

KIC 007121885

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})
007121885-01	OBS	3467.01	33.937558	135.544008	197647.1	7.044	5193.9	5532.7	1.07	6220	49.34	34.49
007121885-02	OBS	No	33.937549	147.182036	32941.7	11.136	880.0	947.2	1.07	6220	29.34	34.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007121885-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
007121885-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

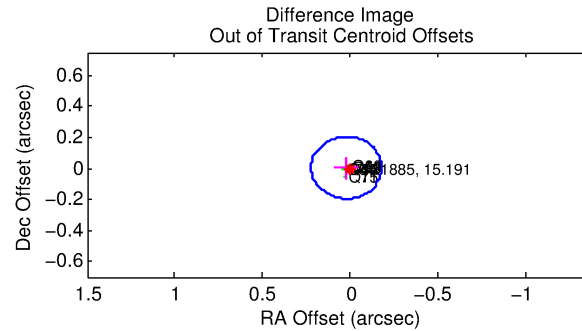
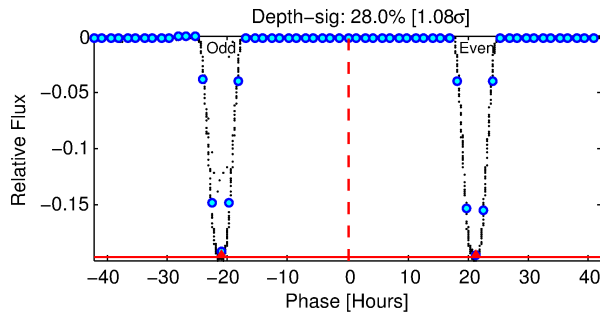
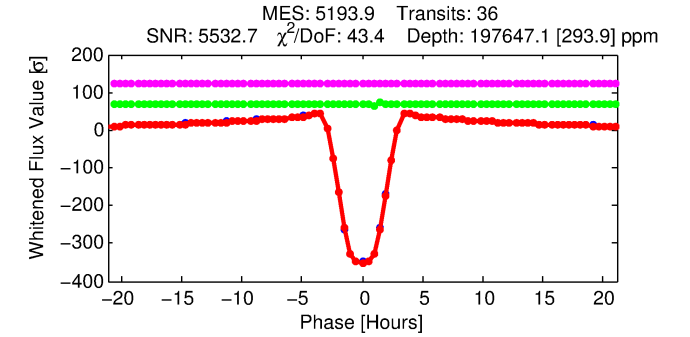
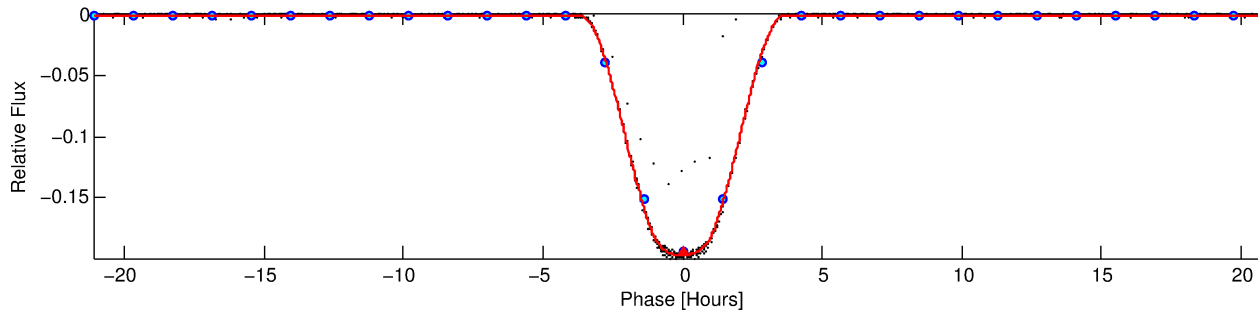
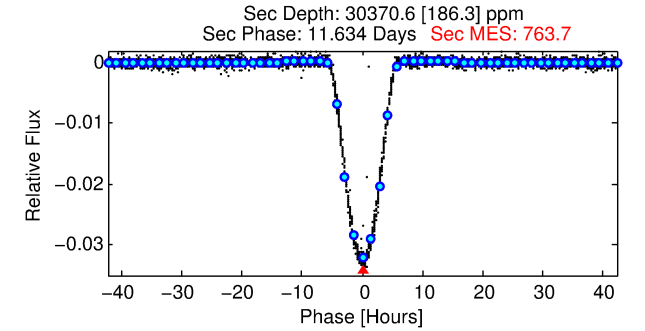
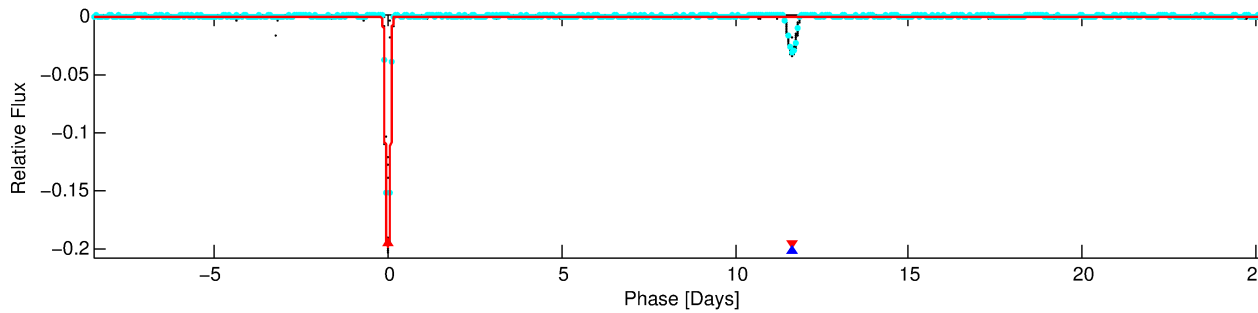
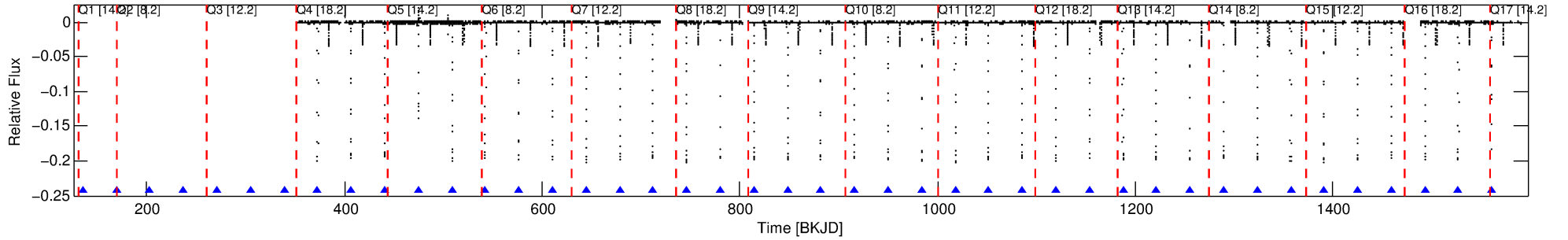
Ephemeris Match Information For 007121885-01

No Significant Match Found

DV One-Page Summary

KIC: 7121885 Candidate: 1 of 2 Period: 33.938 d
KOI: K03467 Corr: No Ephemeris Match

Kp: 15.19 R*: 1.07 Rs Teff: 6220.0 K Logg: 4.41 Fe/H: -0.100



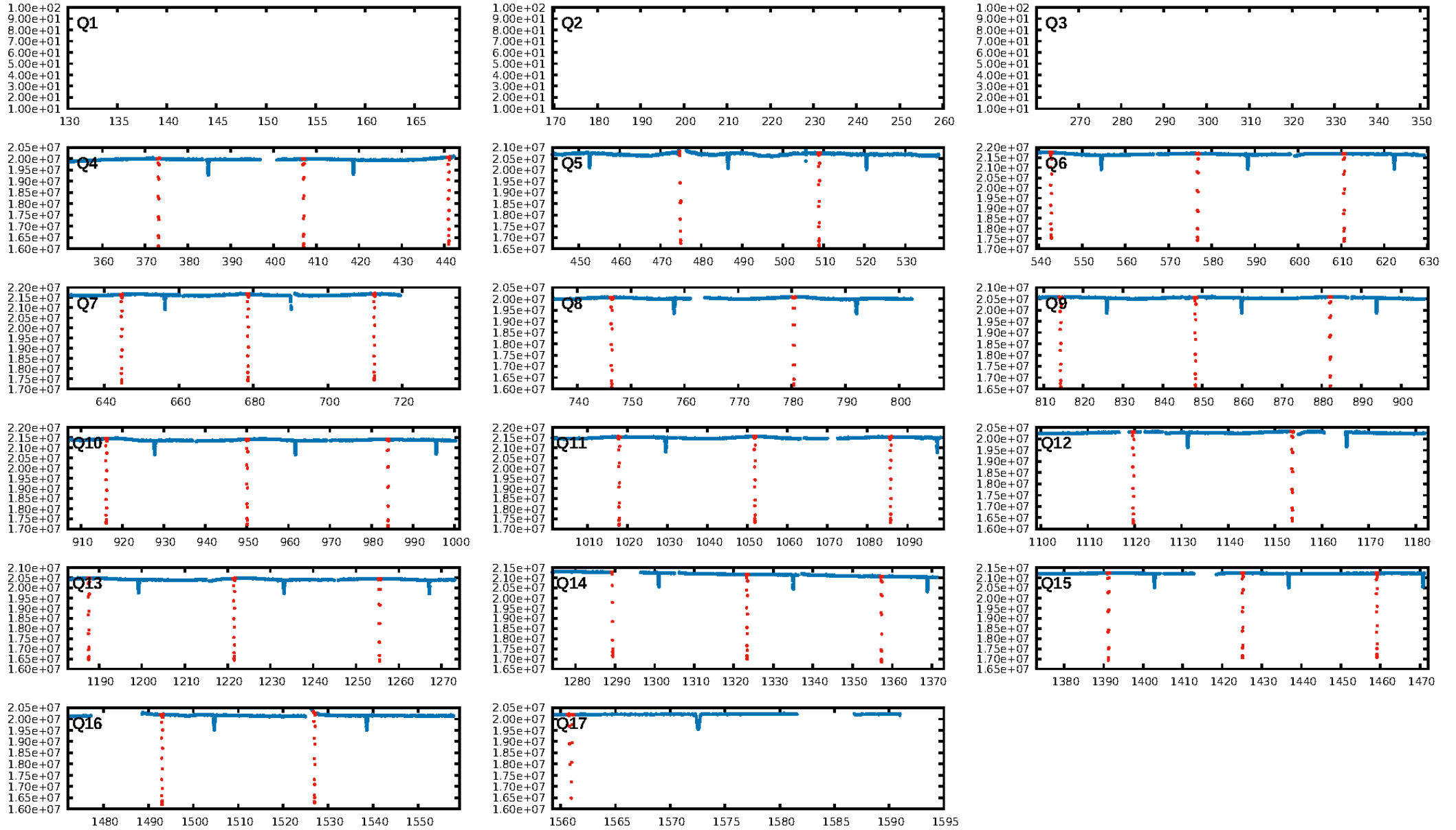
DV Fit Results:

Period = 33.93756 [0.00001] d
Epoch = 135.5440 [0.0002] BKJD
Rp/R* = 0.4242 [0.0005]
a/R* = 49.58 [0.09]
b = 0.46 [0.00]
Seff = 34.49 [15.08]
Teq = 618 [68] K
Rp = 49.35 [16.94] Re
a = 0.2102 [0.0595] AU
Ag = 303.22 [122.57] [2.47σ]
Teffp = 3987 [166] K [18.78σ]

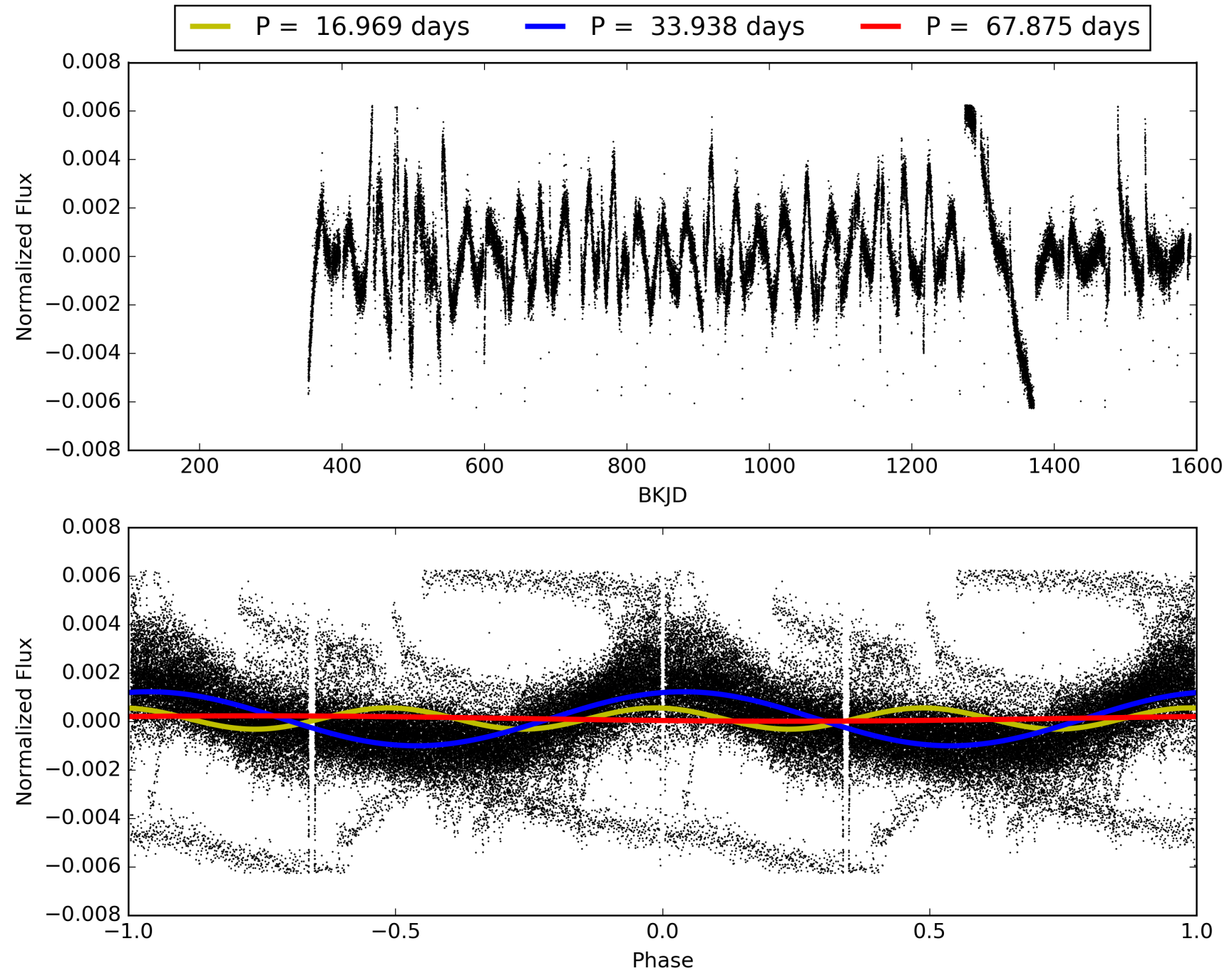
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [35/35]
GhostDiagnostic-chr: 8.485
Centroid-sig: 0.0%
Centroid-so: 0.157 arcsec [78.87σ]
OotOffset-rm: 0.023 arcsec [0.35σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-rm: 0.099 arcsec [1.47σ]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 007121885-01, PDC Light Curves

