

KIC 003327980

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})
003327980-01	OBS	6321.01	2.115500	131.994588	403283.4	3.500	44989.6	-1.0	2.64	7563	91.61	12607.72
003327980-02	OBS	No	50.774084	150.786652	15618.8	12.500	1619.3	-1.0	2.64	7563	33.45	182.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003327980-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—CENT_NOFITS
003327980-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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 003327980-01

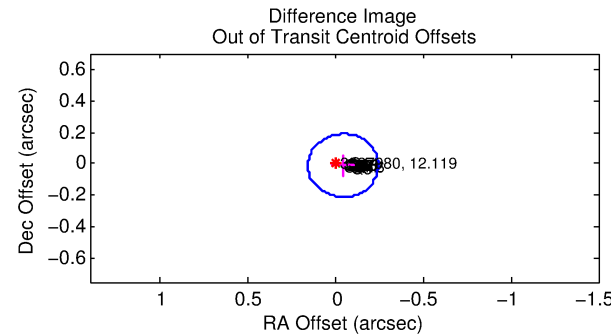
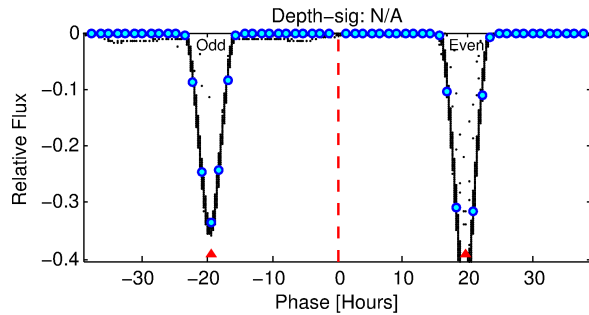
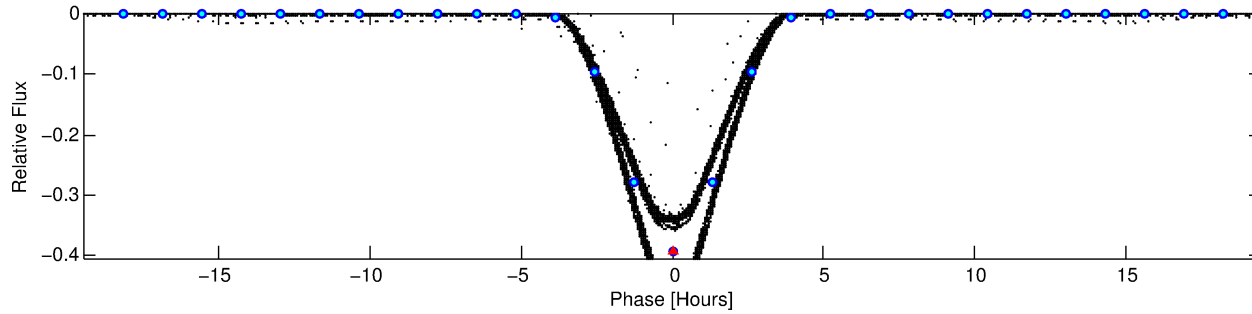
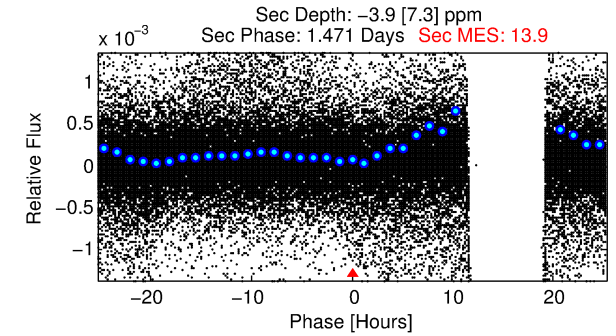
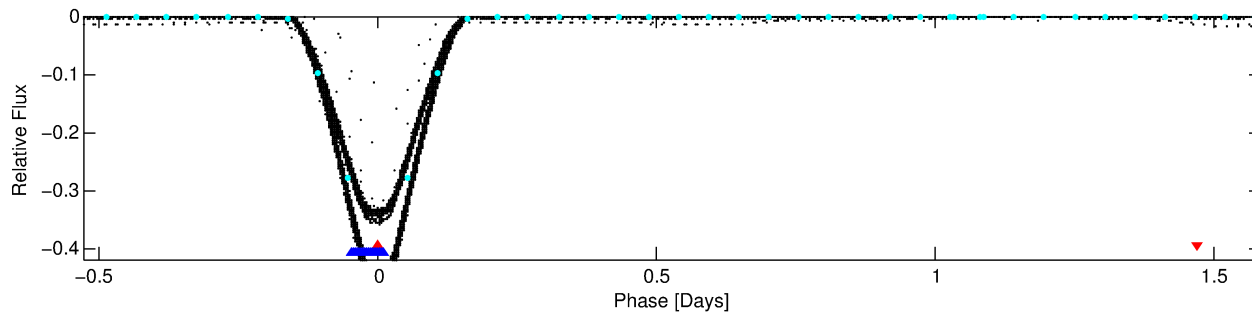
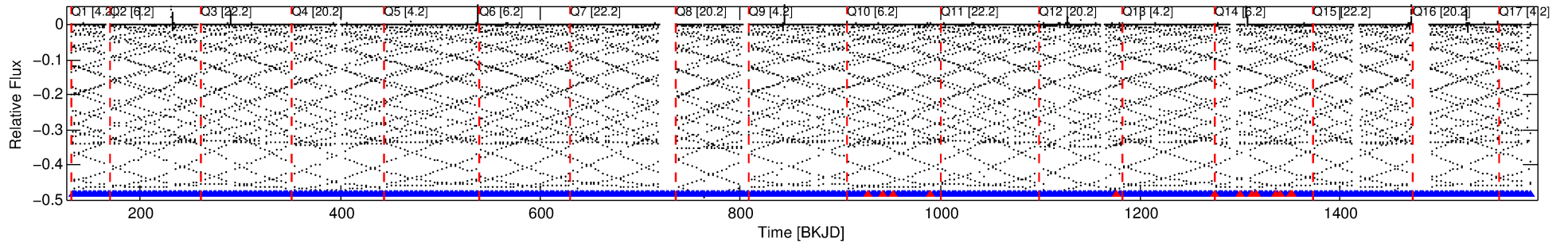
No Significant Match Found

DV One-Page Summary

KIC: 3327980 Candidate: 1 of 2 Period: 2.115 d

KOI: K06321 Corr: No Ephemeris Match

Kp: 12.12 R*: 2.64 Rs Teff: 7563.0 K Logg: 3.88 Fe/H: 0.100



TPS TCE Results:

Period = 2.11550 d
Epoch = 131.9946 BKJD

DV fit results are unavailable

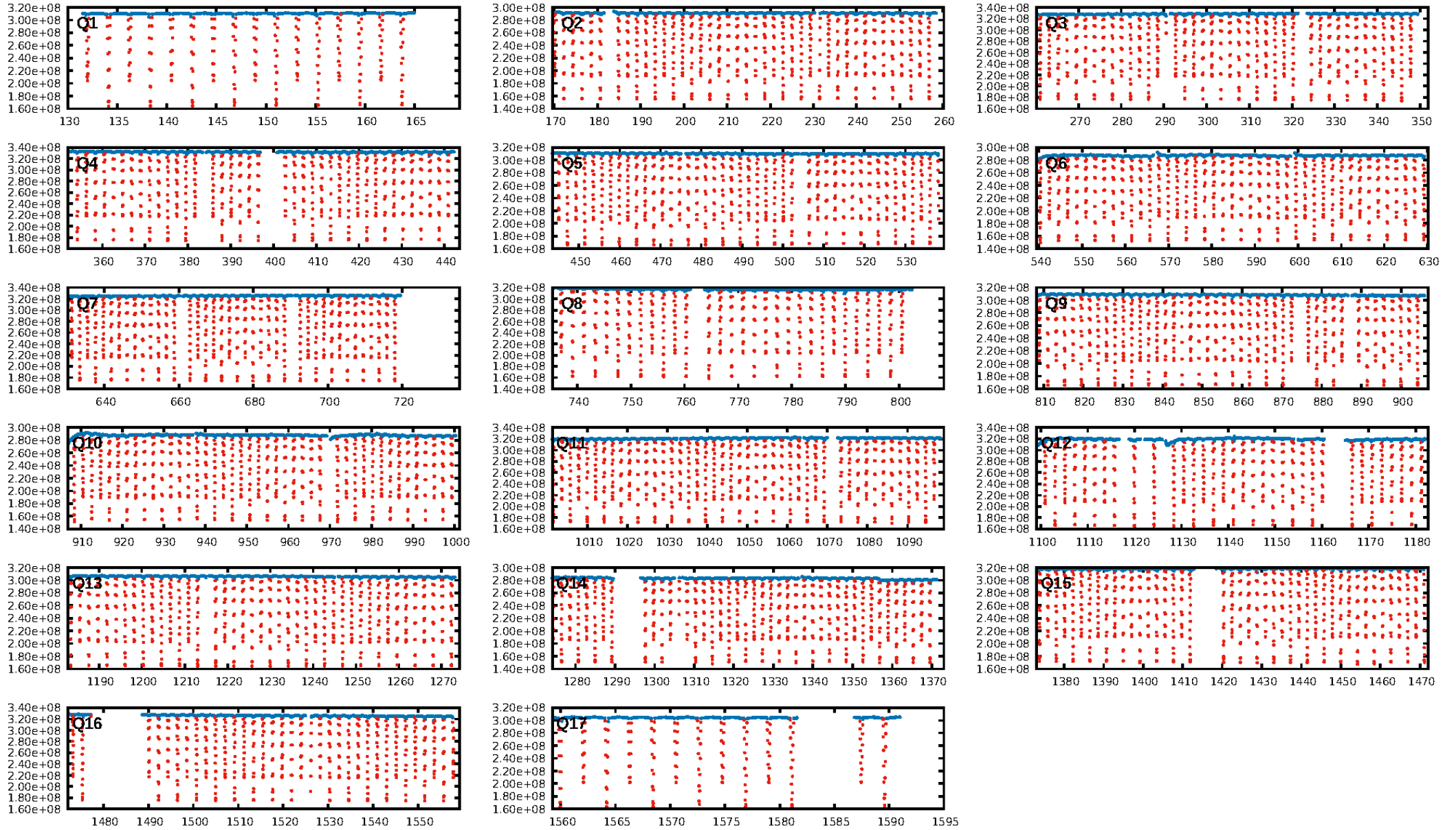
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [89.96σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [593/606]
GhostDiagnostic-chr: 1.209
Centroid-sig: N/A
Centroid-so: 0.120 arcsec [671.23σ]
OotOffset-rm: 0.045 arcsec [0.67σ]
KicOffset-rm: 0.078 arcsec [1.16σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

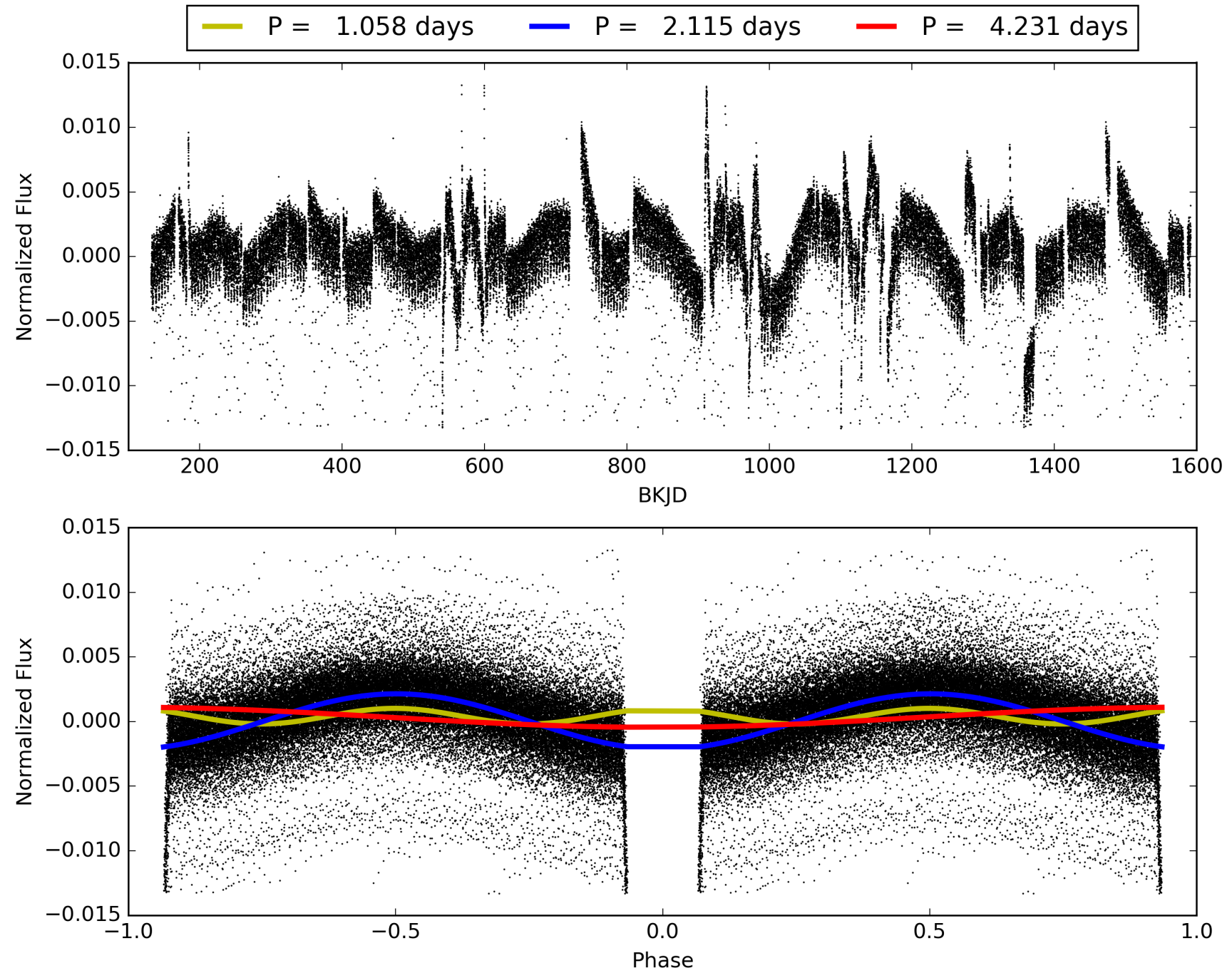
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:37:11 Z

