

KIC 010965963

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})
010965963-01	OBS	7392.01	6.640246	132.775837	221596.1	6.050	8313.7	5596.5	1.22	6085	73.43	365.38
010965963-02	OBS	No	3.320164	132.607595	86714.9	4.500	7241.9	-1.0	1.22	6085	35.86	920.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010965963-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
010965963-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

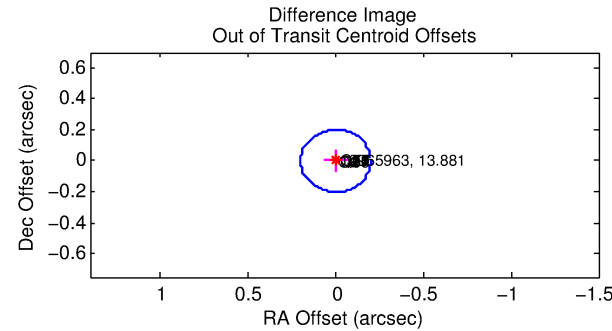
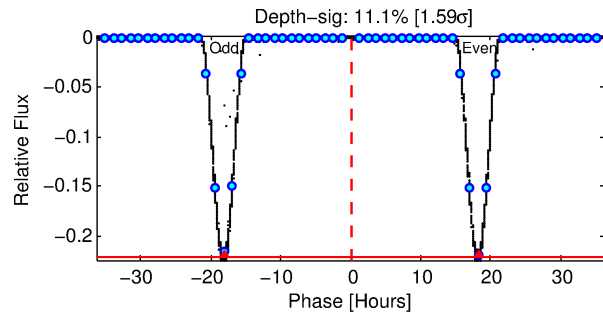
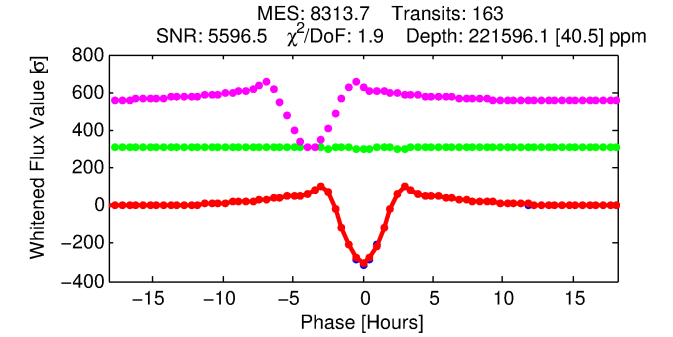
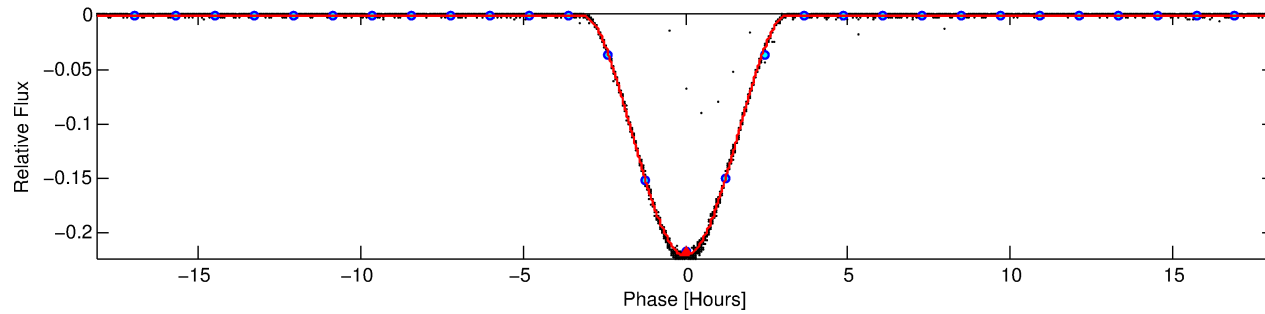
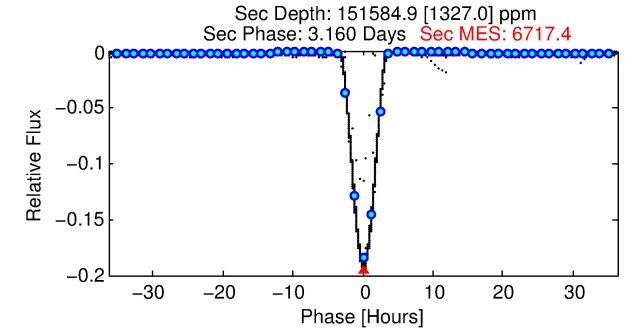
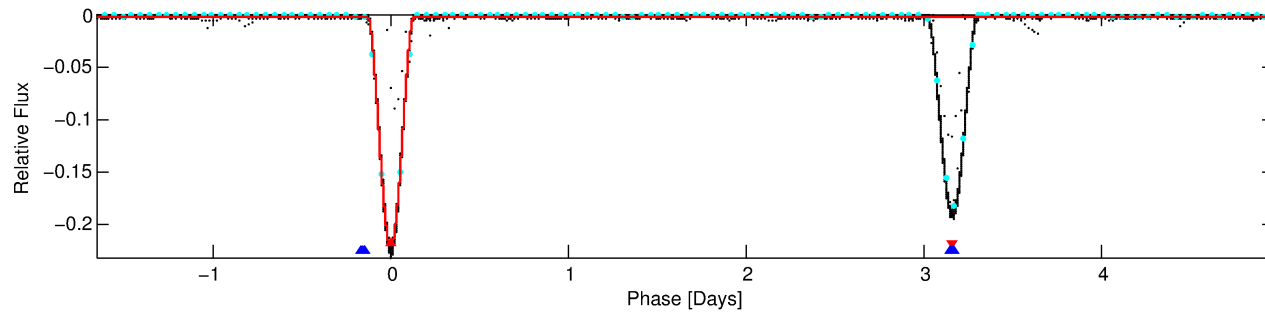
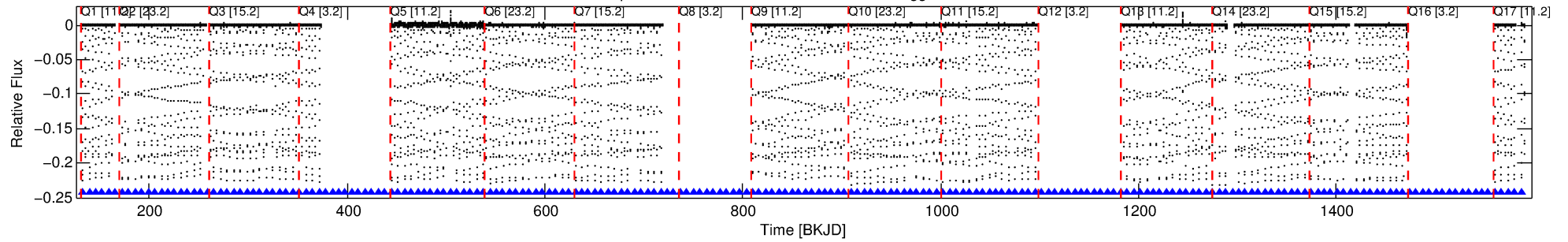
Ephemeris Match Information For 010965963-01

No Significant Match Found

DV One-Page Summary

KIC: 10965963 Candidate: 1 of 2 Period: 6.640 d
KOI: K07392.01 Corr: 0.999

Kp: 13.88 R*: 1.22 Rs Teff: 6085.0 K Logg: 4.29 Fe/H: -0.040



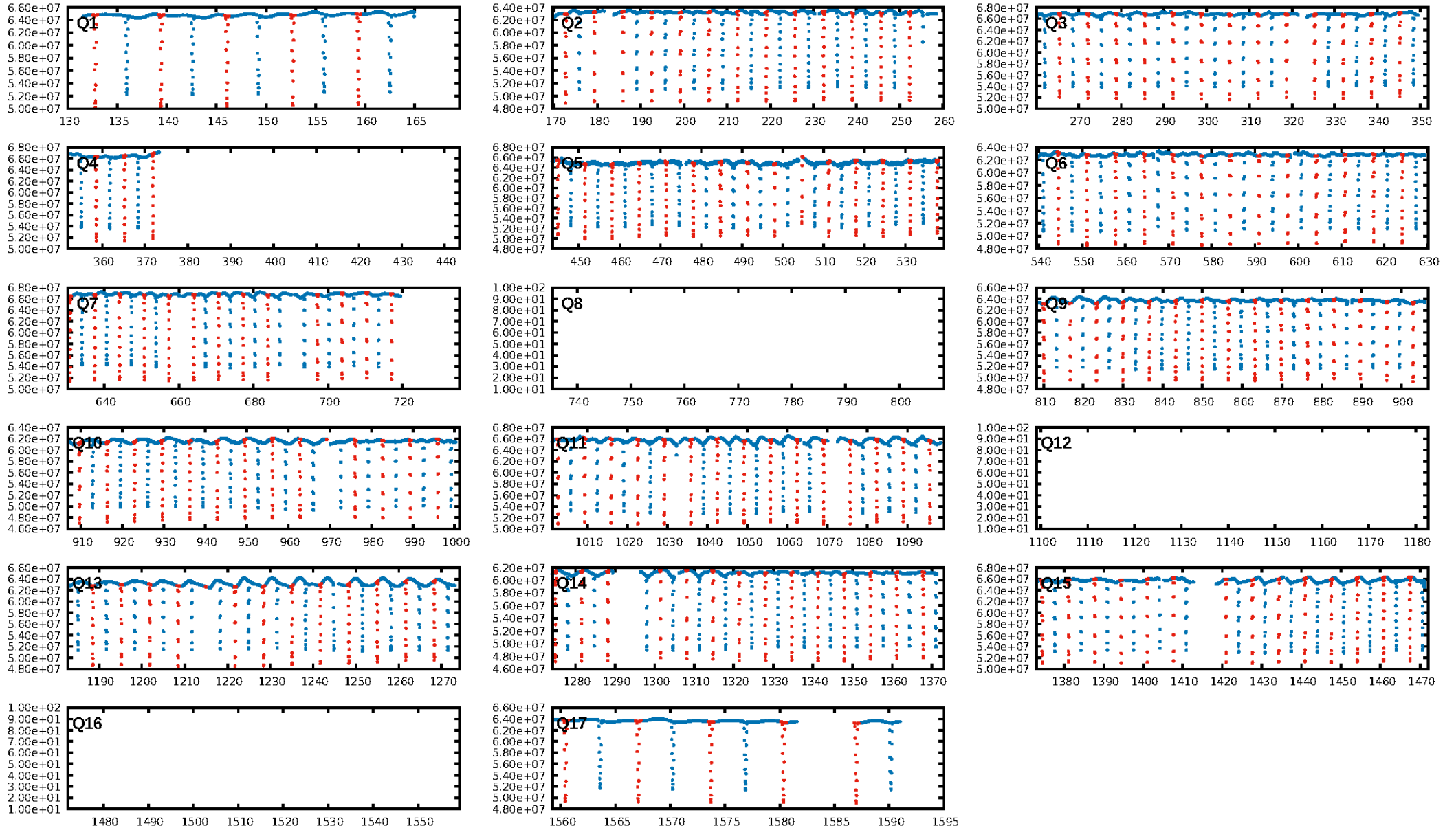
DV Fit Results:

Period = 6.64025 [0.00000] d
Epoch = 132.7758 [0.0000] BKJD
Rp/R* = 0.5538 [0.0094]
a/R* = 11.46 [0.02]
b = 0.75 [0.02]
Seff = 365.38 [134.96]
Teff = 1115 [103] K
Rp = 73.43 [21.49] Re
a = 0.0704 [0.0170] AU
Ag = 76.77 [26.77] [2.83σ]
Teffp = 5102 [168] K [20.25σ]

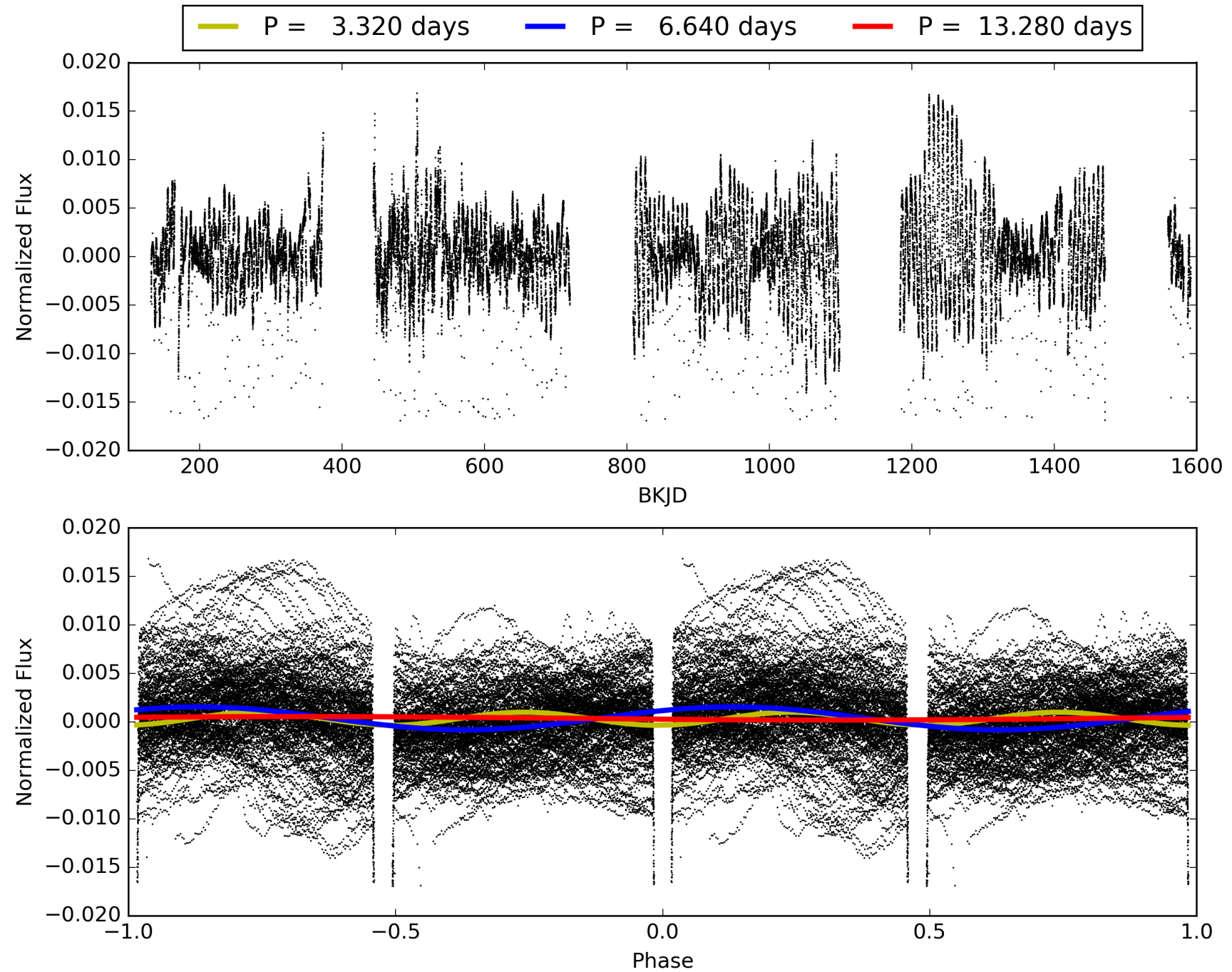
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.57σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [150/150]
GhostDiagnostic-chr: 1.716
Centroid-sig: 0.0%
Centroid-so: 0.128 arcsec [252.97σ]
OotOffset-rm: 0.000 arcsec [0.01σ]
KicOffset-rm: 0.065 arcsec [0.96σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 010965963-01, PDC Light Curves

