

KIC 006103049

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})
006103049-01	OBS	6662.01	0.643169	131.889097	33845.6	2.018	1854.6	1049.1	0.99	5899	25.29	5474.85
006103049-02	OBS	No	0.643174	131.560994	29102.9	1.500	1236.1	-1.0	0.99	5899	16.95	5474.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006103049-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
006103049-02	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.

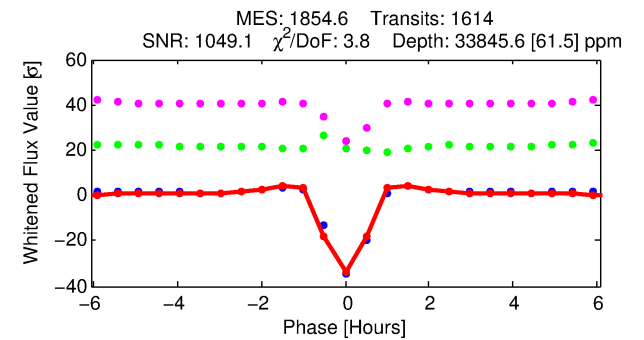
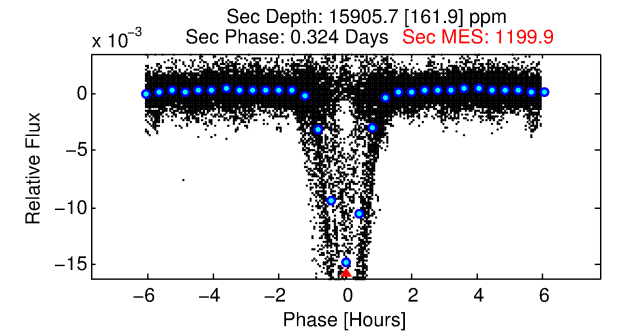
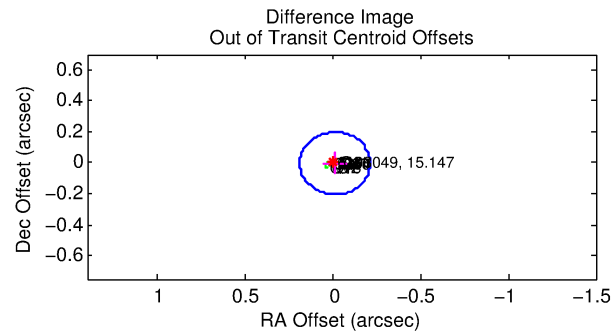
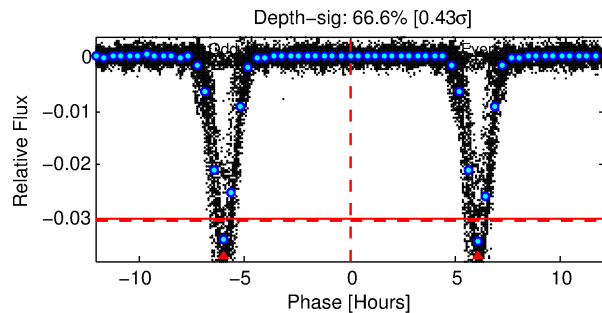
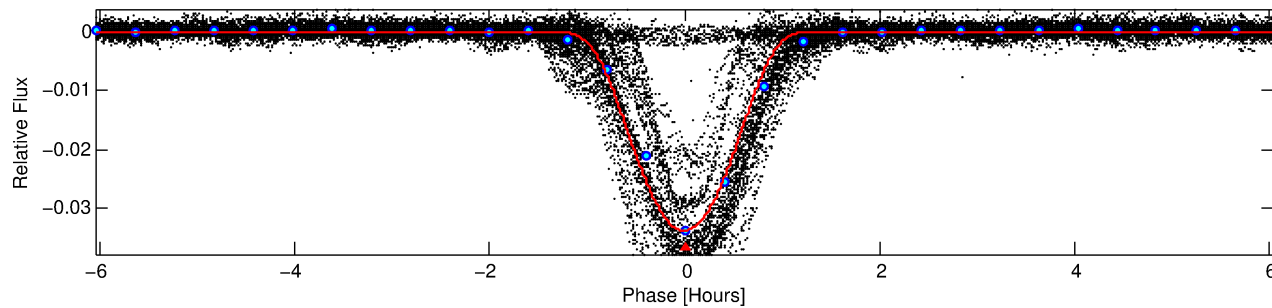
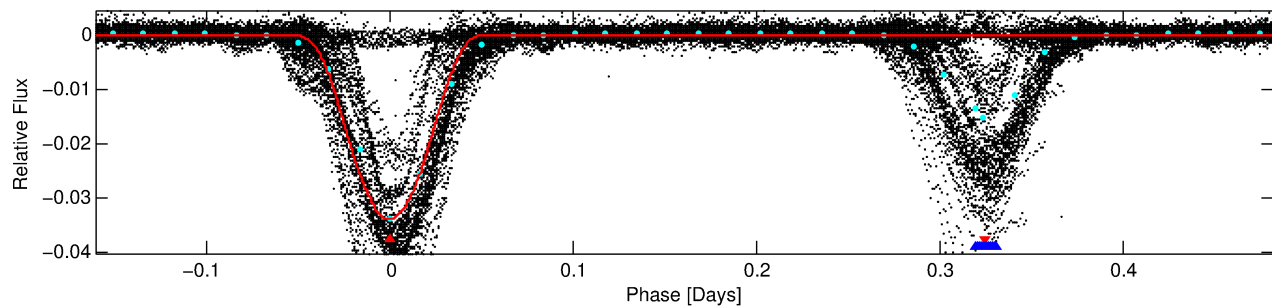
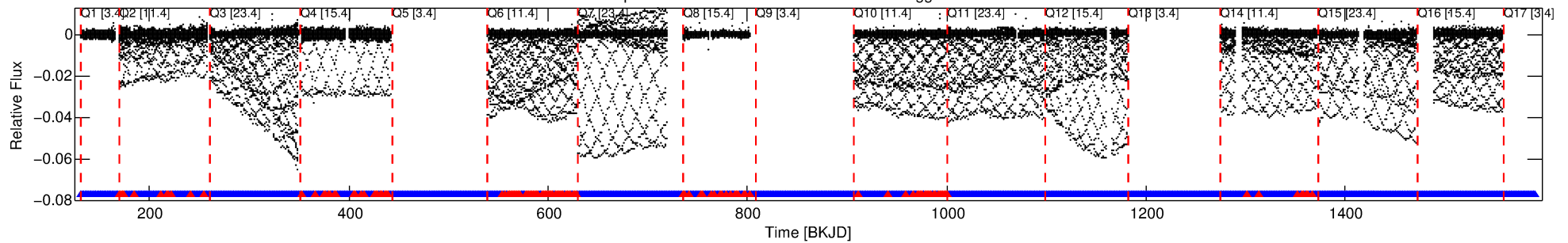
Ephemeris Match Information For 006103049-01

No Significant Match Found

DV One-Page Summary

KIC: 6103049 Candidate: 1 of 2 Period: 0.643 d
KOI: K06662.01 Corr: 0.930

Kp: 15.15 R*: 0.99 Rs Teff: 5899.0 K Logg: 4.39 Fe/H: -0.380



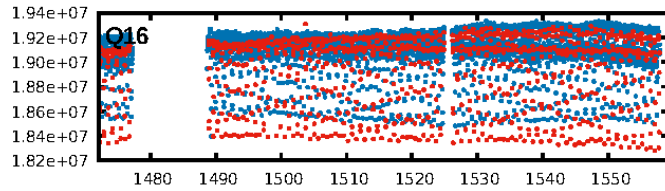
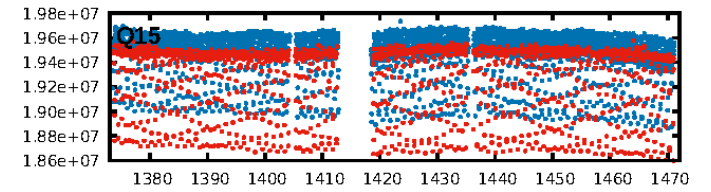
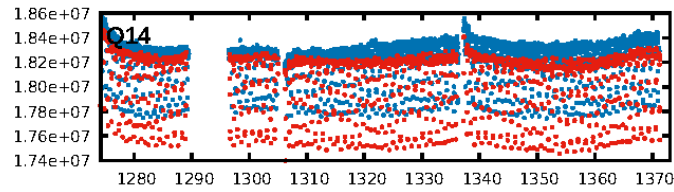
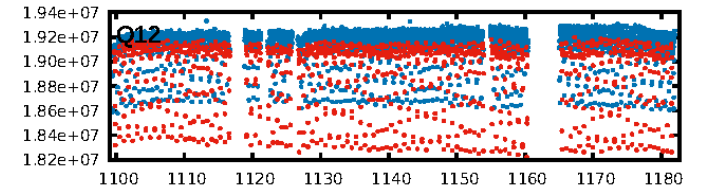
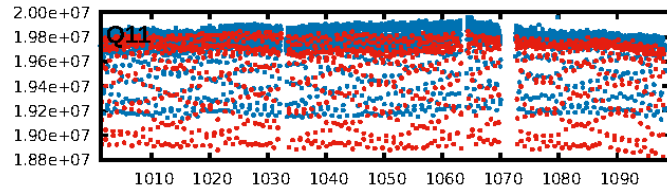
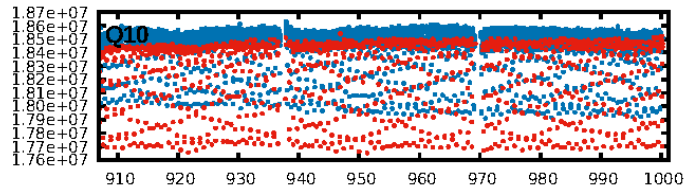
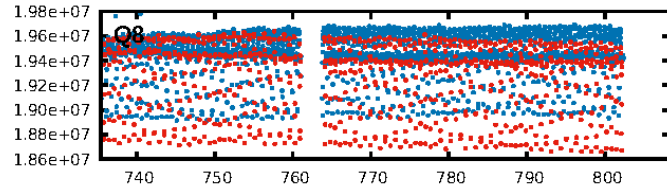
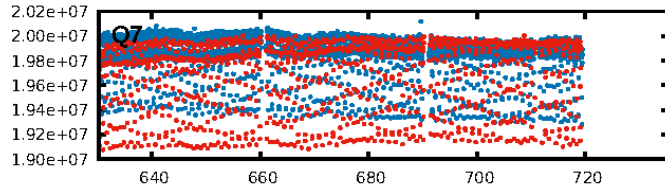
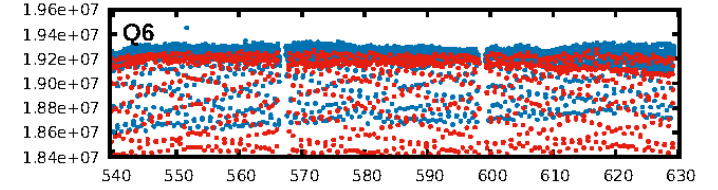
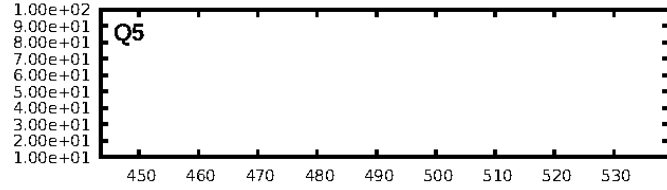
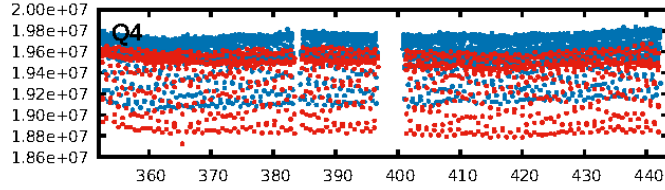
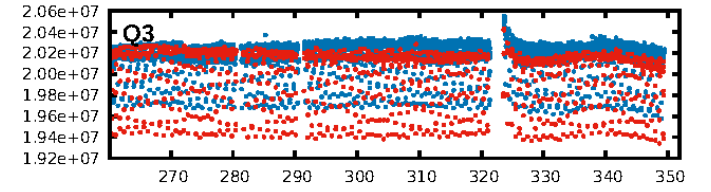
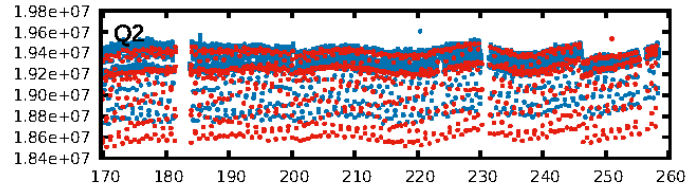
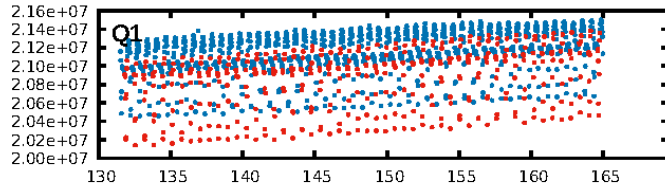
DV Fit Results:

Period = 0.64317 [0.00000] d
Epoch = 131.8891 [0.0000] BKJD
Rp/R* = 0.2343 [0.0079]
a/R* = 2.29 [0.01]
b = 0.91 [0.01]
Seff = 5474.85 [1954.94]
Teq = 2193 [196] K
Rp = 25.29 [7.18] Re
a = 0.0139 [0.0033] AU
Ag = 2.65 [0.91] [1.81σ]
Teffp = 4328 [148] K [8.70σ]

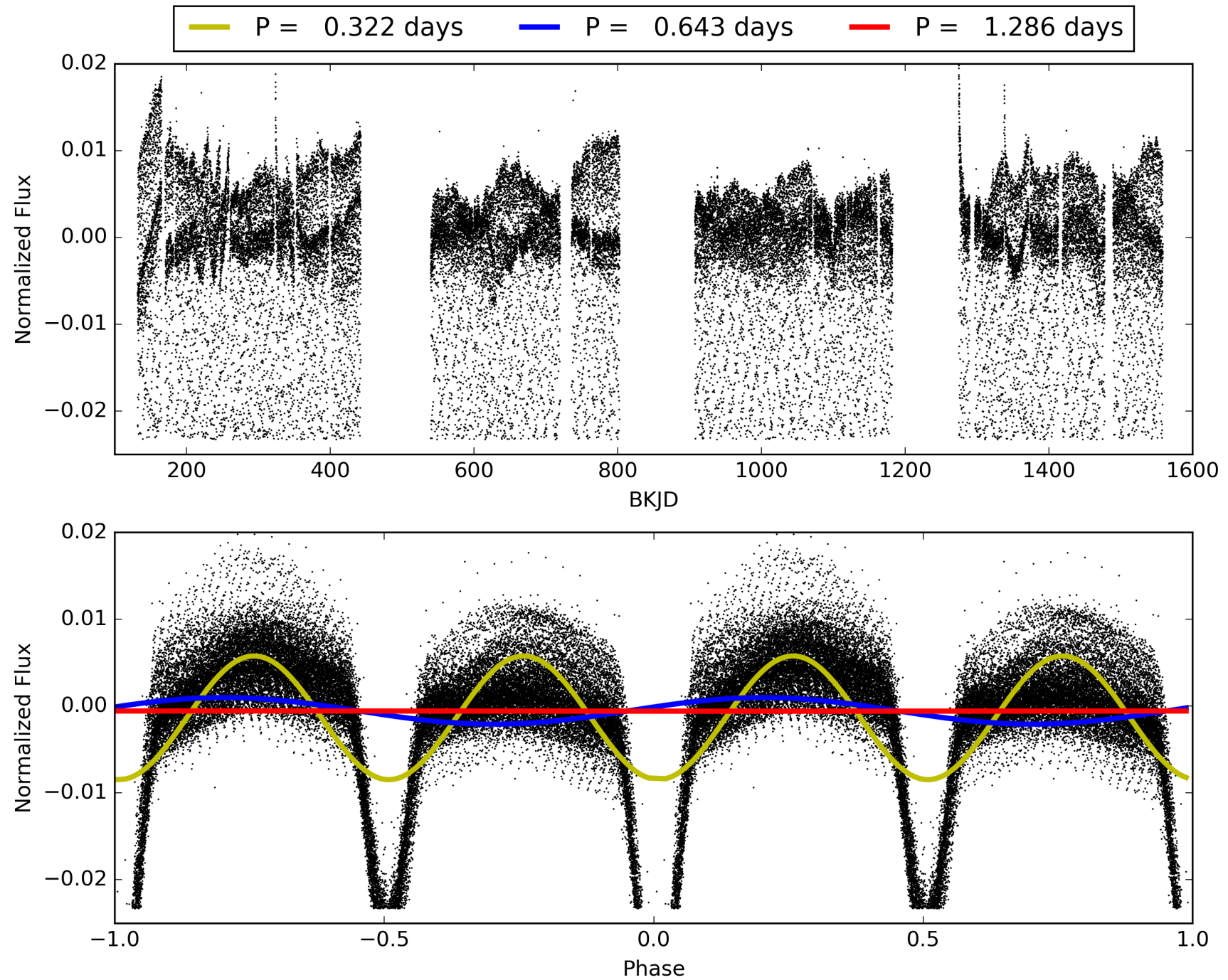
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [1396/1562]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.068 arcsec [15.86σ]
OotOffset-rm: 0.012 arcsec [0.18σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-rm: 0.034 arcsec [0.51σ]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006103049-01, PDC Light Curves

