

KIC 009873869

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})
009873869-01	OBS	7241.01	4.994742	136.175778	162159.6	3.000	24443.1	-1.0	1.18	6253	48.19	604.50
009873869-02	OBS	No	4.994775	133.677315	26555.1	4.314	2881.8	2282.8	1.18	6253	21.65	604.50
009873869-03	OBS	No	339.987408	410.074906	975.3	3.500	17.6	-1.0	1.18	6253	3.71	2.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009873869-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
009873869-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009873869-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—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.

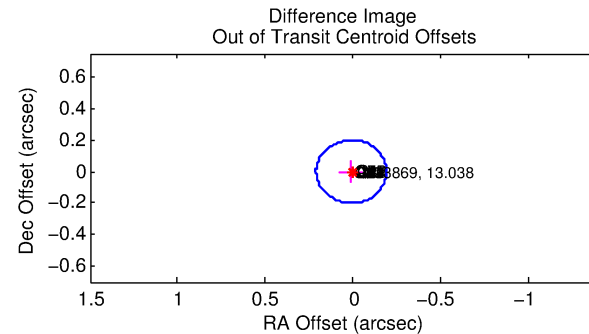
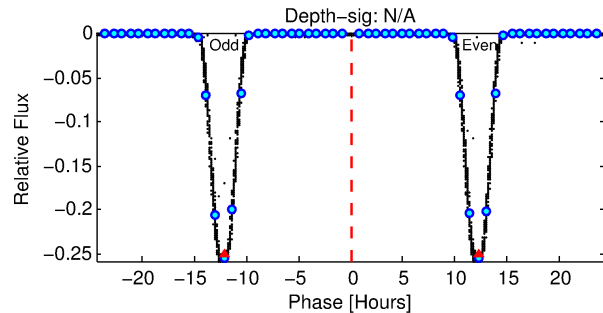
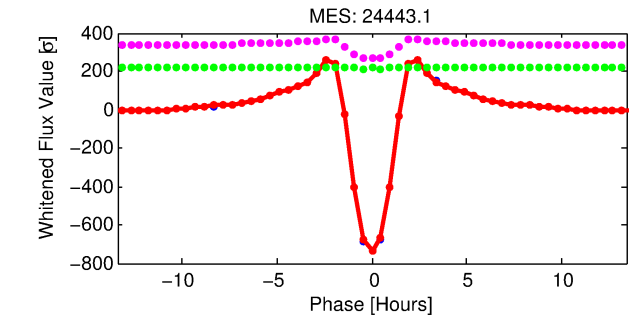
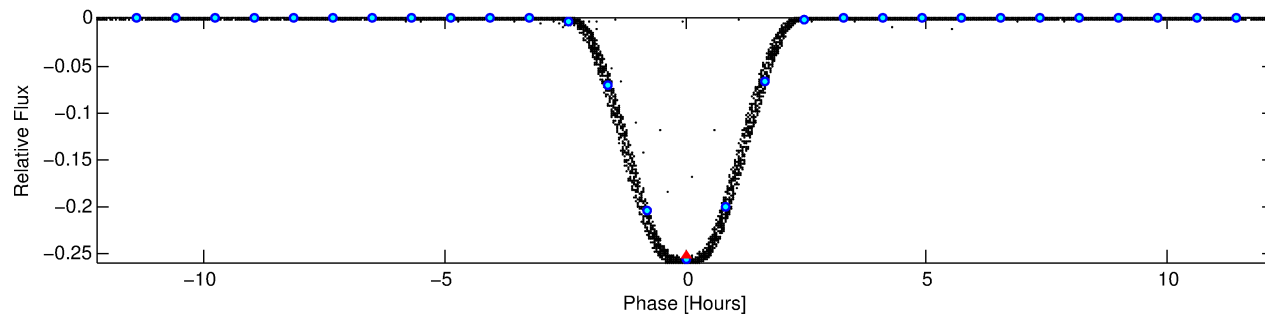
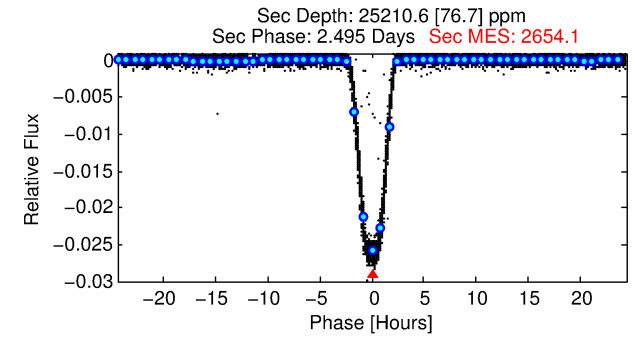
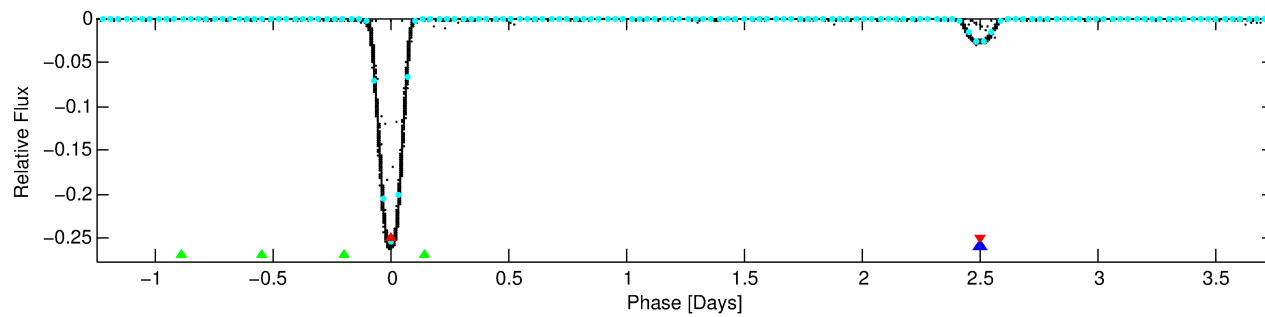
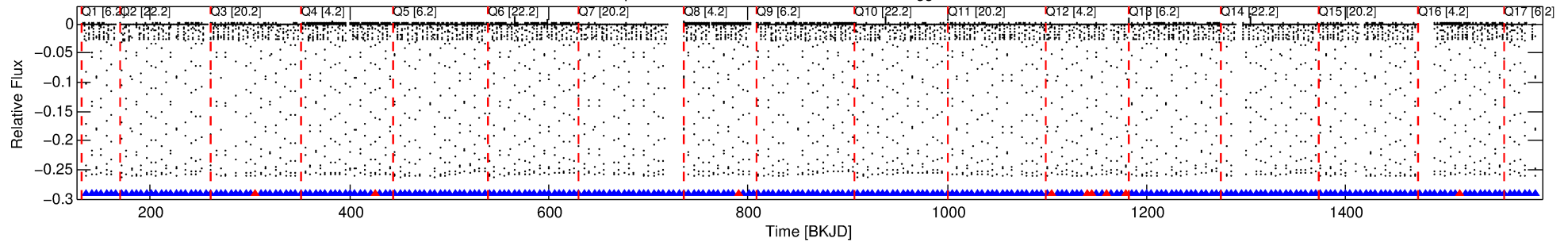
Ephemeris Match Information For 009873869-01

No Significant Match Found

DV One-Page Summary

KIC: 9873869 Candidate: 1 of 3 Period: 4.995 d
KOI: K07241.01 Corr: 0.818

Kp: 13.04 R*: 1.18 Rs Teff: 6253.0 K Logg: 4.27 Fe/H: -0.460



TPS TCE Results:

Period = 4.99474 d
Epoch = 136.1758 BKJD

DV fit results are unavailable

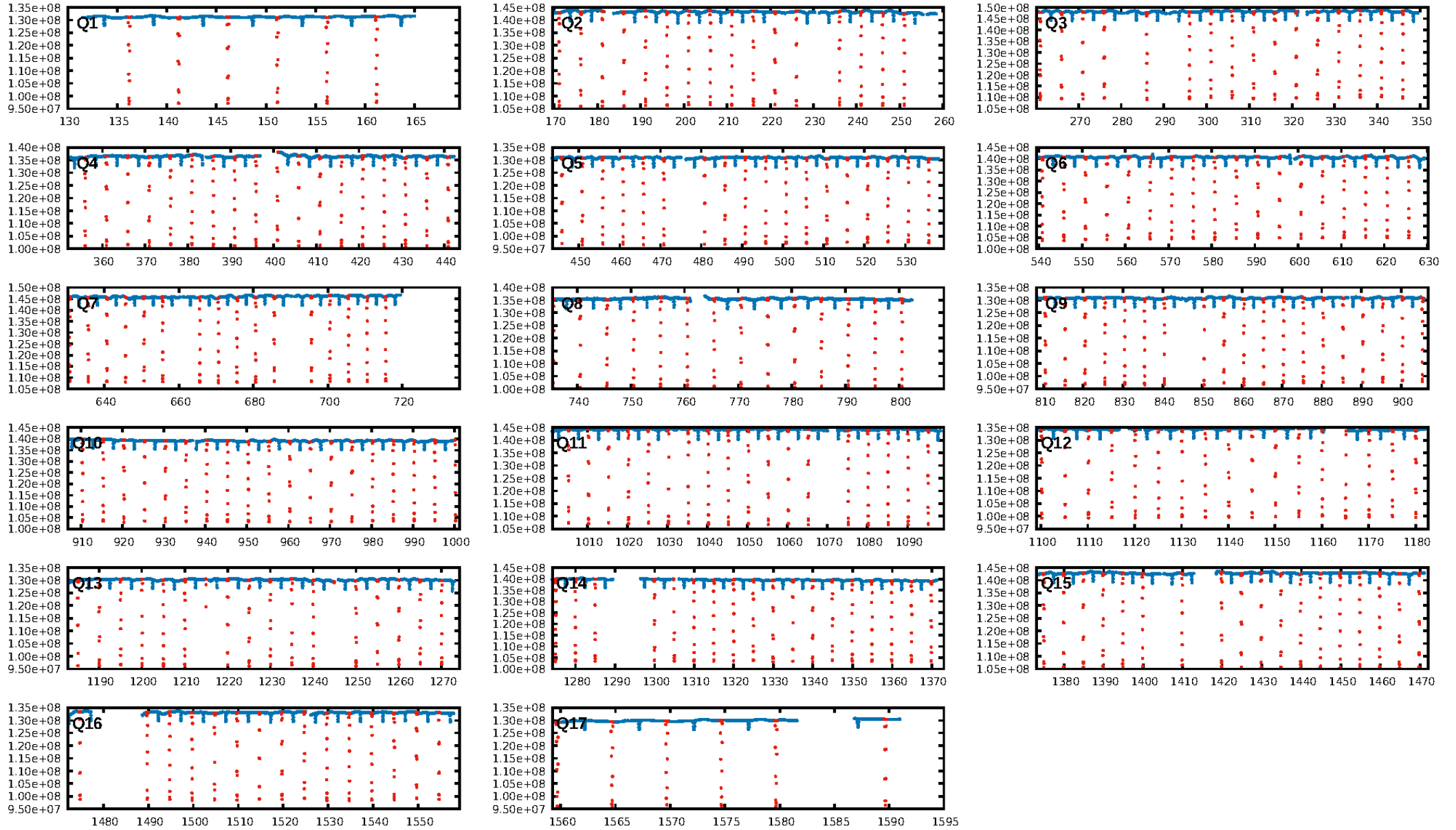
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [248/257]
GhostDiagnostic-chr: 1.162
Centroid-sig: 0.0%
Centroid-so: 0.128 arcsec [469.87σ]
OotOffset-rm: 0.011 arcsec [0.16σ]
KicOffset-rm: 0.149 arcsec [2.23σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

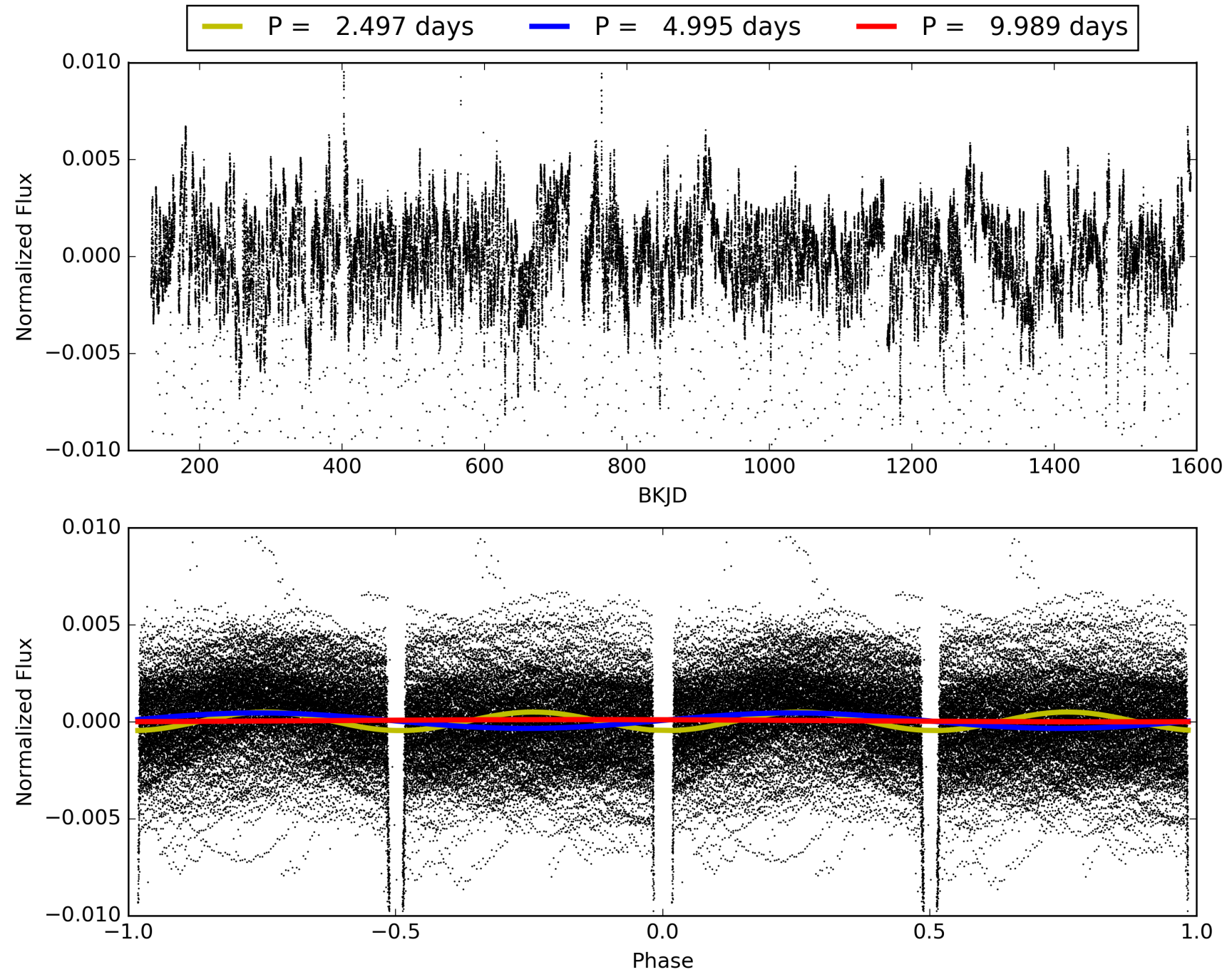
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:24:42 Z

