

KIC 006967296

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})
006967296-01	OBS	No	423.885117	244.564109	1247.4	17.969	12.8	6.3	0.64	4063	2.28	0.11
006967296-02	OBS	No	93.584678	158.734586	1027.0	4.149	12.6	7.0	0.64	4063	2.69	0.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006967296-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006967296-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

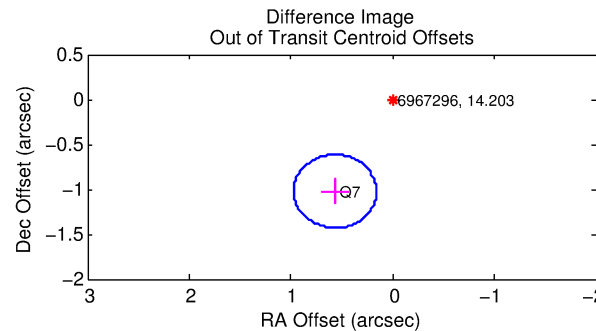
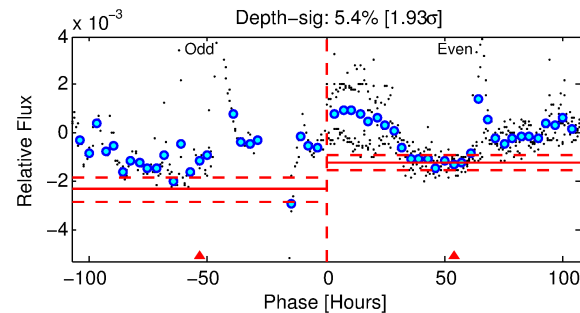
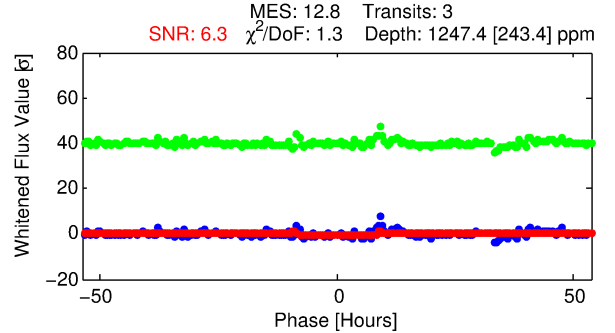
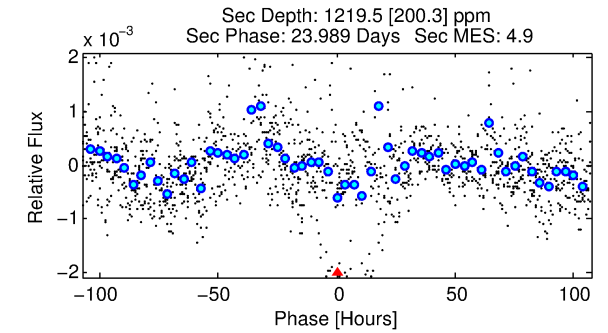
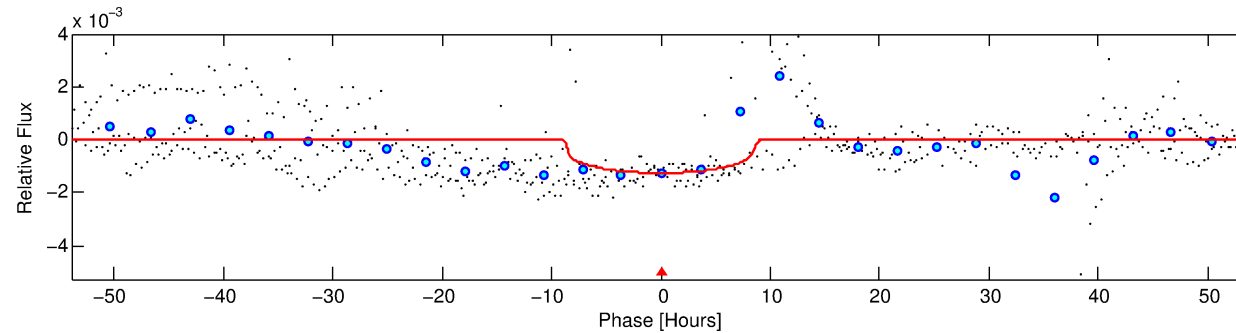
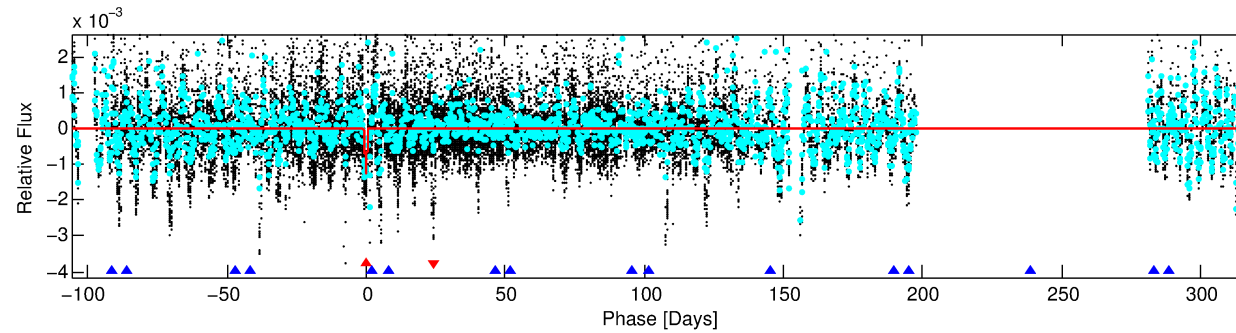
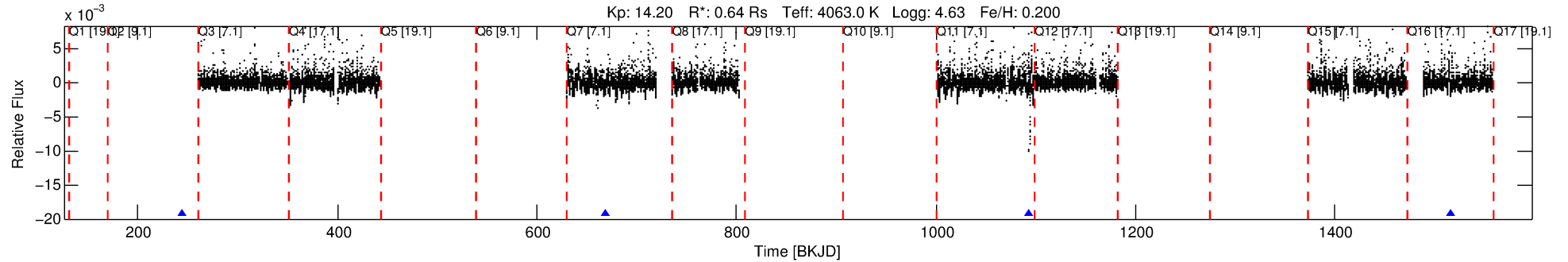
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006967296-01

No Significant Match Found

DV One-Page Summary

KIC: 6967296 Candidate: 1 of 2 Period: 423.885 d



DV Fit Results:

Period = 423.88512 [0.01129] d
Epoch = 244.5641 [0.0255] BKJD
Rp/R* = 0.0328 [0.0083]
a/R* = 157.99 [114.01]
b = 0.55 [0.93]
Seff = 0.11 [0.02]
Teq = 147 [7] K
Rp = 2.28 [0.62] Re
a = 0.9485 [0.0773] AU
Ag = 116518.51 [63155.09] [1.84 σ]
Teffp = 4189 [579] K [6.99 σ]

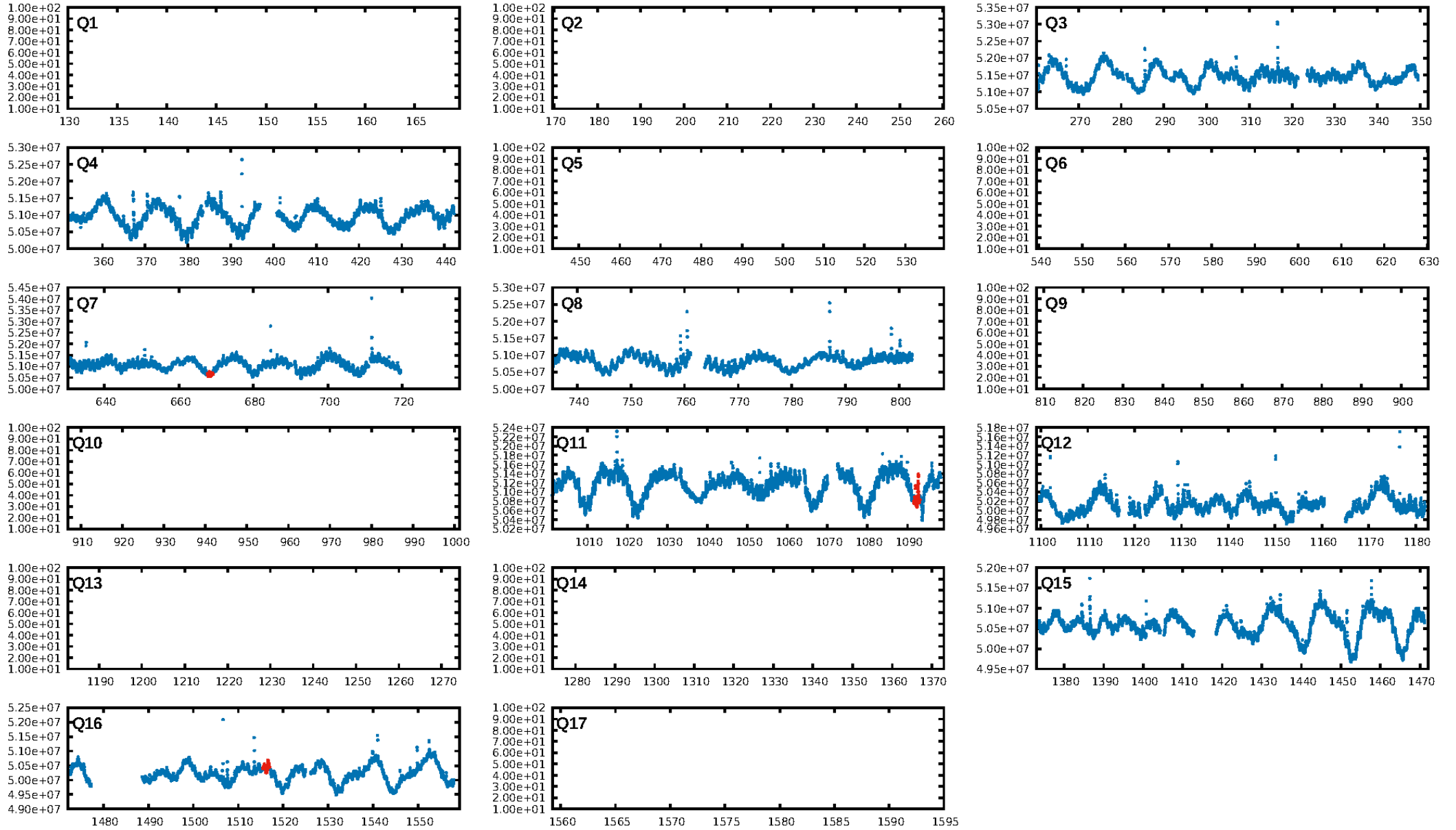
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [429.84 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 4.94e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.17
Centroid-sig: 1.1%
Centroid-so: 0.872 arcsec [1.33 σ]
OotOffset-rm: 1.171 arcsec [8.61 σ]
KicOffset-rm: 1.764 arcsec [13.39 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

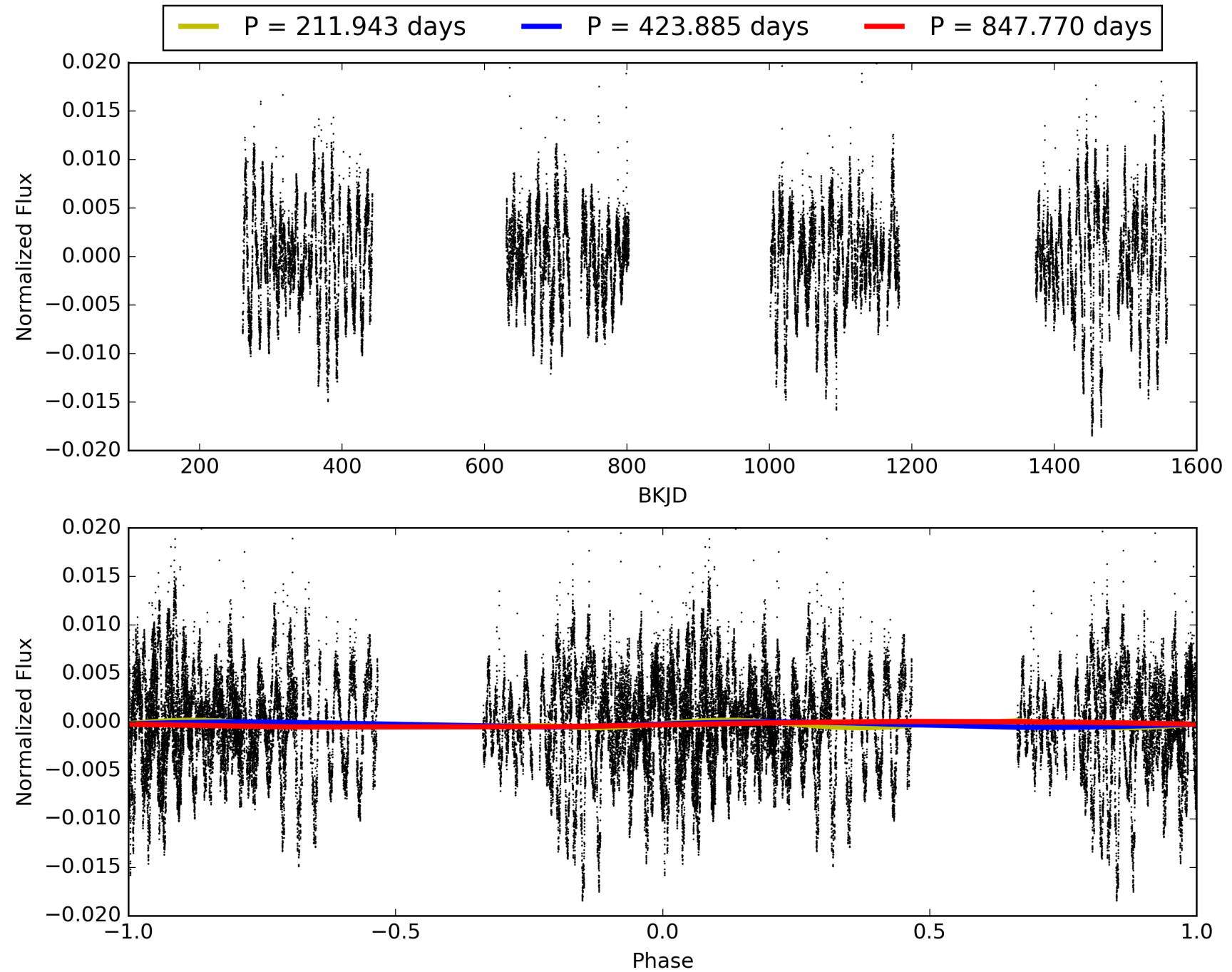
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:07:53 Z

