

KIC 003247294

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})
003247294-01	OBS	6316.01	67.419596	133.430313	182058.1	7.688	4110.0	2120.9	0.96	6071	59.39	11.51
003247294-02	OBS	No	67.422254	184.436344	112105.0	16.600	2814.7	1860.0	0.96	6071	50.00	11.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003247294-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
003247294-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

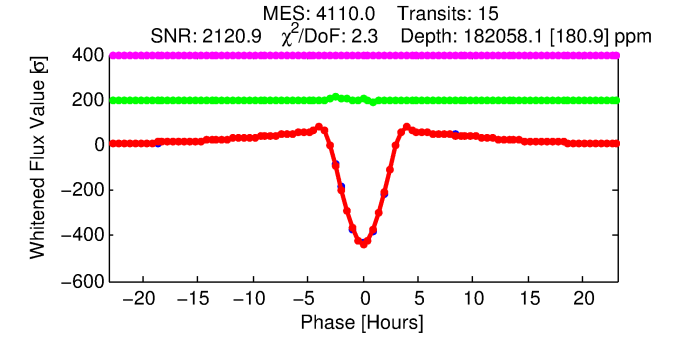
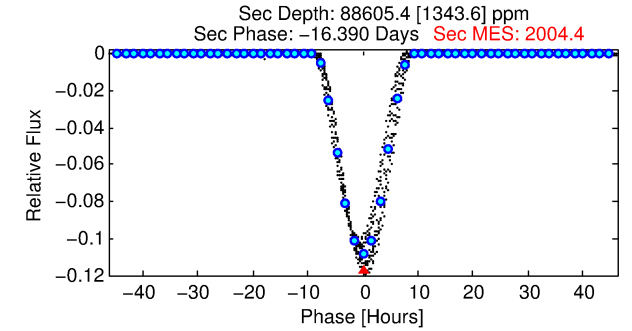
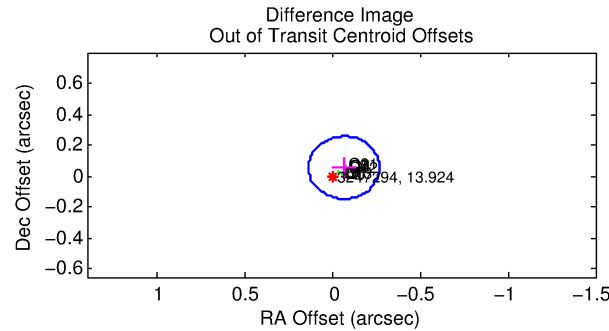
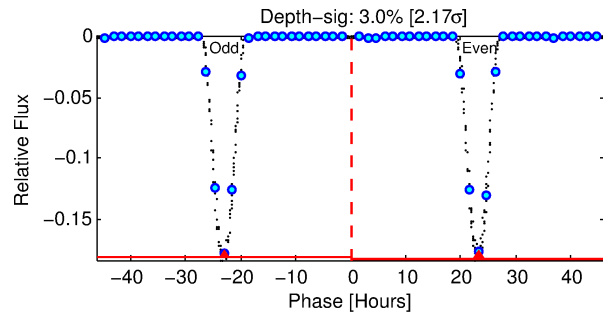
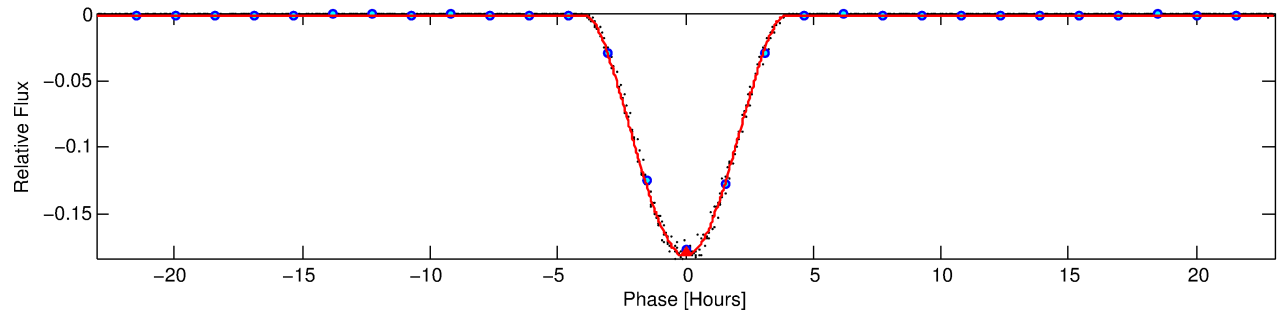
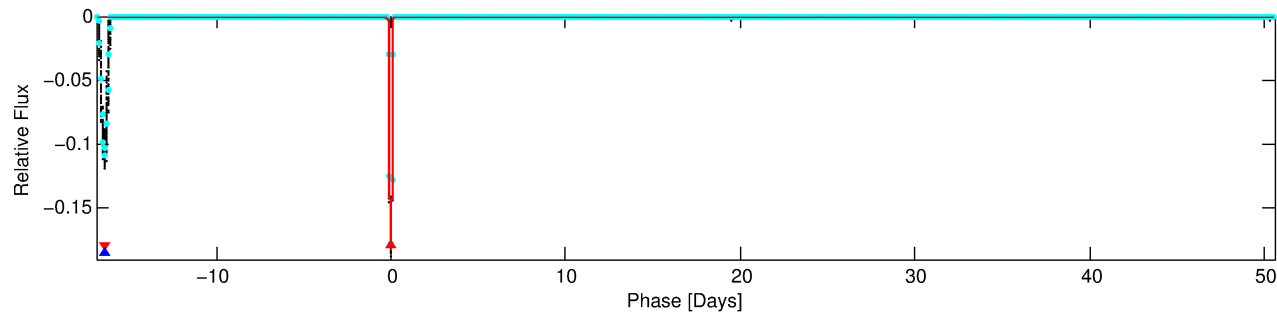
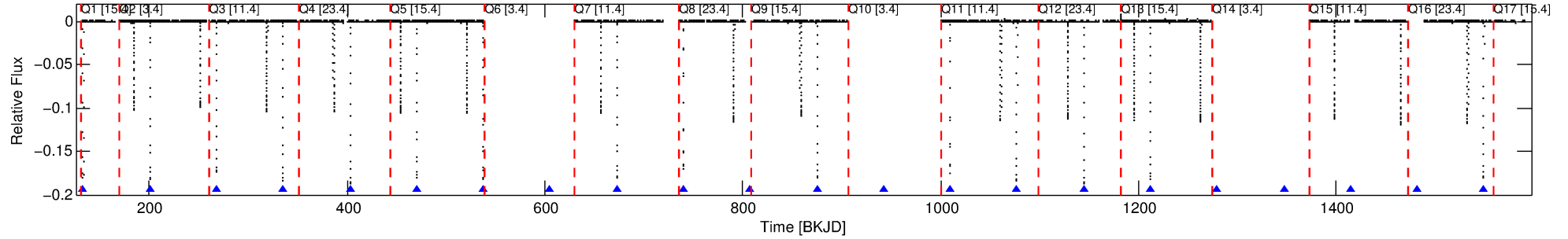
Ephemeris Match Information For 003247294-01

No Significant Match Found

DV One-Page Summary

KIC: 3247294 Candidate: 1 of 2 Period: 67.420 d
KOI: K06316.01 Corr: 0.997

Kp: 13.92 R*: 0.96 Rs Teff: 6071.0 K Logg: 4.42 Fe/H: -0.480



DV Fit Results:

Period = 67.41960 [0.00001] d
Epoch = 133.4303 [0.0001] BKJD
Rp/R* = 0.5658 [0.0370]
a/R* = 87.19 [0.70]
b = 0.87 [0.05]
Seff = 11.51 [4.11]
Teff = 470 [42] K
Rp = 59.39 [15.92] Re
a = 0.3129 [0.0705] AU
Ag = 1352.51 [488.80] [2.76σ]
Teffp = 4404 [195] K [19.68σ]

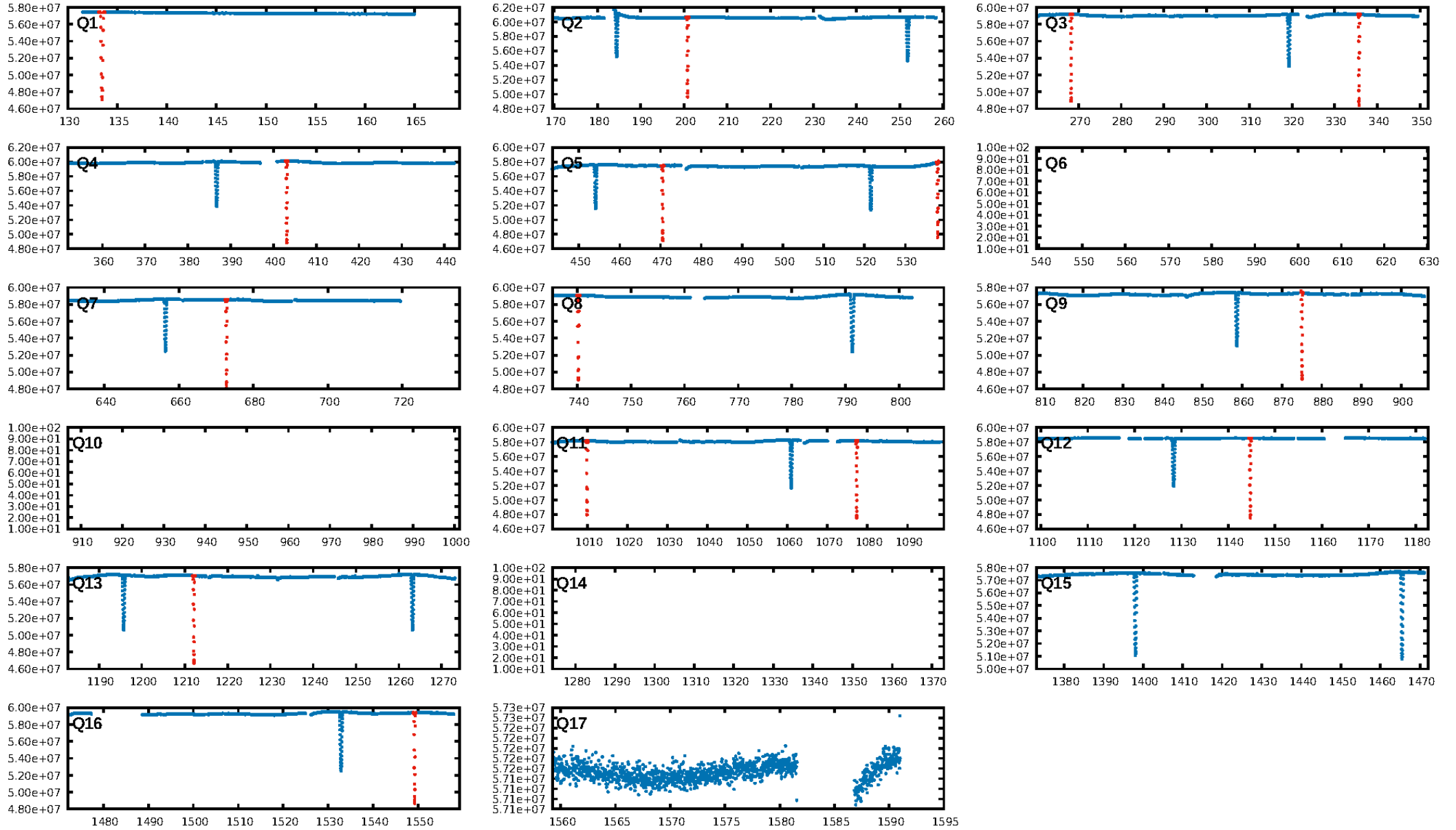
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.3% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: 5.598
Centroid-sig: 0.0%
Centroid-so: 0.305 arcsec [154.42σ]
OotOffset-rm: 0.085 arcsec [1.27σ]
KicOffset-rm: 0.094 arcsec [1.37σ]
OotOffset-st: 0/3/3/3 [9]
KicOffset-st: 0/3/3/3 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

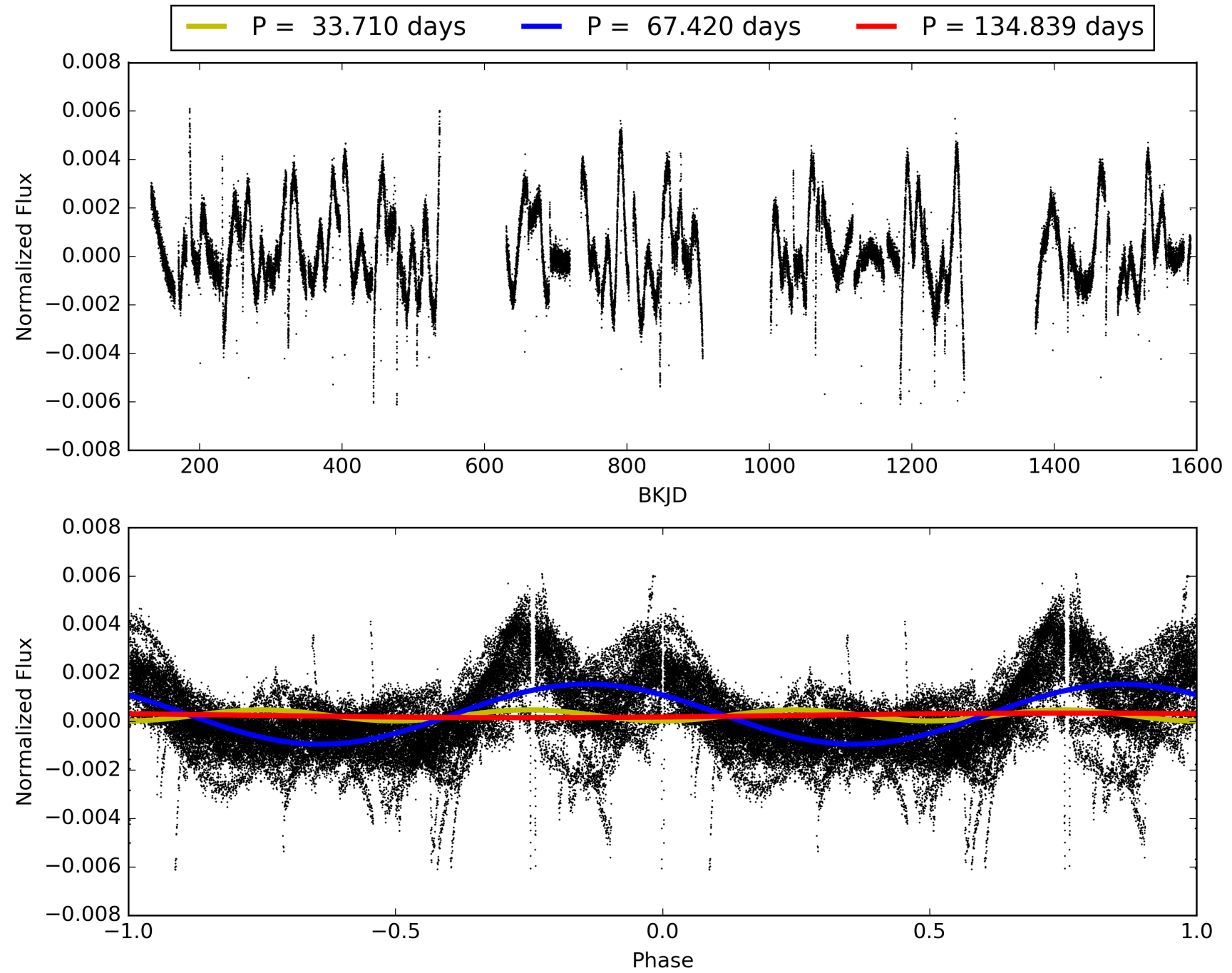
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:27:02 Z

