

KIC 004824268

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})
004824268-01	OBS	3533.01	152.151443	215.015717	151222.1	26.813	3395.7	2848.0	0.99	6217	56.92	4.05
004824268-02	OBS	No	152.151564	142.241537	76026.7	6.532	1728.1	1168.0	0.99	6217	29.07	4.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004824268-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
004824268-02	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.

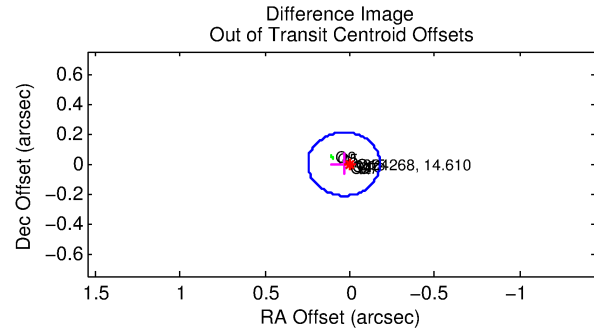
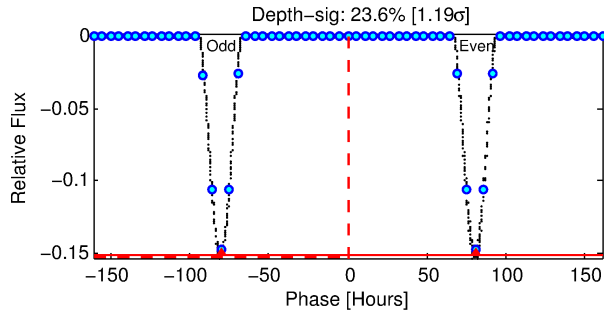
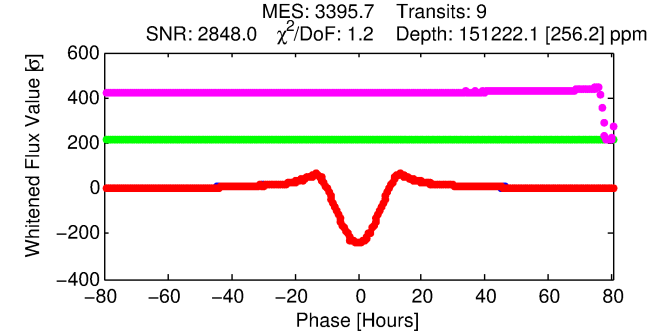
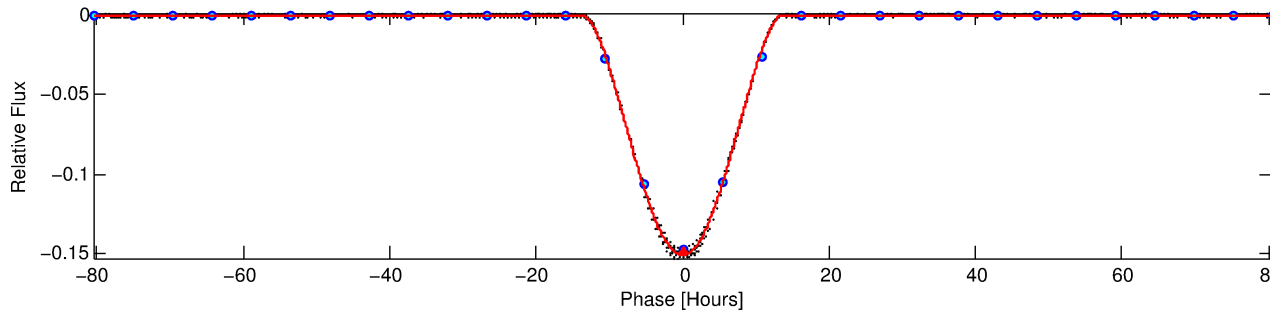
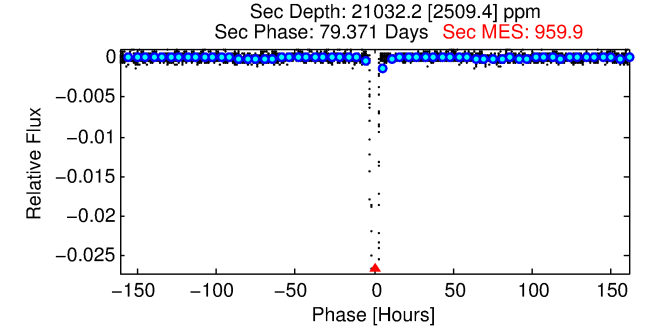
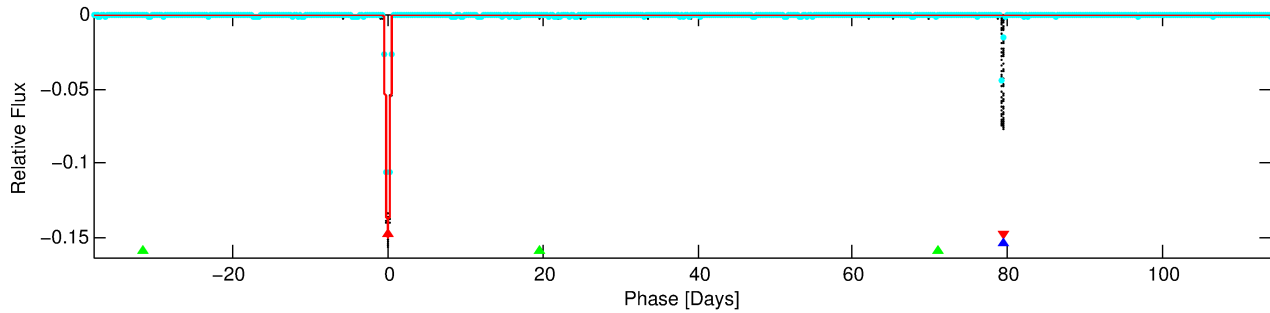
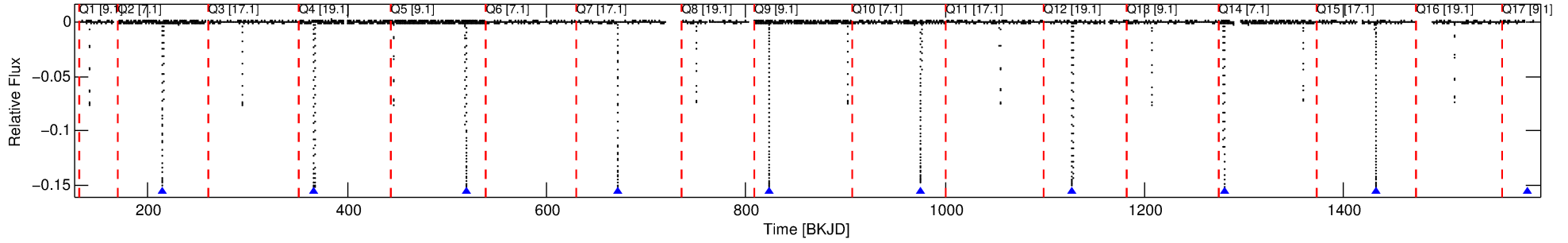
Ephemeris Match Information For 004824268-01

No Significant Match Found

DV One-Page Summary

KIC: 4824268 Candidate: 1 of 3 Period: 152.151 d
KOI: K03533.01 Corr: 0.991

Kp: 14.61 R*: 0.99 Rs Teff: 6217.0 K Logg: 4.47 Fe/H: -0.220



DV Fit Results:

Period = 152.15144 [0.00004] d
Epoch = 215.0157 [0.0002] BKJD
Rp/R* = 0.5274 [0.0710]
a/R* = 53.53 [0.70]
b = 0.90 [0.10]
Seff = 4.05 [1.70]
Teq = 362 [38] K
Rp = 56.92 [19.95] Re
a = 0.5684 [0.1546] AU
Ag = 1154.02 [569.02] [2.03σ]
Teffp = 3260 [266] K [10.79σ]

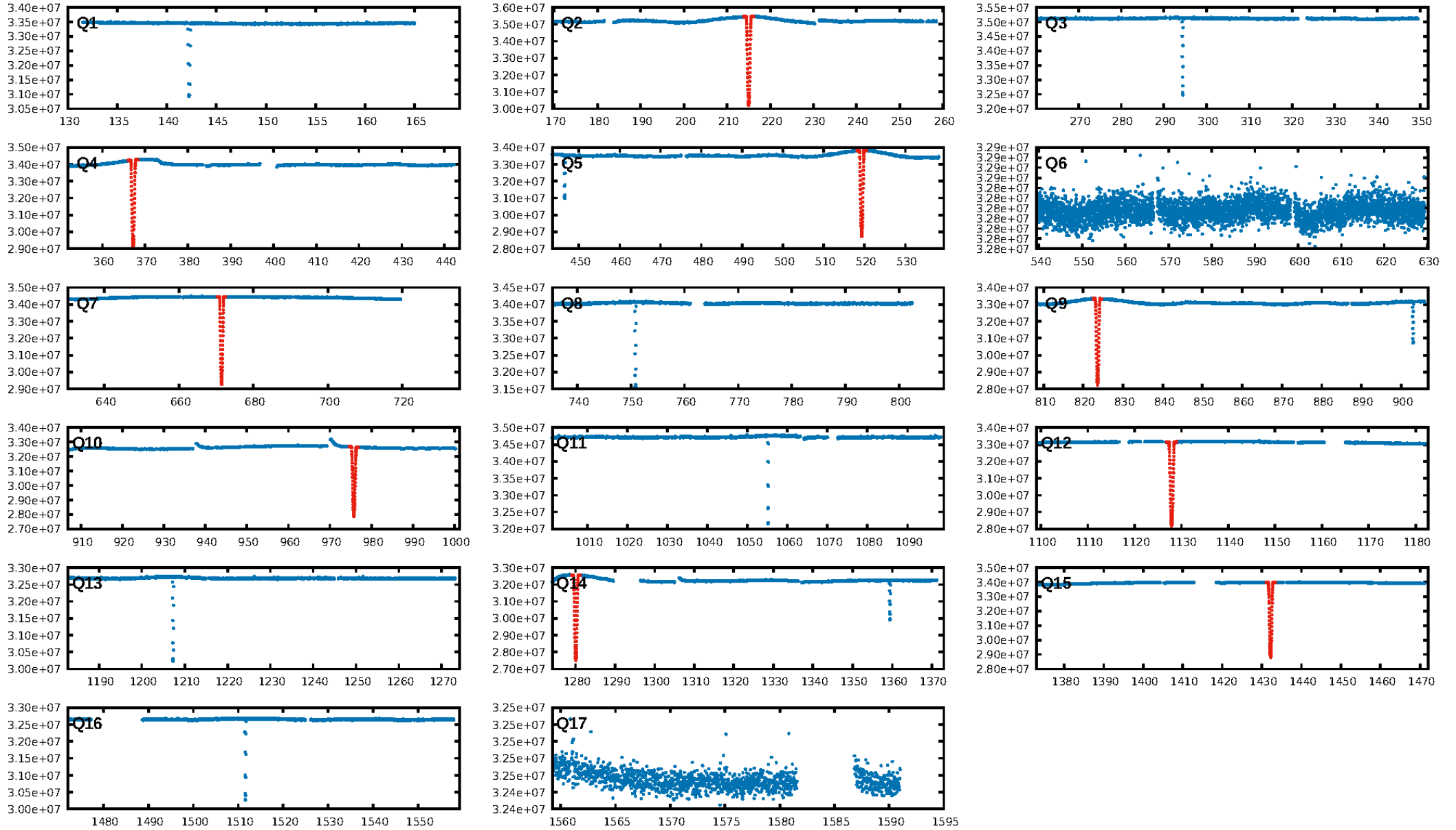
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 96.4%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 4.102
Centroid-sig: 0.0%
Centroid-so: 0.154 arcsec [75.08σ]
OotOffset-rm: 0.037 arcsec [0.52σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-rm: 0.205 arcsec [2.16σ]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

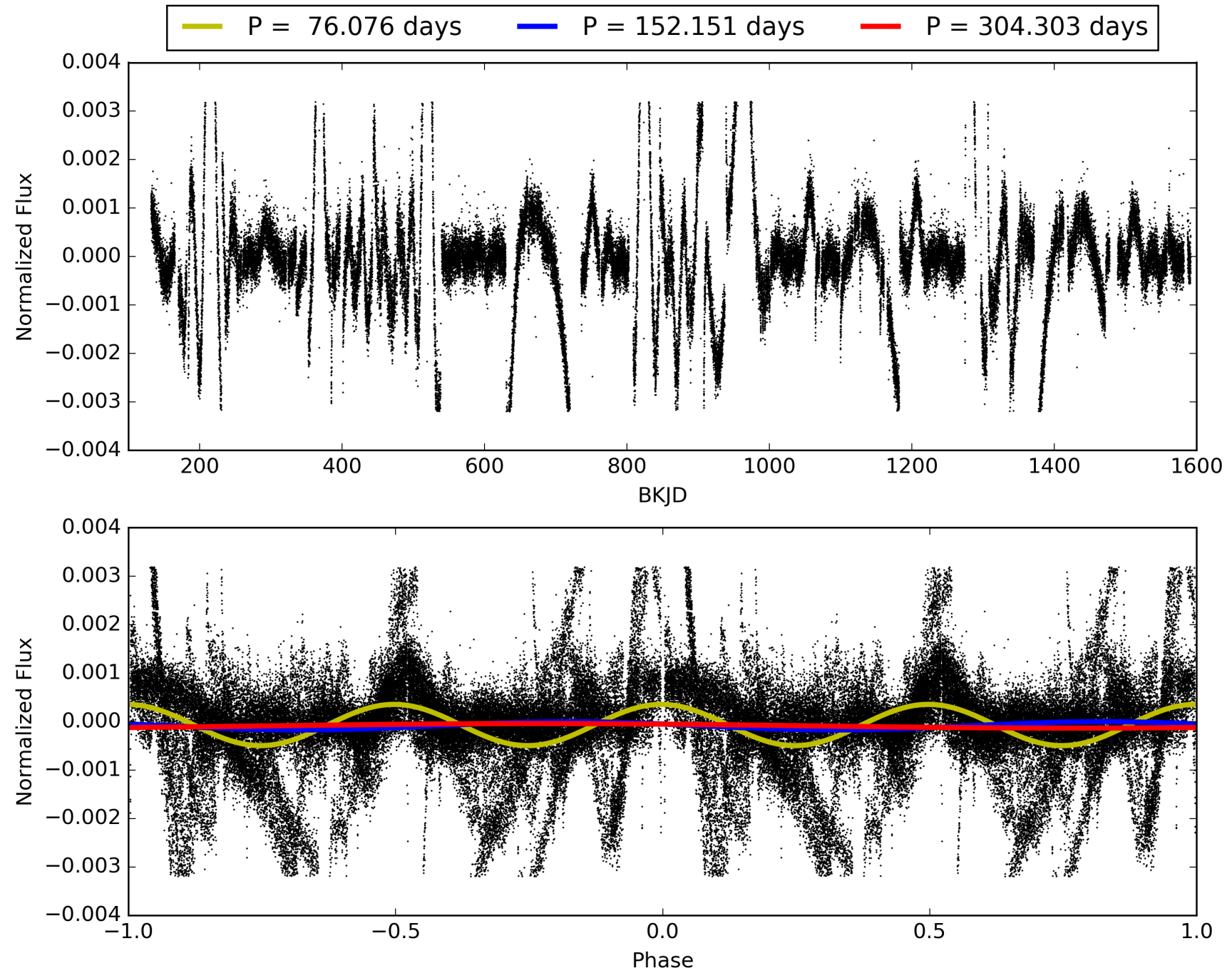
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:18:41 Z

