

KIC 009658832

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})
009658832-01	OBS	No	0.913696	131.729234	11420.9	1.781	496.8	426.9	0.54	4057	7.21	313.21
009658832-02	OBS	No	0.913691	132.190658	12946.1	1.757	1169.9	637.7	0.54	4057	8.43	313.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009658832-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
009658832-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET

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

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

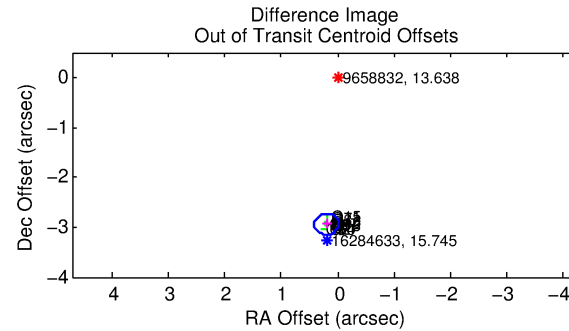
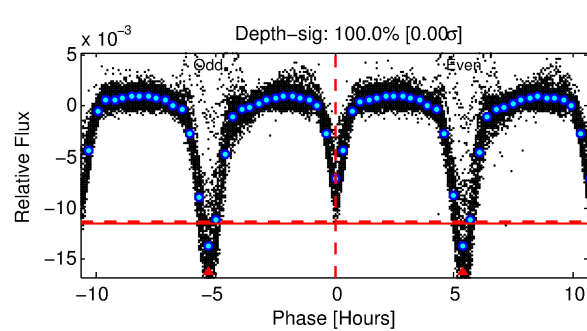
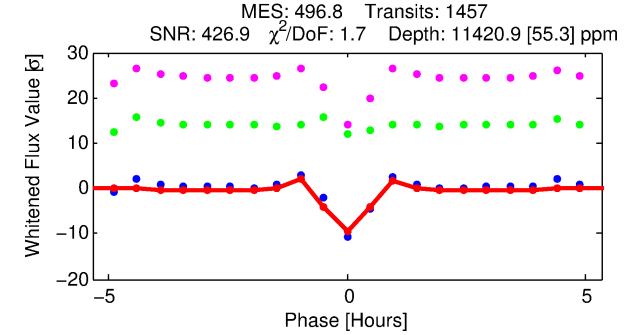
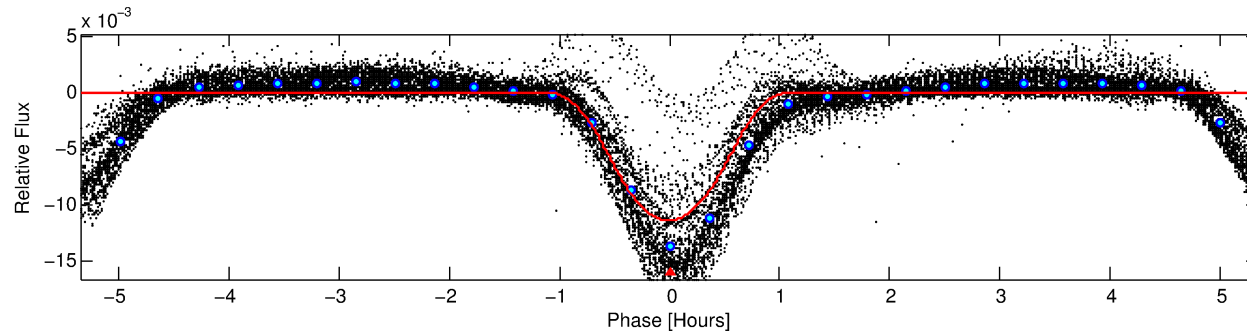
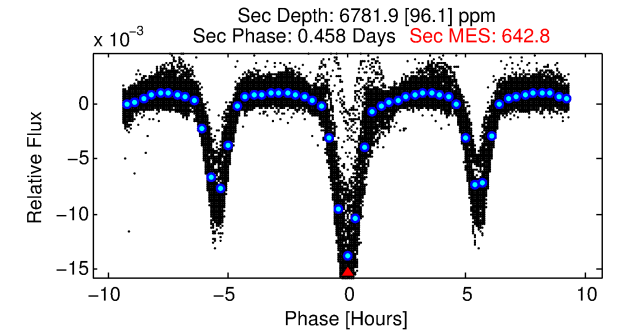
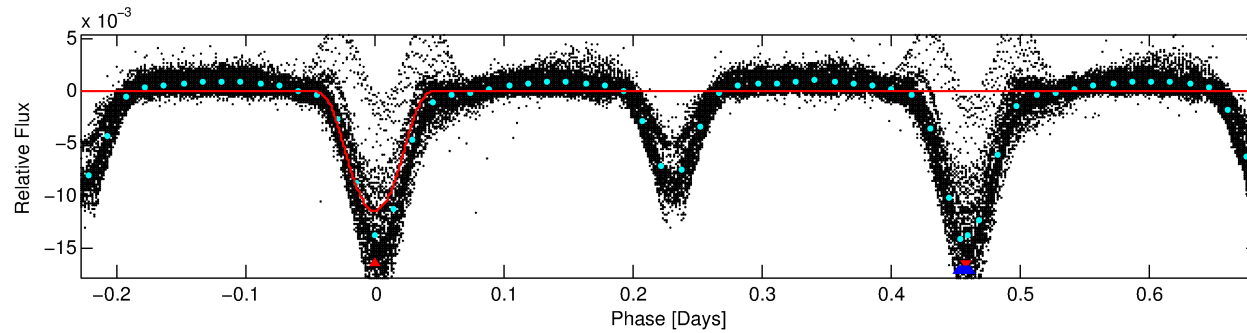
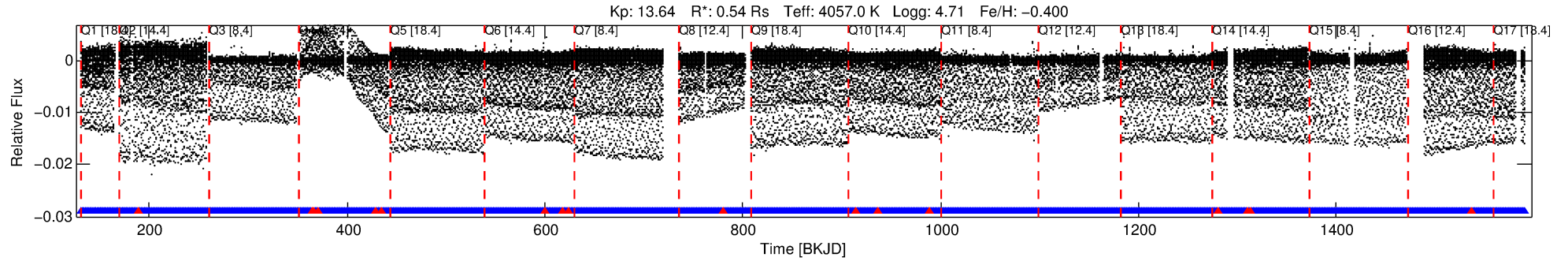
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009658832-01

No Significant Match Found

DV One-Page Summary

KIC: 9658832 Candidate: 1 of 2 Period: 0.914 d



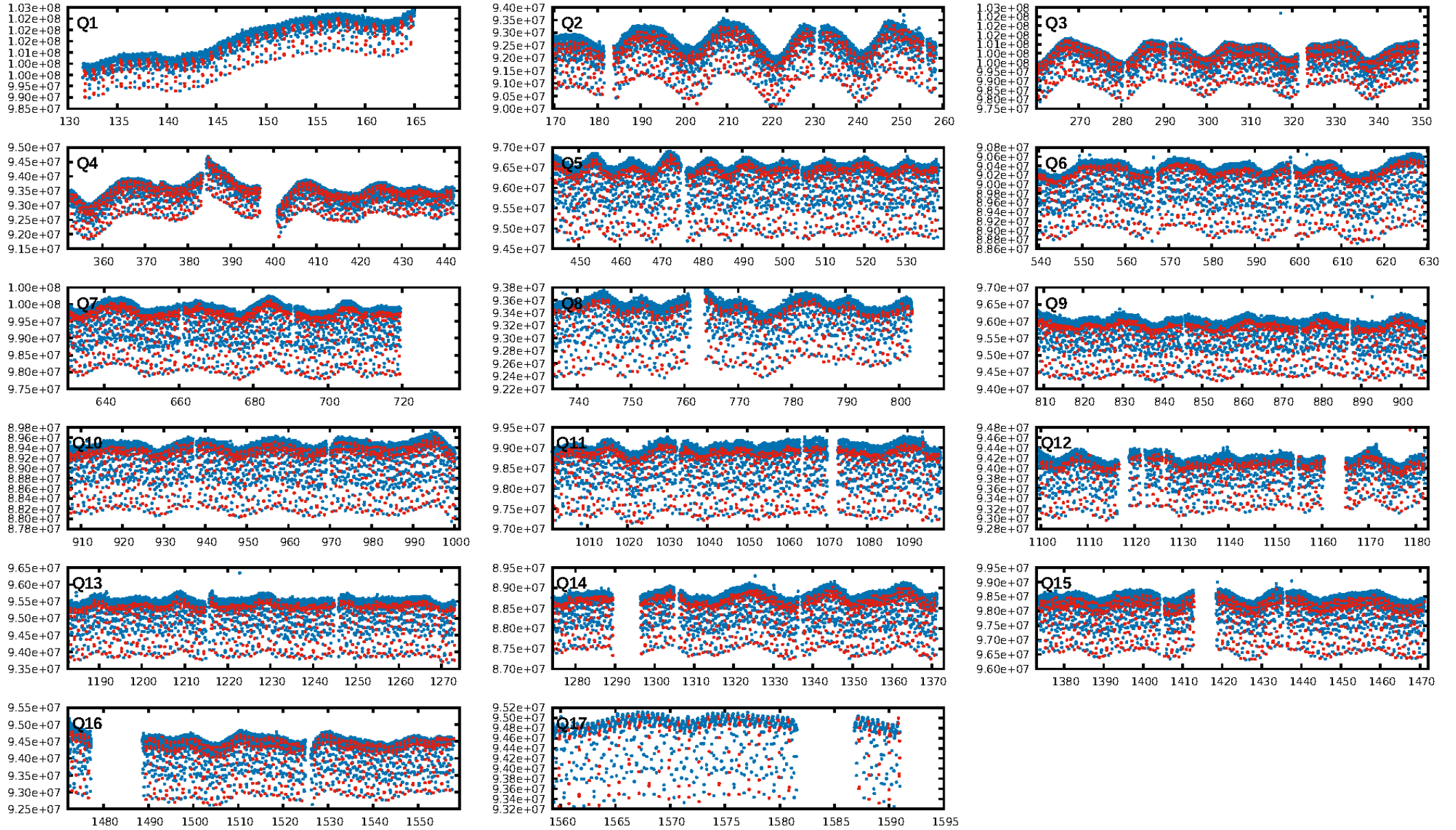
DV Fit Results:

Period = 0.91370 [0.00000] d
Epoch = 131.7292 [0.0001] BKJD
Rp/R* = 0.1228 [0.0021]
a/R* = 2.81 [0.02]
b = 0.90 [0.01]
Seff = 313.21 [68.71]
Teff = 1073 [59] K
Rp = 7.21 [1.07] Re
a = 0.0150 [0.0017] AU
Ag = 16.10 [2.54] [5.94σ]
Teffp = 3322 [134] K [15.38σ]

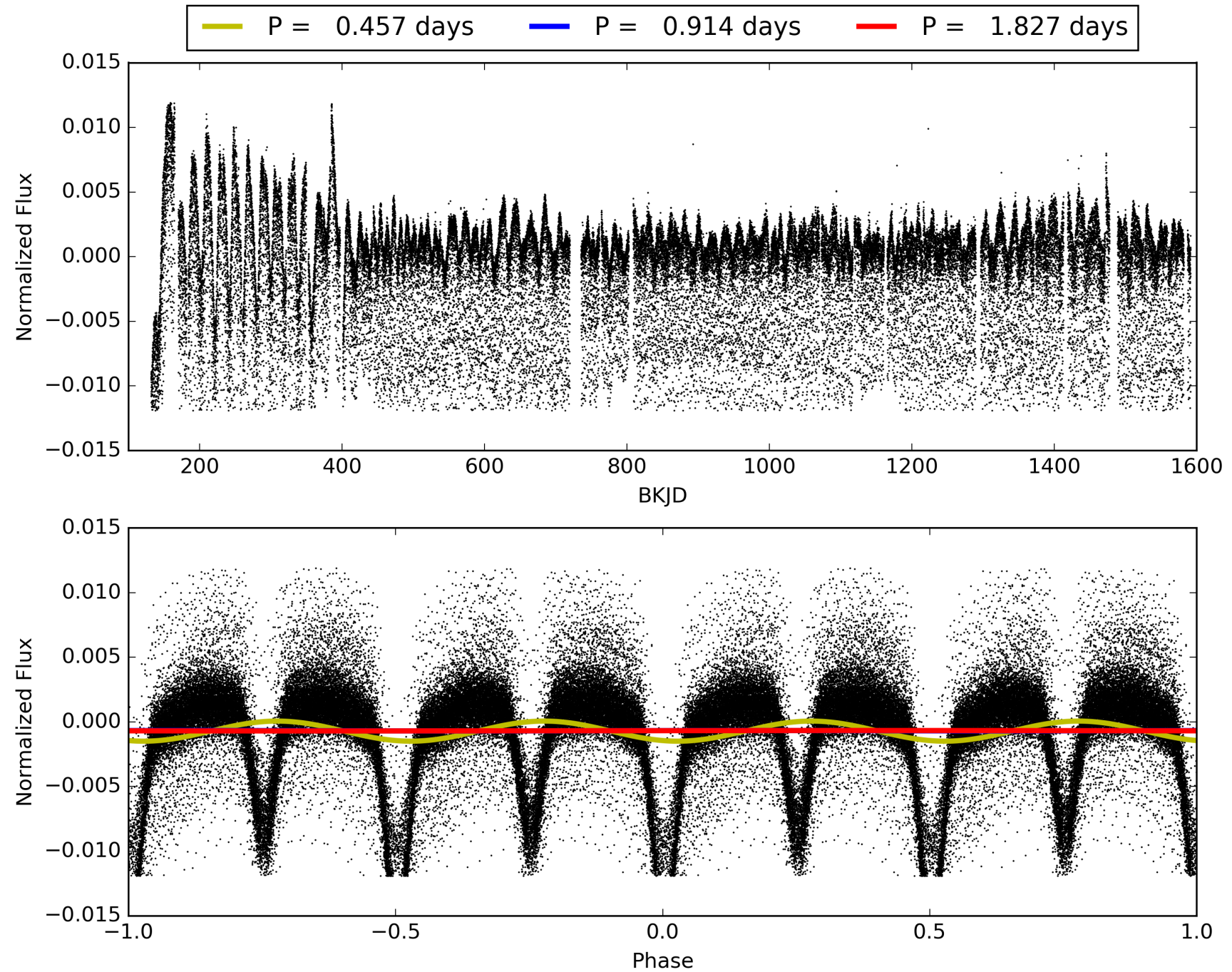
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1374/1391]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.951 arcsec [42.33σ]
KicOffset-rm: 3.205 arcsec [46.85σ]
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]

