

KIC 009479460

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})
009479460-01	OBS	6205.01	2.073989	132.519527	574590.4	3.000	5944.9	-1.0	3.37	7803	166.92	23310.05
009479460-02	OBS	No	2.073953	131.508180	105659.0	5.410	921.5	575.5	3.37	7803	182.15	23310.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009479460-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
009479460-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

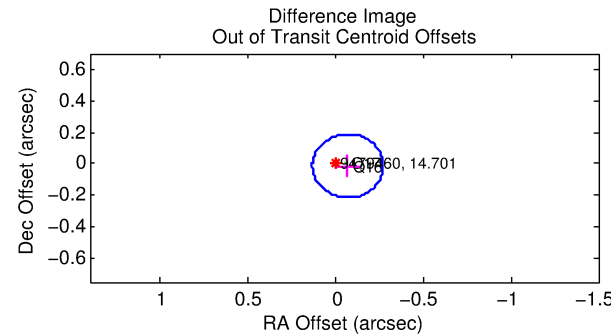
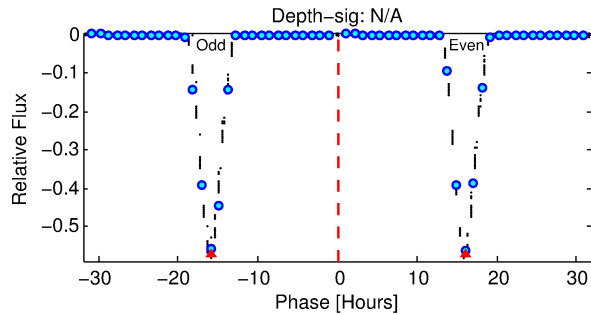
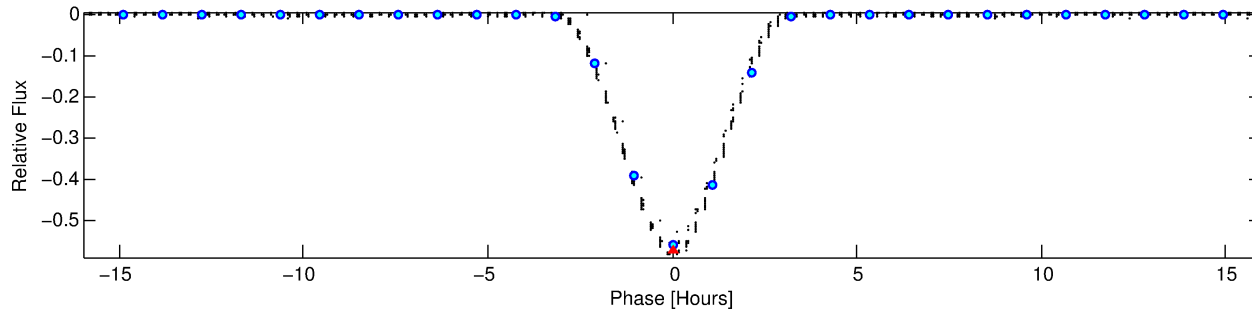
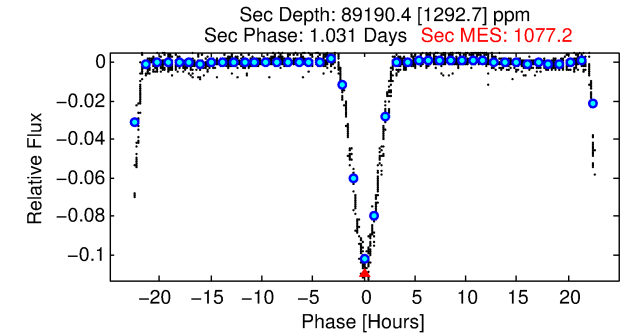
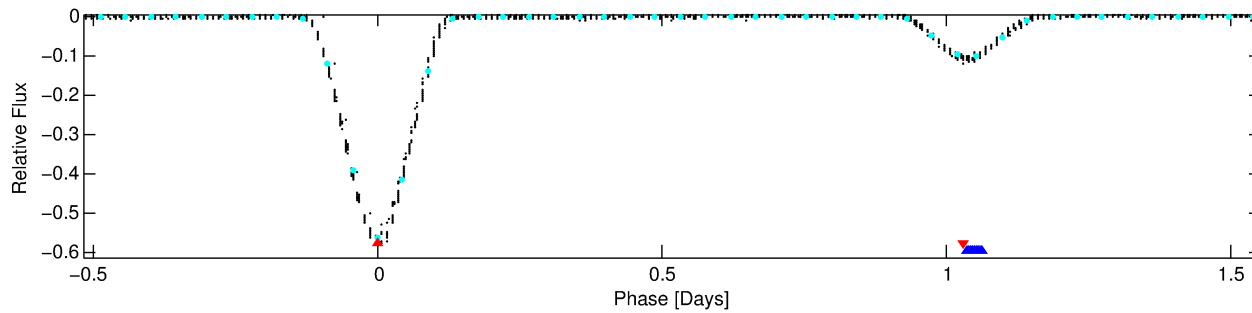
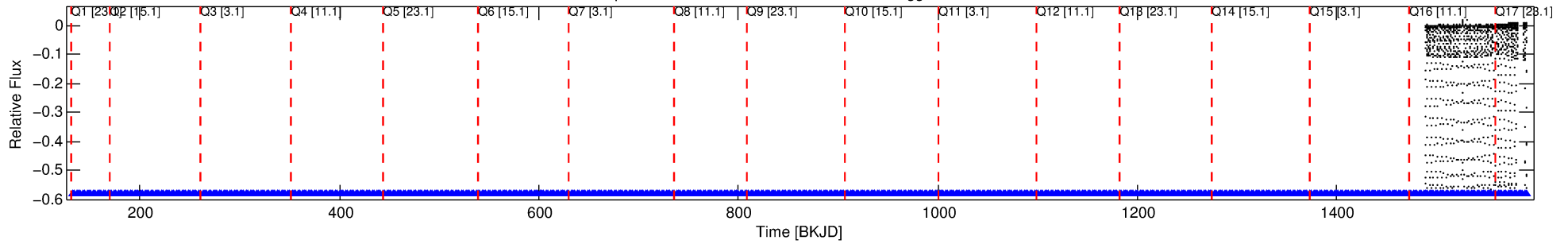
Ephemeris Match Information For 009479460-01

No Significant Match Found

DV One-Page Summary

KIC: 9479460 Candidate: 1 of 2 Period: 2.074 d
KOI: K06205 Corr: No Ephemeris Match

Kp: 14.70 R*: 3.37 Rs Teff: 7803.0 K Logg: 3.69 Fe/H: -0.160



TPS TCE Results:

Period = 2.07399 d
Epoch = 132.5195 BKJD

DV fit results are unavailable

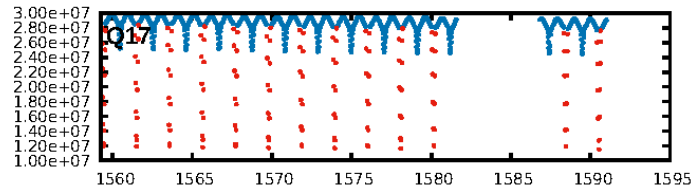
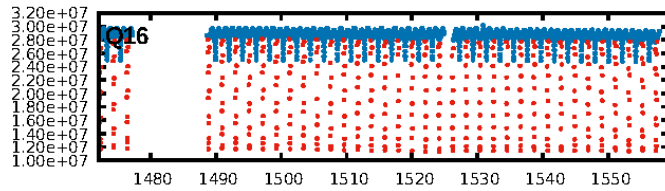
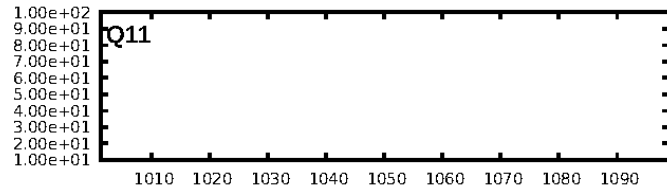
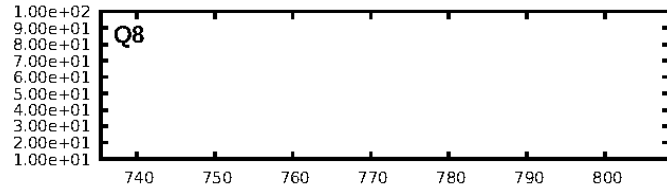
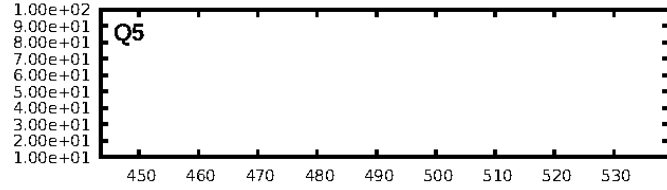
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [34/34]
GhostDiagnostic-chr: 1.421
Centroid-sig: N/A
Centroid-so: 0.313 arcsec [100.54 σ]
OotOffset-rm: 0.071 arcsec [1.06 σ]
KicOffset-rm: 0.107 arcsec [1.59 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

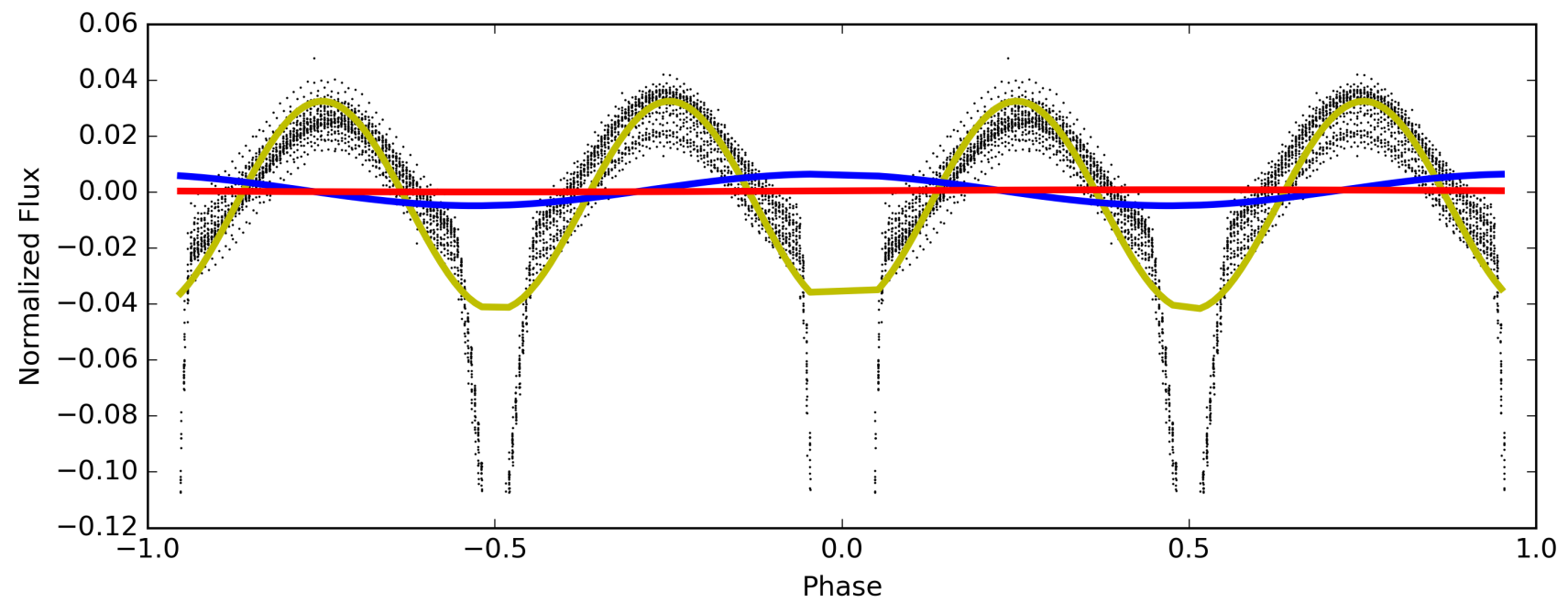
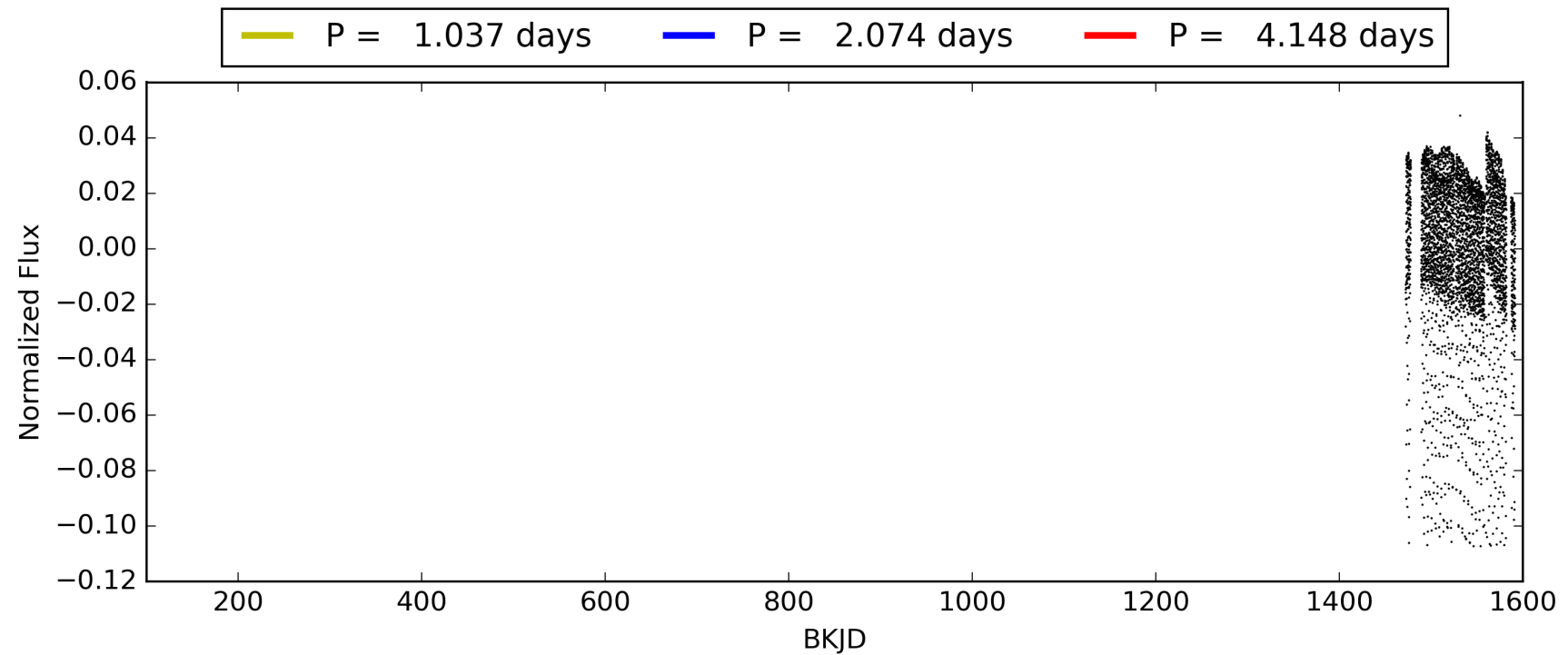
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 16:46:58 Z

