

KIC 005986209

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})
005986209-01	OBS	3476.01	23.738012	132.037036	379160.1	2.500	7395.9	-1.0	1.00	5559	54.56	35.02
005986209-02	OBS	No	23.737943	147.007181	96104.1	8.505	2259.2	1678.2	1.00	5559	45.84	35.02
005986209-03	OBS	No	4.747712	132.024437	69.6	9.170	515.9	4.5	1.00	5559	0.91	299.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005986209-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
005986209-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
005986209-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—RESIDUAL_TCE—CENT_FEW_DIFFS

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.

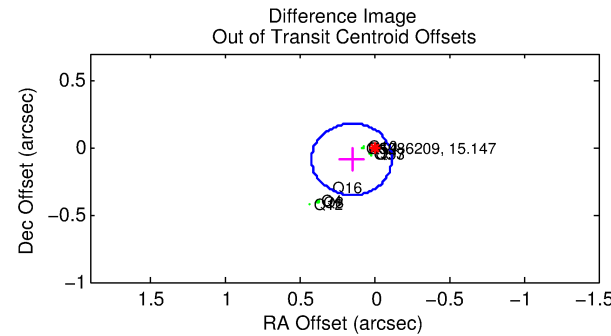
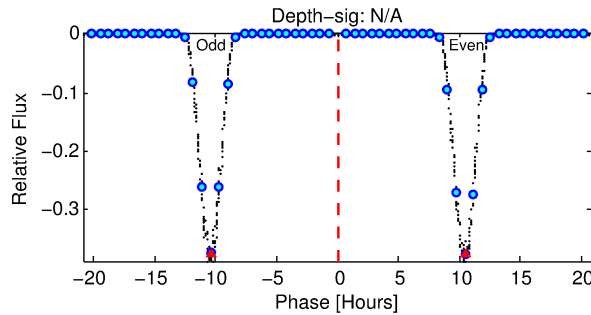
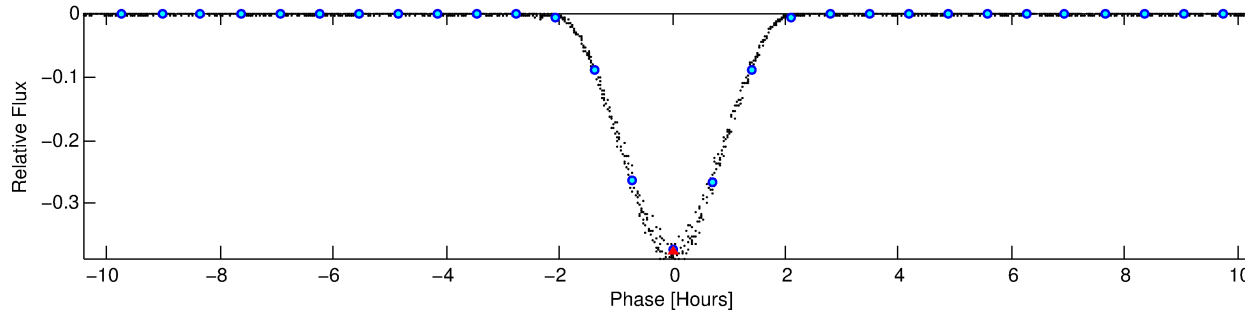
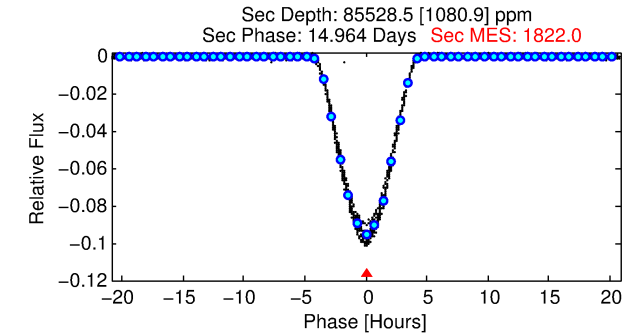
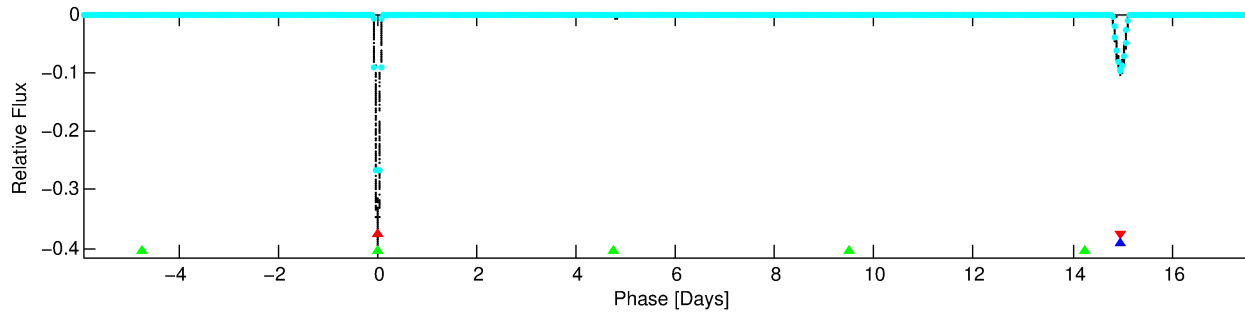
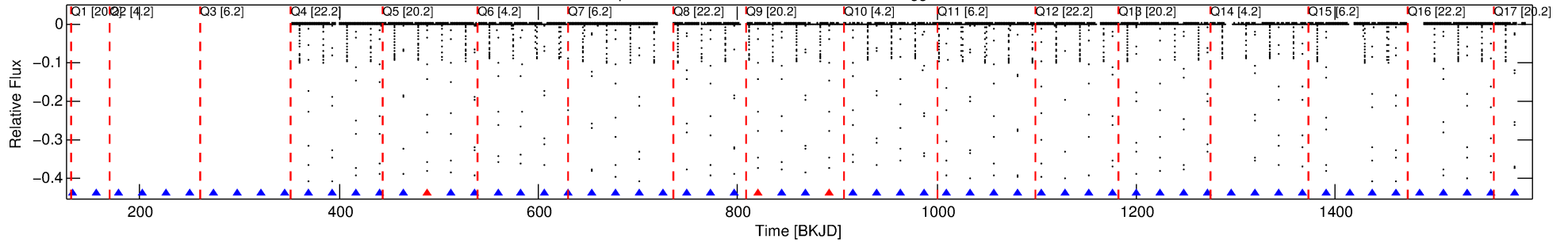
Ephemeris Match Information For 005986209-01

No Significant Match Found

DV One-Page Summary

KIC: 5986209 Candidate: 1 of 3 Period: 23.738 d
KOI: K03476 Corr: No Ephemeris Match

Kp: 15.15 R*: 1.00 Rs Teff: 5559.0 K Logg: 4.39 Fe/H: 0.040



TPS TCE Results:

Period = 23.73801 d
Epoch = 132.0370 BKJD

DV fit results are unavailable

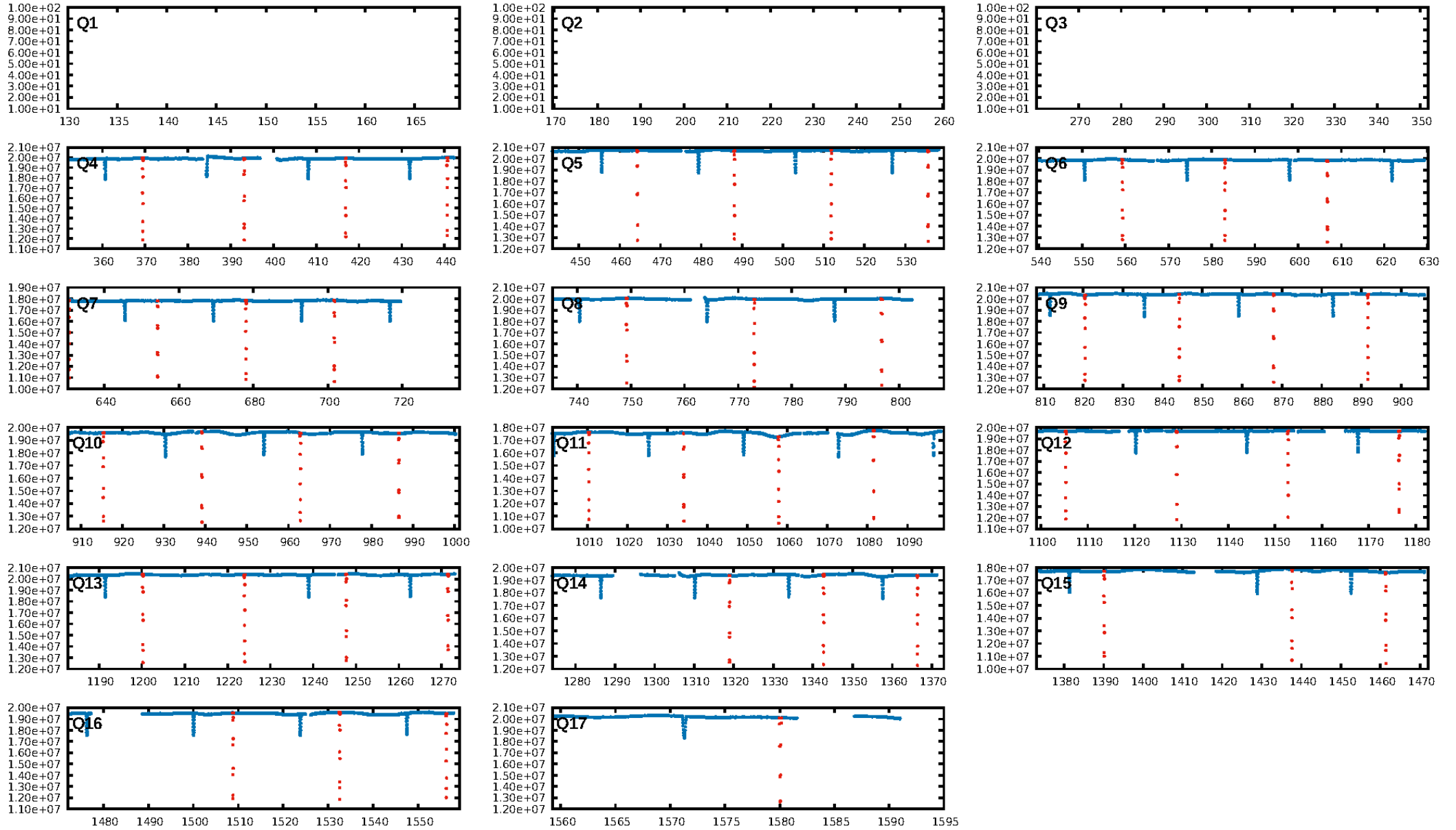
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [44/47]
GhostDiagnostic-chr: 6.222
Centroid-sig: N/A
Centroid-so: 1.037 arcsec [640.05σ]
OotOffset-rm: 0.173 arcsec [1.94σ]
KicOffset-rm: 0.038 arcsec [0.56σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

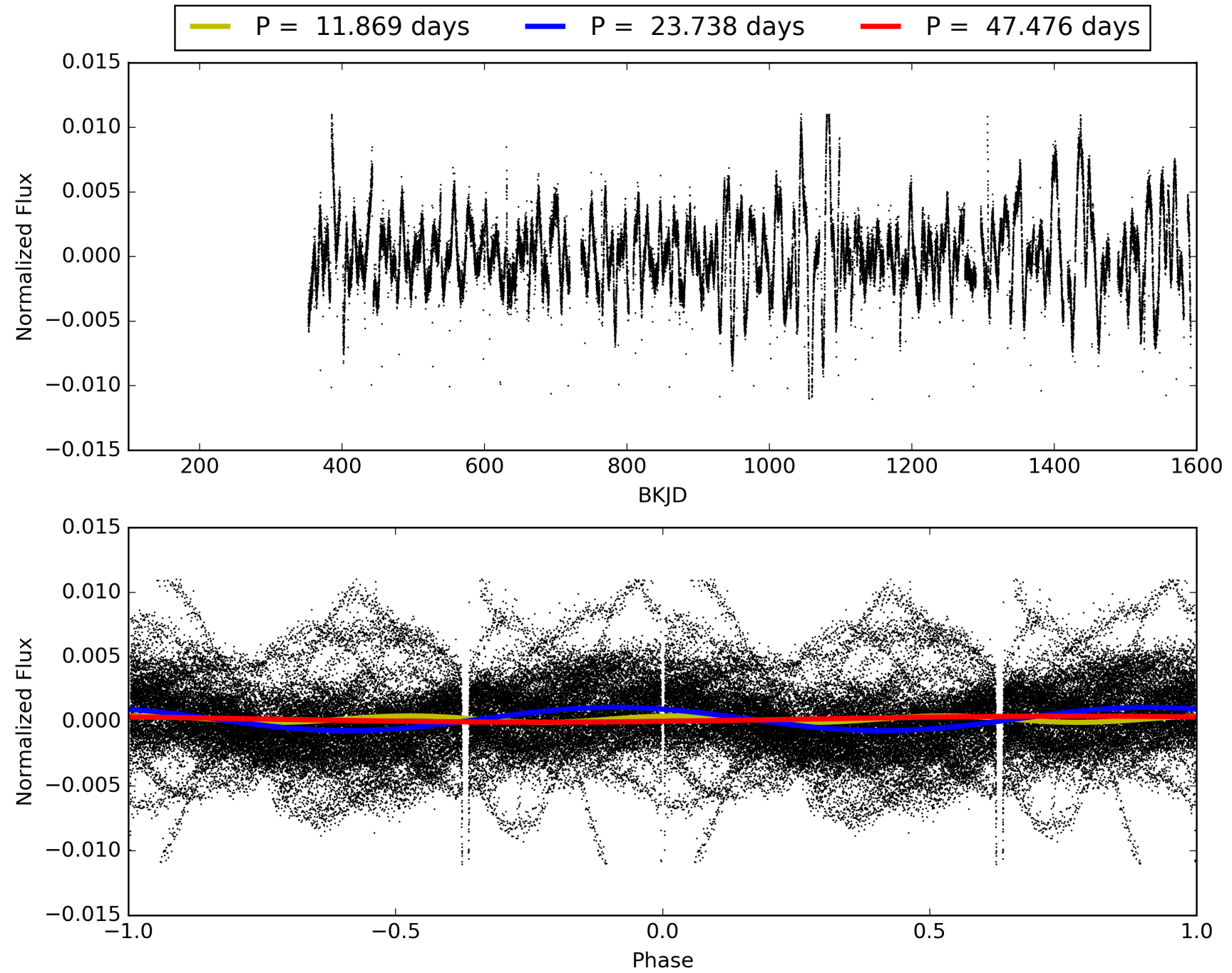
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:23:27 Z

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

TCE 005986209-01, PDC Light Curves

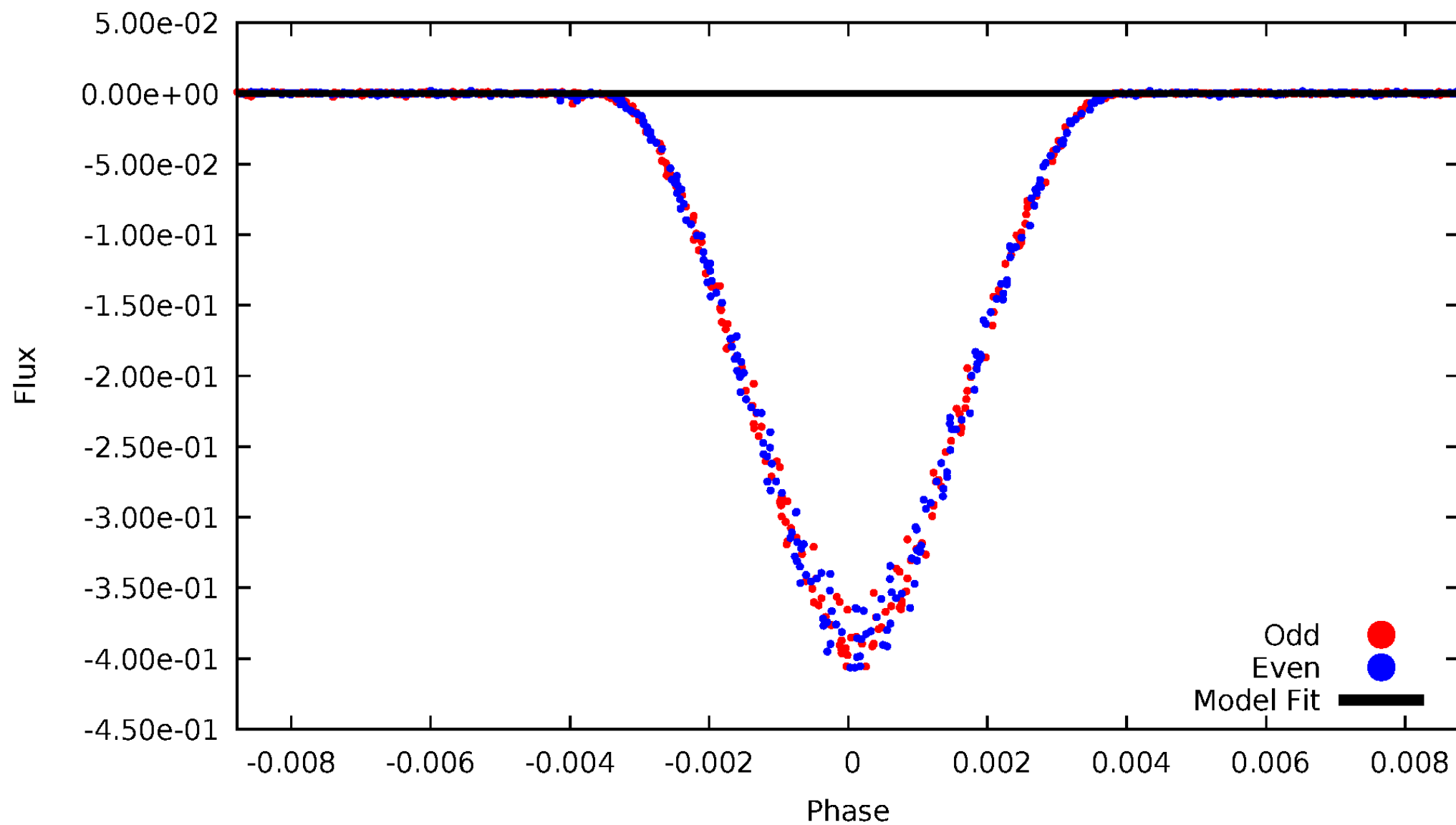


TCE 005986209-01



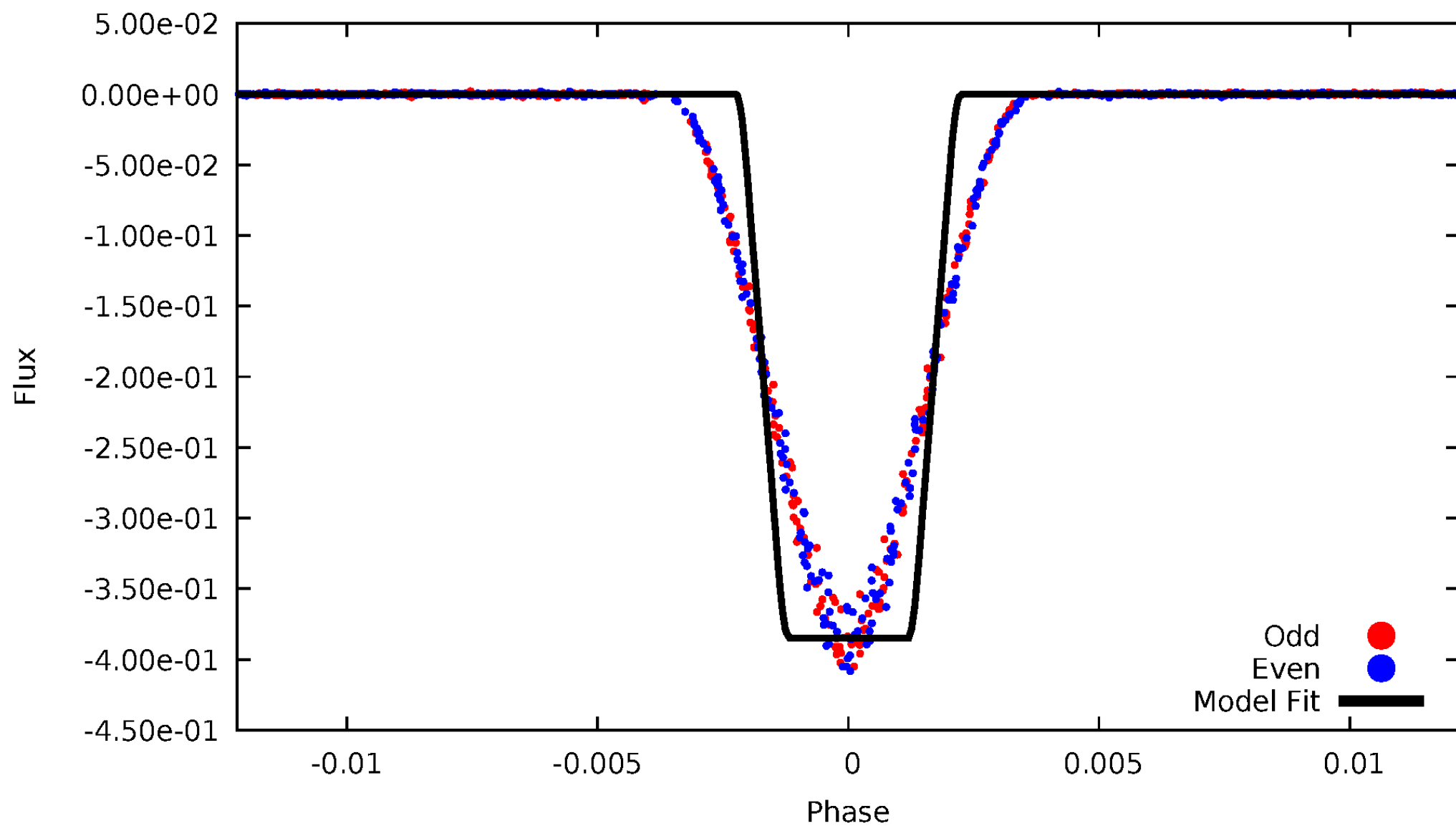
DV Odd/Even

TCE 005986209-01



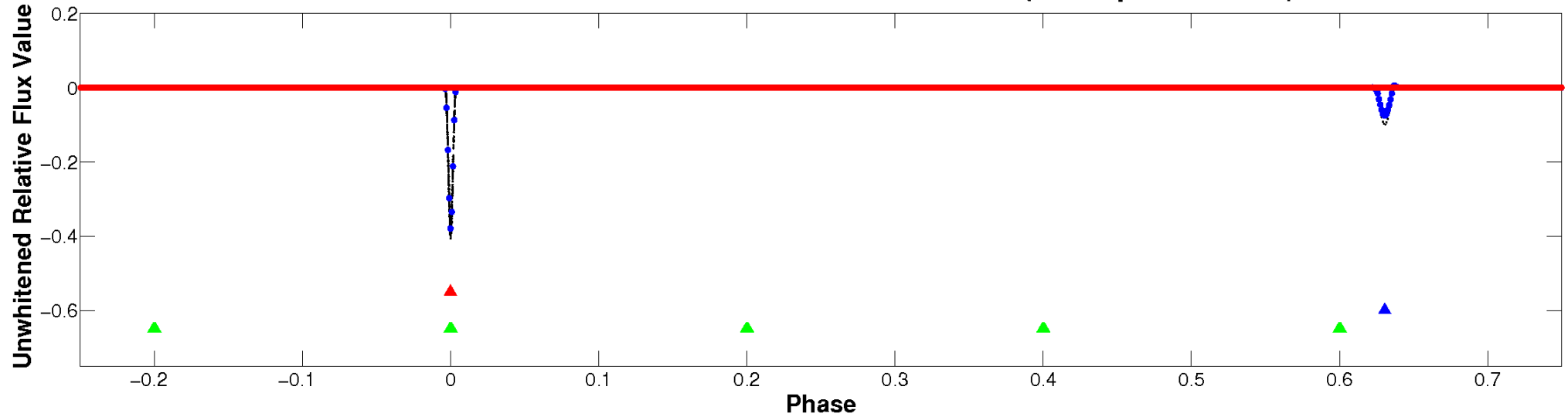
ALT Odd/Even

TCE 005986209-01

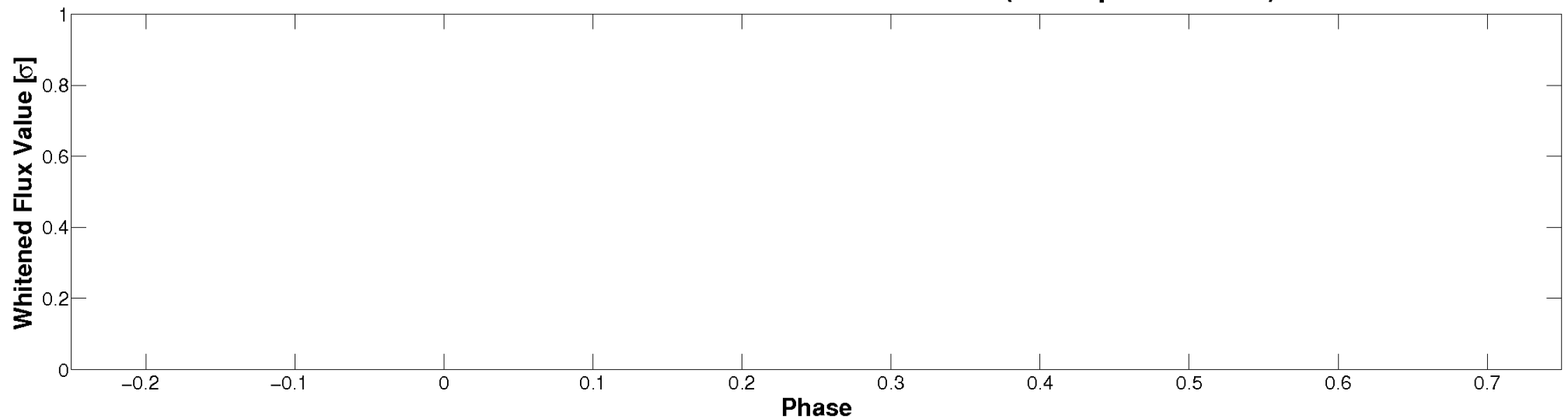


Non-Whitened Vs. Whitened Light Curve

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

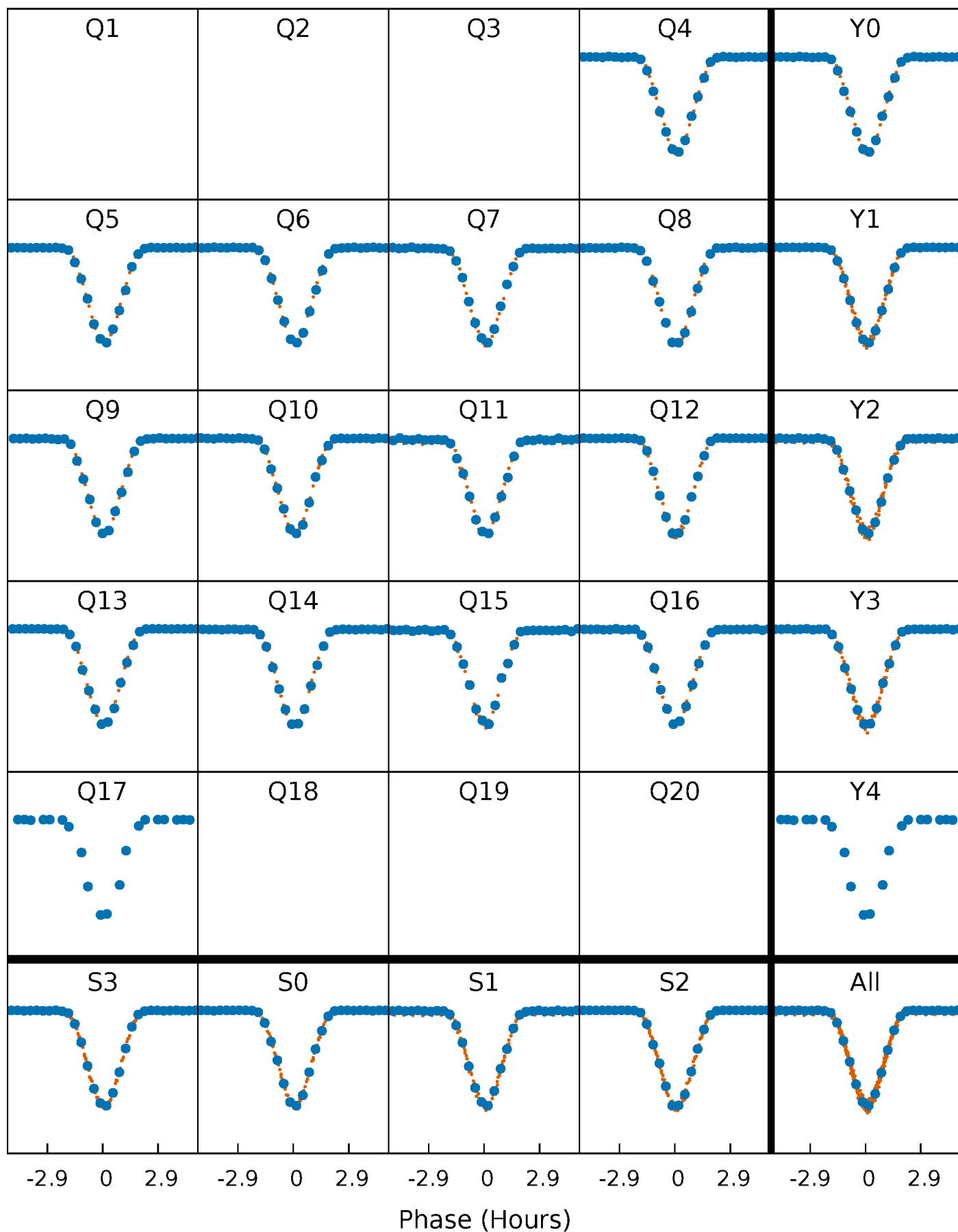


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



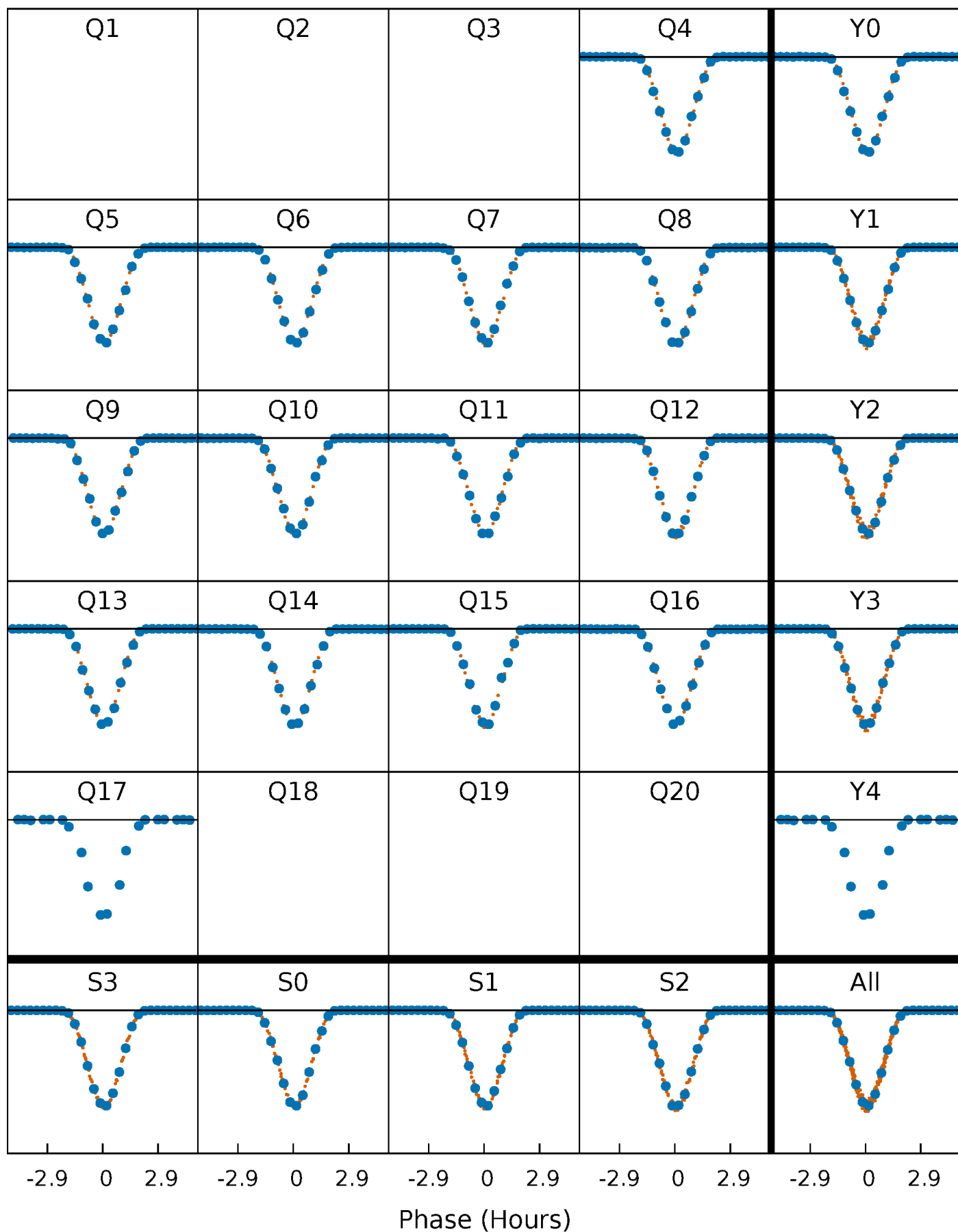
PDC Quarter-Phased Transit Curves

TCE 005986209-01 P= 23.738012 Days $T_0=132.037036$ (BKJD)



