

KIC 005527172

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})
005527172-01	OBS	1678.01	3.183962	132.865360	39332.2	3.767	2804.7	2247.4	1.76	5716	37.38	1610.58
005527172-02	OBS	No	1.591982	132.863277	697.1	3.000	101.4	-1.0	1.76	5716	4.61	4058.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005527172-01	OBS	FP	0.08	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005527172-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

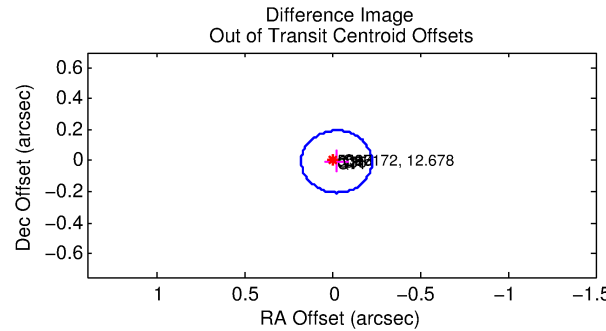
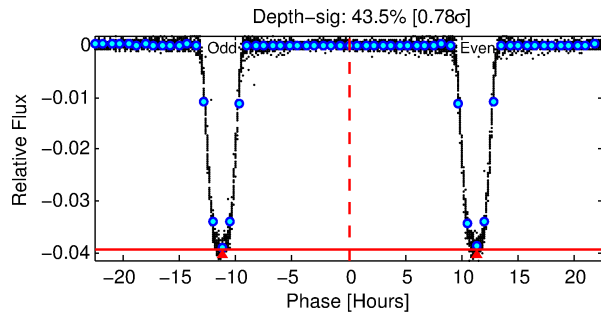
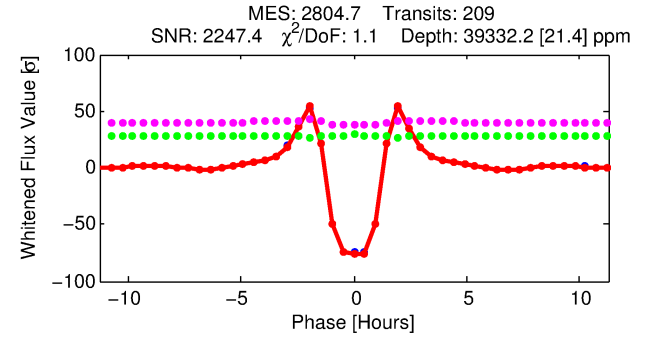
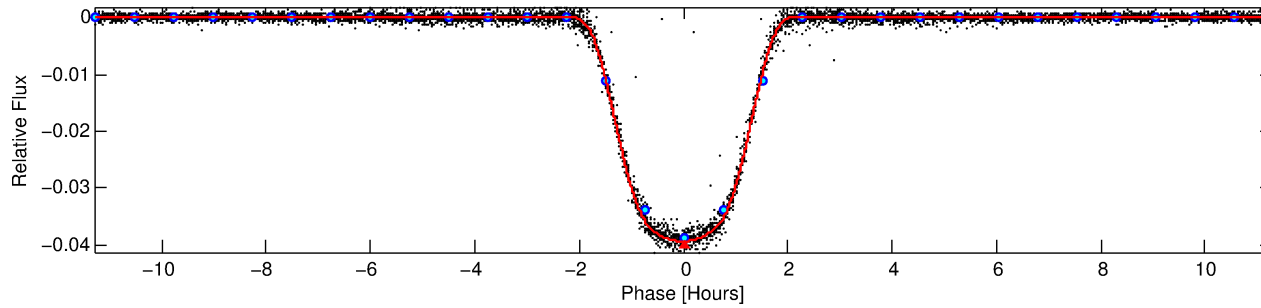
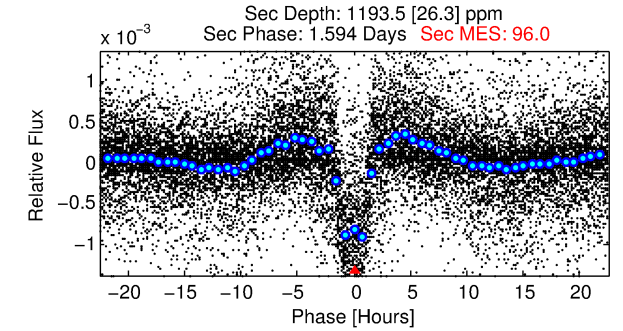
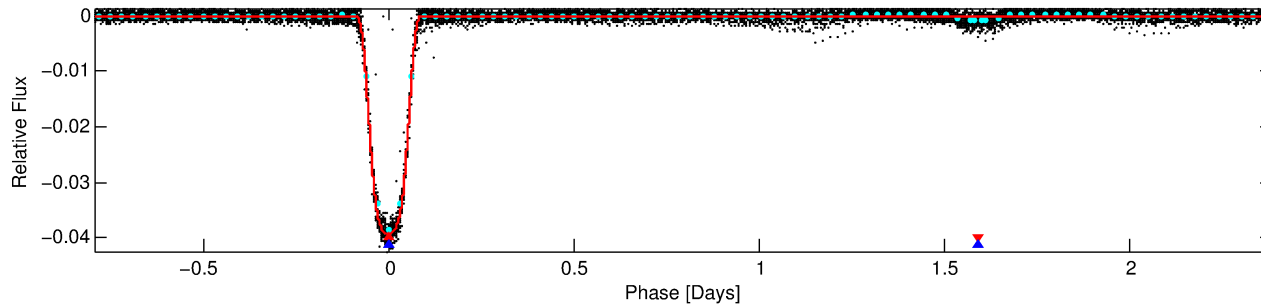
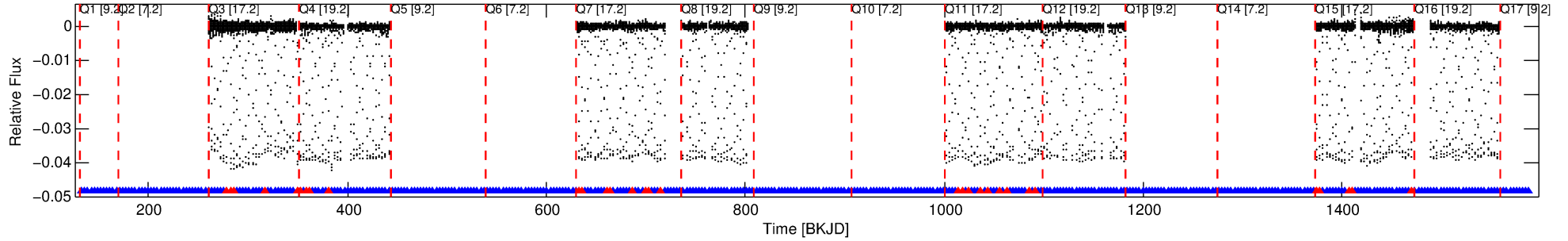
Ephemeris Match Information For 005527172-01

No Significant Match Found

DV One-Page Summary

KIC: 5527172 Candidate: 1 of 2 Period: 3.184 d
KOI: K01678.01 Corr: 0.997

Kp: 12.68 R*: 1.76 Rs Teff: 5716.0 K Logg: 3.96 Fe/H: -0.100



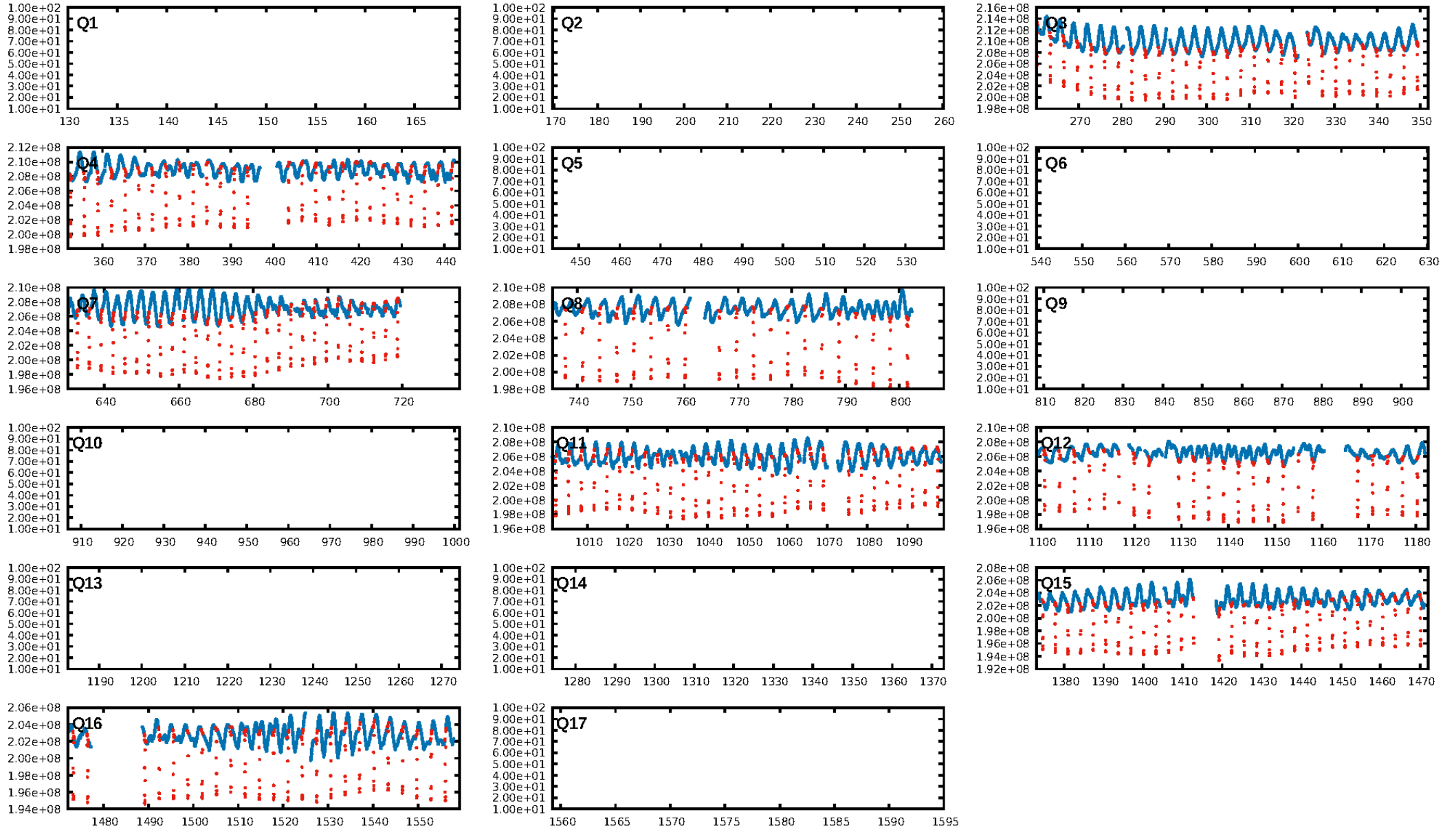
DV Fit Results:

Period = 3.18396 [0.00000] d
Epoch = 132.8654 [0.0000] BKJD
Rp/R* = 0.1946 [0.0001]
a/R* = 6.39 [0.00]
b = 0.68 [0.00]
Seff = 1610.58 [605.34]
Teq = 1615 [152] K
Rp = 37.38 [9.28] Re
a = 0.0429 [0.0101] AU
Ag = 0.86 [0.32] [-0.42σ]
Teffp = 2408 [35] K [5.09σ]

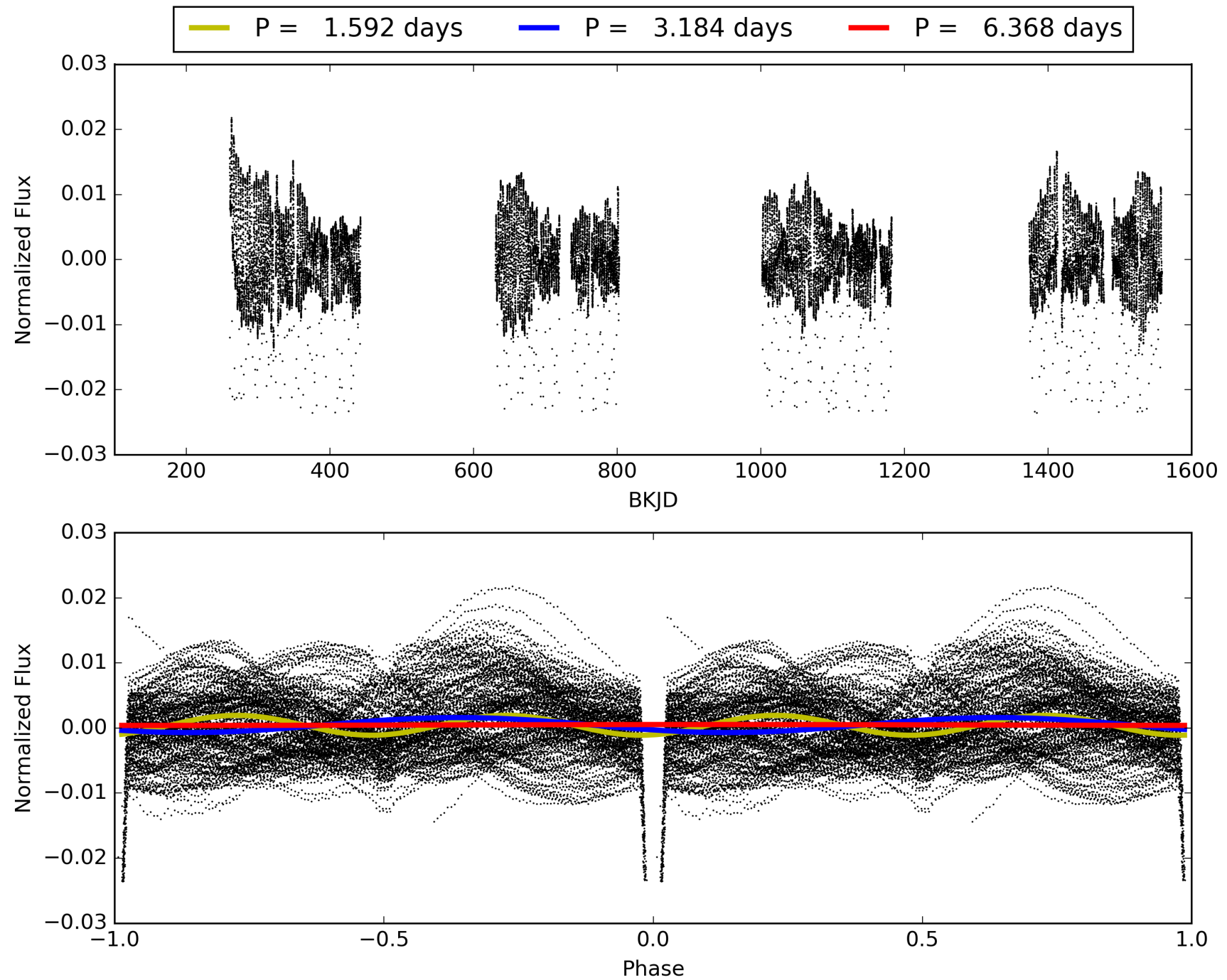
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.93σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.85 [178/209]
GhostDiagnostic-chr: 1.941
Centroid-sig: 0.0%
Centroid-so: 0.236 arcsec [131.07σ]
OotOffset-rm: 0.023 arcsec [0.35σ]
KicOffset-rm: 0.244 arcsec [3.62σ]
OotOffset-st: 0/4/4/0 [8]
KicOffset-st: 0/4/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 0.00 [0/8]

