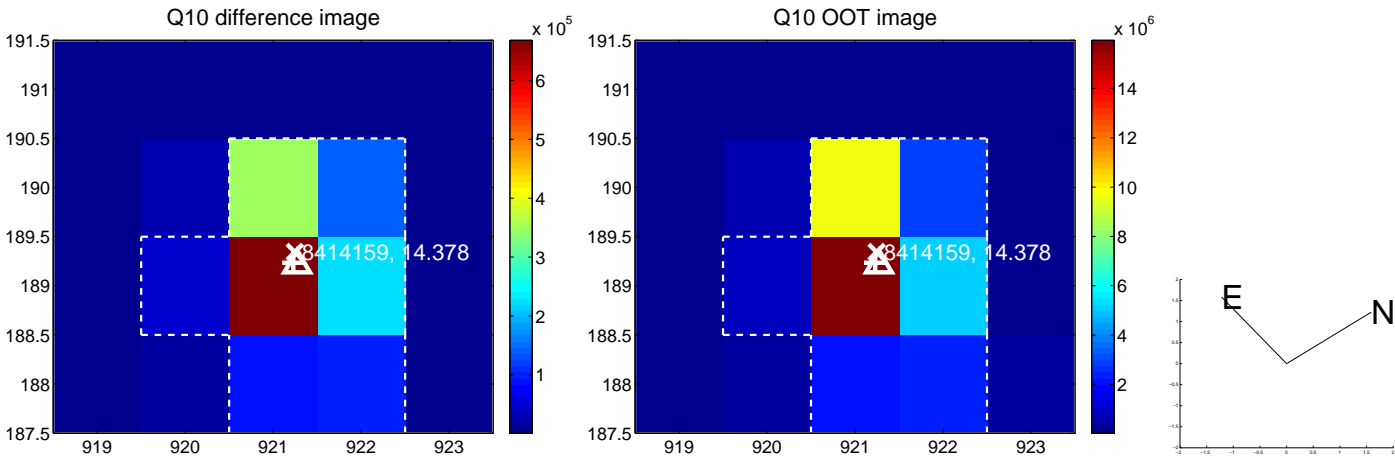
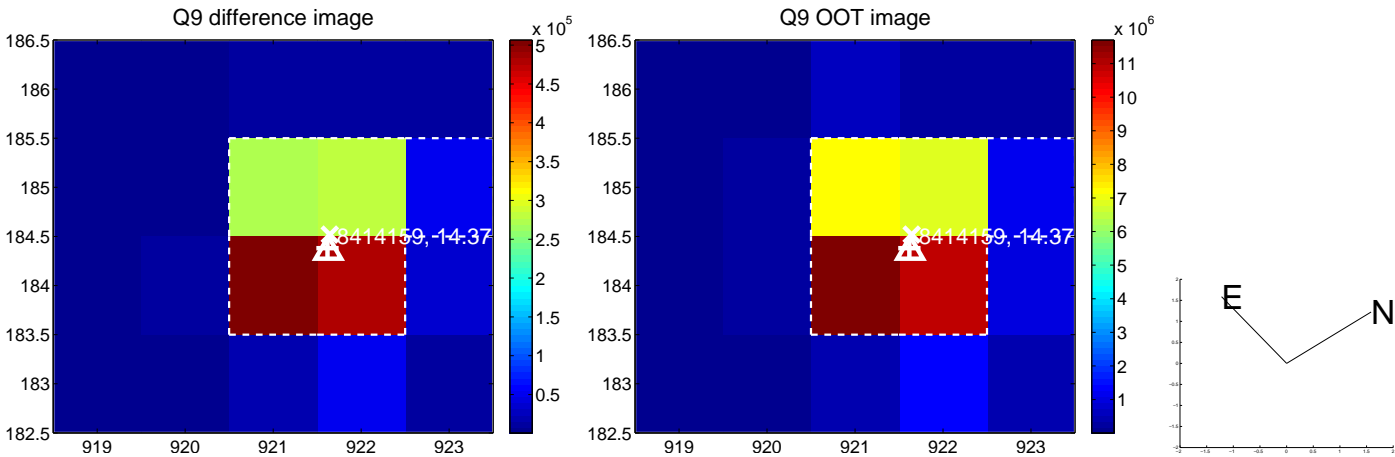
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



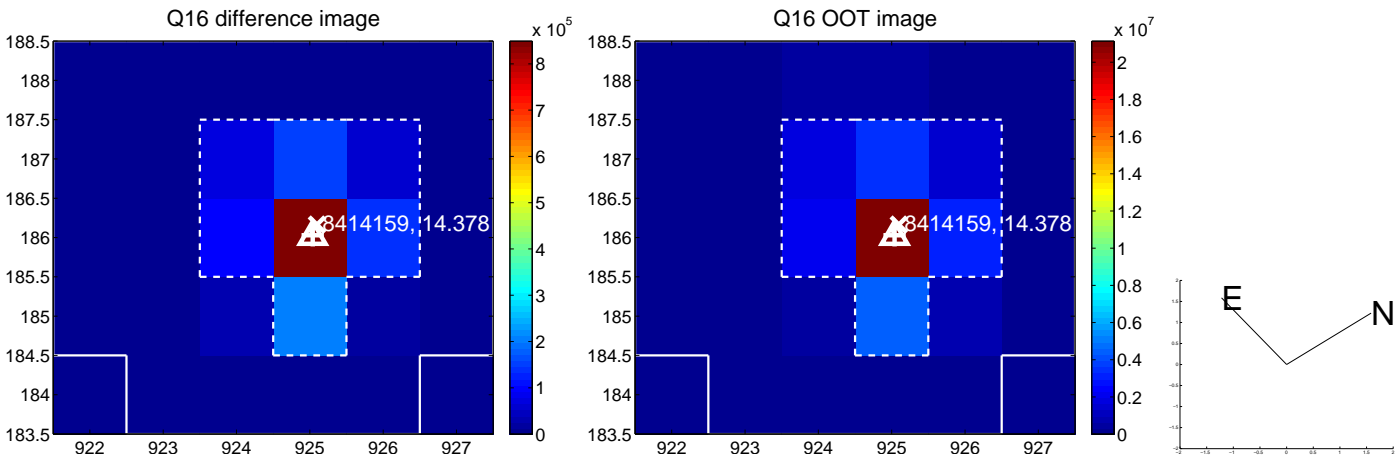
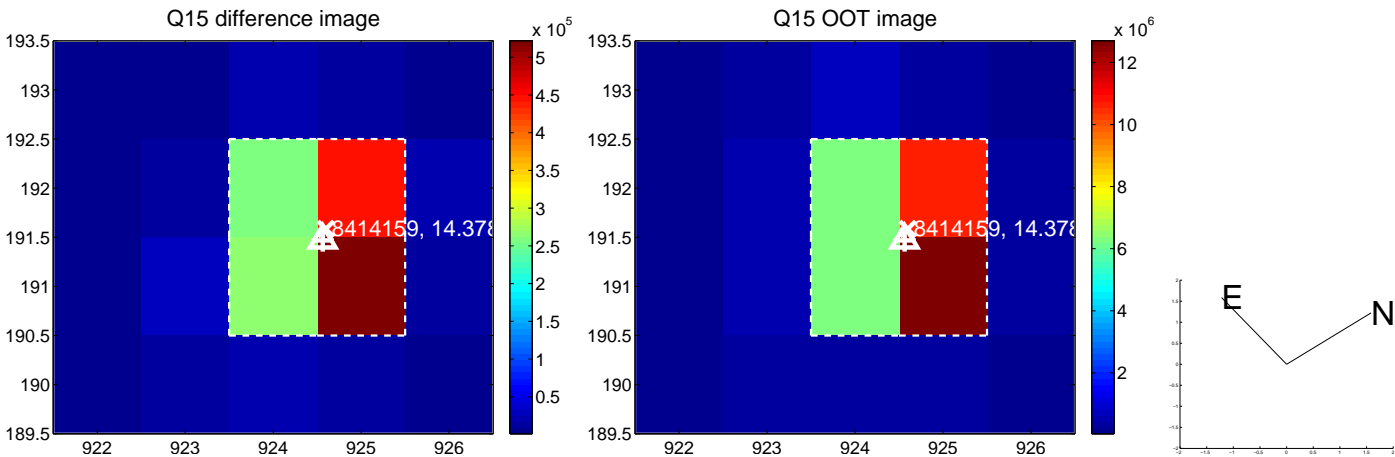
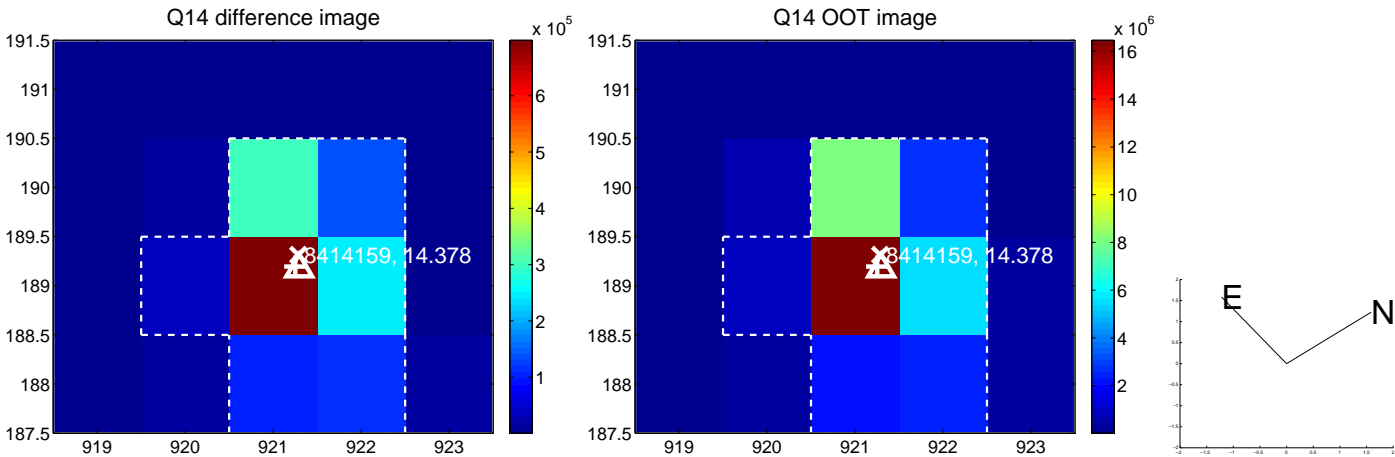
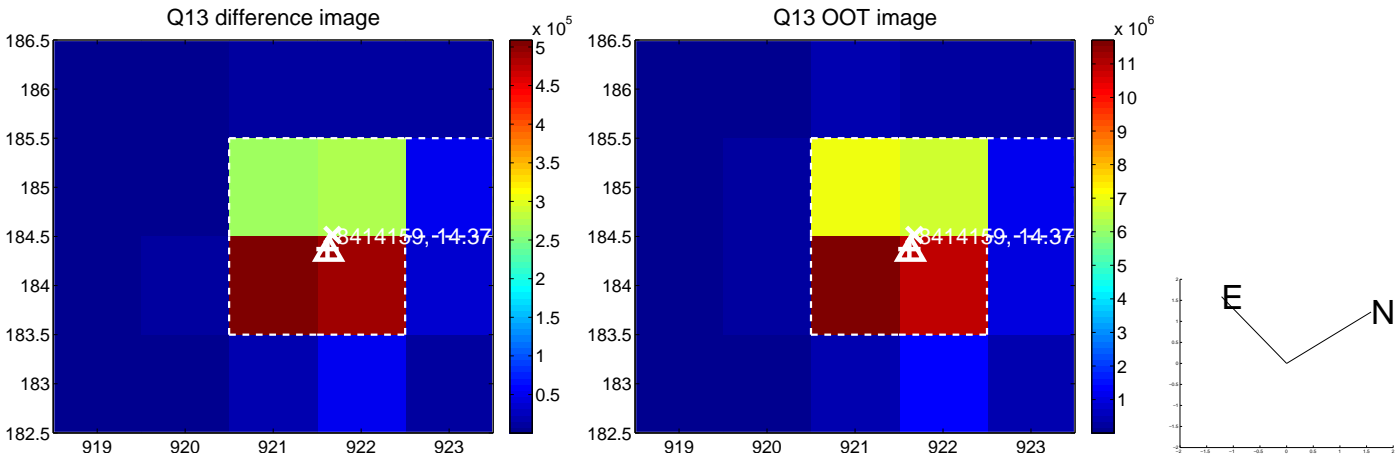
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



