

KIC 011913013

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})
011913013-01	OBS	1462.01	3.747818	134.191258	4977.9	4.818	33.6	39.2	1.00	5780	11.08	448.30
011913013-02	OBS	No	3.747760	132.324218	765.4	4.792	7.9	7.8	1.00	5780	3.29	448.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011913013-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
011913013-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 011913013-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
011913013-01	11913013	011913071-pri	11913071	1:1	91.7	17	15	9.53	17.44	37.97	Direct-PRF	0	0.25	0.20

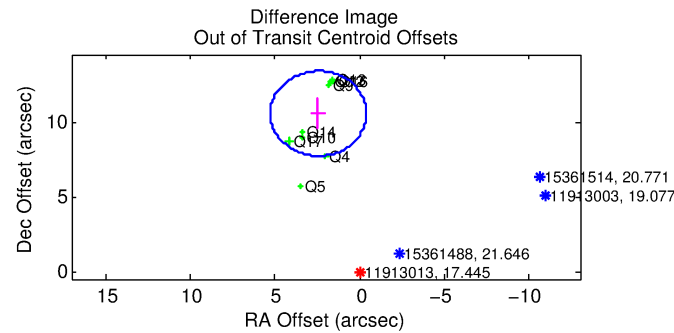
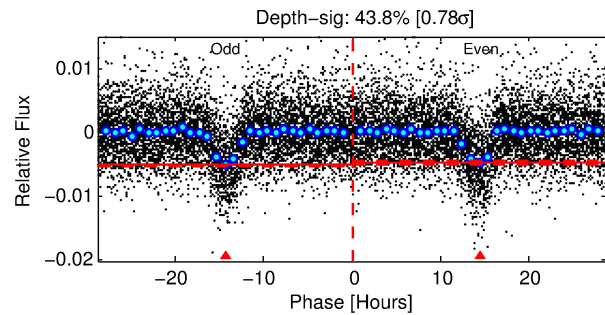
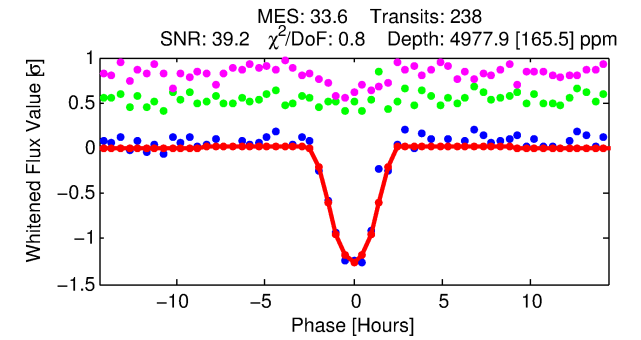
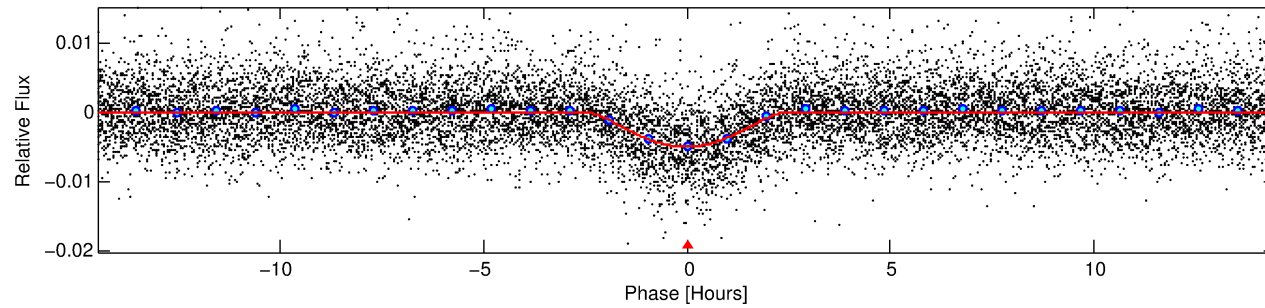
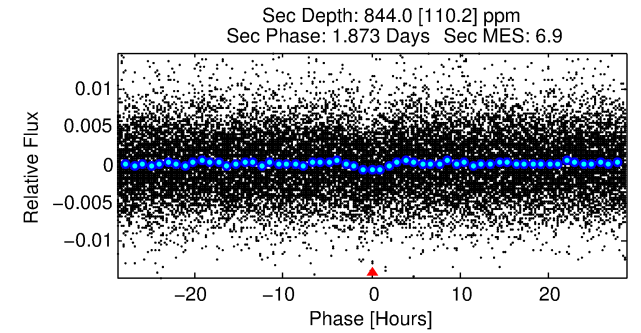
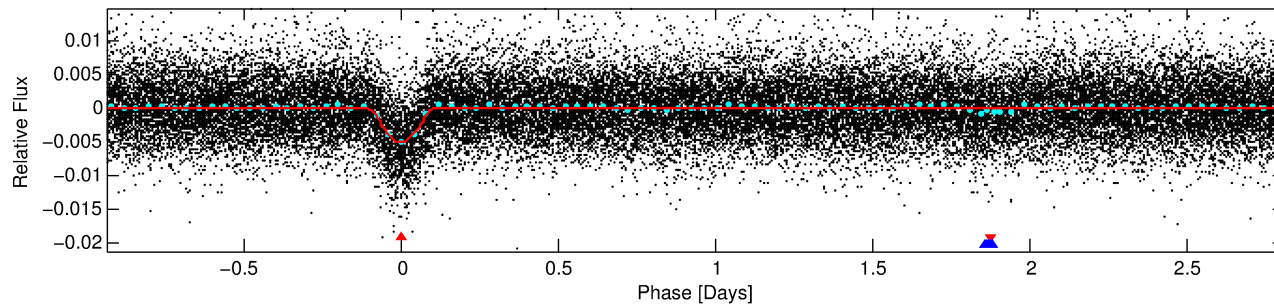
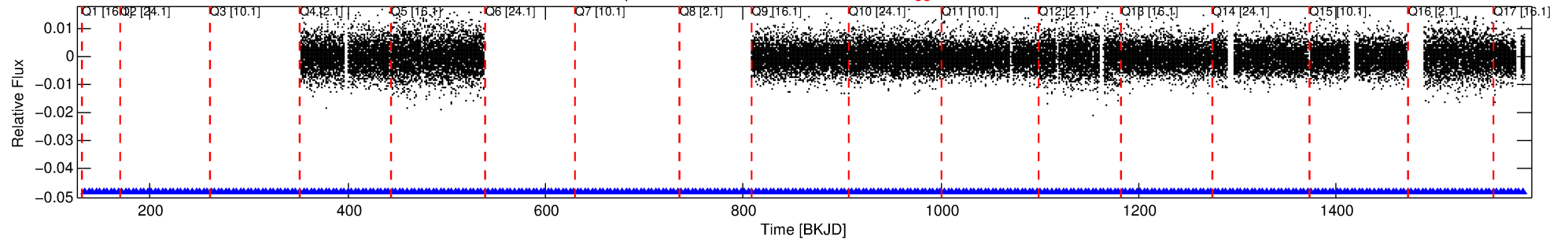
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 11913013 Candidate: 1 of 2 Period: 3.748 d

KOI: K01462.01 Corr: 0.972

Kp: 17.44 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



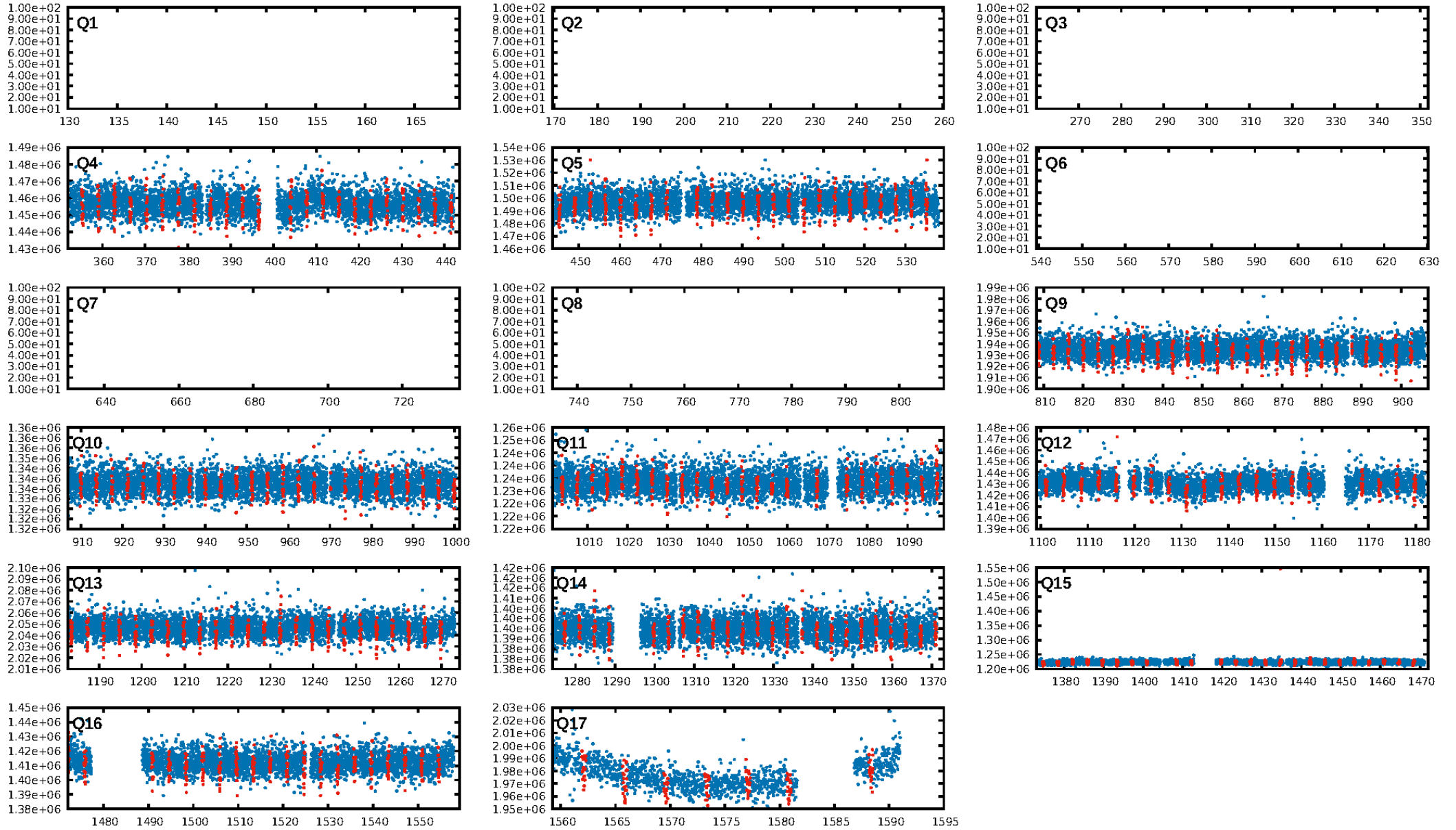
DV Fit Results:

Period = 3.74782 [0.00001] d
Epoch = 134.1913 [0.0037] BKJD
Rp/R* = 0.1015 [0.0666]
a/R* = 3.25 [0.49]
b = 0.97 [0.11]
Seff = 448.30 [0.00]
Teff = 1173 [0] K
Rp = 11.08 [7.27] Re
a = 0.0472 [0.0000] AU
Ag = 8.44 [11.14] [0.67σ]
Teffp = 3092 [1020] K [1.88σ]

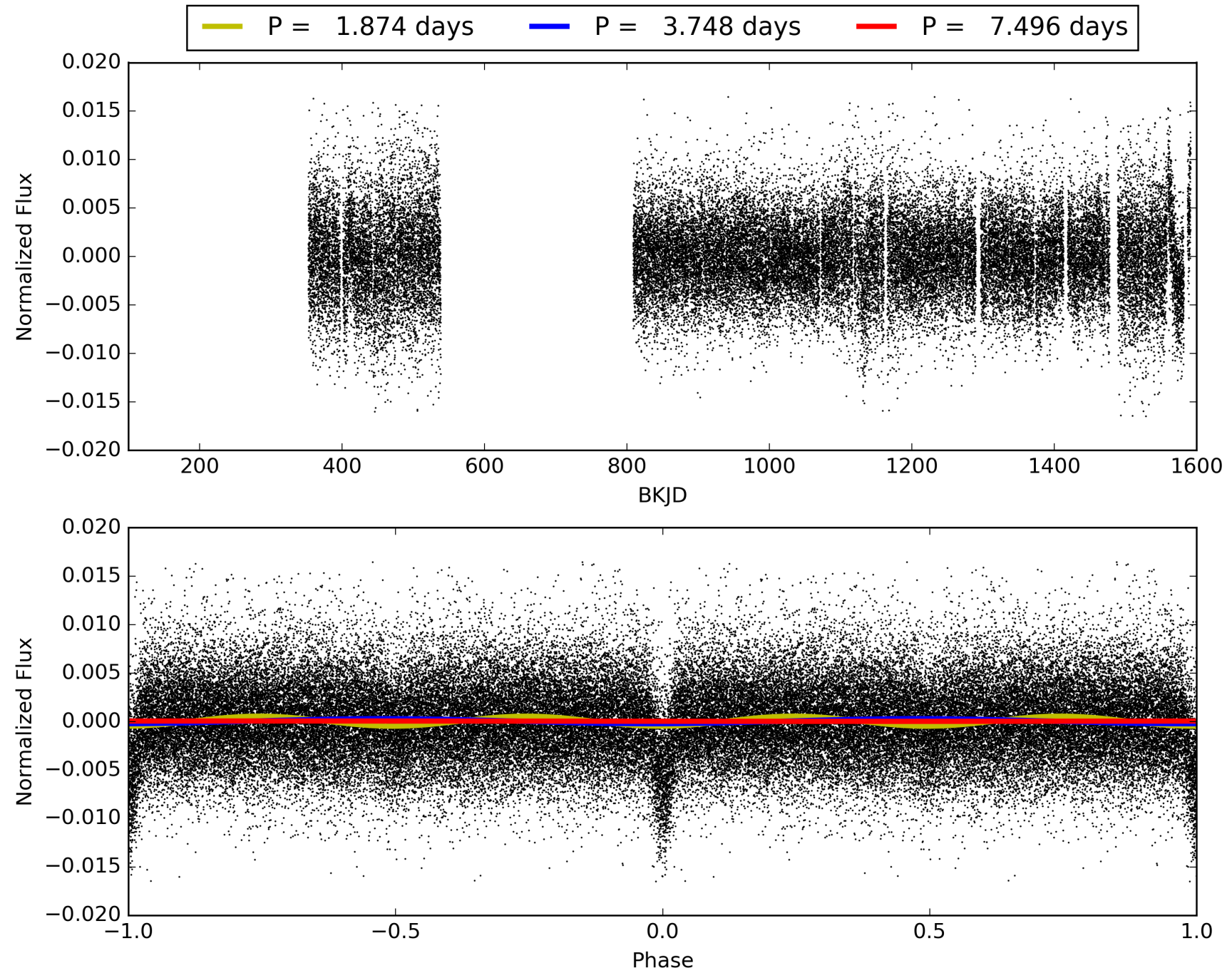
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.03e-245
RollingBand-fgt: 1.00 [231/231]
GhostDiagnostic-chr: 0.04061
Centroid-sig: 0.0%
Centroid-so: 1.549 arcsec [14.19σ]
OotOffset-rm: 10.832 arcsec [11.46σ]
KicOffset-rm: 1.248 arcsec [2.66σ]
OotOffset-st: 2/0/3/4 [9]
KicOffset-st: 2/2/3/4 [11]
DiffImageQuality-fgm: 0.00 [0/11]
DiffImageOverlap-fno: 1.00 [11/11]

