

KIC 003448777

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})
003448777-01	OBS	No	62.916242	169.104953	98961.7	2.000	57.2	-1.0	1.49	6620	47.49	34.17
003448777-02	OBS	No	29.875072	149.804748	78202.1	1.500	55.9	-1.0	1.49	6620	42.29	92.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003448777-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
003448777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

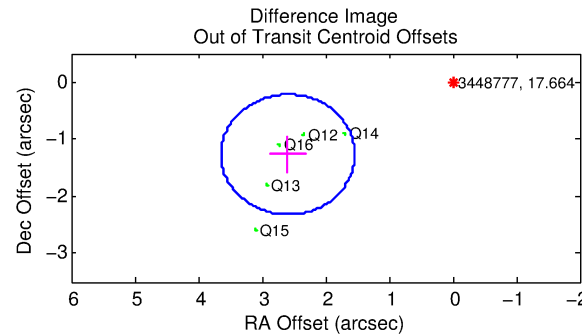
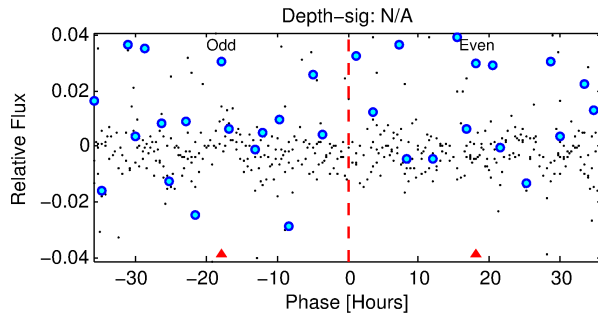
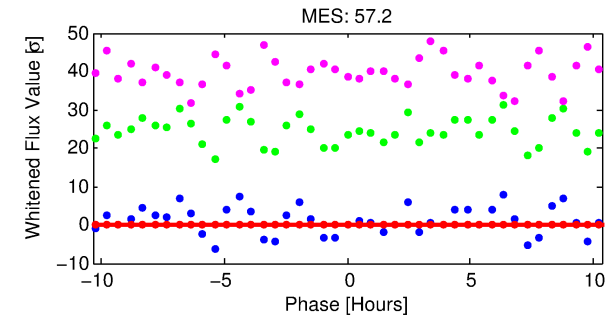
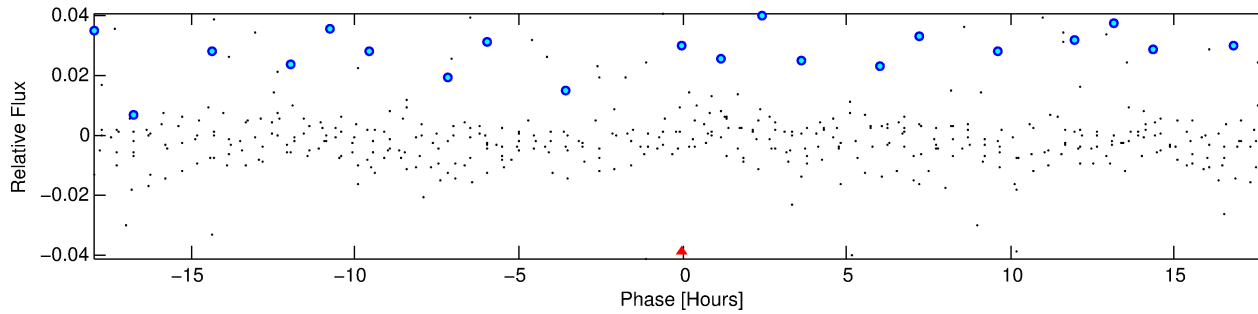
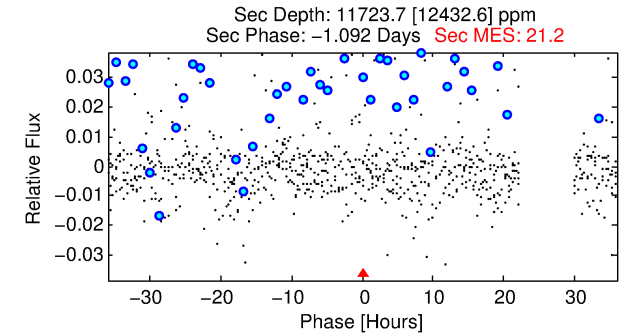
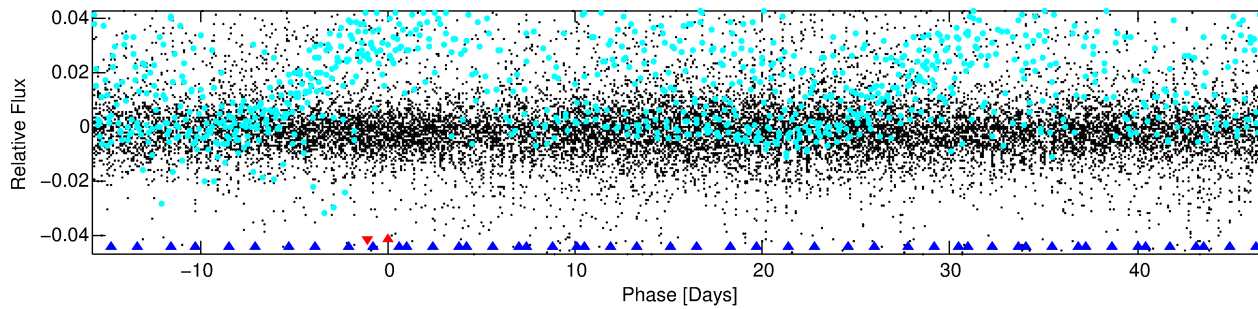
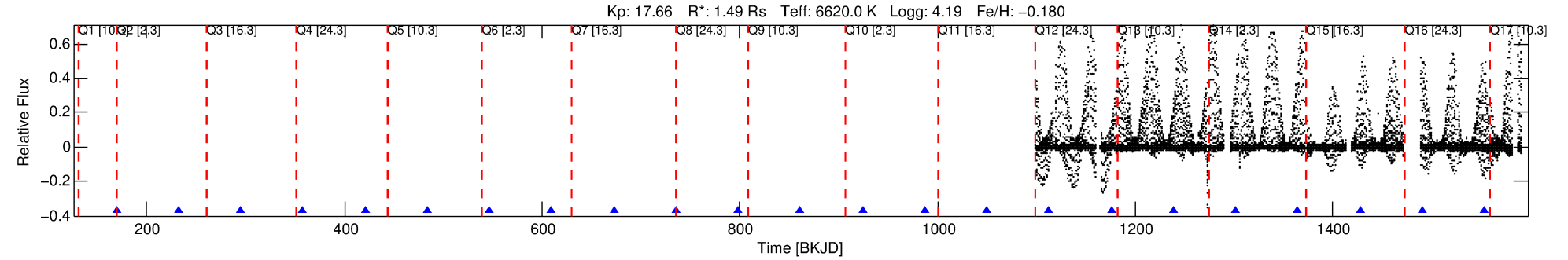
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003448777-01

No Significant Match Found

DV One-Page Summary

KIC: 3448777 Candidate: 1 of 2 Period: 62.916 d



TPS TCE Results:

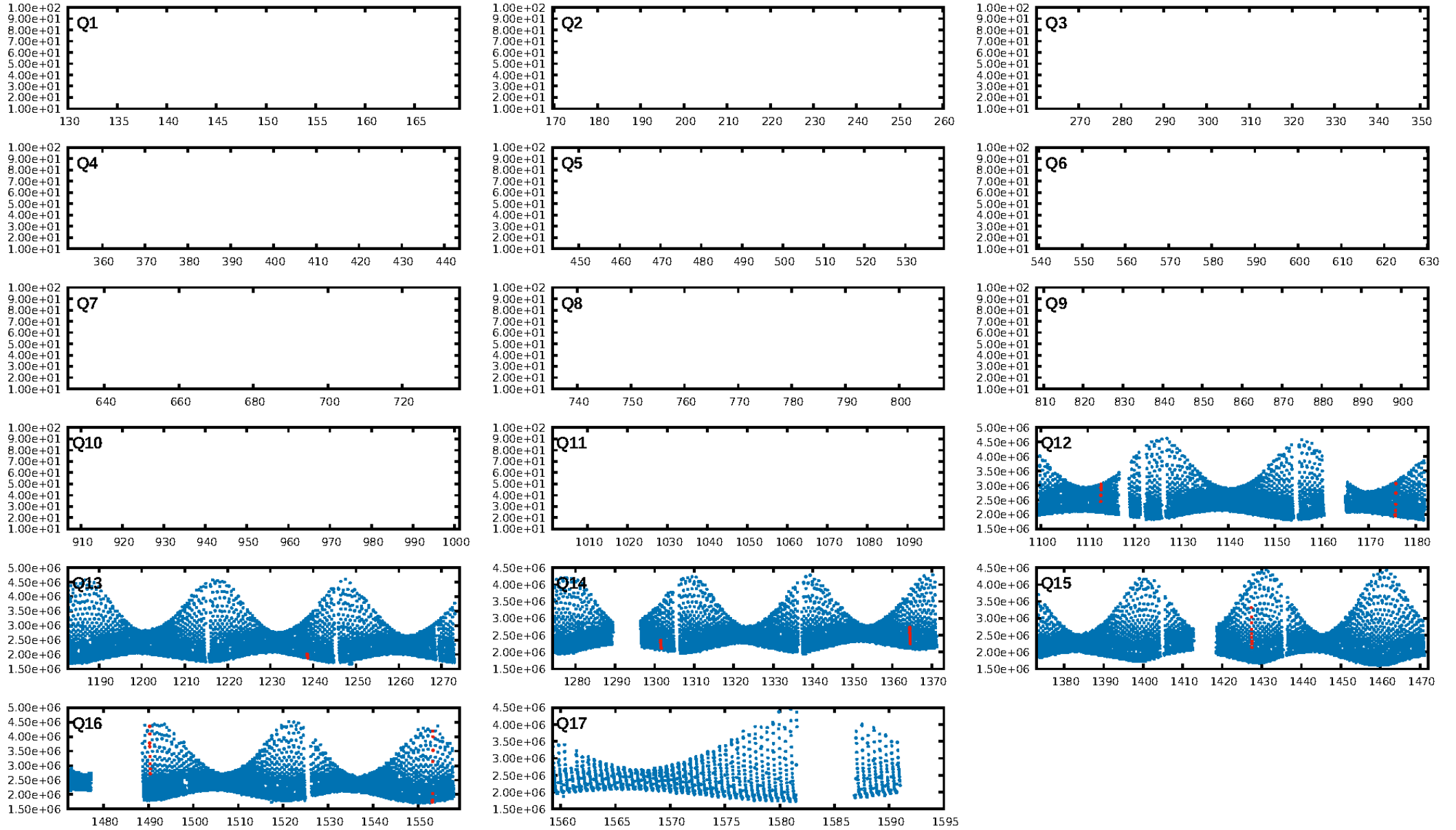
Period = 62.91624 d
Epoch = 169.1050 BKJD

DV fit results are unavailable

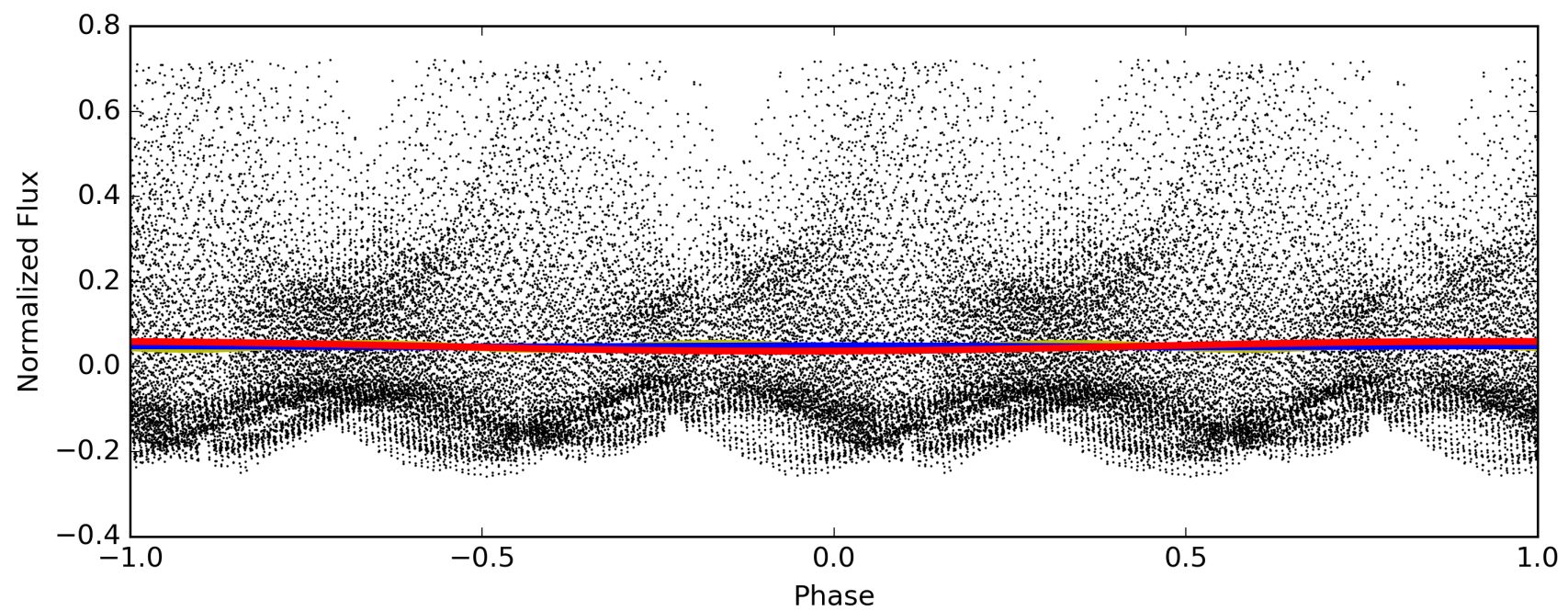
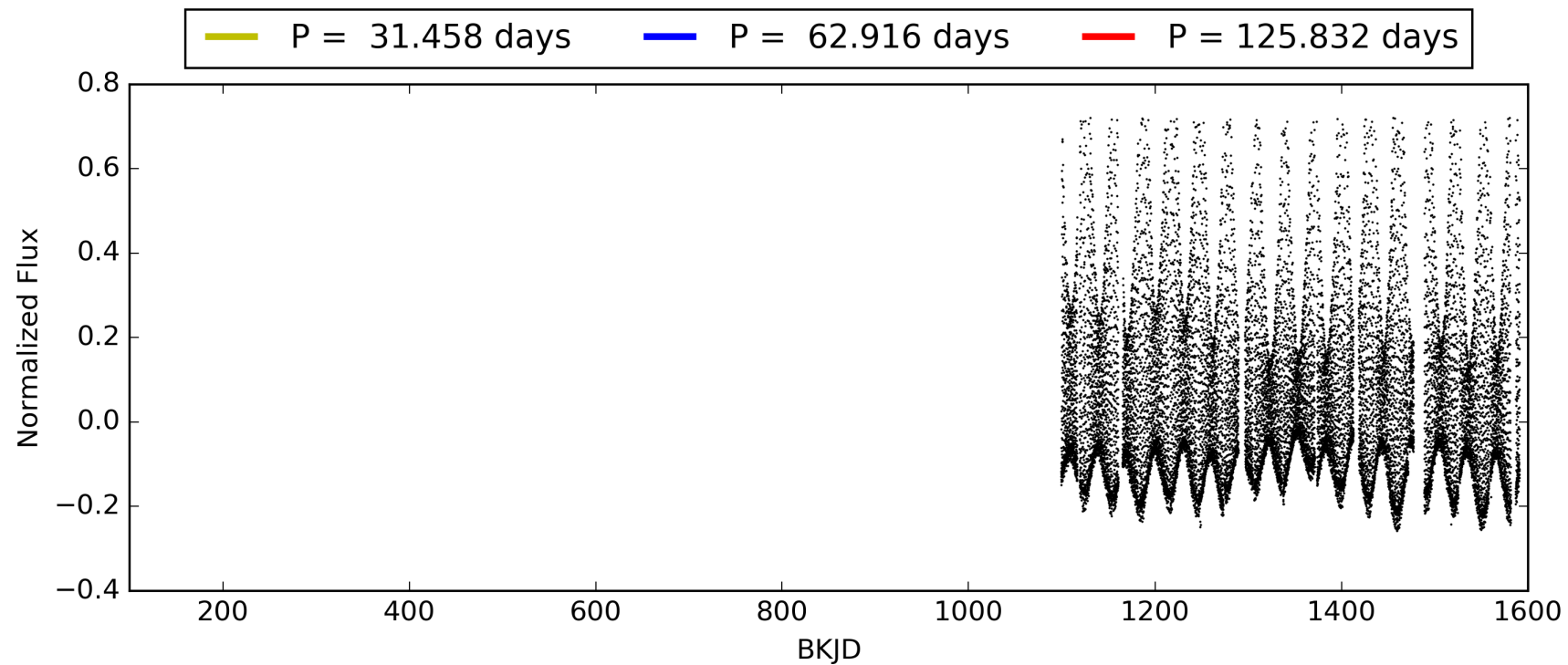
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [317.20σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.79e-22
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.886 arcsec [8.23σ]
KicOffset-rm: 0.329 arcsec [2.36σ]
OotOffset-st: 1/1/2/1 [5]
KicOffset-st: 1/1/2/1 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 1.00 [5/5]