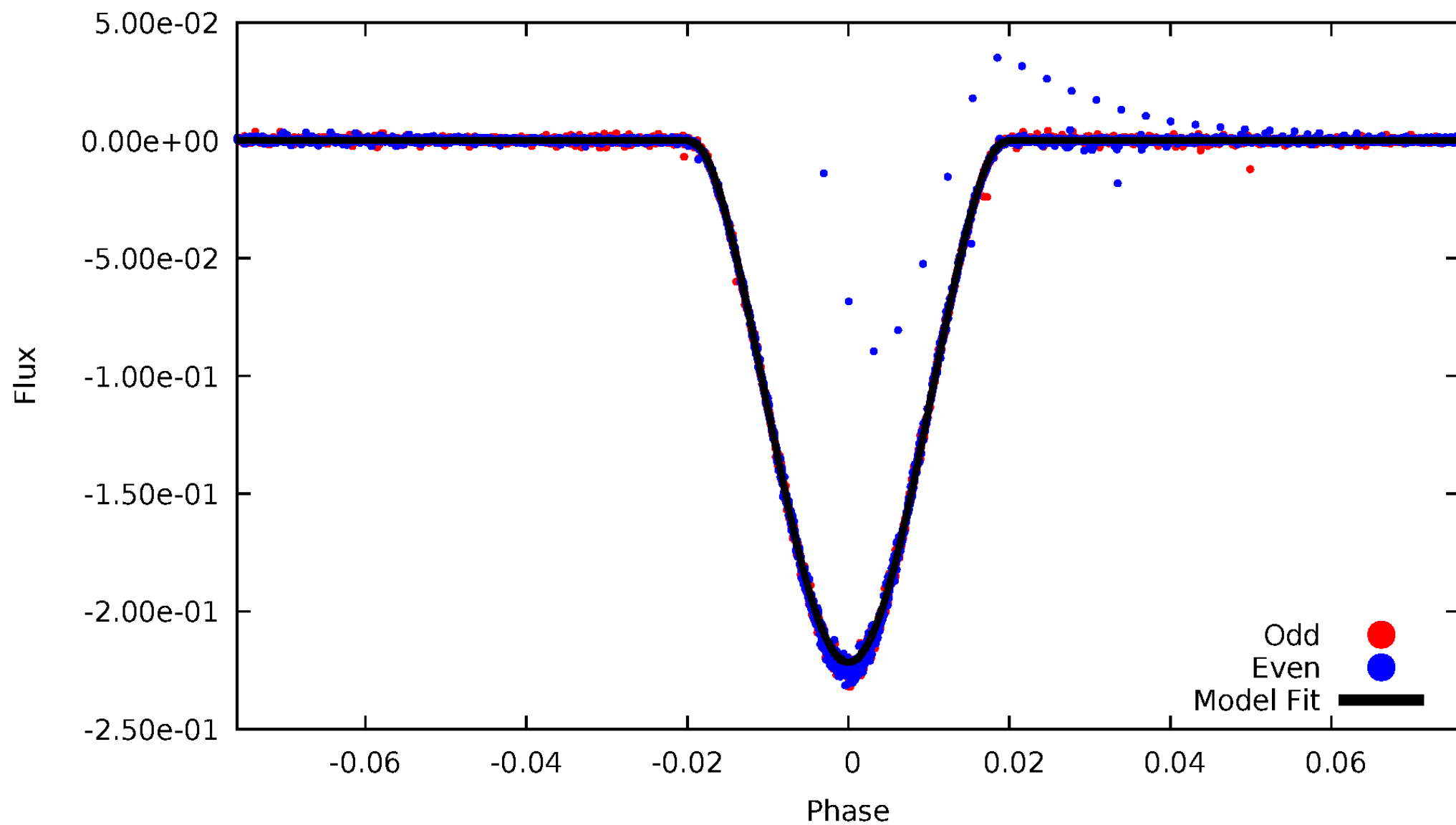


TCE 010965963-01



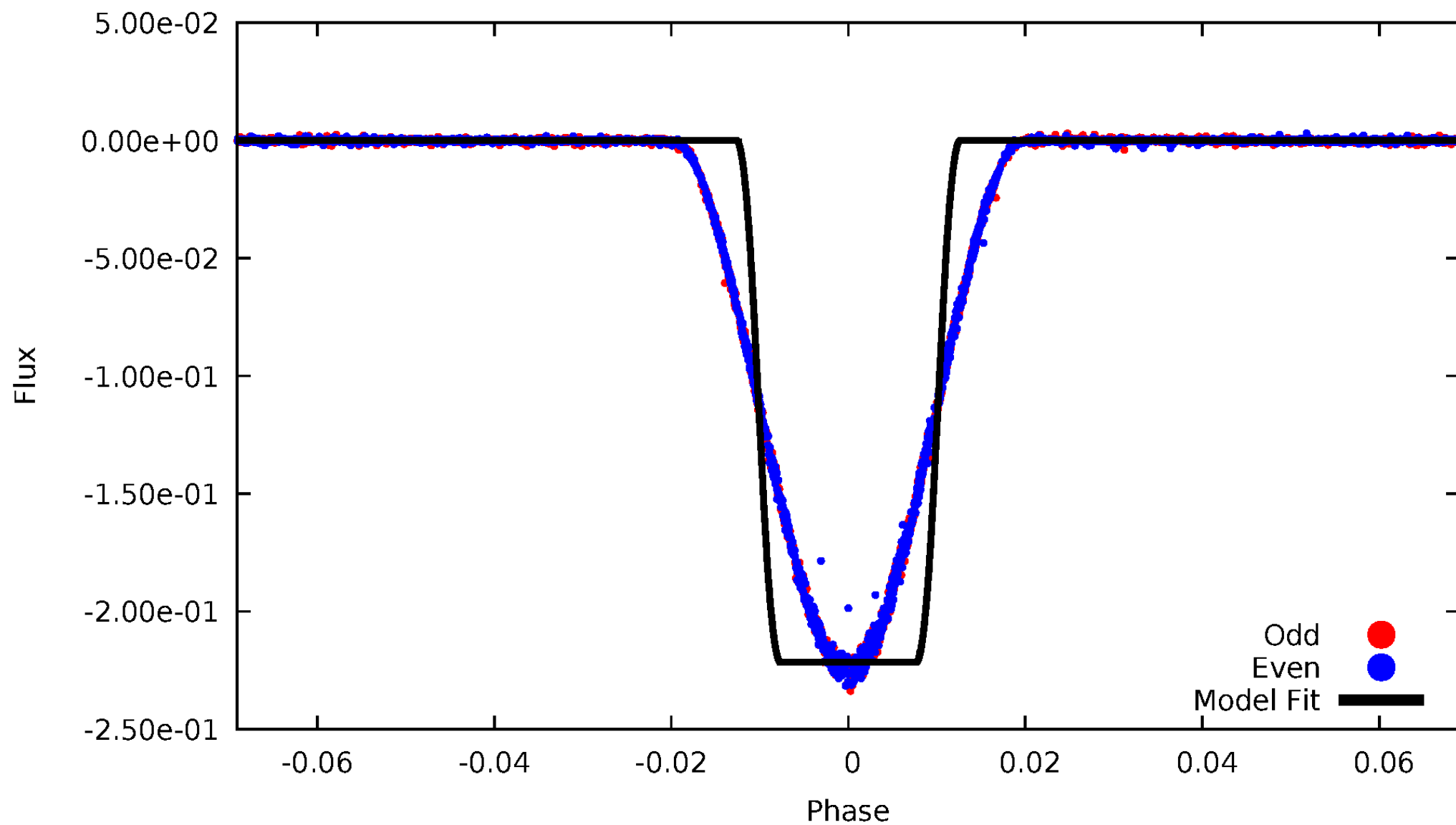
DV Odd/Even

TCE 010965963-01



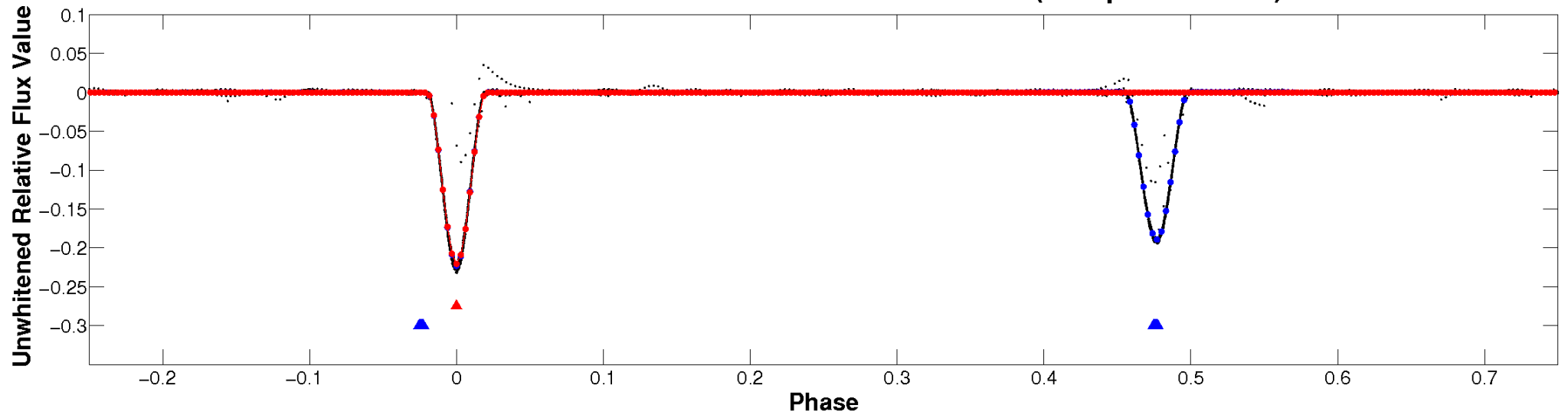
ALT Odd/Even

TCE 010965963-01

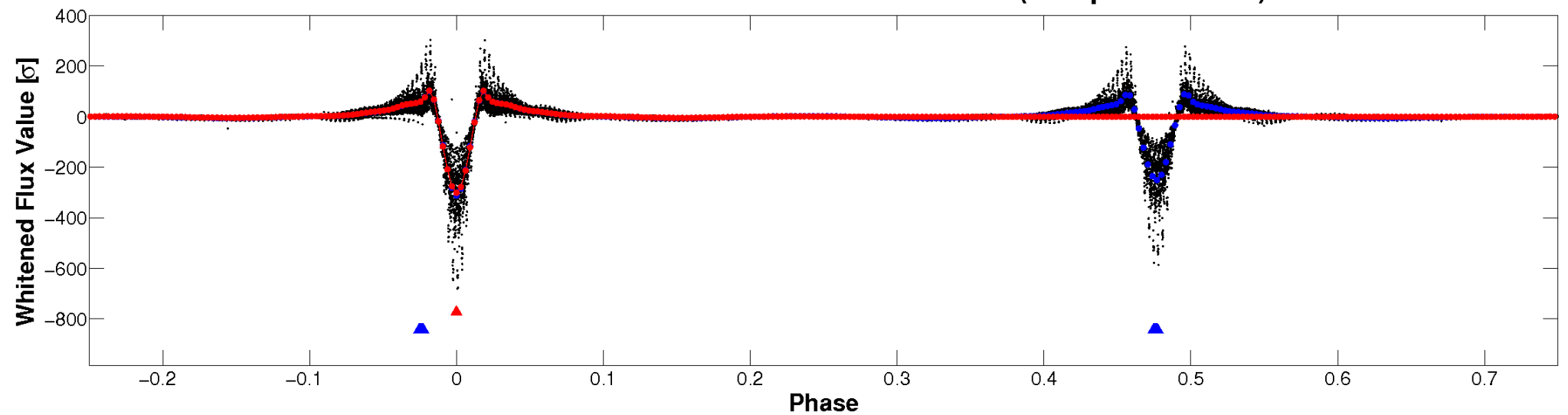


Non-Whitened Vs. Whitened Light Curve

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

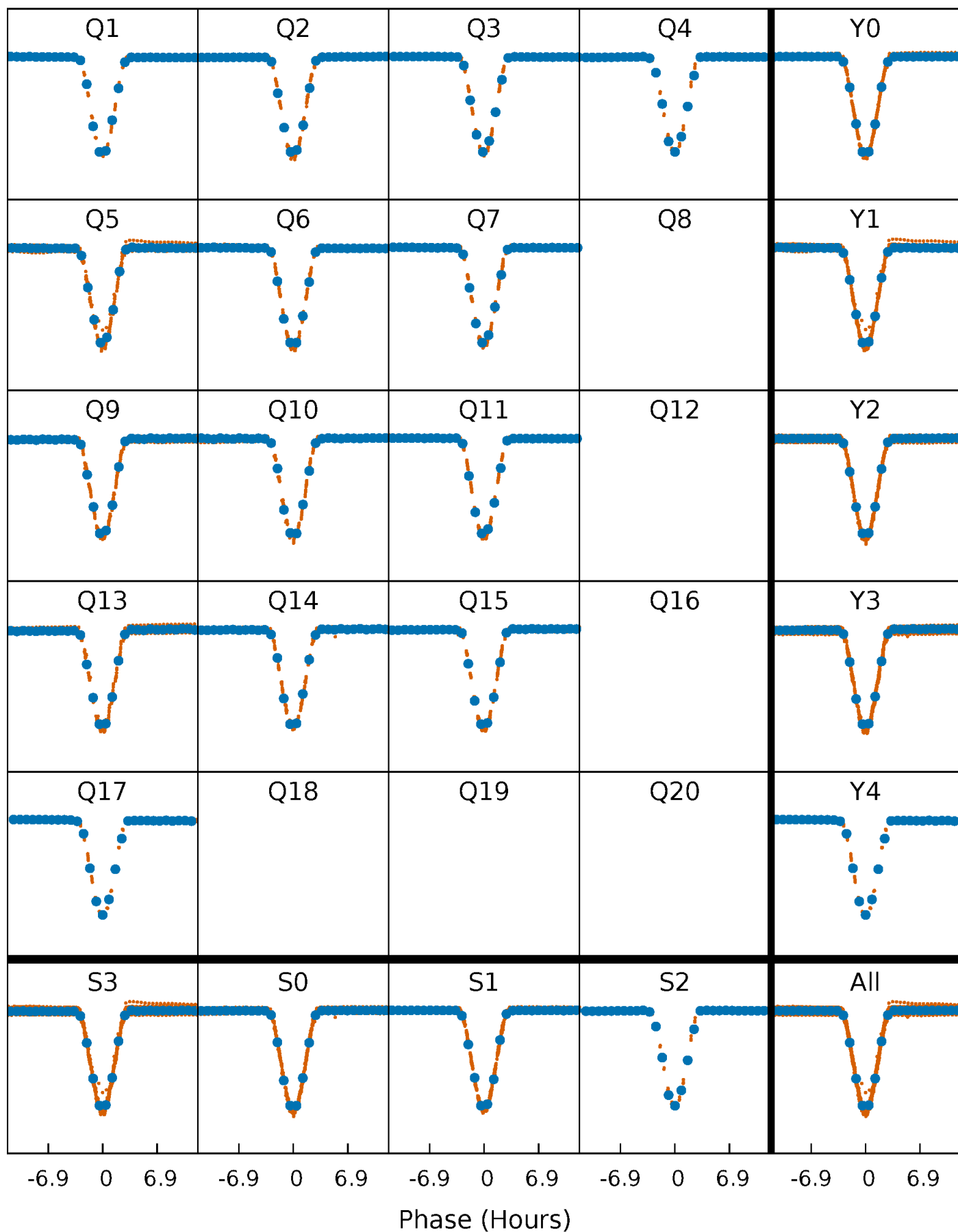


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



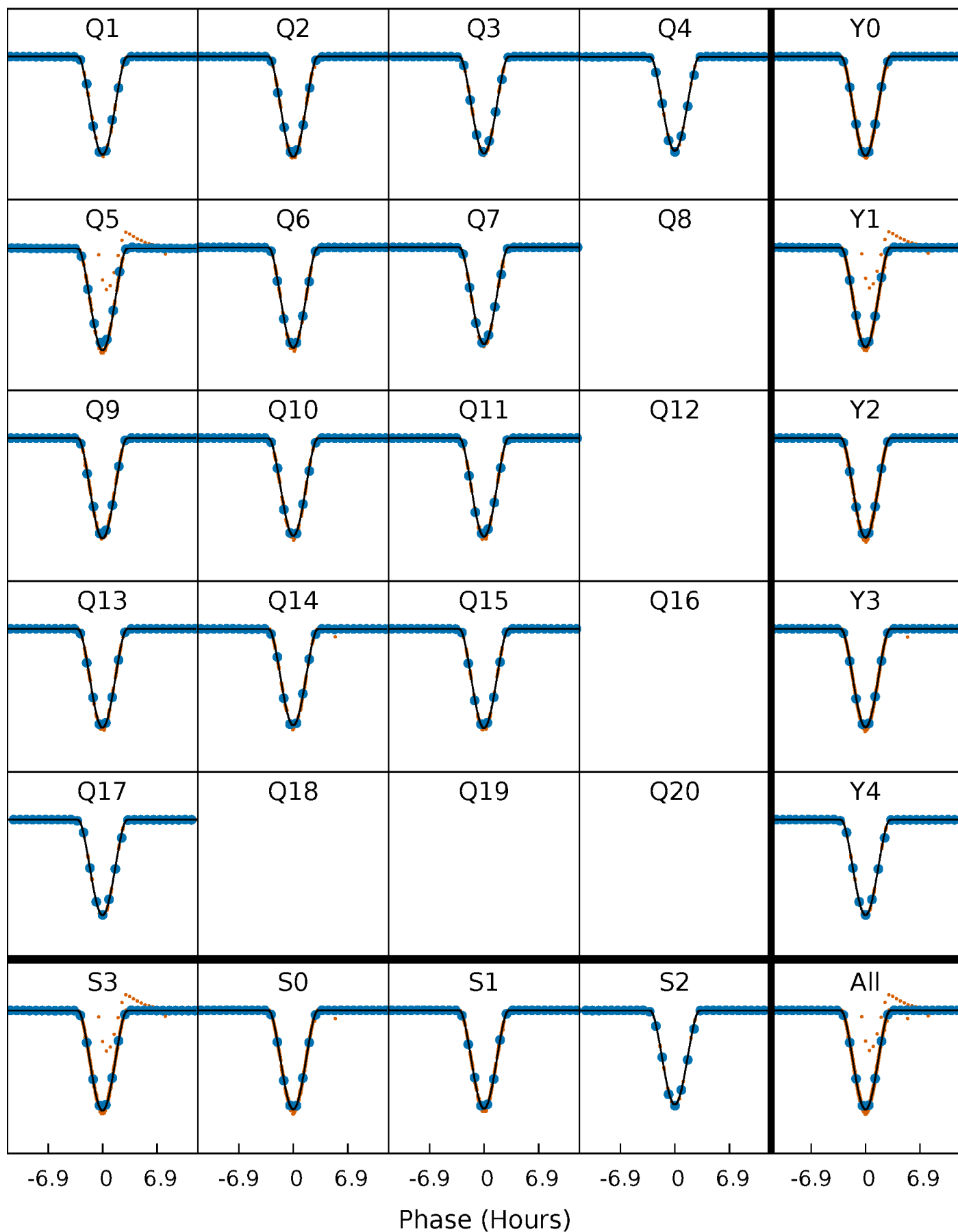
PDC Quarter-Phased Transit Curves

TCE 010965963-01 P= 6.640246 Days $T_0=132.775837$ (BKJD)



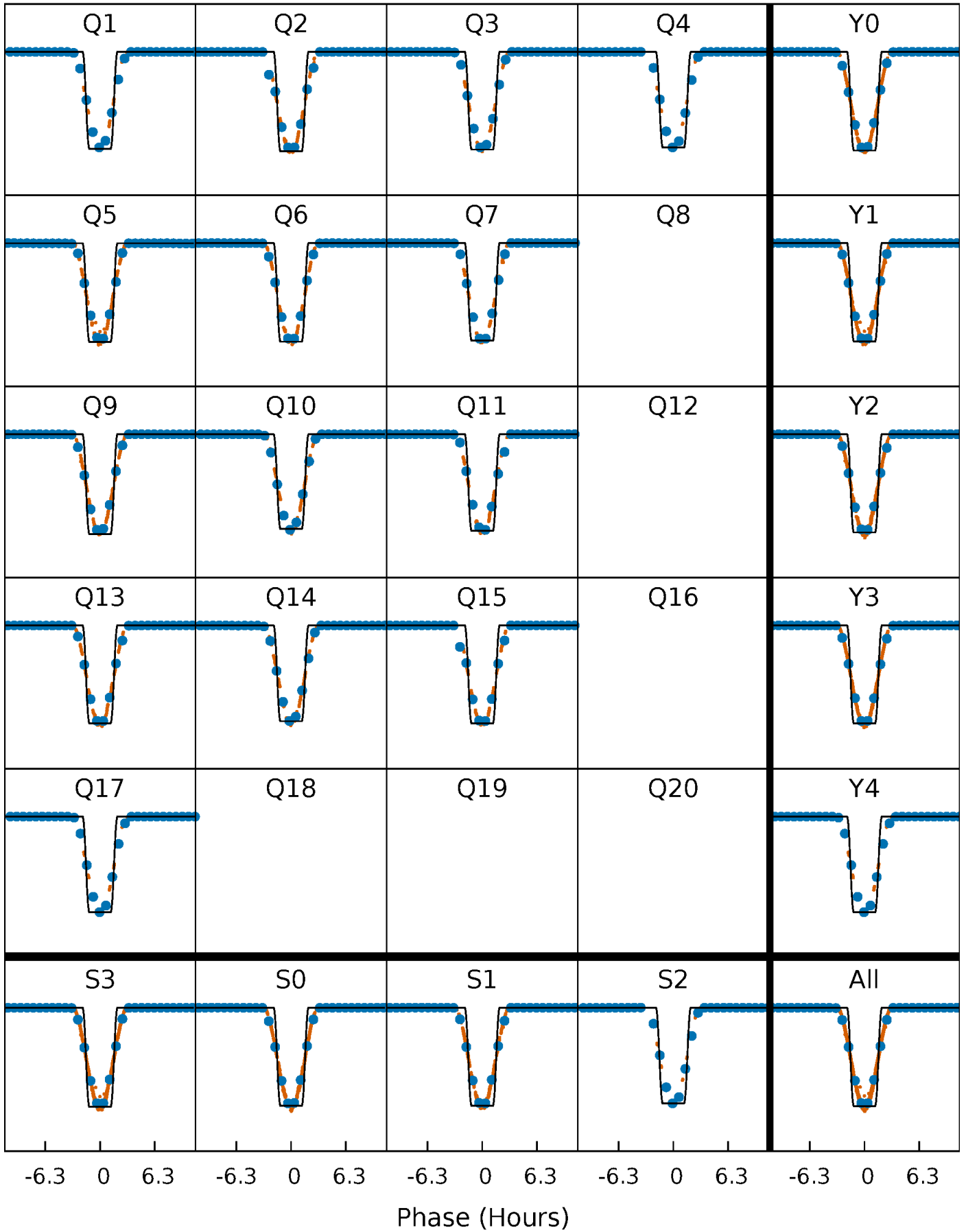
DV Quarter-Phased Transit Curves

TCE 010965963-01 P= 6.640246 Days $T_0=132.775837$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

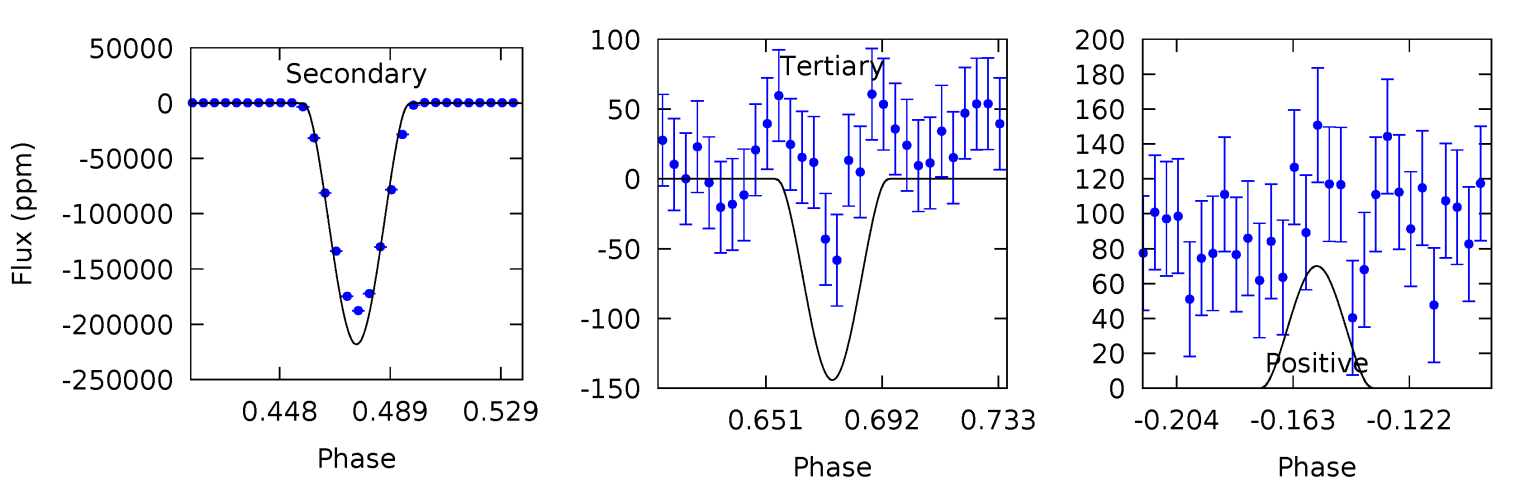
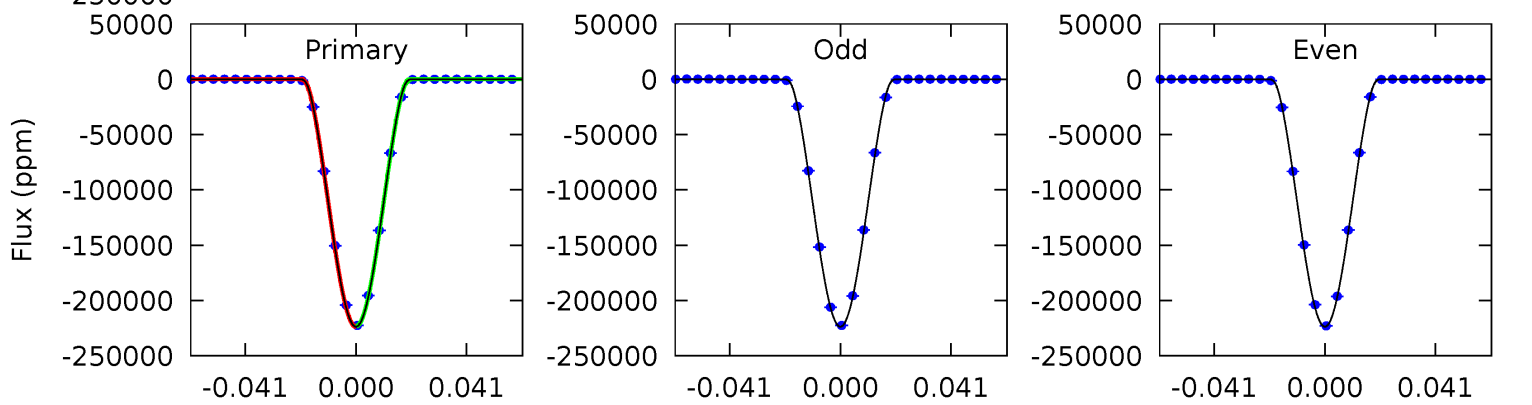
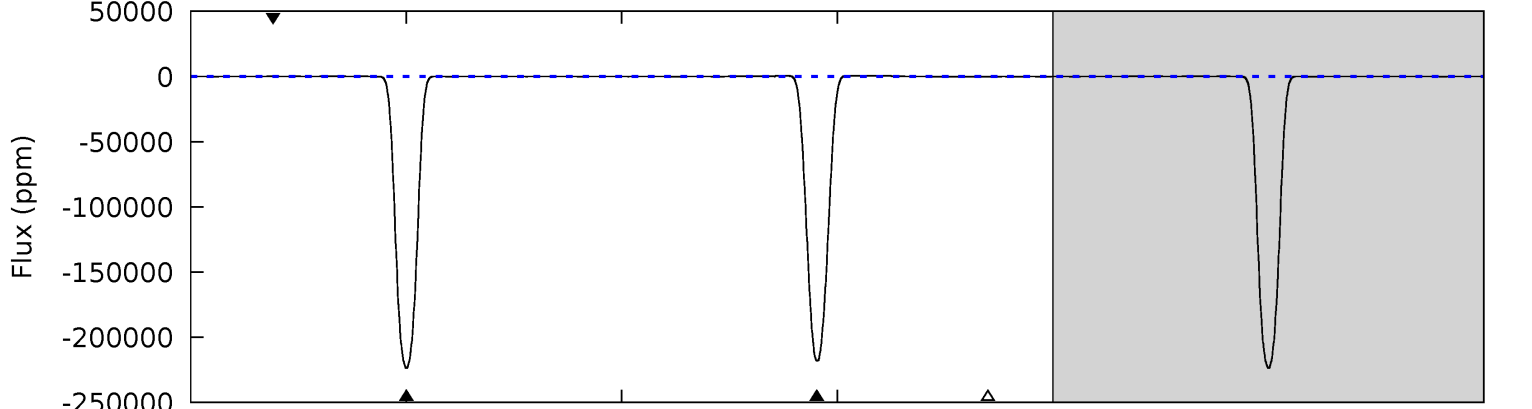
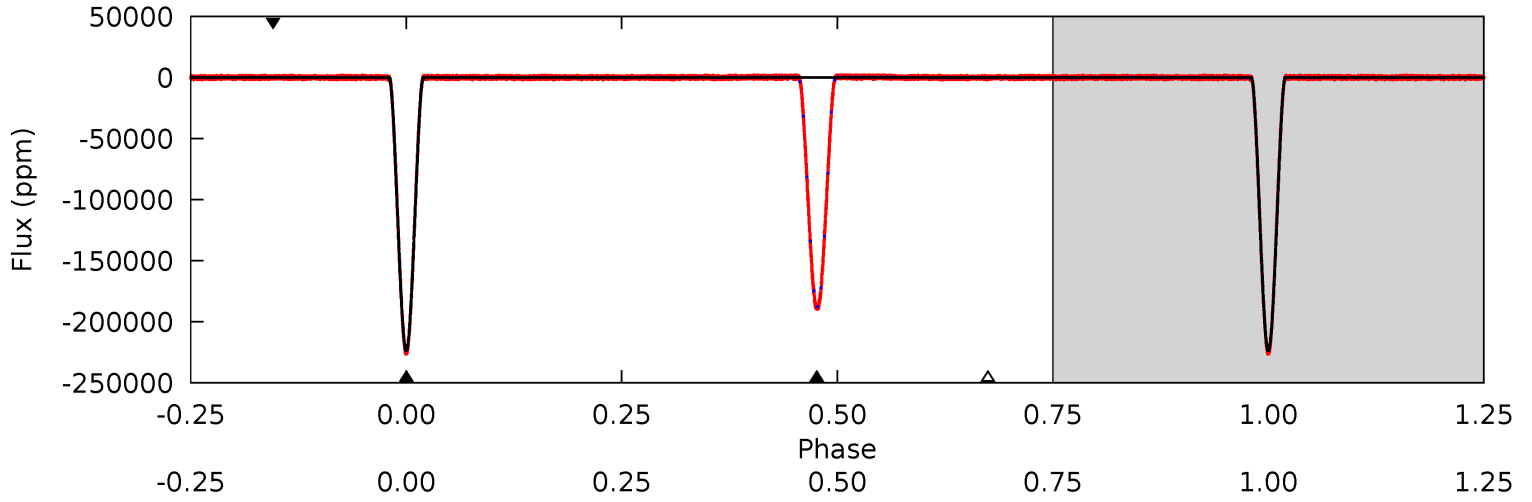
TCE 010965963-01 P= 6.640238 Days $T_0=132.776709$ (BKJD)