TCE 005527172-01, PDC Light Curves

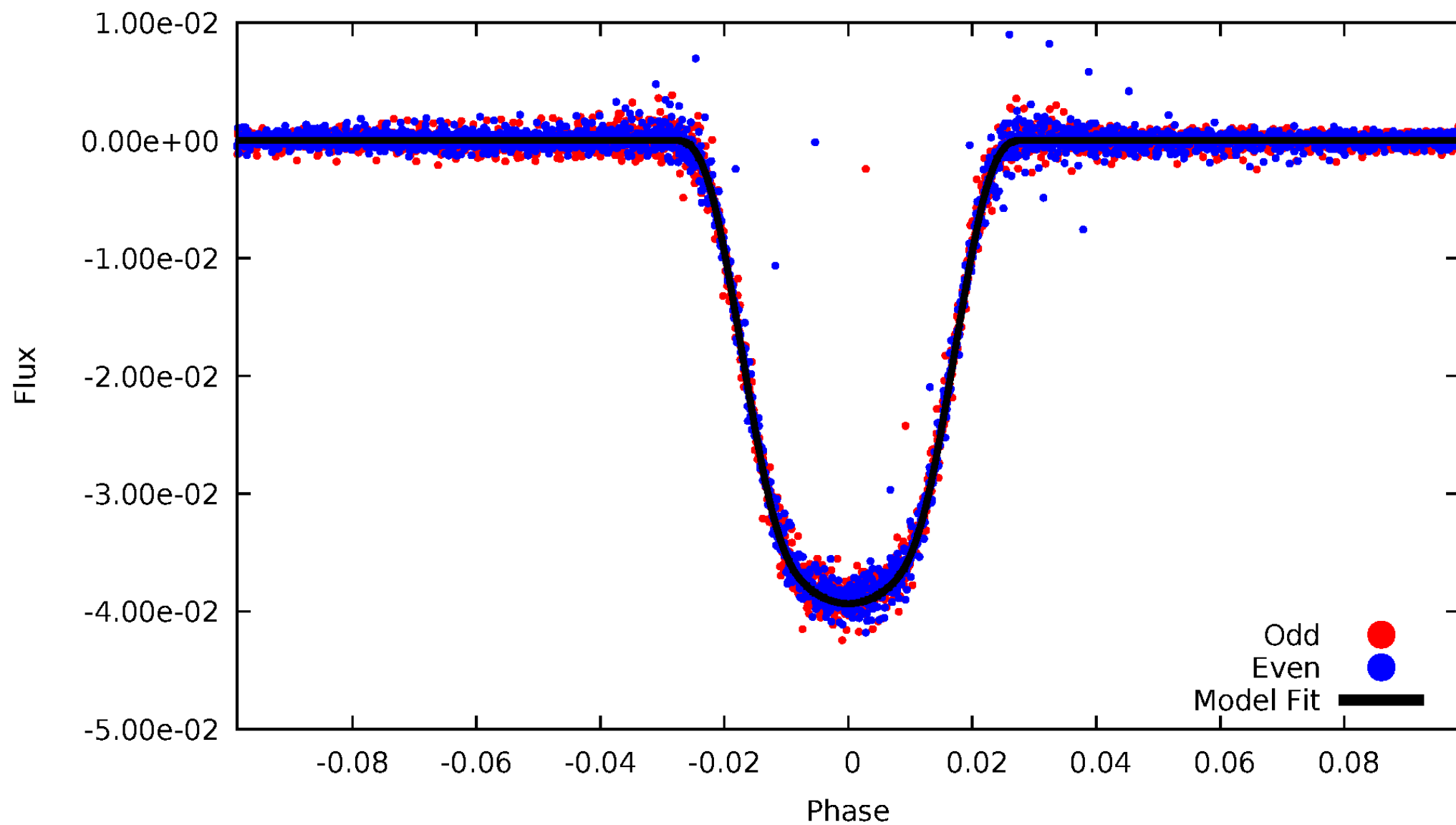


TCE 005527172-01



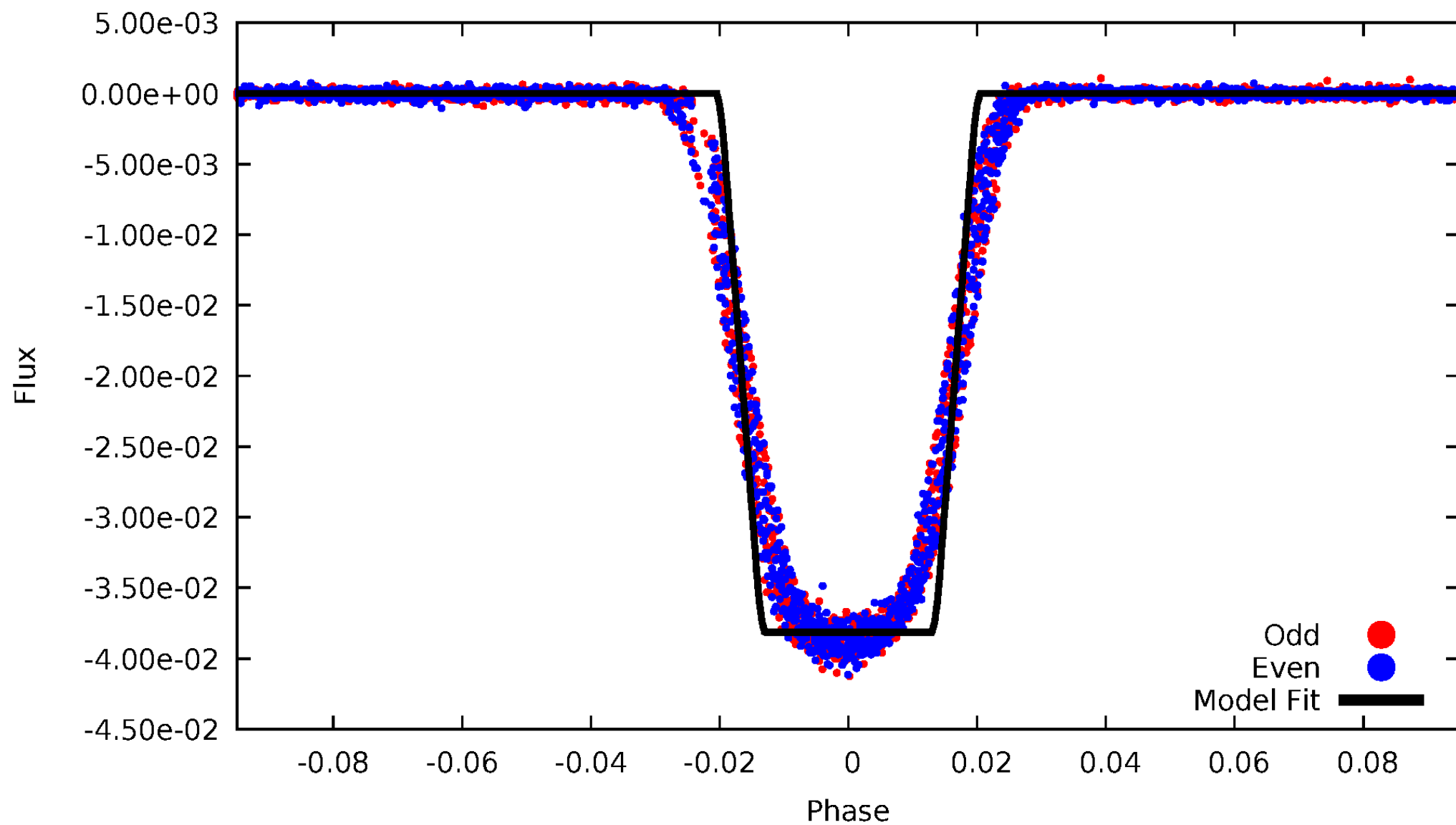
DV Odd/Even

TCE 005527172-01



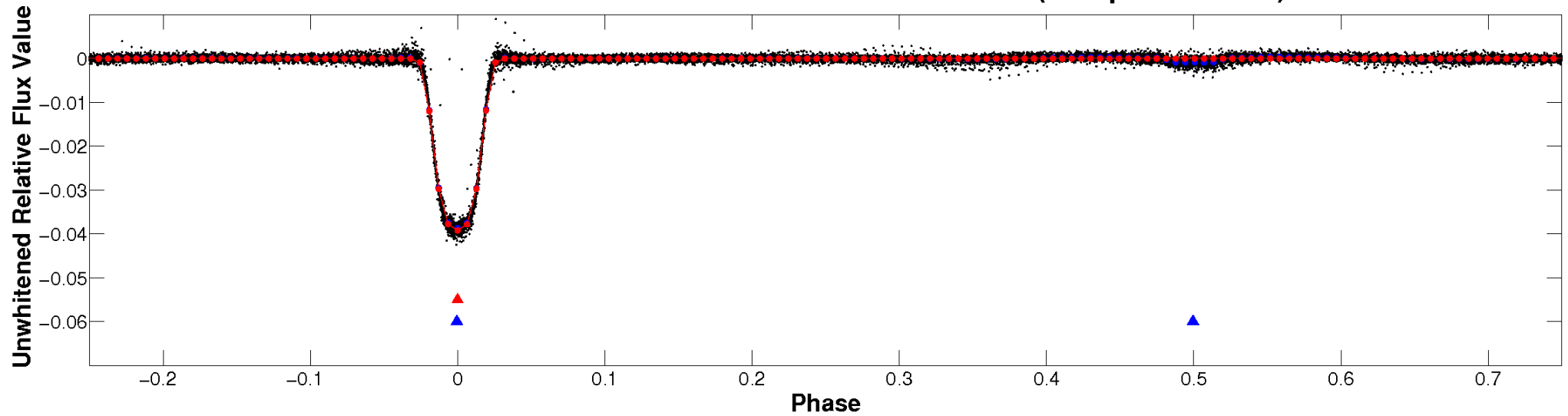
ALT Odd/Even

TCE 005527172-01

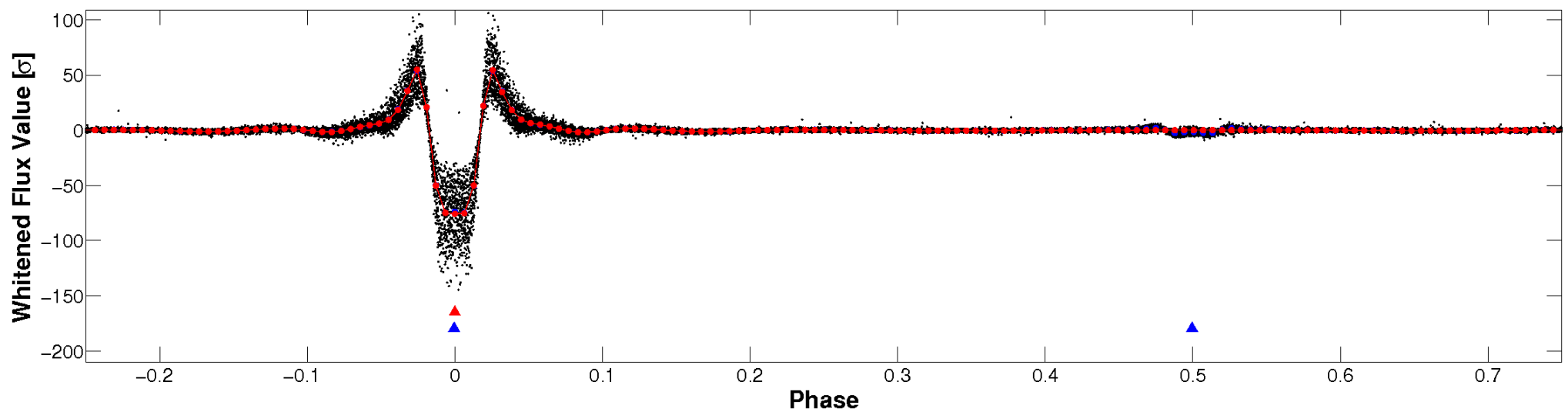


Non-Whitened Vs. Whitened Light Curve

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

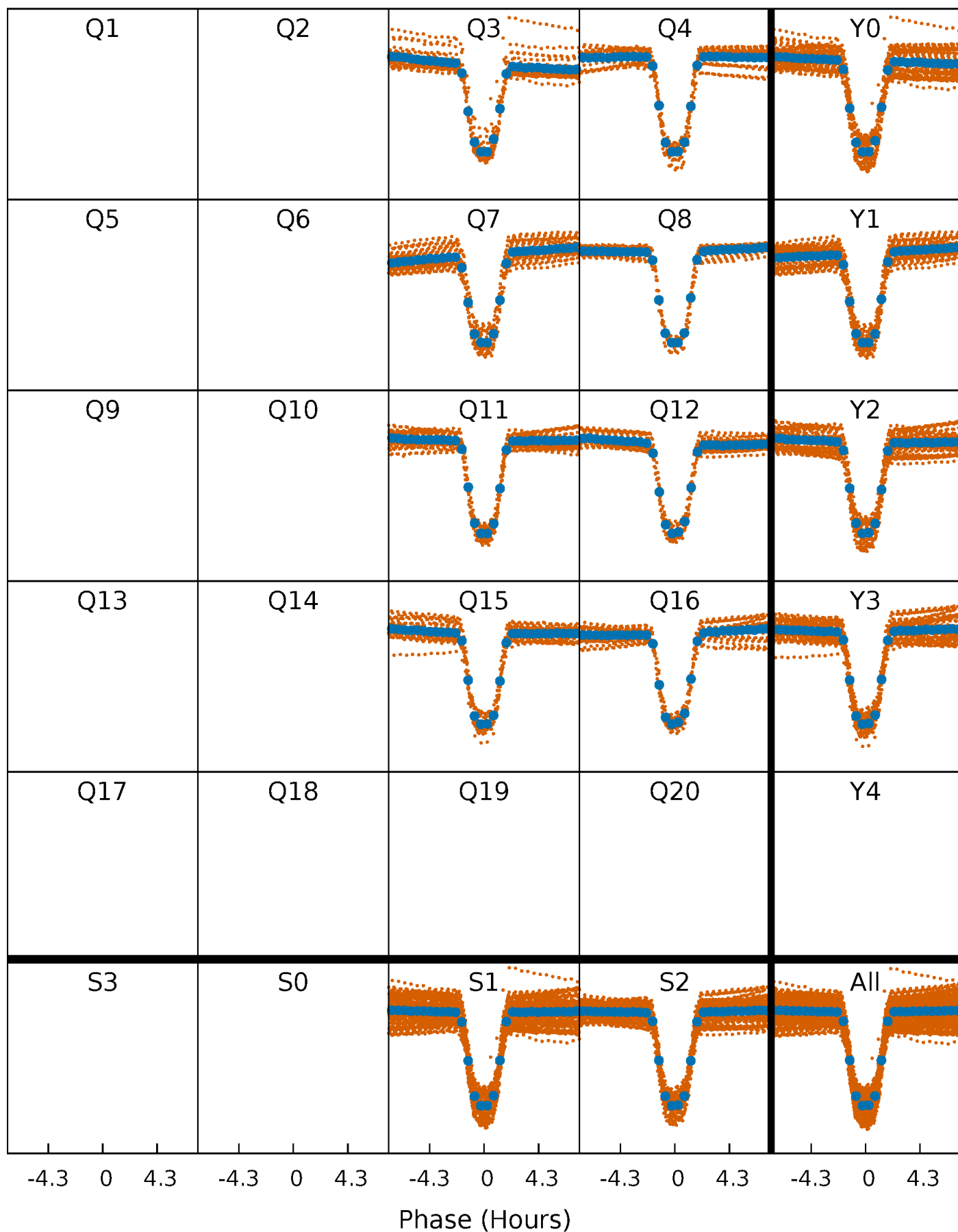


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



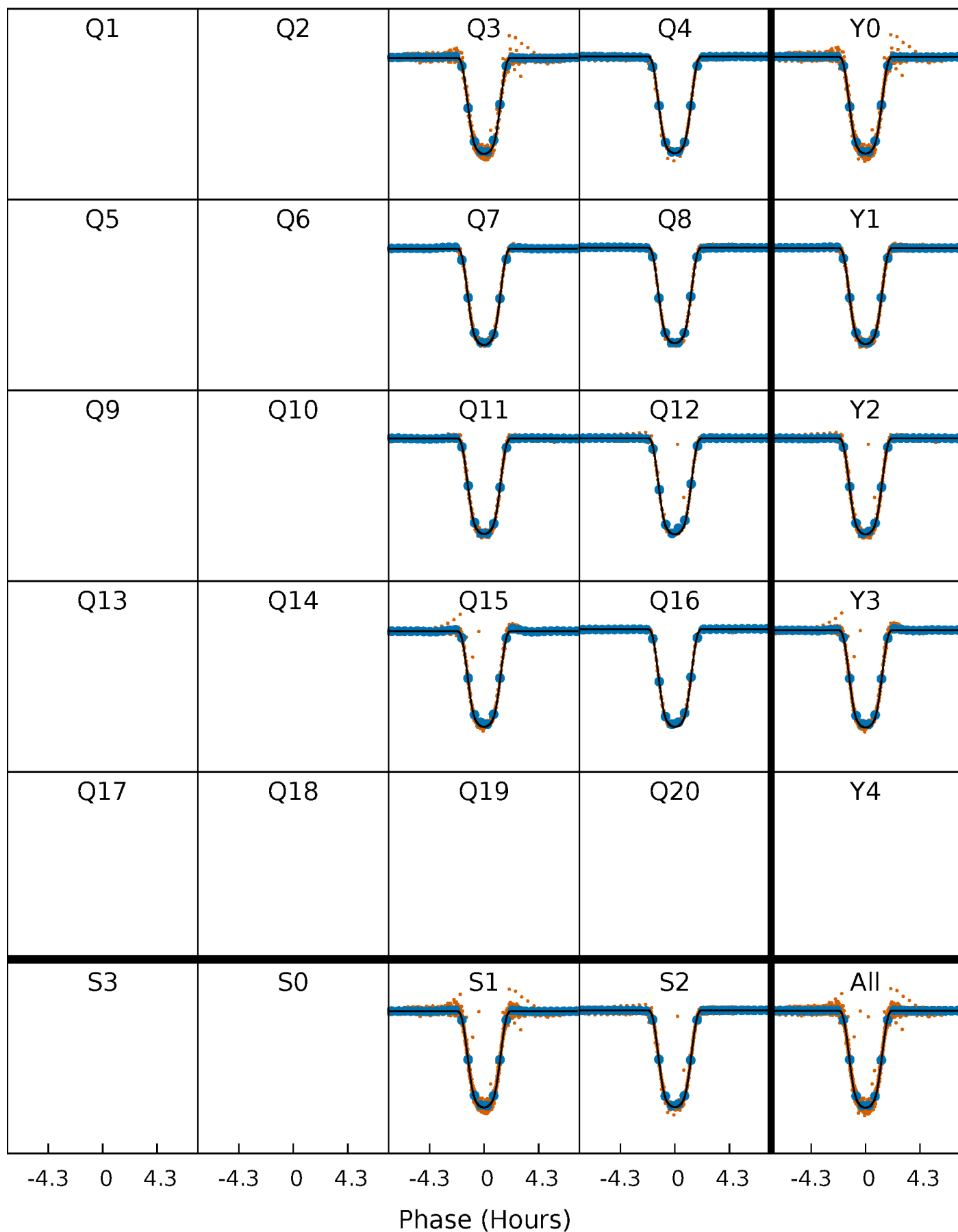
PDC Quarter-Phased Transit Curves

TCE 005527172-01 P= 3.183962 Days $T_0=132.865360$ (BKJD)



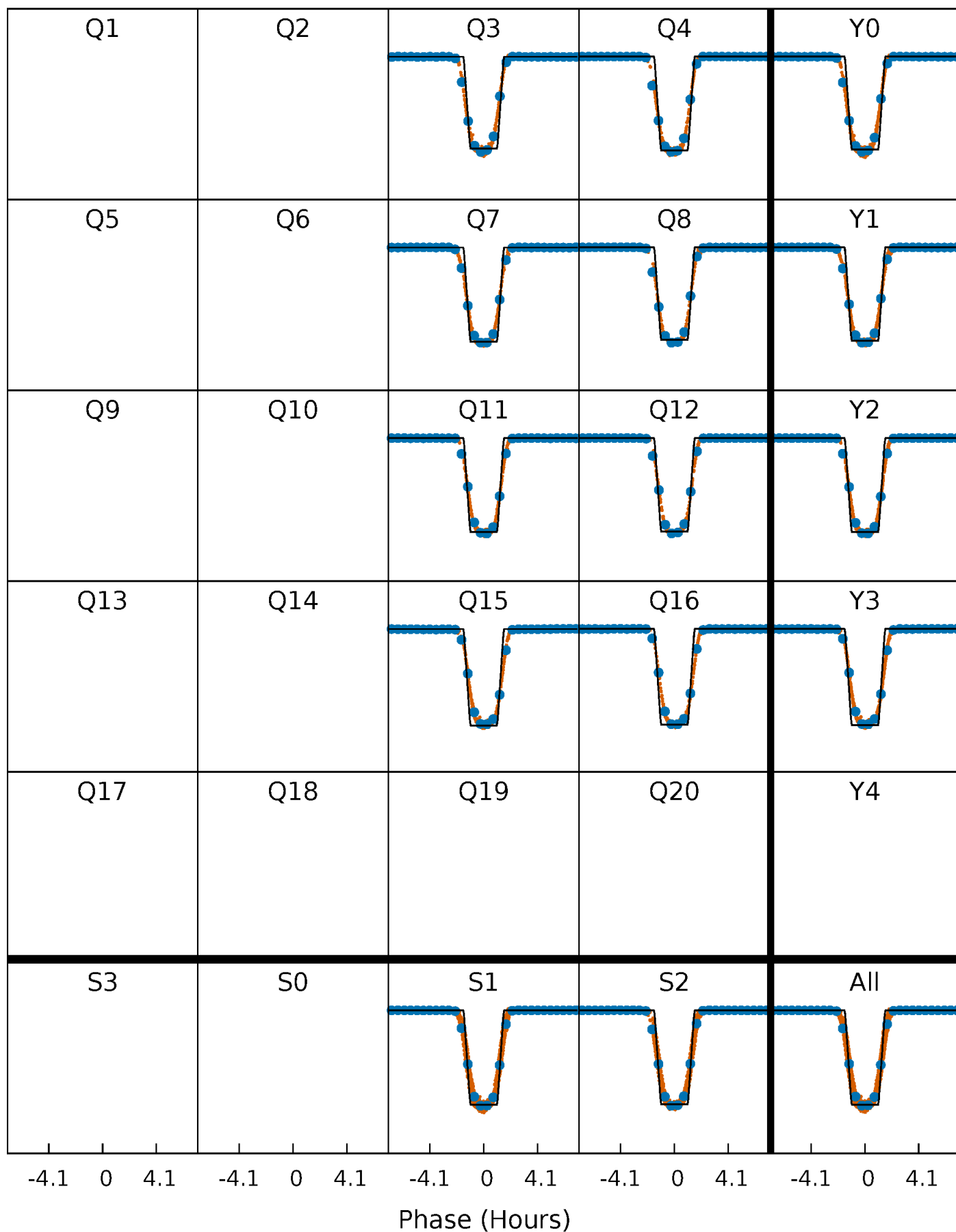
DV Quarter-Phased Transit Curves

TCE 005527172-01 P= 3.183962 Days $T_0=132.865360$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