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

TCE 004824268-01, PDC Light Curves

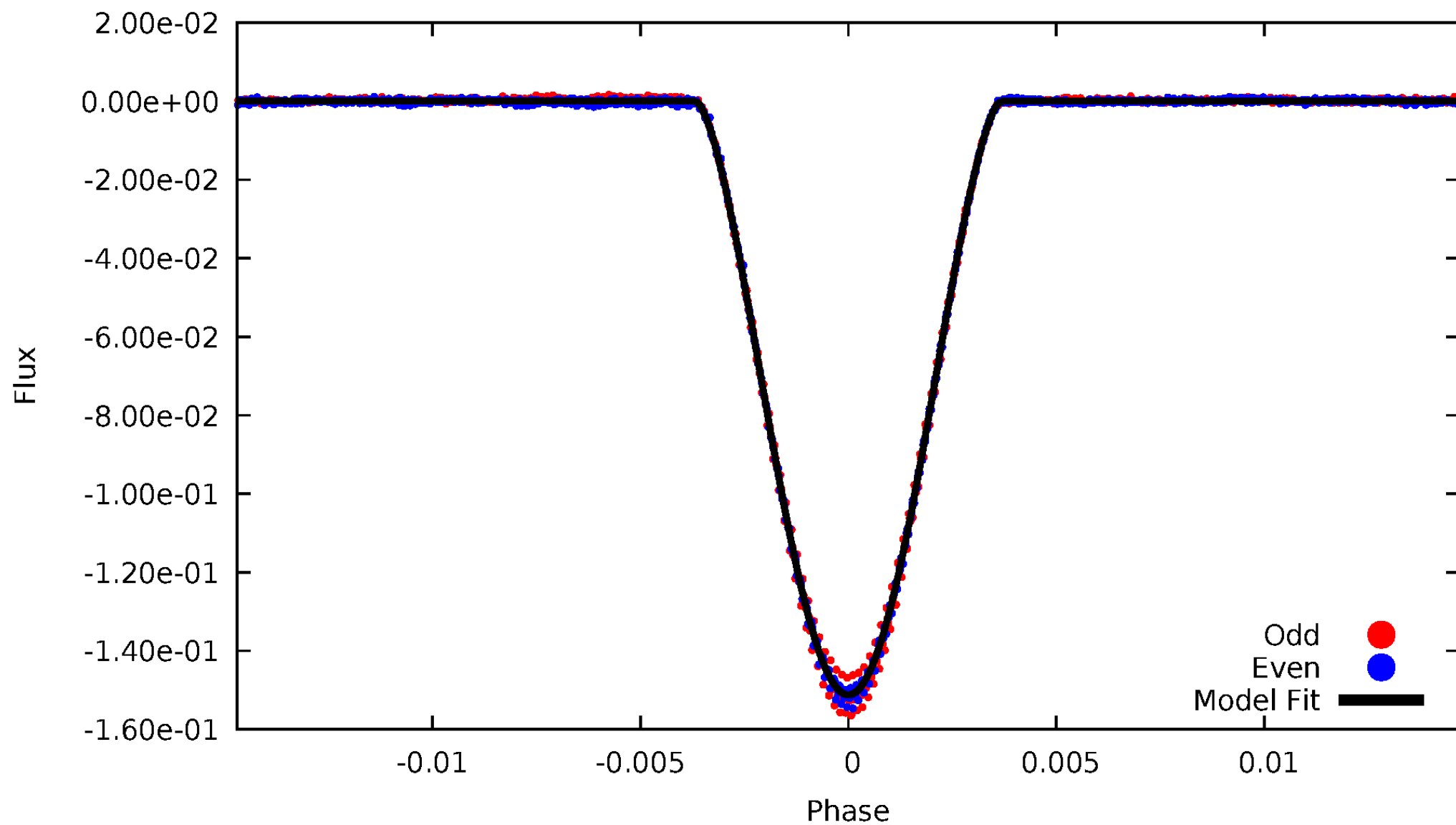


TCE 004824268-01



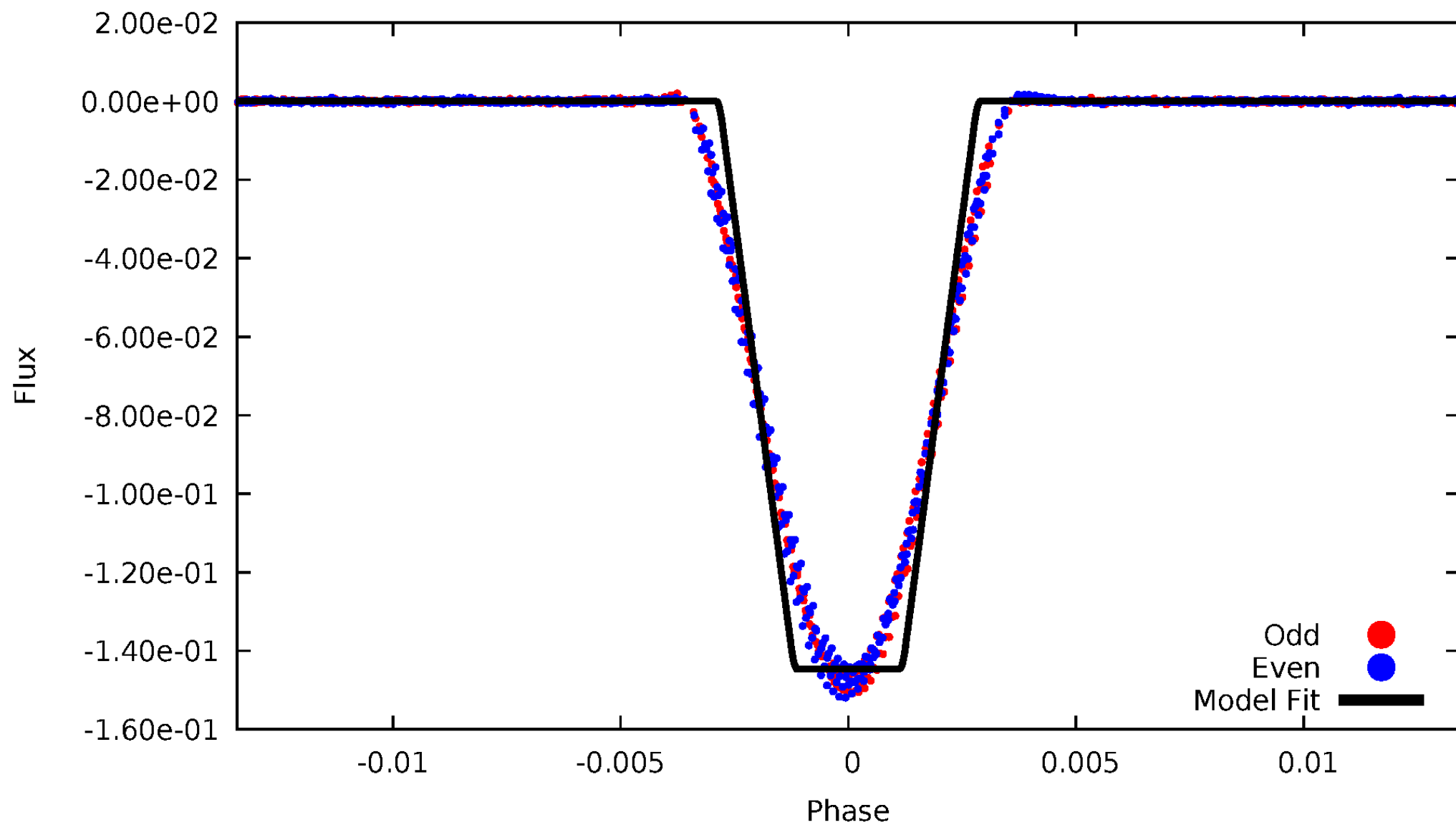
DV Odd/Even

TCE 004824268-01



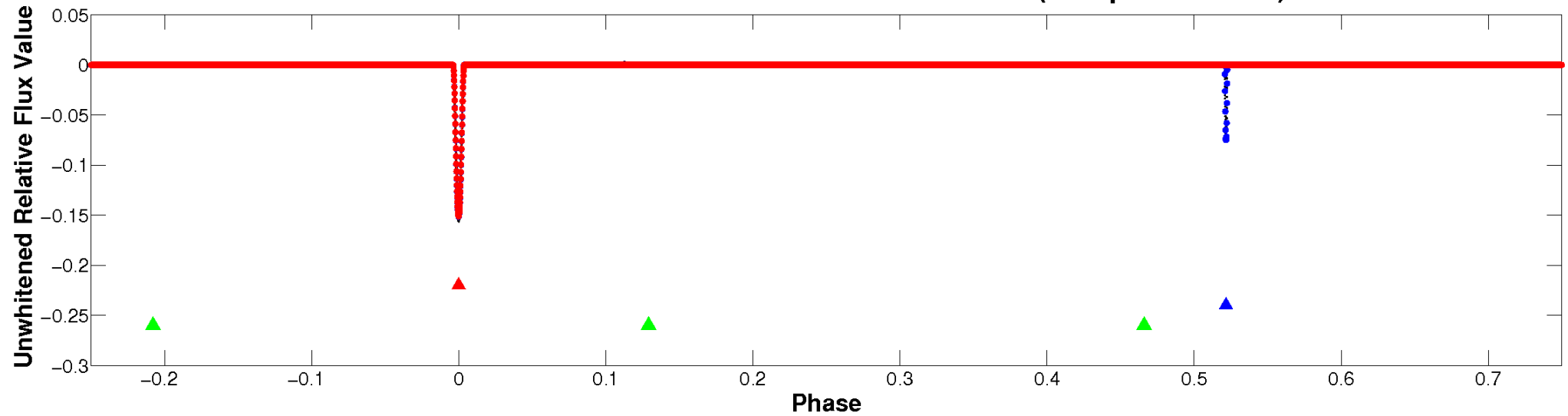
ALT Odd/Even

TCE 004824268-01

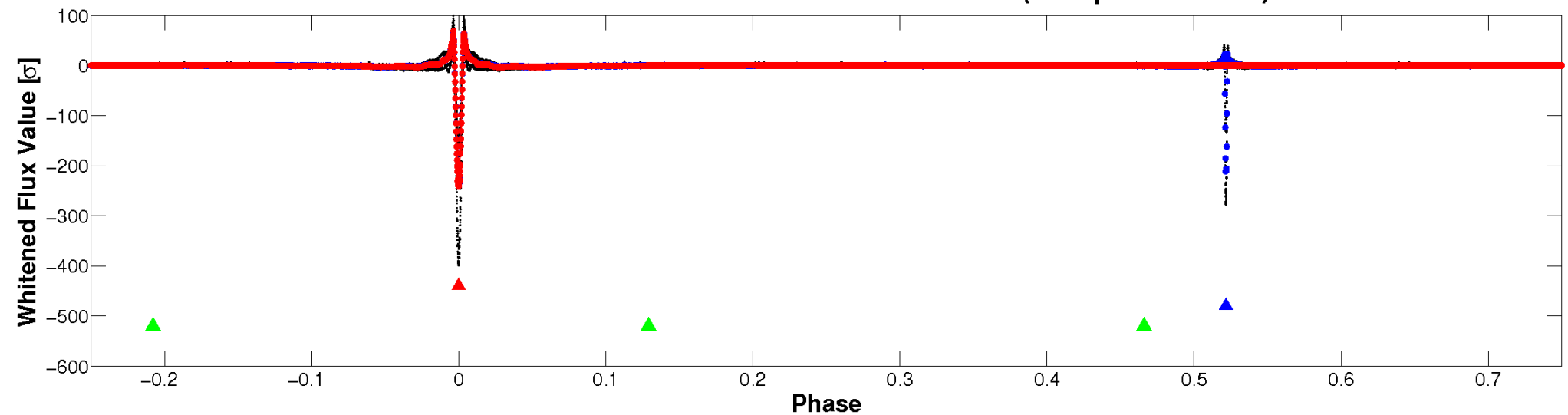


Non-Whitened Vs. Whitened Light Curve

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

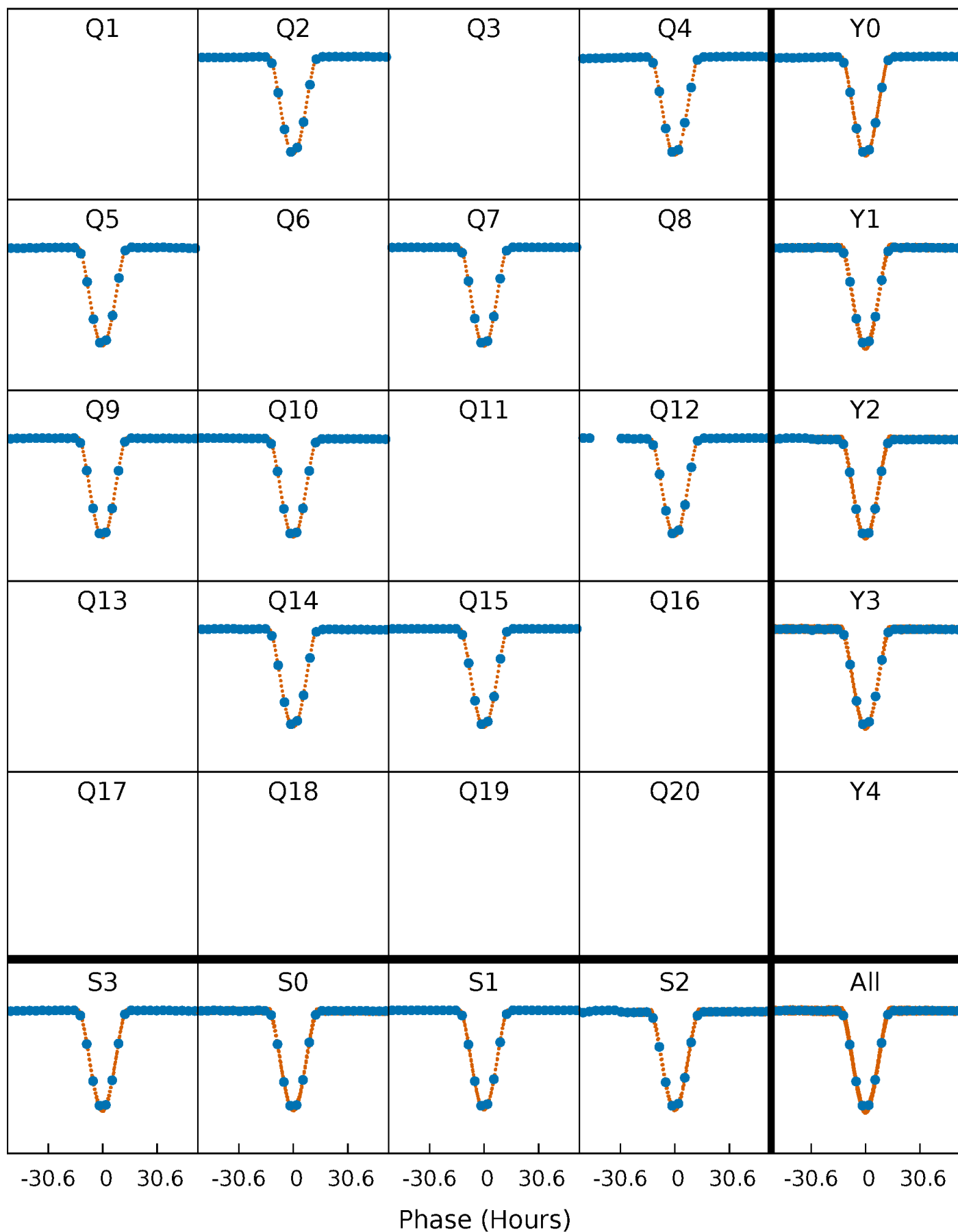


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



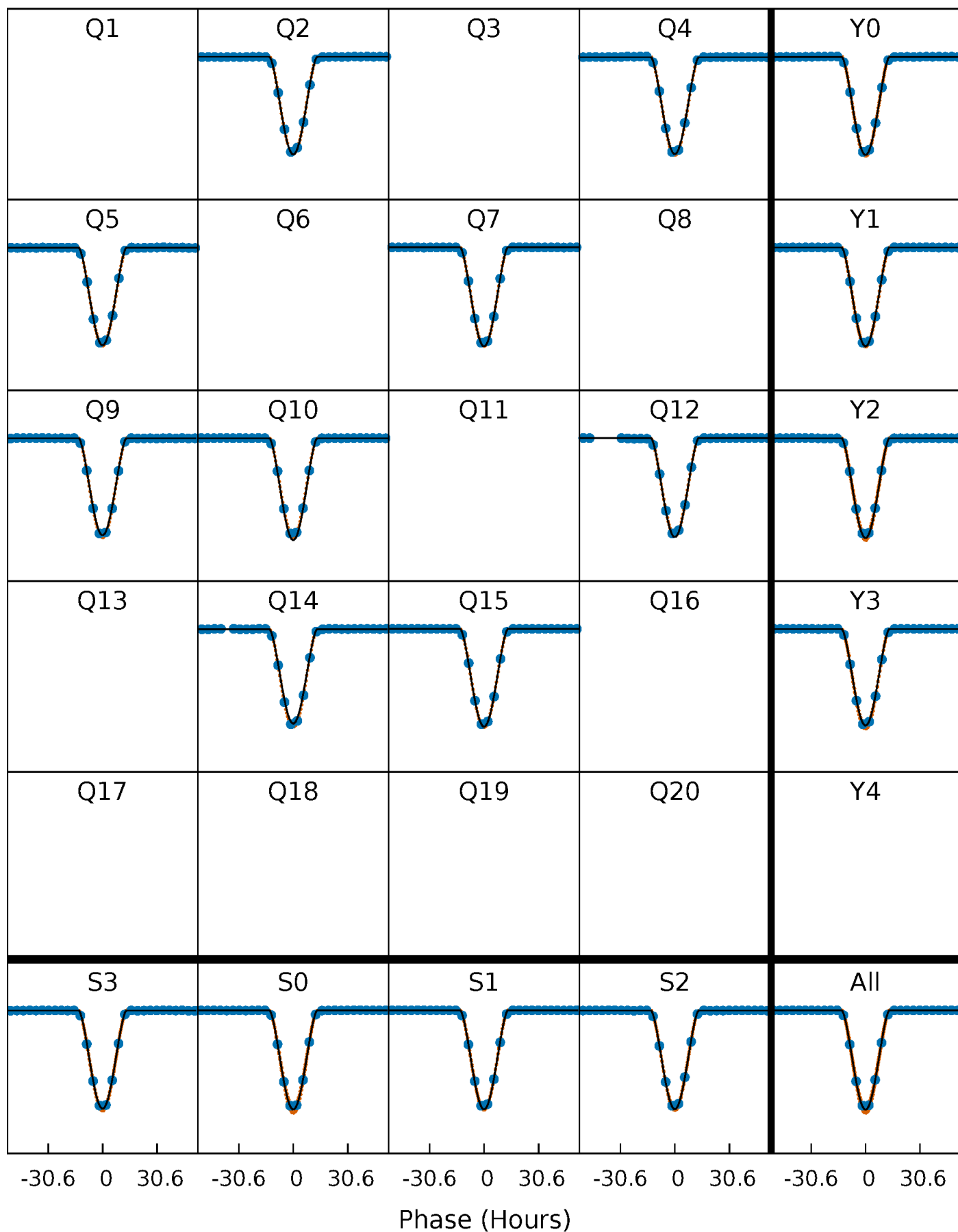
PDC Quarter-Phased Transit Curves

TCE 004824268-01 P=152.151443 Days $T_0=215.015717$ (BKJD)



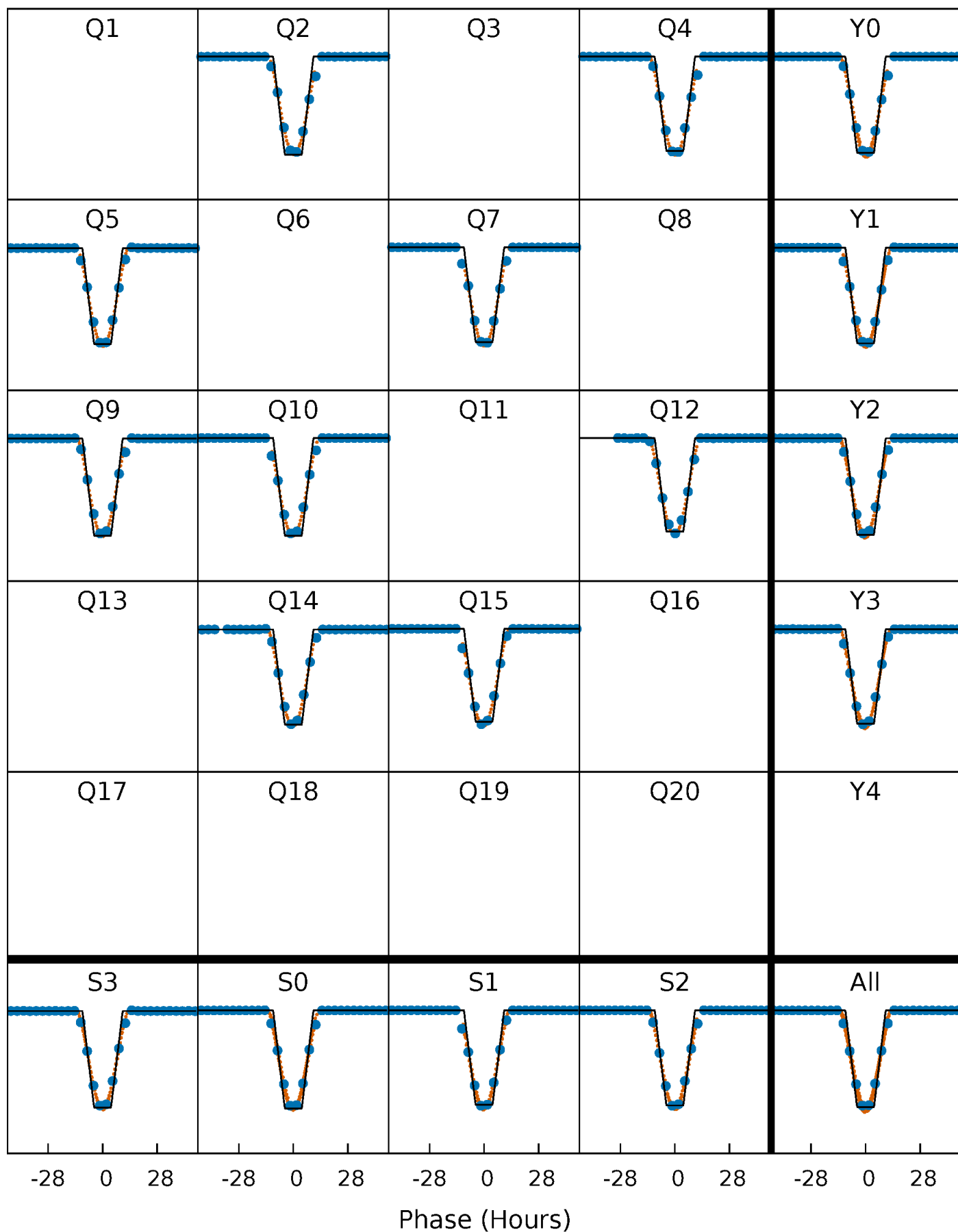
DV Quarter-Phased Transit Curves

TCE 004824268-01 P=152.151443 Days $T_0=215.015717$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

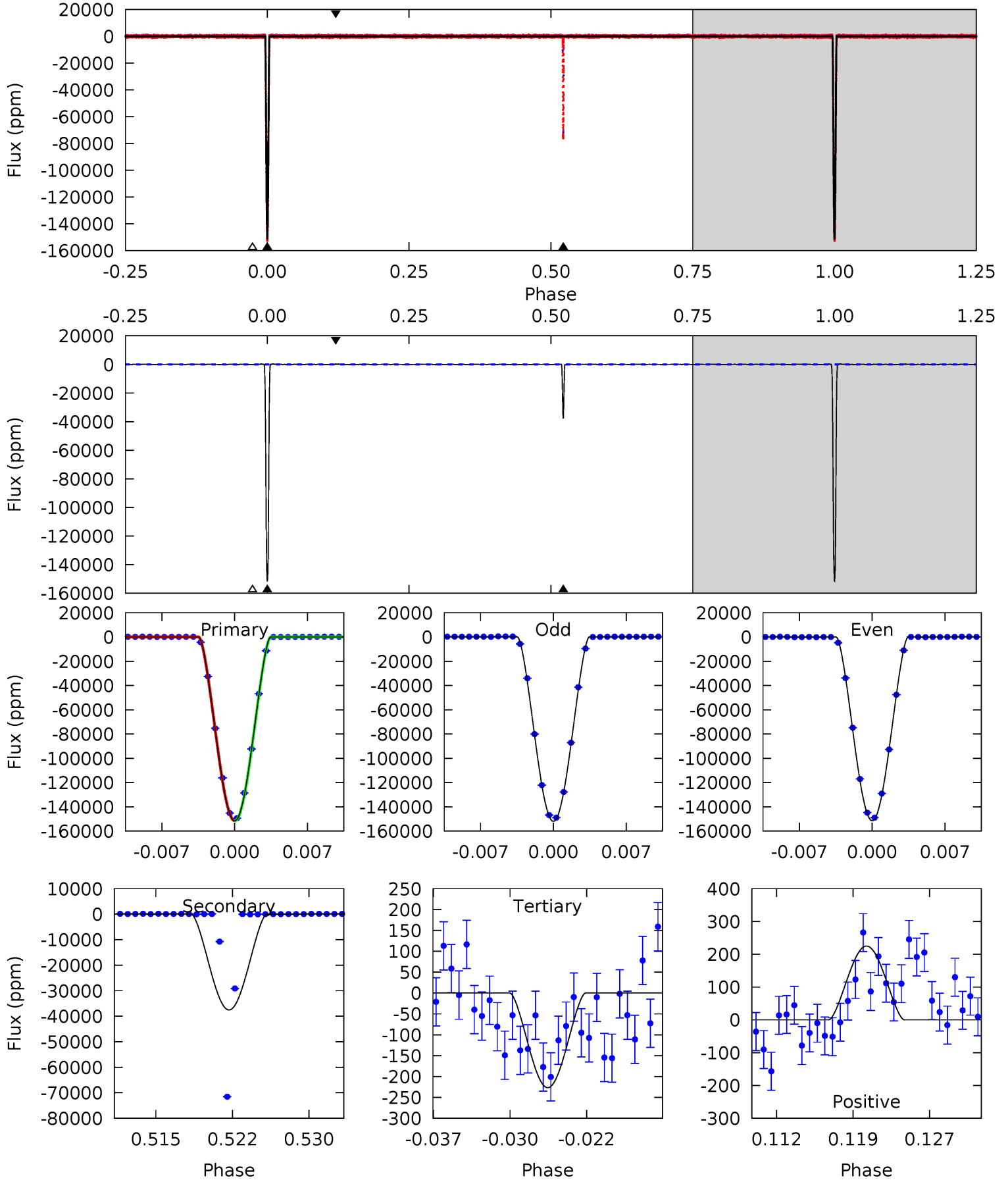
TCE 004824268-01 P=152.155099 Days $T_0=215.000806$ (BKJD)