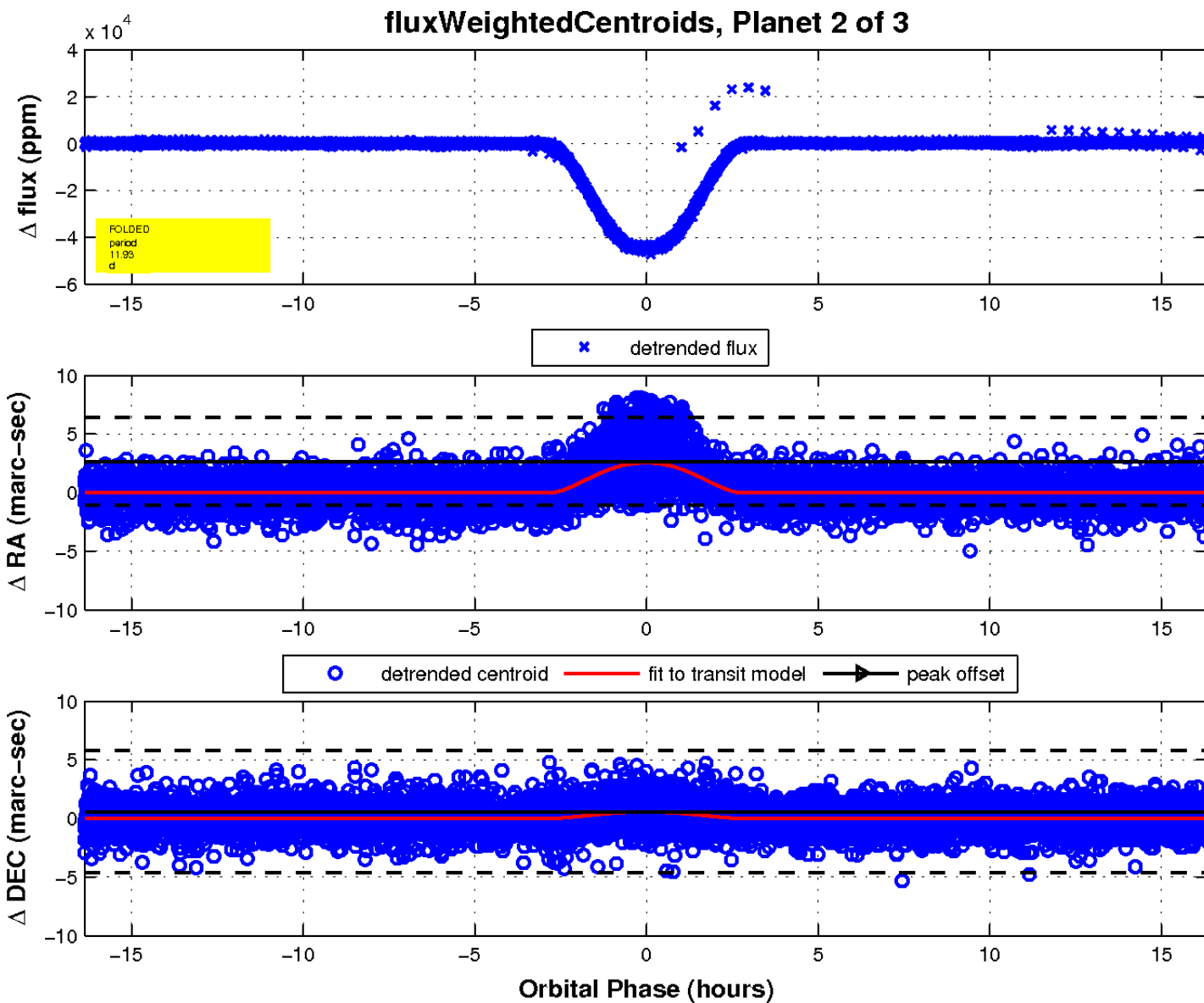
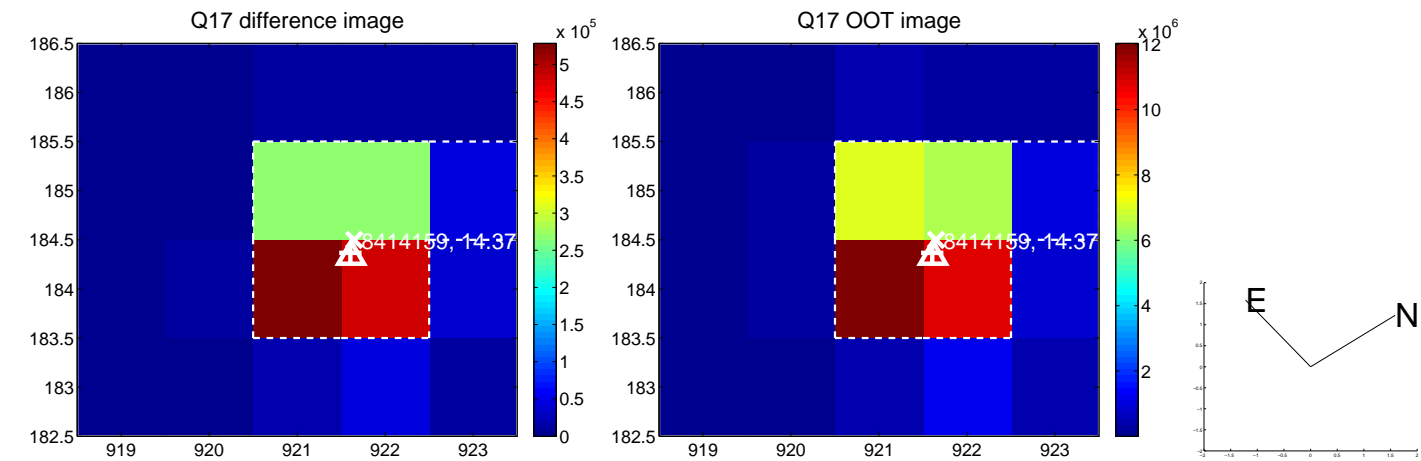
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

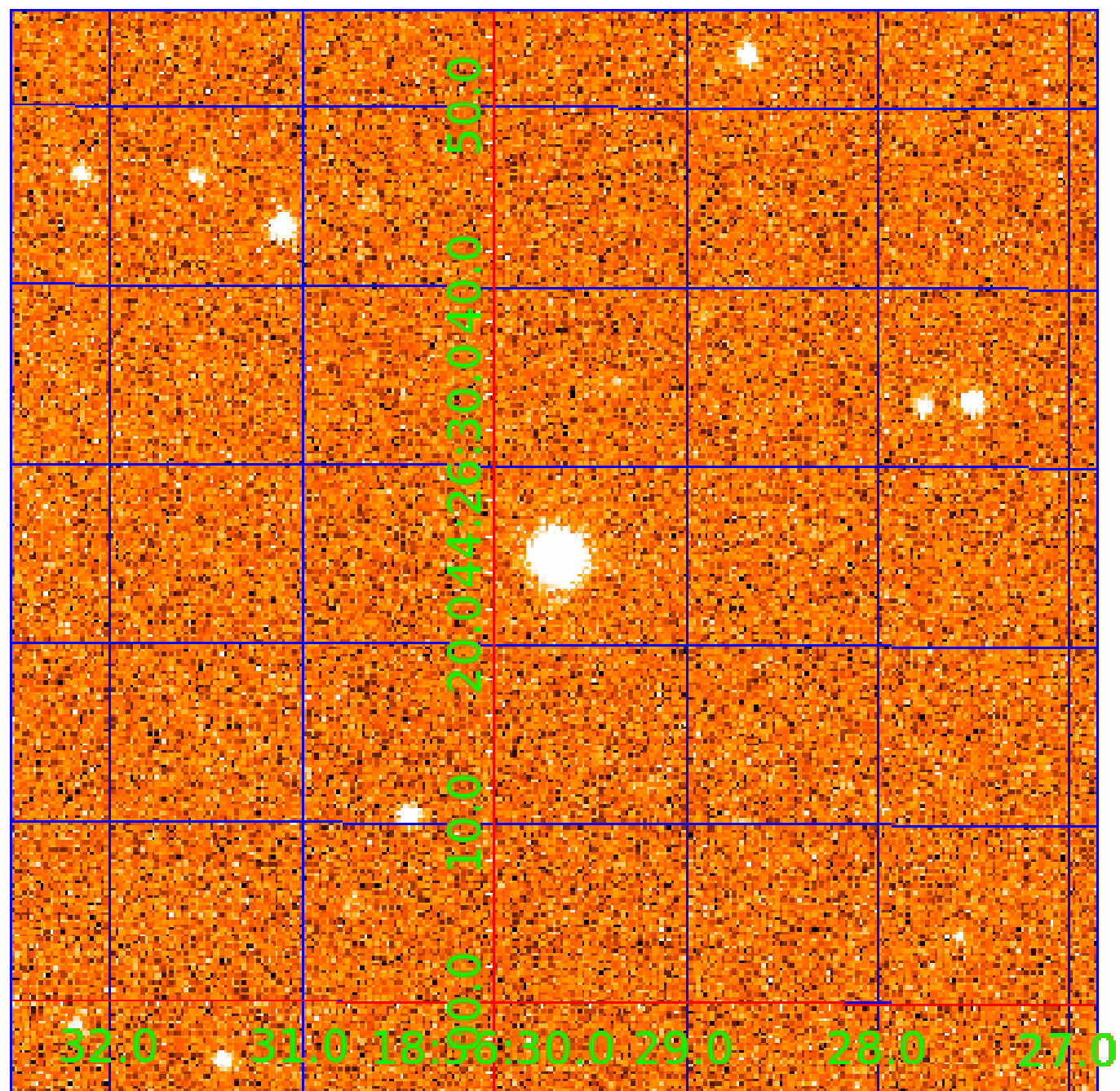


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008414159

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})
008414159-01	OBS	7035.01	11.931221	142.844808	296918.1	3.500	14431.8	-1.0	0.96	6089	49.26	112.73
008414159-02	OBS	No	11.931131	136.886437	45553.9	5.454	2265.2	1847.3	0.96	6089	24.56	112.73
008414159-03	OBS	No	3.977275	134.388784	1583.7	47.727	797.6	64.9	0.96	6089	4.20	487.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008414159-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008414159-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
008414159-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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.

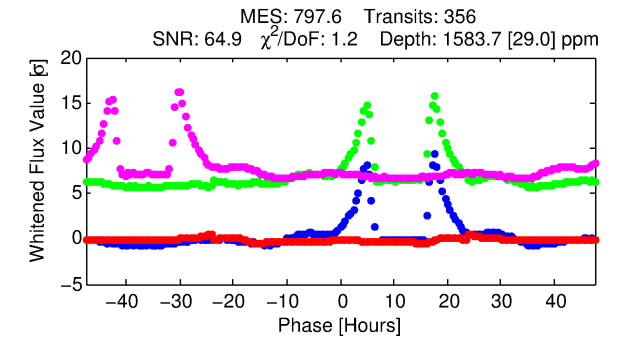
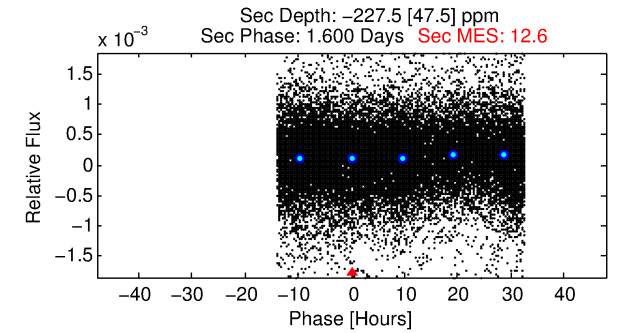
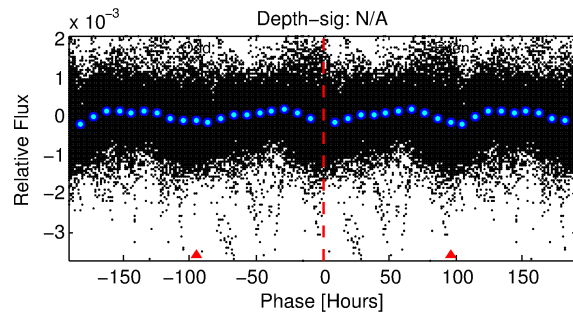
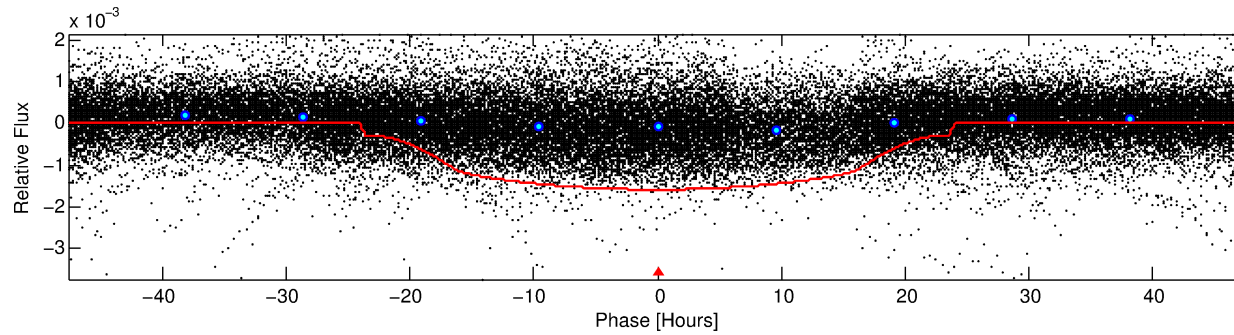
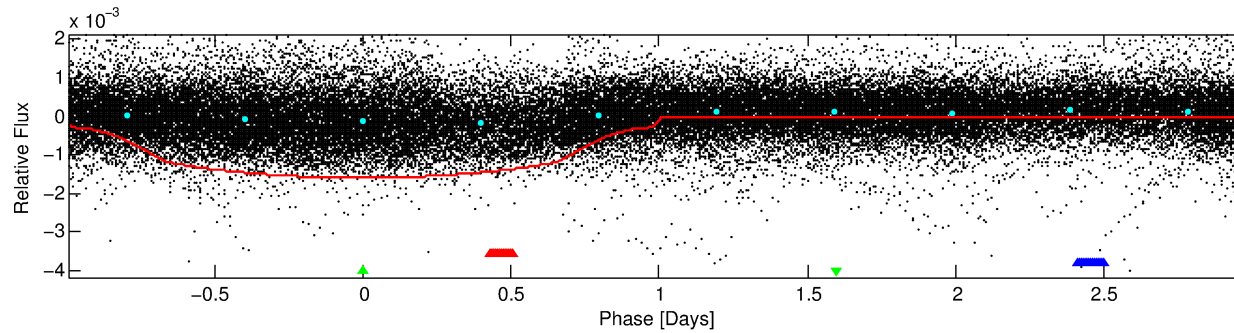
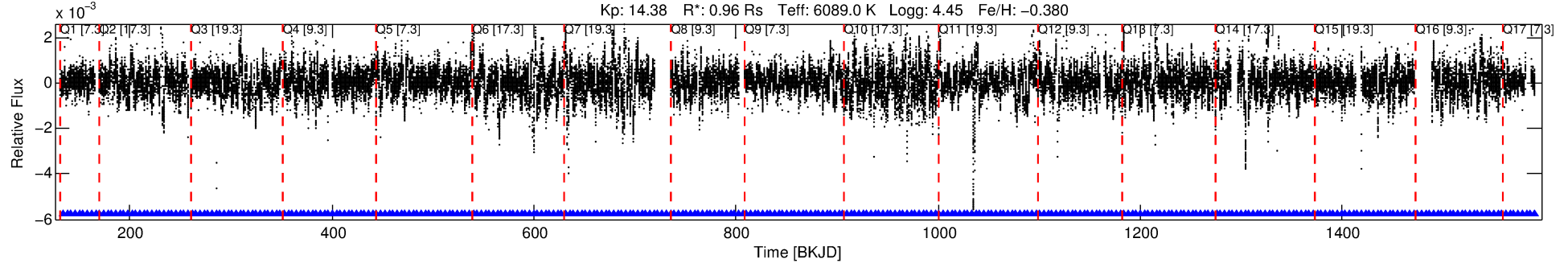
Ephemeris Match Information For 008414159-03