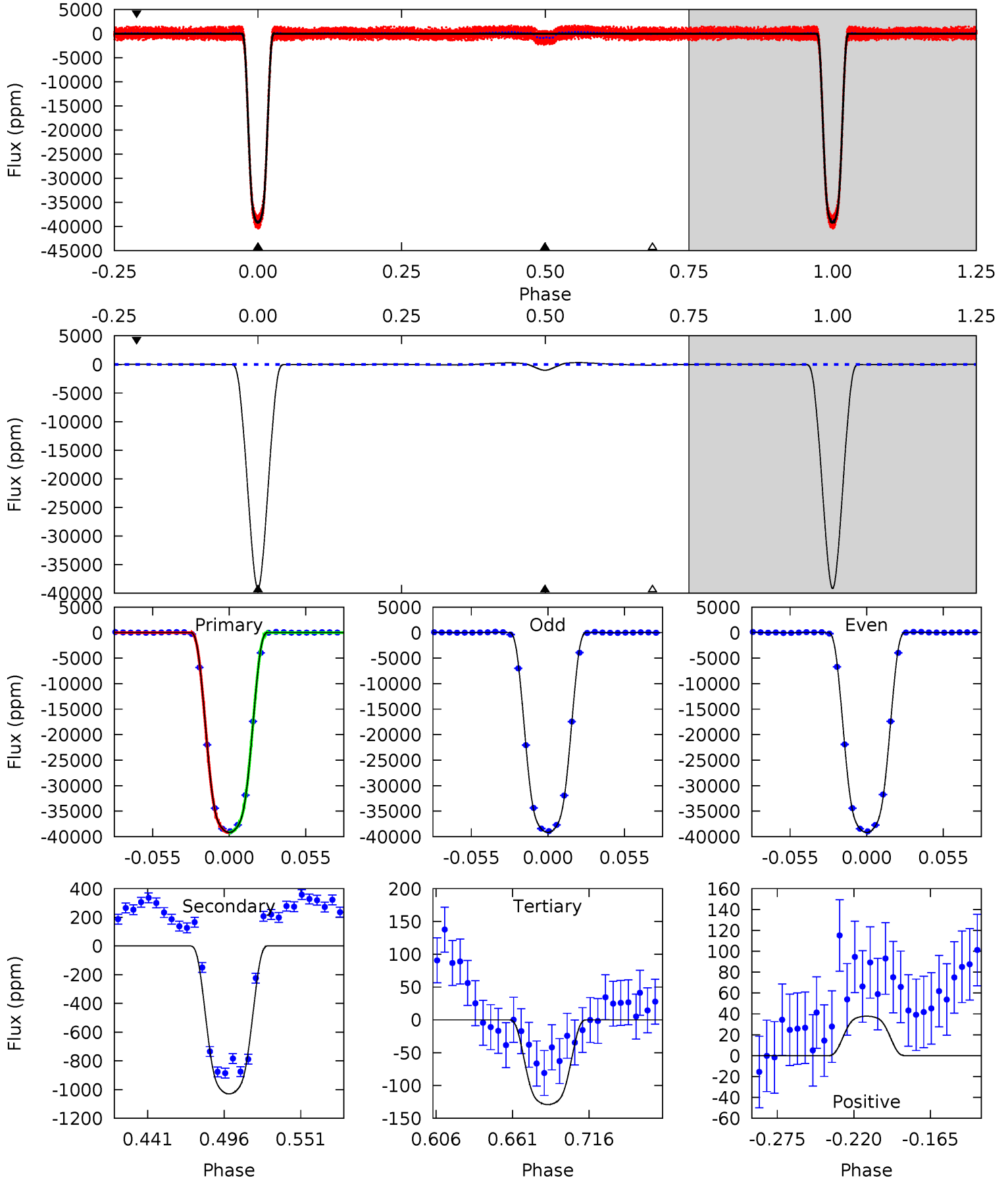
TCE 005527172-01 P= 3.183935 Days $T_0=132.871512$ (BKJD)



DV Model-Shift Uniqueness Test

005527172-01, P = 3.183962 Days, E = 132.865360 Days

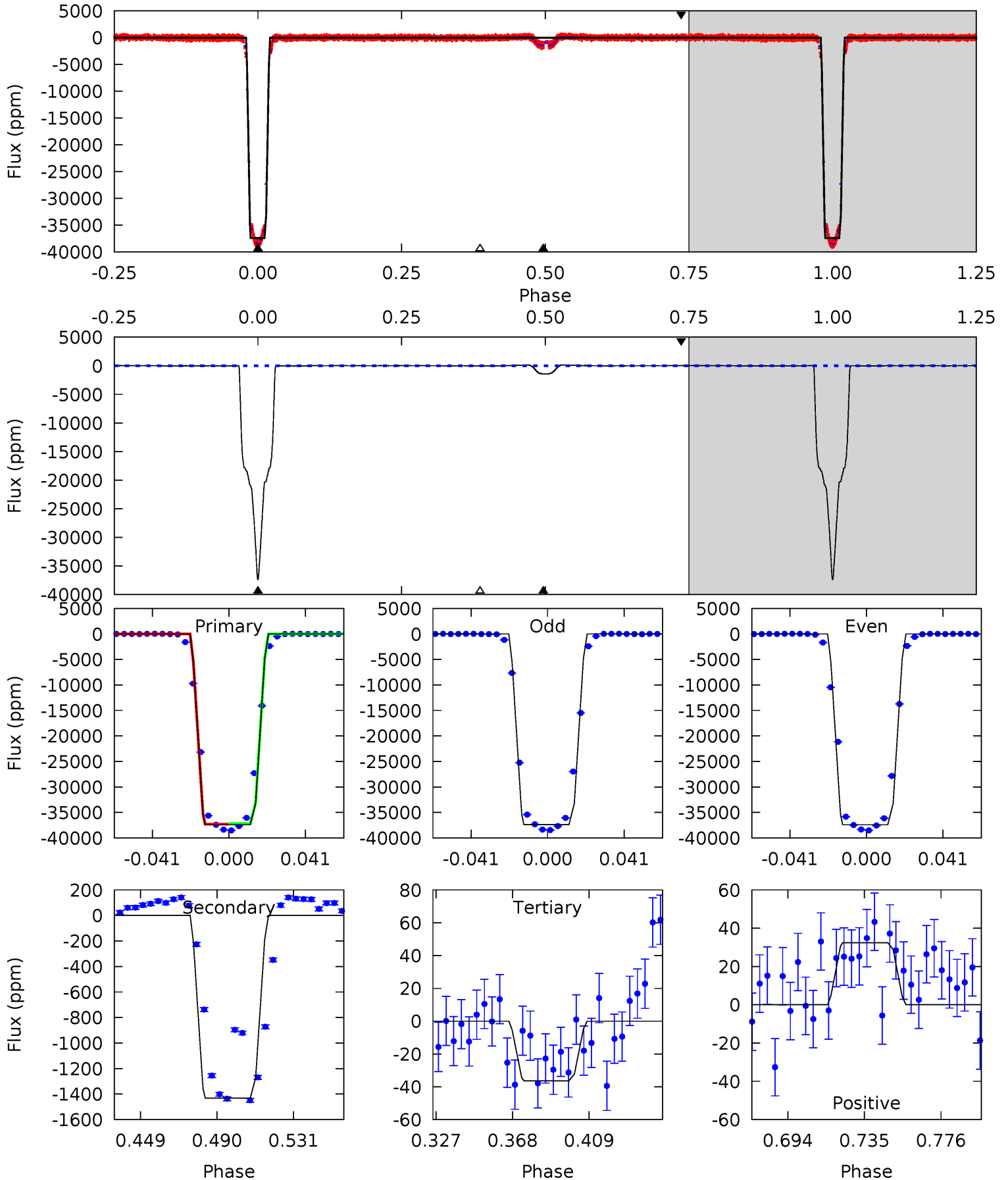
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3587	94.3	11.8	3.47	4.69	1.92	8.56	3576	3584	82.5	90.9	0.70	0.99	0.01	3.51



Alt Model-Shift Uniqueness Test

005527172-01, P = 3.183935 Days, E = 132.871512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4162	159.3	4.04	3.61	4.75	2.05	2.38	4158	4158	155.3	155.7	1.92	1.00	0.00	0



Stellar Parameters For KIC 005527172

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5716^{+77}_{-77}	$3.963^{+0.217}_{-0.093}$	$-0.100^{+0.150}_{-0.150}$	$1.760^{+0.291}_{-0.437}$	$1.039^{+0.105}_{-0.128}$	$0.268^{+0.303}_{-0.079}$
	+1%/-1%	+5%/-2%	+150%/-150%	+17%/-25%	+10%/-12%	+113%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005527172-01 / KOI 1678.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1030 ± 11	$36.97^{+3.35}_{-5.00}$	2236^{+96}_{-144}	2796^{+54}_{-47}	$0.771^{+0.243}_{-0.112}$
Alt.	-1432 ± 9	$36.96^{+3.36}_{-4.75}$	2234^{+103}_{-137}	2990^{+43}_{-41}	$1.071^{+0.301}_{-0.170}$

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

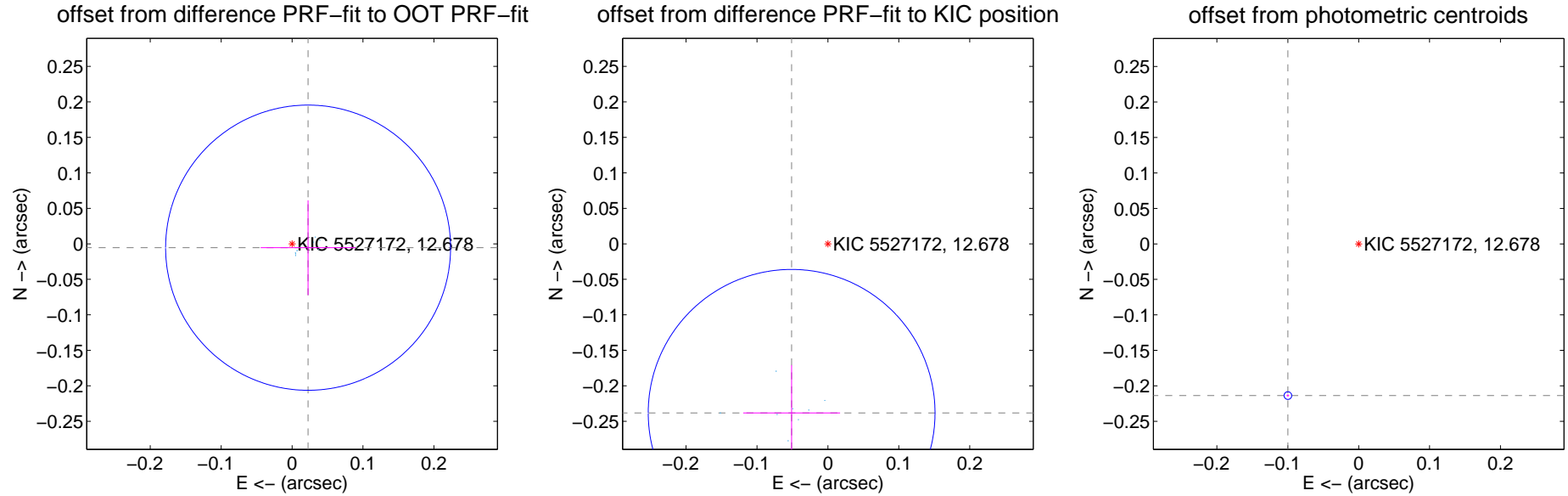
DV Centroid Data

Supplemental centroid analysis for 005527172-01. Kepler magnitude: 12.68. Transit SNR 2247.42

There are 8 quarters with good PRF difference image offsets

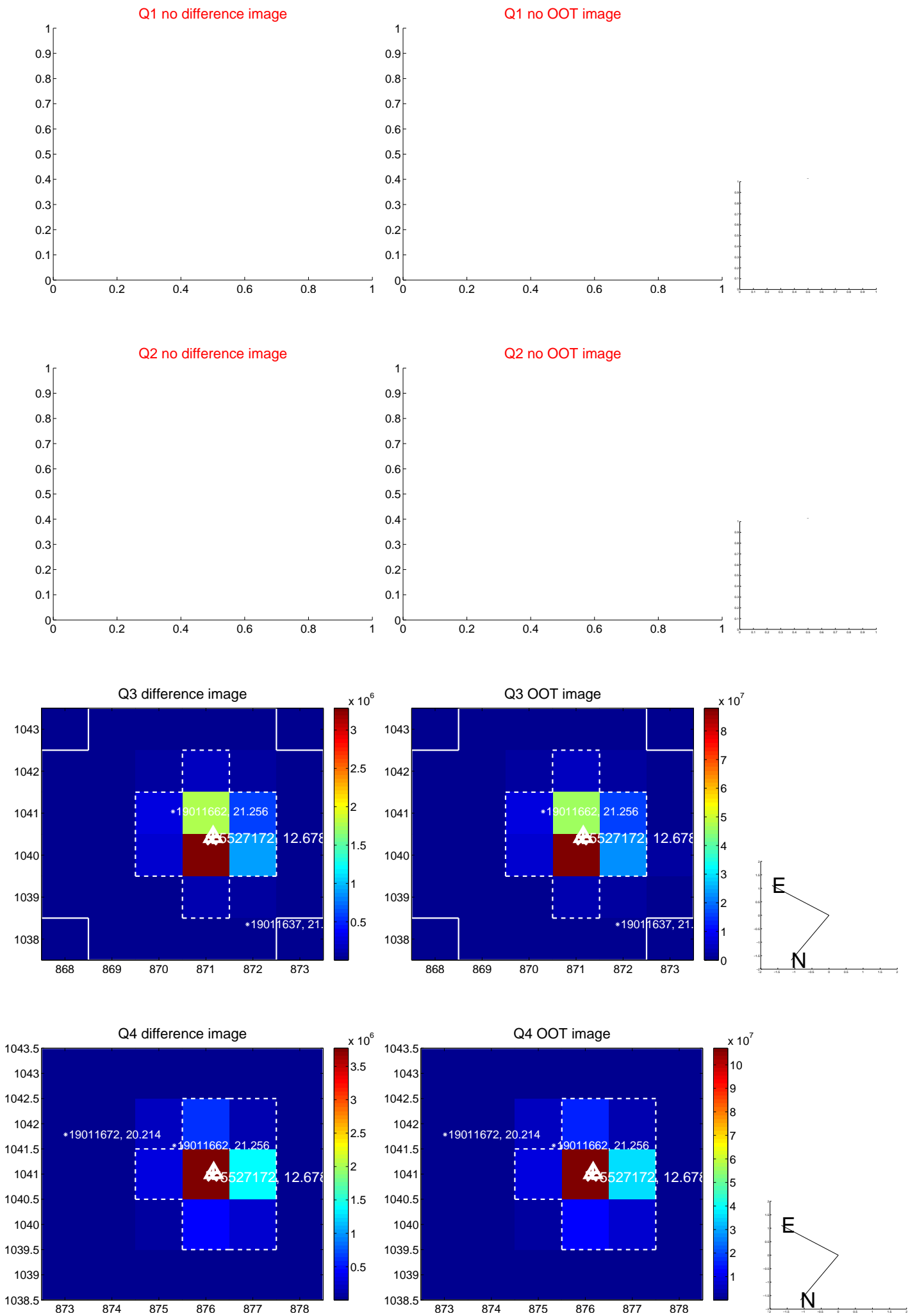
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.023 ± 0.067	0.35	-0.023 ± 0.067	-0.005 ± 0.067
PRF-fit source offset from KIC position	0.244 ± 0.067	3.62	0.051 ± 0.068	-0.238 ± 0.067
photometric centroid source offset	0.24 ± 0.00	131.07	0.10 ± 0.00	-0.21 ± 0.00