DV Model-Shift Uniqueness Test

004824268-01, P = 152.151443 Days, E = 62.864274 Days

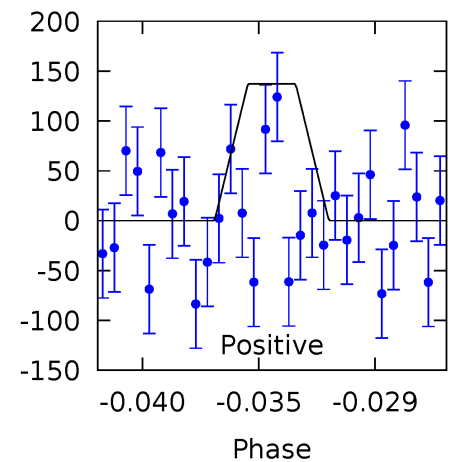
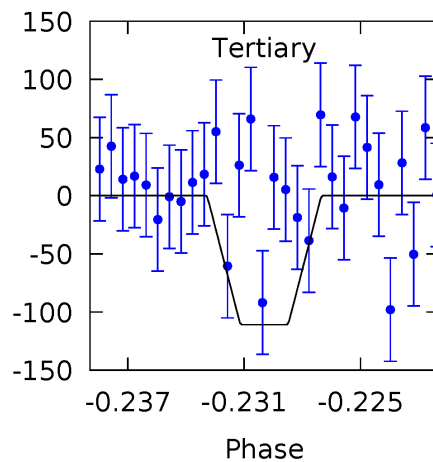
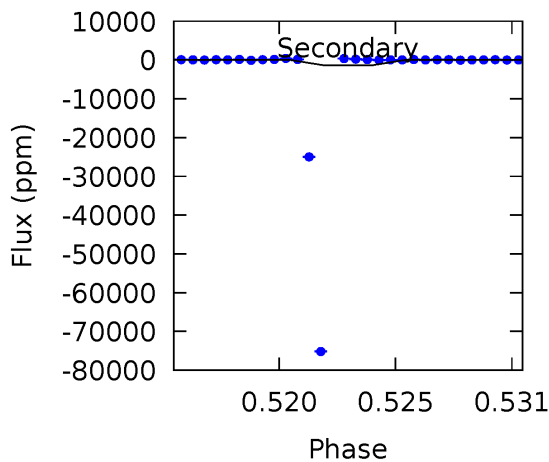
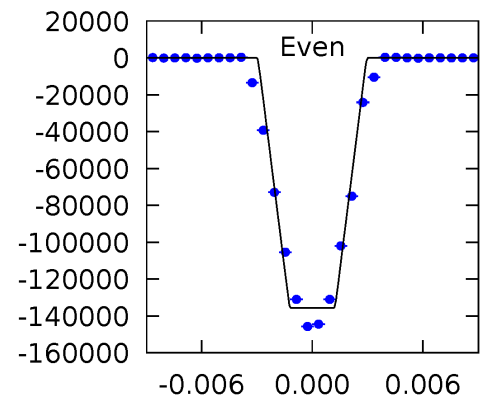
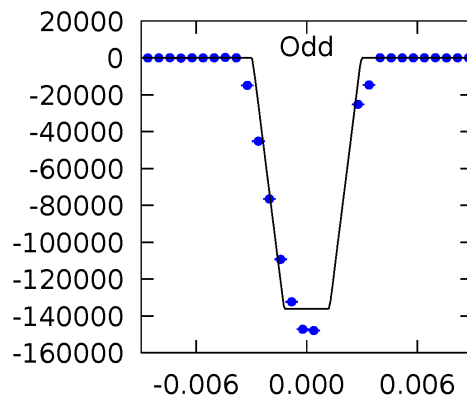
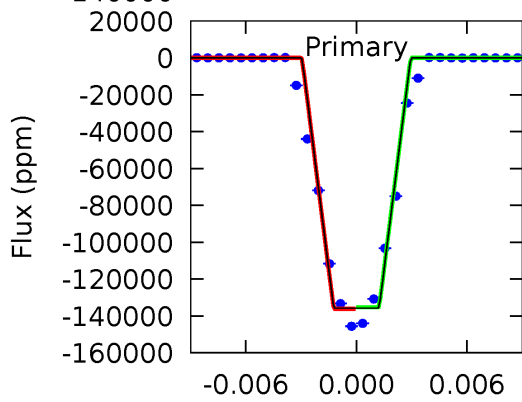
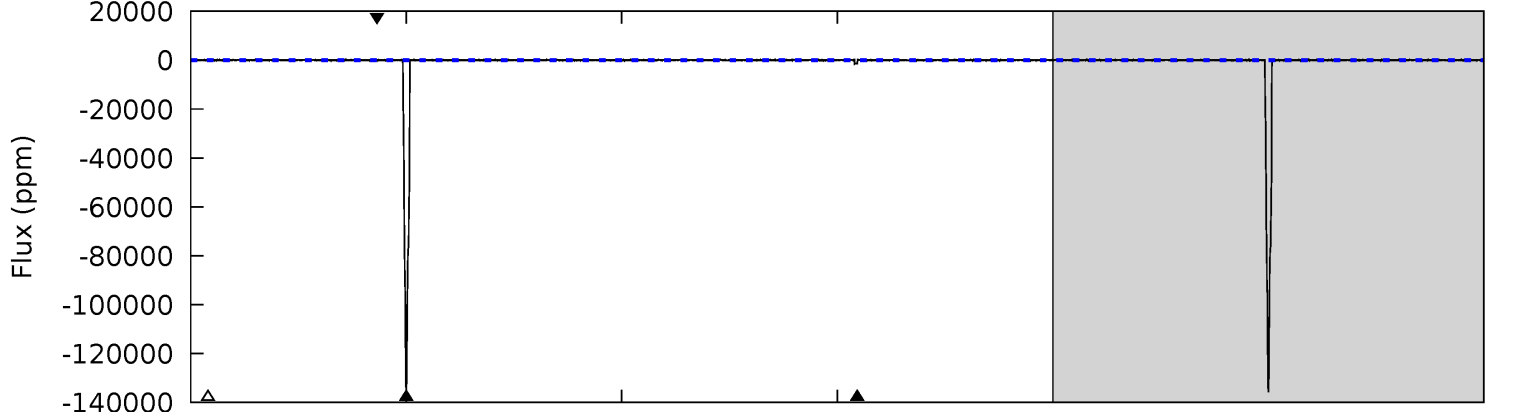
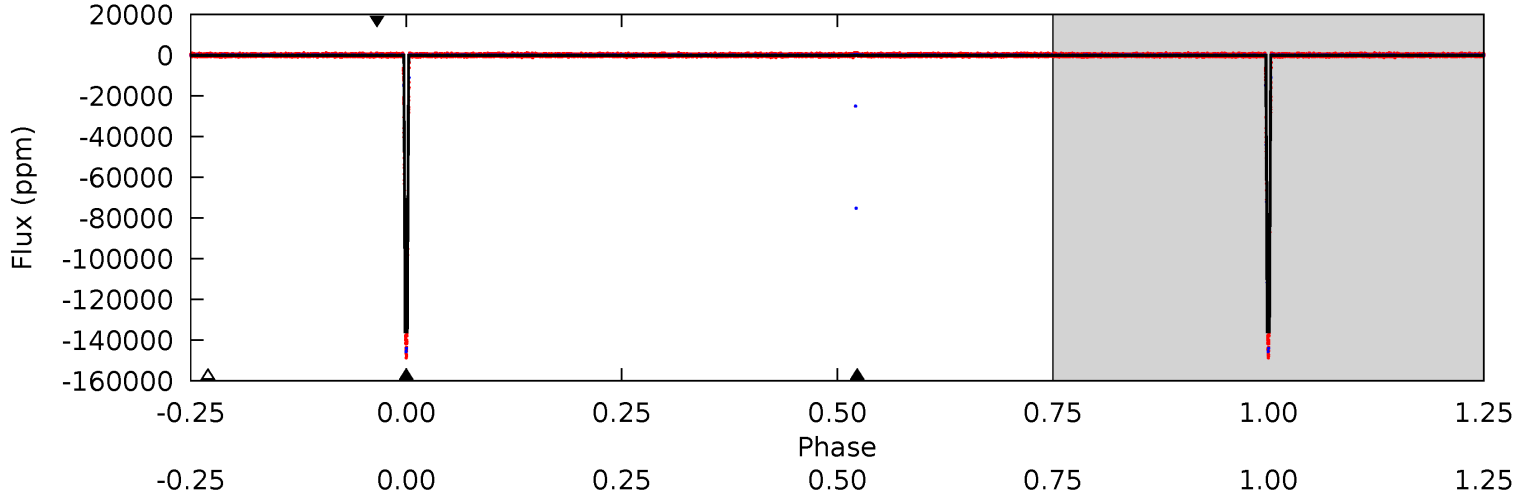
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9029	2238	13.5	13.4	5.08	2.68	4.30	9016	9016	2224	2224	14.0	1.00	0.00	1.01



Alt Model-Shift Uniqueness Test

004824268-01, P = 152.155099 Days, E = 62.845707 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4809	48.7	3.92	4.86	5.13	2.76	1.11	4805	4805	44.8	43.8	10.2	1.00	0.00	0



Stellar Parameters For KIC 004824268

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6217^{+175}_{-219}	$4.472^{+0.054}_{-0.216}$	$-0.220^{+0.250}_{-0.300}$	$0.989^{+0.320}_{-0.107}$	$1.056^{+0.144}_{-0.144}$	$1.540^{+0.451}_{-0.833}$
	+3%/-4%	+1%/-5%	+114%/-136%	+32%/-11%	+14%/-14%	+29%/-54%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004824268-01 / KOI 3533.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-37551±17	$59.38^{+11.92}_{-9.28}$	516^{+36}_{-24}	4090^{+242}_{-199}	1895^{+779}_{-534}
Alt.	-1374±28	$43.45^{+10.42}_{-9.20}$	516^{+37}_{-26}	2707^{+167}_{-127}	127^{+70}_{-43}

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

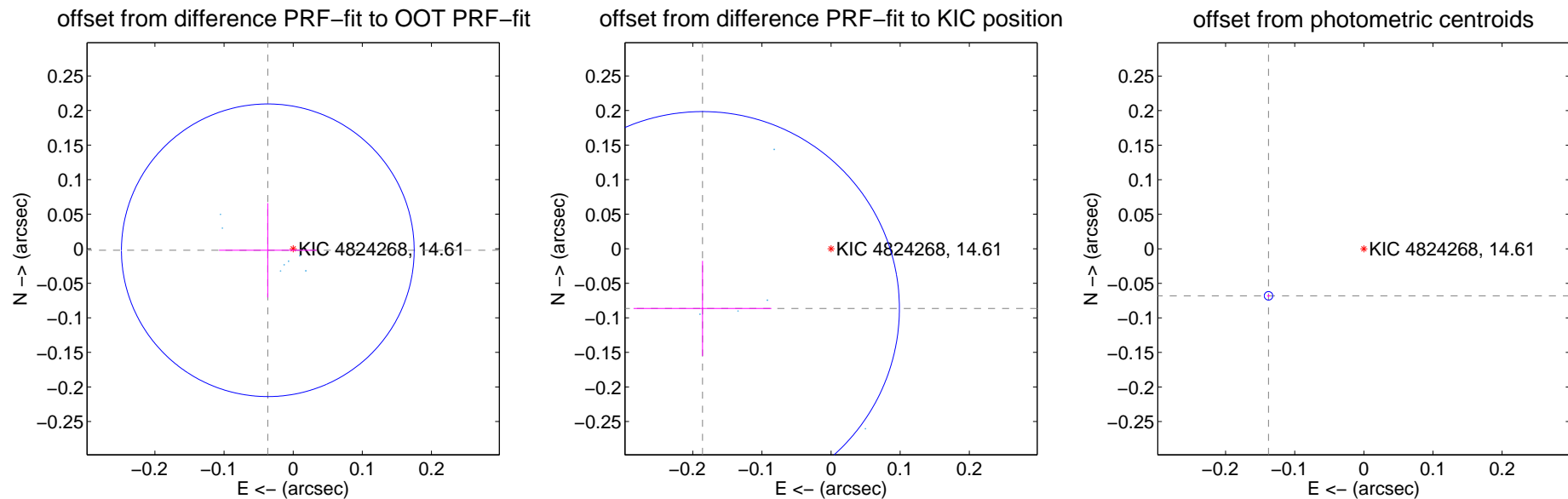
DV Centroid Data

Supplemental centroid analysis for 004824268-01. Kepler magnitude: 14.61. Transit SNR 2848.04

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.037 ± 0.071	0.52	0.037 ± 0.071	-0.002 ± 0.068
PRF-fit source offset from KIC position	0.205 ± 0.095	2.16	0.186 ± 0.100	-0.086 ± 0.069
photometric centroid source offset	0.15 ± 0.00	75.08	0.14 ± 0.00	-0.07 ± 0.00



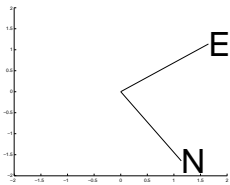
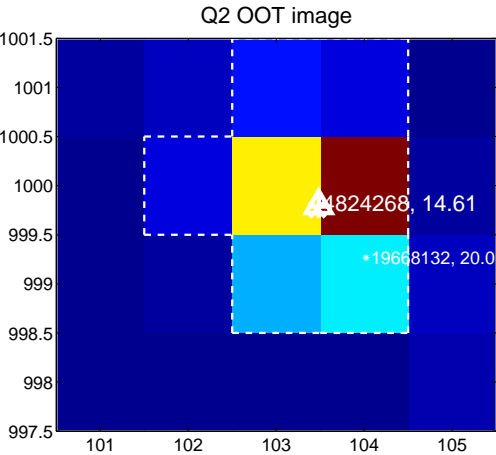
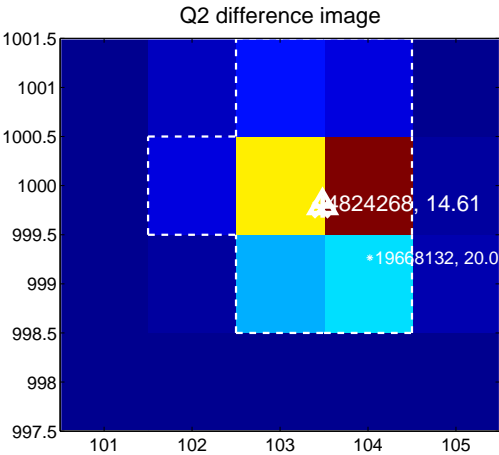
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

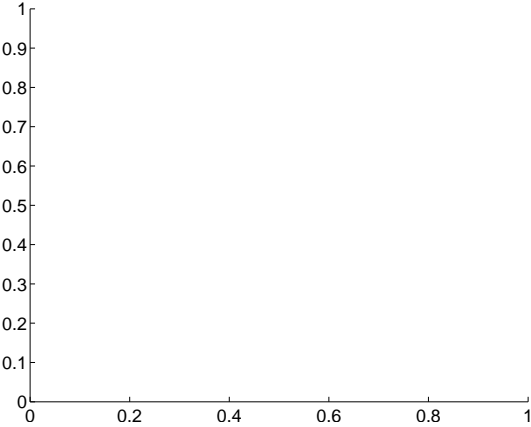
Q1 no difference image



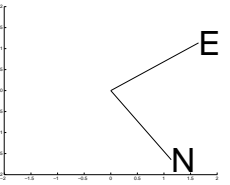
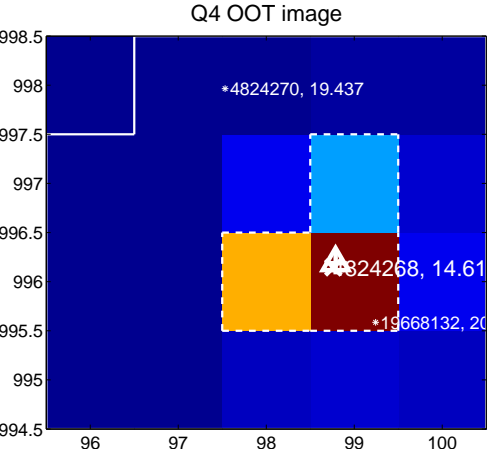
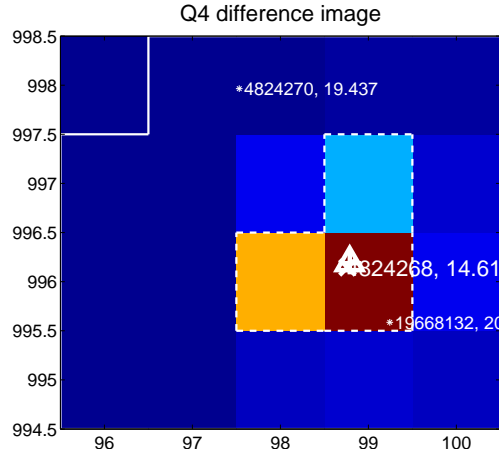
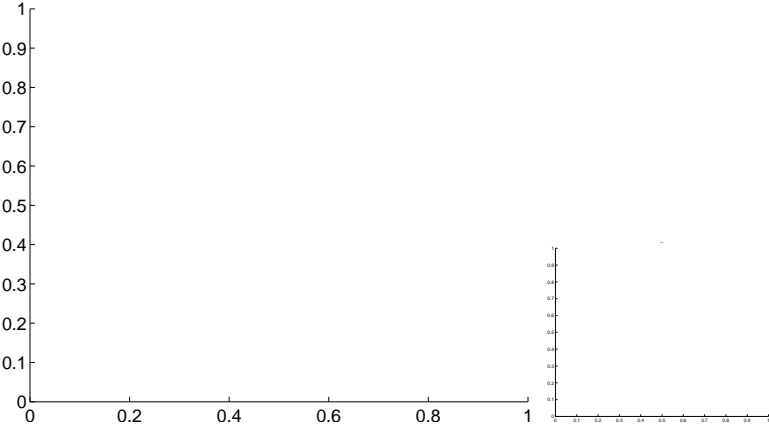
Q1 no OOT image



