

KIC 011807603

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})
011807603-01	OBS	No	1.573032	131.725149	56.9	1.651	25.8	21.6	2.13	8814	1.87	21501.13
011807603-02	OBS	No	1.572961	132.558744	62.1	1.891	24.1	24.3	2.13	8814	1.95	21502.42
011807603-03	OBS	No	1.572919	132.446849	4.1	4.439	19.4	1.4	2.13	8814	0.50	21503.19
011807603-04	OBS	No	0.524330	131.896610	218.9	2.000	18.4	-1.0	2.13	8814	3.22	93033.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011807603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011807603-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
011807603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011807603-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

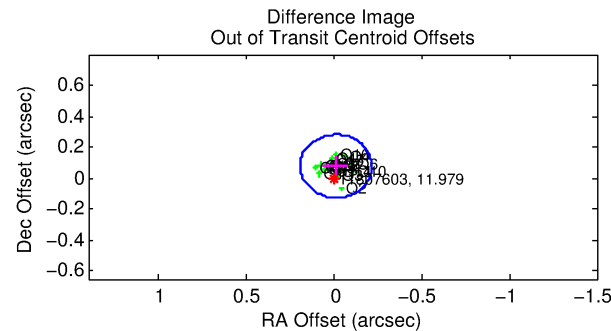
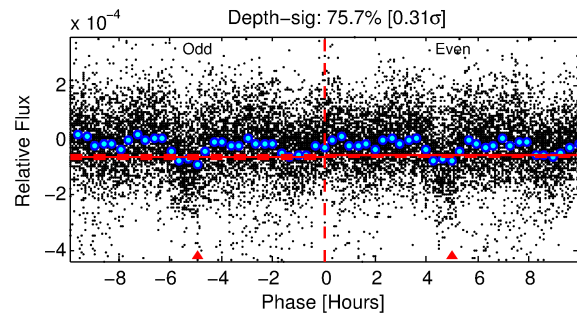
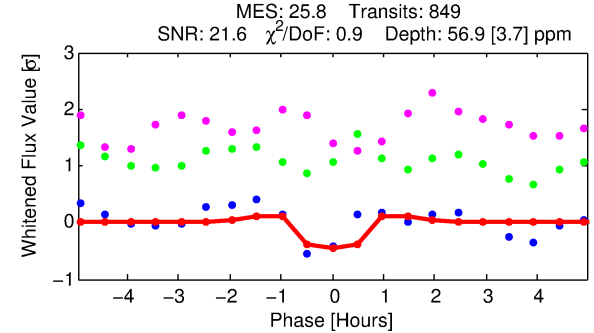
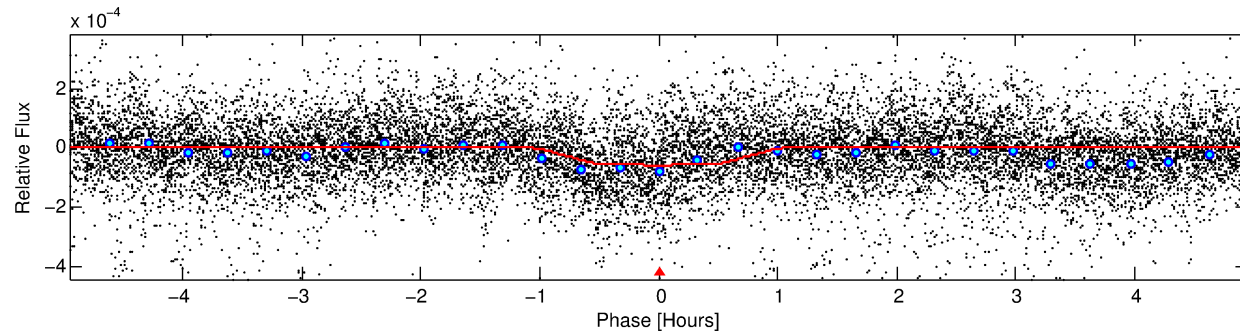
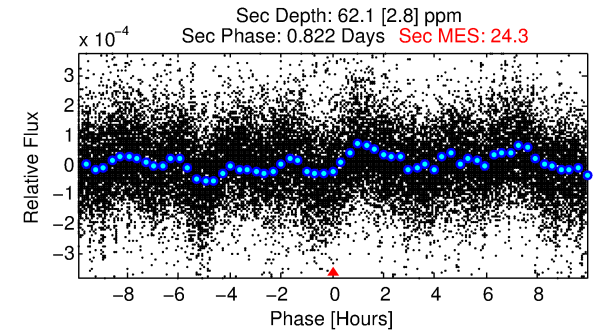
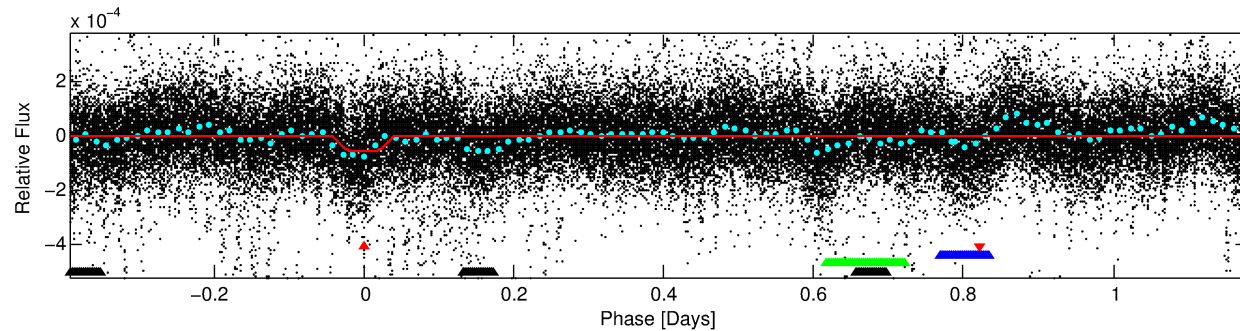
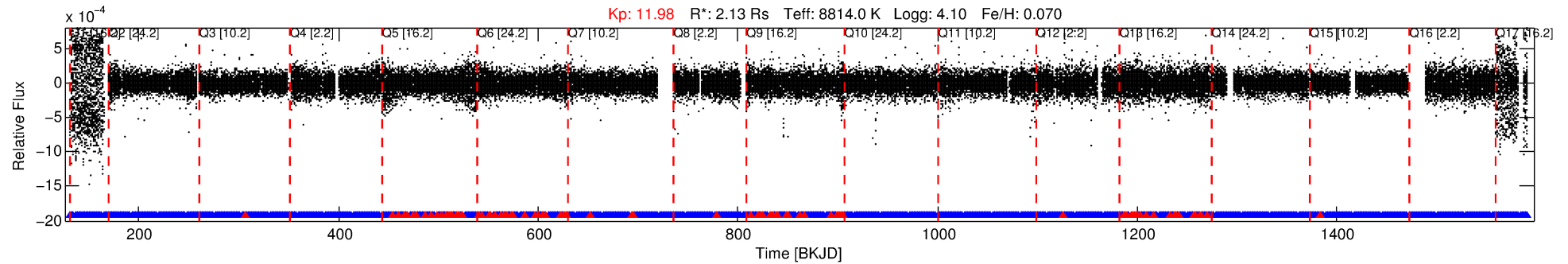
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011807603-01

No Significant Match Found

DV One-Page Summary

KIC: 11807603 Candidate: 1 of 4 Period: 1.573 d



DV Fit Results:

Period = 1.57303 [0.00000] d
Epoch = 131.7251 [0.0009] BKJD
Rp/R* = 0.0081 [0.0011]
a/R* = 3.31 [2.80]
b = 0.91 [0.18]
Seff = 21501.13 [8002.86]
Teq = 3088 [287] K
Rp = 1.87 [0.60] Re
a = 0.0338 [0.0078] AU
Ag = 11.12 [4.69] [2.16σ]
Teffp = 8718 [732] K [7.16σ]

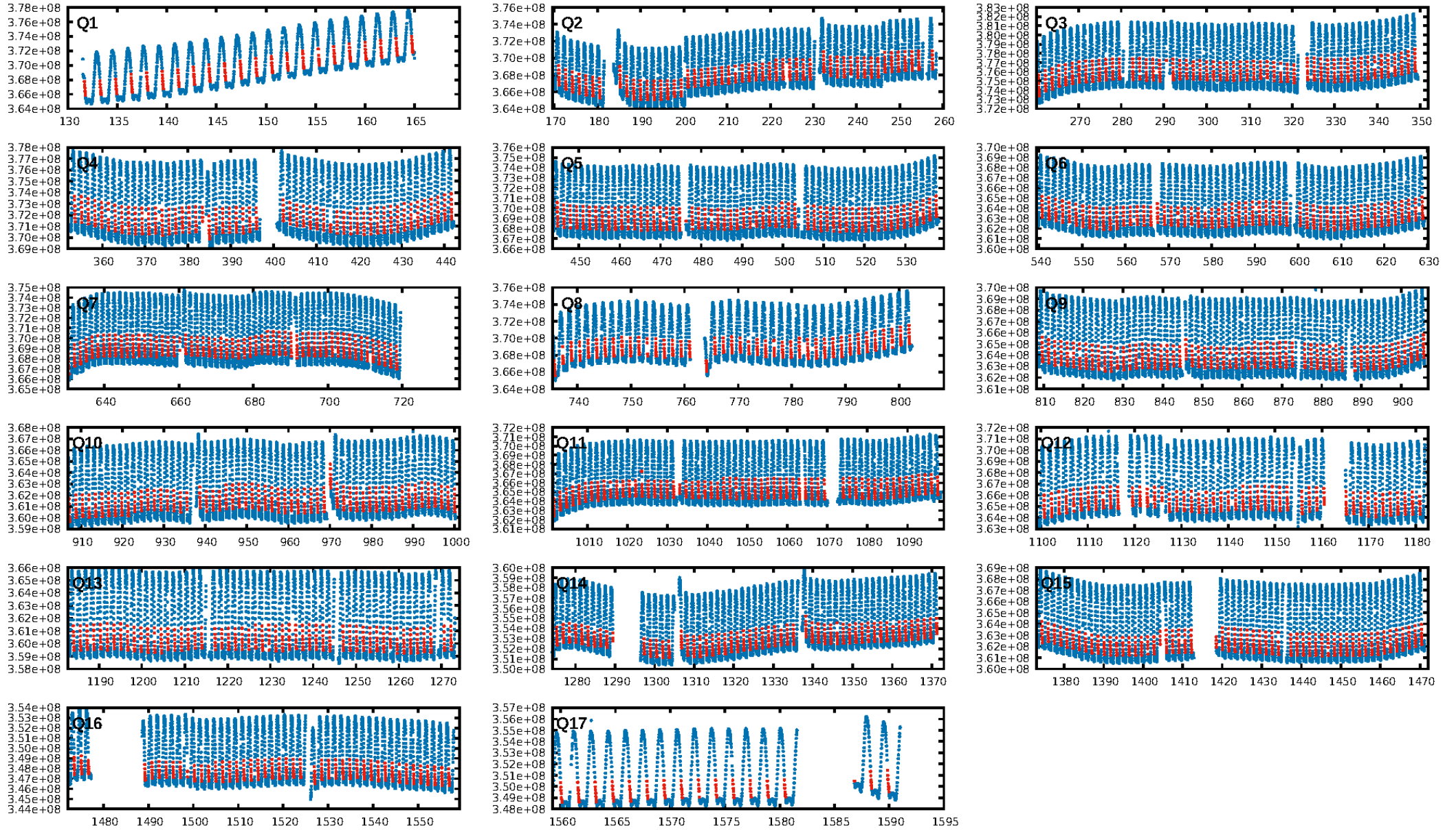
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [728/811]
GhostDiagnostic-chr: 3.648
Centroid-sig: 1.4%
Centroid-so: 0.850 arcsec [2.11σ]
OotOffset-rm: 0.078 arcsec [1.15σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.113 arcsec [1.67σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

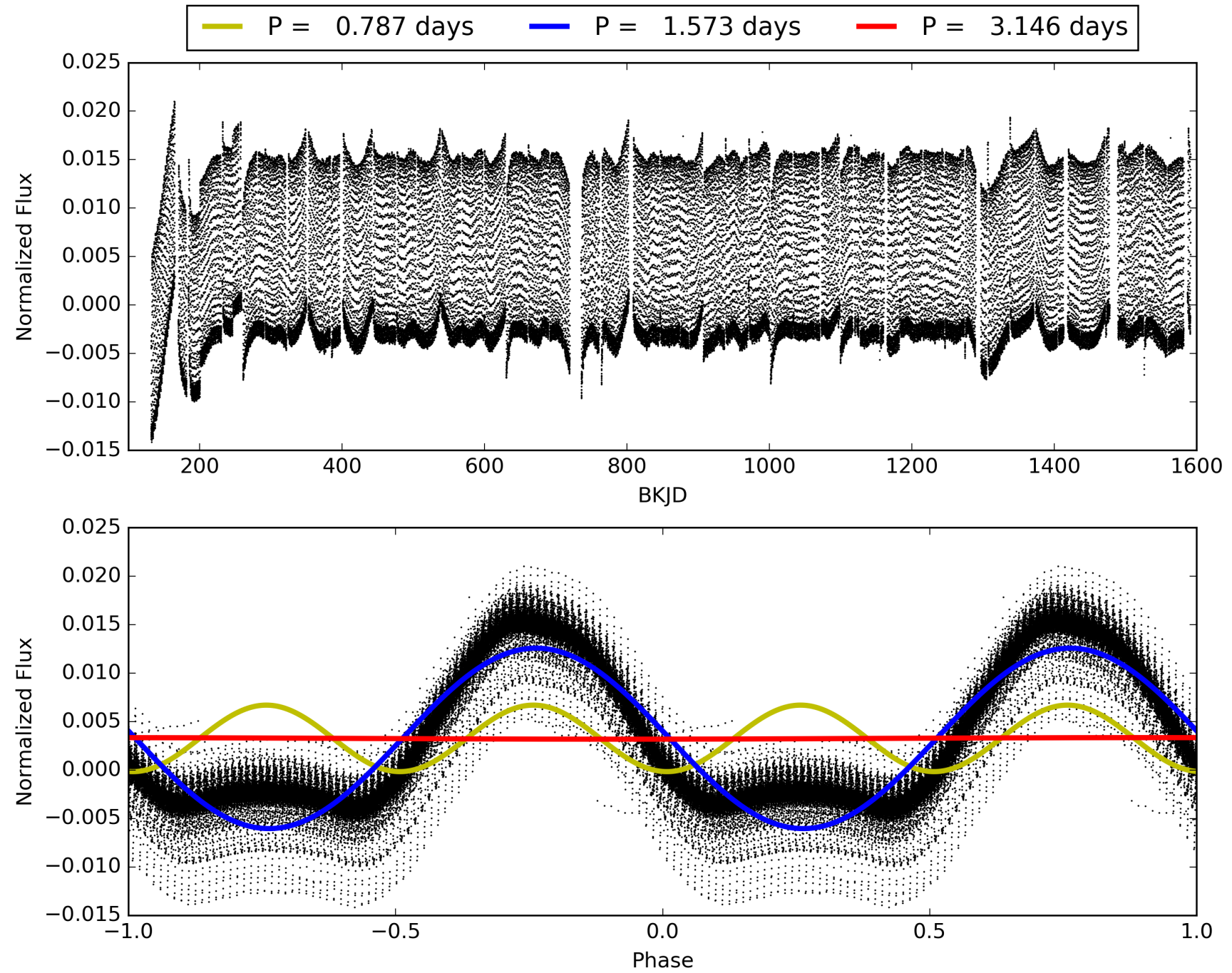
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:15:42 Z

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

TCE 011807603-01, PDC Light Curves

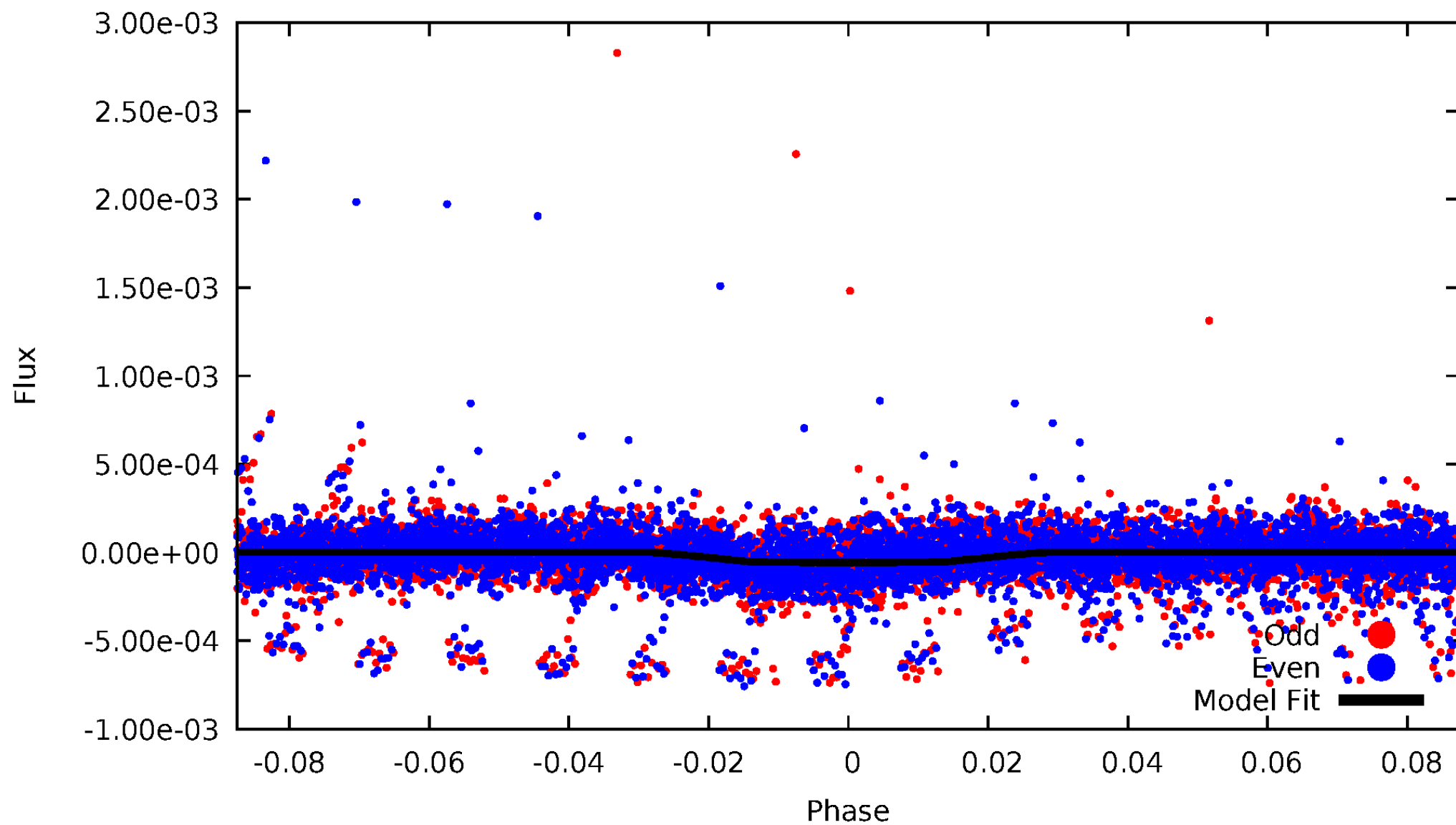


TCE 011807603-01



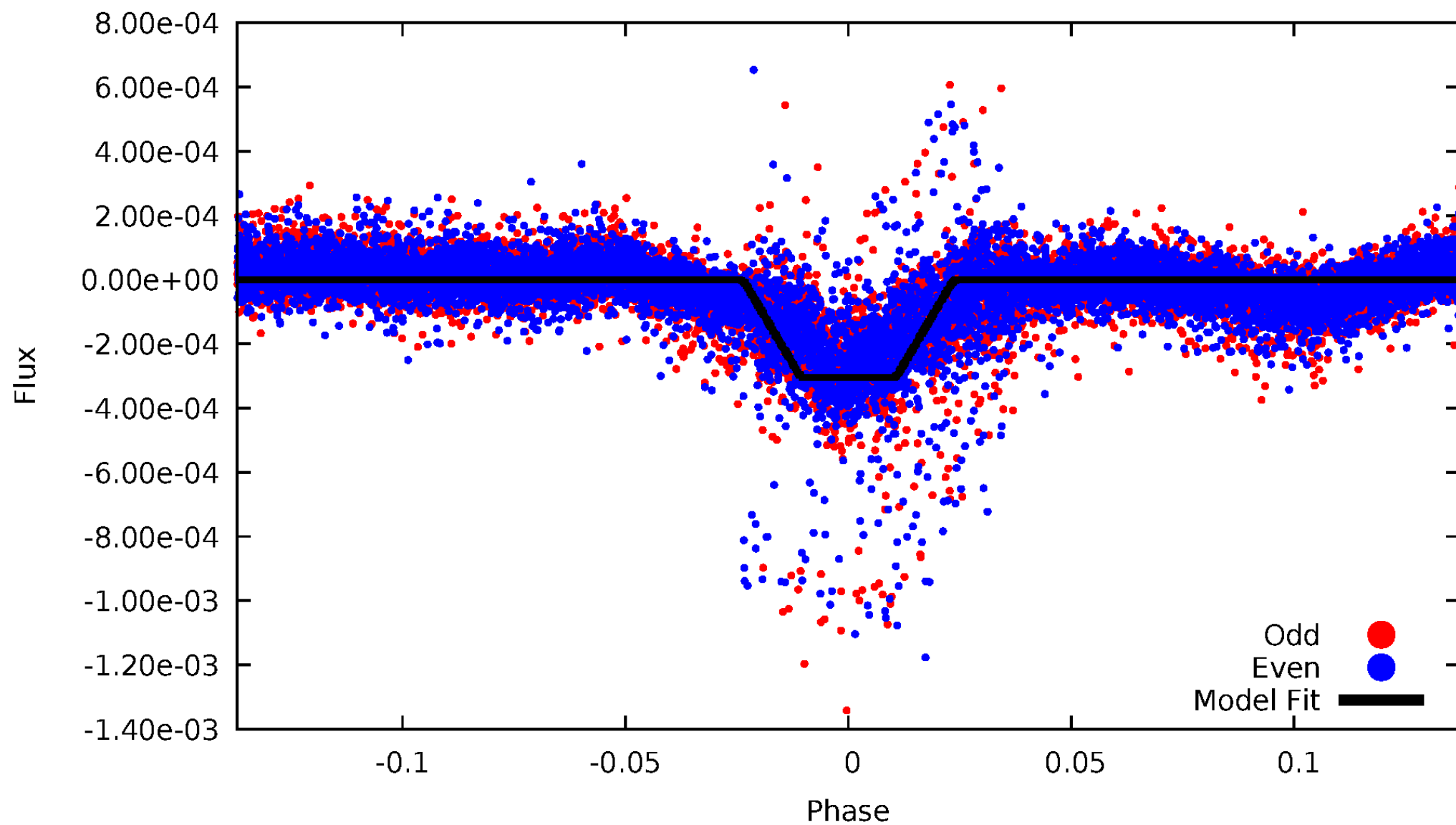
DV Odd/Even

TCE 011807603-01



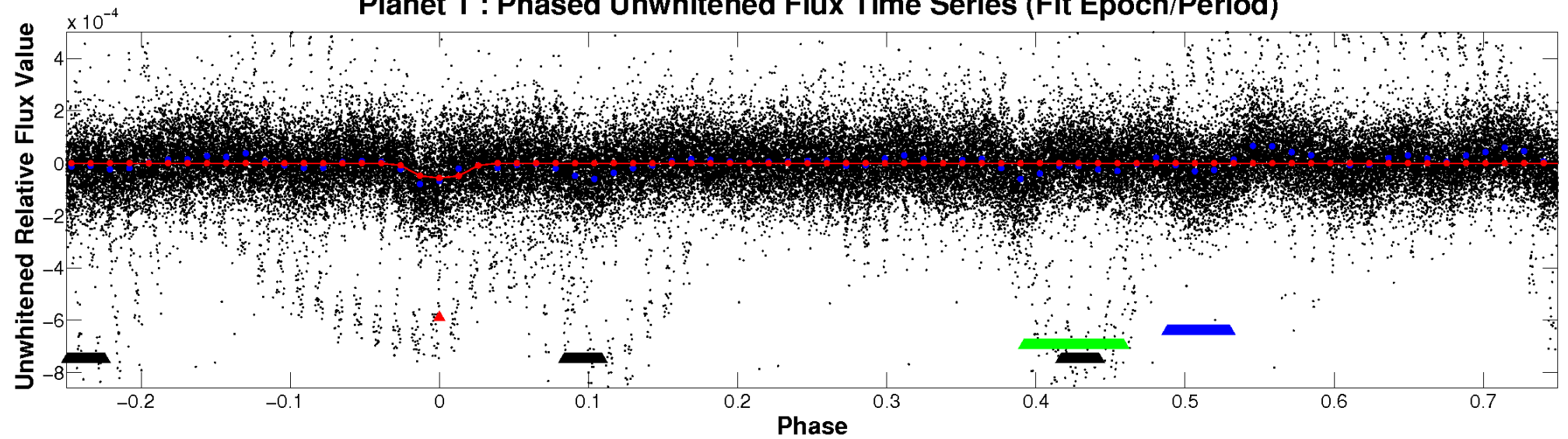
ALT Odd/Even

TCE 011807603-01

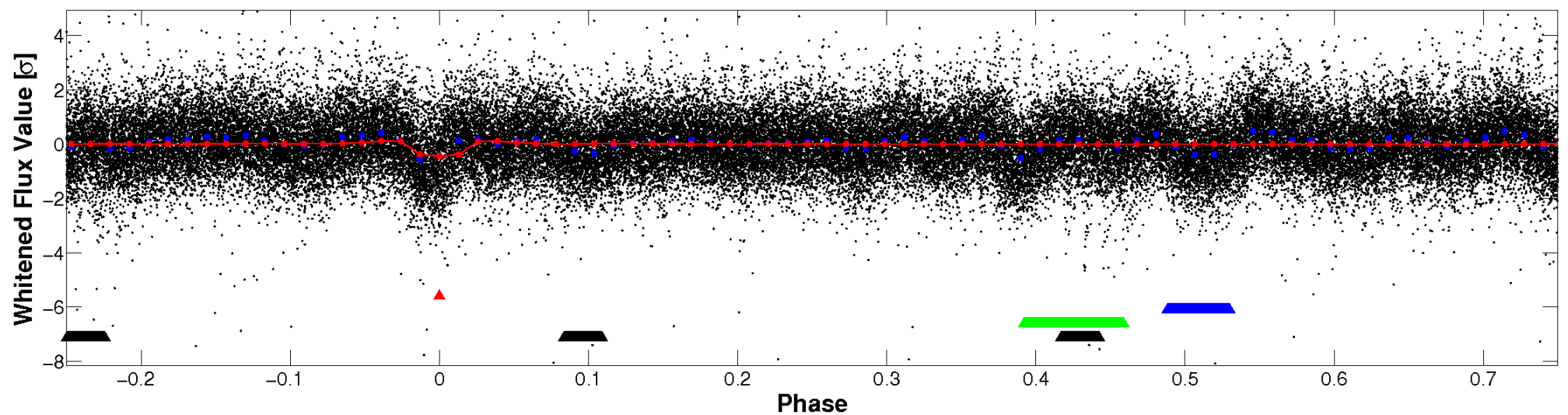


Non-Whitened Vs. Whitened Light Curve

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

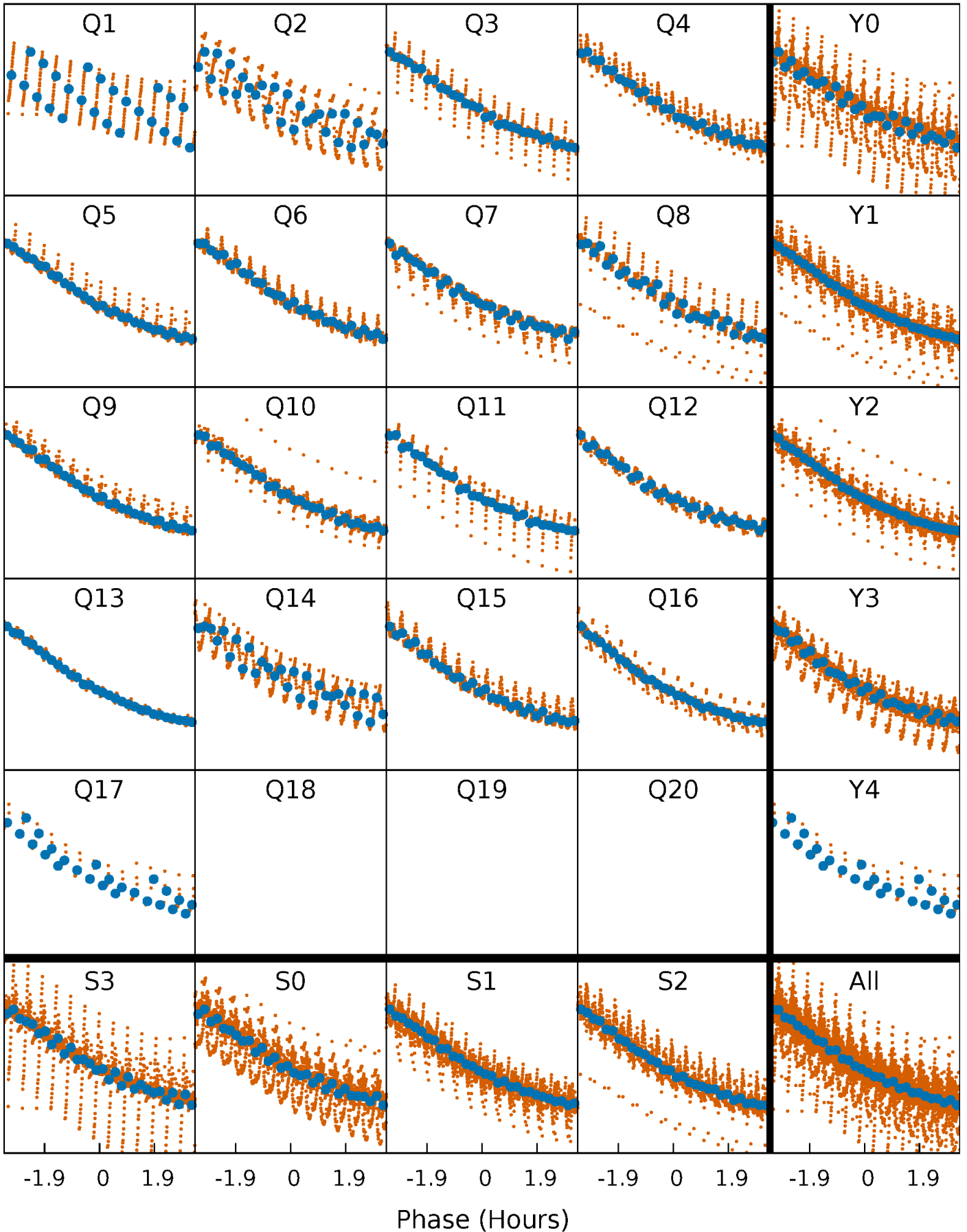


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



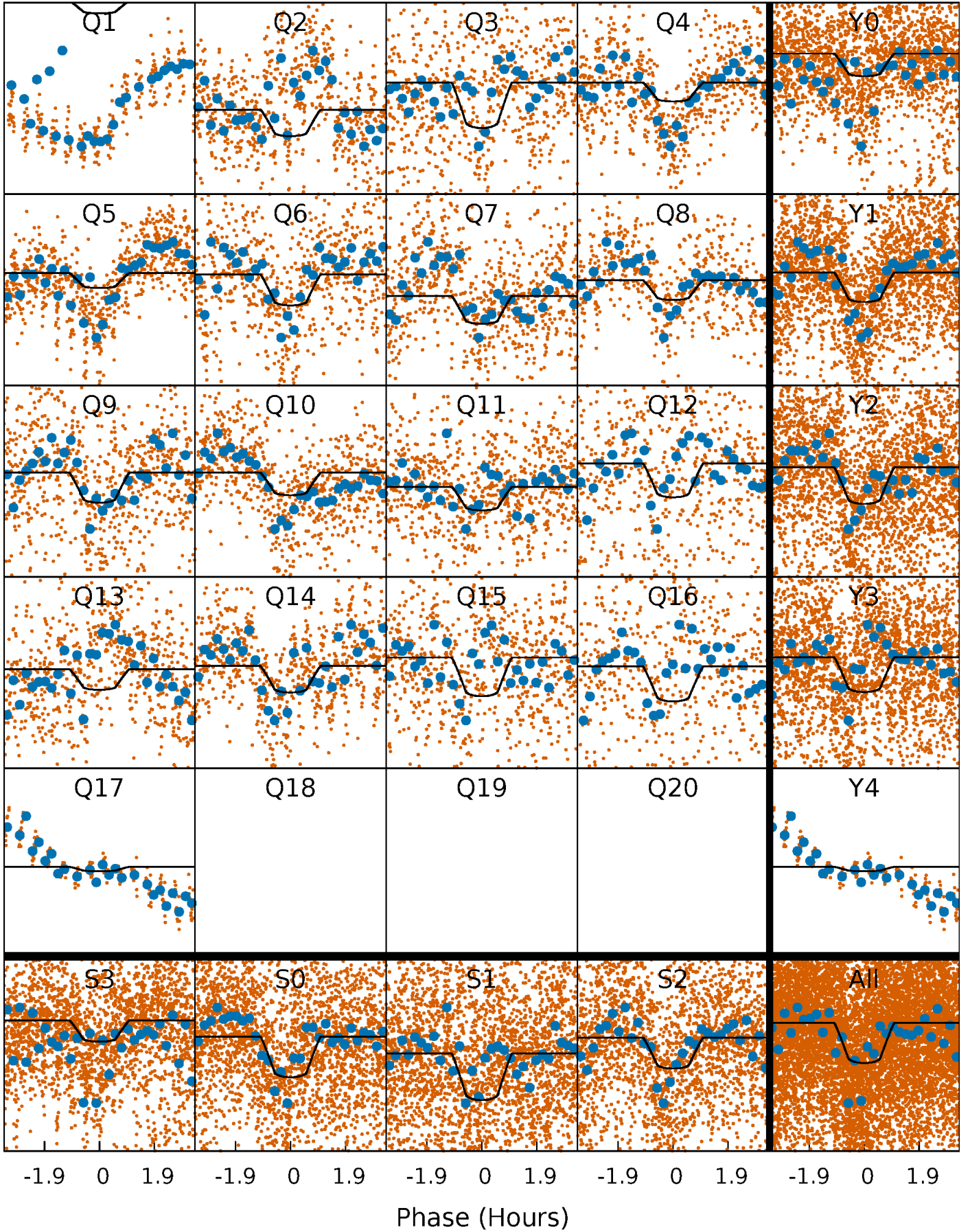
PDC Quarter-Phased Transit Curves

TCE 011807603-01 P= 1.573032 Days $T_0=131.725149$ (BKJD)



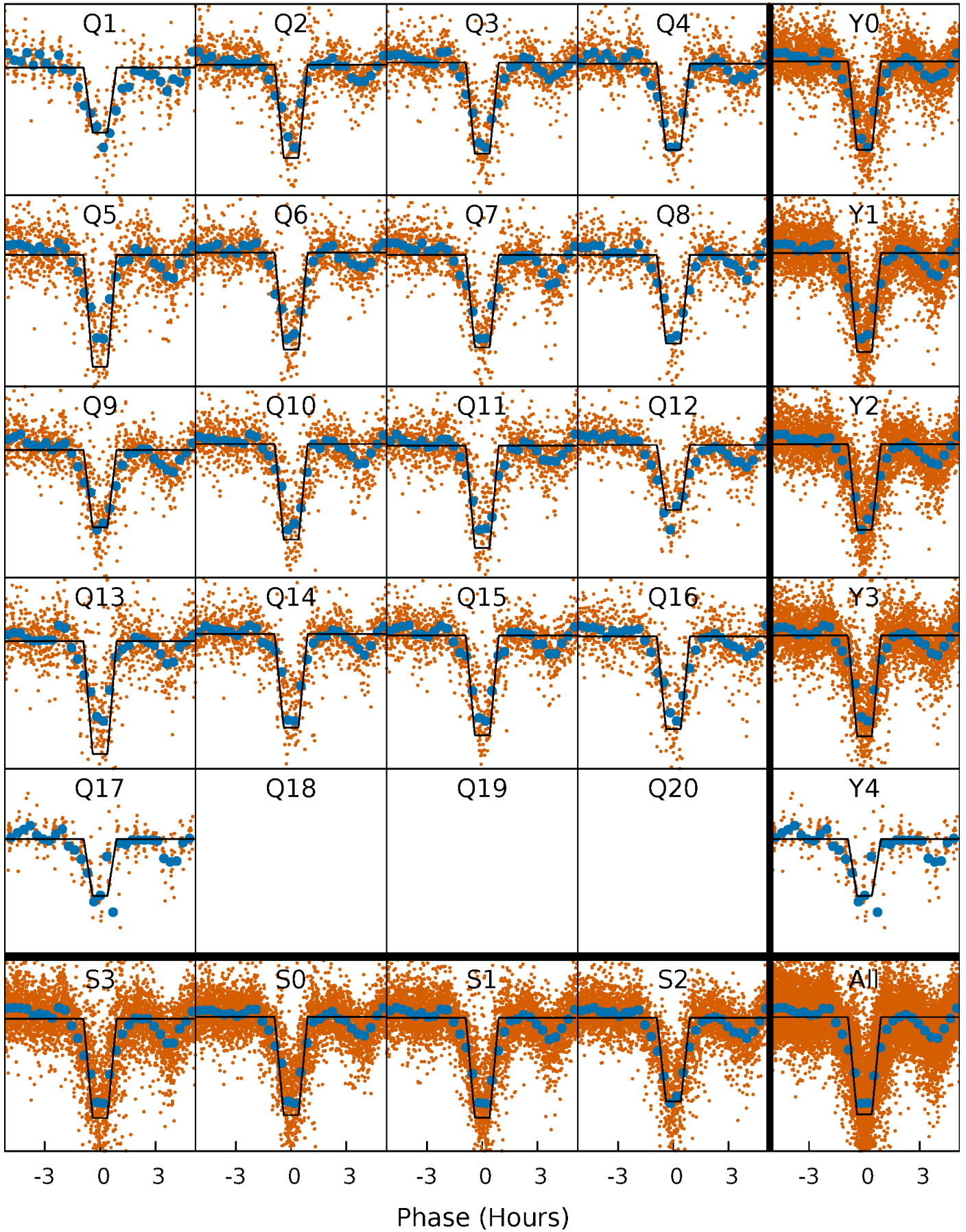
DV Quarter-Phased Transit Curves

TCE 011807603-01 P= 1.573032 Days $T_0=131.725149$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