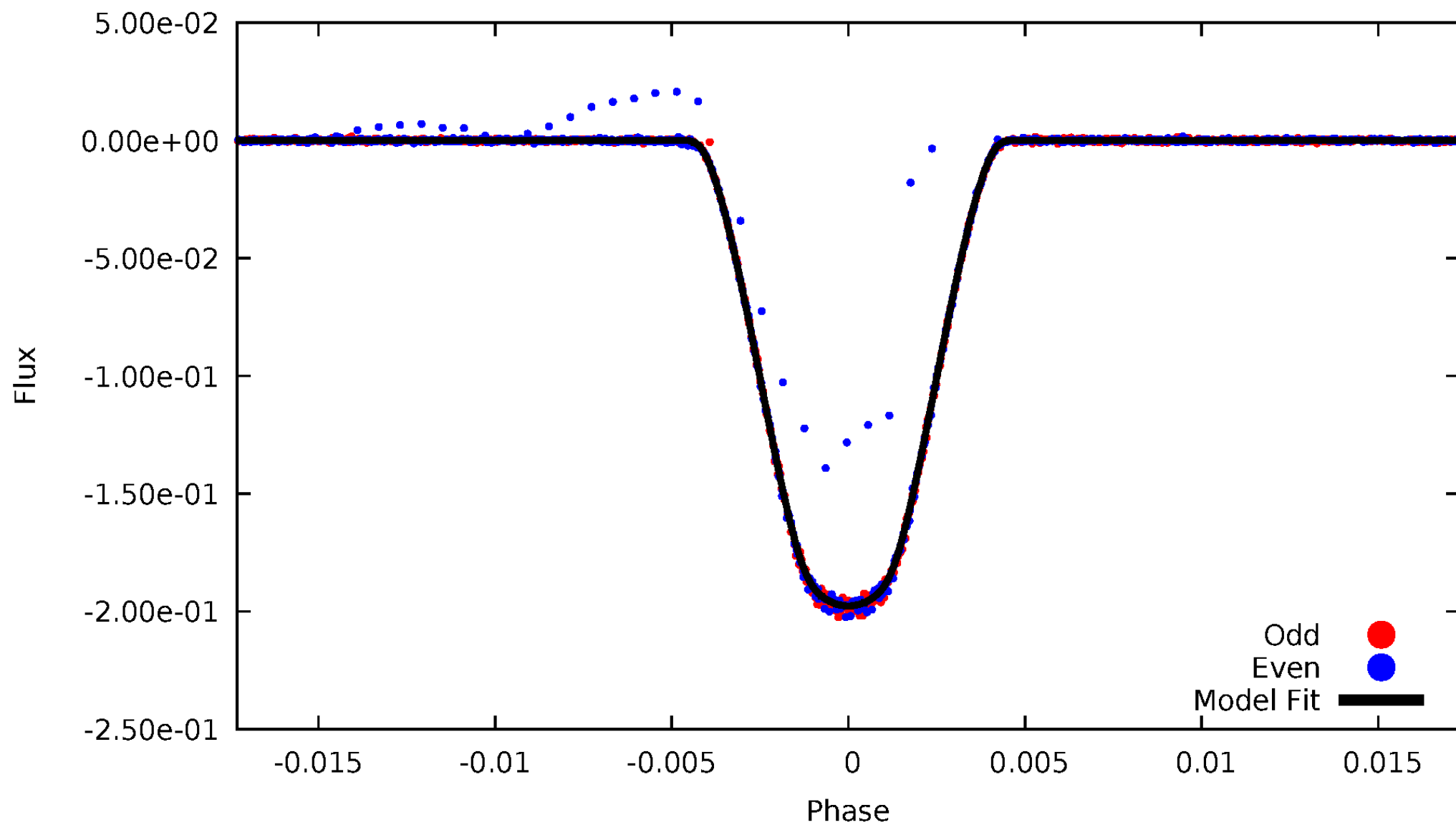


TCE 007121885-01



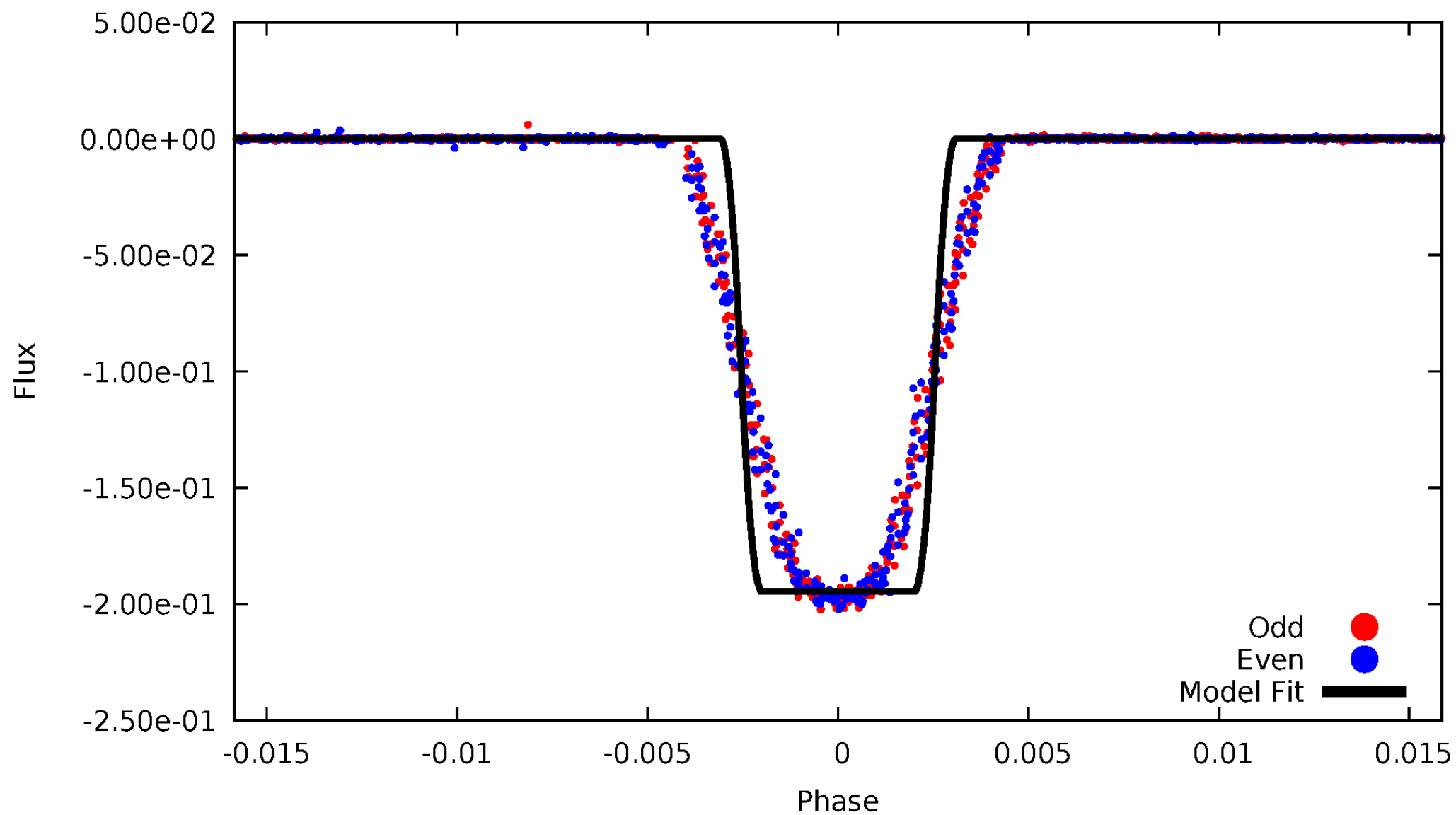
DV Odd/Even

TCE 007121885-01



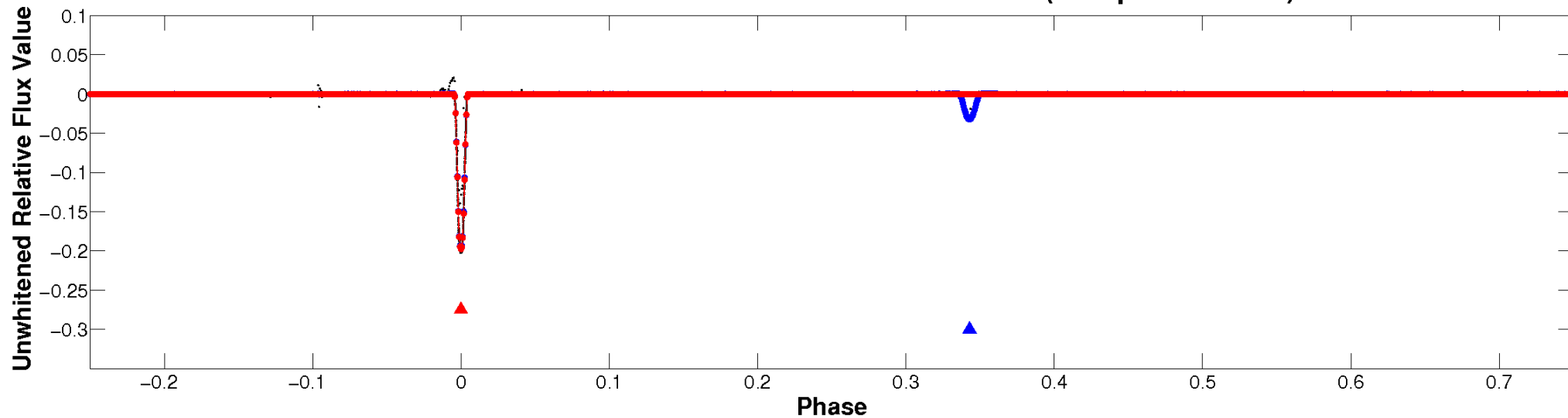
ALT Odd/Even

TCE 007121885-01

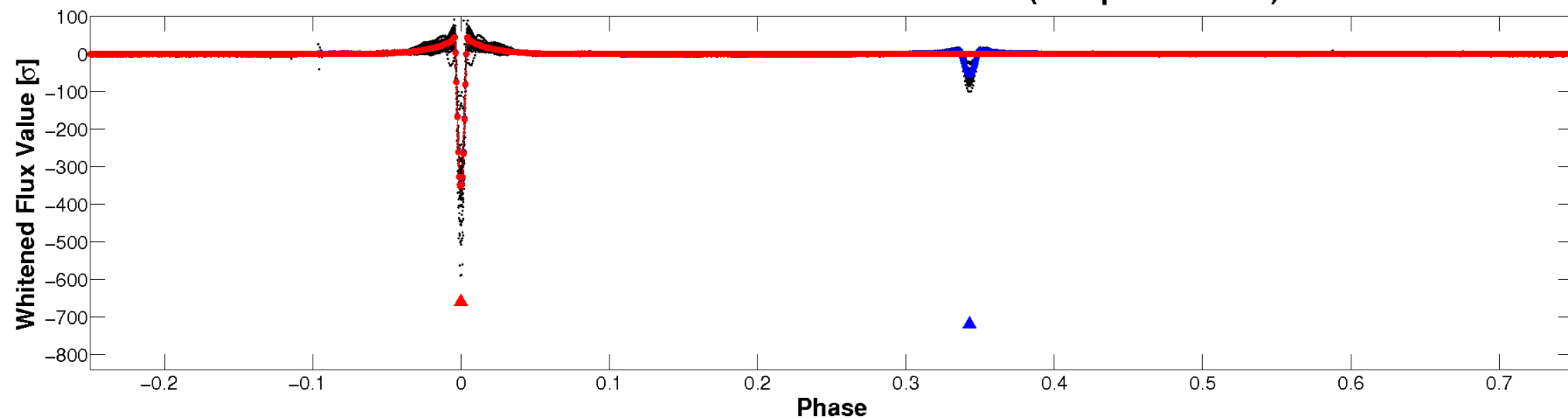


Non-Whitened Vs. Whitened Light Curve

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

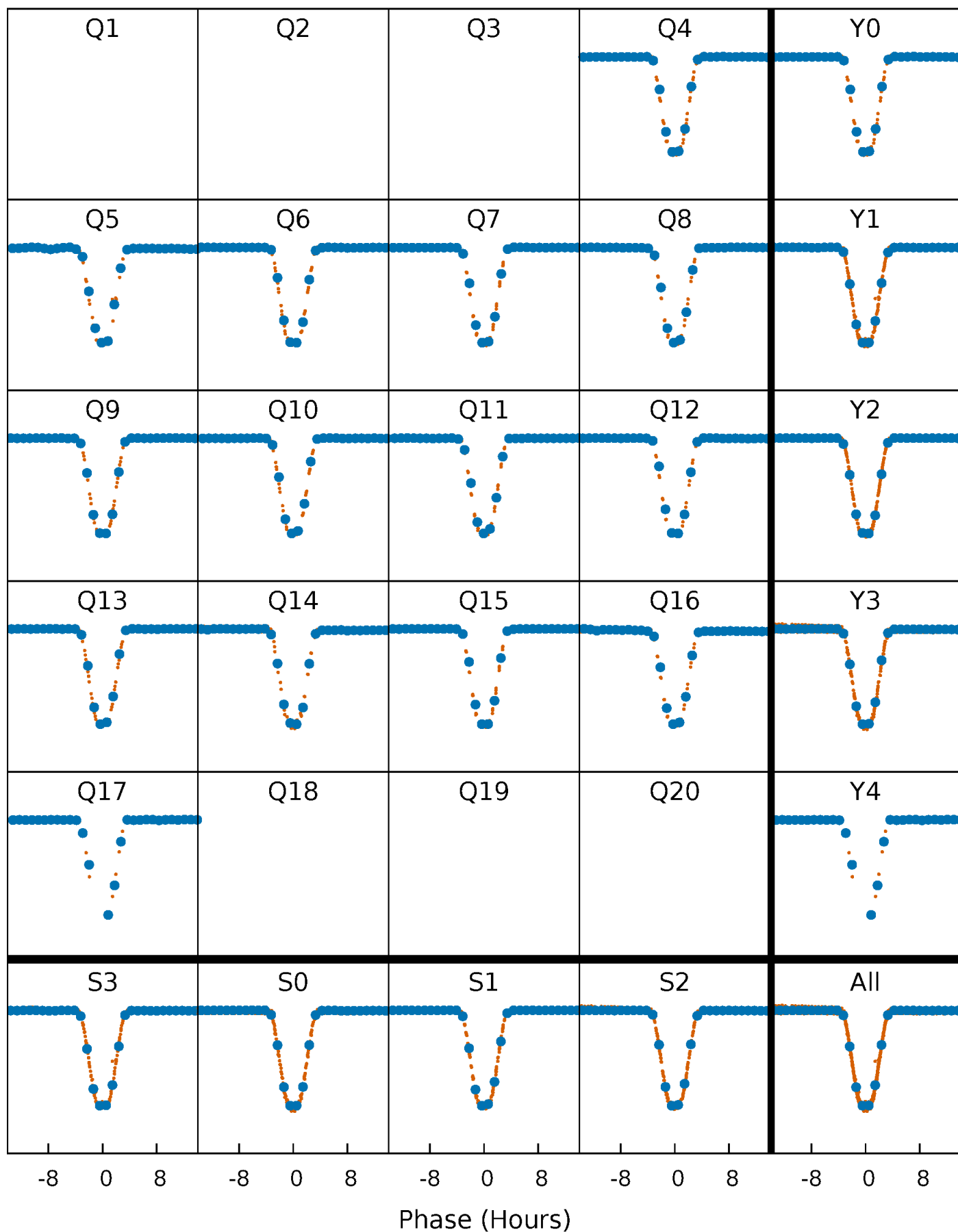


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



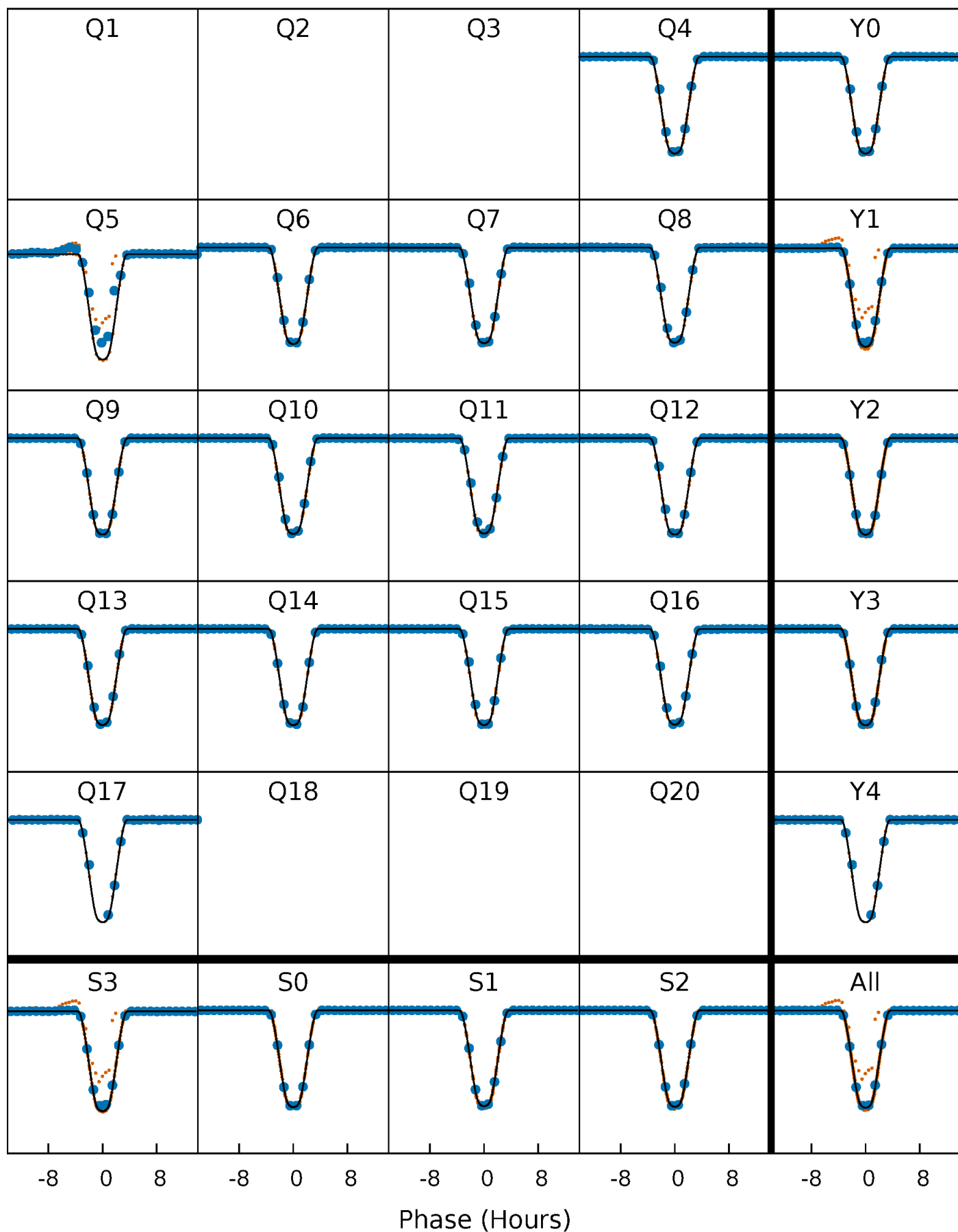
PDC Quarter-Phased Transit Curves

TCE 007121885-01 P= 33.937558 Days $T_0=135.544008$ (BKJD)



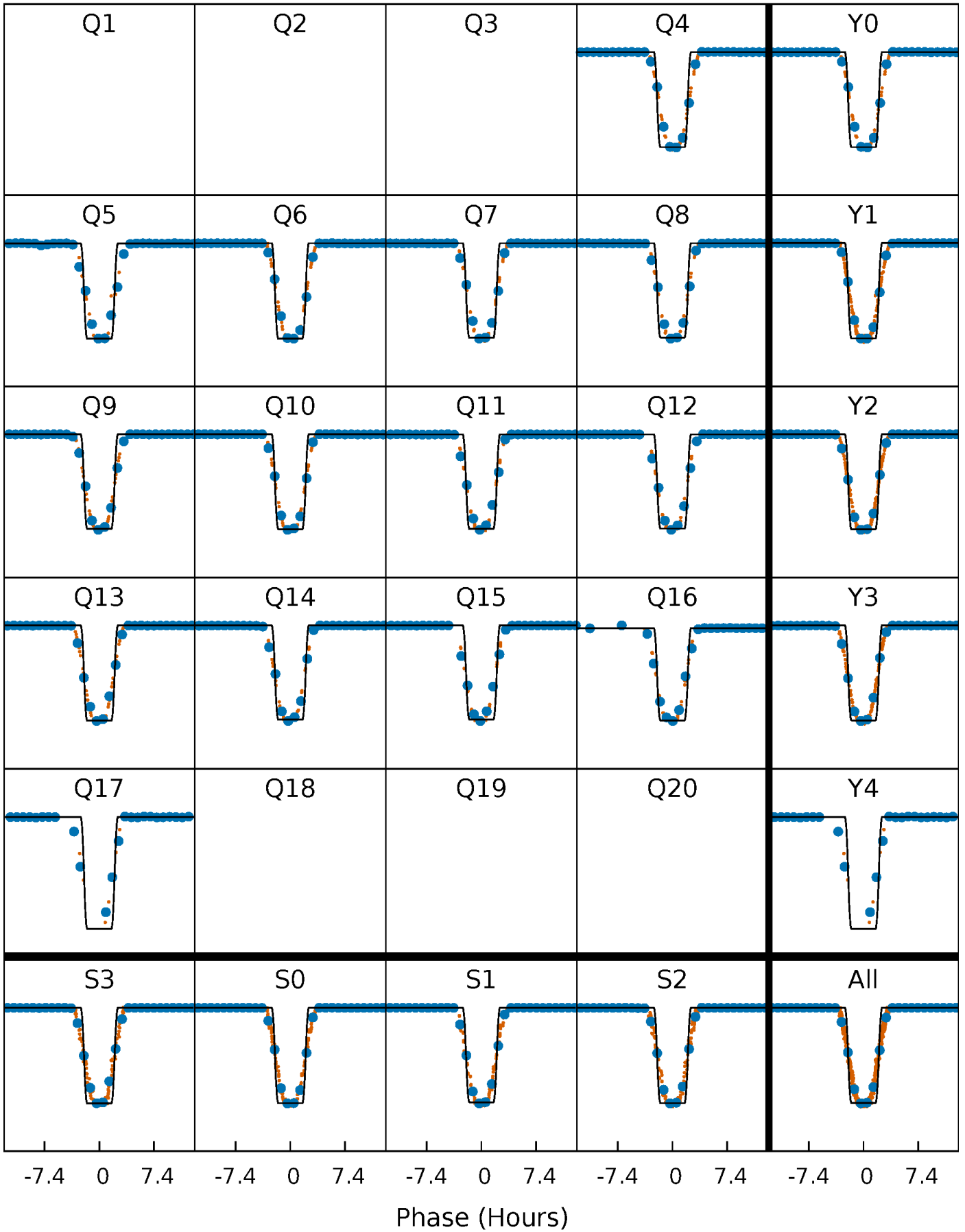
DV Quarter-Phased Transit Curves

TCE 007121885-01 P= 33.937558 Days $T_0=135.544008$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