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

TCE 006967296-01, PDC Light Curves

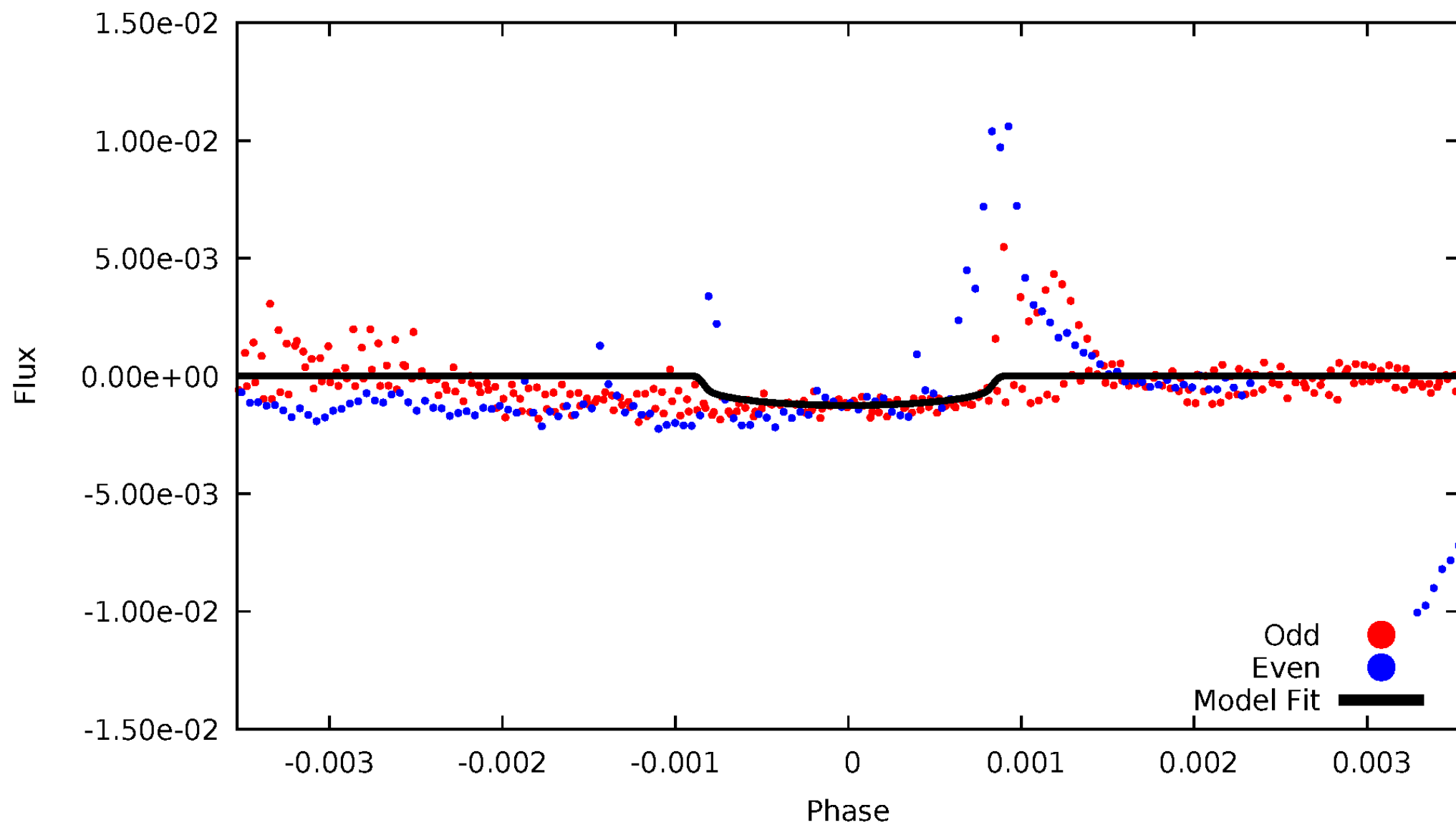


TCE 006967296-01



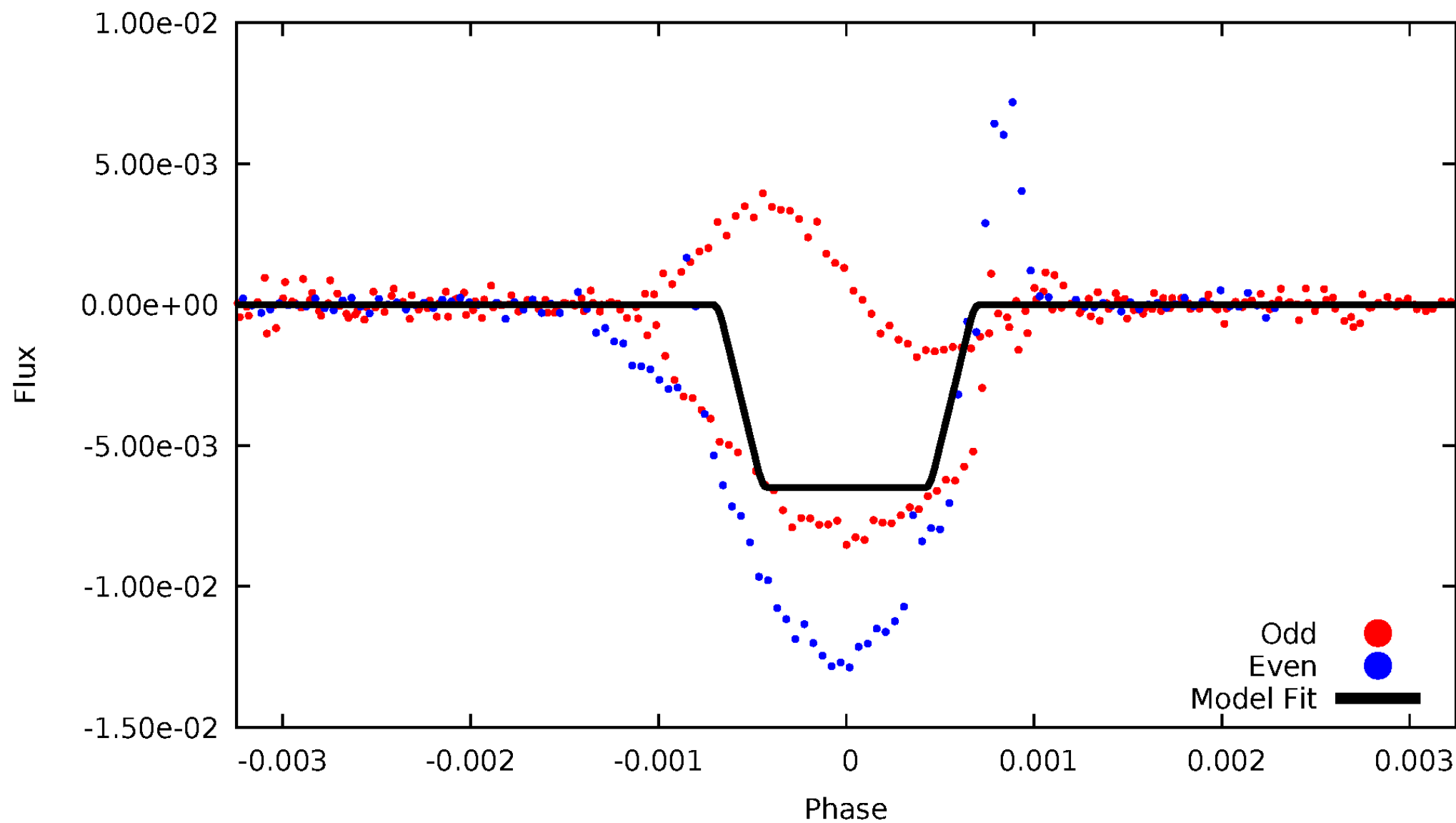
DV Odd/Even

TCE 006967296-01



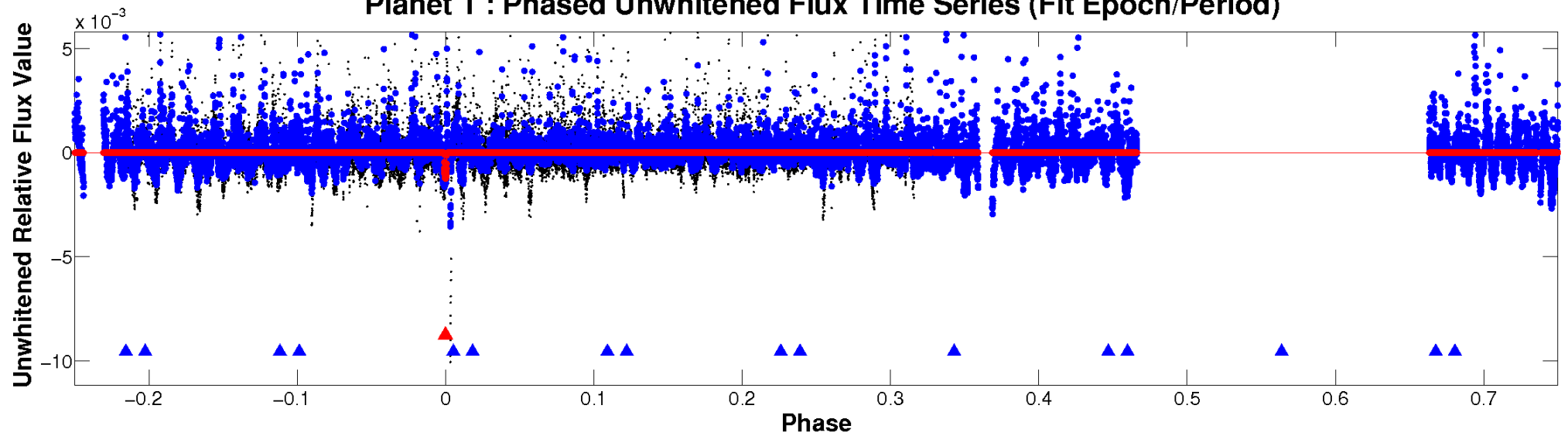
ALT Odd/Even

TCE 006967296-01

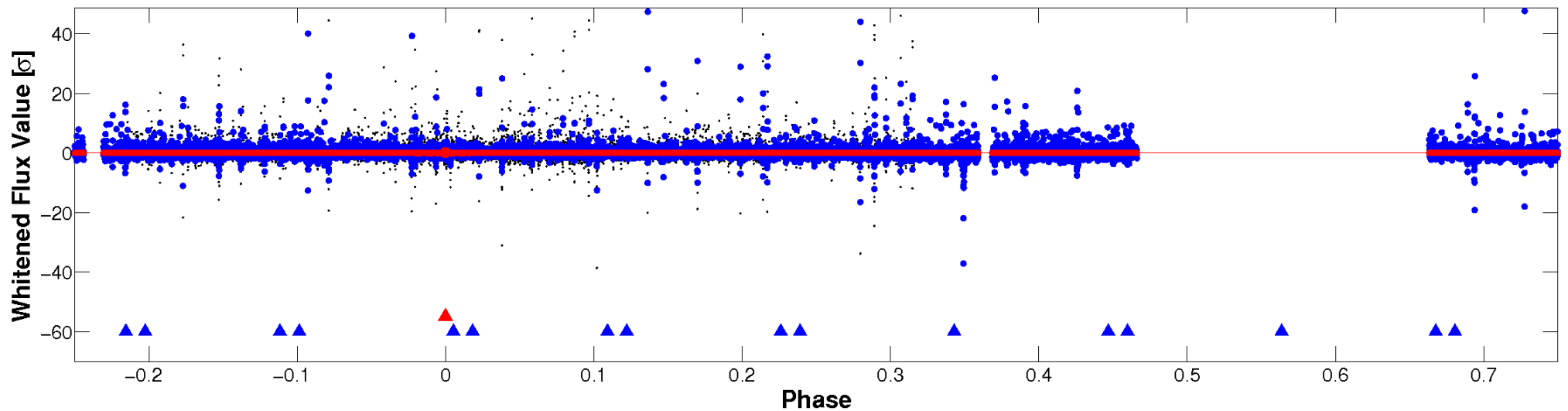


Non-Whitened Vs. Whitened Light Curve

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

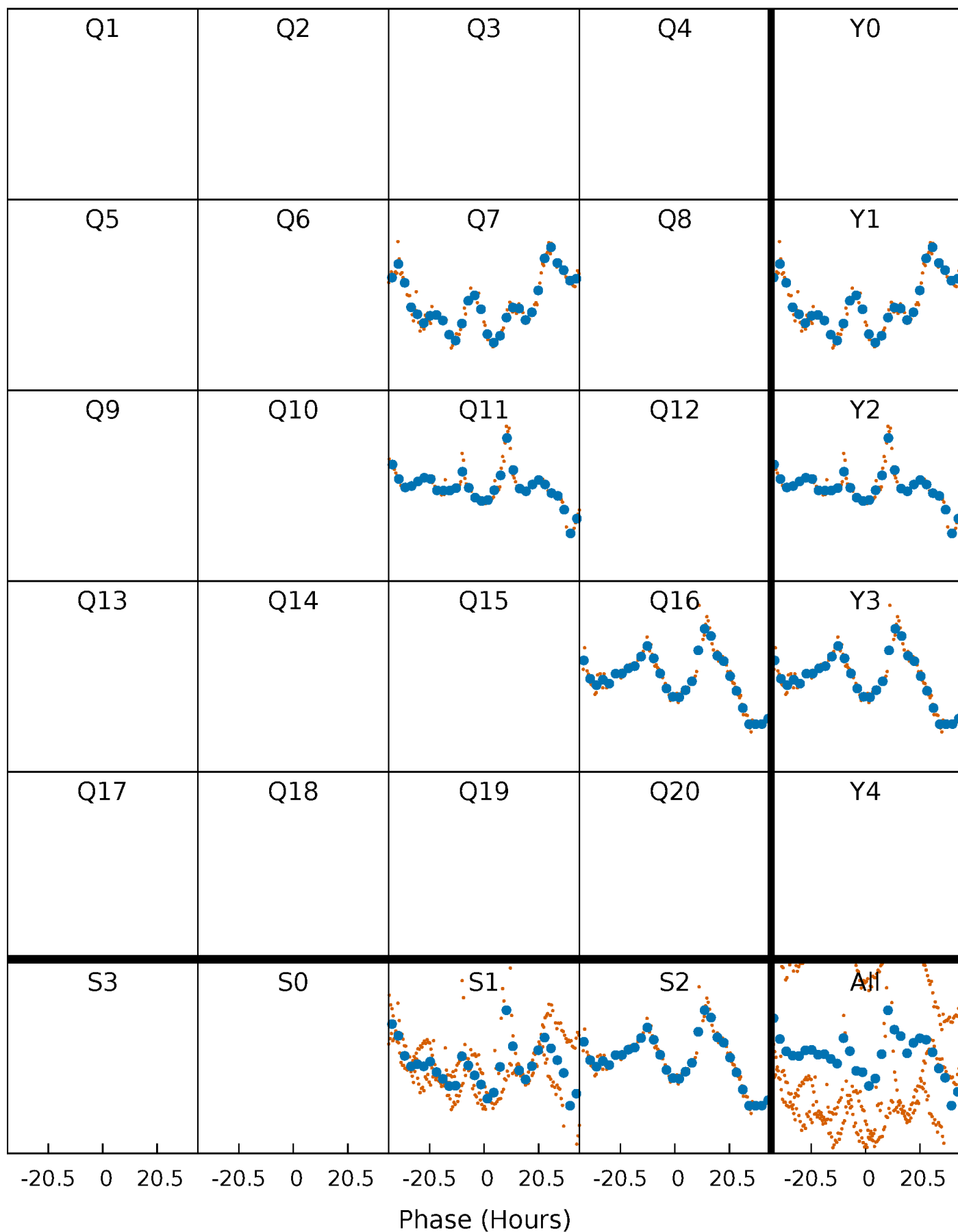


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



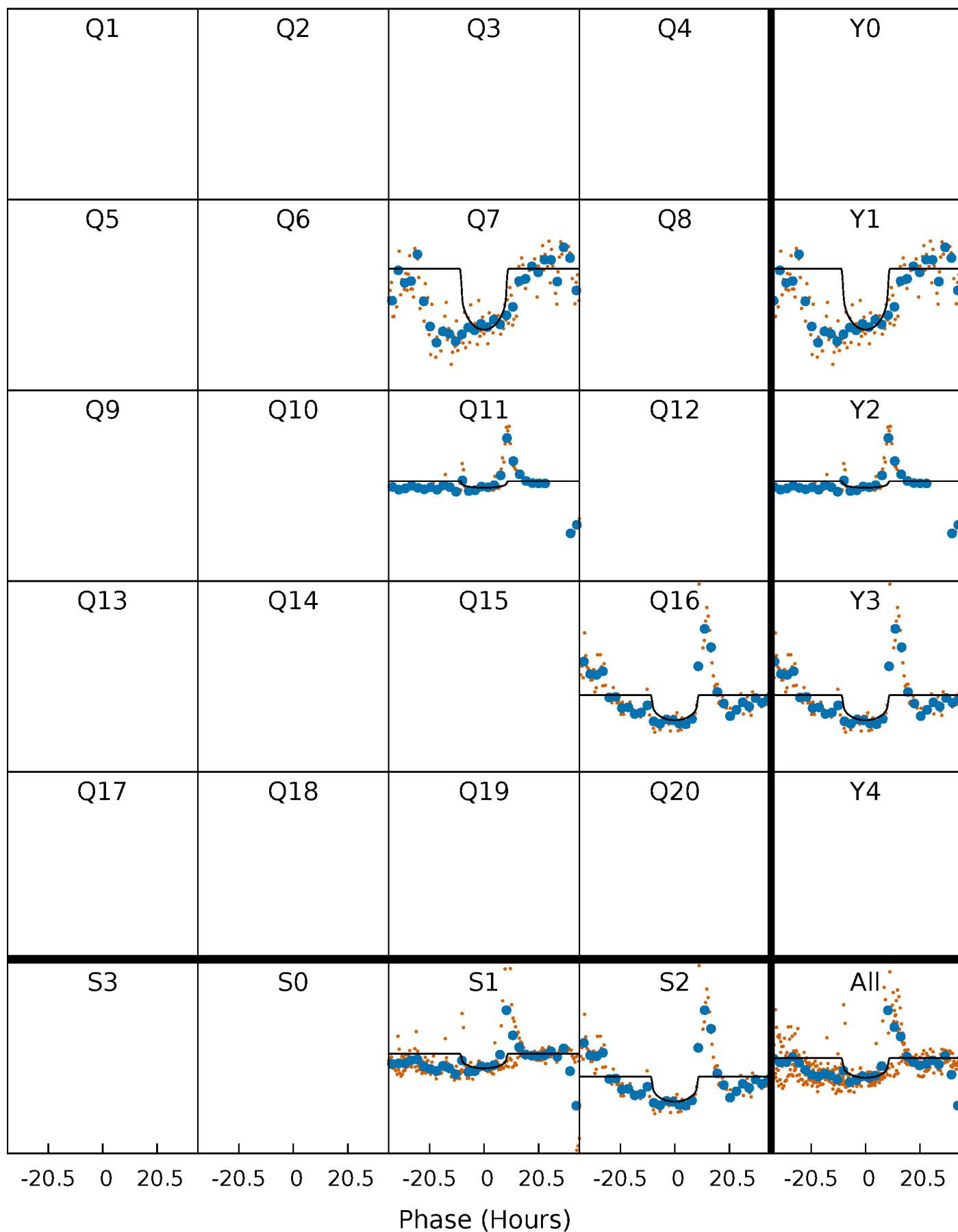
PDC Quarter-Phased Transit Curves

TCE 006967296-01 P=423.885117 Days $T_0=244.564109$ (BKJD)



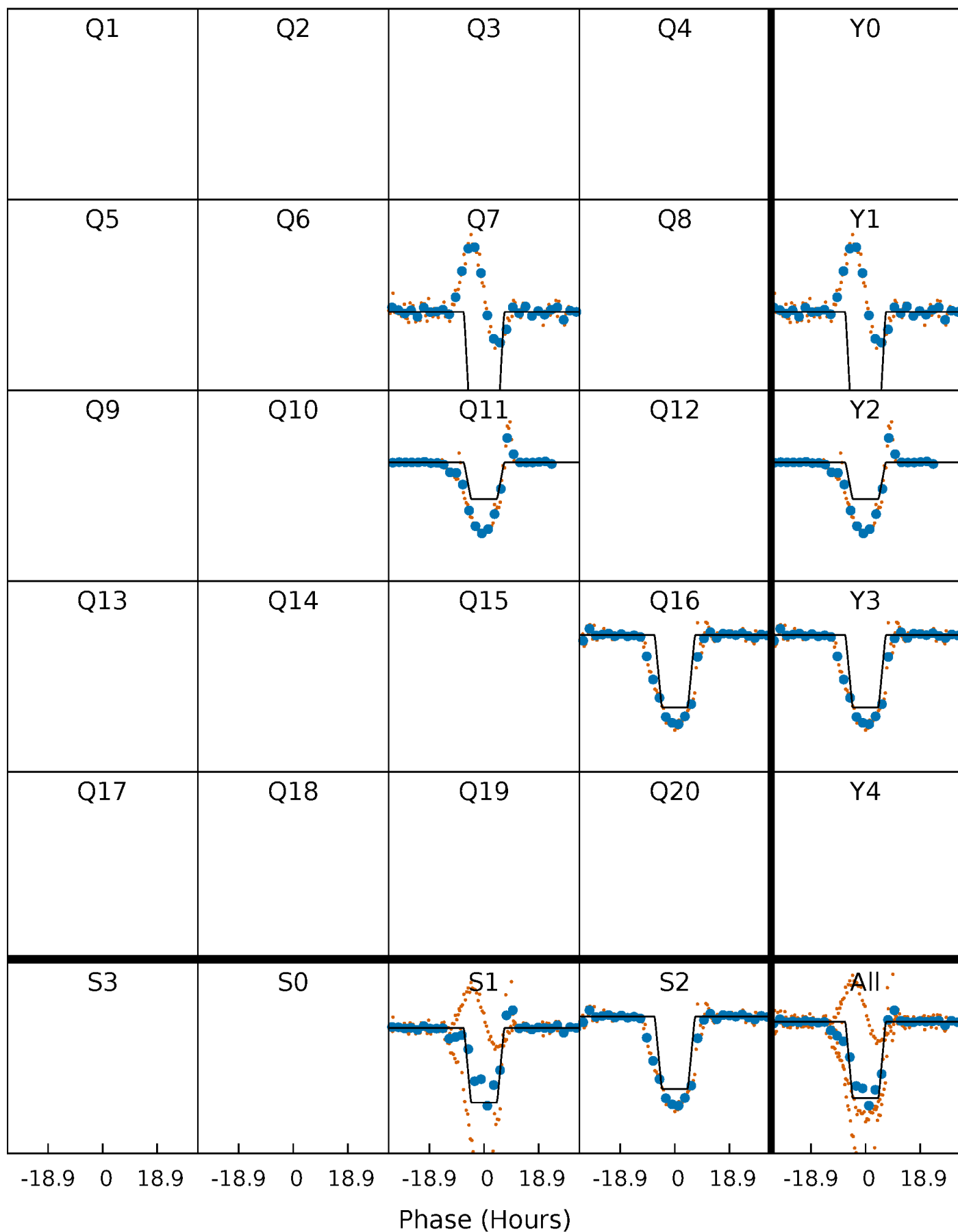
DV Quarter-Phased Transit Curves

TCE 006967296-01 P=423.885117 Days $T_0=244.564109$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

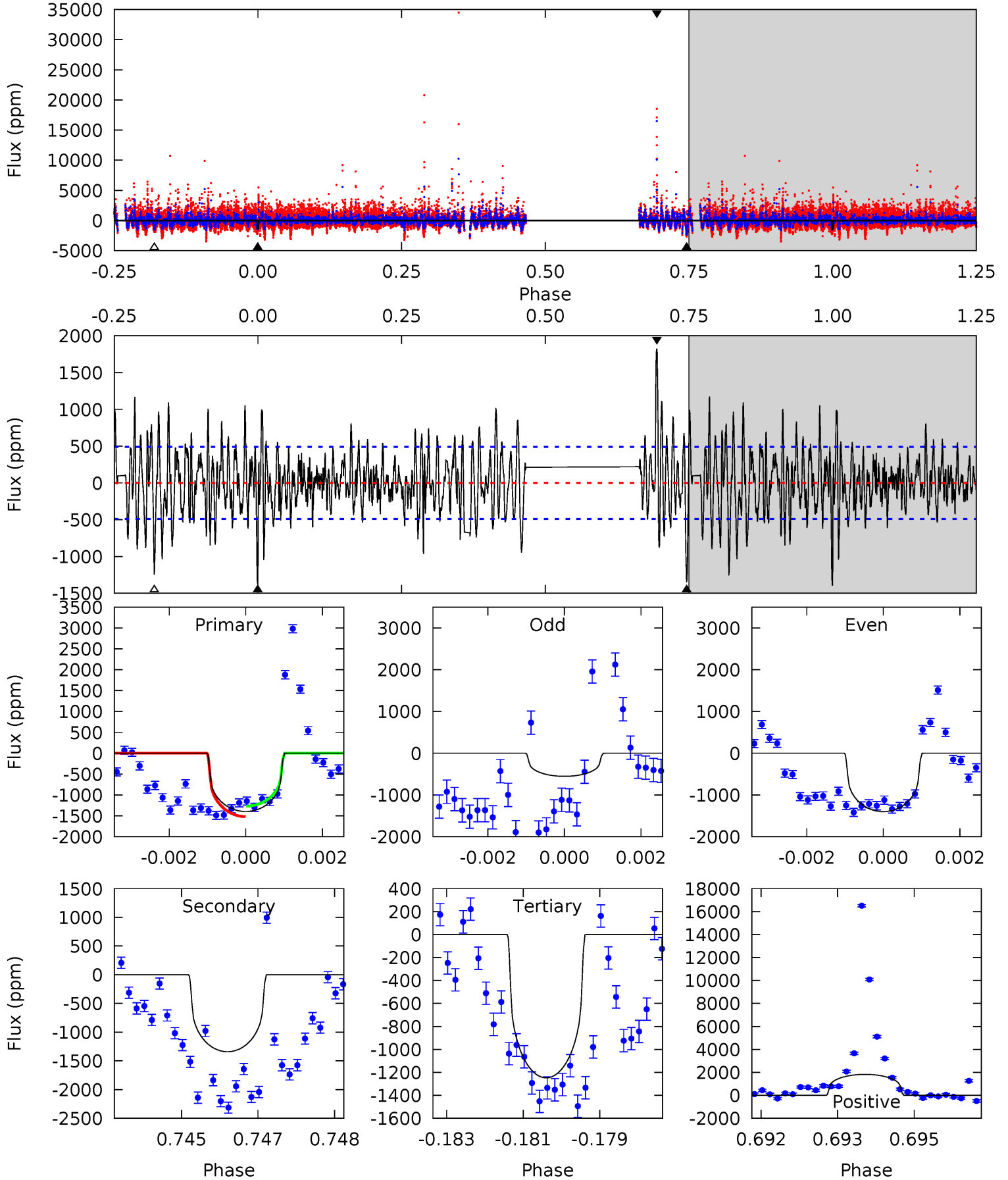
TCE 006967296-01 P=423.921447 Days $T_0=244.508918$ (BKJD)



DV Model-Shift Uniqueness Test

006967296-01, P = 423.885117 Days, E = 244.564109 Days