DV Model-Shift Uniqueness Test

010965963-01, P = 6.640246 Days, E = 126.135591 Days

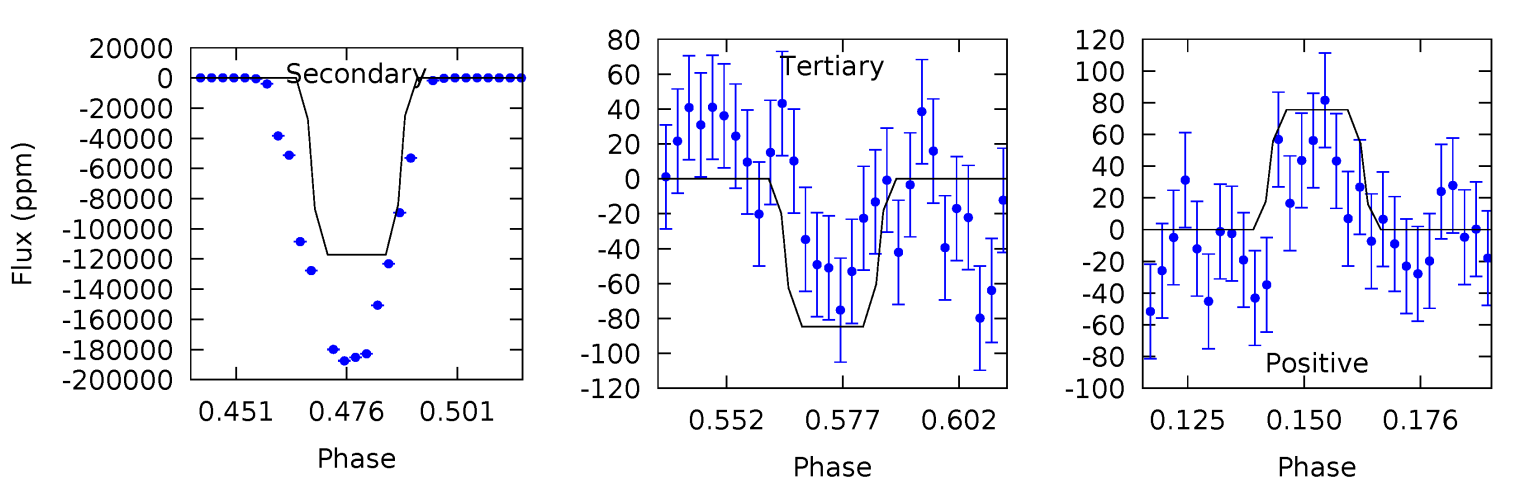
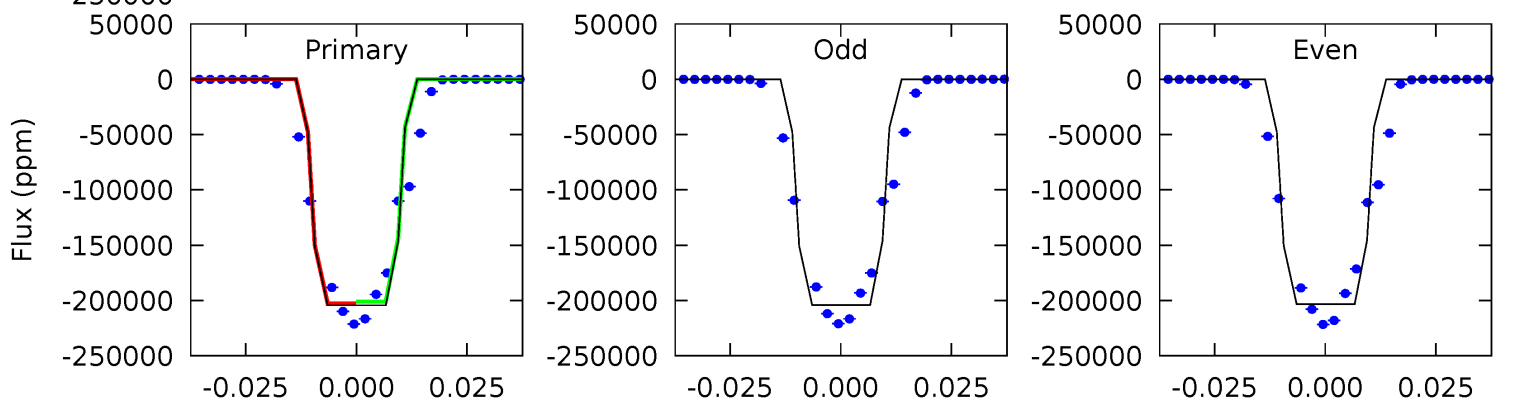
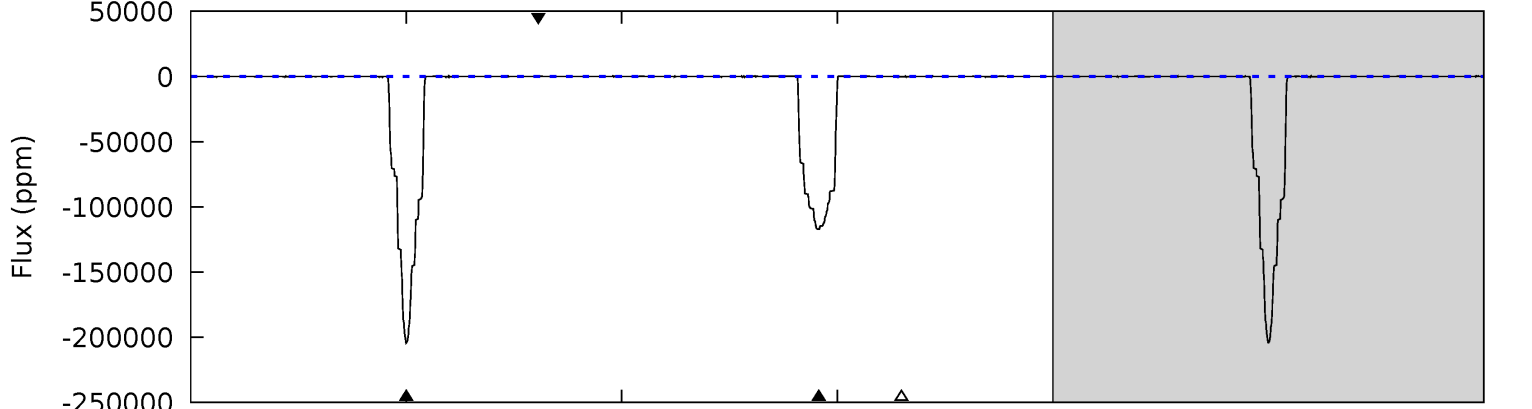
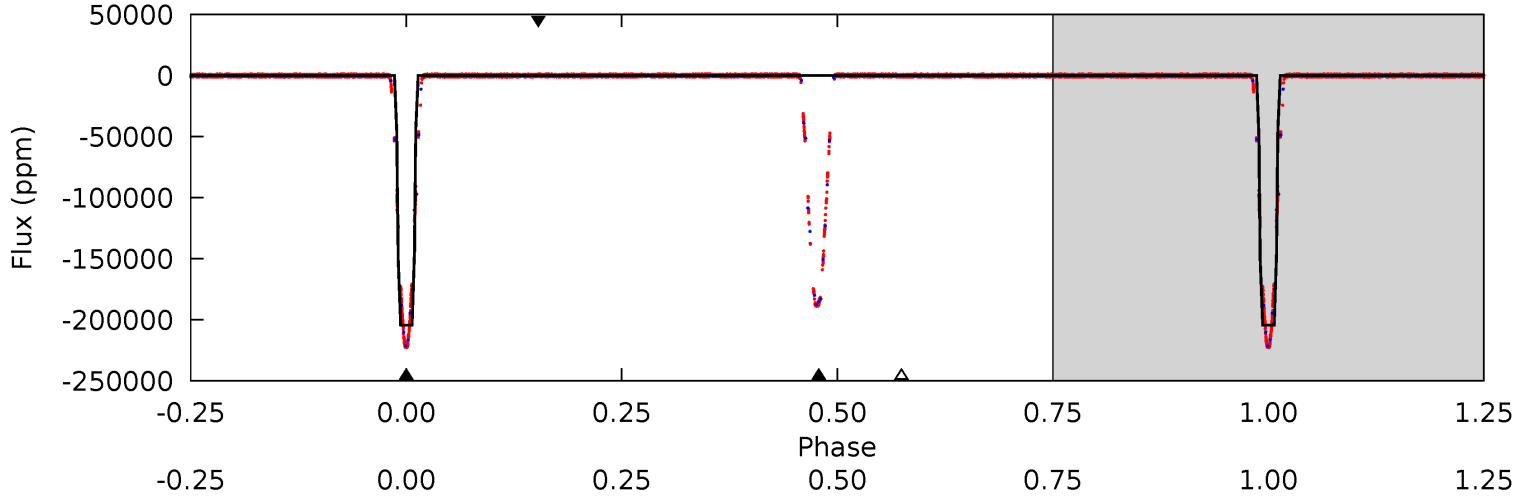
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17206	16778	11.1	5.39	4.75	2.05	9.94	17195	17201	16767	16772	1.58	0.99	0.00	0



Alt Model-Shift Uniqueness Test

010965963-01, P = 6.640238 Days, E = 126.136471 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10136	5815	4.20	3.75	4.85	2.24	1.68	10131	10132	5811	5811	15.8	1.00	0.00	0



Stellar Parameters For KIC 010965963

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6085^{+171}_{-193}	$4.293^{+0.153}_{-0.187}$	$-0.040^{+0.250}_{-0.300}$	$1.215^{+0.355}_{-0.236}$	$1.055^{+0.166}_{-0.135}$	$0.829^{+0.604}_{-0.399}$
	+3%/-3%	+4%/-4%	+625%/-750%	+29%/-19%	+16%/-13%	+73%/-48%
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 010965963-01 / KOI 7392.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-218025 ± 13	$73.45^{+13.13}_{-7.97}$	1567^{+117}_{-103}	5950^{+166}_{-194}	140^{+36}_{-35}
Alt.	-117251 ± 20	$63.07^{+9.29}_{-7.40}$	1566^{+111}_{-97}	5389^{+154}_{-167}	92^{+24}_{-22}

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

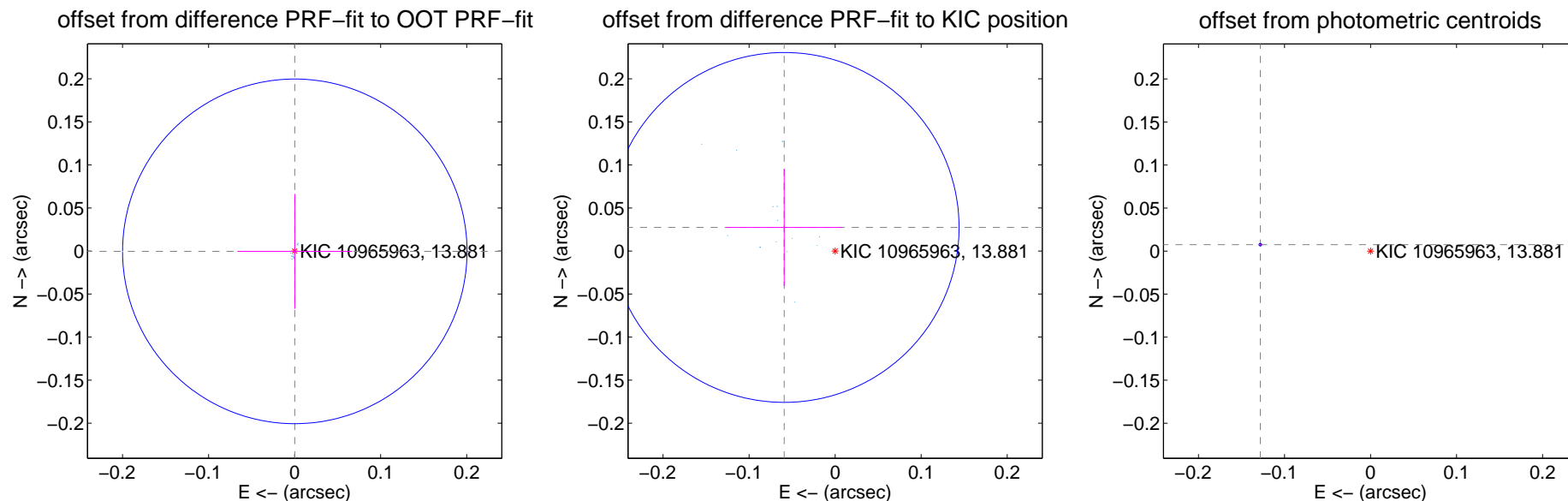
DV Centroid Data

Supplemental centroid analysis for 010965963-01. Kepler magnitude: 13.88. Transit SNR 5596.46

There are 14 quarters with good PRF difference image offsets

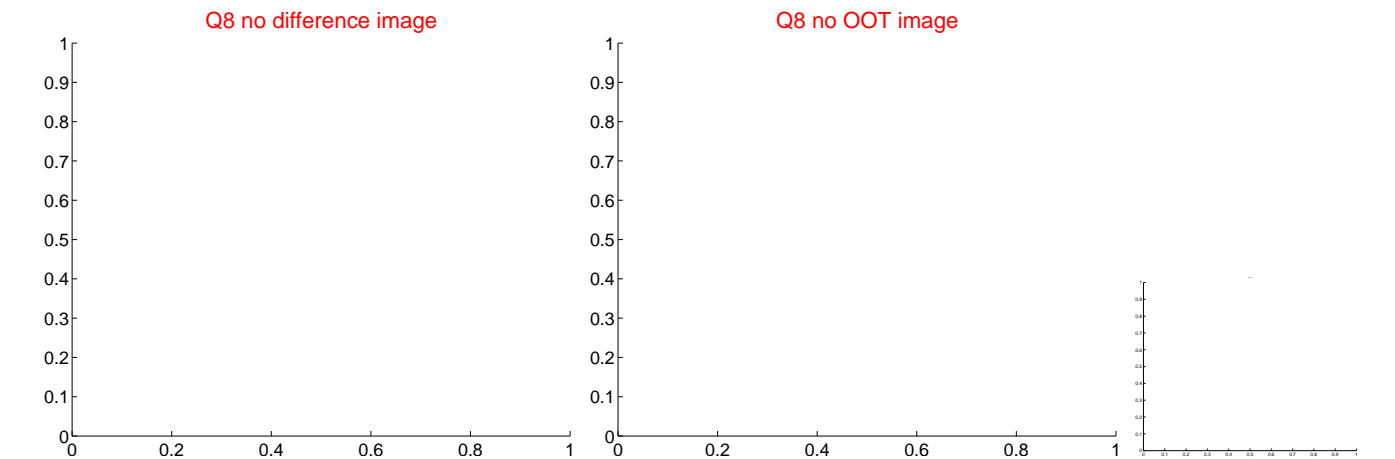
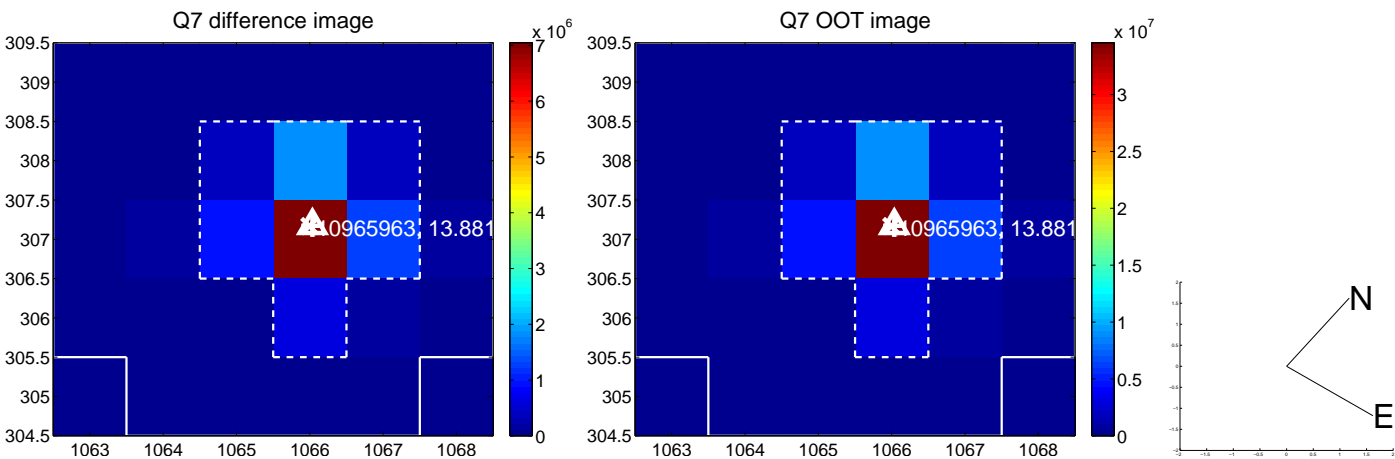
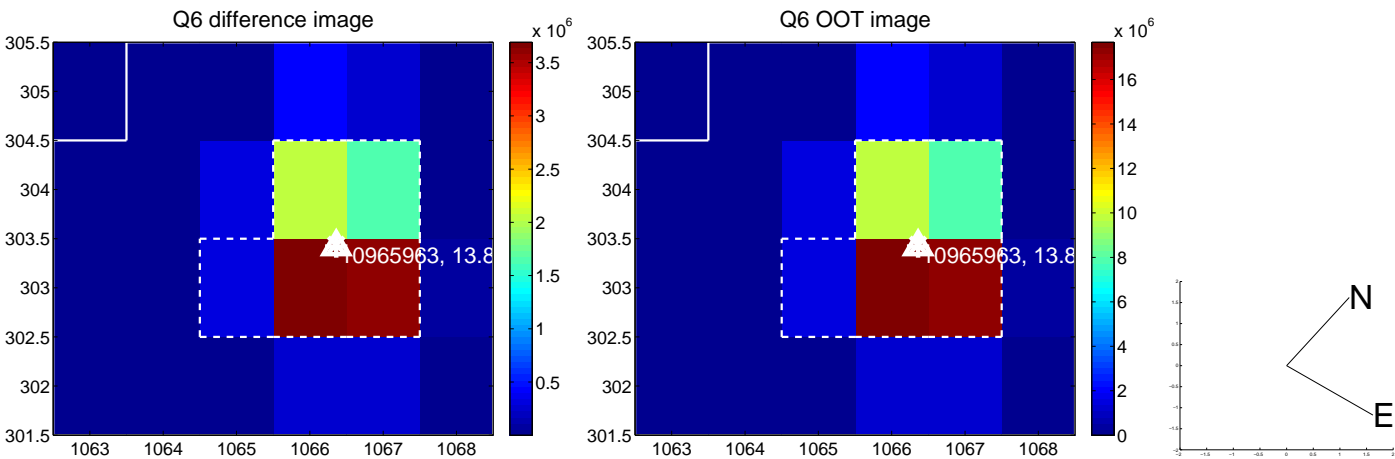
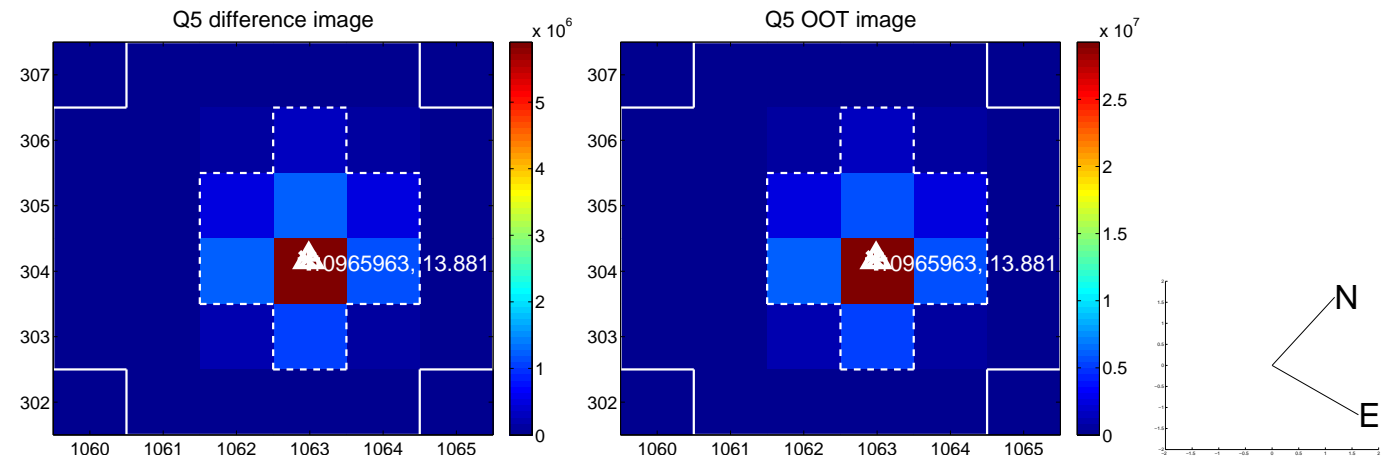
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.000 ± 0.067	0.01	-0.000 ± 0.067	-0.000 ± 0.067
PRF-fit source offset from KIC position	0.065 ± 0.068	0.96	0.059 ± 0.067	0.027 ± 0.068
photometric centroid source offset	0.13 ± 0.00	252.97	0.13 ± 0.00	0.01 ± 0.00