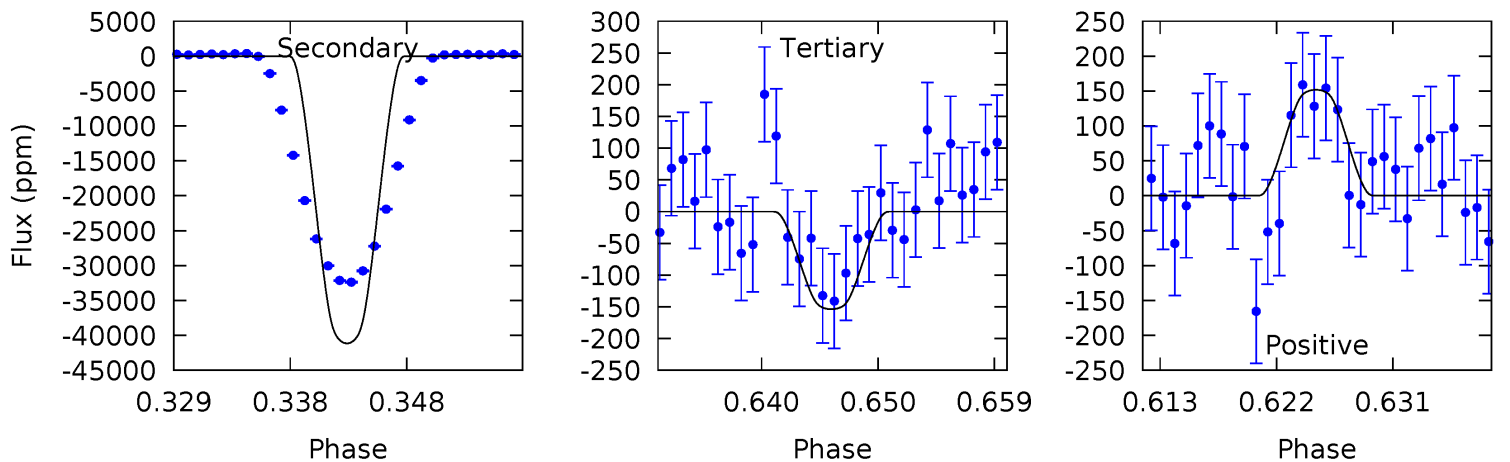
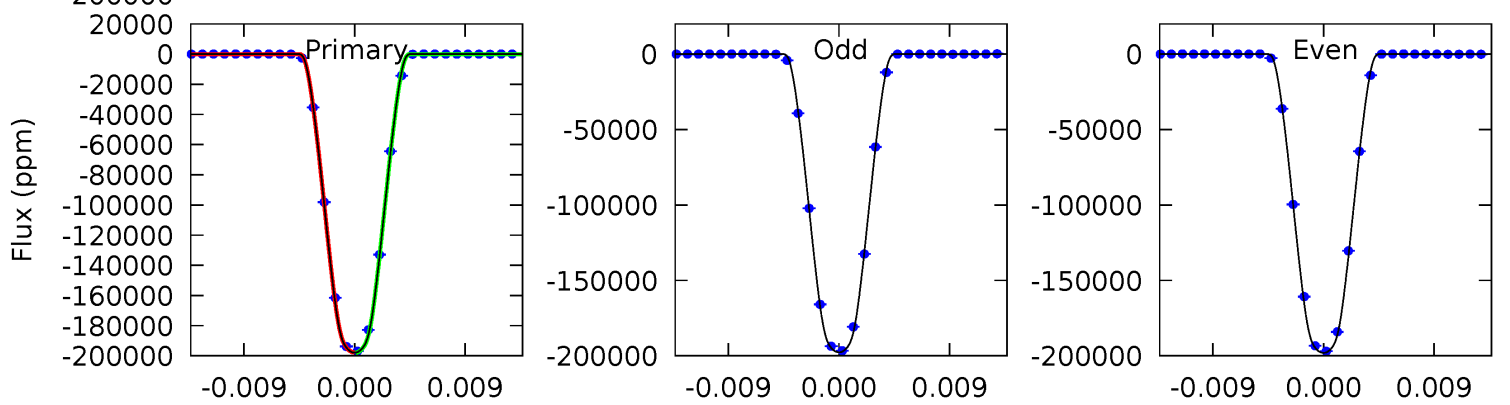
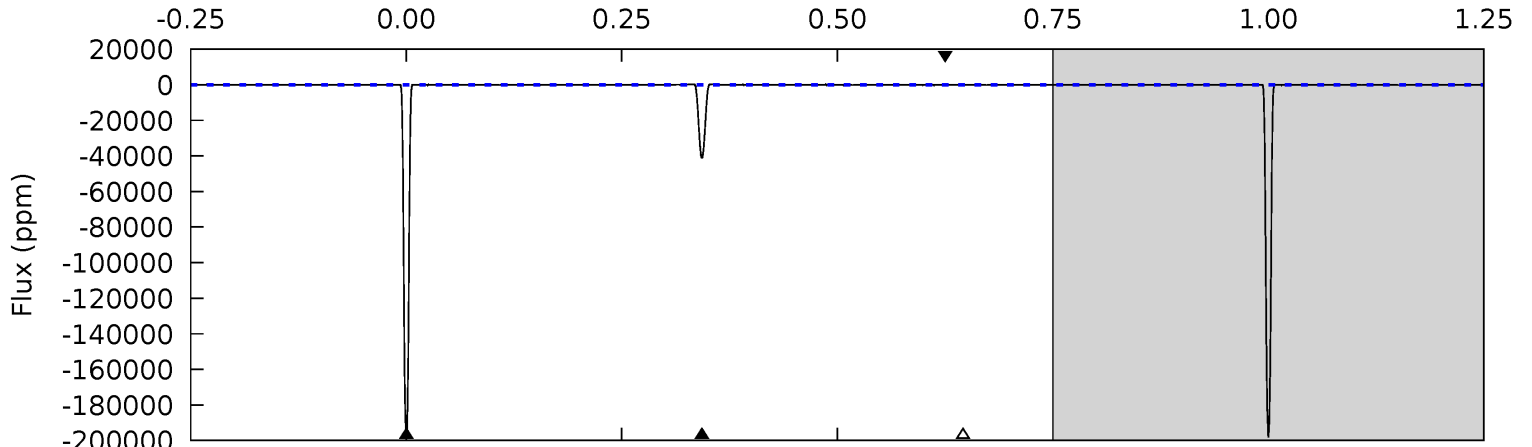
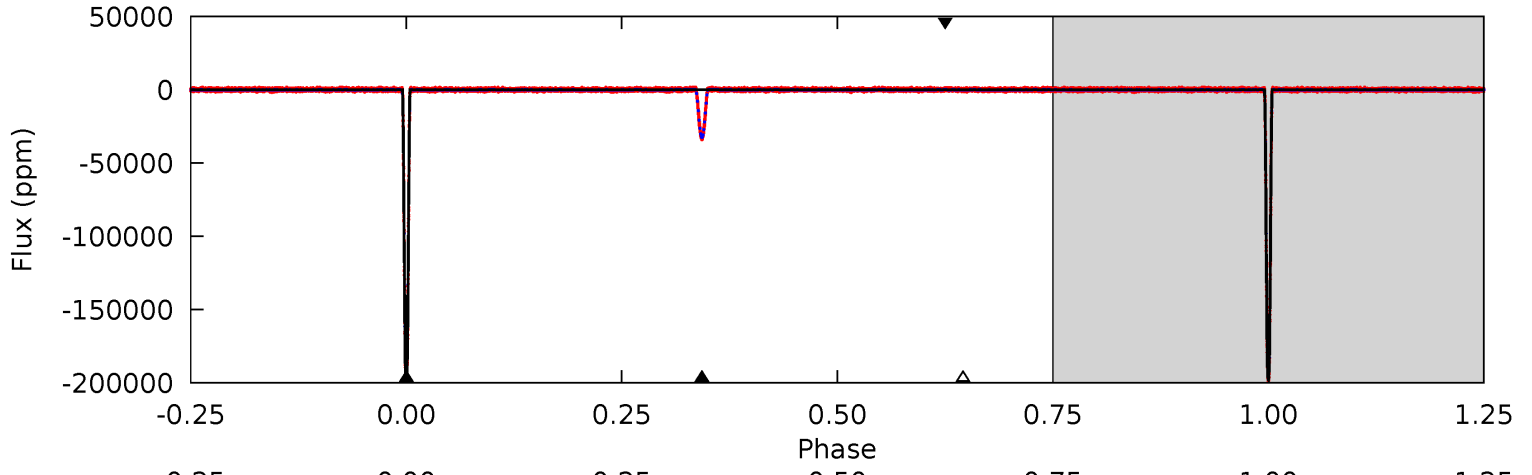
TCE 007121885-01 P= 33.938035 Days $T_0=135.532157$ (BKJD)



DV Model-Shift Uniqueness Test

007121885-01, P = 33.937558 Days, E = 135.544008 Days

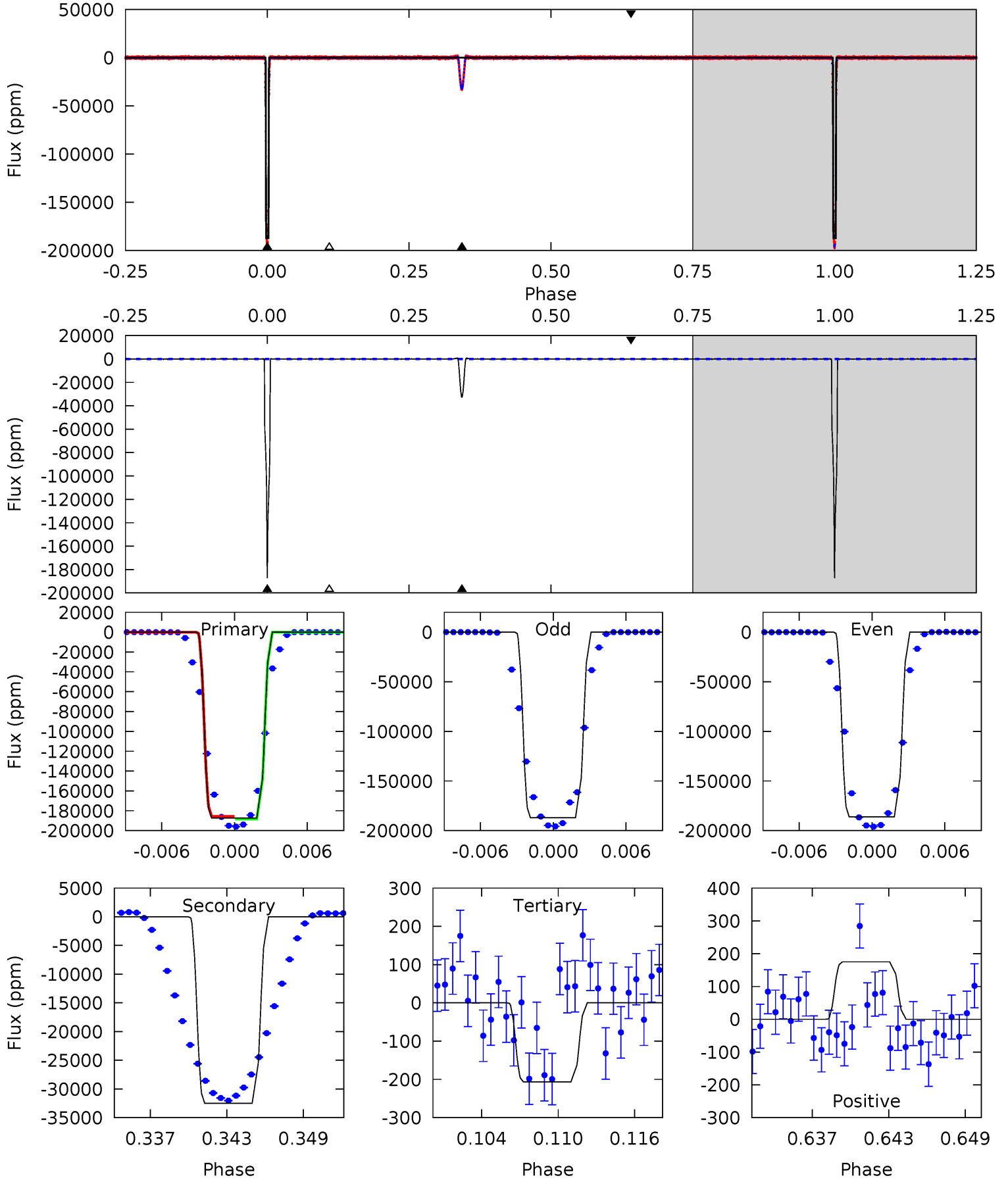
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9348	1944	7.27	7.17	5.04	2.61	3.16	9341	9341	1937	1937	8.92	0.99	0.00	1.24



Alt Model-Shift Uniqueness Test

007121885-01, P = 33.938035 Days, E = 135.532157 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4412	765.6	4.87	4.12	5.12	2.74	2.04	4407	4408	760.8	761.5	9.86	1.00	0.00	5.44



Stellar Parameters For KIC 007121885

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6220^{+194}_{-259}	$4.414^{+0.072}_{-0.217}$	$-0.100^{+0.250}_{-0.300}$	$1.066^{+0.366}_{-0.147}$	$1.070^{+0.168}_{-0.137}$	$1.243^{+0.472}_{-0.653}$
	+3%/-4%	+2%/-5%	+250%/-300%	+34%/-14%	+16%/-13%	+38%/-53%
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 007121885-01 / KOI 3467.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-41145 ± 21	$50.66^{+9.85}_{-4.40}$	880^{+71}_{-51}	4528^{+99}_{-154}	401^{+67}_{-111}
Alt.	-32495 ± 42	$52.42^{+9.29}_{-4.43}$	879^{+69}_{-51}	4253^{+102}_{-129}	291^{+50}_{-74}

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

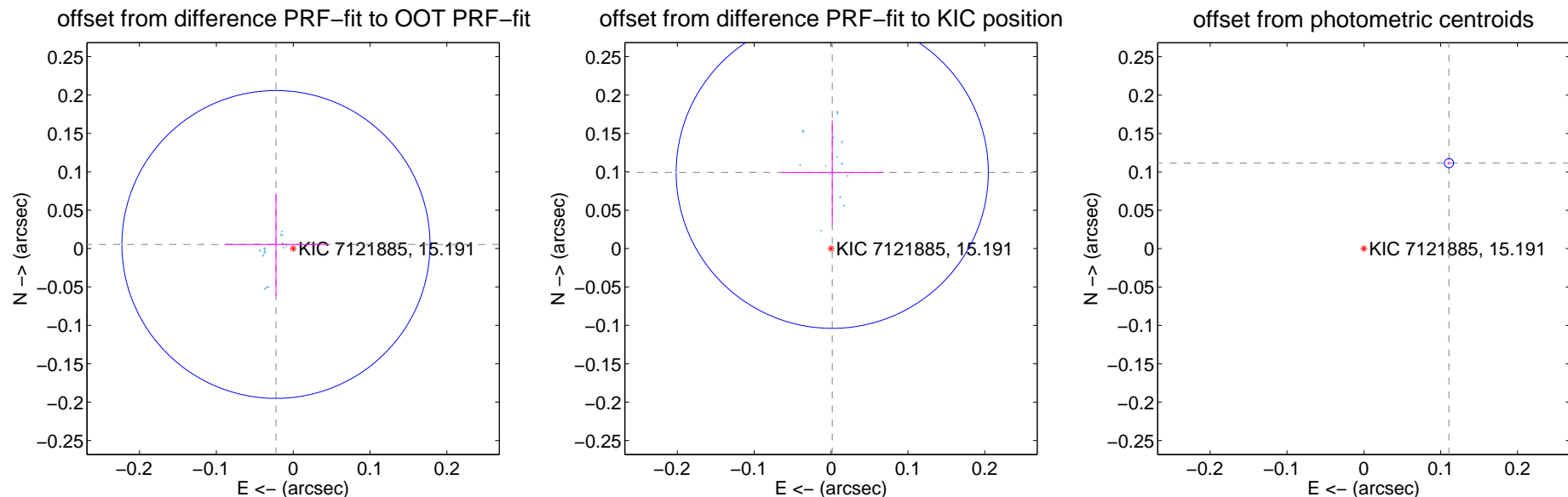
DV Centroid Data

Supplemental centroid analysis for 007121885-01. Kepler magnitude: 15.19. Transit SNR 5532.68

