

KIC 003098194

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})
003098194-01	OBS	6303.01	30.476536	156.235601	307325.2	12.500	18311.1	-1.0	1.07	5527	46.07	29.02
003098194-02	OBS	No	30.476157	136.976971	337345.4	6.000	17366.2	-1.0	1.07	5527	53.31	29.02
003098194-03	OBS	No	30.475149	158.411638	9620.6	50.164	413.3	257.1	1.07	5527	19.18	29.02
003098194-04	OBS	No	30.476175	134.948482	6368.0	64.948	200.3	123.0	1.07	5527	15.83	29.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003098194-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
003098194-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
003098194-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
003098194-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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 003098194-01

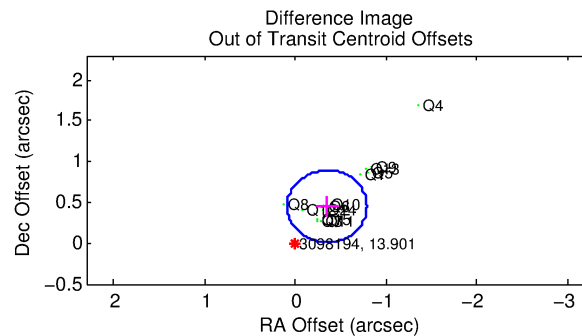
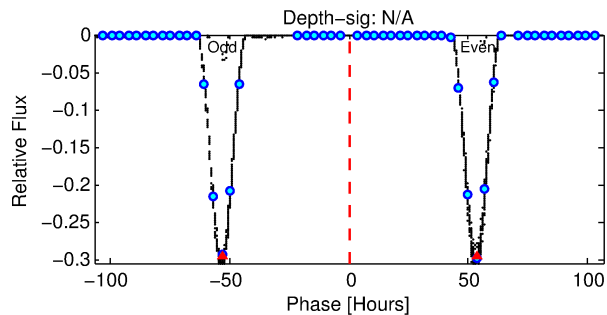
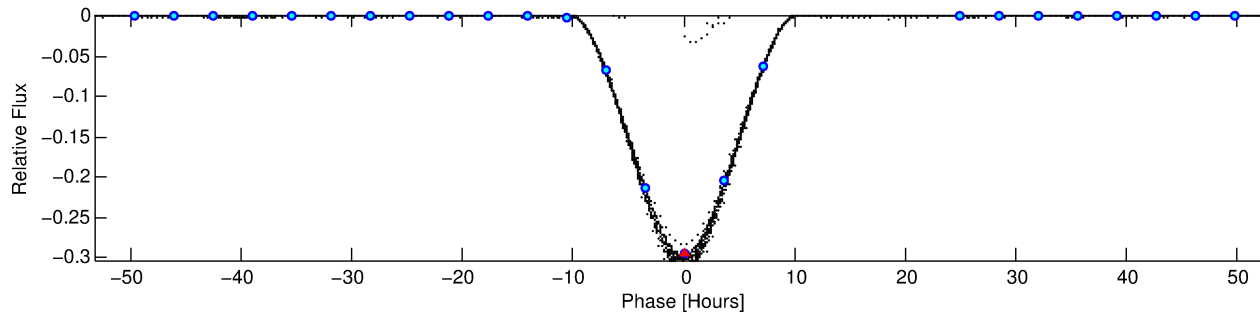
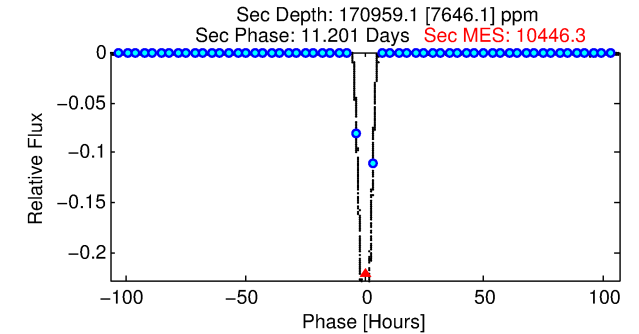
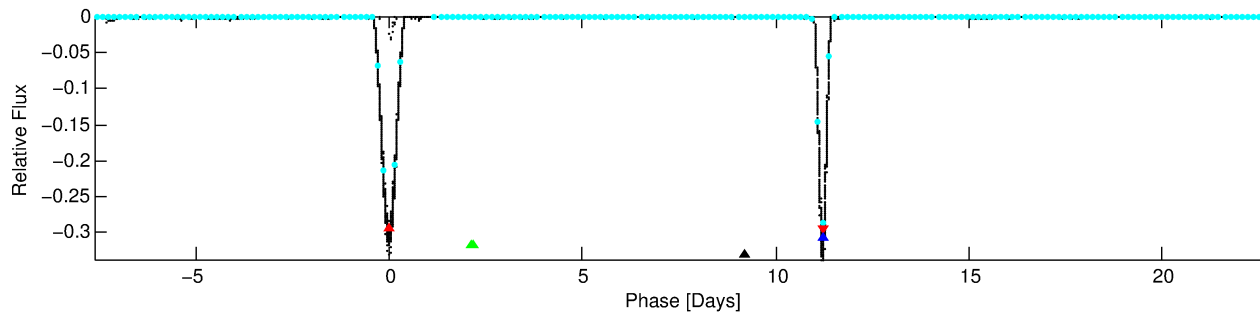
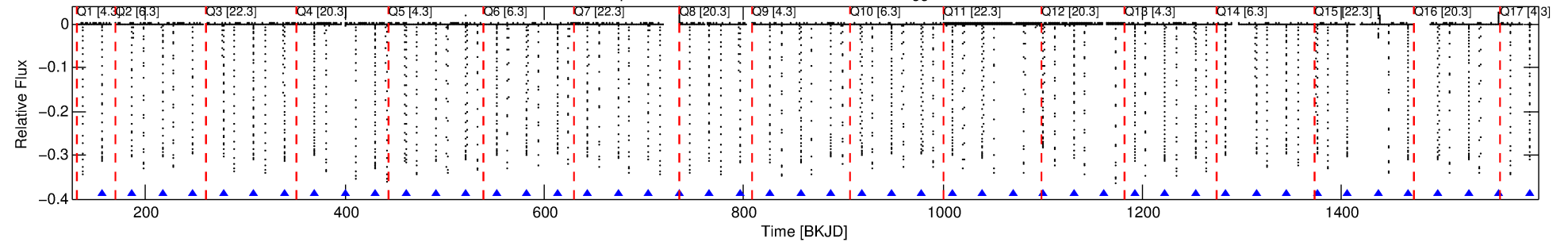
No Significant Match Found

DV One-Page Summary

KIC: 3098194 Candidate: 1 of 4 Period: 30.477 d

KOI: K06303 Corr: No Ephemeris Match

Kp: 13.90 R*: 1.07 Rs Teff: 5527.0 K Logg: 4.32 Fe/H: -0.020



TPS TCE Results:

Period = 30.47654 d
Epoch = 156.2356 BKJD

DV fit results are unavailable

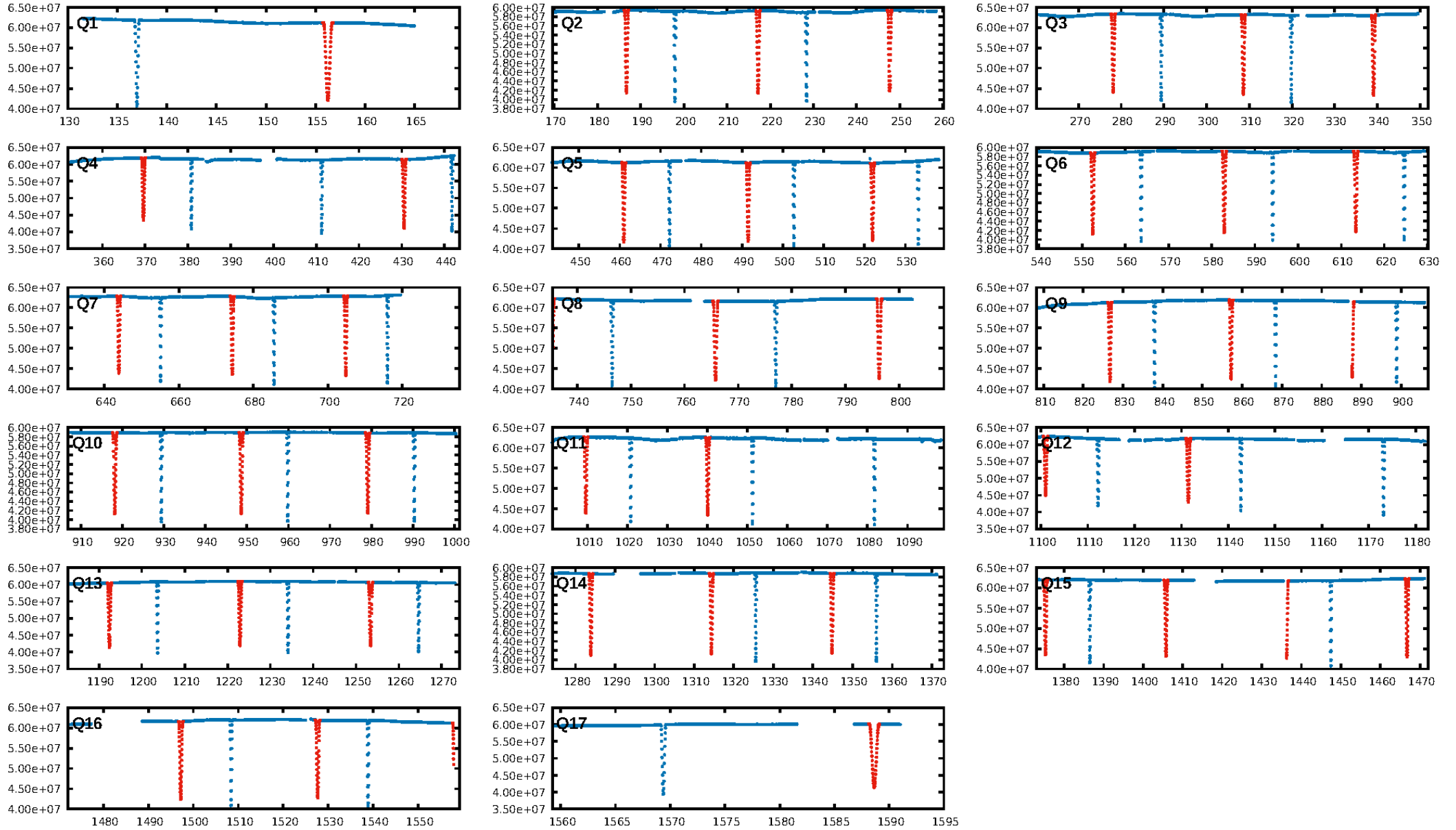
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [43/43]
GhostDiagnostic-chr: 1.26
Centroid-sig: N/A
Centroid-so: 0.823 arcsec [1591.13σ]
OotOffset-rm: 0.571 arcsec [3.89σ]
KicOffset-rm: 0.135 arcsec [1.97σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 0.00 [0/15]

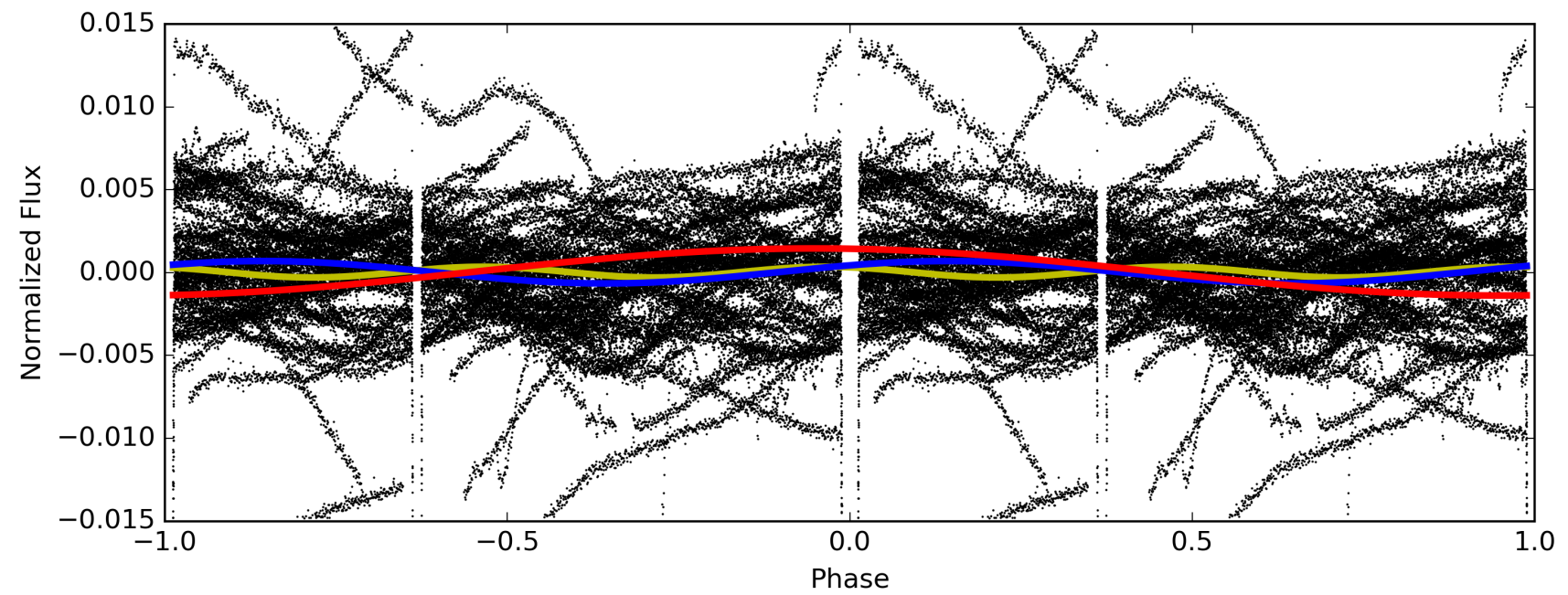
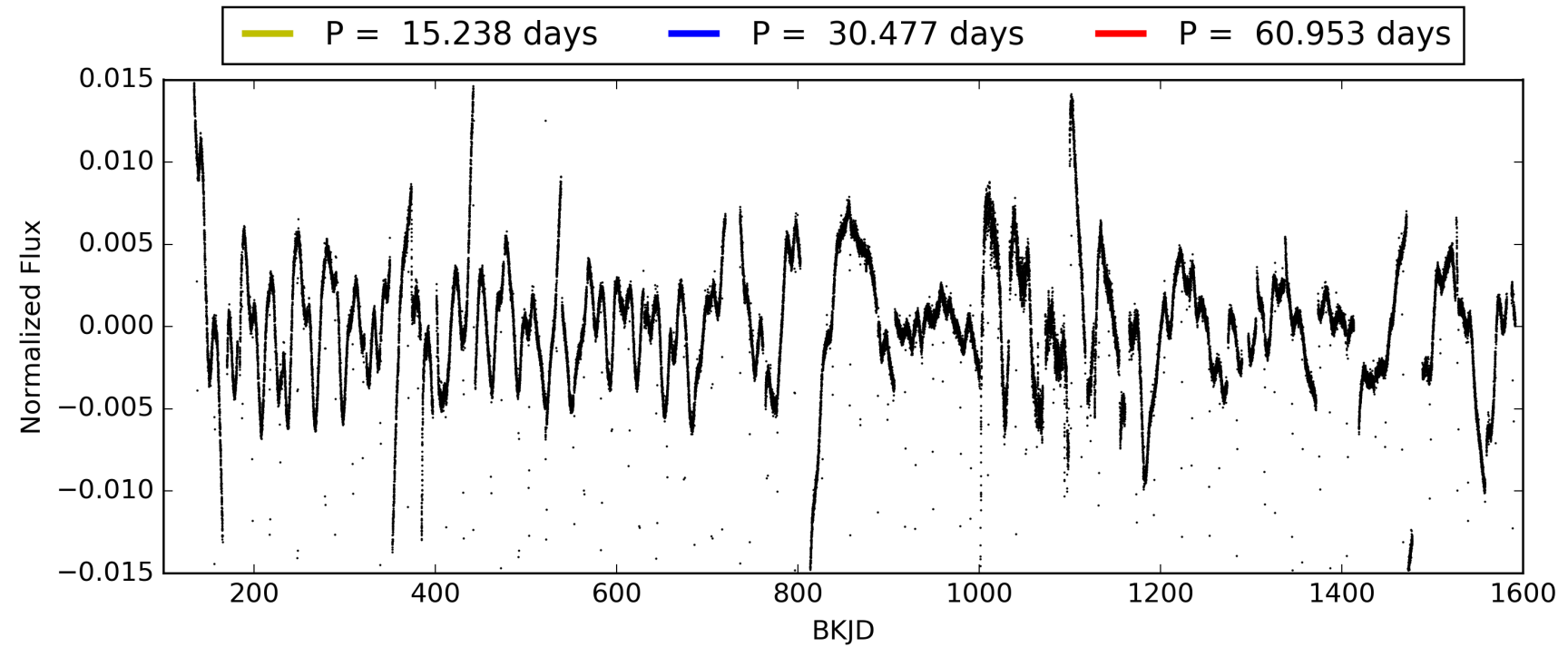
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003098194-01, PDC Light Curves

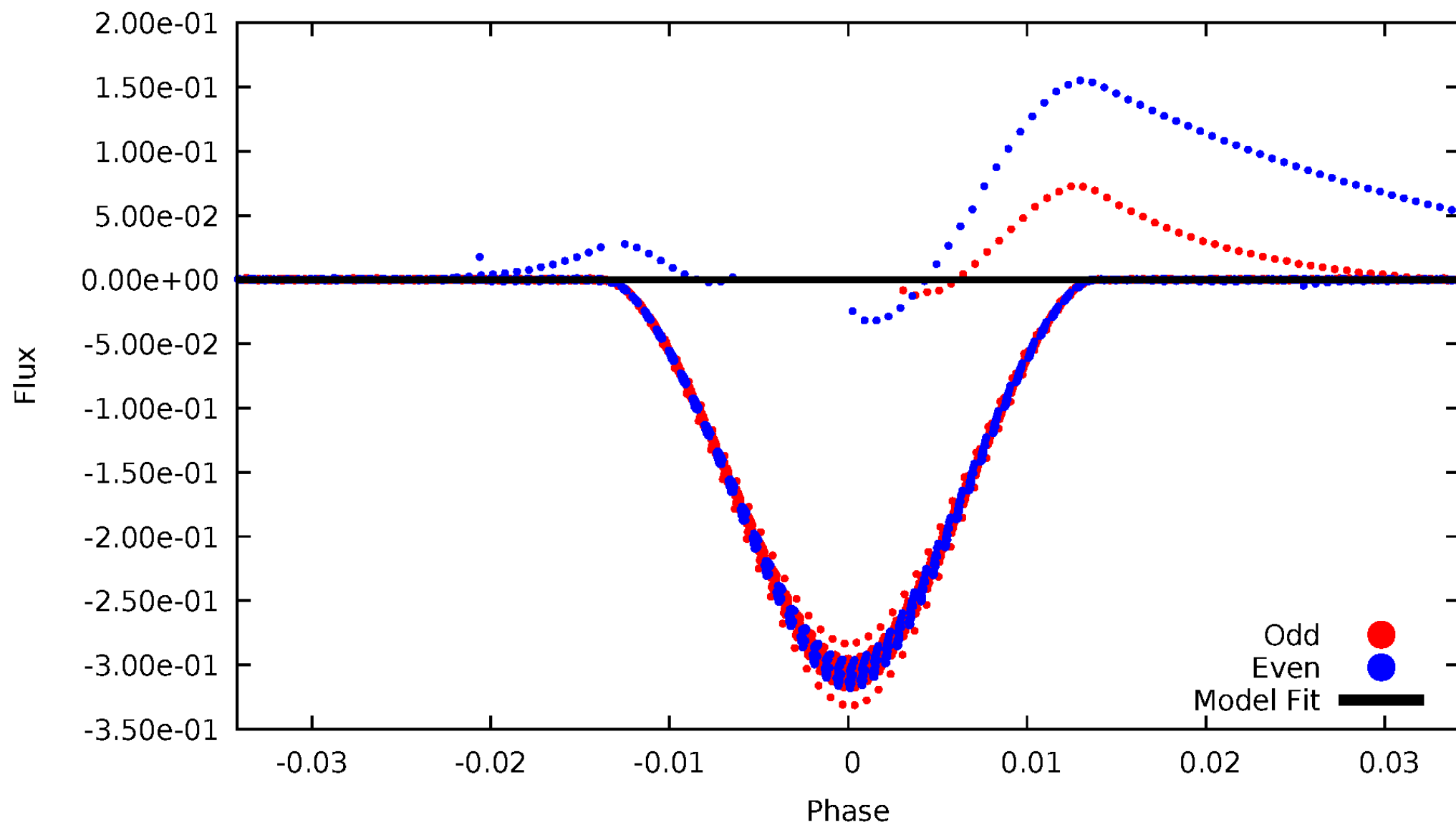


TCE 003098194-01



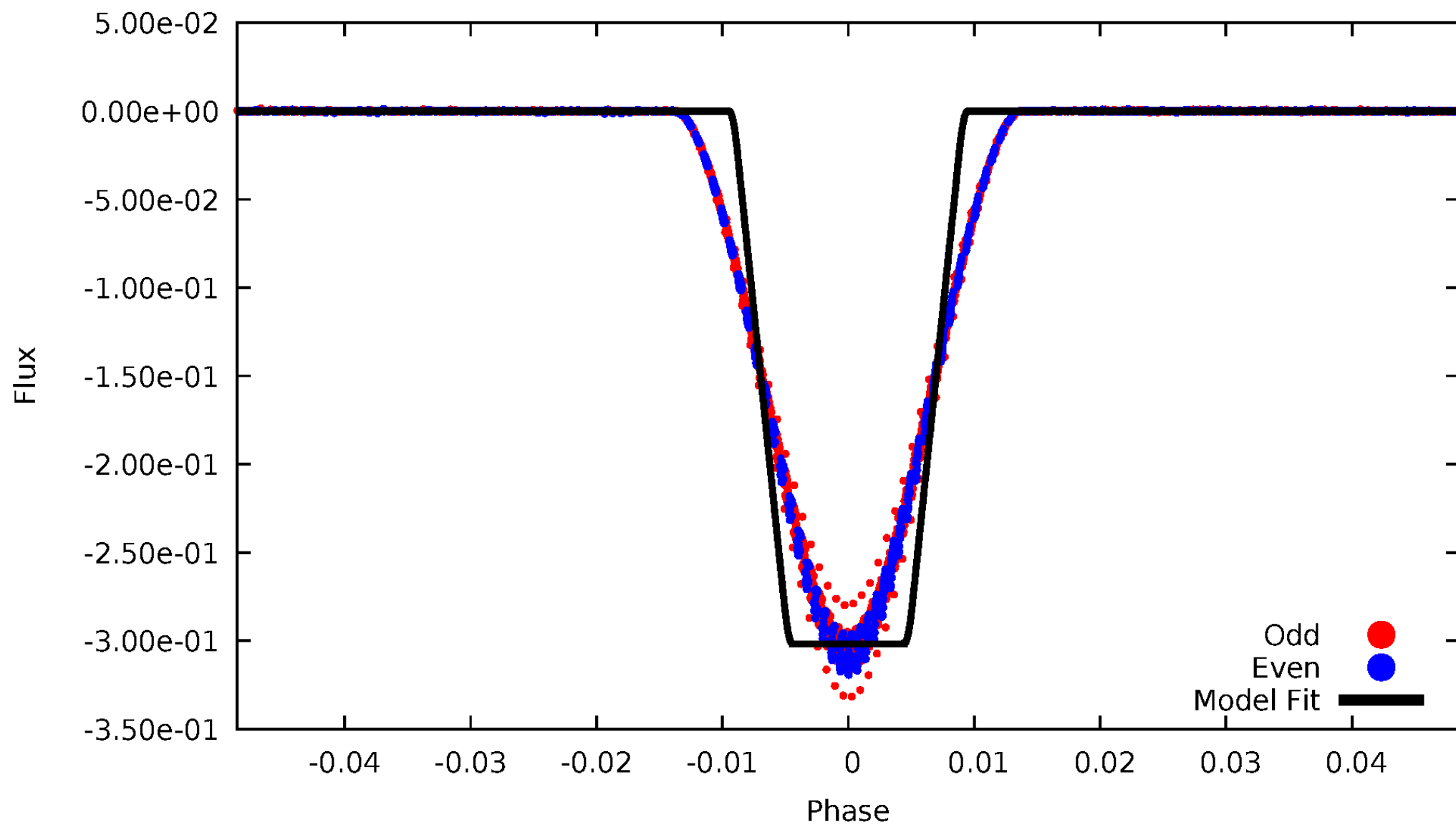
DV Odd/Even

TCE 003098194-01



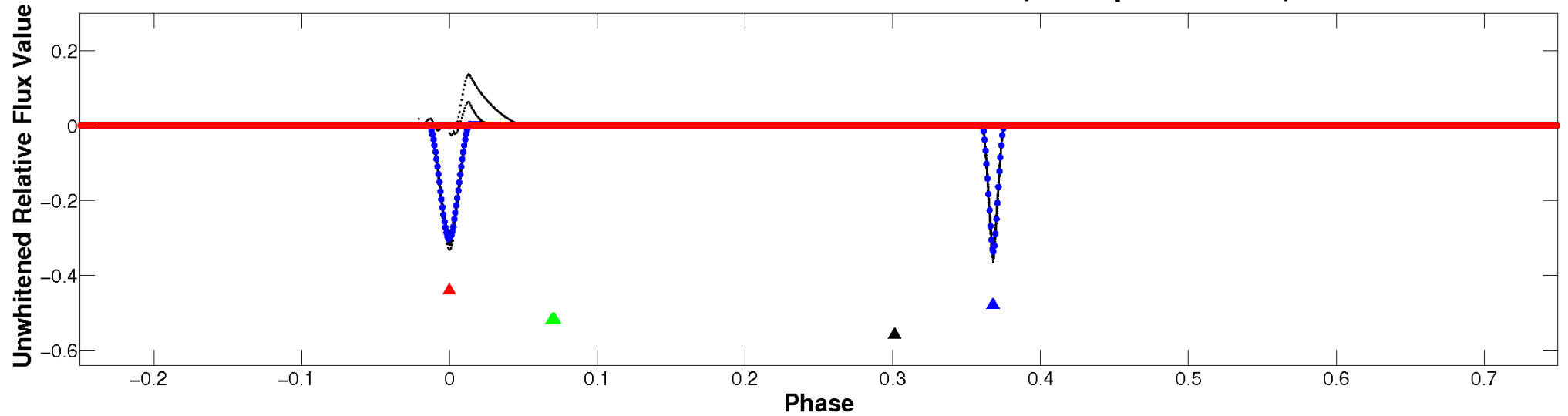
ALT Odd/Even

TCE 003098194-01



Non-Whitened Vs. Whitened Light Curve

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

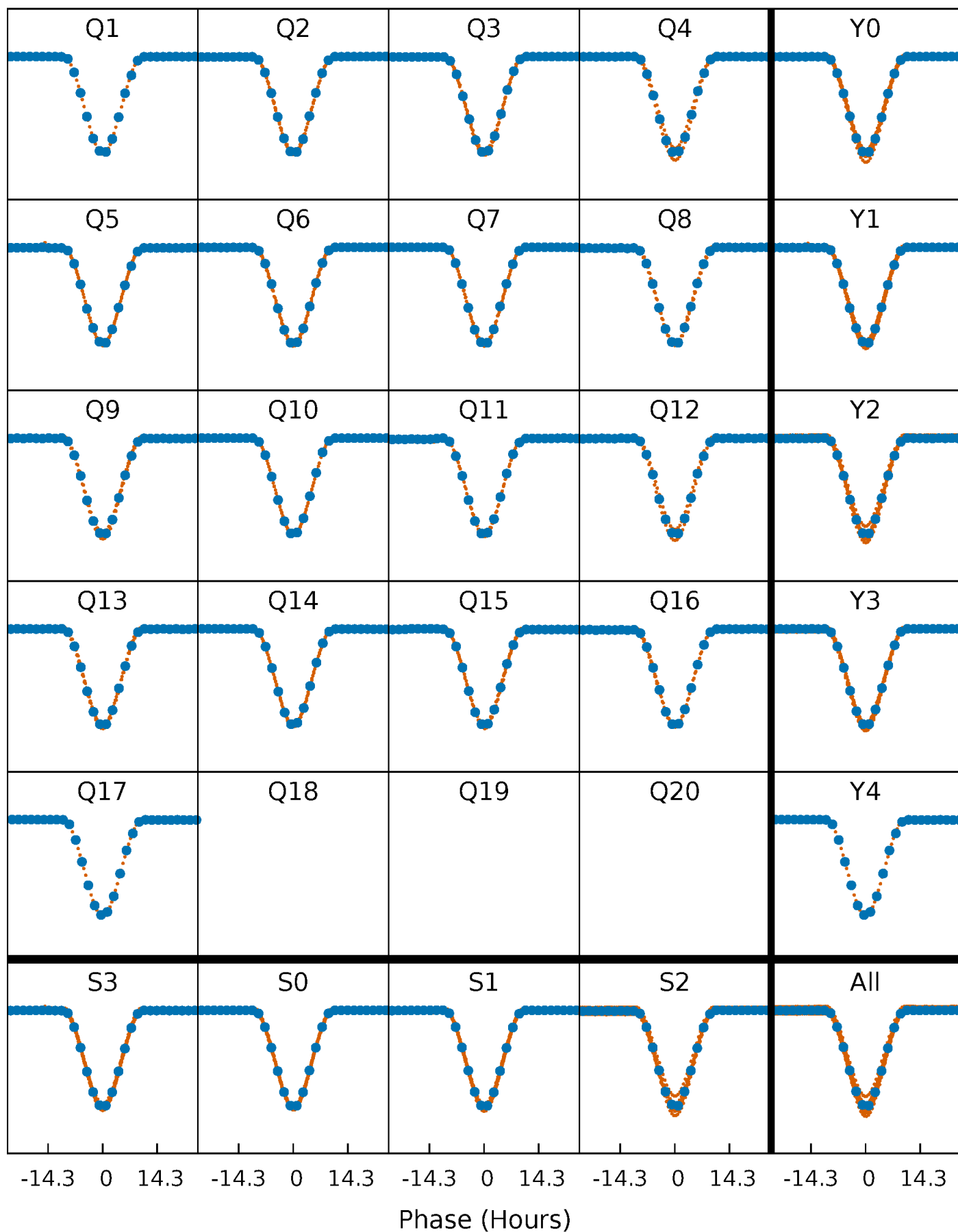


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



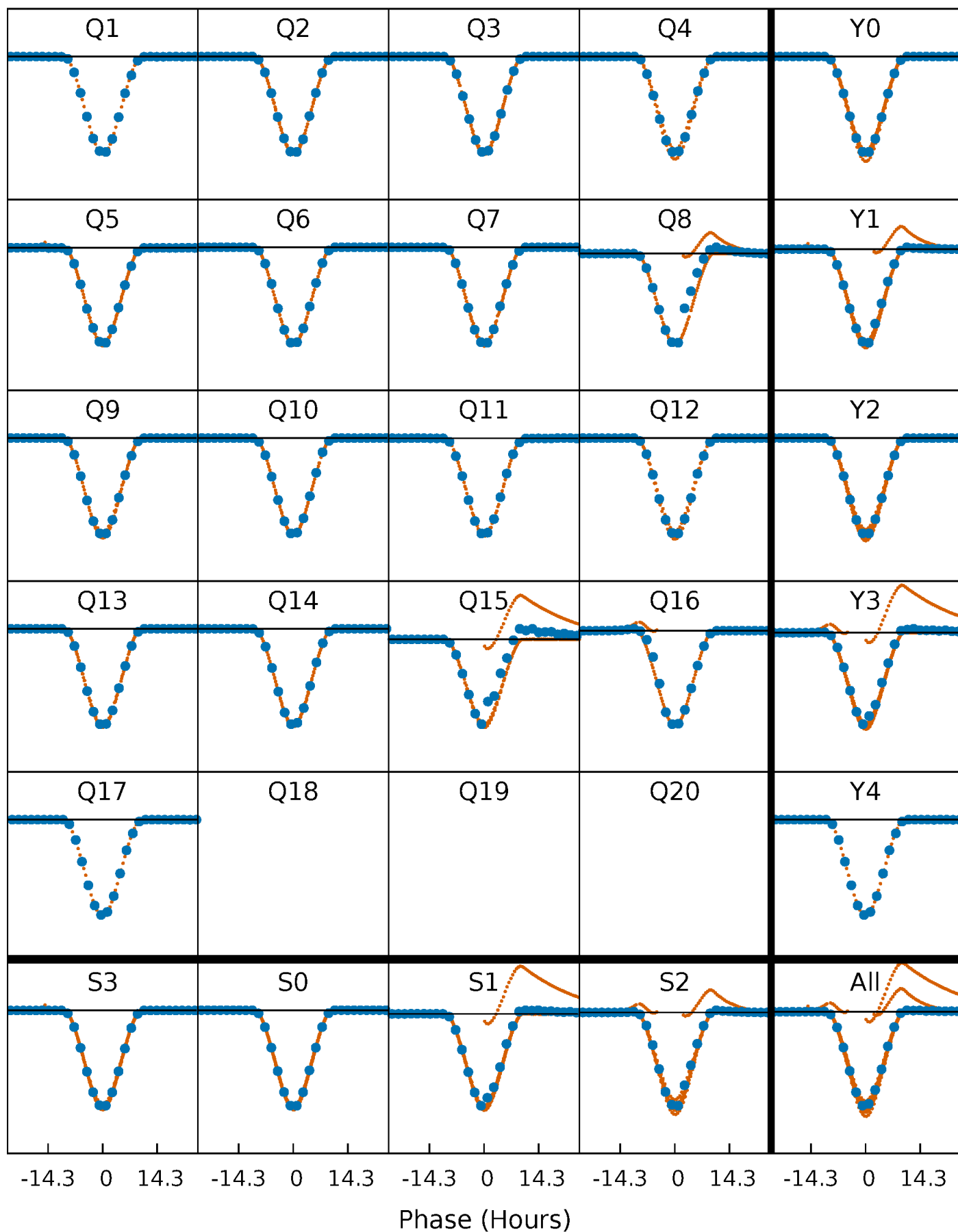
PDC Quarter-Phased Transit Curves

TCE 003098194-01 P= 30.476536 Days $T_0=156.235601$ (BKJD)



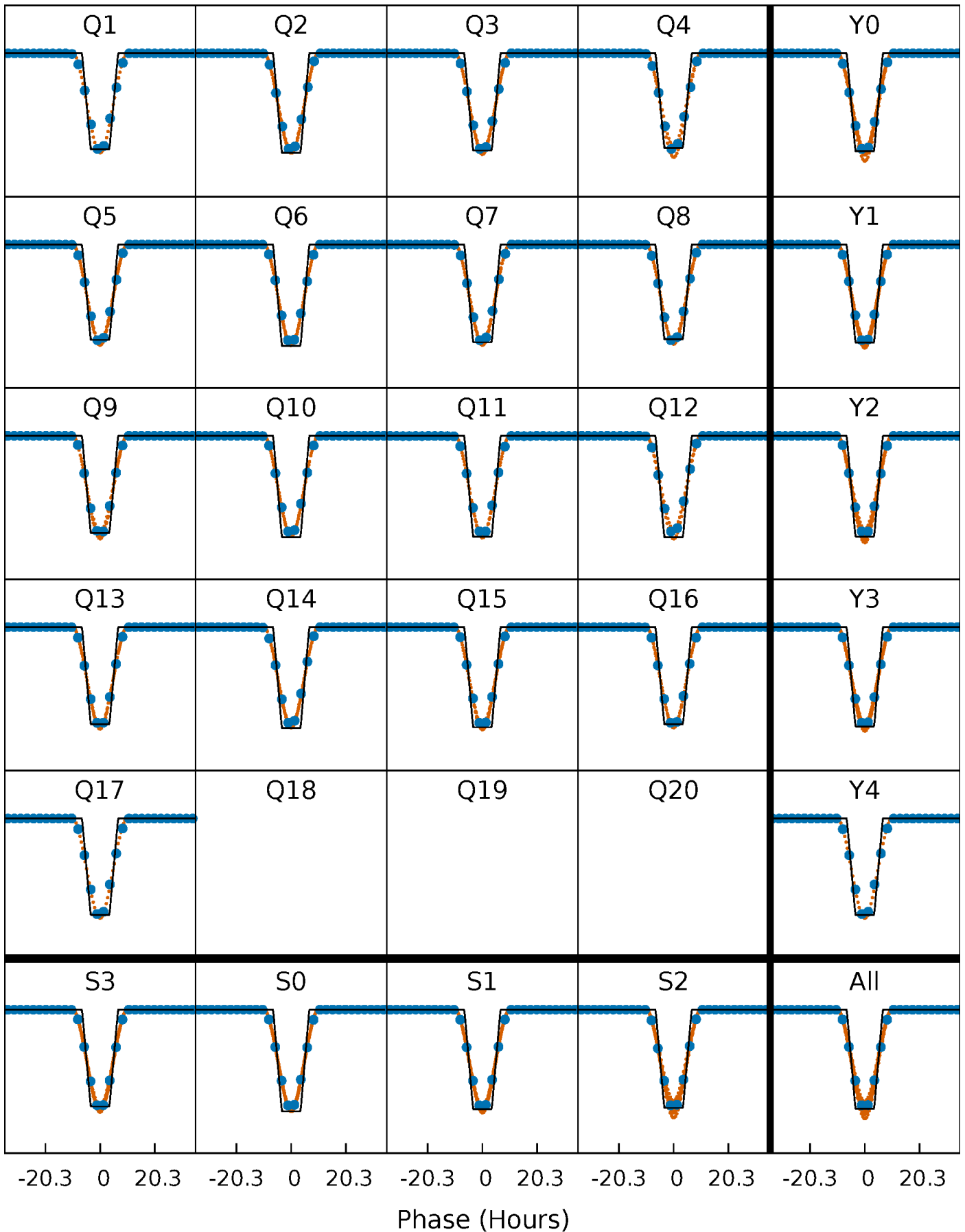
DV Quarter-Phased Transit Curves

TCE 003098194-01 P= 30.476536 Days $T_0=156.235601$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

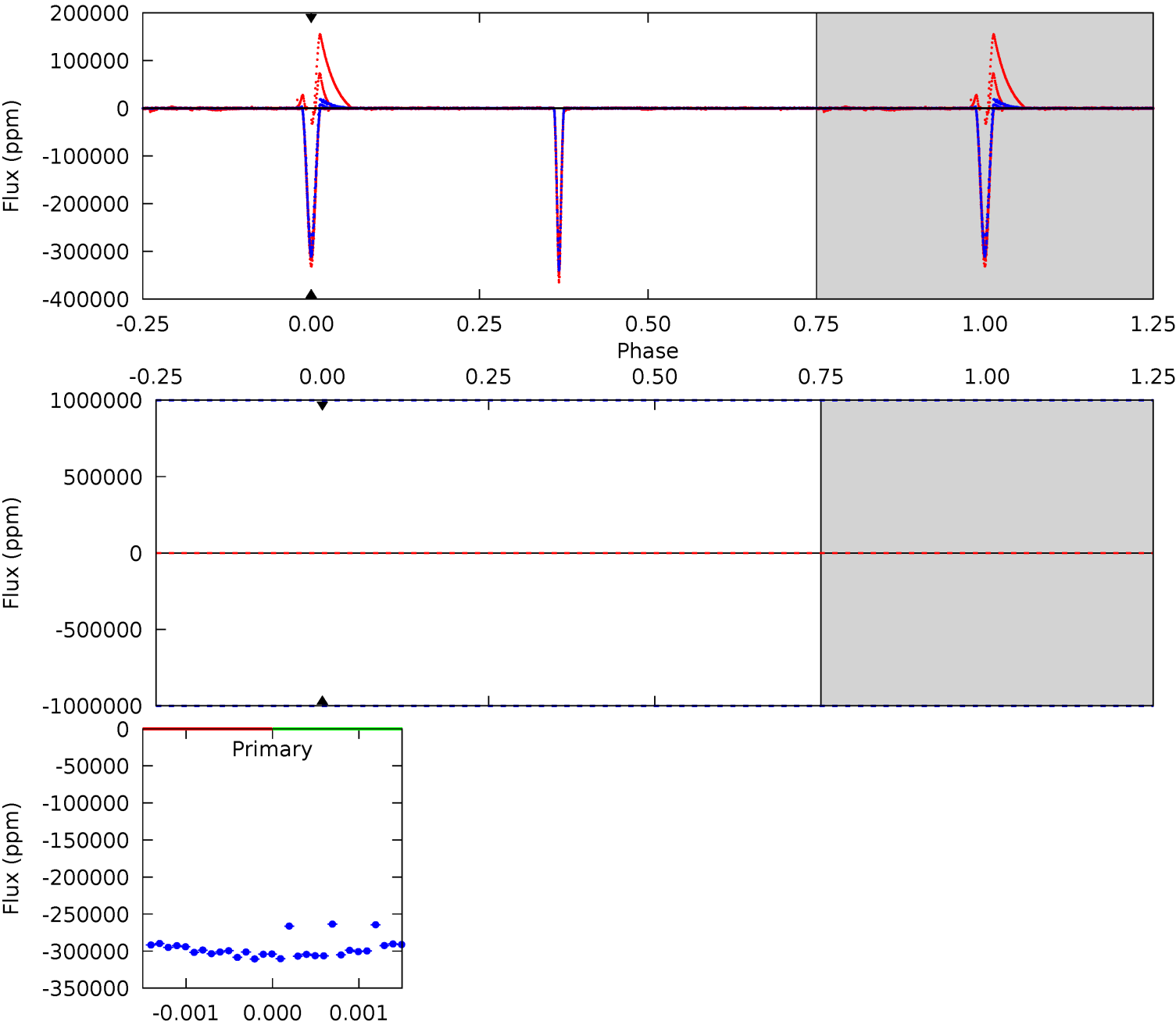
TCE 003098194-01 P= 30.476536 Days $T_0=156.238067$ (BKJD)