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

TCE 009479460-01, PDC Light Curves

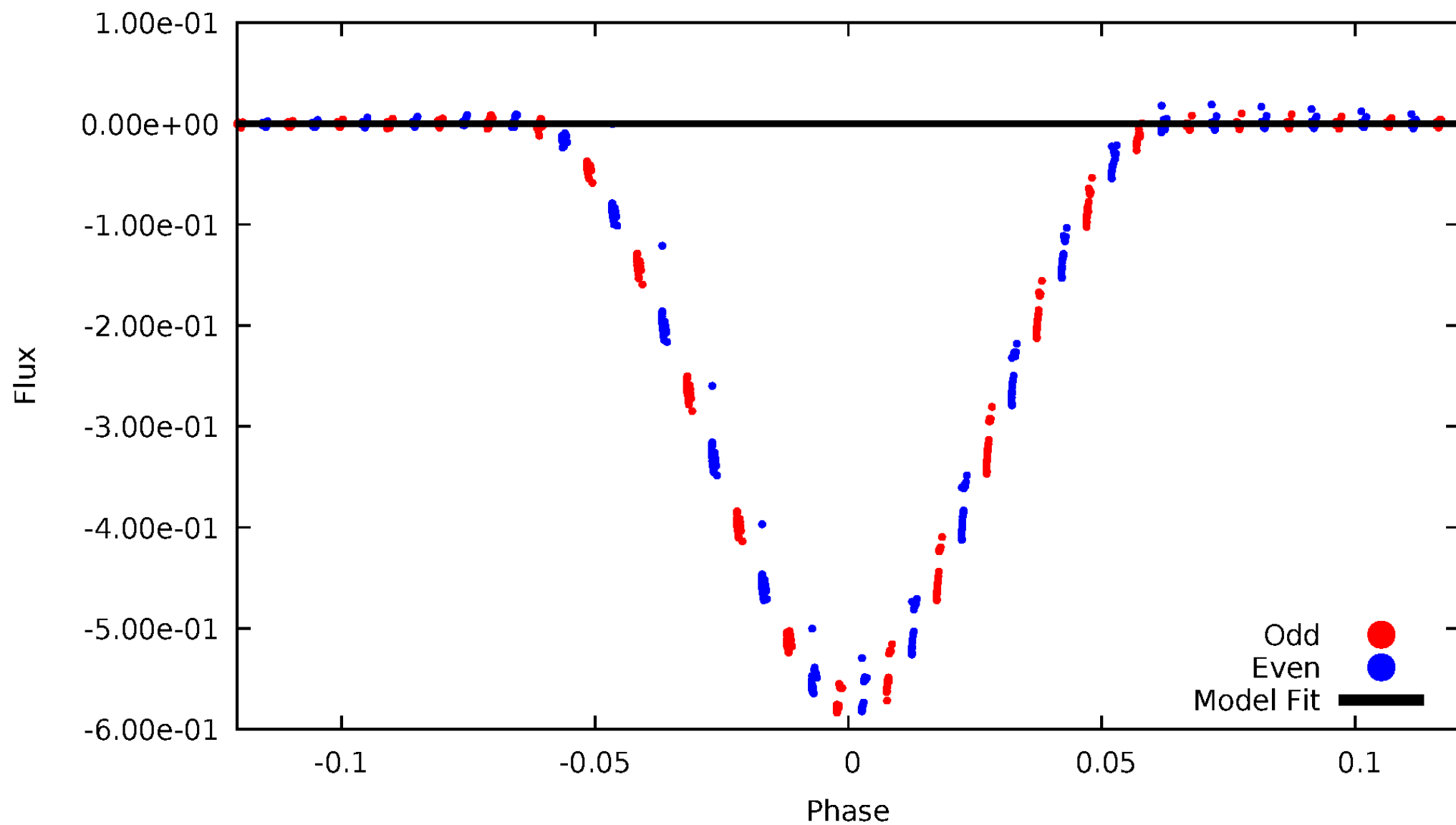


TCE 009479460-01



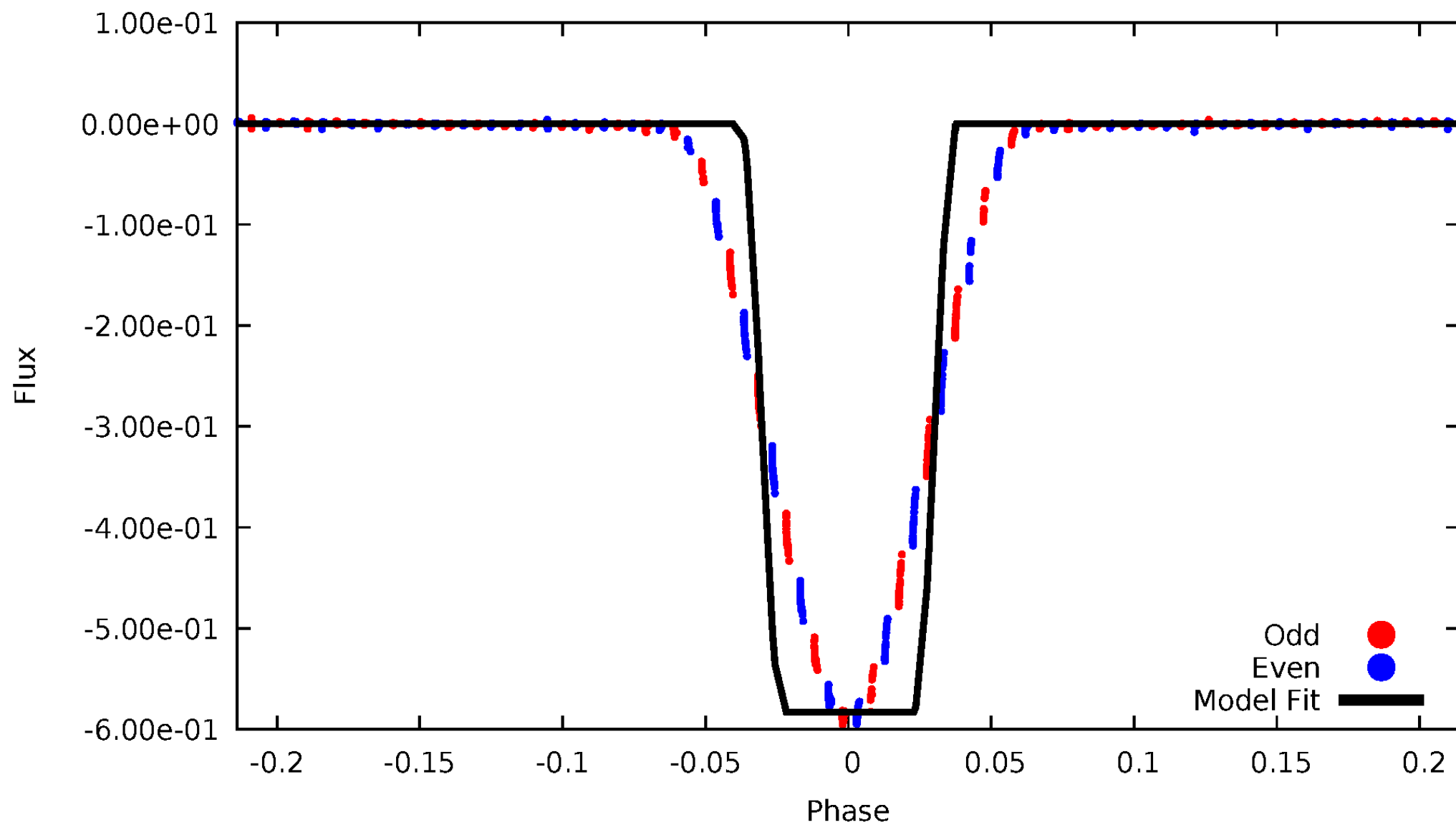
DV Odd/Even

TCE 009479460-01



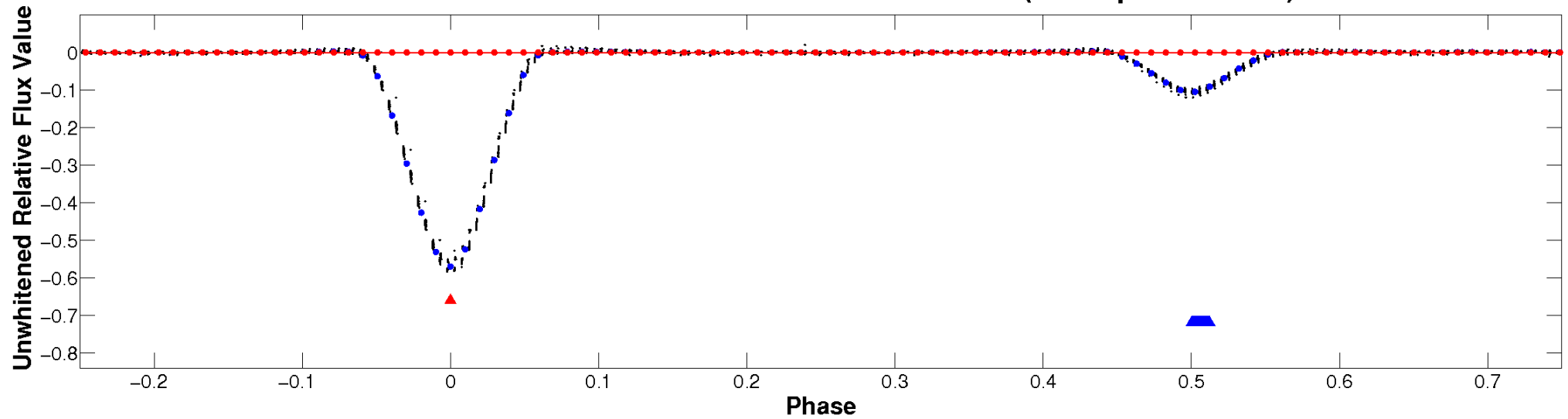
ALT Odd/Even

TCE 009479460-01

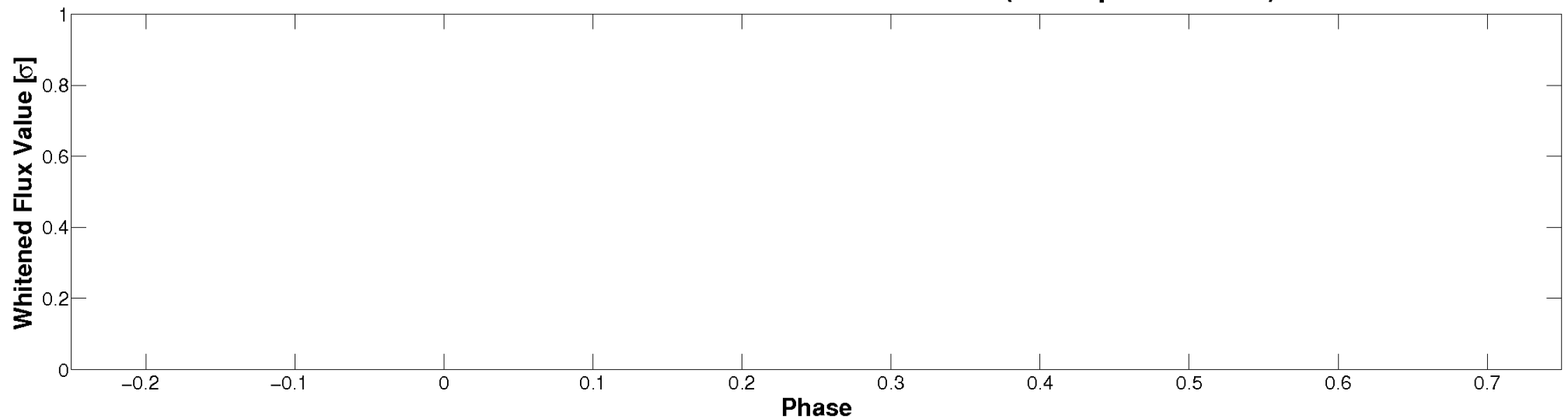


Non-Whitened Vs. Whitened Light Curve

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

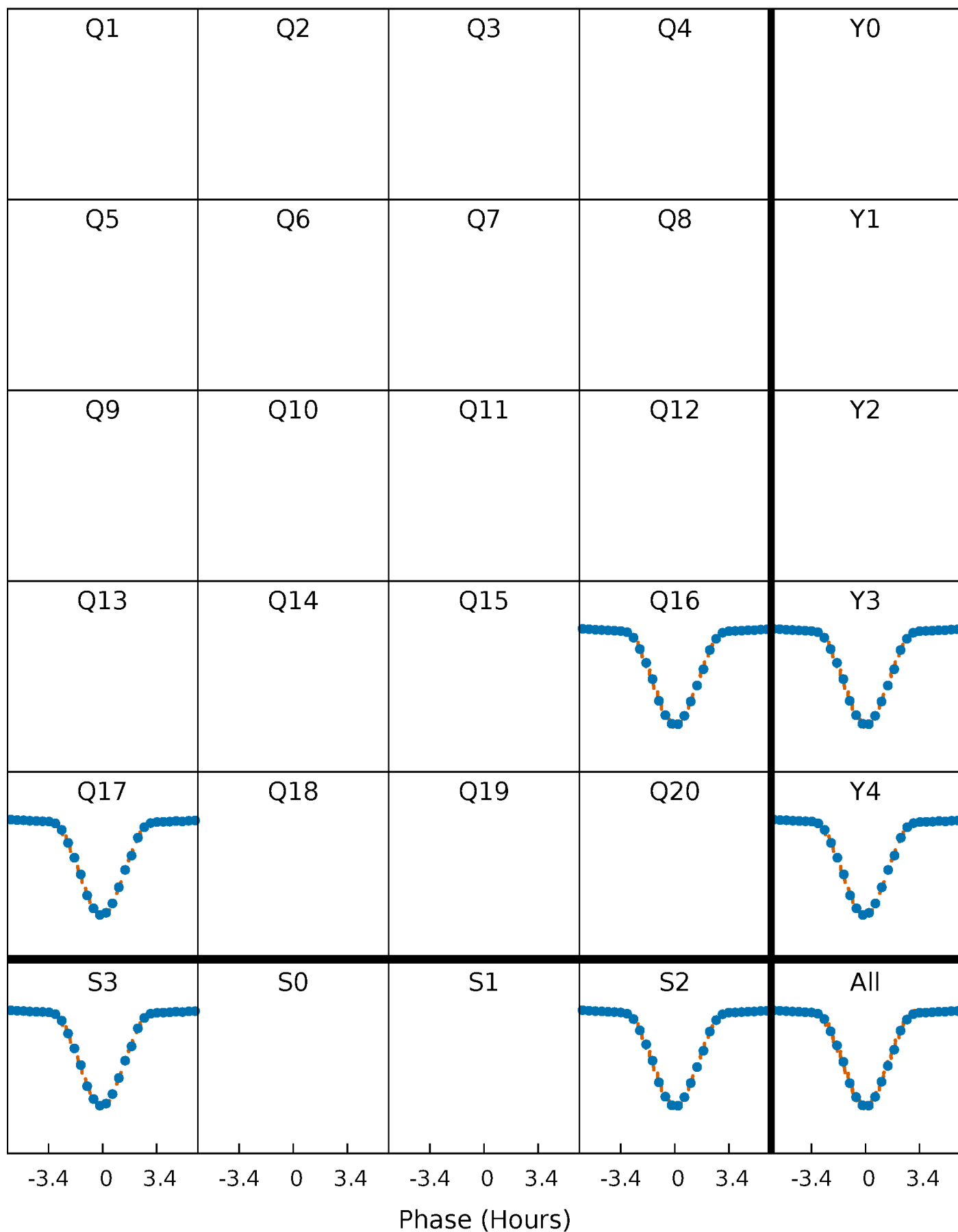


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



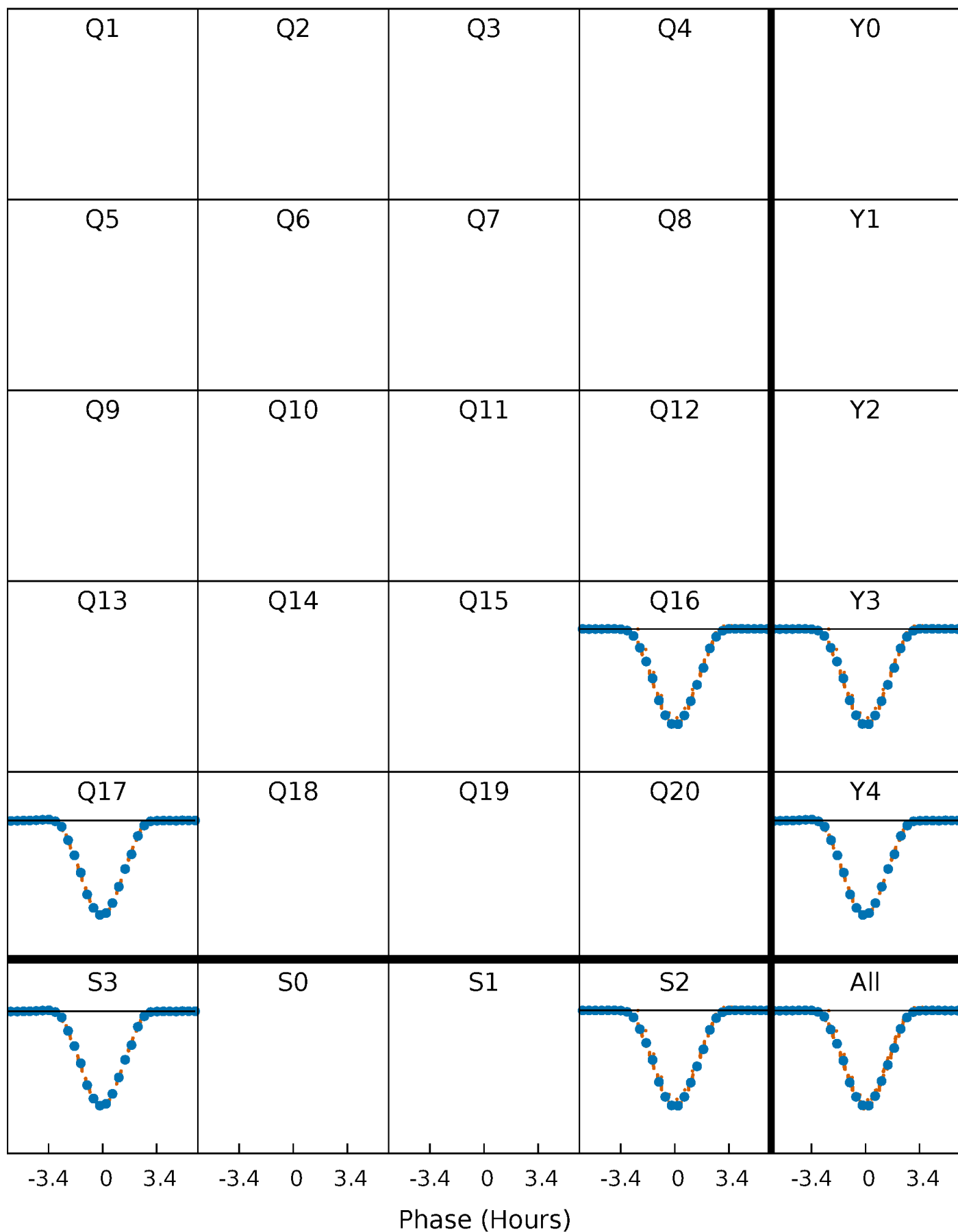
PDC Quarter-Phased Transit Curves

TCE 009479460-01 P= 2.073989 Days $T_0=132.519527$ (BKJD)