There are 13 quarters with good PRF difference image offsets

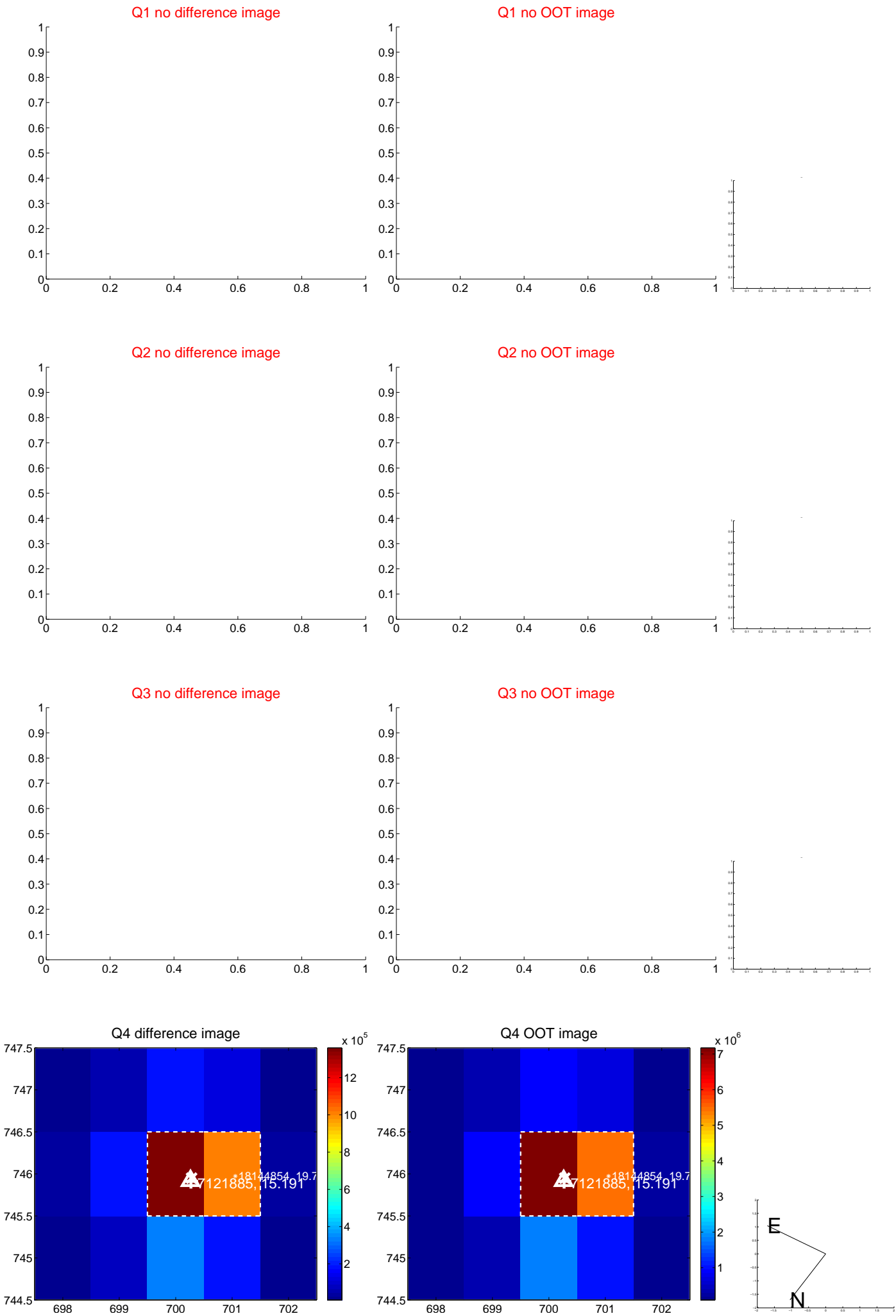
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.023 ± 0.067	0.35	0.022 ± 0.067	0.005 ± 0.067
PRF-fit source offset from KIC position	0.099 ± 0.068	1.47	-0.002 ± 0.067	0.099 ± 0.068
photometric centroid source offset	0.16 ± 0.00	78.87	-0.11 ± 0.00	0.11 ± 0.00

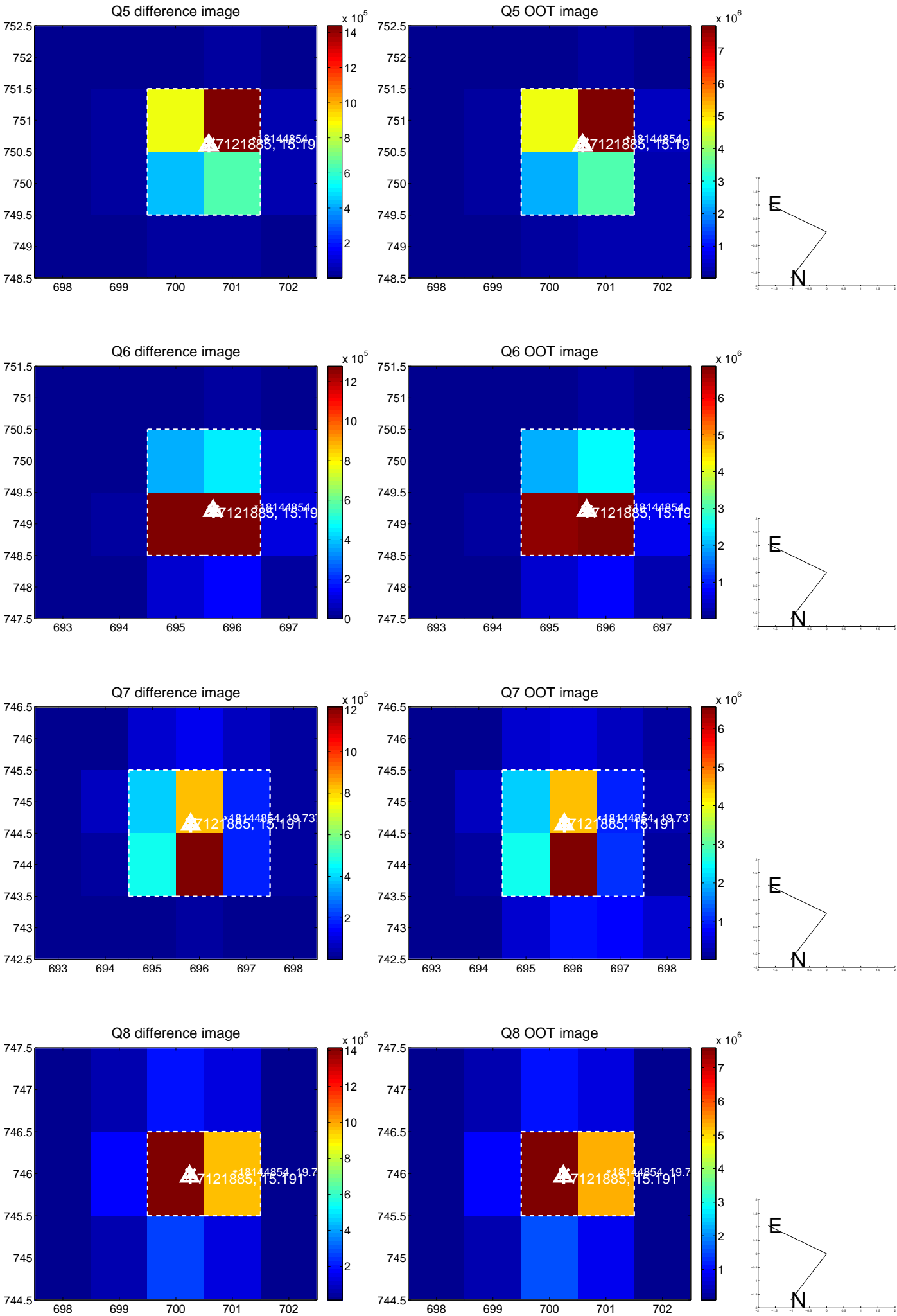


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

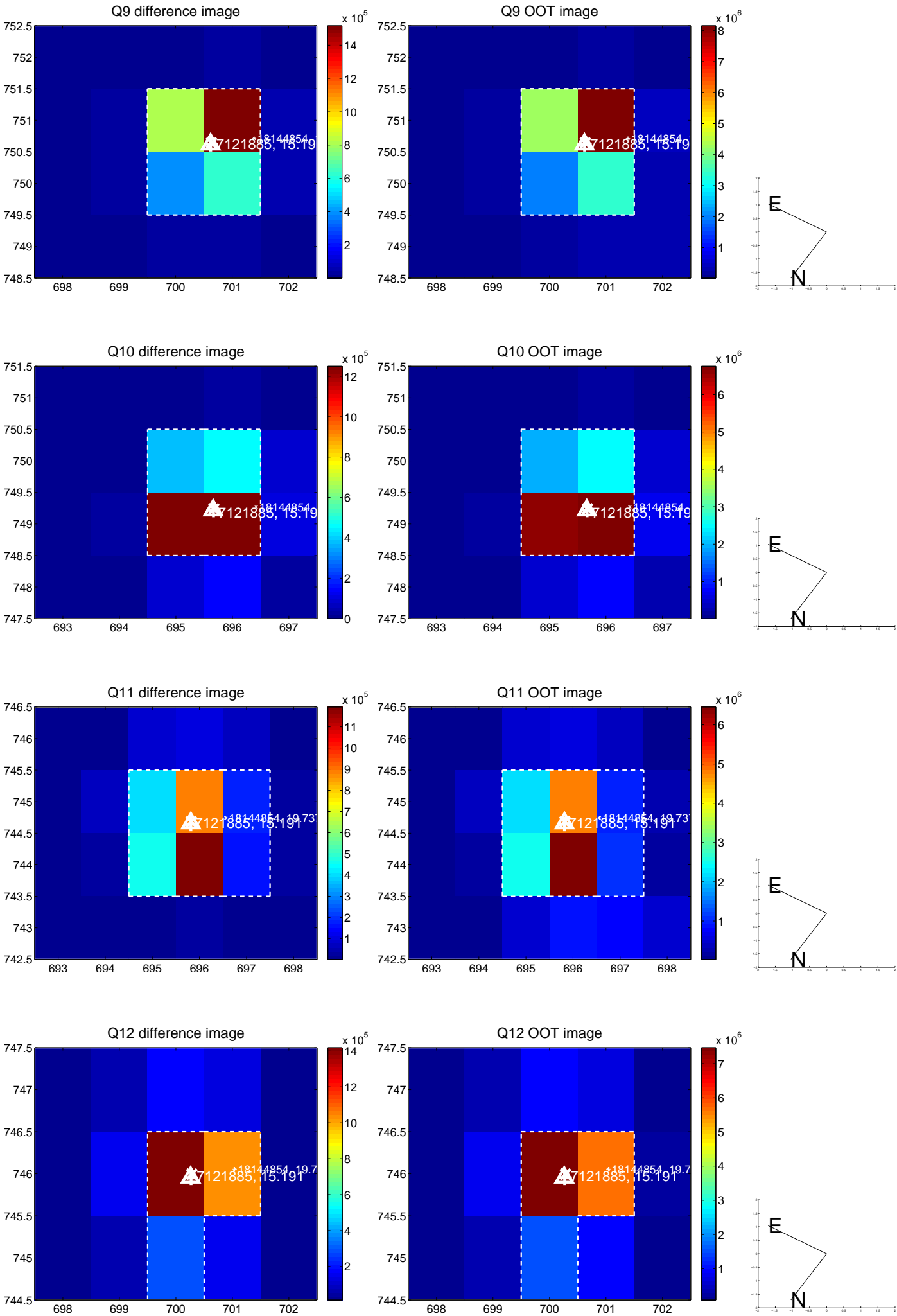
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



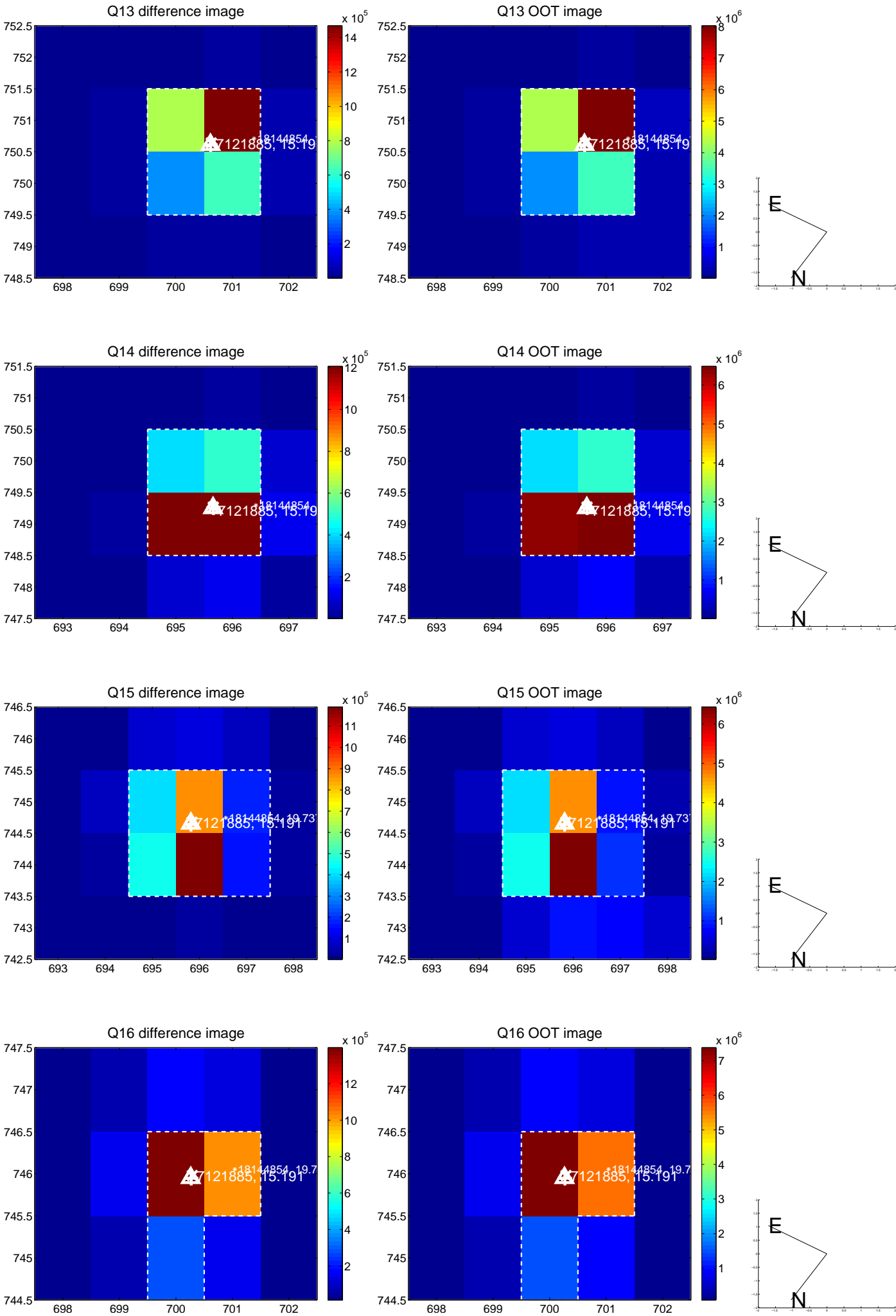
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



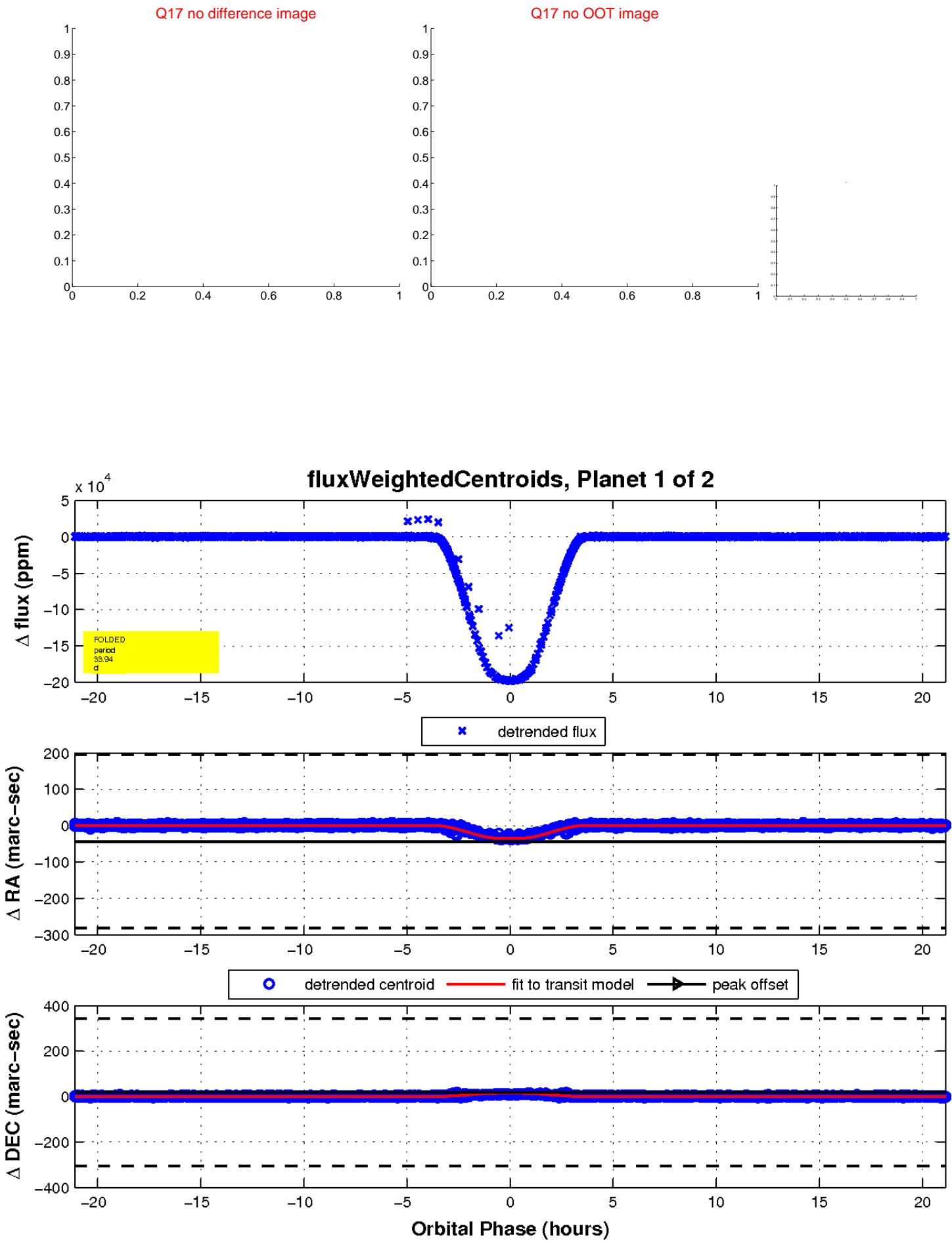
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