DV Model-Shift Uniqueness Test

003098194-01, P = 30.476536 Days, E = 125.759065 Days

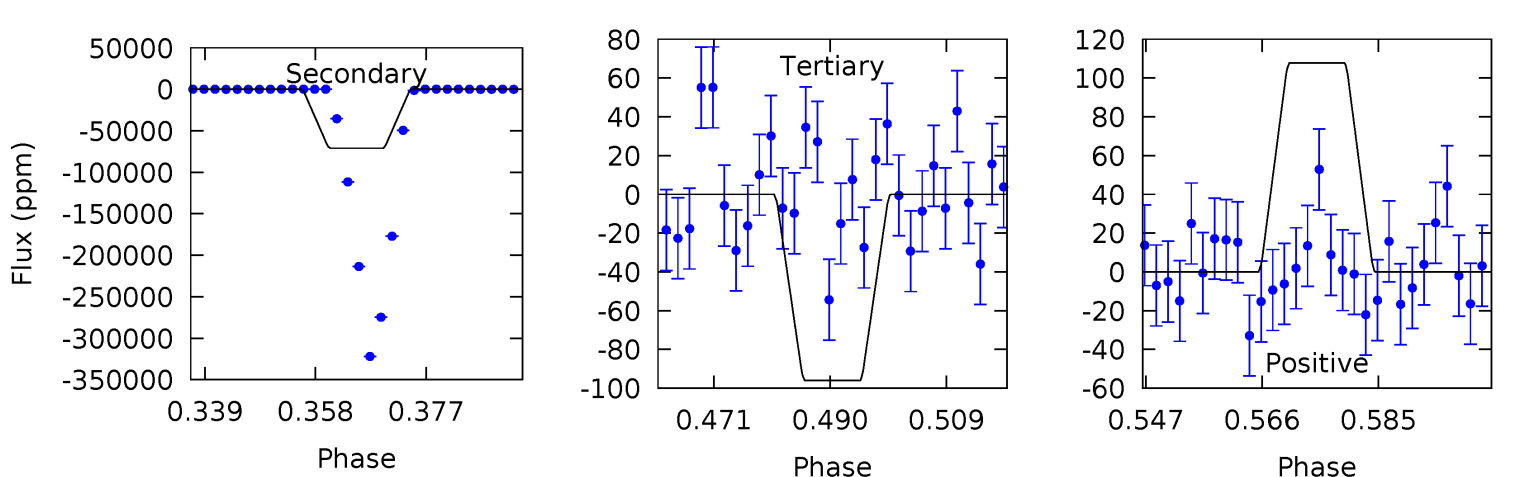
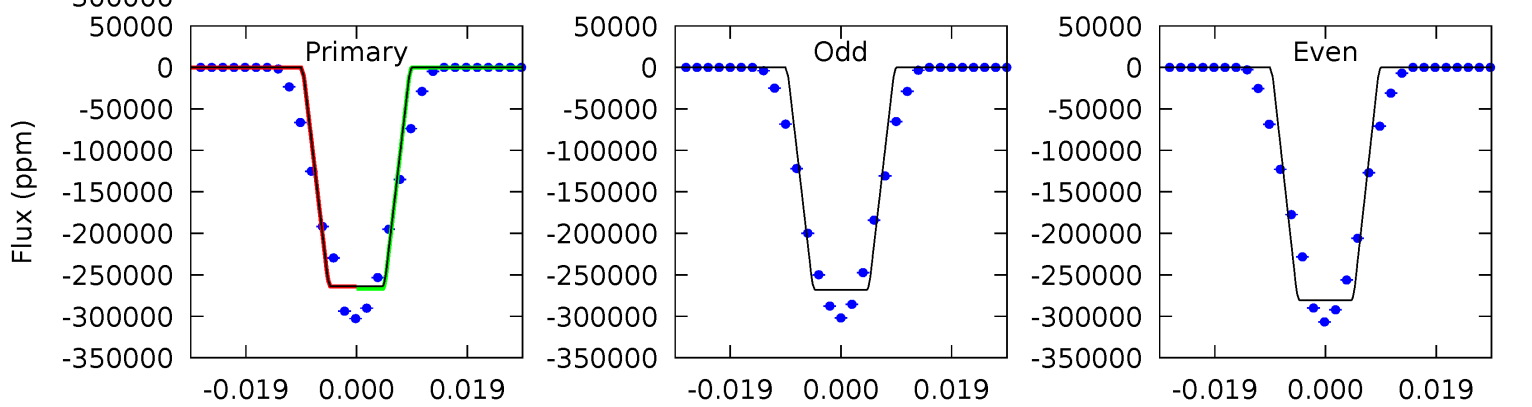
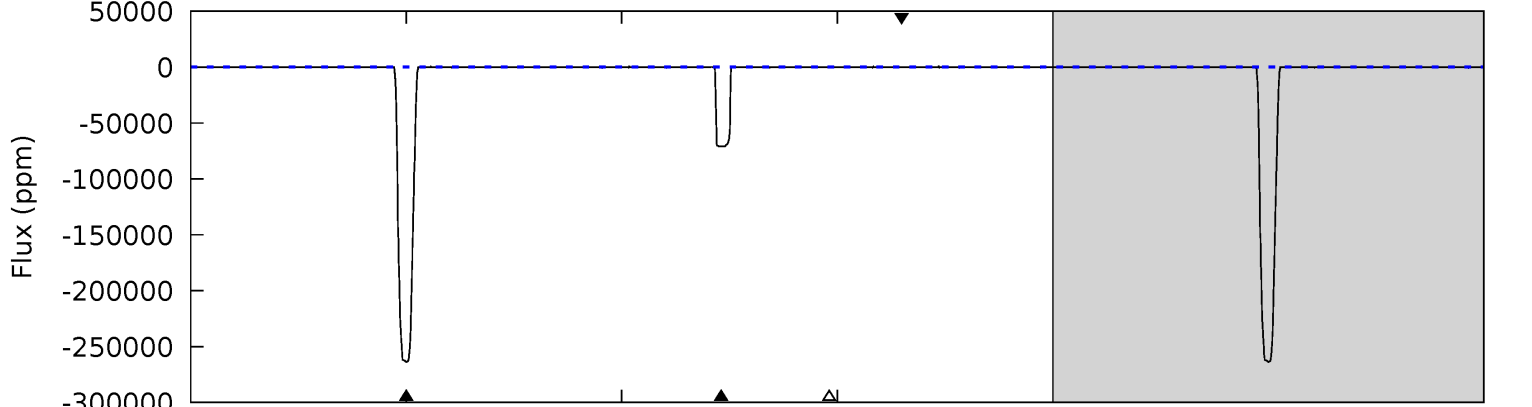
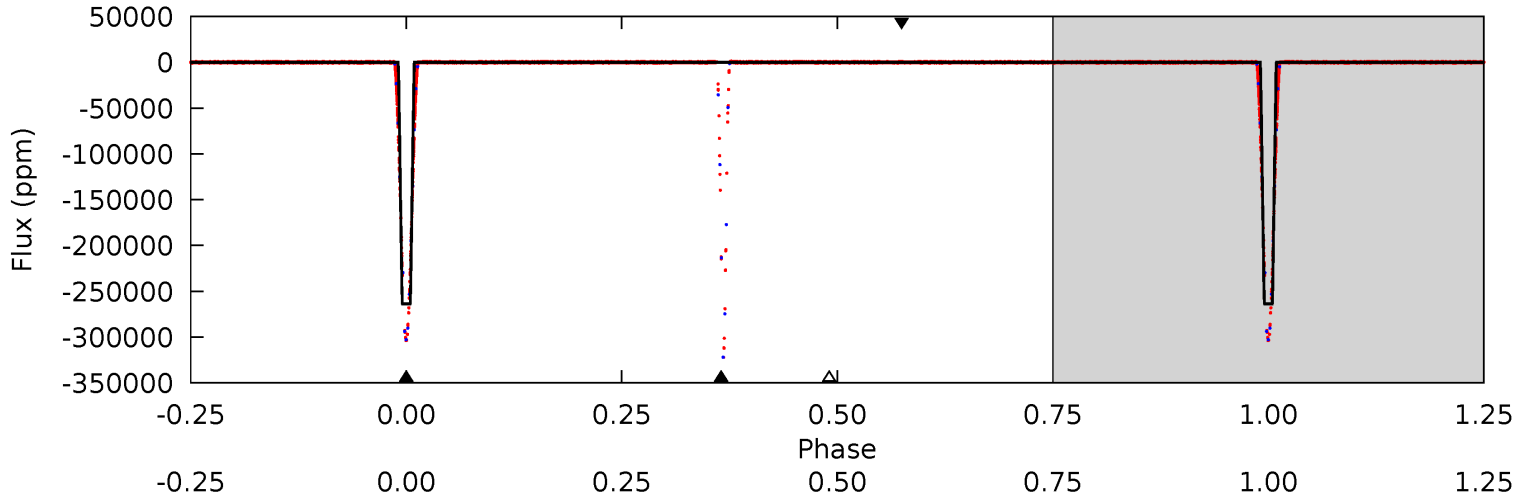
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003098194-01, P = 30.476536 Days, E = 125.761531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12106	3260	4.41	4.95	4.90	2.35	1.56	12102	12101	3255	3255	324.4	1.00	0.00	4.53



Stellar Parameters For KIC 003098194

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5527^{+166}_{-149}	$4.315^{+0.205}_{-0.205}$	$-0.020^{+0.250}_{-0.250}$	$1.073^{+0.321}_{-0.214}$	$0.867^{+0.122}_{-0.071}$	$0.988^{+0.920}_{-0.515}$
	+3%/-3%	+5%/-5%	+1250%/-1250%	+30%/-20%	+14%/-8%	+93%/-52%
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 003098194-01 / KOI 6303.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$45.62^{+14.30}_{-12.77}$	827^{+65}_{-58}	2675^{+2612}_{-7688}	21^{+1085}_{-879}
Alt.	-70999 ± 22	$64.43^{+16.68}_{-13.53}$	824^{+67}_{-55}	4181^{+350}_{-268}	346^{+202}_{-129}

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

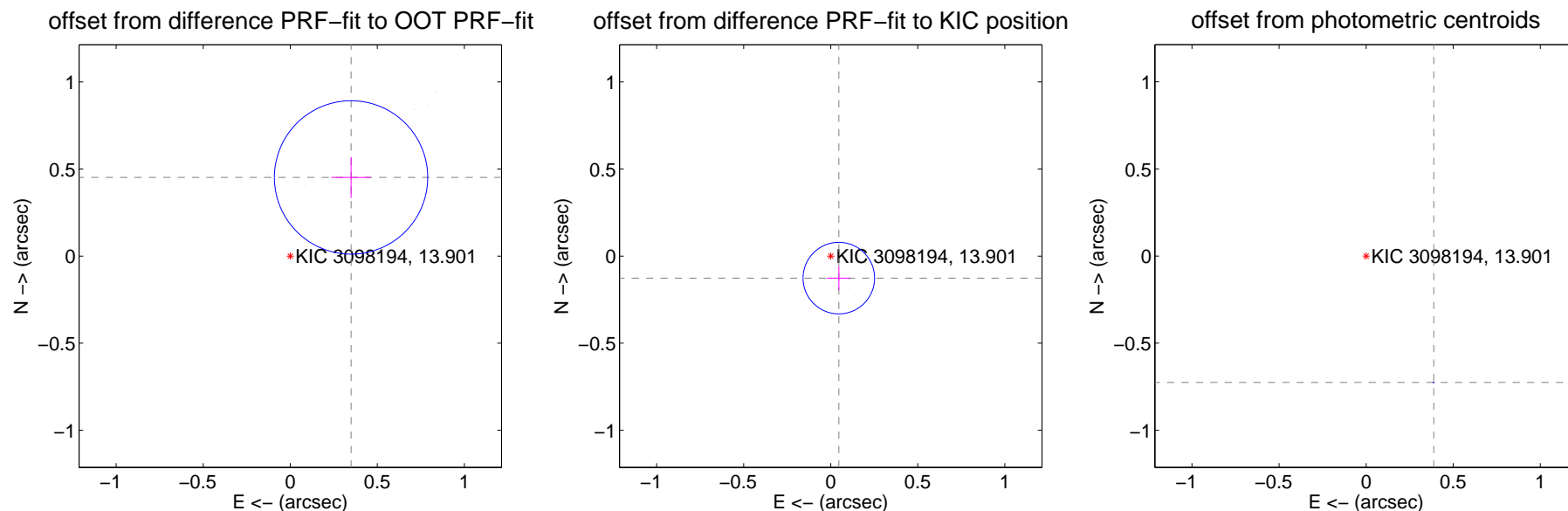
DV Centroid Data

Supplemental centroid analysis for 003098194-01. Kepler magnitude: 13.90. Transit SNR -1.00

There are 15 quarters with good PRF difference image offsets

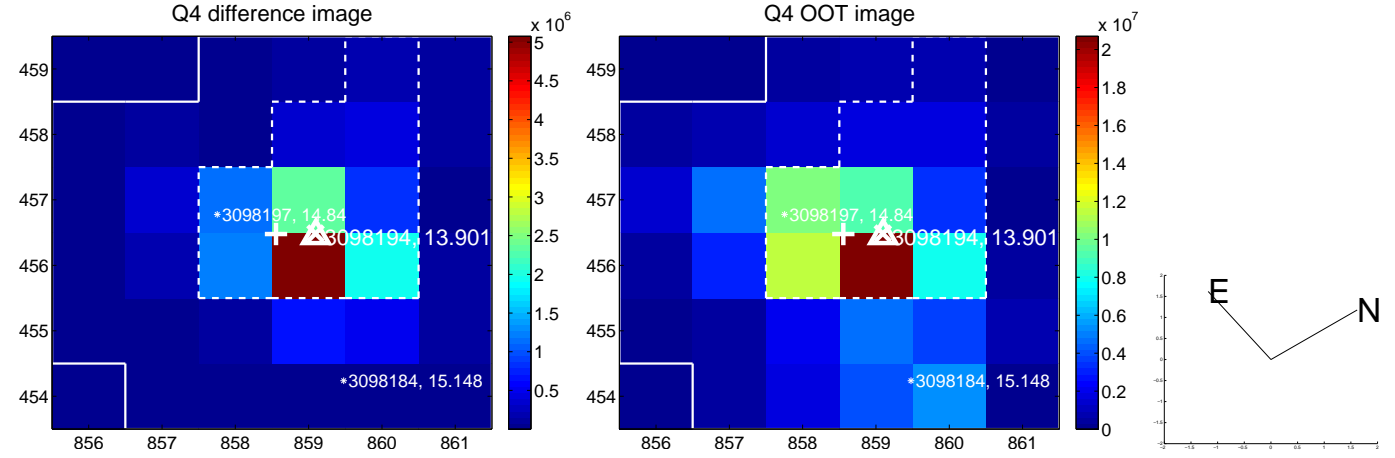
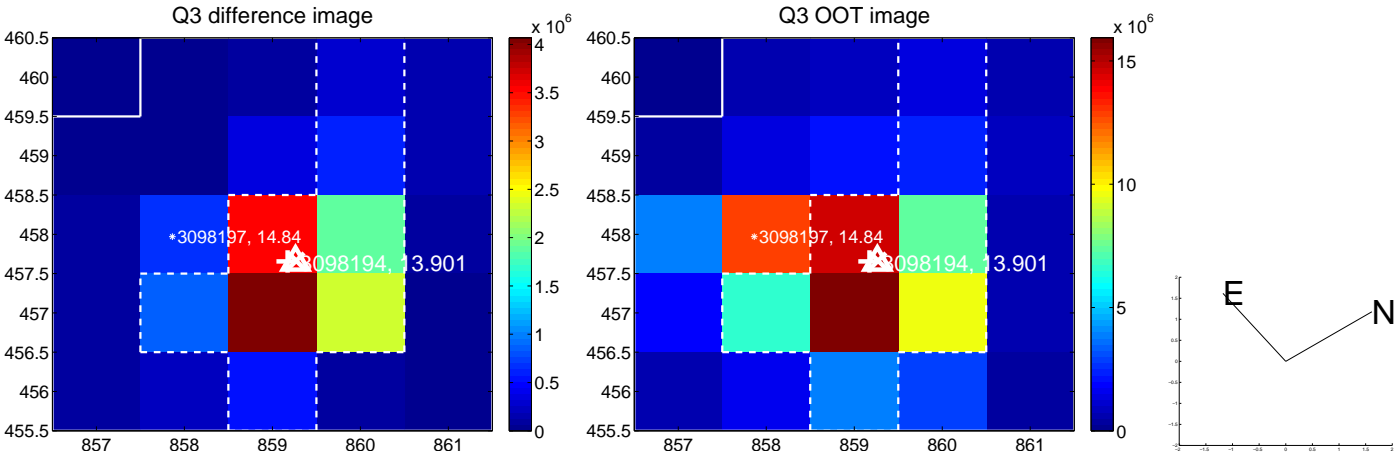
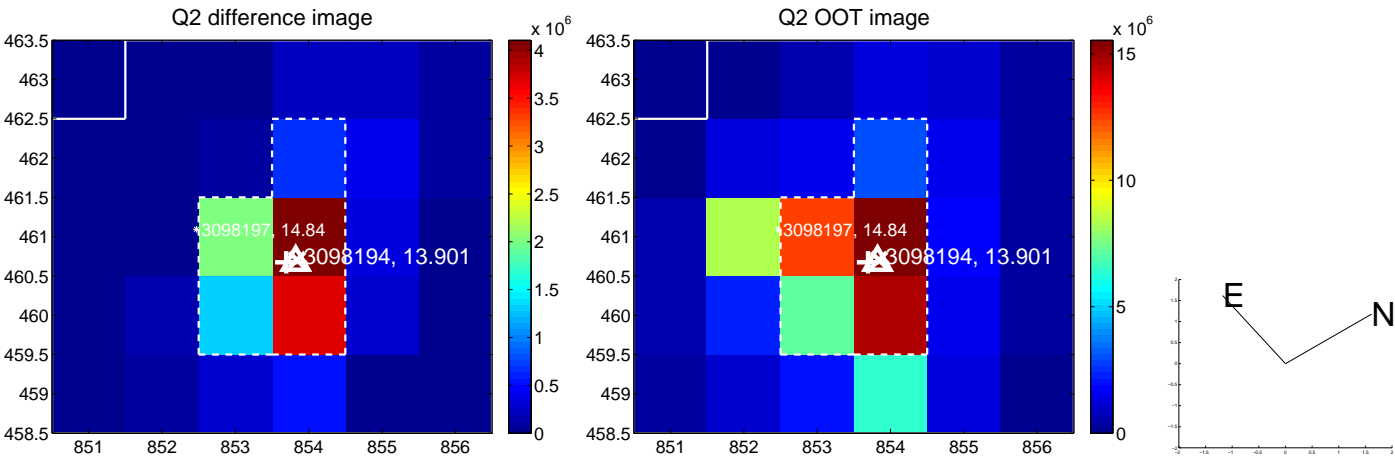
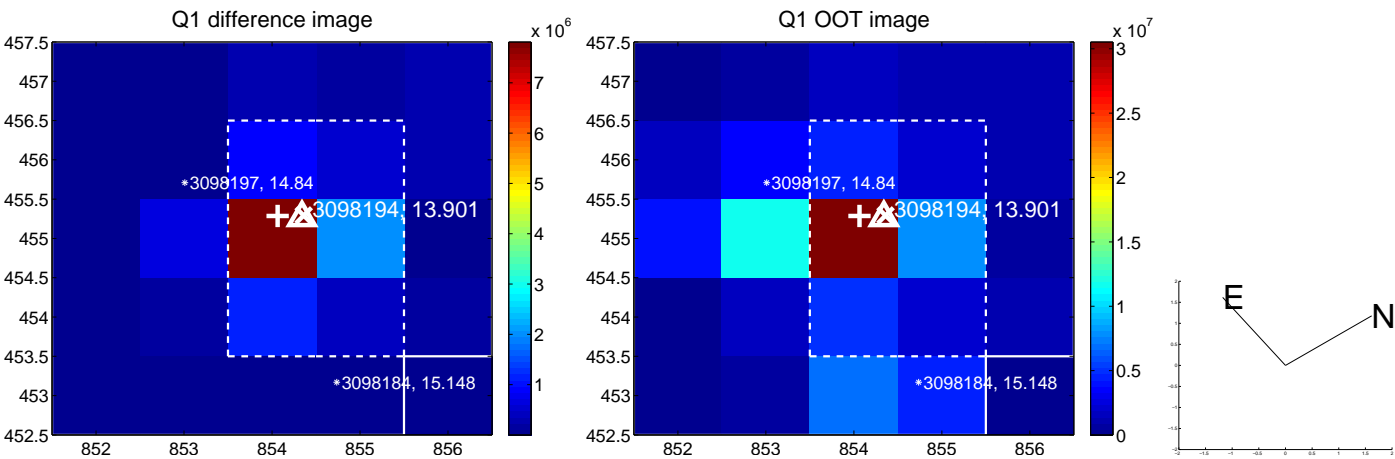
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.571 ± 0.147	3.89	-0.349 ± 0.114	0.451 ± 0.117
PRF-fit source offset from KIC position	0.135 ± 0.068	1.97	-0.047 ± 0.067	-0.126 ± 0.069
photometric centroid source offset	0.82 ± 0.00	1591.13	-0.39 ± 0.00	-0.73 ± 0.00

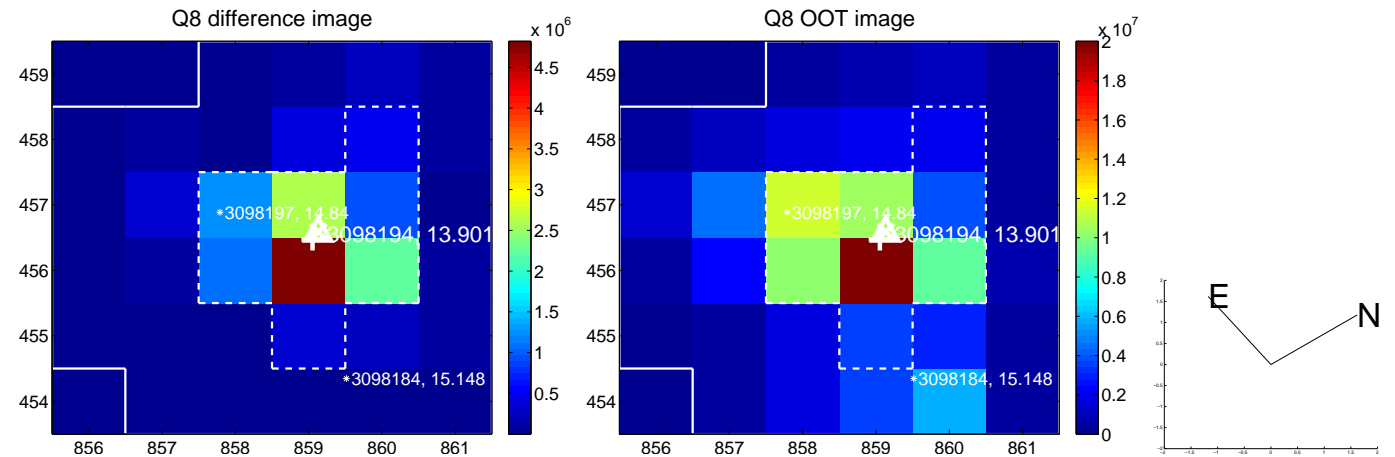
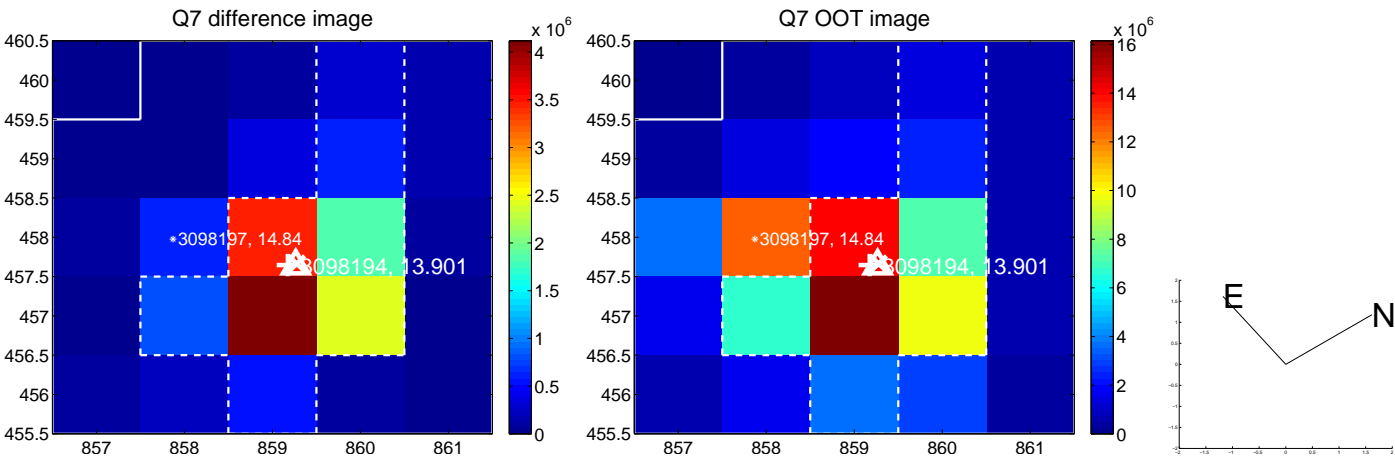
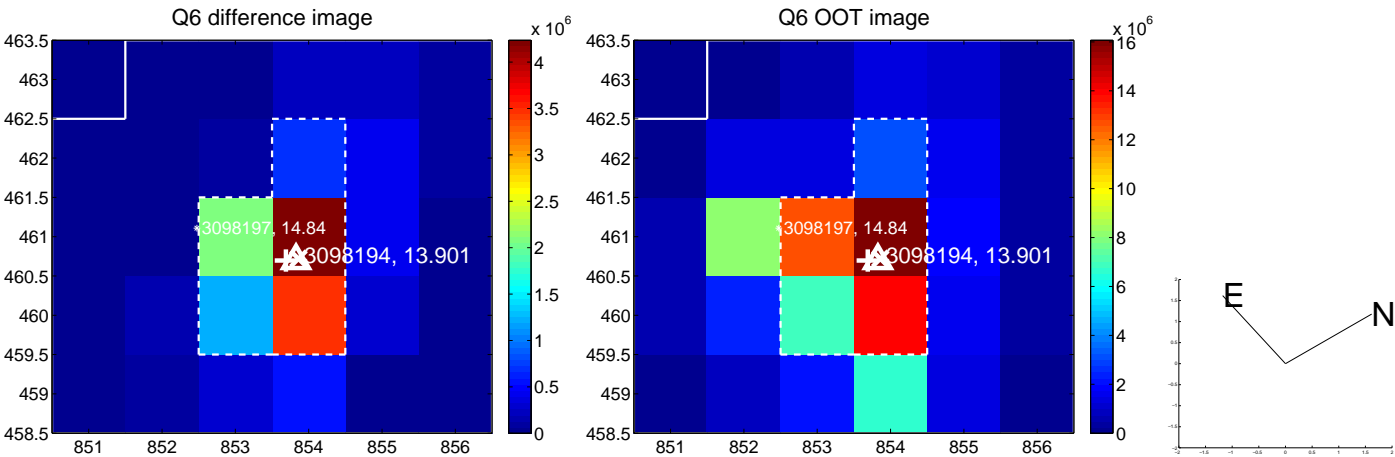
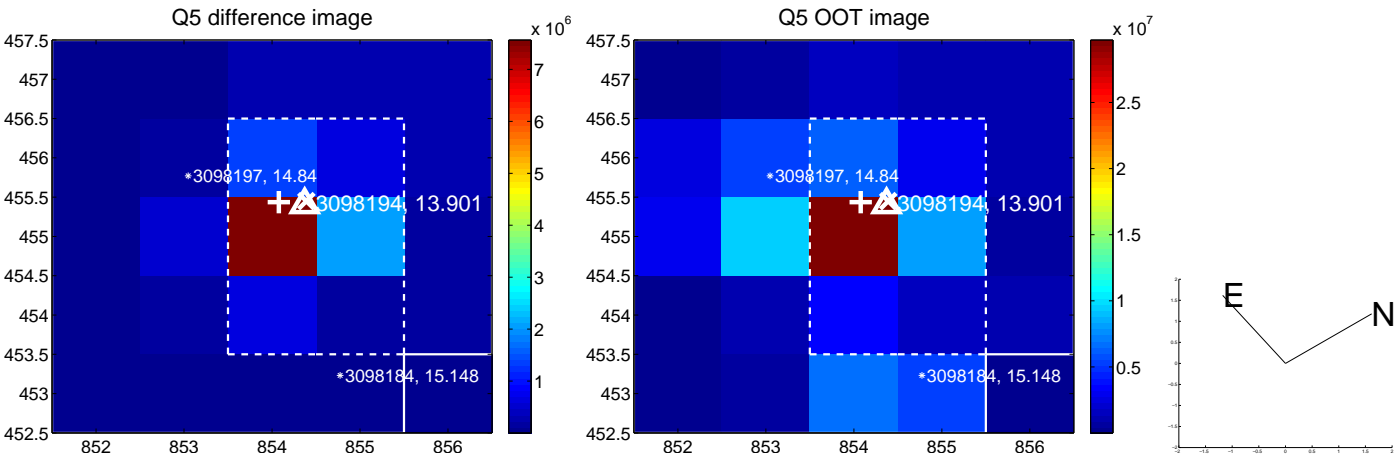


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

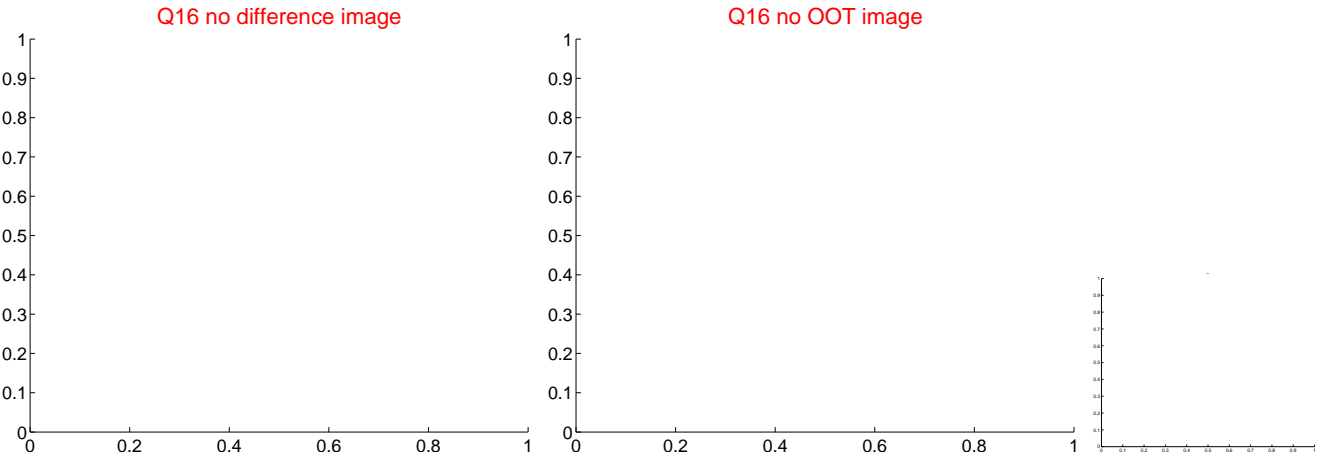
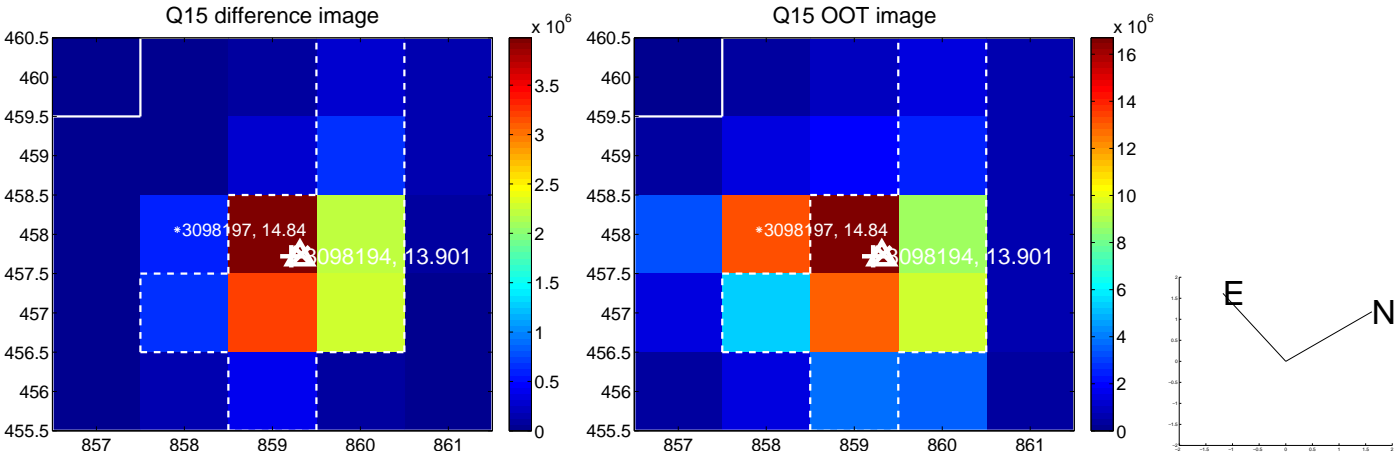
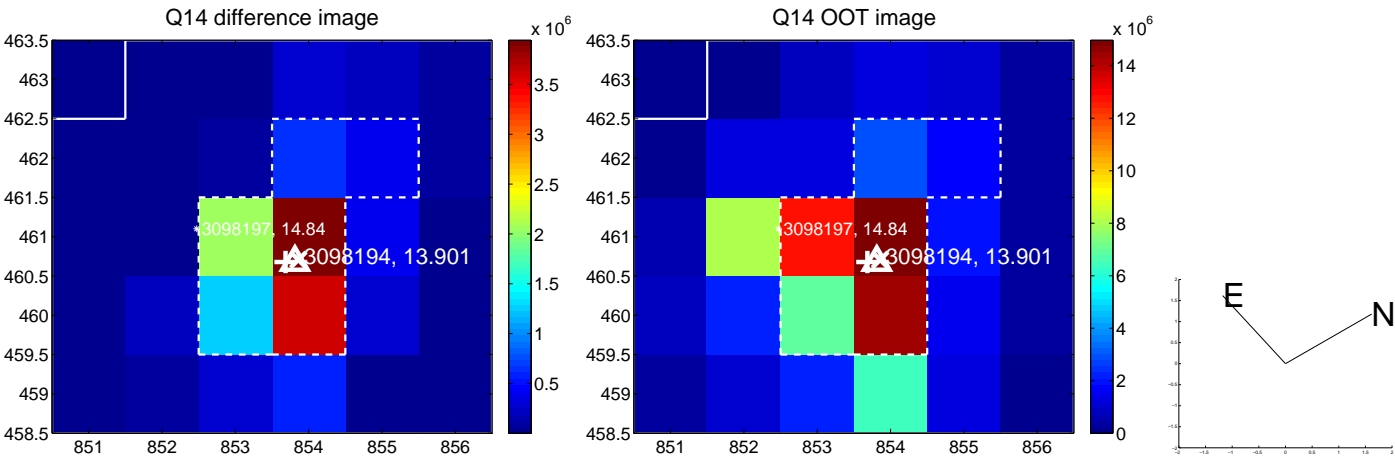
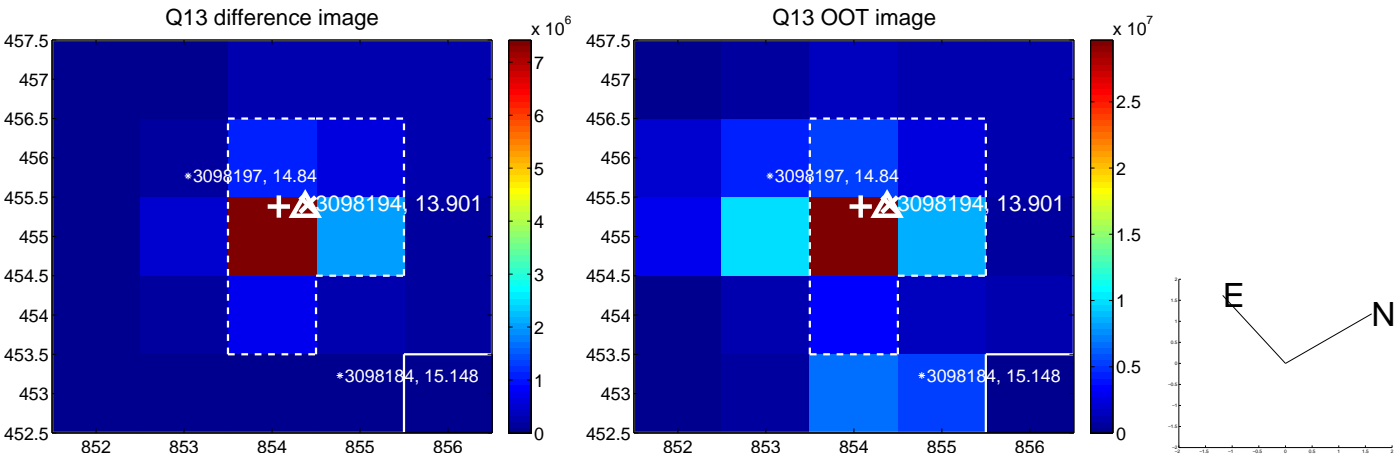
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



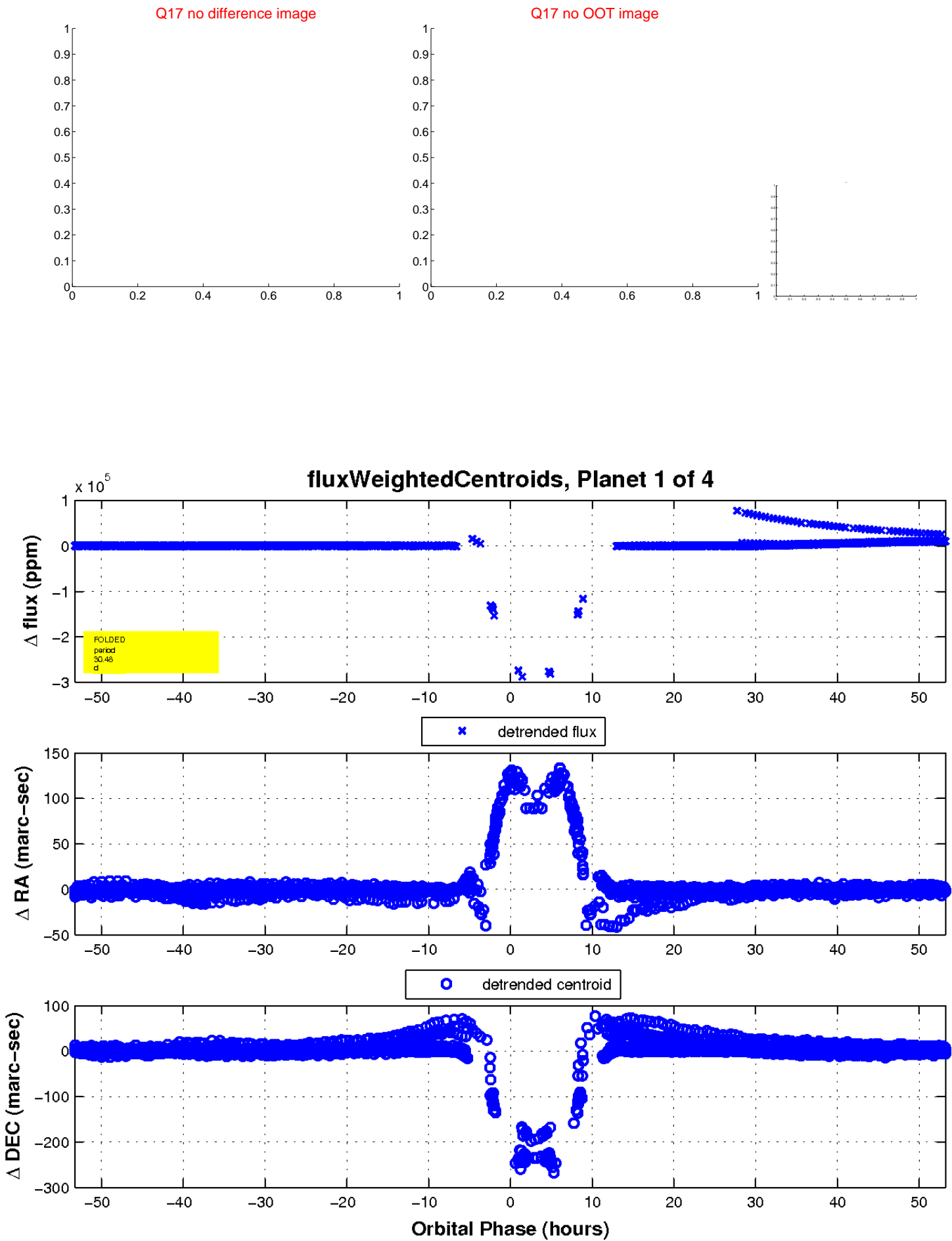
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

