

KIC 007117003

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})
007117003-01	OBS	3514.01	428.321474	276.527969	0.0	15.000	7372.3	-1.0	0.81	5662	36.46	0.56
007117003-02	OBS	No	428.321474	235.572304	42410.6	3.500	925.3	-1.0	0.81	5662	16.53	0.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117003-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
007117003-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—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 007117003-01

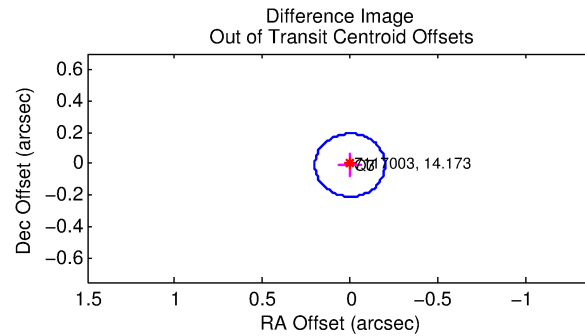
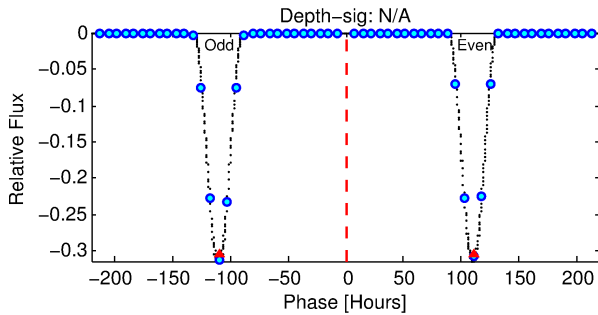
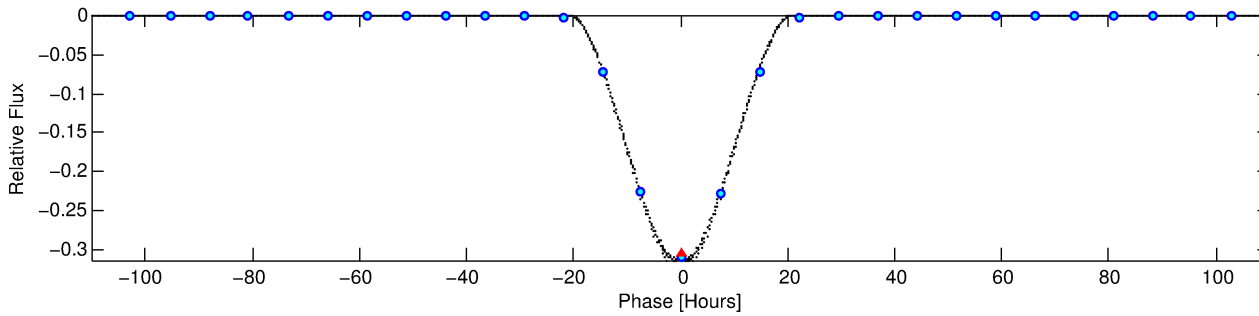
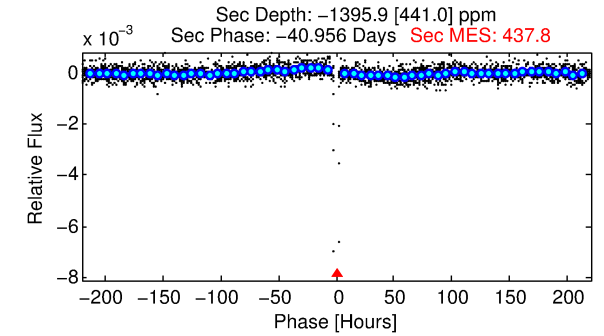
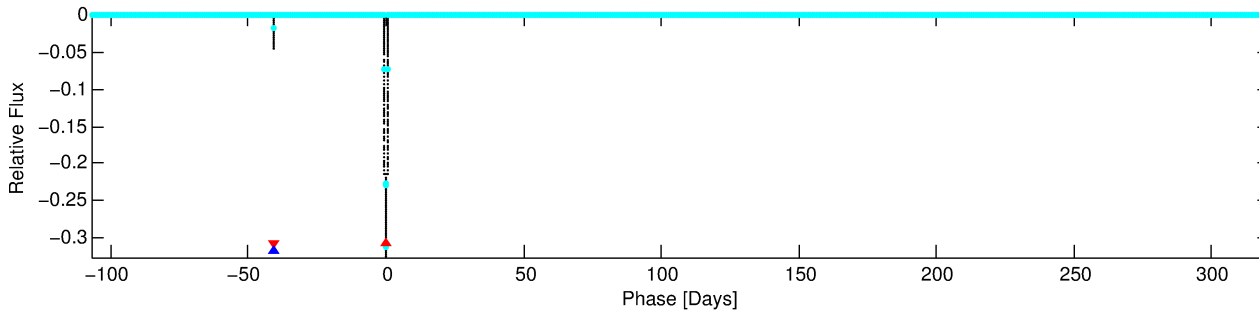
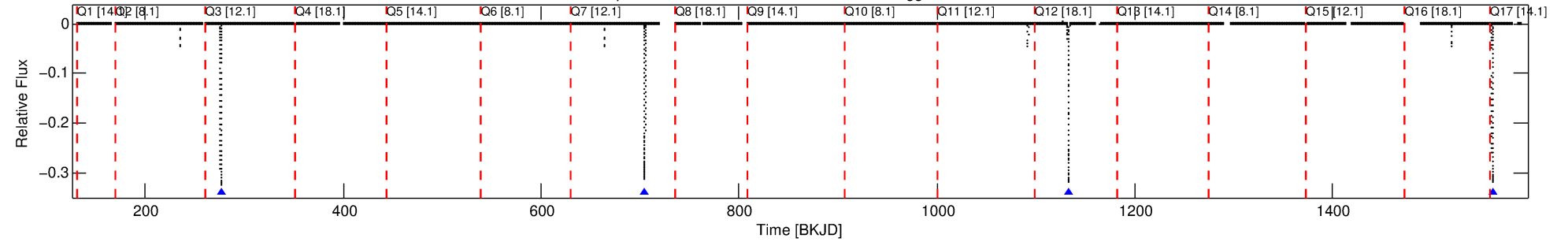
No Significant Match Found

DV One-Page Summary

KIC: 7117003 Candidate: 1 of 2 Period: 428.321 d

KOI: K03514.01 Corr: 0.754

Kp: 14.17 R*: 0.81 Rs Teff: 5662.0 K Logg: 4.53 Fe/H: -0.440



TPS TCE Results:

Period = 428.32147 d
Epoch = 276.5280 BKJD

DV fit results are unavailable

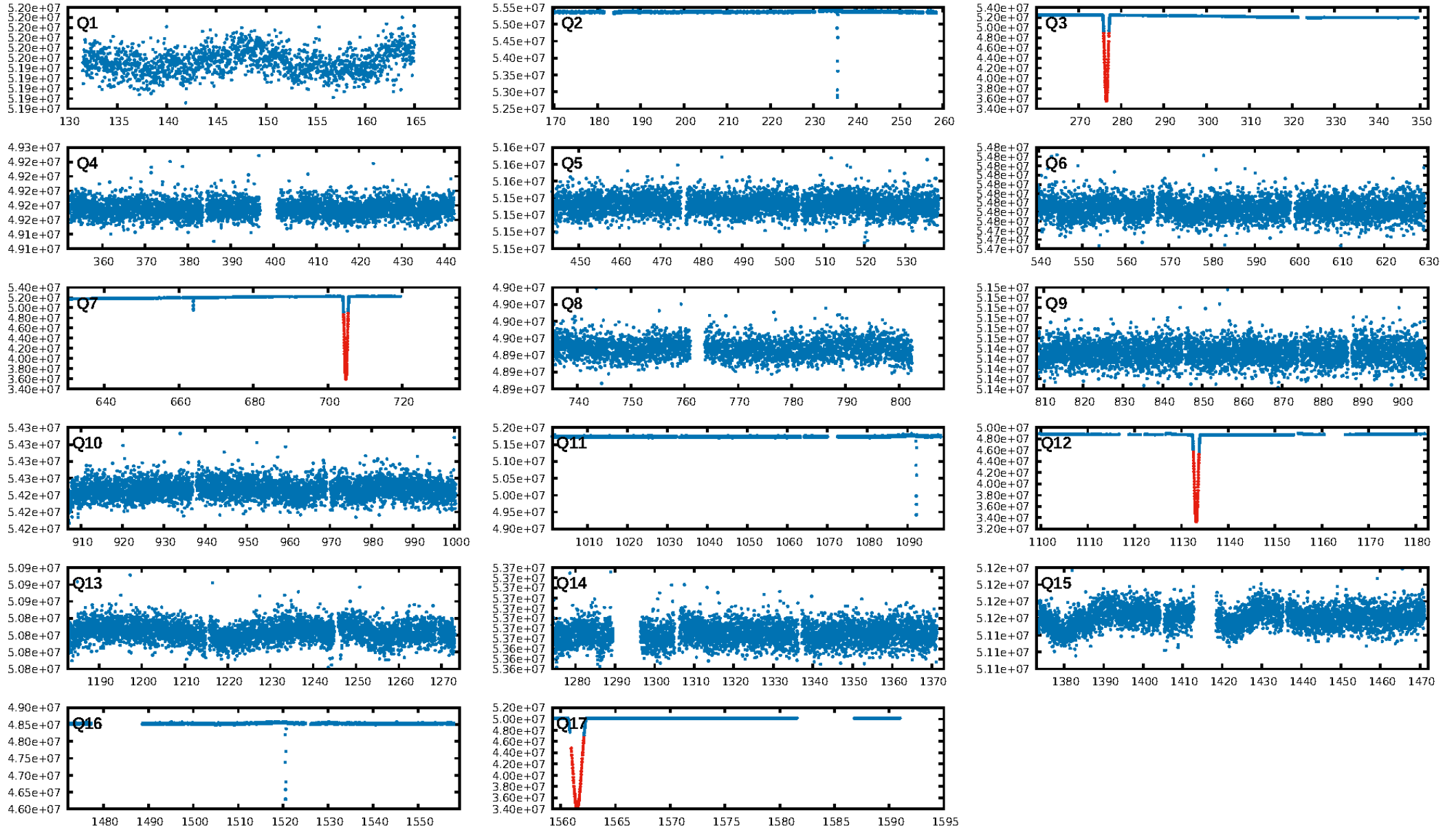
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 5.75
Centroid-sig: 0.0%
Centroid-so: 0.037 arcsec [33.34σ]
OotOffset-rm: 0.009 arcsec [0.13σ]
KicOffset-rm: 0.104 arcsec [1.54σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

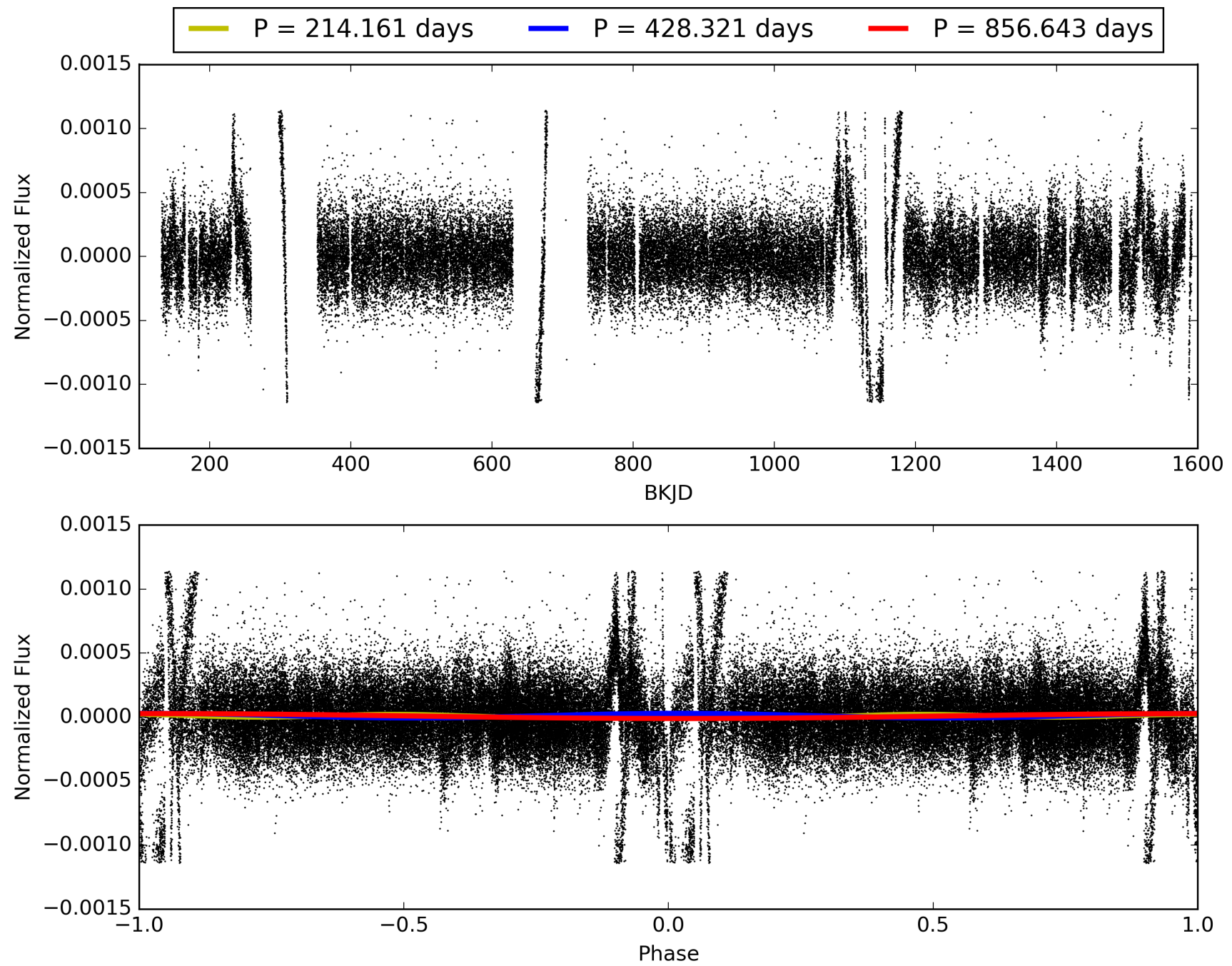
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:27:23 Z