TCE 003448777-01, PDC Light Curves

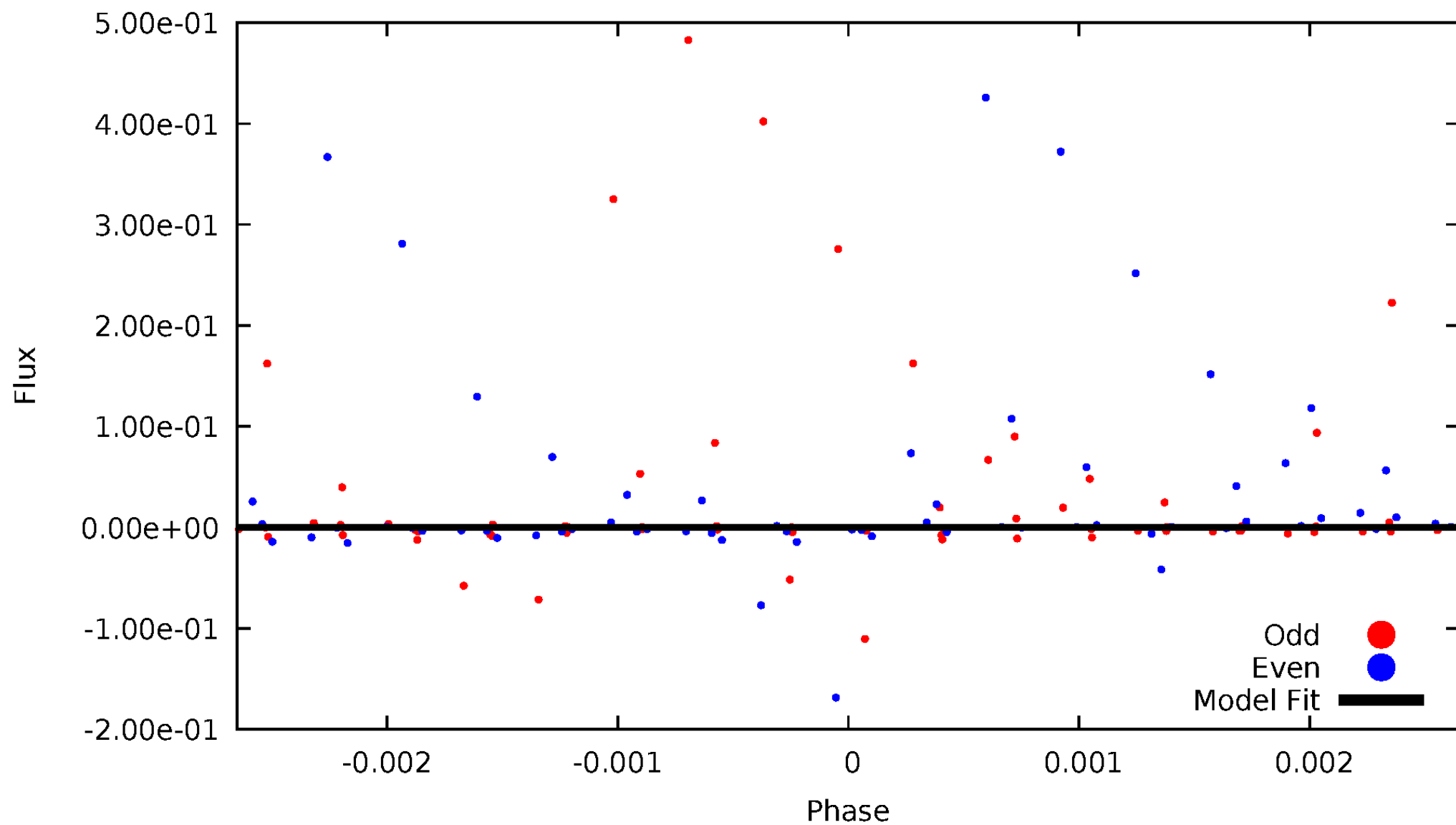


TCE 003448777-01



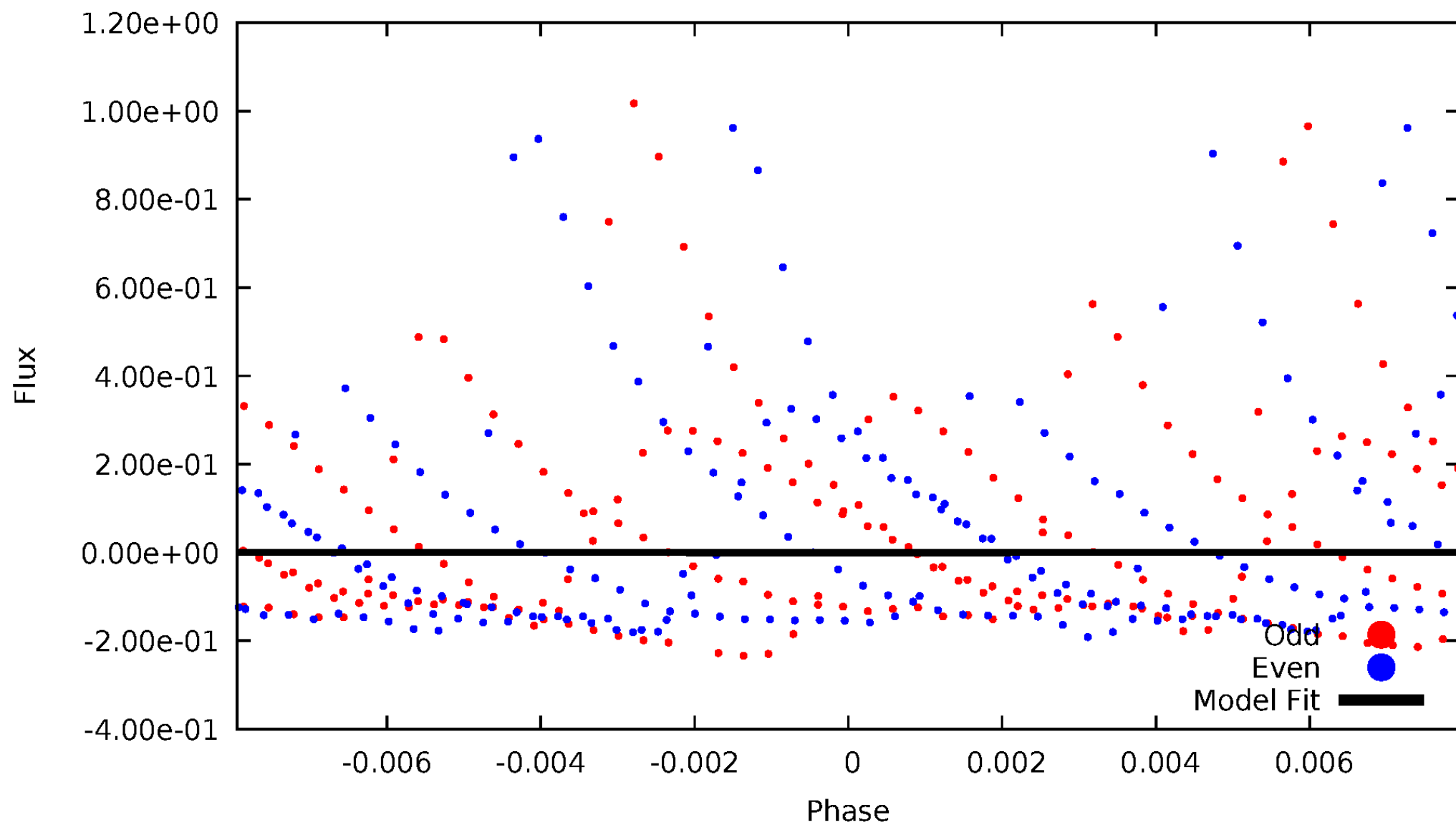
DV Odd/Even

TCE 003448777-01



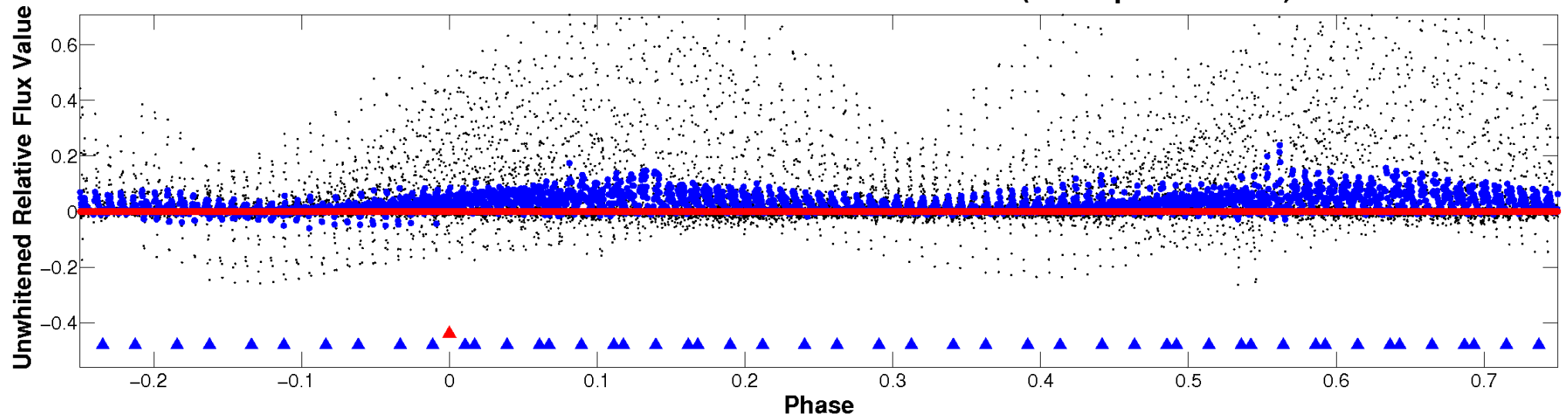
ALT Odd/Even

TCE 003448777-01



Non-Whitened Vs. Whitened Light Curve

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

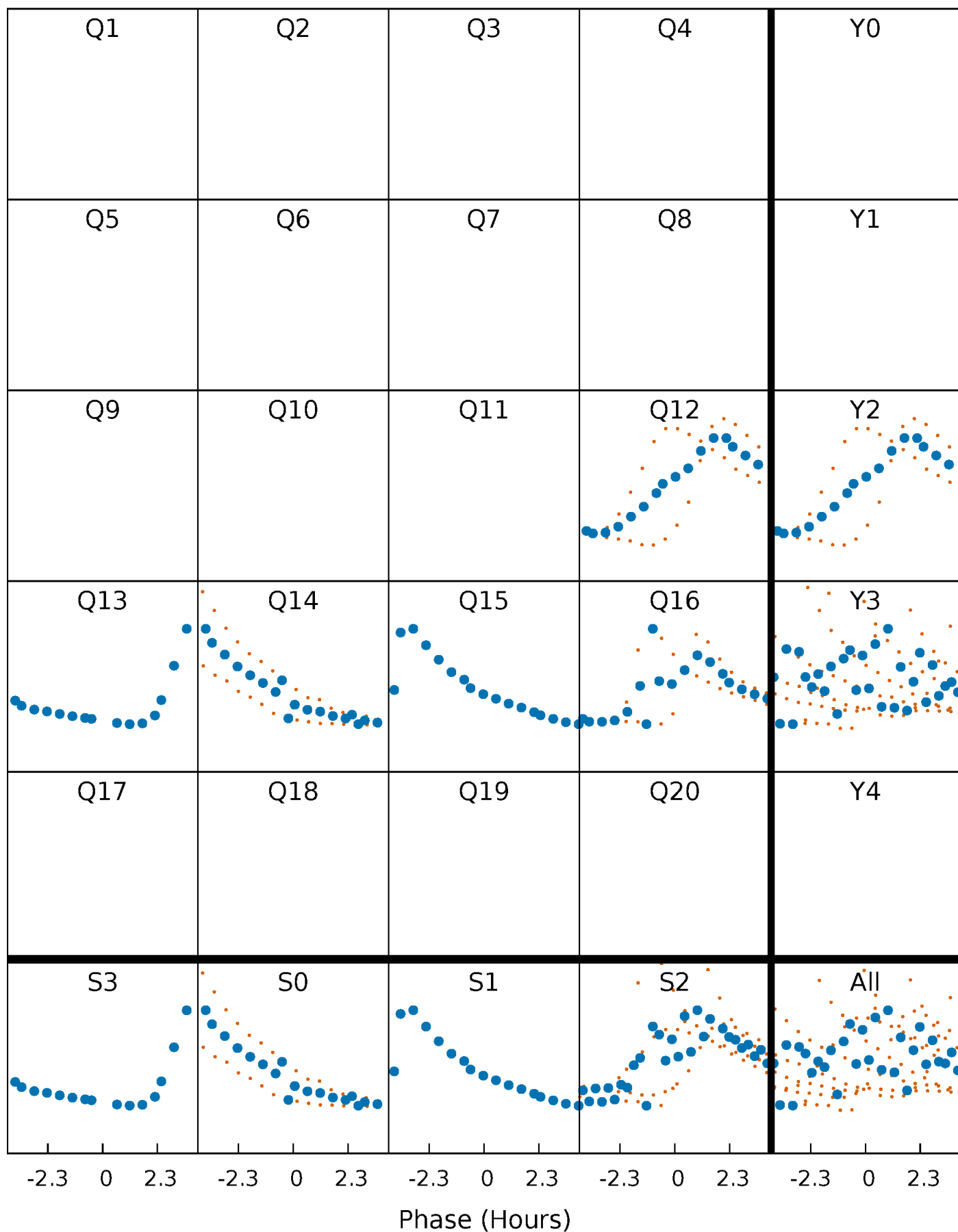


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



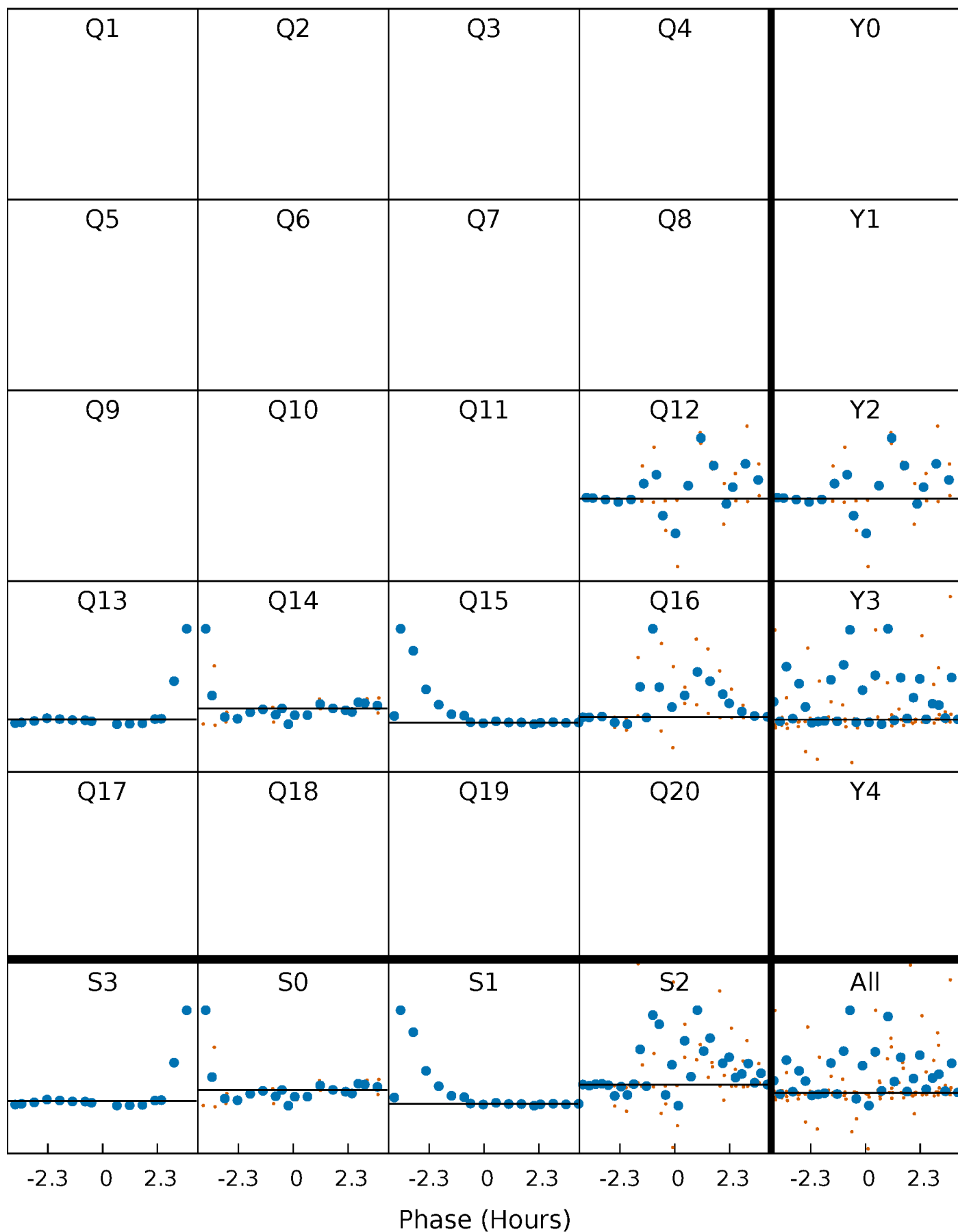
PDC Quarter-Phased Transit Curves

TCE 003448777-01 P= 62.916242 Days $T_0=169.104953$ (BKJD)



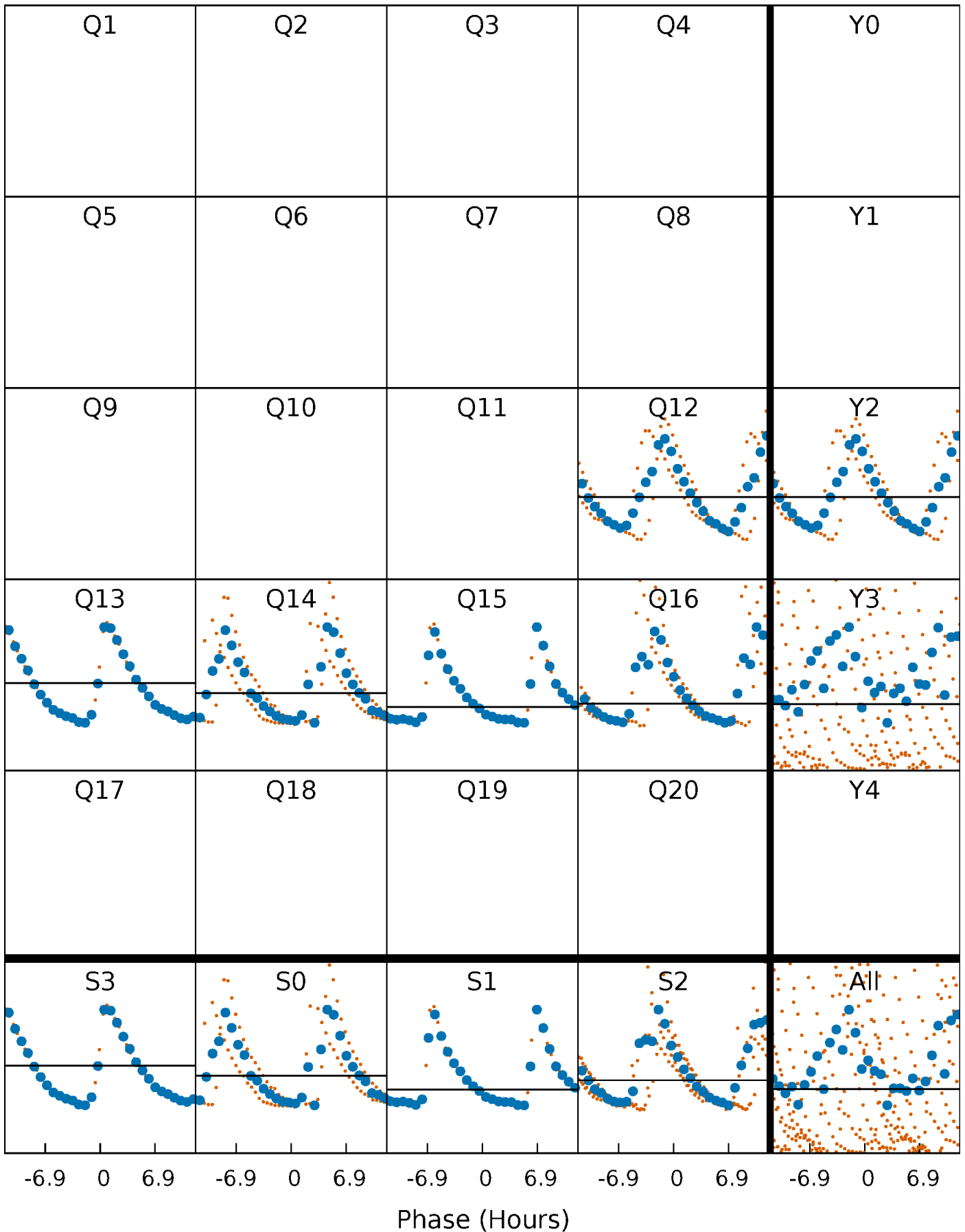