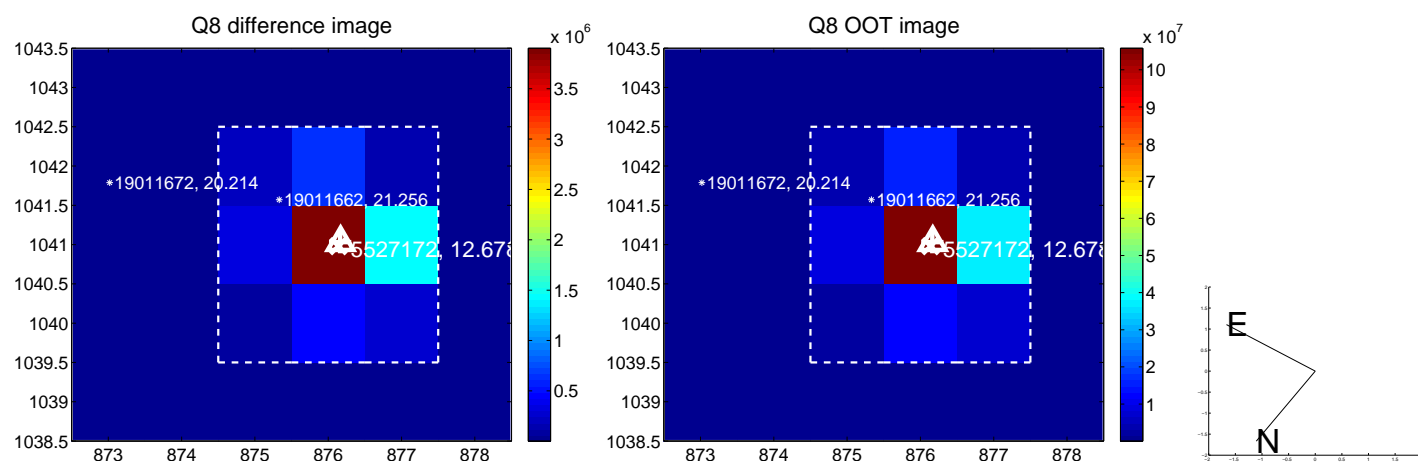
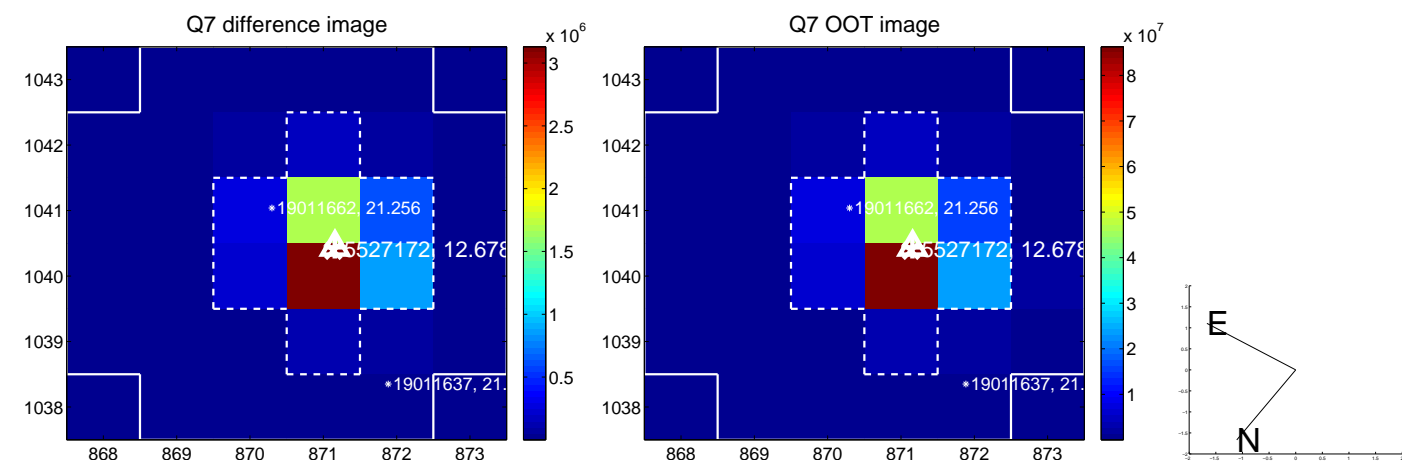
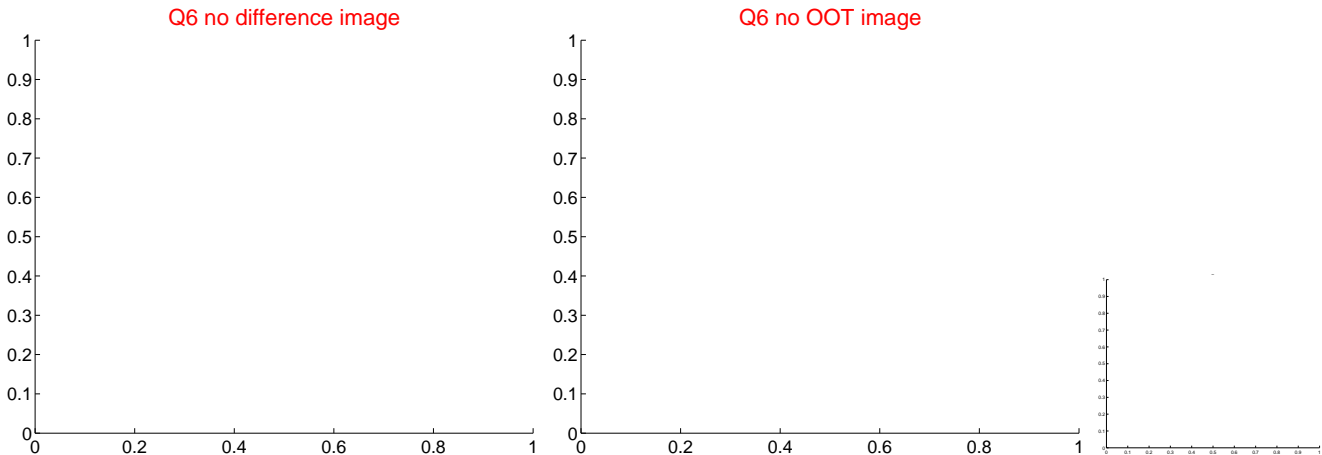
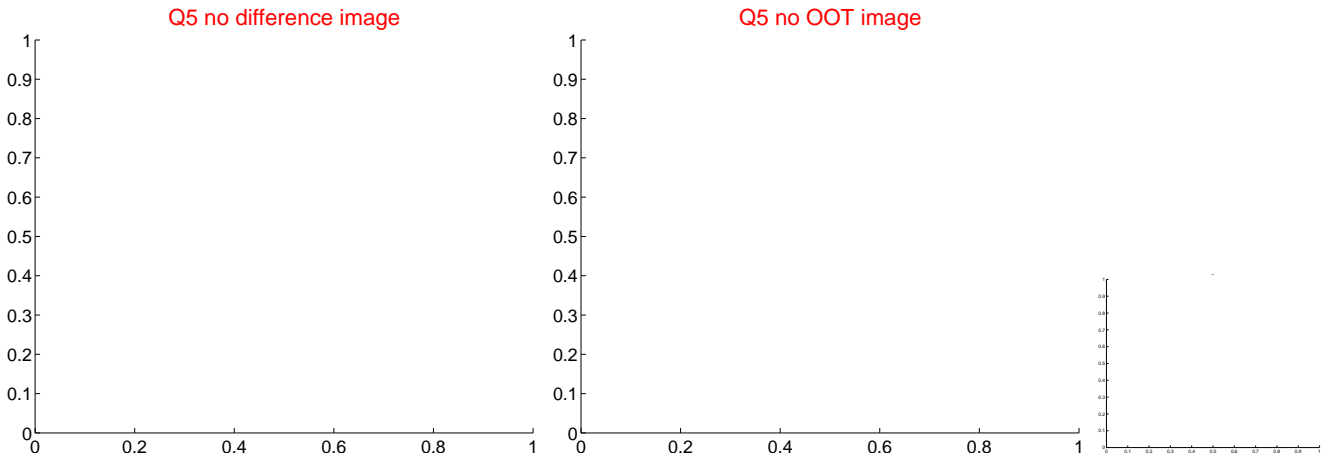


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

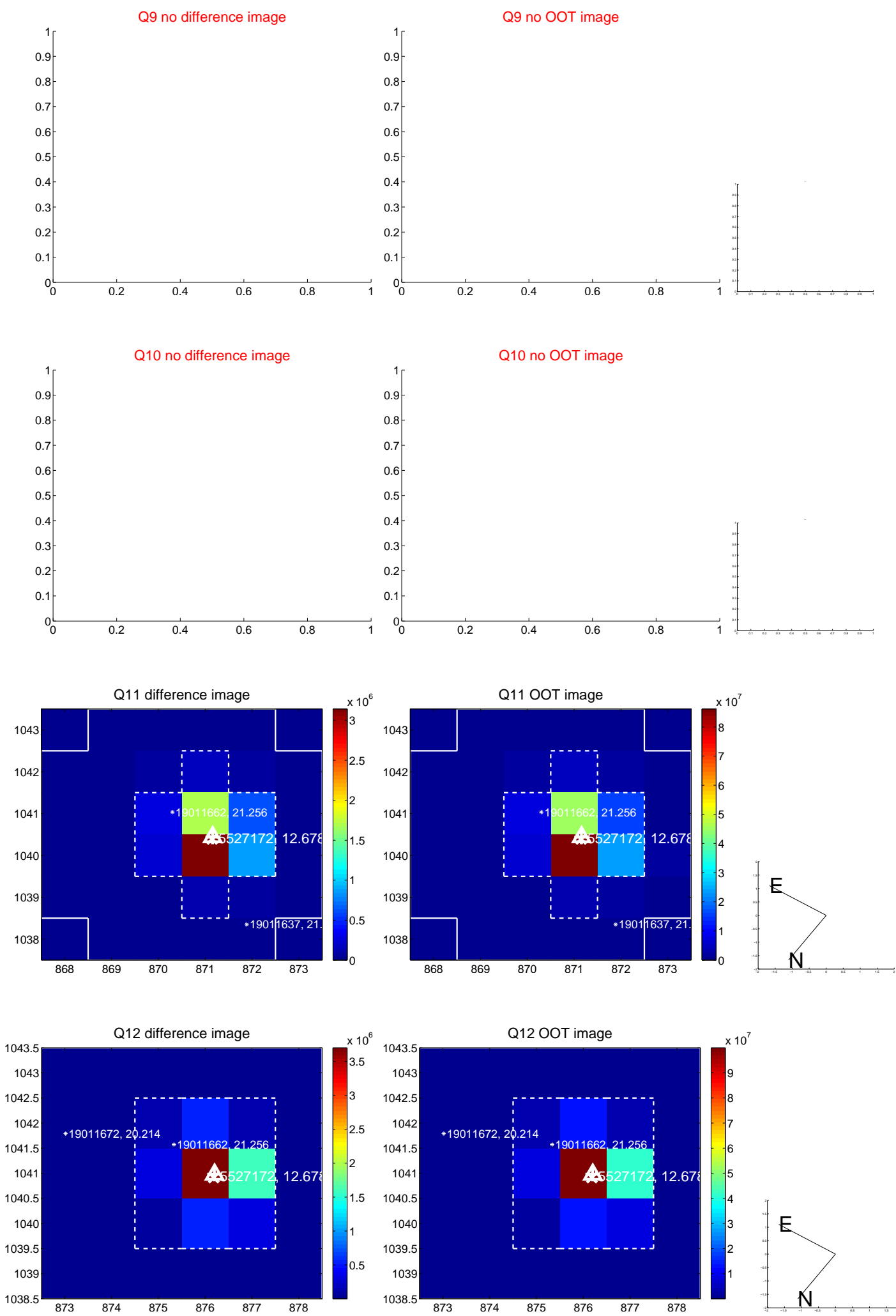
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



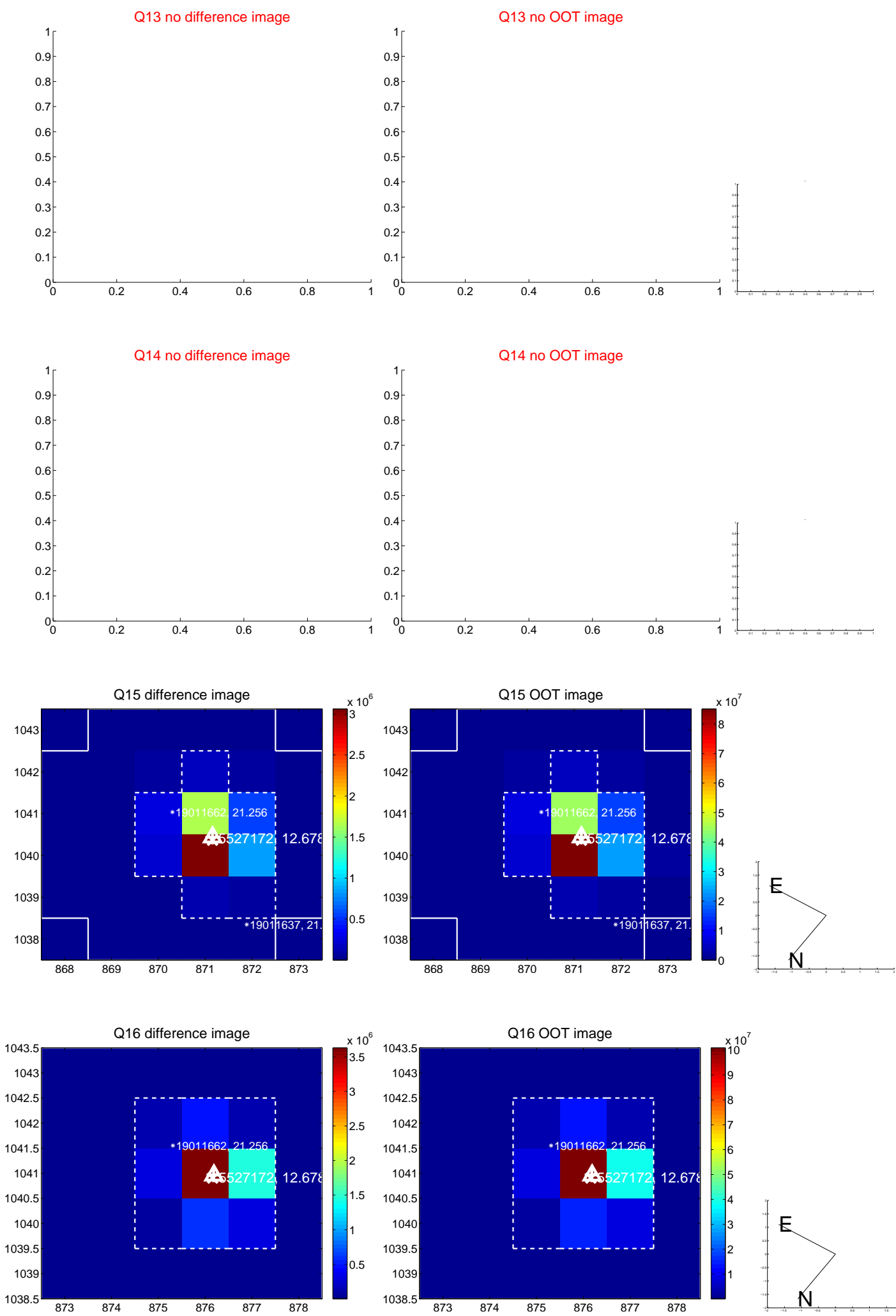
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



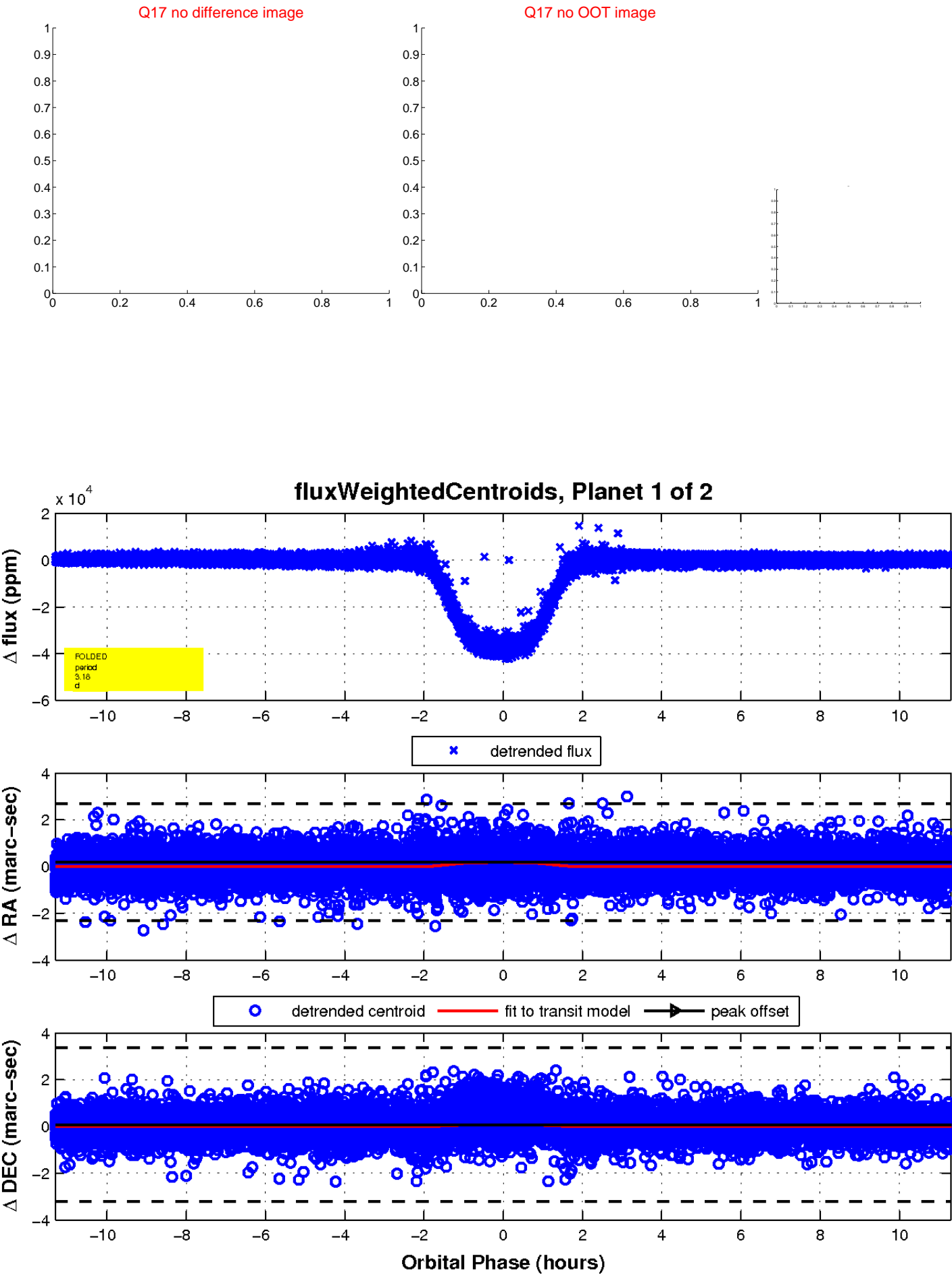
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