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

TCE 007117003-01, PDC Light Curves

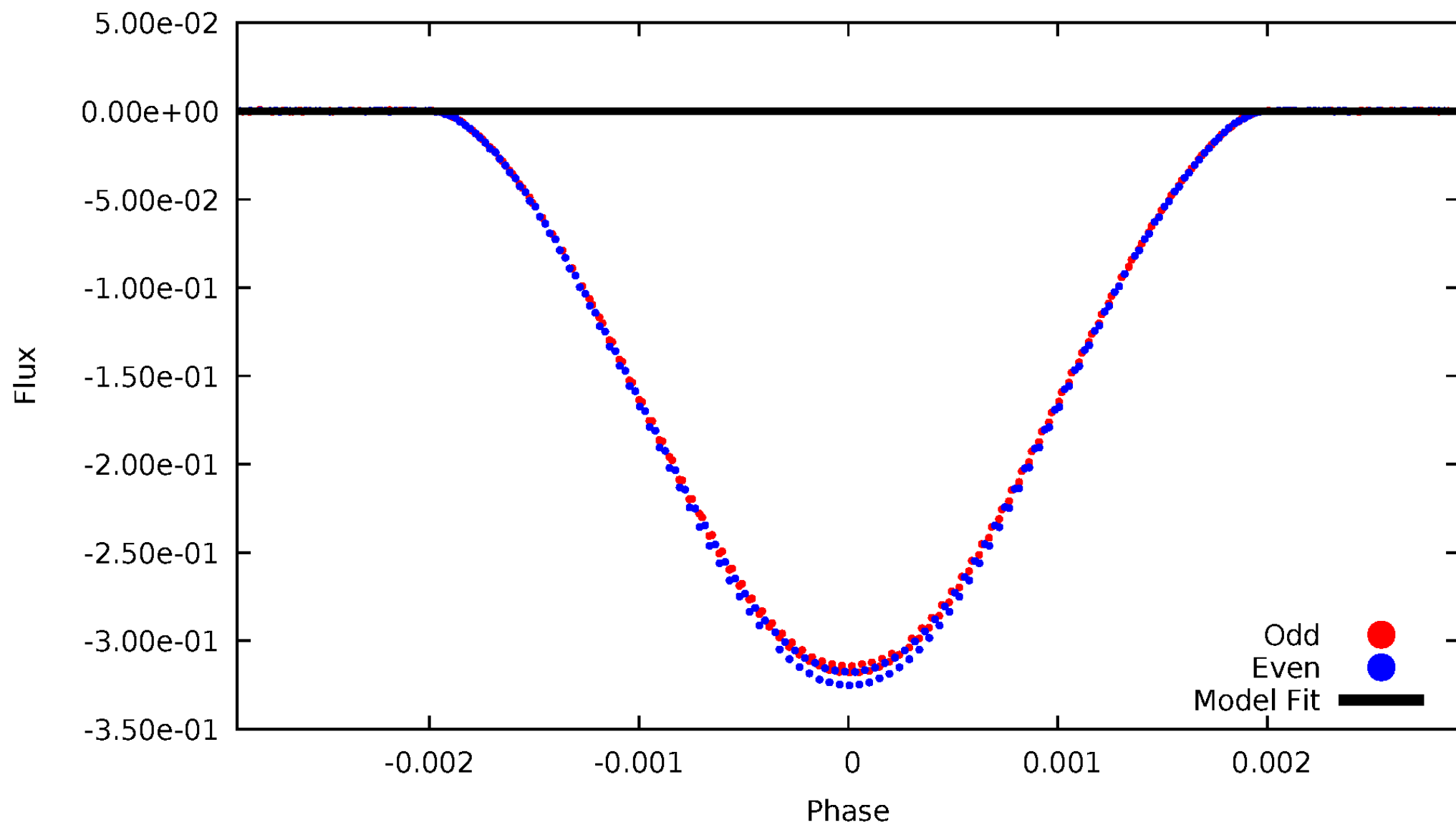


TCE 007117003-01



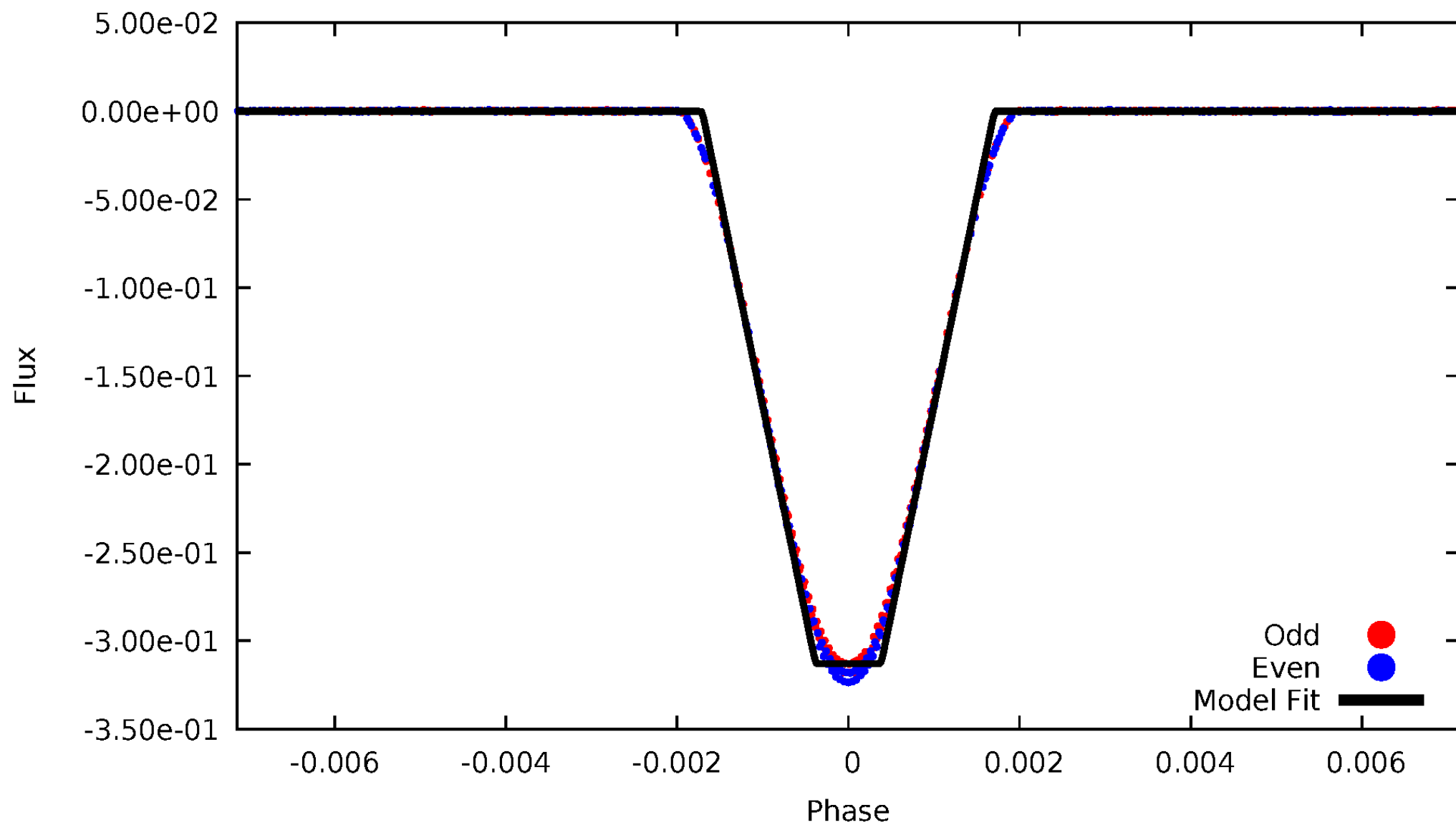
DV Odd/Even

TCE 007117003-01



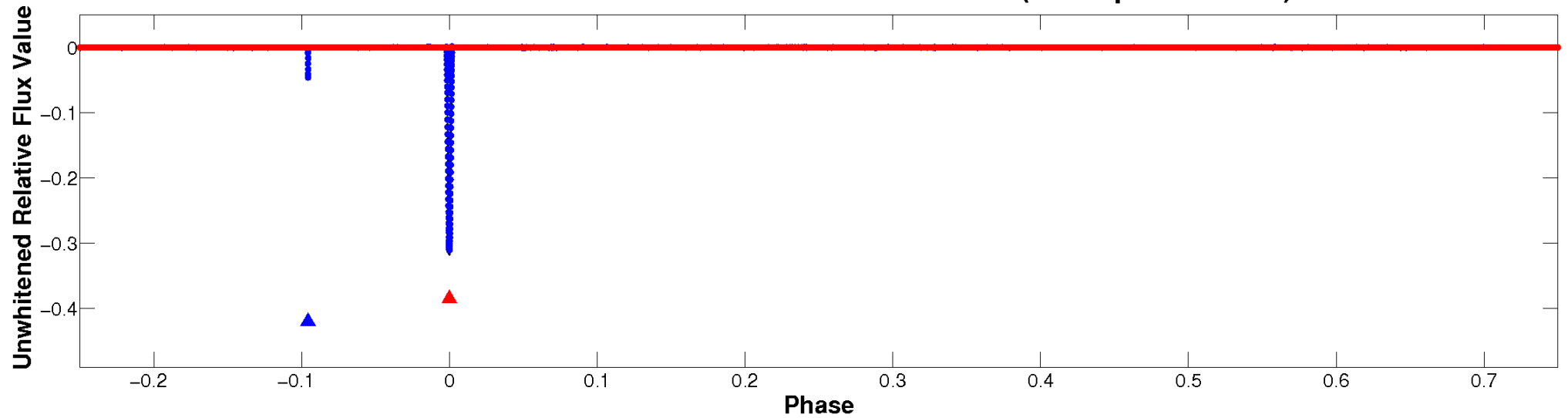
ALT Odd/Even

TCE 007117003-01



Non-Whitened Vs. Whitened Light Curve

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

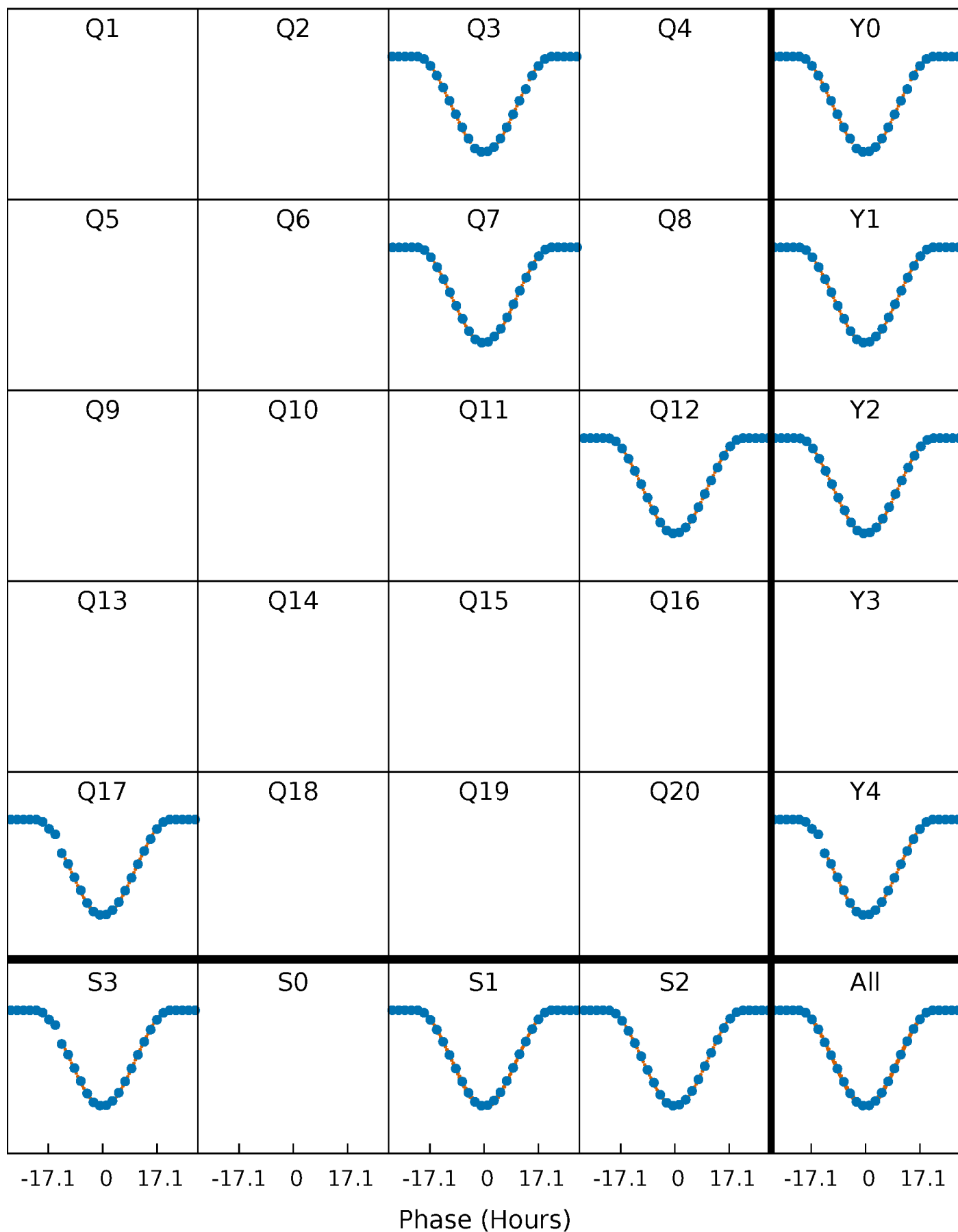


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



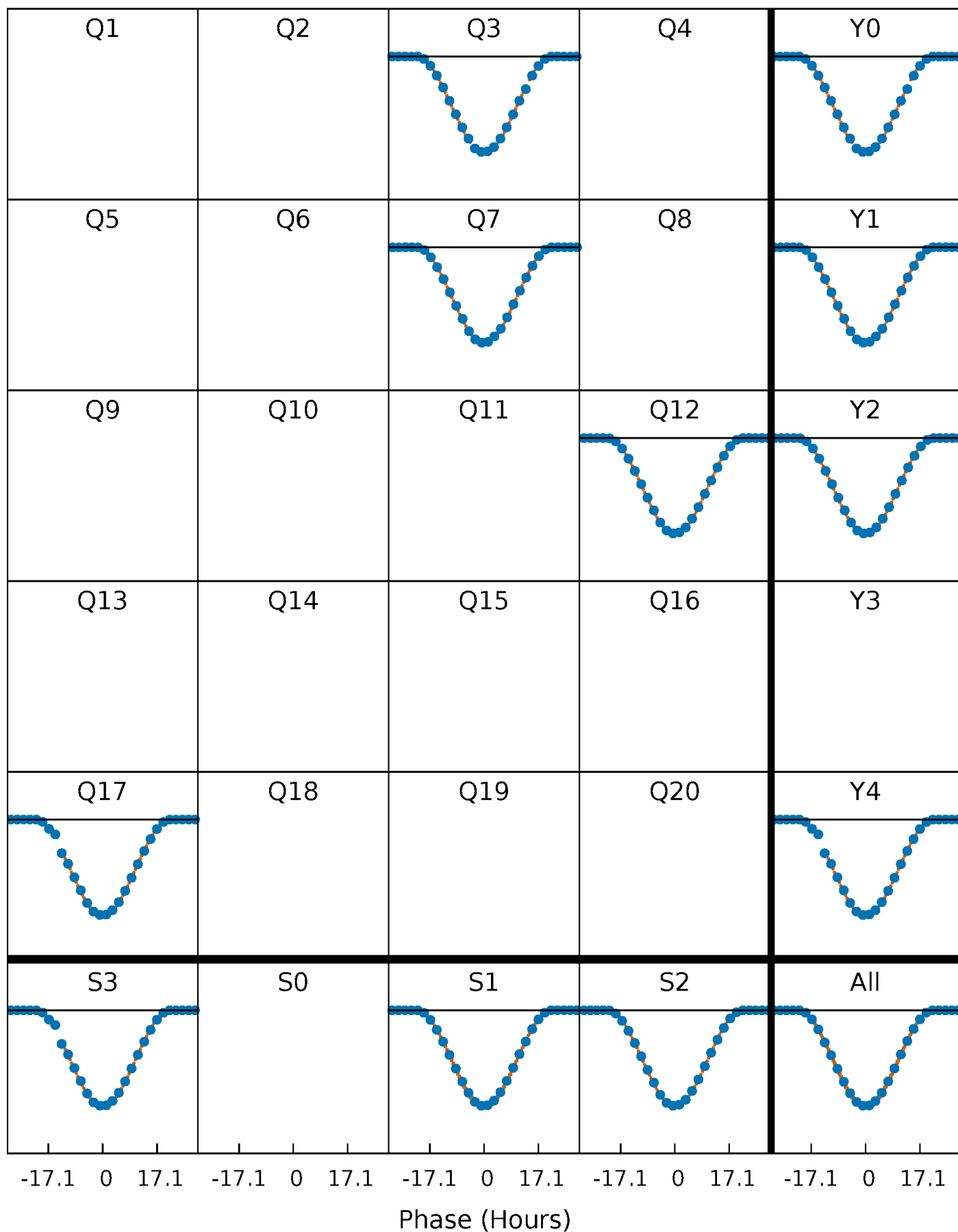
PDC Quarter-Phased Transit Curves

TCE 007117003-01 P=428.321474 Days $T_0=276.527969$ (BKJD)