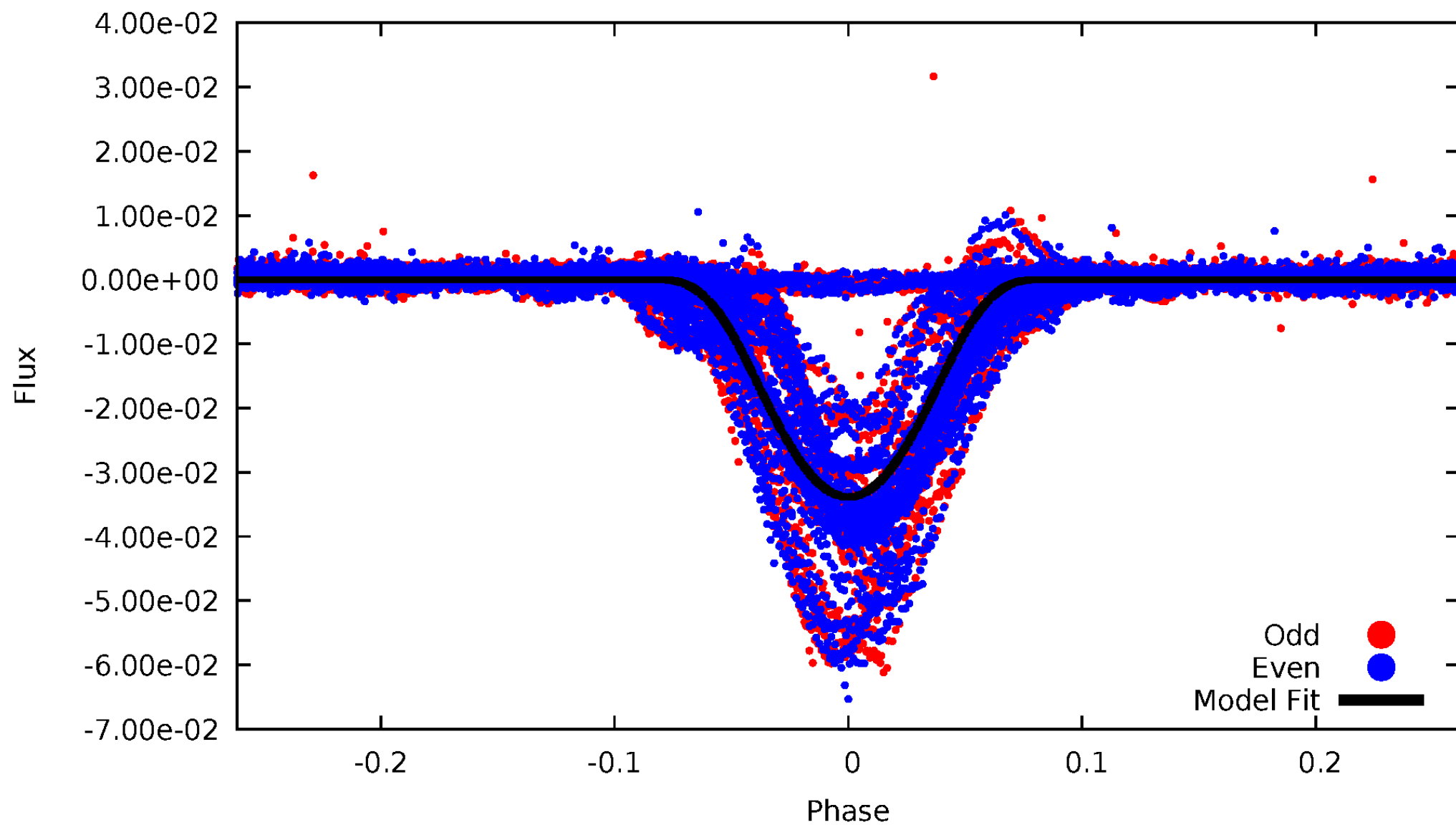


TCE 006103049-01



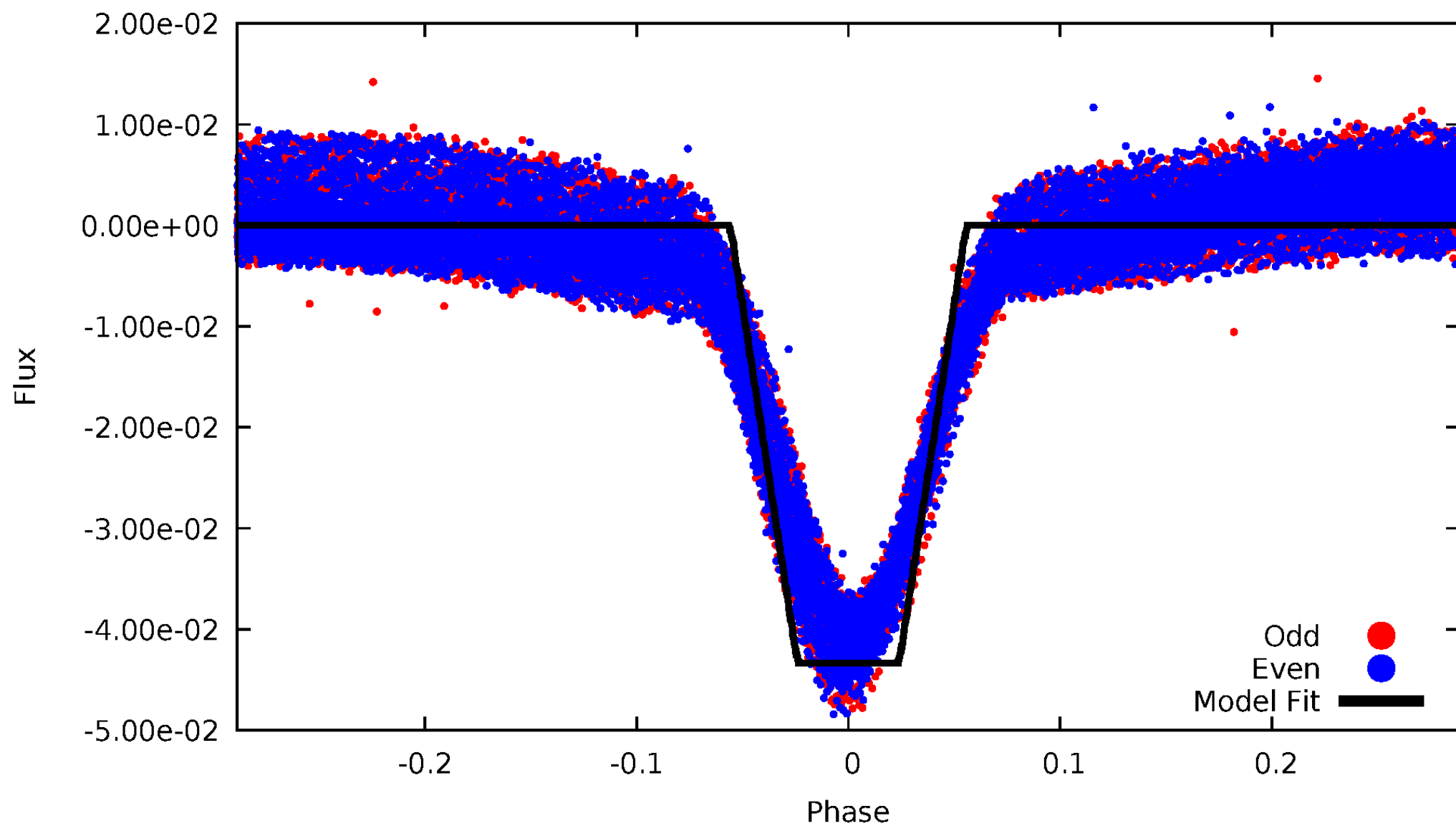
DV Odd/Even

TCE 006103049-01



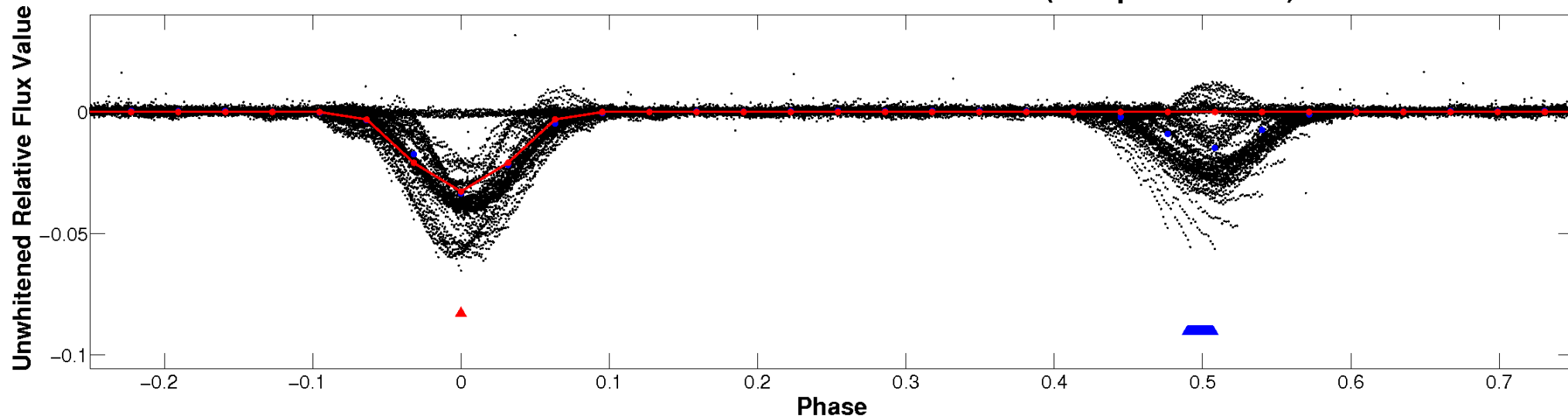
ALT Odd/Even

TCE 006103049-01

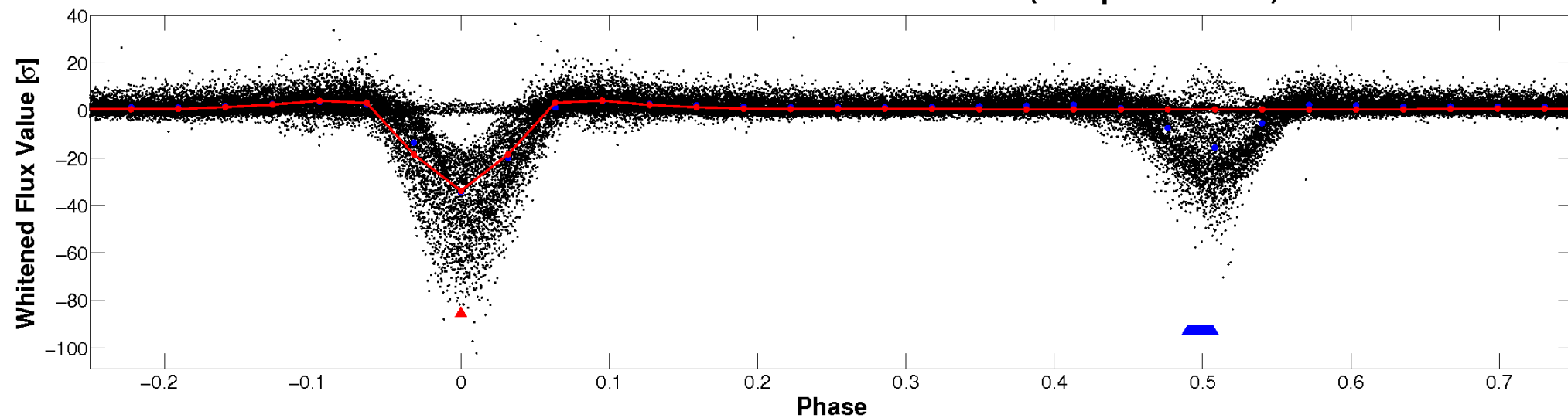


Non-Whitened Vs. Whitened Light Curve

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

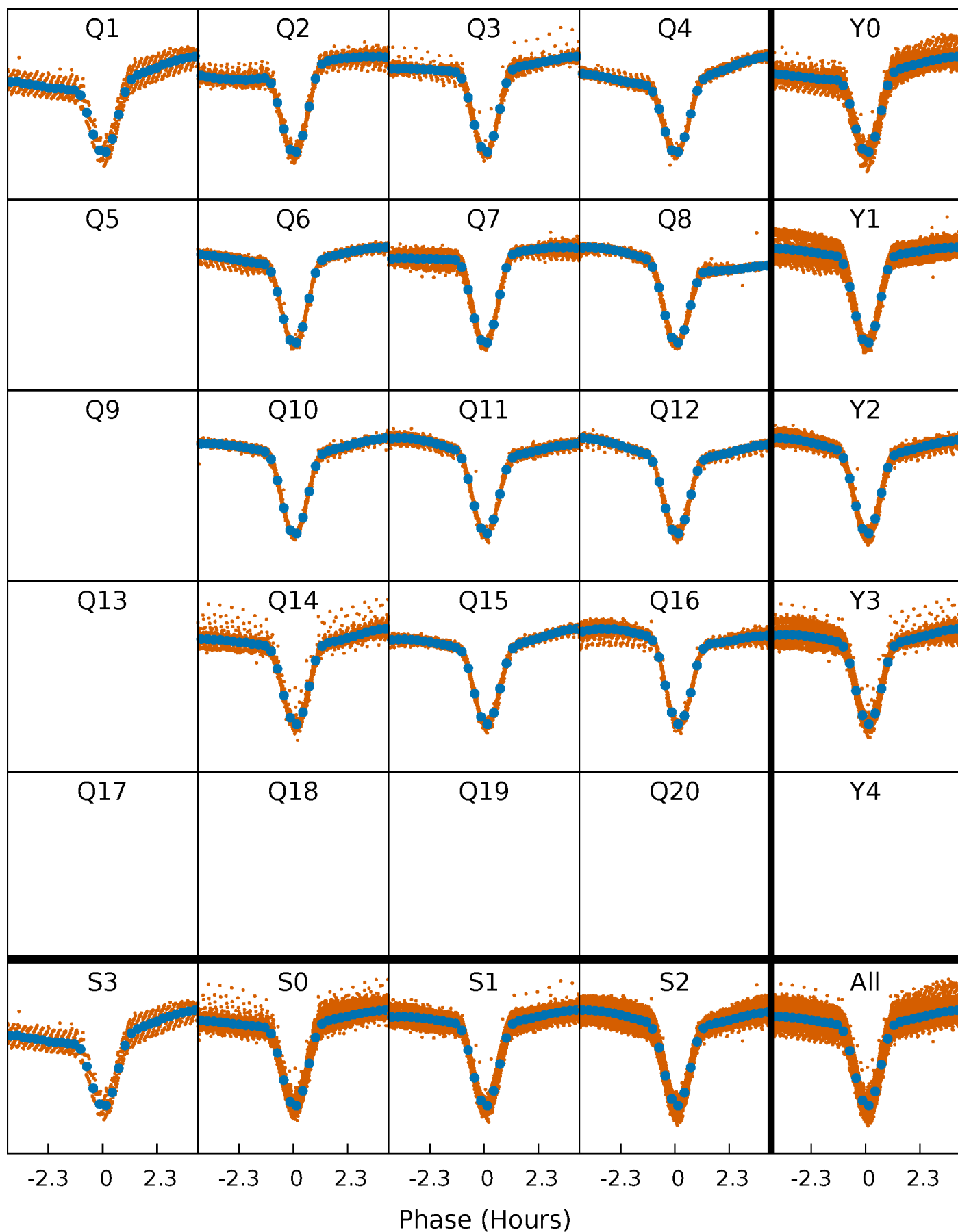


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



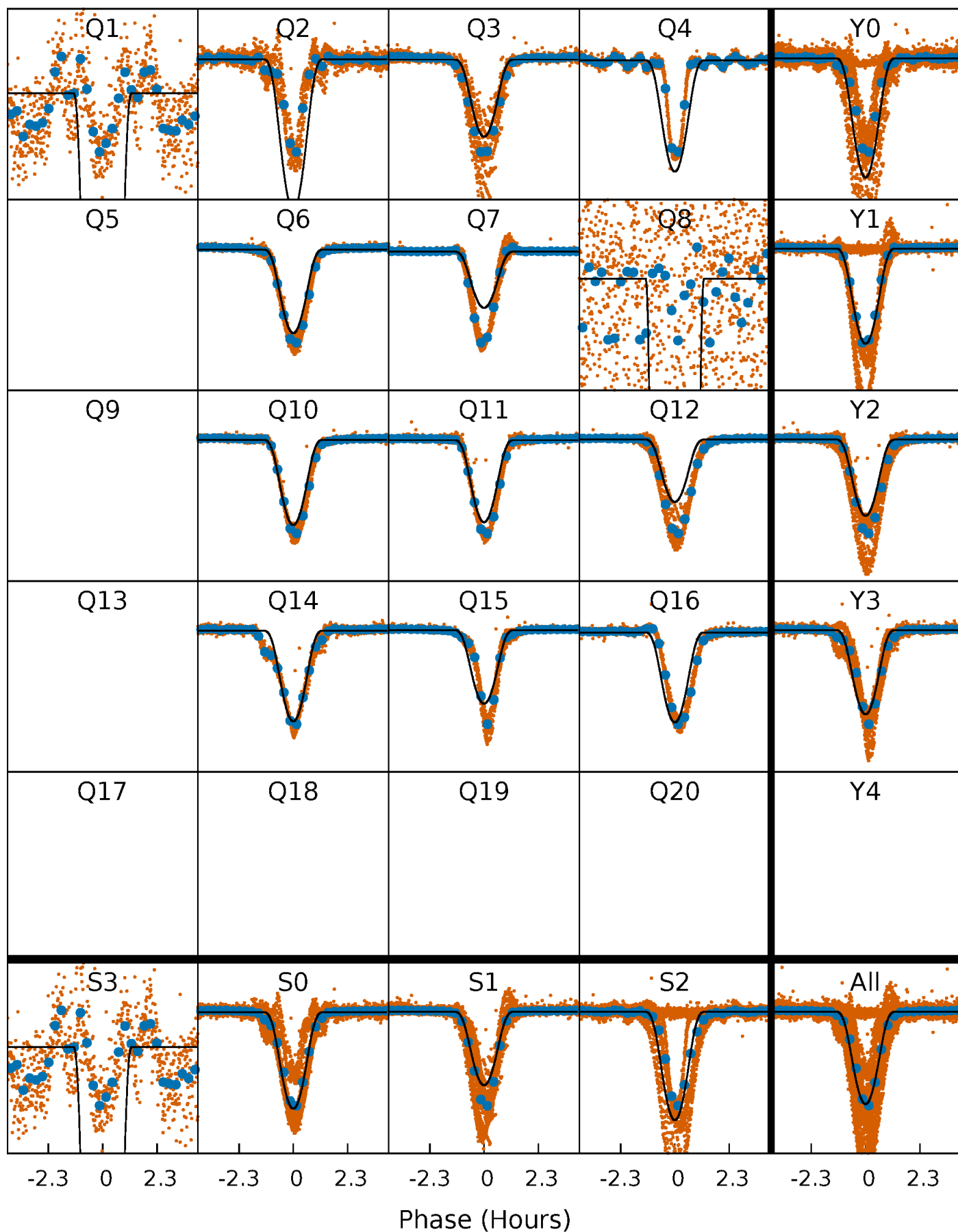
PDC Quarter-Phased Transit Curves

TCE 006103049-01 P= 0.643169 Days $T_0=131.889097$ (BKJD)