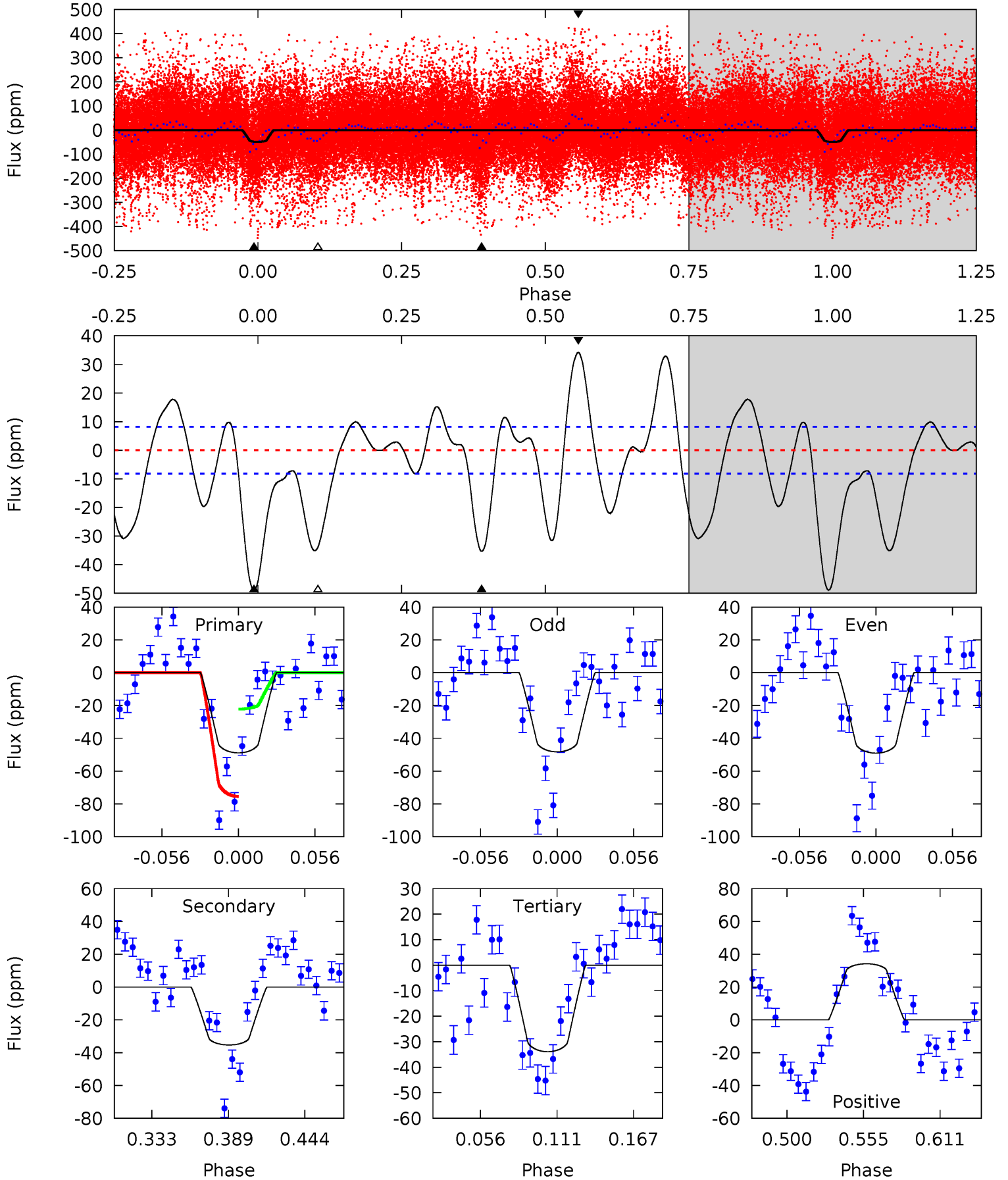
TCE 011807603-01 P= 1.572993 Days $T_0=131.728870$ (BKJD)



DV Model-Shift Uniqueness Test

011807603-01, P = 1.573032 Days, E = 130.152117 Days

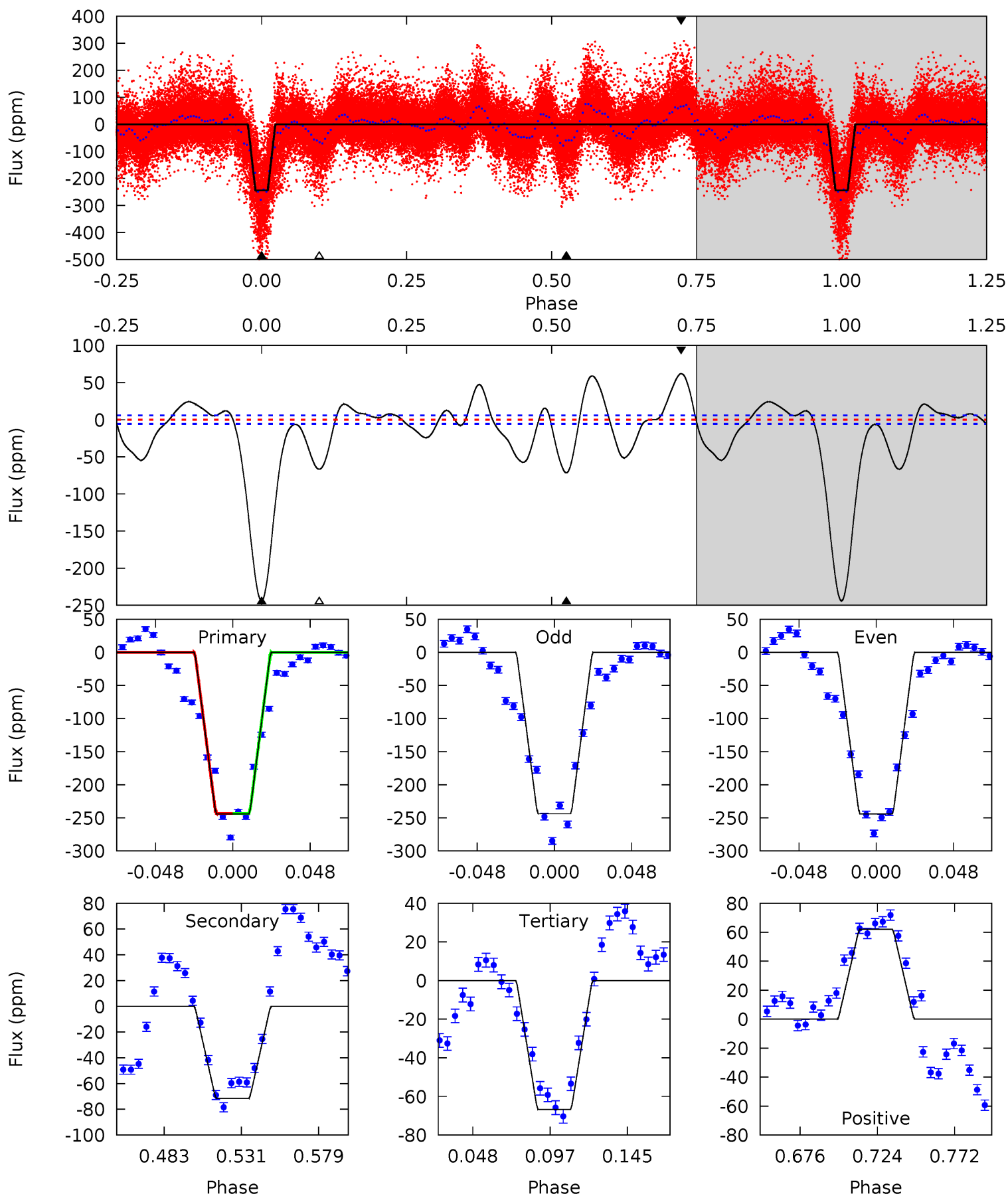
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.0	20.2	19.4	19.6	4.69	1.91	9.18	8.56	8.40	0.81	0.64	0.23	1.11	0.41	15.4



Alt Model-Shift Uniqueness Test

011807603-01, P = 1.572993 Days, E = 130.155877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
199.3	58.4	54.4	50.7	4.72	1.98	23.2	144.8	148.6	3.97	7.75	0.06	1.11	0.20	0.03



Stellar Parameters For KIC 011807603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8814^{+246}_{-422}	$4.099^{+0.135}_{-0.165}$	$0.070^{+0.250}_{-0.600}$	$2.132^{+0.621}_{-0.508}$	$2.081^{+0.372}_{-0.495}$	$0.302^{+0.248}_{-0.136}$
	+3%/-5%	+3%/-4%	+357%/-857%	+29%/-24%	+18%/-24%	+82%/-45%
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 011807603-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 2	$1.89^{+0.40}_{-0.36}$	4326^{+301}_{-311}	7154^{+693}_{-561}	$6.211^{+2.741}_{-1.954}$
Alt.	-72 ± 1	$4.08^{+0.69}_{-0.61}$	4302^{+329}_{-274}	5674^{+273}_{-260}	$2.695^{+0.830}_{-0.681}$

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

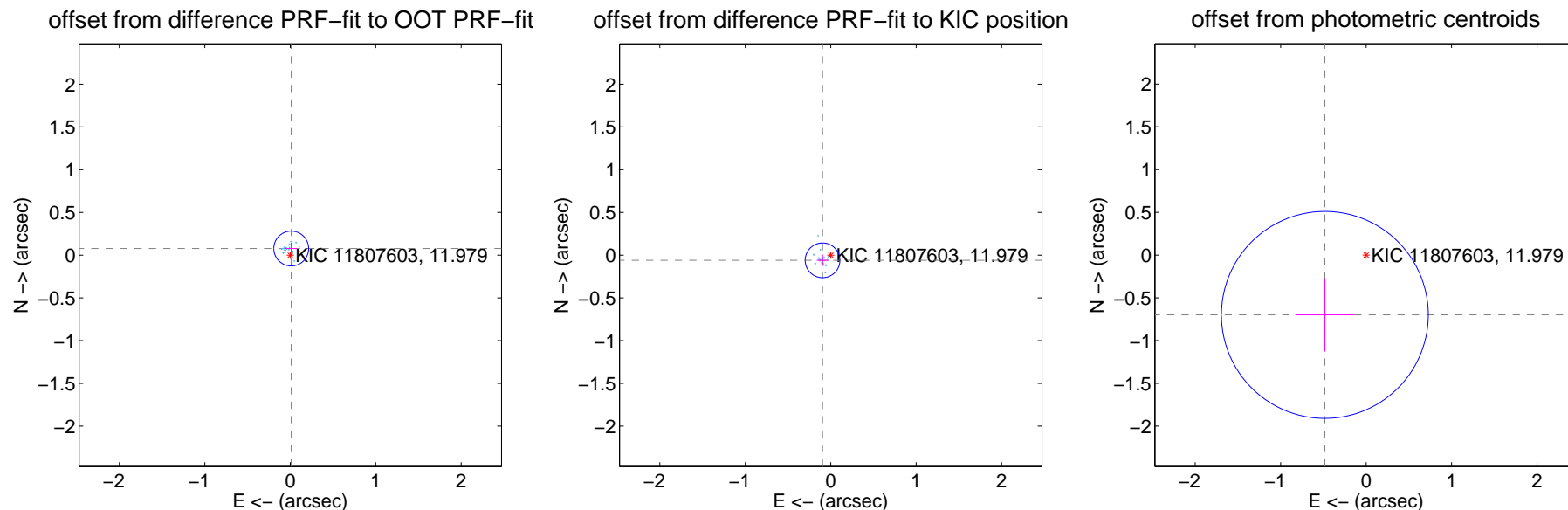
DV Centroid Data

Supplemental centroid analysis for 011807603-01. **Kepler magnitude: 11.98.** Transit SNR 21.63

There are 17 quarters with good PRF difference image offsets

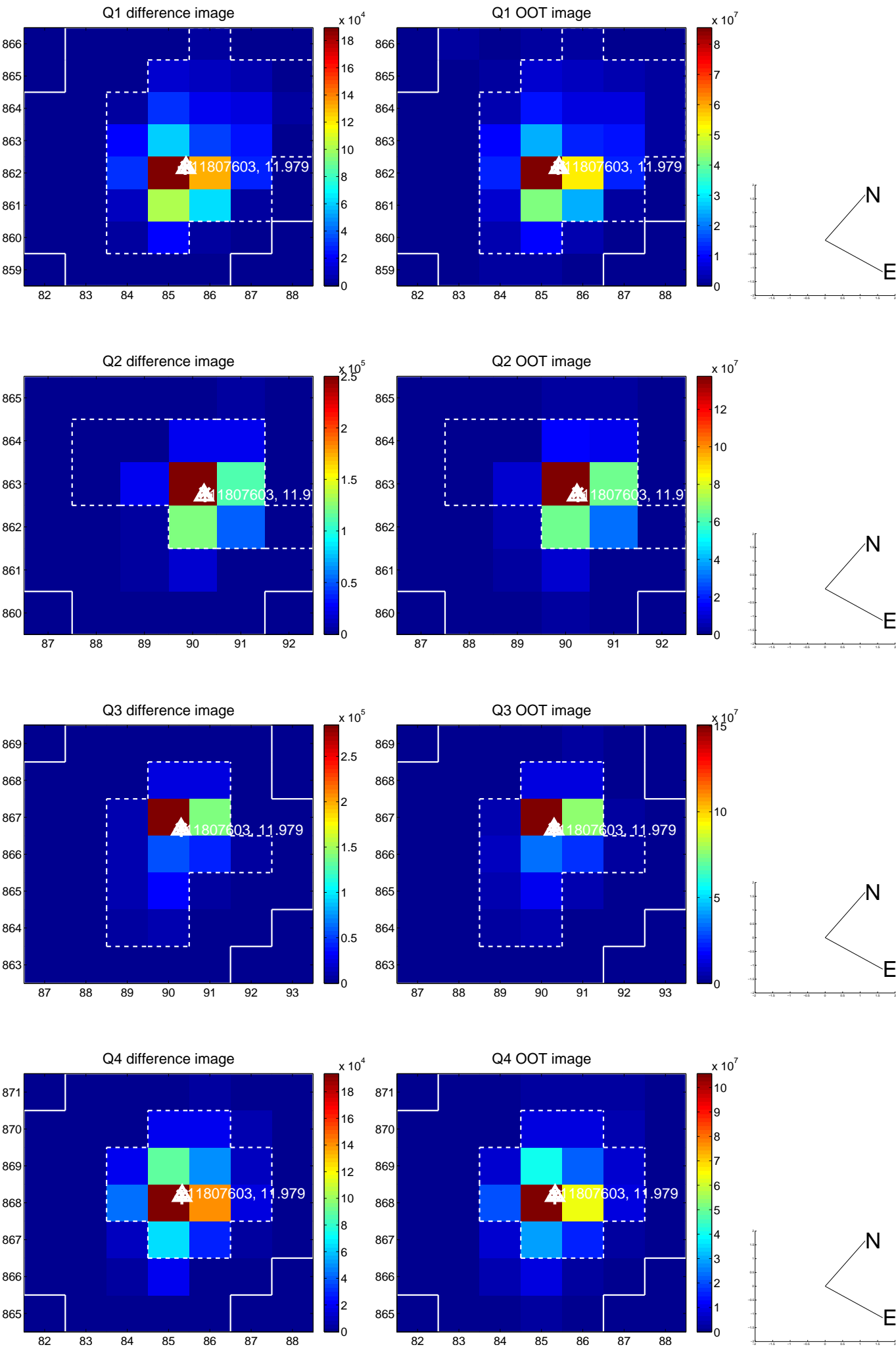
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.068	1.15	-0.011 ± 0.068	0.077 ± 0.068
PRF-fit source offset from KIC position	0.113 ± 0.068	1.67	0.096 ± 0.068	-0.061 ± 0.068
photometric centroid source offset	0.85 ± 0.40	2.11	0.48 ± 0.35	-0.70 ± 0.43

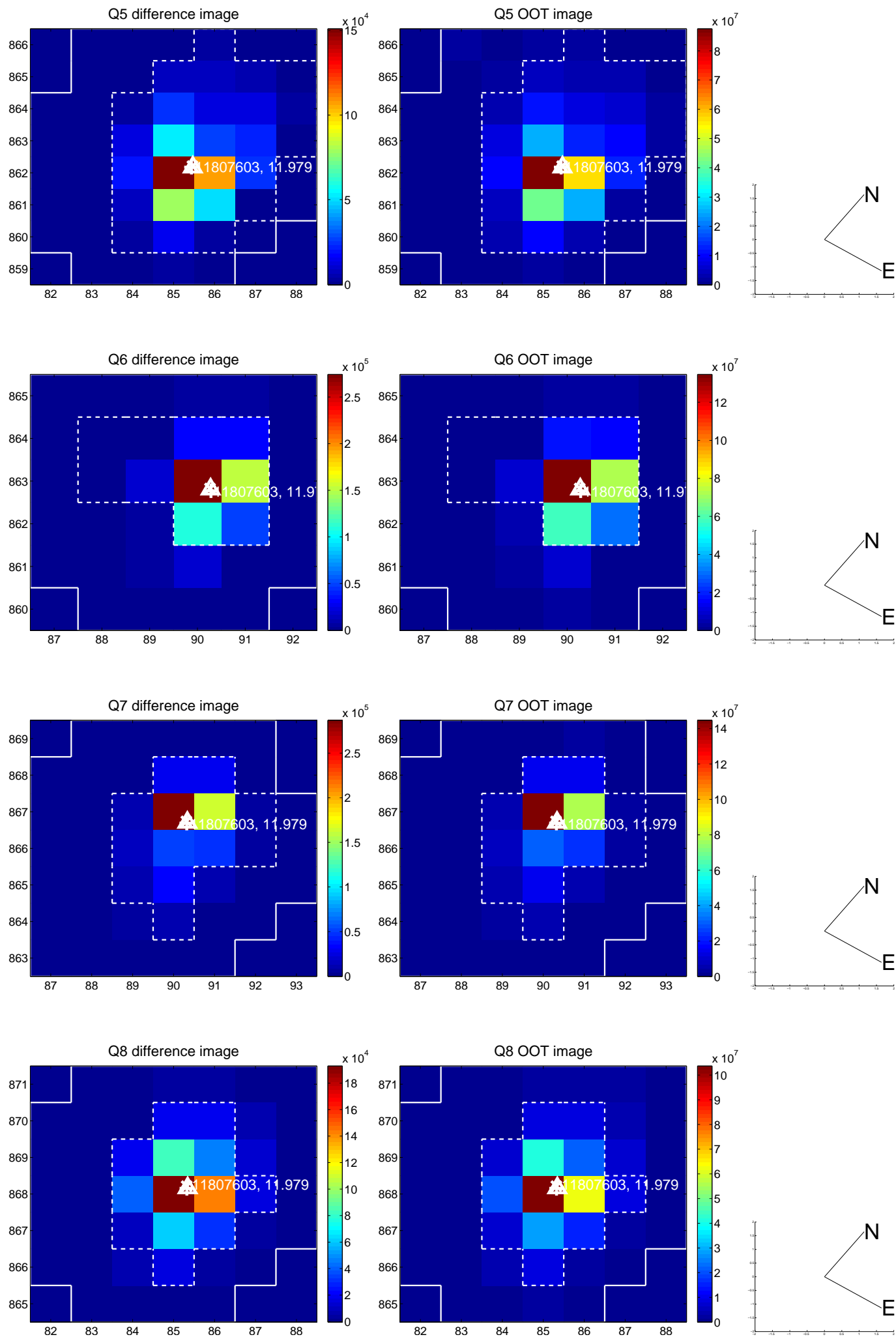


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

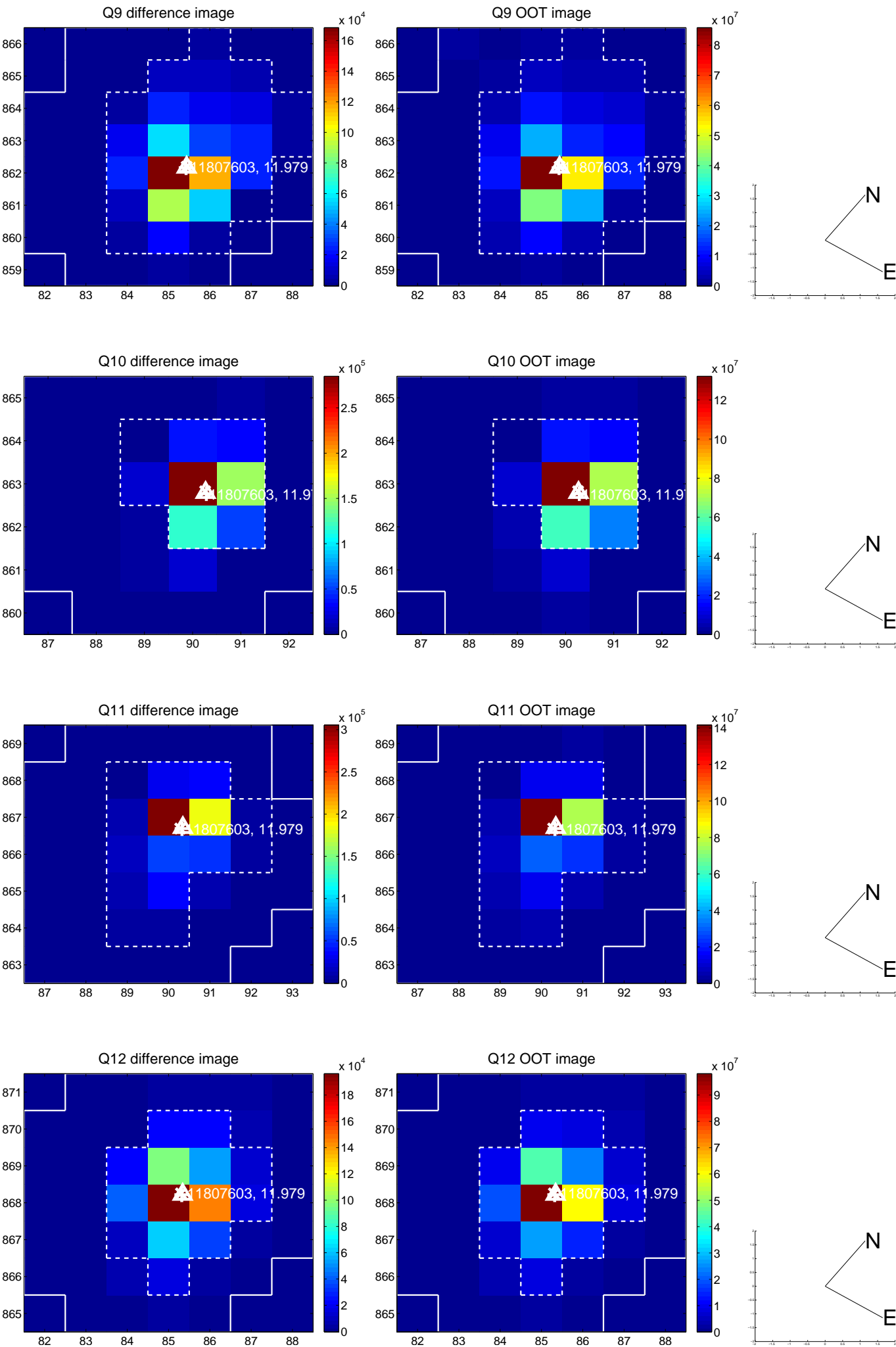
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



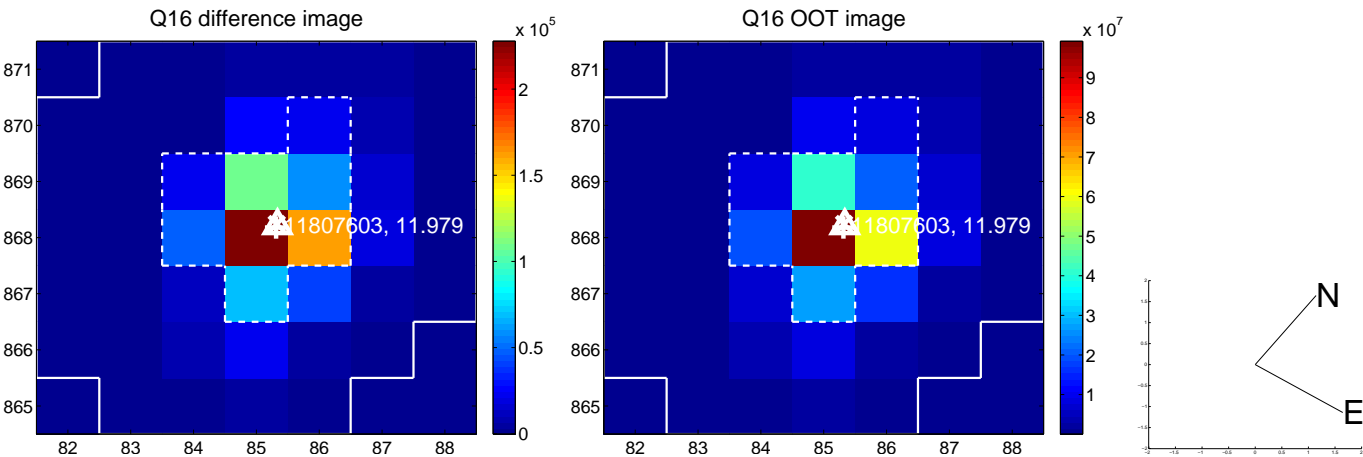
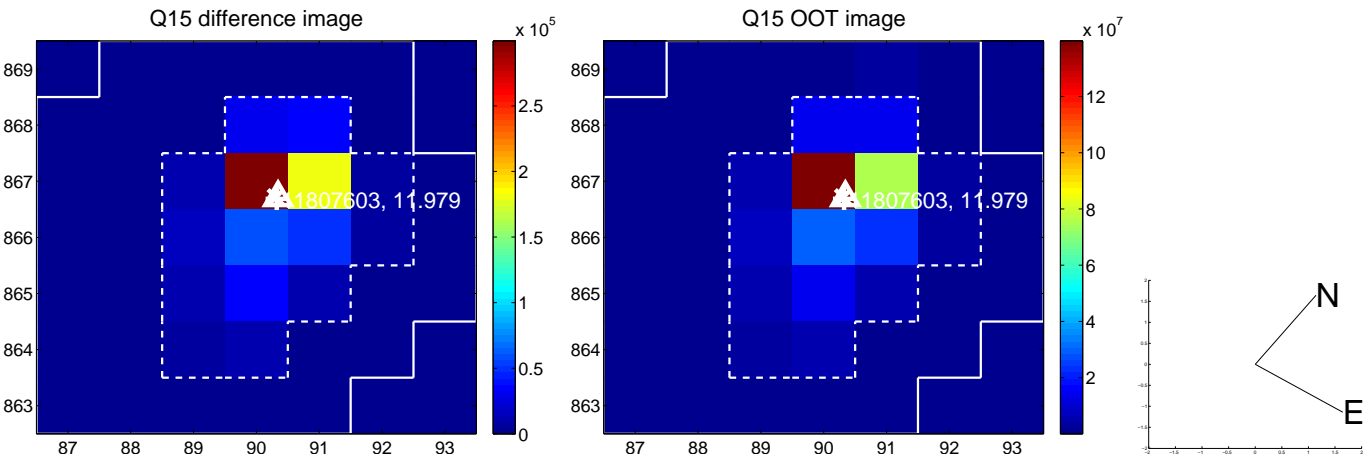
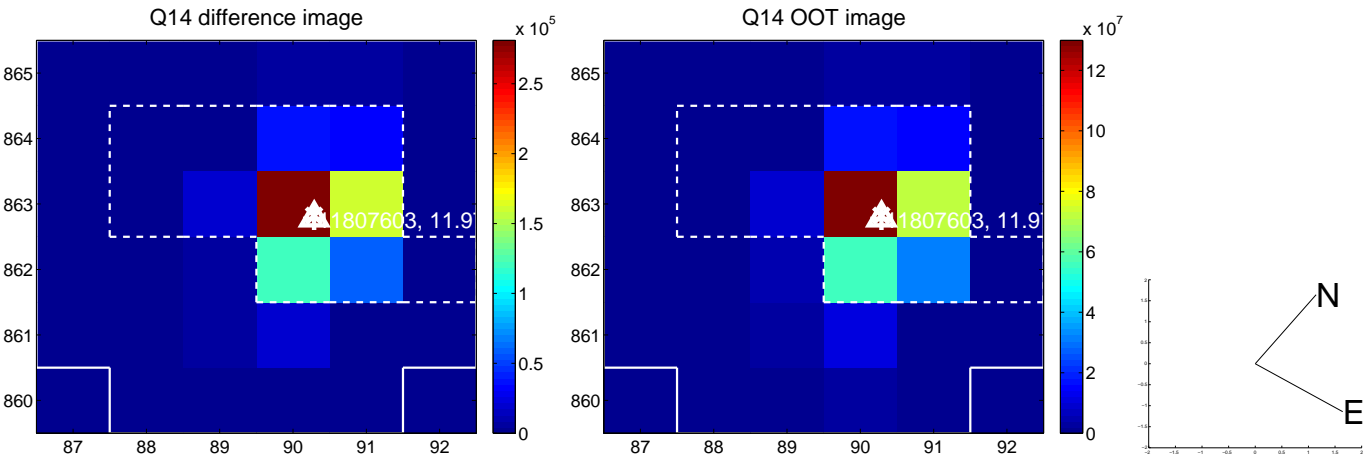
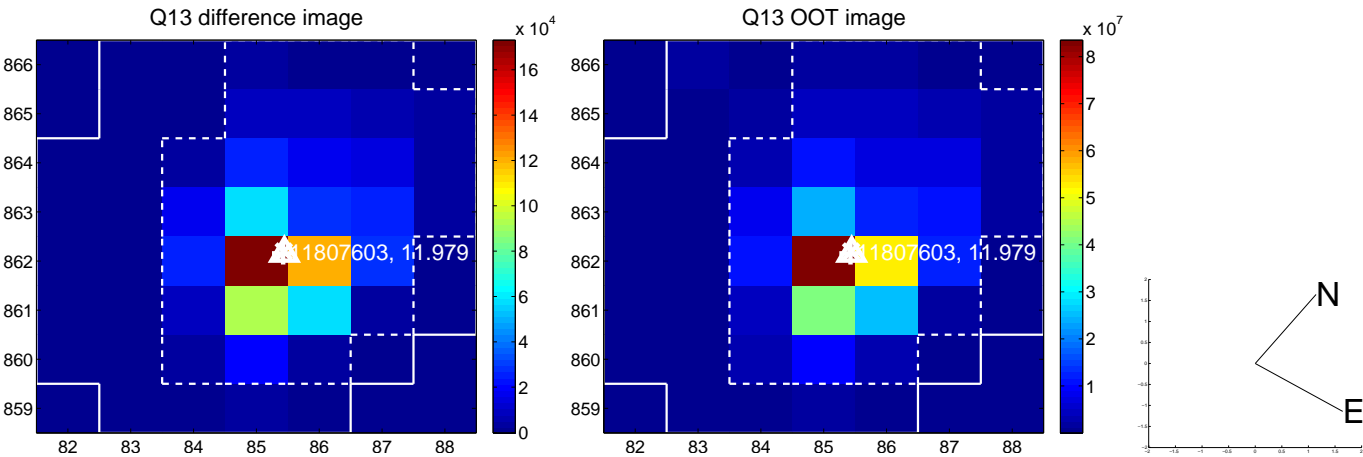
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



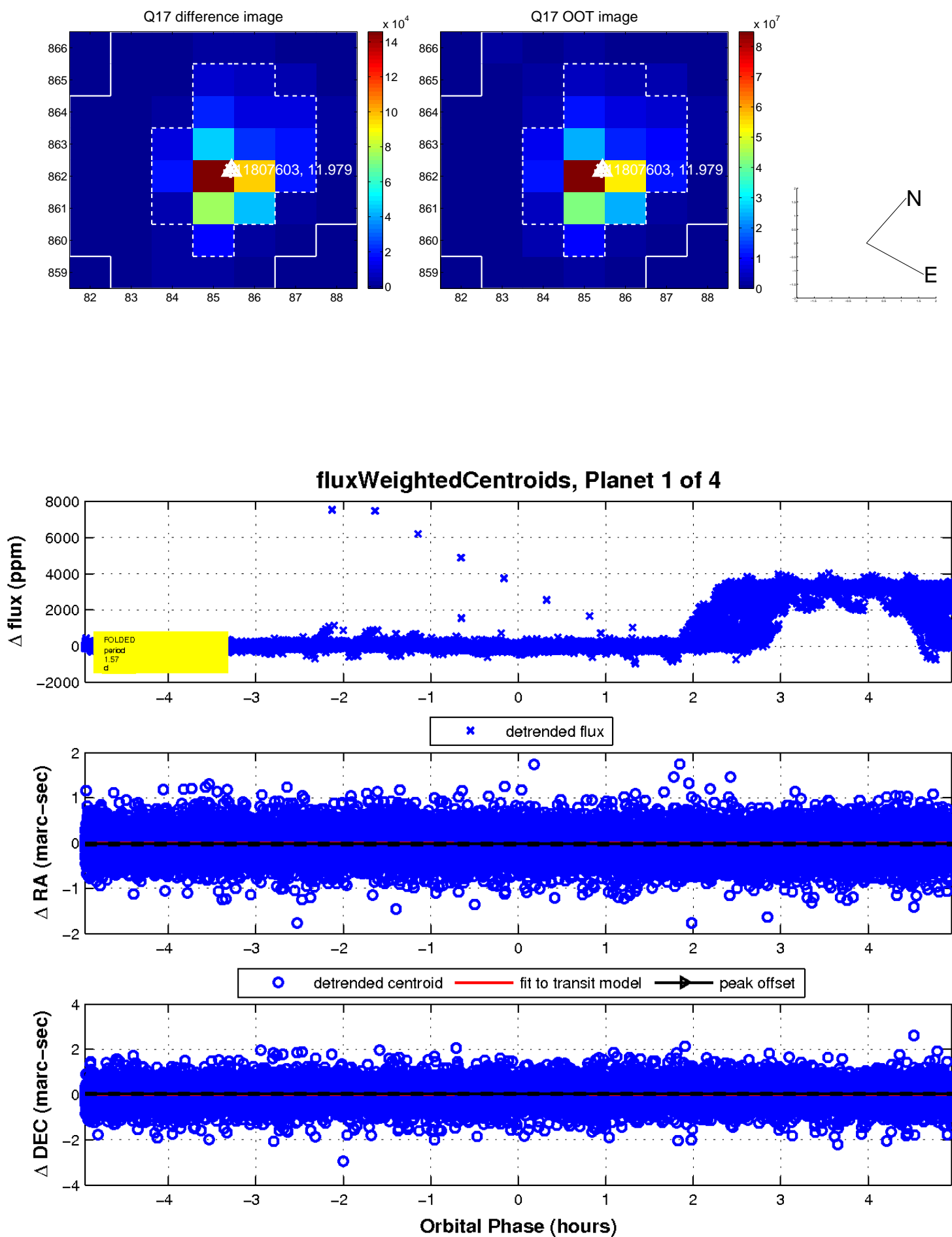
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

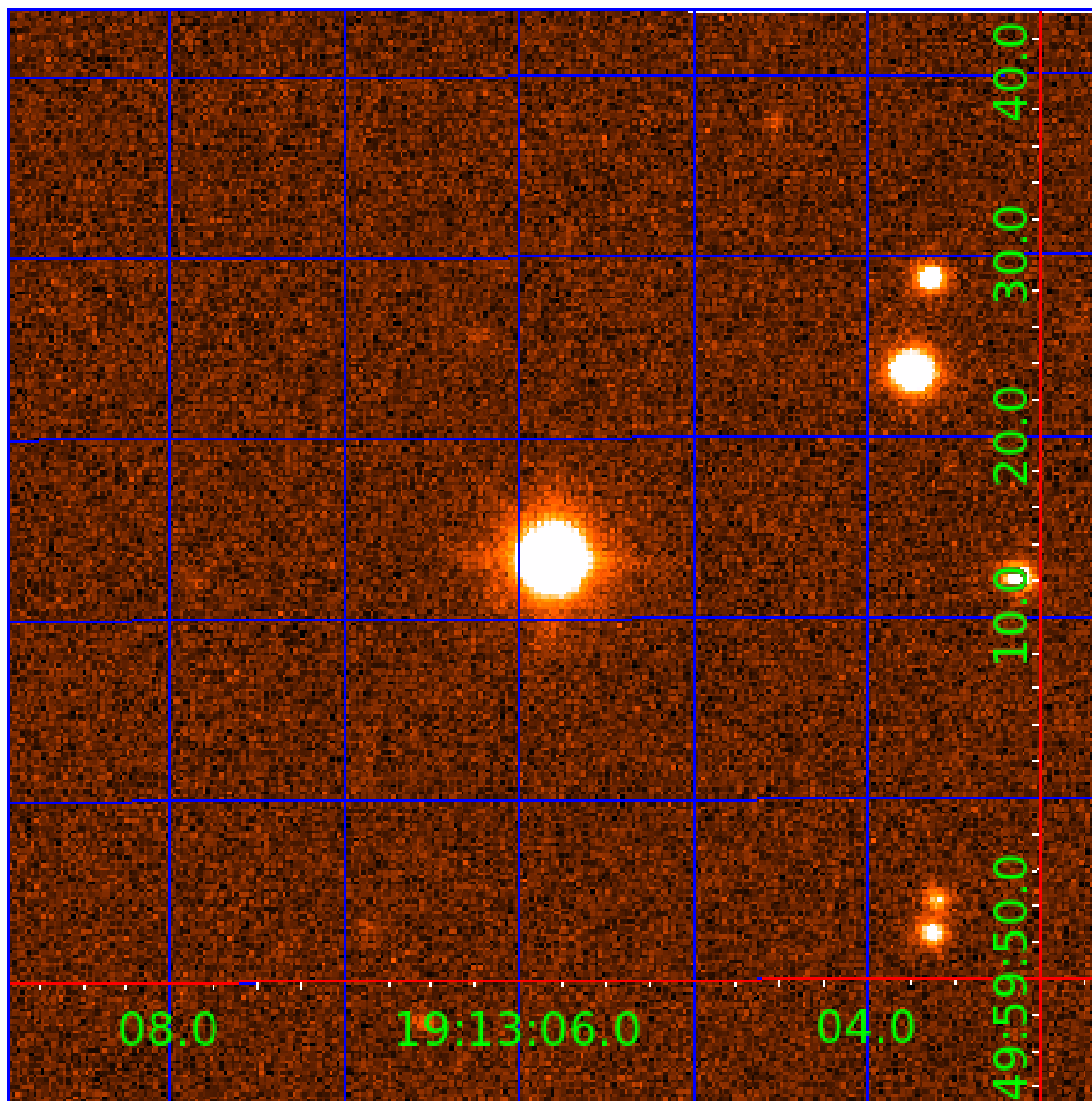


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011807603

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})
011807603-01	OBS	No	1.573032	131.725149	56.9	1.651	25.8	21.6	2.13	8814	1.87	21501.13
011807603-02	OBS	No	1.572961	132.558744	62.1	1.891	24.1	24.3	2.13	8814	1.95	21502.42
011807603-03	OBS	No	1.572919	132.446849	4.1	4.439	19.4	1.4	2.13	8814	0.50	21503.19
011807603-04	OBS	No	0.524330	131.896610	218.9	2.000	18.4	-1.0	2.13	8814	3.22	93033.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011807603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011807603-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
011807603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011807603-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