No Significant Match Found

DV One-Page Summary

KIC: 8414159 Candidate: 3 of 3 Period: 3.977 d
KOI: K07035 Corr: No Ephemeris Match

Kp: 14.38 R*: 0.96 Rs Teff: 6089.0 K Logg: 4.45 Fe/H: -0.380



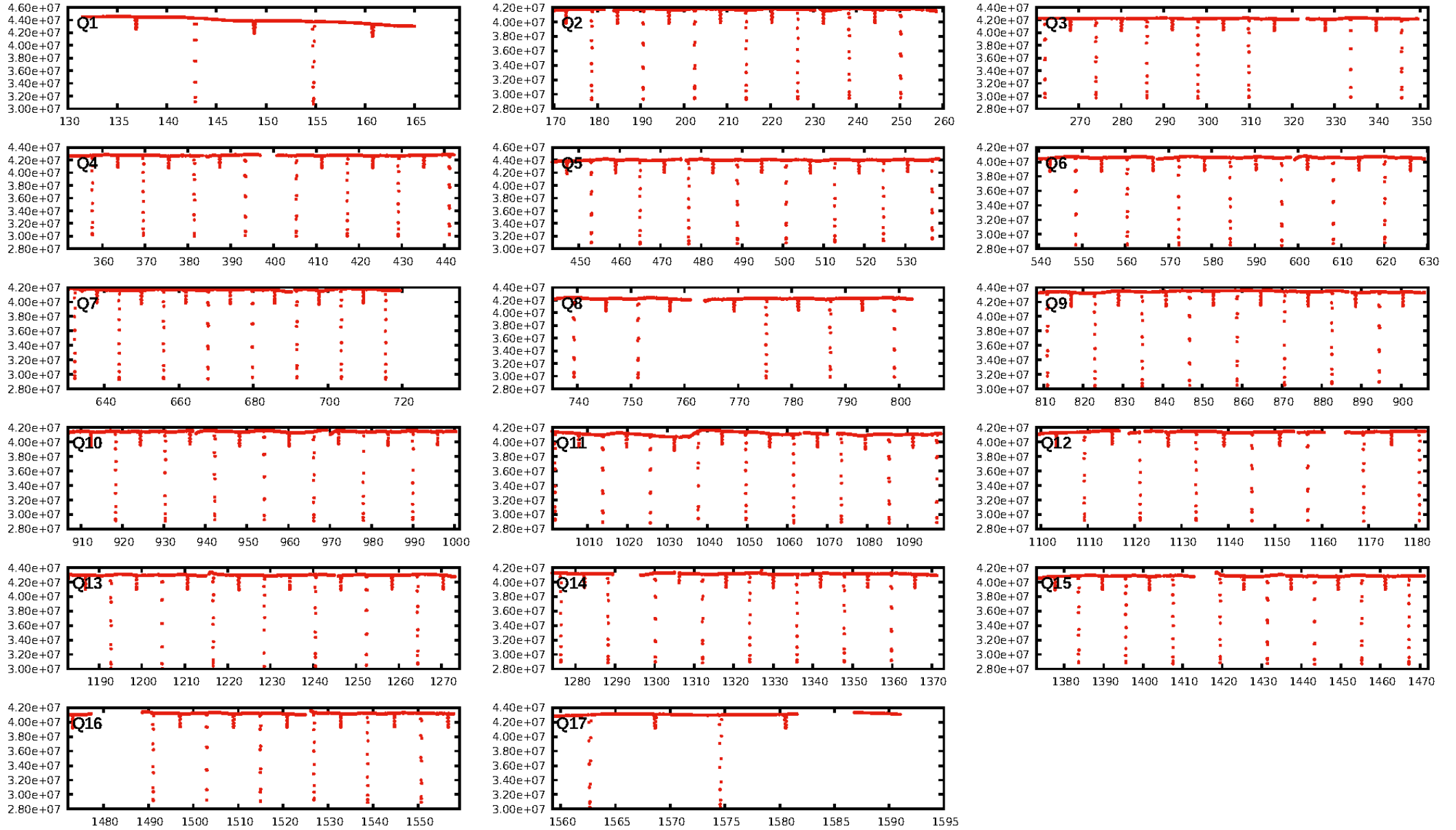
DV Fit Results:

Period = 3.97728 [0.00001] d
Epoch = 134.3888 [0.0012] BKJD
Rp/R* = 0.0401 [0.0004]
a/R* = 1.01 [0.00]
b = 0.79 [0.01]
Seff = 487.73 [182.12]
Teff = 1198 [112] K
Rp = 4.20 [1.17] Re
a = 0.0482 [0.0115] AU
Ag = N/A
Teffp = N/A

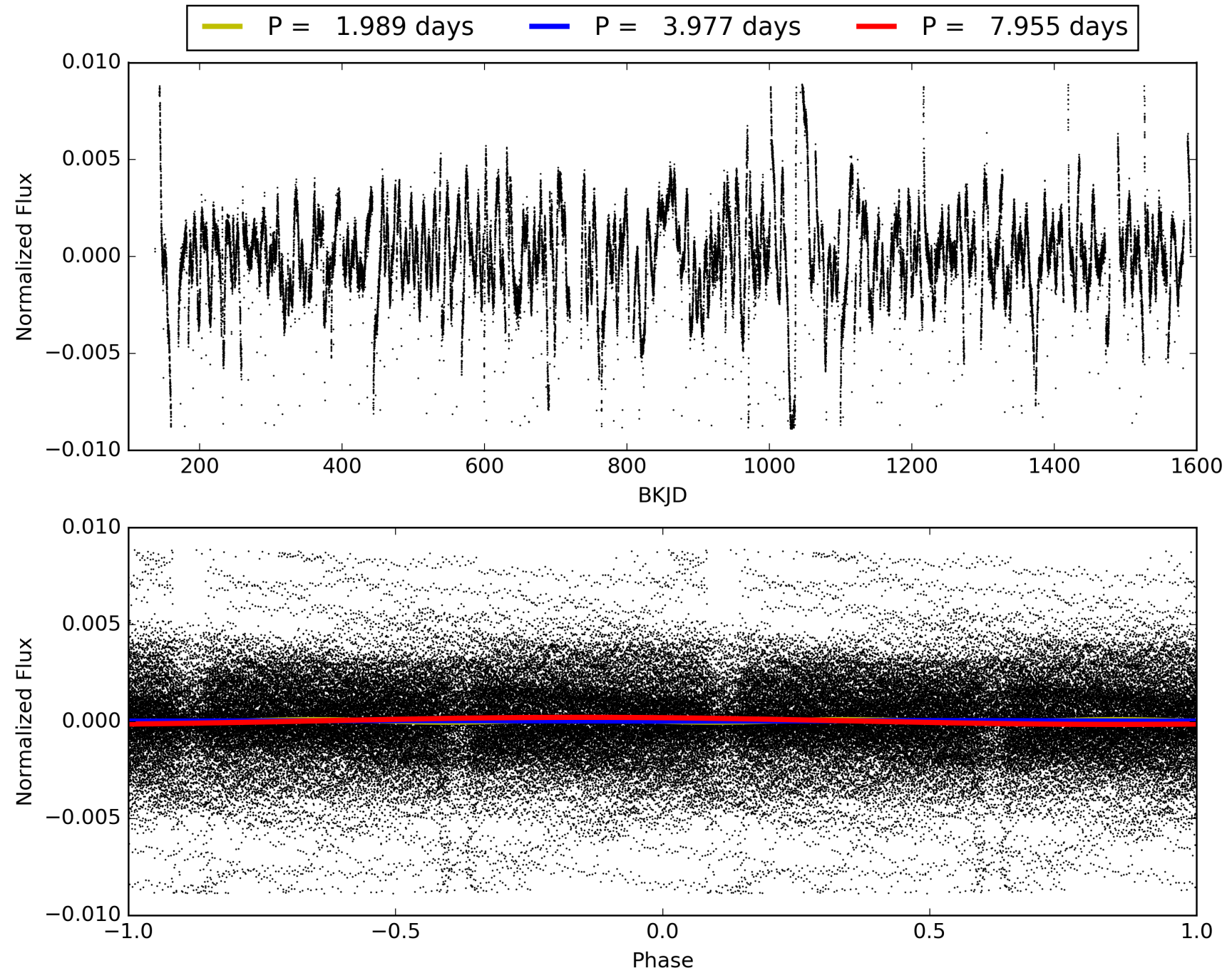
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [3.97σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [340/340]
GhostDiagnostic-chr: 1.981
Centroid-sig: 60.6%
Centroid-so: 0.455 arcsec [30.33σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008414159-03, PDC Light Curves