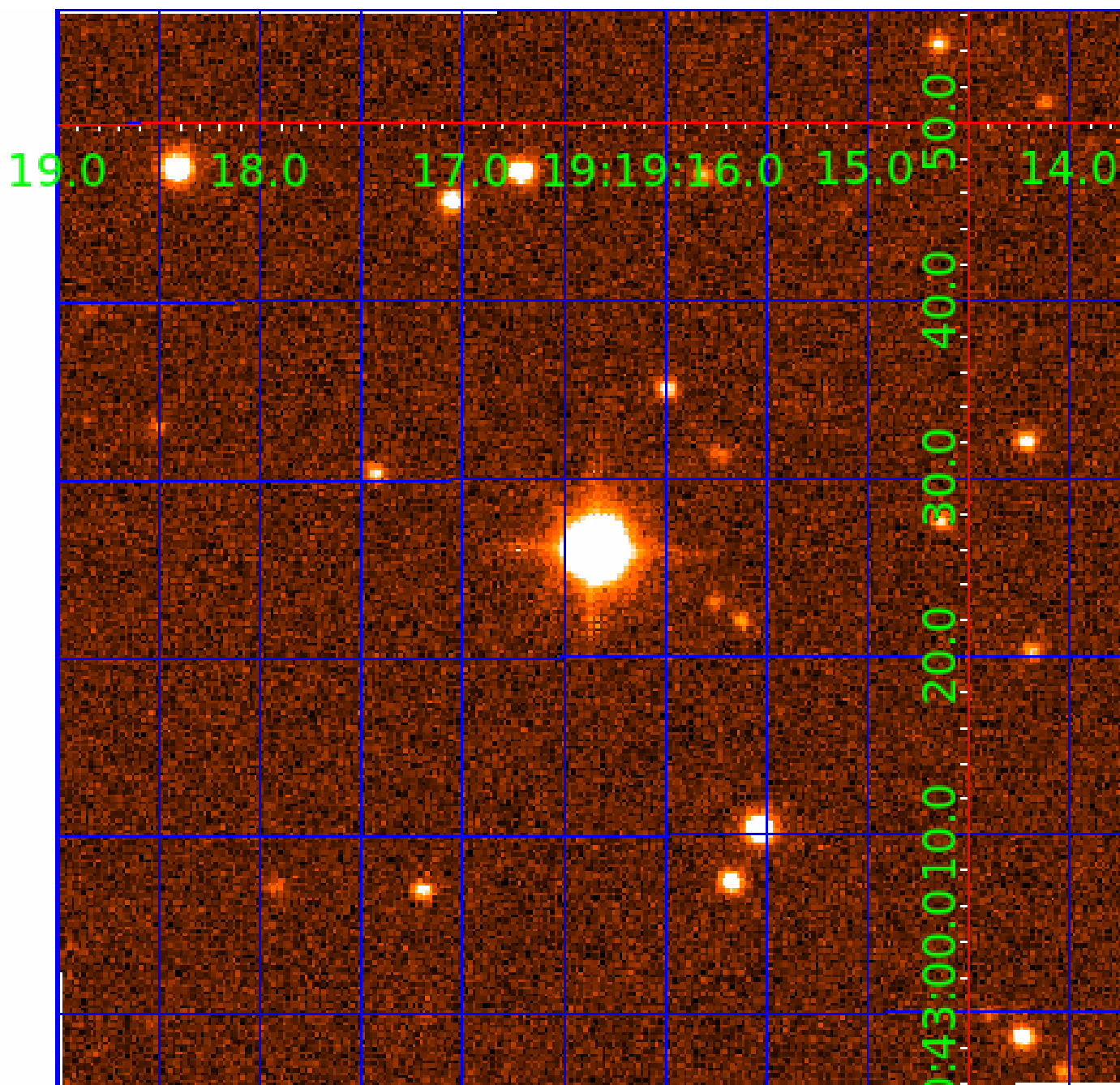


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005527172

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})
005527172-01	OBS	1678.01	3.183962	132.865360	39332.2	3.767	2804.7	2247.4	1.76	5716	37.38	1610.58
005527172-02	OBS	No	1.591982	132.863277	697.1	3.000	101.4	-1.0	1.76	5716	4.61	4058.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005527172-01	OBS	FP	0.08	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005527172-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

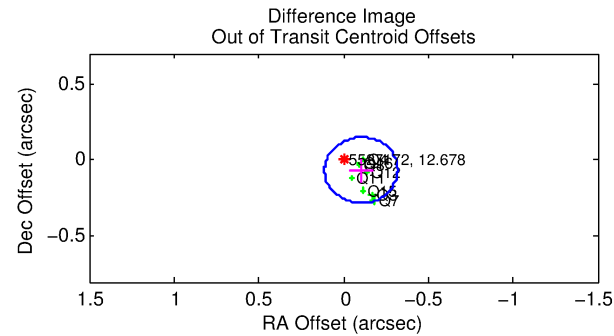
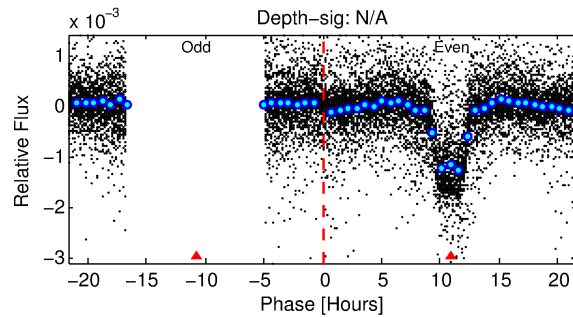
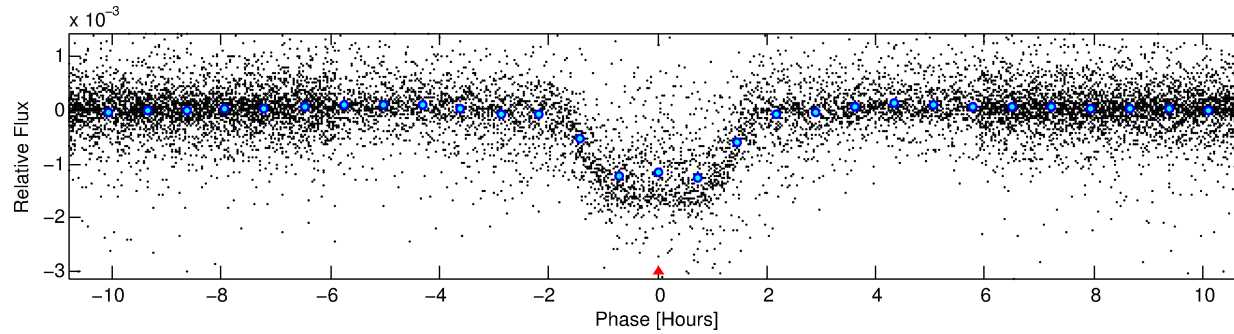
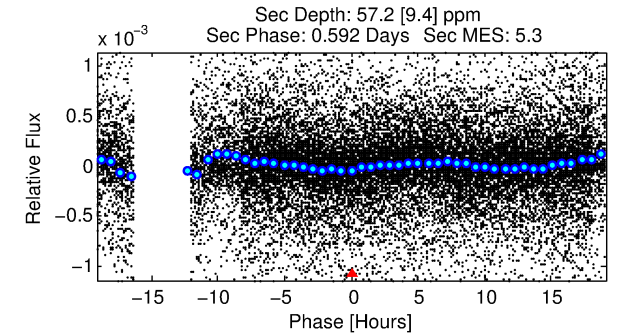
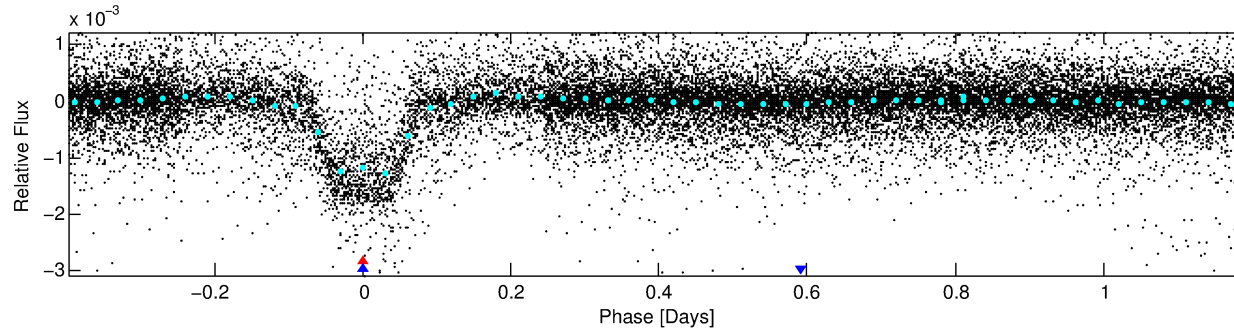
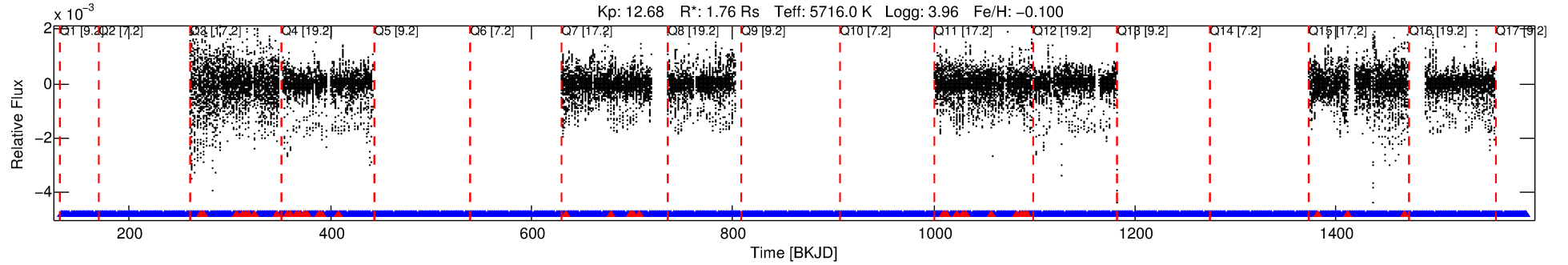
Ephemeris Match Information For 005527172-02

No Significant Match Found

DV One-Page Summary

KIC: 5527172 Candidate: 2 of 2 Period: 1.592 d
KOI: K01678 Corr: No Ephemeris Match

Kp: 12.68 R*: 1.76 Rs Teff: 5716.0 K Logg: 3.96 Fe/H: -0.100



TPS TCE Results:

Period = 1.59198 d
Epoch = 132.8633 BKJD

DV fit results are unavailable

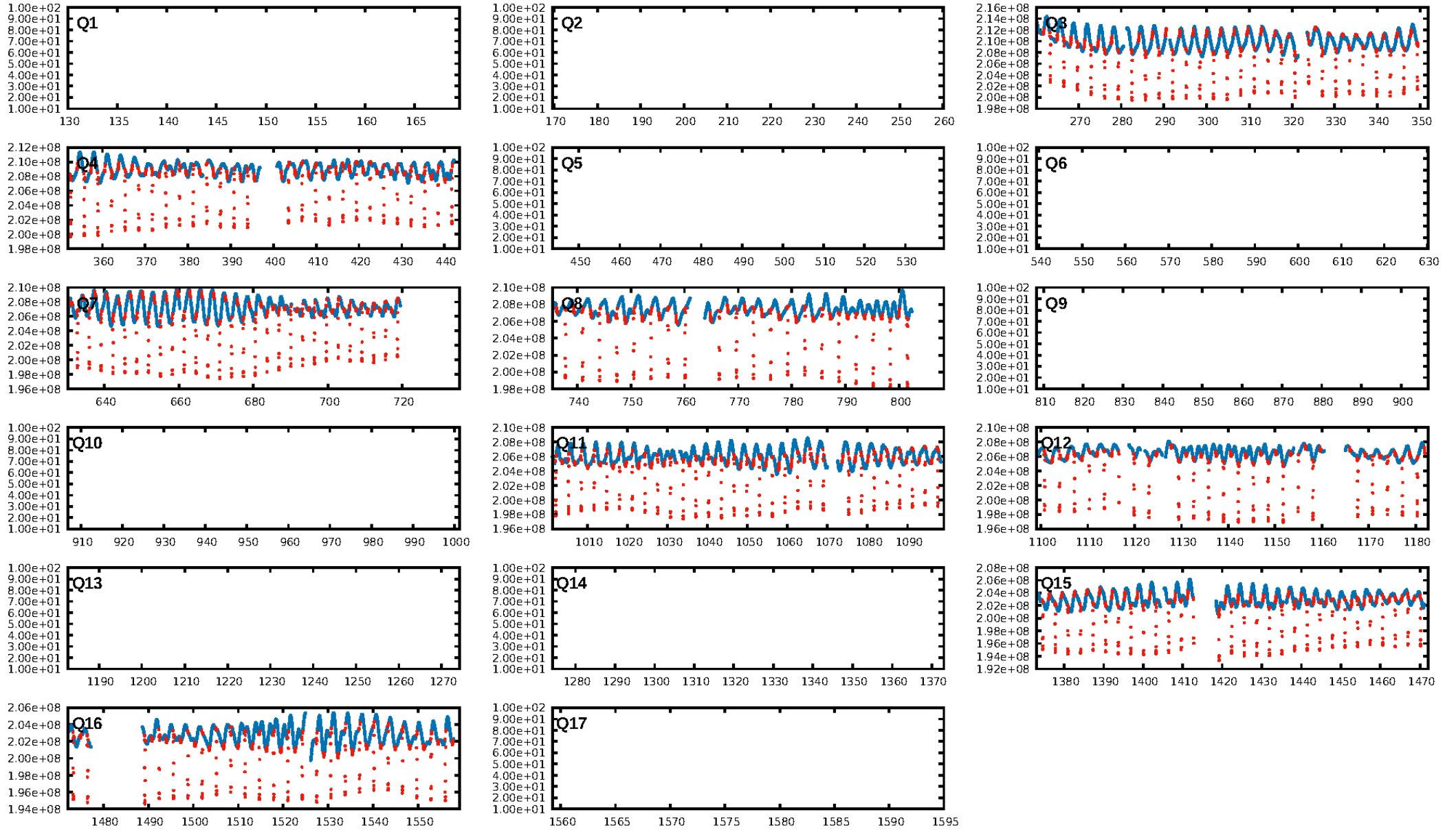
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.93σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.83 [166/201]
GhostDiagnostic-chr: 1.735
Centroid-sig: 0.0%
Centroid-so: 0.254 arcsec [9.77σ]
OotOffset-rm: 0.123 arcsec [1.71σ]
KicOffset-rm: 0.293 arcsec [3.86σ]
OotOffset-st: 0/4/0 [8]
KicOffset-st: 0/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

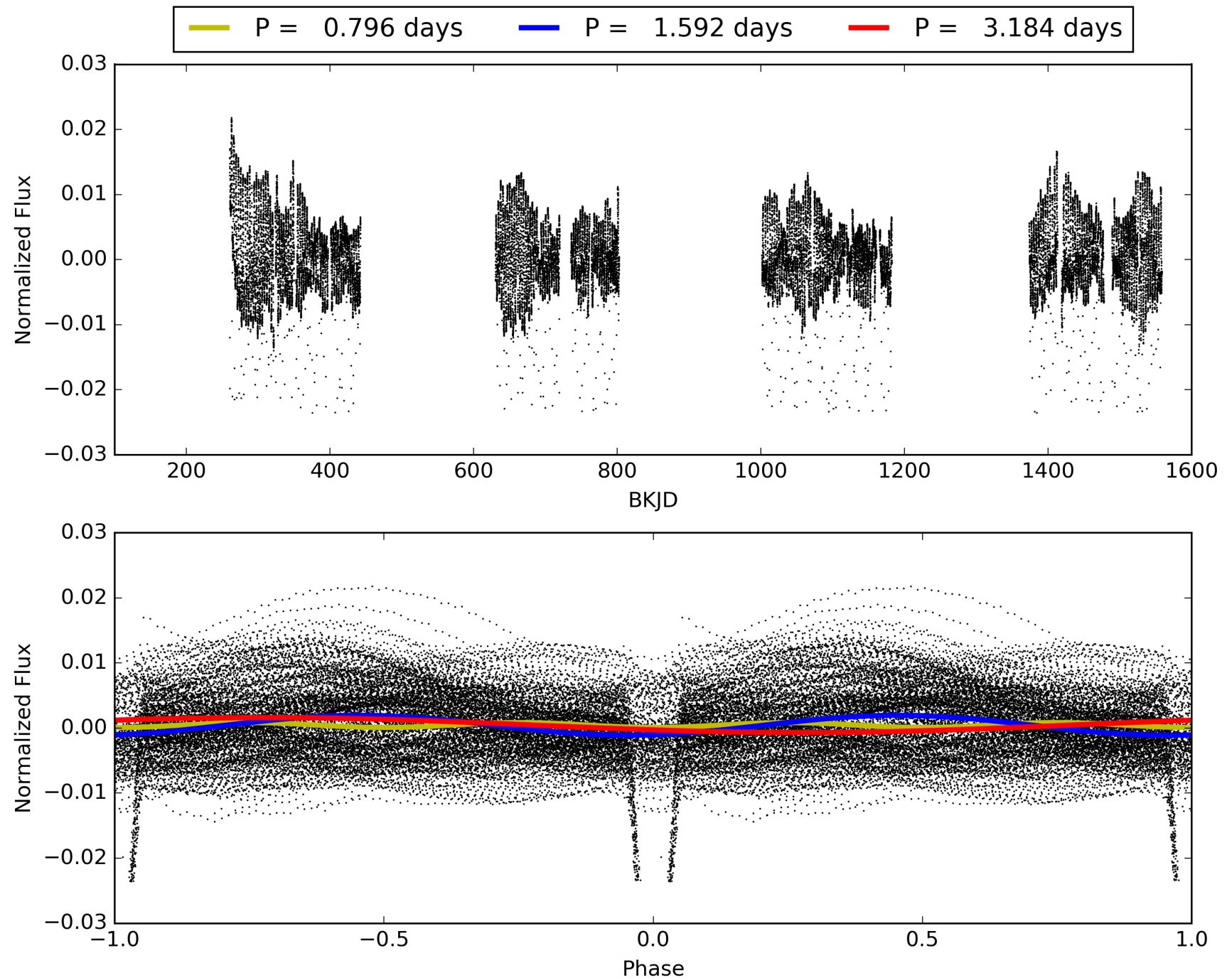
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:40:14 Z