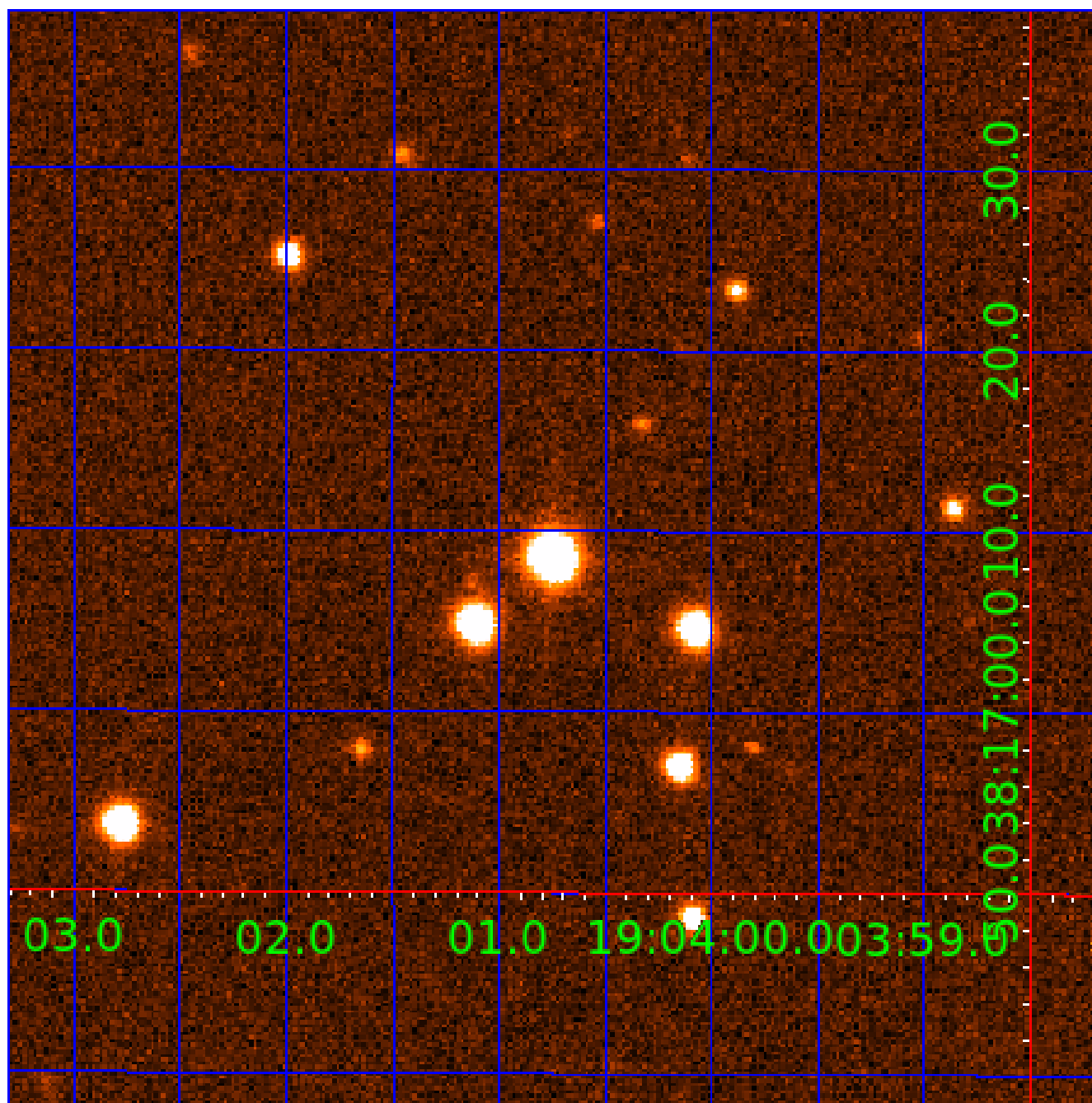


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003098194

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})
003098194-01	OBS	6303.01	30.476536	156.235601	307325.2	12.500	18311.1	-1.0	1.07	5527	46.07	29.02
003098194-02	OBS	No	30.476157	136.976971	337345.4	6.000	17366.2	-1.0	1.07	5527	53.31	29.02
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003098194-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
003098194-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
003098194-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
003098194-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

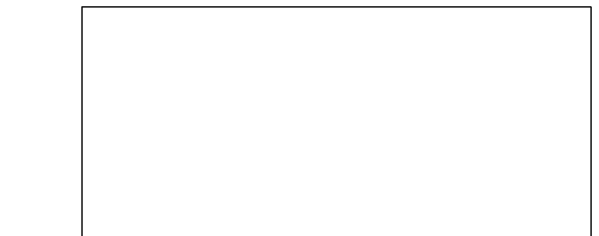
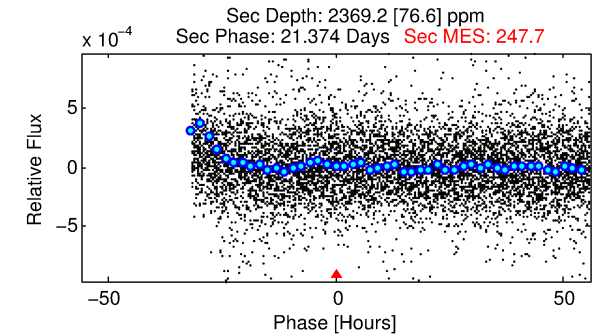
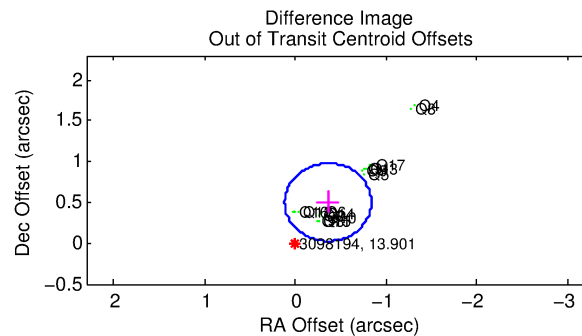
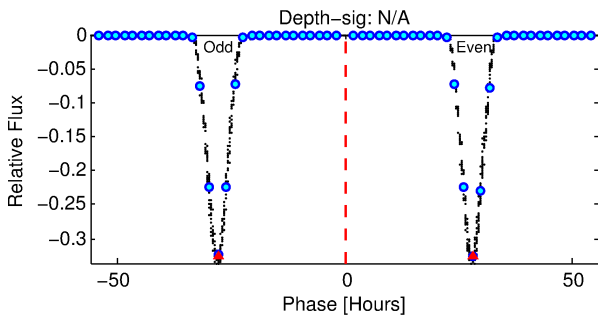
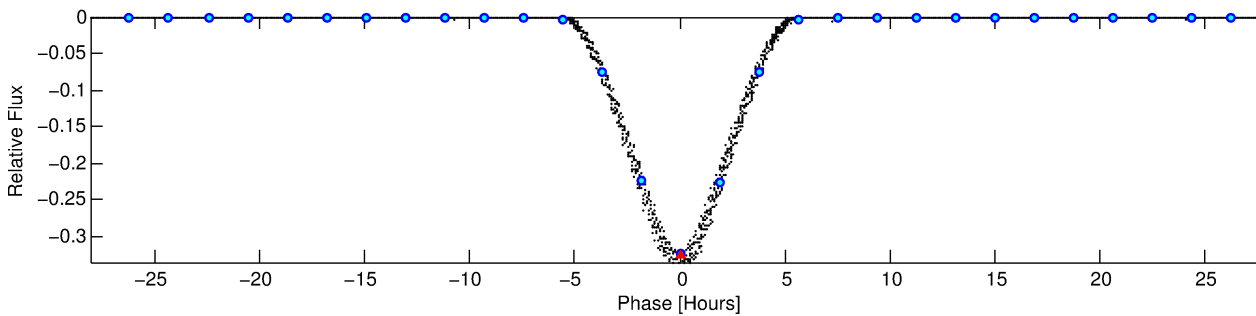
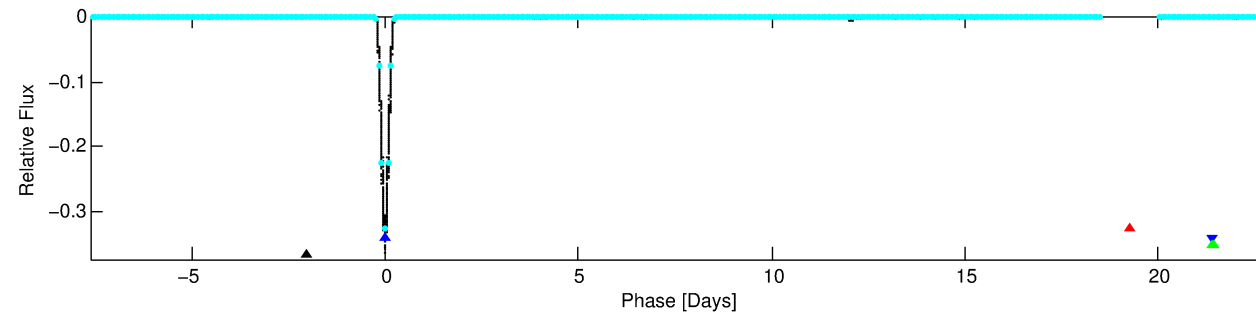
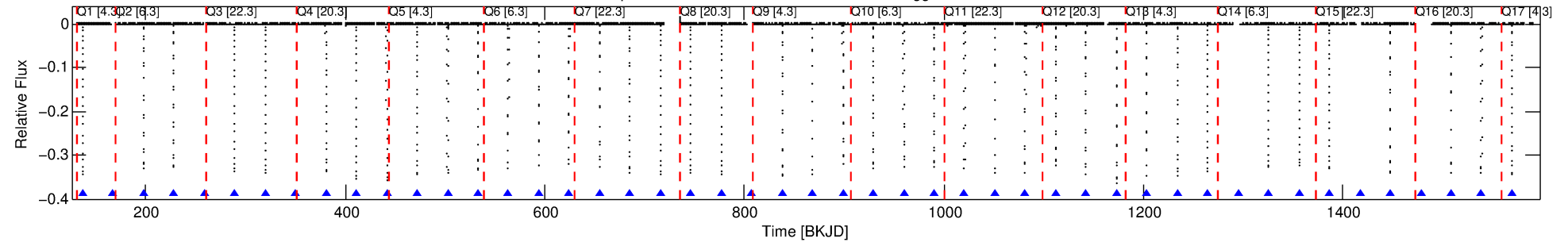
Ephemeris Match Information For 003098194-02

No Significant Match Found

DV One-Page Summary

KIC: 3098194 Candidate: 2 of 4 Period: 30.476 d
KOI: K06303.01 Corr: 0.766

Kp: 13.90 R*: 1.07 Rs Teff: 5527.0 K Logg: 4.32 Fe/H: -0.020



TPS TCE Results:

Period = 30.47616 d
Epoch = 136.9770 BKJD

DV fit results are unavailable

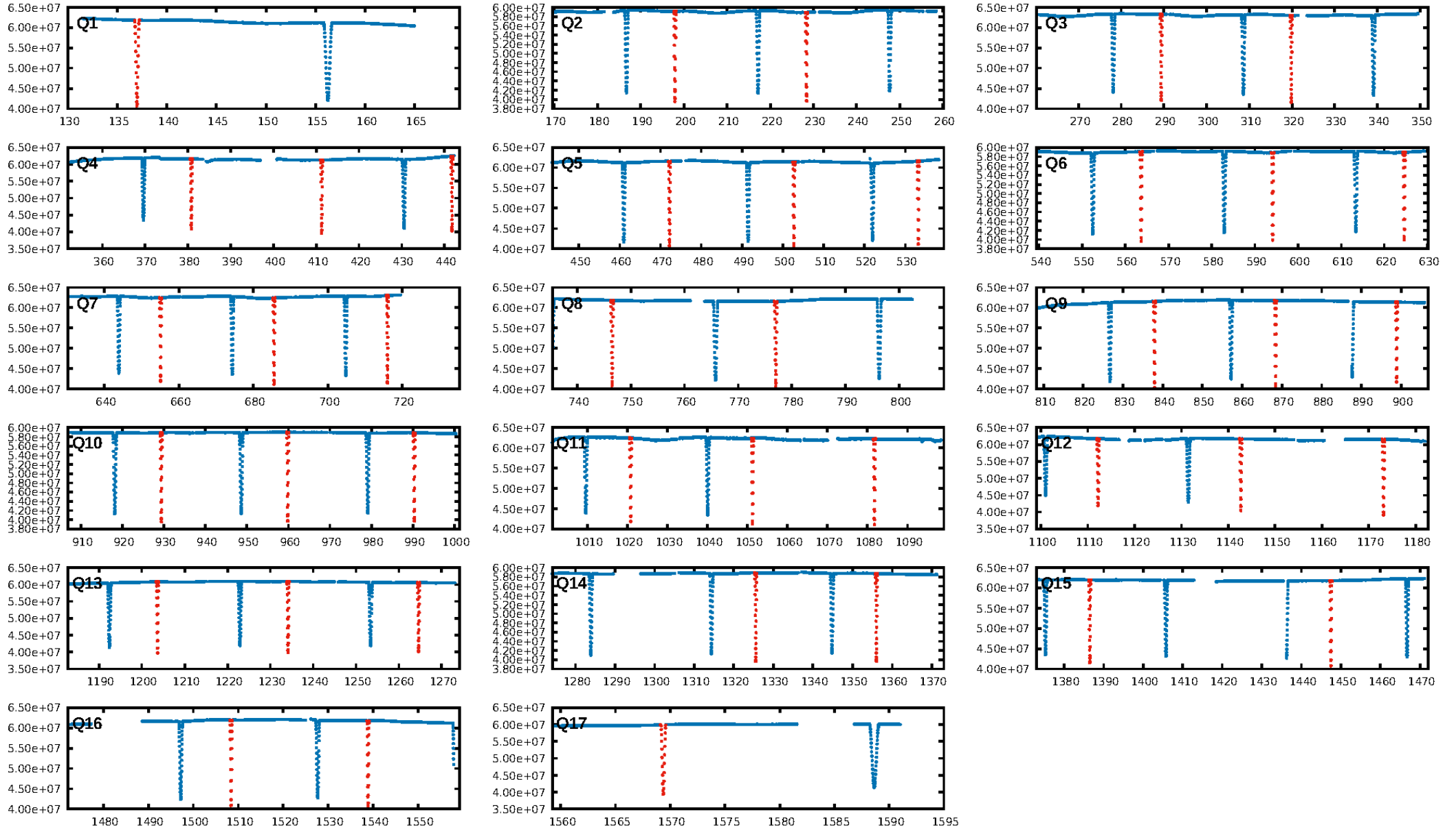
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [39/39]
GhostDiagnostic-chr: 1.644
Centroid-sig: N/A
Centroid-so: 0.848 arcsec [1602.73 σ]
OotOffset-rm: 0.617 arcsec [3.88 σ]
KicOffset-rm: 0.152 arcsec [2.24 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]

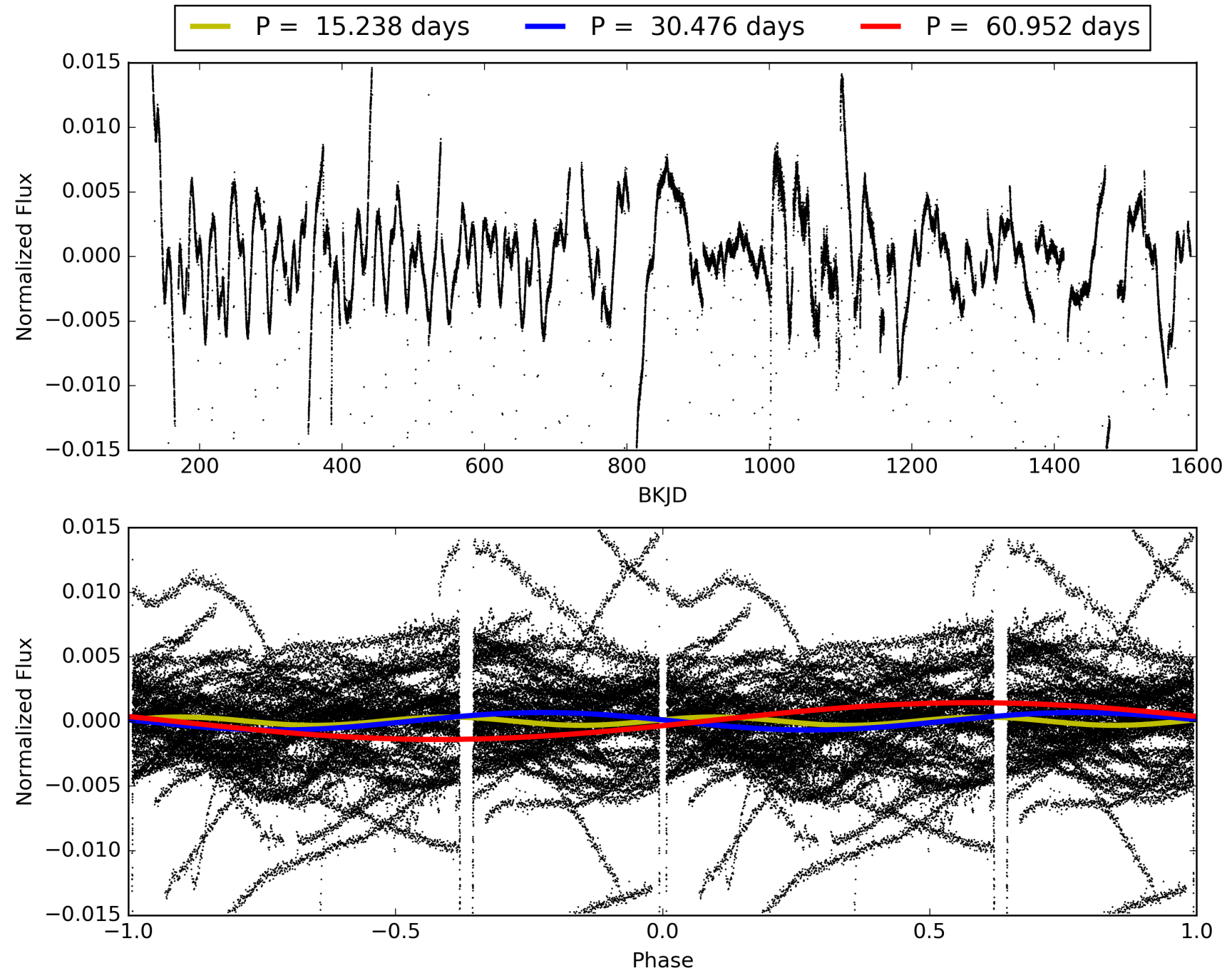
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003098194-02, PDC Light Curves

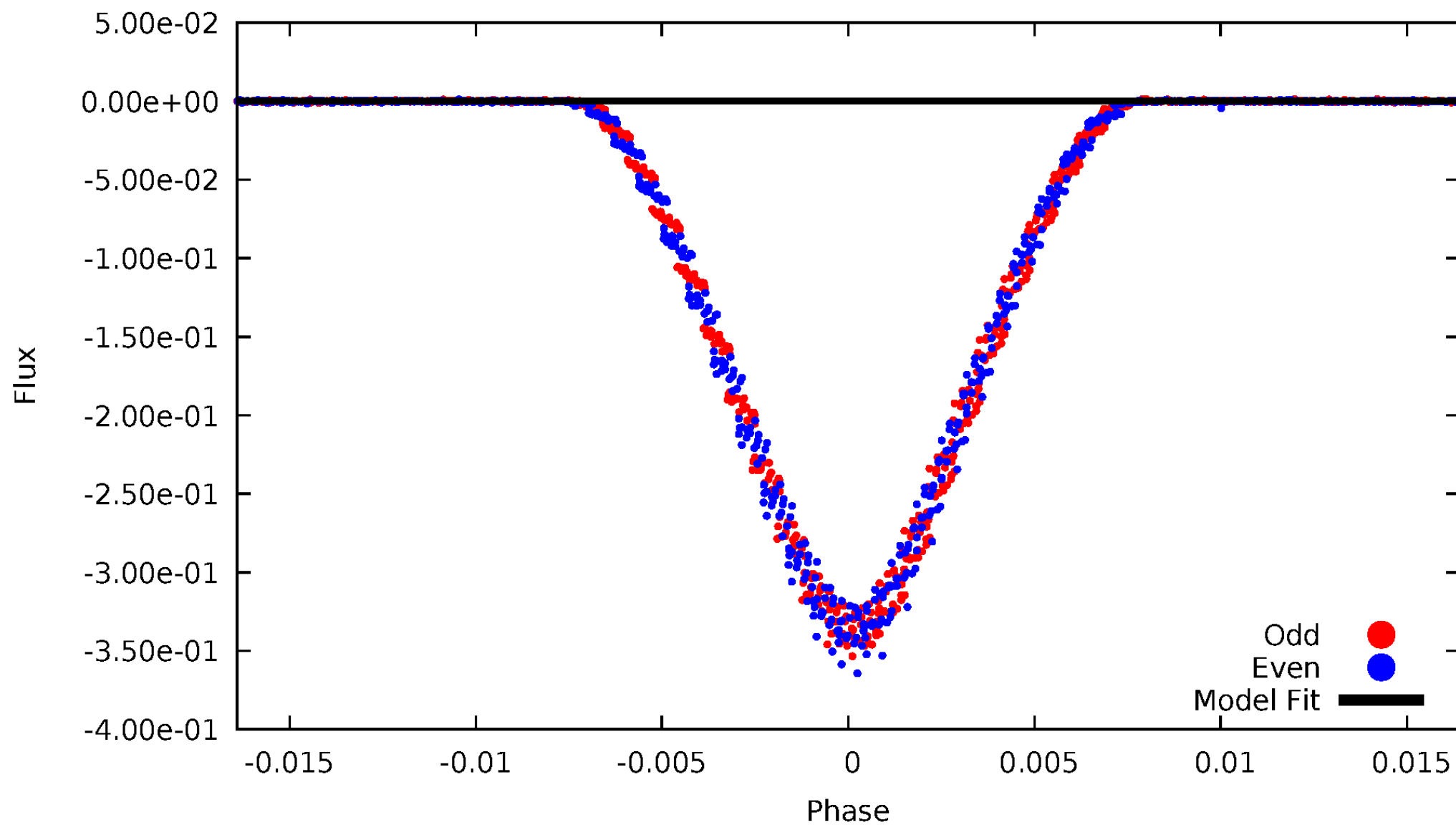


TCE 003098194-02



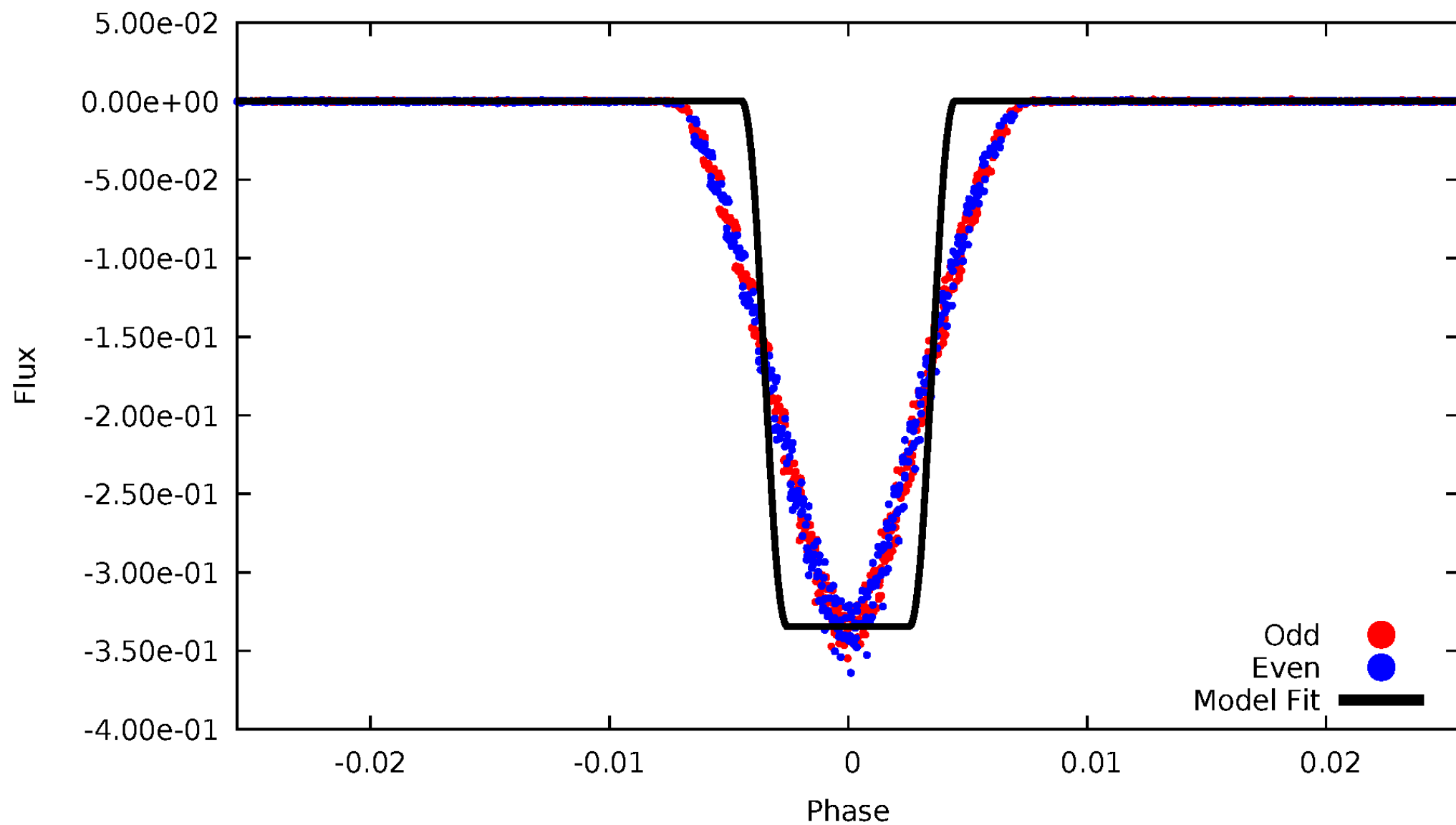
DV Odd/Even

TCE 003098194-02



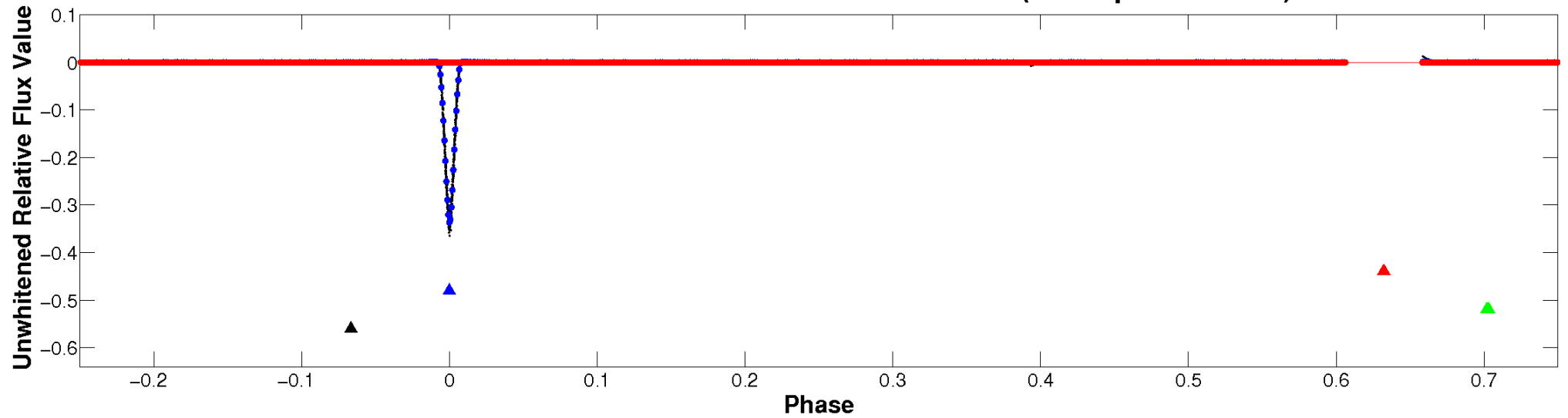
ALT Odd/Even

TCE 003098194-02

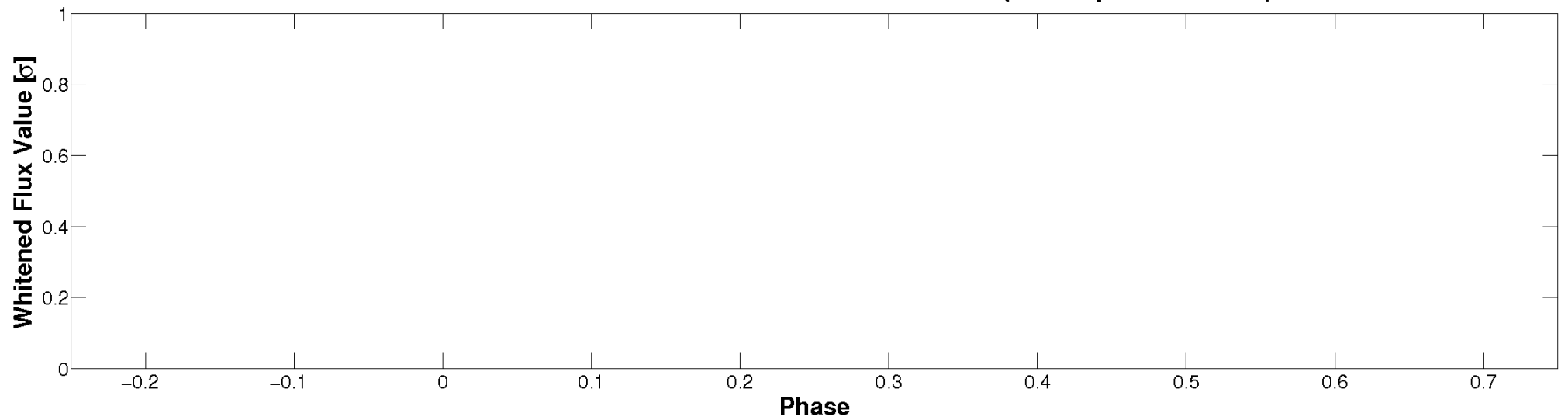


Non-Whitened Vs. Whitened Light Curve

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

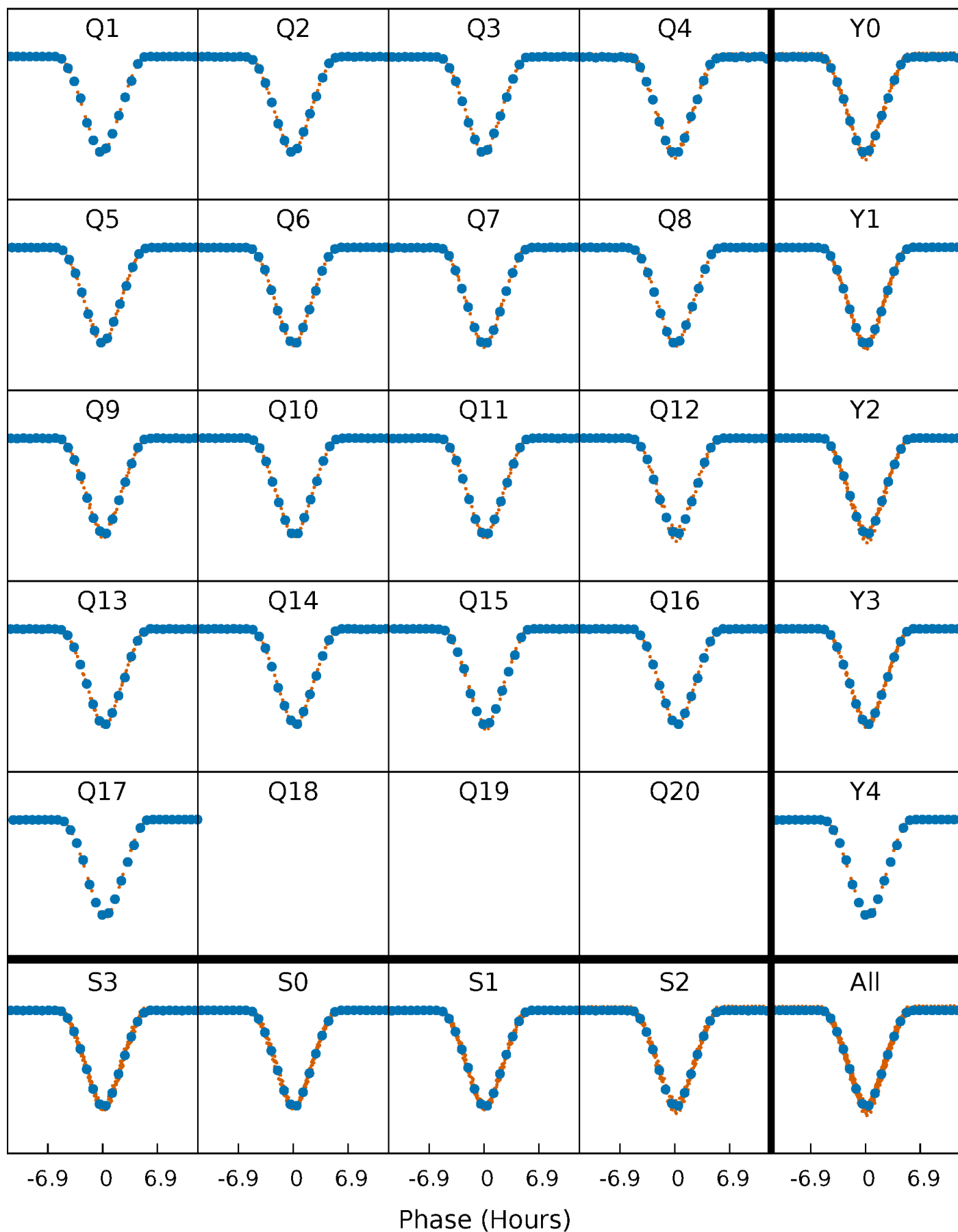


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



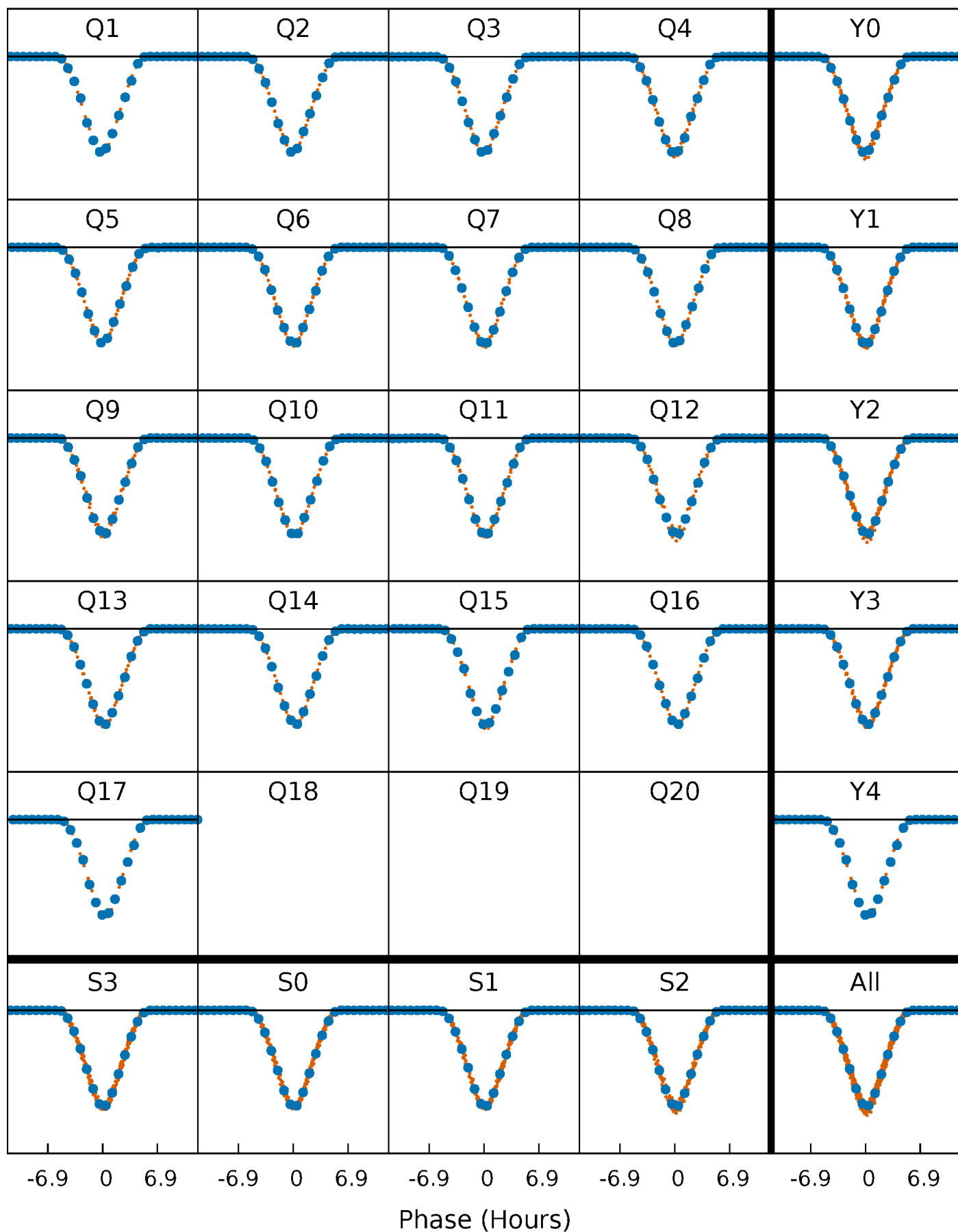
PDC Quarter-Phased Transit Curves

TCE 003098194-02 P= 30.476157 Days $T_0=136.976971$ (BKJD)



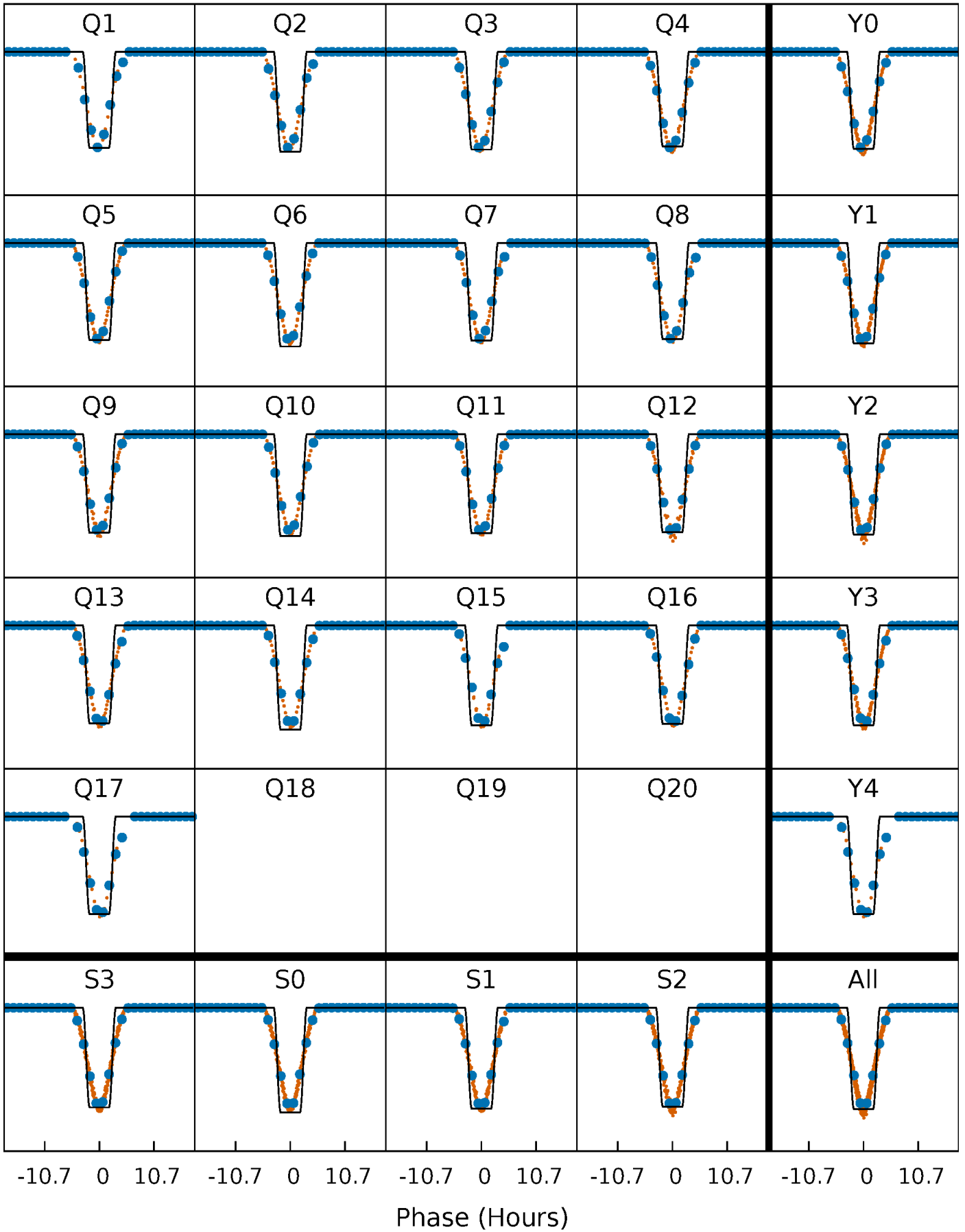
DV Quarter-Phased Transit Curves

TCE 003098194-02 P= 30.476157 Days $T_0=136.976971$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

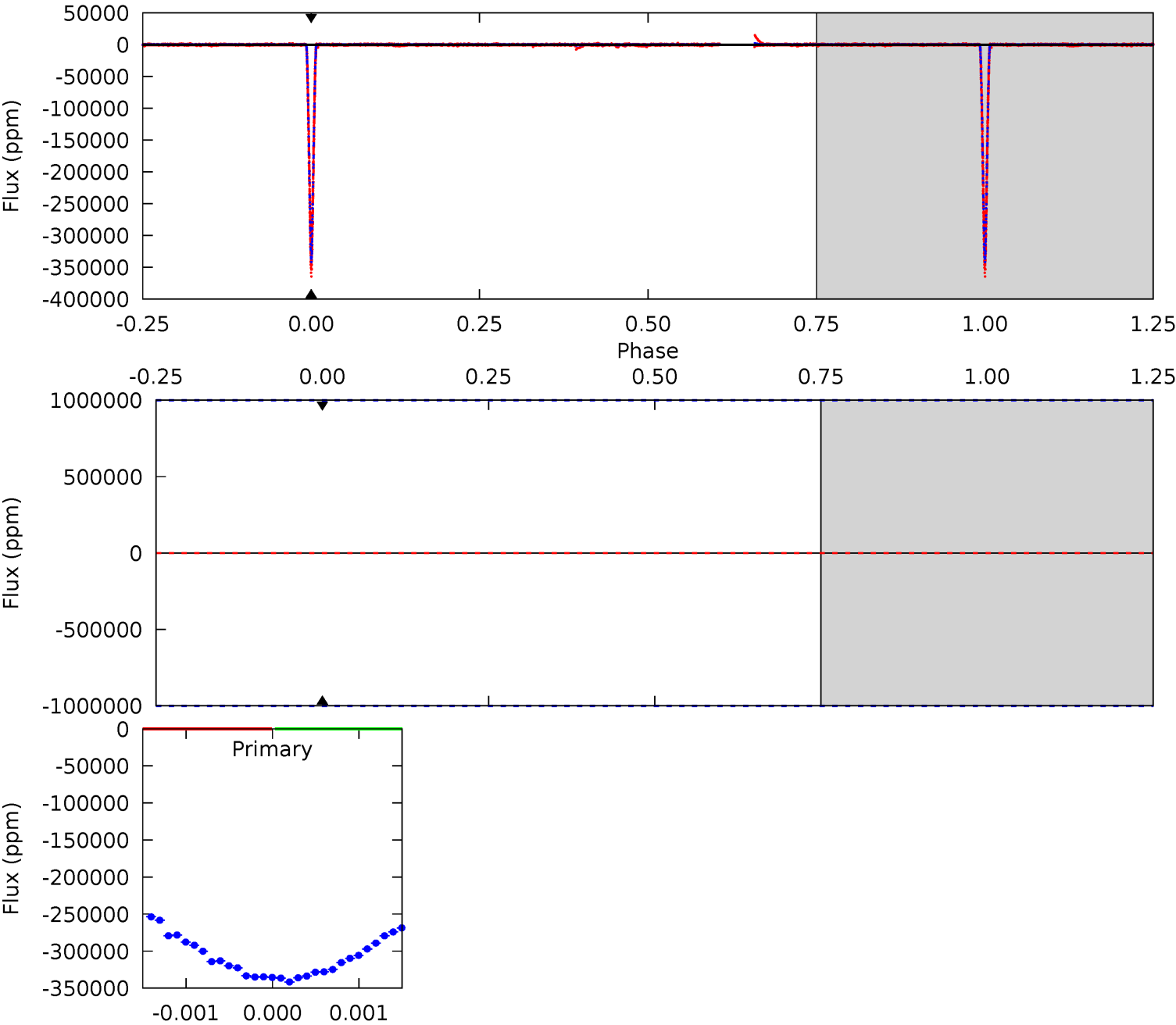
TCE 003098194-02 P= 30.476157 Days $T_0=136.981178$ (BKJD)