TCE 011913013-01, PDC Light Curves

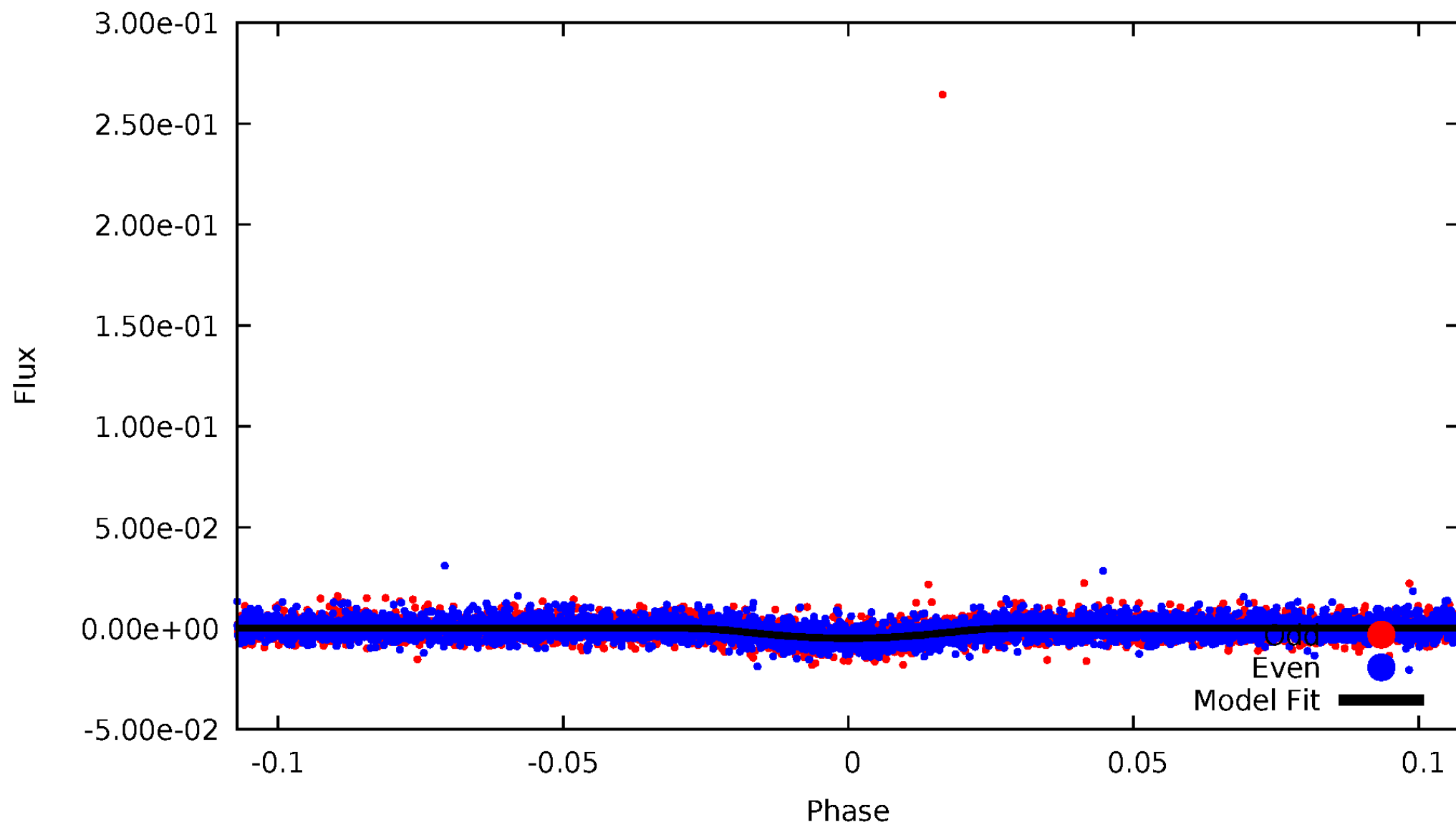


TCE 011913013-01



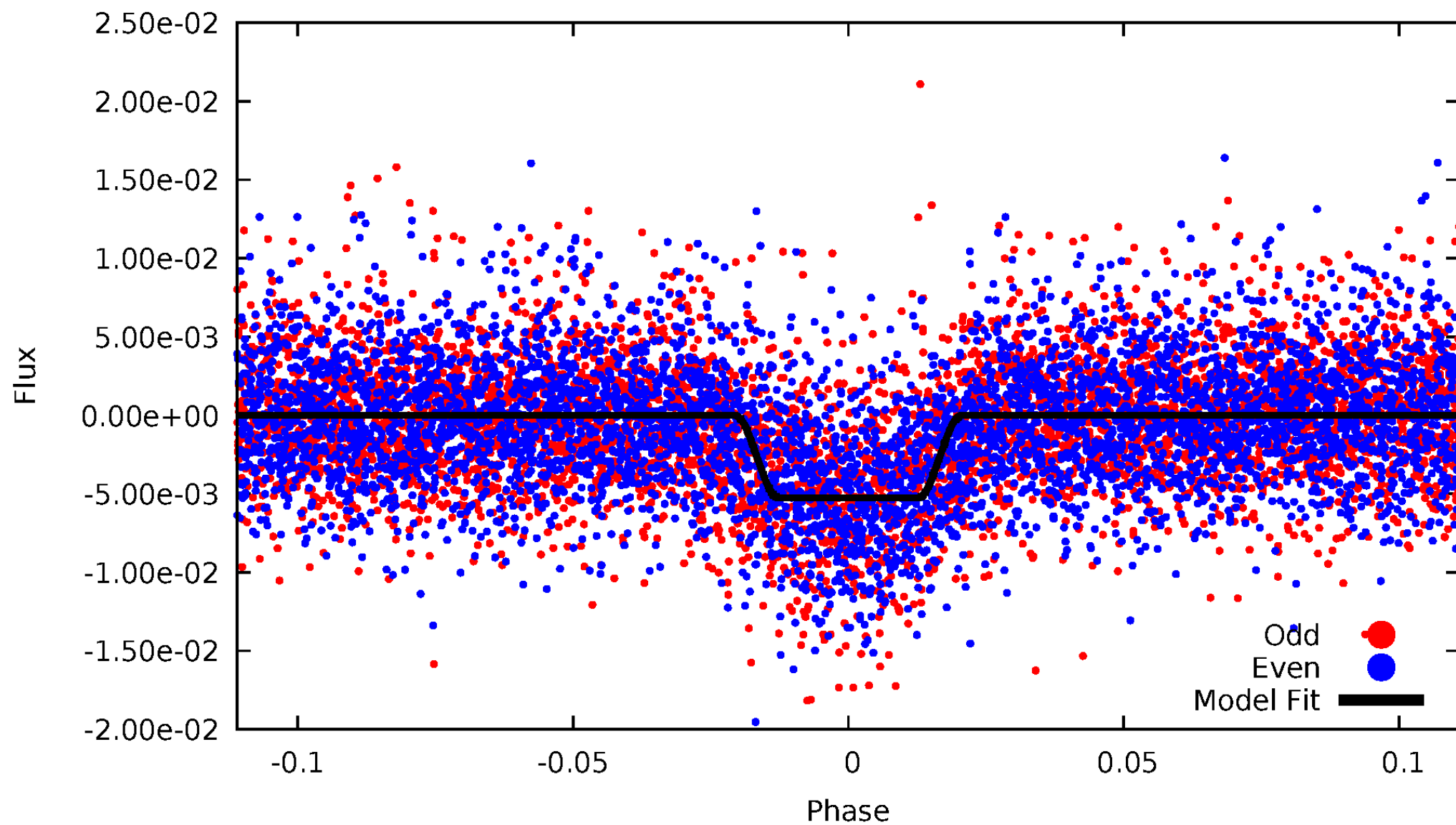
DV Odd/Even

TCE 011913013-01



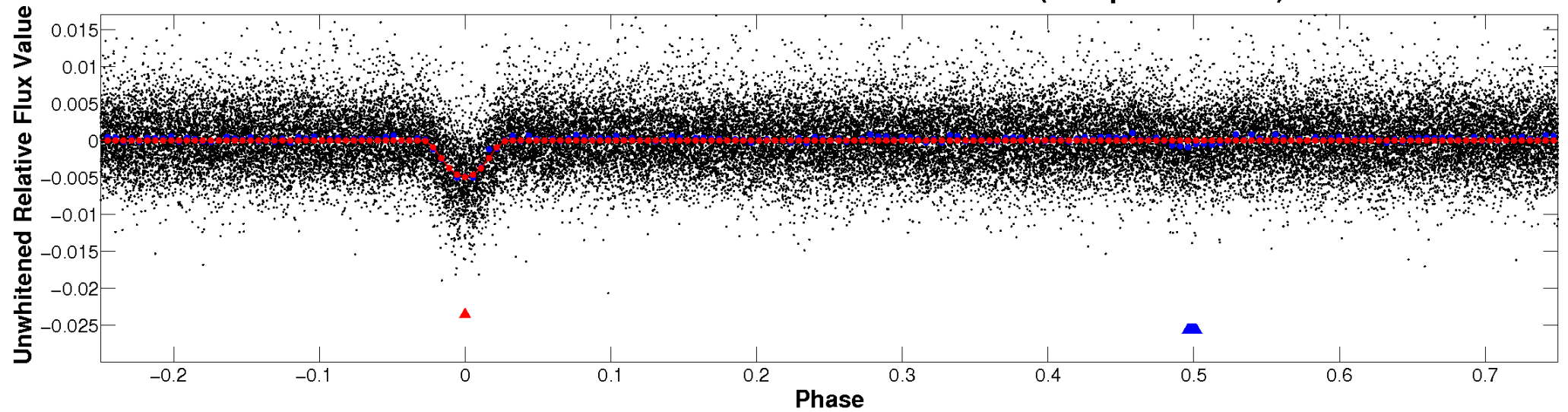
ALT Odd/Even

TCE 011913013-01

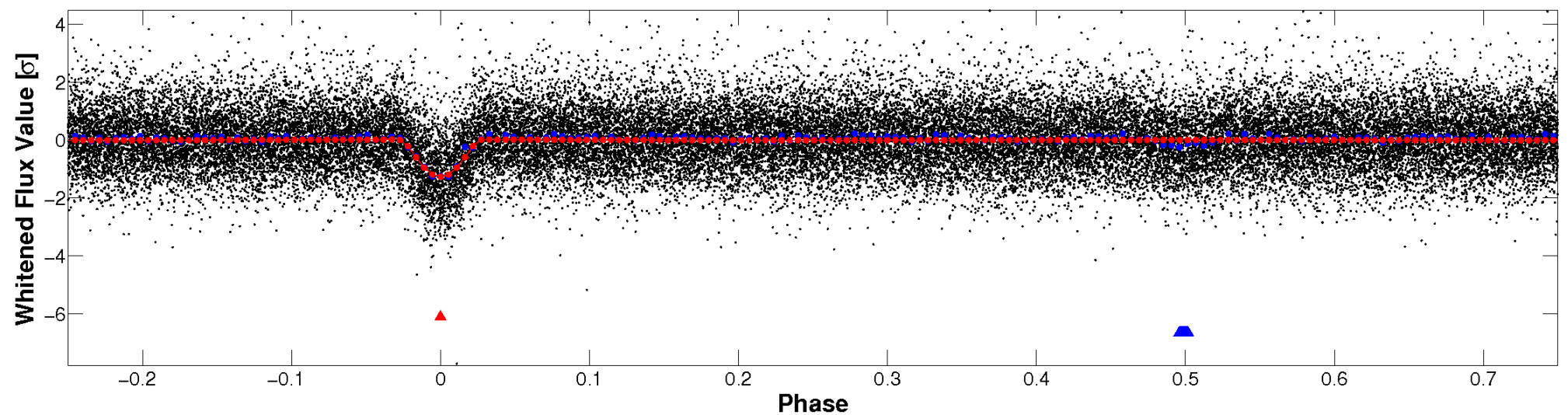


Non-Whitened Vs. Whitened Light Curve

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

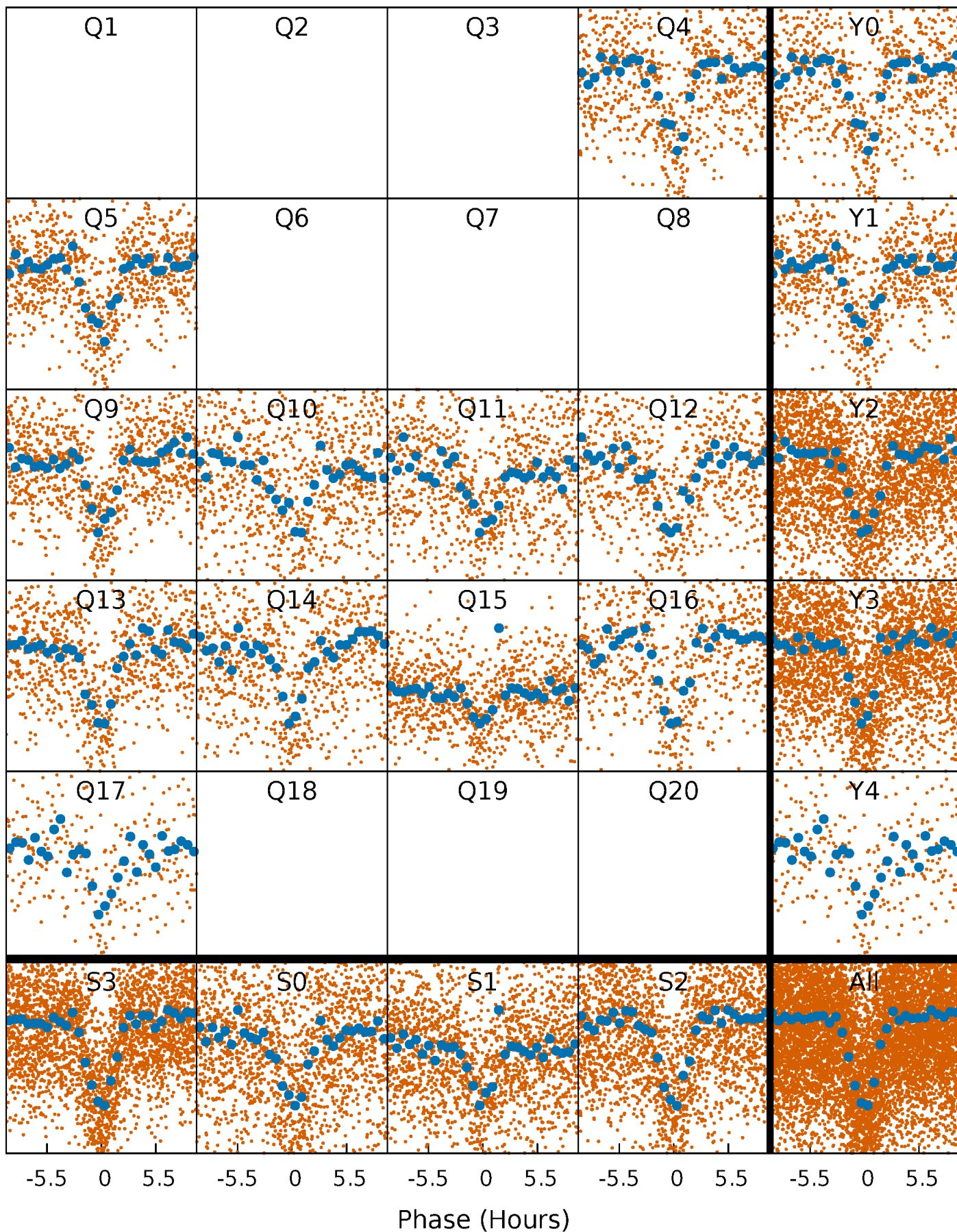


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



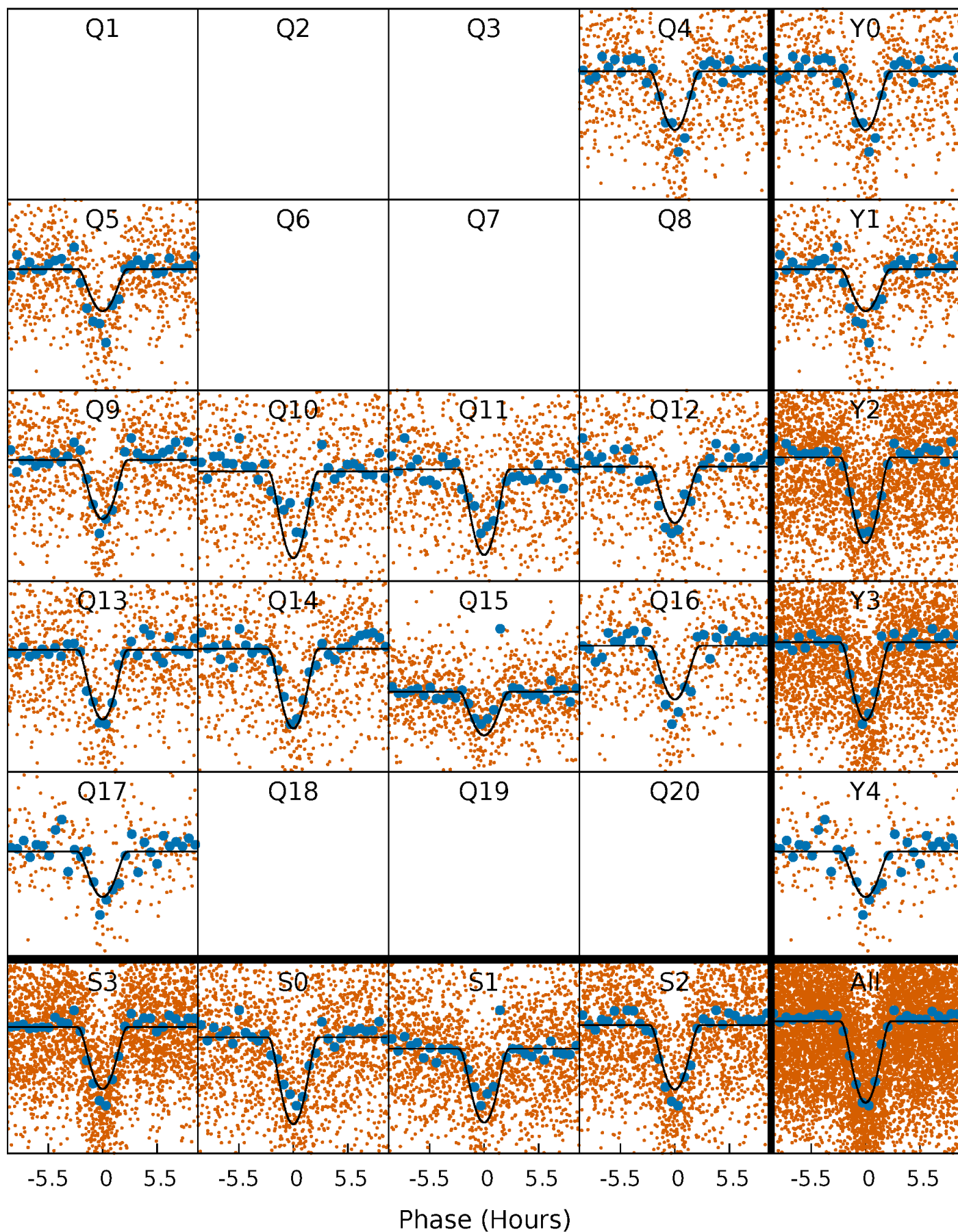
PDC Quarter-Phased Transit Curves

TCE 011913013-01 P= 3.747818 Days $T_0=134.191258$ (BKJD)



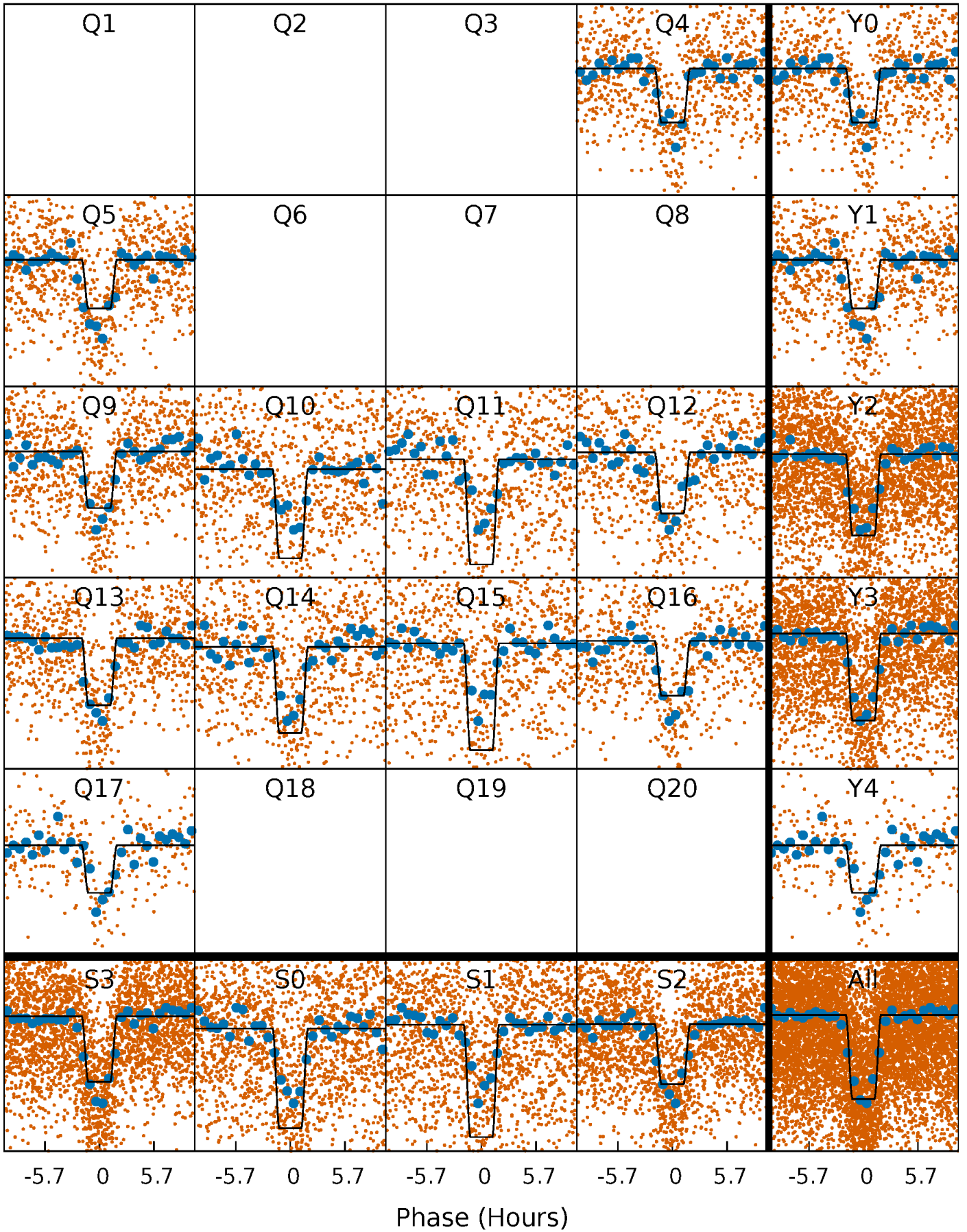
DV Quarter-Phased Transit Curves

TCE 011913013-01 P= 3.747818 Days $T_0=134.191258$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

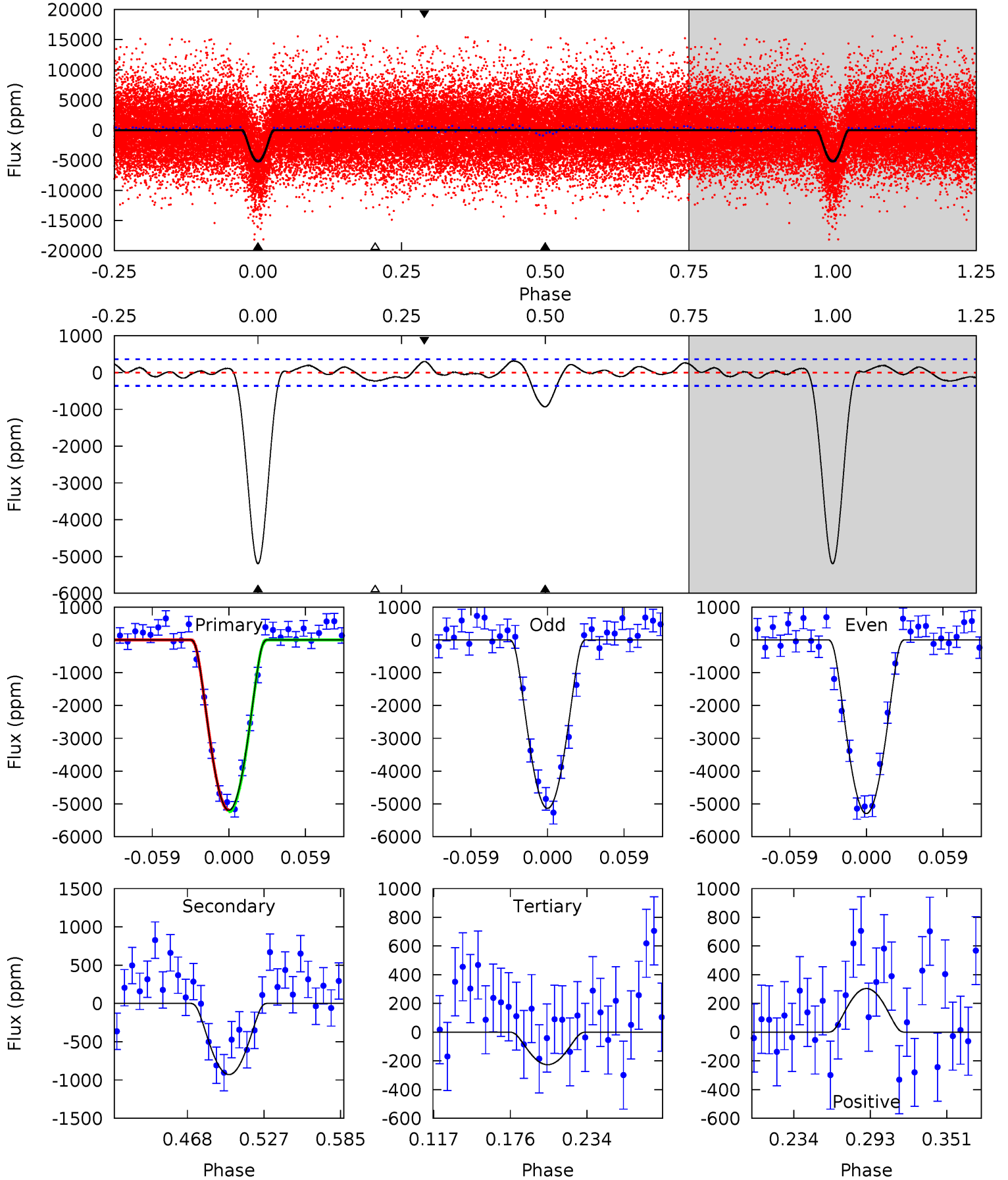
TCE 011913013-01 P= 3.747793 Days $T_0=134.197061$ (BKJD)