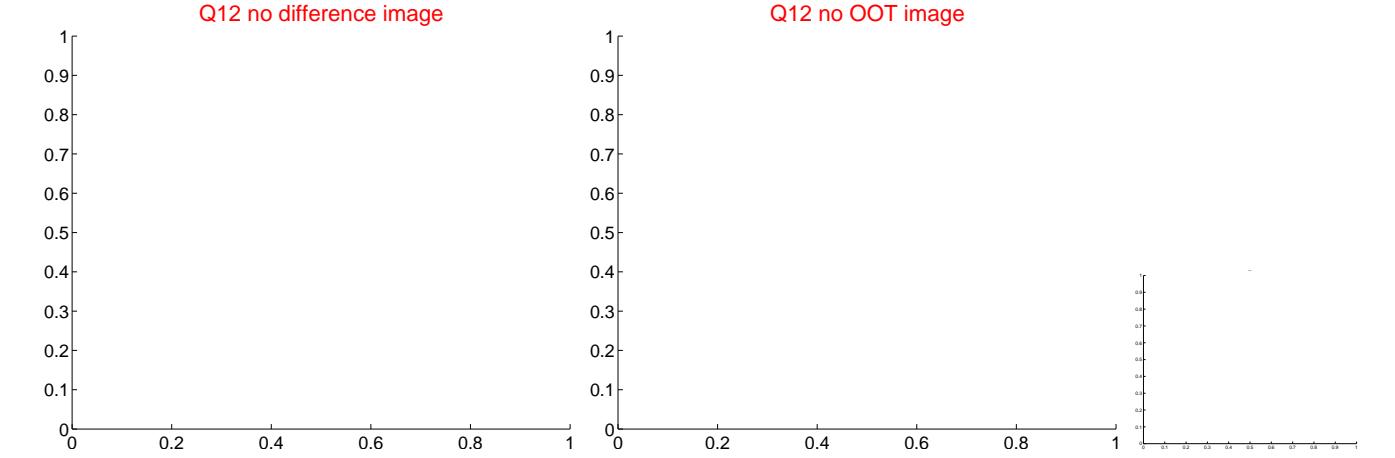
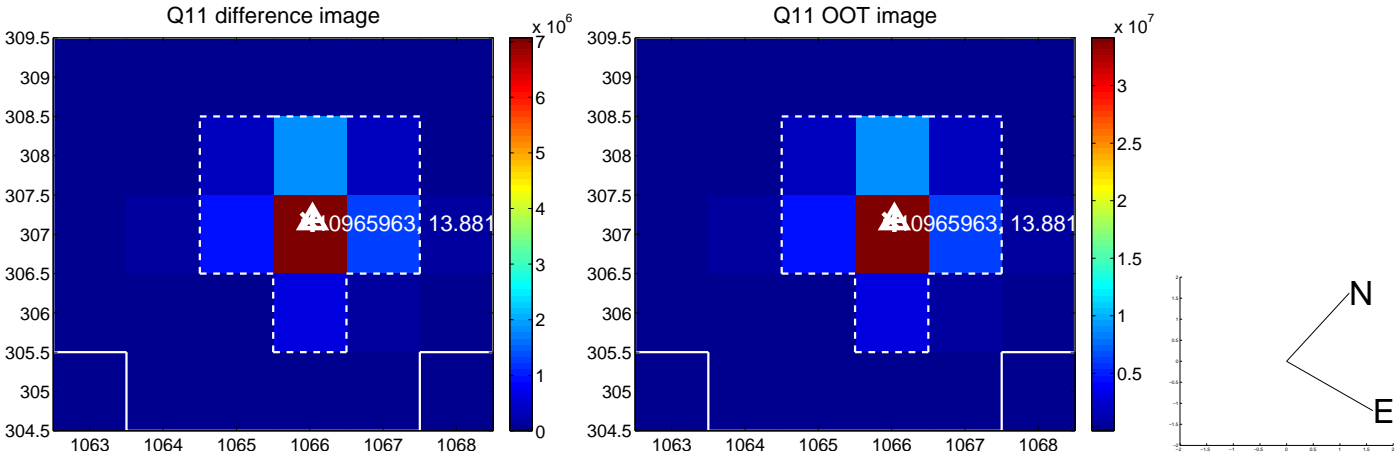
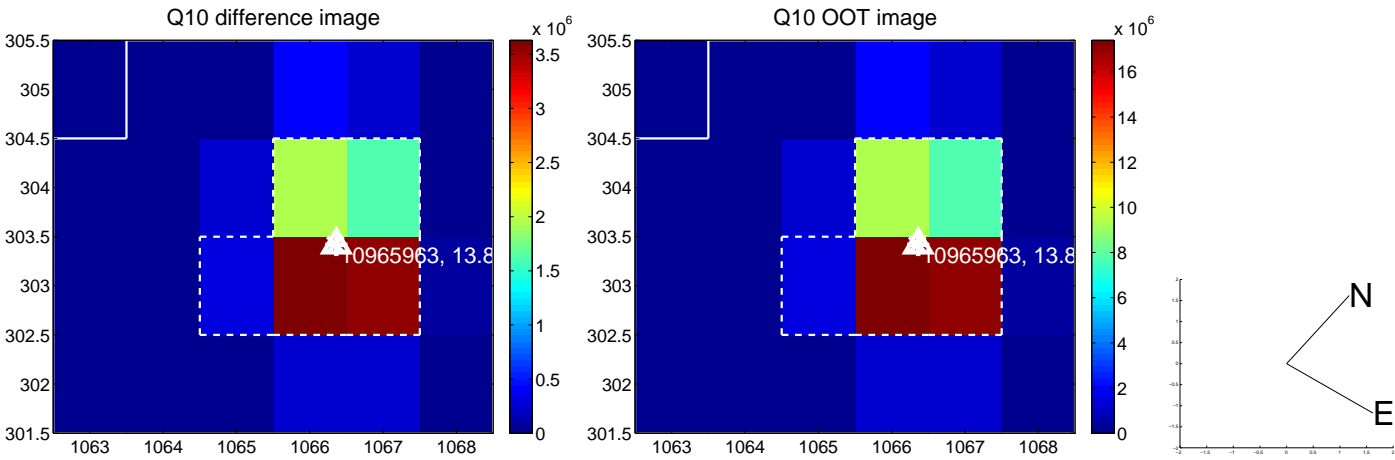
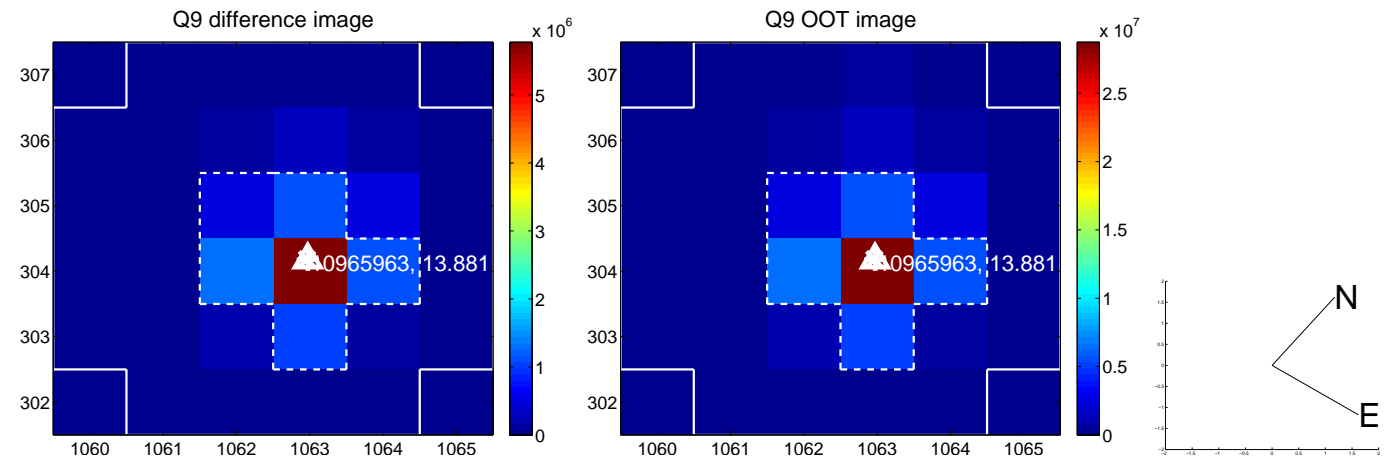


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

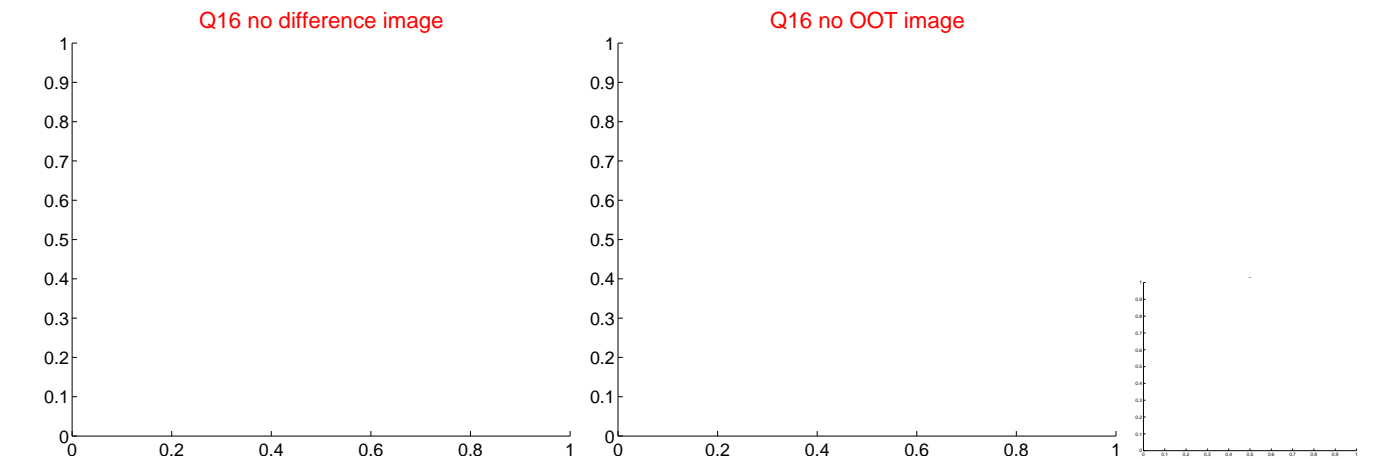
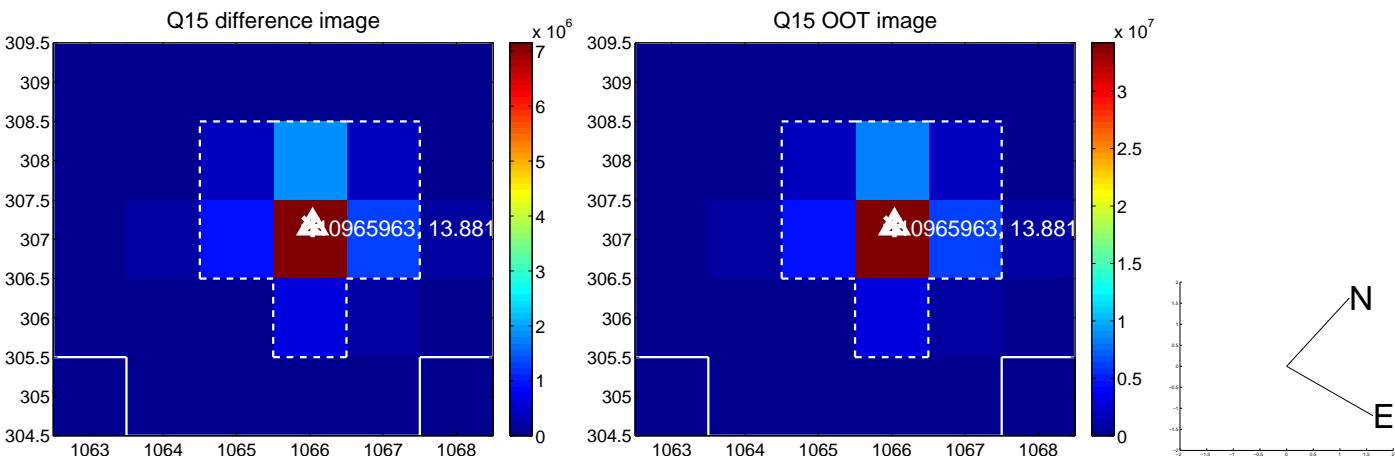
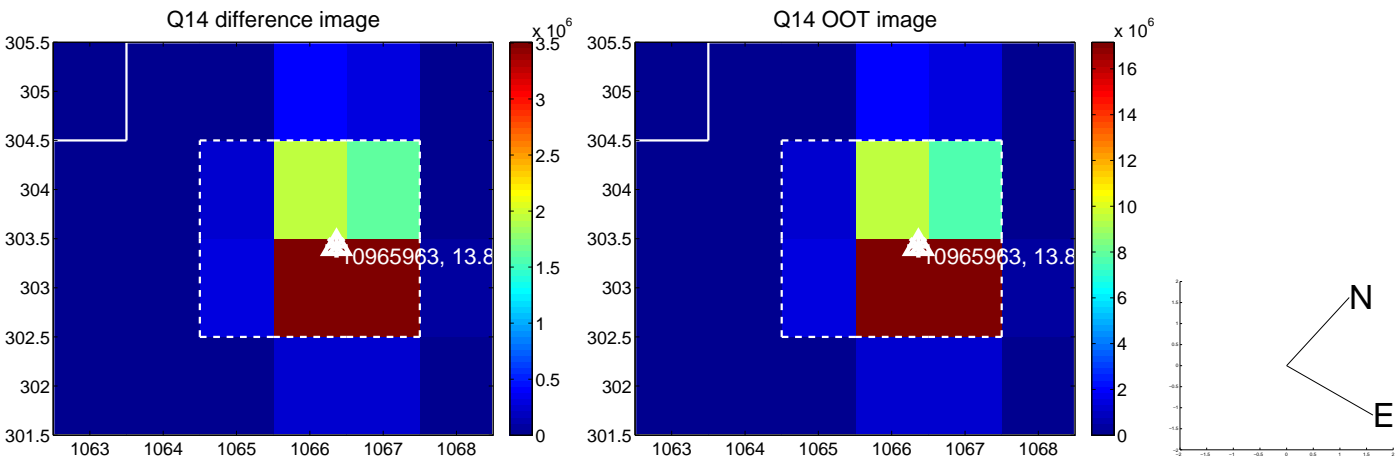
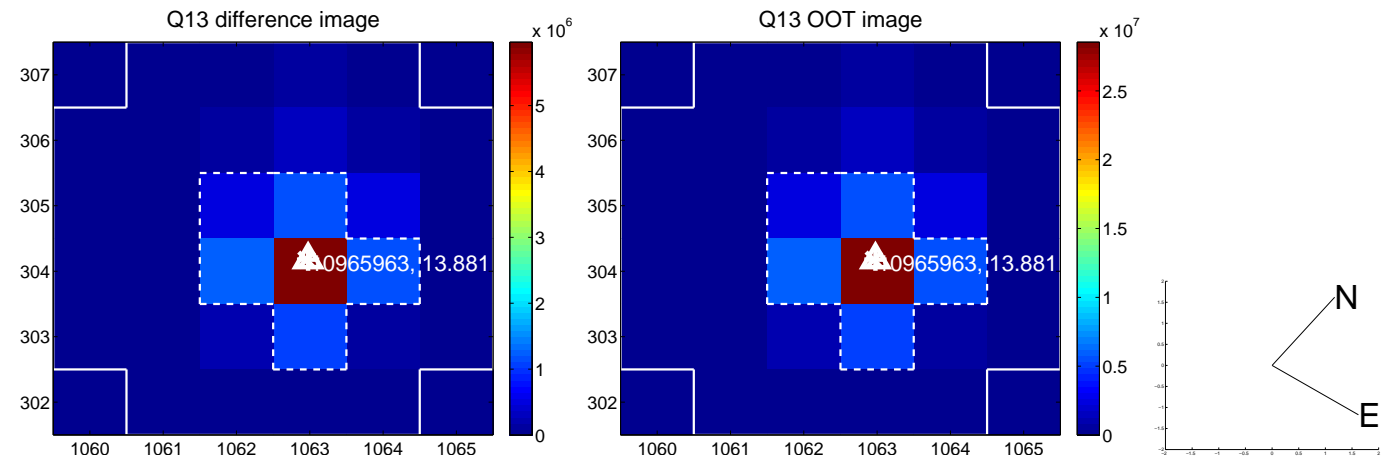
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



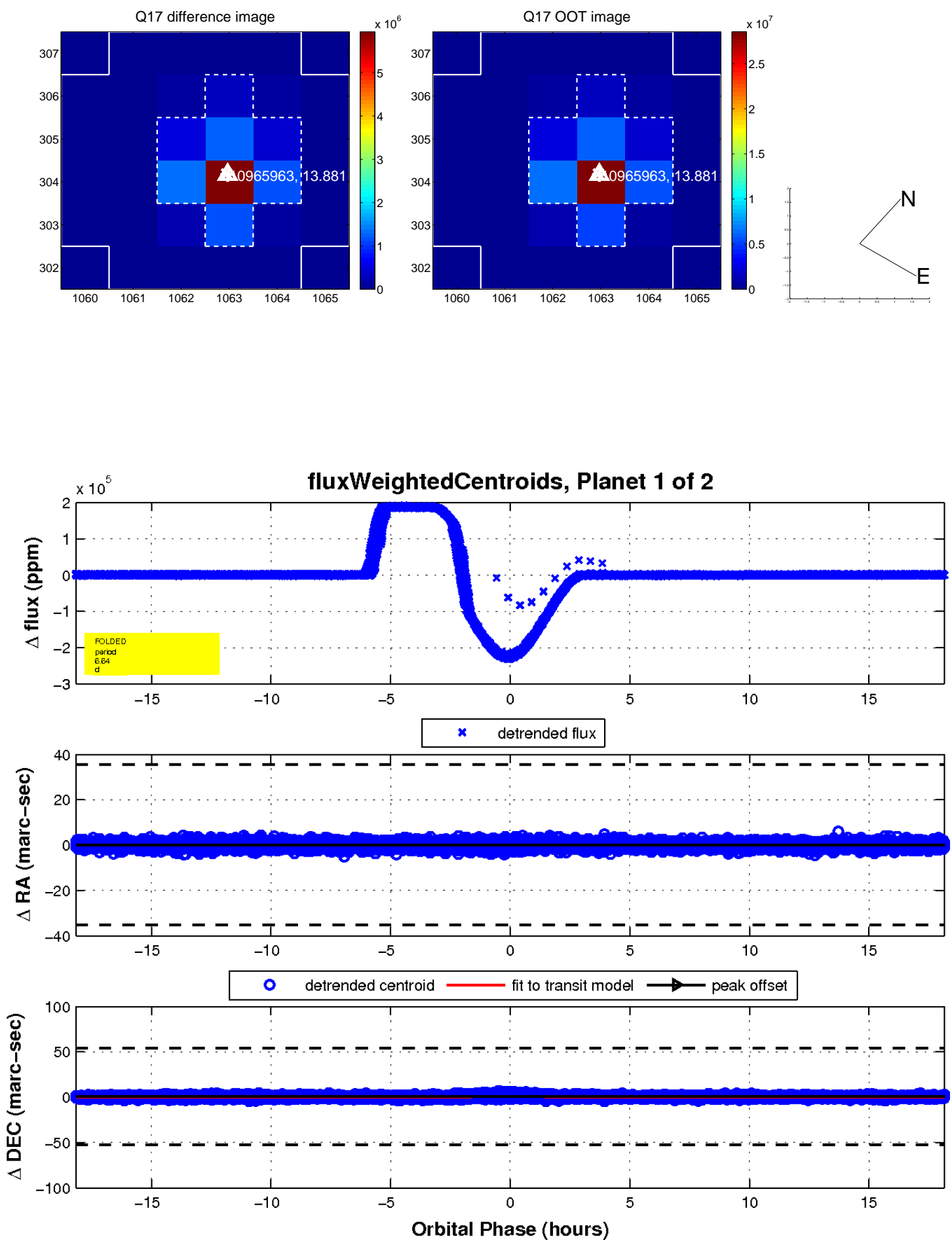
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