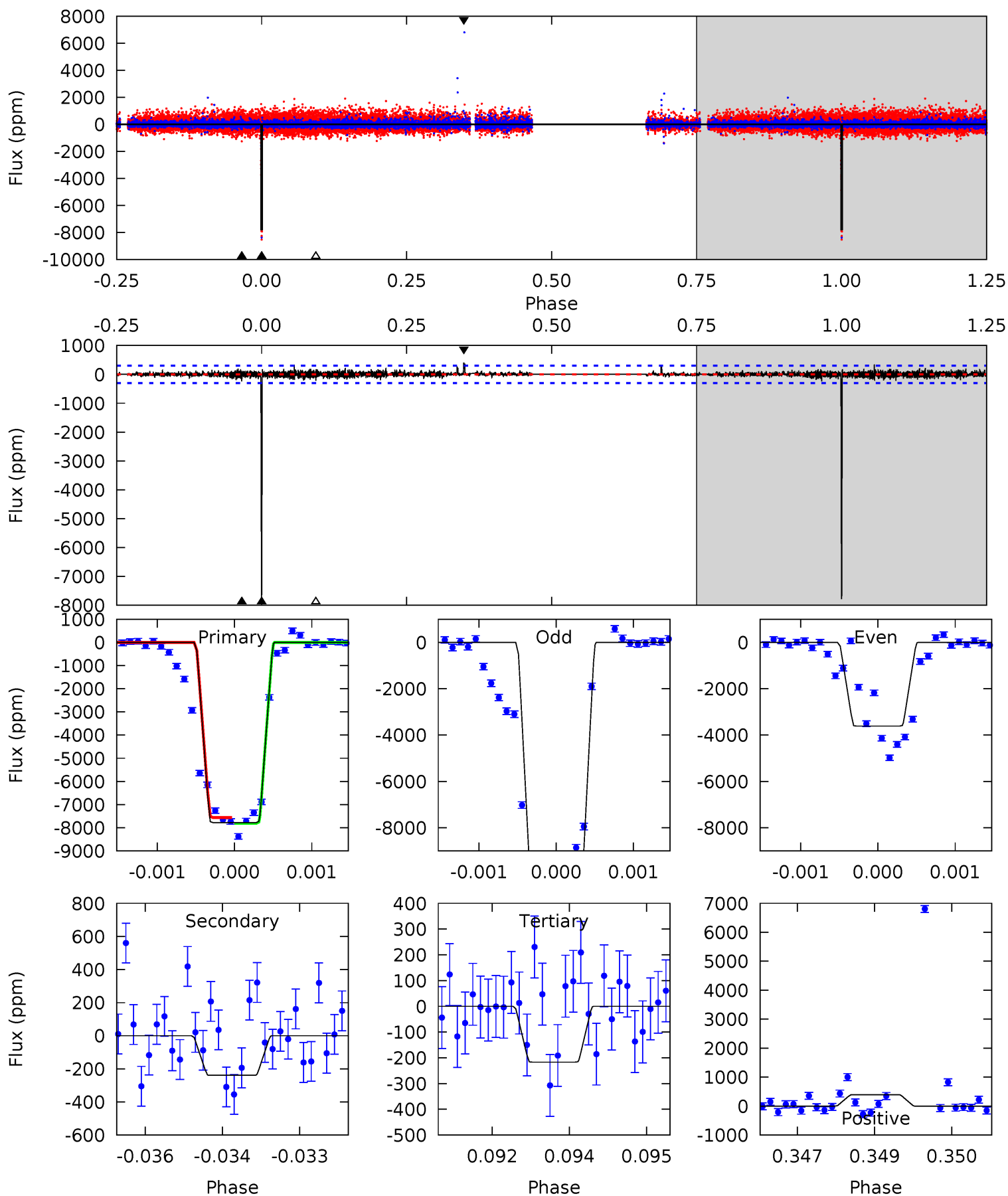
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	14.6	13.6	19.9	5.35	3.13	4.03	1.62	-4.67	1.02	-5.28	3.68	0.85	0.57	1.35



Alt Model-Shift Uniqueness Test

006967296-01, P = 423.921447 Days, E = 244.508918 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
139.9	4.30	3.90	7.08	5.39	3.20	0.95	136.0	132.8	0.40	-2.78	99.2	0.77	0.05	0



Stellar Parameters For KIC 006967296

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4063^{+142}_{-156}	$4.634^{+0.056}_{-0.020}$	$0.200^{+0.200}_{-0.300}$	$0.635^{+0.031}_{-0.066}$	$0.633^{+0.044}_{-0.060}$	$3.487^{+0.886}_{-0.323}$
	+3%/-4%	+1%/-0%	+100%/-150%	+5%/-10%	+7%/-9%	+25%/-9%
Source	KIC0	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 006967296-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1340 ± 92	$2.30^{+0.55}_{-0.58}$	203^{+8}_{-8}	4204^{+528}_{-353}	127038^{+98195}_{-45711}
Alt.	-239 ± 56	$5.56^{+0.59}_{-0.62}$	203^{+8}_{-8}	2495^{+111}_{-117}	3815^{+1433}_{-1105}