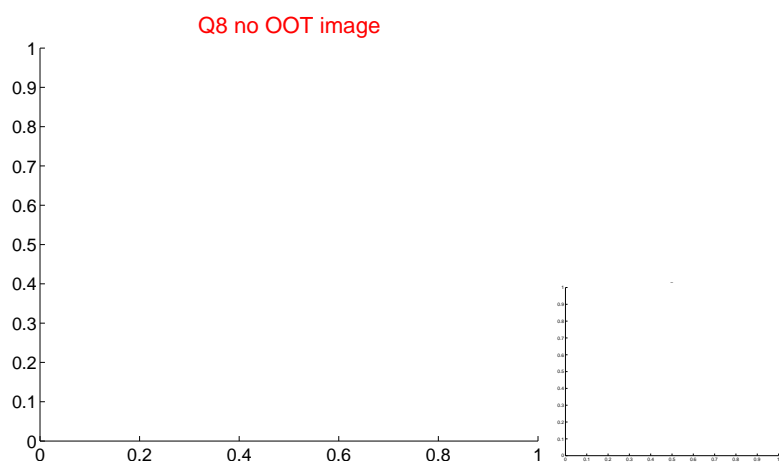
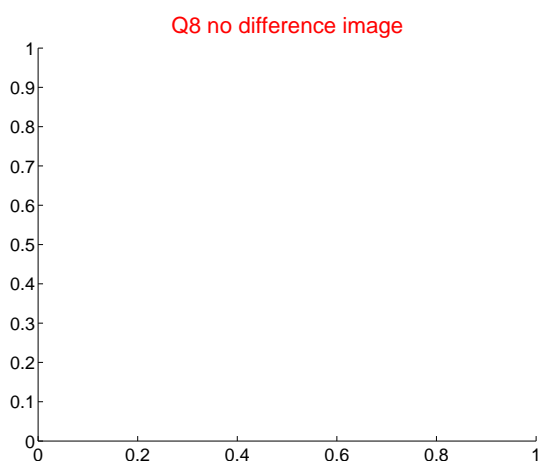
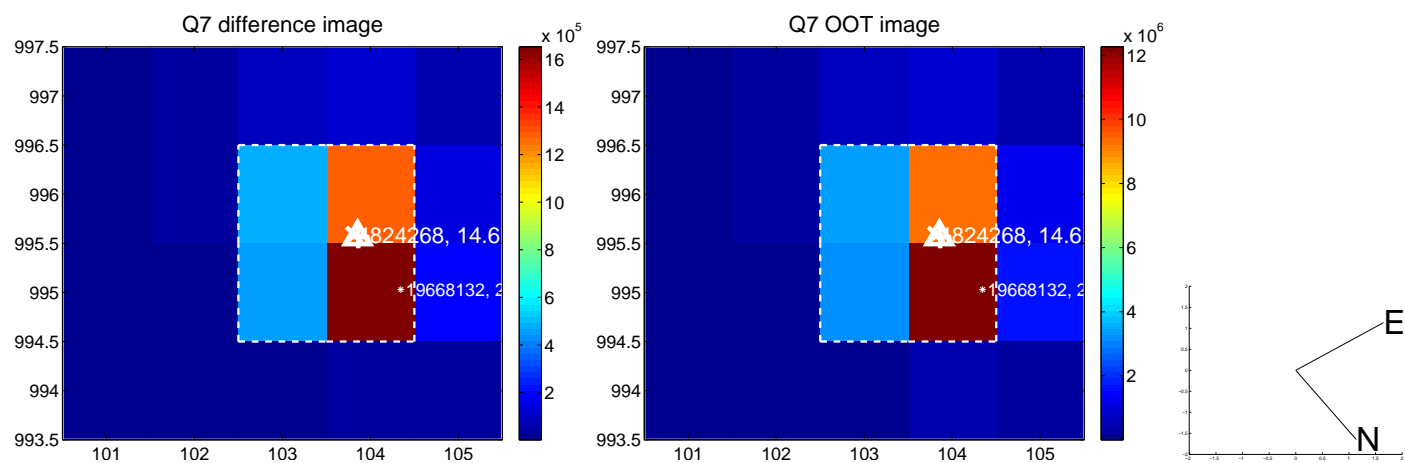
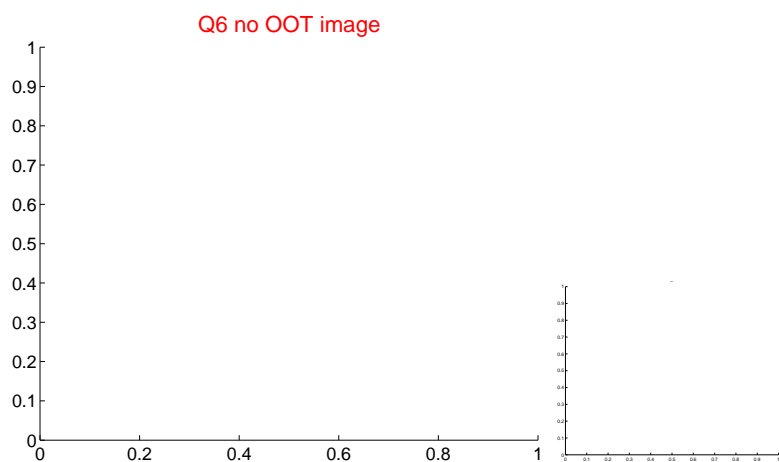
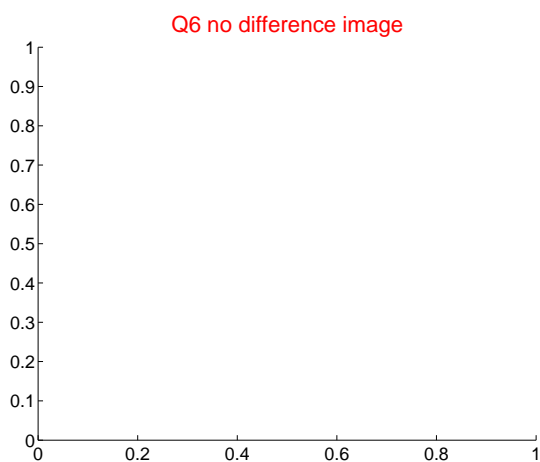
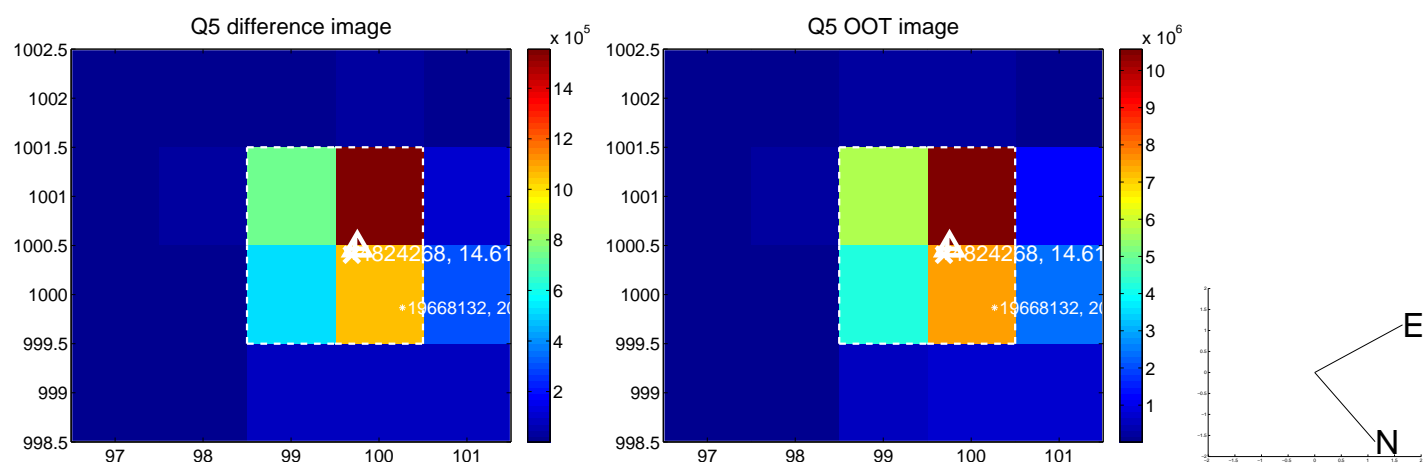
Q3 no difference image



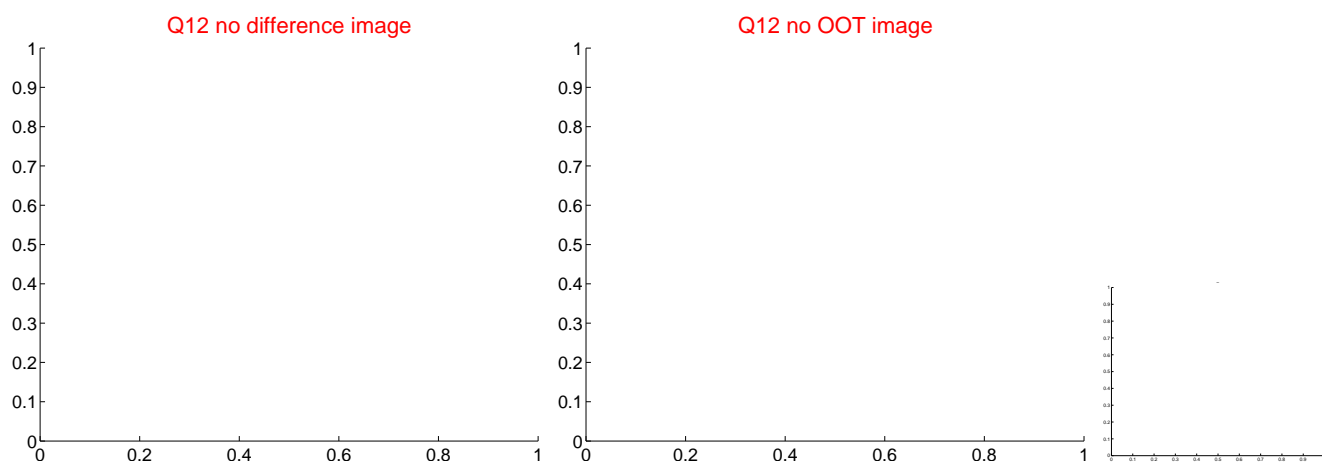
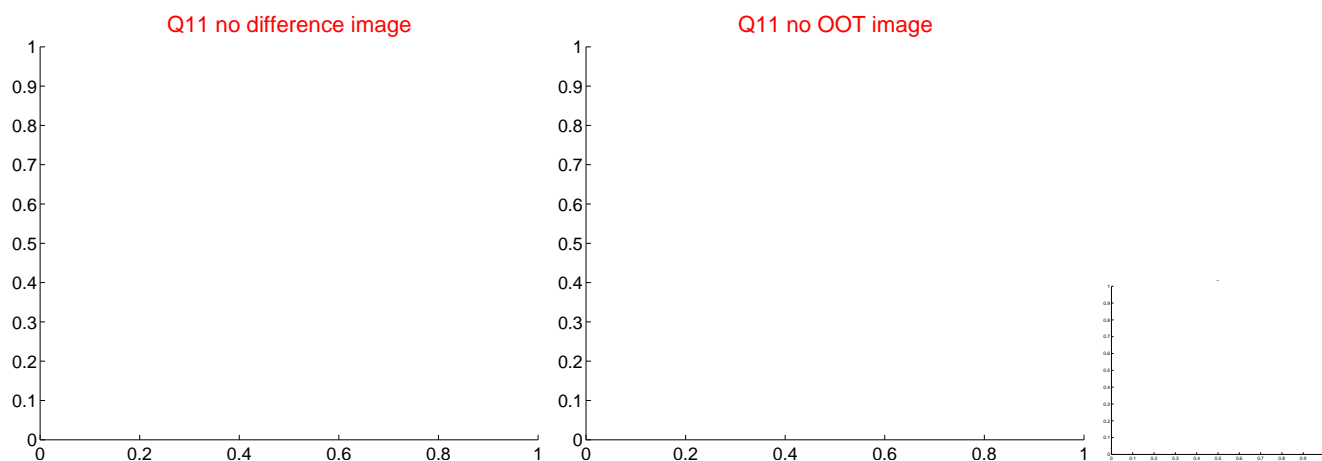
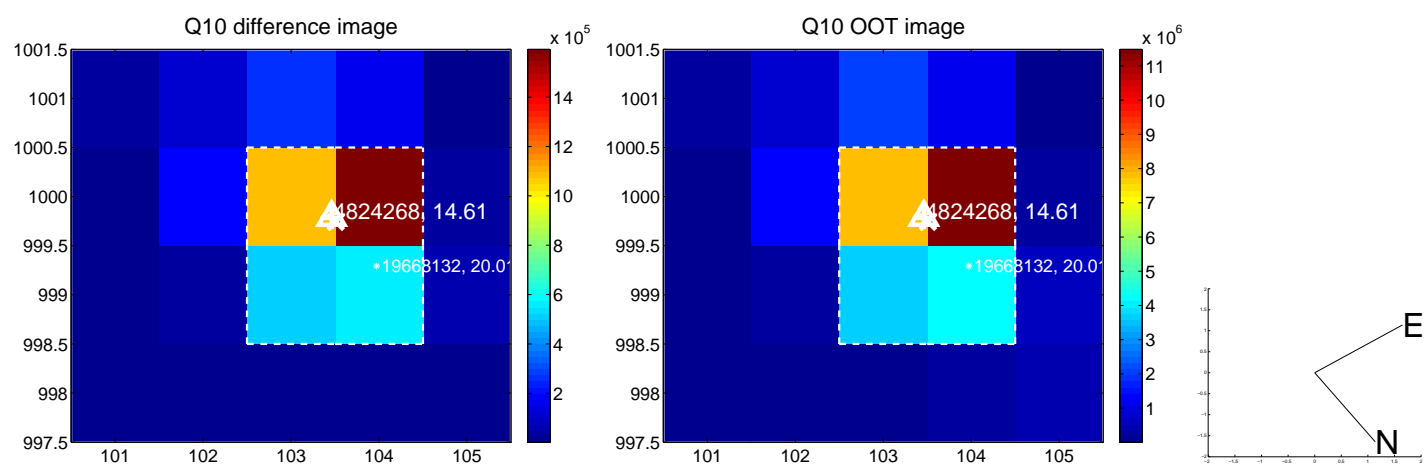
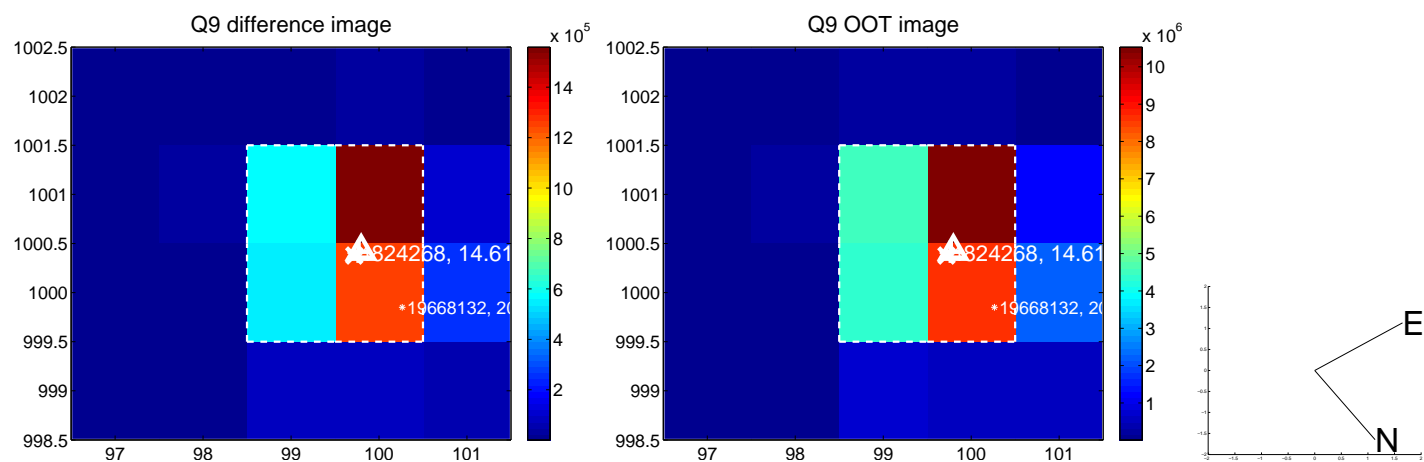
Q3 no OOT image



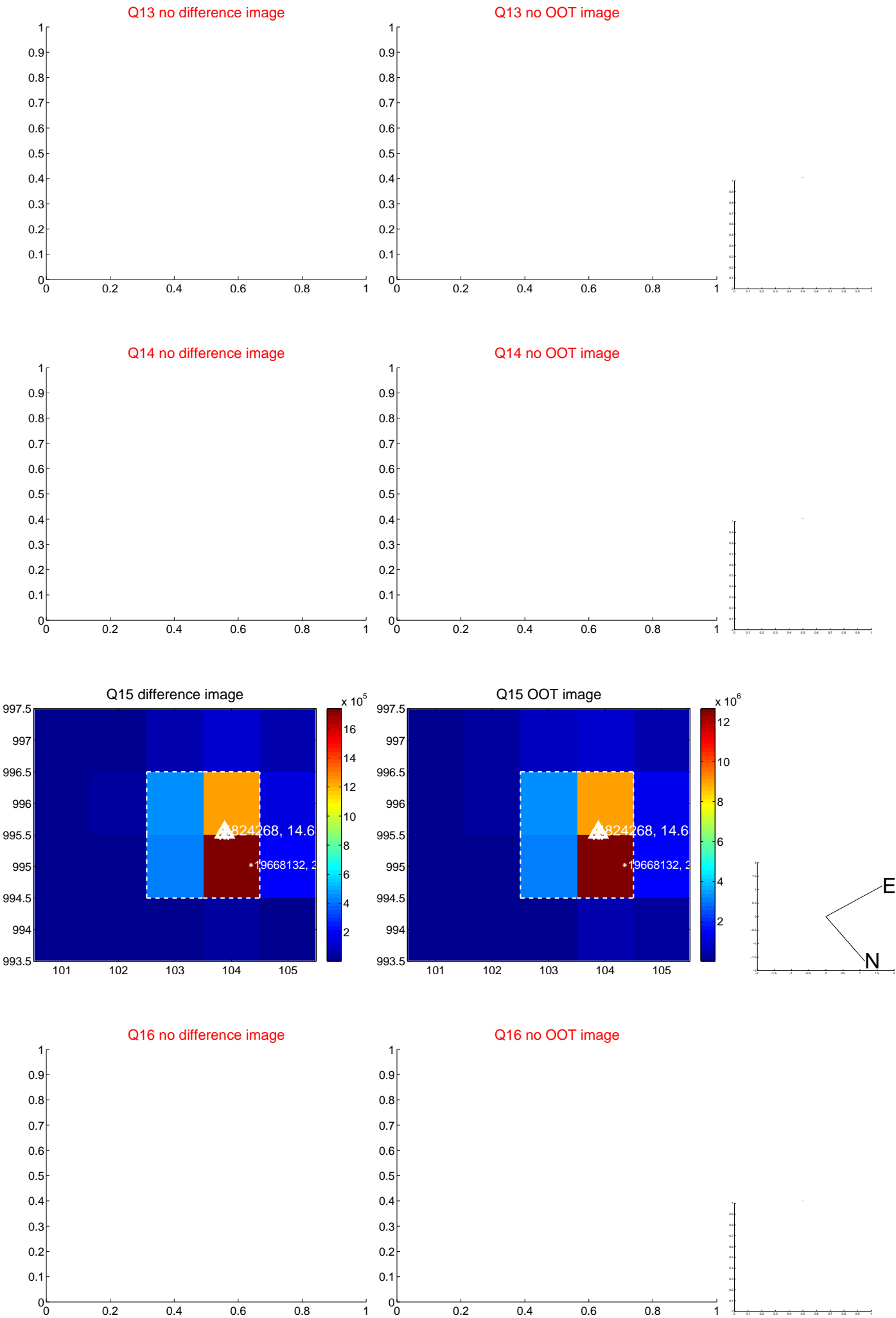
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



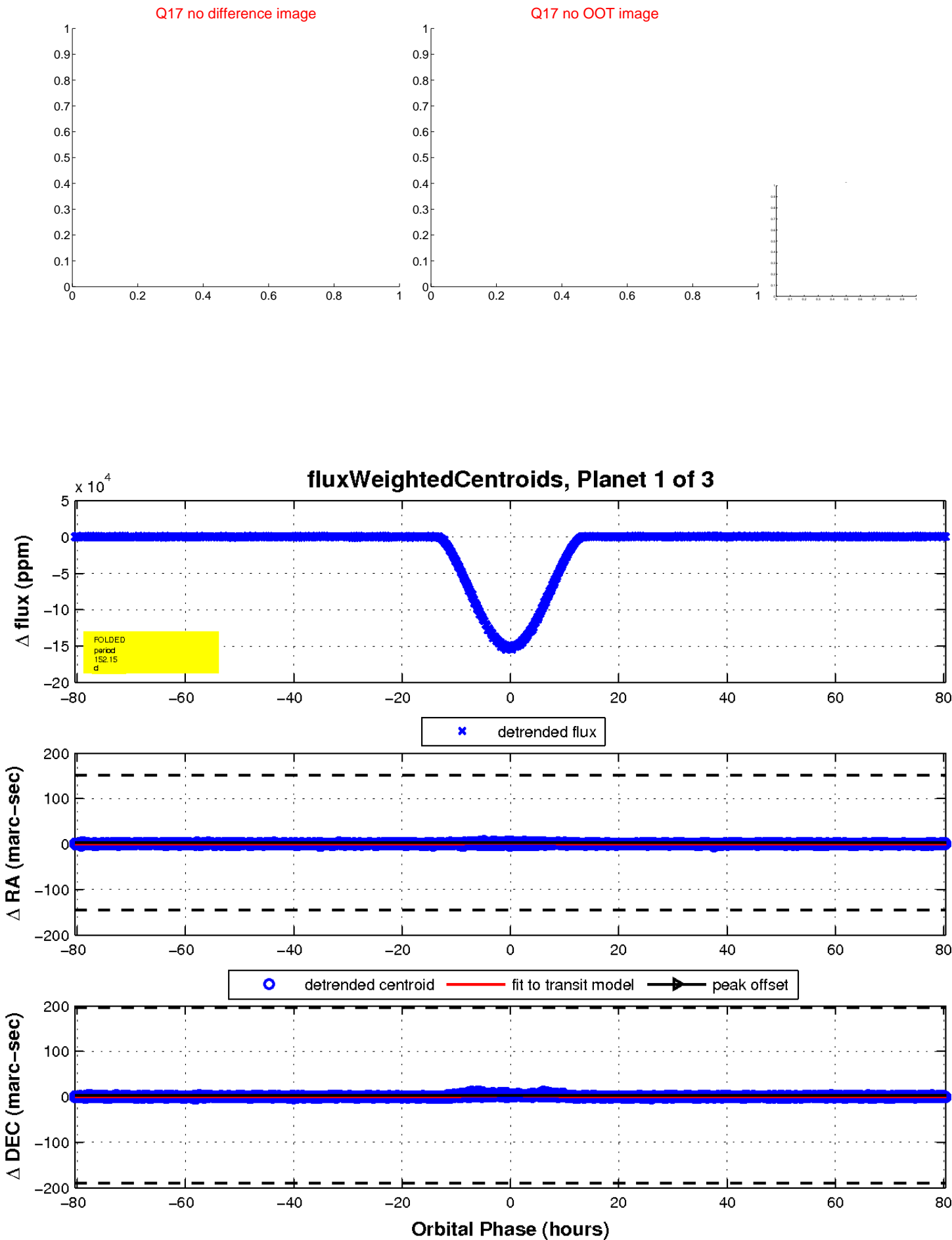
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