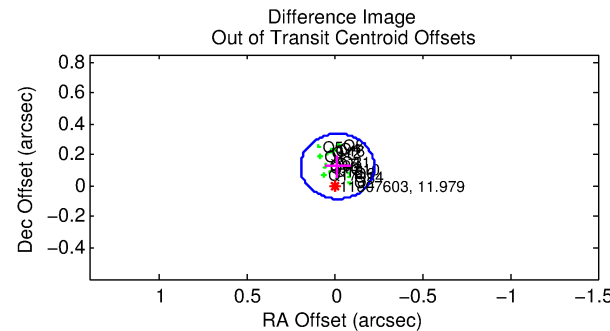
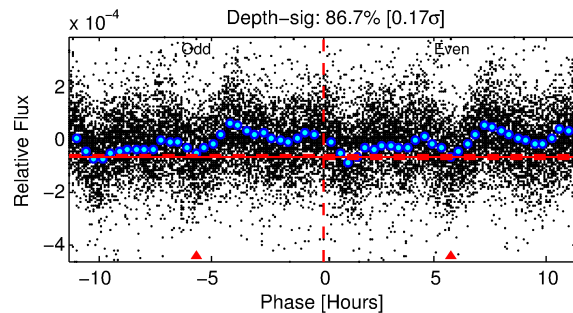
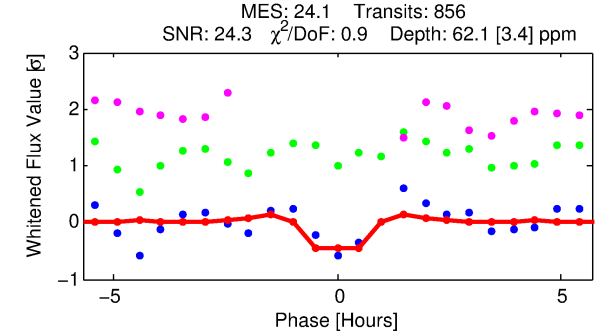
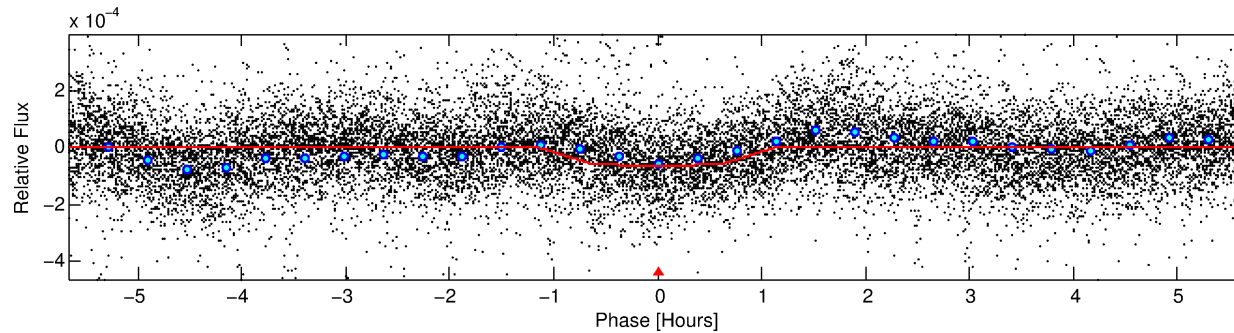
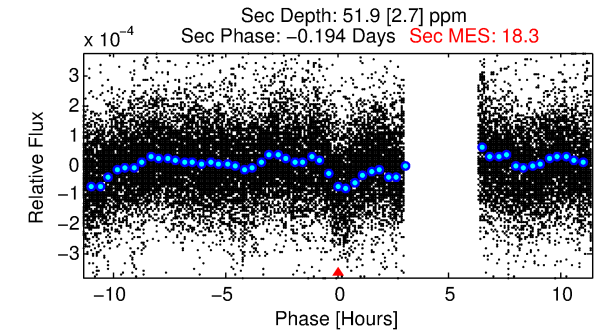
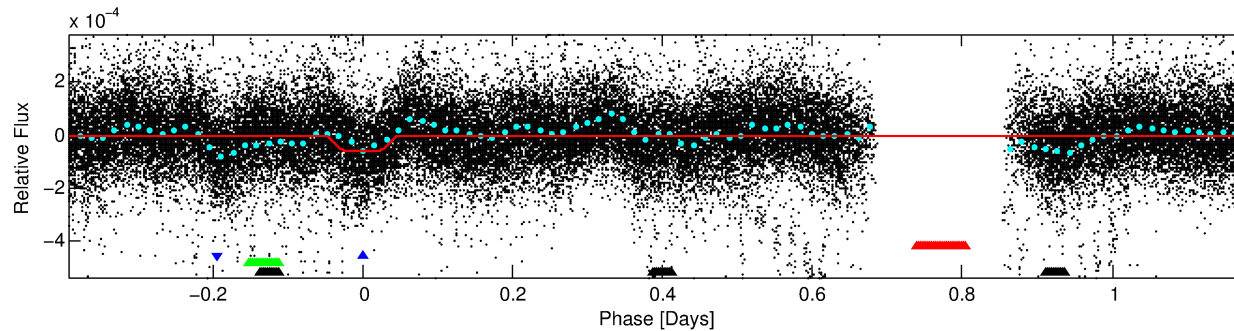
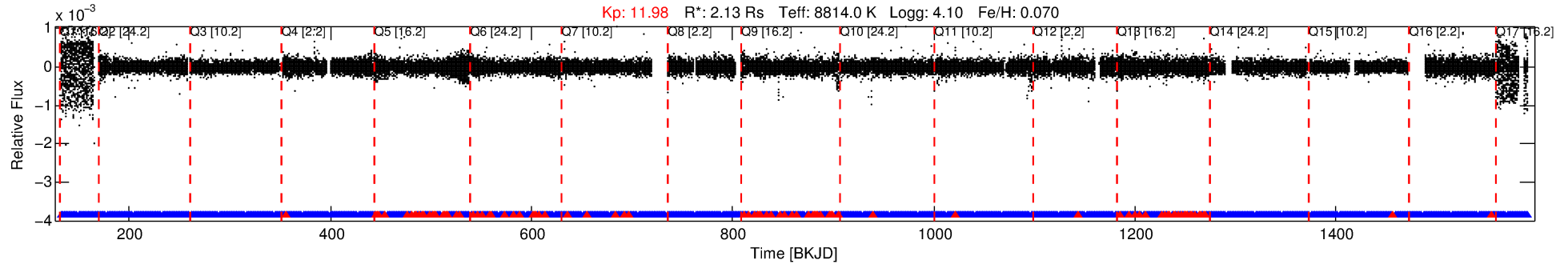
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011807603-02

No Significant Match Found

DV One-Page Summary

KIC: 11807603 Candidate: 2 of 4 Period: 1.573 d



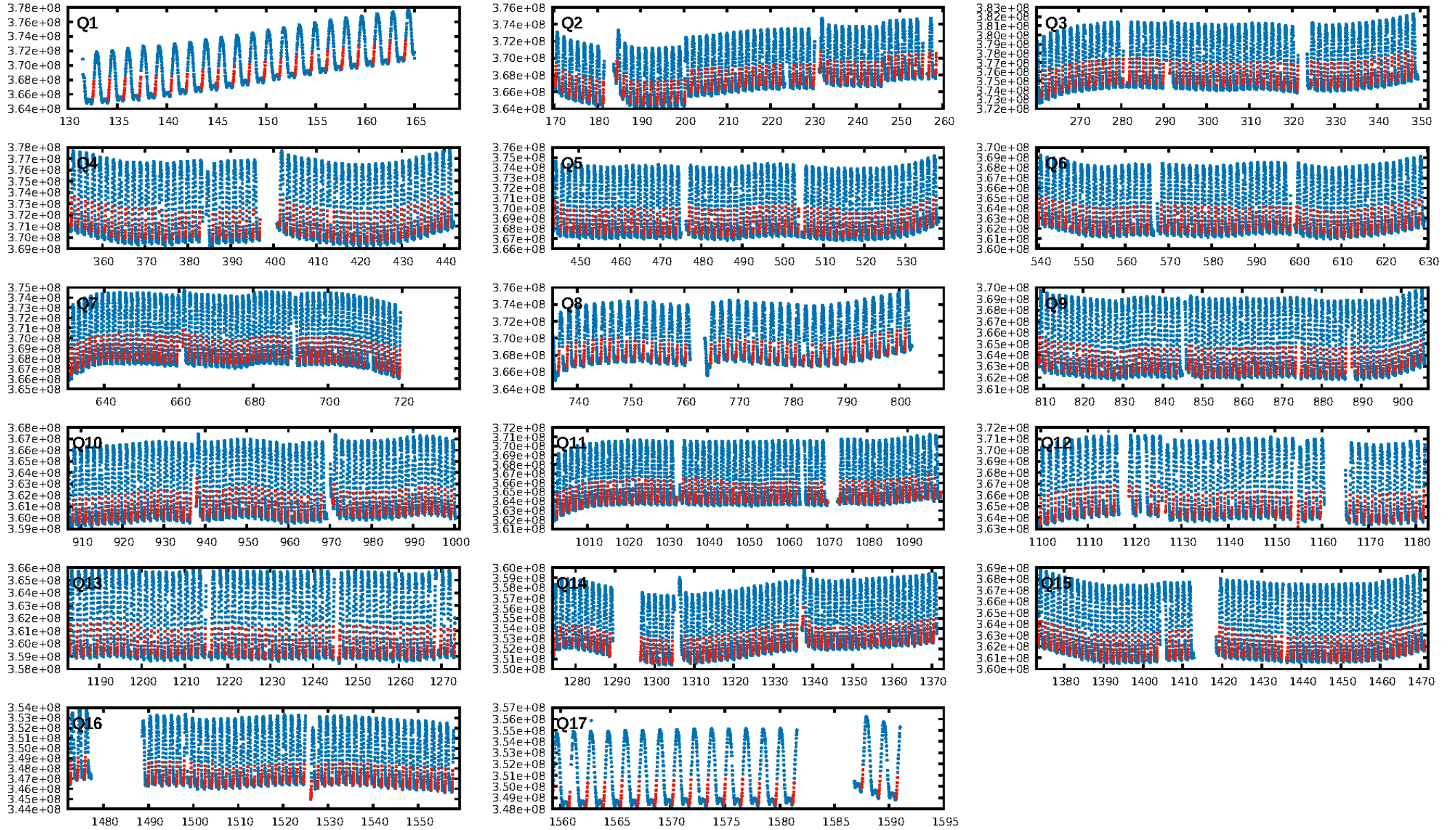
DV Fit Results:

Period = 1.57296 [0.00000] d
Epoch = 132.5587 [0.0008] BKJD
Rp/R* = 0.0084 [0.0009]
a/R* = 2.98 [1.83]
b = 0.91 [0.14]
Seff = 21502.42 [8003.34]
Teq = 3088 [287] K
Rp = 1.95 [0.60] Re
a = 0.0338 [0.0078] AU
Ag = 8.57 [3.28] [2.31σ]
Teffp = 8167 [582] K [7.83σ]

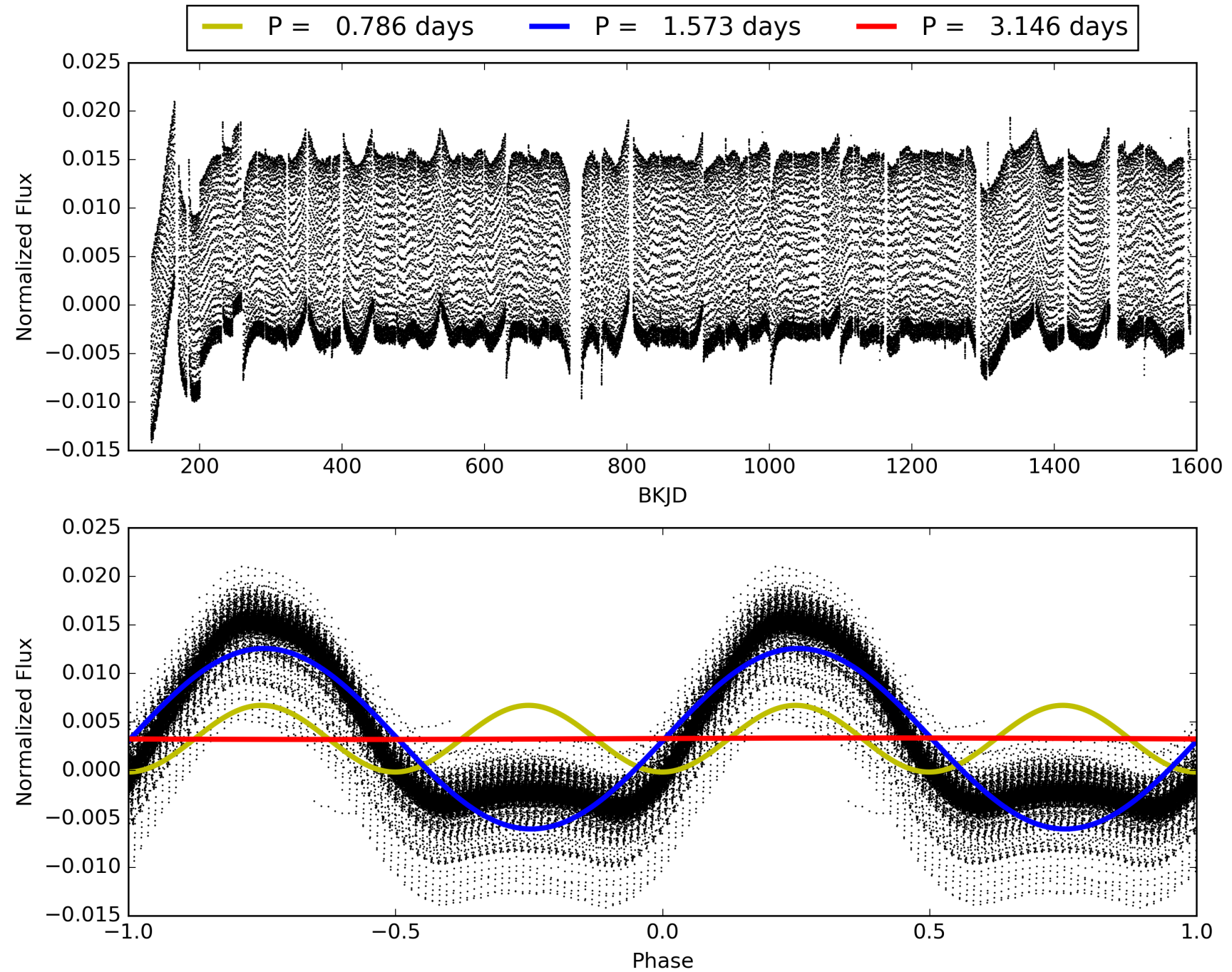
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [727/817]
GhostDiagnostic-chr: 5.596
Centroid-sig: 29.9%
Centroid-so: 0.525 arcsec [1.60σ]
OotOffset-rm: 0.128 arcsec [1.83σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.100 arcsec [1.47σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 011807603-02, PDC Light Curves

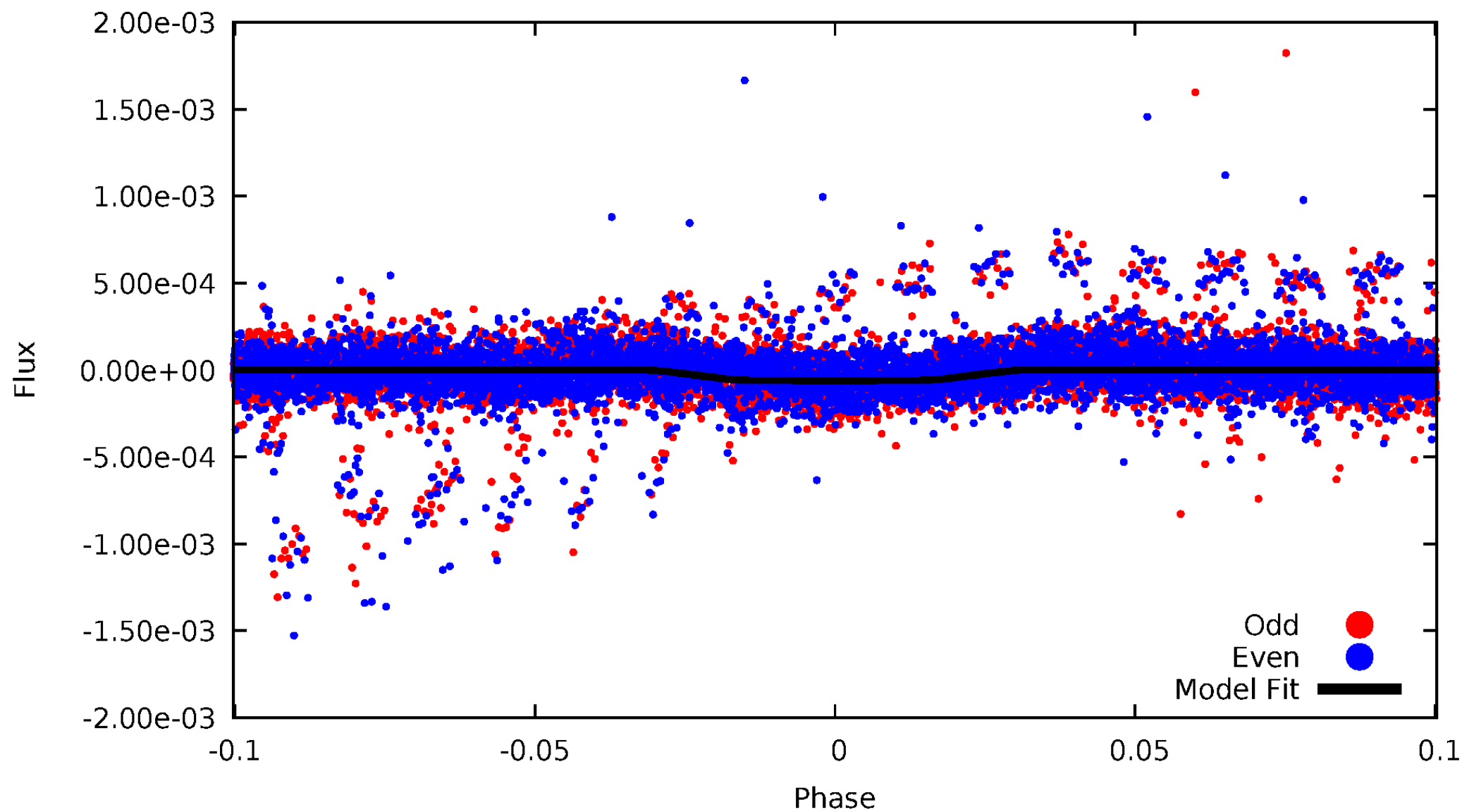


TCE 011807603-02



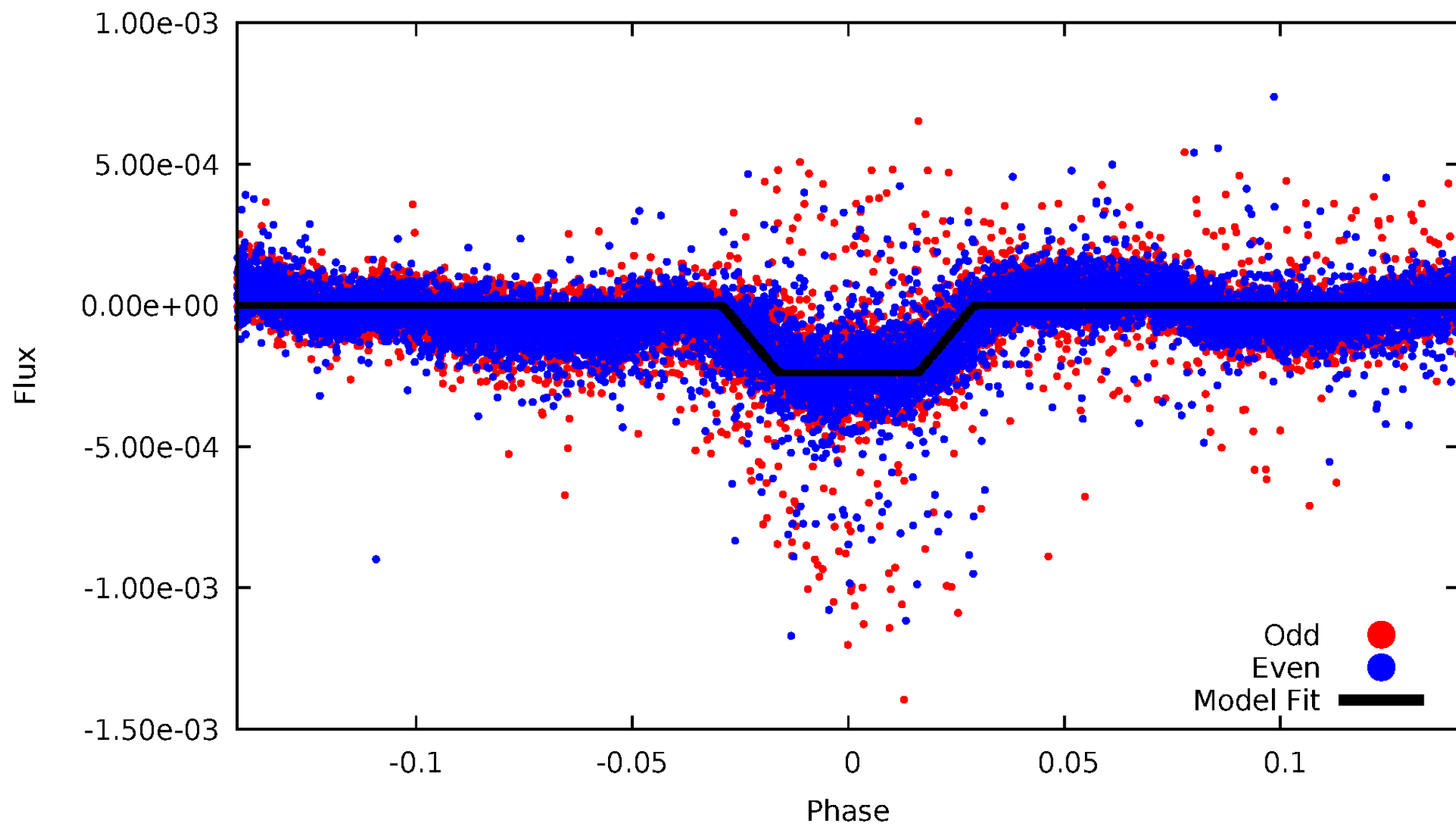
DV Odd/Even

TCE 011807603-02



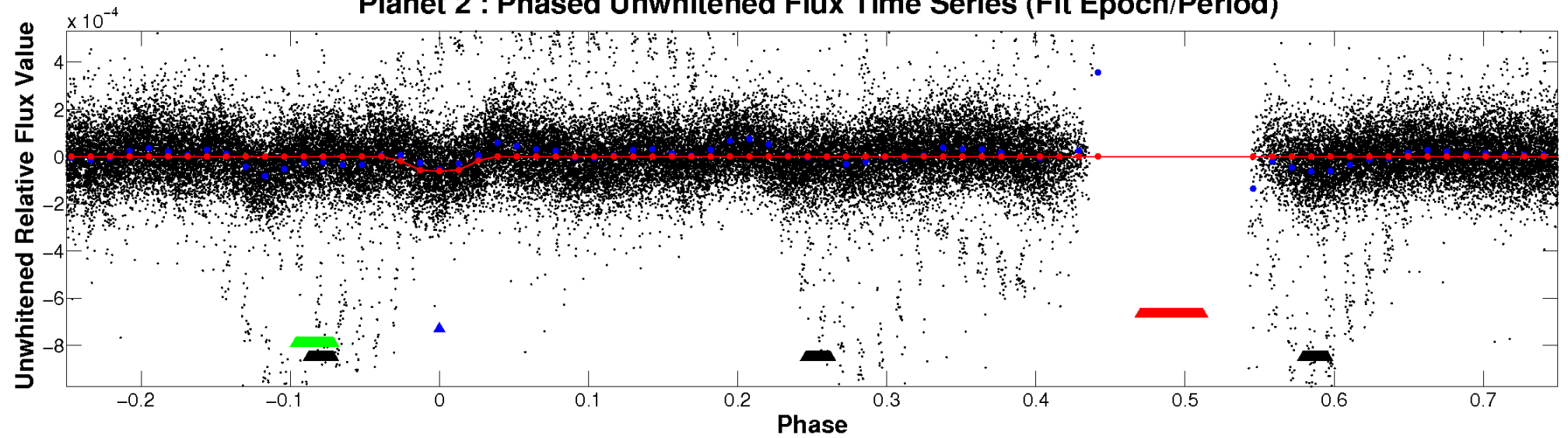
ALT Odd/Even

TCE 011807603-02

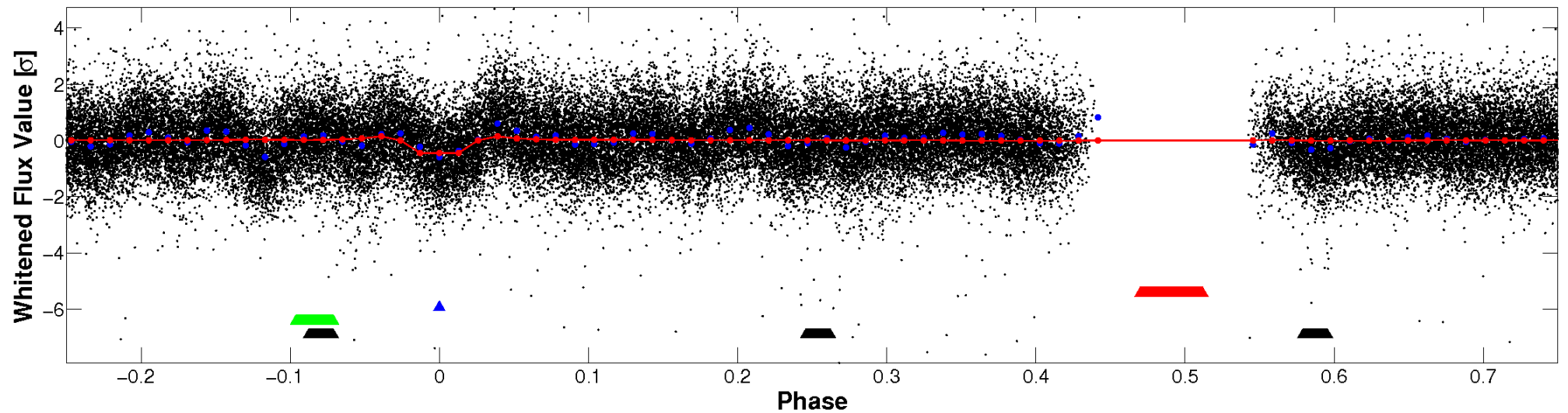


Non-Whitened Vs. Whitened Light Curve

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

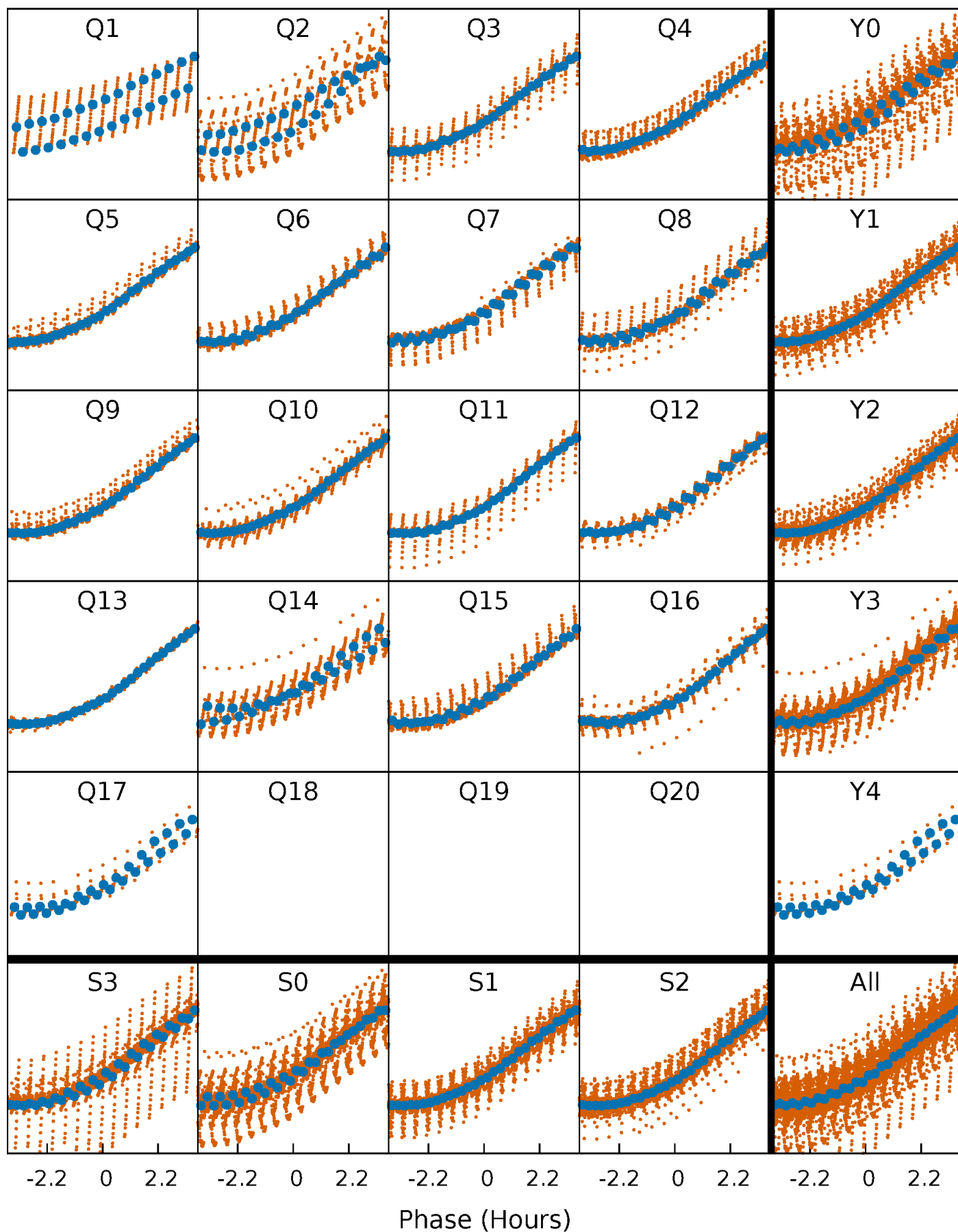


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



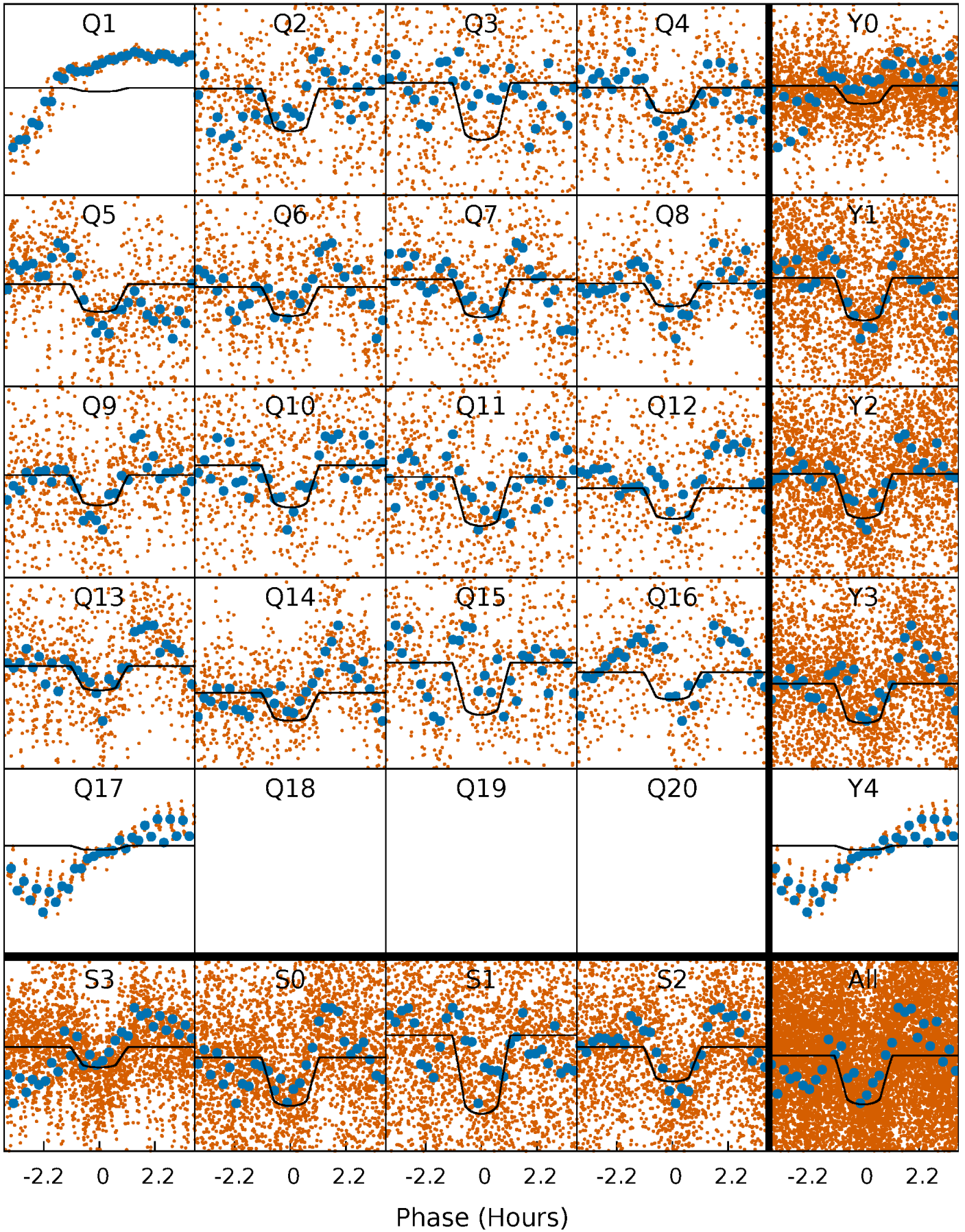
PDC Quarter-Phased Transit Curves

TCE 011807603-02 P= 1.572961 Days $T_0=132.558744$ (BKJD)



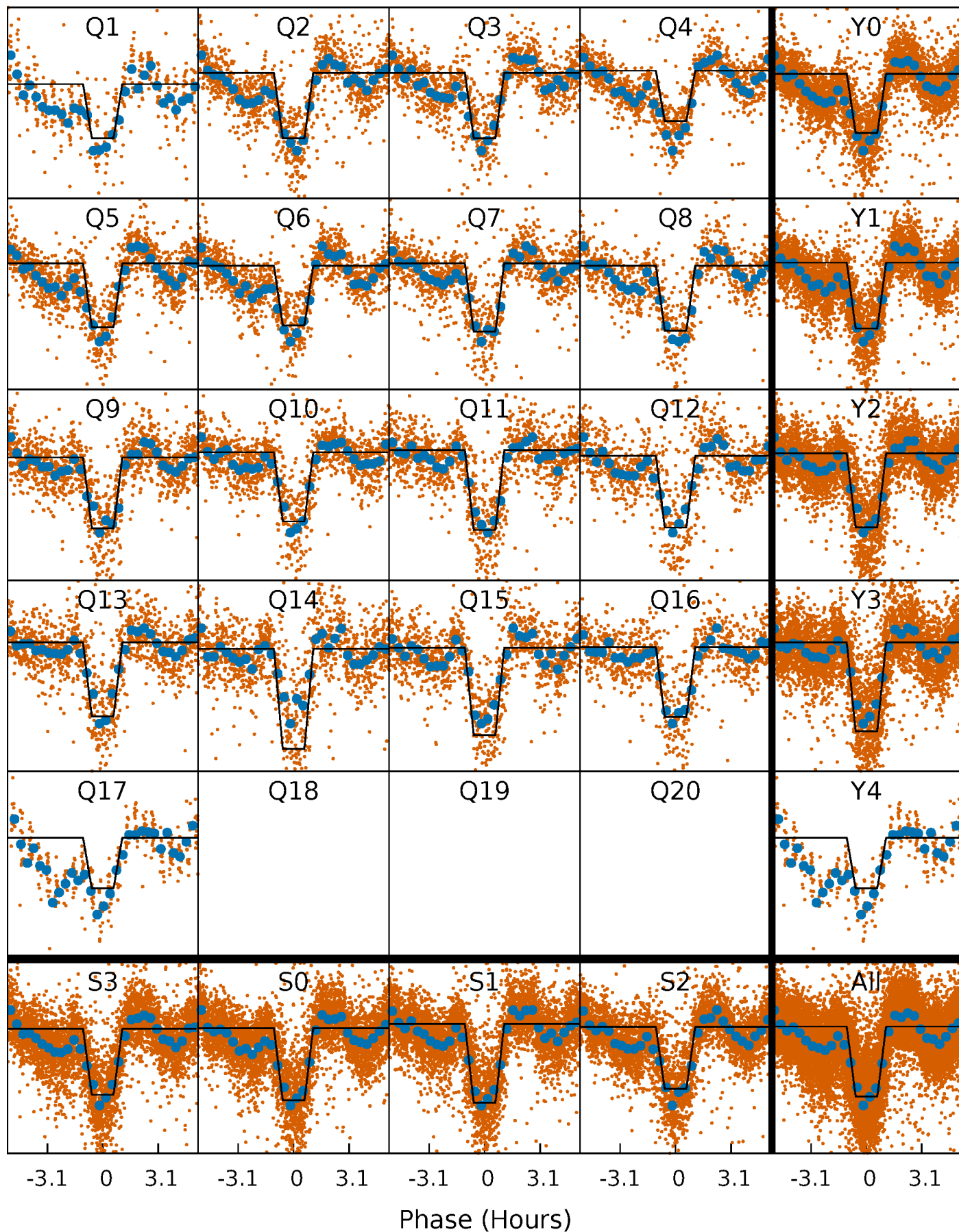
DV Quarter-Phased Transit Curves

TCE 011807603-02 P= 1.572961 Days $T_0=132.558744$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