TCE 009658832-01, PDC Light Curves

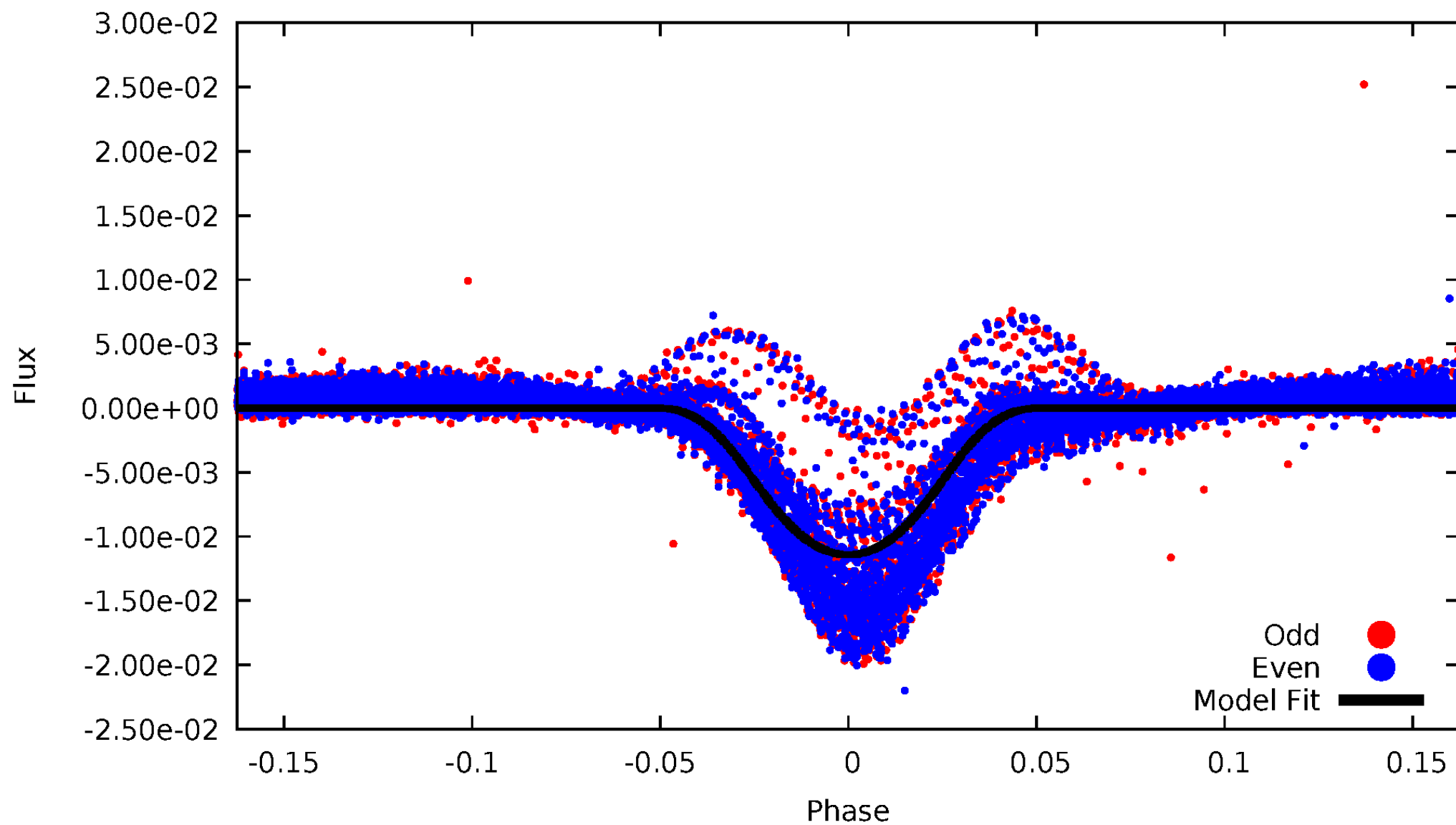


TCE 009658832-01



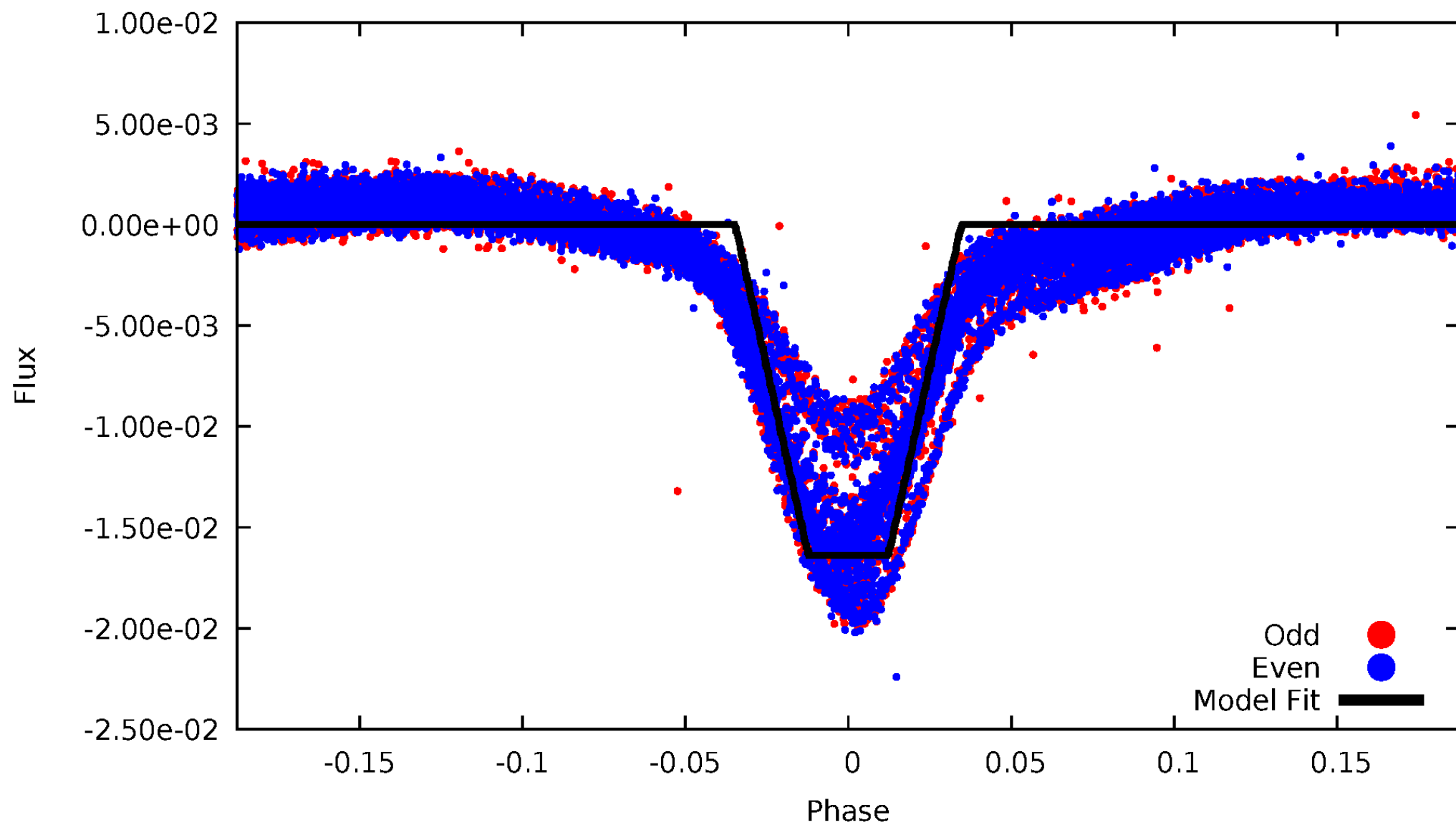
DV Odd/Even

TCE 009658832-01



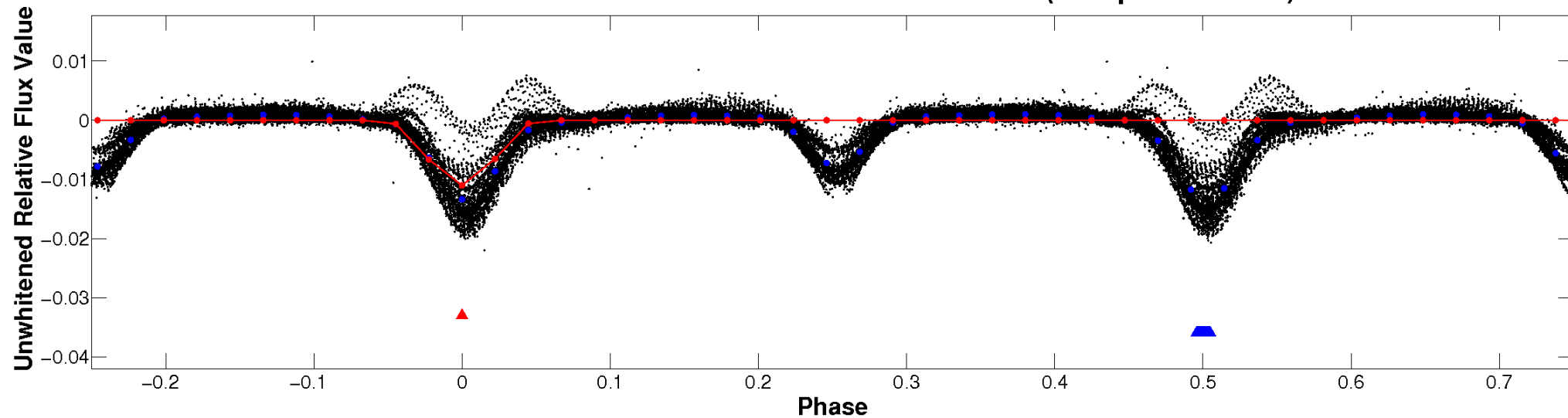
ALT Odd/Even

TCE 009658832-01

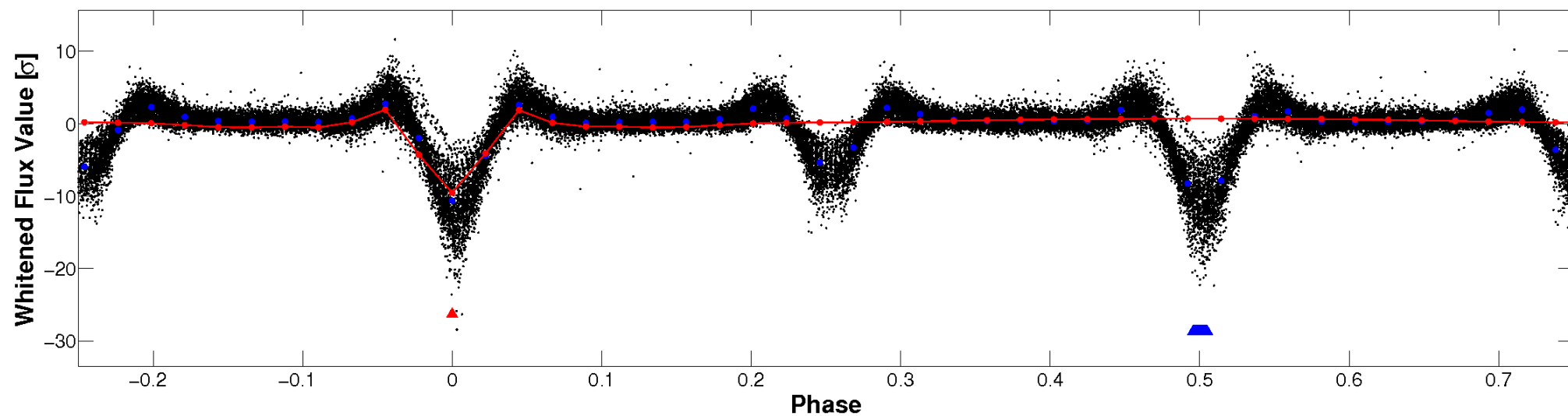


Non-Whitened Vs. Whitened Light Curve

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

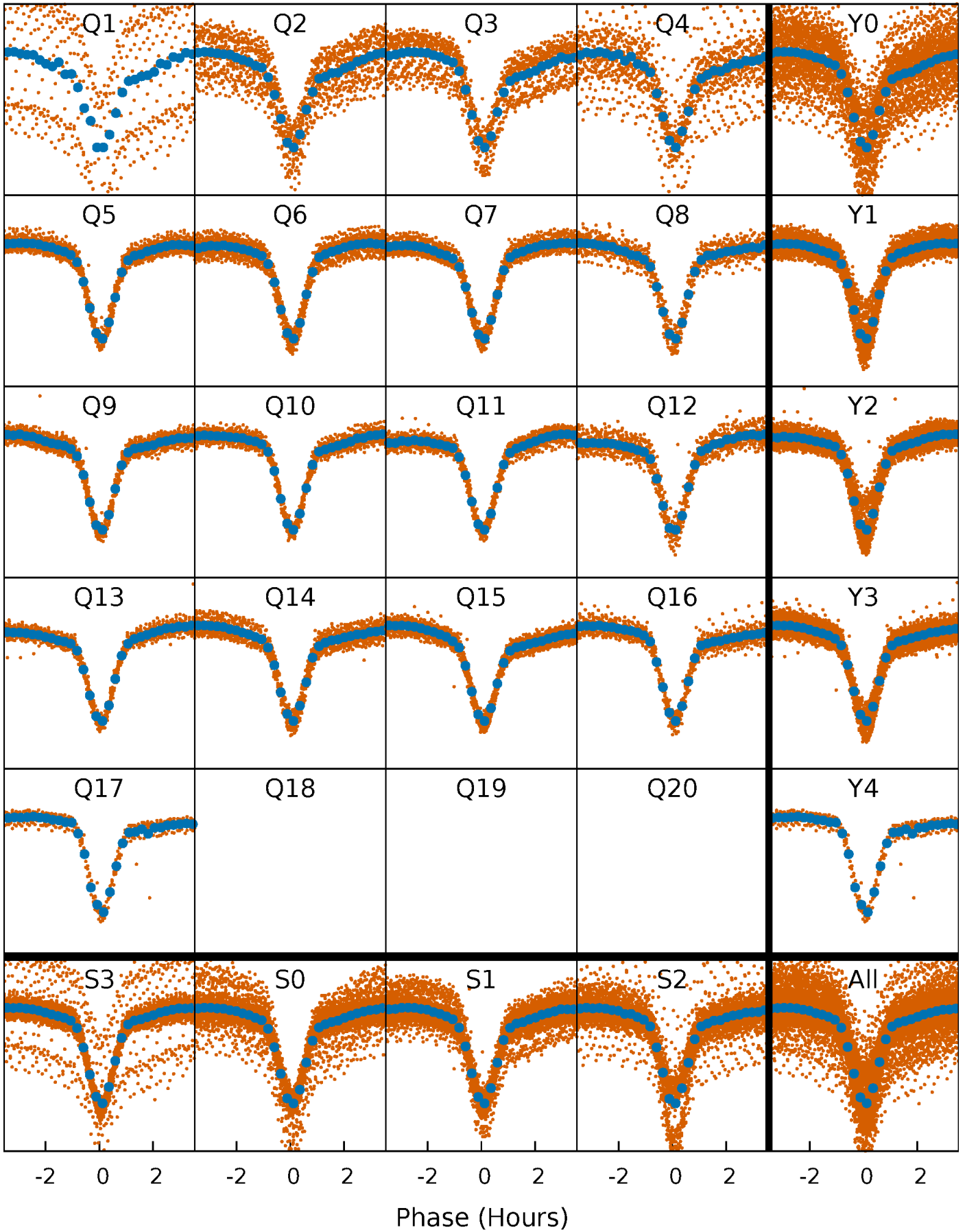


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



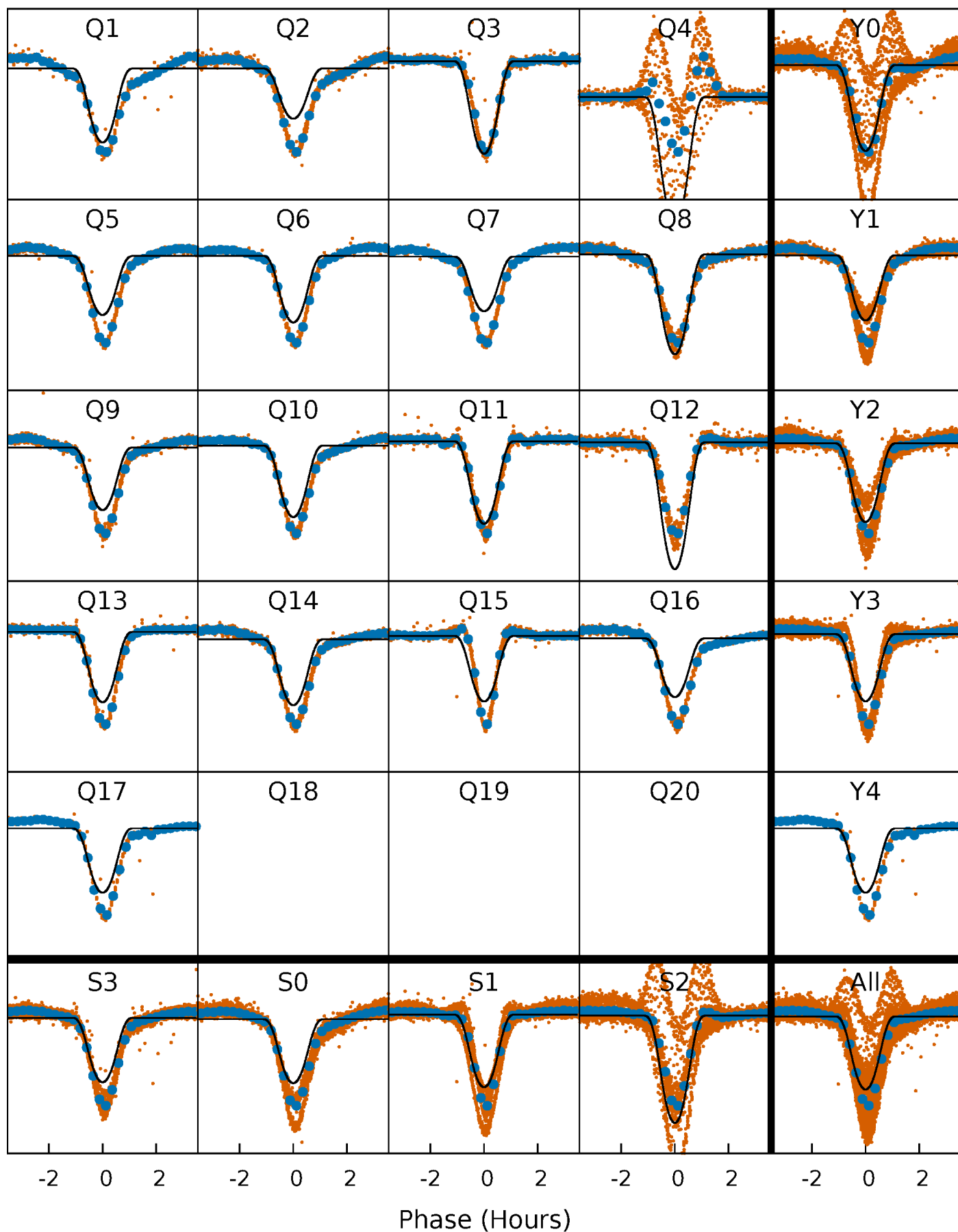
PDC Quarter-Phased Transit Curves

TCE 009658832-01 P= 0.913696 Days $T_0=131.729234$ (BKJD)



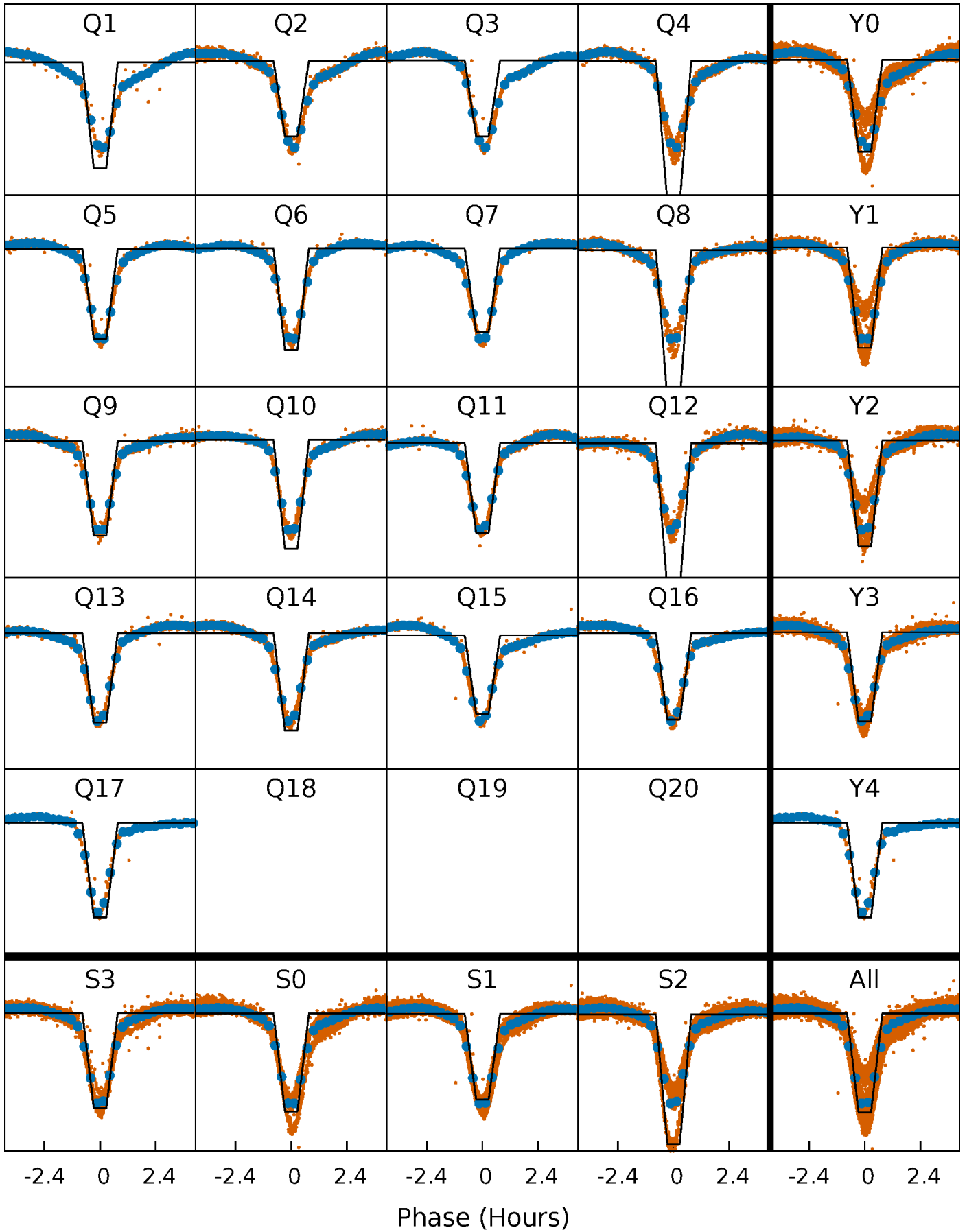
DV Quarter-Phased Transit Curves

TCE 009658832-01 P= 0.913696 Days $T_0=131.729234$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