DV Model-Shift Uniqueness Test

011913013-01, P = 3.747818 Days, E = 134.191258 Days

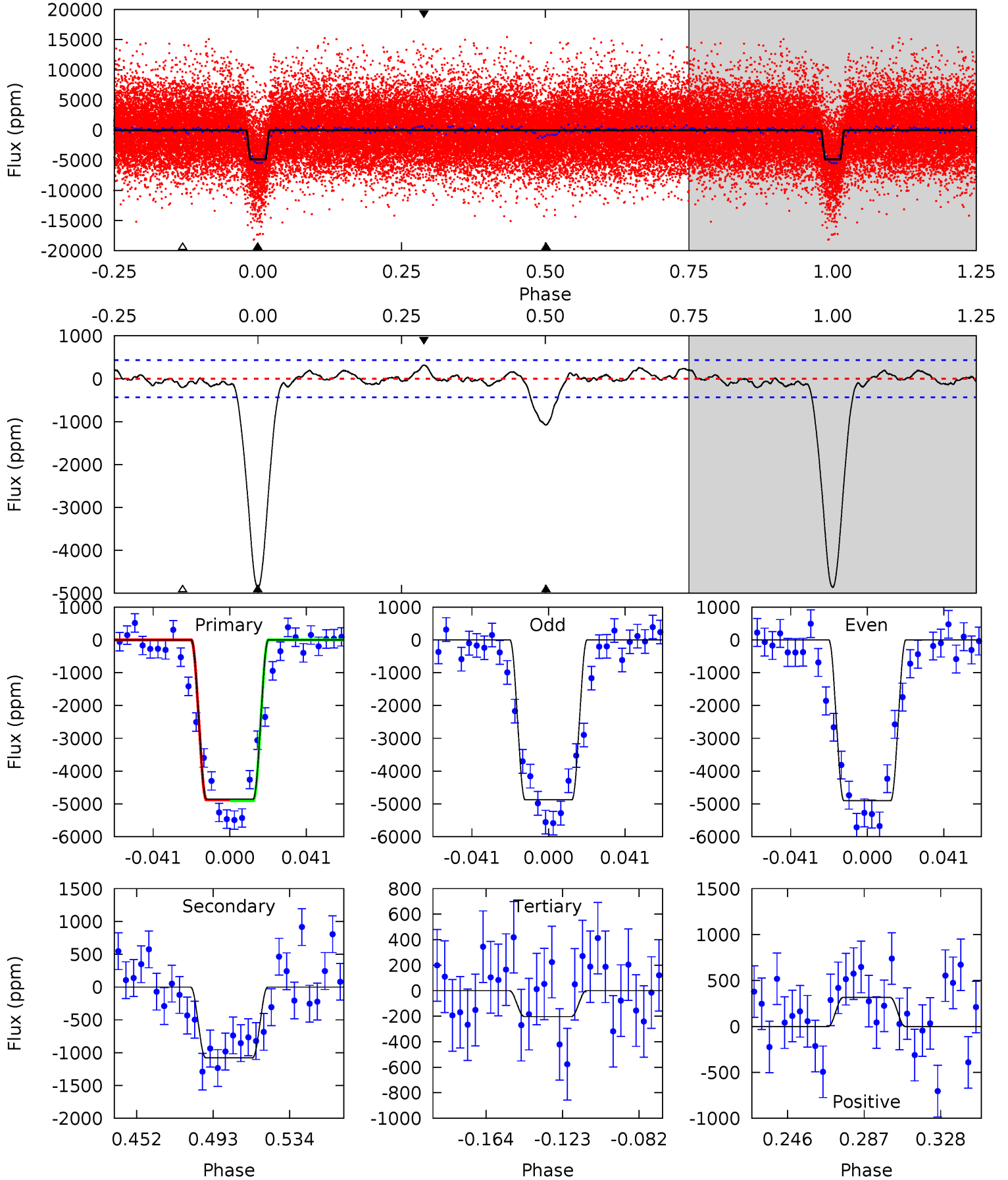
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
67.4	12.1	2.94	3.94	4.68	1.89	1.47	64.4	63.4	9.12	8.11	1.04	1.01	0.06	0.33



Alt Model-Shift Uniqueness Test

011913013-01, P = 3.747793 Days, E = 134.197061 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.2	11.8	2.23	3.47	4.75	2.04	1.17	50.9	49.7	9.58	8.34	0.14	1.02	0.06	0.13



Stellar Parameters For KIC 011913013

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 011913013-01 / KOI 1462.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-929 ± 77	$11.45^{+6.78}_{-6.26}$	1639^{+86}_{-81}	3551^{+1234}_{-512}	$8.810^{+32.446}_{-5.408}$
Alt.	-1078 ± 91	$9.27^{+7.19}_{-5.72}$	1645^{+73}_{-79}	3935^{+1758}_{-668}	15^{+93}_{-10}

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 $A_{obs} \gg 1.0$

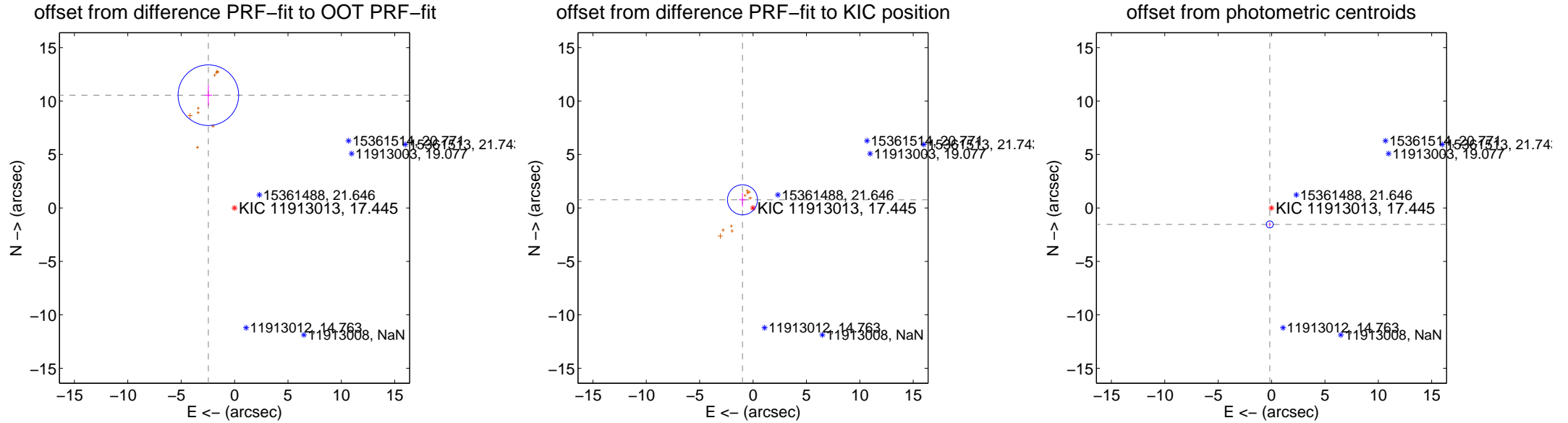
DV Centroid Data

Supplemental centroid analysis for 011913013-01. Kepler magnitude: 17.45. Transit SNR 39.17

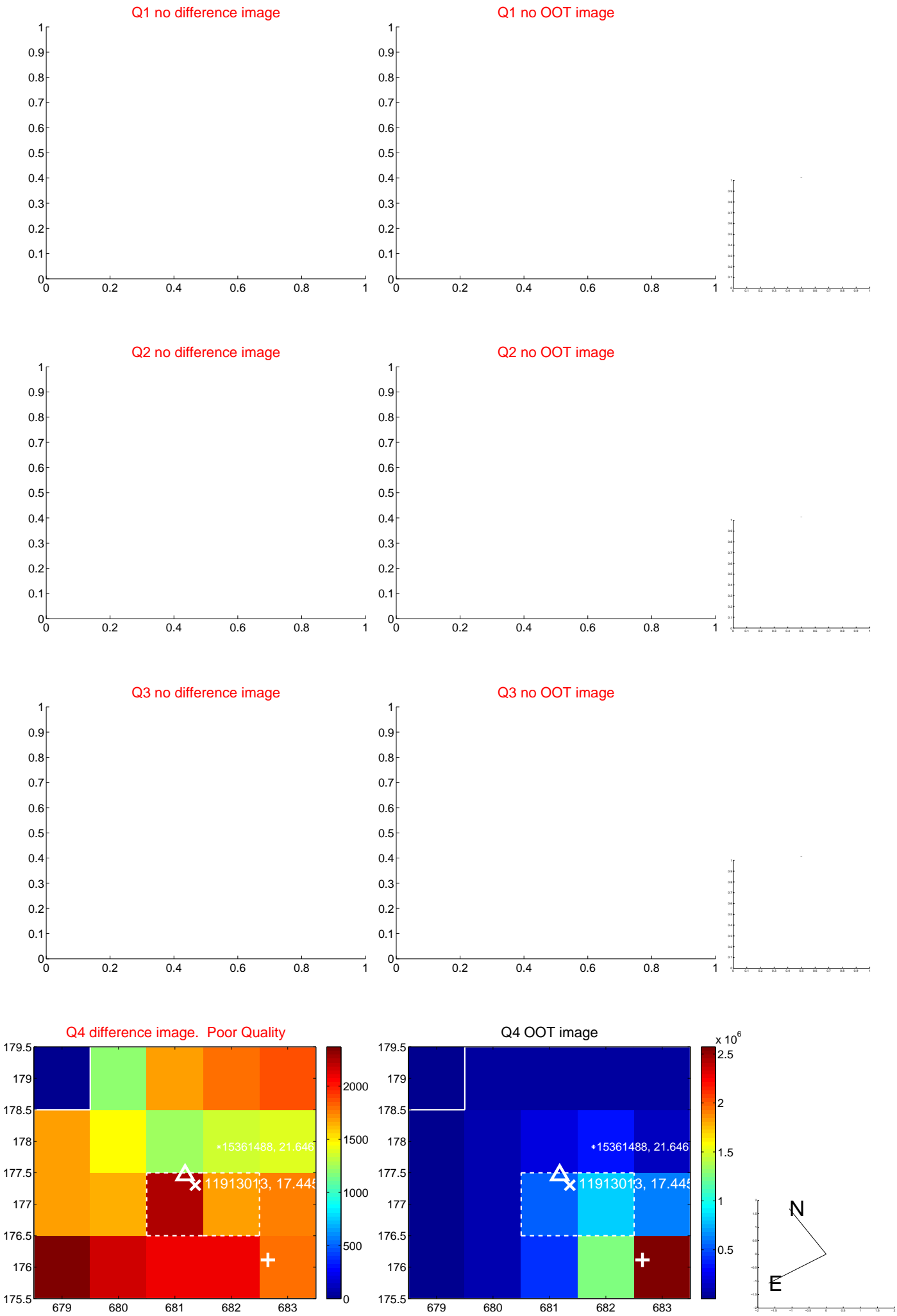
There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 11.34 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

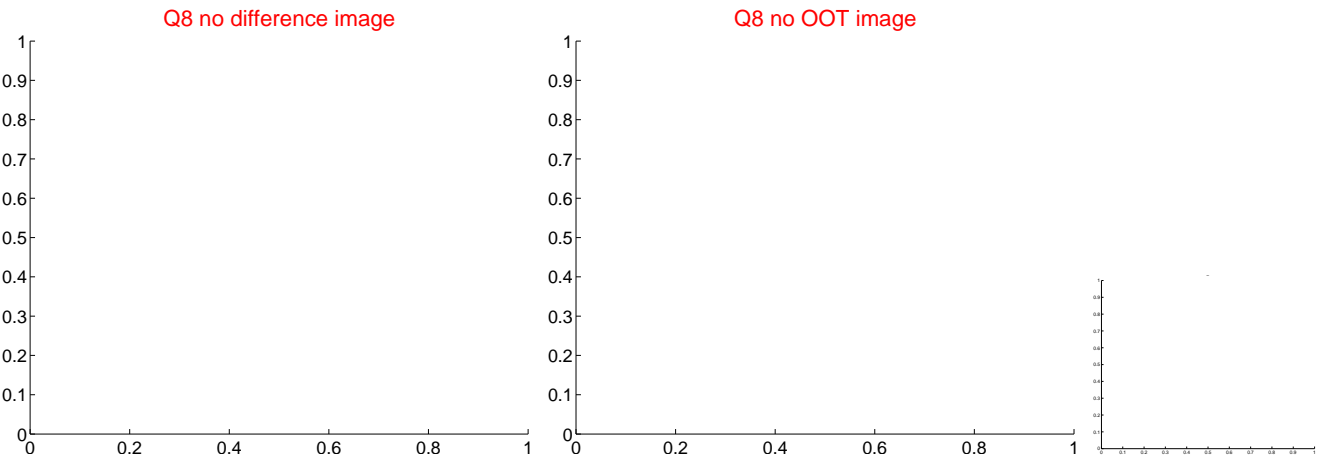
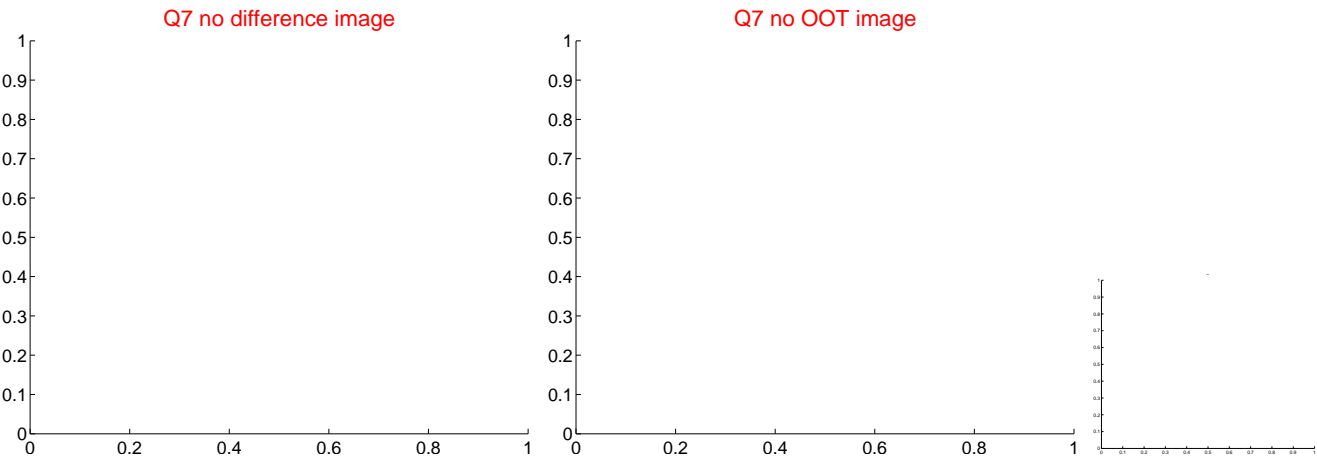
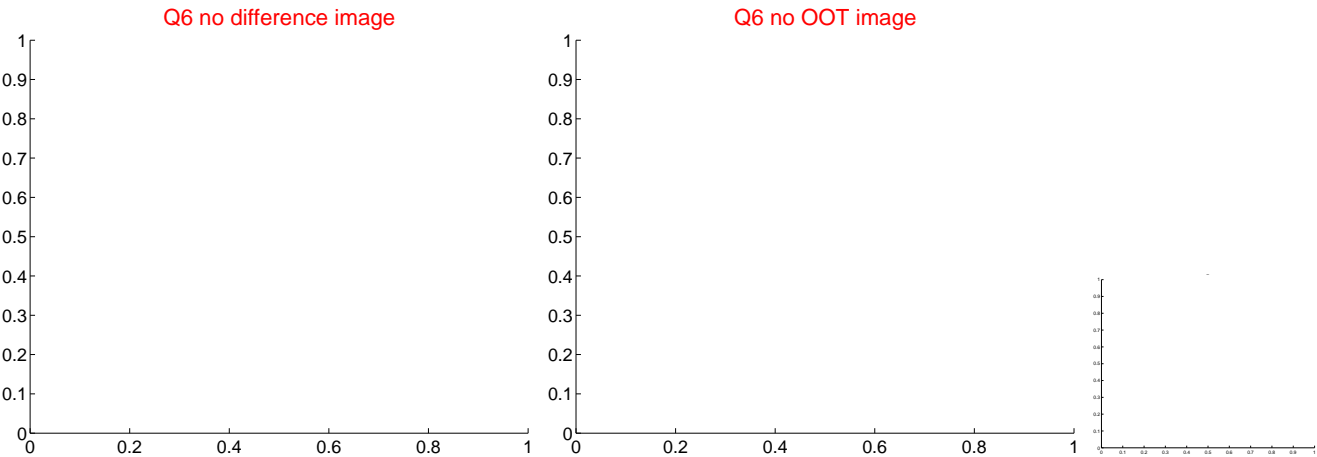
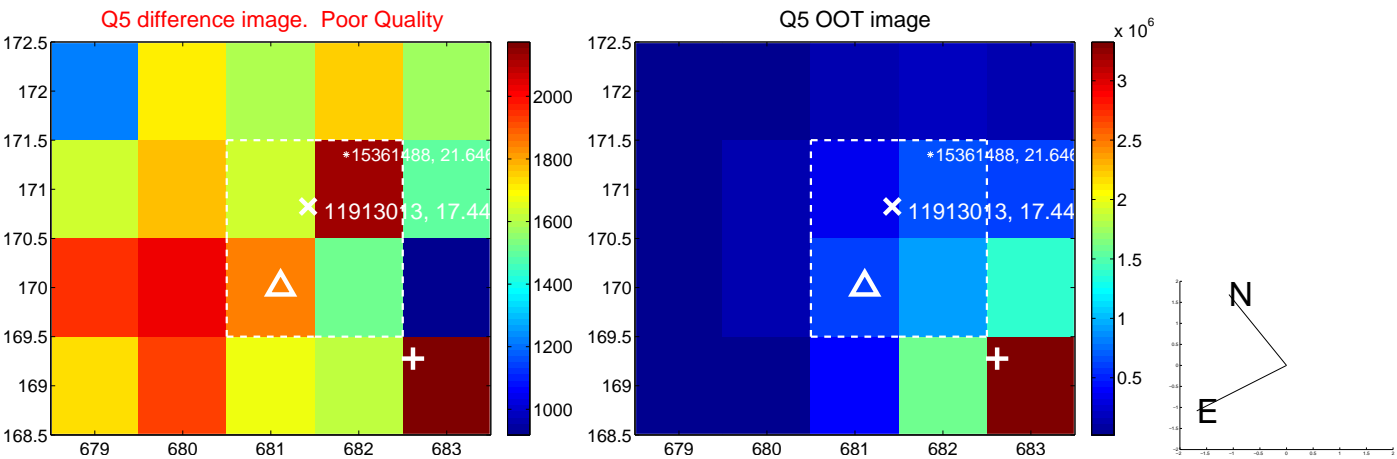
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.832 ± 0.945	11.46	2.455 ± 0.349	10.550 ± 0.967
PRF-fit source offset from KIC position	1.248 ± 0.469	2.66	0.988 ± 0.336	0.762 ± 0.632
photometric centroid source offset	1.55 ± 0.11	14.19	0.16 ± 0.09	-1.54 ± 0.11