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 $A_{obs} \gg 1.0$

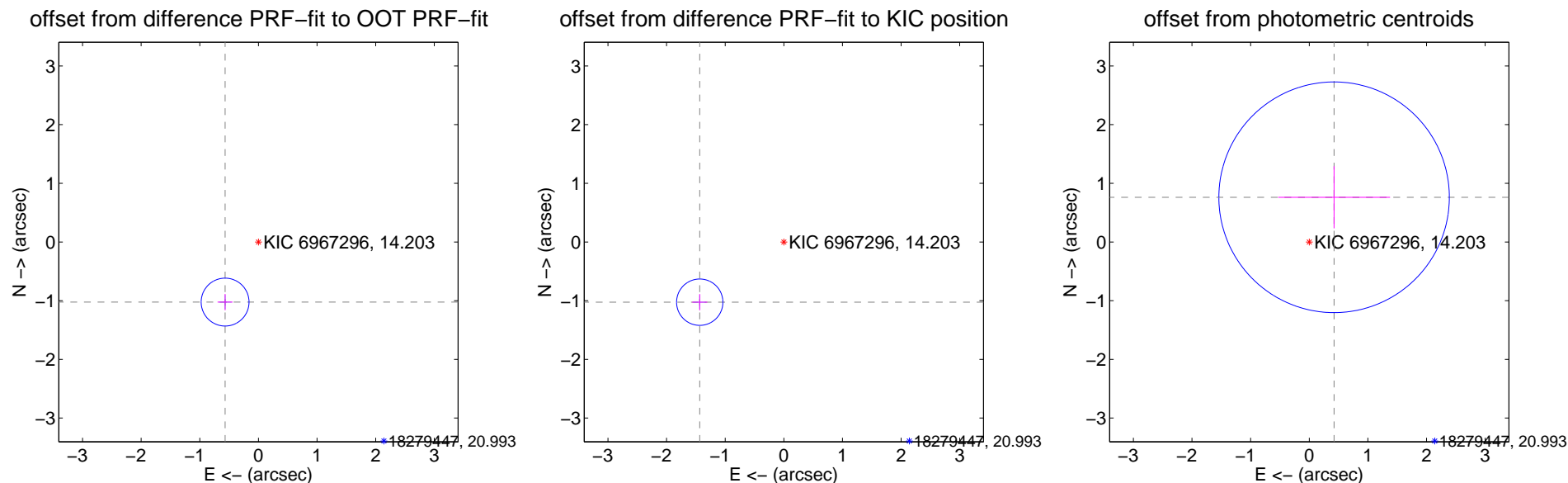
DV Centroid Data

Supplemental centroid analysis for 006967296-01. Kepler magnitude: 14.20. Transit SNR 6.33

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.87 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.171 ± 0.136	8.61	0.569 ± 0.128	-1.024 ± 0.138
PRF-fit source offset from KIC position	1.764 ± 0.132	13.39	1.435 ± 0.128	-1.026 ± 0.138
photometric centroid source offset	0.87 ± 0.66	1.33	-0.42 ± 0.95	0.76 ± 0.53

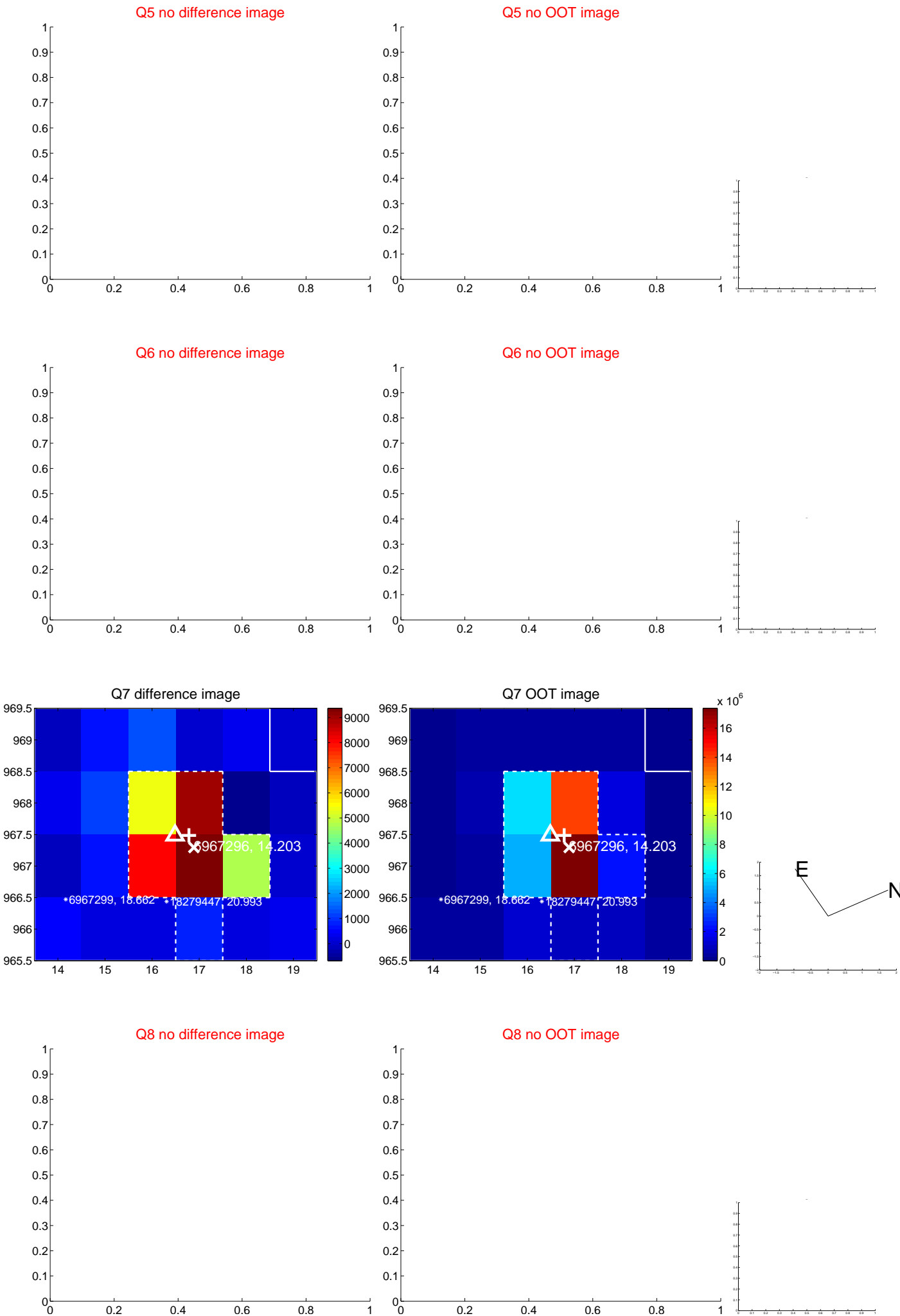


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



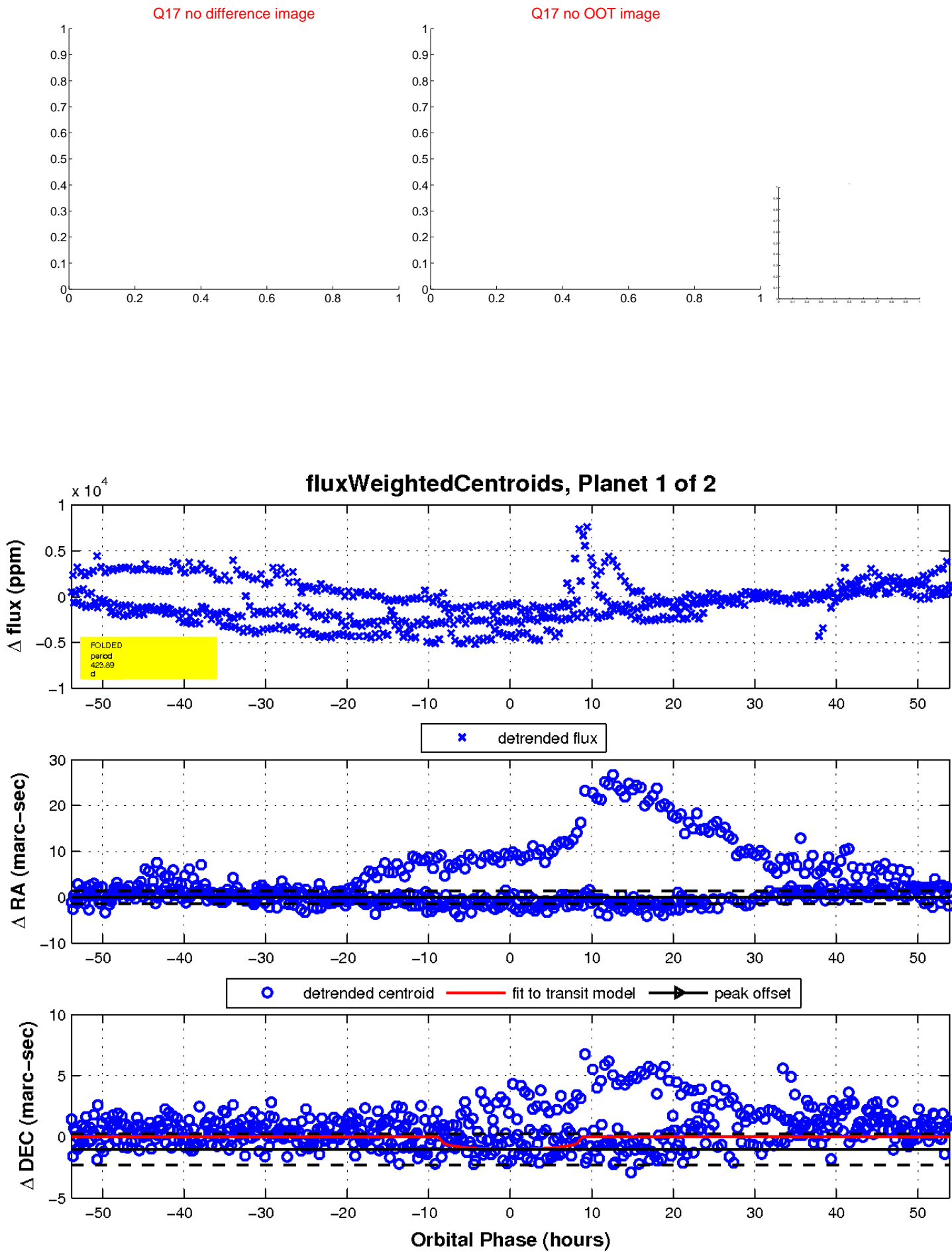
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

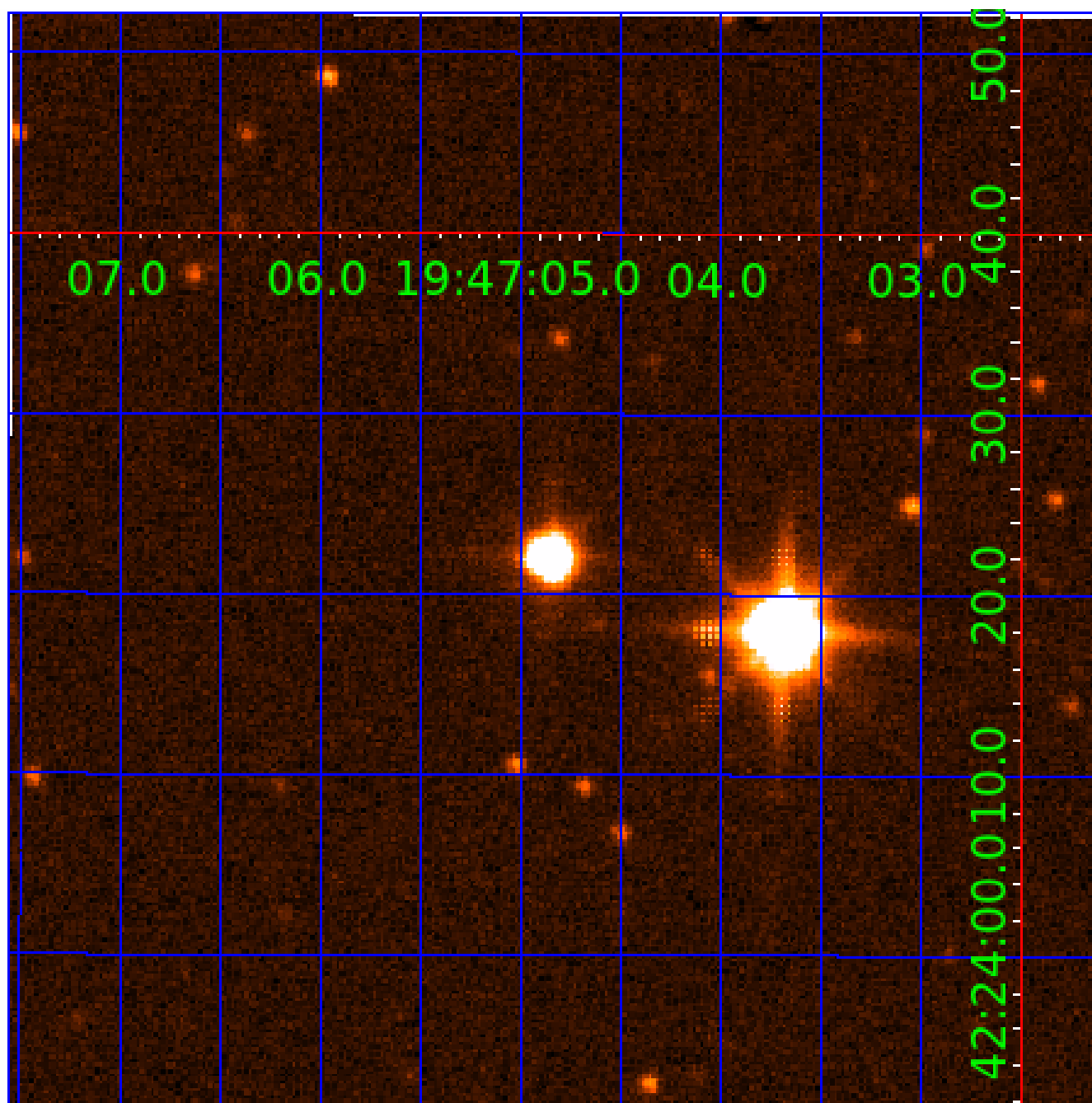


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006967296

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})
006967296-01	OBS	No	423.885117	244.564109	1247.4	17.969	12.8	6.3	0.64	4063	2.28	0.11
006967296-02	OBS	No	93.584678	158.734586	1027.0	4.149	12.6	7.0	0.64	4063	2.69	0.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006967296-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006967296-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