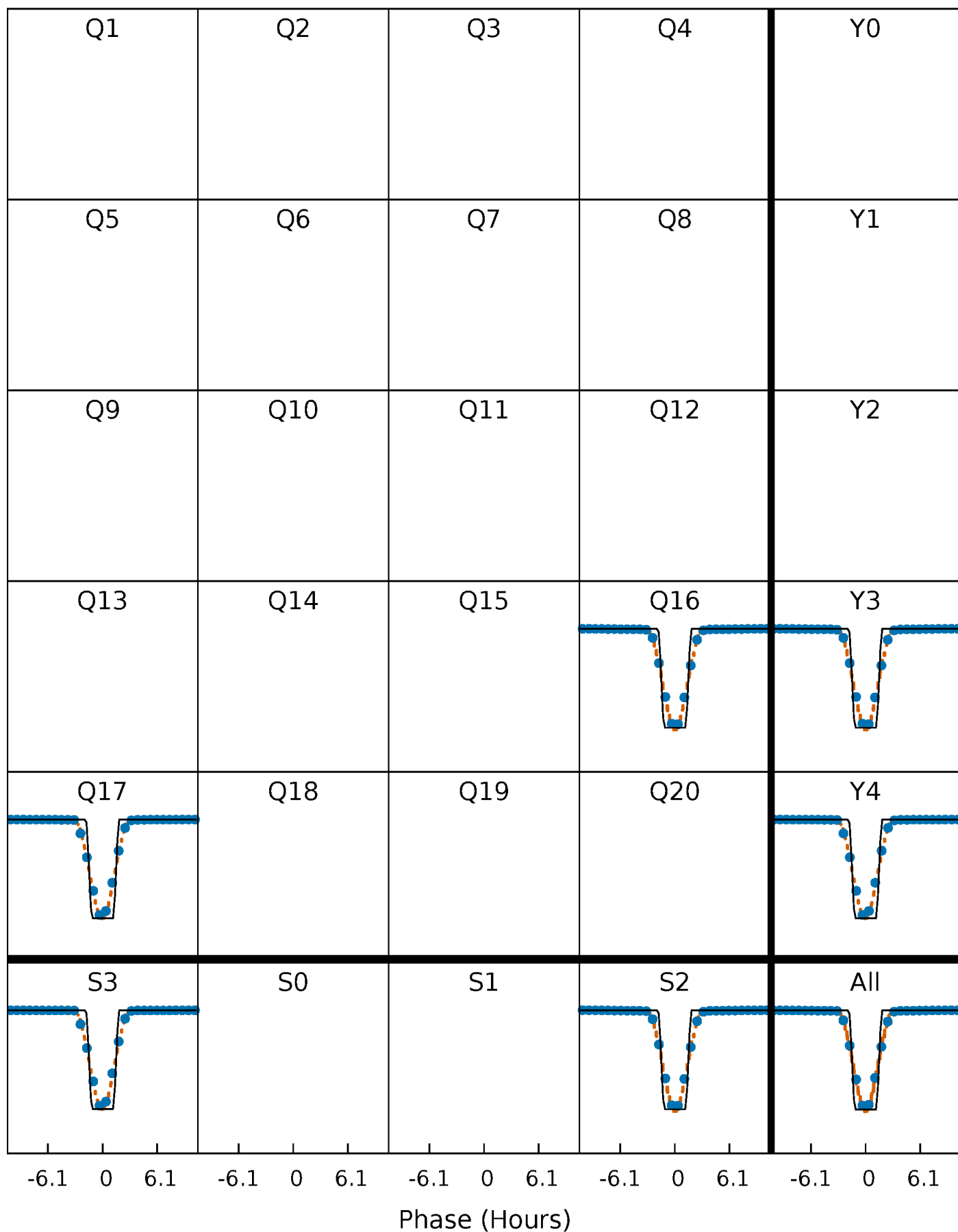
DV Quarter-Phased Transit Curves

TCE 009479460-01 P= 2.073989 Days $T_0=132.519527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

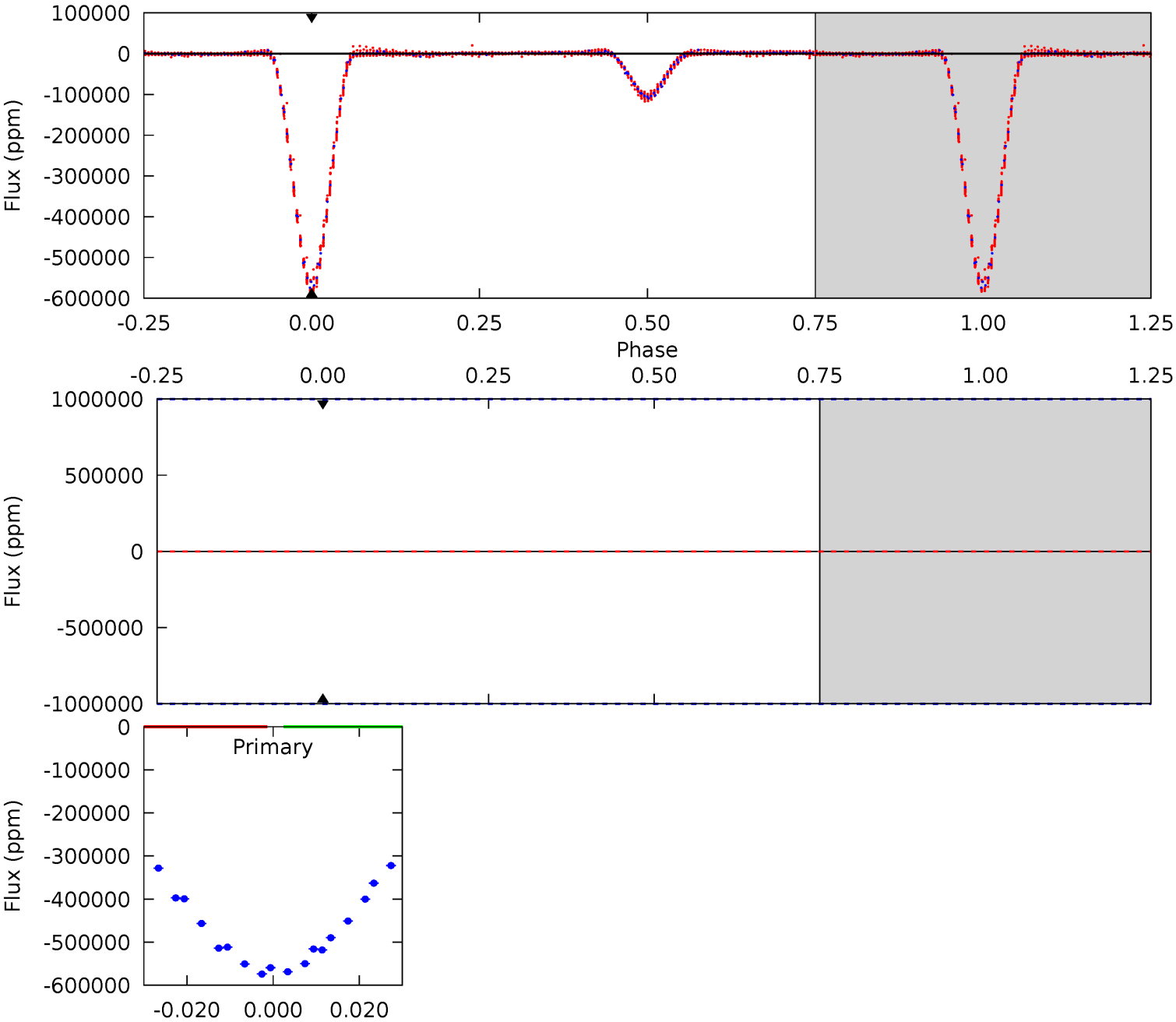
TCE 009479460-01 P= 2.073989 Days $T_0=132.519034$ (BKJD)



DV Model-Shift Uniqueness Test

009479460-01, P = 2.073989 Days, E = 132.519527 Days

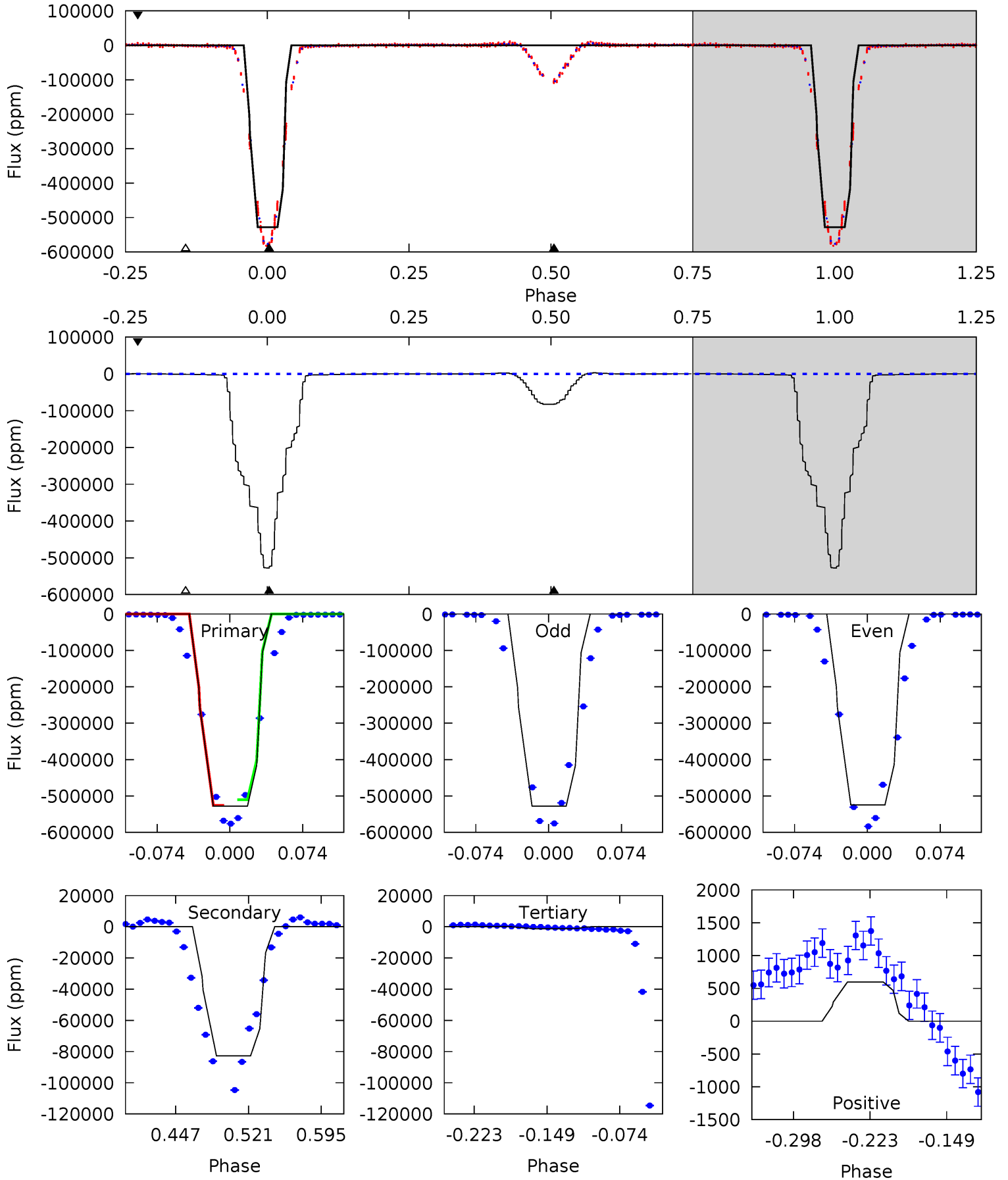
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009479460-01, P = 2.073989 Days, E = 132.519034 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4141	648.6	10.2	4.68	4.63	1.78	20.8	4131	4136	638.4	643.9	13.4	1.00	0.01	0