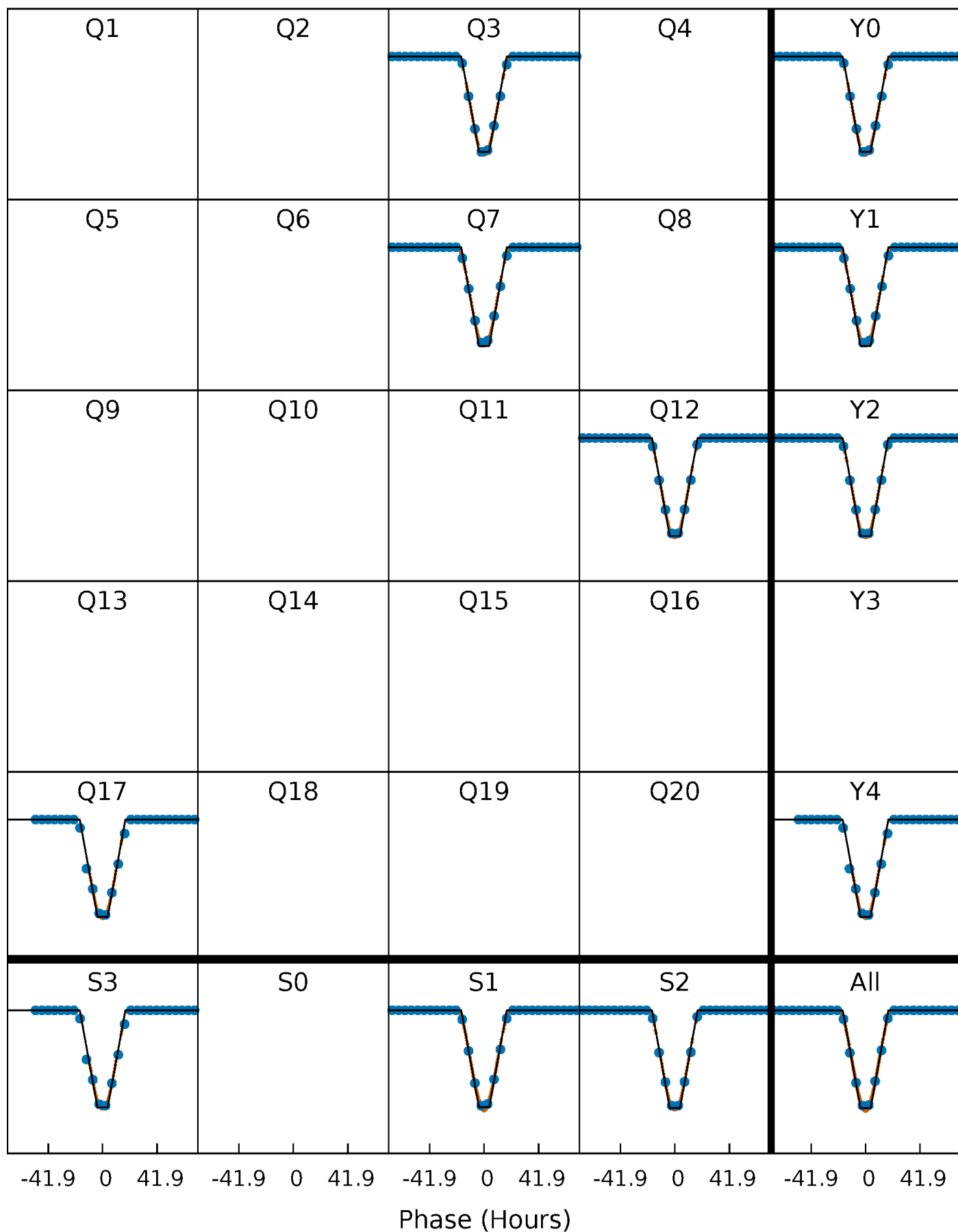
DV Quarter-Phased Transit Curves

TCE 007117003-01 P=428.321474 Days $T_0=276.527969$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

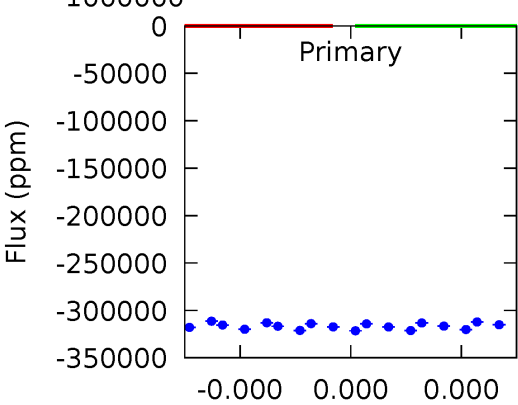
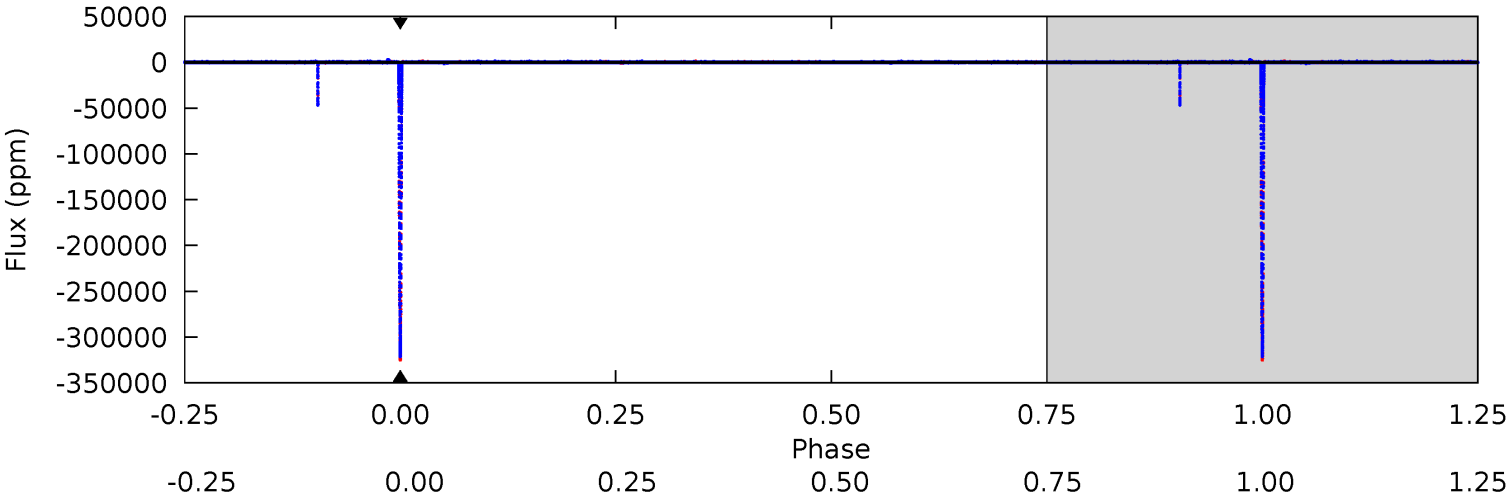
TCE 007117003-01 P=428.321474 Days $T_0=276.530752$ (BKJD)



DV Model-Shift Uniqueness Test

007117003-01, P = 428.321474 Days, E = 276.527969 Days

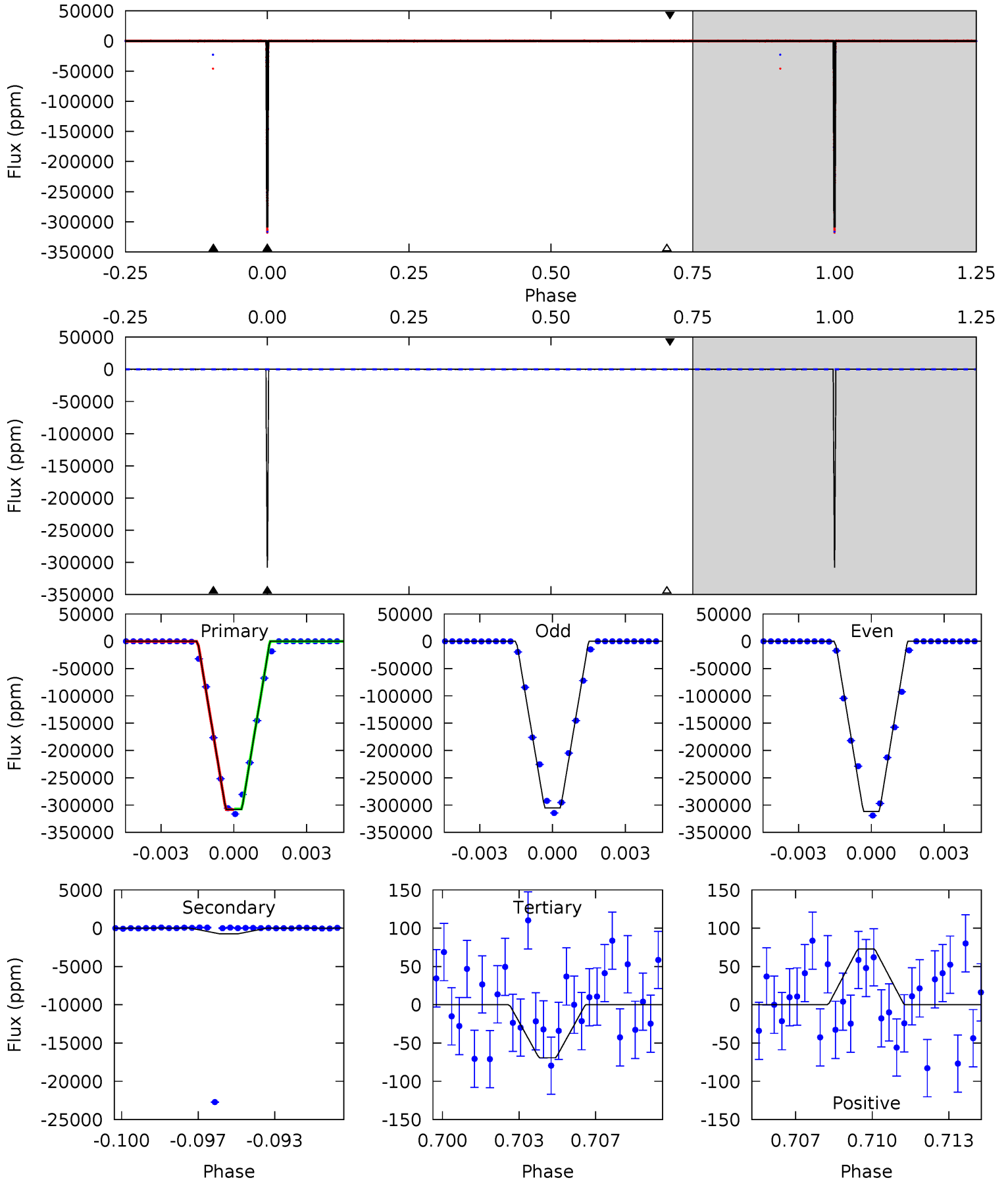
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007117003-01, P = 428.321474 Days, E = 276.530752 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16330	39.7	3.67	3.87	5.23	2.92	1.00	16326	16326	36.1	35.9	159.0	1.00	0.00	0



Stellar Parameters For KIC 007117003

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5662^{+169}_{-152}	$4.532^{+0.063}_{-0.147}$	$-0.440^{+0.300}_{-0.300}$	$0.806^{+0.181}_{-0.090}$	$0.808^{+0.097}_{-0.071}$	$2.171^{+0.586}_{-0.883}$
	+3%/-3%	+1%/-3%	+68%/-68%	+22%/-11%	+12%/-9%	+27%/-41%
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 007117003-01 / KOI 3514.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$38.41^{+9.69}_{-9.75}$	313^{+17}_{-14}	2440^{+2691}_{-7394}	384^{+45226}_{-39799}
Alt.	-749 ± 19	$50.97^{+9.81}_{-10.18}$	312^{+19}_{-12}	2204^{+109}_{-84}	170^{+97}_{-50}

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 $A_{obs} \gg 1.0$

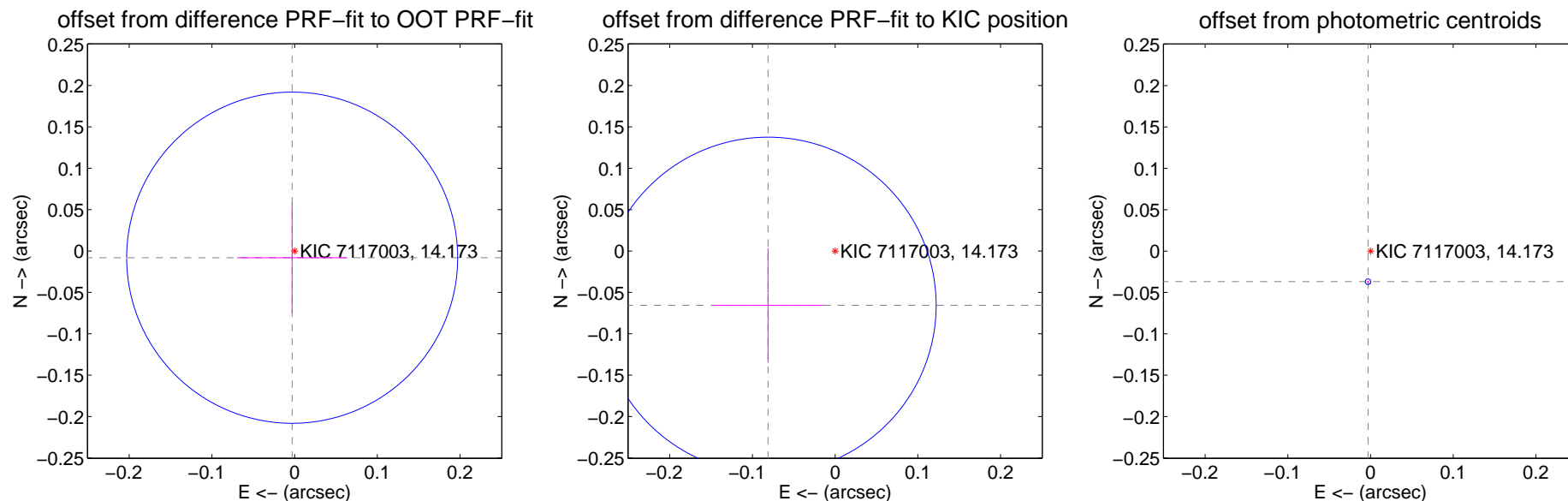
DV Centroid Data

Supplemental centroid analysis for 007117003-01. Kepler magnitude: 14.17. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

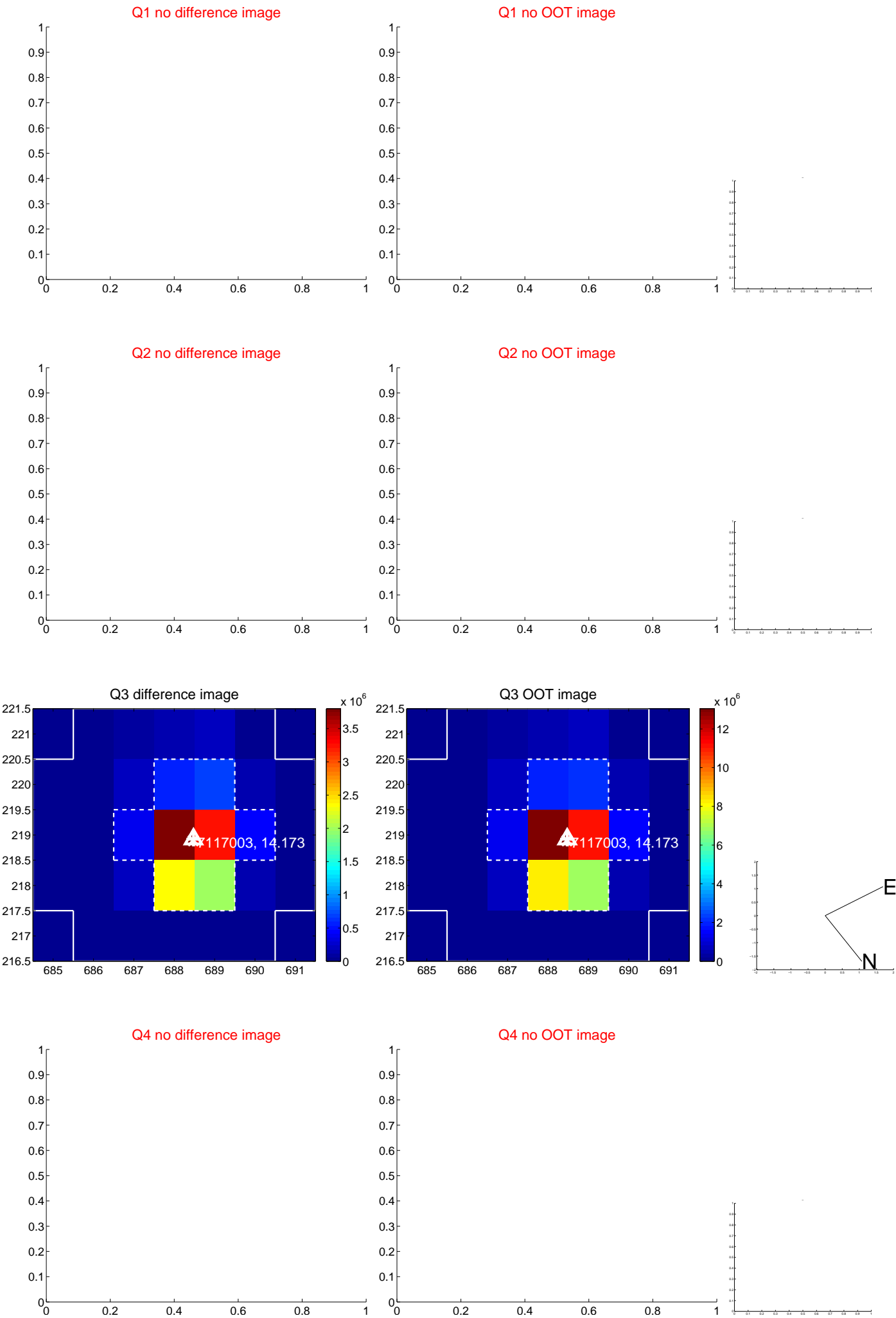
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.13	0.003 ± 0.067	-0.008 ± 0.067
PRF-fit source offset from KIC position	0.104 ± 0.068	1.54	0.081 ± 0.067	-0.066 ± 0.069
photometric centroid source offset	0.04 ± 0.00	33.34	0.00 ± 0.00	-0.04 ± 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.