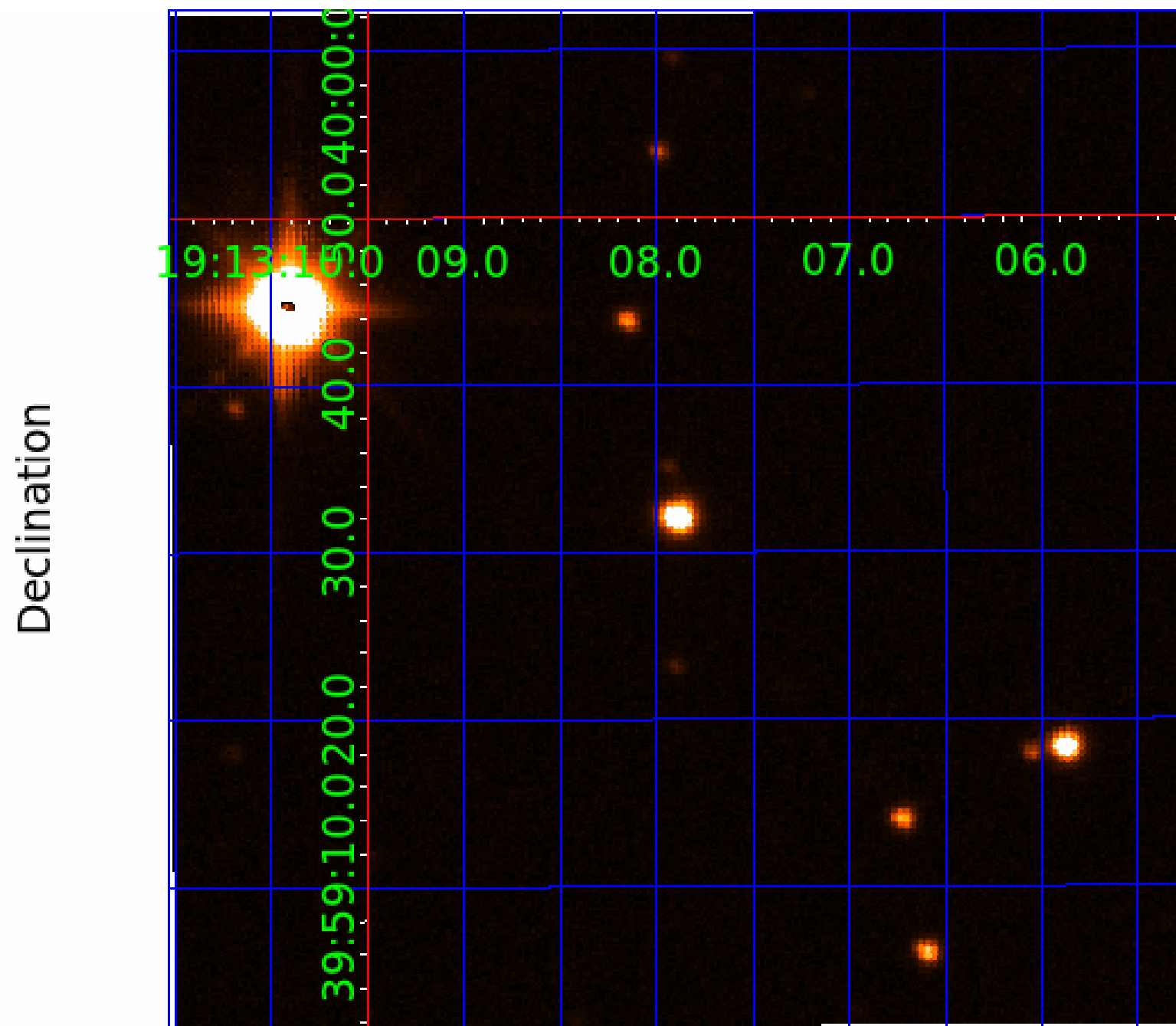
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004824268

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})
004824268-01	OBS	3533.01	152.151443	215.015717	151222.1	26.813	3395.7	2848.0	0.99	6217	56.92	4.05
004824268-02	OBS	No	152.151564	142.241537	76026.7	6.532	1728.1	1168.0	0.99	6217	29.07	4.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004824268-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
004824268-02	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.

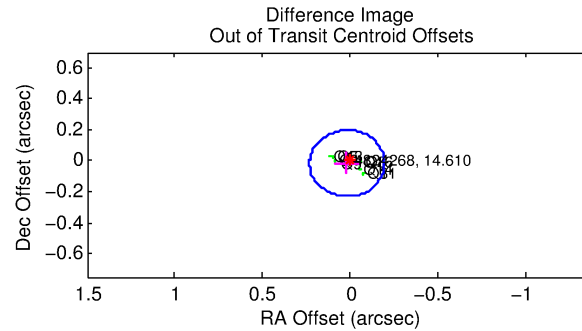
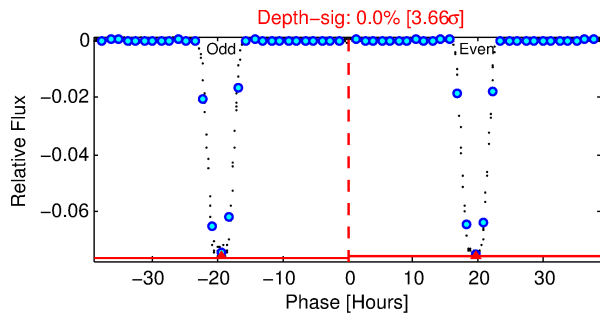
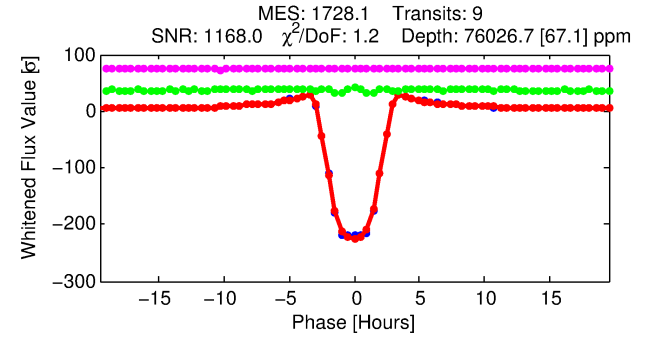
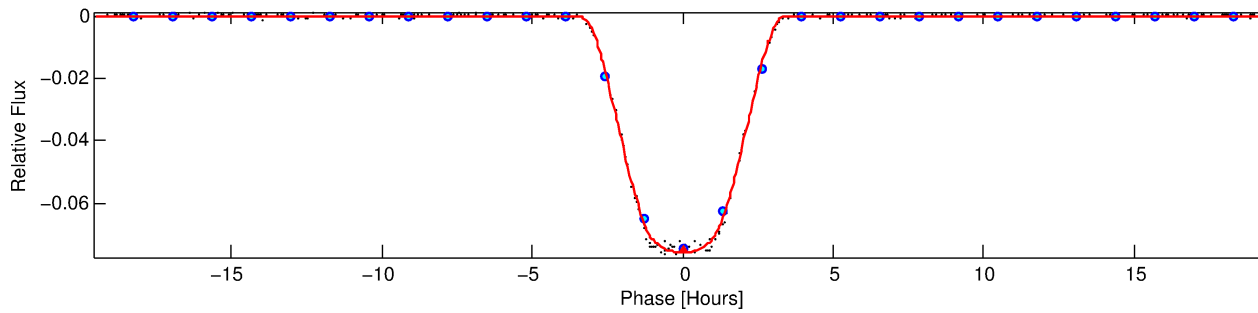
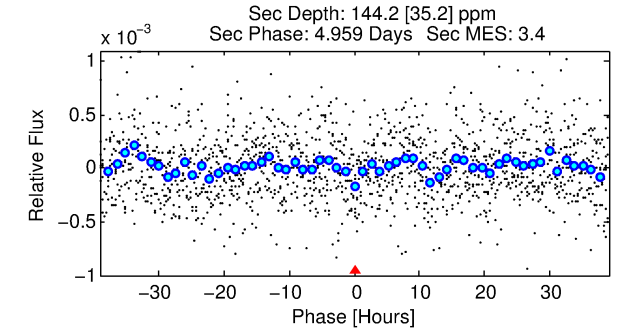
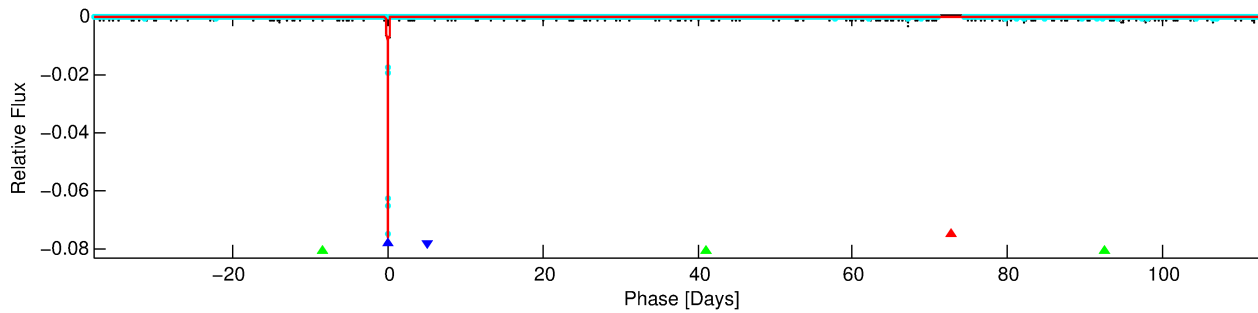
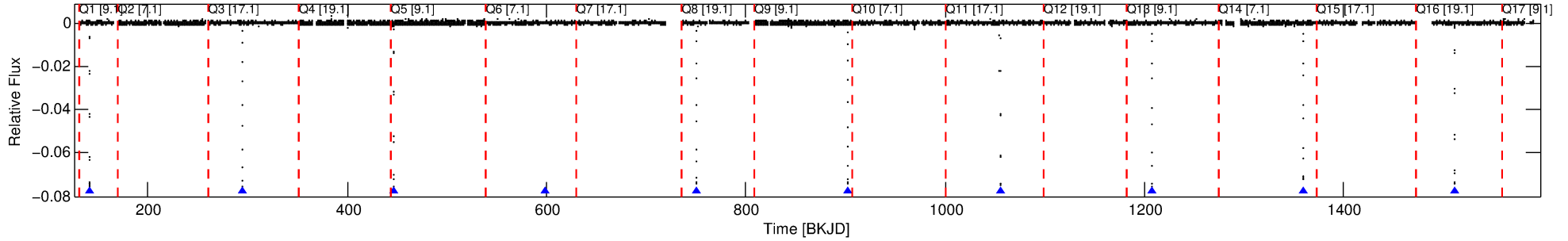
Ephemeris Match Information For 004824268-02

No Significant Match Found

DV One-Page Summary

KIC: 4824268 Candidate: 2 of 3 Period: 152.152 d
KOI: K03533 Corr: No Ephemeris Match

Kp: 14.61 R*: 0.99 Rs Teff: 6217.0 K Logg: 4.47 Fe/H: -0.220



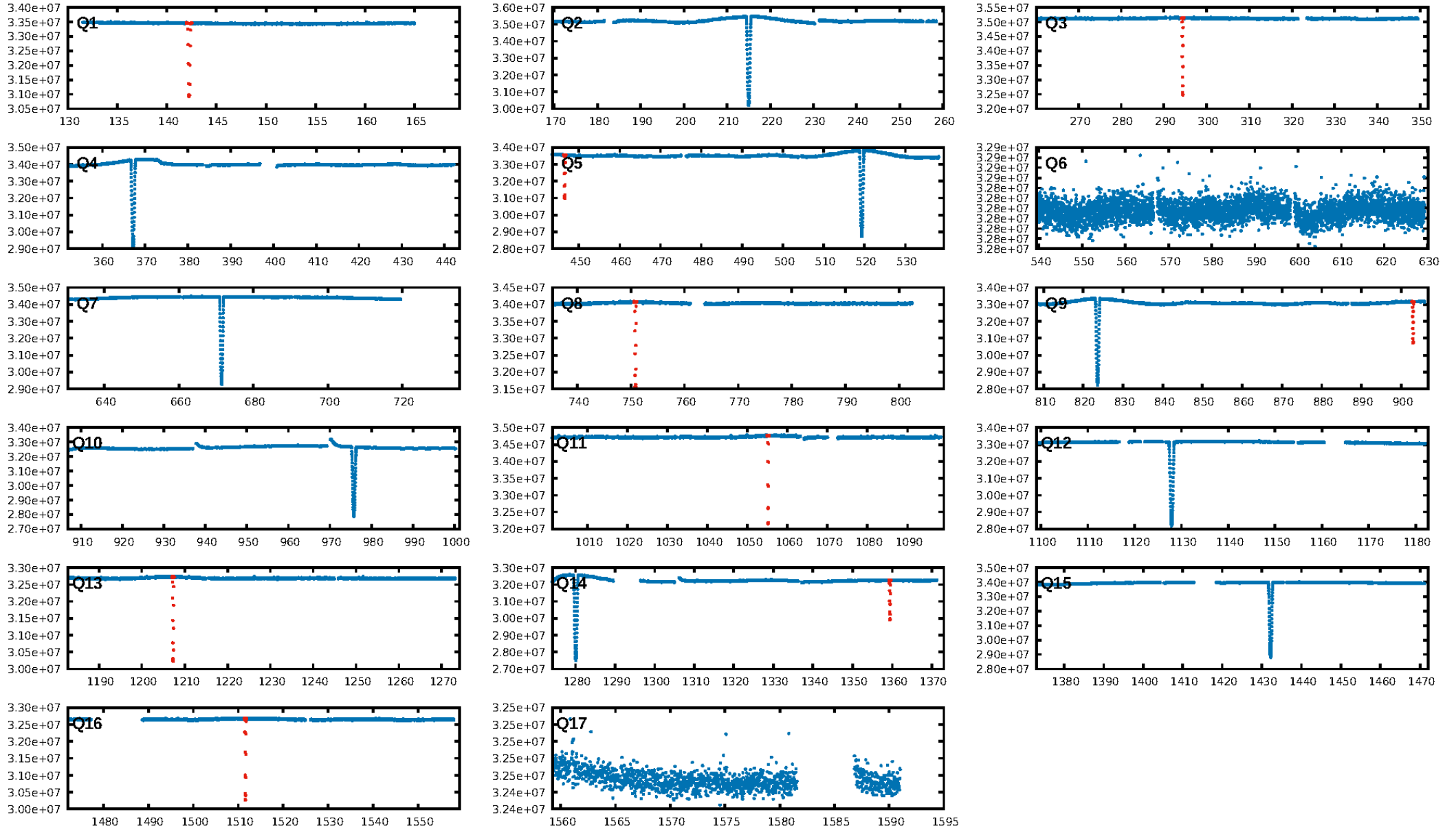
DV Fit Results:

Period = 152.15156 [0.00002] d
Epoch = 142.2415 [0.0001] BKJD
Rp/R* = 0.2693 [0.0002]
a/R* = 194.90 [0.28]
b = 0.64 [0.00]
Seff = 4.05 [1.70]
Teq = 362 [38] K
Rp = 29.06 [9.40] Re
a = 0.5684 [0.1546] AU
Ag = 30.35 [14.10] [2.08σ]
Teffp = 1313 [92] K [9.52σ]

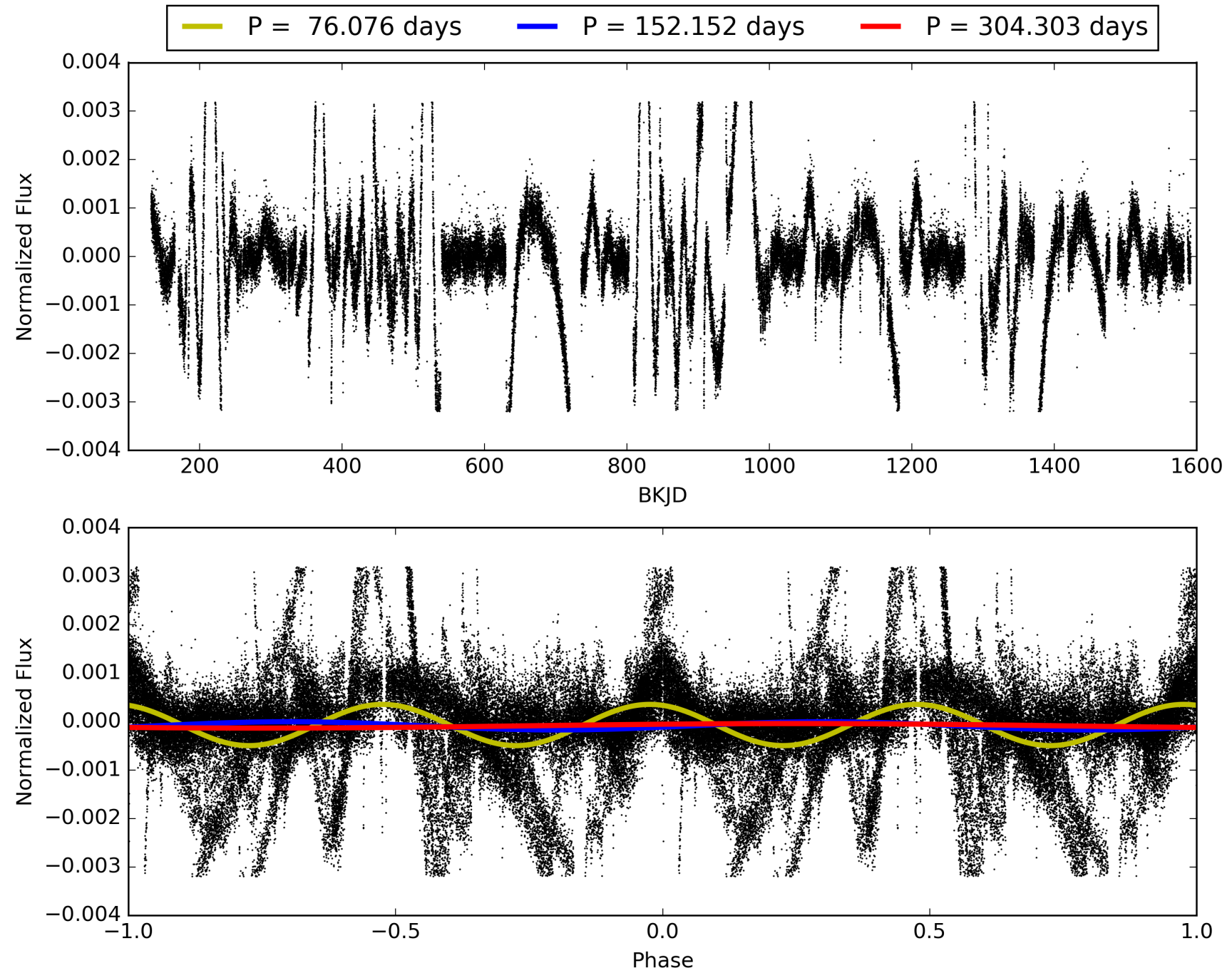
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [434.92σ]
ModelChiSquare2-sig: 28.0%
ModelChiSquareGof-sig: 94.8%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 4.116
Centroid-sig: 0.0%
Centroid-so: 0.169 arcsec [28.81σ]
OotOffset-rm: 0.025 arcsec [0.35σ]
KicOffset-rm: 0.164 arcsec [1.72σ]
OotOffset-st: 1/2/2/4 [9]
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TCE 004824268-02, PDC Light Curves