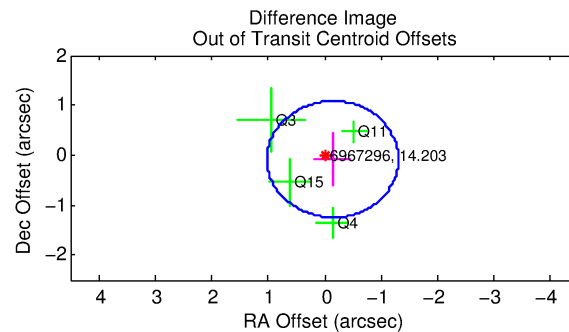
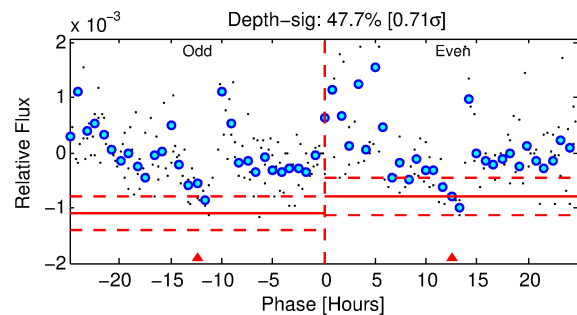
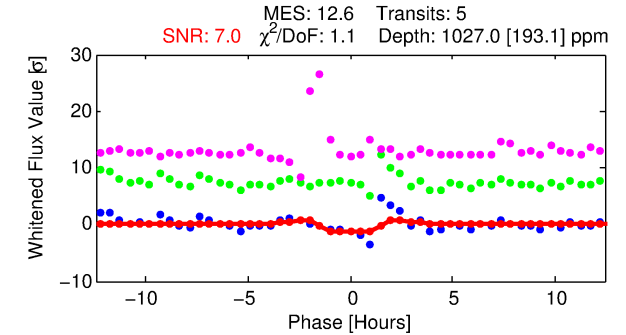
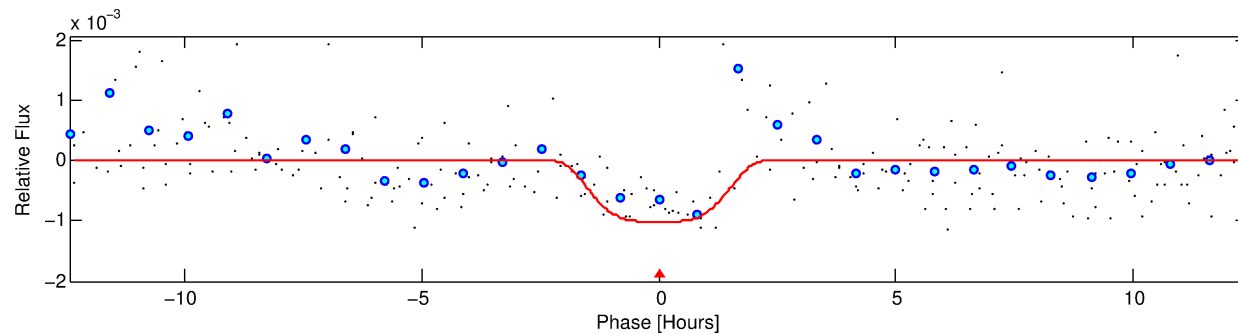
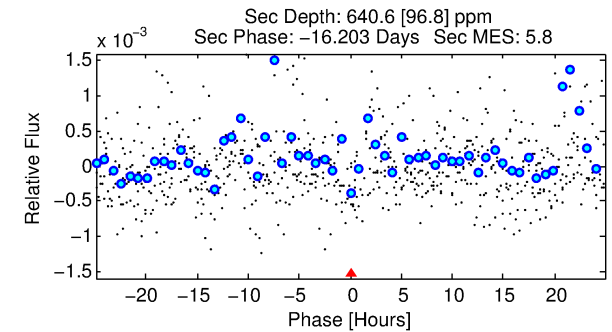
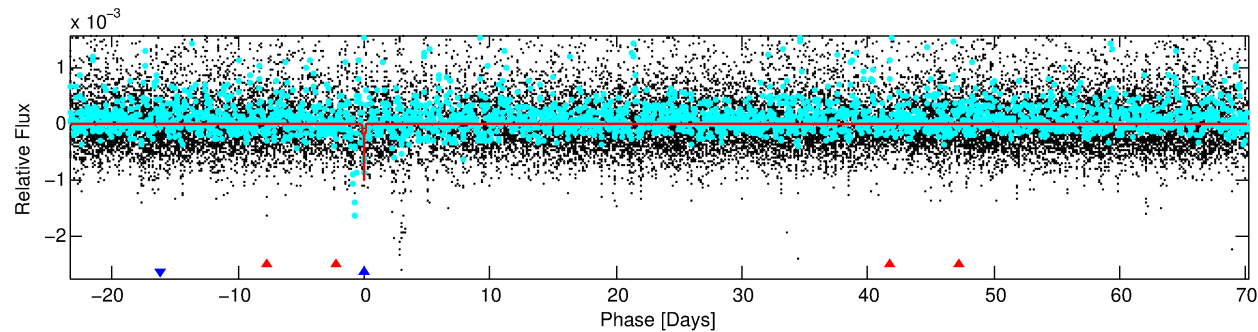
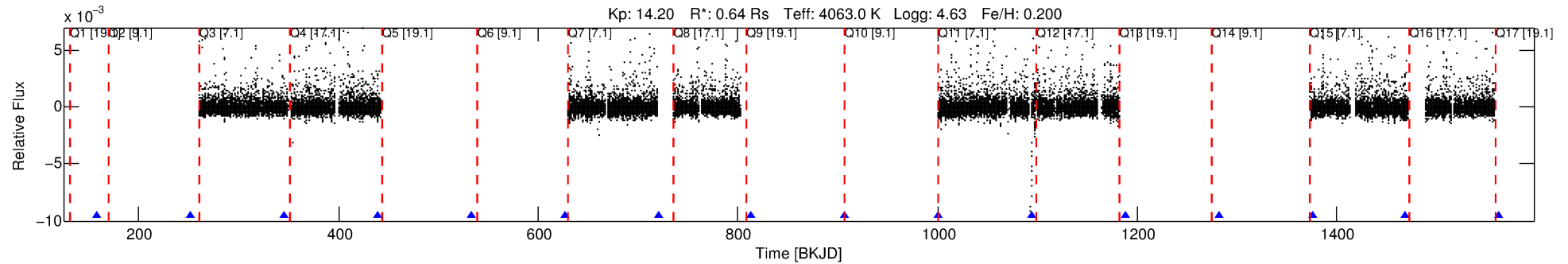
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006967296-02

No Significant Match Found

DV One-Page Summary

KIC: 6967296 Candidate: 2 of 2 Period: 93.585 d



DV Fit Results:

Period = 93.58468 [0.00105] d
Epoch = 158.7346 [0.0104] BKJD
Rp/R* = 0.0388 [0.0050]
a/R* = 74.55 [17.41]
b = 0.94 [0.03]
Seff = 0.82 [0.16]
Teq = 243 [11] K
Rp = 2.69 [0.44] Re
a = 0.3465 [0.0283] AU
Ag = 5867.37 [1858.57] [3.16 σ]
Teffp = 3284 [274] K [11.07 σ]

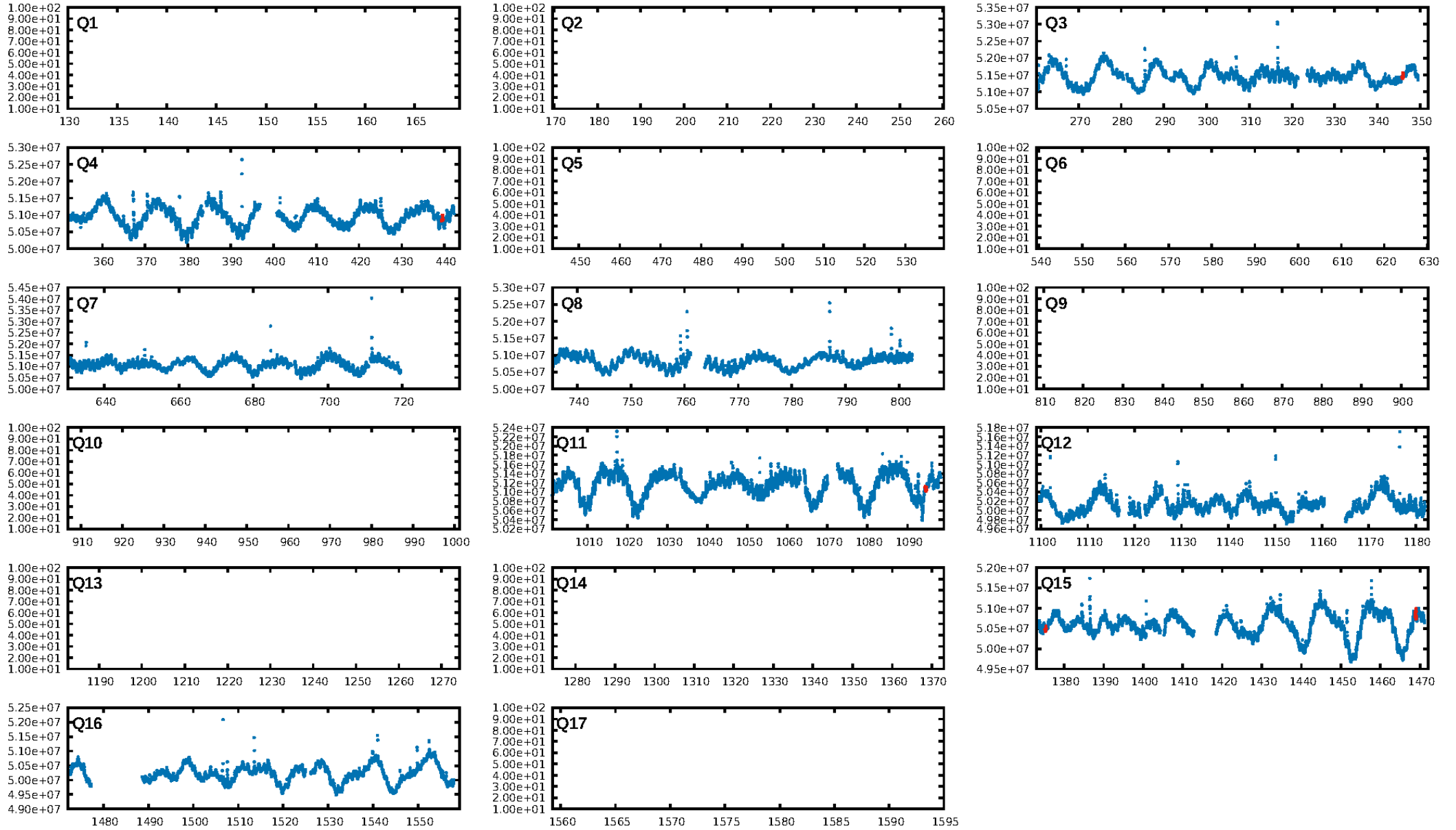
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [429.84 σ]
ModelChiSquare2-sig: 20.9%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.62e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.77
Centroid-sig: 53.3%
Centroid-so: 0.158 arcsec [0.26 σ]
OotOffset-rm: 0.164 arcsec [0.42 σ]
KicOffset-rm: 0.725 arcsec [2.15 σ]
OotOffset-st: 0/3/1/0 [4]
KicOffset-st: 0/3/1/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

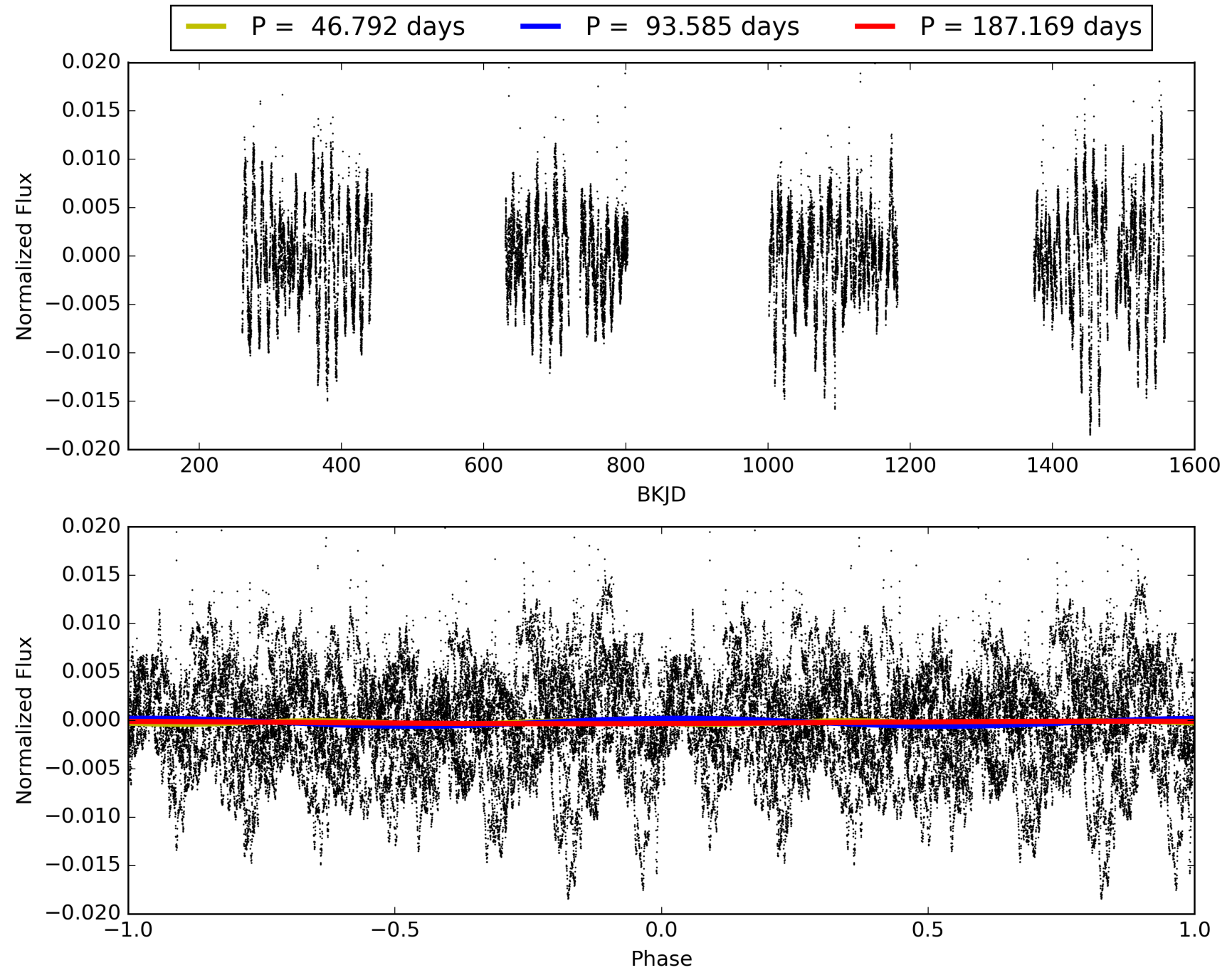
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:08:02 Z

