

KIC 010814863

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})
010814863-01	OBS	No	0.555442	131.722878	45.4	2.013	8.8	9.0	3.12	8283	2.39	146501.19
010814863-02	OBS	No	1.110900	132.547141	36.5	3.605	8.0	6.4	3.12	8283	2.19	58137.93
010814863-03	OBS	No	70.194952	166.582238	570.9	3.312	7.5	7.7	3.12	8283	8.81	231.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010814863-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010814863-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
010814863-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

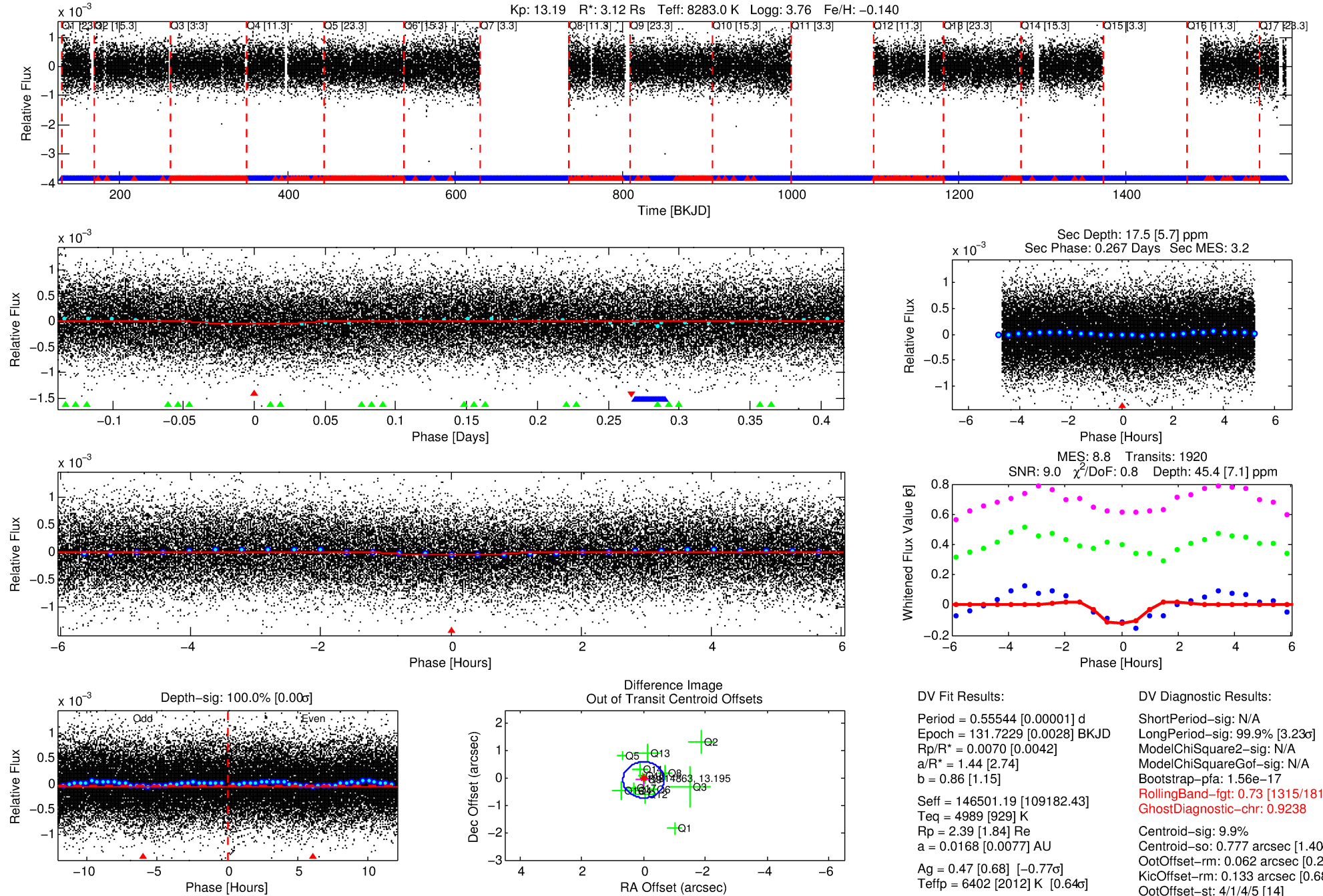
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010814863-01

No Significant Match Found

DV One-Page Summary

KIC: 10814863 Candidate: 1 of 3 Period: 0.555 d



DV Fit Results:

Period = 0.55544 [0.00001] d
Epoch = 131.7229 [0.0028] BKJD
Rp/R* = 0.0070 [0.0042]
a/R* = 1.44 [2.74]
b = 0.86 [1.15]
Seff = 146501.19 [109182.43]
Teff = 4989 [929] K
Rp = 2.39 [1.84] Re
a = 0.0168 [0.0077] AU
Ag = 0.47 [0.68] [-0.77 σ]
Teffp = 6402 [2012] K [0.64 σ]

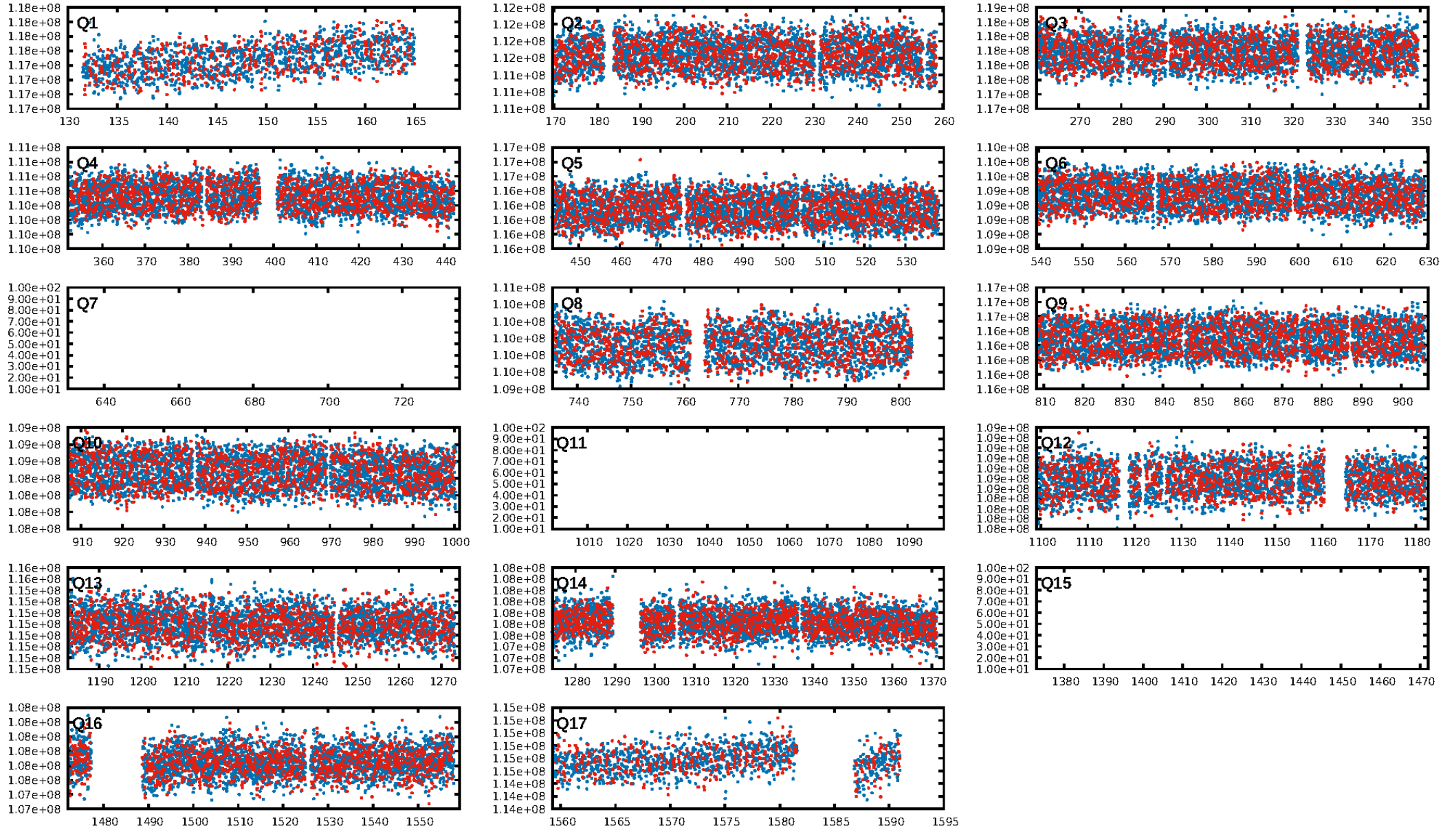
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.9% [3.23 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.56e-17
RollingBand-fgt: 0.73 [1315/1811]
GhostDiagnostic-chr: 0.9238
Centroid-sig: 9.9%
Centroid-so: 0.777 arcsec [1.40 σ]
OotOffset-rm: 0.062 arcsec [0.28 σ]
KicOffset-rm: 0.133 arcsec [0.68 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

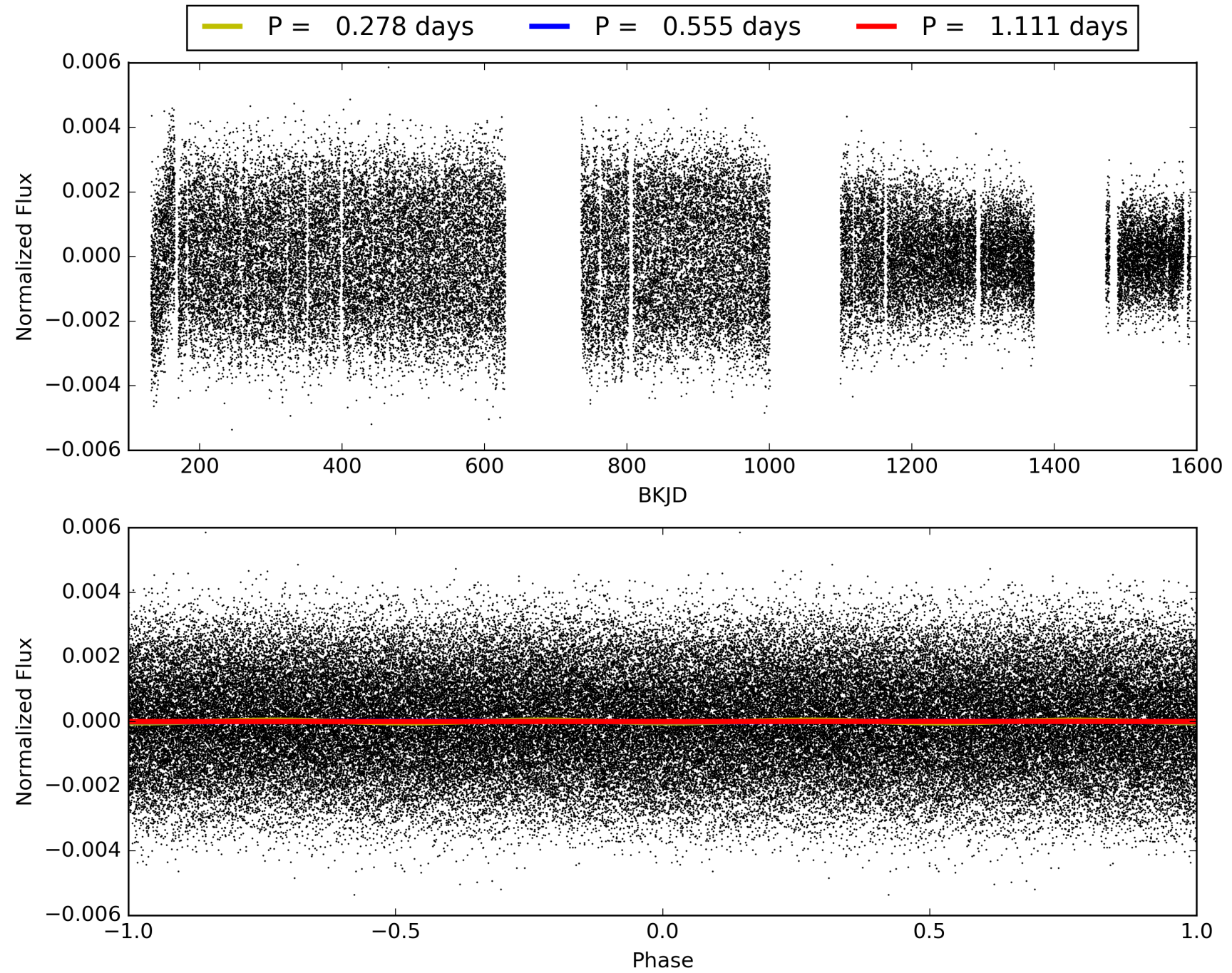
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:10:32 Z