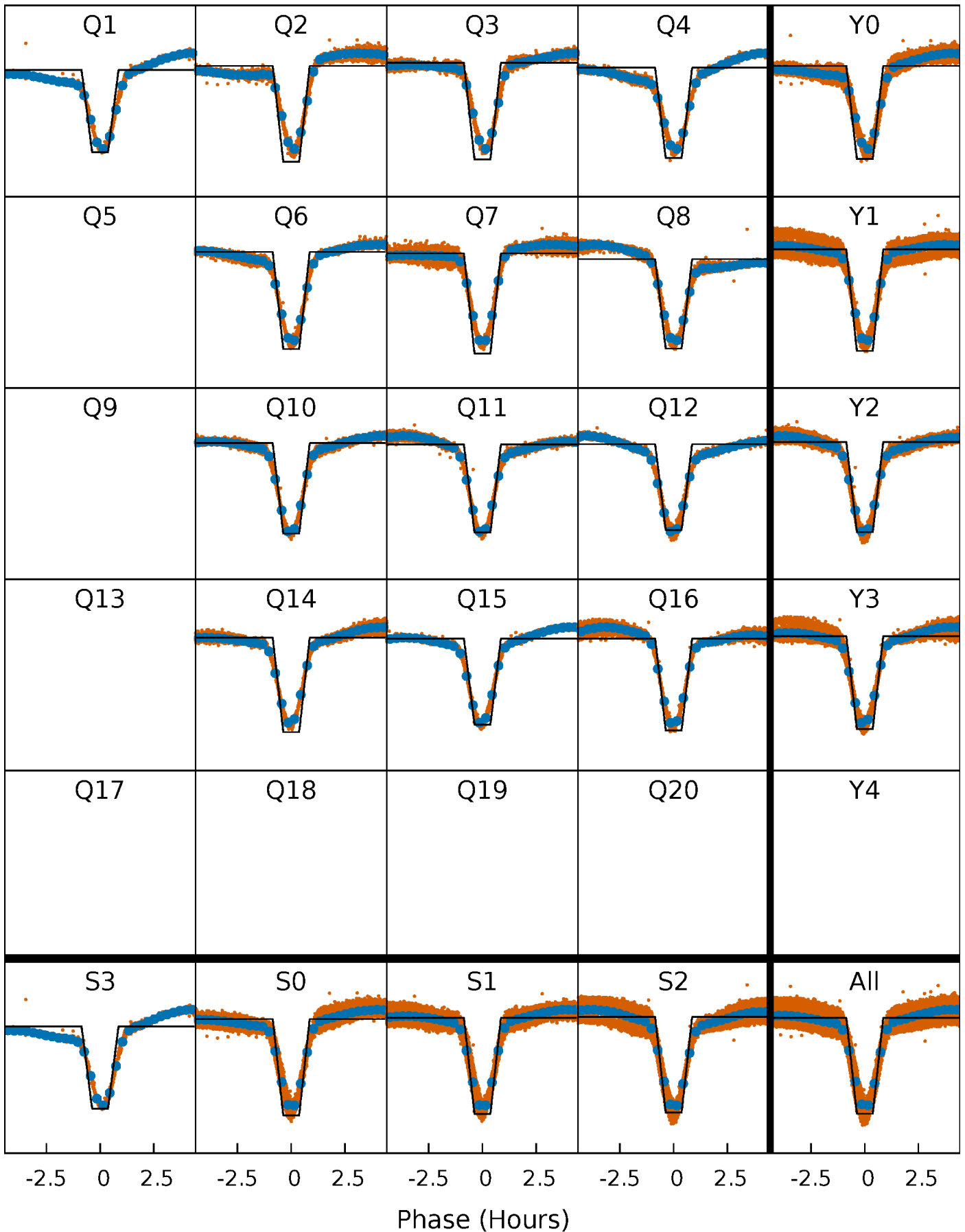
DV Quarter-Phased Transit Curves

TCE 006103049-01 P= 0.643169 Days $T_0=131.889097$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

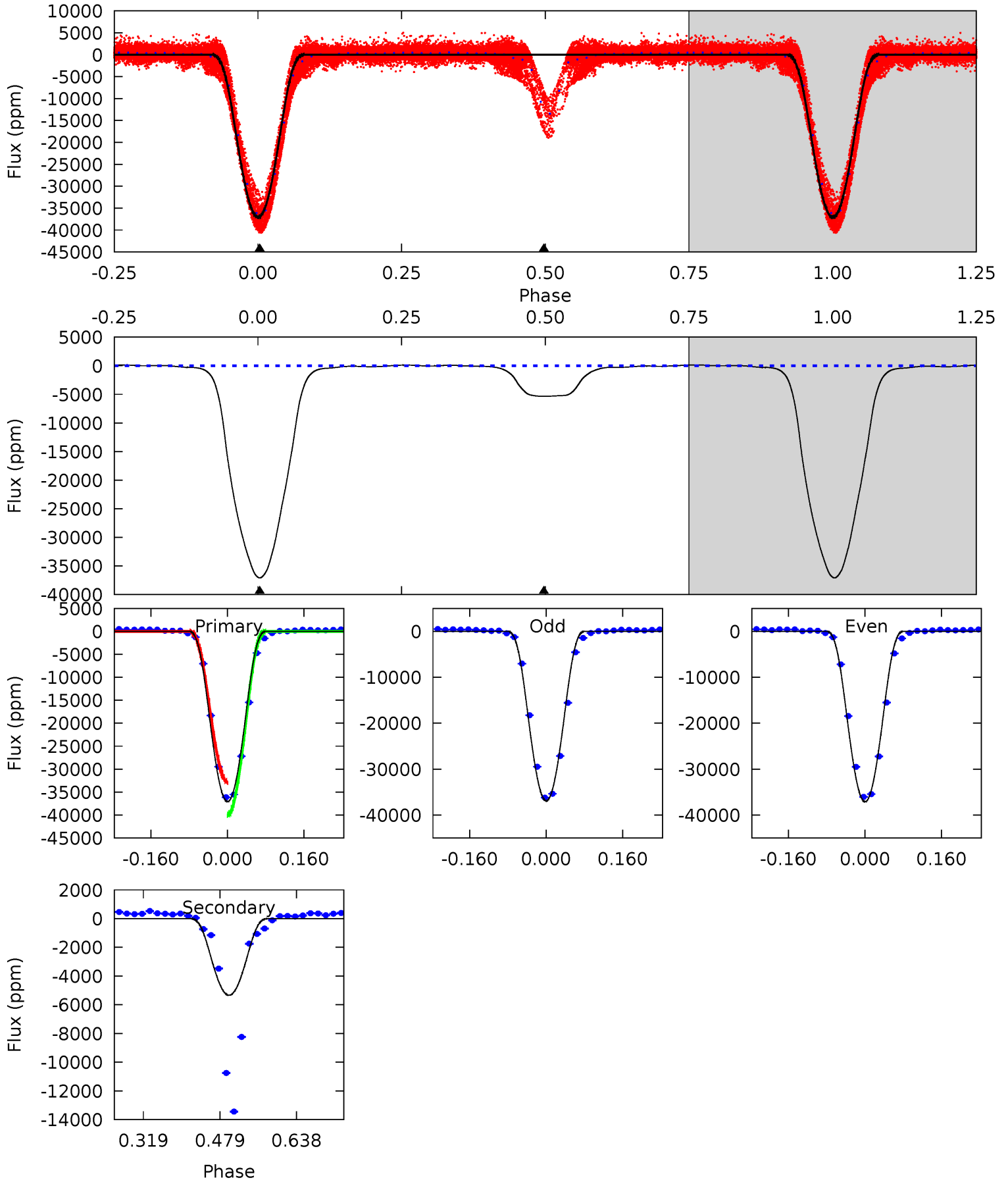
TCE 006103049-01 P= 0.643174 Days $T_0=131.886194$ (BKJD)



DV Model-Shift Uniqueness Test

006103049-01, P = 0.643169 Days, E = 131.245928 Days

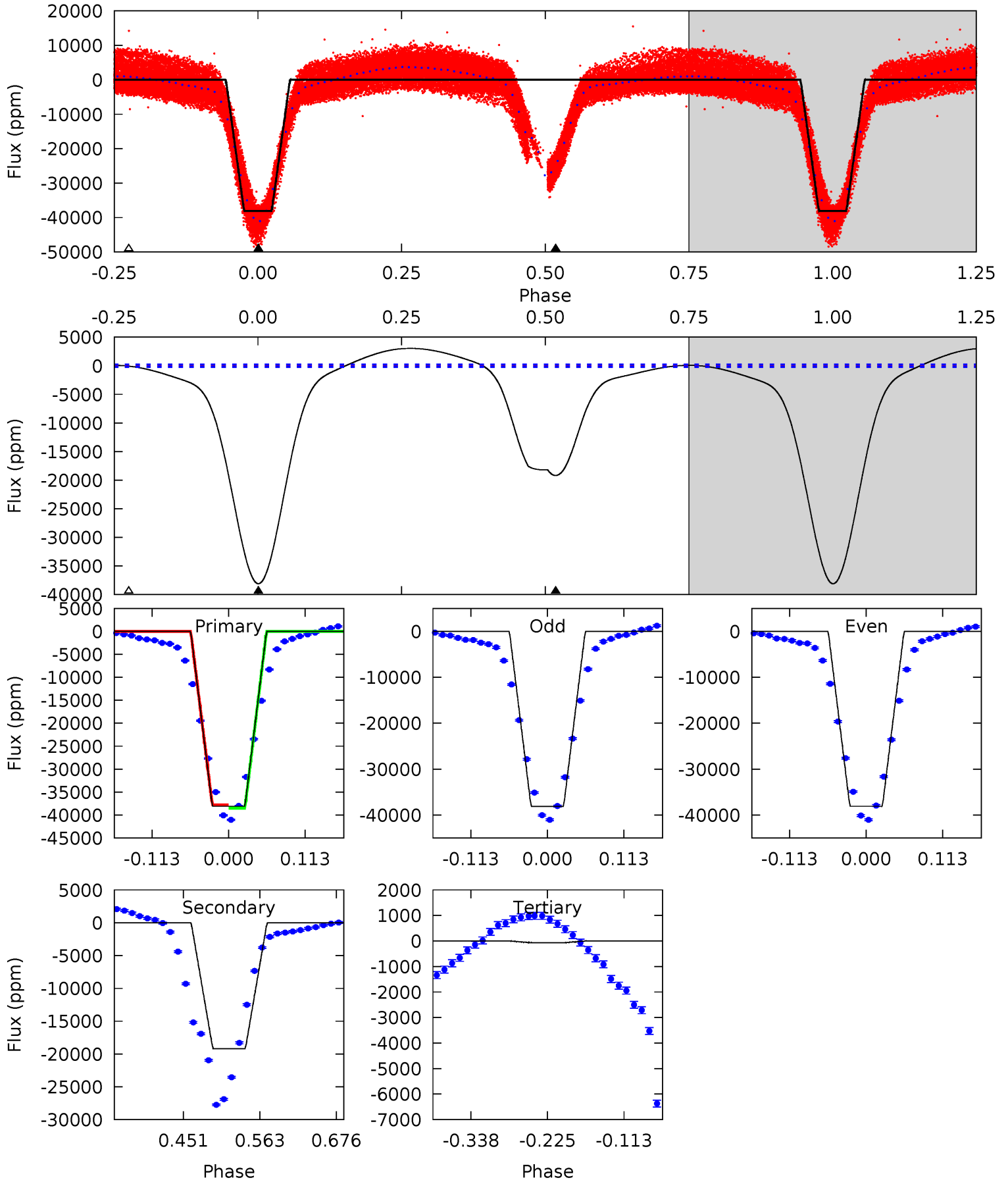
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2661	383.0	0	0	4.47	1.41	6.14	2661	2661	383.0	383.0	6.88	0.93	0.00	0



Alt Model-Shift Uniqueness Test

006103049-01, P = 0.643174 Days, E = 131.243020 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
852.0	429.1	1.55	0	4.54	1.59	37.3	850.4	852.0	427.6	429.1	0.28	1.01	0.07	8.17



Stellar Parameters For KIC 006103049

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5899^{+158}_{-175}	$4.387^{+0.149}_{-0.182}$	$-0.380^{+0.300}_{-0.300}$	$0.989^{+0.279}_{-0.172}$	$0.869^{+0.119}_{-0.079}$	$1.267^{+0.889}_{-0.607}$
	+3%/-3%	+3%/-4%	+79%/-79%	+28%/-17%	+14%/-9%	+70%/-48%
Source	PHO1	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 006103049-01 / KOI 6662.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5336 ± 14	$25.44^{+4.08}_{-2.98}$	3078^{+215}_{-182}	3462^{+110}_{-116}	$0.886^{+0.231}_{-0.208}$
Alt.	-19186 ± 45	$22.77^{+3.23}_{-2.59}$	3072^{+222}_{-178}	4837^{+149}_{-145}	$4.054^{+0.963}_{-0.928}$

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 $A_{obs} \gg 1.0$

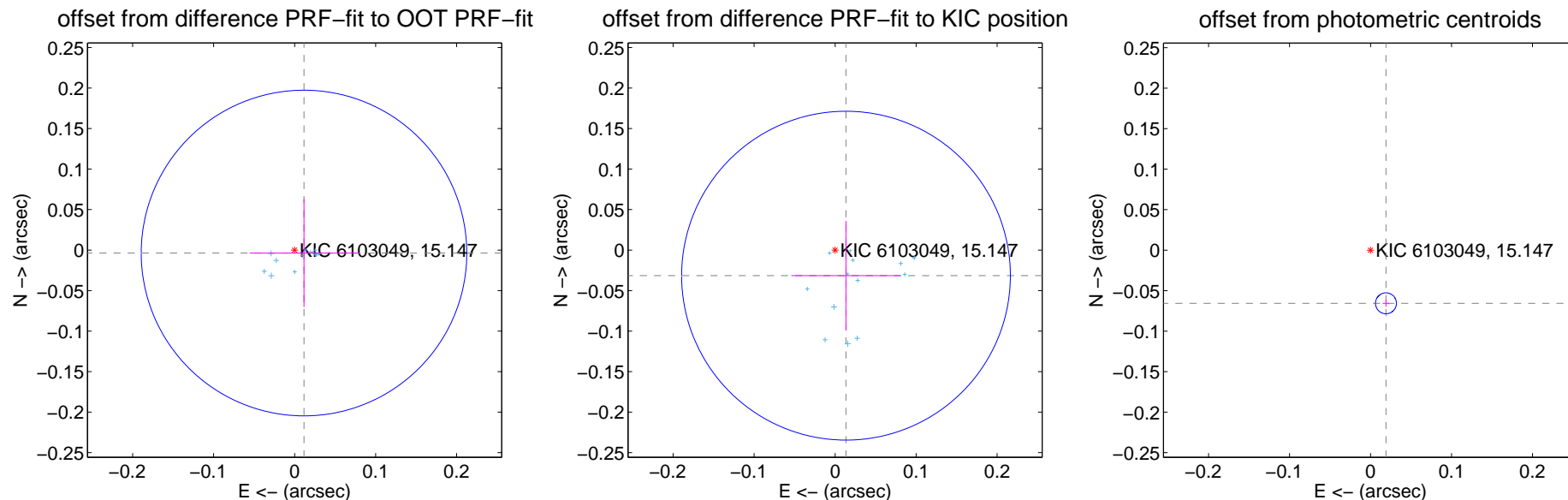
DV Centroid Data

Supplemental centroid analysis for 006103049-01. Kepler magnitude: 15.15. Transit SNR 1049.13

