

KIC 011867071

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})
011867071-01	OBS	6247.01	3.963799	135.027248	24934.4	3.105	795.0	734.3	1.18	6617	28.61	881.68
011867071-02	OBS	No	3.963792	133.224536	2340.5	2.500	101.0	-1.0	1.18	6617	5.75	881.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011867071-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_FEW_DIFFS
011867071-02	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.

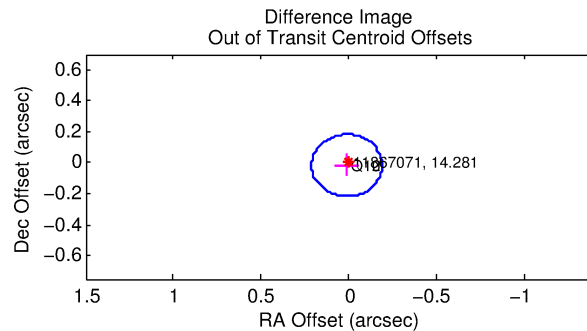
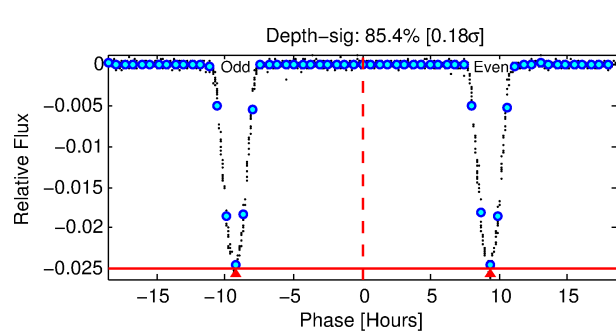
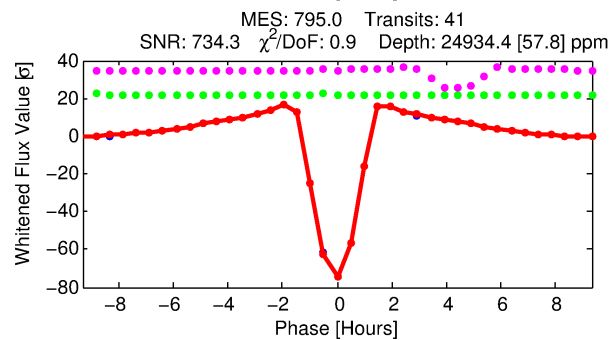
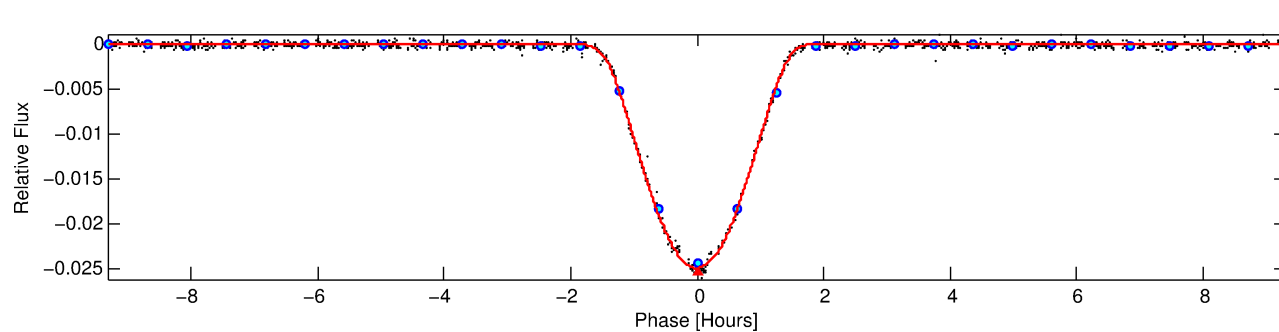
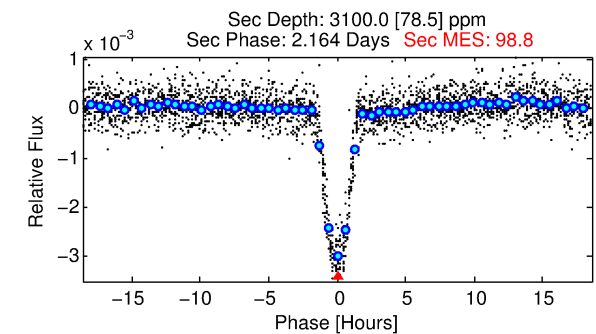
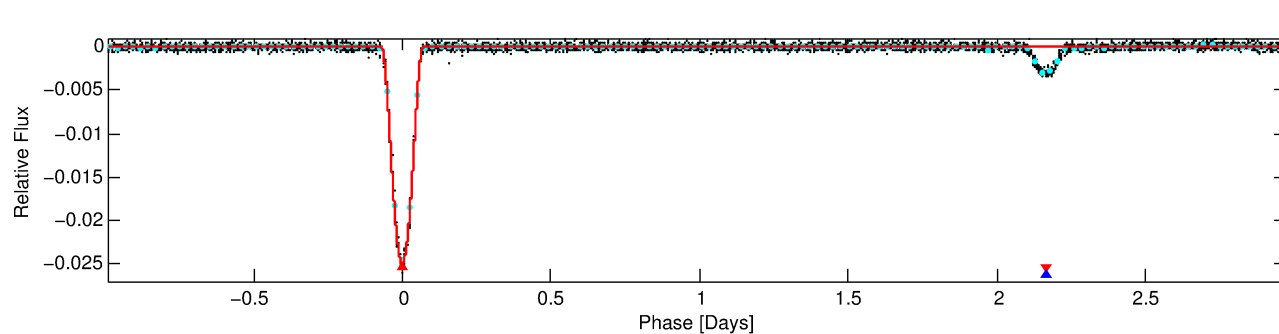
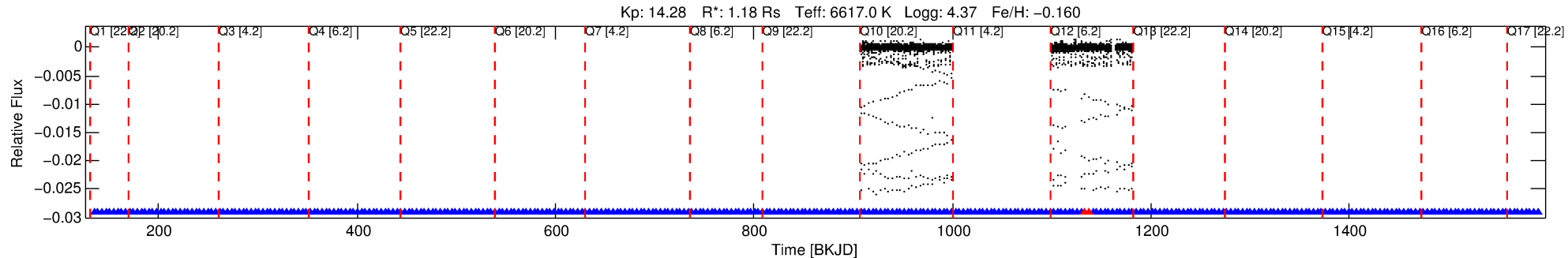
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011867071-01

No Significant Match Found

DV One-Page Summary

KIC: 11867071 Candidate: 1 of 2 Period: 3.964 d
KOI: K06247.01 Corr: 0.993



DV Fit Results:

Period = 3.96380 [0.00000] d
Epoch = 135.0272 [0.0002] BKJD
Rp/R* = 0.2221 [0.0104]
a/R* = 7.48 [0.05]
b = 0.96 [0.02]
Seff = 881.68 [383.21]
Teq = 1389 [151] K
Rp = 28.60 [10.08] Re
a = 0.0521 [0.0149] AU
Ag = 5.65 [2.36] [1.97σ]
Teffp = 3313 [151] K [9.01σ]

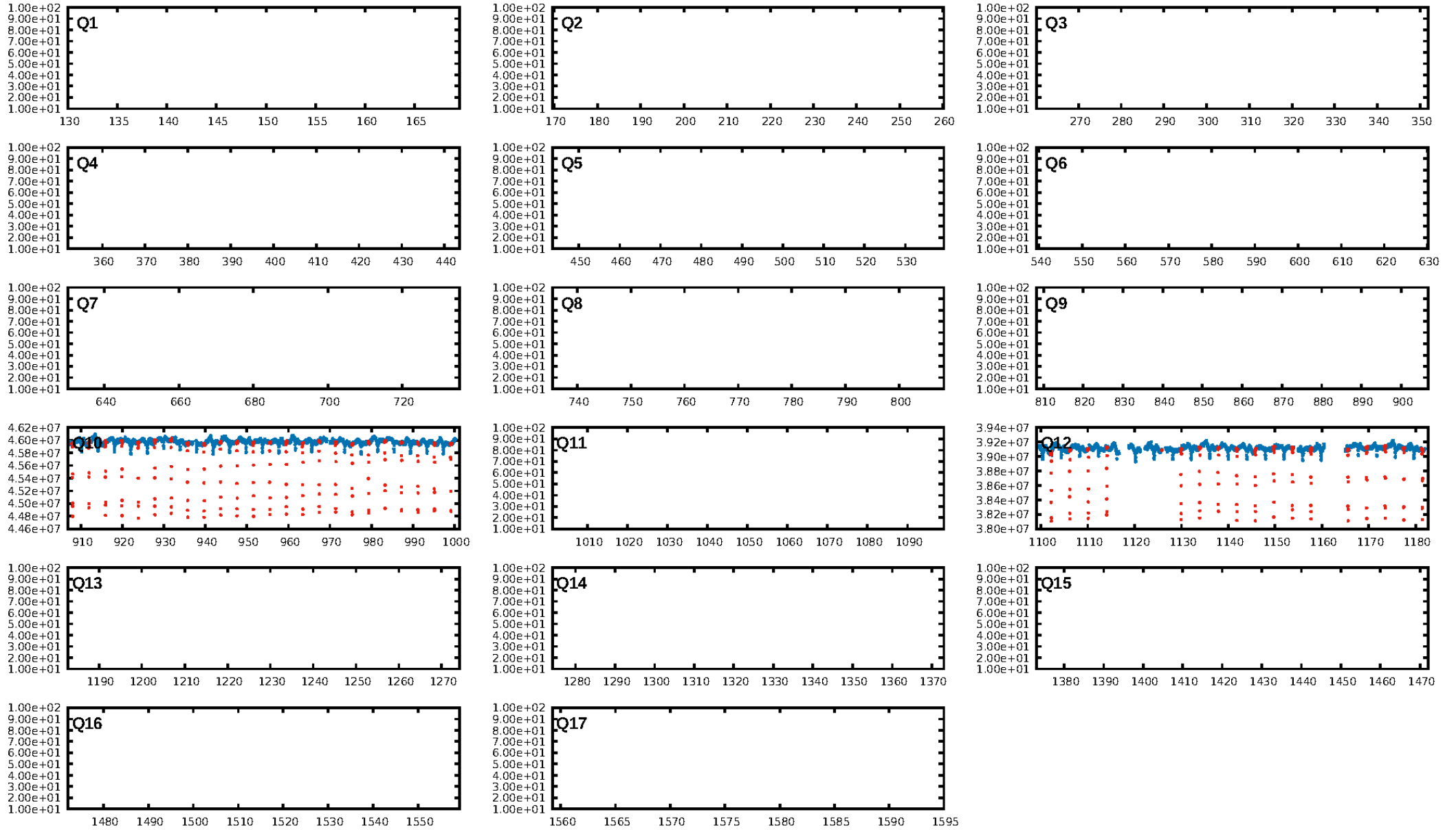
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [39/41]
GhostDiagnostic-chr: 3.722
Centroid-sig: 51.0%
Centroid-so: 0.096 arcsec [6.21σ]
OotOffset-rm: 0.021 arcsec [0.31σ]
KicOffset-rm: 0.115 arcsec [1.60σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

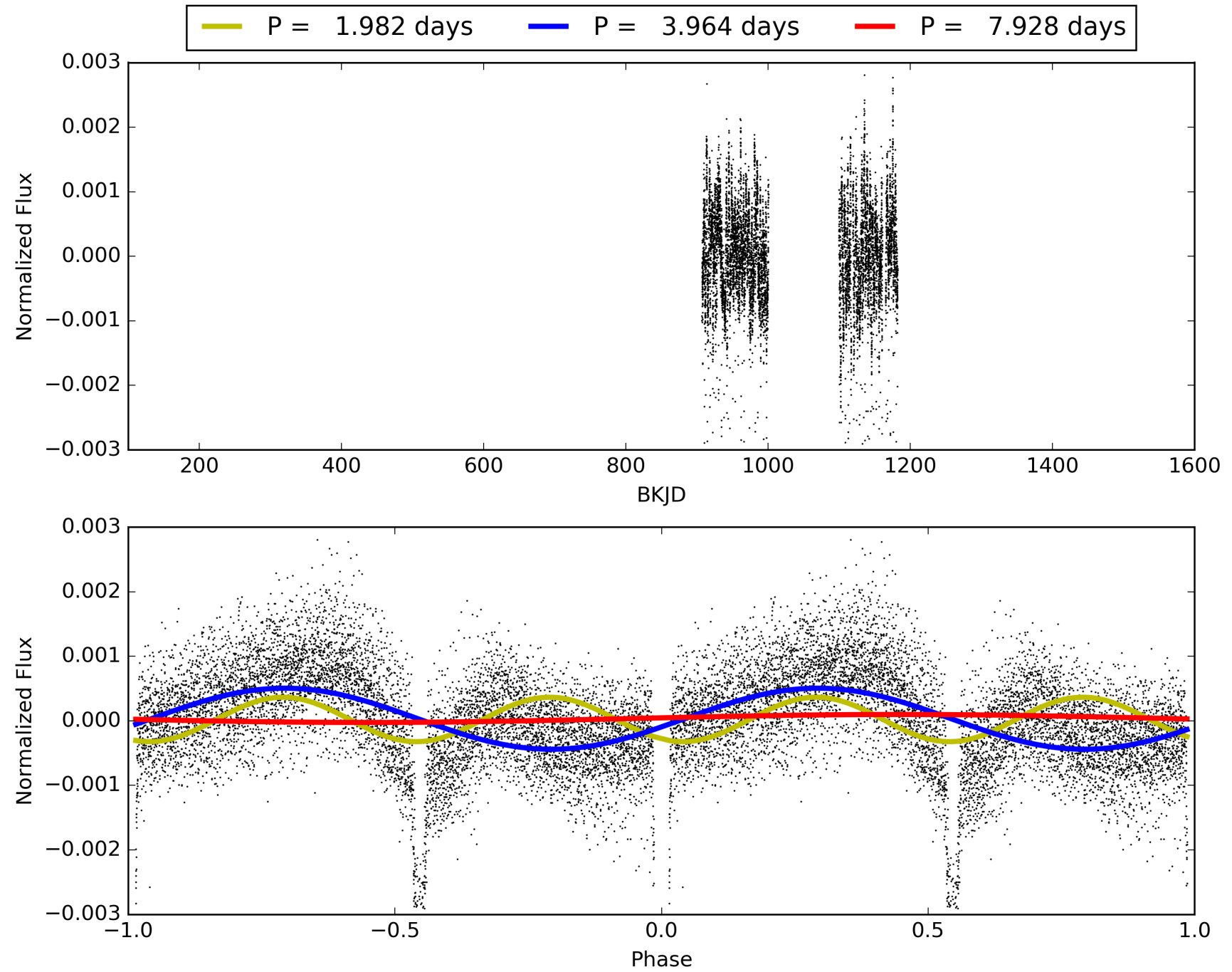
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:08:52 Z