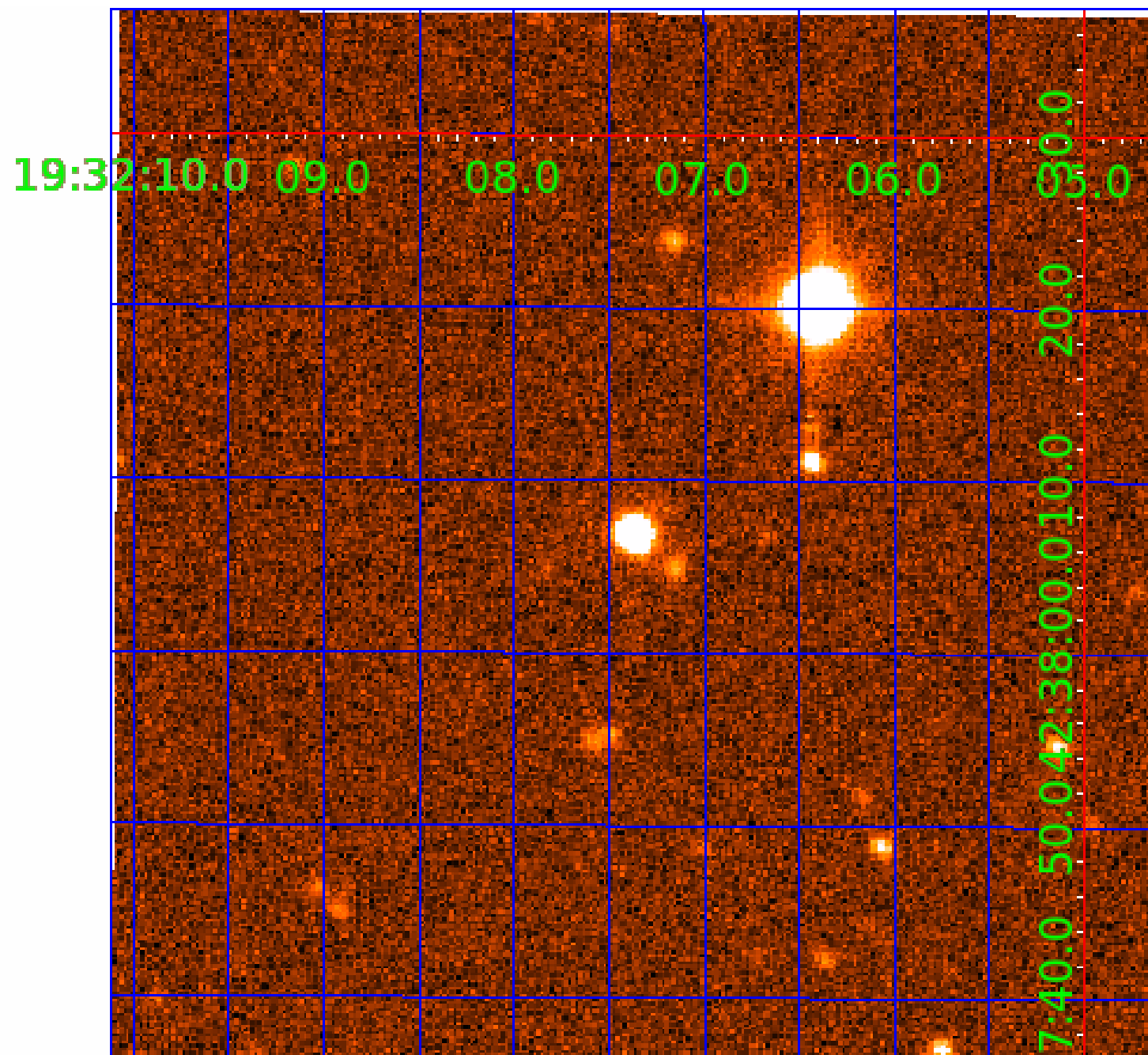


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007121885

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})
007121885-01	OBS	3467.01	33.937558	135.544008	197647.1	7.044	5193.9	5532.7	1.07	6220	49.34	34.49
007121885-02	OBS	No	33.937549	147.182036	32941.7	11.136	880.0	947.2	1.07	6220	29.34	34.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007121885-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
007121885-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

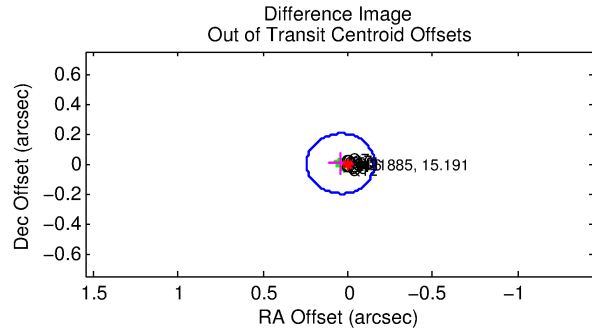
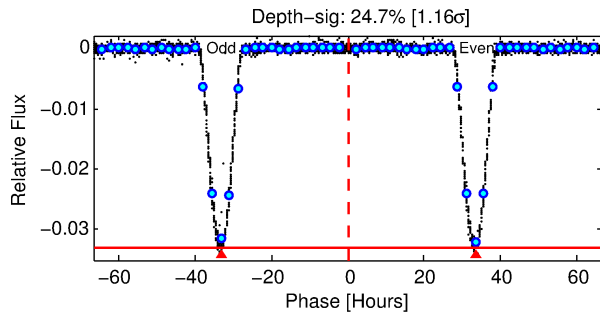
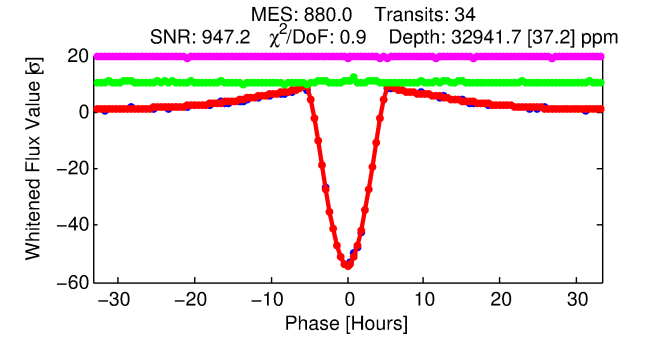
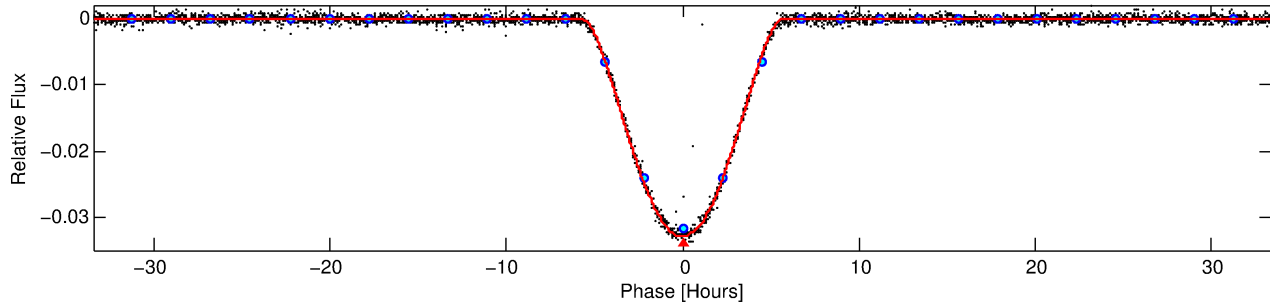
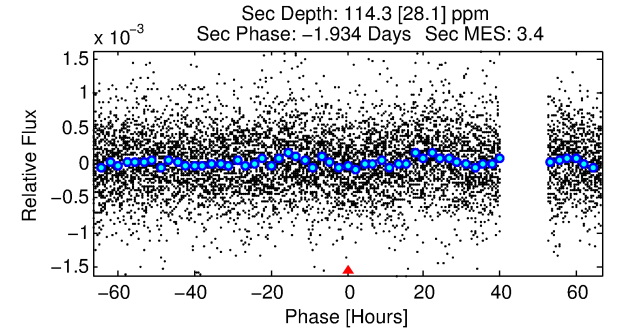
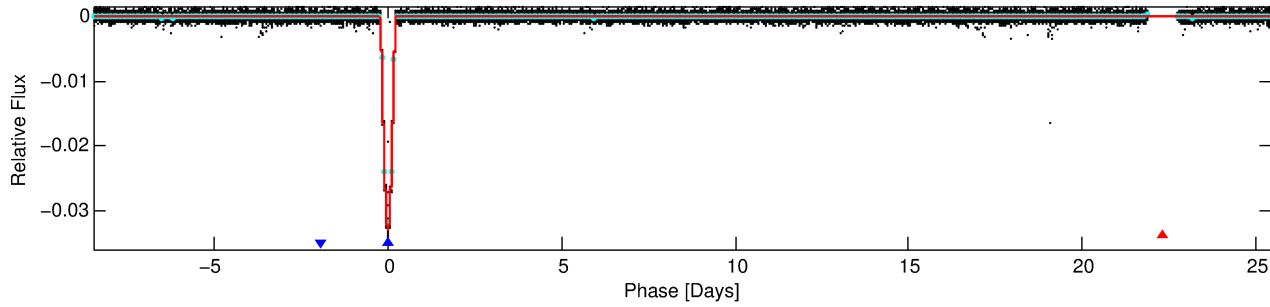
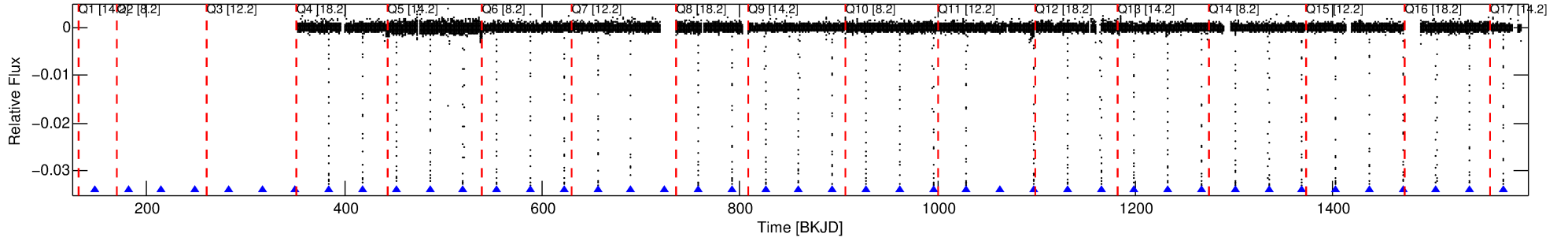
Ephemeris Match Information For 007121885-02

No Significant Match Found

DV One-Page Summary

KIC: 7121885 Candidate: 2 of 2 Period: 33.938 d
KOI: K03467.01 Corr: 0.988

Kp: 15.19 R*: 1.07 Rs Teff: 6220.0 K Logg: 4.41 Fe/H: -0.100



DV Fit Results:

Period = 33.93755 [0.00001] d
Epoch = 147.1820 [0.0003] BKJD
Rp/R* = 0.2522 [0.0089]
a/R* = 19.02 [0.08]
b = 0.95 [0.01]
Seff = 34.49 [15.08]
Teq = 618 [68] K
Rp = 29.34 [10.13] Re
a = 0.2102 [0.0595] AU
Ag = 3.23 [1.54] [1.44σ]
Teffp = 1280 [98] K [5.58σ]

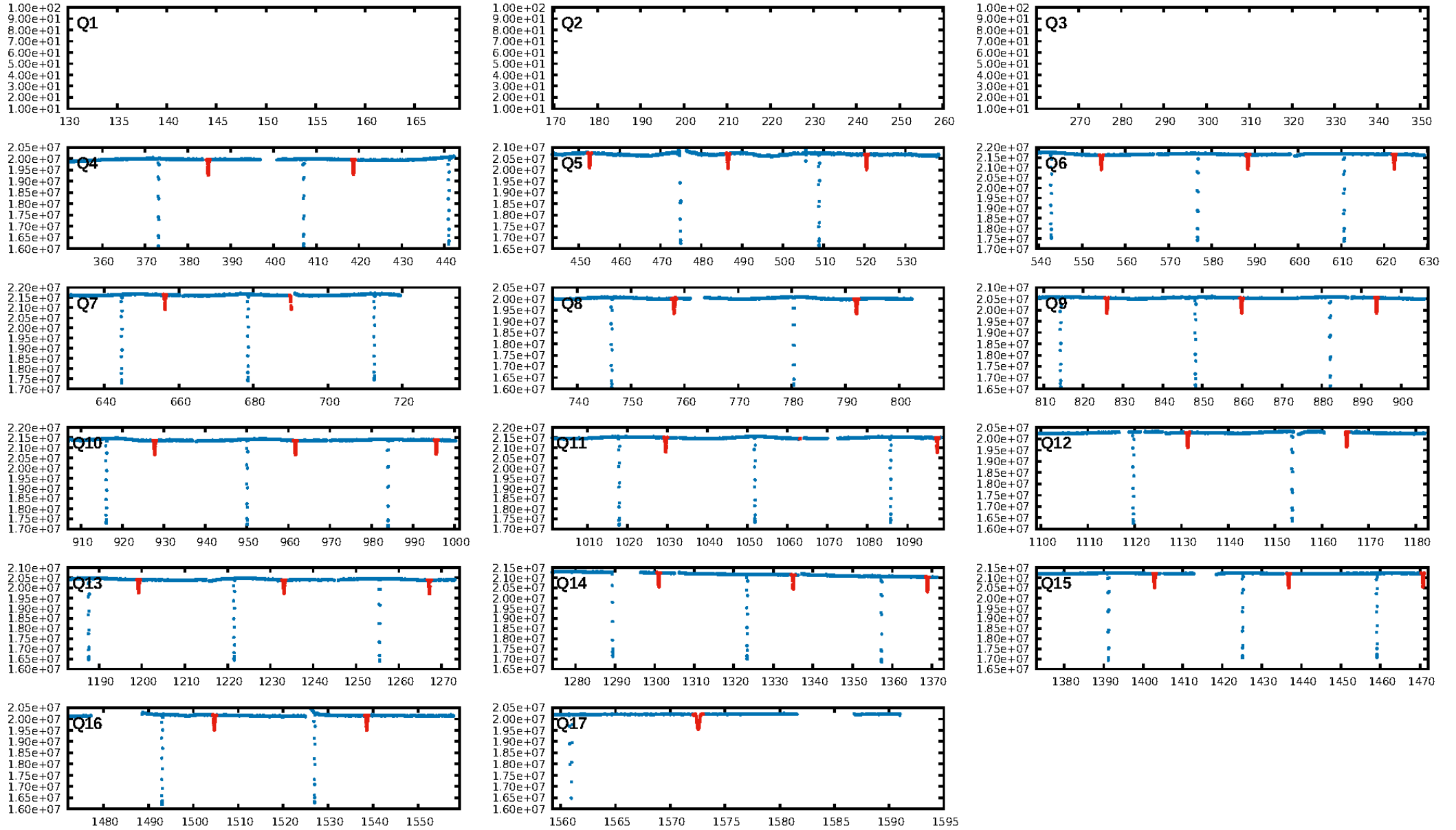
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 4.761
Centroid-sig: 0.0%
Centroid-so: 0.236 arcsec [23.30σ]
OotOffset-rm: 0.044 arcsec [0.65σ]
KicOffset-rm: 0.110 arcsec [1.63σ]
OotOffset-st: 3/2/4/4 [13]
KicOffset-st: 3/2/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

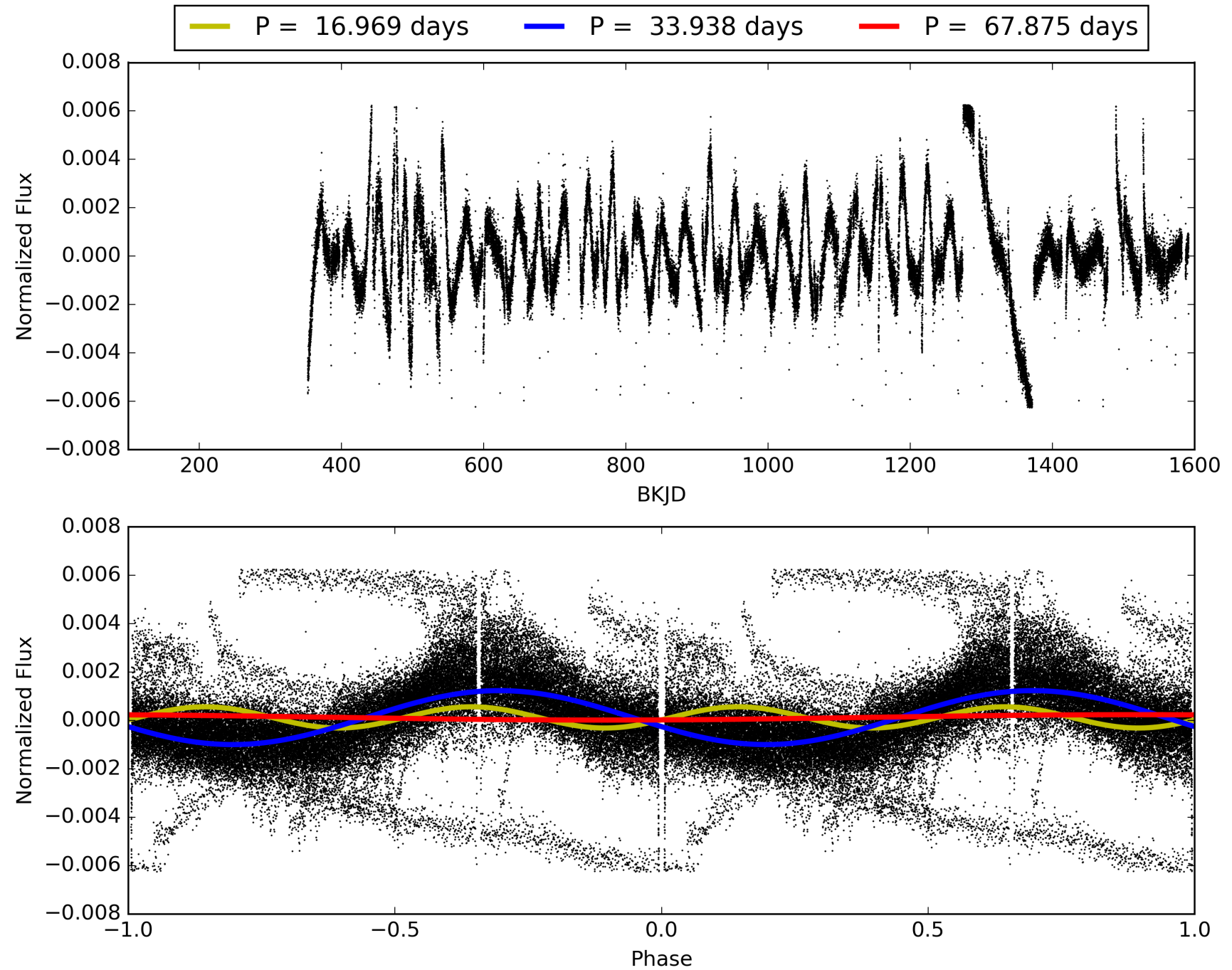
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007121885-02, PDC Light Curves