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

TCE 010814863-01, PDC Light Curves

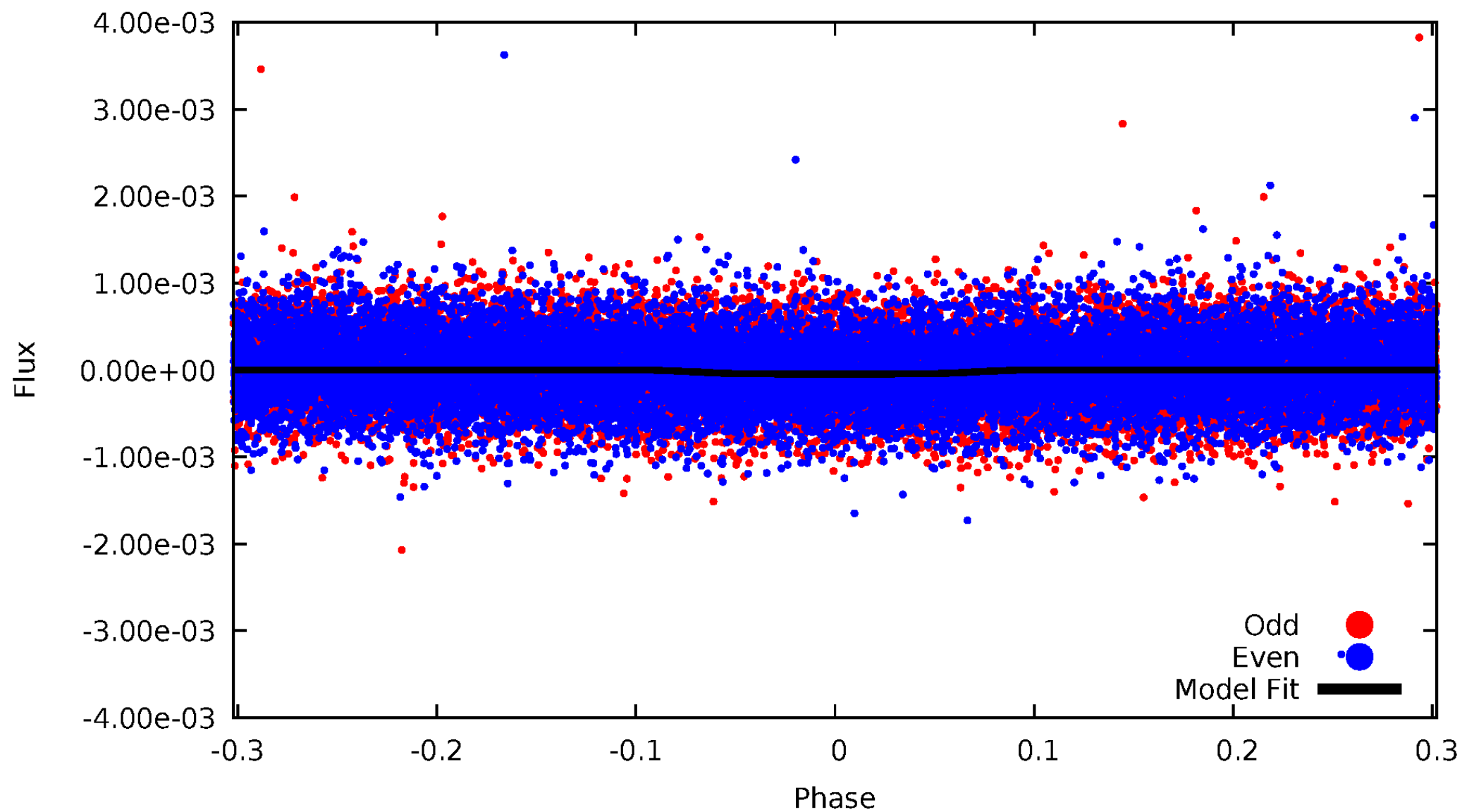


TCE 010814863-01



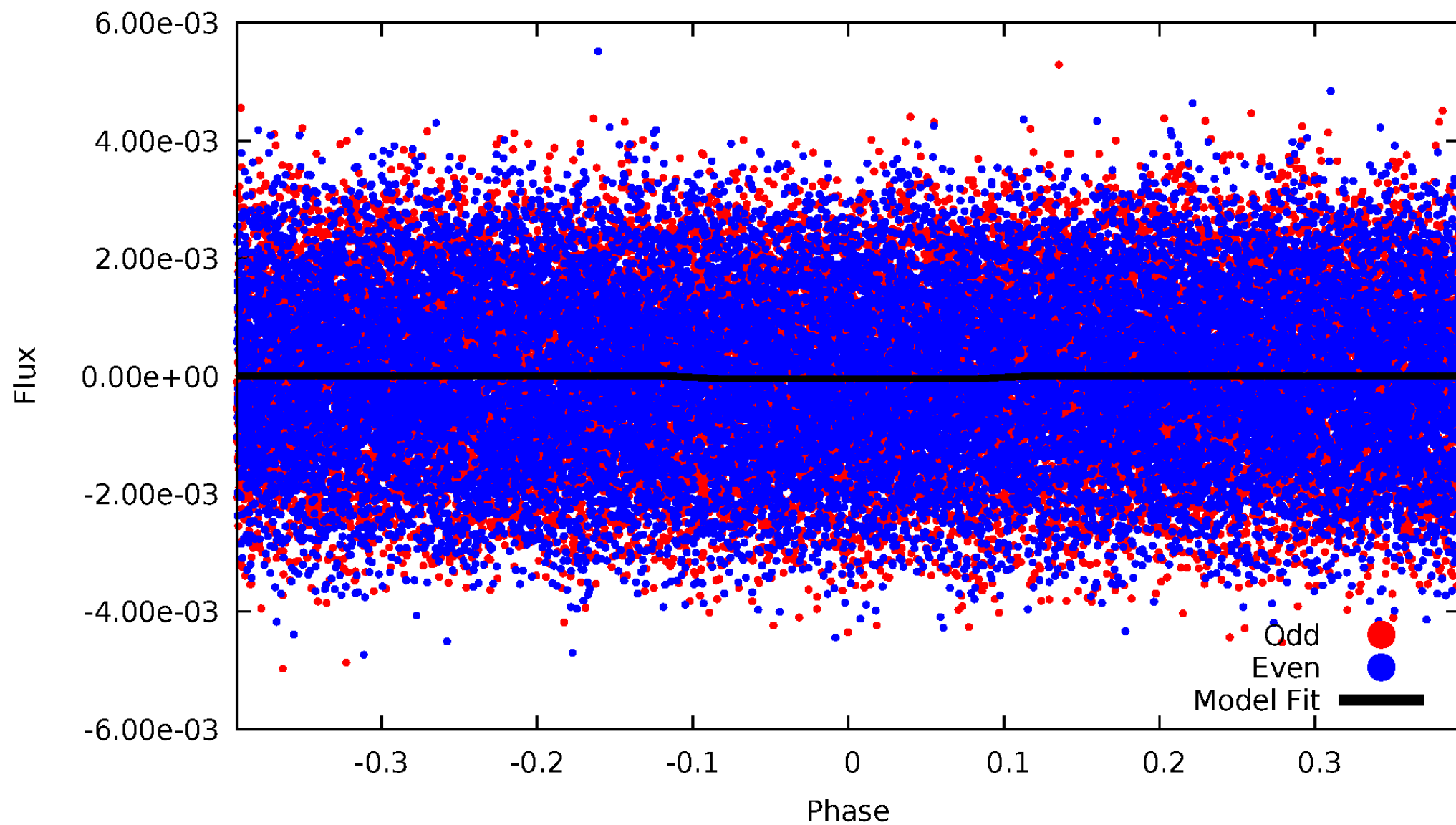
DV Odd/Even

TCE 010814863-01



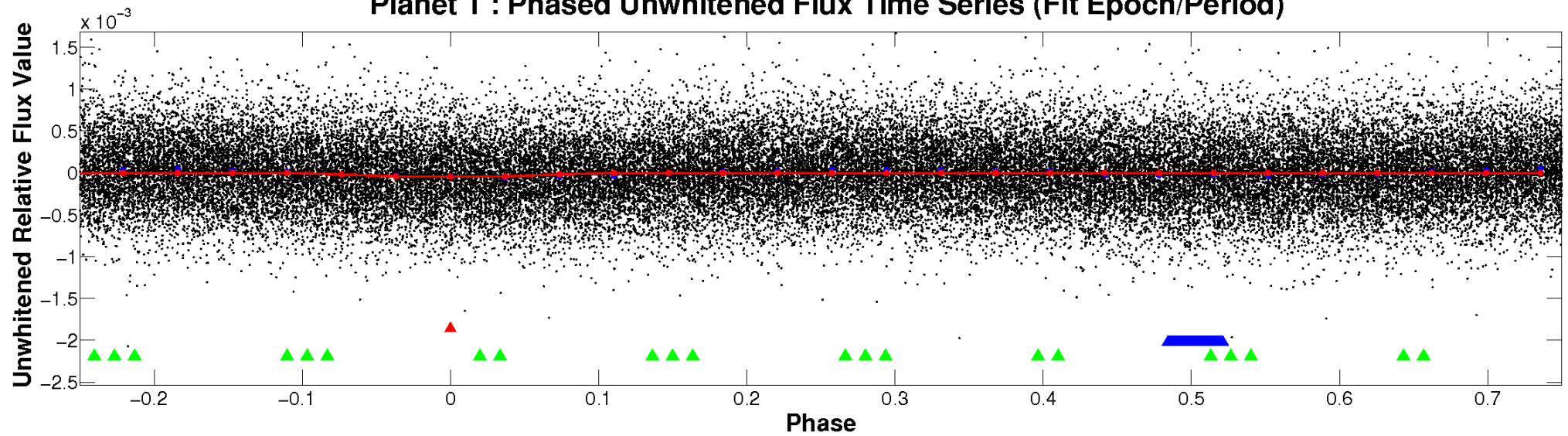
ALT Odd/Even

TCE 010814863-01

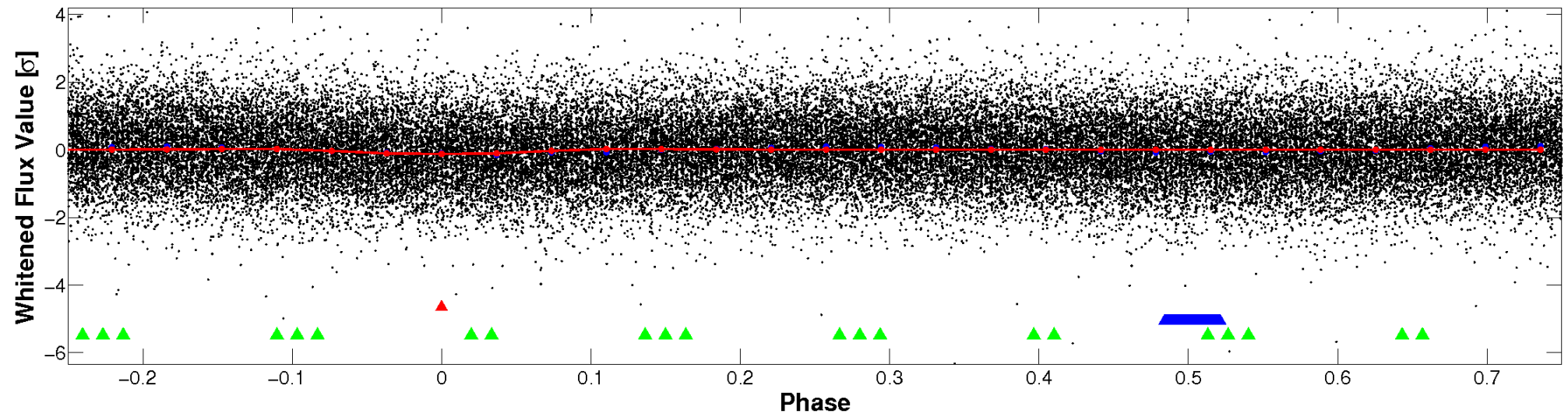


Non-Whitened Vs. Whitened Light Curve

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

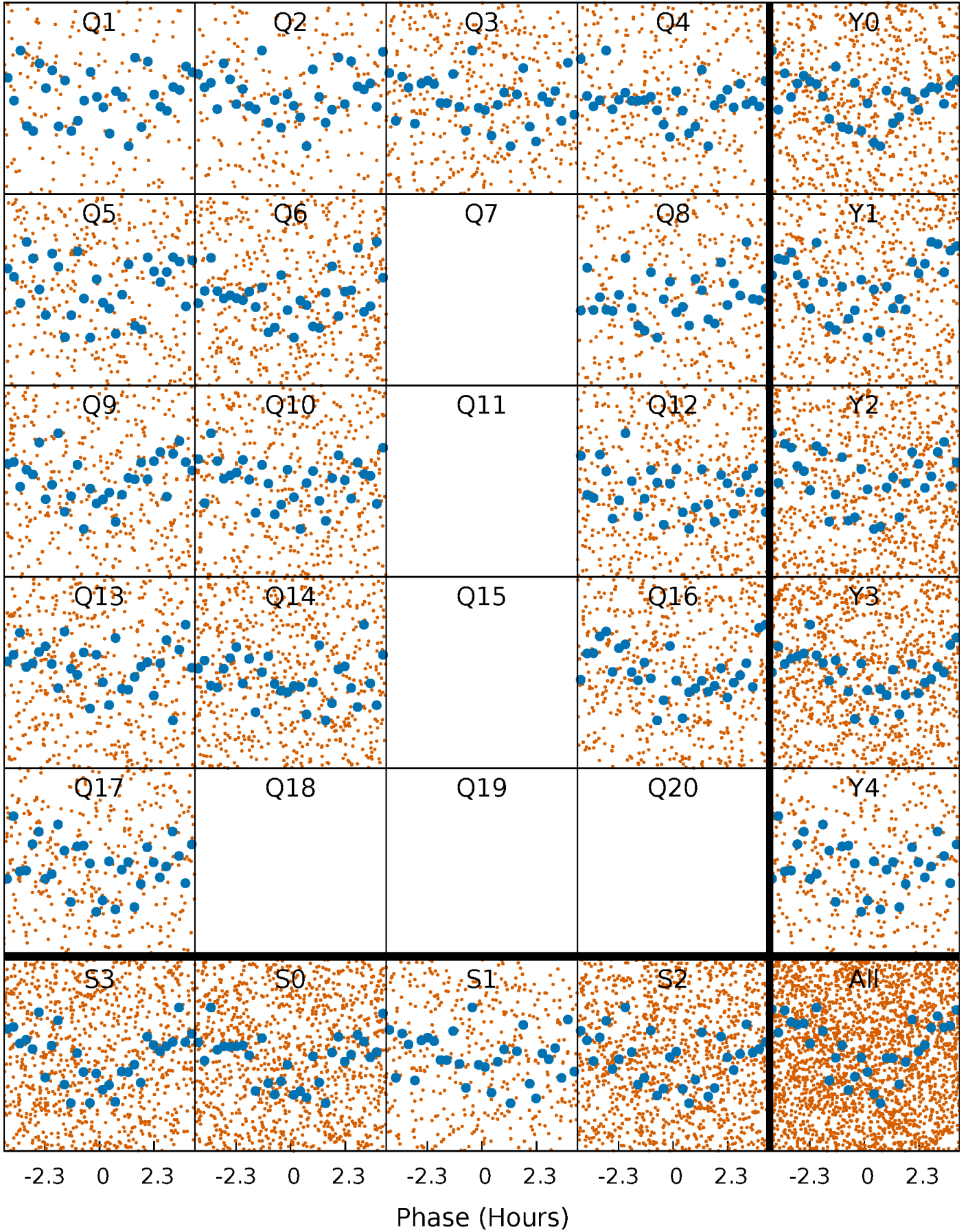


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



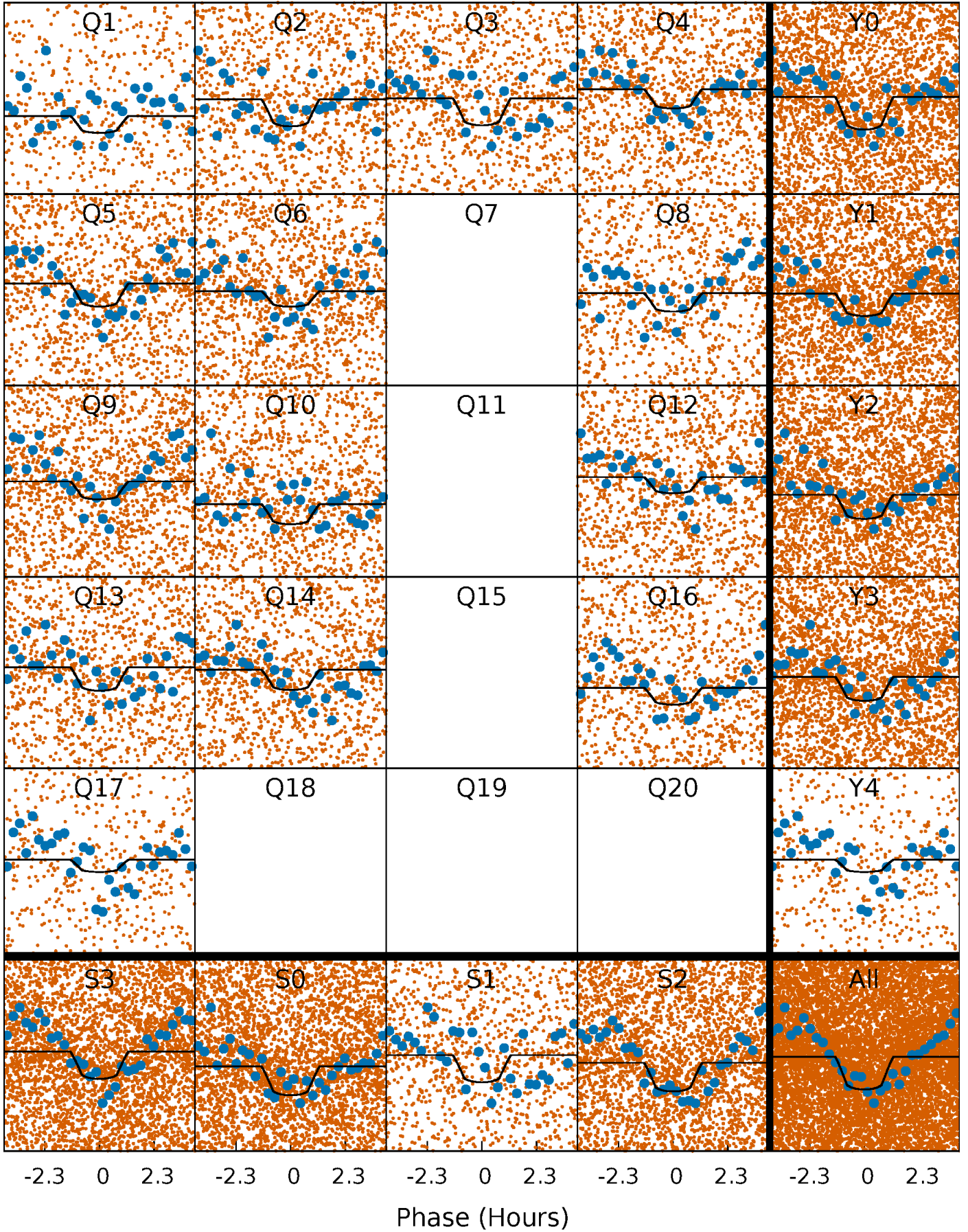
PDC Quarter-Phased Transit Curves

TCE 010814863-01 P= 0.555442 Days $T_0=131.722878$ (BKJD)