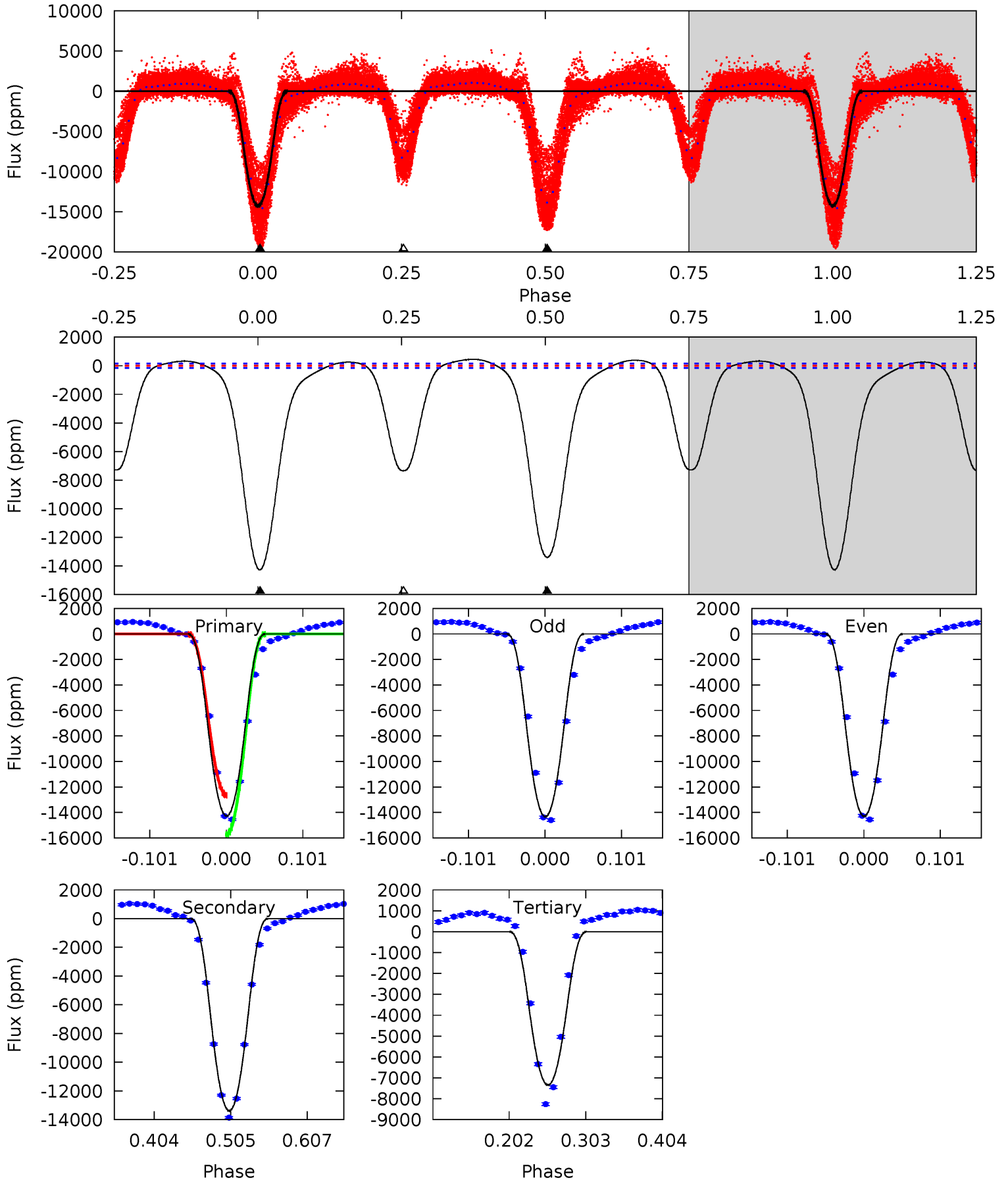
TCE 009658832-01 P= 0.913700 Days $T_0=131.729079$ (BKJD)



DV Model-Shift Uniqueness Test

009658832-01, P = 0.913696 Days, E = 130.815538 Days

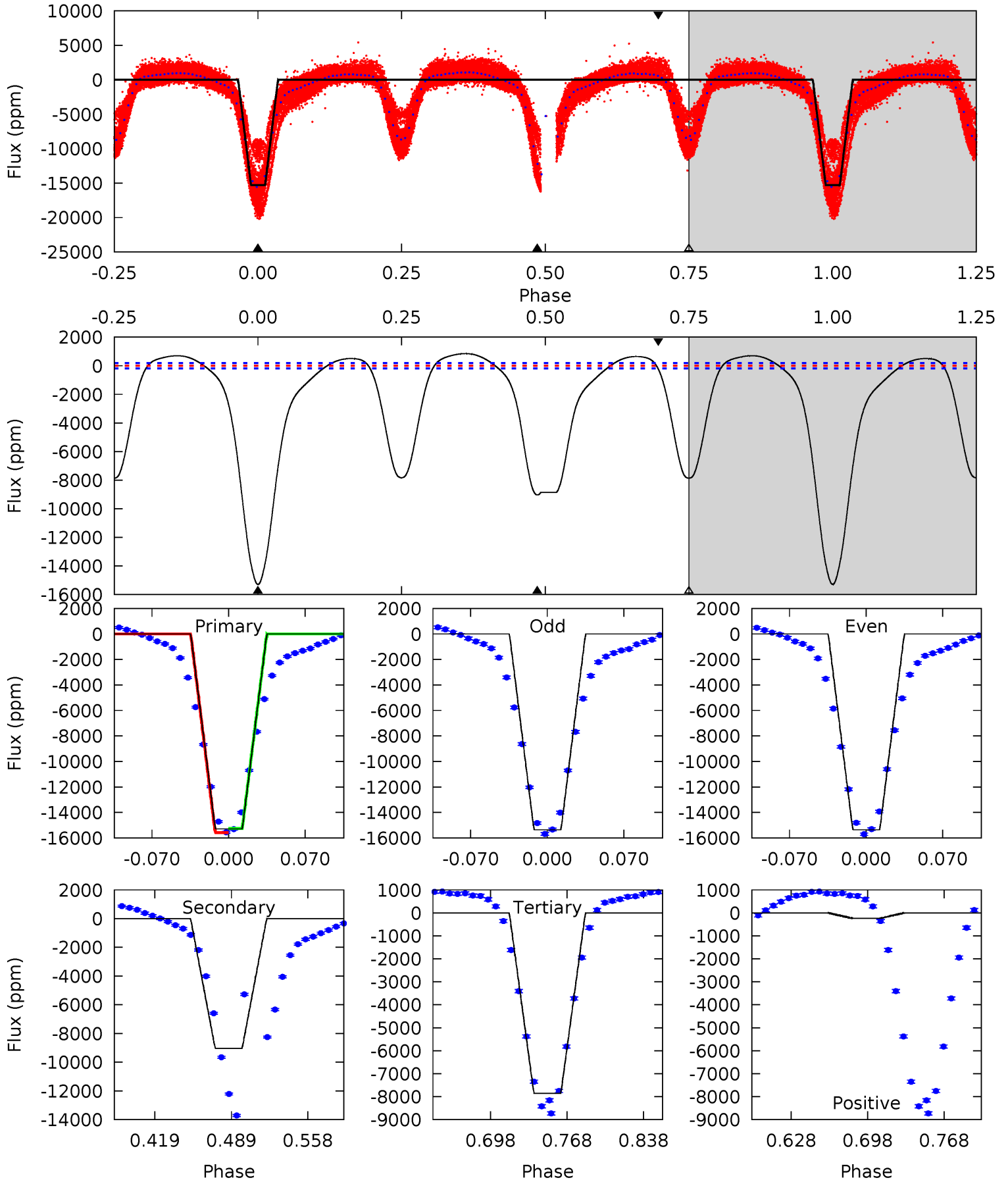
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
413.6	388.1	212.9	0	4.56	1.64	70.6	200.7	413.6	175.3	388.1	0.44	0.93	0.03	43.7



Alt Model-Shift Uniqueness Test

009658832-01, P = 0.913700 Days, E = 130.815379 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
369.0	218.1	189.6	-5.78	4.64	1.81	59.5	179.3	374.7	28.4	223.8	0.00	0.98	0.05	3.89



Stellar Parameters For KIC 009658832

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4057^{+130}_{-159}	$4.706^{+0.077}_{-0.033}$	$-0.400^{+0.300}_{-0.350}$	$0.538^{+0.053}_{-0.079}$	$0.536^{+0.062}_{-0.069}$	$4.854^{+1.917}_{-0.799}$
	+3%/-4%	+2%/-1%	+75%/-87%	+10%/-15%	+12%/-13%	+39%/-16%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009658832-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13392 ± 35	$7.15^{+0.43}_{-0.56}$	1483^{+62}_{-72}	3969^{+134}_{-146}	33^{+4}_{-3}
Alt.	-9037 ± 41	$7.46^{+0.46}_{-0.57}$	1483^{+63}_{-66}	3663^{+118}_{-139}	21^{+3}_{-2}

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

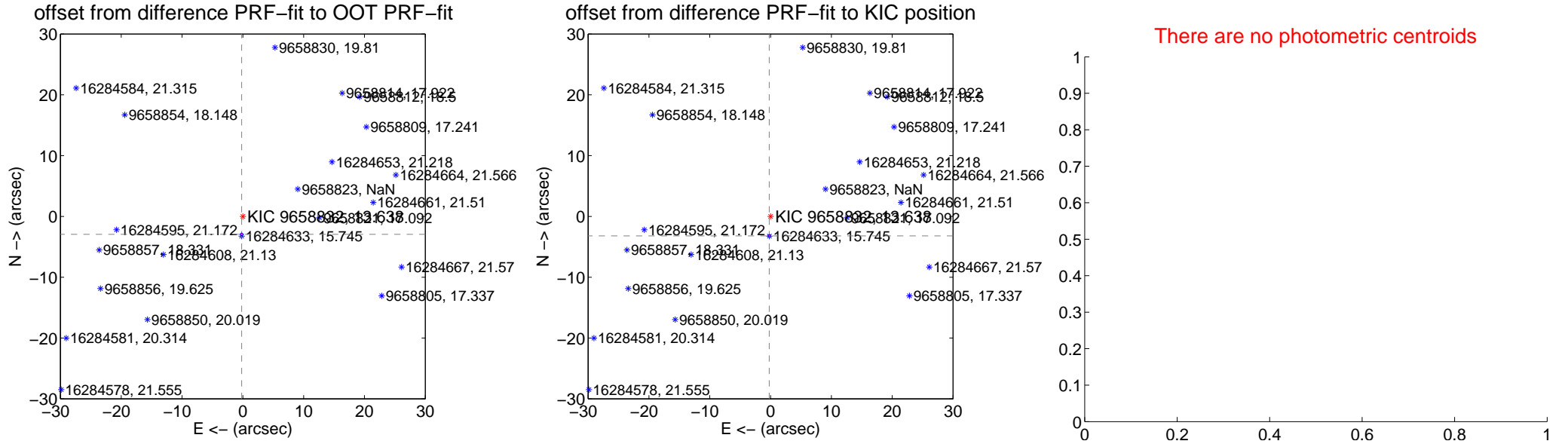
DV Centroid Data

Supplemental centroid analysis for 009658832-01. Kepler magnitude: 13.64. Transit SNR 426.91

There are 17 quarters with good PRF difference image offsets

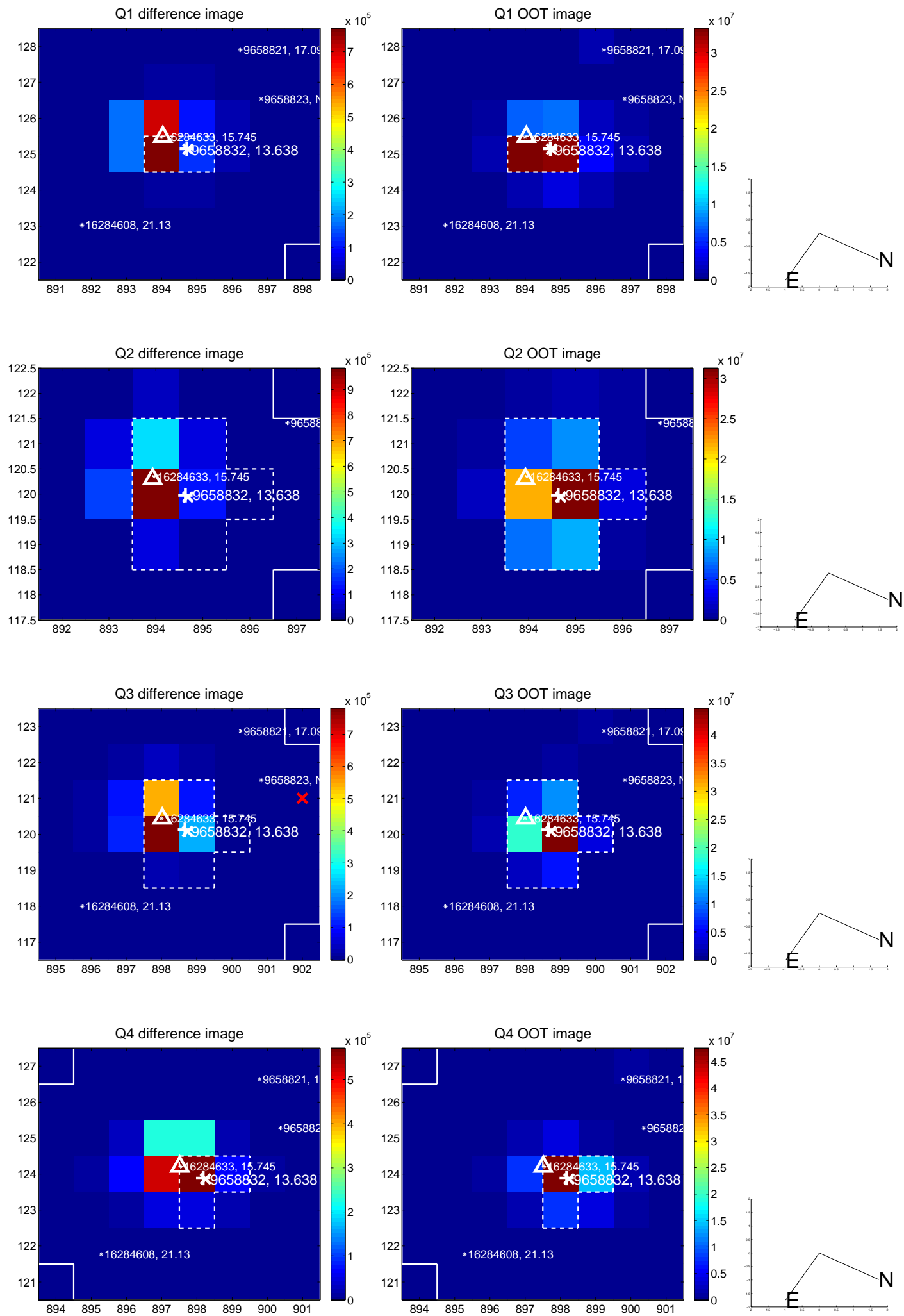
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.951 \pm 0.070	42.33	0.196 \pm 0.067	-2.944 \pm 0.070
PRF-fit source offset from KIC position	3.205 \pm 0.068	46.85	0.225 \pm 0.067	-3.198 \pm 0.068
photometric centroid source offset	—	—	—	—