Stellar Parameters For KIC 009479460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7803^{+217}_{-326}	$3.688^{+0.477}_{-0.079}$	$-0.160^{+0.200}_{-0.300}$	$3.373^{+0.534}_{-1.708}$	$2.023^{+0.276}_{-0.552}$	$0.074^{+0.336}_{-0.019}$
	+3%/-4%	+13%/-2%	+125%/-188%	+16%/-51%	+14%/-27%	+453%/-25%
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 009479460-01 / KOI 6205.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$149.89^{+50.19}_{-45.95}$	4224^{+327}_{-519}	-3462^{+9946}_{-2902}	$0.101^{+5.027}_{-3.959}$
Alt.	-82700 ± 128	$255.59^{+56.19}_{-69.60}$	4234^{+296}_{-522}	4641^{+374}_{-355}	$1.255^{+0.939}_{-0.406}$

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

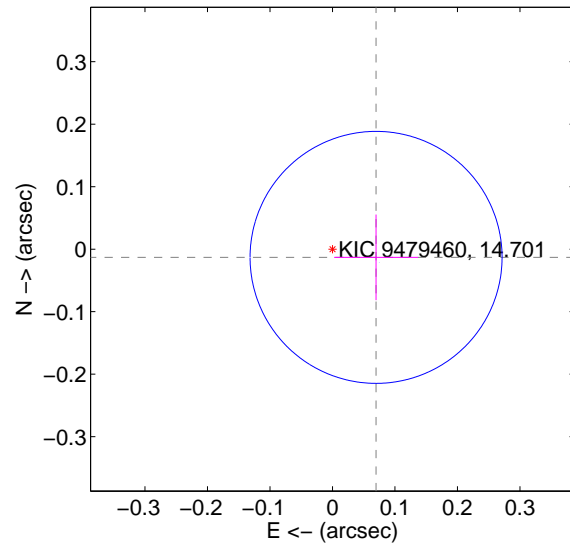
Supplemental centroid analysis for 009479460-01. Kepler magnitude: 14.70. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

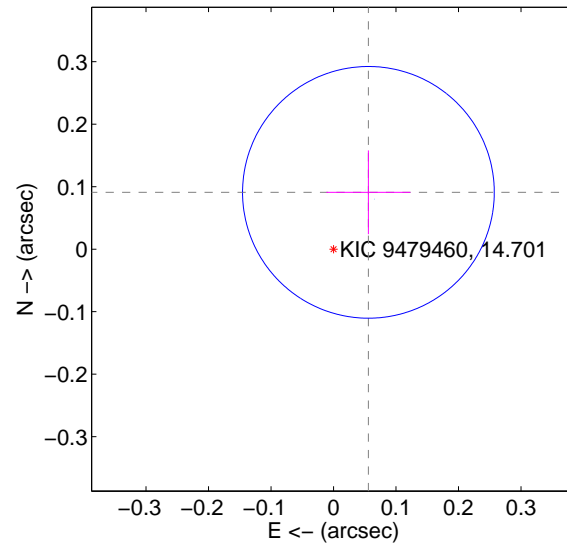
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.071 ± 0.067	1.06	-0.070 ± 0.067	-0.013 ± 0.069
PRF-fit source offset from KIC position	0.107 ± 0.067	1.59	-0.056 ± 0.067	0.091 ± 0.067
photometric centroid source offset	0.31 ± 0.00	100.54	0.31 ± 0.00	-0.05 ± 0.00

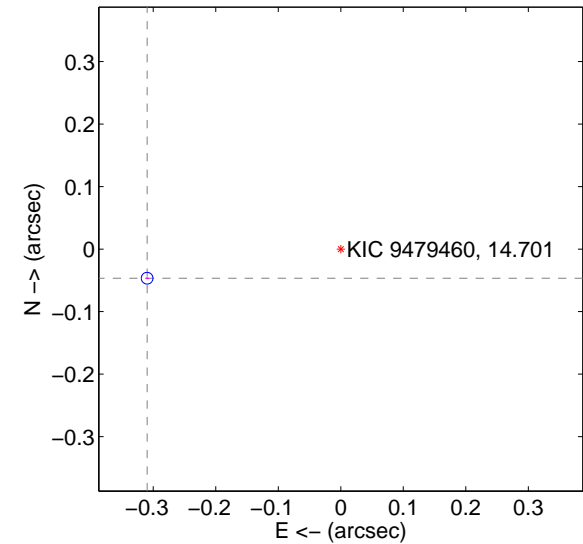
offset from difference PRF-fit to OOT PRF-fit



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.



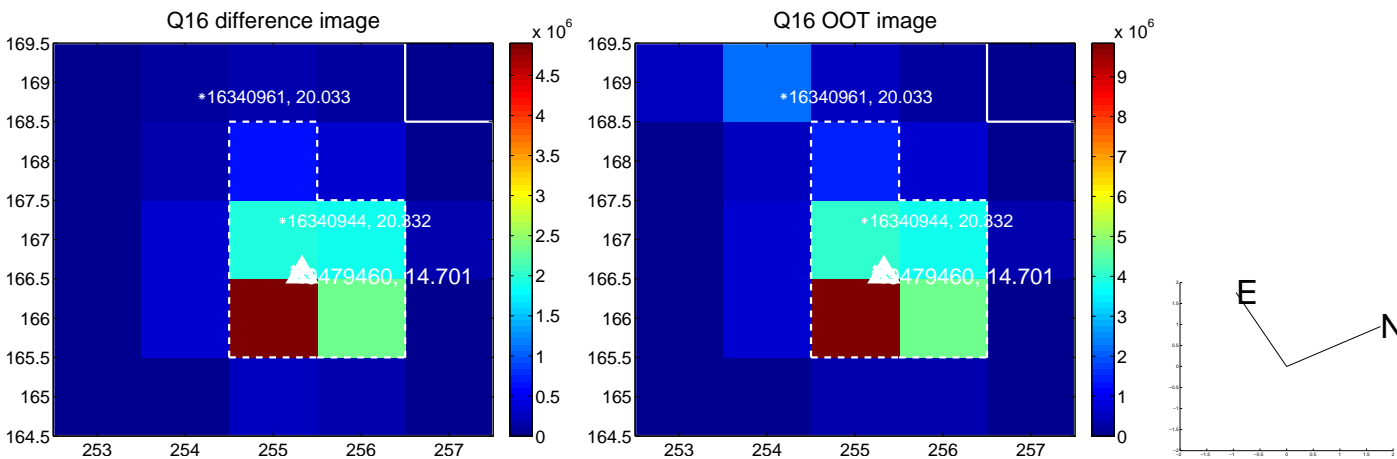
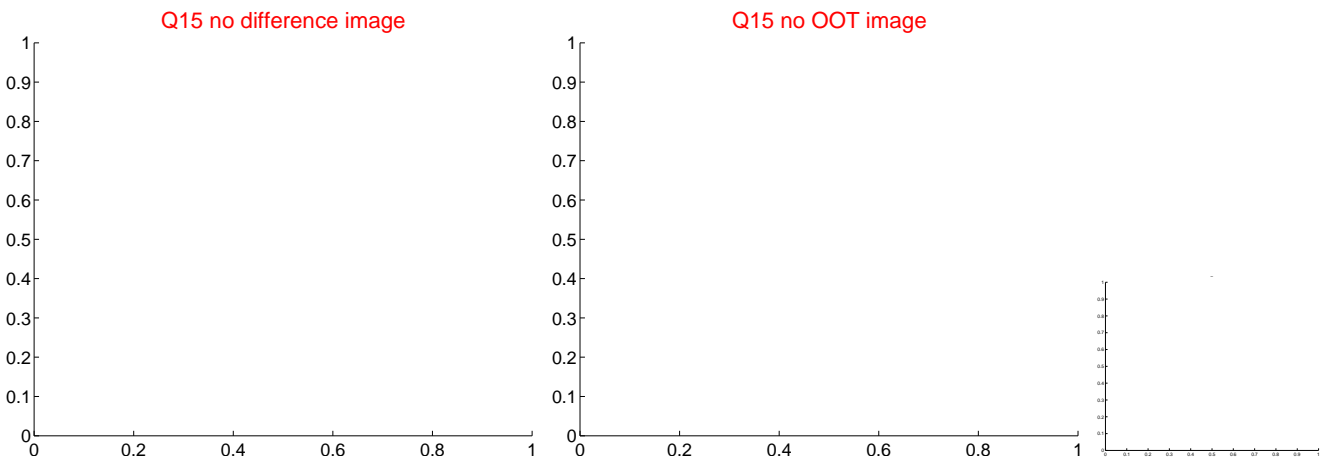
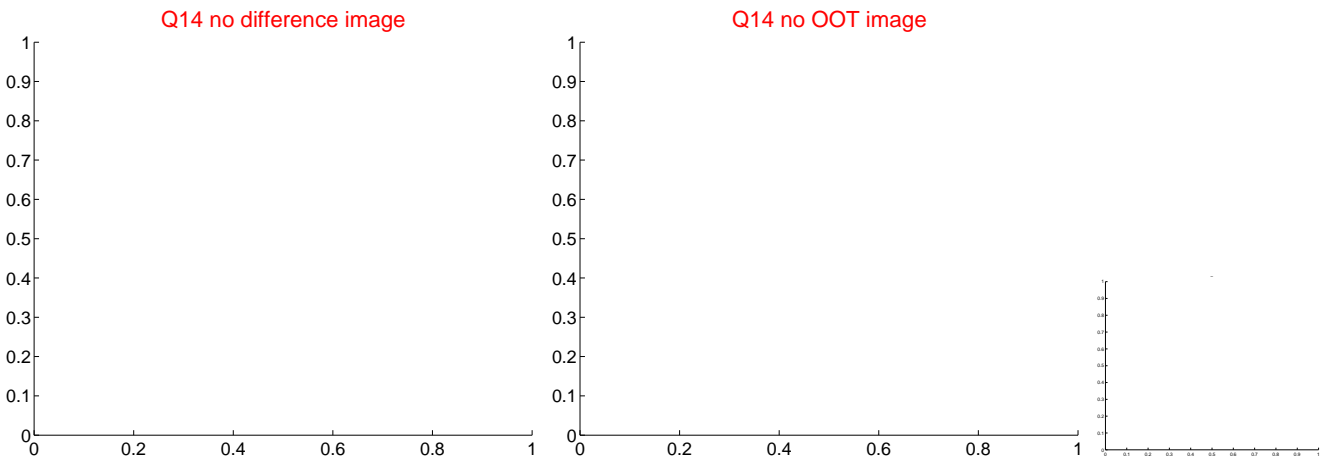
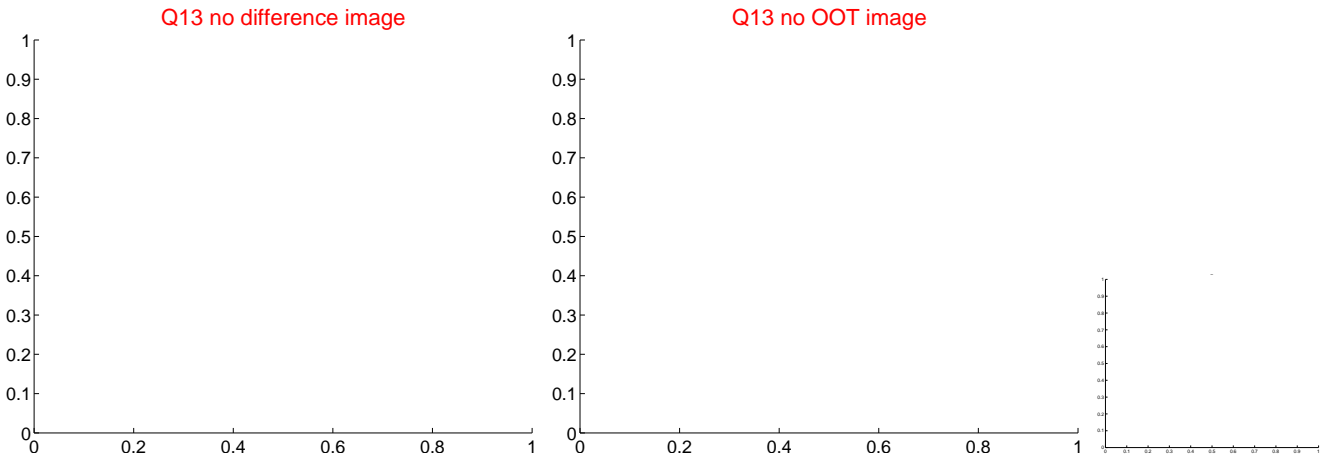
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



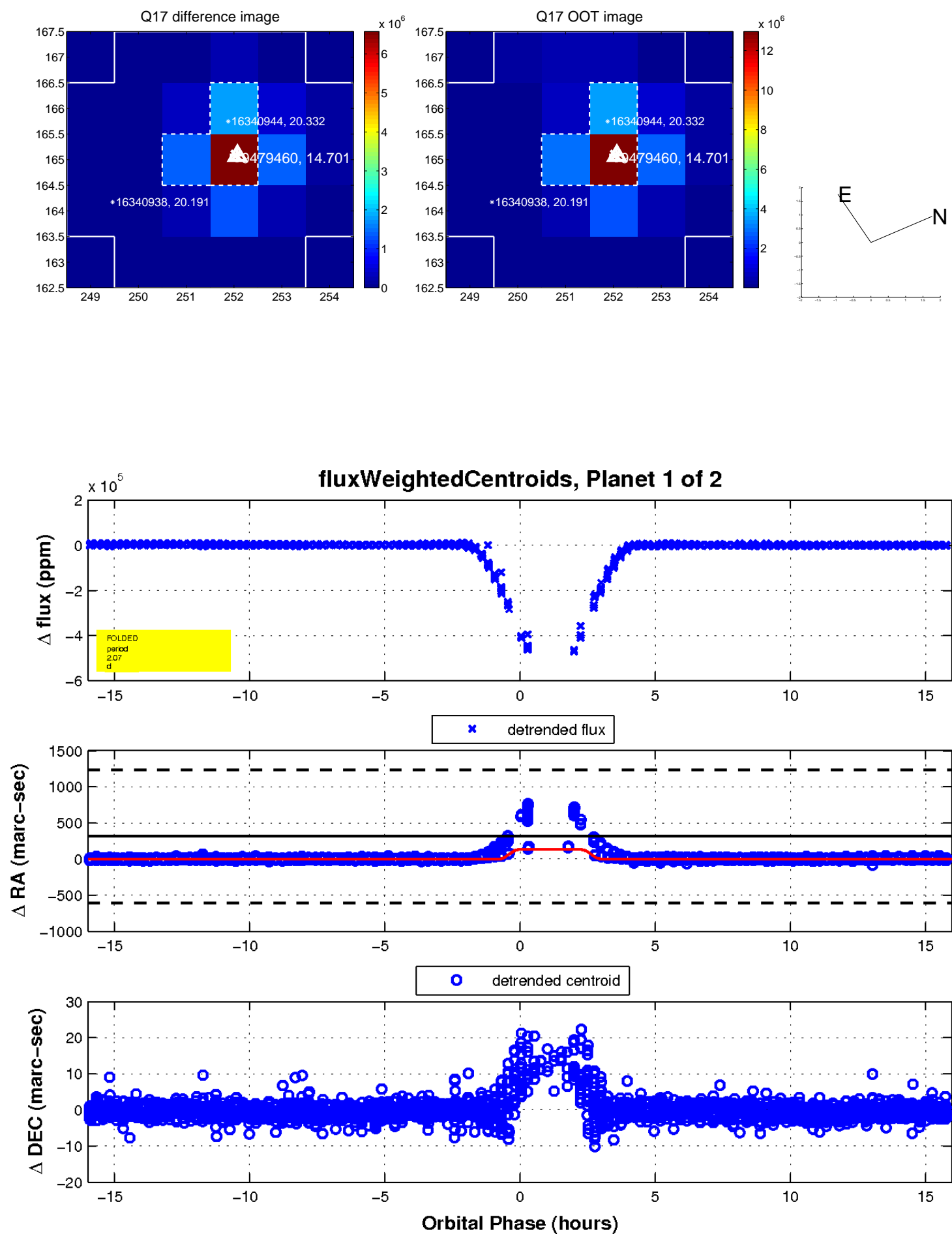
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