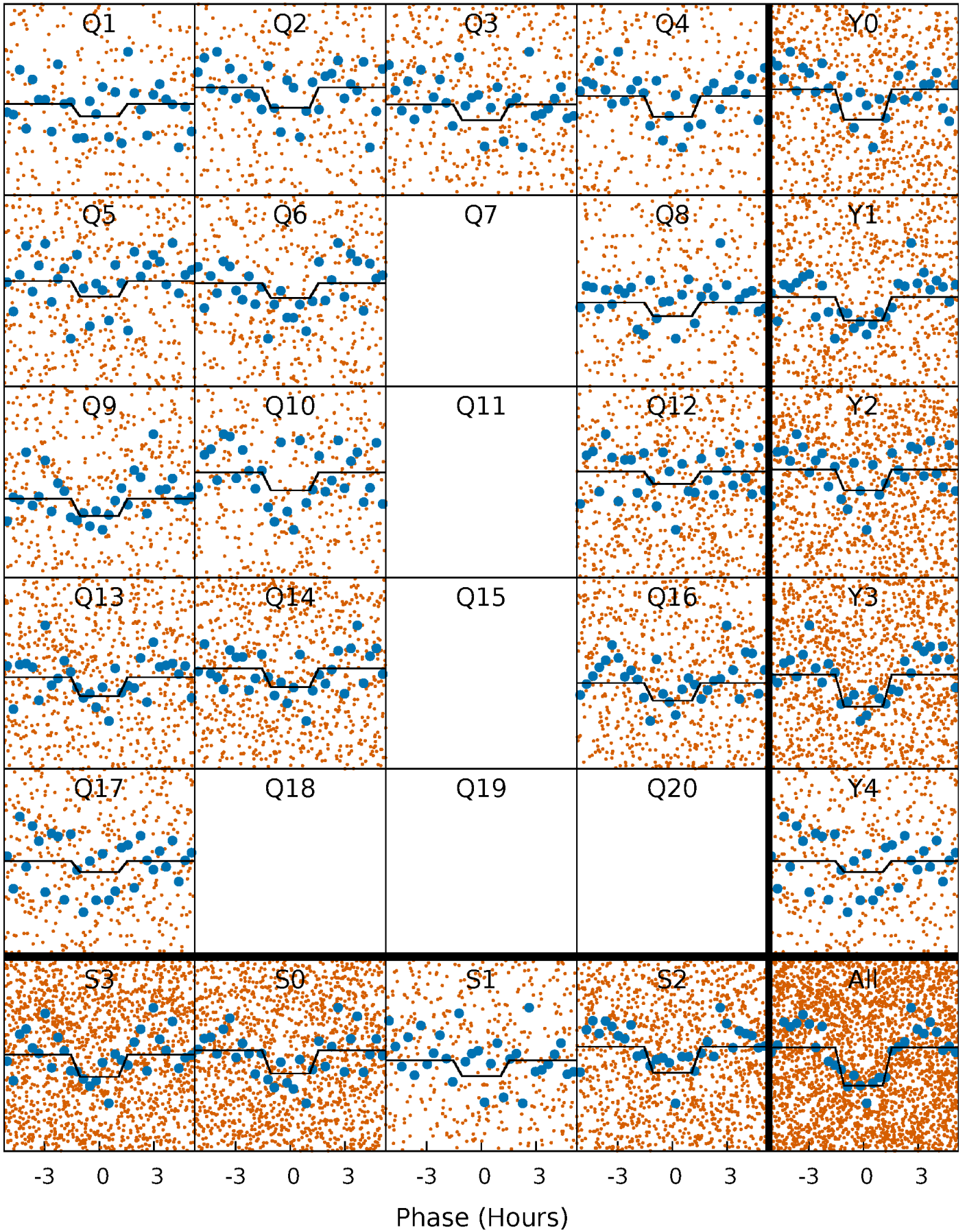
DV Quarter-Phased Transit Curves

TCE 010814863-01 P= 0.555442 Days $T_0=131.722878$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

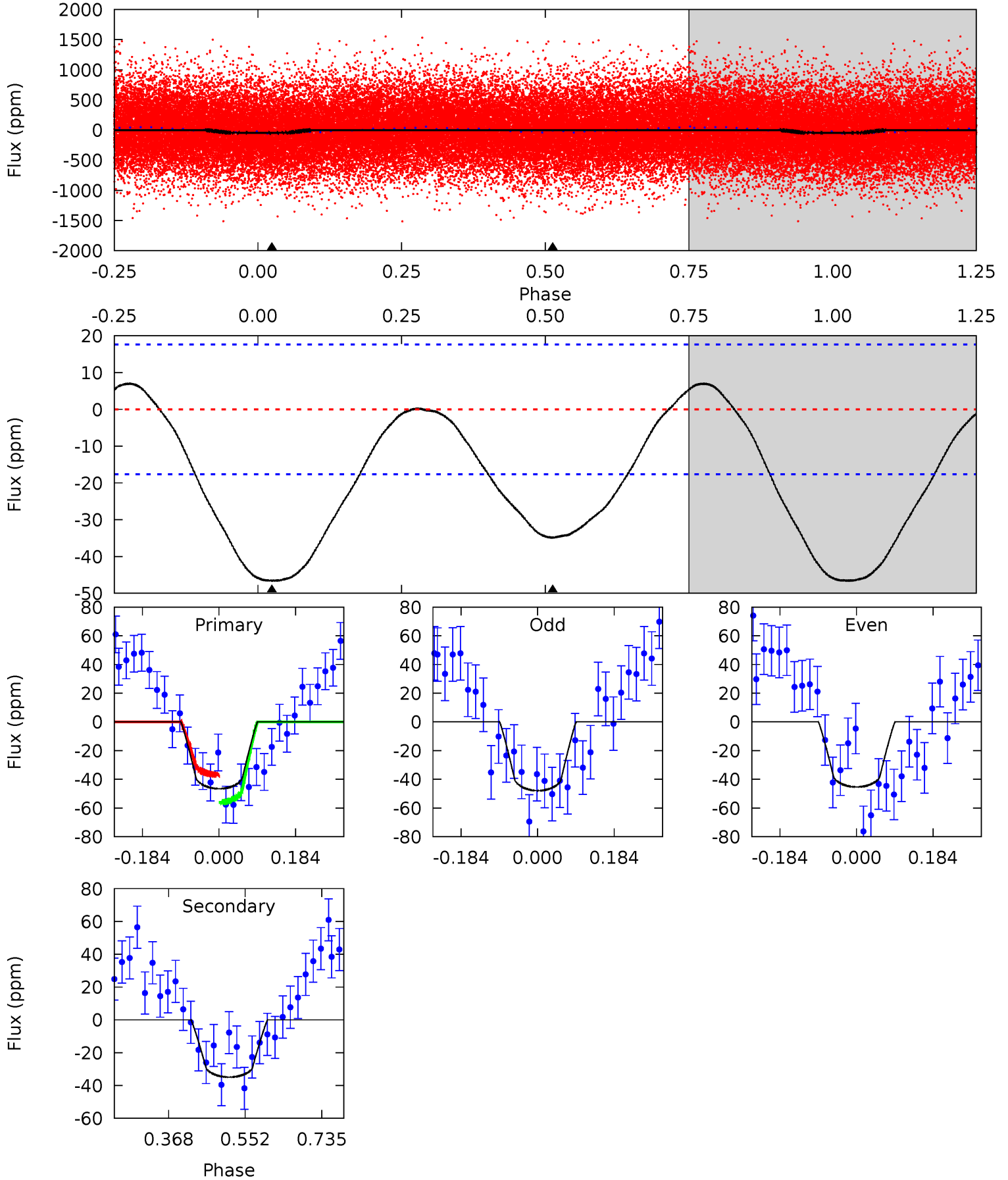
TCE 010814863-01 P= 0.555456 Days $T_0=131.719820$ (BKJD)



DV Model-Shift Uniqueness Test

010814863-01, P = 0.555442 Days, E = 131.167436 Days

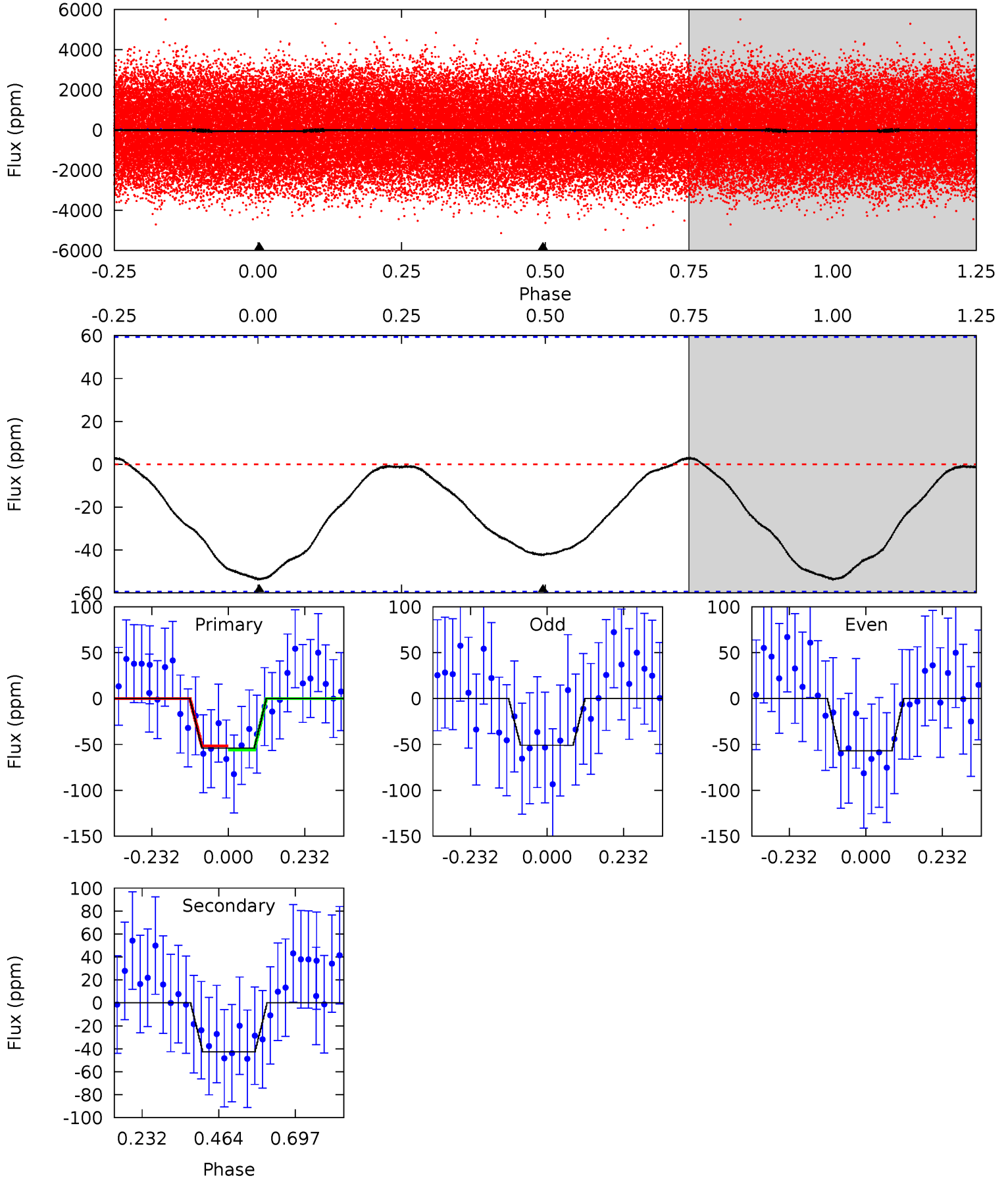
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	8.78	0	0	4.44	1.33	0.95	11.7	11.7	8.78	8.78	0.32	0.94	0.13	2.43



Alt Model-Shift Uniqueness Test

010814863-01, P = 0.555456 Days, E = 131.164364 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.98	3.15	0	0	4.38	1.19	0.12	3.98	3.98	3.15	3.15	0.22	0.96	0.06	0.17



Stellar Parameters For KIC 010814863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8283^{+201}_{-345}	$3.757^{+0.424}_{-0.106}$	$-0.140^{+0.250}_{-0.400}$	$3.123^{+0.755}_{-1.511}$	$2.032^{+0.328}_{-0.532}$	$0.094^{+0.354}_{-0.033}$
	+2%/-4%	+11%/-3%	+179%/-286%	+24%/-48%	+16%/-26%	+377%/-35%
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 010814863-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-35 ± 4	$2.21^{+1.50}_{-1.20}$	6700^{+547}_{-735}	6601^{+5377}_{-2286}	$1.116^{+4.246}_{-0.722}$
Alt.	-43 ± 14	$2.26^{+1.59}_{-1.25}$	6703^{+533}_{-779}	6982^{+5894}_{-2580}	$1.227^{+5.377}_{-0.813}$

