

KIC 007908367

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})
007908367-01	OBS	6166.02	6.651696	135.209780	946.2	2.171	18.2	16.8	1.51	5254	4.98	340.69
007908367-02	OBS	6166.01	12.205716	134.133581	1350.9	2.680	18.3	19.1	1.51	5254	6.47	151.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007908367-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS
007908367-02	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS

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.

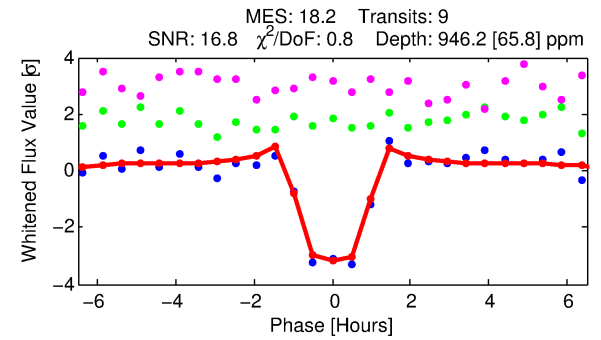
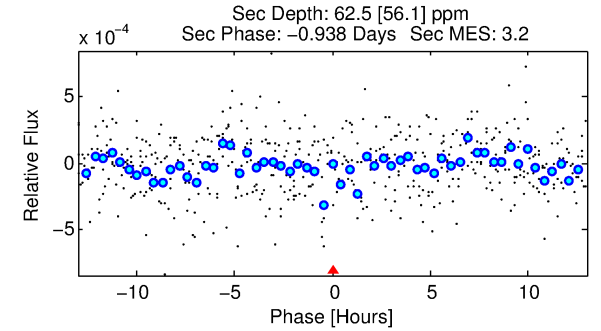
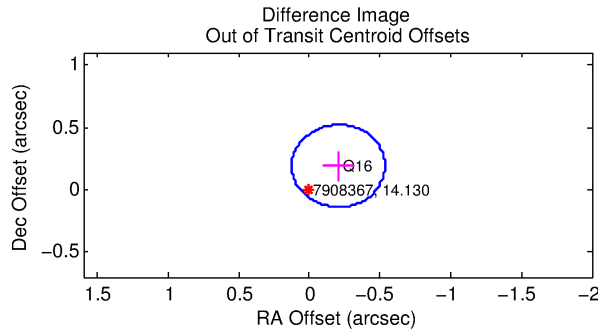
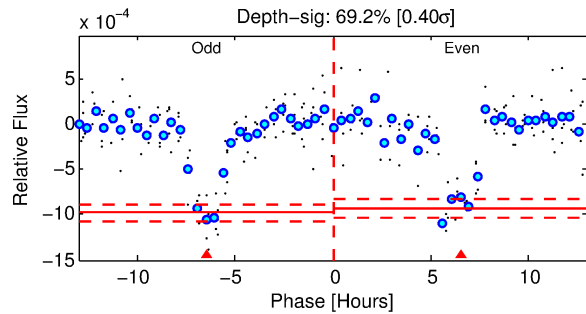
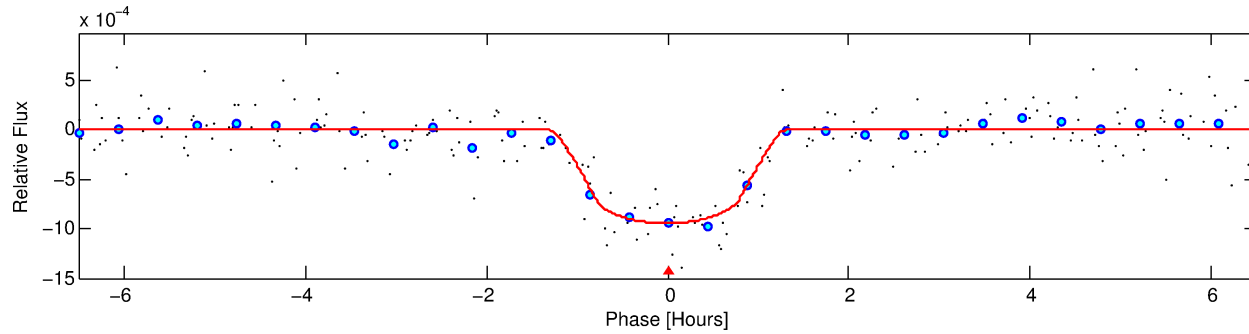
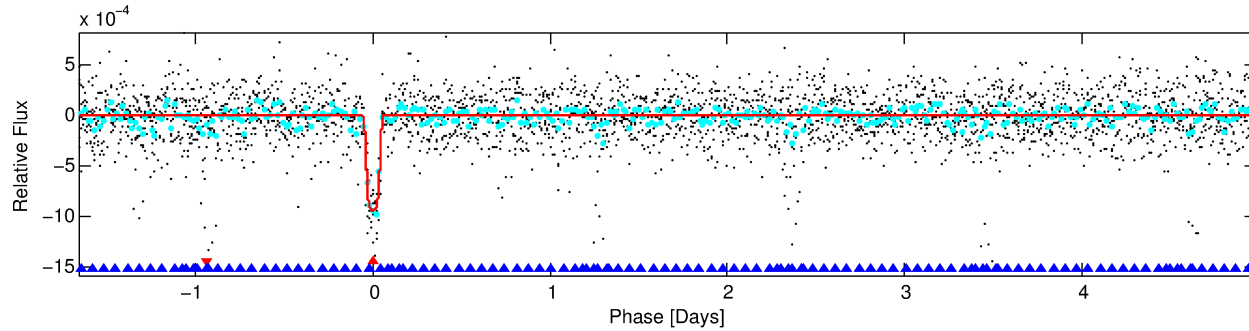
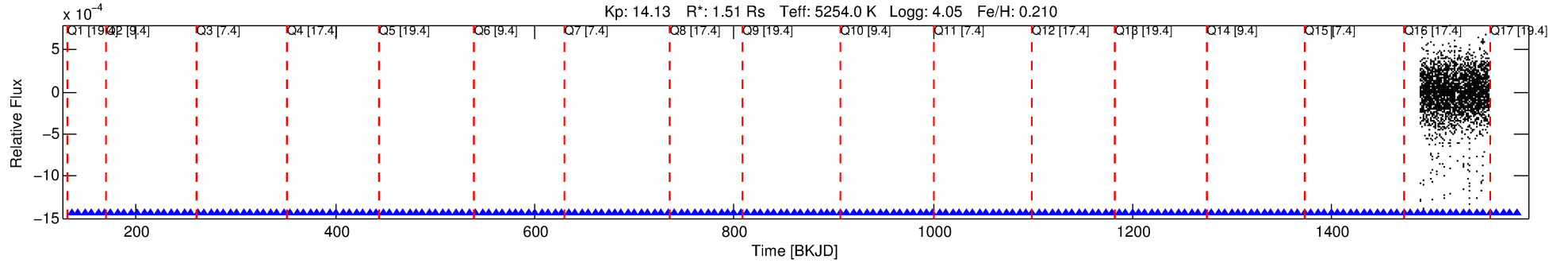
Ephemeris Match Information For 007908367-01

No Significant Match Found

DV One-Page Summary

KIC: 7908367 Candidate: 1 of 2 Period: 6.652 d

KOI: K06166 Corr: No Ephemeris Match



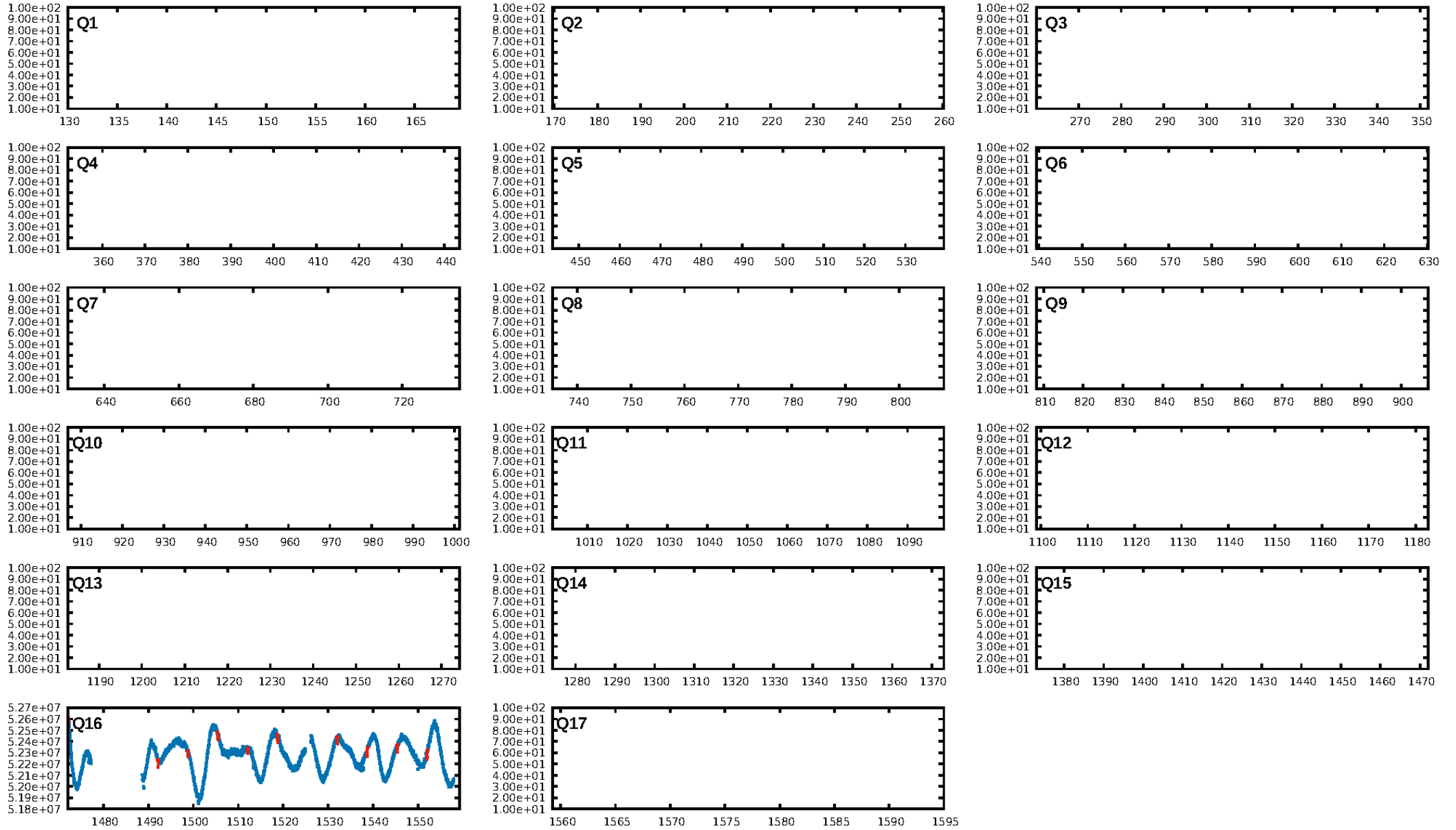
DV Fit Results:

Period = 6.65170 [0.00002] d
Epoch = 135.2098 [0.0026] BKJD
Rp/R* = 0.0301 [0.0237]
a/R* = 17.70 [50.18]
b = 0.70 [2.12]
Seff = 340.69 [281.07]
Teq = 1096 [226] K
Rp = 4.98 [4.51] Re
a = 0.0678 [0.0327] AU
Ag = 6.37 [12.63] [0.43 σ]
Teffp = 2691 [1221] K [1.28 σ]

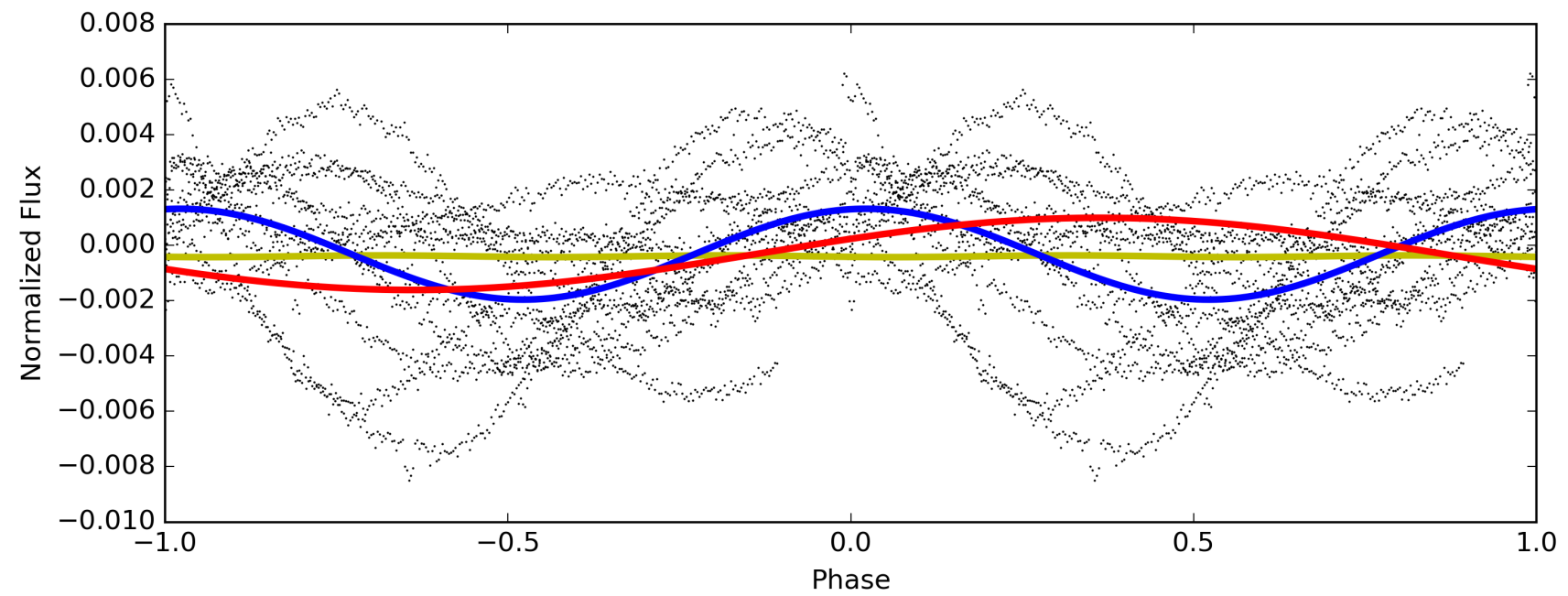
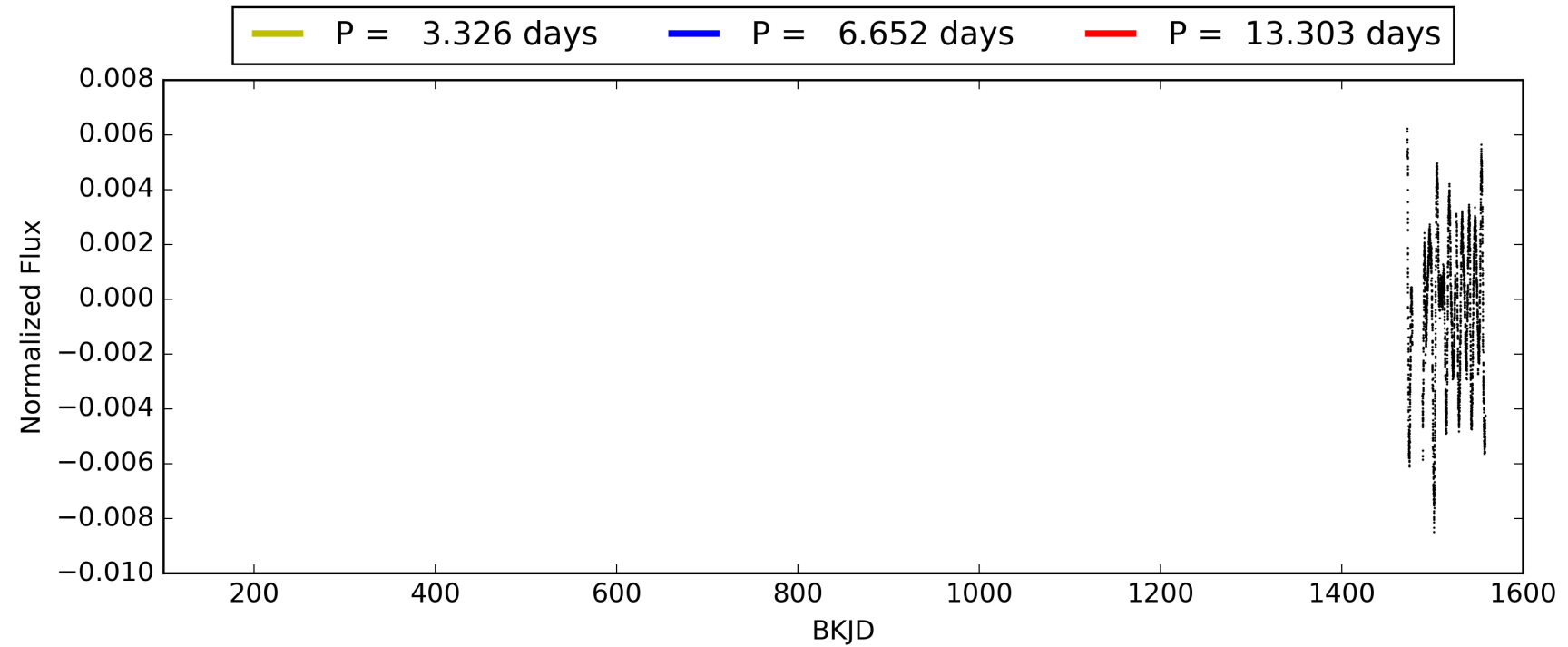
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [38.65 σ]
ModelChiSquare2-sig: 76.0%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 6.76e-69
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 1.388
Centroid-sig: 13.7%
Centroid-so: 0.655 arcsec [1.66 σ]
OotOffset-rm: 0.279 arcsec [2.54 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 0.499 arcsec [4.45 σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