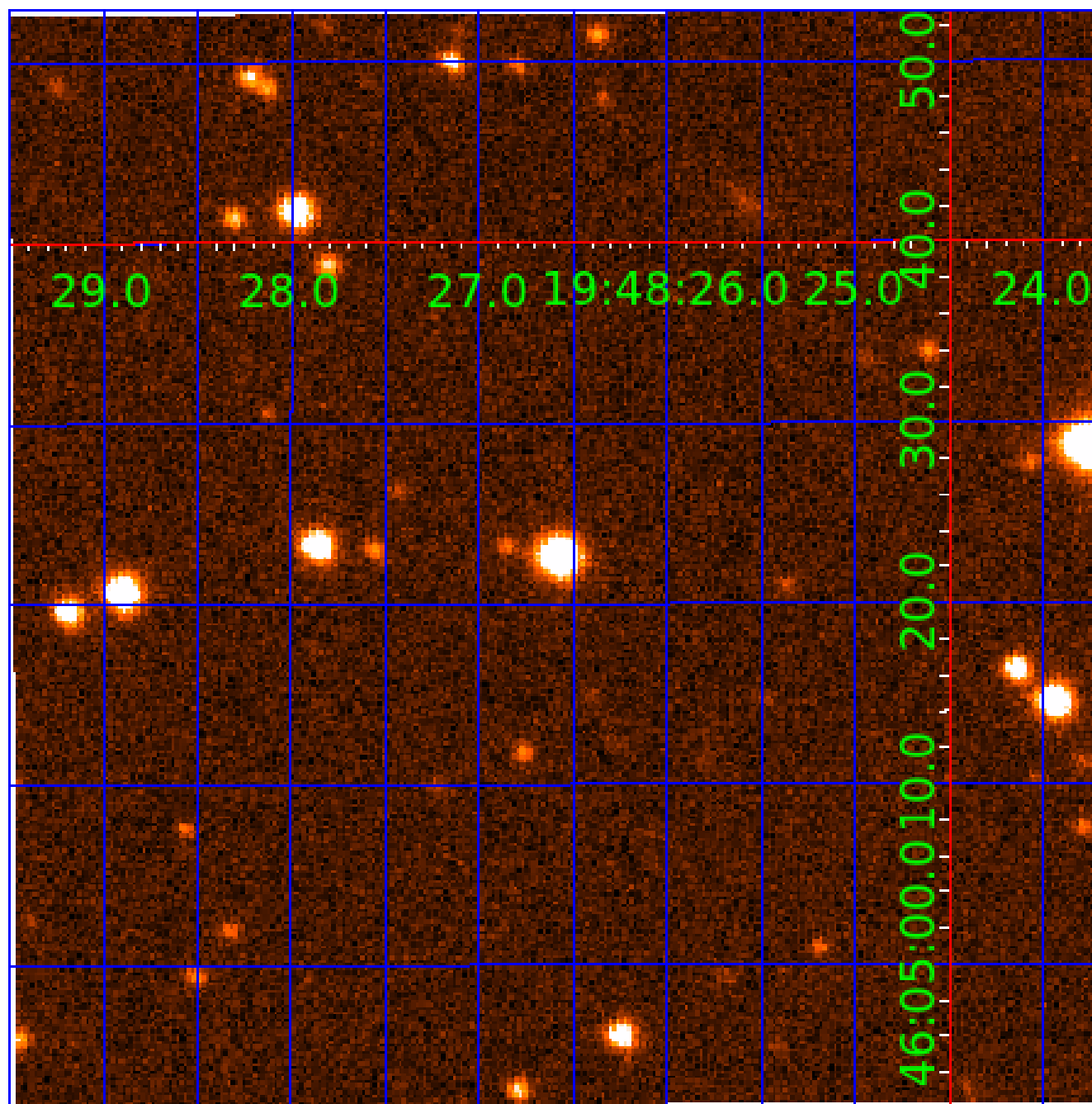


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009479460

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})
009479460-01	OBS	6205.01	2.073989	132.519527	574590.4	3.000	5944.9	-1.0	3.37	7803	166.92	23310.05
009479460-02	OBS	No	2.073953	131.508180	105659.0	5.410	921.5	575.5	3.37	7803	182.15	23310.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009479460-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
009479460-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

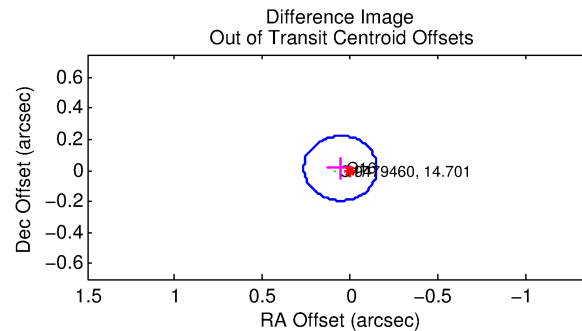
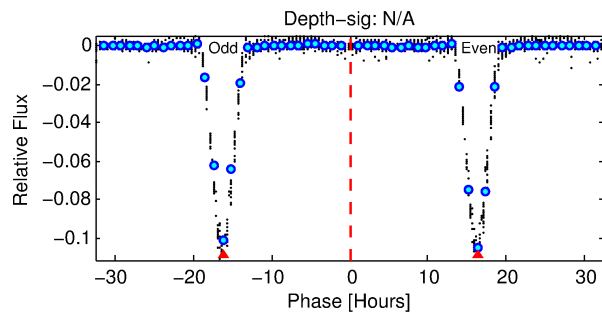
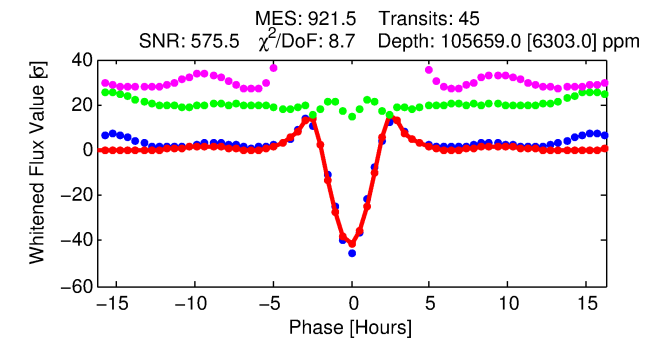
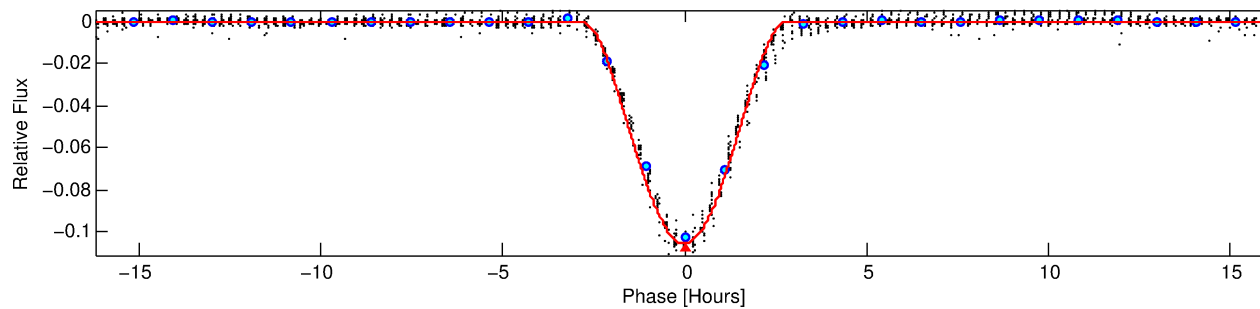
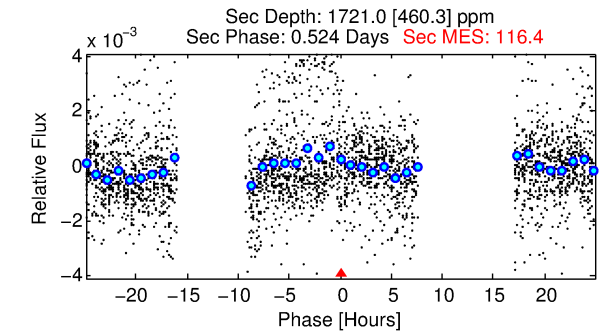
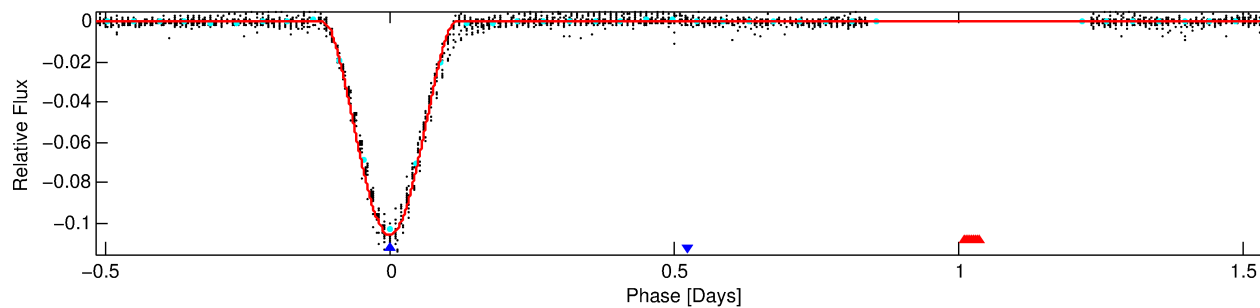
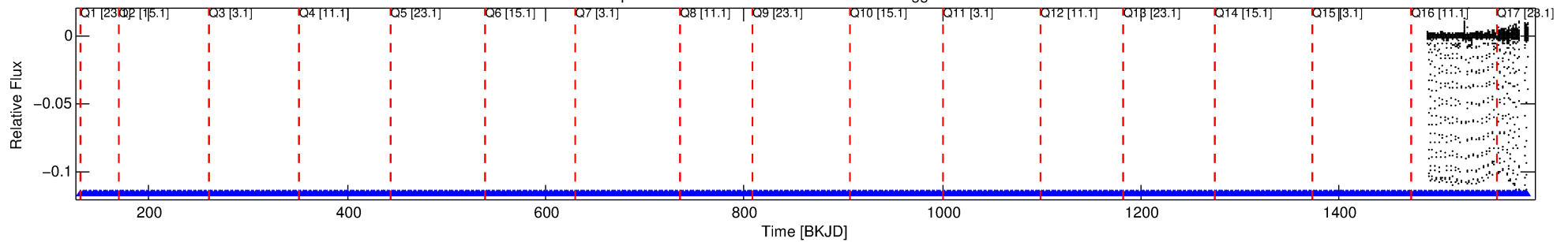
Ephemeris Match Information For 009479460-02

No Significant Match Found

DV One-Page Summary

KIC: 9479460 Candidate: 2 of 2 Period: 2.074 d
KOI: K06205 Corr: No Ephemeris Match

Kp: 14.70 R*: 3.37 Rs Teff: 7803.0 K Logg: 3.69 Fe/H: -0.160



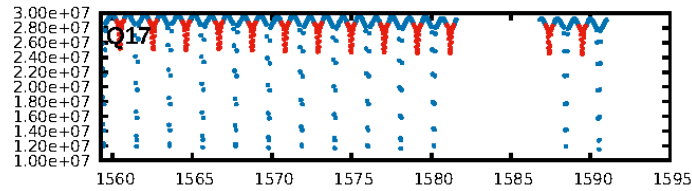
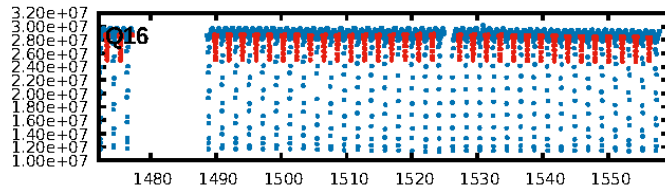
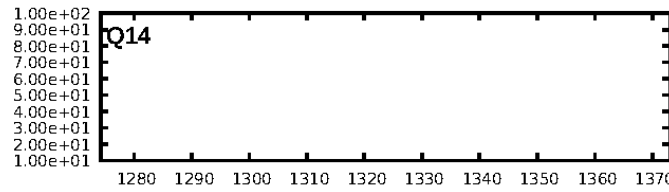
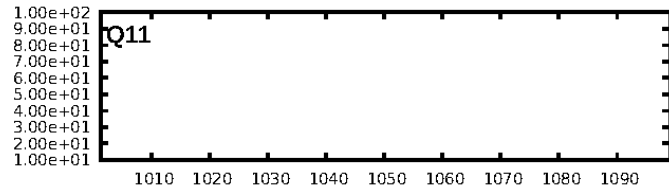
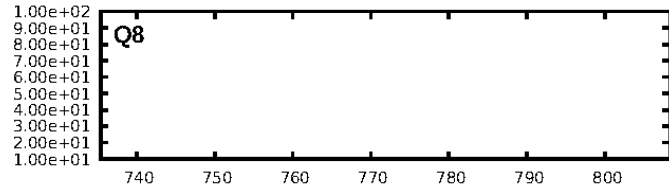
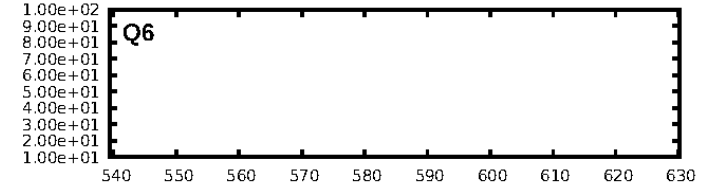
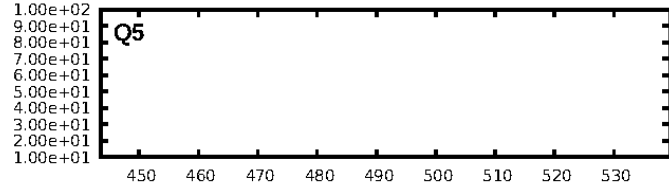
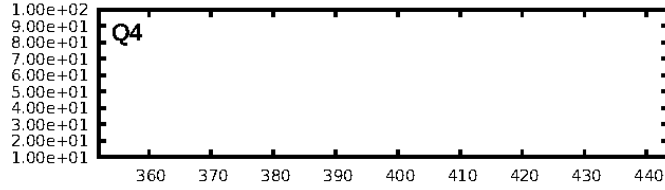
DV Fit Results:

Period = 2.07395 [0.00000] d
Epoch = 131.5082 [0.0004] BKJD
Rp/R* = 0.4949 [1.1578]
a/R* = 3.49 [1.00]
b = 0.99 [1.54]
Seff = 23310.59 [19194.66]
Teq = 3151 [649] K
Rp = 182.15 [436.02] Re
a = 0.0403 [0.0201] AU
Ag = 0.05 [0.22] [-4.33σ]
Teffp = 2259 [2649] K [-0.33σ]

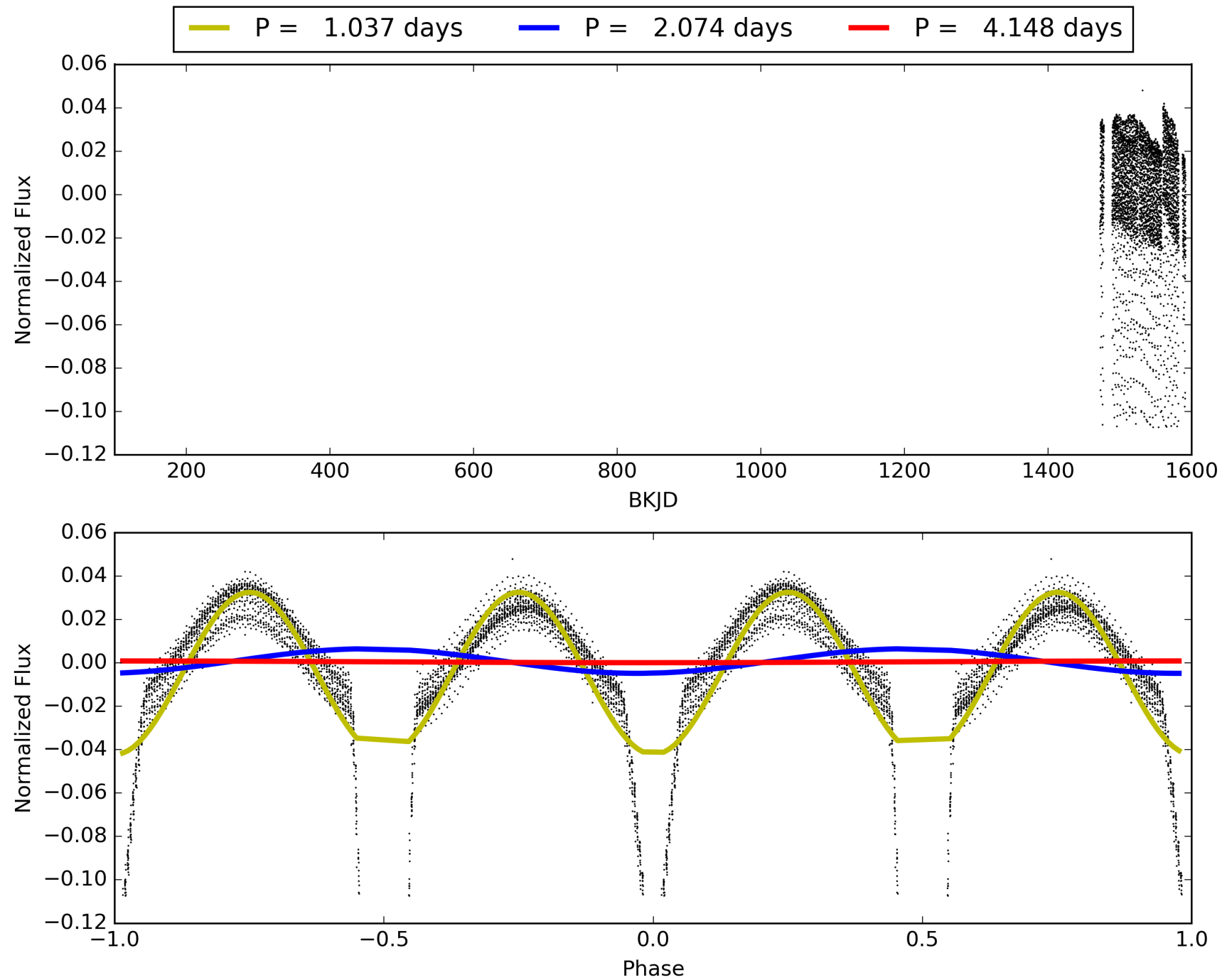
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [32/32]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.059 arcsec [0.84σ]
KicOffset-rm: 0.152 arcsec [2.07σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 009479460-02, PDC Light Curves