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

TCE 011867071-01, PDC Light Curves

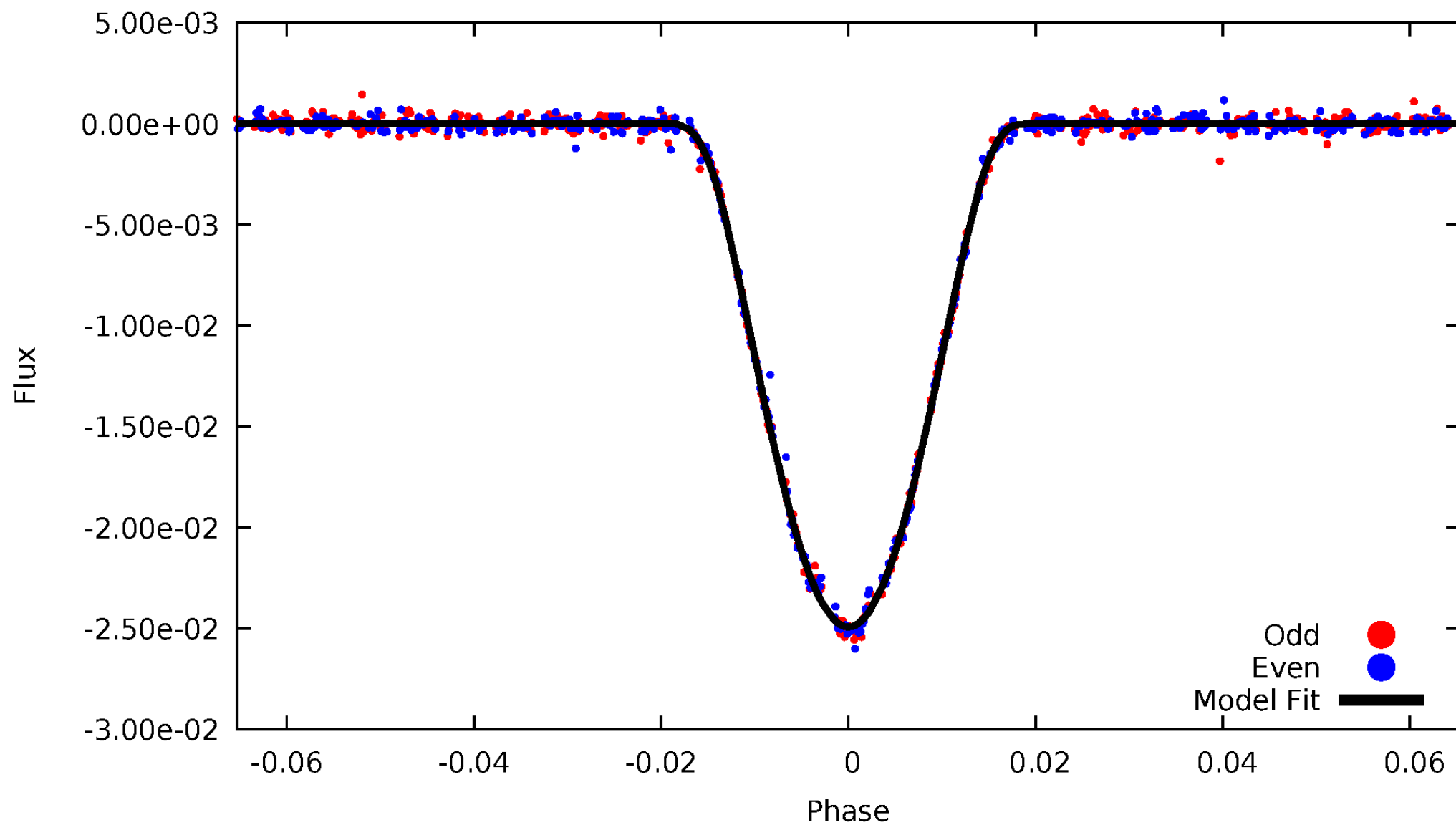


TCE 011867071-01



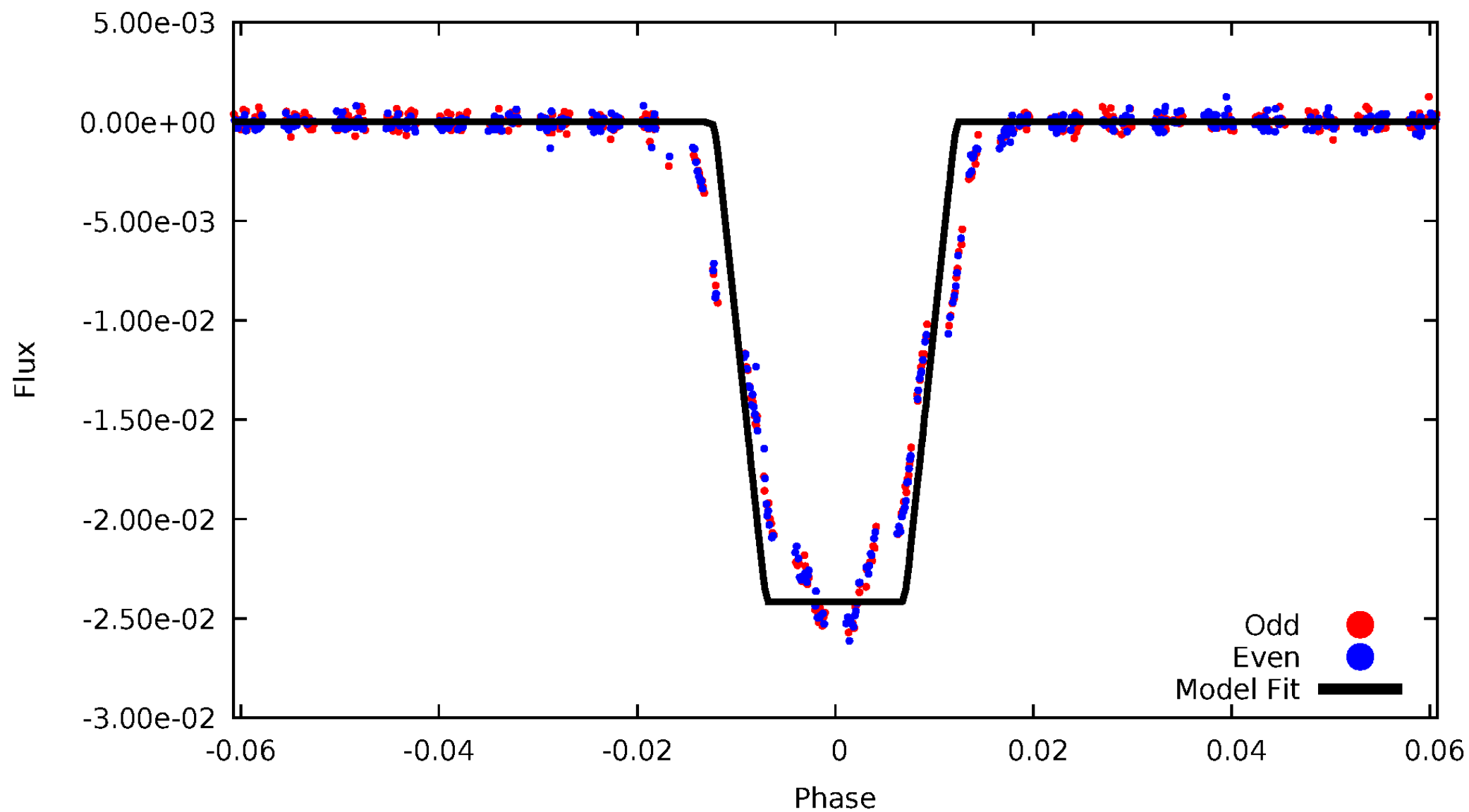
DV Odd/Even

TCE 011867071-01



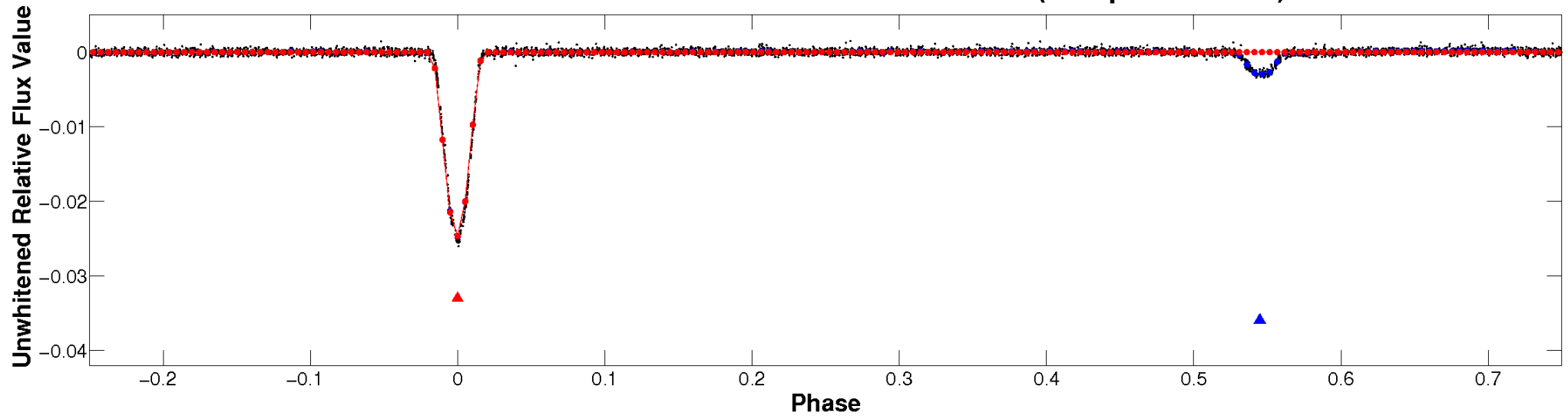
ALT Odd/Even

TCE 011867071-01

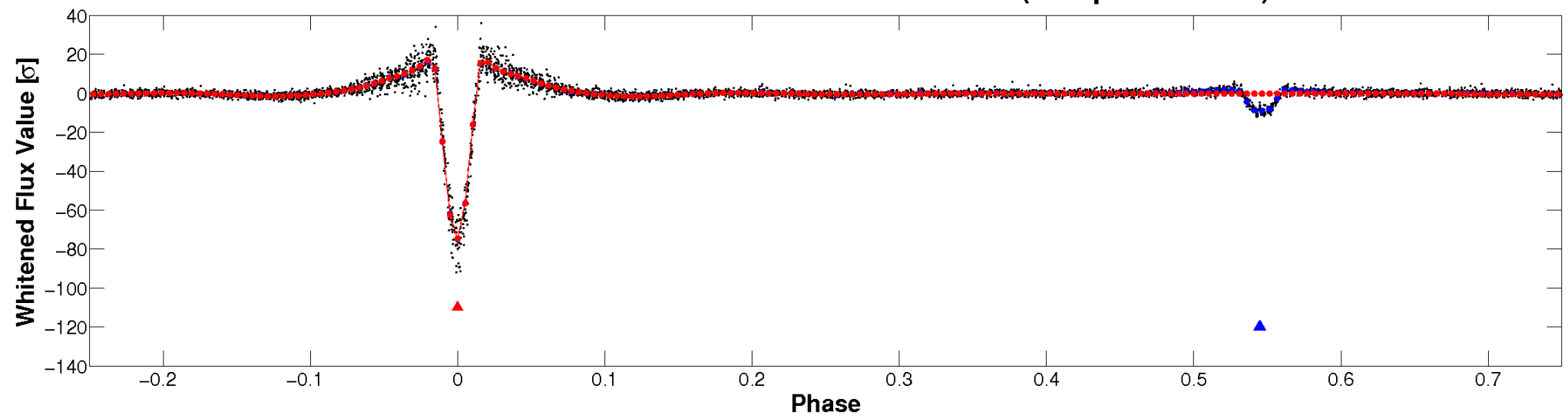


Non-Whitened Vs. Whitened Light Curve

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

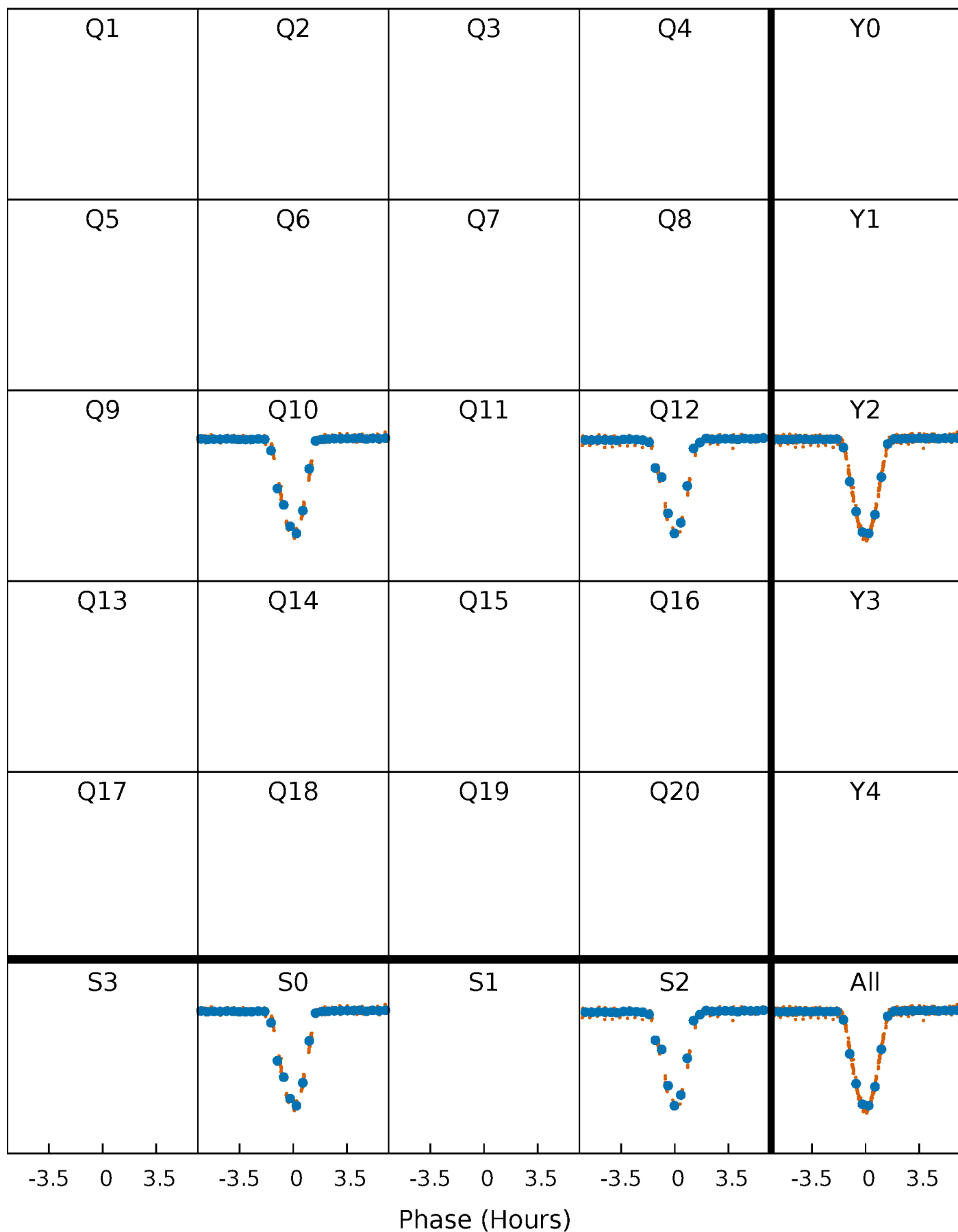