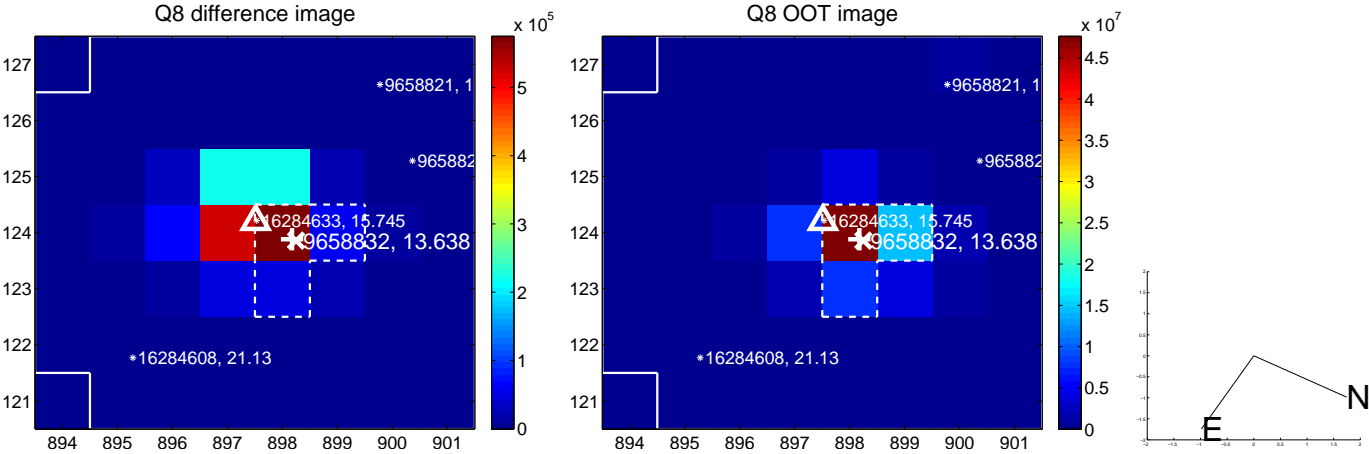
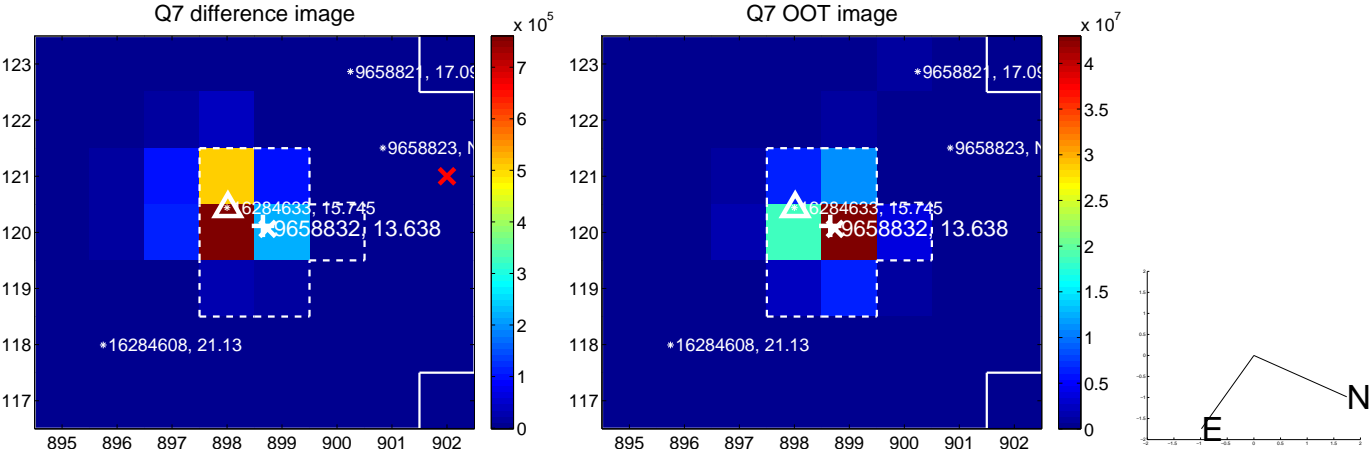
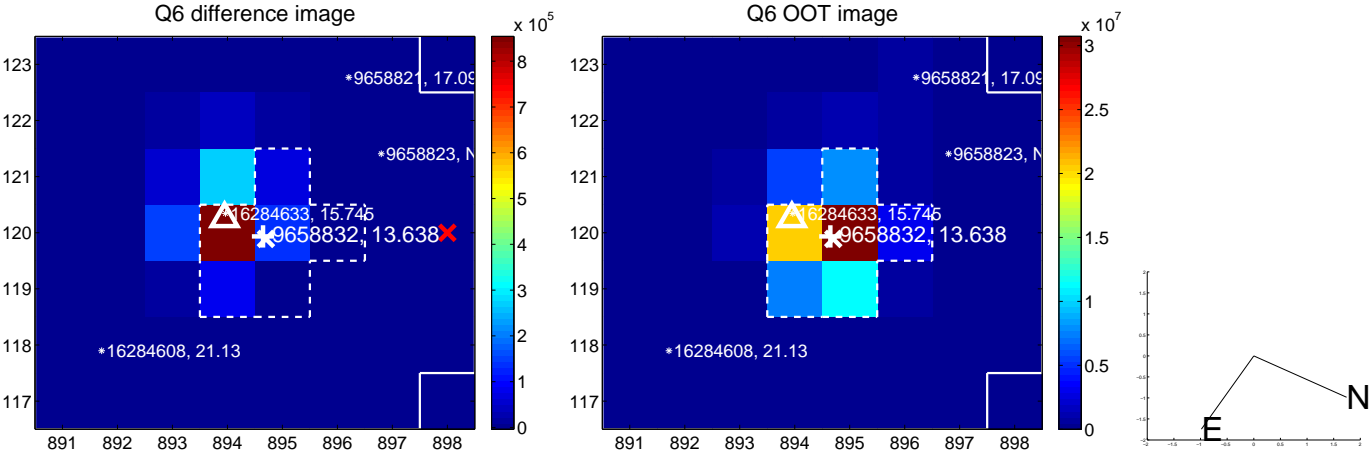
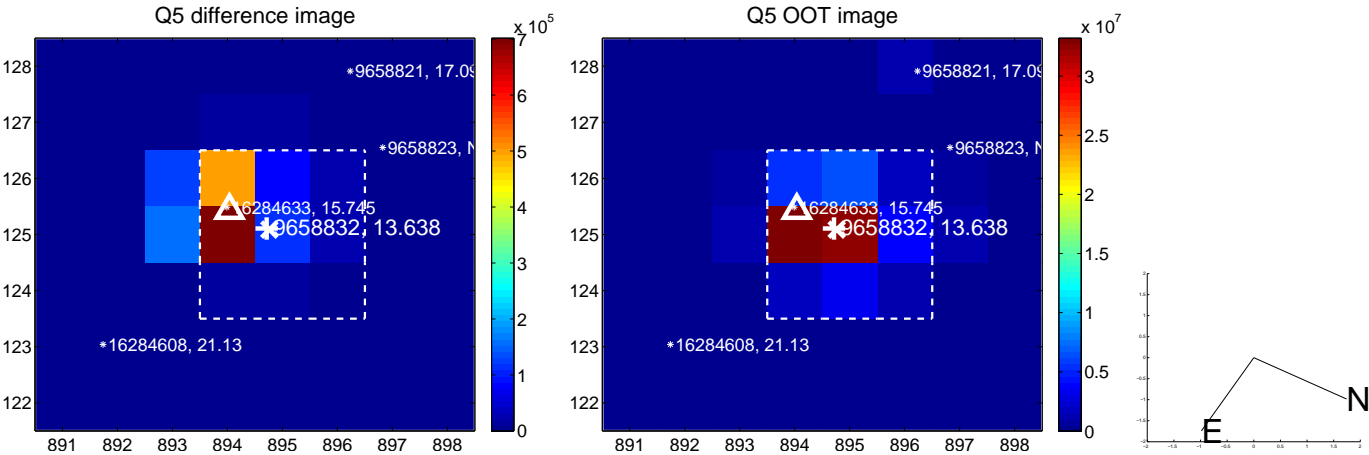


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

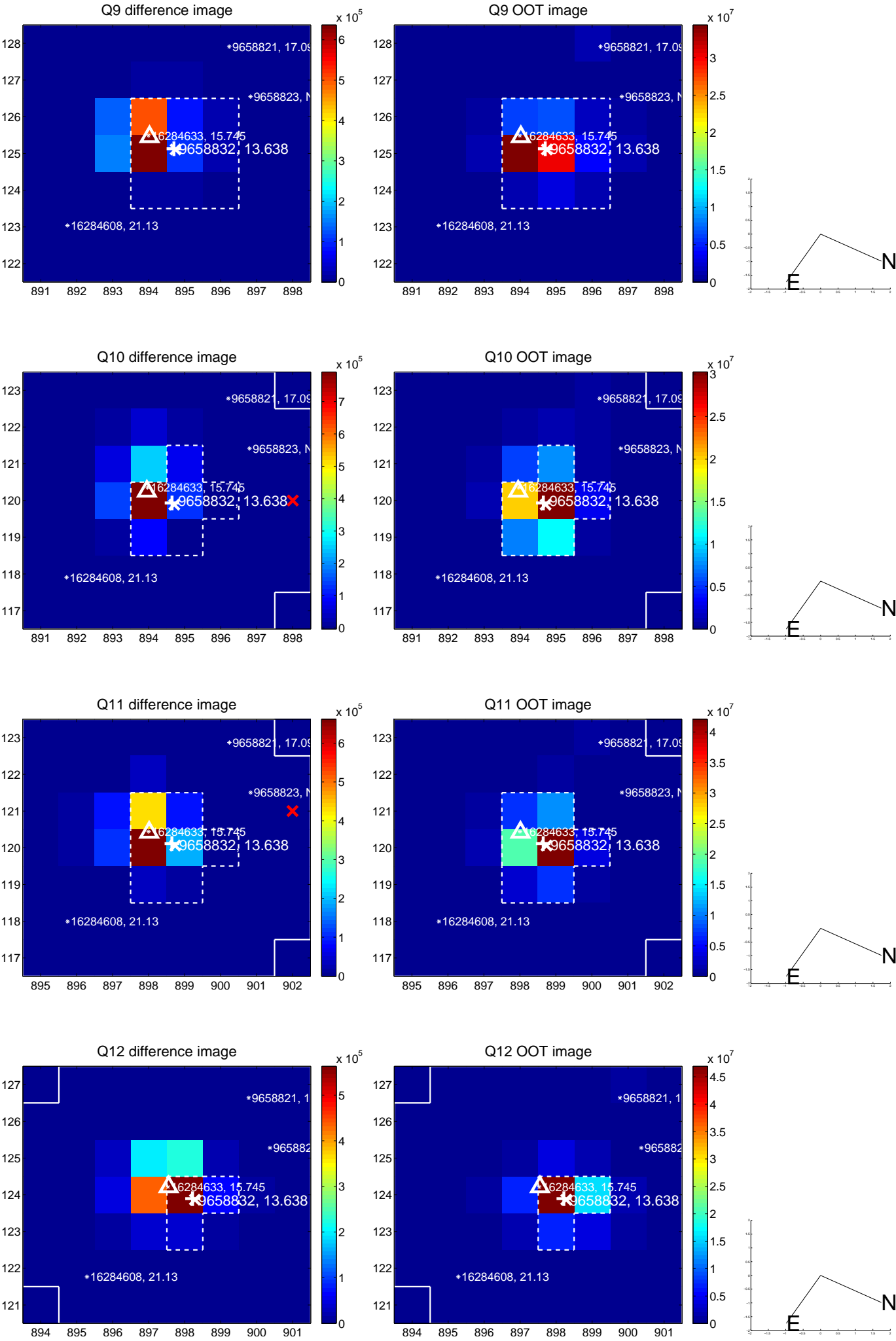
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



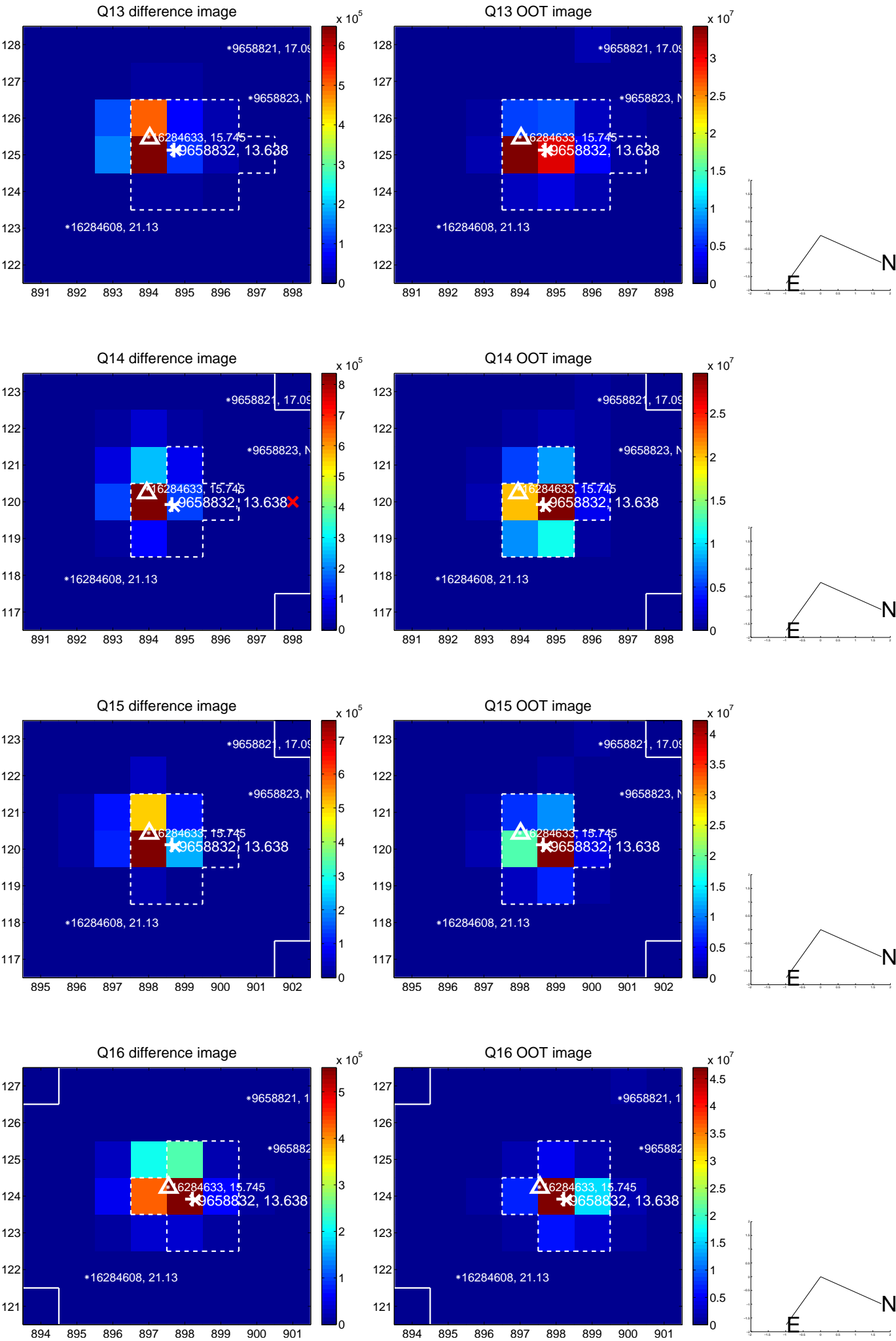
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



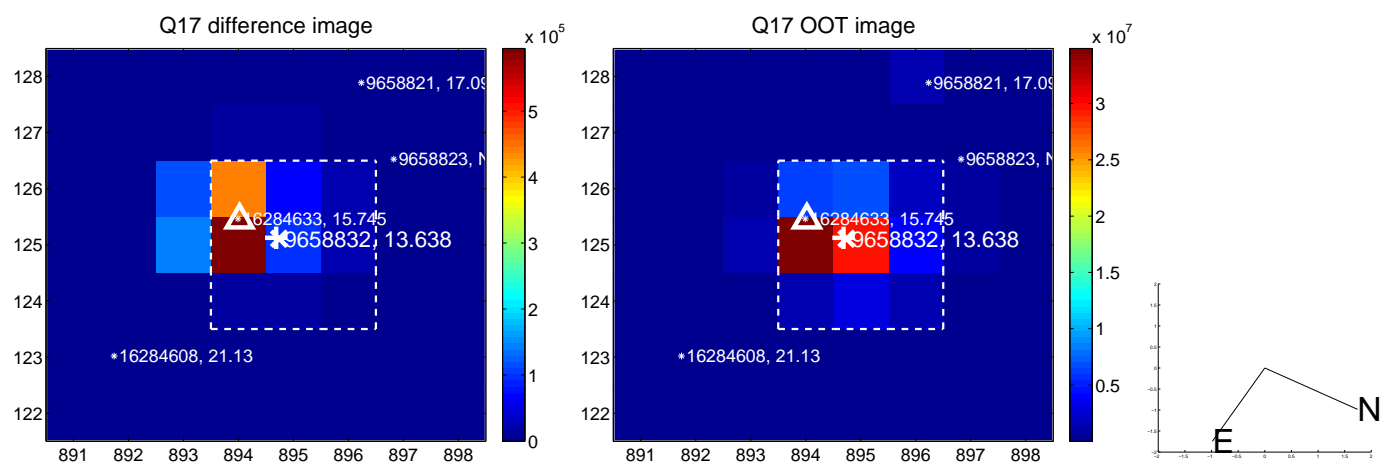
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



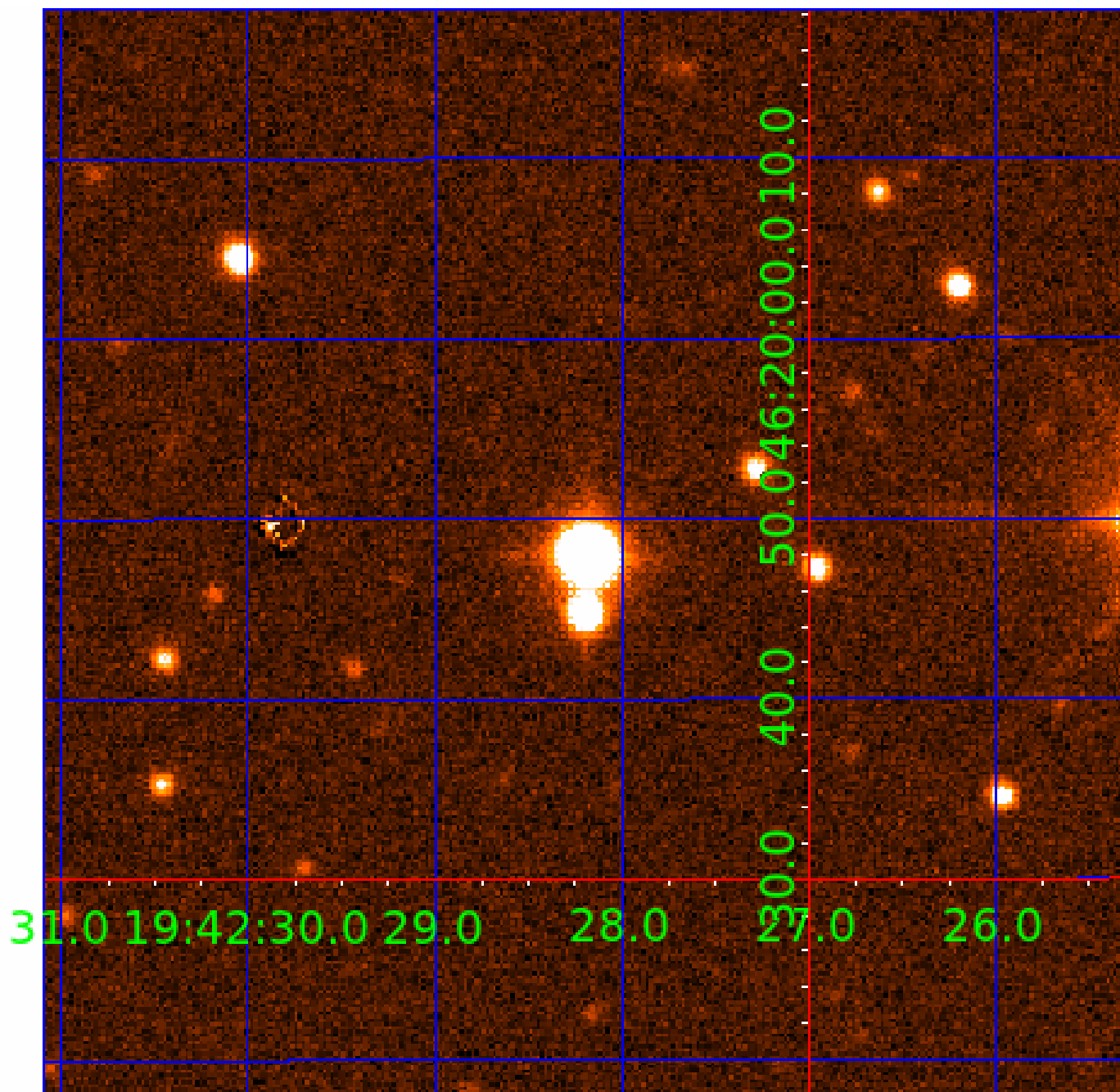
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 009658832