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

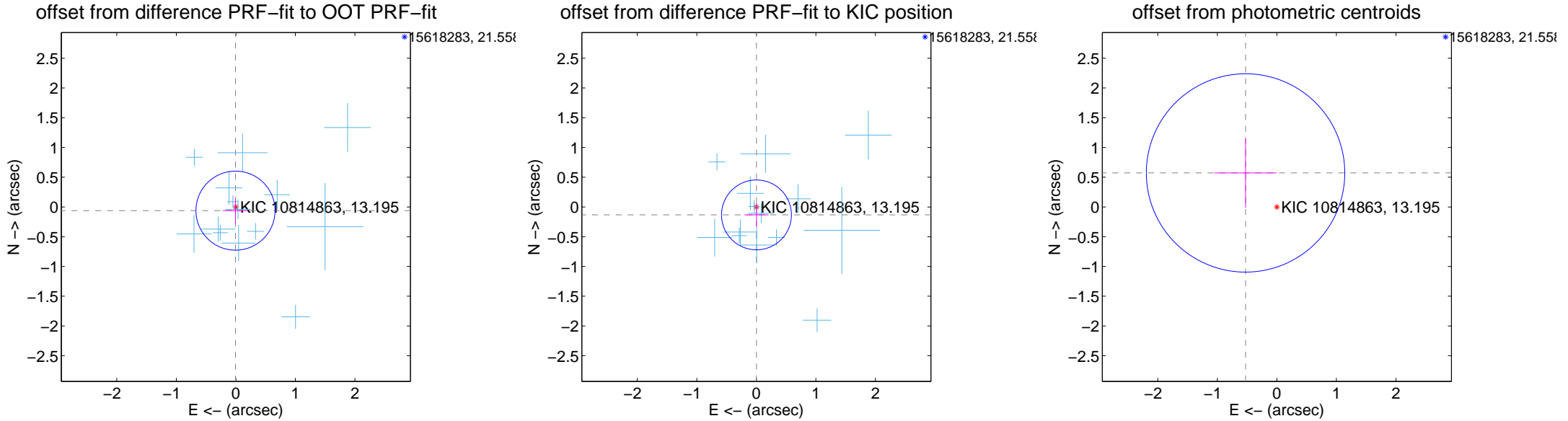
DV Centroid Data

Supplemental centroid analysis for 010814863-01. Kepler magnitude: 13.20. Transit SNR 9.01

There are 14 quarters with good PRF difference image offsets

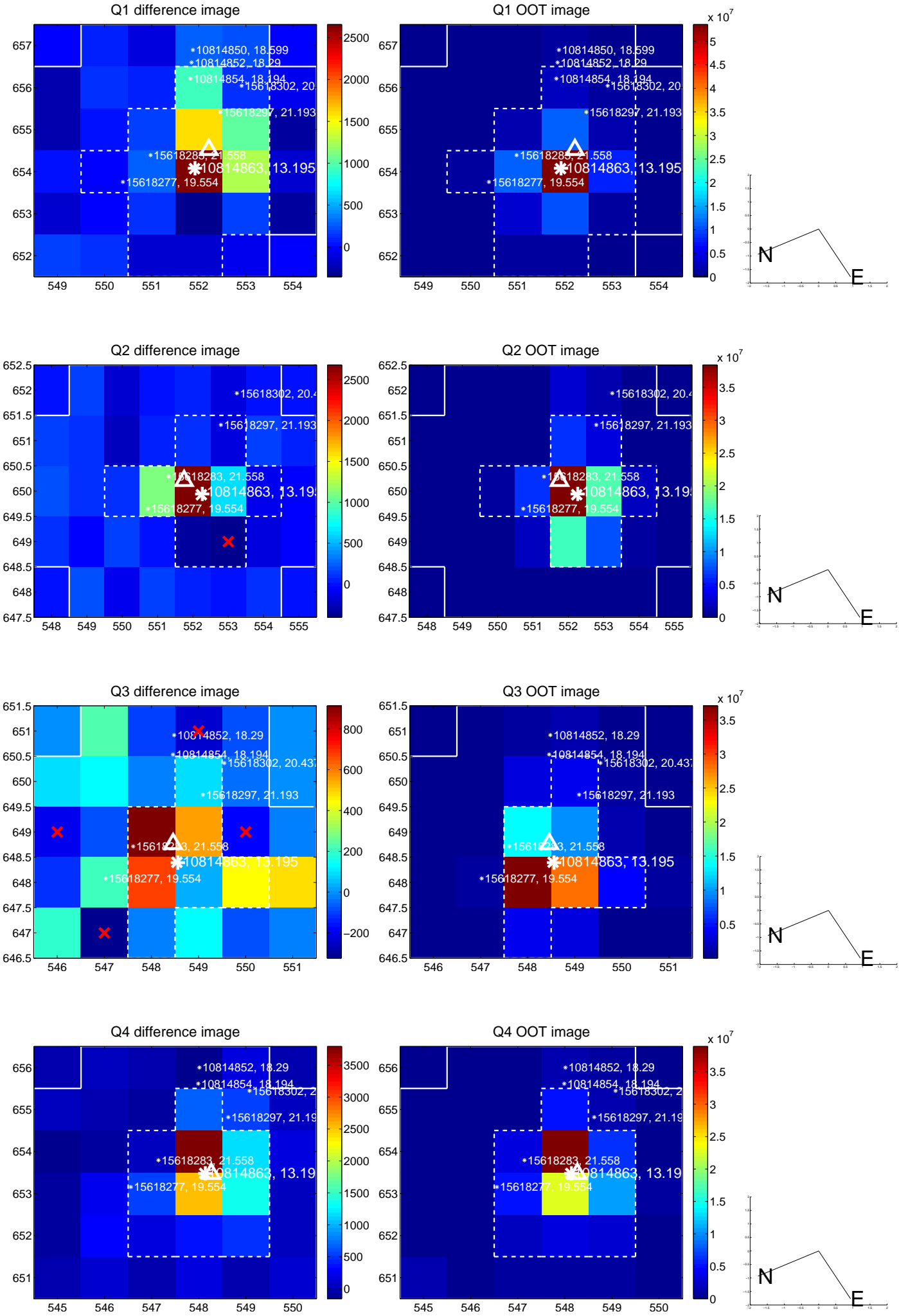
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.062 ± 0.221	0.28	0.006 ± 0.211	-0.062 ± 0.221
PRF-fit source offset from KIC position	0.133 ± 0.196	0.68	-0.002 ± 0.201	-0.133 ± 0.195
photometric centroid source offset	0.78 ± 0.56	1.40	0.53 ± 0.52	0.57 ± 0.58

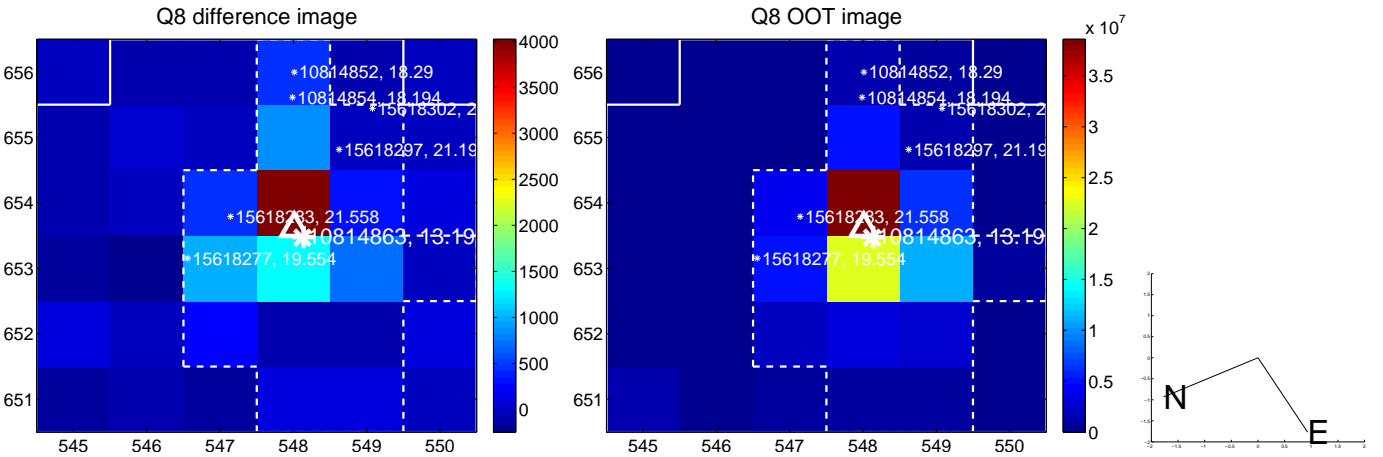
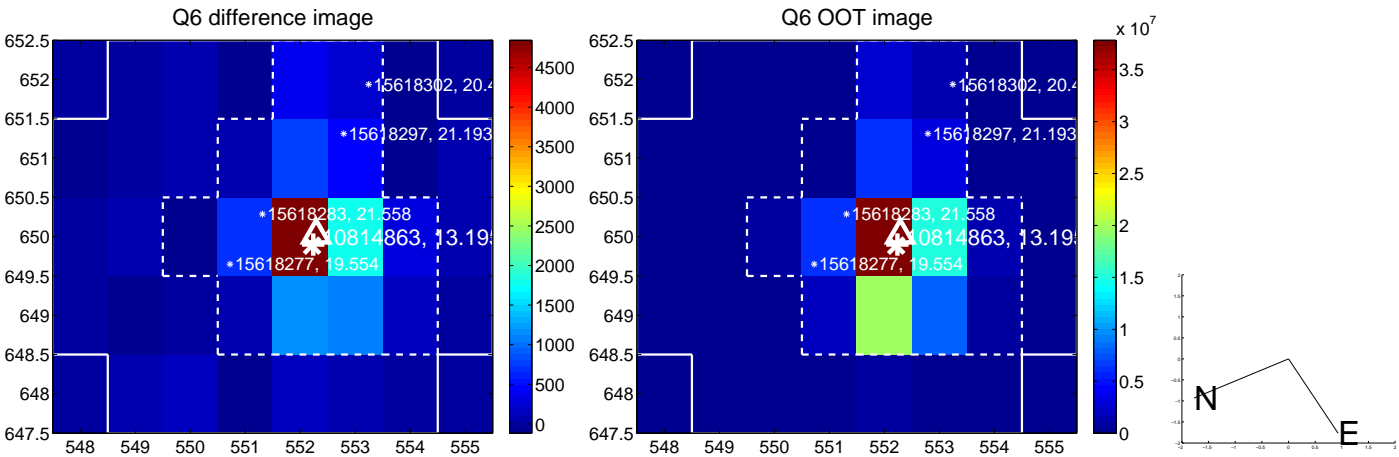
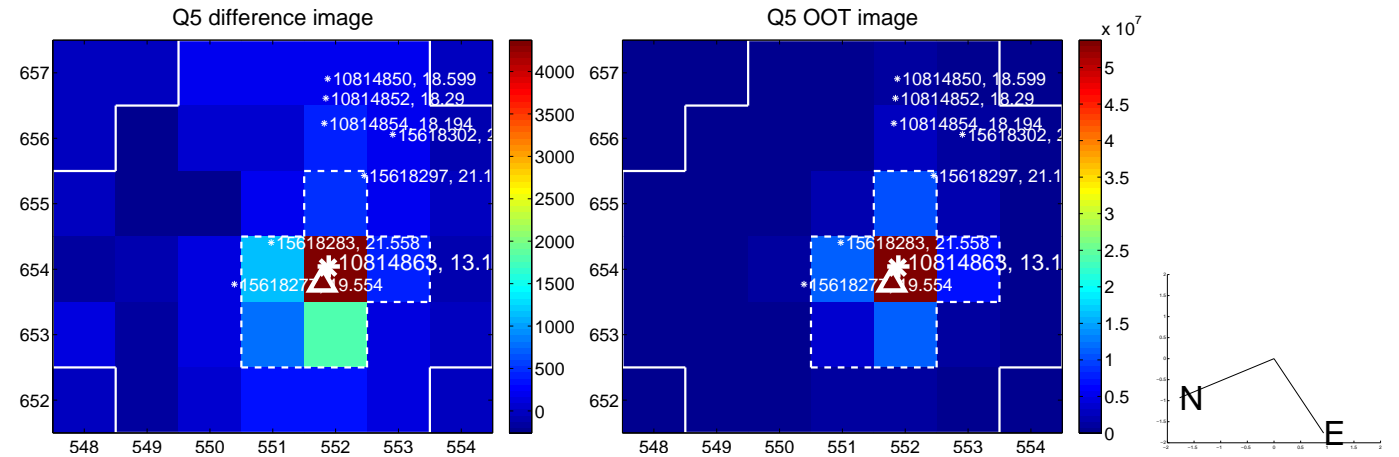