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

TCE 003327980-01, PDC Light Curves

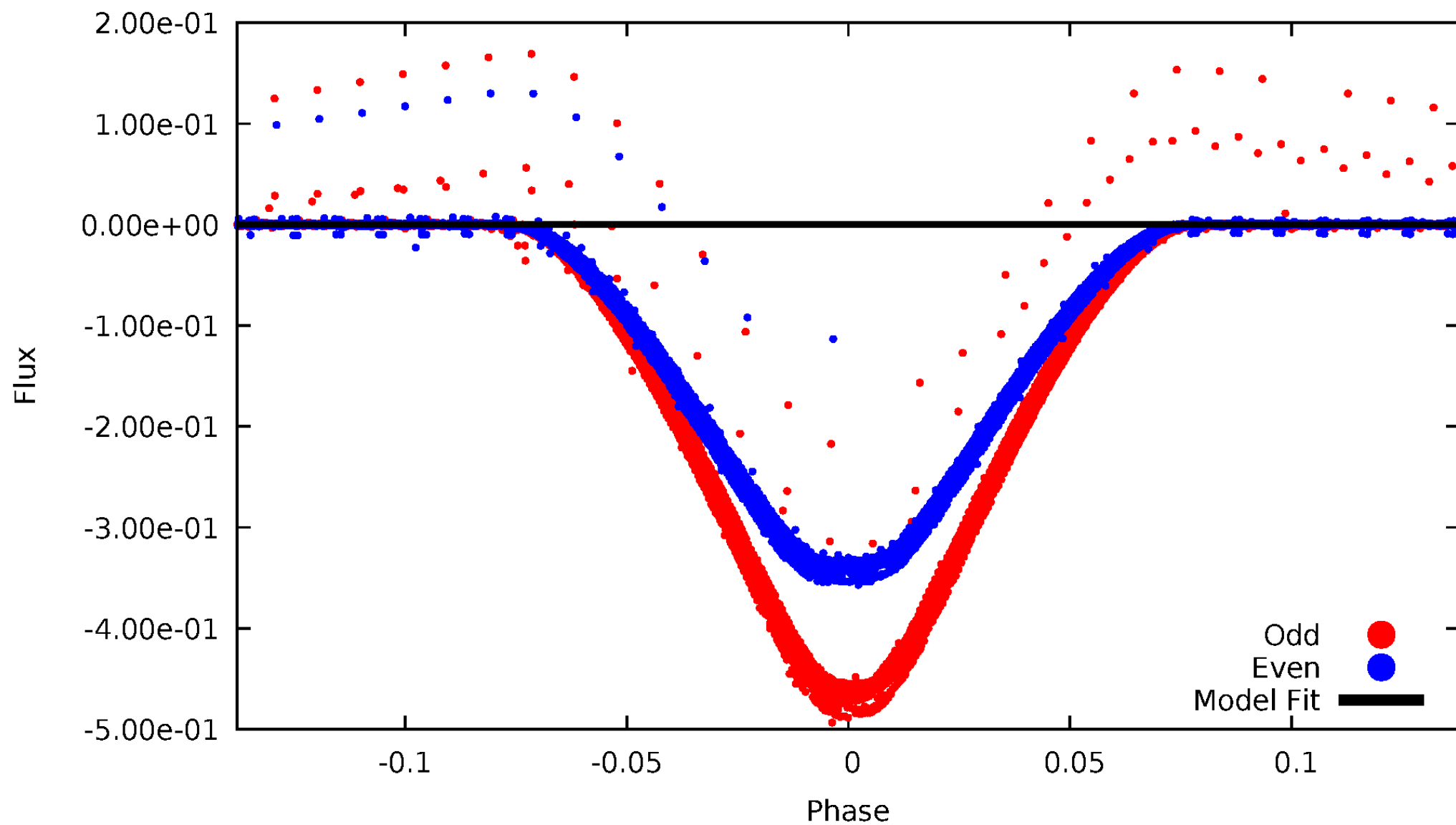


TCE 003327980-01



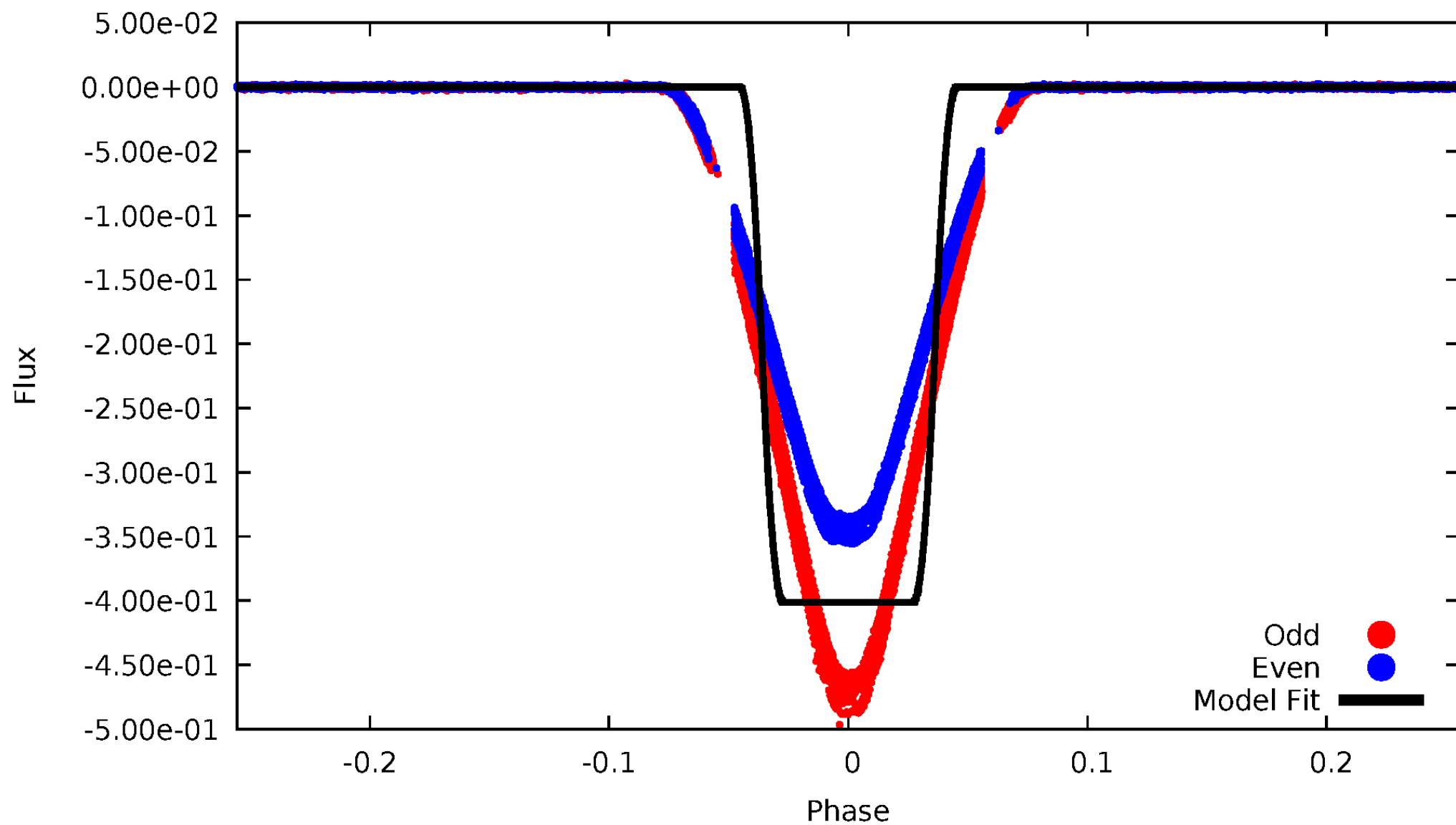
DV Odd/Even

TCE 003327980-01



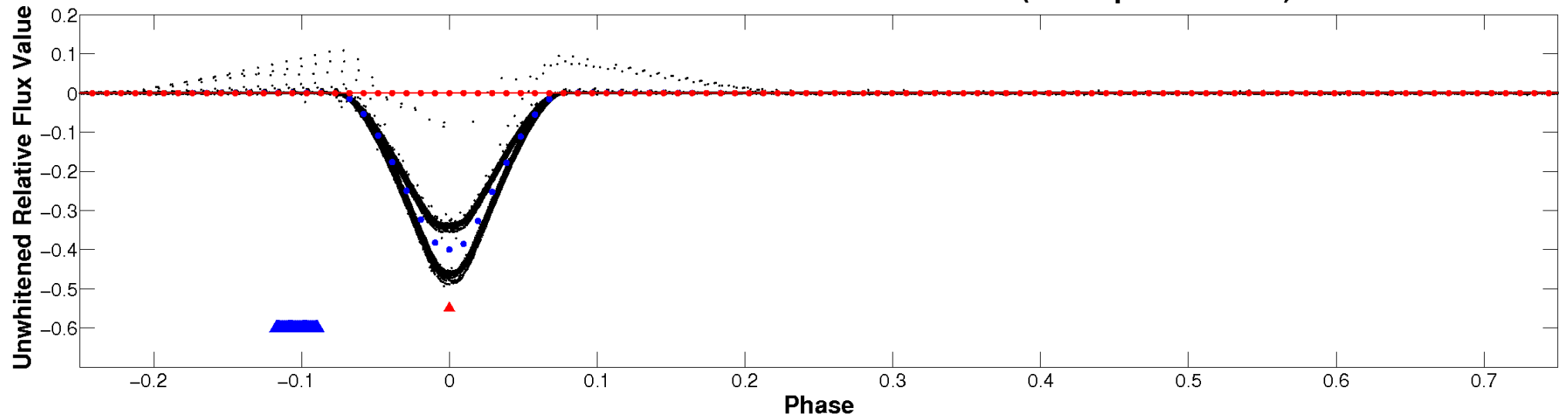
ALT Odd/Even

TCE 003327980-01

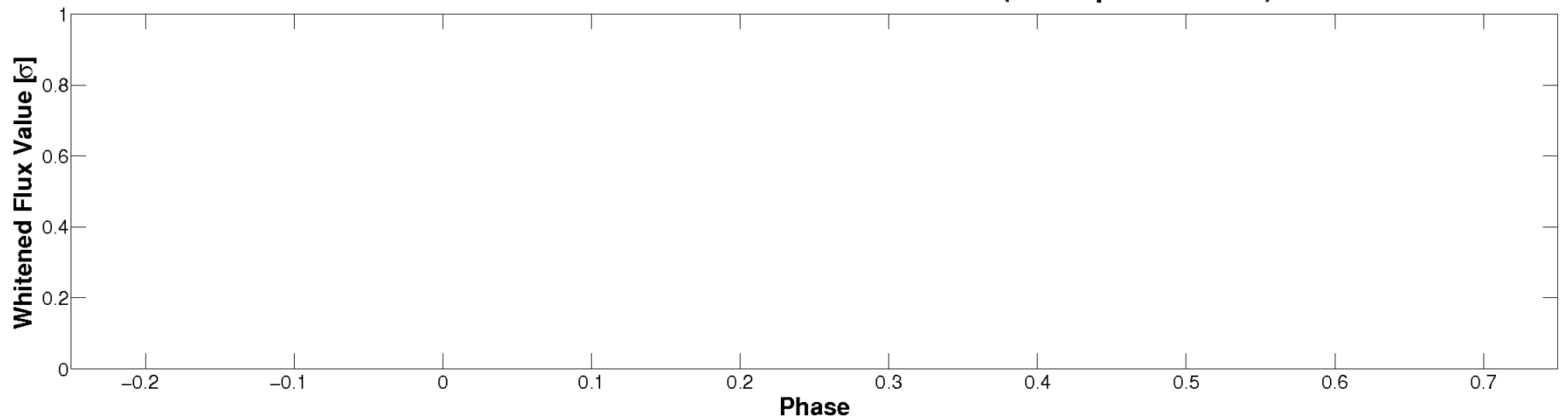


Non-Whitened Vs. Whitened Light Curve

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

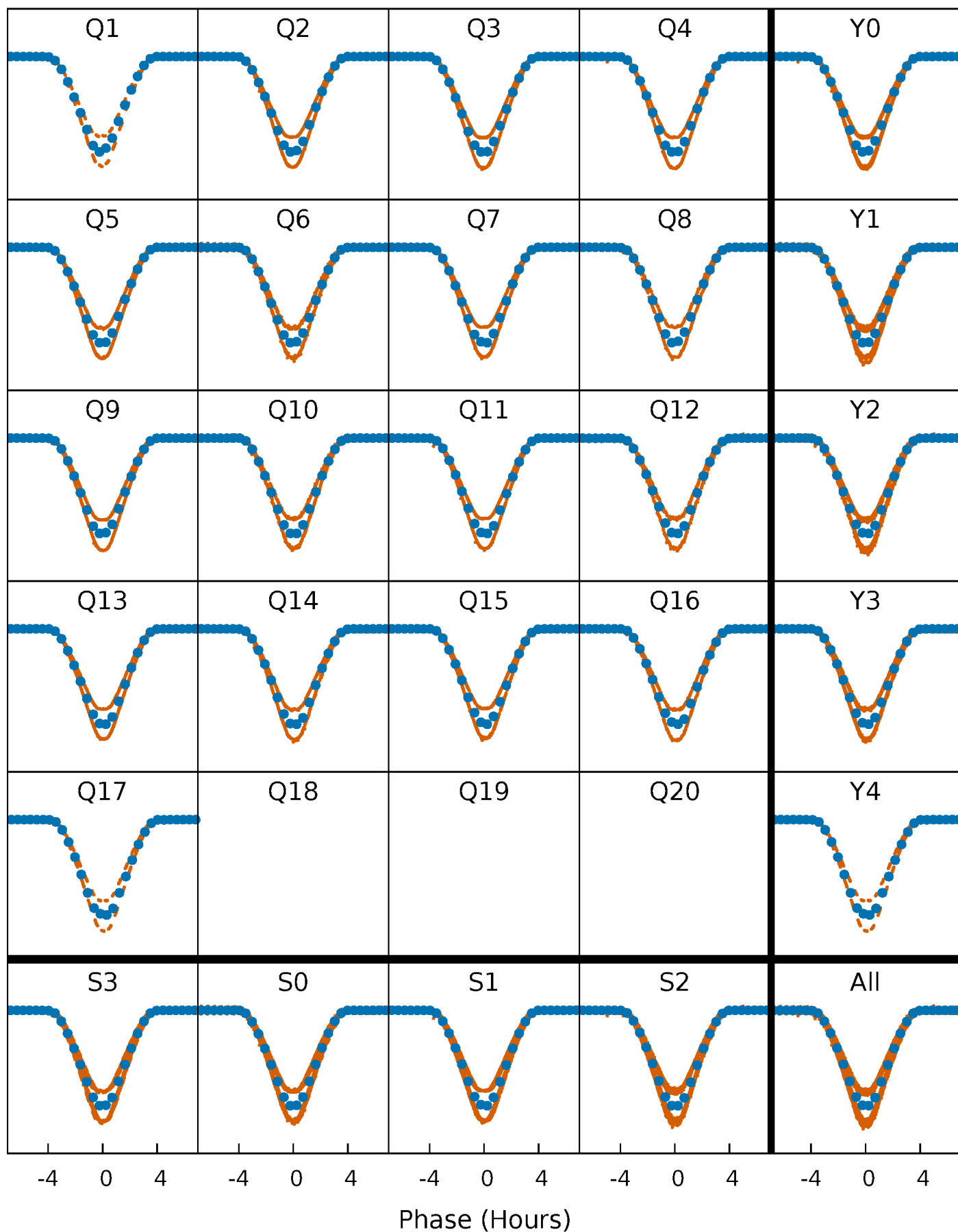


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



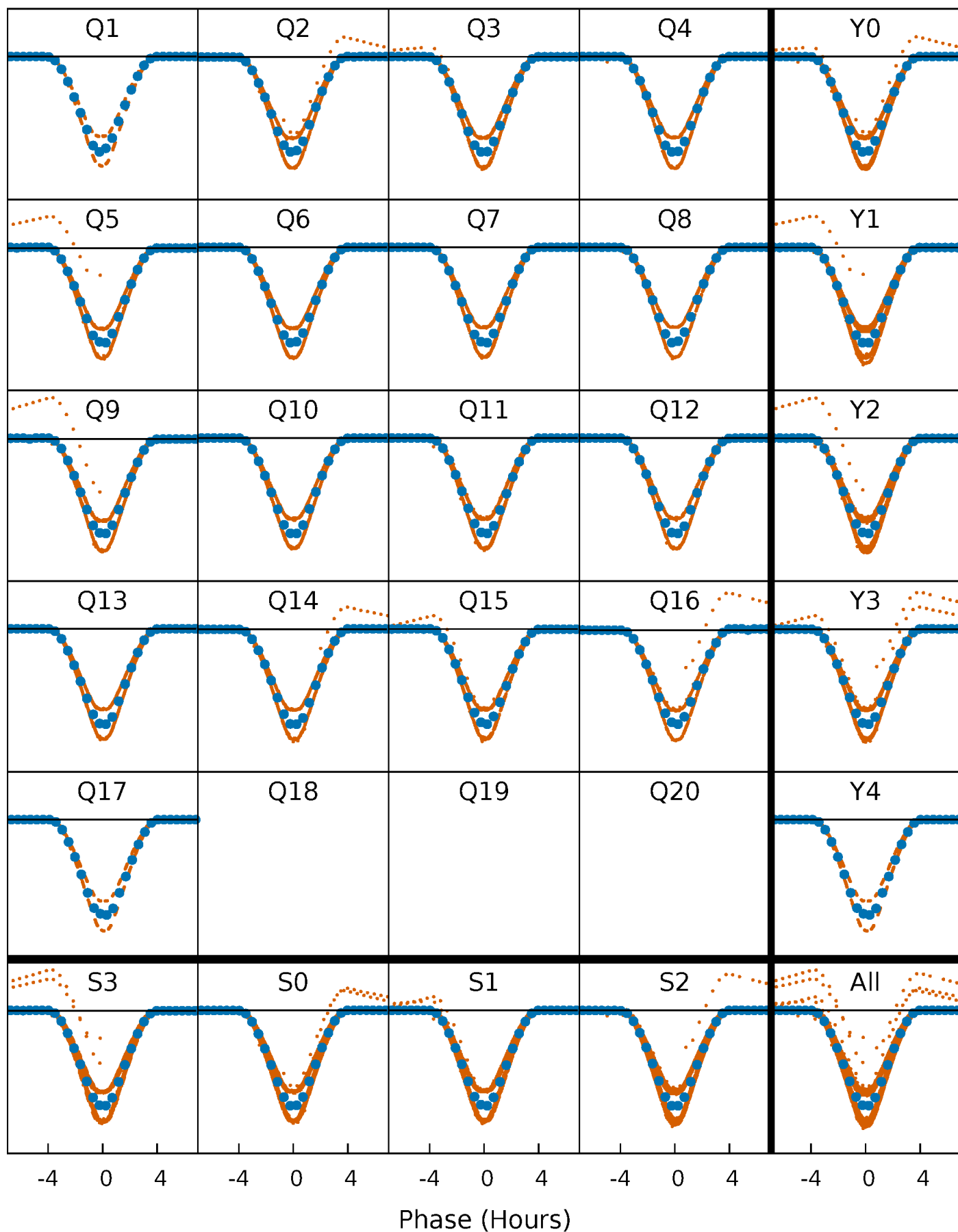
PDC Quarter-Phased Transit Curves

TCE 003327980-01 P= 2.115500 Days $T_0=131.994588$ (BKJD)



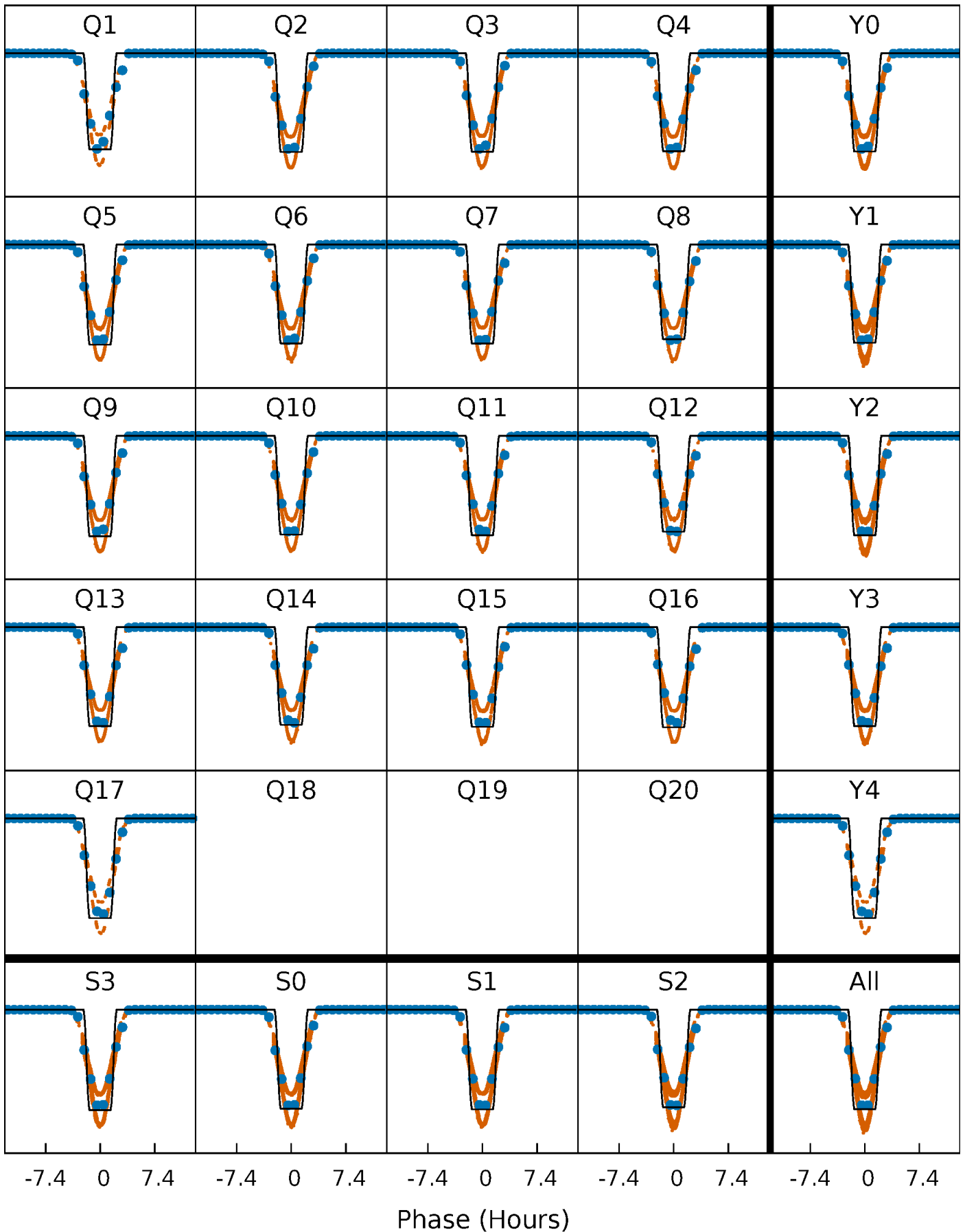
DV Quarter-Phased Transit Curves

TCE 003327980-01 P= 2.115500 Days $T_0=131.994588$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

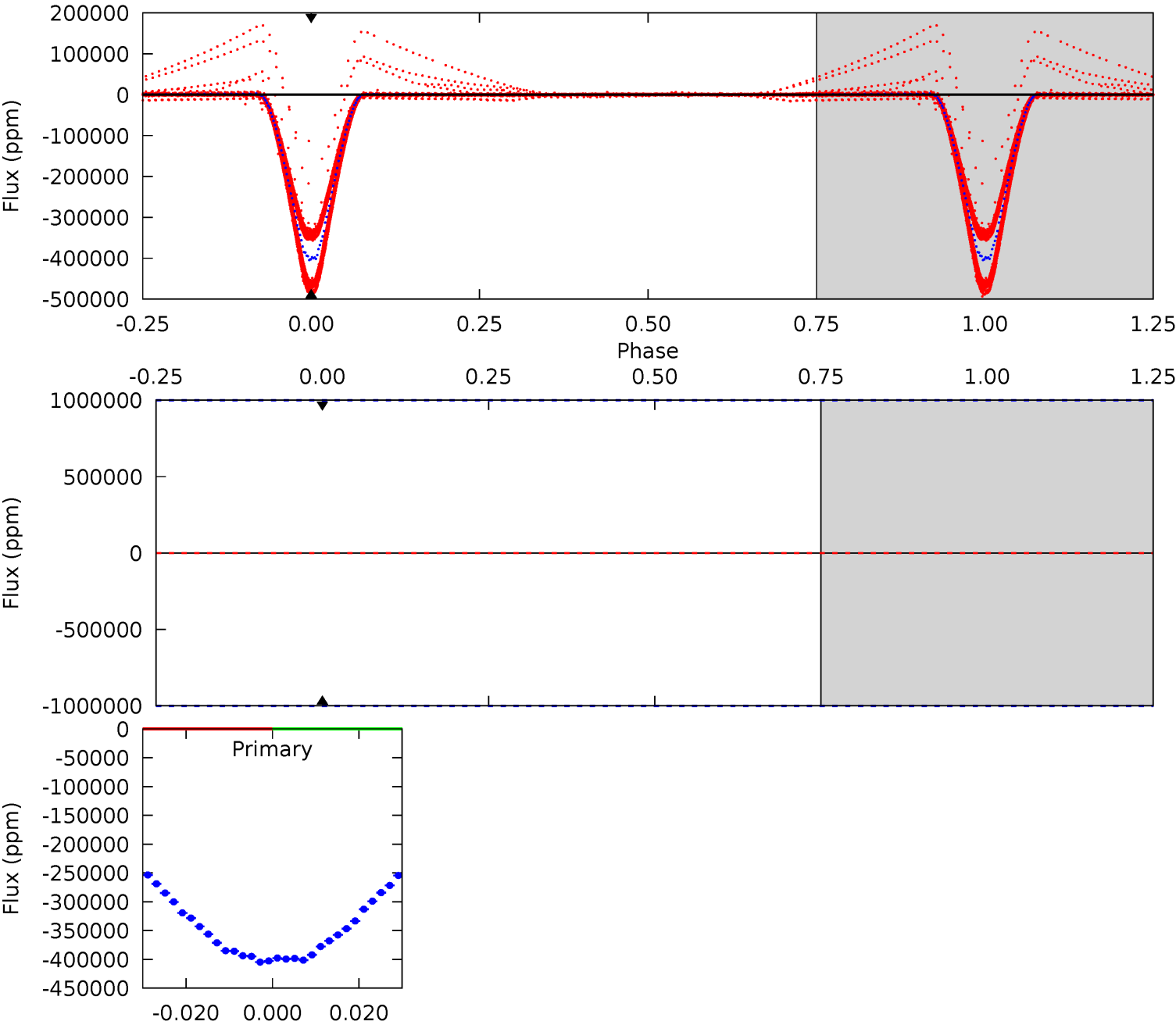
TCE 003327980-01 P= 2.115500 Days $T_0=131.994781$ (BKJD)