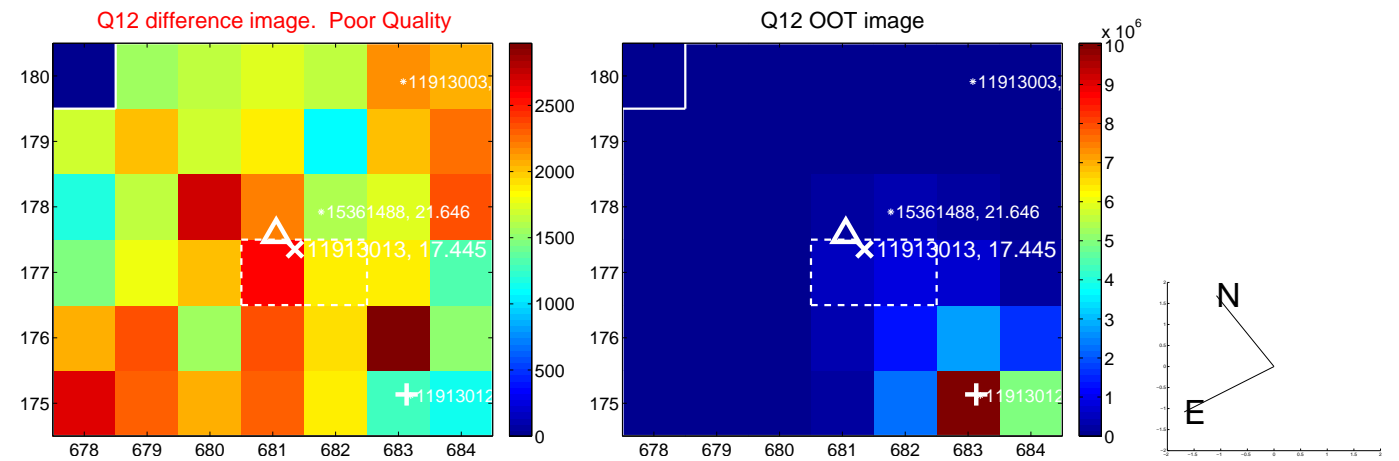
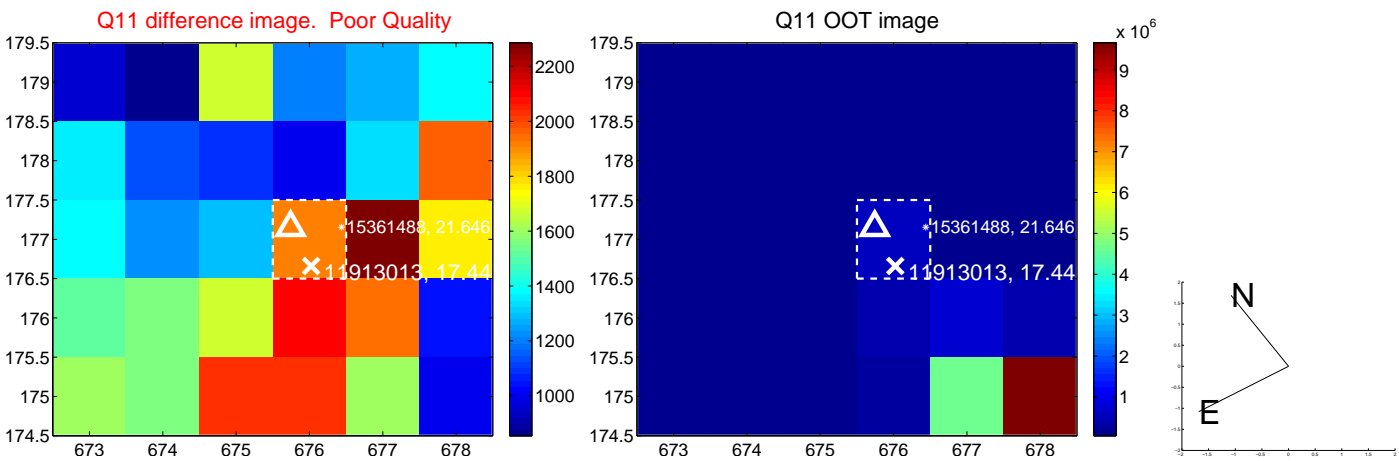
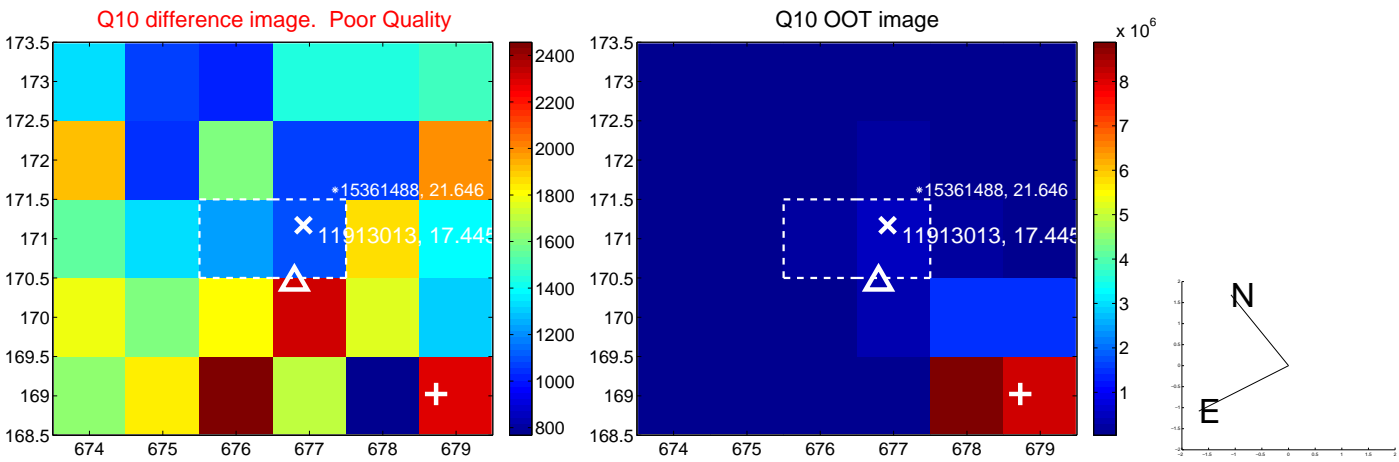
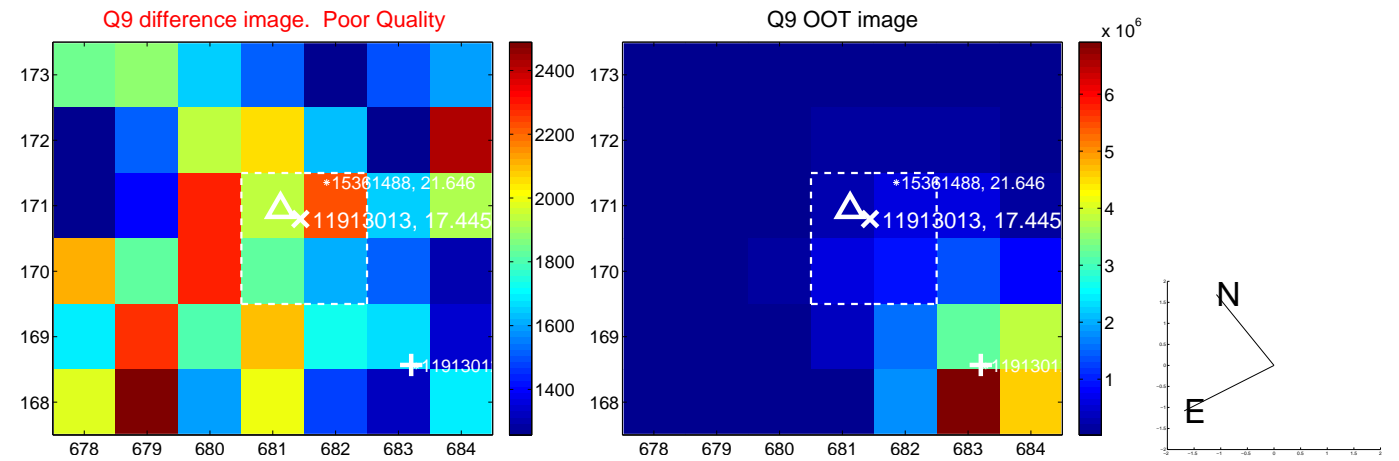
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



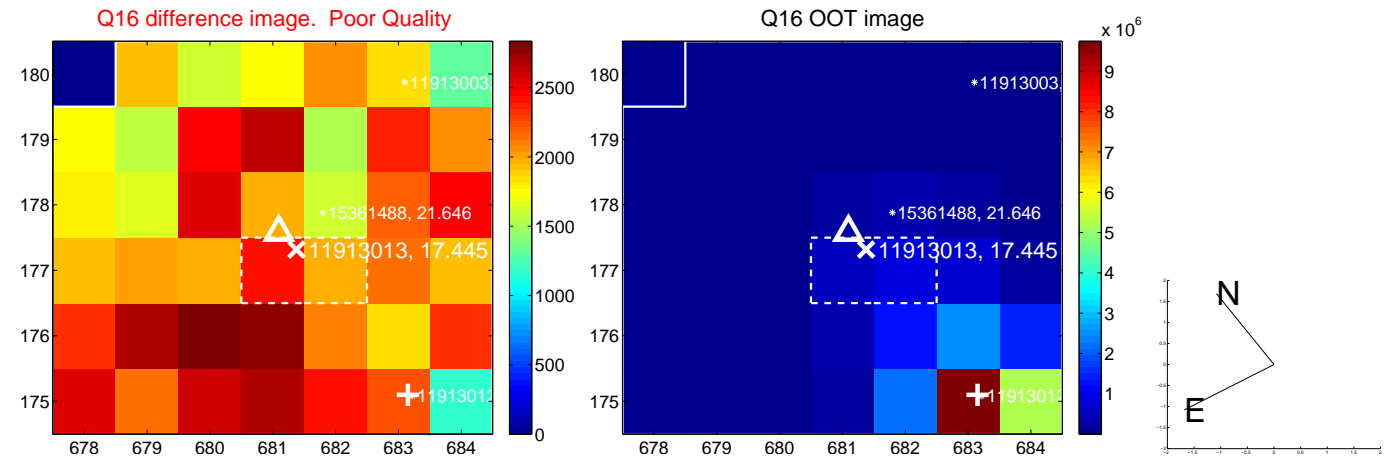
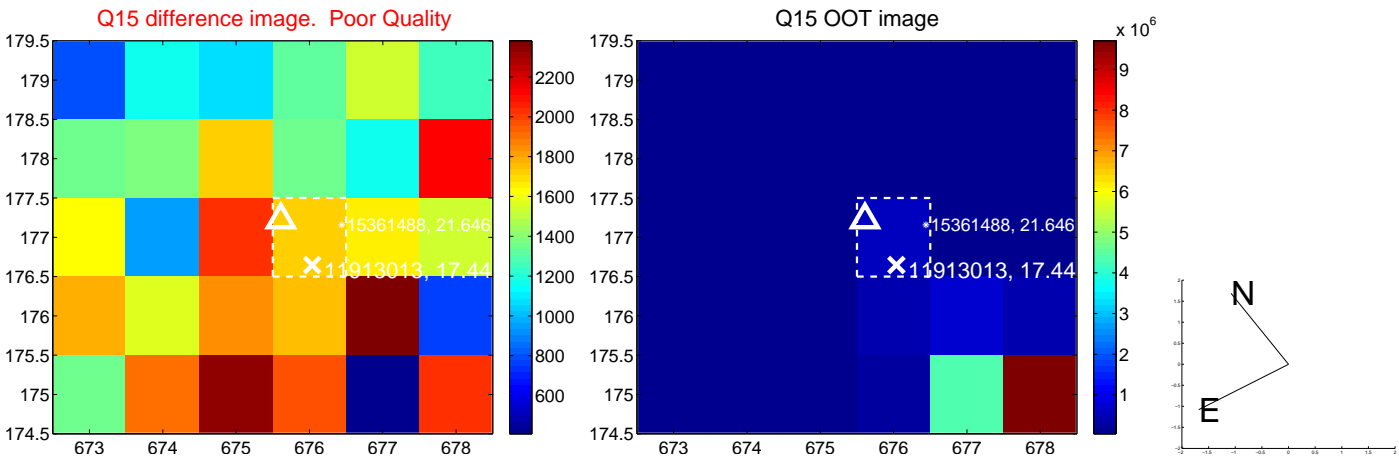
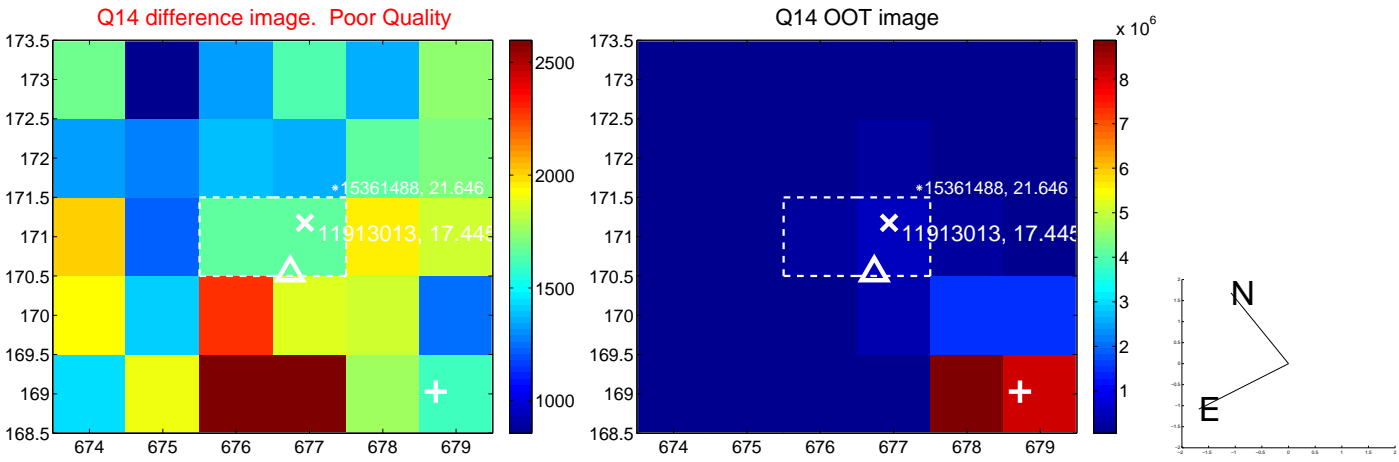
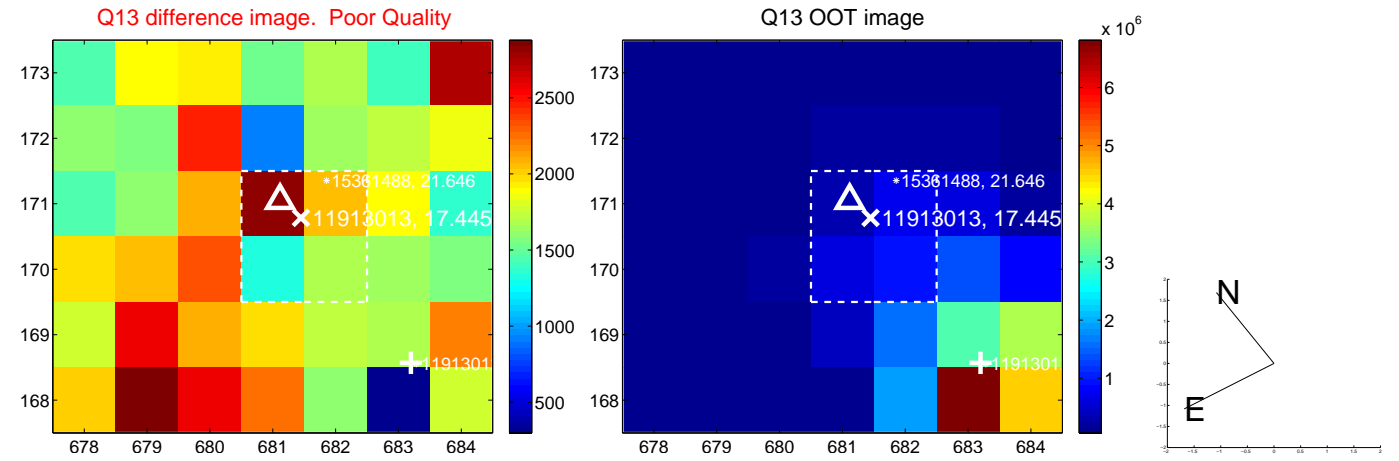
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



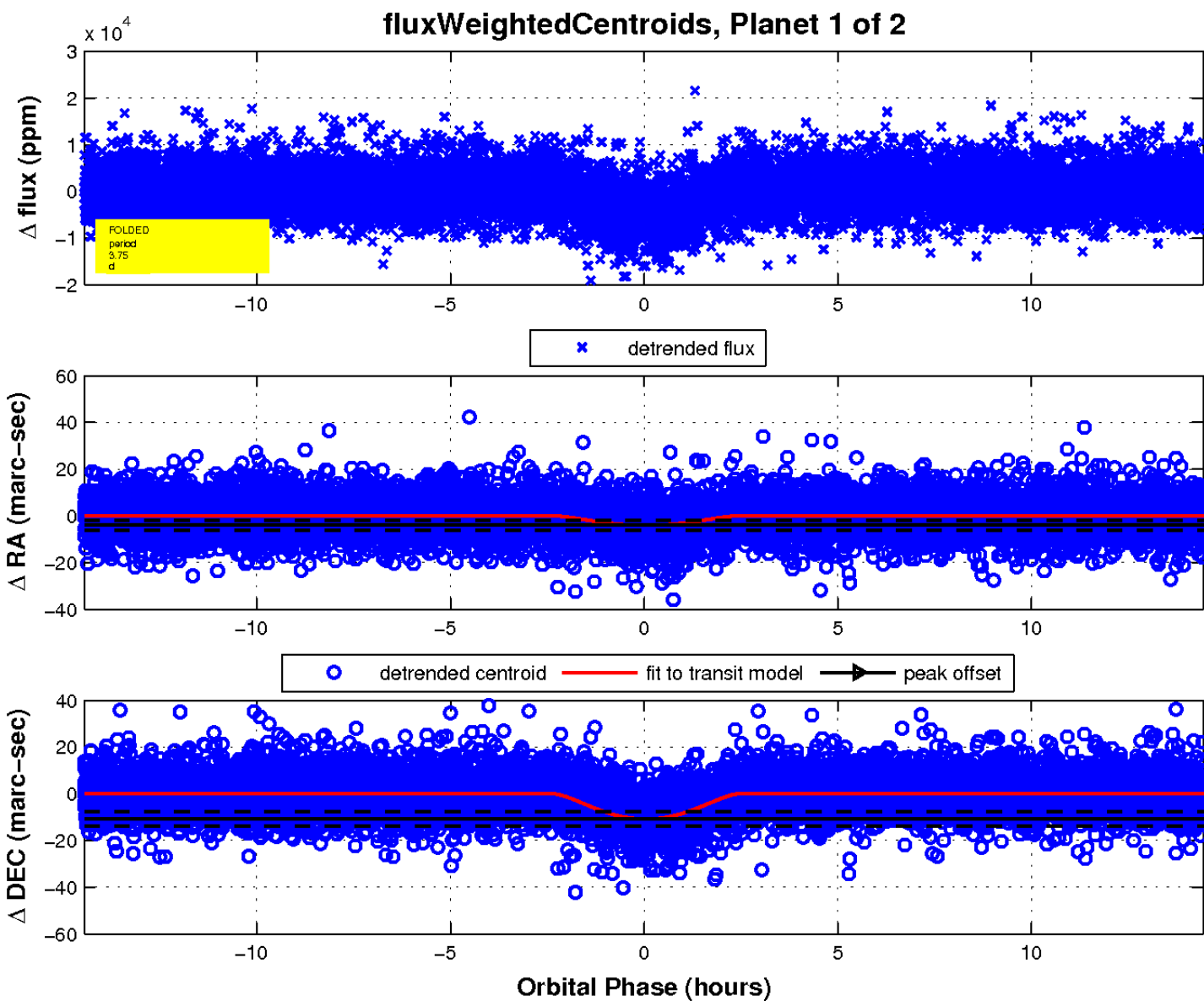
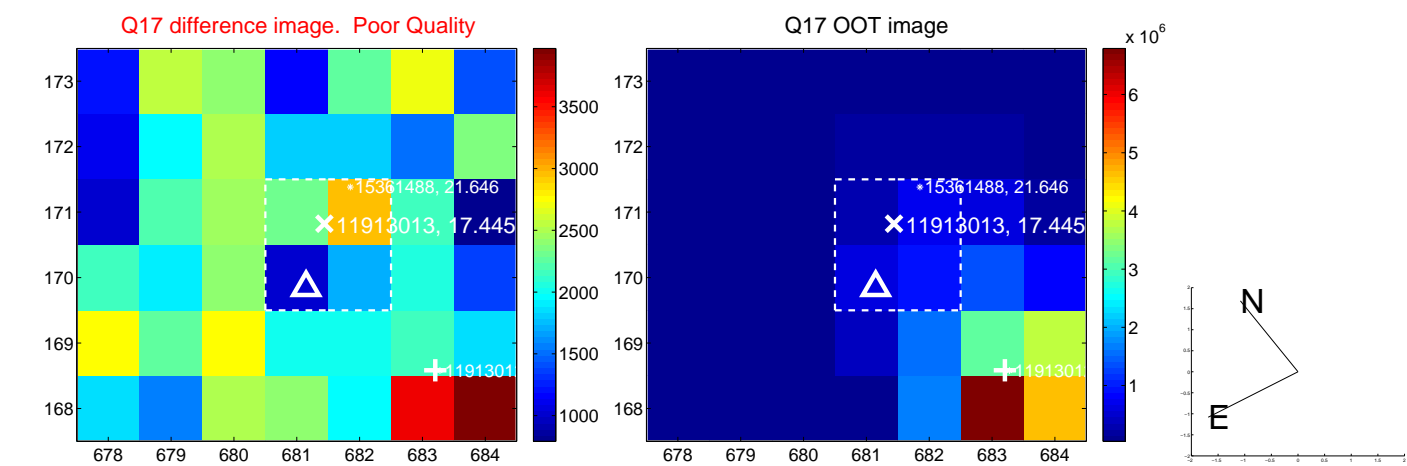
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

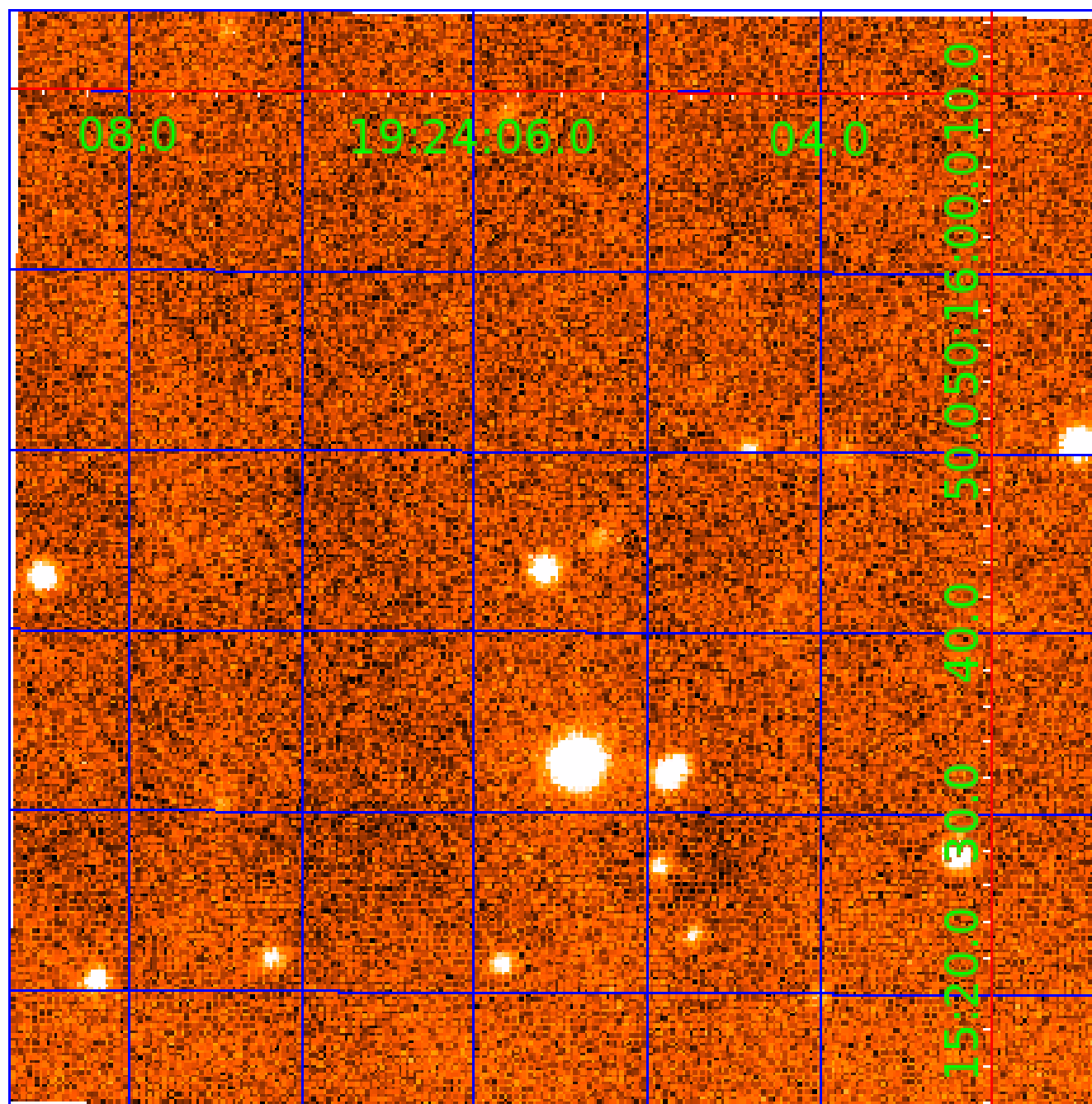


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011913013

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})
011913013-01	OBS	1462.01	3.747818	134.191258	4977.9	4.818	33.6	39.2	1.00	5780	11.08	448.30
011913013-02	OBS	No	3.747760	132.324218	765.4	4.792	7.9	7.8	1.00	5780	3.29	448.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011913013-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
011913013-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 011913013-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
011913013-02	11913013	011913071-sec	11913071	1:1	91.7	17	15	9.53	17.44	61.05	Direct-PRF	0	1.12	0.75