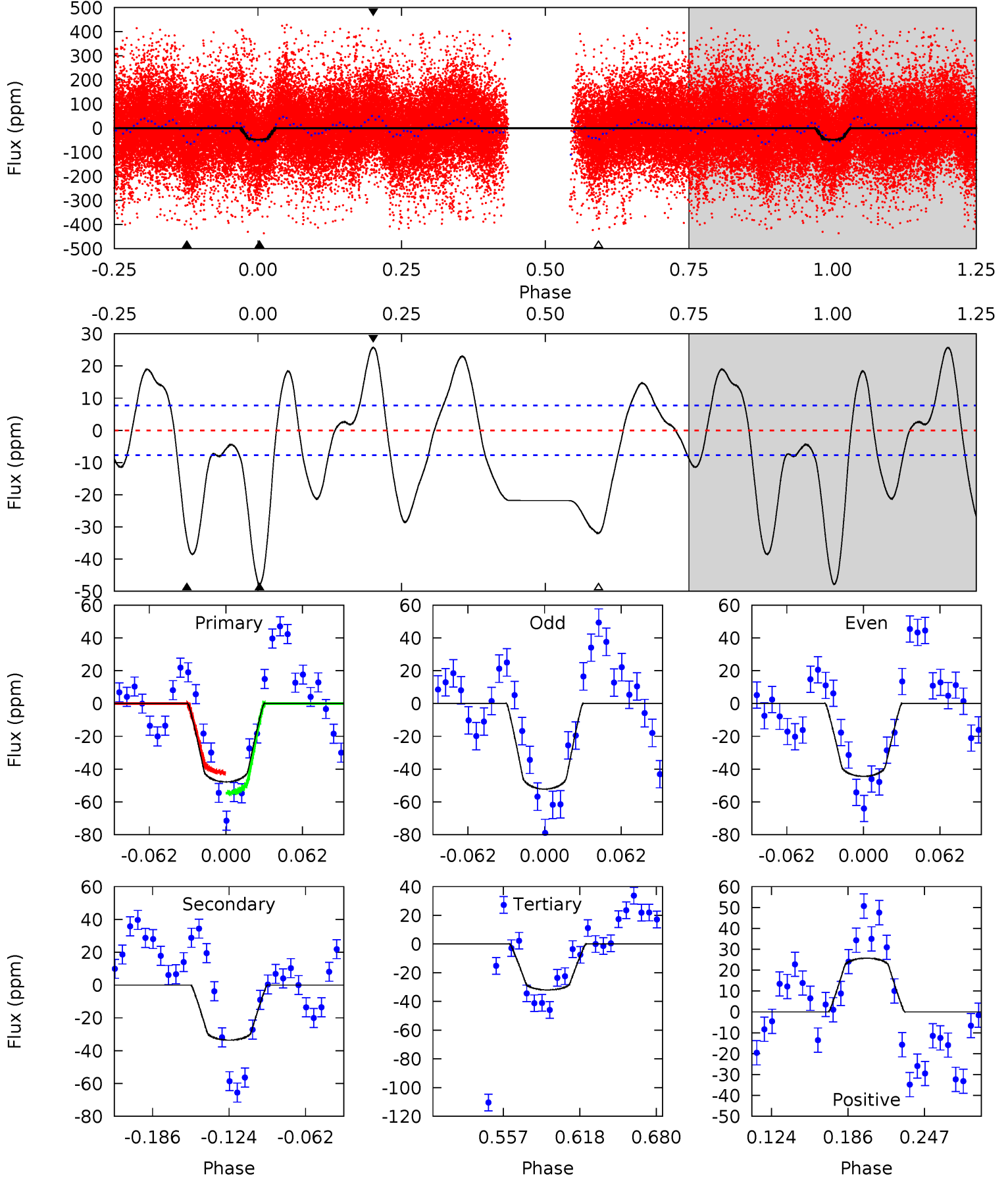
TCE 011807603-02 P= 1.572993 Days $T_0=132.551308$ (BKJD)



DV Model-Shift Uniqueness Test

011807603-02, P = 1.572961 Days, E = 130.985783 Days

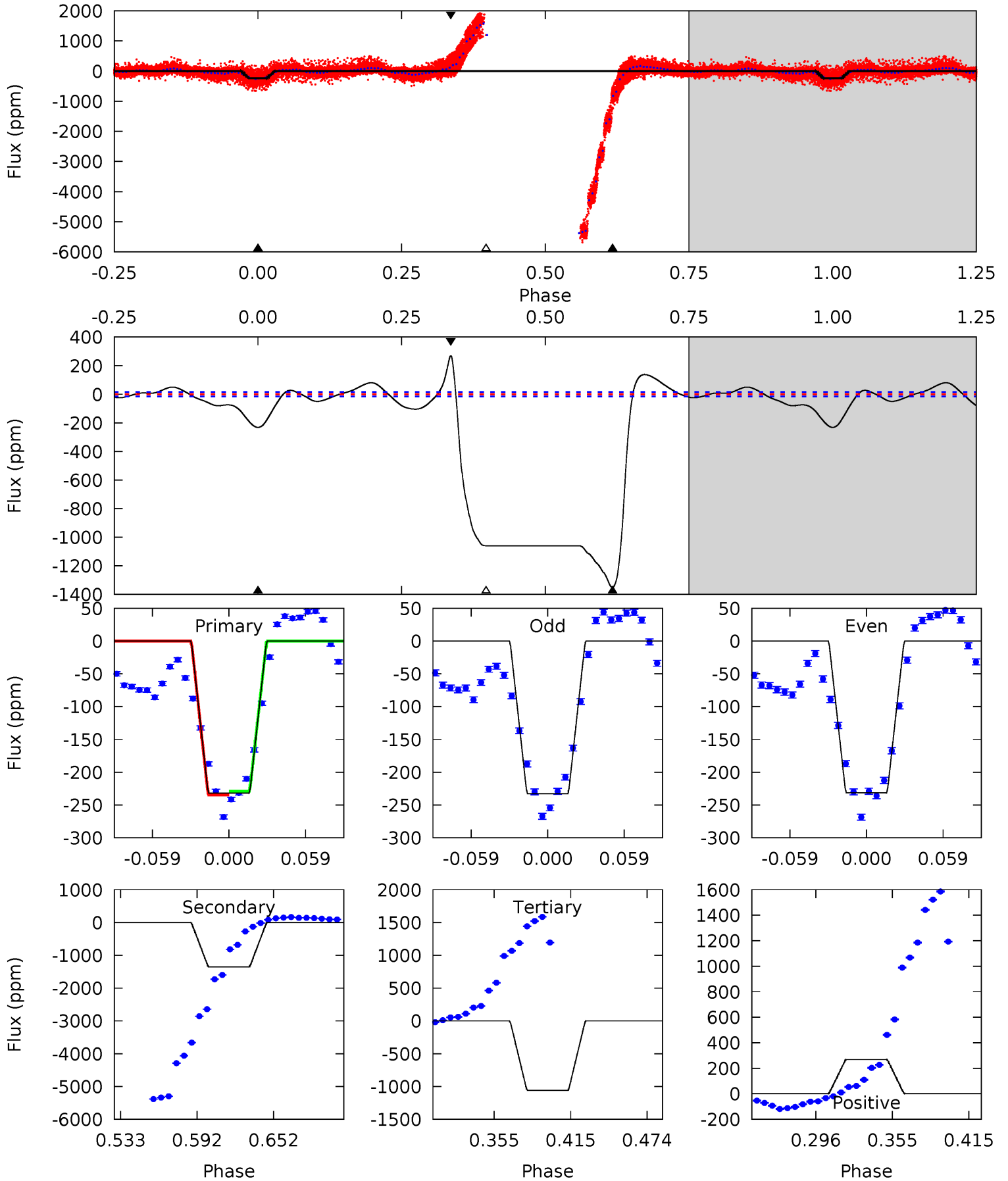
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.9	20.3	19.3	15.5	4.66	1.87	9.09	9.55	13.3	0.96	4.74	2.36	0.78	0.35	3.79



Alt Model-Shift Uniqueness Test

011807603-02, P = 1.572993 Days, E = 130.978315 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.5	404.5	317.4	80.5	4.67	1.89	42.9	-247.9	-11.0	87.1	324.0	0.22	1.02	0.17	1.77



Stellar Parameters For KIC 011807603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8814^{+246}_{-422}	$4.099^{+0.135}_{-0.165}$	$0.070^{+0.250}_{-0.600}$	$2.132^{+0.621}_{-0.508}$	$2.081^{+0.372}_{-0.495}$	$0.302^{+0.248}_{-0.136}$
	+3%/-5%	+3%/-4%	+357%/-857%	+29%/-24%	+18%/-24%	+82%/-45%
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 011807603-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-34 ± 2	$1.99^{+0.39}_{-0.34}$	4319^{+318}_{-293}	6830^{+560}_{-430}	$5.321^{+2.053}_{-1.454}$
Alt.	-1350 ± 3	$3.65^{+0.55}_{-0.54}$	4333^{+307}_{-318}	18160^{+1670}_{-1542}	64^{+18}_{-15}

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

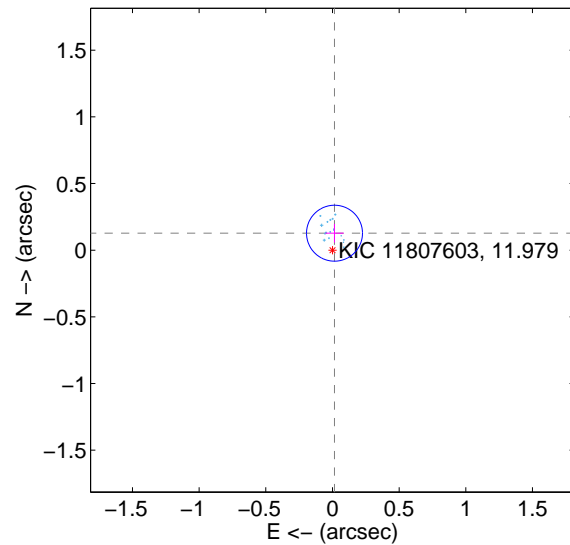
Supplemental centroid analysis for 011807603-02. **Kepler magnitude: 11.98.** Transit SNR 24.31

There are 17 quarters with good PRF difference image offsets

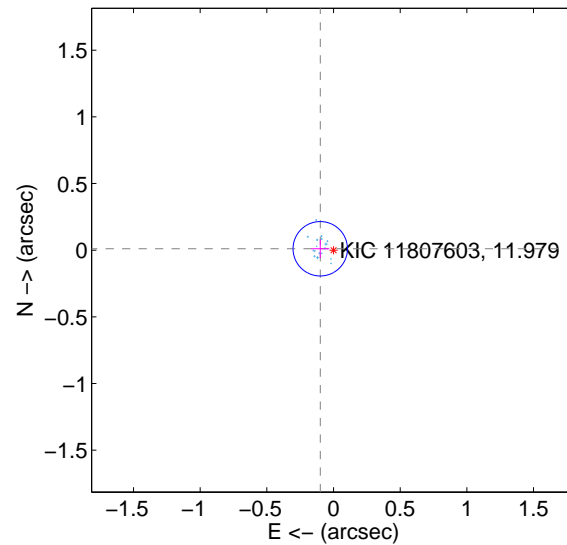
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.128 ± 0.070	1.83	-0.015 ± 0.068	0.127 ± 0.070
PRF-fit source offset from KIC position	0.100 ± 0.068	1.47	0.099 ± 0.068	0.011 ± 0.069
photometric centroid source offset	0.53 ± 0.33	1.60	0.40 ± 0.30	-0.34 ± 0.37

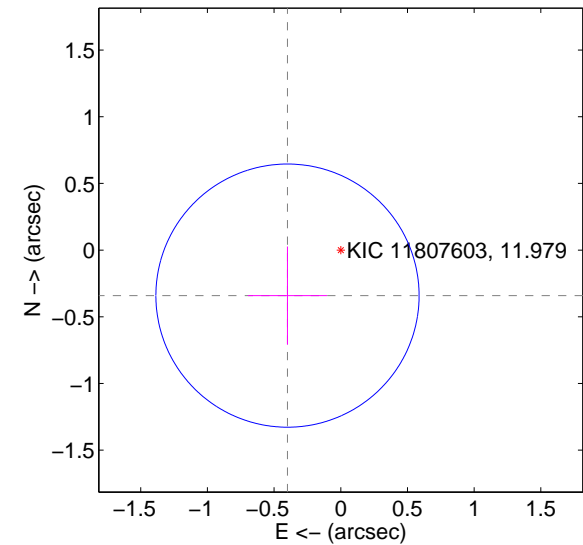
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

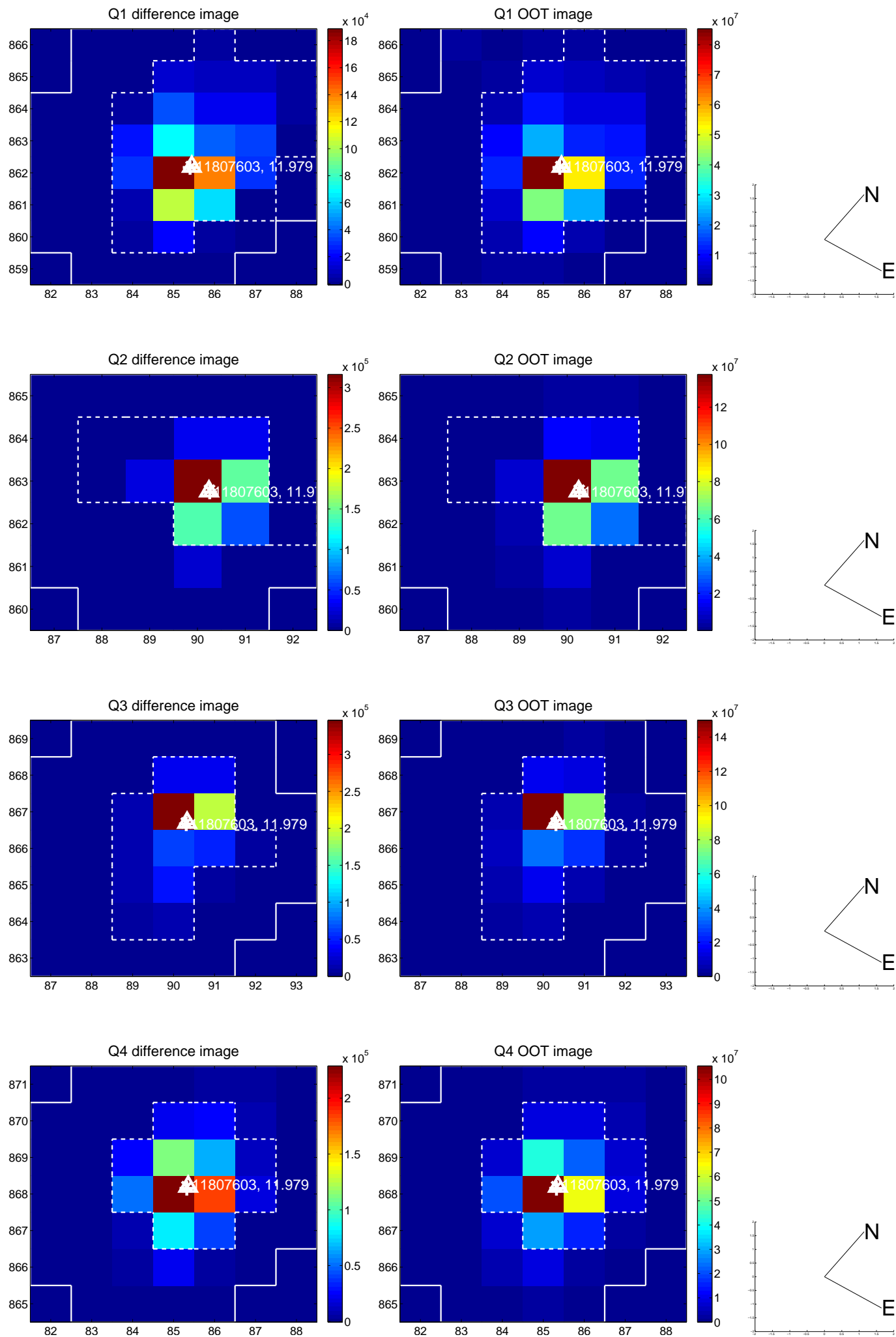


offset from photometric centroids

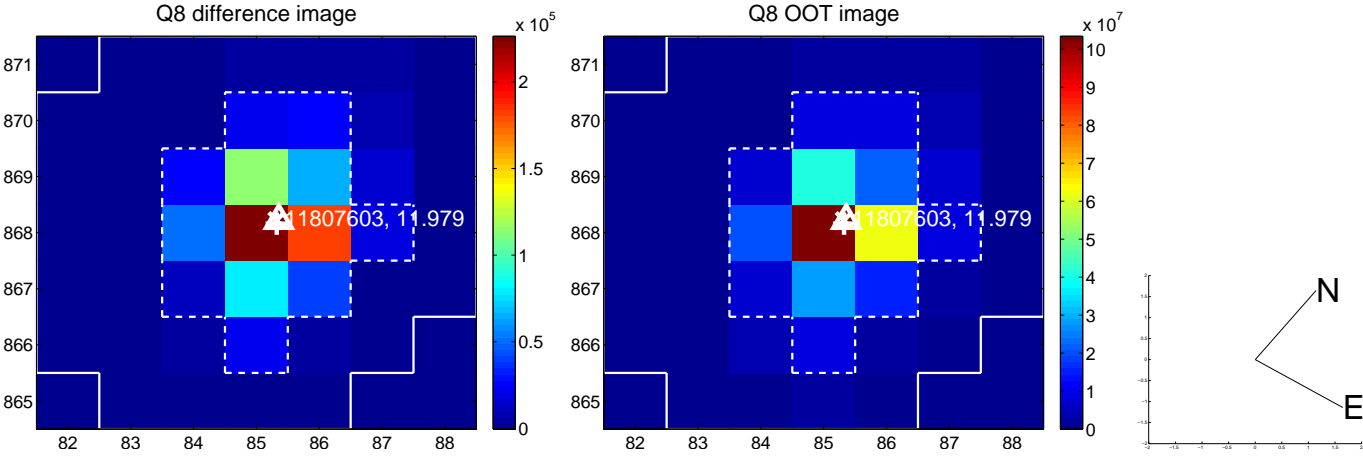
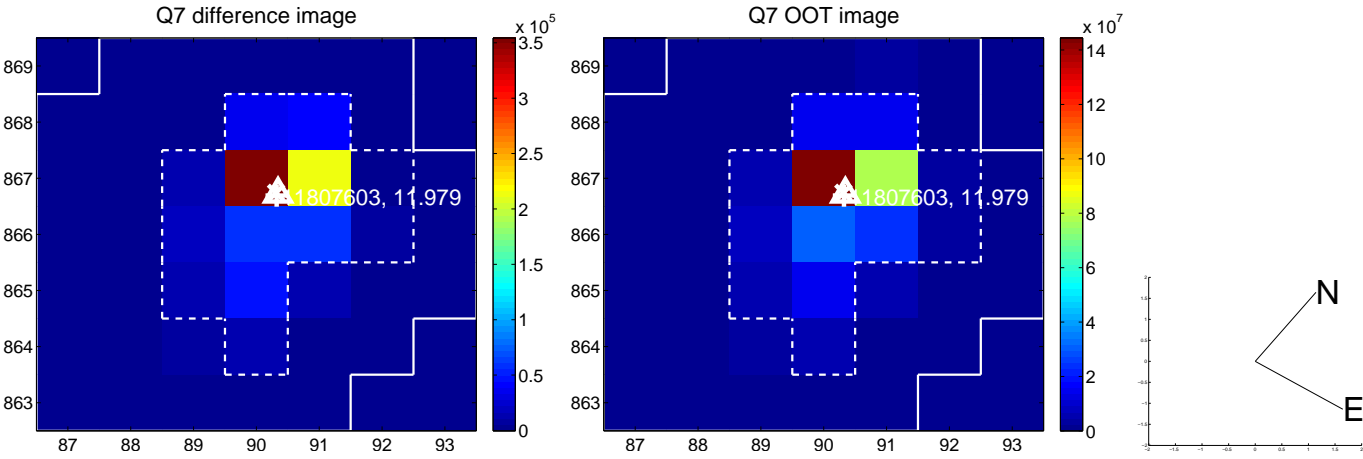
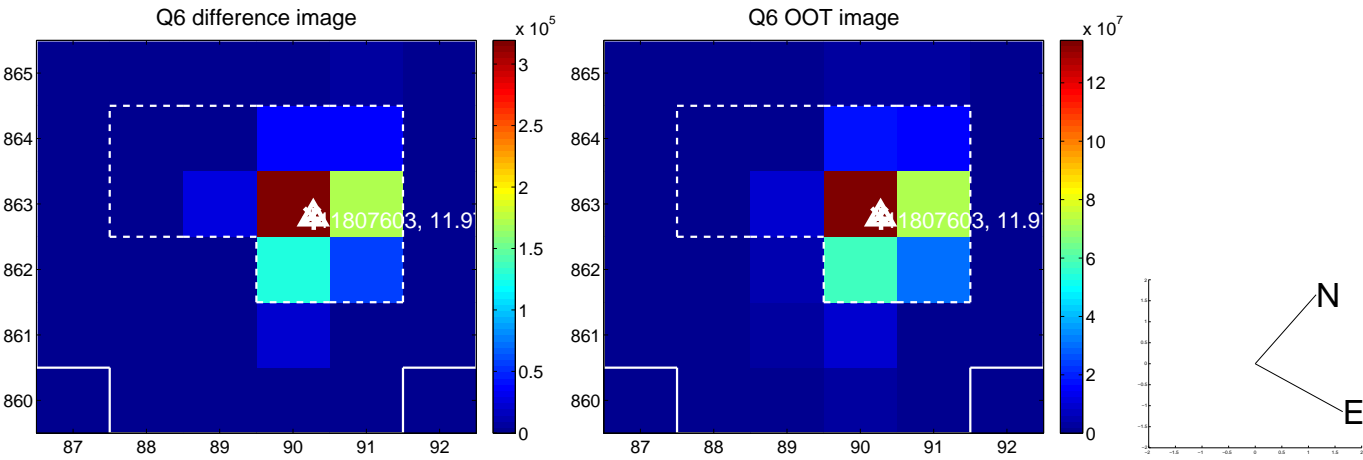
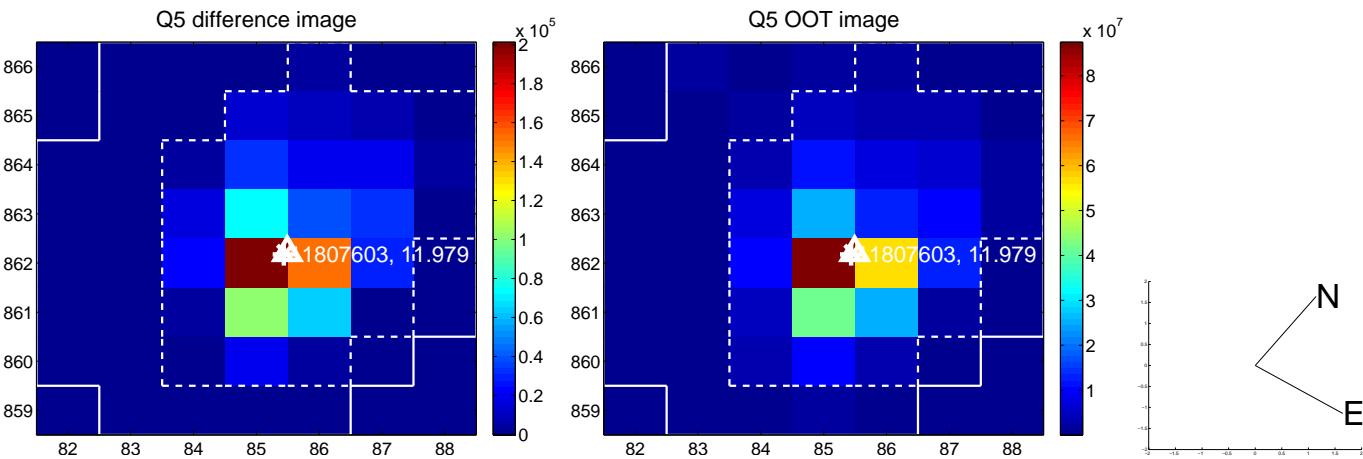


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

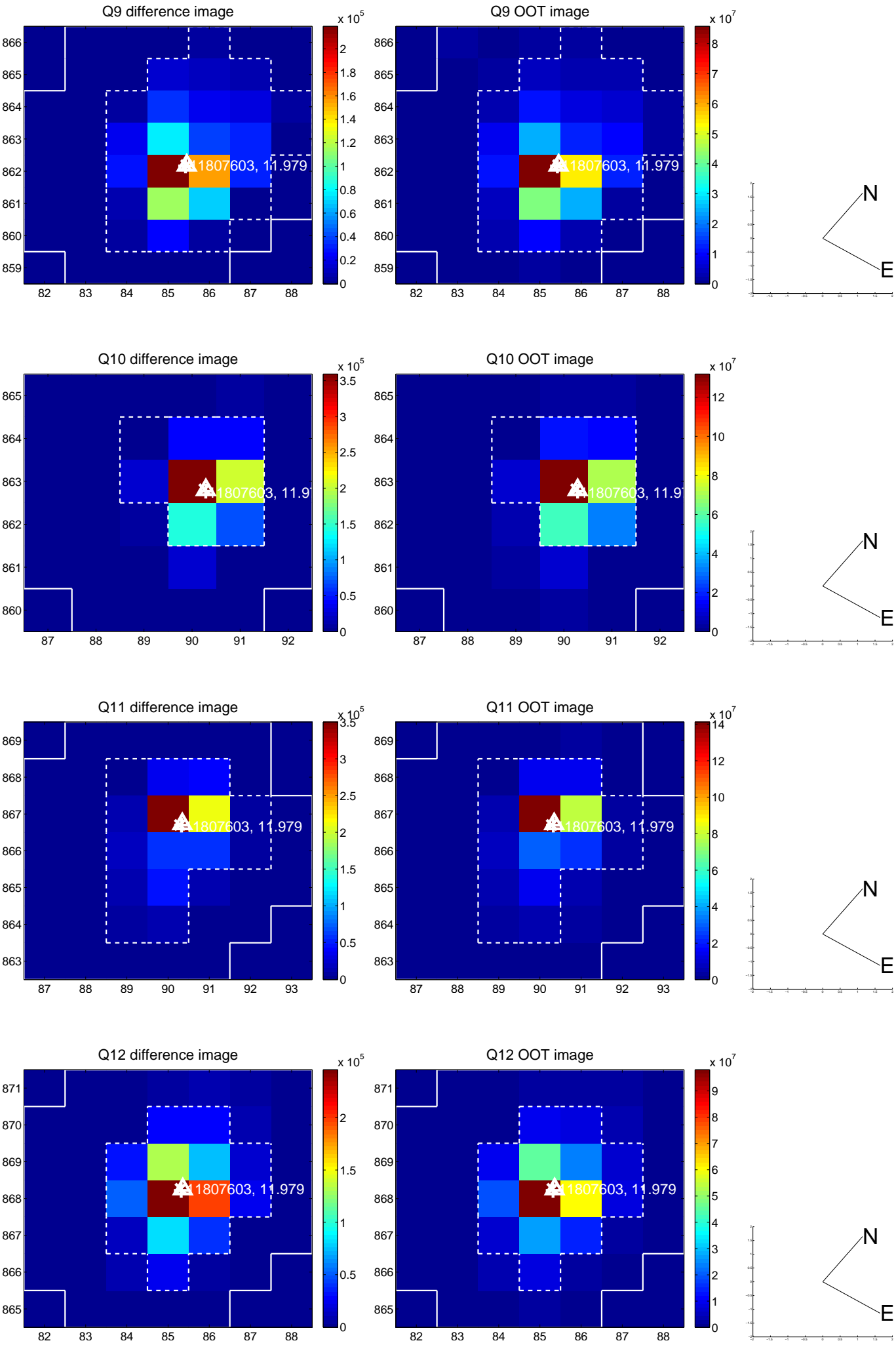
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



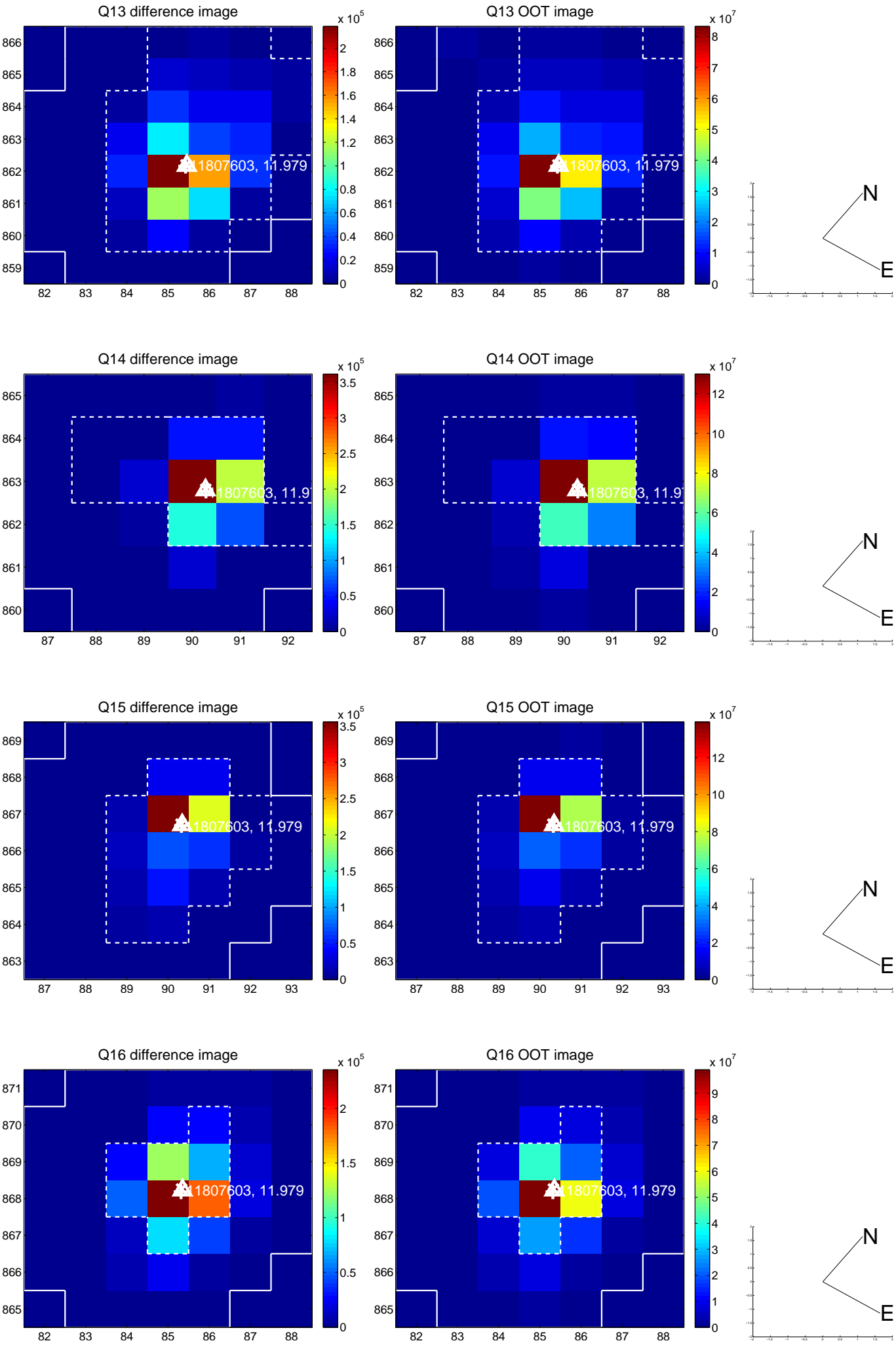
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



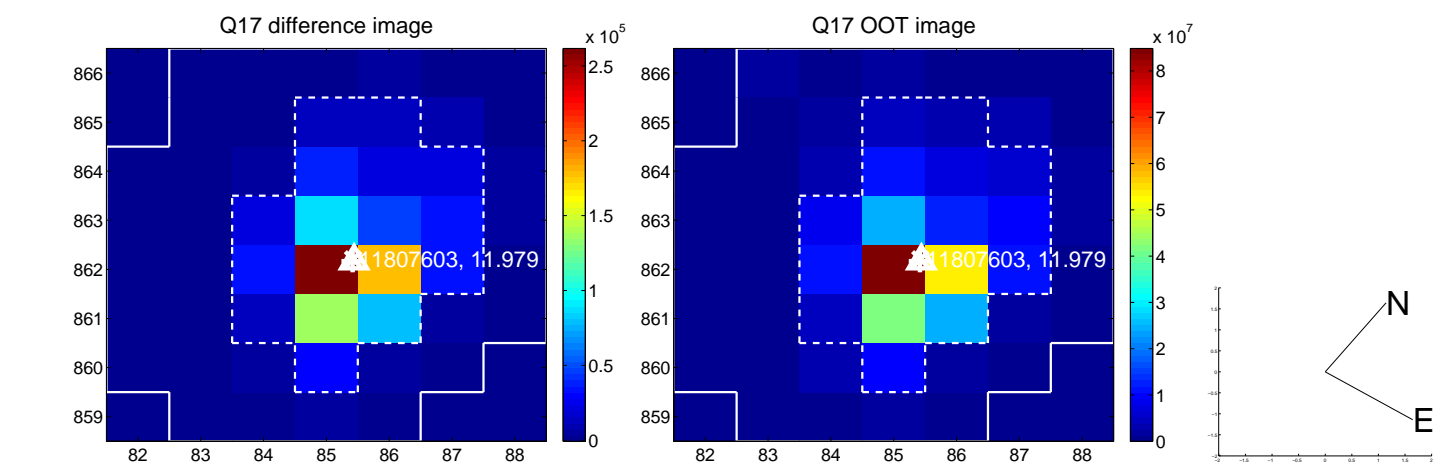
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



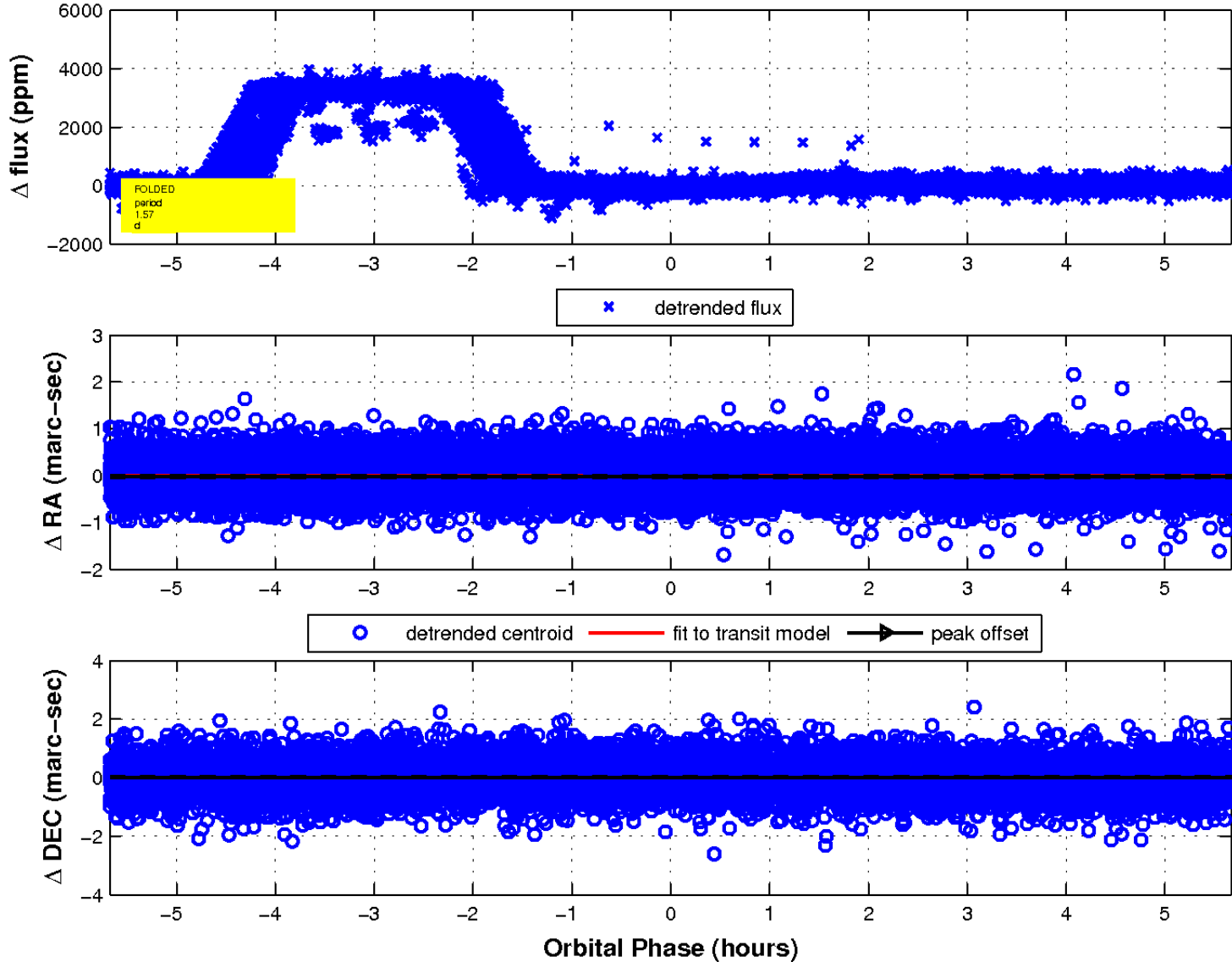
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