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

TCE 006967296-02, PDC Light Curves

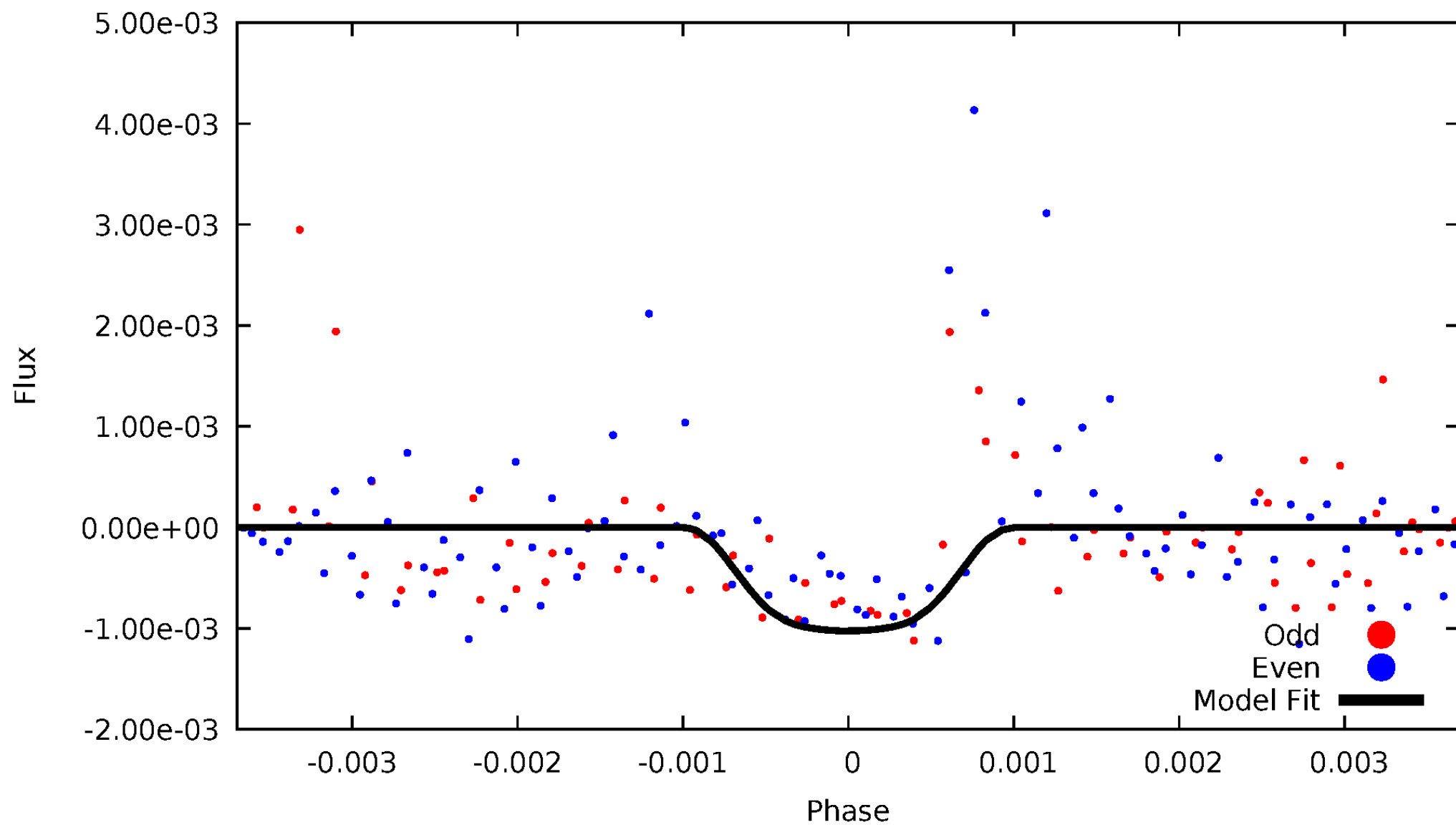


TCE 006967296-02



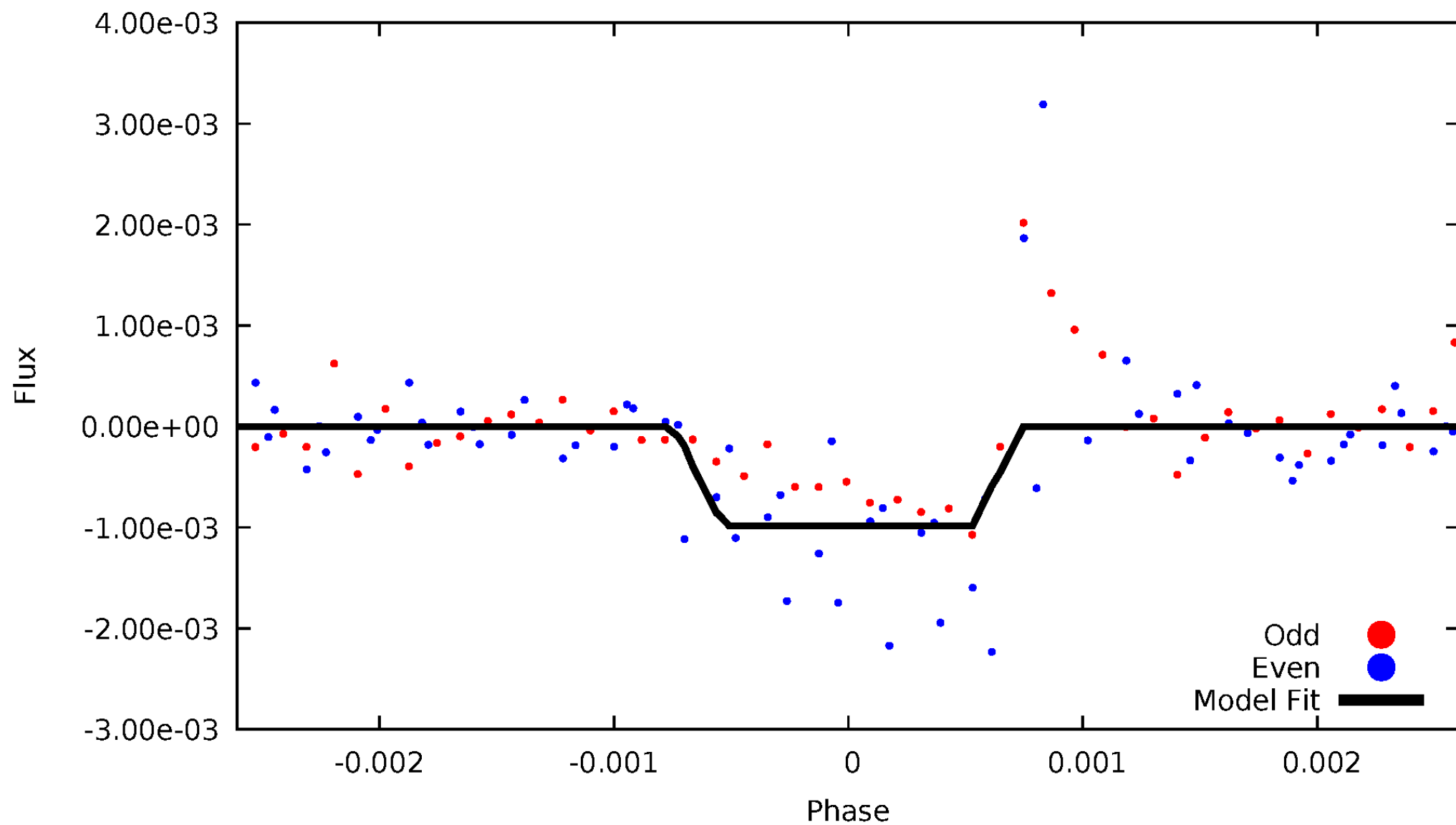
DV Odd/Even

TCE 006967296-02



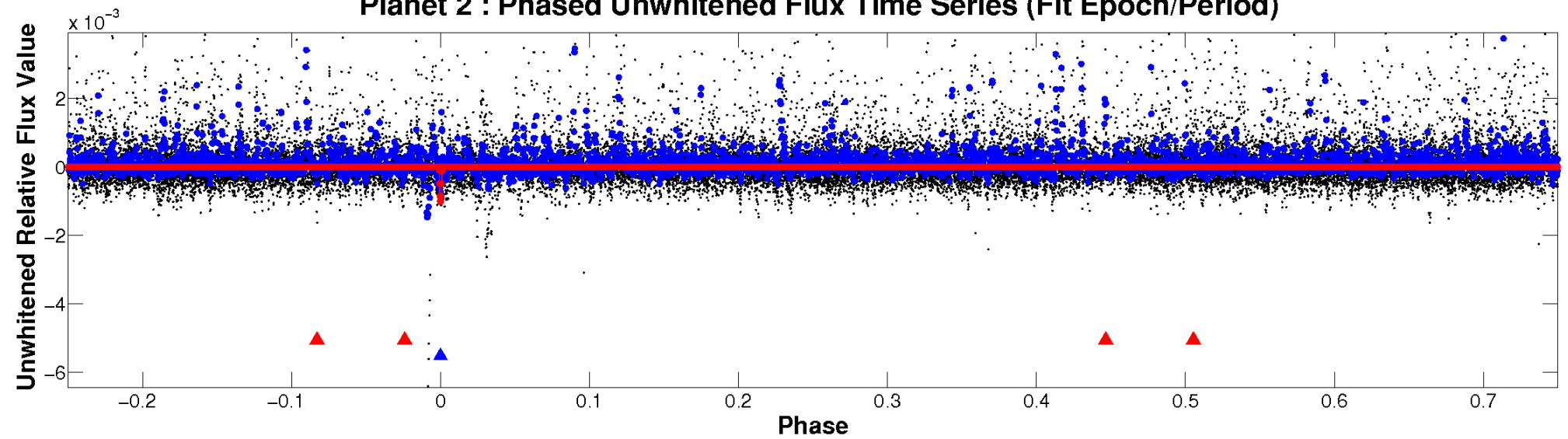
ALT Odd/Even

TCE 006967296-02

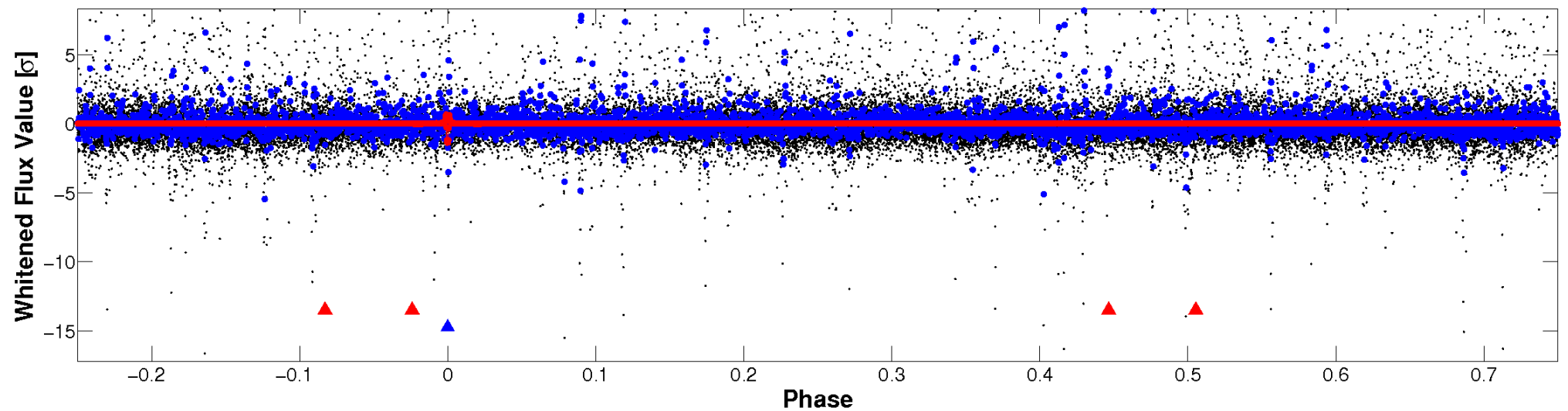


Non-Whitened Vs. Whitened Light Curve

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

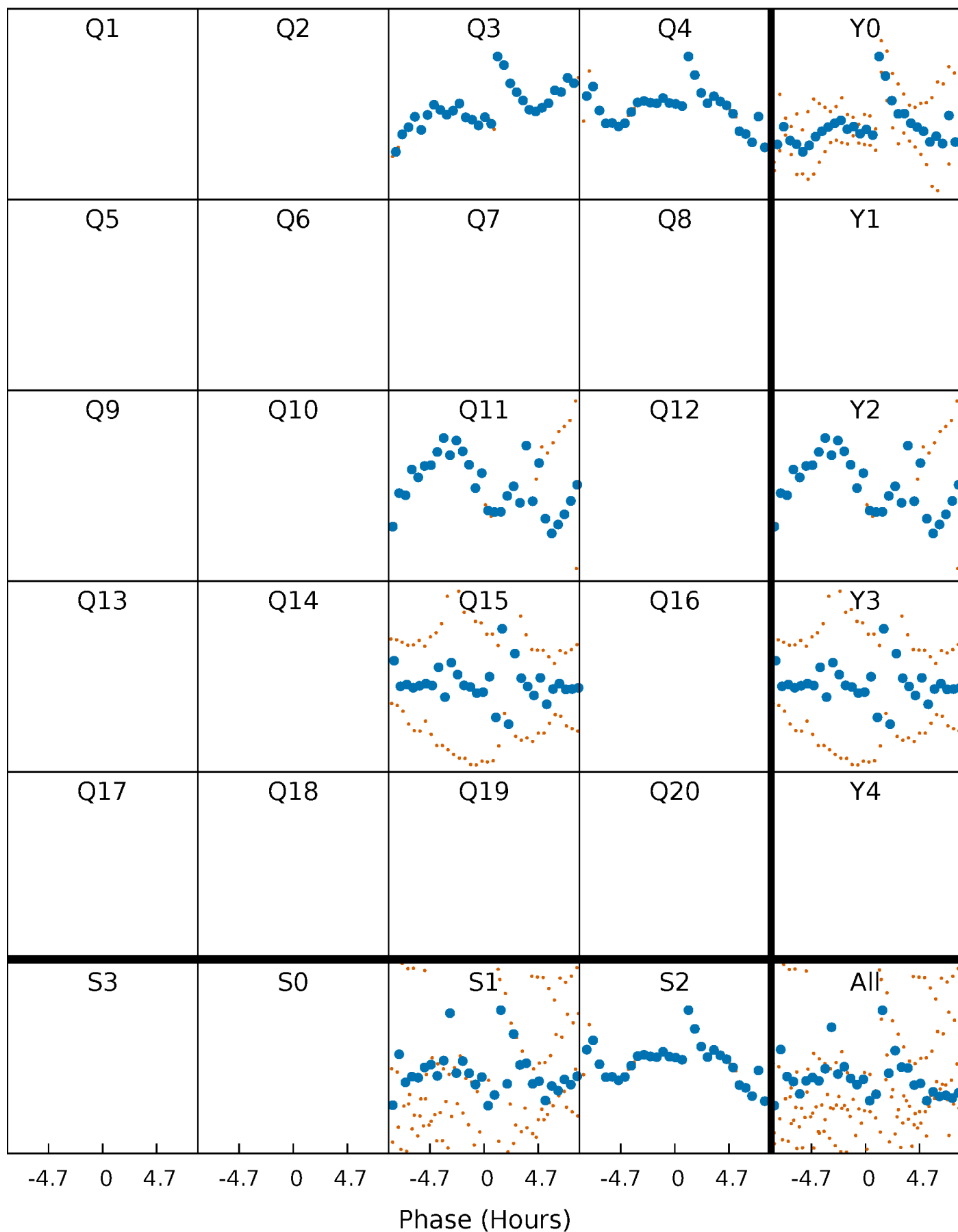


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



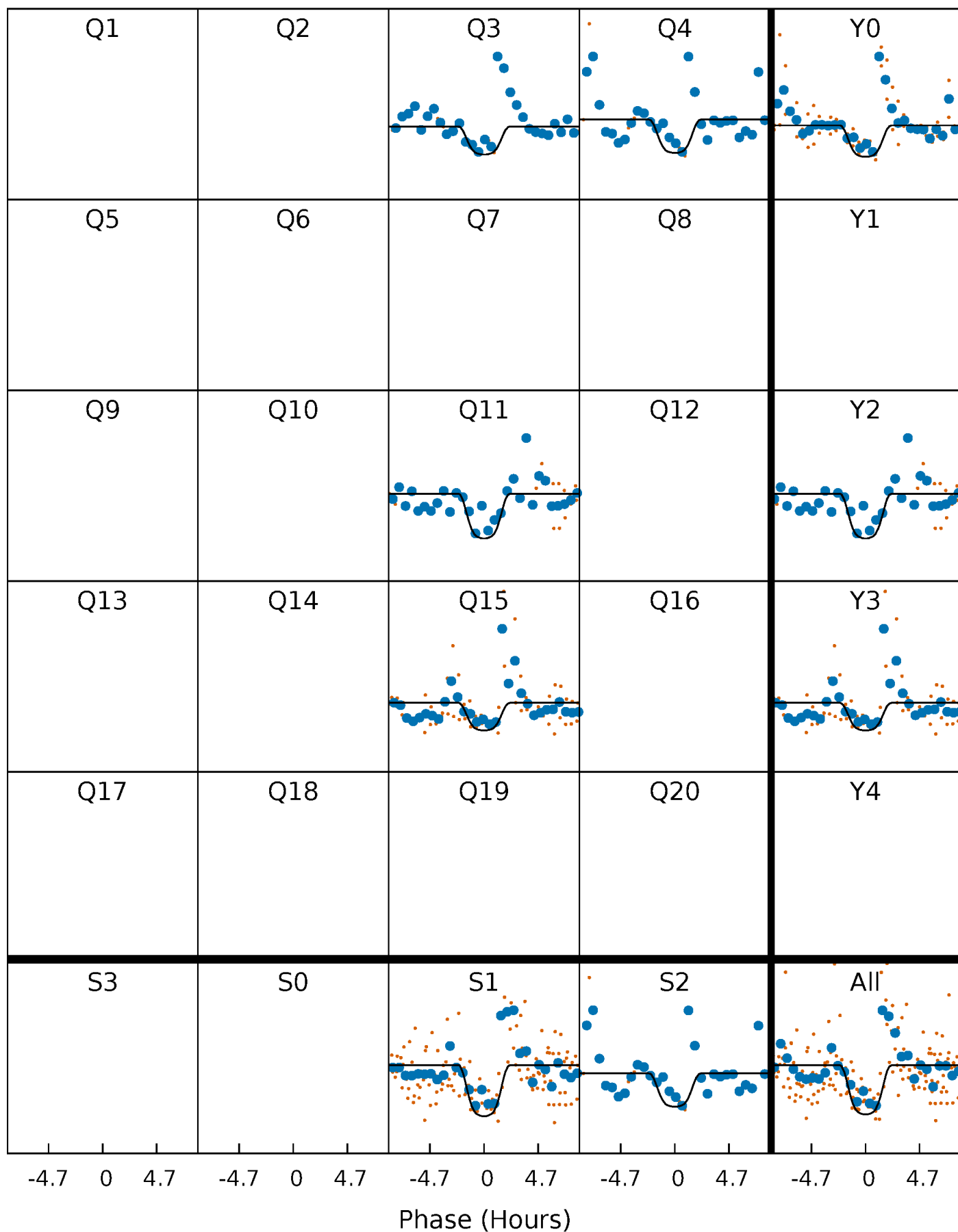
PDC Quarter-Phased Transit Curves

TCE 006967296-02 P= 93.584678 Days $T_0=158.734586$ (BKJD)