Q5 no difference image



Q5 no OOT image



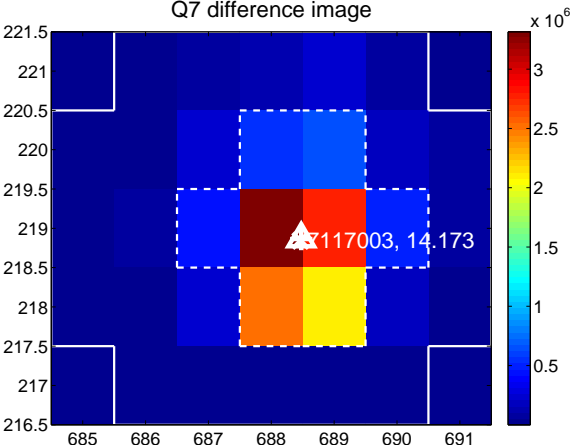
Q6 no difference image



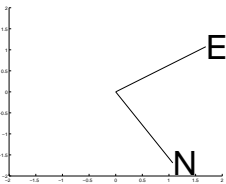
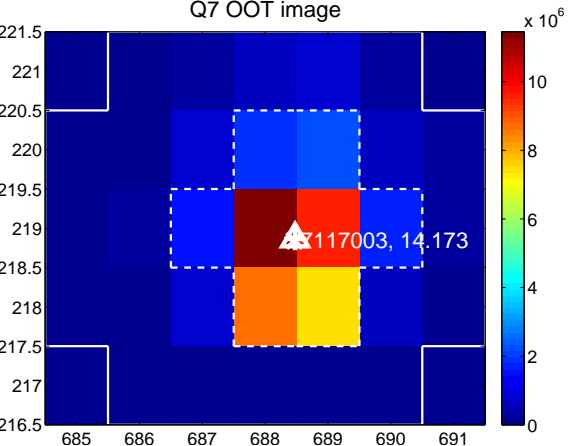
Q6 no OOT image



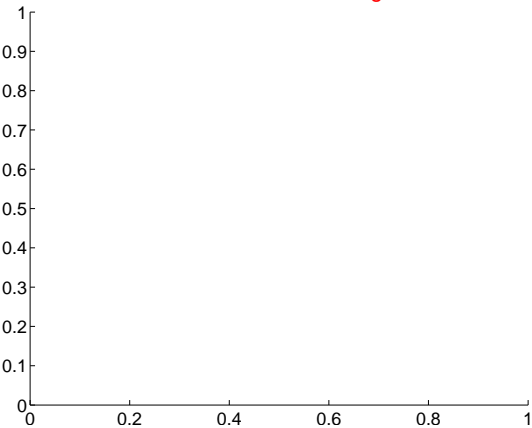
Q7 difference image



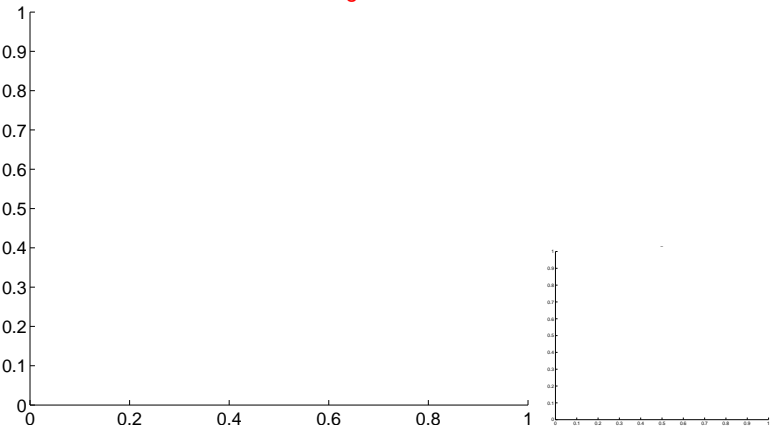
Q7 OOT image



Q8 no difference image



Q8 no OOT image



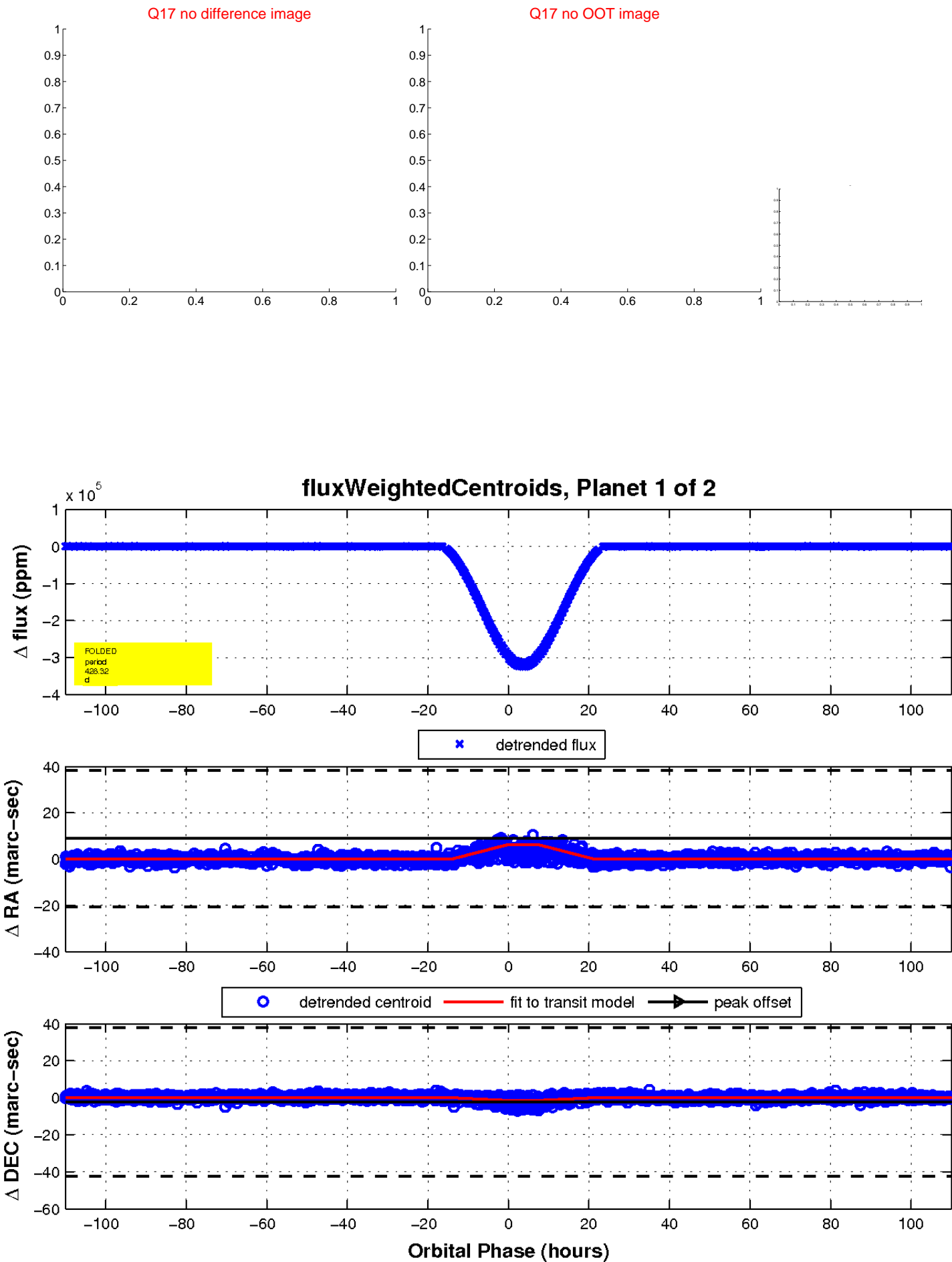
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

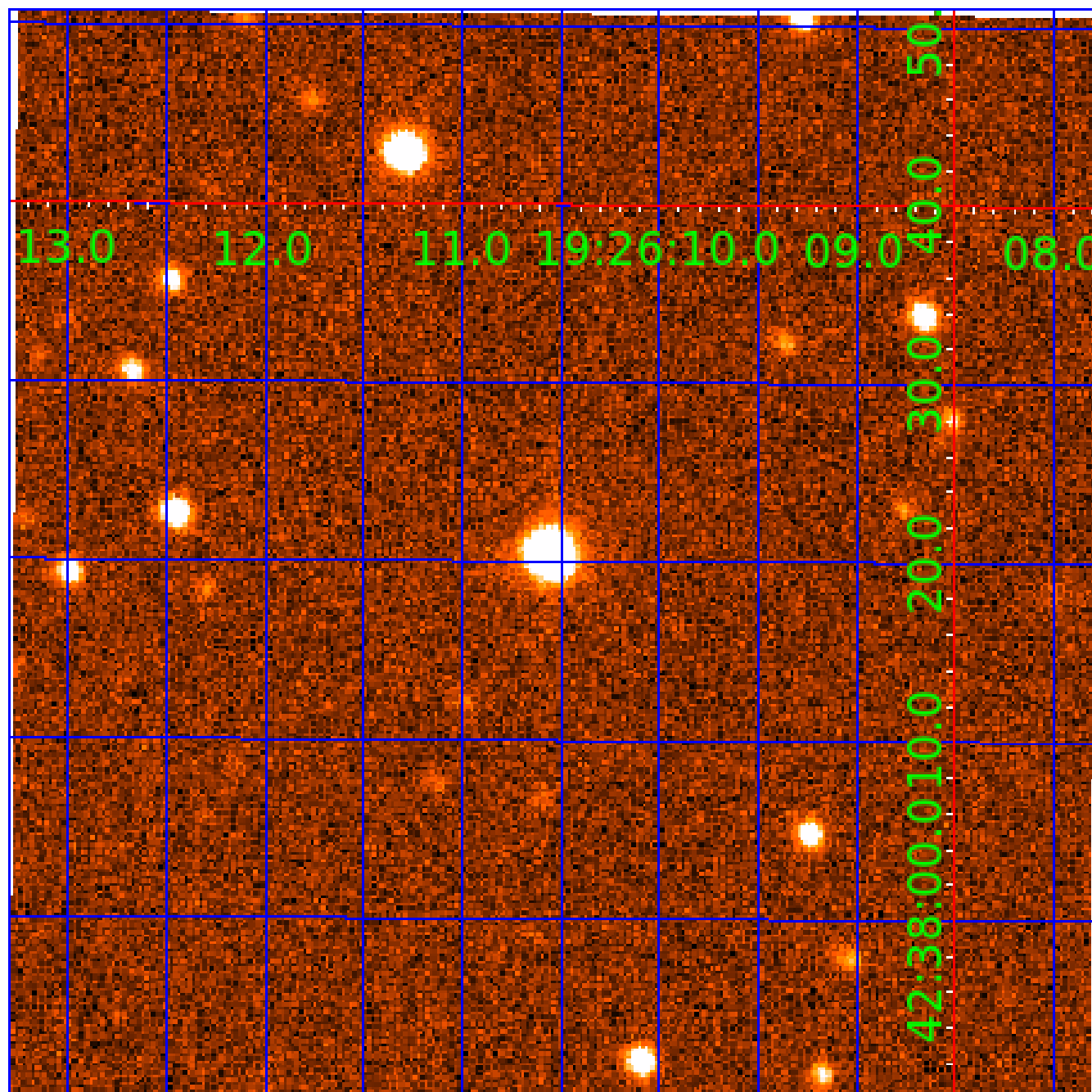


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007117003

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})
007117003-01	OBS	3514.01	428.321474	276.527969	0.0	15.000	7372.3	-1.0	0.81	5662	36.46	0.56
007117003-02	OBS	No	428.321474	235.572304	42410.6	3.500	925.3	-1.0	0.81	5662	16.53	0.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117003-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
007117003-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—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.