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})
009658832-01	OBS	No	0.913696	131.729234	11420.9	1.781	496.8	426.9	0.54	4057	7.21	313.21
009658832-02	OBS	No	0.913691	132.190658	12946.1	1.757	1169.9	637.7	0.54	4057	8.43	313.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009658832-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
009658832-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET

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

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

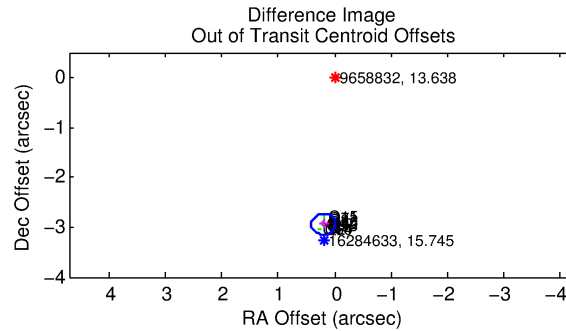
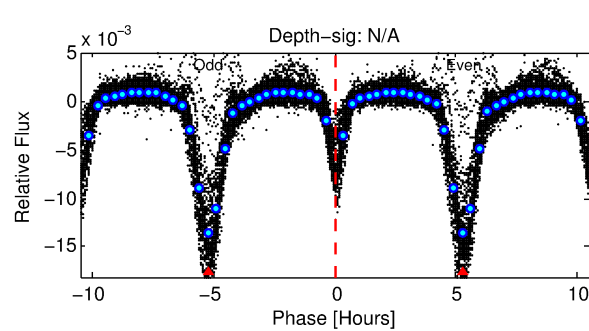
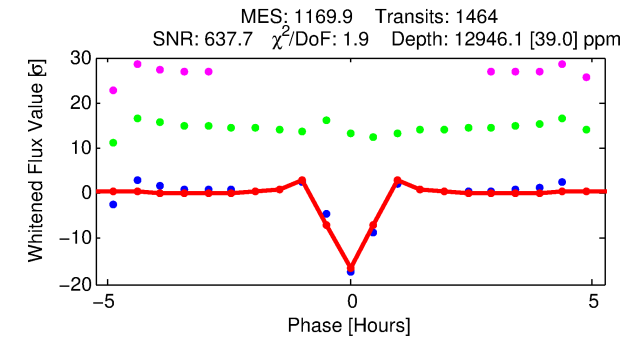
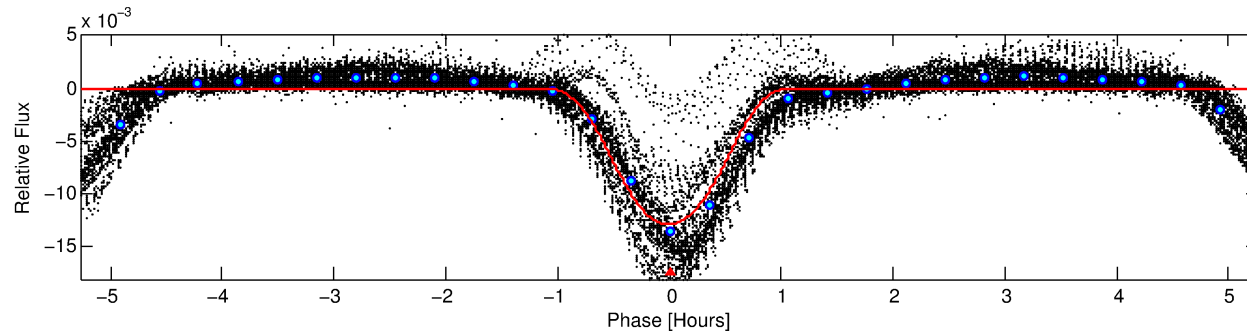
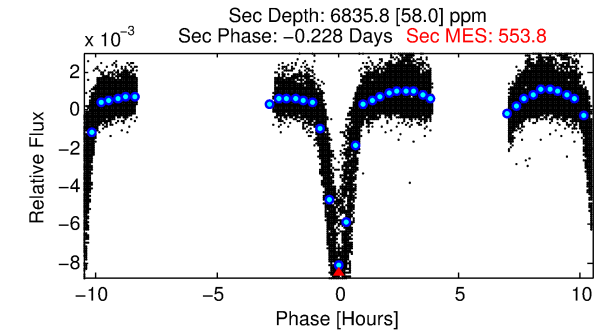
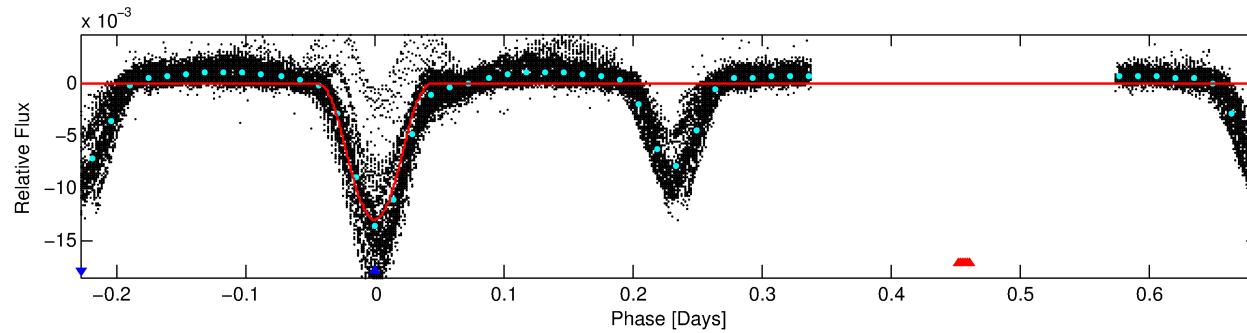
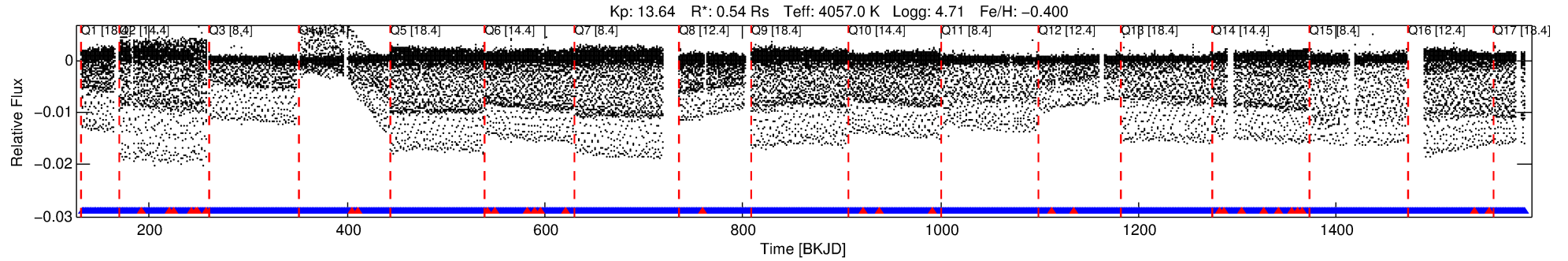
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009658832-02

No Significant Match Found

DV One-Page Summary

KIC: 9658832 Candidate: 2 of 2 Period: 0.914 d



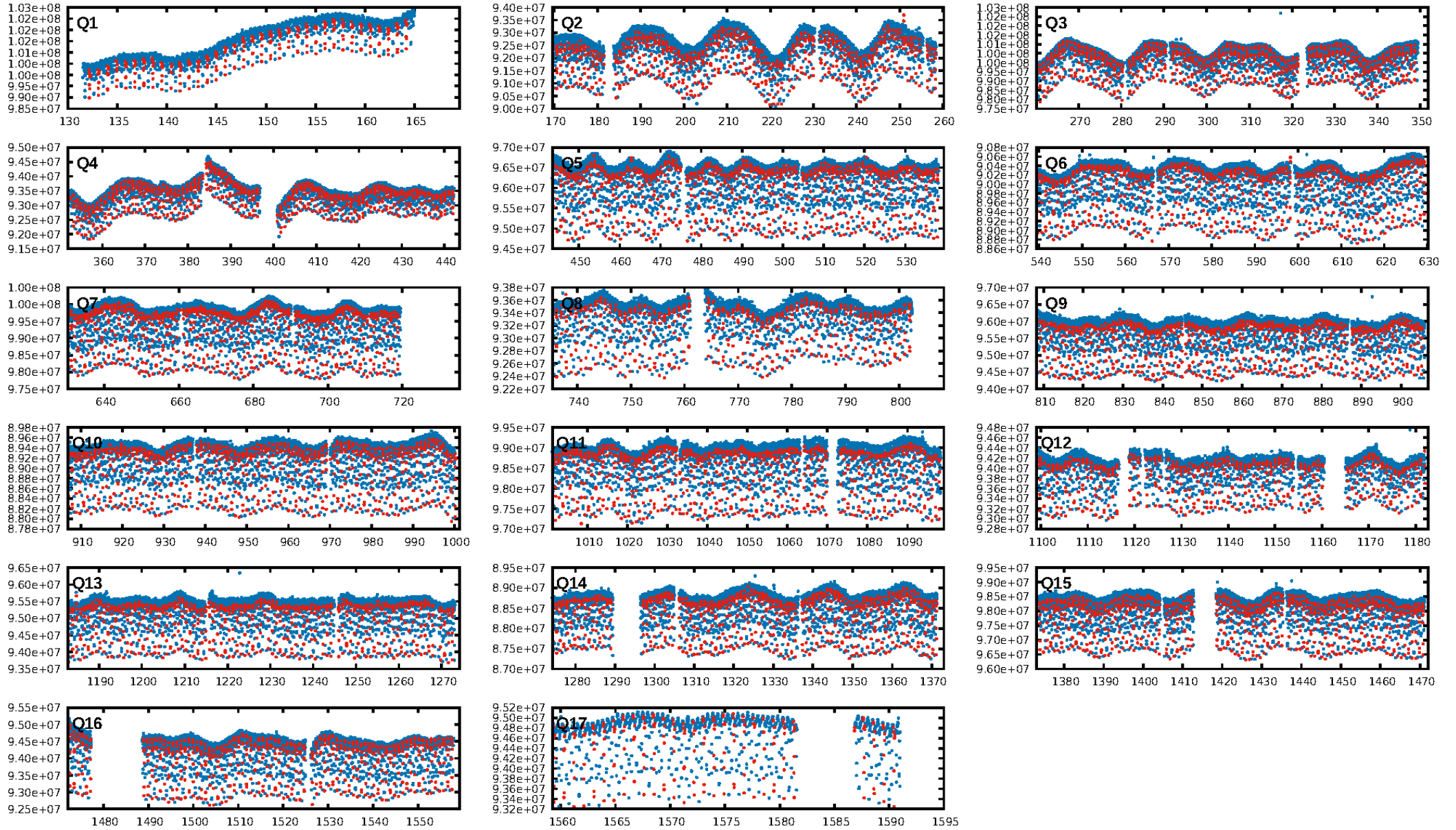
DV Fit Results:

Period = 0.91369 [0.00000] d
Epoch = 132.1907 [0.0000] BKJD
Rp/R* = 0.1436 [0.0046]
a/R* = 2.86 [0.02]
b = 0.92 [0.01]
Seff = 313.21 [68.71]
Teff = 1073 [59] K
Rp = 8.43 [1.27] Re
a = 0.0150 [0.0017] AU
Ag = 11.87 [1.97] [5.51σ]
Teffp = 3078 [130] K [14.02σ]

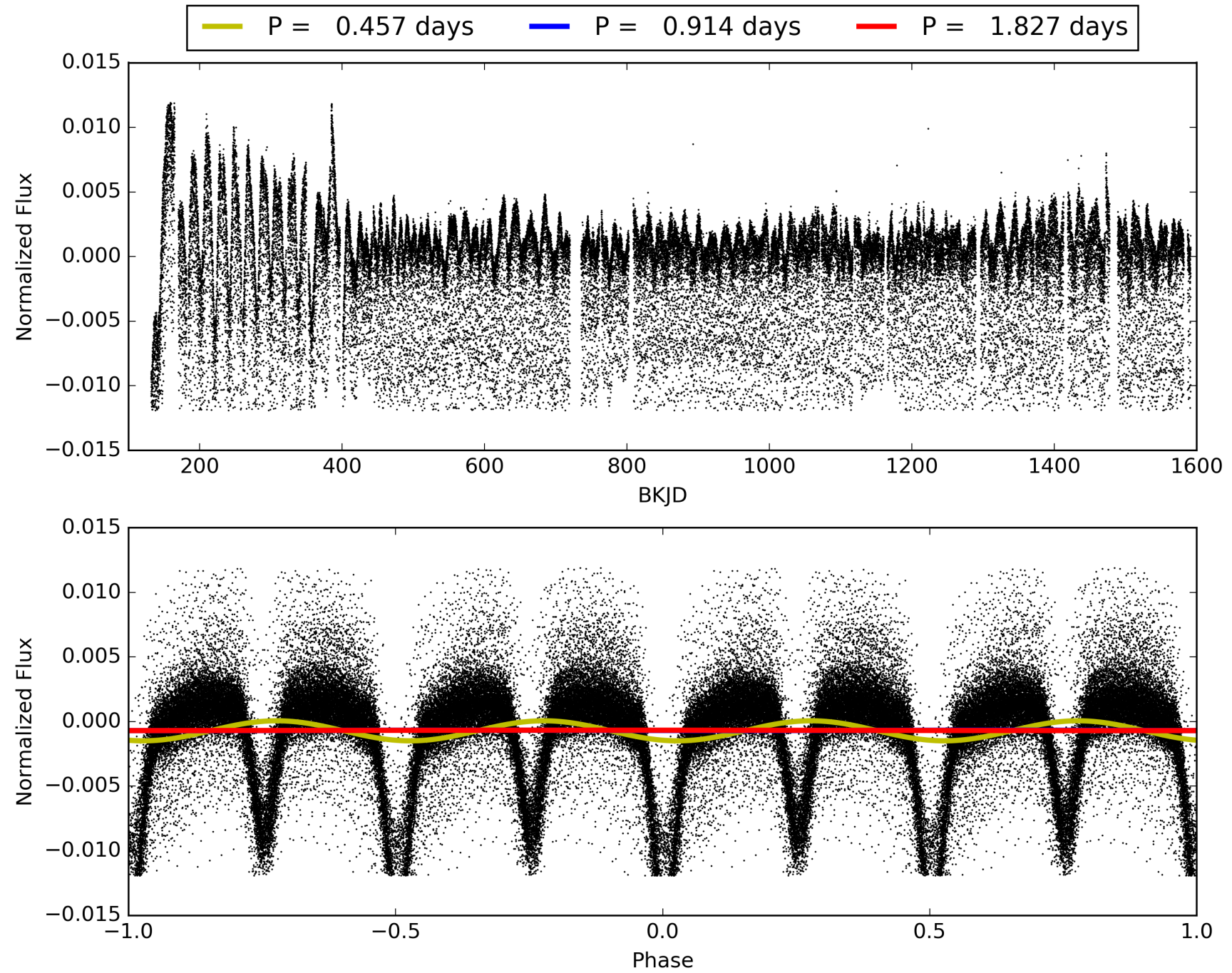
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [1367/1398]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.951 arcsec [42.22σ]
KicOffset-rm: 3.209 arcsec [46.76σ]
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]