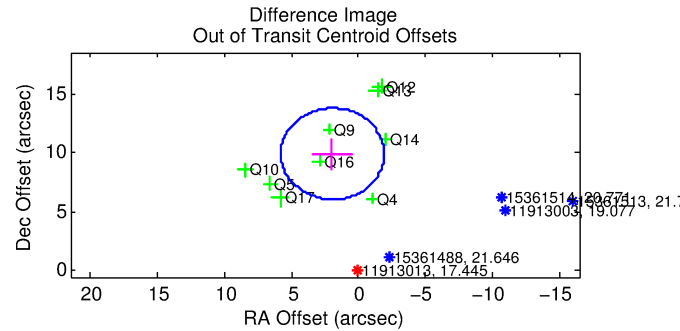
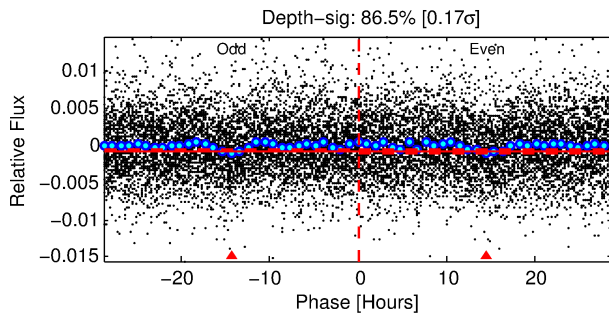
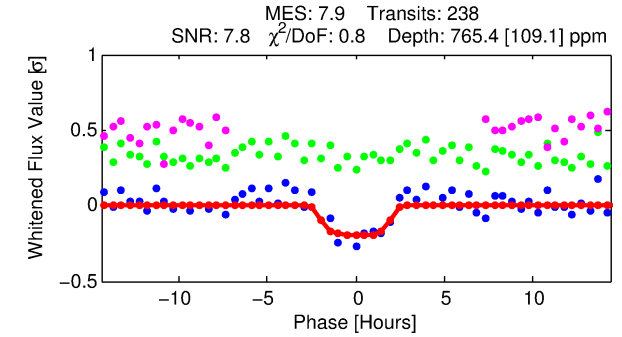
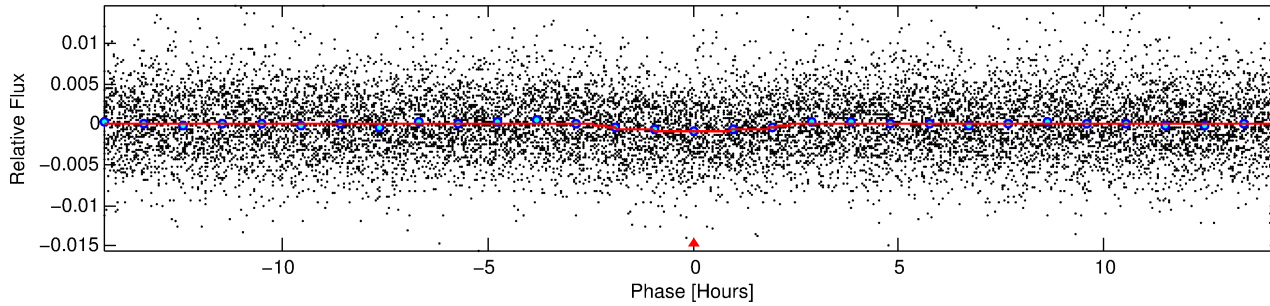
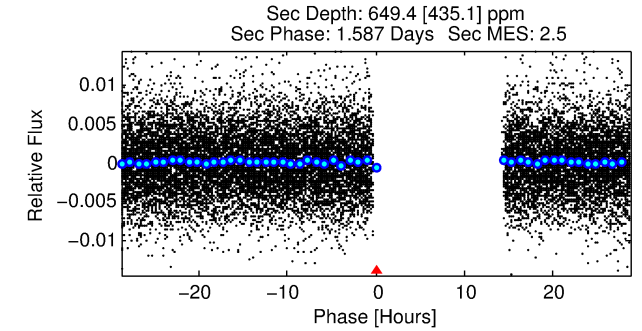
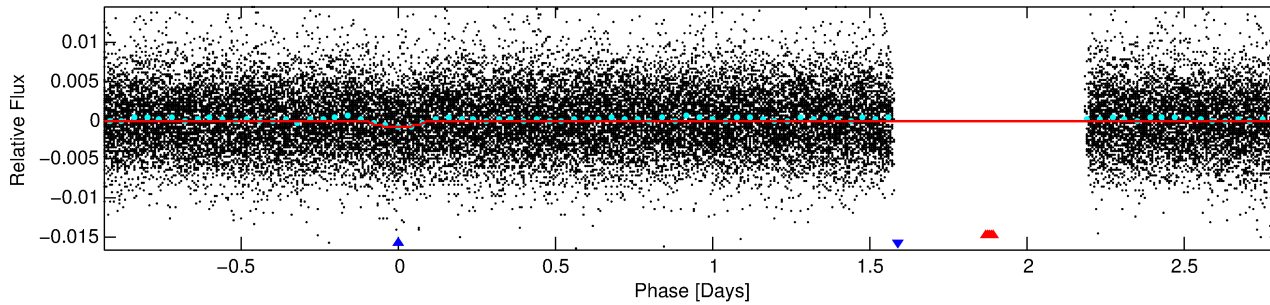
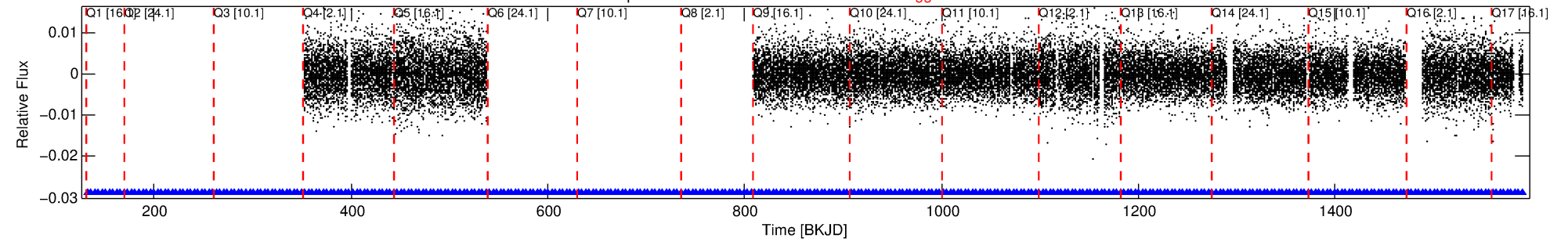
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 11913013 Candidate: 2 of 2 Period: 3.748 d

KOI: K01462 Corr: No Ephemeris Match

Kp: 17.44 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 3.74776 [0.00005] d
Epoch = 132.3242 [0.0117] BKJD
Rp/R* = 0.0301 [0.0073]
a/R* = 3.16 [3.03]
b = 0.90 [0.23]
Seff = 448.31 [0.01]
Teq = 1173 [0] K
Rp = 3.28 [0.79] Re
a = 0.0472 [0.0000] AU
Ag = 73.87 [60.99] [1.19σ]
Teffp = 5318 [1098] K [3.78σ]

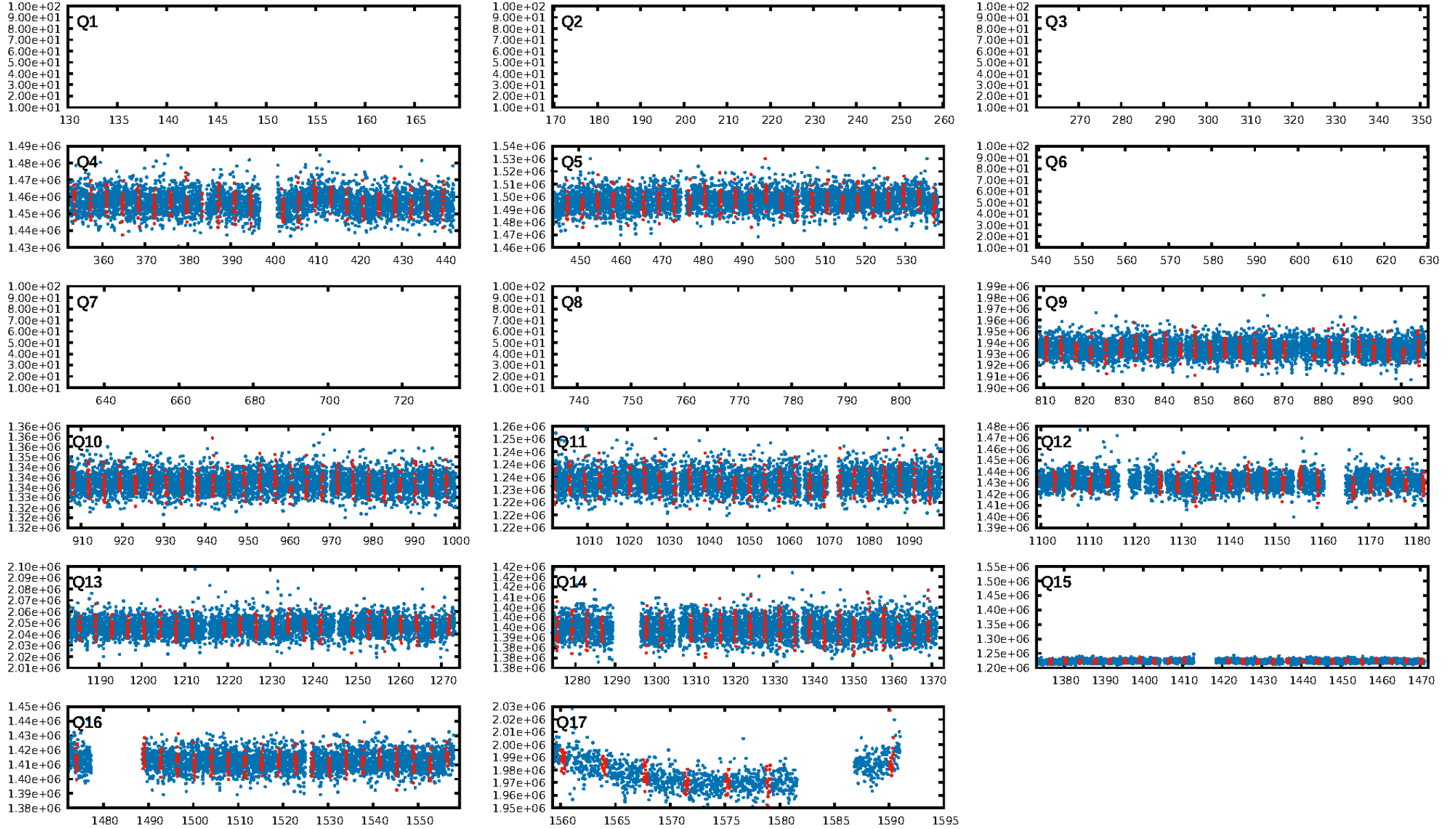
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.44e-17
RollingBand-fgt: 1.00 [231/231]
GhostDiagnostic-chr: -5.195
Centroid-sig: 21.6%
Centroid-so: 3.315 arcsec [5.69σ]
OotOffset-rm: 10.103 arcsec [7.85σ]
KicOffset-rm: 0.835 arcsec [0.88σ]
OotOffset-st: 2/0/3/4 [9]
KicOffset-st: 2/2/3/4 [11]
DiffImageQuality-fgm: 0.00 [0/11]
DiffImageOverlap-fno: 1.00 [11/11]

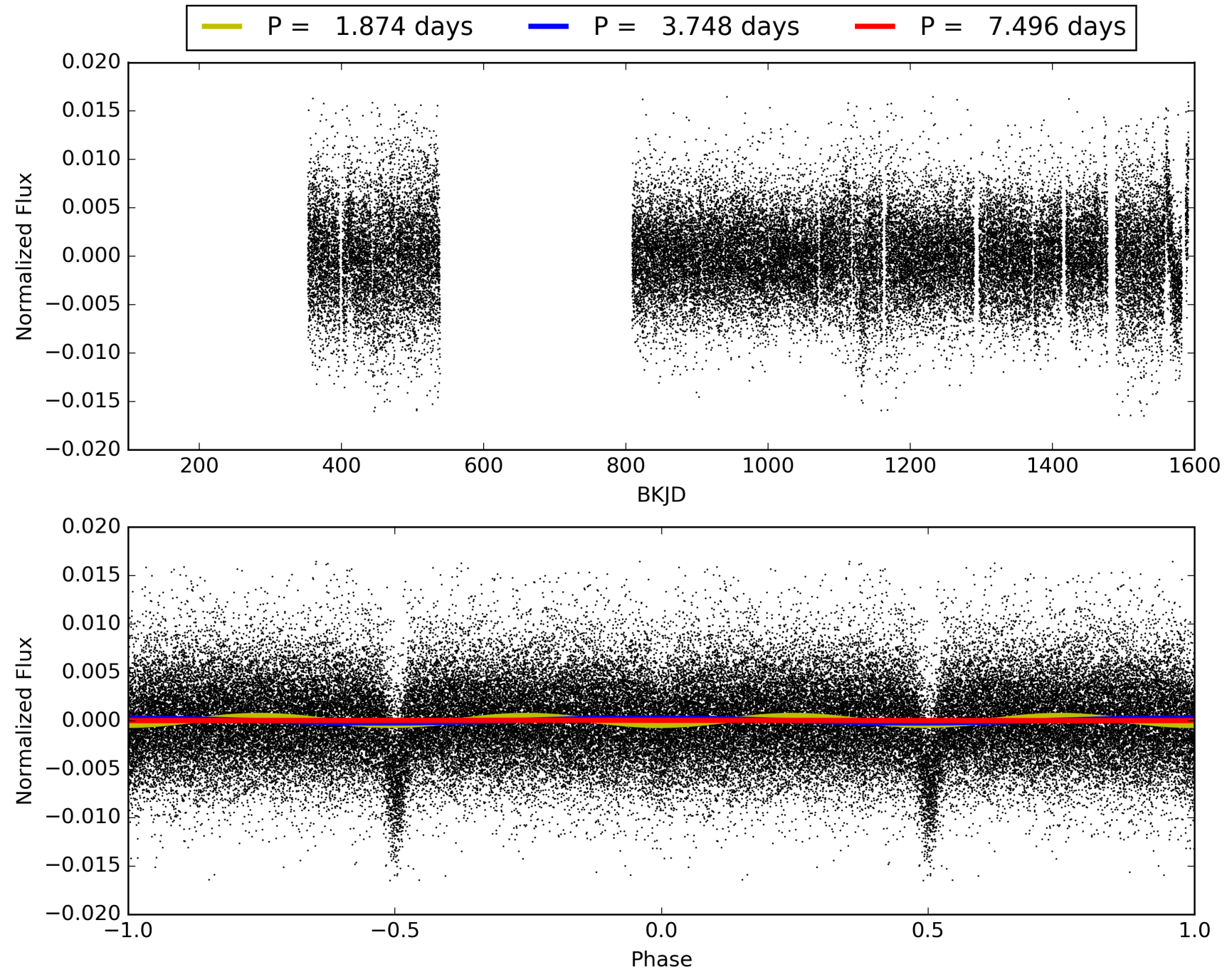
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:16:12 Z