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

TCE 009873869-01, PDC Light Curves

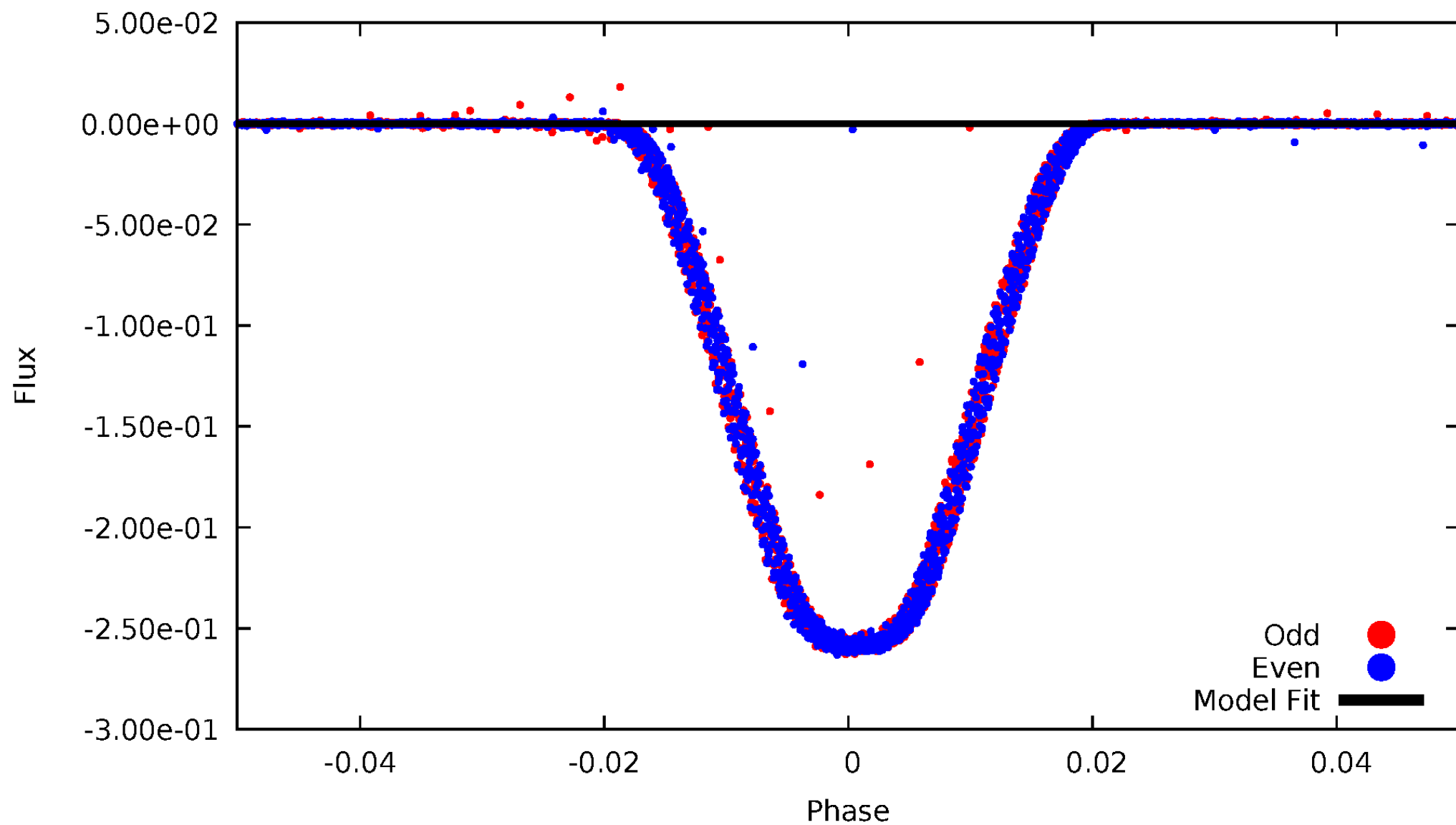


TCE 009873869-01



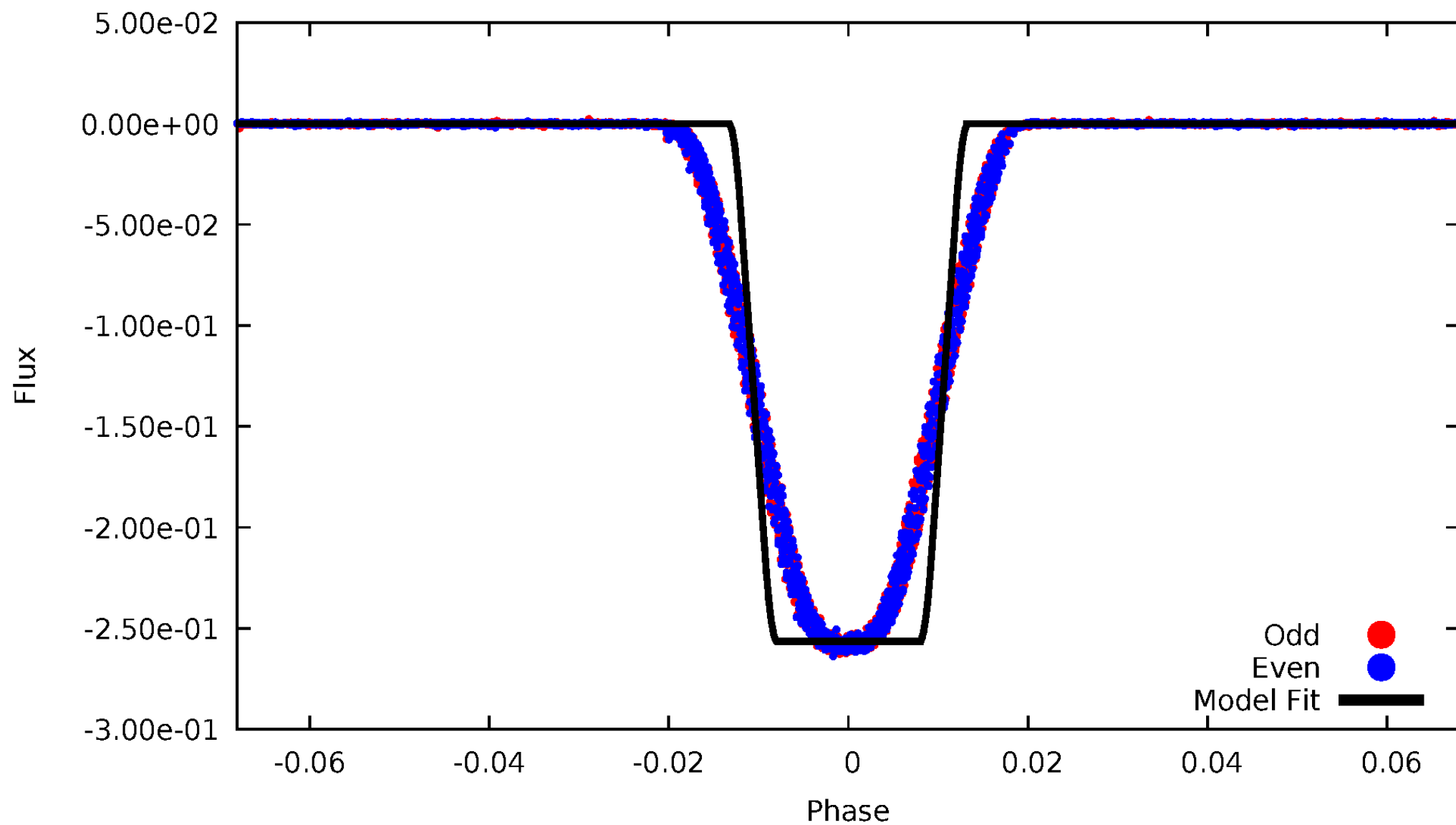
DV Odd/Even

TCE 009873869-01



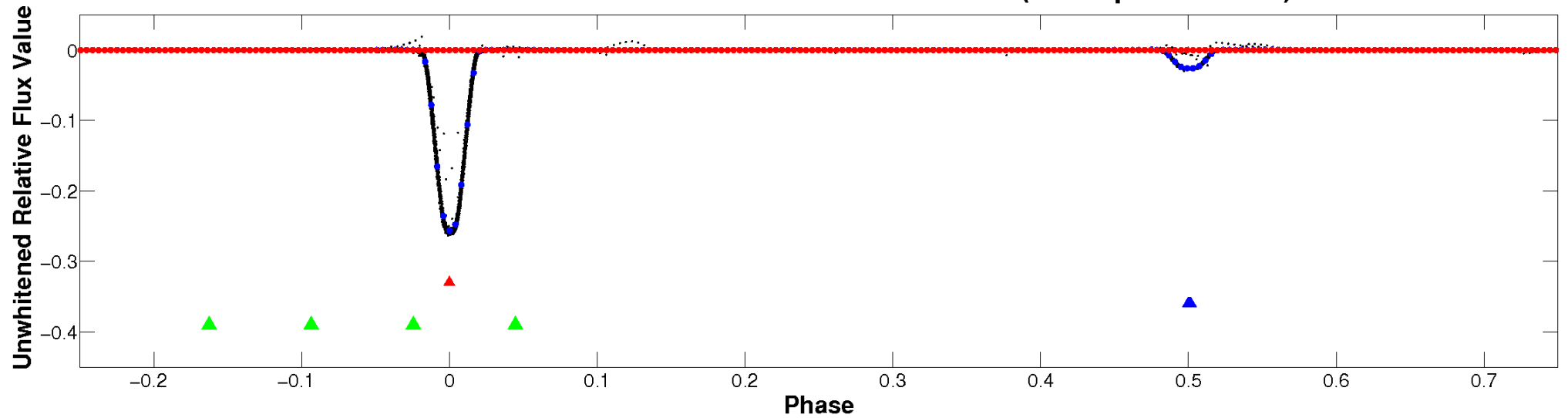
ALT Odd/Even

TCE 009873869-01



Non-Whitened Vs. Whitened Light Curve

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

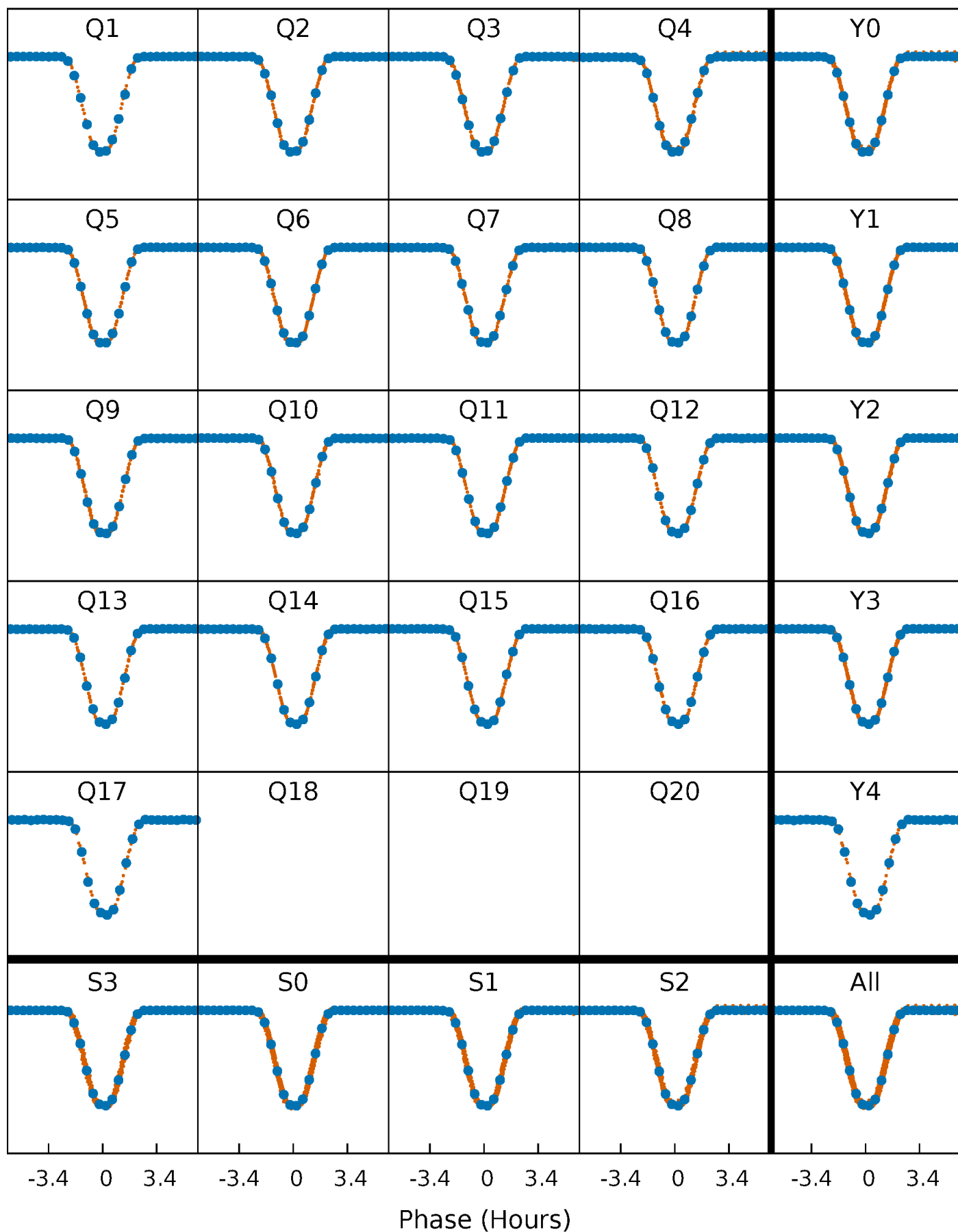


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



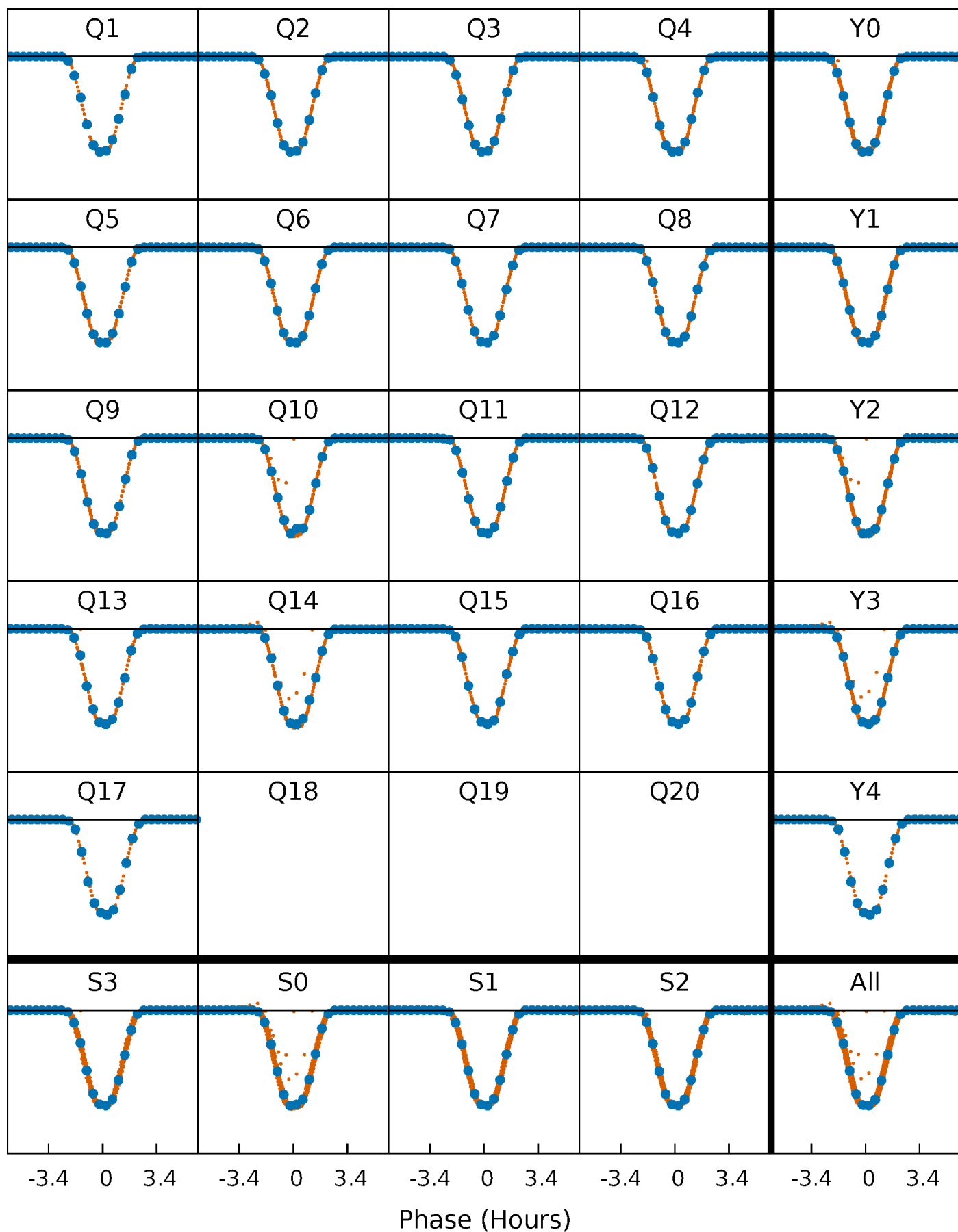
PDC Quarter-Phased Transit Curves

TCE 009873869-01 P= 4.994742 Days $T_0=136.175778$ (BKJD)



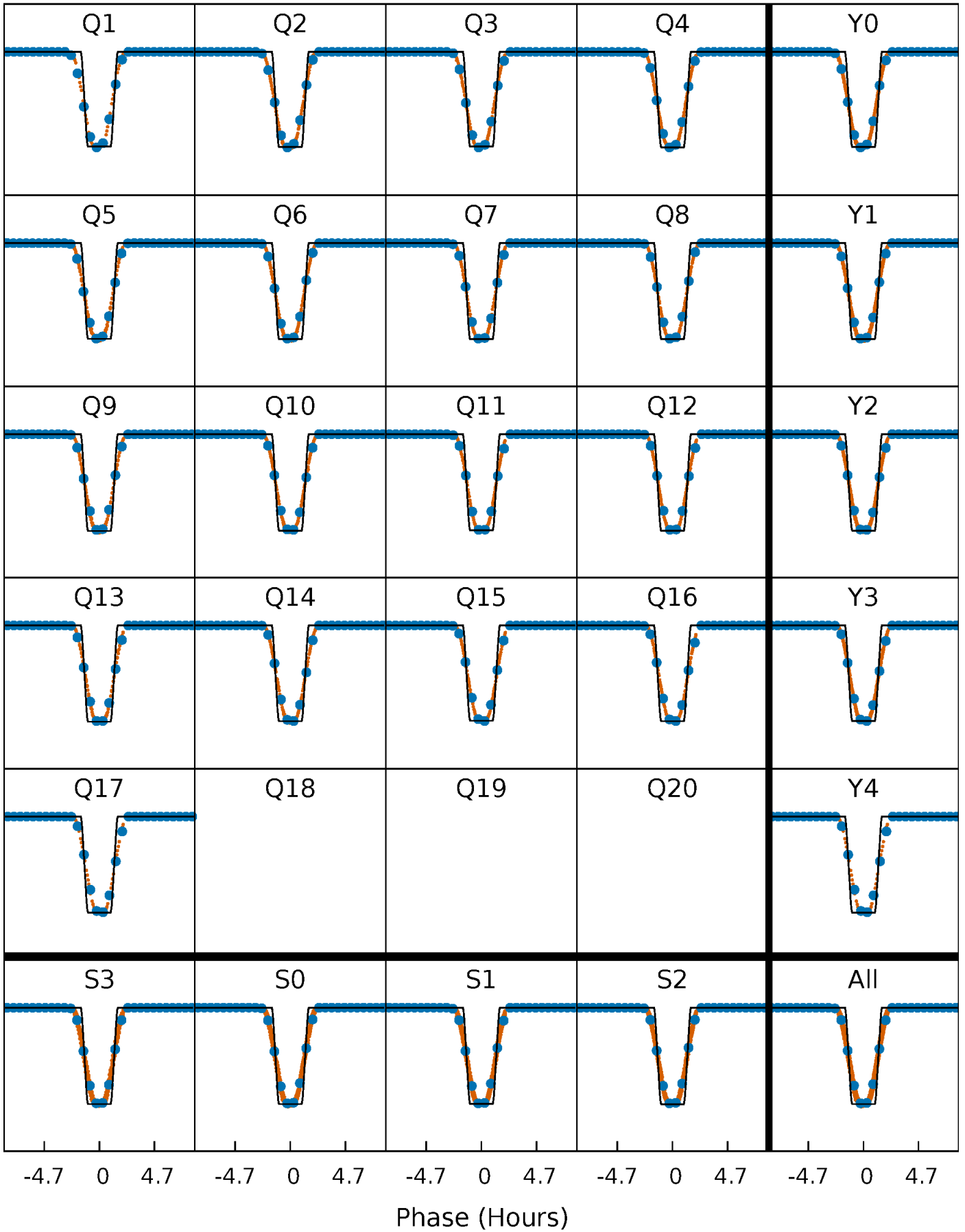
DV Quarter-Phased Transit Curves

TCE 009873869-01 P= 4.994742 Days $T_0=136.175778$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

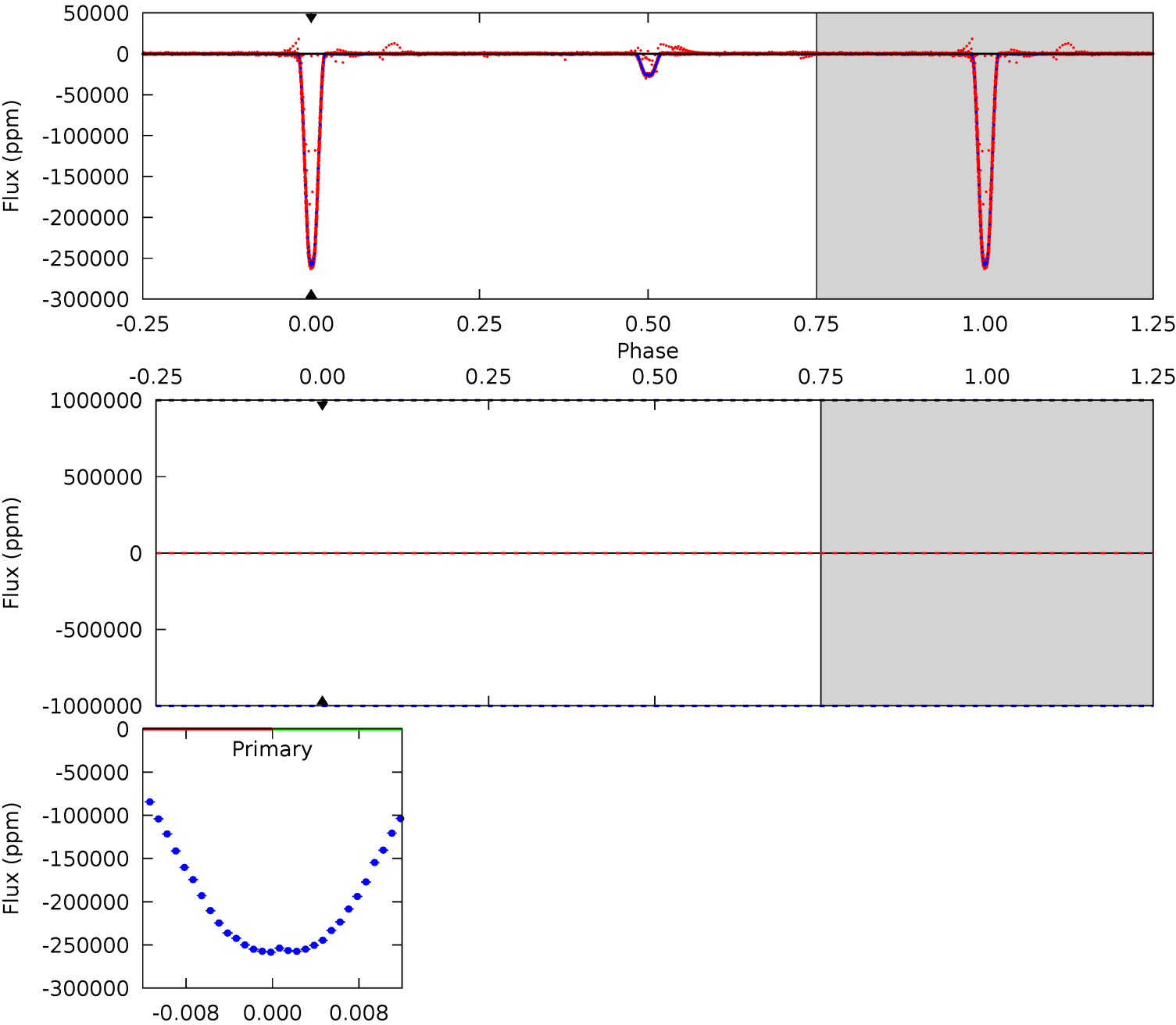
TCE 009873869-01 P= 4.994742 Days $T_0=136.179615$ (BKJD)



DV Model-Shift Uniqueness Test

009873869-01, P = 4.994742 Days, E = 131.181036 Days

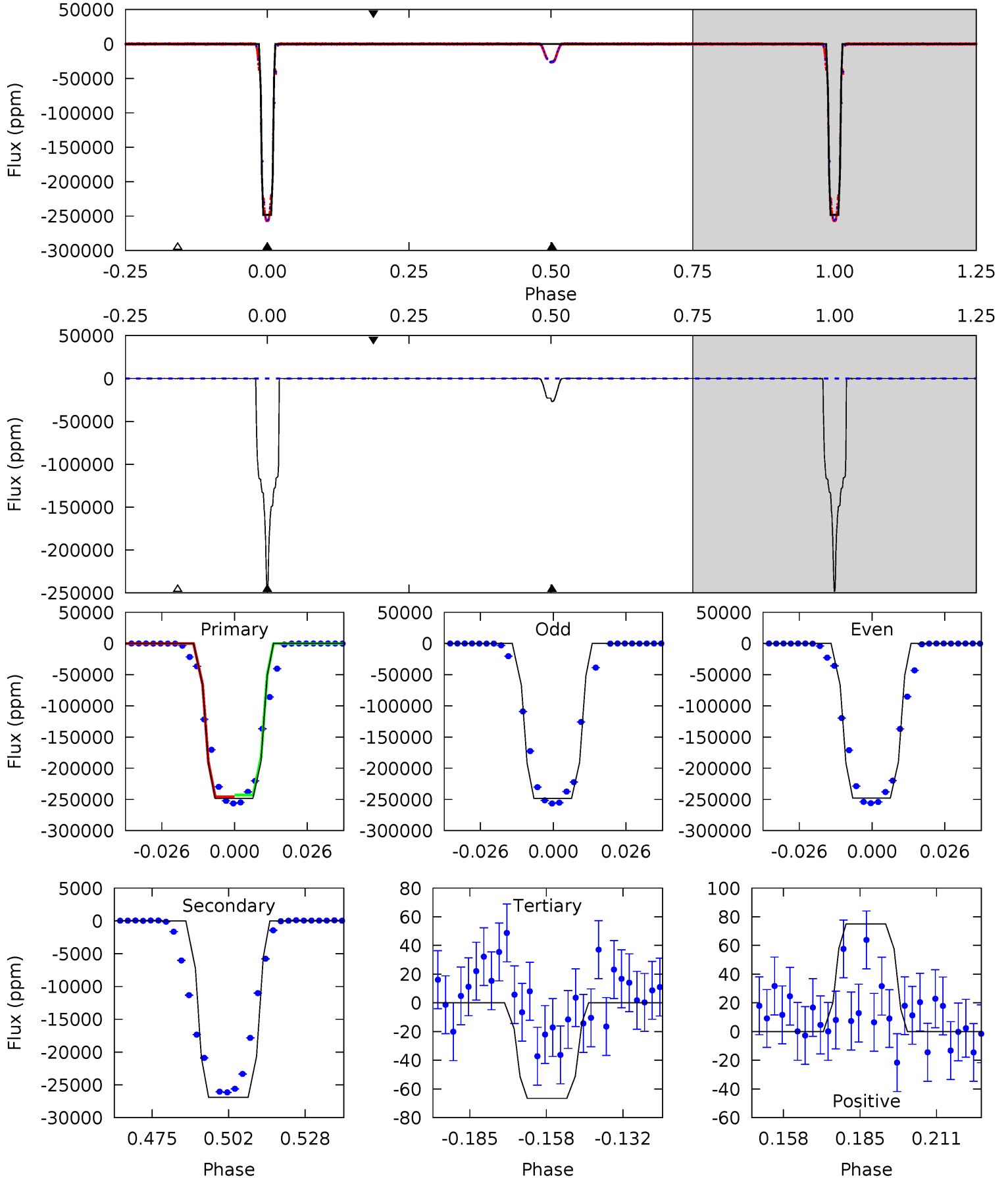
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009873869-01, P = 4.994742 Days, E = 131.184873 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12269	1329	3.29	3.71	4.84	2.22	1.25	12266	12266	1326	1326	17.5	1.00	0.00	60.0



Stellar Parameters For KIC 009873869

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6253^{+169}_{-188}	$4.271^{+0.185}_{-0.185}$	$-0.460^{+0.300}_{-0.300}$	$1.181^{+0.349}_{-0.232}$	$0.950^{+0.148}_{-0.098}$	$0.813^{+0.756}_{-0.388}$
	+3%/-3%	+4%/-4%	+65%/-65%	+30%/-20%	+16%/-10%	+93%/-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 009873869-01 / KOI 7241.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$49.67^{+15.42}_{-14.96}$	1766^{+137}_{-119}	3318^{+2752}_{-9041}	$4.515^{+84.947}_{-75.599}$
Alt.	-26908 ± 20	$64.95^{+16.98}_{-14.48}$	1763^{+129}_{-122}	3907^{+334}_{-256}	12^{+7}_{-4}

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

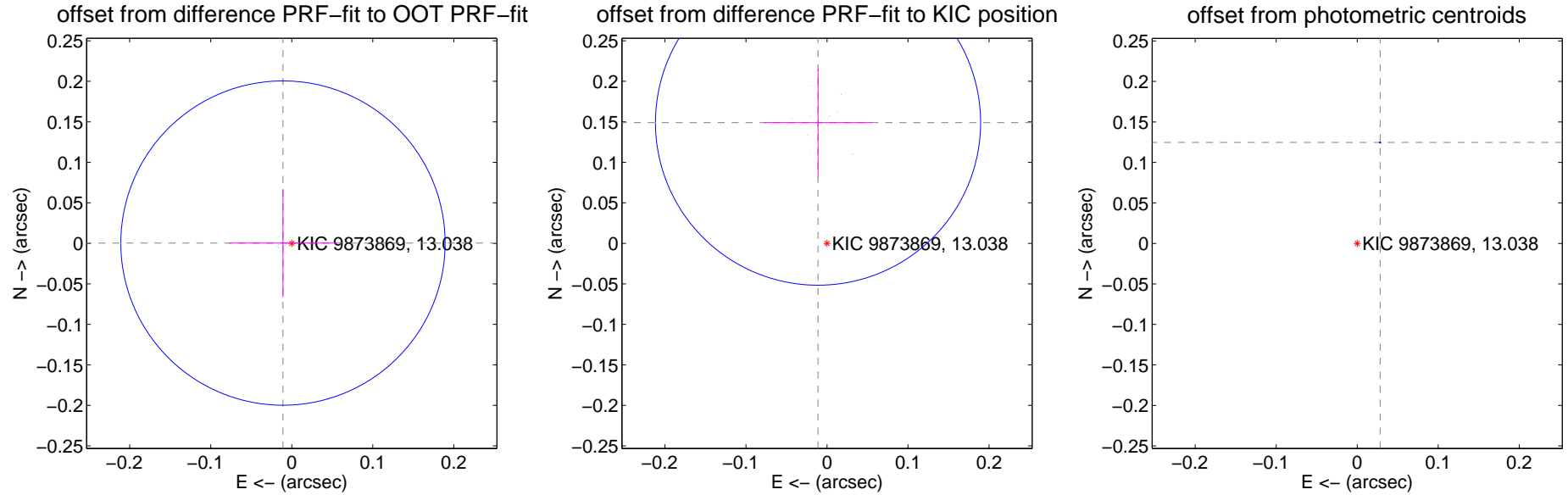
DV Centroid Data

Supplemental centroid analysis for 009873869-01. Kepler magnitude: 13.04. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

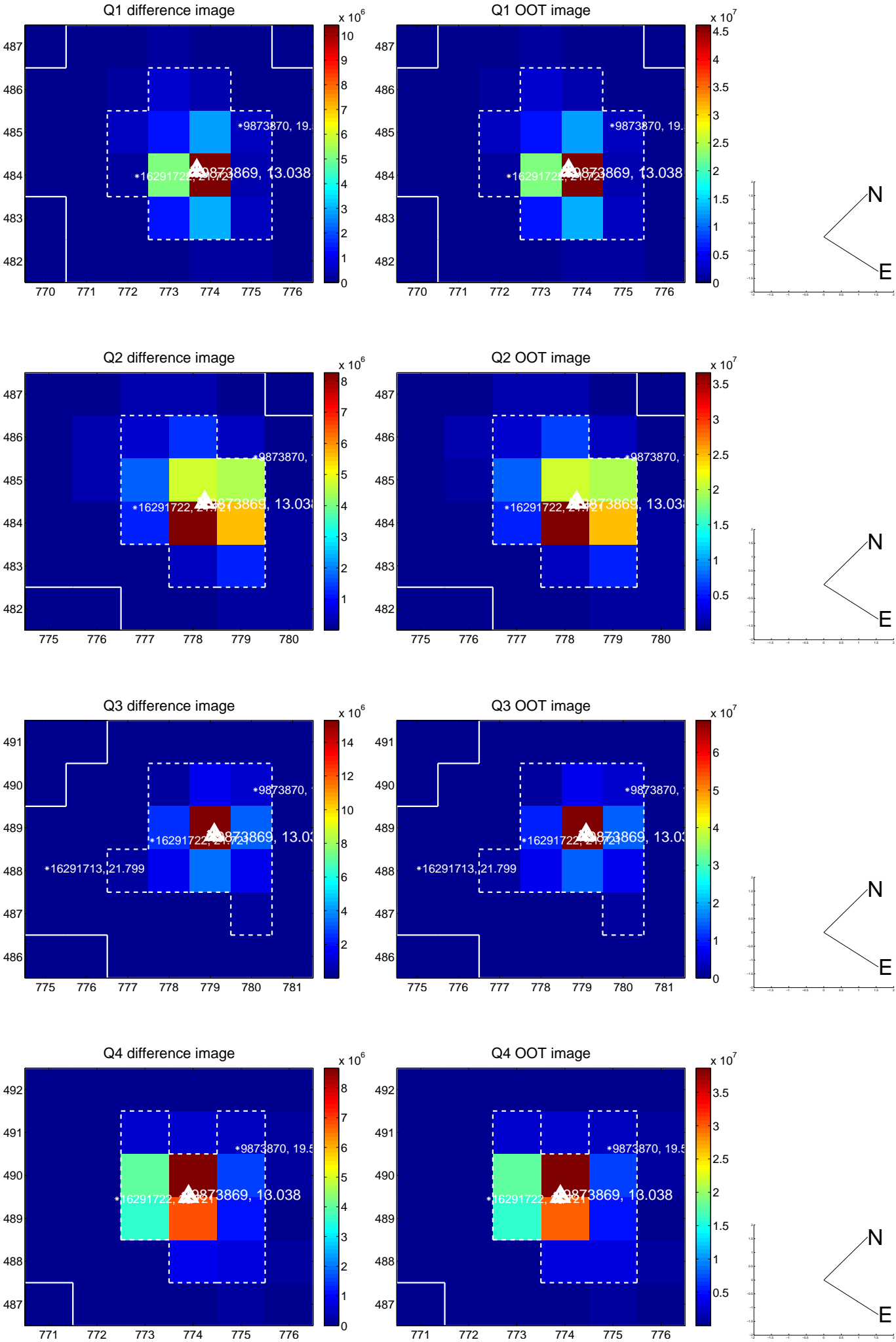
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.011 ± 0.067	0.16	0.011 ± 0.067	0.000 ± 0.067
PRF-fit source offset from KIC position	0.149 ± 0.067	2.23	0.011 ± 0.067	0.149 ± 0.067
photometric centroid source offset	0.13 ± 0.00	469.87	-0.03 ± 0.00	0.12 ± 0.00