DV Quarter-Phased Transit Curves

TCE 003448777-01 P= 62.916242 Days $T_0=169.104953$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

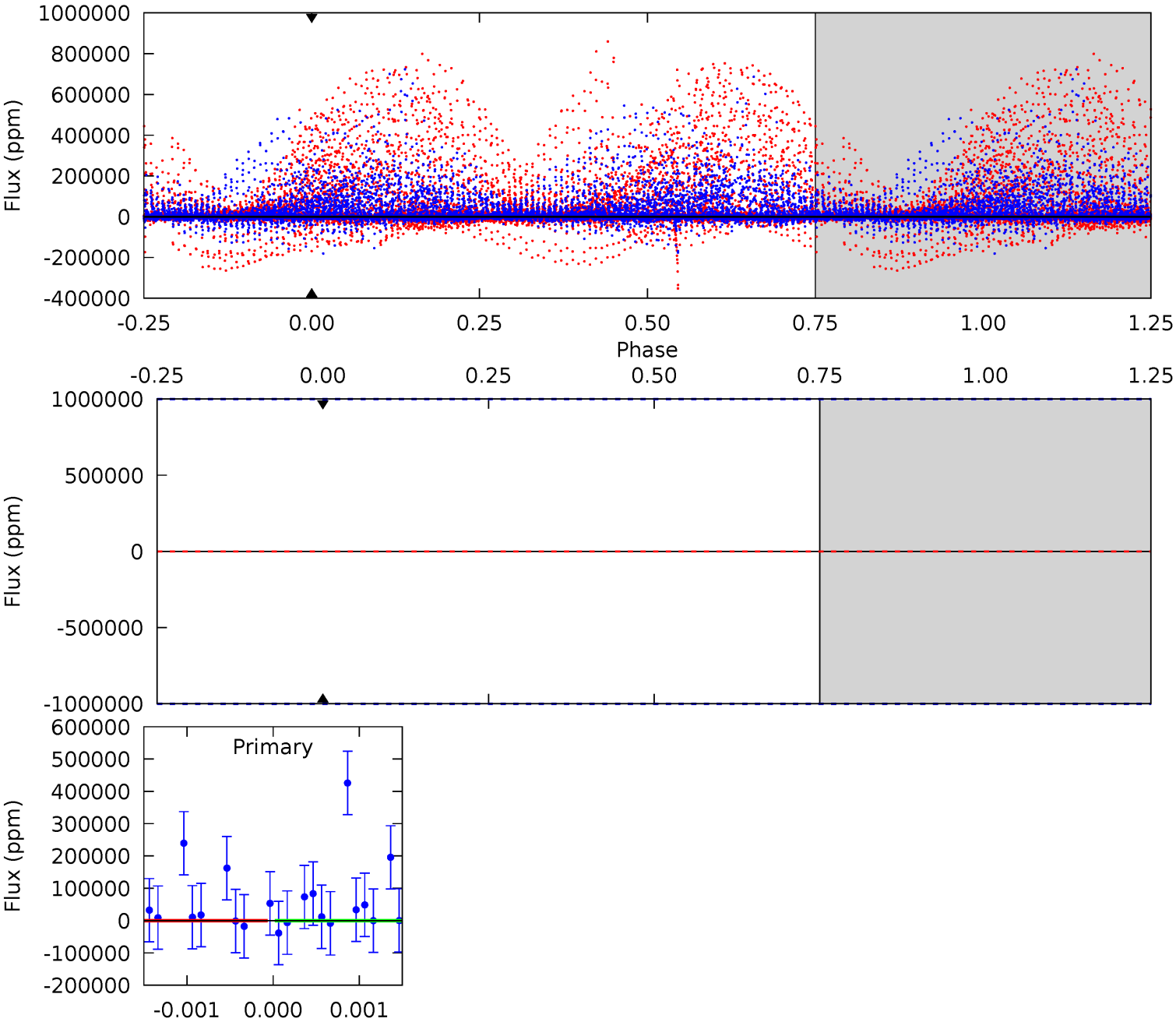
TCE 003448777-01 P= 62.916242 Days $T_0=169.236860$ (BKJD)



DV Model-Shift Uniqueness Test

003448777-01, P = 62.916242 Days, E = 169.104953 Days

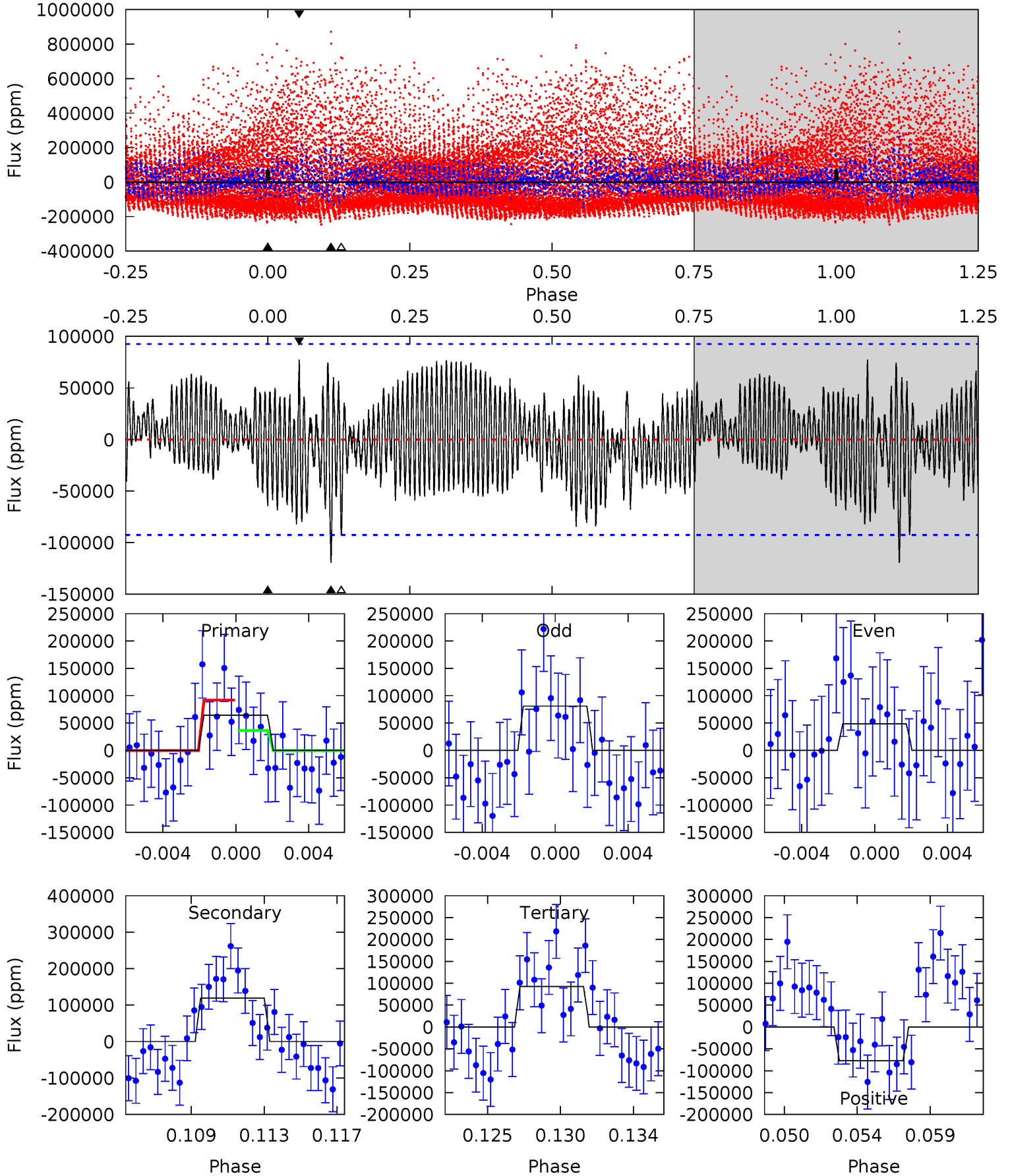
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003448777-01, P = 62.916242 Days, E = 169.236860 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.61	6.69	5.19	4.34	5.19	2.86	1.82	-1.58	-0.73	1.50	2.35	0.89	1.05	0.39	1.60