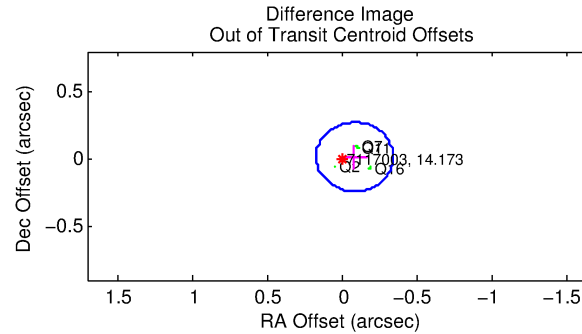
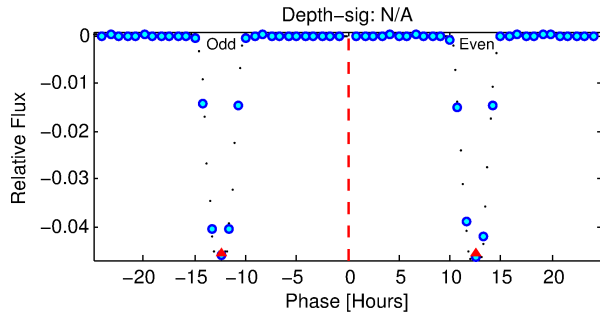
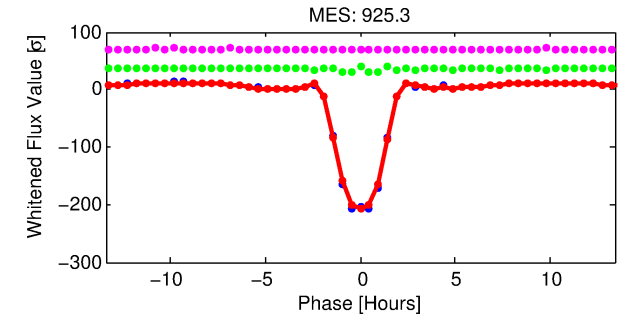
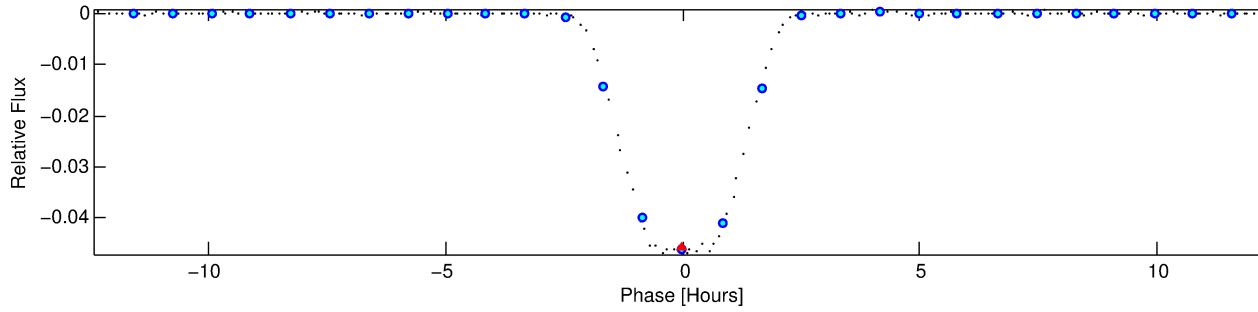
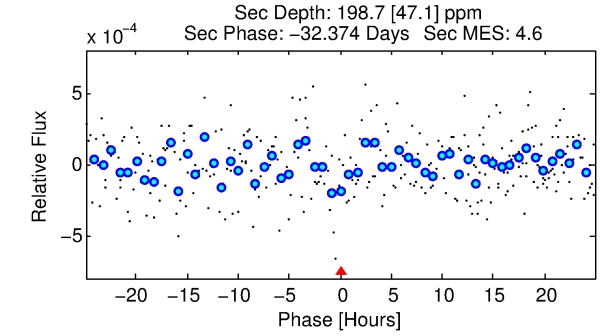
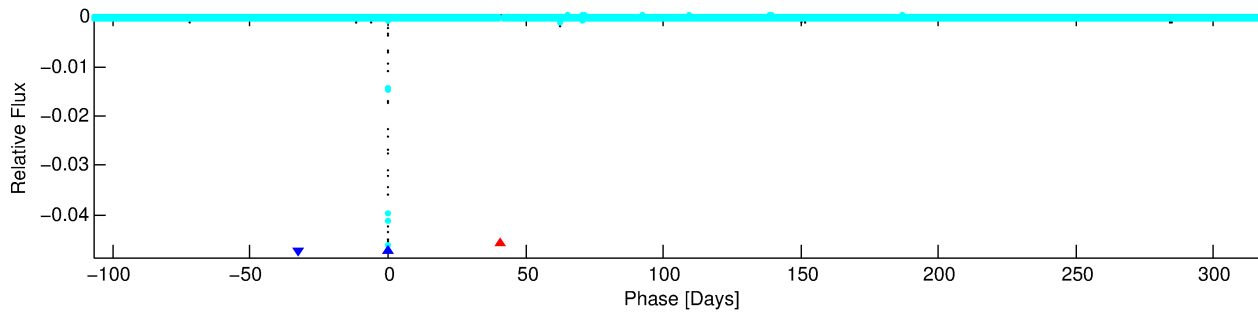
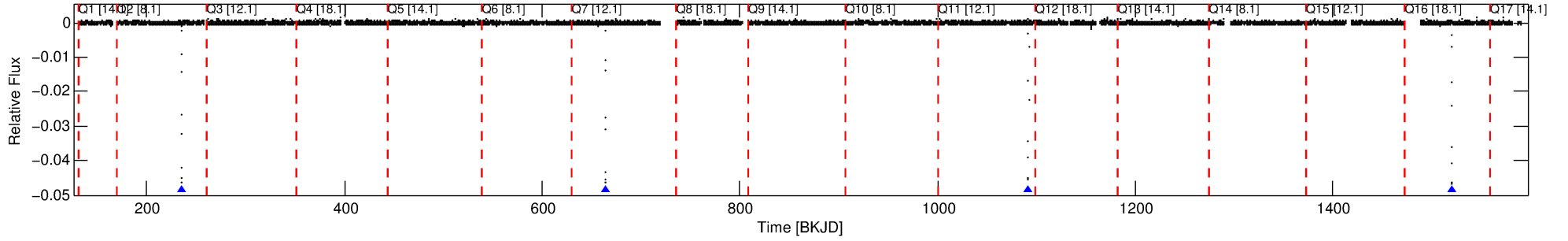
Ephemeris Match Information For 007117003-02

No Significant Match Found

DV One-Page Summary

KIC: 7117003 Candidate: 2 of 2 Period: 428.321 d
KOI: K03514 Corr: No Ephemeris Match

Kp: 14.17 R*: 0.81 Rs Teff: 5662.0 K Logg: 4.53 Fe/H: -0.440



TPS TCE Results:

Period = 428.32147 d
Epoch = 235.5723 BKJD

DV fit results are unavailable

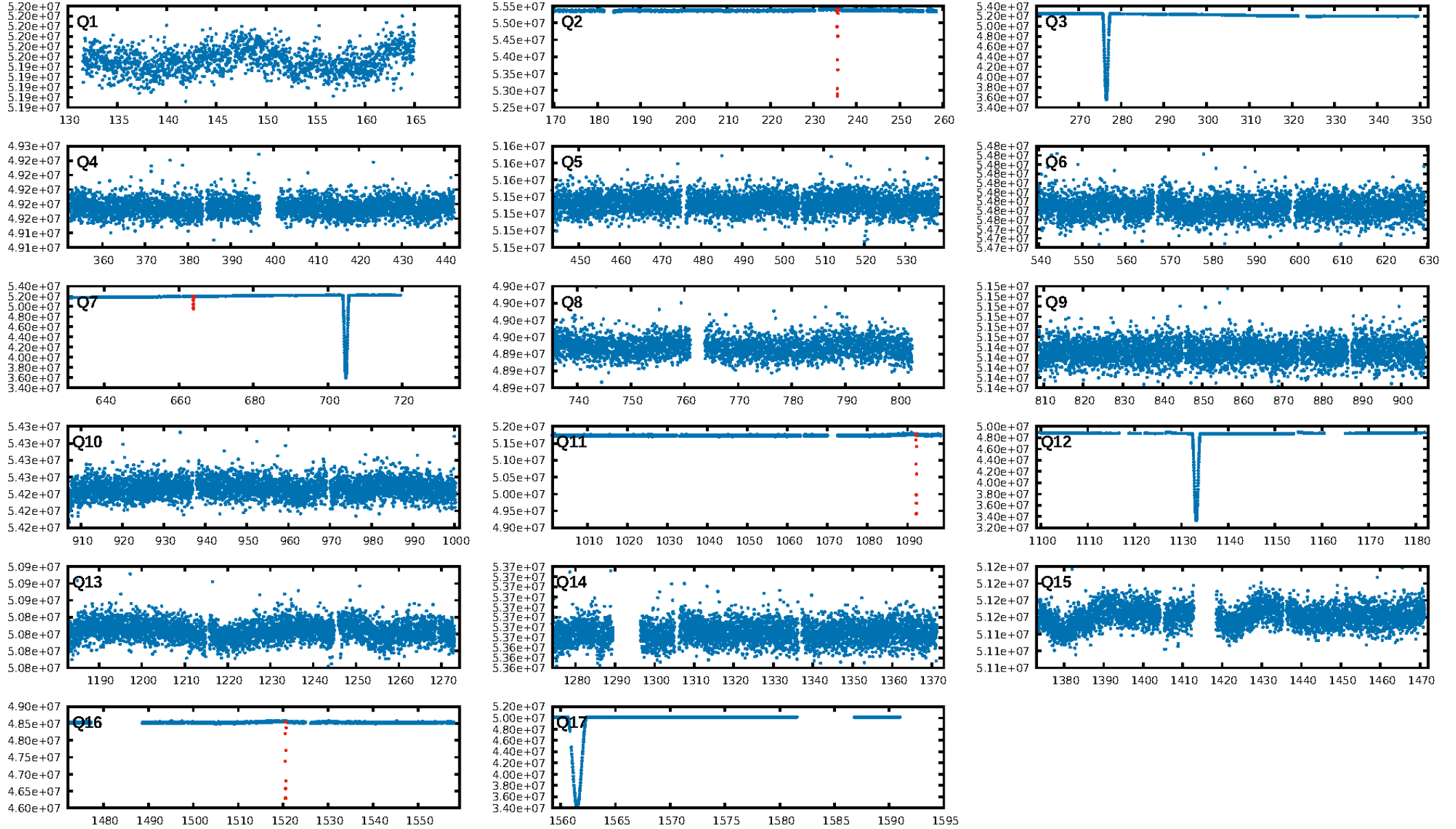
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.449
Centroid-sig: 0.0%
Centroid-so: 0.073 arcsec [5.48 σ]
OotOffset-rm: 0.089 arcsec [1.03 σ]
KicOffset-rm: 0.057 arcsec [0.62 σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

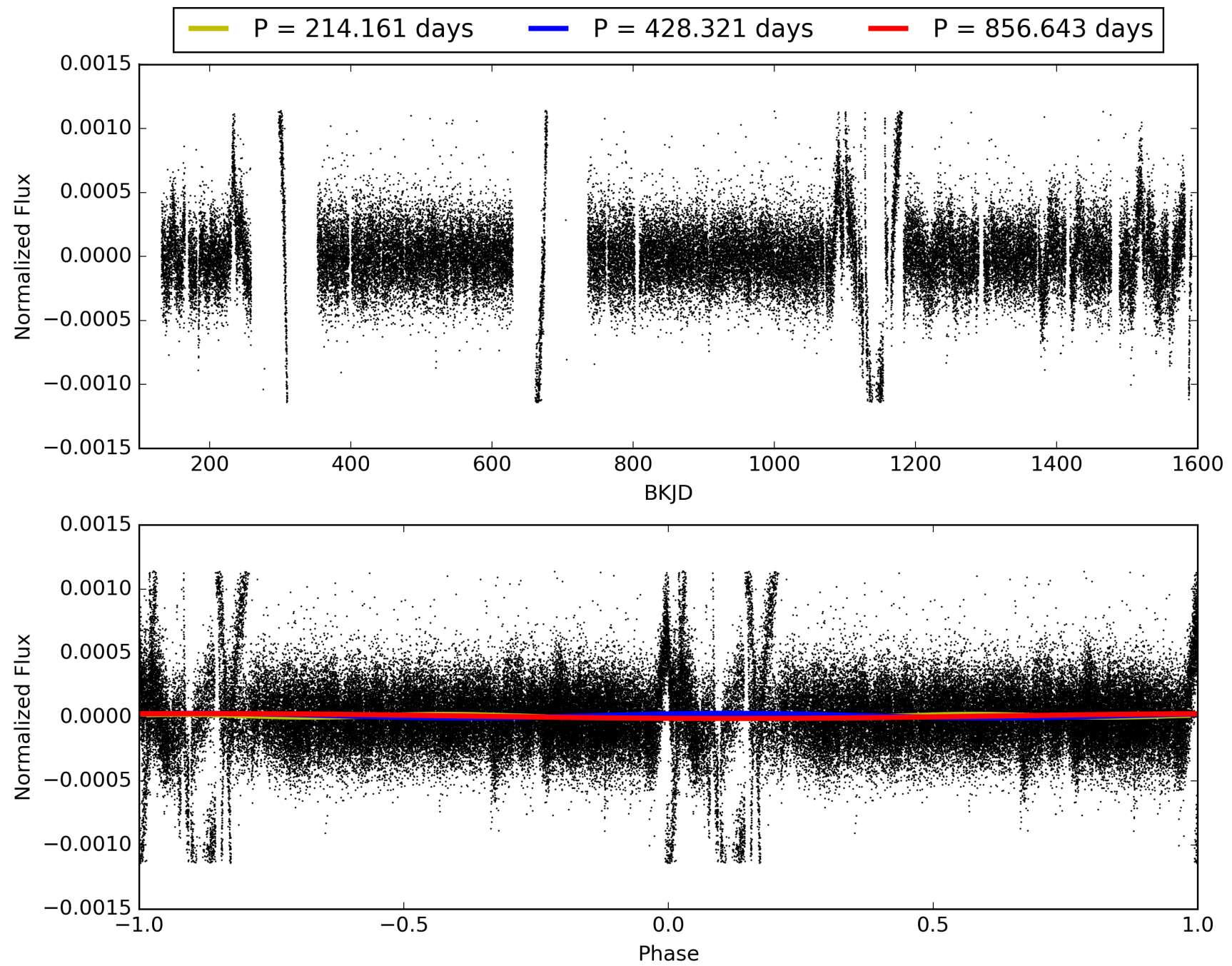
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:27:36 Z