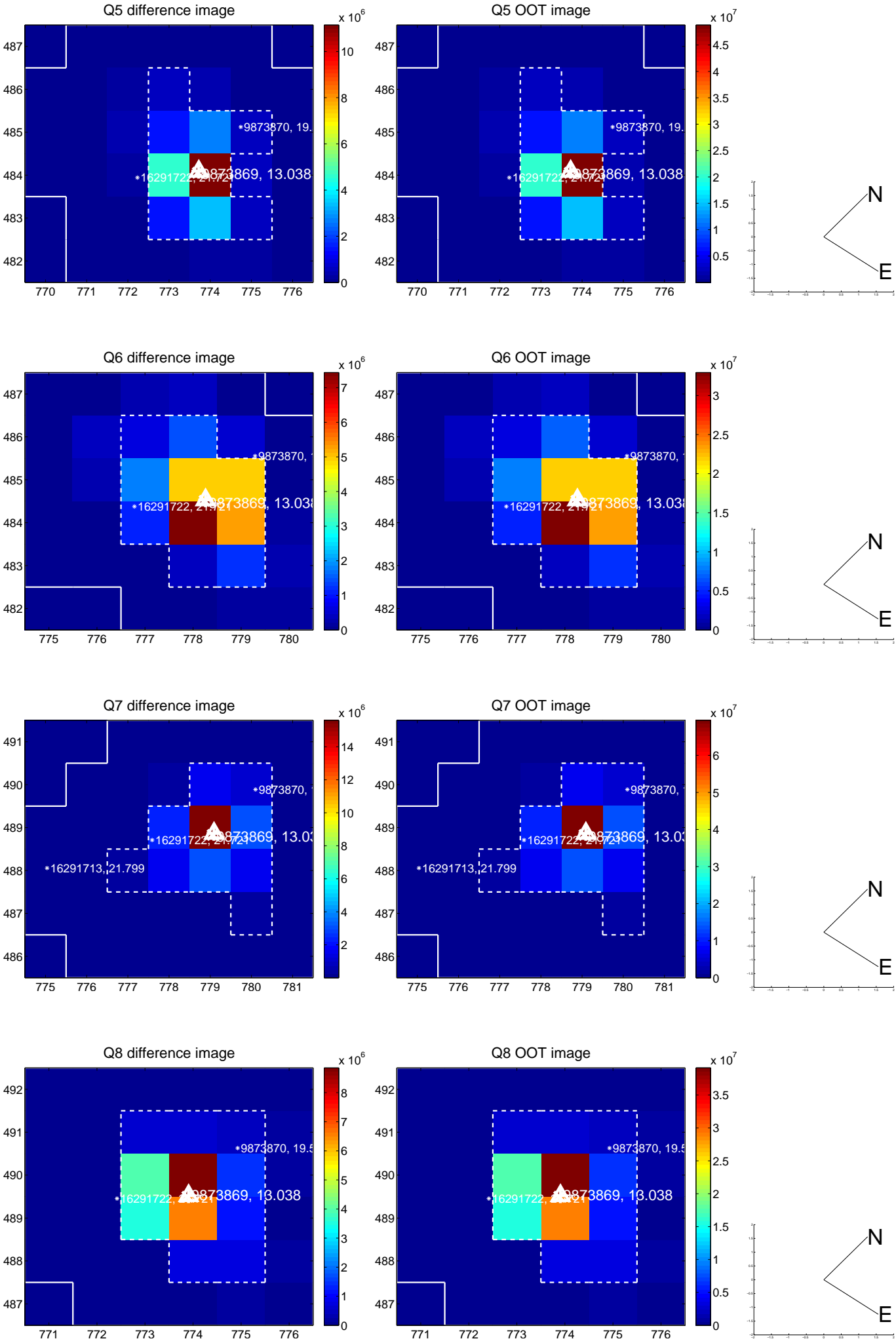


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

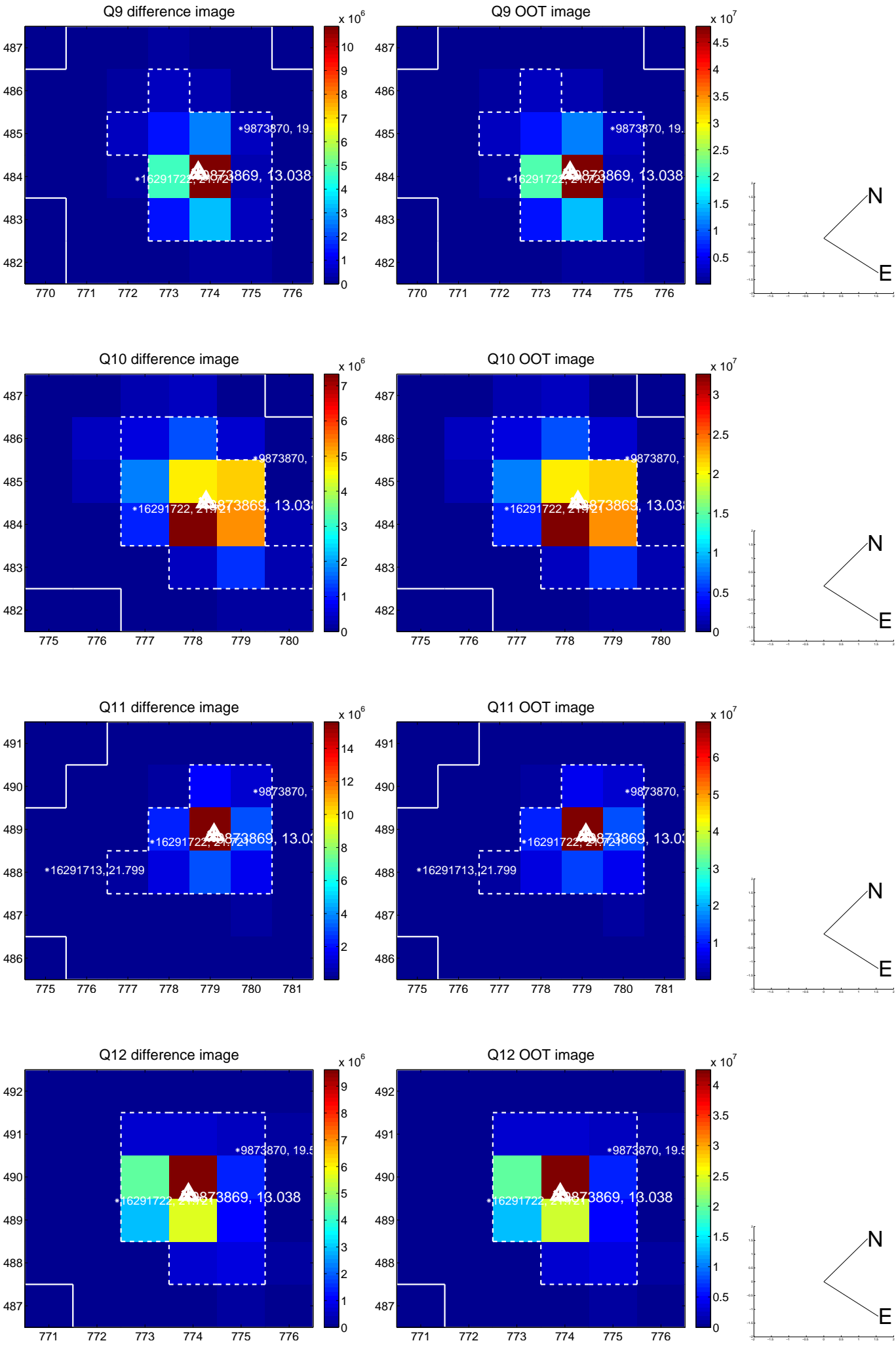
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



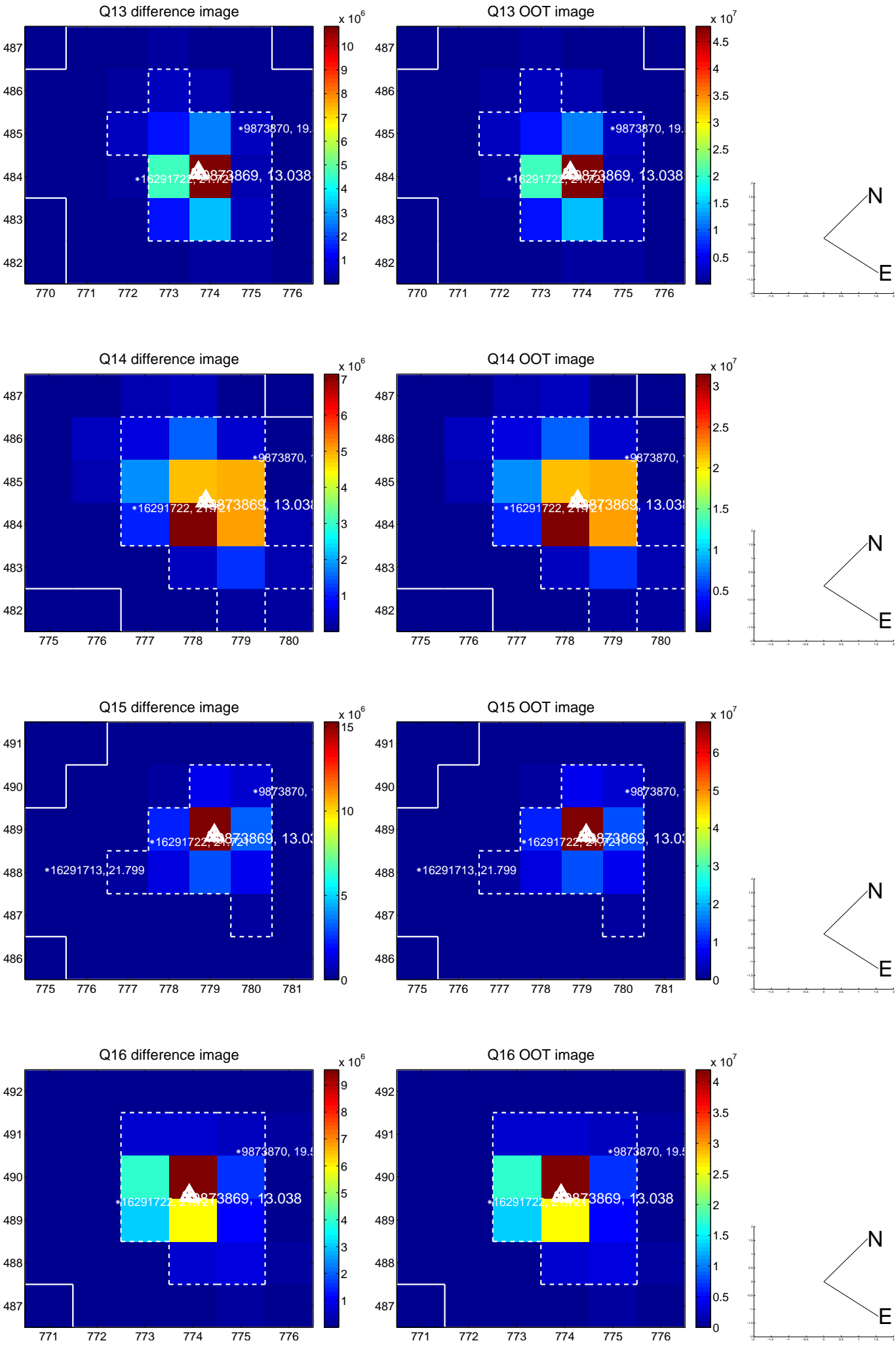
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



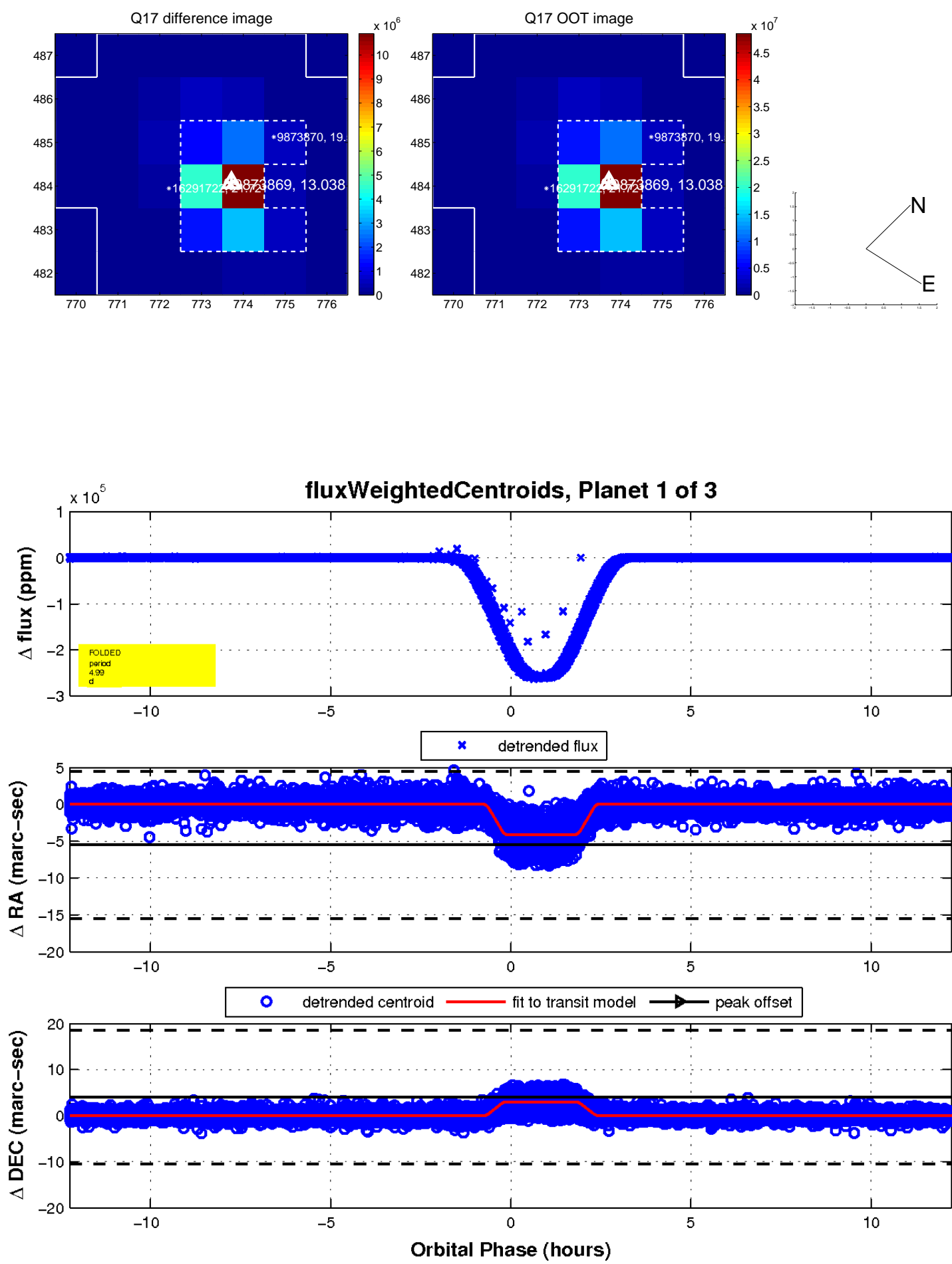
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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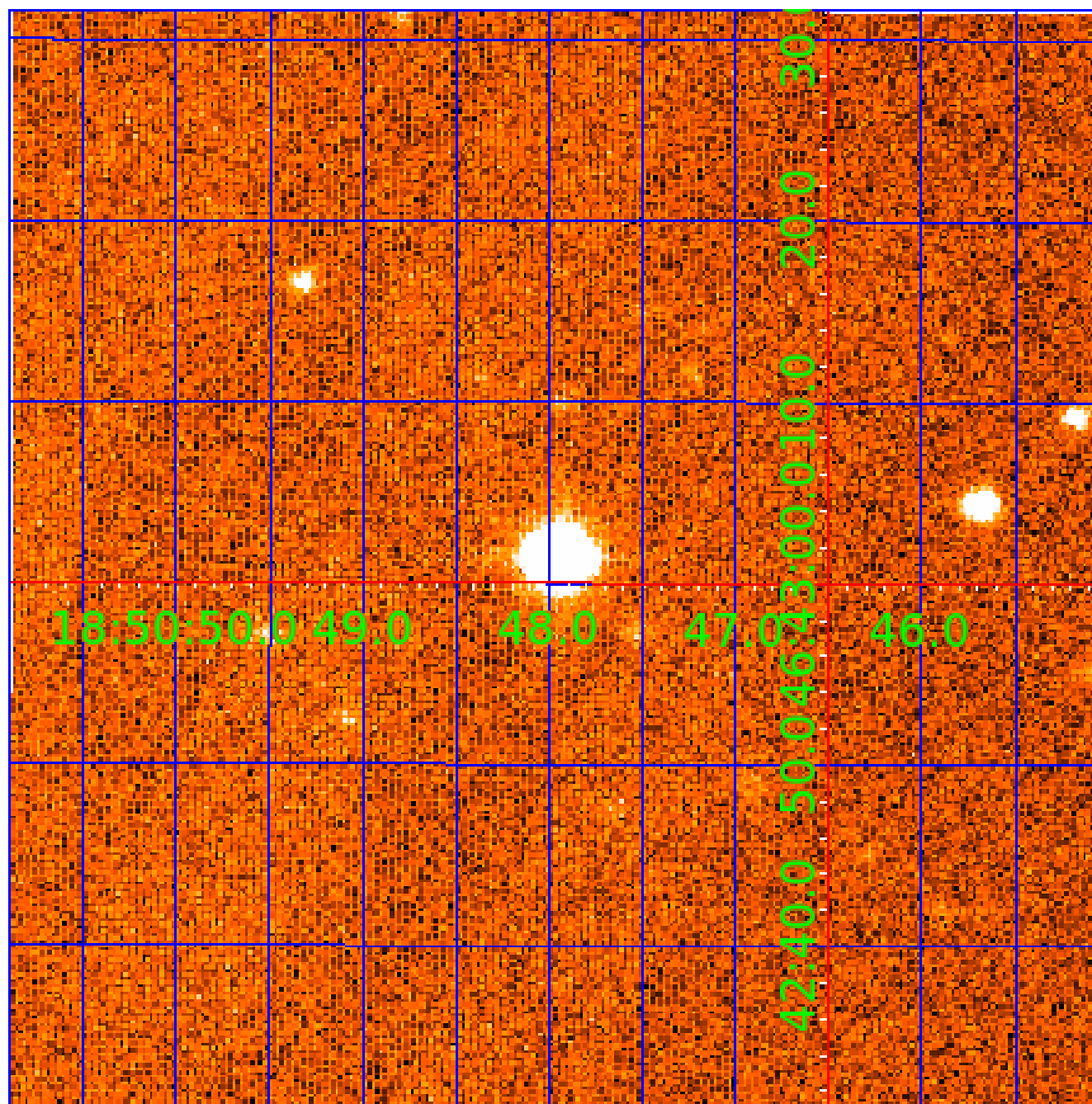


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009873869

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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009873869-02	OBS	No	4.994775	133.677315	26555.1	4.314	2881.8	2282.8	1.18	6253	21.65	604.50
009873869-03	OBS	No	339.987408	410.074906	975.3	3.500	17.6	-1.0	1.18	6253	3.71	2.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009873869-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
009873869-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009873869-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—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.

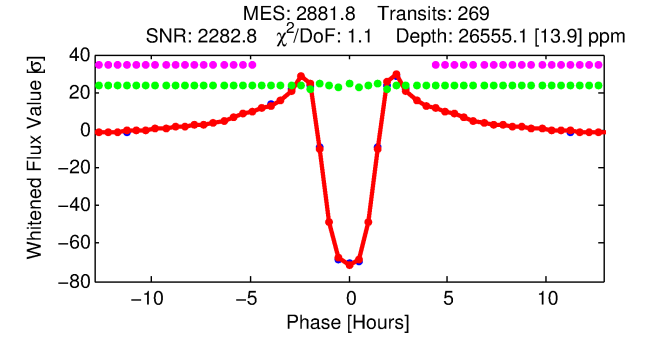
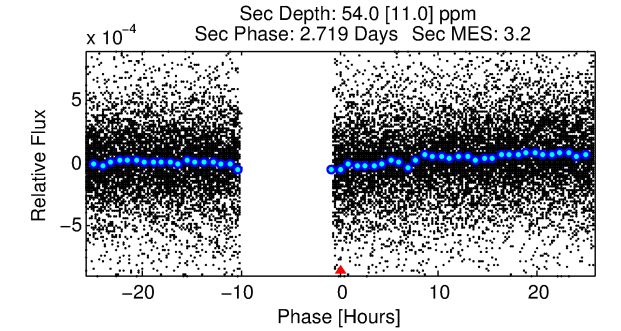
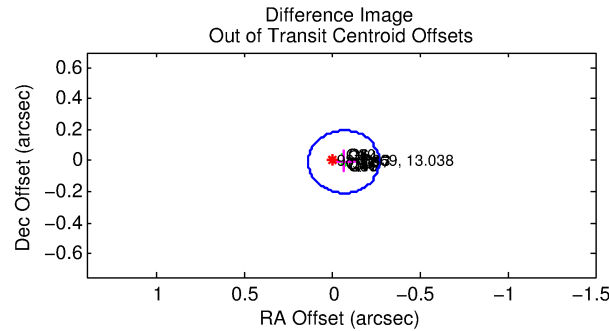
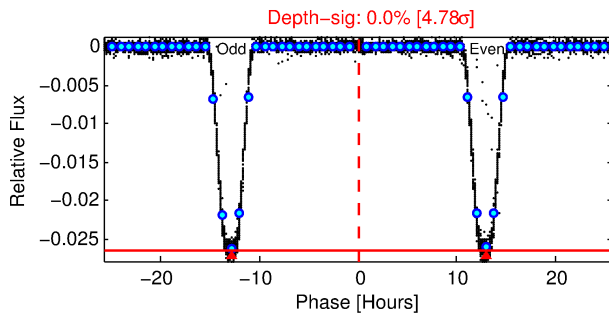
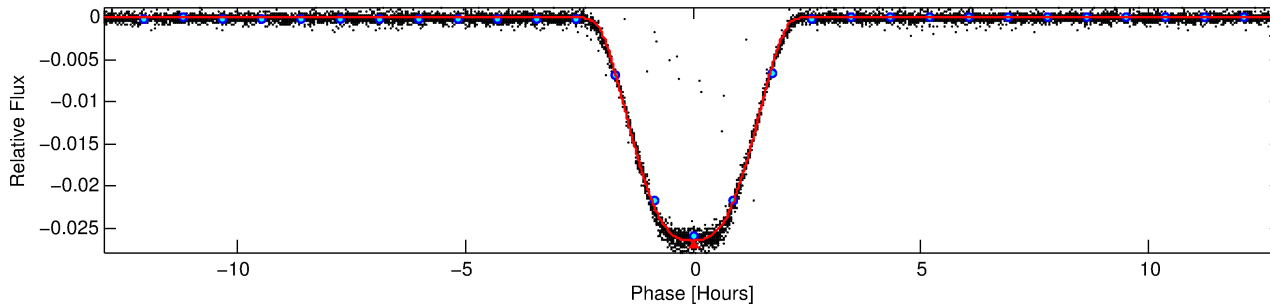
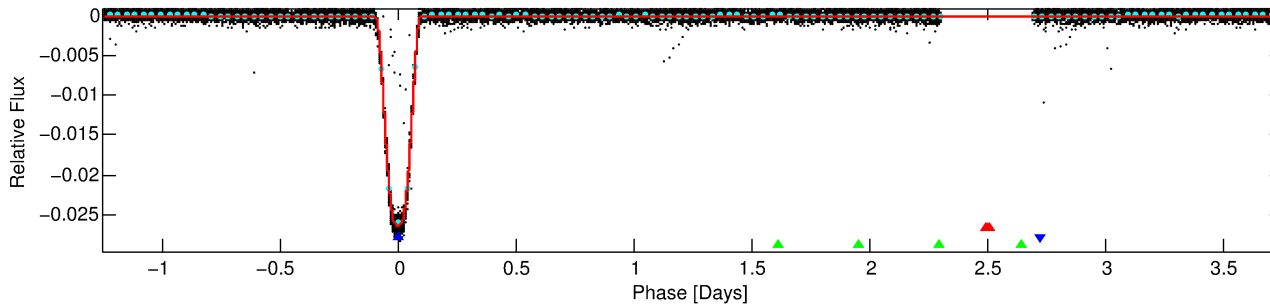
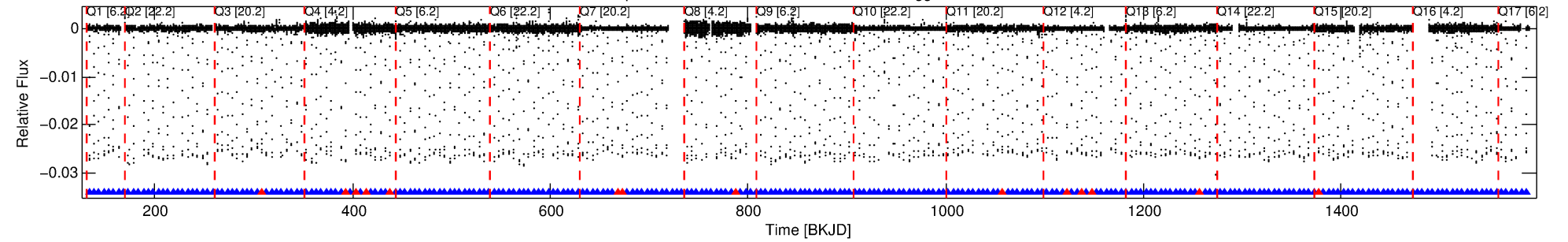
Ephemeris Match Information For 009873869-02

No Significant Match Found

DV One-Page Summary

KIC: 9873869 Candidate: 2 of 3 Period: 4.995 d
KOI: K07241 Corr: No Ephemeris Match

Kp: 13.04 R*: 1.18 Rs Teff: 6253.0 K Logg: 4.27 Fe/H: -0.460



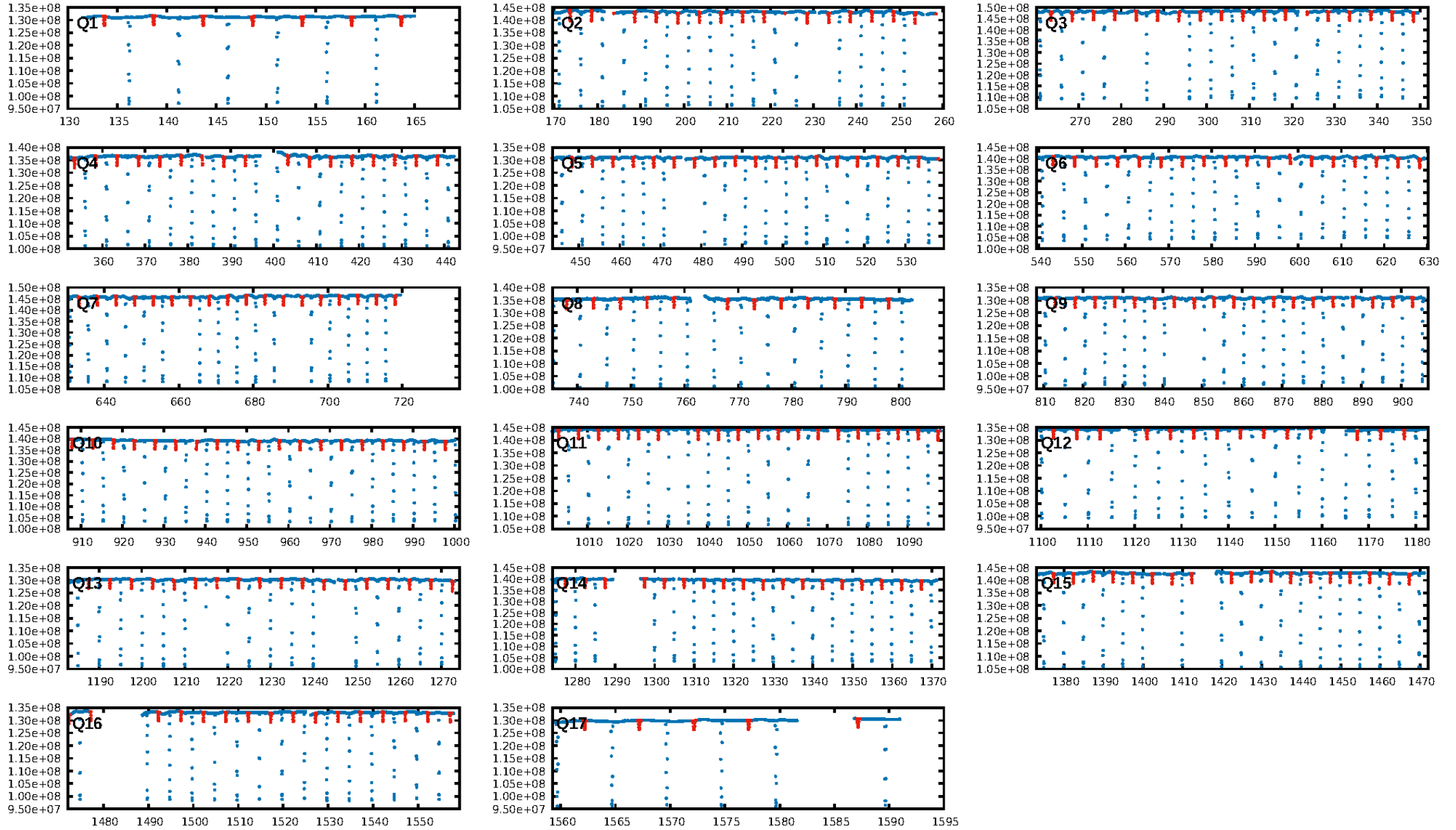
DV Fit Results:

Period = 4.99477 [0.00000] d
Epoch = 133.6773 [0.0000] BKJD
Rp/R* = 0.1680 [0.0001]
a/R* = 7.47 [0.00]
b = 0.81 [0.00]
Seff = 604.50 [221.22]
Teq = 1264 [116] K
Rp = 21.65 [6.40] Re
a = 0.0562 [0.0137] AU
Ag = 0.20 [0.08] [-9.96σ]
Teffp = 1308 [77] K [0.31σ]

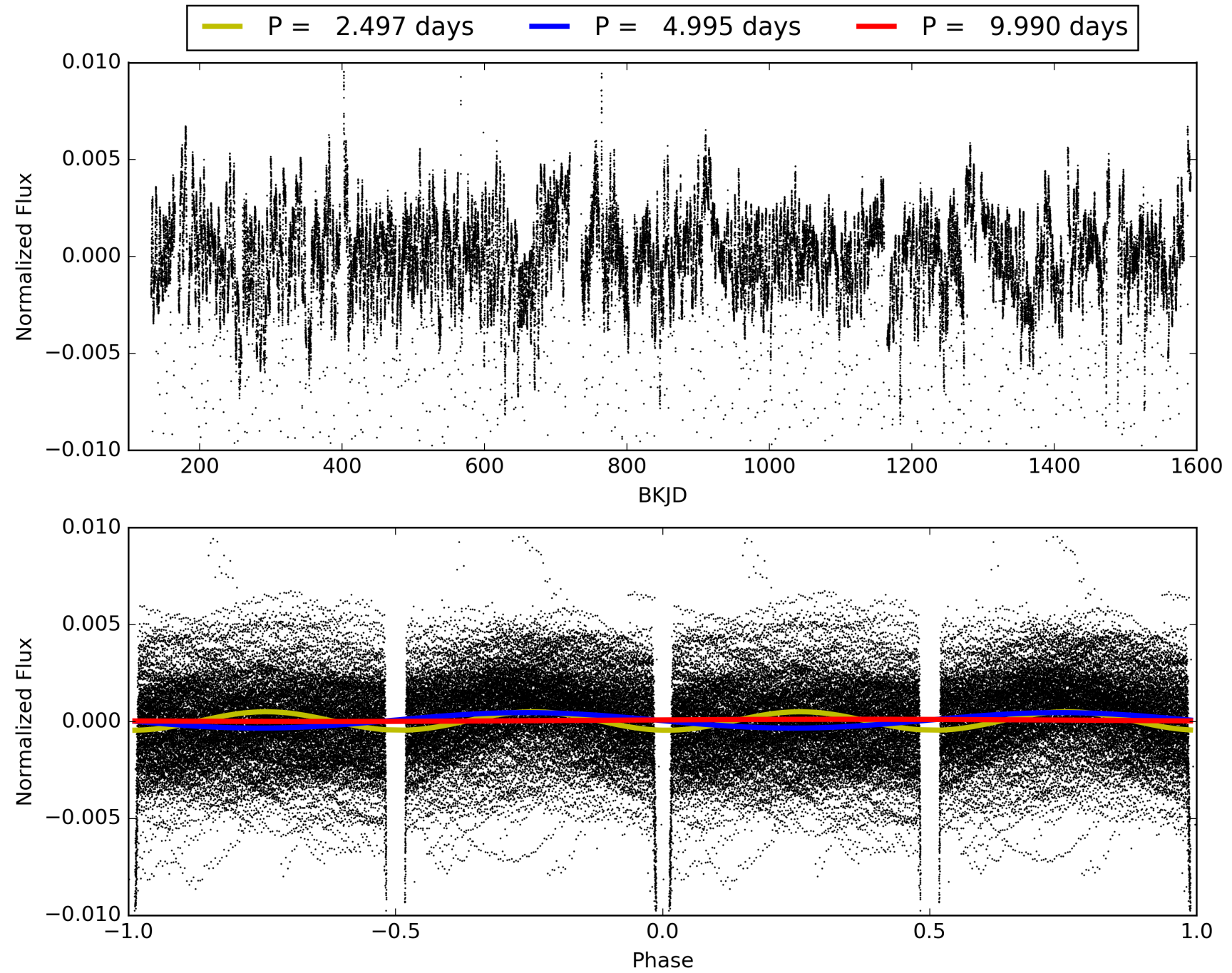
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [1447.20σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [243/257]
GhostDiagnostic-chr: 3.492
Centroid-sig: 0.0%
Centroid-so: 0.222 arcsec [104.26σ]
OotOffset-rm: 0.066 arcsec [0.98σ]
KicOffset-rm: 0.165 arcsec [2.45σ]
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 009873869-02, PDC Light Curves

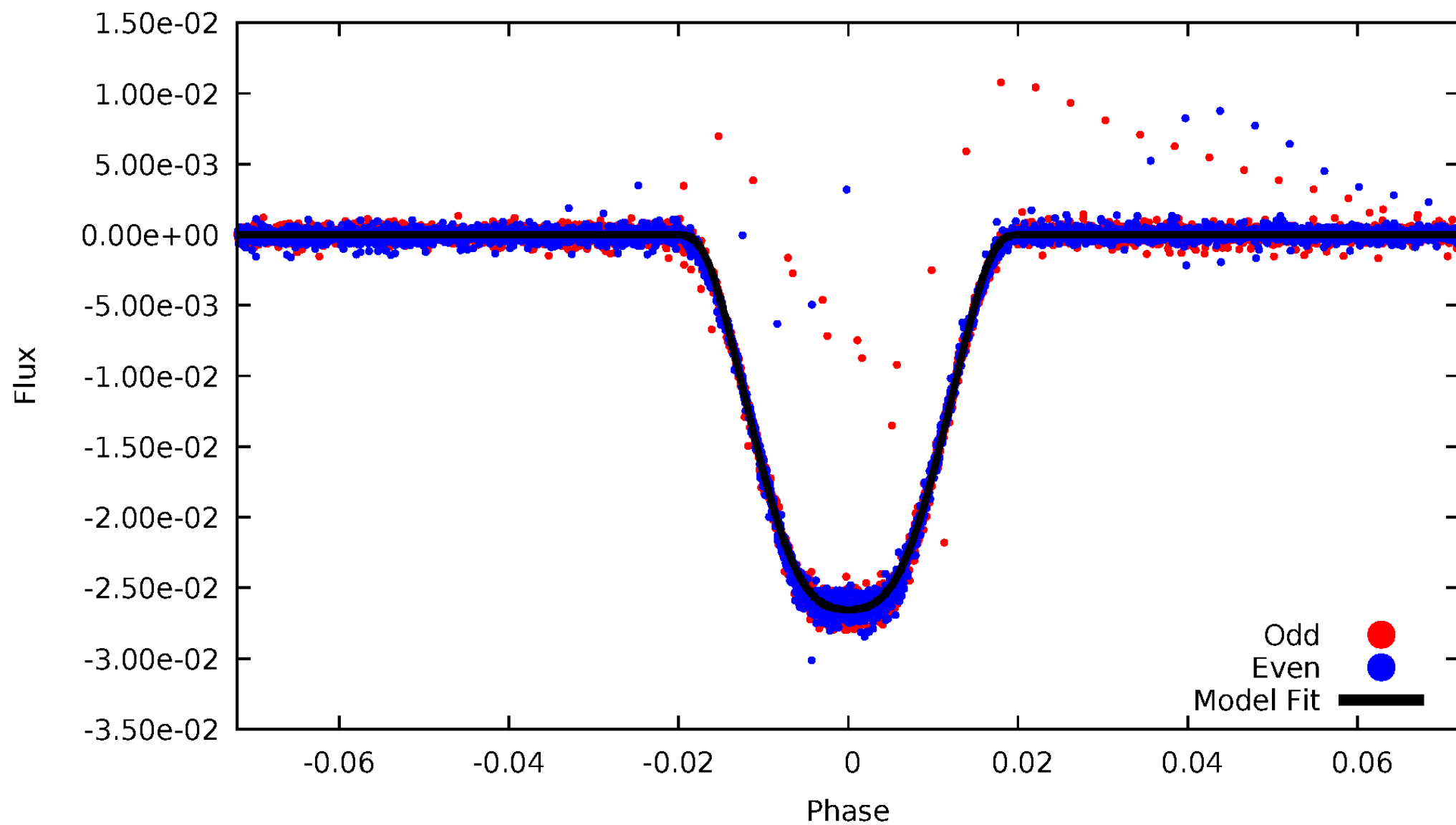


TCE 009873869-02



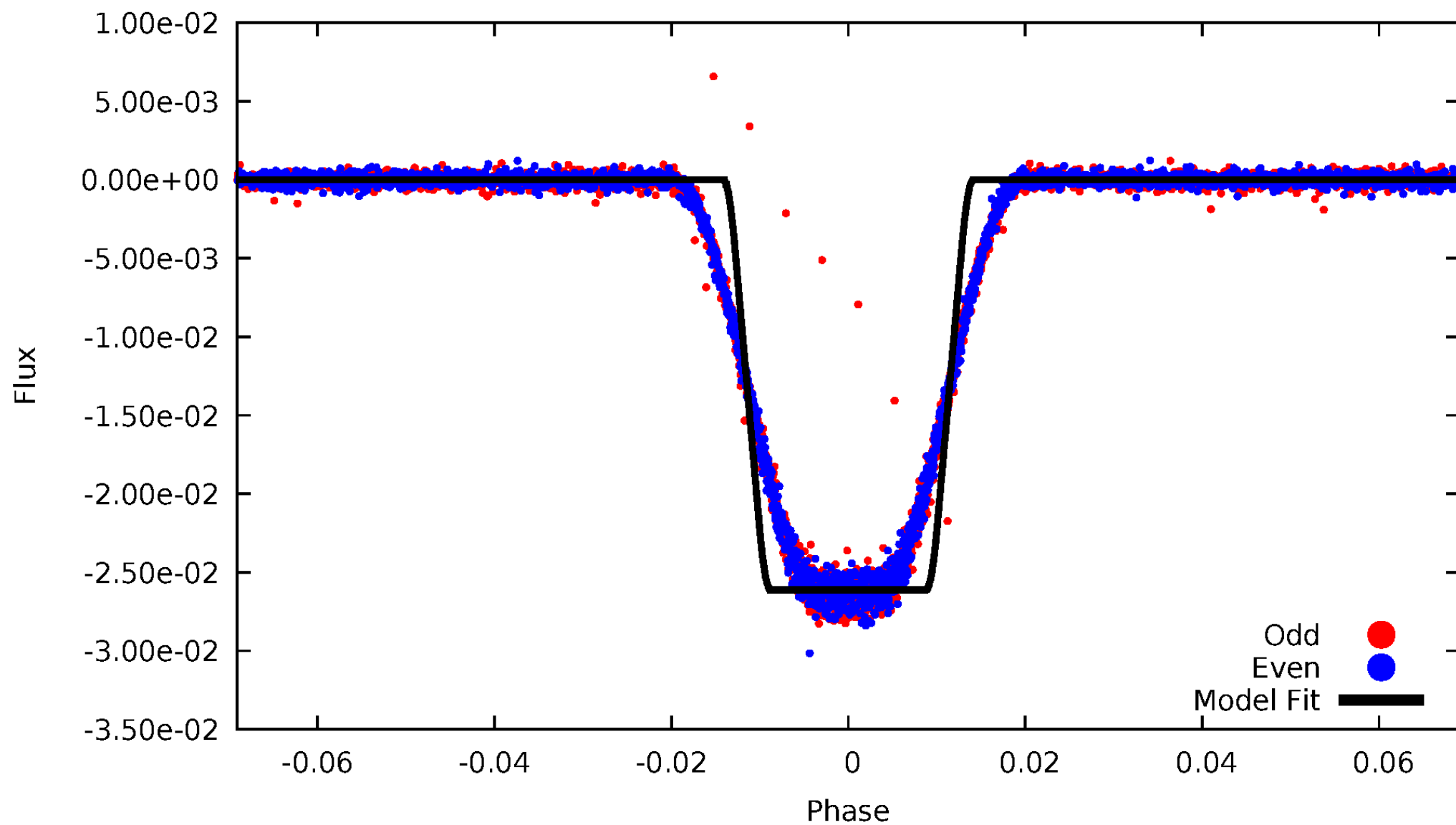
DV Odd/Even

TCE 009873869-02



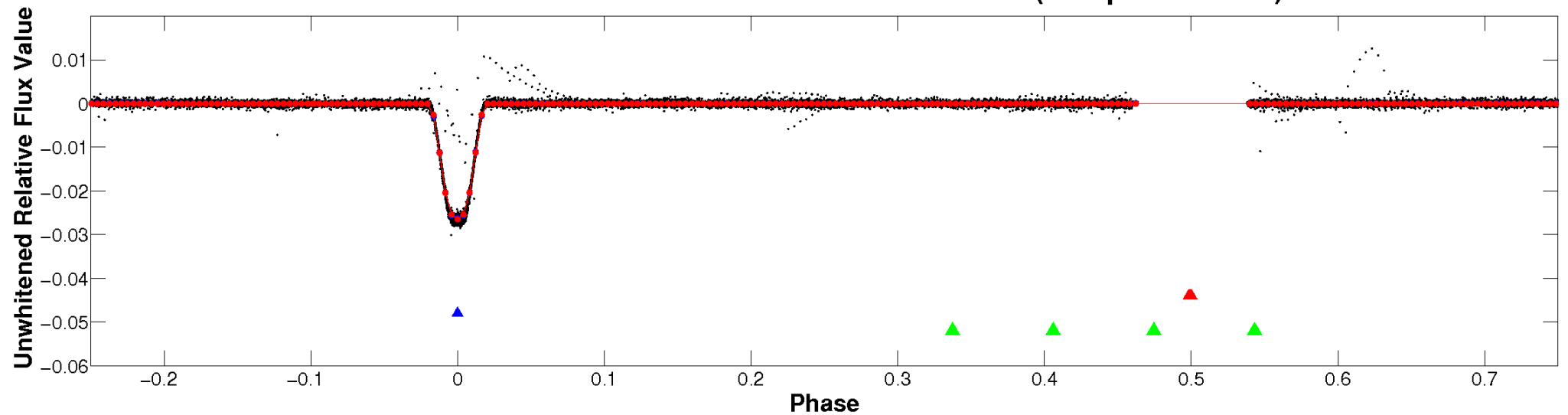
ALT Odd/Even

TCE 009873869-02

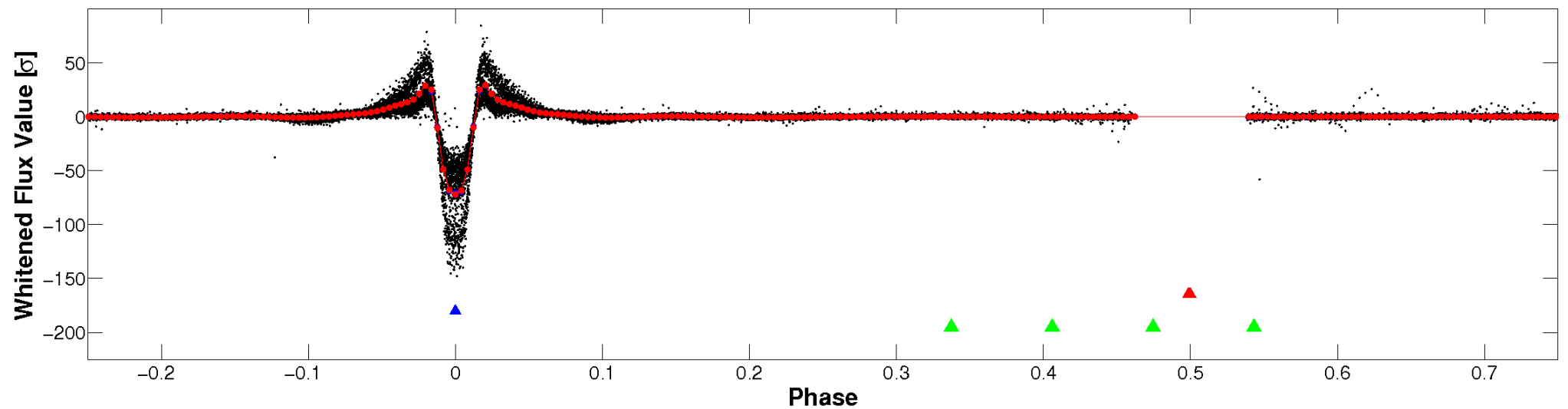


Non-Whitened Vs. Whitened Light Curve

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

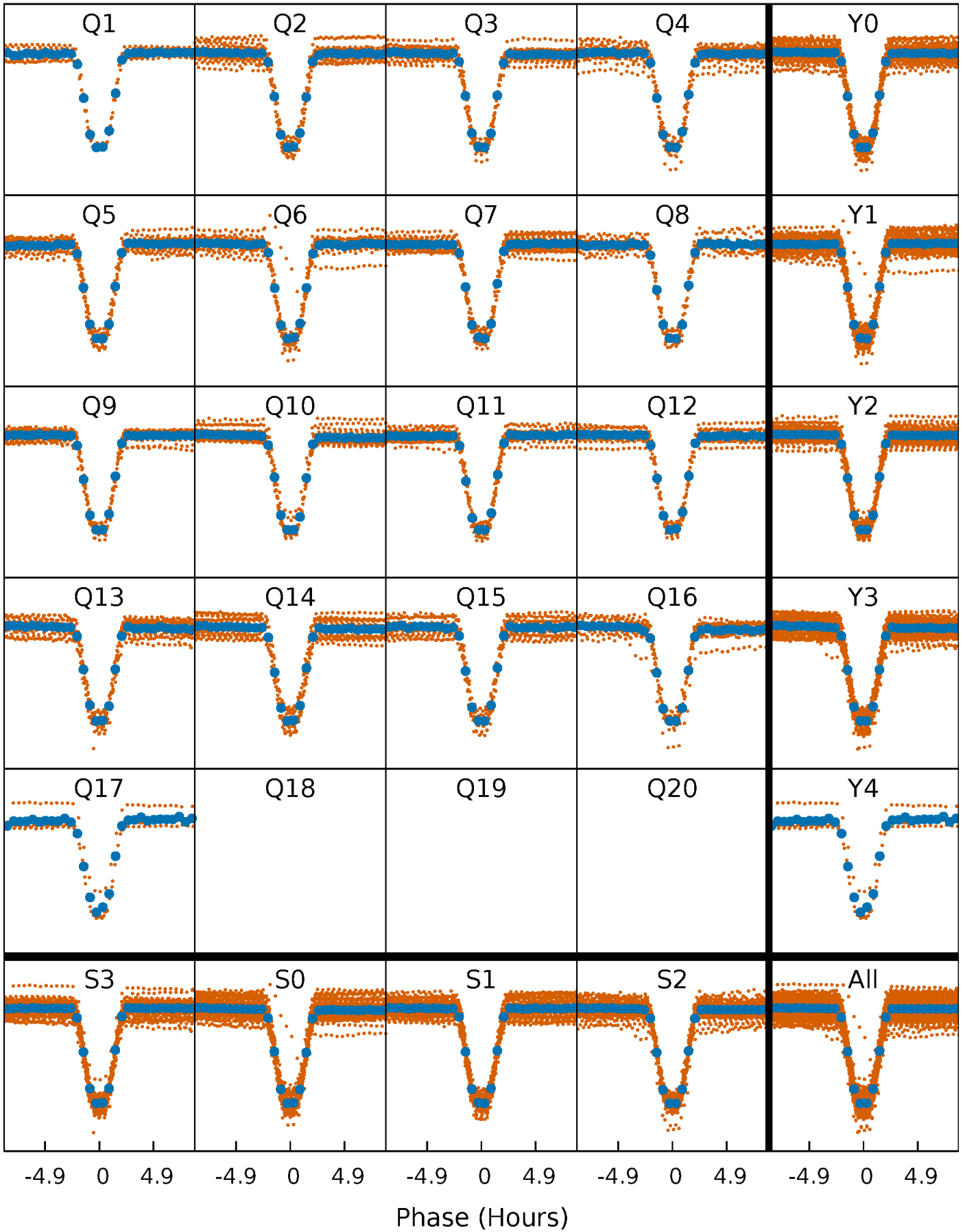


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



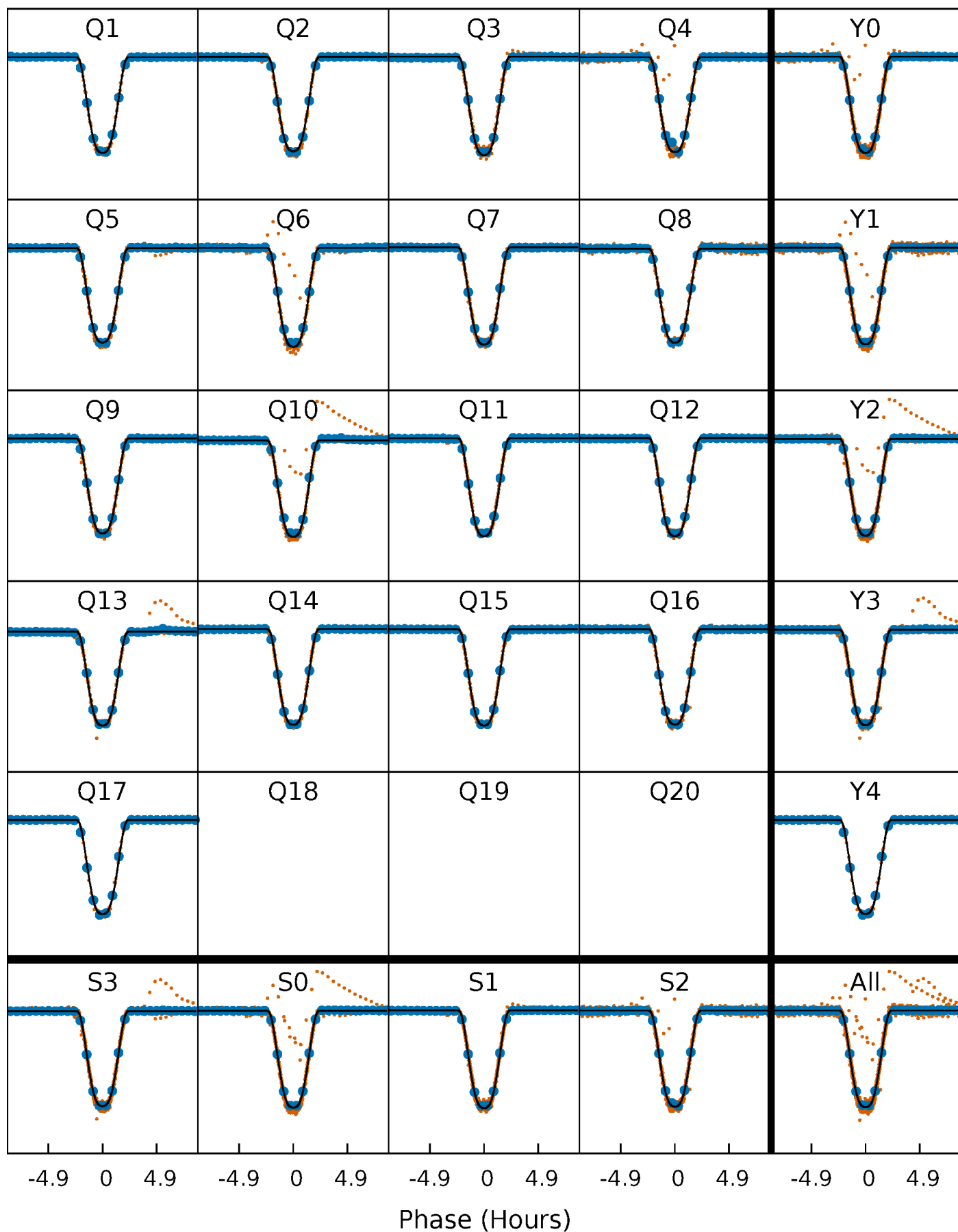
PDC Quarter-Phased Transit Curves

TCE 009873869-02 P= 4.994775 Days $T_0=133.677315$ (BKJD)



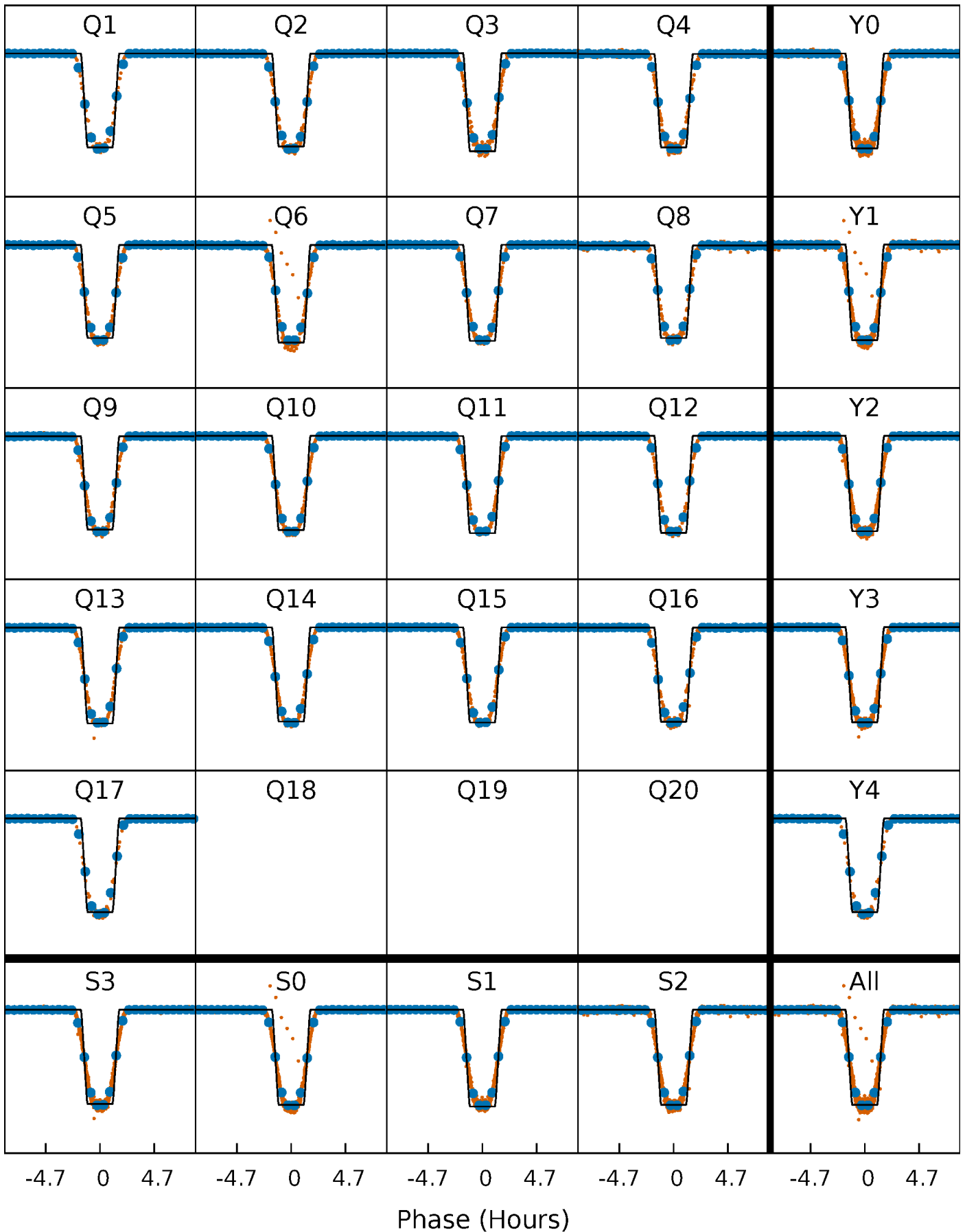
DV Quarter-Phased Transit Curves

TCE 009873869-02 P= 4.994775 Days $T_0=133.677315$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