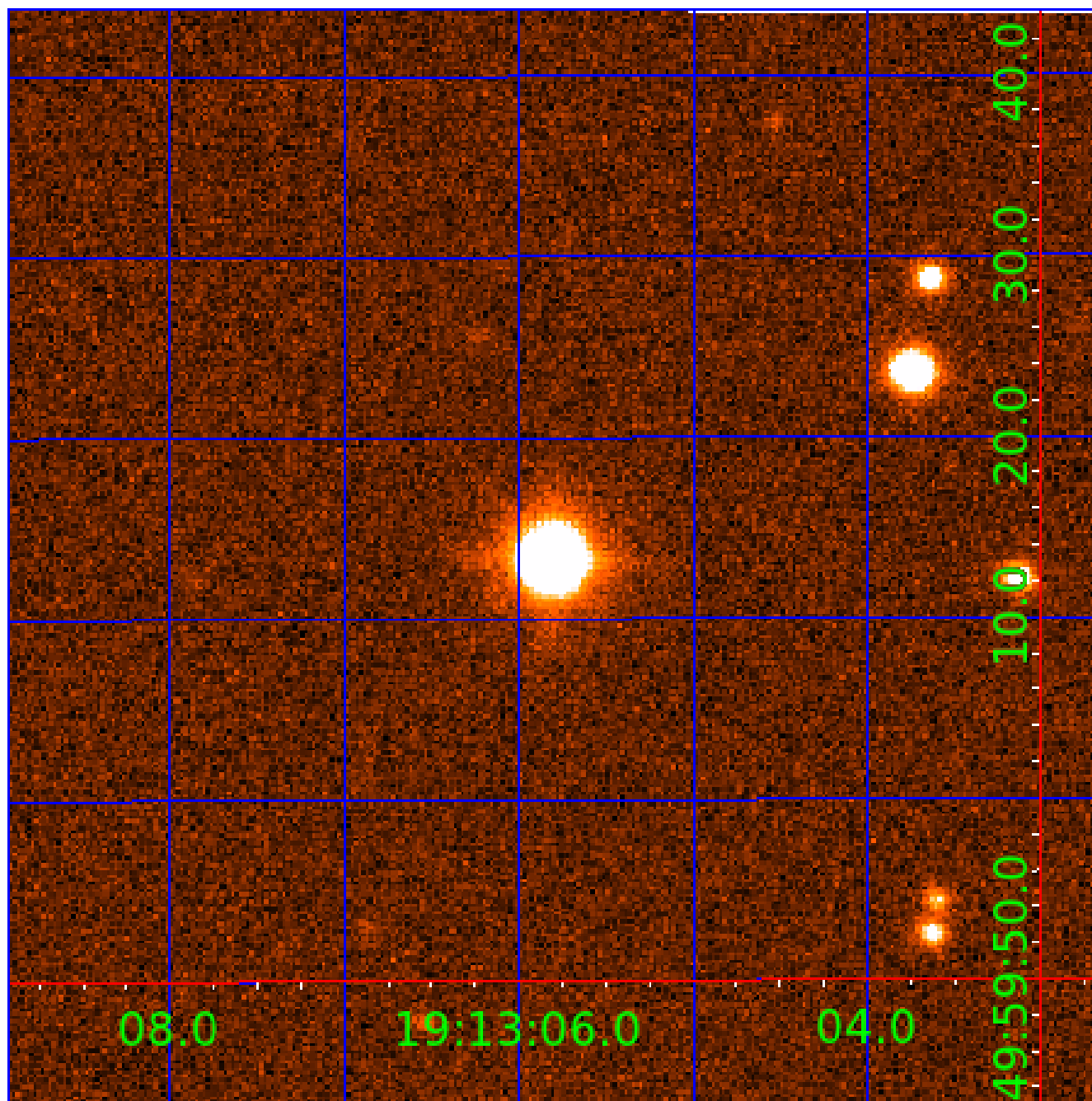


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 011807603

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})
011807603-01	OBS	No	1.573032	131.725149	56.9	1.651	25.8	21.6	2.13	8814	1.87	21501.13
011807603-02	OBS	No	1.572961	132.558744	62.1	1.891	24.1	24.3	2.13	8814	1.95	21502.42
011807603-03	OBS	No	1.572919	132.446849	4.1	4.439	19.4	1.4	2.13	8814	0.50	21503.19
011807603-04	OBS	No	0.524330	131.896610	218.9	2.000	18.4	-1.0	2.13	8814	3.22	93033.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011807603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011807603-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
011807603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011807603-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

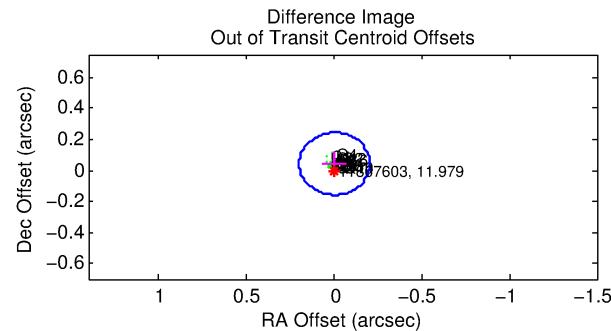
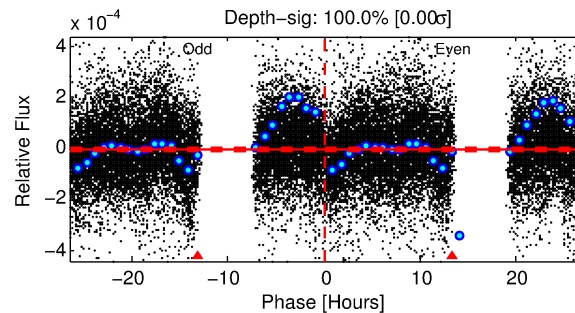
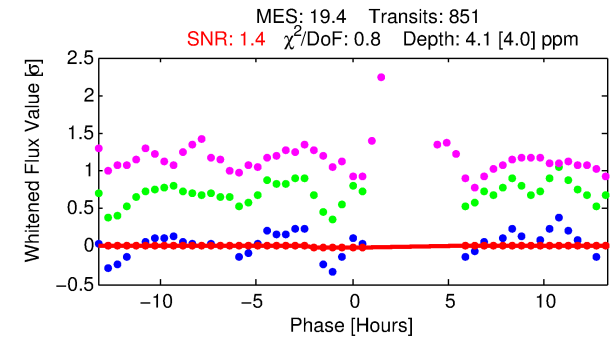
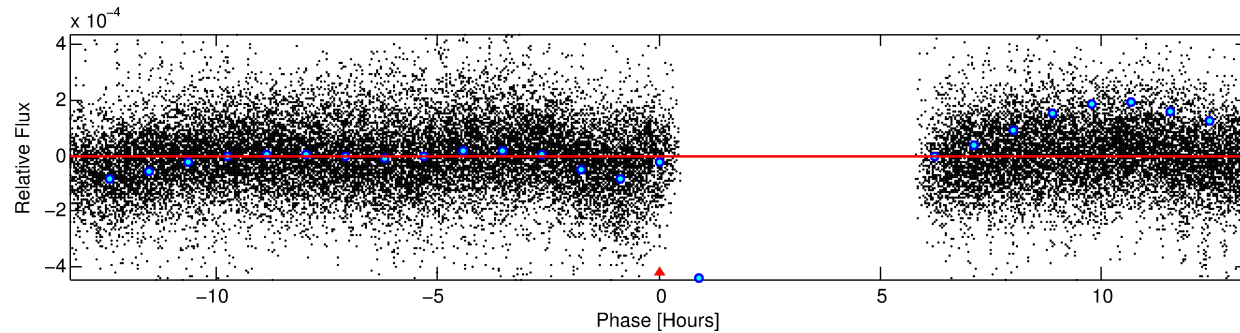
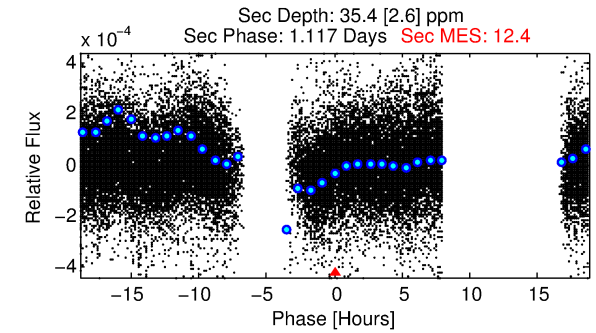
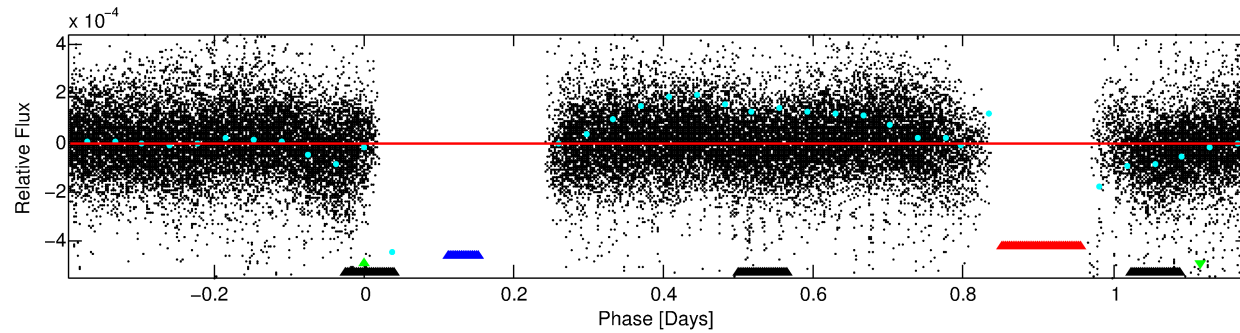
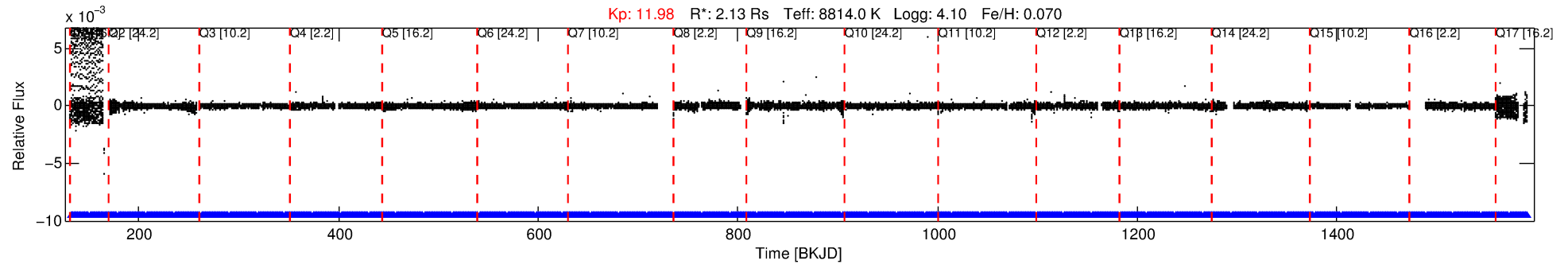
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011807603-03

No Significant Match Found

DV One-Page Summary

KIC: 11807603 Candidate: 3 of 4 Period: 1.573 d



DV Fit Results:

Period = 1.57292 [0.00011] d
Epoch = 132.4468 [0.0524] BKJD
Rp/R* = 0.0022 [0.0015]
a/R* = 1.52 [2.96]
b = 0.90 [0.76]
Seff = 21503.19 [8003.63]
Teff = 3088 [287] K
Rp = 0.50 [0.38] Re
a = 0.0338 [0.0078] AU
Ag = 88.72 [126.03] [0.70σ]
Teffp = 14652 [5119] K [2.26σ]

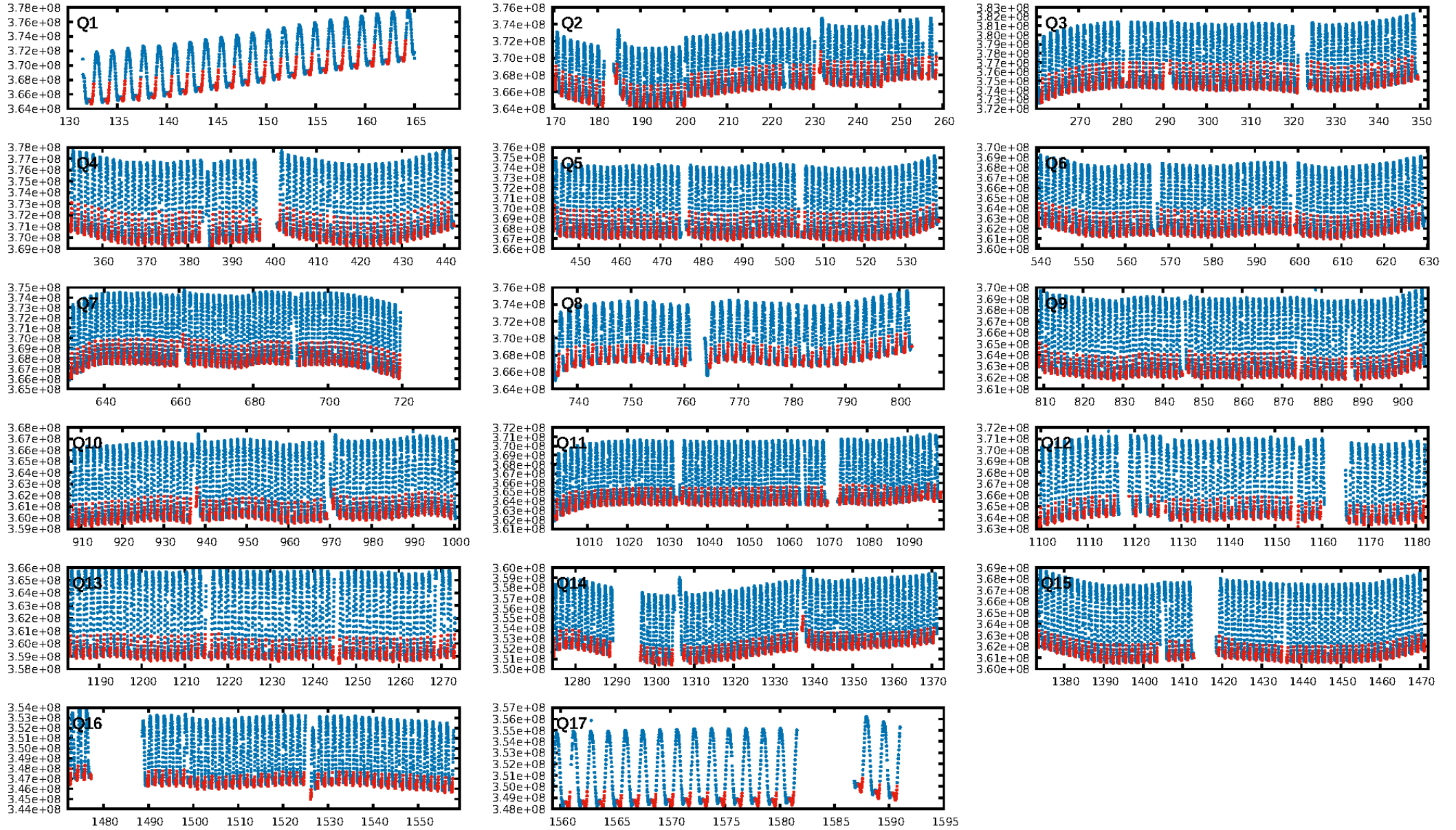
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.17σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [813/813]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.044 arcsec [0.65σ]
KicOffset-rm: 0.128 arcsec [1.89σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

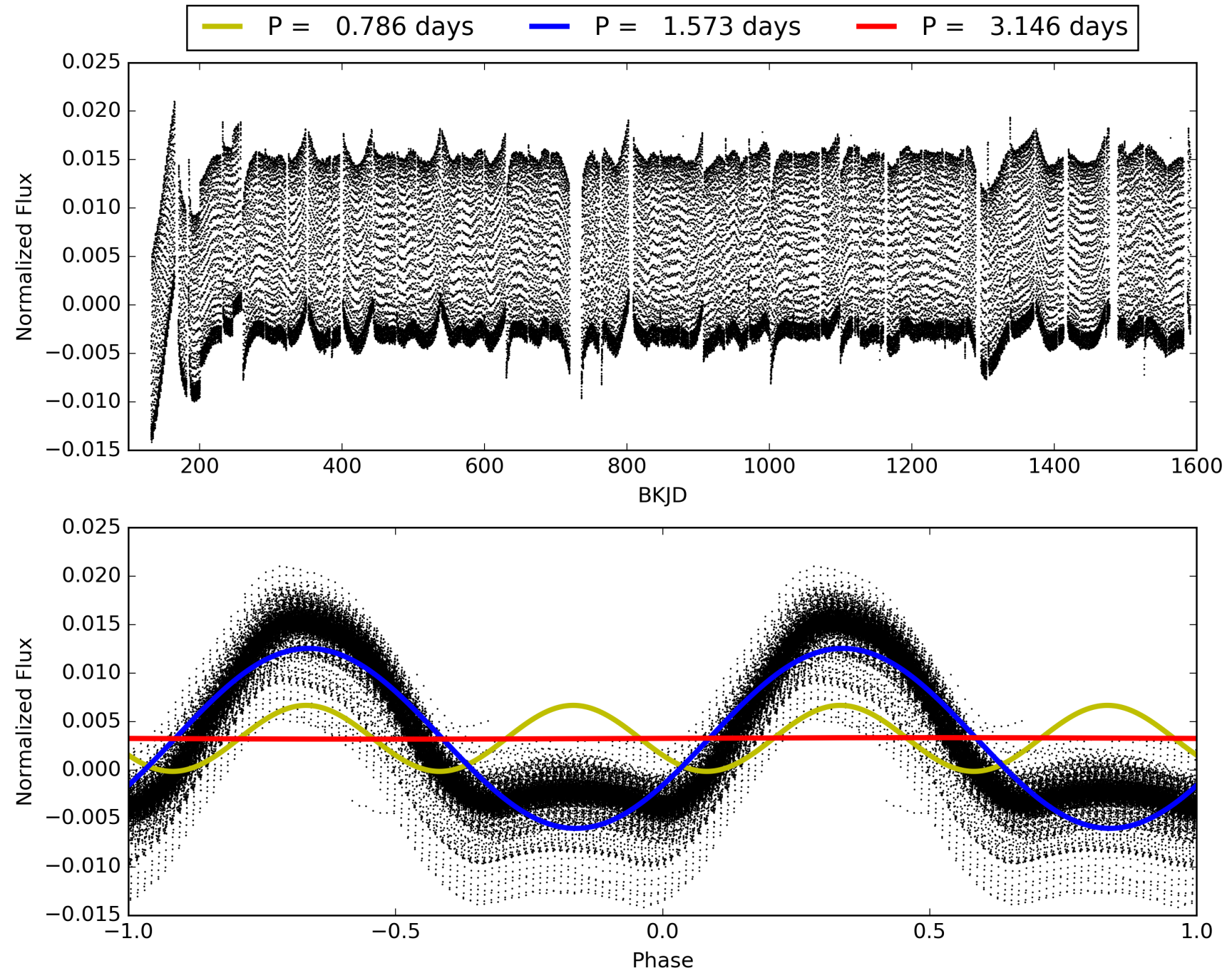
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:15:59 Z

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

TCE 011807603-03, PDC Light Curves

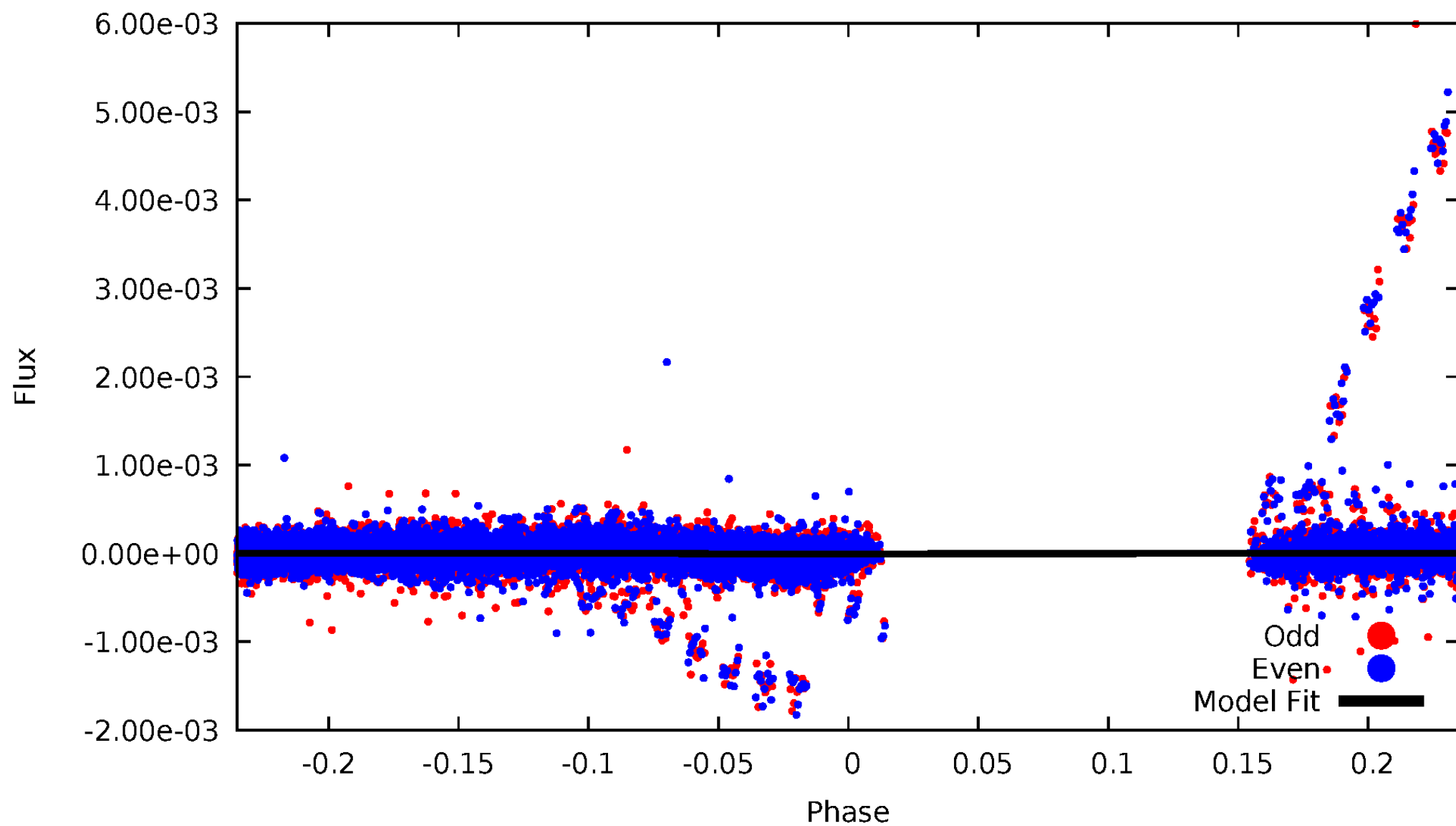


TCE 011807603-03



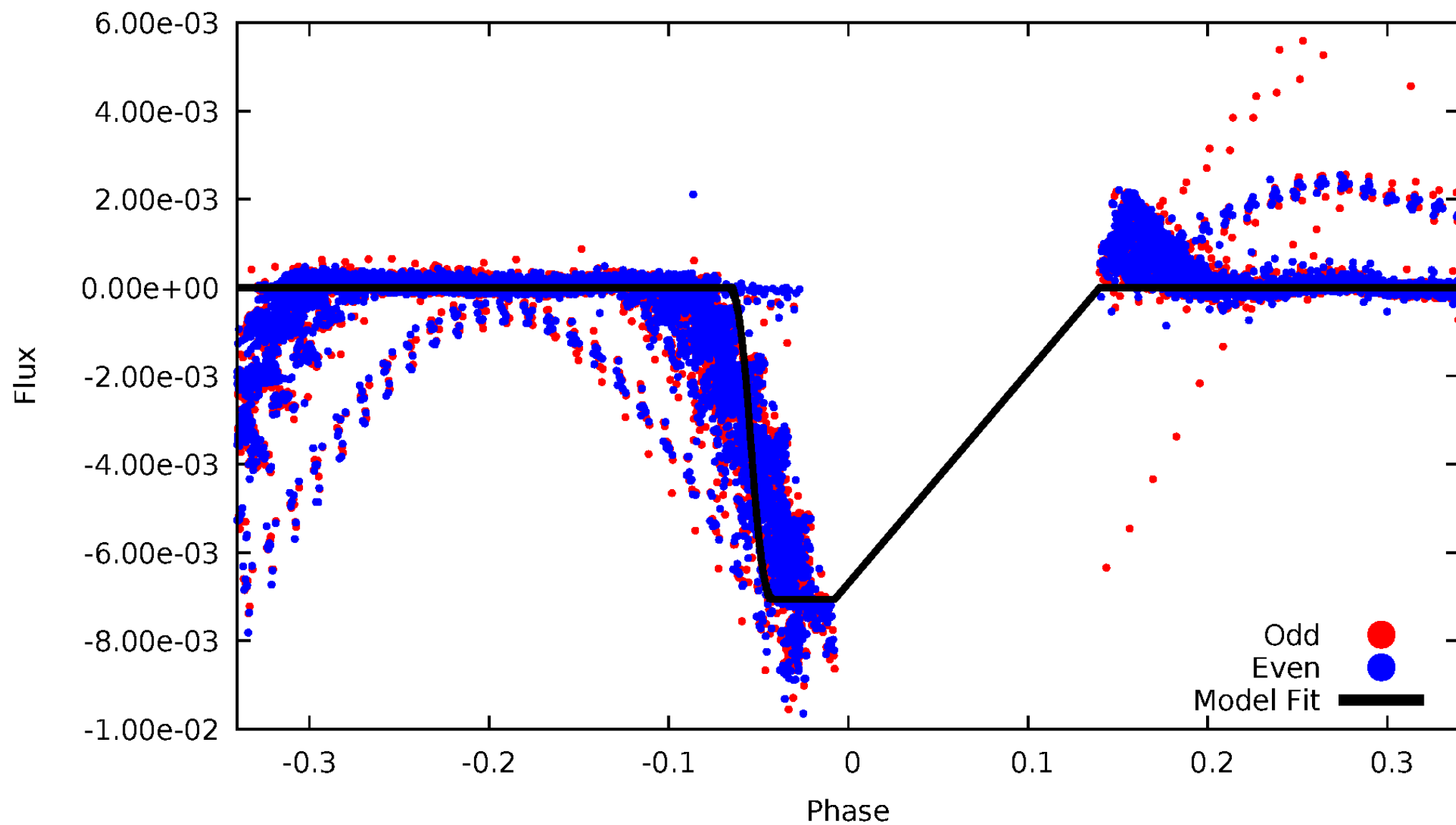
DV Odd/Even

TCE 011807603-03



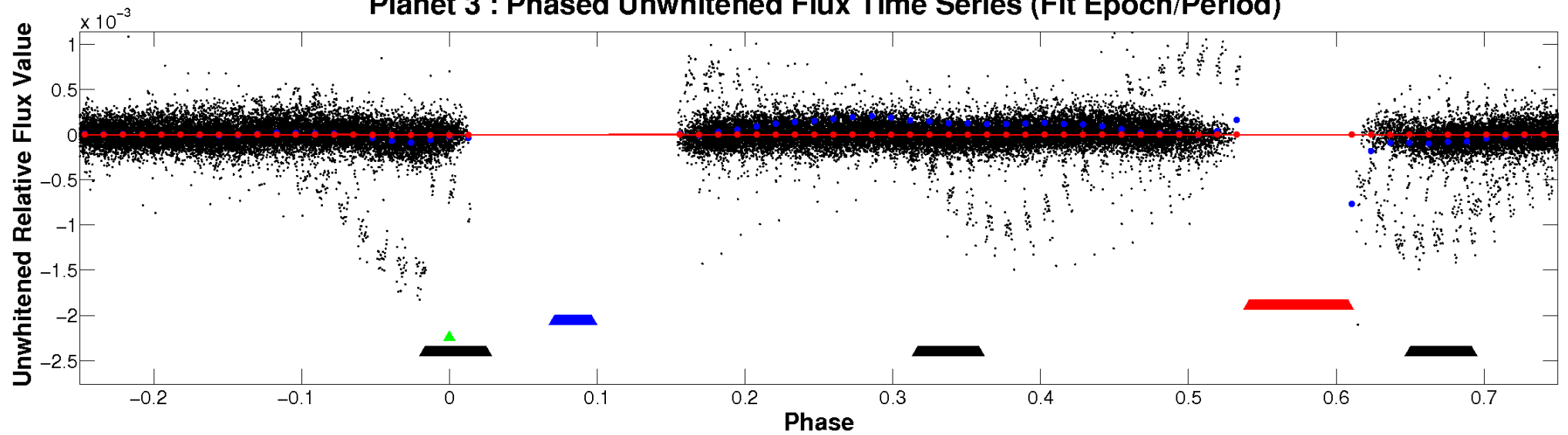
ALT Odd/Even

TCE 011807603-03

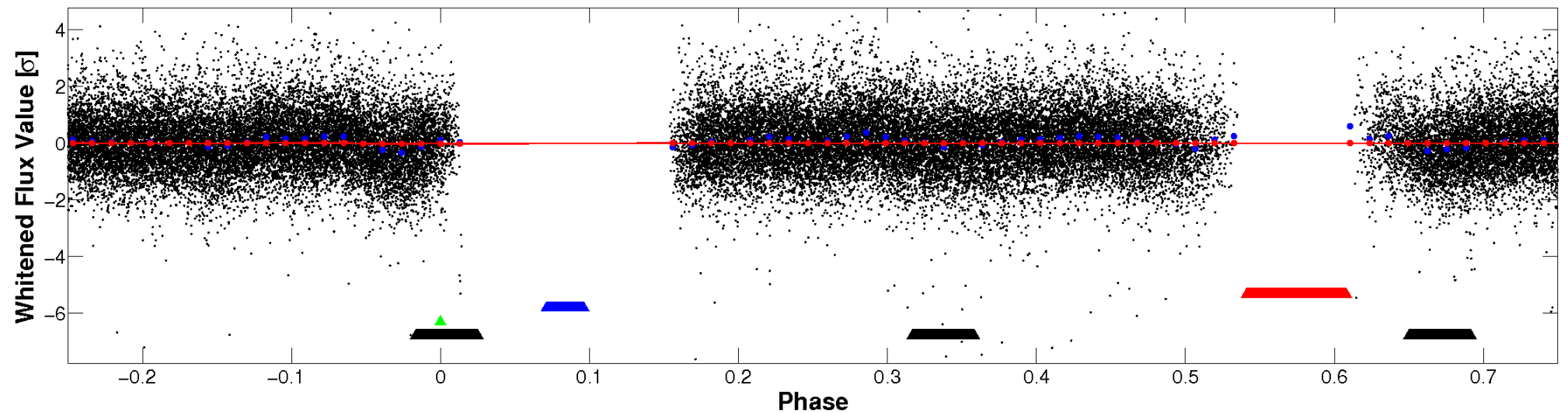


Non-Whitened Vs. Whitened Light Curve

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

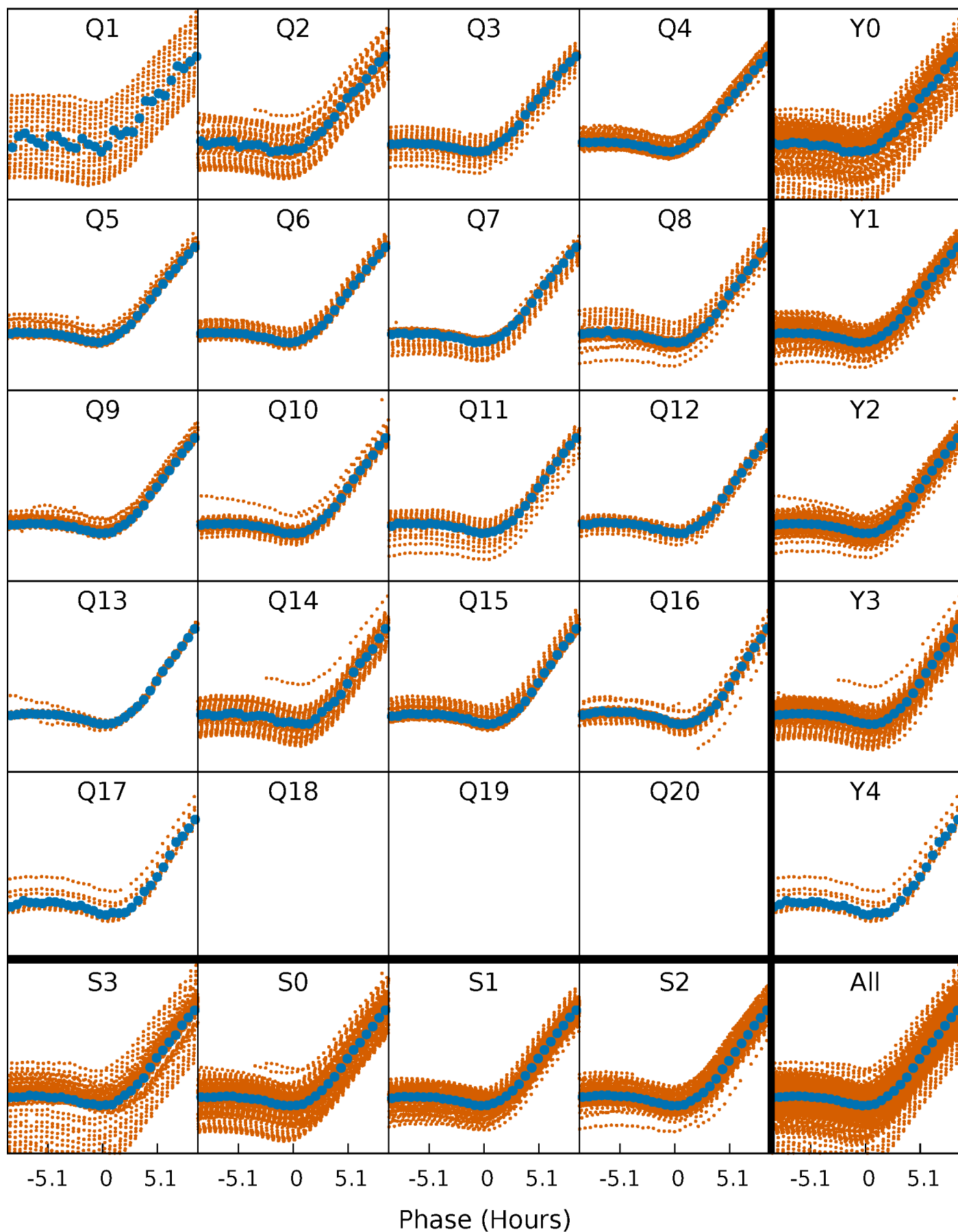


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



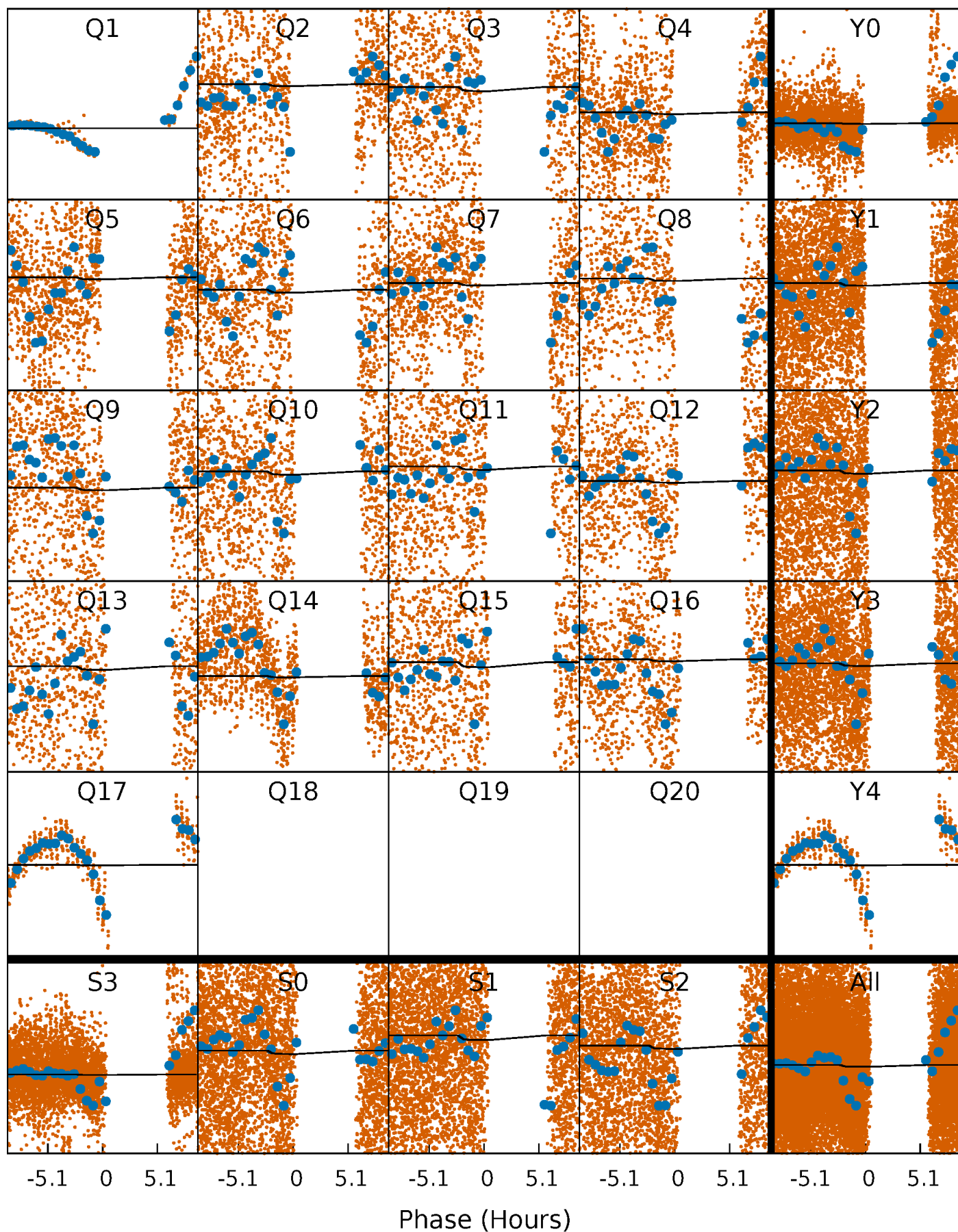
PDC Quarter-Phased Transit Curves

TCE 011807603-03 P= 1.572919 Days $T_0=132.446849$ (BKJD)