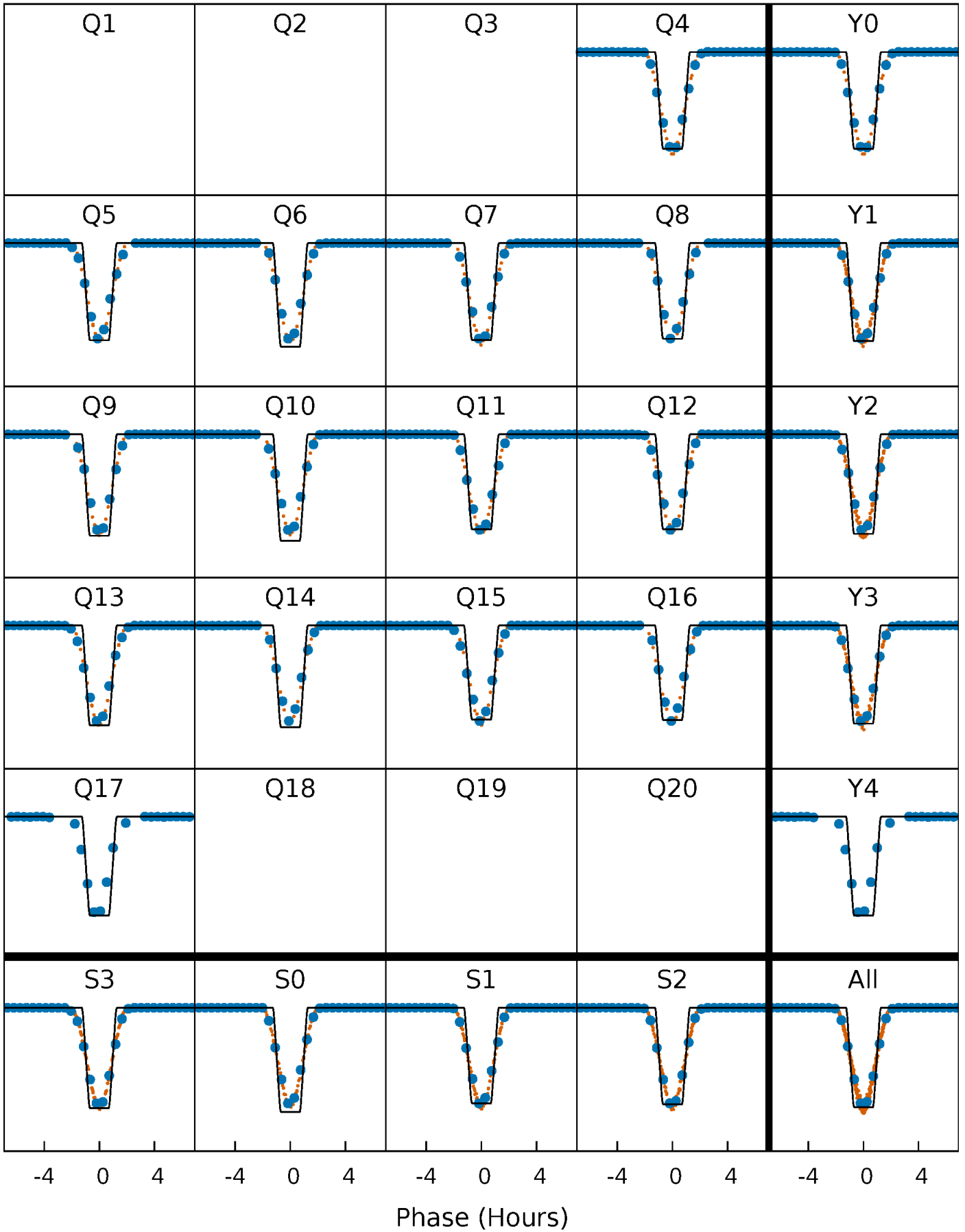
DV Quarter-Phased Transit Curves

TCE 005986209-01 P= 23.738012 Days $T_0=132.037036$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

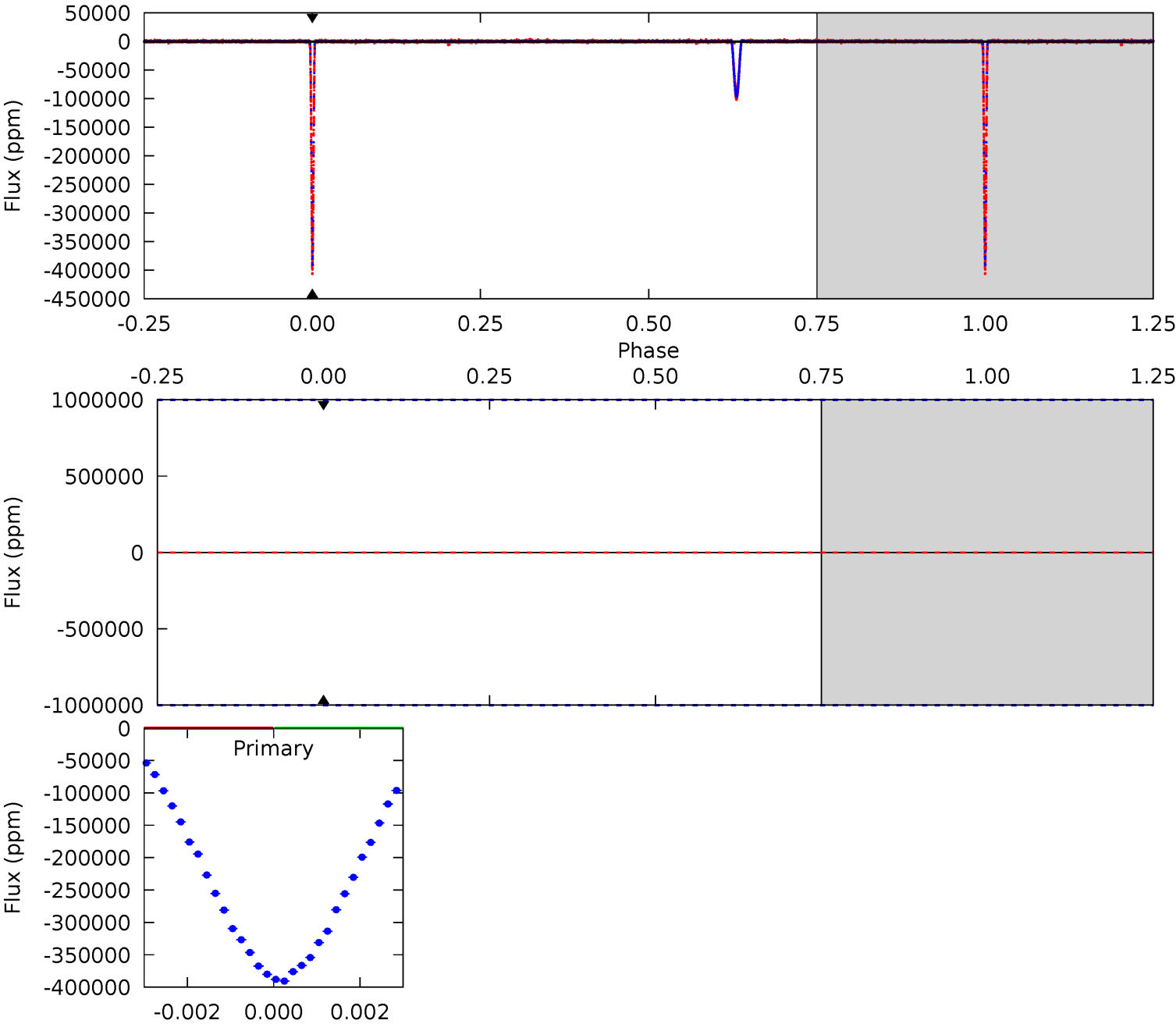
TCE 005986209-01 P= 23.738012 Days $T_0=132.040214$ (BKJD)



DV Model-Shift Uniqueness Test

005986209-01, P = 23.738012 Days, E = 132.037036 Days

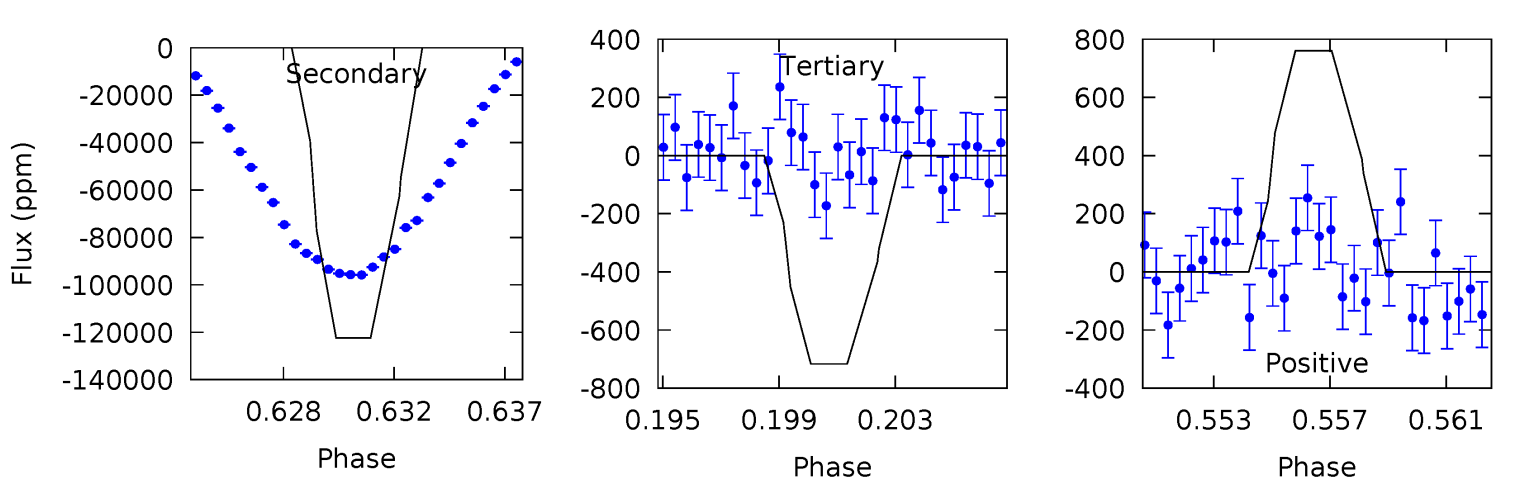
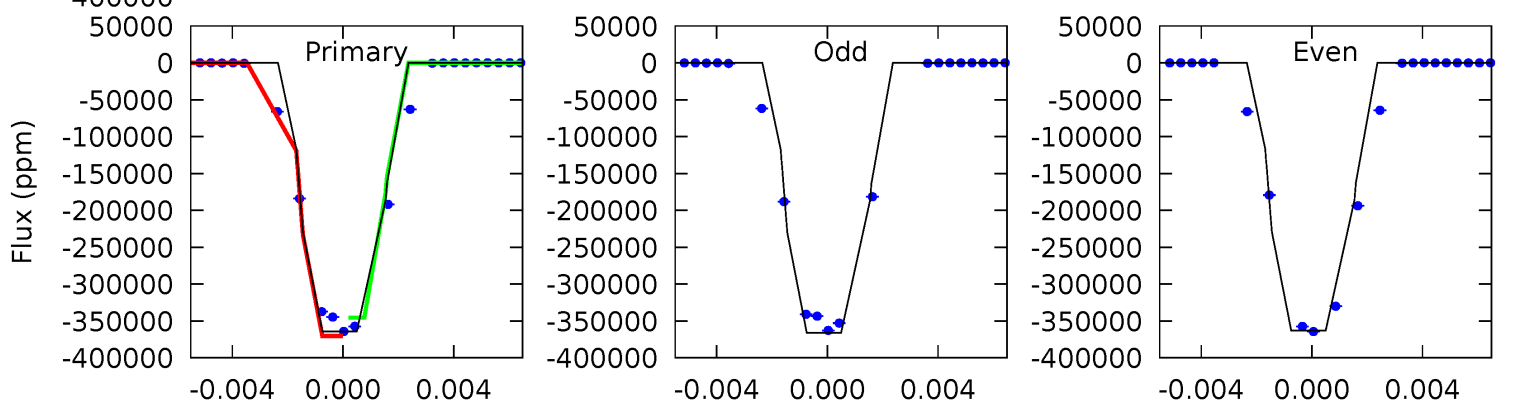
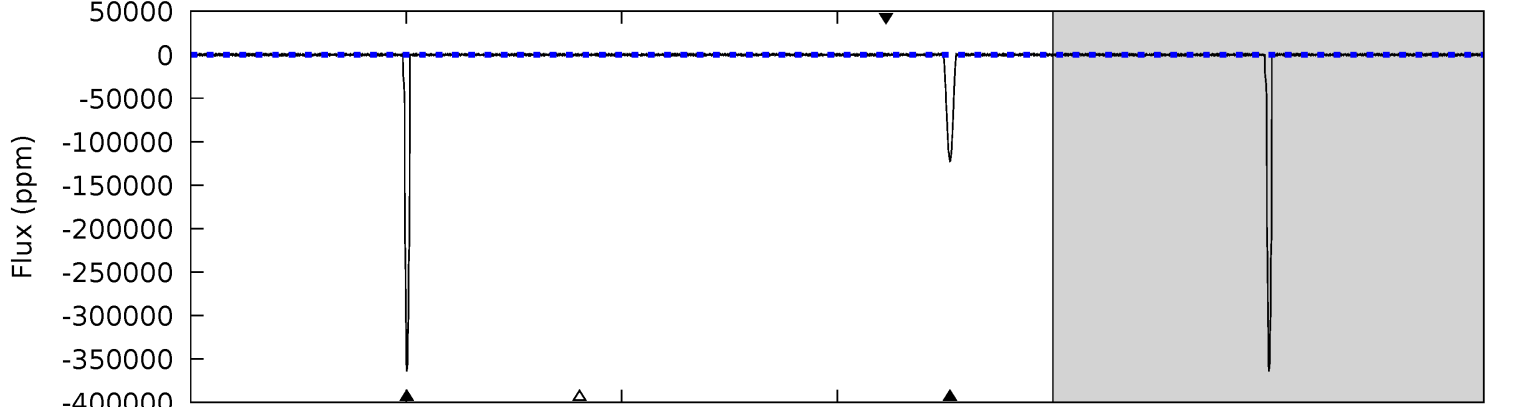
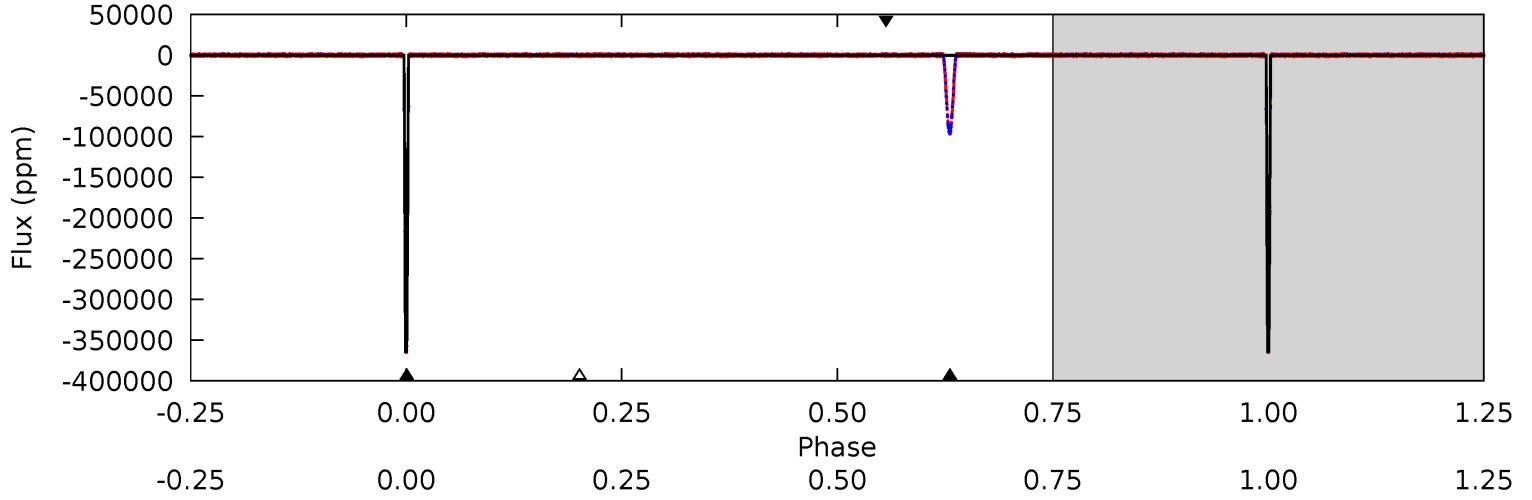
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005986209-01, P = 23.738012 Days, E = 132.040214 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1193	400.9	2.35	2.49	5.18	2.85	4.93	1191	1191	398.5	398.4	4.28	1.00	0.00	0



Stellar Parameters For KIC 005986209

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5559^{+183}_{-183}	$4.394^{+0.139}_{-0.186}$	$0.040^{+0.250}_{-0.300}$	$1.000^{+0.282}_{-0.173}$	$0.903^{+0.115}_{-0.084}$	$1.273^{+0.716}_{-0.618}$
	+3%/-3%	+3%/-4%	+625%/-750%	+28%/-17%	+13%/-9%	+56%/-49%
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 005986209-01 / KOI 3476.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$55.78^{+12.42}_{-12.73}$	869^{+68}_{-49}	2120^{+2648}_{-6667}	$3.043^{+560.941}_{-448.693}$
Alt.	-122406 ± 305	$67.68^{+14.25}_{-12.55}$	872^{+68}_{-55}	4514^{+352}_{-284}	406^{+210}_{-124}

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 $A_{obs} \gg 1.0$

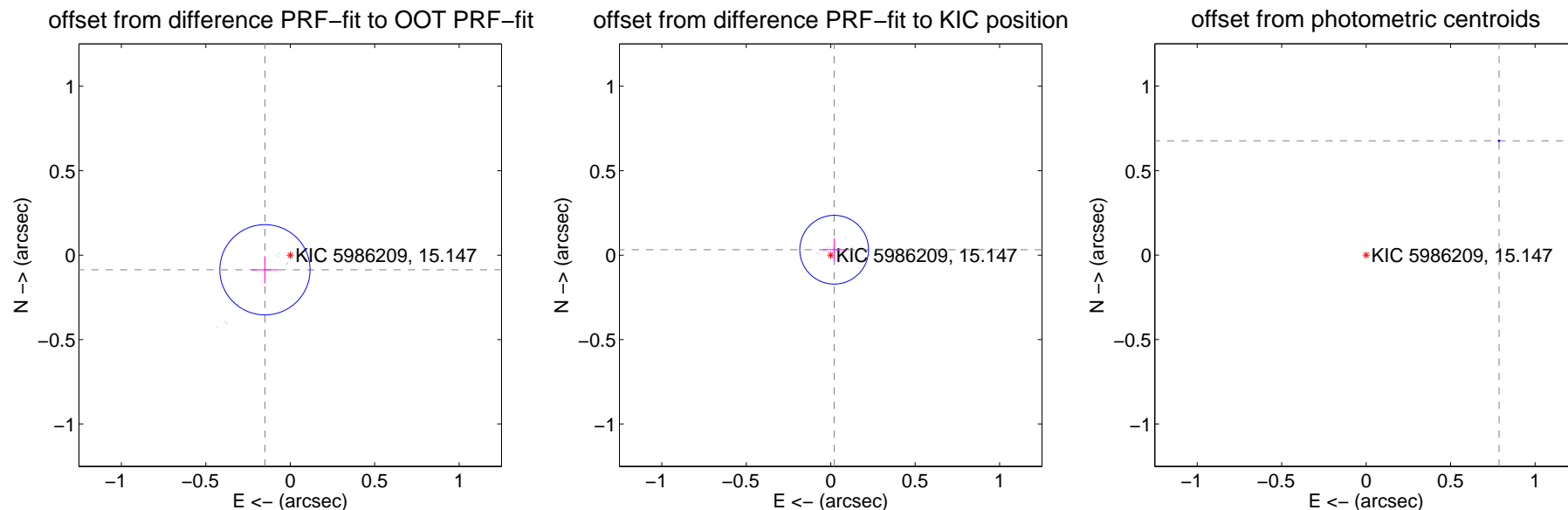
DV Centroid Data

Supplemental centroid analysis for 005986209-01. Kepler magnitude: 15.15. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

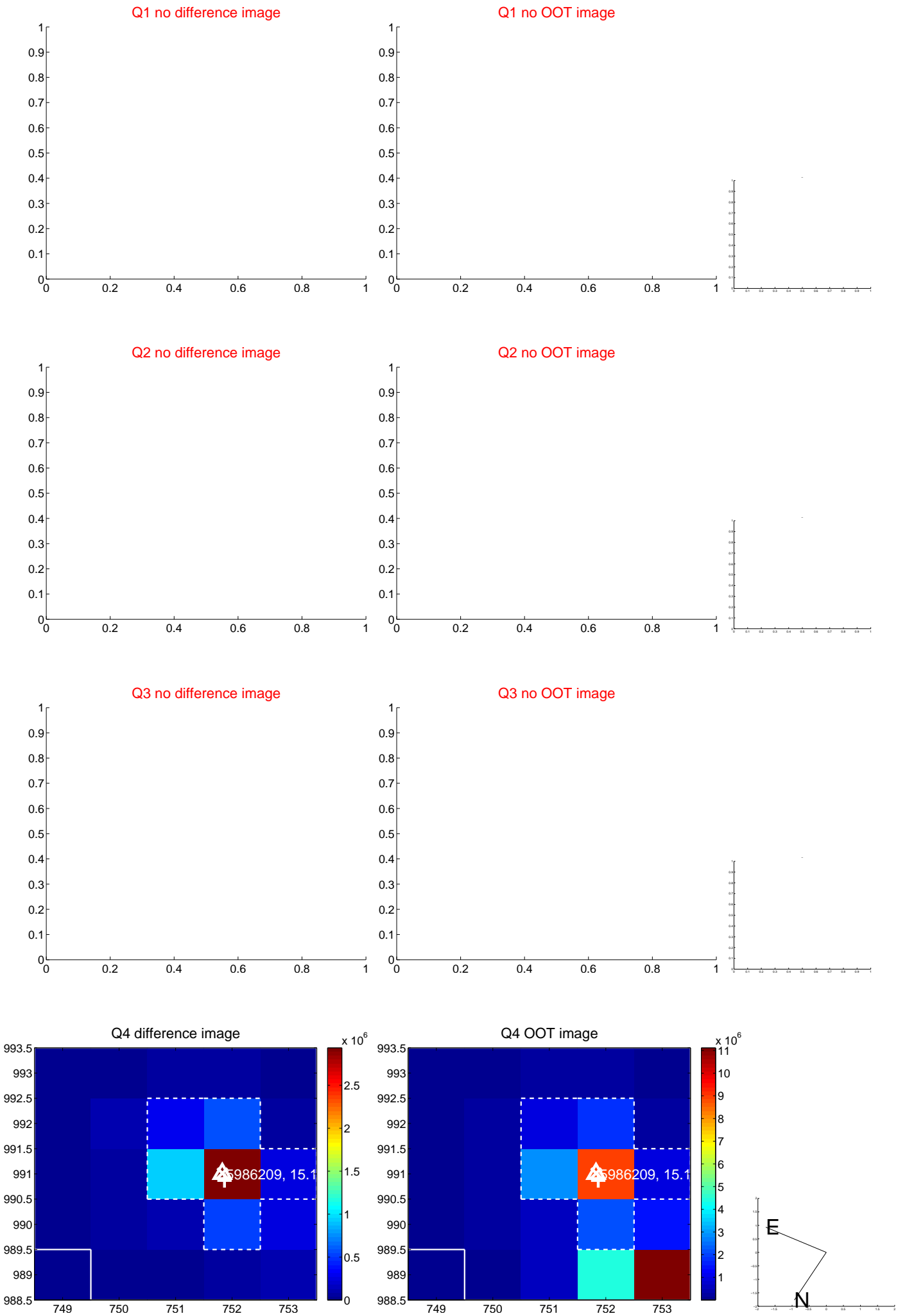
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.173 ± 0.089	1.94	0.150 ± 0.079	-0.087 ± 0.081
PRF-fit source offset from KIC position	0.038 ± 0.068	0.56	-0.020 ± 0.068	0.032 ± 0.067
photometric centroid source offset	1.04 ± 0.00	640.05	-0.79 ± 0.00	0.68 ± 0.00