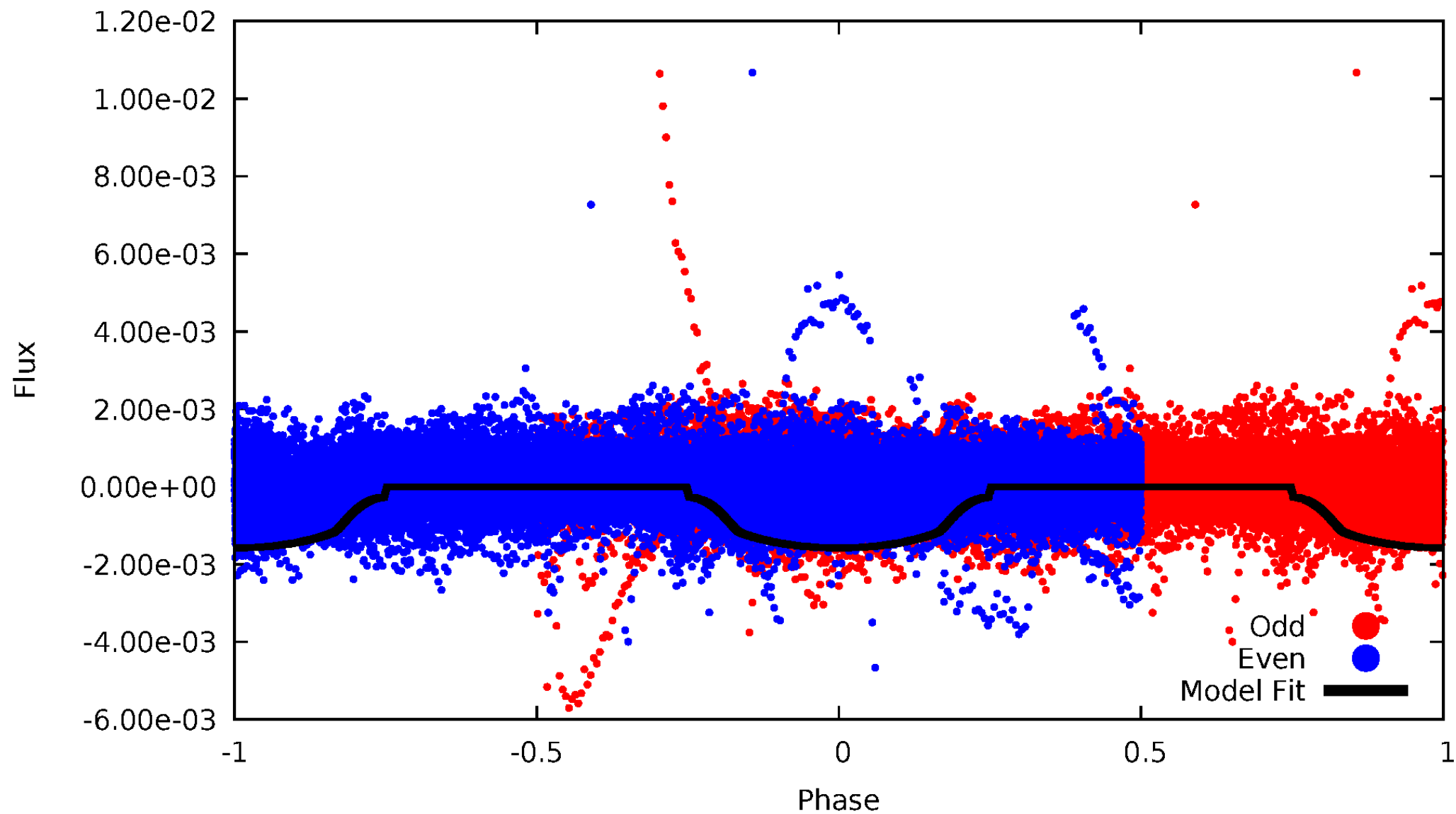


TCE 008414159-03



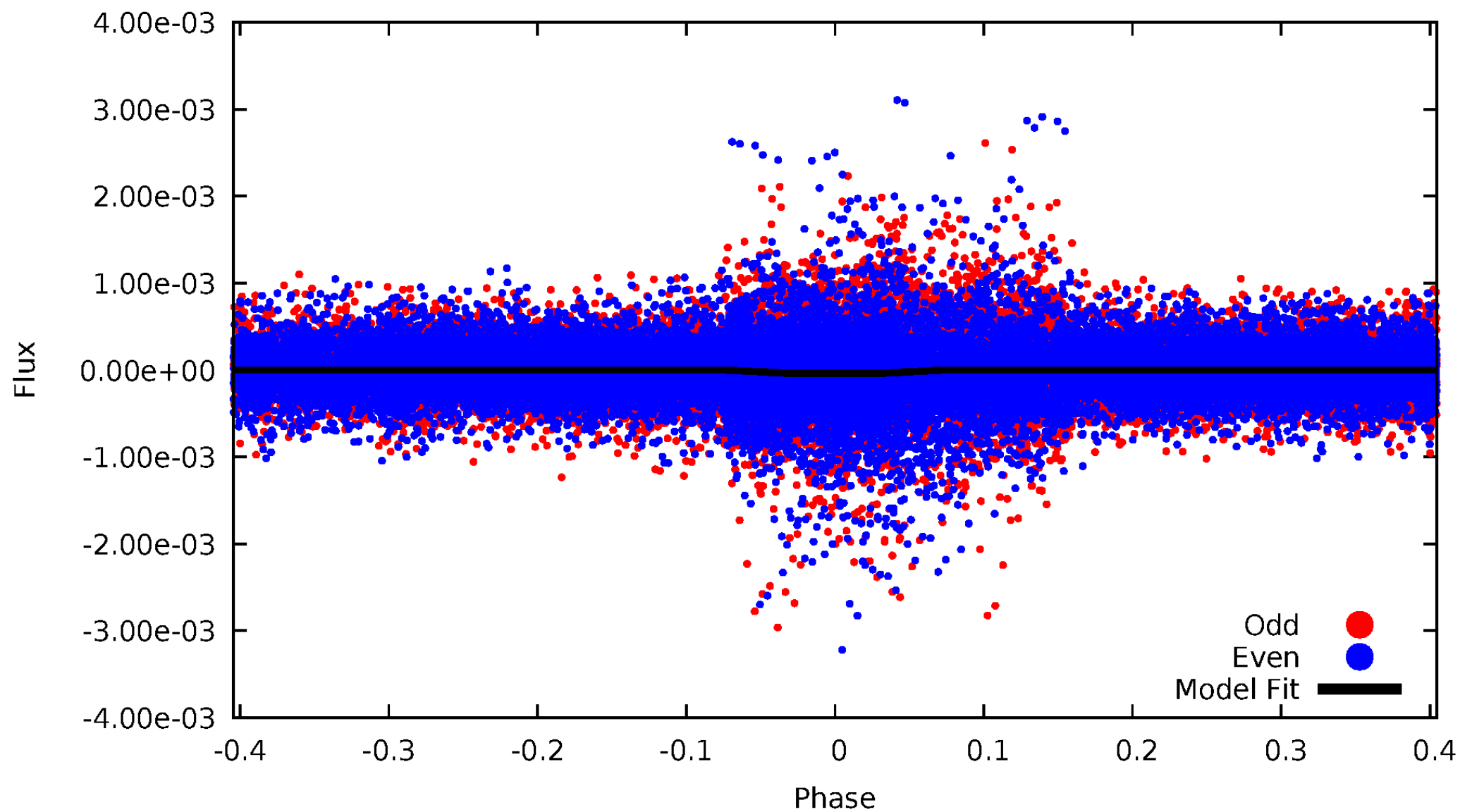
DV Odd/Even

TCE 008414159-03



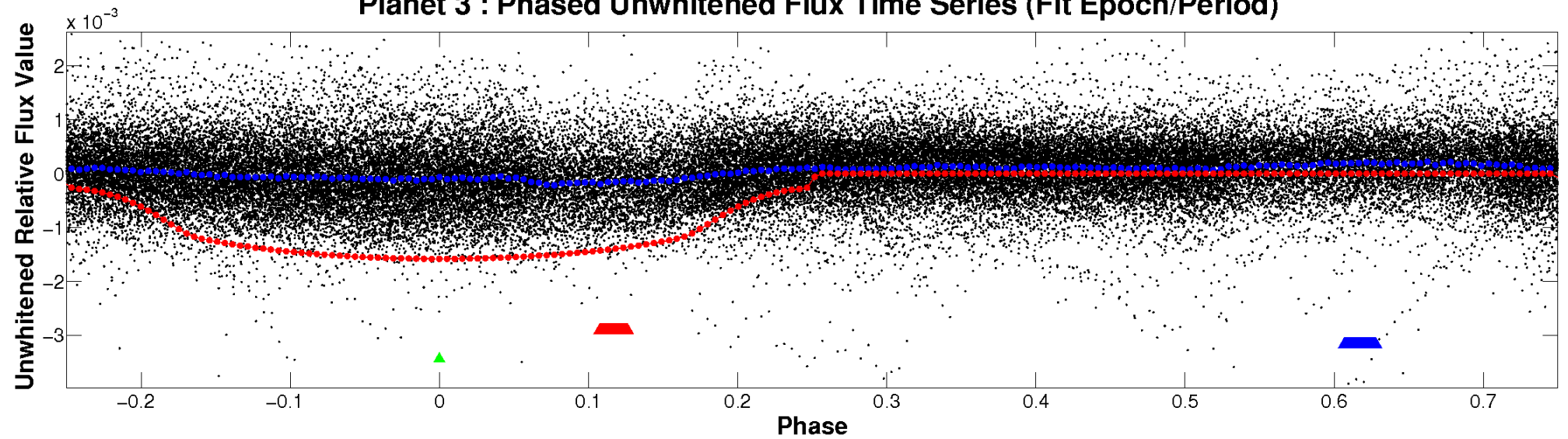
ALT Odd/Even

TCE 008414159-03

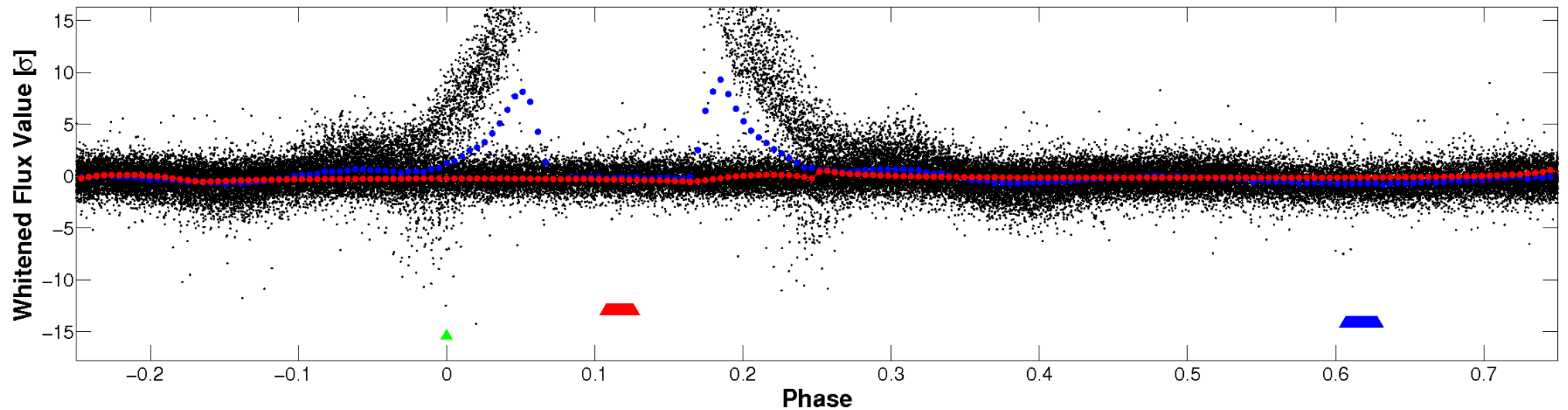


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

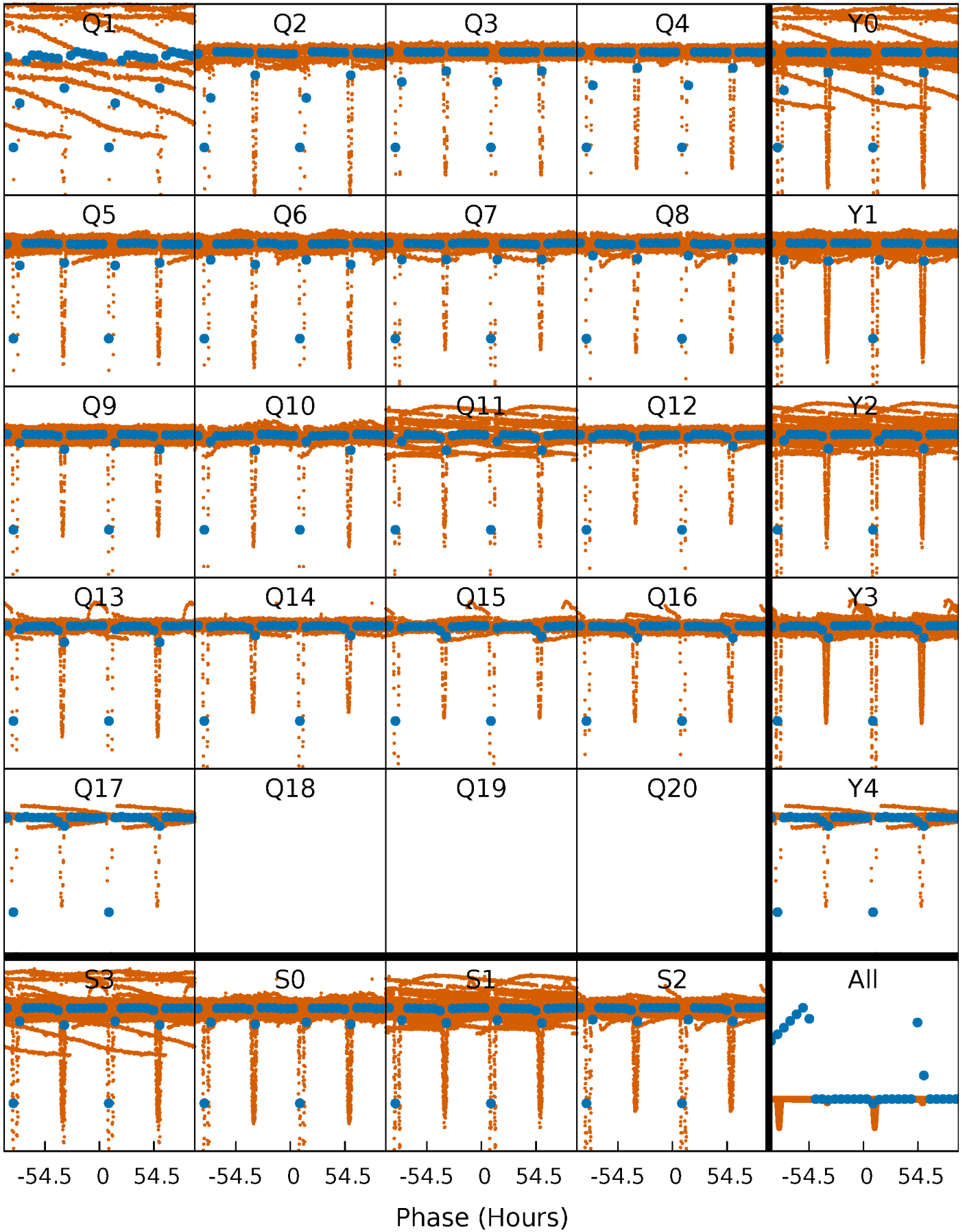


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



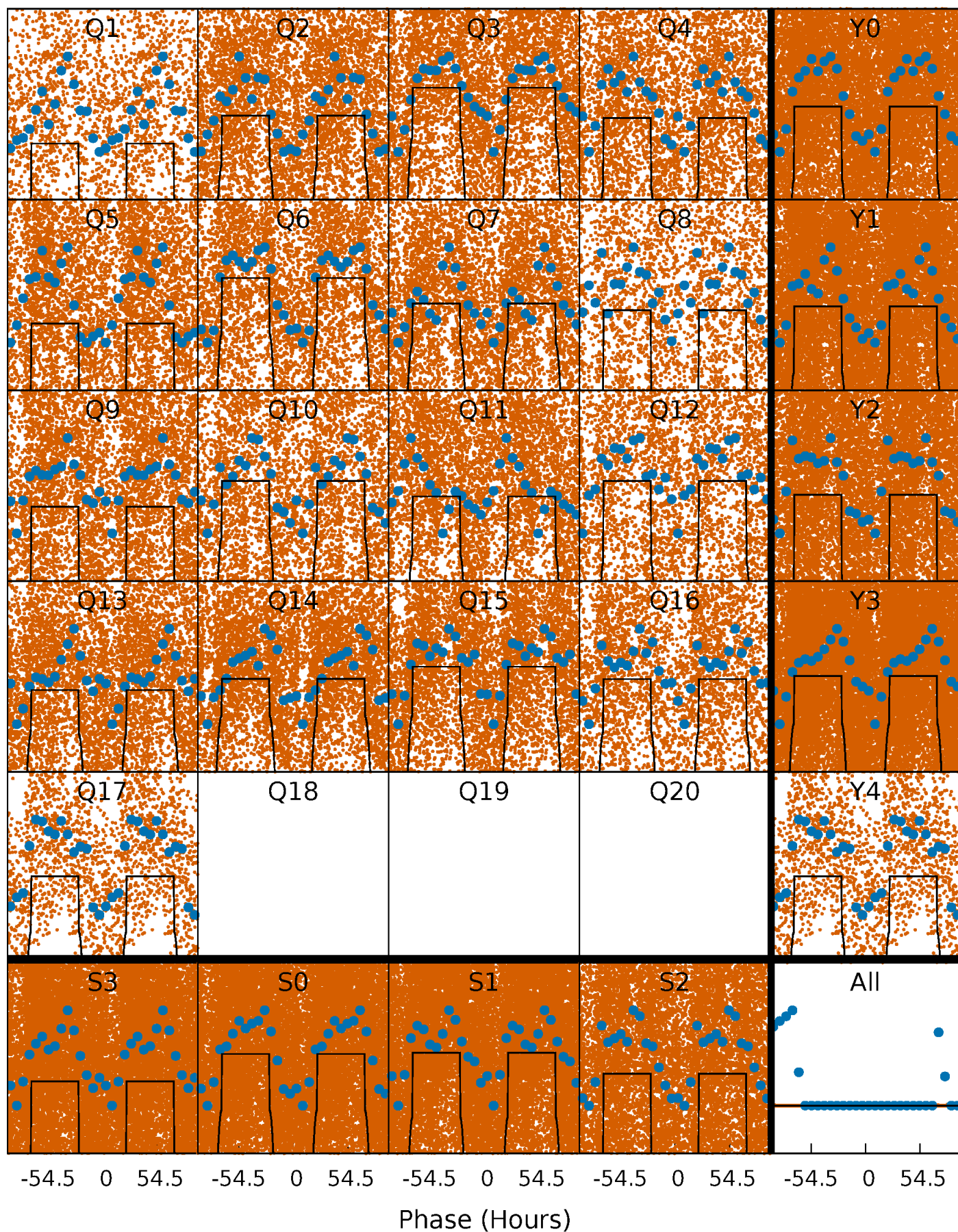
PDC Quarter-Phased Transit Curves

TCE 008414159-03 P= 3.977275 Days $T_0=134.388784$ (BKJD)