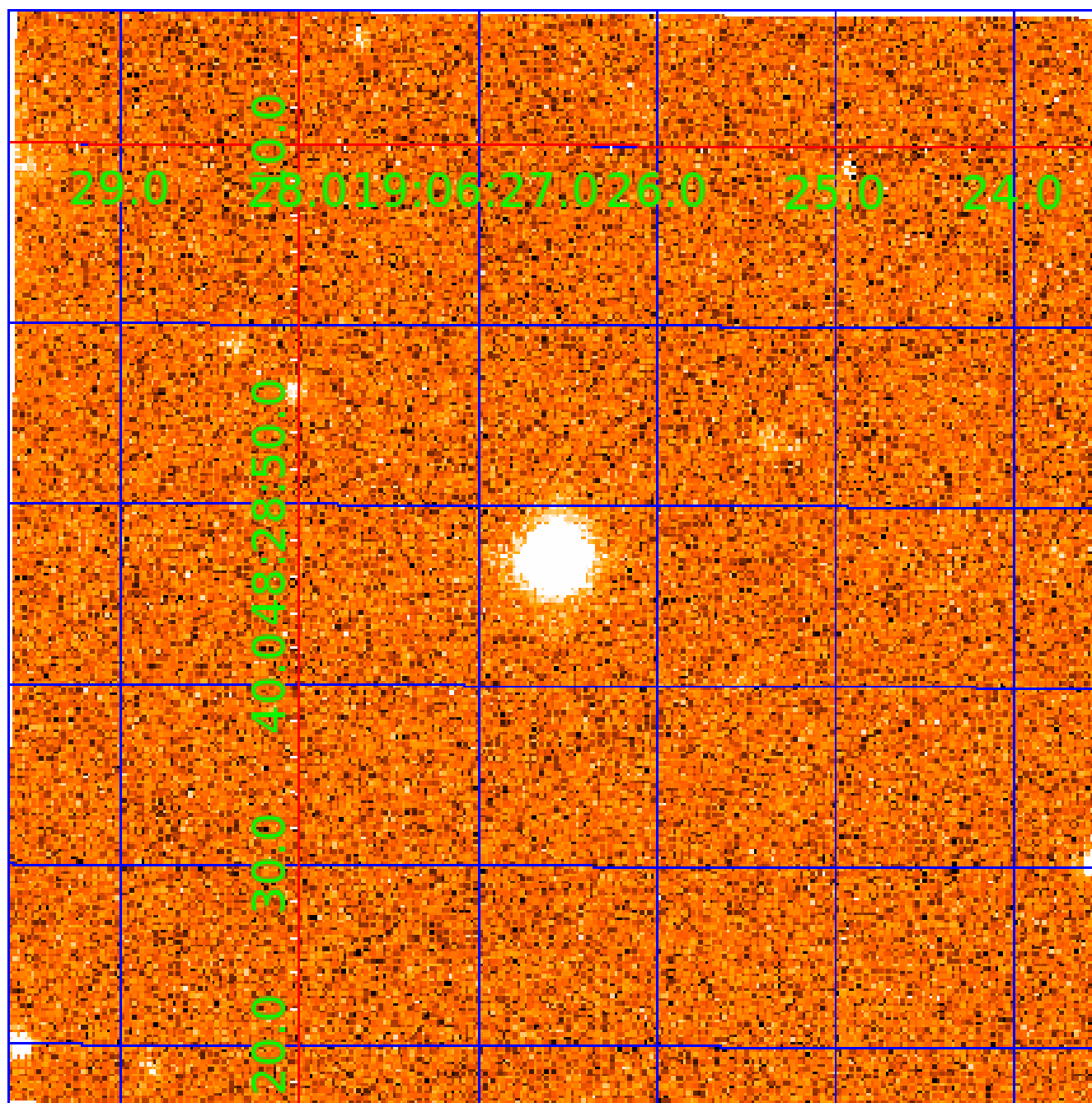


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010965963

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})
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010965963-02	OBS	No	3.320164	132.607595	86714.9	4.500	7241.9	-1.0	1.22	6085	35.86	920.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010965963-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
010965963-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

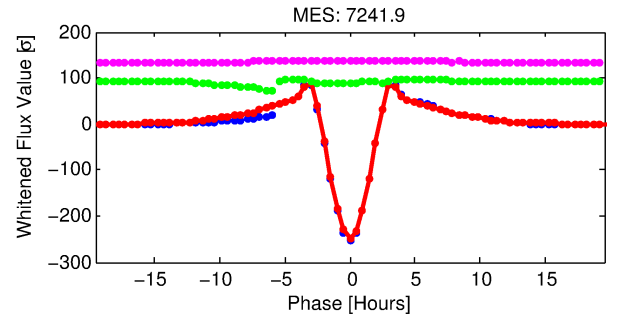
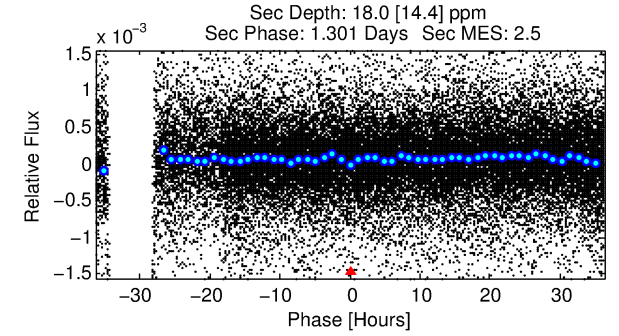
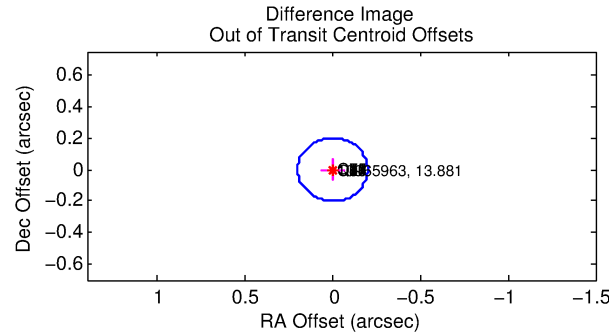
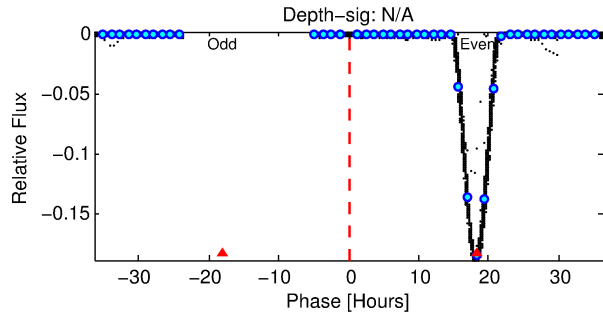
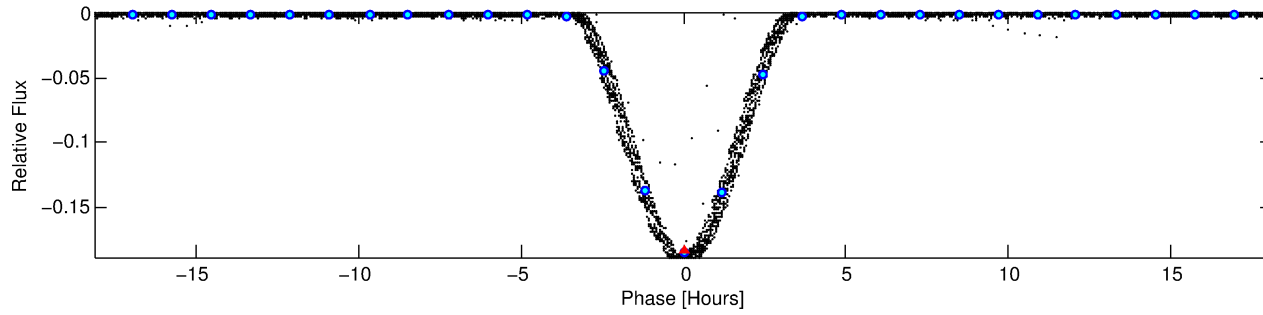
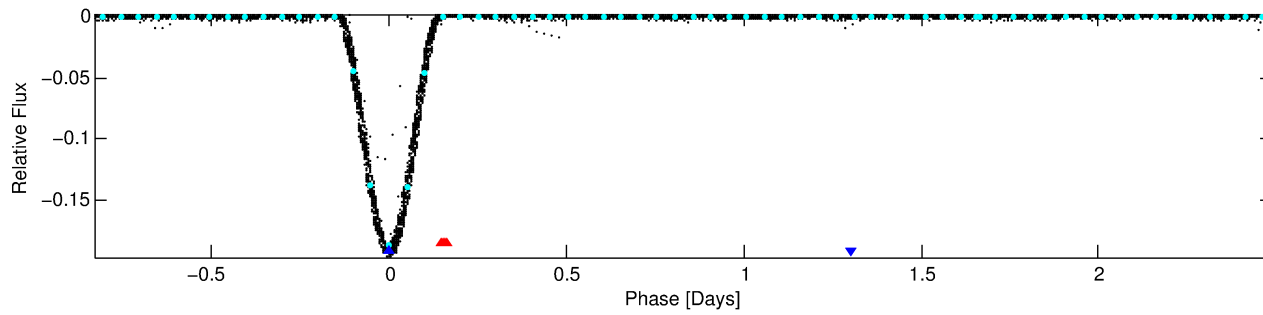
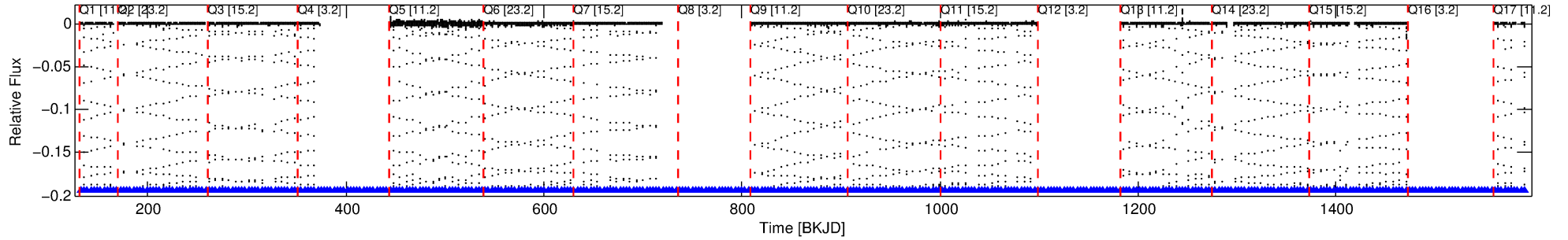
Ephemeris Match Information For 010965963-02

No Significant Match Found

DV One-Page Summary

KIC: 10965963 Candidate: 2 of 2 Period: 3.320 d
KOI: K07392 Corr: No Ephemeris Match

Kp: 13.88 R*: 1.22 Rs Teff: 6085.0 K Logg: 4.29 Fe/H: -0.040



TPS TCE Results:

Period = 3.32016 d
Epoch = 132.6076 BKJD

DV fit results are unavailable

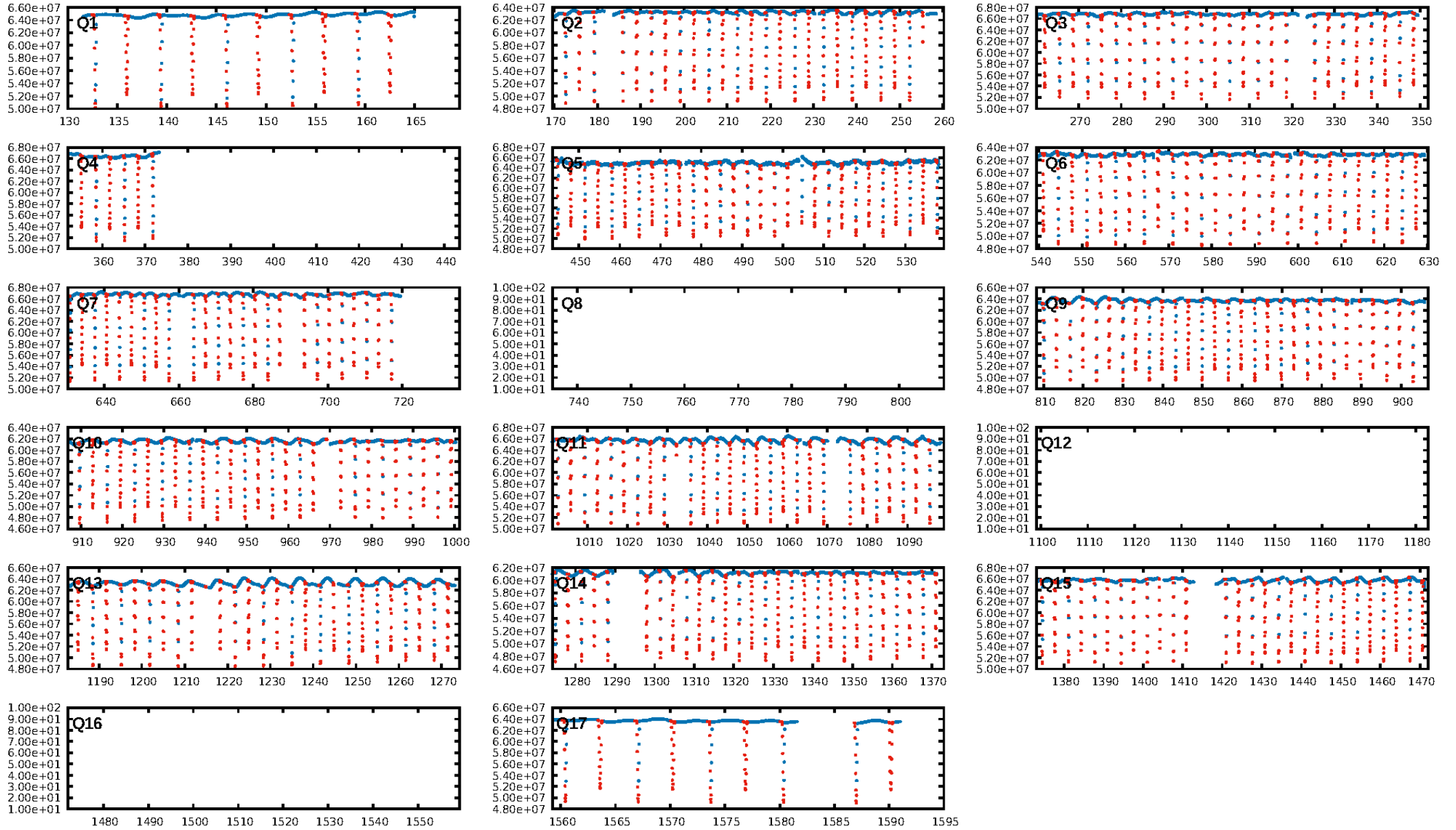
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [10.57σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [147/147]
GhostDiagnostic-chr: 1.718
Centroid-sig: 0.0%
Centroid-so: 0.127 arcsec [312.98σ]
OotOffset-rm: 0.001 arcsec [0.01σ]
KicOffset-rm: 0.067 arcsec [0.99σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

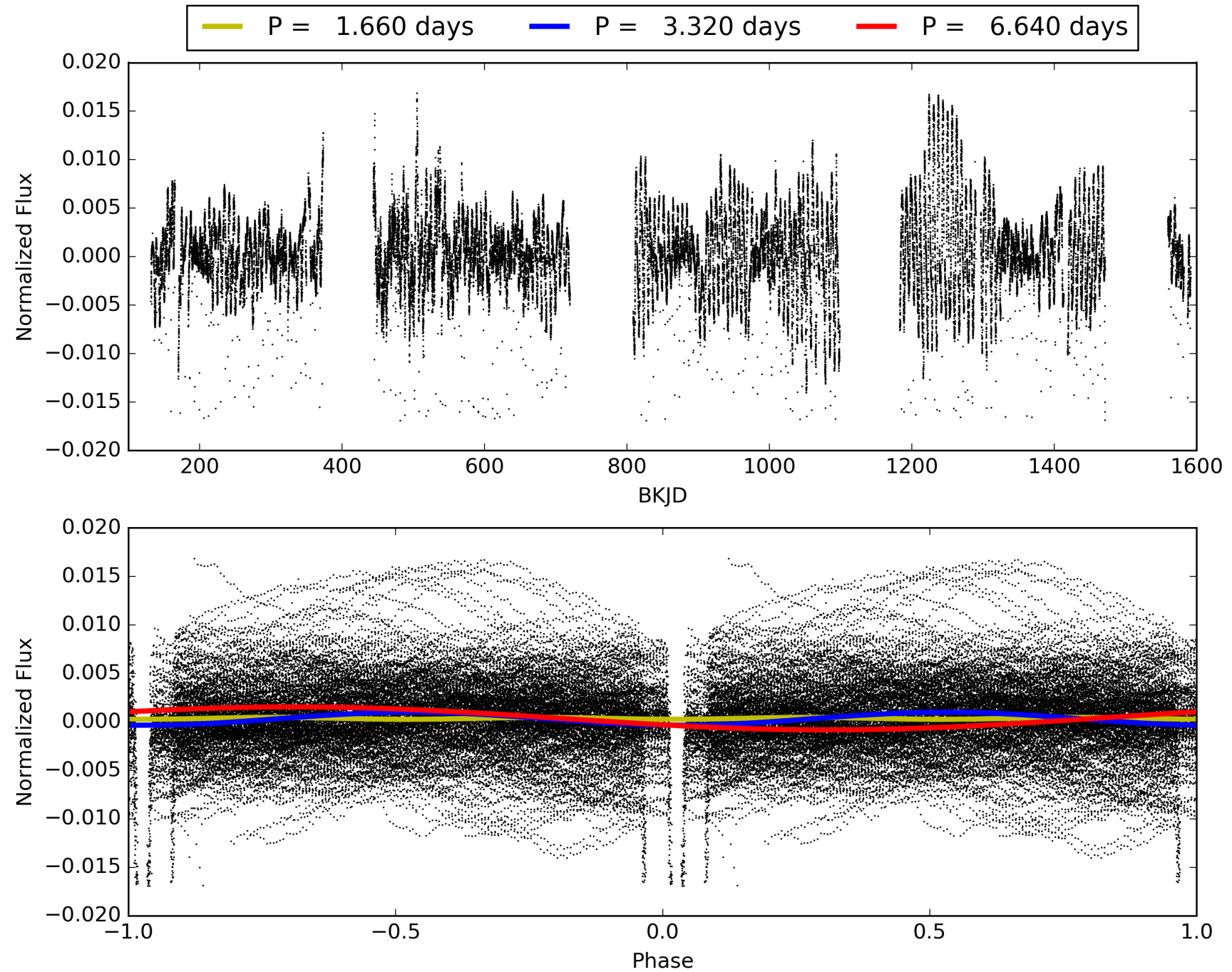
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:13:19 Z