Stellar Parameters For KIC 003448777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6620^{+186}_{-232}	$4.191^{+0.158}_{-0.175}$	$-0.180^{+0.250}_{-0.300}$	$1.488^{+0.431}_{-0.353}$	$1.260^{+0.186}_{-0.207}$	$0.538^{+0.500}_{-0.260}$
	+3%/-4%	+4%/-4%	+139%/-167%	+29%/-24%	+15%/-16%	+93%/-48%
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 003448777-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$47.03^{+18.38}_{-15.83}$	863^{+70}_{-62}	3238^{+4002}_{-9997}	58^{+3245}_{-2626}
Alt.	-119387 ± 17845	$11.11^{+12.06}_{-7.88}$	867^{+66}_{-67}	$26839^{+176610}_{-14274}$	$66138^{+685996}_{-51574}$

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 $A_{obs} \gg 1.0$

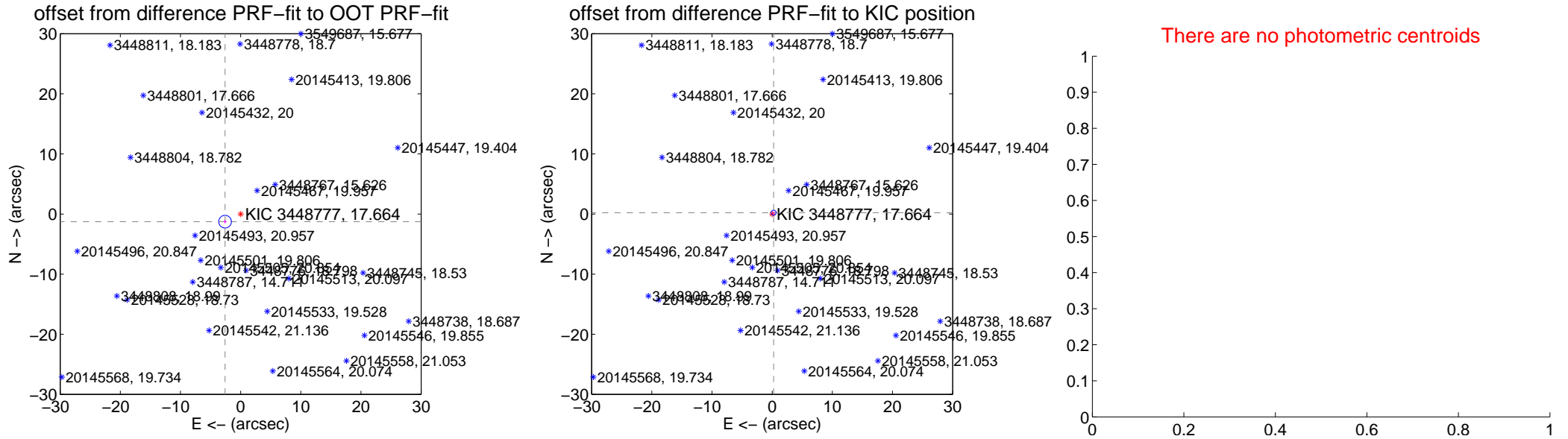
DV Centroid Data

Supplemental centroid analysis for 003448777-01. Kepler magnitude: 17.66. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.49 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.886 ± 0.351	8.23	2.593 ± 0.274	-1.267 ± 0.303
PRF-fit source offset from KIC position	0.329 ± 0.139	2.36	-0.244 ± 0.071	0.221 ± 0.192
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.

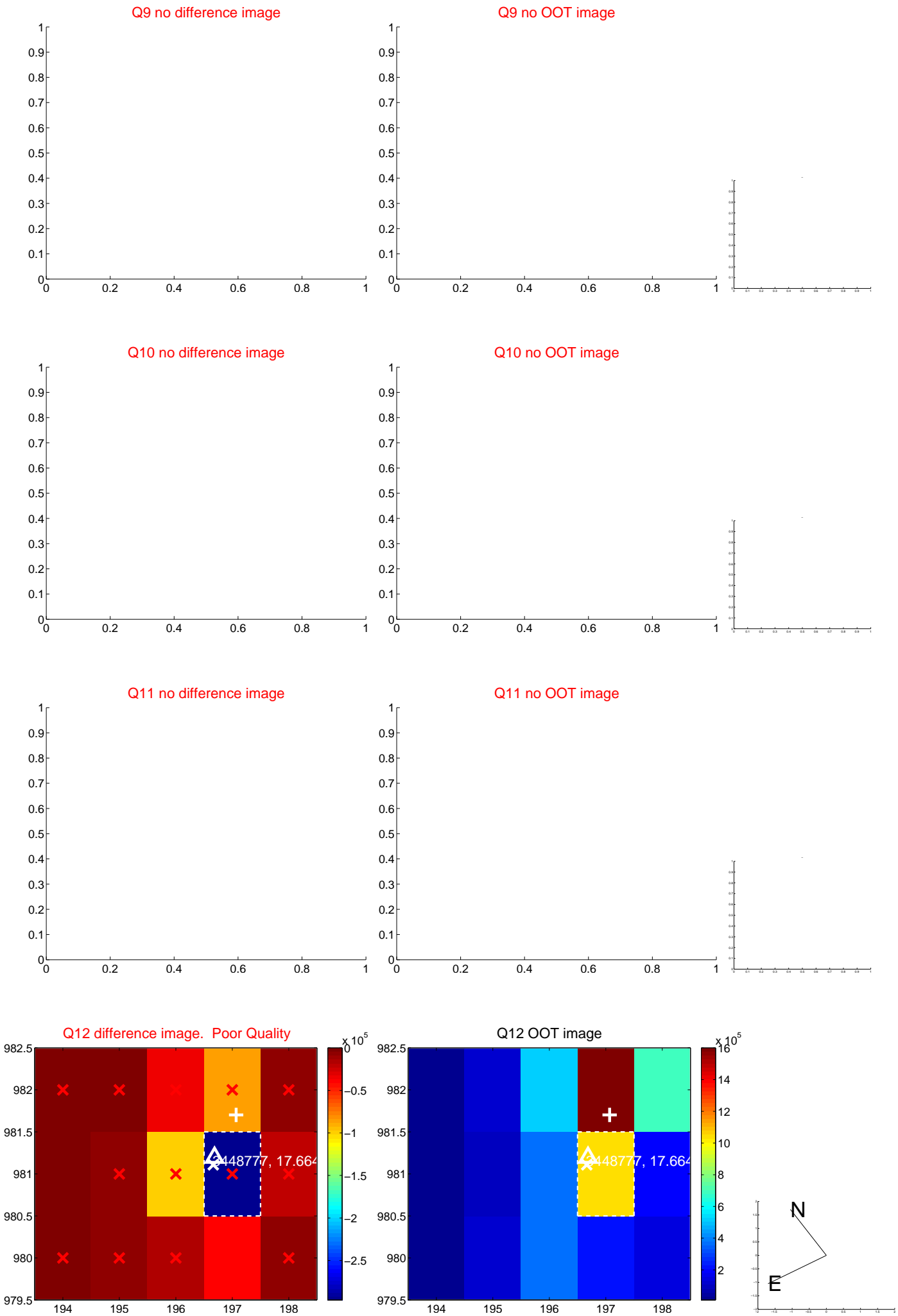
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



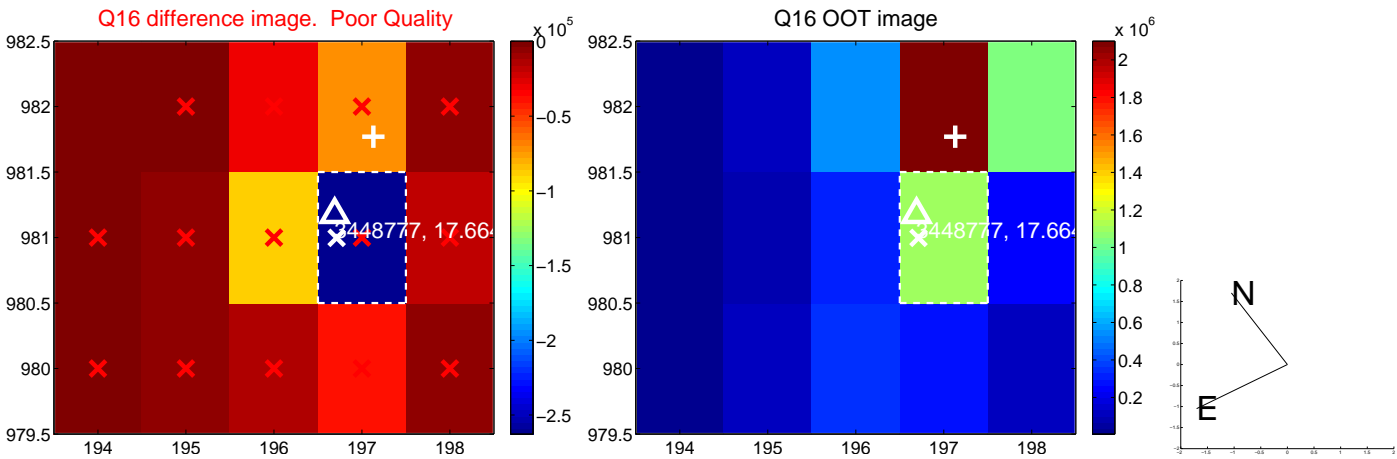
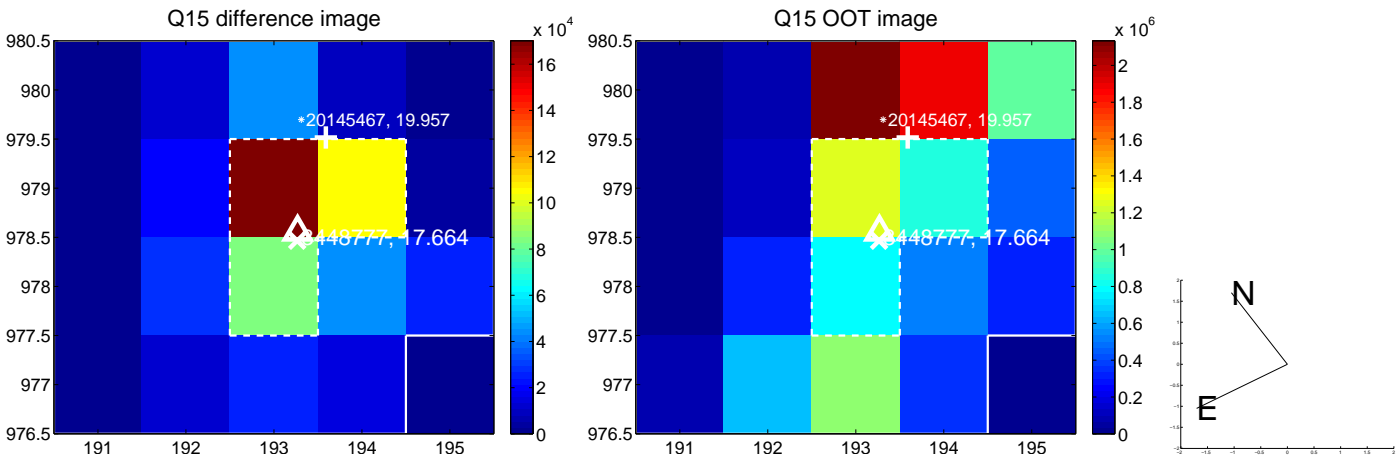
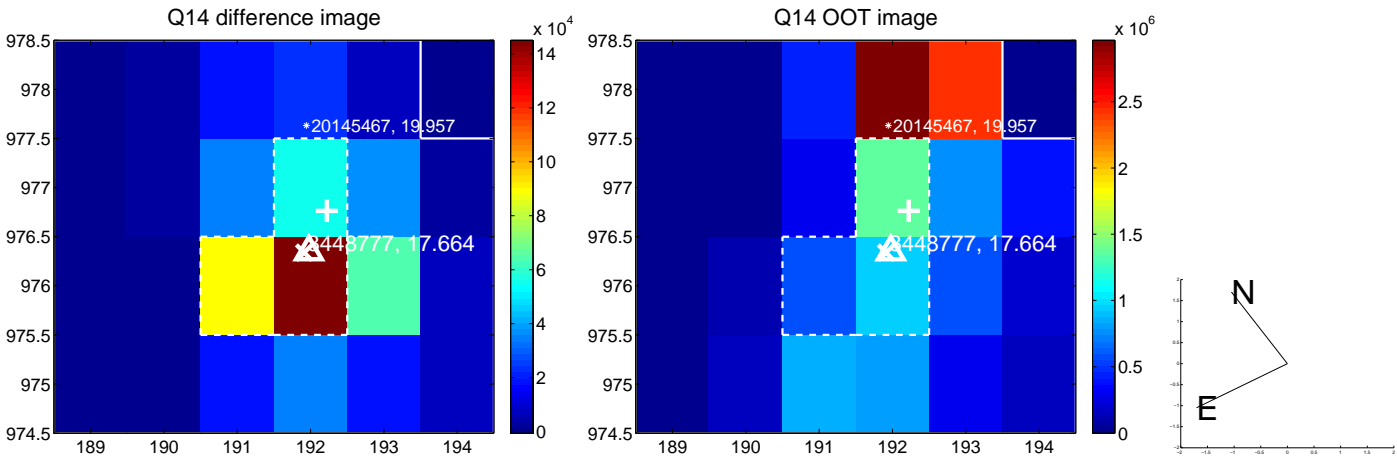
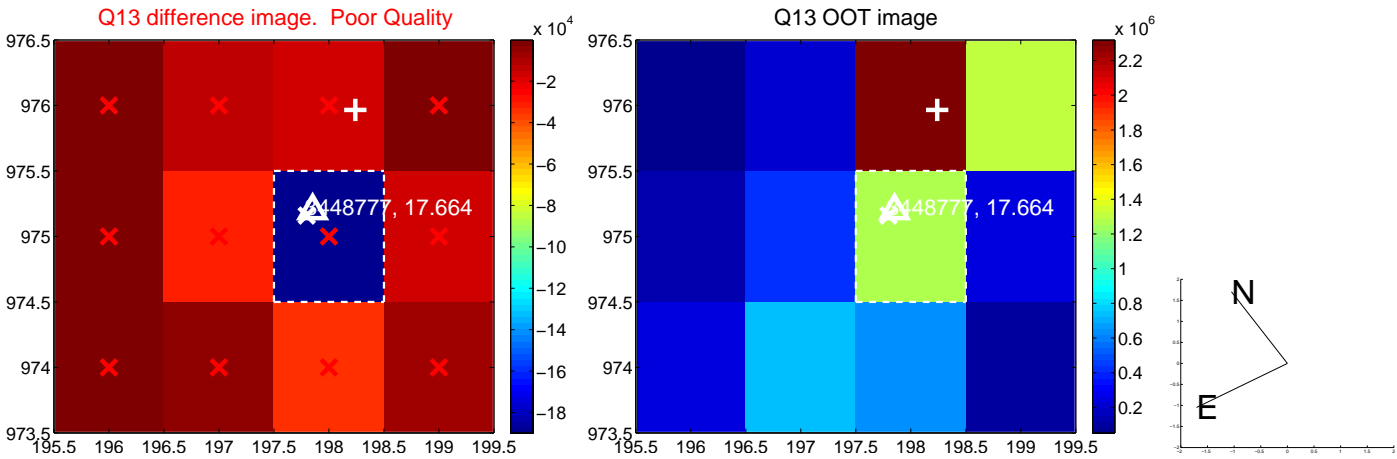
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