DV Model-Shift Uniqueness Test

003098194-02, P = 30.476157 Days, E = 106.500814 Days

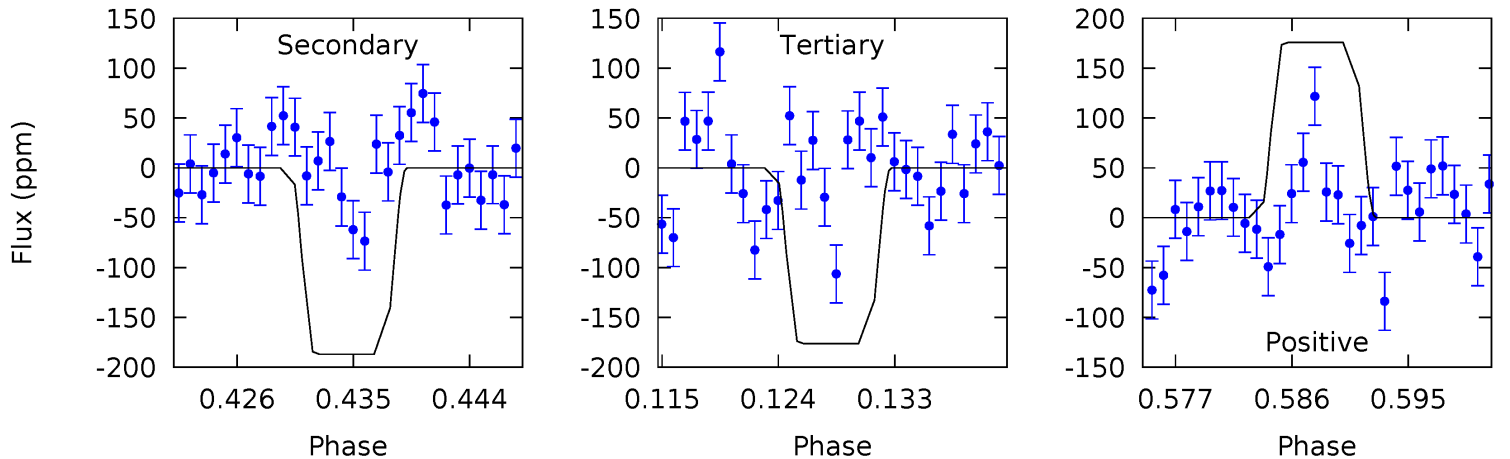
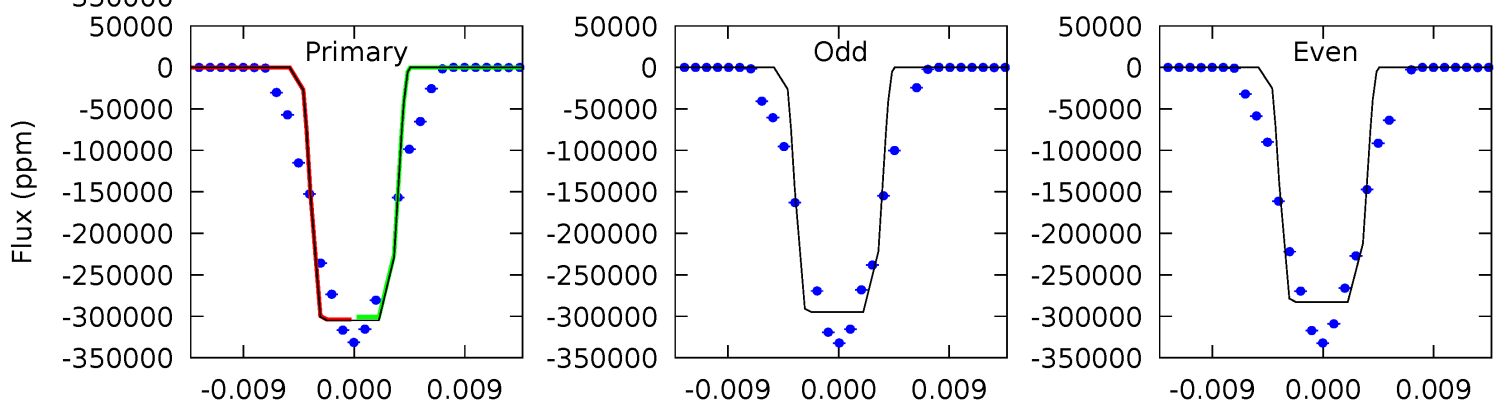
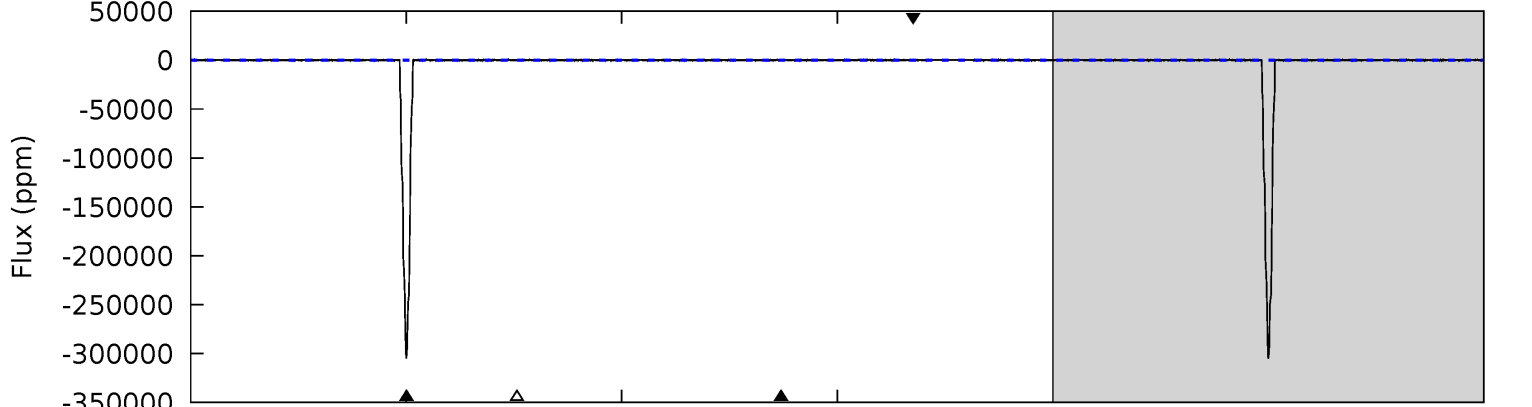
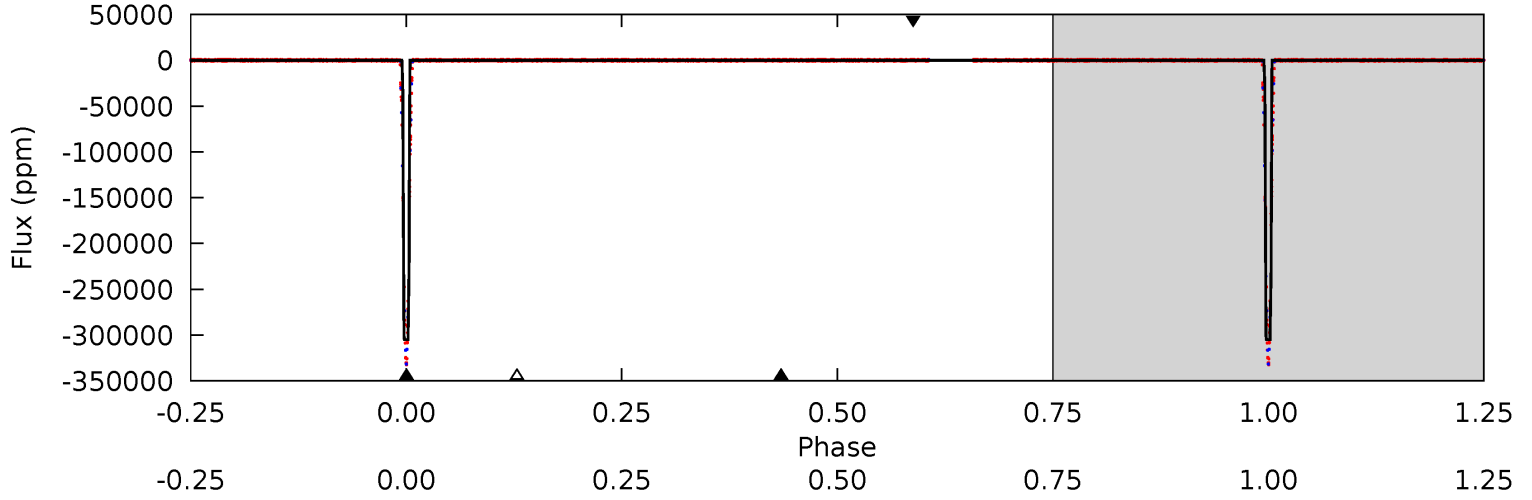
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003098194-02, P = 30.476157 Days, E = 106.505021 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7770	4.77	4.50	4.48	5.05	2.62	1.21	7765	7765	0.27	0.29	204.0	0.99	0.00	0



Stellar Parameters For KIC 003098194

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5527^{+166}_{-149}	$4.315^{+0.205}_{-0.205}$	$-0.020^{+0.250}_{-0.250}$	$1.073^{+0.321}_{-0.214}$	$0.867^{+0.122}_{-0.071}$	$0.988^{+0.920}_{-0.515}$
	+3%/-3%	+5%/-5%	+1250%/-1250%	+30%/-20%	+14%/-8%	+93%/-52%
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 003098194-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$53.06^{+14.59}_{-13.61}$	826^{+65}_{-53}	3241^{+1789}_{-7849}	62^{+835}_{-627}
Alt.	-187 ± 39	$67.57^{+18.42}_{-13.79}$	827^{+75}_{-58}	1780^{+114}_{-151}	$0.735^{+0.466}_{-0.291}$

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 $A_{obs} \gg 1.0$

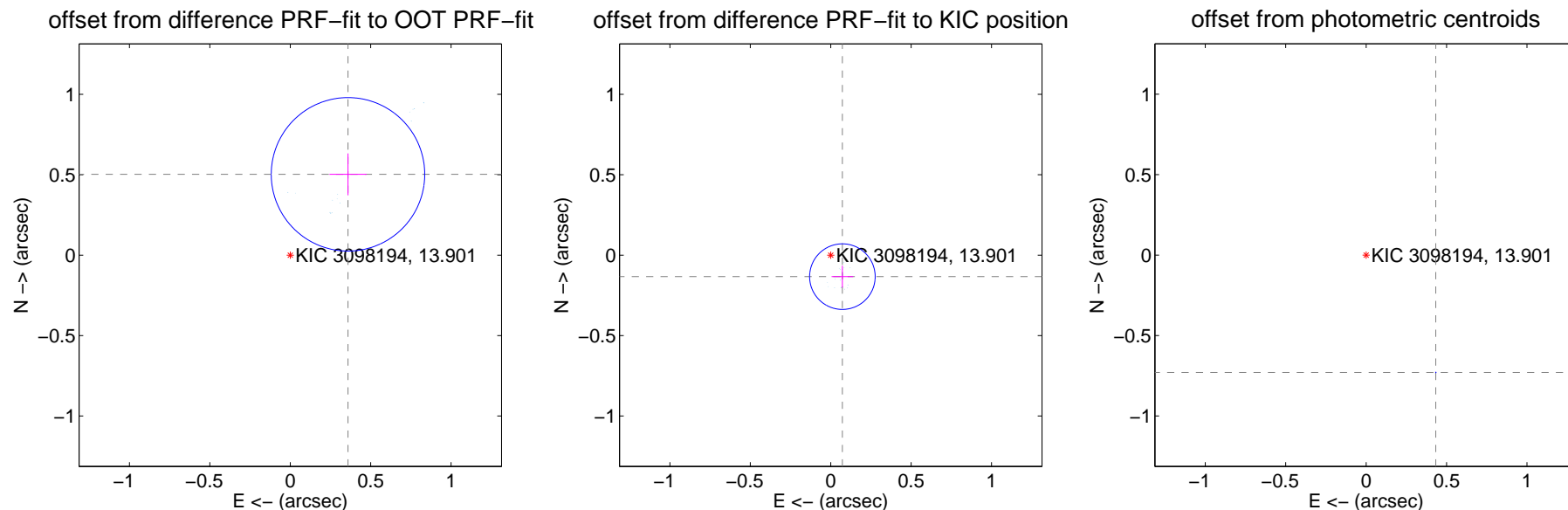
DV Centroid Data

Supplemental centroid analysis for 003098194-02. Kepler magnitude: 13.90. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

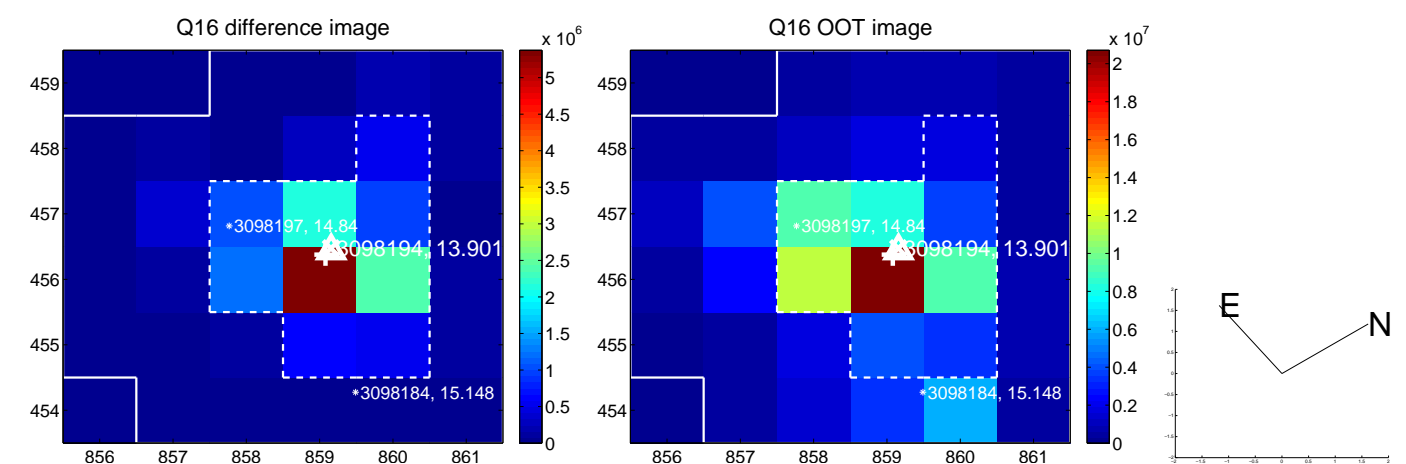
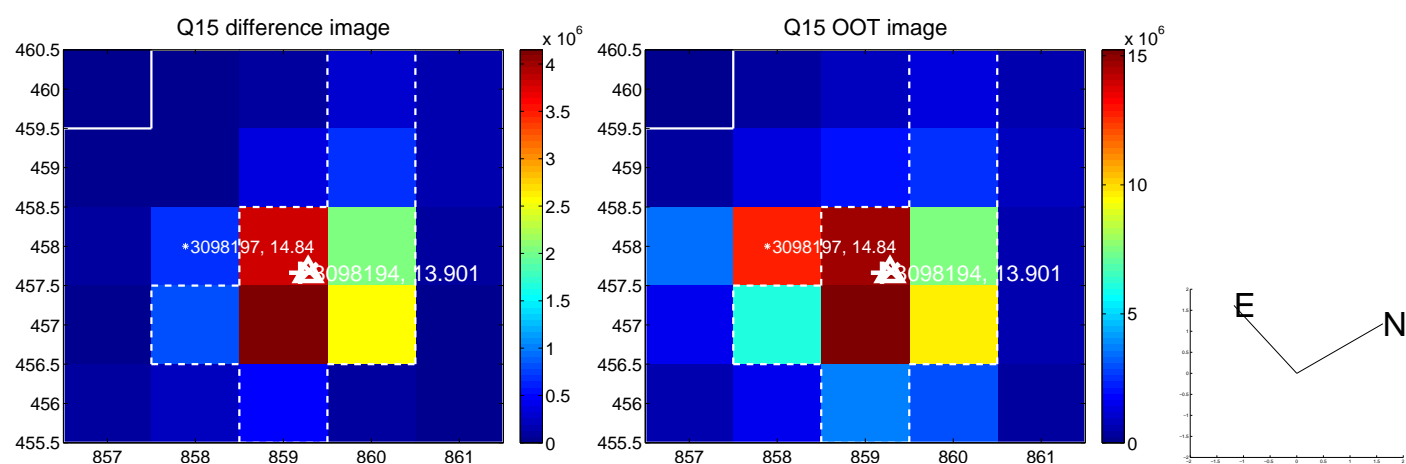
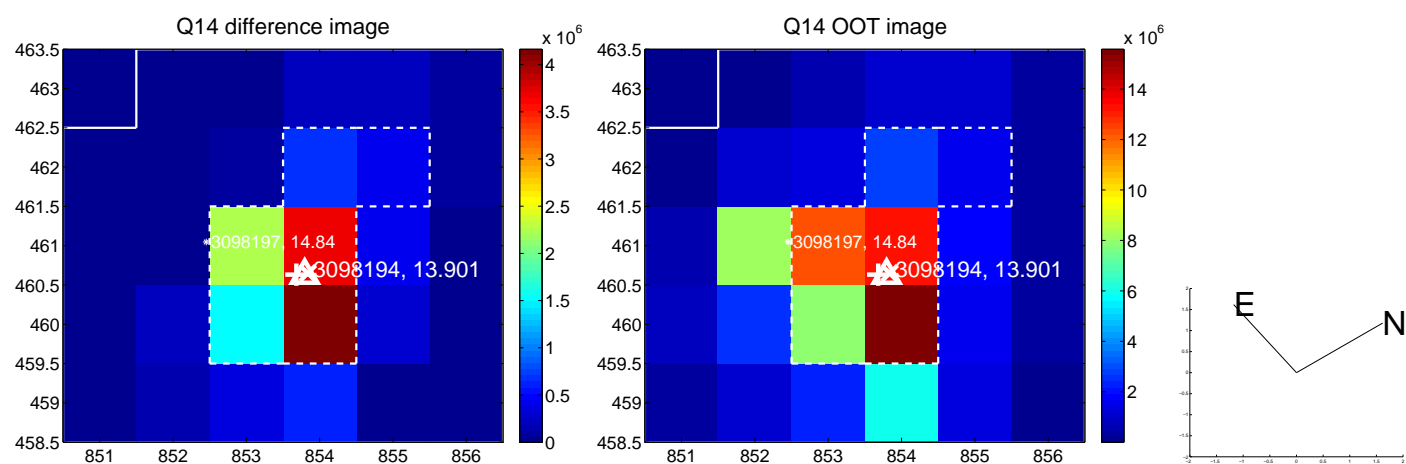
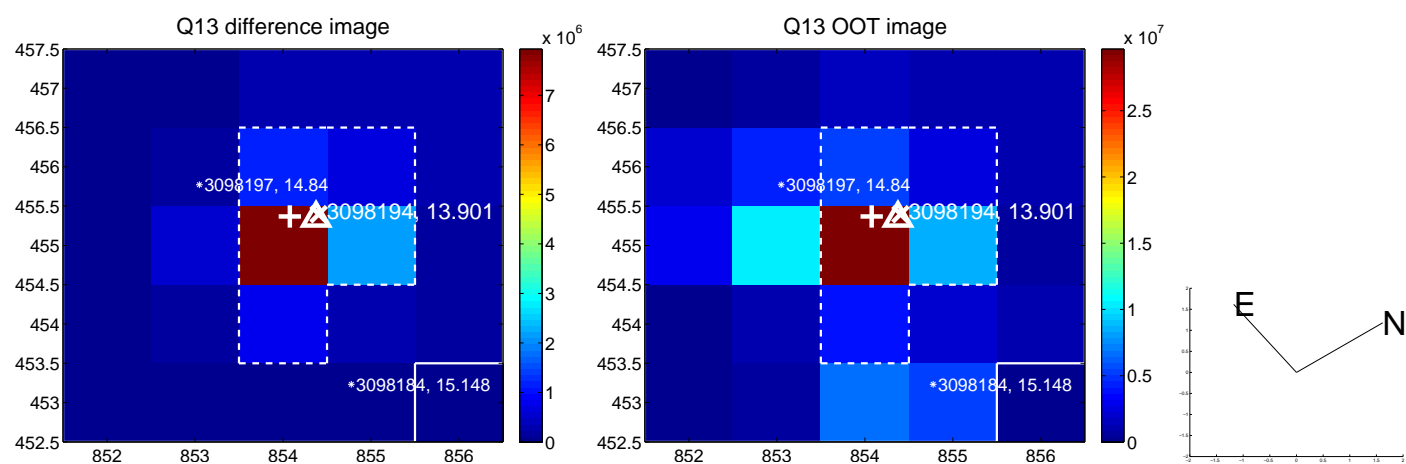
The direct PRF centroid is offset from the target star catalog position by about 1.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.617 ± 0.159	3.88	-0.359 ± 0.115	0.502 ± 0.130
PRF-fit source offset from KIC position	0.152 ± 0.068	2.24	-0.073 ± 0.067	-0.133 ± 0.068
photometric centroid source offset	0.85 ± 0.00	1602.73	-0.43 ± 0.00	-0.73 ± 0.00

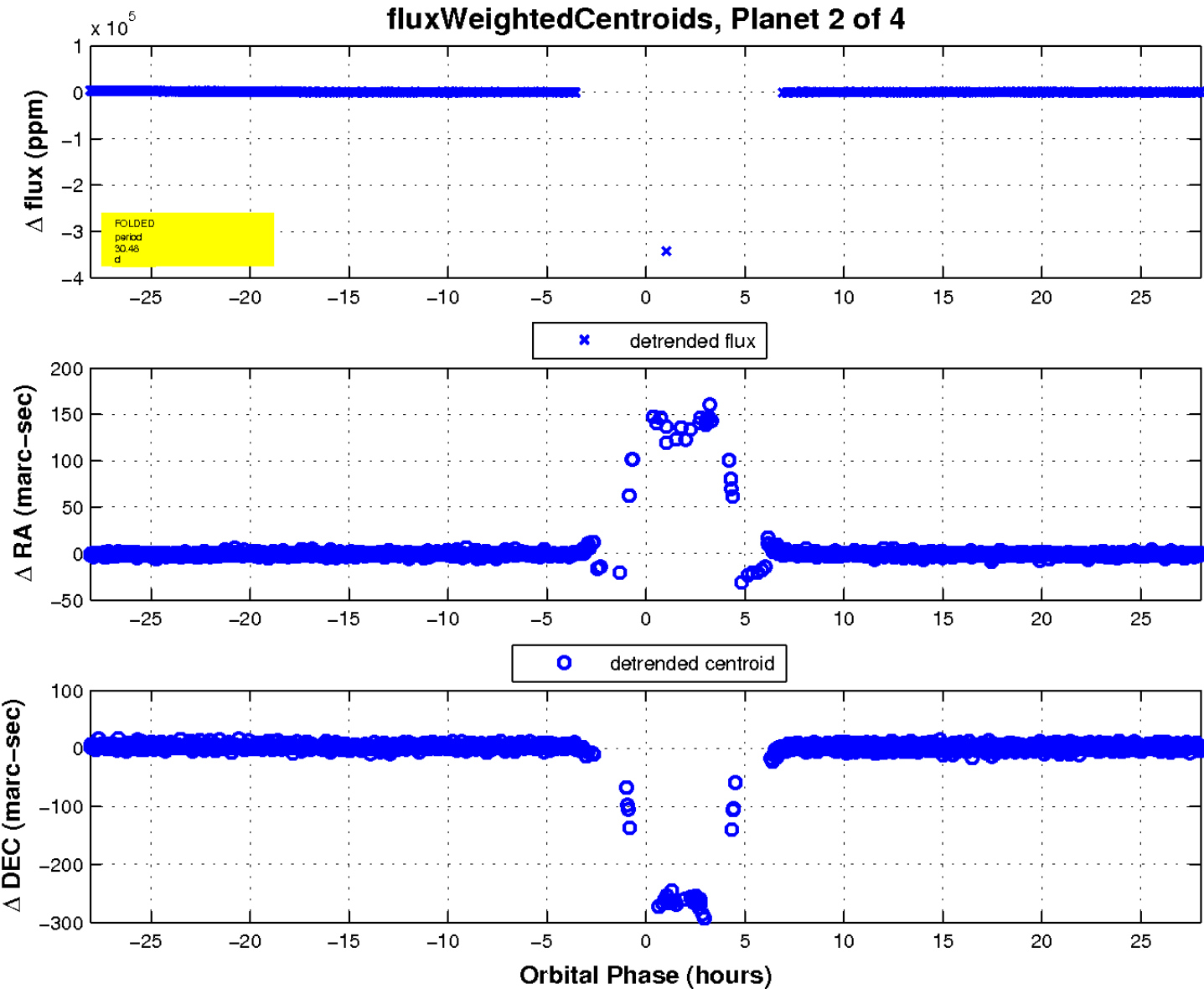
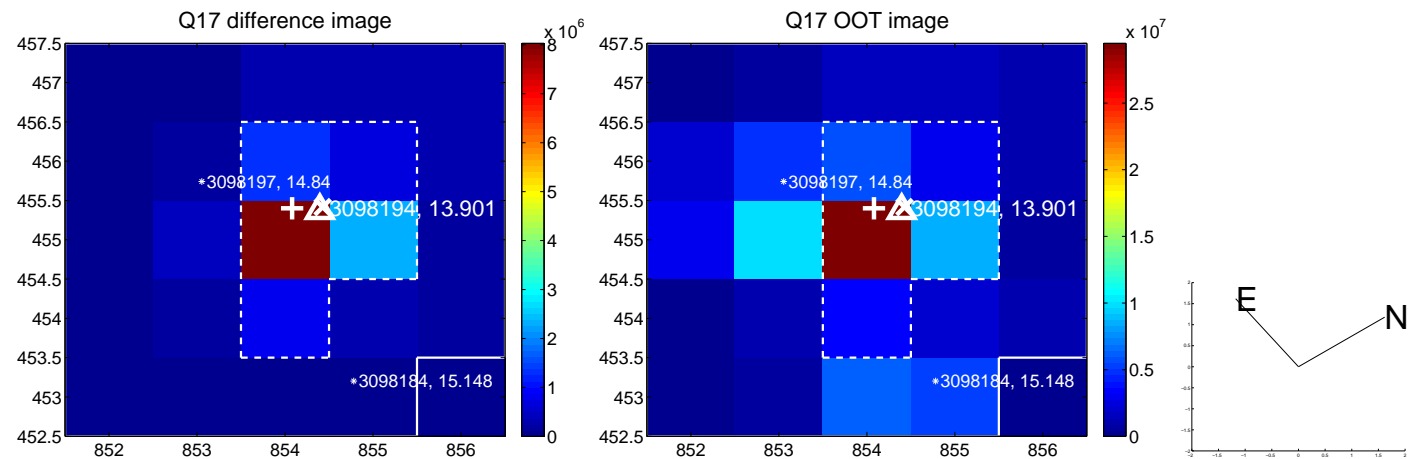


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

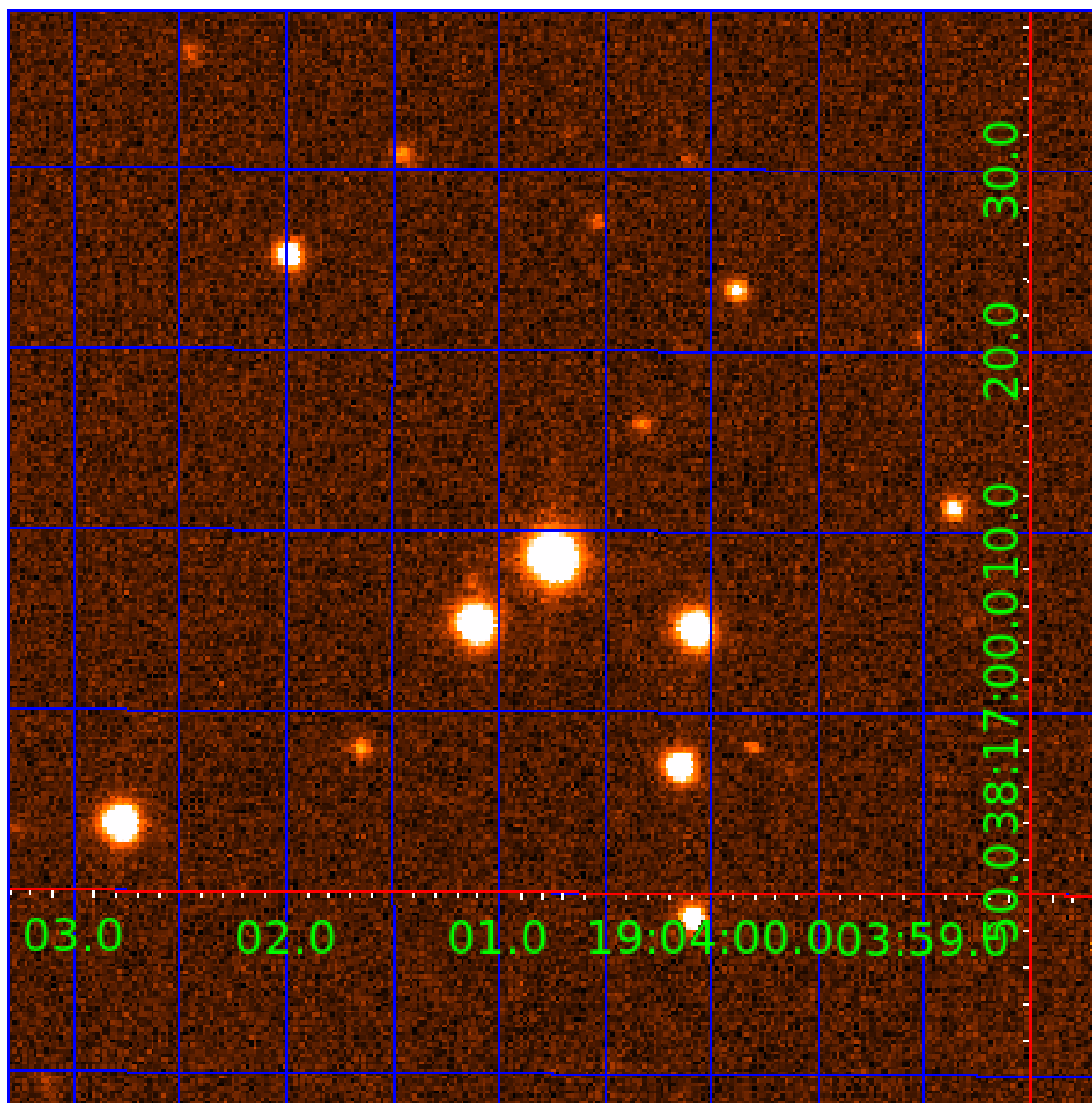


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003098194

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})
003098194-01	OBS	6303.01	30.476536	156.235601	307325.2	12.500	18311.1	-1.0	1.07	5527	46.07	29.02
003098194-02	OBS	No	30.476157	136.976971	337345.4	6.000	17366.2	-1.0	1.07	5527	53.31	29.02
003098194-03	OBS	No	30.475149	158.411638	9620.6	50.164	413.3	257.1	1.07	5527	19.18	29.02
003098194-04	OBS	No	30.476175	134.948482	6368.0	64.948	200.3	123.0	1.07	5527	15.83	29.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003098194-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
003098194-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
003098194-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
003098194-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

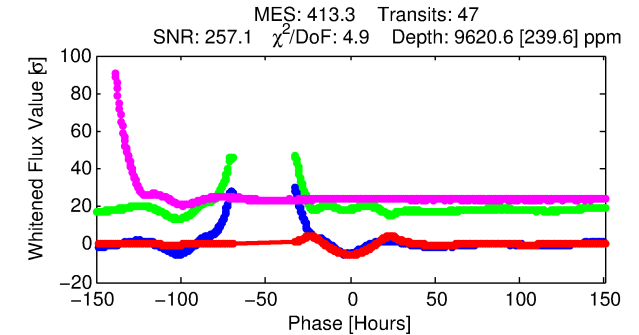
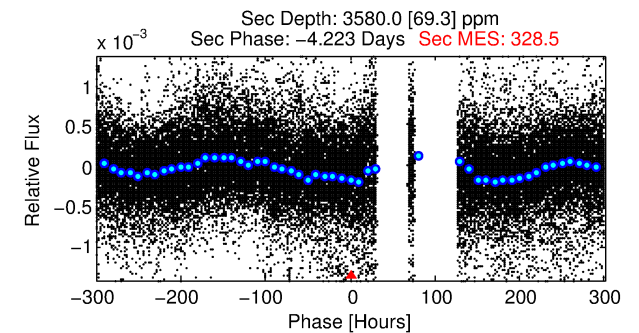
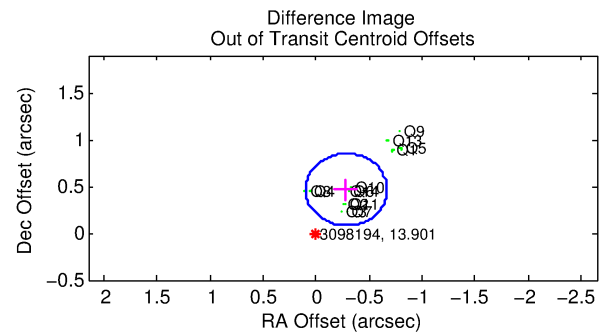
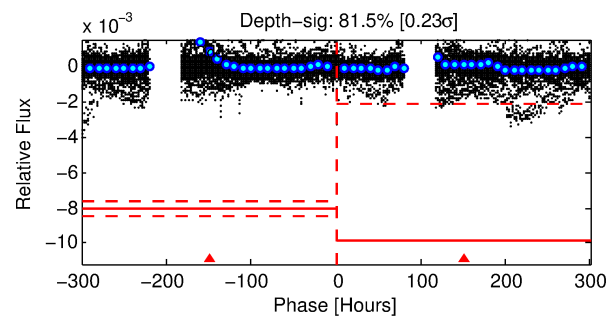
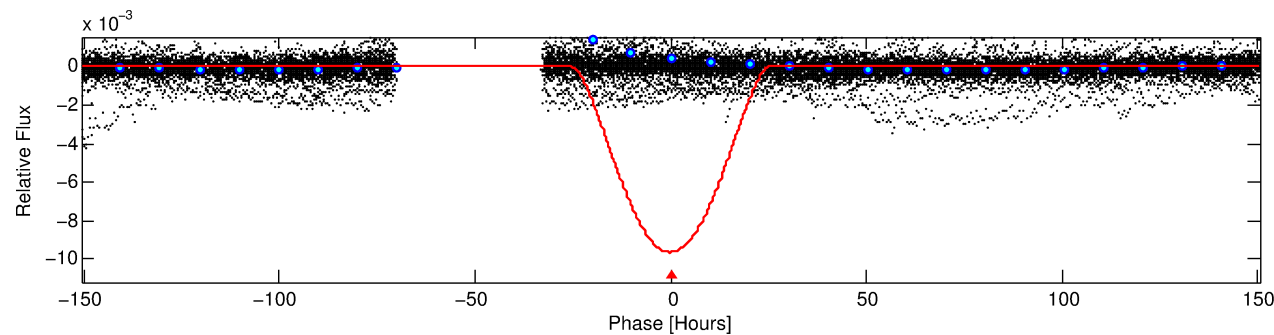
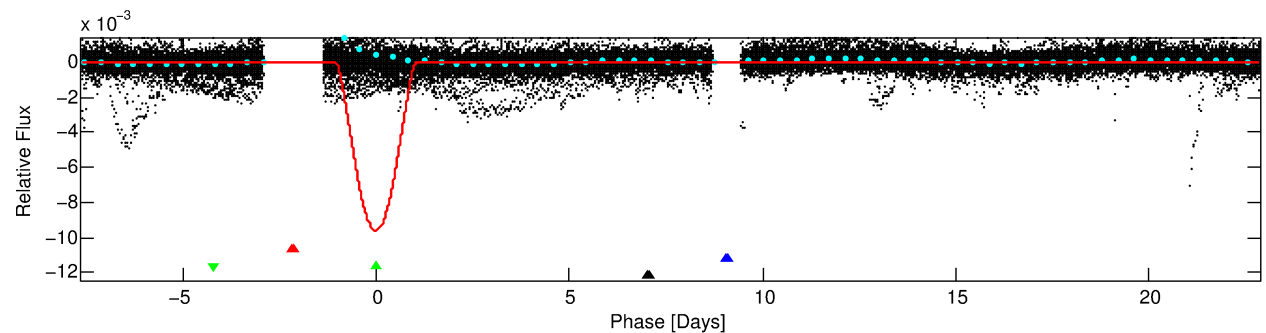
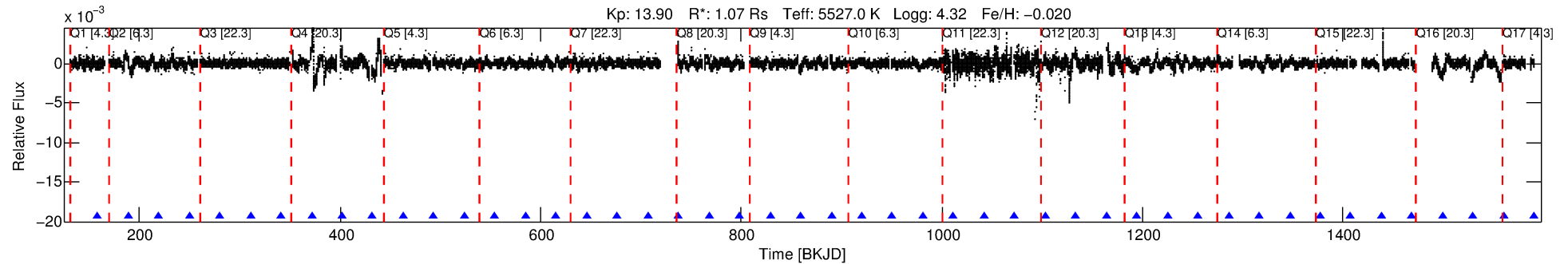
Ephemeris Match Information For 003098194-03

No Significant Match Found

DV One-Page Summary

KIC: 3098194 Candidate: 3 of 4 Period: 30.475 d
KOI: K06303 Corr: No Ephemeris Match

Kp: 13.90 R*: 1.07 Rs Teff: 5527.0 K Logg: 4.32 Fe/H: -0.020



DV Fit Results:

Period = 30.47515 [0.00021] d
Epoch = 158.4116 [0.0059] BKJD
Rp/R* = 0.1638 [0.0205]
a/R* = 2.96 [0.04]
b = 1.00 [0.03]
Seff = 29.02 [11.36]
Teq = 592 [58] K
Rp = 19.18 [6.22] Re
a = 0.1821 [0.0463] AU
Ag = 177.66 [79.86] [2.21σ]
Teffp = 3341 [233] K [11.46σ]