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

TCE 010965963-02, PDC Light Curves

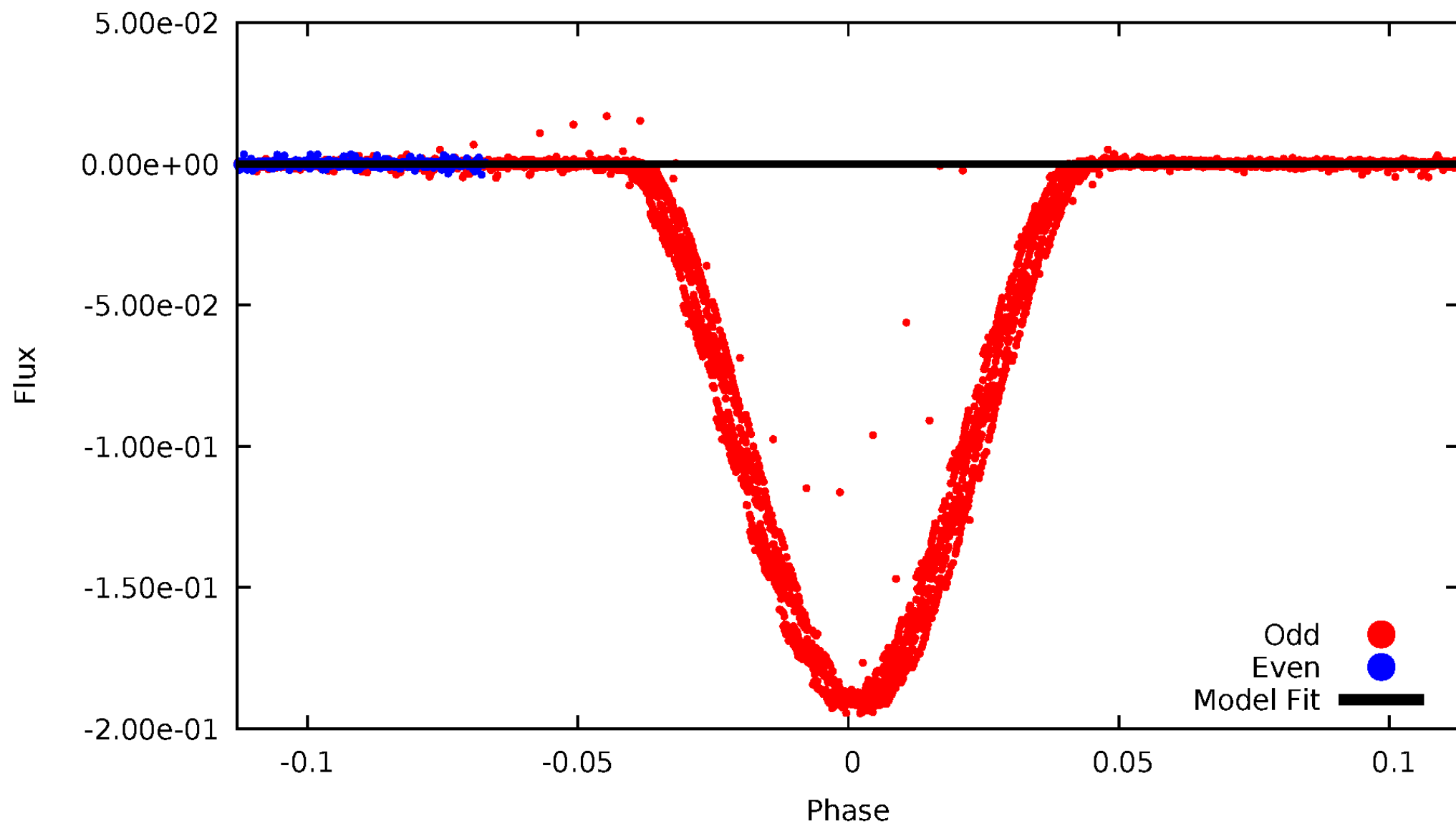


TCE 010965963-02



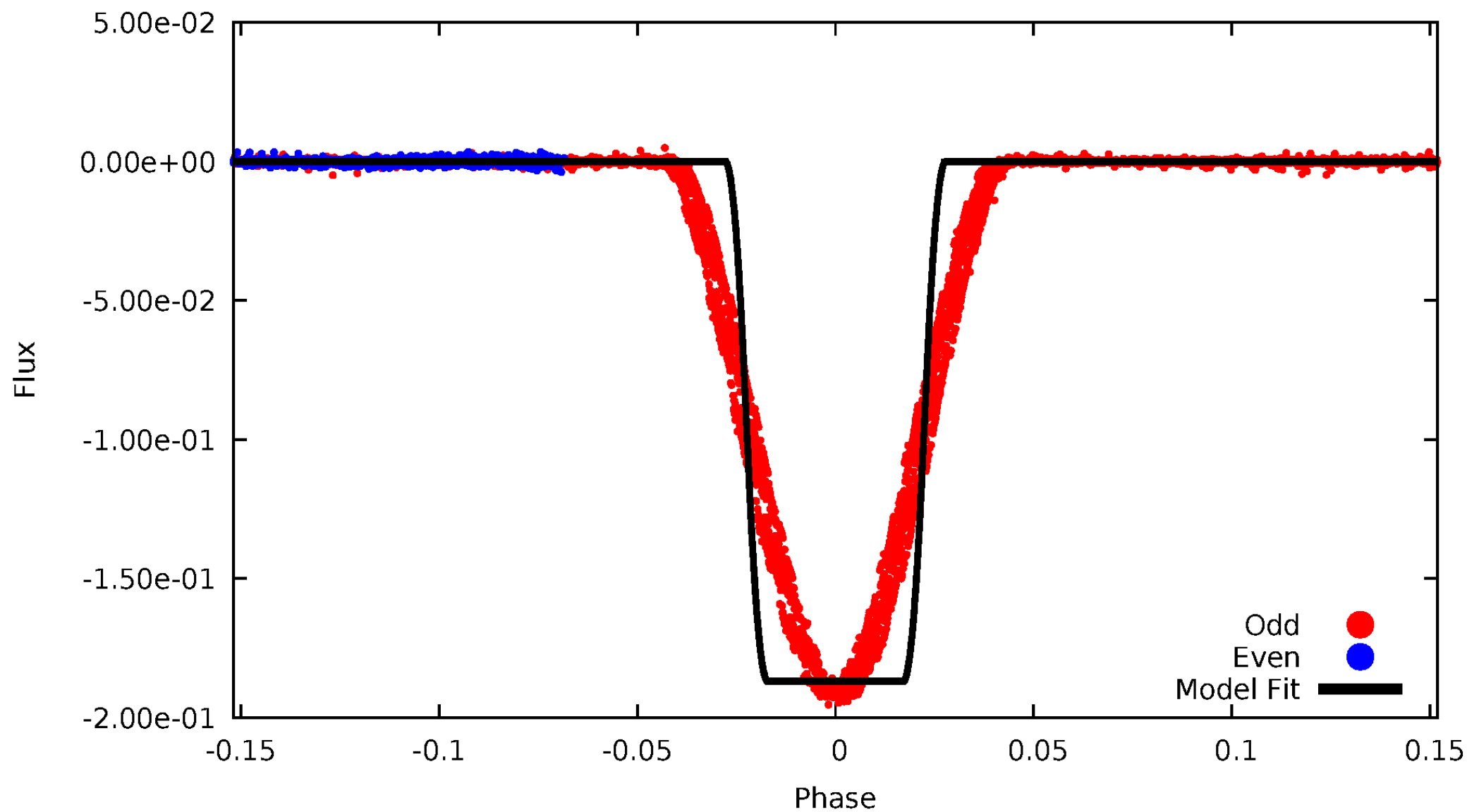
DV Odd/Even

TCE 010965963-02



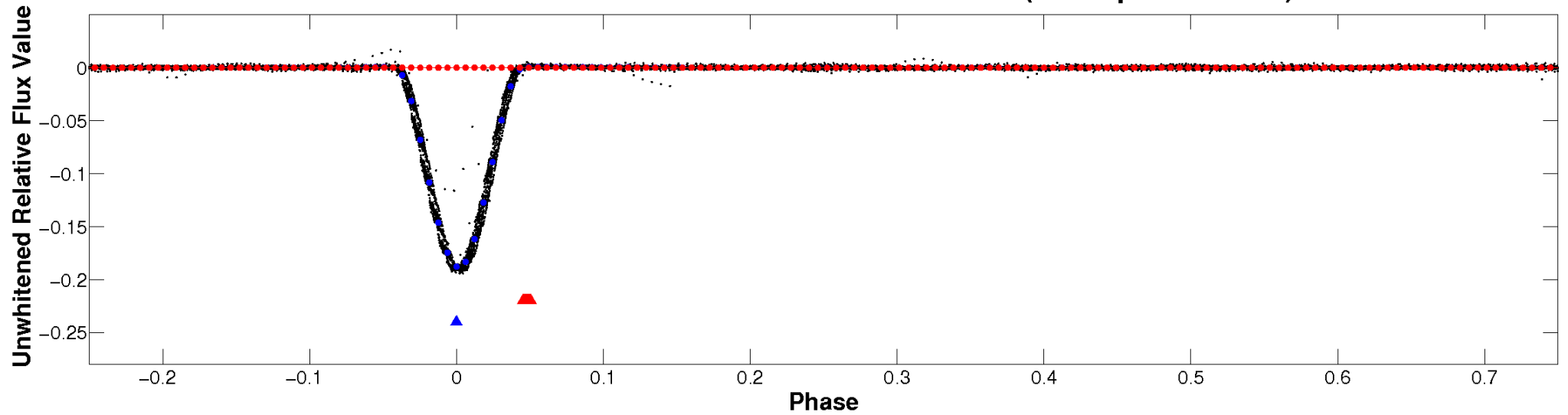
ALT Odd/Even

TCE 010965963-02

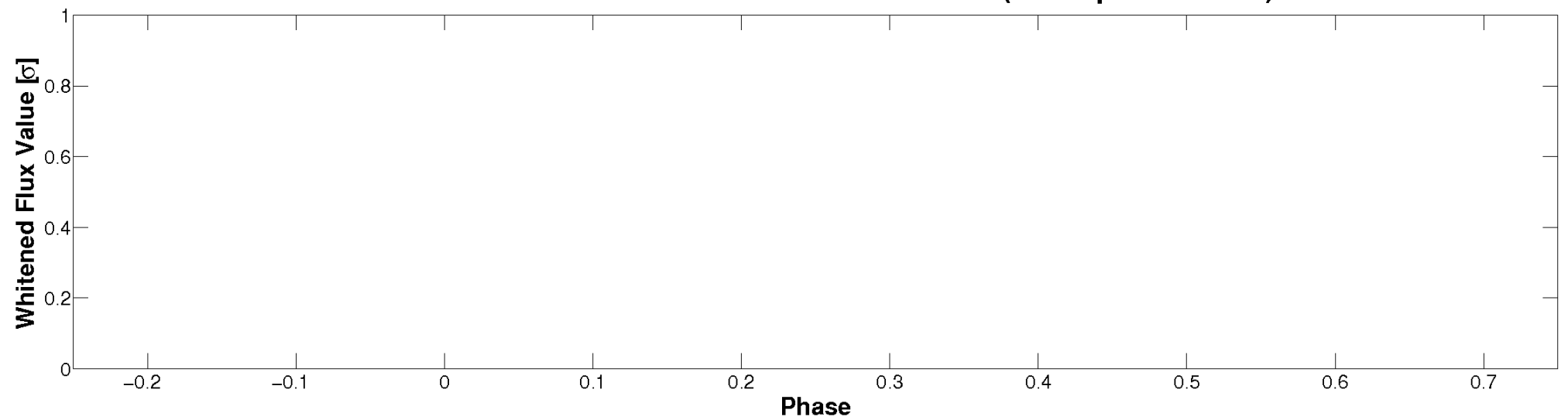


Non-Whitened Vs. Whitened Light Curve

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

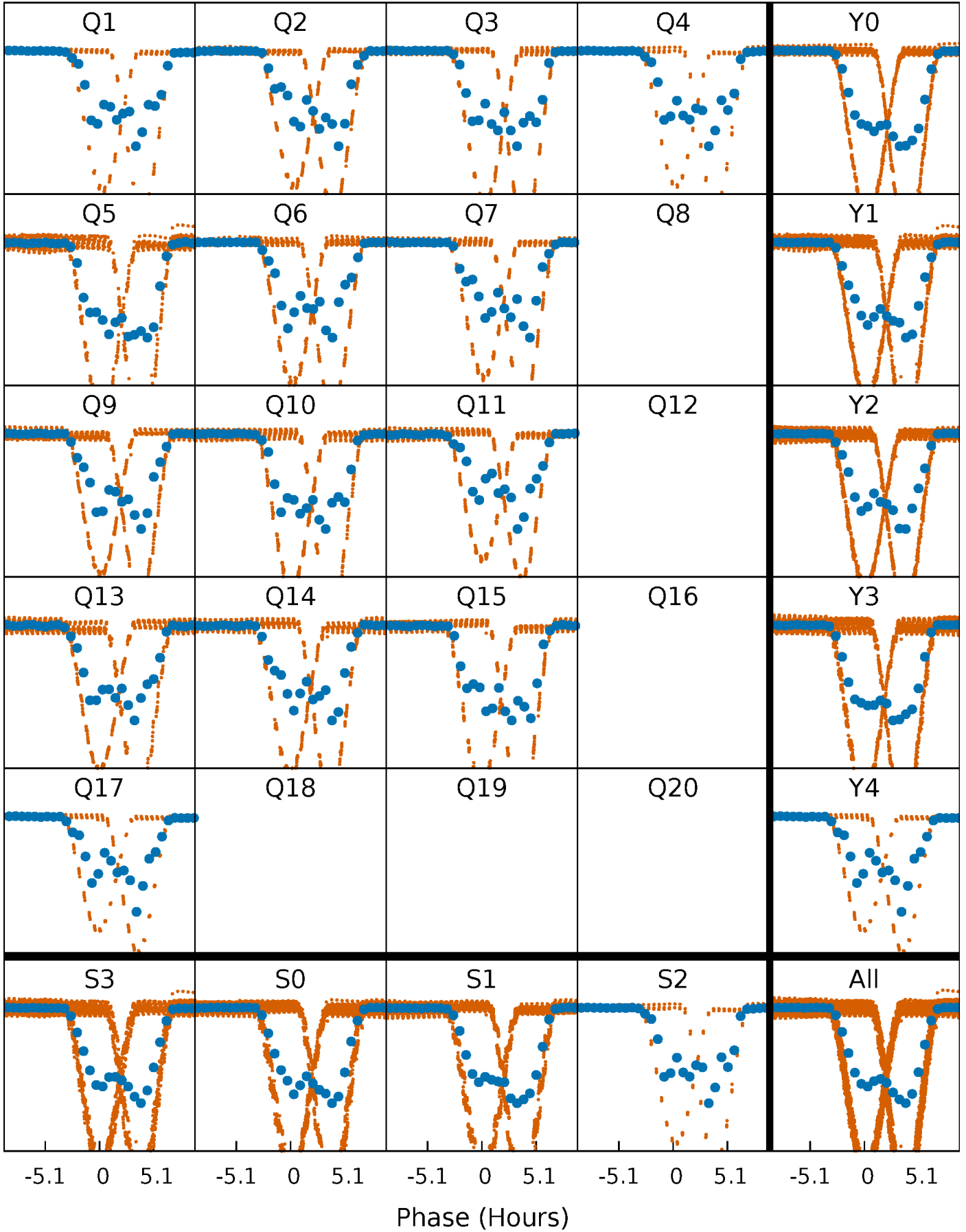


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



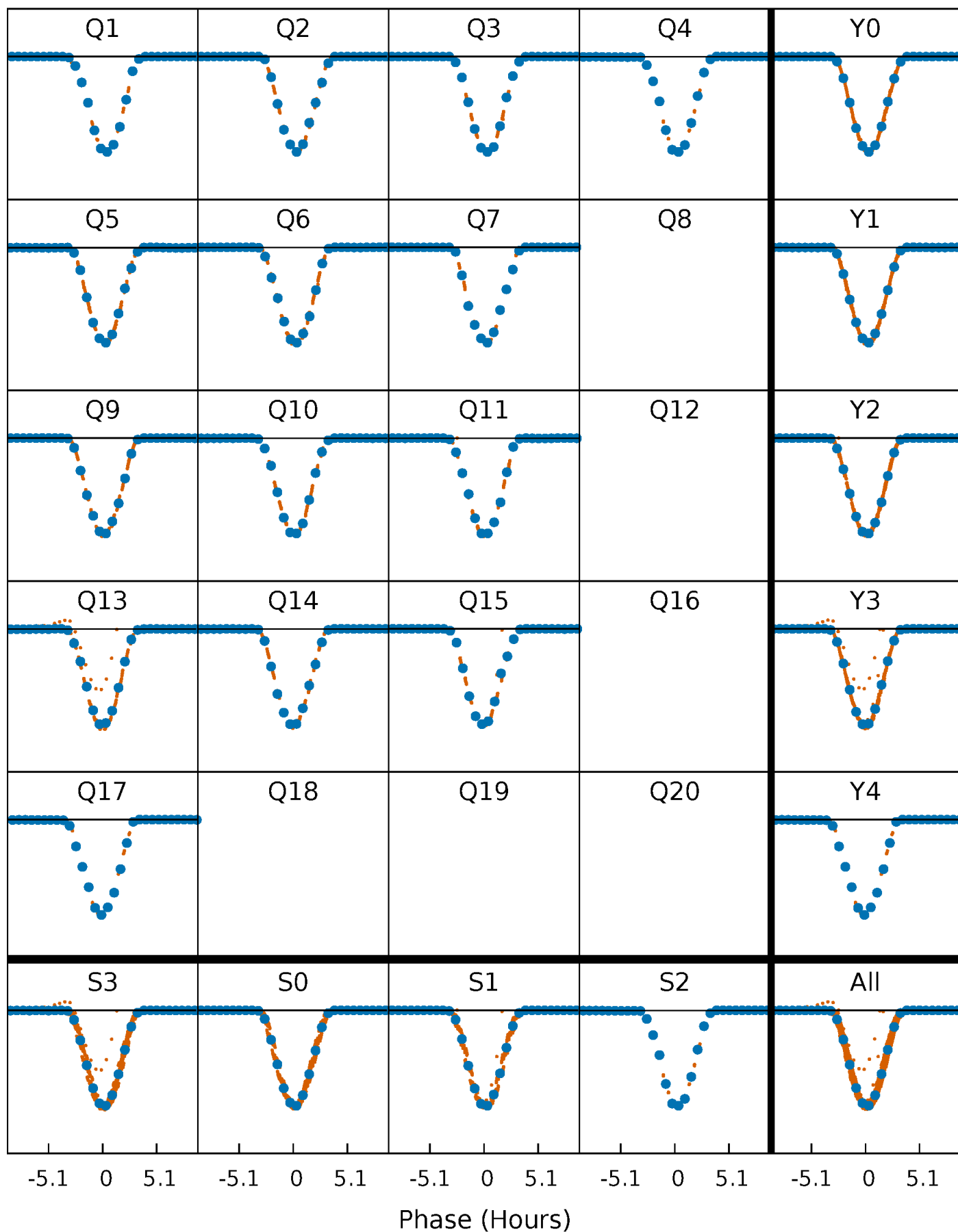
PDC Quarter-Phased Transit Curves

TCE 010965963-02 P= 3.320164 Days $T_0=132.607595$ (BKJD)



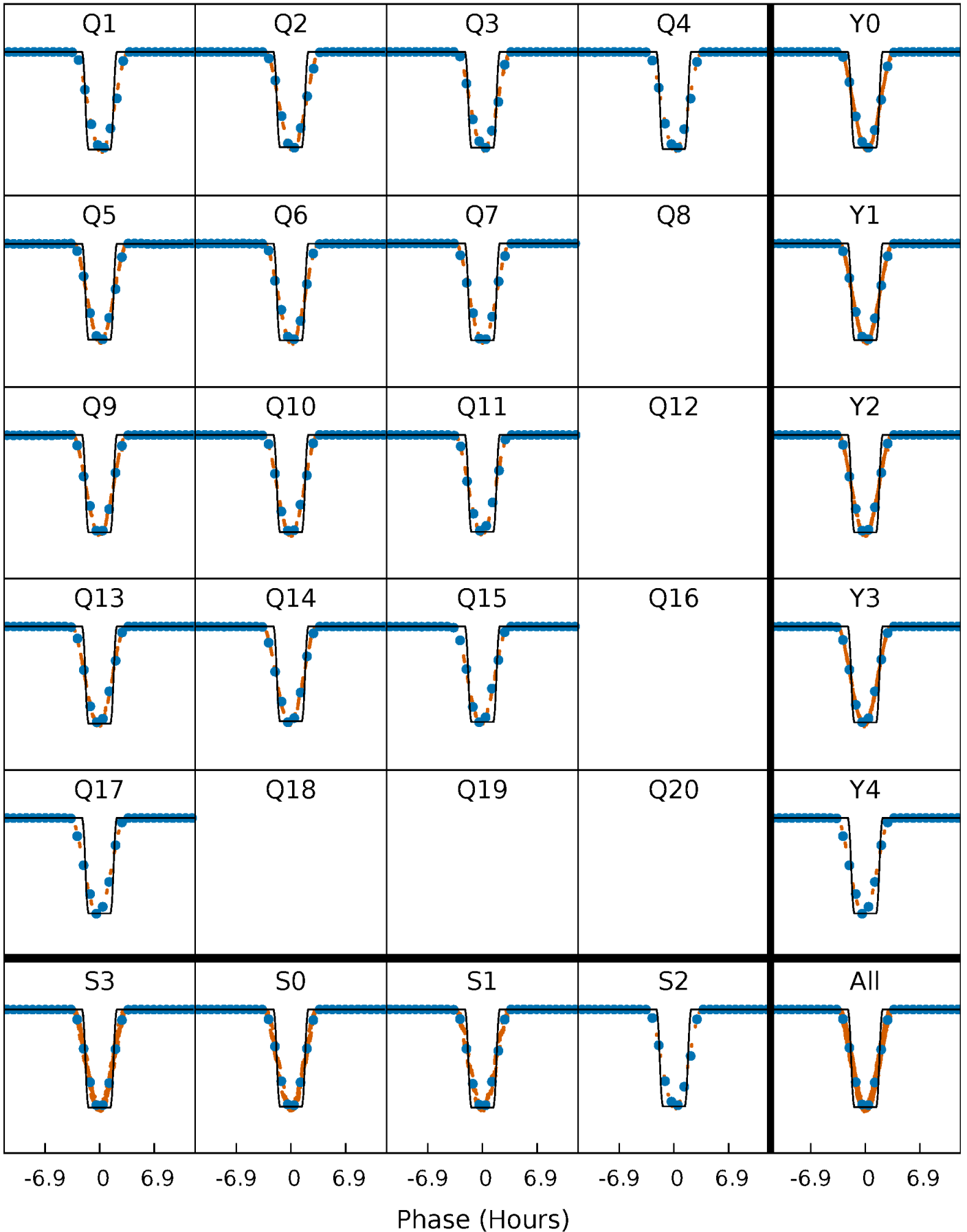
DV Quarter-Phased Transit Curves

TCE 010965963-02 P= 3.320164 Days $T_0=132.607595$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