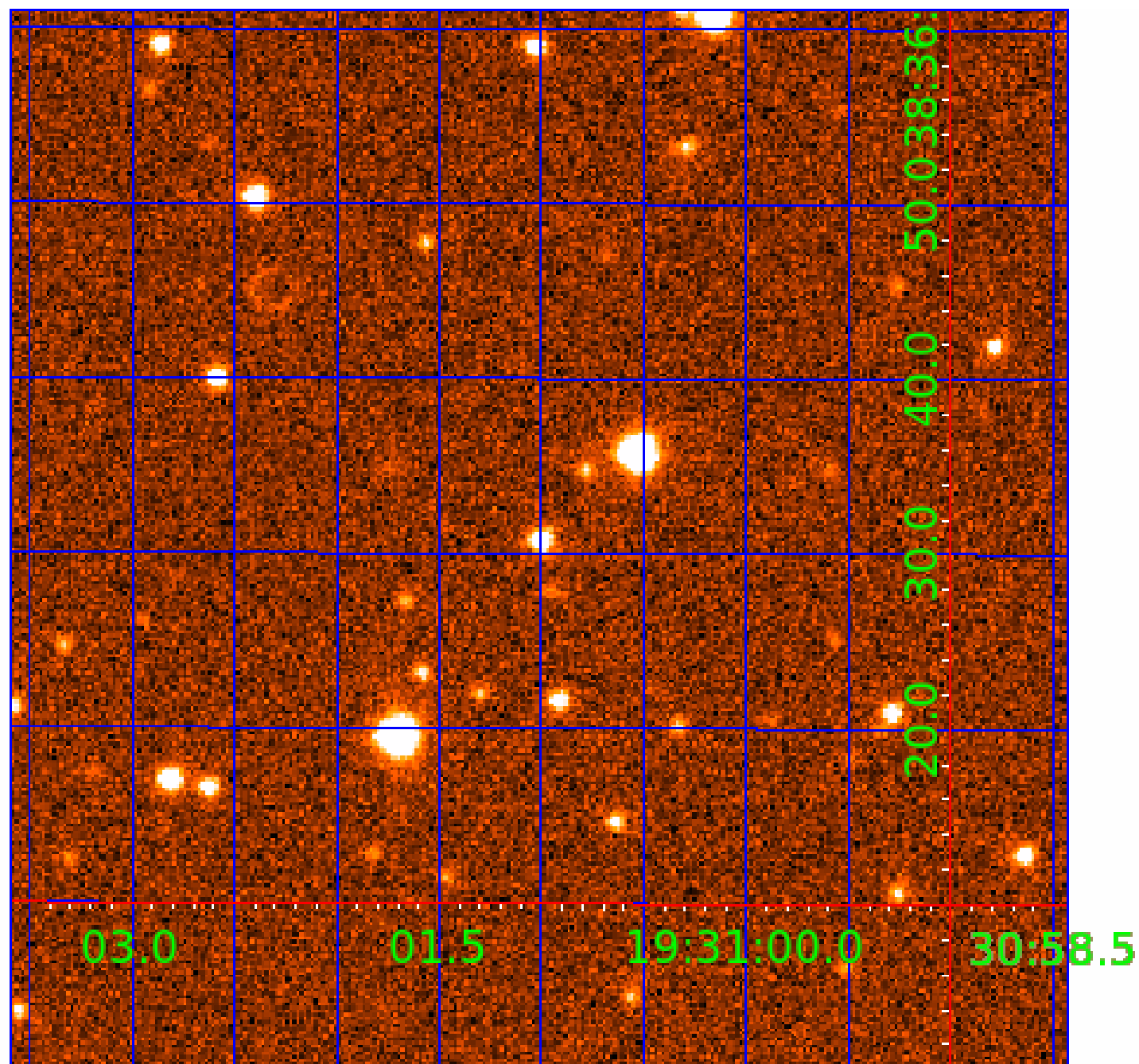
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 003448777

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})
003448777-01	OBS	No	62.916242	169.104953	98961.7	2.000	57.2	-1.0	1.49	6620	47.49	34.17
003448777-02	OBS	No	29.875072	149.804748	78202.1	1.500	55.9	-1.0	1.49	6620	42.29	92.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003448777-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
003448777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

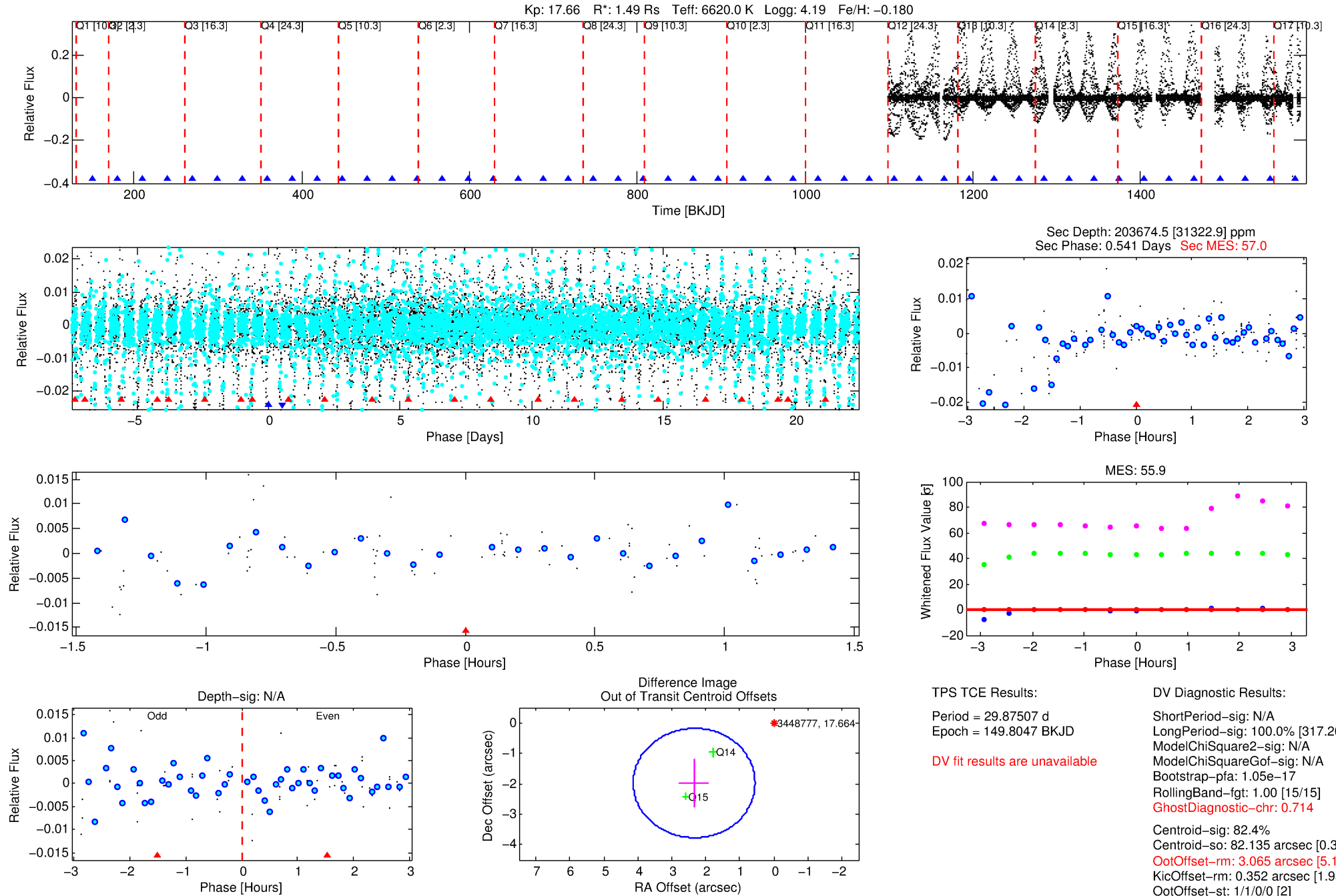
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003448777-02

No Significant Match Found

DV One-Page Summary

KIC: 3448777 Candidate: 2 of 2 Period: 29.875 d



TPS TCE Results:

Period = 29.87507 d
Epoch = 149.8047 BKJD

DV fit results are unavailable

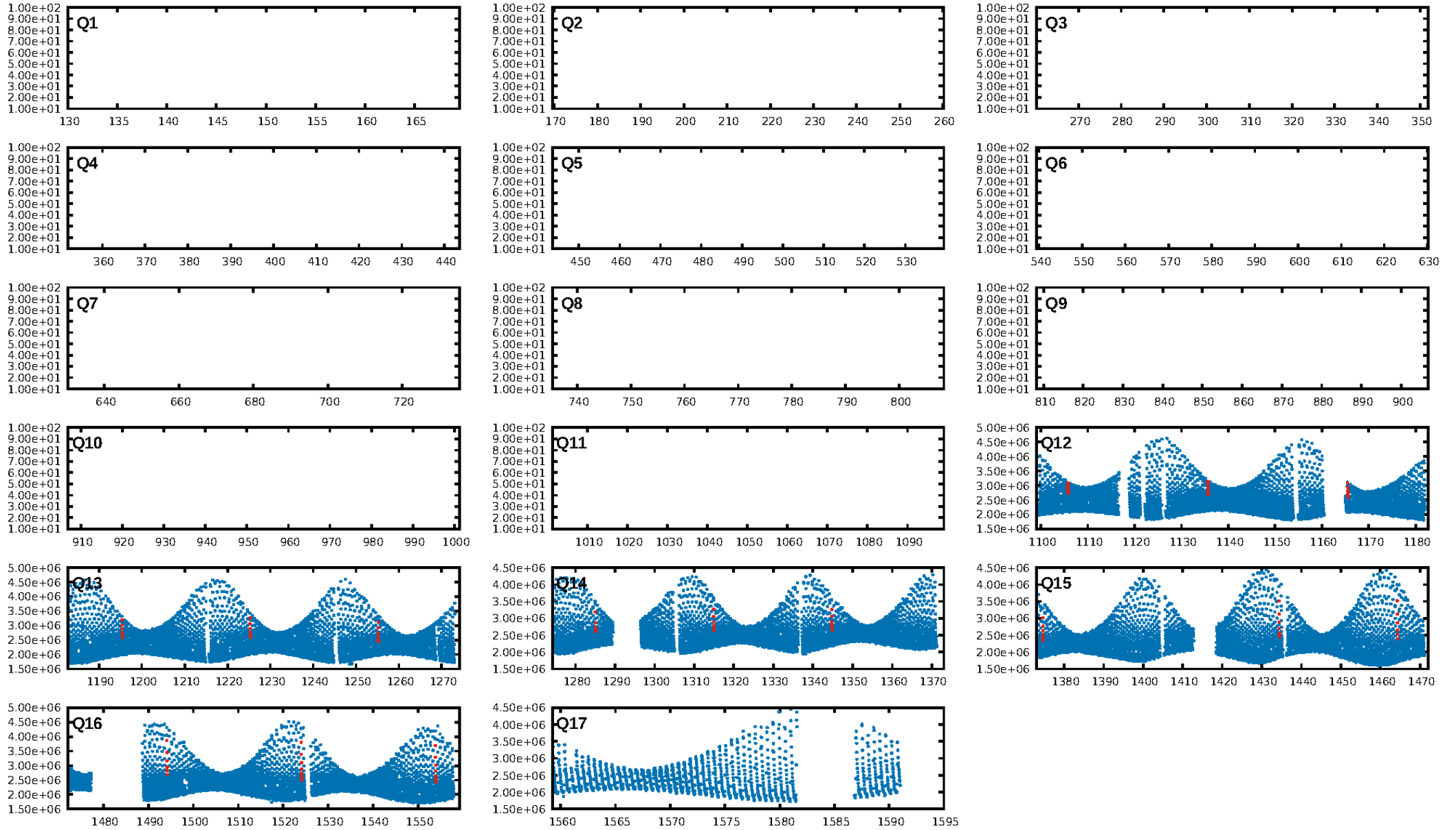
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [317.20σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.05e-17
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 0.714
Centroid-sig: 82.4%
Centroid-so: 82.135 arcsec [0.30σ]
OotOffset-rm: 3.065 arcsec [5.12σ]
KicOffset-rm: 0.352 arcsec [1.95σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

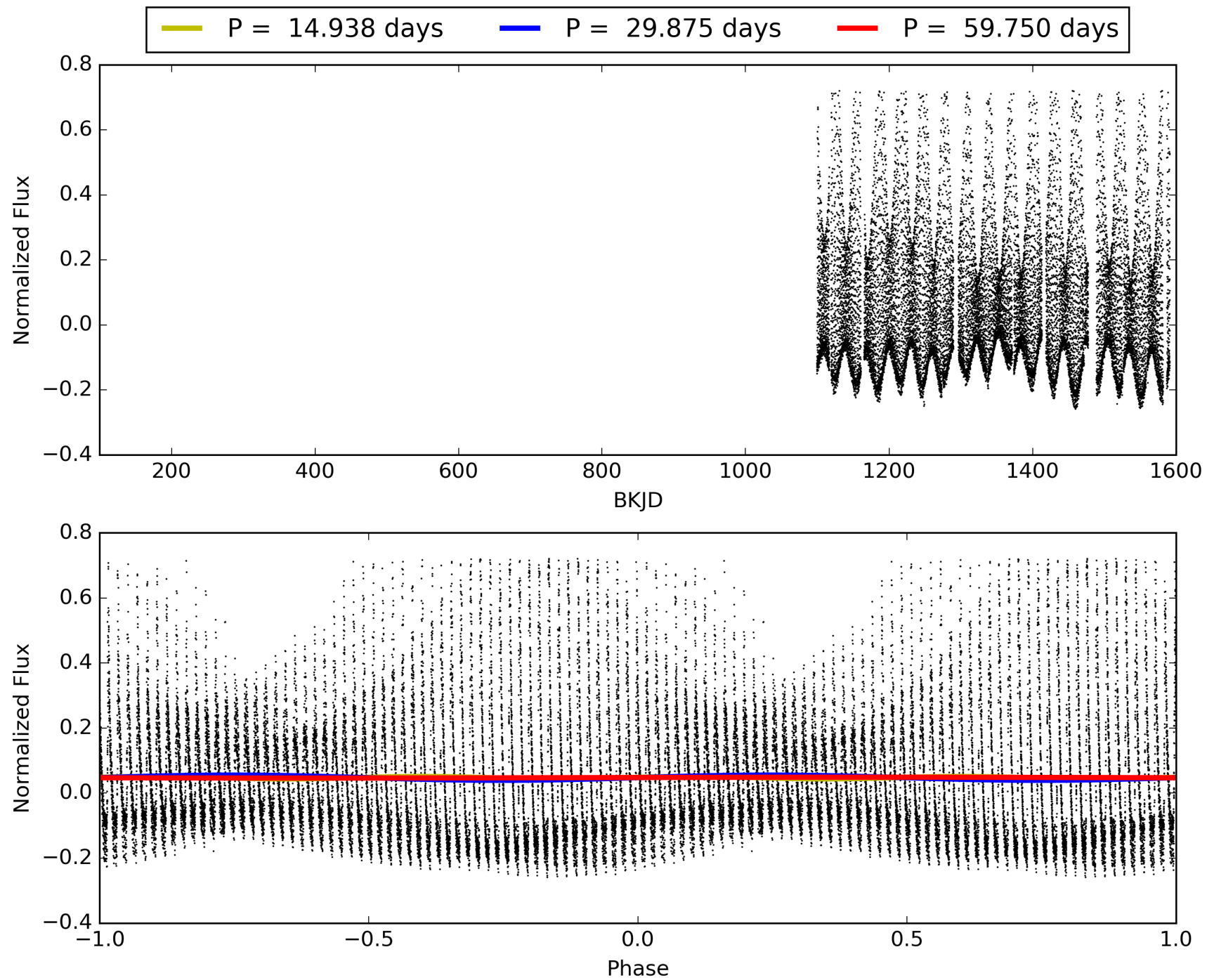
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:37:56 Z