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

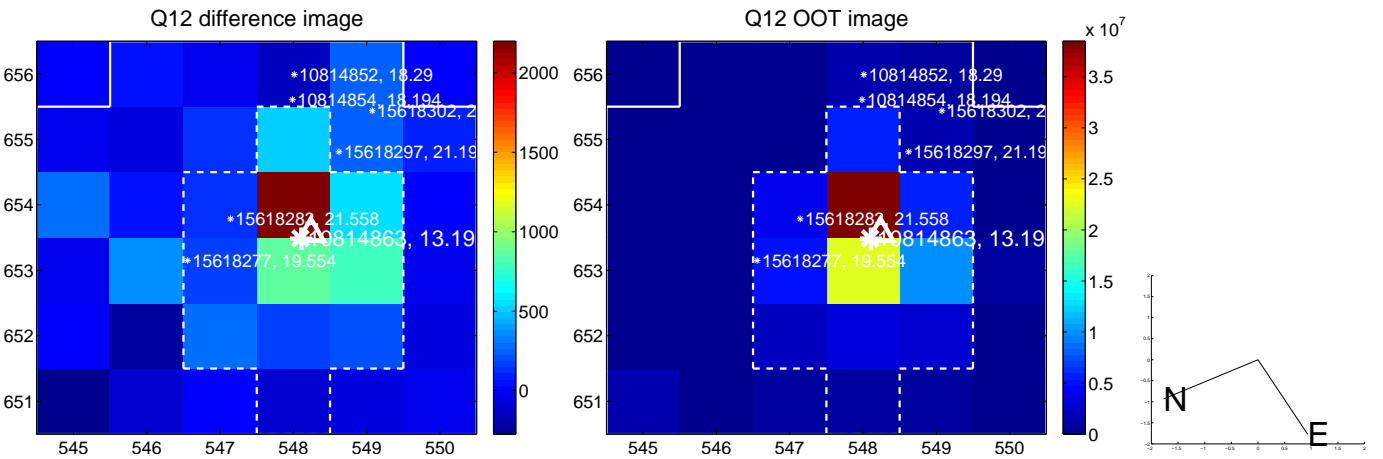
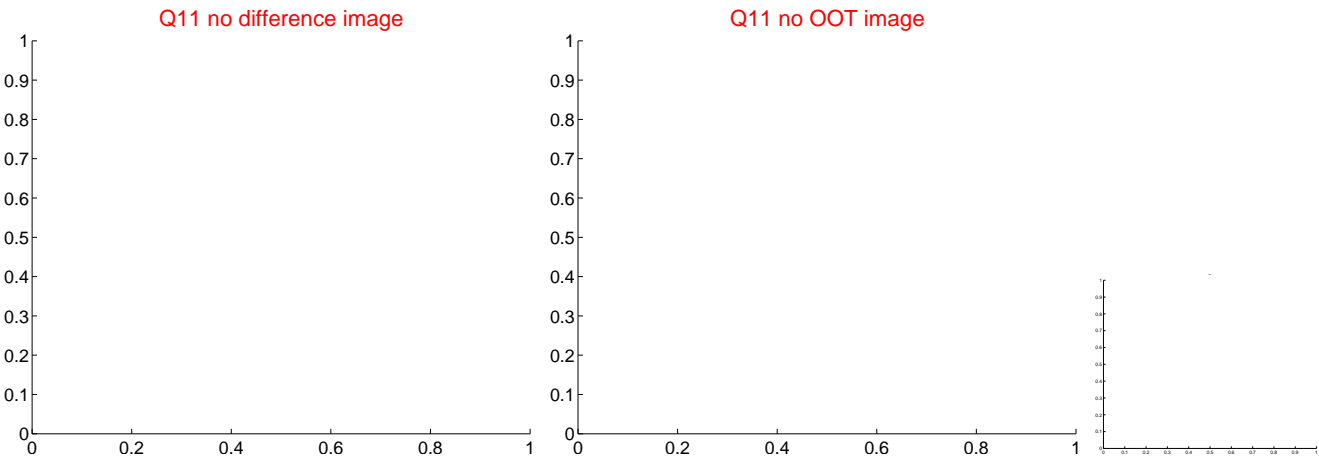
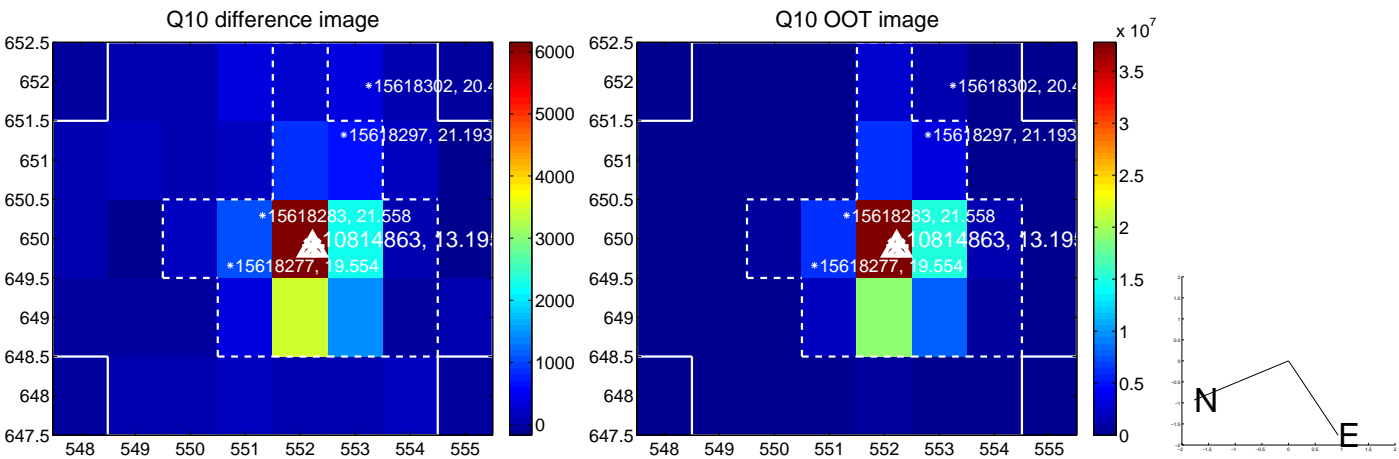
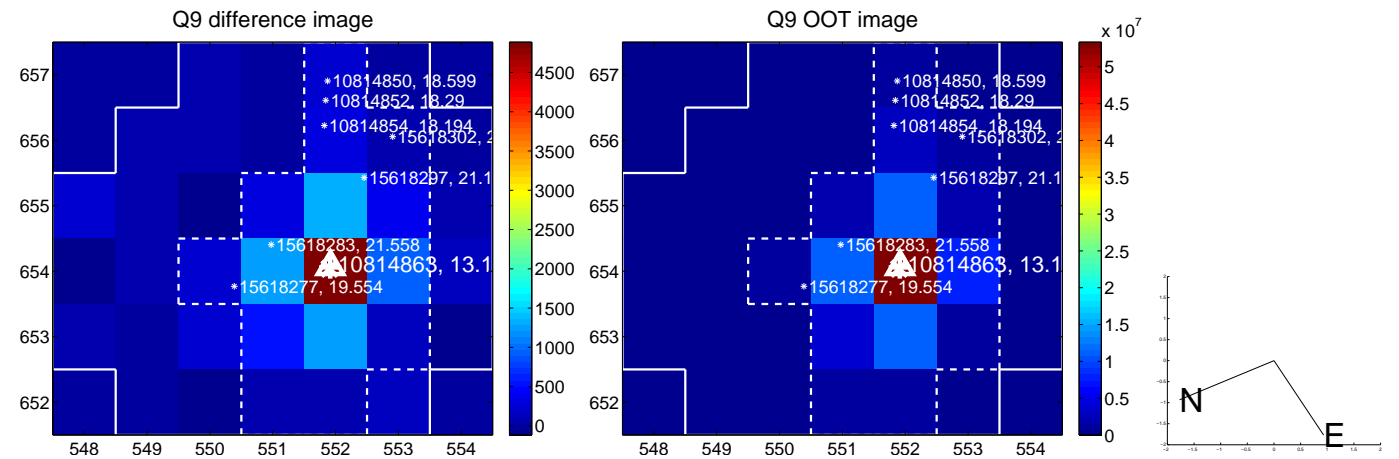
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



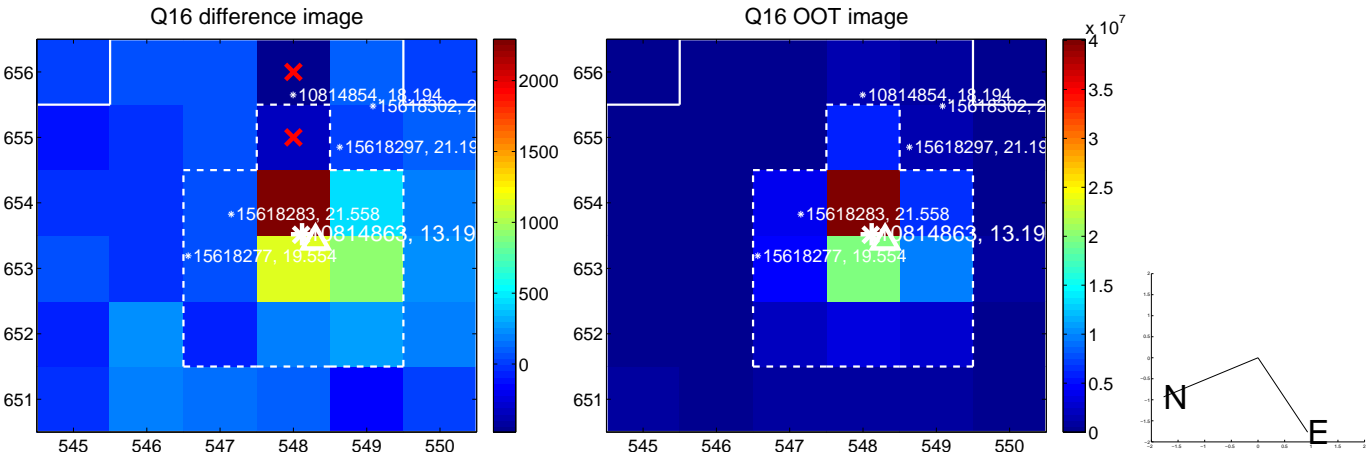
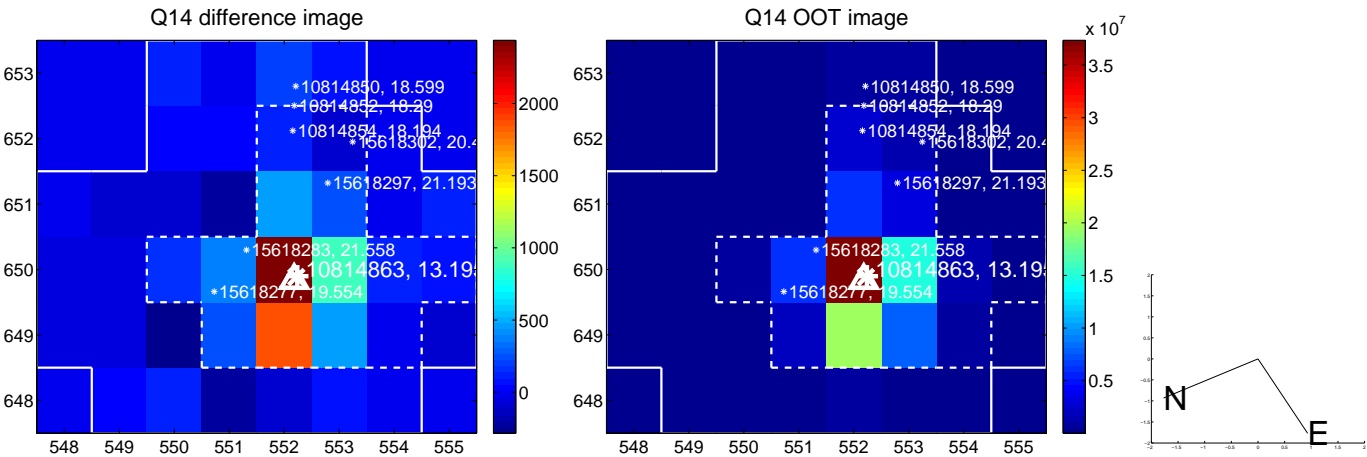
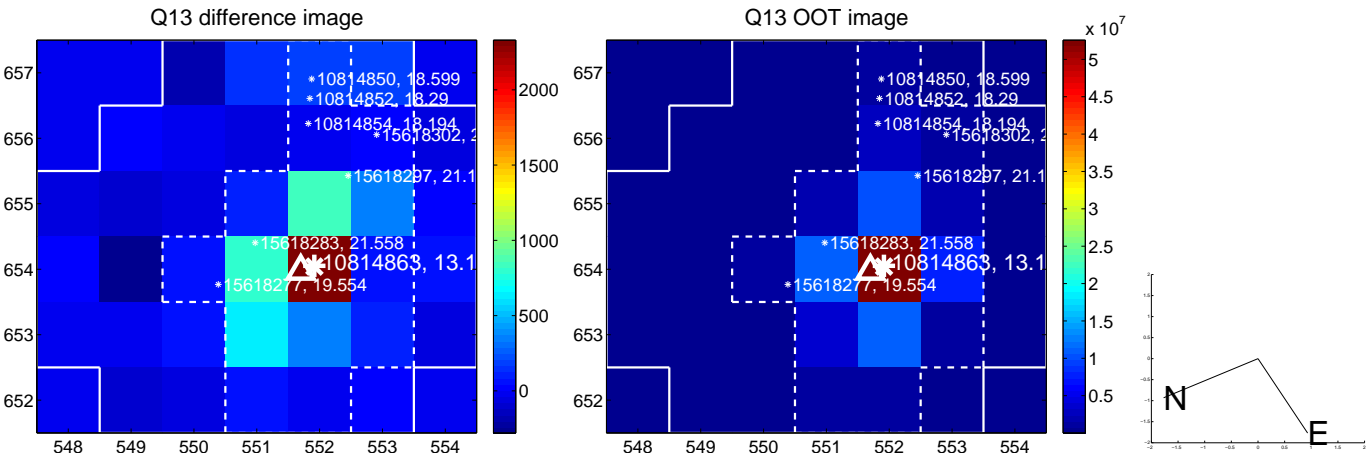
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



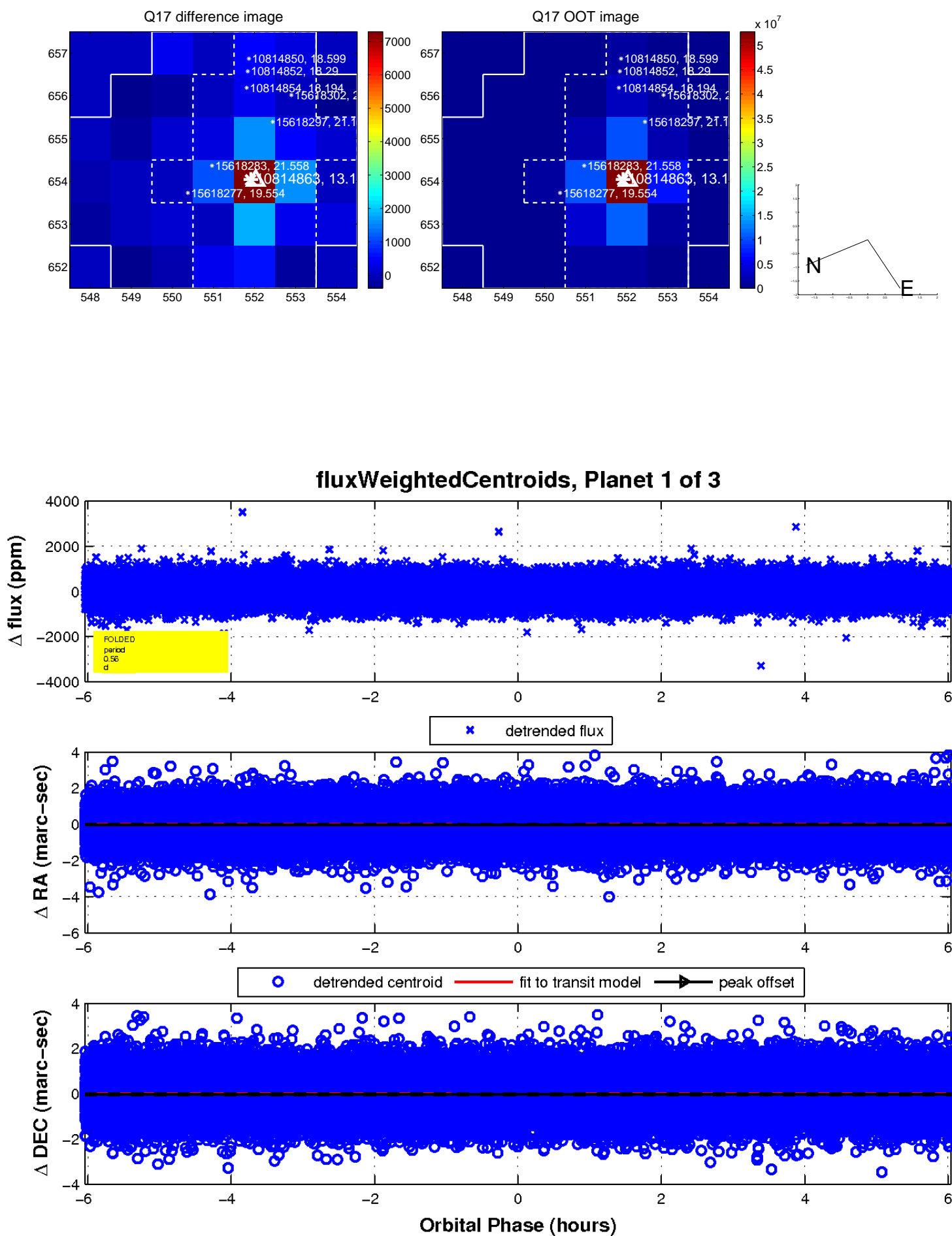
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