There are 13 quarters with good PRF difference image offsets

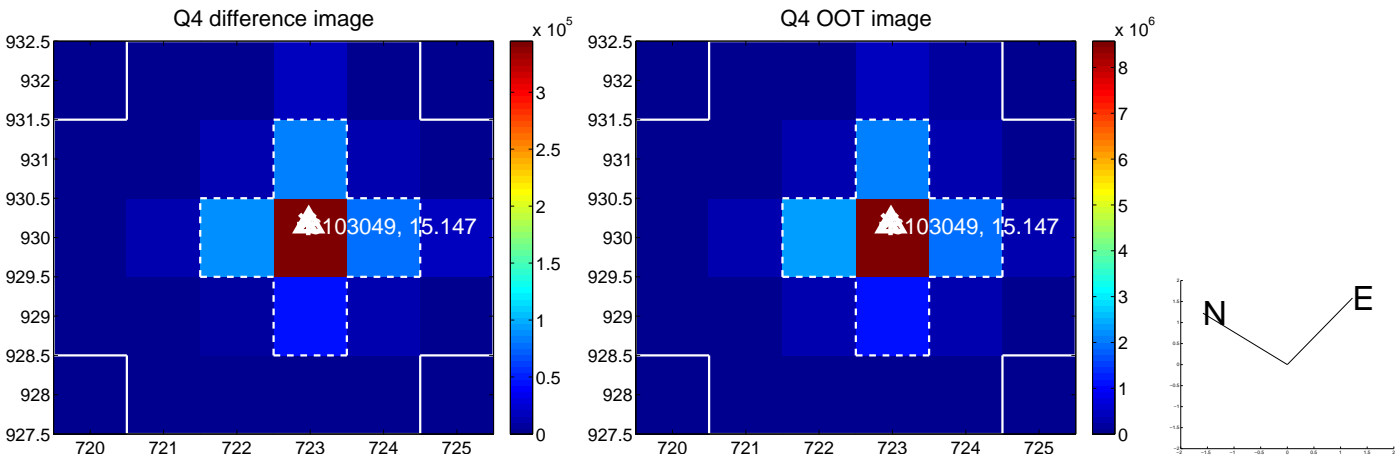
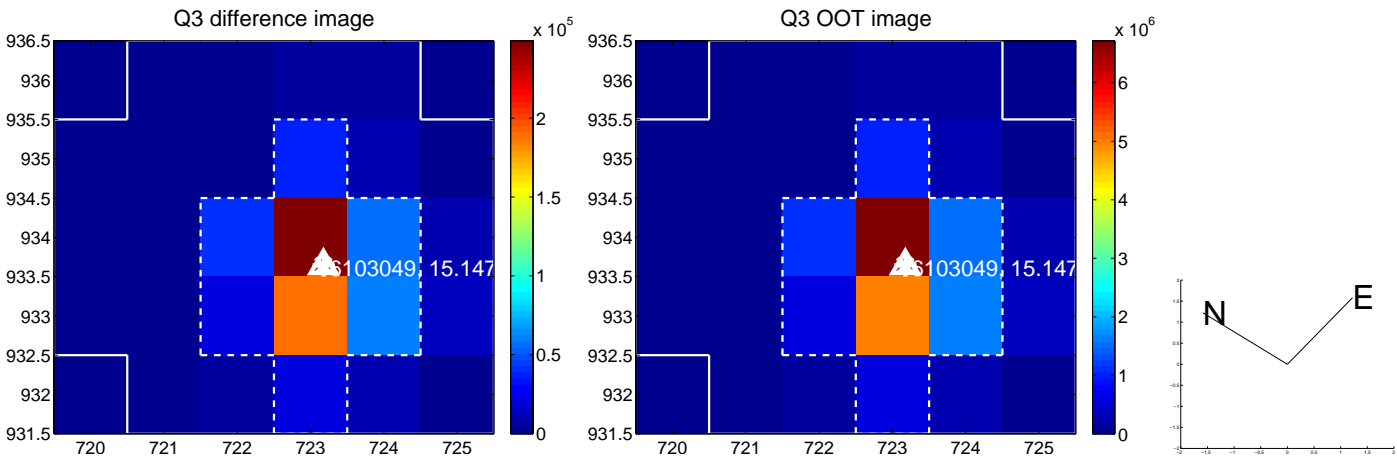
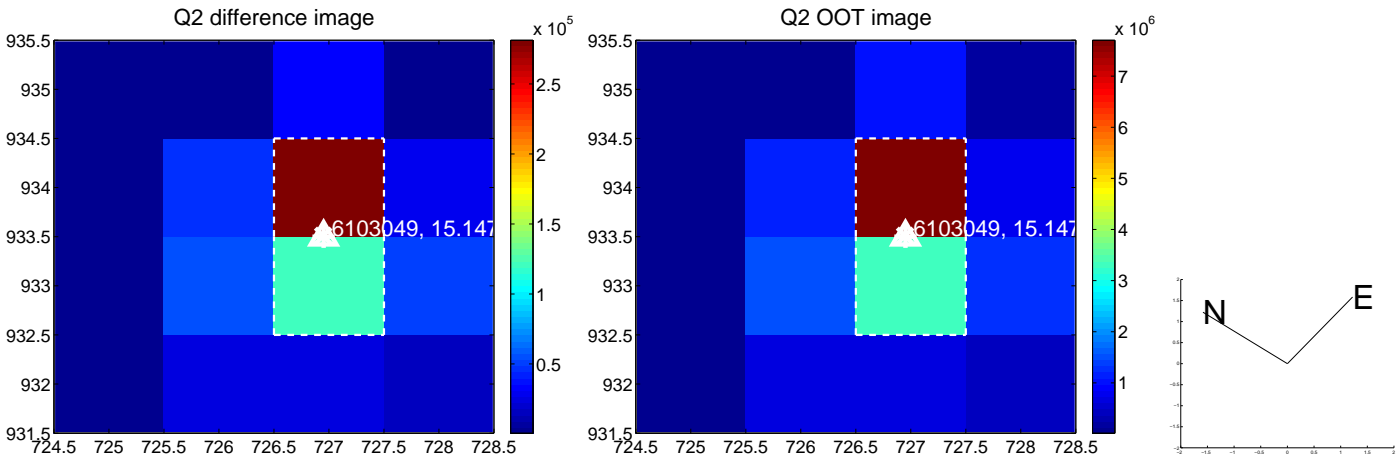
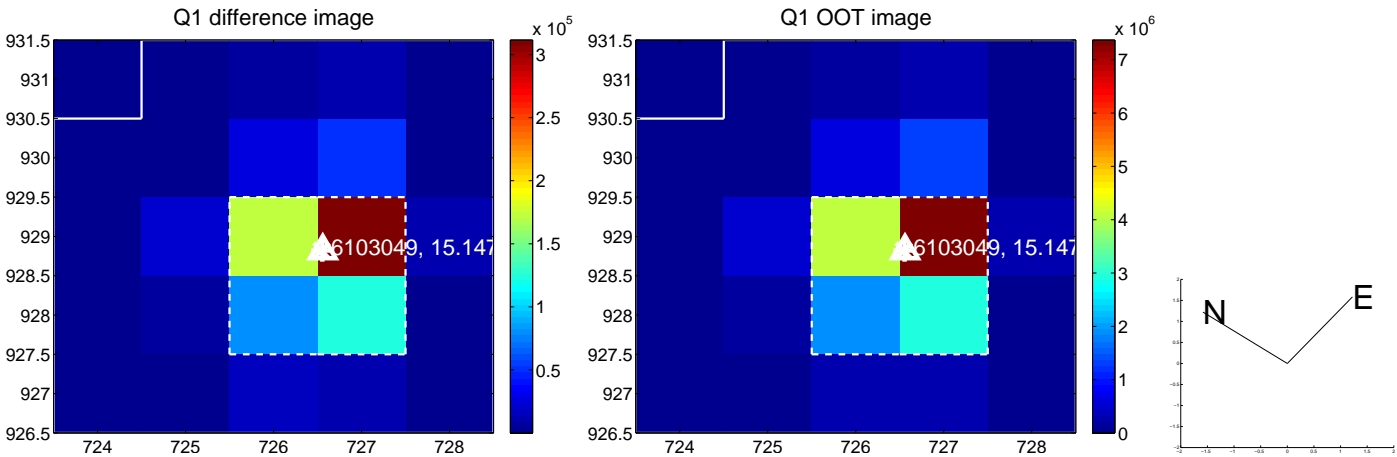
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.012 ± 0.067	0.18	-0.012 ± 0.067	-0.004 ± 0.067
PRF-fit source offset from KIC position	0.034 ± 0.068	0.51	-0.013 ± 0.067	-0.032 ± 0.068
photometric centroid source offset	0.07 ± 0.00	15.86	-0.02 ± 0.00	-0.07 ± 0.00

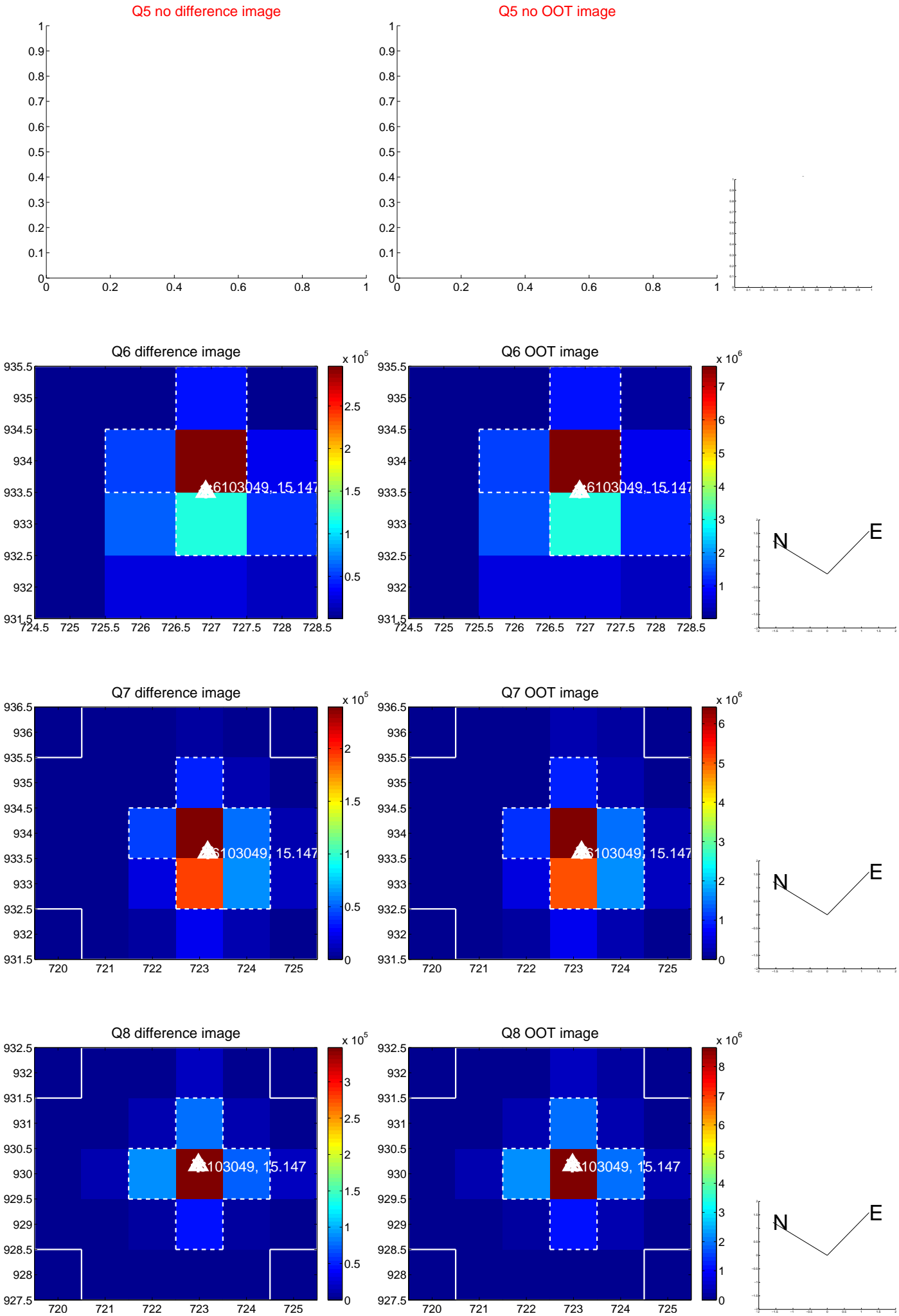


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

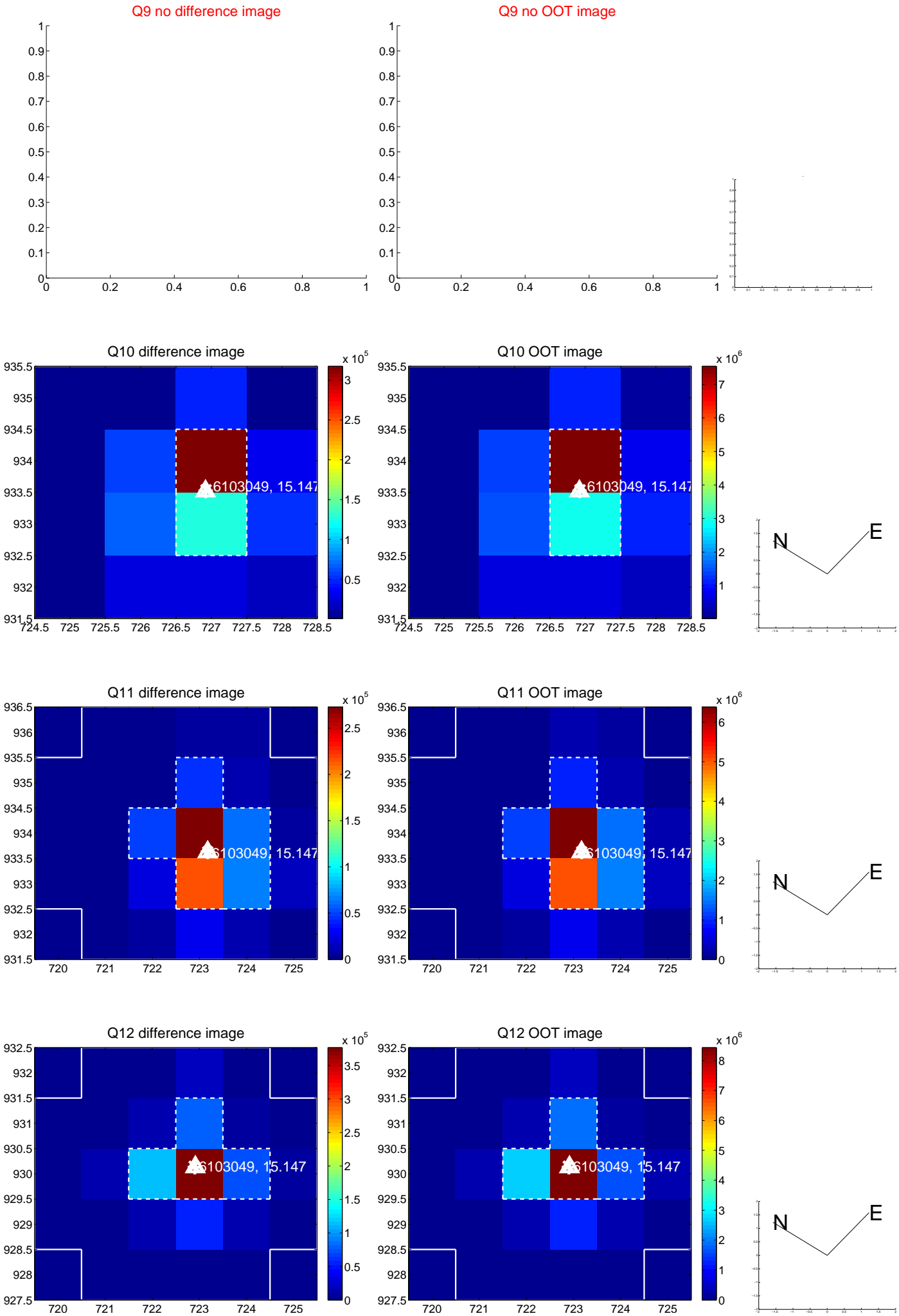
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



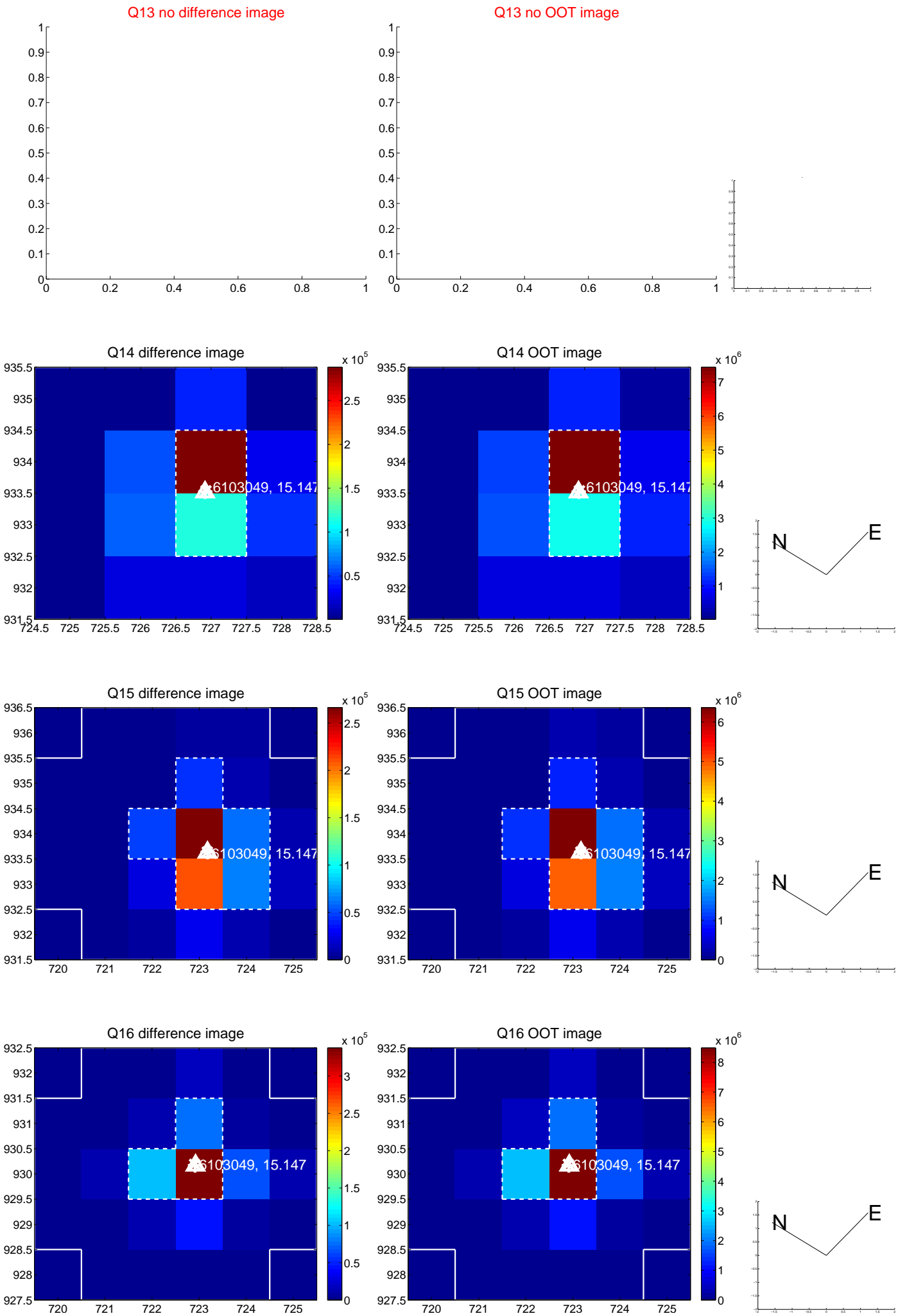
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