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



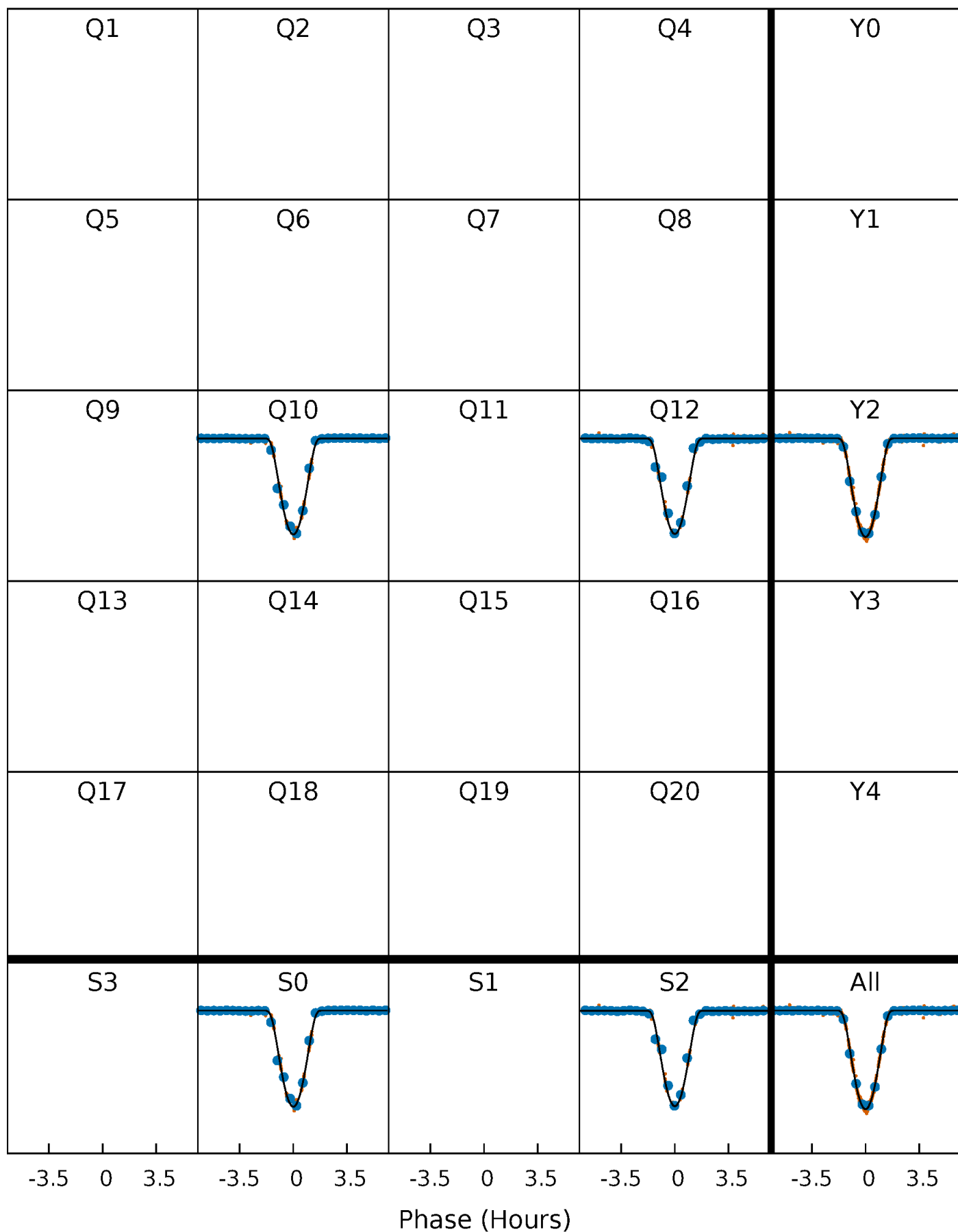
PDC Quarter-Phased Transit Curves

TCE 011867071-01 P= 3.963799 Days $T_0=135.027248$ (BKJD)



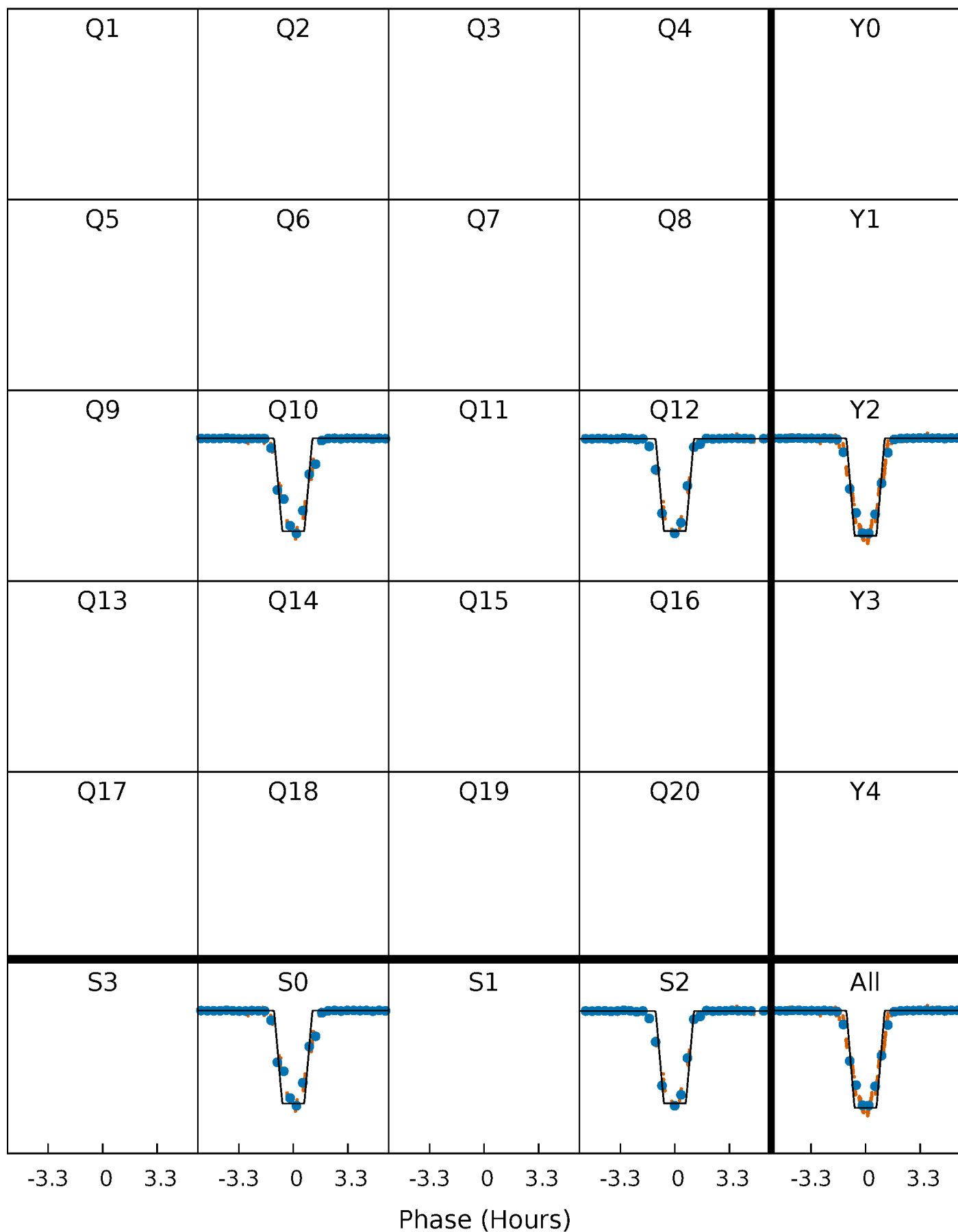
DV Quarter-Phased Transit Curves

TCE 011867071-01 P= 3.963799 Days $T_0=135.027248$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

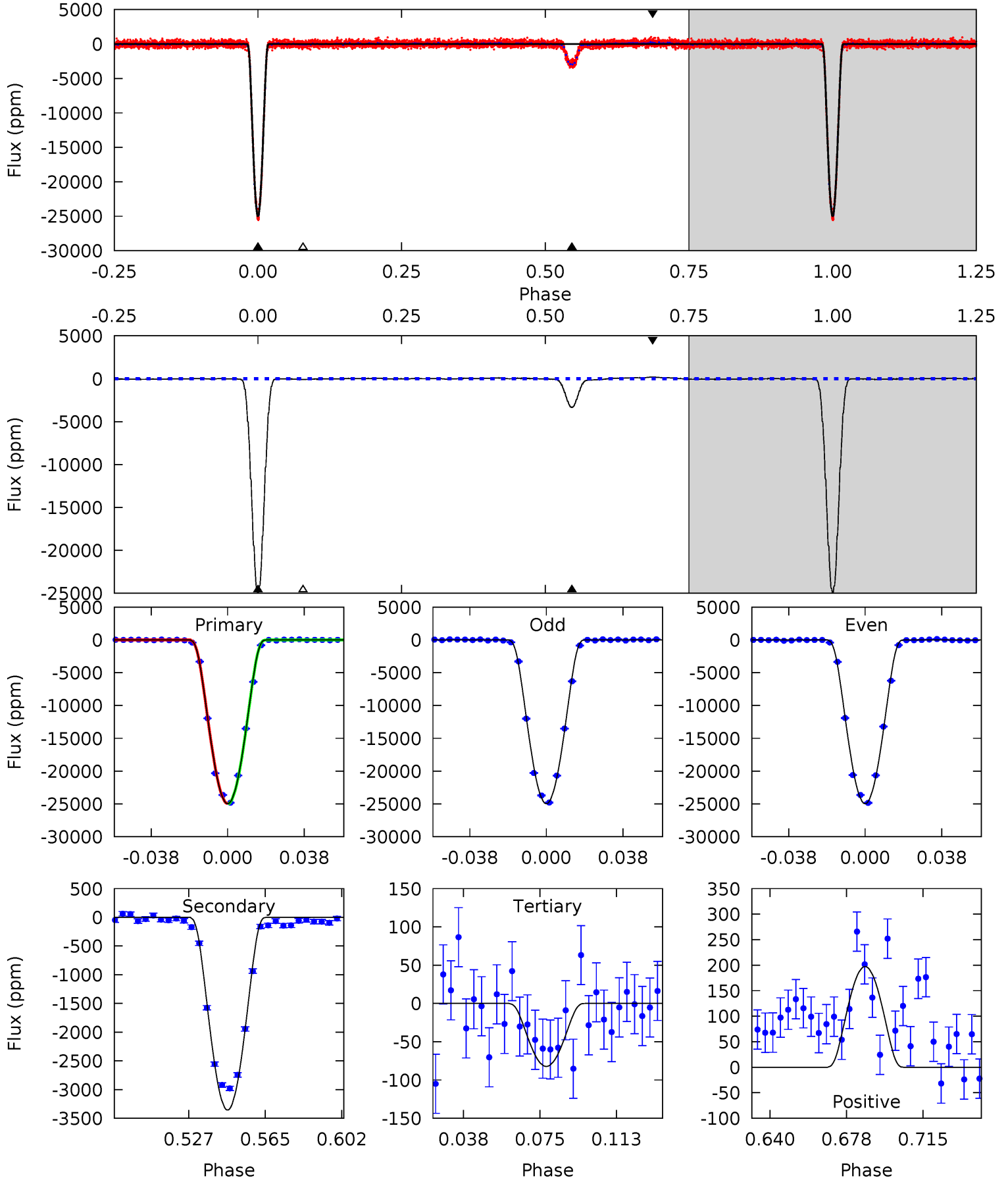
TCE 011867071-01 P= 3.963903 Days $T_0=135.003744$ (BKJD)