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

TCE 003247294-01, PDC Light Curves

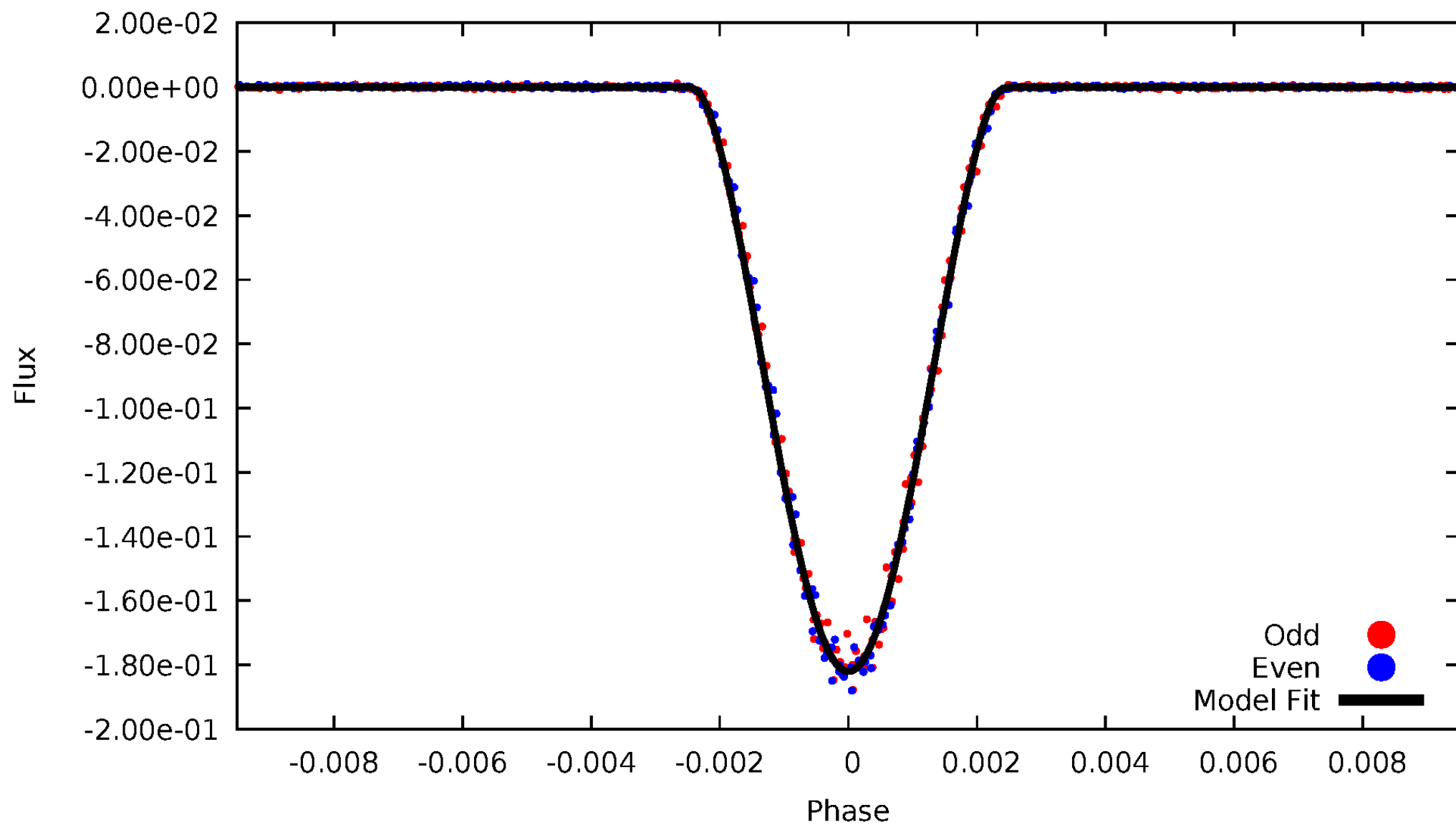


TCE 003247294-01



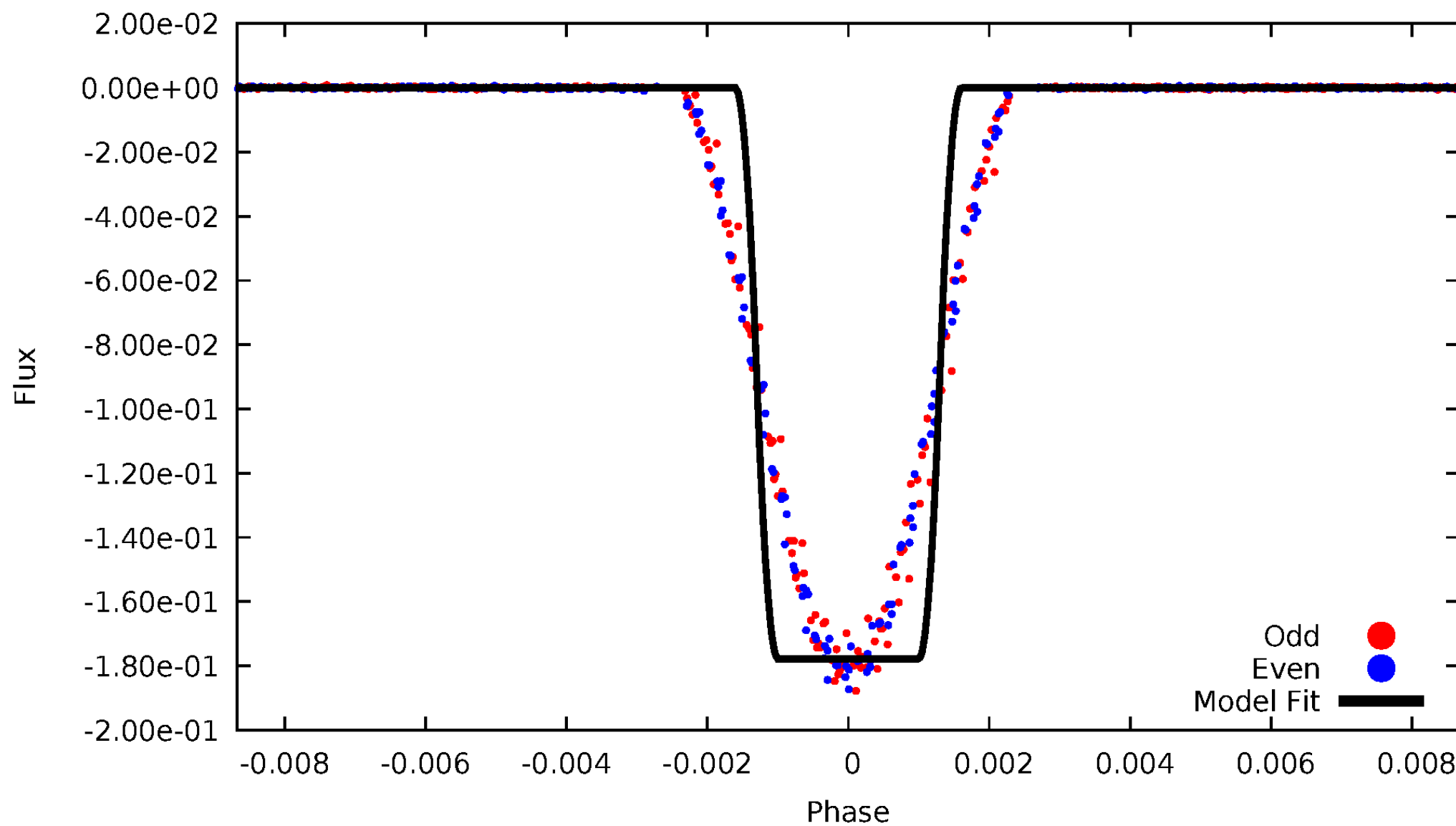
DV Odd/Even

TCE 003247294-01



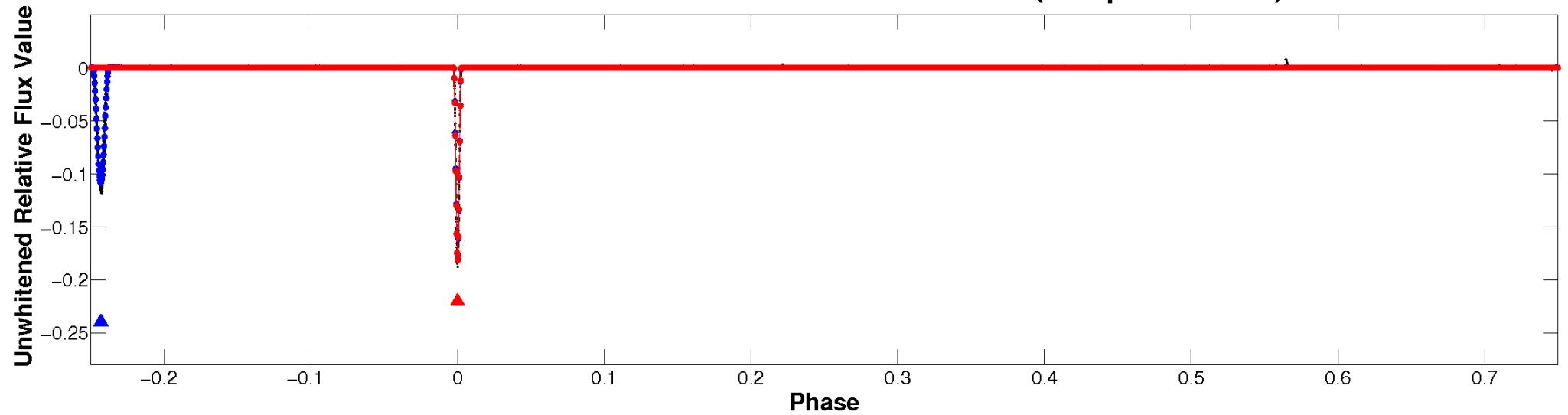
ALT Odd/Even

TCE 003247294-01

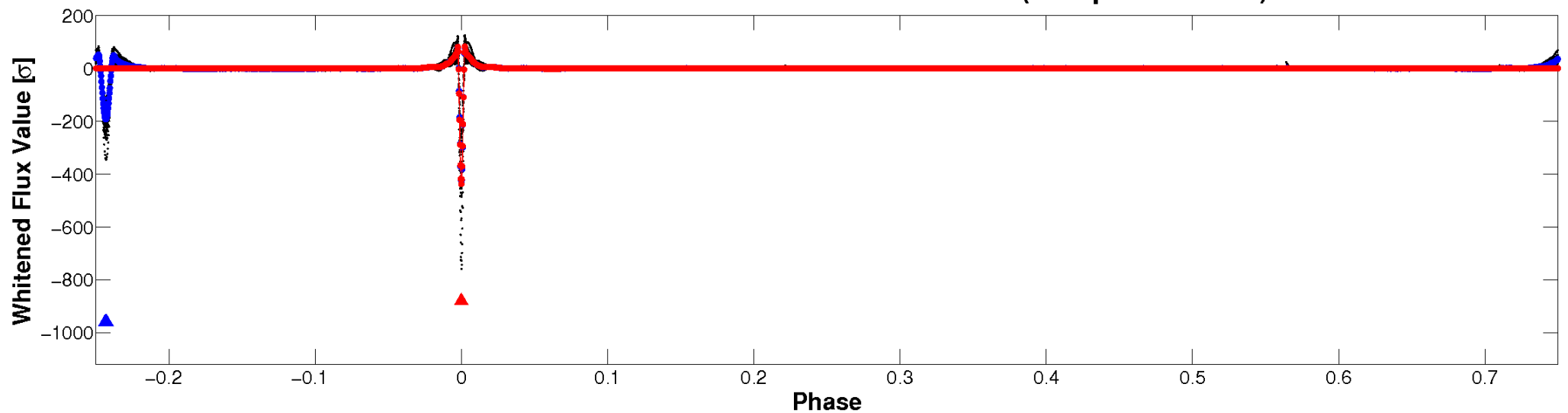


Non-Whitened Vs. Whitened Light Curve

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

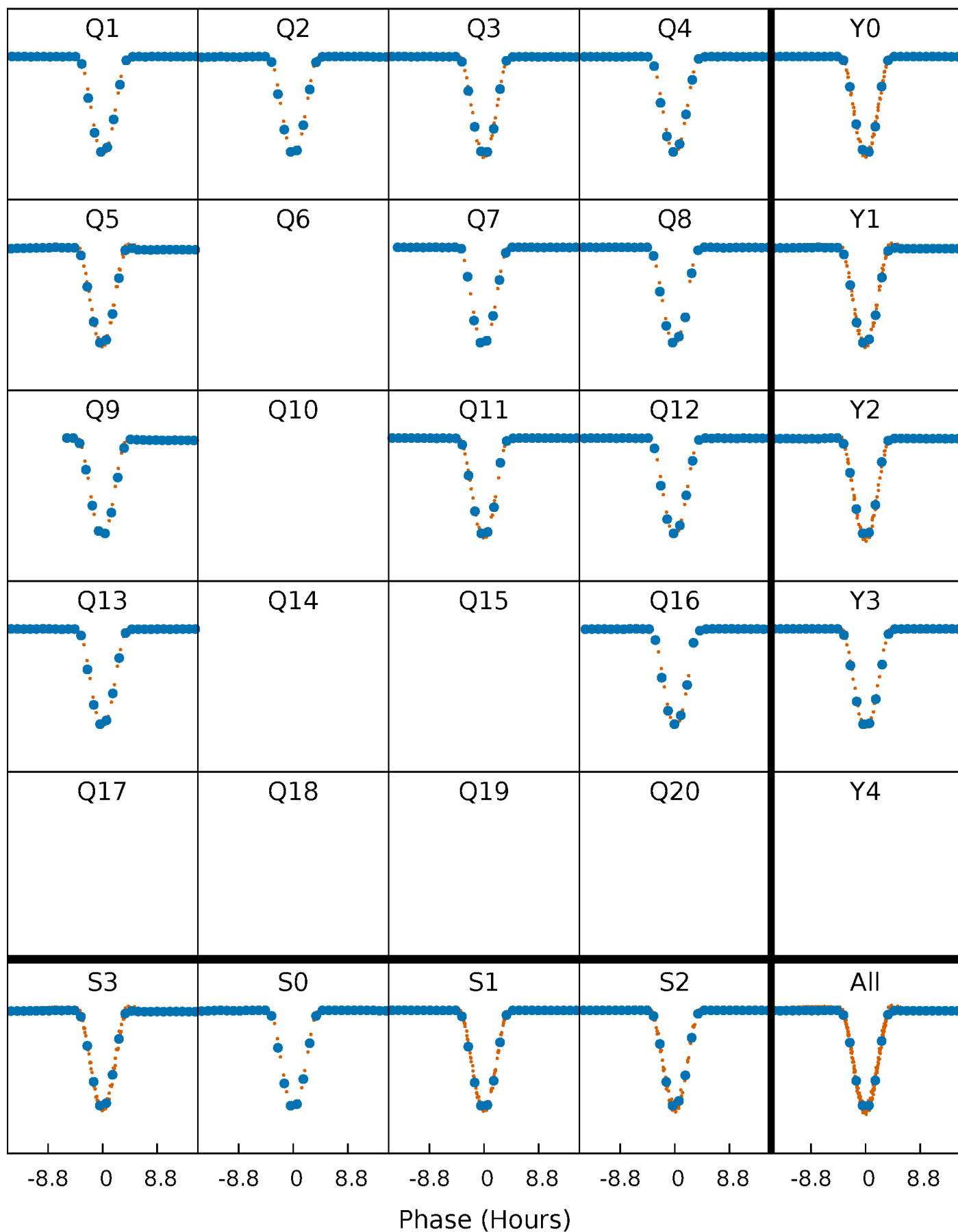


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



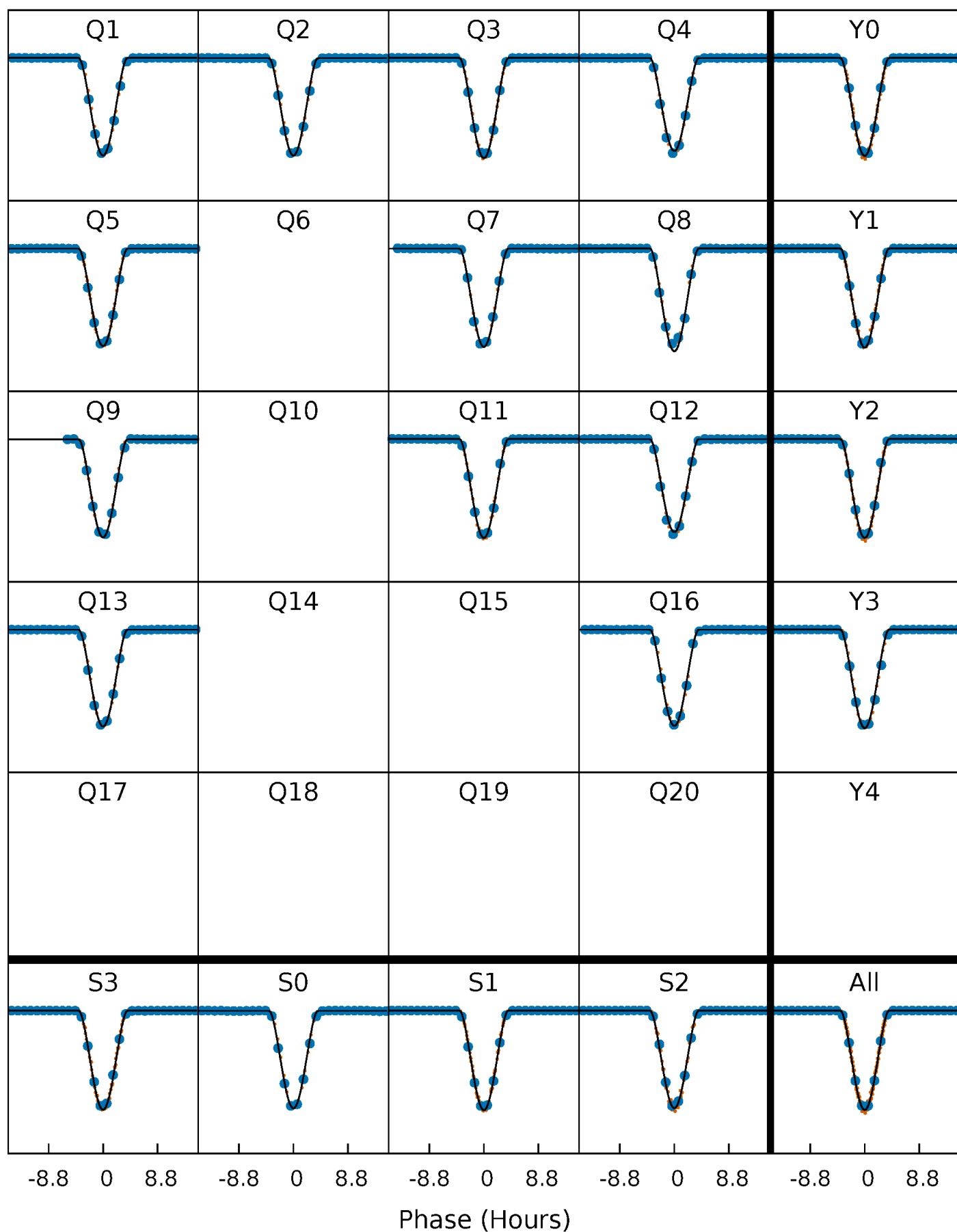
PDC Quarter-Phased Transit Curves

TCE 003247294-01 P= 67.419596 Days $T_0=133.430313$ (BKJD)



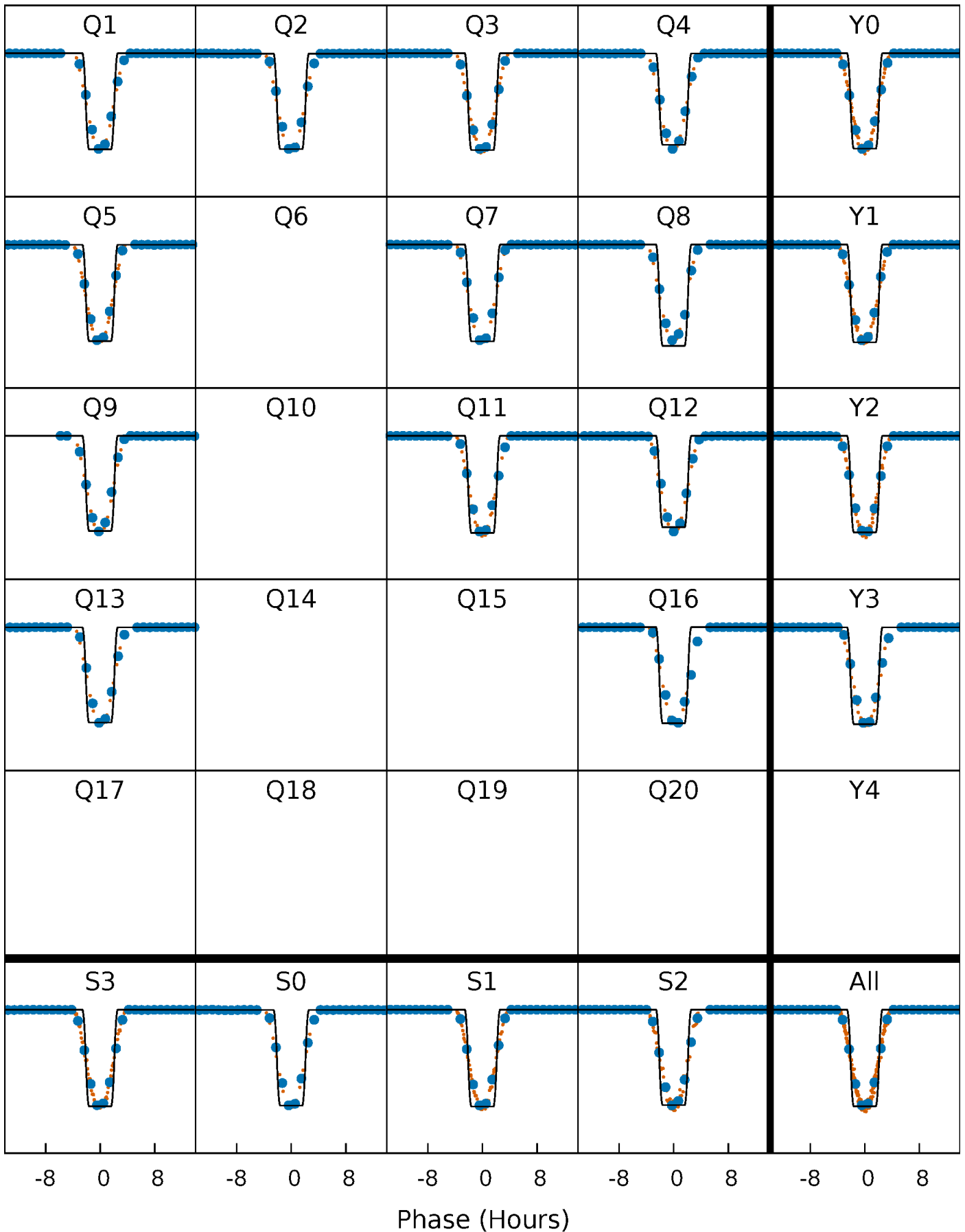
DV Quarter-Phased Transit Curves

TCE 003247294-01 P= 67.419596 Days $T_0=133.430313$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

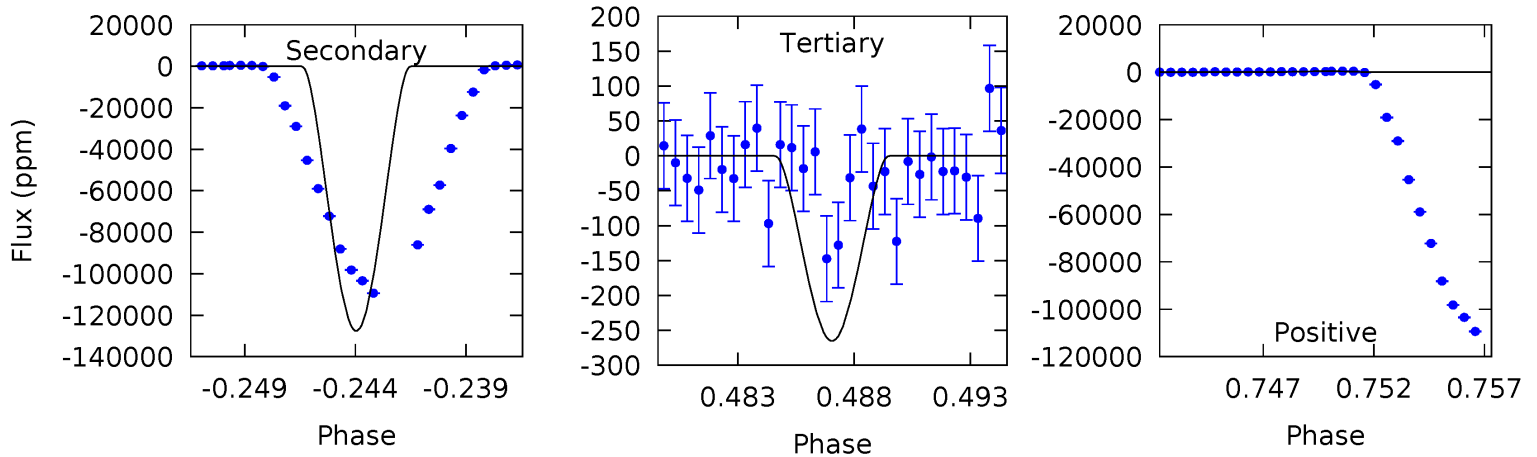
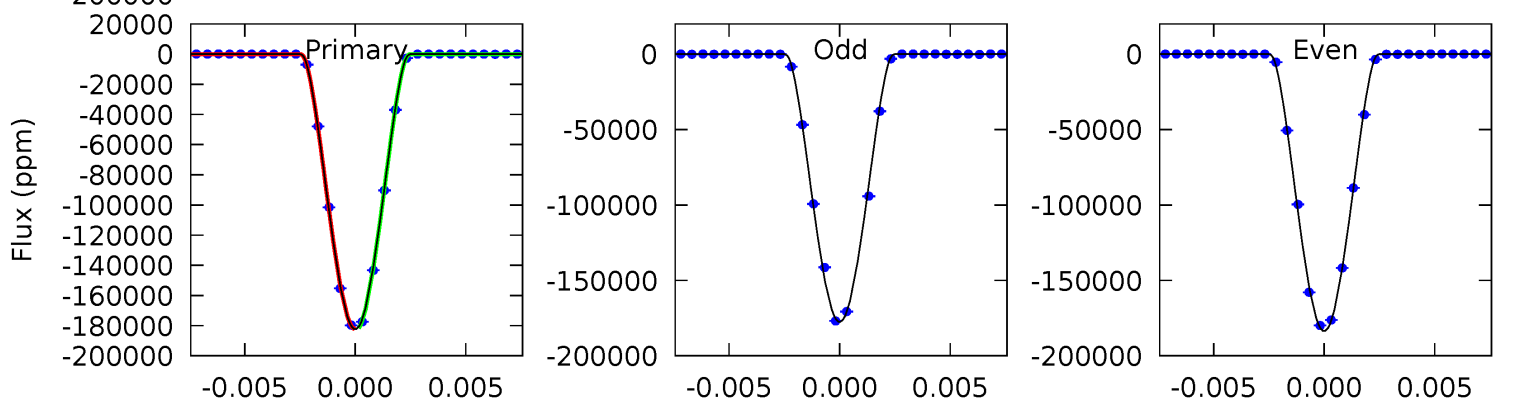
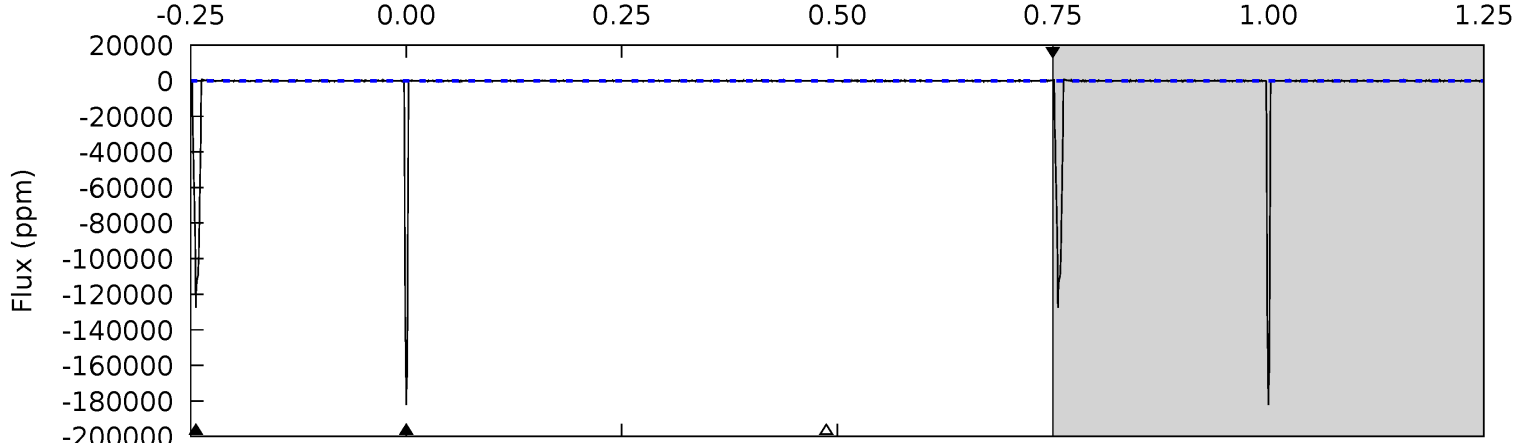
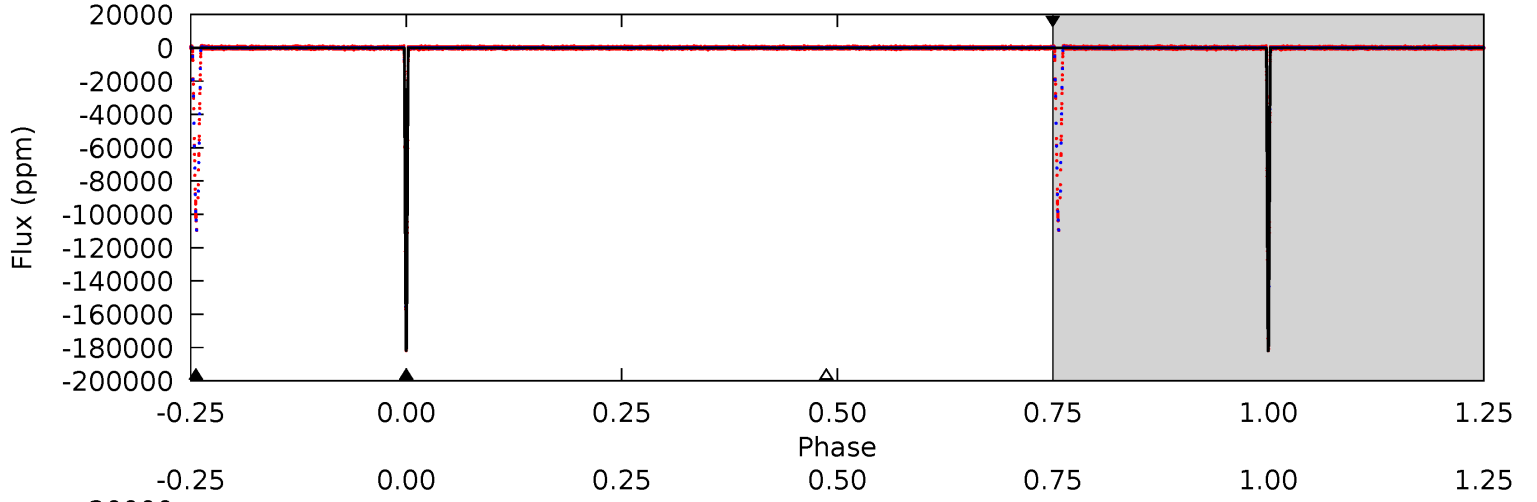
TCE 003247294-01 P= 67.419110 Days $T_0=133.435201$ (BKJD)