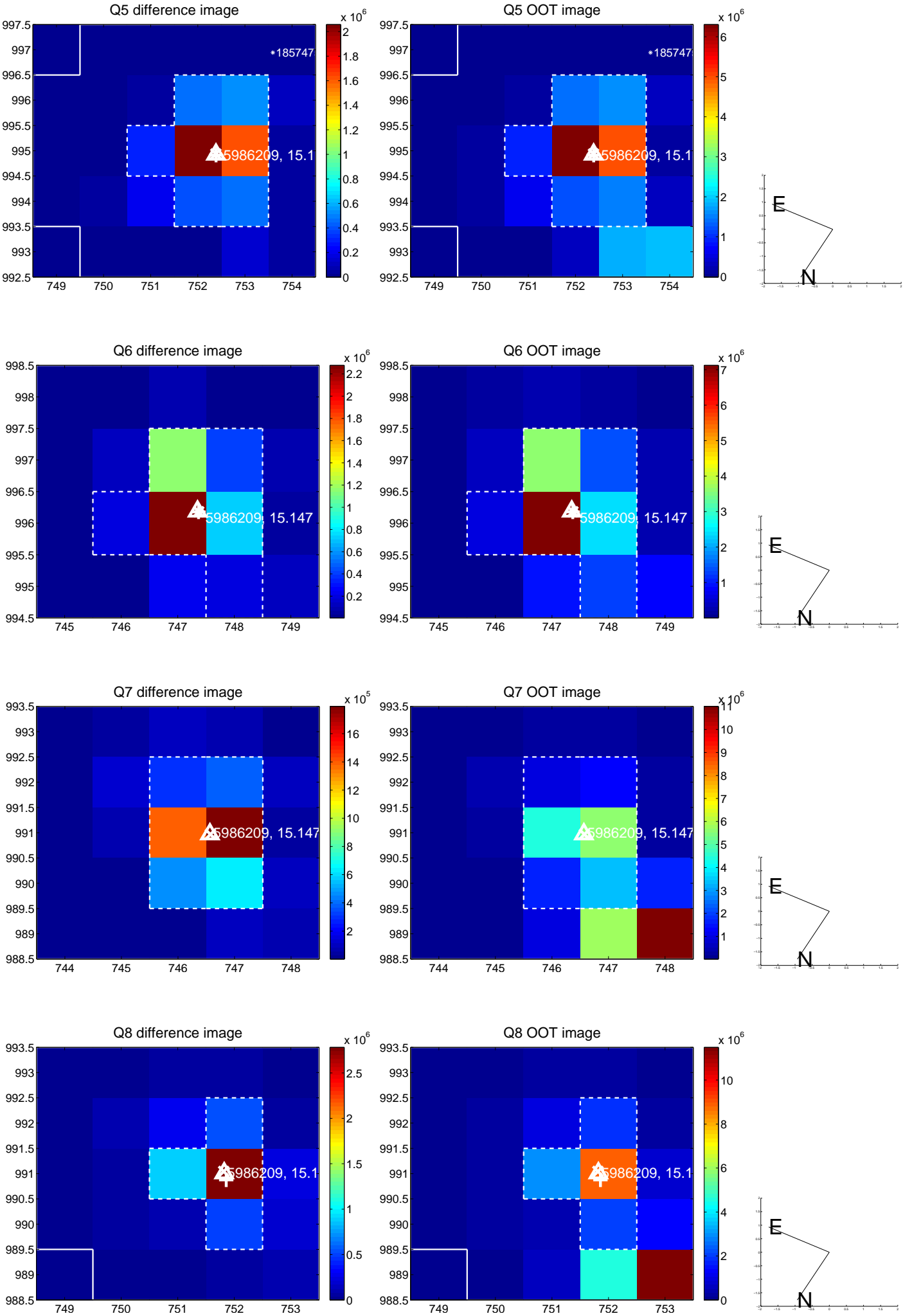


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

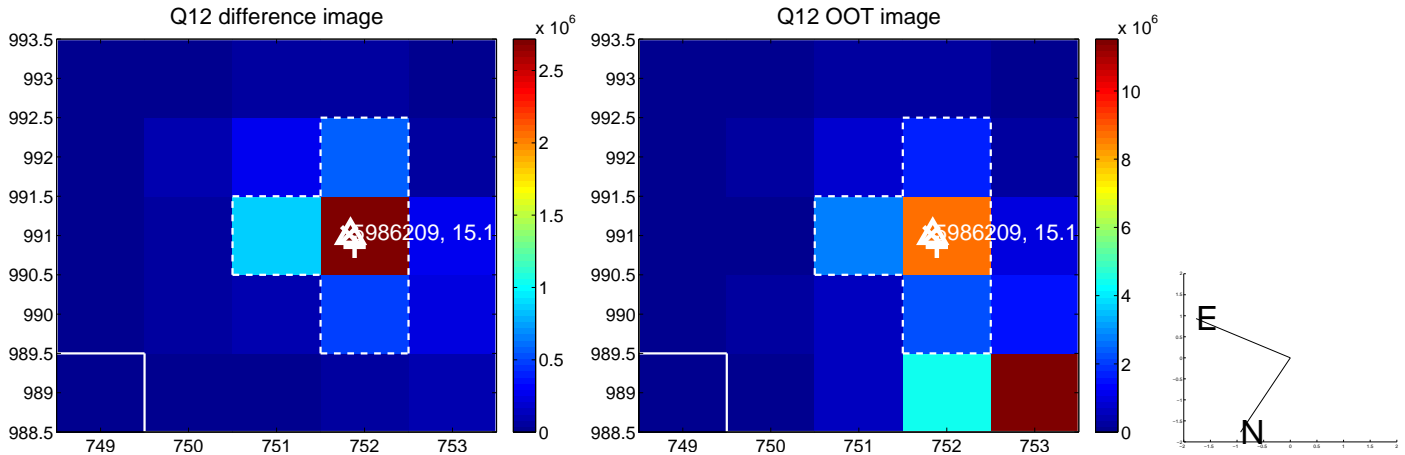
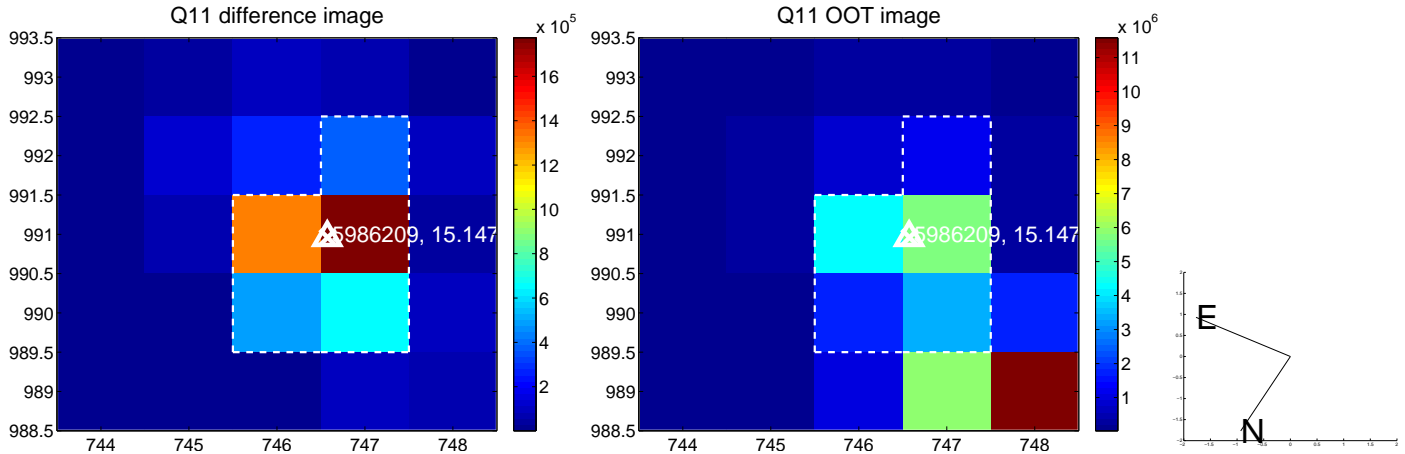
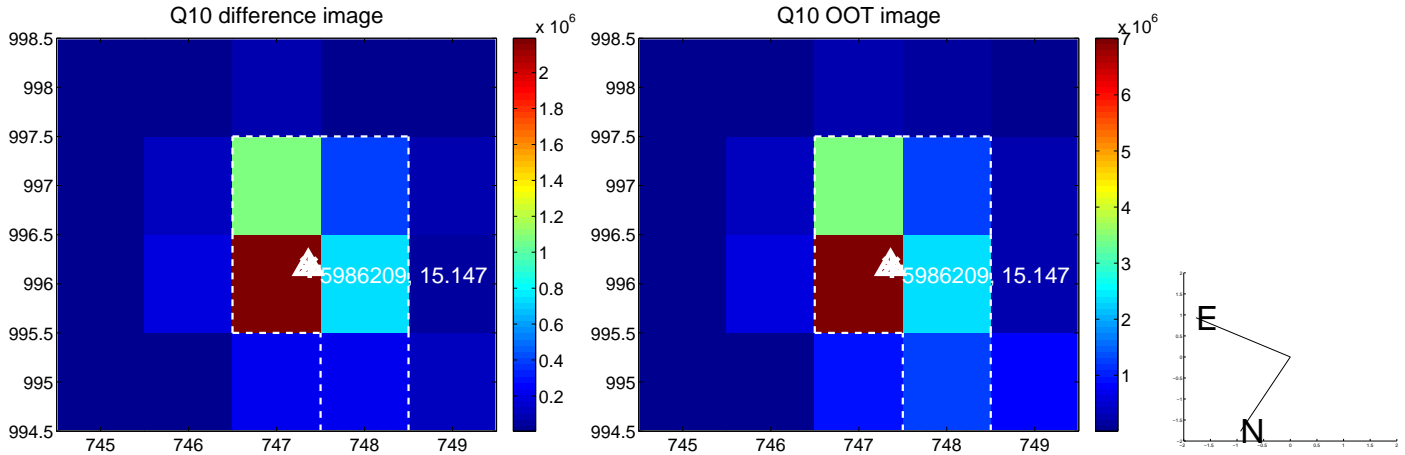
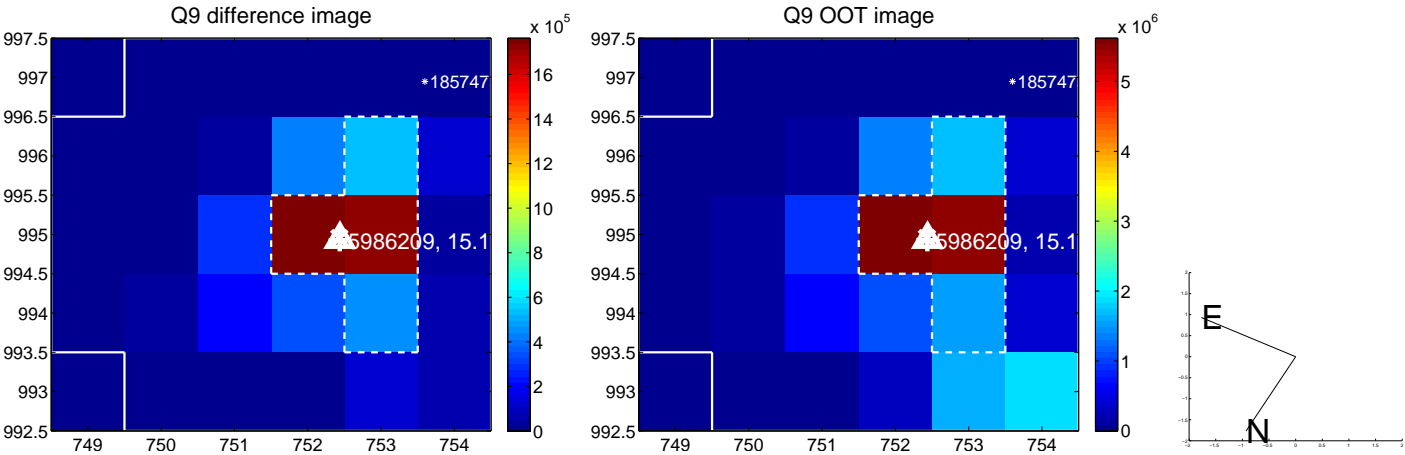
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



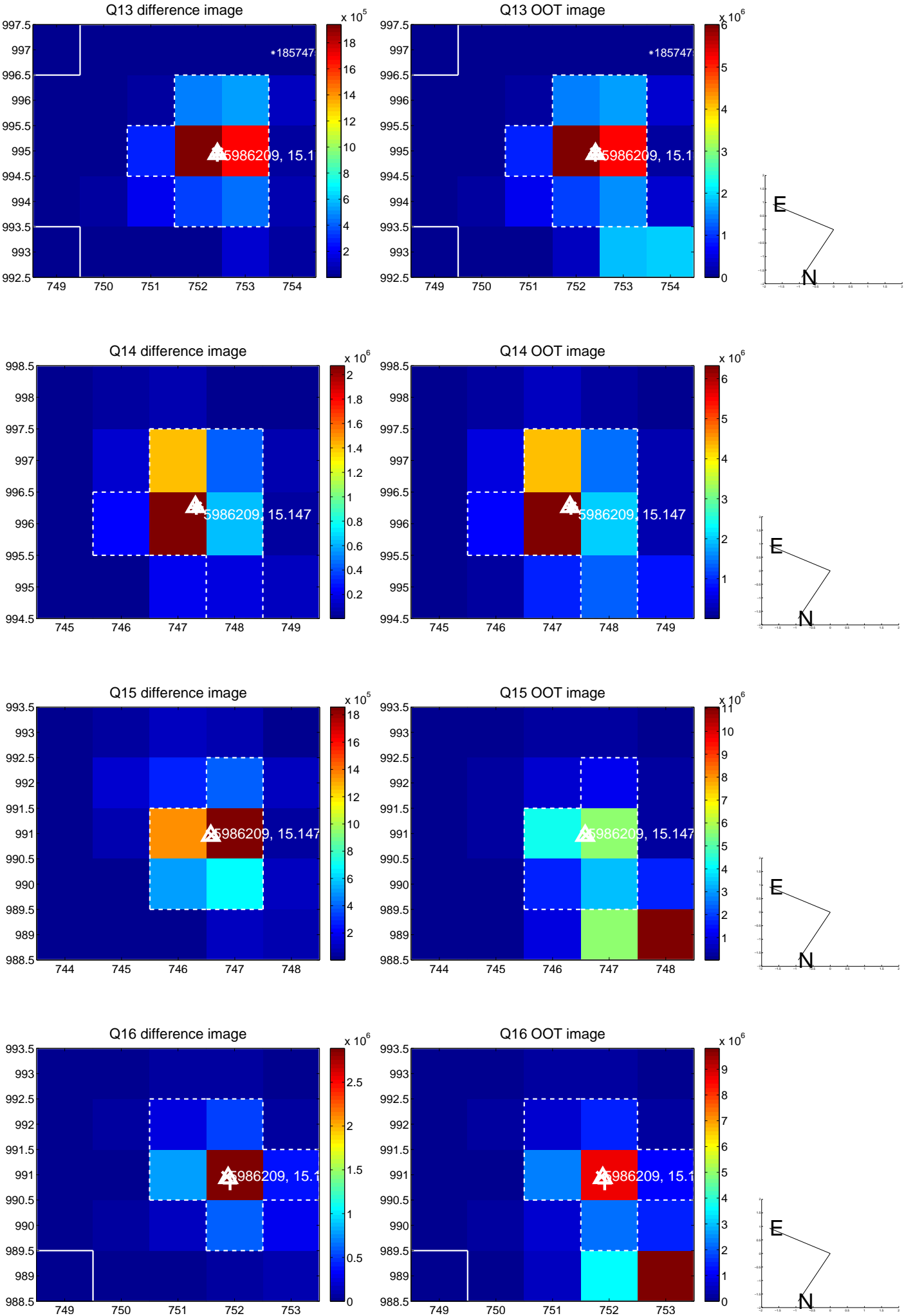
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



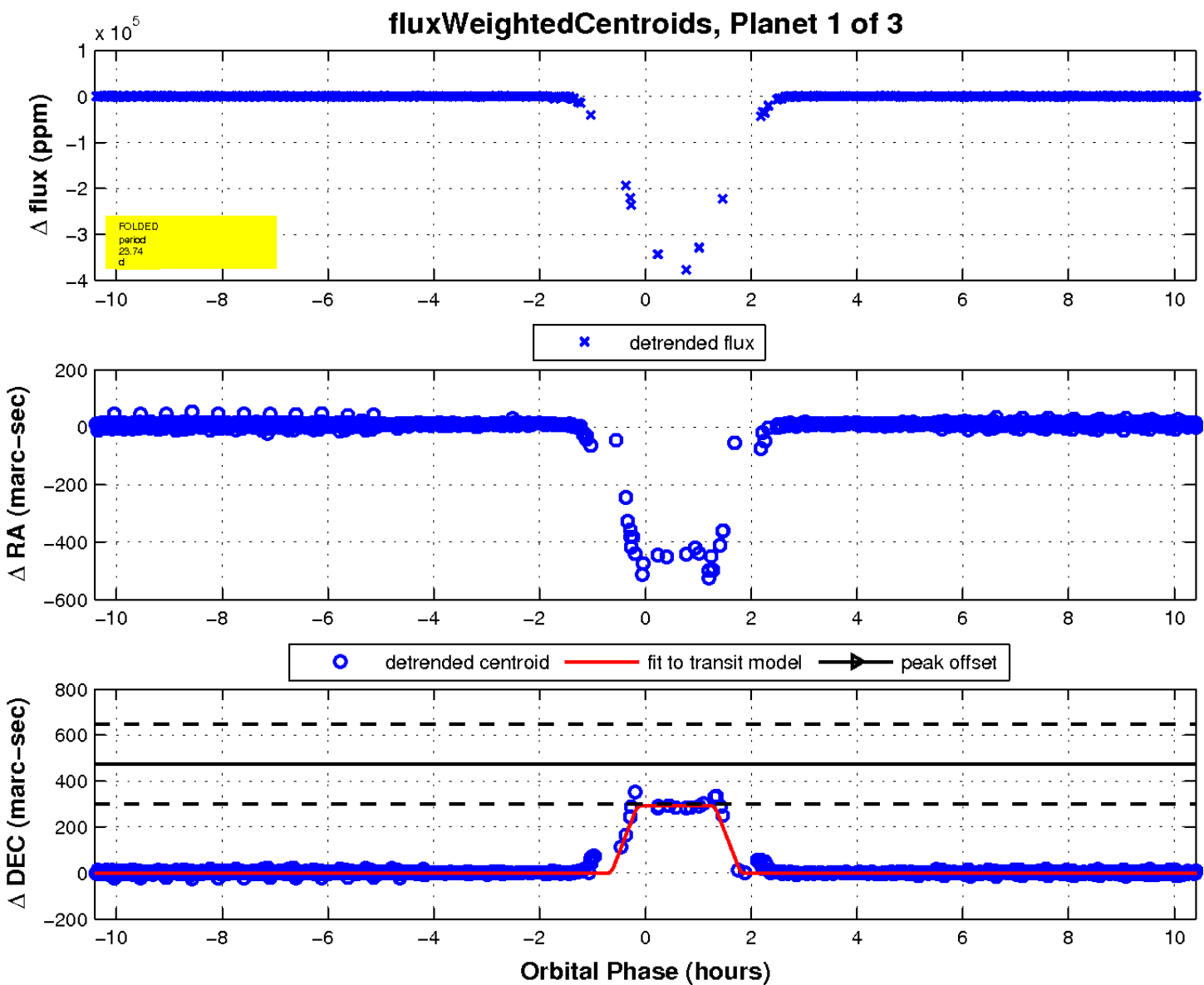
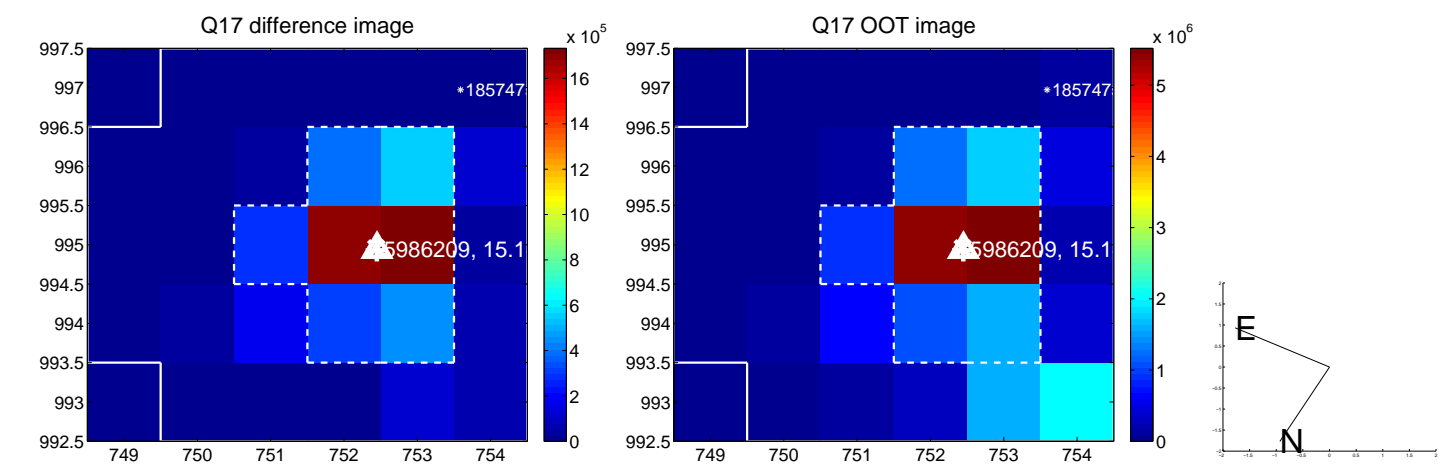
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

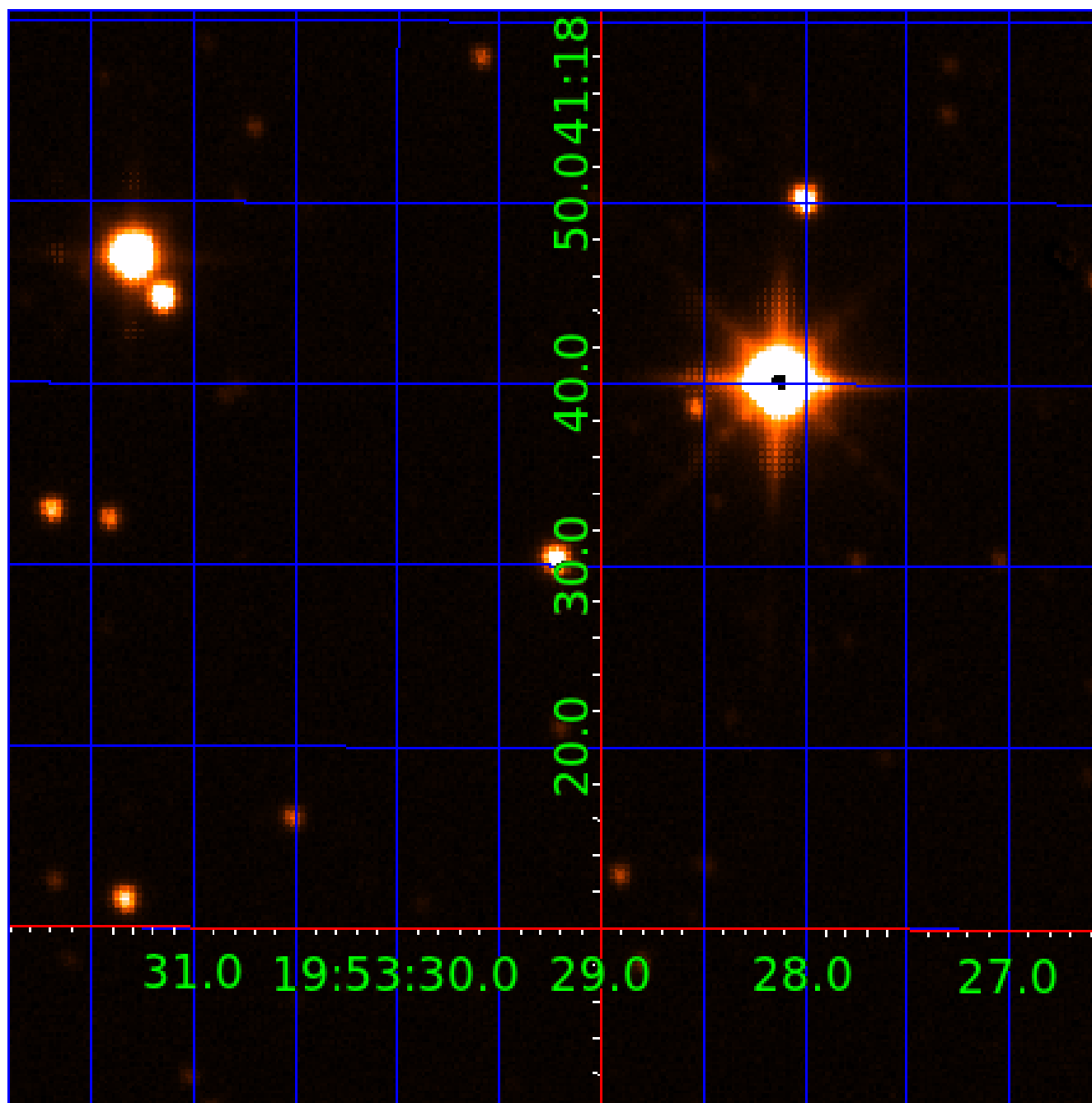


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005986209

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})
005986209-01	OBS	3476.01	23.738012	132.037036	379160.1	2.500	7395.9	-1.0	1.00	5559	54.56	35.02
005986209-02	OBS	No	23.737943	147.007181	96104.1	8.505	2259.2	1678.2	1.00	5559	45.84	35.02
005986209-03	OBS	No	4.747712	132.024437	69.6	9.170	515.9	4.5	1.00	5559	0.91	299.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005986209-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
005986209-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
005986209-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—RESIDUAL_TCE—CENT_FEW_DIFFS

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.

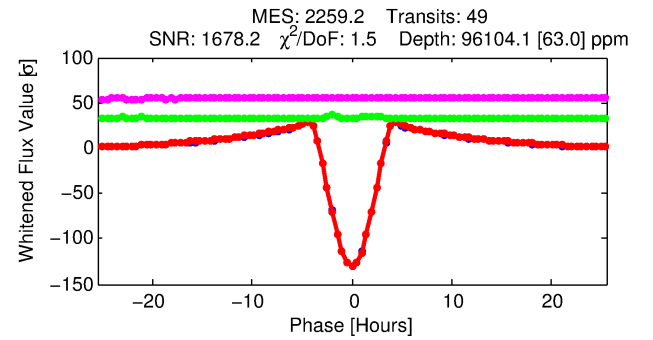
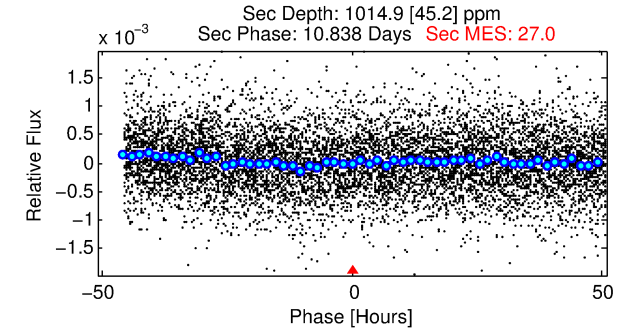
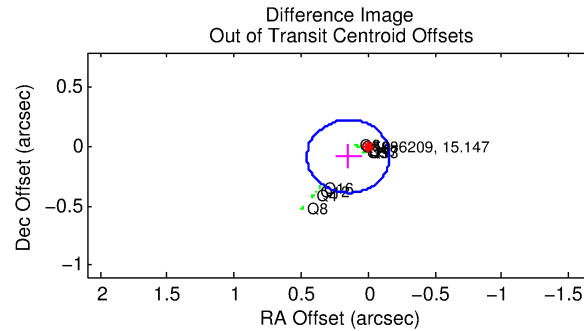
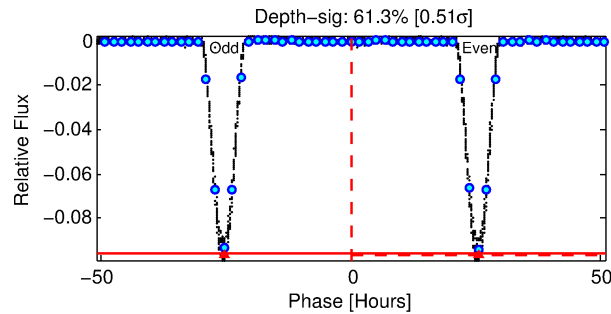
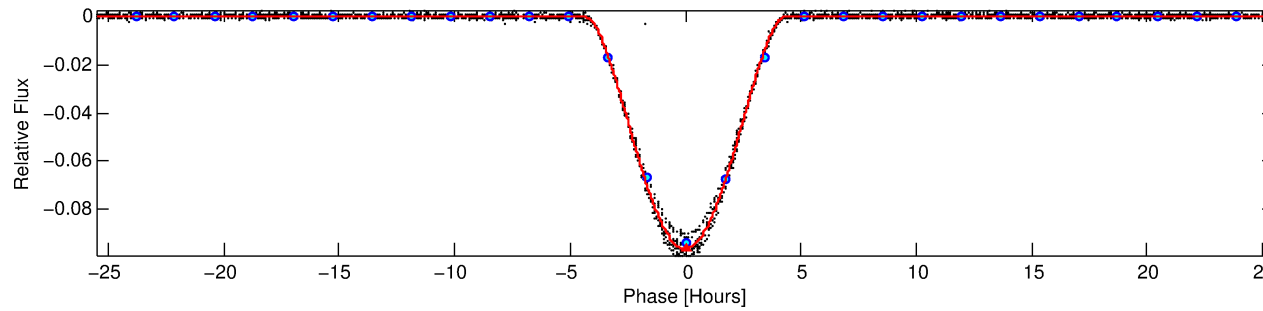
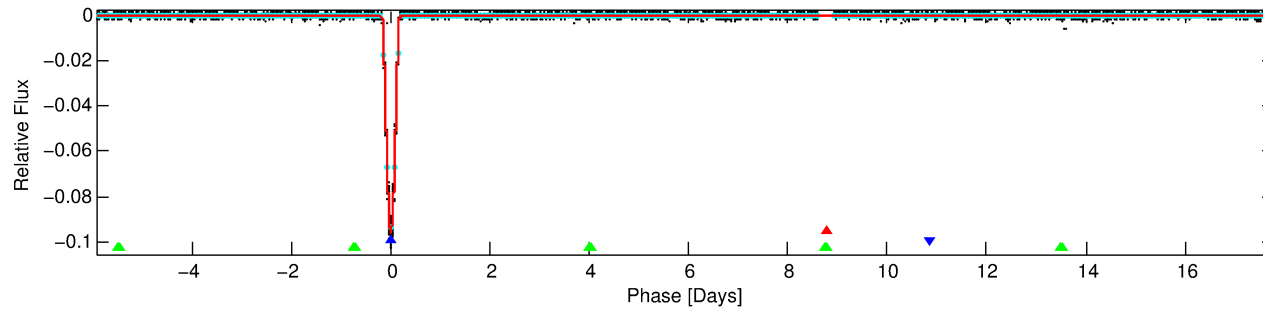
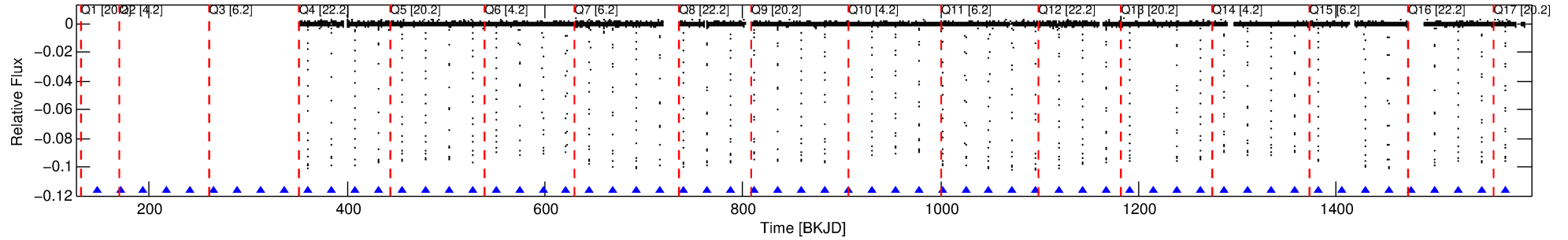
Ephemeris Match Information For 005986209-02

No Significant Match Found

DV One-Page Summary

KIC: 5986209 Candidate: 2 of 3 Period: 23.738 d
KOI: K03476.01 Corr: 0.998

Kp: 15.15 R*: 1.00 Rs Teff: 5559.0 K Logg: 4.39 Fe/H: 0.040



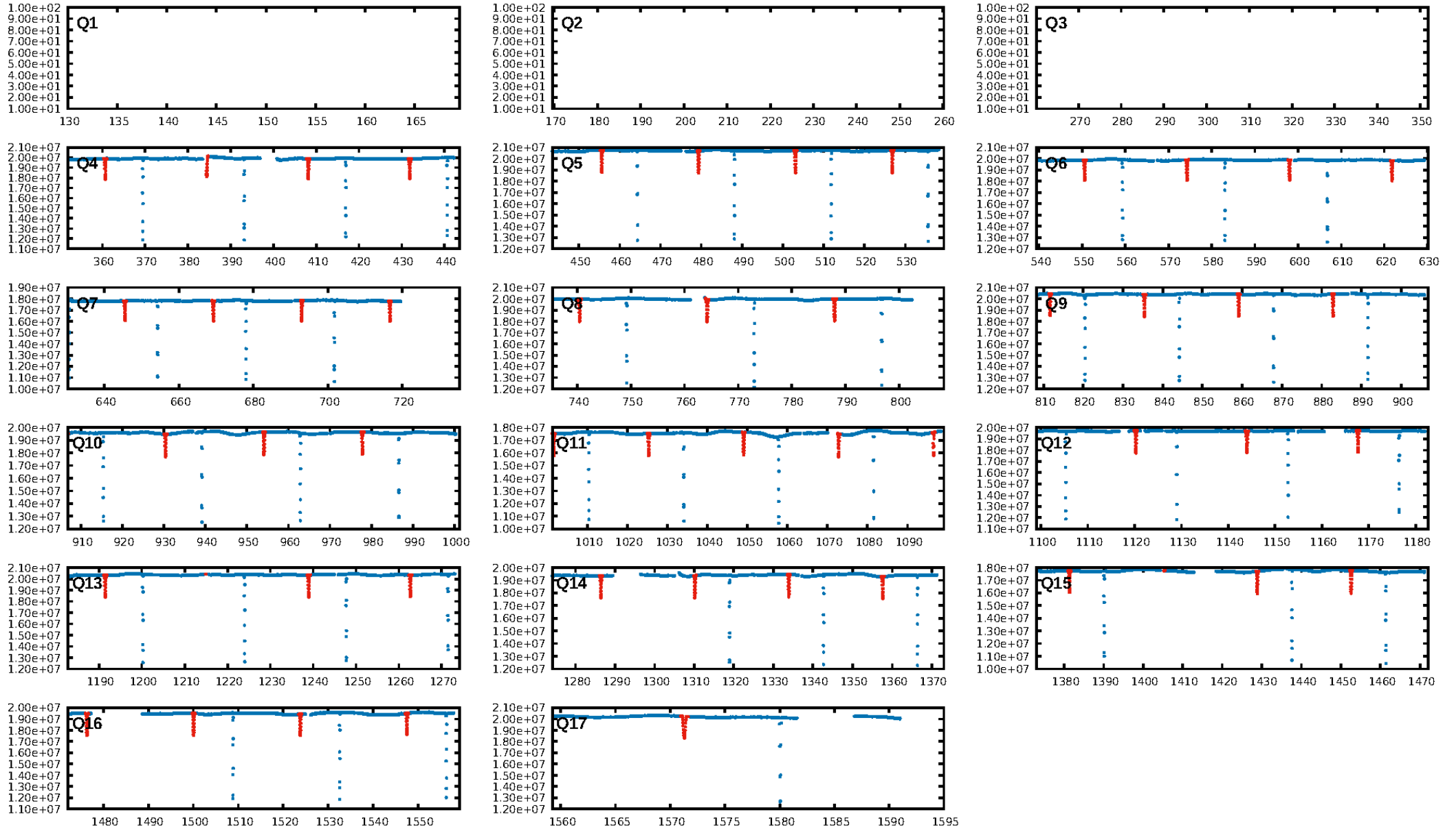
DV Fit Results:

Period = 23.73794 [0.00000] d
Epoch = 147.0072 [0.0001] BKJD
Rp/R* = 0.4201 [0.0201]
a/R* = 23.27 [0.03]
b = 0.91 [0.03]
Seff = 35.02 [12.83]
Teff = 620 [57] K
Rp = 45.84 [13.11] Re
a = 0.1563 [0.0369] AU
Ag = 6.49 [2.32] [2.36σ]
Teffp = 1531 [65] K [10.58σ]

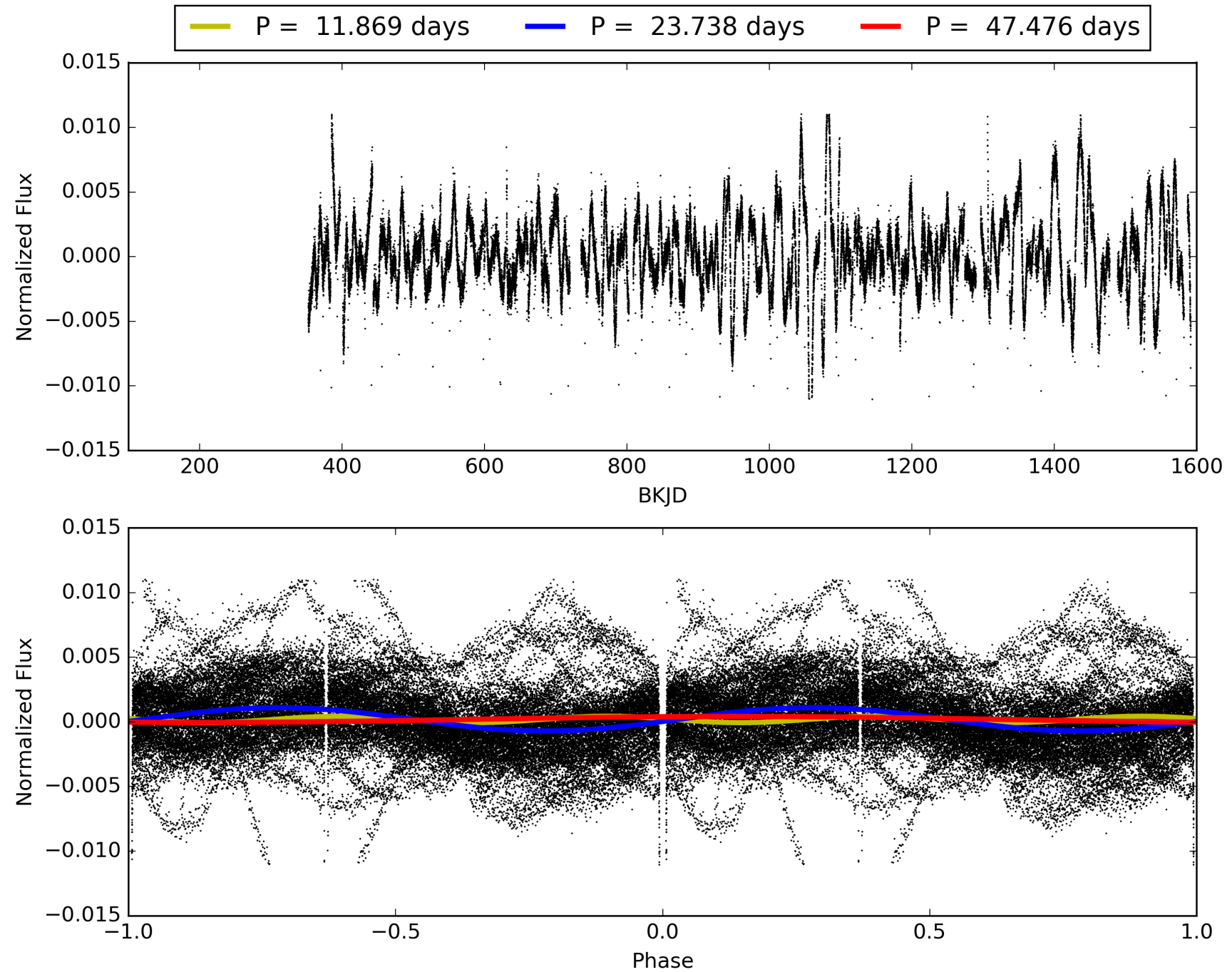
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [36.44σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [48/48]
GhostDiagnostic-chr: 8.508
Centroid-sig: N/A
Centroid-so: 1.322 arcsec [218.48σ]
OotOffset-rm: 0.167 arcsec [1.63σ]
KicOffset-rm: 0.042 arcsec [0.62σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 005986209-02, PDC Light Curves

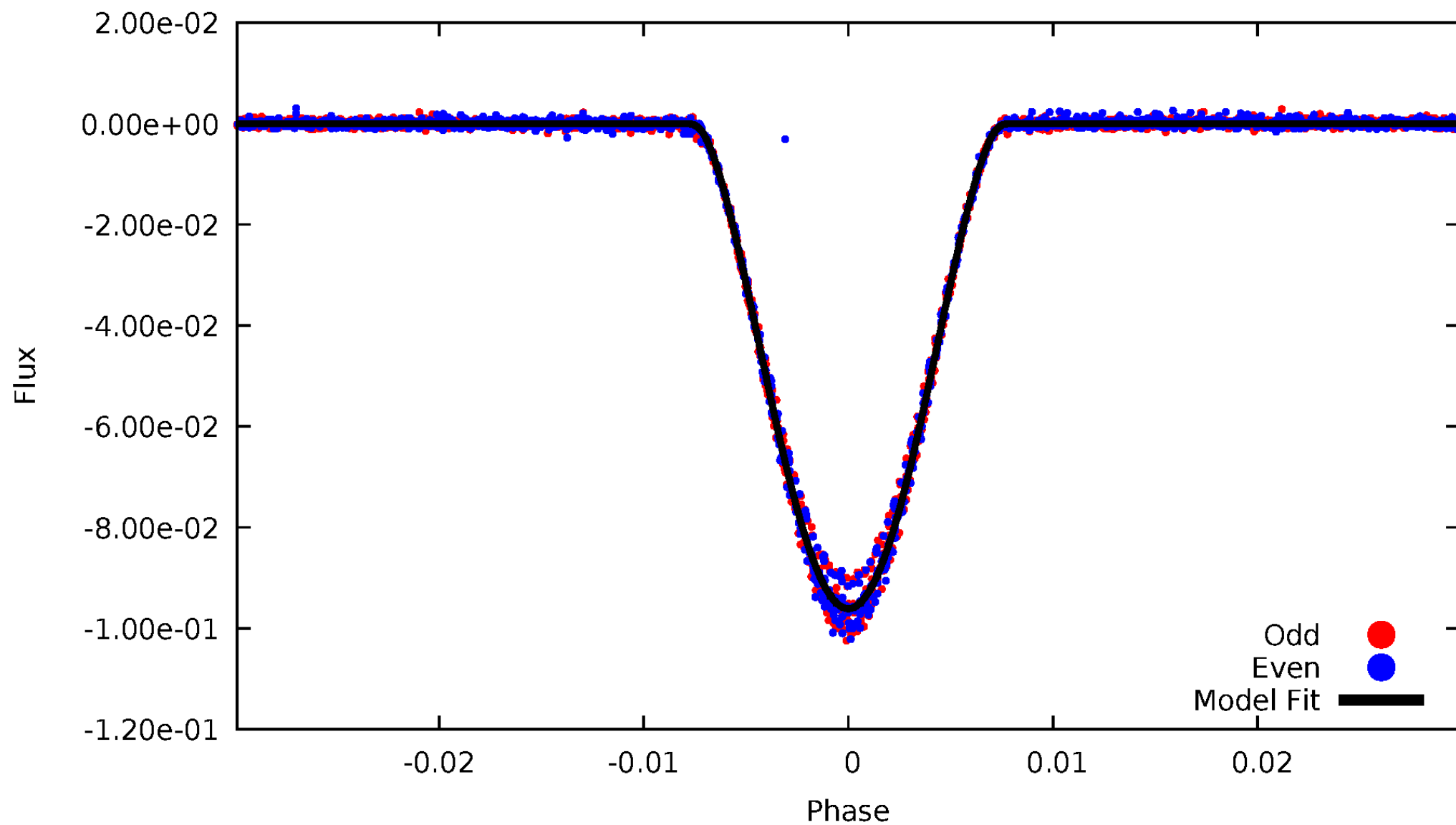


TCE 005986209-02



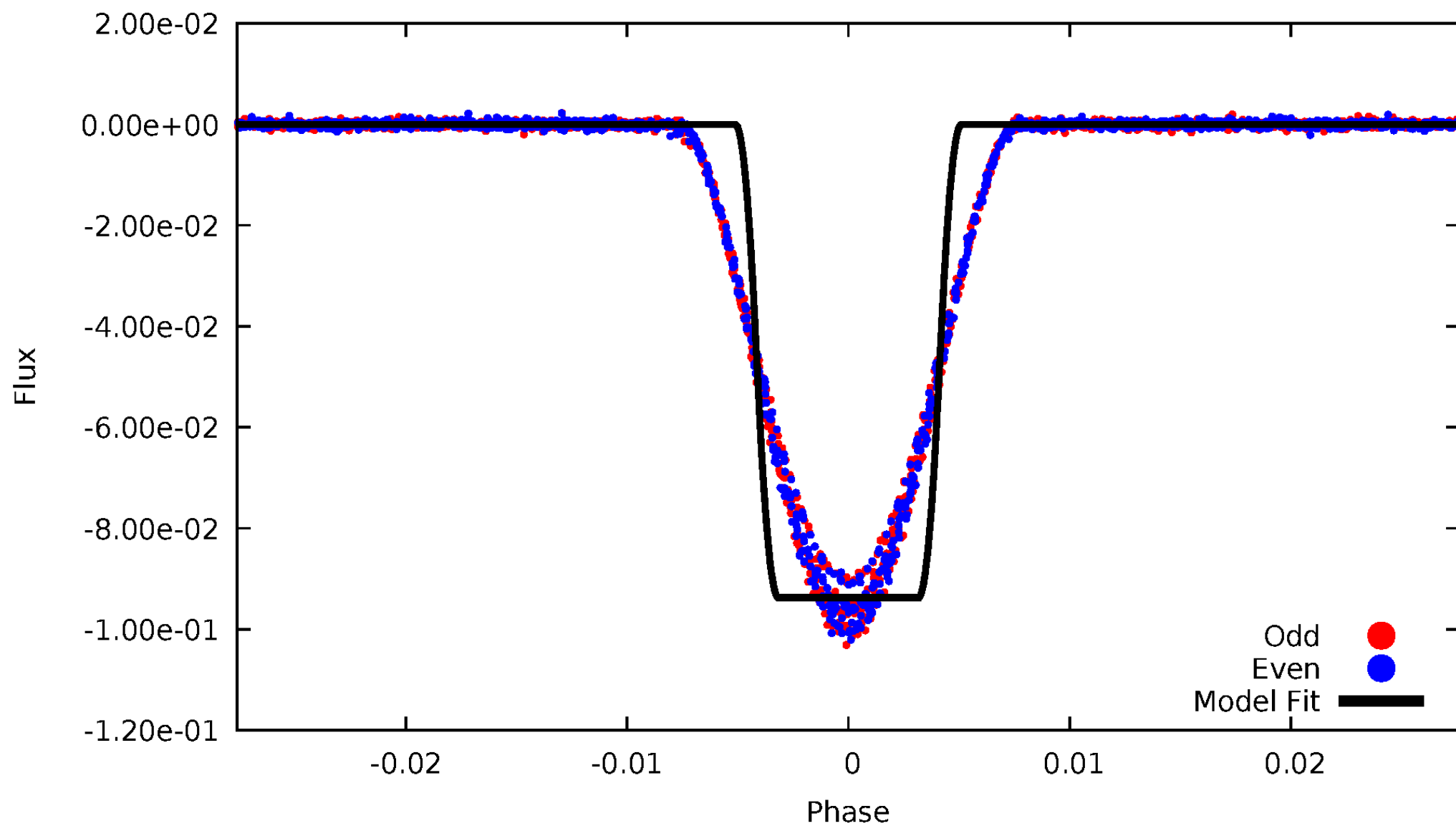
DV Odd/Even

TCE 005986209-02



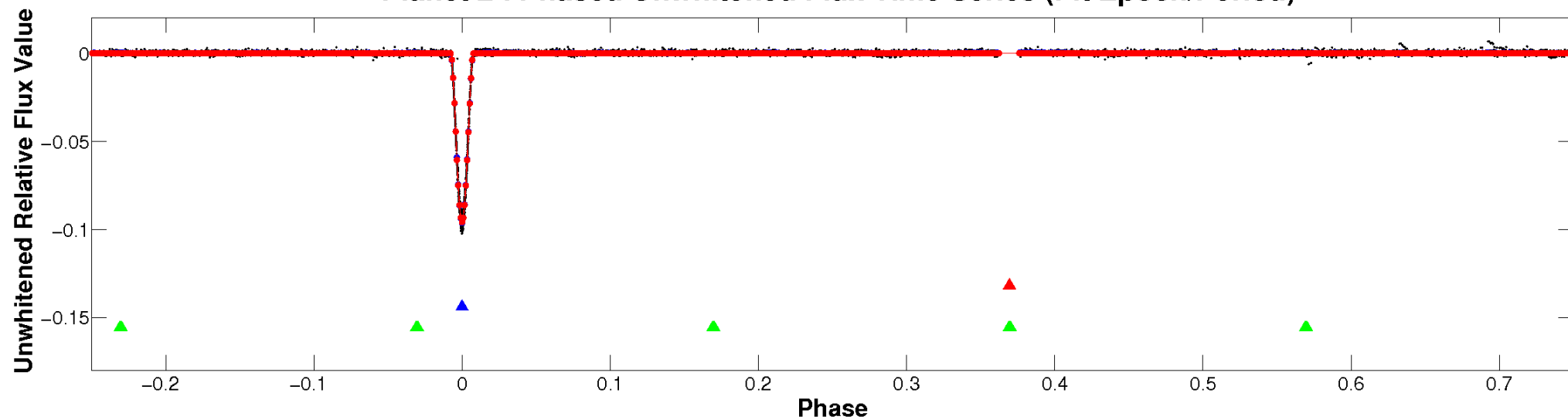
ALT Odd/Even

TCE 005986209-02

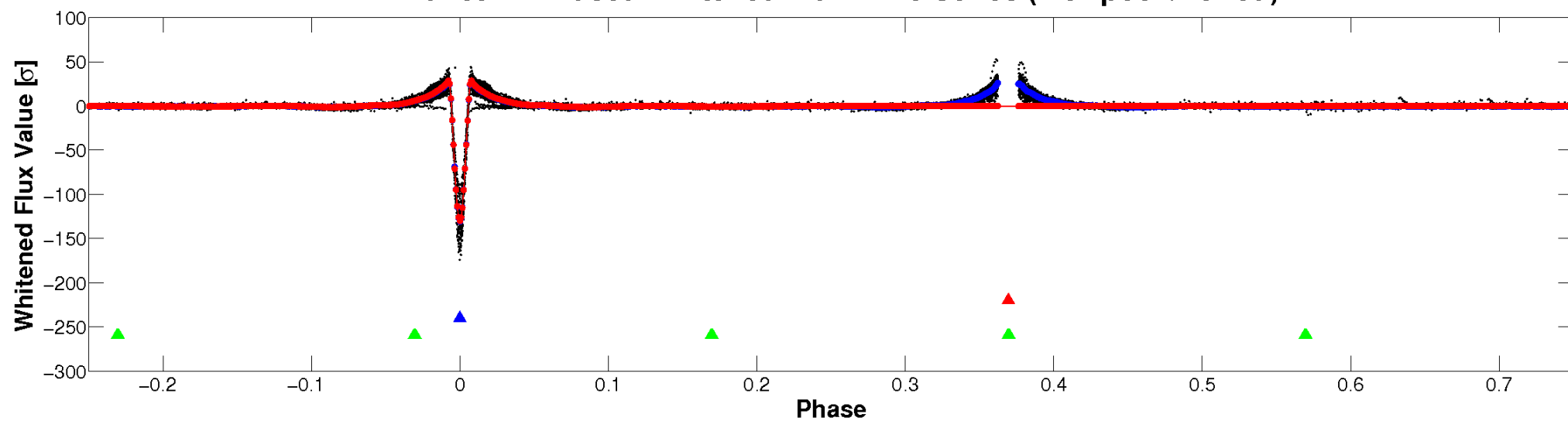


Non-Whitened Vs. Whitened Light Curve

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

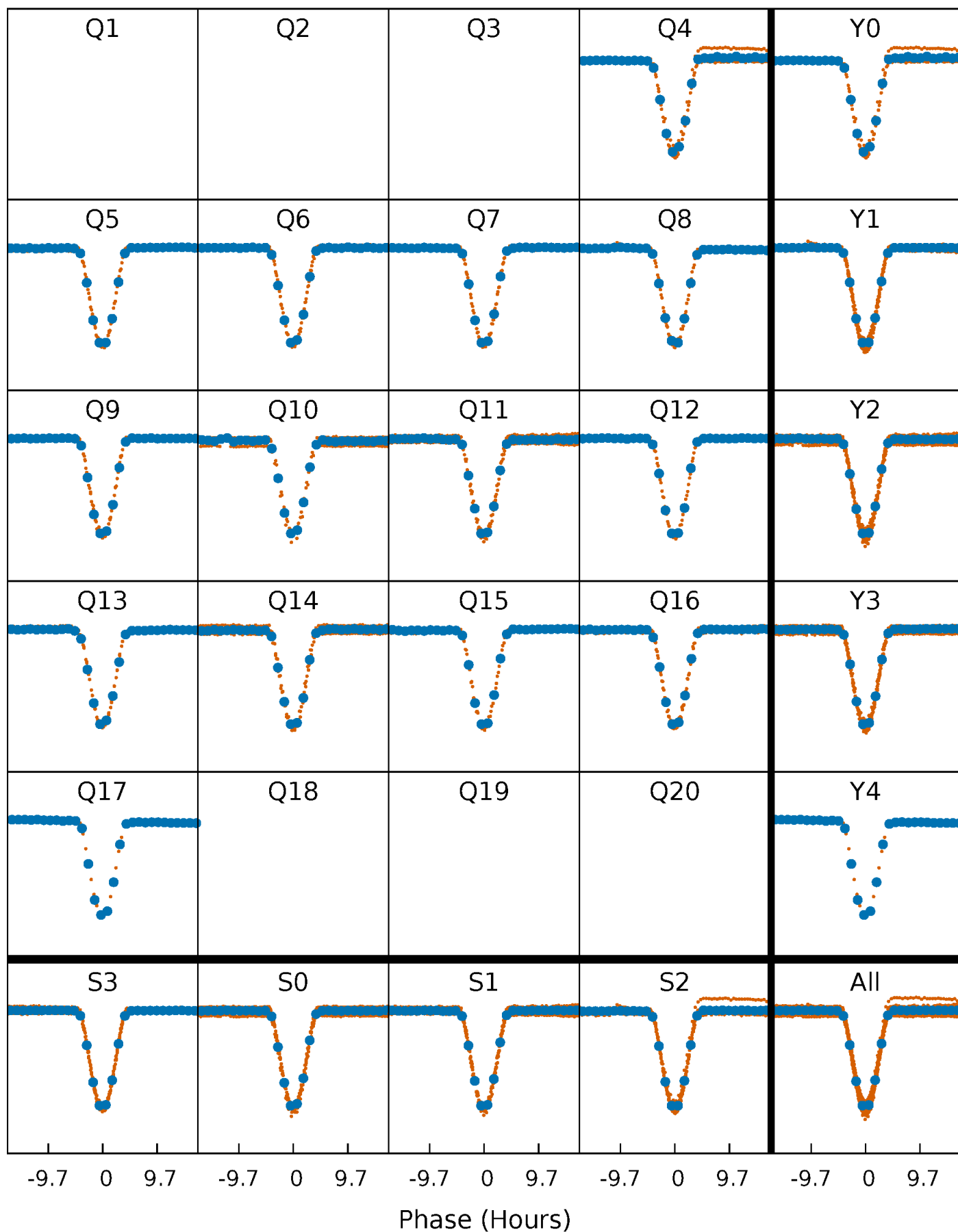


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



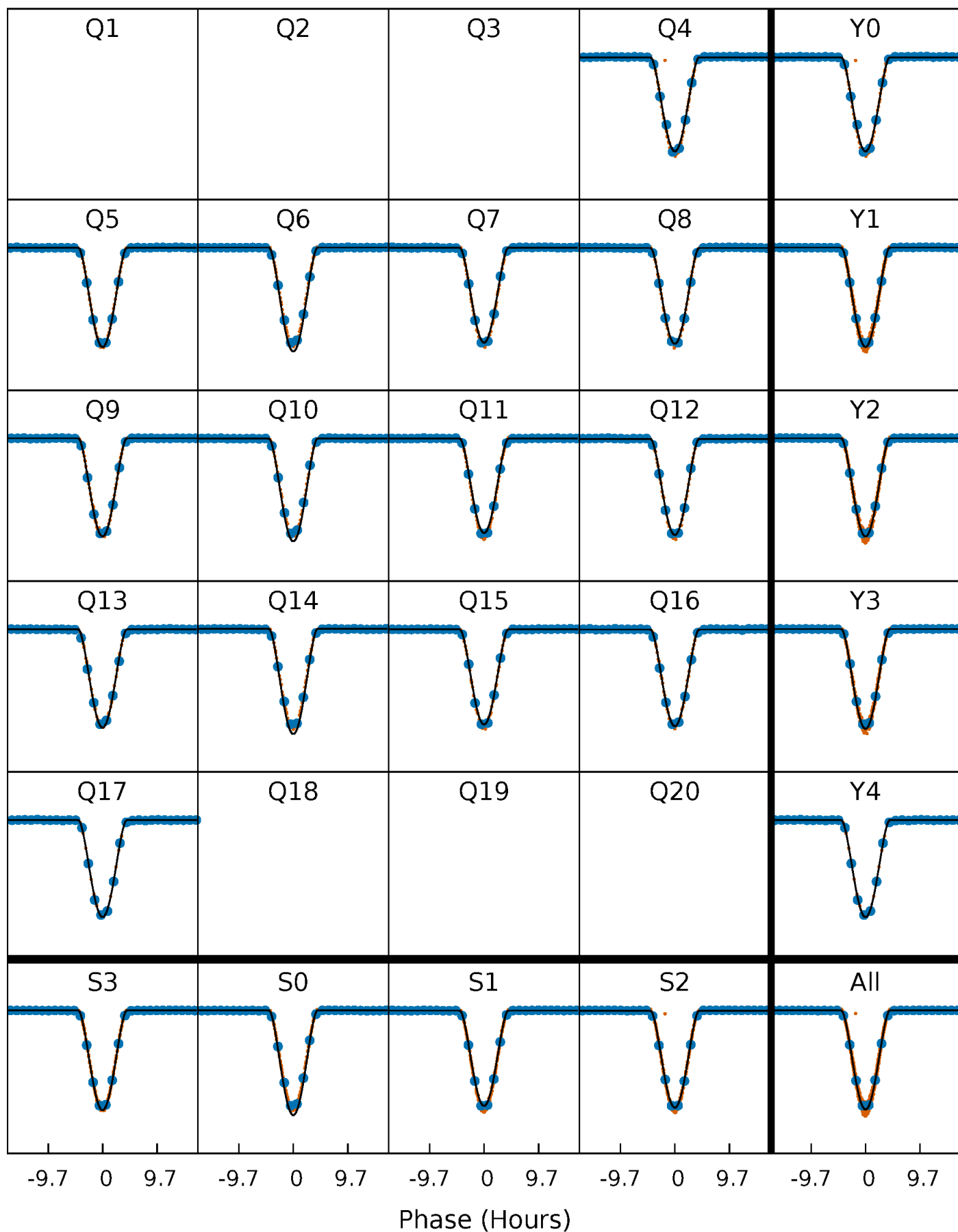
PDC Quarter-Phased Transit Curves

TCE 005986209-02 P= 23.737943 Days $T_0=147.007181$ (BKJD)



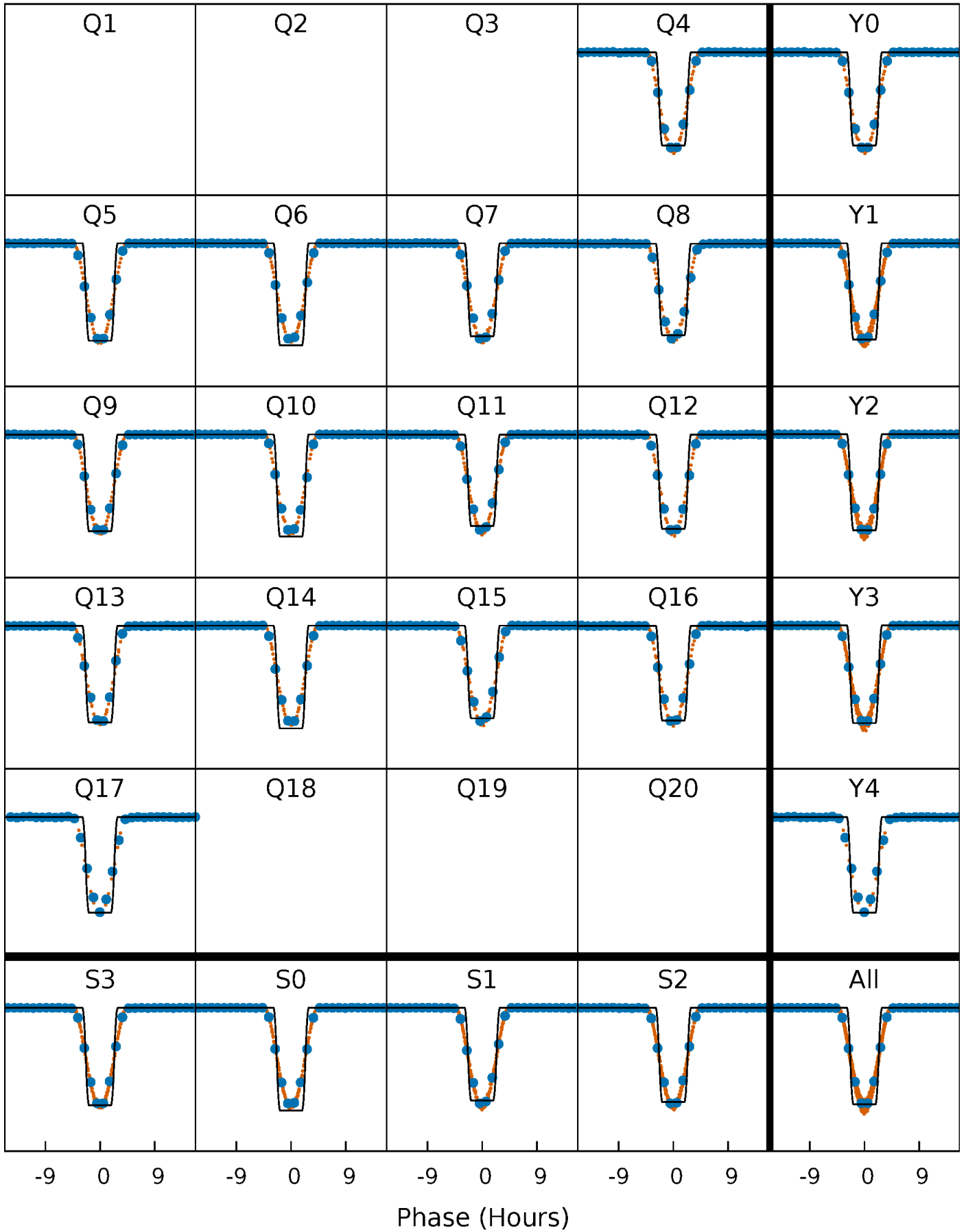
DV Quarter-Phased Transit Curves

TCE 005986209-02 P= 23.737943 Days $T_0=147.007181$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