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

TCE 011913013-02, PDC Light Curves

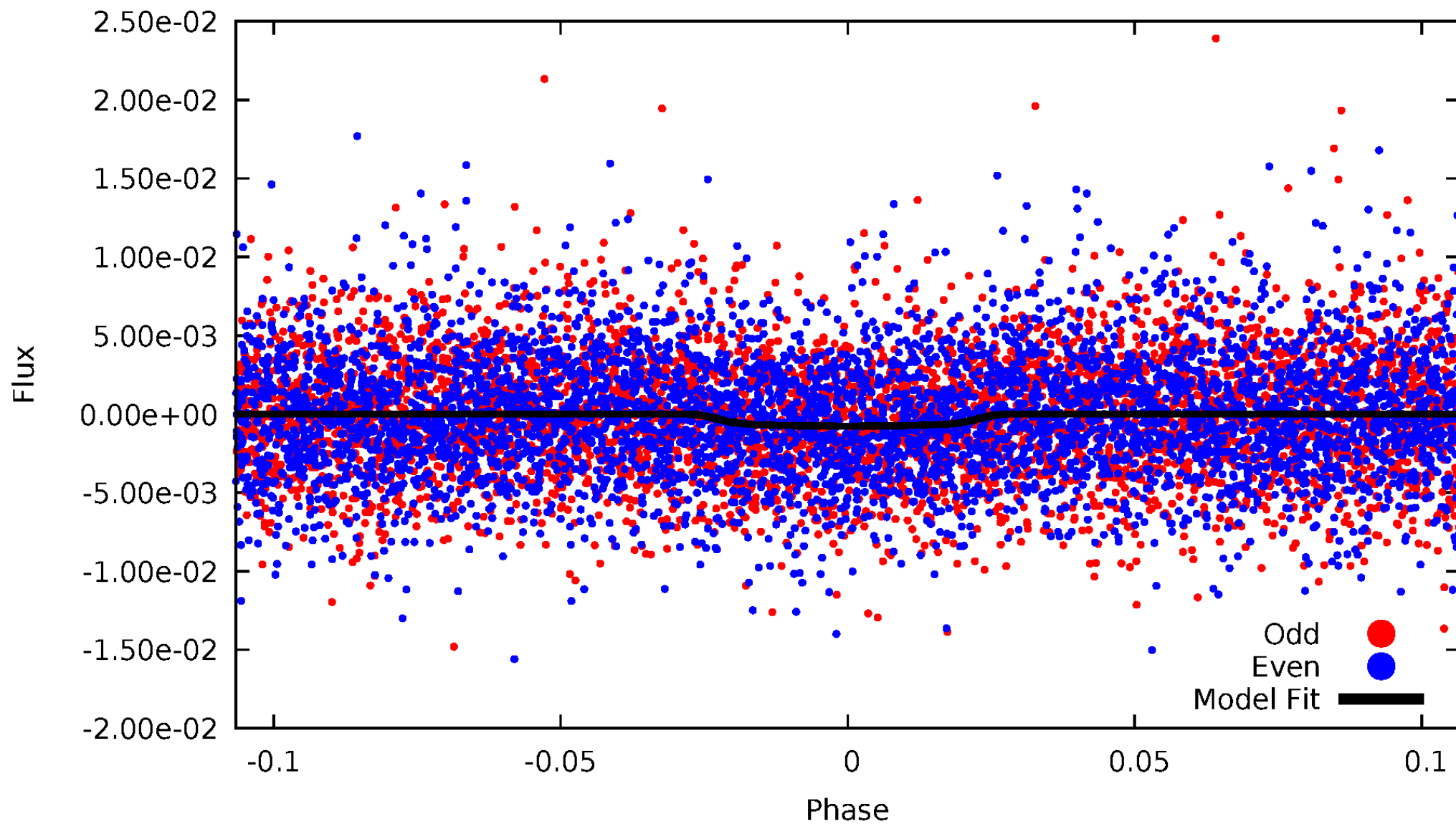


TCE 011913013-02



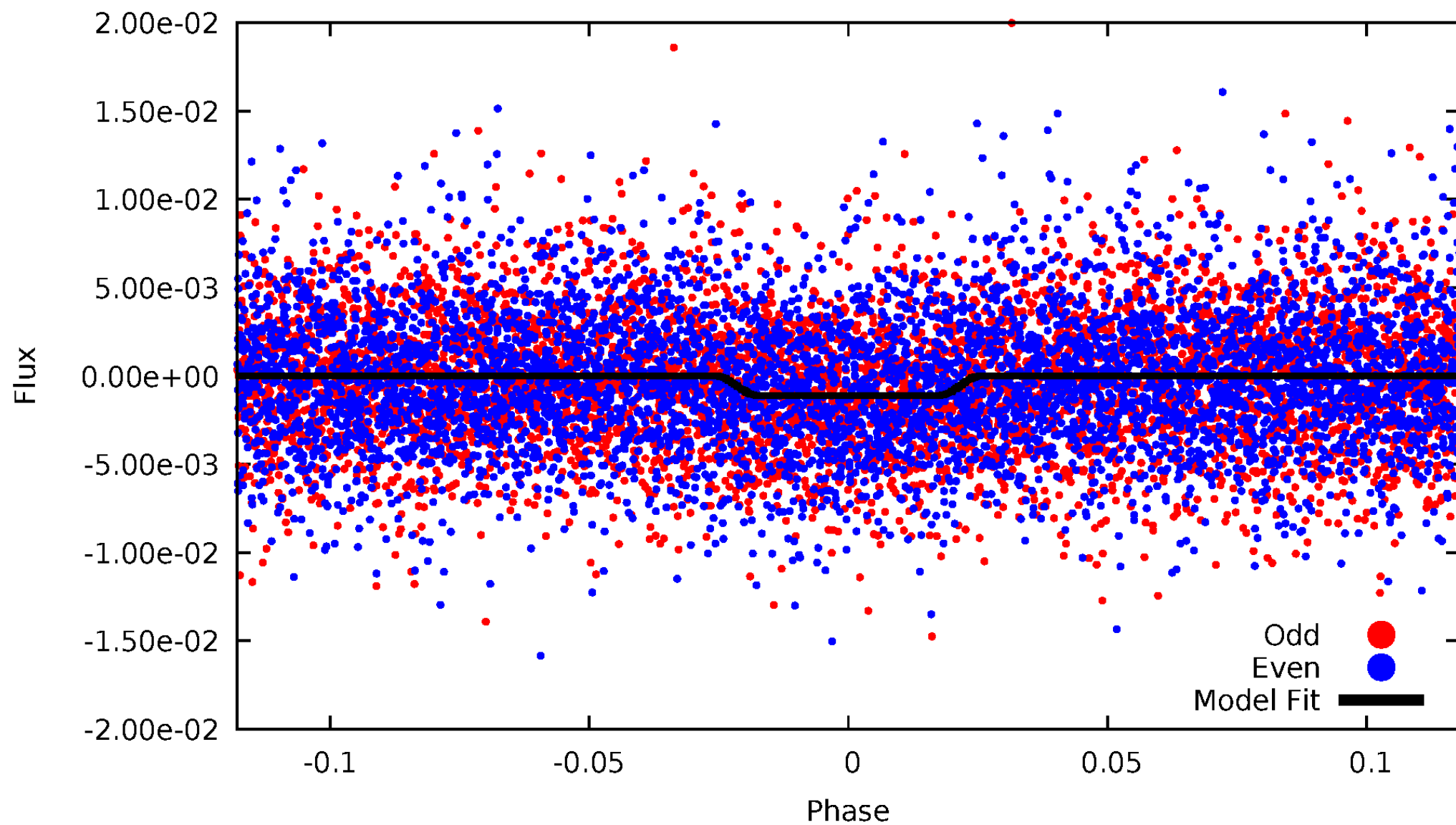
DV Odd/Even

TCE 011913013-02



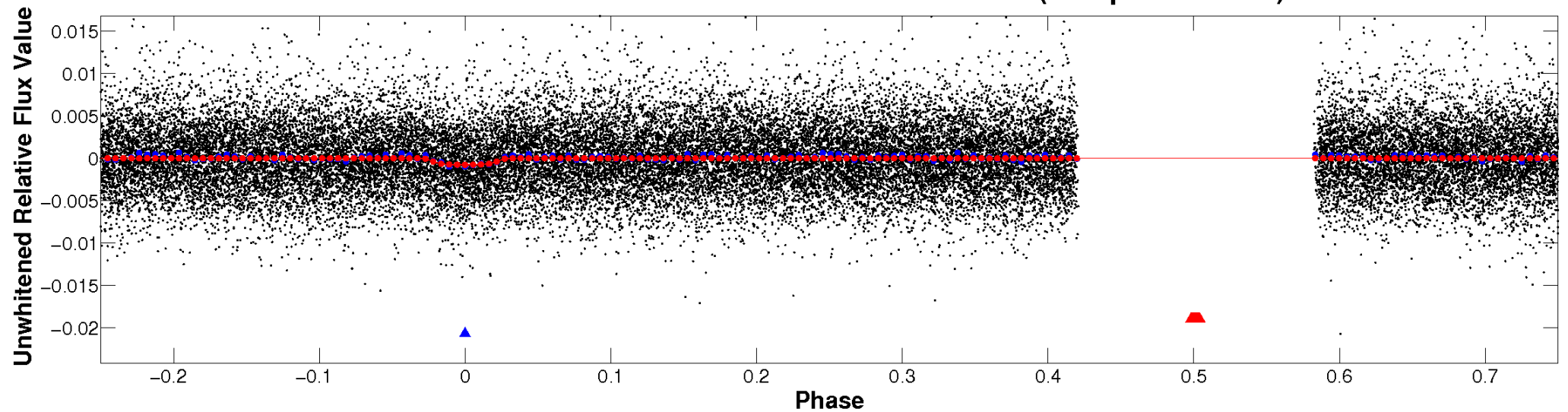
ALT Odd/Even

TCE 011913013-02

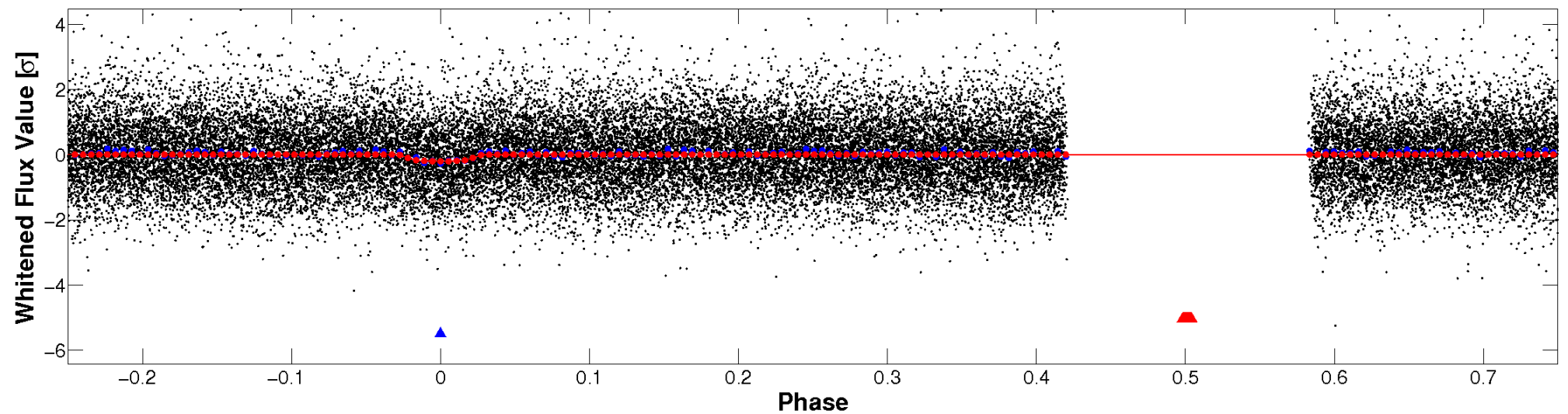


Non-Whitened Vs. Whitened Light Curve

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

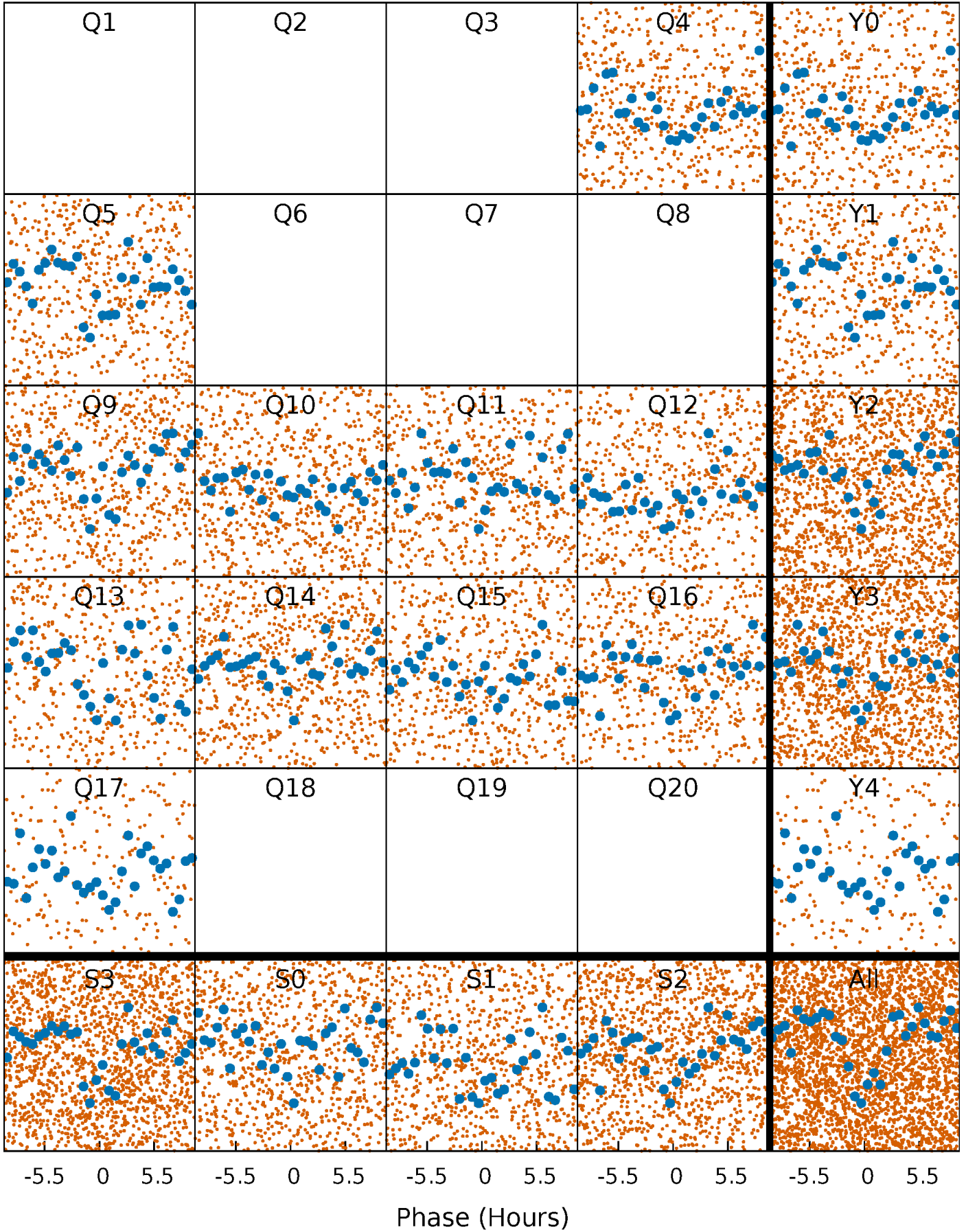


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



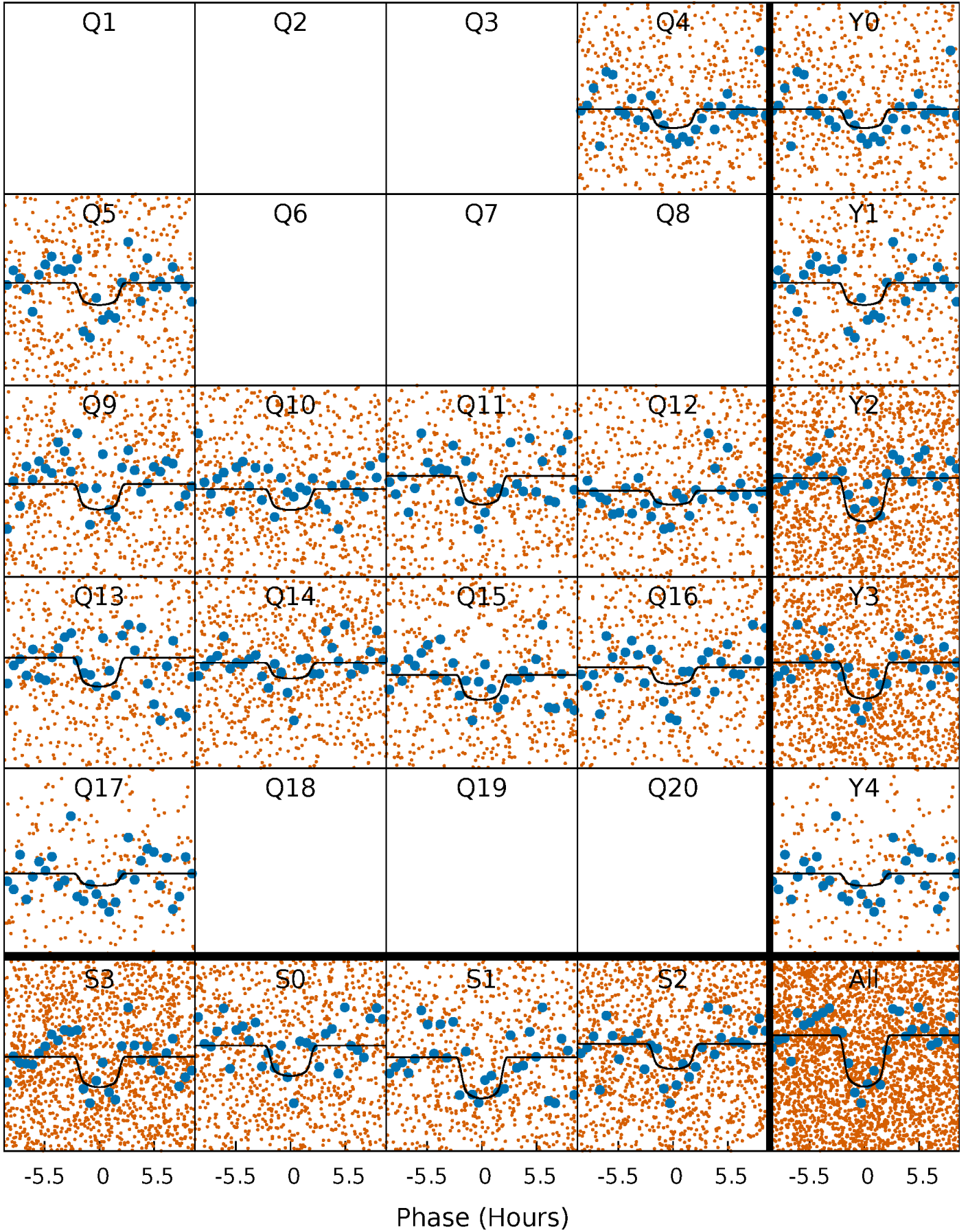
PDC Quarter-Phased Transit Curves

TCE 011913013-02 P= 3.747760 Days $T_0=132.324218$ (BKJD)



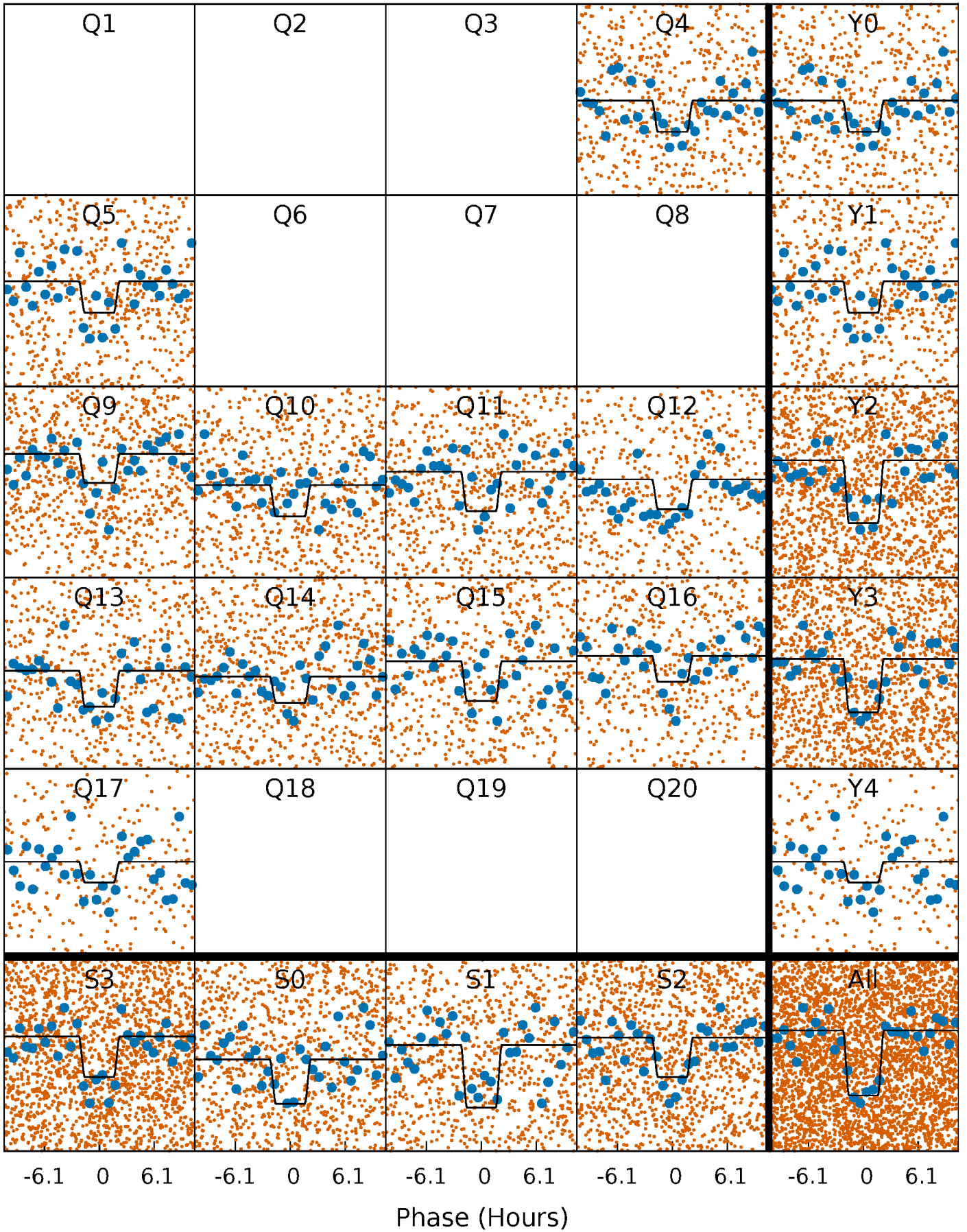
DV Quarter-Phased Transit Curves

TCE 011913013-02 P= 3.747760 Days $T_0=132.324218$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

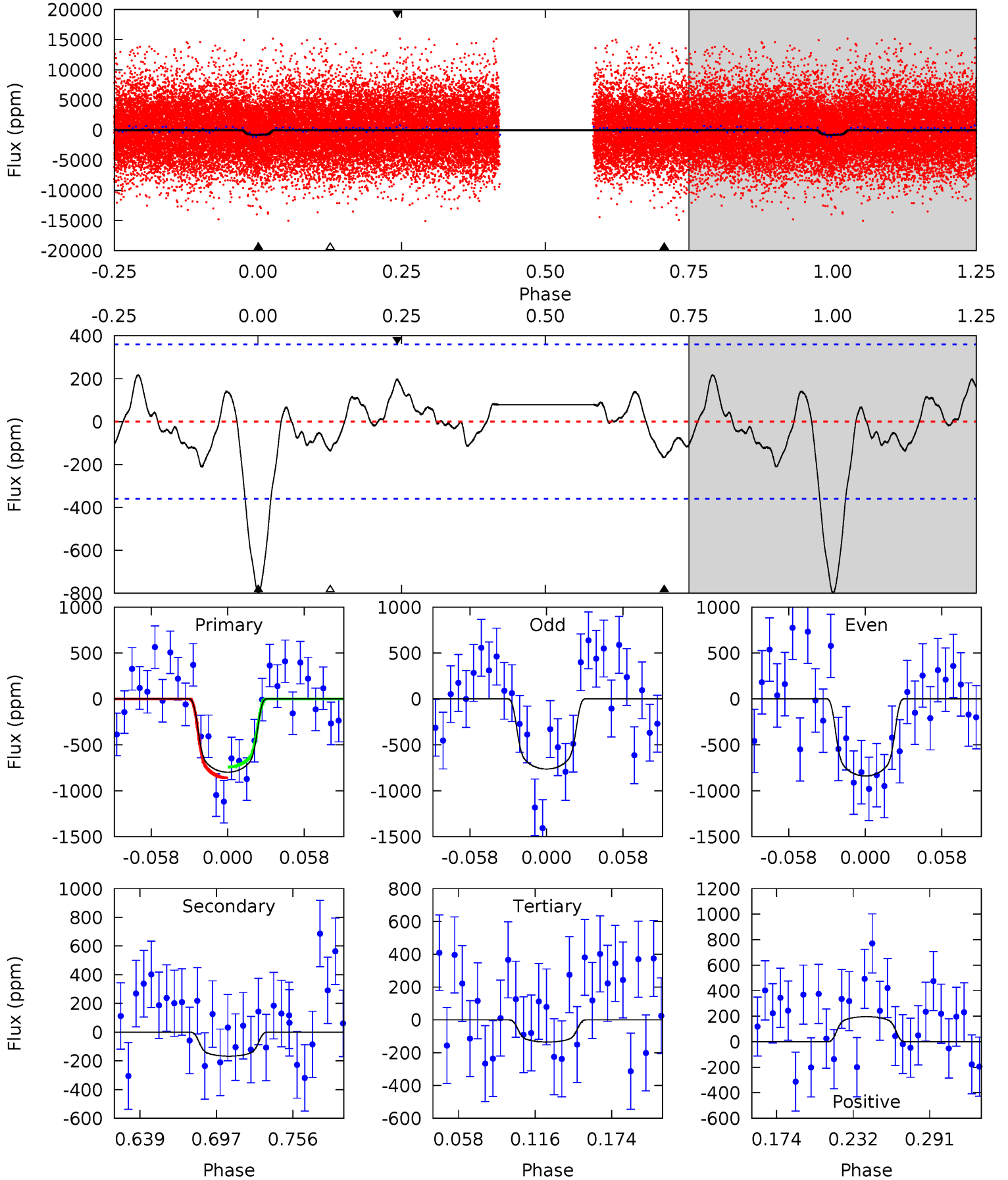
TCE 011913013-02 P= 3.747762 Days $T_0=132.328494$ (BKJD)