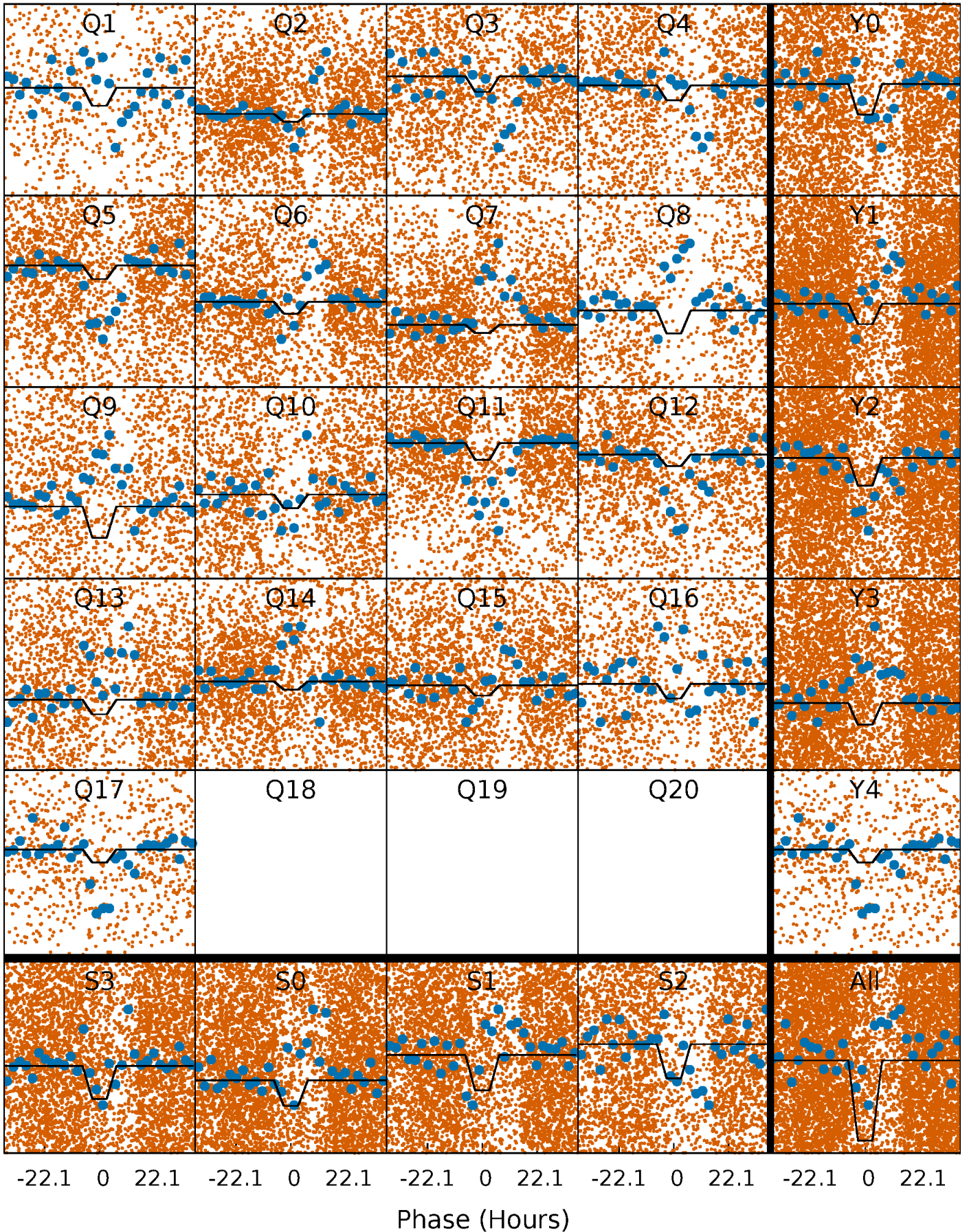
DV Quarter-Phased Transit Curves

TCE 008414159-03 P= 3.977275 Days $T_0=134.388784$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

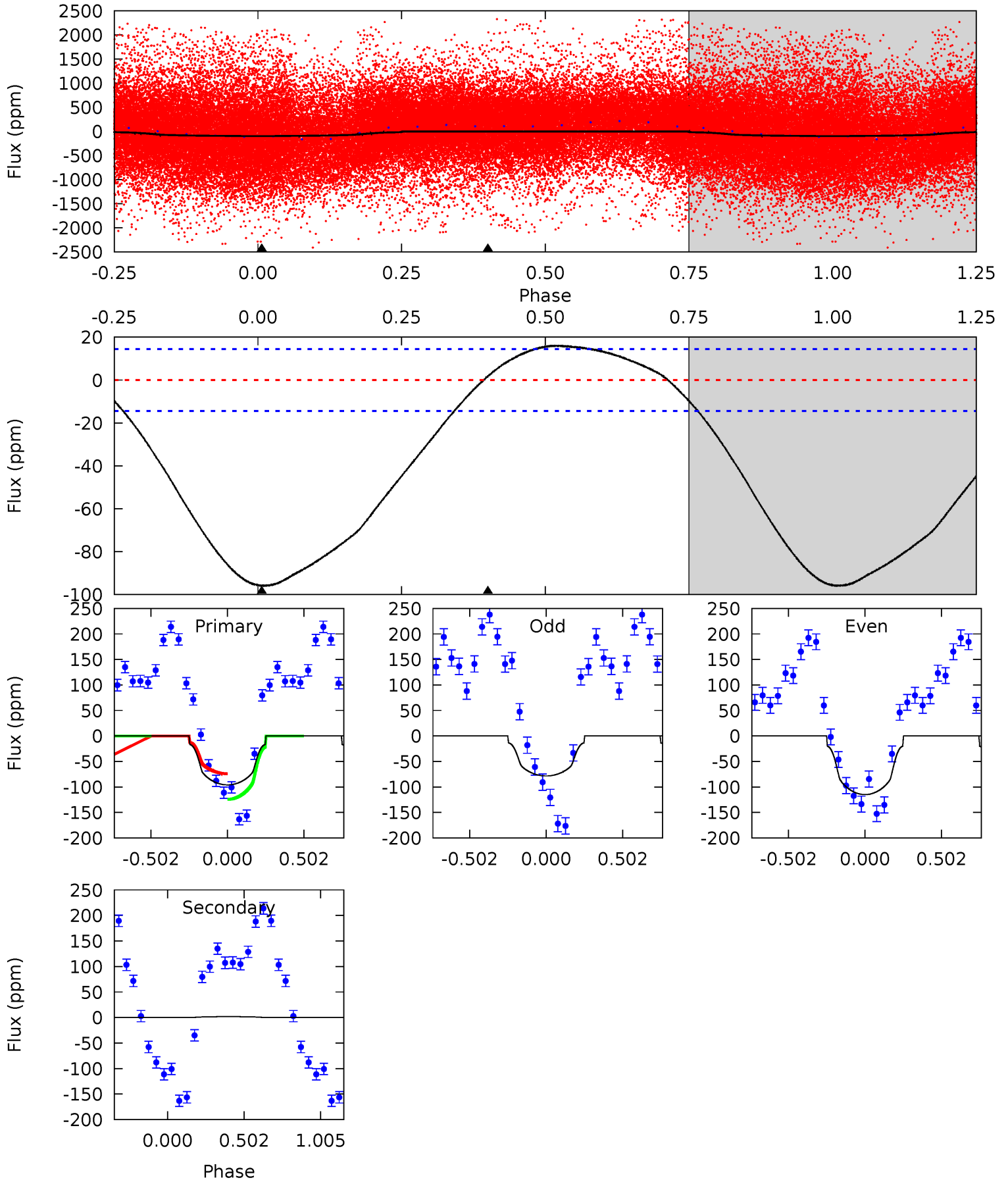
TCE 008414159-03 P= 3.977039 Days $T_0=134.483713$ (BKJD)



DV Model-Shift Uniqueness Test

008414159-03, P = 3.977275 Days, E = 130.411509 Days

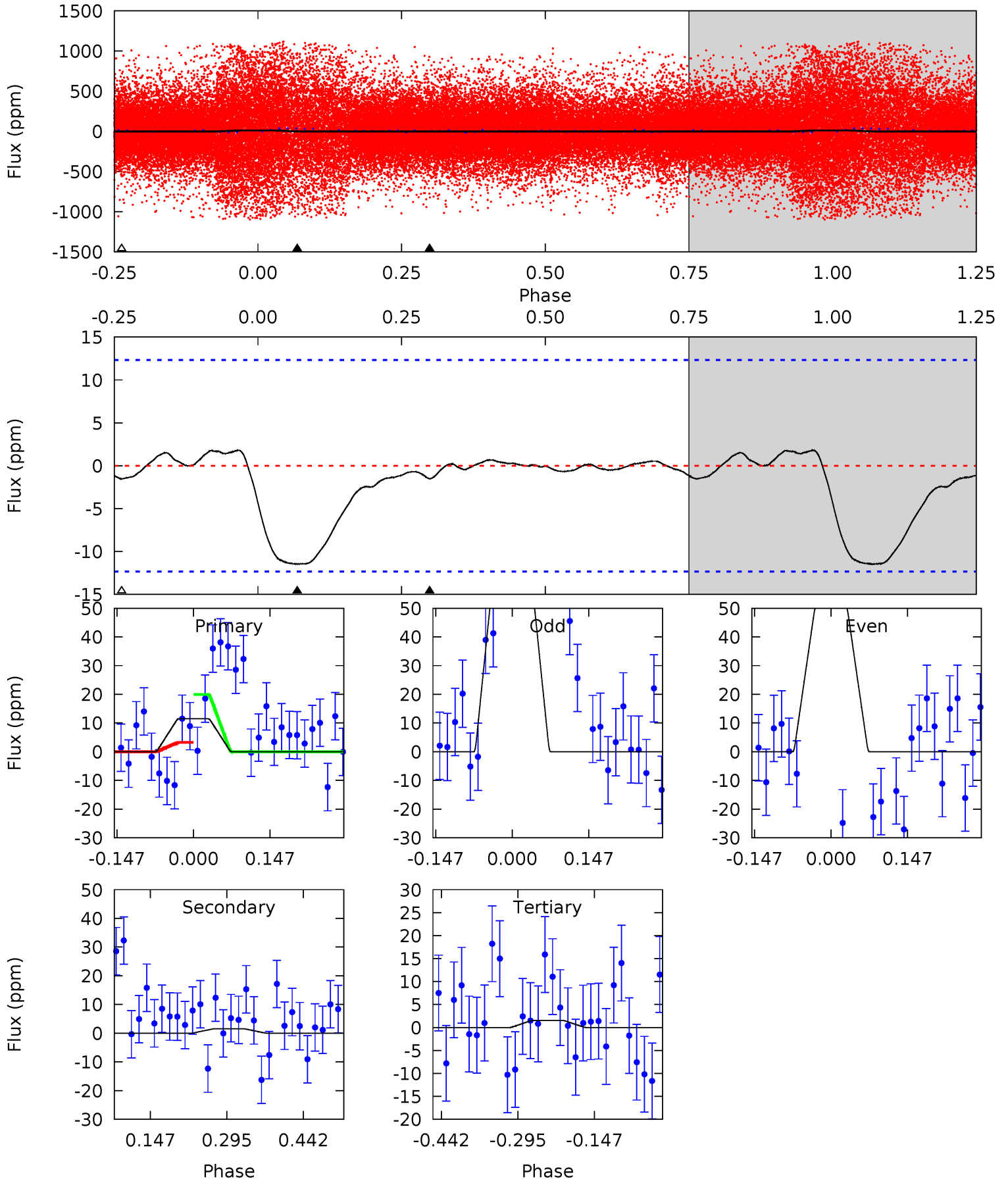
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.9	-0.49	0	0	4.21	0.67	1.83	27.9	27.9	-0.49	-0.49	5.36	0.38	0.15	7.00



Alt Model-Shift Uniqueness Test

008414159-03, P = 3.977039 Days, E = 130.506674 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.17	0.55	0.56	0	4.48	1.45	0.26	3.61	4.17	-0.01	0.55	3.89	-0.34	0.14	2.33



Stellar Parameters For KIC 008414159

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6089^{+165}_{-183}	$4.449^{+0.084}_{-0.196}$	$-0.380^{+0.300}_{-0.300}$	$0.959^{+0.267}_{-0.114}$	$0.942^{+0.119}_{-0.108}$	$1.505^{+0.531}_{-0.760}$
	+3%/-3%	+2%/-4%	+79%/-79%	+28%/-12%	+13%/-11%	+35%/-51%
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 008414159-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	2 ± 3	$4.23^{+0.66}_{-0.31}$	1695^{+104}_{-85}	-2408^{+214}_{-142}	$-0.121^{+0.230}_{-0.251}$
Alt.	-2 ± 3	$0.66^{+0.11}_{-0.07}$	1697^{+126}_{-87}	3162^{+658}_{-6437}	$3.604^{+8.016}_{-7.354}$