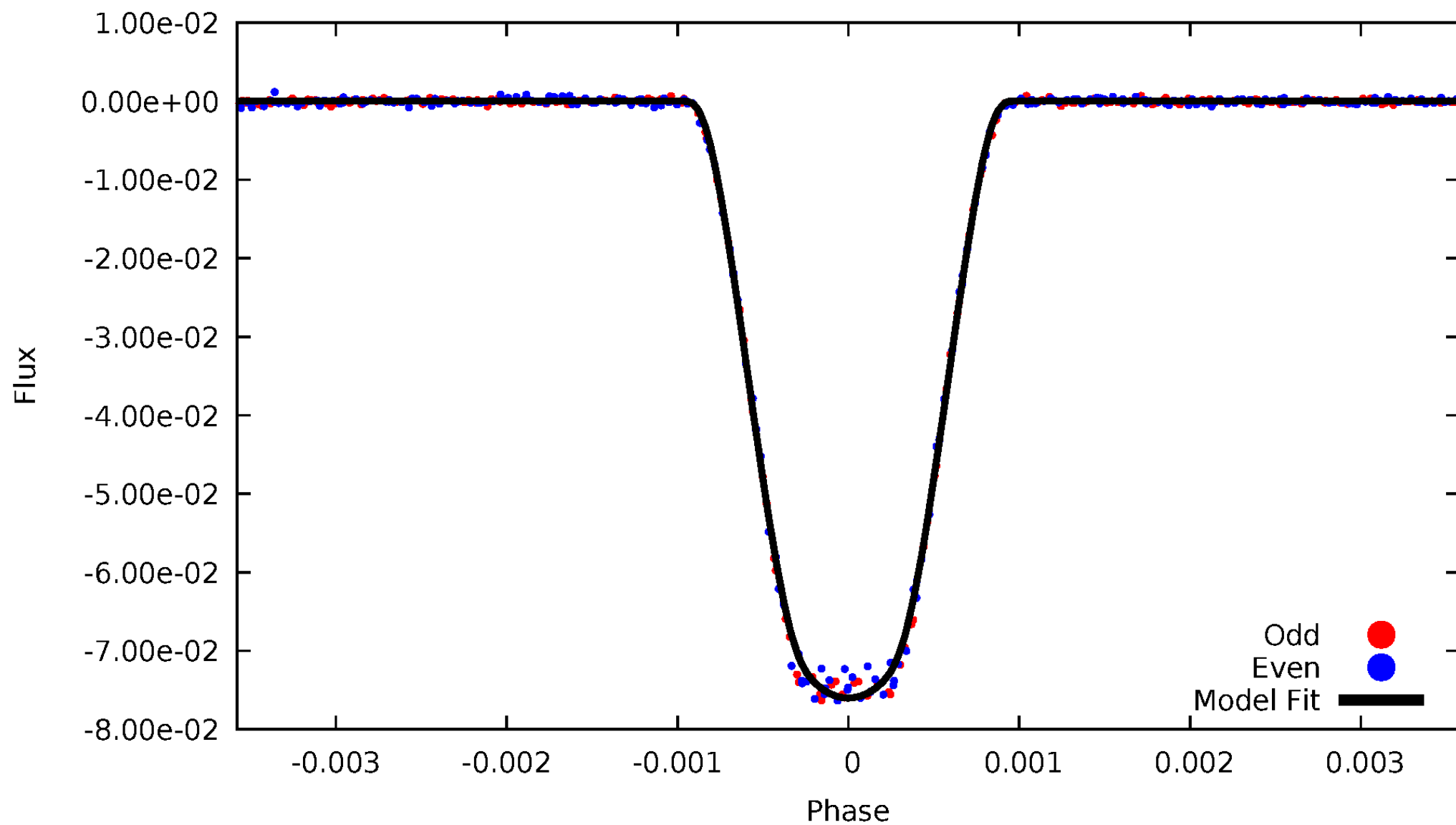


TCE 004824268-02



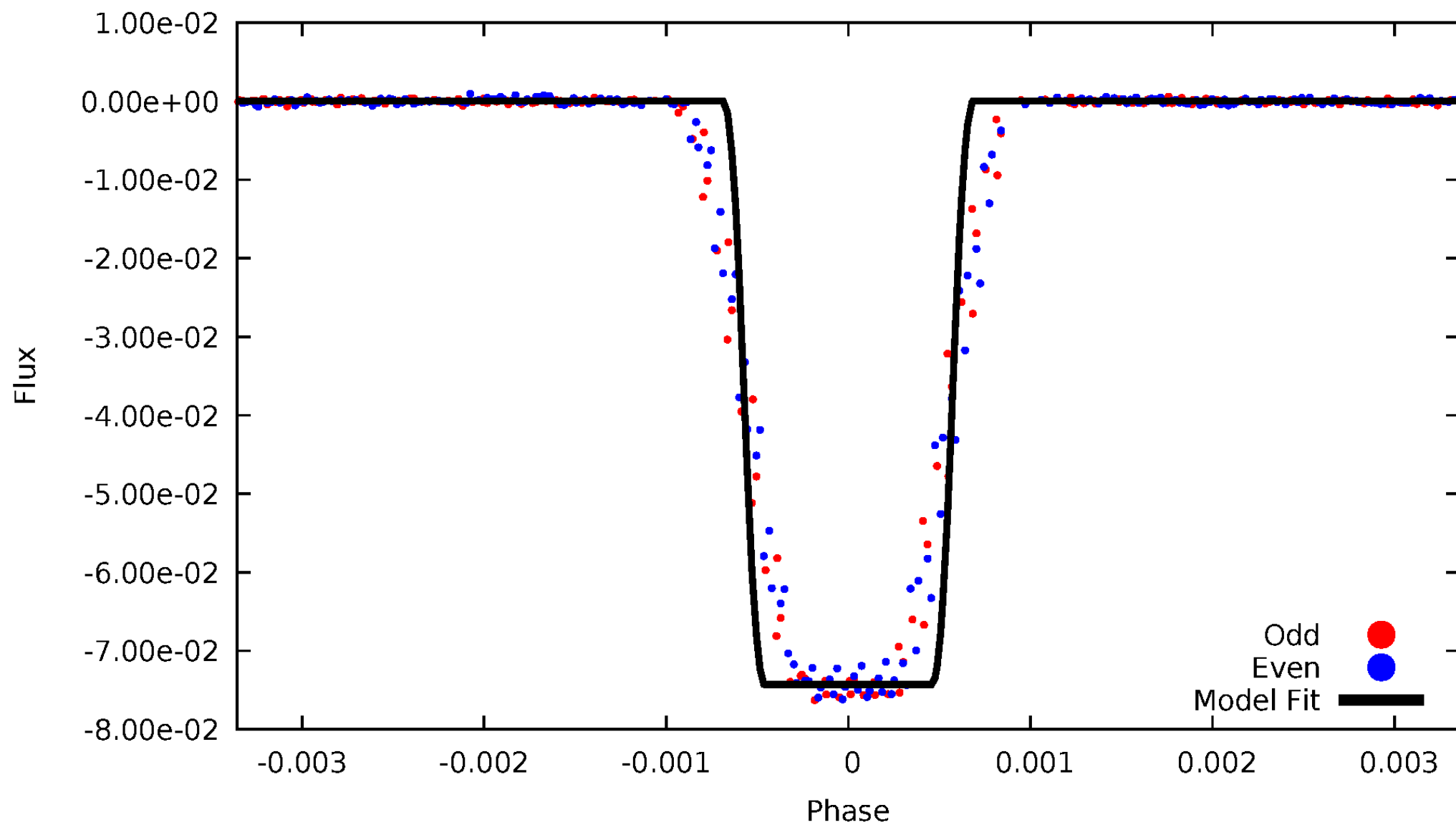
DV Odd/Even

TCE 004824268-02



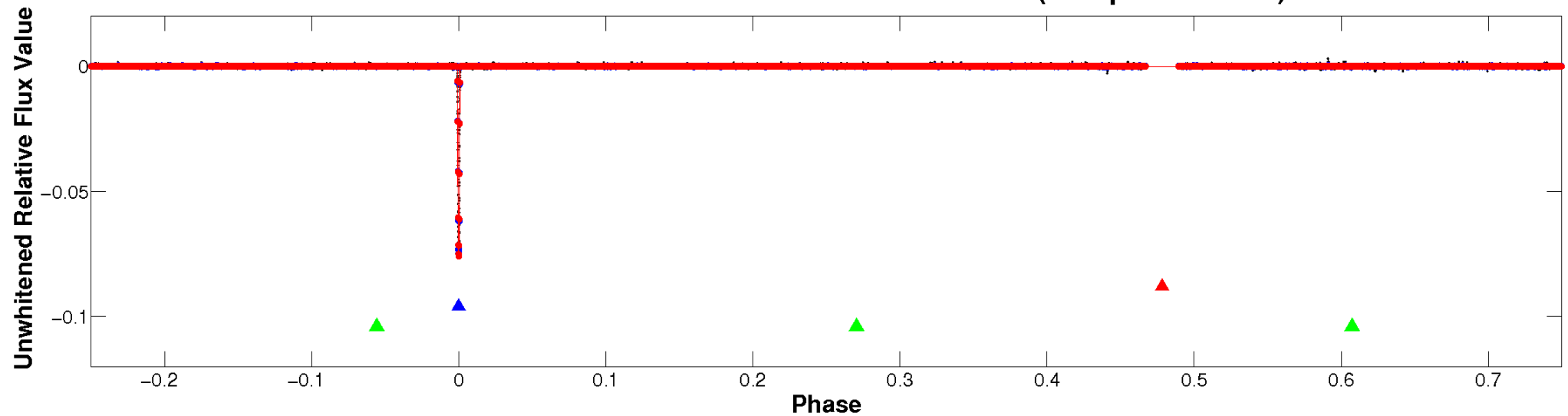
ALT Odd/Even

TCE 004824268-02

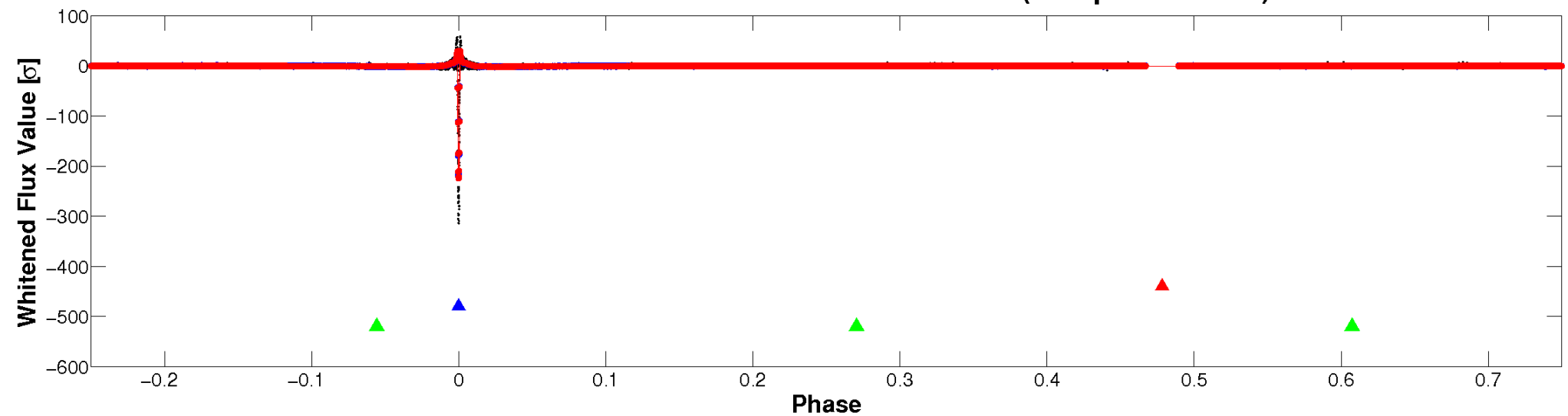


Non-Whitened Vs. Whitened Light Curve

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

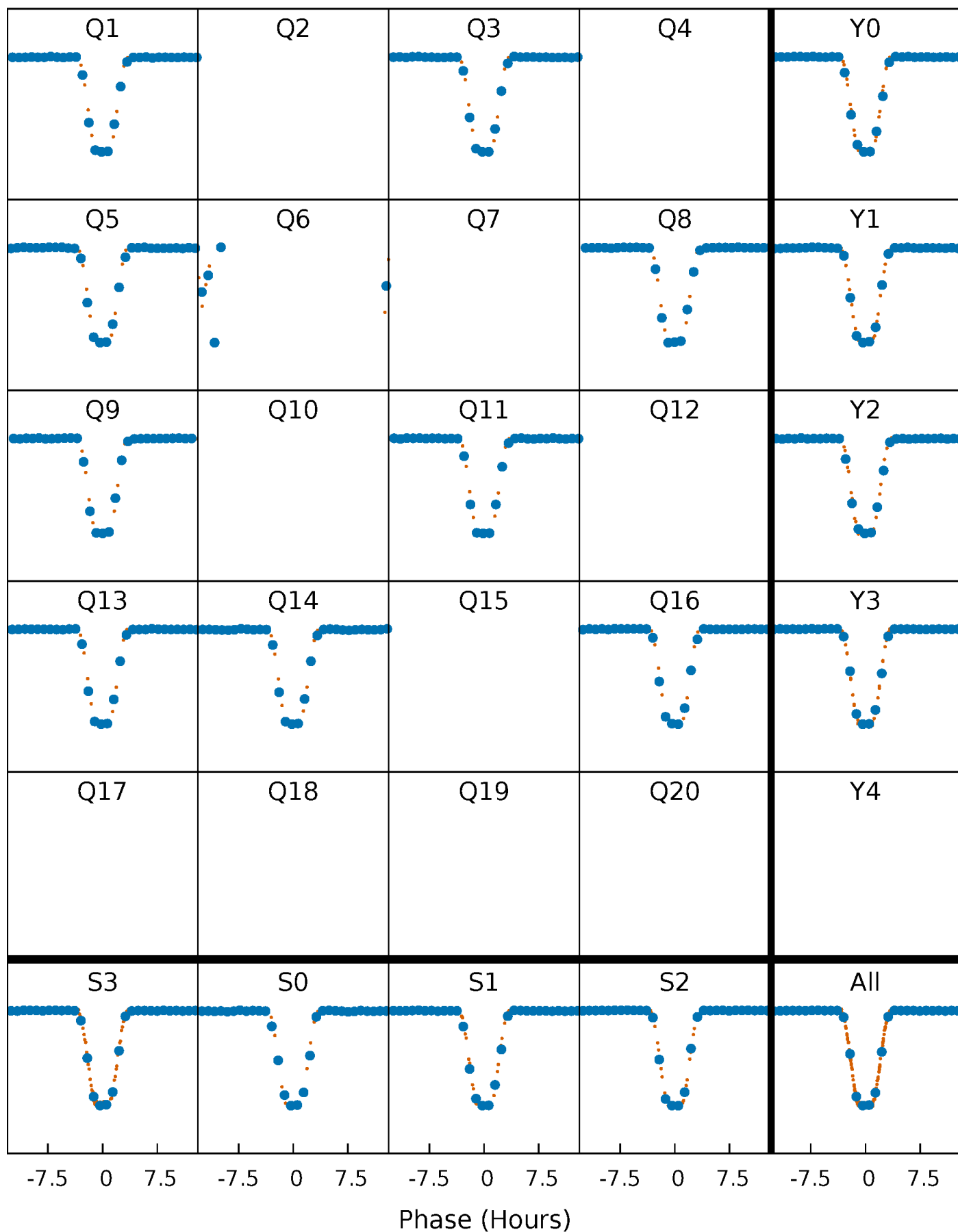


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



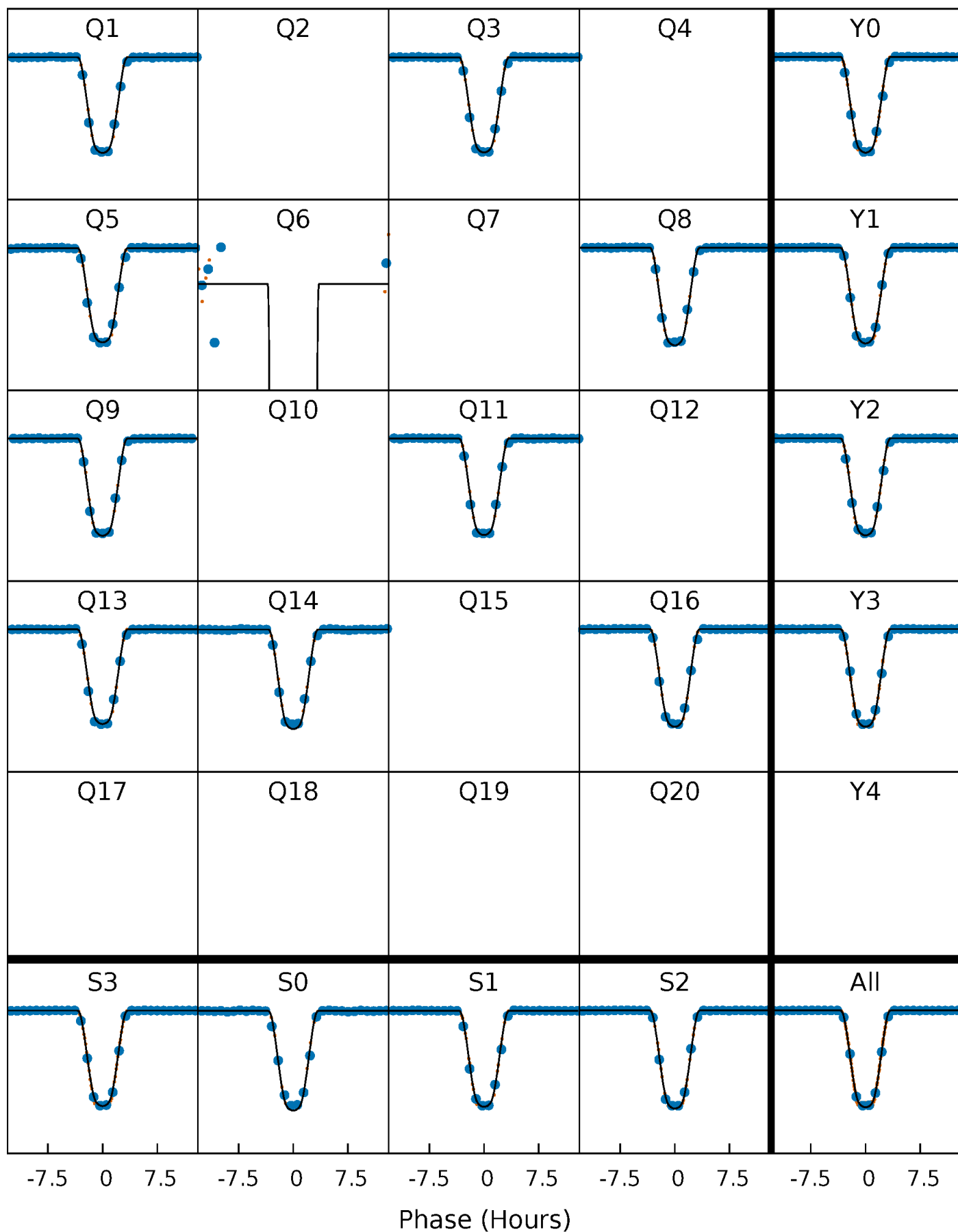
PDC Quarter-Phased Transit Curves

TCE 004824268-02 P=152.151564 Days $T_0=142.241537$ (BKJD)



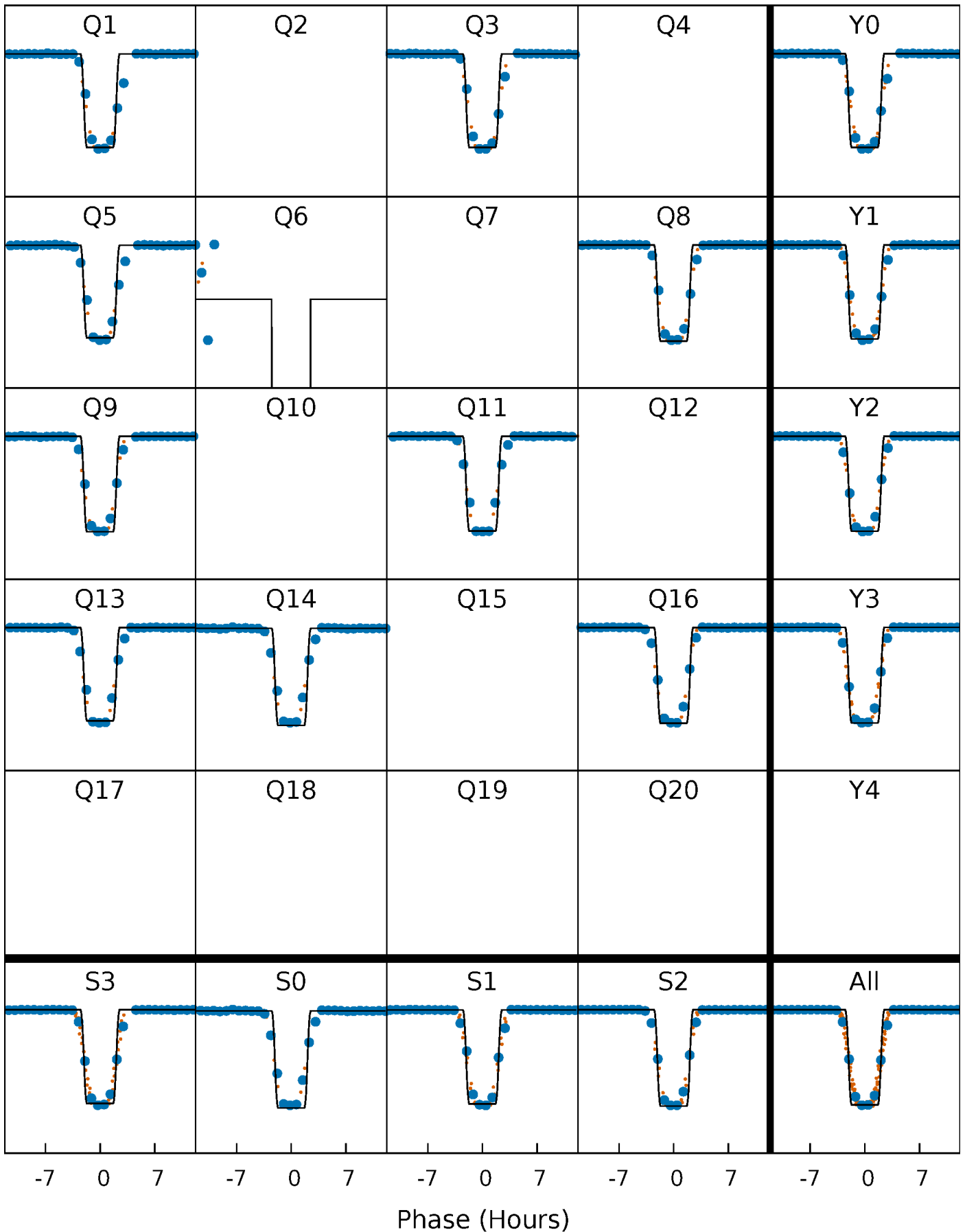
DV Quarter-Phased Transit Curves

TCE 004824268-02 P=152.151564 Days $T_0=142.241537$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