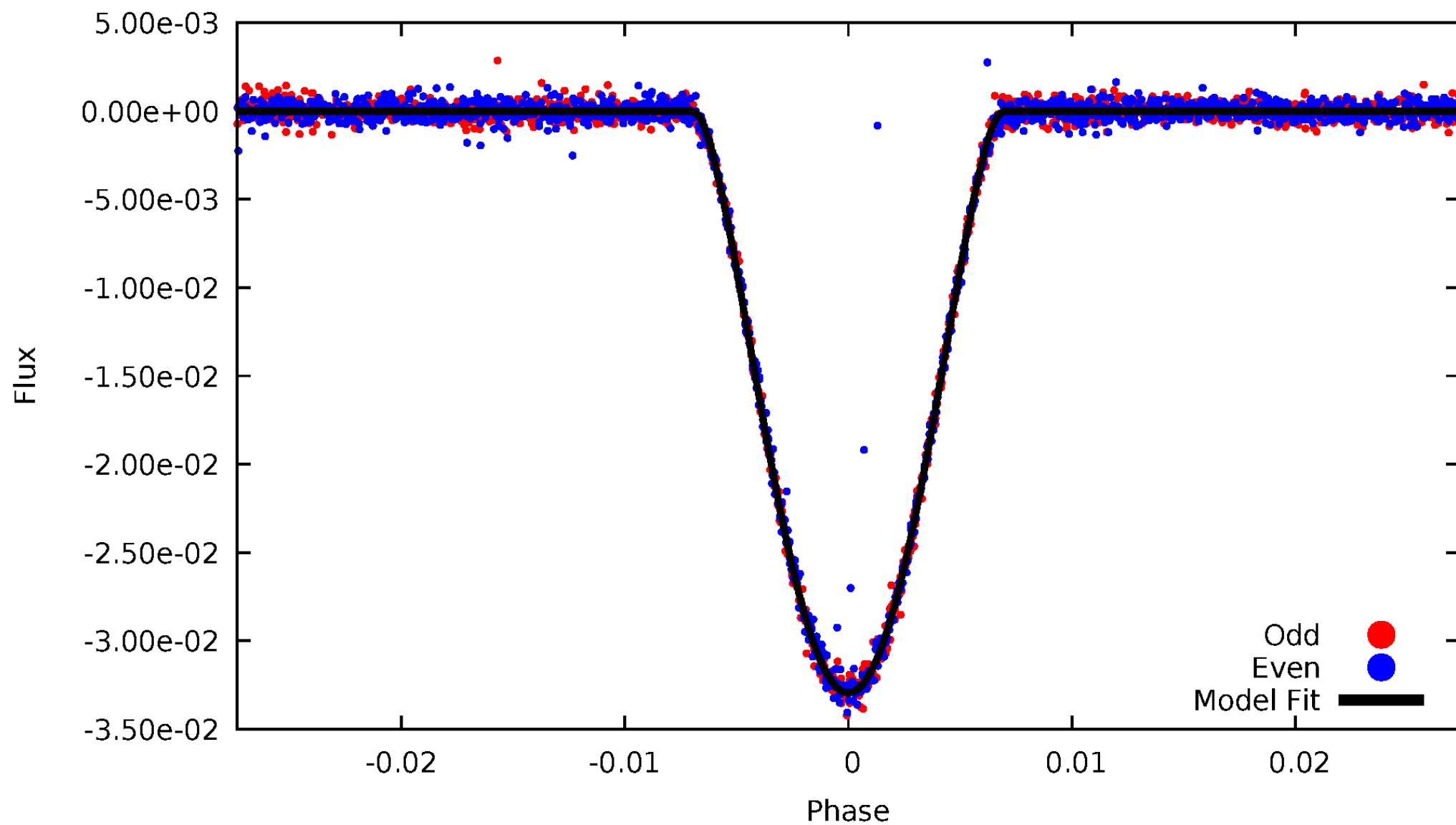


TCE 007121885-02



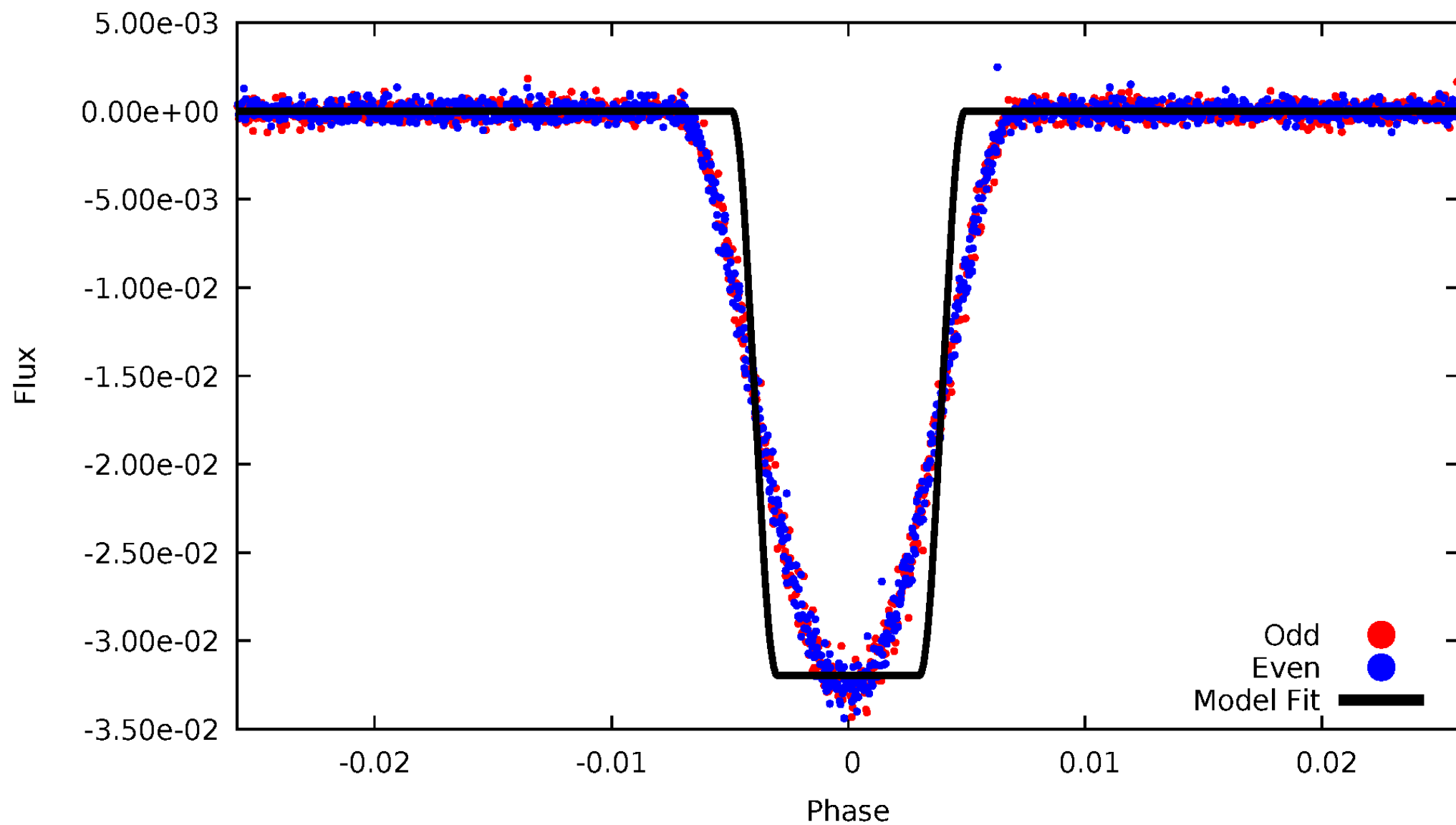
DV Odd/Even

TCE 007121885-02



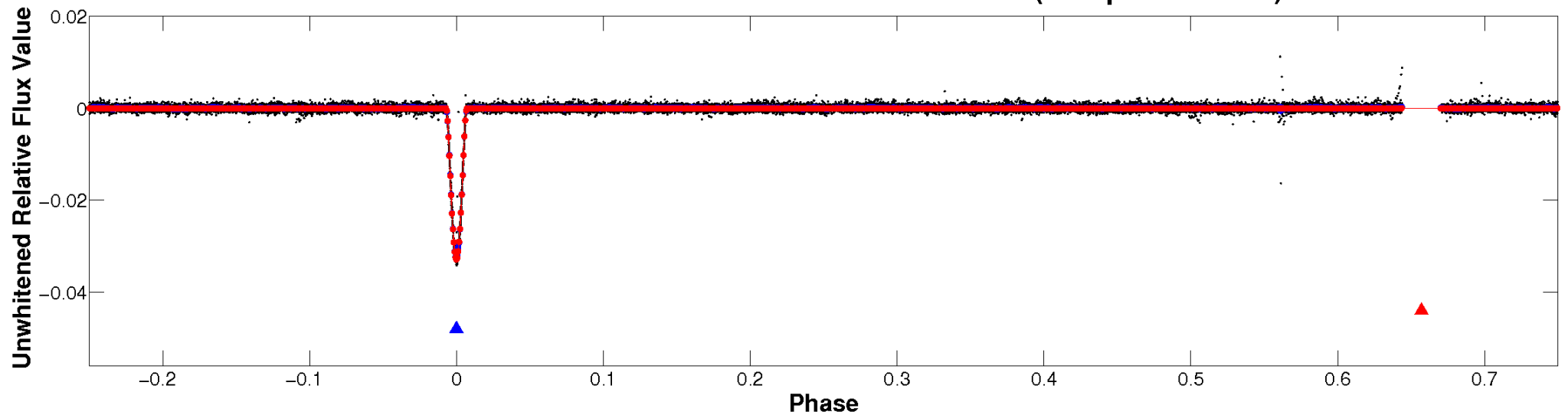
ALT Odd/Even

TCE 007121885-02

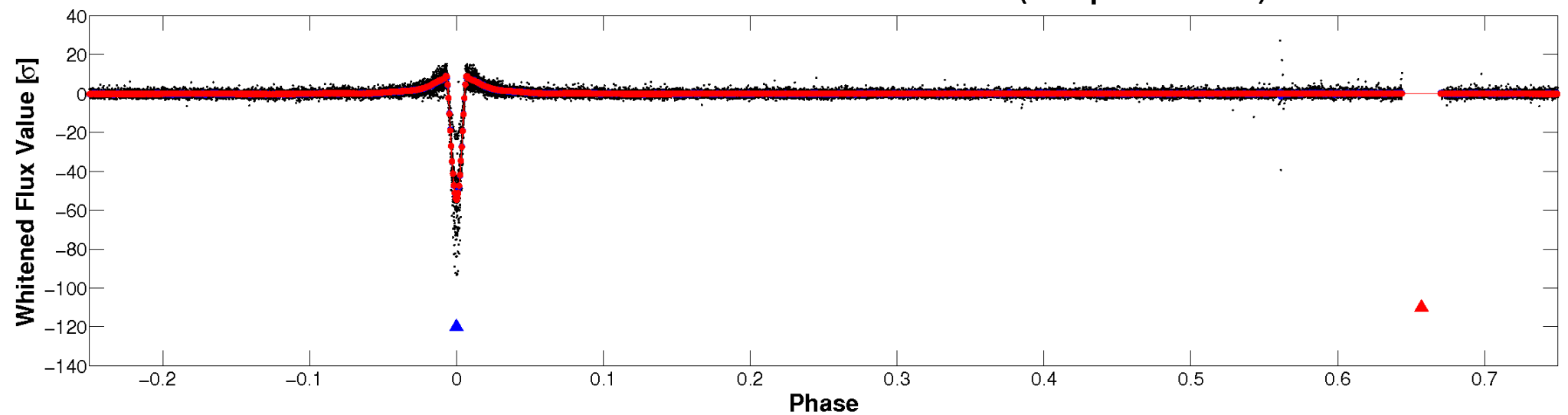


Non-Whitened Vs. Whitened Light Curve

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

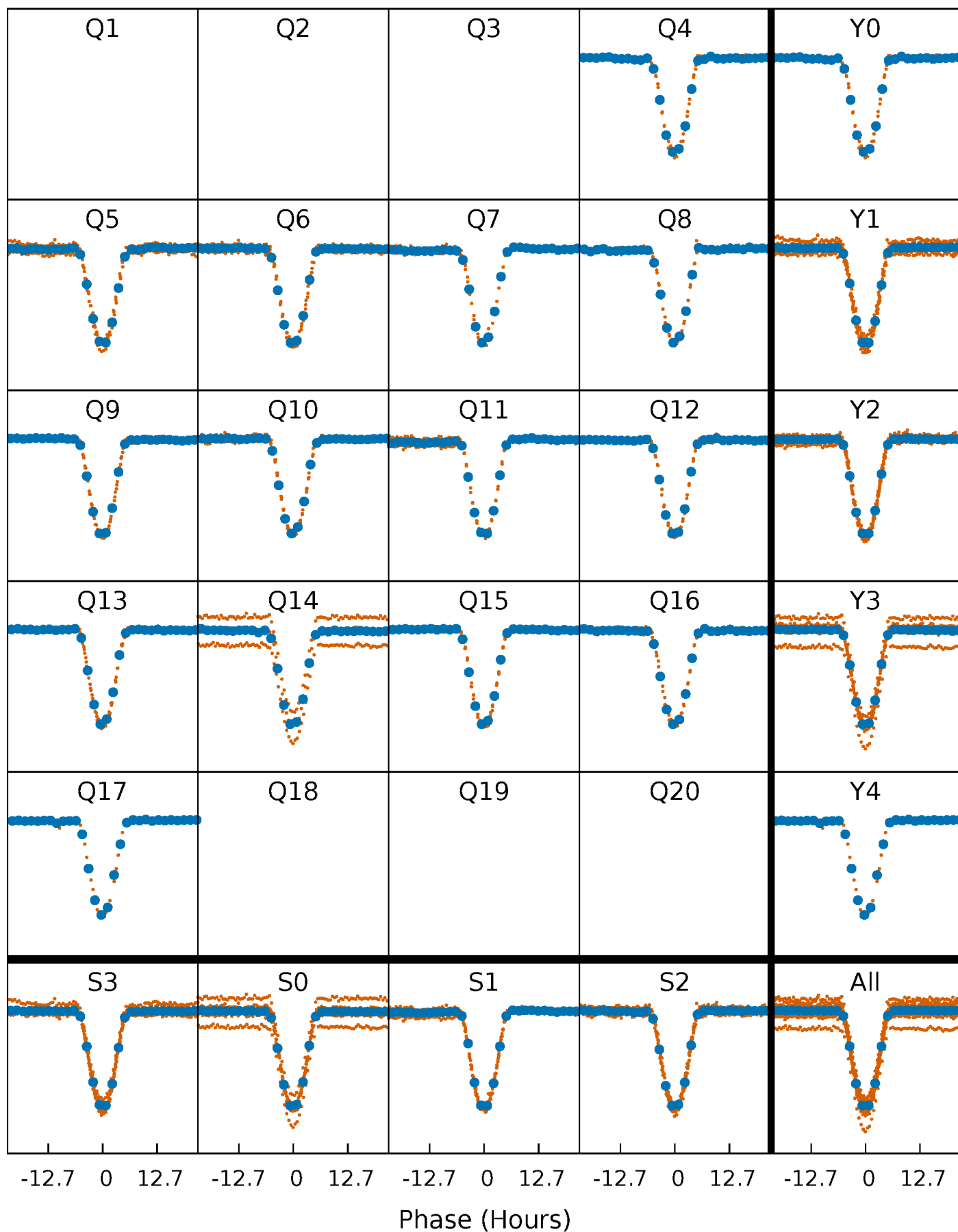


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



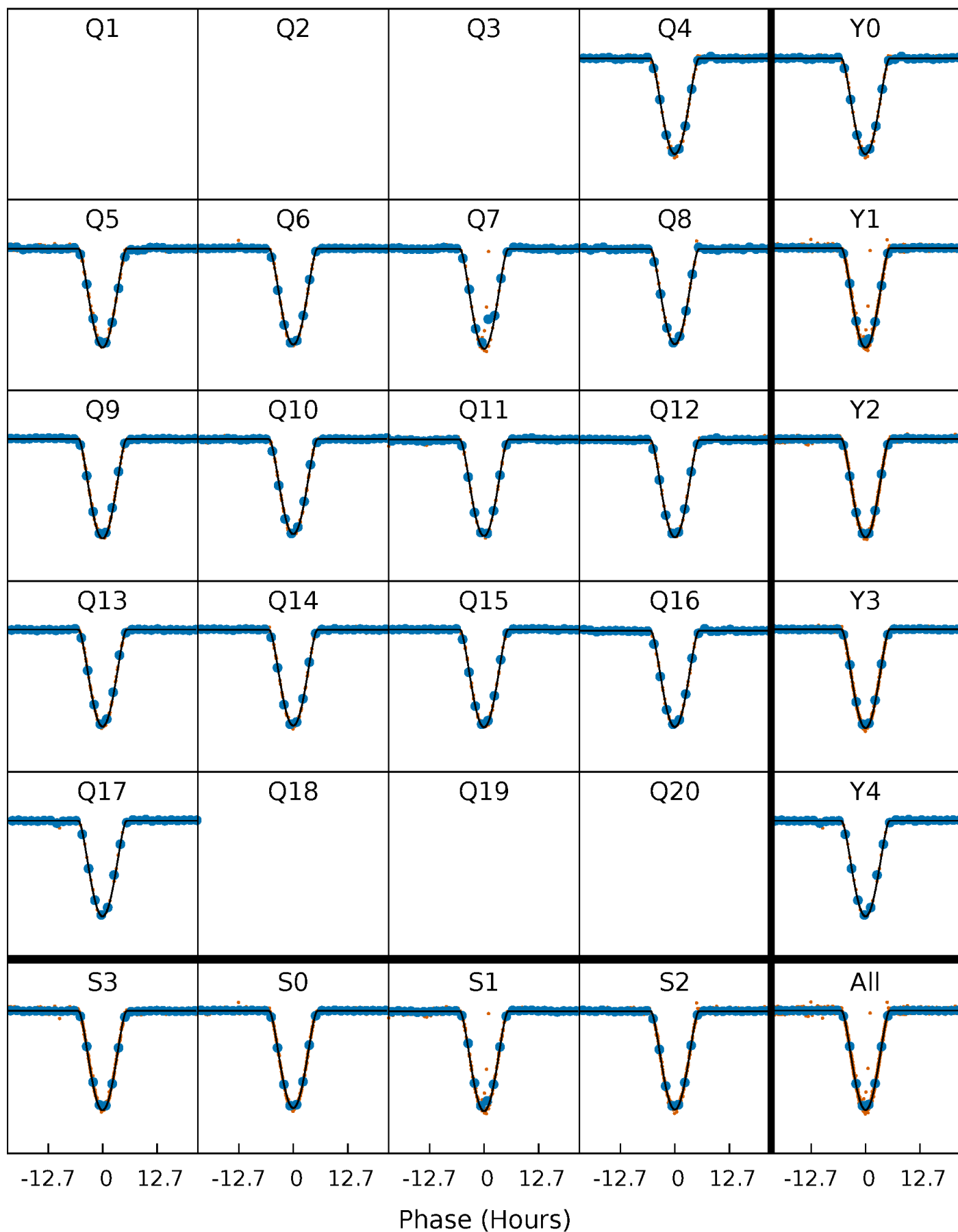
PDC Quarter-Phased Transit Curves

TCE 007121885-02 P= 33.937549 Days $T_0=147.182036$ (BKJD)