TCE 009658832-02, PDC Light Curves

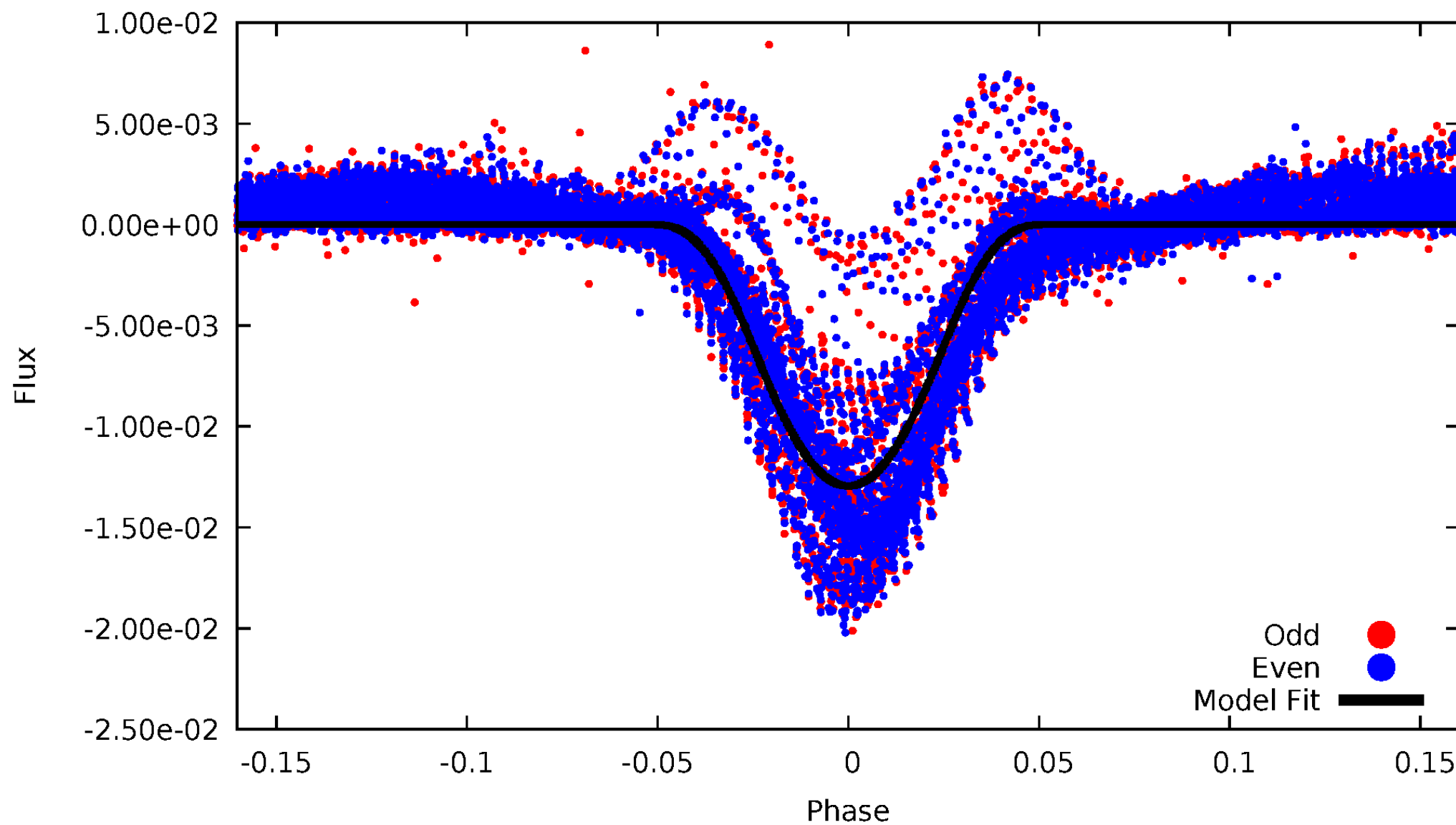


TCE 009658832-02



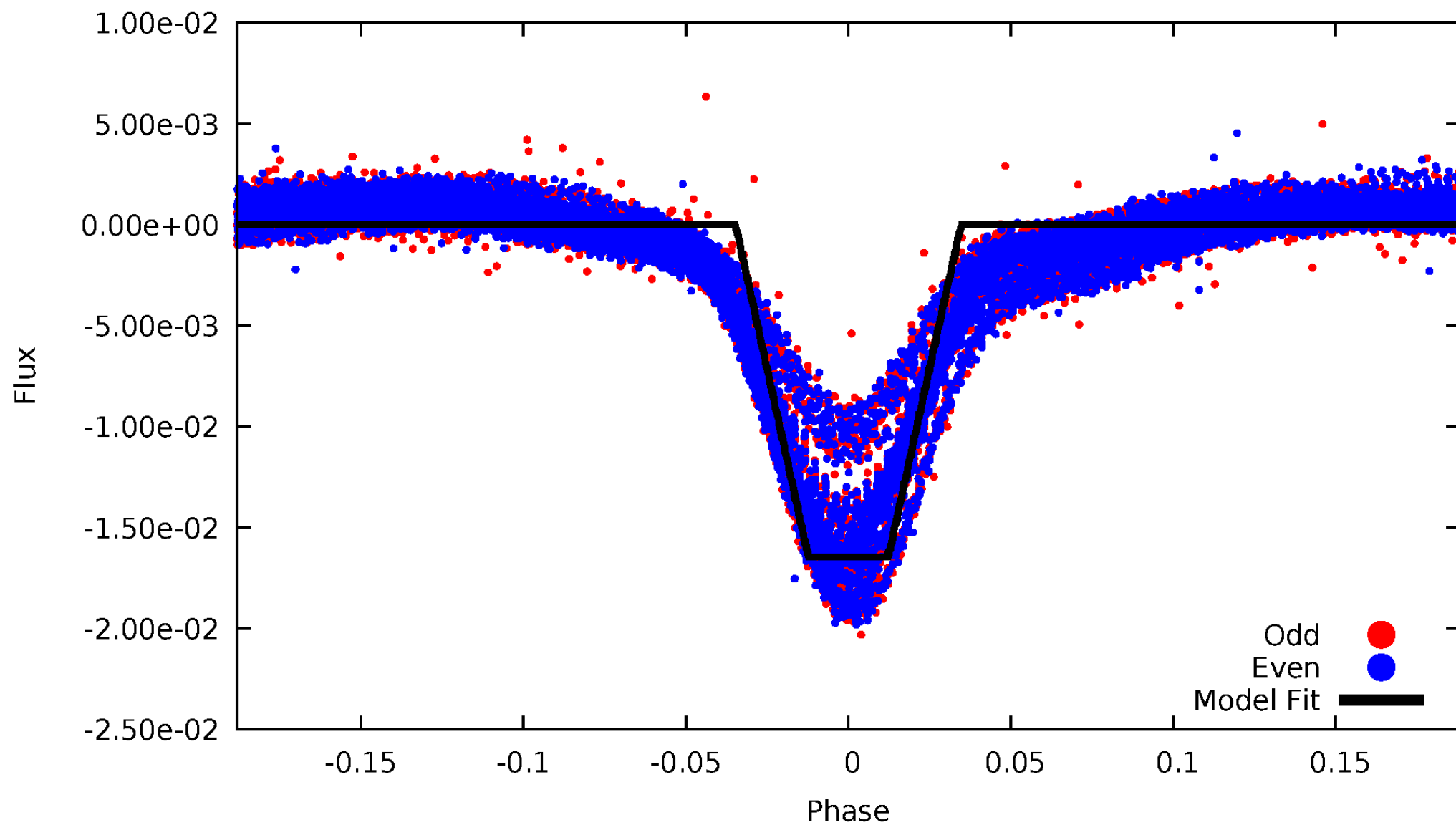
DV Odd/Even

TCE 009658832-02



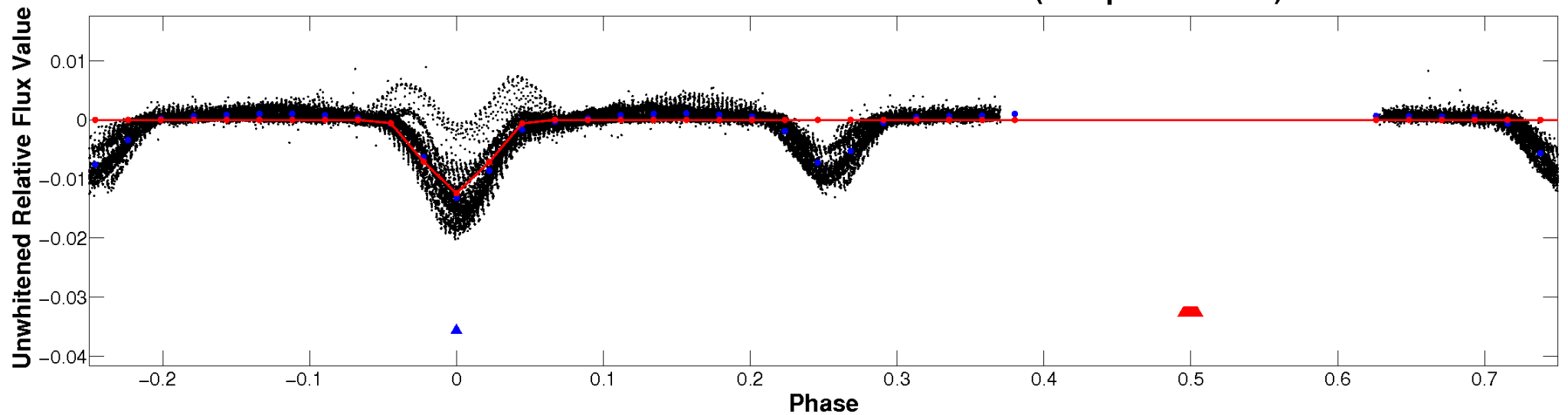
ALT Odd/Even

TCE 009658832-02

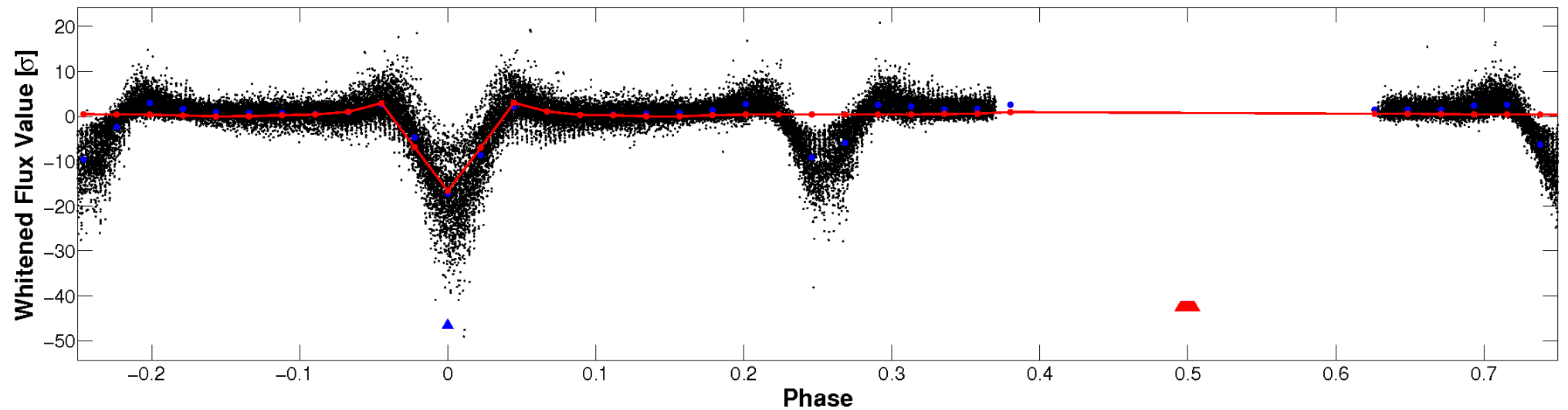


Non-Whitened Vs. Whitened Light Curve

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

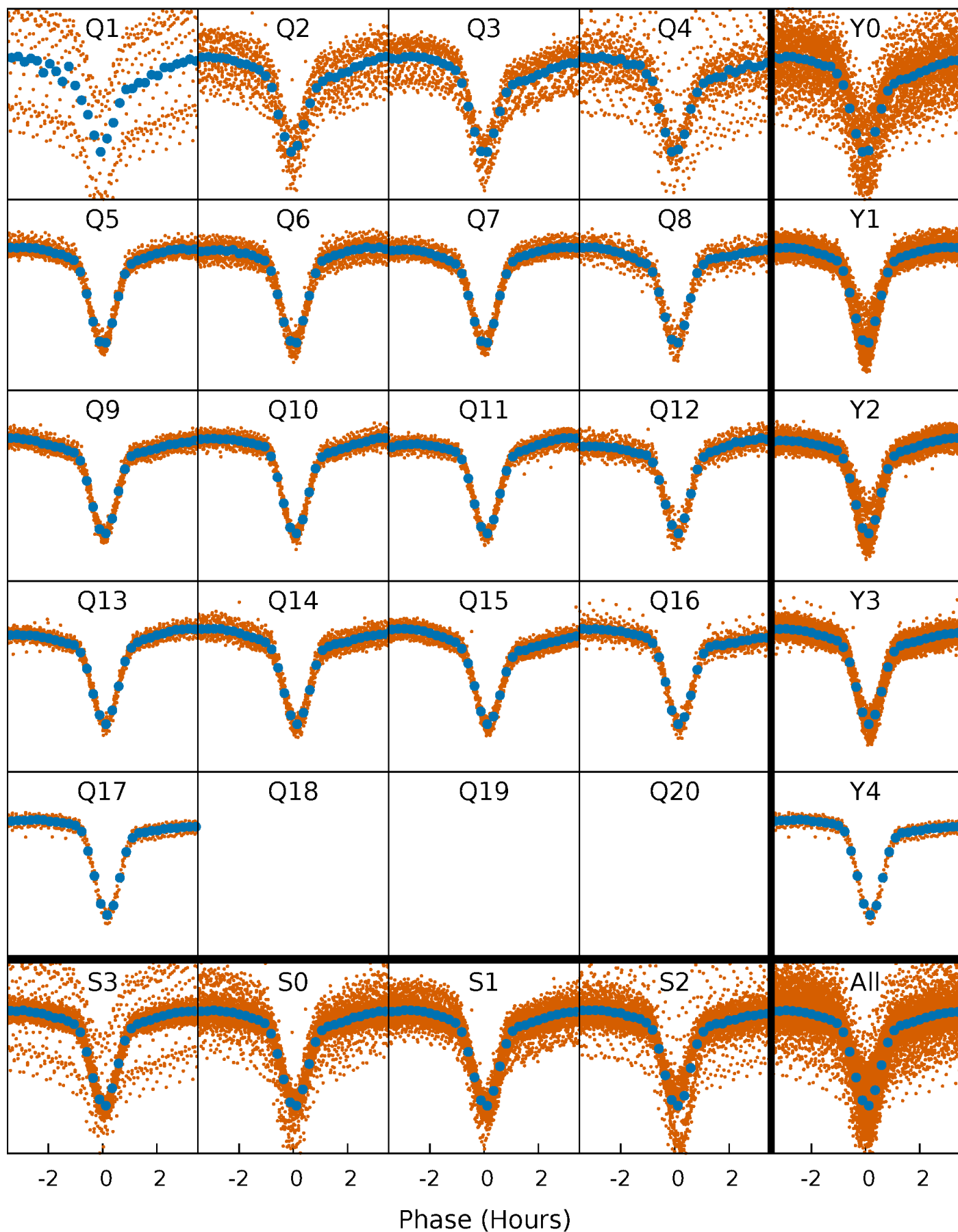


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



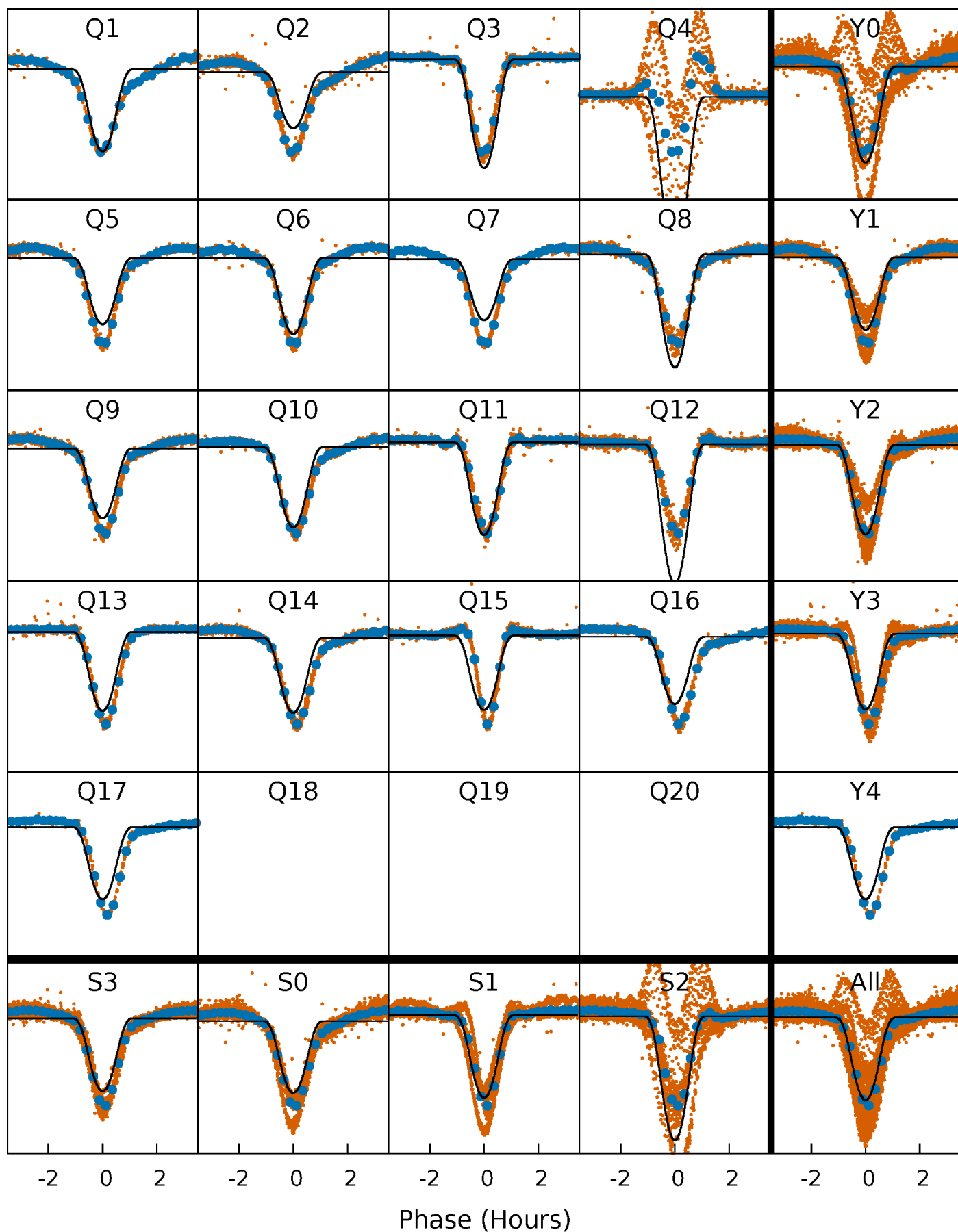
PDC Quarter-Phased Transit Curves

TCE 009658832-02 P= 0.913691 Days $T_0=132.190658$ (BKJD)