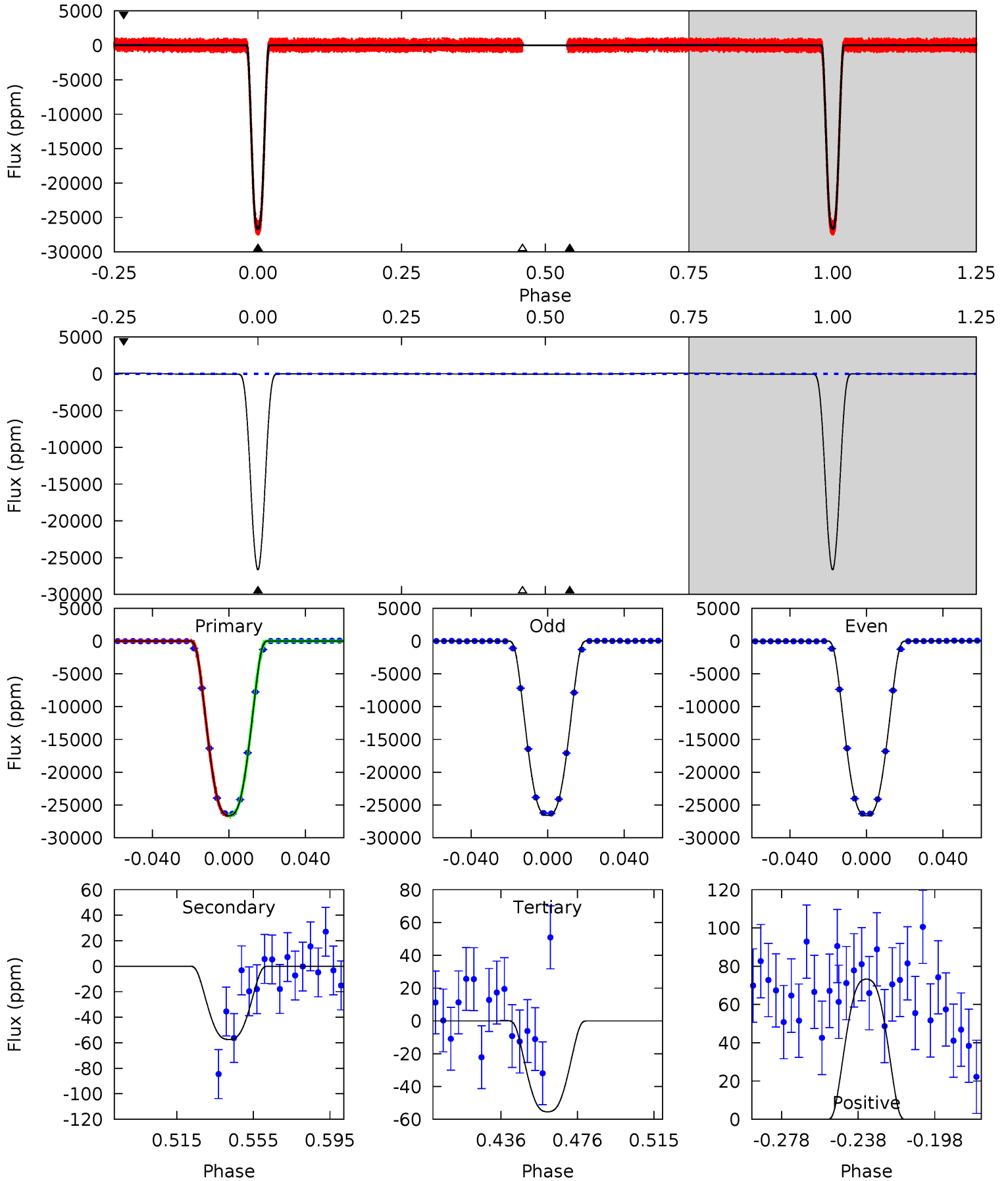
TCE 009873869-02 $P = 4.994778$ Days $T_0 = 133.676630$ (BKJD)



DV Model-Shift Uniqueness Test

009873869-02, P = 4.994775 Days, E = 128.682540 Days

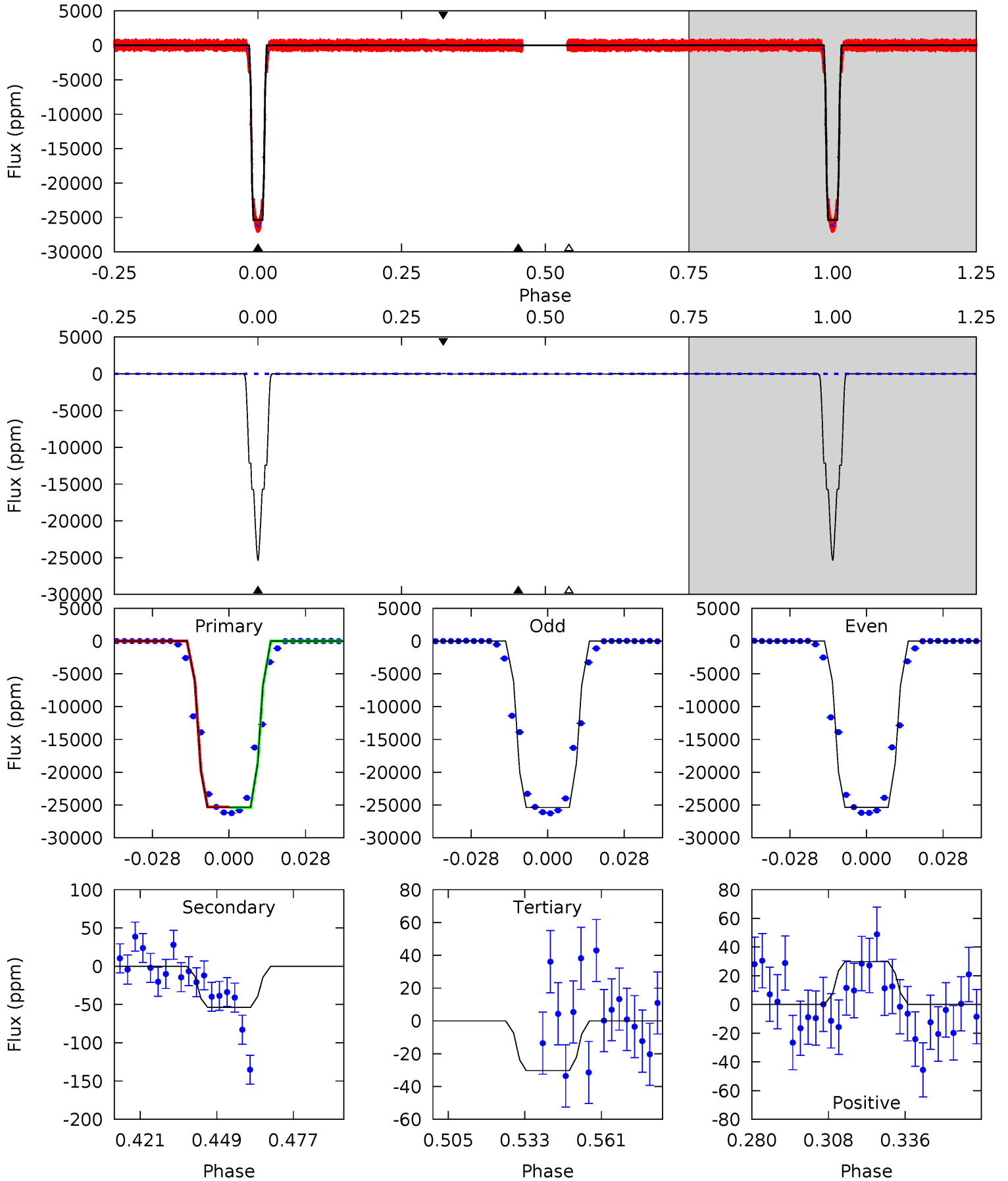
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4547	9.81	9.46	12.5	4.76	2.06	5.65	4537	4534	0.34	-2.70	2.38	0.99	0.00	3.40



Alt Model-Shift Uniqueness Test

009873869-02, P = 4.994778 Days, E = 128.681852 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3136	6.64	3.75	3.69	4.82	2.20	1.23	3133	3133	2.89	2.95	1.29	1.00	0.00	4.20



Stellar Parameters For KIC 009873869

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6253^{+169}_{-188}	$4.271^{+0.185}_{-0.185}$	$-0.460^{+0.300}_{-0.300}$	$1.181^{+0.349}_{-0.232}$	$0.950^{+0.148}_{-0.098}$	$0.813^{+0.756}_{-0.388}$
	+3%/-3%	+4%/-4%	+65%/-65%	+30%/-20%	+16%/-10%	+93%/-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 009873869-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-57 ± 6	$21.58^{+3.67}_{-2.19}$	1764^{+133}_{-112}	-2050^{+251}_{-173}	$0.211^{+0.061}_{-0.052}$
Alt.	-54 ± 8	$20.67^{+3.39}_{-2.35}$	1762^{+141}_{-127}	-2044^{+333}_{-187}	$0.215^{+0.068}_{-0.060}$

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

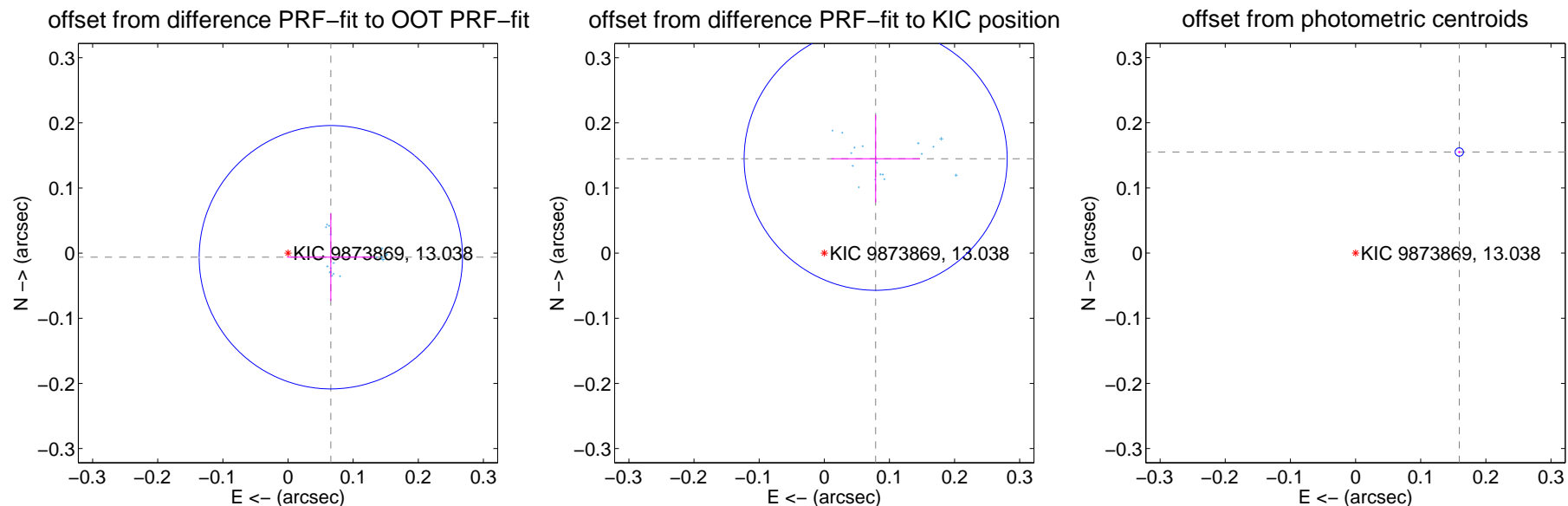
DV Centroid Data

Supplemental centroid analysis for 009873869-02. Kepler magnitude: 13.04. Transit SNR 2282.83

There are 17 quarters with good PRF difference image offsets

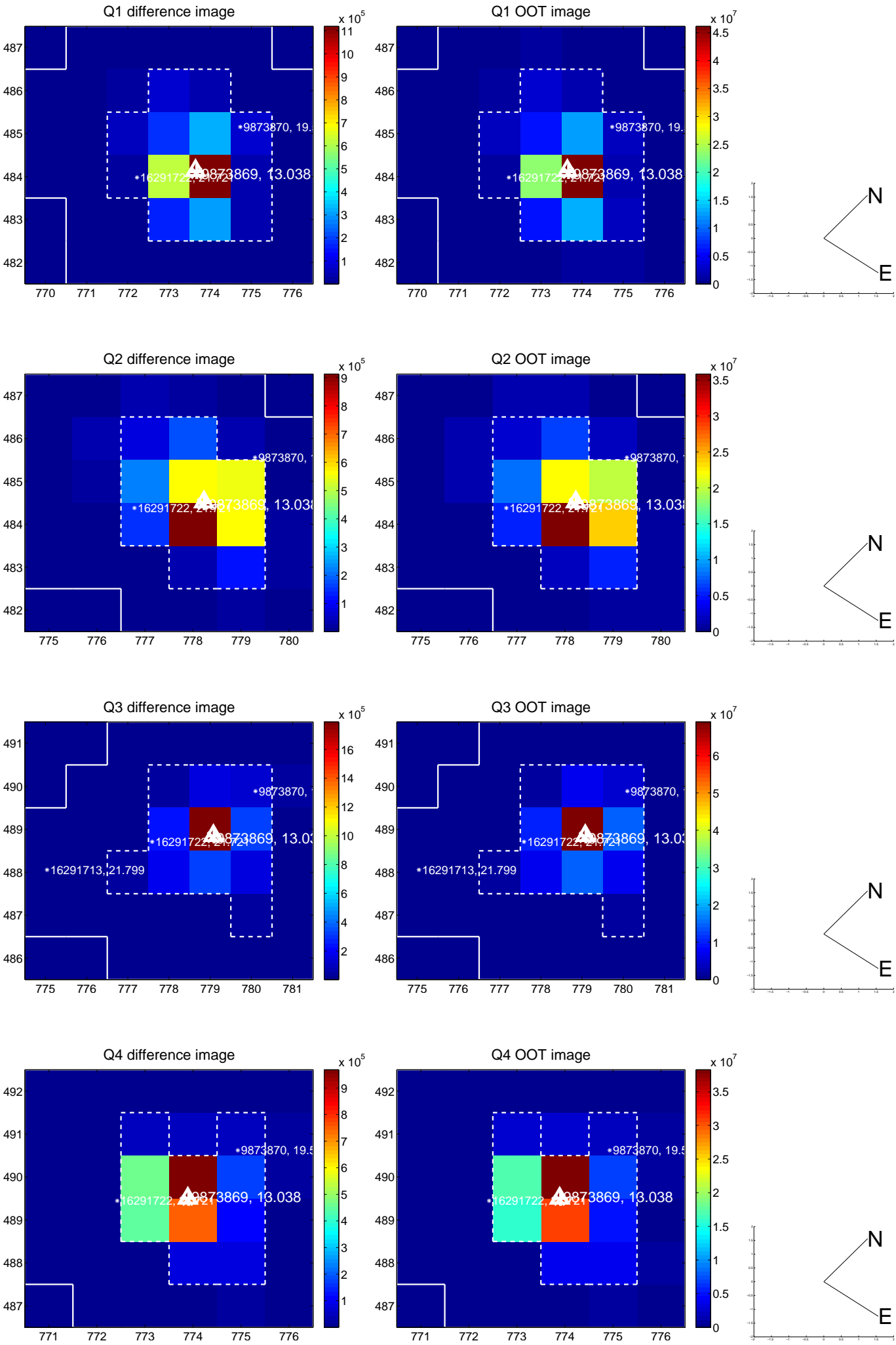
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.066 ± 0.067	0.98	-0.066 ± 0.067	-0.006 ± 0.067
PRF-fit source offset from KIC position	0.165 ± 0.067	2.45	-0.079 ± 0.068	0.145 ± 0.067
photometric centroid source offset	0.22 ± 0.00	104.26	-0.16 ± 0.00	0.16 ± 0.00

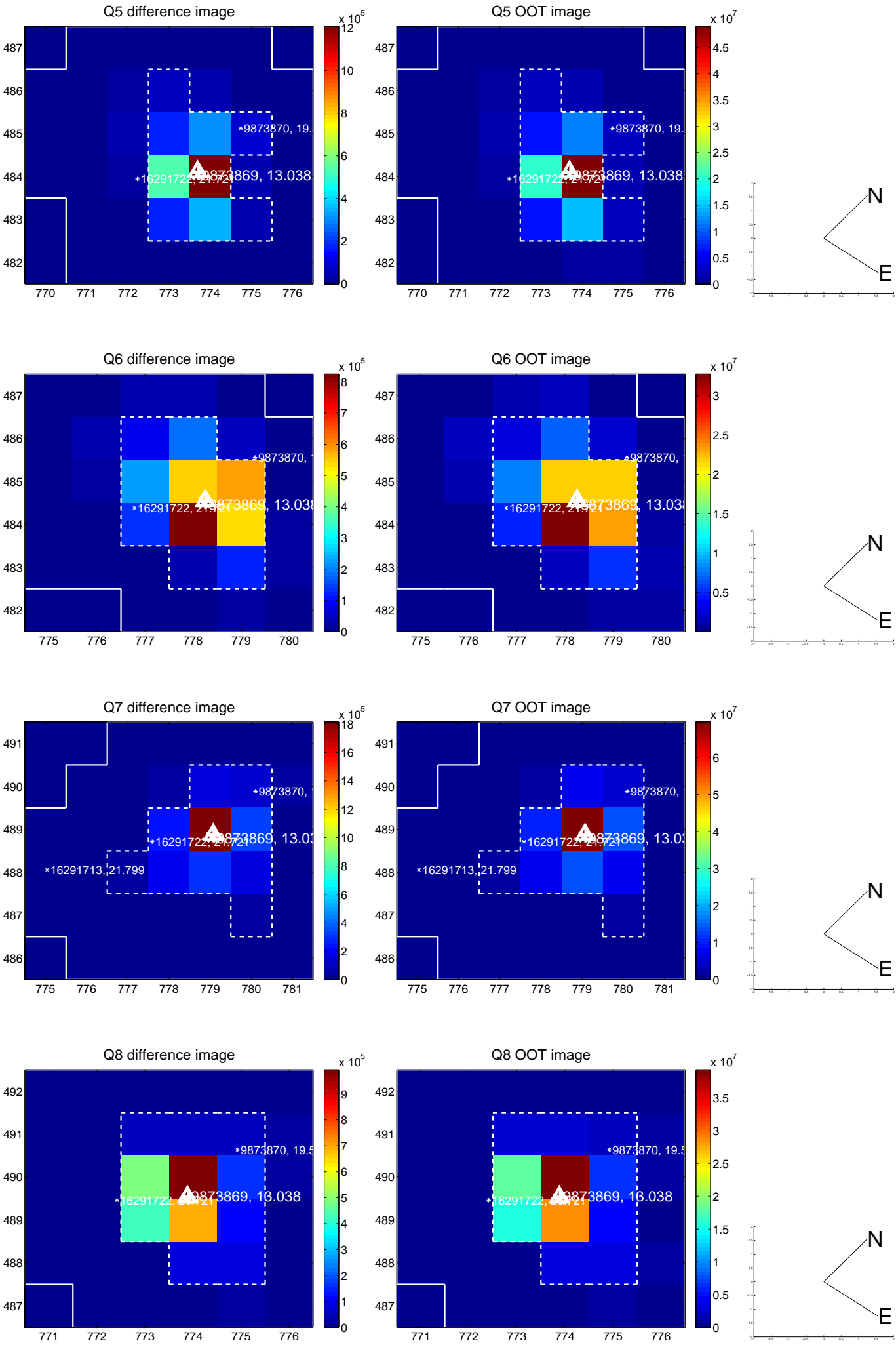


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

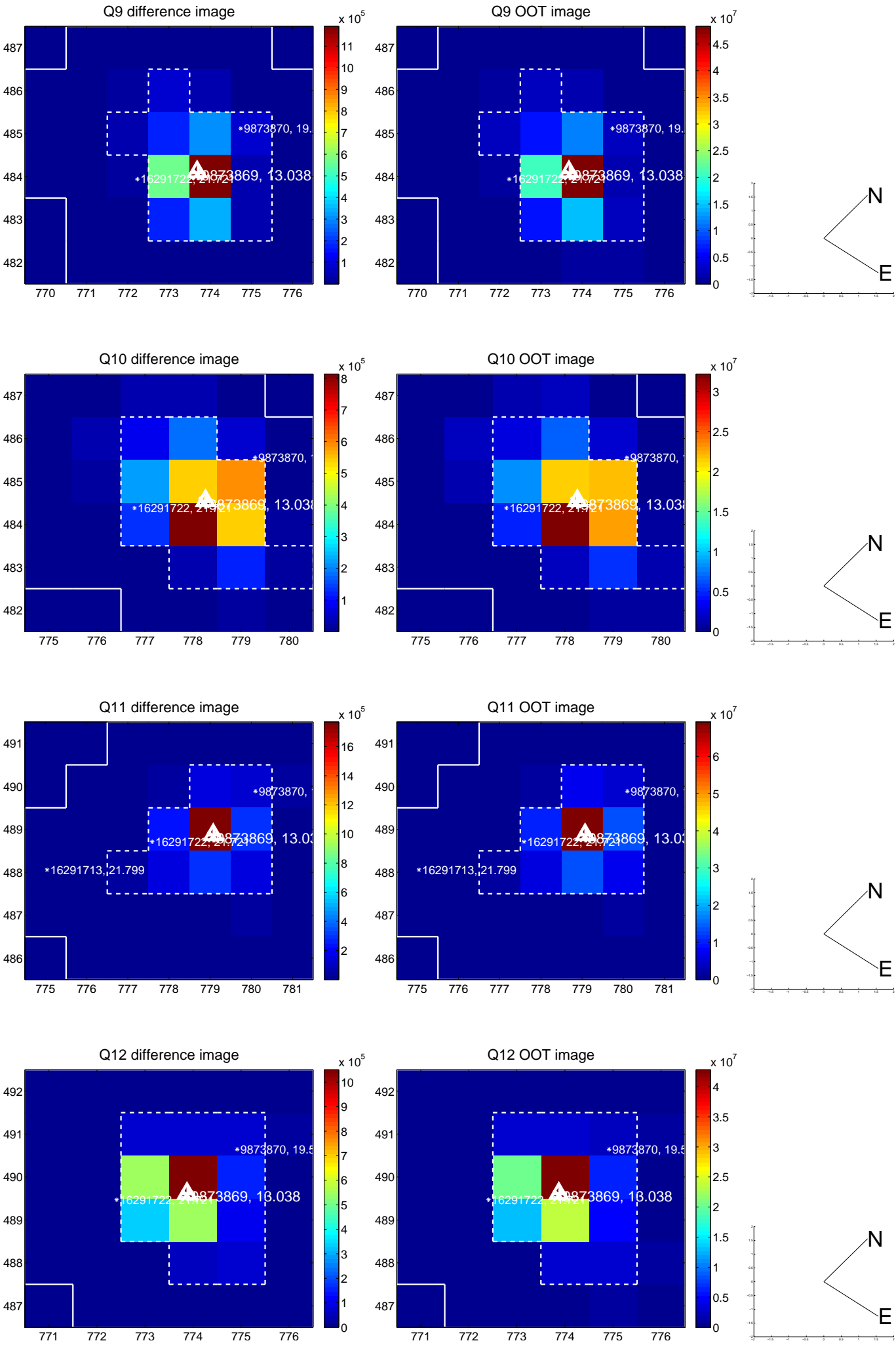
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