DV Model-Shift Uniqueness Test

003327980-01, P = 2.115500 Days, E = 129.879088 Days

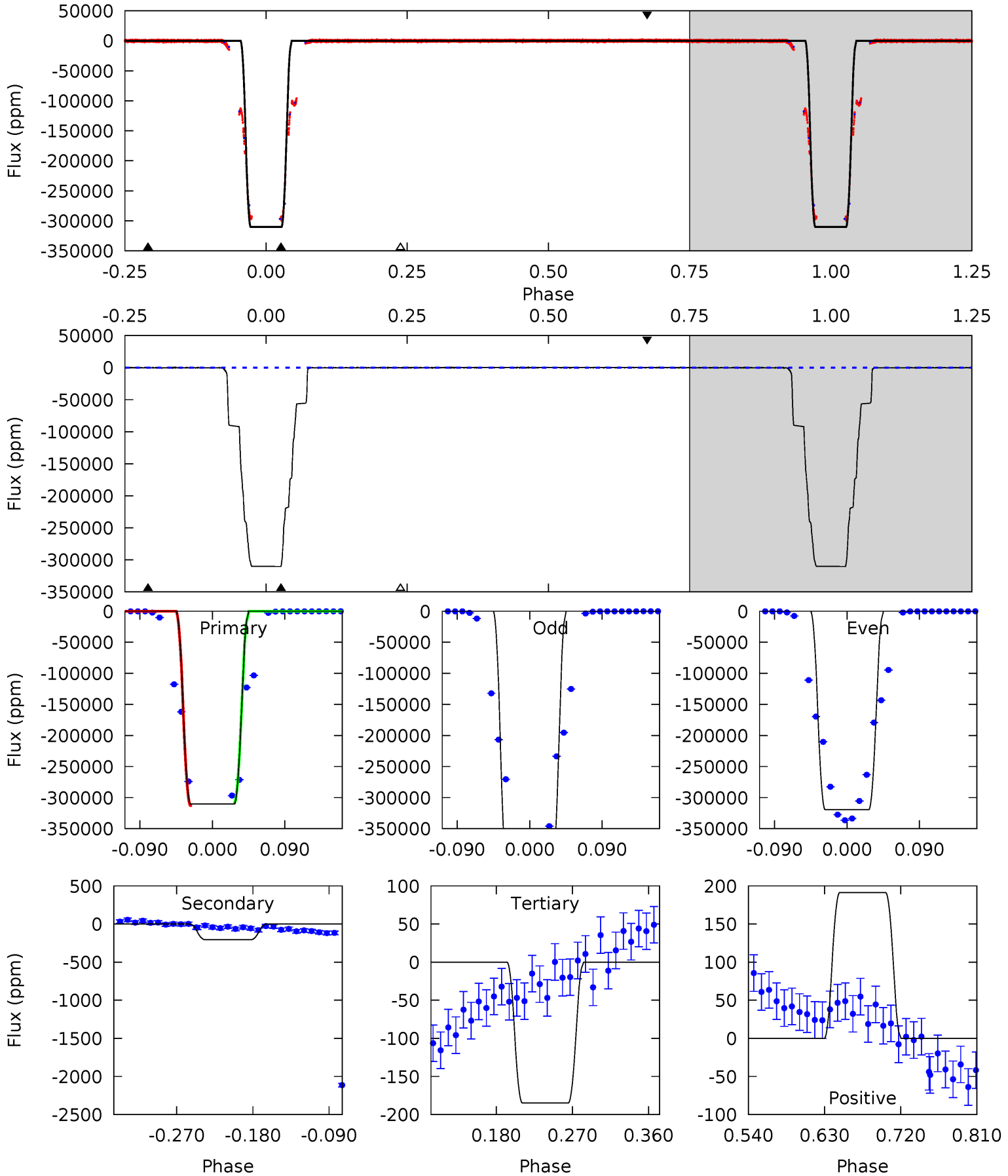
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003327980-01, P = 2.115500 Days, E = 129.879281 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4947	3.27	2.94	3.05	4.59	1.70	31.1	4944	4944	0.32	0.22	3349	0.91	0.00	0



Stellar Parameters For KIC 003327980

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-342}	$3.883^{+0.287}_{-0.123}$	$0.100^{+0.150}_{-0.400}$	$2.638^{+0.493}_{-0.986}$	$1.938^{+0.110}_{-0.441}$	$0.149^{+0.318}_{-0.054}$
	+3%/-5%	+7%/-3%	+150%/-400%	+19%/-37%	+6%/-23%	+214%/-36%
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 003327980-01 / KOI 6321.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$84.54^{+36.69}_{-26.34}$	3712^{+270}_{-342}	3652^{+4544}_{-11256}	$0.707^{+15.719}_{-12.659}$
Alt.	-205 ± 63	$173.14^{+37.79}_{-38.19}$	3706^{+249}_{-344}	-3471^{+208}_{-147}	$0.006^{+0.004}_{-0.002}$

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

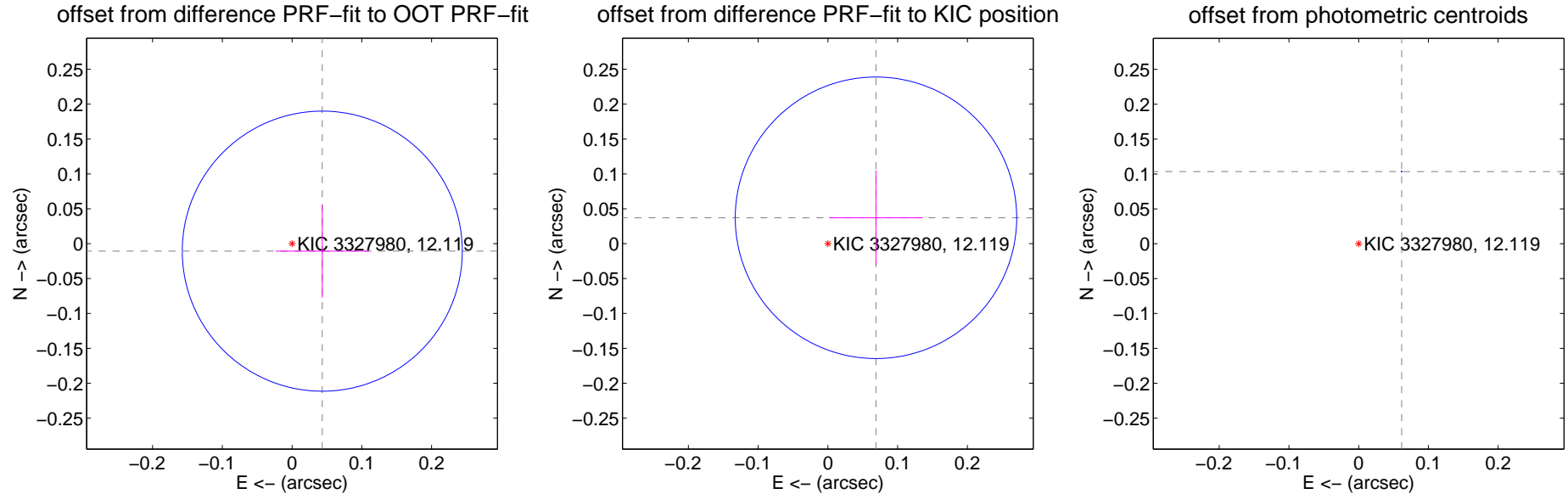
DV Centroid Data

Supplemental centroid analysis for 003327980-01. Kepler magnitude: 12.12. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

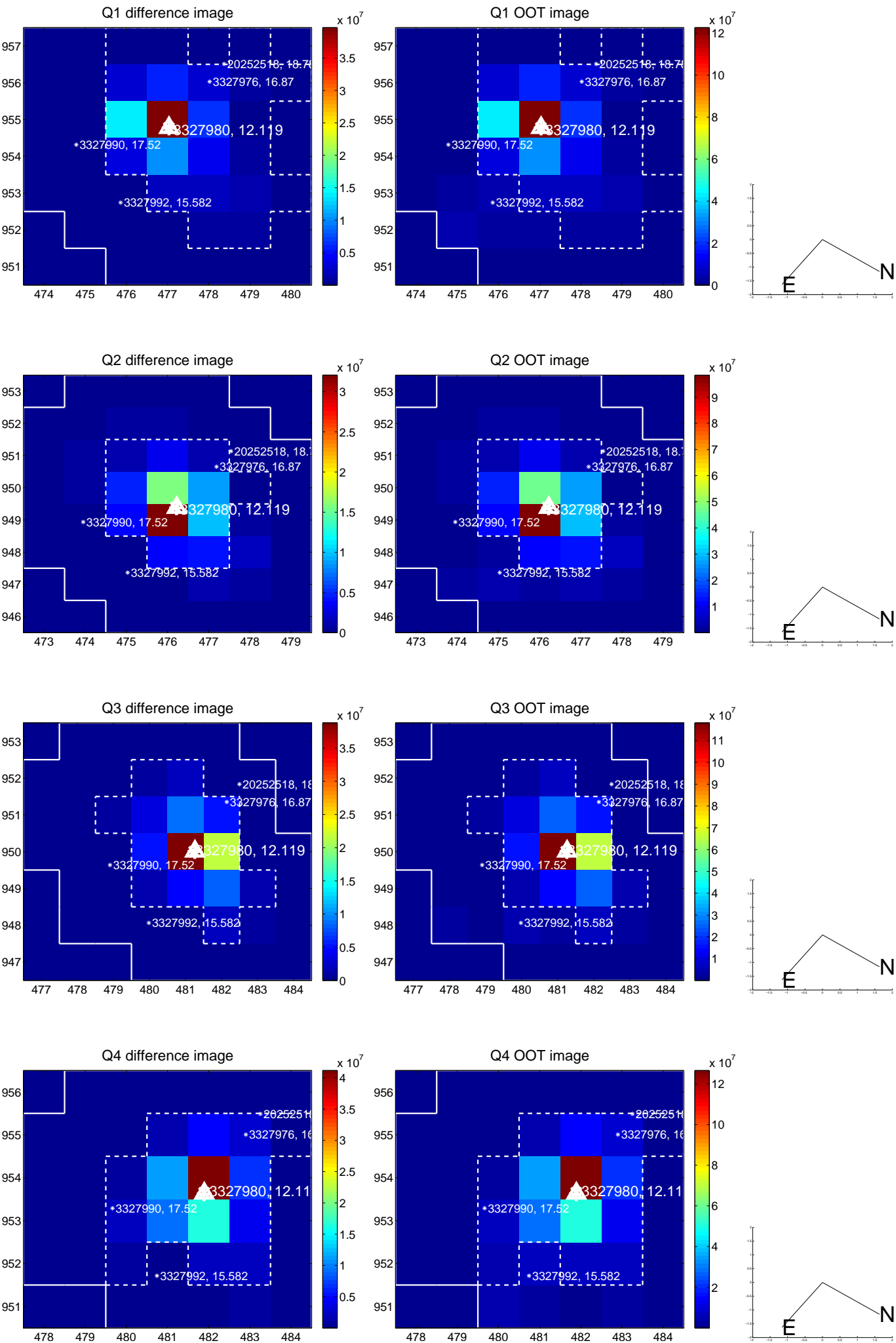
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.045 ± 0.067	0.67	-0.043 ± 0.067	-0.011 ± 0.067
PRF-fit source offset from KIC position	0.078 ± 0.067	1.16	-0.069 ± 0.067	0.037 ± 0.067
photometric centroid source offset	0.12 ± 0.00	671.23	-0.06 ± 0.00	0.10 ± 0.00

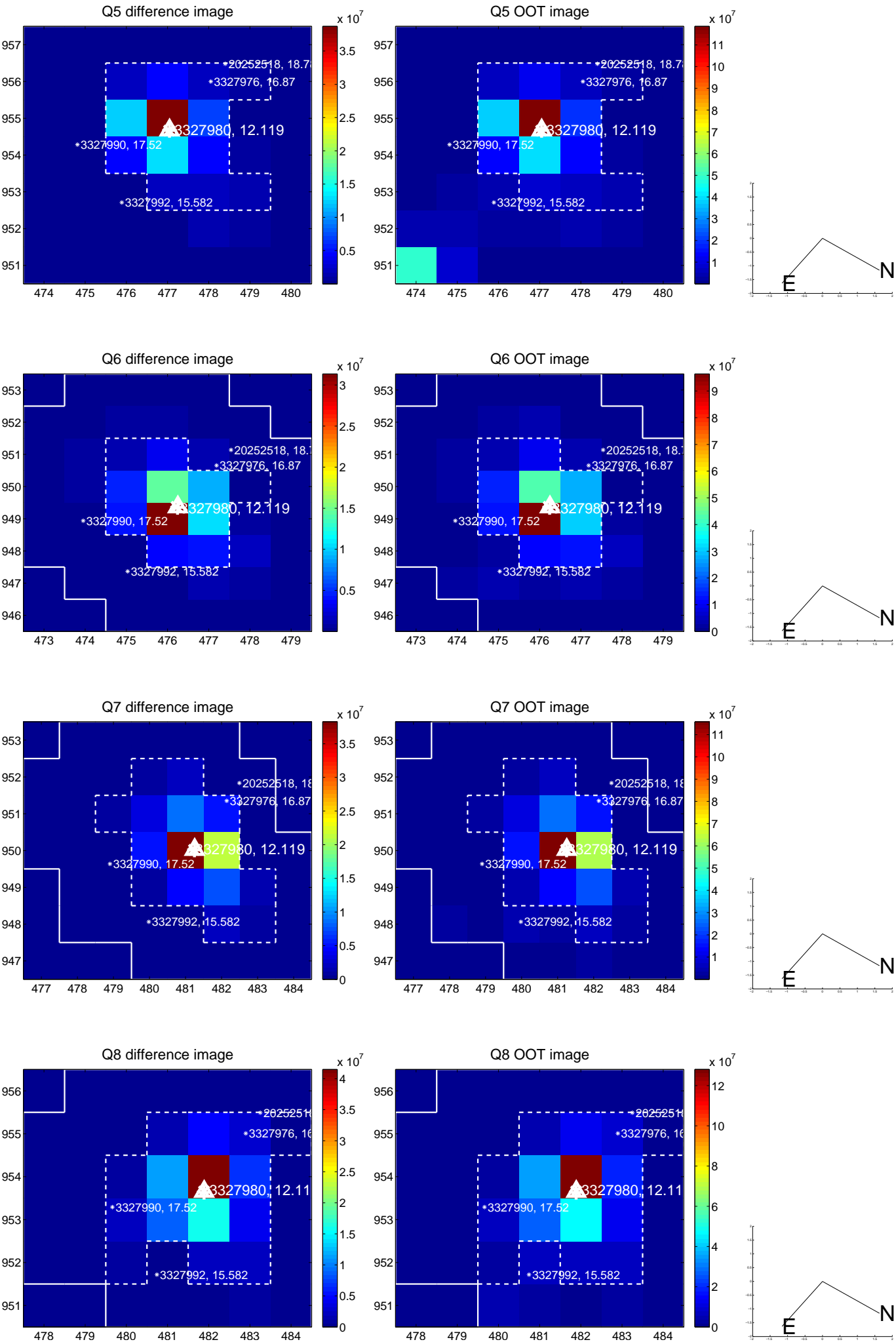


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

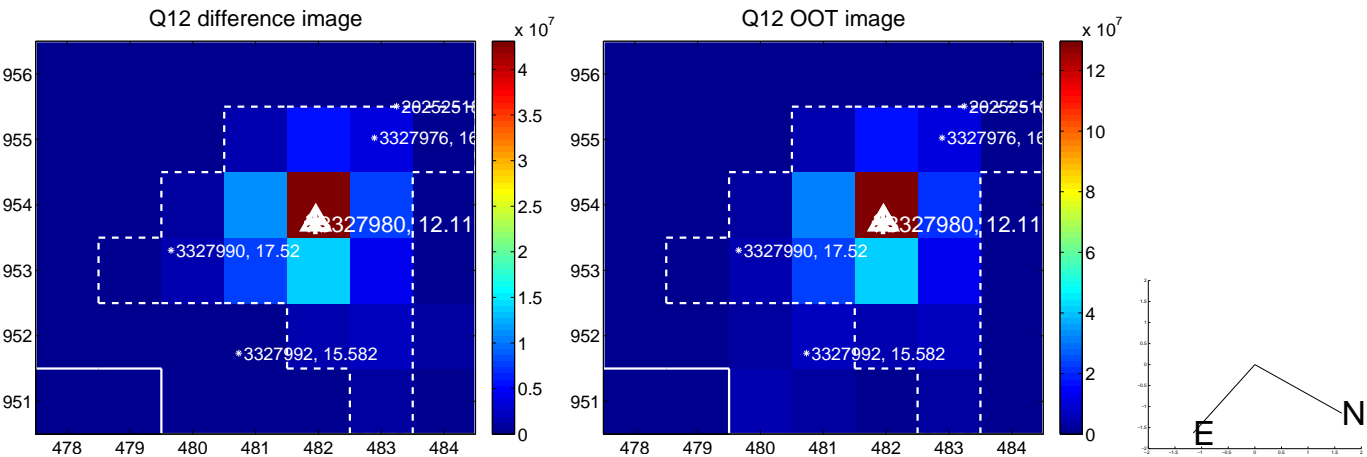
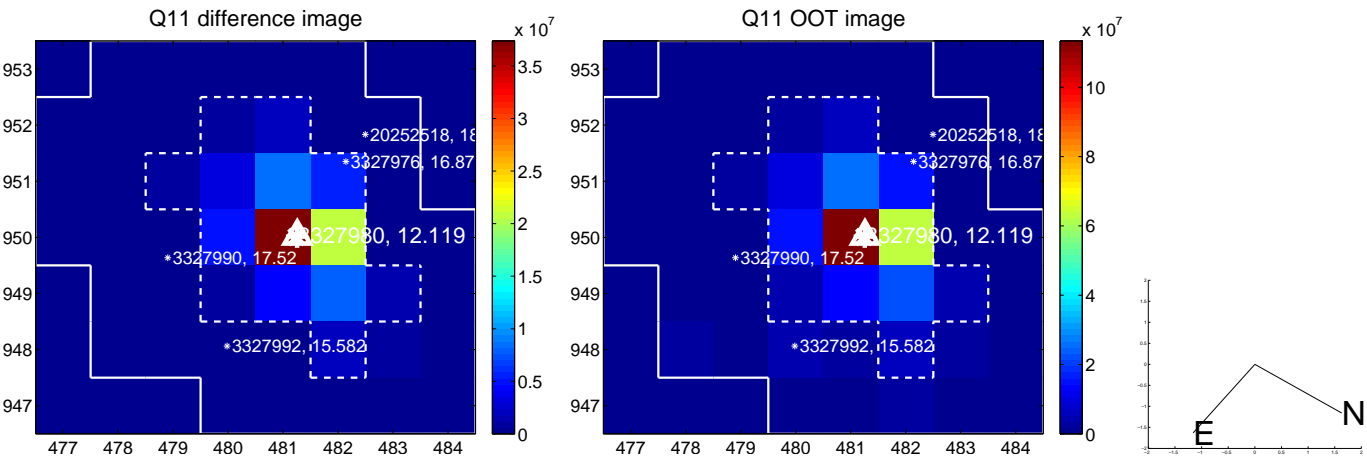
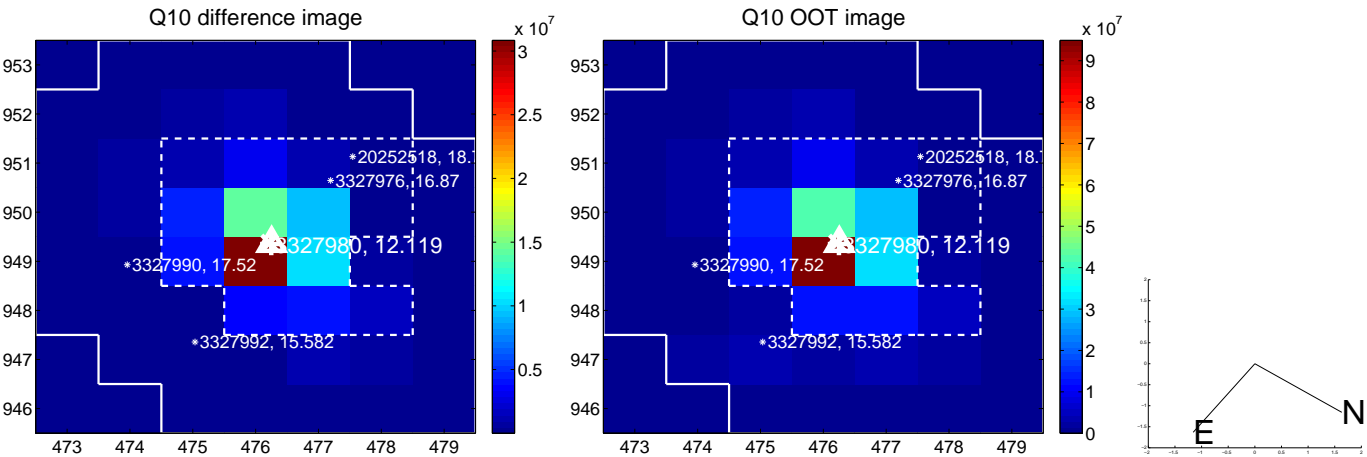
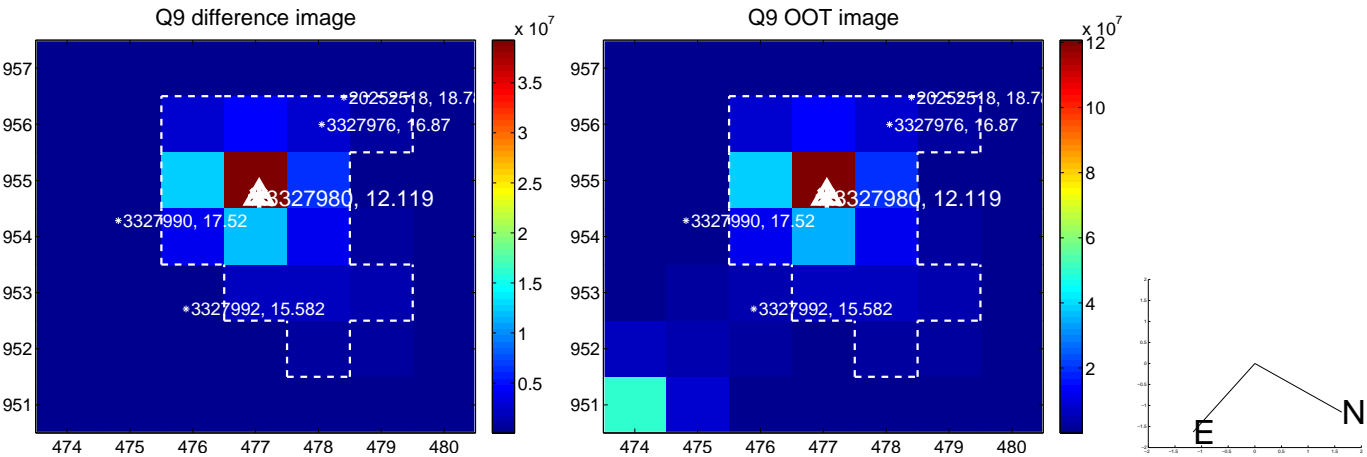
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