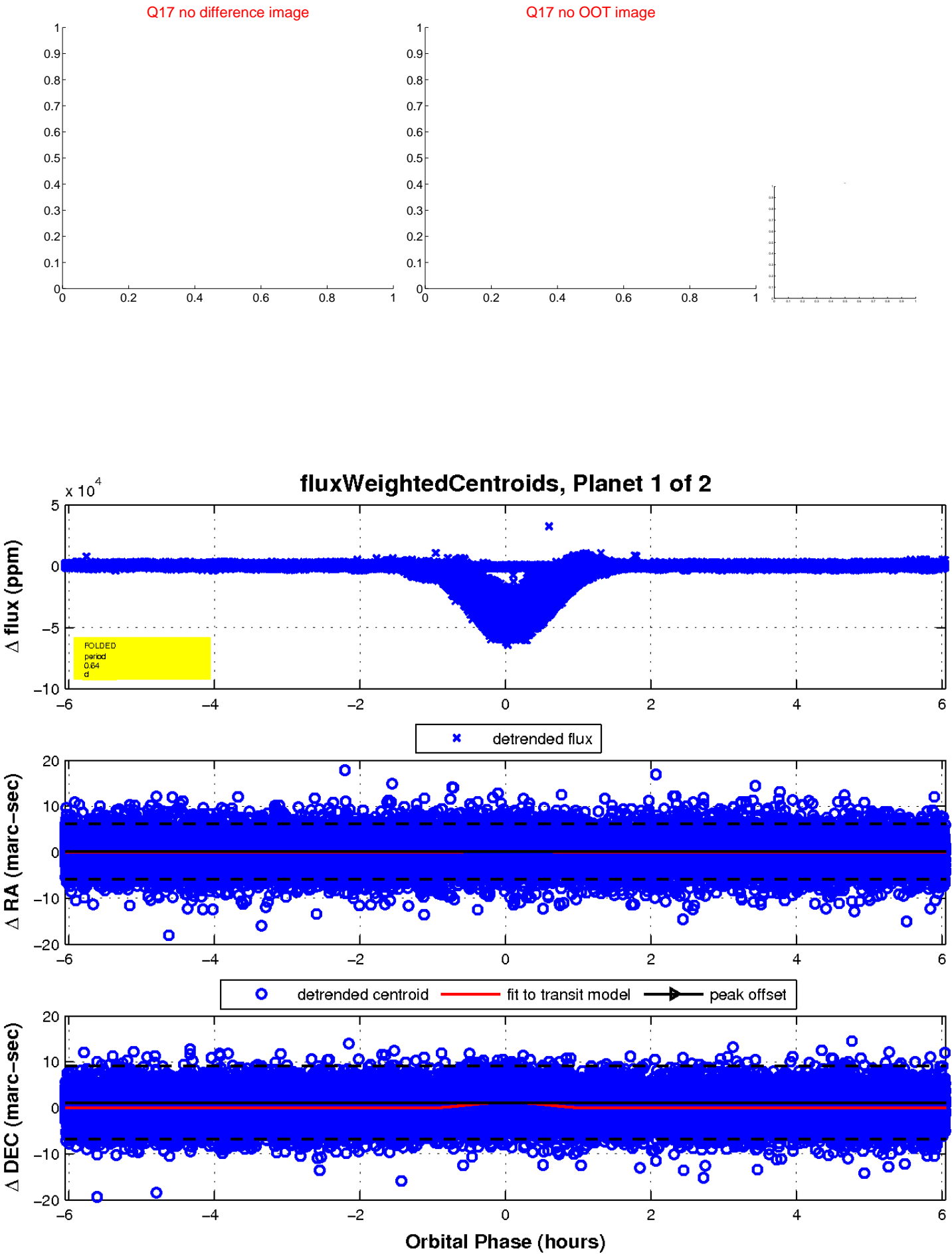
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



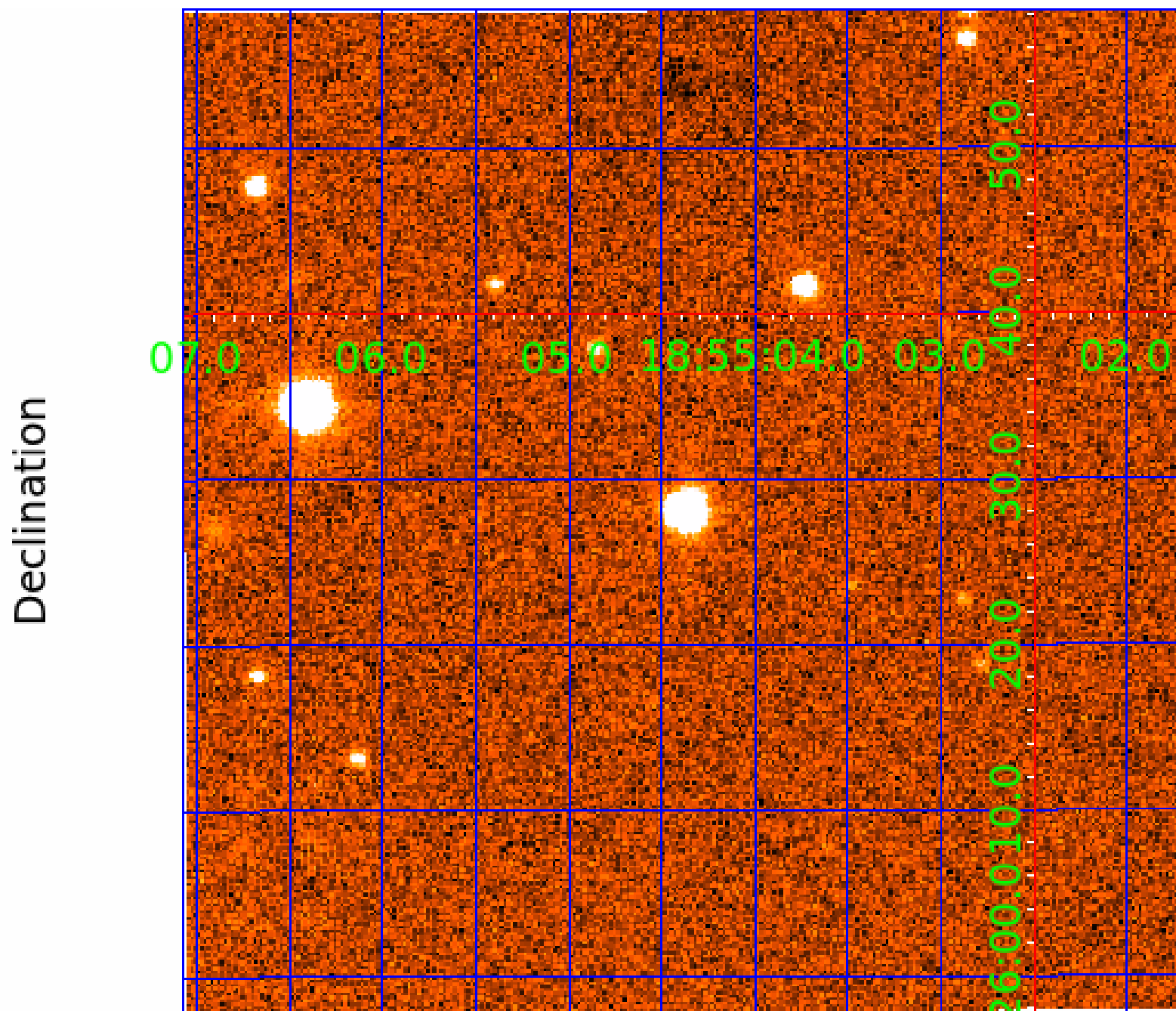
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006103049

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})
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Robovetter Results

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006103049-02	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 006103049-02

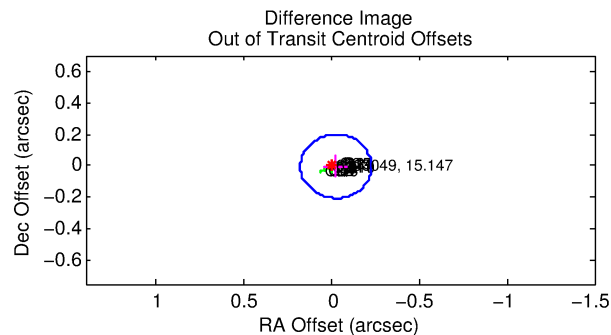
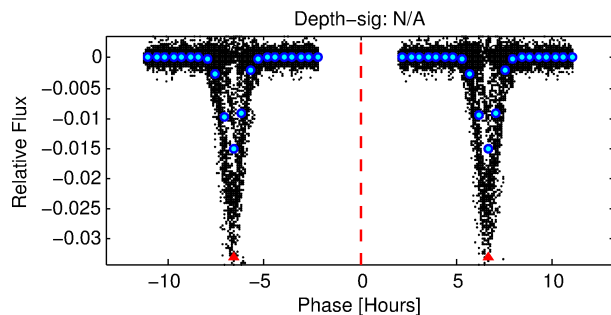
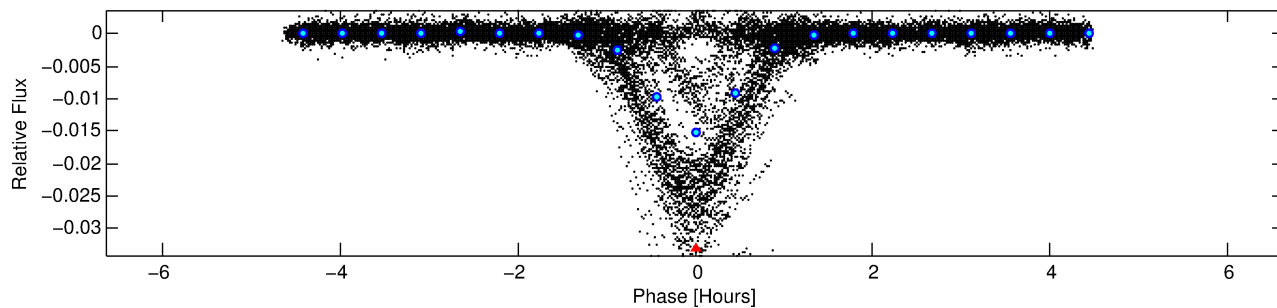
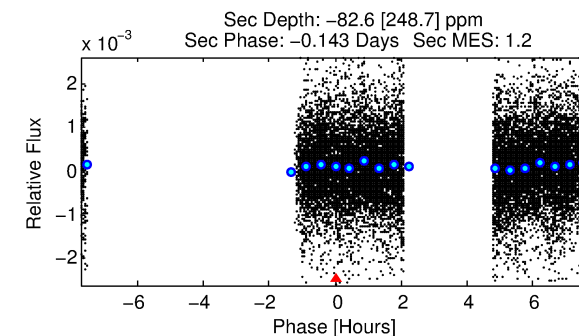
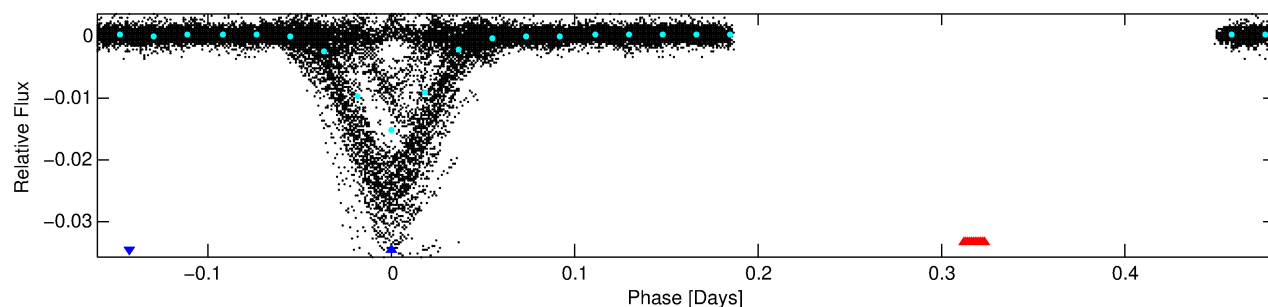
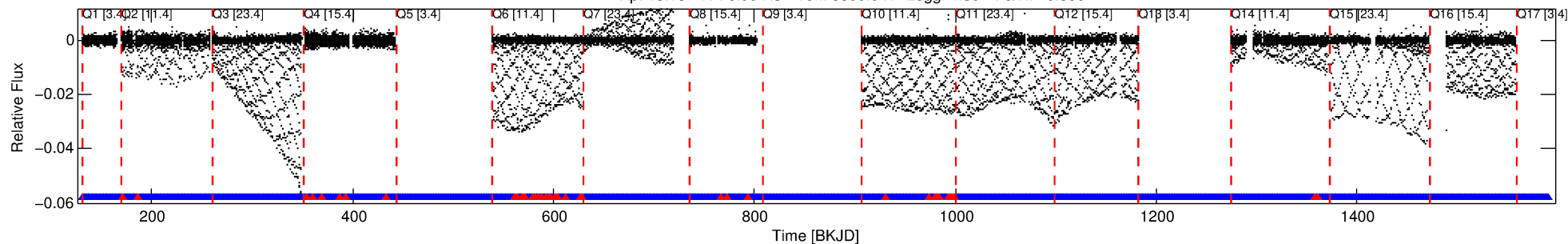
No Significant Match Found

DV One-Page Summary

KIC: 6103049 Candidate: 2 of 2 Period: 0.643 d

KOI: K06662 Corr: No Ephemeris Match

Kp: 15.15 R*: 0.99 Rs Teff: 5899.0 K Logg: 4.39 Fe/H: -0.380



TPS TCE Results:

Period = 0.64317 d
Epoch = 131.5610 BKJD

DV fit results are unavailable

DV Diagnostic Results:

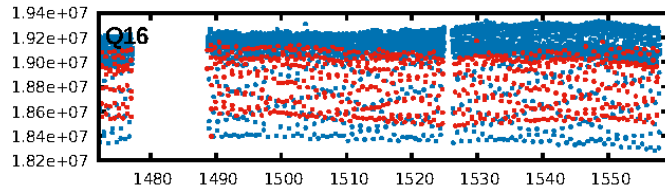
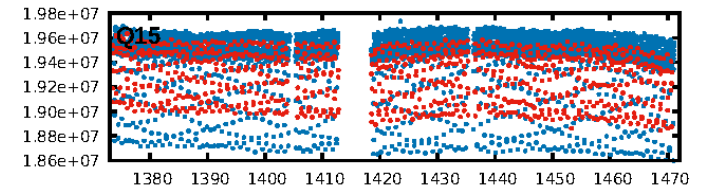
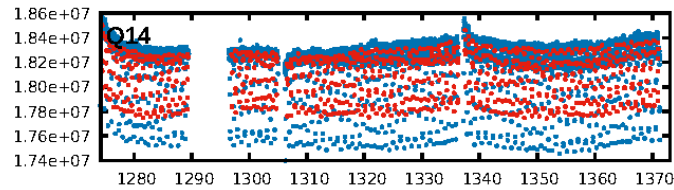
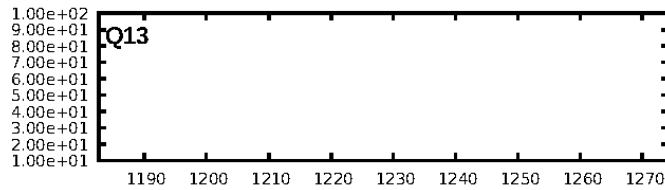
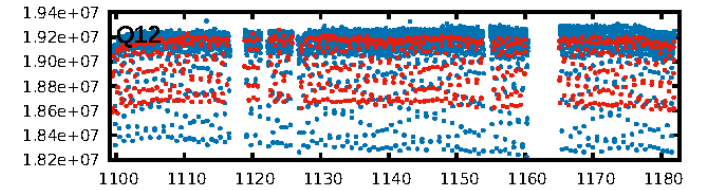
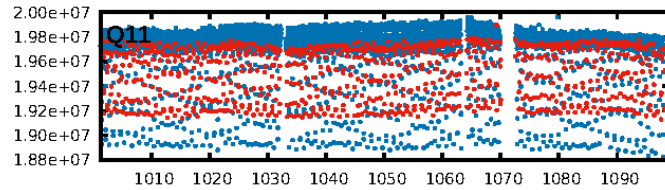
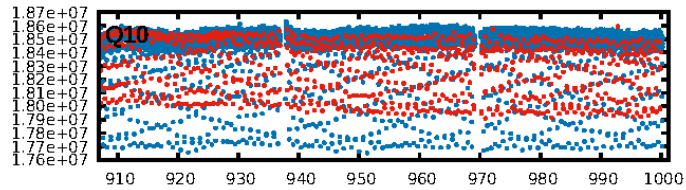
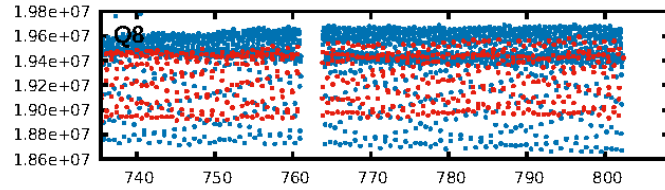
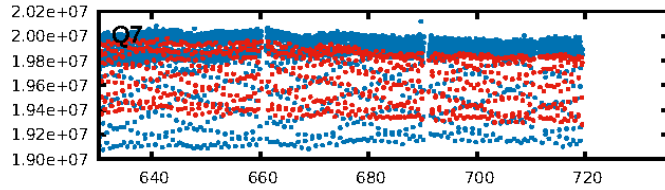
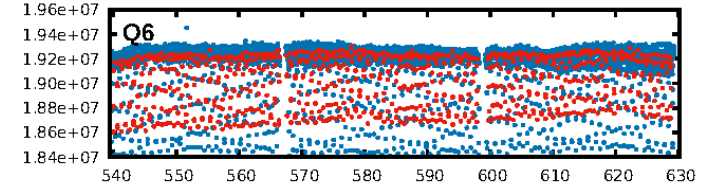
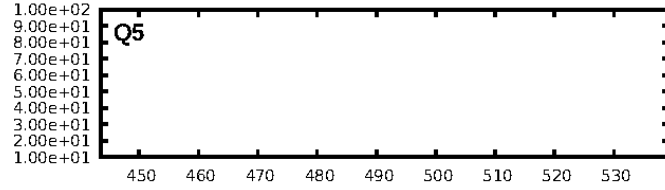
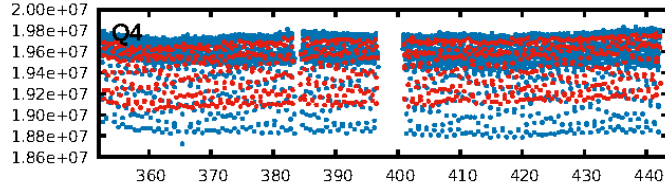
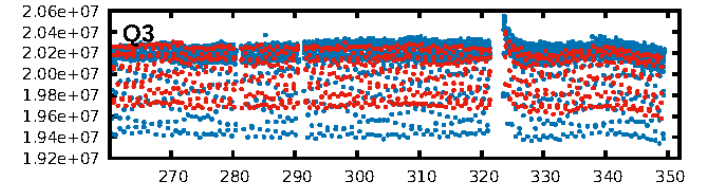
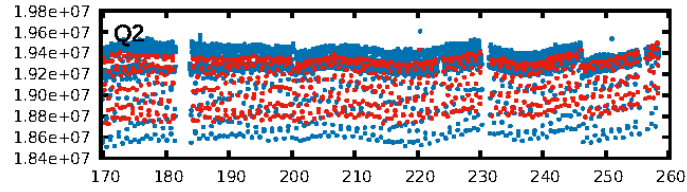
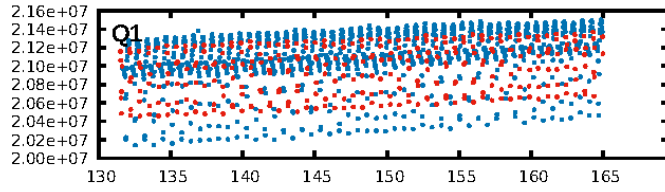
ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [1500/1556]
GhostDiagnostic-chr: N/A

Centroid-sig: 0.0%
Centroid-so: 0.059 arcsec [13.74 σ]
OotOffset-rm: 0.025 arcsec [0.37 σ]
KicOffset-rm: 0.044 arcsec [0.65 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