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

TCE 003448777-02, PDC Light Curves

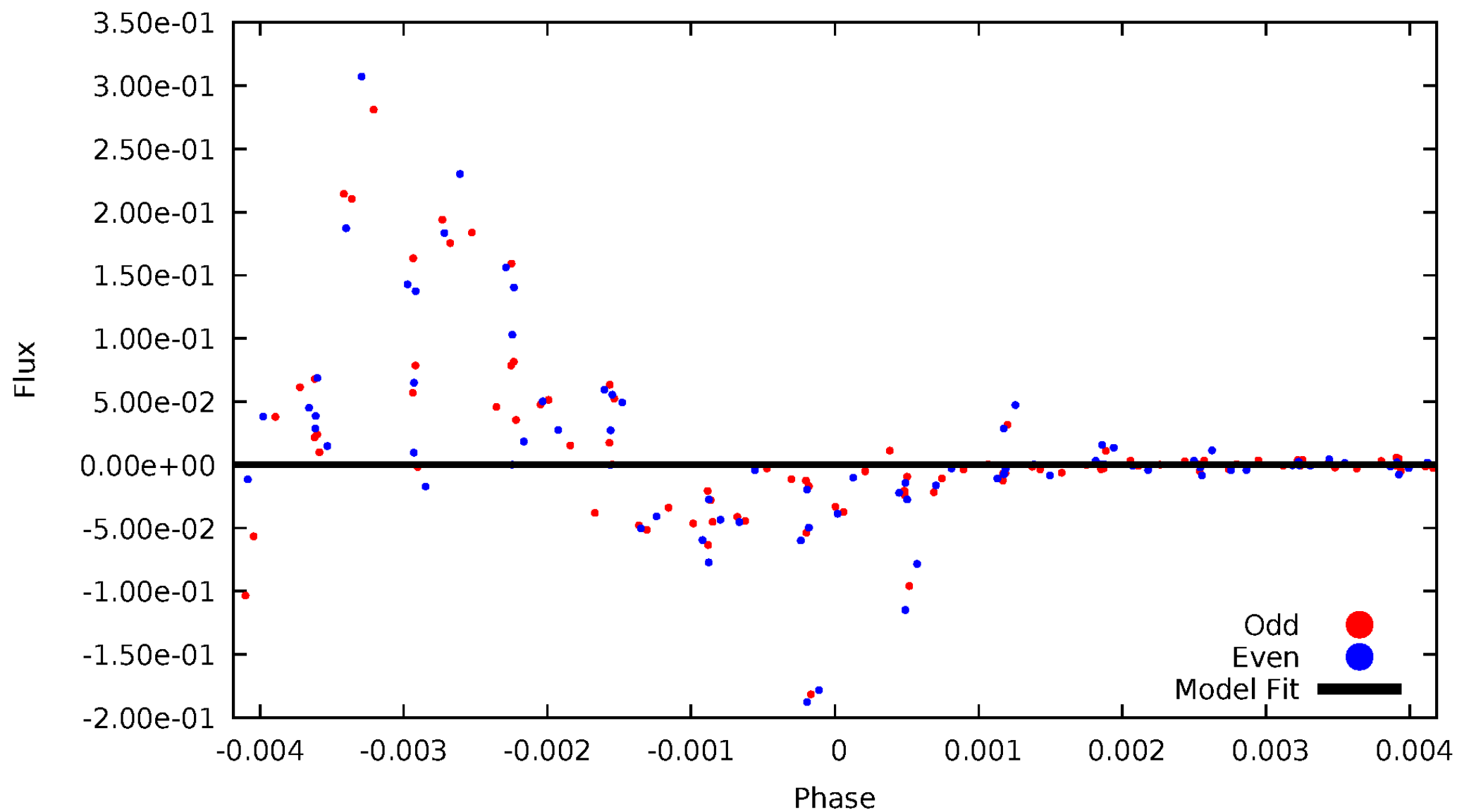


TCE 003448777-02



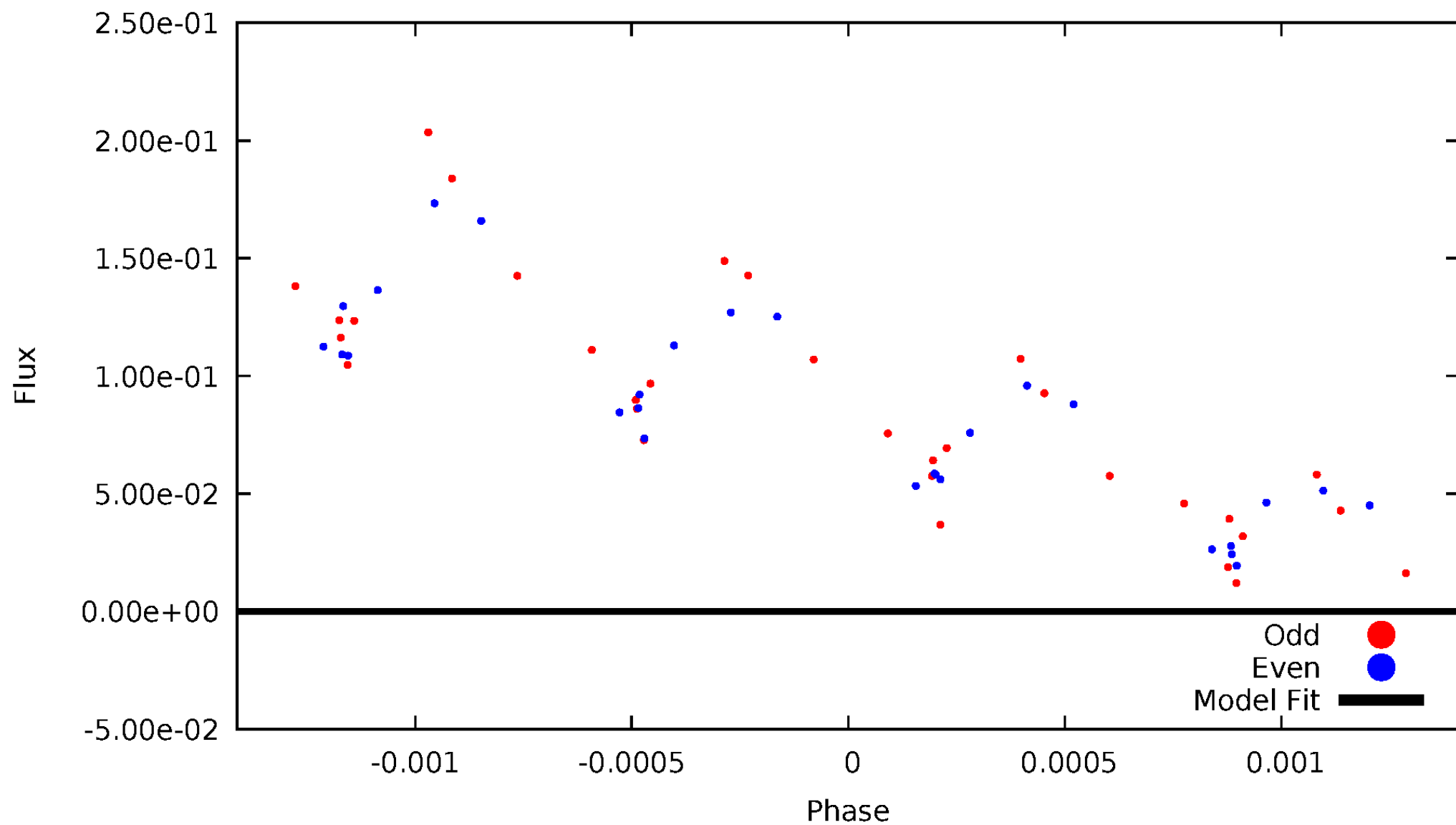
DV Odd/Even

TCE 003448777-02



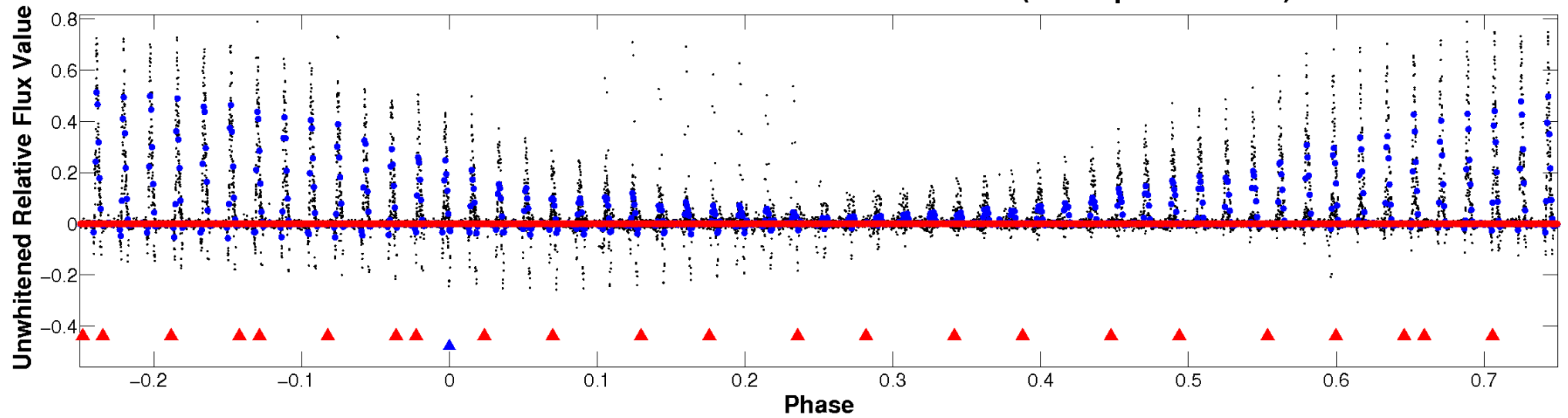
ALT Odd/Even

TCE 003448777-02



Non-Whitened Vs. Whitened Light Curve

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

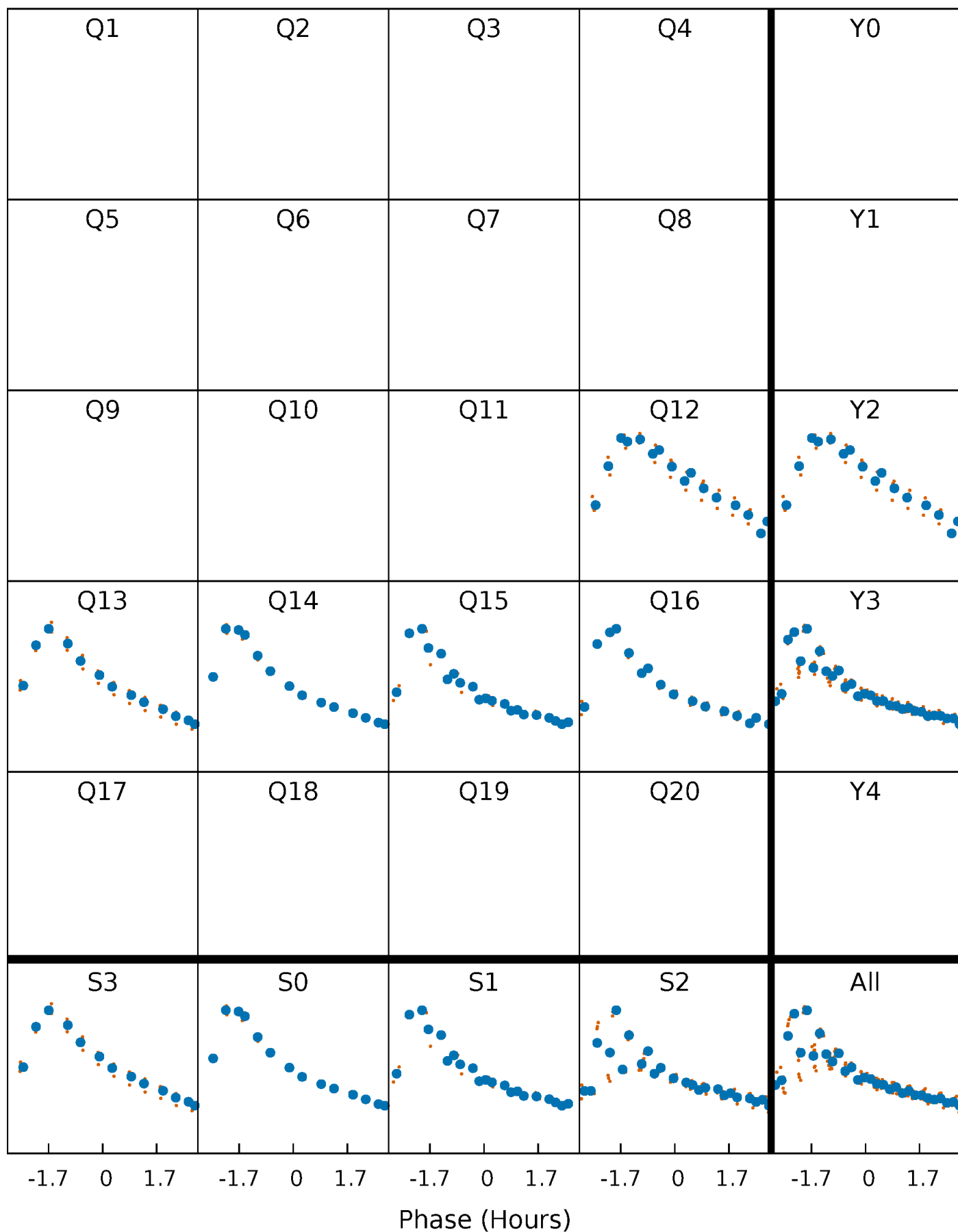


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



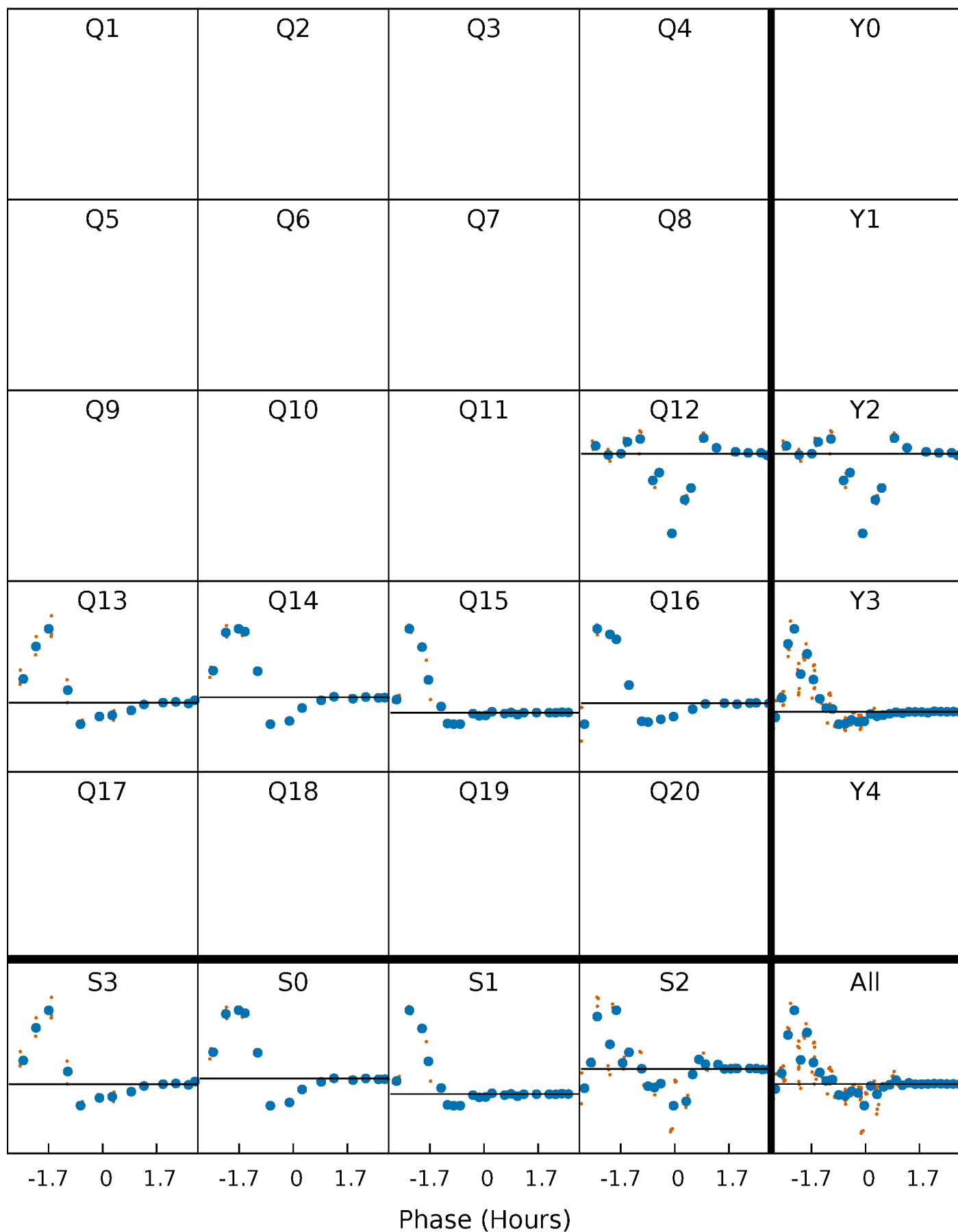
PDC Quarter-Phased Transit Curves

TCE 003448777-02 P= 29.875072 Days $T_0=149.804748$ (BKJD)