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 $A_{obs} \gg 1.0$

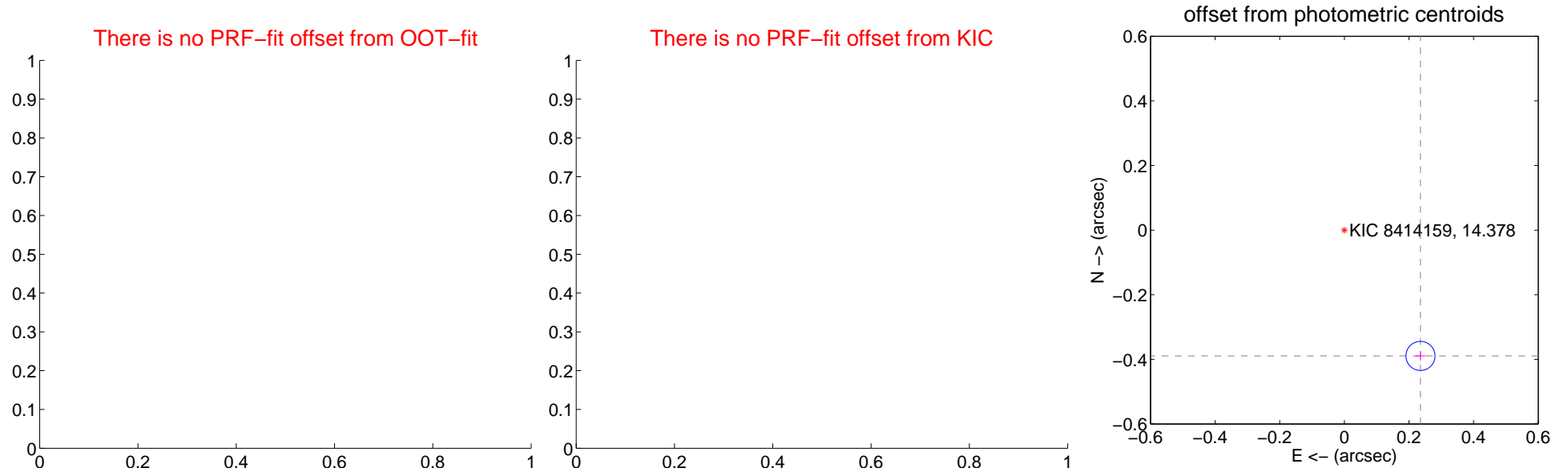
DV Centroid Data

Supplemental centroid analysis for 008414159-03. Kepler magnitude: 14.38. Transit SNR 64.93

There are 0 quarters with good PRF difference image offsets

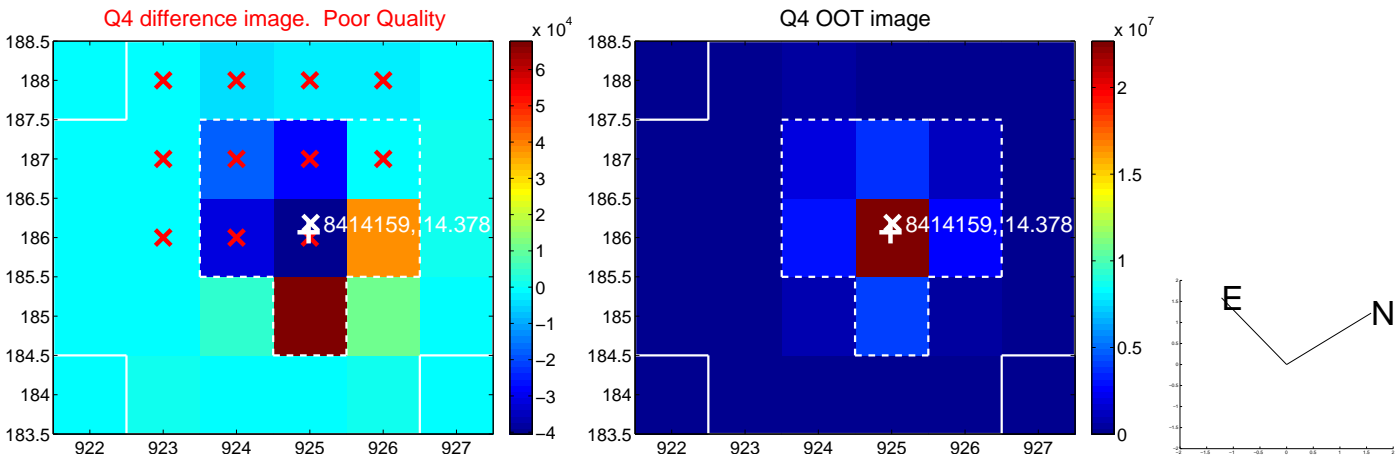
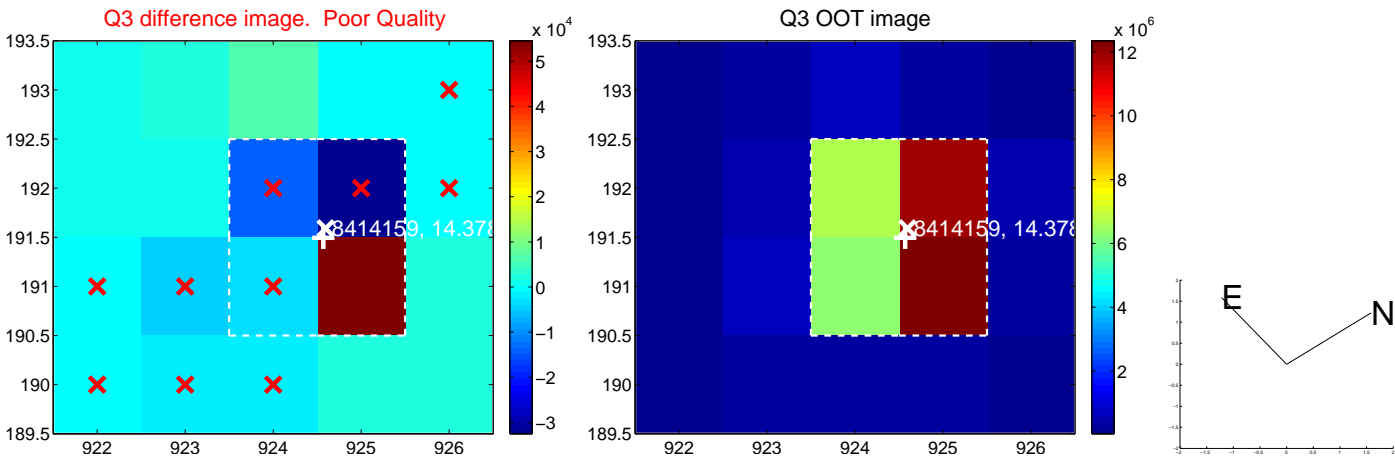
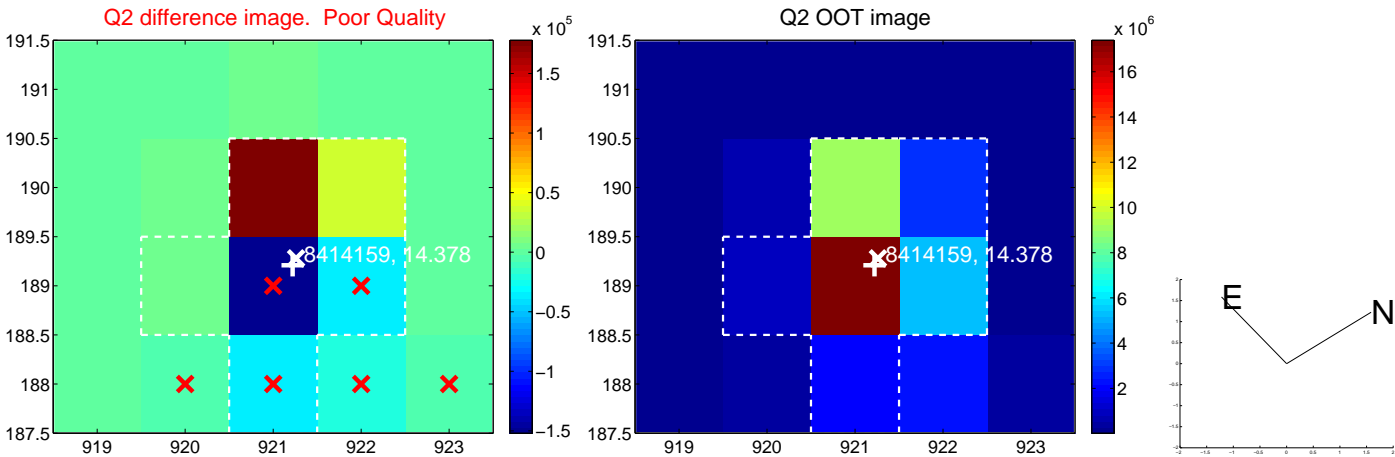
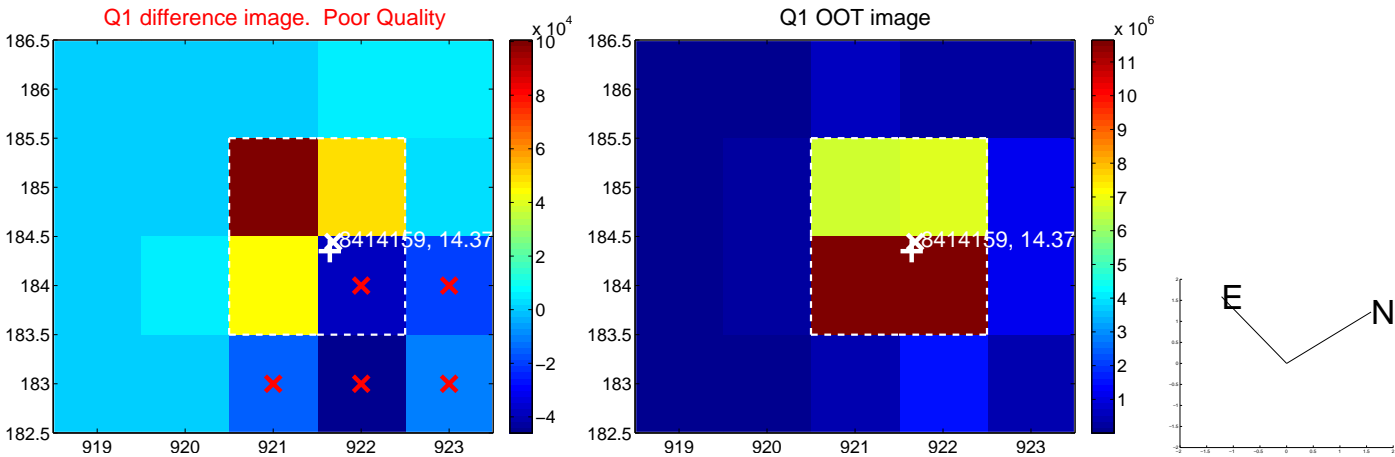
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.46 ± 0.02	30.33	-0.24 ± 0.02	-0.39 ± 0.01