DV Model-Shift Uniqueness Test

003247294-01, P = 67.419596 Days, E = 66.010717 Days

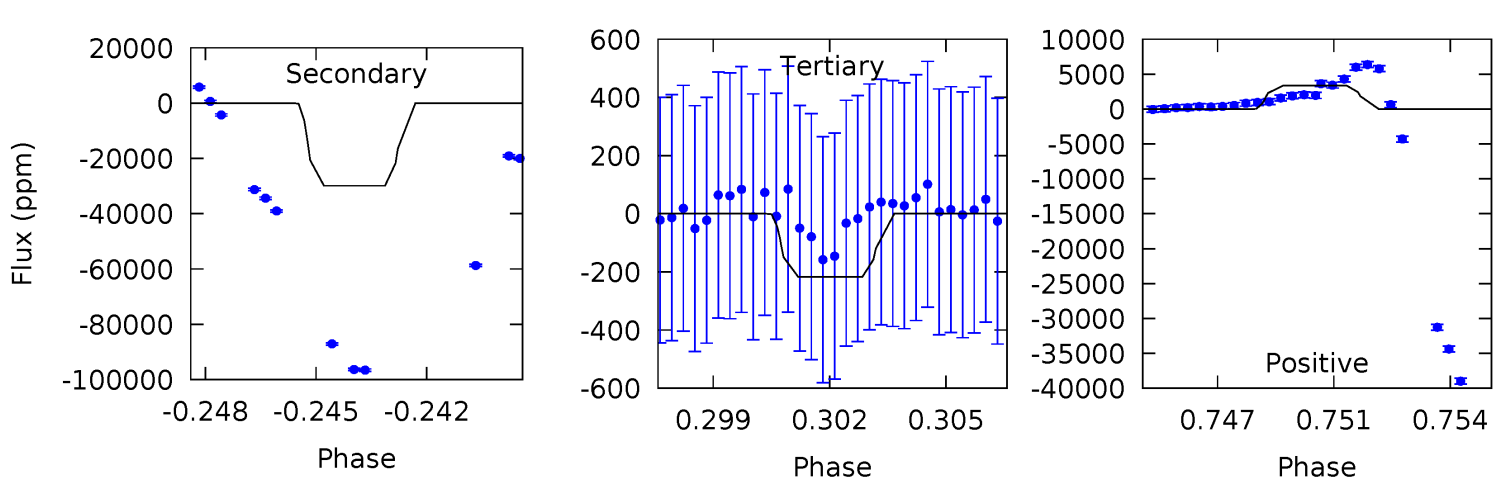
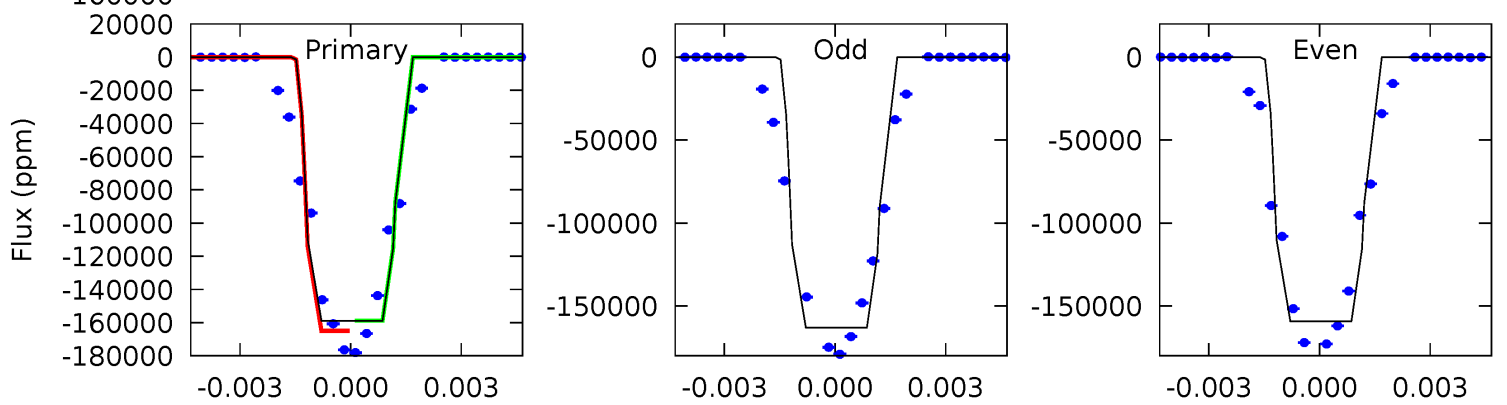
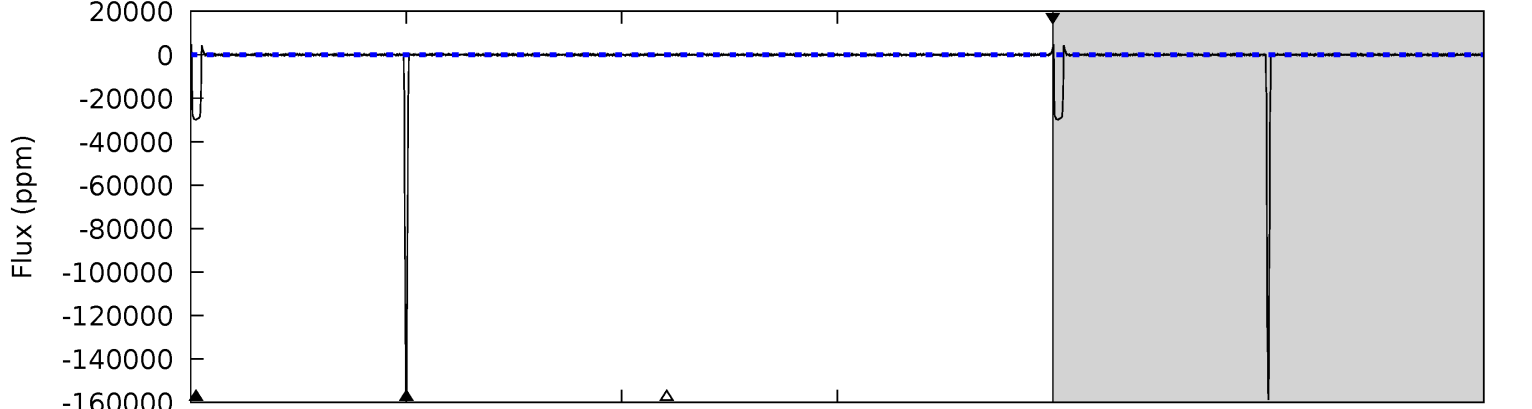
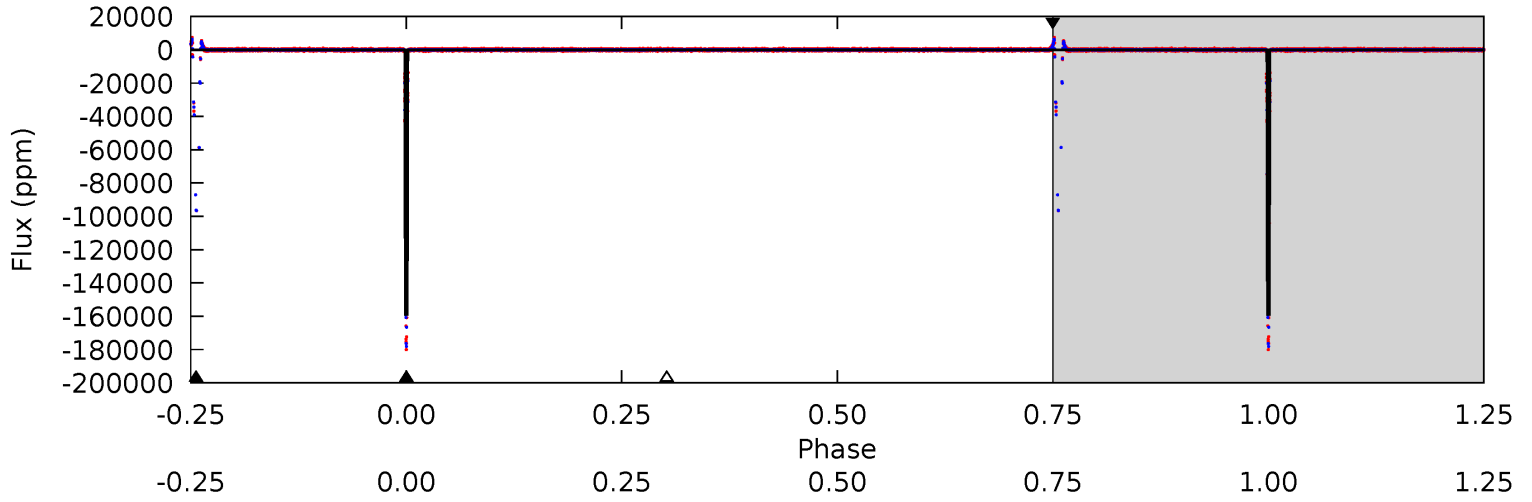
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5514	3857	8.02	12.5	5.16	2.81	15.3	5506	5501	3849	3844	97.0	1.00	0.00	0



Alt Model-Shift Uniqueness Test

003247294-01, P = 67.419110 Days, E = 66.016091 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1943	365.2	2.65	40.7	5.24	2.95	5.17	1940	1902	362.6	324.5	19.4	1.00	0.03	0



Stellar Parameters For KIC 003247294

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6071^{+163}_{-181}	$4.425^{+0.116}_{-0.188}$	$-0.480^{+0.300}_{-0.300}$	$0.962^{+0.250}_{-0.134}$	$0.898^{+0.109}_{-0.089}$	$1.420^{+0.741}_{-0.661}$
	+3%/-3%	+3%/-4%	+62%/-62%	+26%/-14%	+12%/-10%	+52%/-47%
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 003247294-01 / KOI 6316.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-127491 ± 33	$60.03^{+10.02}_{-6.91}$	662^{+47}_{-36}	5076^{+178}_{-185}	2165^{+571}_{-554}
Alt.	-29867 ± 82	$45.40^{+7.00}_{-5.85}$	662^{+49}_{-35}	4176^{+178}_{-155}	801^{+246}_{-199}

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

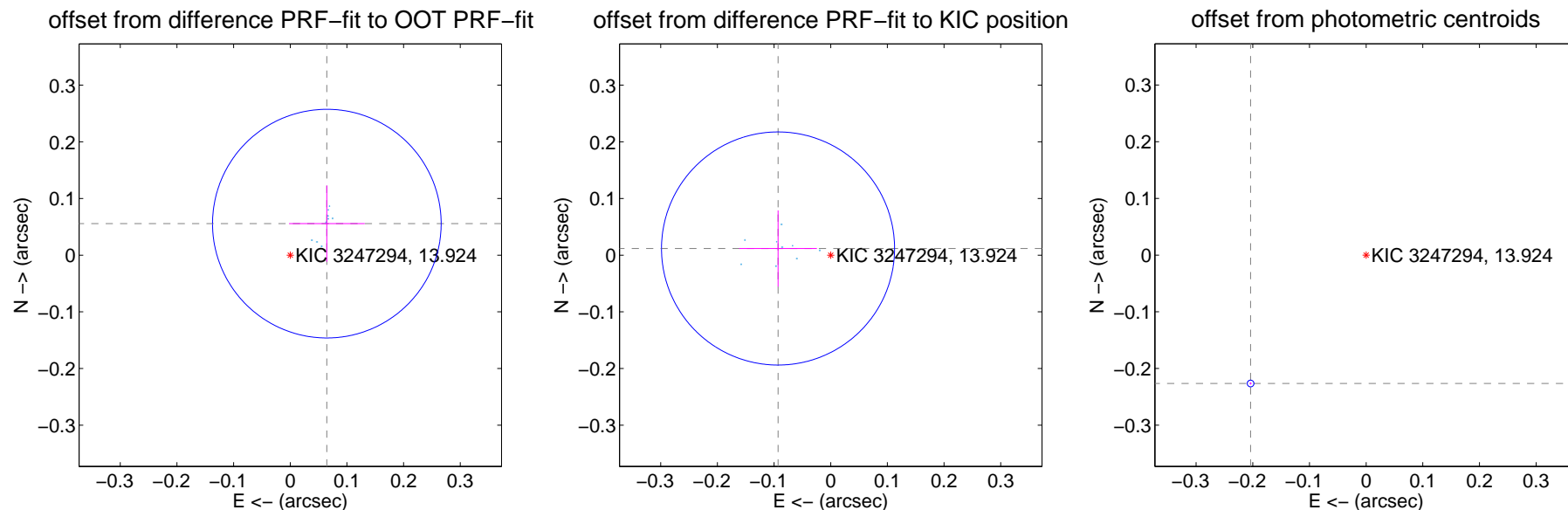
DV Centroid Data

Supplemental centroid analysis for 003247294-01. Kepler magnitude: 13.92. Transit SNR 2120.91

There are 9 quarters with good PRF difference image offsets

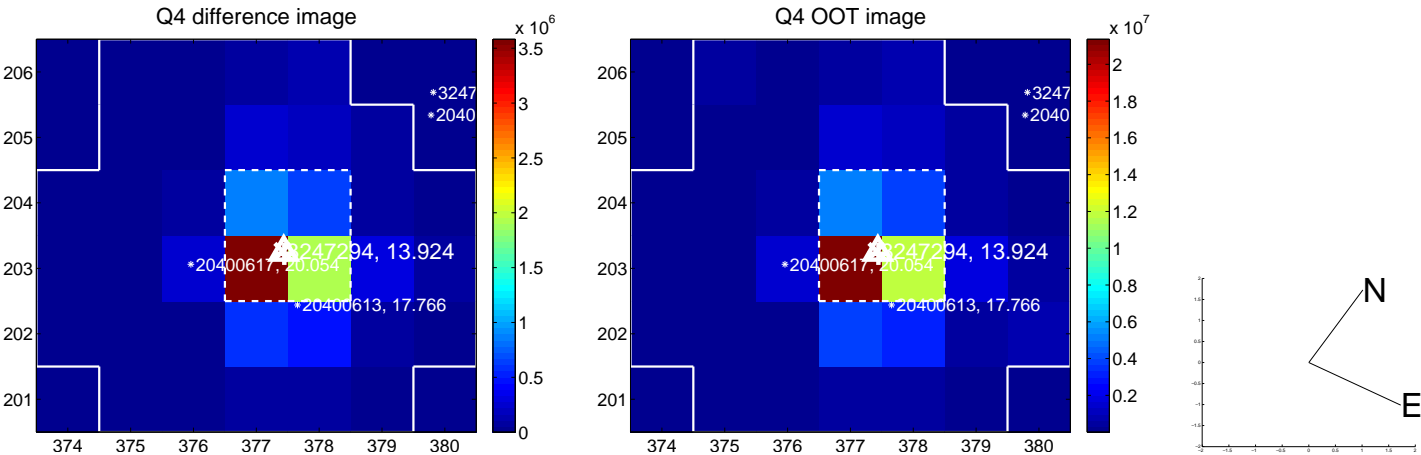
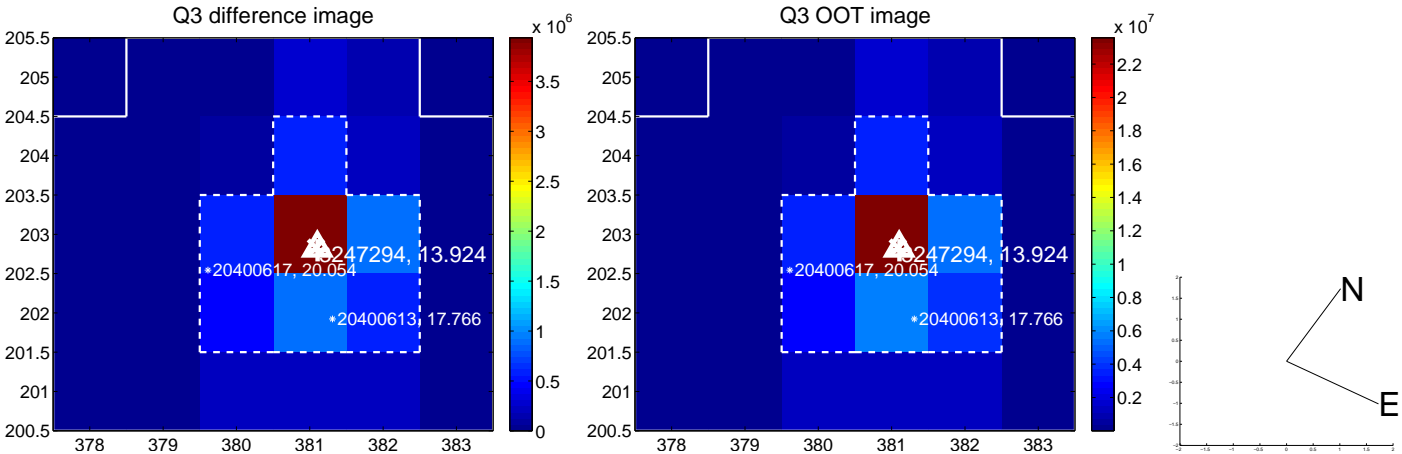
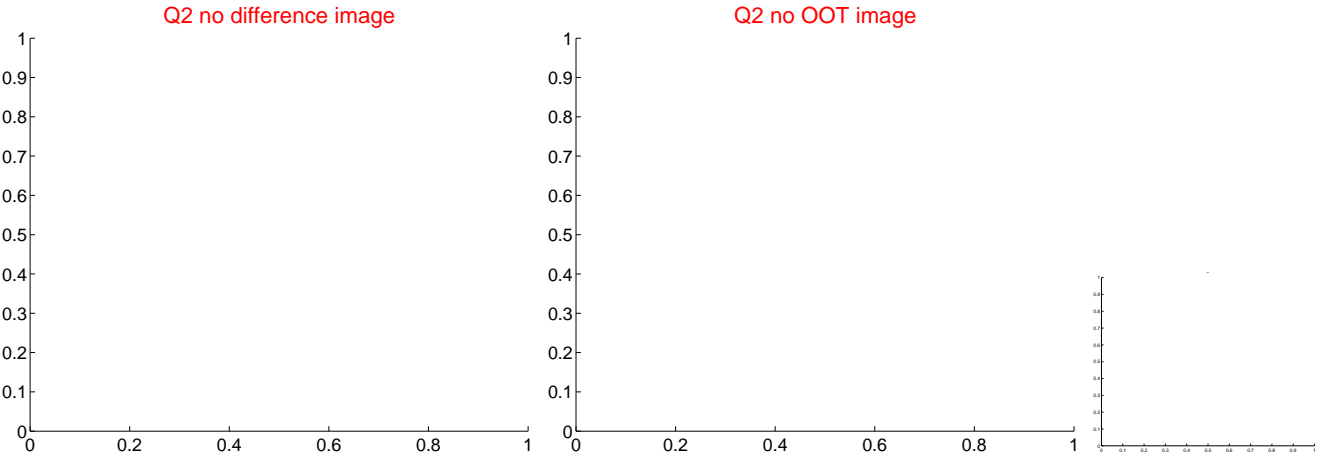
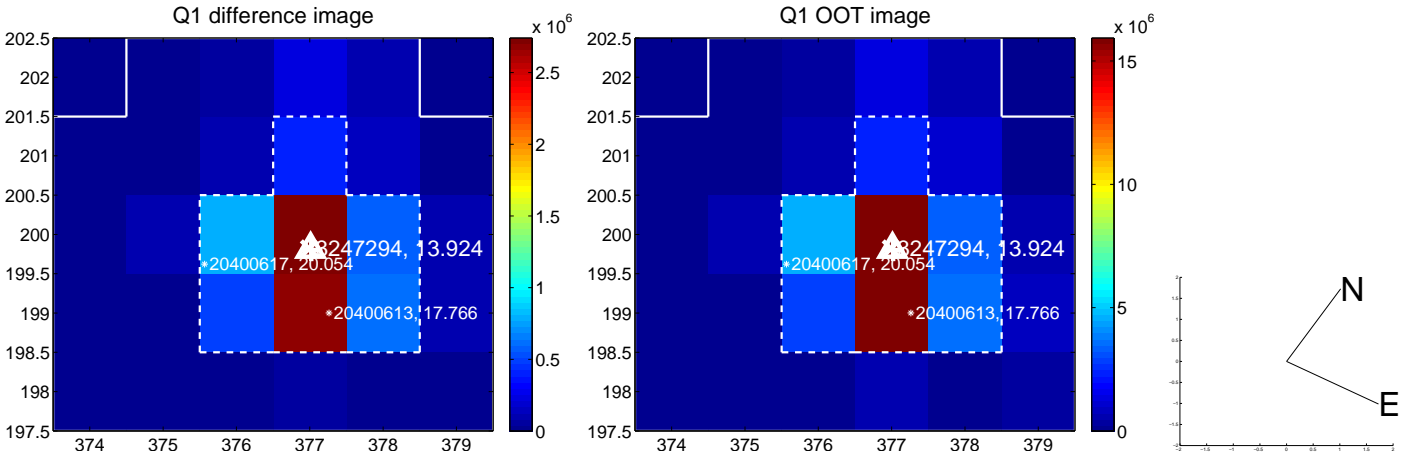
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.085 ± 0.067	1.27	-0.065 ± 0.067	0.056 ± 0.067
PRF-fit source offset from KIC position	0.094 ± 0.069	1.37	0.093 ± 0.069	0.012 ± 0.067
photometric centroid source offset	0.30 ± 0.00	154.42	0.20 ± 0.00	-0.23 ± 0.00