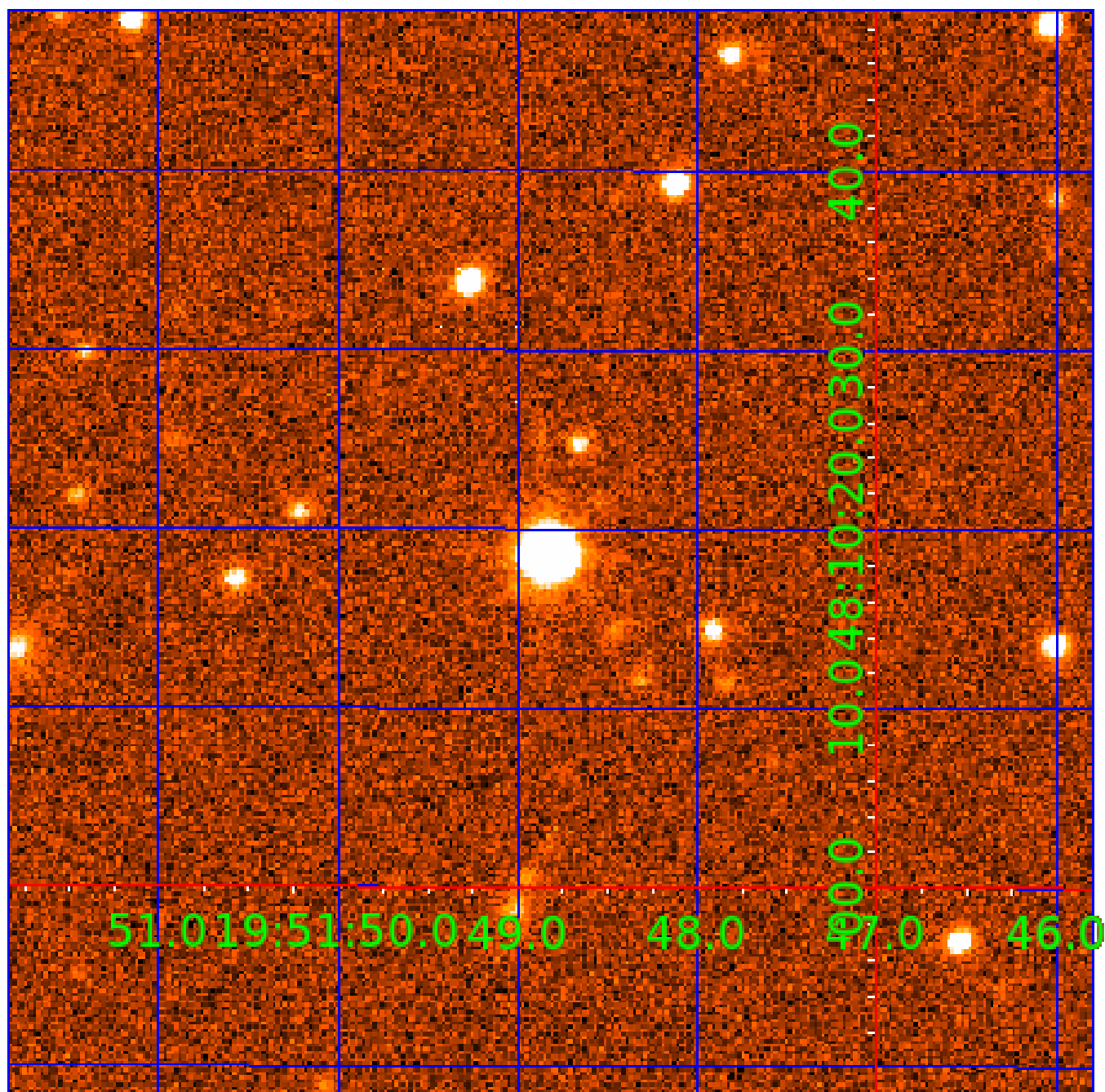


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010814863

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})
010814863-01	OBS	No	0.555442	131.722878	45.4	2.013	8.8	9.0	3.12	8283	2.39	146501.19
010814863-02	OBS	No	1.110900	132.547141	36.5	3.605	8.0	6.4	3.12	8283	2.19	58137.93
010814863-03	OBS	No	70.194952	166.582238	570.9	3.312	7.5	7.7	3.12	8283	8.81	231.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010814863-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010814863-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
010814863-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

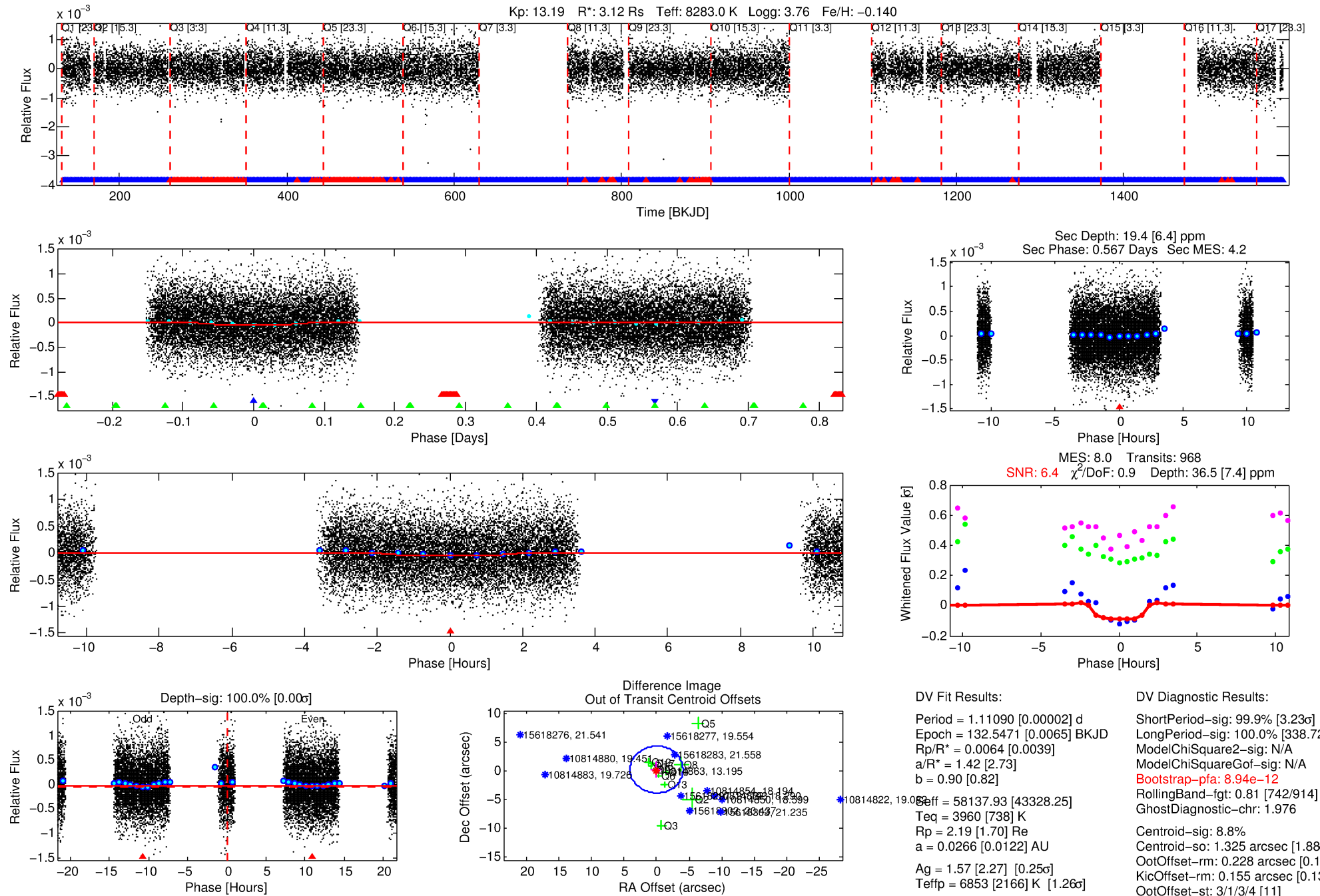
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010814863-02

No Significant Match Found

DV One-Page Summary

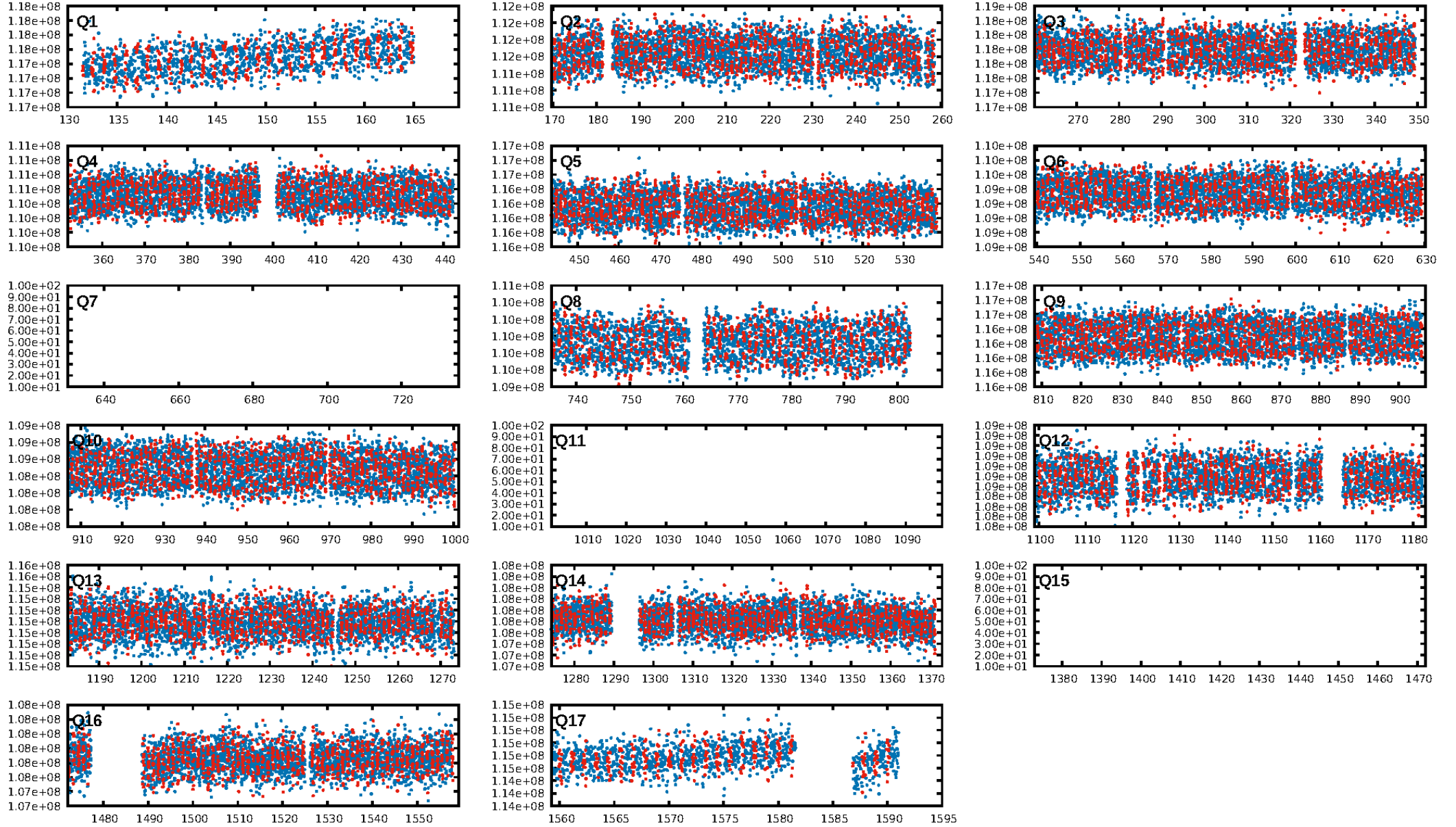
KIC: 10814863 Candidate: 2 of 3 Period: 1.111 d



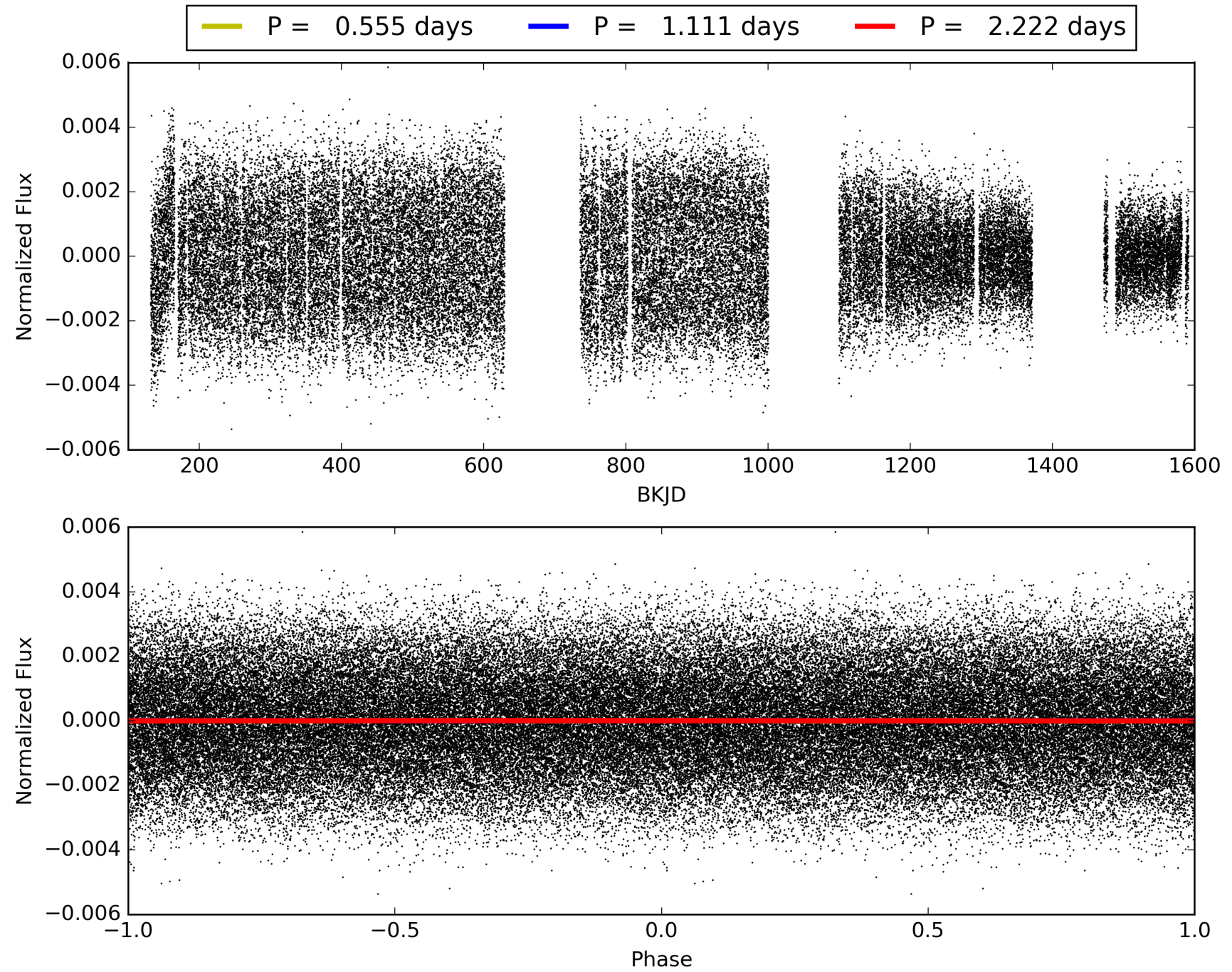
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:10:43 Z