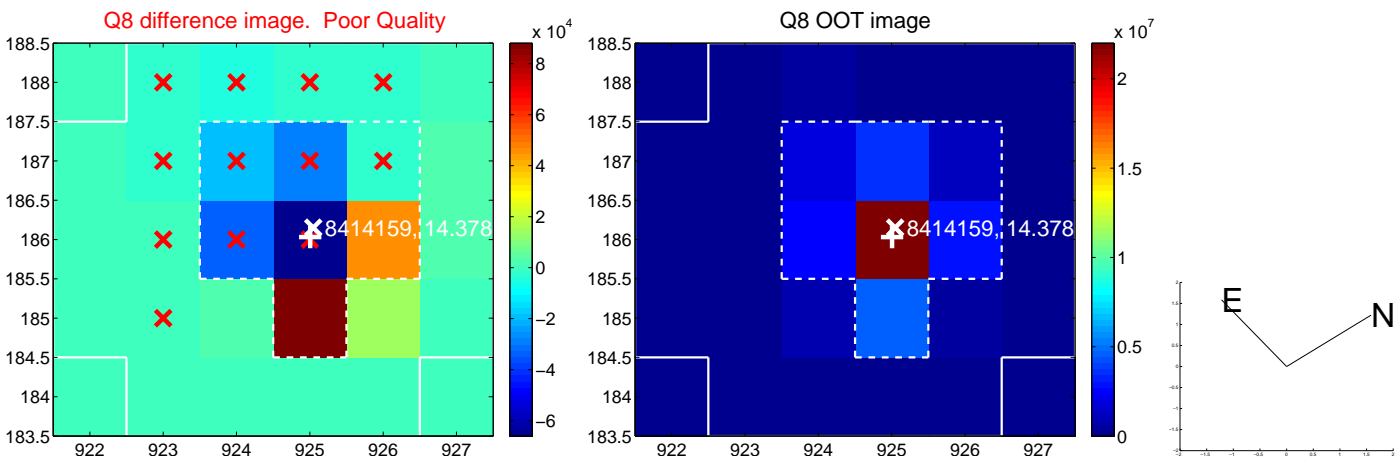
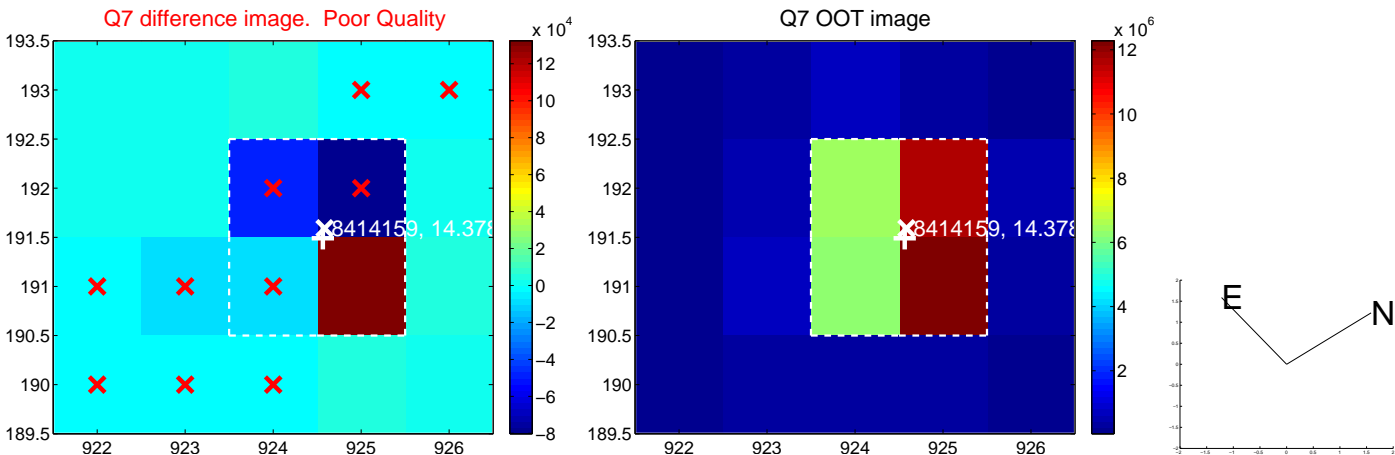
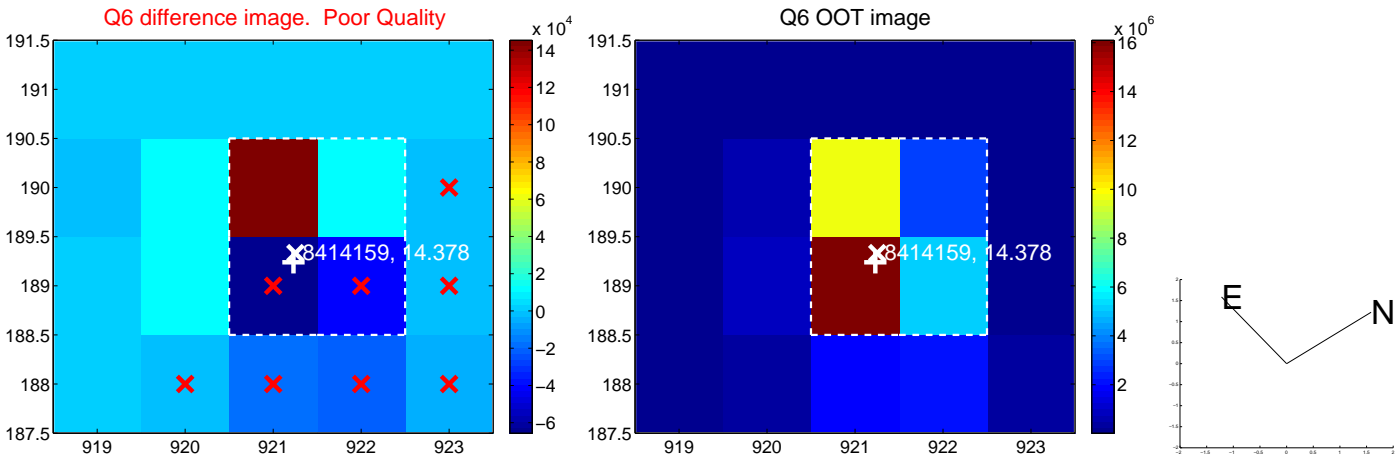
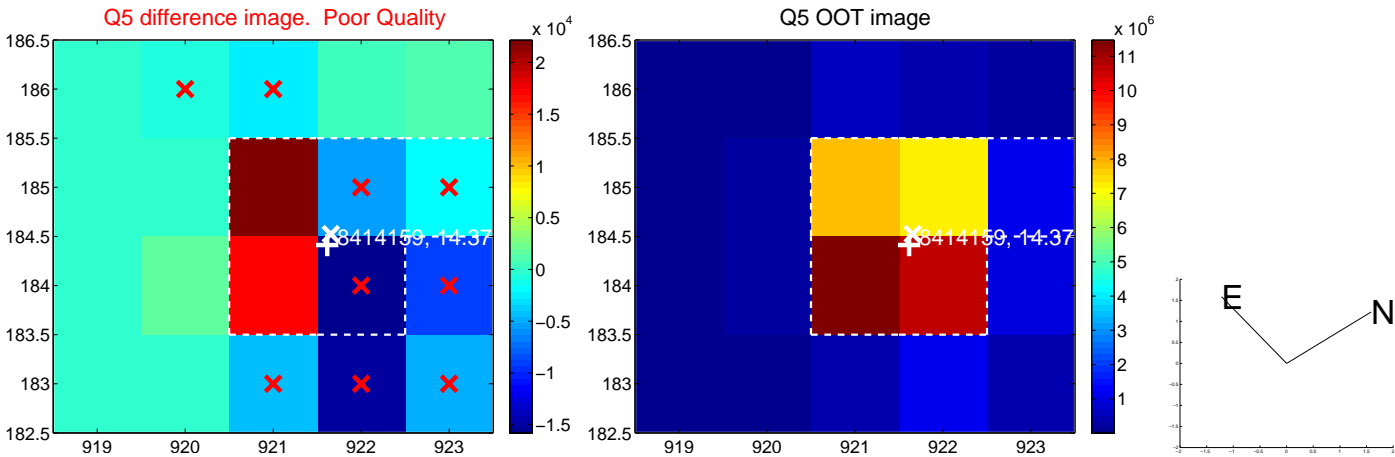


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

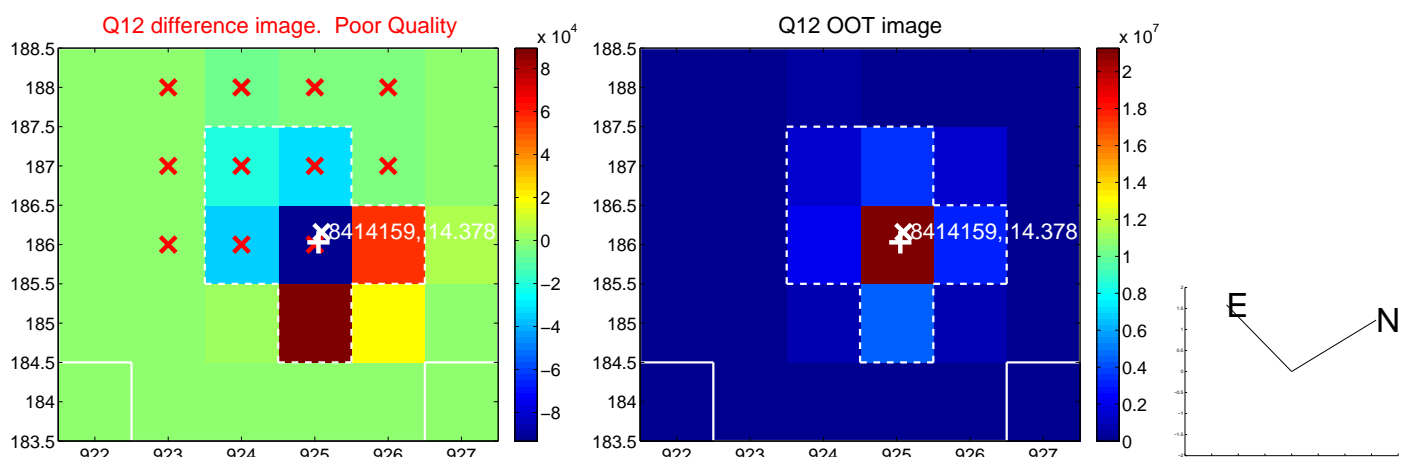
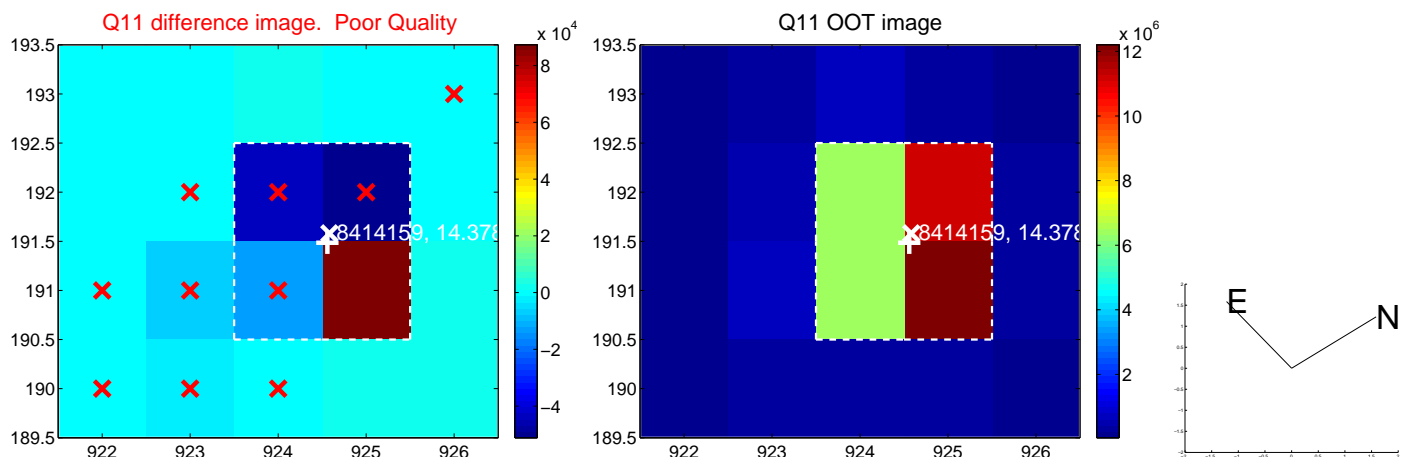
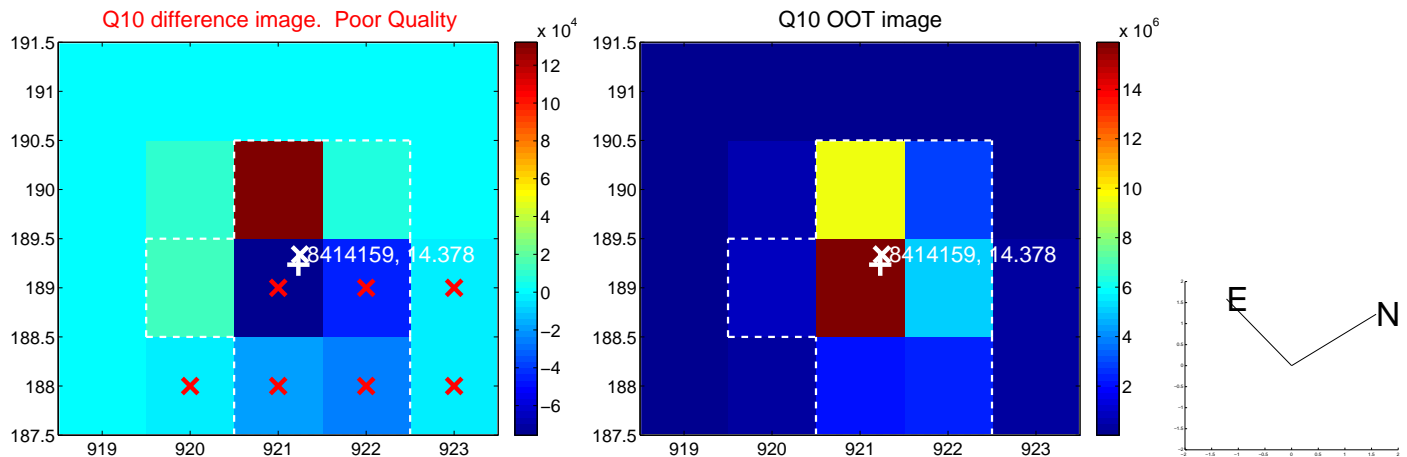
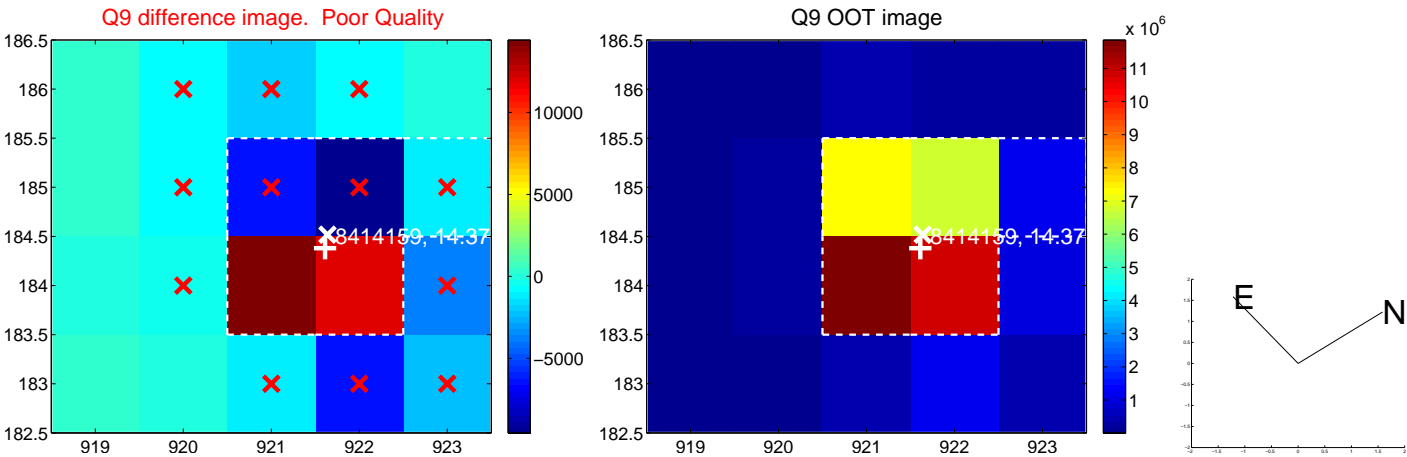
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