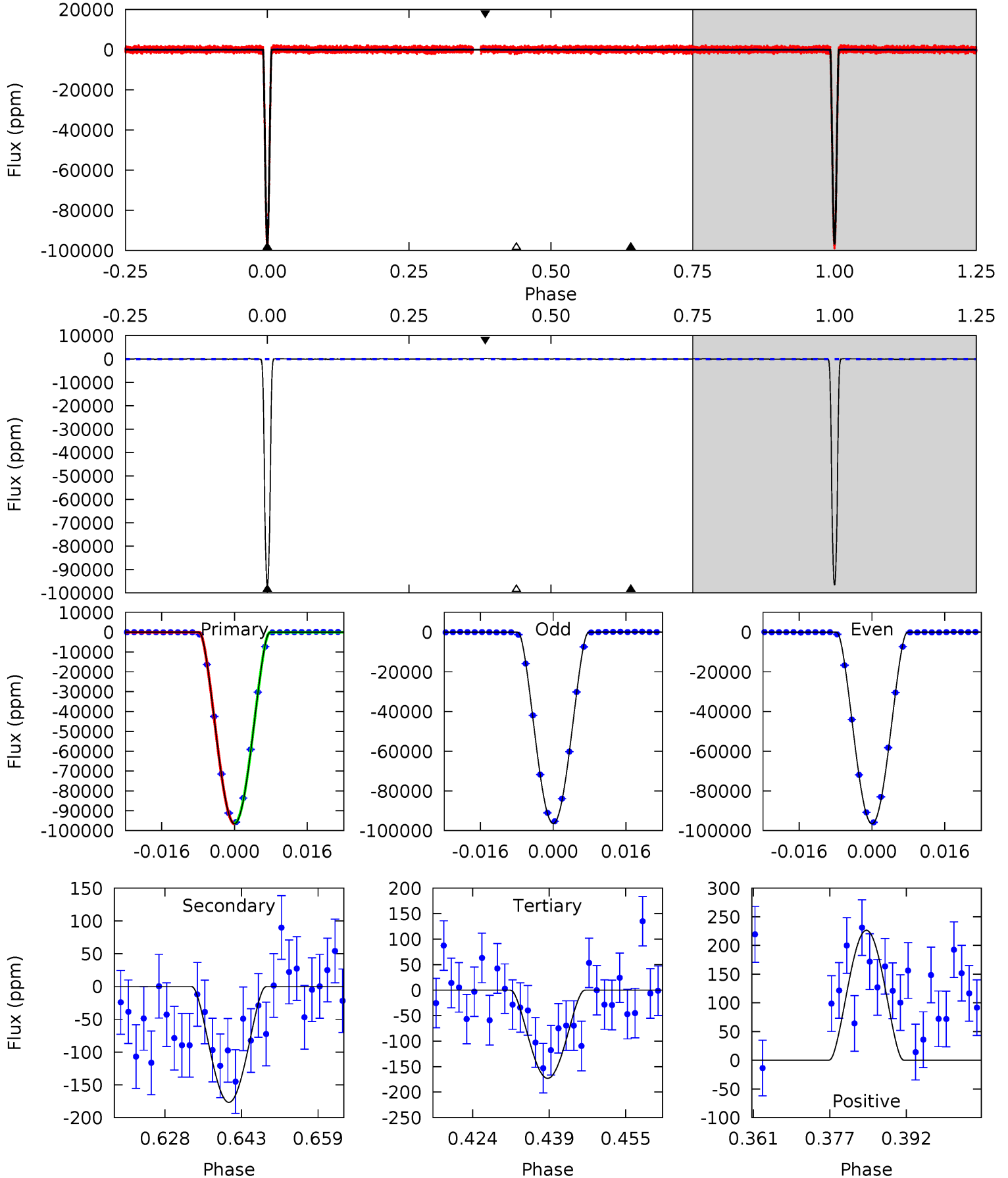
TCE 005986209-02 P= 23.737948 Days $T_0=147.006965$ (BKJD)



DV Model-Shift Uniqueness Test

005986209-02, P = 23.737943 Days, E = 147.007181 Days

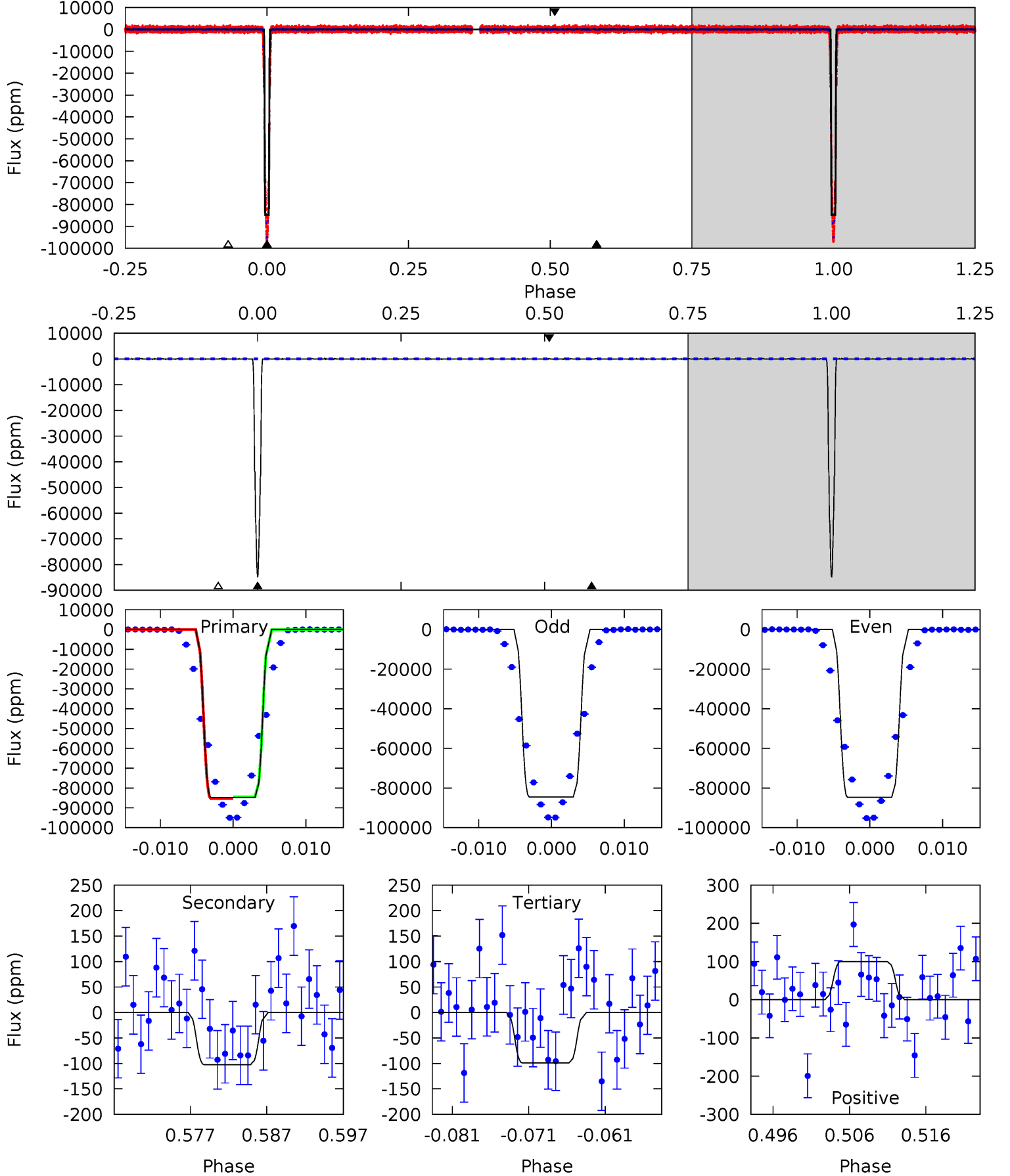
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4575	8.37	8.19	10.7	4.94	2.42	3.04	4567	4564	0.18	-2.36	4.20	1.00	0.00	7.36



Alt Model-Shift Uniqueness Test

005986209-02, P = 23.737948 Days, E = 147.006965 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2605	3.14	3.04	3.07	5.02	2.57	1.03	2602	2602	0.10	0.07	3.56	1.00	0.00	0



Stellar Parameters For KIC 005986209

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5559^{+183}_{-183}	$4.394^{+0.139}_{-0.186}$	$0.040^{+0.250}_{-0.300}$	$1.000^{+0.282}_{-0.173}$	$0.903^{+0.115}_{-0.084}$	$1.273^{+0.716}_{-0.618}$
	+3%/-3%	+3%/-4%	+625%/-750%	+28%/-17%	+13%/-9%	+56%/-49%
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 005986209-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-177 ± 21	$46.36^{+7.45}_{-5.10}$	871^{+66}_{-51}	1922^{+54}_{-54}	$1.080^{+0.350}_{-0.274}$
Alt.	-102 ± 33	$33.74^{+5.79}_{-3.93}$	872^{+67}_{-54}	1945^{+81}_{-119}	$1.158^{+0.539}_{-0.446}$

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 $A_{obs} \gg 1.0$

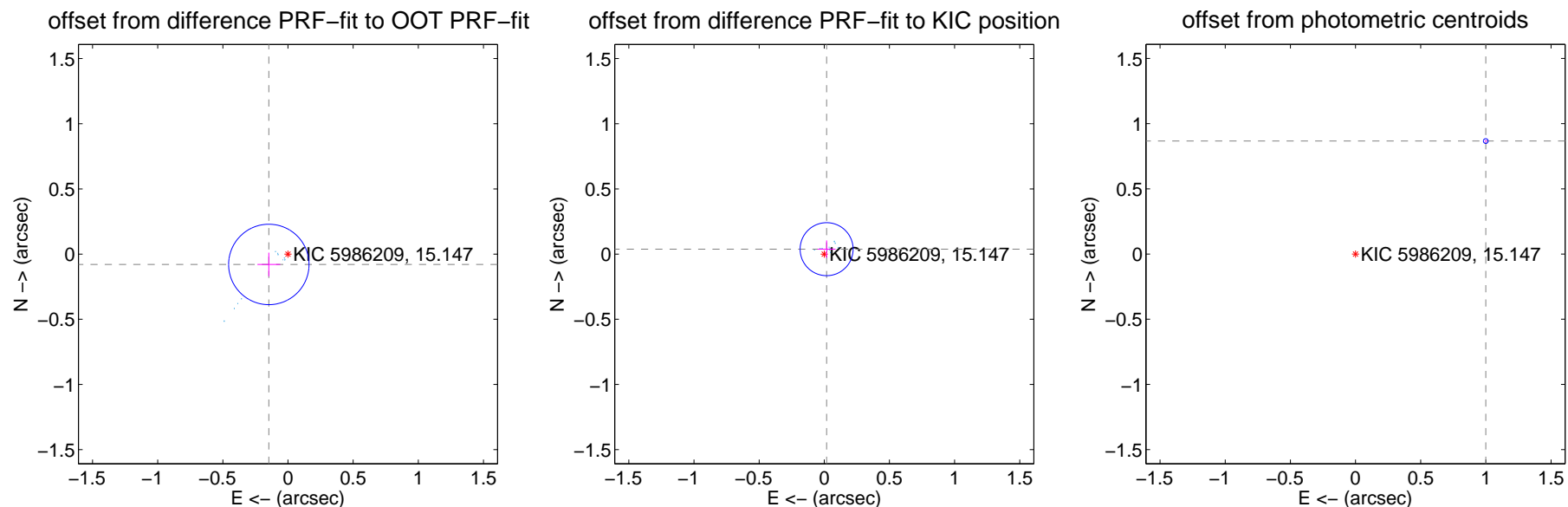
DV Centroid Data

Supplemental centroid analysis for 005986209-02. Kepler magnitude: 15.15. Transit SNR 1678.16

There are 14 quarters with good PRF difference image offsets

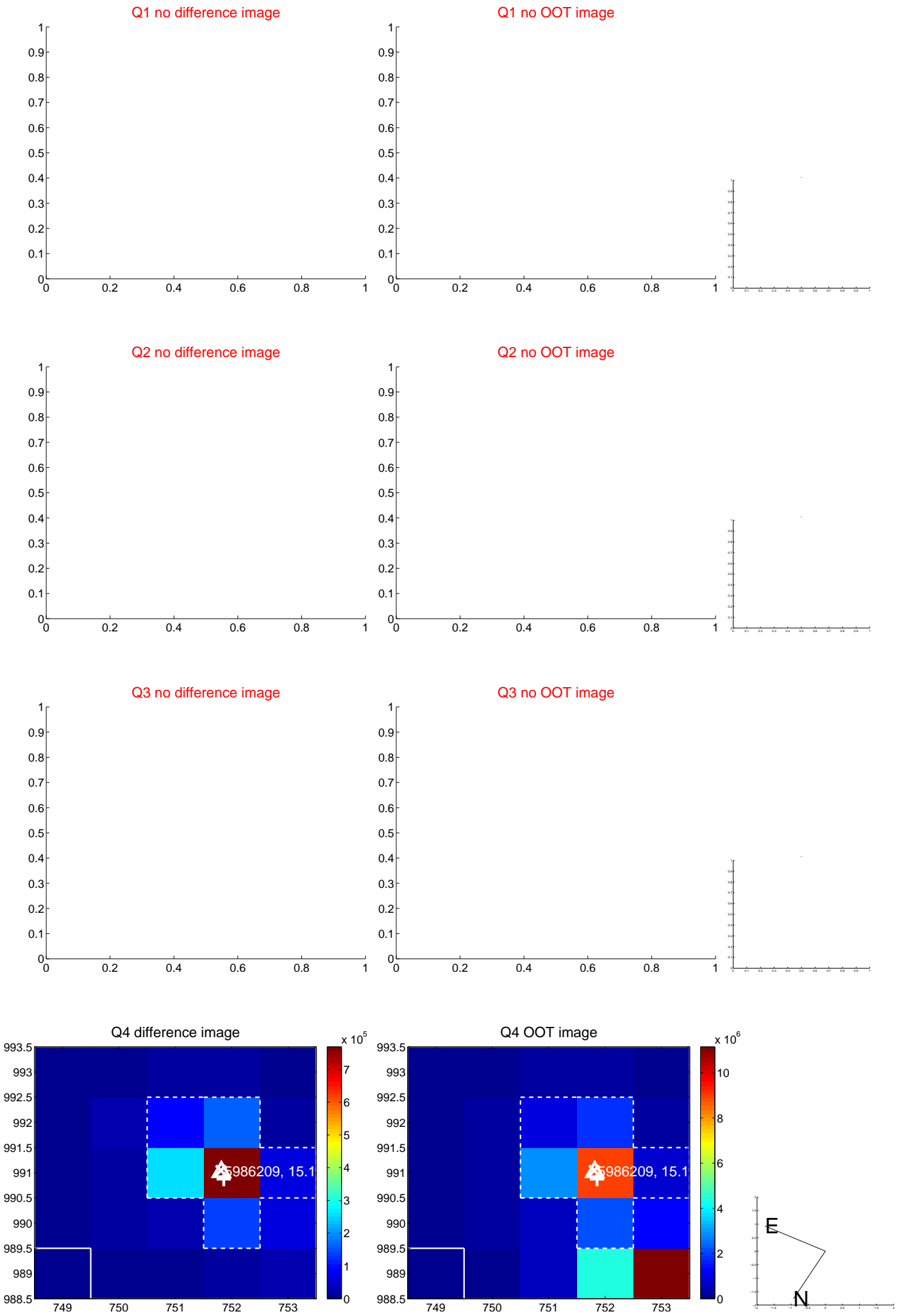
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.167 ± 0.103	1.63	0.147 ± 0.087	-0.080 ± 0.091
PRF-fit source offset from KIC position	0.042 ± 0.068	0.62	-0.018 ± 0.068	0.038 ± 0.067
photometric centroid source offset	1.32 ± 0.01	218.48	-1.00 ± 0.01	0.87 ± 0.01

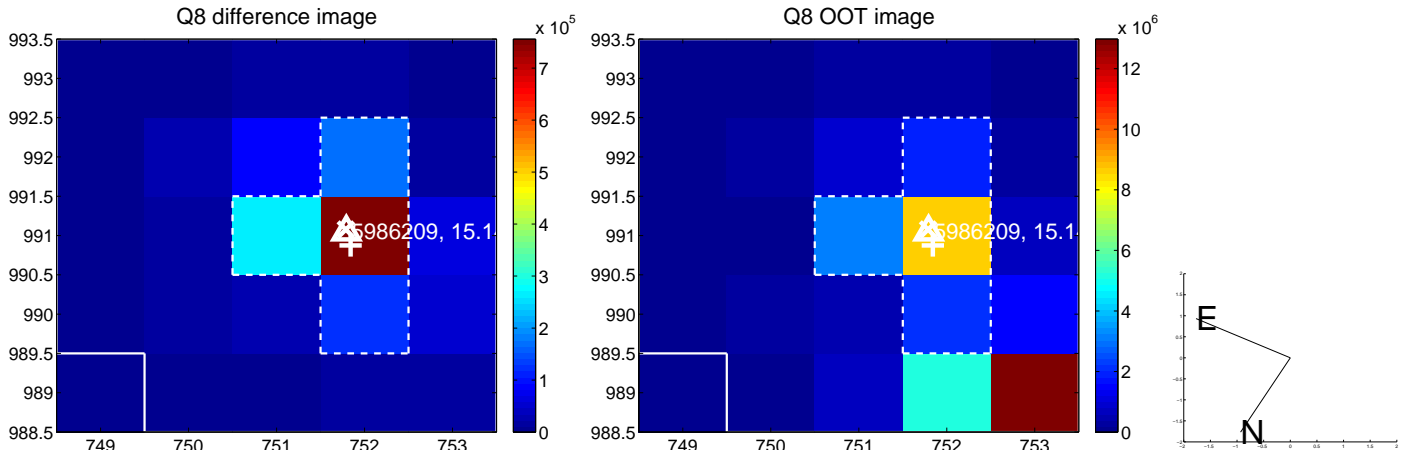
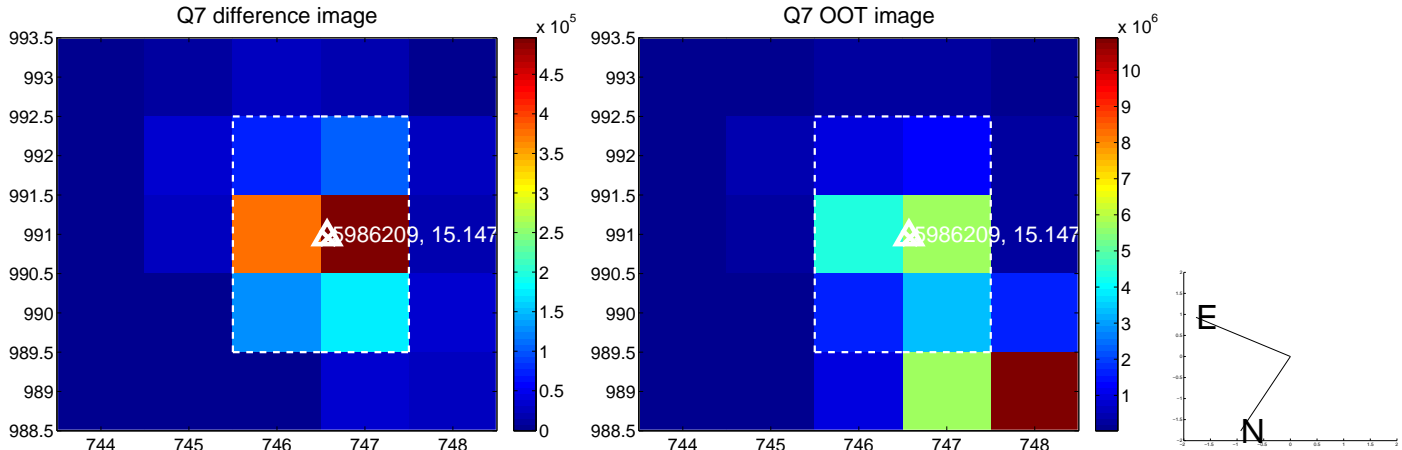
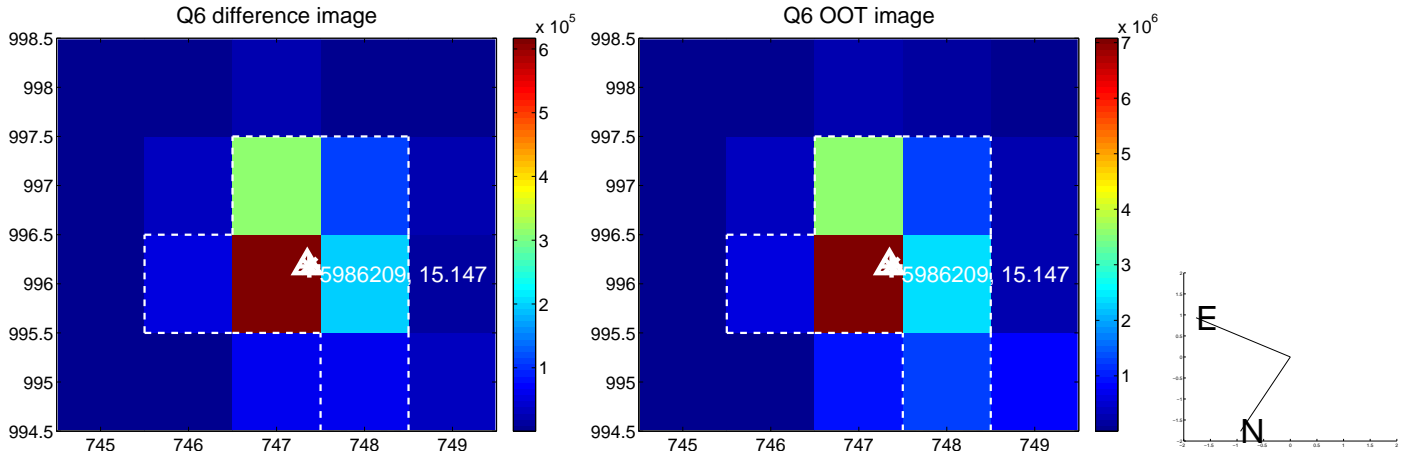
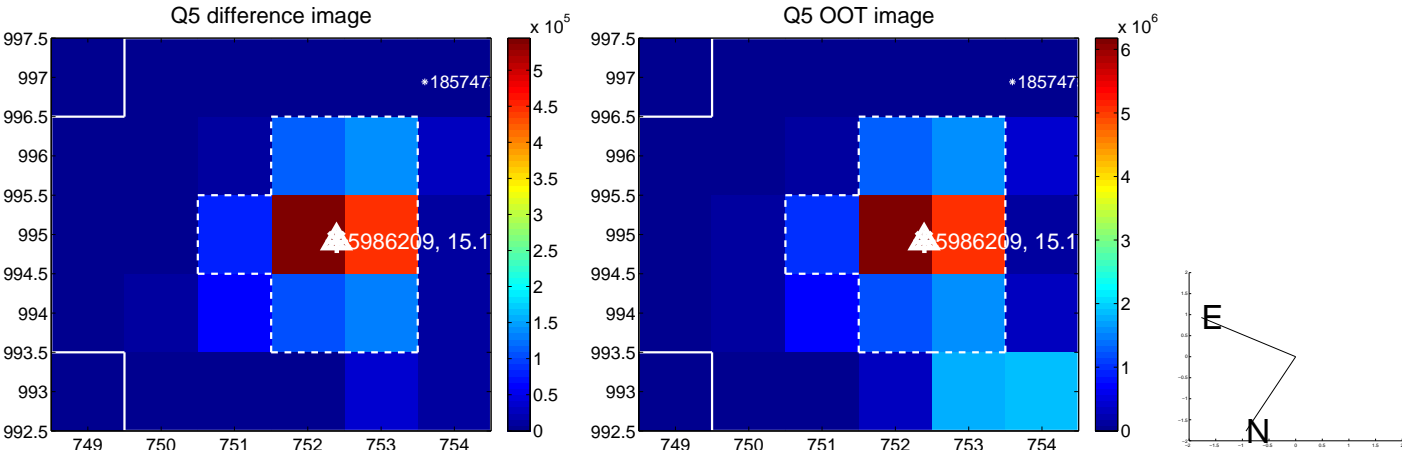


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

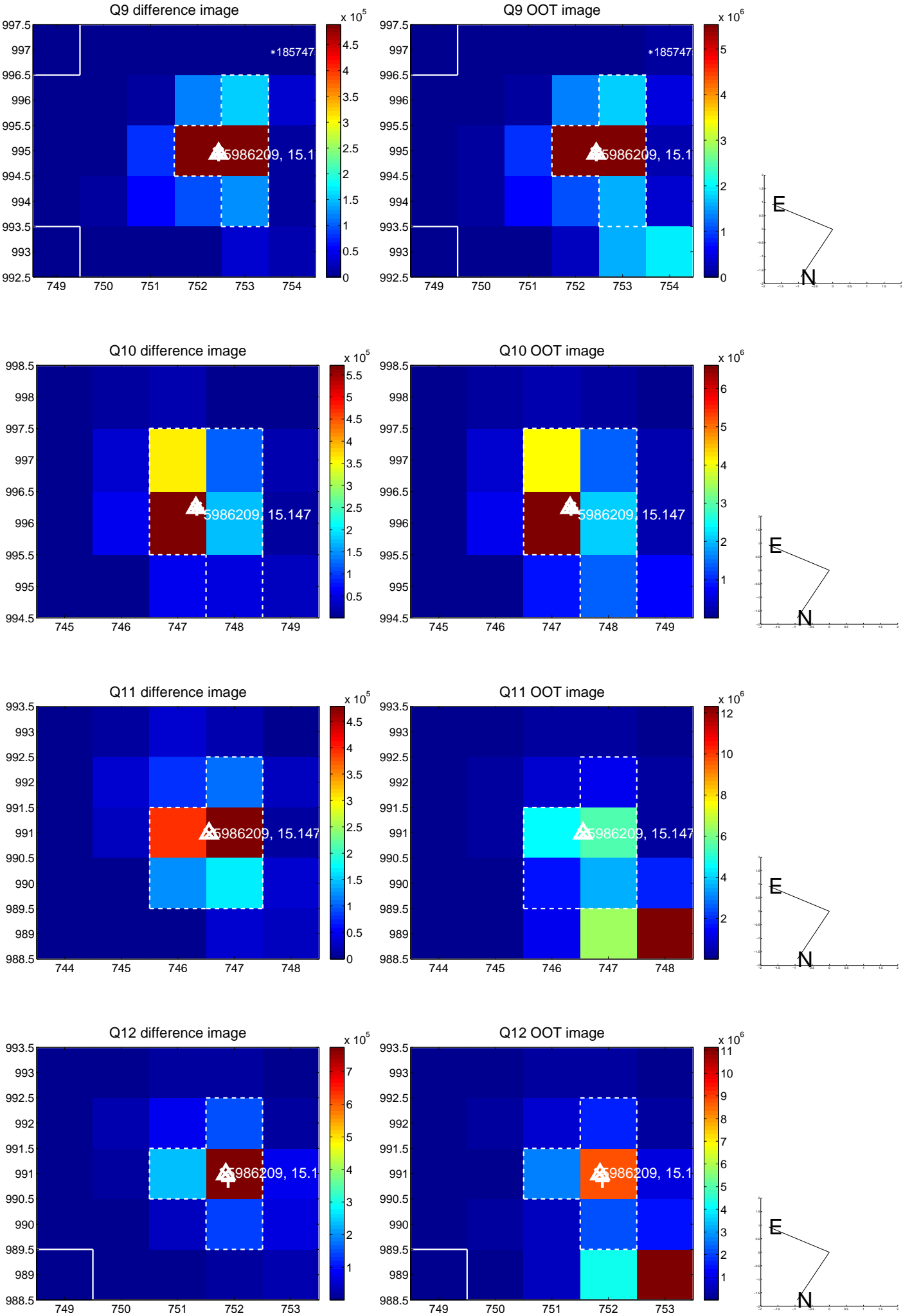
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



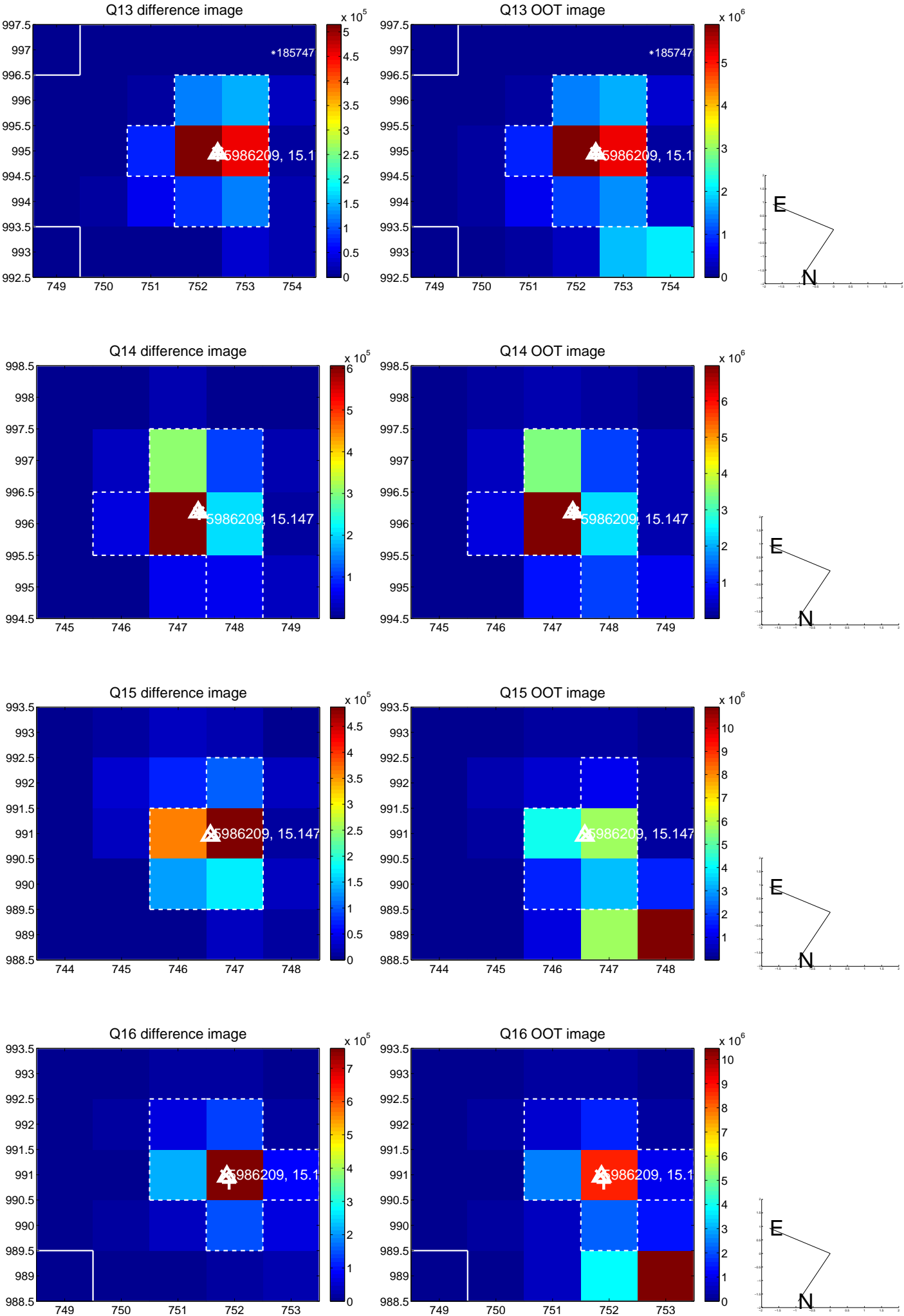
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