TCE 007908367-01, PDC Light Curves

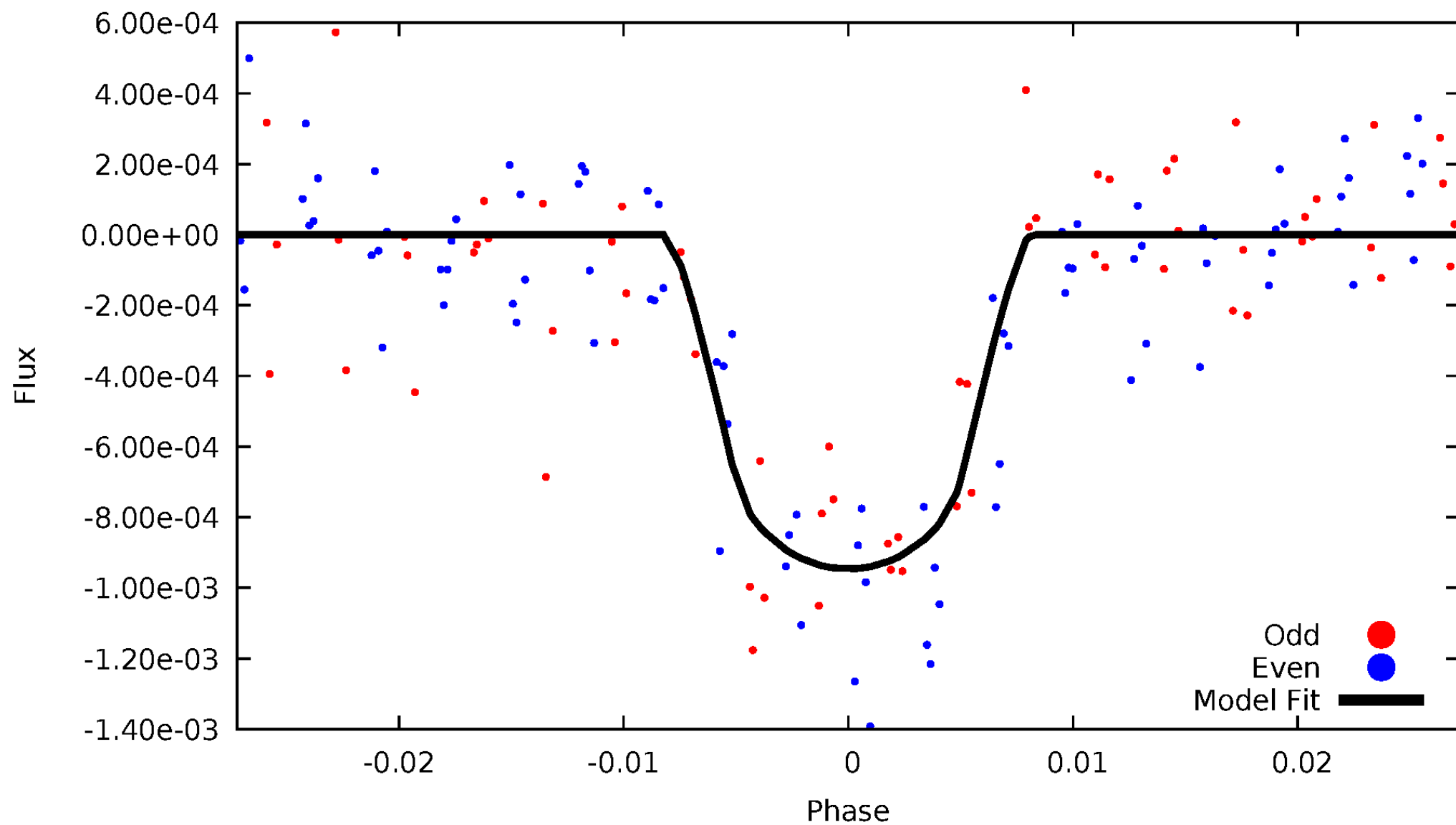


TCE 007908367-01



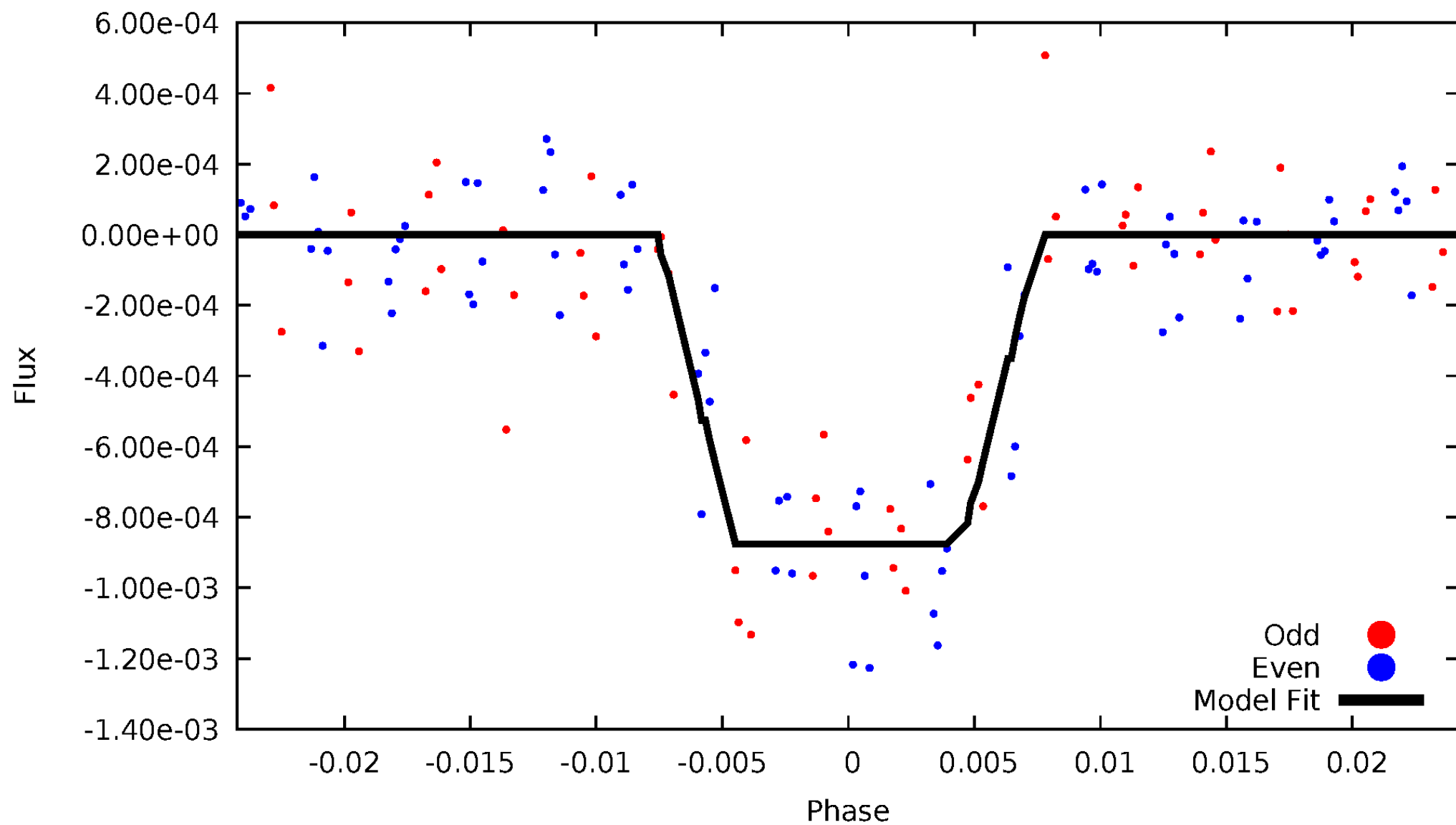
DV Odd/Even

TCE 007908367-01



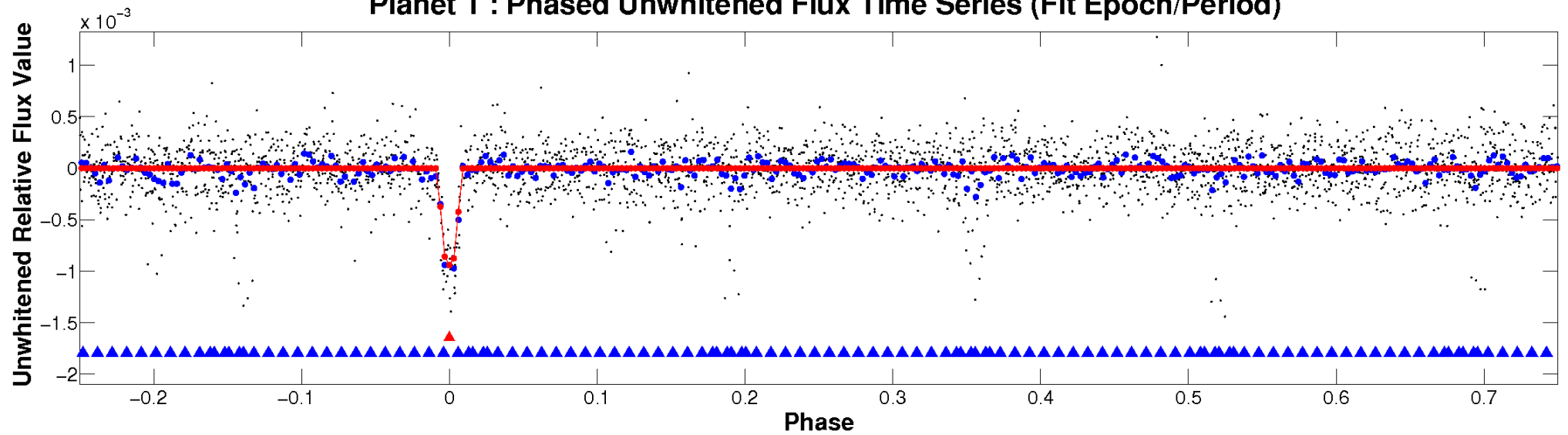
ALT Odd/Even

TCE 007908367-01

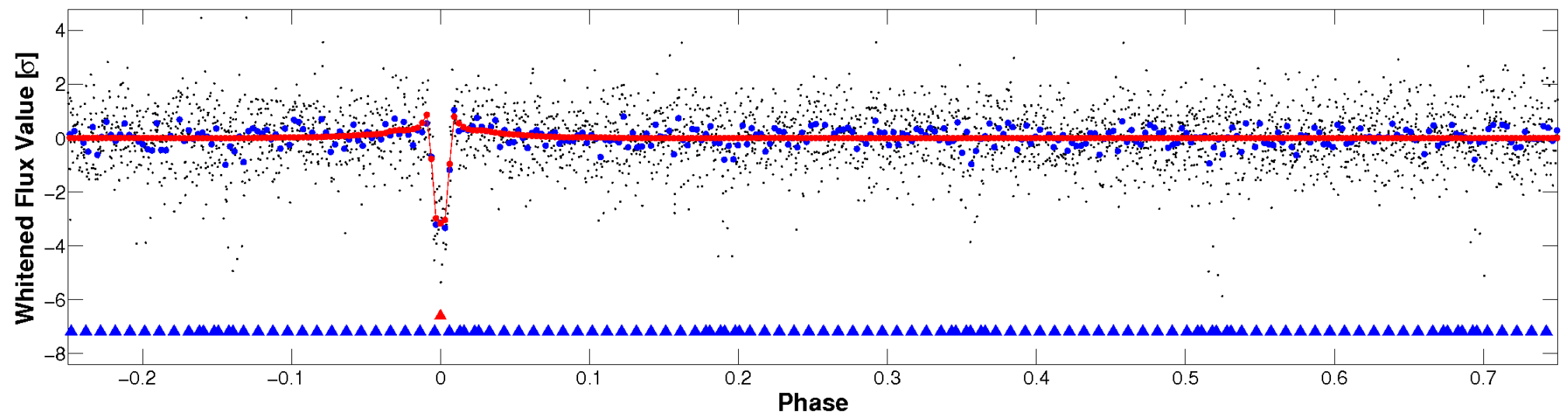


Non-Whitened Vs. Whitened Light Curve

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

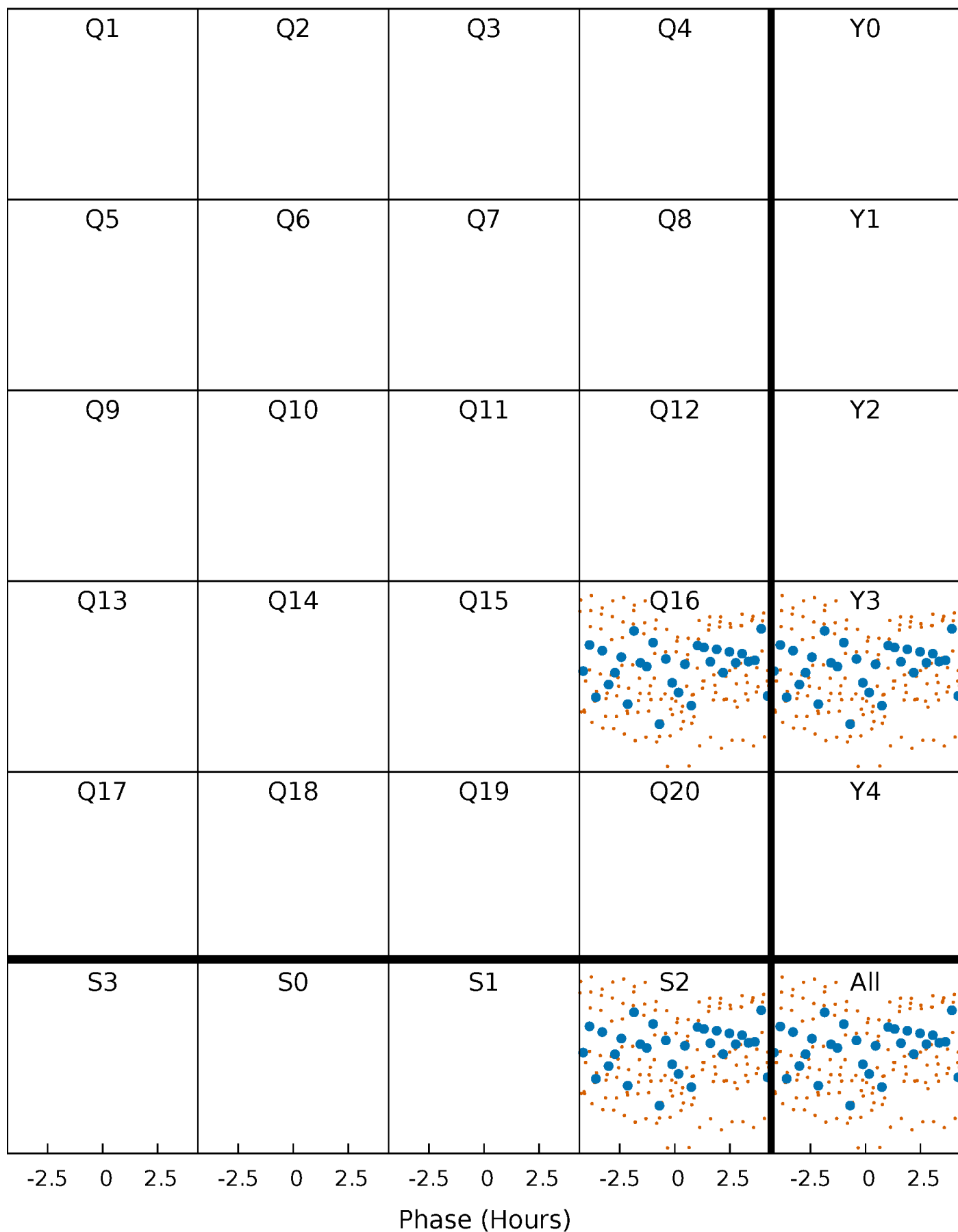


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



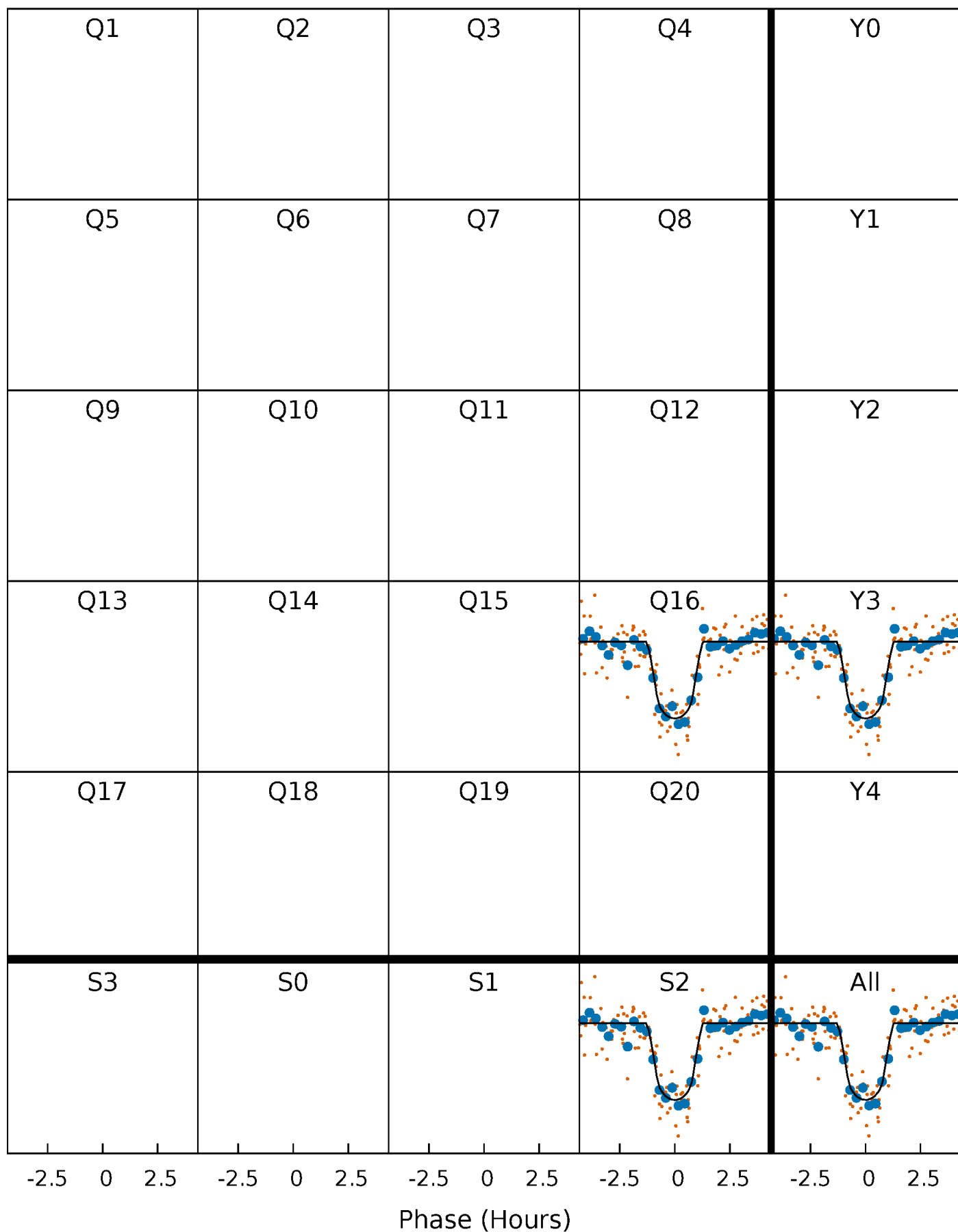
PDC Quarter-Phased Transit Curves