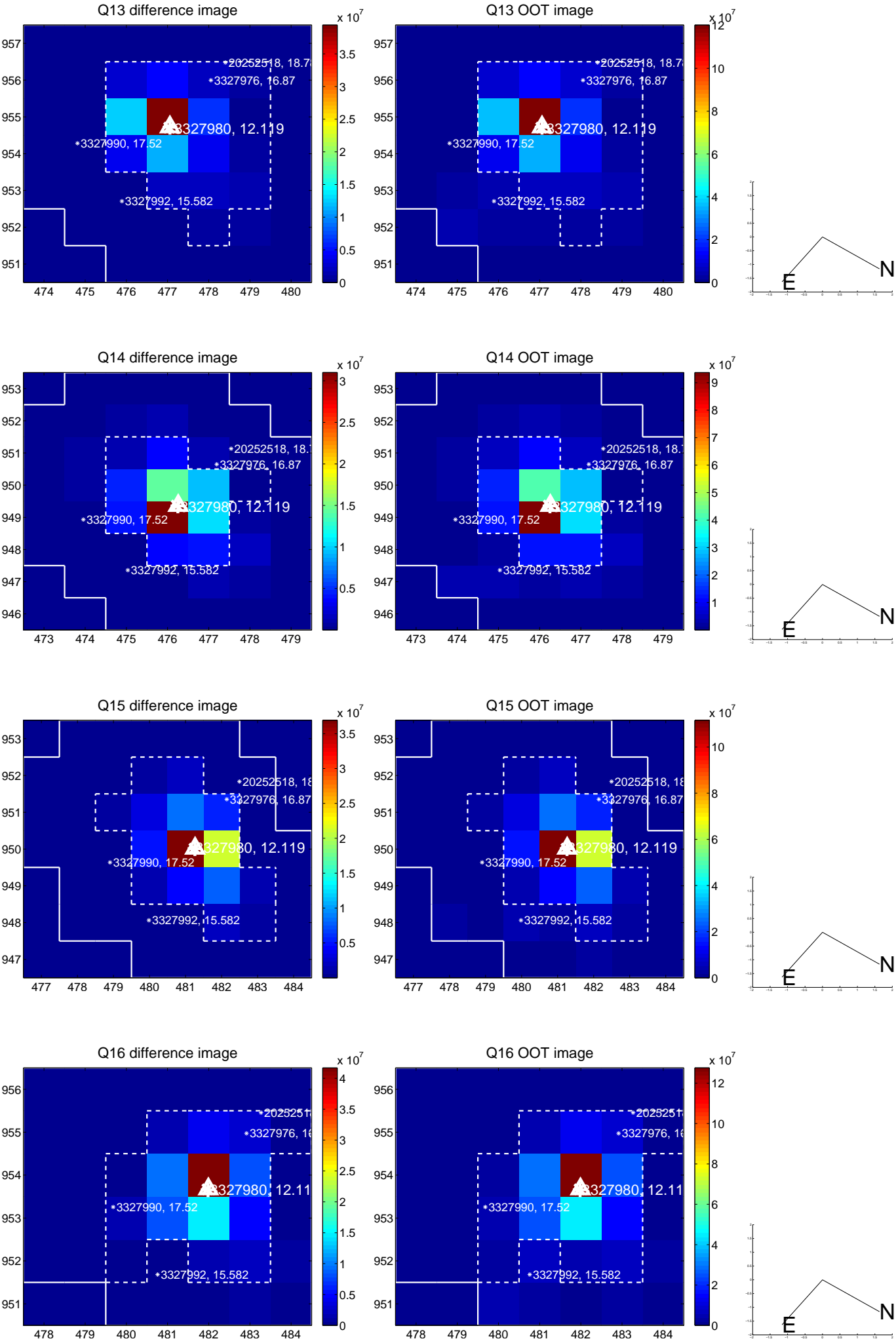
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



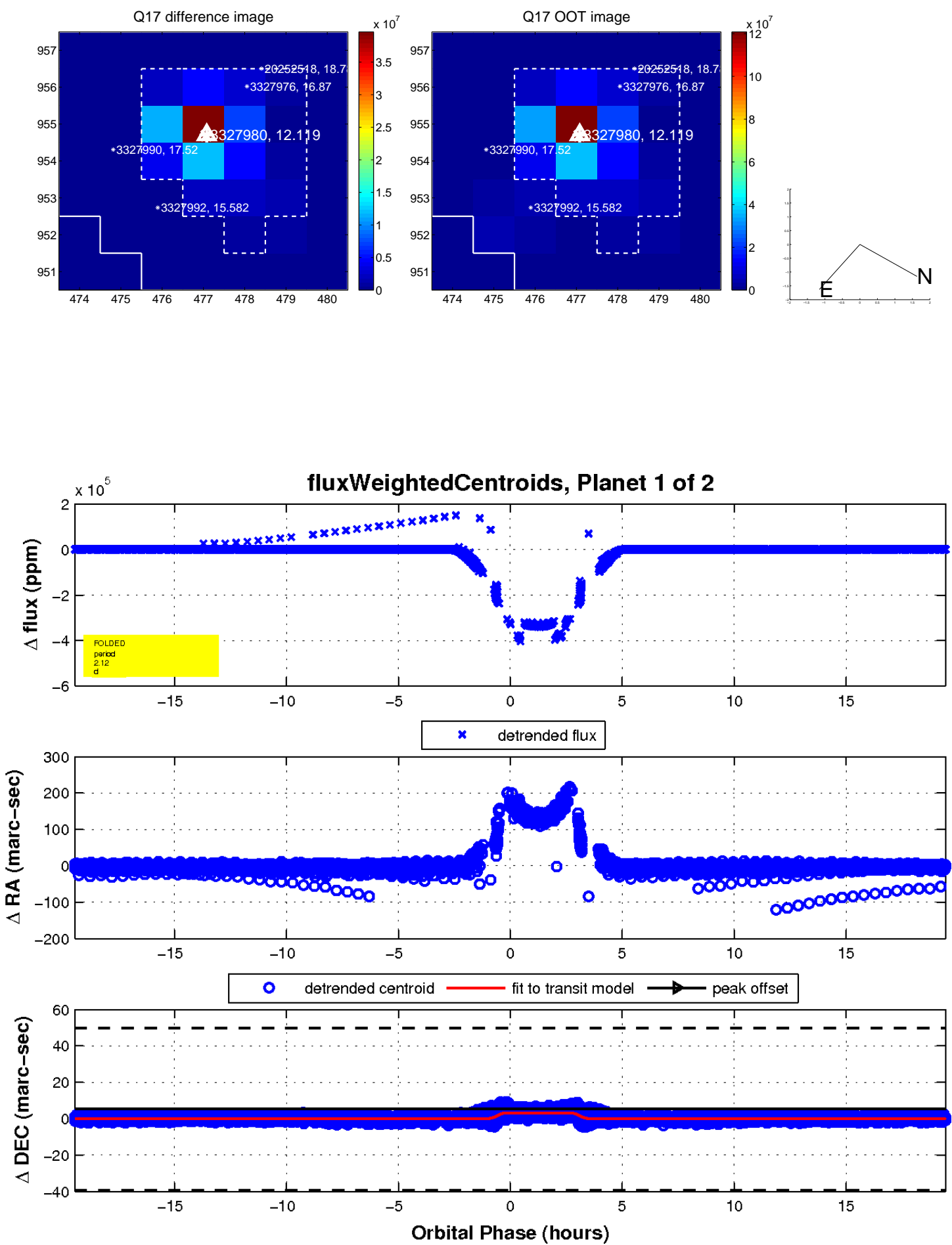
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

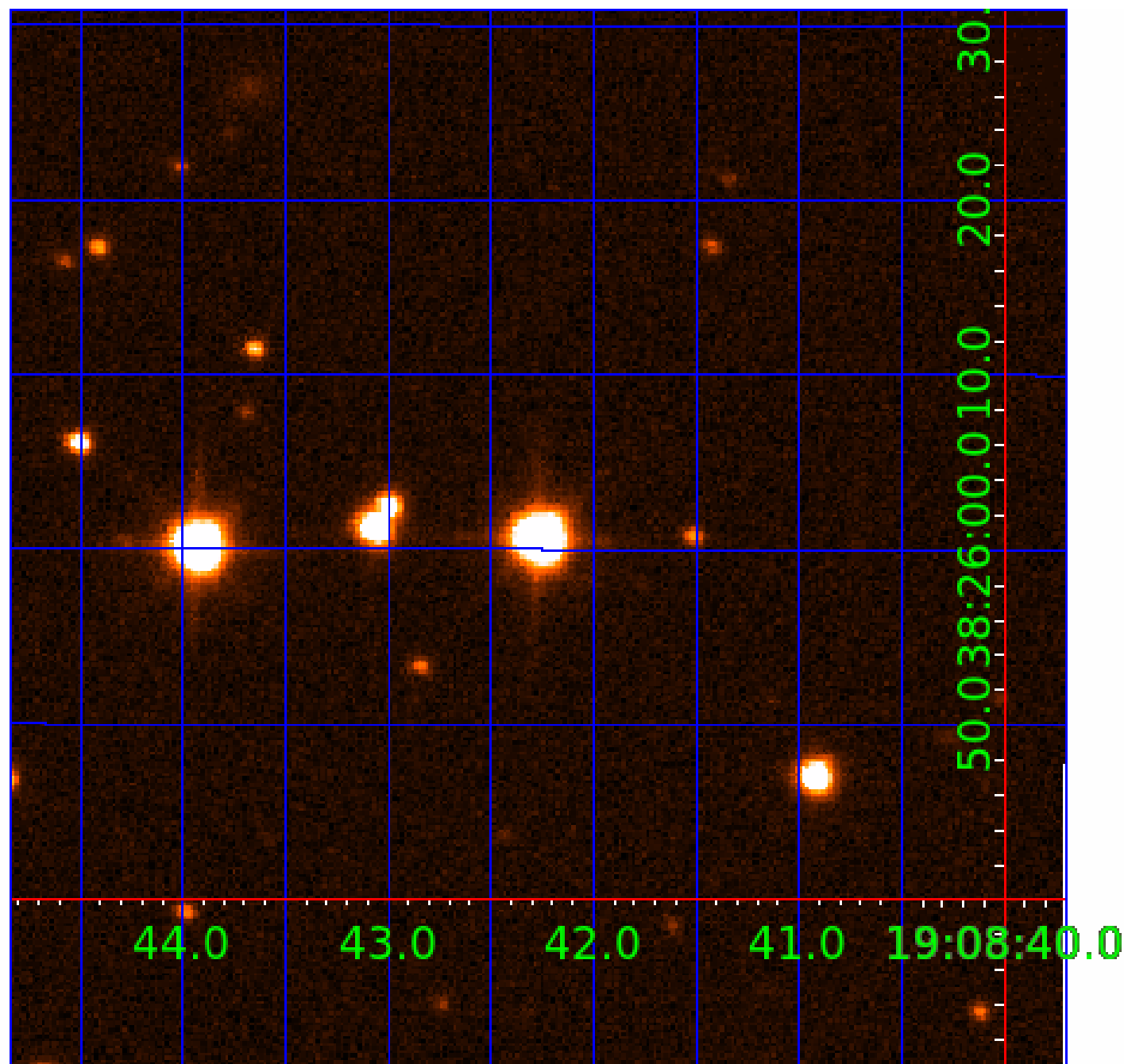


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003327980

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})
003327980-01	OBS	6321.01	2.115500	131.994588	403283.4	3.500	44989.6	-1.0	2.64	7563	91.61	12607.72
003327980-02	OBS	No	50.774084	150.786652	15618.8	12.500	1619.3	-1.0	2.64	7563	33.45	182.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003327980-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—CENT_NOFITS
003327980-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

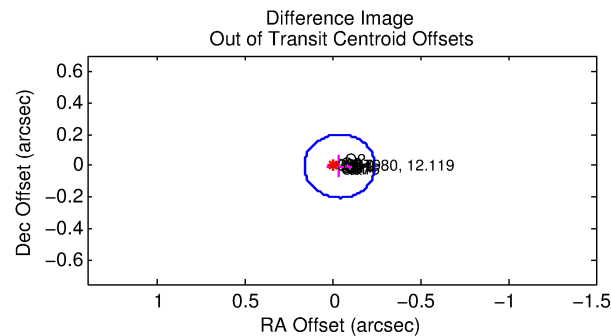
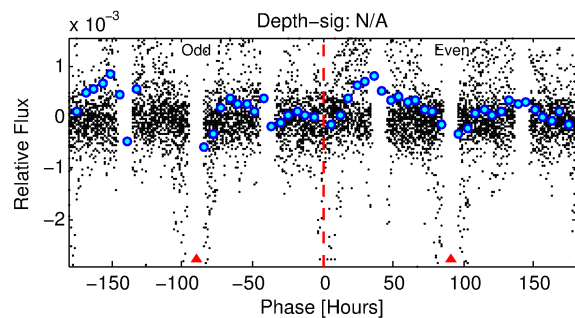
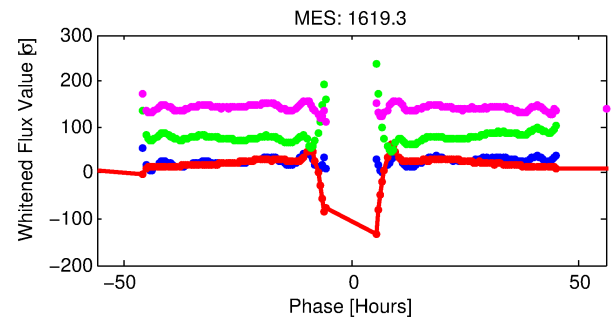
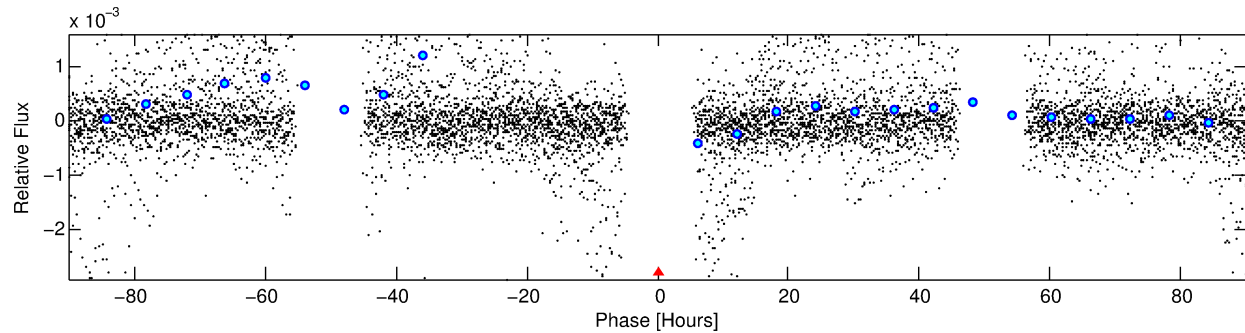
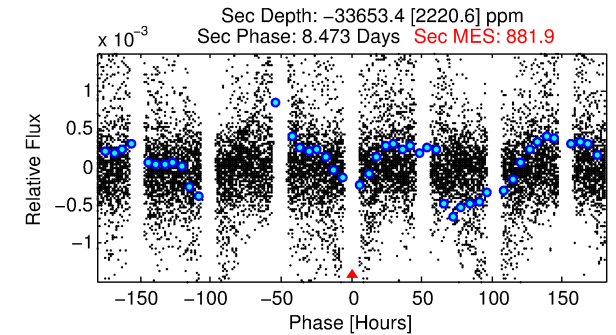
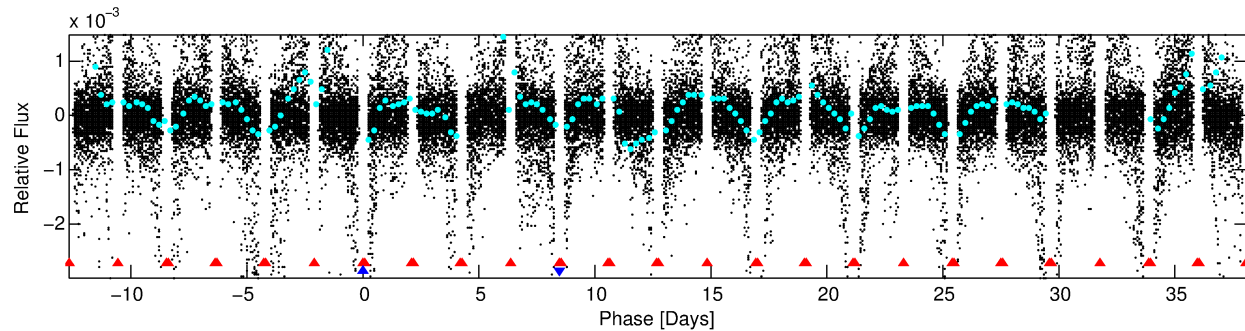
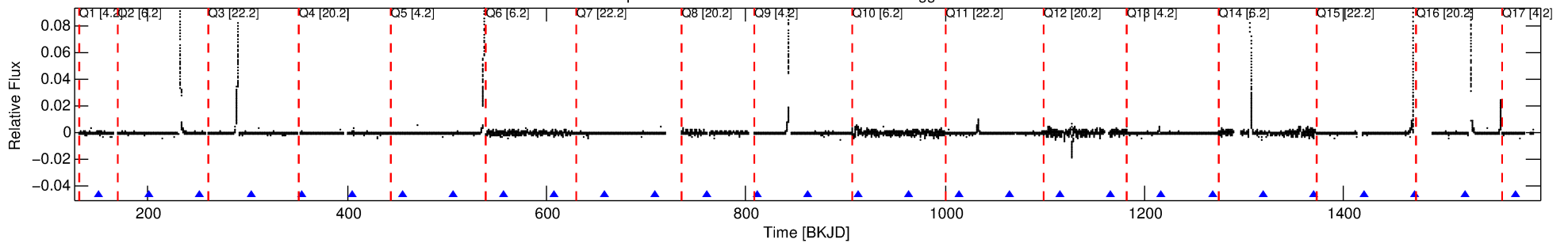
Ephemeris Match Information For 003327980-02