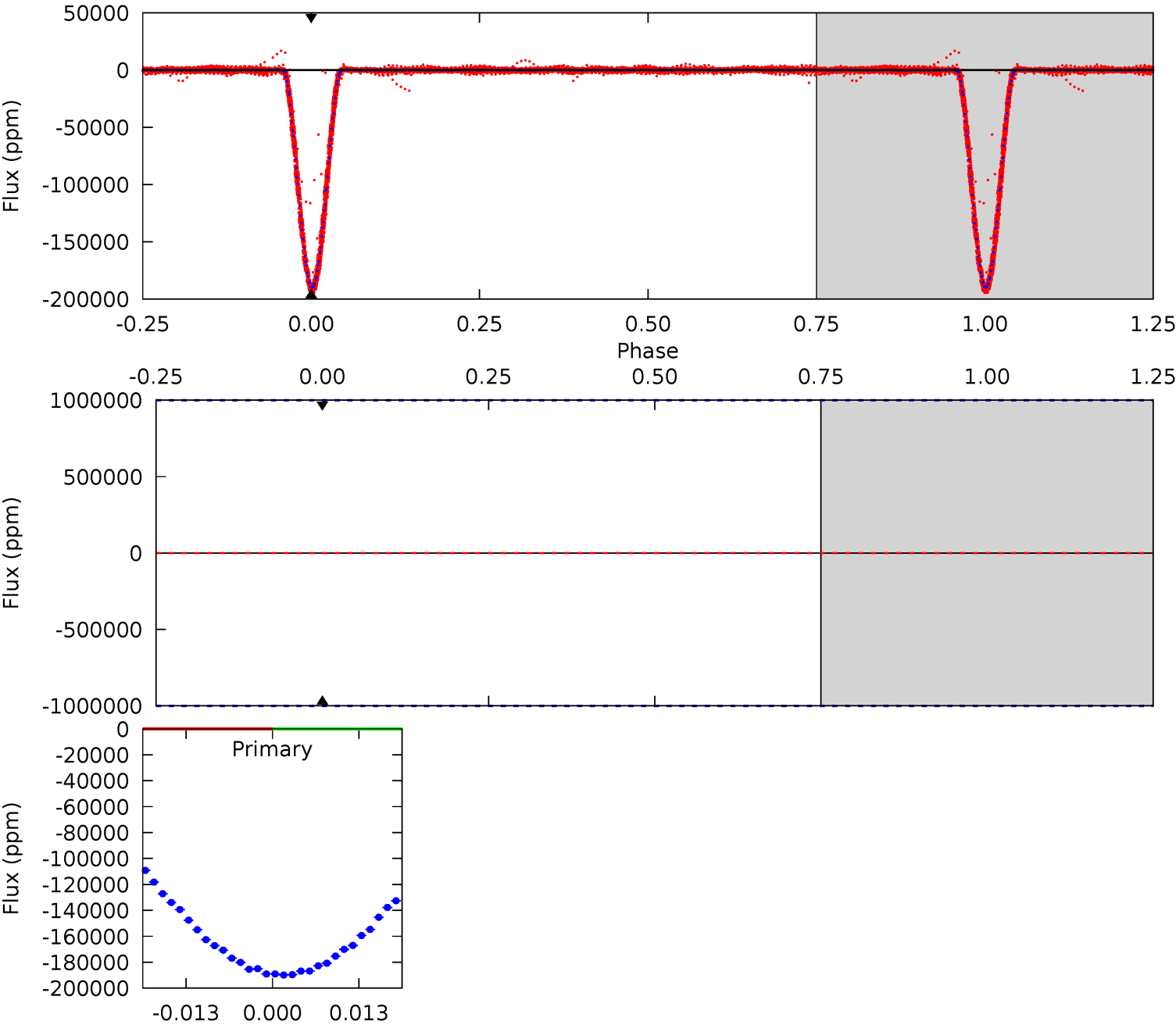
TCE 010965963-02 P= 3.320164 Days $T_0=132.612120$ (BKJD)



DV Model-Shift Uniqueness Test

010965963-02, P = 3.320164 Days, E = 129.287431 Days

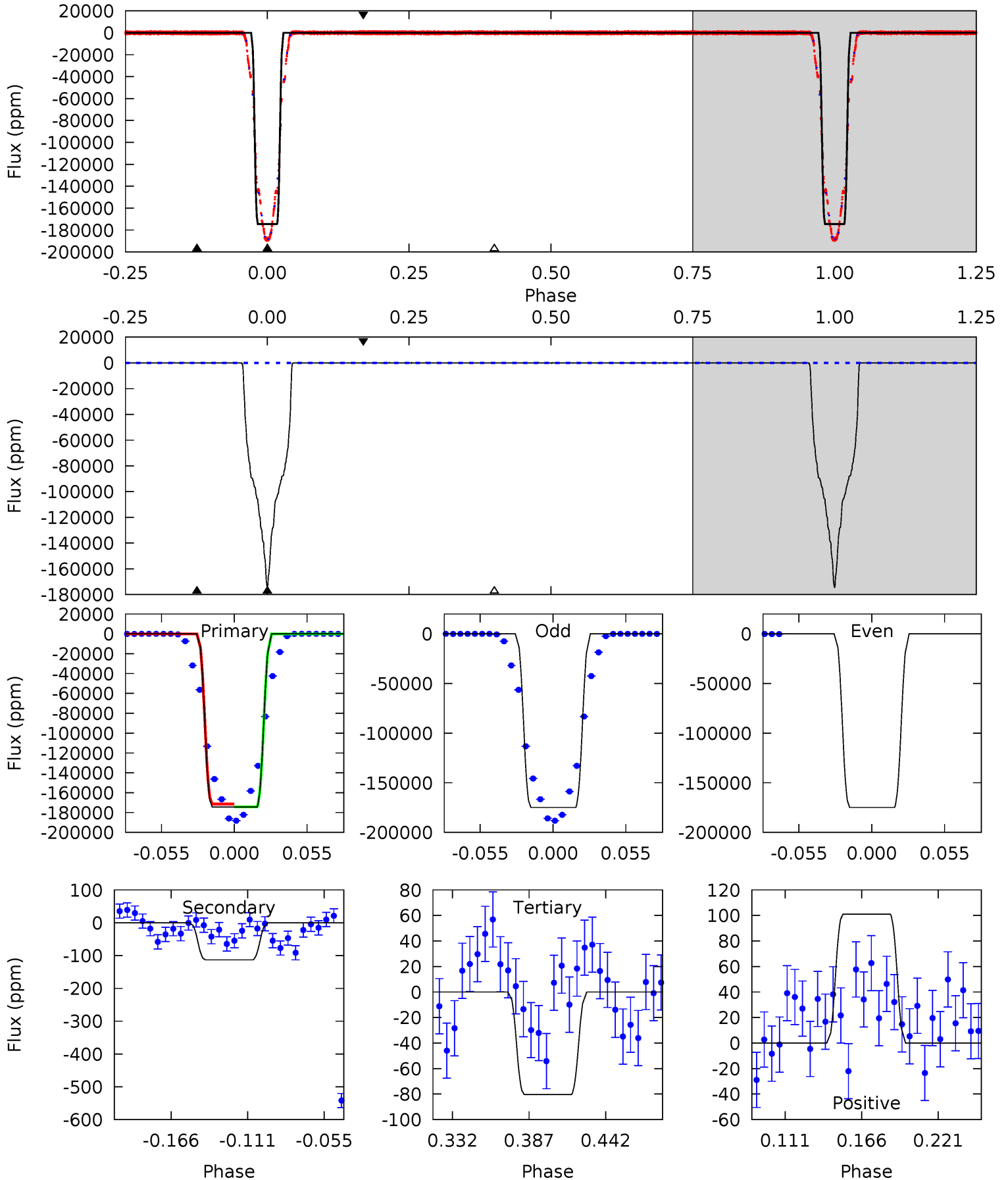
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010965963-02, P = 3.320164 Days, E = 129.291956 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6653	4.32	3.06	3.85	4.69	1.92	1.10	6650	6649	1.25	0.46	0	1.00	0.00	0



Stellar Parameters For KIC 010965963

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6085^{+171}_{-193}	$4.293^{+0.153}_{-0.187}$	$-0.040^{+0.250}_{-0.300}$	$1.215^{+0.355}_{-0.236}$	$1.055^{+0.166}_{-0.135}$	$0.829^{+0.604}_{-0.399}$
	+3%/-3%	+4%/-4%	+625%/-750%	+29%/-19%	+16%/-13%	+73%/-48%
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 010965963-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$36.61^{+14.72}_{-13.07}$	1967^{+141}_{-114}	3217^{+3910}_{-9895}	$2.306^{+106.341}_{-82.960}$
Alt.	-113 ± 26	$56.93^{+16.51}_{-13.73}$	1962^{+142}_{-122}	-2427^{+86}_{-101}	$0.037^{+0.031}_{-0.016}$

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 $A_{obs} \gg 1.0$

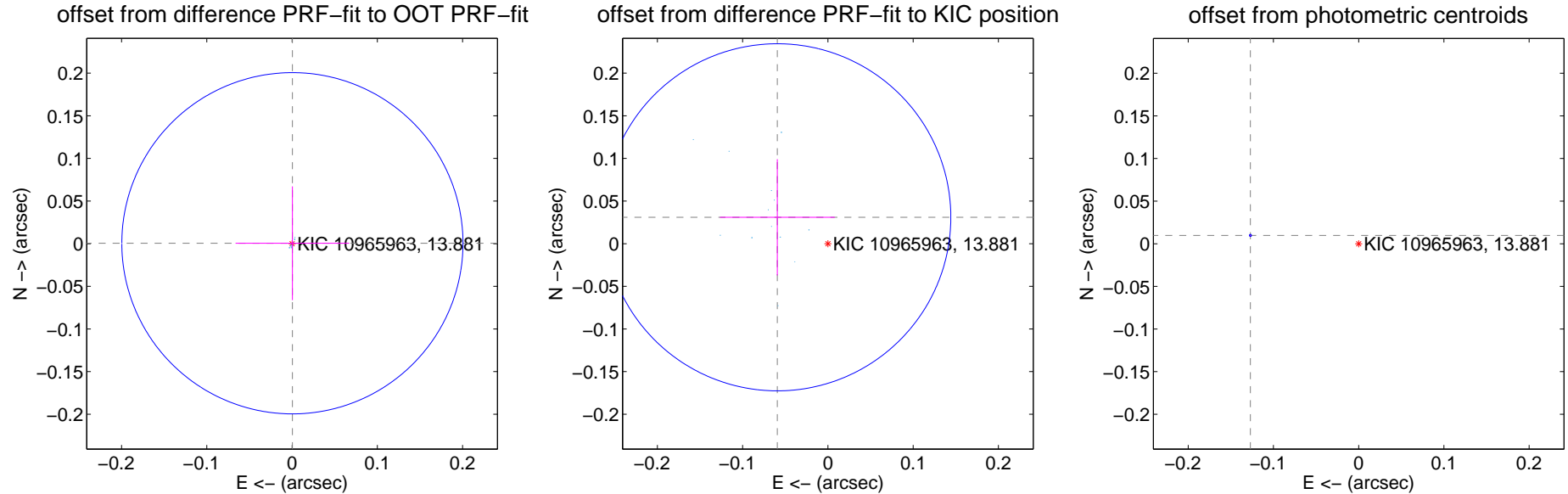
DV Centroid Data

Supplemental centroid analysis for 010965963-02. Kepler magnitude: 13.88. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

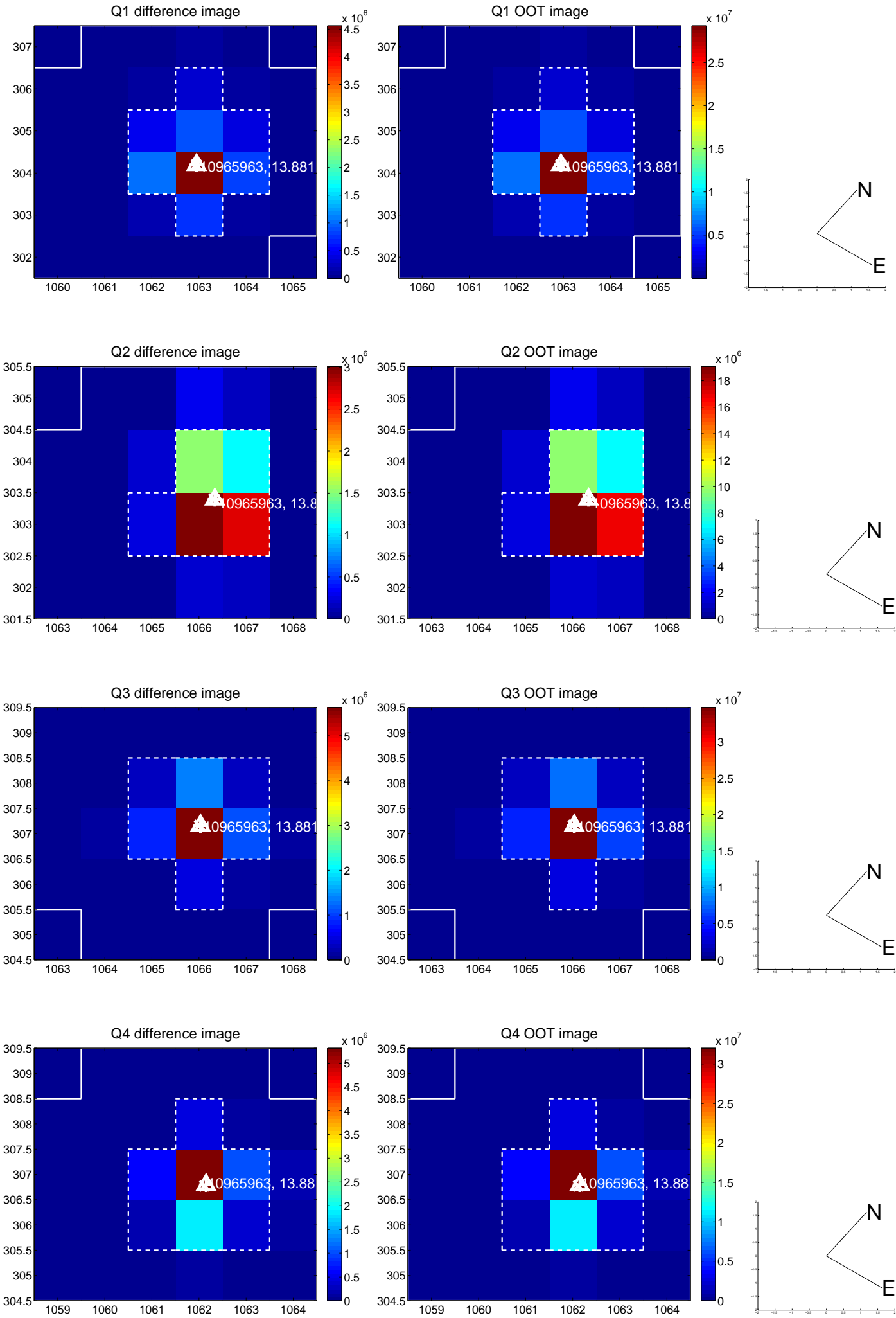
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.001 ± 0.067	0.01	-0.000 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.067 ± 0.068	0.99	0.059 ± 0.067	0.031 ± 0.068
photometric centroid source offset	0.13 ± 0.00	312.98	0.13 ± 0.00	0.01 ± 0.00

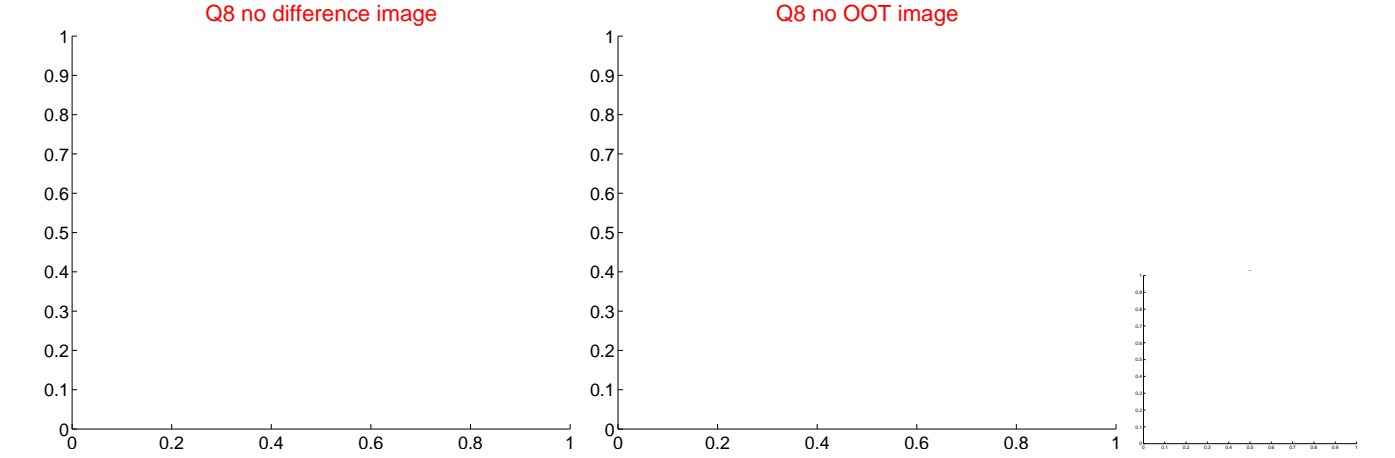
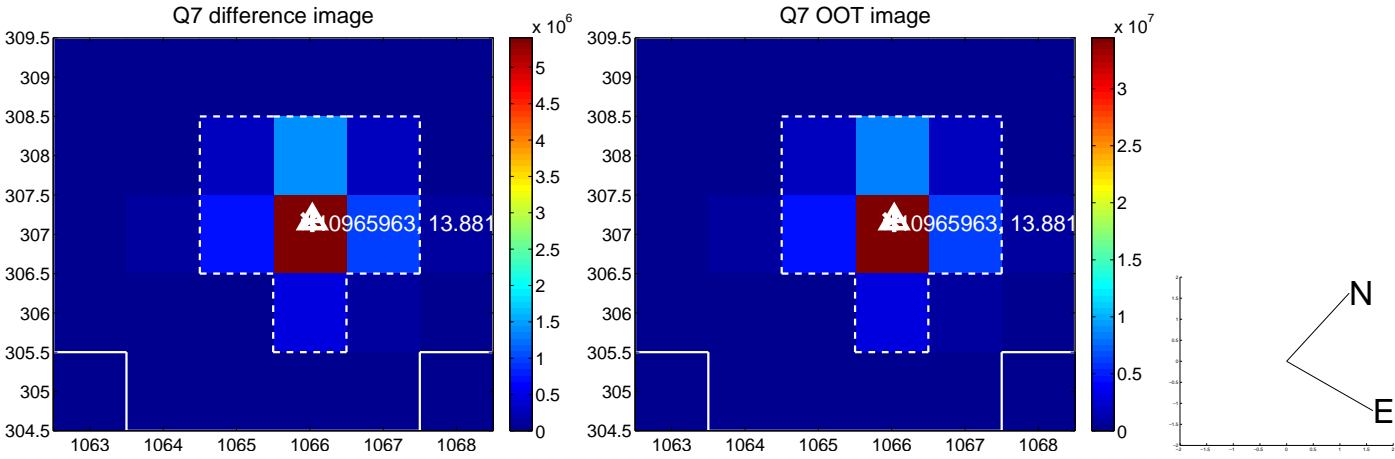
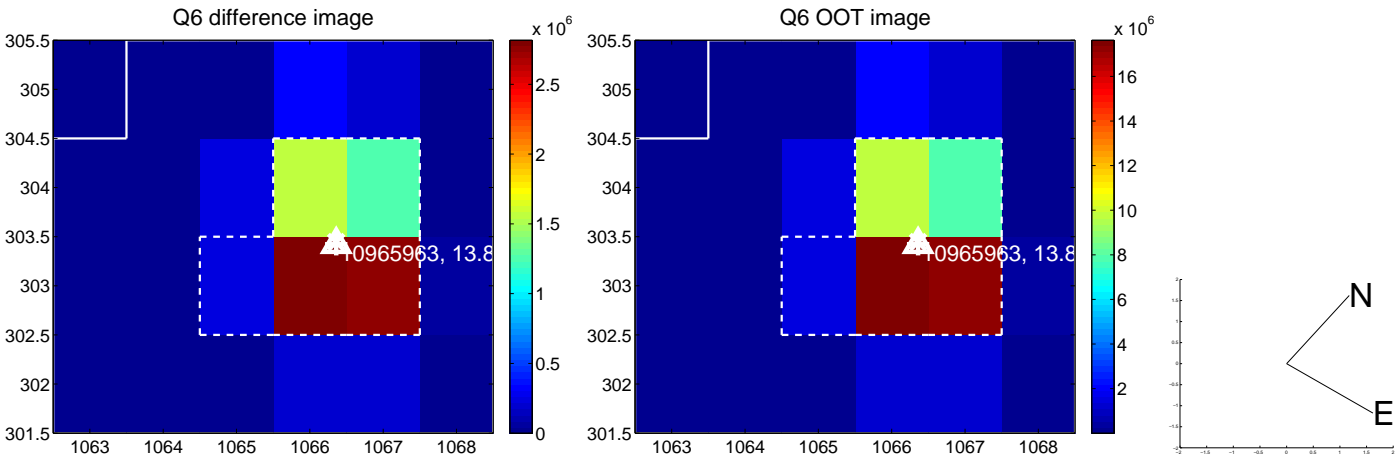
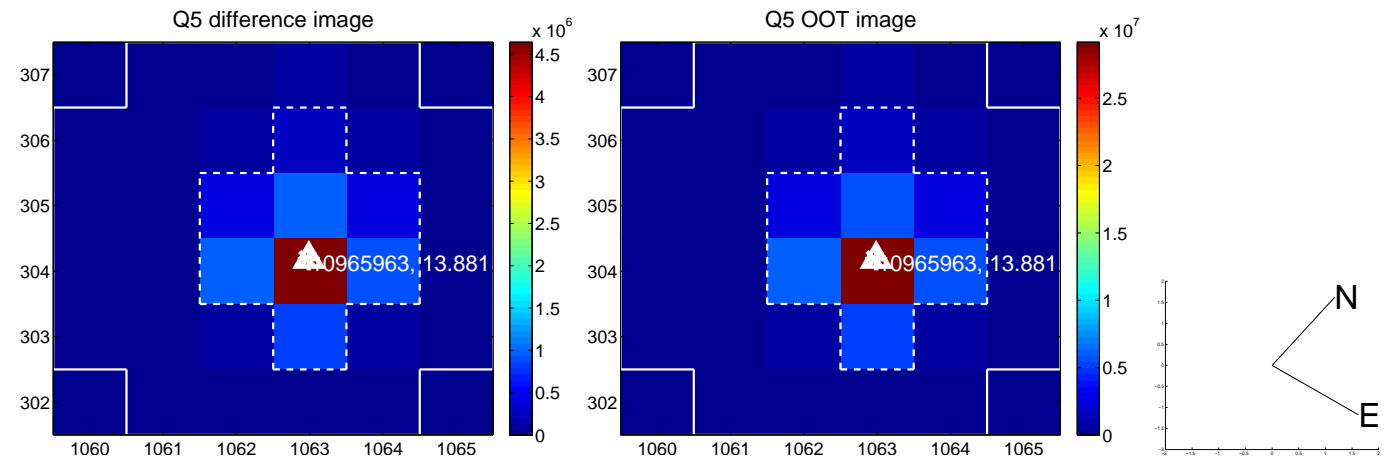