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

TCE 007117003-02, PDC Light Curves

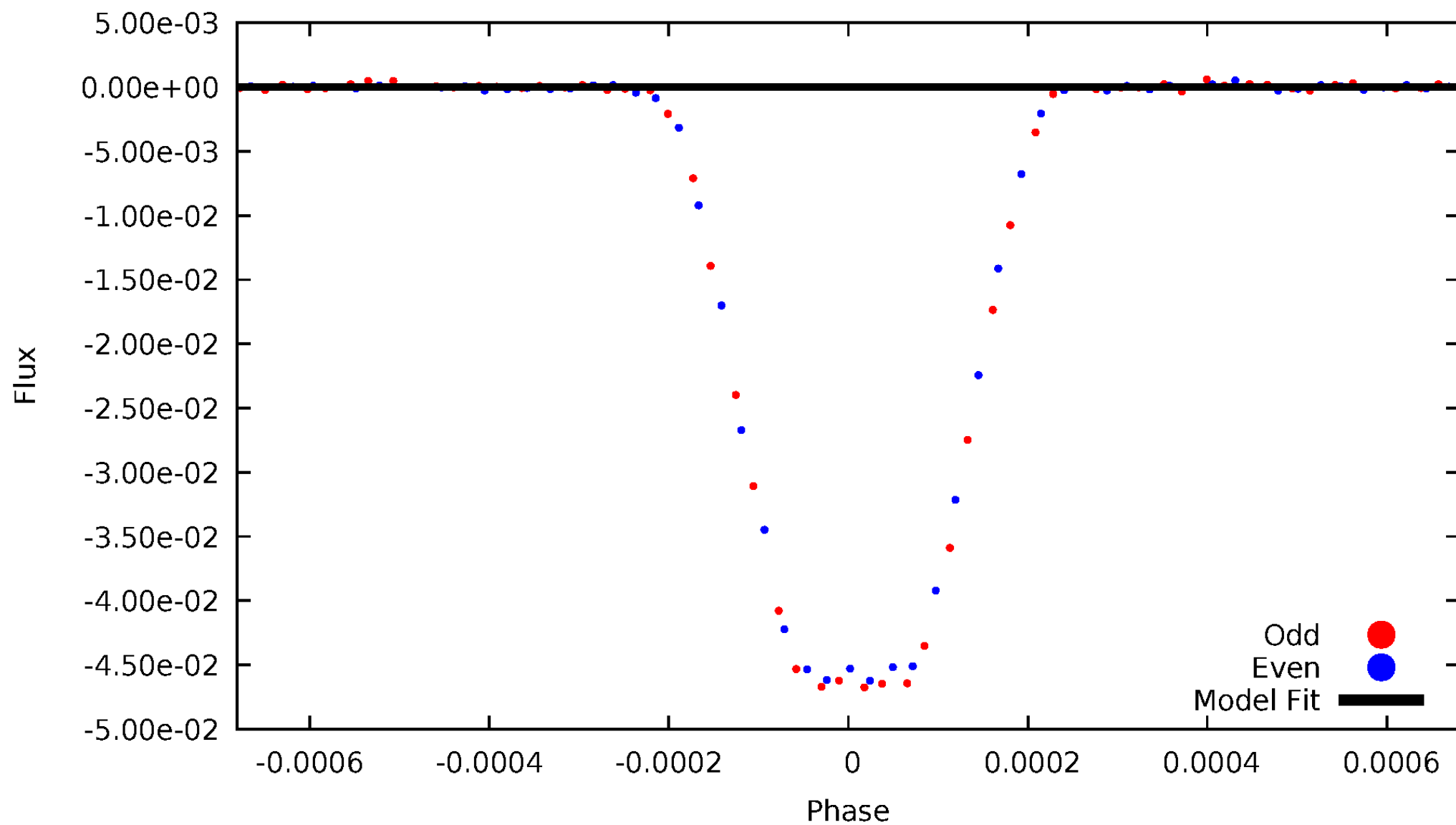


TCE 007117003-02



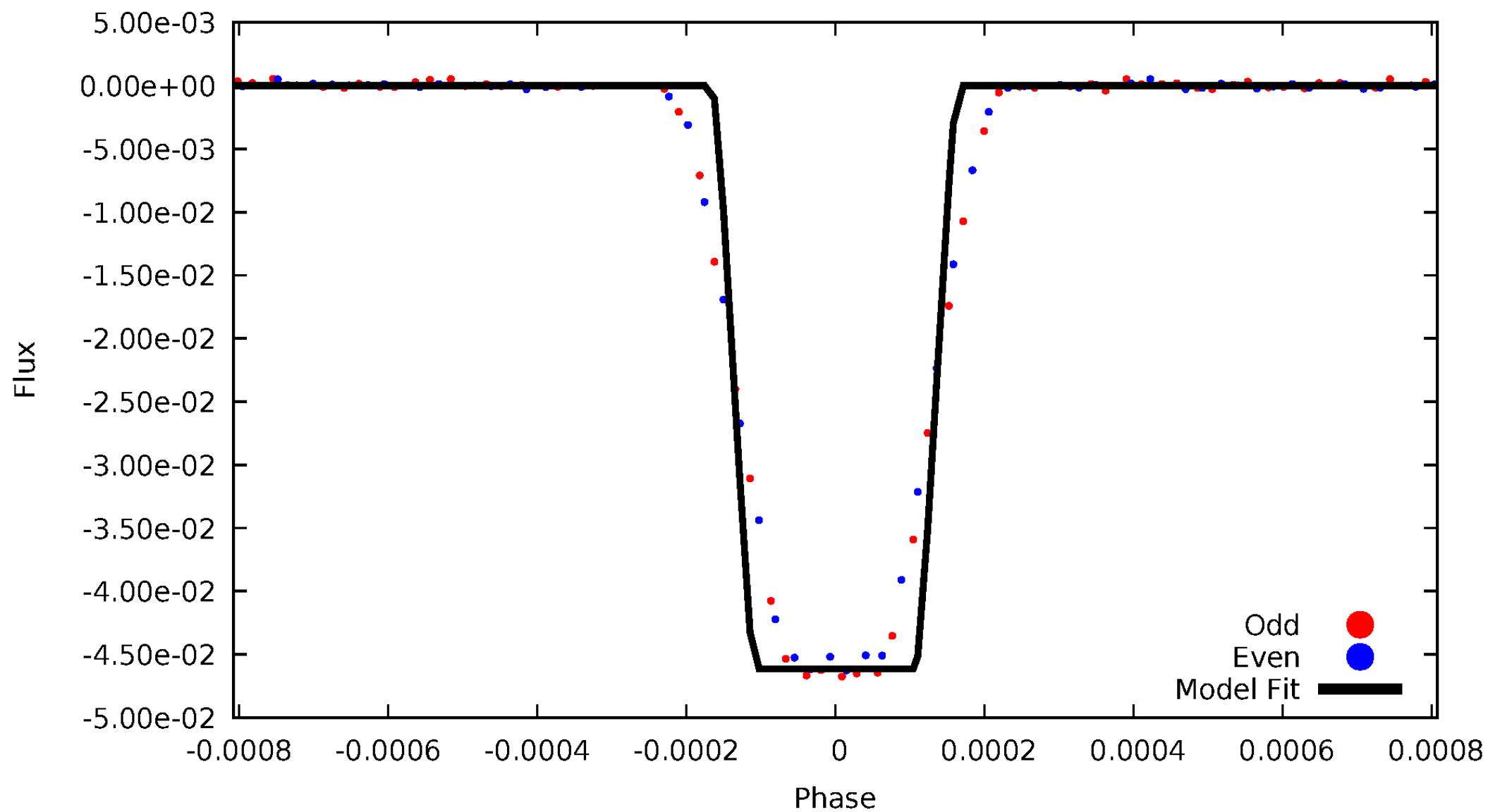
DV Odd/Even

TCE 007117003-02



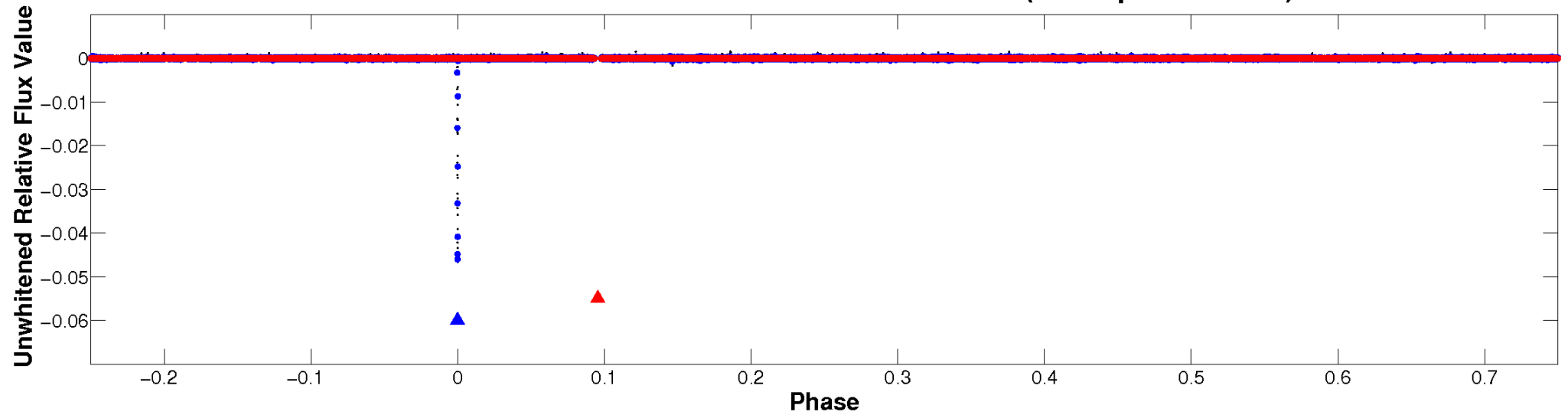
ALT Odd/Even

TCE 007117003-02



Non-Whitened Vs. Whitened Light Curve

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

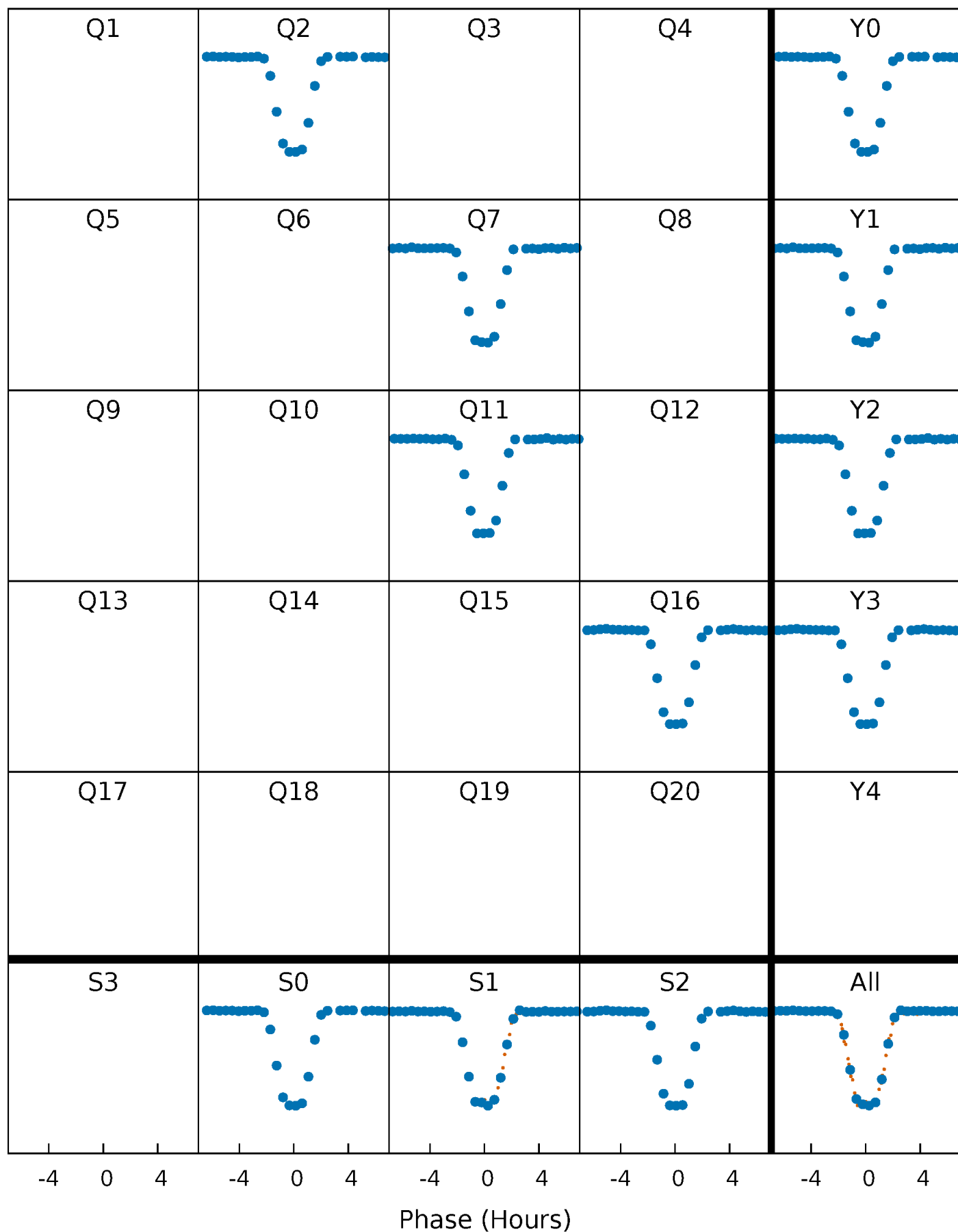


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



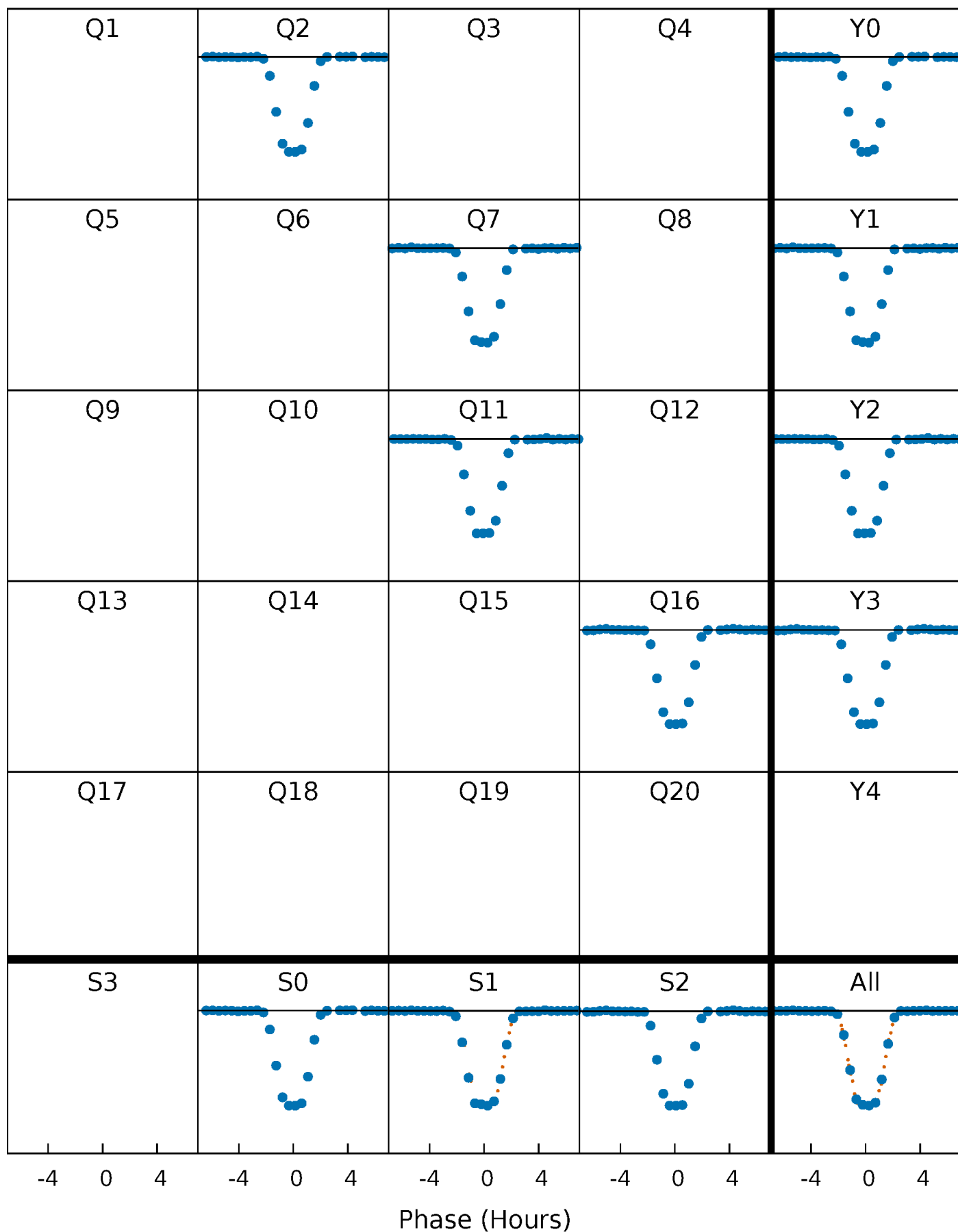
PDC Quarter-Phased Transit Curves

TCE 007117003-02 P=428.321474 Days $T_0=235.572304$ (BKJD)



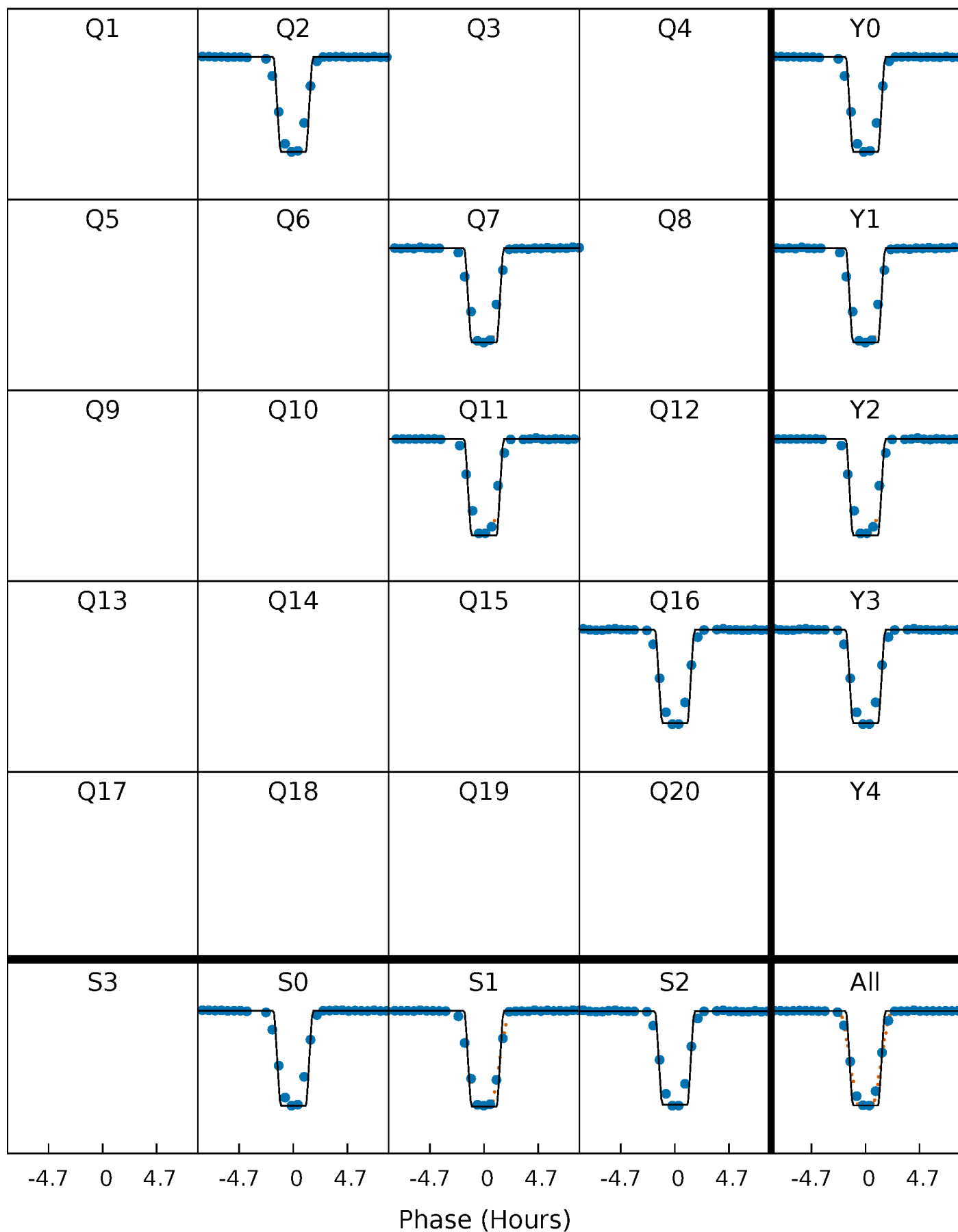
DV Quarter-Phased Transit Curves

TCE 007117003-02 P=428.321474 Days $T_0=235.572304$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