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

TCE 005527172-02, PDC Light Curves

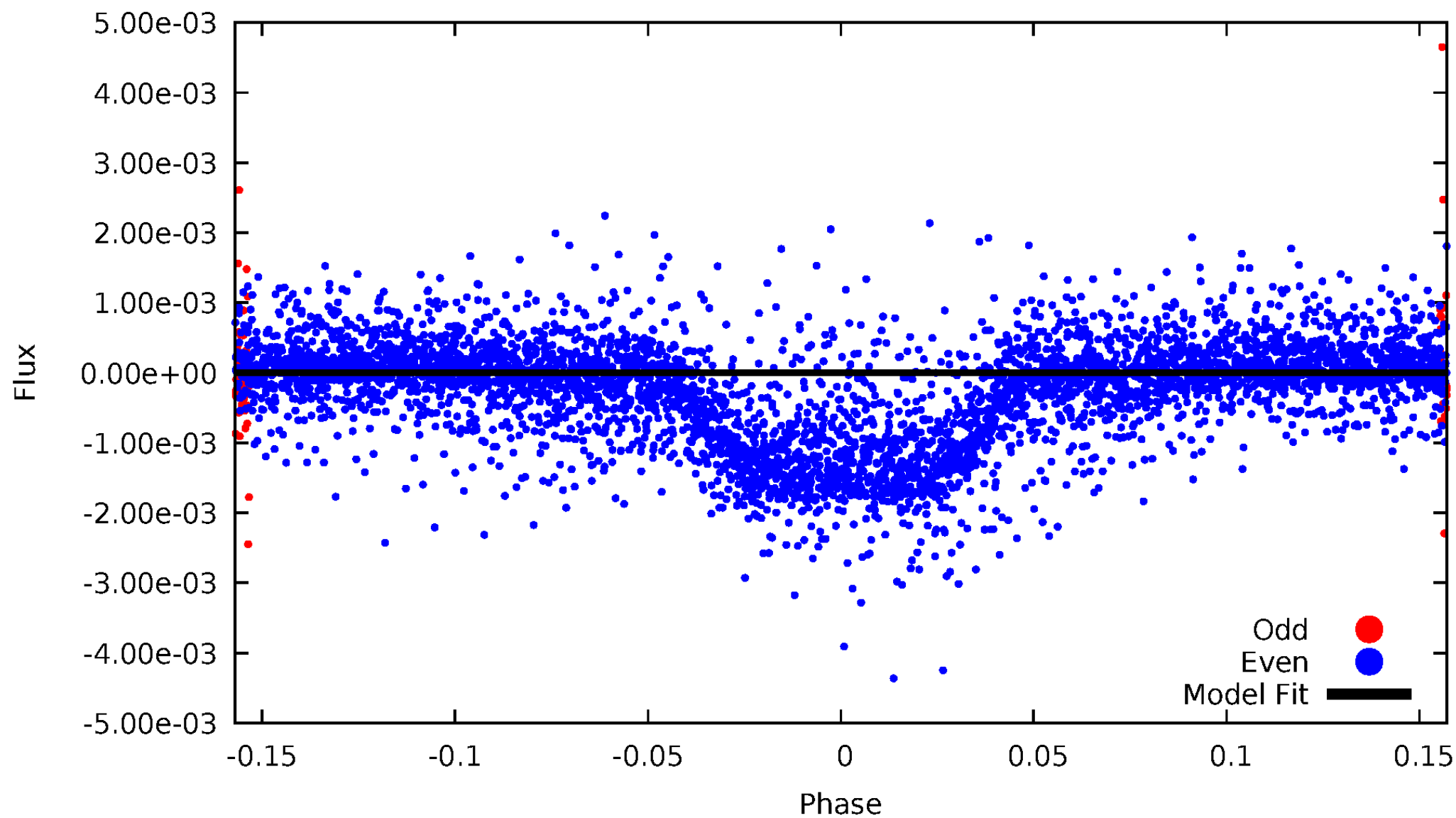


TCE 005527172-02



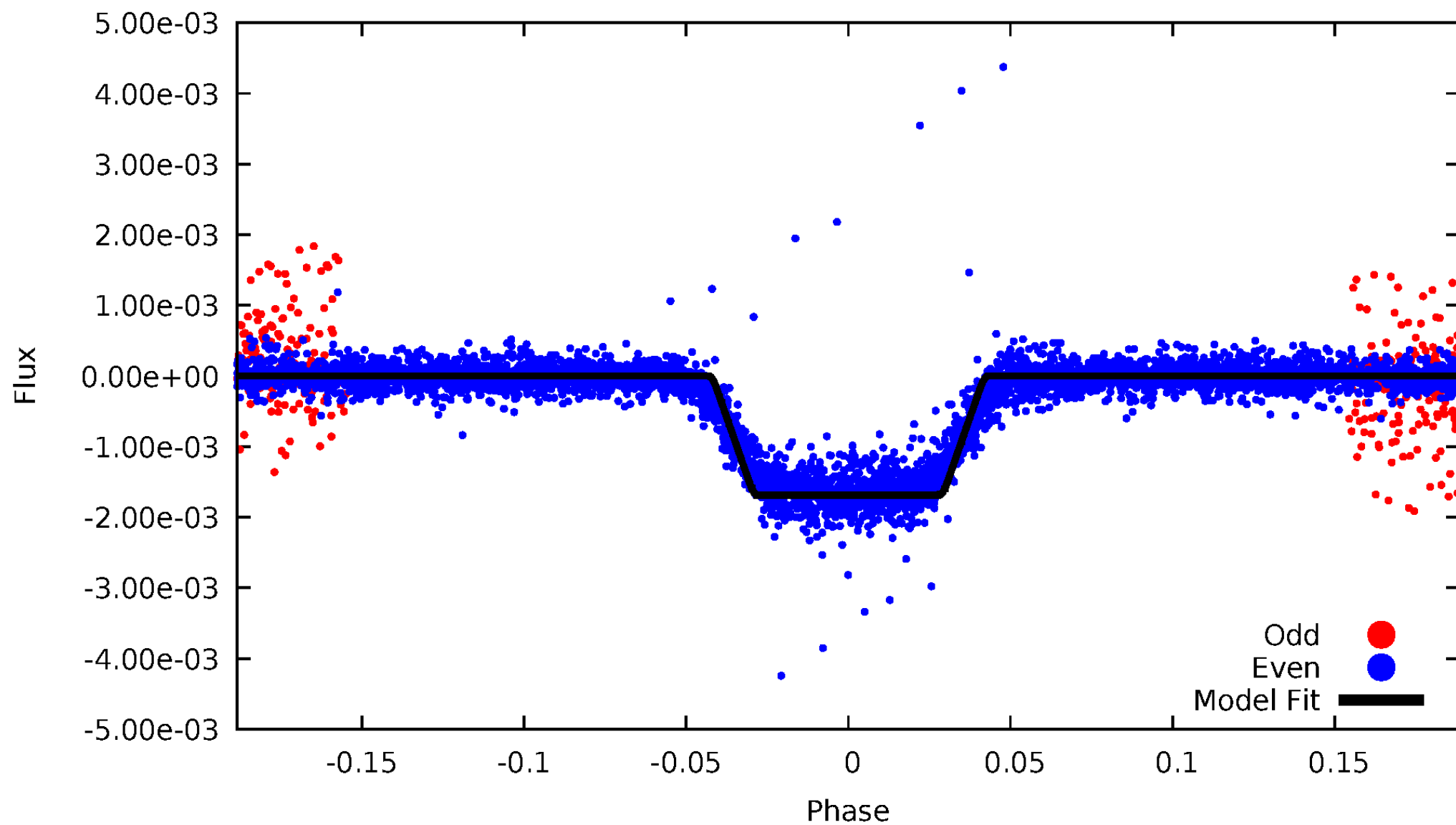
DV Odd/Even

TCE 005527172-02



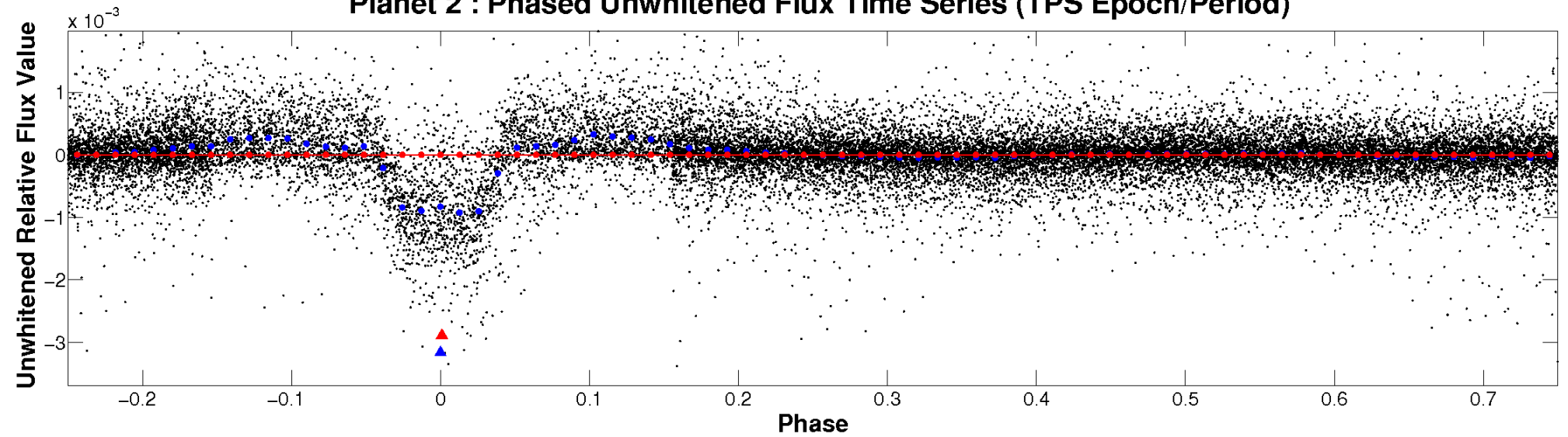
ALT Odd/Even

TCE 005527172-02



Non-Whitened Vs. Whitened Light Curve

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

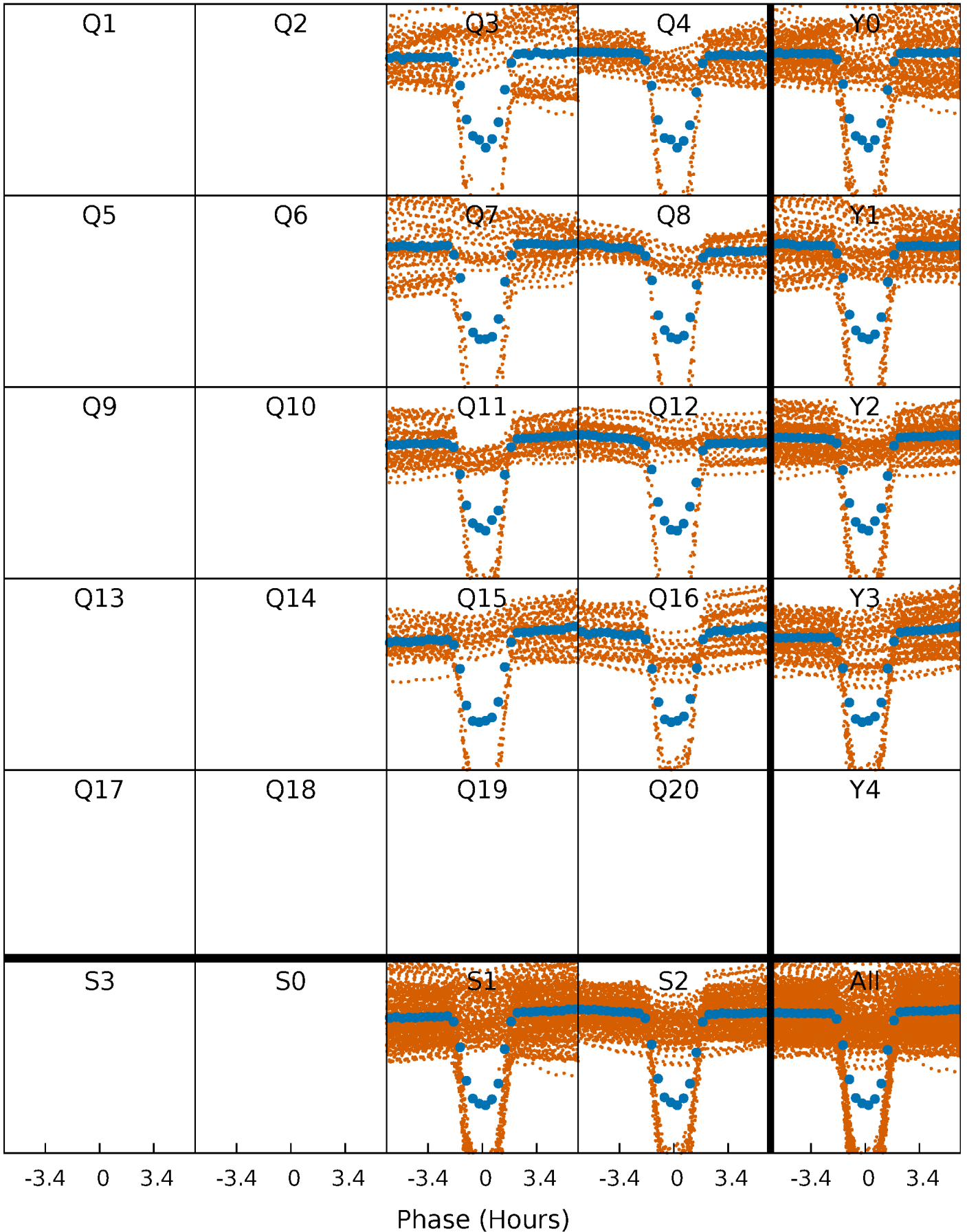


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



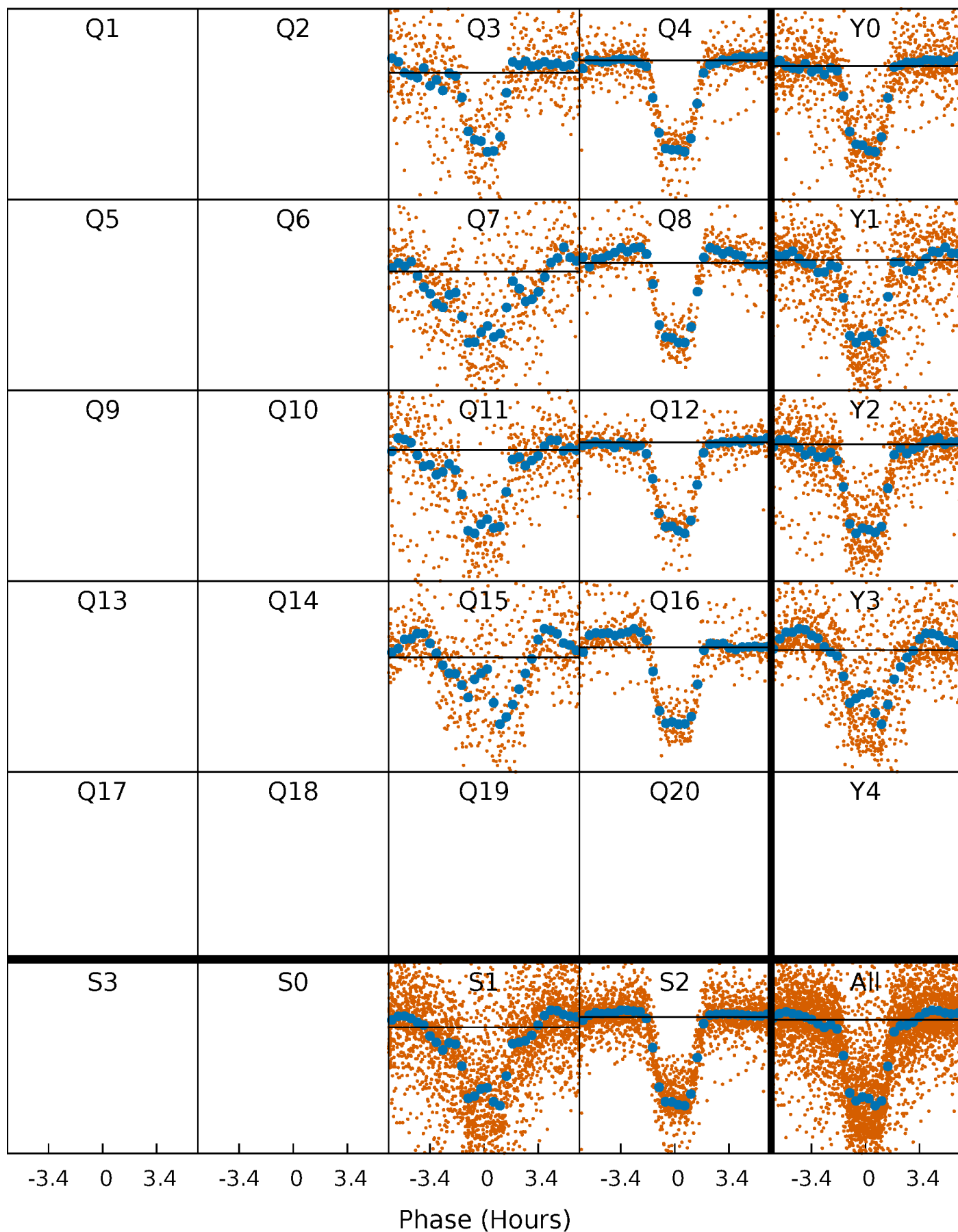
PDC Quarter-Phased Transit Curves

TCE 005527172-02 P= 1.591982 Days $T_0=132.863277$ (BKJD)