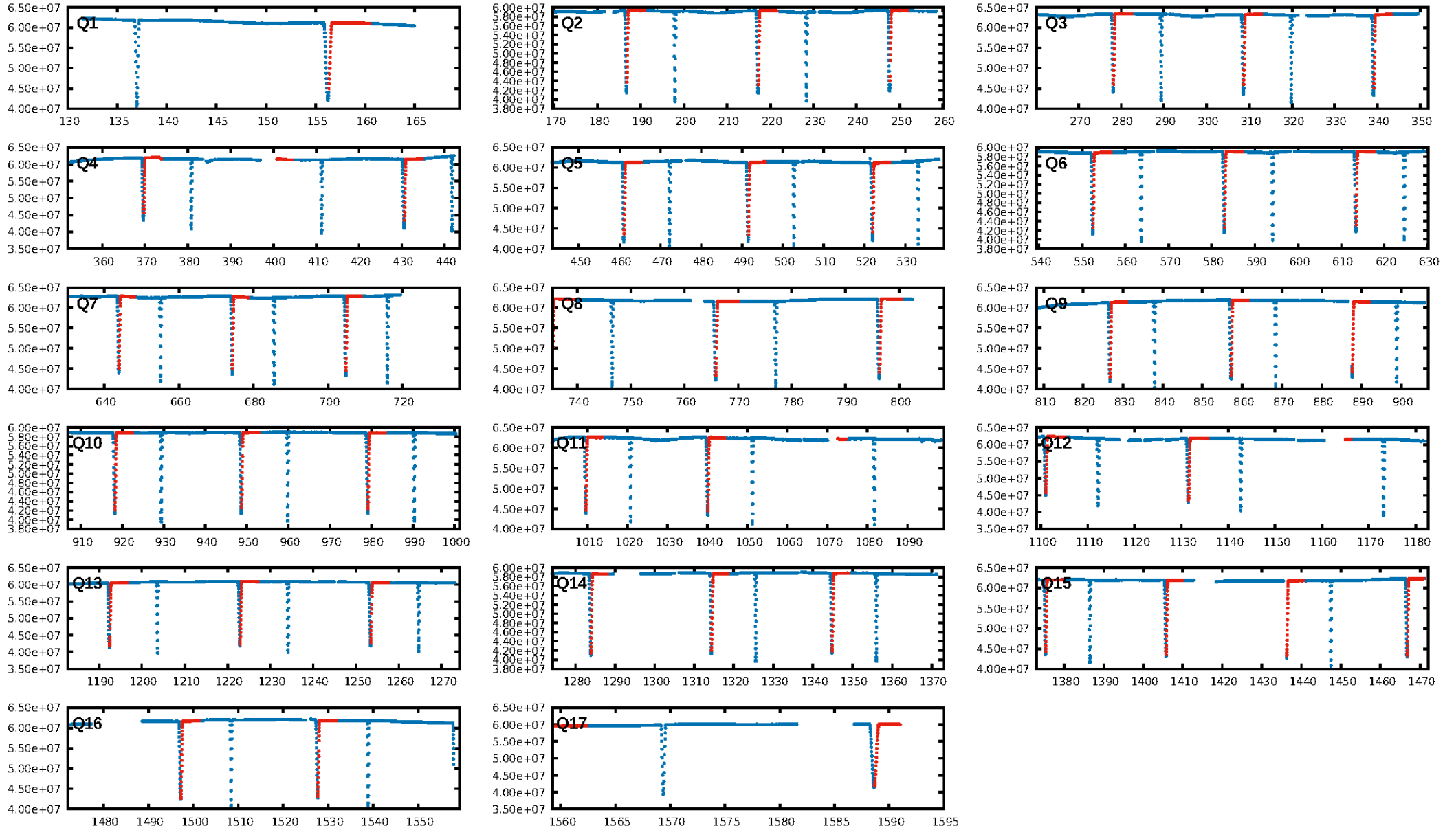
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [44/44]
GhostDiagnostic-chr: -29.9
Centroid-sig: N/A
Centroid-so: 1.518 arcsec [96.90σ]
OotOffset-rm: 0.545 arcsec [4.24σ]
KicOffset-rm: 0.146 arcsec [2.10σ]
OotOffset-st: 4/3/2/4 [13]
KicOffset-st: 4/3/2/4 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 0.00 [0/13]

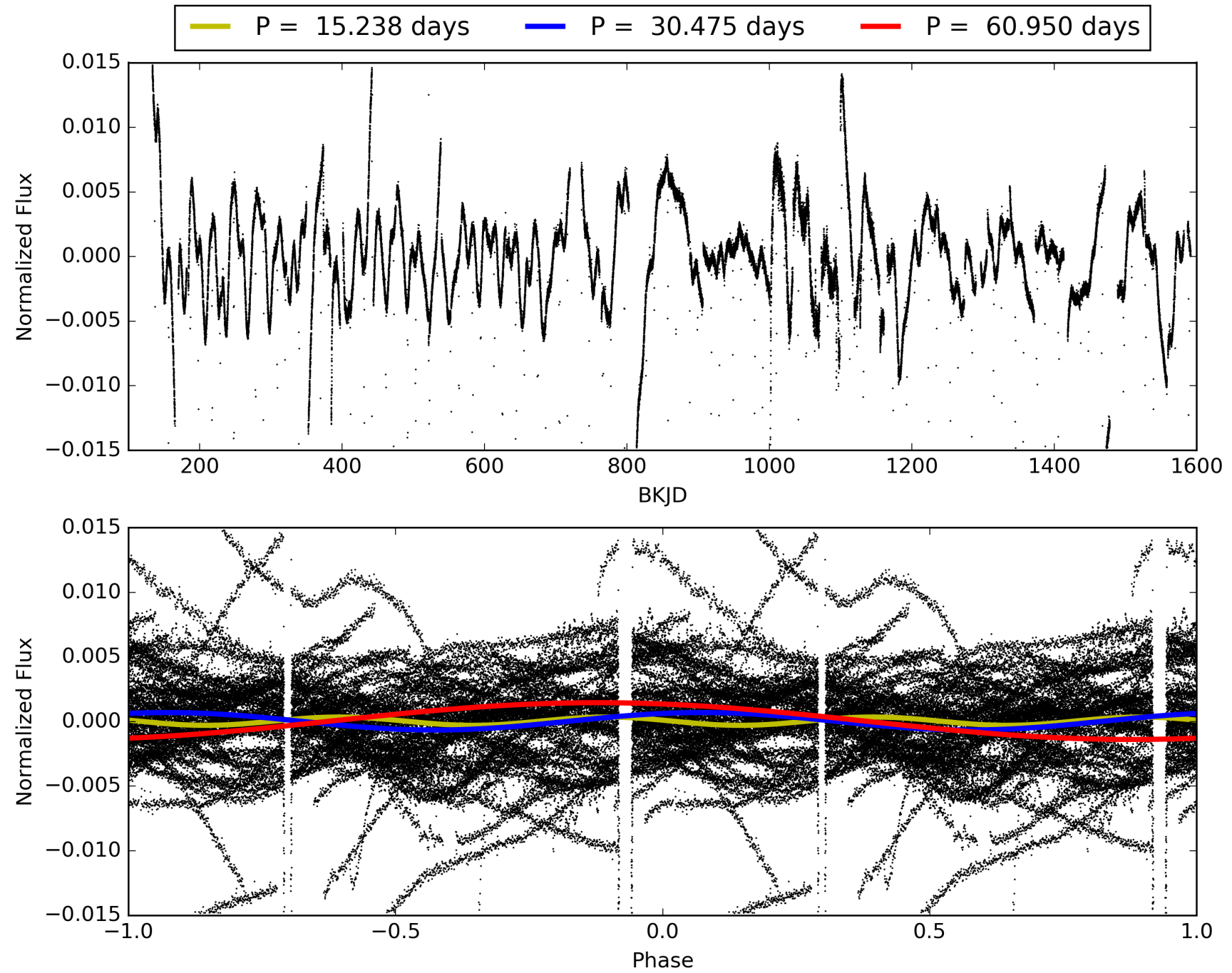
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 02:17:09 Z

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

TCE 003098194-03, PDC Light Curves

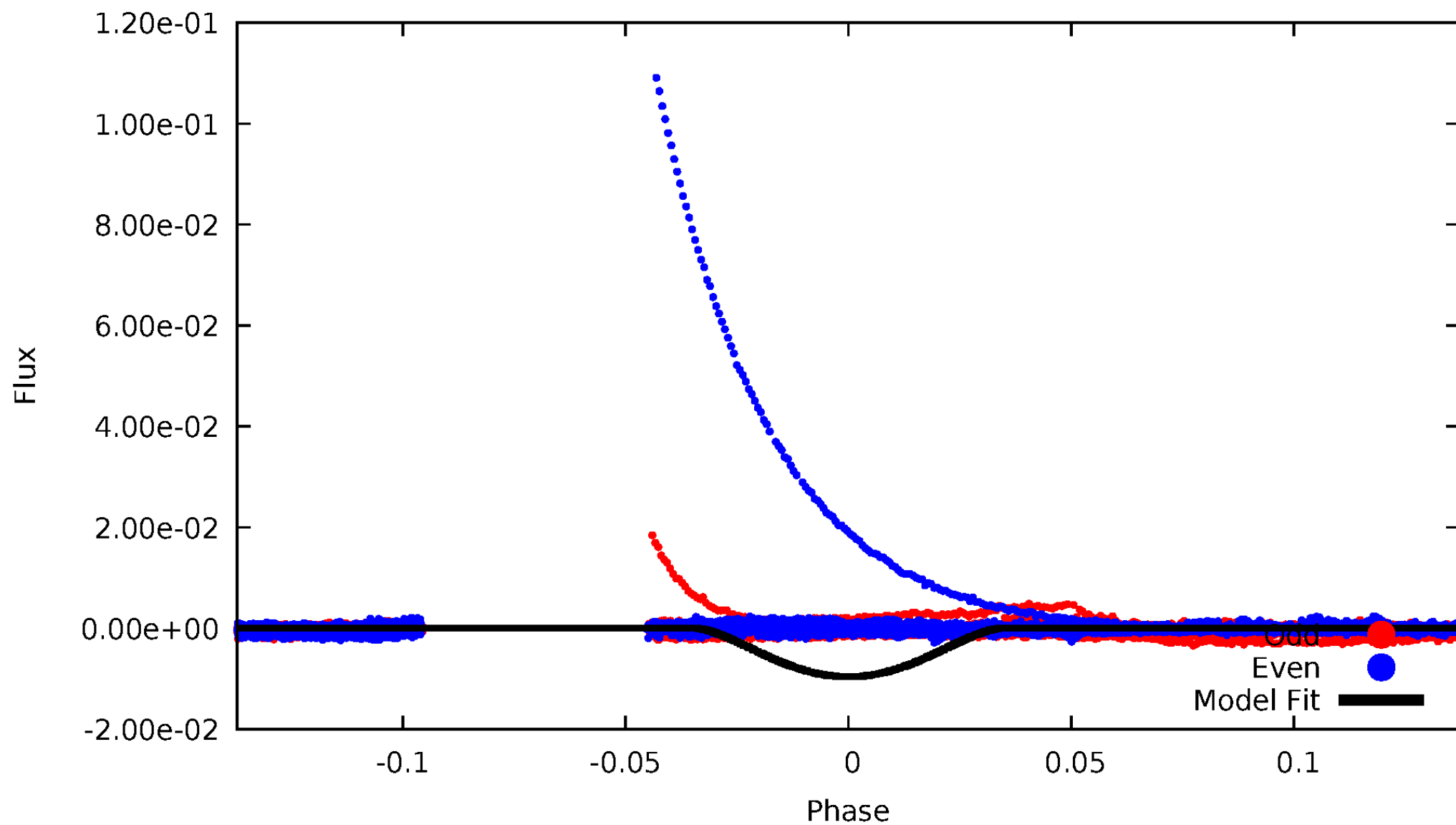


TCE 003098194-03



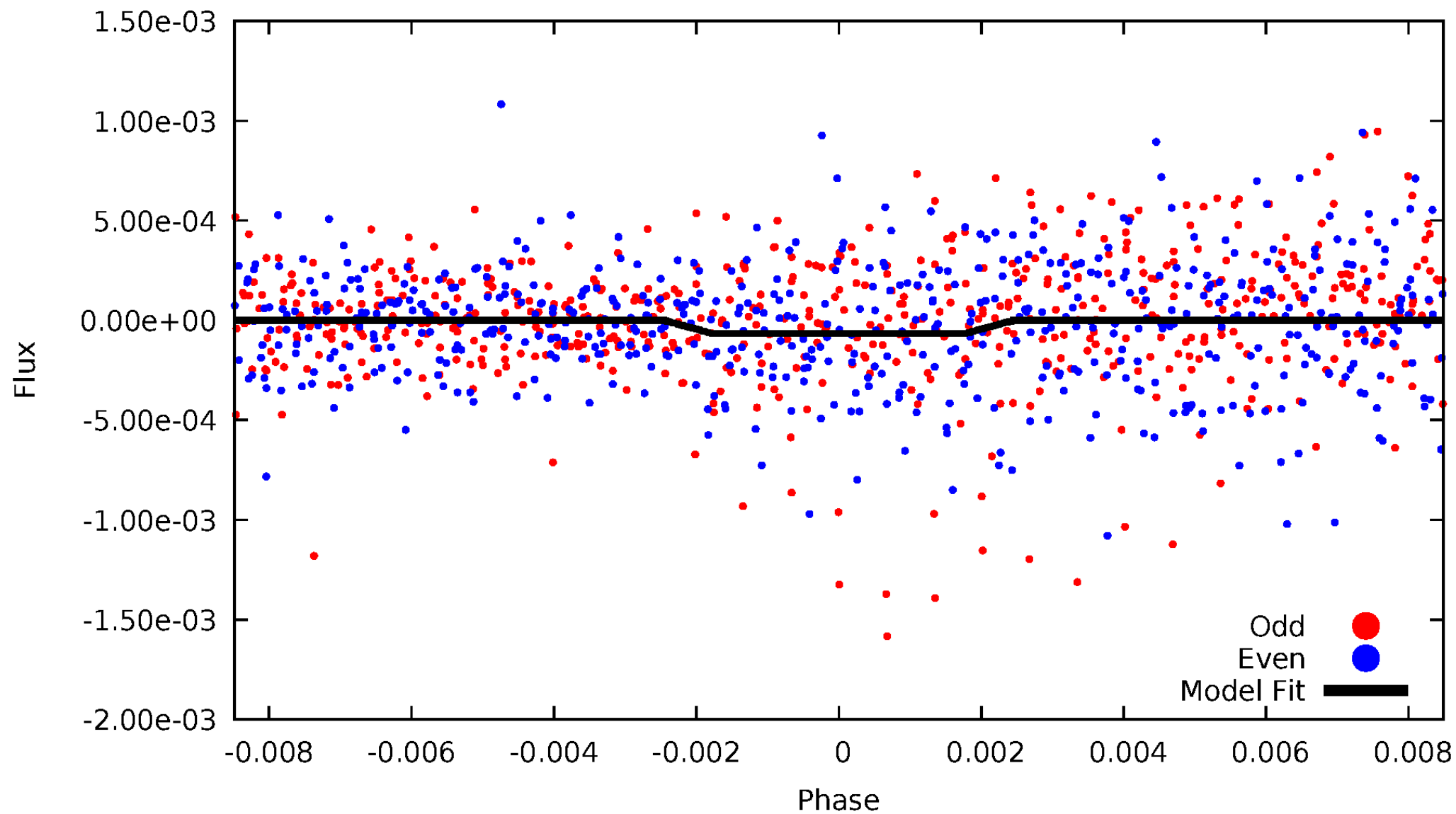
DV Odd/Even

TCE 003098194-03



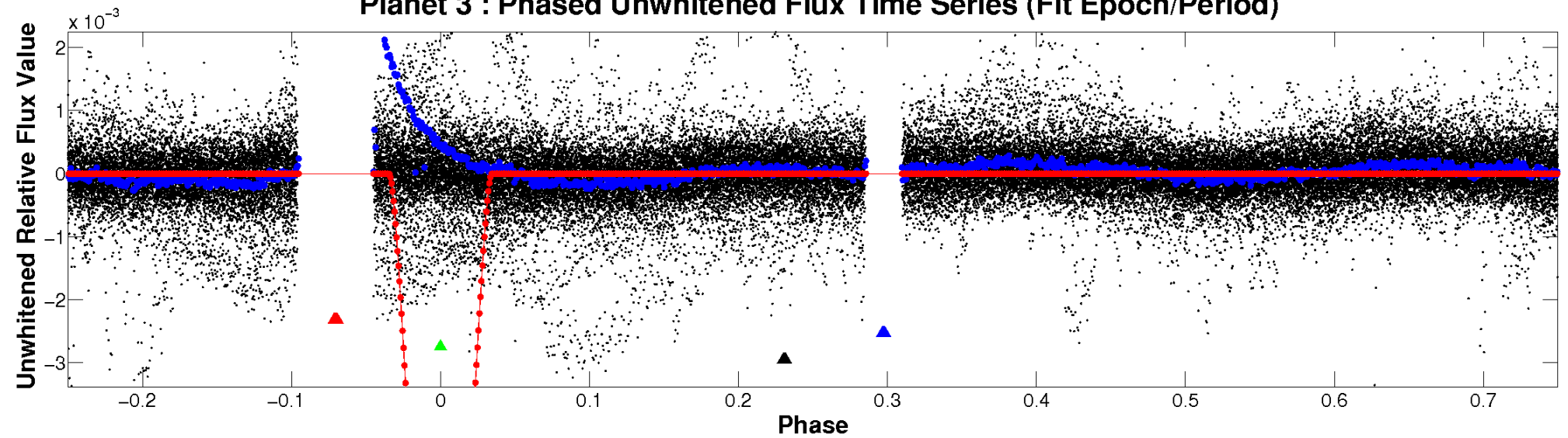
ALT Odd/Even

TCE 003098194-03

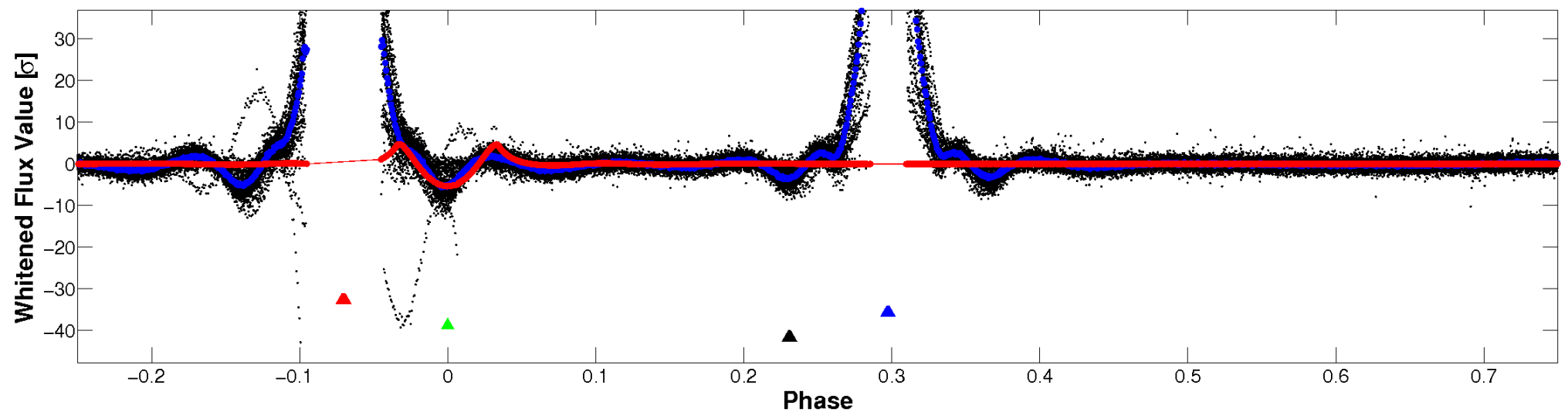


Non-Whitened Vs. Whitened Light Curve

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

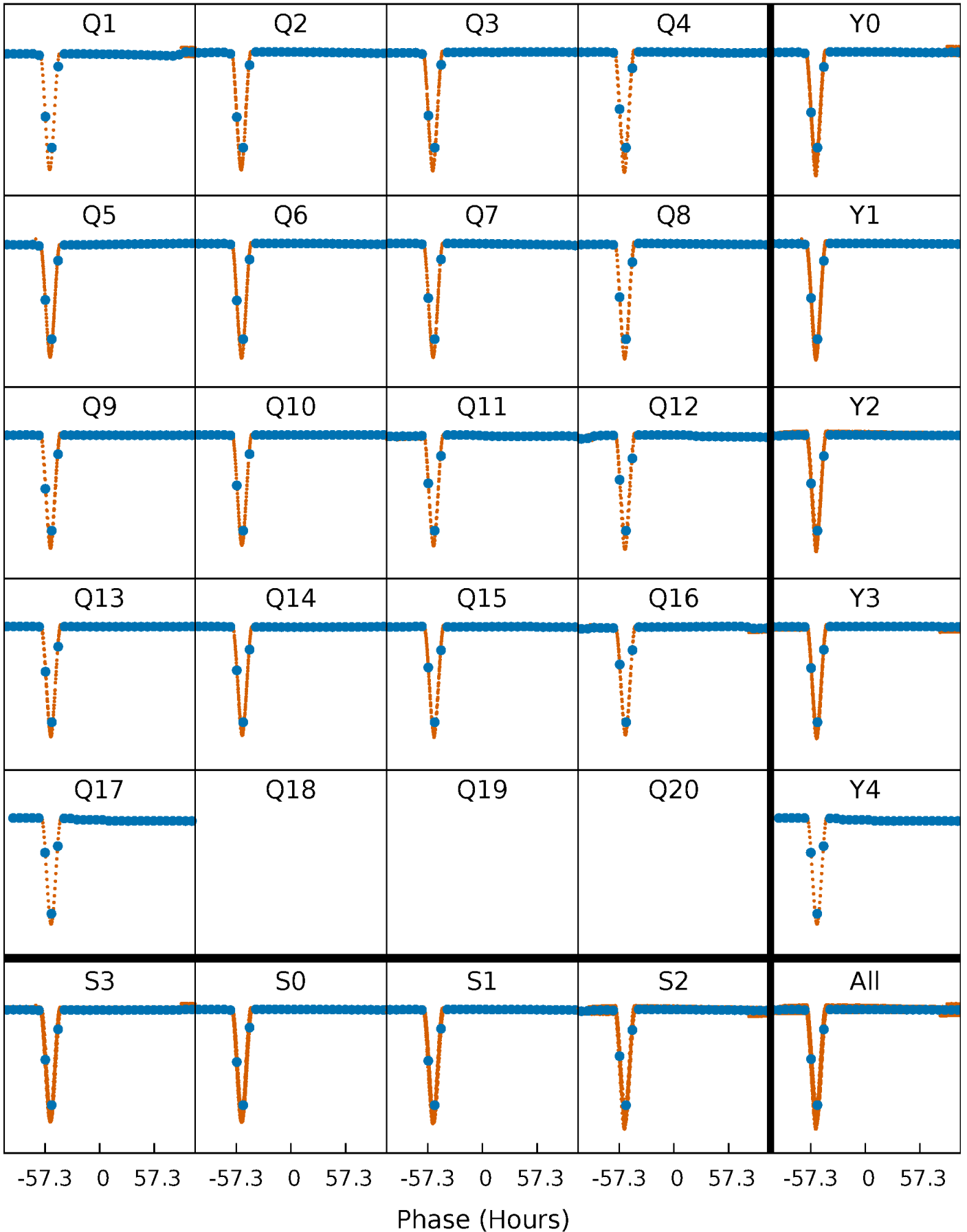


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



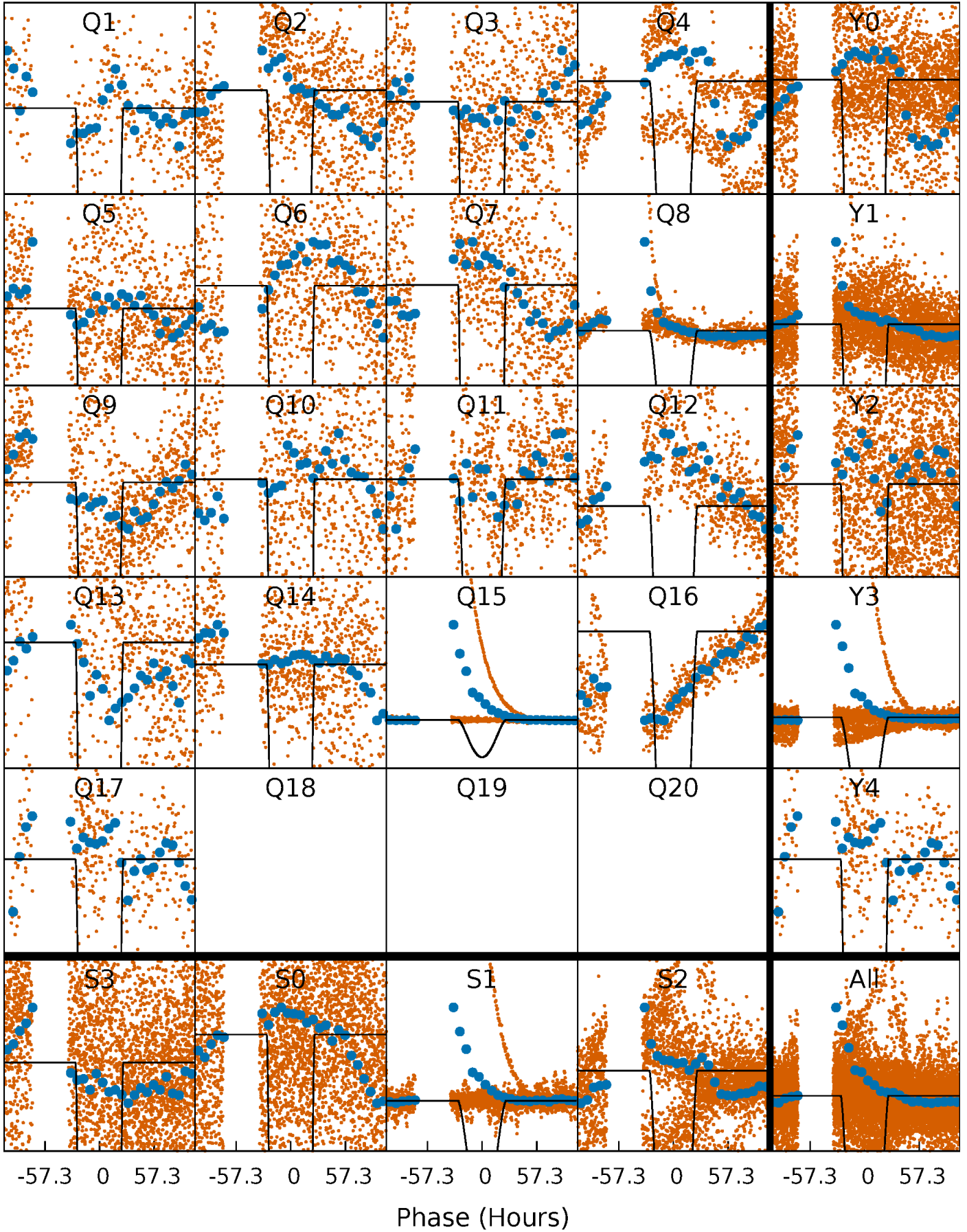
PDC Quarter-Phased Transit Curves

TCE 003098194-03 P= 30.475149 Days $T_0=158.411638$ (BKJD)



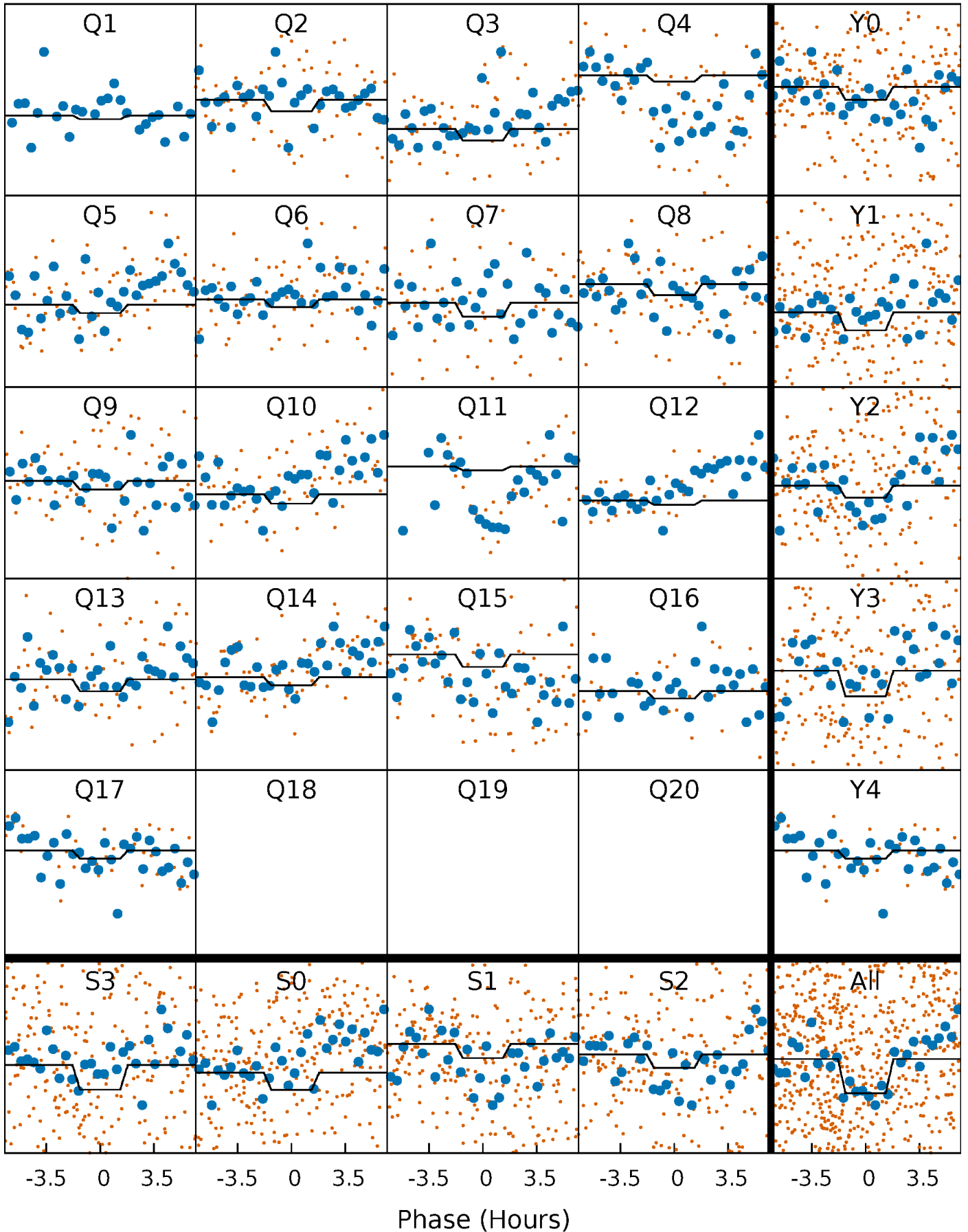
DV Quarter-Phased Transit Curves

TCE 003098194-03 P= 30.475149 Days $T_0=158.411638$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

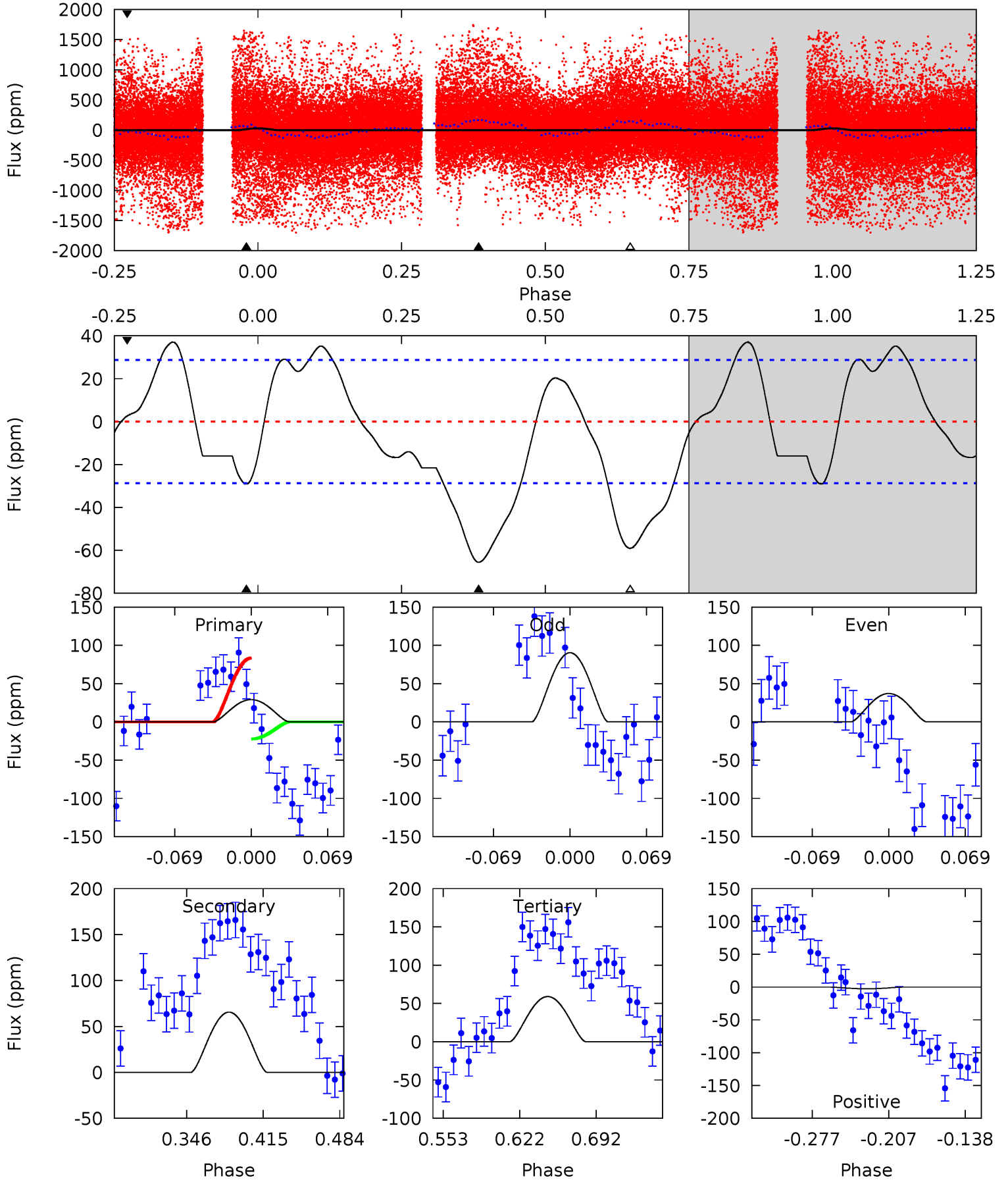
TCE 003098194-03 $P = 30.472698$ Days $T_0 = 157.997387$ (BKJD)



DV Model-Shift Uniqueness Test

003098194-03, P = 30.475149 Days, E = 127.936489 Days

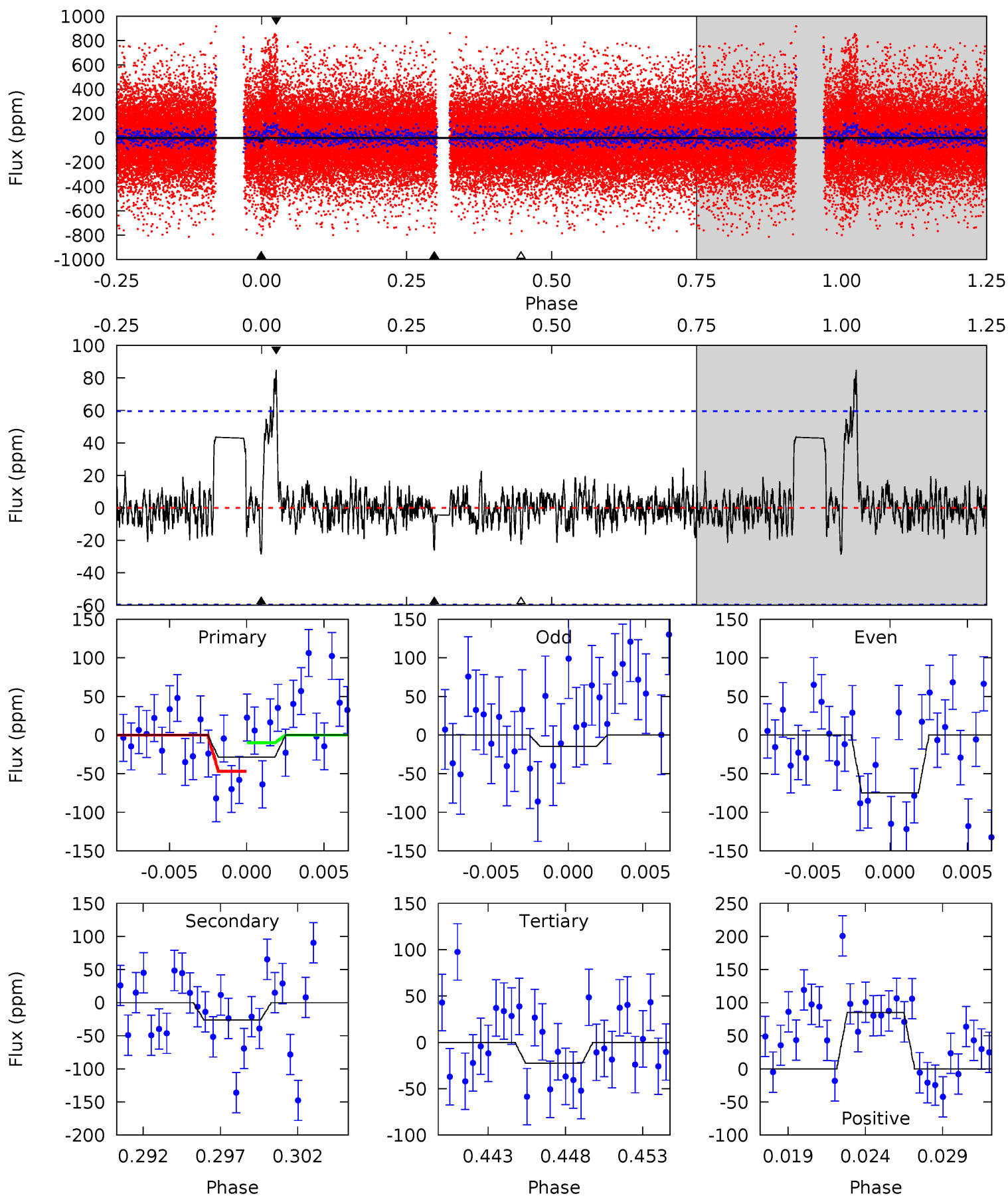
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.71	10.6	9.55	0.43	4.64	1.82	4.25	-4.84	4.28	1.06	10.2	4.41	18.9	0.36	4.90



Alt Model-Shift Uniqueness Test

003098194-03, P = 30.472698 Days, E = 127.524689 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.47	2.27	1.95	7.37	5.16	2.82	1.04	0.52	-4.90	0.32	-5.10	2.64	1.15	0.75	0



Stellar Parameters For KIC 003098194

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5527^{+166}_{-149}	$4.315^{+0.205}_{-0.205}$	$-0.020^{+0.250}_{-0.250}$	$1.073^{+0.321}_{-0.214}$	$0.867^{+0.122}_{-0.071}$	$0.988^{+0.920}_{-0.515}$
	+3%/-3%	+5%/-5%	+1250%/-1250%	+30%/-20%	+14%/-8%	+93%/-52%
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 003098194-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-66 ± 6	$19.39^{+3.93}_{-3.35}$	828^{+69}_{-56}	2155^{+82}_{-74}	$3.220^{+1.502}_{-1.075}$
Alt.	-26 ± 12	$2.04^{+1.84}_{-1.39}$	832^{+68}_{-60}	3453^{+1813}_{-659}	106^{+886}_{-84}

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

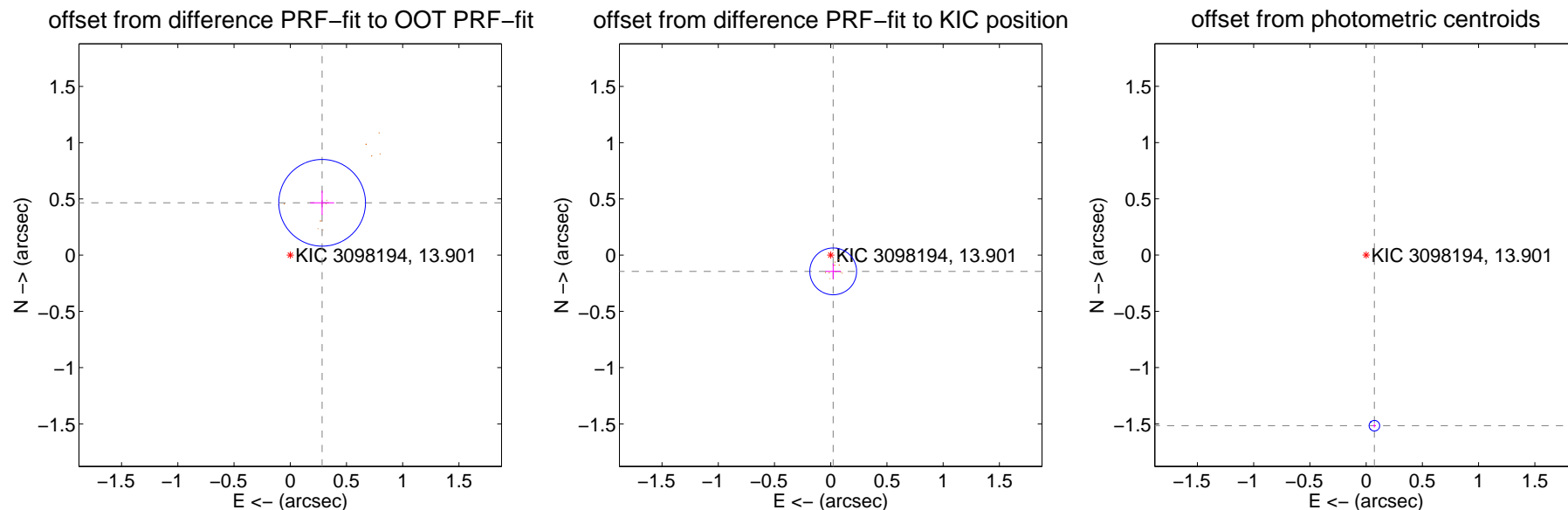
DV Centroid Data

Supplemental centroid analysis for 003098194-03. Kepler magnitude: 13.90. Transit SNR 257.07