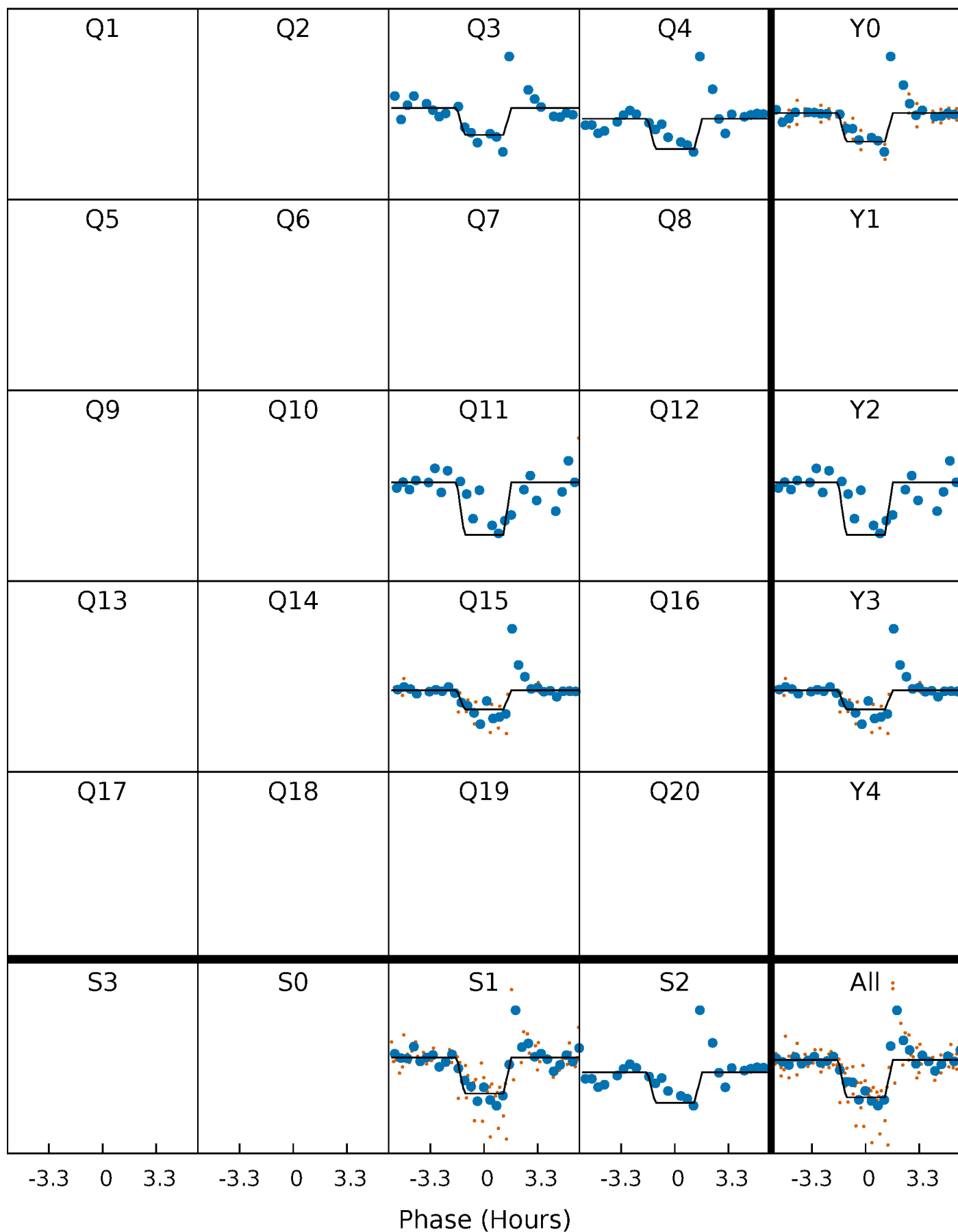
DV Quarter-Phased Transit Curves

TCE 006967296-02 P= 93.584678 Days $T_0=158.734586$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

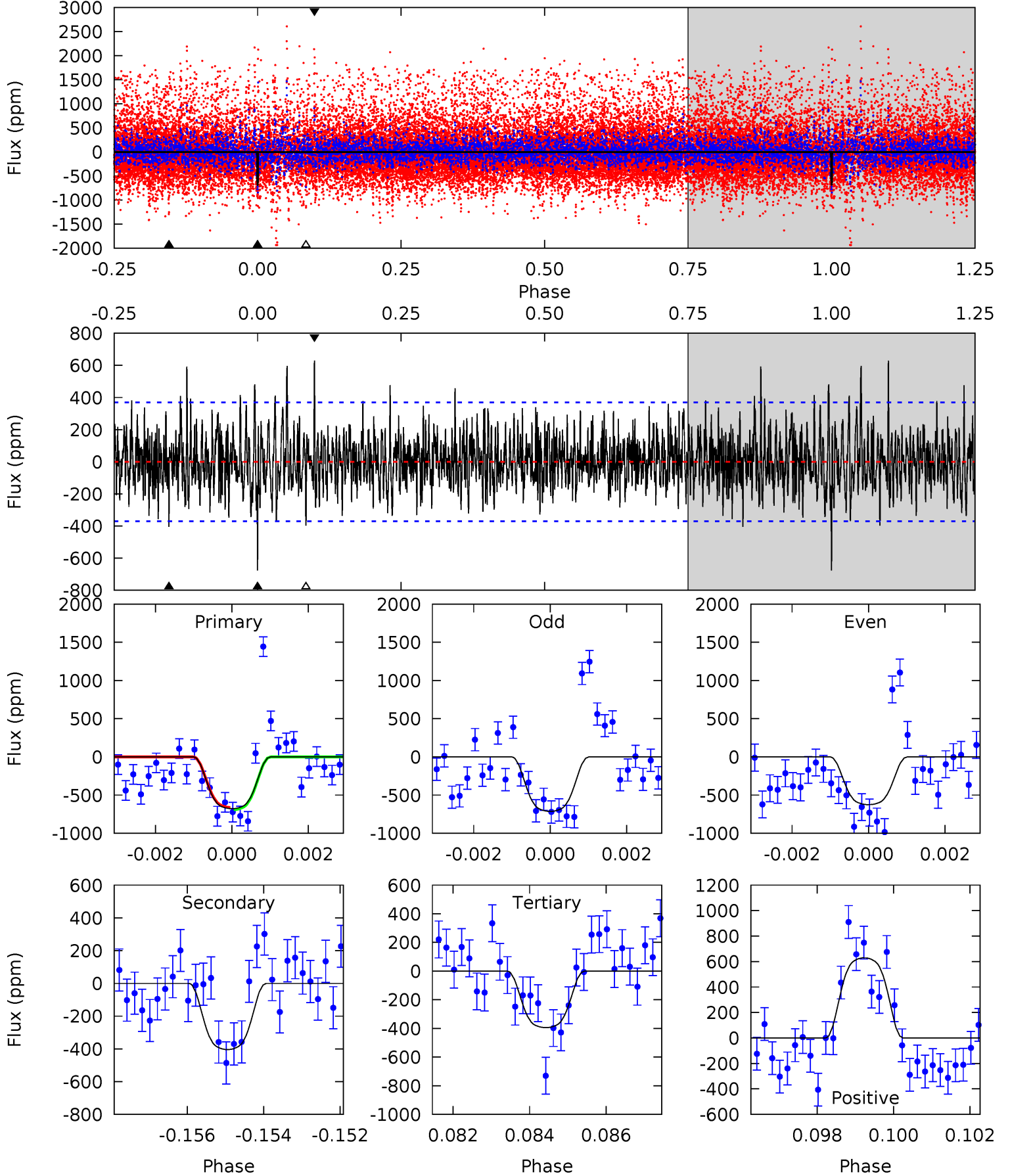
TCE 006967296-02 $P = 93.585223$ Days $T_0 = 158.720462$ (BKJD)



DV Model-Shift Uniqueness Test

006967296-02, P = 93.584678 Days, E = 158.734586 Days

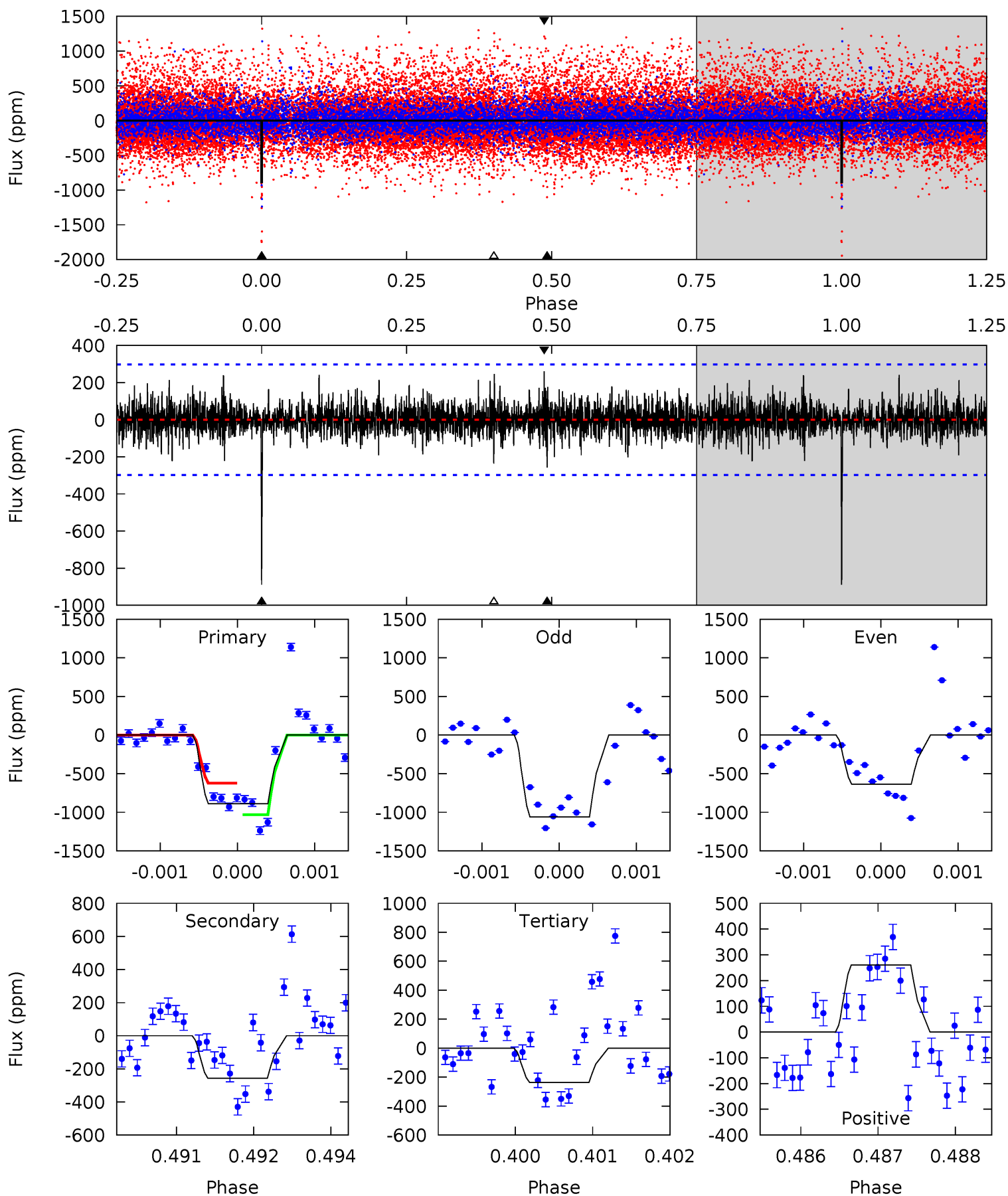
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	5.81	5.67	9.05	5.33	3.09	1.95	4.07	0.69	0.14	-3.24	0.60	1.27	0.48	0.21



Alt Model-Shift Uniqueness Test

006967296-02, P = 93.585223 Days, E = 158.720462 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	4.67	4.27	4.72	5.40	3.21	1.08	11.8	11.4	0.39	-0.06	3.78	1.49	0.23	3.60



Stellar Parameters For KIC 006967296

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4063^{+142}_{-156}	$4.634^{+0.056}_{-0.020}$	$0.200^{+0.200}_{-0.300}$	$0.635^{+0.031}_{-0.066}$	$0.633^{+0.044}_{-0.060}$	$3.487^{+0.886}_{-0.323}$
	+3%/-4%	+1%/-0%	+100%/-150%	+5%/-10%	+7%/-9%	+25%/-9%
Source	KIC0	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 006967296-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-404 ± 69	$2.64^{+0.35}_{-0.34}$	336^{+13}_{-15}	3268^{+182}_{-163}	3833^{+1449}_{-1015}
Alt.	-257 ± 55	$2.13^{+0.36}_{-0.36}$	336^{+14}_{-15}	3262^{+249}_{-188}	3780^{+2024}_{-1203}

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 $A_{obs} \gg 1.0$

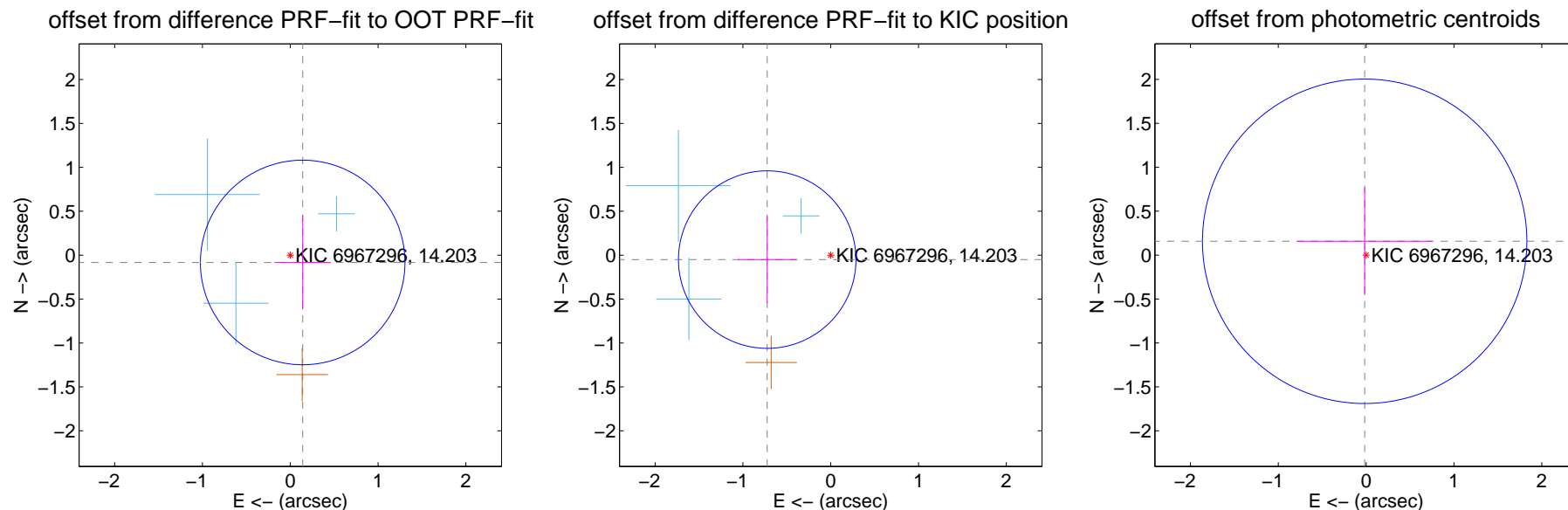
DV Centroid Data

Supplemental centroid analysis for 006967296-02. Kepler magnitude: 14.20. Transit SNR 6.98