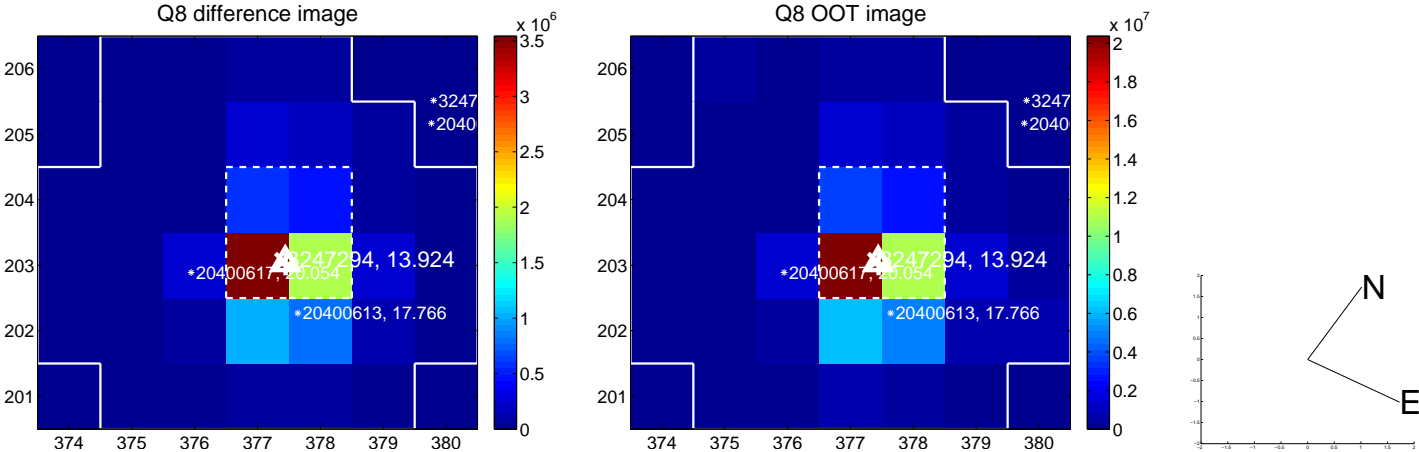
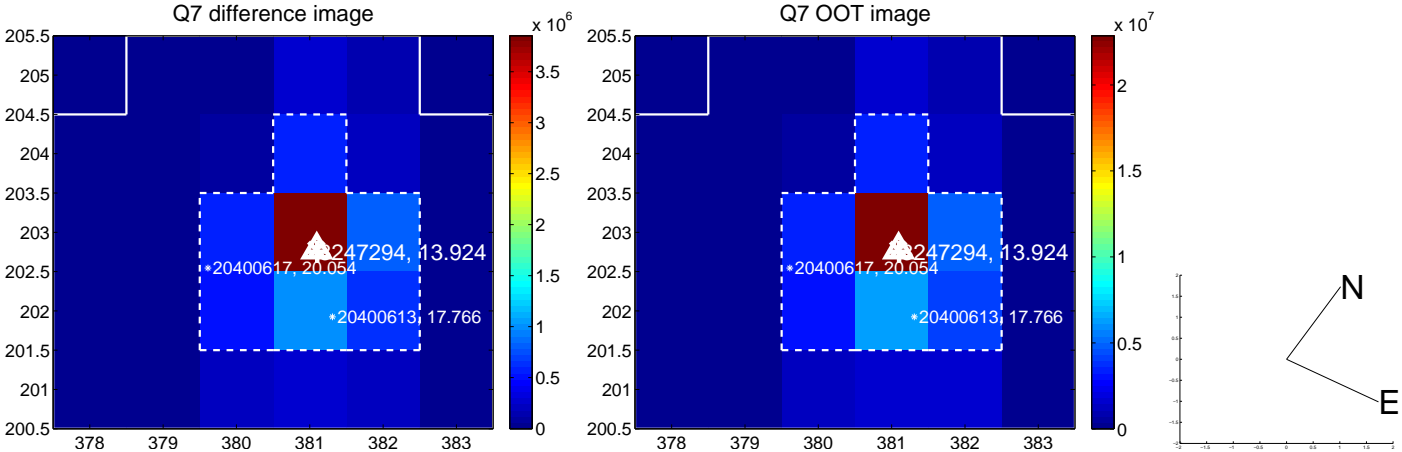
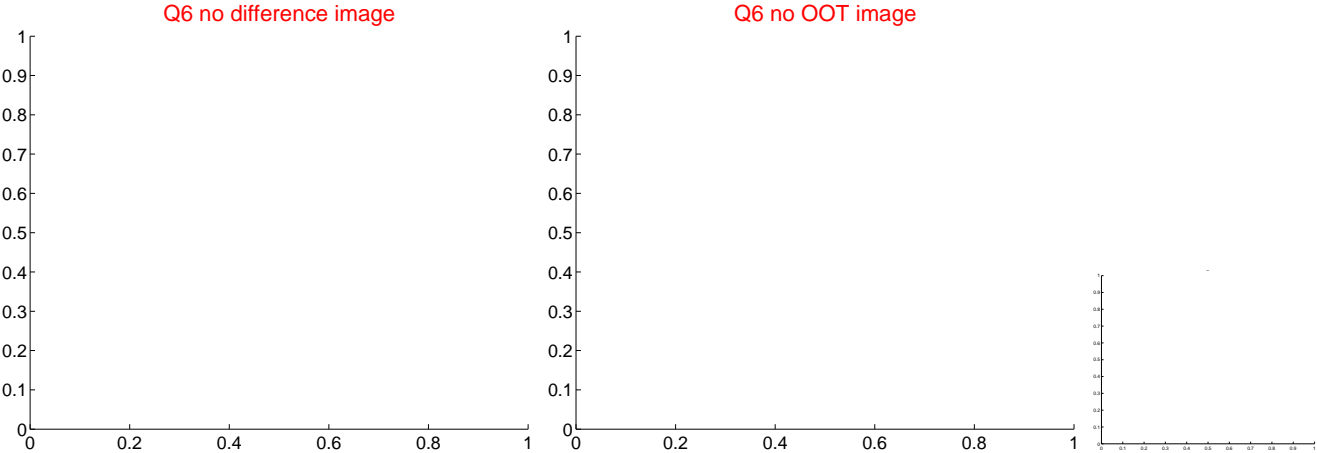
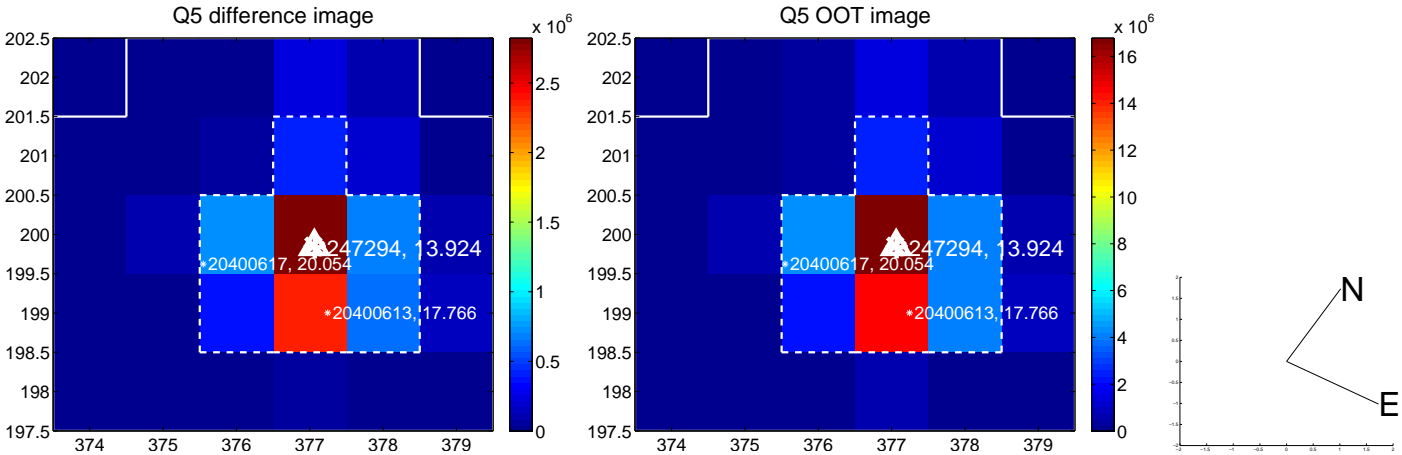


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

Q9 no difference image



Q9 no OOT image



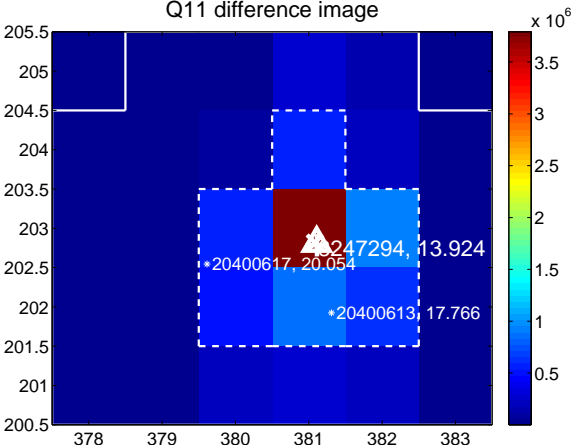
Q10 no difference image



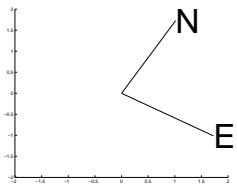
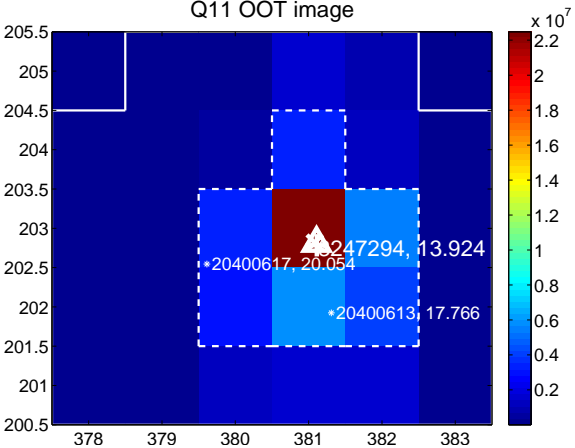
Q10 no OOT image



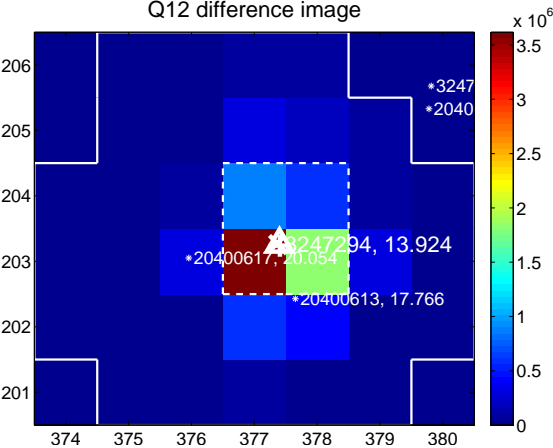
Q11 difference image



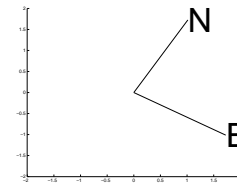
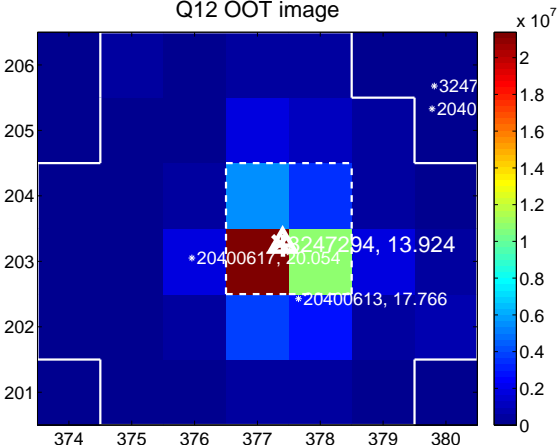
Q11 OOT image



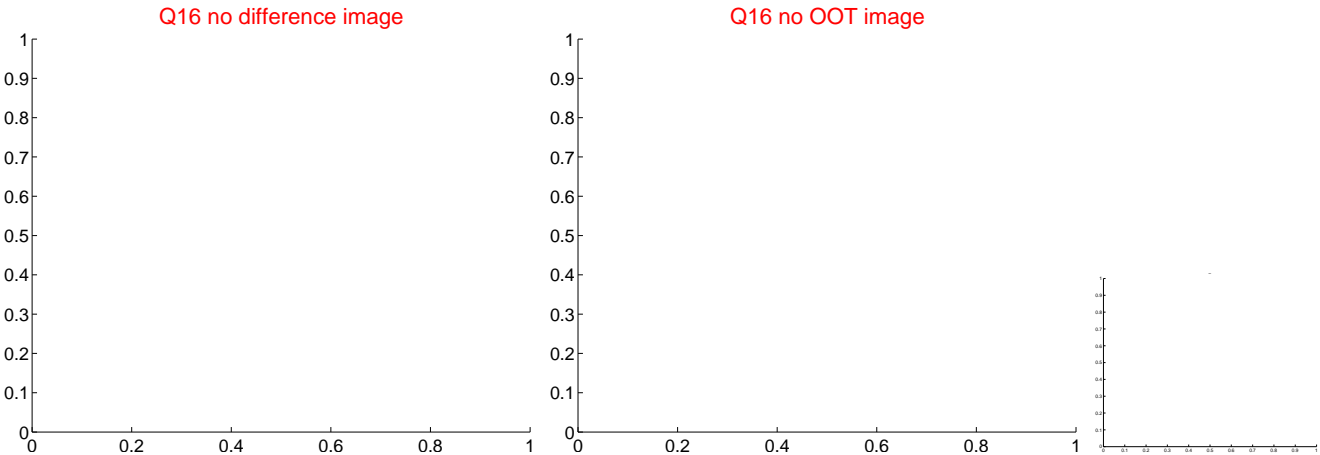
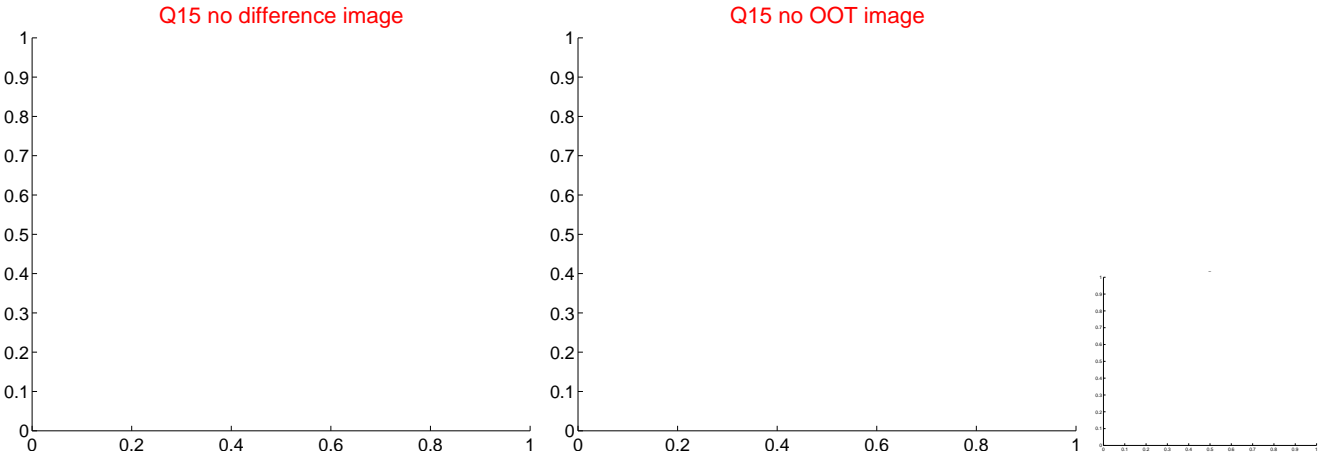
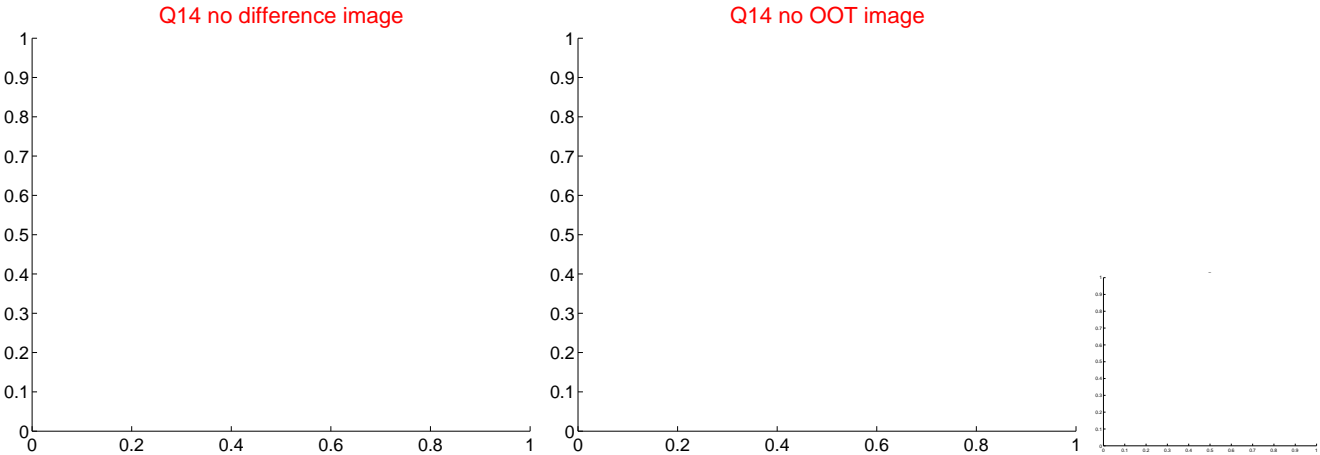
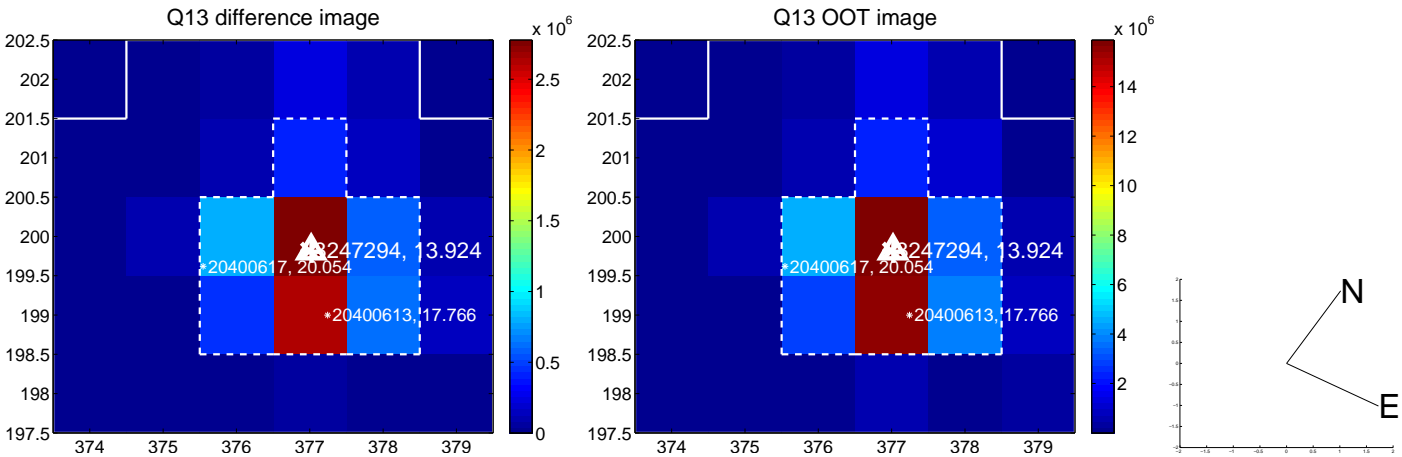
Q12 difference image