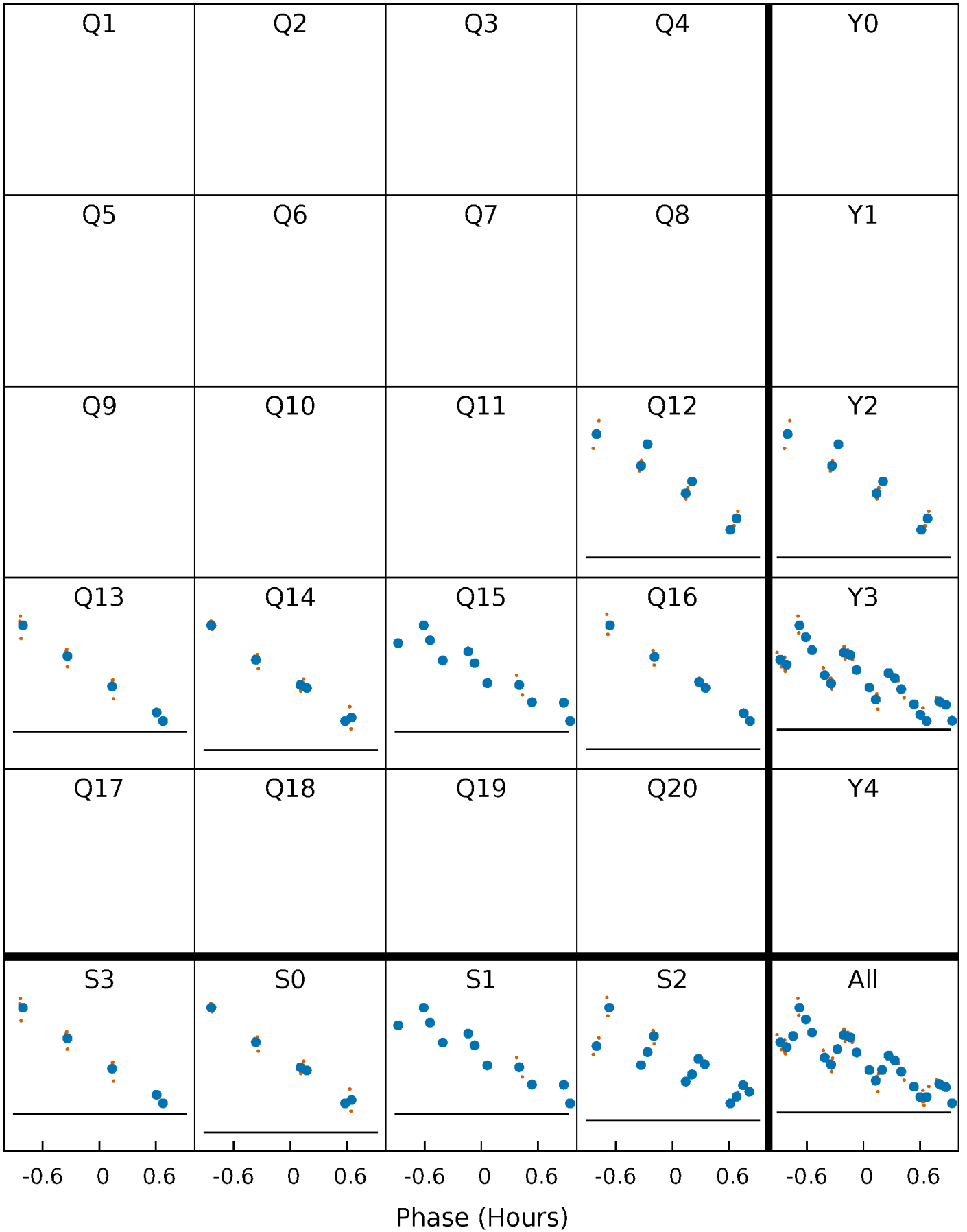
DV Quarter-Phased Transit Curves

TCE 003448777-02 $P = 29.875072$ Days $T_0 = 149.804748$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

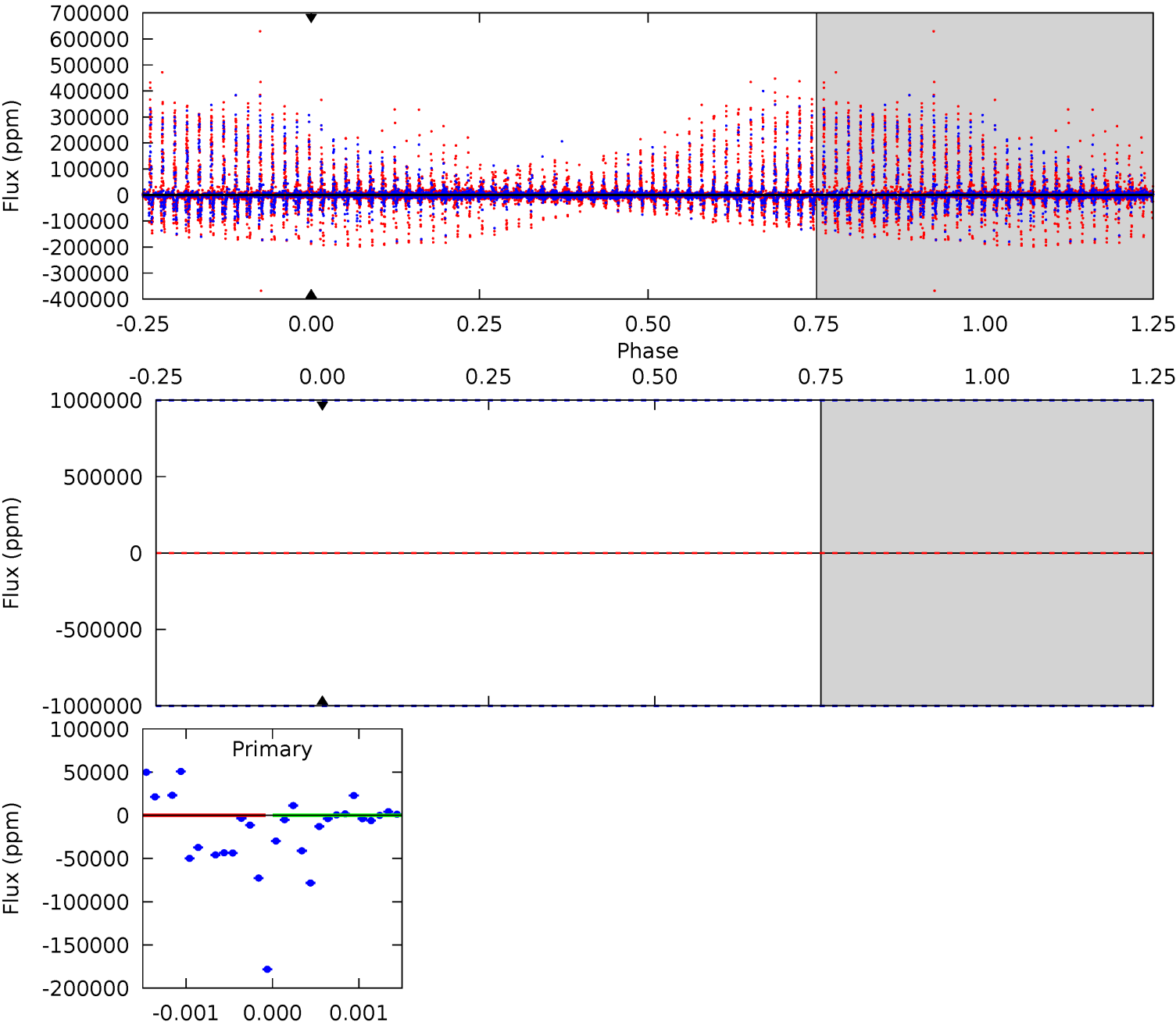
TCE 003448777-02 P= 29.875072 Days $T_0=149.895151$ (BKJD)



DV Model-Shift Uniqueness Test

003448777-02, P = 29.875072 Days, E = 149.804748 Days

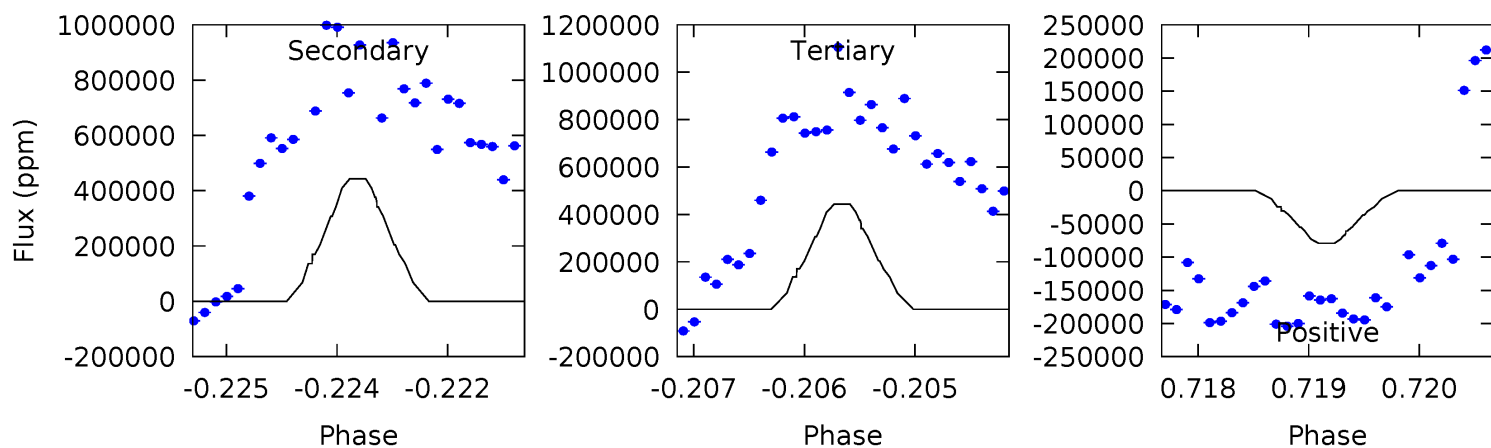
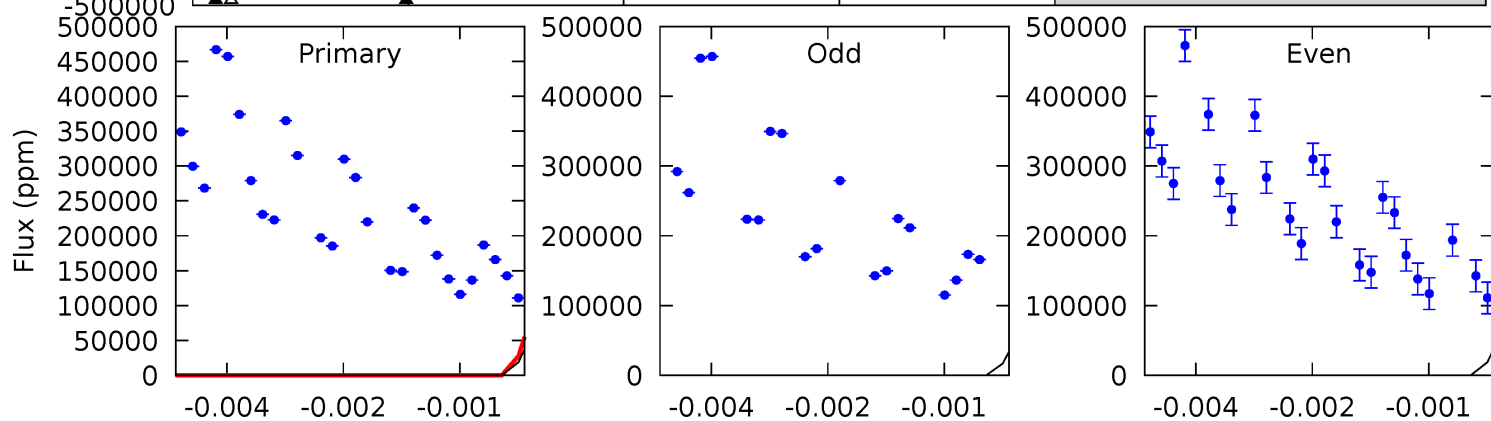
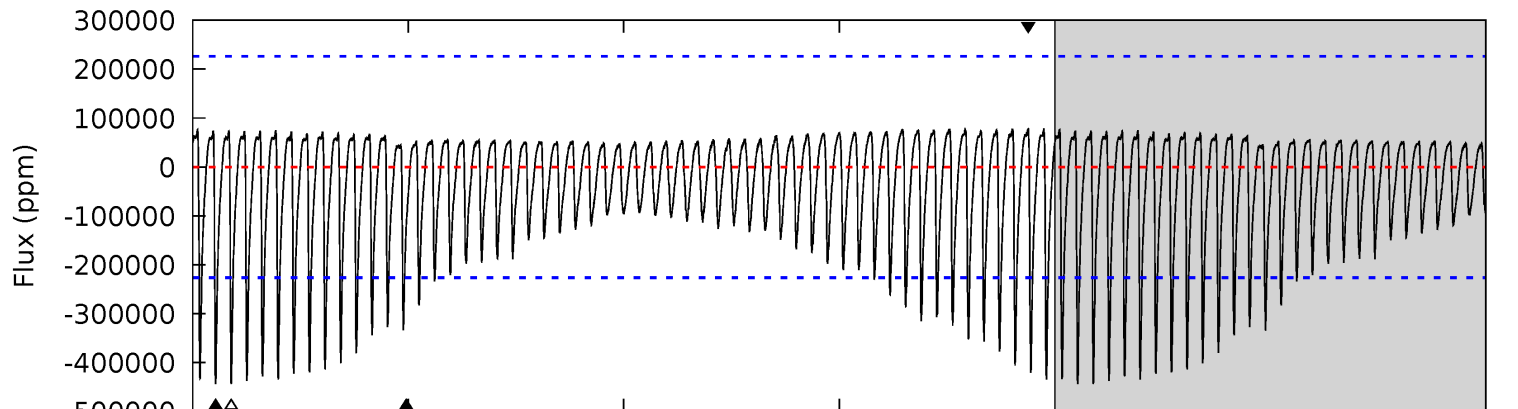
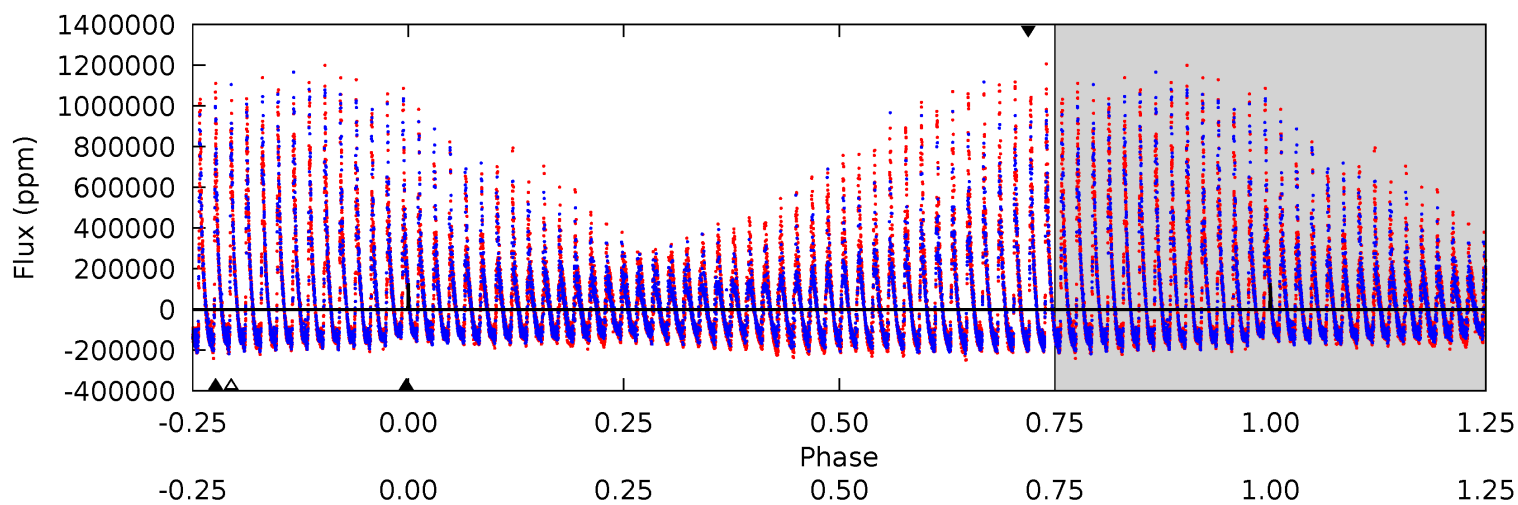
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003448777-02, P = 29.875072 Days, E = 149.895151 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.91	10.6	10.6	1.89	5.42	3.24	2.52	-7.71	1.02	0.02	8.74	0.13	1.25	0.15	1.11