No Significant Match Found

DV One-Page Summary

KIC: 3327980 Candidate: 2 of 2 Period: 50.774 d
KOI: K06321 Corr: No Ephemeris Match

Kp: 12.12 R*: 2.64 Rs Teff: 7563.0 K Logg: 3.88 Fe/H: 0.100



TPS TCE Results:

Period = 50.77408 d
Epoch = 150.7867 BKJD

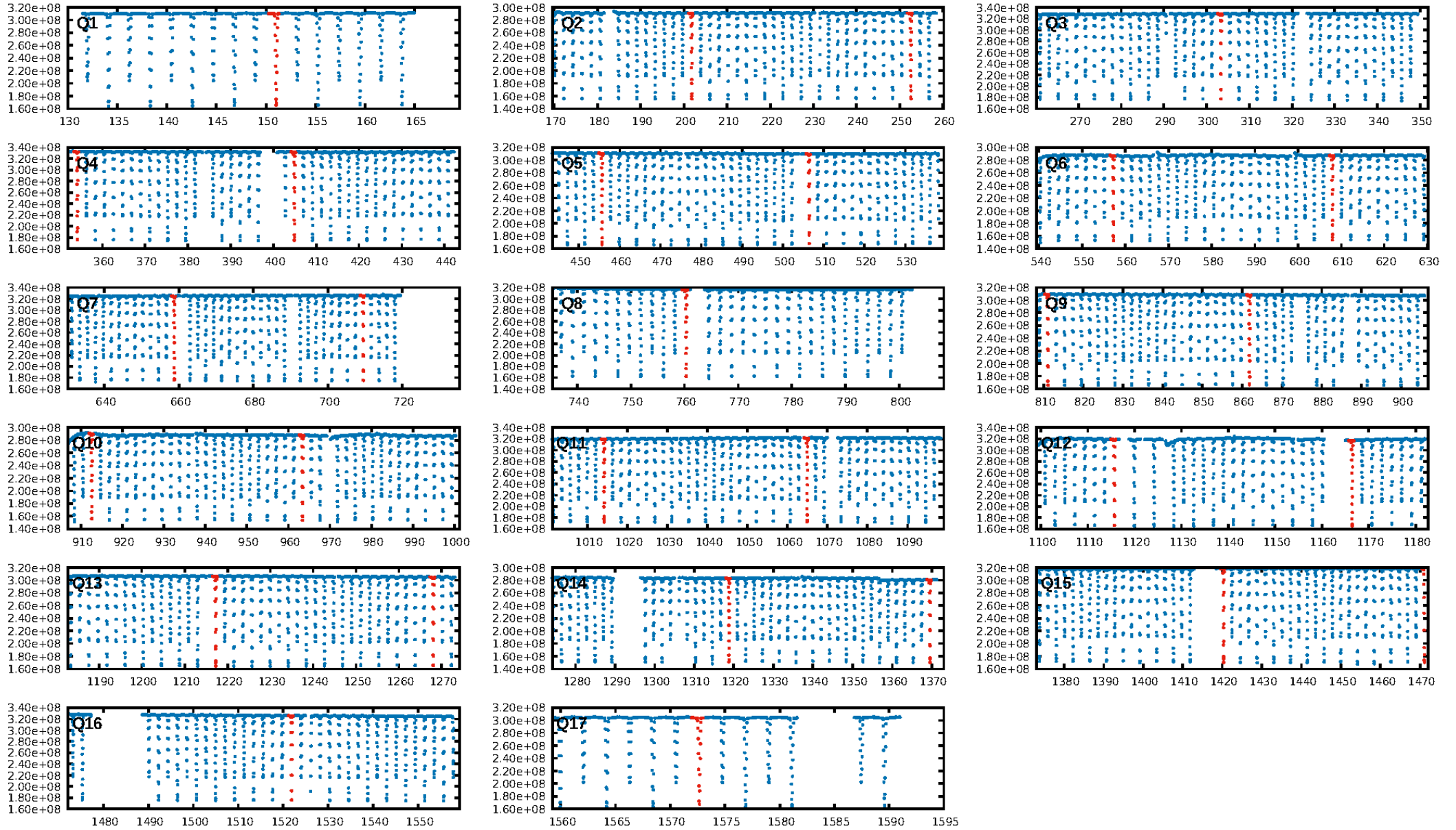
DV fit results are unavailable

DV Diagnostic Results:

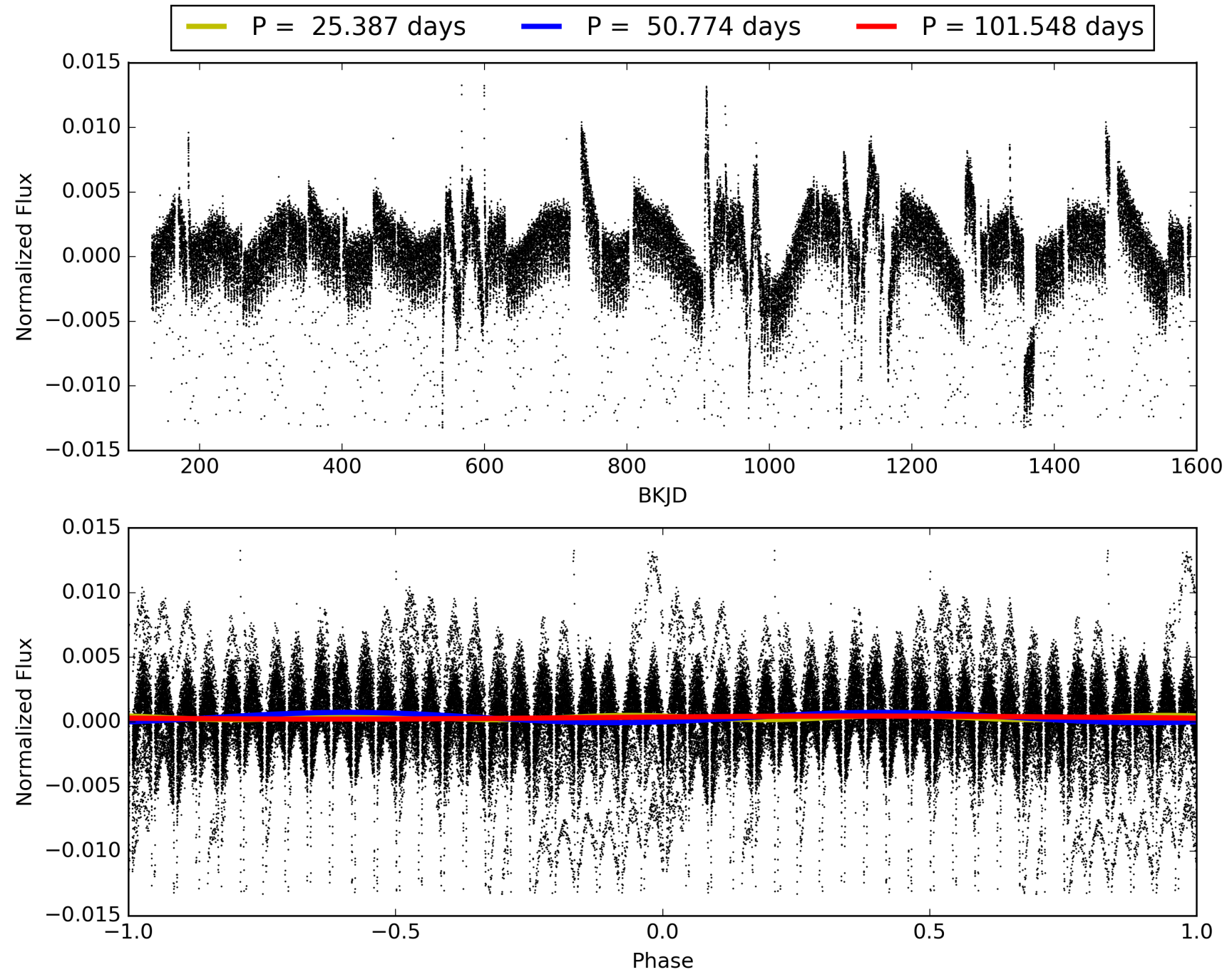
ShortPeriod-sig: 100.0% [89.96σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: -4.22

Centroid-sig: N/A
Centroid-so: 4.300 arcsec [22.14σ]
OotOffset-rm: 0.038 arcsec [0.57σ]
KicOffset-rm: 0.091 arcsec [1.30σ]
OotOffset-st: 4/2/2/4 [12]
KicOffset-st: 4/2/2/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 0.00 [0/12]