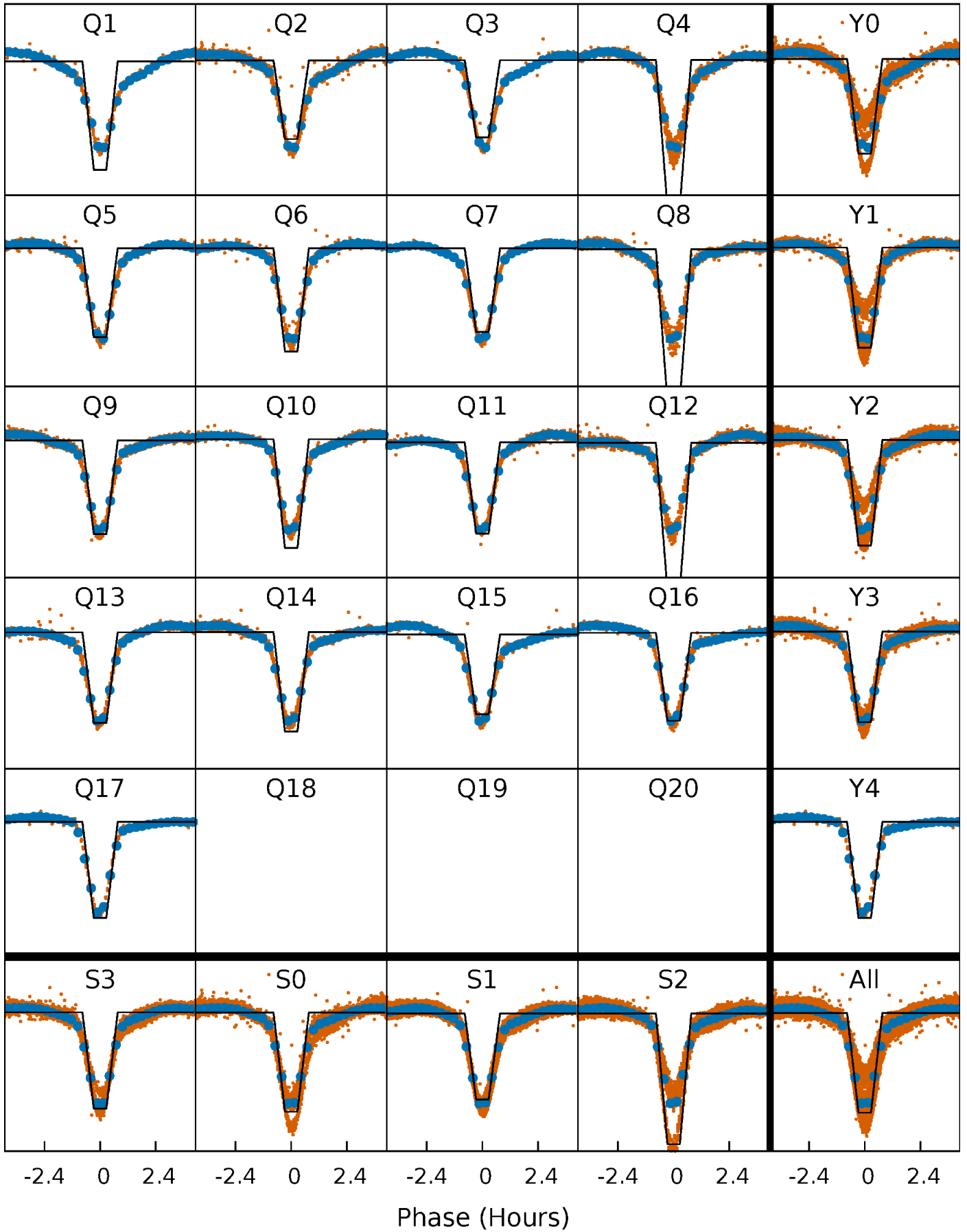
DV Quarter-Phased Transit Curves

TCE 009658832-02 P= 0.913691 Days $T_0=132.190658$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

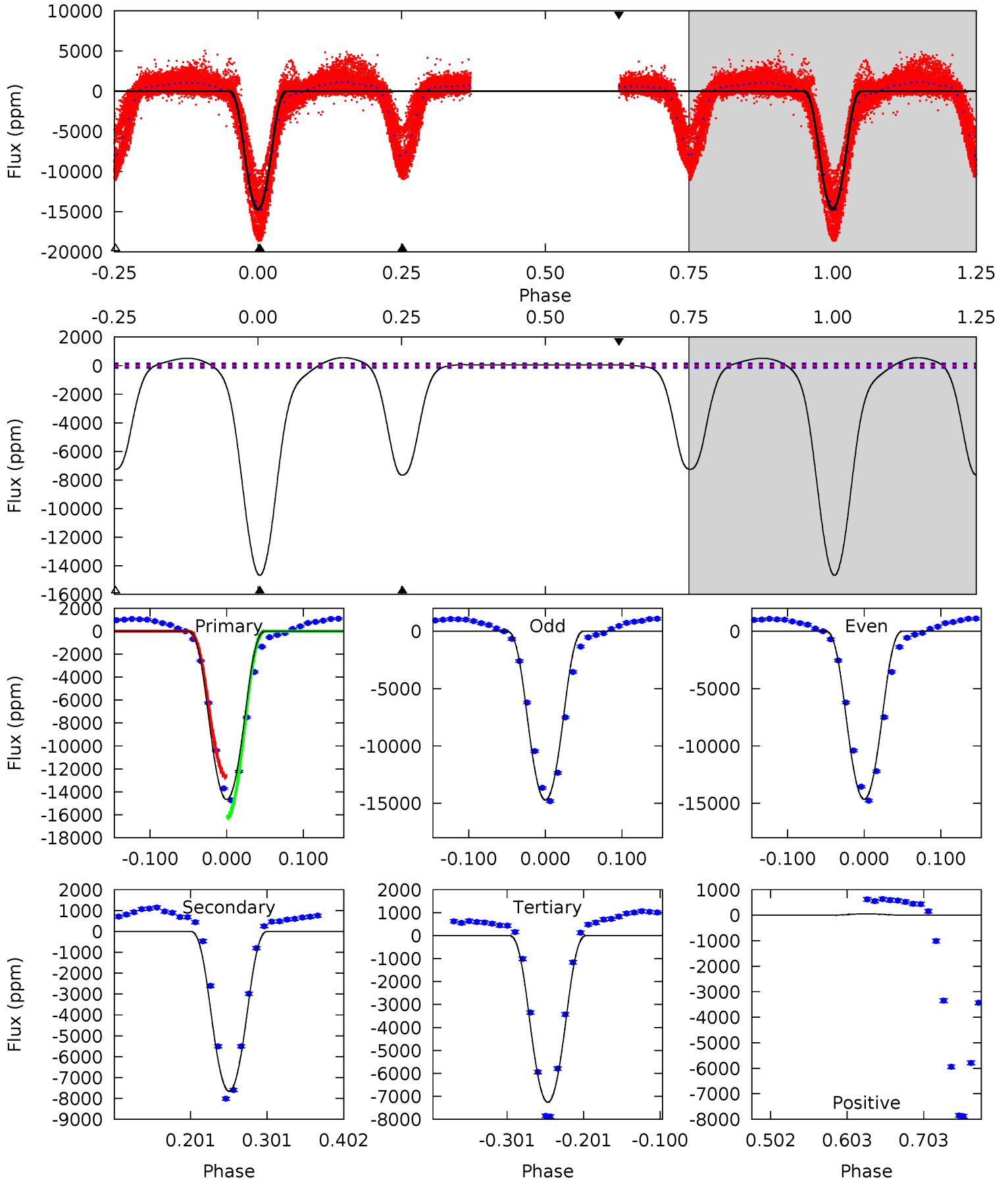
TCE 009658832-02 $P = 0.913699$ Days $T_0 = 132.187019$ (BKJD)



DV Model-Shift Uniqueness Test

009658832-02, P = 0.913691 Days, E = 131.276967 Days

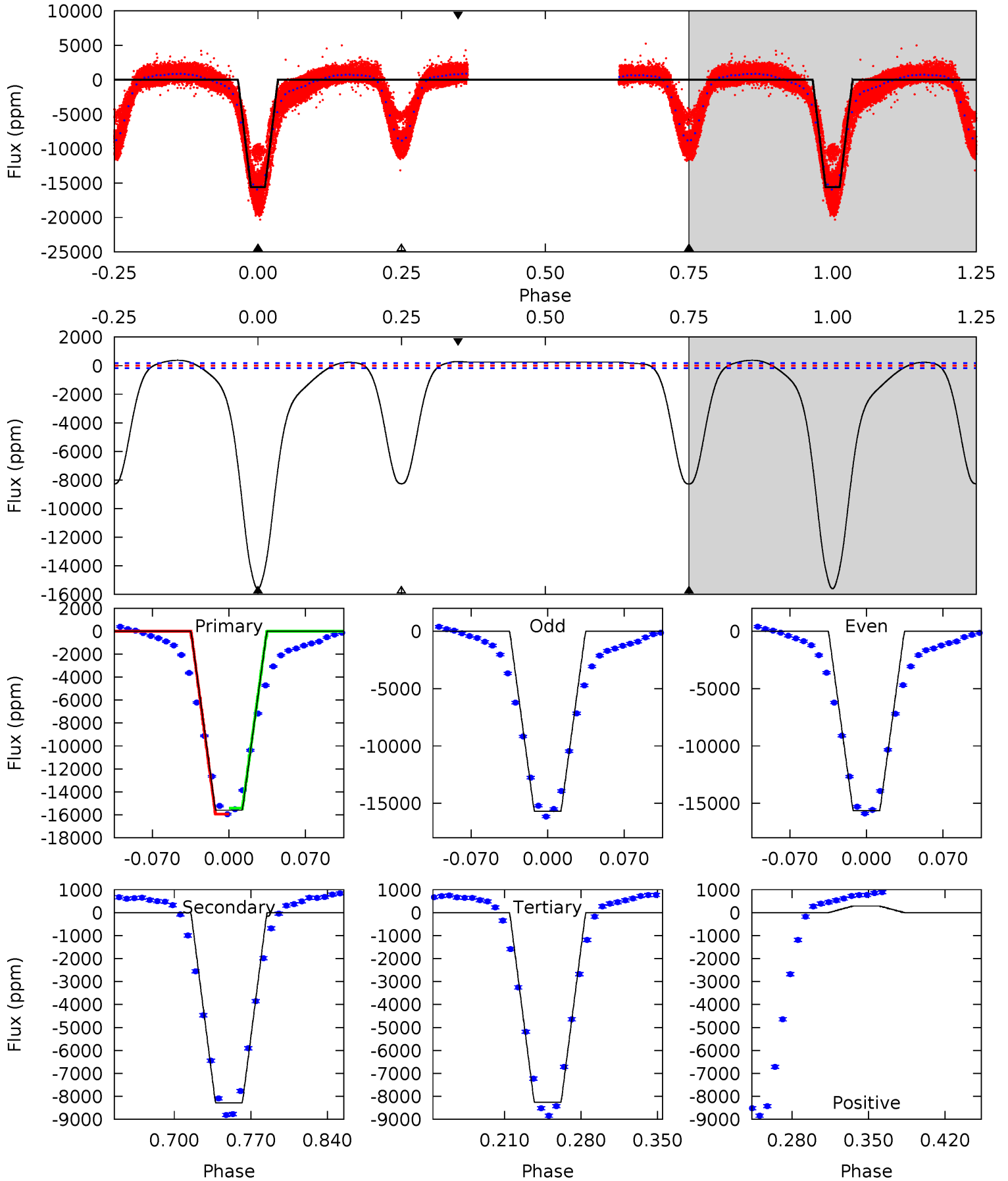
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
460.7	240.4	228.0	1.69	4.56	1.64	72.3	232.8	459.0	12.4	238.7	1.07	0.94	0.04	0



Alt Model-Shift Uniqueness Test

009658832-02, P = 0.913699 Days, E = 131.273320 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
412.2	218.8	218.3	7.56	4.64	1.81	60.6	193.9	404.6	0.46	211.2	0.64	0.98	0.02	5.00



Stellar Parameters For KIC 009658832

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4057^{+130}_{-159}	$4.706^{+0.077}_{-0.033}$	$-0.400^{+0.300}_{-0.350}$	$0.538^{+0.053}_{-0.079}$	$0.536^{+0.062}_{-0.069}$	$4.854^{+1.917}_{-0.799}$
	+3%/-4%	+2%/-1%	+75%/-87%	+10%/-15%	+12%/-13%	+39%/-16%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009658832-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7654 ± 32	$8.36^{+0.56}_{-0.62}$	1487^{+57}_{-66}	3431^{+113}_{-124}	14^{+2}_{-1}
Alt.	-8281 ± 38	$7.46^{+0.53}_{-0.61}$	1482^{+63}_{-69}	3602^{+115}_{-129}	19^{+3}_{-2}

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

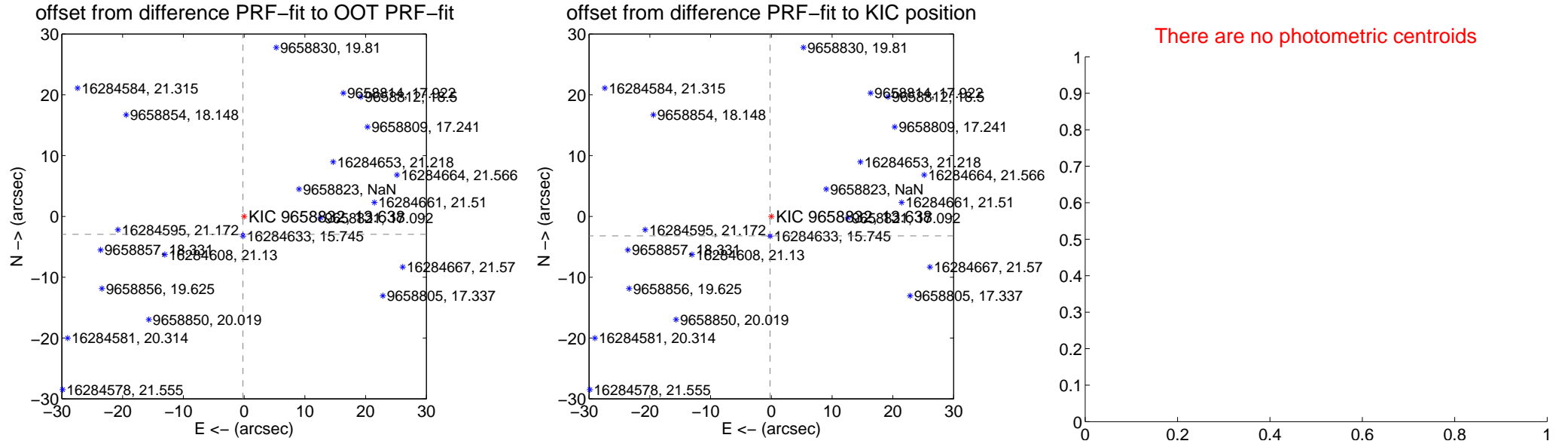
DV Centroid Data

Supplemental centroid analysis for 009658832-02. Kepler magnitude: 13.64. Transit SNR 637.73

There are 17 quarters with good PRF difference image offsets

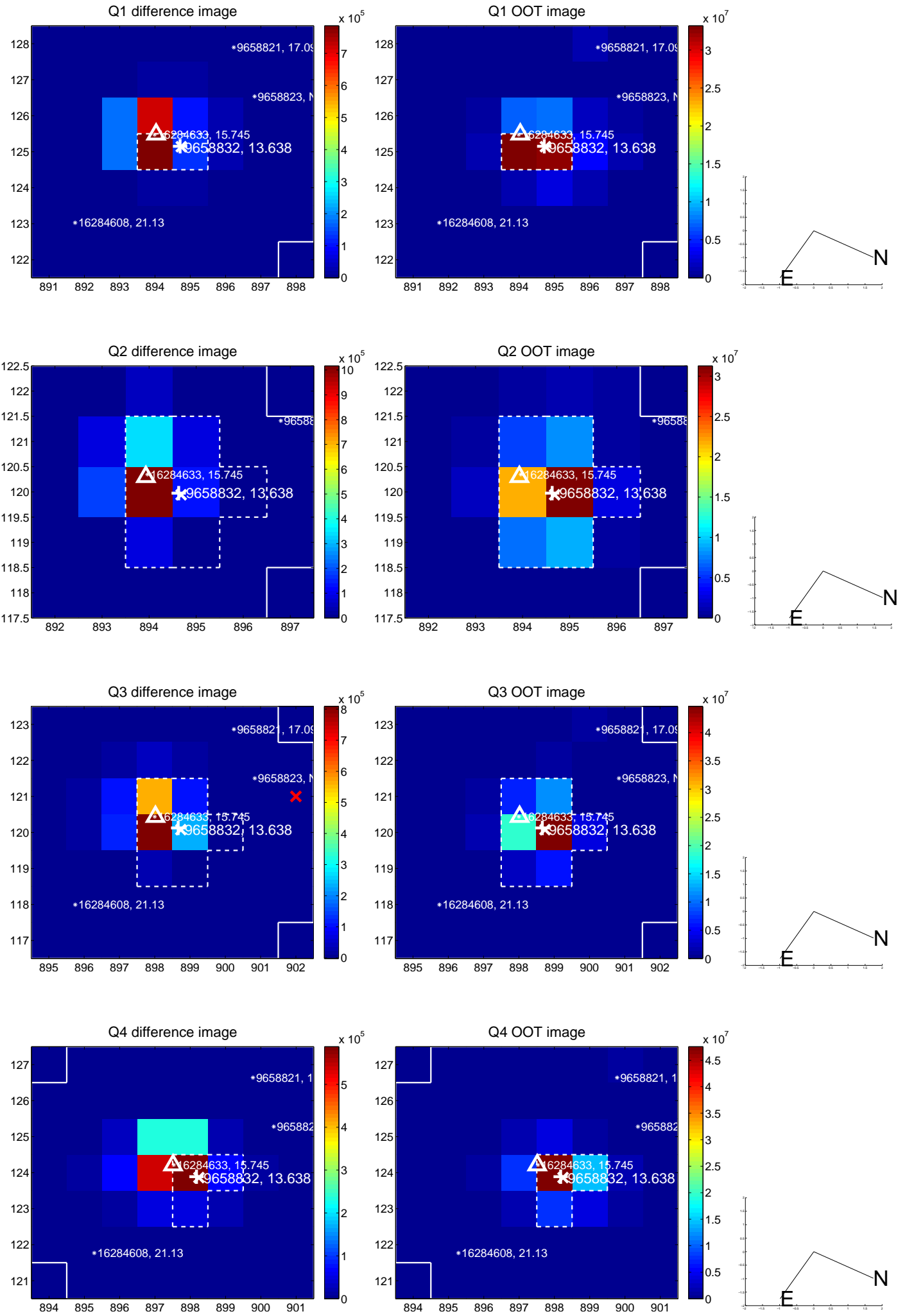
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.951 \pm 0.070	42.22	0.196 \pm 0.067	-2.944 \pm 0.070
PRF-fit source offset from KIC position	3.209 \pm 0.069	46.76	0.224 \pm 0.067	-3.201 \pm 0.069
photometric centroid source offset	—	—	—	—