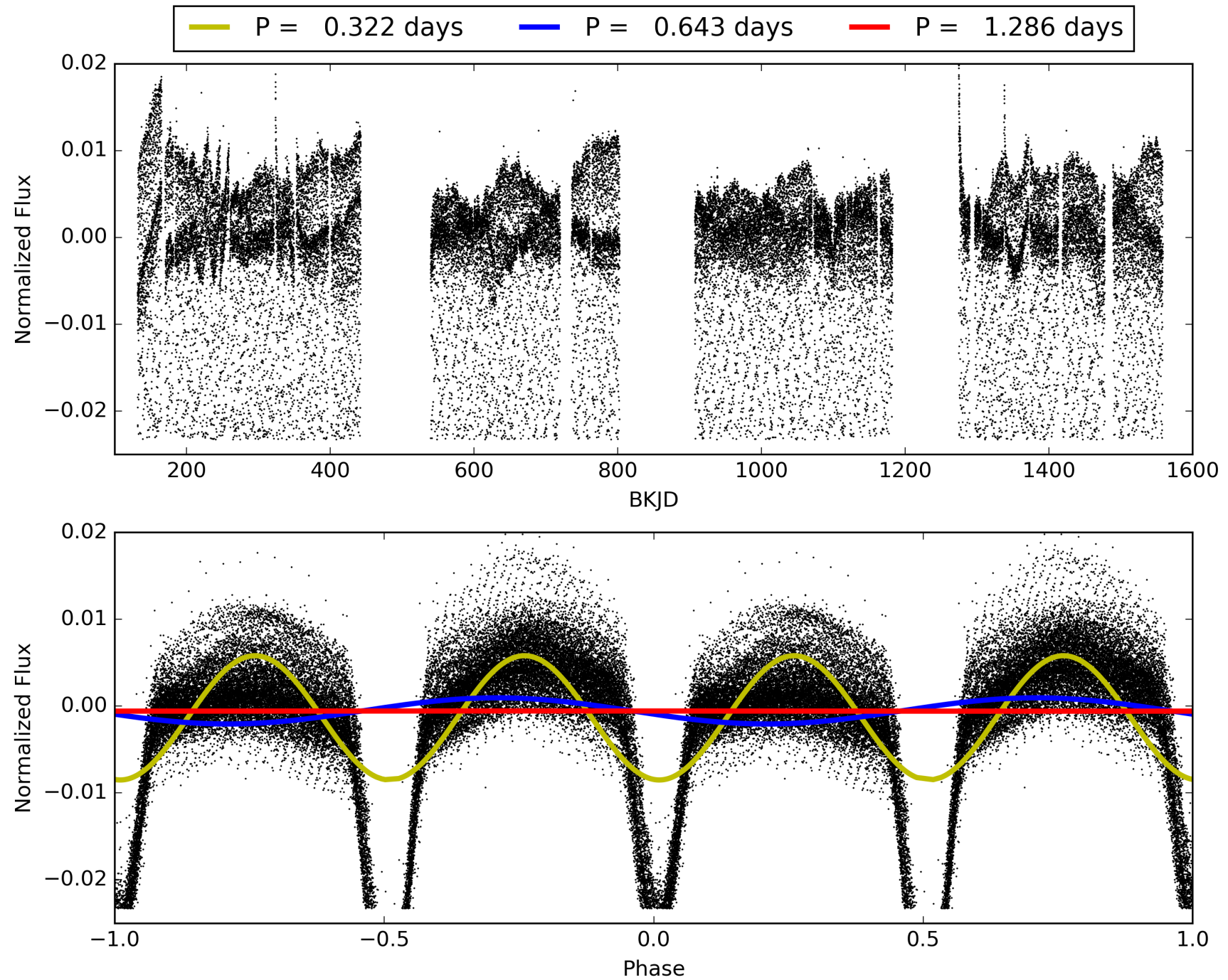
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:46:24 Z

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

TCE 006103049-02, PDC Light Curves

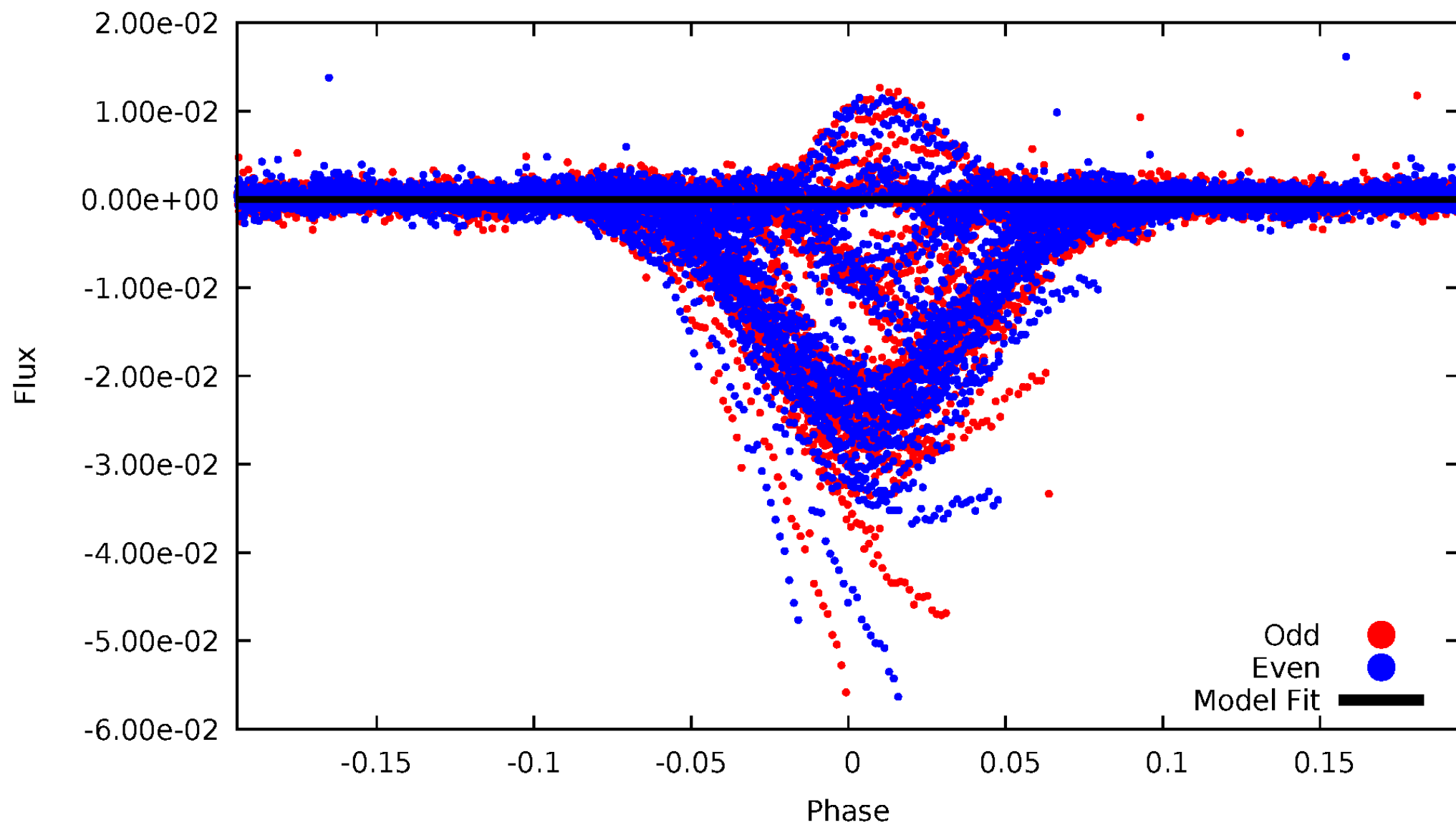


TCE 006103049-02



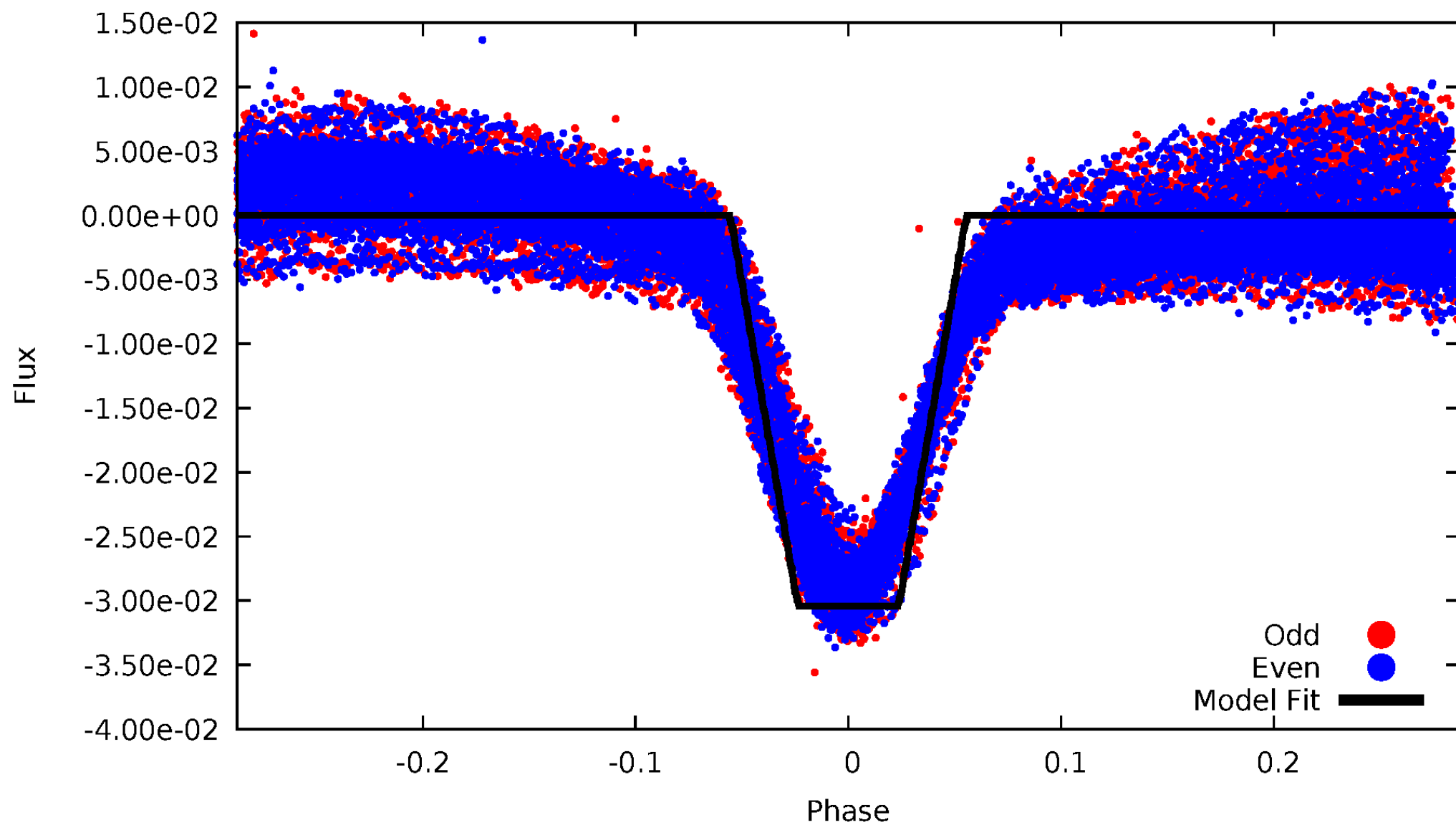
DV Odd/Even

TCE 006103049-02



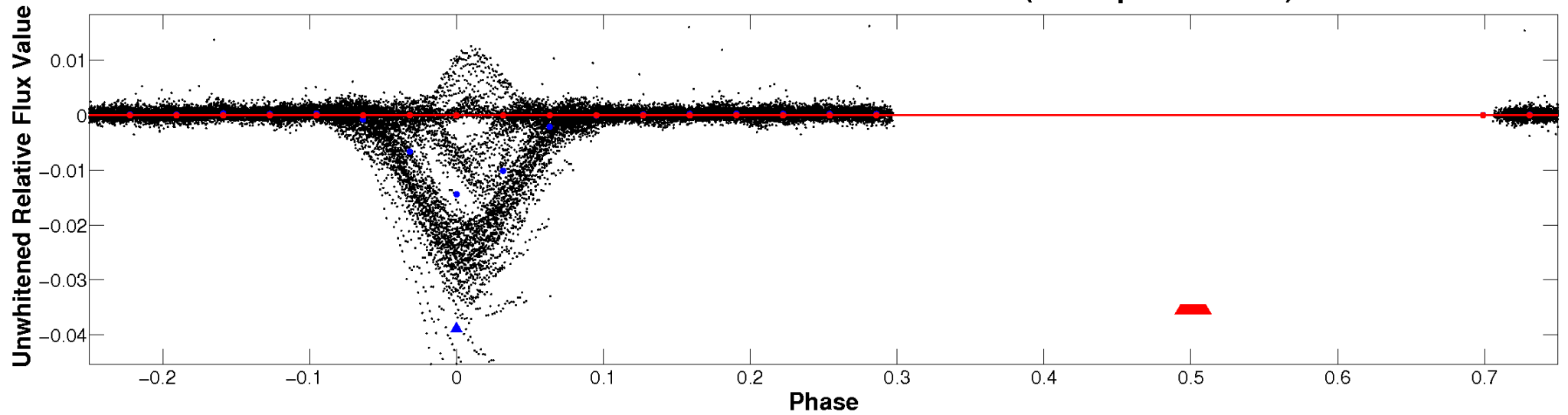
ALT Odd/Even

TCE 006103049-02



Non-Whitened Vs. Whitened Light Curve

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

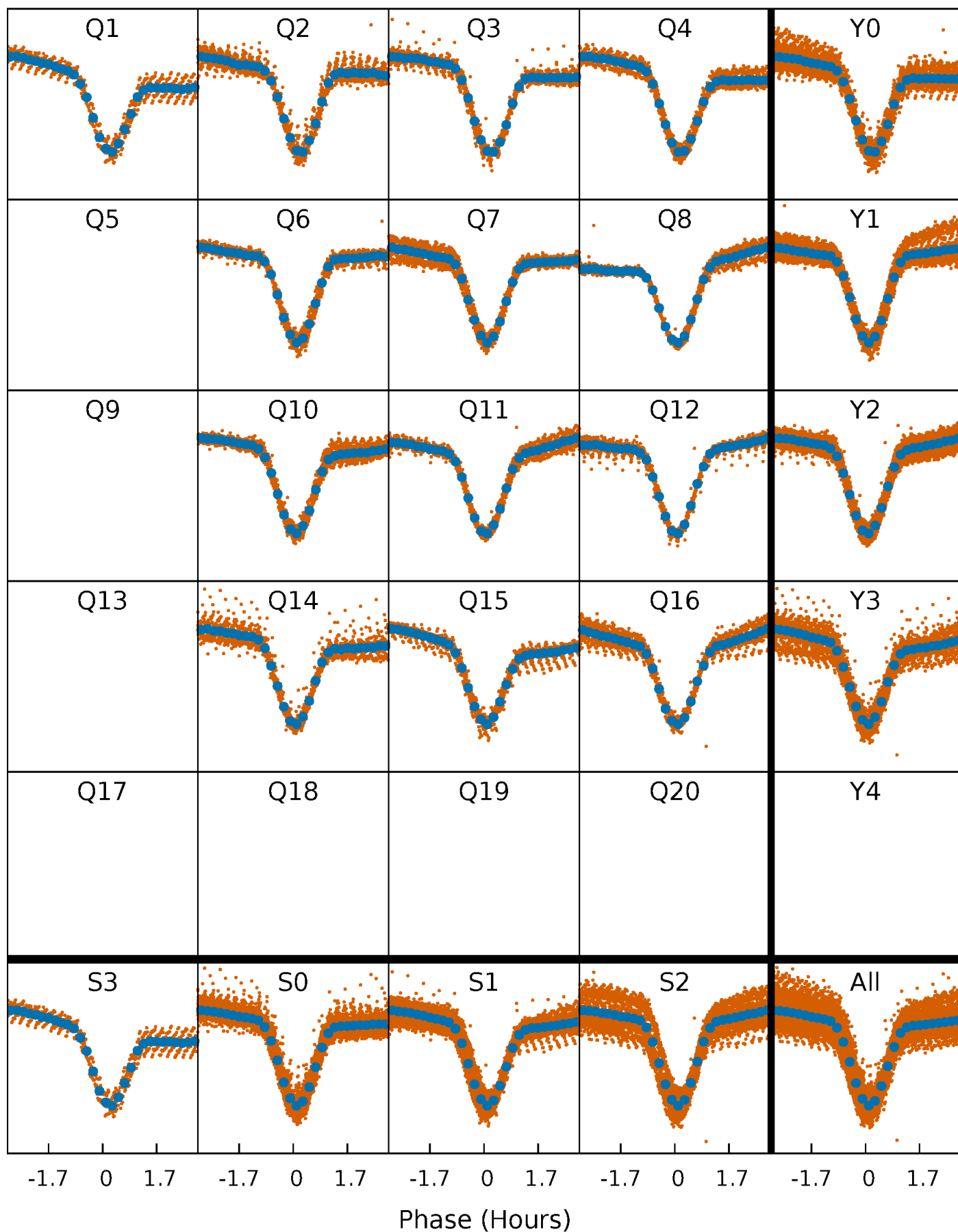


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



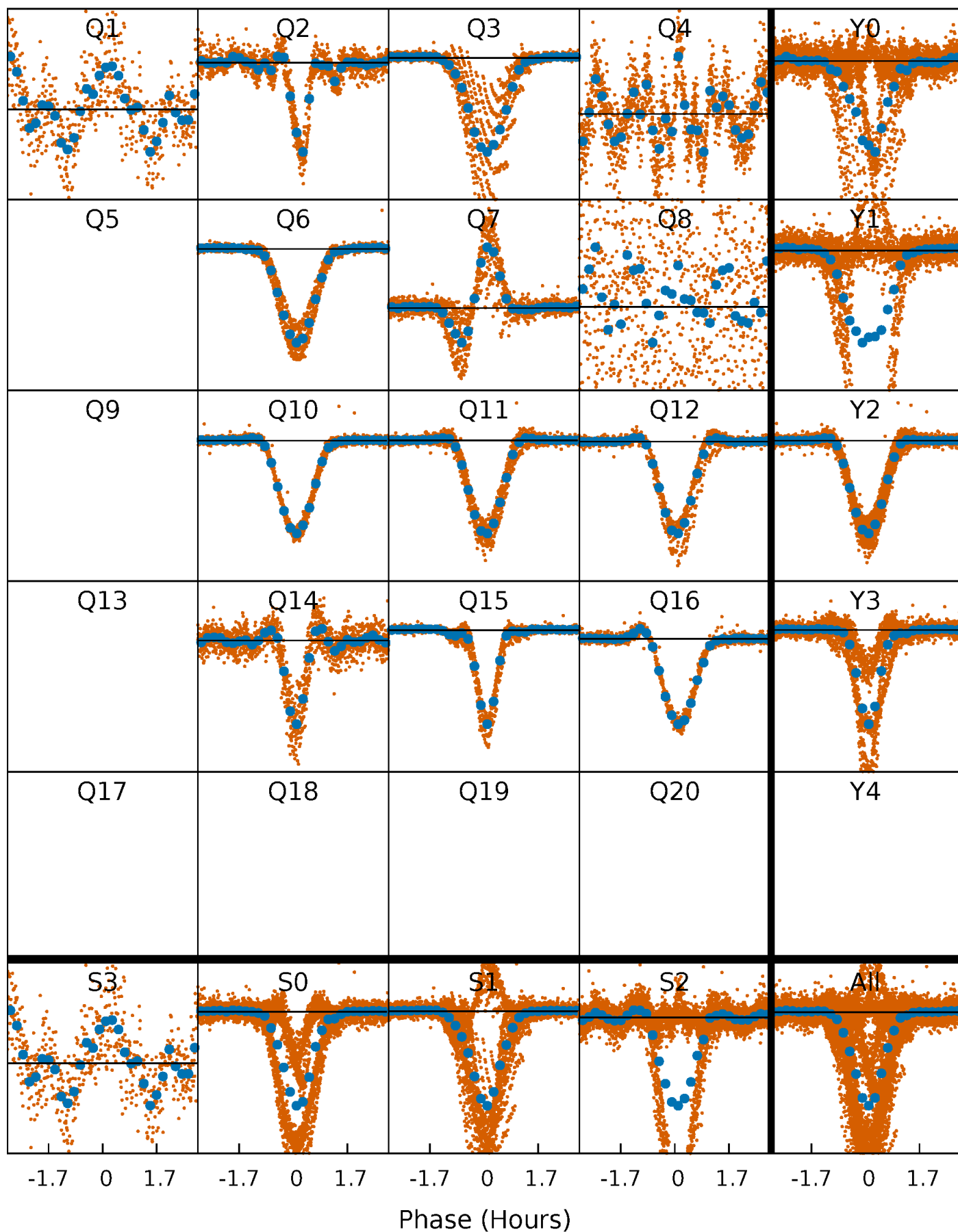
PDC Quarter-Phased Transit Curves

TCE 006103049-02 P= 0.643174 Days $T_0=131.560994$ (BKJD)