There are 0 quarters with good PRF difference image offsets

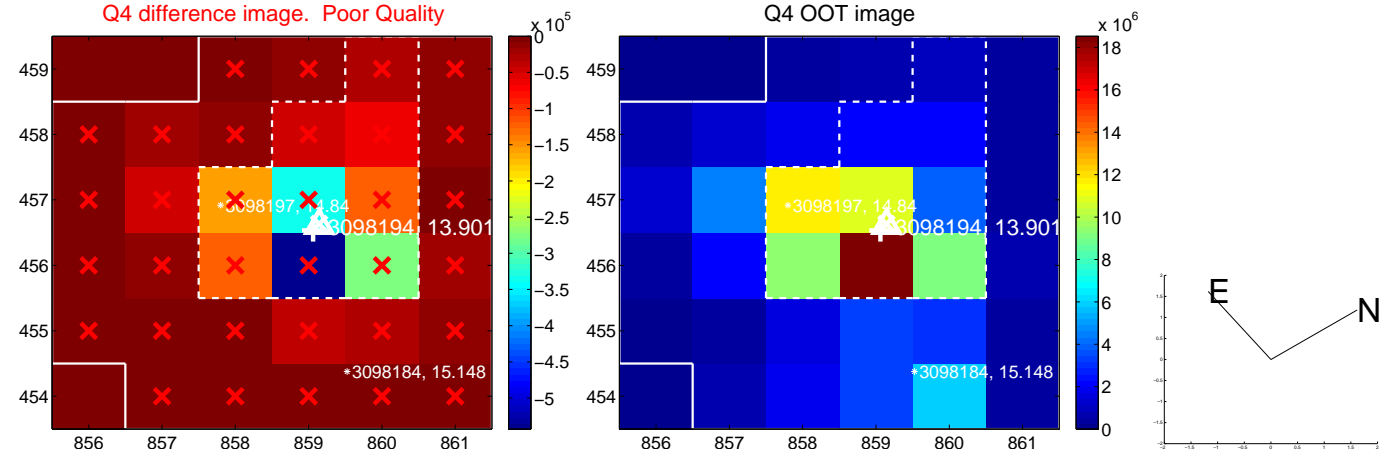
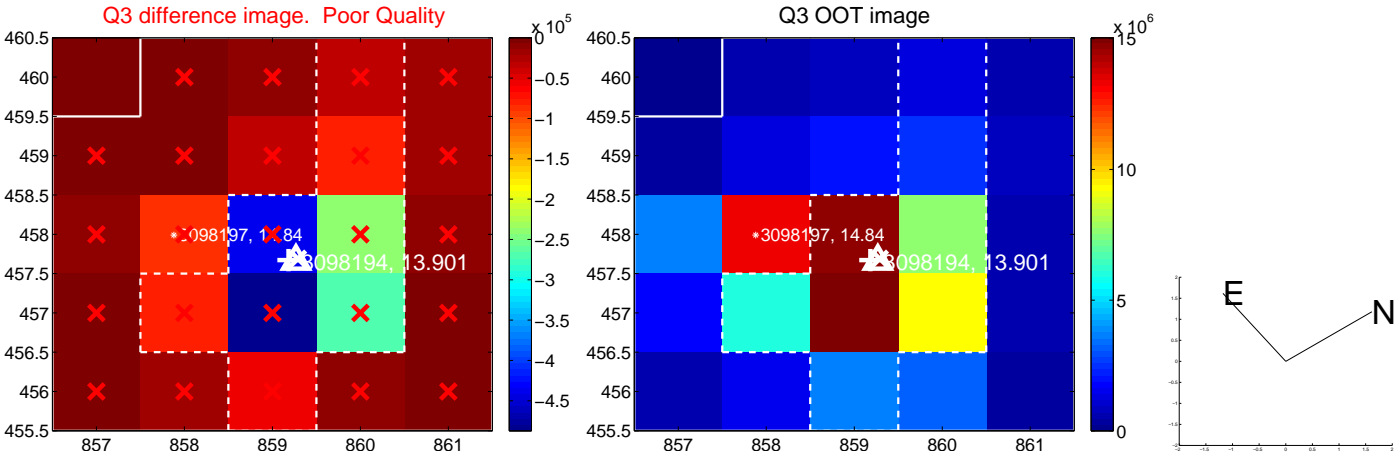
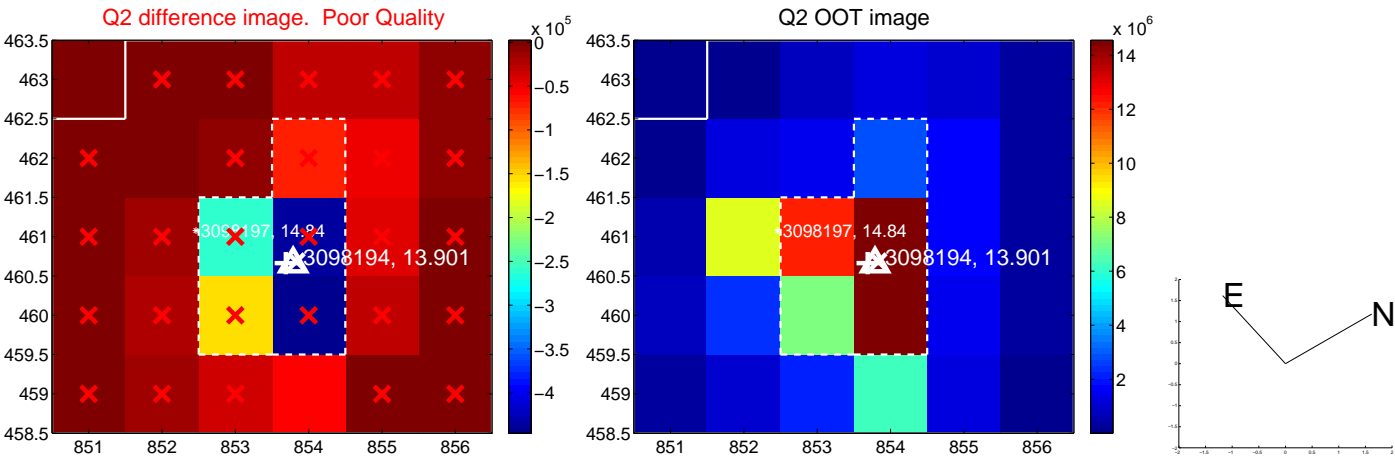
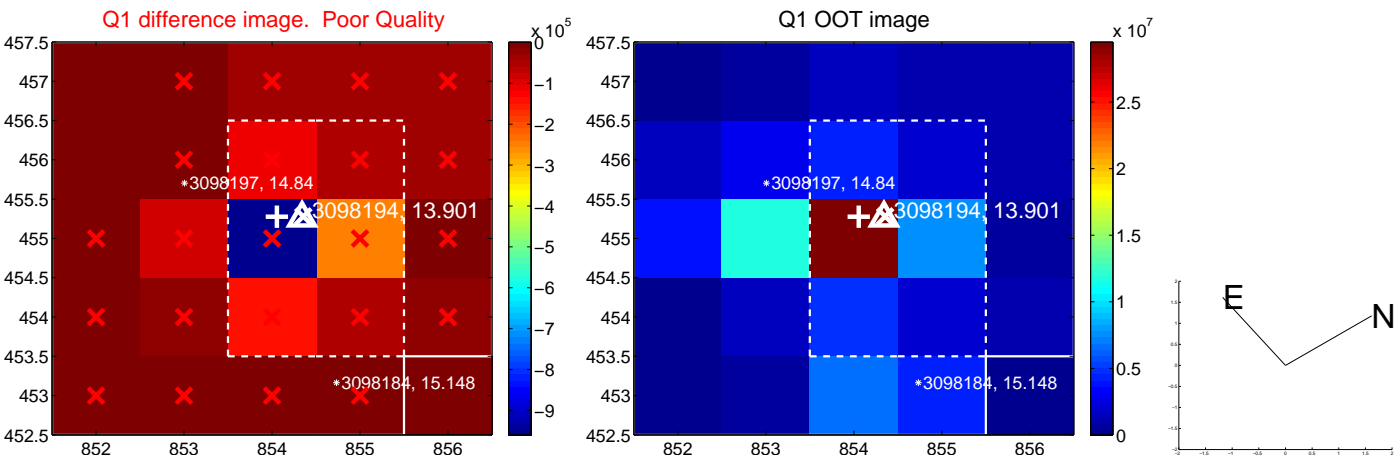
The direct PRF centroid is offset from the target star catalog position by about 0.70 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.545 ± 0.128	4.24	-0.283 ± 0.107	0.465 ± 0.108
PRF-fit source offset from KIC position	0.146 ± 0.069	2.10	-0.022 ± 0.068	-0.144 ± 0.070
photometric centroid source offset	1.52 ± 0.02	96.90	-0.07 ± 0.01	-1.52 ± 0.02

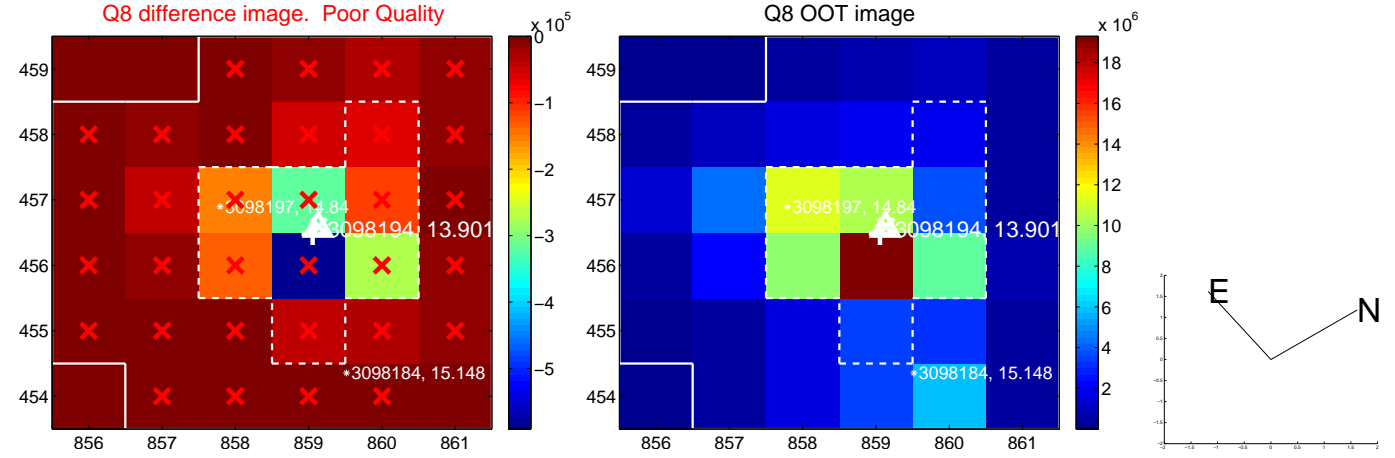
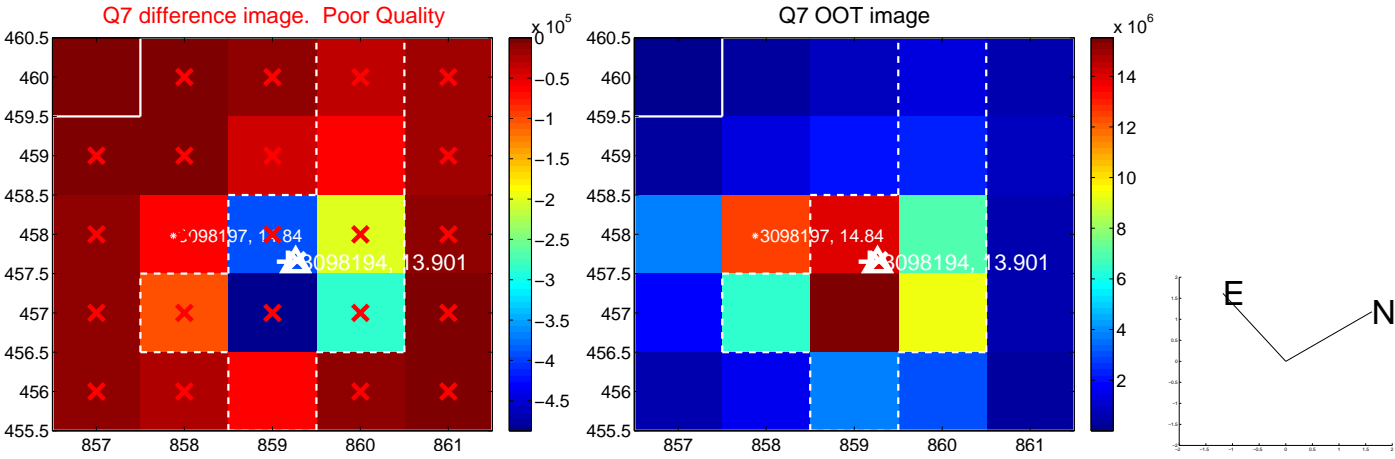
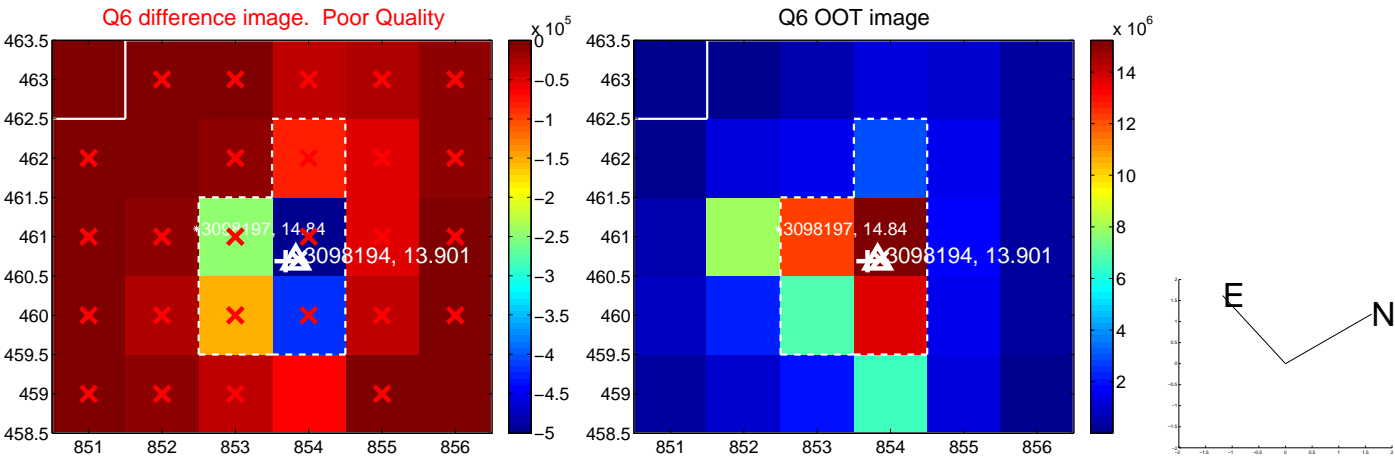
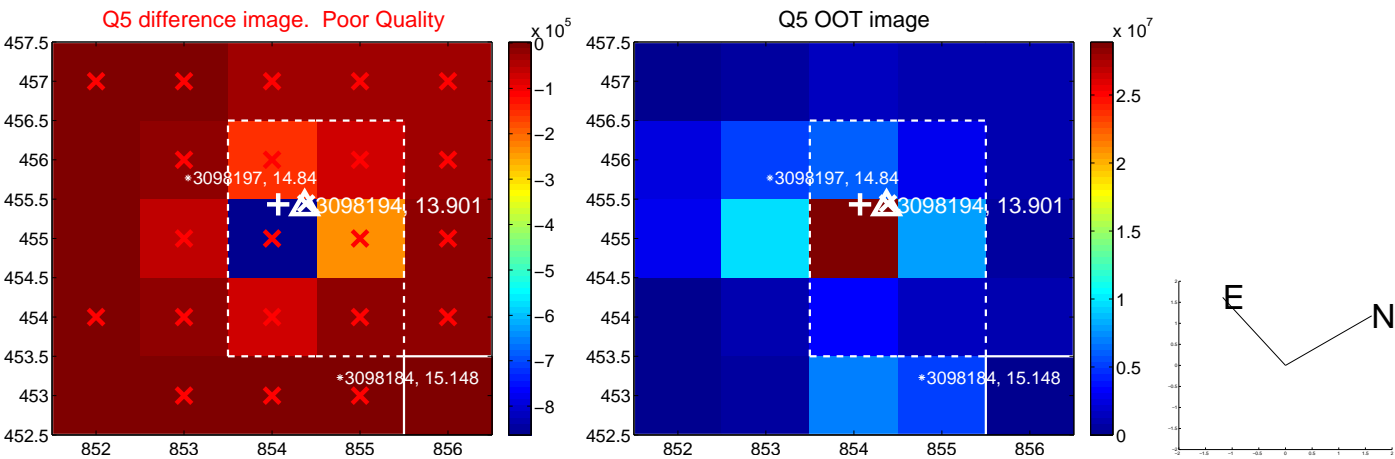


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

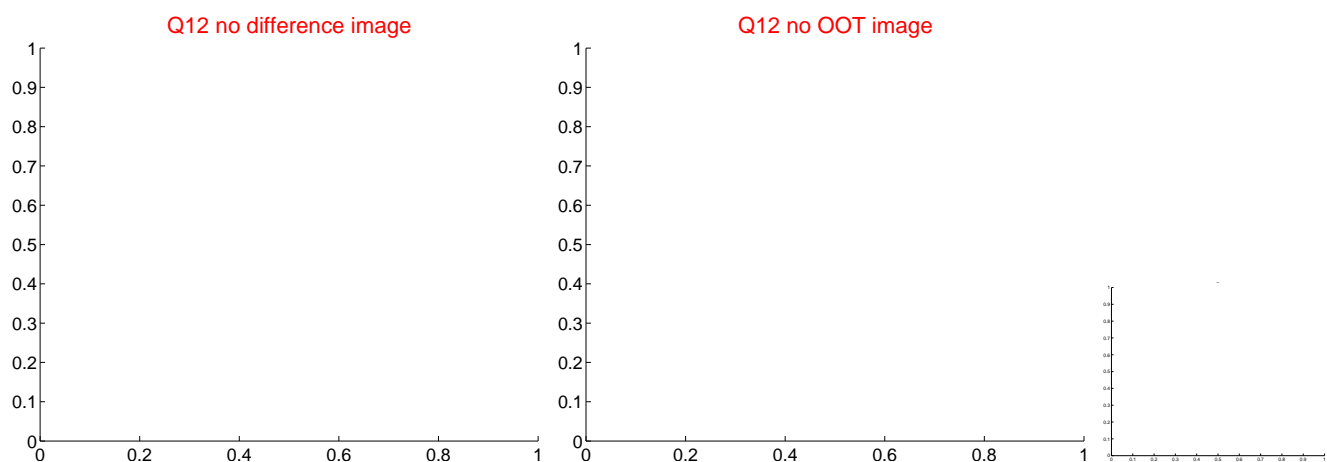
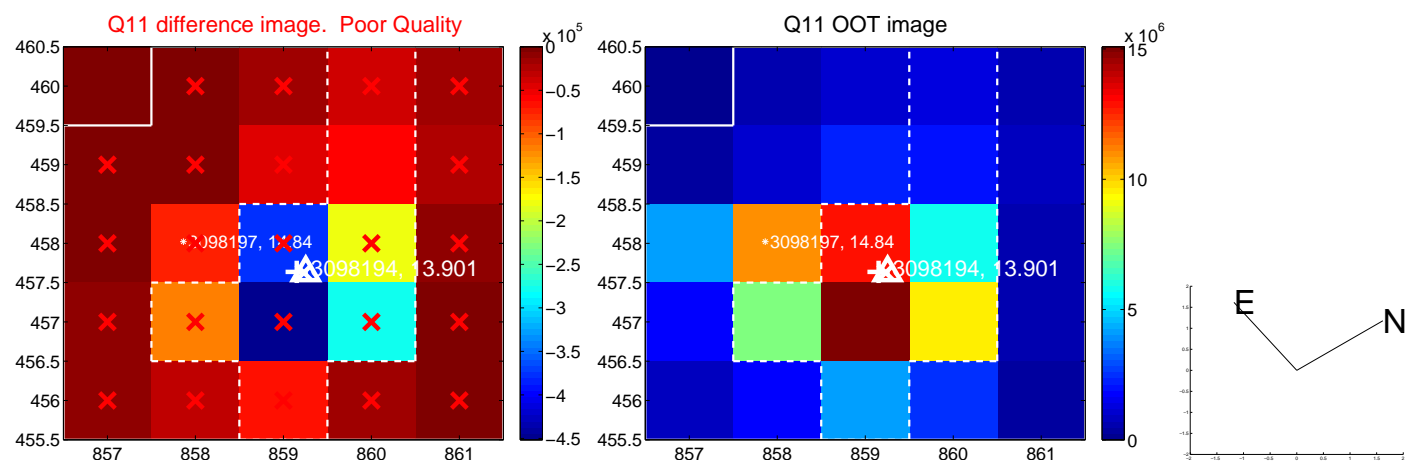
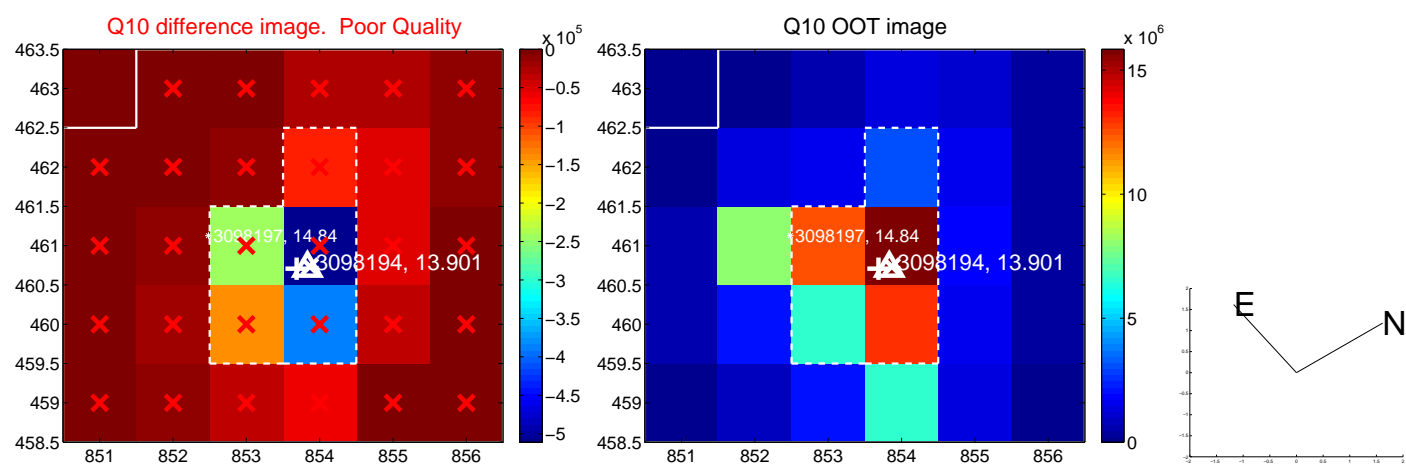
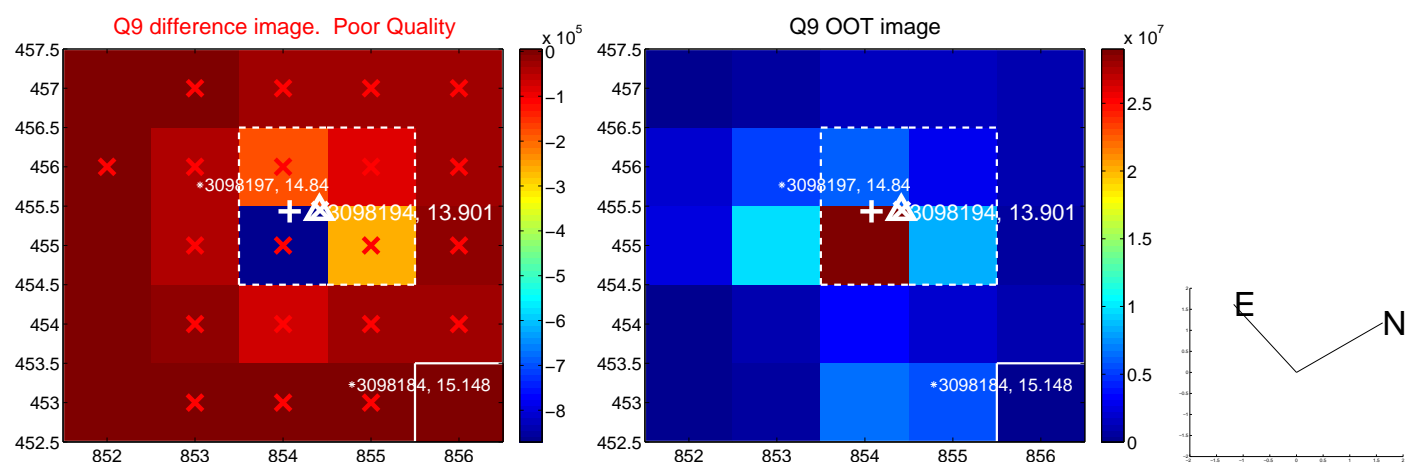
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



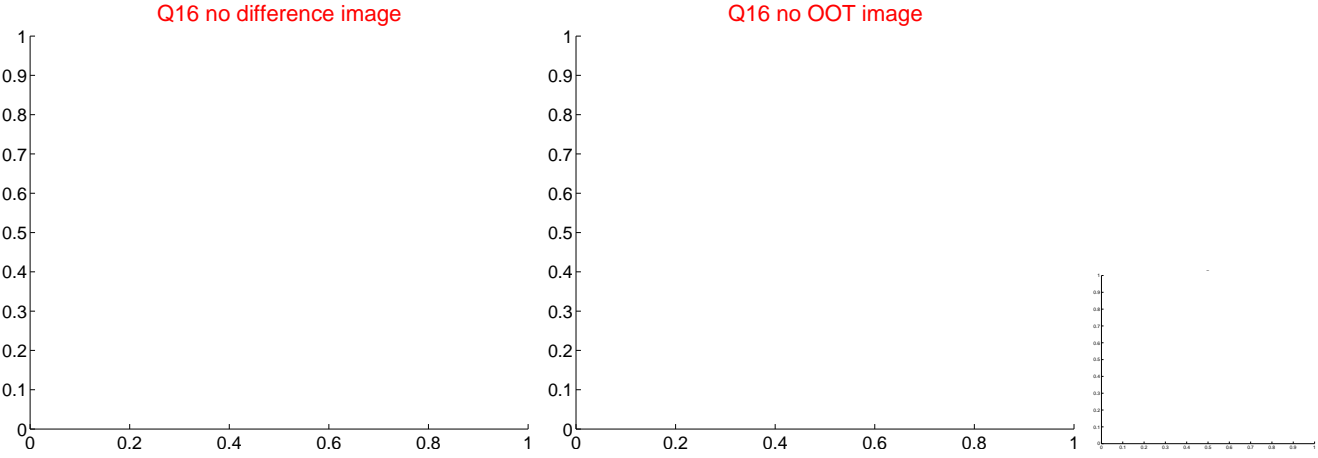
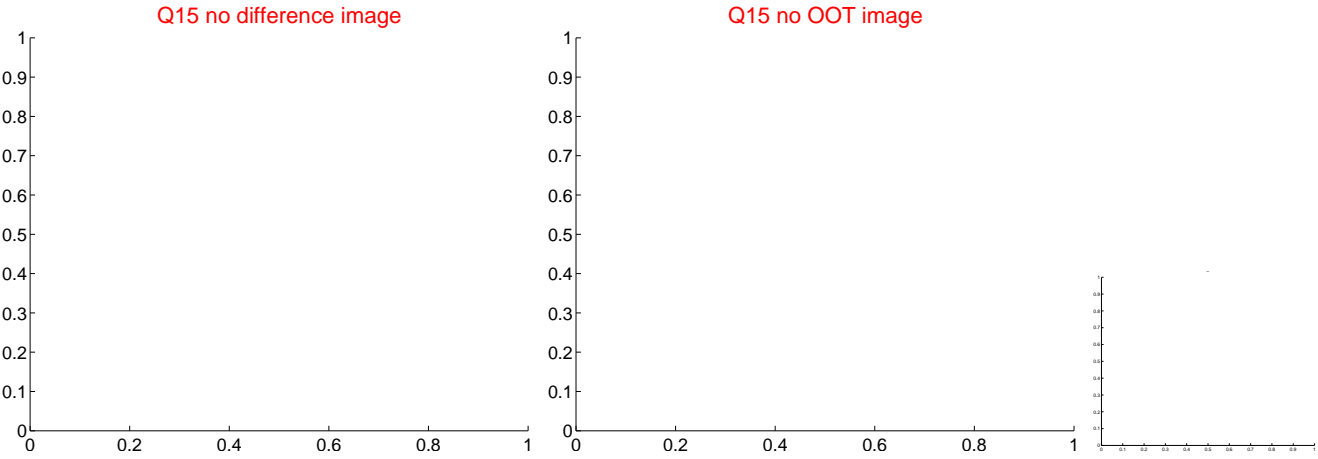
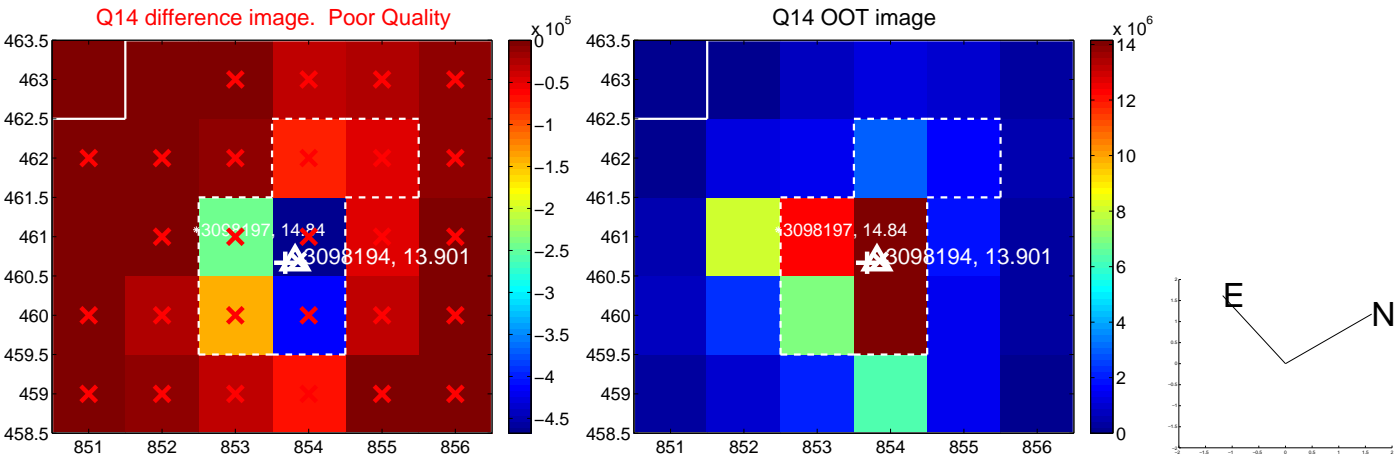
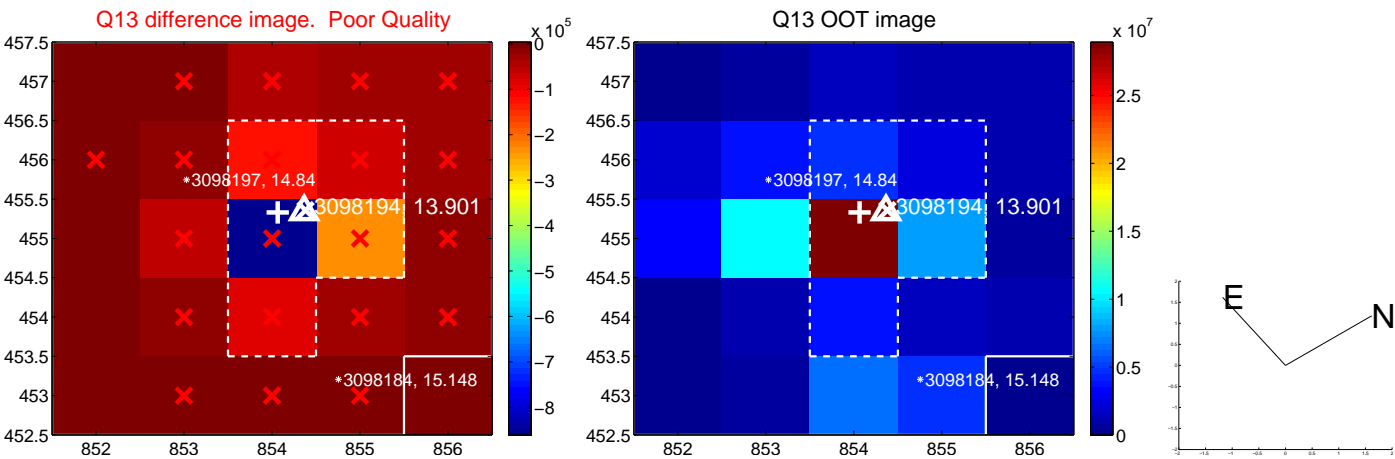
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



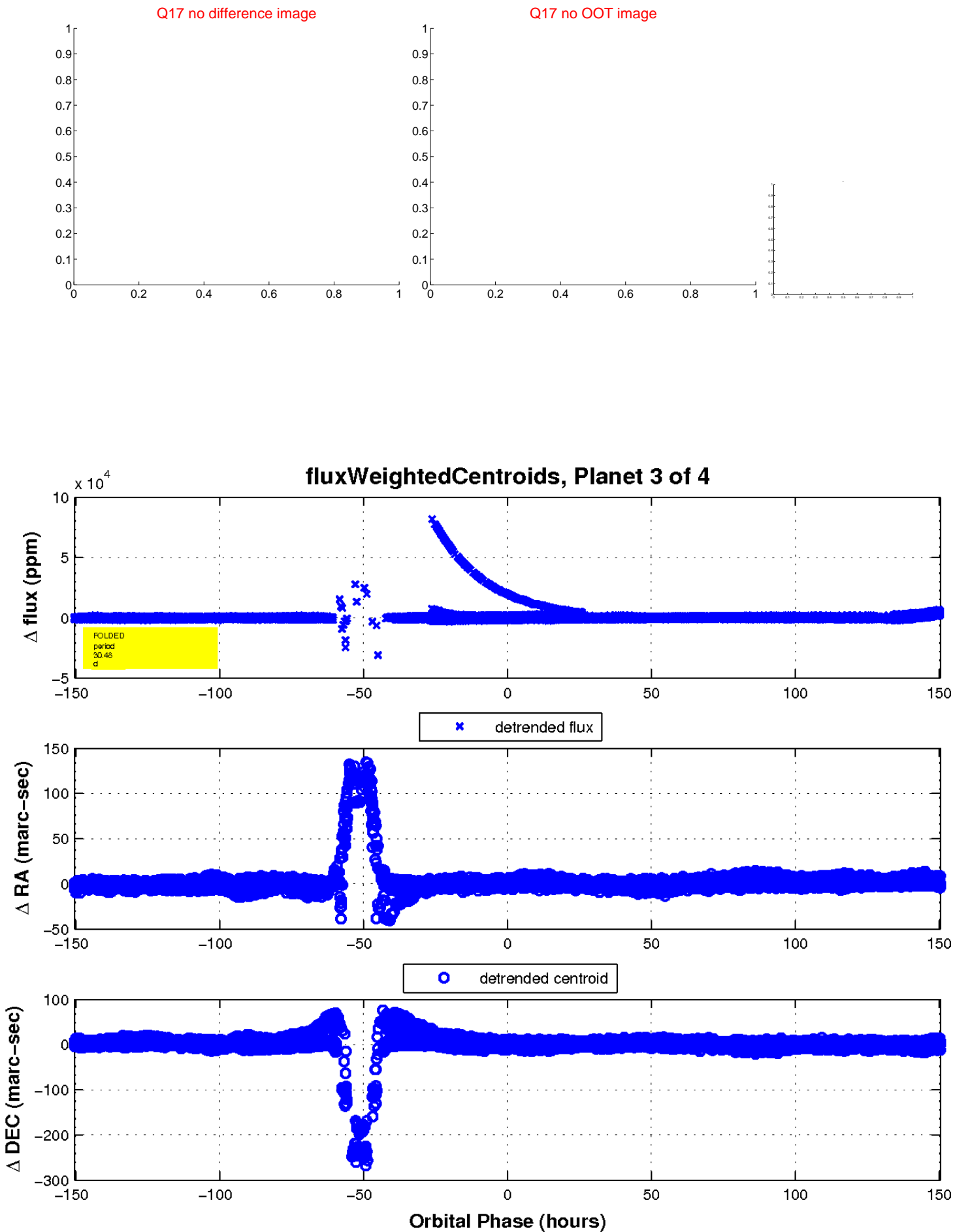
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

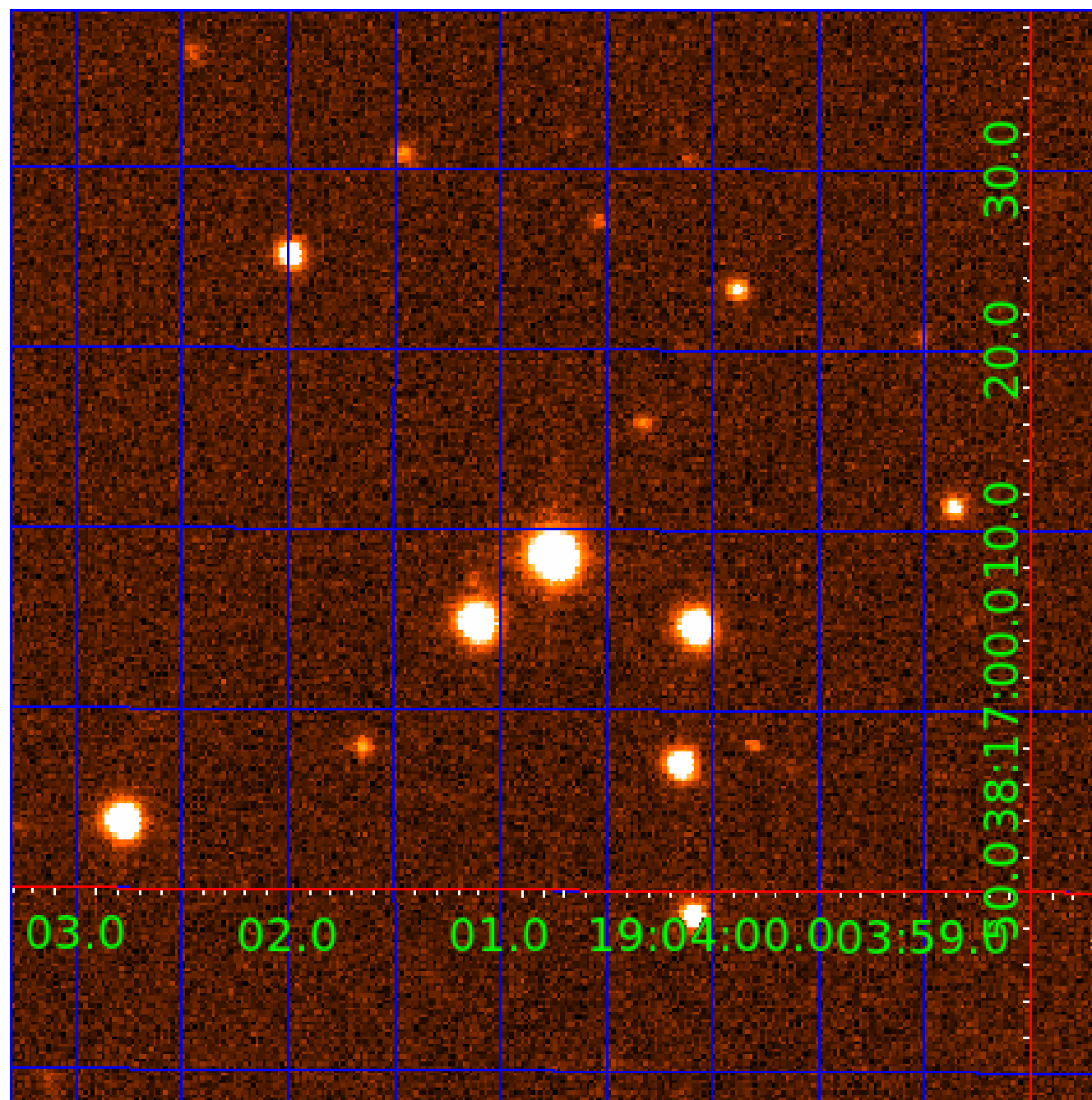


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003098194

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})
003098194-01	OBS	6303.01	30.476536	156.235601	307325.2	12.500	18311.1	-1.0	1.07	5527	46.07	29.02
003098194-02	OBS	No	30.476157	136.976971	337345.4	6.000	17366.2	-1.0	1.07	5527	53.31	29.02
003098194-03	OBS	No	30.475149	158.411638	9620.6	50.164	413.3	257.1	1.07	5527	19.18	29.02
003098194-04	OBS	No	30.476175	134.948482	6368.0	64.948	200.3	123.0	1.07	5527	15.83	29.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003098194-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
003098194-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
003098194-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
003098194-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