TCE 003327980-02, PDC Light Curves

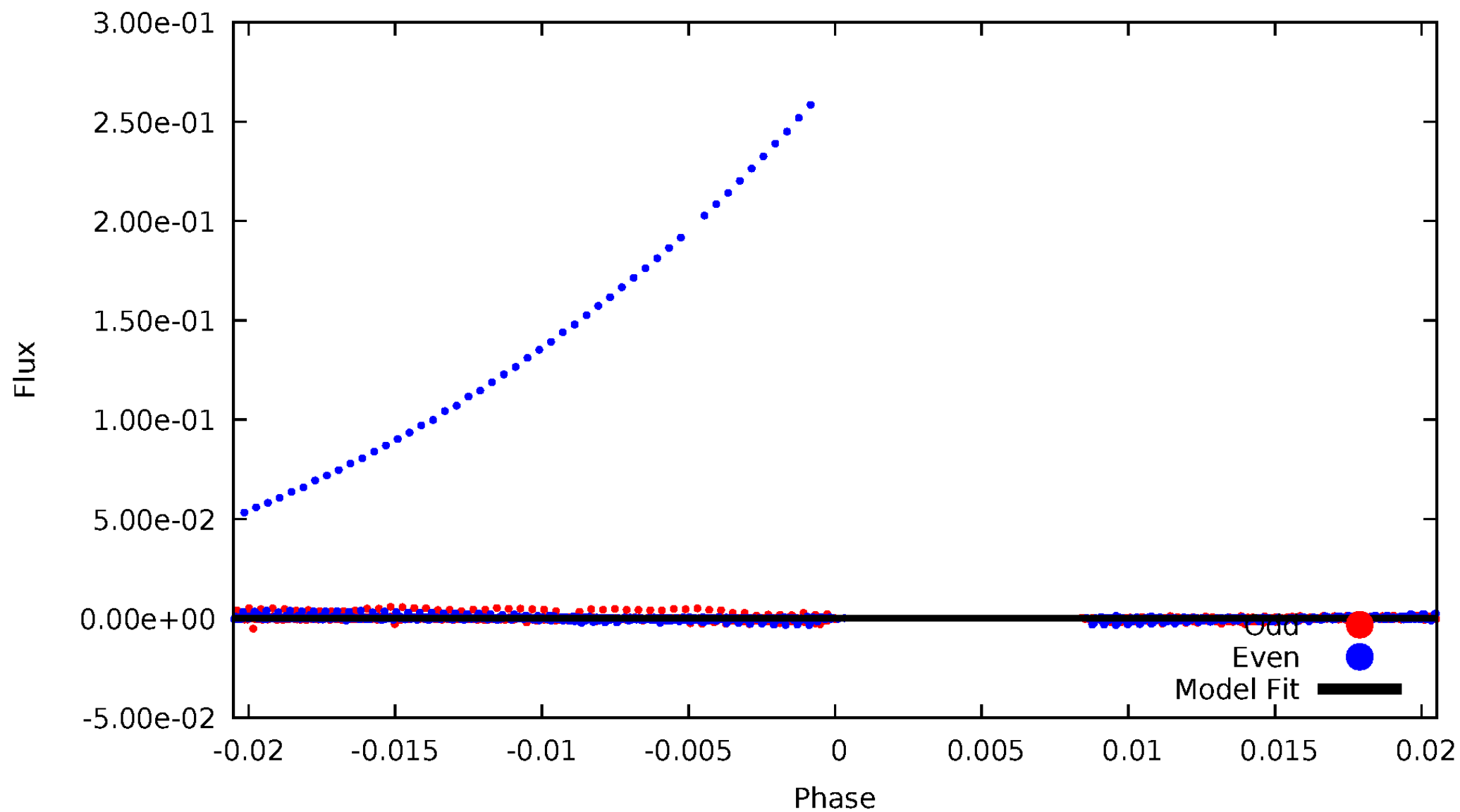


TCE 003327980-02



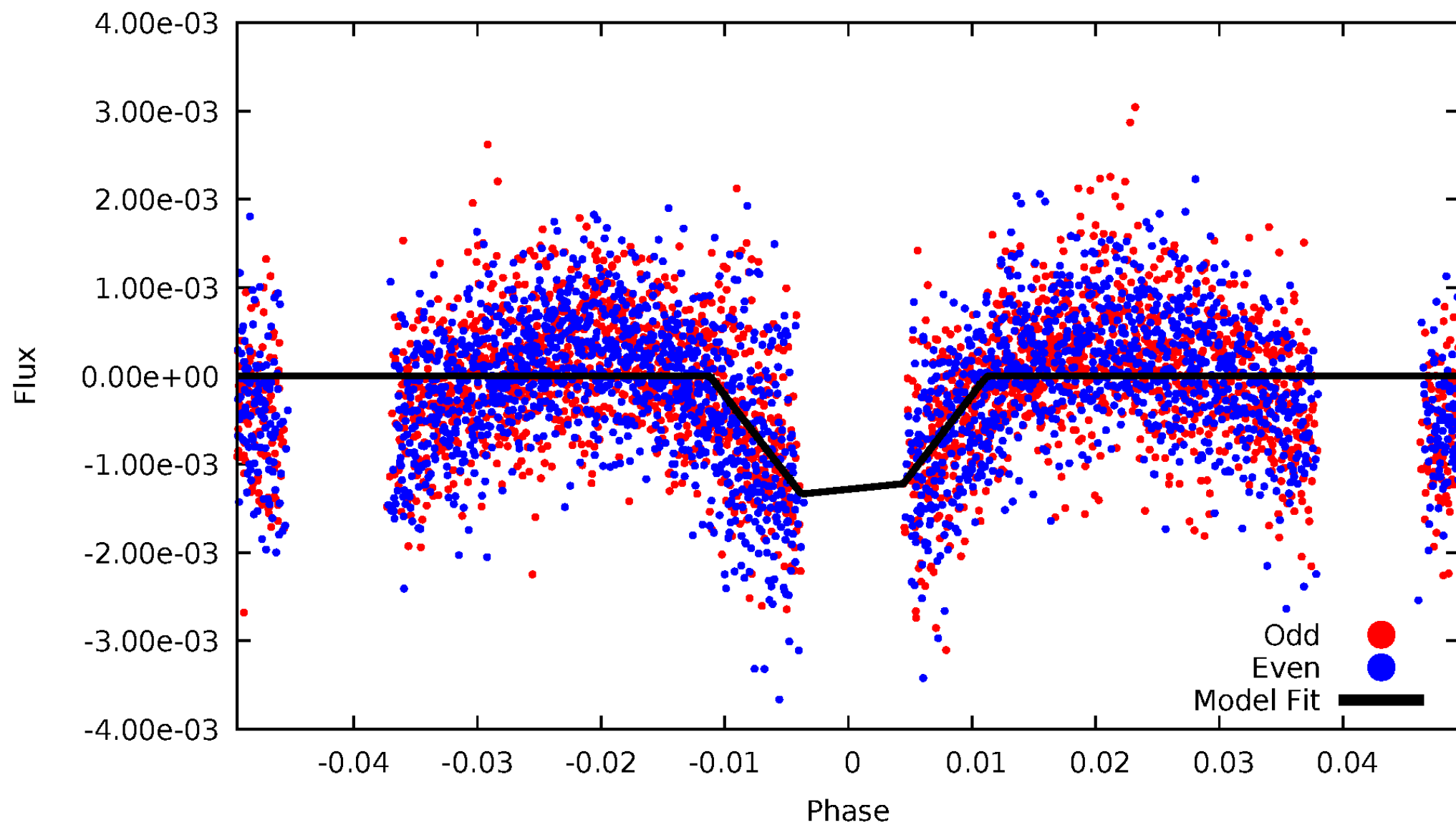
DV Odd/Even

TCE 003327980-02



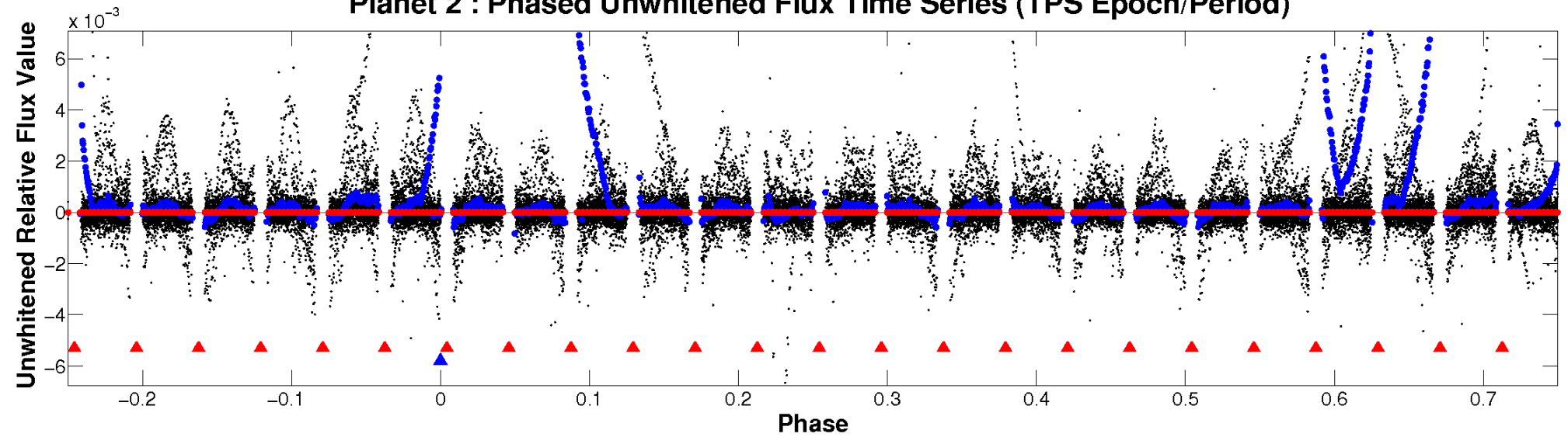
ALT Odd/Even

TCE 003327980-02

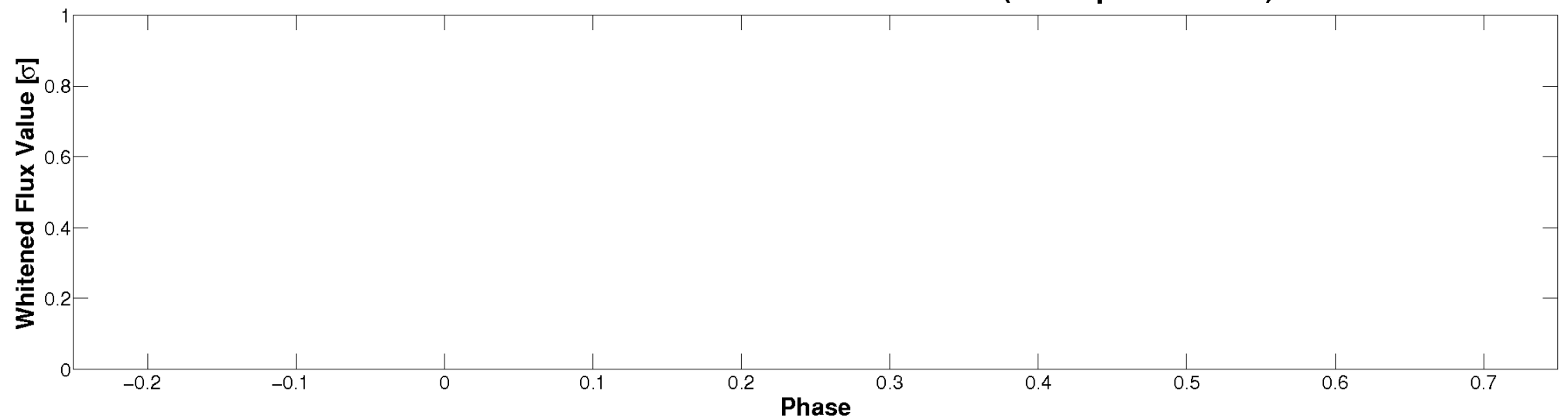


Non-Whitened Vs. Whitened Light Curve

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

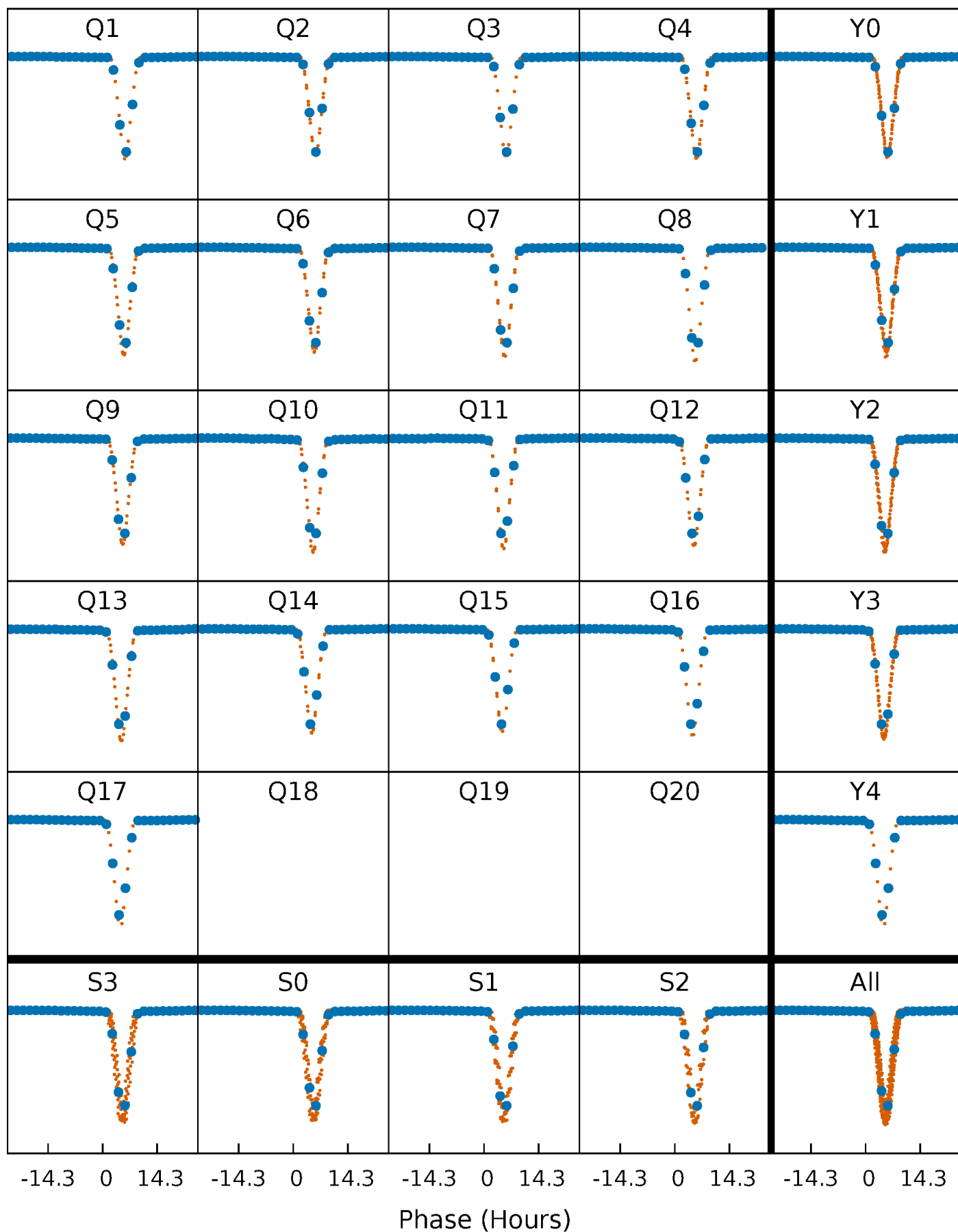


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



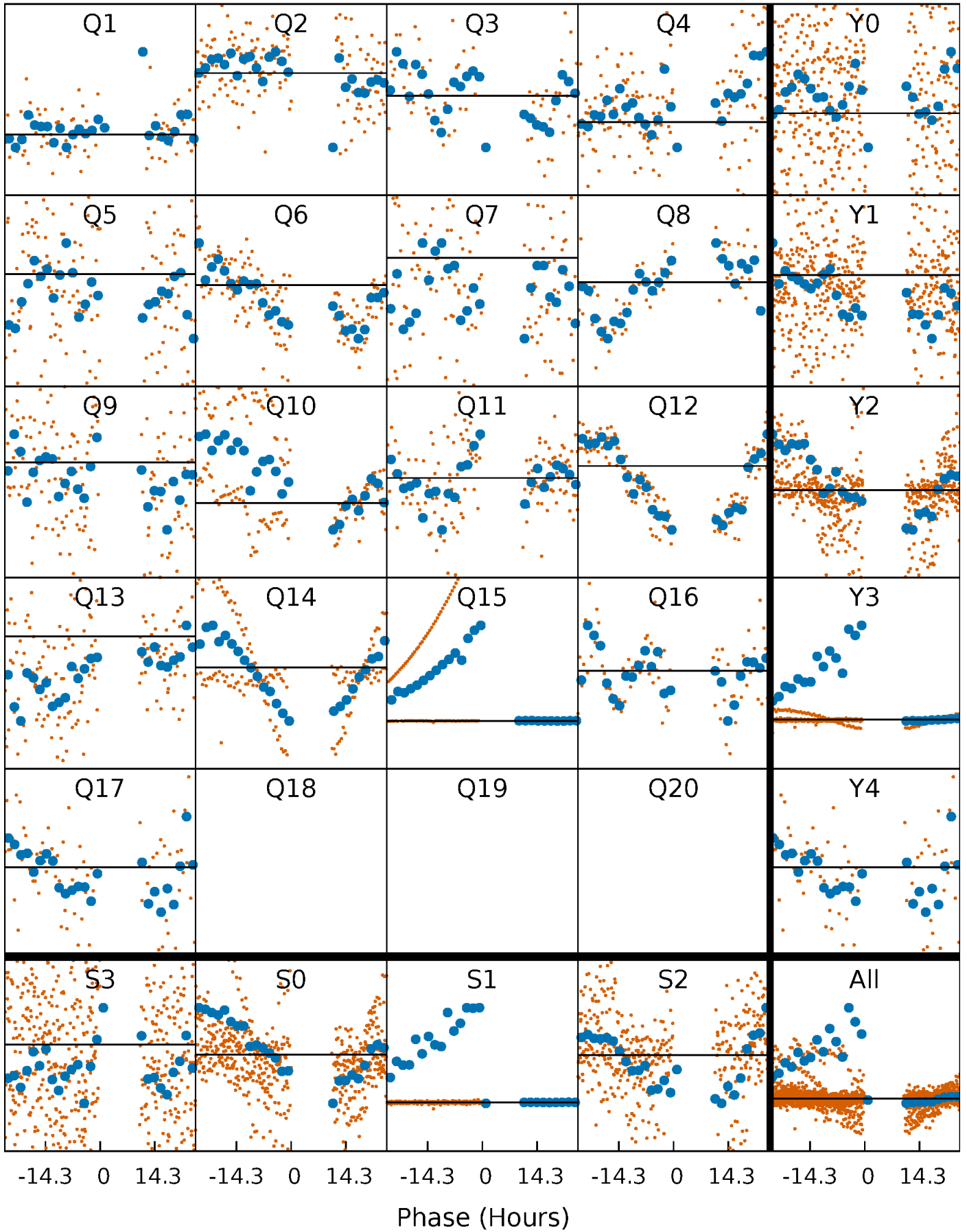
PDC Quarter-Phased Transit Curves

TCE 003327980-02 P= 50.774084 Days $T_0=150.786652$ (BKJD)



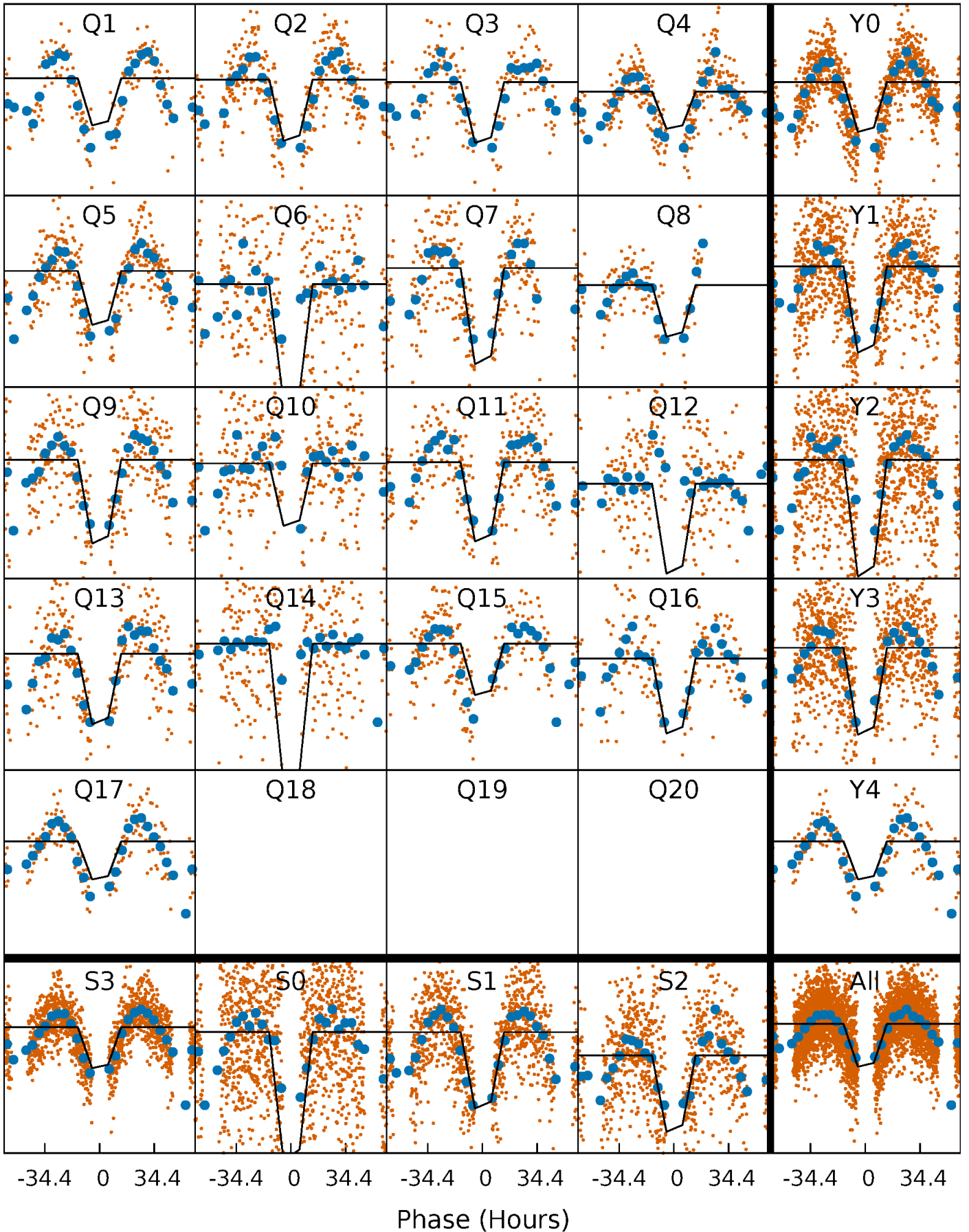
DV Quarter-Phased Transit Curves

TCE 003327980-02 $P = 50.774084$ Days $T_0 = 150.786652$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

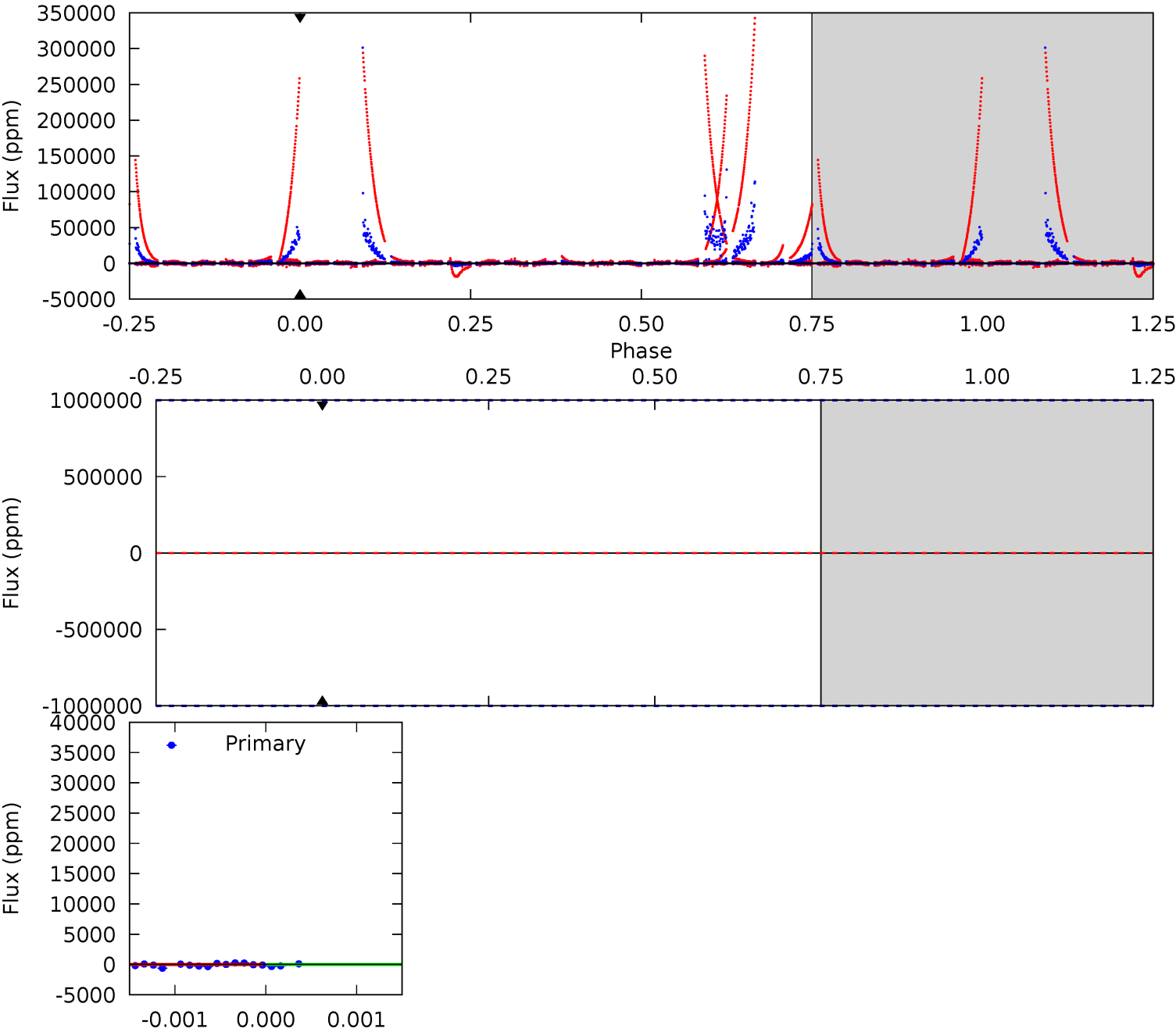
TCE 003327980-02 P= 50.774084 Days $T_0=150.986465$ (BKJD)



DV Model-Shift Uniqueness Test

003327980-02, P = 50.774084 Days, E = 100.012568 Days

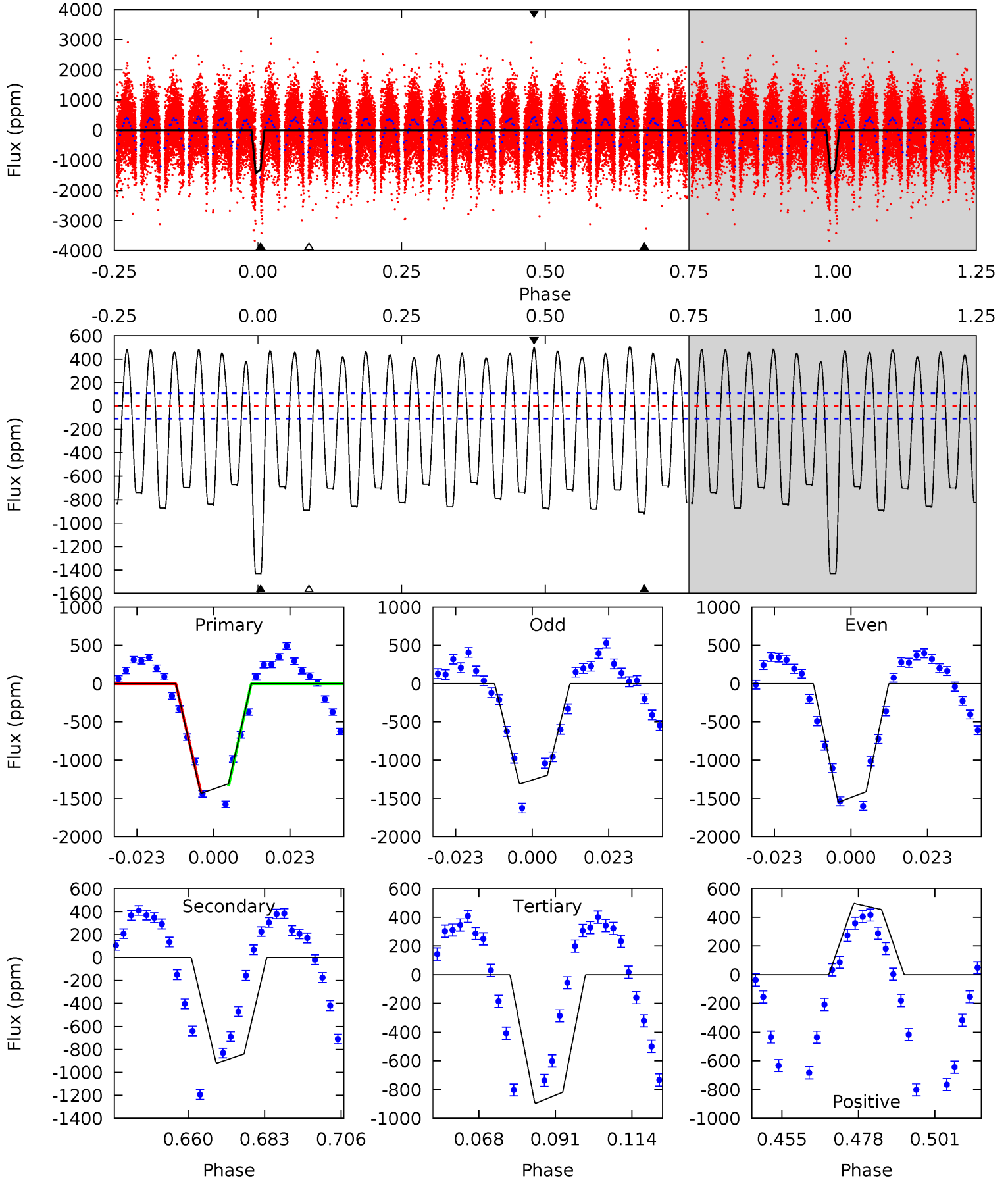
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003327980-02, P = 50.774084 Days, E = 100.212381 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.1	41.1	40.1	22.2	4.87	2.28	19.1	24.0	41.8	1.06	18.9	5.31	0.99	0.26	1.60



Stellar Parameters For KIC 003327980

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-342}	$3.883^{+0.287}_{-0.123}$	$0.100^{+0.150}_{-0.400}$	$2.638^{+0.493}_{-0.986}$	$1.938^{+0.110}_{-0.441}$	$0.149^{+0.318}_{-0.054}$
	+3%/-5%	+7%/-3%	+150%/-400%	+19%/-37%	+6%/-23%	+214%/-36%
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 003327980-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$34.53^{+28.87}_{-21.15}$	1276^{+95}_{-114}	-3154^{+22967}_{-12934}	$-12.198^{+8562.139}_{-6901.062}$
Alt.	-920 ± 22	$23.01^{+22.41}_{-15.31}$	1288^{+89}_{-119}	4607^{+3242}_{-979}	101^{+816}_{-75}