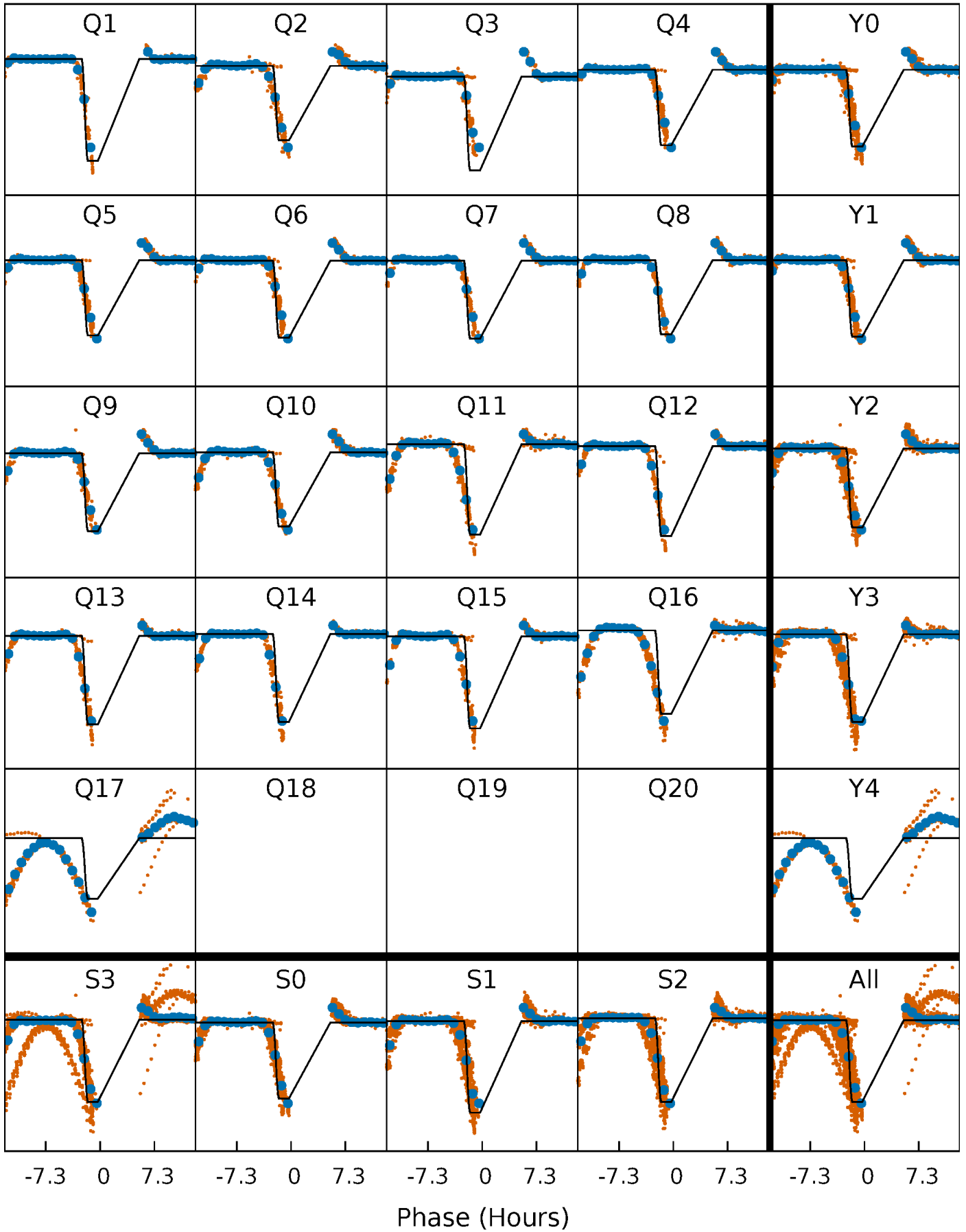
DV Quarter-Phased Transit Curves

TCE 011807603-03 P= 1.572919 Days $T_0=132.446849$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

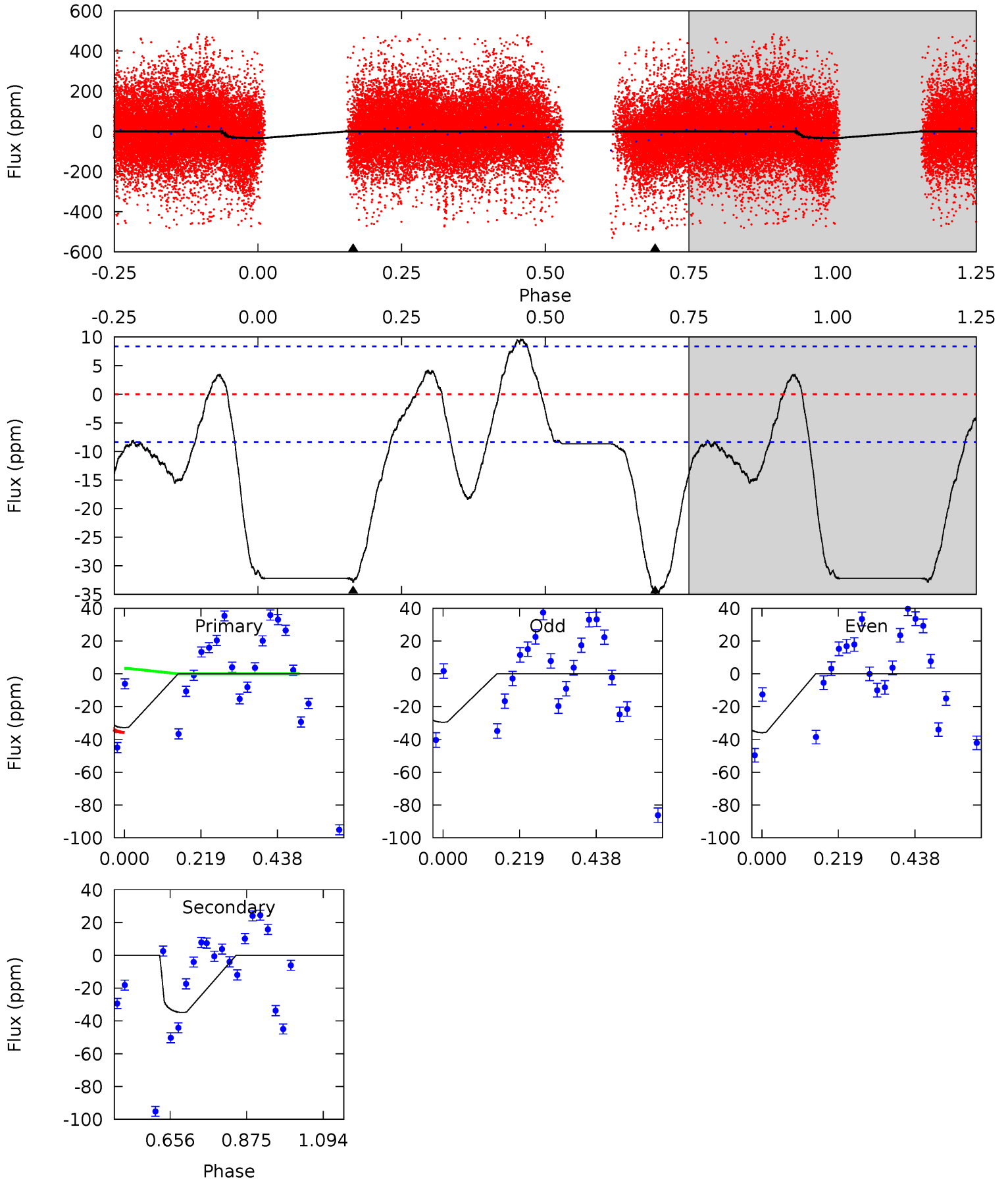
TCE 011807603-03 $P = 1.572993$ Days $T_0 = 132.439151$ (BKJD)



DV Model-Shift Uniqueness Test

011807603-03, P = 1.572919 Days, E = 130.873930 Days

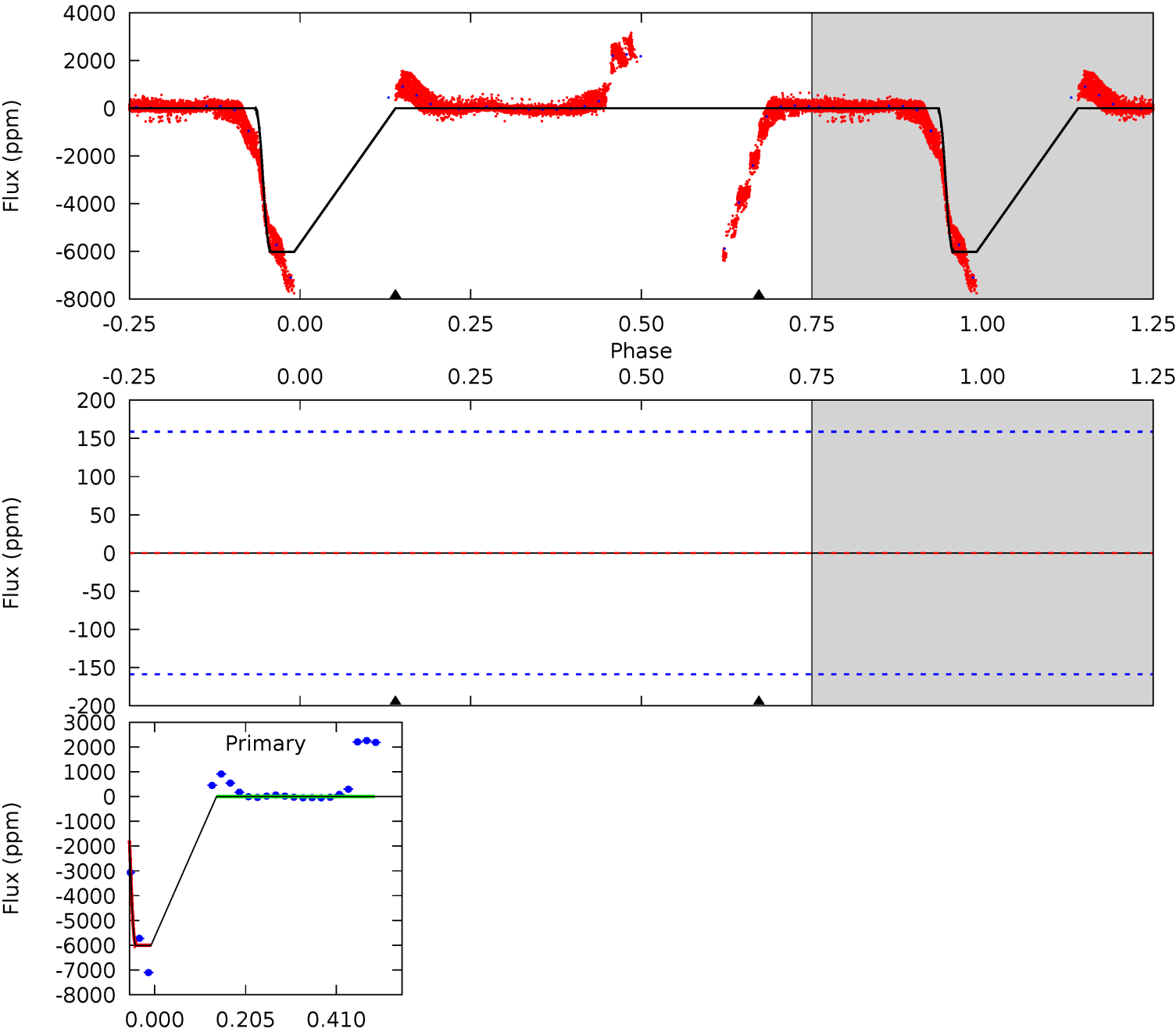
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	18.3	0	0	4.40	1.23	8.48	17.3	17.3	18.3	18.3	1.68	2.56	0.22	0



Alt Model-Shift Uniqueness Test

011807603-03, P = 1.572993 Days, E = 130.866158 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	4.41	1.27	0	0	0	0	0	0	0	0	0



Stellar Parameters For KIC 011807603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8814^{+246}_{-422}	$4.099^{+0.135}_{-0.165}$	$0.070^{+0.250}_{-0.600}$	$2.132^{+0.621}_{-0.508}$	$2.081^{+0.372}_{-0.495}$	$0.302^{+0.248}_{-0.136}$
	+3%/-5%	+3%/-4%	+357%/-857%	+29%/-24%	+18%/-24%	+82%/-45%
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 011807603-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-35 ± 2	$0.53^{+0.34}_{-0.30}$	4328^{+290}_{-301}	20342^{+38359}_{-8119}	78^{+291}_{-51}
Alt.	-0 ± 36	$19.78^{+2.85}_{-2.47}$	4327^{+296}_{-292}	-3779^{+227}_{-210}	$-0.001^{+0.059}_{-0.061}$

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 $A_{obs} \gg 1.0$

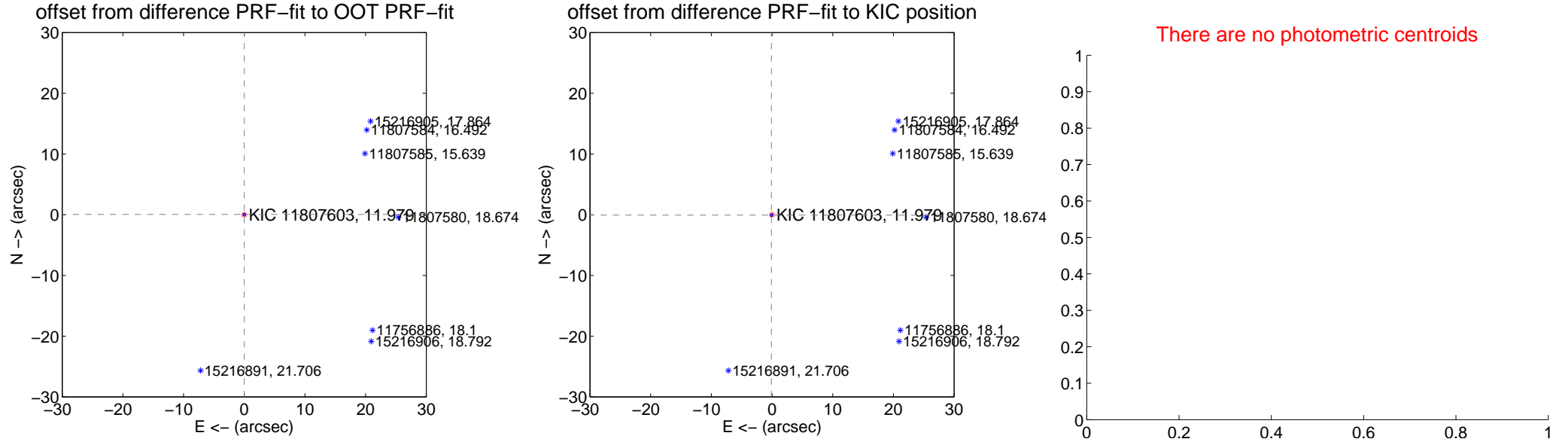
DV Centroid Data

Supplemental centroid analysis for 011807603-03. **Kepler magnitude: 11.98.** Transit SNR 1.37

There are 17 quarters with good PRF difference image offsets

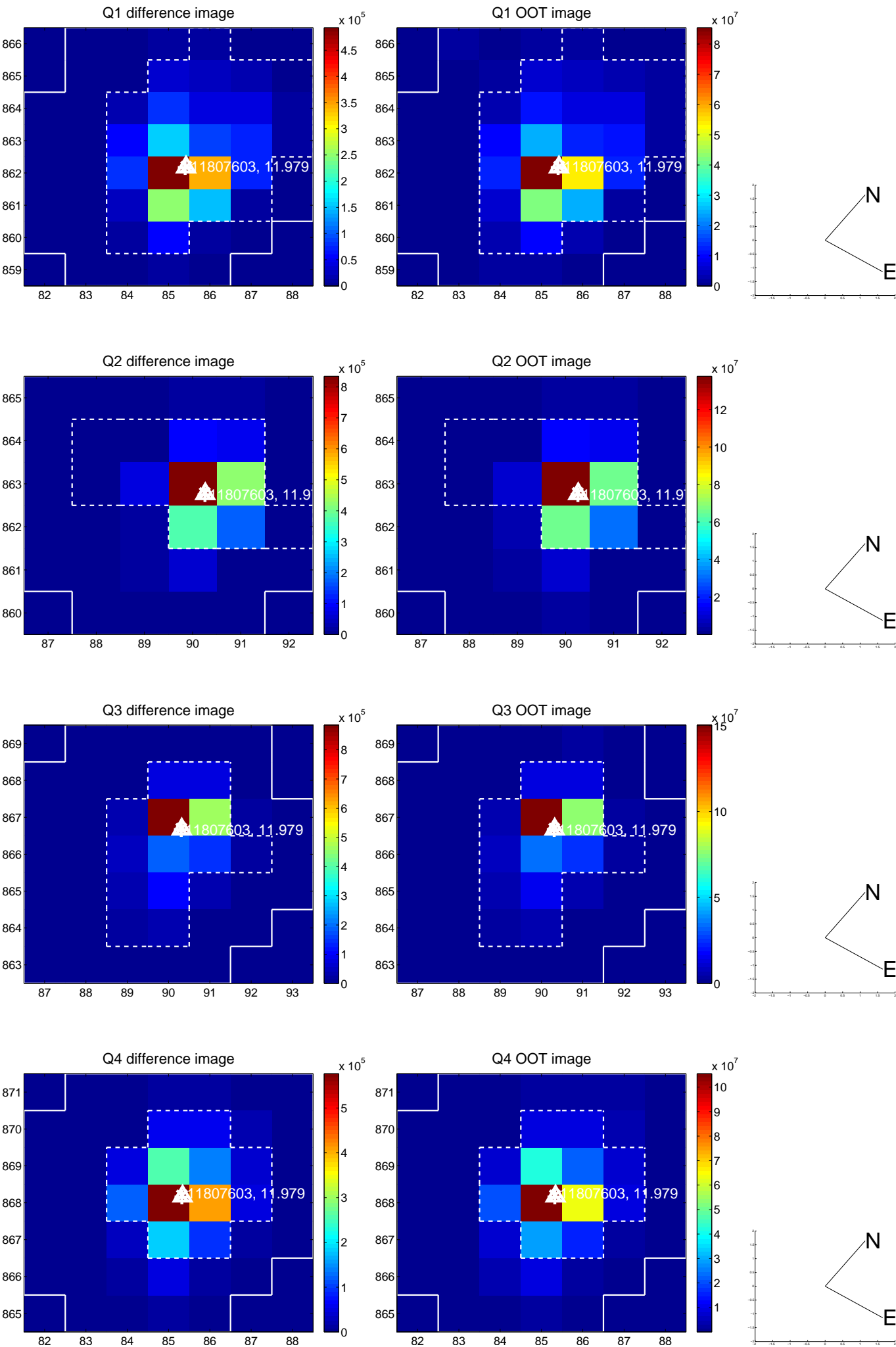
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.067	0.65	-0.003 ± 0.067	0.044 ± 0.067
PRF-fit source offset from KIC position	0.128 ± 0.068	1.89	0.109 ± 0.068	-0.067 ± 0.068
photometric centroid source offset	—	—	—	—

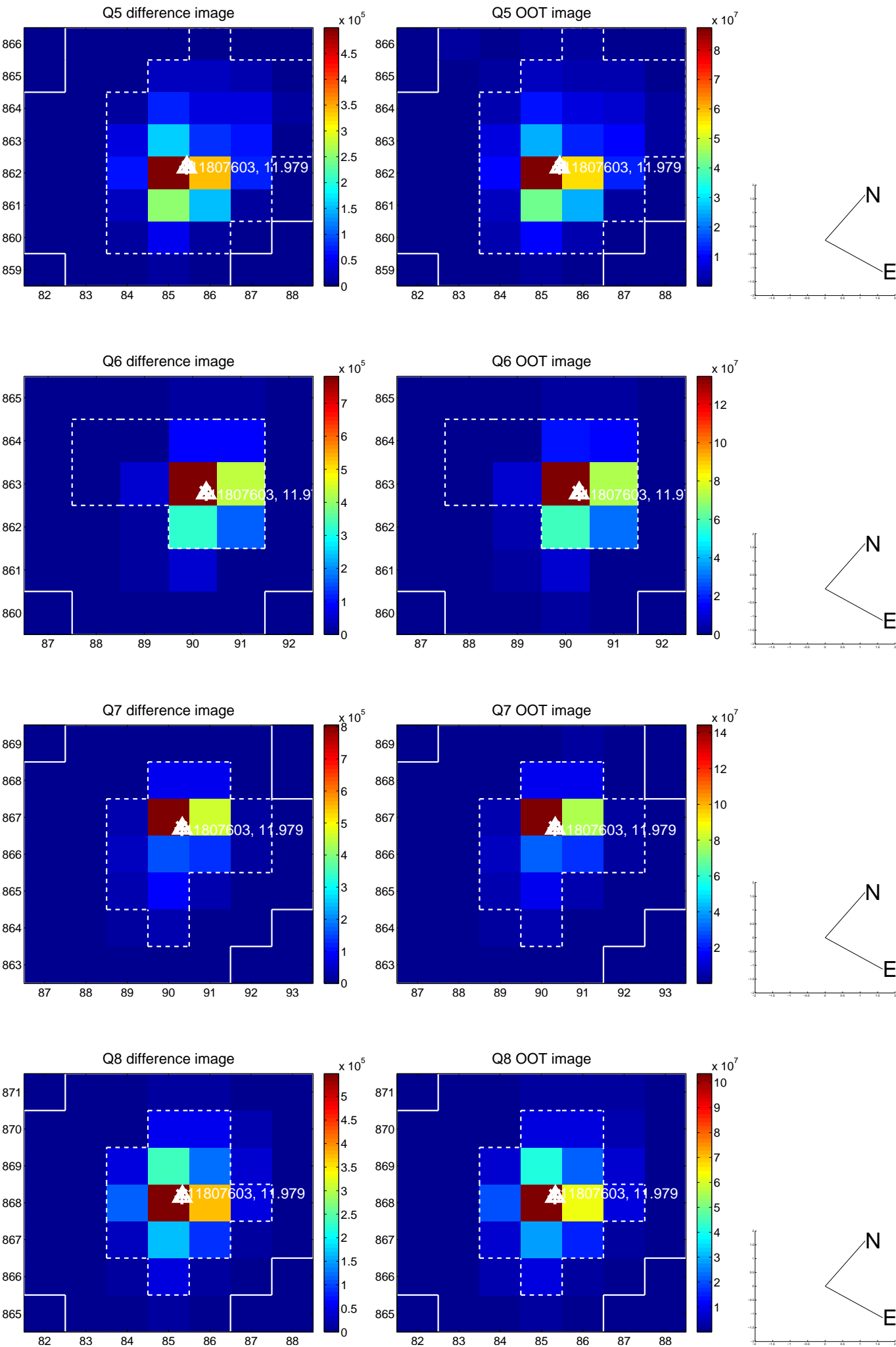


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

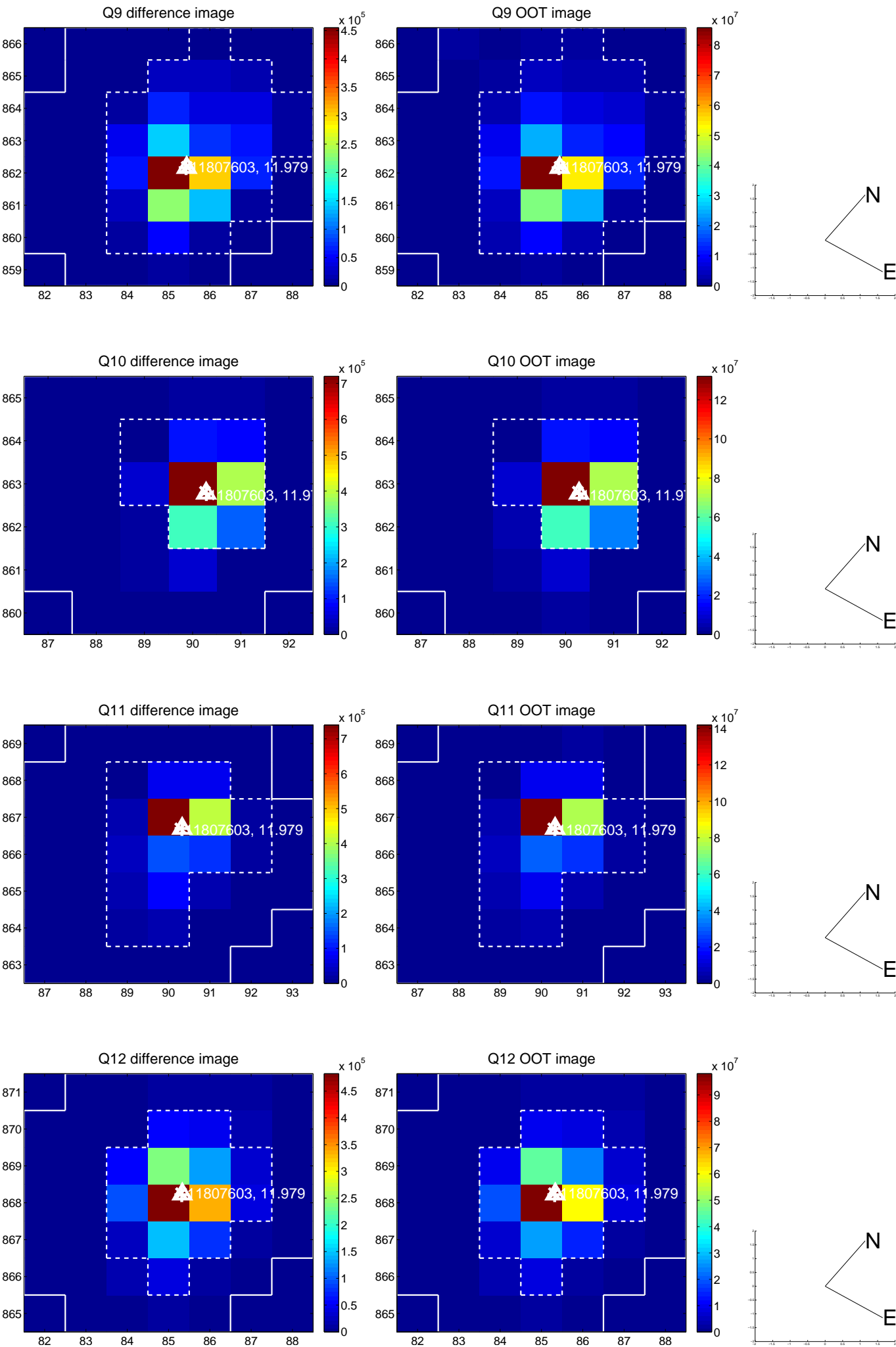
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



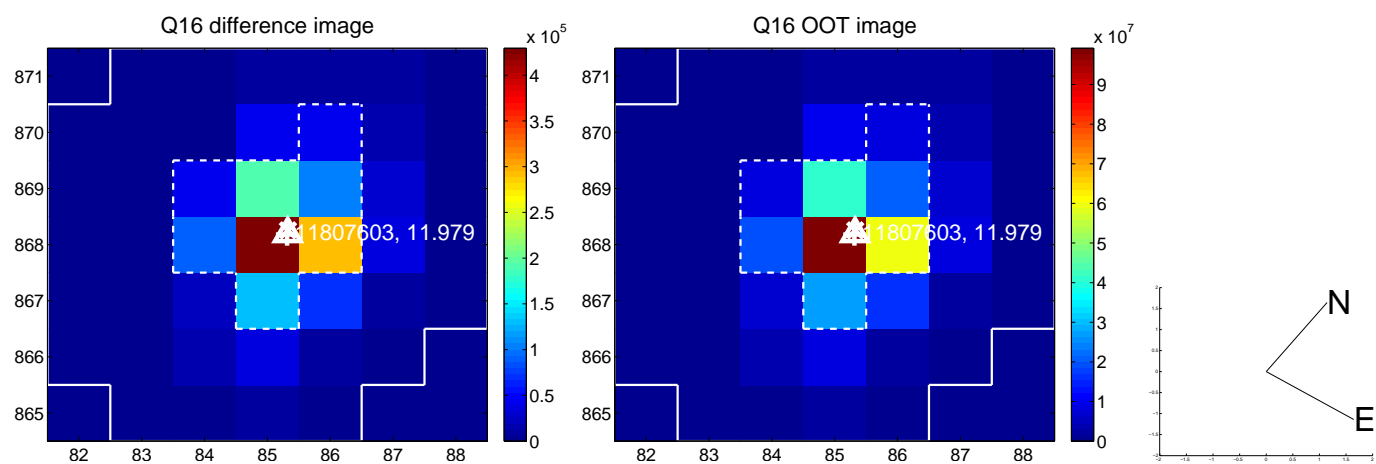
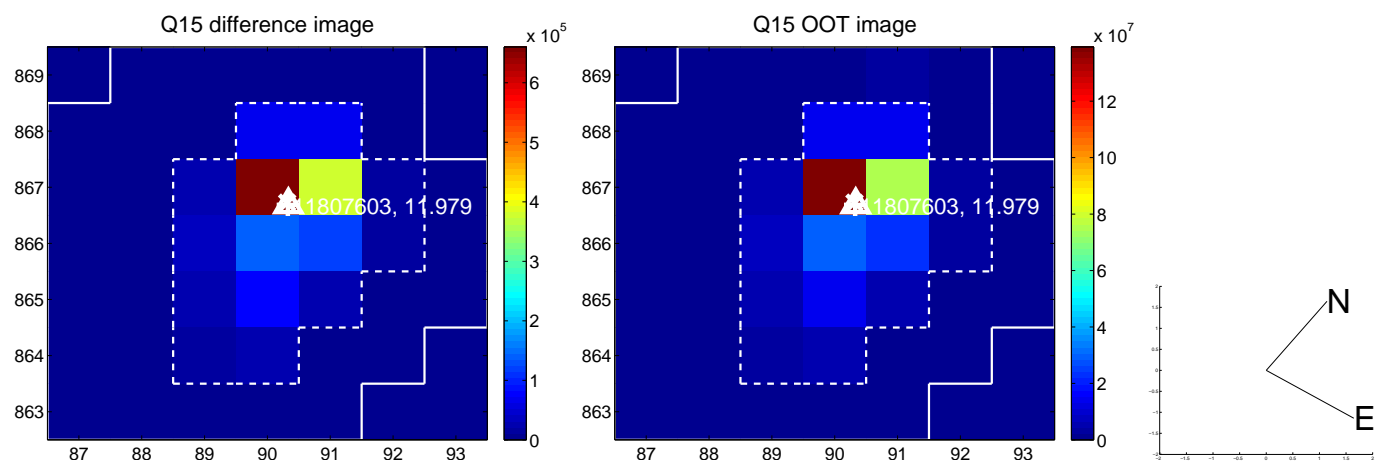
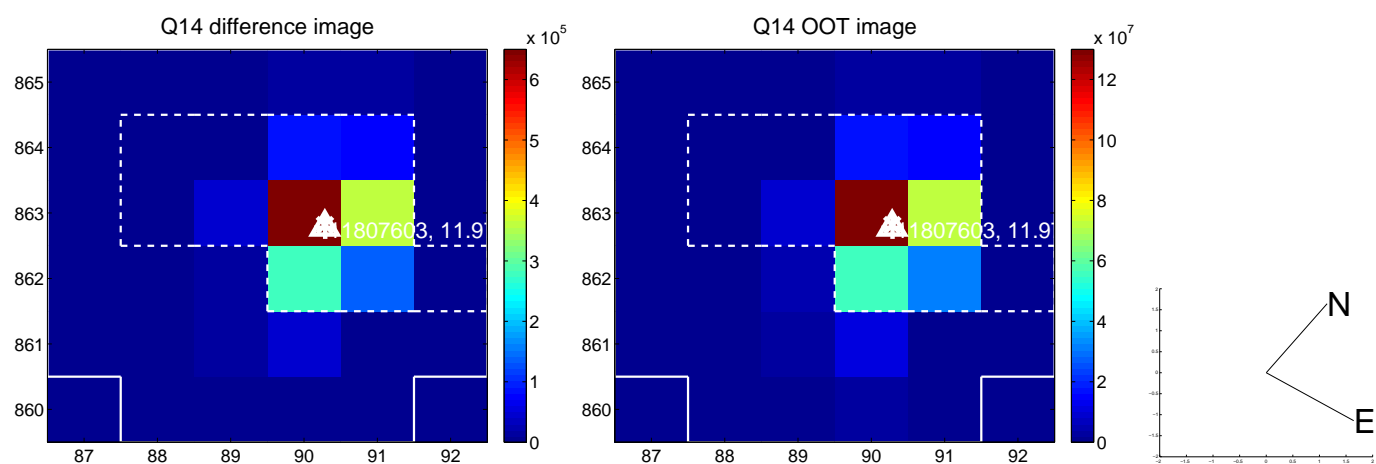
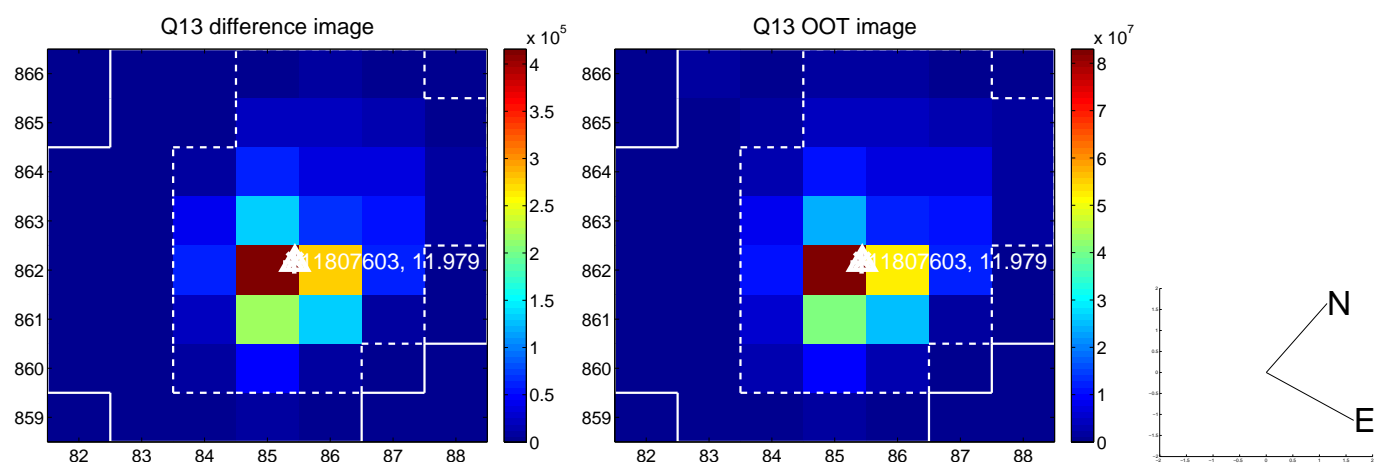
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



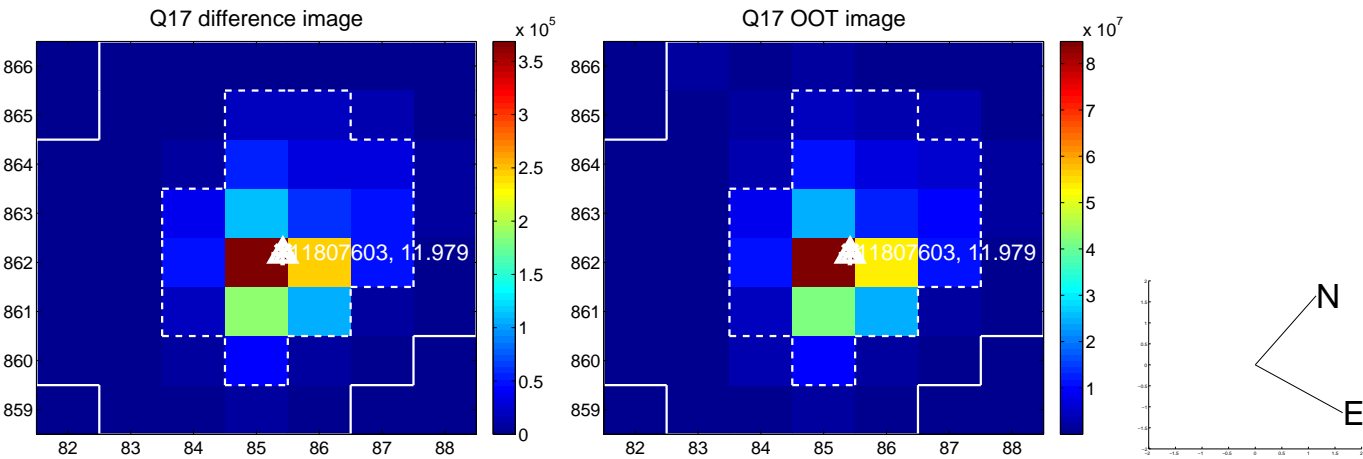
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