DV Model-Shift Uniqueness Test

011867071-01, P = 3.963799 Days, E = 135.027248 Days

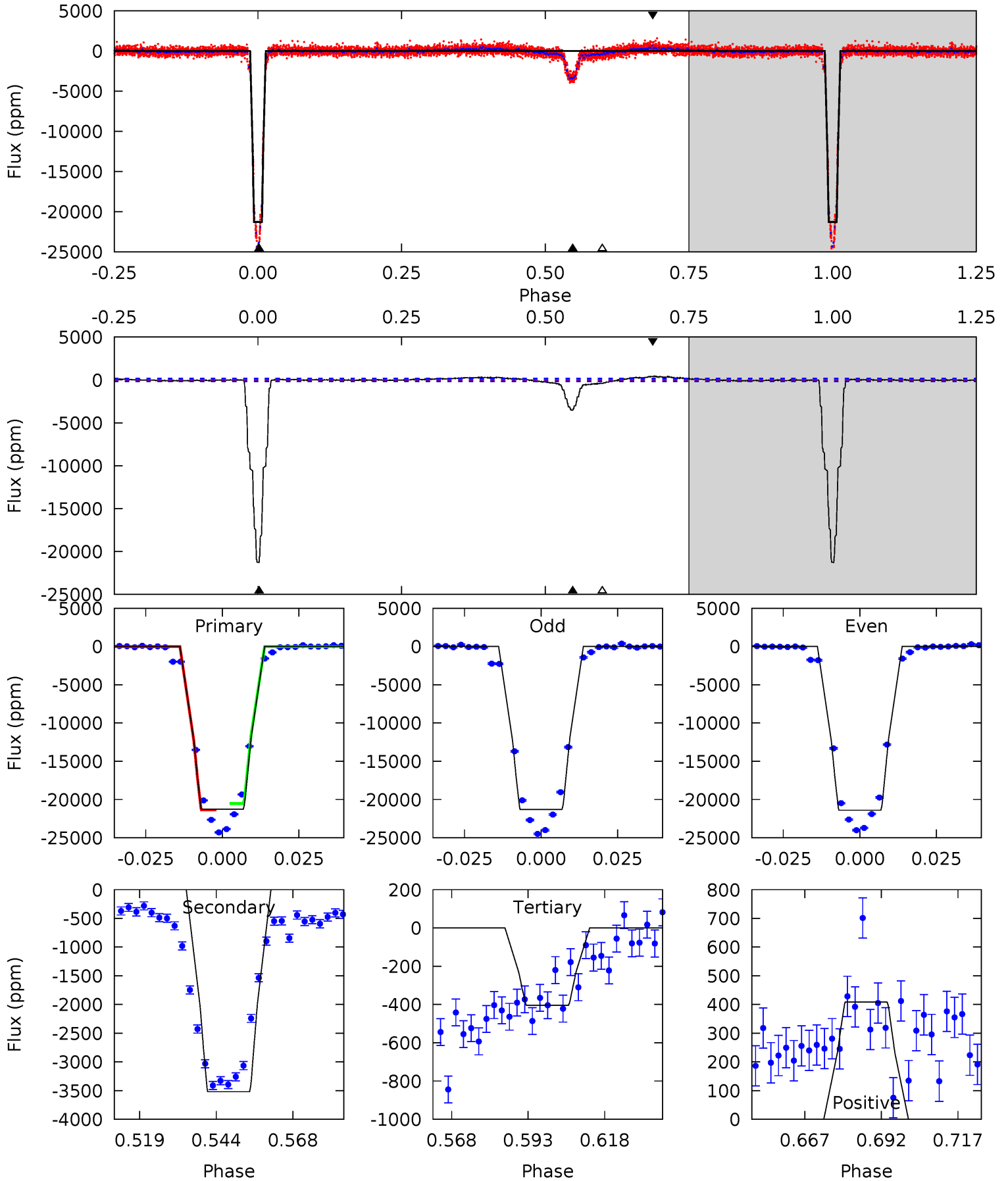
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1630	219.1	5.37	12.9	4.77	2.08	3.60	1624	1617	213.7	206.2	0.19	1.00	0.01	1.30



Alt Model-Shift Uniqueness Test

011867071-01, P = 3.963903 Days, E = 135.003744 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
678.1	112.2	12.9	13.0	4.85	2.25	5.60	665.2	665.1	99.3	99.2	1.74	1.00	0.02	0



Stellar Parameters For KIC 011867071

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6617^{+186}_{-255}	$4.373^{+0.072}_{-0.217}$	$-0.160^{+0.250}_{-0.300}$	$1.180^{+0.412}_{-0.137}$	$1.202^{+0.183}_{-0.164}$	$1.031^{+0.308}_{-0.556}$
	+3%/-4%	+2%/-5%	+156%/-188%	+35%/-12%	+15%/-14%	+30%/-54%
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 011867071-01 / KOI 6247.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3357 ± 15	$29.38^{+5.77}_{-2.91}$	1975^{+172}_{-101}	3732^{+94}_{-100}	$5.721^{+1.259}_{-1.517}$
Alt.	-3520 ± 31	$20.63^{+3.86}_{-2.29}$	1971^{+146}_{-107}	4287^{+144}_{-147}	12^{+3}_{-3}

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 $A_{obs} \gg 1.0$

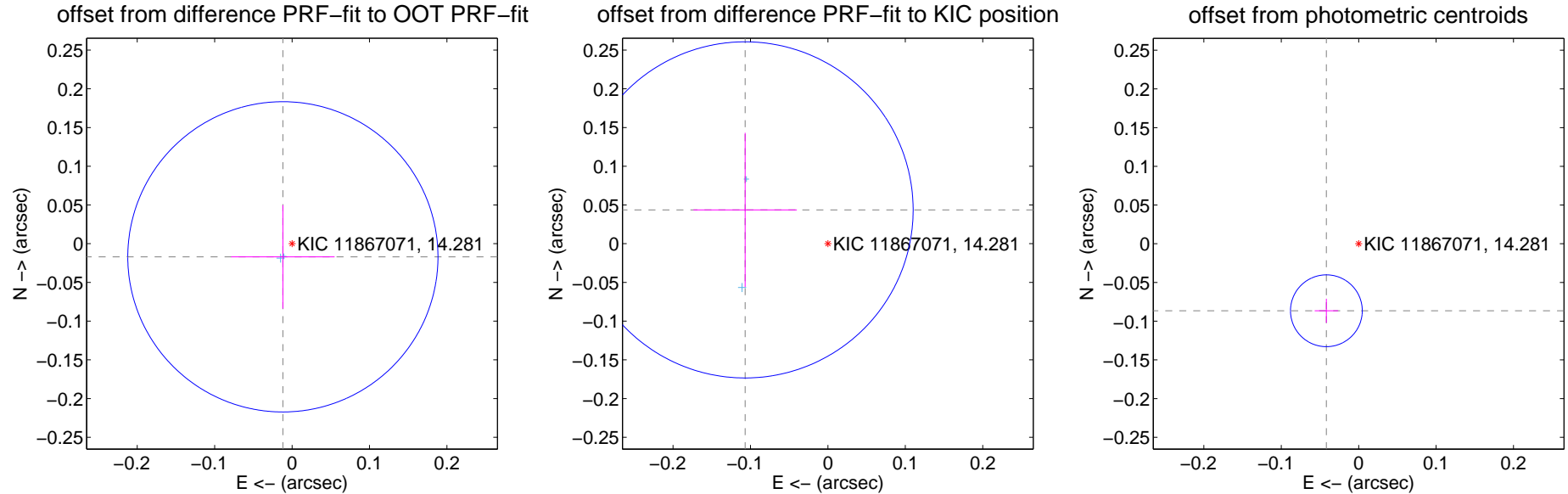
DV Centroid Data

Supplemental centroid analysis for 011867071-01. Kepler magnitude: 14.28. Transit SNR 734.33

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.021 ± 0.067	0.31	0.012 ± 0.067	-0.017 ± 0.067
PRF-fit source offset from KIC position	0.115 ± 0.072	1.60	0.107 ± 0.067	0.044 ± 0.099
photometric centroid source offset	0.10 ± 0.02	6.21	0.04 ± 0.02	-0.09 ± 0.02



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.

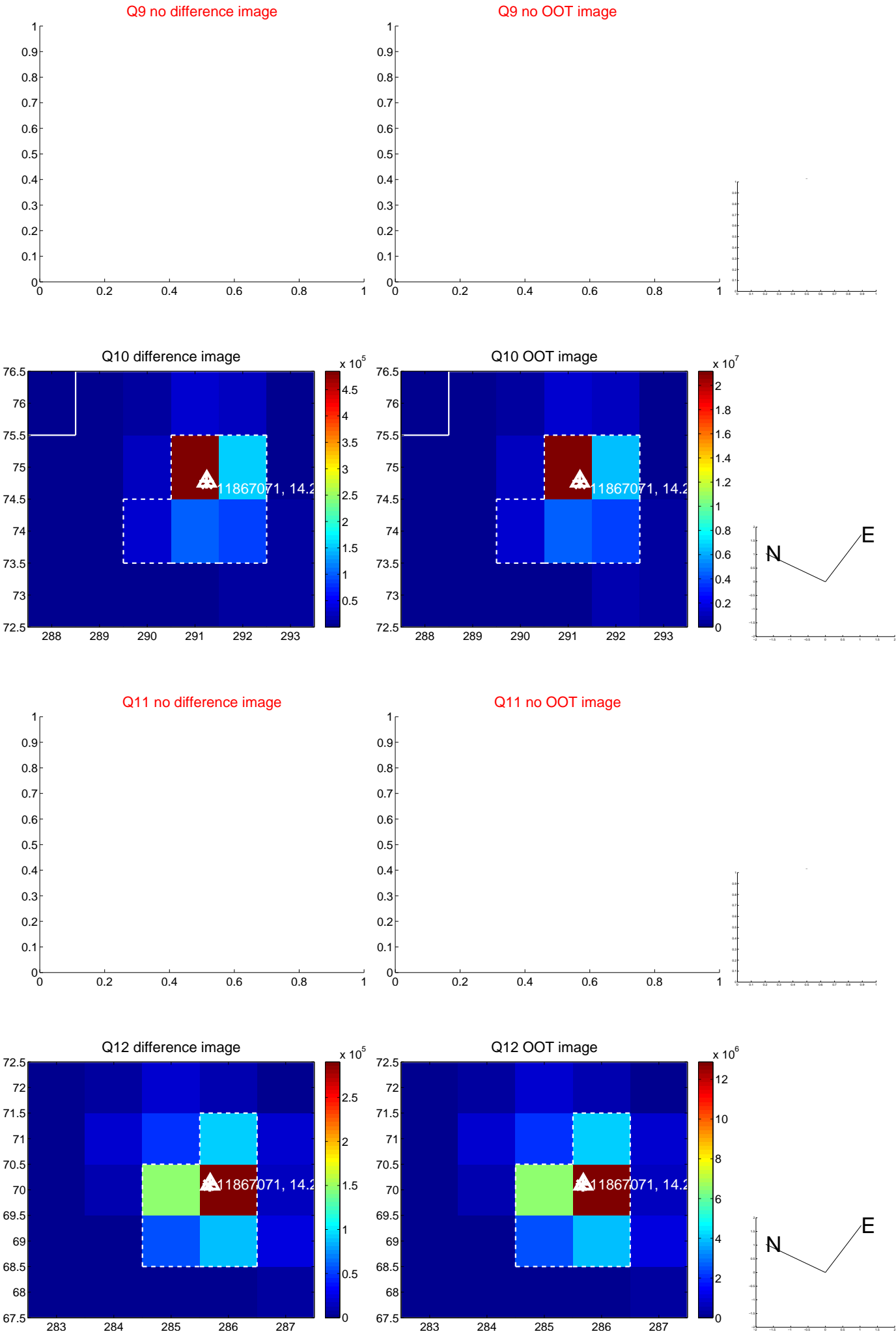
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



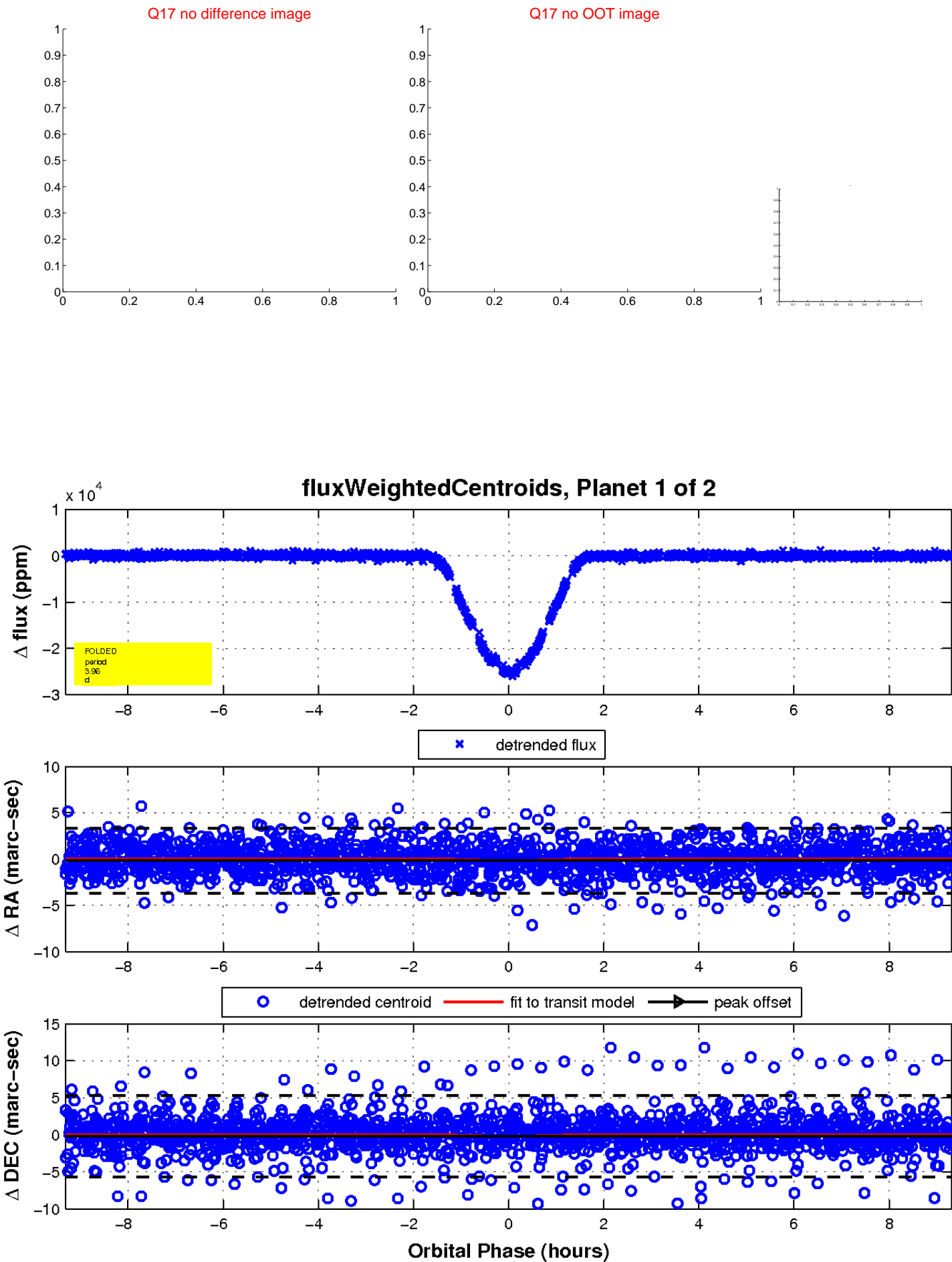
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