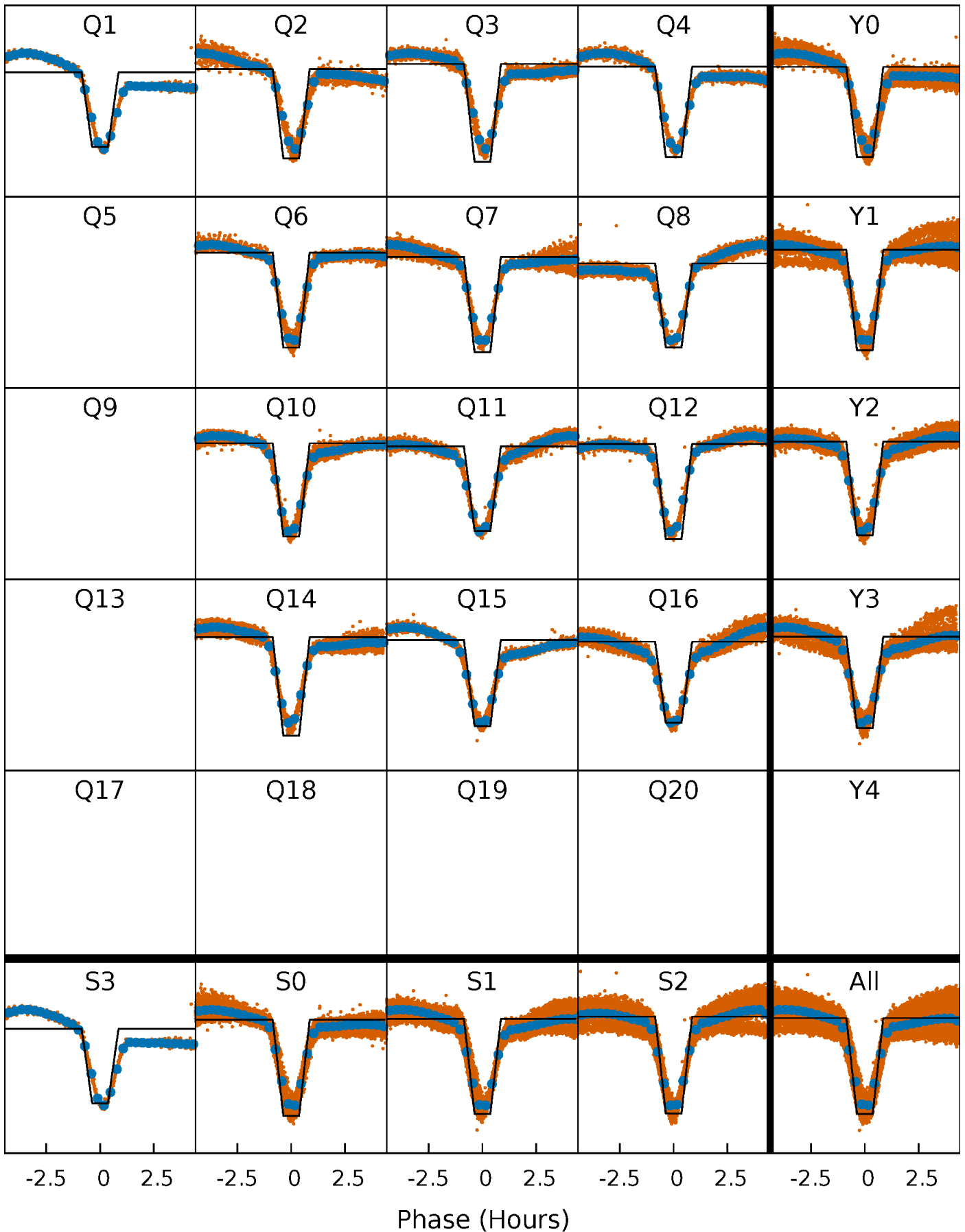
DV Quarter-Phased Transit Curves

TCE 006103049-02 P= 0.643174 Days $T_0=131.560994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

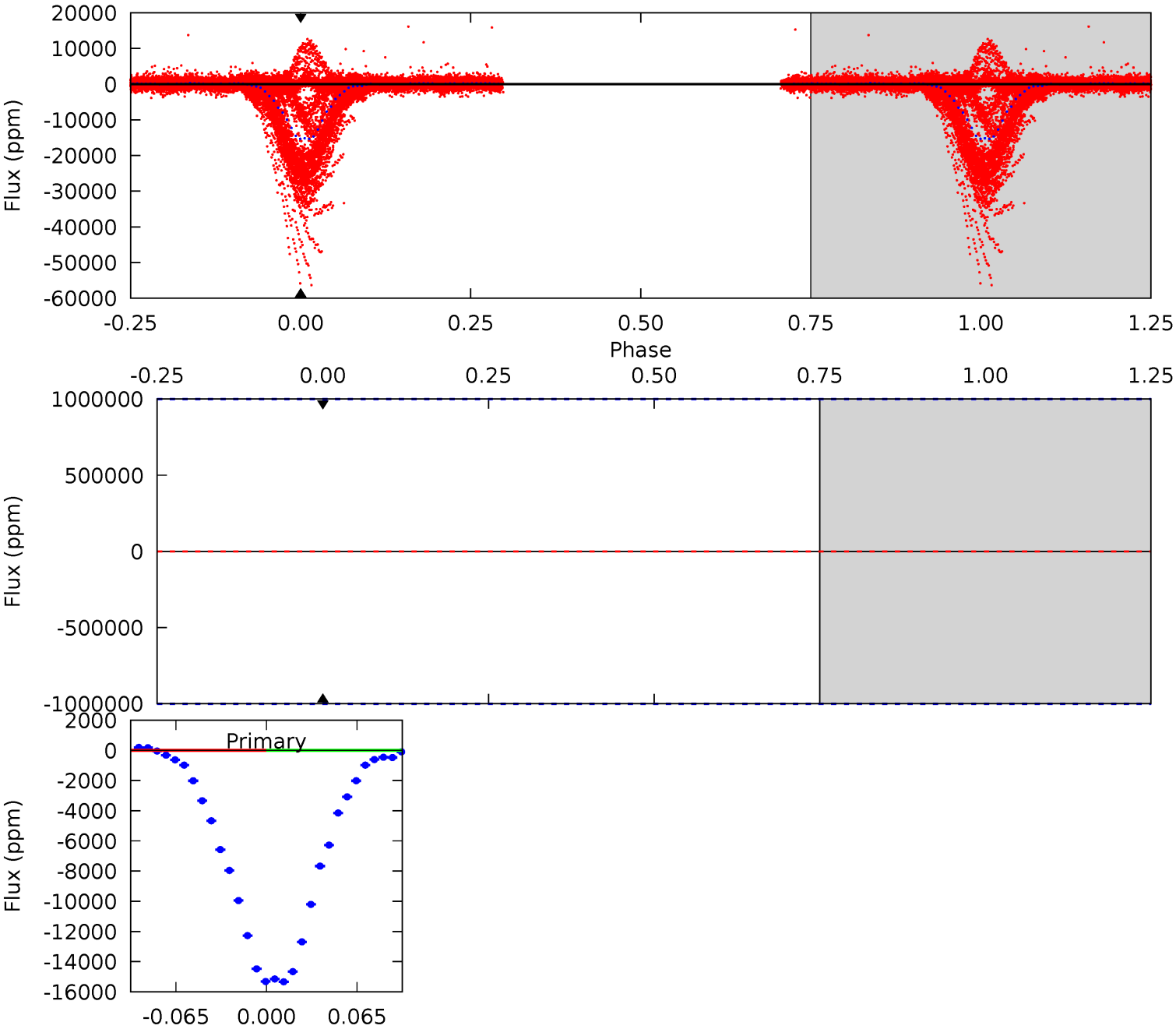
TCE 006103049-02 P= 0.643174 Days $T_0=131.565413$ (BKJD)



DV Model-Shift Uniqueness Test

006103049-02, P = 0.643174 Days, E = 130.917820 Days

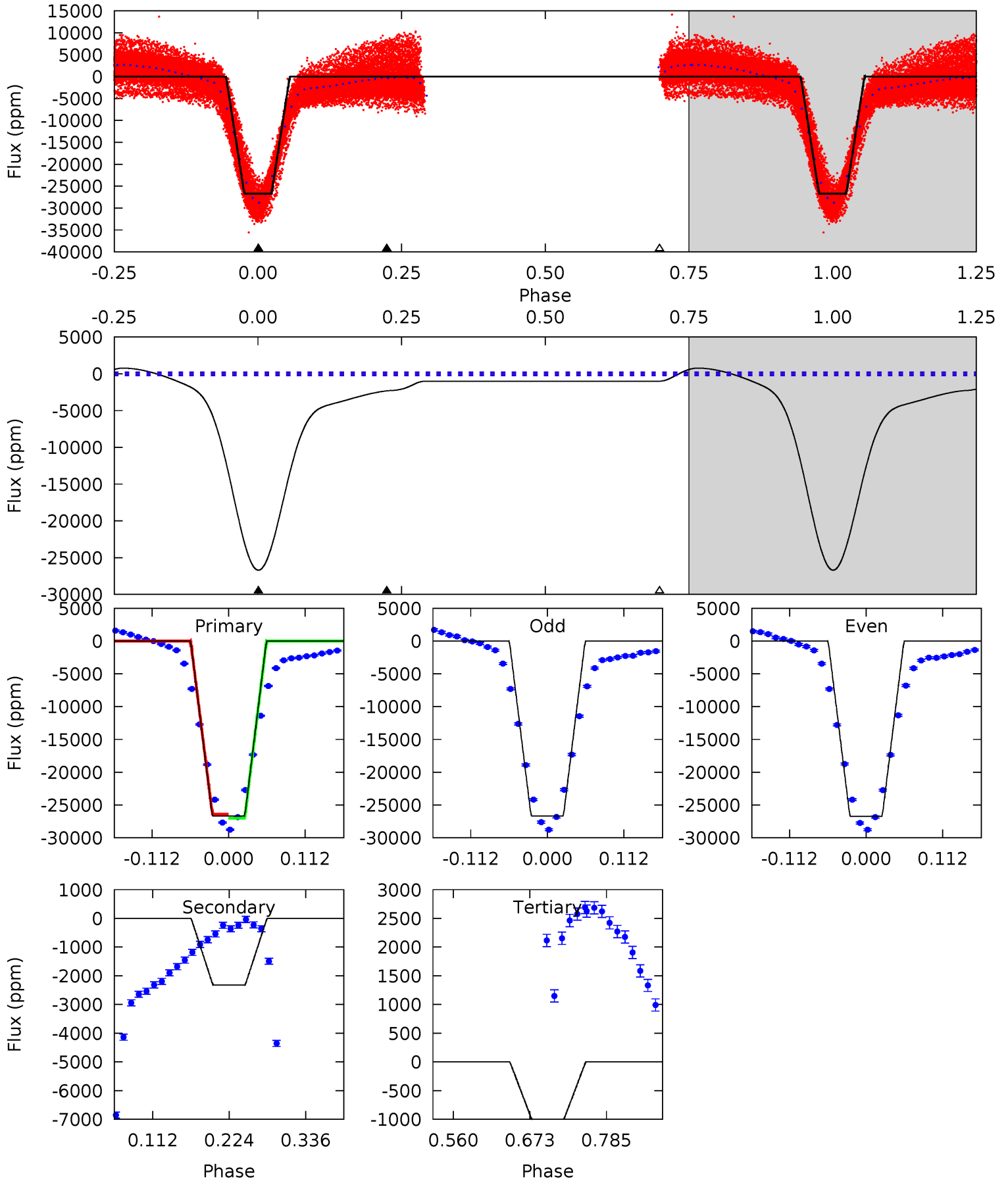
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006103049-02, P = 0.643174 Days, E = 130.922239 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
631.4	54.9	23.6	0	4.54	1.59	18.5	607.8	631.4	31.2	54.9	0.63	1.01	0.03	8.38



Stellar Parameters For KIC 006103049

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5899^{+158}_{-175}	$4.387^{+0.149}_{-0.182}$	$-0.380^{+0.300}_{-0.300}$	$0.989^{+0.279}_{-0.172}$	$0.869^{+0.119}_{-0.079}$	$1.267^{+0.889}_{-0.607}$
	+3%/-3%	+3%/-4%	+79%/-79%	+28%/-17%	+14%/-9%	+70%/-48%
Source	PHO1	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 006103049-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$17.97^{+12.14}_{-9.58}$	3071^{+246}_{-172}	-3468^{+12784}_{-5220}	$-0.433^{+43.572}_{-34.891}$
Alt.	-2320 ± 42	$19.47^{+11.27}_{-10.08}$	3084^{+216}_{-188}	3231^{+1169}_{-5656}	$0.669^{+2.170}_{-0.406}$

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 $A_{obs} \gg 1.0$

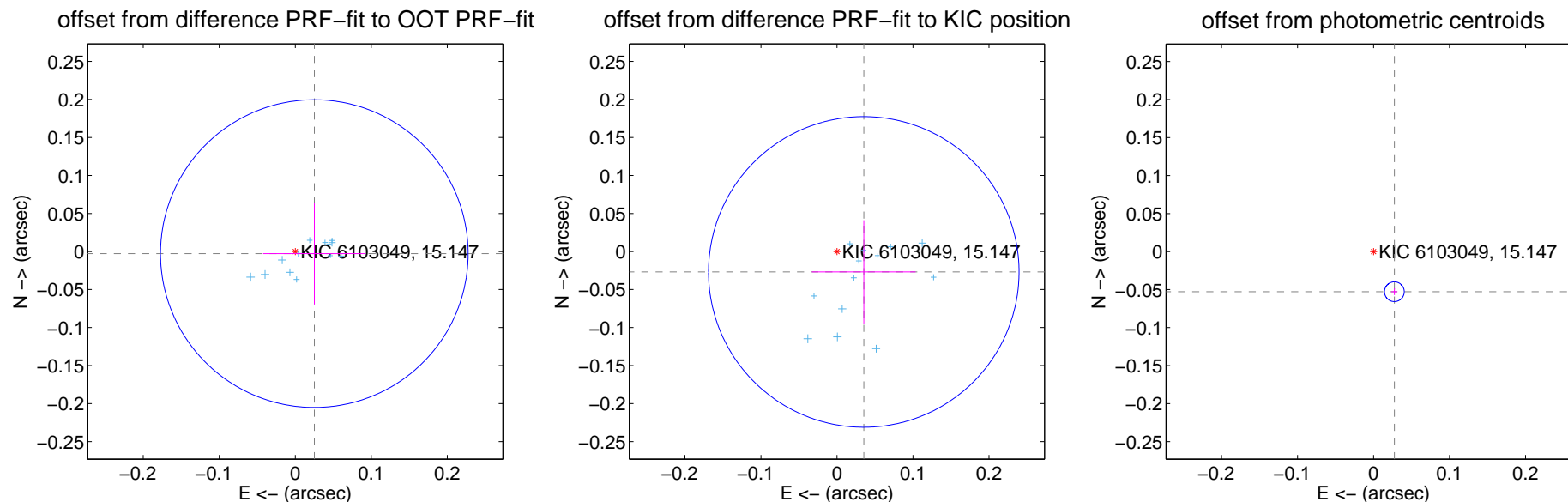
DV Centroid Data

Supplemental centroid analysis for 006103049-02. Kepler magnitude: 15.15. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