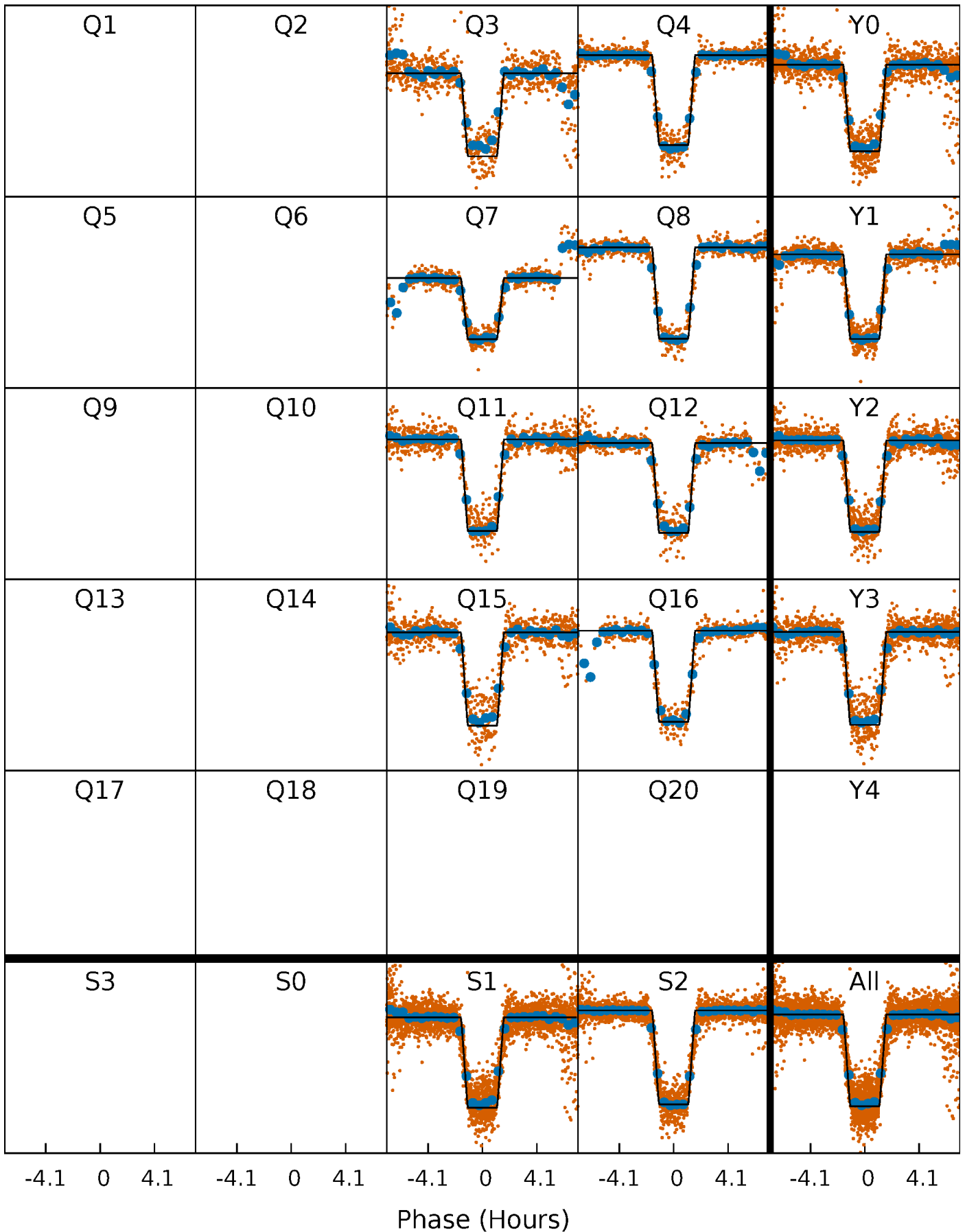
DV Quarter-Phased Transit Curves

TCE 005527172-02 P= 1.591982 Days $T_0=132.863277$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

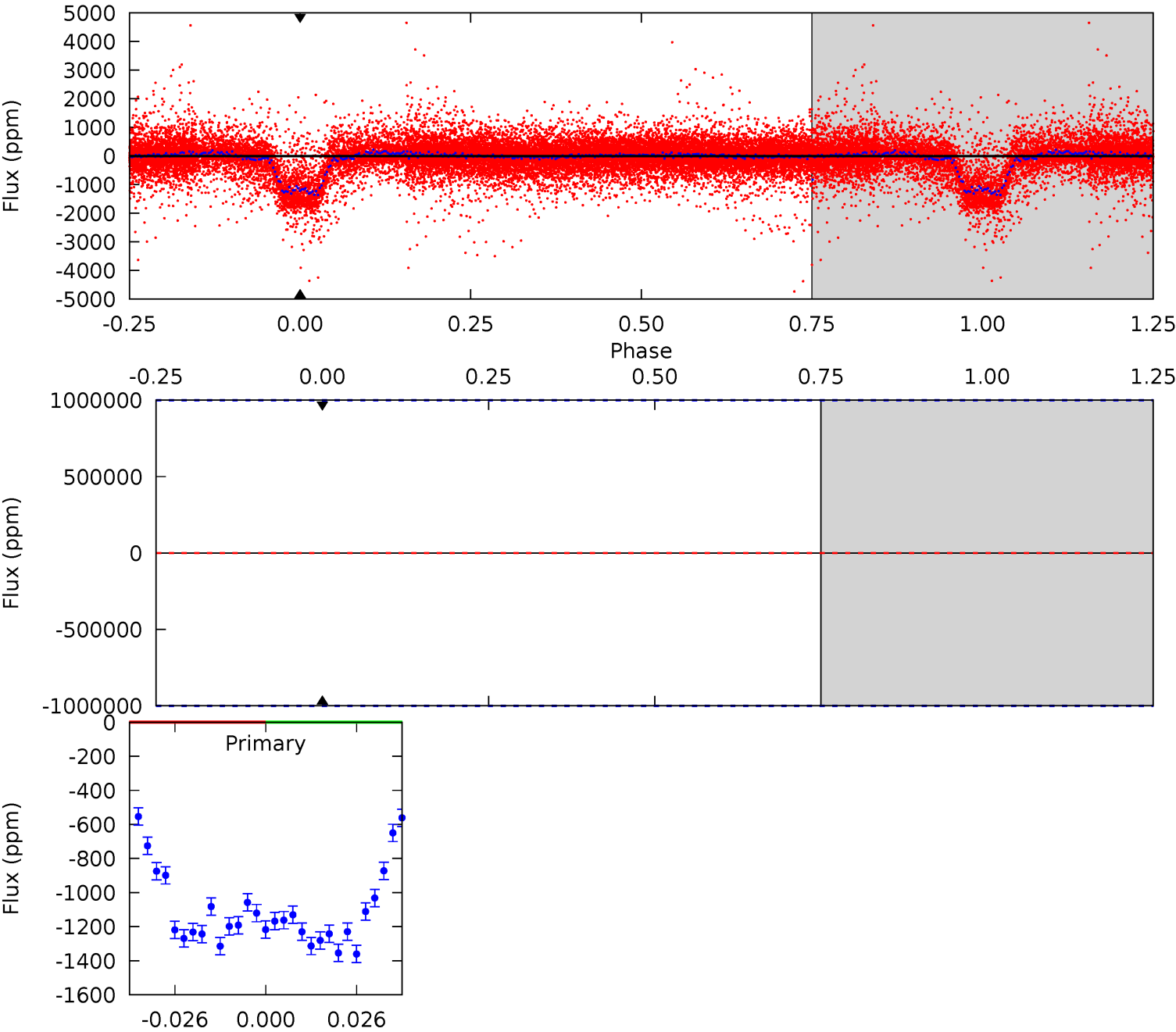
TCE 005527172-02 P= 1.591982 Days $T_0=132.864709$ (BKJD)



DV Model-Shift Uniqueness Test

005527172-02, P = 1.591982 Days, E = 132.863277 Days

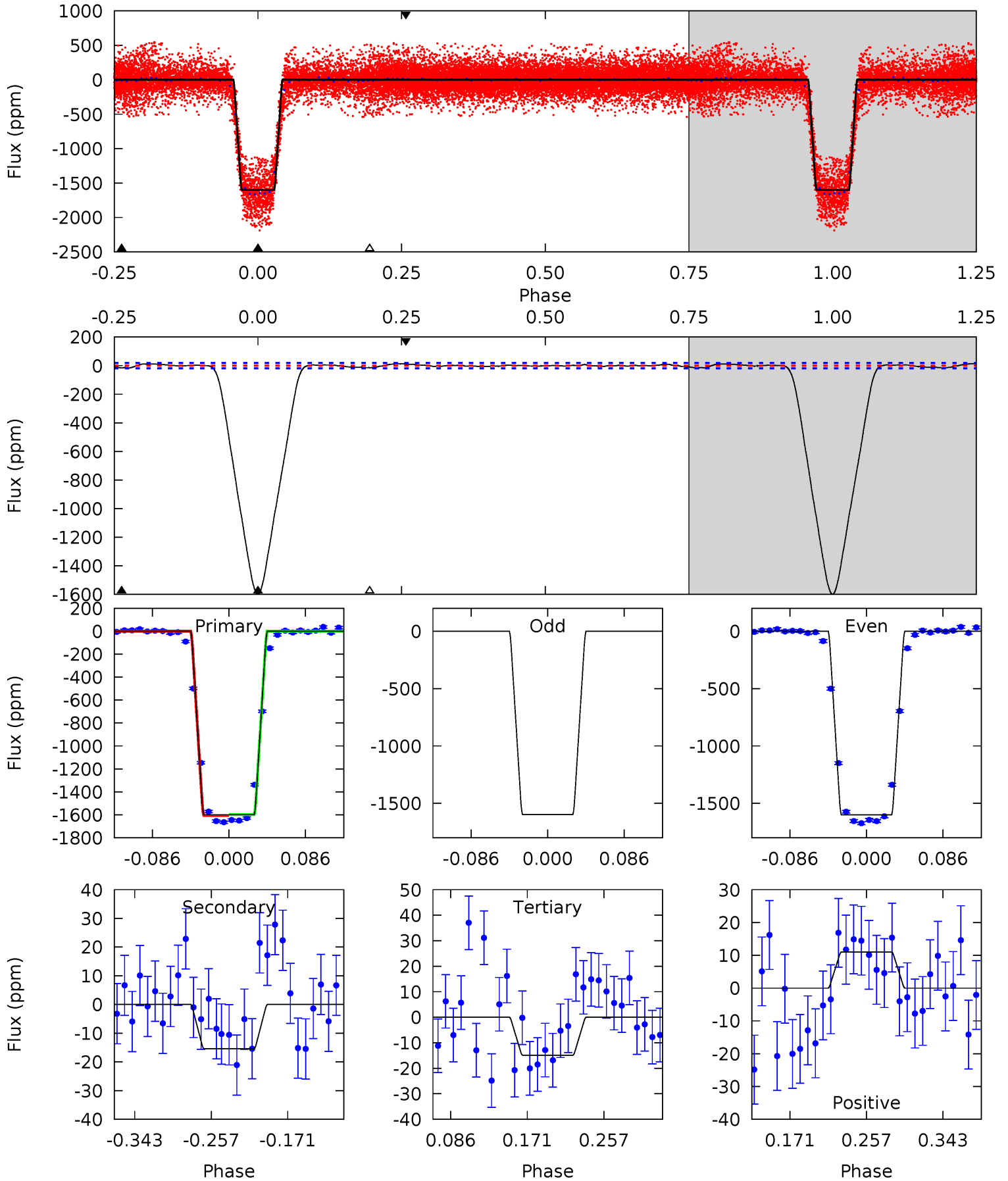
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005527172-02, P = 1.591982 Days, E = 132.864709 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
395.4	3.80	3.68	2.73	4.60	1.72	1.27	391.7	392.7	0.12	1.07	0.28	0.99	0.01	0



Stellar Parameters For KIC 005527172

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5716^{+77}_{-77}	$3.963^{+0.217}_{-0.093}$	$-0.100^{+0.150}_{-0.150}$	$1.760^{+0.291}_{-0.437}$	$1.039^{+0.105}_{-0.128}$	$0.268^{+0.303}_{-0.079}$
	+1%/-1%	+5%/-2%	+150%/-150%	+17%/-25%	+10%/-12%	+113%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005527172-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.89^{+15.22}_{-9.02}$	2814^{+135}_{-197}	4908^{+15310}_{-22542}	$5.578^{+378.331}_{-323.098}$
Alt.	-15 ± 4	$15.34^{+14.77}_{-10.84}$	2812^{+135}_{-184}	-2905^{+627}_{-114}	$0.025^{+0.235}_{-0.018}$

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

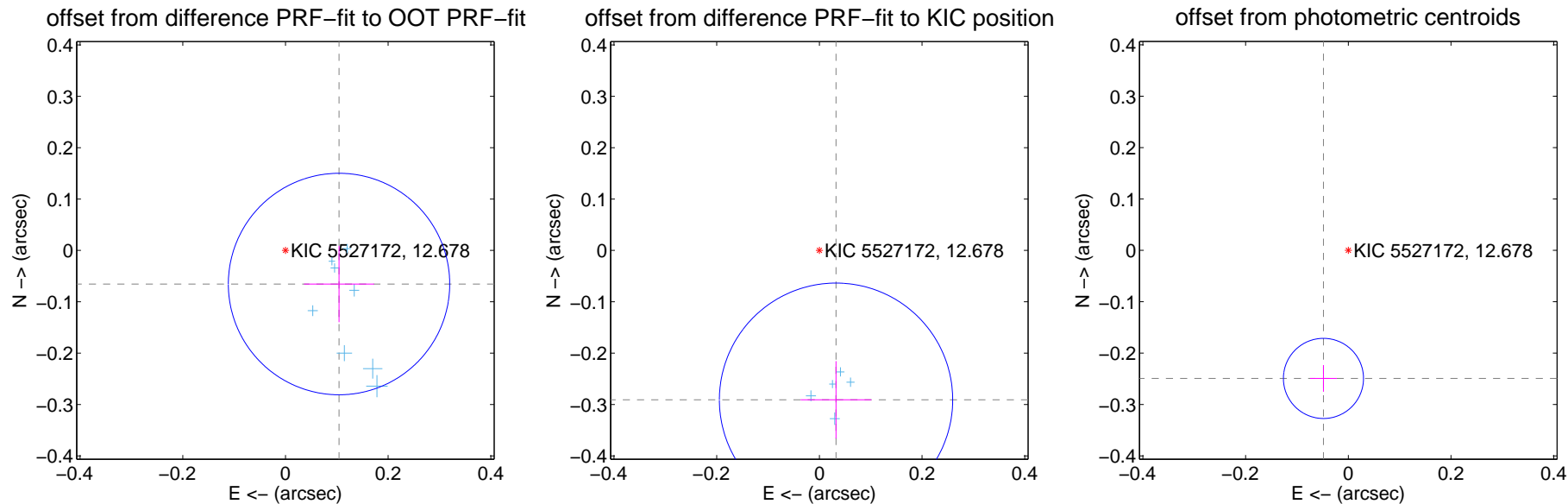
DV Centroid Data

Supplemental centroid analysis for 005527172-02. Kepler magnitude: 12.68. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

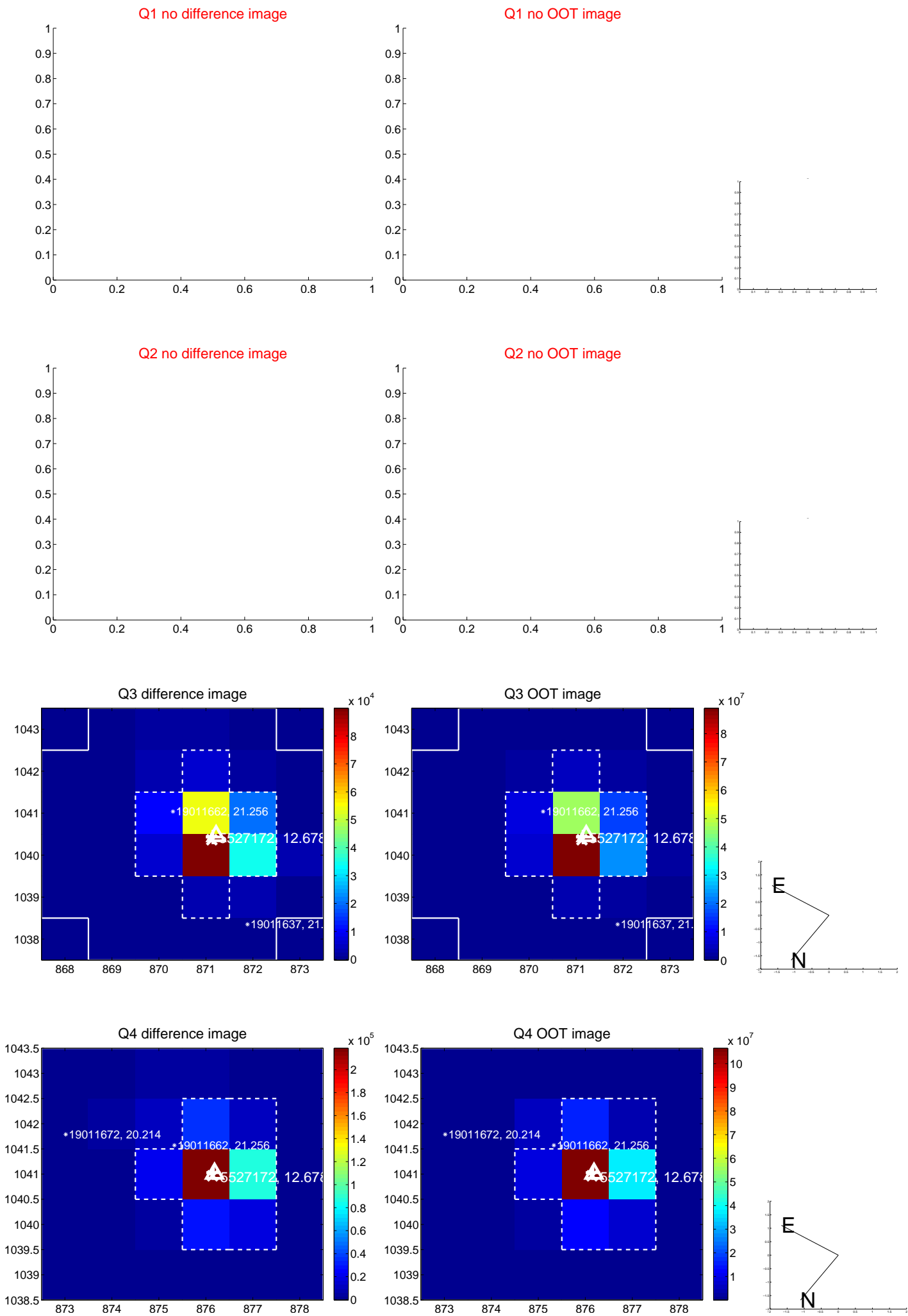
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.123 ± 0.072	1.71	-0.104 ± 0.068	-0.065 ± 0.074
PRF-fit source offset from KIC position	0.293 ± 0.076	3.86	-0.032 ± 0.069	-0.291 ± 0.075
photometric centroid source offset	0.25 ± 0.03	9.77	0.05 ± 0.03	-0.25 ± 0.03