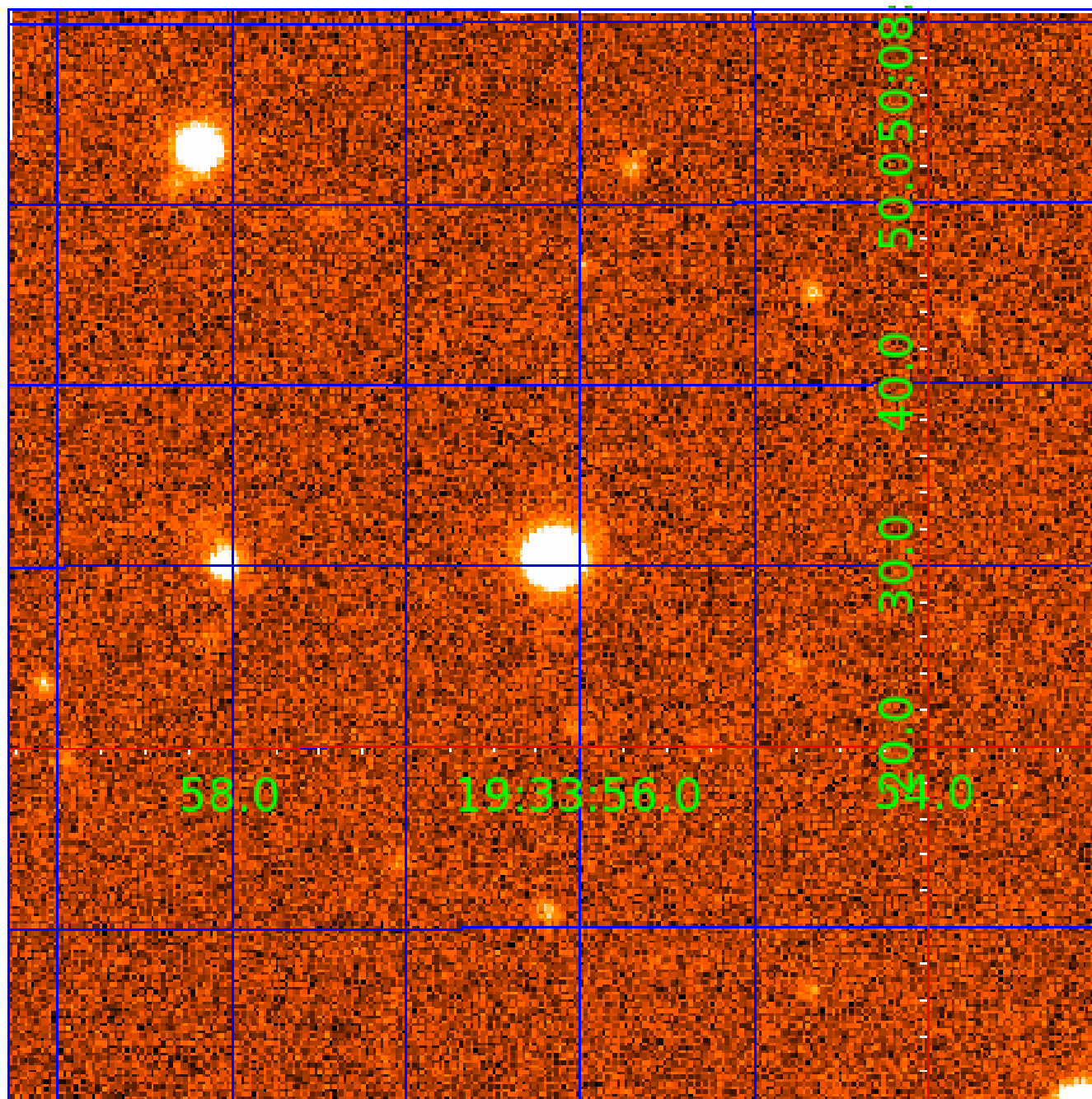


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011867071

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})
011867071-01	OBS	6247.01	3.963799	135.027248	24934.4	3.105	795.0	734.3	1.18	6617	28.61	881.68
011867071-02	OBS	No	3.963792	133.224536	2340.5	2.500	101.0	-1.0	1.18	6617	5.75	881.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011867071-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_FEW_DIFFS
011867071-02	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.

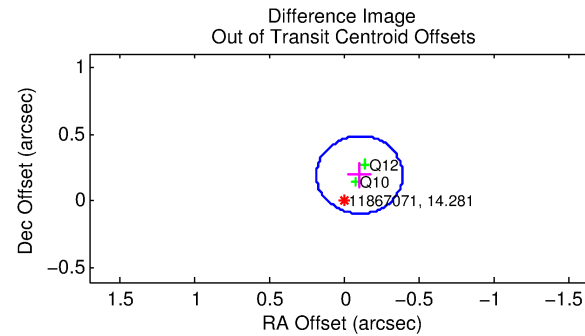
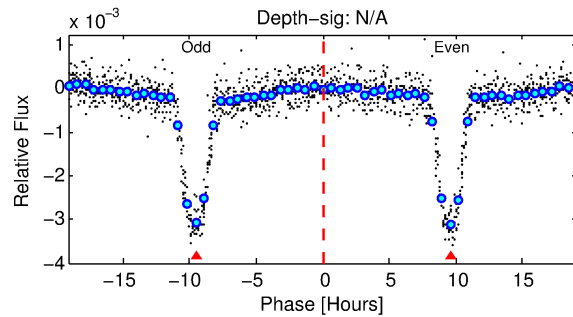
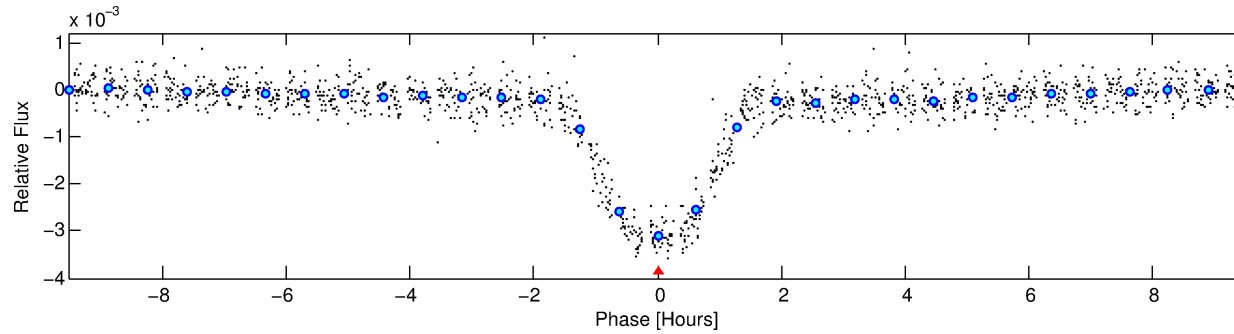
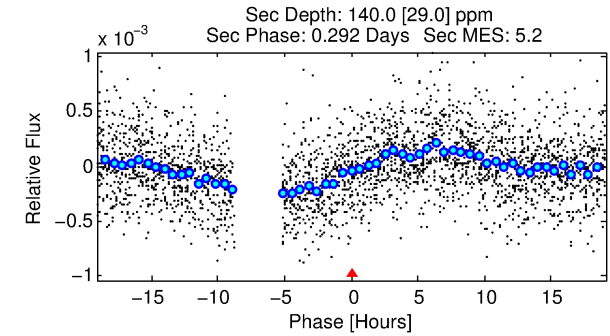
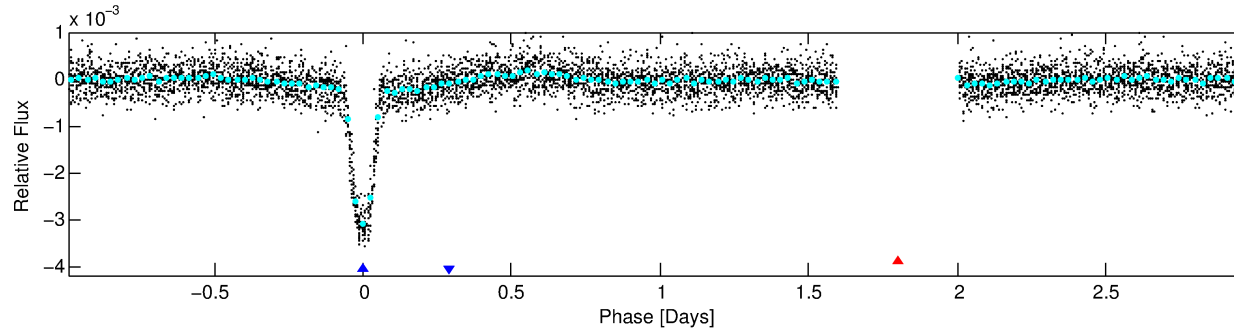
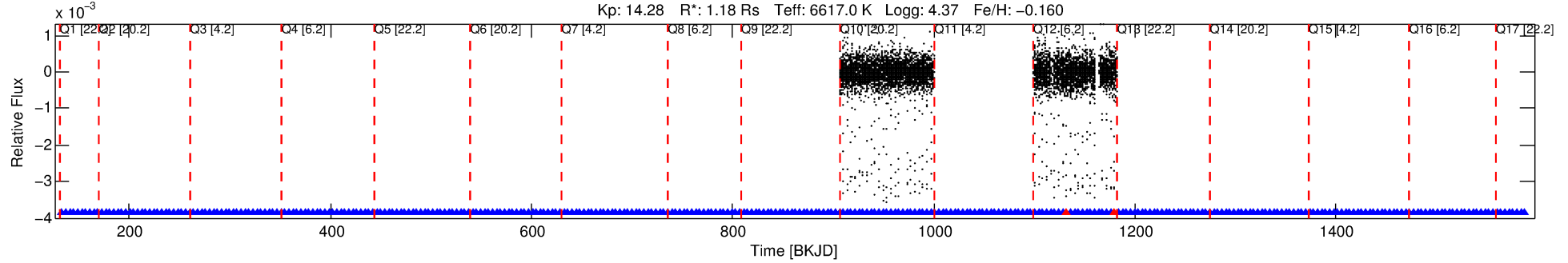
Ephemeris Match Information For 011867071-02

No Significant Match Found

DV One-Page Summary

KIC: 11867071 Candidate: 2 of 2 Period: 3.964 d
KOI: K06247 Corr: No Ephemeris Match

Kp: 14.28 R*: 1.18 Rs Teff: 6617.0 K Logg: 4.37 Fe/H: -0.160



TPS TCE Results:

Period = 3.96379 d
Epoch = 133.2245 BKJD

DV fit results are unavailable

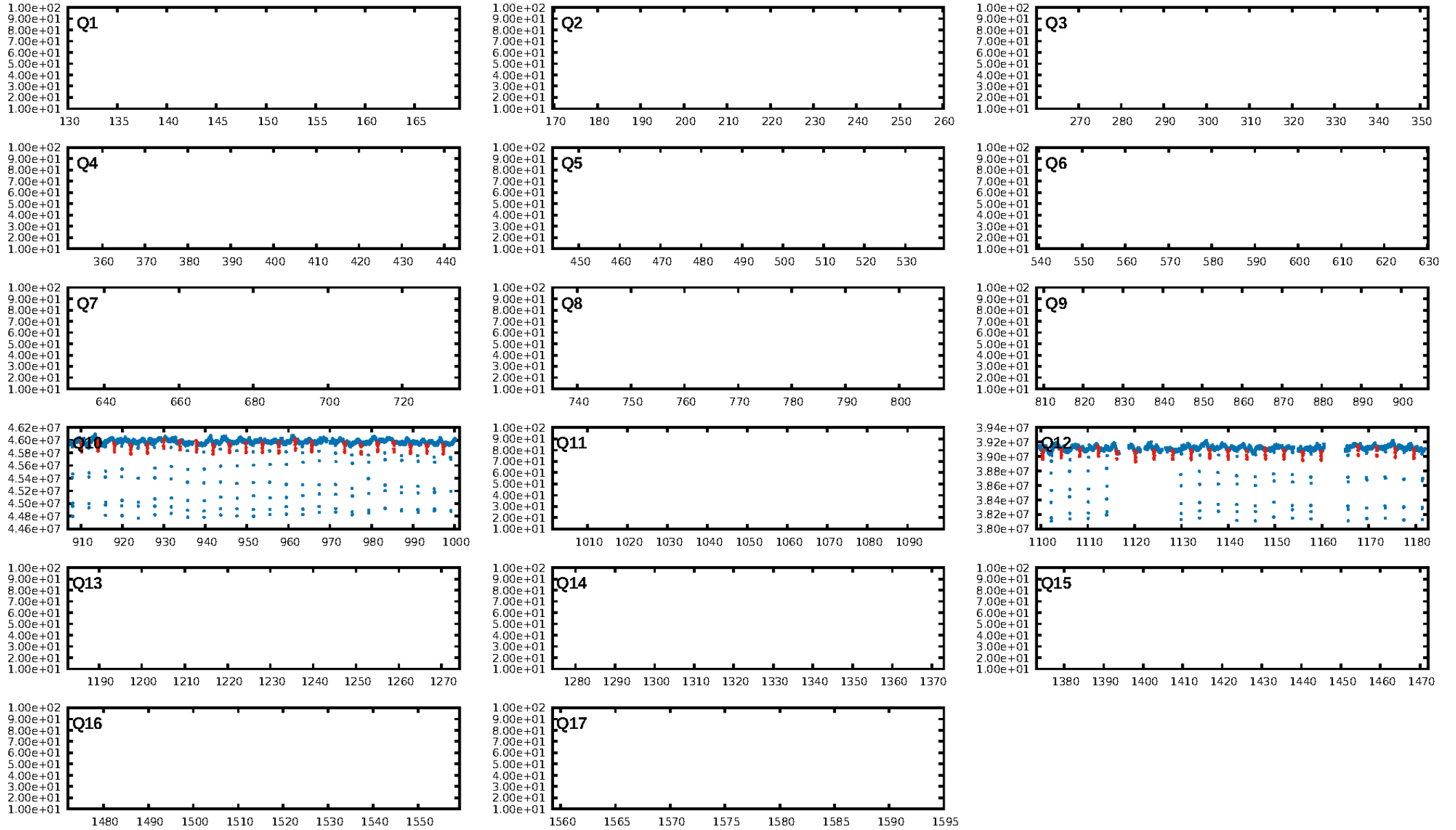
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [40/42]
GhostDiagnostic-chr: 2.787
Centroid-sig: 0.0%
Centroid-so: 0.136 arcsec [1.37σ]
OotOffset-rm: 0.224 arcsec [2.33σ]
KicOffset-rm: 0.168 arcsec [2.40σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