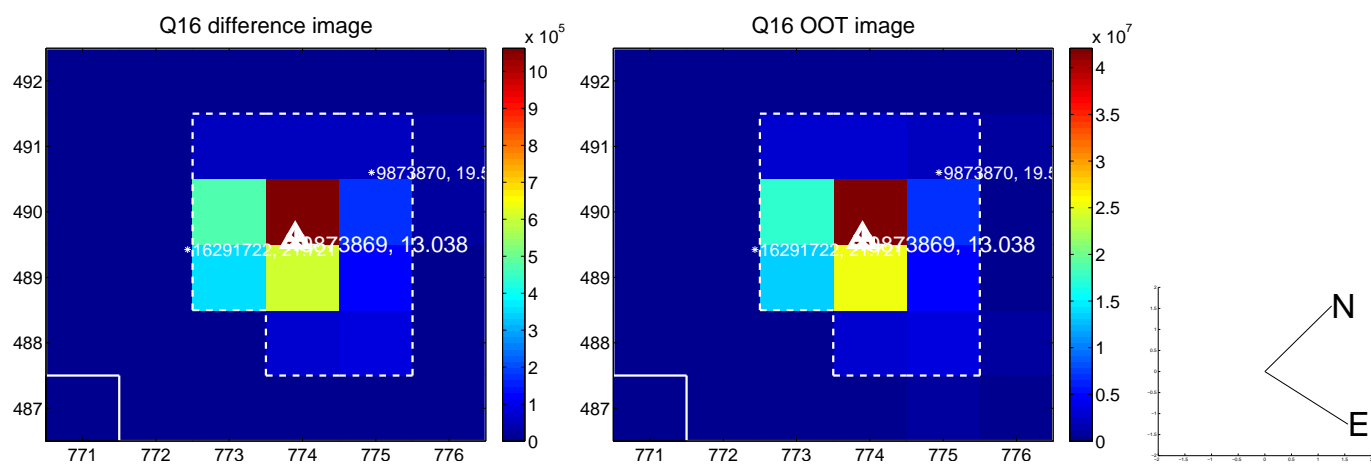
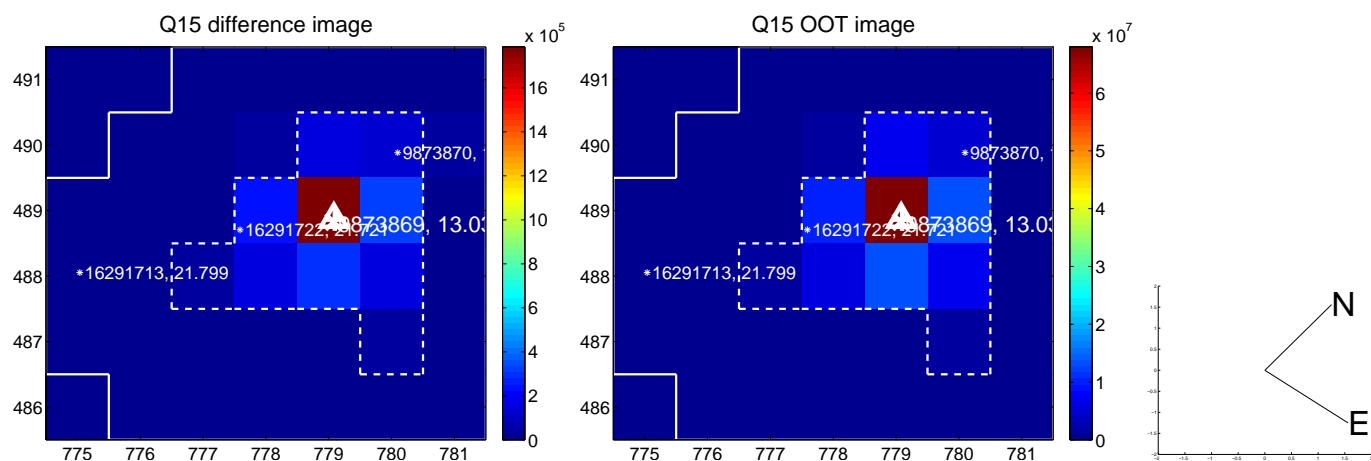
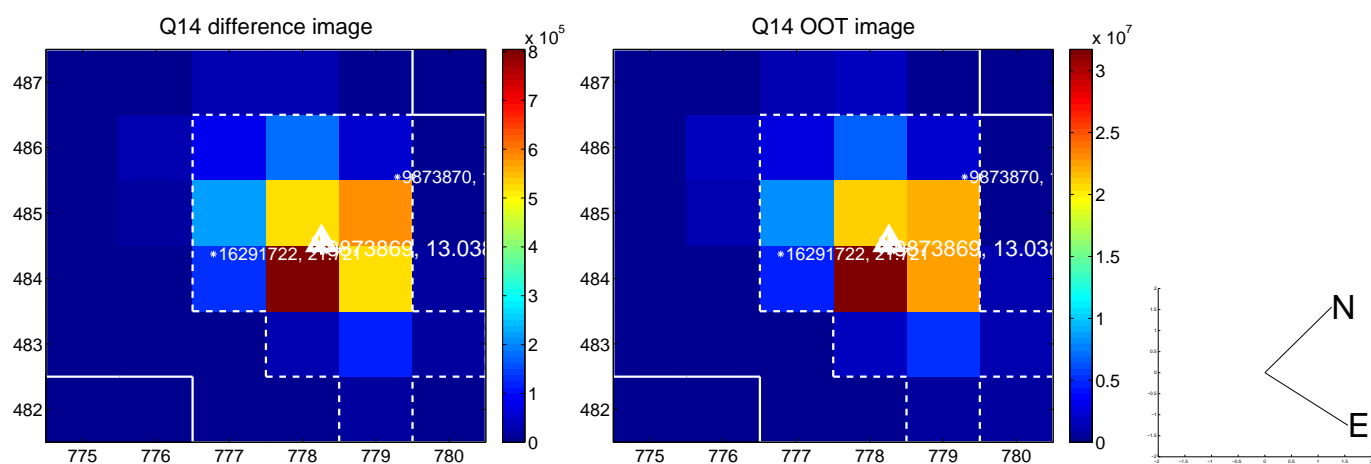
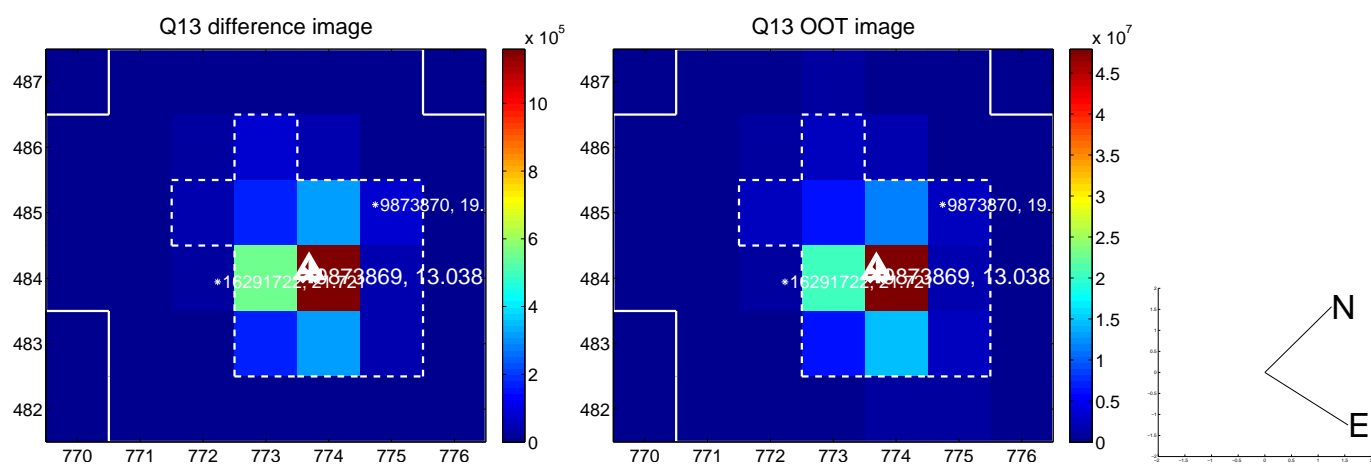
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



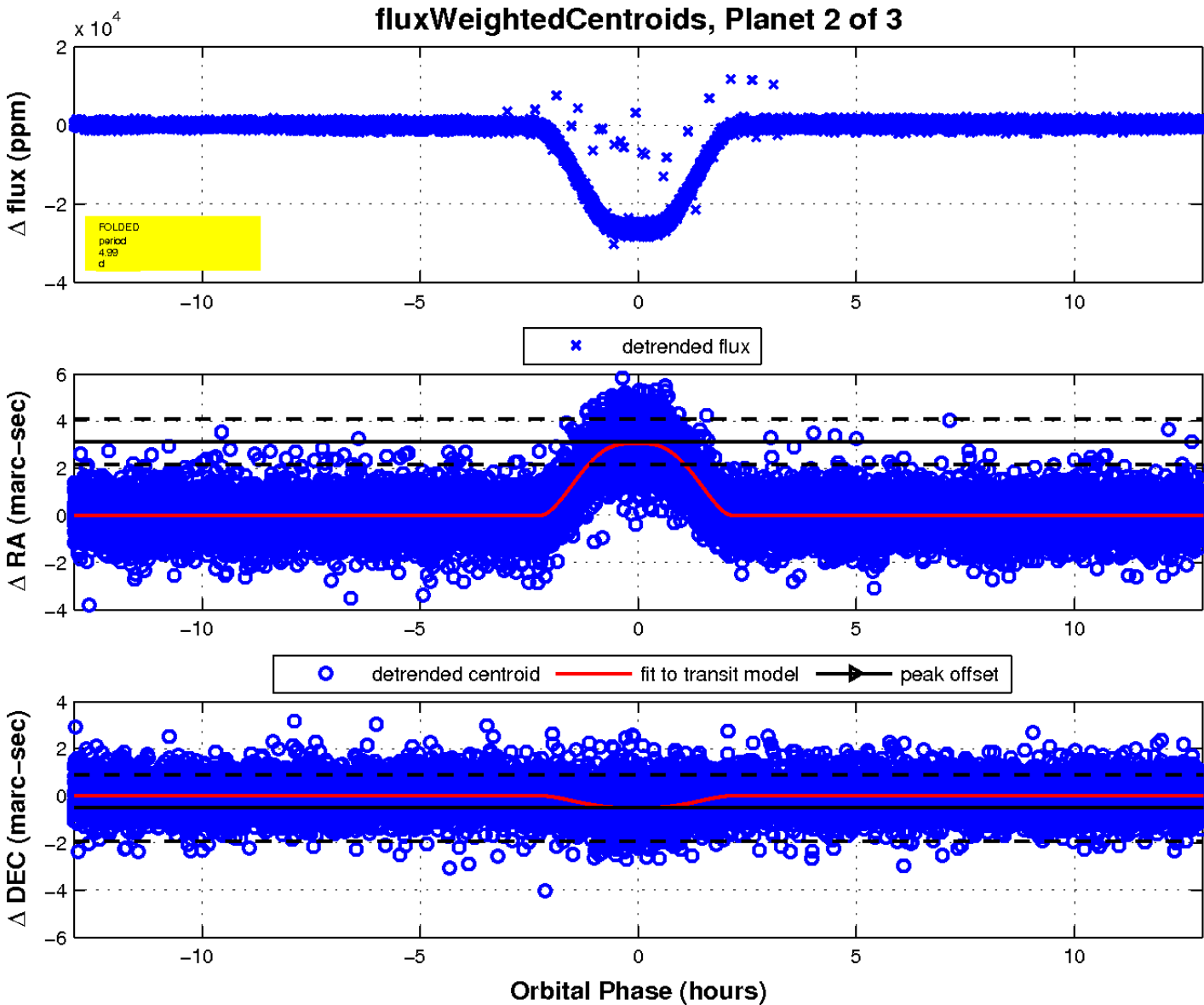
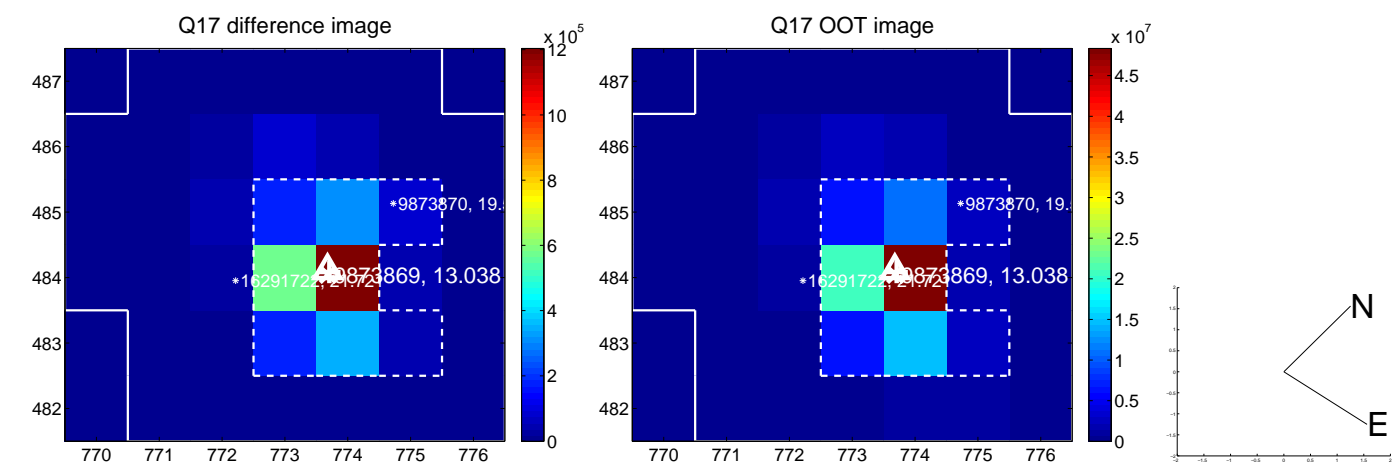
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

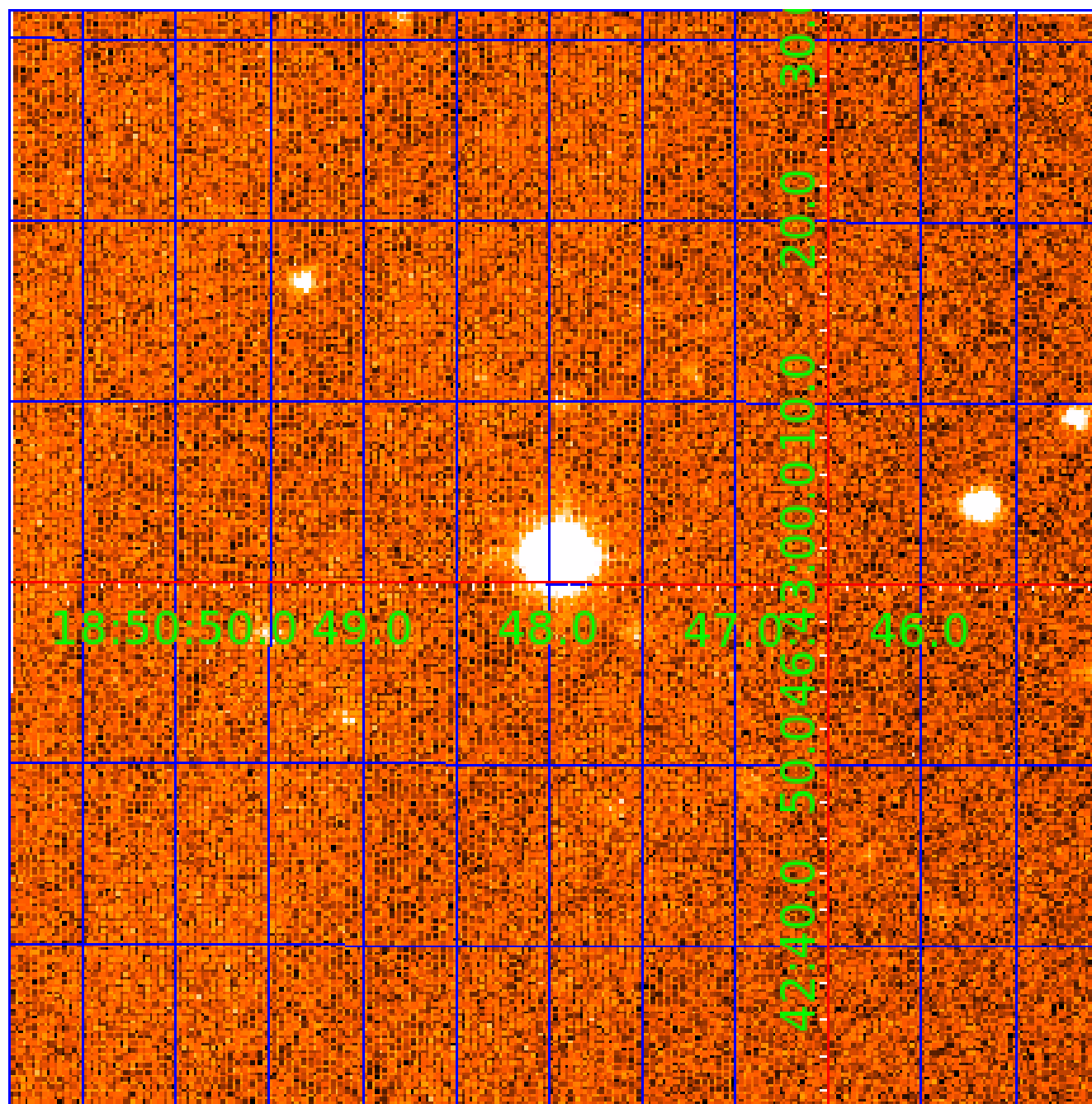


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009873869

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})
009873869-01	OBS	7241.01	4.994742	136.175778	162159.6	3.000	24443.1	-1.0	1.18	6253	48.19	604.50
009873869-02	OBS	No	4.994775	133.677315	26555.1	4.314	2881.8	2282.8	1.18	6253	21.65	604.50
009873869-03	OBS	No	339.987408	410.074906	975.3	3.500	17.6	-1.0	1.18	6253	3.71	2.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009873869-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
009873869-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009873869-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS

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

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

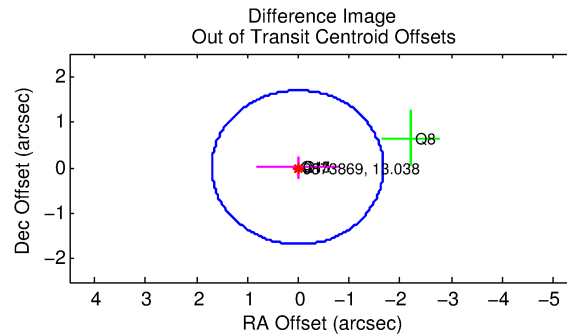
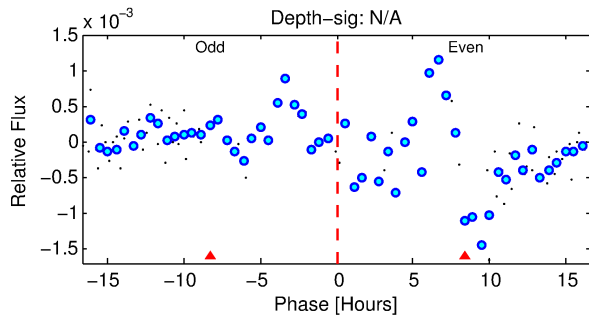
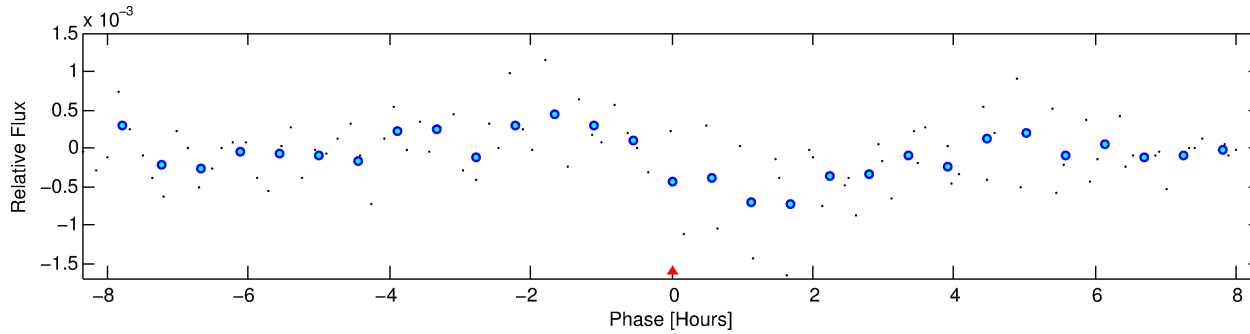
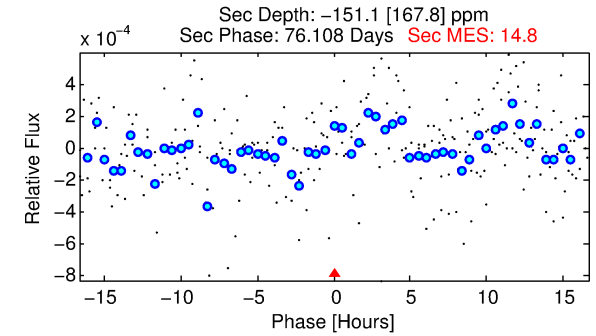
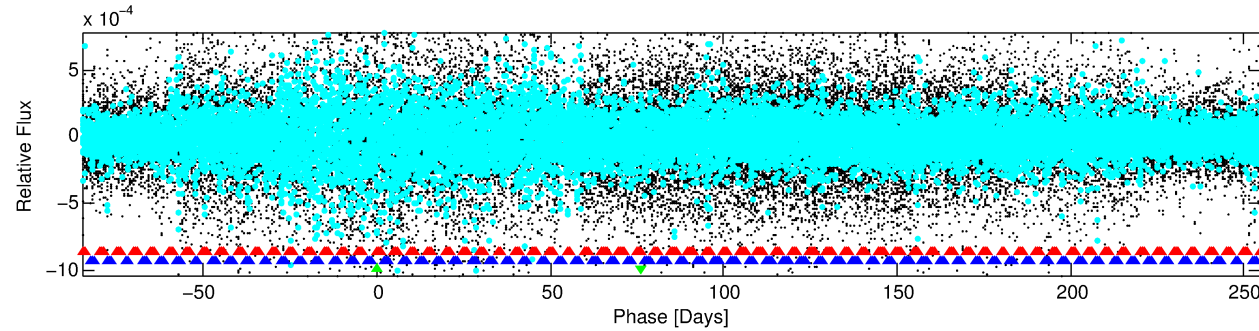
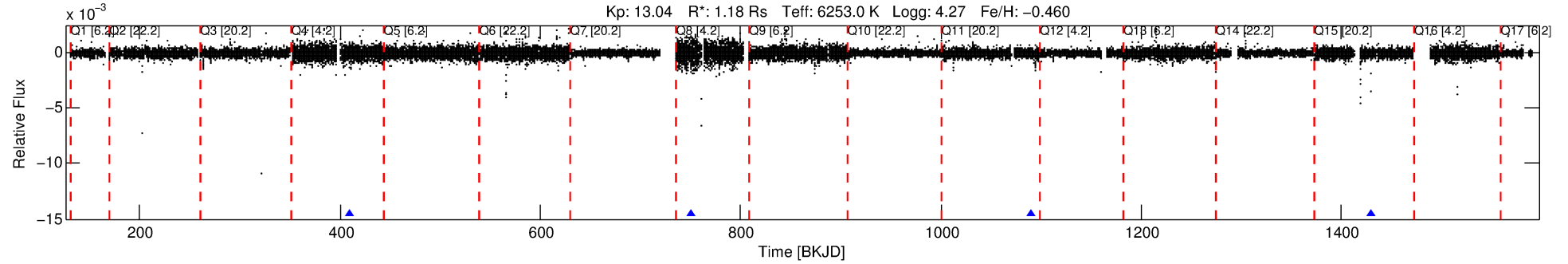
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009873869-03

No Significant Match Found

DV One-Page Summary

KIC: 9873869 Candidate: 3 of 3 Period: 339.987 d
KOI: K07241 Corr: No Ephemeris Match



TPS TCE Results:

Period = 339.98741 d
Epoch = 410.0749 BKJD

DV fit results are unavailable

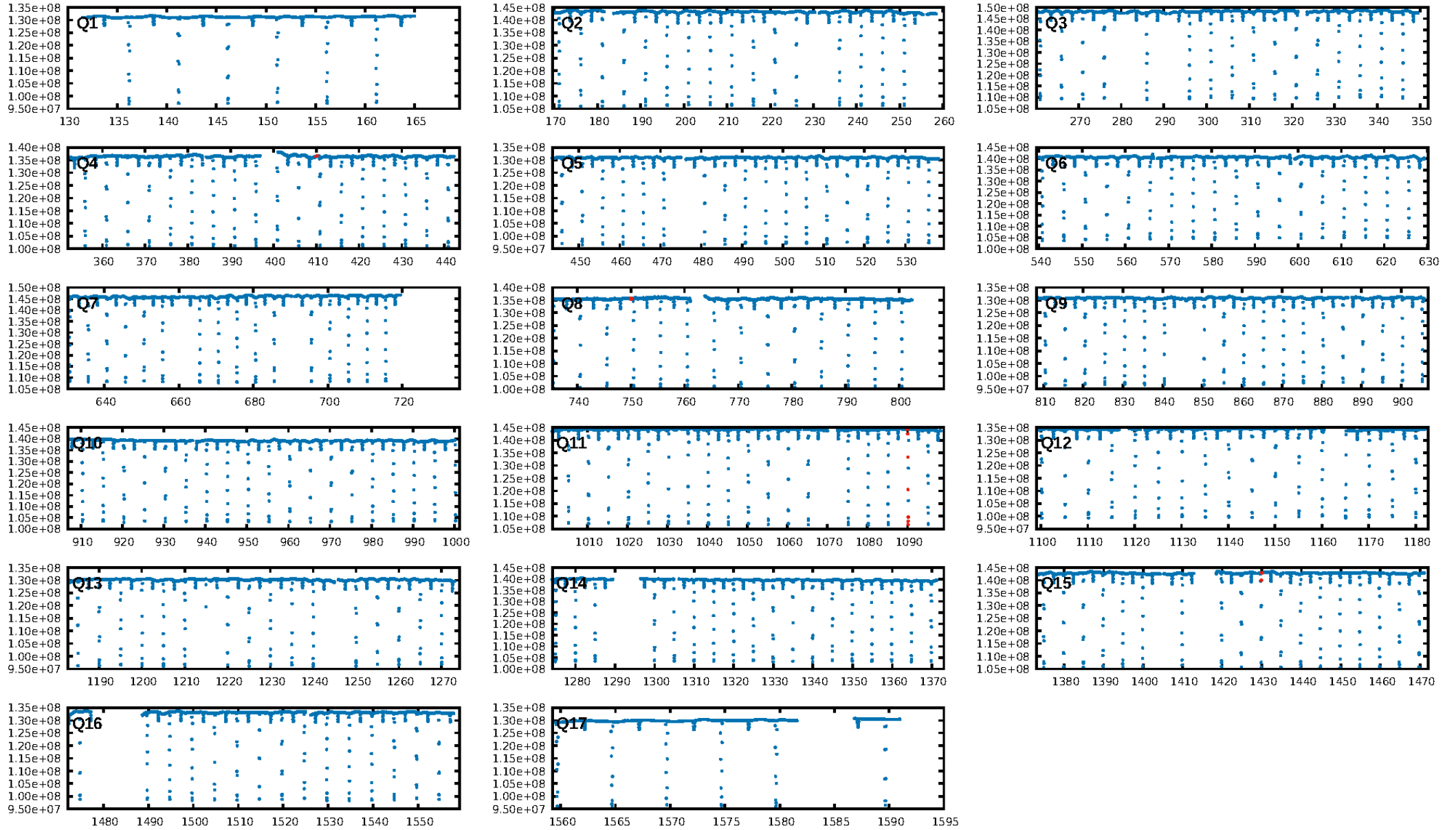
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1447.20σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 12.74
Centroid-sig: 60.8%
Centroid-so: 2.423 arcsec [0.60σ]
OotOffset-rm: 0.015 arcsec [0.03σ]
KicOffset-rm: 0.145 arcsec [0.45σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.50 [2/4]