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

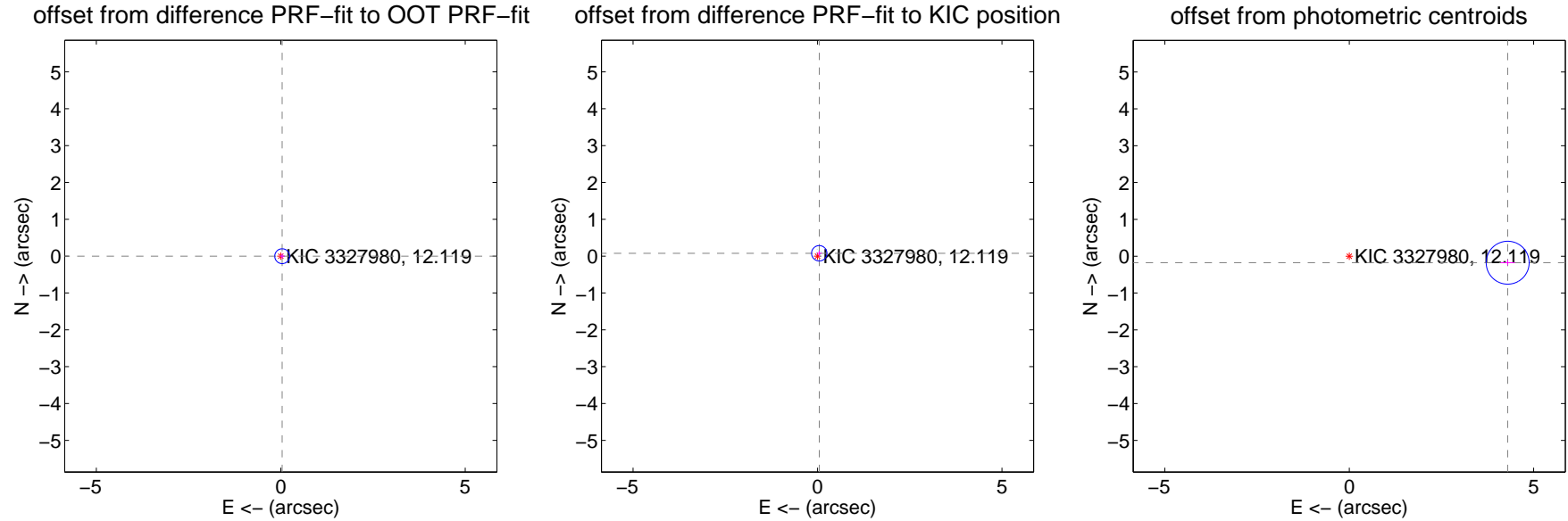
DV Centroid Data

Supplemental centroid analysis for 003327980-02. Kepler magnitude: 12.12. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

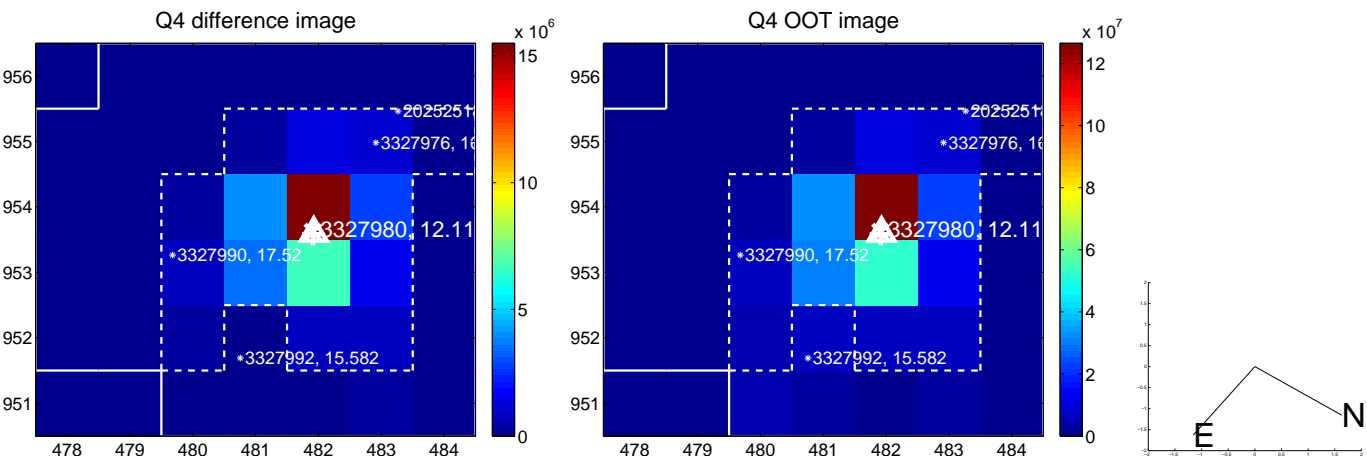
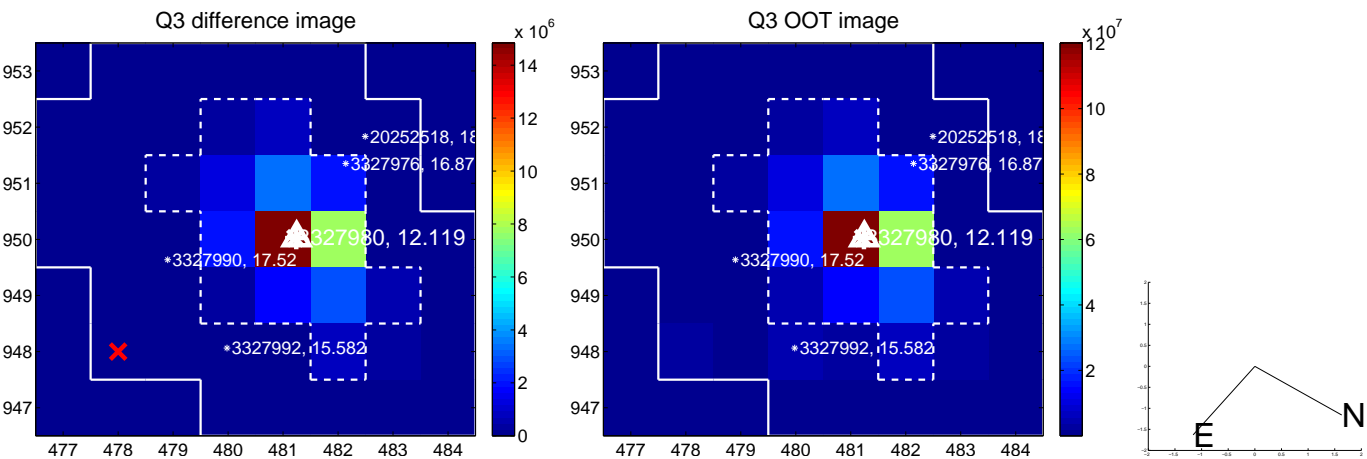
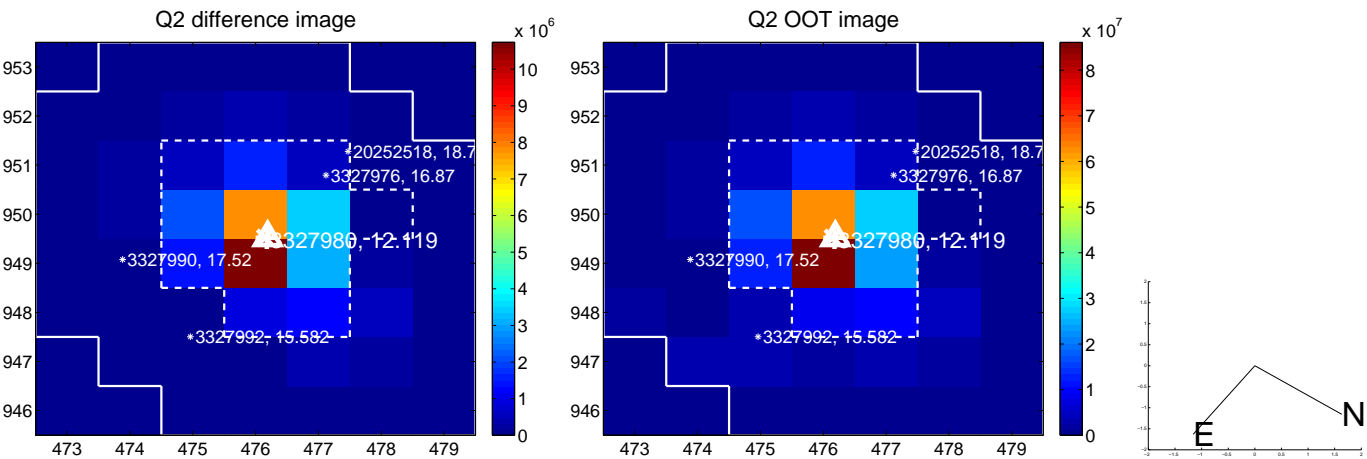
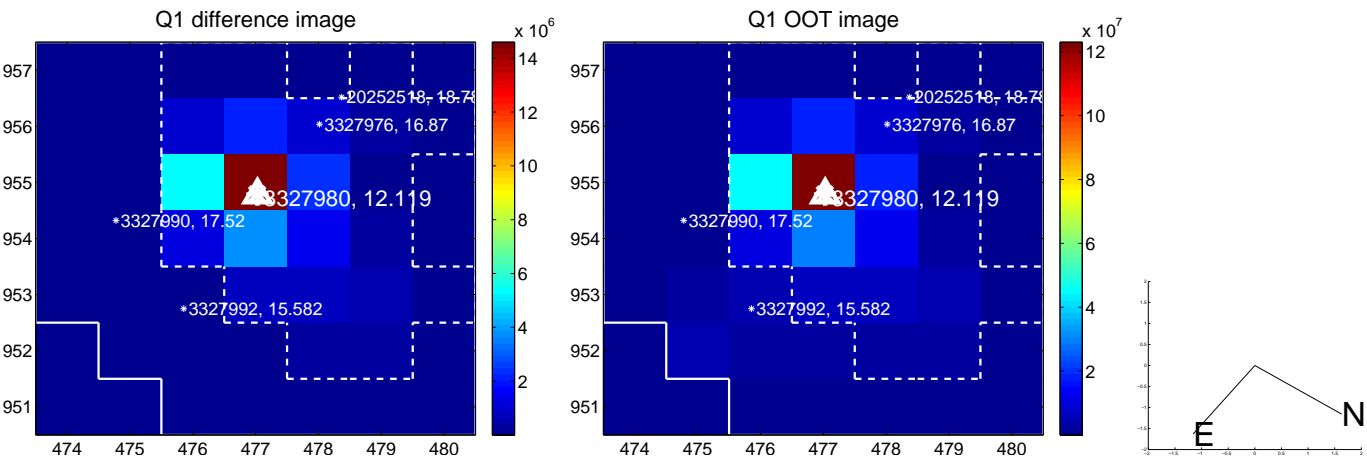
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.067	0.57	-0.038 ± 0.067	-0.002 ± 0.067
PRF-fit source offset from KIC position	0.091 ± 0.070	1.30	-0.047 ± 0.068	0.077 ± 0.070
photometric centroid source offset	4.30 ± 0.19	22.14	-4.30 ± 0.19	-0.18 ± 0.07

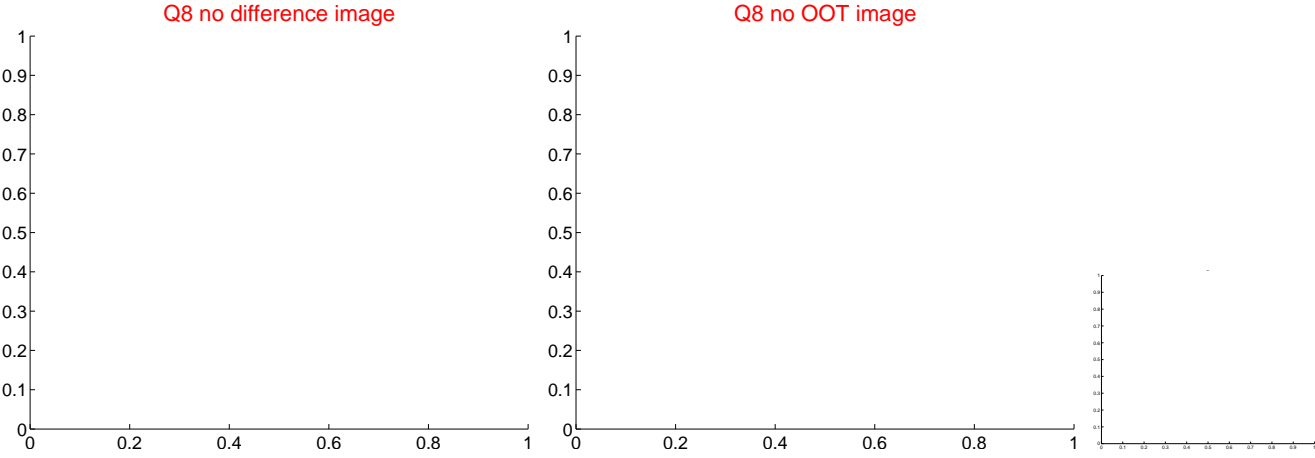
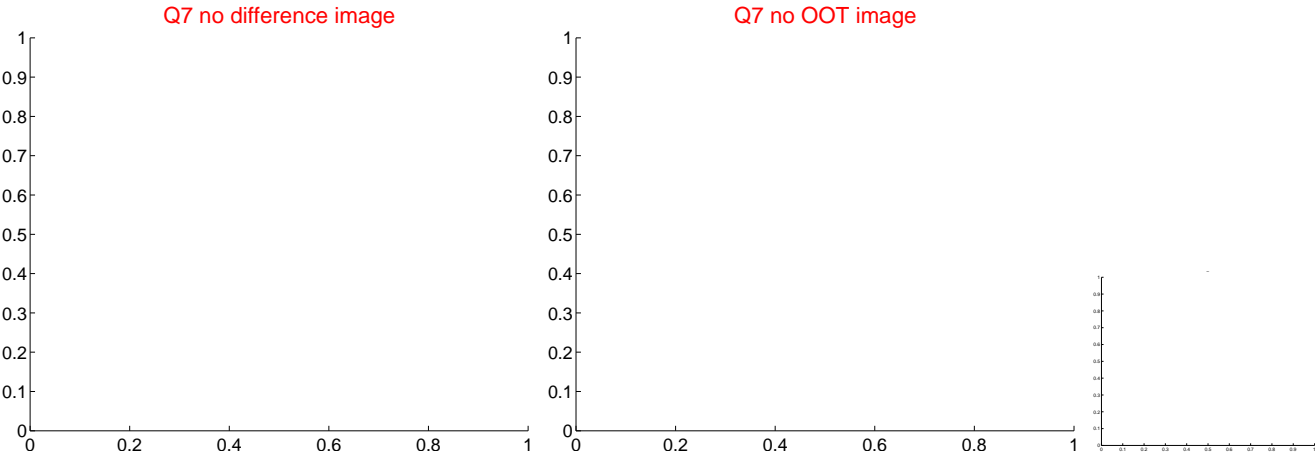
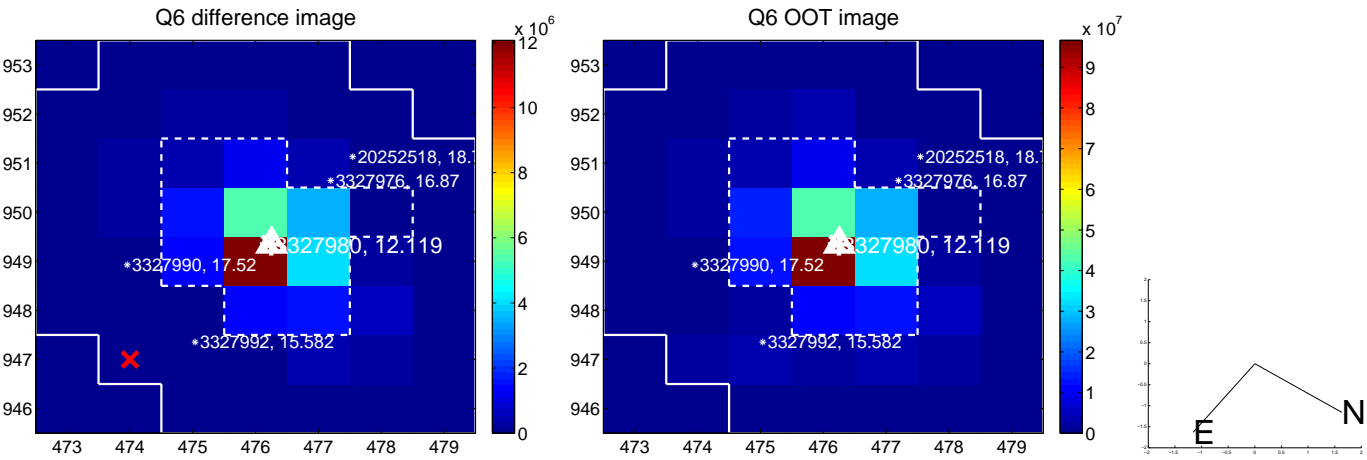
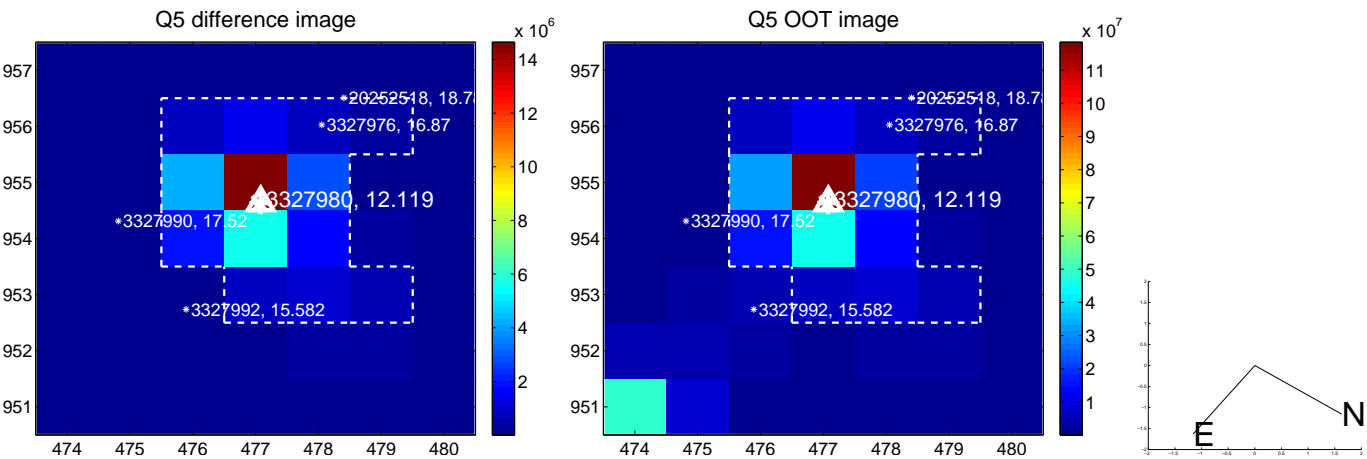