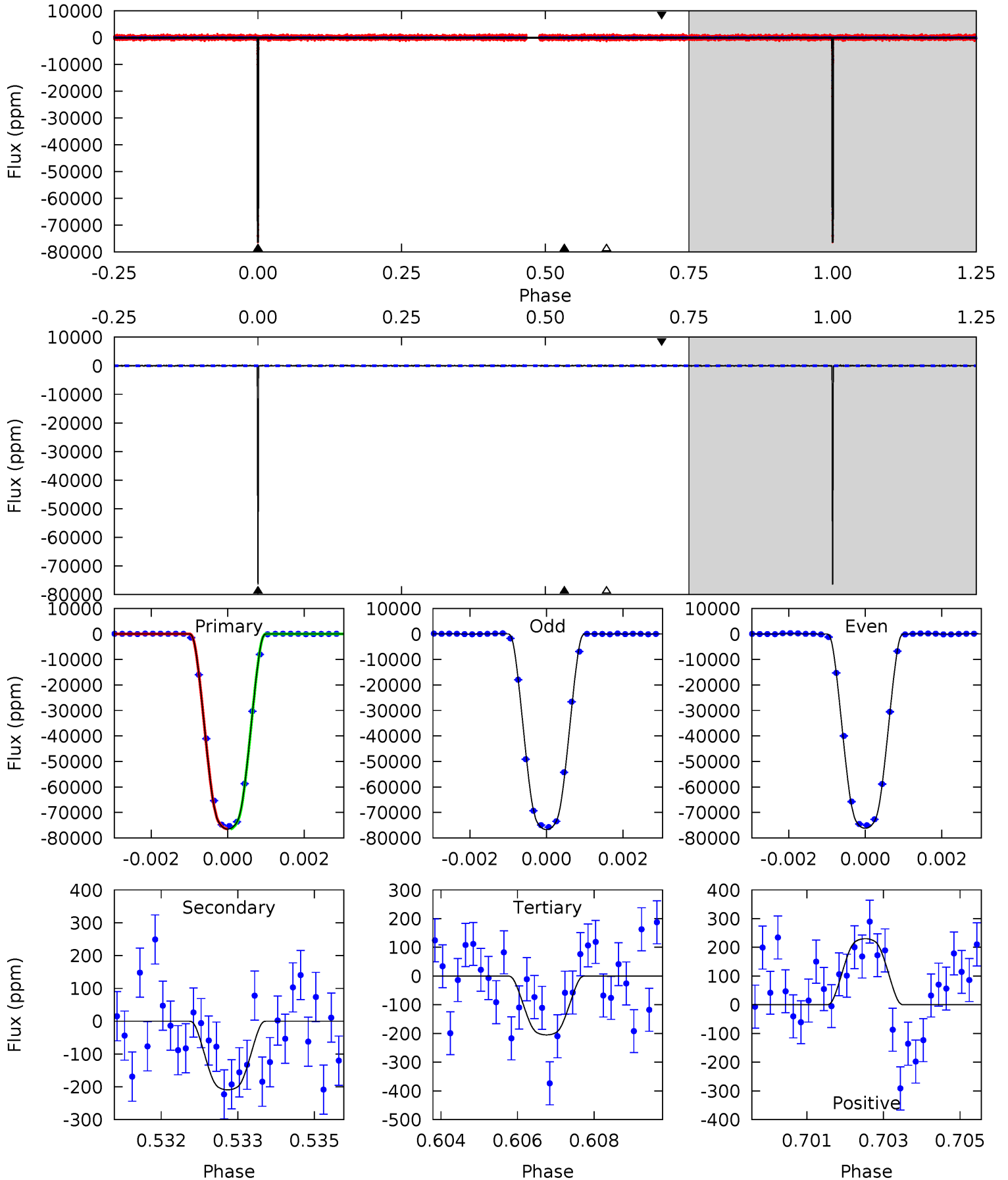
TCE 004824268-02 P=152.153403 Days $T_0=142.232916$ (BKJD)



DV Model-Shift Uniqueness Test

004824268-02, P = 152.151564 Days, E = 142.241537 Days

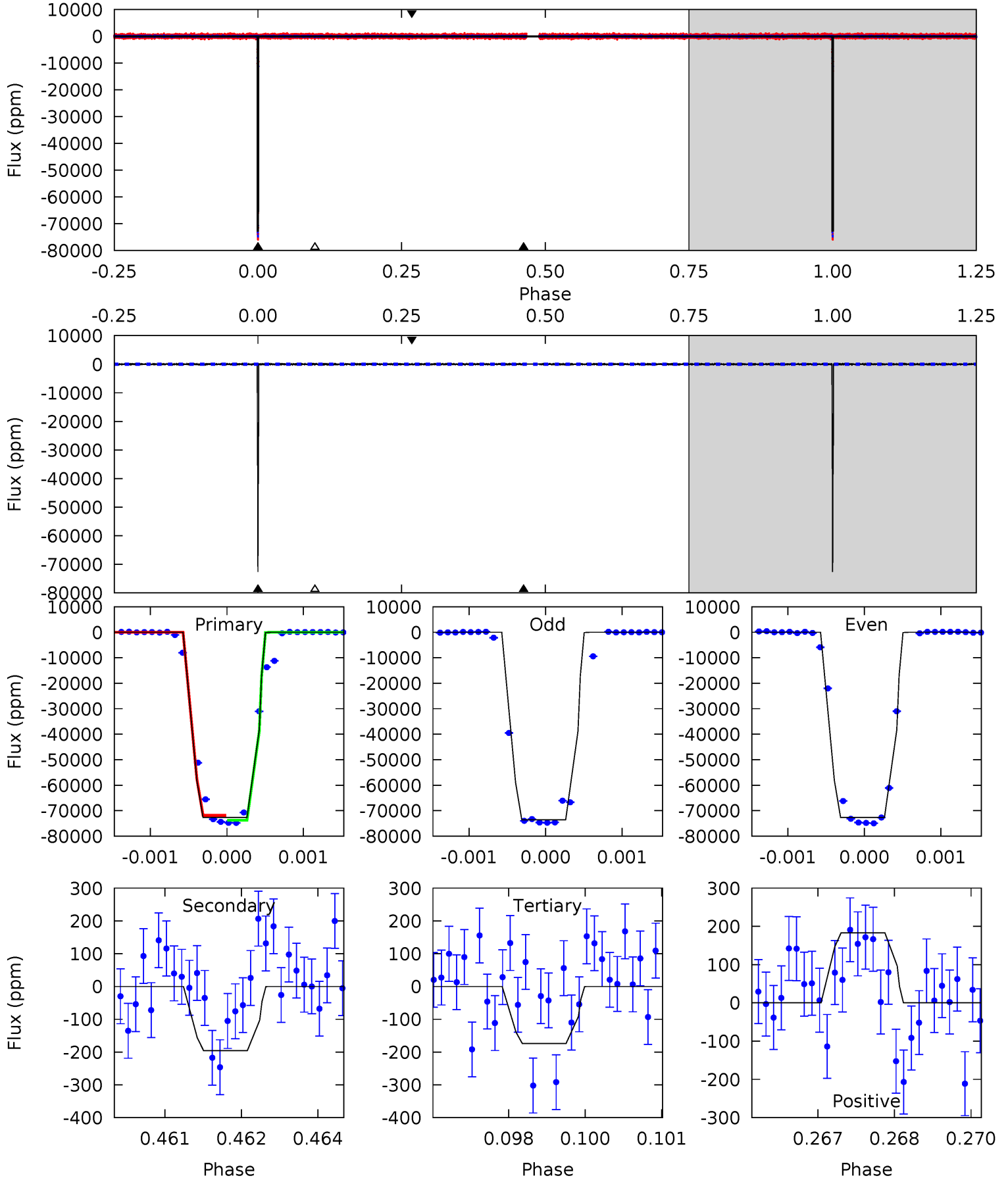
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2628	7.19	7.04	7.91	5.34	3.10	2.13	2621	2620	0.15	-0.72	8.36	1.00	0.00	2.19



Alt Model-Shift Uniqueness Test

004824268-02, P = 152.153403 Days, E = 142.232916 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1700	4.57	4.07	4.29	5.40	3.21	1.08	1696	1696	0.51	0.29	11.2	1.00	0.00	22.1



Stellar Parameters For KIC 004824268

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6217^{+175}_{-219}	$4.472^{+0.054}_{-0.216}$	$-0.220^{+0.250}_{-0.300}$	$0.989^{+0.320}_{-0.107}$	$1.056^{+0.144}_{-0.144}$	$1.540^{+0.451}_{-0.833}$
	+3%/-4%	+1%/-5%	+114%/-136%	+32%/-11%	+14%/-14%	+29%/-54%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004824268-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-209 ± 29	$30.01^{+5.37}_{-2.53}$	518^{+38}_{-28}	2344^{+49}_{-55}	39^{+9}_{-11}
Alt.	-195 ± 43	$30.05^{+4.82}_{-2.46}$	515^{+37}_{-25}	2320^{+62}_{-75}	36^{+11}_{-12}

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

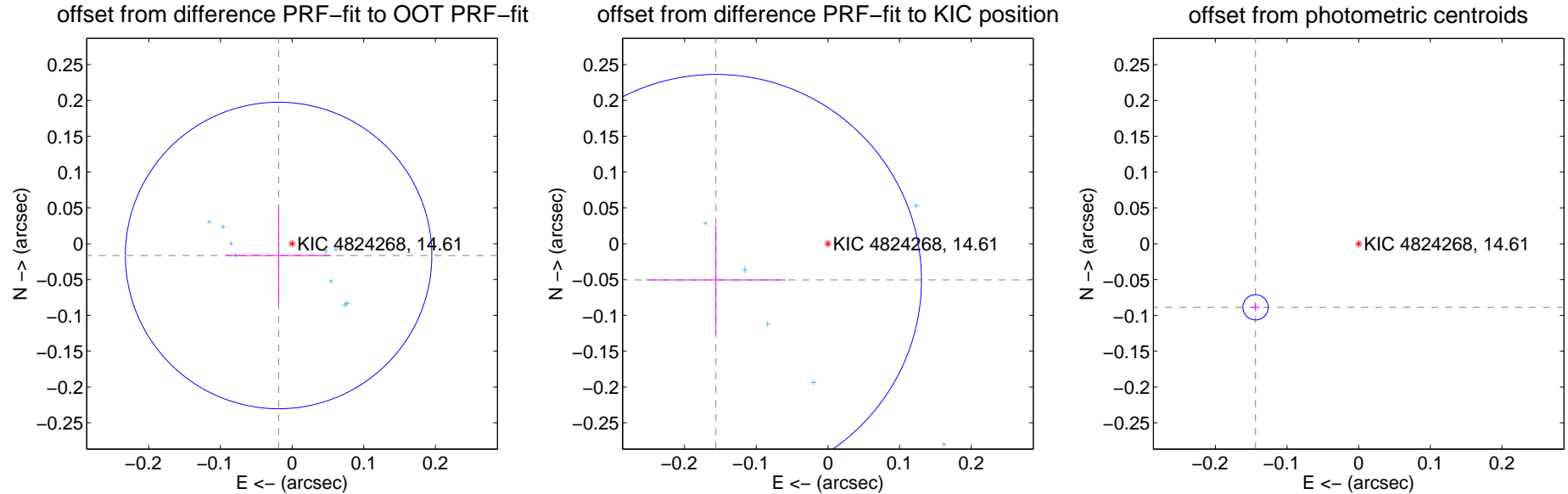
DV Centroid Data

Supplemental centroid analysis for 004824268-02. Kepler magnitude: 14.61. Transit SNR 1167.96

There are 9 quarters with good PRF difference image offsets

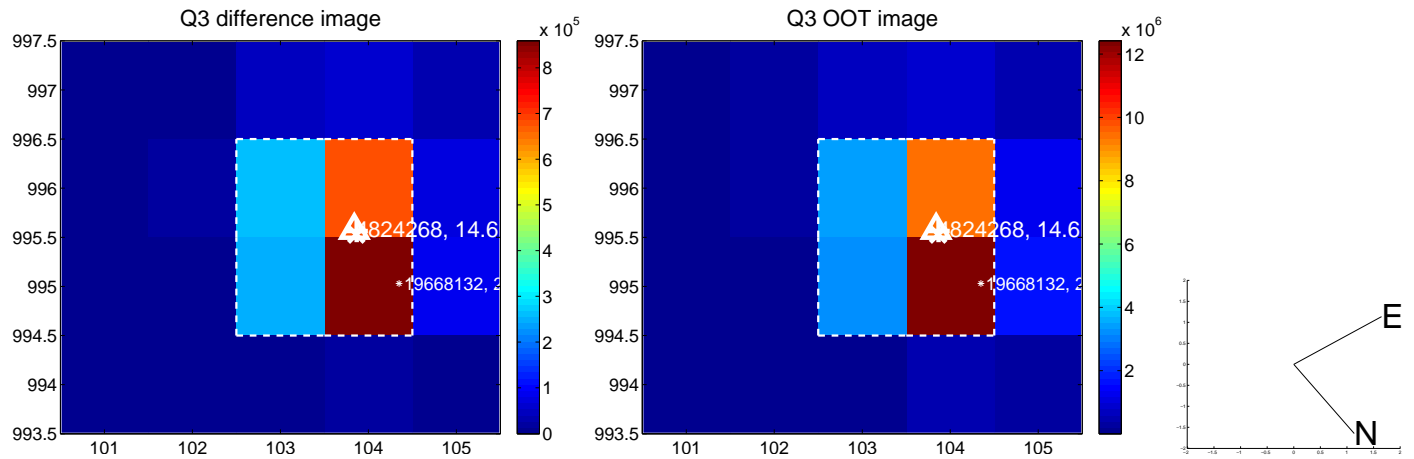
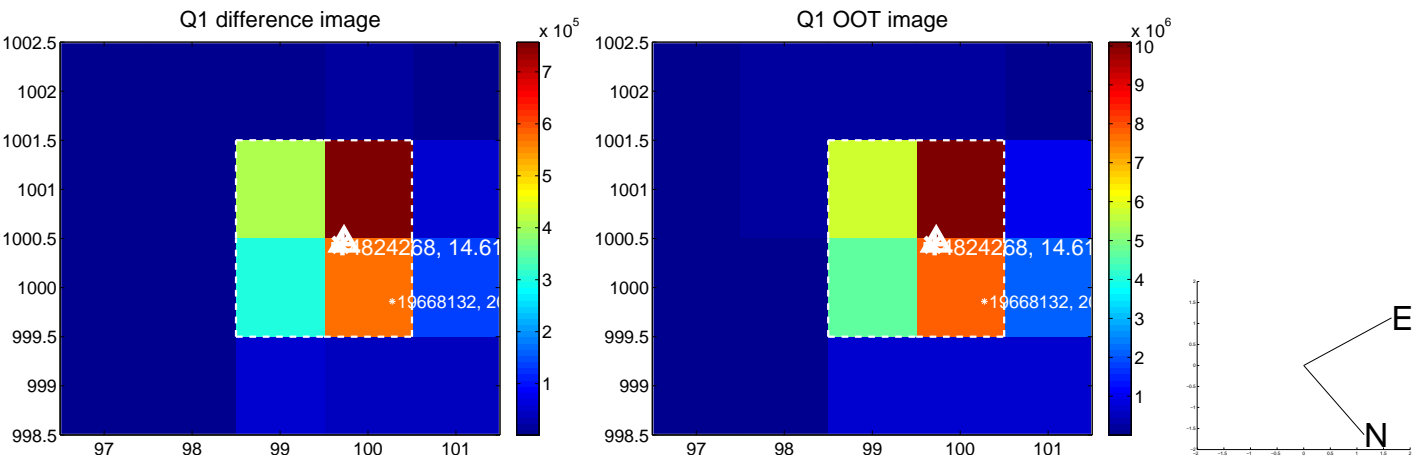
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.025 ± 0.071	0.35	0.019 ± 0.073	-0.016 ± 0.068
PRF-fit source offset from KIC position	0.164 ± 0.096	1.72	0.156 ± 0.098	-0.051 ± 0.075
photometric centroid source offset	0.17 ± 0.01	28.81	0.14 ± 0.01	-0.09 ± 0.01