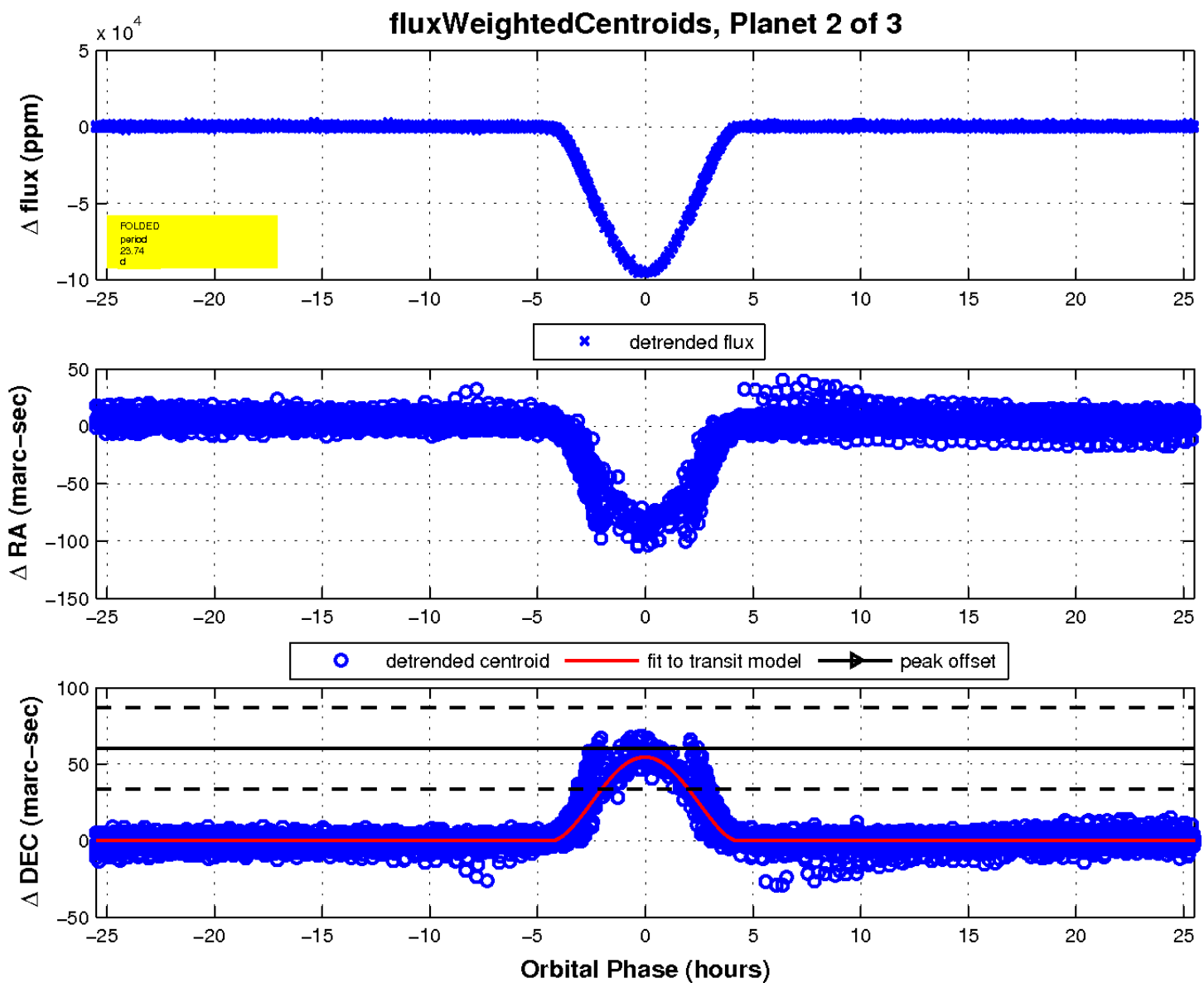
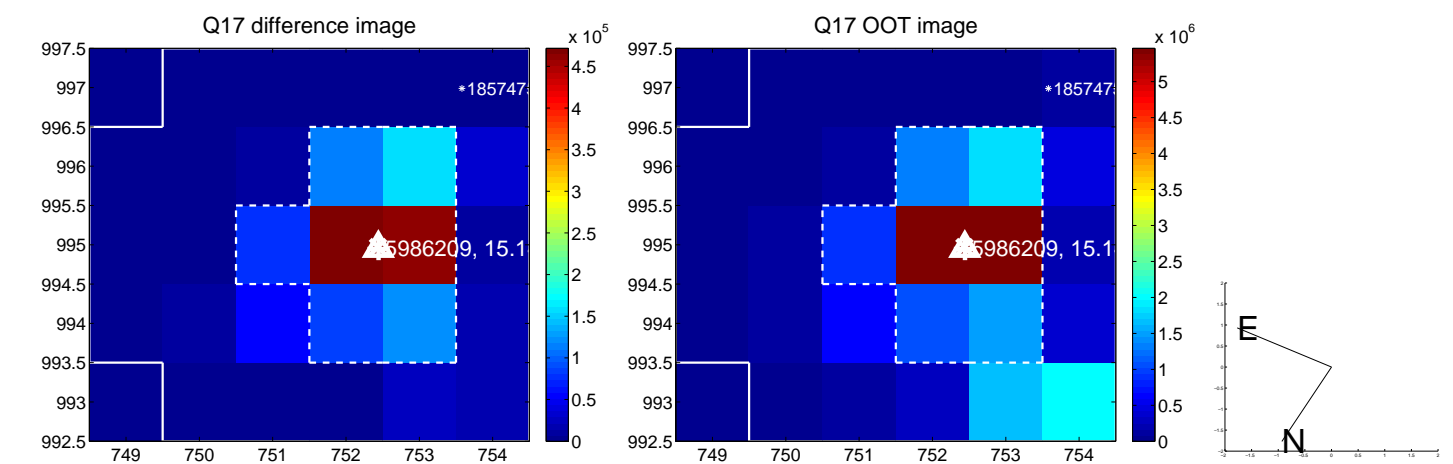
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



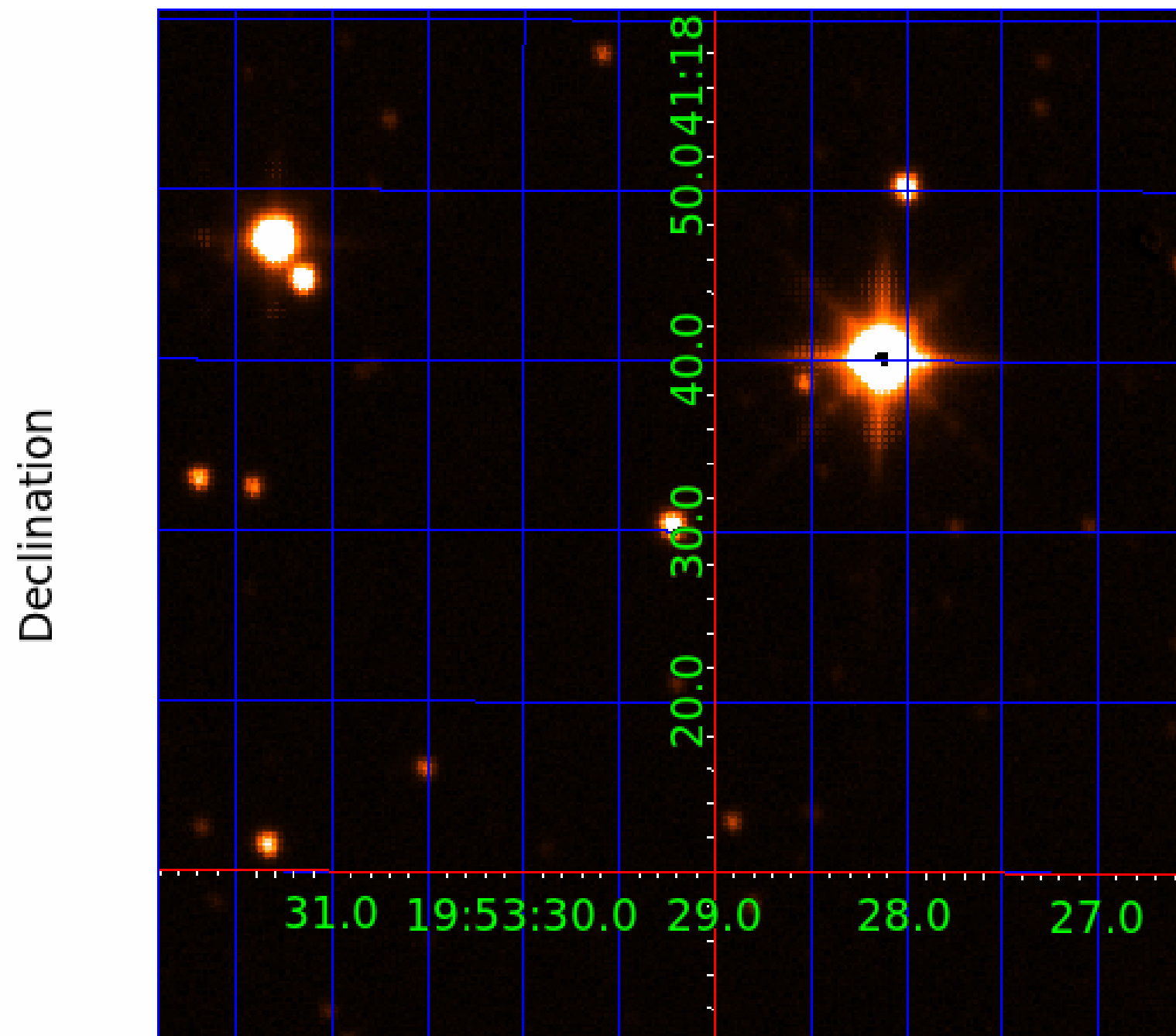
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005986209

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})
005986209-01	OBS	3476.01	23.738012	132.037036	379160.1	2.500	7395.9	-1.0	1.00	5559	54.56	35.02
005986209-02	OBS	No	23.737943	147.007181	96104.1	8.505	2259.2	1678.2	1.00	5559	45.84	35.02
005986209-03	OBS	No	4.747712	132.024437	69.6	9.170	515.9	4.5	1.00	5559	0.91	299.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005986209-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
005986209-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
005986209-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—RESIDUAL_TCE—CENT_FEW_DIFFS

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.

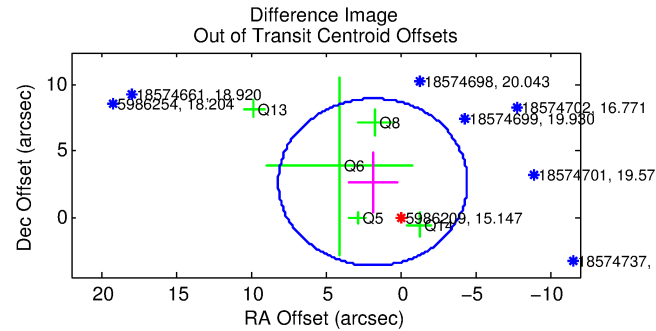
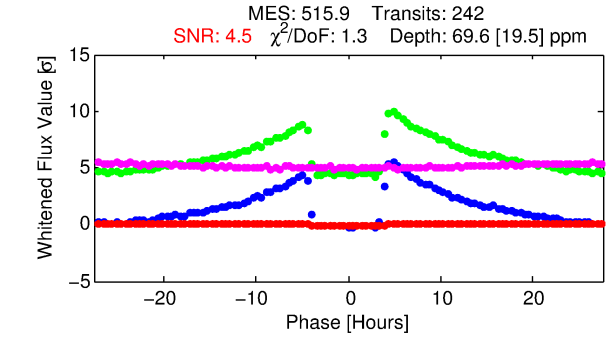
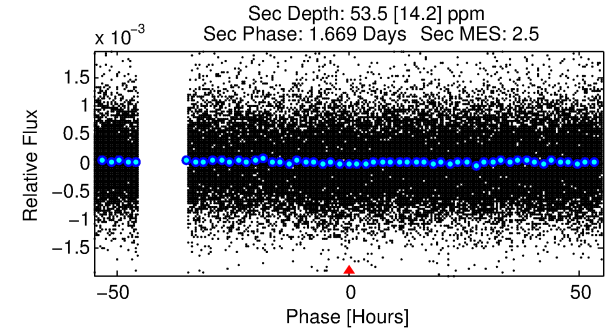
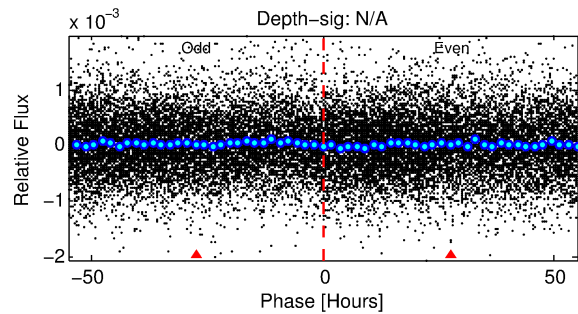
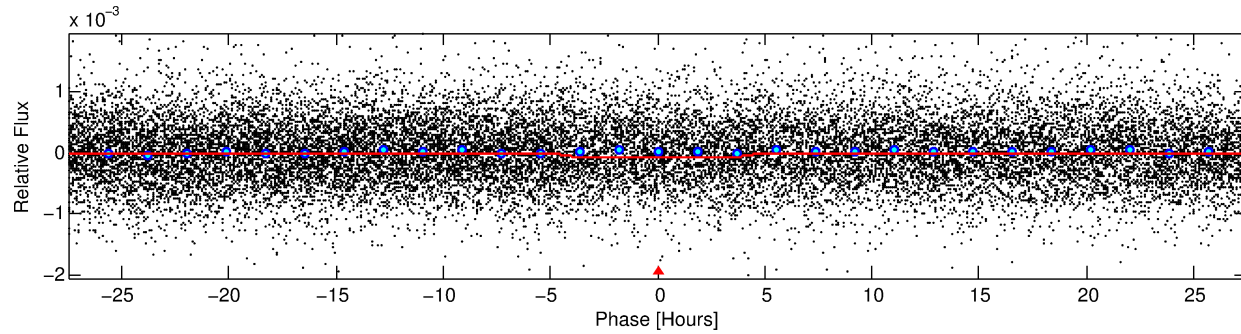
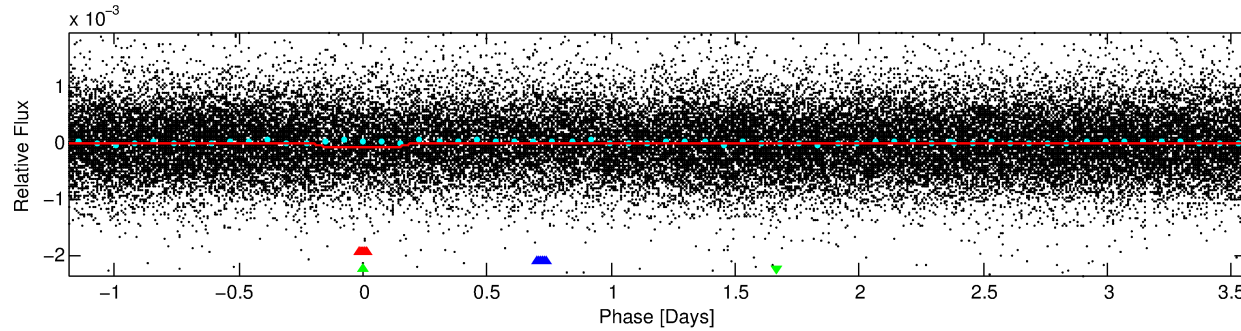
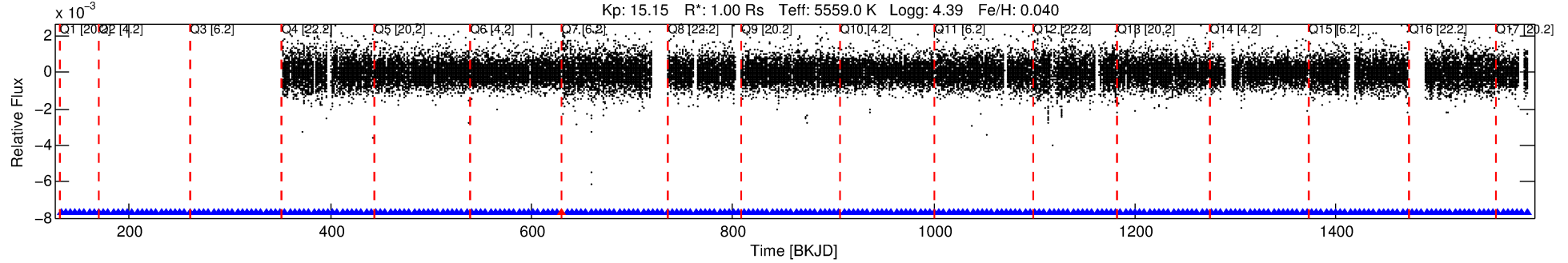
Ephemeris Match Information For 005986209-03

No Significant Match Found

DV One-Page Summary

KIC: 5986209 Candidate: 3 of 3 Period: 4.748 d
KOI: K03476 Corr: No Ephemeris Match

Kp: 15.15 R*: 1.00 Rs Teff: 5559.0 K Logg: 4.39 Fe/H: 0.040



DV Fit Results:

Period = 4.74771 [0.00014] d
Epoch = 132.0244 [0.0235] BKJD
Rp/R* = 0.0084 [0.0093]
a/R* = 2.74 [11.05]
b = 0.76 [2.57]
Seff = 299.39 [109.68]
Teq = 1061 [97] K
Rp = 0.91 [1.04] Re
a = 0.0535 [0.0126] AU
Ag = 101.27 [228.83] [0.44σ]
Teffp = 5202 [2910] K [1.42σ]

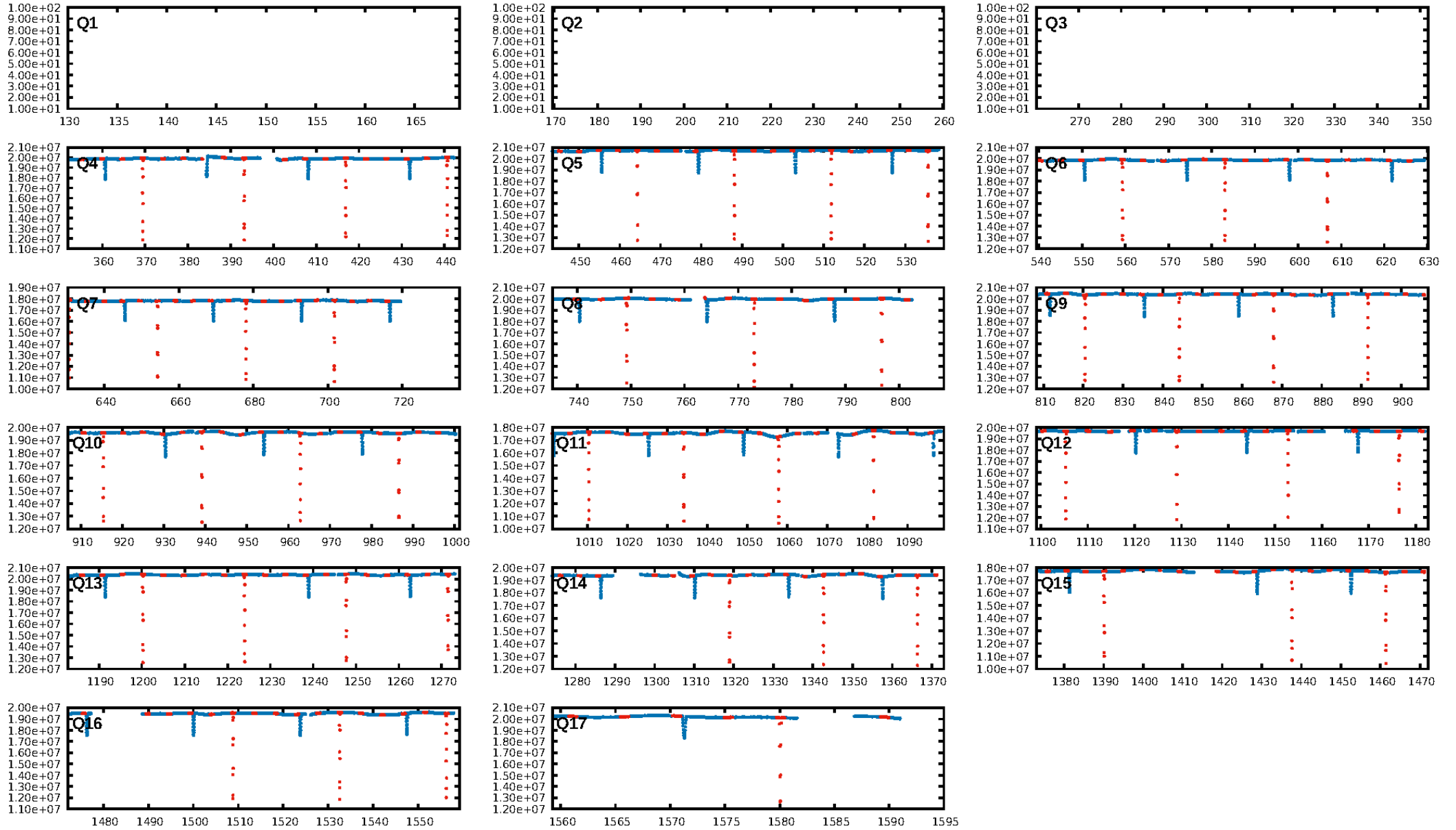
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [36.44σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [235/236]
GhostDiagnostic-chr: 0.9743
Centroid-sig: N/A
Centroid-so: 3.855 arcsec [1.46σ]
OotOffset-rm: 3.244 arcsec [1.54σ]
KicOffset-rm: 3.714 arcsec [2.39σ]
OotOffset-st: 2/0/1/2 [5]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 1.00 [14/14]

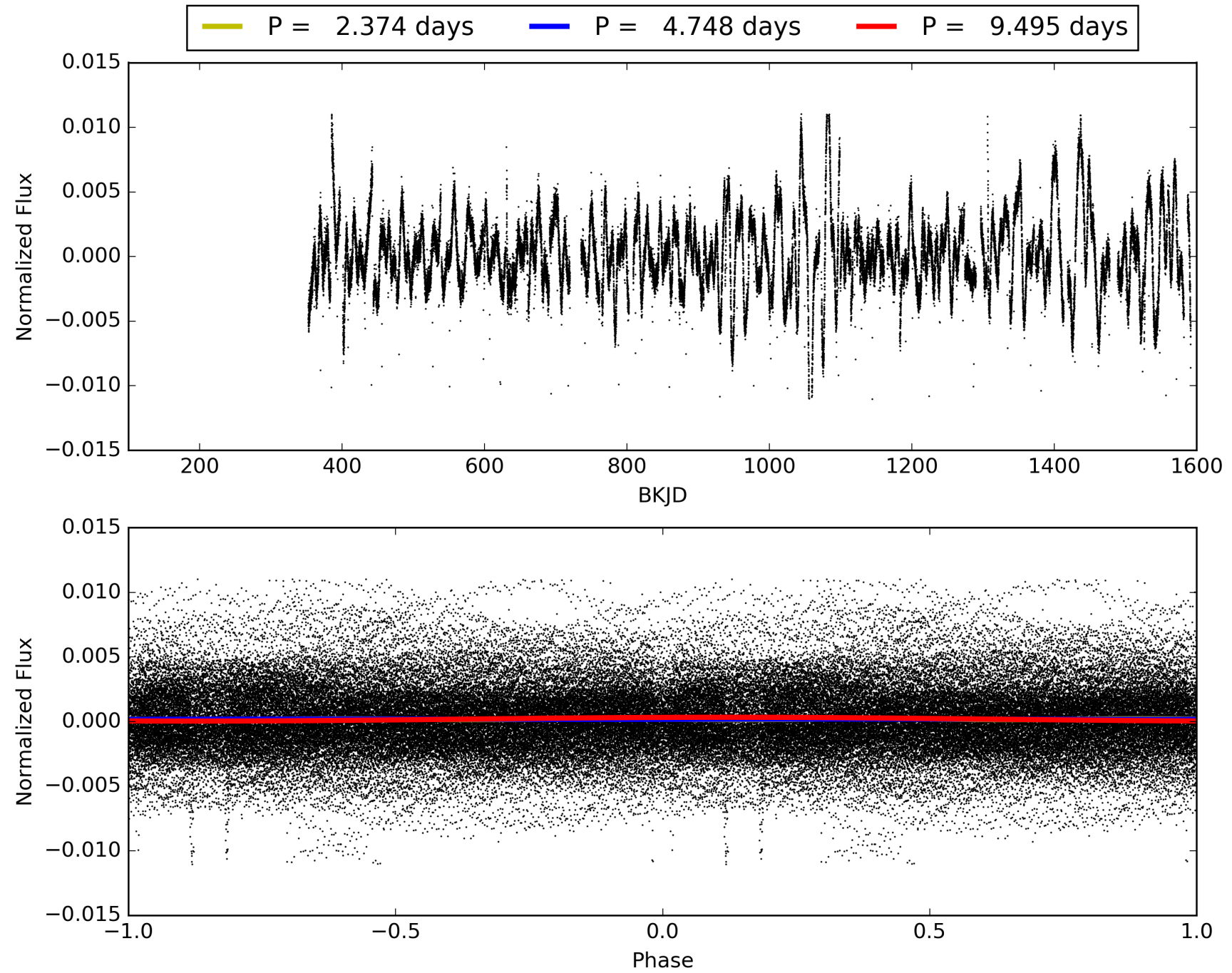
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:23:37 Z