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

TCE 010814863-02, PDC Light Curves

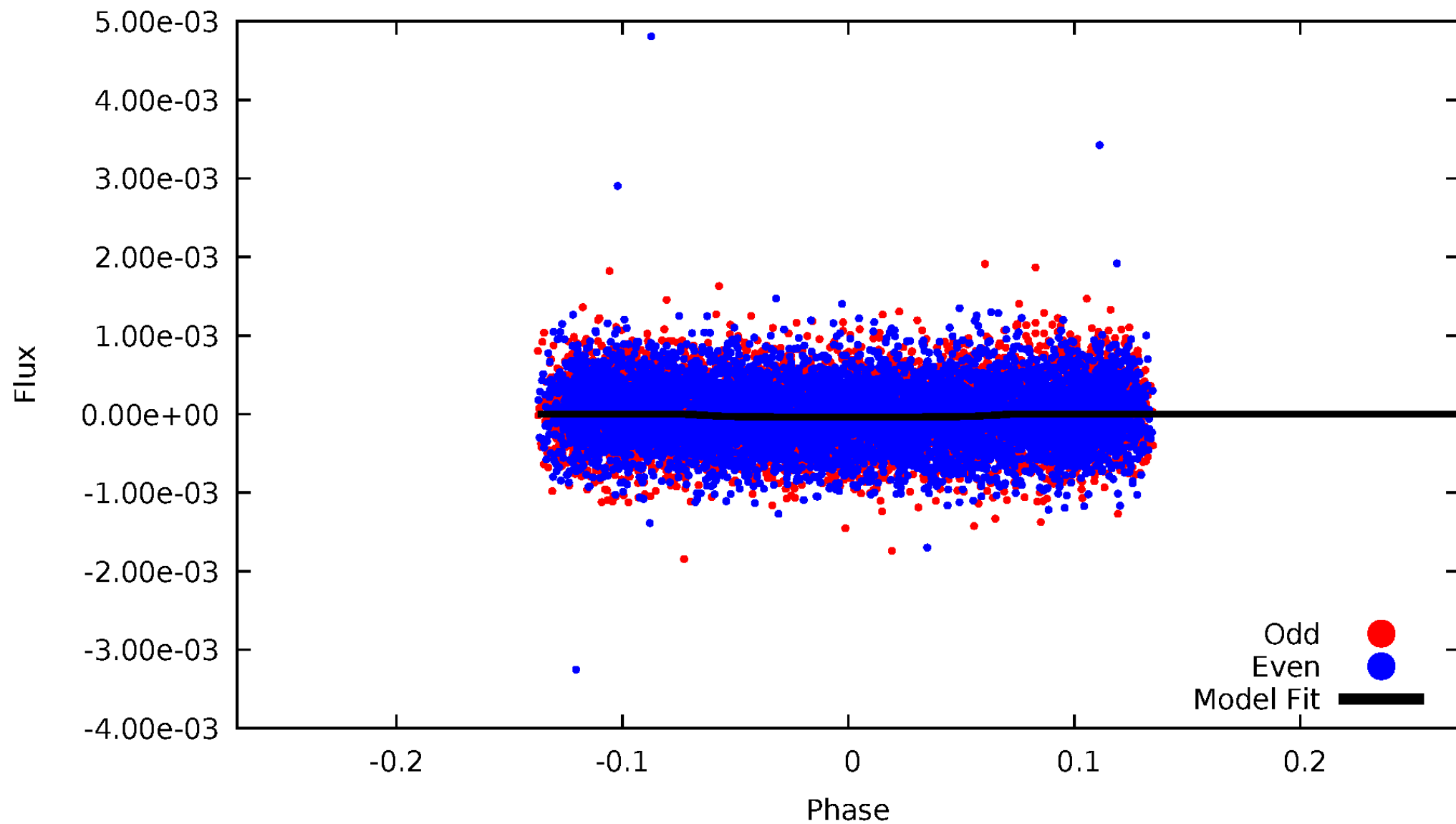


TCE 010814863-02



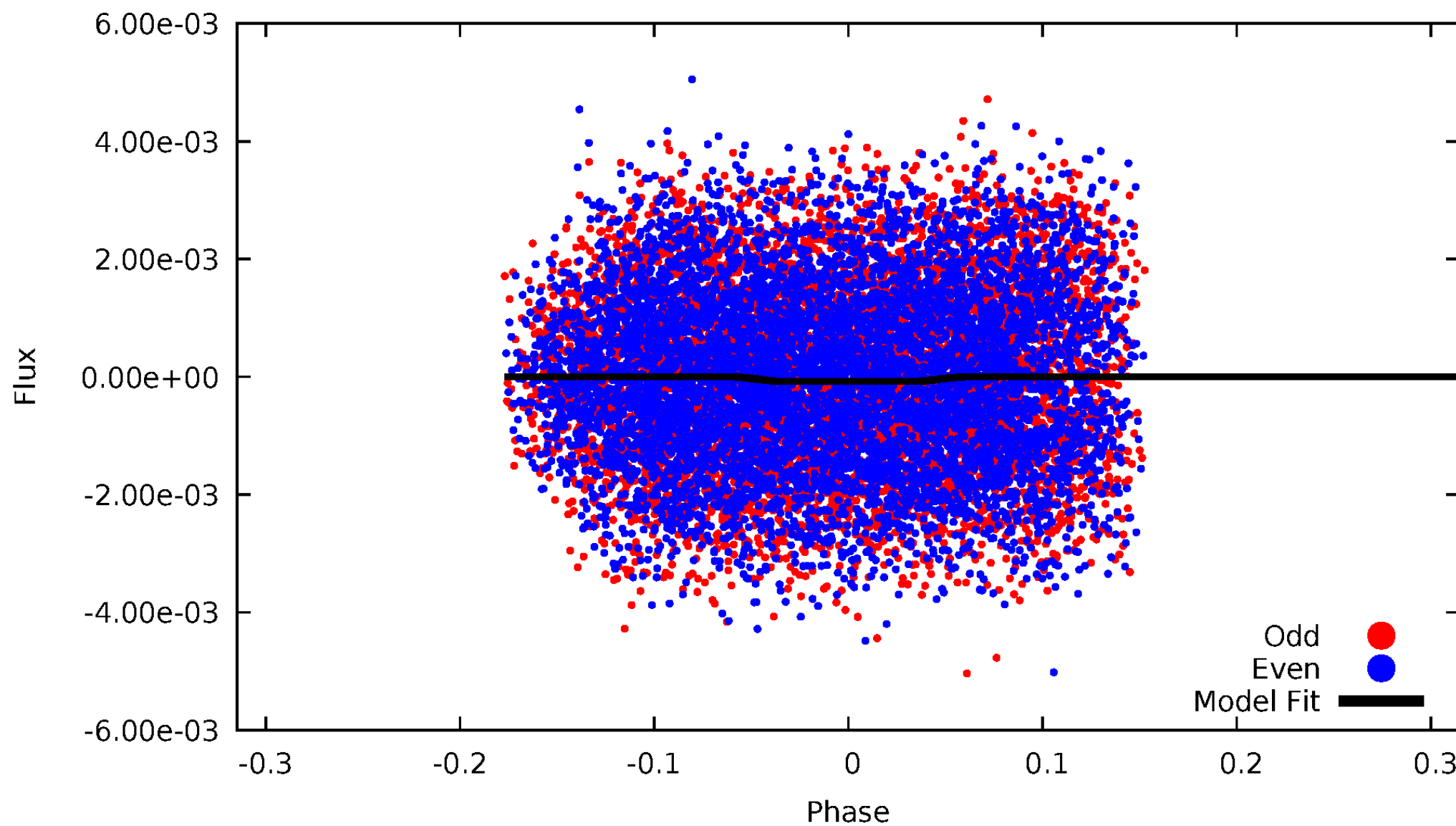
DV Odd/Even

TCE 010814863-02



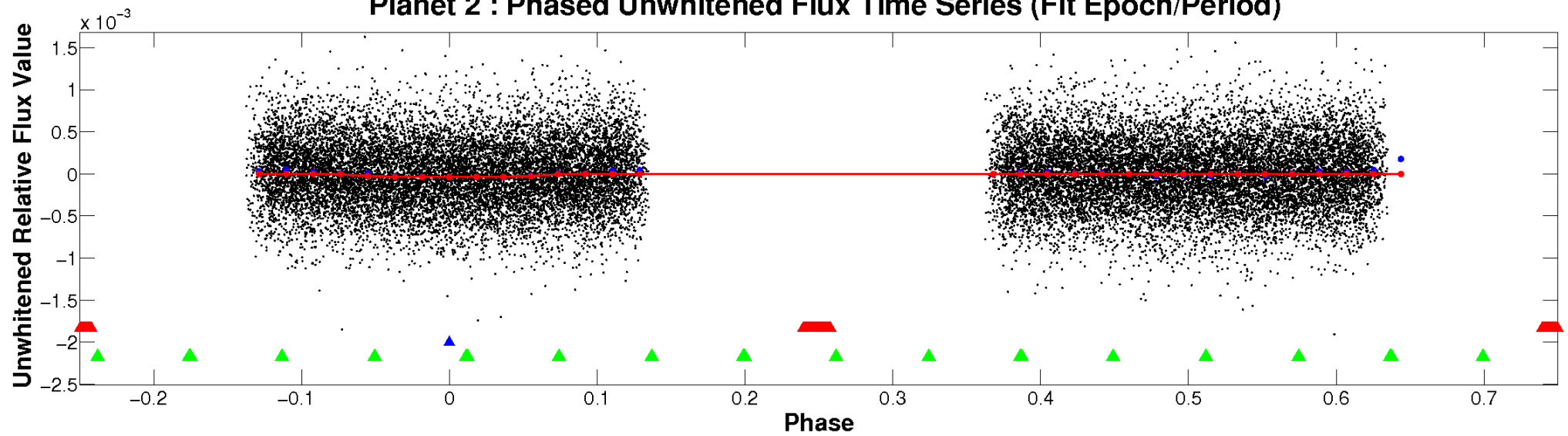
ALT Odd/Even

TCE 010814863-02

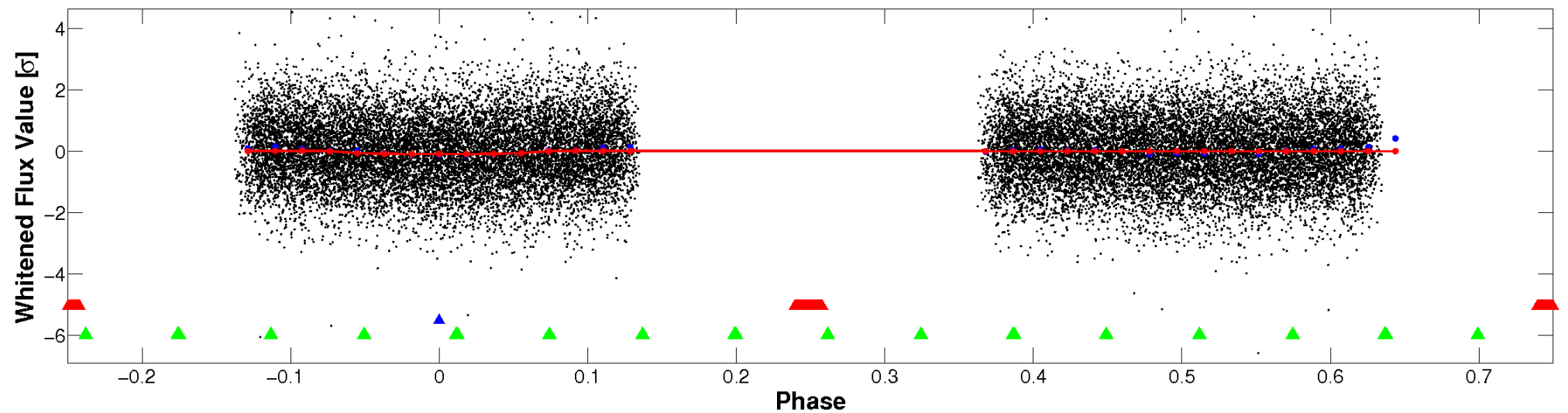


Non-Whitened Vs. Whitened Light Curve

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

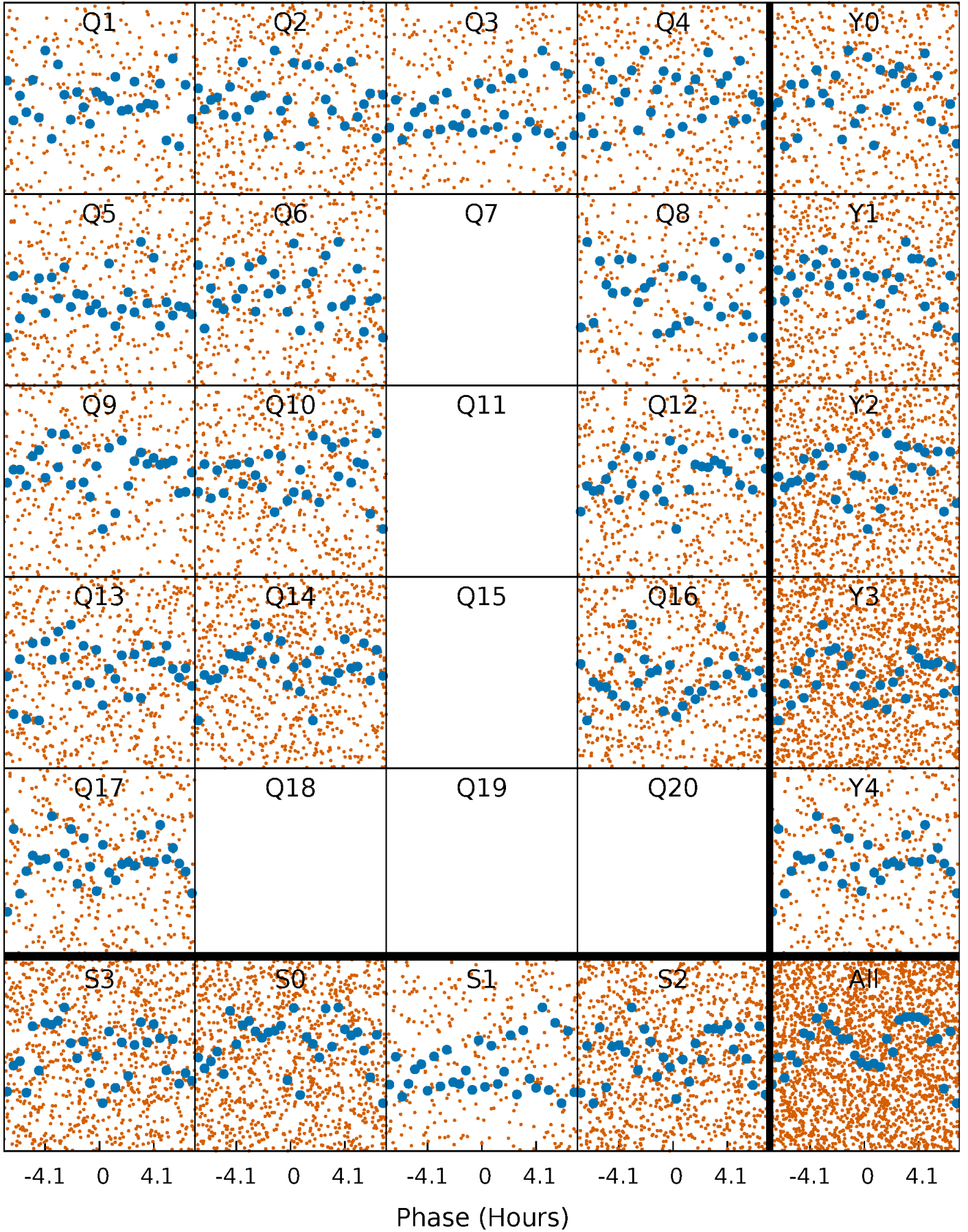


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



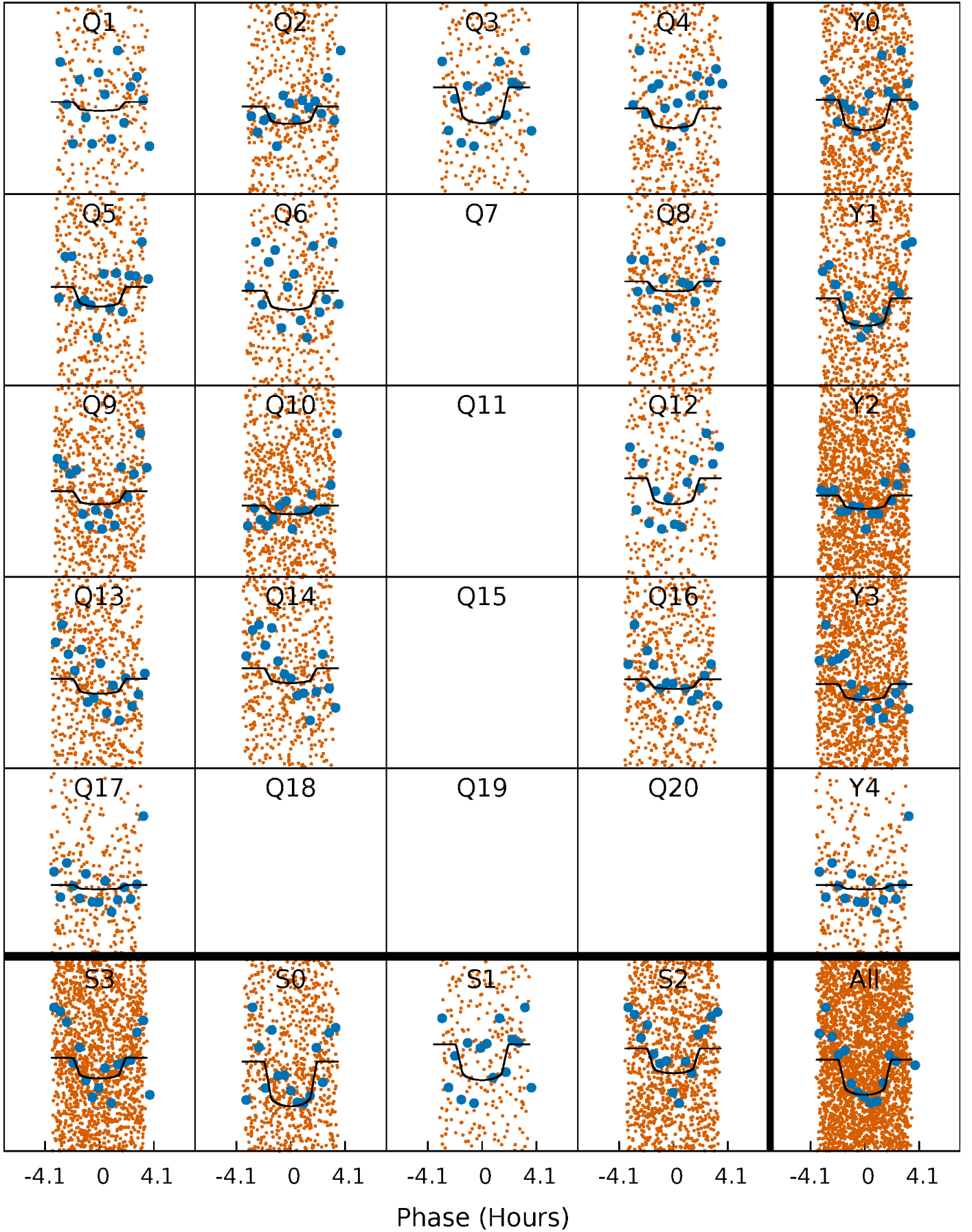
PDC Quarter-Phased Transit Curves

TCE 010814863-02 P= 1.110900 Days $T_0=132.547141$ (BKJD)



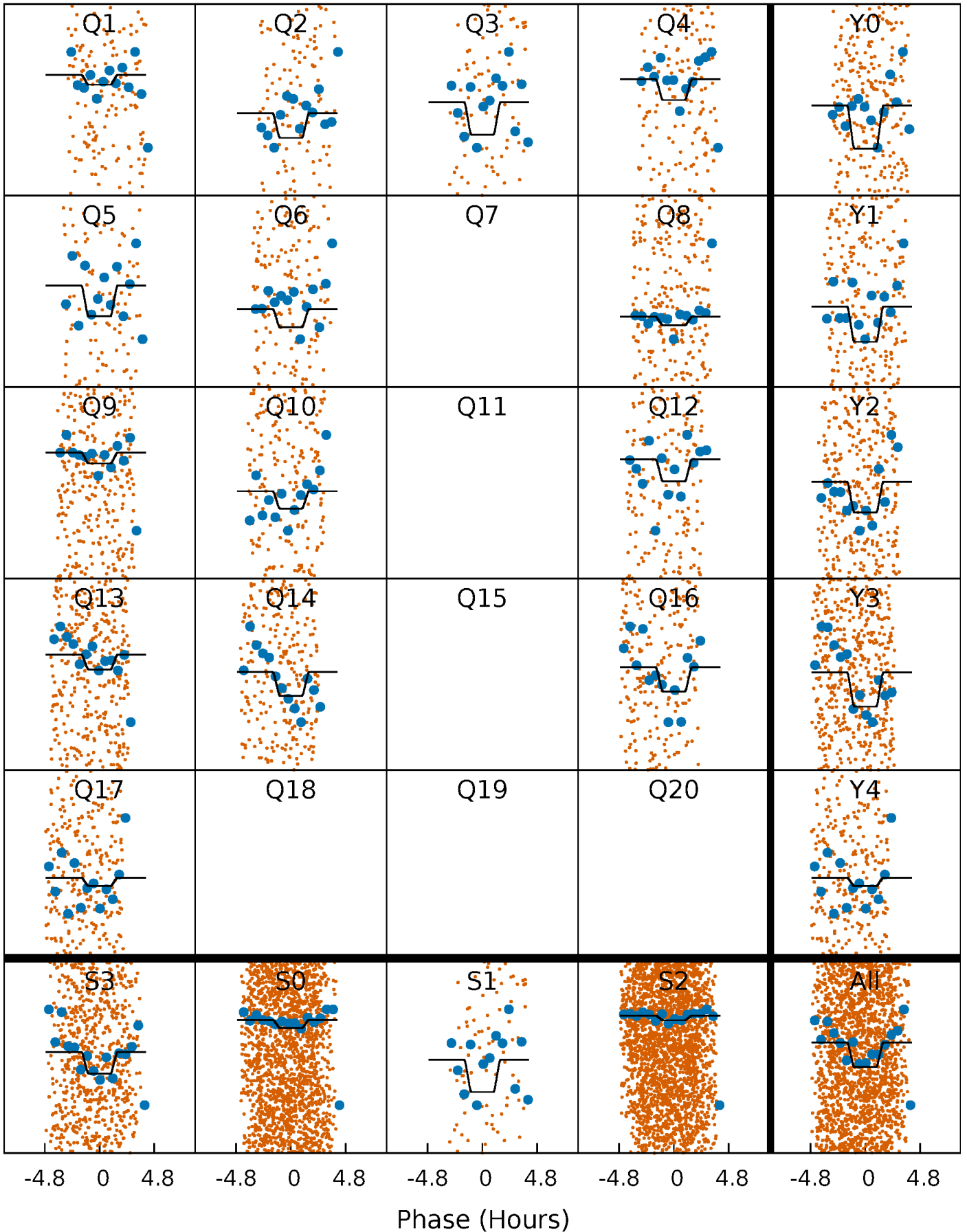
DV Quarter-Phased Transit Curves