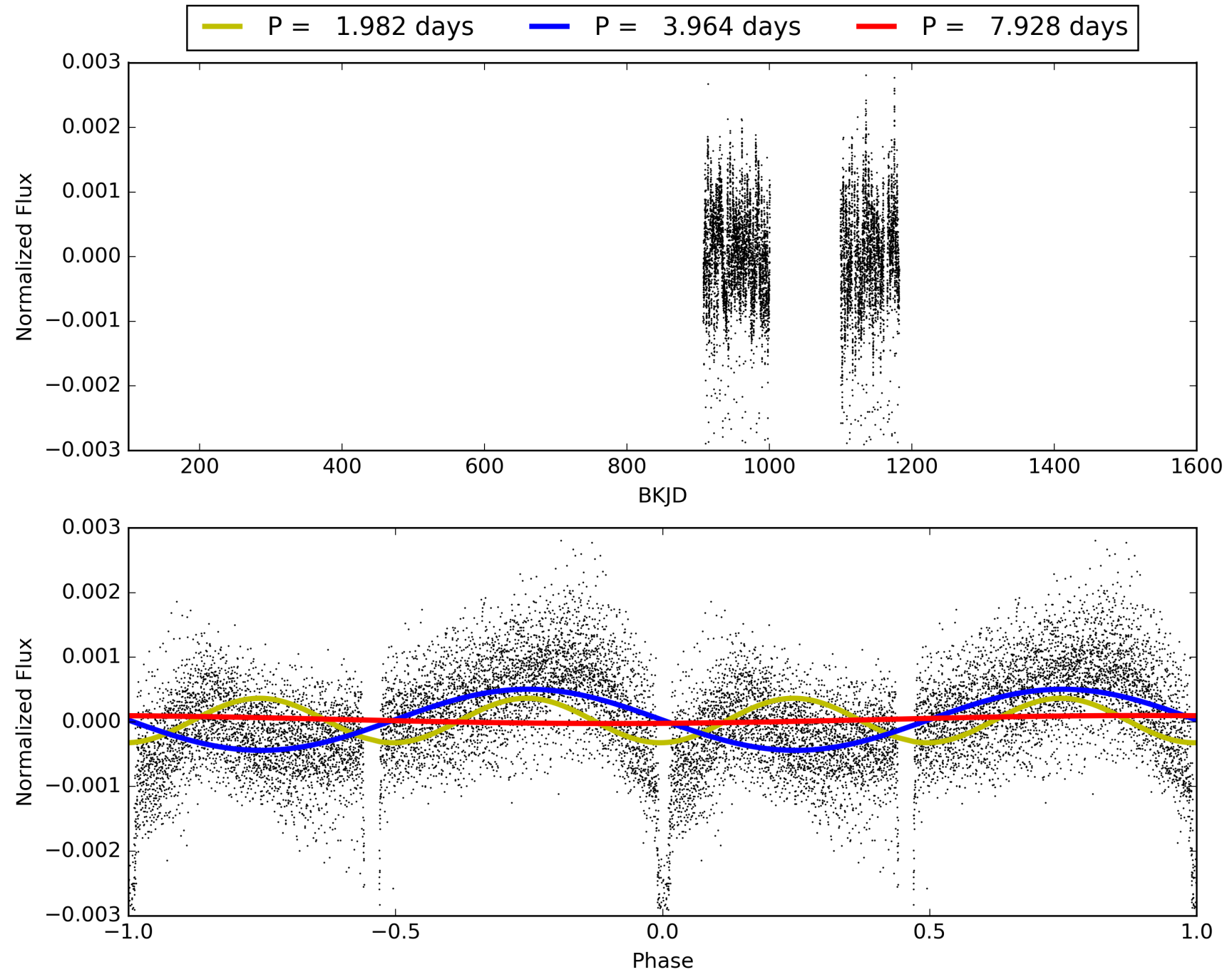
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:08:55 Z