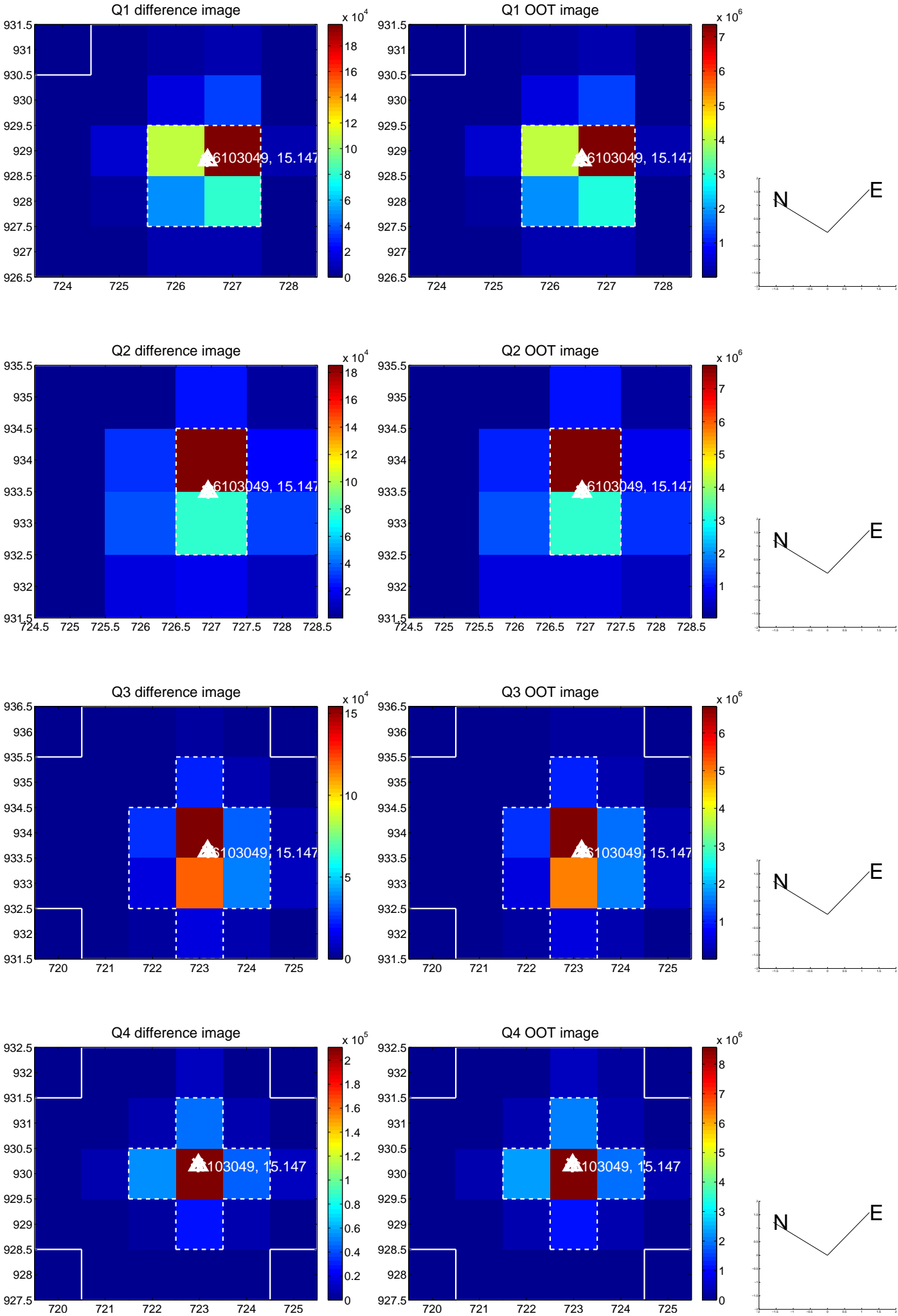
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.025 ± 0.067	0.37	-0.025 ± 0.067	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.044 ± 0.068	0.65	-0.035 ± 0.068	-0.027 ± 0.068
photometric centroid source offset	0.06 ± 0.00	13.74	-0.03 ± 0.00	-0.05 ± 0.00

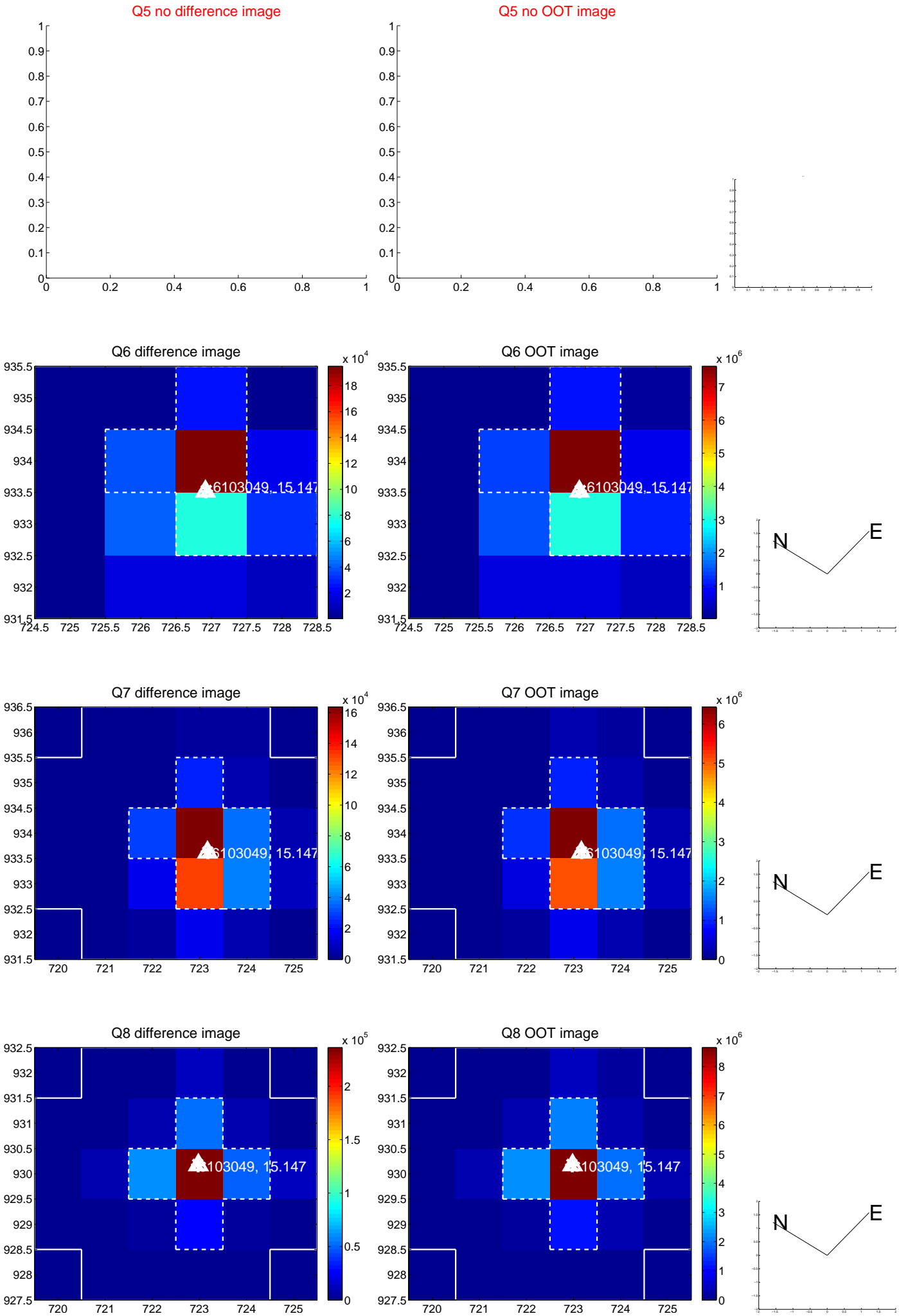


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

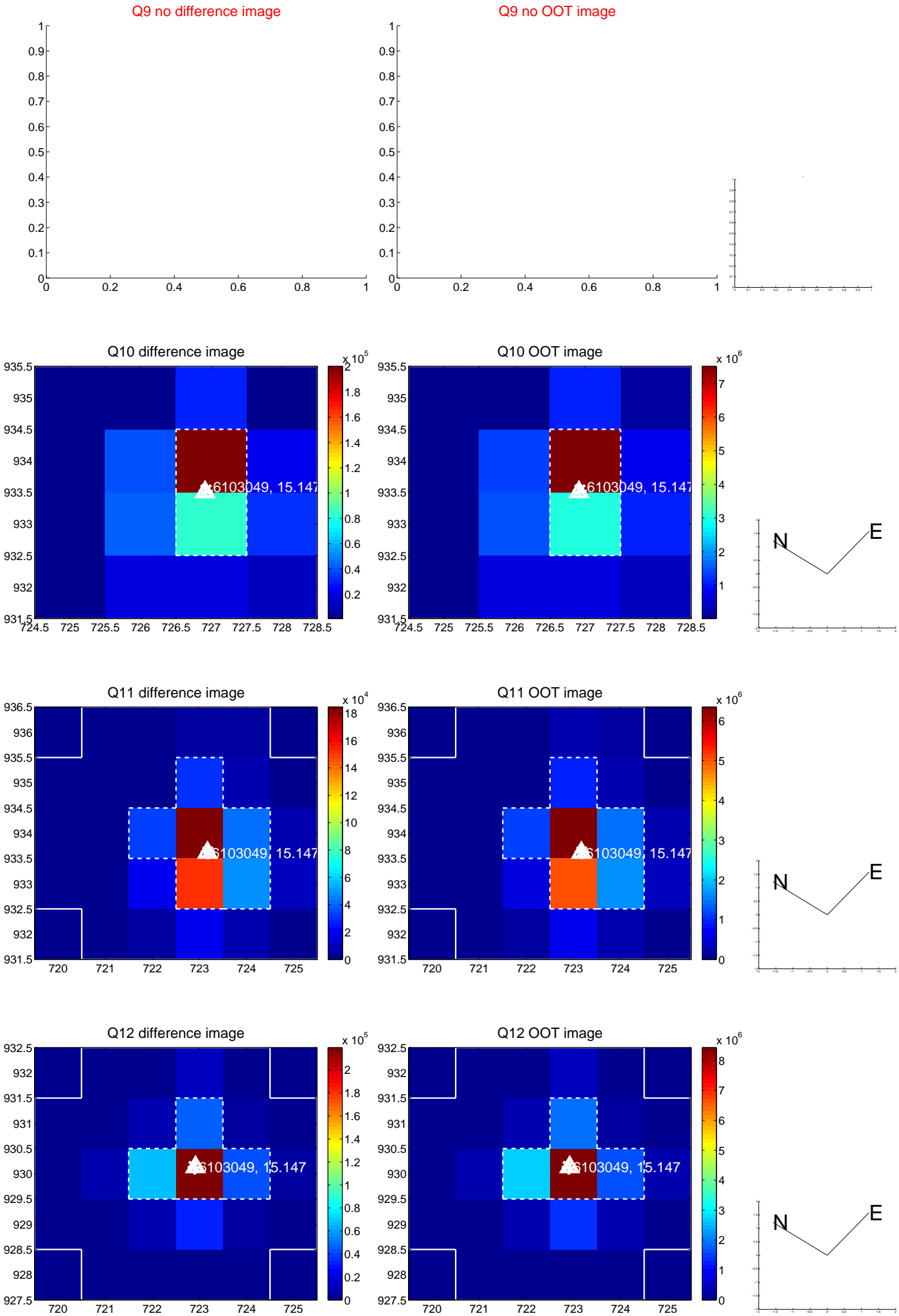
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



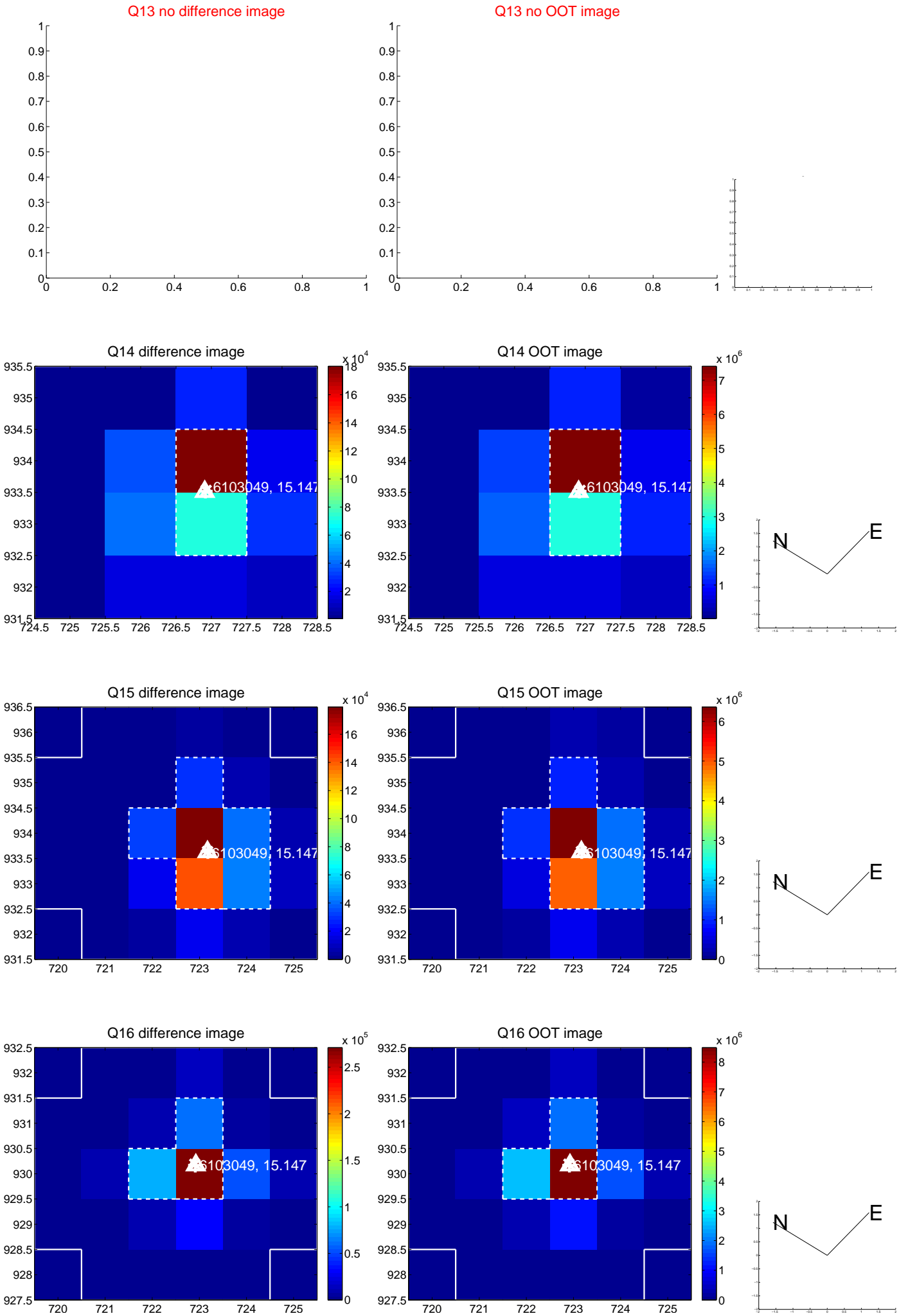
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



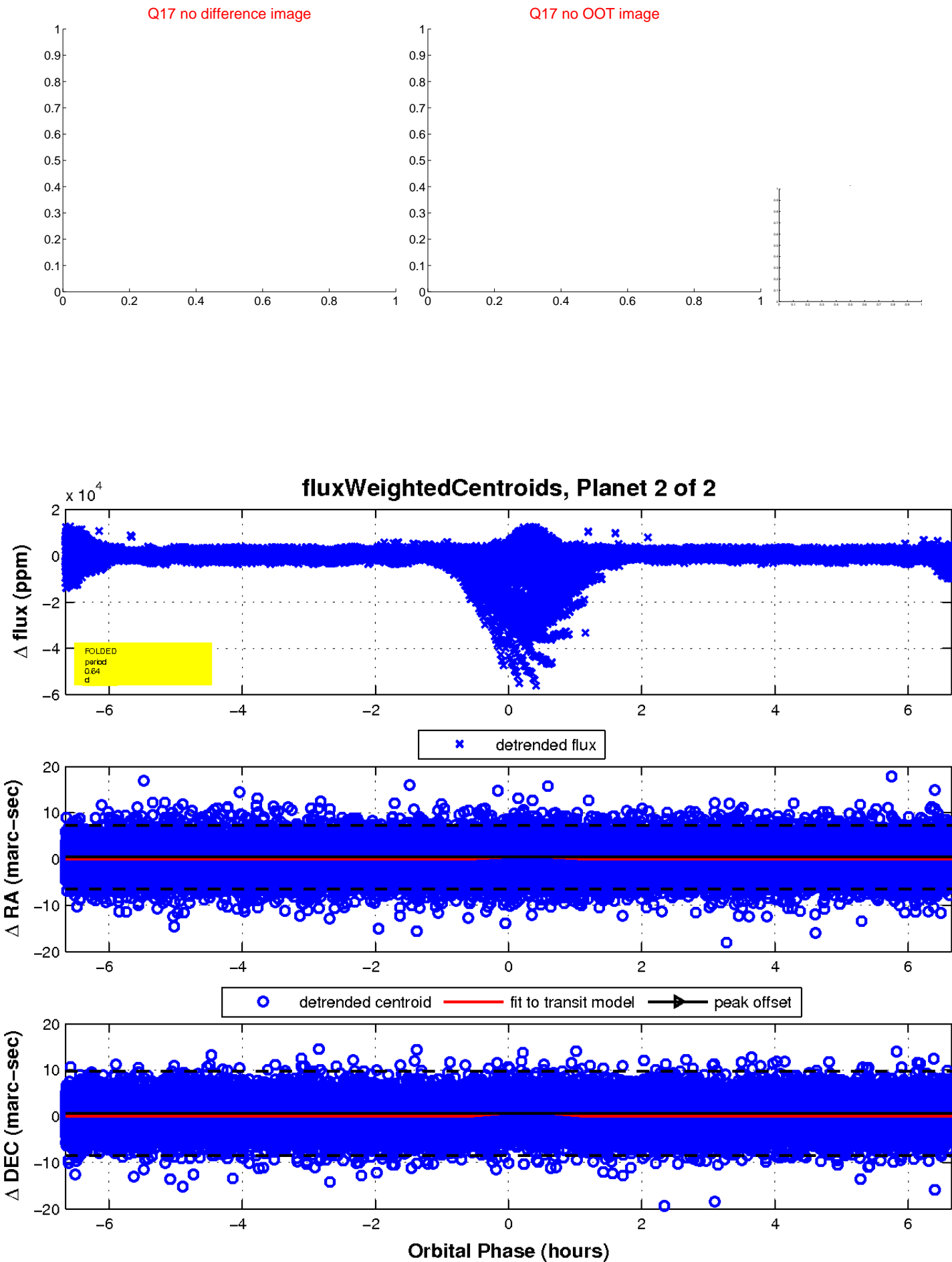
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