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

TCE 005986209-03, PDC Light Curves

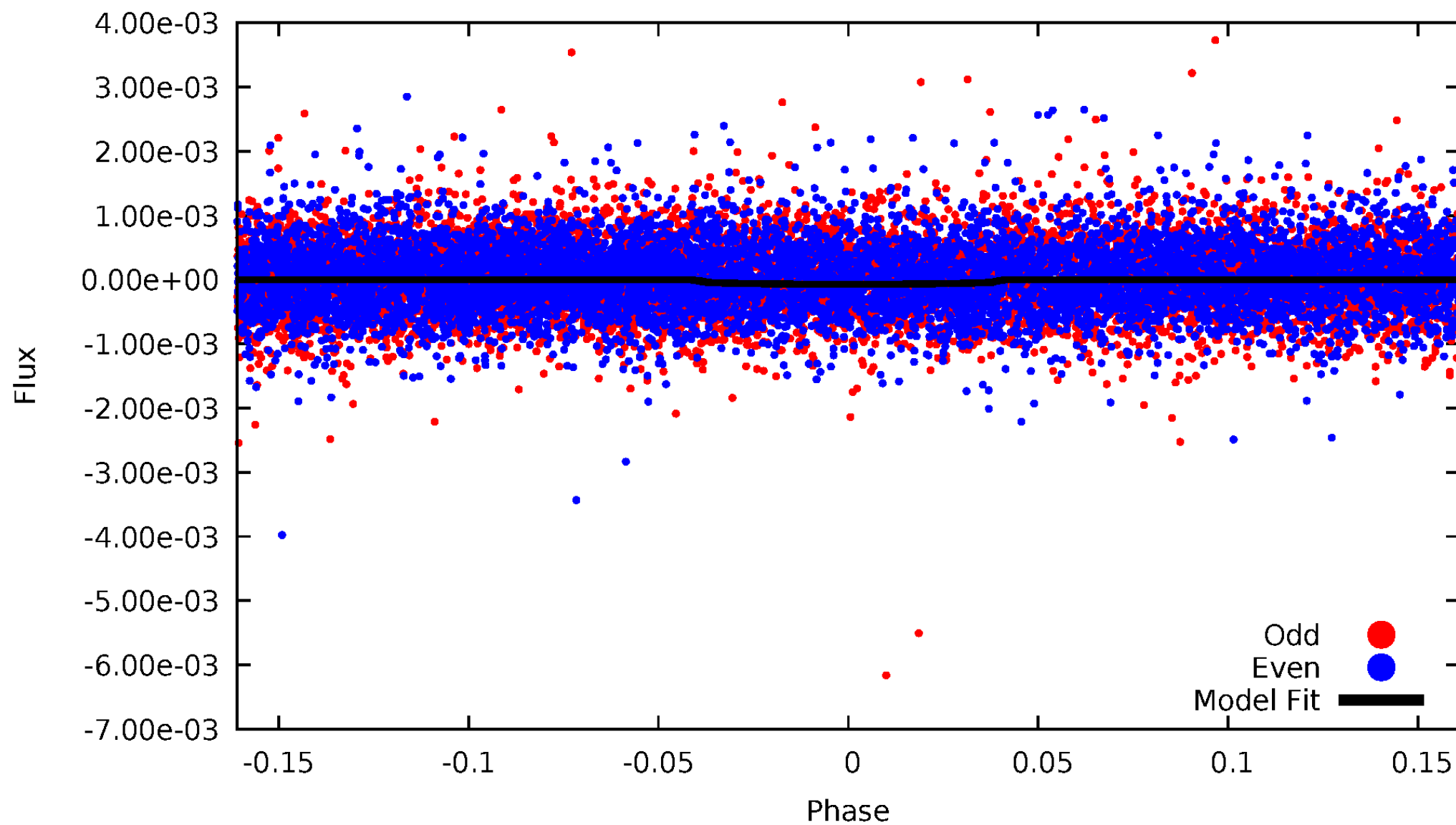


TCE 005986209-03



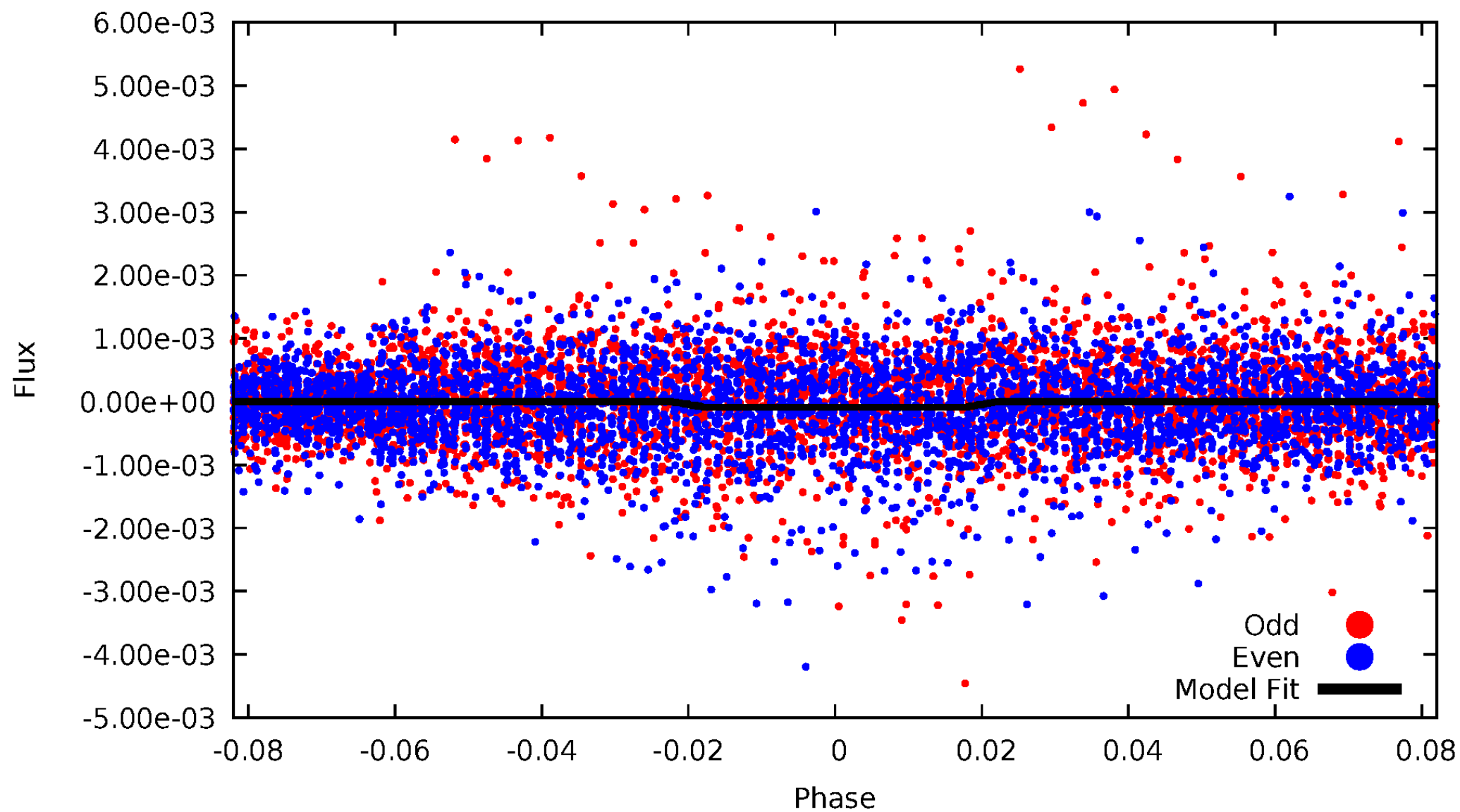
DV Odd/Even

TCE 005986209-03



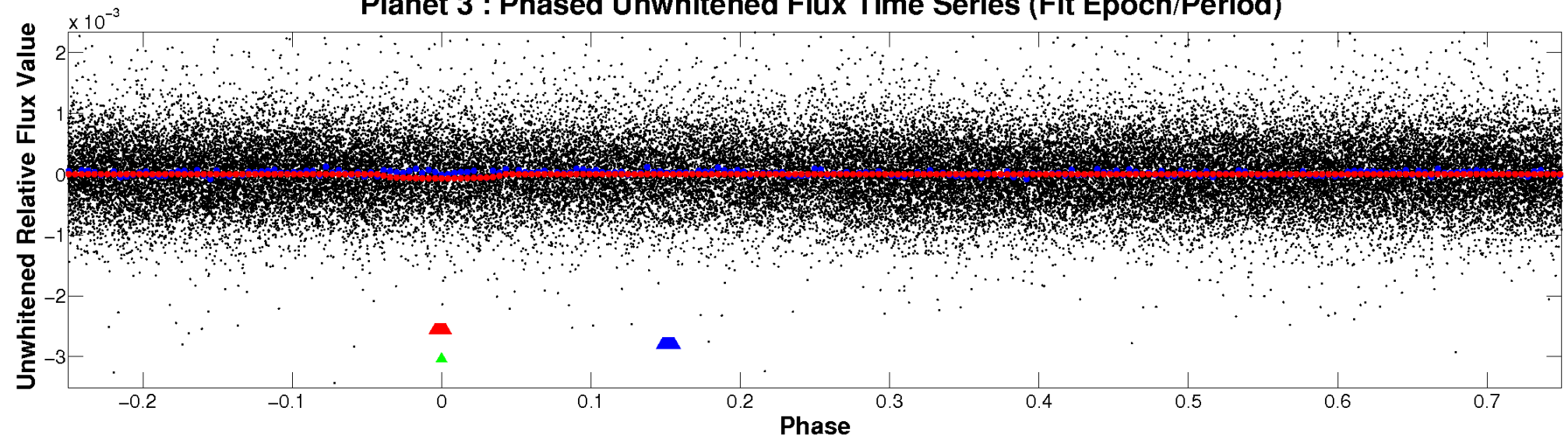
ALT Odd/Even

TCE 005986209-03

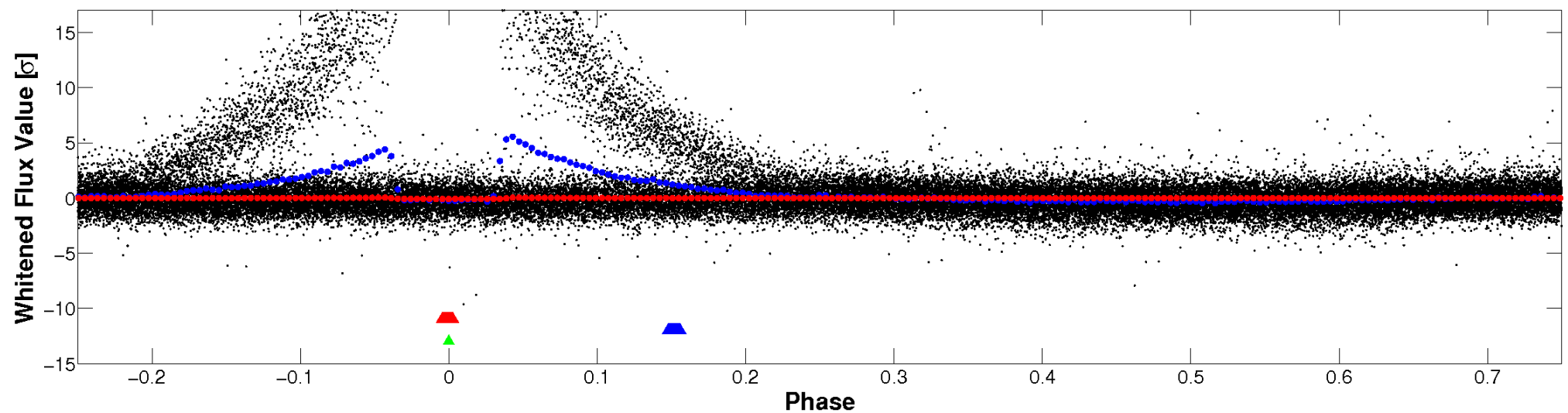


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

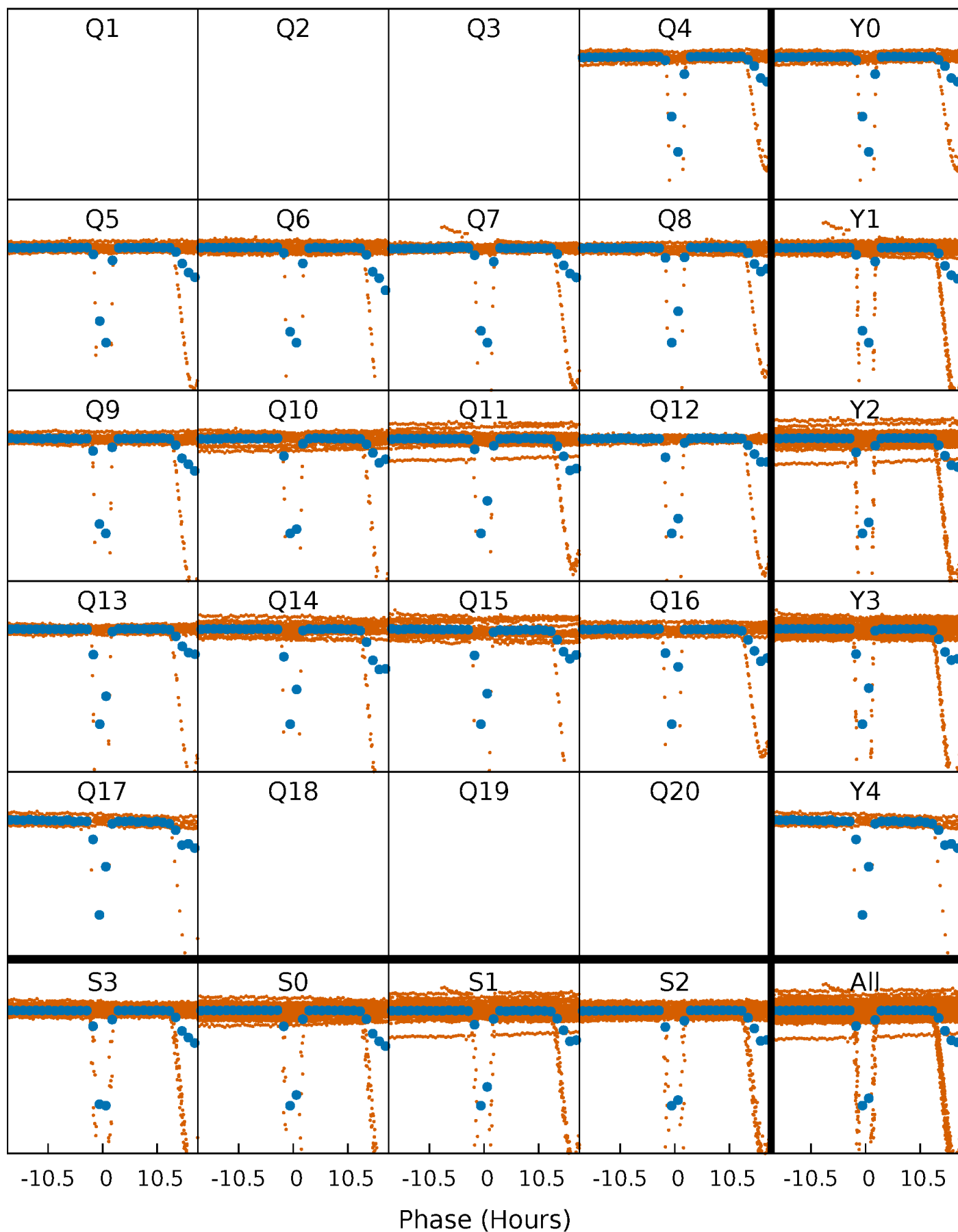


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



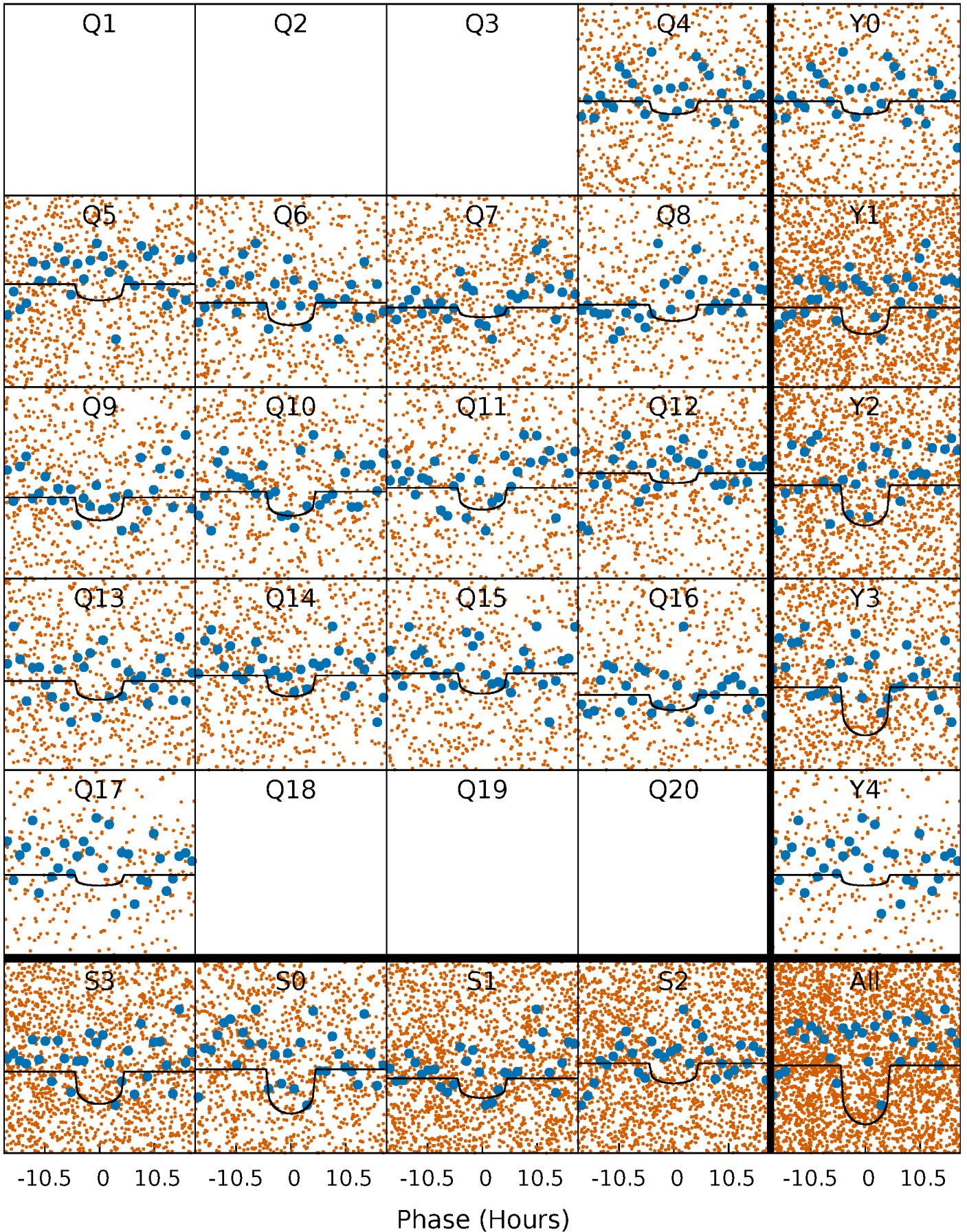
PDC Quarter-Phased Transit Curves

TCE 005986209-03 P= 4.747712 Days $T_0=132.024437$ (BKJD)



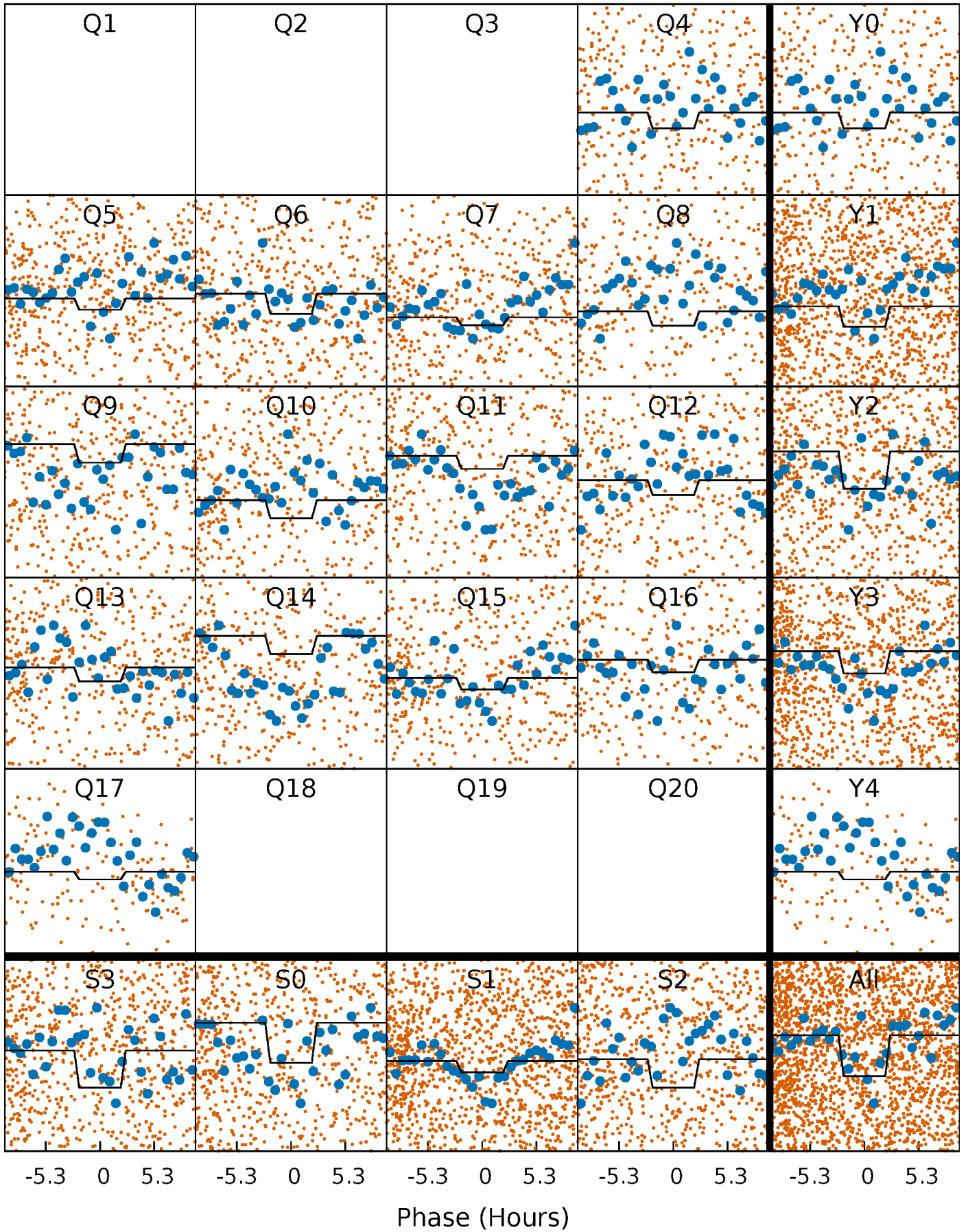
DV Quarter-Phased Transit Curves

TCE 005986209-03 P= 4.747712 Days $T_0=132.024437$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

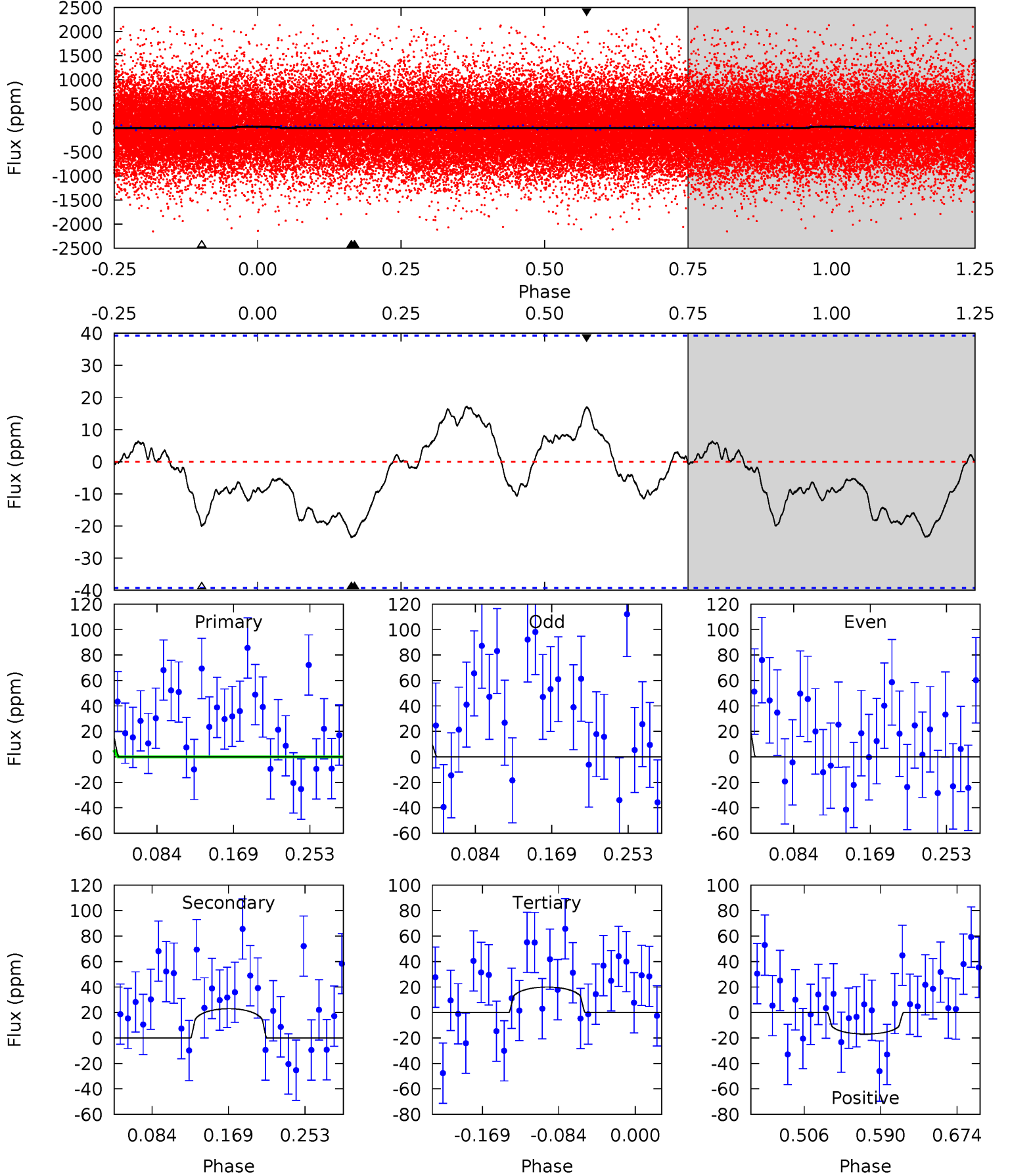
TCE 005986209-03 P= 4.747587 Days $T_0=132.131534$ (BKJD)



DV Model-Shift Uniqueness Test

005986209-03, P = 4.747712 Days, E = 132.024437 Days

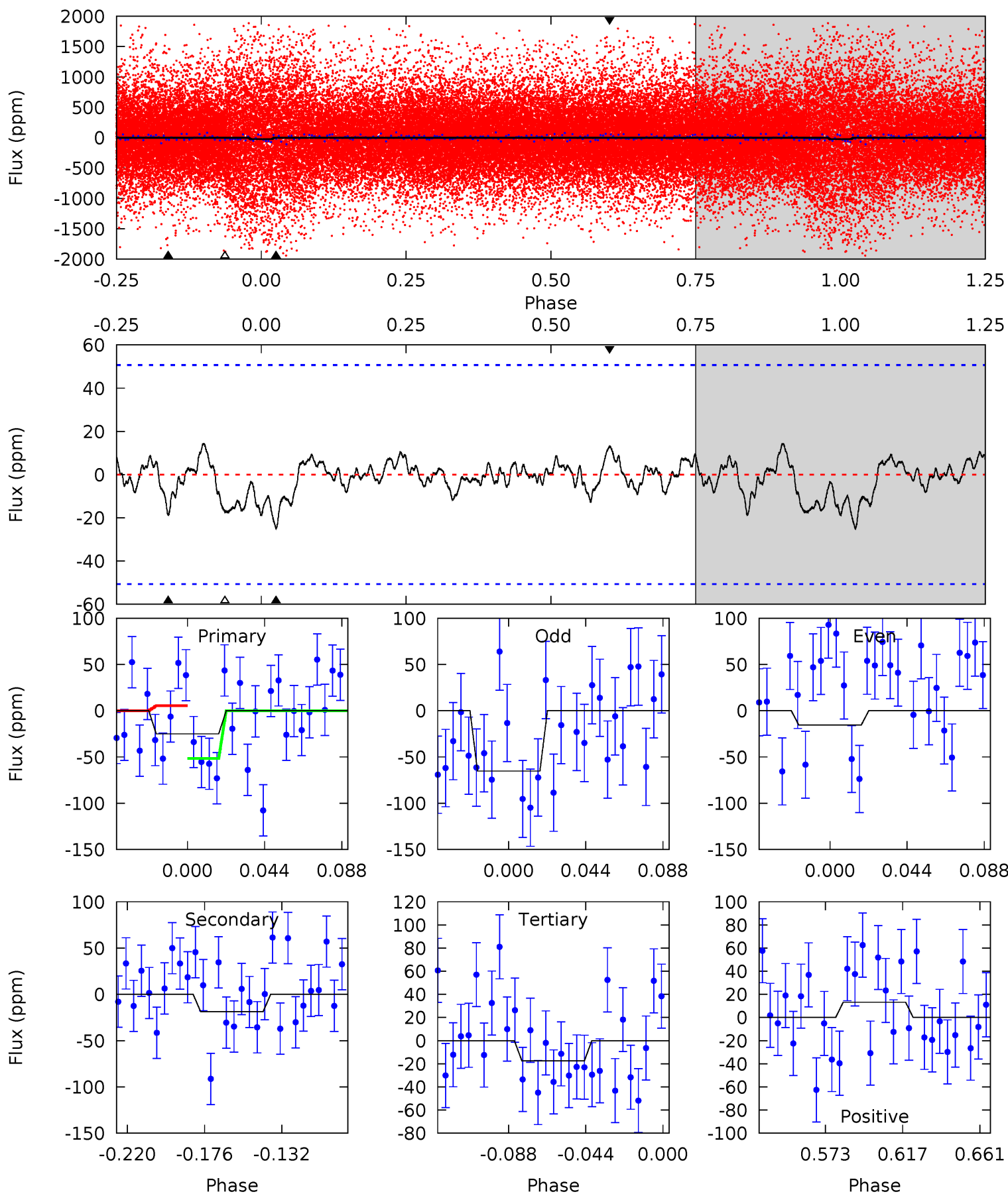
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.75	2.69	2.34	1.99	4.60	1.73	1.03	0.41	0.76	0.35	0.71	0.99	3.14	0.42	1.78



Alt Model-Shift Uniqueness Test

005986209-03, P = 4.747587 Days, E = 132.131534 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.34	1.75	1.64	1.23	4.73	2.01	0.56	0.71	1.11	0.11	0.52	2.30	-0.53	0.36	2.13



Stellar Parameters For KIC 005986209

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5559^{+183}_{-183}	$4.394^{+0.139}_{-0.186}$	$0.040^{+0.250}_{-0.300}$	$1.000^{+0.282}_{-0.173}$	$0.903^{+0.115}_{-0.084}$	$1.273^{+0.716}_{-0.618}$
	+3%/-3%	+3%/-4%	+625%/-750%	+28%/-17%	+13%/-9%	+56%/-49%
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 005986209-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 9	$1.16^{+0.92}_{-0.76}$	1485^{+113}_{-86}	4011^{+2229}_{-777}	26^{+192}_{-18}
Alt.	-19 ± 11	$1.27^{+0.96}_{-0.79}$	1483^{+126}_{-87}	3703^{+1656}_{-723}	15^{+102}_{-11}

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

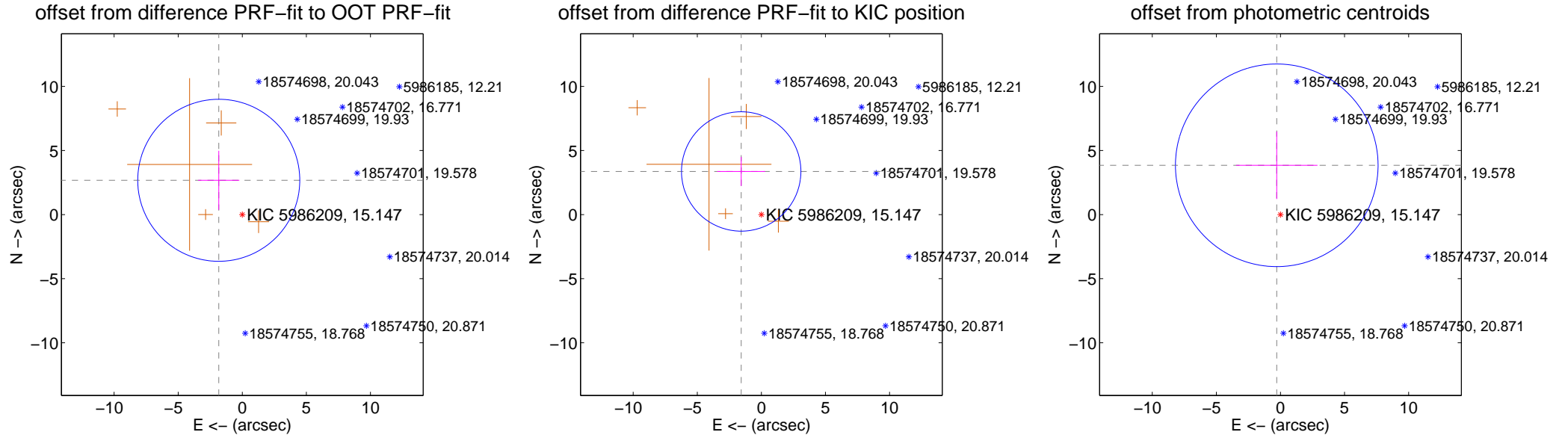
DV Centroid Data

Supplemental centroid analysis for 005986209-03. Kepler magnitude: 15.15. Transit SNR 4.53

There are 1 quarters with good PRF difference image offsets

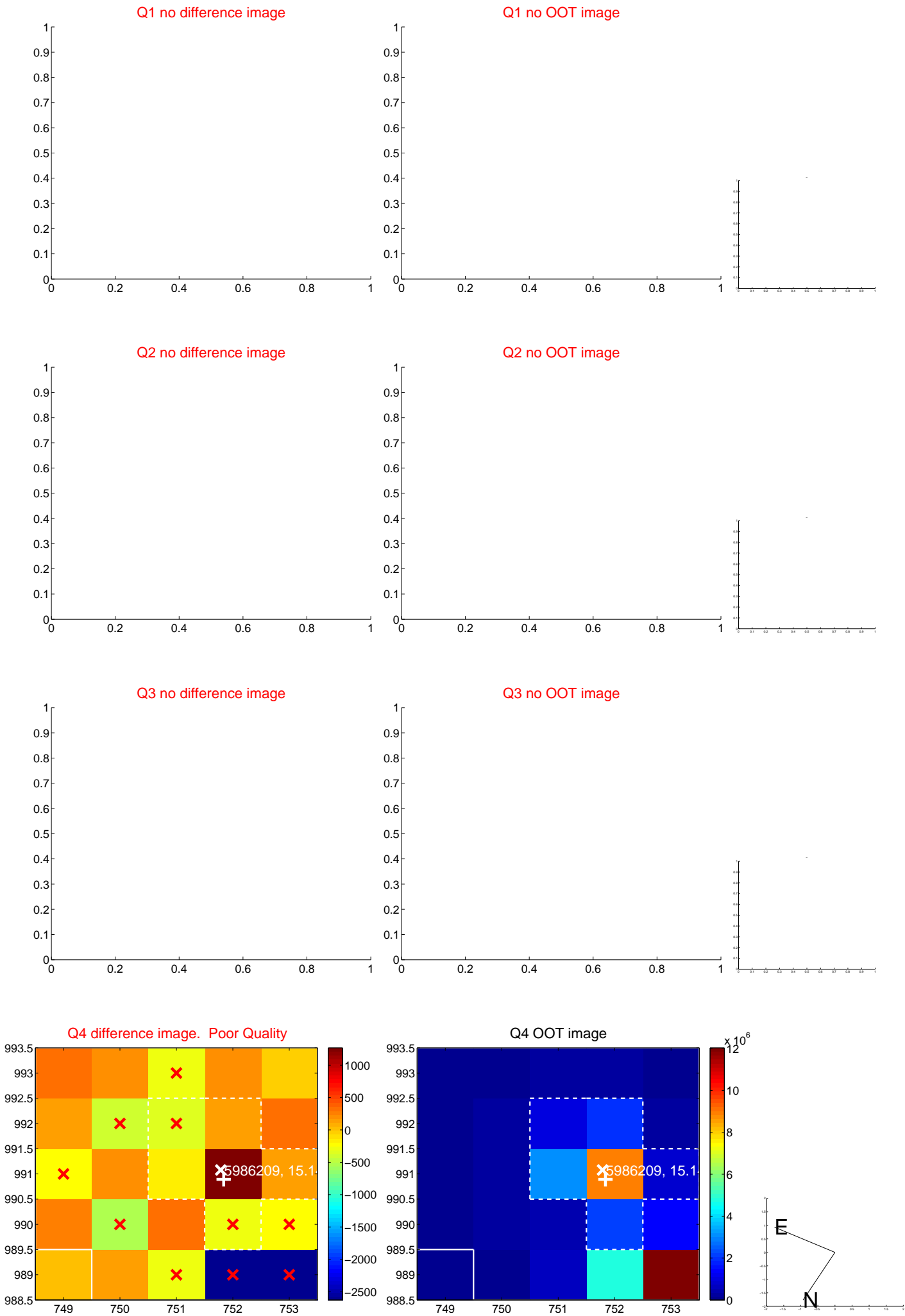
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.244 ± 2.106	1.54	1.835 ± 1.606	2.675 ± 2.304
PRF-fit source offset from KIC position	3.714 ± 1.552	2.39	1.574 ± 1.870	3.364 ± 1.133
photometric centroid source offset	3.86 ± 2.63	1.46	0.29 ± 3.17	3.84 ± 2.63