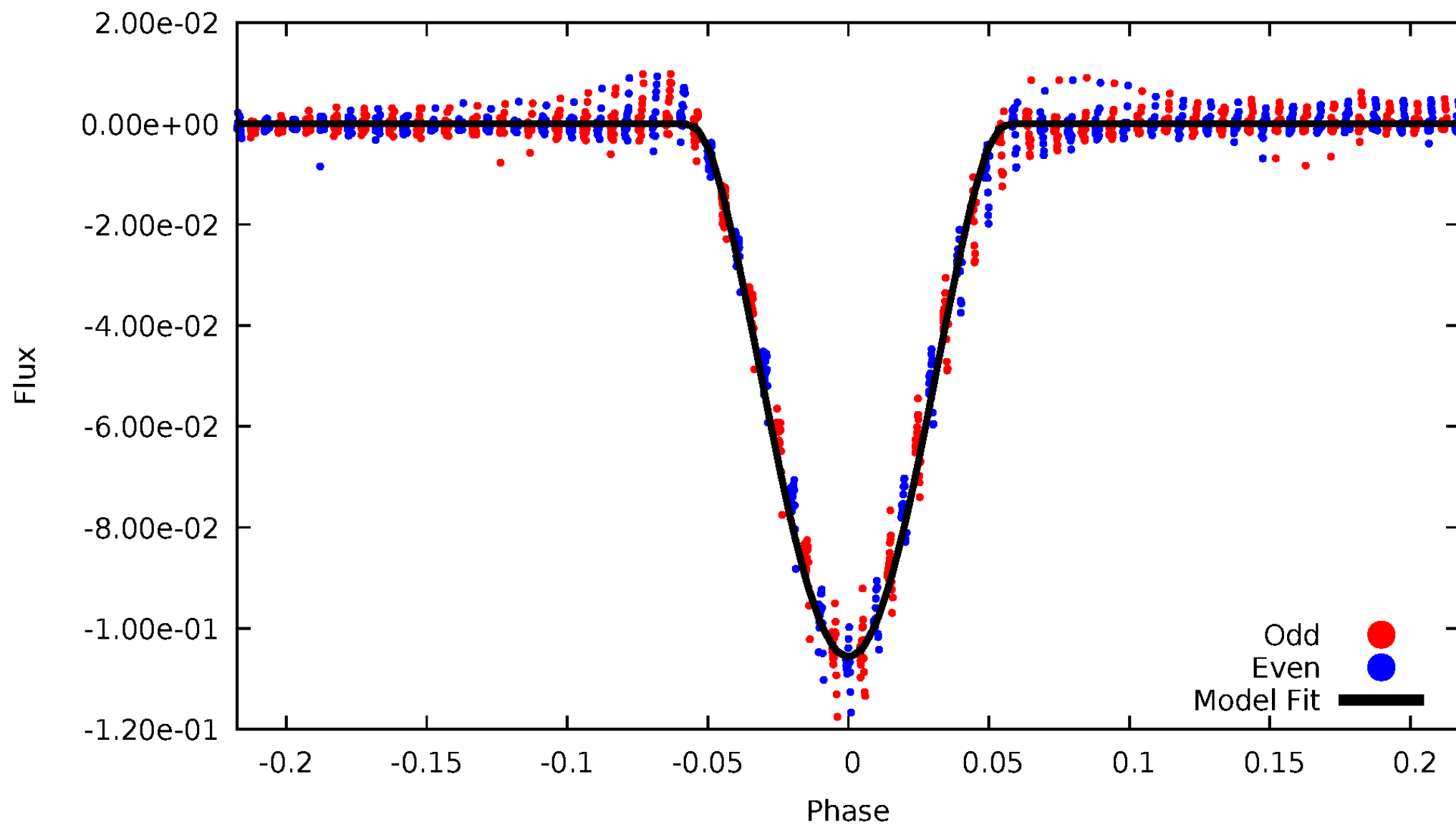


TCE 009479460-02



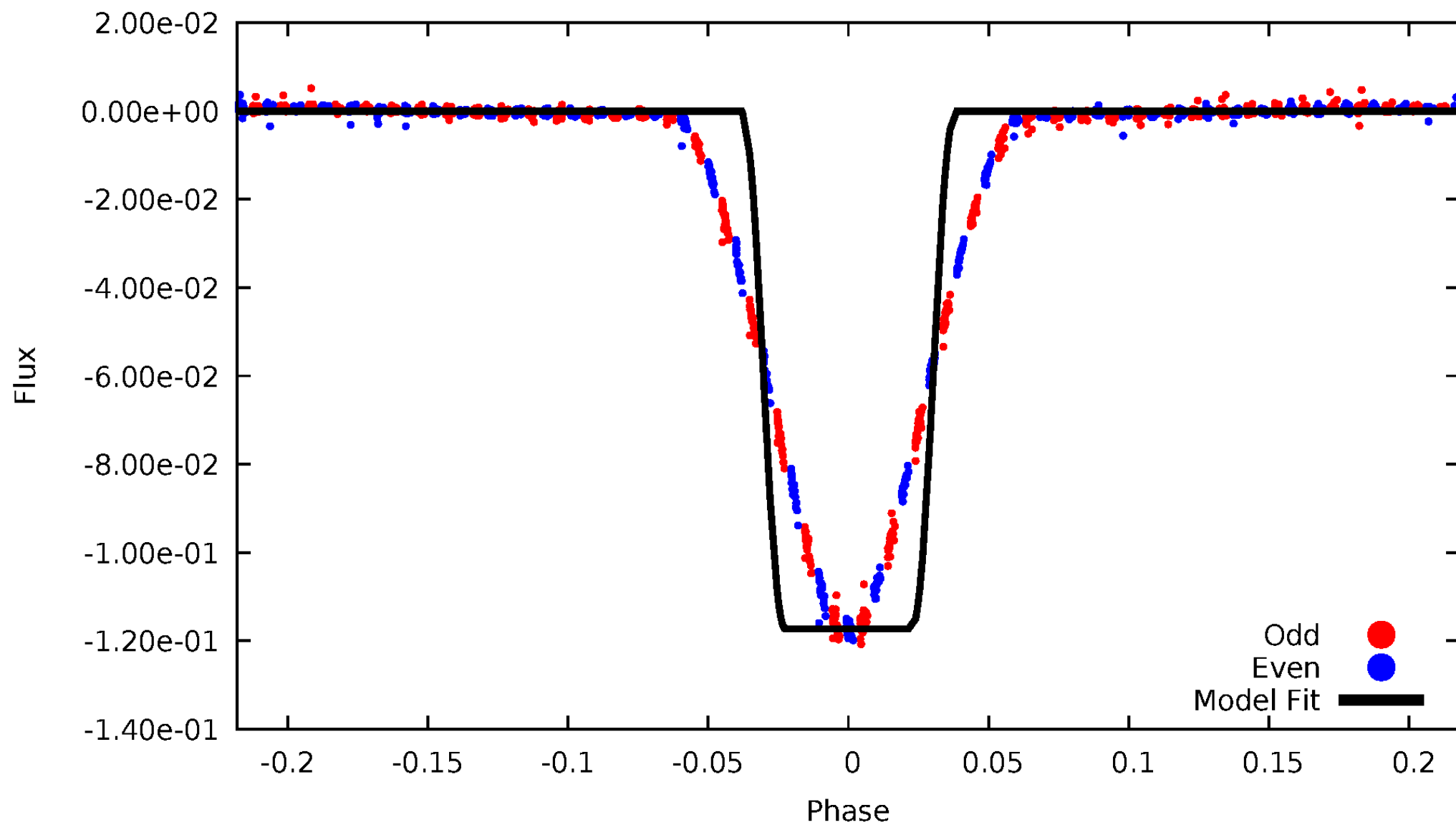
DV Odd/Even

TCE 009479460-02



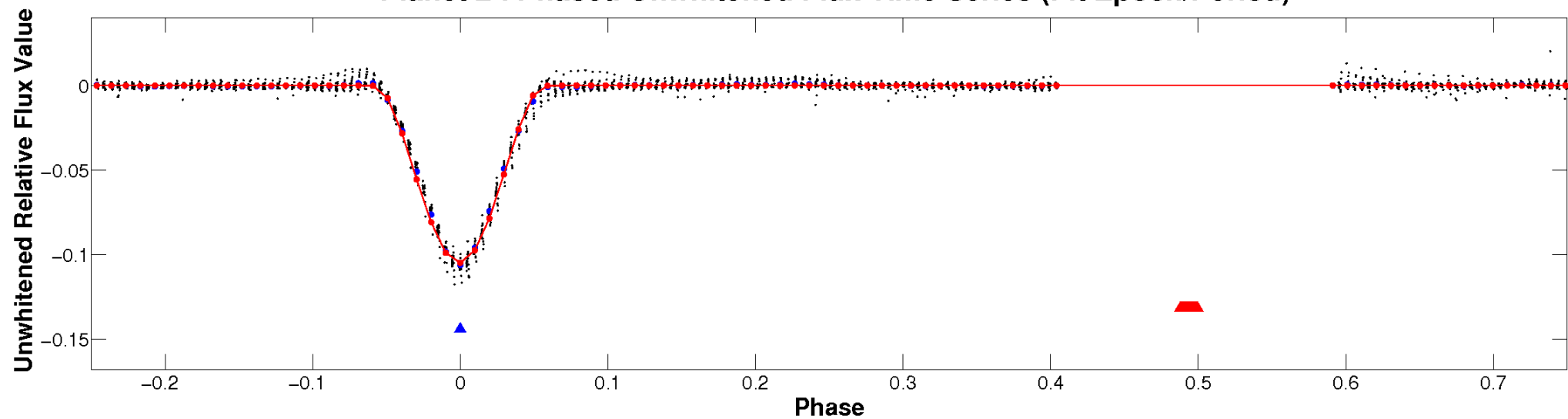
ALT Odd/Even

TCE 009479460-02

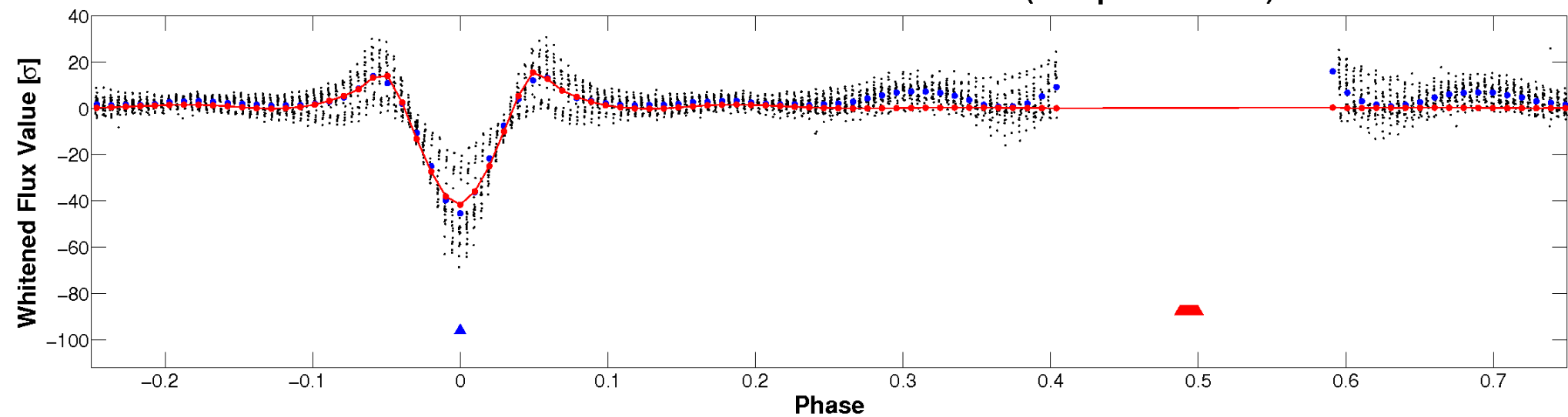


Non-Whitened Vs. Whitened Light Curve

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

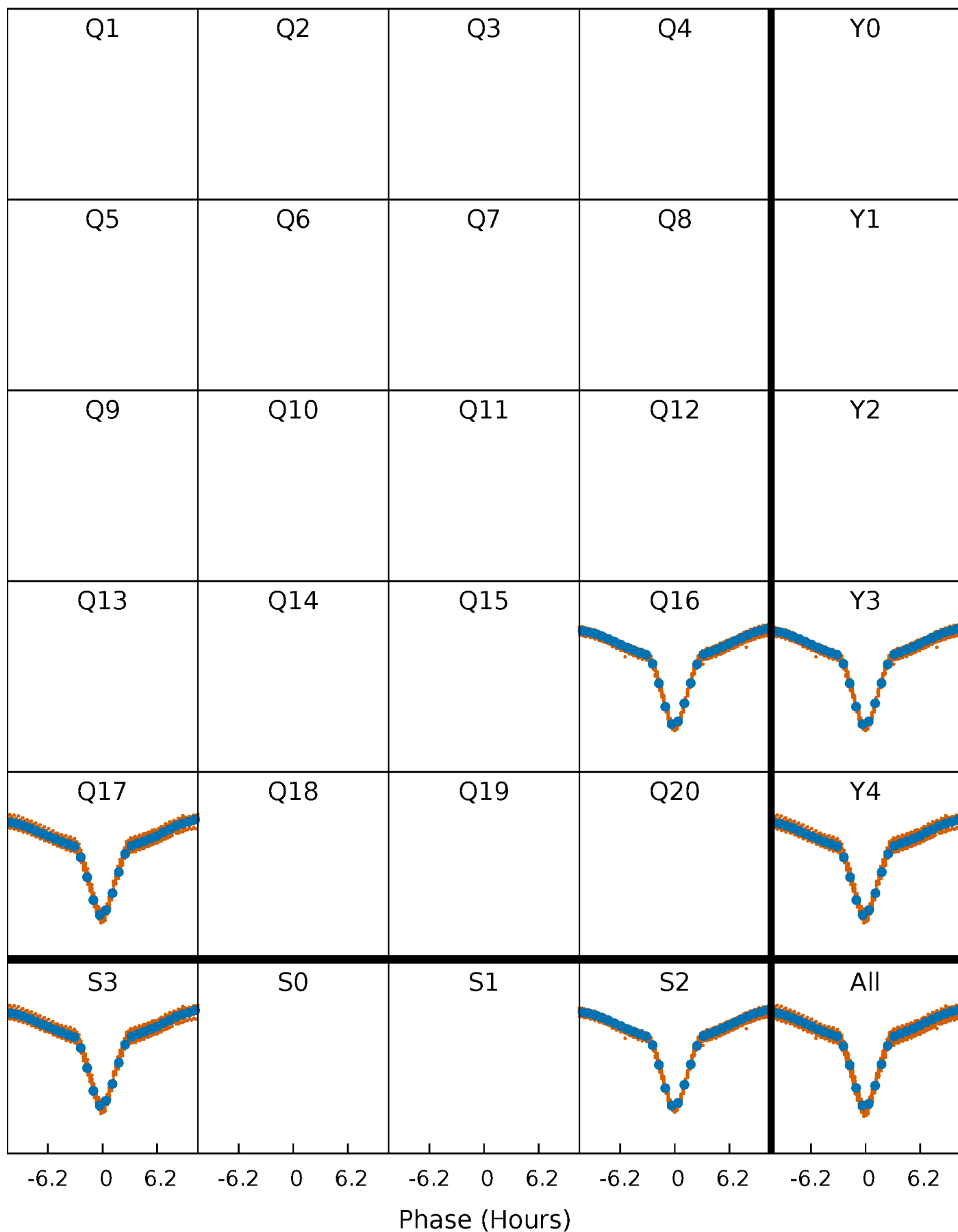


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



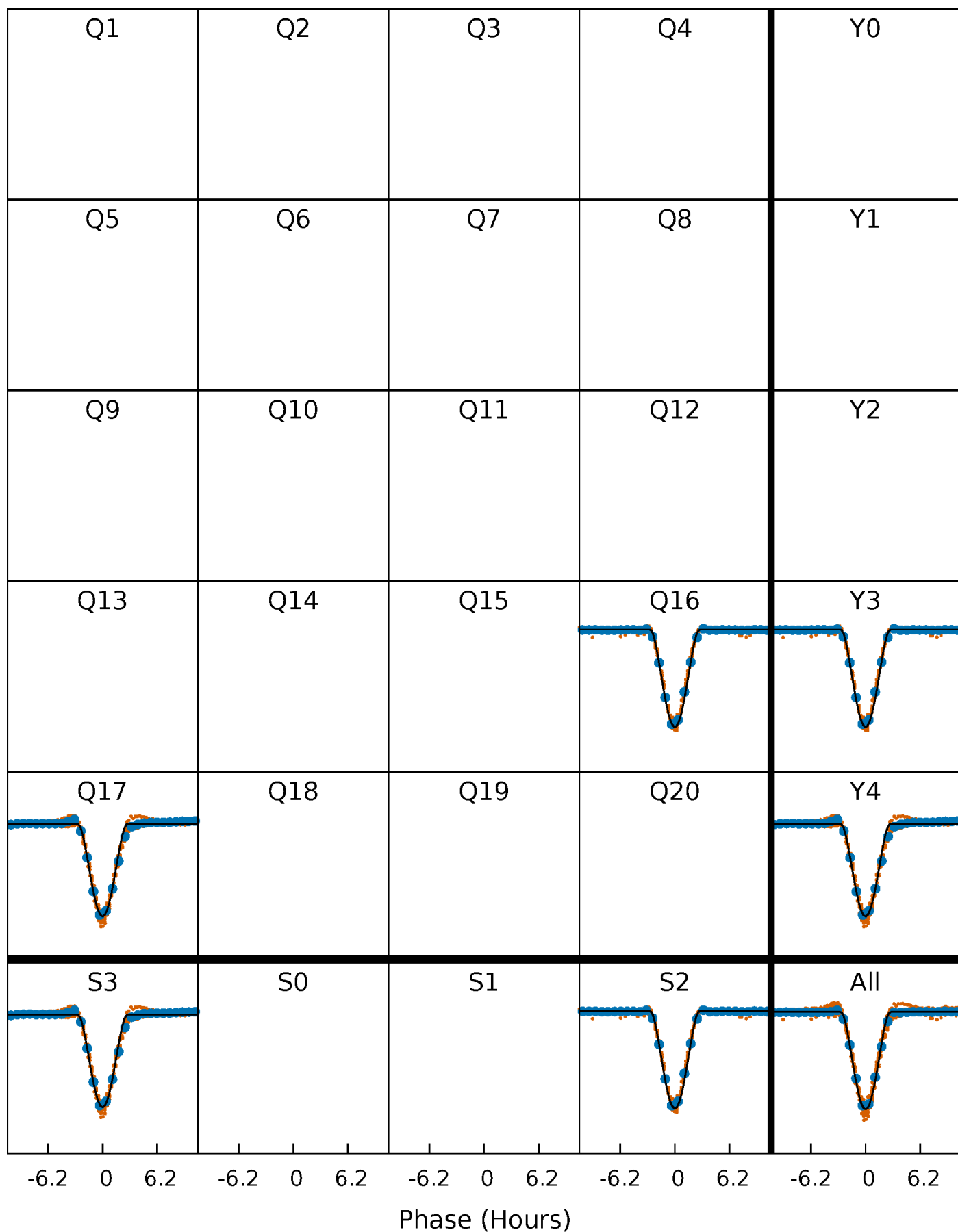
PDC Quarter-Phased Transit Curves

TCE 009479460-02 $P = 2.073953$ Days $T_0 = 131.508180$ (BKJD)



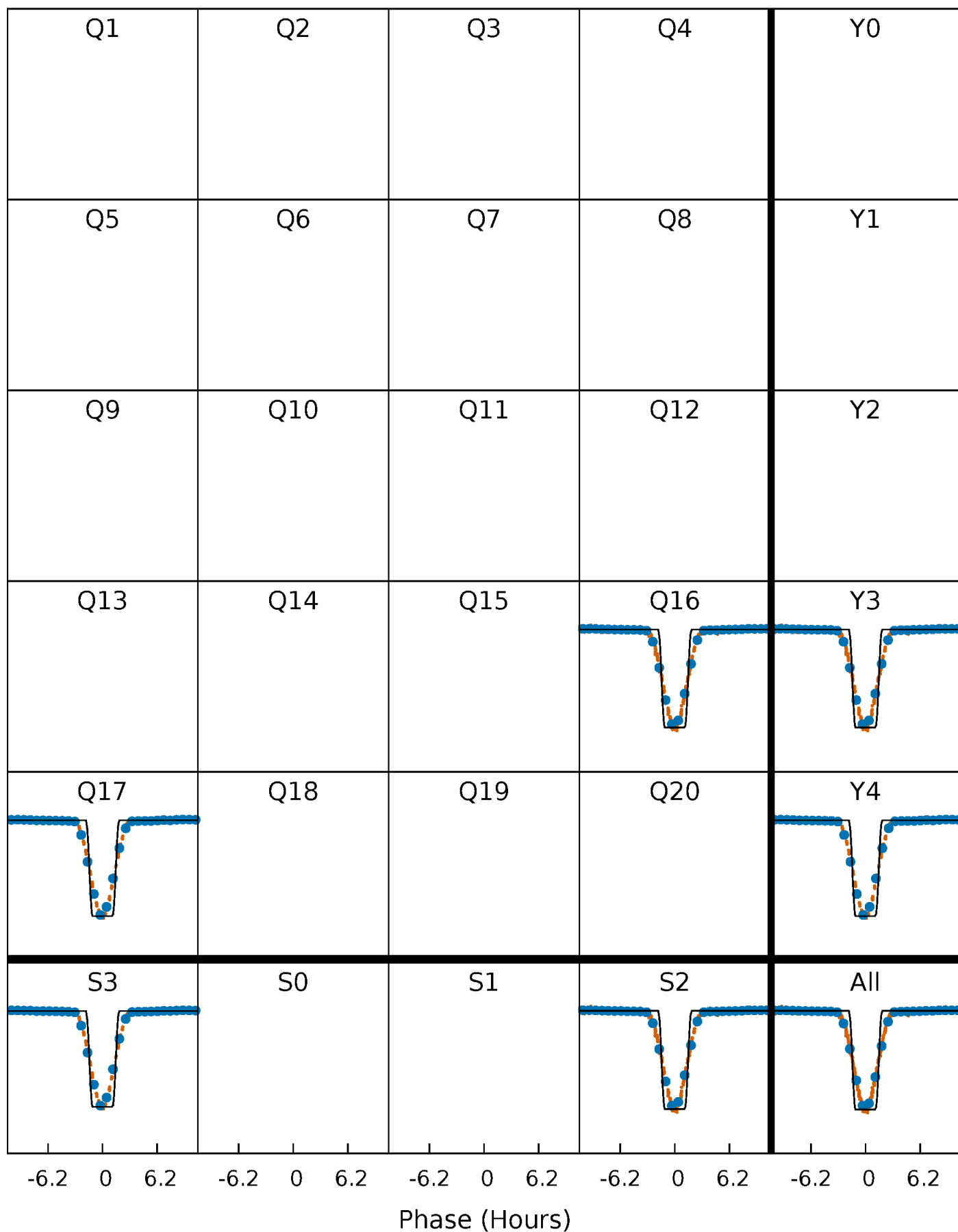
DV Quarter-Phased Transit Curves

TCE 009479460-02 P= 2.073953 Days $T_0=131.508180$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

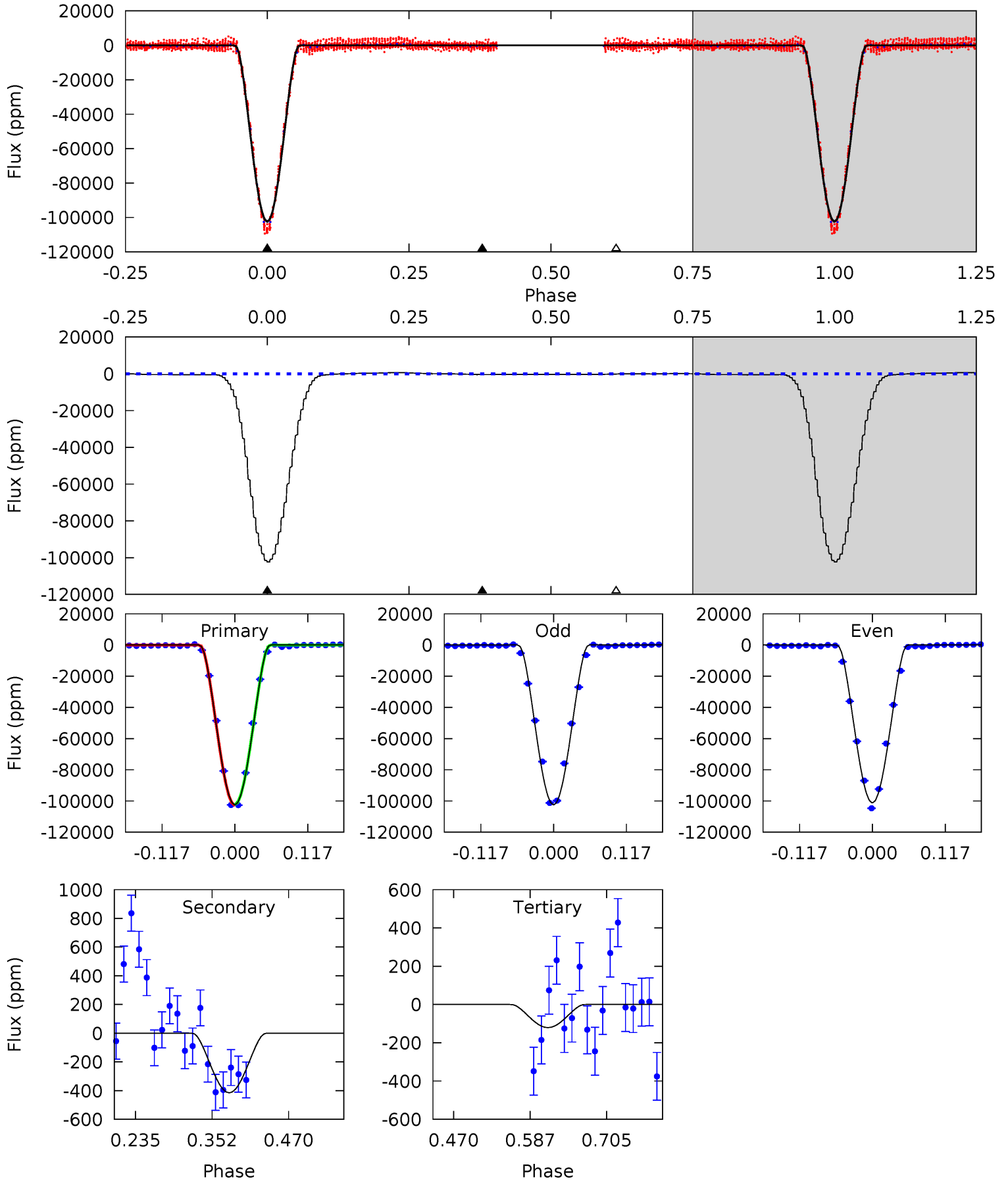
TCE 009479460-02 $P = 2.073922$ Days $T_0 = 131.527810$ (BKJD)