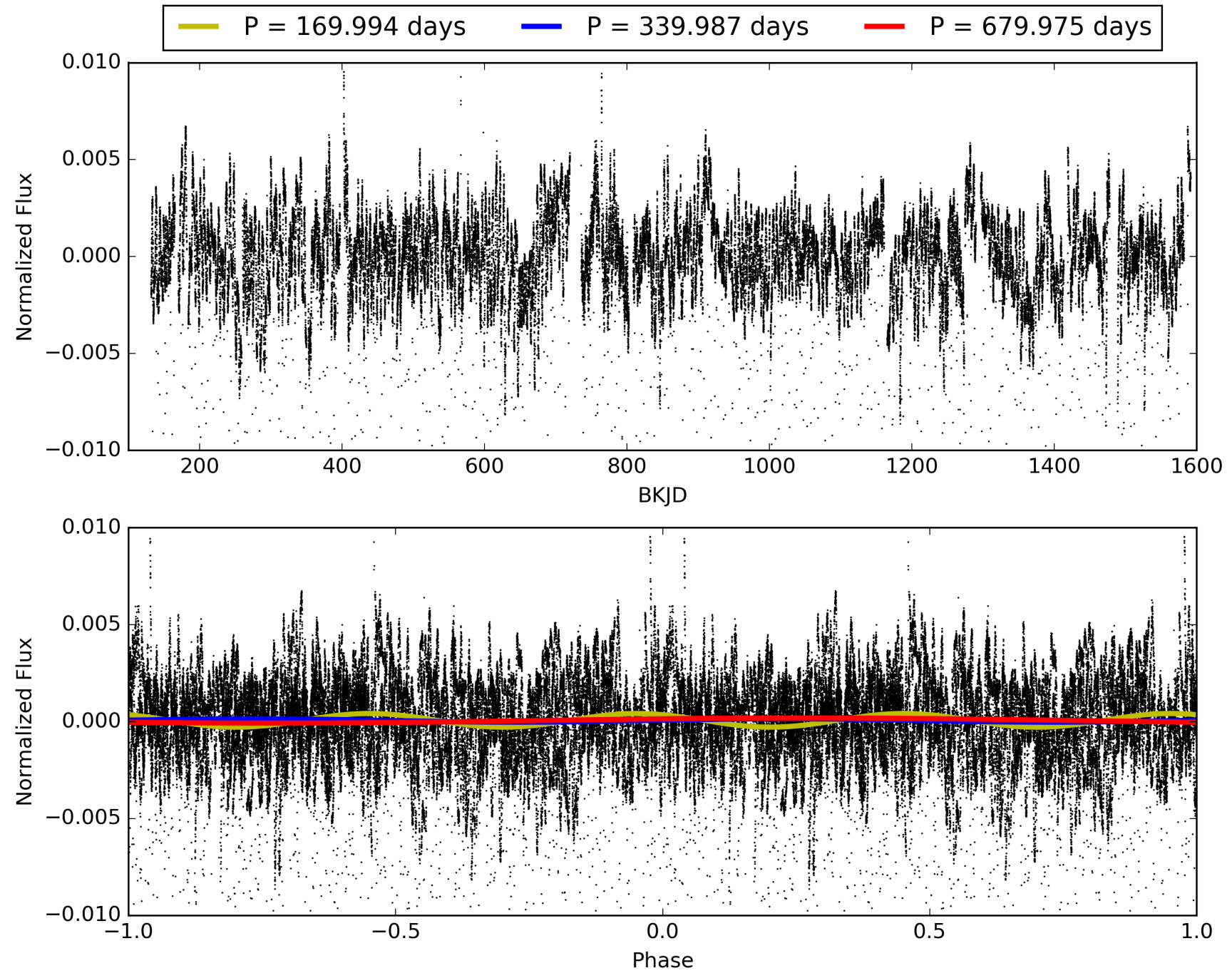
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:25:02 Z

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

TCE 009873869-03, PDC Light Curves

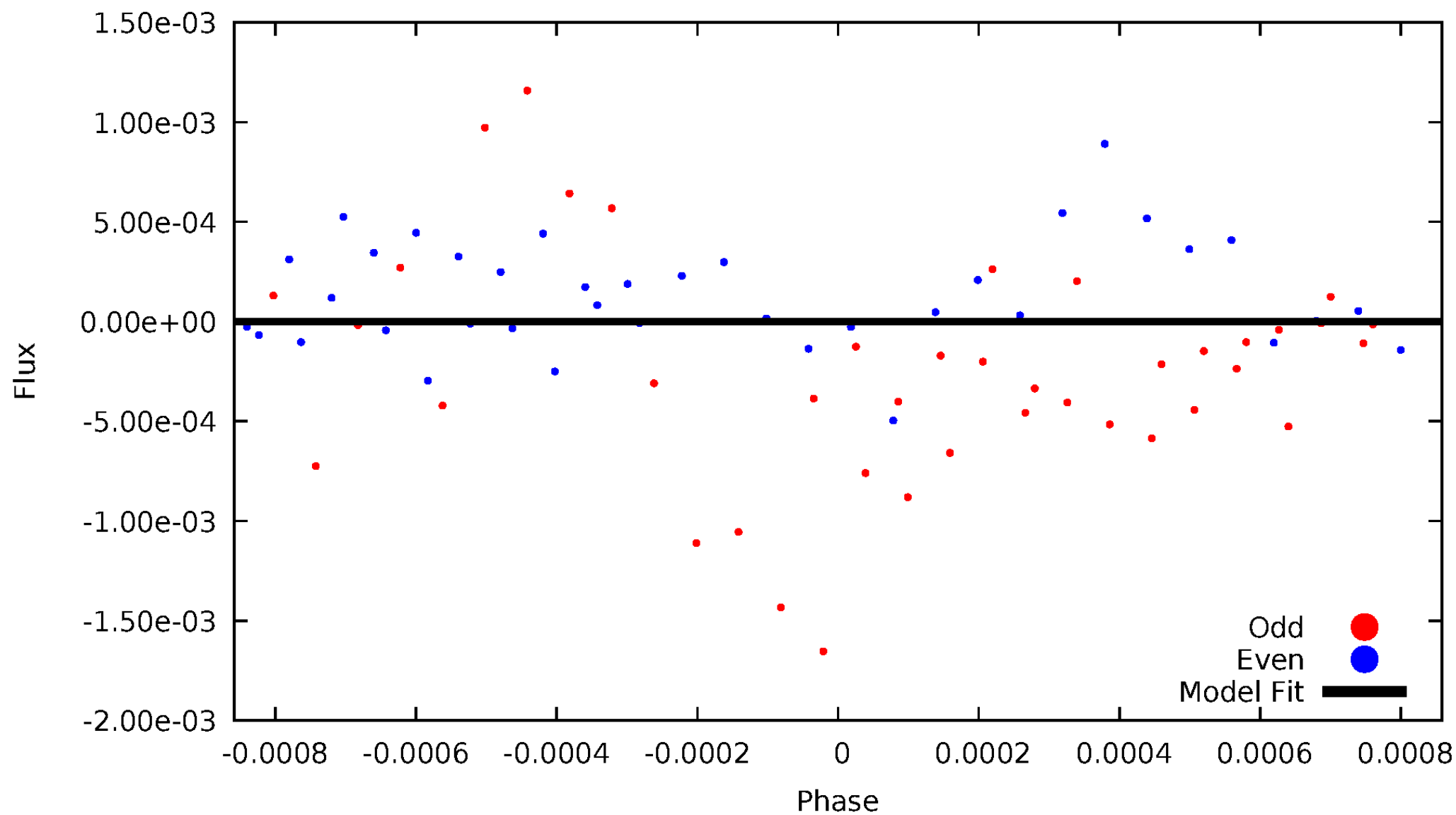


TCE 009873869-03



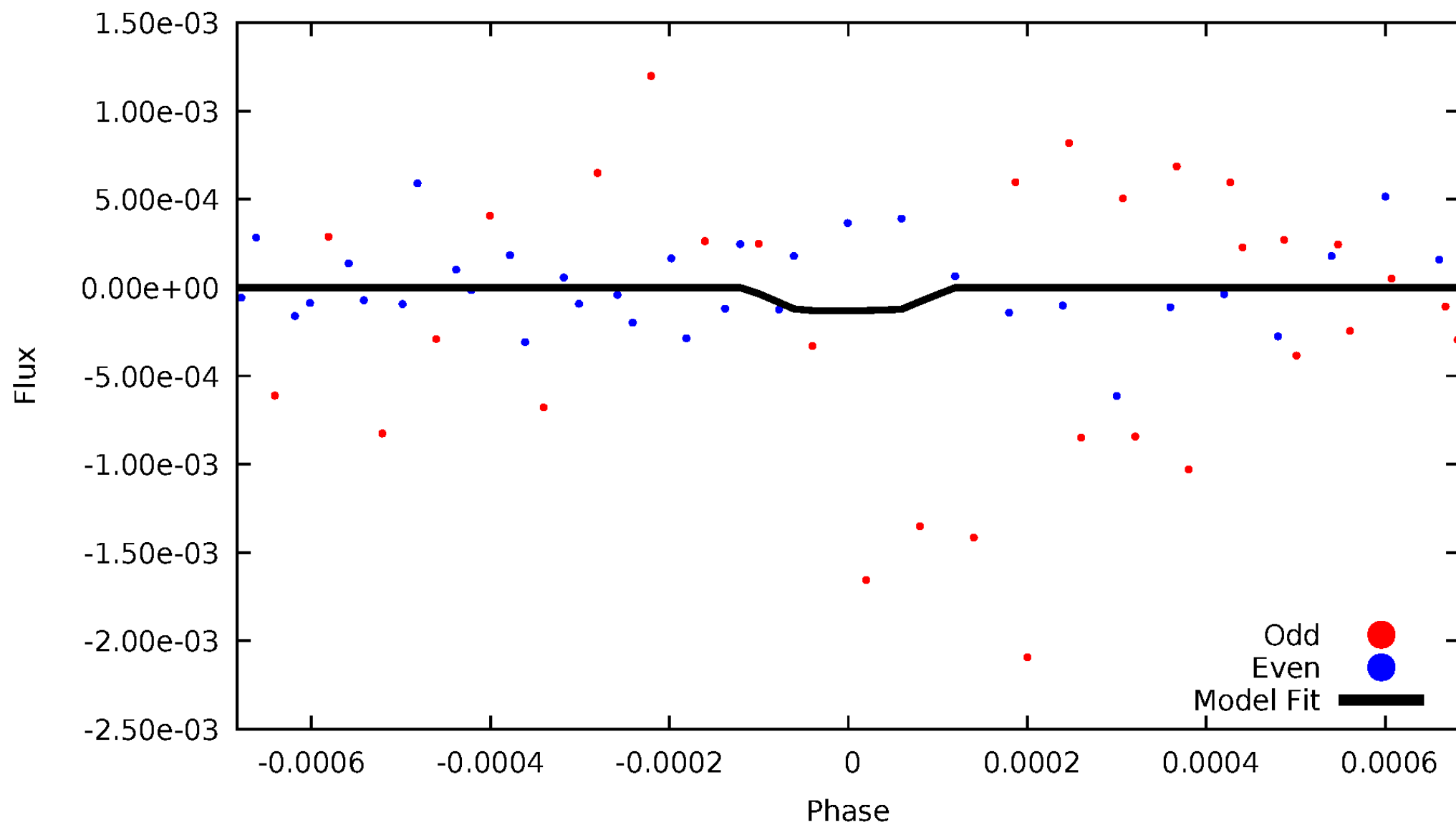
DV Odd/Even

TCE 009873869-03

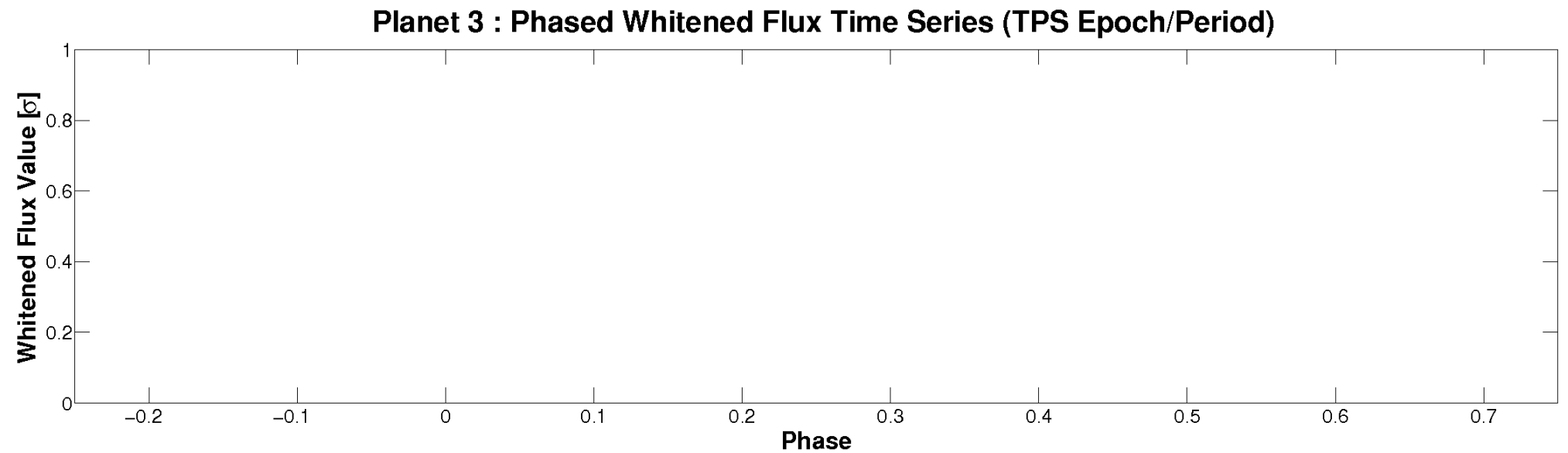
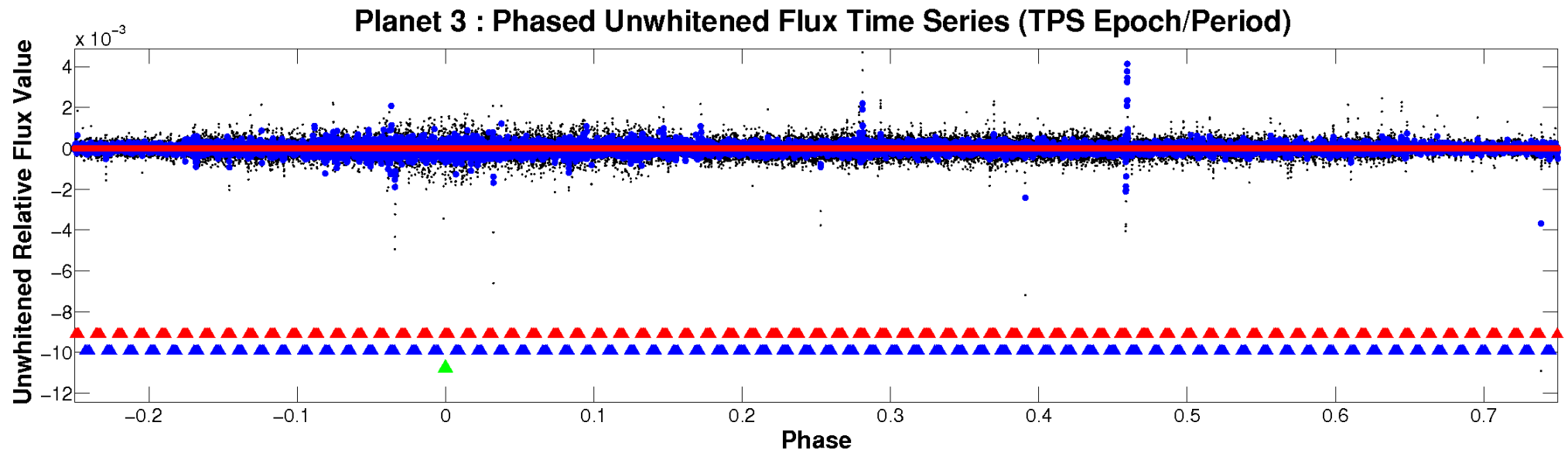


ALT Odd/Even

TCE 009873869-03

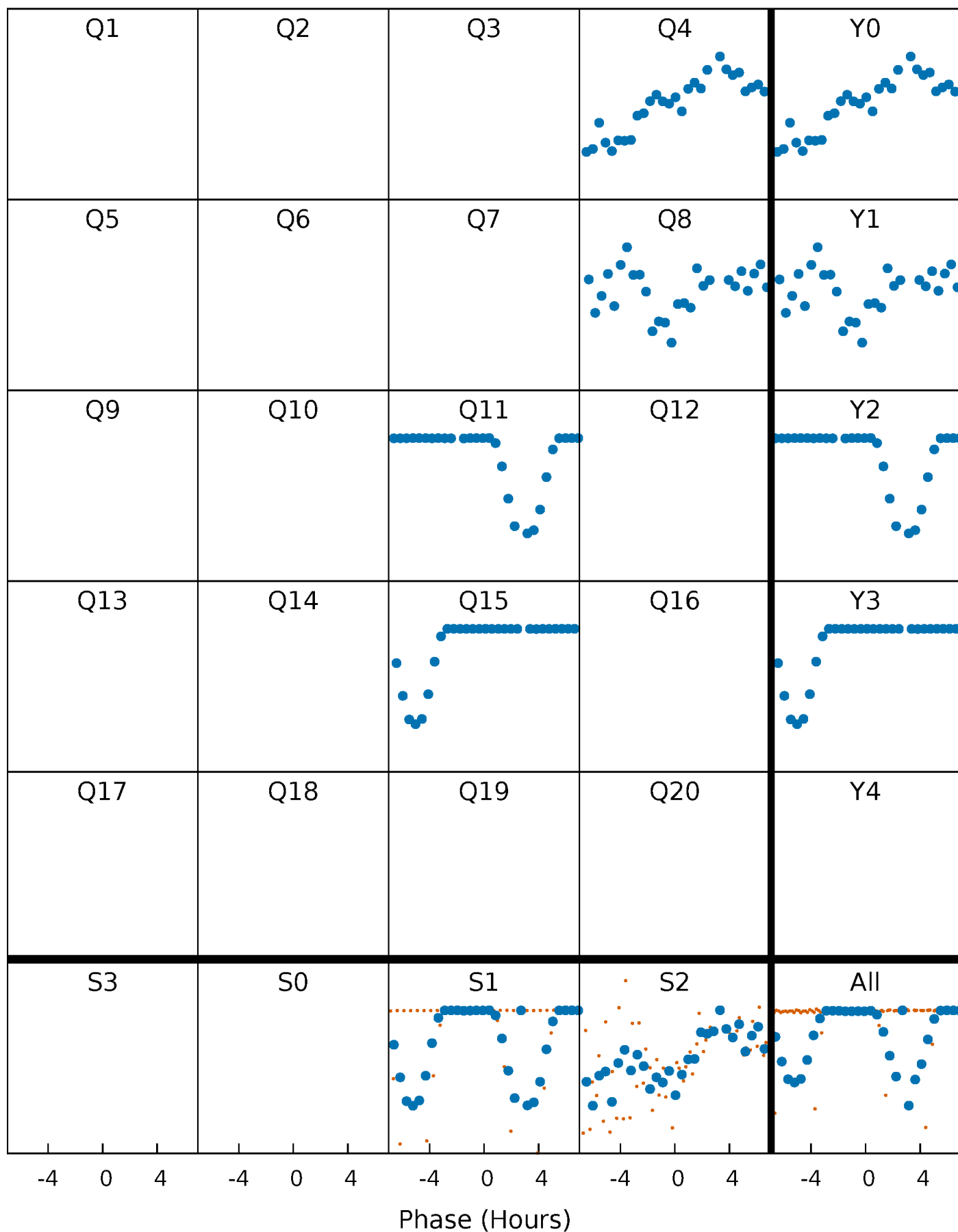


Non-Whitened Vs. Whitened Light Curve



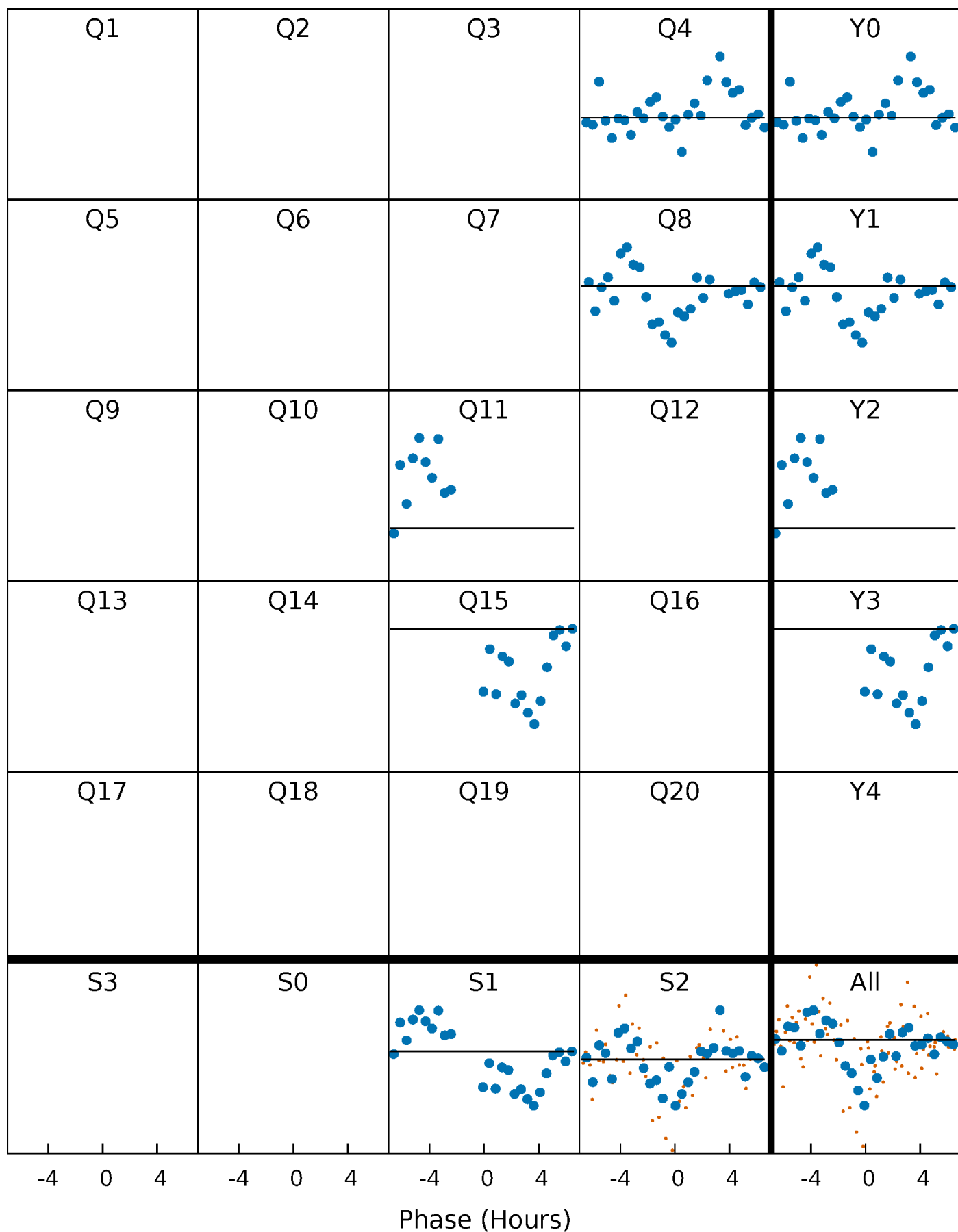
PDC Quarter-Phased Transit Curves

TCE 009873869-03 $P=339.987408$ Days $T_0=410.074906$ (BKJD)



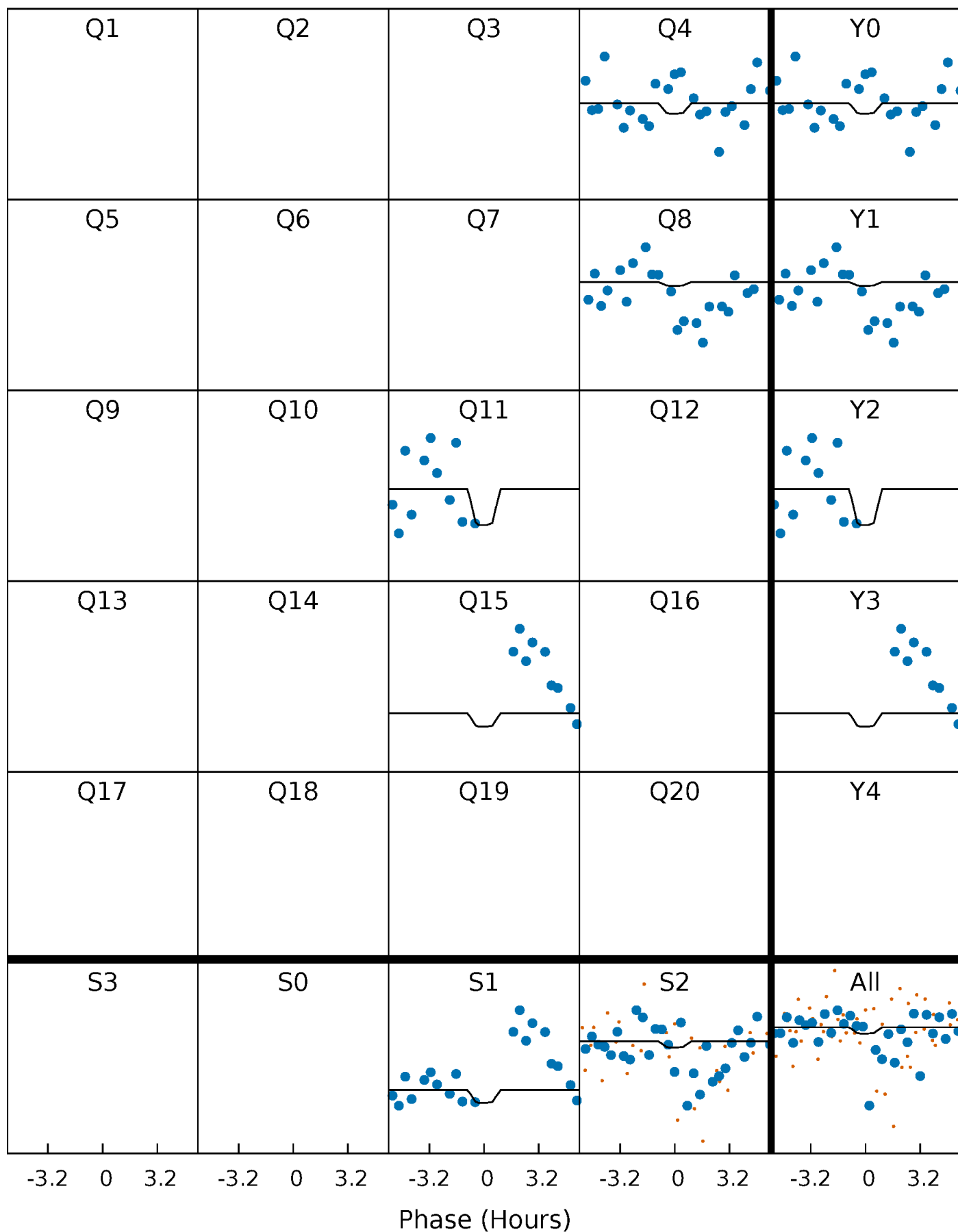
DV Quarter-Phased Transit Curves

TCE 009873869-03 $P=339.987408$ Days $T_0=410.074906$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