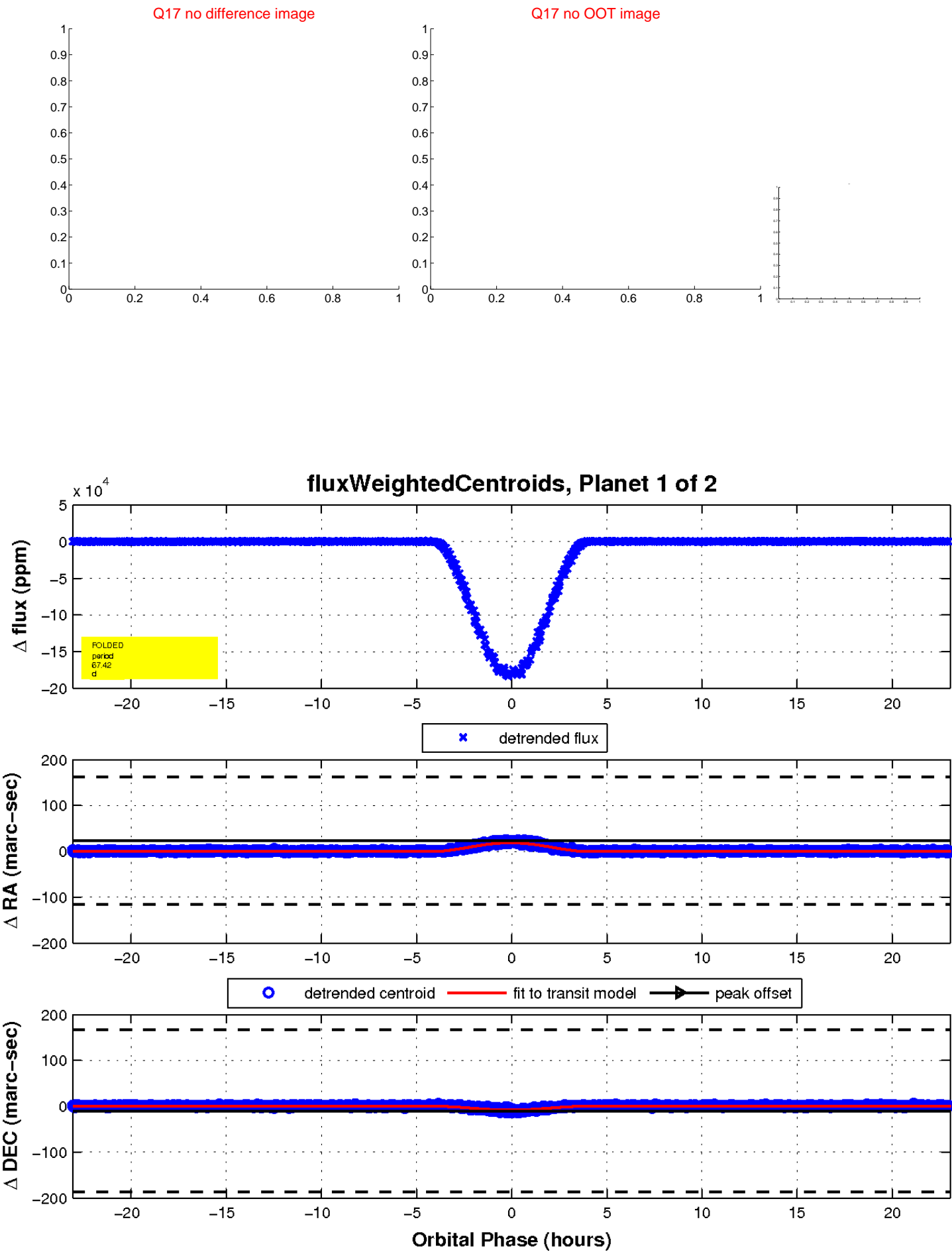
Q12 OOT image



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

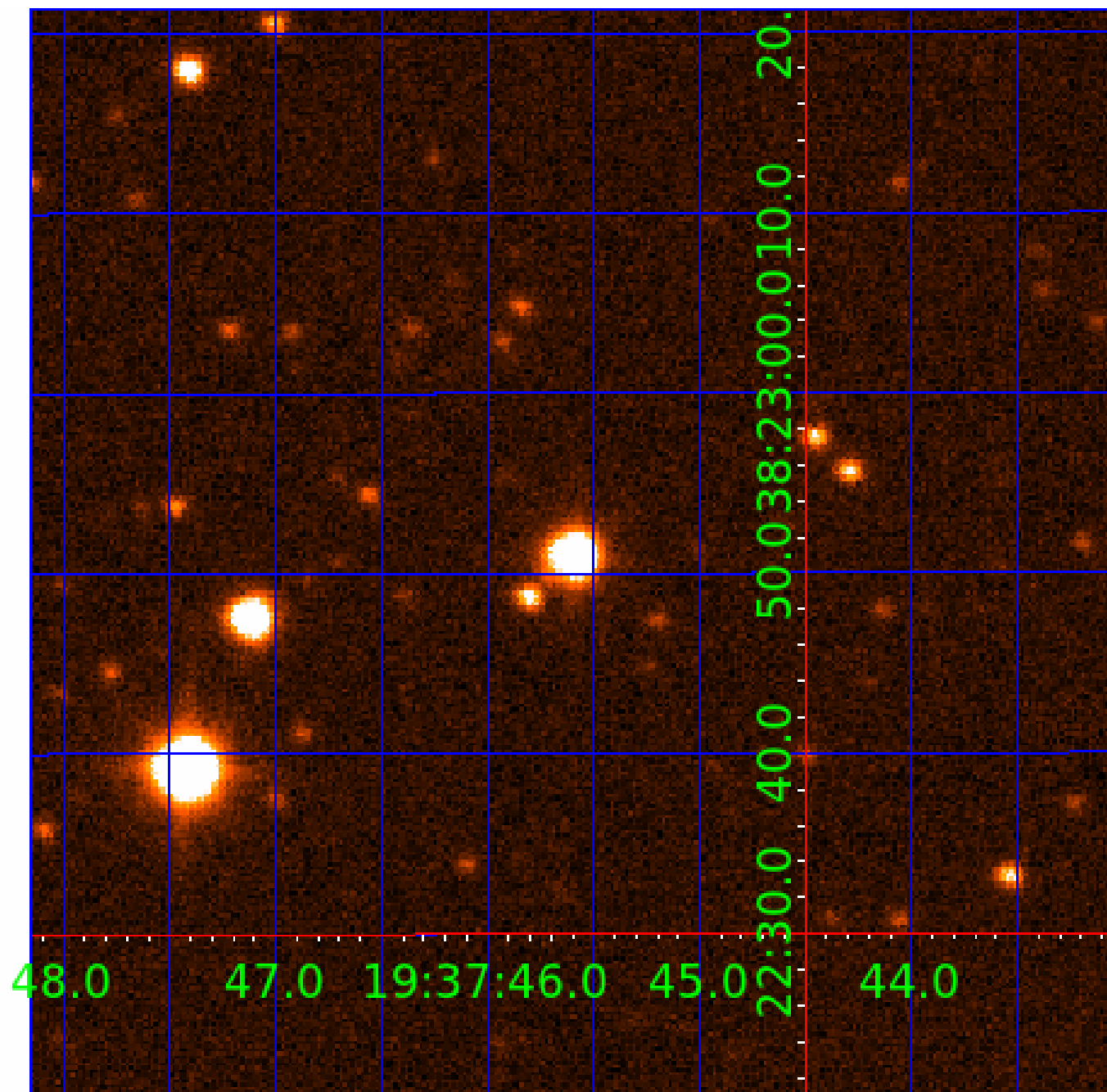


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003247294

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})
003247294-01	OBS	6316.01	67.419596	133.430313	182058.1	7.688	4110.0	2120.9	0.96	6071	59.39	11.51
003247294-02	OBS	No	67.422254	184.436344	112105.0	16.600	2814.7	1860.0	0.96	6071	50.00	11.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003247294-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
003247294-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

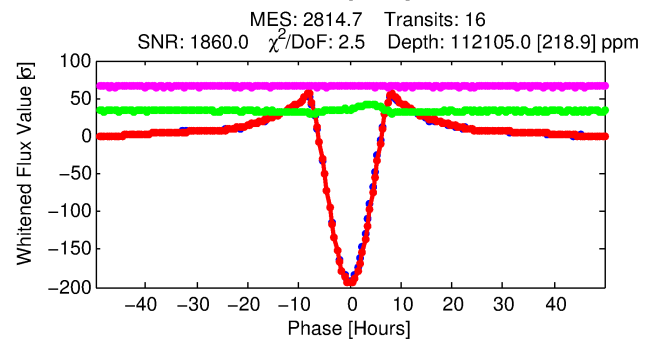
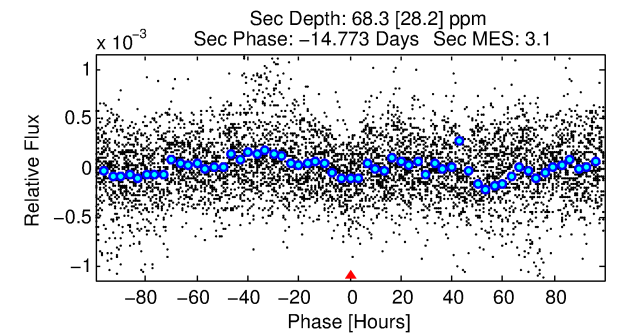
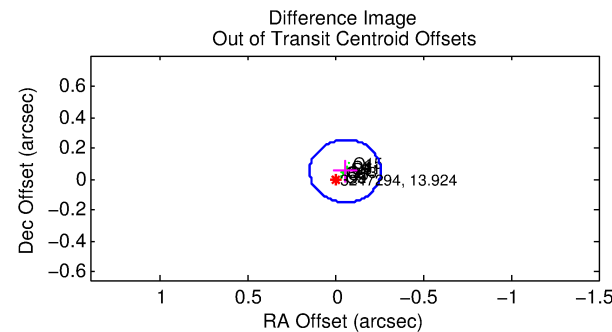
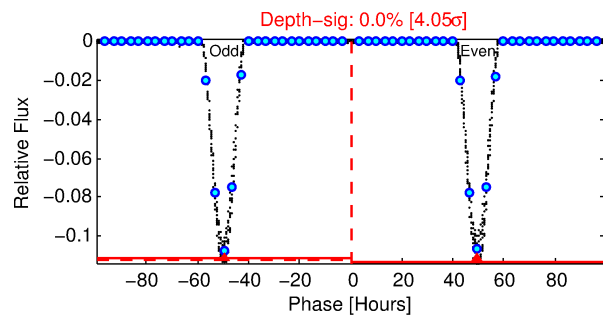
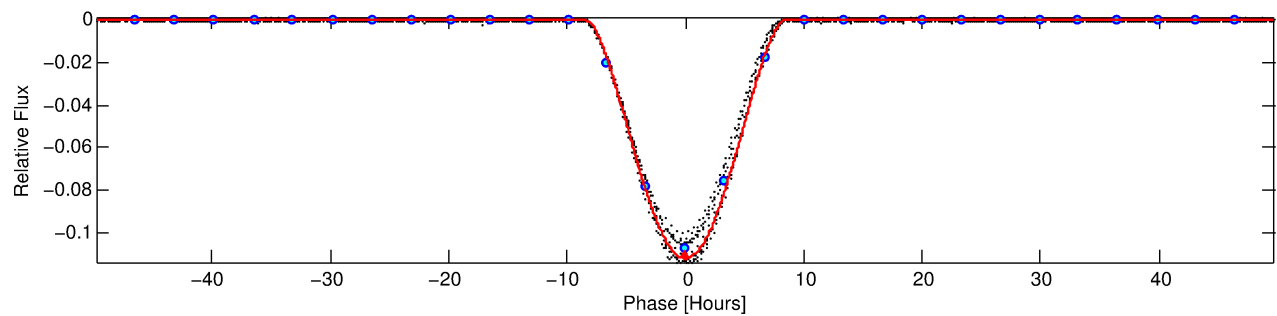
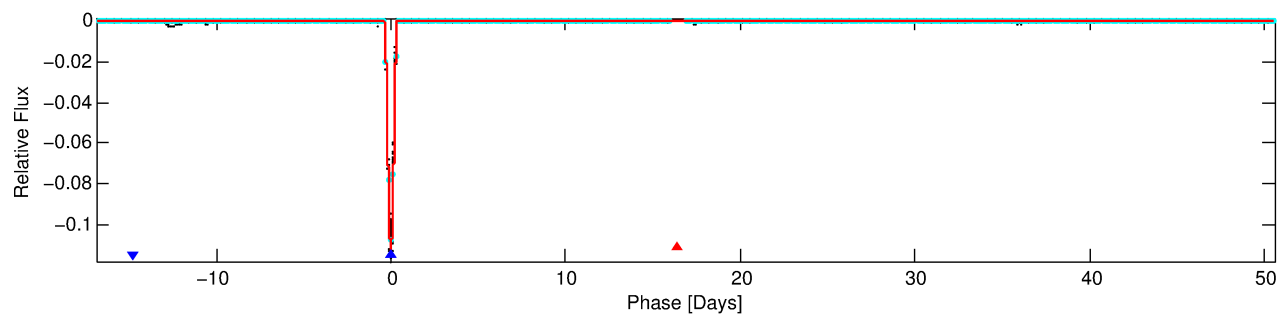
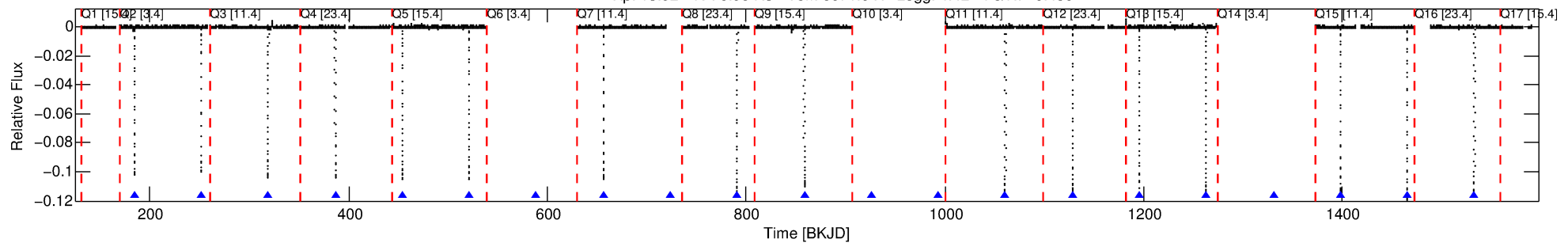
Ephemeris Match Information For 003247294-02

No Significant Match Found

DV One-Page Summary

KIC: 3247294 Candidate: 2 of 2 Period: 67.422 d
KOI: K06316 Corr: No Ephemeris Match

Kp: 13.92 R*: 0.96 Rs Teff: 6071.0 K Logg: 4.42 Fe/H: -0.480



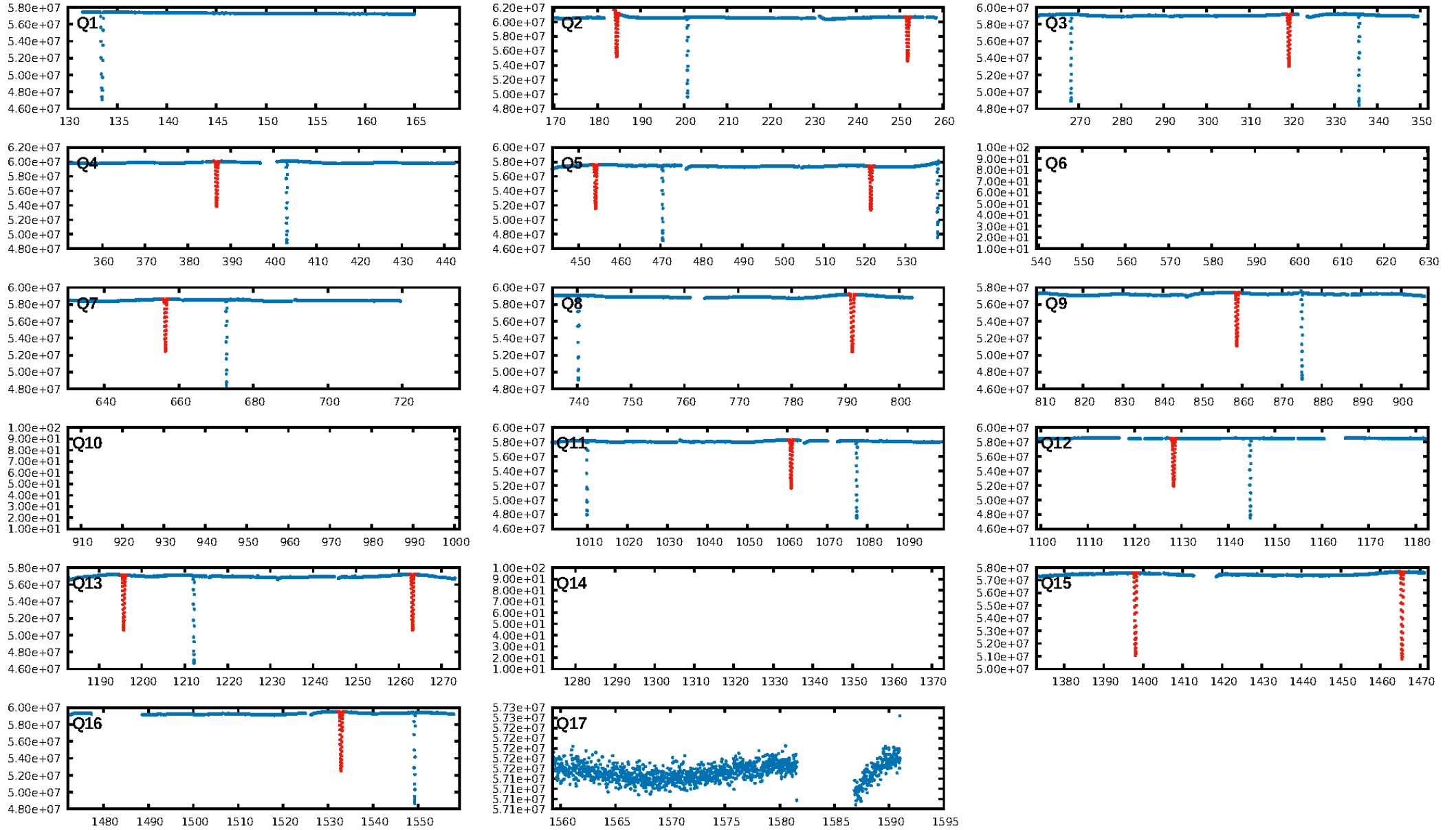
DV Fit Results:

Period = 67.42225 [0.00002] d
Epoch = 184.4363 [0.0002] BKJD
Rp/R* = 0.4763 [0.0651]
a/R* = 35.27 [0.31]
b = 0.94 [0.09]
Seff = 11.51 [4.11]
Teq = 470 [42] K
Rp = 50.00 [14.68] Re
a = 0.3129 [0.0705] AU
Ag = 1.47 [0.88] [0.54σ]
Teffp = 800 [102] K [3.00σ]

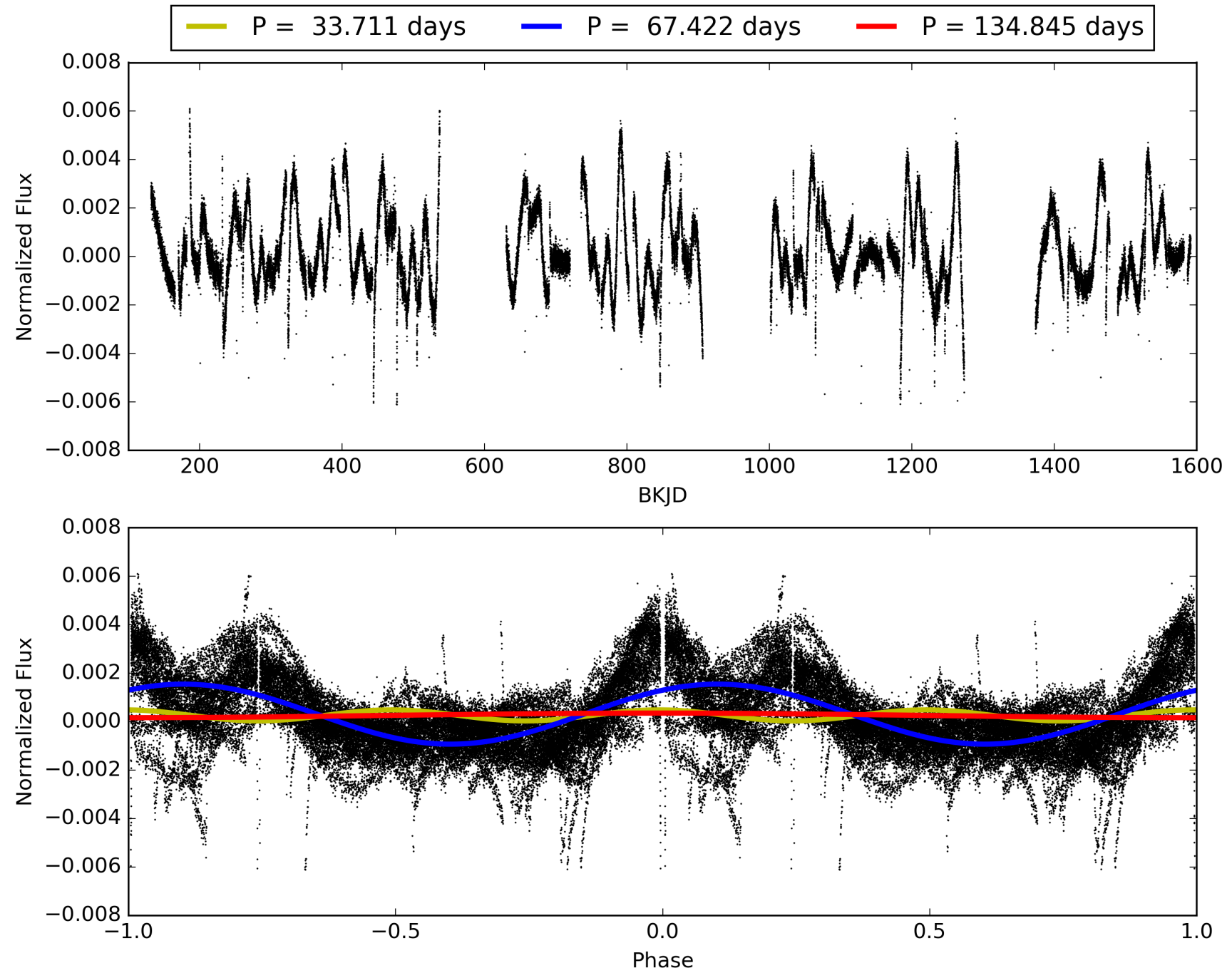
DV Diagnostic Results:

ShortPeriod-sig: 0.3% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 1.983
Centroid-sig: 0.0%
Centroid-so: 0.306 arcsec [134.70σ]
OotOffset-rm: 0.076 arcsec [1.13σ]
KicOffset-rm: 0.089 arcsec [1.29σ]
OotOffset-st: 1/4/2/3 [10]
KicOffset-st: 1/4/2/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

TCE 003247294-02, PDC Light Curves

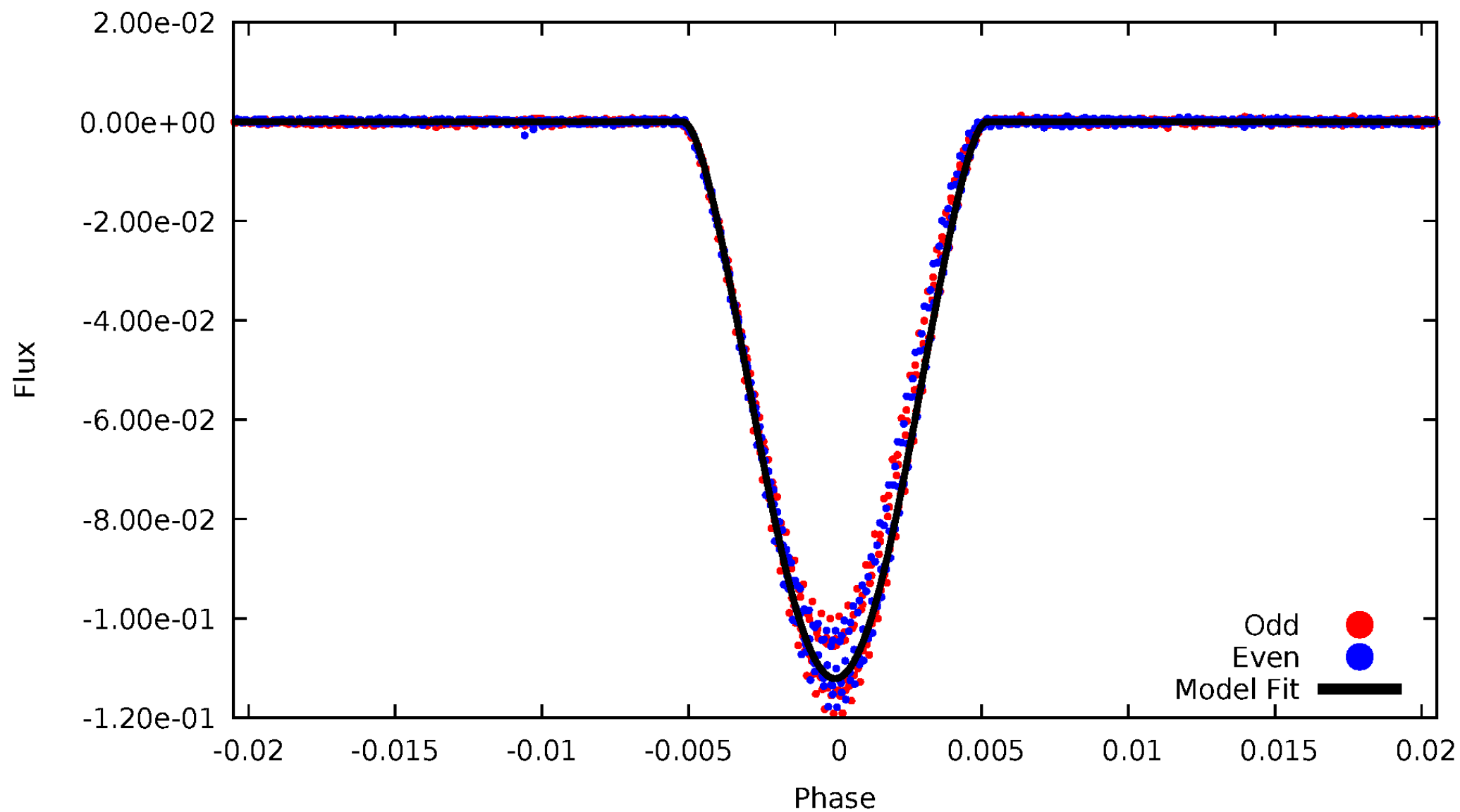


TCE 003247294-02



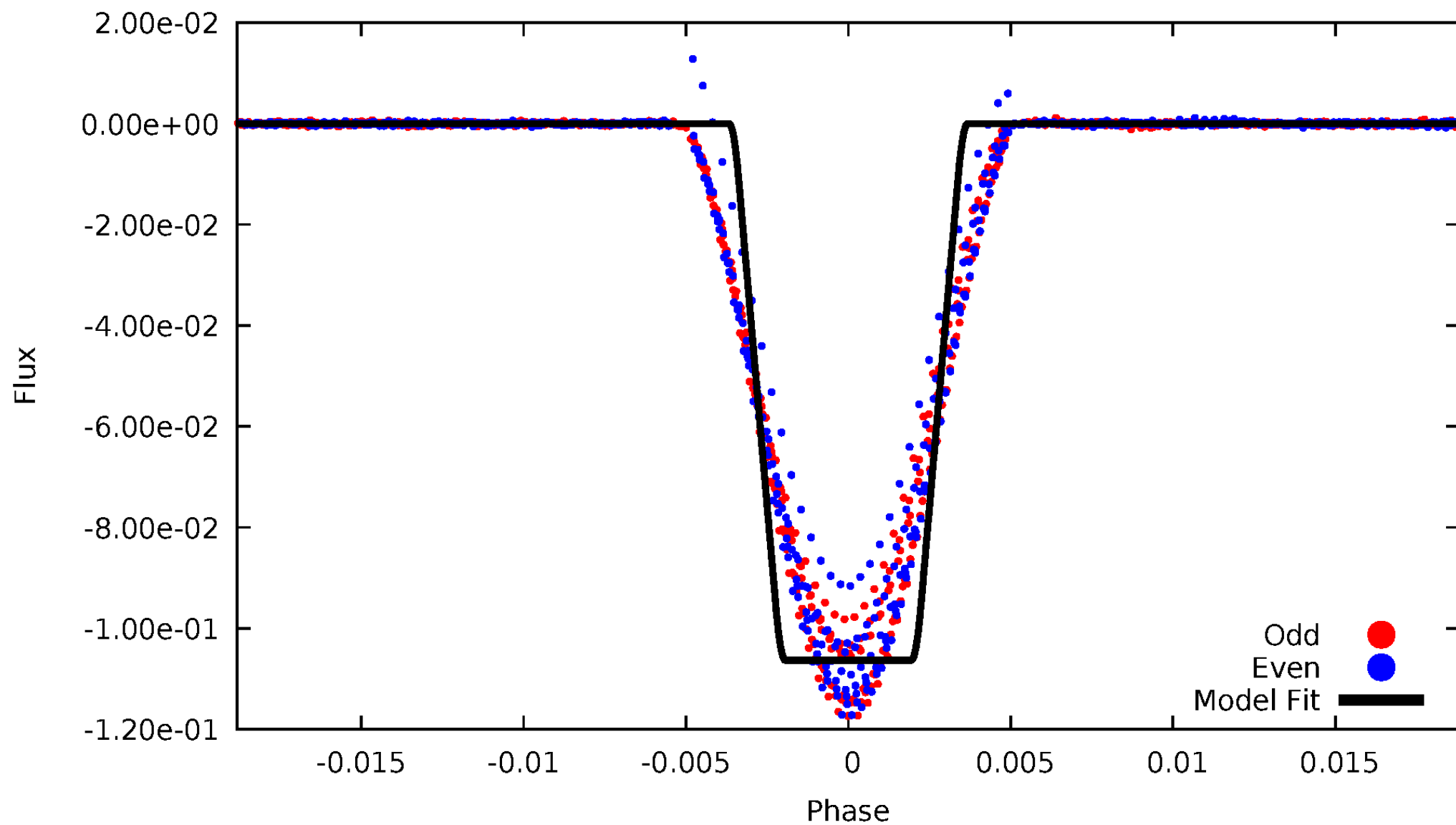
DV Odd/Even

TCE 003247294-02



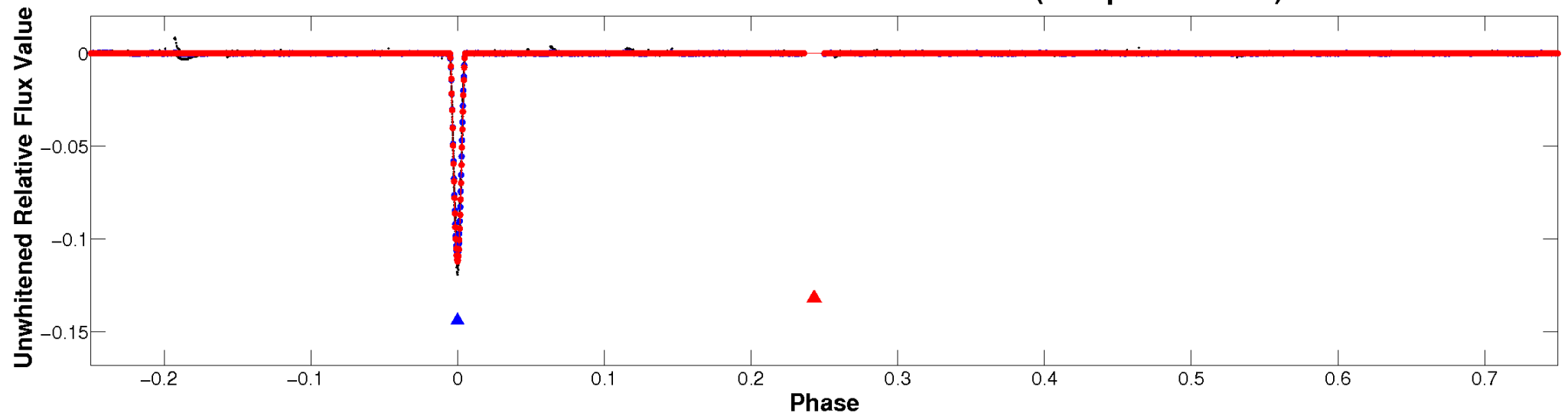
ALT Odd/Even

TCE 003247294-02

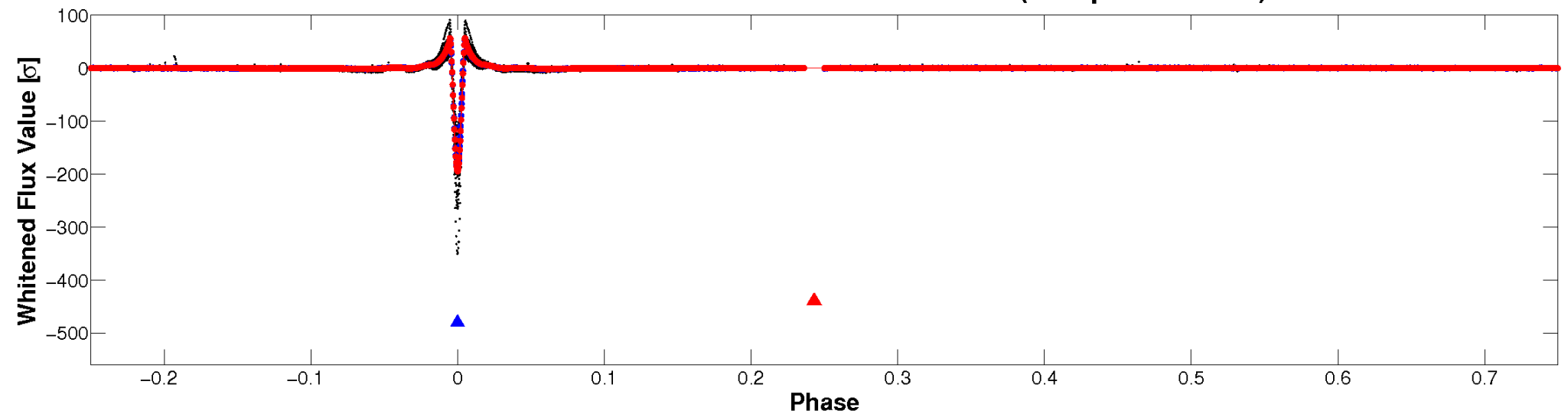


Non-Whitened Vs. Whitened Light Curve

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

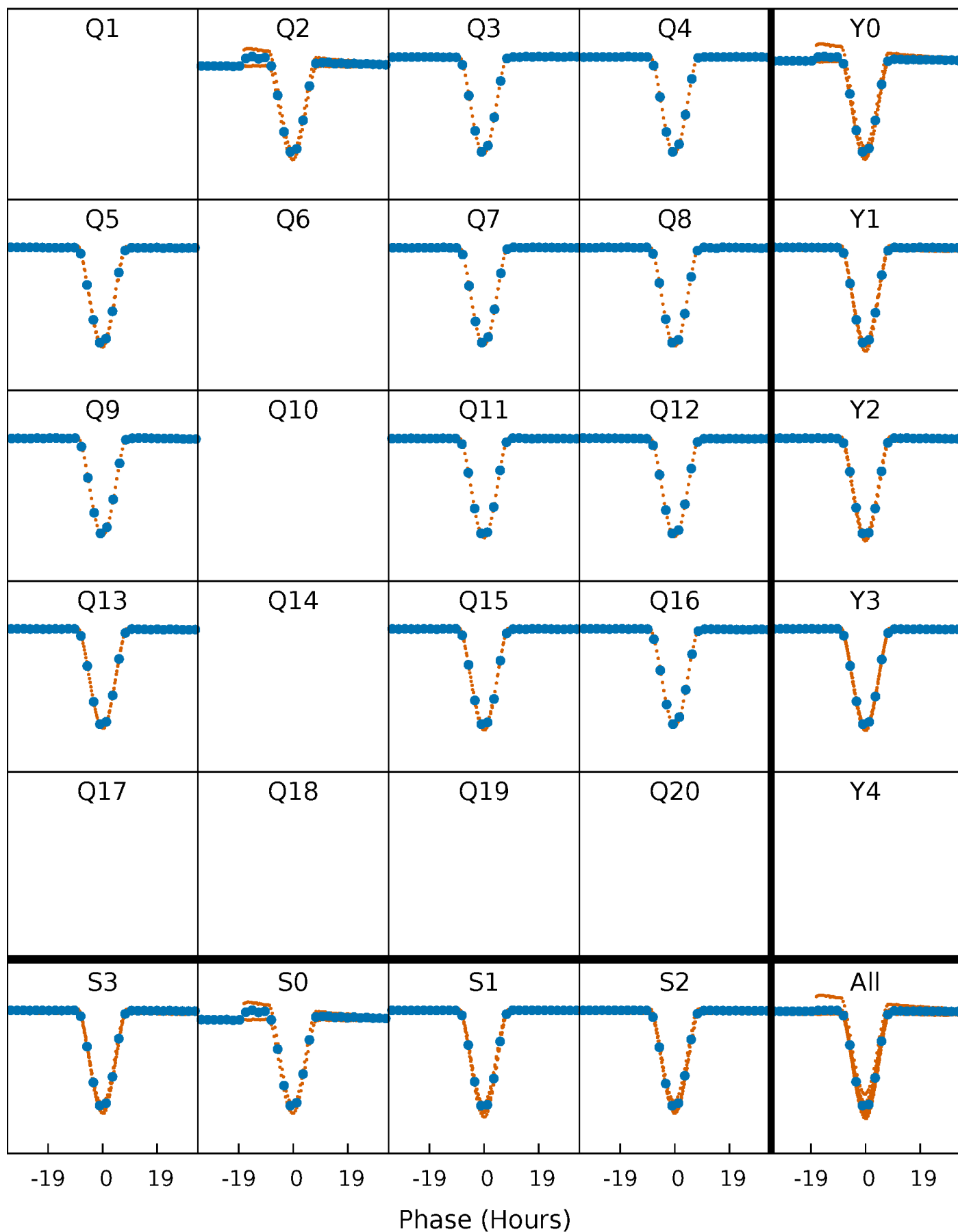


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



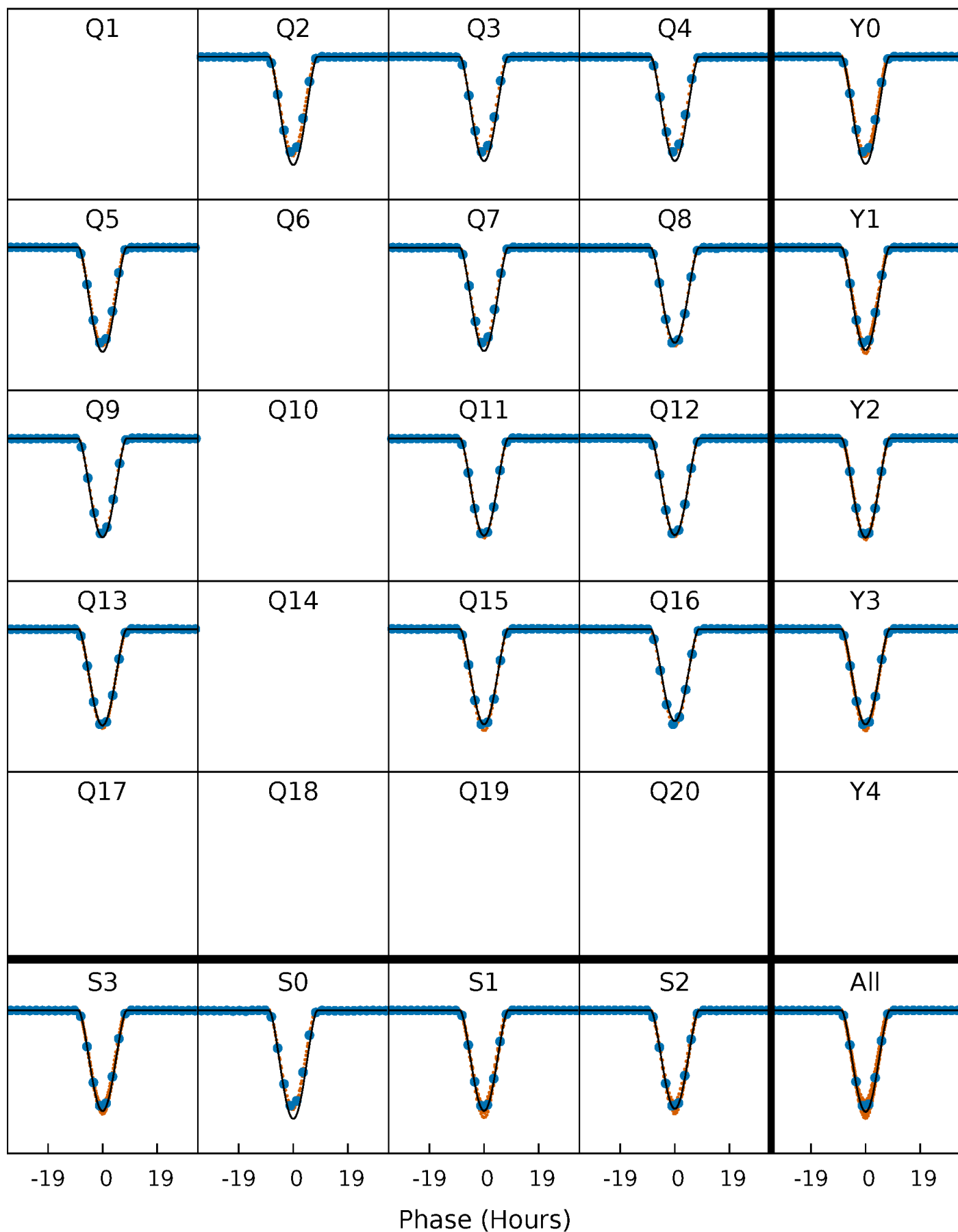
PDC Quarter-Phased Transit Curves

TCE 003247294-02 $P = 67.422254$ Days $T_0 = 184.436344$ (BKJD)



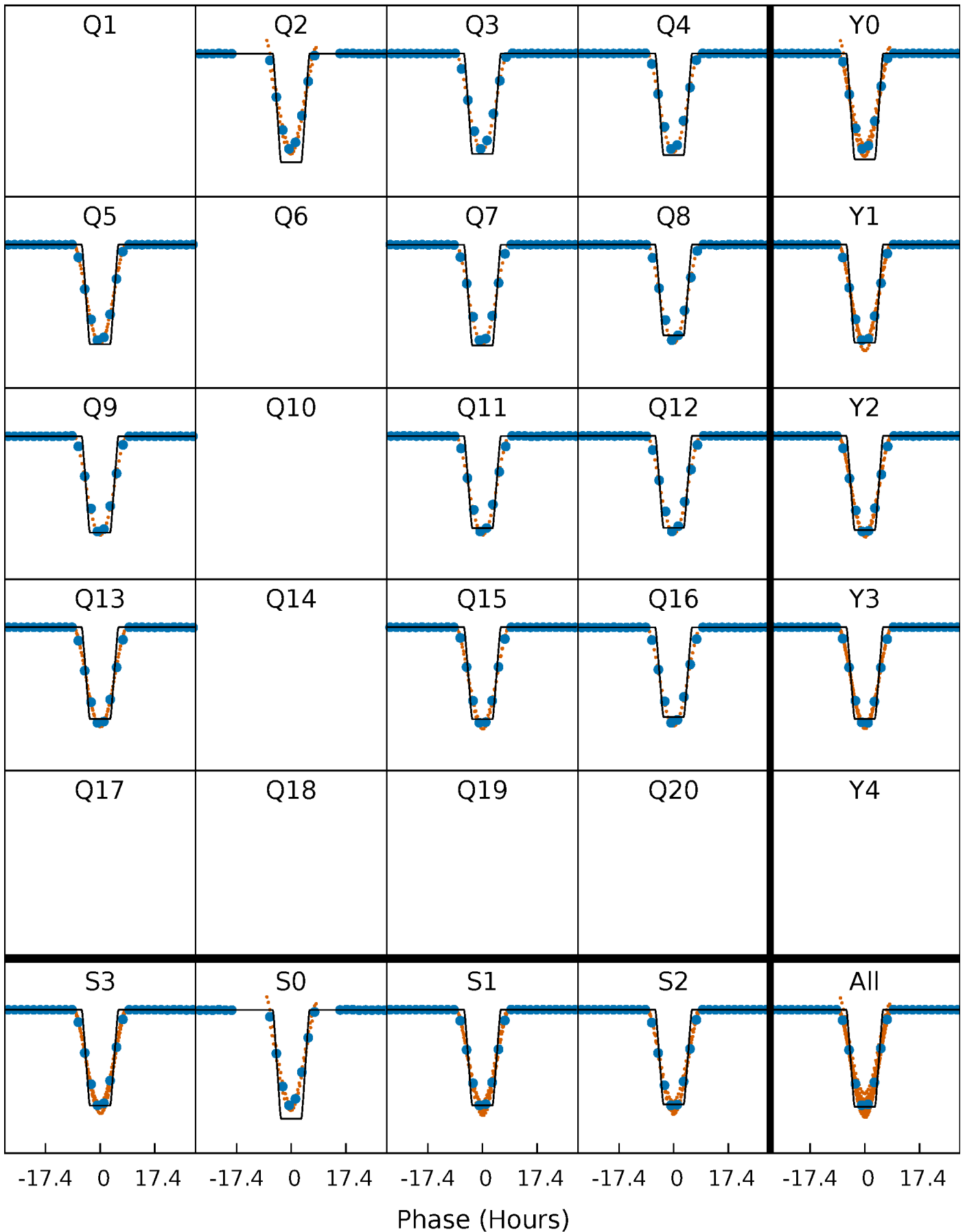
DV Quarter-Phased Transit Curves

TCE 003247294-02 P= 67.422254 Days $T_0=184.436344$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