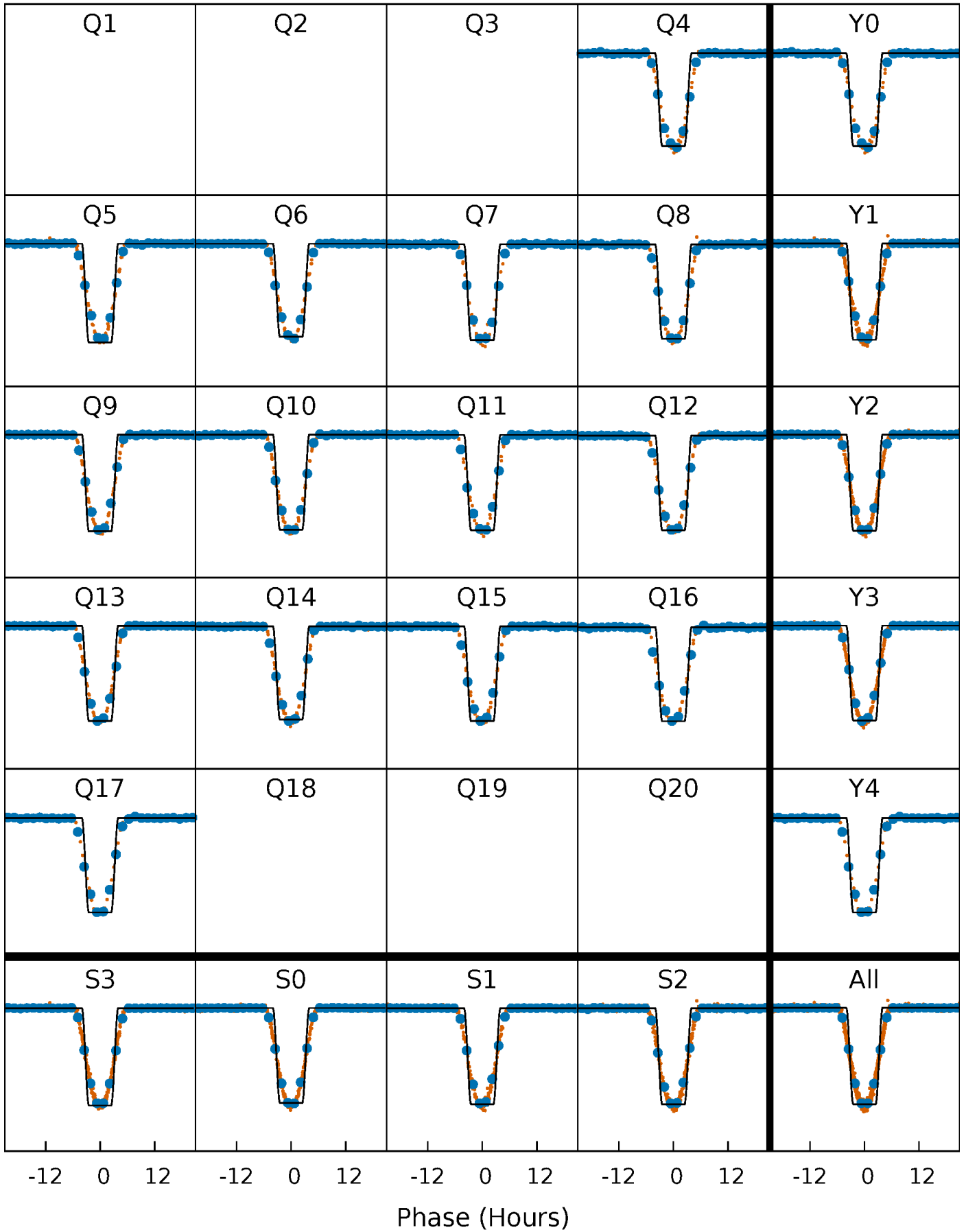
DV Quarter-Phased Transit Curves

TCE 007121885-02 P= 33.937549 Days $T_0=147.182036$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

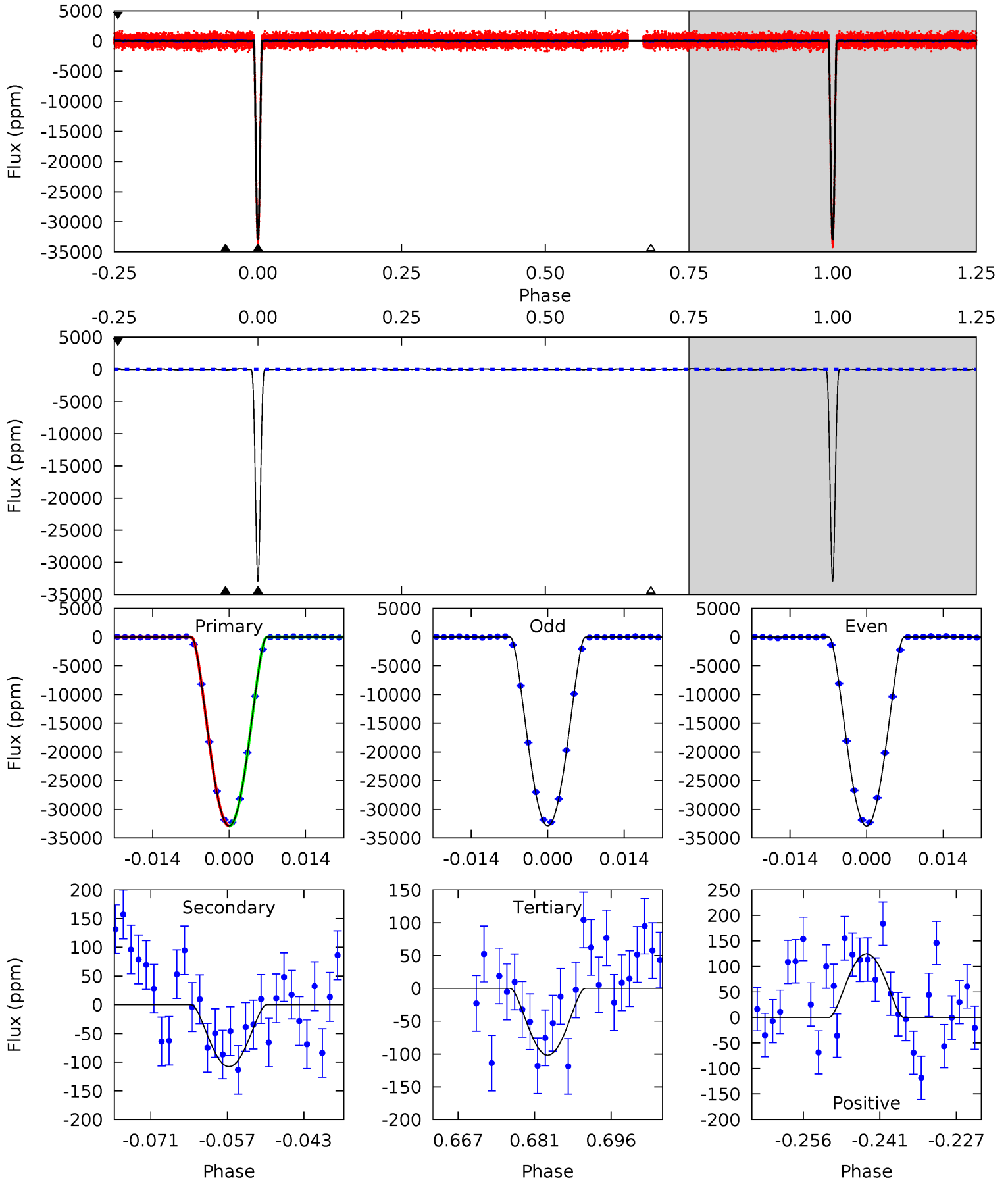
TCE 007121885-02 P= 33.937929 Days $T_0=147.172512$ (BKJD)



DV Model-Shift Uniqueness Test

007121885-02, P = 33.937549 Days, E = 147.182036 Days

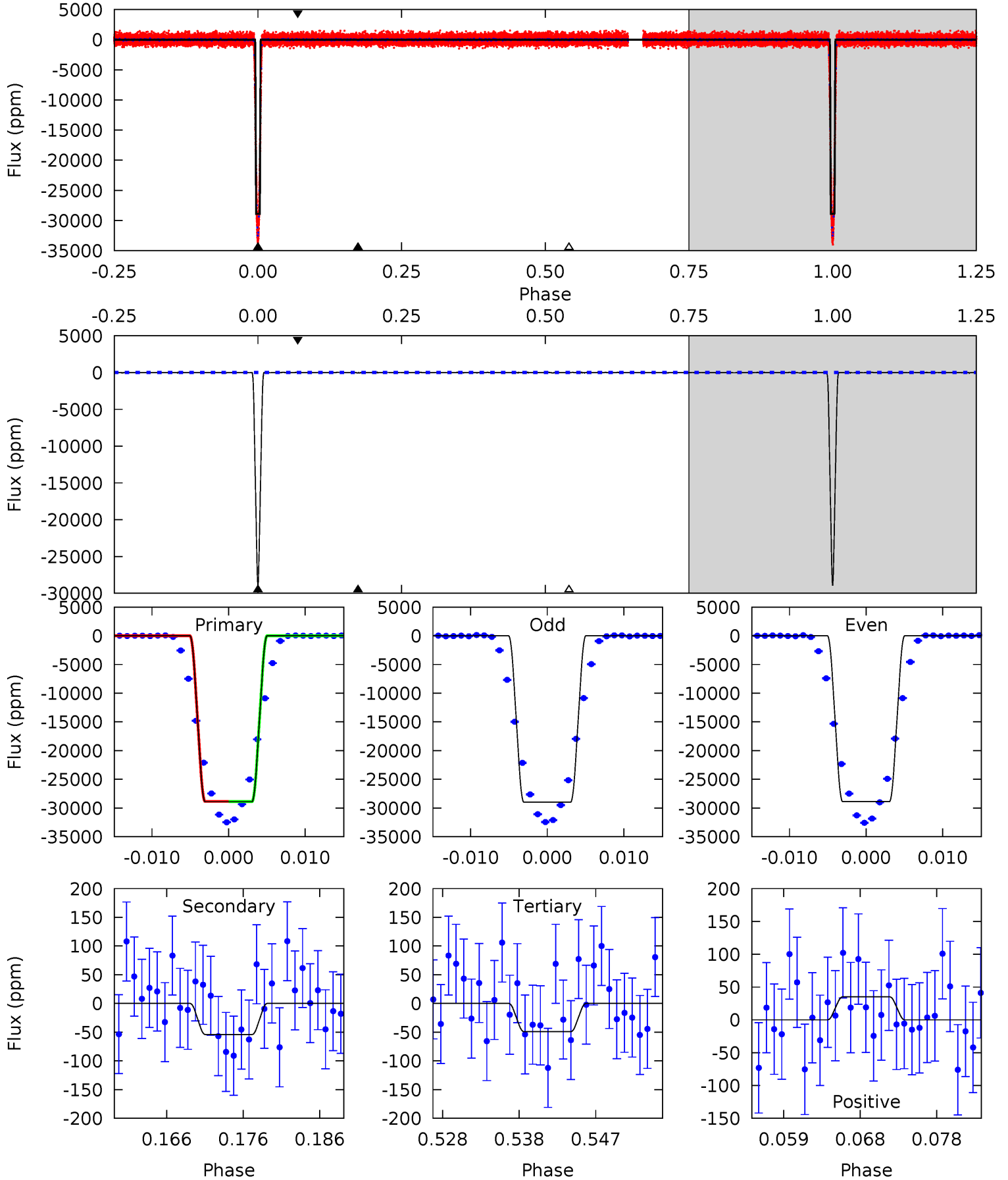
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2093	6.86	6.47	7.94	4.96	2.45	2.74	2086	2085	0.38	-1.08	1.34	1.00	0.00	3.20



Alt Model-Shift Uniqueness Test

007121885-02, P = 33.937929 Days, E = 147.172512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1659	3.11	2.82	2.02	5.03	2.58	0.83	1657	1657	0.28	1.09	2.43	1.00	0.00	0.60



Stellar Parameters For KIC 007121885

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6220^{+194}_{-259}	$4.414^{+0.072}_{-0.217}$	$-0.100^{+0.250}_{-0.300}$	$1.066^{+0.366}_{-0.147}$	$1.070^{+0.168}_{-0.137}$	$1.243^{+0.472}_{-0.653}$
	+3%/-4%	+2%/-5%	+250%/-300%	+34%/-14%	+16%/-13%	+38%/-53%
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 007121885-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-108 ± 16	$30.19^{+5.16}_{-3.02}$	880^{+70}_{-53}	2183^{+53}_{-60}	$2.762^{+0.824}_{-0.729}$
Alt.	-54 ± 17	$21.43^{+4.01}_{-2.42}$	879^{+69}_{-49}	2172^{+96}_{-110}	$2.667^{+1.255}_{-1.059}$

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 $A_{obs} \gg 1.0$

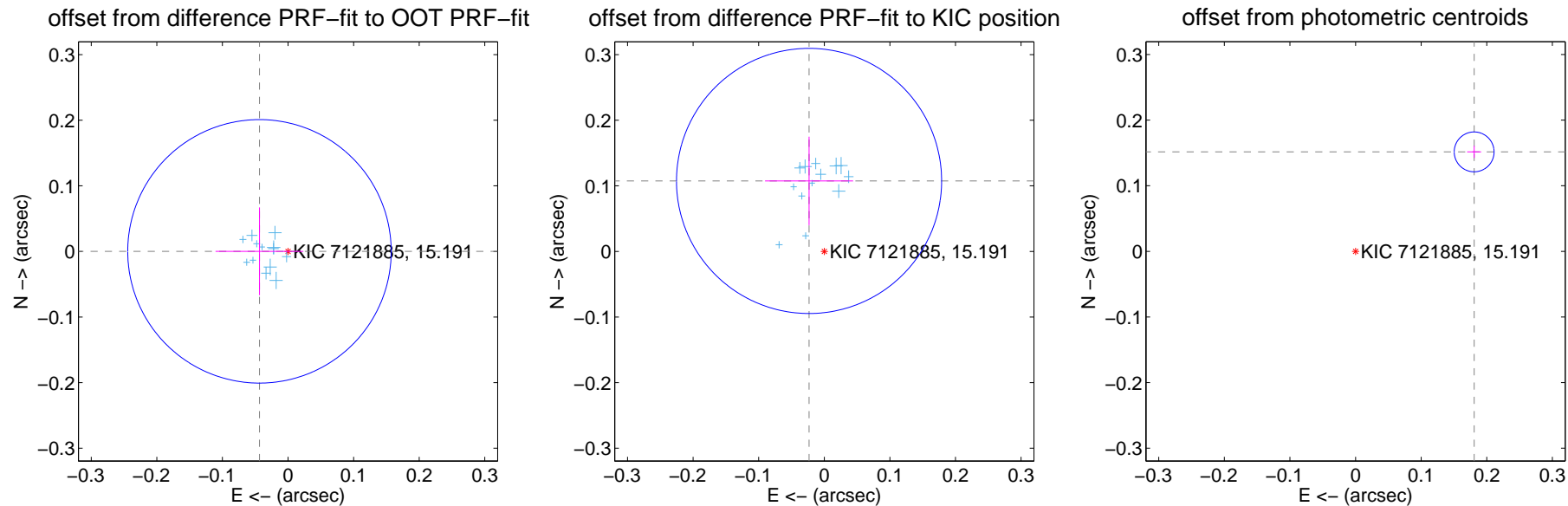
DV Centroid Data

Supplemental centroid analysis for 007121885-02. Kepler magnitude: 15.19. Transit SNR 947.18

There are 13 quarters with good PRF difference image offsets

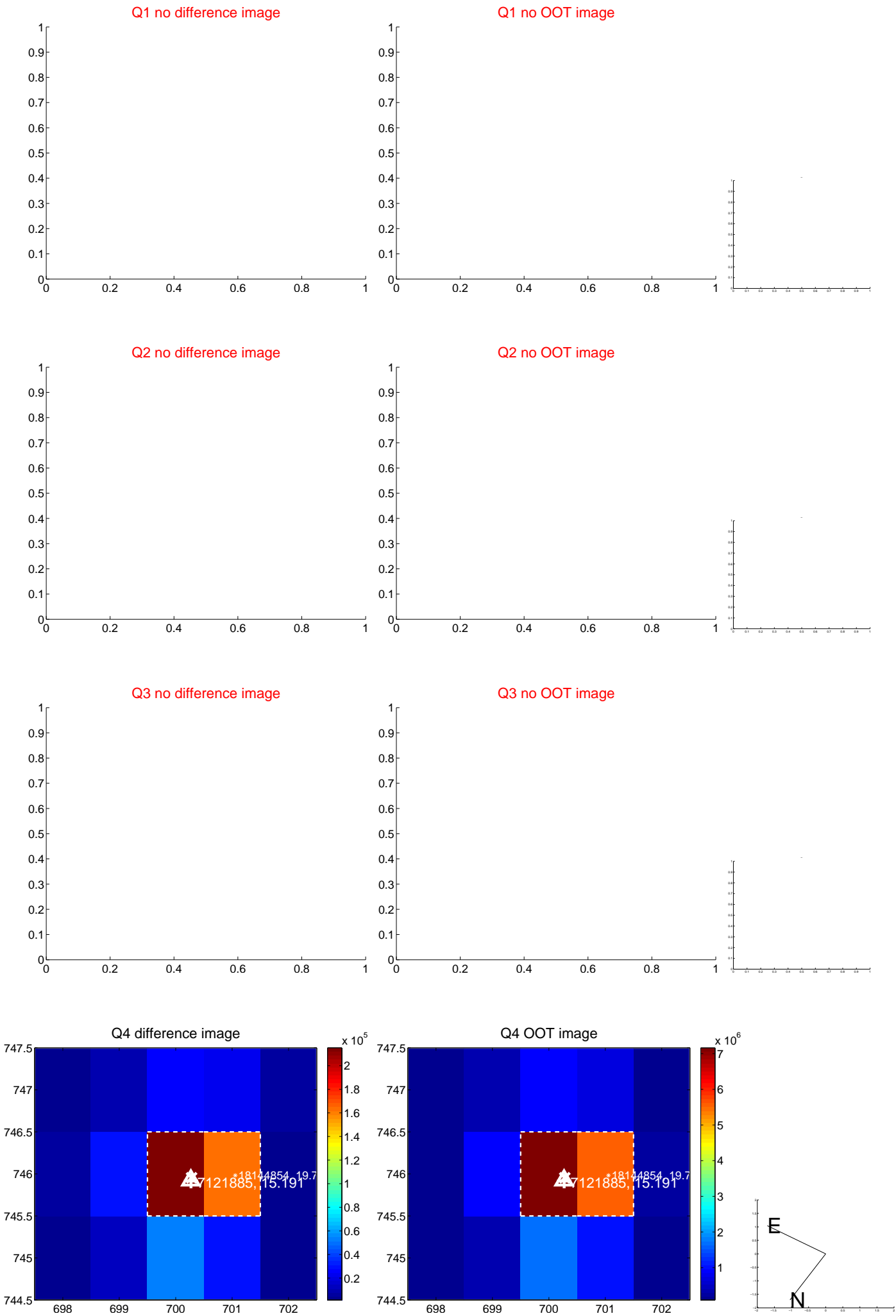
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.067	0.65	0.044 ± 0.067	0.000 ± 0.067
PRF-fit source offset from KIC position	0.110 ± 0.067	1.63	0.023 ± 0.067	0.107 ± 0.067
photometric centroid source offset	0.24 ± 0.01	23.30	-0.18 ± 0.01	0.15 ± 0.01