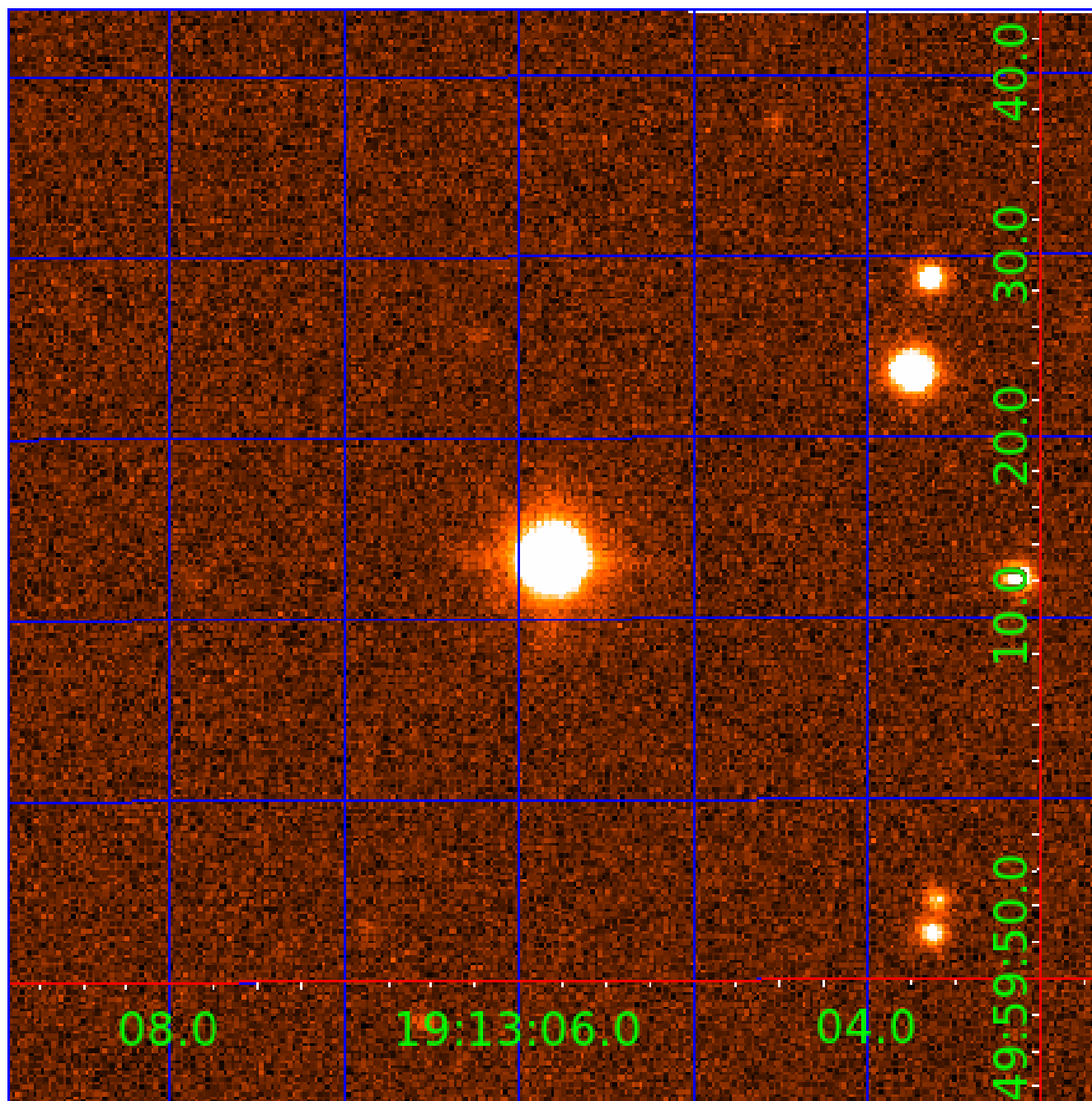
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 011807603

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})
011807603-01	OBS	No	1.573032	131.725149	56.9	1.651	25.8	21.6	2.13	8814	1.87	21501.13
011807603-02	OBS	No	1.572961	132.558744	62.1	1.891	24.1	24.3	2.13	8814	1.95	21502.42
011807603-03	OBS	No	1.572919	132.446849	4.1	4.439	19.4	1.4	2.13	8814	0.50	21503.19
011807603-04	OBS	No	0.524330	131.896610	218.9	2.000	18.4	-1.0	2.13	8814	3.22	93033.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011807603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011807603-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
011807603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011807603-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

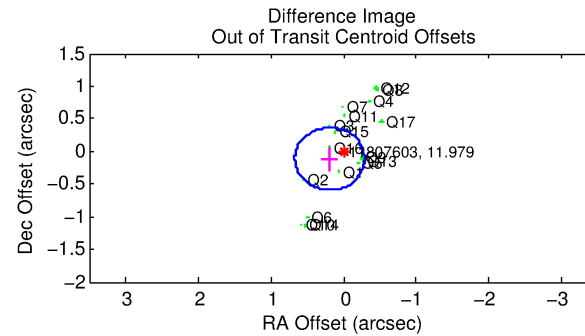
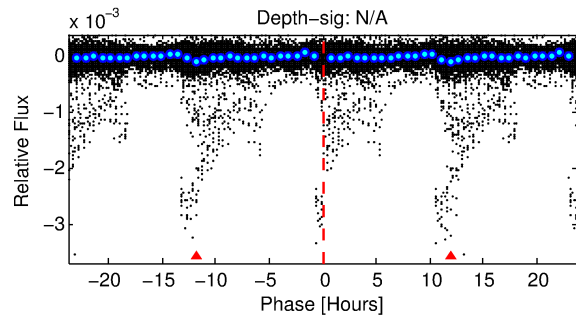
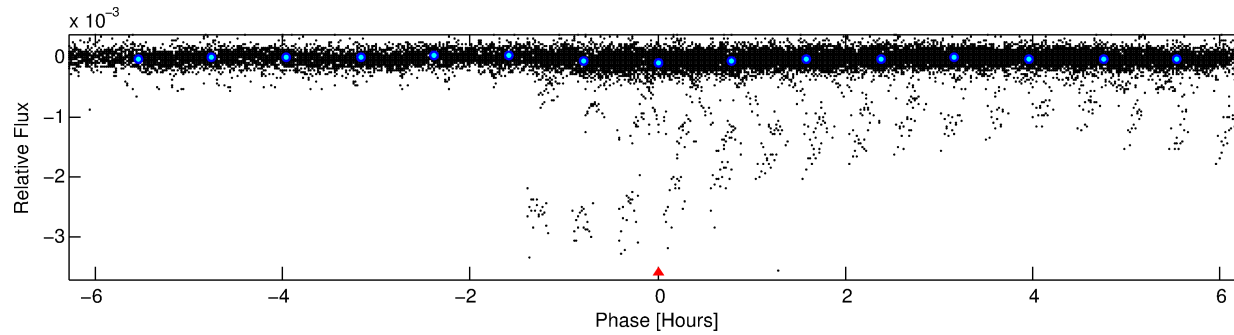
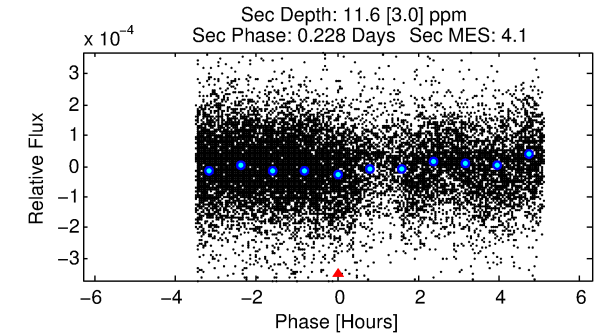
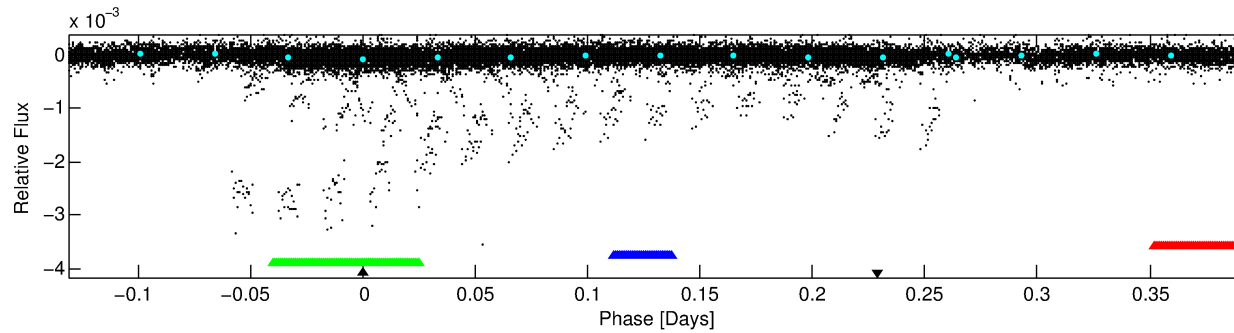
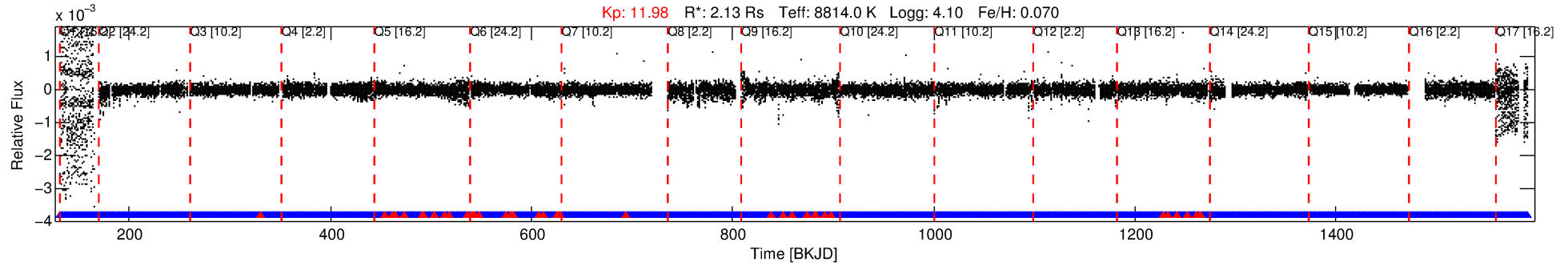
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011807603-04

No Significant Match Found

DV One-Page Summary

KIC: 11807603 Candidate: 4 of 4 Period: 0.524 d



TPS TCE Results:

Period = 0.52433 d
Epoch = 131.8966 BKJD

DV fit results are unavailable

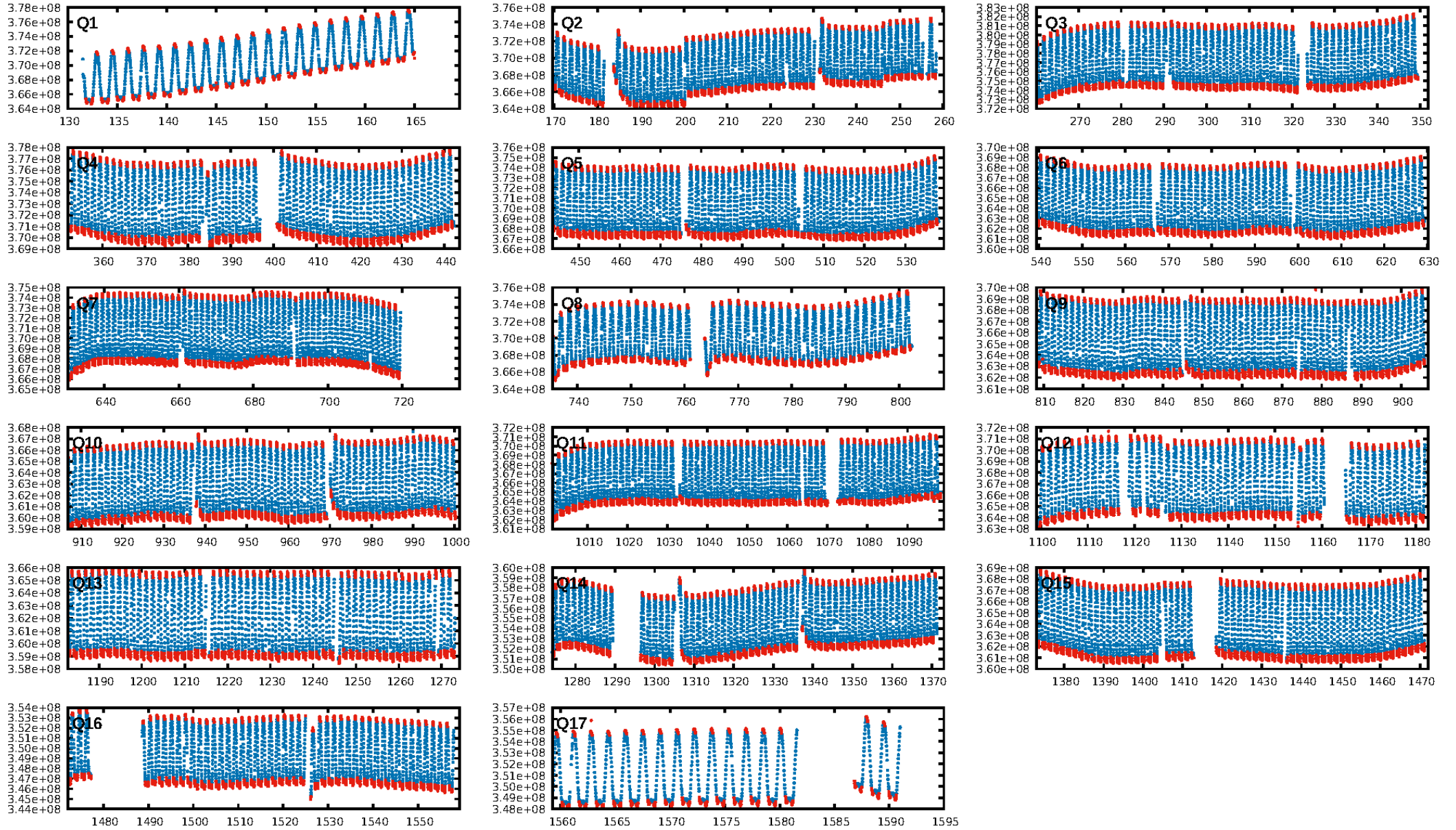
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.17 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [1581/1622]
GhostDiagnostic-chr: 1.057
Centroid-sig: 12.0%
Centroid-so: 0.189 arcsec [66.70 σ]
OotOffset-rm: 0.223 arcsec [1.39 σ]
KicOffset-rm: 0.378 arcsec [2.13 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.06 [1/17]

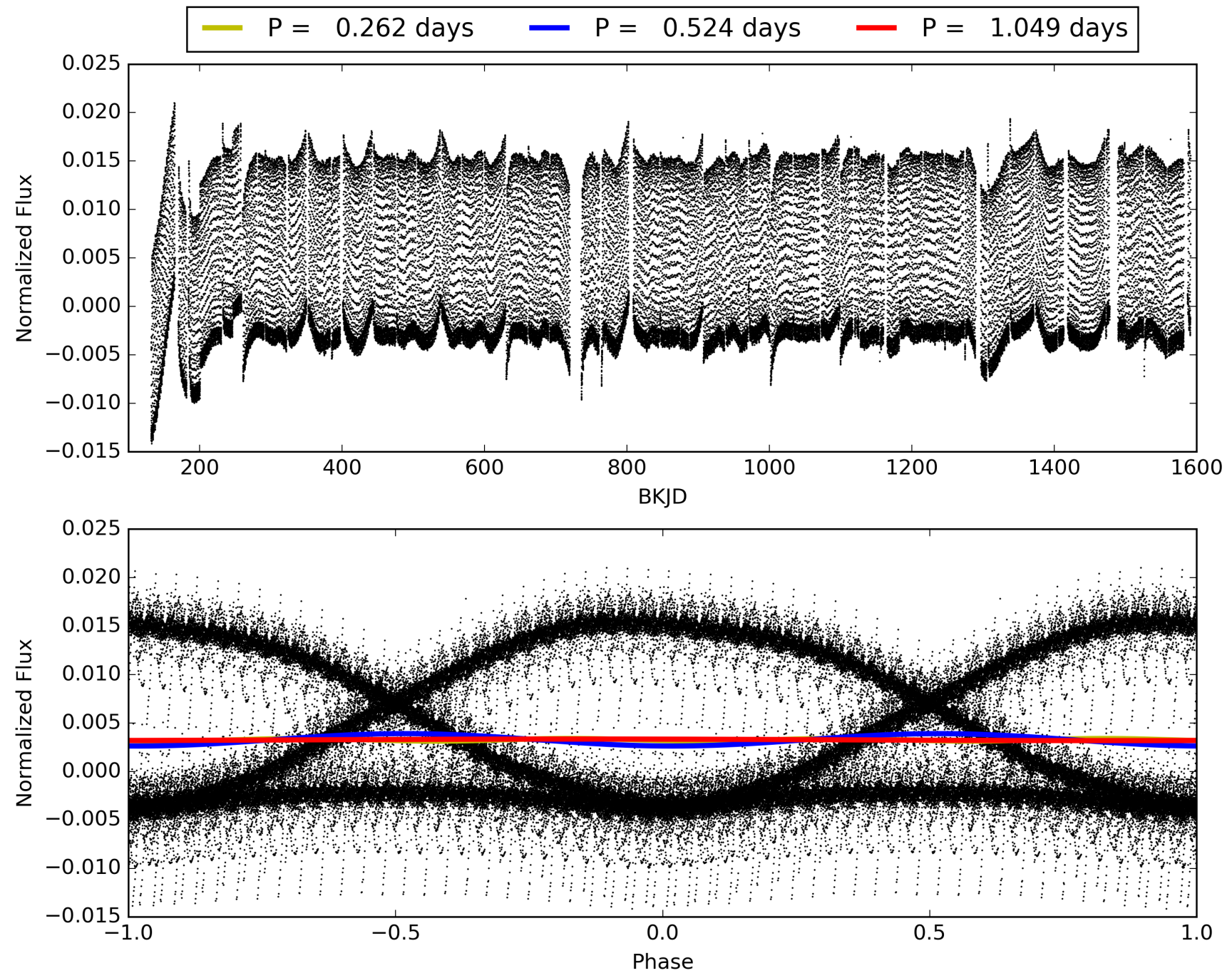
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:16:09 Z

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

TCE 011807603-04, PDC Light Curves

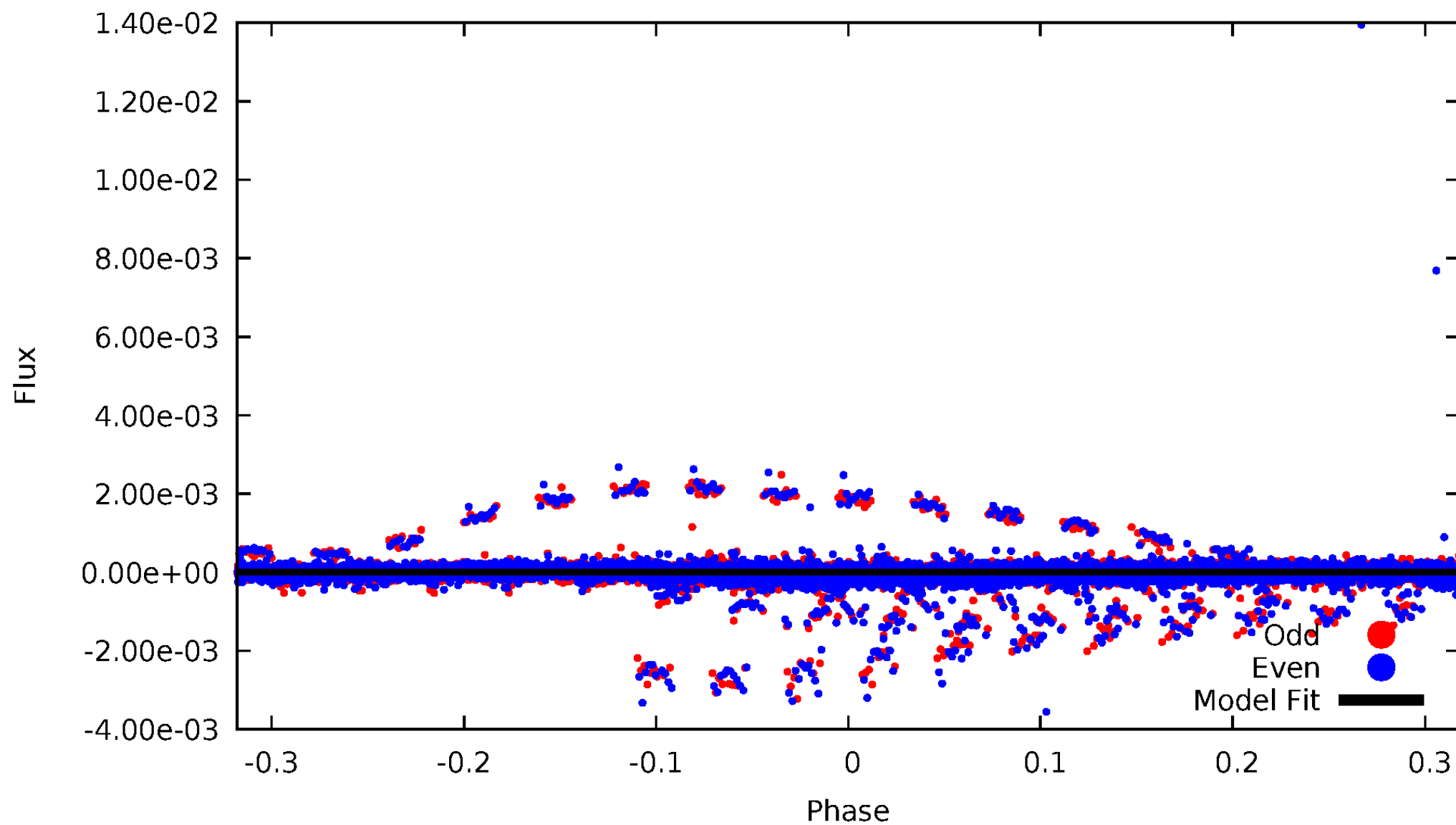


TCE 011807603-04



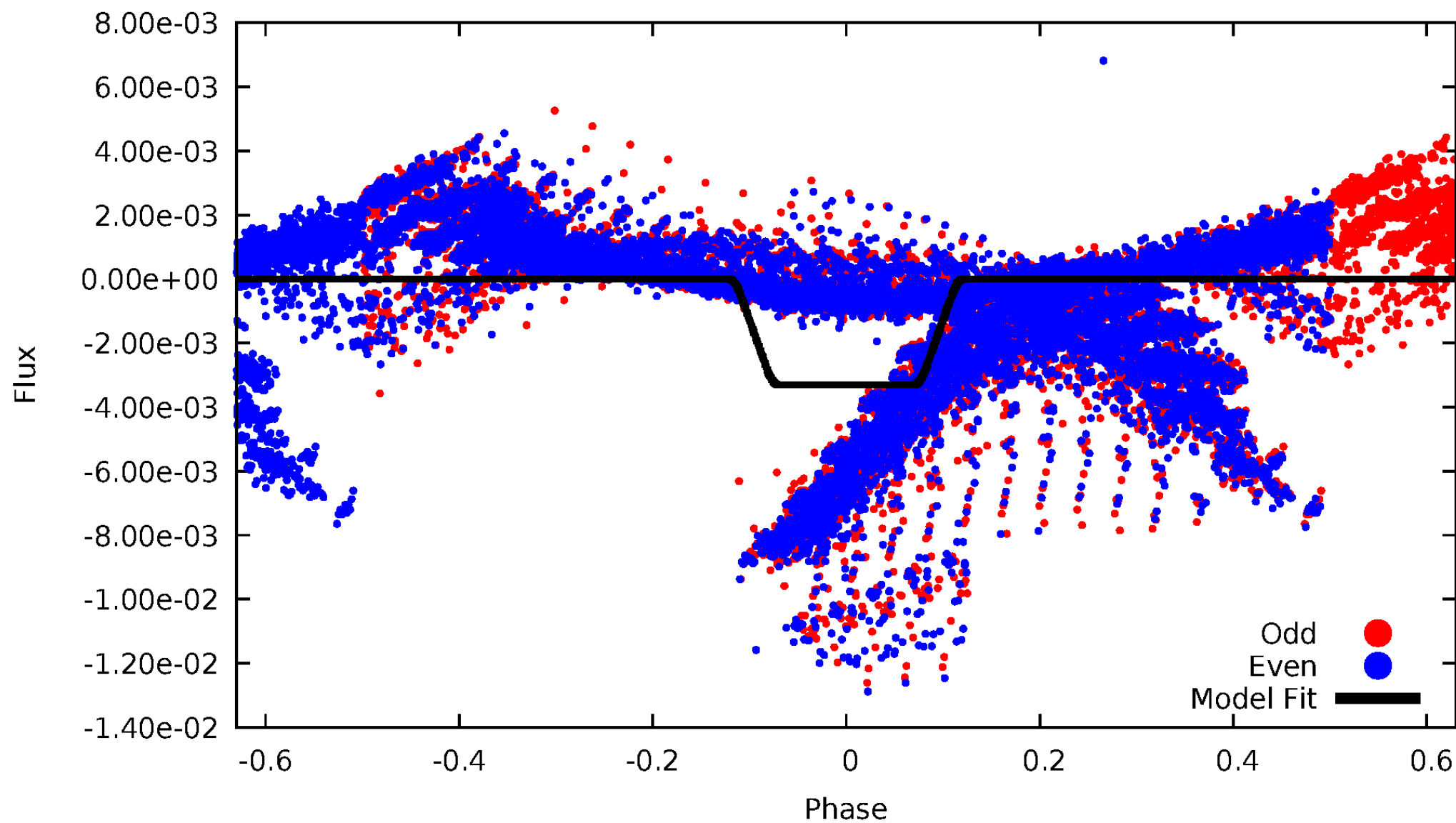
DV Odd/Even

TCE 011807603-04



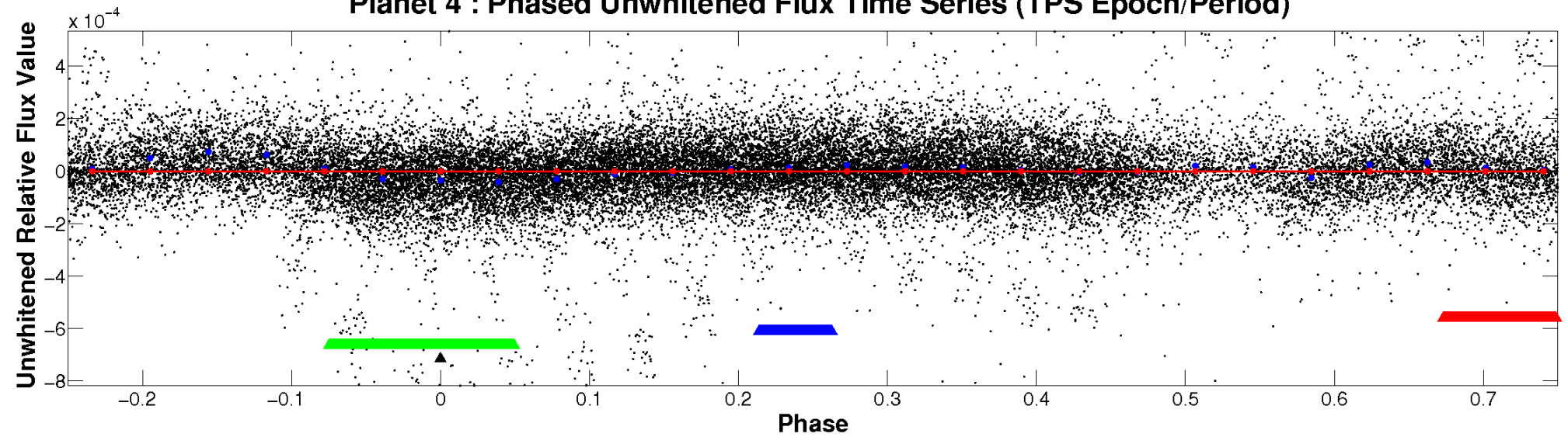
ALT Odd/Even

TCE 011807603-04

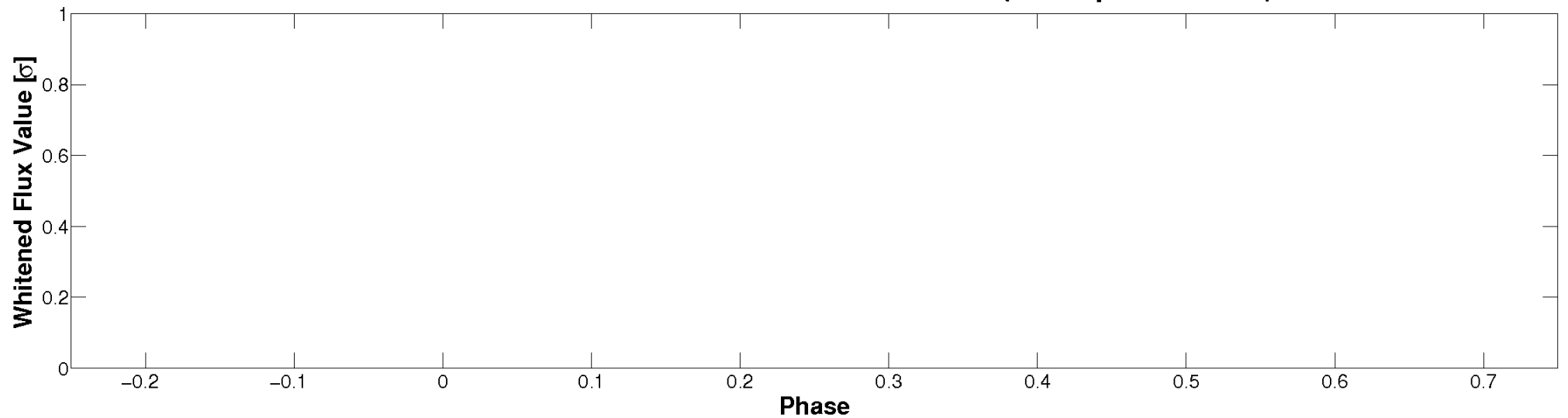


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

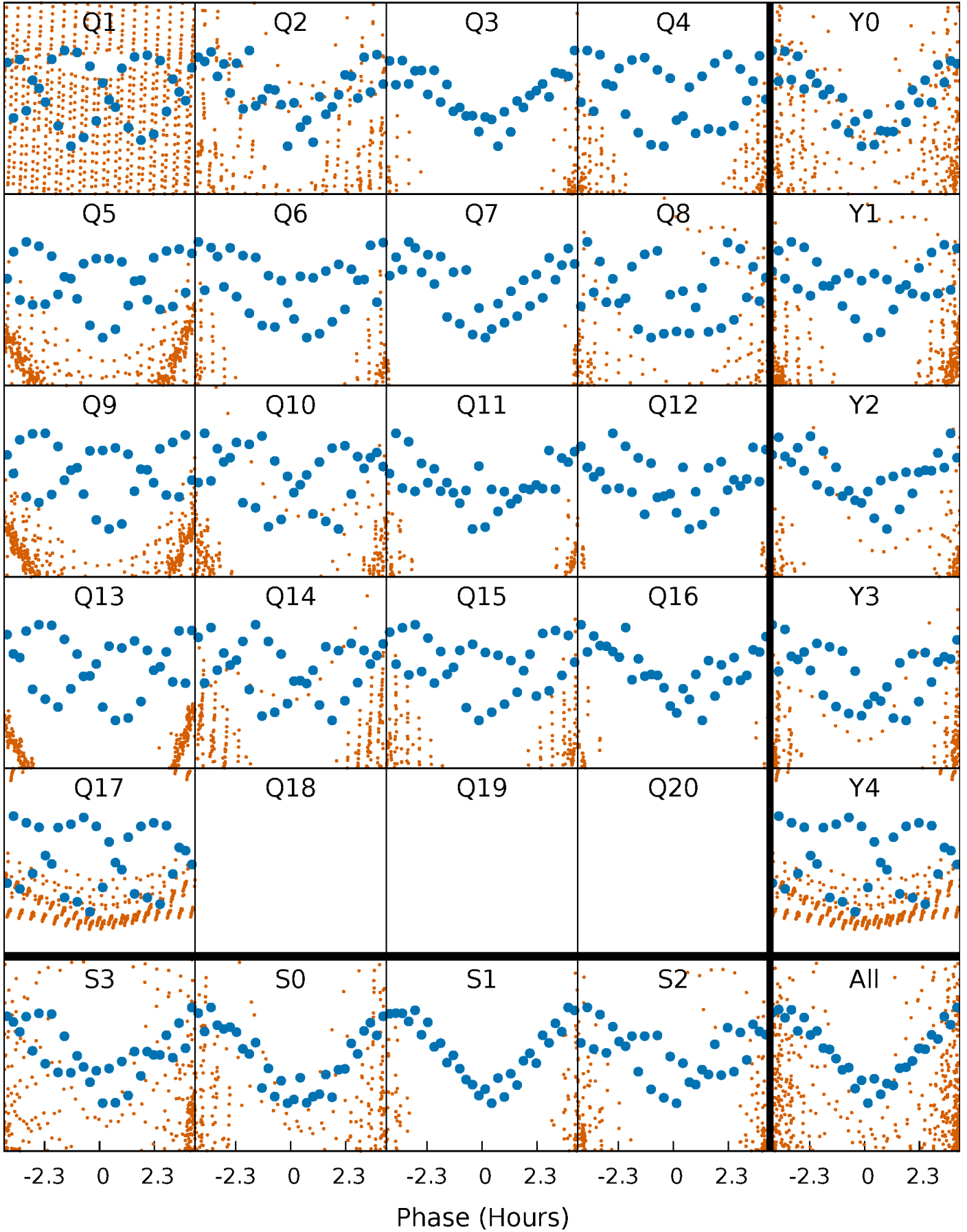


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



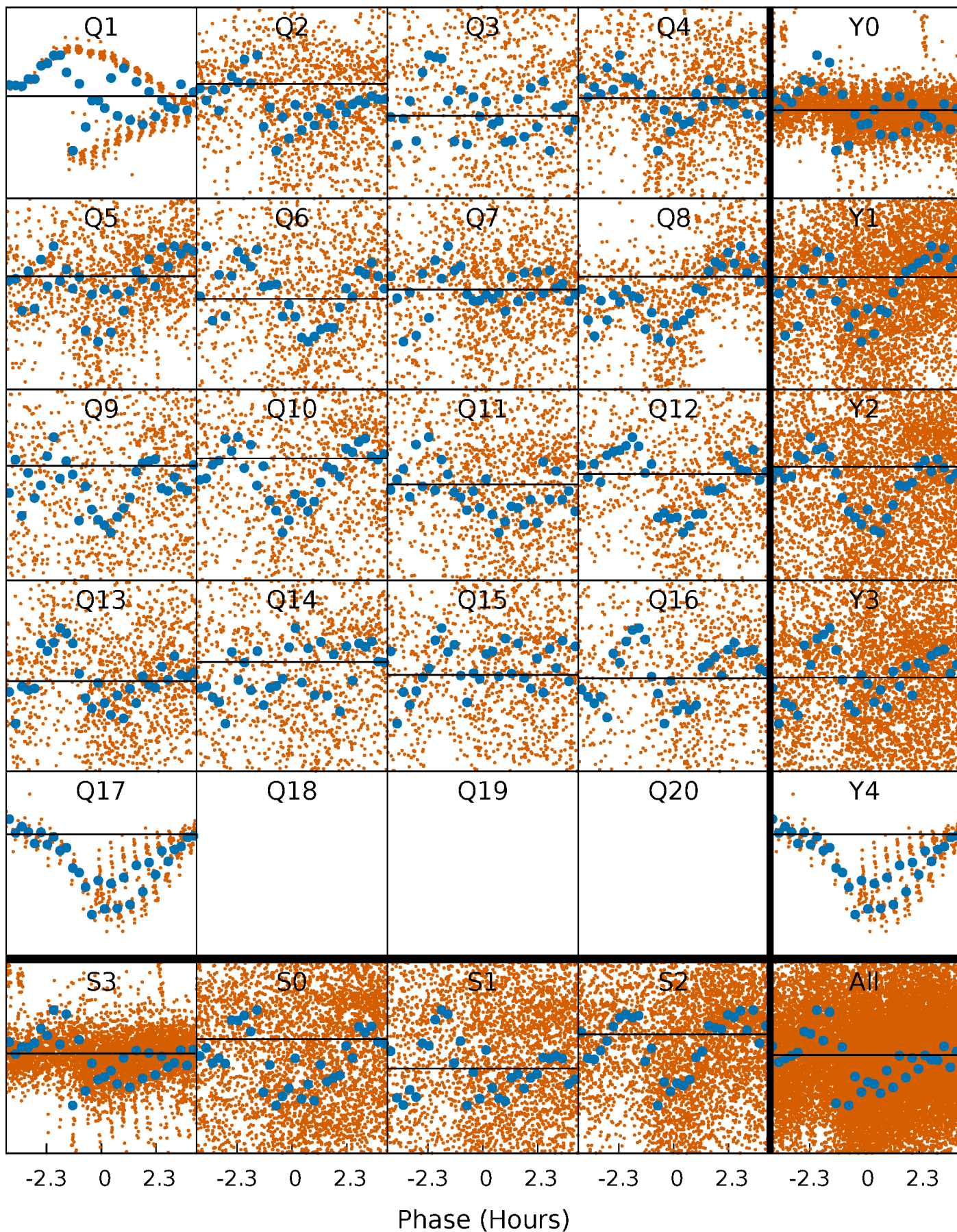
PDC Quarter-Phased Transit Curves

TCE 011807603-04 P= 0.524330 Days $T_0=131.896611$ (BKJD)



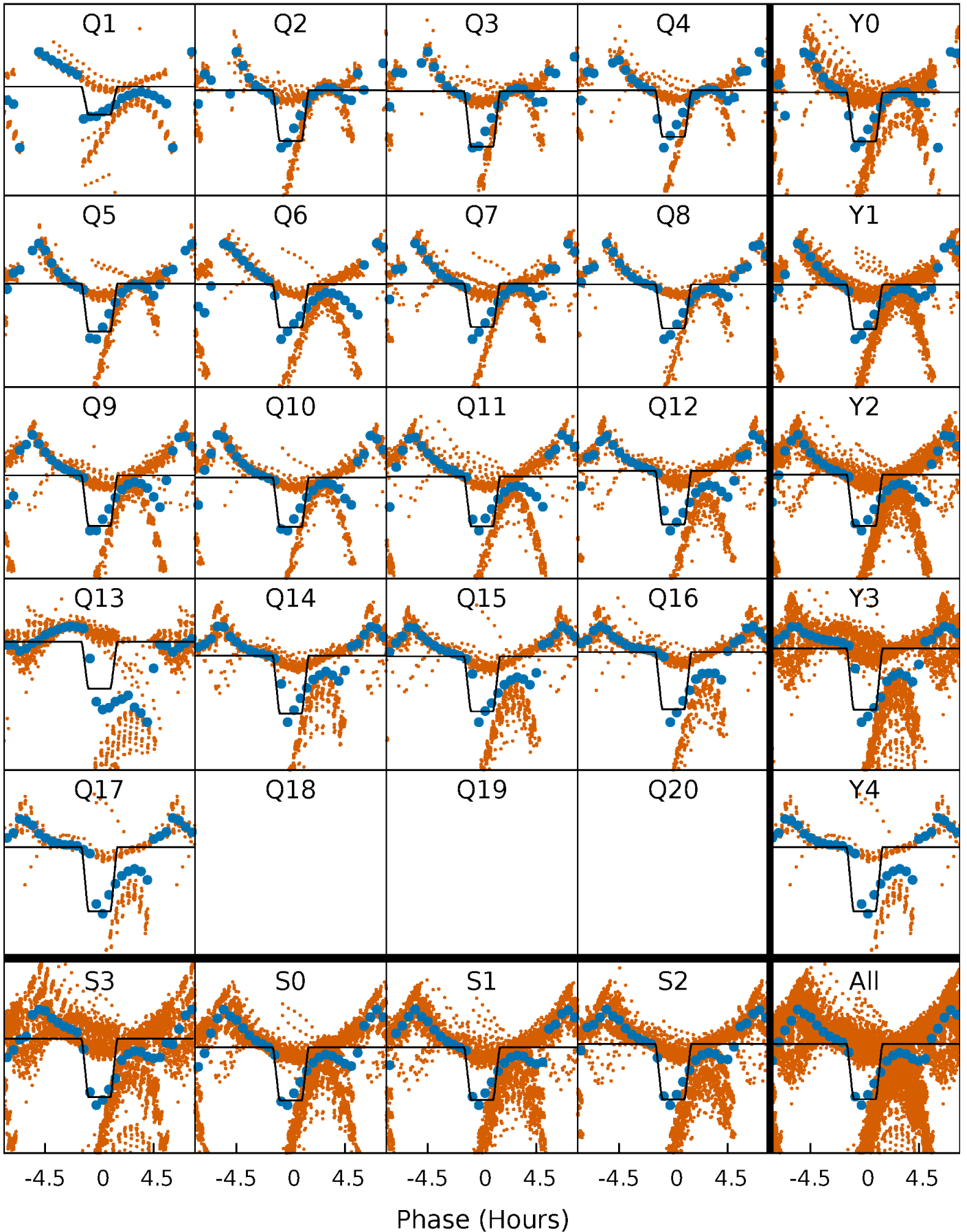
DV Quarter-Phased Transit Curves

TCE 011807603-04 P= 0.524330 Days $T_0=131.896611$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