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

TCE 011867071-02, PDC Light Curves

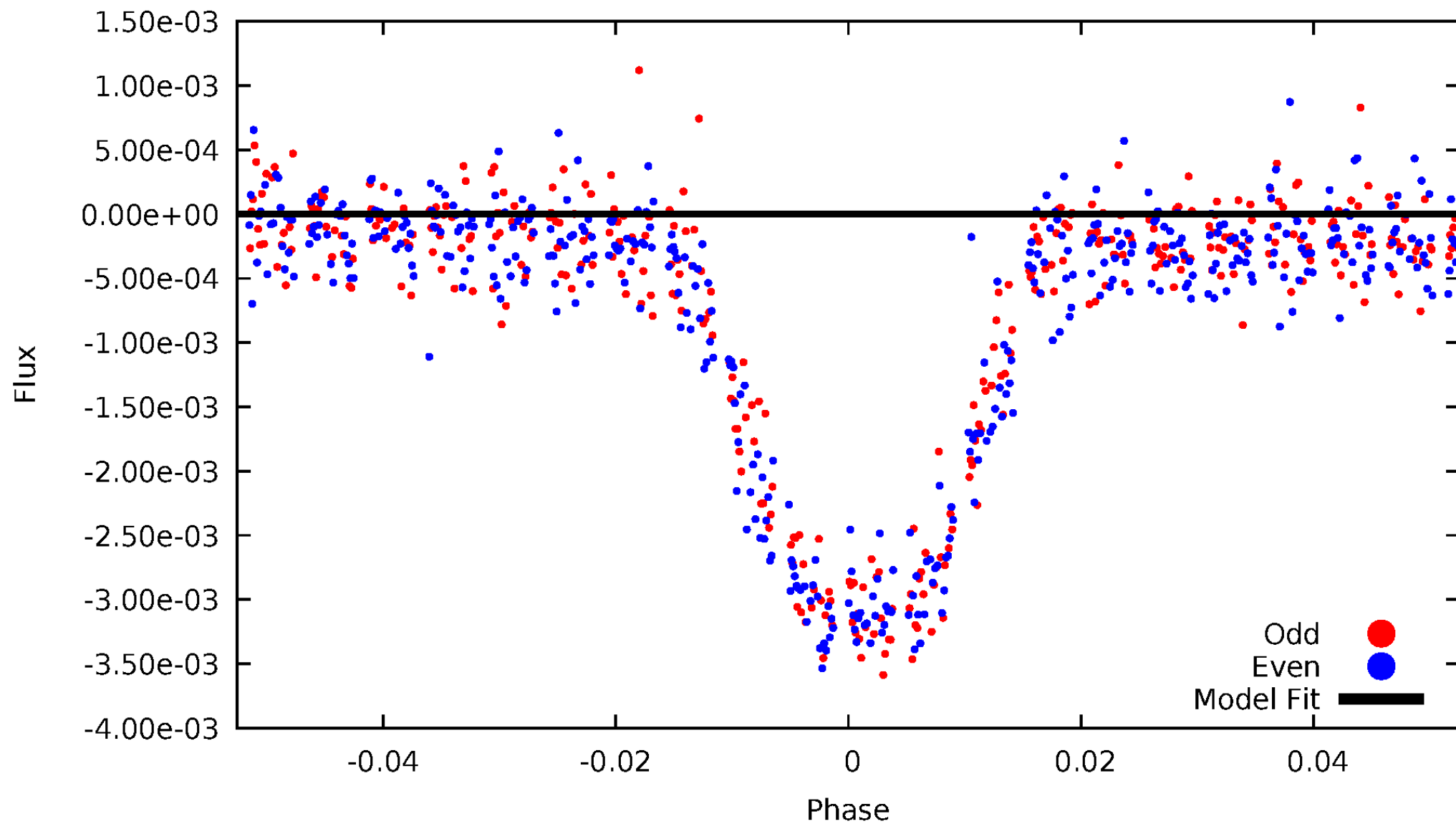


TCE 011867071-02



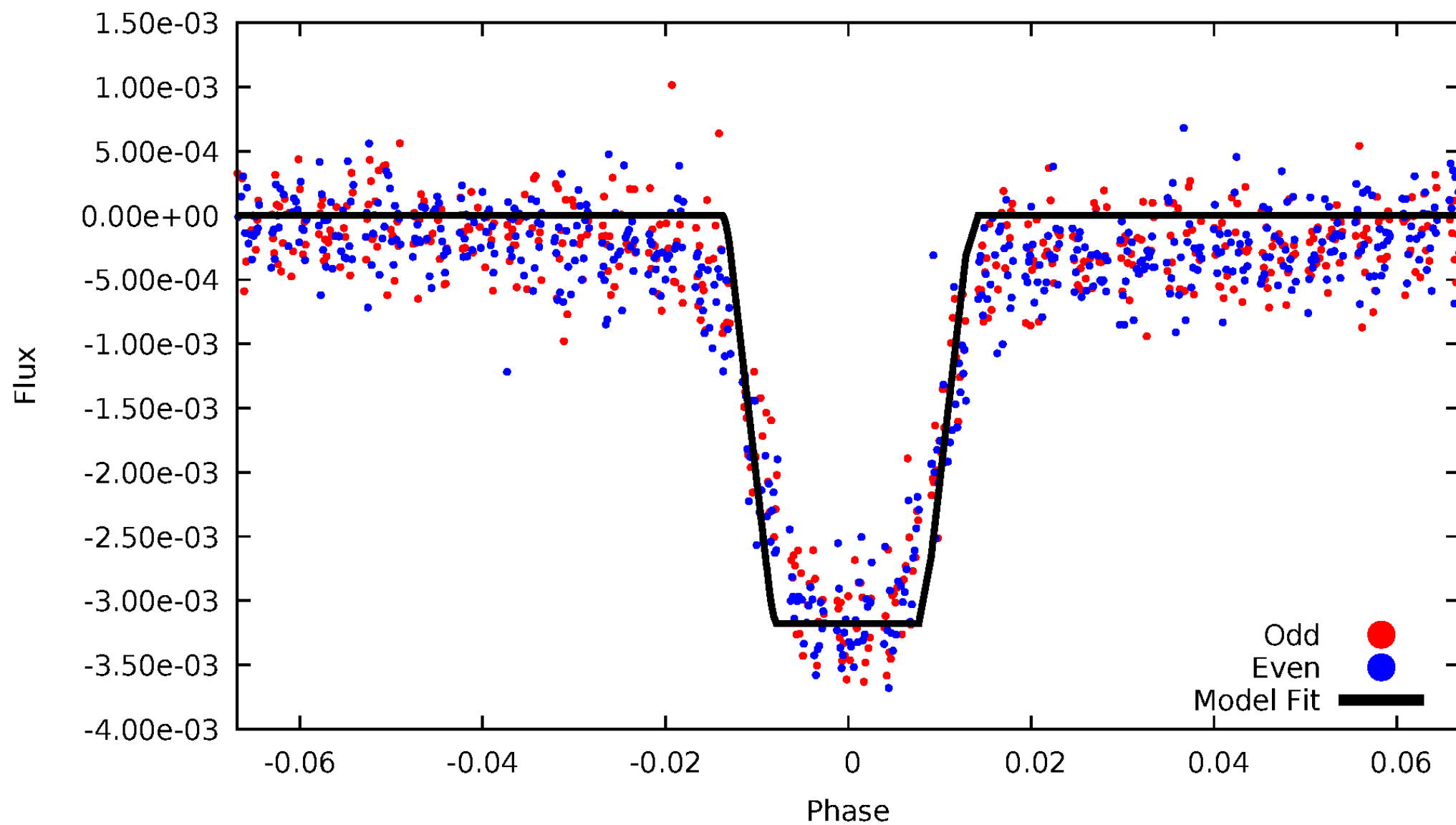
DV Odd/Even

TCE 011867071-02



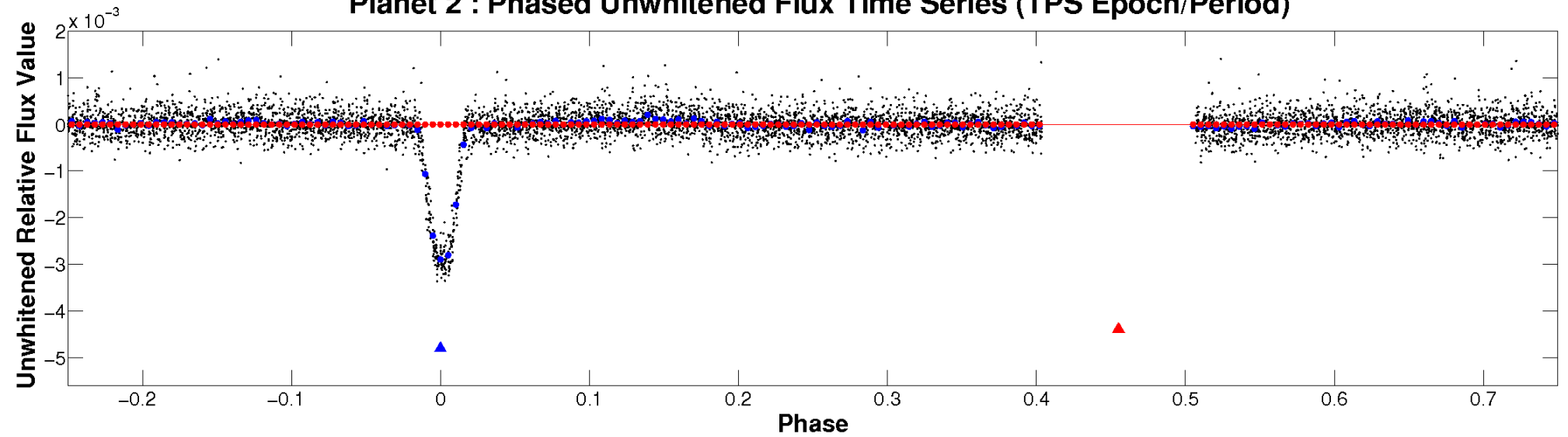
ALT Odd/Even

TCE 011867071-02



Non-Whitened Vs. Whitened Light Curve

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

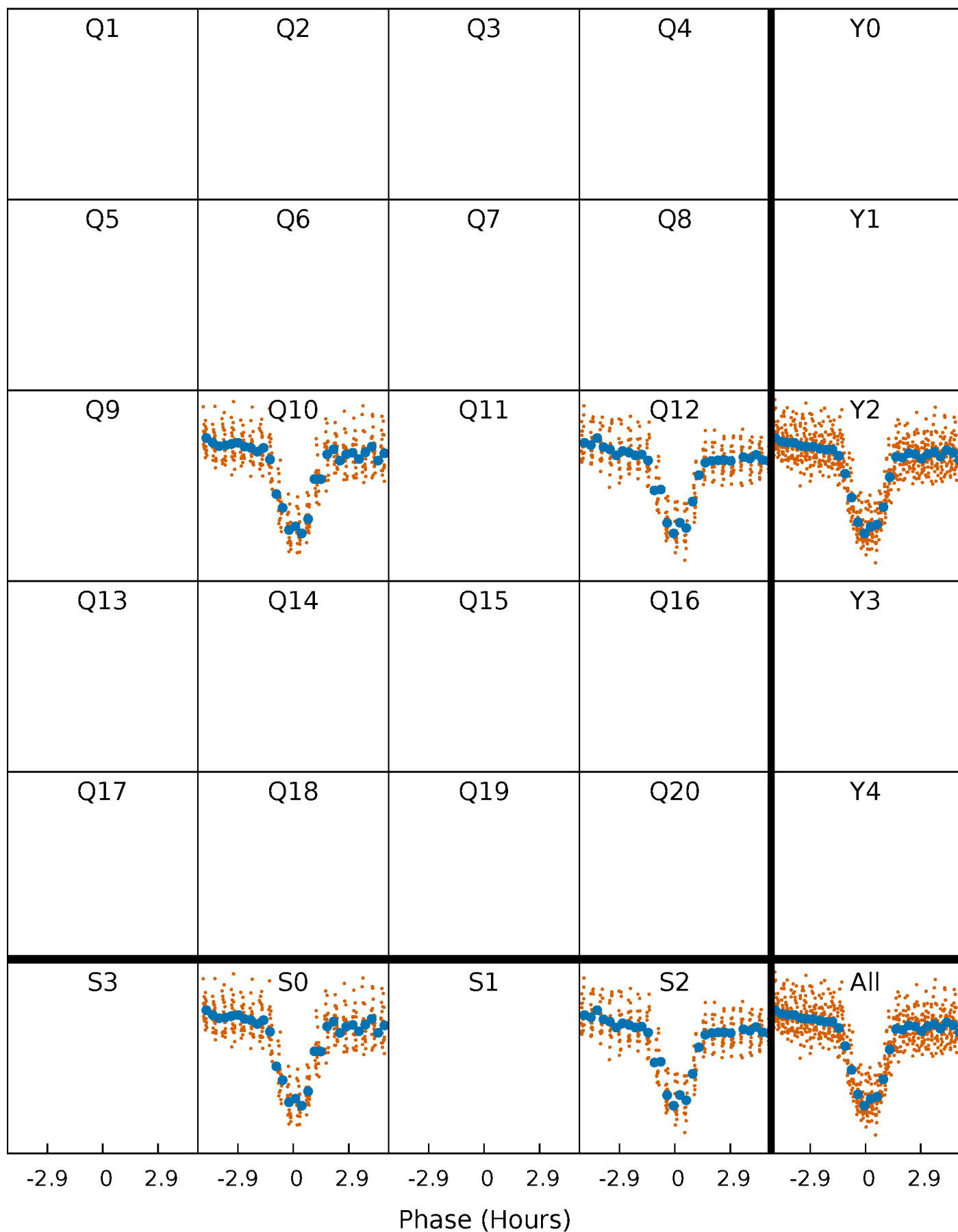


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



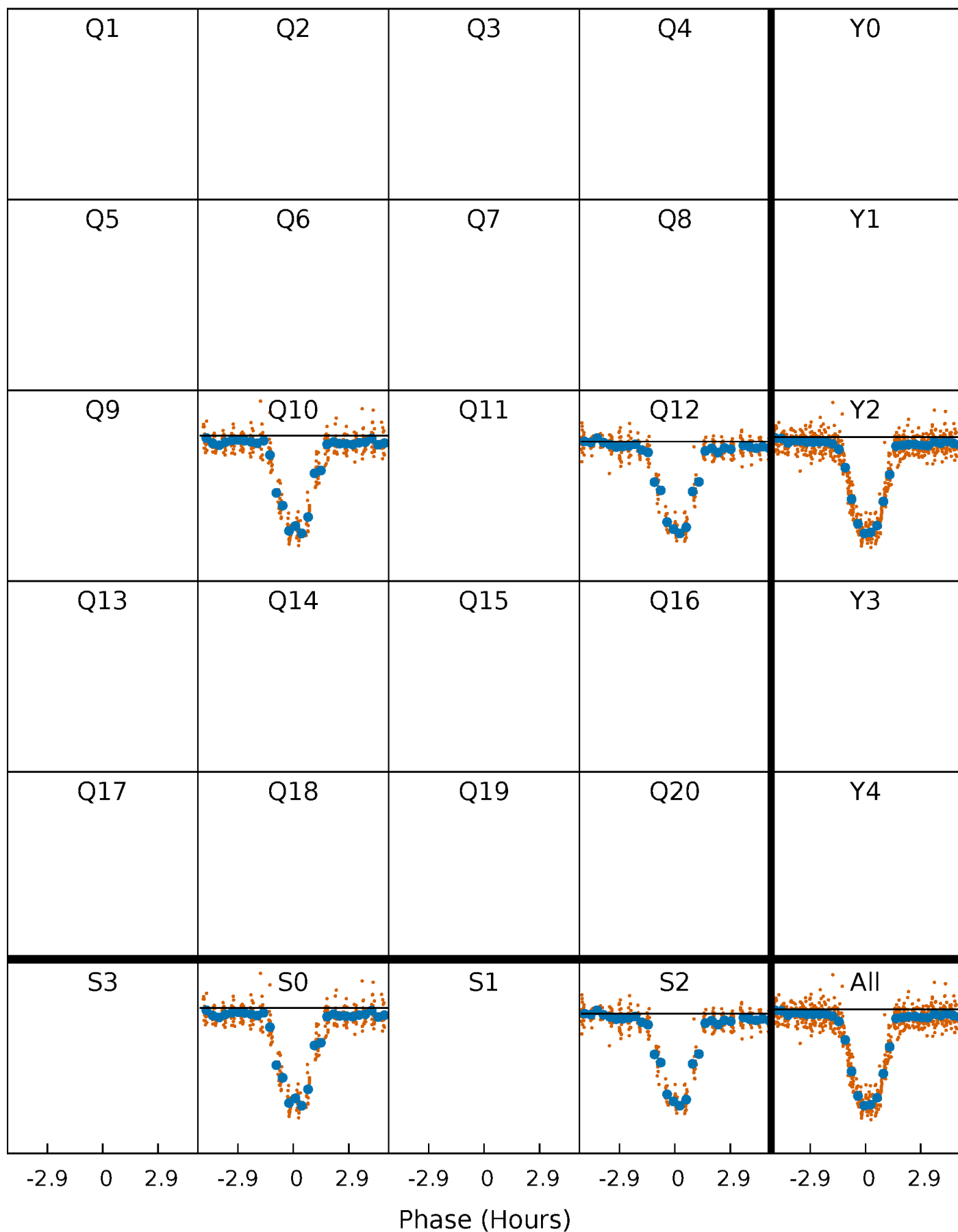
PDC Quarter-Phased Transit Curves

TCE 011867071-02 $P = 3.963792$ Days $T_0 = 133.224536$ (BKJD)



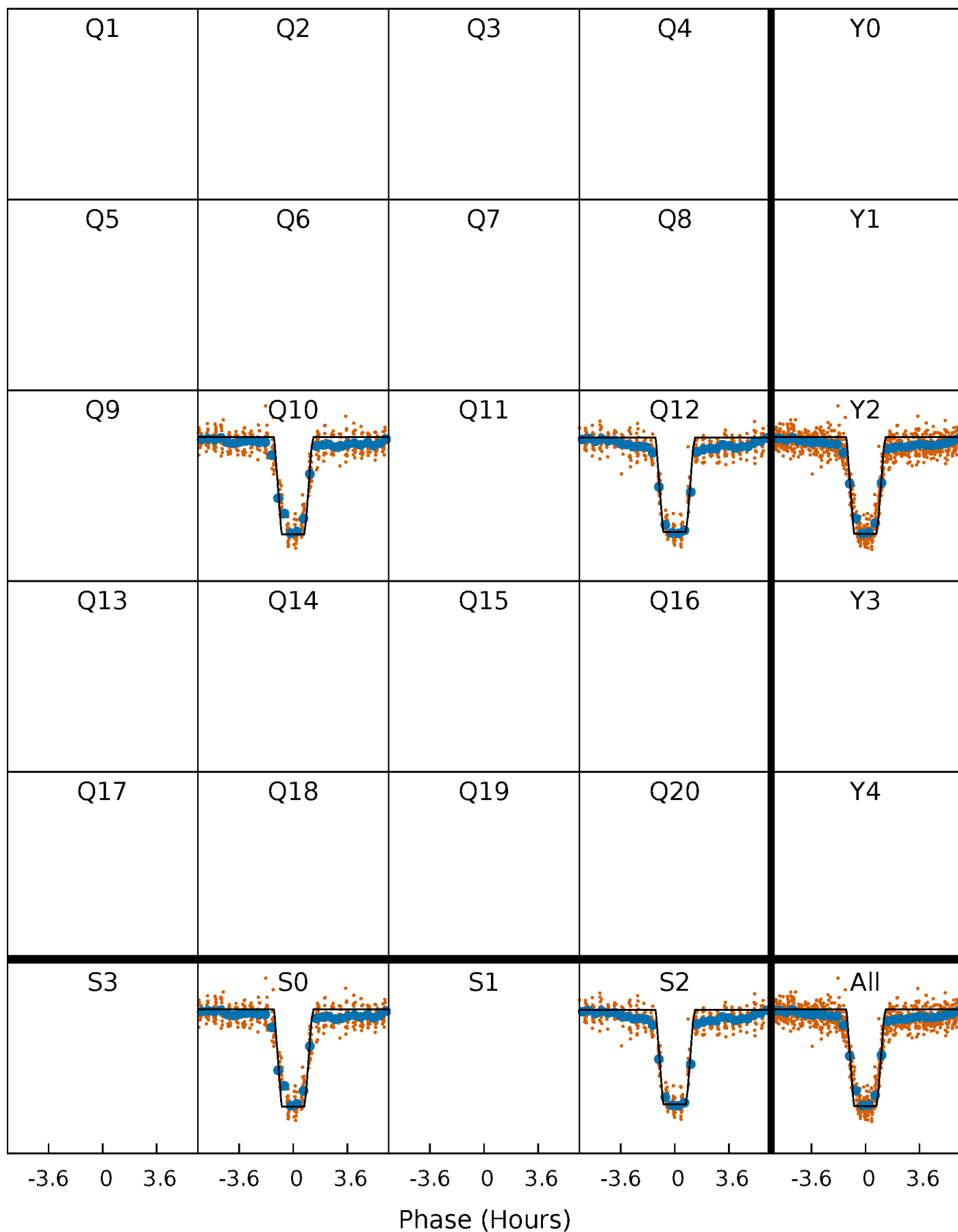
DV Quarter-Phased Transit Curves

TCE 011867071-02 $P = 3.963792$ Days $T_0 = 133.224536$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

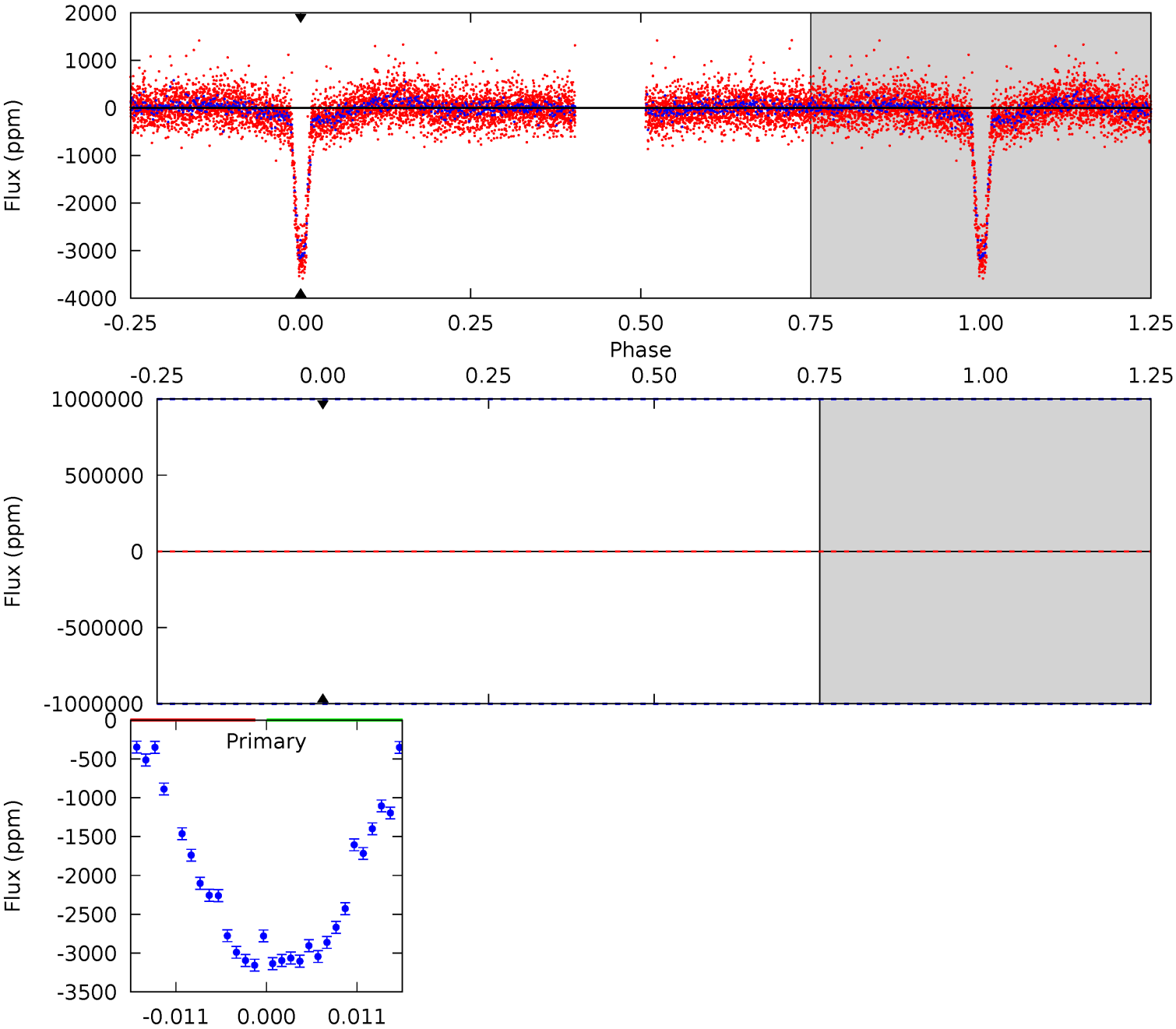
TCE 011867071-02 $P = 3.963792$ Days $T_0 = 133.229668$ (BKJD)