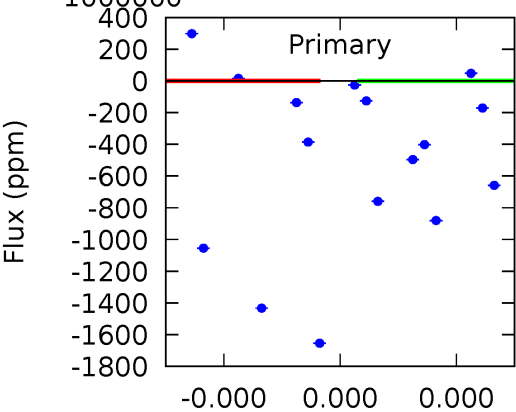
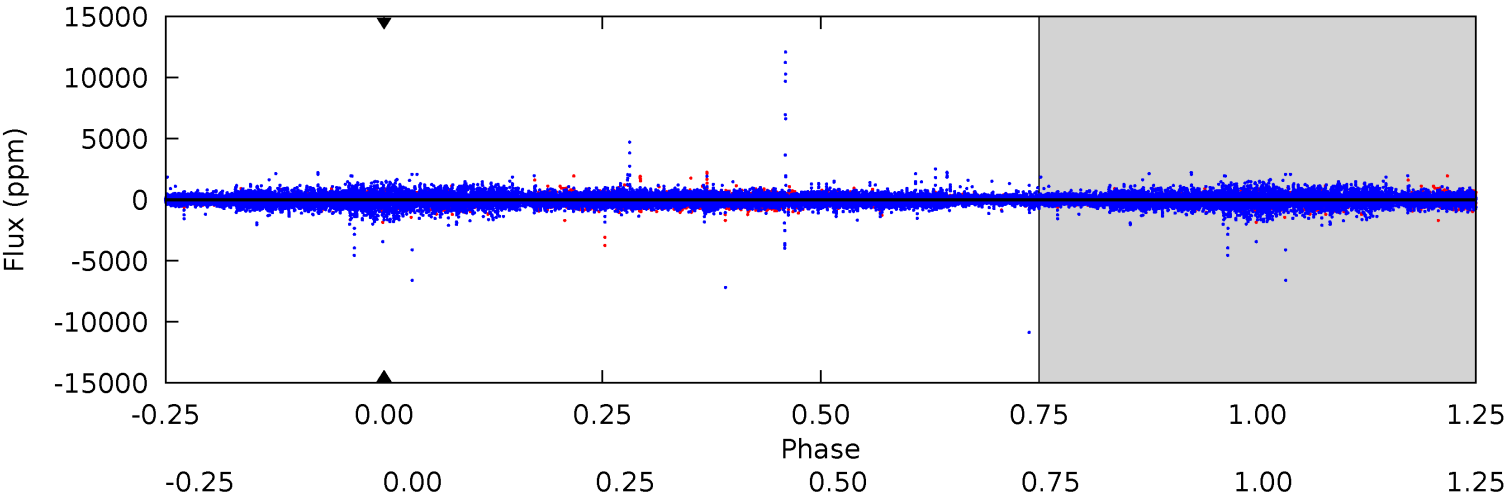
TCE 009873869-03 P=339.987408 Days $T_0=409.999638$ (BKJD)



DV Model-Shift Uniqueness Test

009873869-03, P = 339.987408 Days, E = 70.087498 Days

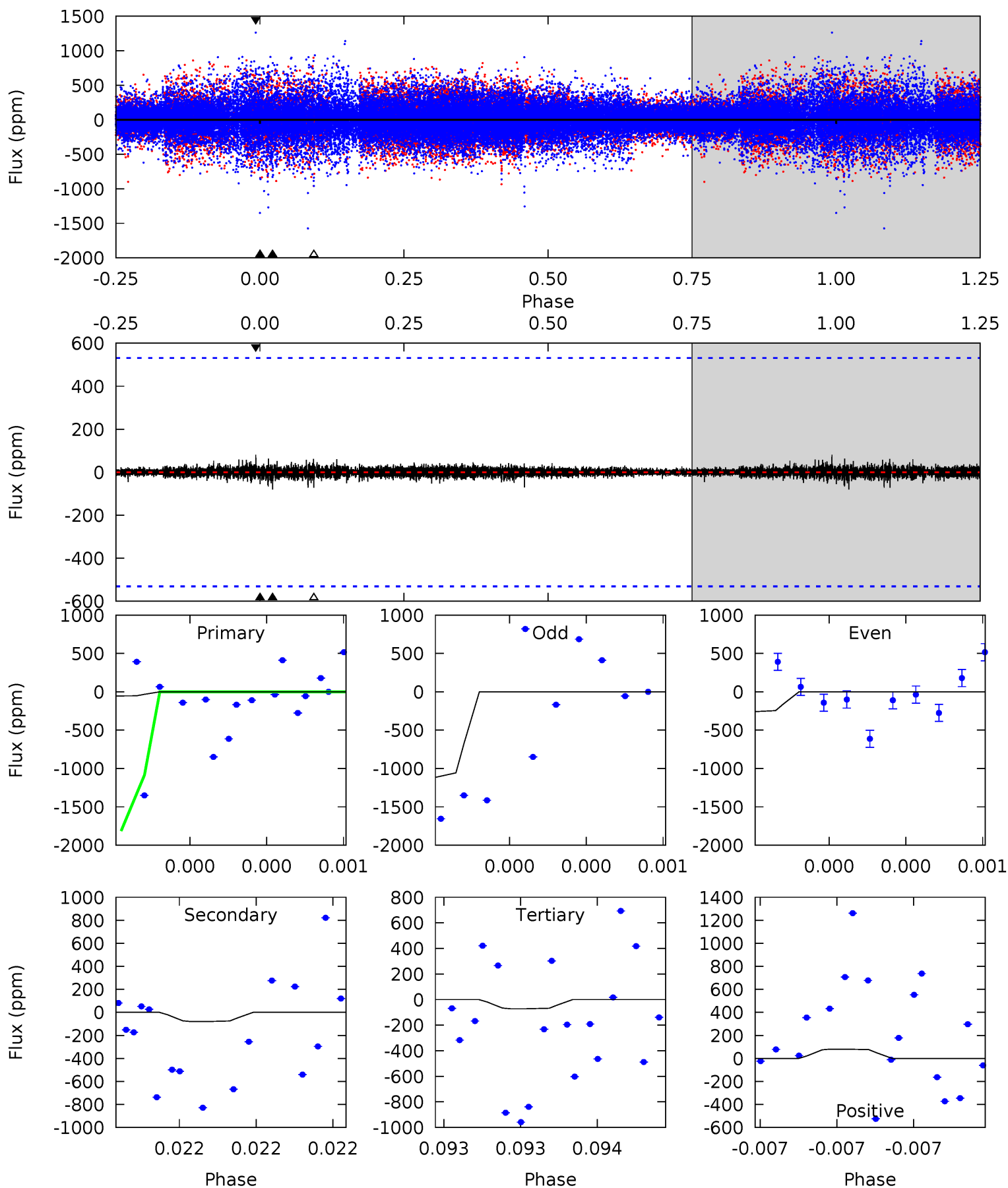
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009873869-03, P = 339.987408 Days, E = 70.012230 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.60	0.86	0.78	0.87	5.73	3.72	0.12	-0.18	-0.28	0.08	-0.01	4.68	1.00	0.50	9.05



Stellar Parameters For KIC 009873869

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6253^{+169}_{-188}	$4.271^{+0.185}_{-0.185}$	$-0.460^{+0.300}_{-0.300}$	$1.181^{+0.349}_{-0.232}$	$0.950^{+0.148}_{-0.098}$	$0.813^{+0.756}_{-0.388}$
	+3%/-3%	+4%/-4%	+65%/-65%	+30%/-20%	+16%/-10%	+93%/-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 009873869-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$10.36^{+9.95}_{-7.28}$	430^{+34}_{-29}	-4570^{+27773}_{-20258}	$-6673.877^{+806843.656}_{-795956.754}$
Alt.	-80 ± 93	$9.12^{+9.87}_{-6.07}$	432^{+37}_{-30}	2794^{+1283}_{-4633}	334^{+3584}_{-342}

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

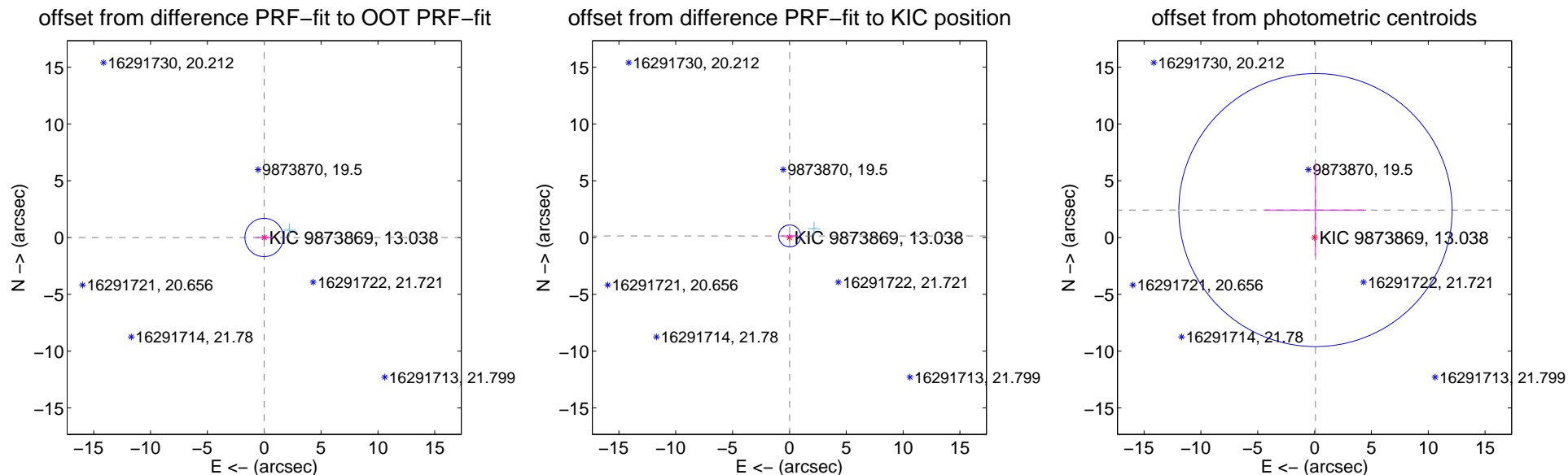
DV Centroid Data

Supplemental centroid analysis for 009873869-03. Kepler magnitude: 13.04. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

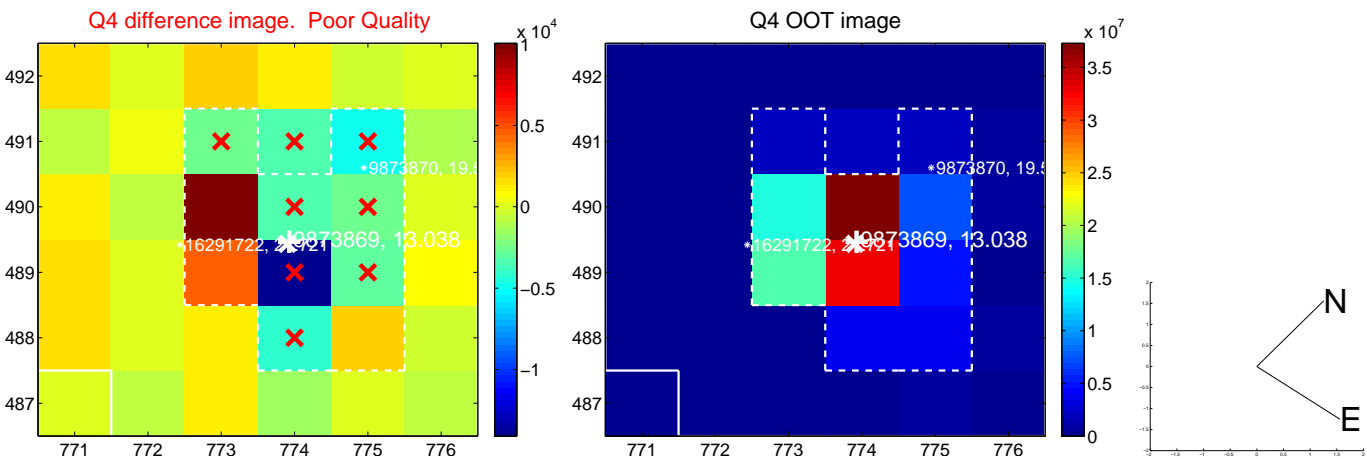
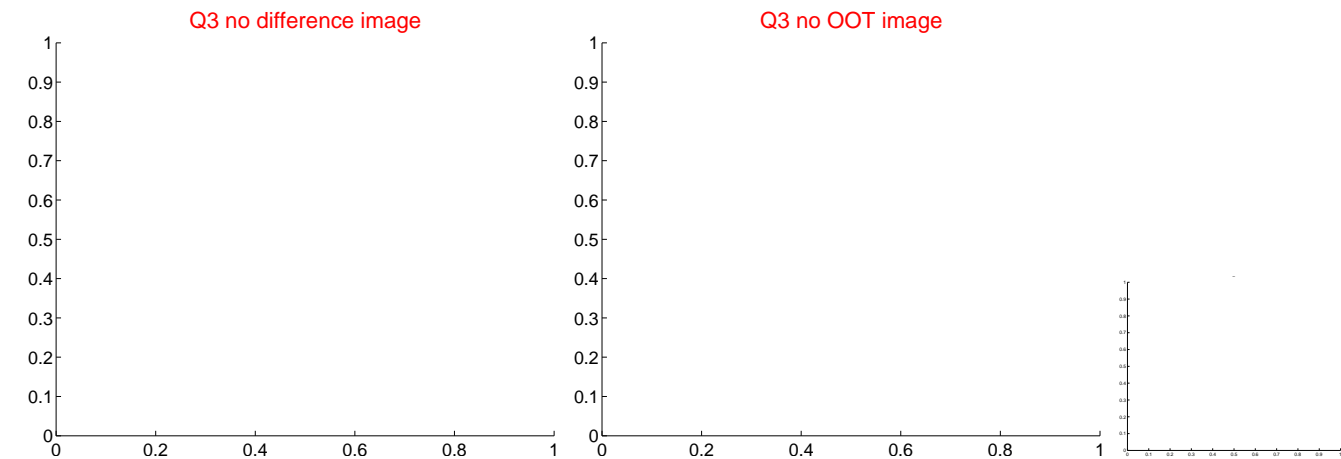
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.562	0.03	0.013 ± 0.781	0.007 ± 0.236
PRF-fit source offset from KIC position	0.145 ± 0.322	0.45	-0.022 ± 0.722	0.143 ± 0.219
photometric centroid source offset	2.42 ± 4.01	0.60	-0.08 ± 4.44	2.42 ± 4.01

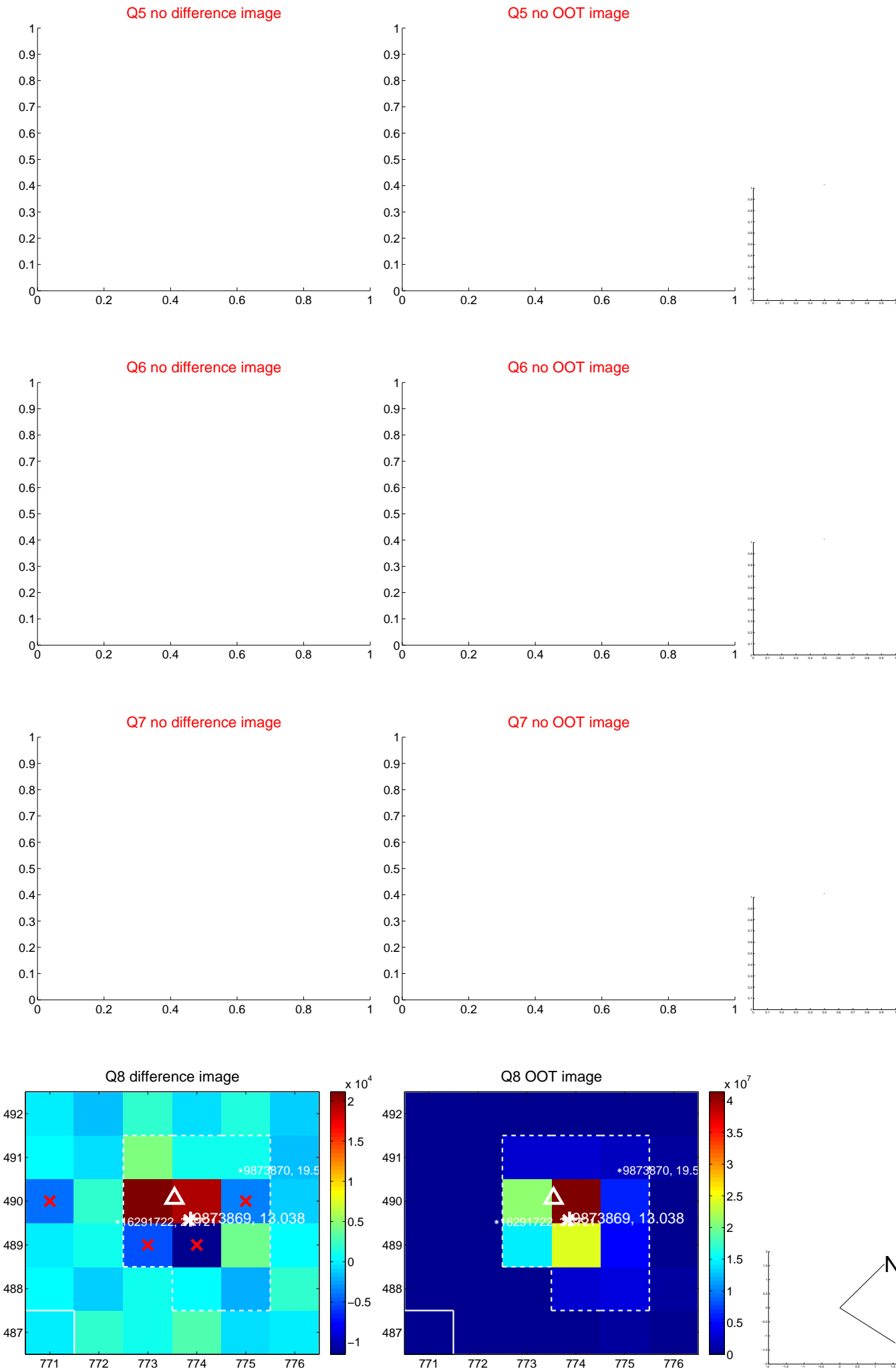


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

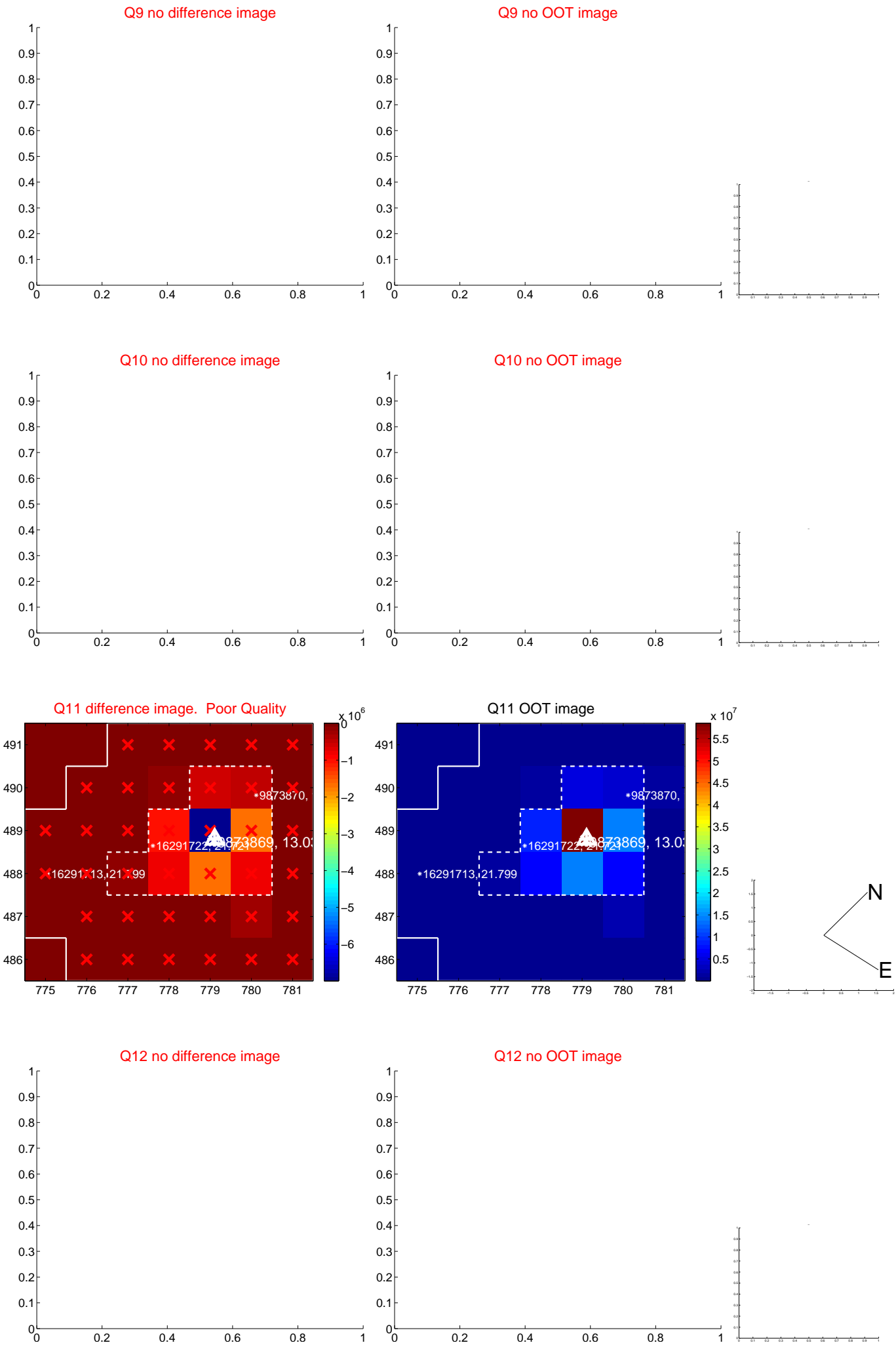
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



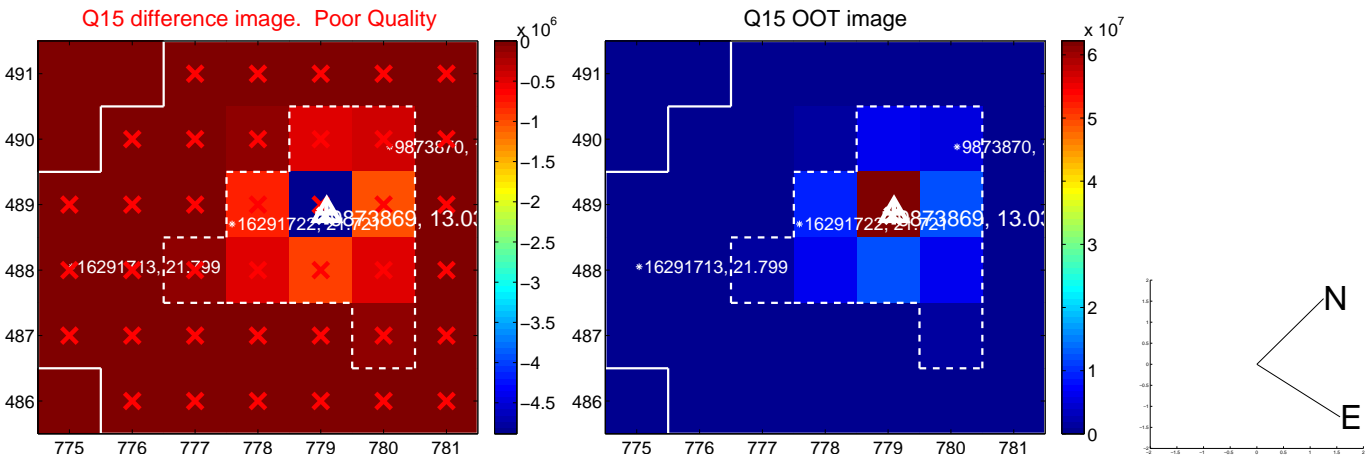
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



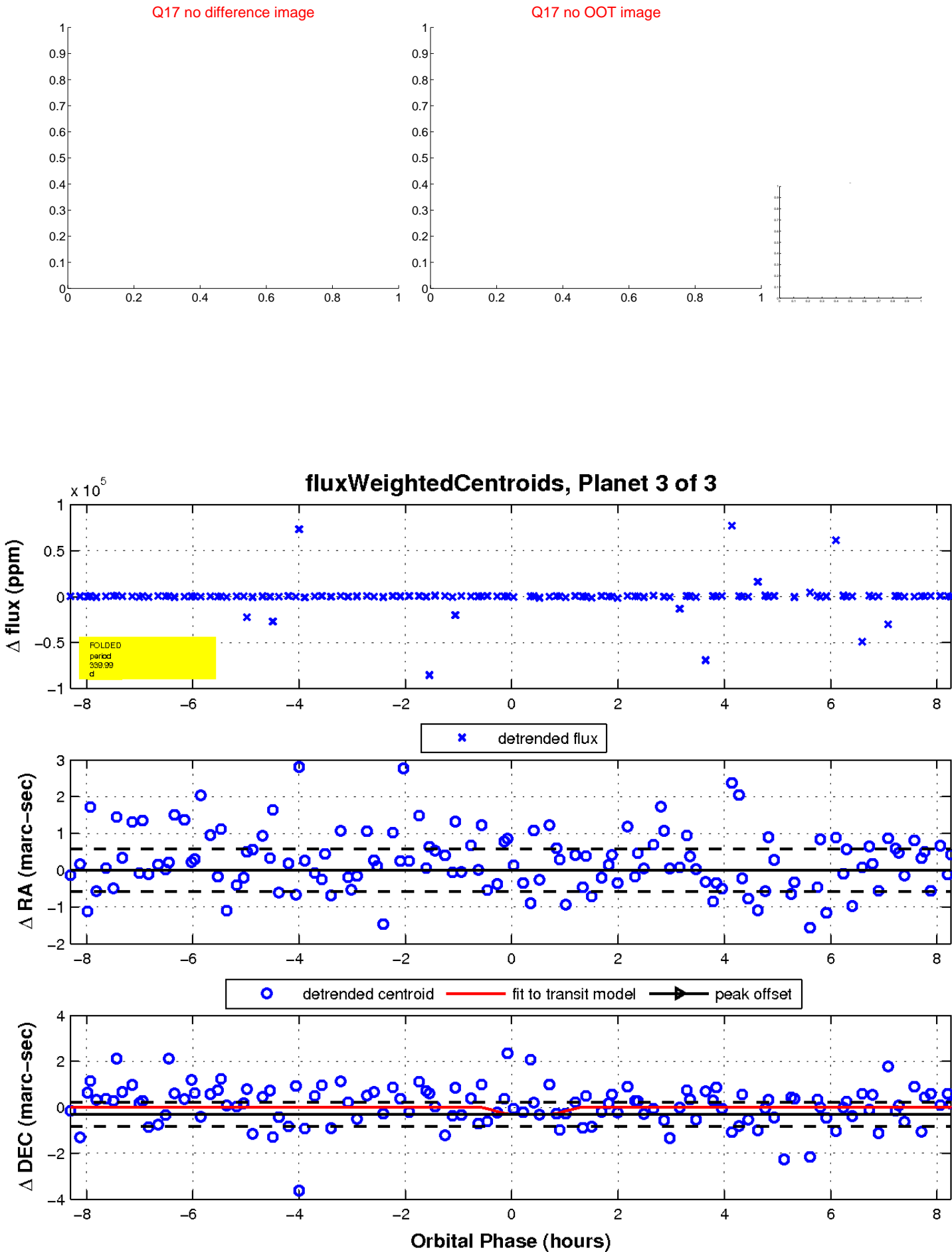
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