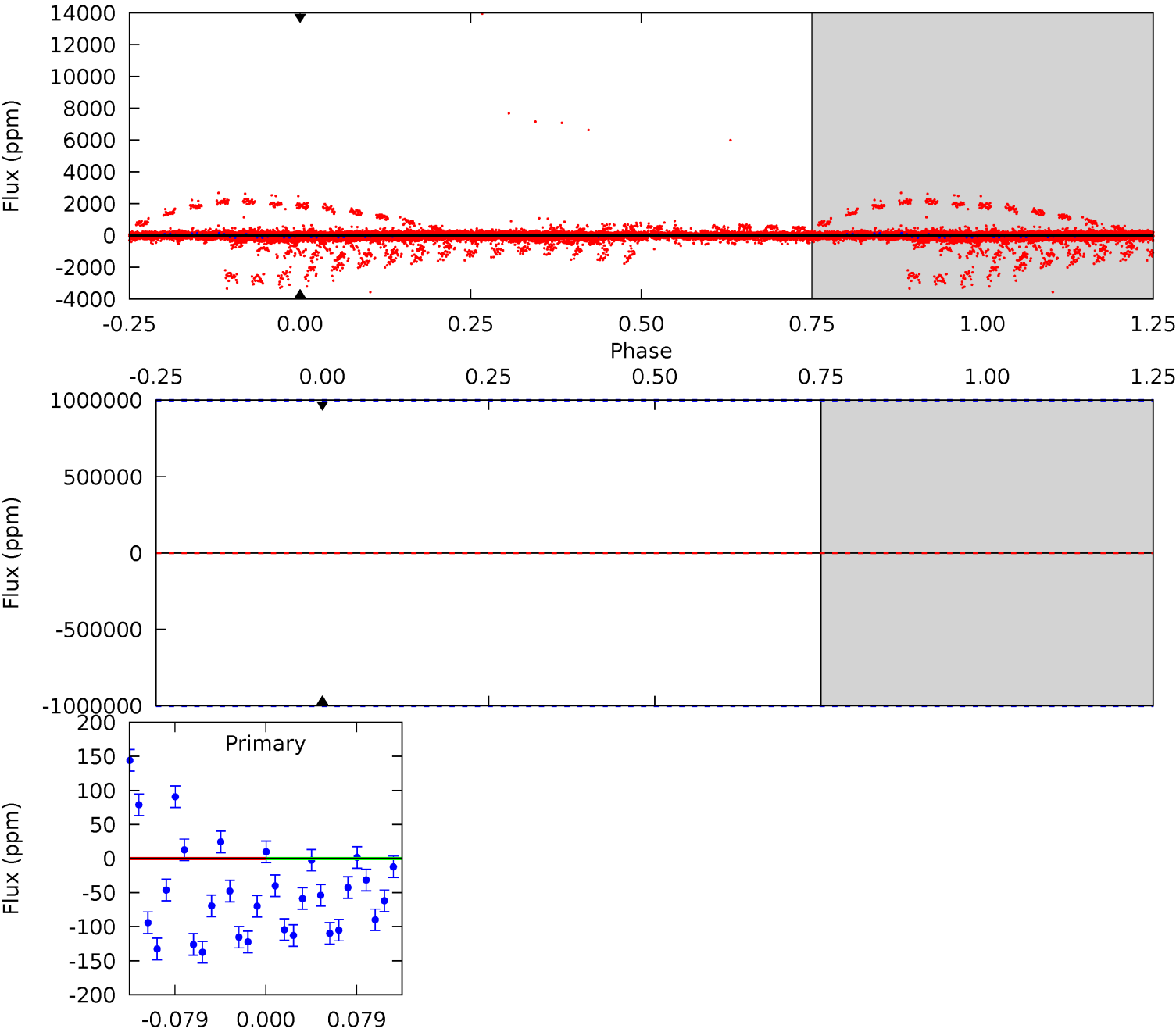
TCE 011807603-04 $P = 0.524330$ Days $T_0 = 131.897235$ (BKJD)



DV Model-Shift Uniqueness Test

011807603-04, P = 0.524330 Days, E = 131.372281 Days

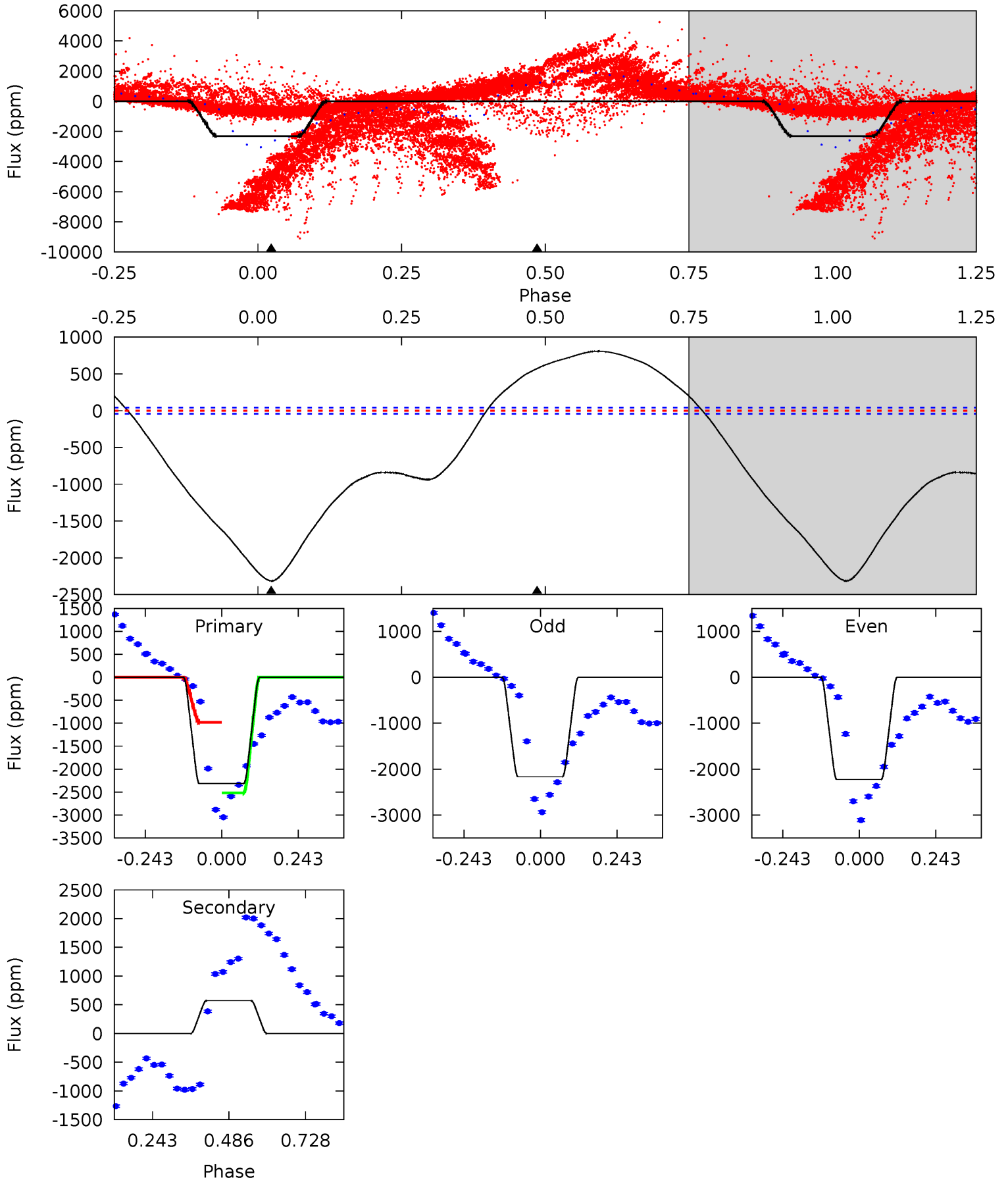
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011807603-04, P = 0.524330 Days, E = 131.372905 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
240.4	-59.5	0	0	4.38	1.17	51.0	240.4	240.4	-59.5	-59.5	3.18	3.27	0.26	73.1



Stellar Parameters For KIC 011807603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8814^{+246}_{-422}	$4.099^{+0.135}_{-0.165}$	$0.070^{+0.250}_{-0.600}$	$2.132^{+0.621}_{-0.508}$	$2.081^{+0.372}_{-0.495}$	$0.302^{+0.248}_{-0.136}$
	+3%/-5%	+3%/-4%	+357%/-857%	+29%/-24%	+18%/-24%	+82%/-45%
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 011807603-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$16.53^{+17.86}_{-11.61}$	6209^{+433}_{-435}	3902^{+68880}_{-58643}	$0.394^{+108.106}_{-80.245}$
Alt.	572 ± 10	$22.66^{+21.00}_{-15.25}$	6241^{+459}_{-431}	-5577^{+502}_{-2029}	$-0.160^{+0.117}_{-1.289}$

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

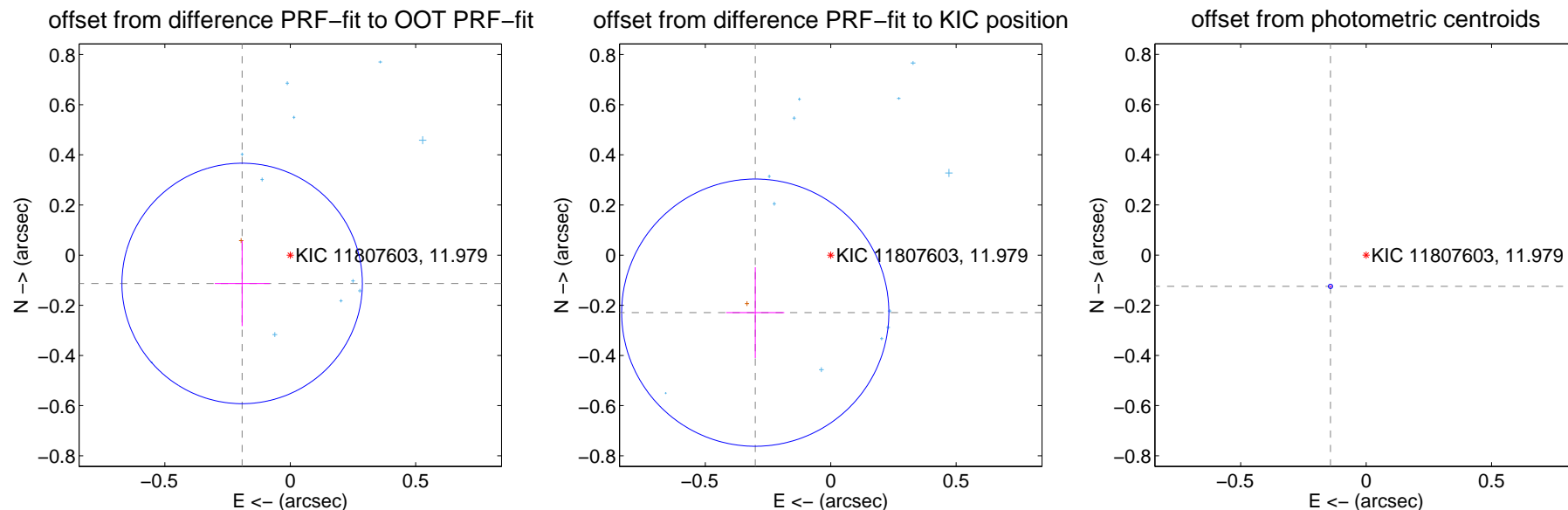
DV Centroid Data

Supplemental centroid analysis for 011807603-04. **Kepler magnitude: 11.98.** Transit SNR -1.00

There are 16 quarters with good PRF difference image offsets

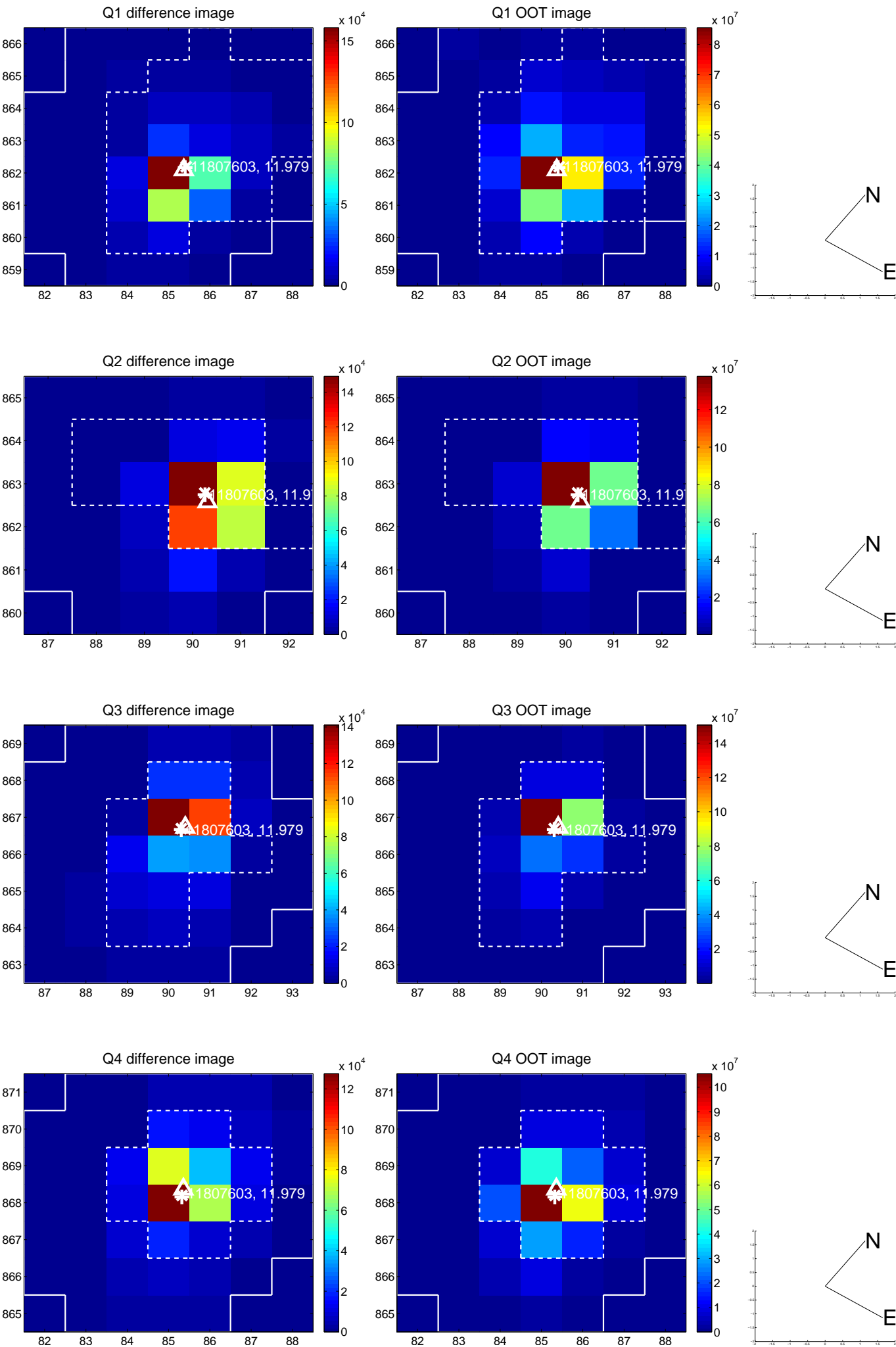
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.223 ± 0.160	1.39	0.192 ± 0.109	-0.113 ± 0.170
PRF-fit source offset from KIC position	0.378 ± 0.178	2.13	0.301 ± 0.116	-0.229 ± 0.181
photometric centroid source offset	0.19 ± 0.00	66.70	0.14 ± 0.00	-0.12 ± 0.00

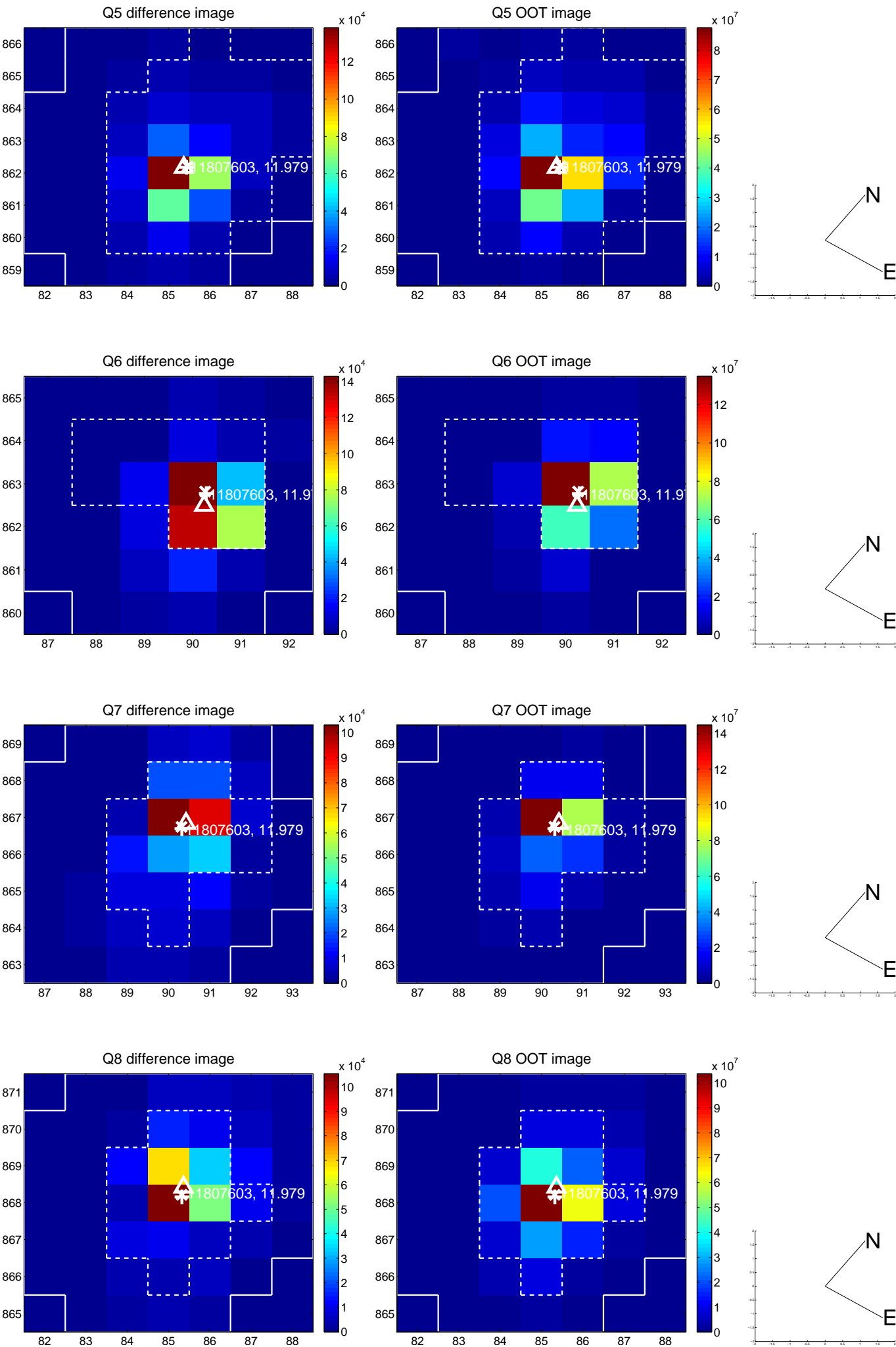


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

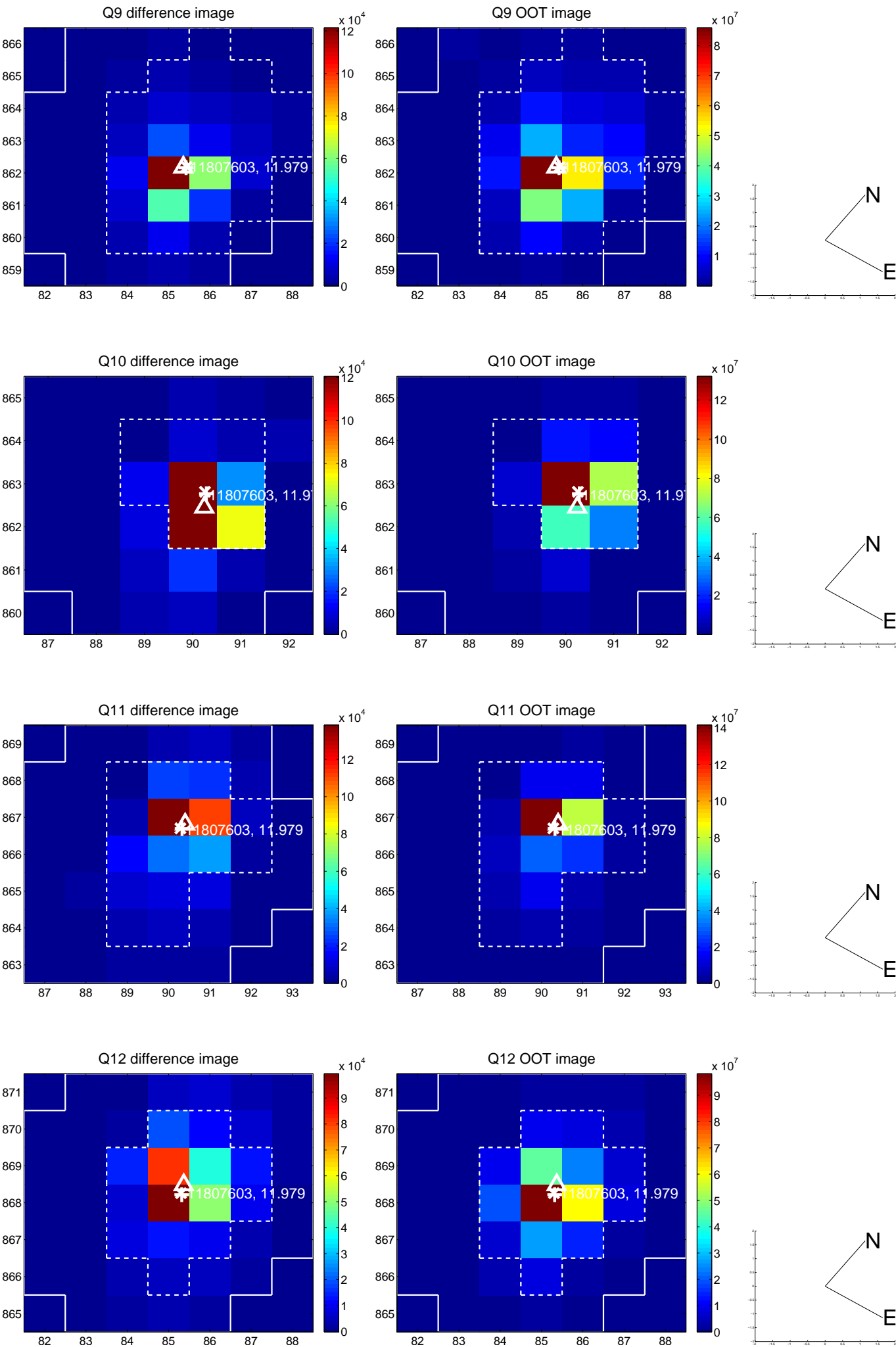
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



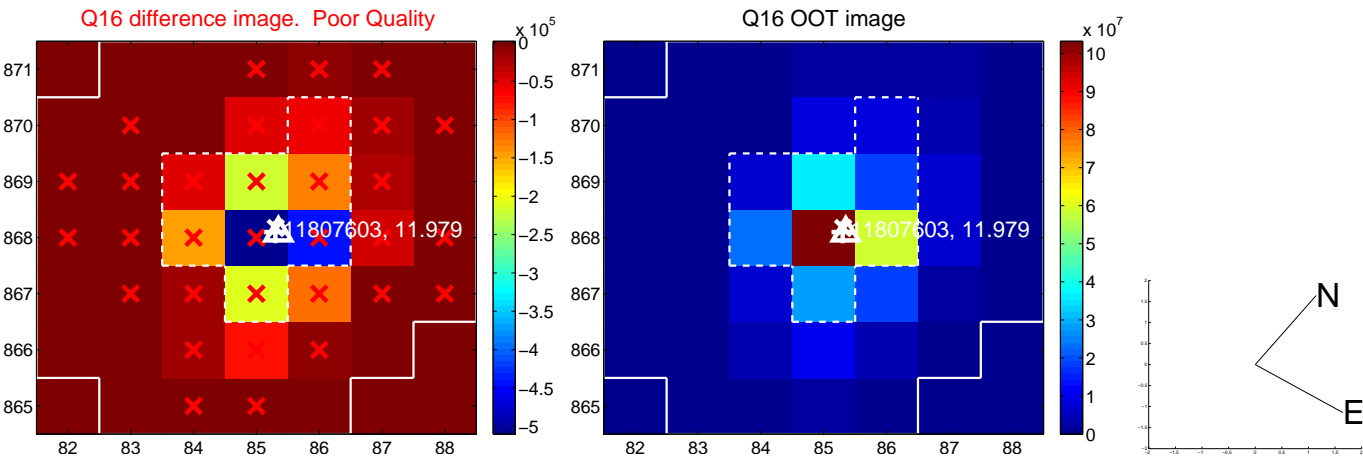
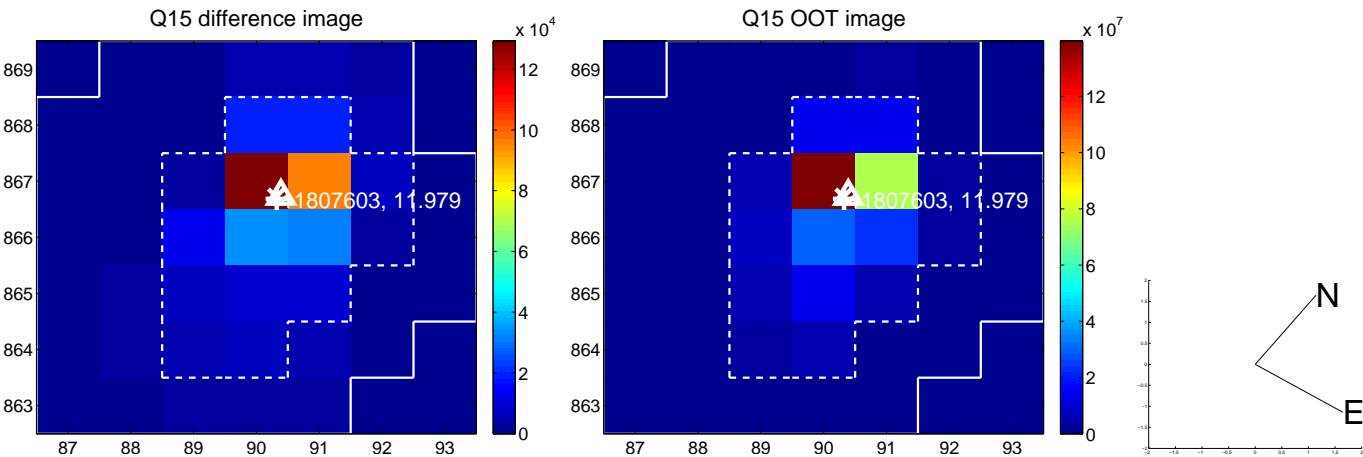
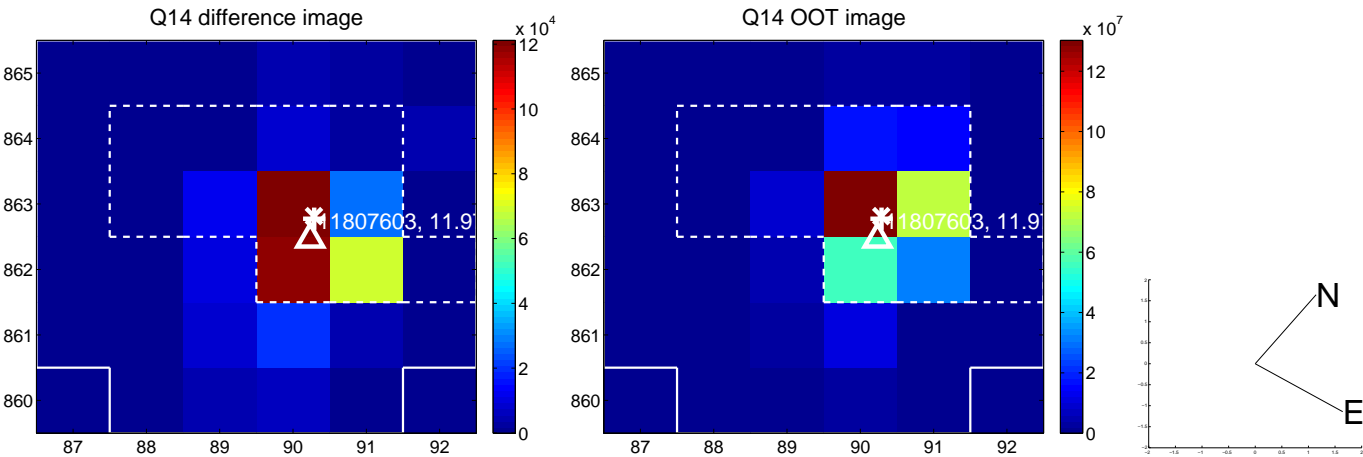
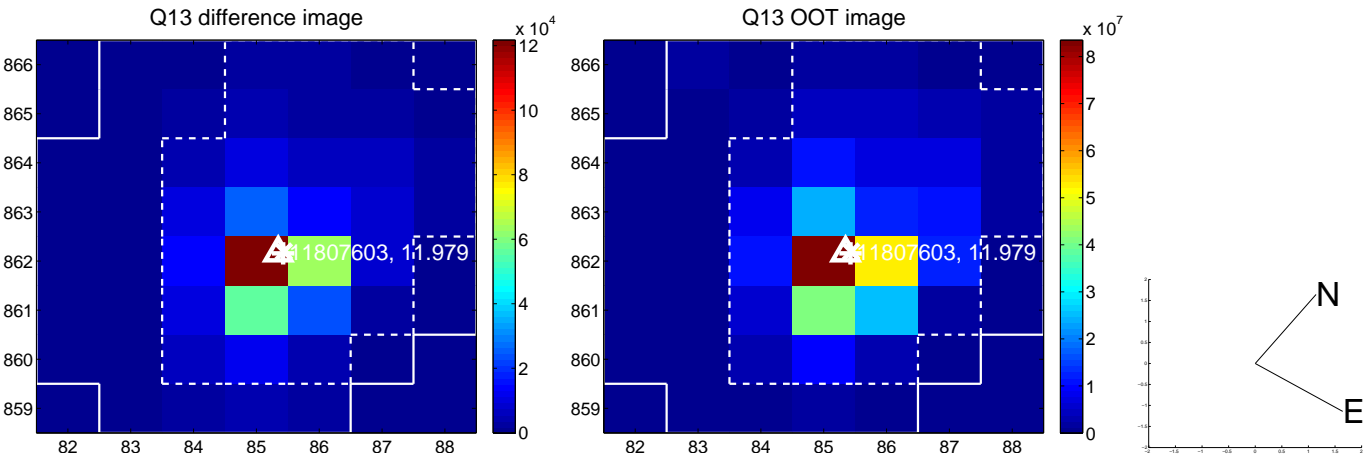
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



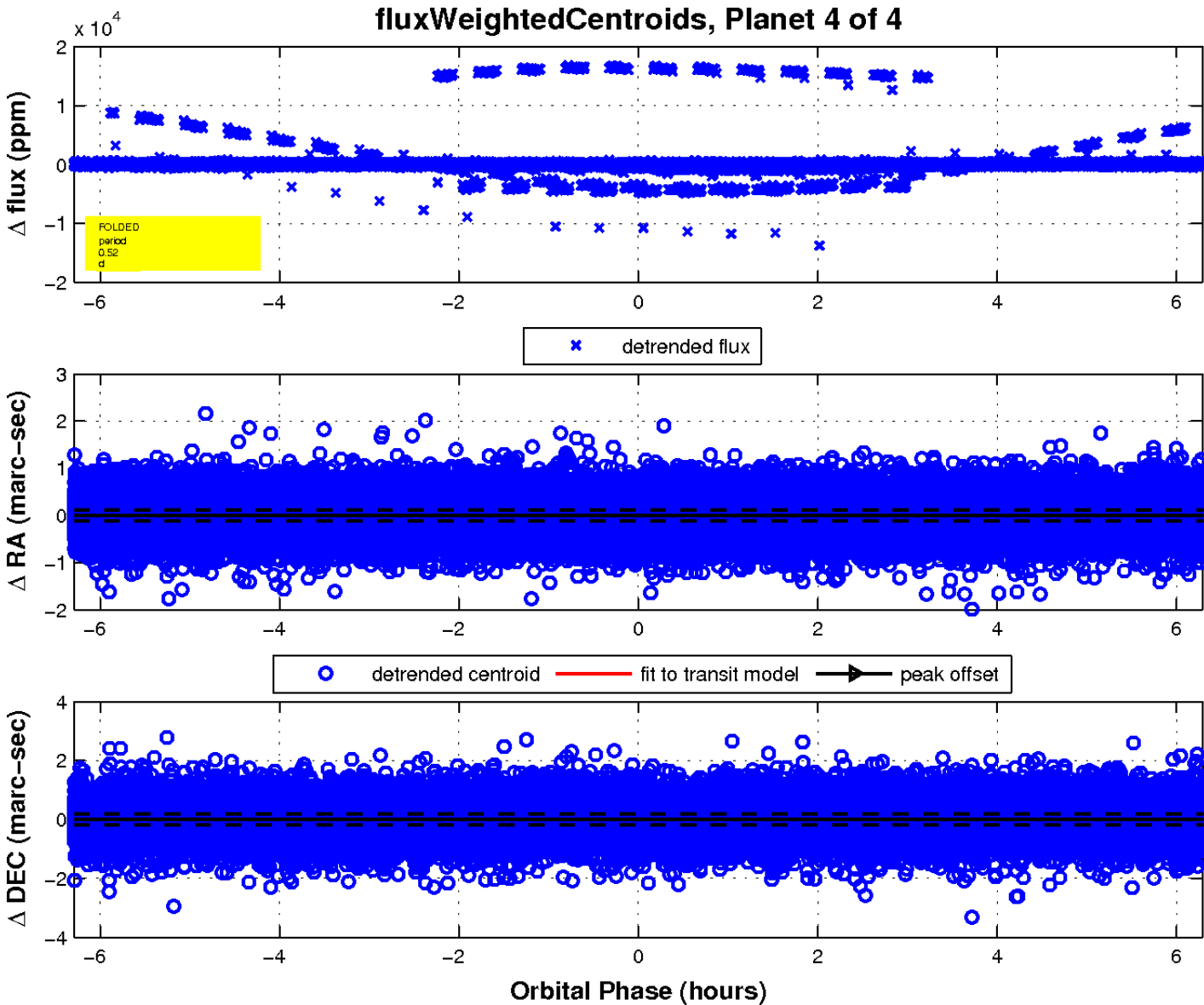
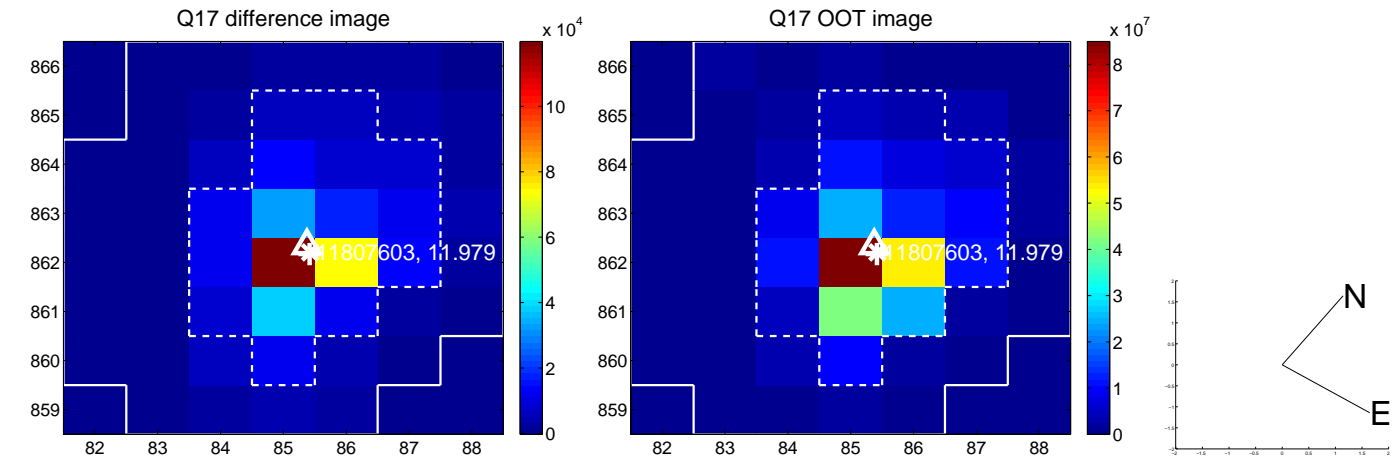
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