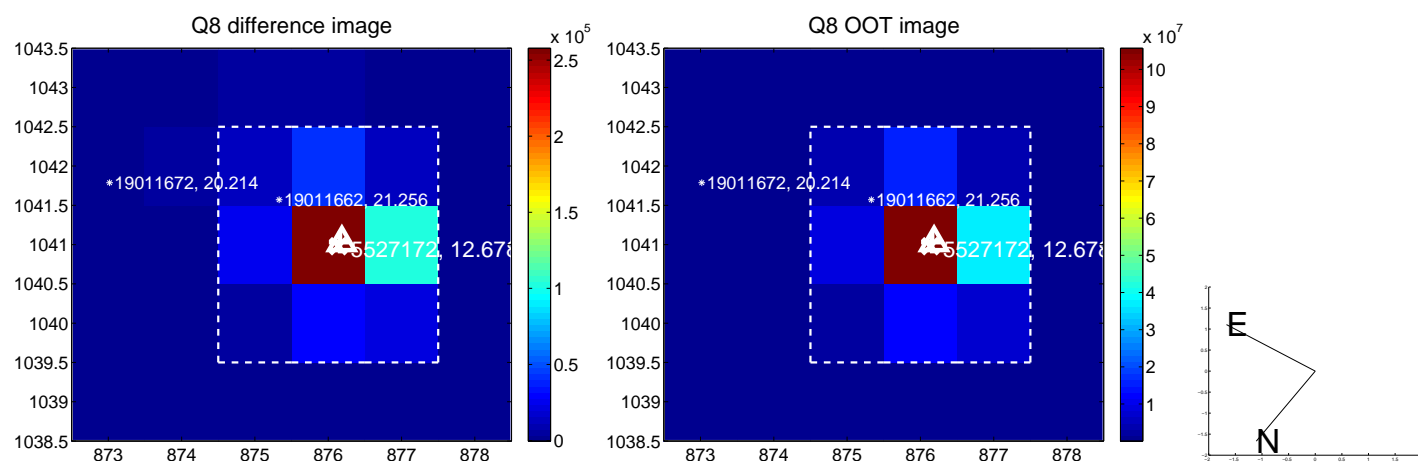
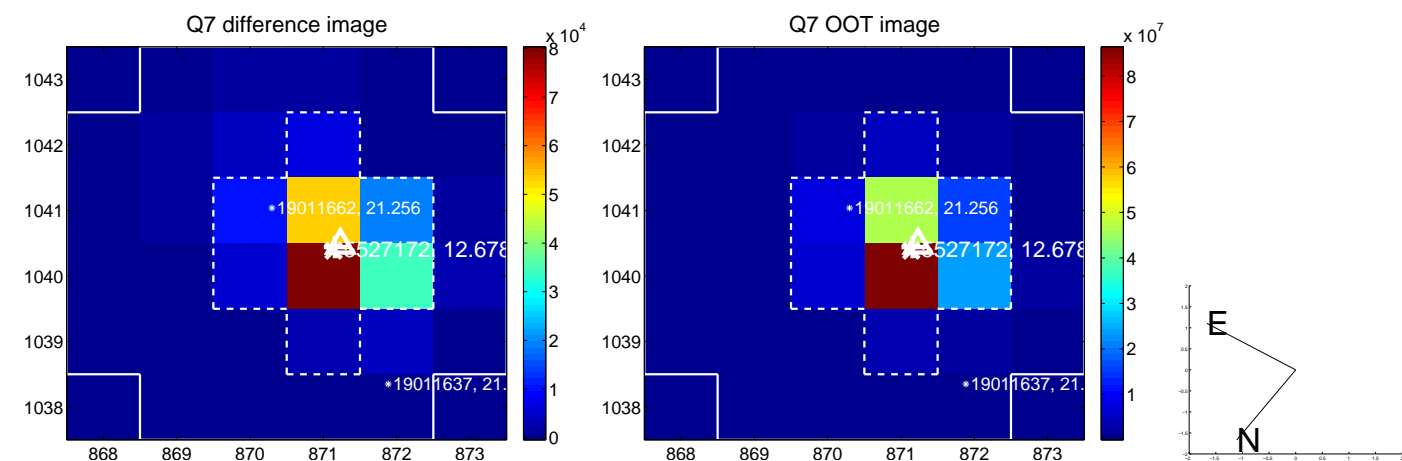
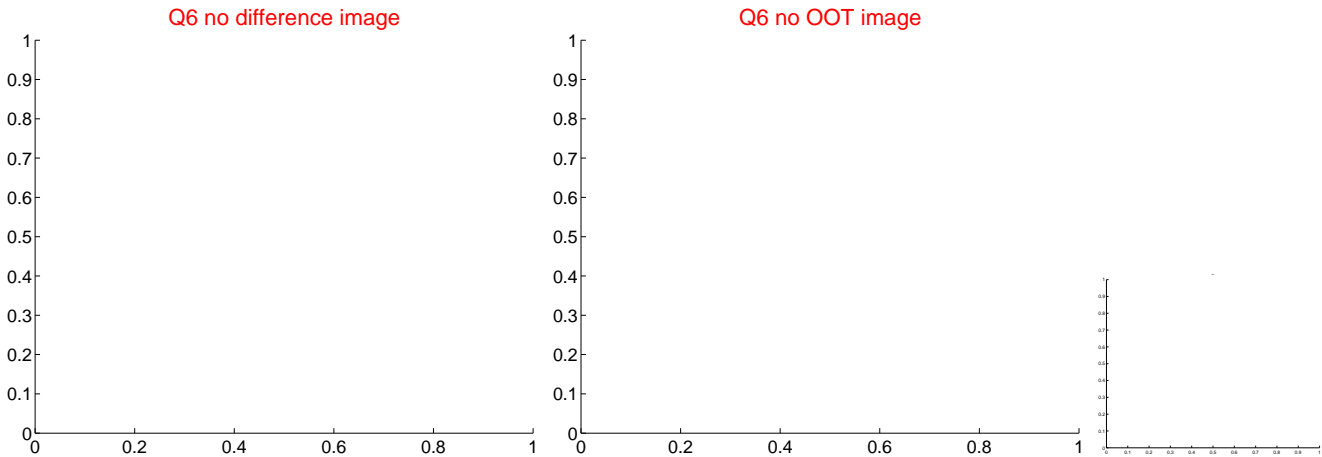
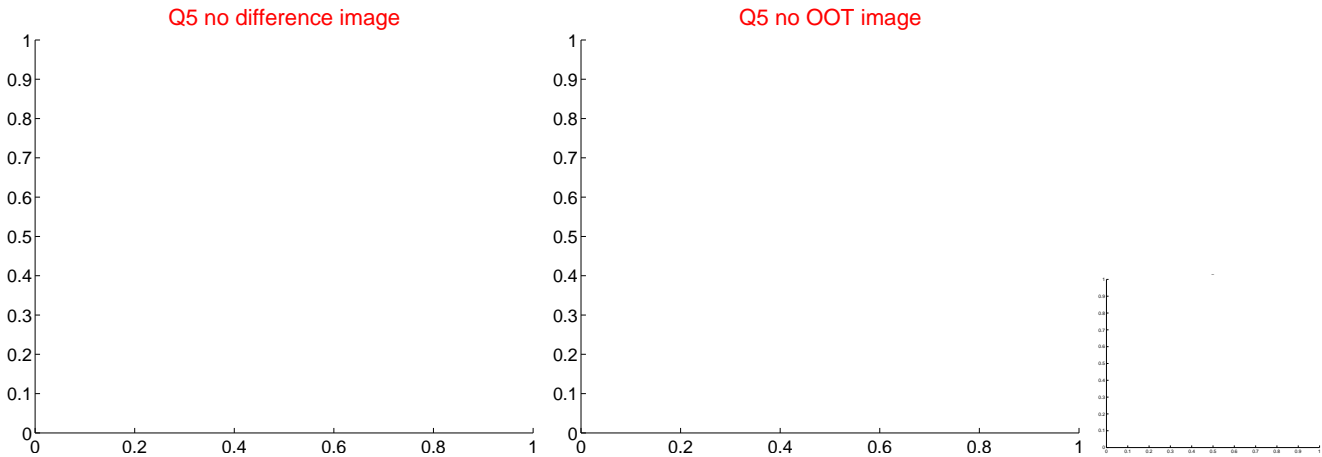


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

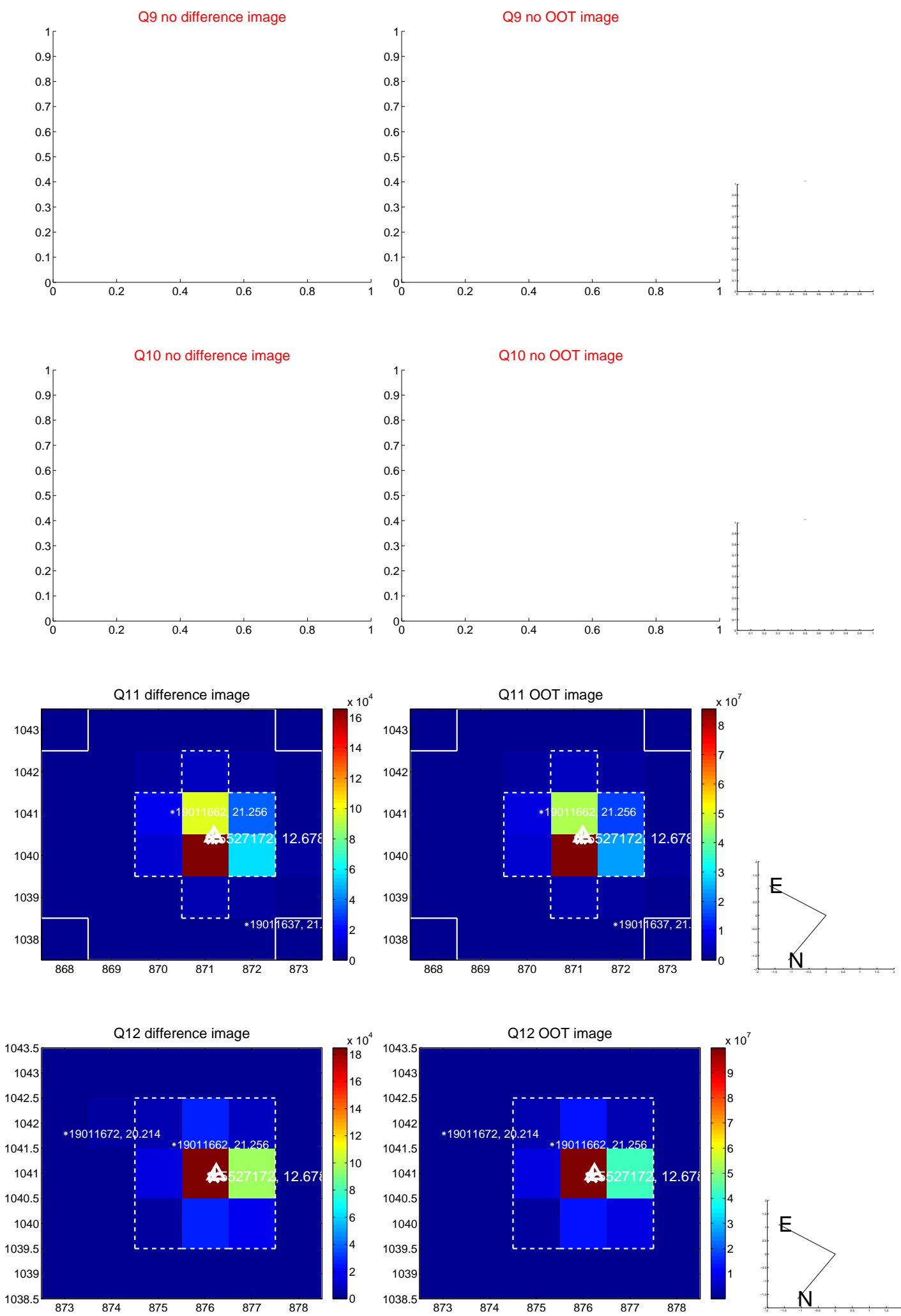
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



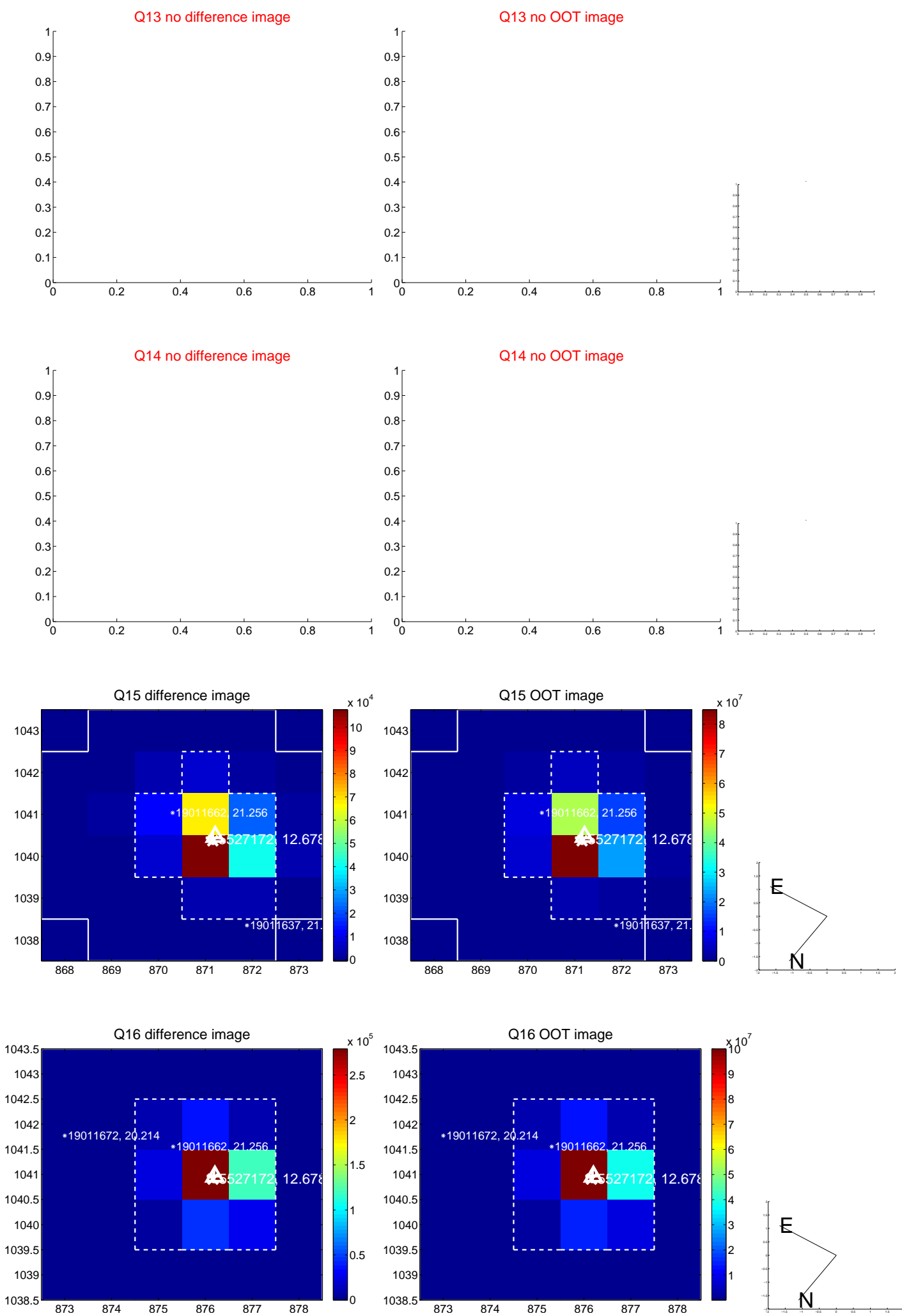
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



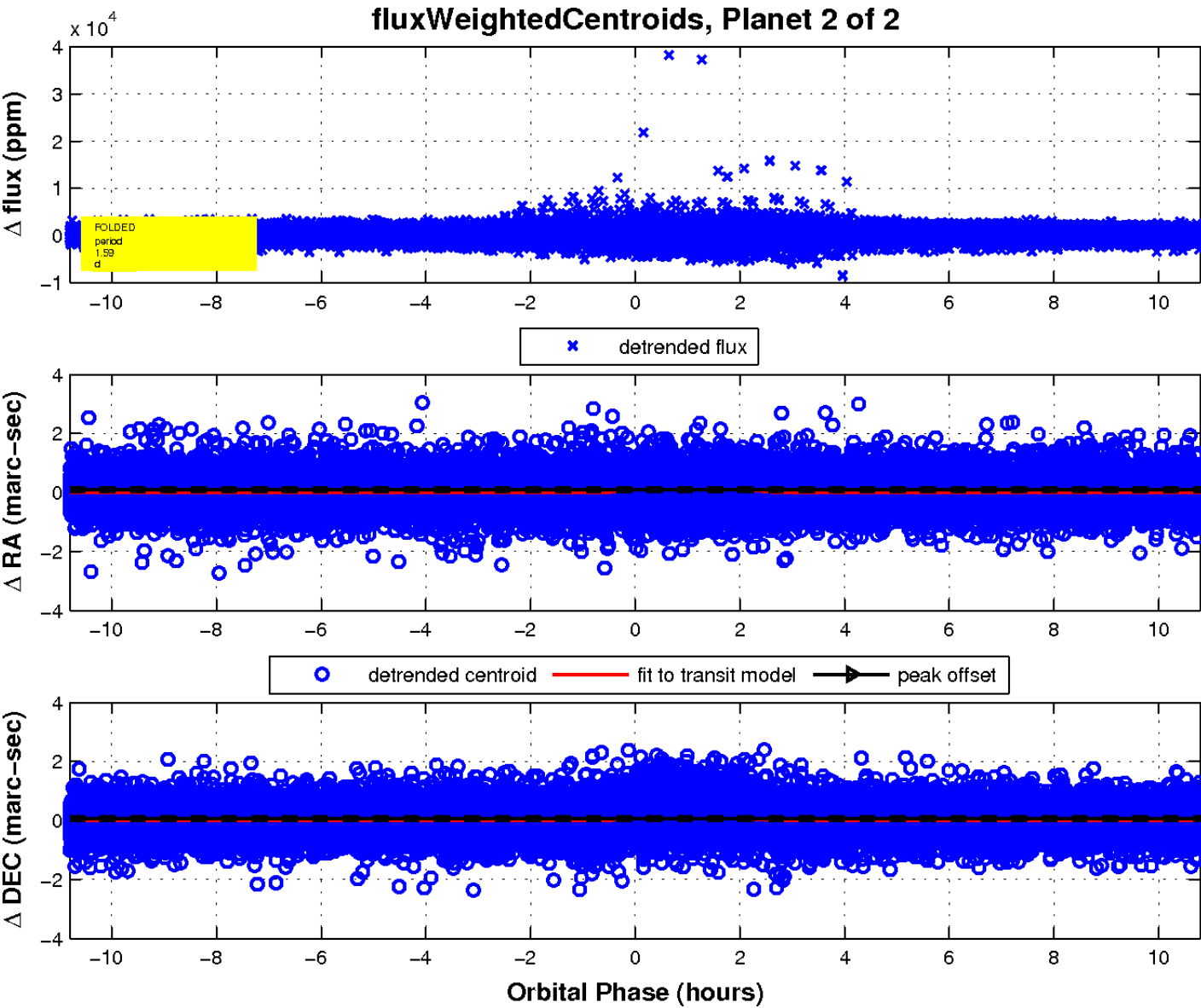
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