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

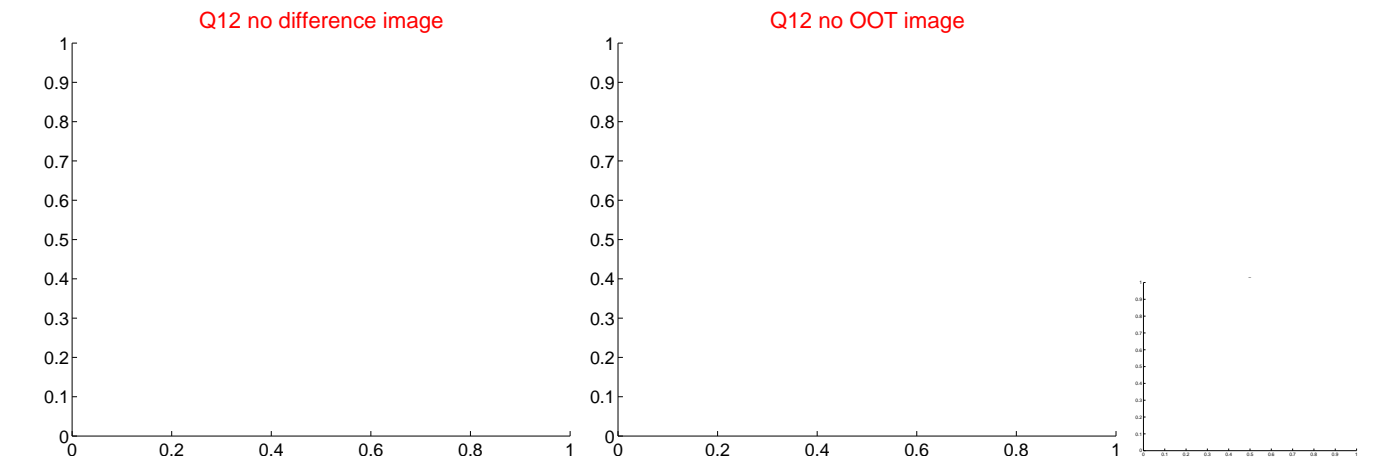
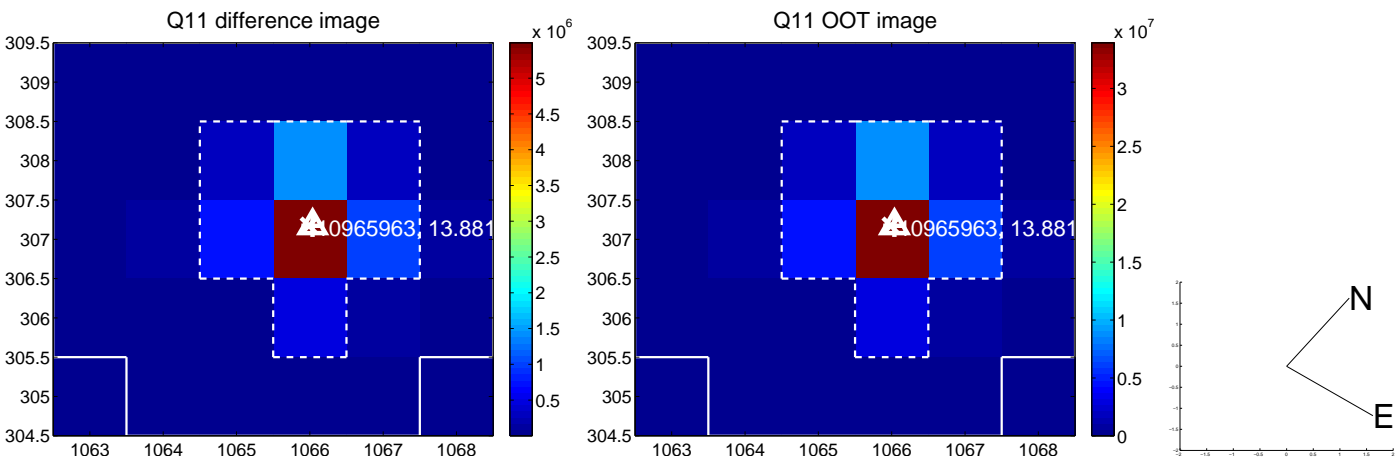
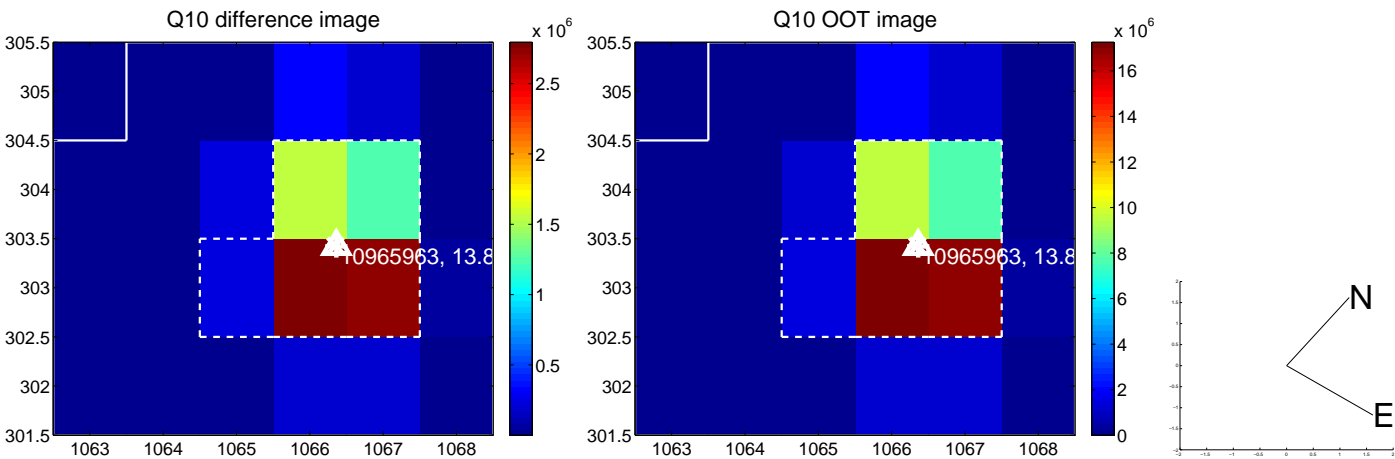
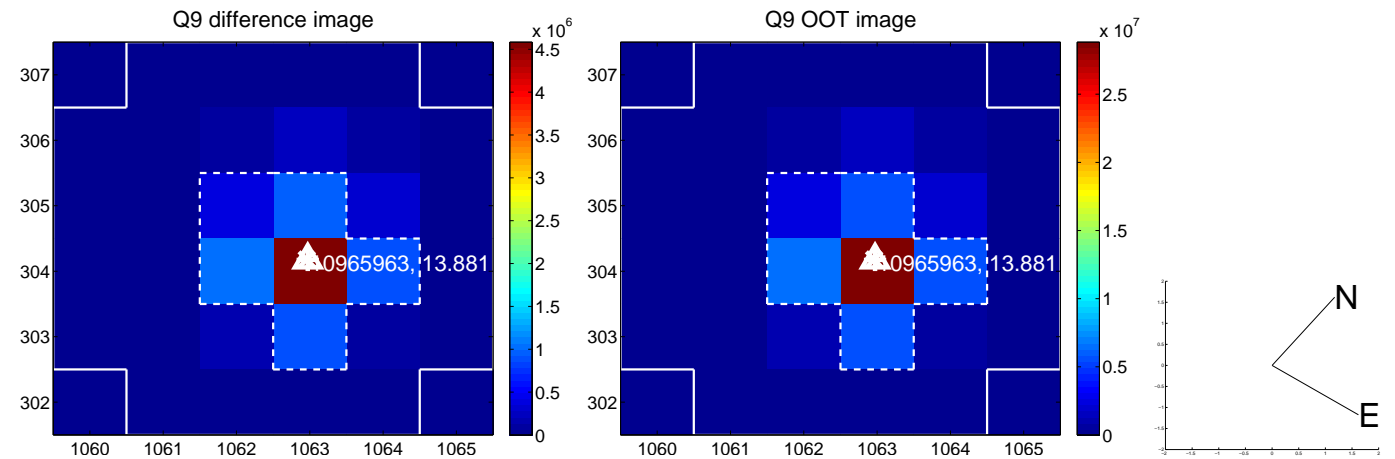
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



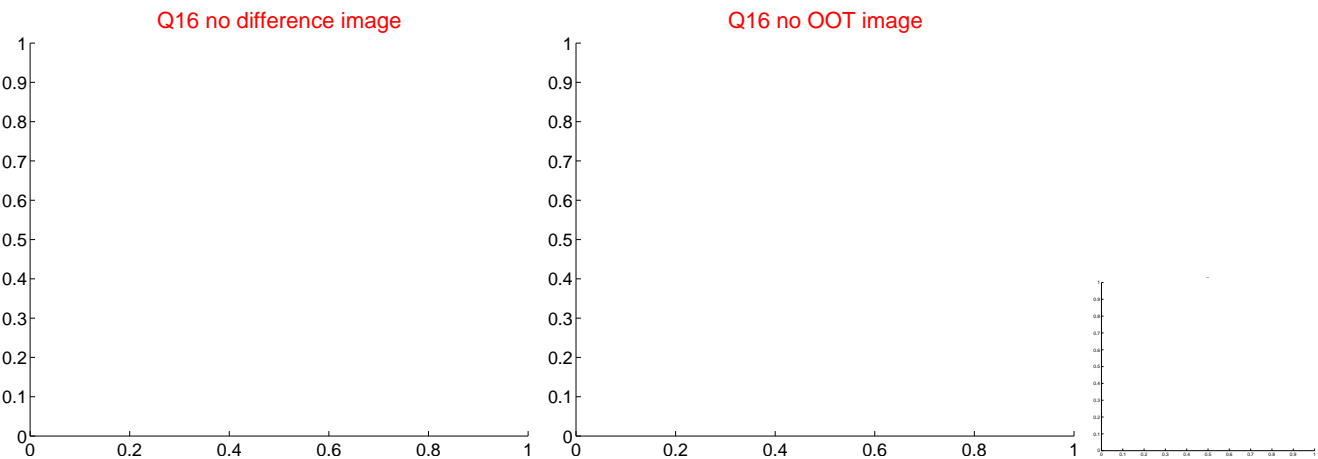
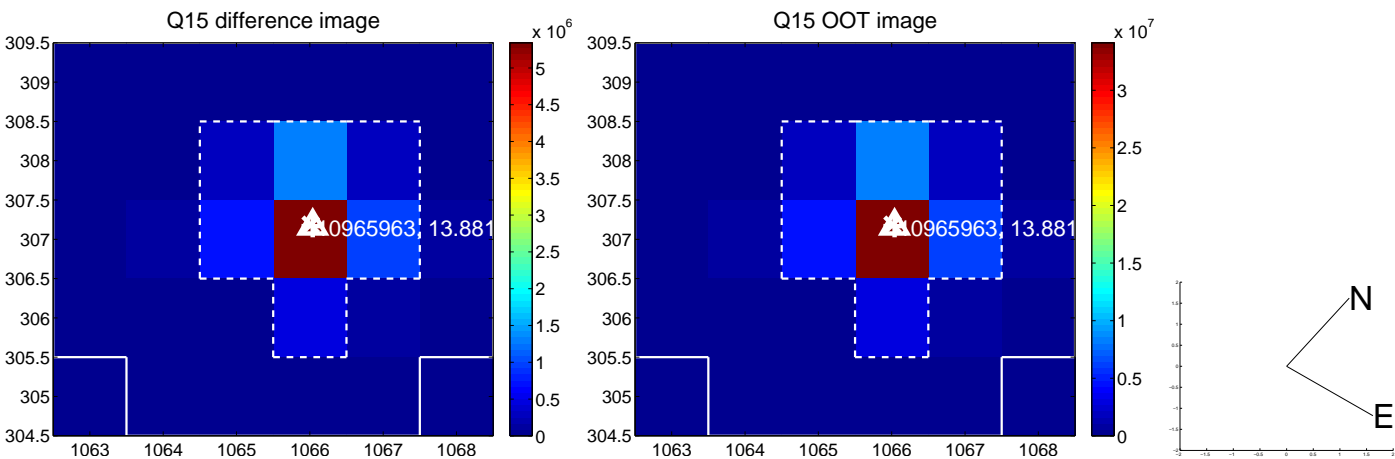
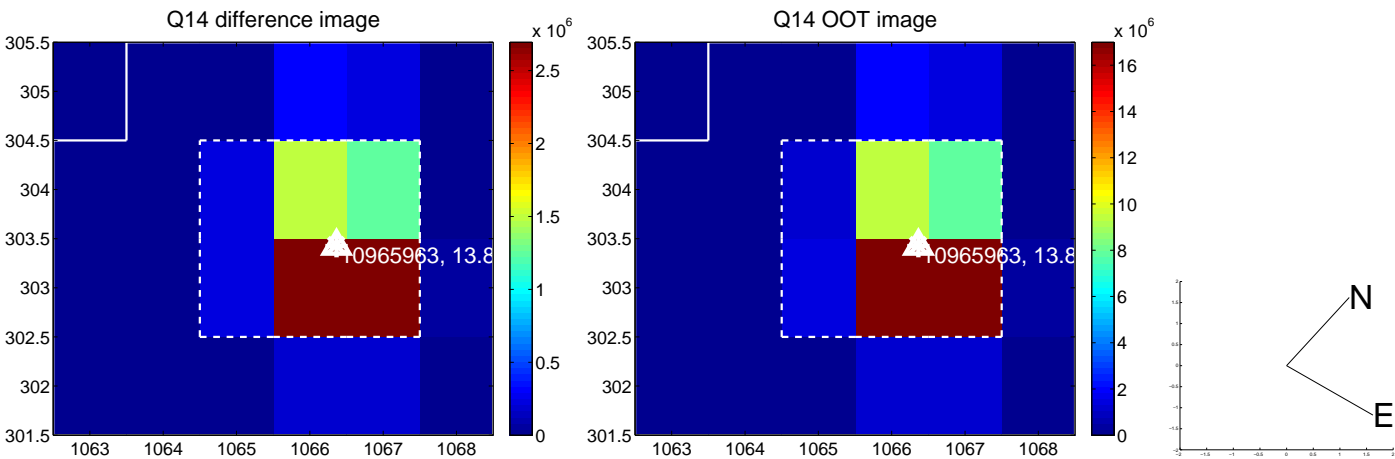
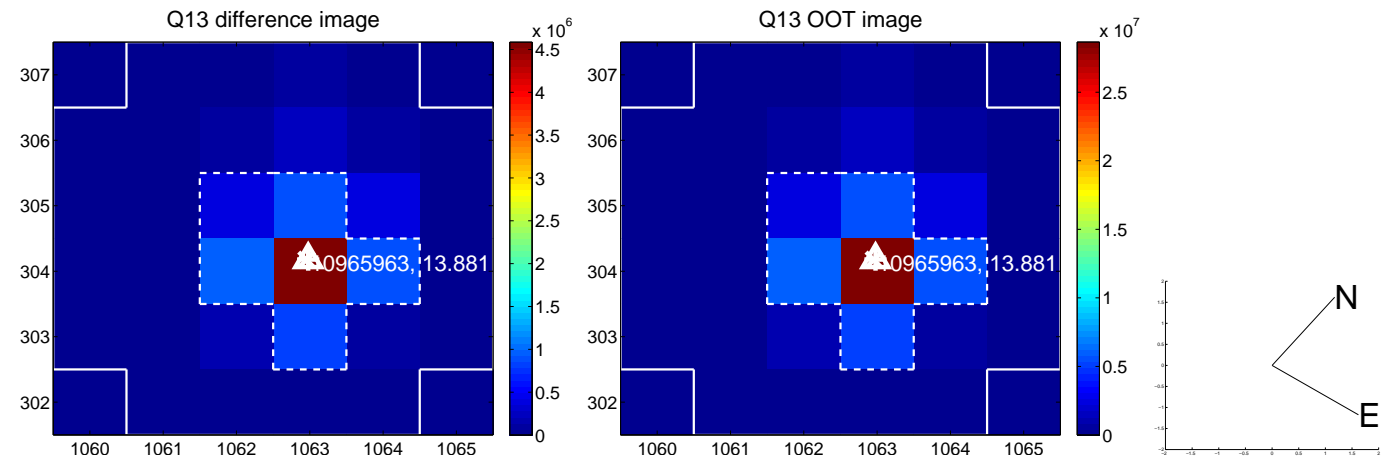
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



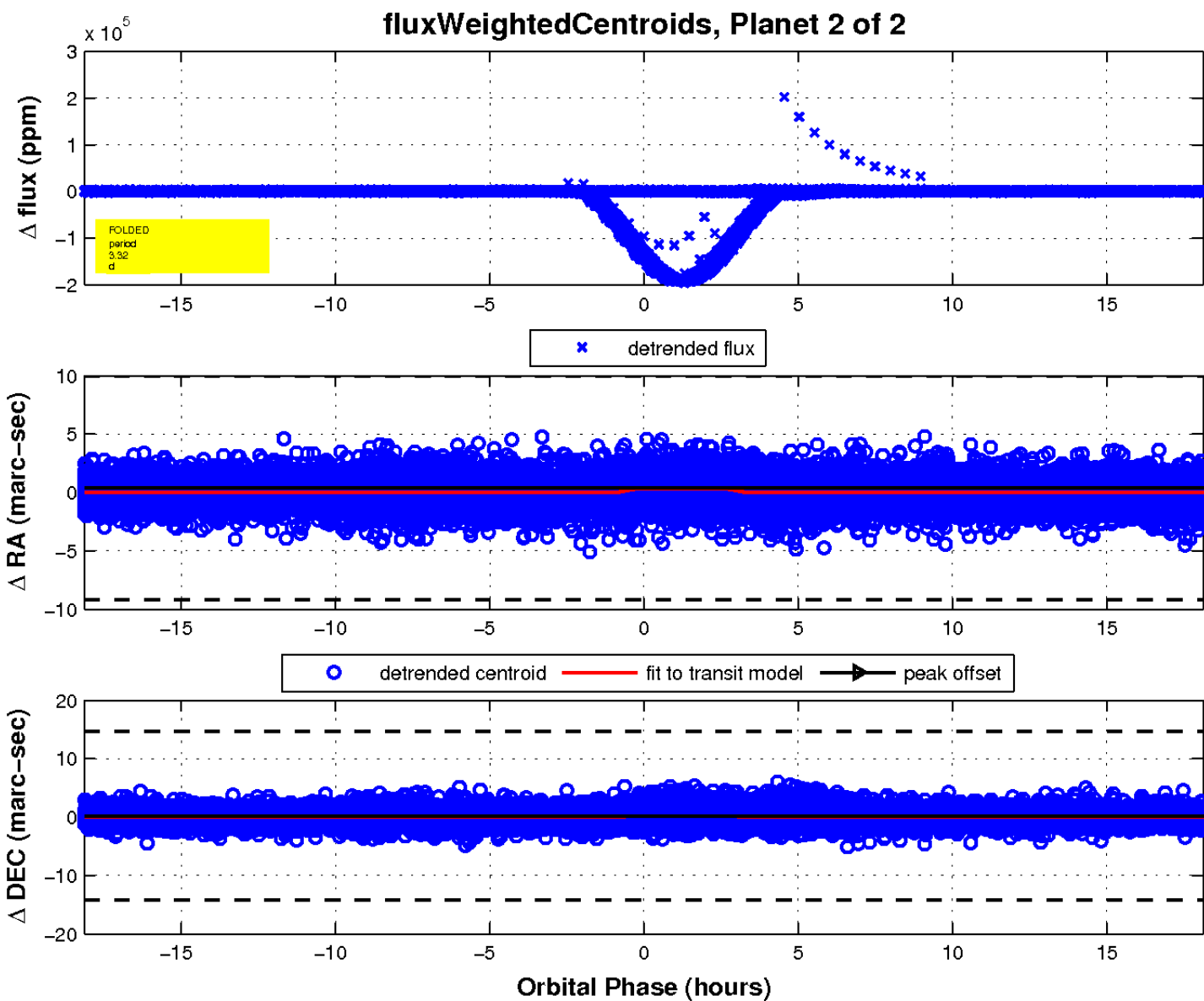
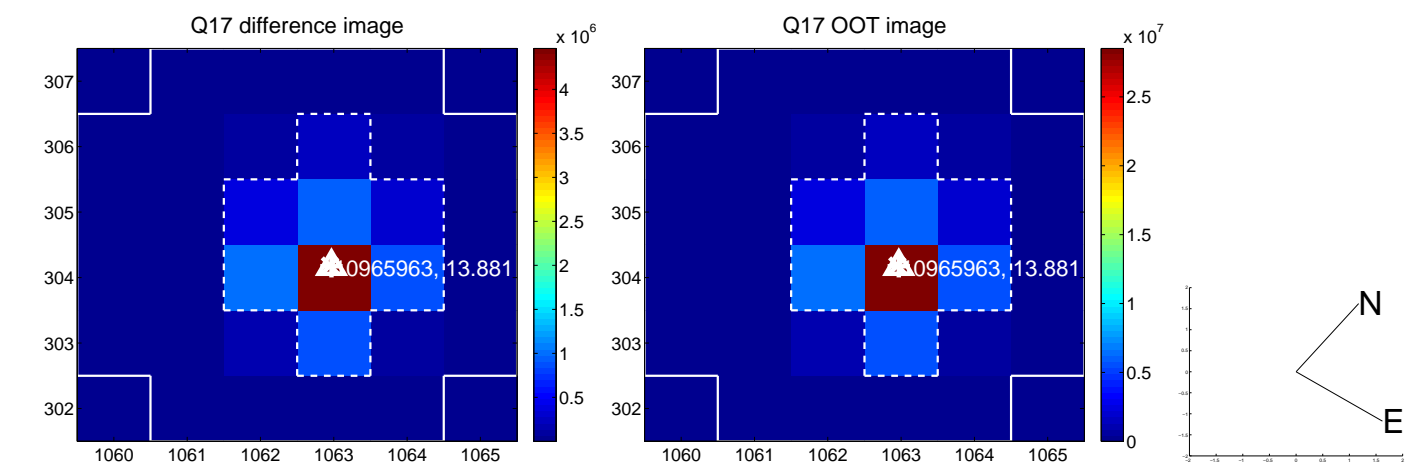
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