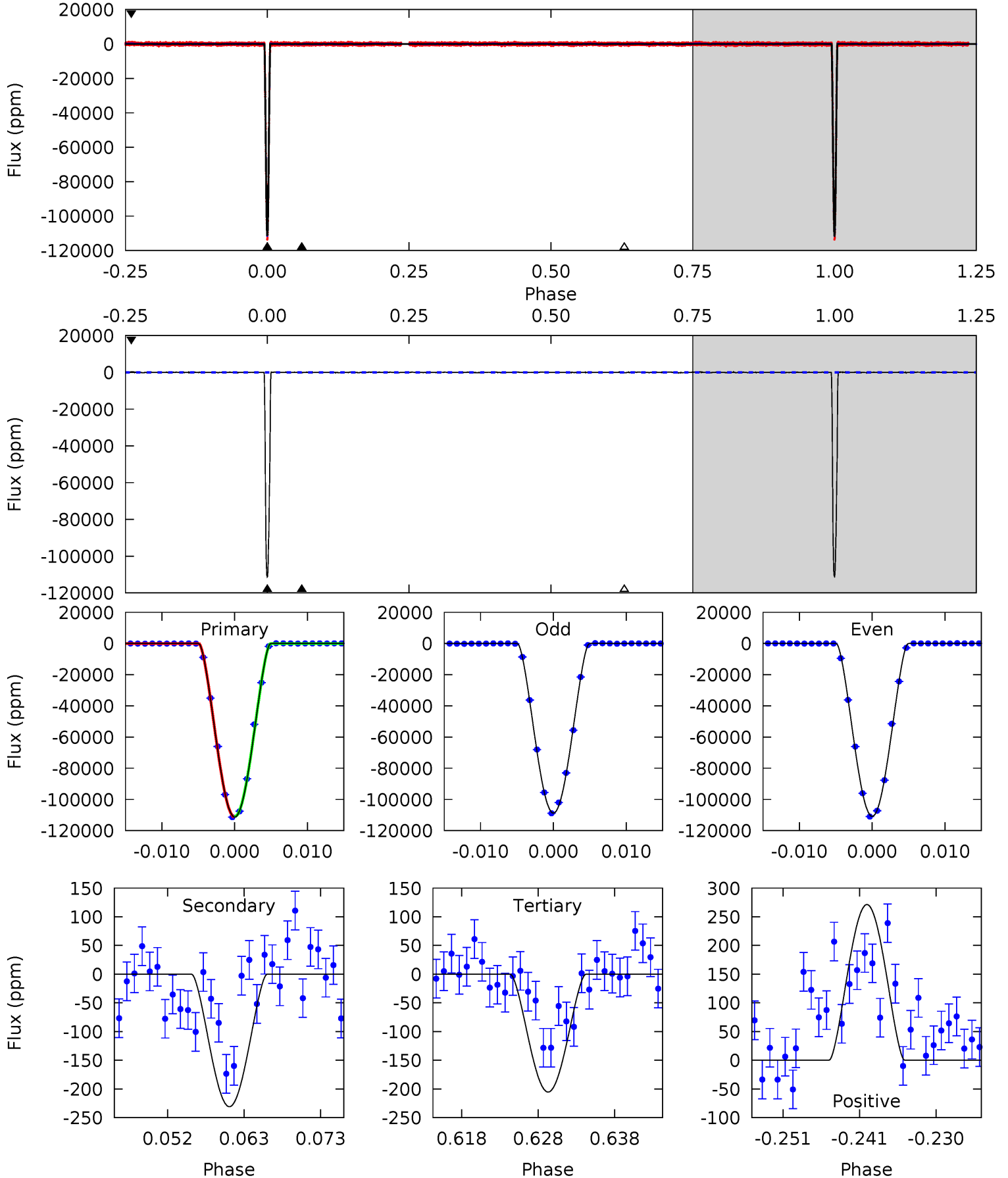
TCE 003247294-02 $P = 67.422260$ Days $T_0 = 184.433226$ (BKJD)



DV Model-Shift Uniqueness Test

003247294-02, P = 67.422254 Days, E = 117.014090 Days

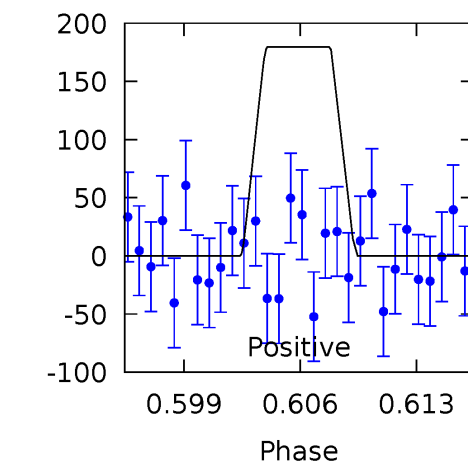
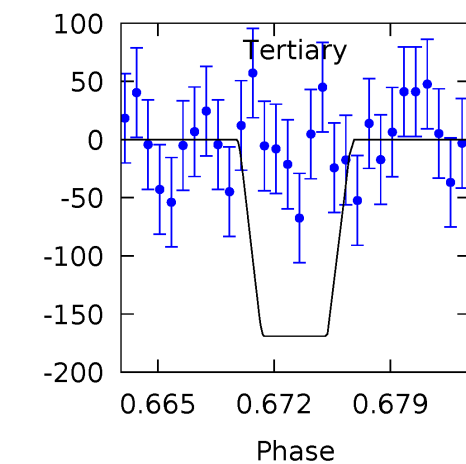
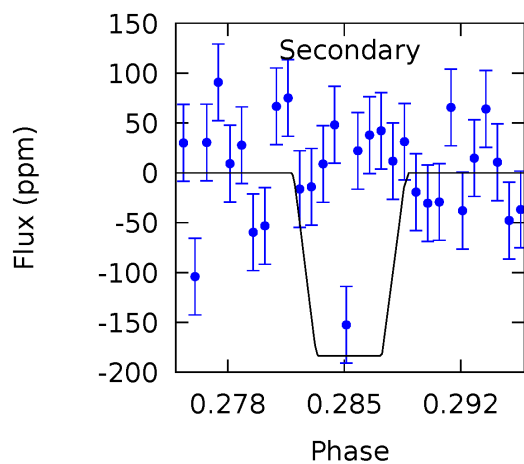
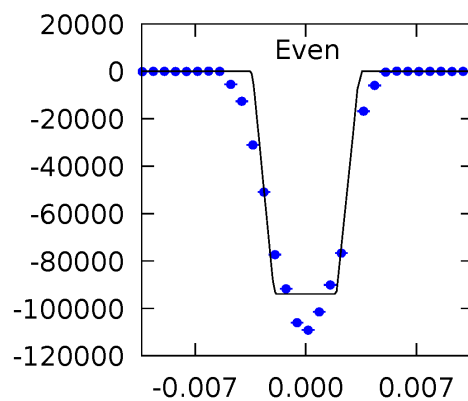
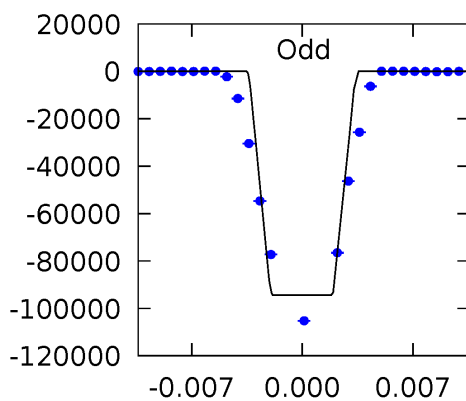
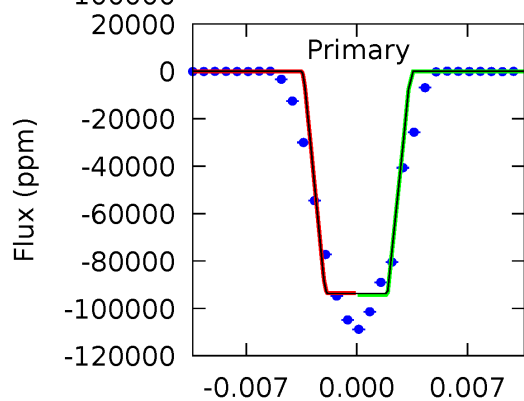
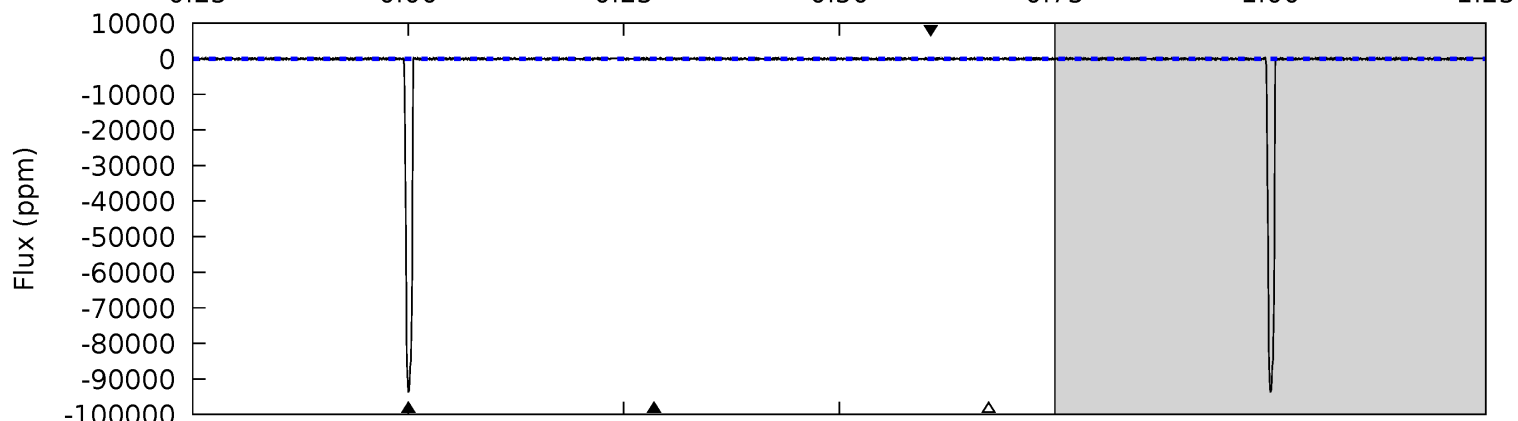
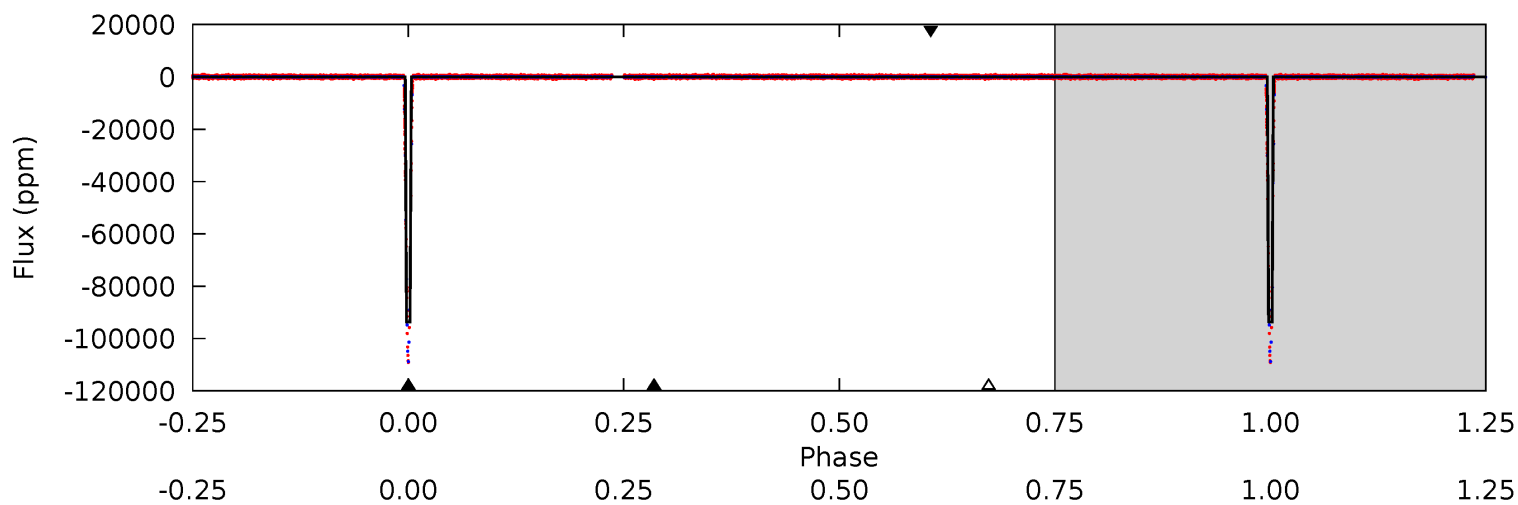
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5589	11.6	10.3	13.6	5.02	2.56	3.91	5579	5575	1.29	-2.03	61.4	0.98	0.00	0



Alt Model-Shift Uniqueness Test

003247294-02, P = 67.422260 Days, E = 117.010966 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2711	5.31	4.89	5.20	5.09	2.68	1.43	2707	2706	0.43	0.12	8.39	0.98	0.00	0



Stellar Parameters For KIC 003247294

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6071^{+163}_{-181}	$4.425^{+0.116}_{-0.188}$	$-0.480^{+0.300}_{-0.300}$	$0.962^{+0.250}_{-0.134}$	$0.898^{+0.109}_{-0.089}$	$1.420^{+0.741}_{-0.661}$
	+3%/-3%	+3%/-4%	+62%/-62%	+26%/-14%	+12%/-10%	+52%/-47%
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 003247294-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-231 ± 20	$51.28^{+10.19}_{-8.72}$	663^{+43}_{-38}	2056^{+76}_{-69}	$4.726^{+2.032}_{-1.384}$
Alt.	-184 ± 35	$34.72^{+9.08}_{-7.73}$	664^{+44}_{-37}	2182^{+130}_{-104}	$8.006^{+5.611}_{-3.224}$

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

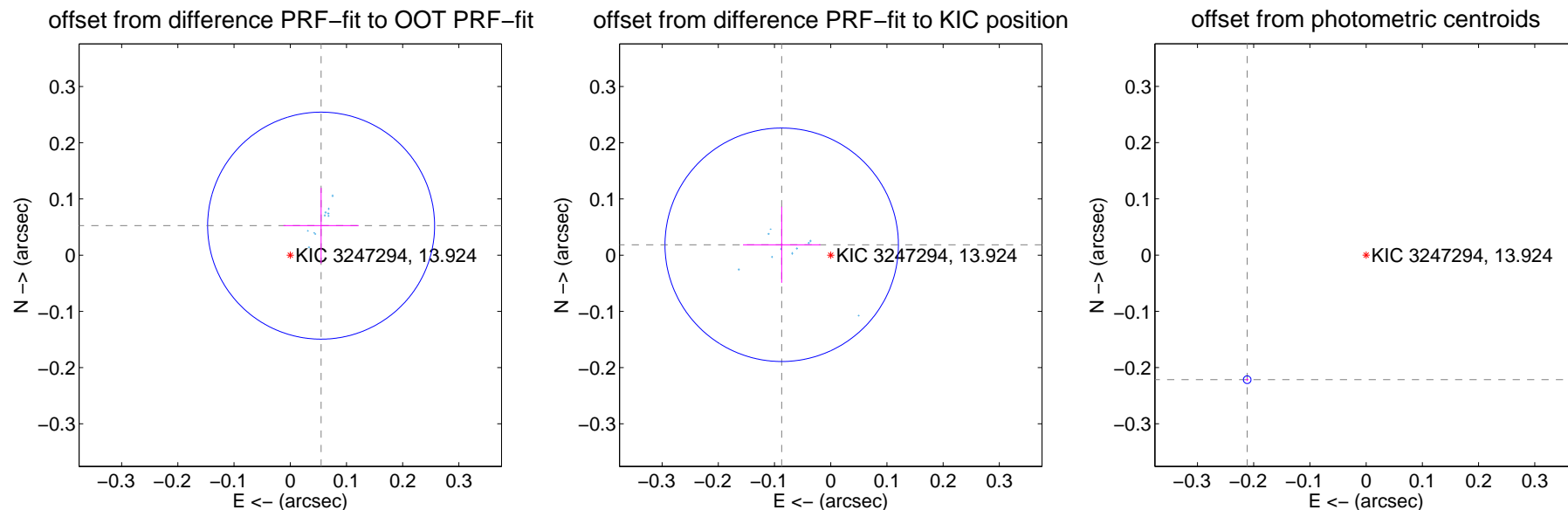
DV Centroid Data

Supplemental centroid analysis for 003247294-02. Kepler magnitude: 13.92. Transit SNR 1859.96

There are 10 quarters with good PRF difference image offsets

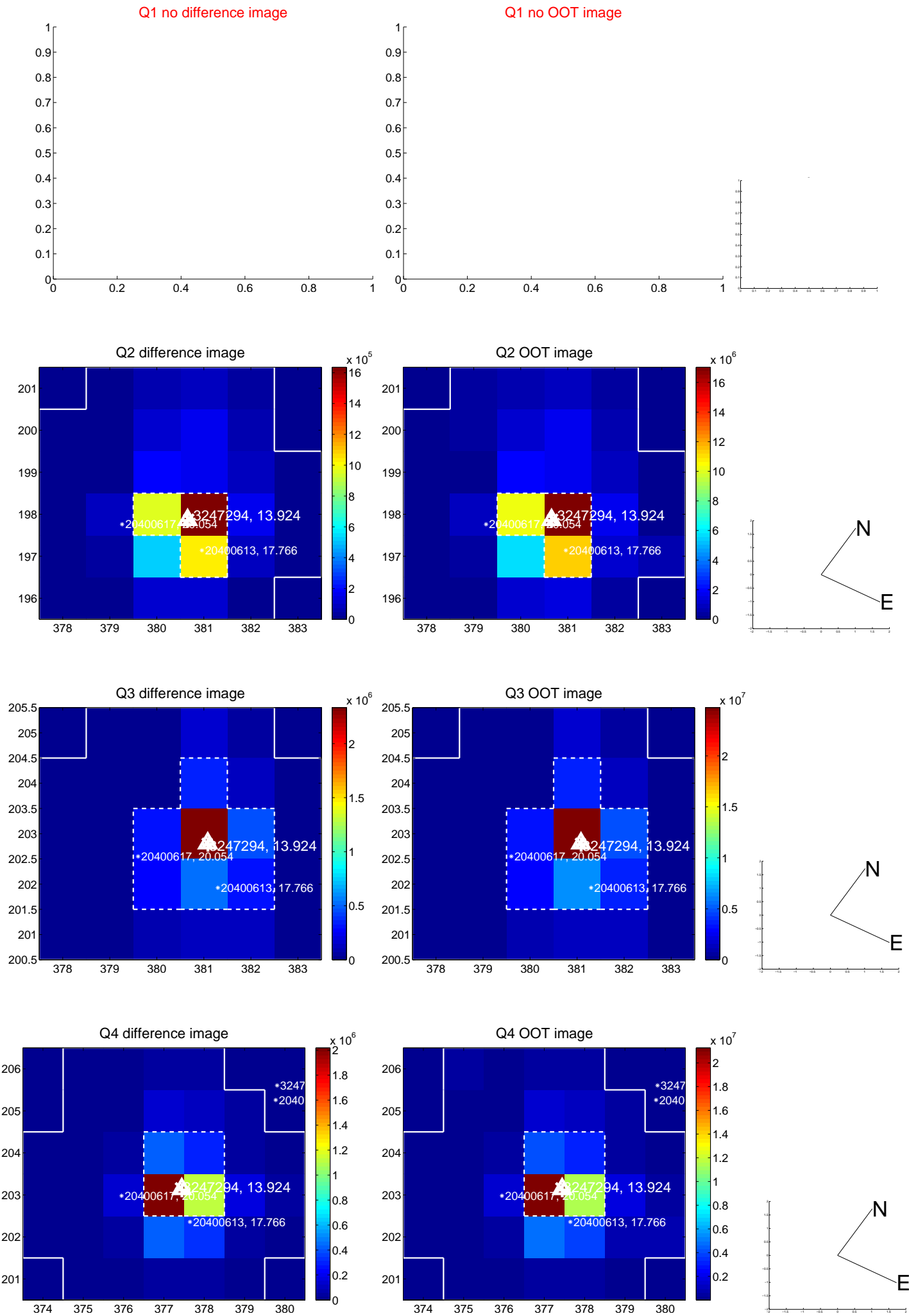
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.067	1.13	-0.055 ± 0.067	0.052 ± 0.067
PRF-fit source offset from KIC position	0.089 ± 0.069	1.29	0.087 ± 0.069	0.018 ± 0.068
photometric centroid source offset	0.31 ± 0.00	134.70	0.21 ± 0.00	-0.22 ± 0.00