Stellar Parameters For KIC 003448777

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6620^{+186}_{-232}	$4.191^{+0.158}_{-0.175}$	$-0.180^{+0.250}_{-0.300}$	$1.488^{+0.431}_{-0.353}$	$1.260^{+0.186}_{-0.207}$	$0.538^{+0.500}_{-0.260}$
	+3%/-4%	+4%/-4%	+139%/-167%	+29%/-24%	+15%/-16%	+93%/-48%
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 003448777-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$42.03^{+18.75}_{-17.02}$	1107^{+81}_{-73}	2950^{+5089}_{-10364}	11^{+1717}_{-1254}
Alt.	-443733 ± 41735	$12.18^{+12.15}_{-8.61}$	1107^{+82}_{-78}	$97128^{+793175}_{-66230}$	$123044^{+1235948}_{-93934}$

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

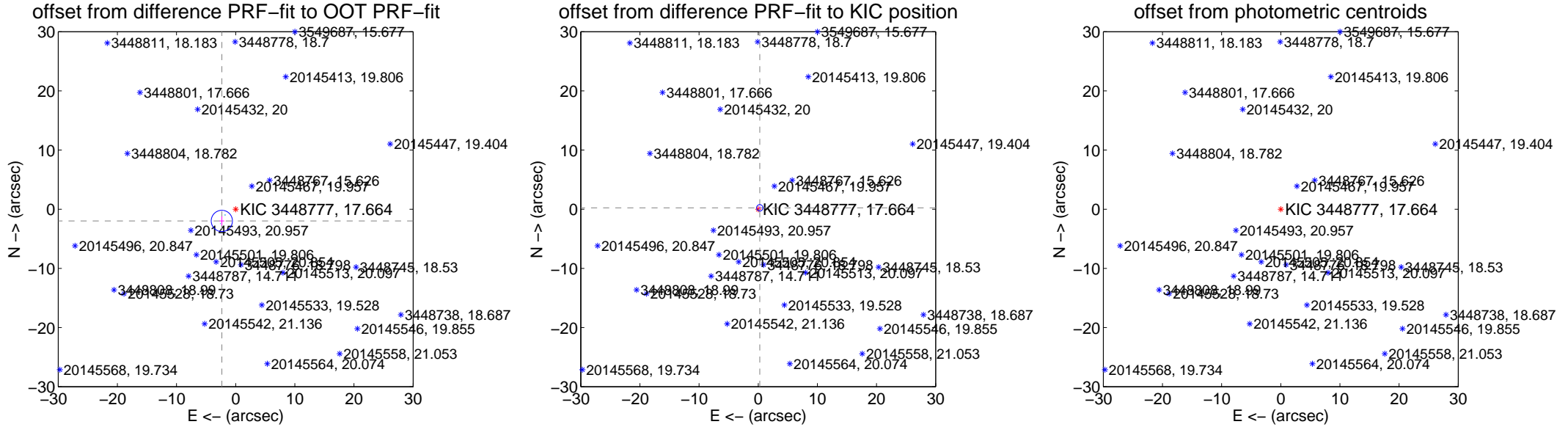
DV Centroid Data

Supplemental centroid analysis for 003448777-02. Kepler magnitude: 17.66. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.99 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.065 ± 0.598	5.12	2.342 ± 0.423	-1.977 ± 0.780
PRF-fit source offset from KIC position	0.352 ± 0.180	1.95	-0.262 ± 0.082	0.235 ± 0.208
photometric centroid source offset	82.14 ± 272.38	0.30	61.47 ± 311.70	-54.48 ± 212.02



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.

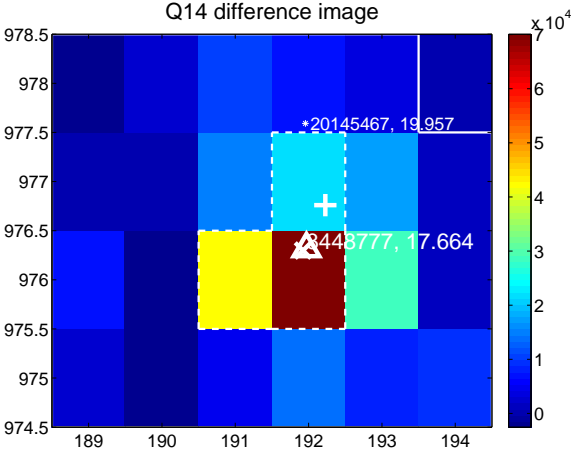
Q13 no difference image



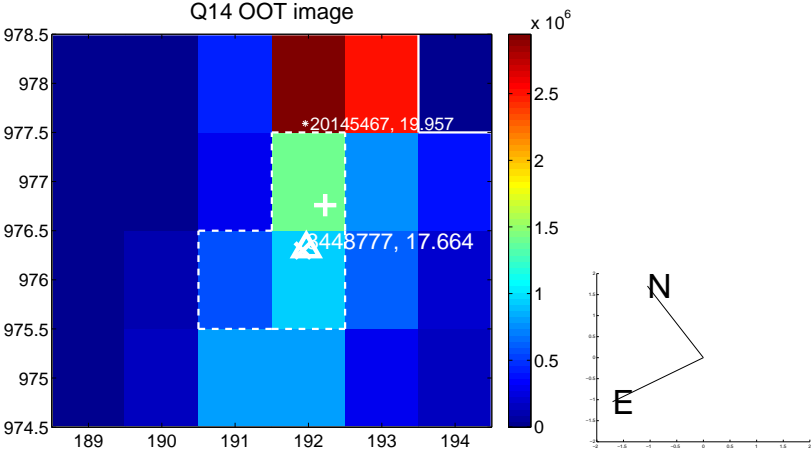
Q13 no OOT image



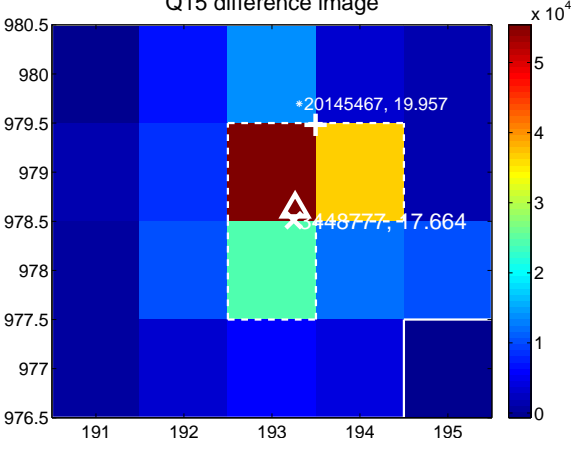
Q14 difference image



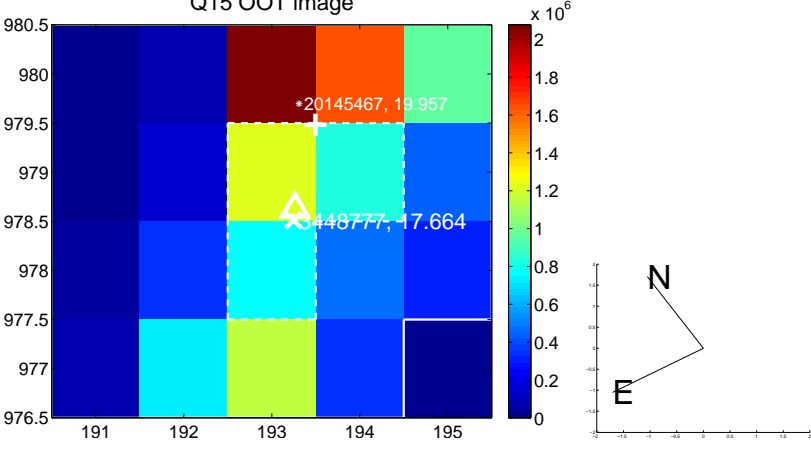
Q14 OOT image



Q15 difference image



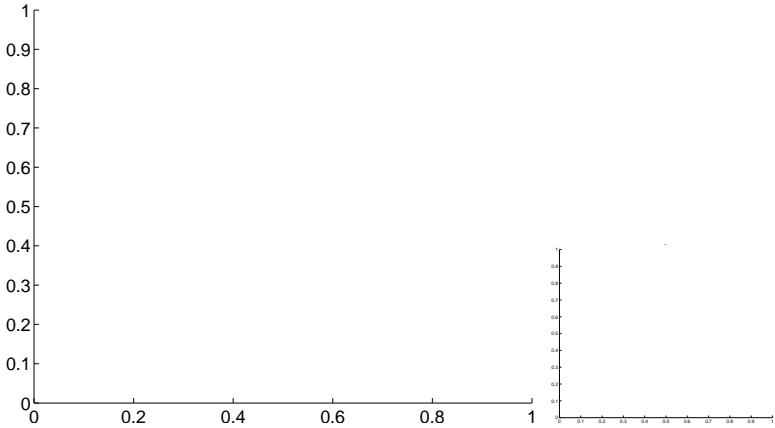
Q15 OOT image



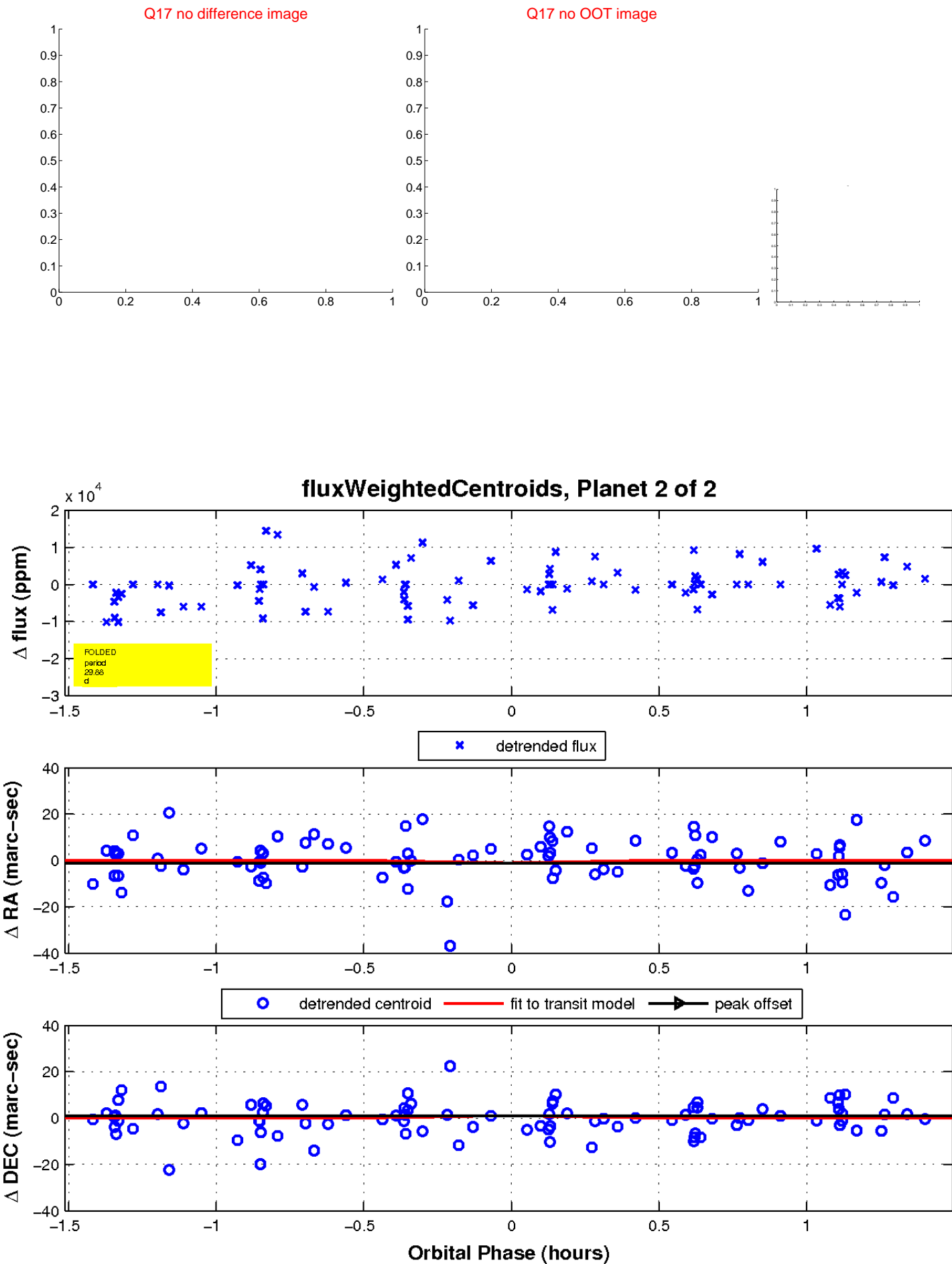
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