TCE 007908367-01 P= 6.651696 Days $T_0=135.209780$ (BKJD)



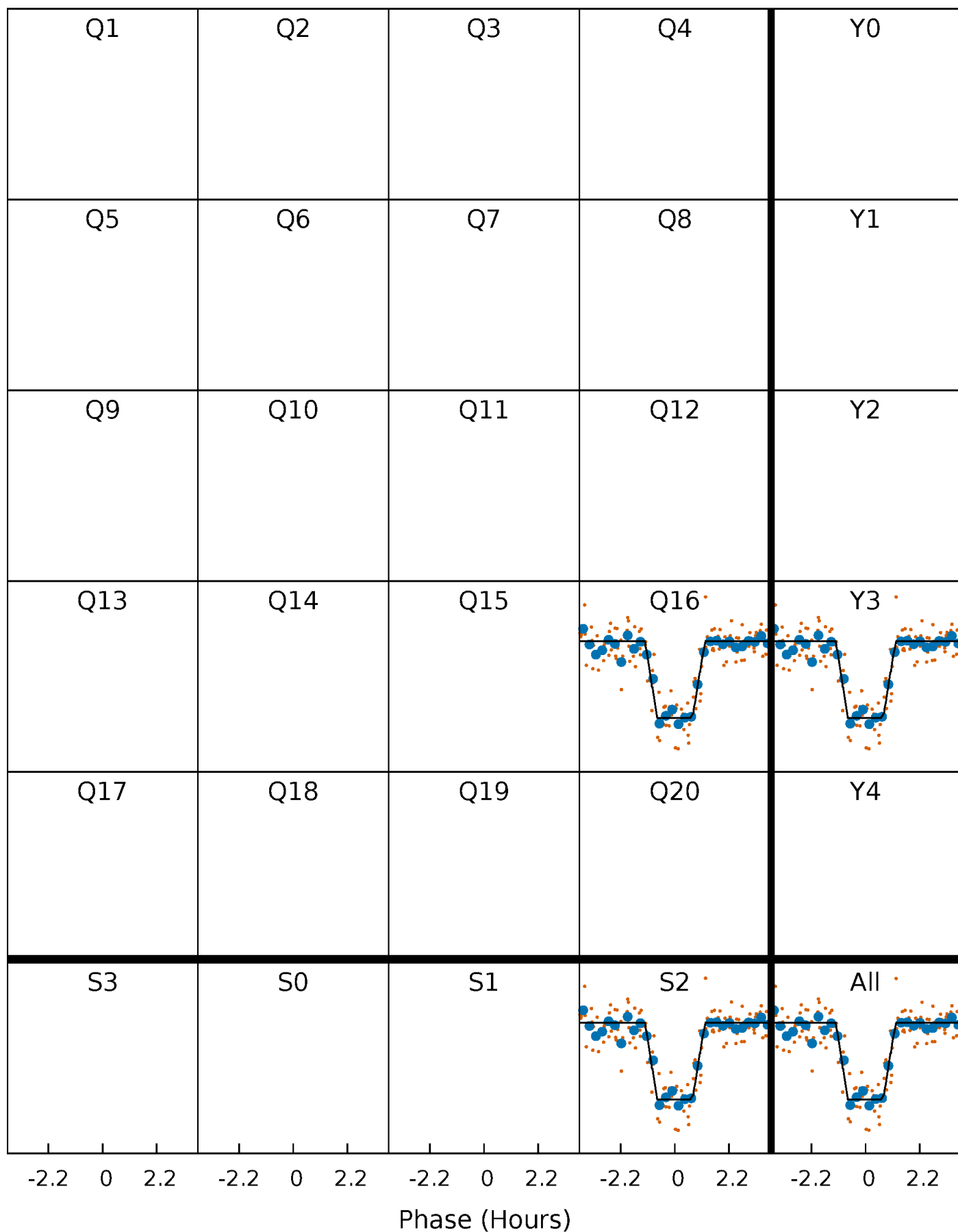
DV Quarter-Phased Transit Curves

TCE 007908367-01 P= 6.651696 Days $T_0=135.209780$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

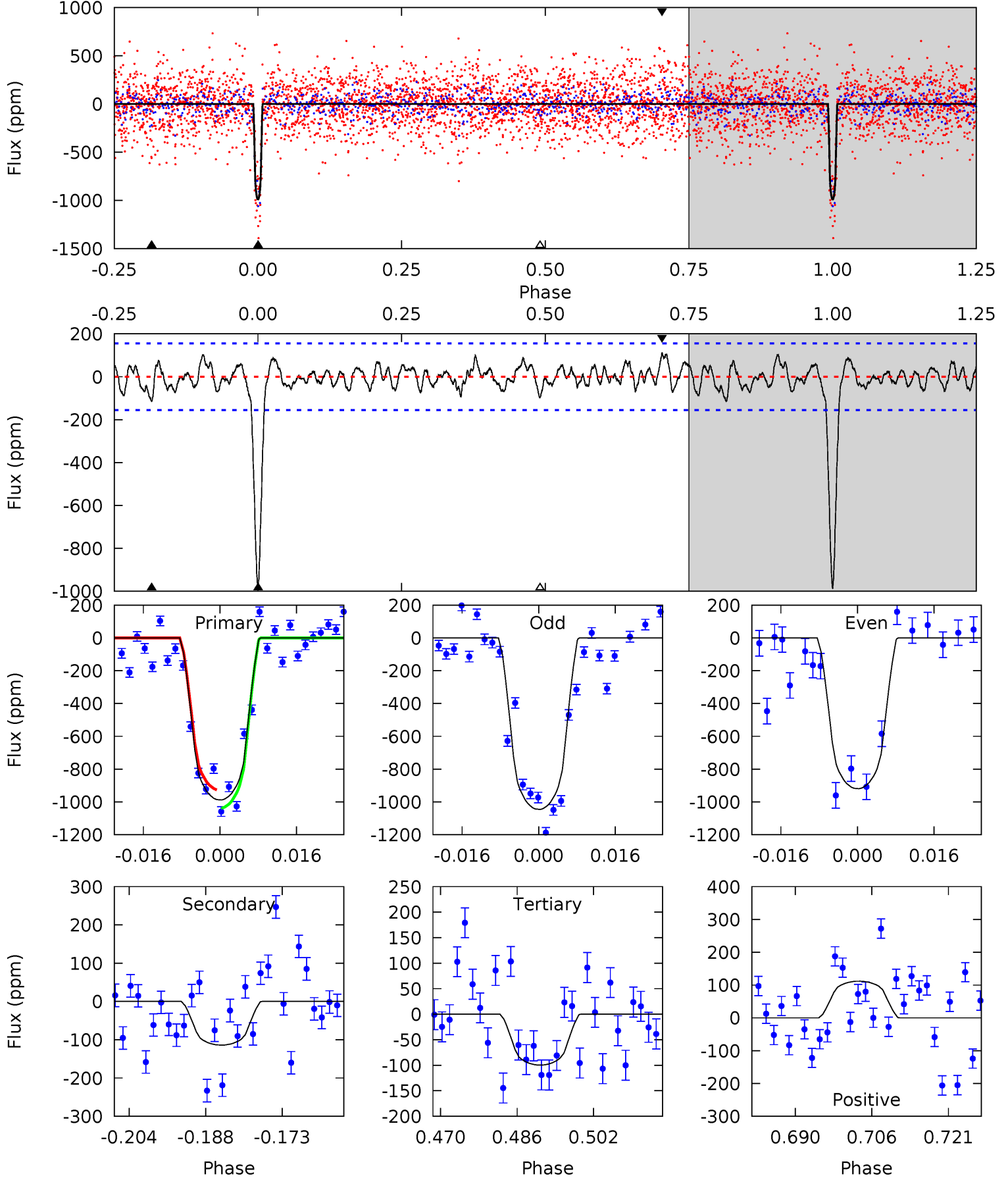
TCE 007908367-01 P= 6.651673 Days $T_0=135.215418$ (BKJD)



DV Model-Shift Uniqueness Test

007908367-01, P = 6.651696 Days, E = 135.209780 Days

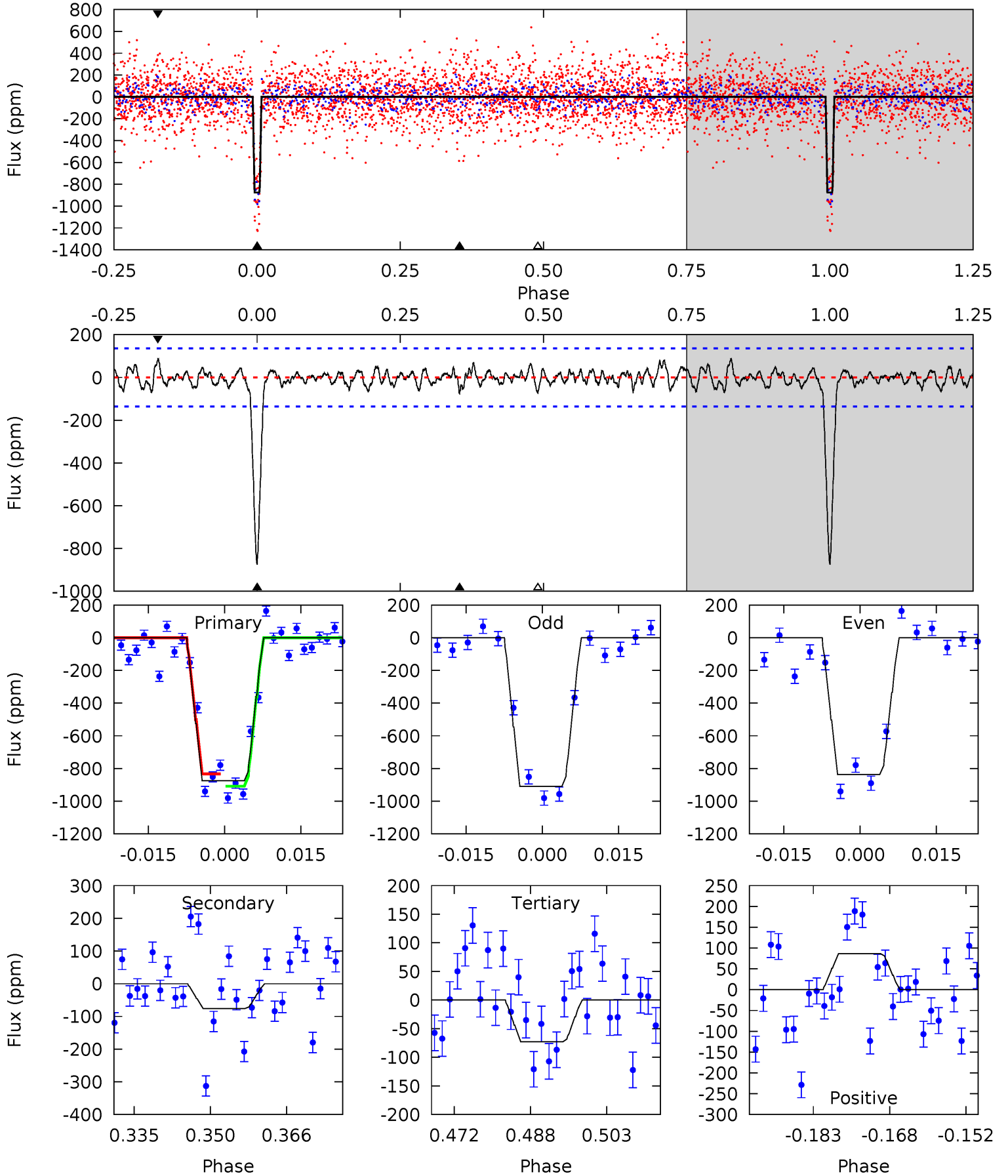
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	3.62	3.17	3.55	4.94	2.42	1.29	28.3	27.9	0.46	0.07	2.03	0.98	0.10	1.75