DV Model-Shift Uniqueness Test

009479460-02, P = 2.073953 Days, E = 131.508180 Days

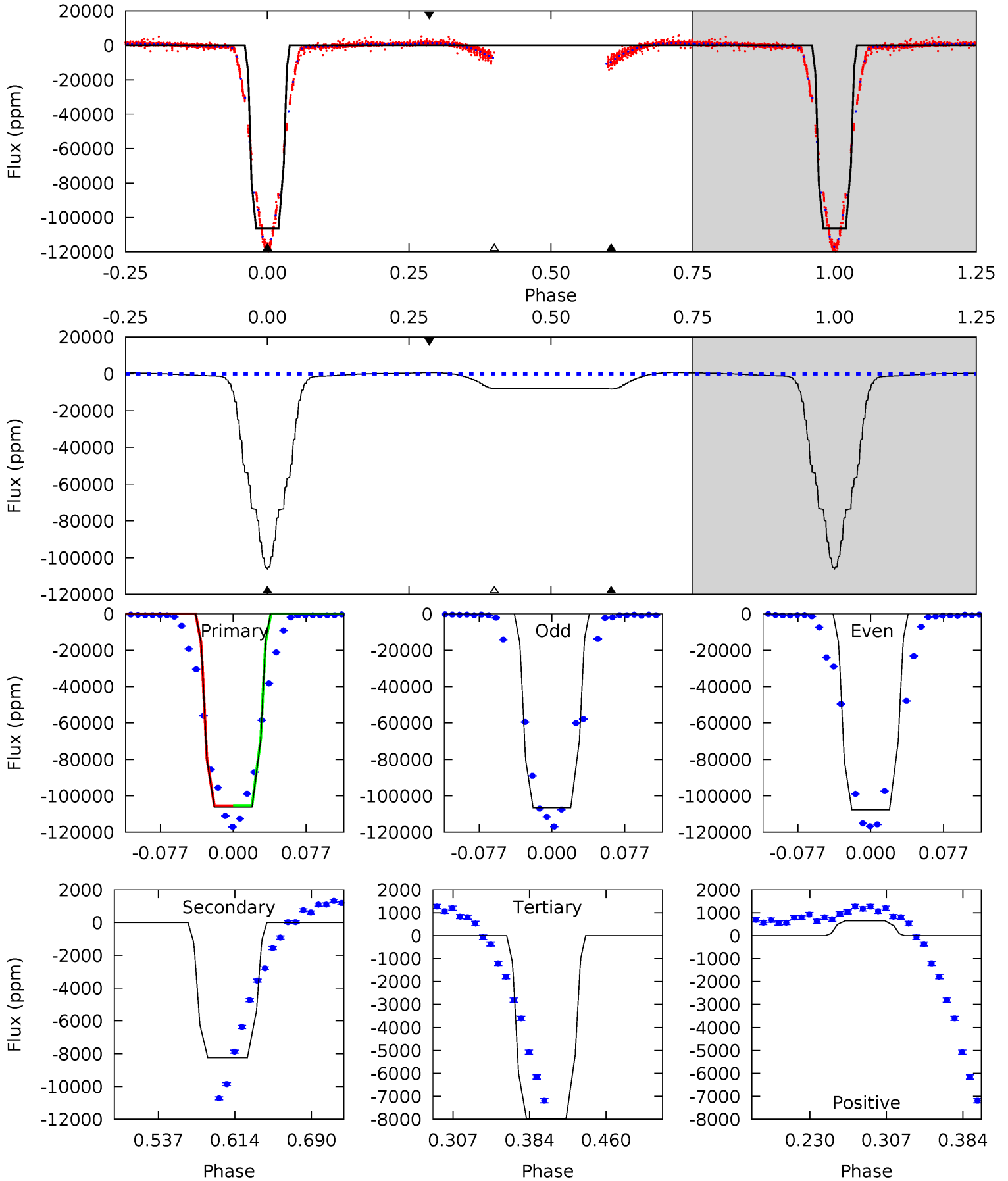
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1630	6.61	1.92	0	4.53	1.57	5.27	1628	1630	4.69	6.61	10.6	1.00	0.01	0



Alt Model-Shift Uniqueness Test

009479460-02, P = 2.073922 Days, E = 131.527810 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1006	78.2	75.5	6.14	4.62	1.77	14.5	930.4	999.8	2.70	72.1	4.86	1.00	0.01	0.96



Stellar Parameters For KIC 009479460

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7803^{+217}_{-326}	$3.688^{+0.477}_{-0.079}$	$-0.160^{+0.200}_{-0.300}$	$3.373^{+0.534}_{-1.708}$	$2.023^{+0.276}_{-0.552}$	$0.074^{+0.336}_{-0.019}$
	+3%/-4%	+13%/-2%	+125%/-188%	+16%/-51%	+14%/-27%	+453%/-25%
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 009479460-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-415 ± 63	$317.44^{+344.23}_{-214.82}$	4241^{+319}_{-519}	-3755^{+416}_{-201}	$0.004^{+0.034}_{-0.003}$
Alt.	-8253 ± 106	$293.80^{+312.66}_{-200.36}$	4231^{+308}_{-556}	-3451^{+7454}_{-379}	$0.085^{+0.757}_{-0.065}$

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 $A_{obs} \gg 1.0$

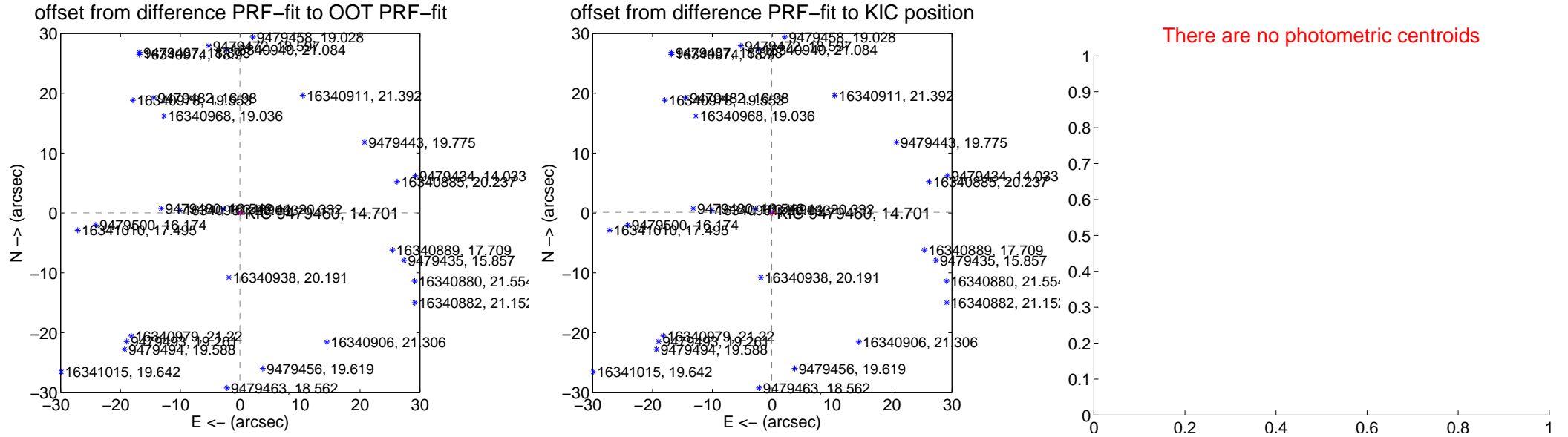
DV Centroid Data

Supplemental centroid analysis for 009479460-02. Kepler magnitude: 14.70. Transit SNR 575.53

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.059 ± 0.070	0.84	0.057 ± 0.070	0.014 ± 0.067
PRF-fit source offset from KIC position	0.152 ± 0.073	2.07	0.084 ± 0.067	0.126 ± 0.075
photometric centroid source offset	—	—	—	—



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.



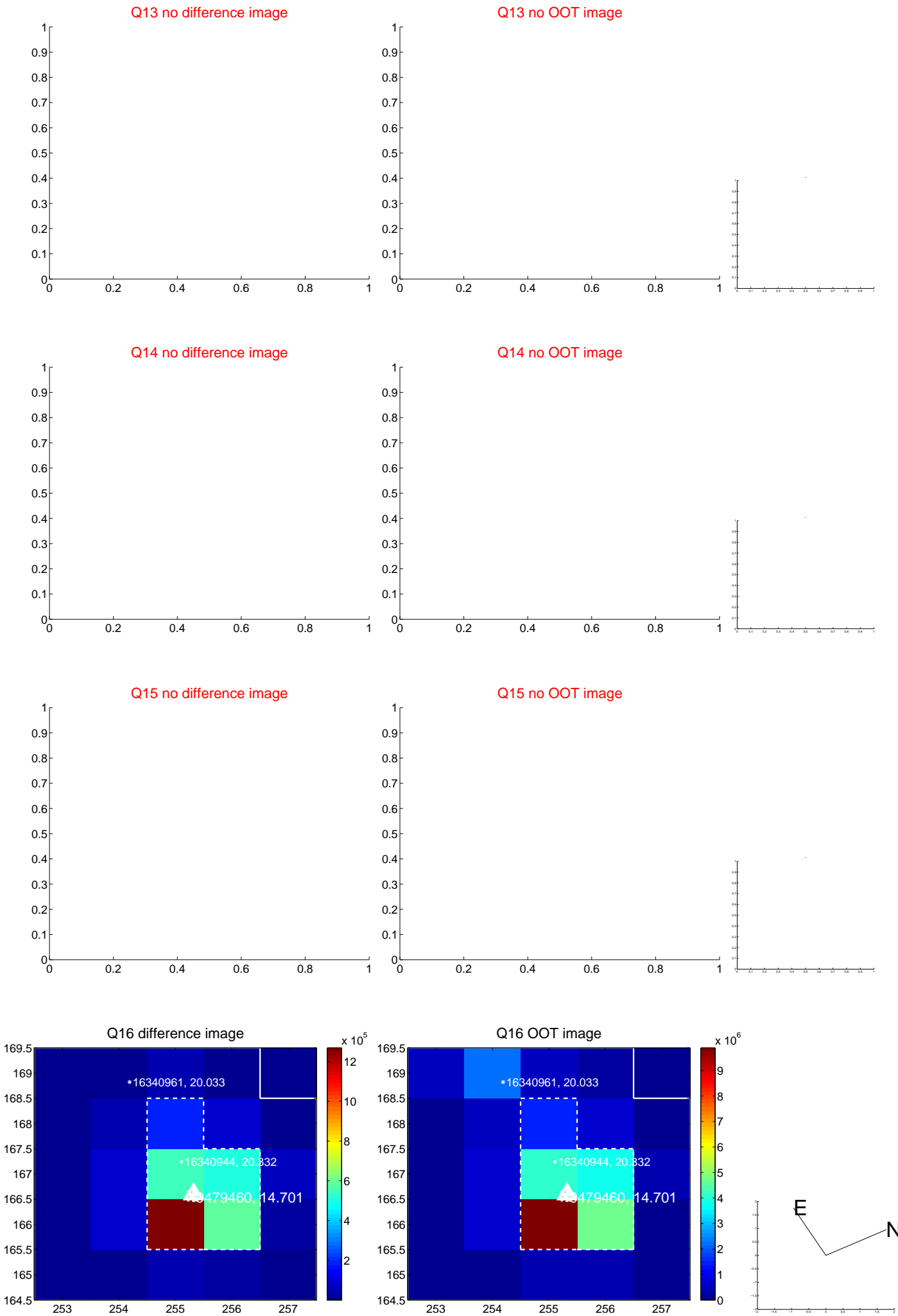
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



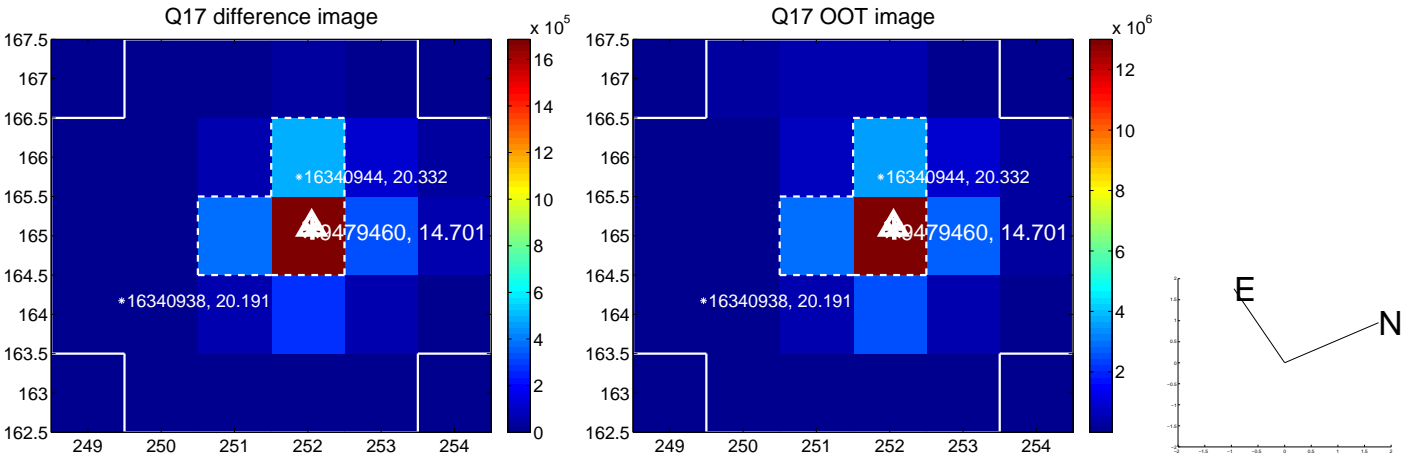
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