DV Model-Shift Uniqueness Test

011913013-02, P = 3.747760 Days, E = 132.324218 Days

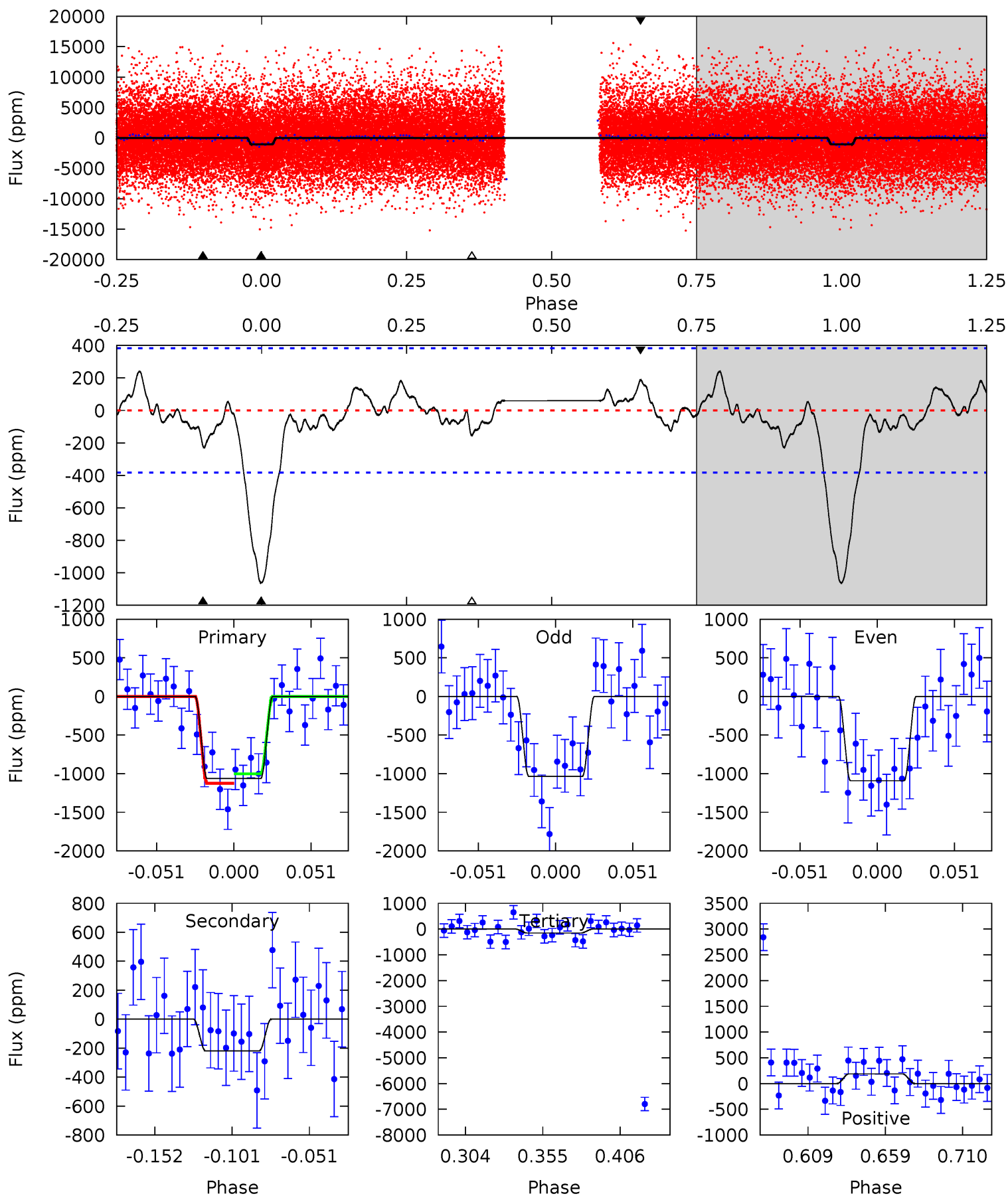
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	2.18	1.76	2.56	4.68	1.89	1.14	8.61	7.81	0.42	-0.38	0.50	1.12	0.21	0.78



Alt Model-Shift Uniqueness Test

011913013-02, P = 3.747762 Days, E = 132.328494 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	2.69	1.89	2.31	4.71	1.95	1.04	11.2	10.7	0.80	0.39	0.35	1.17	0.19	0.76



Stellar Parameters For KIC 011913013

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 011913013-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-167 ± 77	$3.26^{+0.83}_{-0.79}$	1637^{+82}_{-81}	4053^{+539}_{-515}	19^{+17}_{-10}
Alt.	-219 ± 81	$3.56^{+0.90}_{-0.76}$	1640^{+76}_{-71}	4123^{+493}_{-423}	20^{+17}_{-9}

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 $A_{obs} \gg 1.0$

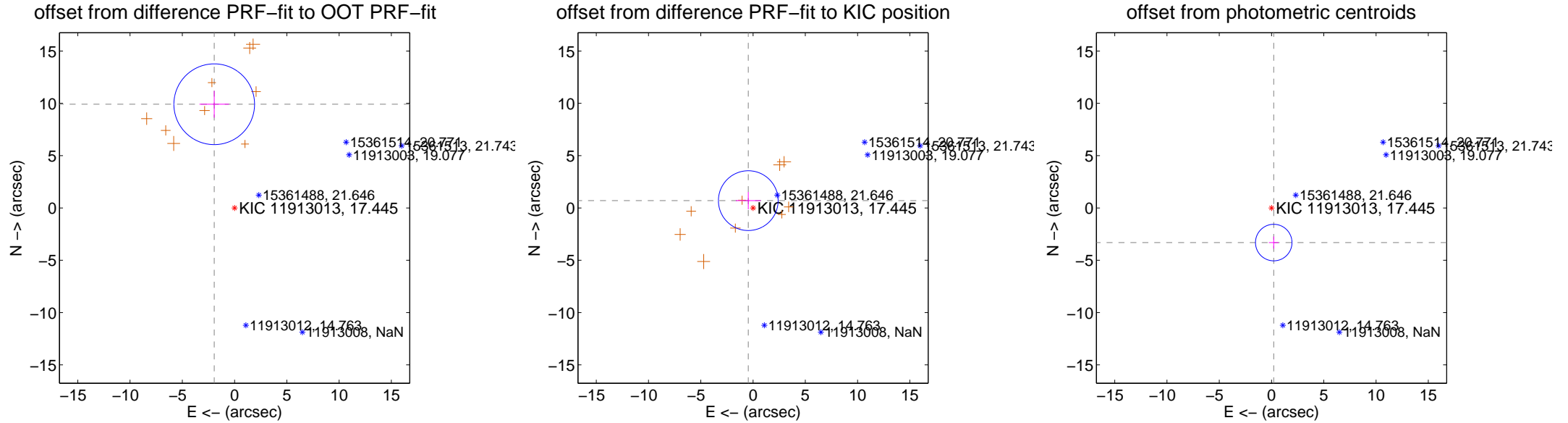
DV Centroid Data

Supplemental centroid analysis for 011913013-02. Kepler magnitude: 17.45. Transit SNR 7.77

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 11.34 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.103 ± 1.287	7.85	1.947 ± 1.412	9.913 ± 1.281
PRF-fit source offset from KIC position	0.835 ± 0.952	0.88	0.457 ± 1.193	0.699 ± 0.829
photometric centroid source offset	3.32 ± 0.58	5.69	-0.21 ± 0.47	-3.31 ± 0.58



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

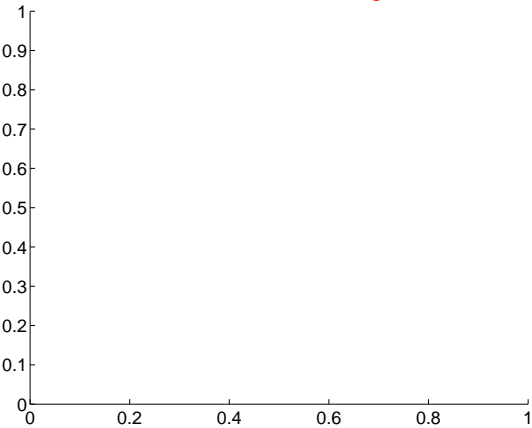
Q1 no difference image



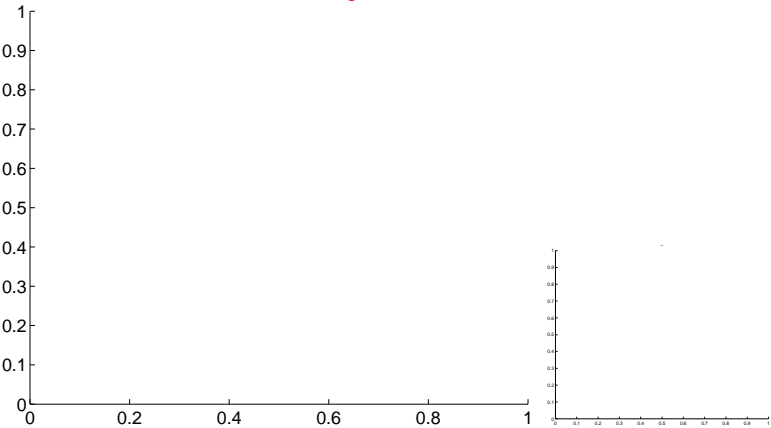
Q1 no OOT image



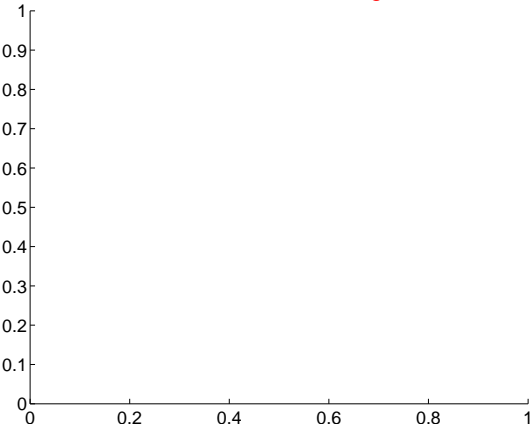
Q2 no difference image



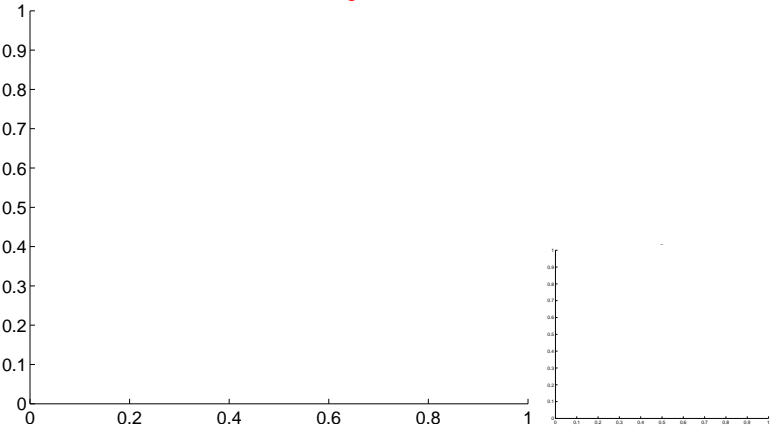
Q2 no OOT image



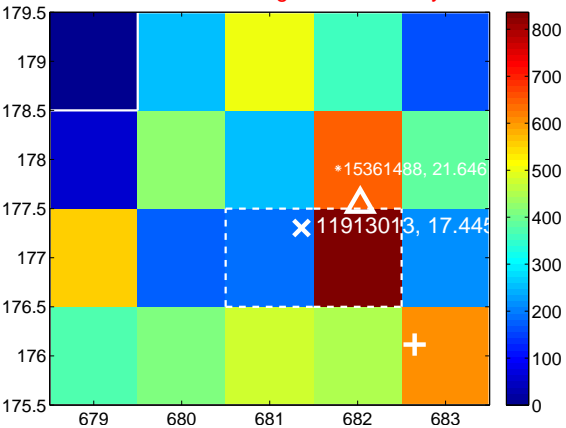
Q3 no difference image



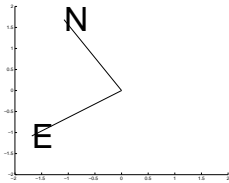
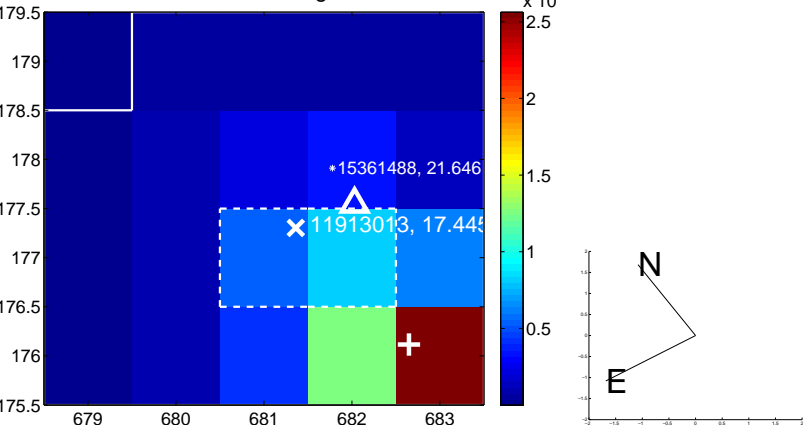
Q3 no OOT image



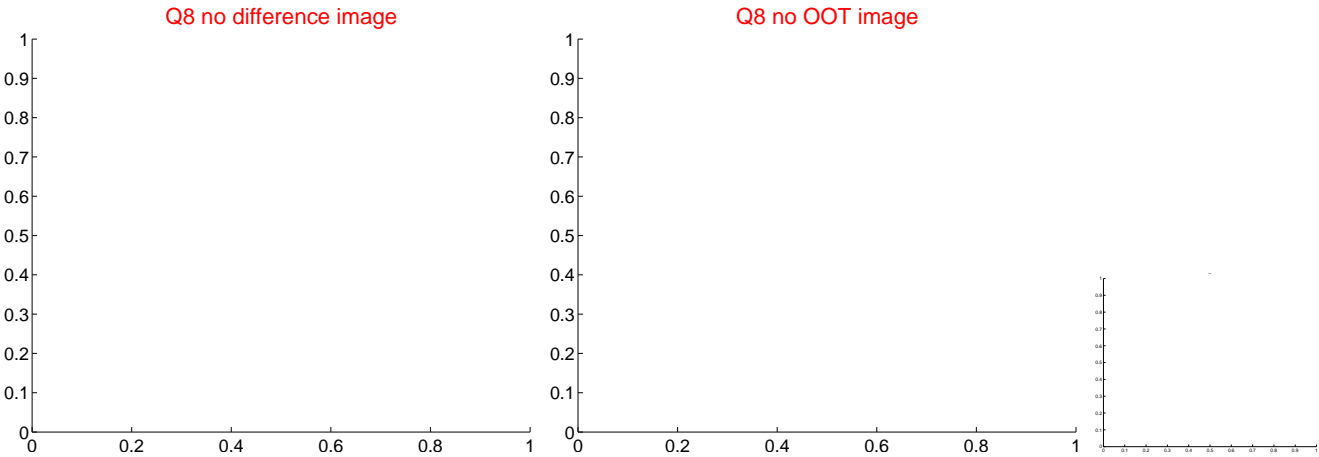
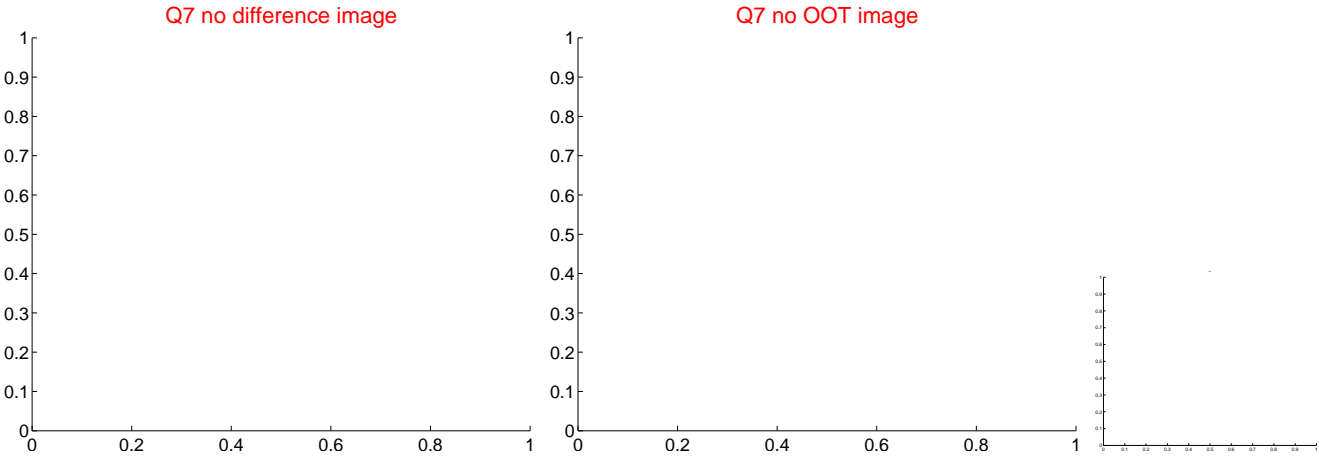
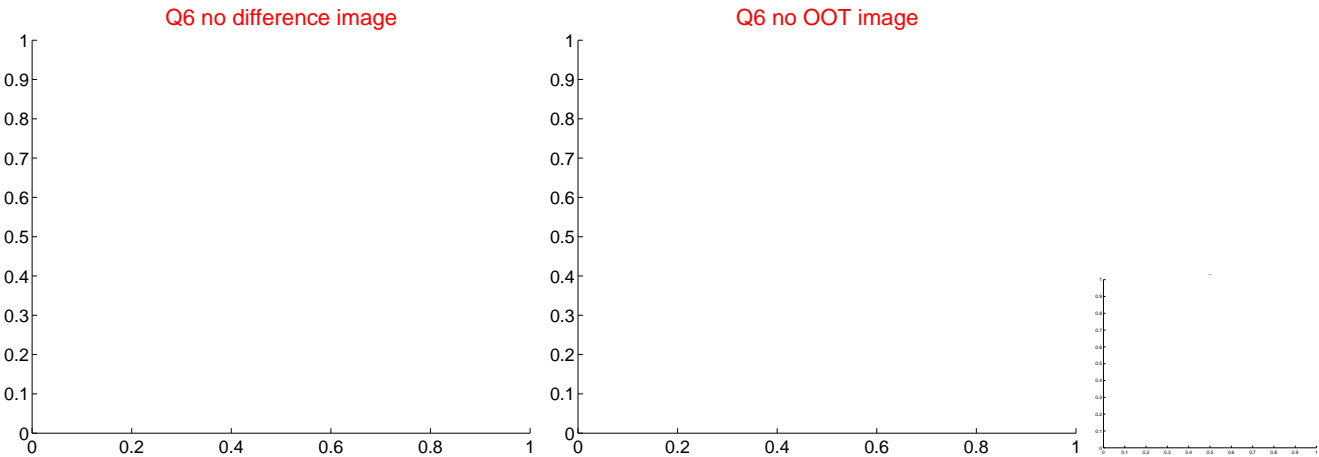
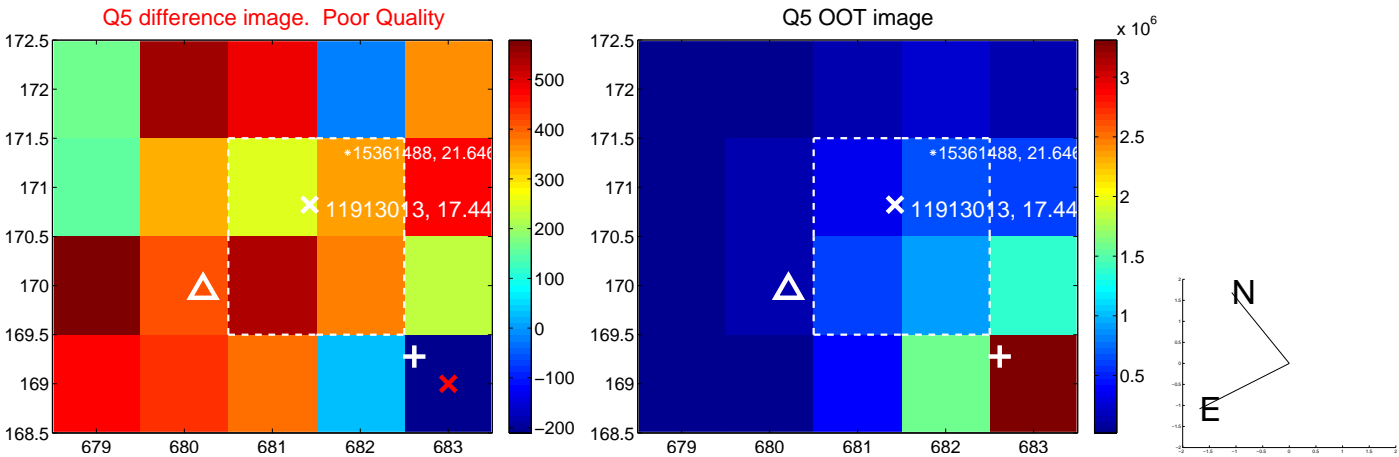
Q4 difference image. Poor Quality