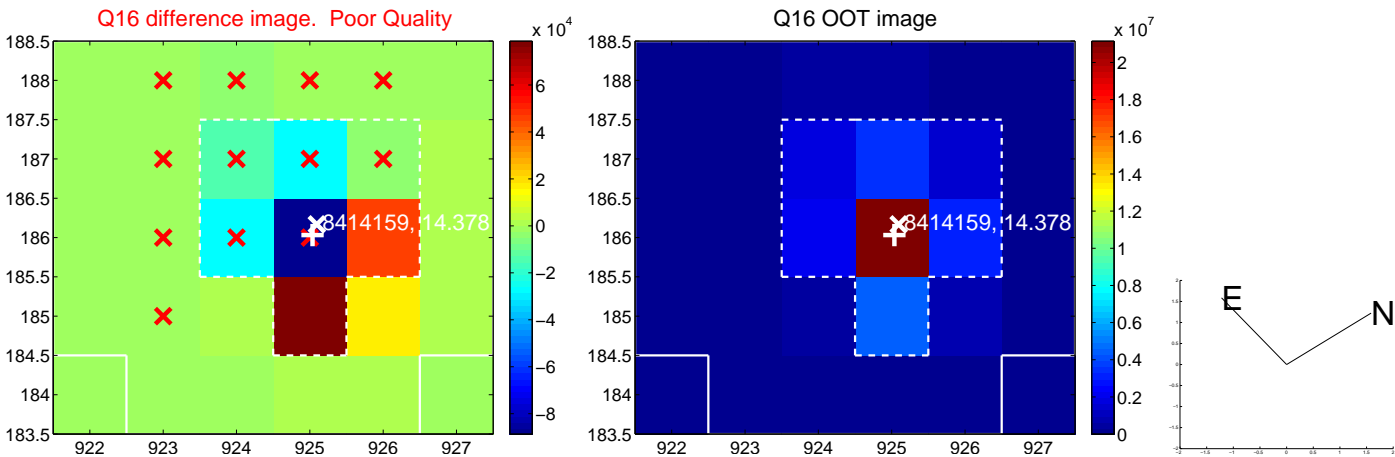
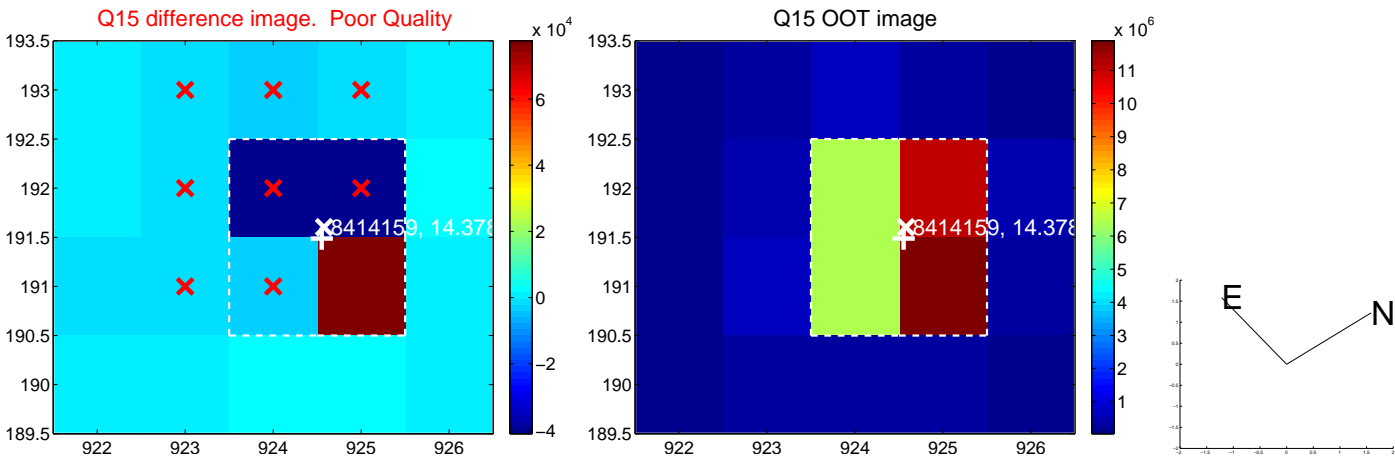
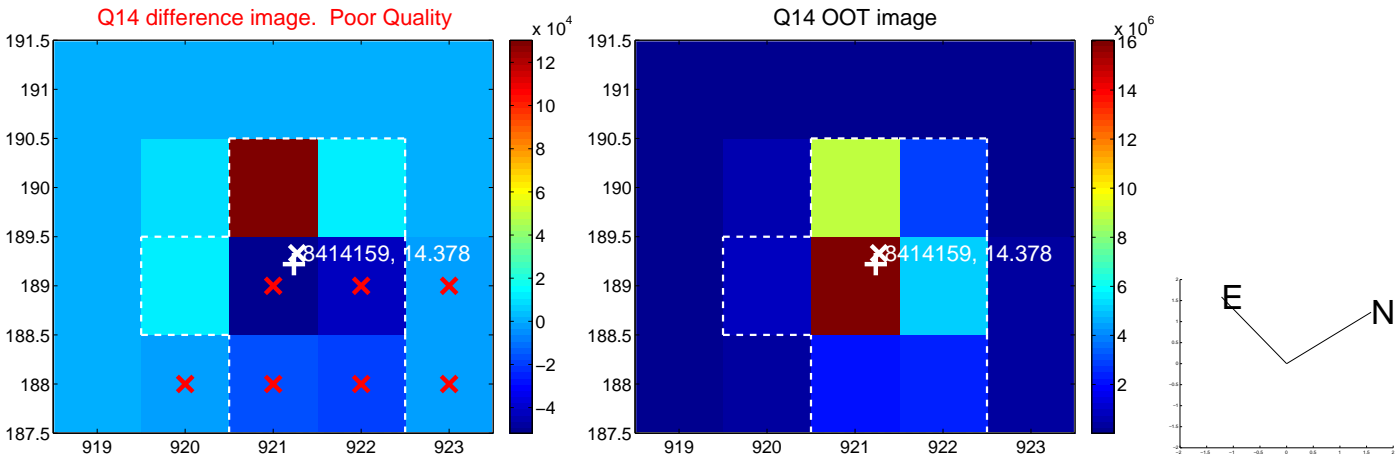
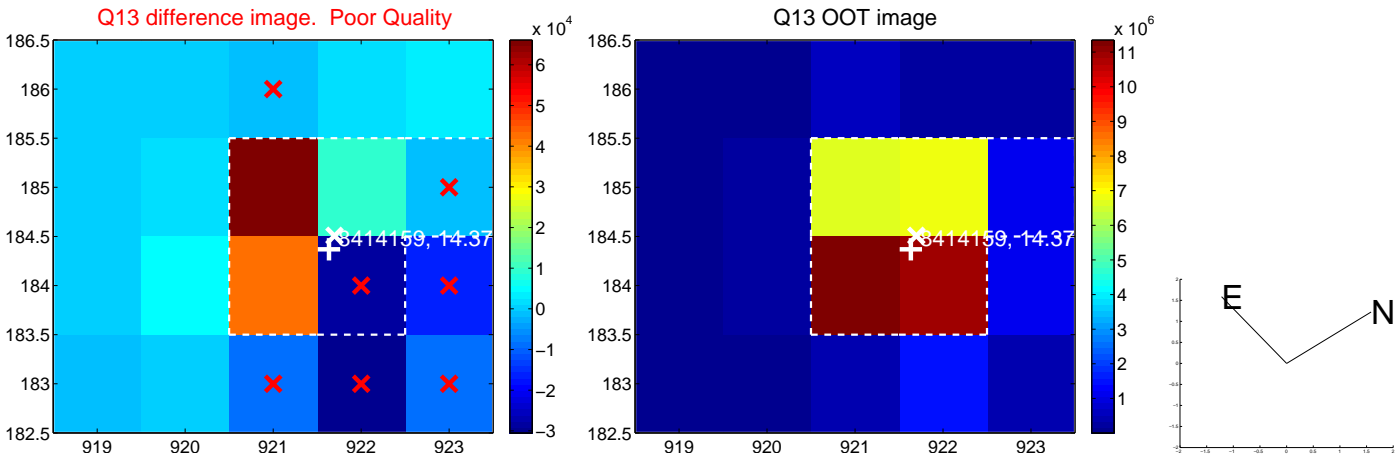
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



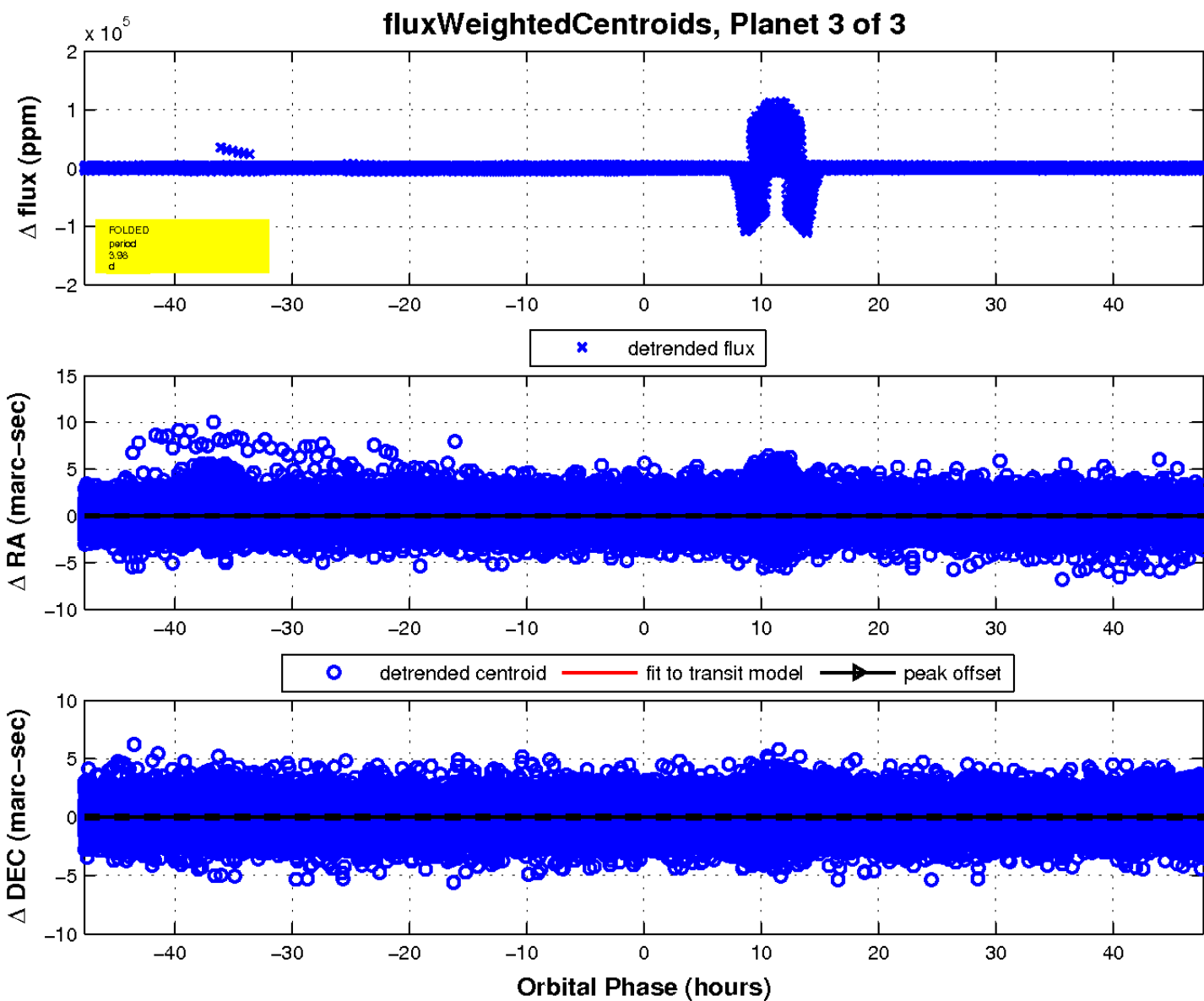
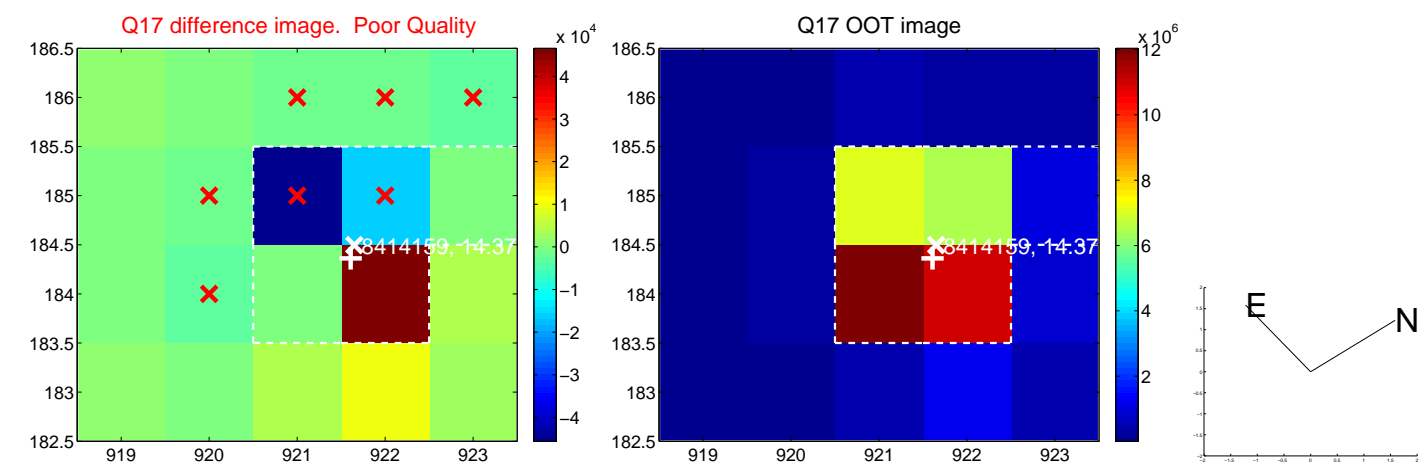
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