Alt Model-Shift Uniqueness Test

007908367-01, P = 6.651673 Days, E = 135.215418 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.9	2.76	2.66	3.15	4.94	2.43	1.04	29.2	28.7	0.10	-0.40	1.28	0.98	0.09	1.38



Stellar Parameters For KIC 007908367

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5254^{+203}_{-166}	$4.050^{+0.490}_{-0.245}$	$0.210^{+0.200}_{-0.250}$	$1.514^{+0.623}_{-0.685}$	$0.937^{+0.087}_{-0.096}$	$0.380^{+1.607}_{-0.229}$
	+4%/-3%	+12%/-6%	+95%/-119%	+41%/-45%	+9%/-10%	+422%/-60%
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 007908367-01 / KOI 6166.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-114 ± 31	$4.95^{+4.20}_{-2.88}$	1502^{+174}_{-197}	3430^{+1312}_{-512}	12^{+57}_{-9}
Alt.	-76 ± 27	$4.85^{+4.02}_{-2.76}$	1542^{+176}_{-204}	3279^{+1148}_{-521}	$7.911^{+36.909}_{-5.690}$

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

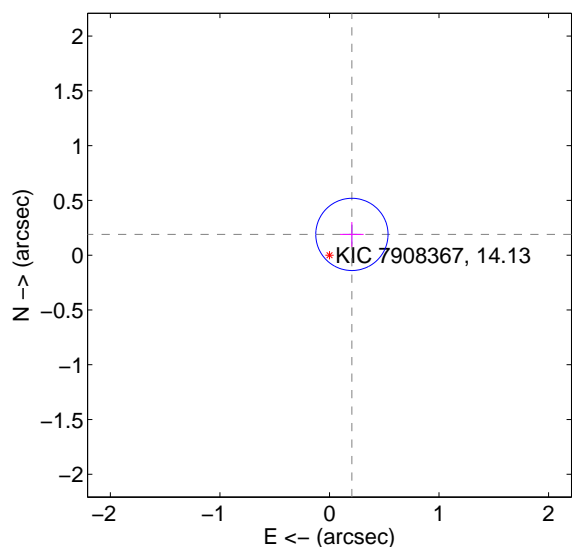
Supplemental centroid analysis for 007908367-01. Kepler magnitude: 14.13. Transit SNR 16.83

There are 1 quarters with good PRF difference image offsets

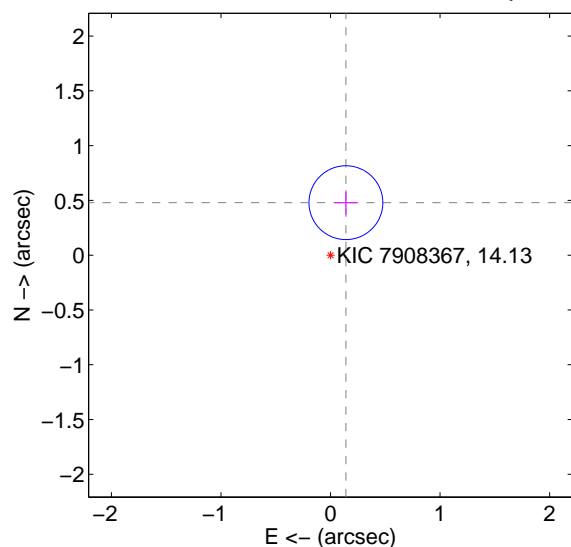
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.279 ± 0.110	2.54	-0.205 ± 0.107	0.190 ± 0.113
PRF-fit source offset from KIC position	0.499 ± 0.112	4.45	-0.141 ± 0.107	0.479 ± 0.113
photometric centroid source offset	0.66 ± 0.39	1.66	-0.63 ± 0.39	-0.19 ± 0.48

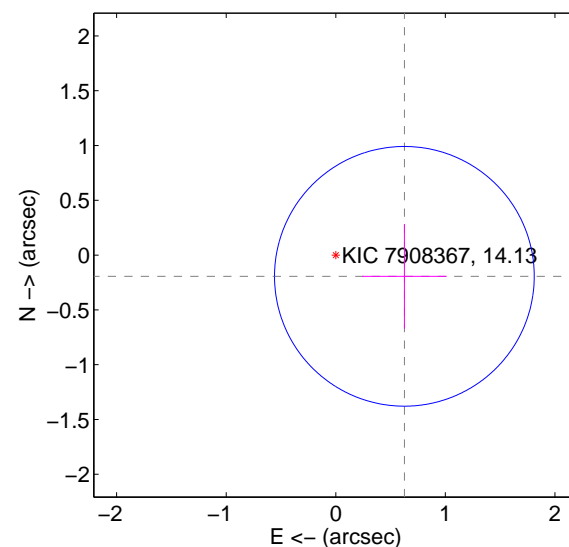
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.



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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.

Q13 no difference image



Q13 no OOT image



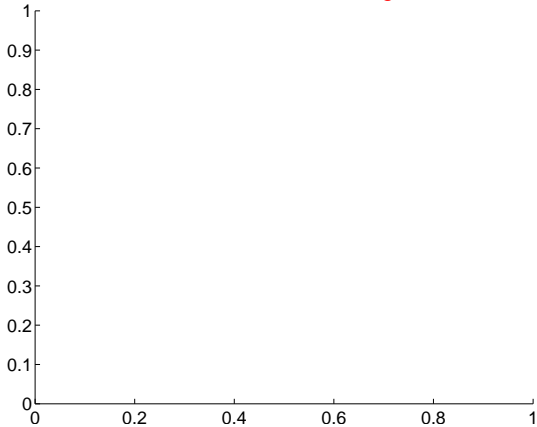
Q14 no difference image



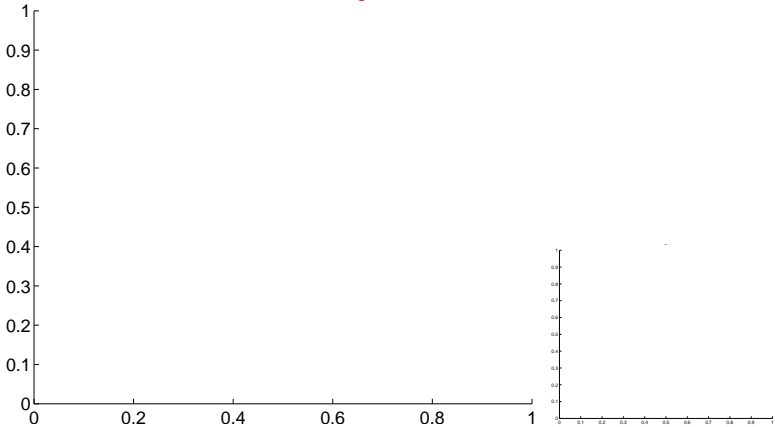
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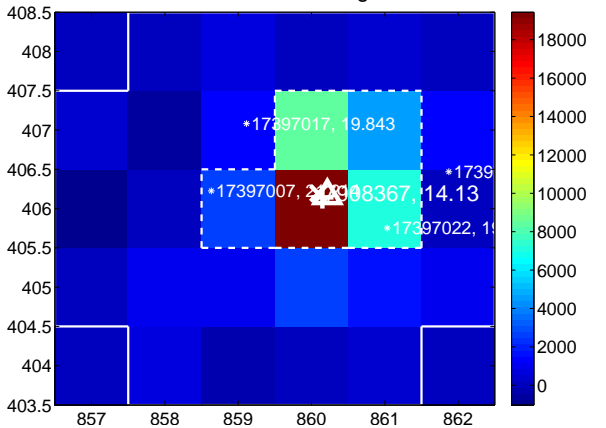
Q15 no difference image



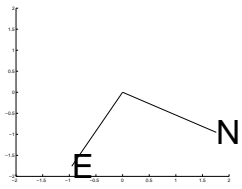
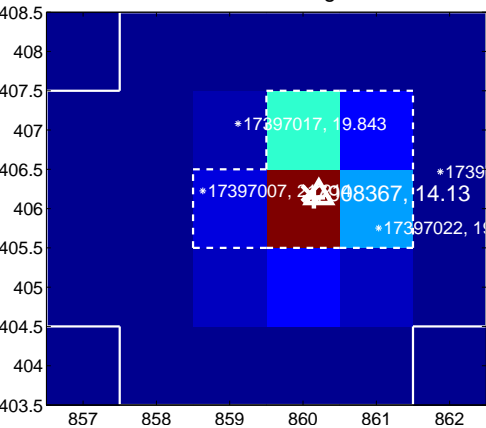
Q15 no OOT image



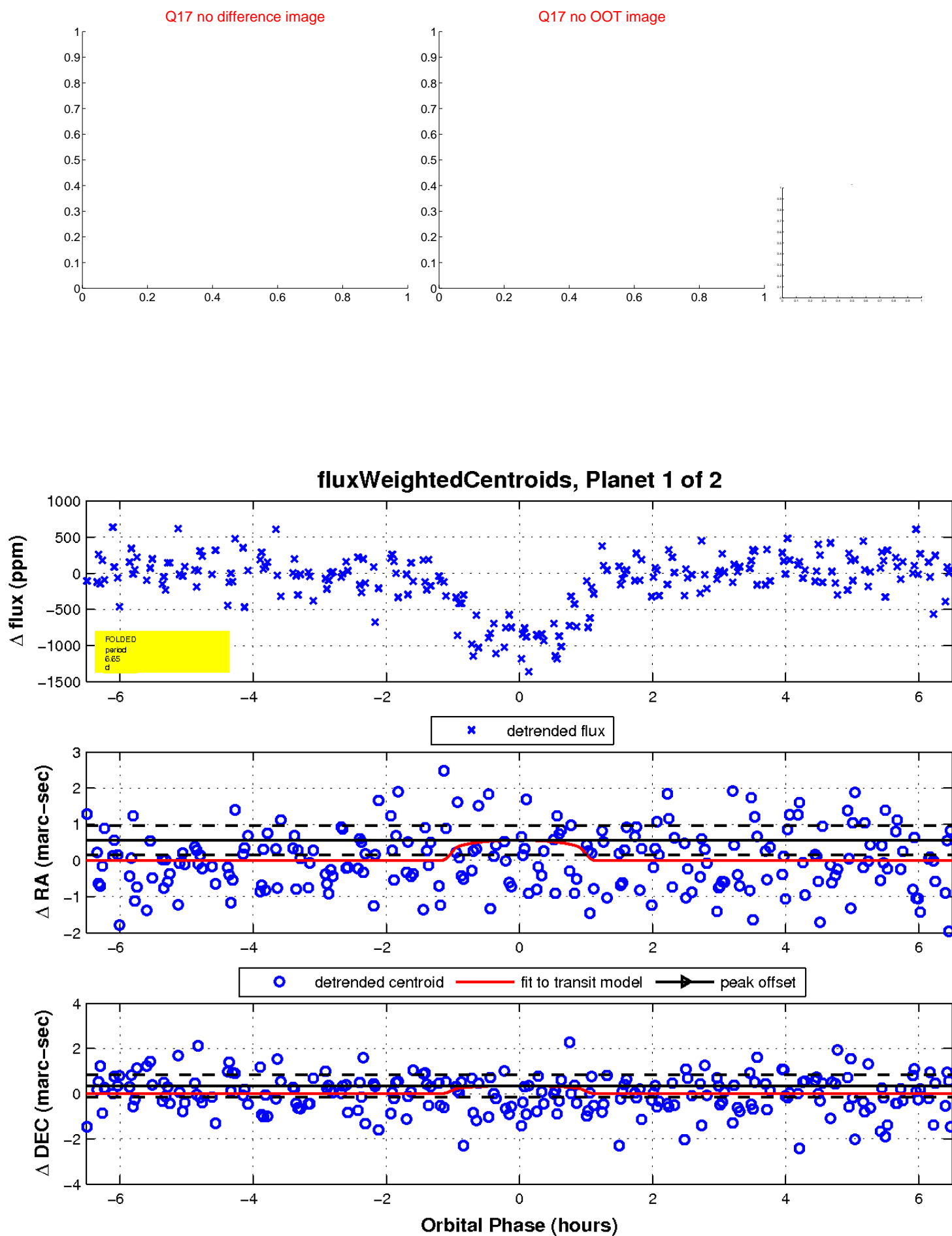
Q16 difference image



Q16 OOT image

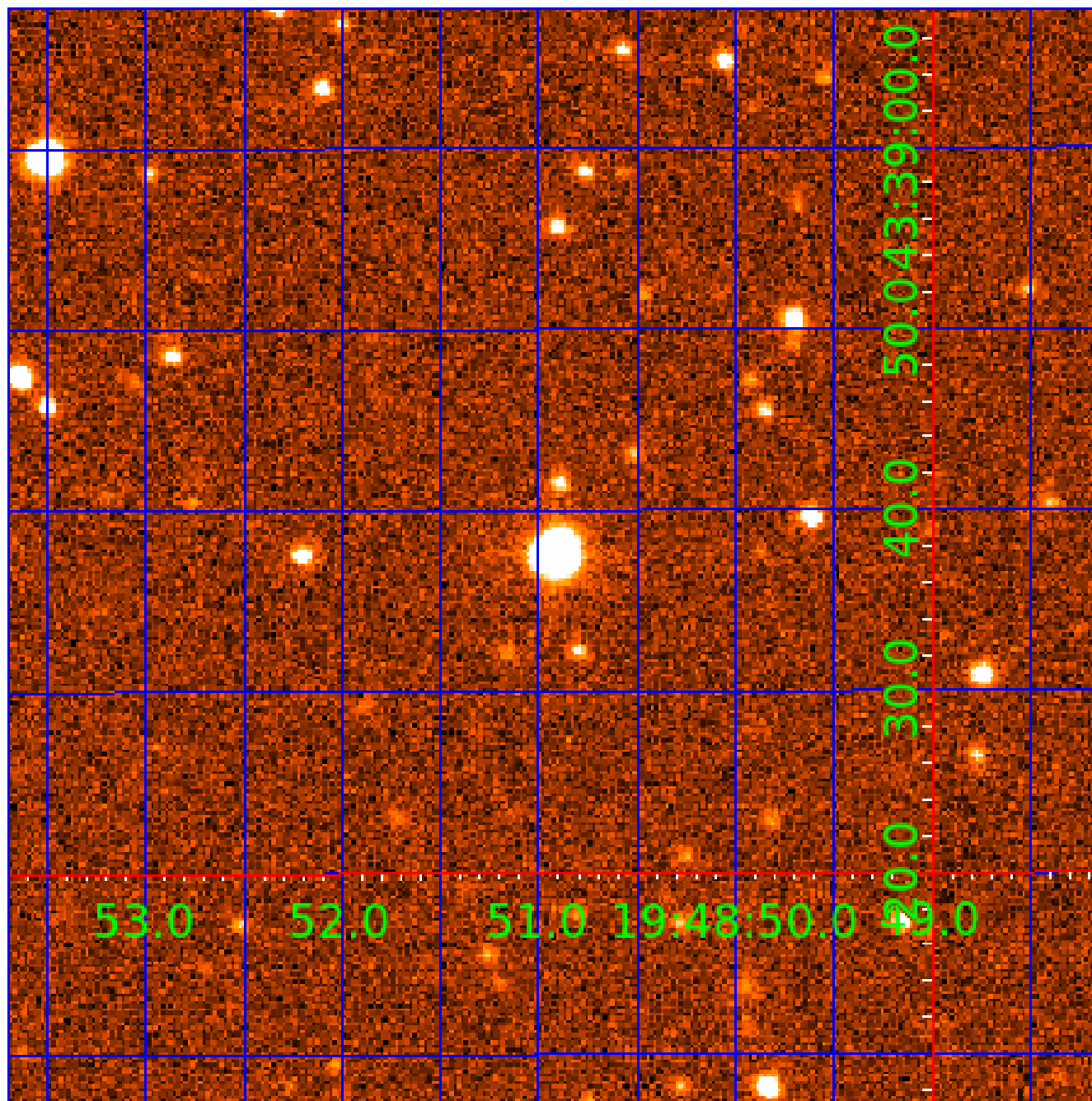


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007908367

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})
007908367-01	OBS	6166.02	6.651696	135.209780	946.2	2.171	18.2	16.8	1.51	5254	4.98	340.69
007908367-02	OBS	6166.01	12.205716	134.133581	1350.9	2.680	18.3	19.1	1.51	5254	6.47	151.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007908367-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS
007908367-02	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS

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

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

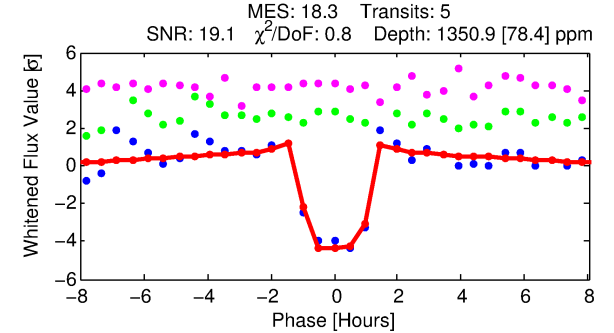
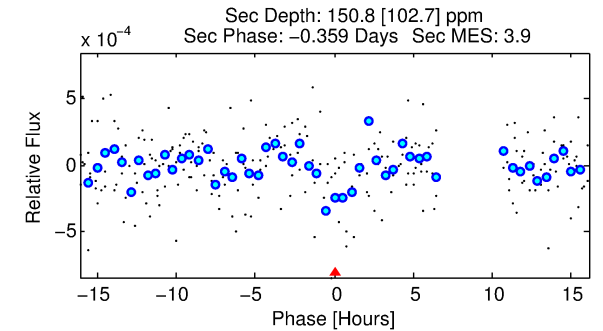
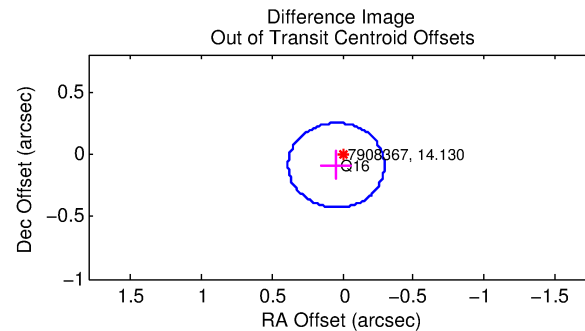
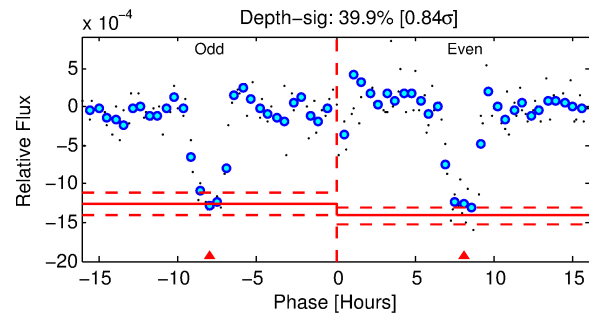
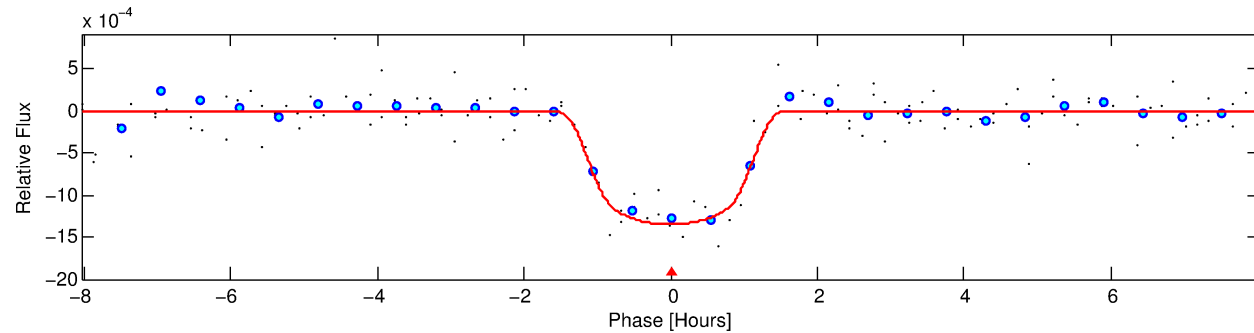
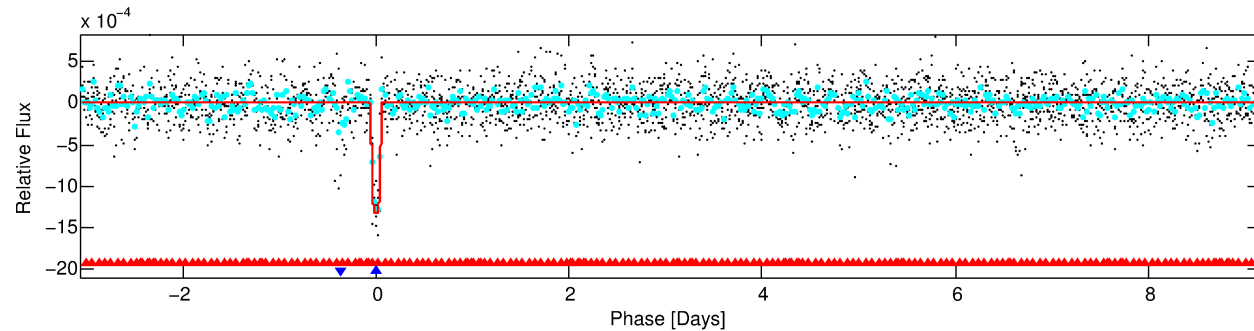
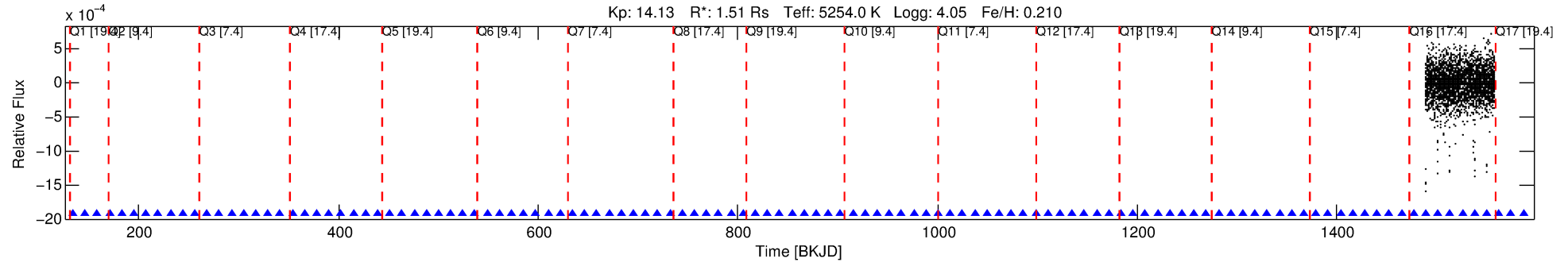
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007908367-02

No Significant Match Found

DV One-Page Summary

KIC: 7908367 Candidate: 2 of 2 Period: 12.206 d
KOI: K06166.01 Corr: 0.957



DV Fit Results:

Period = 12.20572 [0.00007] d
Epoch = 134.1336 [0.0071] BKJD
Rp/R* = 0.0392 [0.0088]
a/R* = 20.52 [18.19]
b = 0.86 [0.28]
Seff = 151.65 [125.12]
Teff = 895 [185] K
Rp = 6.47 [3.27] Re
a = 0.1016 [0.0490] AU
Ag = 20.44 [23.52] [0.83 σ]
Teffp = 2942 [611] K [3.20 σ]

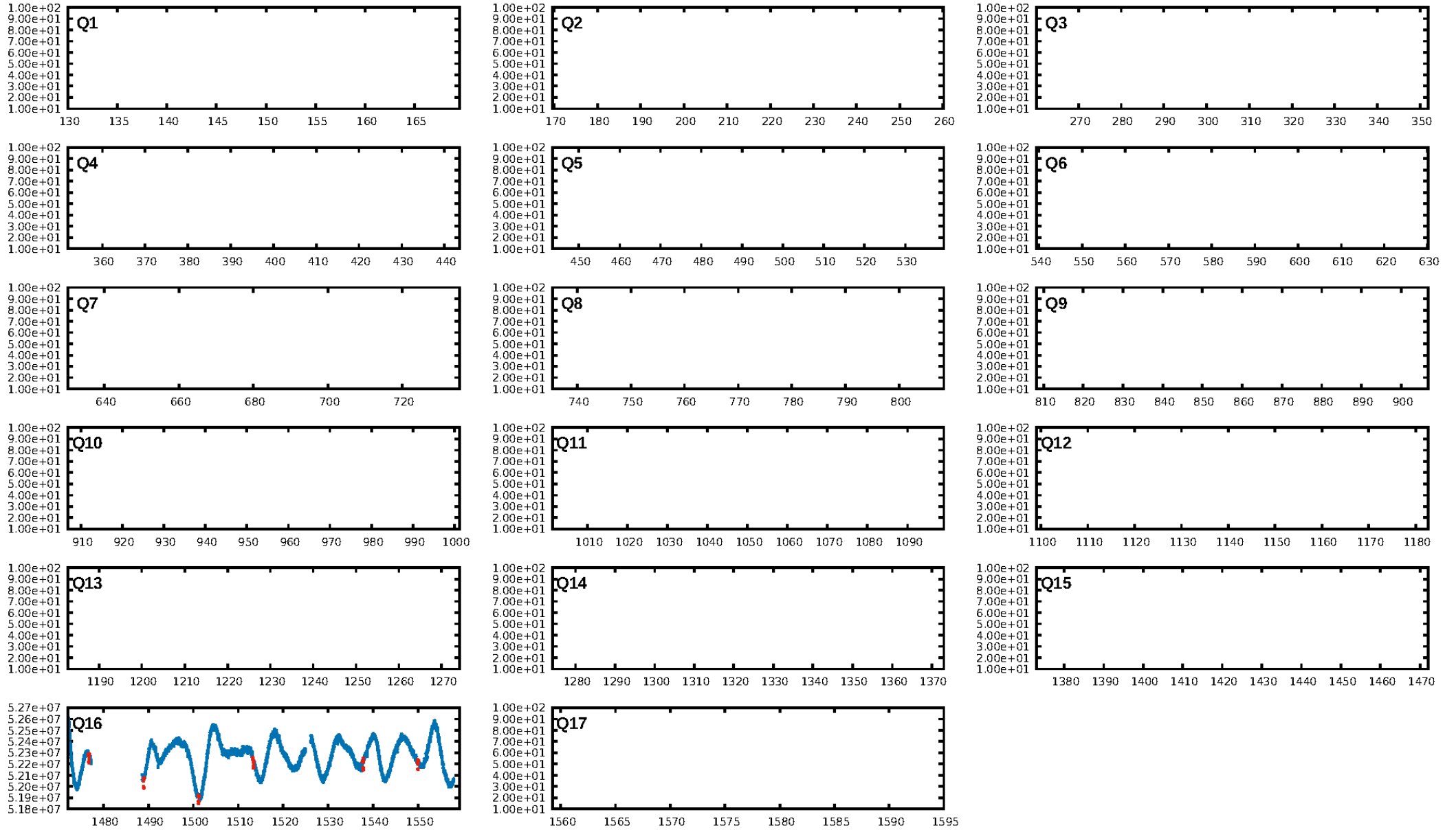
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [38.65 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 47.7%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 4.03e-61
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.766
Centroid-sig: 65.6%
Centroid-so: 0.145 arcsec [0.43 σ]
OotOffset-rm: 0.101 arcsec [0.89 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 0.226 arcsec [2.00 σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