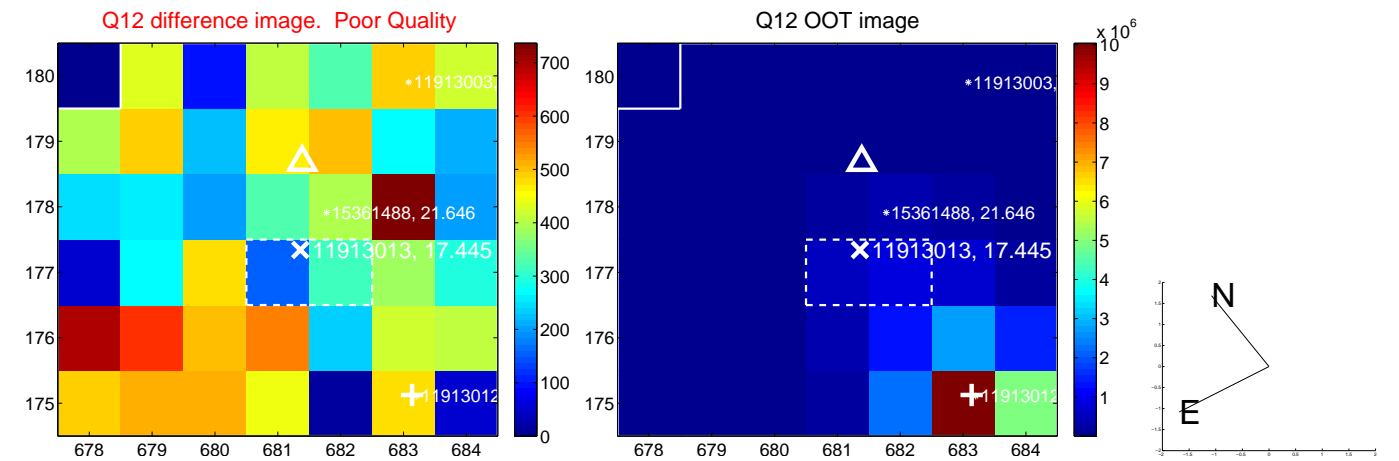
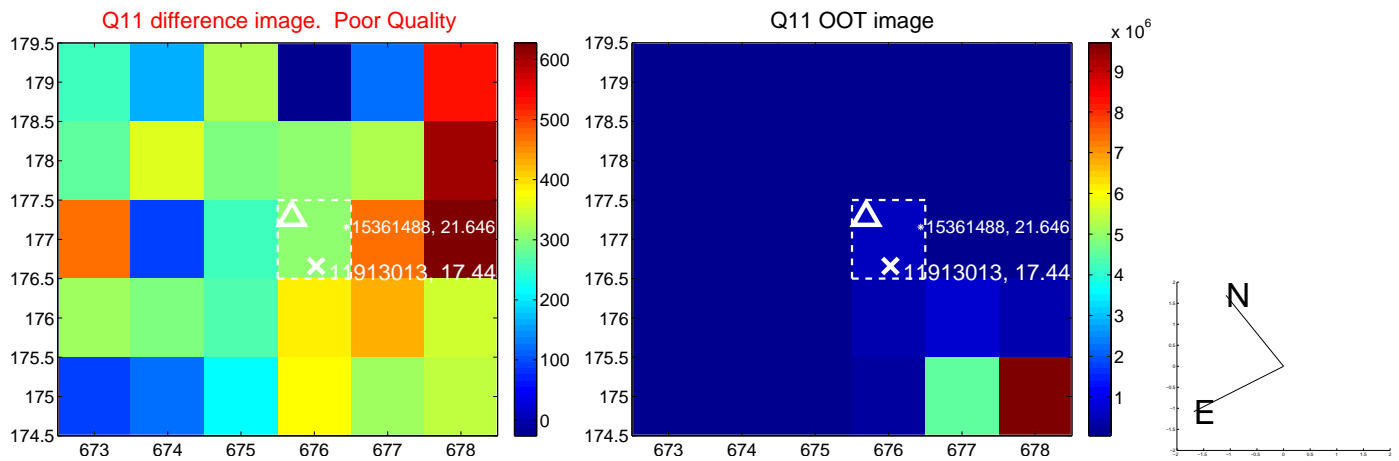
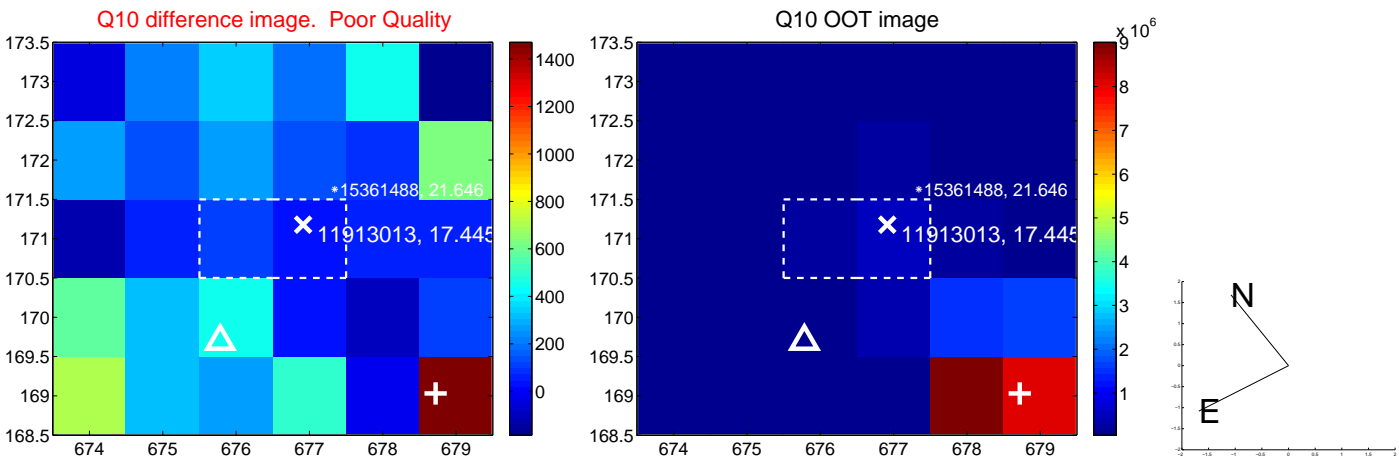
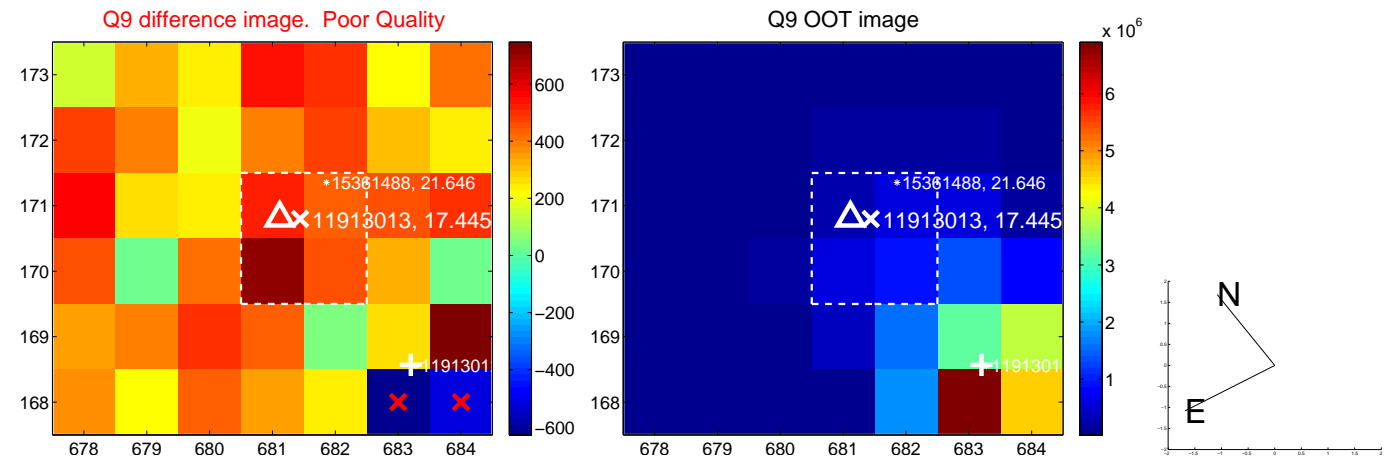
Q4 OOT image



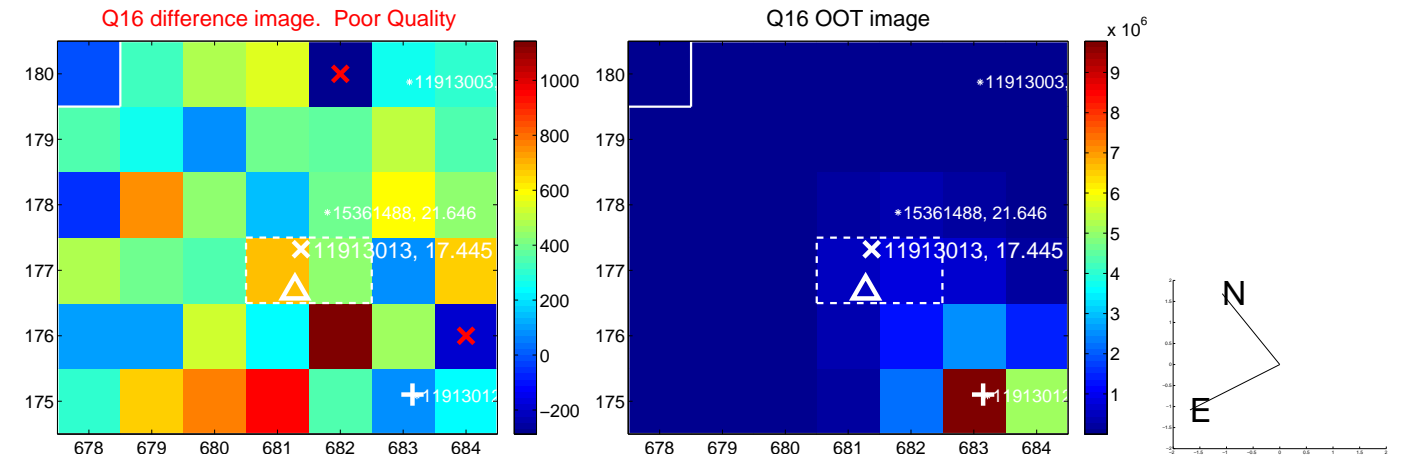
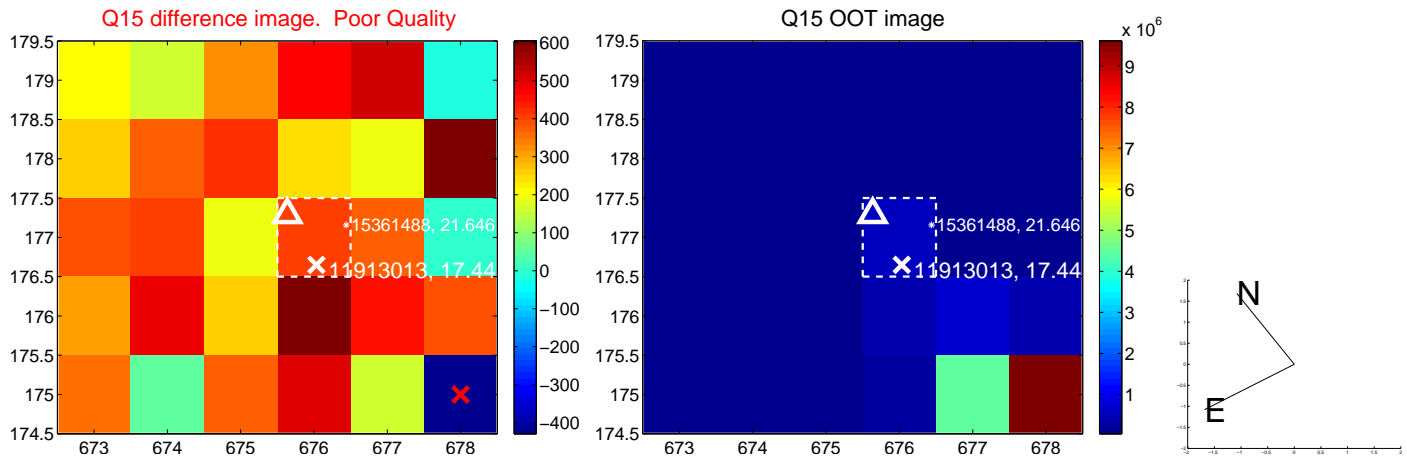
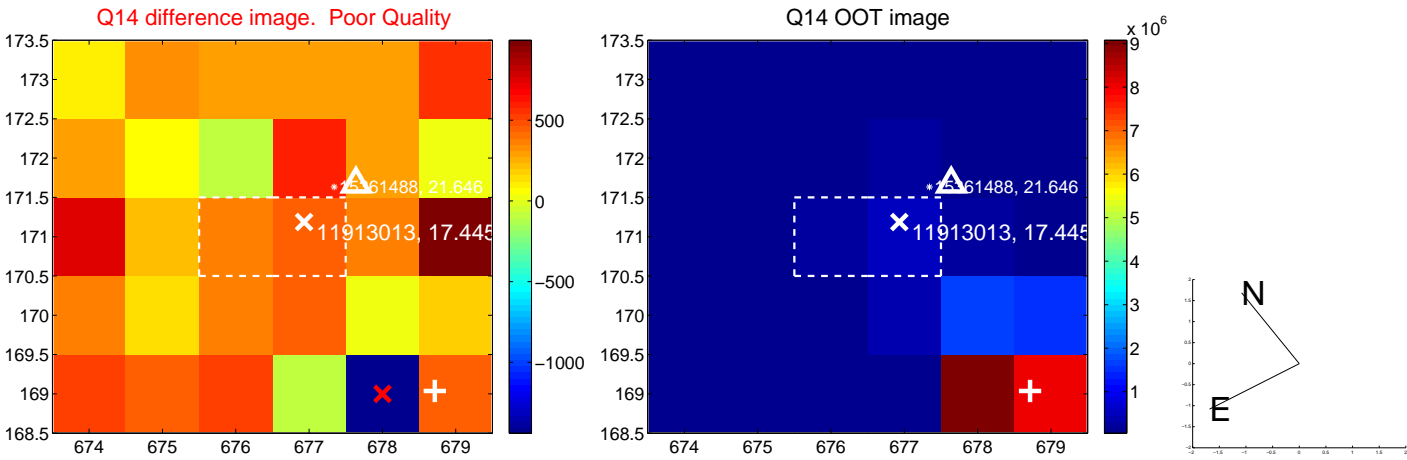
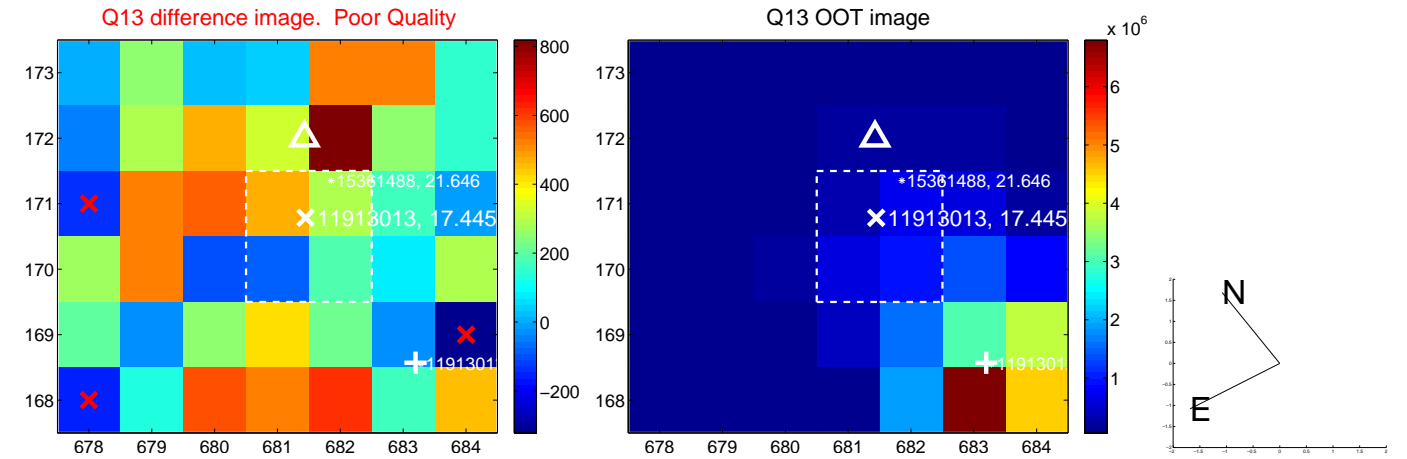
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



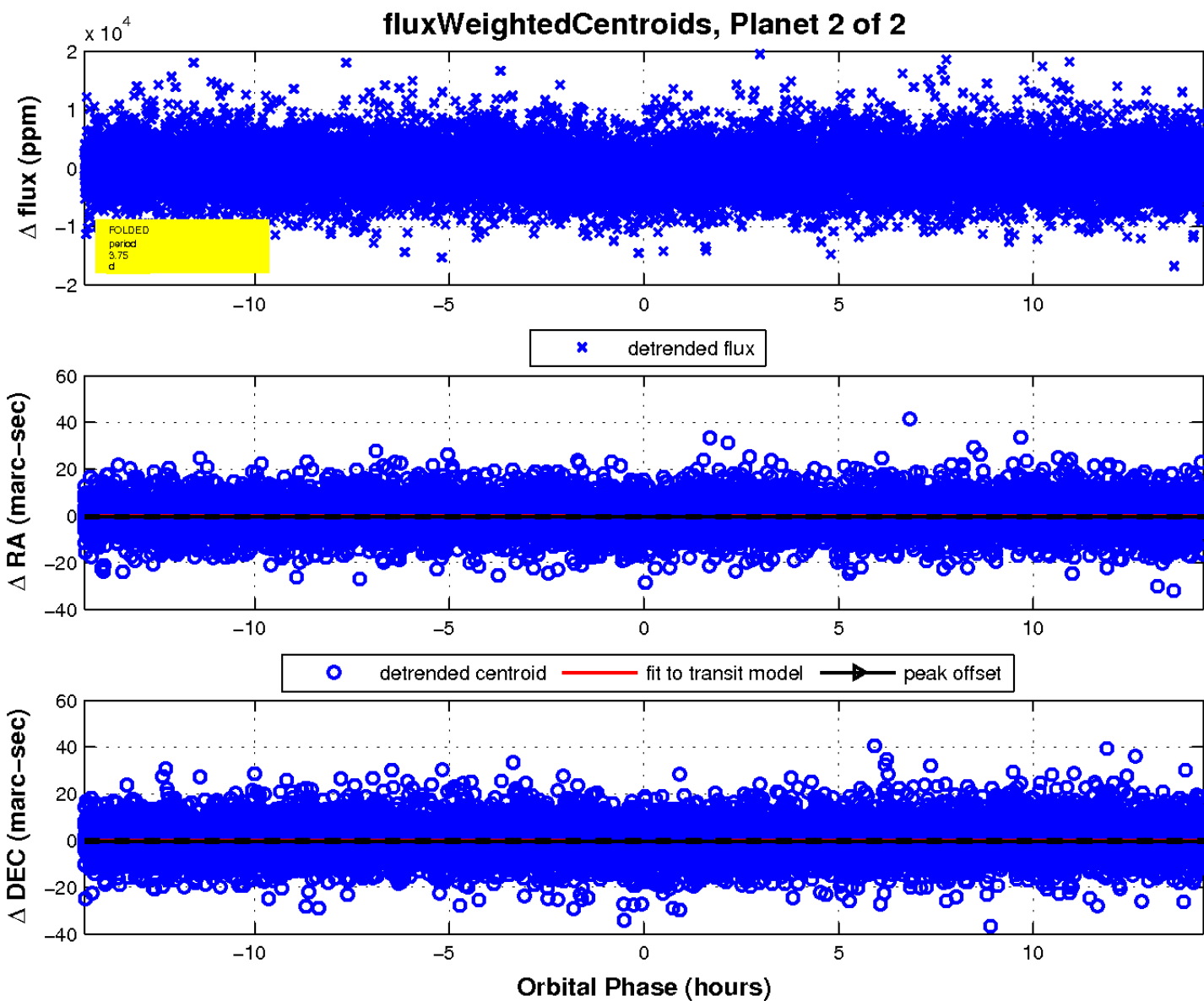
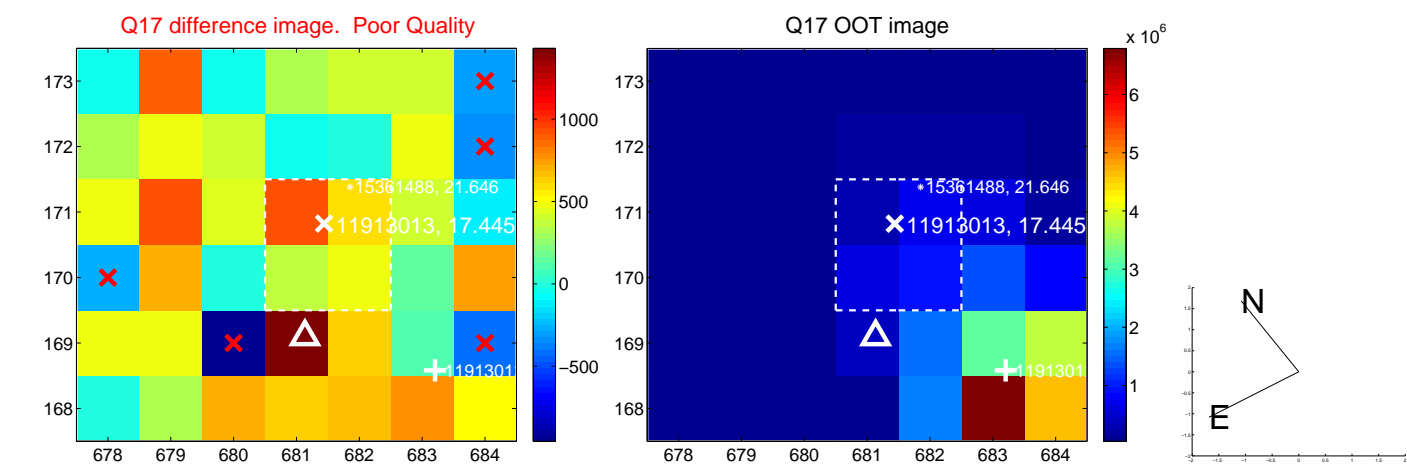
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