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

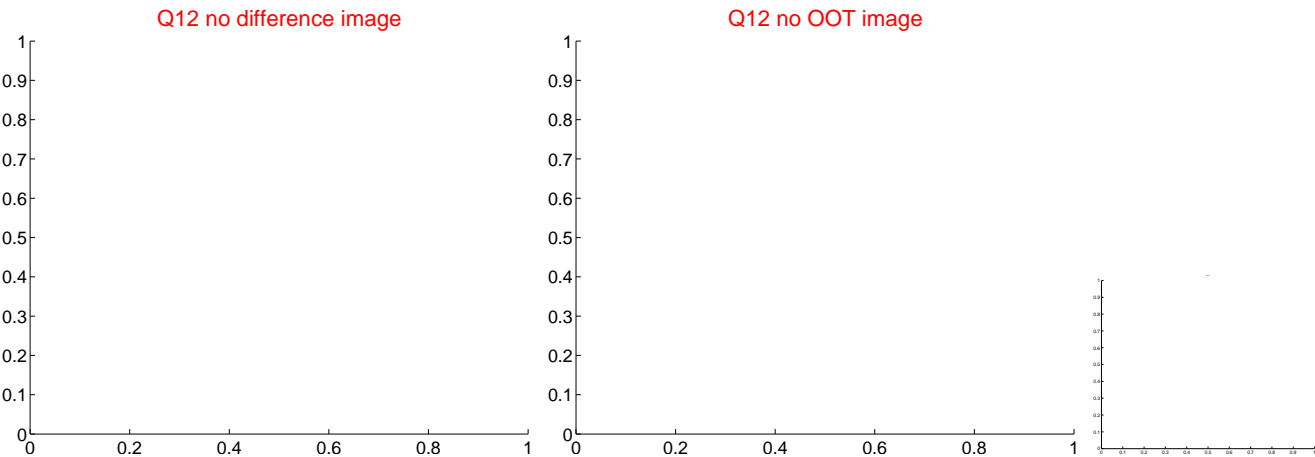
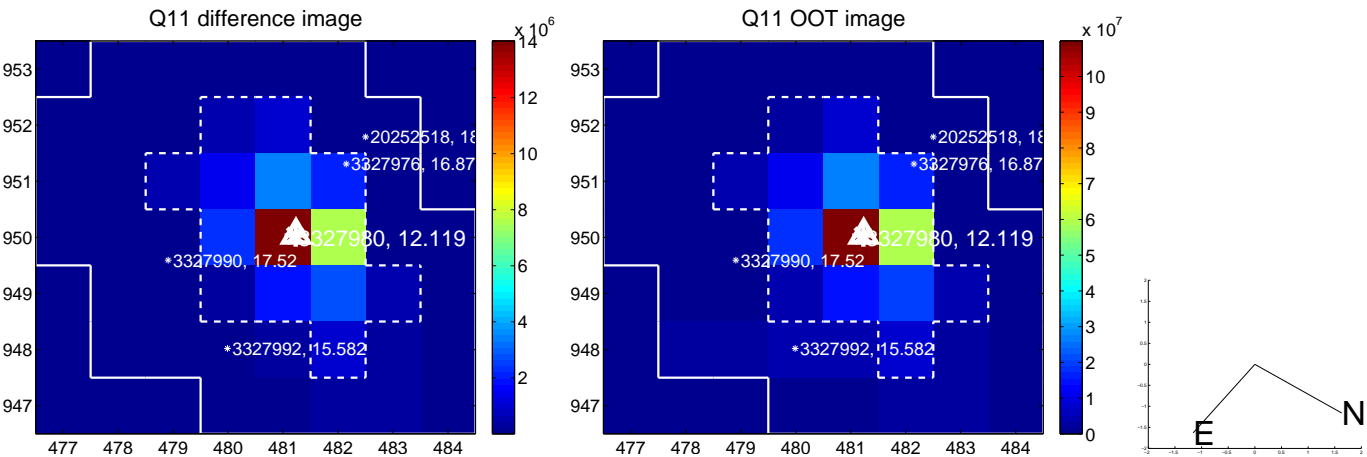
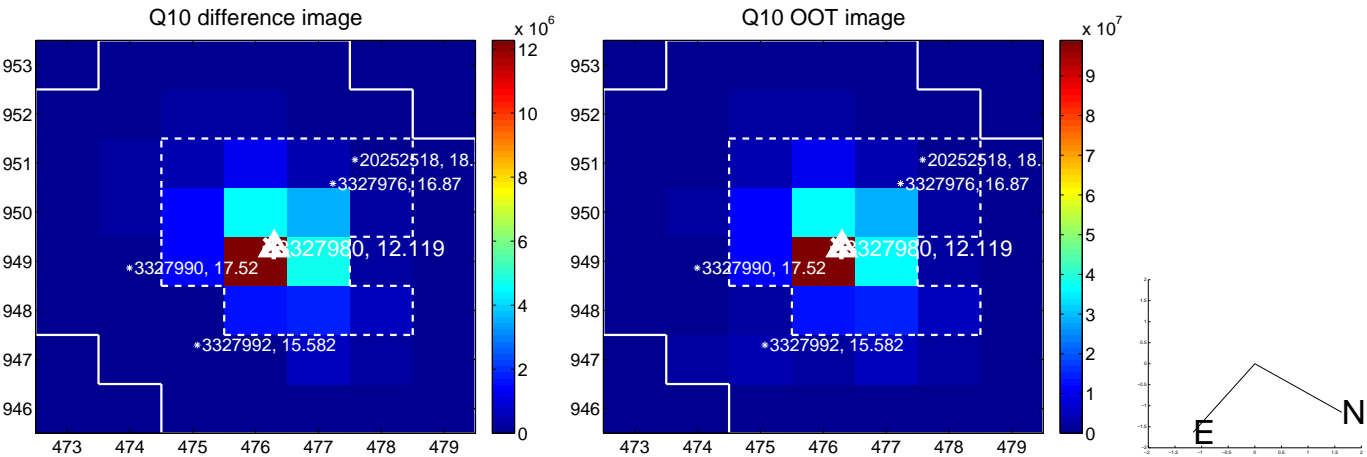
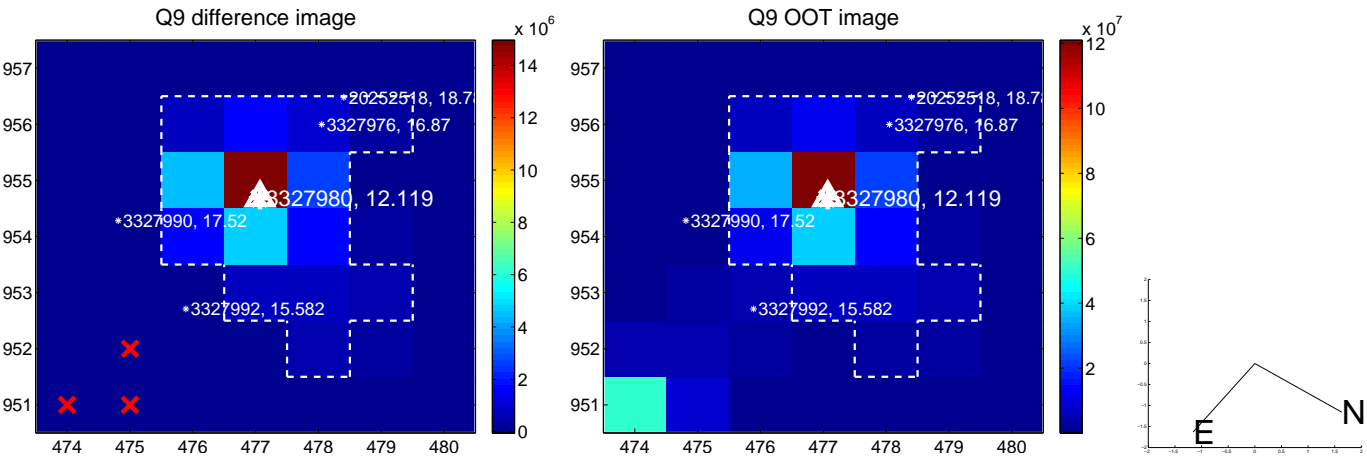
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

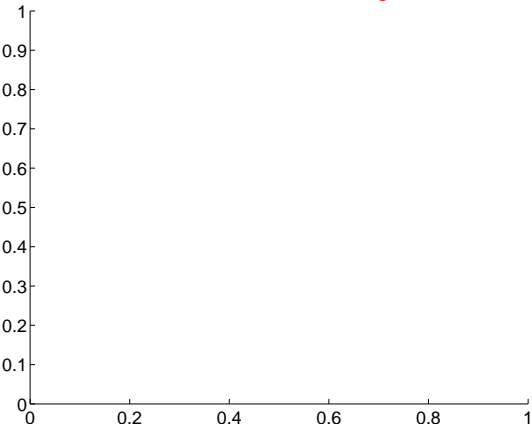


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

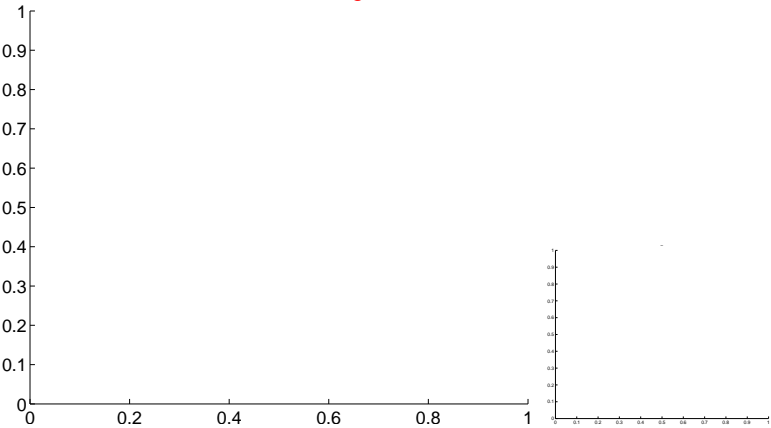


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

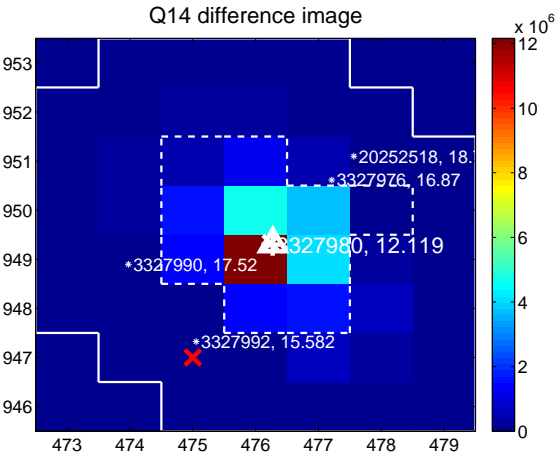
Q13 no difference image



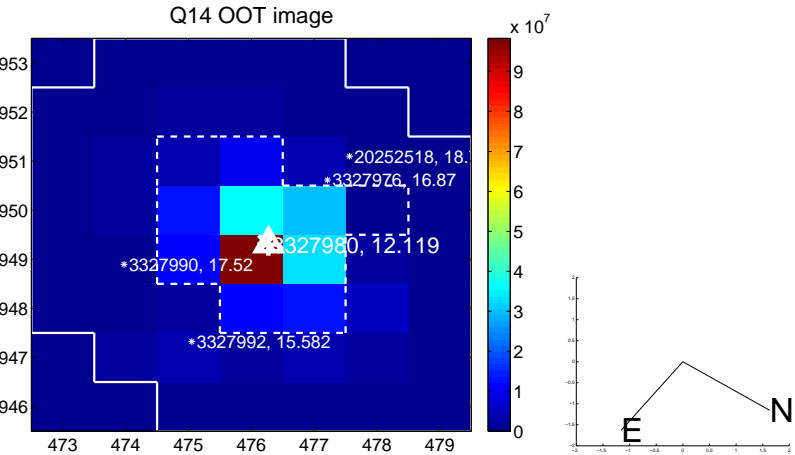
Q13 no OOT image



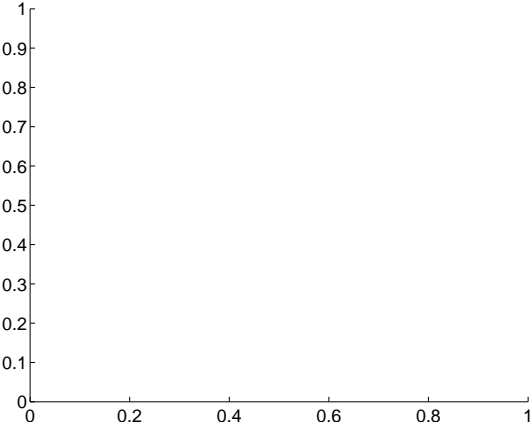
Q14 difference image



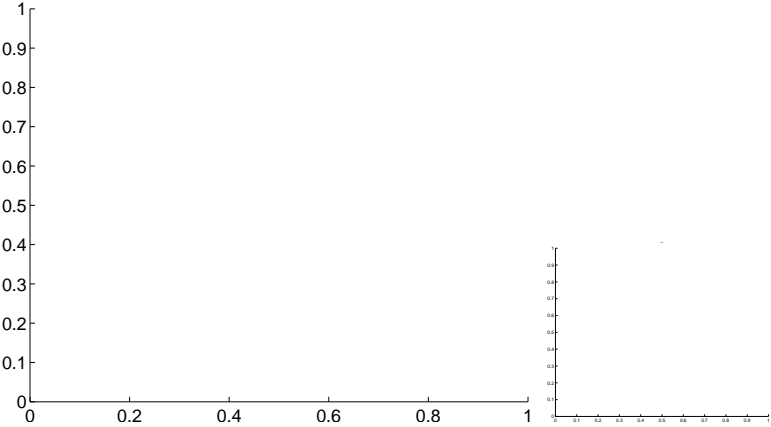
Q14 OOT image



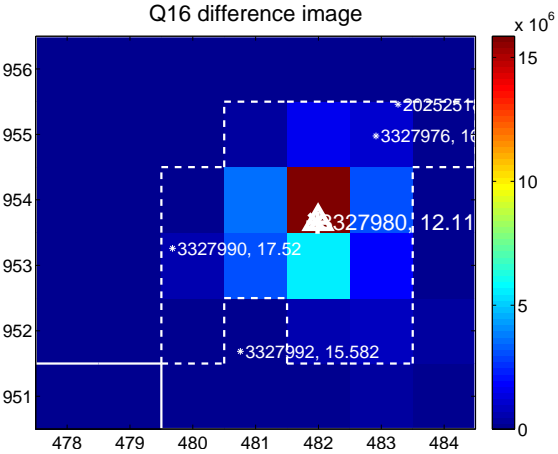
Q15 no difference image



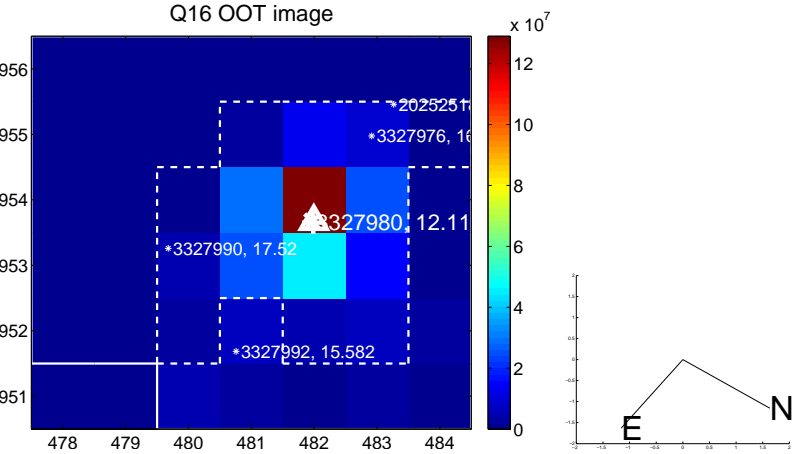
Q15 no OOT image



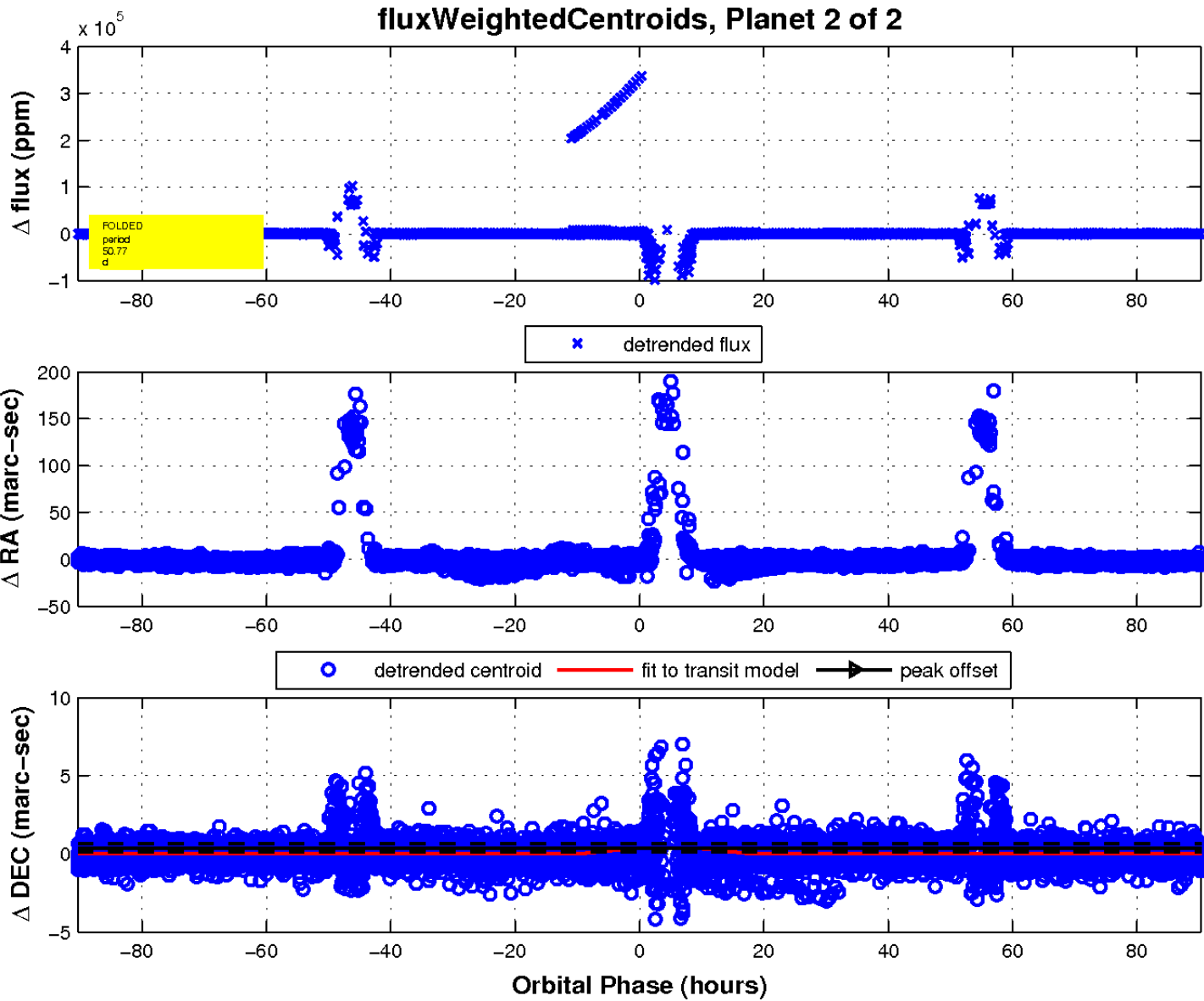
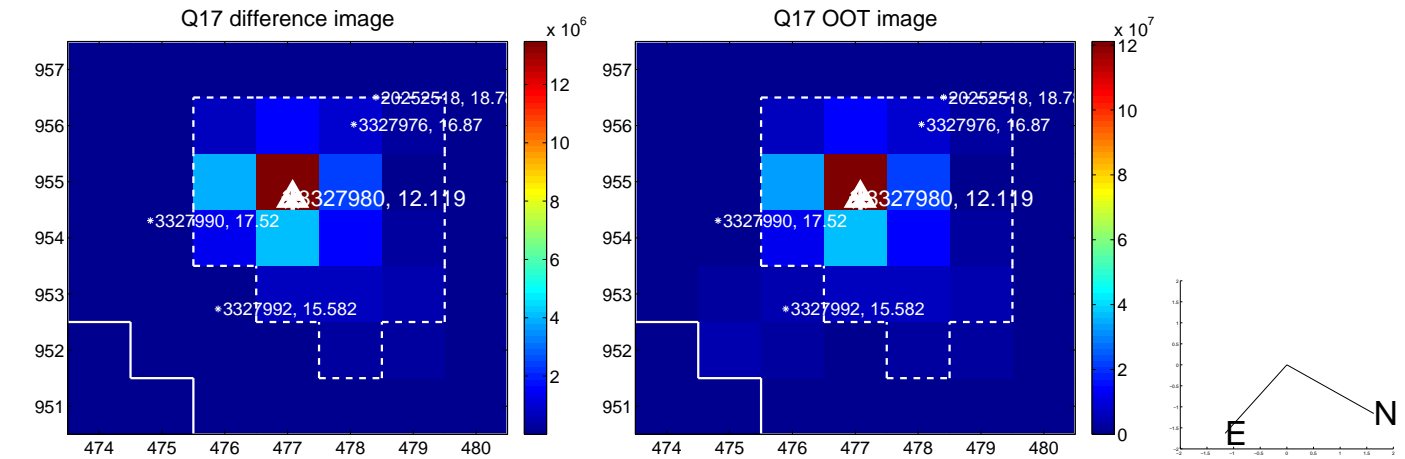
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