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.164 ± 0.388	0.42	-0.141 ± 0.322	-0.083 ± 0.536
PRF-fit source offset from KIC position	0.725 ± 0.337	2.15	0.723 ± 0.336	-0.050 ± 0.494
photometric centroid source offset	0.16 ± 0.62	0.26	0.02 ± 0.77	0.16 ± 0.61



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



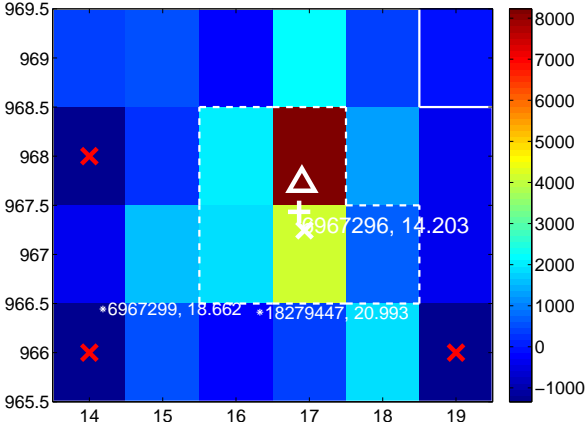
Q2 no difference image



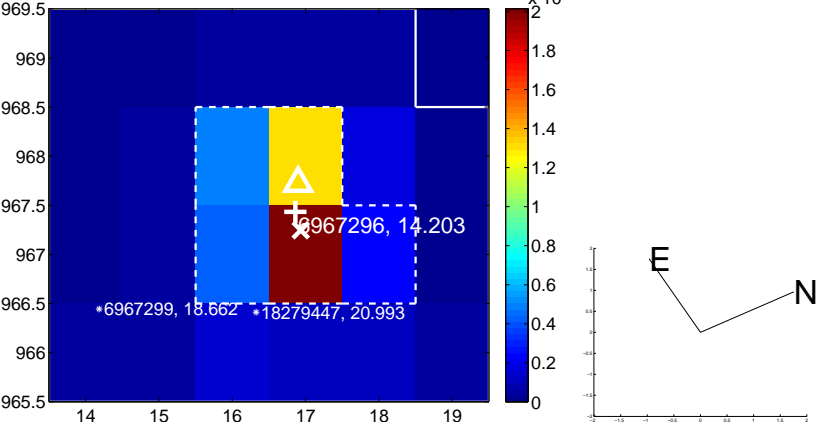
Q2 no OOT image



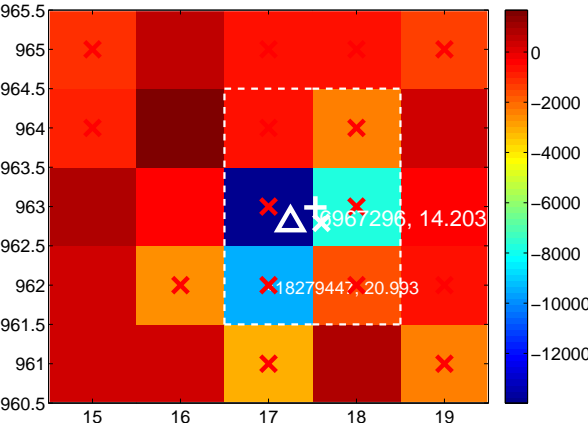
Q3 difference image



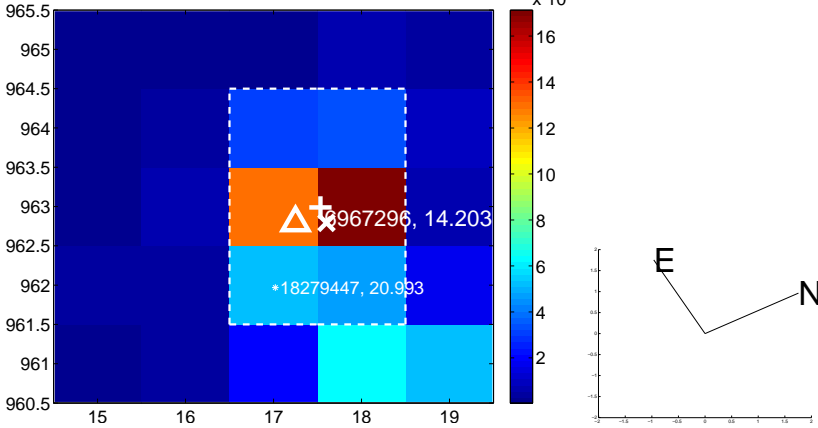
Q3 OOT image



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.

Q9 no difference image



Q9 no OOT image



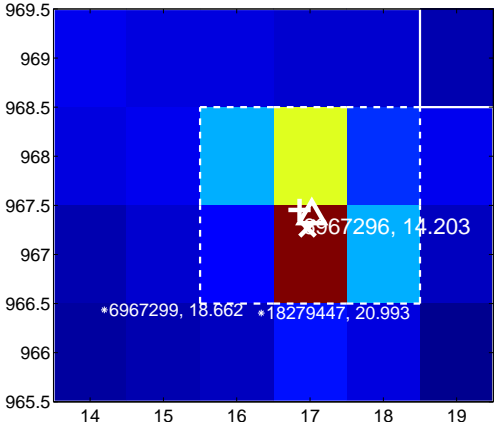
Q10 no difference image



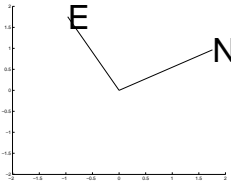
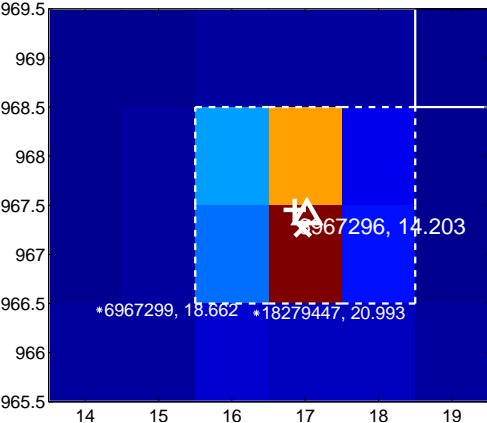
Q10 no OOT image



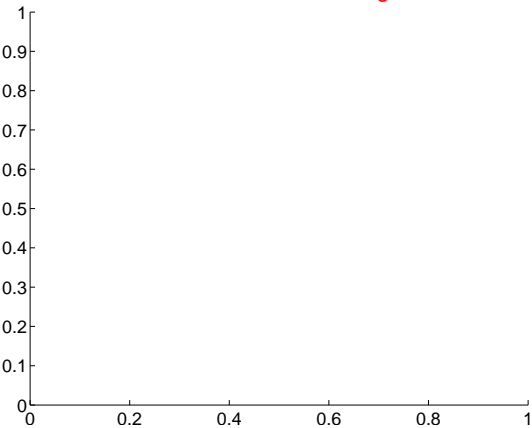
Q11 difference image



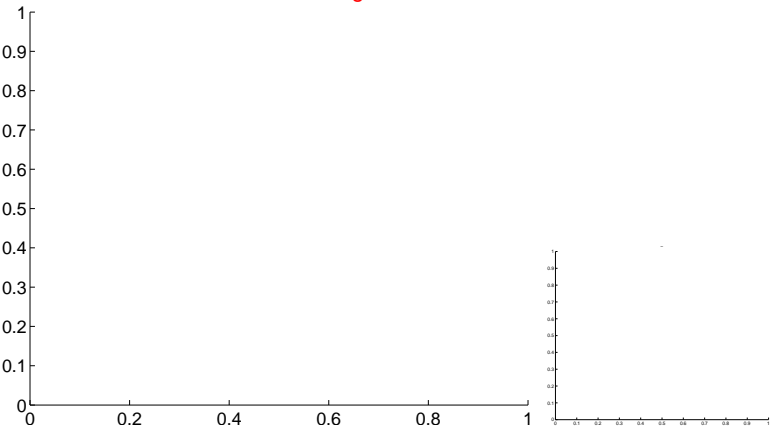
Q11 OOT image



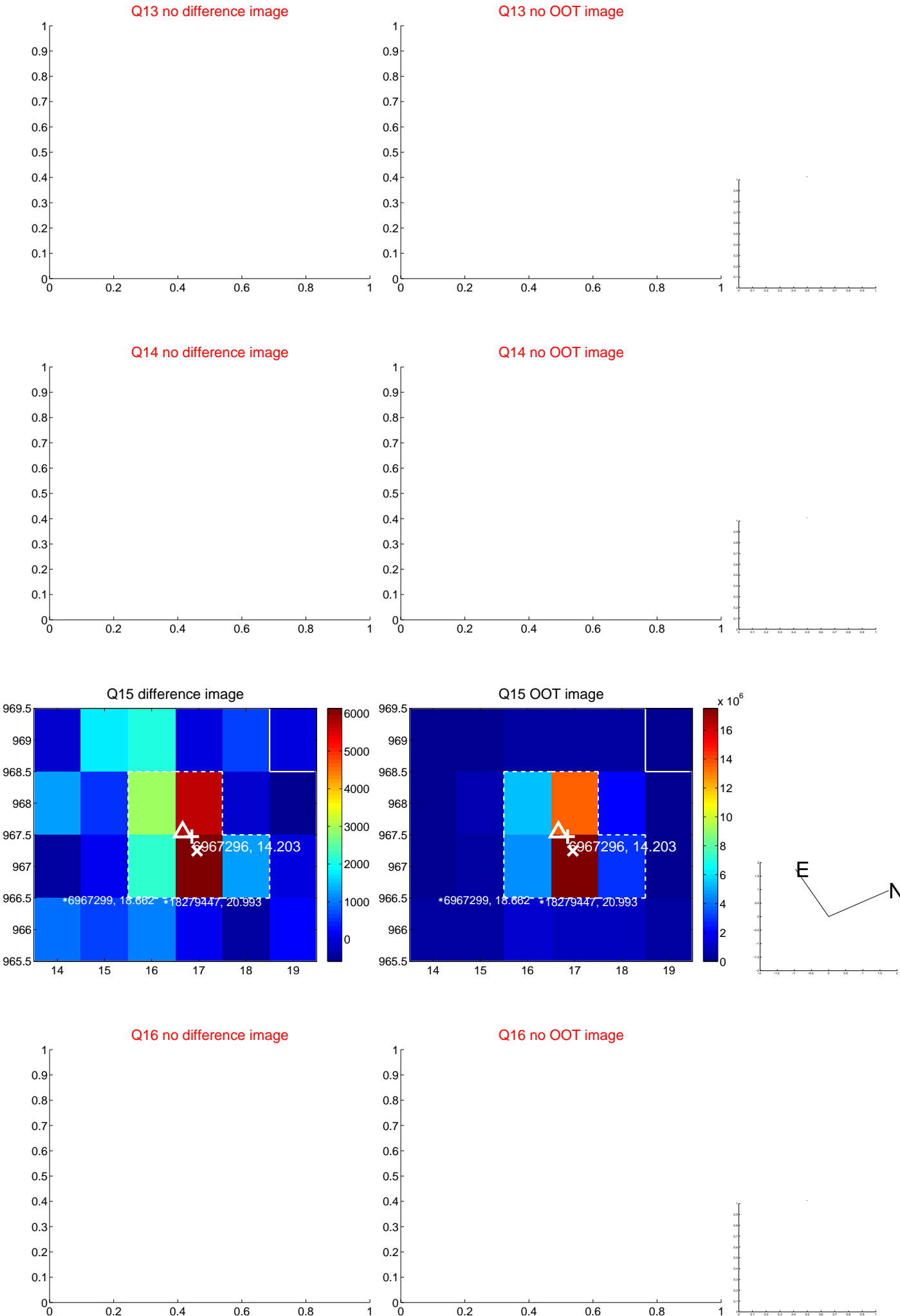
Q12 no difference image



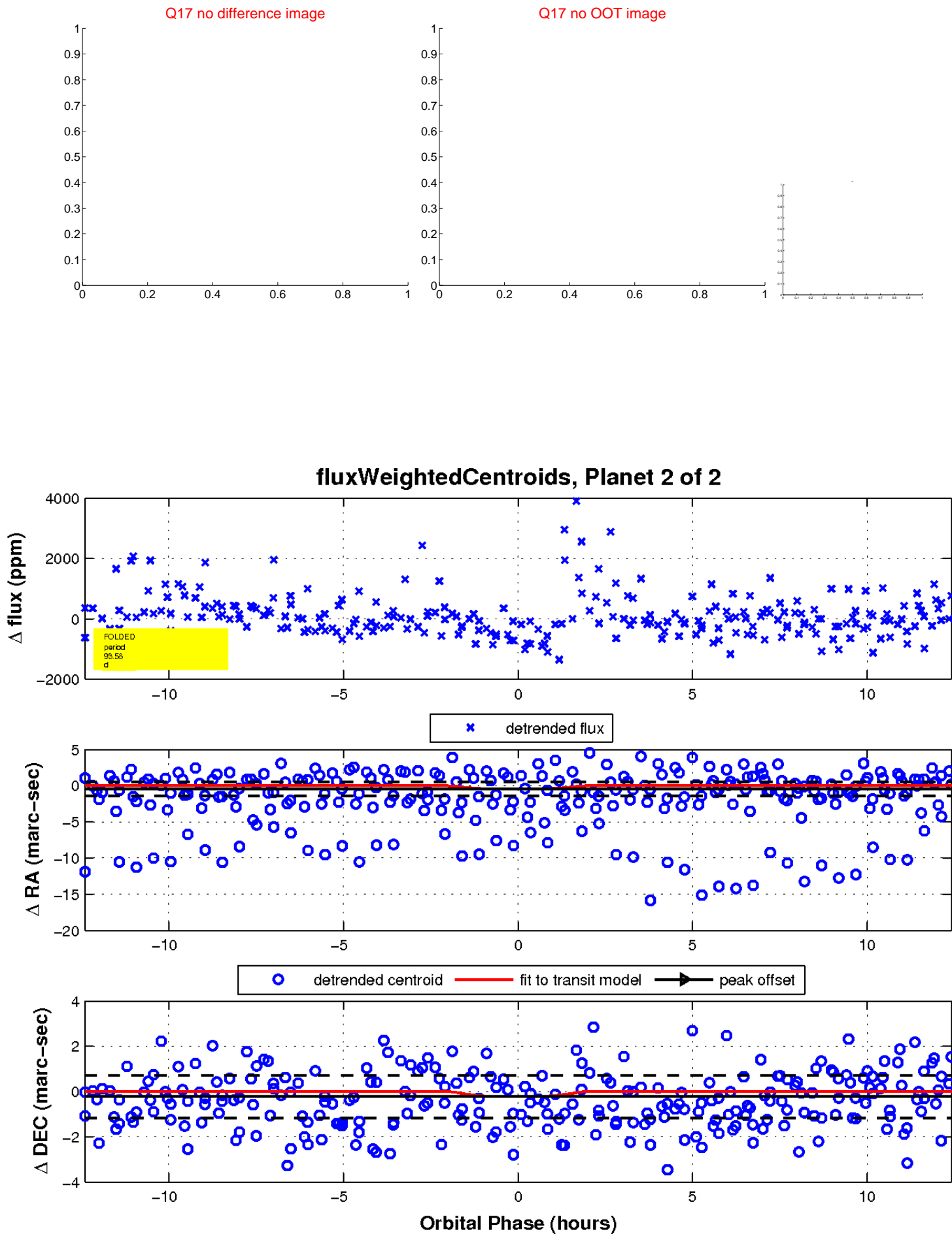
Q12 no OOT image



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.



UKIRT Image

Declination