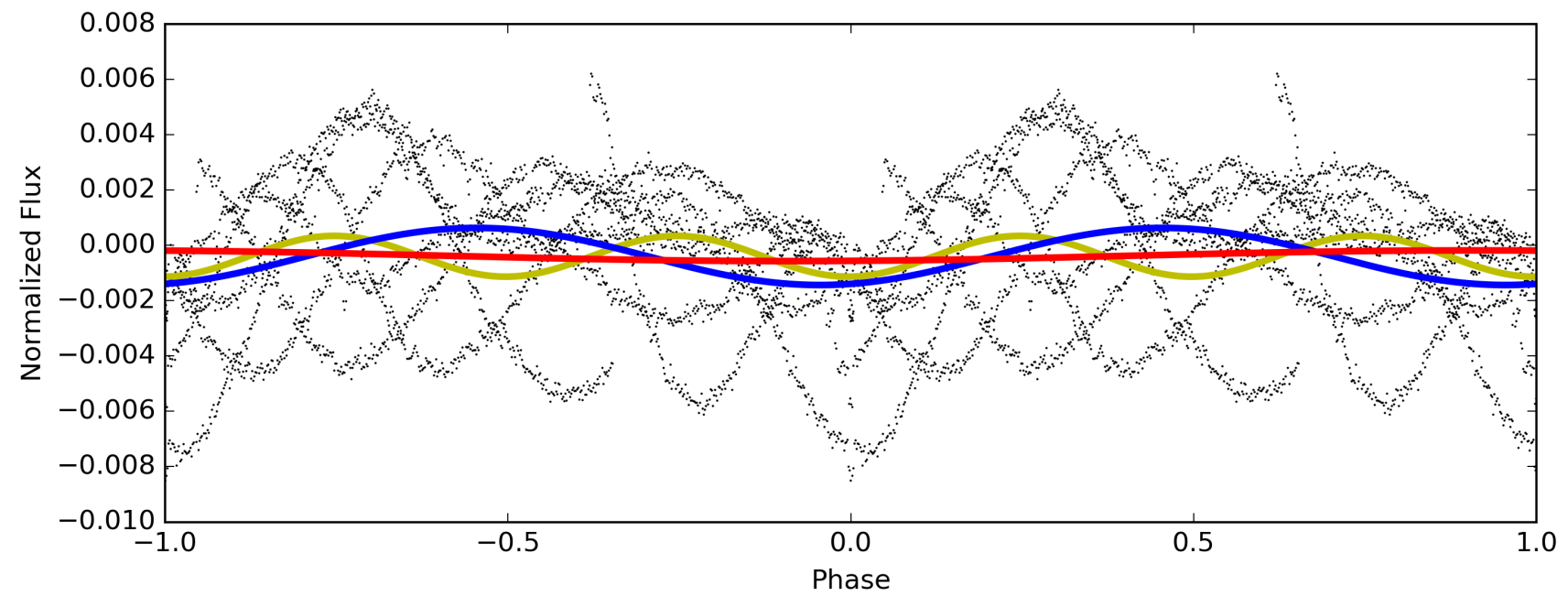
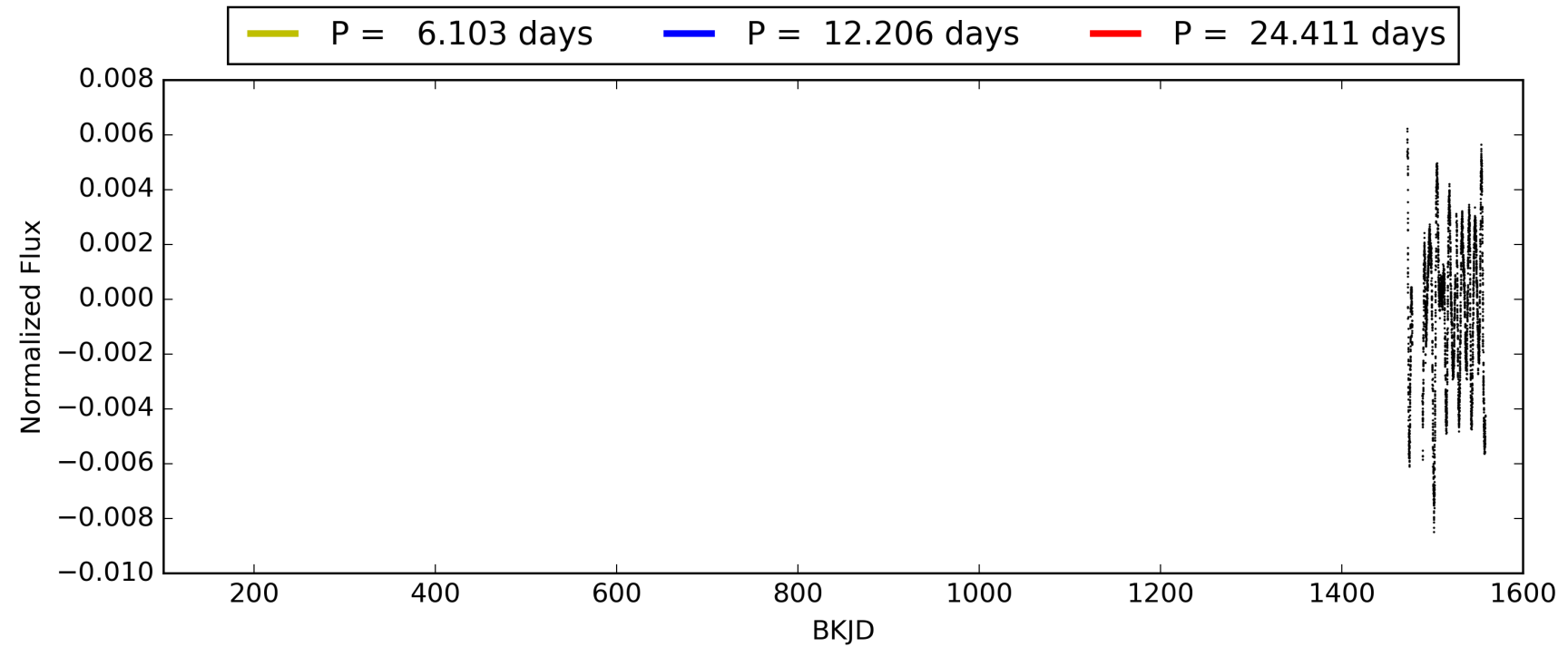
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:39:46 Z