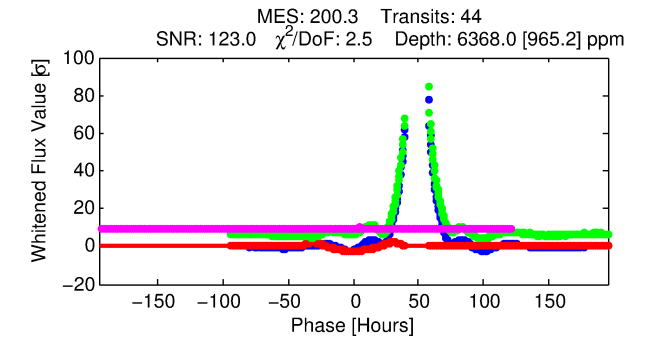
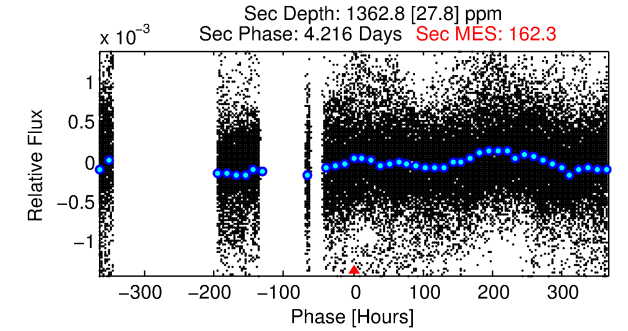
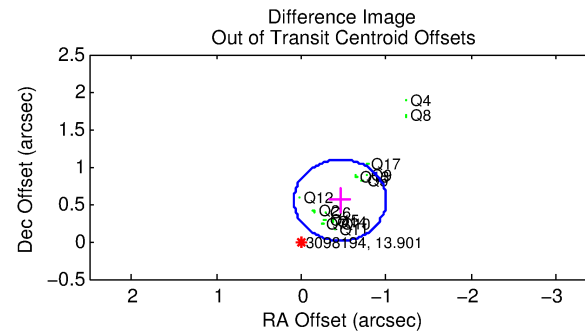
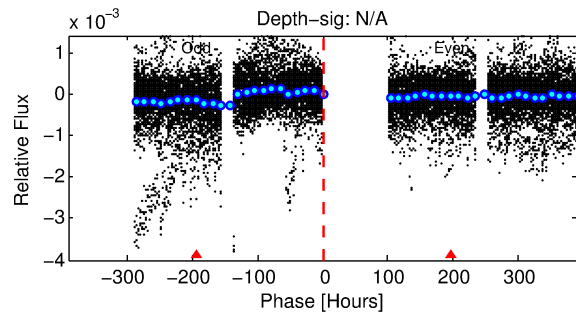
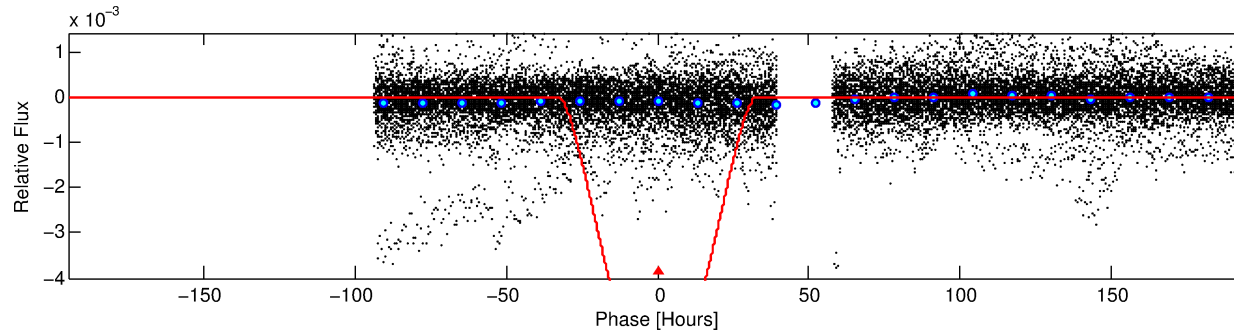
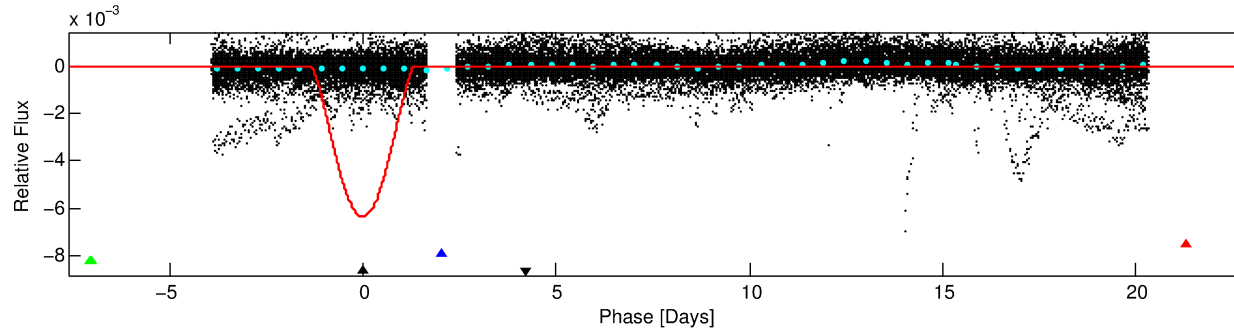
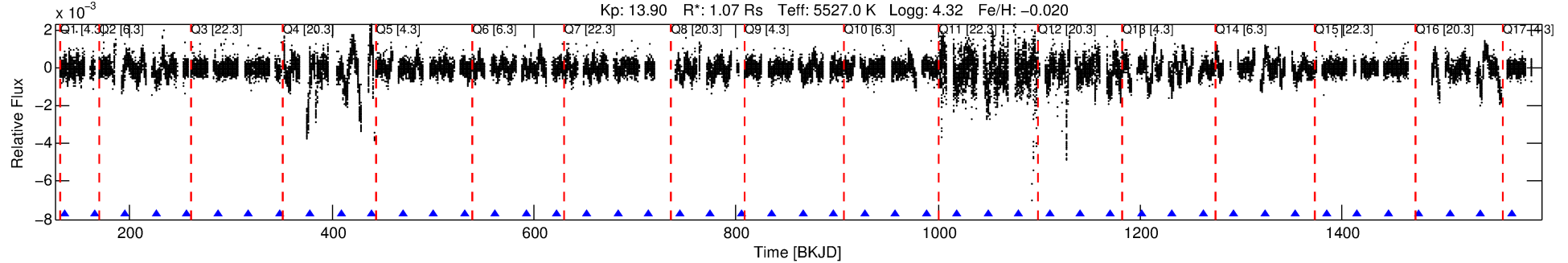
Ephemeris Match Information For 003098194-04

No Significant Match Found

DV One-Page Summary

KIC: 3098194 Candidate: 4 of 4 Period: 30.476 d
KOI: K06303 Corr: No Ephemeris Match

Kp: 13.90 R*: 1.07 Rs Teff: 5527.0 K Logg: 4.32 Fe/H: -0.020



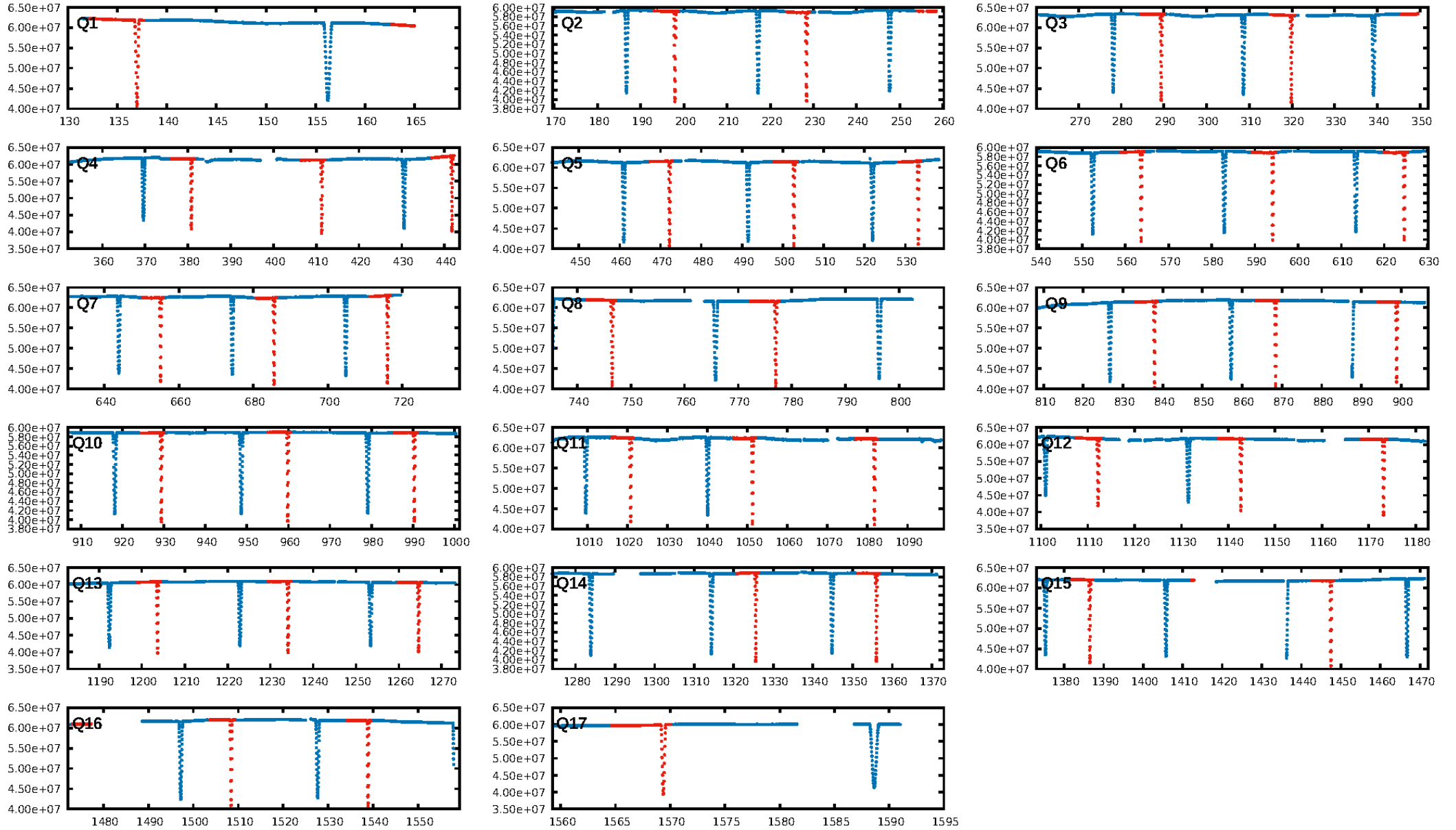
DV Fit Results:

Period = 30.47617 [0.00036] d
Epoch = 134.9485 [0.0098] BKJD
Rp/R* = 0.1352 [0.0180]
a/R* = 2.19 [0.03]
b = 1.00 [0.04]
Seff = 29.02 [11.36]
Teq = 592 [58] K
Rp = 15.83 [5.18] Re
a = 0.1821 [0.0463] AU
Ag = 99.21 [45.45] [2.16σ]
Teffp = 2888 [211] K [10.49σ]

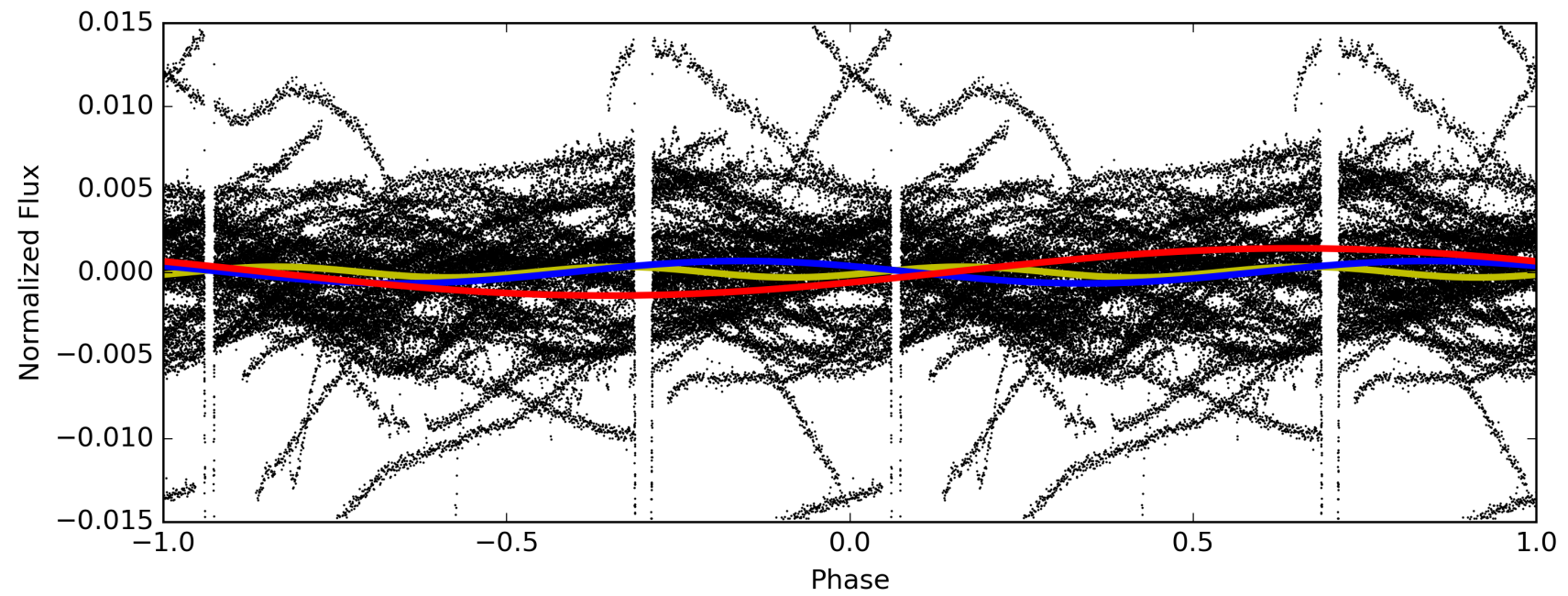
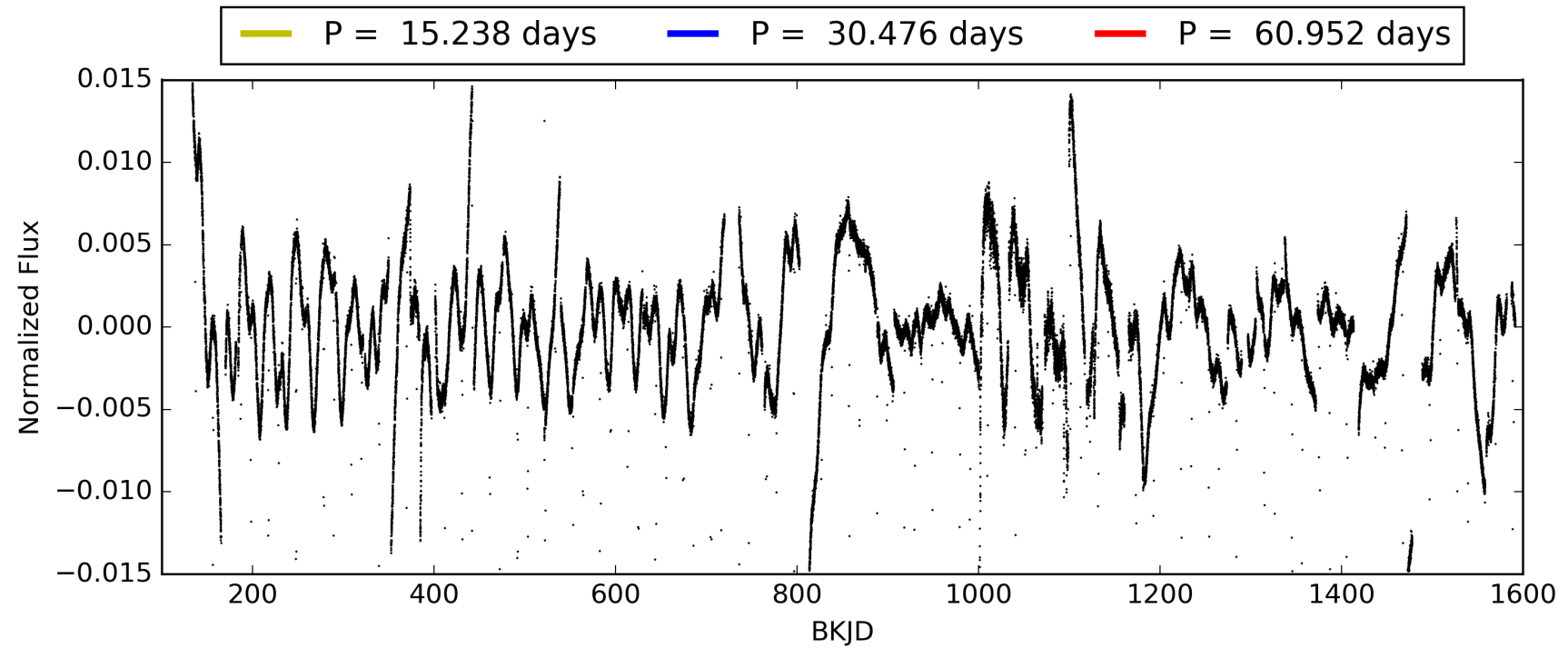
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: 2.293
Centroid-sig: N/A
Centroid-so: 1.598 arcsec [69.52σ]
OotOffset-rm: 0.718 arcsec [3.97σ]
KicOffset-rm: 0.166 arcsec [2.22σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 003098194-04, PDC Light Curves

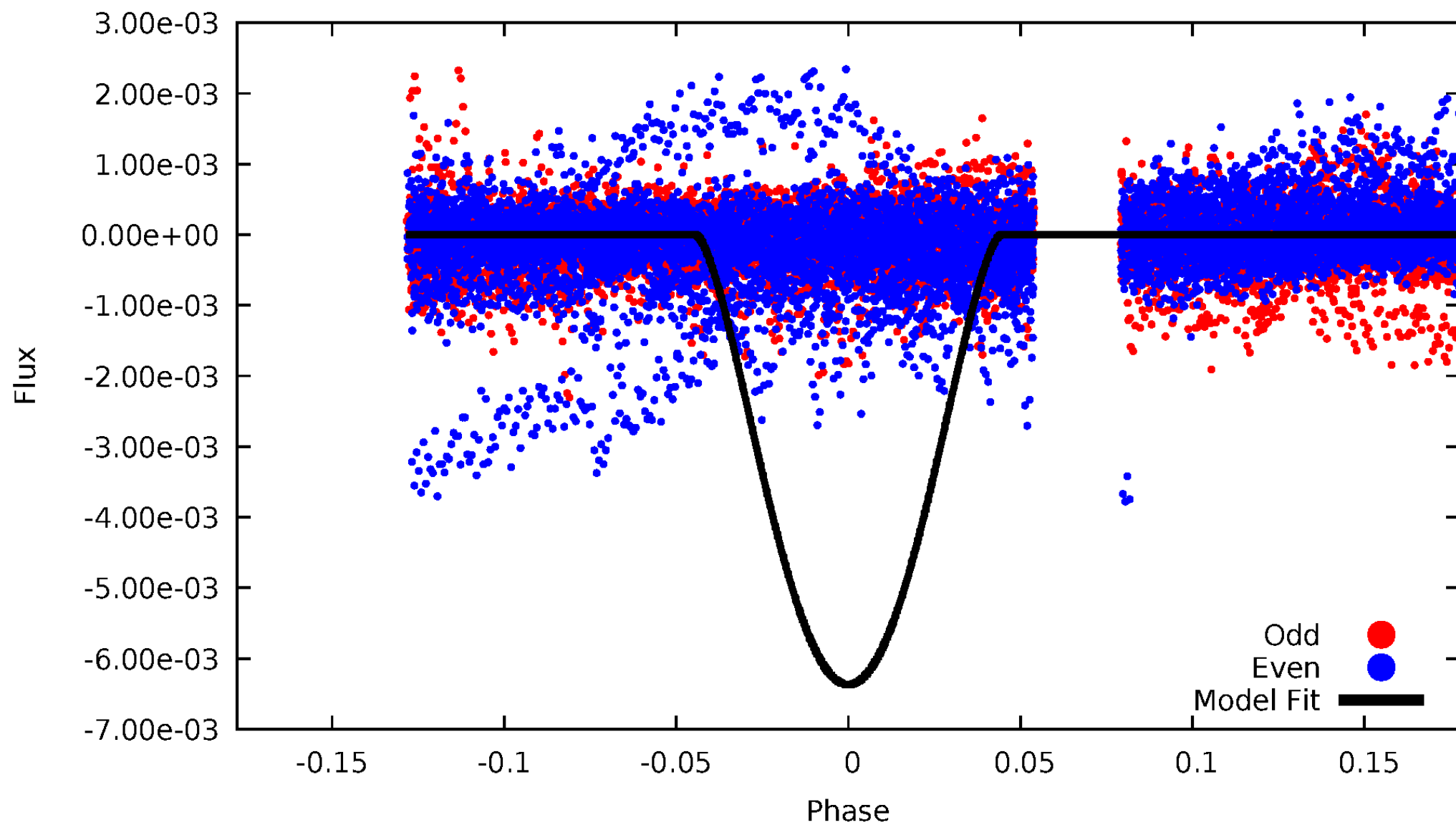


TCE 003098194-04



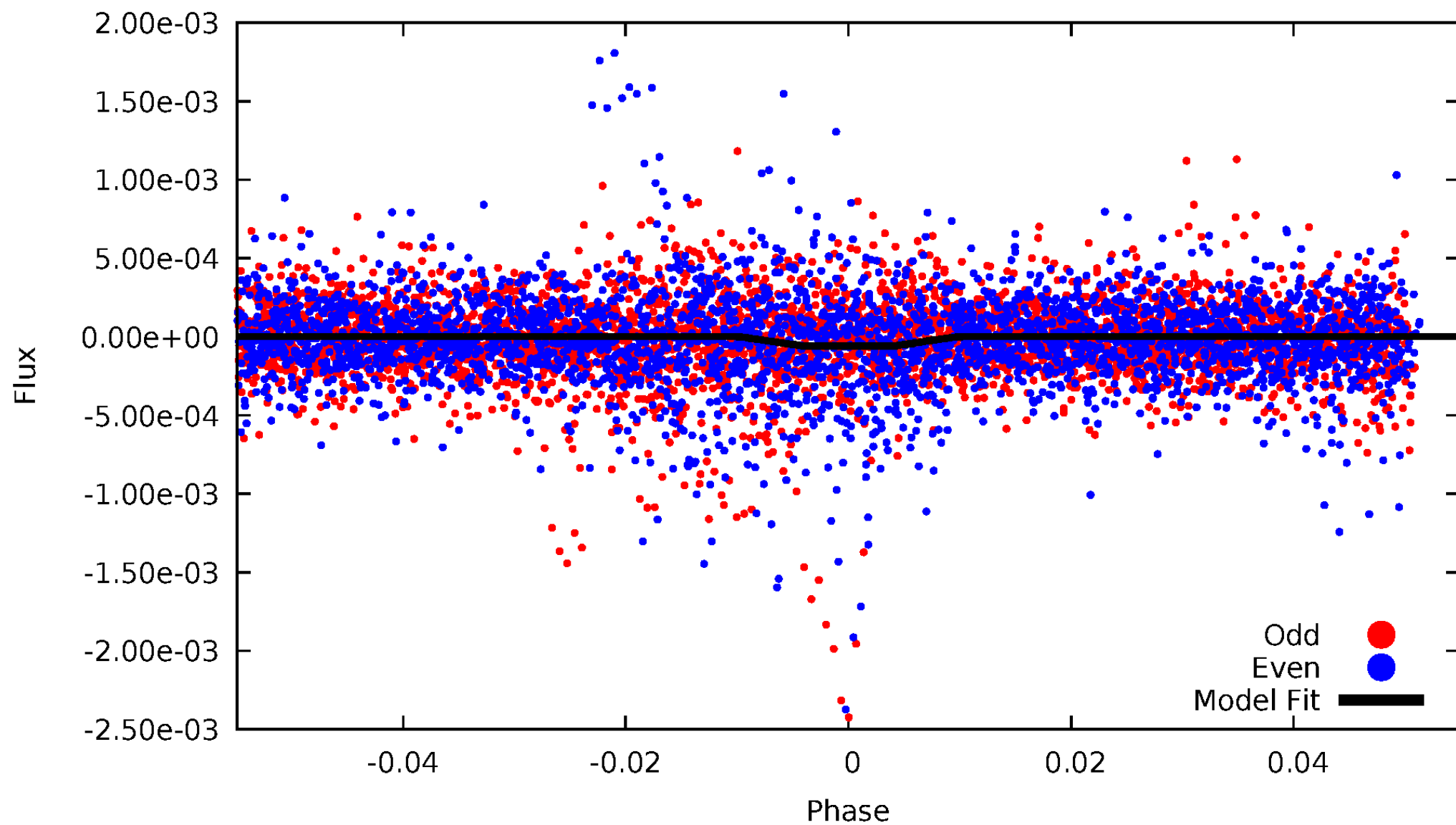
DV Odd/Even

TCE 003098194-04



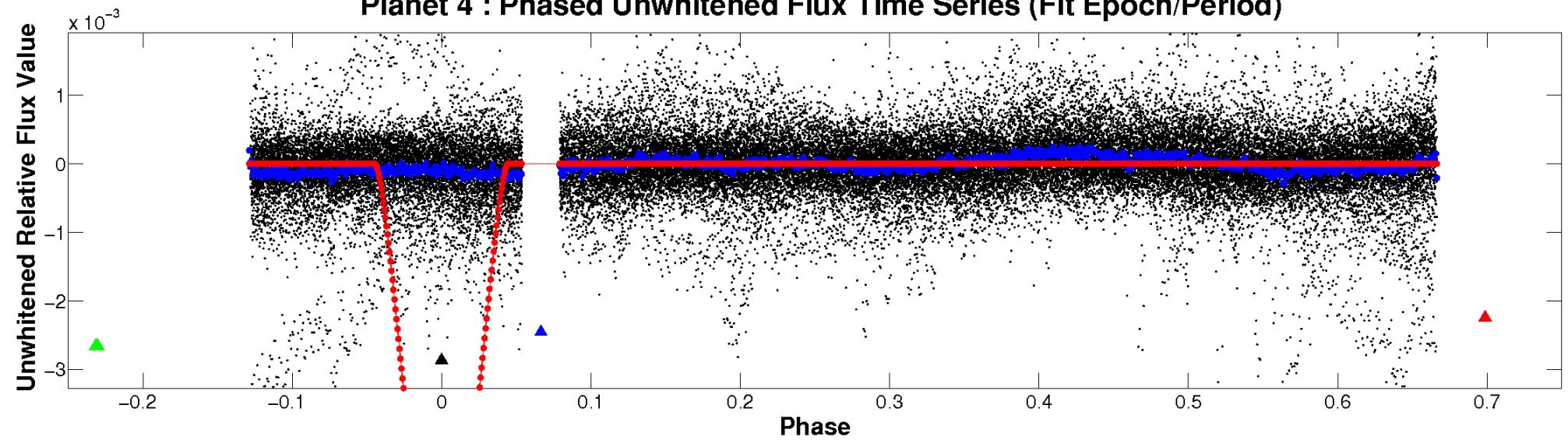
ALT Odd/Even

TCE 003098194-04

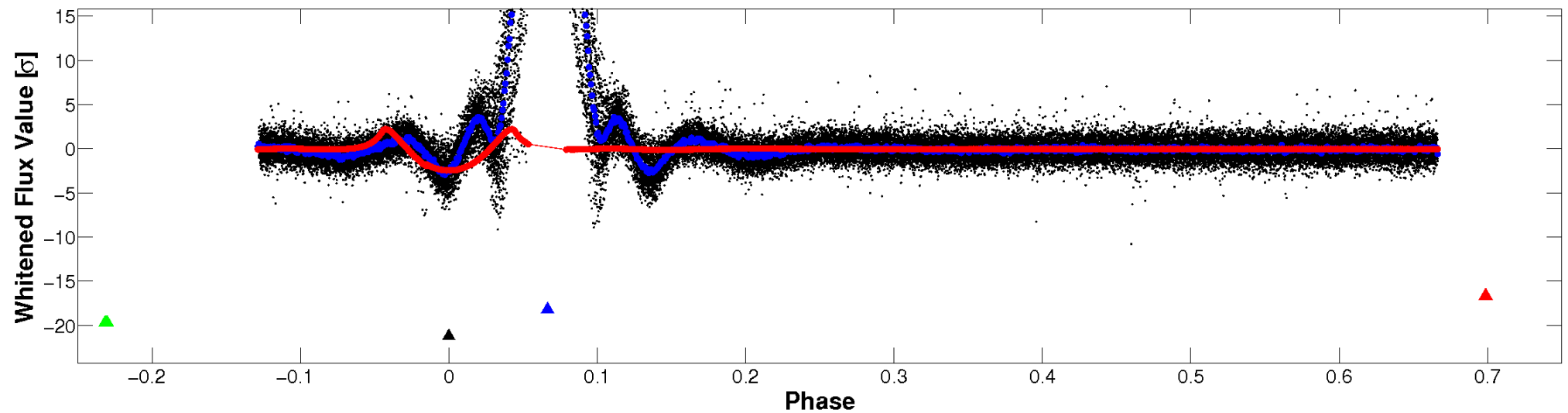


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

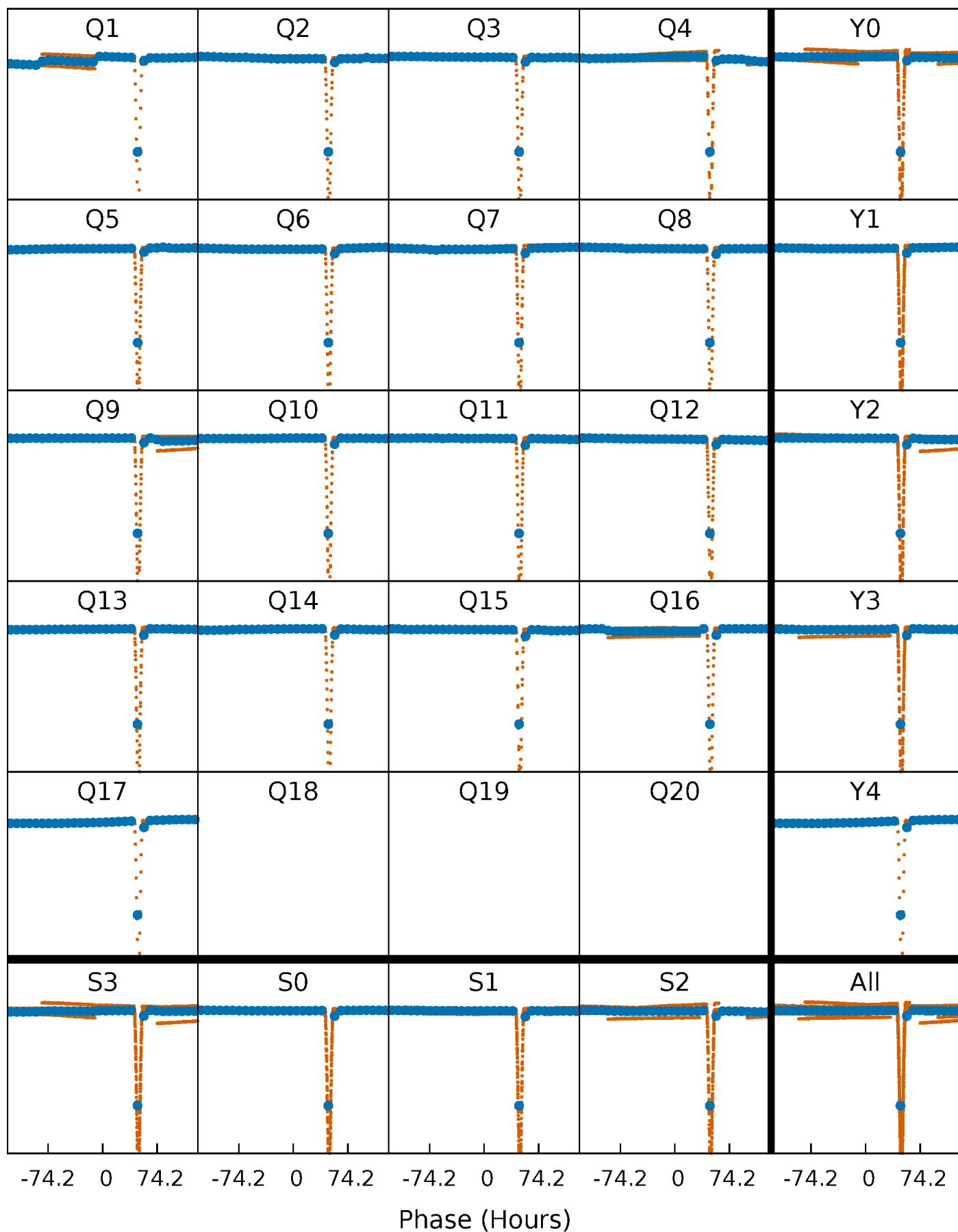


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



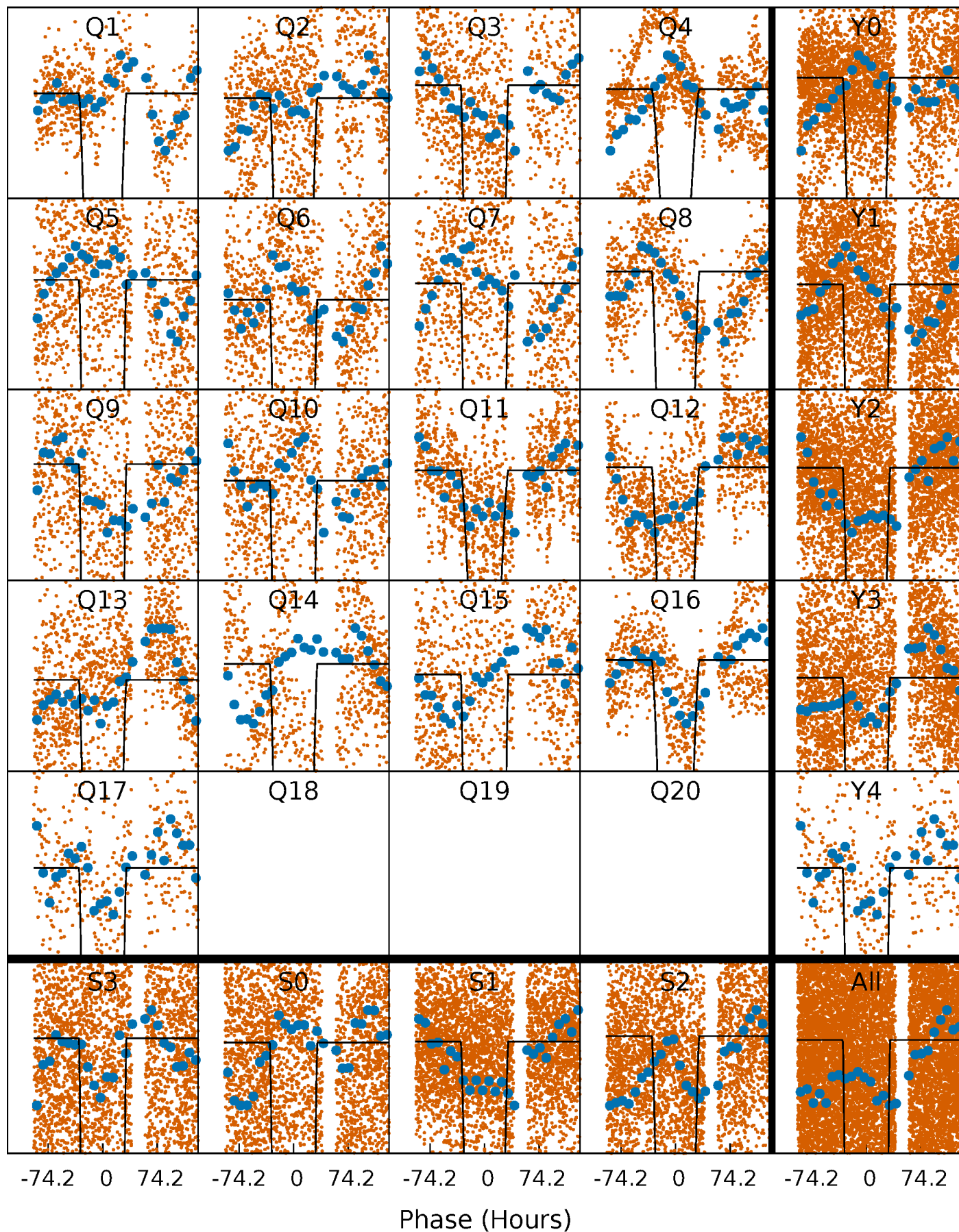
PDC Quarter-Phased Transit Curves

TCE 003098194-04 P= 30.476175 Days $T_0=134.948482$ (BKJD)



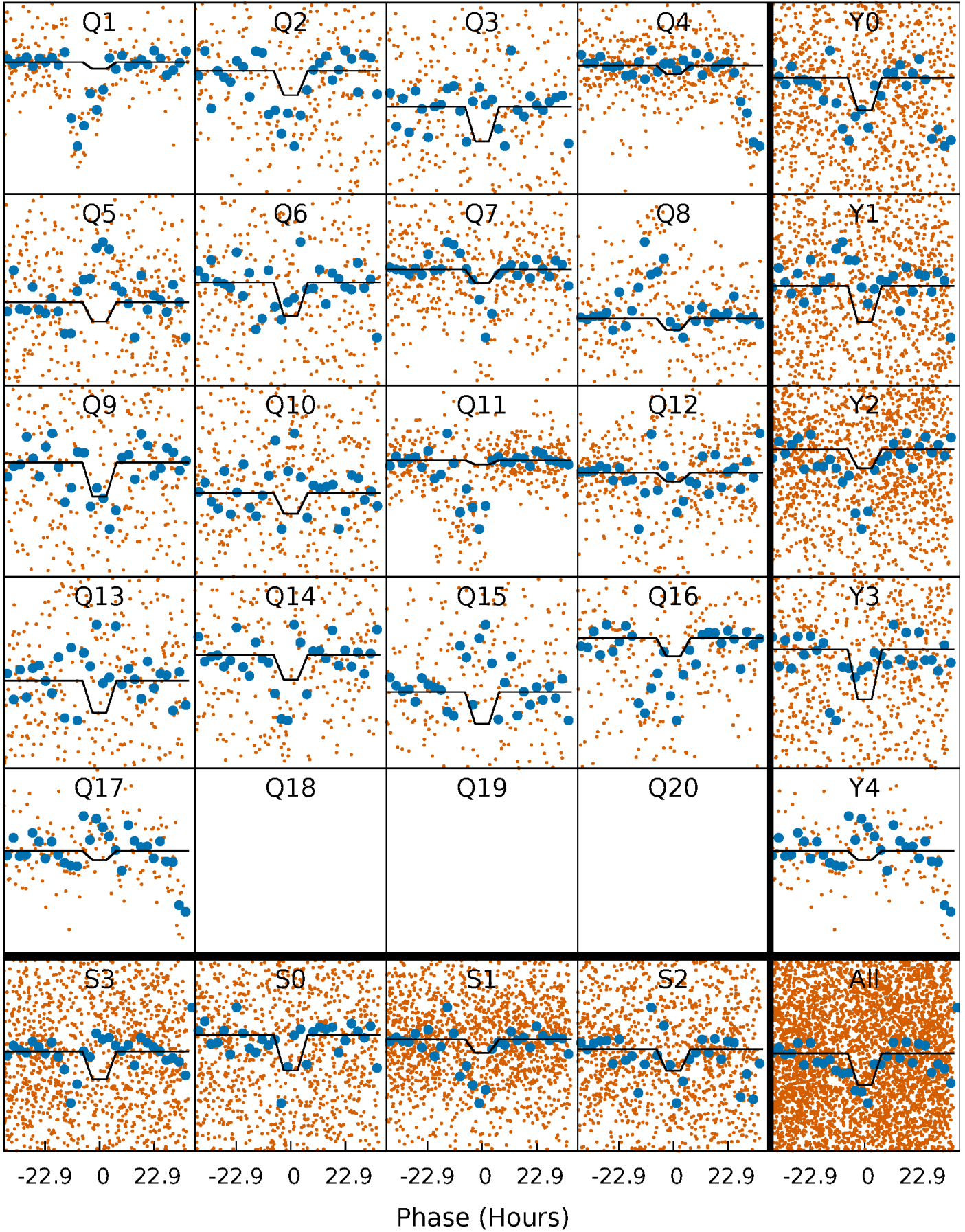
DV Quarter-Phased Transit Curves

TCE 003098194-04 P= 30.476175 Days $T_0=134.948482$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

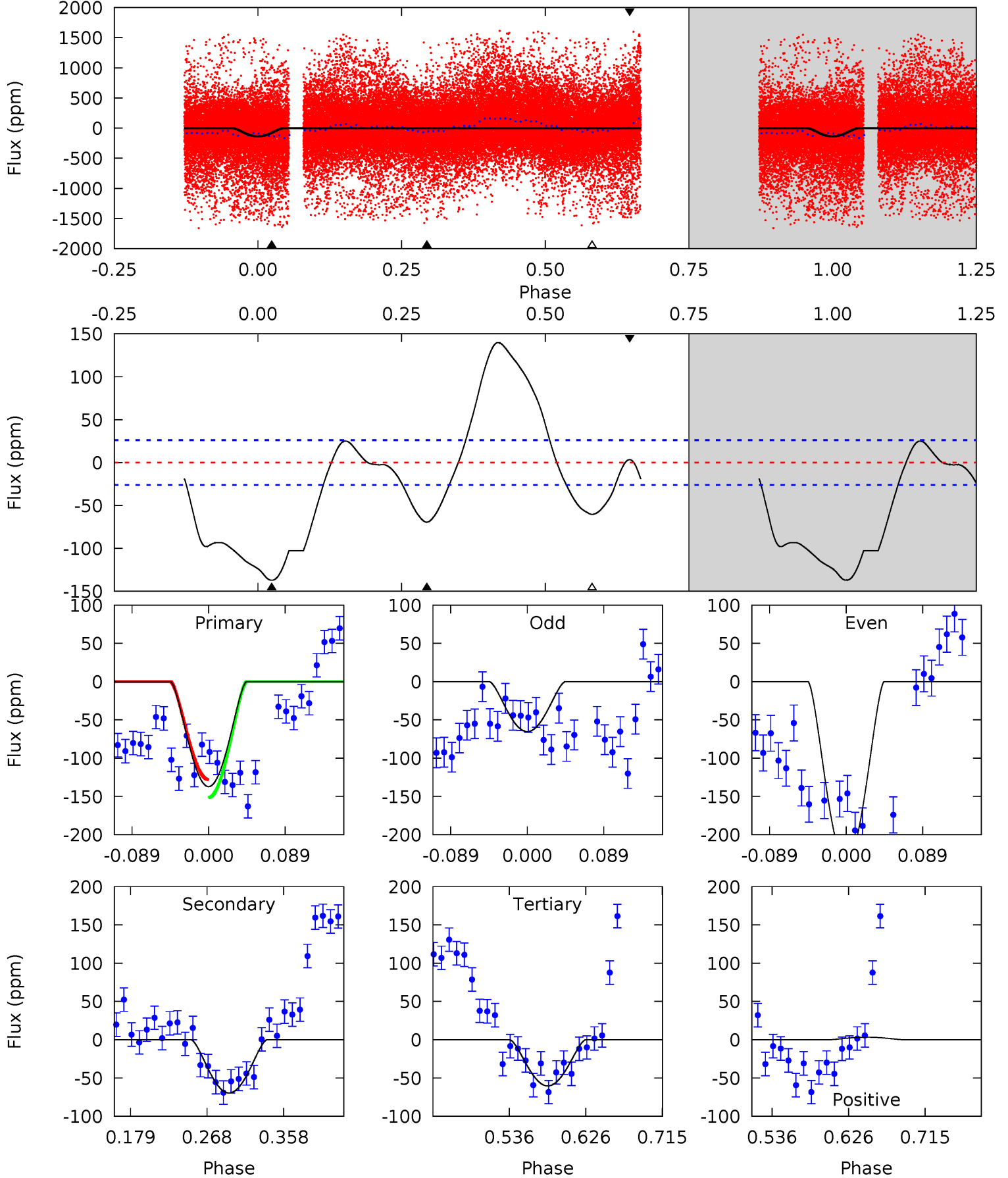
TCE 003098194-04 P= 30.477907 Days $T_0=135.017075$ (BKJD)