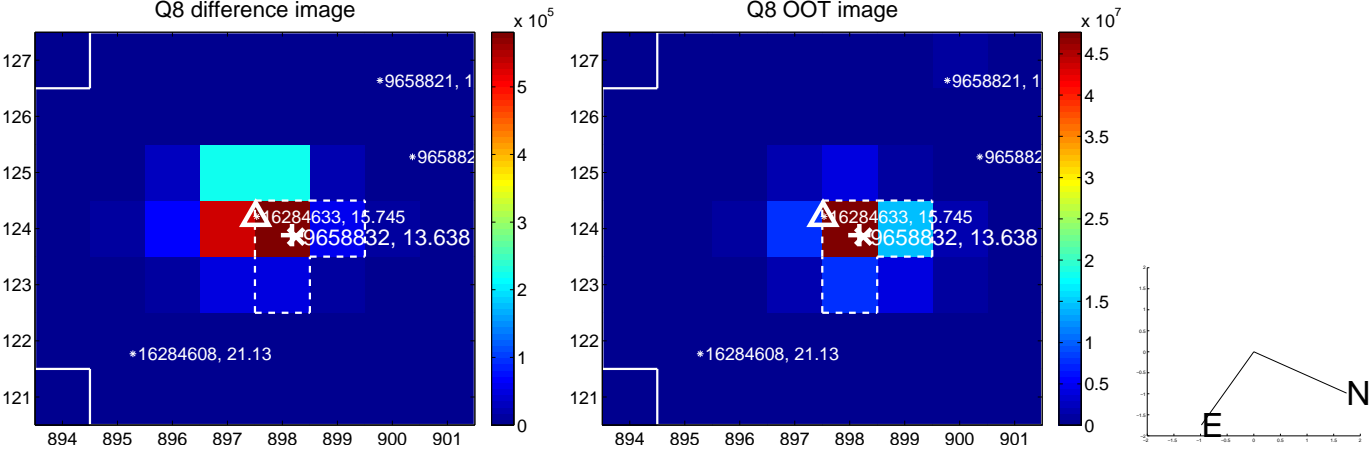
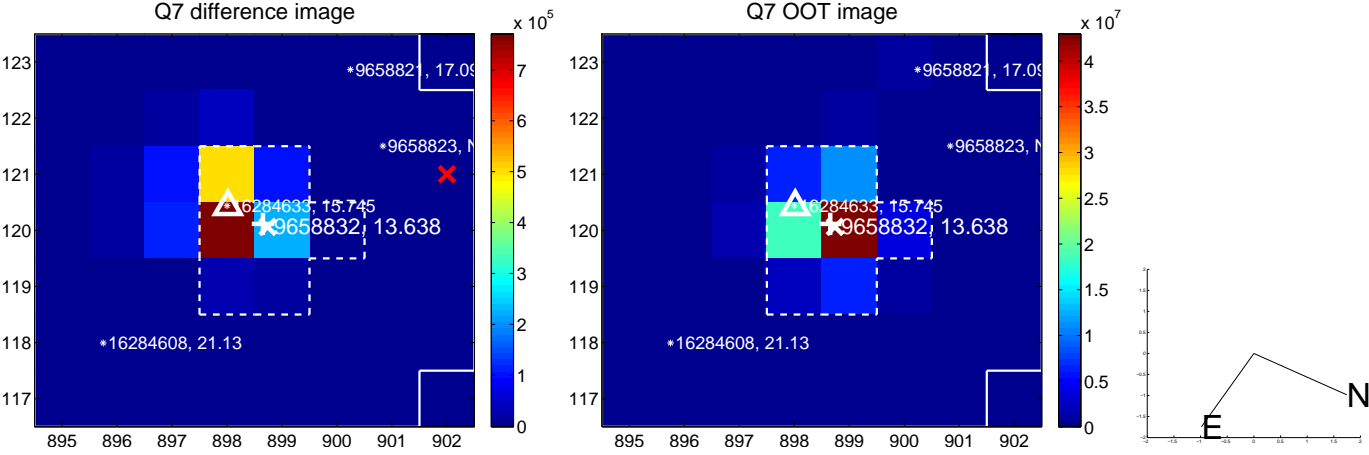
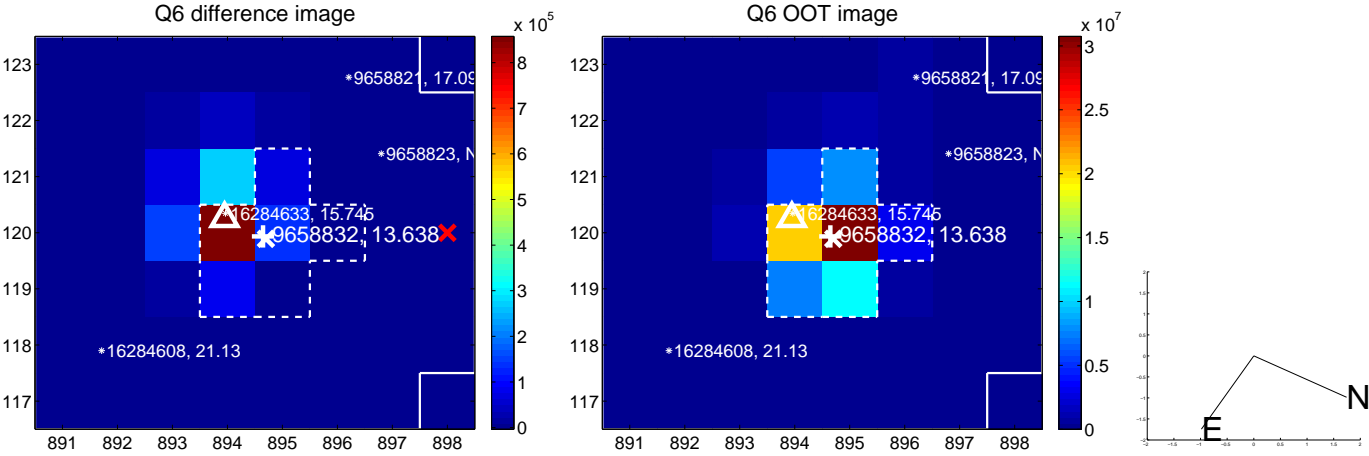
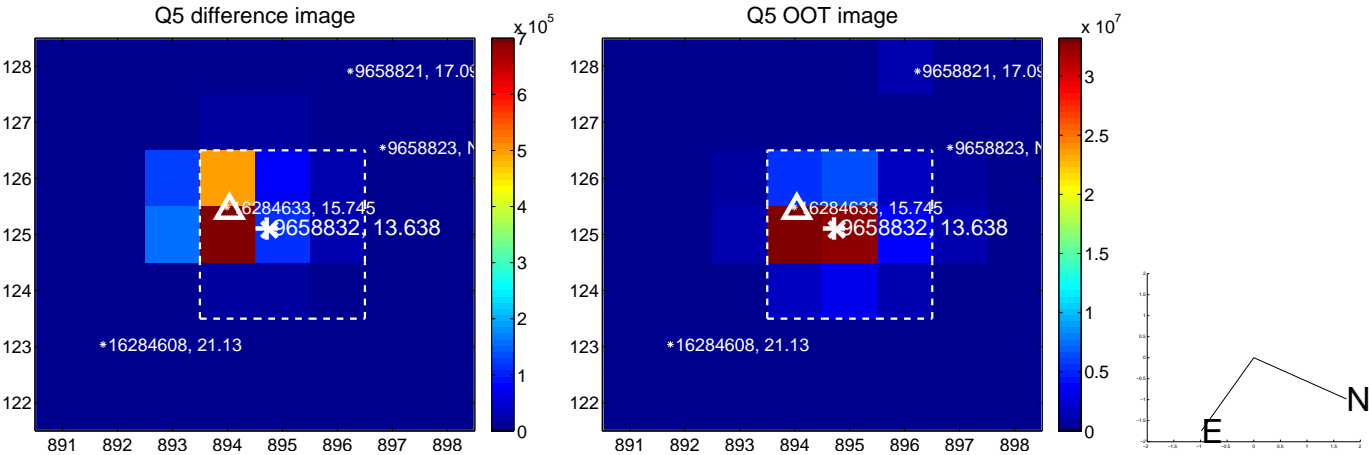


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

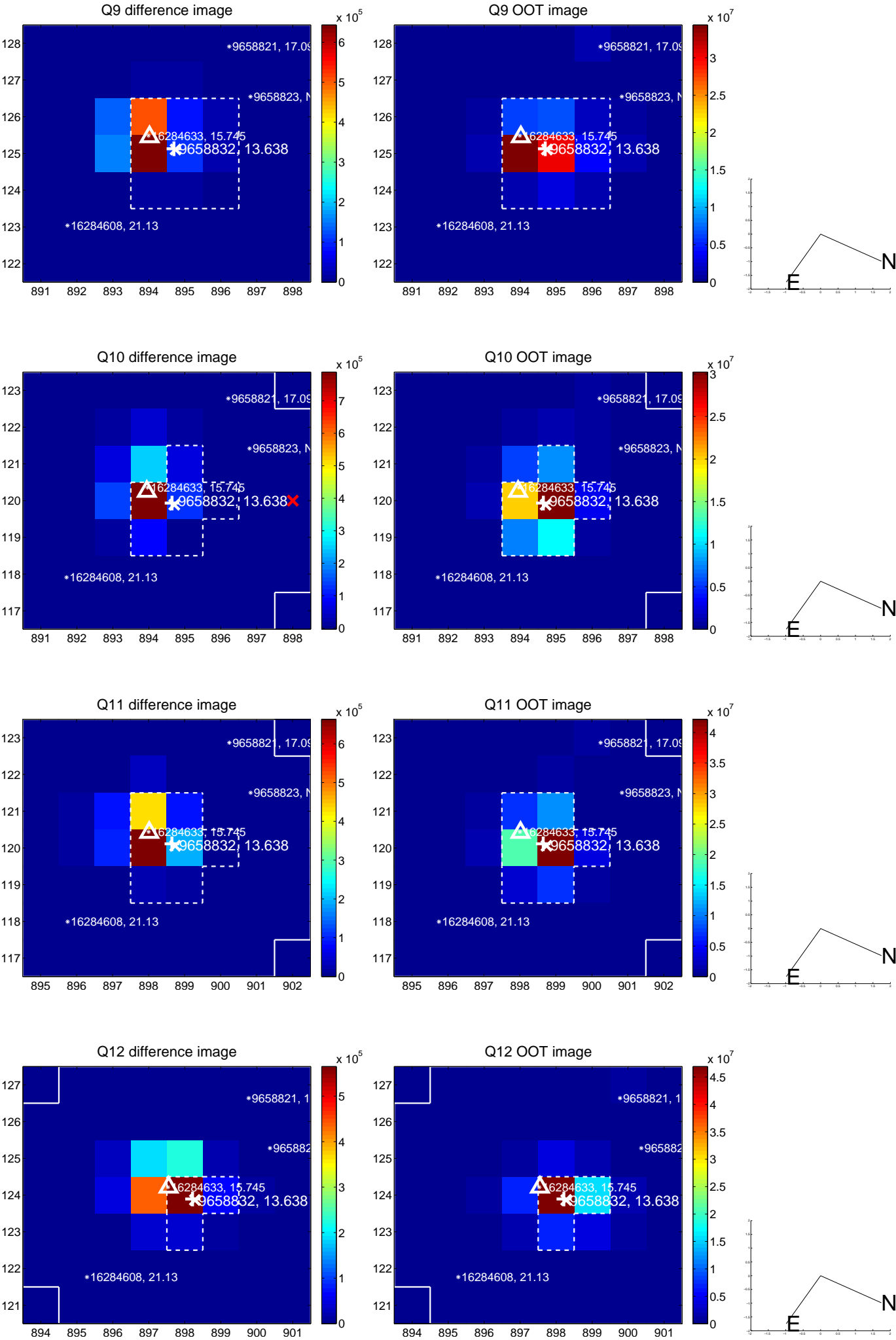
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



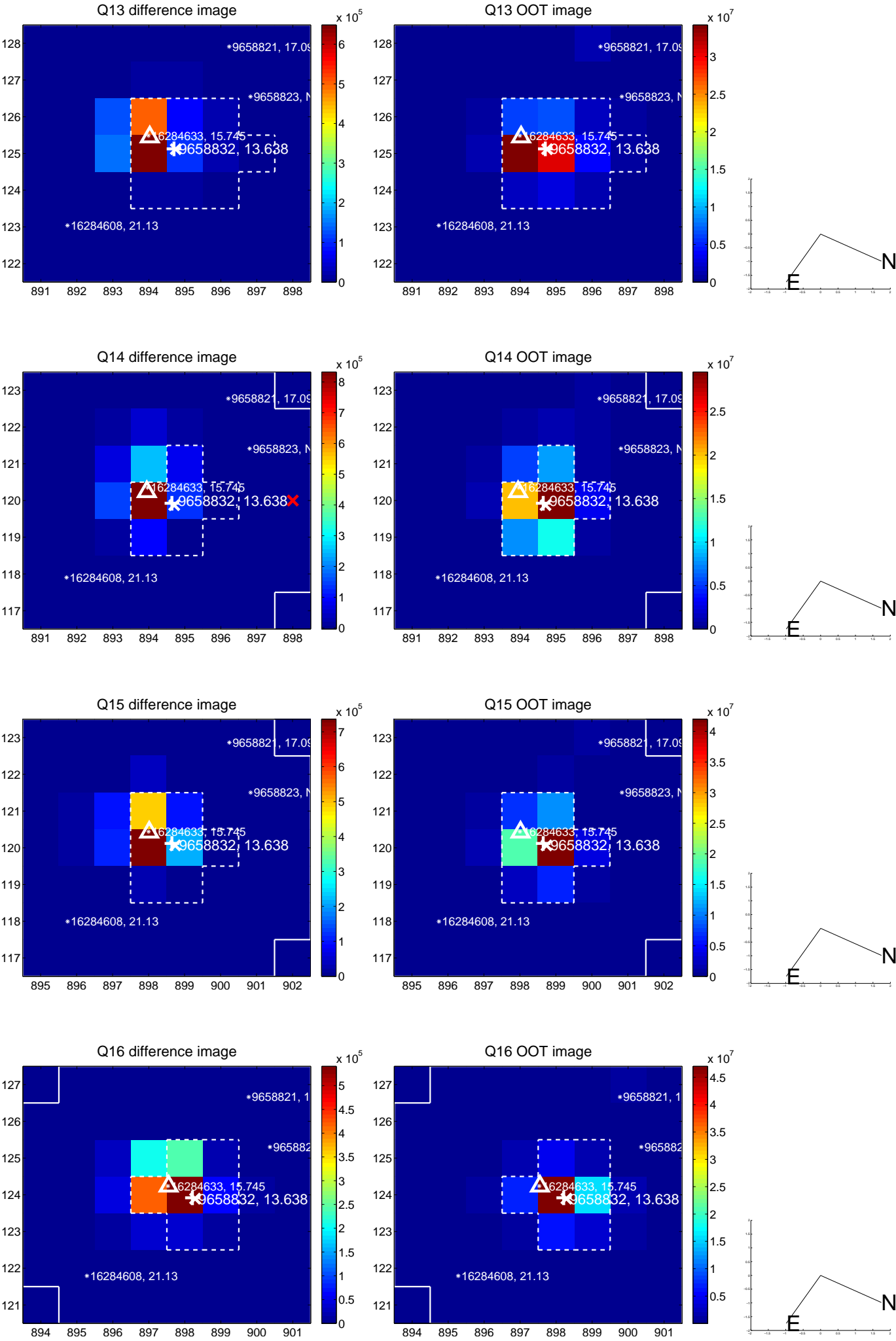
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



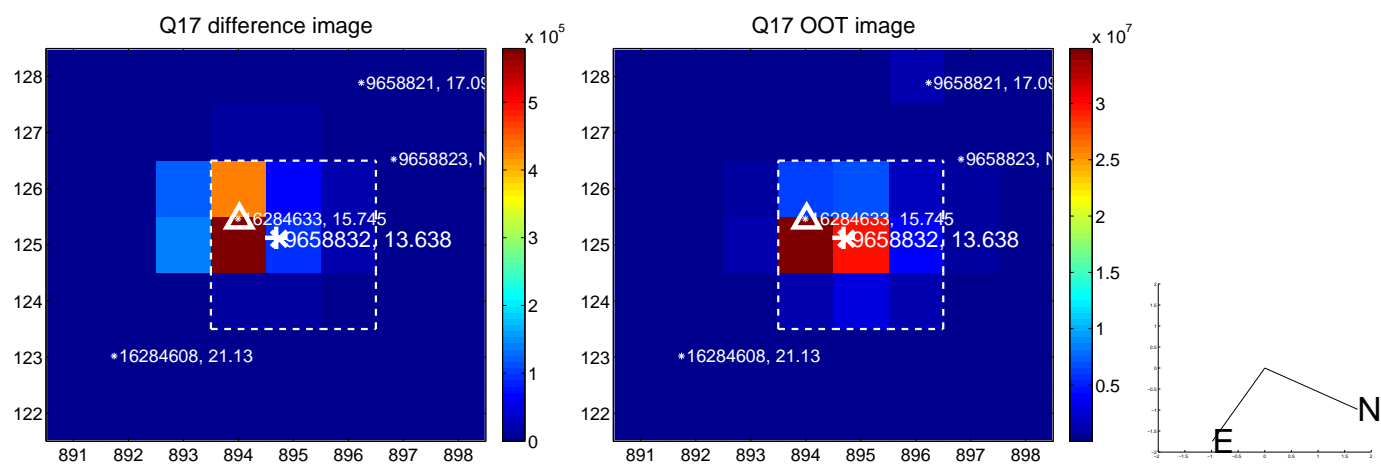
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