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

TCE 007908367-02, PDC Light Curves

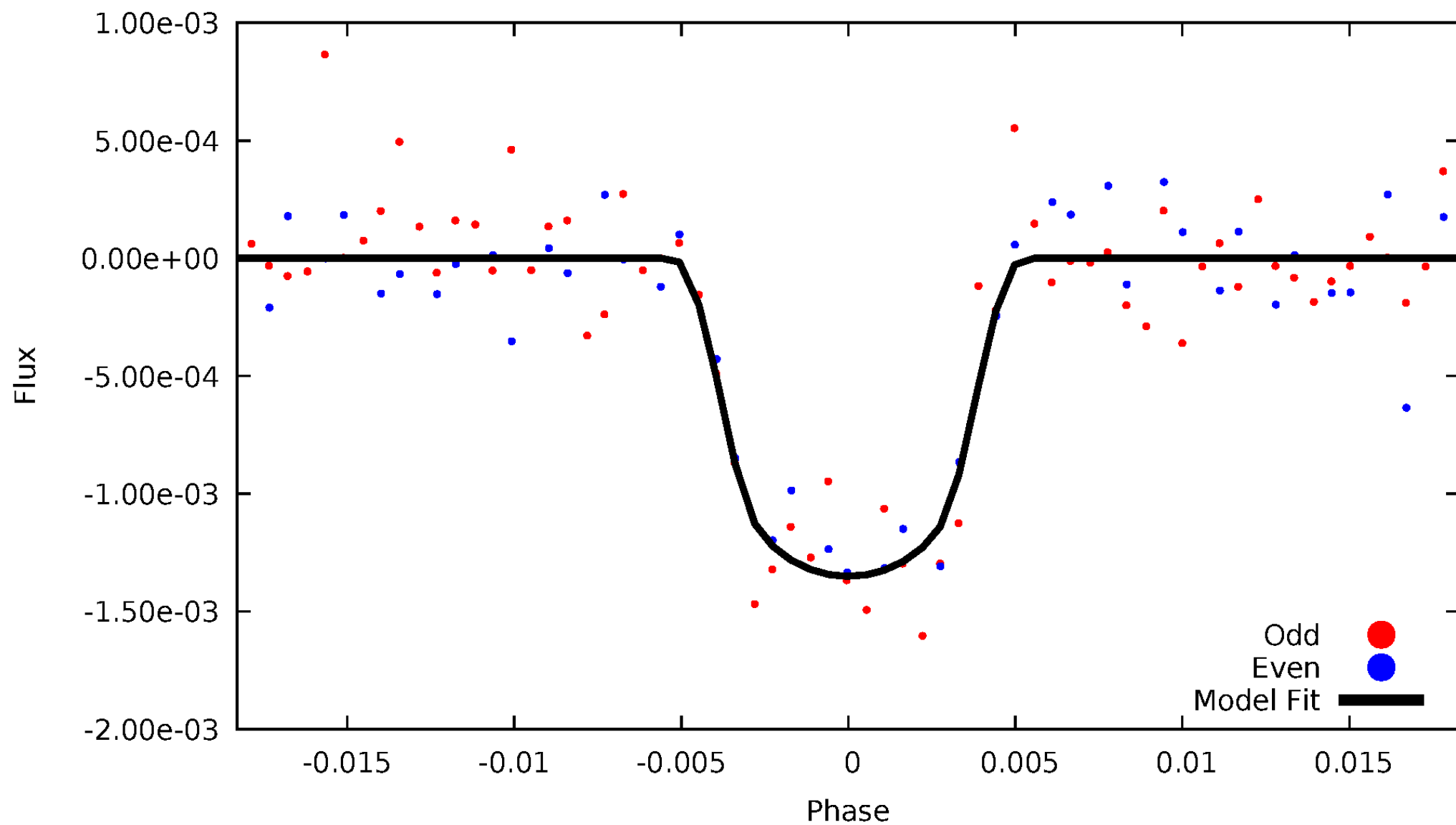


TCE 007908367-02



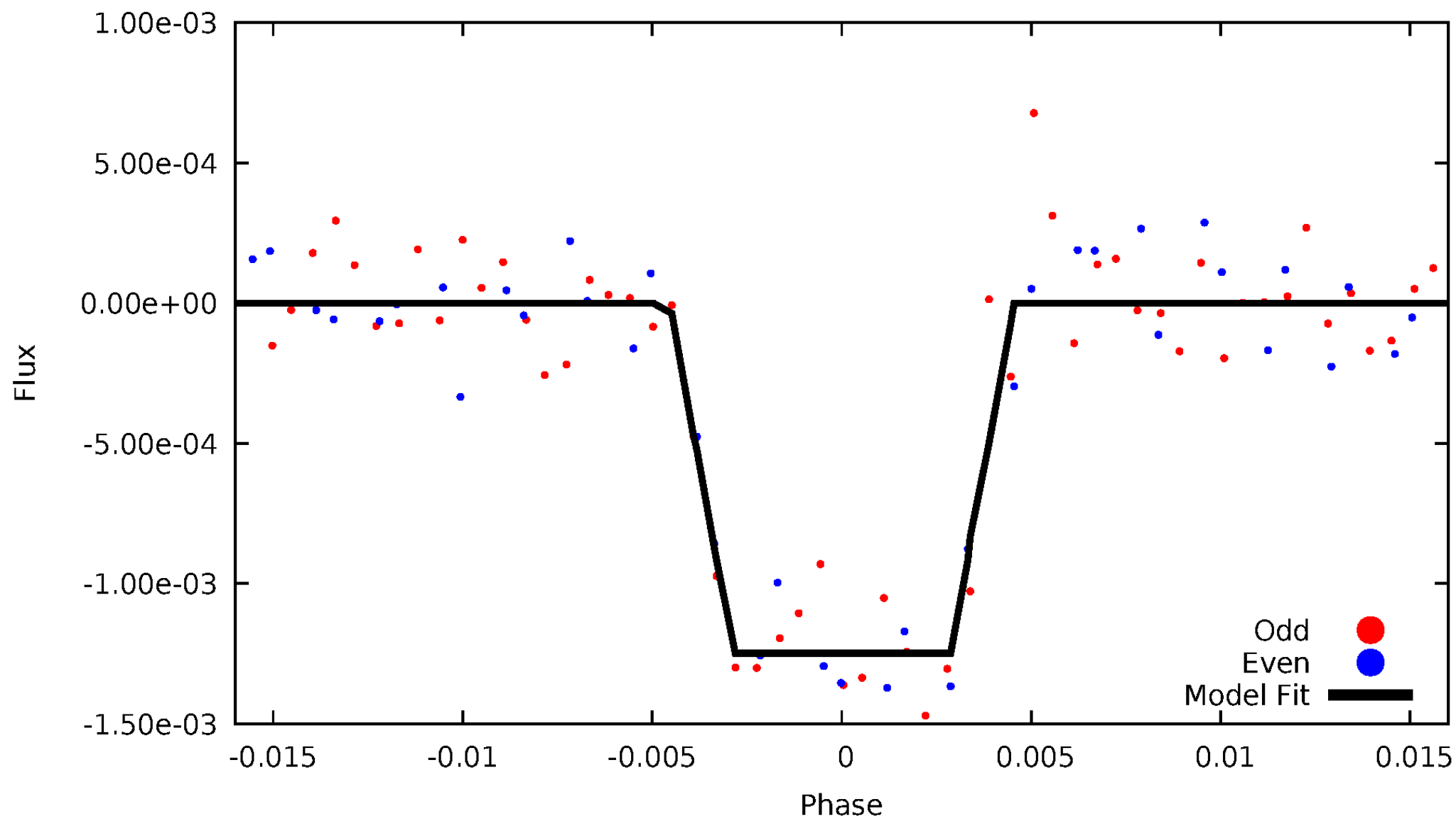
DV Odd/Even

TCE 007908367-02



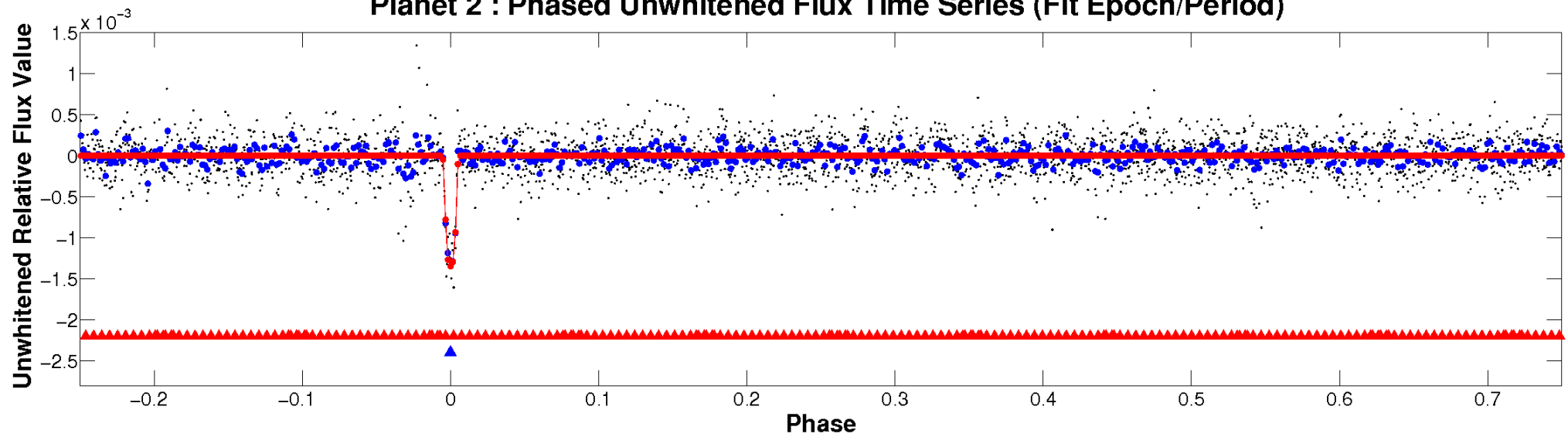
ALT Odd/Even

TCE 007908367-02

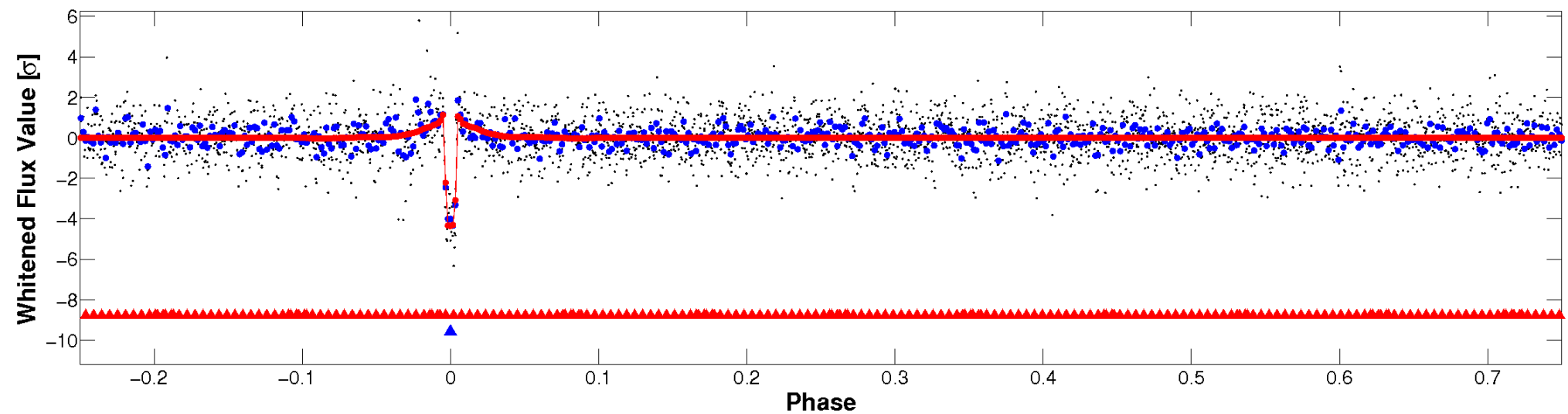


Non-Whitened Vs. Whitened Light Curve

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

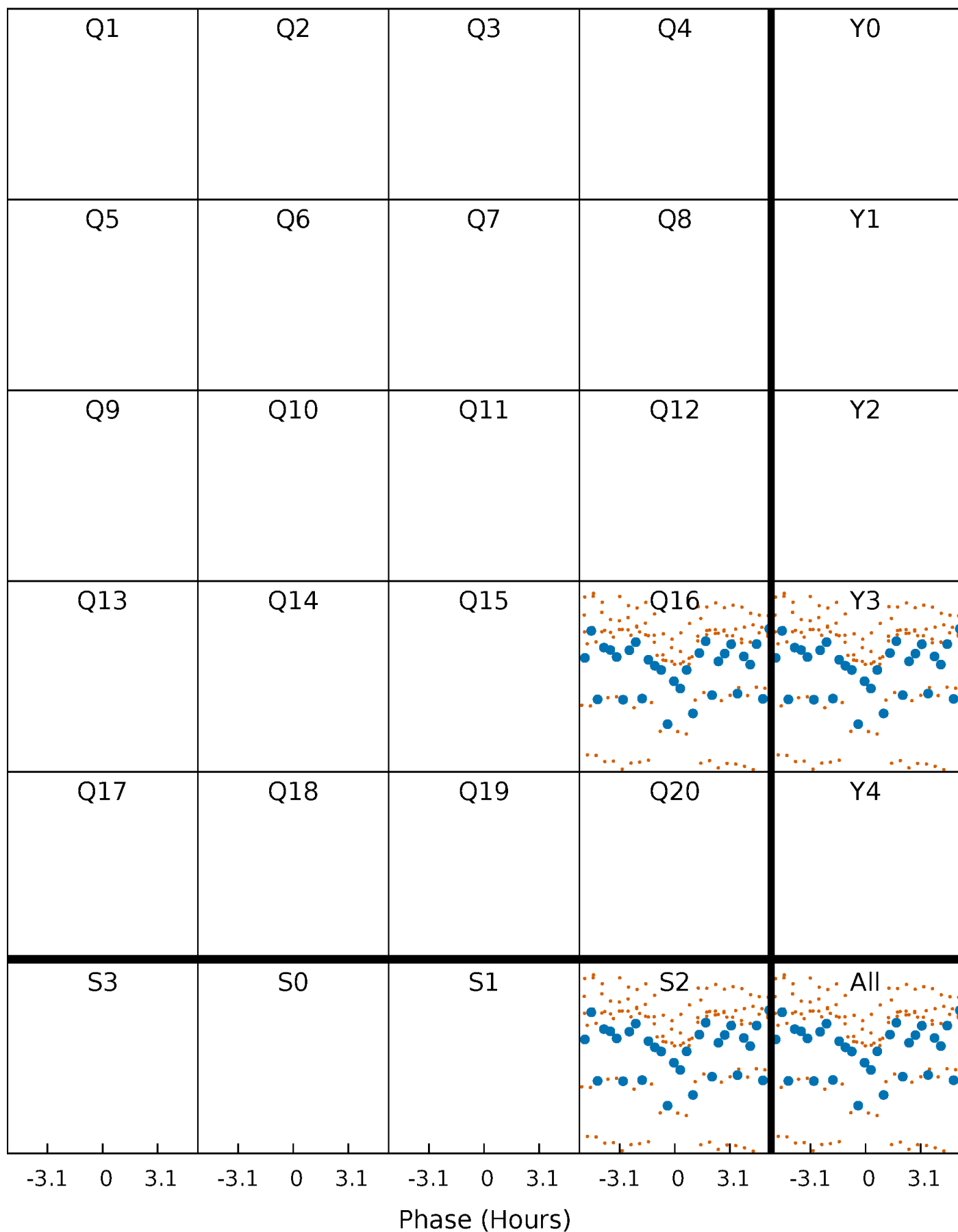


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



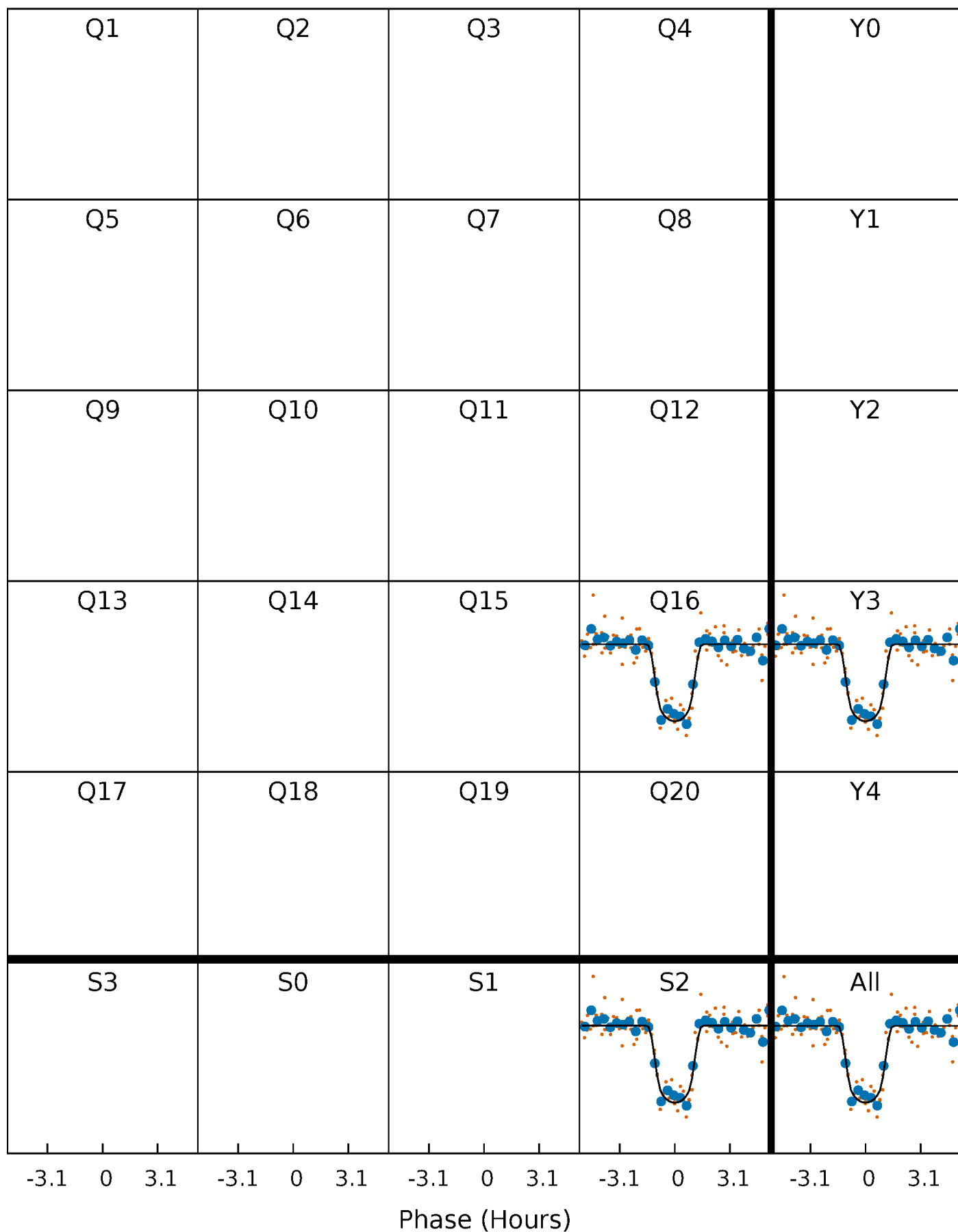
PDC Quarter-Phased Transit Curves

TCE 007908367-02 P= 12.205716 Days $T_0=134.133581$ (BKJD)



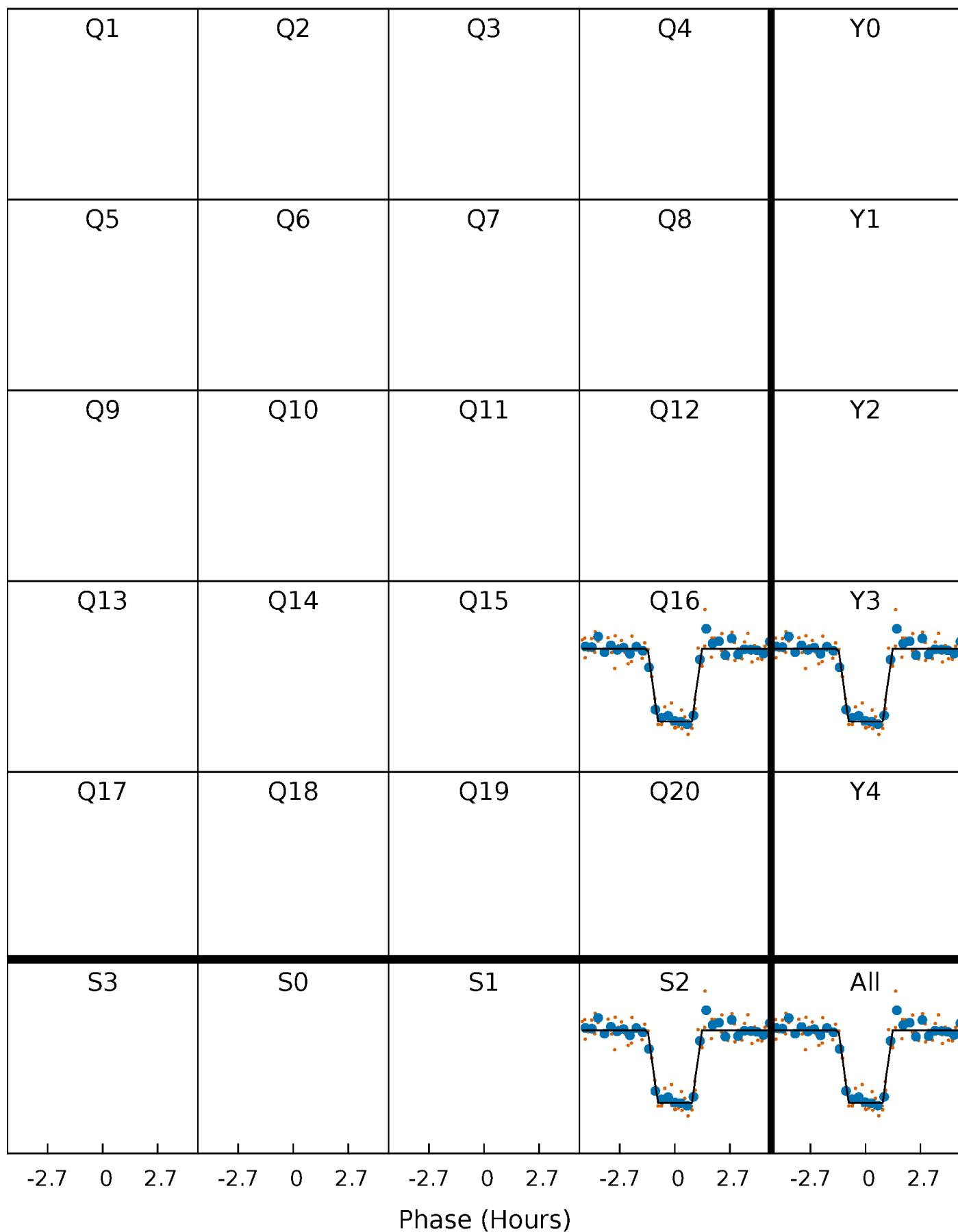
DV Quarter-Phased Transit Curves

TCE 007908367-02 P= 12.205716 Days $T_0=134.133581$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

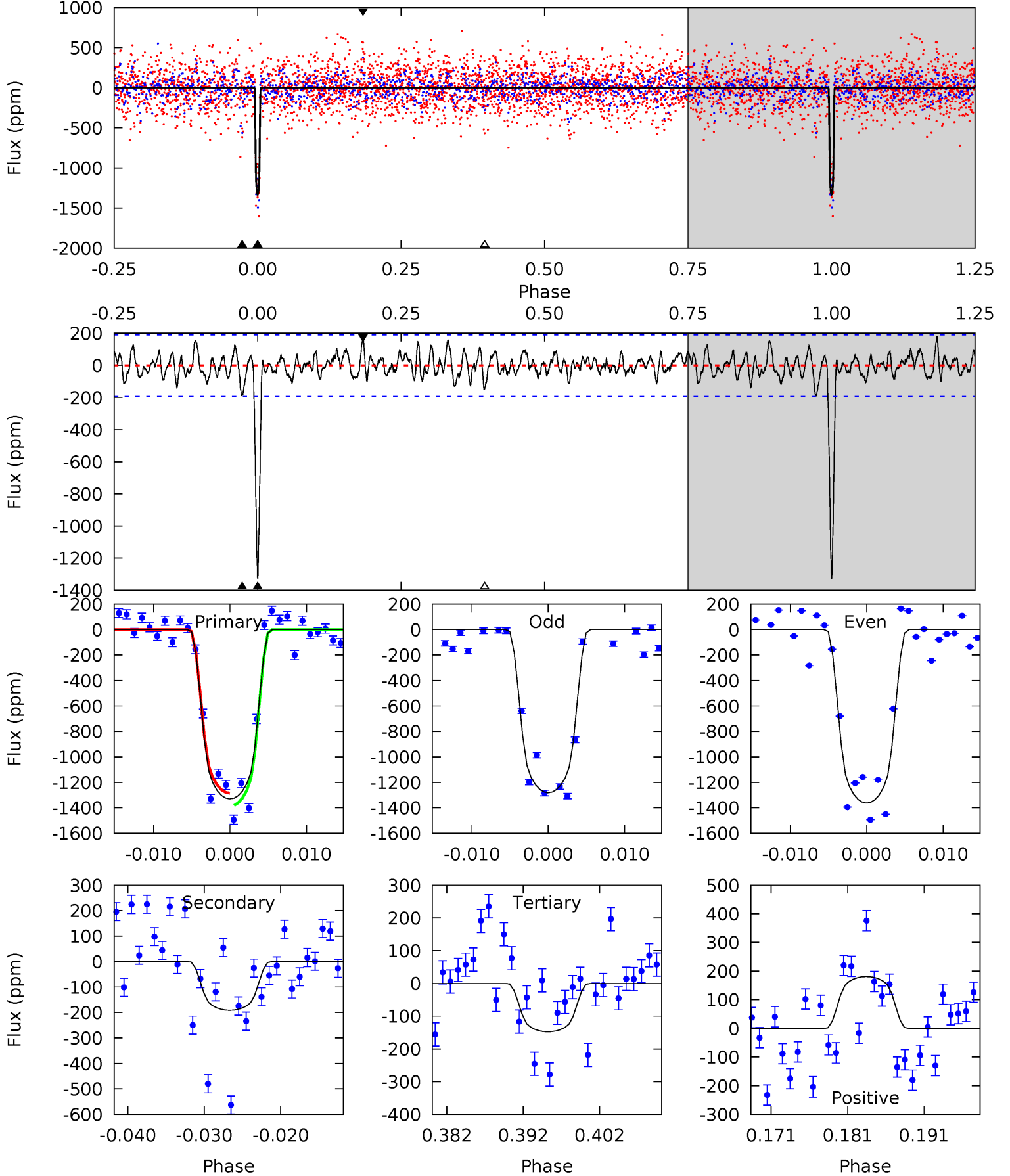
TCE 007908367-02 P= 12.205402 Days $T_0=134.168518$ (BKJD)