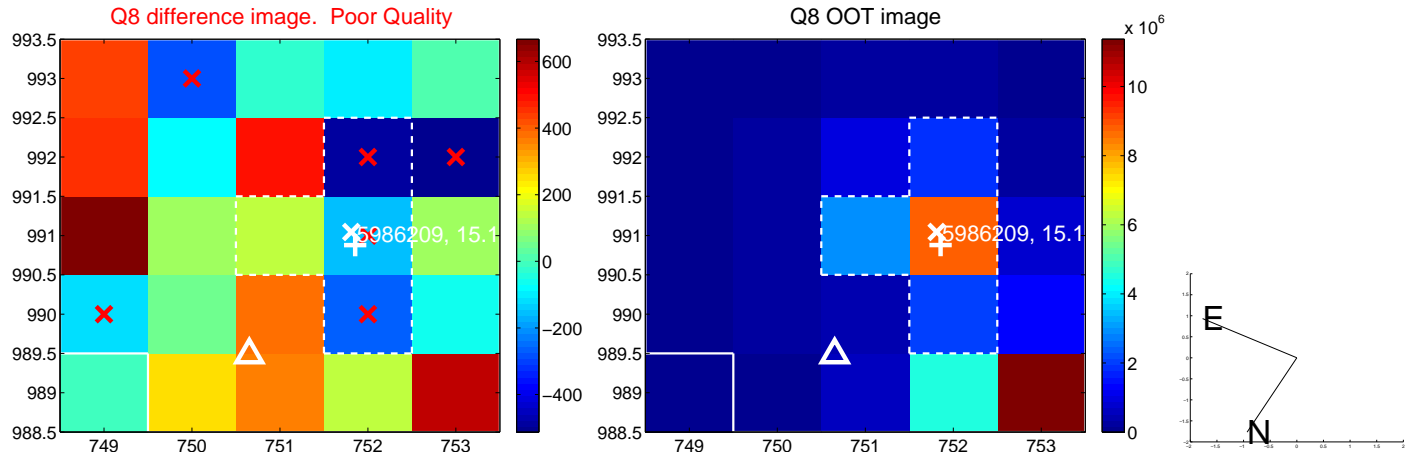
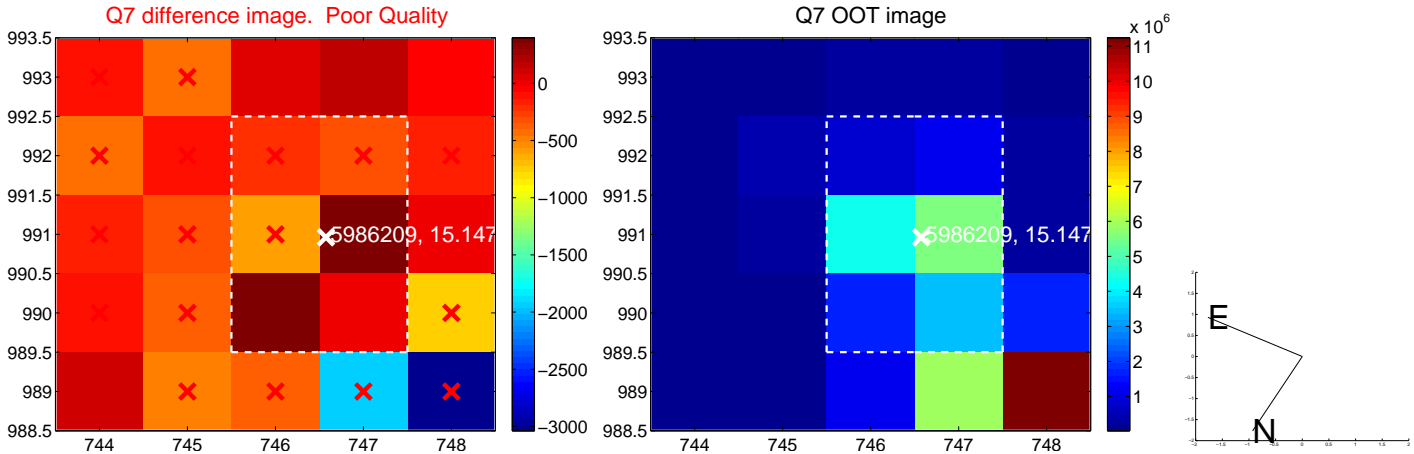
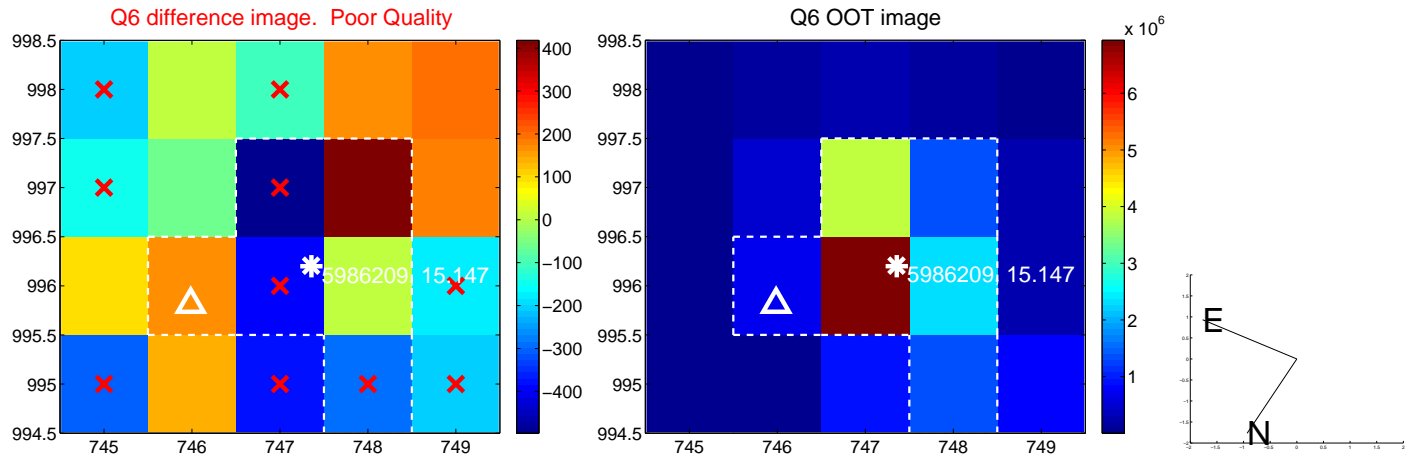
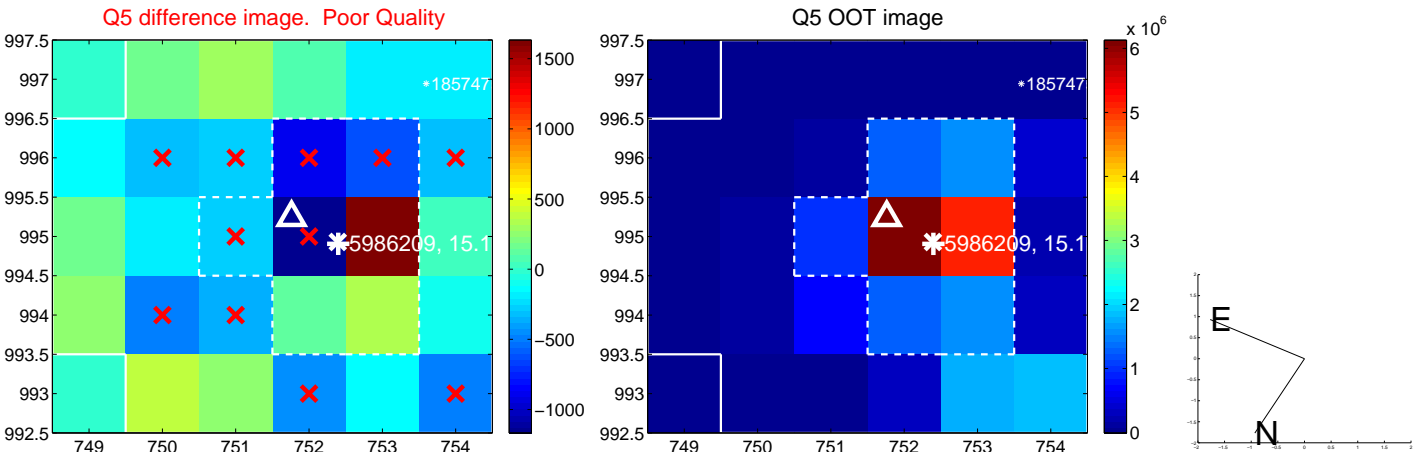


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

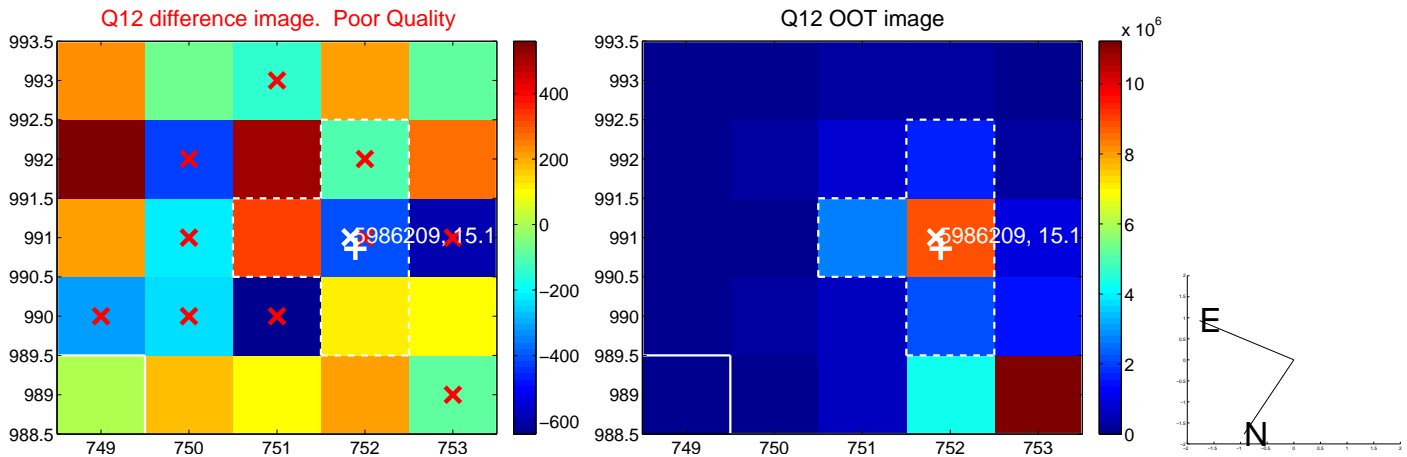
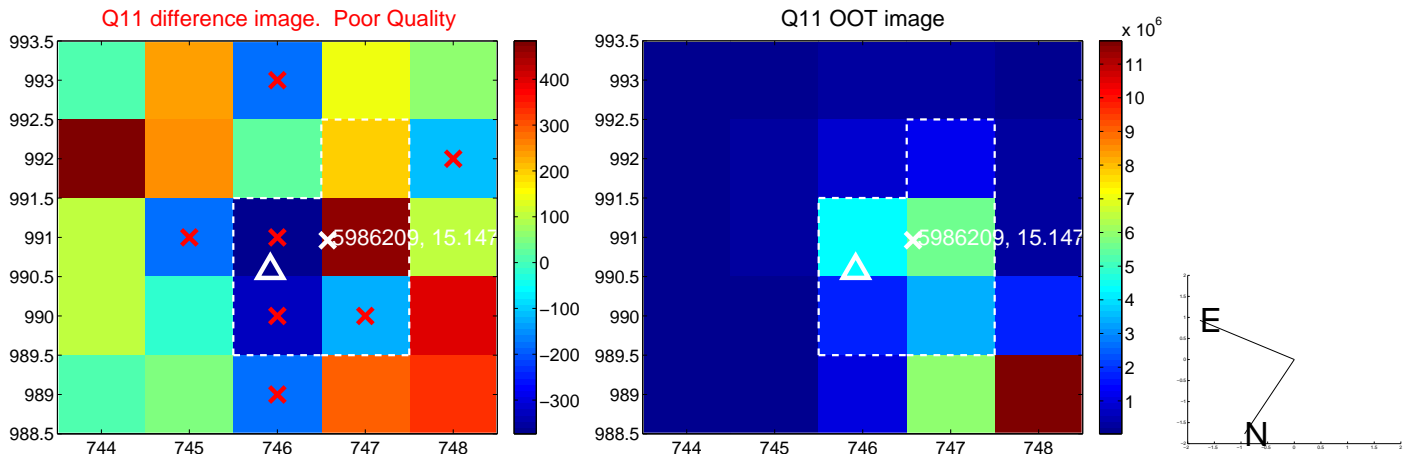
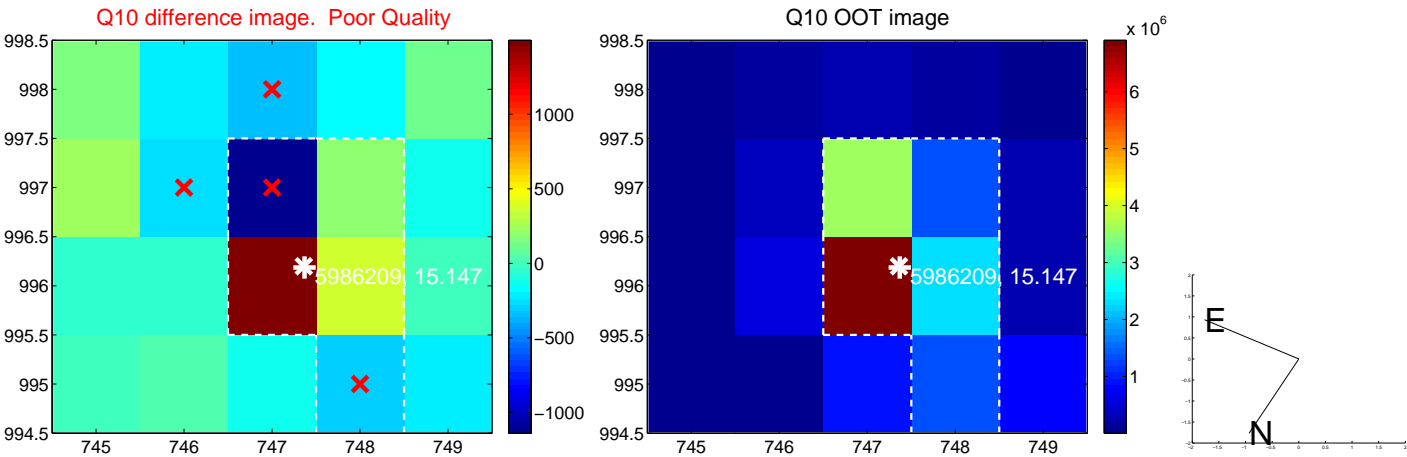
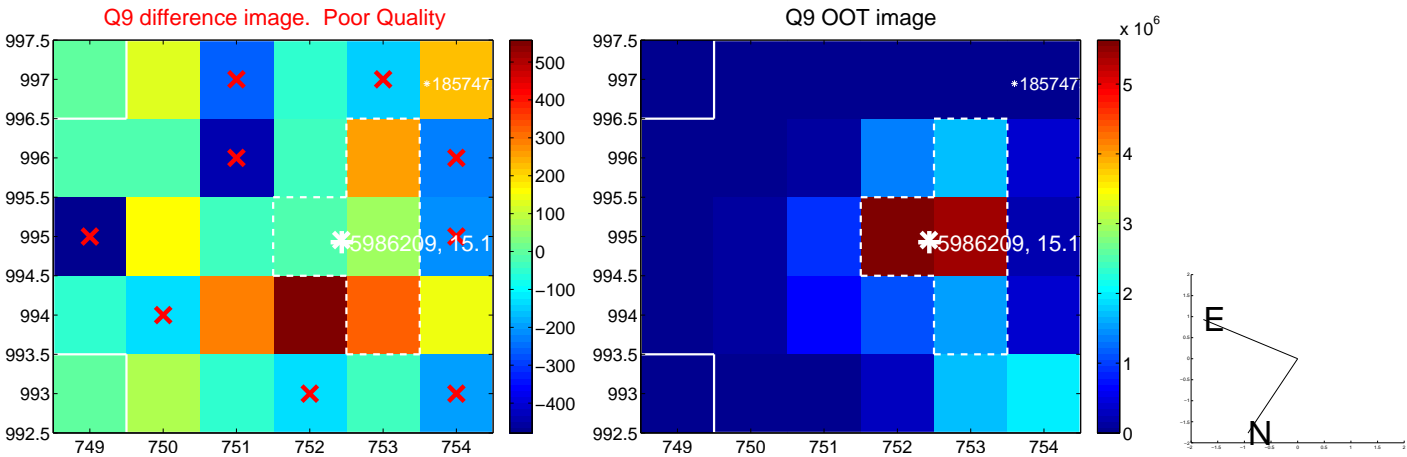
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



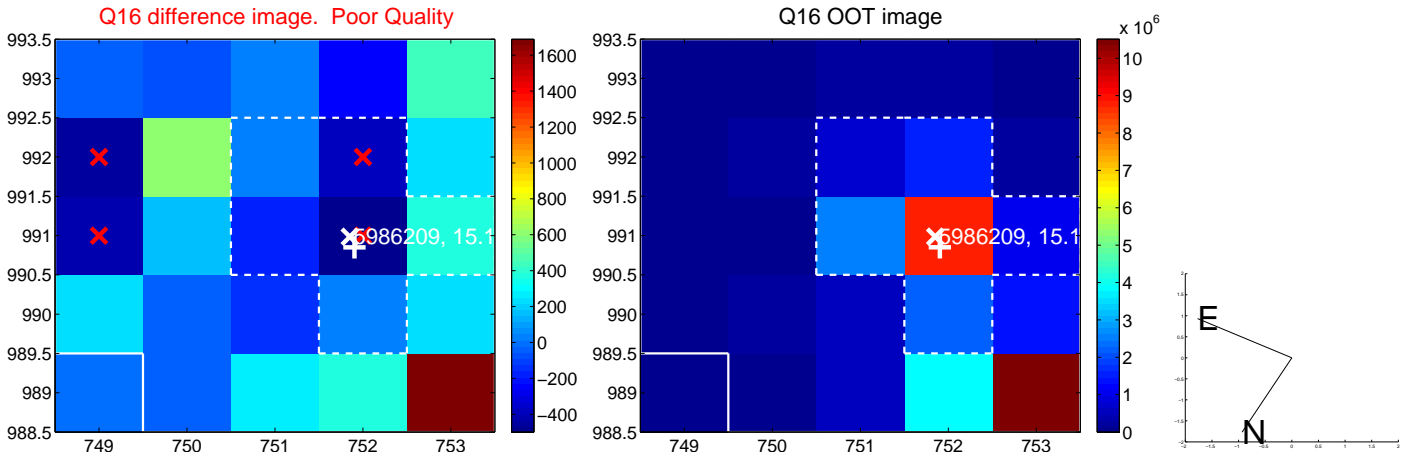
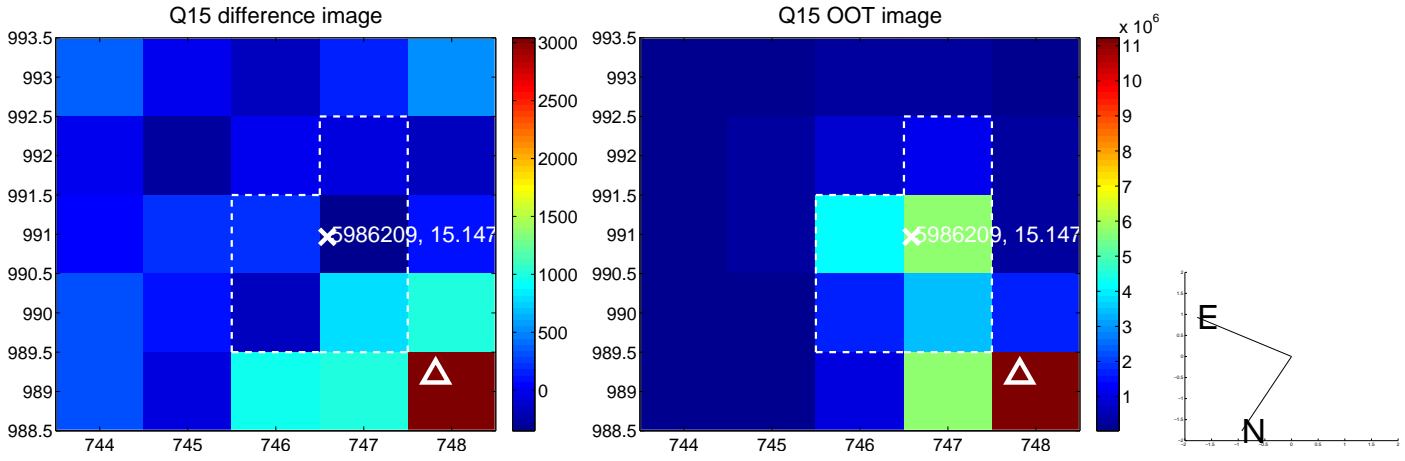
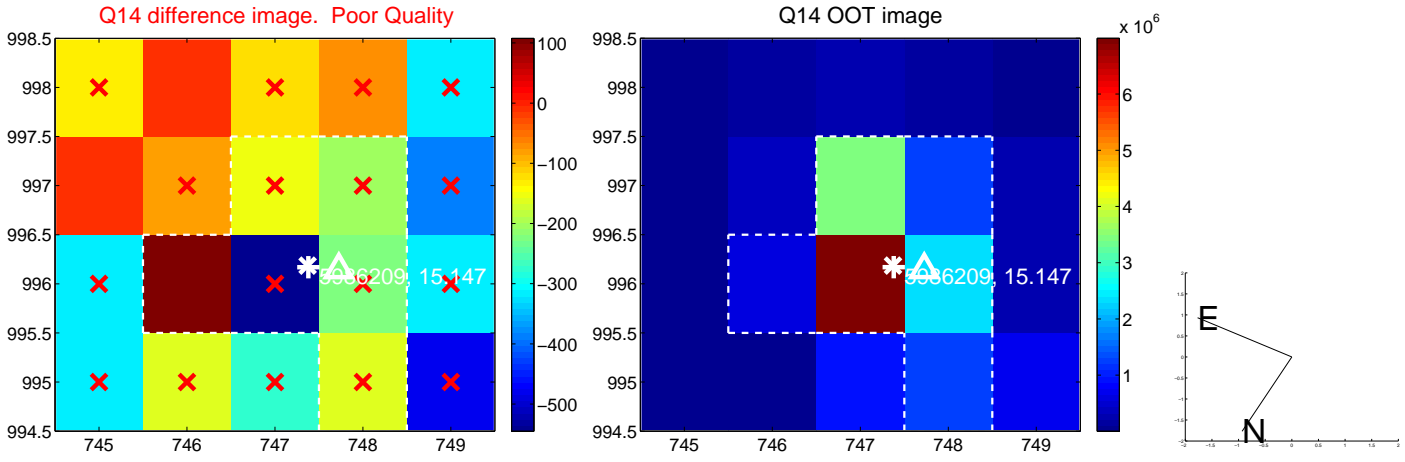
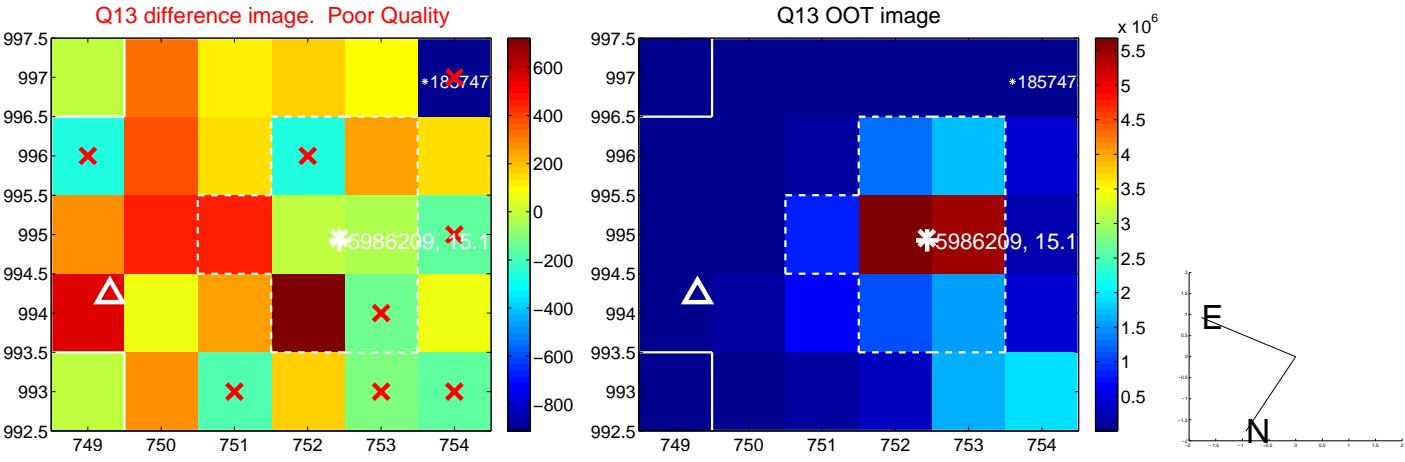
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



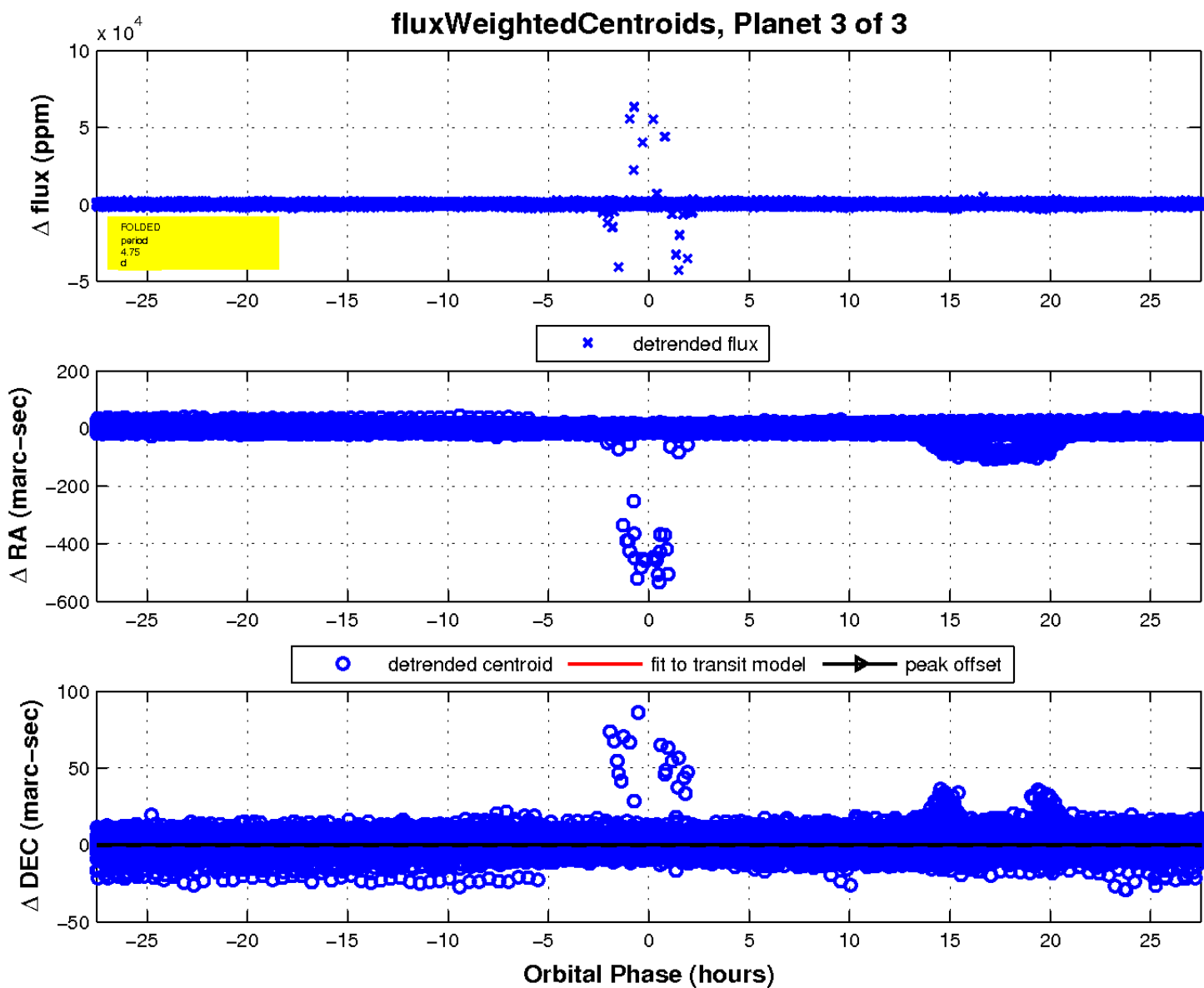
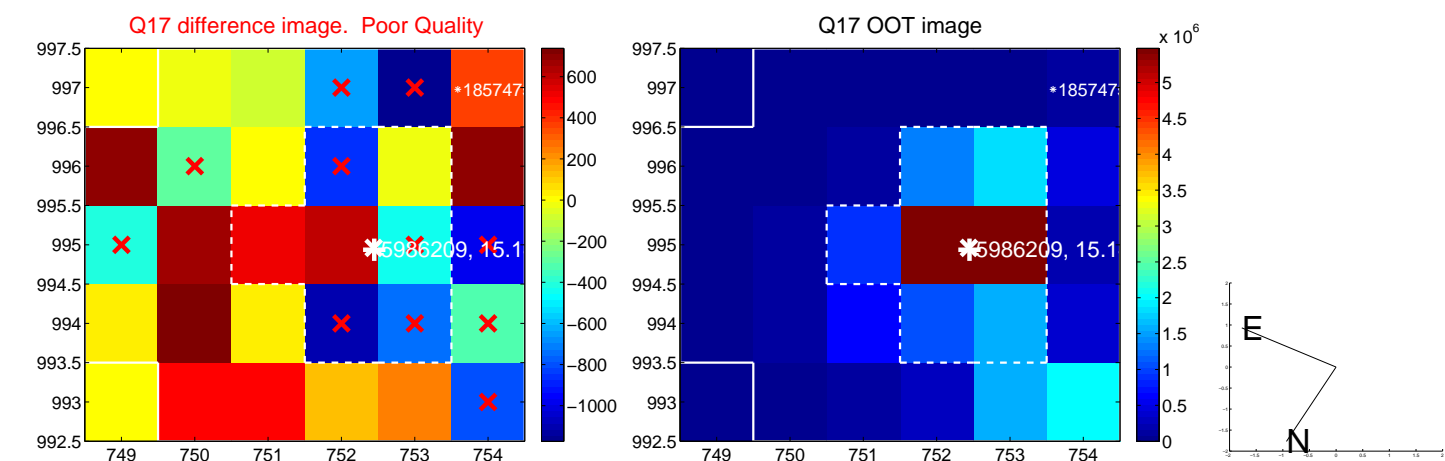
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