DV Model-Shift Uniqueness Test

003098194-04, P = 30.476175 Days, E = 104.472307 Days

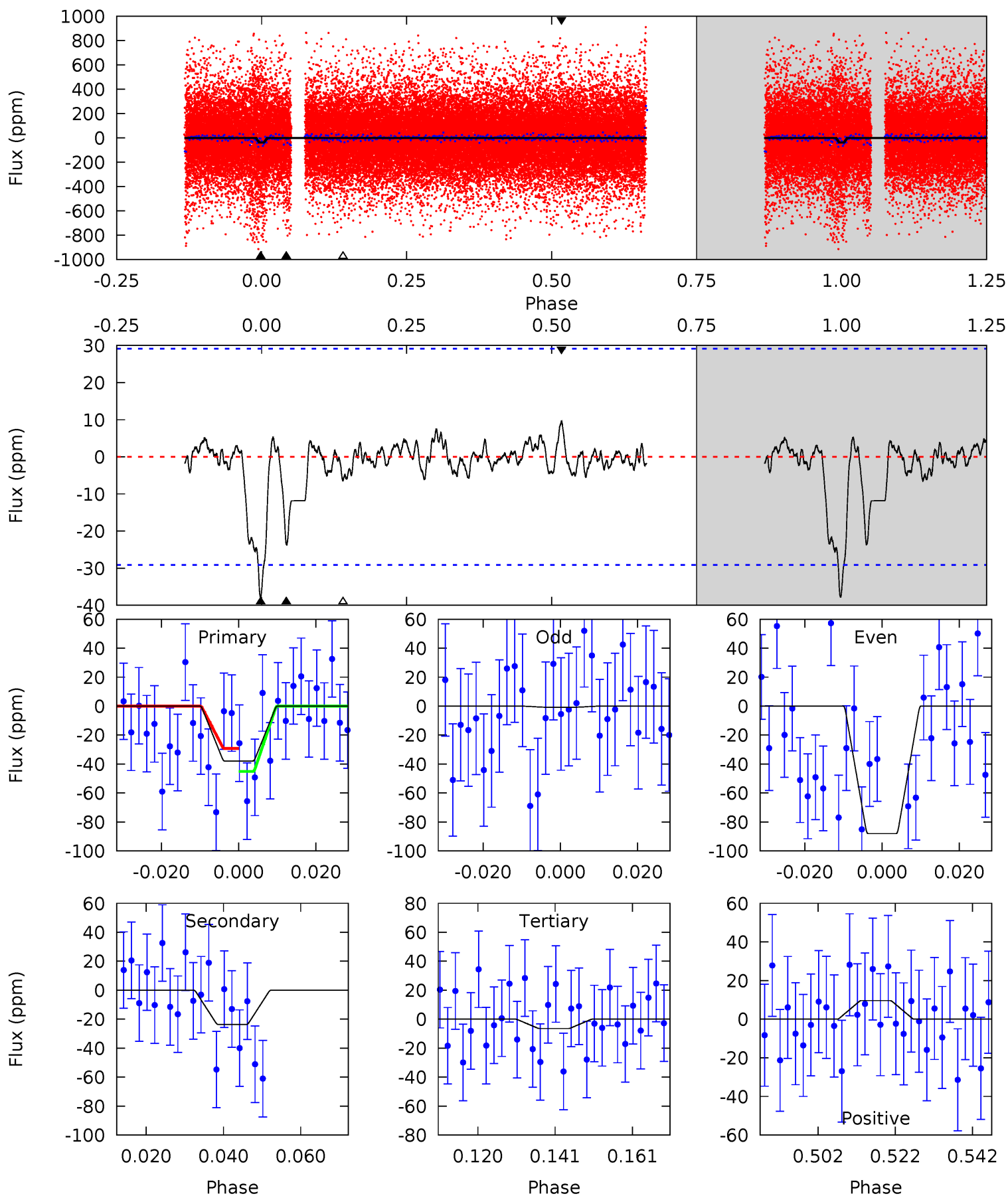
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	12.2	10.6	0.59	4.59	1.70	12.1	13.5	23.5	1.60	11.6	15.1	1.74	0.50	0



Alt Model-Shift Uniqueness Test

003098194-04, P = 30.477907 Days, E = 104.539168 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.36	3.97	1.09	1.62	4.89	2.32	0.57	5.27	4.74	2.88	2.35	7.31	3.12	0.20	1.33



Stellar Parameters For KIC 003098194

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5527^{+166}_{-149}	$4.315^{+0.205}_{-0.205}$	$-0.020^{+0.250}_{-0.250}$	$1.073^{+0.321}_{-0.214}$	$0.867^{+0.122}_{-0.071}$	$0.988^{+0.920}_{-0.515}$
	+3%/-3%	+5%/-5%	+1250%/-1250%	+30%/-20%	+14%/-8%	+93%/-52%
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 003098194-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-70 ± 6	$15.99^{+3.13}_{-2.88}$	825^{+73}_{-55}	2275^{+84}_{-78}	$4.999^{+2.532}_{-1.648}$
Alt.	-24 ± 6	$1.84^{+1.83}_{-1.27}$	825^{+72}_{-54}	3527^{+1975}_{-650}	125^{+1187}_{-95}

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

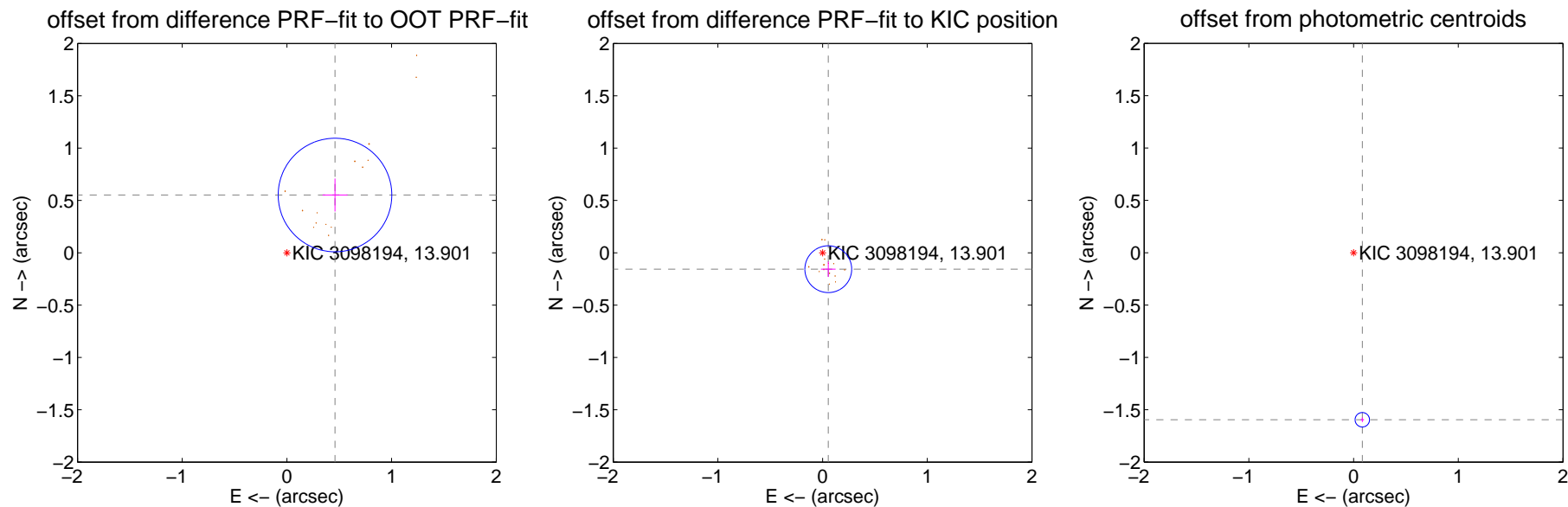
DV Centroid Data

Supplemental centroid analysis for 003098194-04. Kepler magnitude: 13.90. Transit SNR 123.00

There are 0 quarters with good PRF difference image offsets

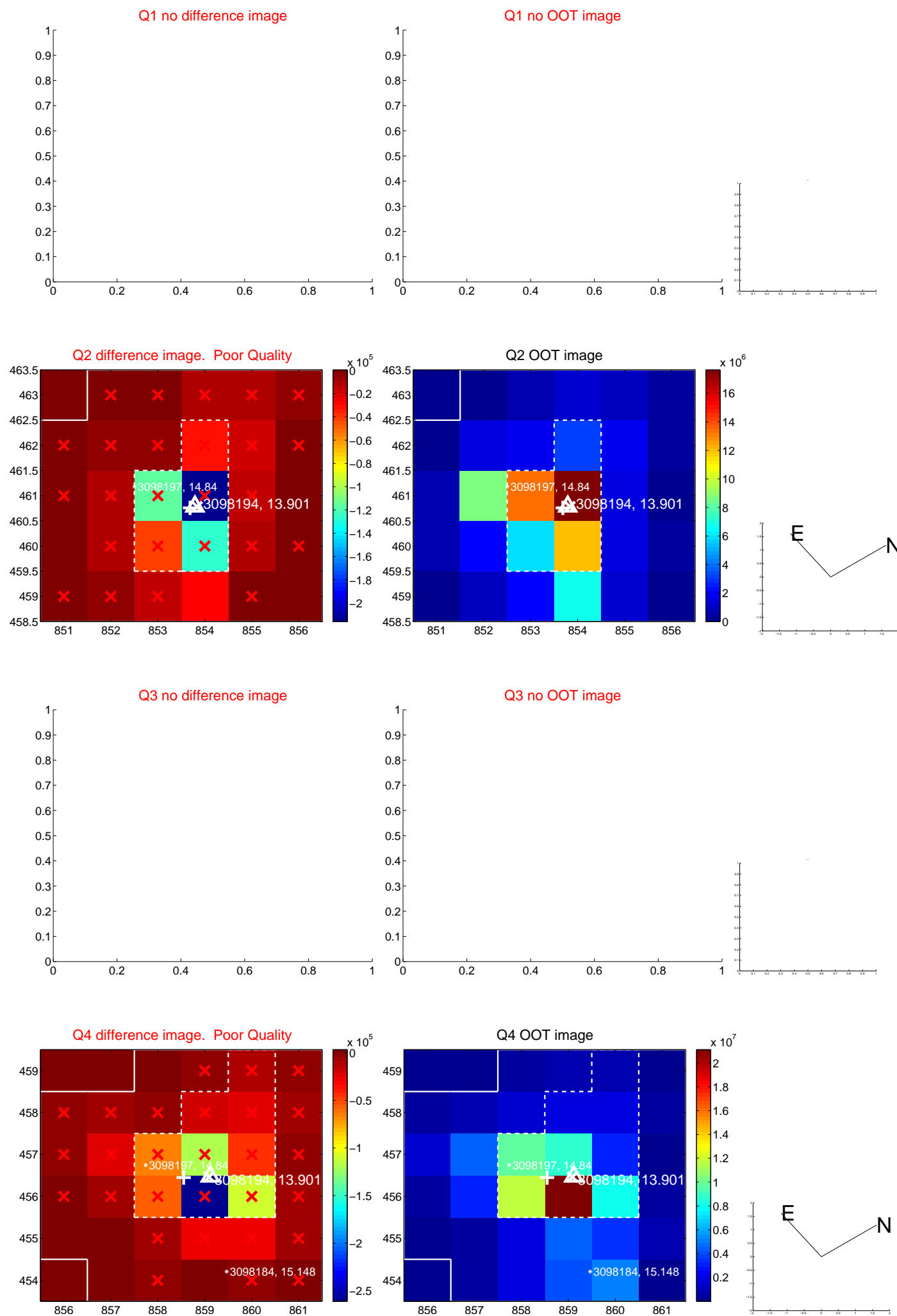
The direct PRF centroid is offset from the target star catalog position by about 1.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.718 ± 0.181	3.97	-0.460 ± 0.119	0.552 ± 0.158
PRF-fit source offset from KIC position	0.166 ± 0.075	2.22	-0.054 ± 0.070	-0.157 ± 0.074
photometric centroid source offset	1.60 ± 0.02	69.52	-0.08 ± 0.02	-1.60 ± 0.02

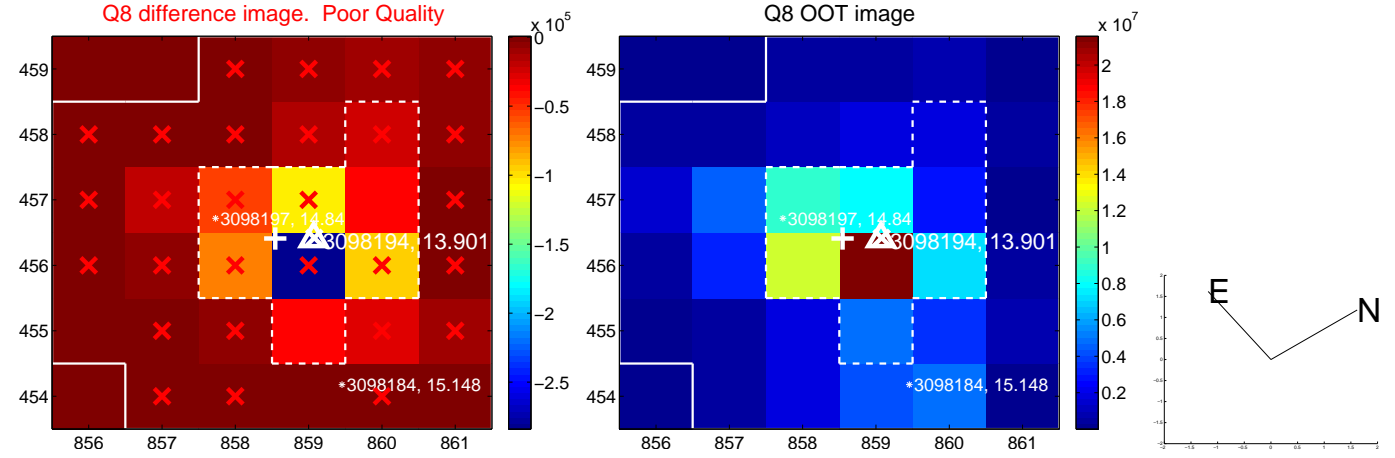
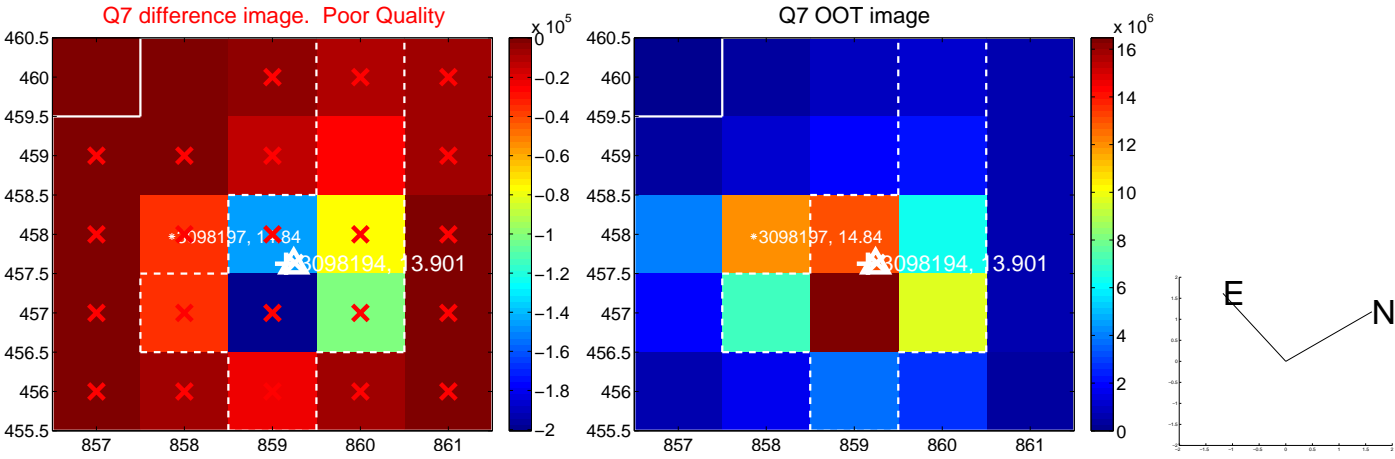
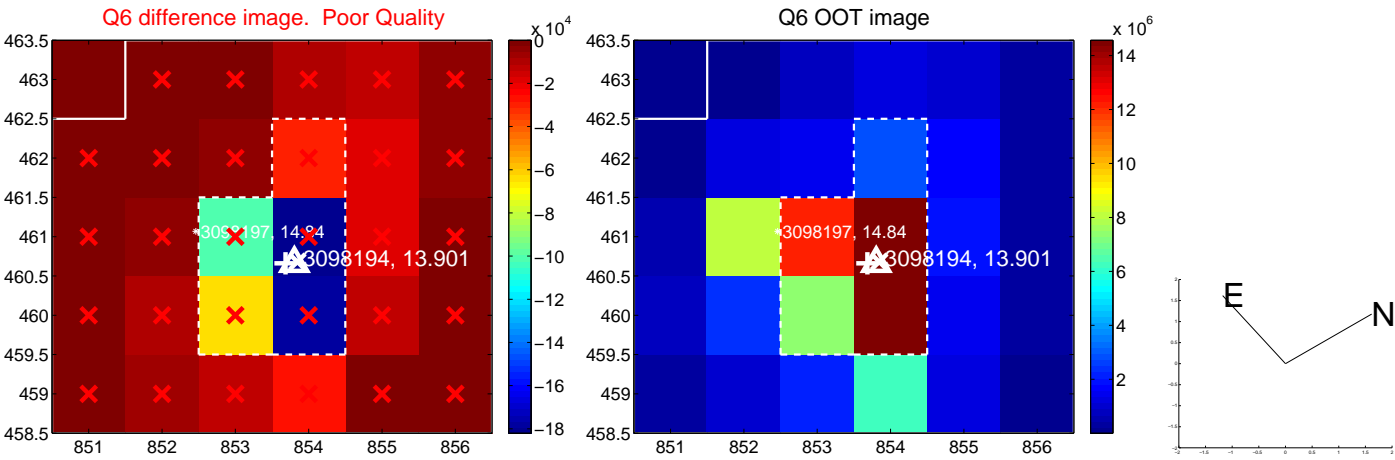
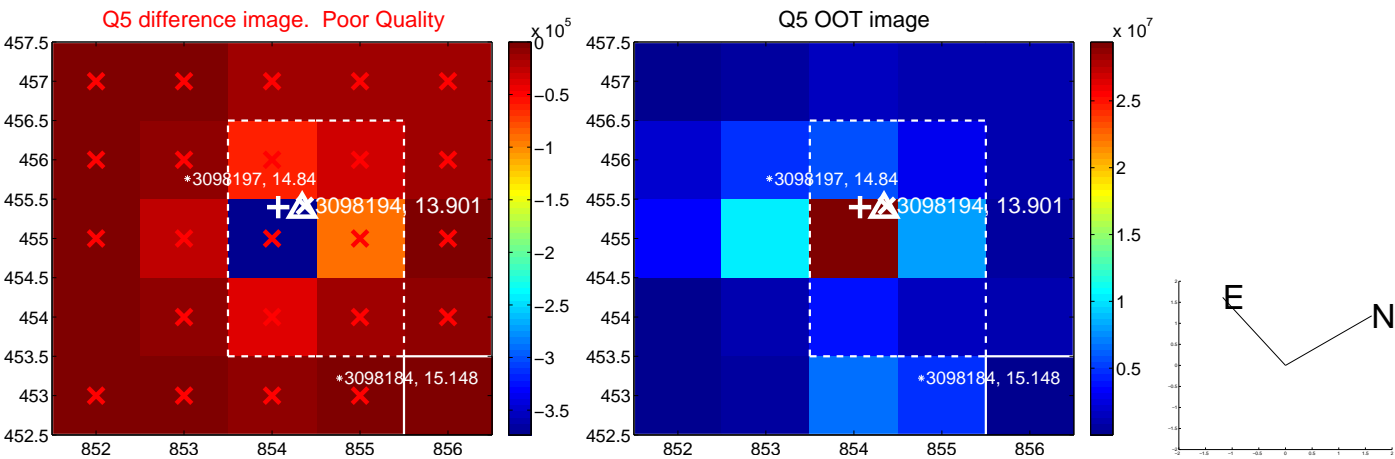


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

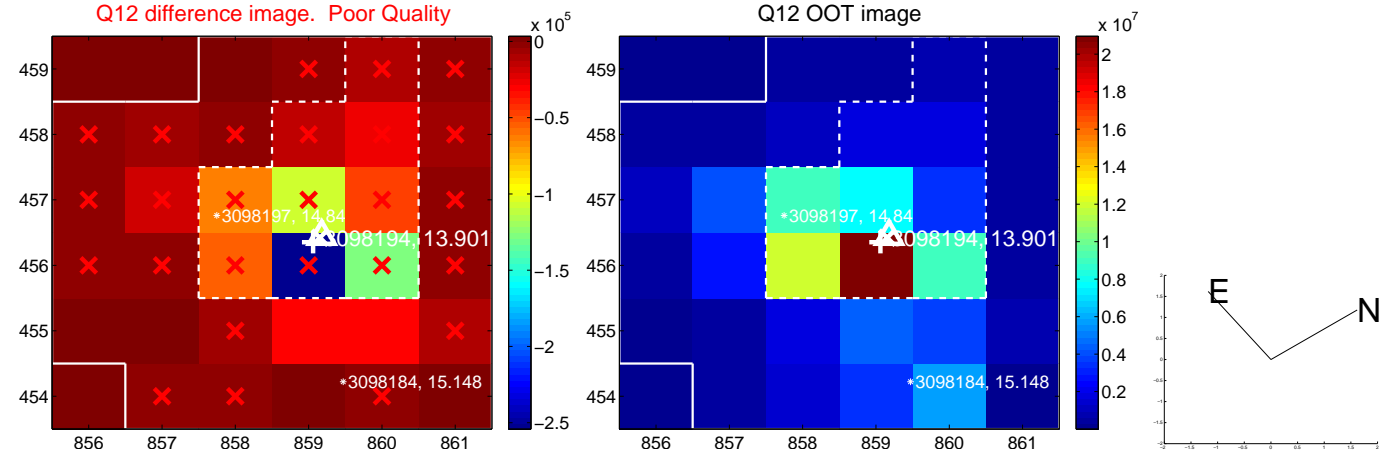
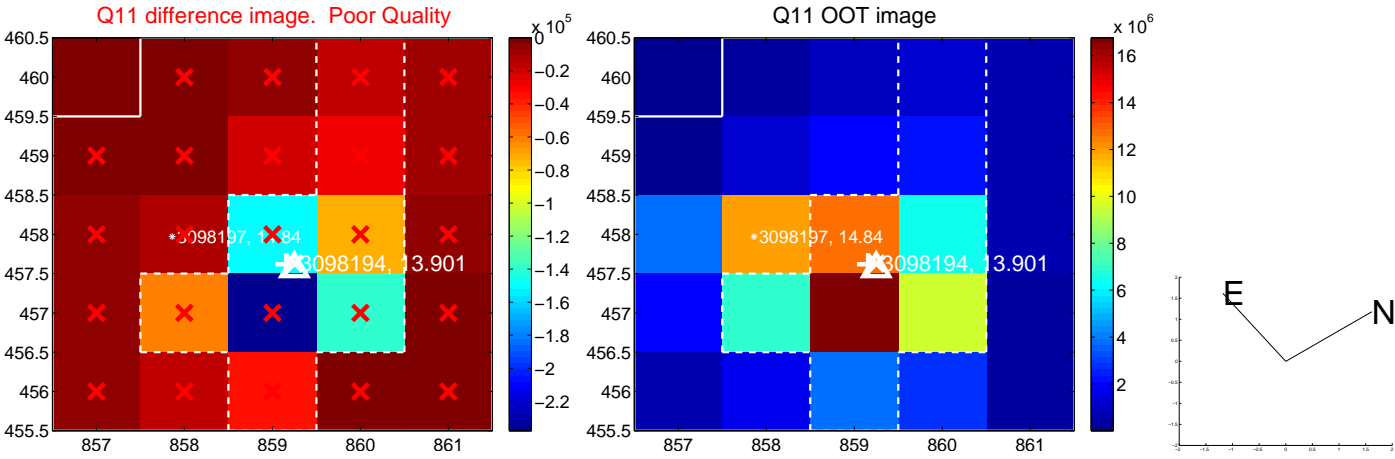
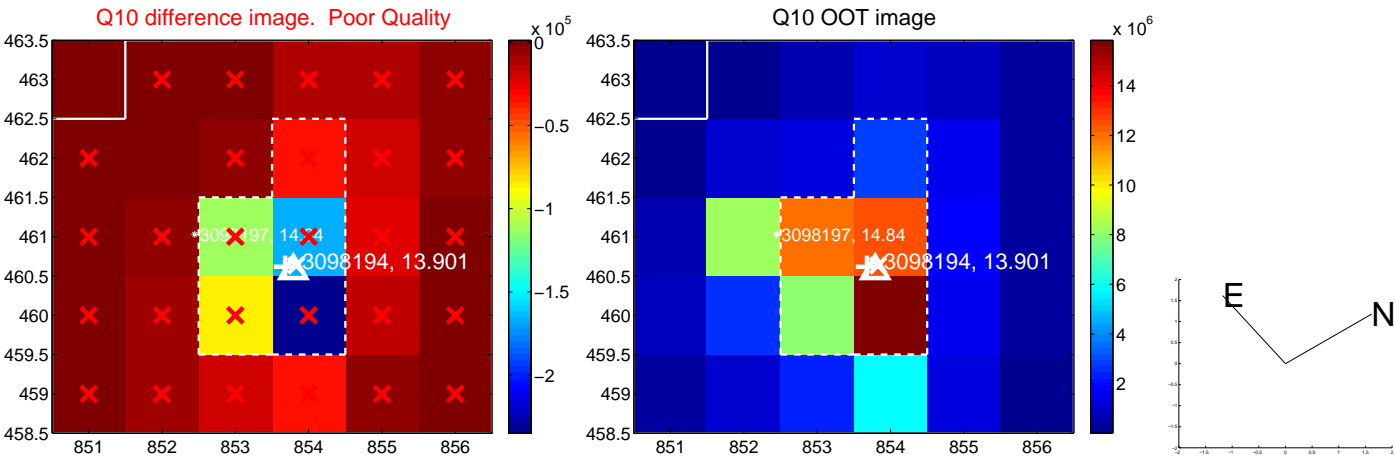
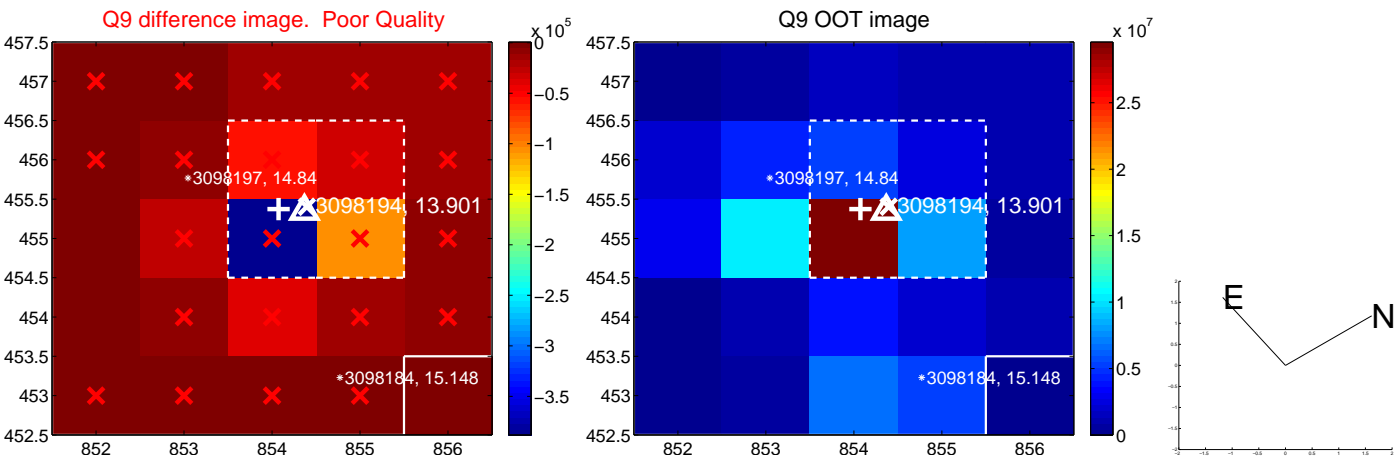
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



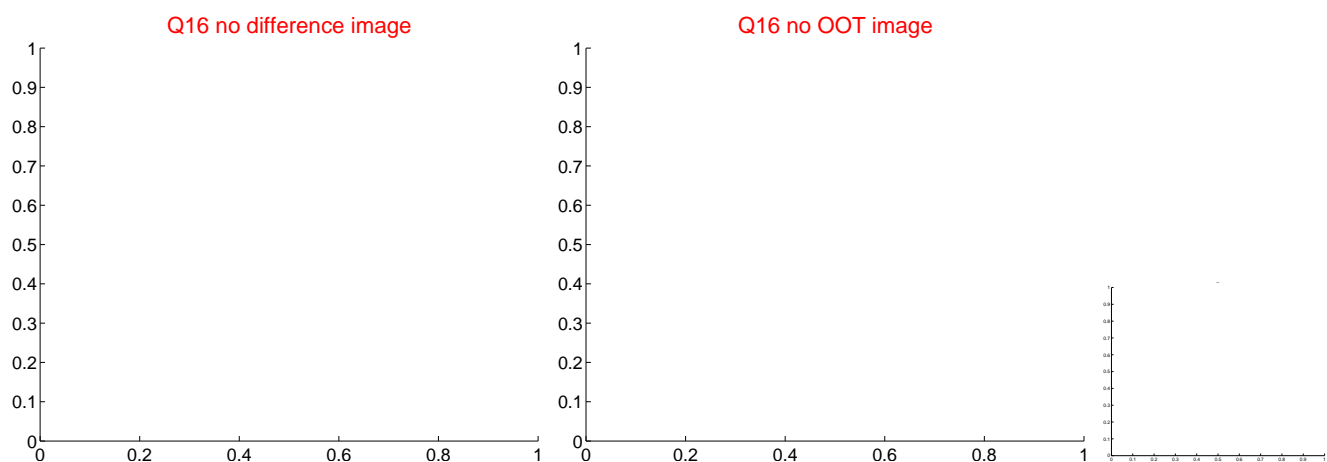
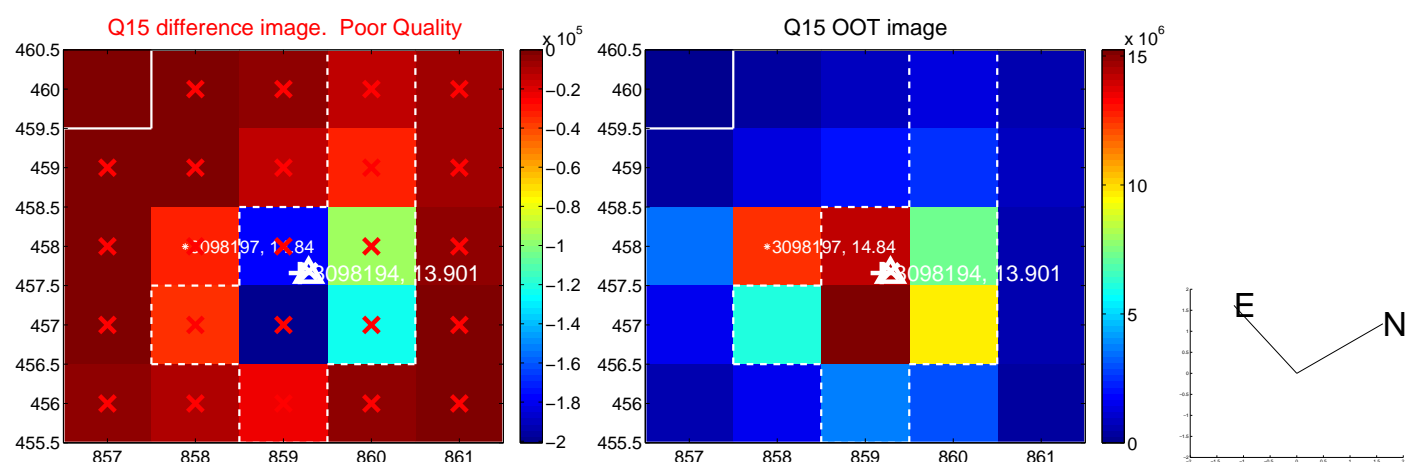
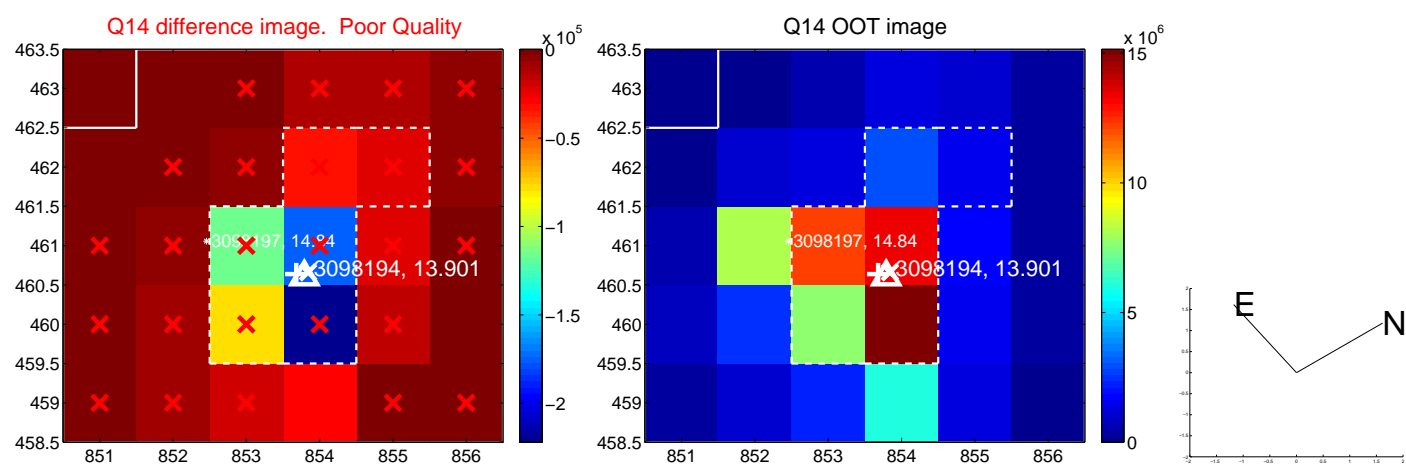
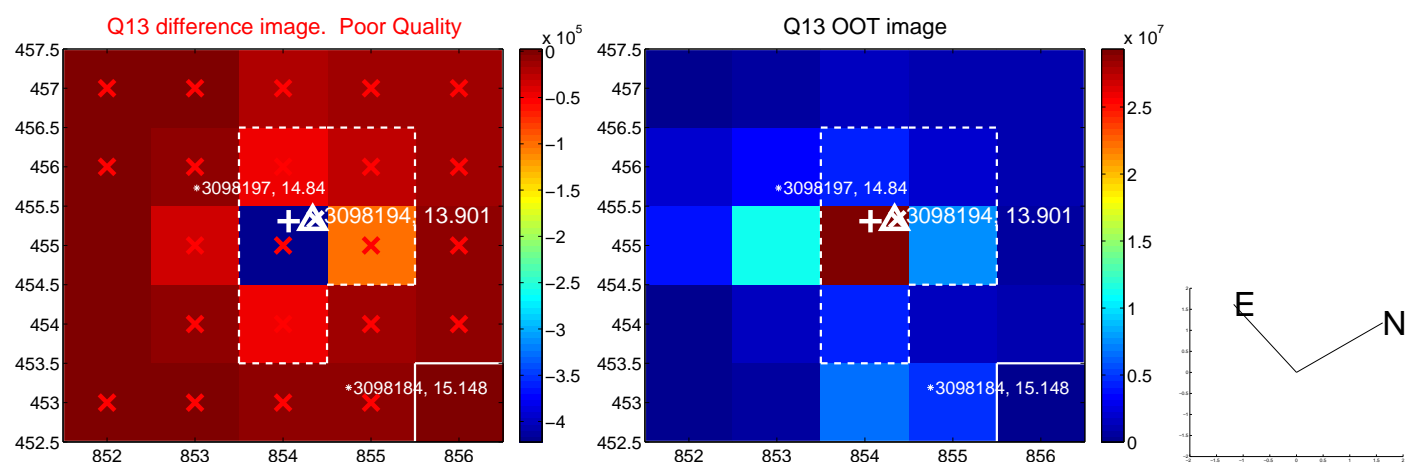
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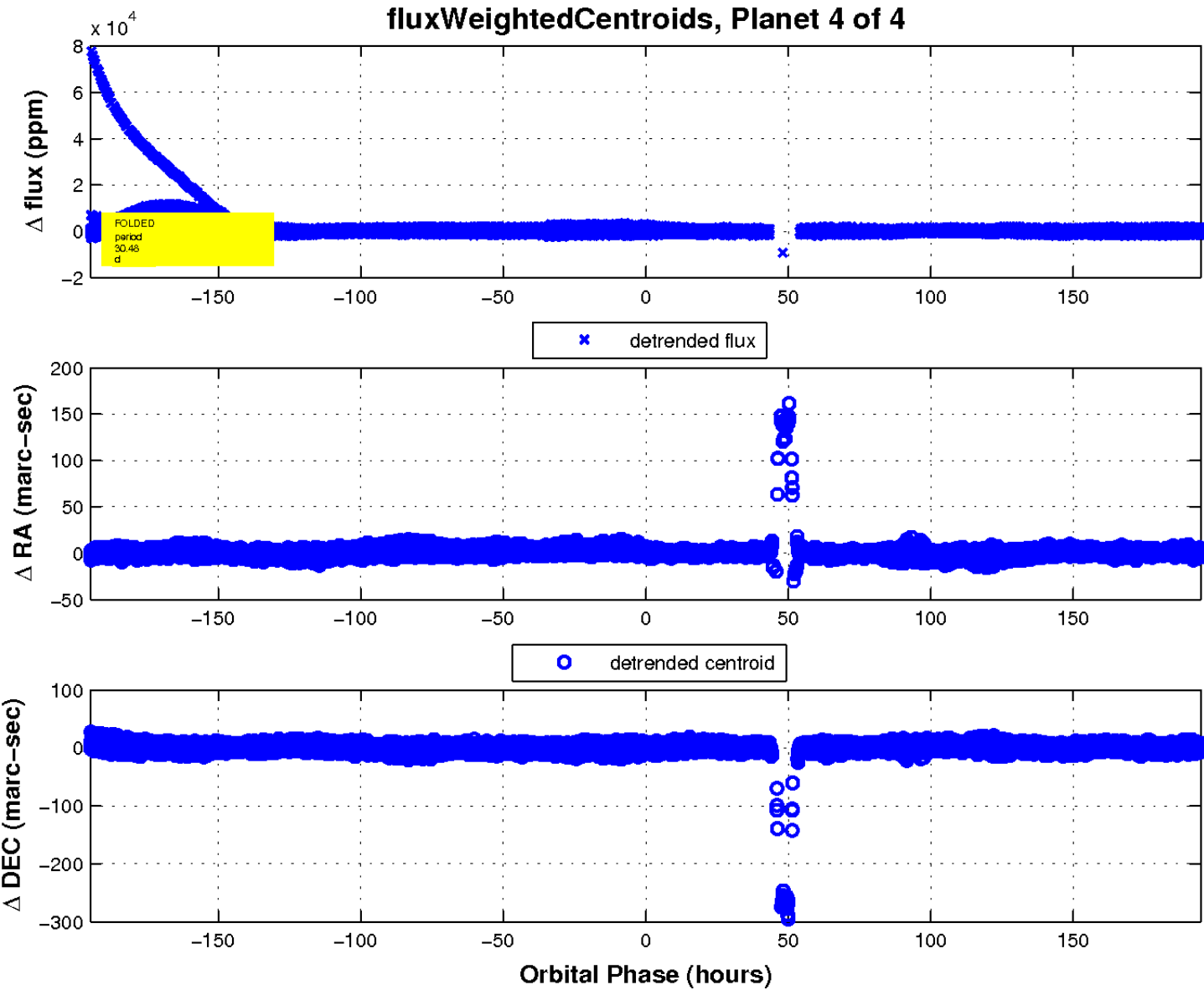
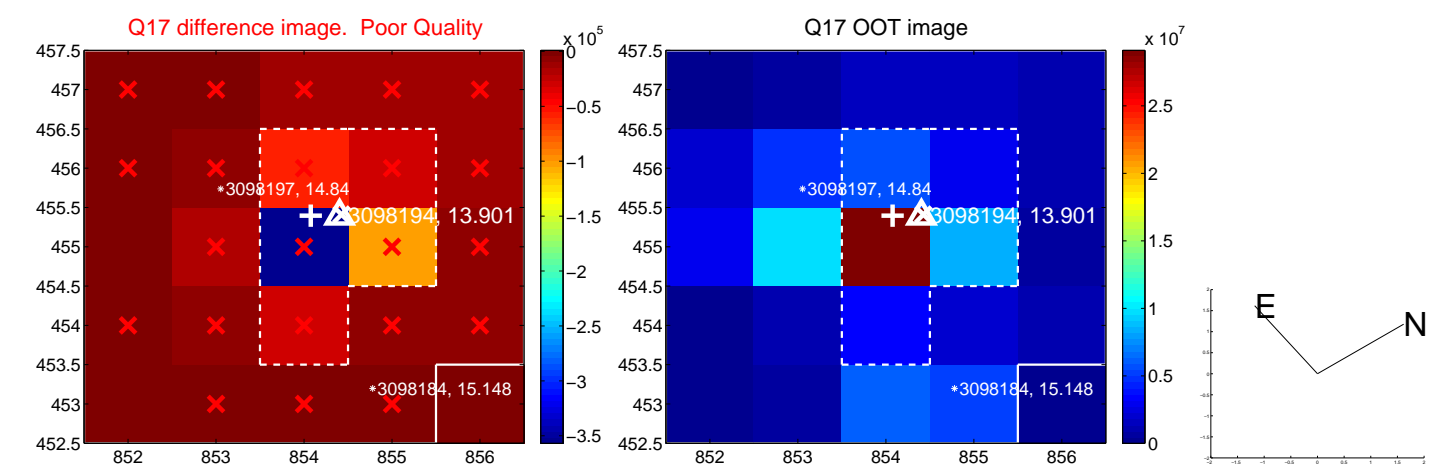
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