DV Model-Shift Uniqueness Test

007908367-02, P = 12.205716 Days, E = 134.133581 Days

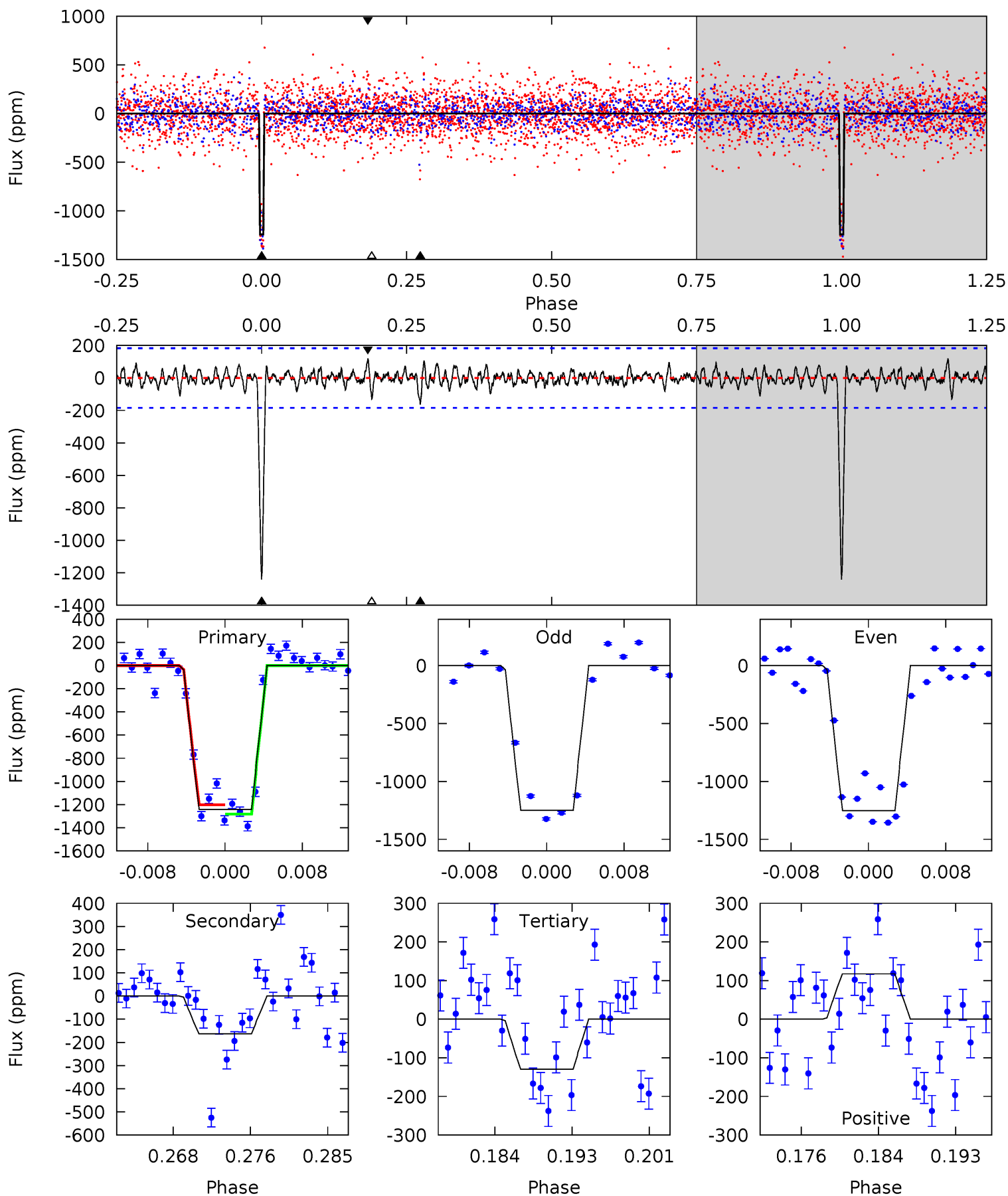
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.8	5.01	3.87	4.74	5.03	2.57	1.44	31.0	30.1	1.14	0.27	1.04	0.99	0.12	1.25



Alt Model-Shift Uniqueness Test

007908367-02, $P = 12.205402$ Days, $E = 134.168518$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.2	4.50	3.56	3.23	5.06	2.64	0.94	30.6	30.9	0.94	1.27	0.03	0.99	0.09	1.12



Stellar Parameters For KIC 007908367

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5254^{+203}_{-166}	$4.050^{+0.490}_{-0.245}$	$0.210^{+0.200}_{-0.250}$	$1.514^{+0.623}_{-0.685}$	$0.937^{+0.087}_{-0.096}$	$0.380^{+1.607}_{-0.229}$
	+4%/-3%	+12%/-6%	+95%/-119%	+41%/-45%	+9%/-10%	+422%/-60%
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 007908367-02 / KOI 6166.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-191 ± 38	$6.22^{+2.17}_{-2.13}$	1241^{+140}_{-179}	3543^{+357}_{-266}	28^{+38}_{-13}
Alt.	-163 ± 36	$5.45^{+2.11}_{-1.68}$	1229^{+148}_{-150}	3589^{+386}_{-292}	29^{+35}_{-14}

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

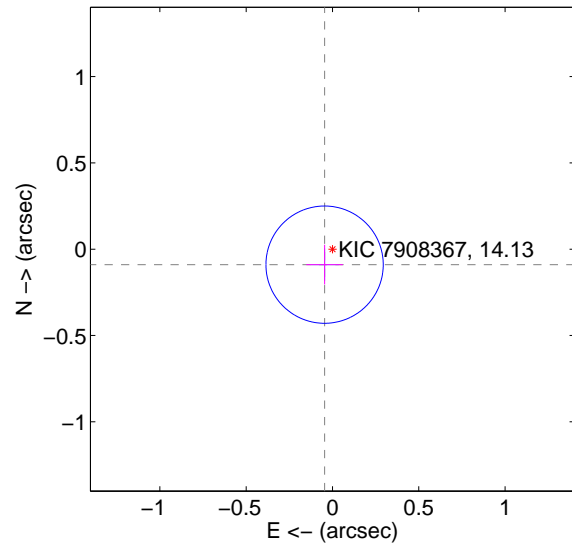
Supplemental centroid analysis for 007908367-02. Kepler magnitude: 14.13. Transit SNR 19.12

There are 1 quarters with good PRF difference image offsets

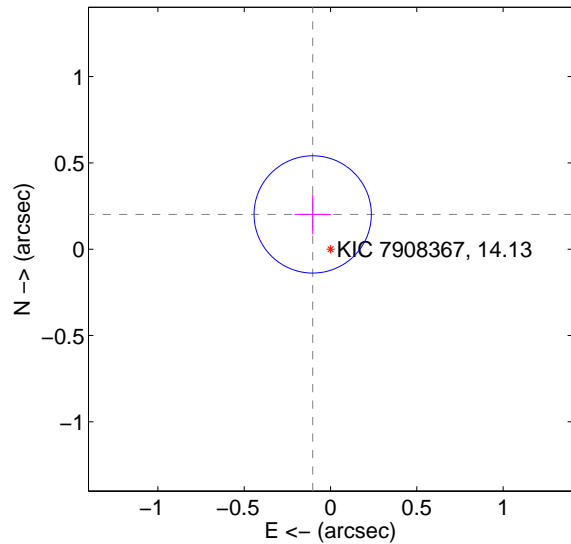
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.101 ± 0.113	0.89	0.046 ± 0.106	-0.090 ± 0.115
PRF-fit source offset from KIC position	0.226 ± 0.113	2.00	0.103 ± 0.106	0.201 ± 0.115
photometric centroid source offset	0.15 ± 0.34	0.43	0.15 ± 0.34	0.00 ± 0.40

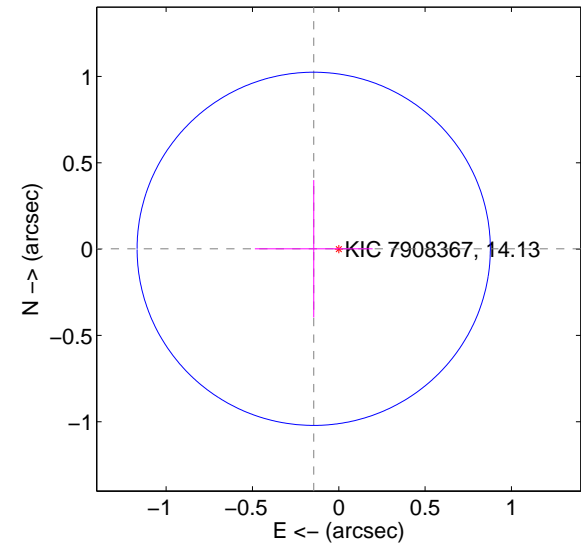
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.



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

Q13 no difference image



Q13 no OOT image



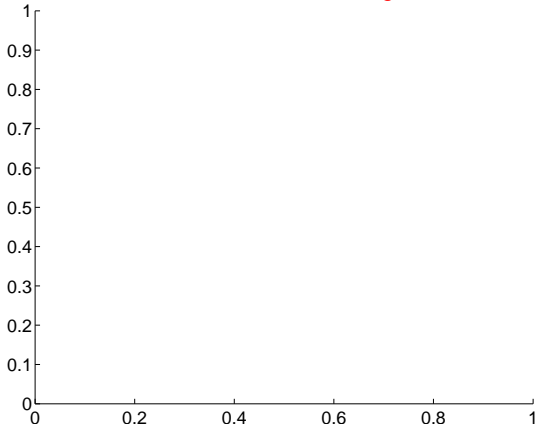
Q14 no difference image



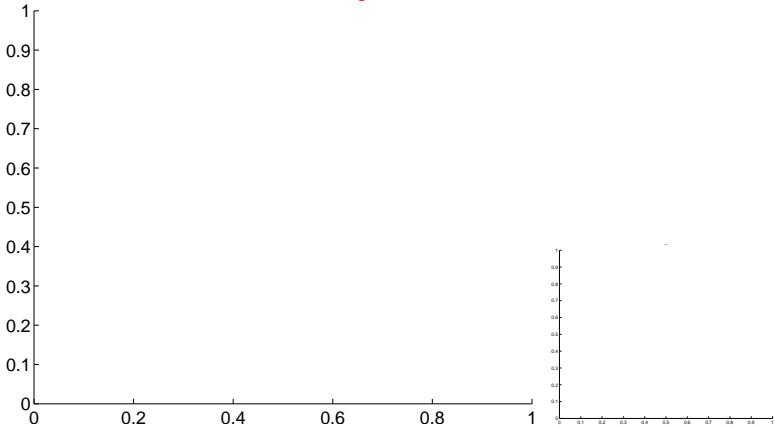
Q14 no OOT image



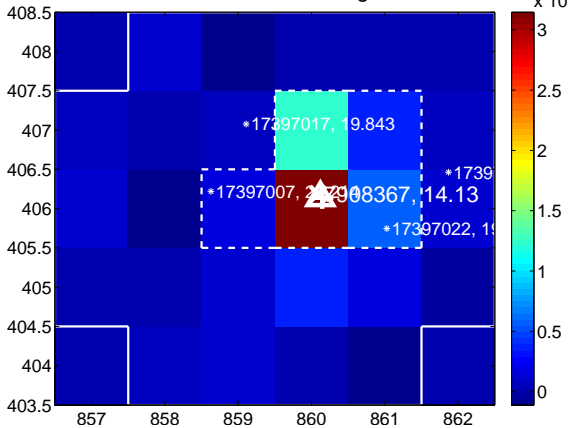
Q15 no difference image



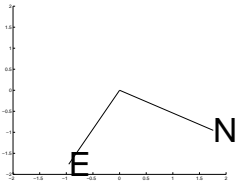
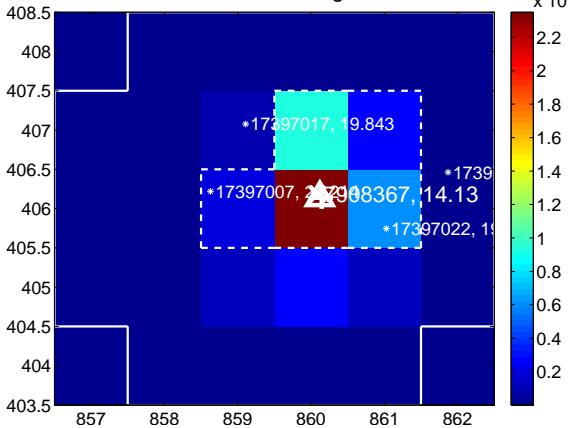
Q15 no OOT image



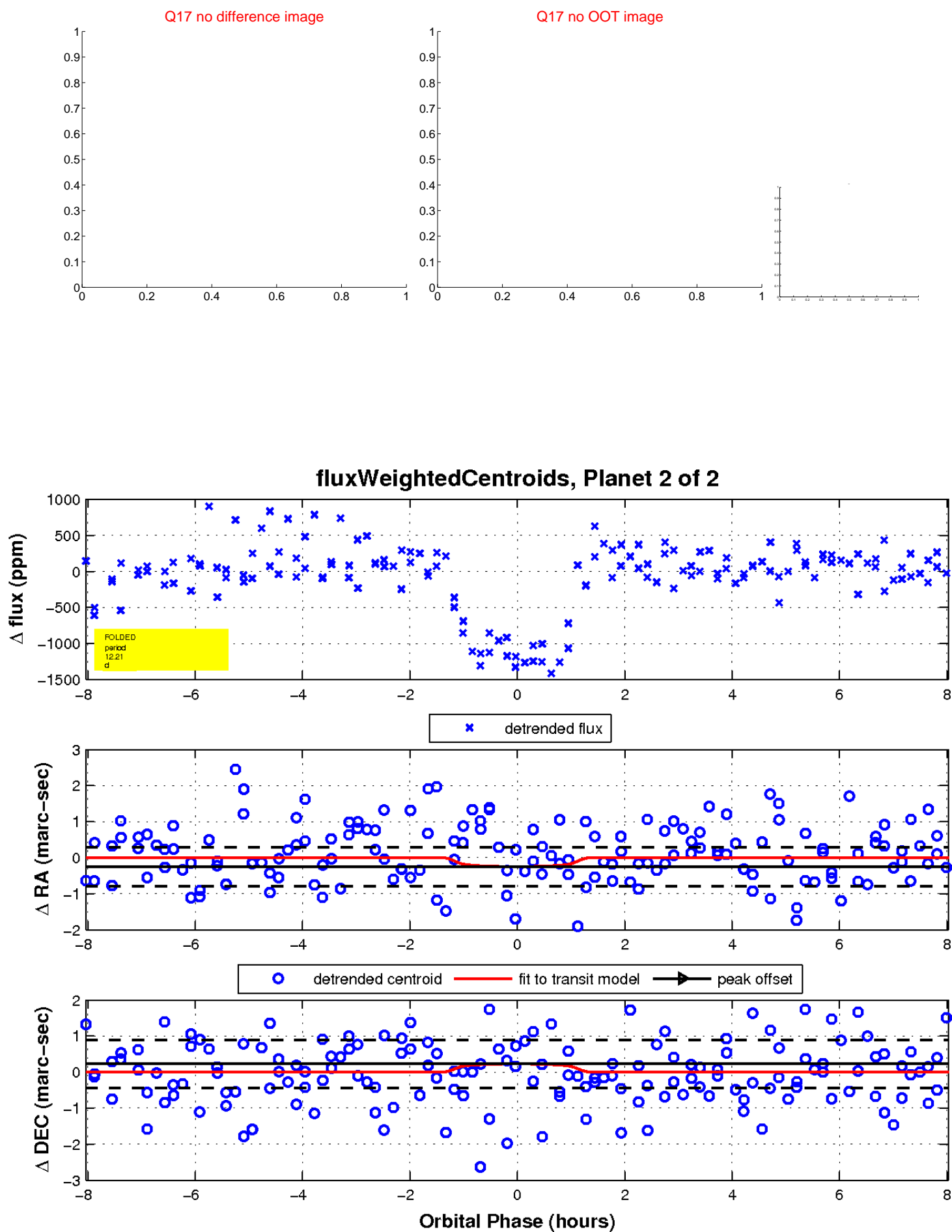
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