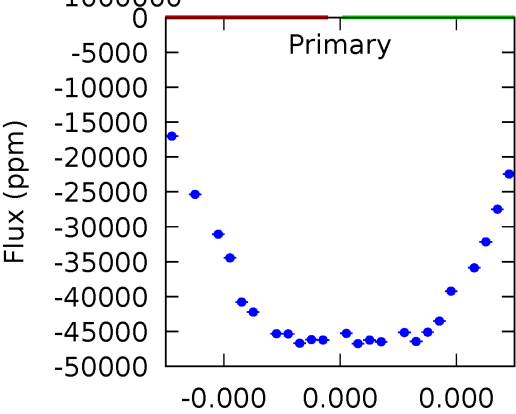
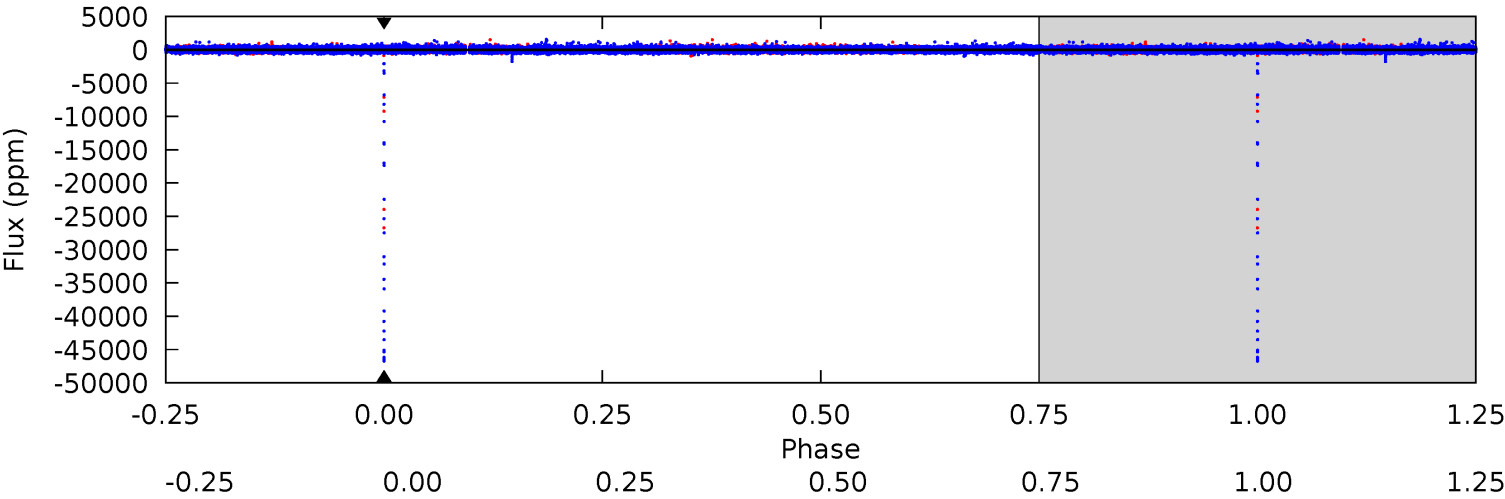
TCE 007117003-02 P=428.321474 Days $T_0=235.576068$ (BKJD)



DV Model-Shift Uniqueness Test

007117003-02, P = 428.321474 Days, E = 235.572304 Days

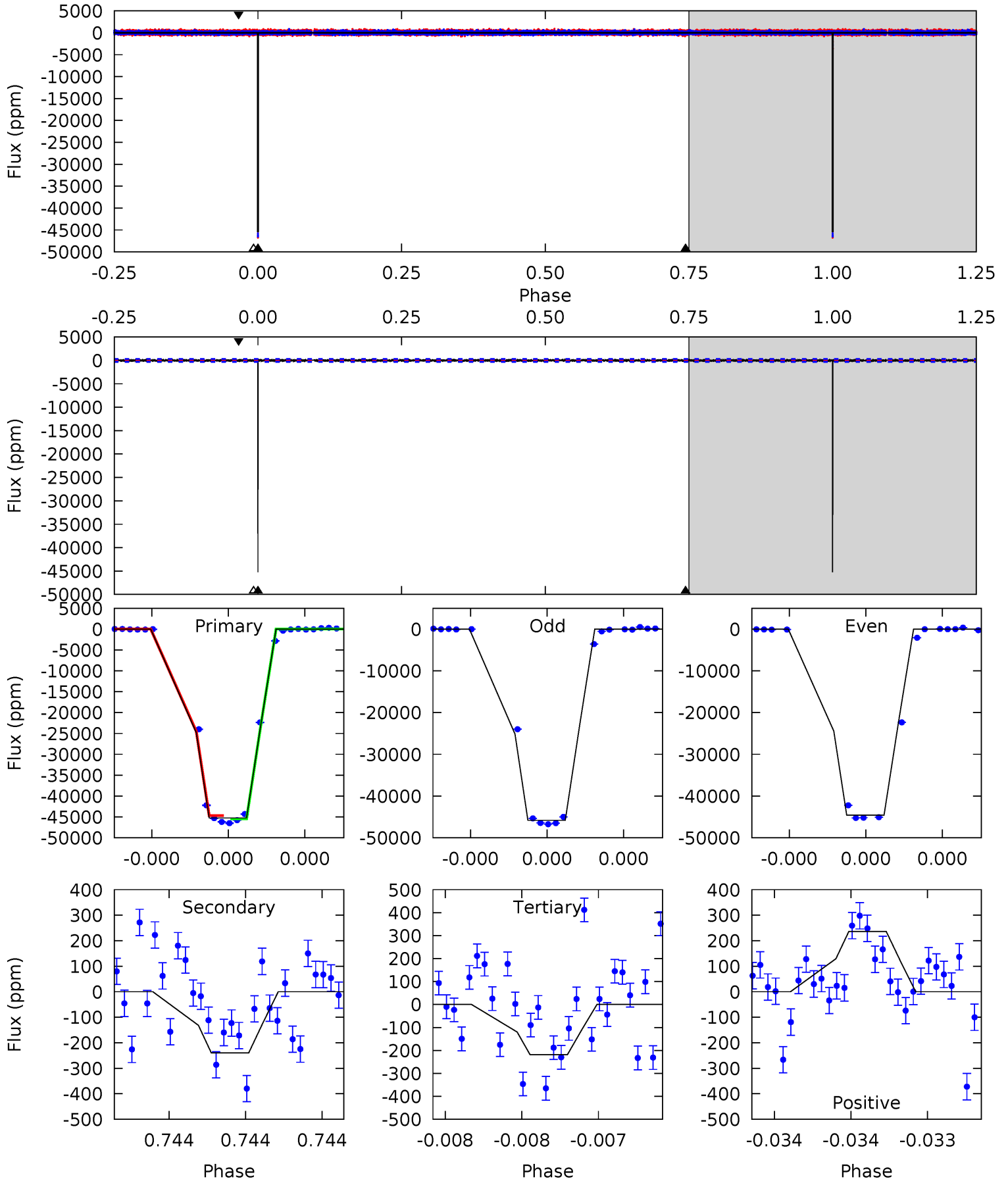
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007117003-02, P = 428.321474 Days, E = 235.576068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
837.4	4.44	4.04	4.37	5.65	3.60	2.36	833.4	833.0	0.40	0.07	12.2	1.01	0.01	0



Stellar Parameters For KIC 007117003

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5662^{+169}_{-152}	$4.532^{+0.063}_{-0.147}$	$-0.440^{+0.300}_{-0.300}$	$0.806^{+0.181}_{-0.090}$	$0.808^{+0.097}_{-0.071}$	$2.171^{+0.586}_{-0.883}$
	+3%/-3%	+1%/-3%	+68%/-68%	+22%/-11%	+12%/-9%	+27%/-41%
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 007117003-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$17.36^{+9.15}_{-8.53}$	313^{+17}_{-14}	-2716^{+11269}_{-4843}	$-1005.206^{+315409.306}_{-209722.410}$
Alt.	-240 ± 54	$20.26^{+9.90}_{-8.94}$	312^{+18}_{-14}	2383^{+385}_{-215}	346^{+759}_{-197}

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

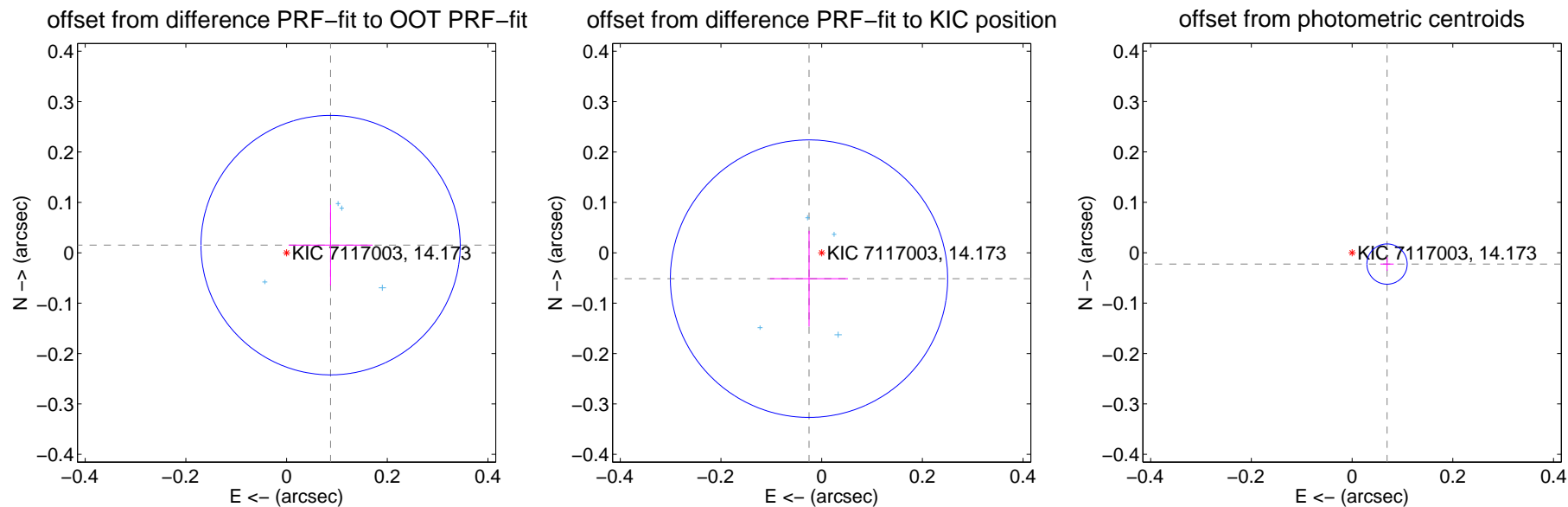
DV Centroid Data

Supplemental centroid analysis for 007117003-02. Kepler magnitude: 14.17. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

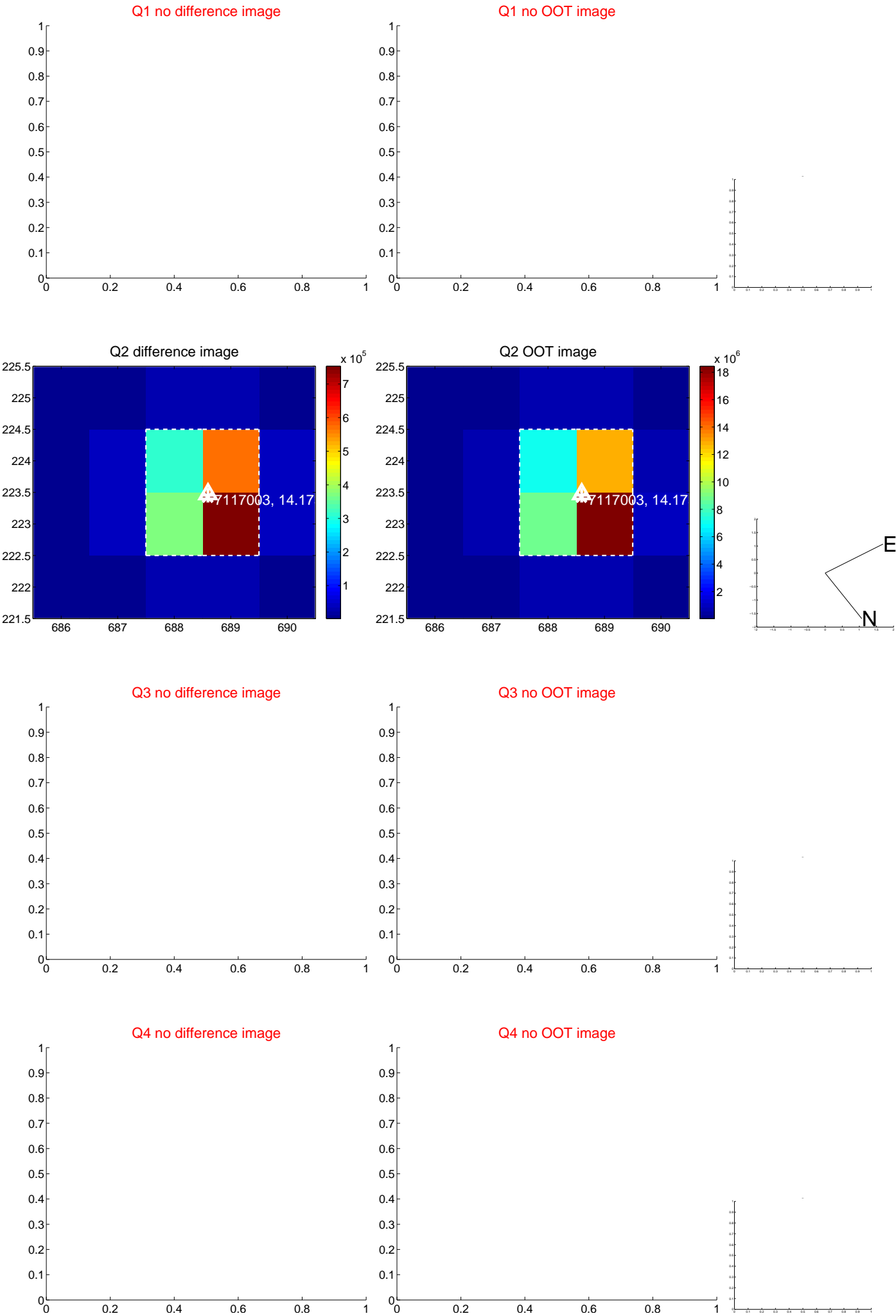
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.089 ± 0.086	1.03	-0.087 ± 0.084	0.015 ± 0.080
PRF-fit source offset from KIC position	0.057 ± 0.092	0.62	0.025 ± 0.077	-0.051 ± 0.095
photometric centroid source offset	0.07 ± 0.01	5.48	-0.07 ± 0.01	-0.02 ± 0.01