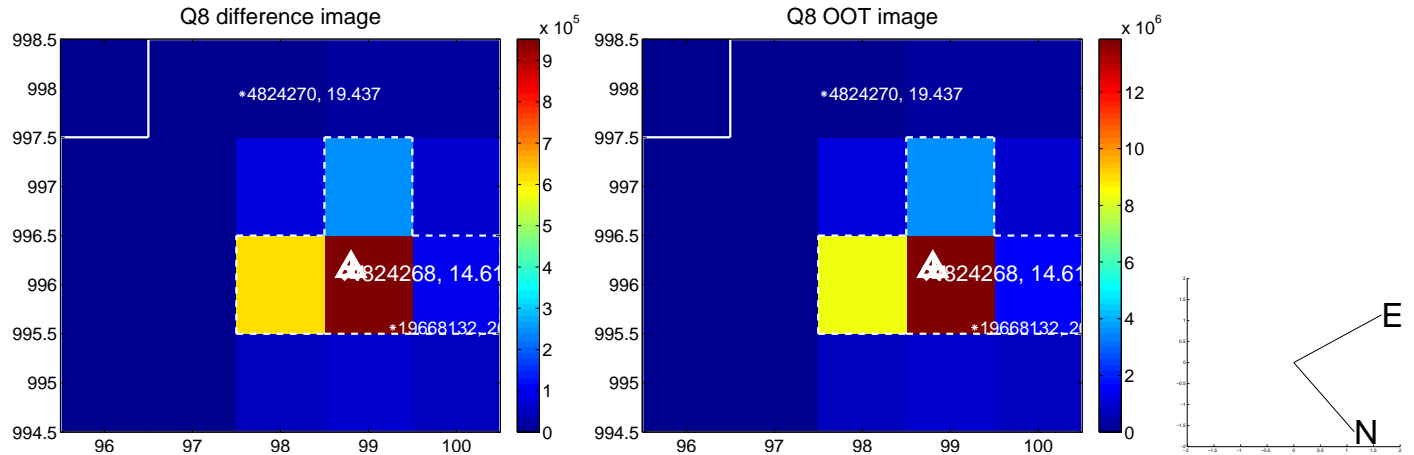
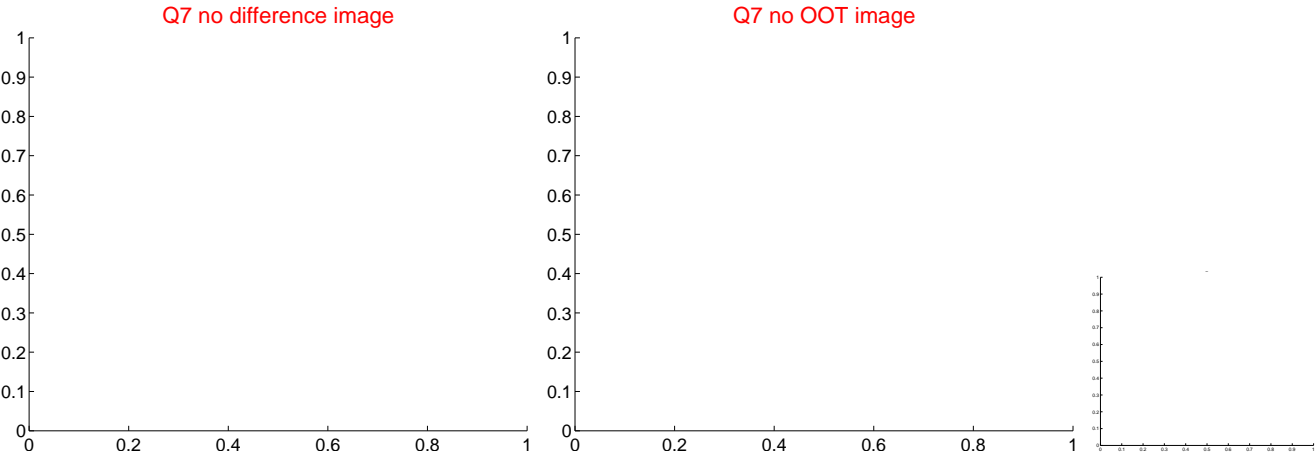
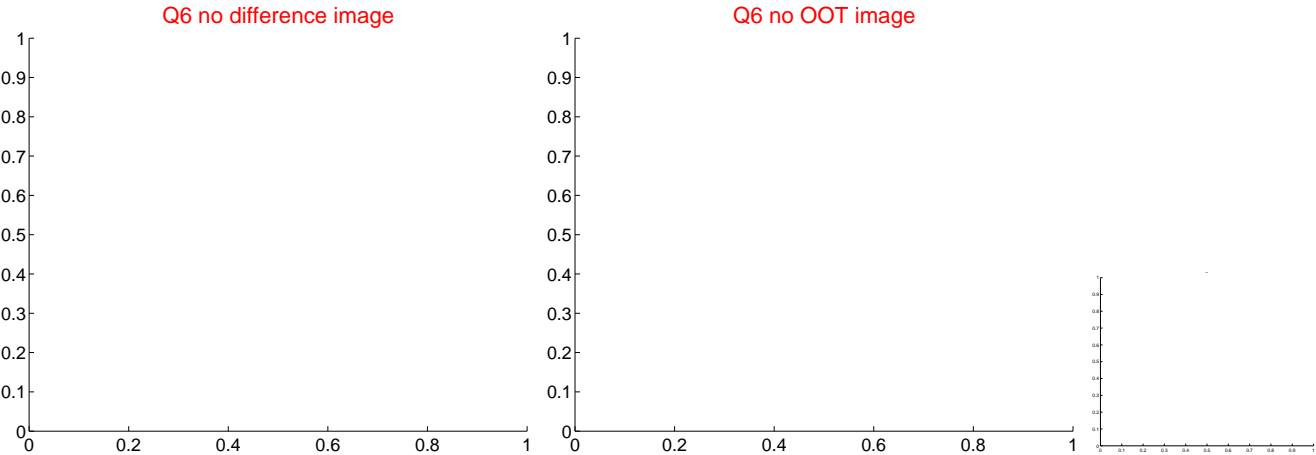
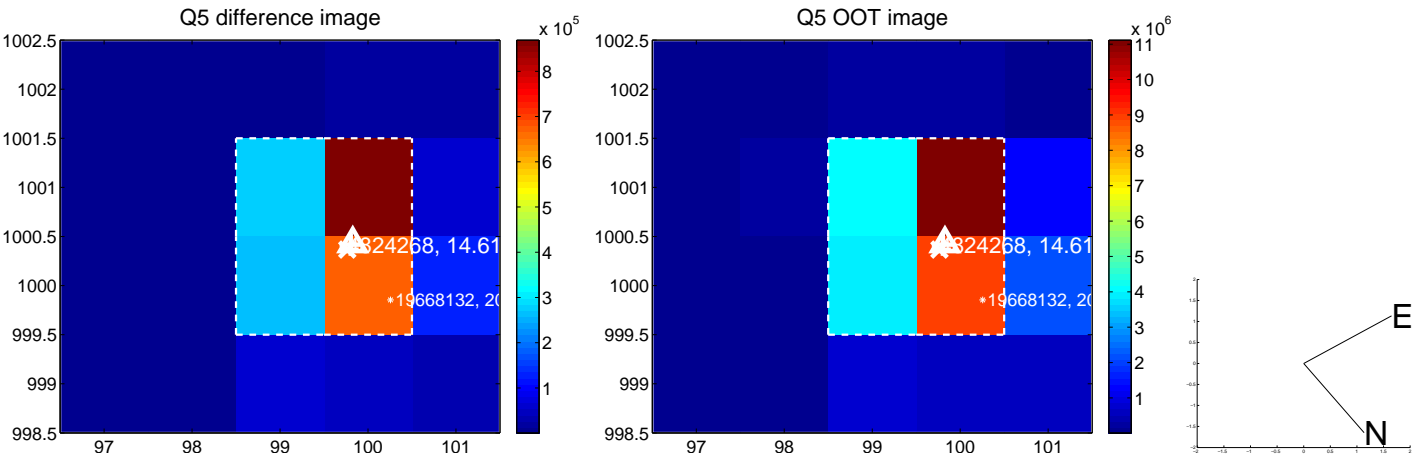


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

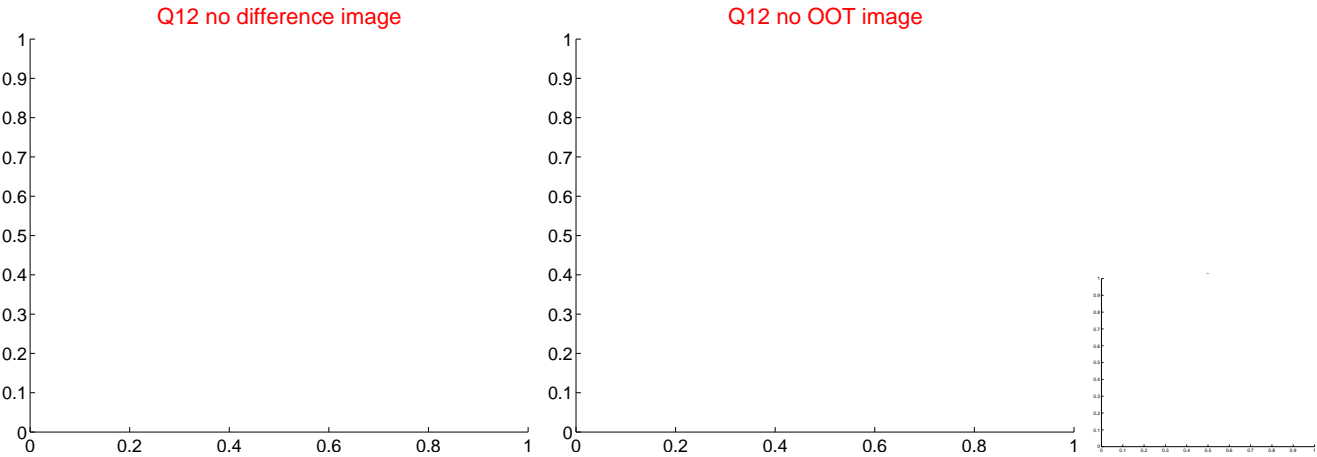
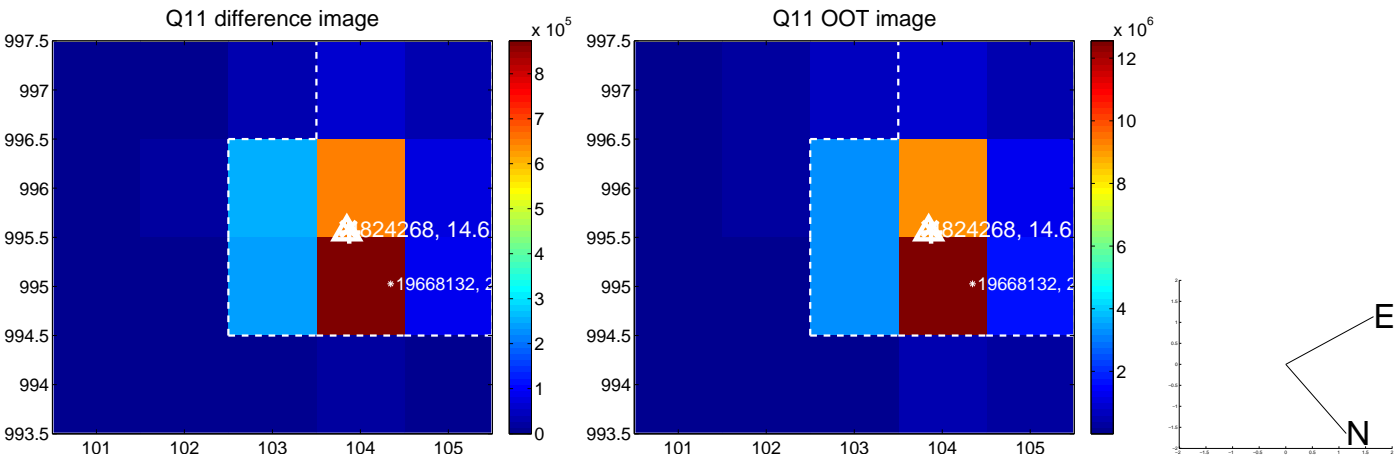
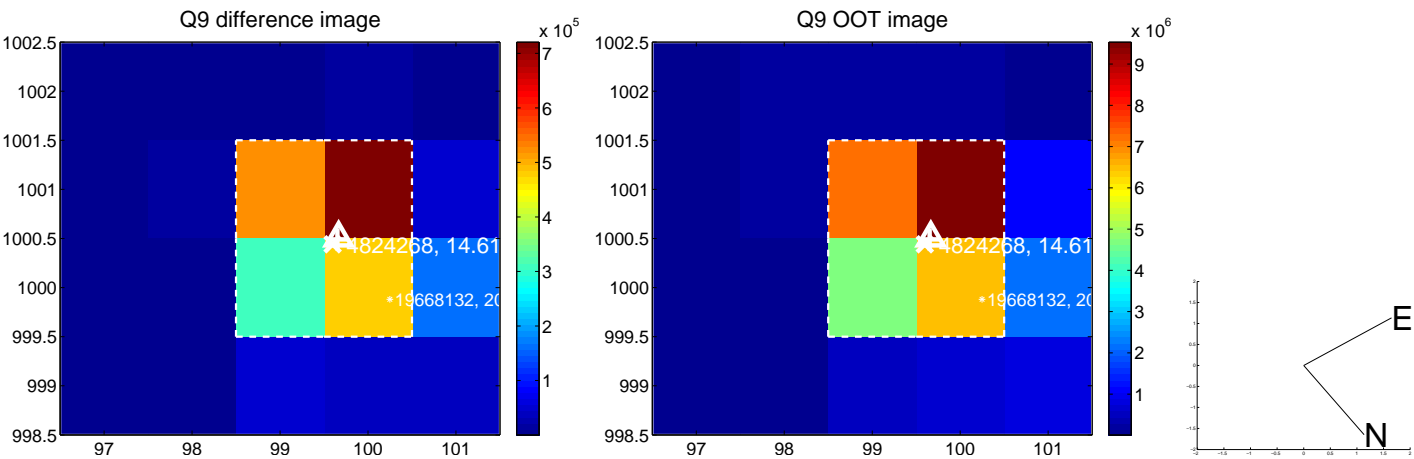
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



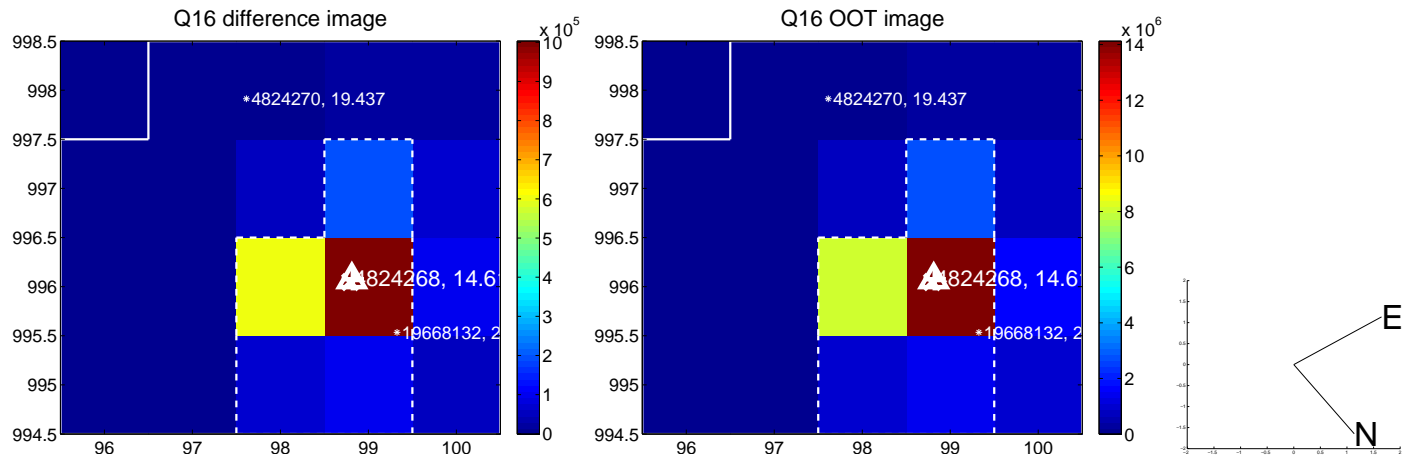
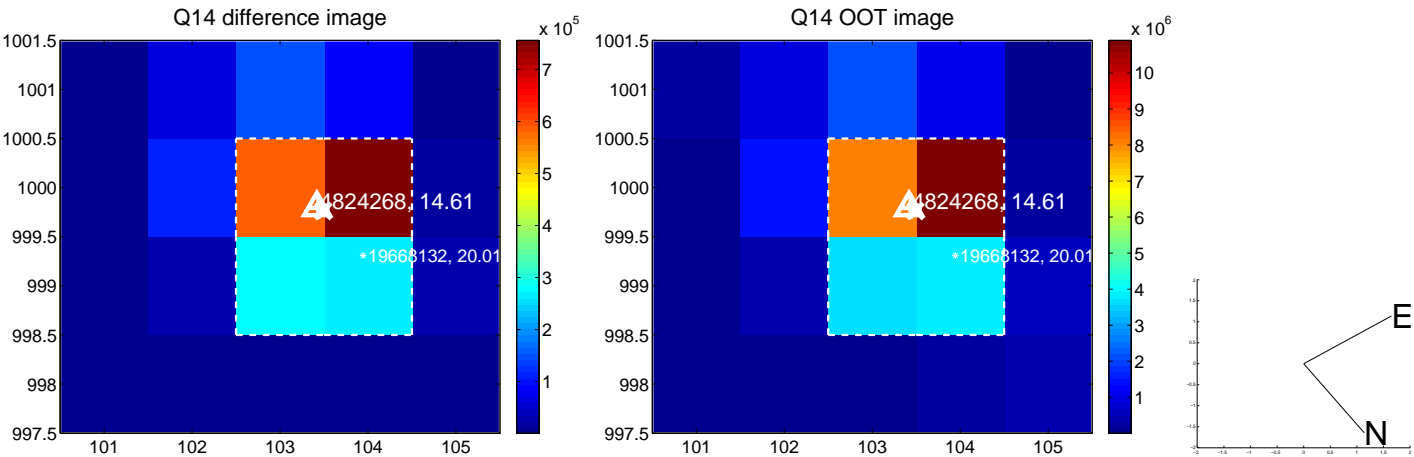
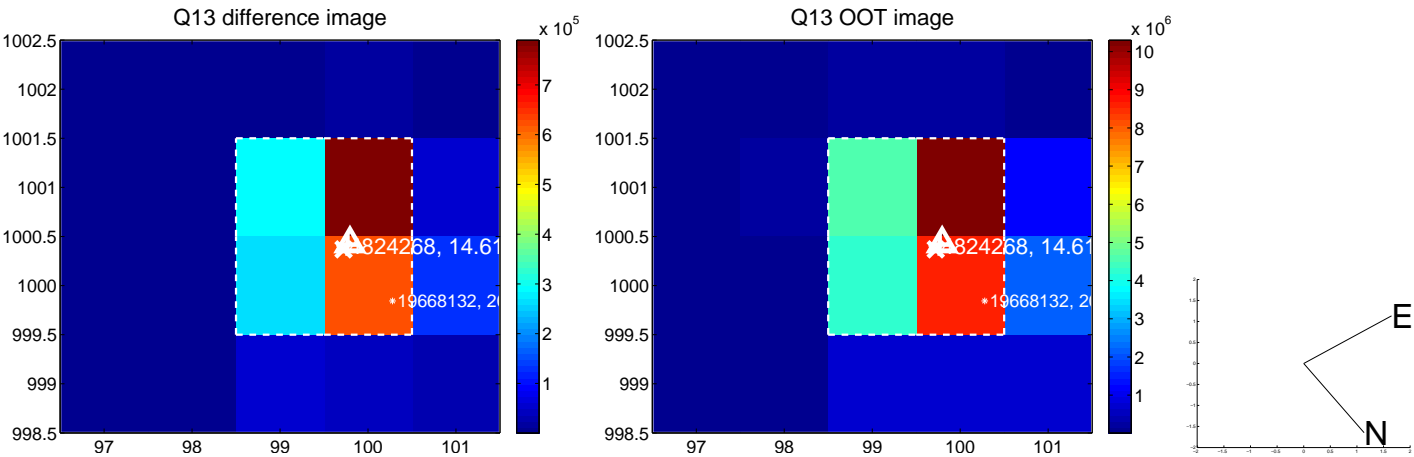
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



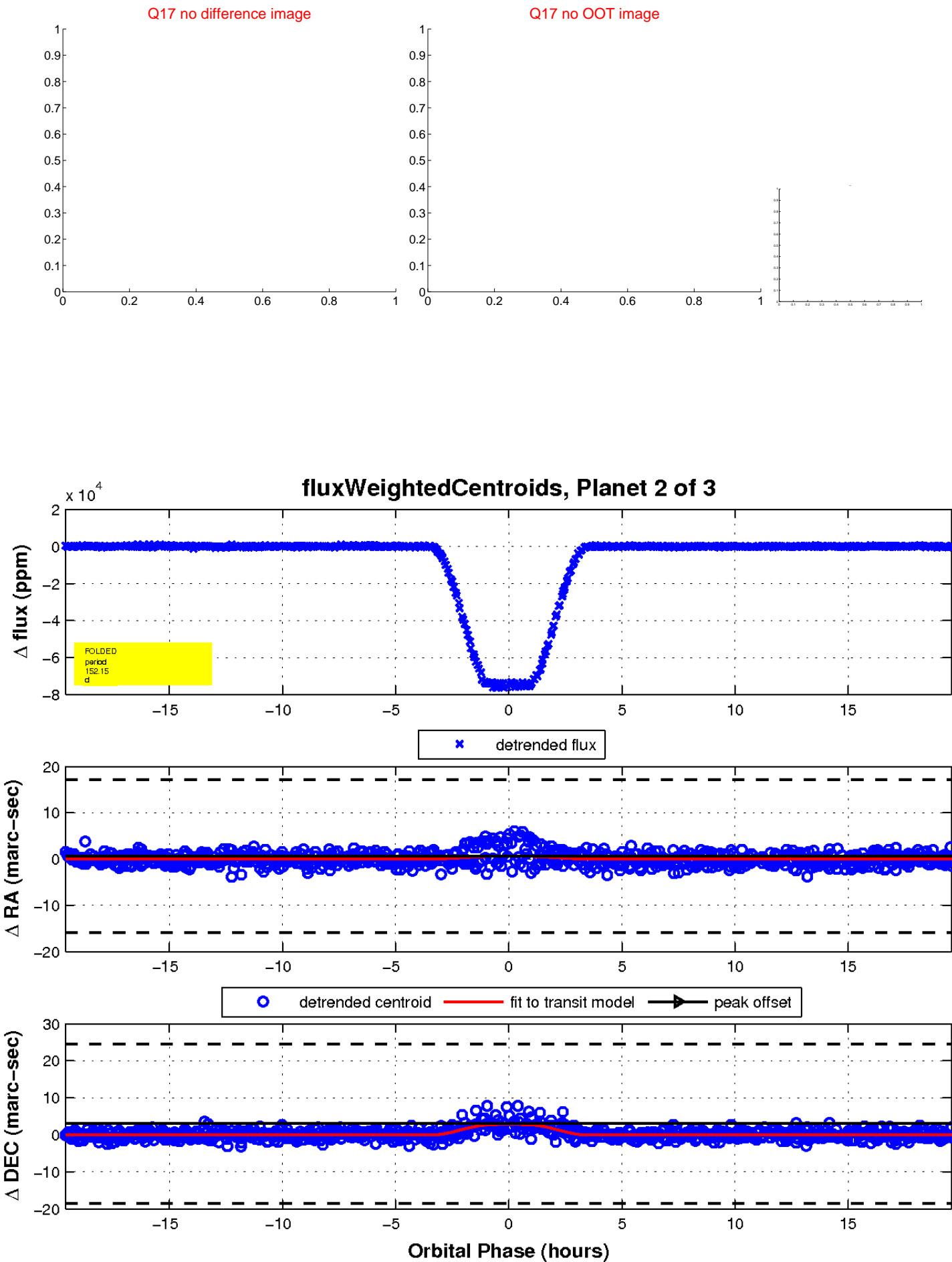
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