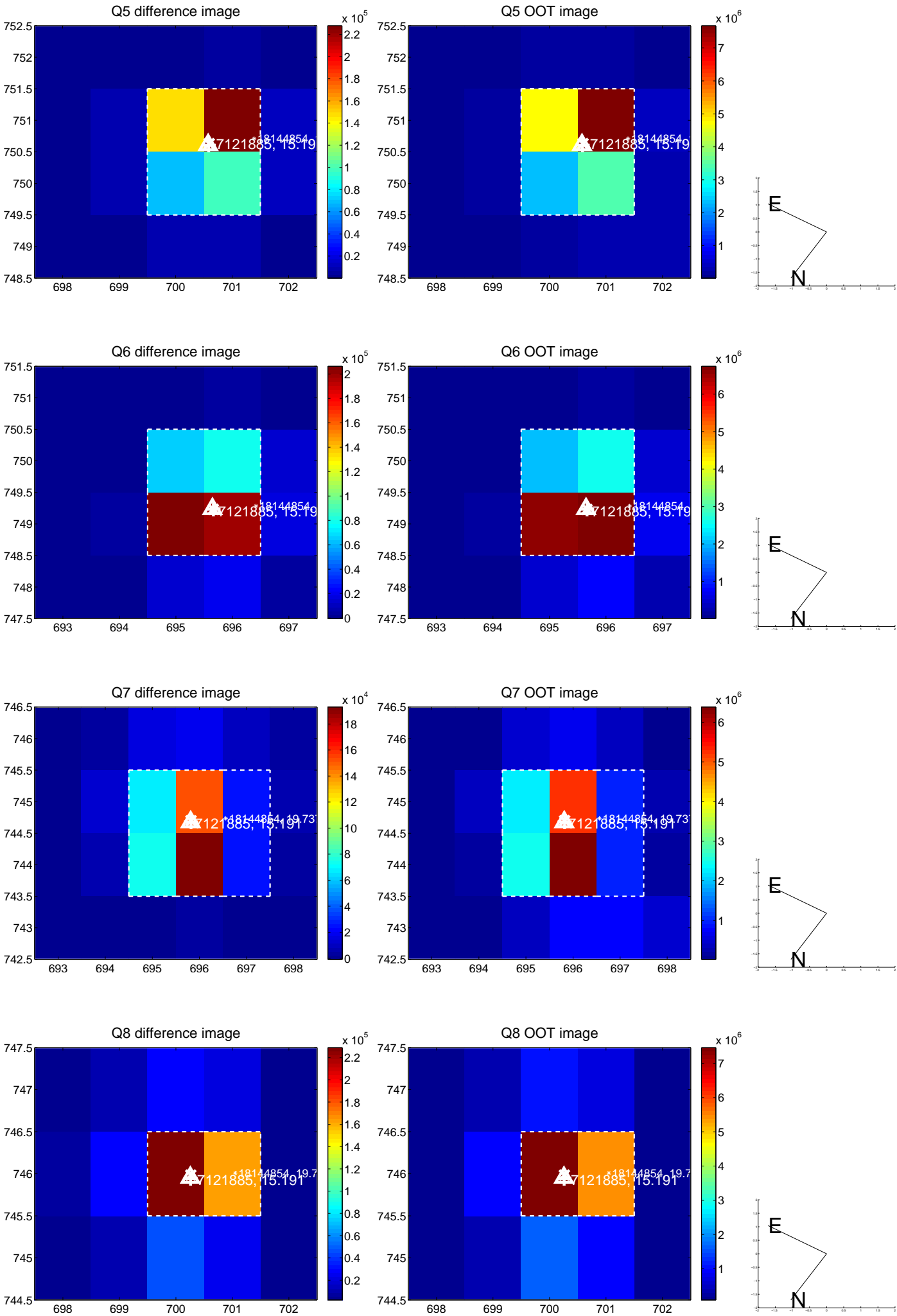


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

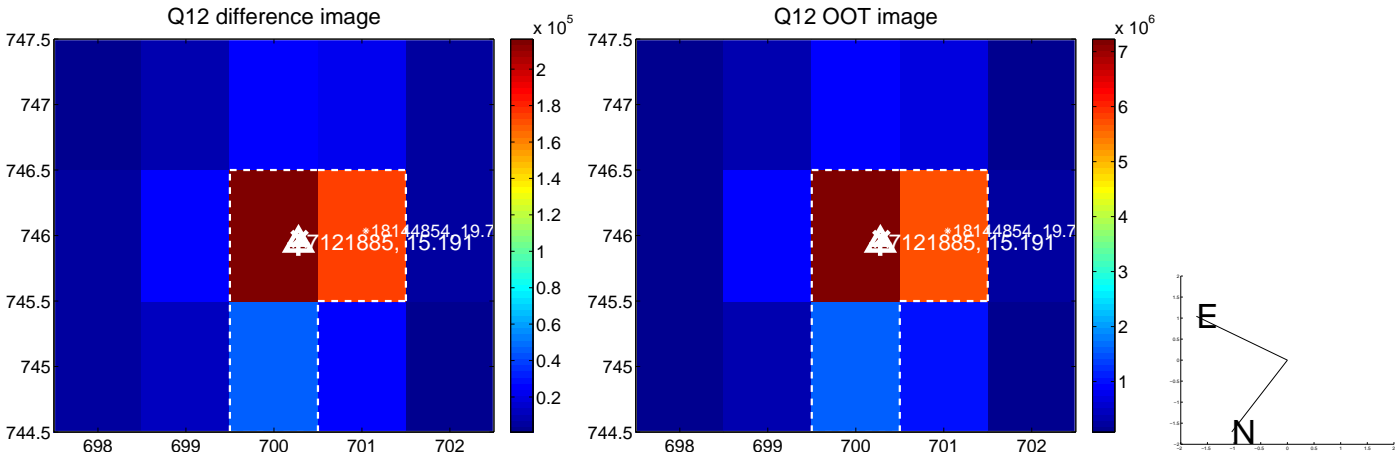
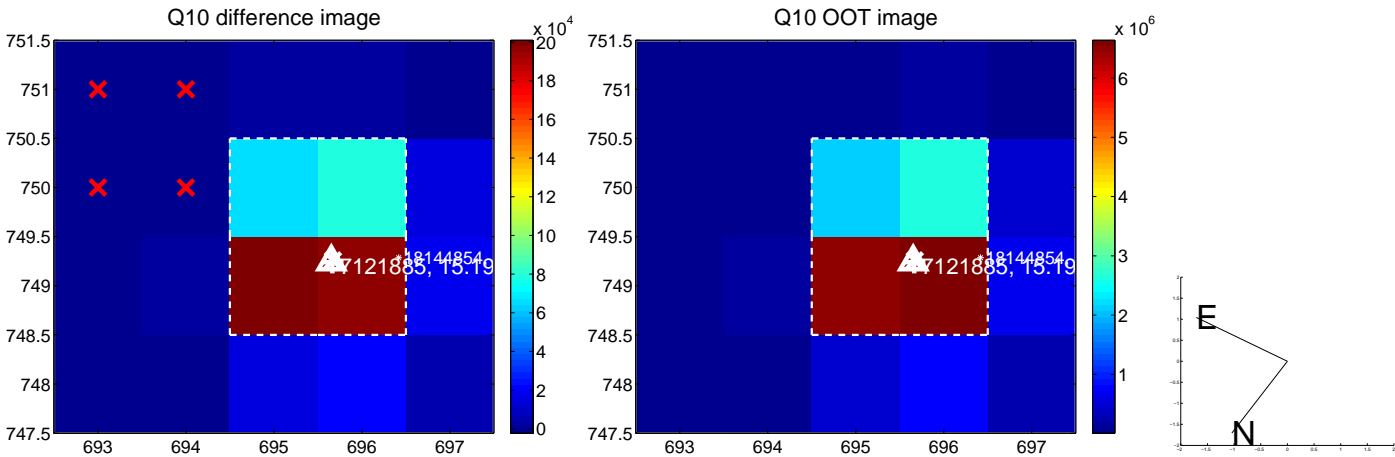
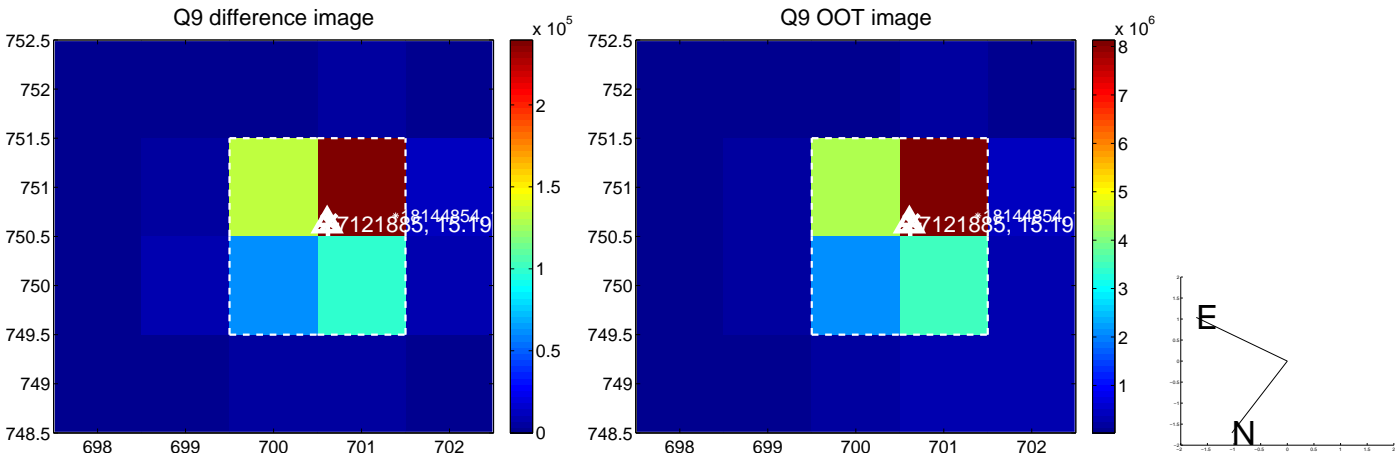
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



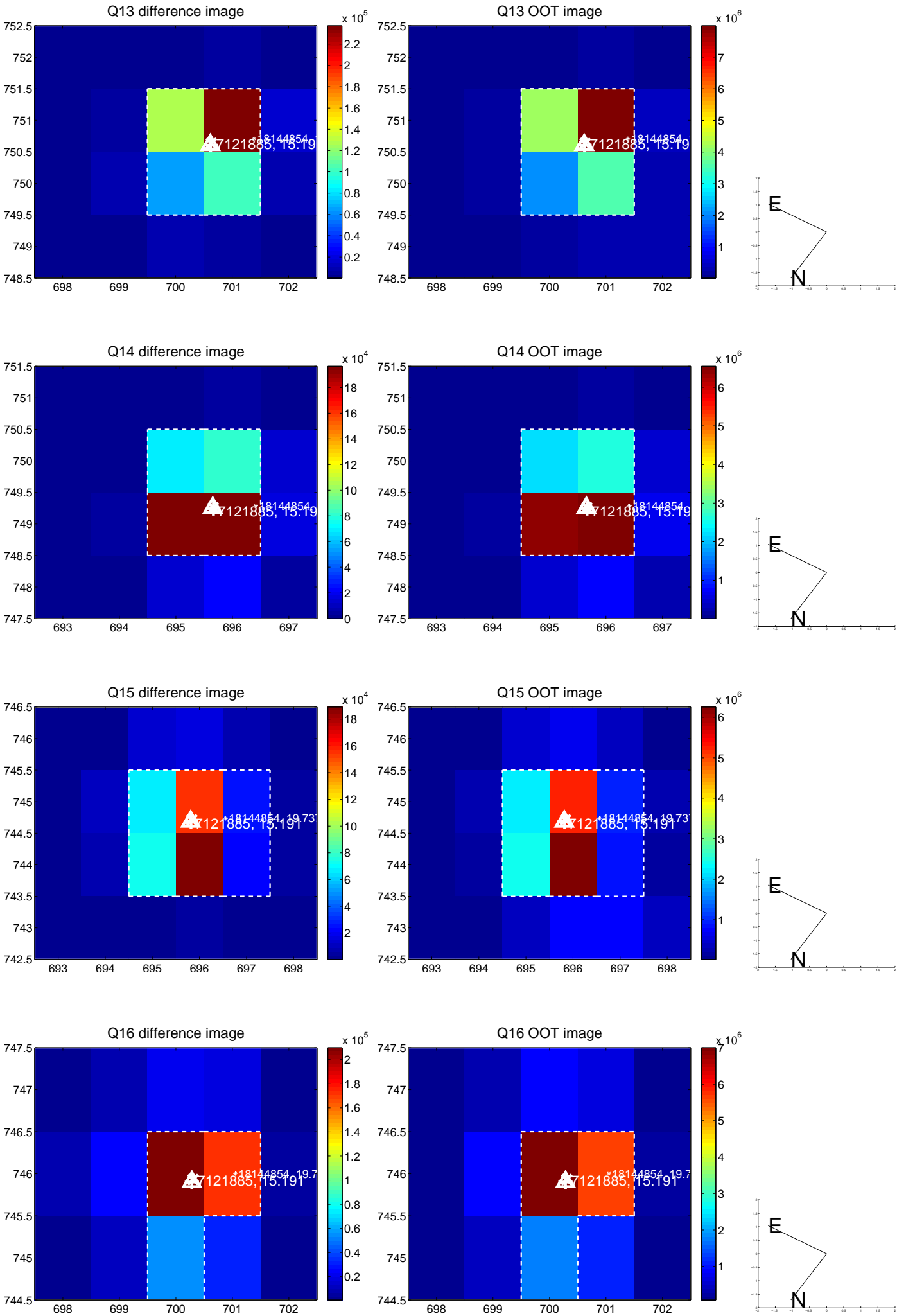
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



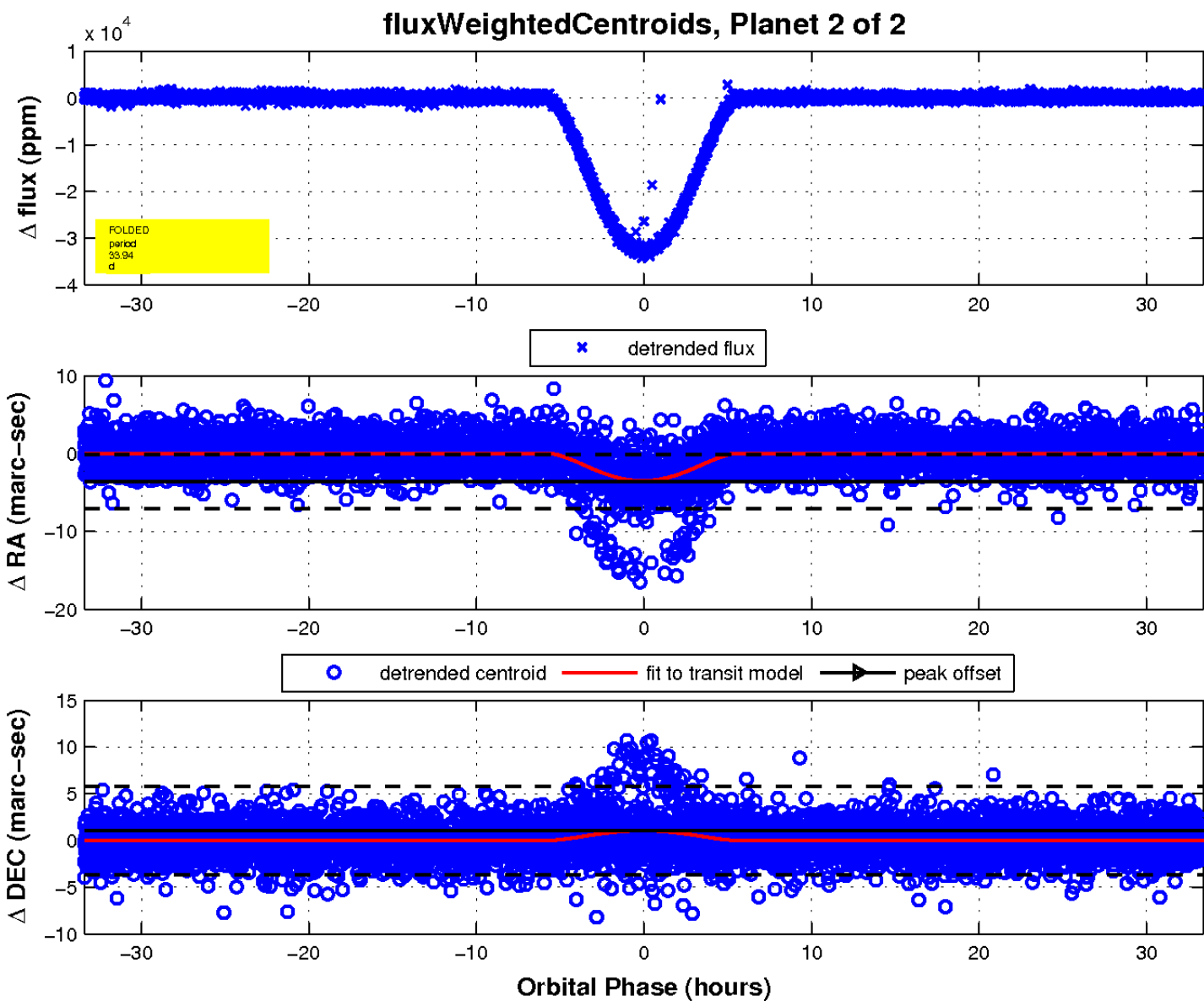
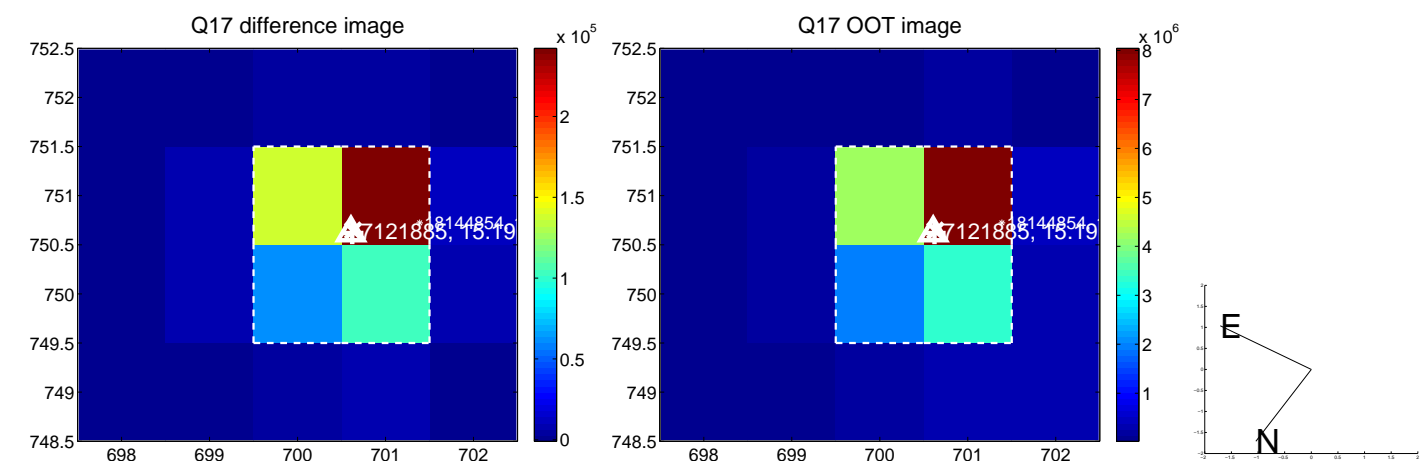
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