DV Model-Shift Uniqueness Test

011867071-02, P = 3.963792 Days, E = 133.224536 Days

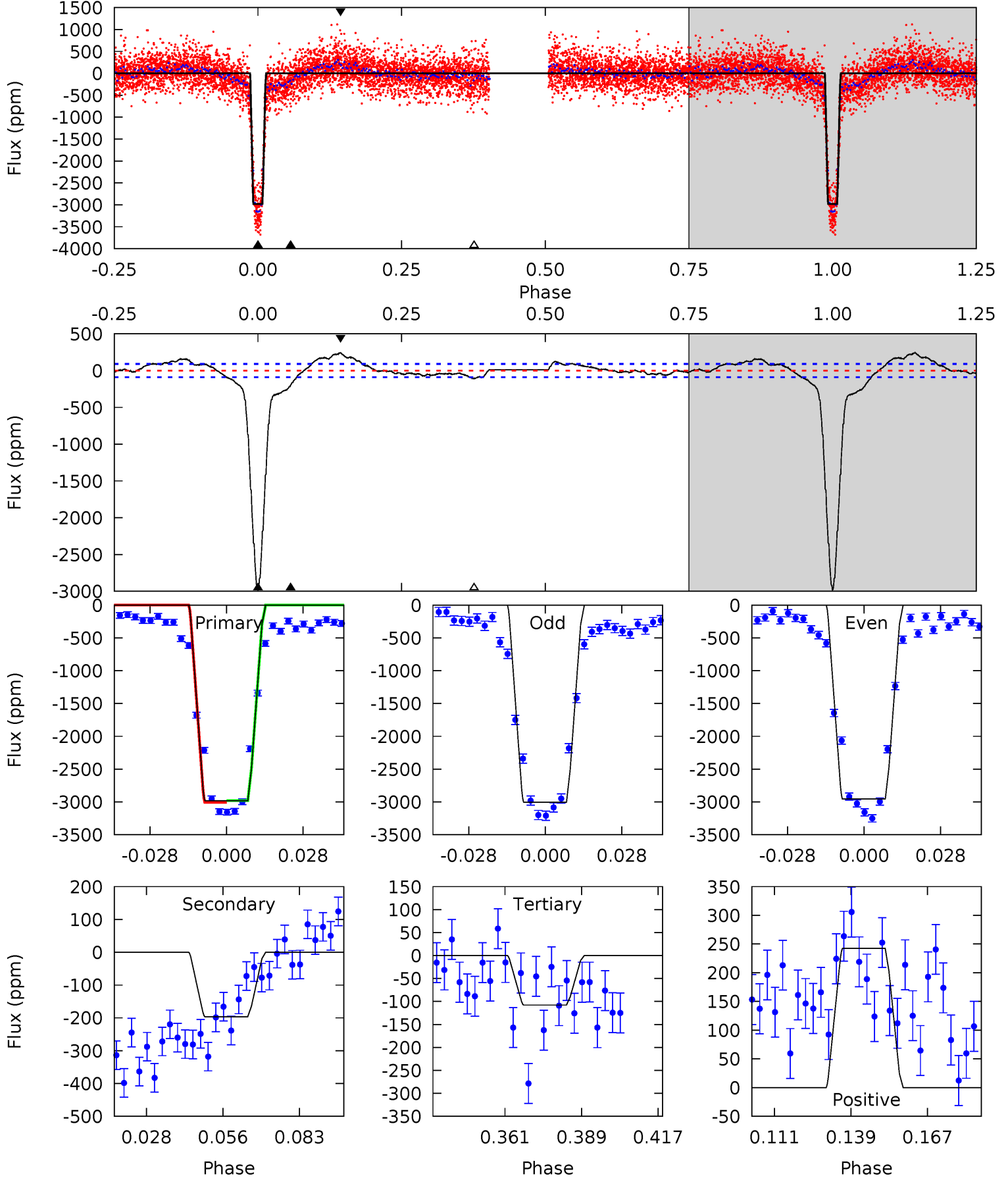
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011867071-02, P = 3.963792 Days, E = 133.229668 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
160.0	10.5	5.79	13.0	4.83	2.20	4.57	154.2	147.0	4.76	-2.45	1.28	1.01	0.08	0.66



Stellar Parameters For KIC 011867071

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6617^{+186}_{-255}	$4.373^{+0.072}_{-0.217}$	$-0.160^{+0.250}_{-0.300}$	$1.180^{+0.412}_{-0.137}$	$1.202^{+0.183}_{-0.164}$	$1.031^{+0.308}_{-0.556}$
	+3%/-4%	+2%/-5%	+156%/-188%	+35%/-12%	+15%/-14%	+30%/-54%
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 011867071-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$12.31^{+11.11}_{-8.60}$	1980^{+155}_{-121}	-5222^{+27940}_{-16723}	$-31.513^{+1818.509}_{-1584.424}$
Alt.	-197 ± 19	$12.93^{+11.90}_{-8.40}$	1976^{+155}_{-111}	3057^{+1406}_{-709}	$1.739^{+12.062}_{-1.262}$

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

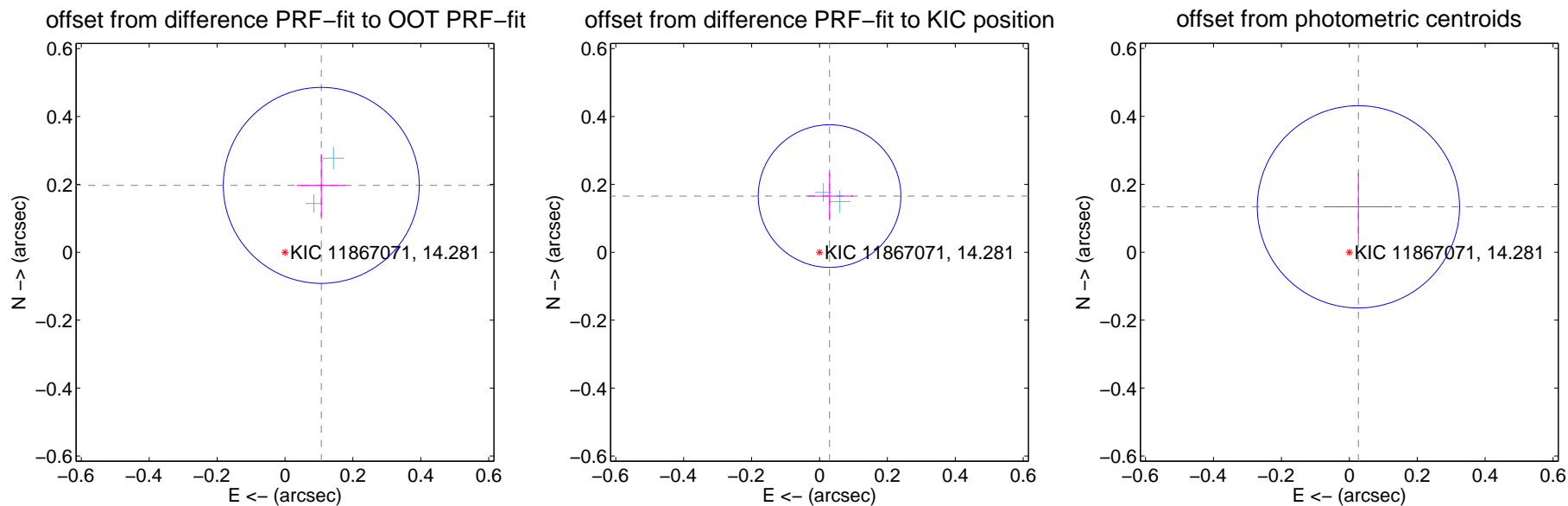
DV Centroid Data

Supplemental centroid analysis for 011867071-02. Kepler magnitude: 14.28. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.224 ± 0.096	2.33	-0.107 ± 0.072	0.197 ± 0.092
PRF-fit source offset from KIC position	0.168 ± 0.070	2.40	-0.030 ± 0.070	0.166 ± 0.070
photometric centroid source offset	0.14 ± 0.10	1.37	-0.03 ± 0.10	0.13 ± 0.10



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.

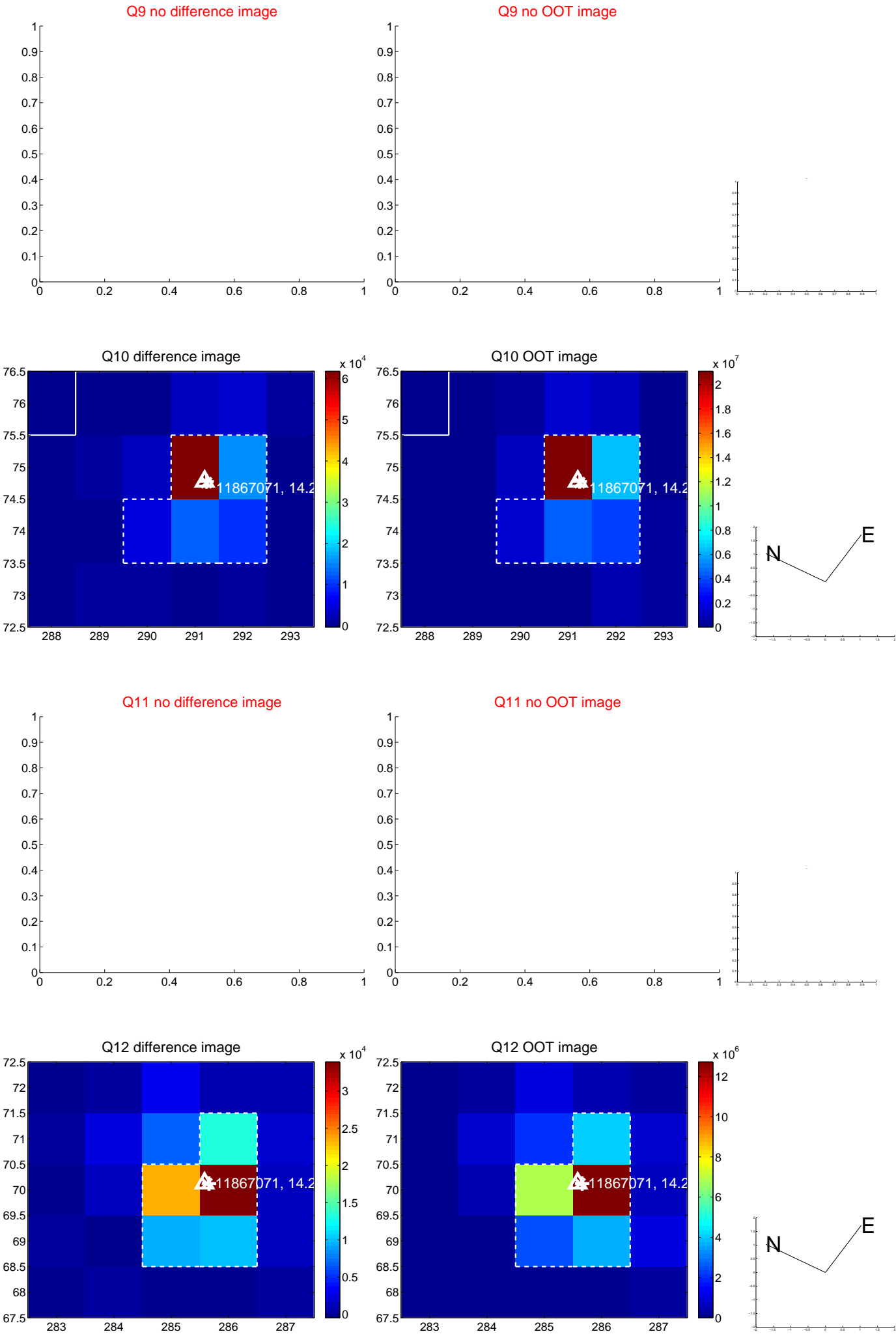
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



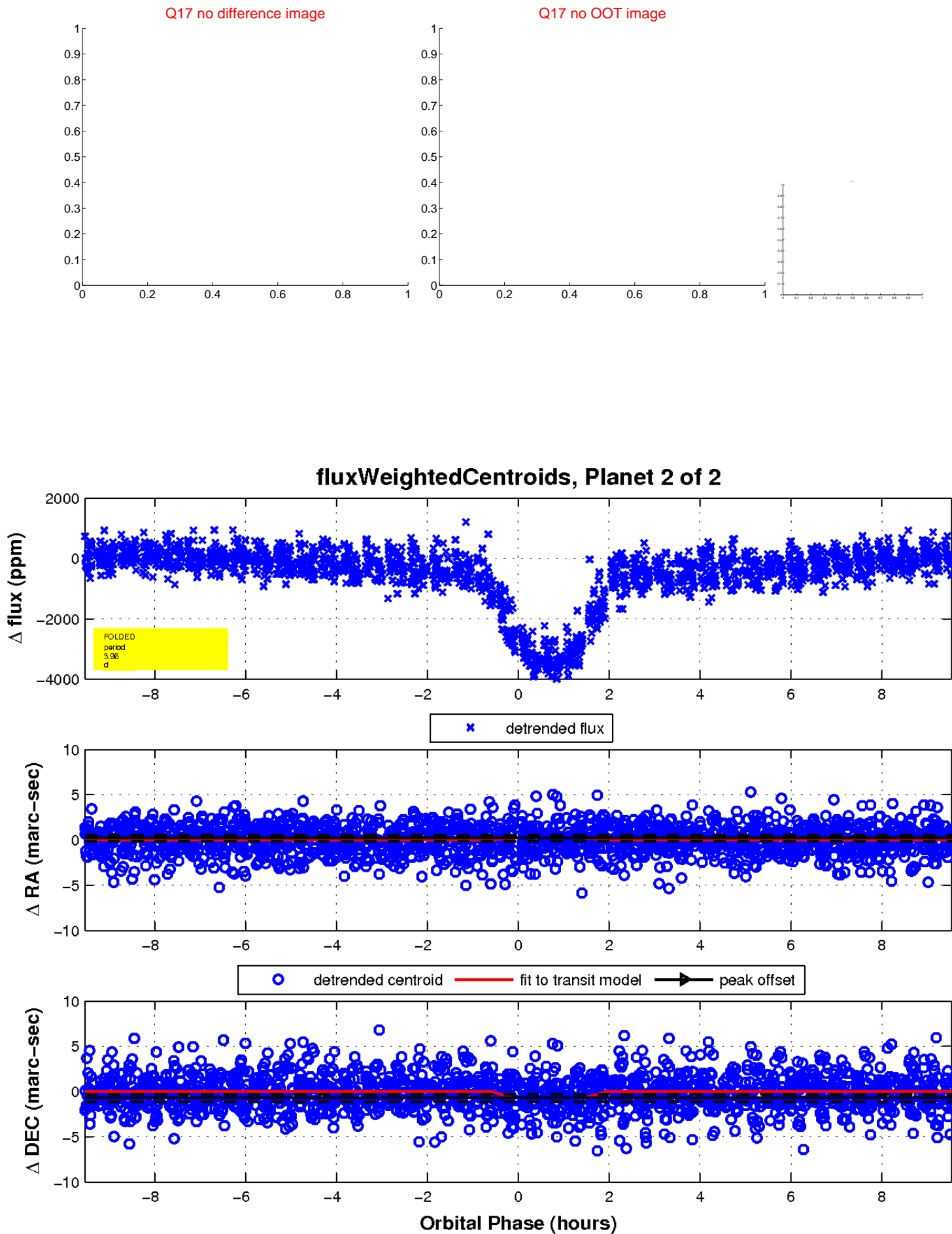
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