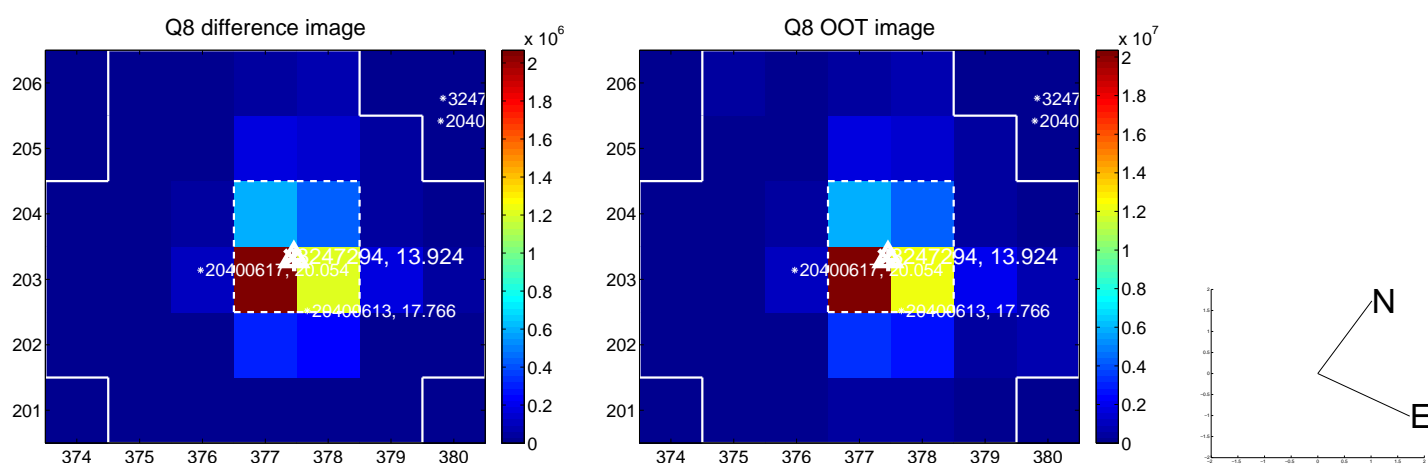
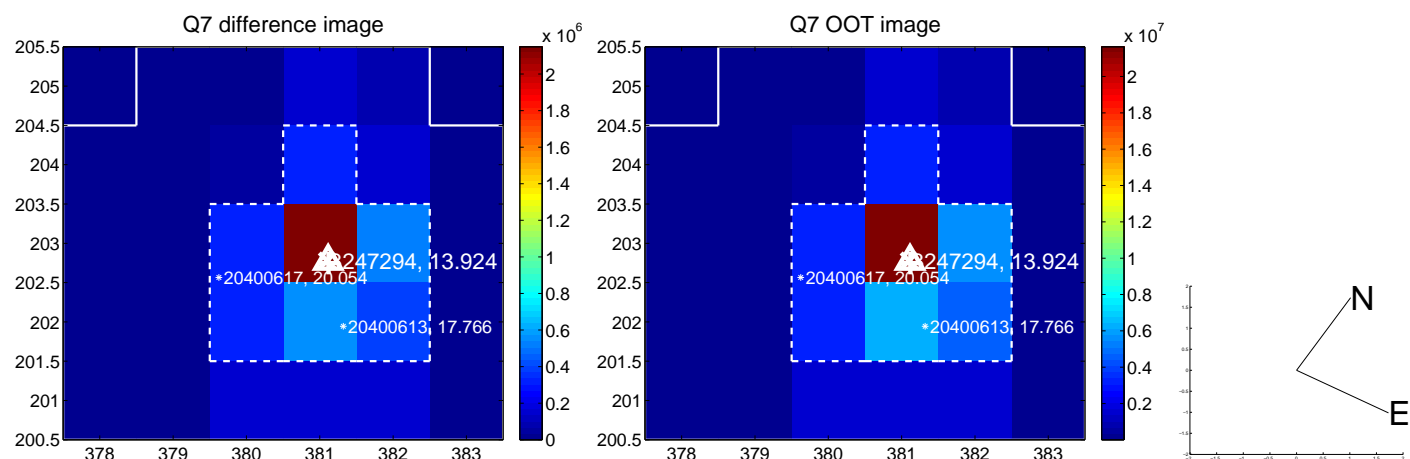
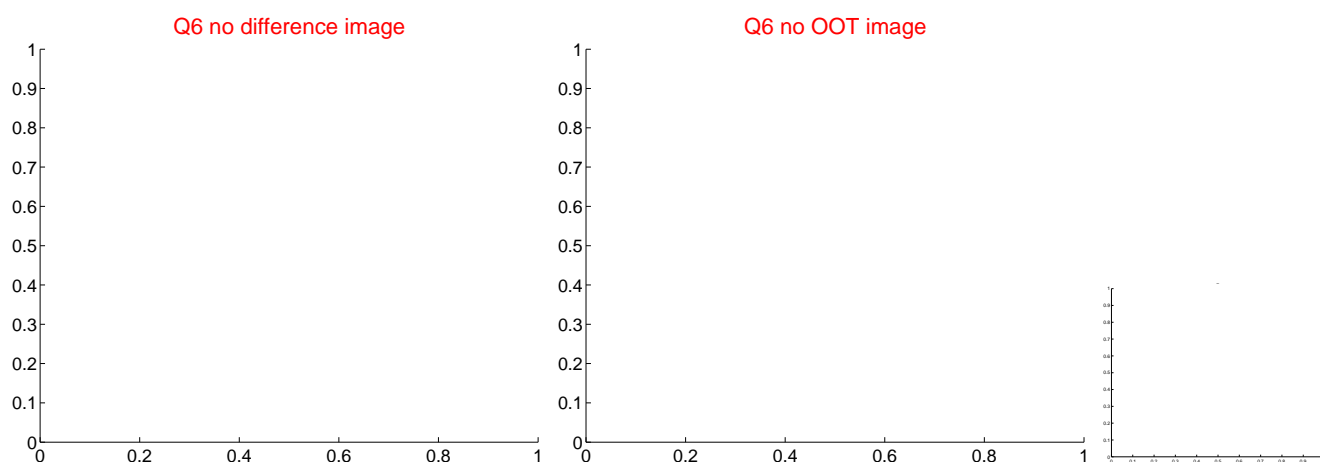
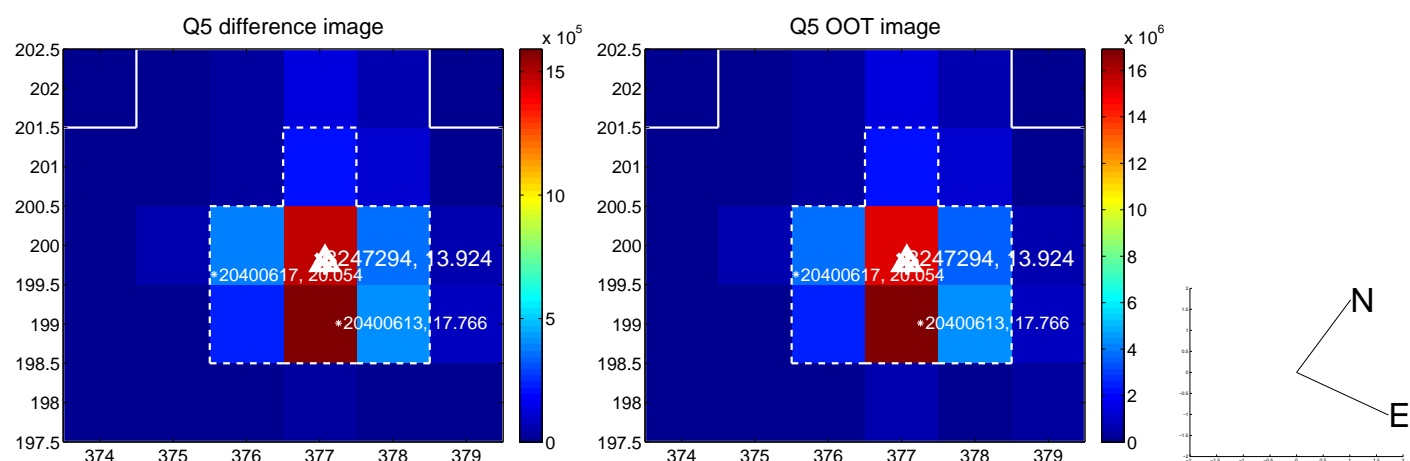


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

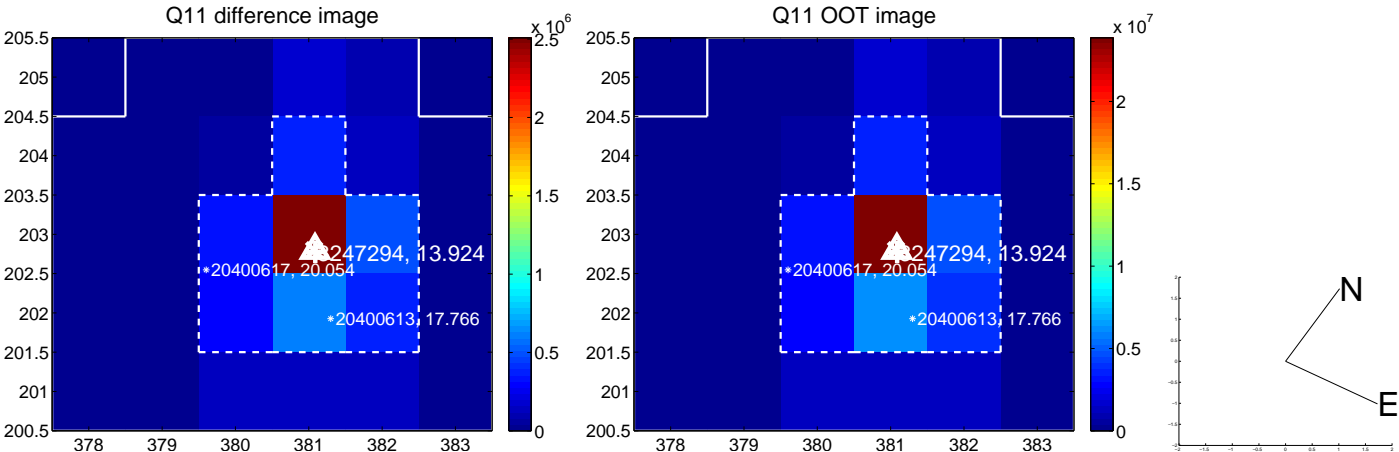
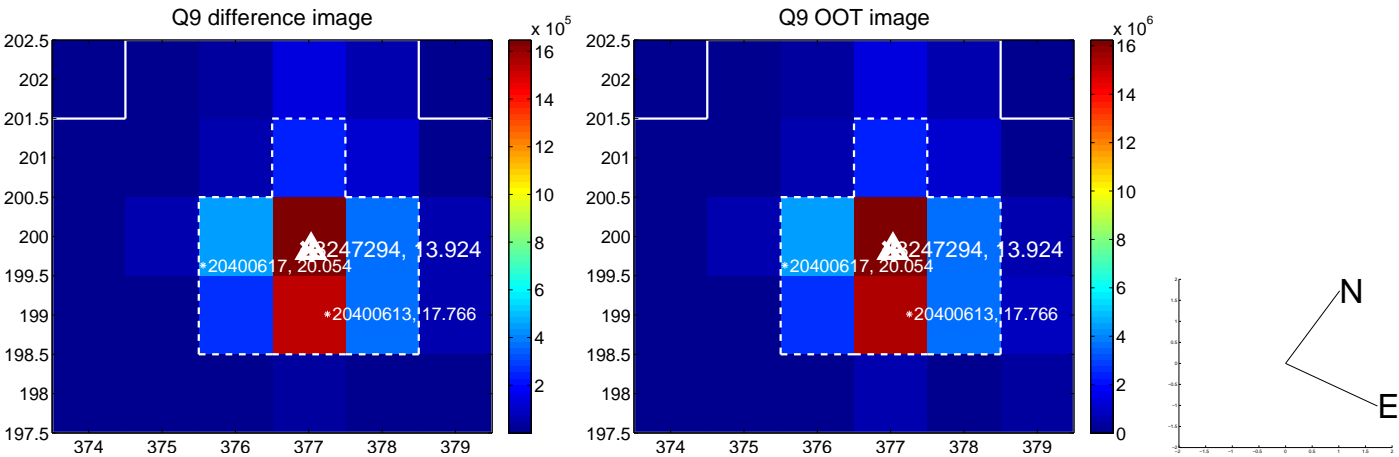
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



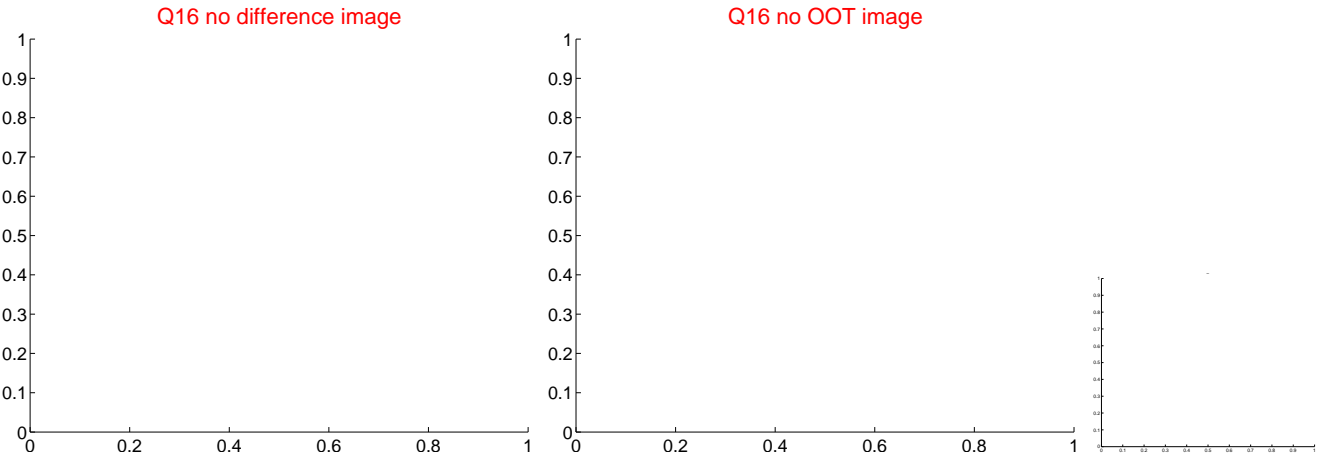
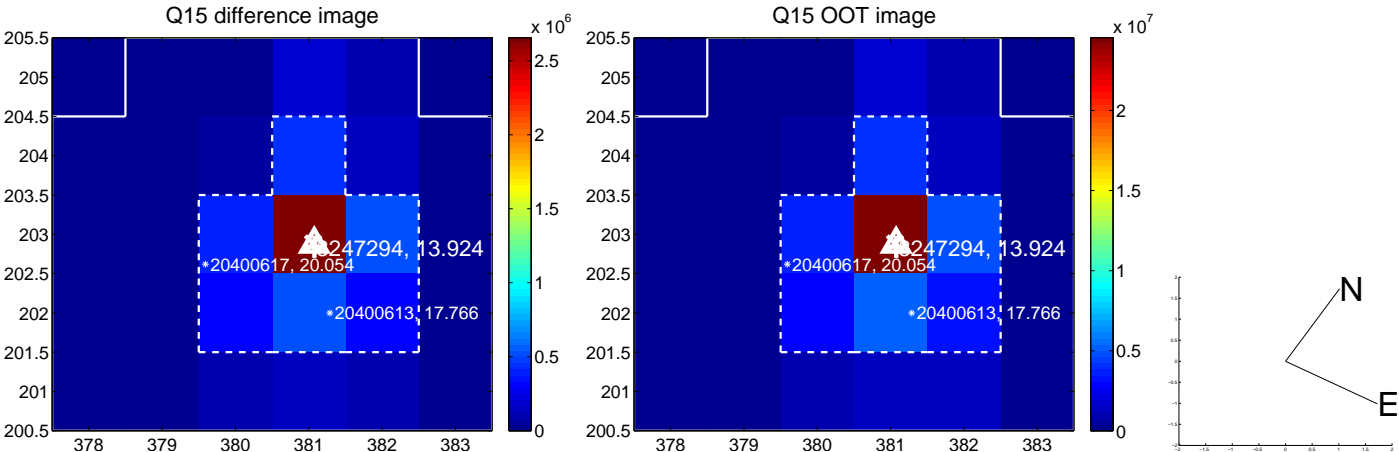
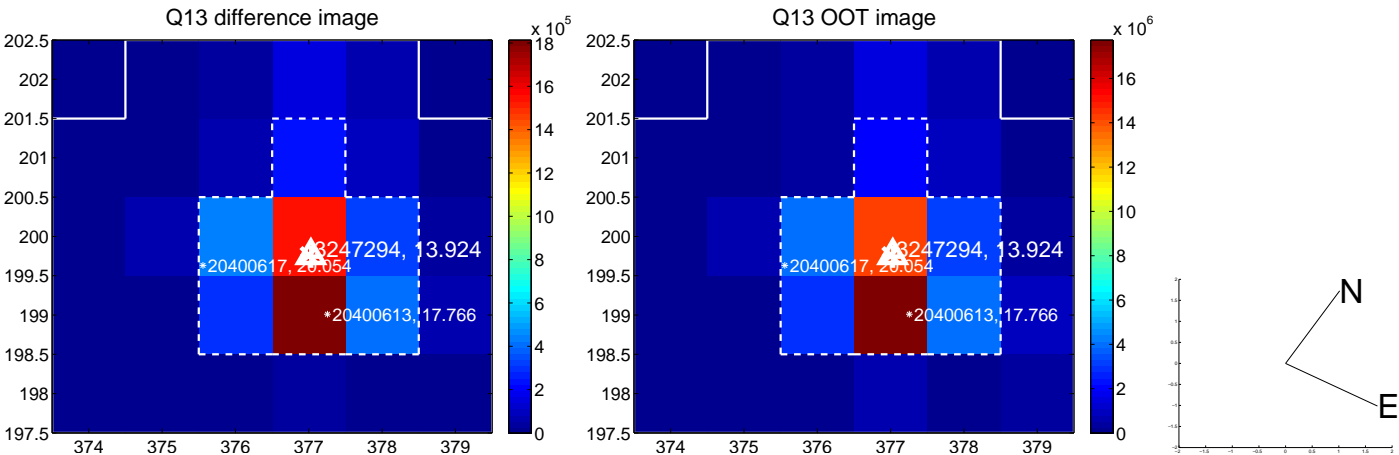
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



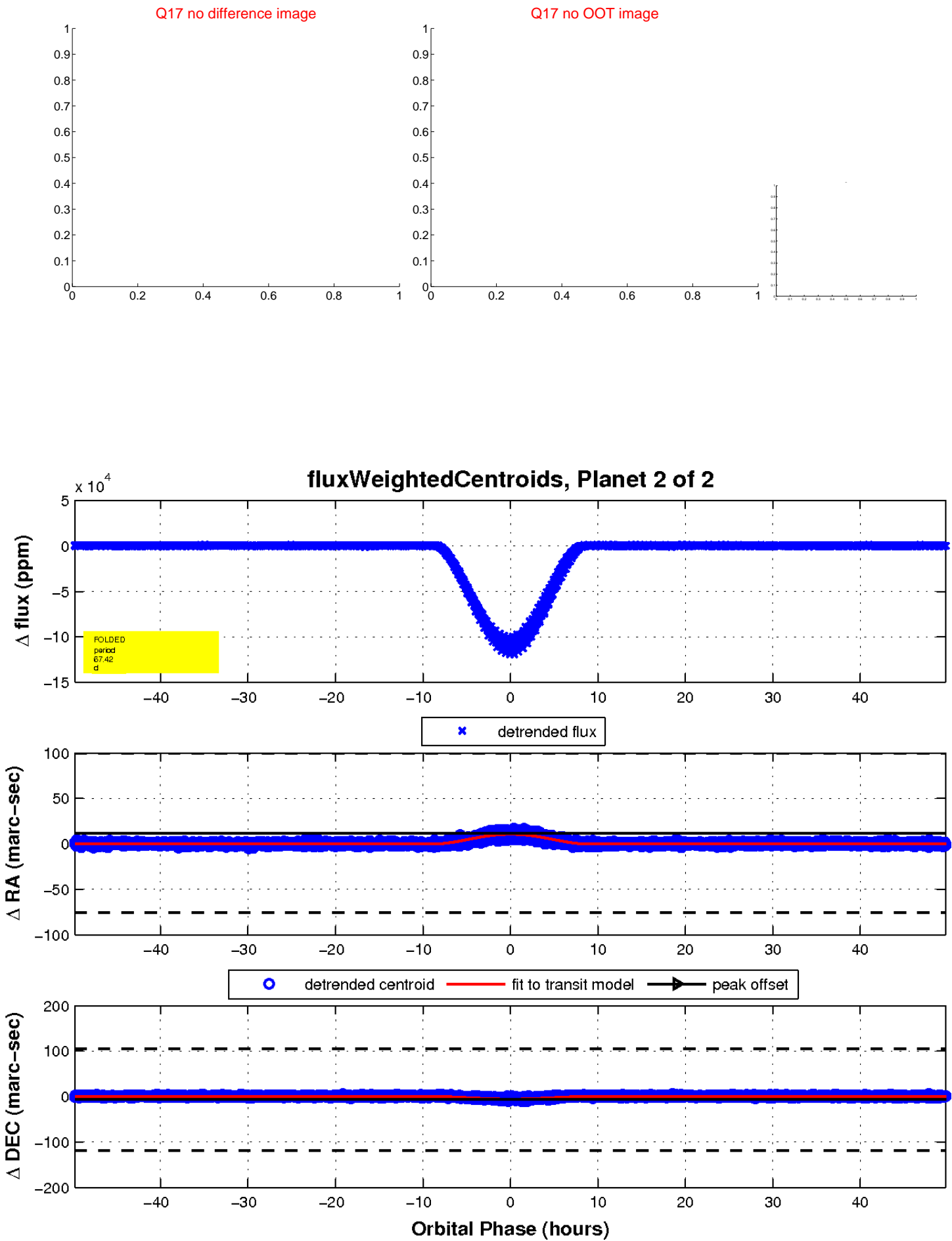
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