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

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



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

Q5 no difference image



Q5 no OOT image



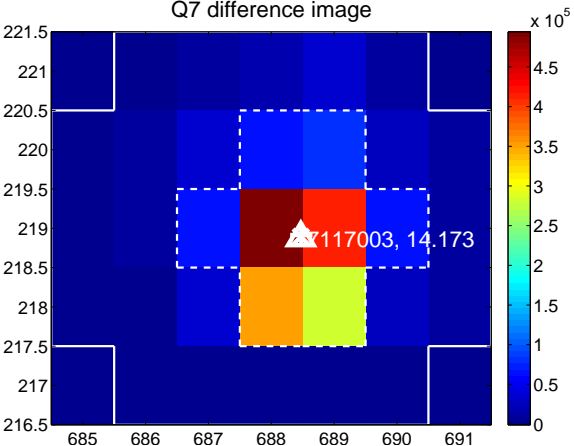
Q6 no difference image



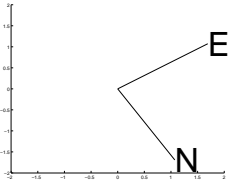
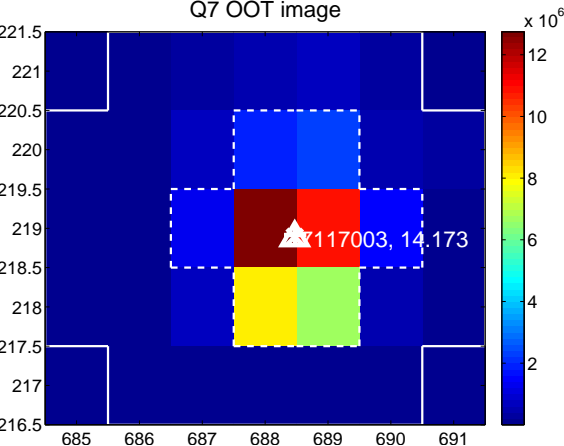
Q6 no OOT image



Q7 difference image



Q7 OOT image



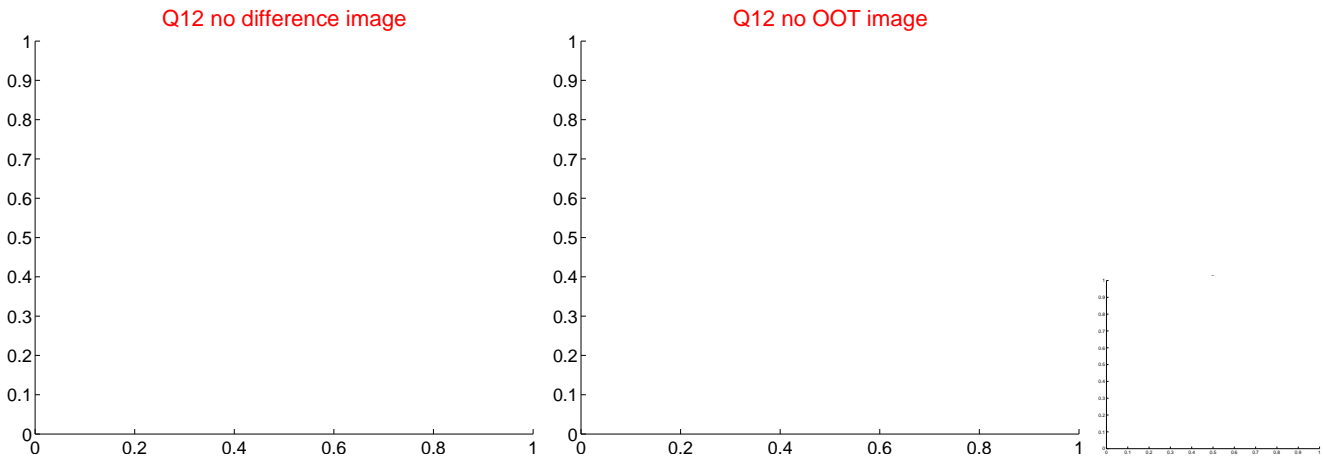
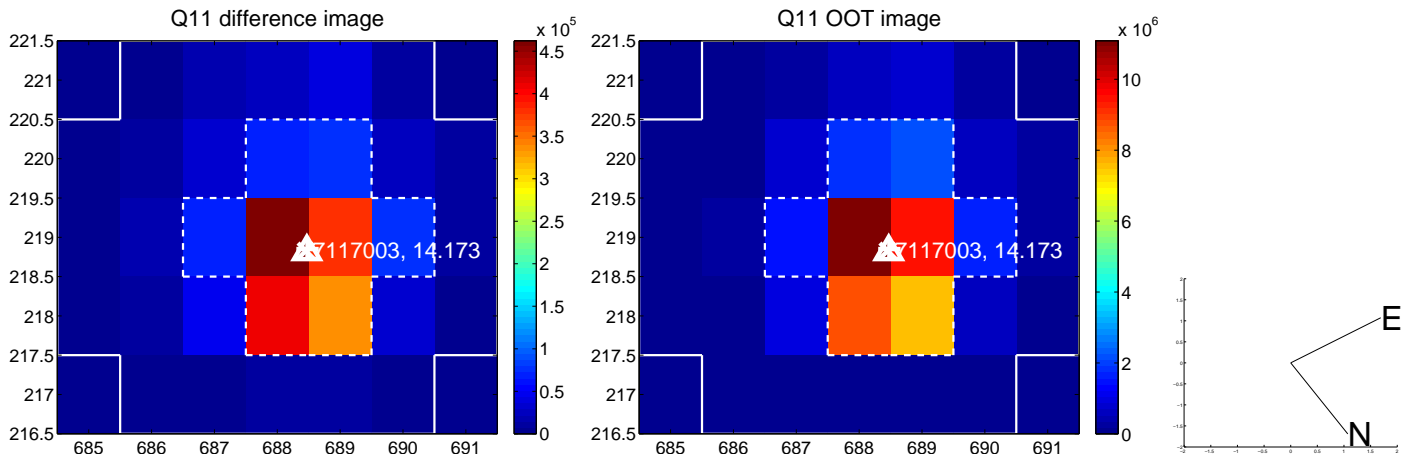
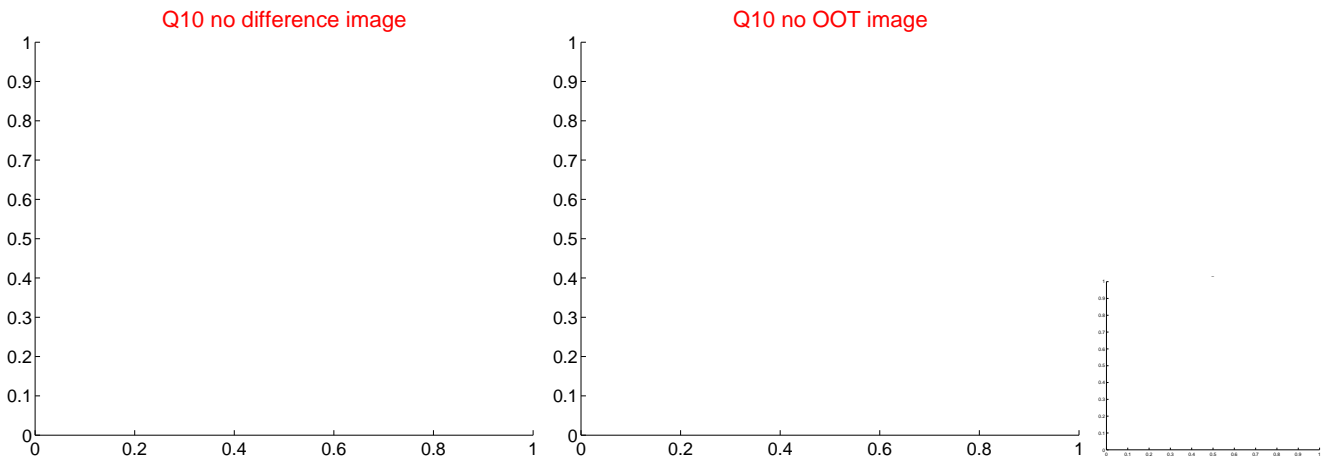
Q8 no difference image



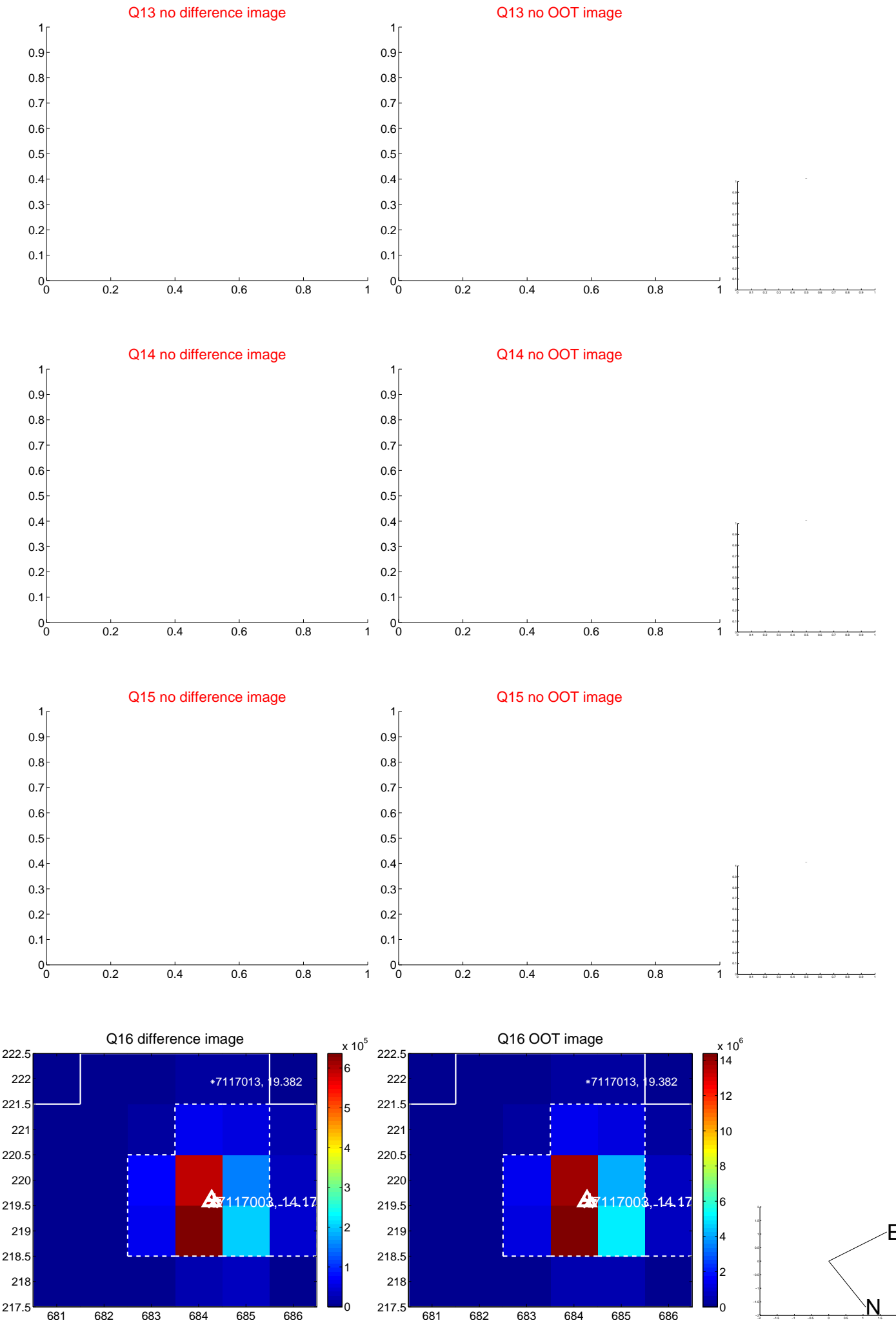
Q8 no OOT image



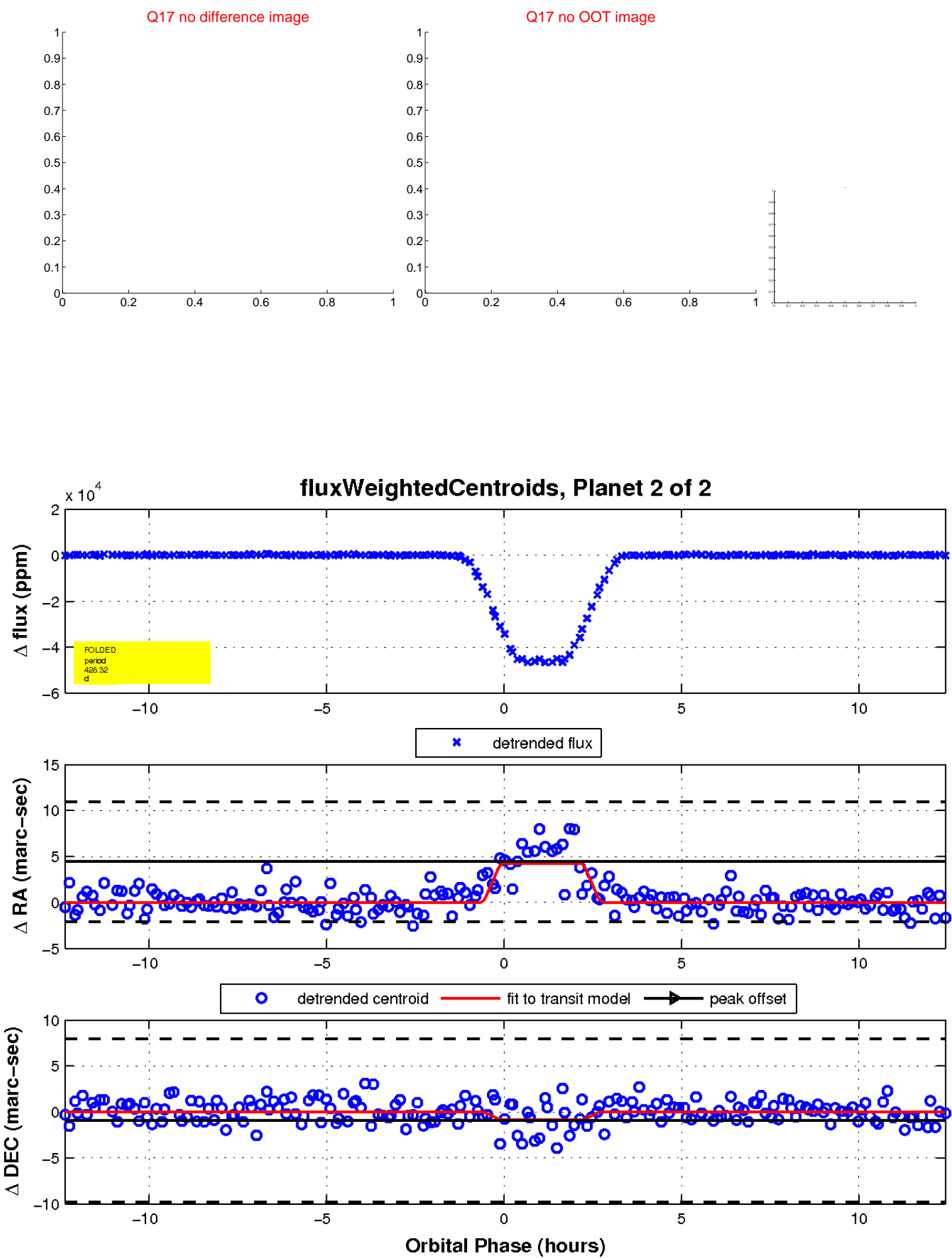
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