TCE 010814863-02 P= 1.110900 Days $T_0=132.547141$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

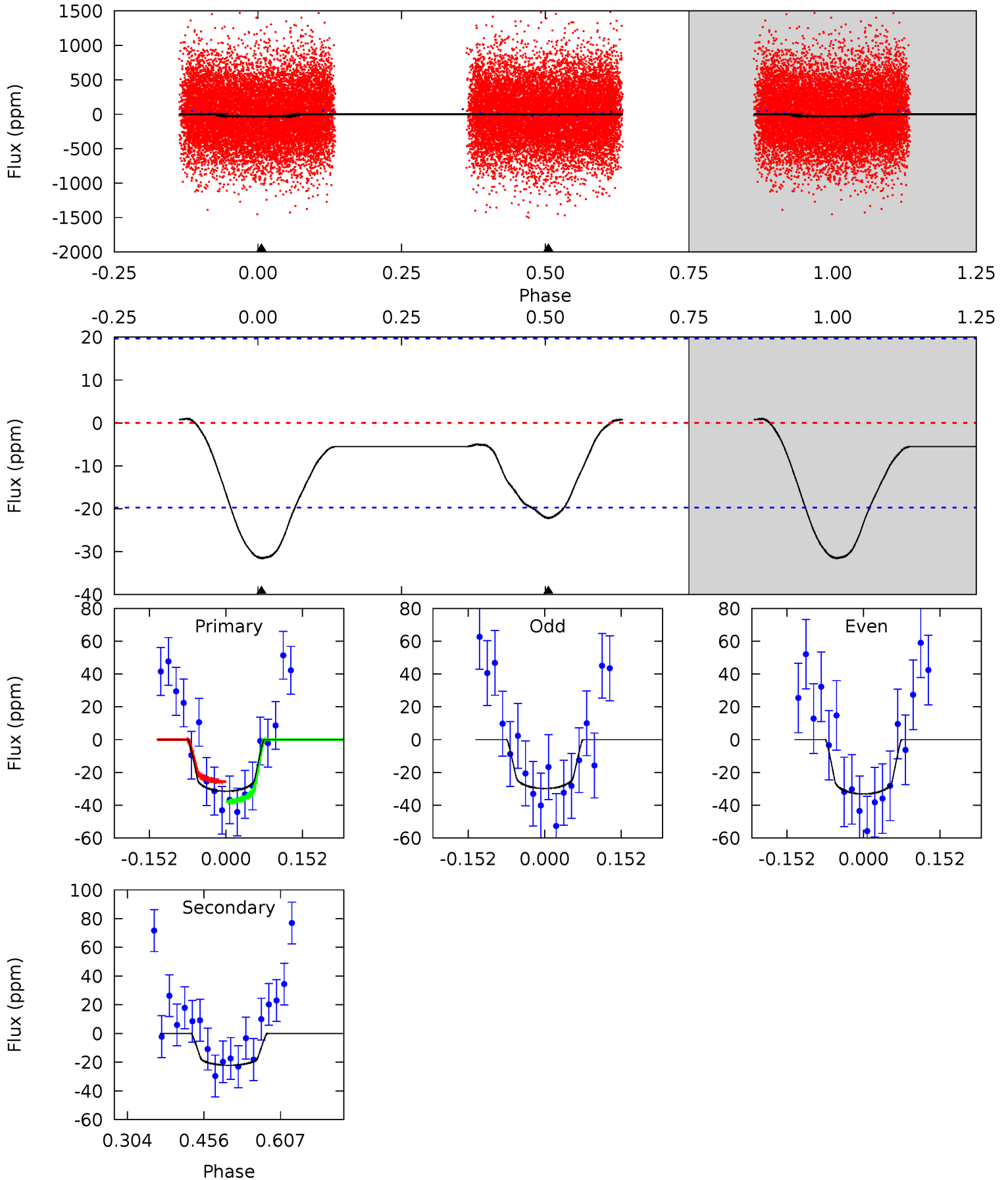
TCE 010814863-02 P= 1.110949 Days $T_0=132.527478$ (BKJD)



DV Model-Shift Uniqueness Test

010814863-02, P = 1.110900 Days, E = 131.436241 Days

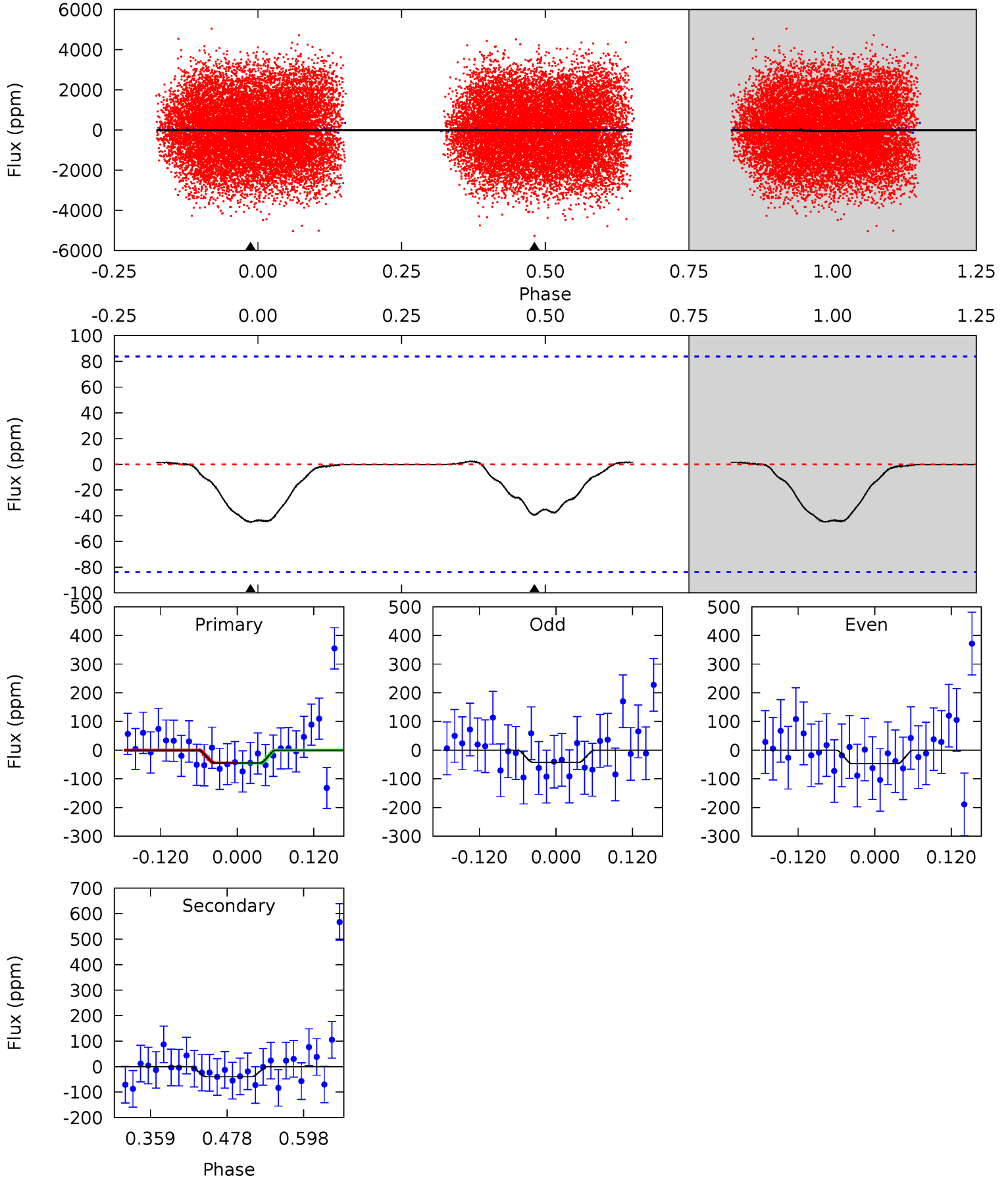
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.16	5.03	0	0	4.48	1.43	0.68	7.16	7.16	5.03	5.03	0.38	0.93	0.03	1.39



Alt Model-Shift Uniqueness Test

010814863-02, P = 1.110949 Days, E = 131.416529 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.42	2.12	0	0	4.53	1.56	0.09	2.42	2.42	2.12	2.12	0.12	0.97	0.05	0.04



Stellar Parameters For KIC 010814863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8283^{+201}_{-345}	$3.757^{+0.424}_{-0.106}$	$-0.140^{+0.250}_{-0.400}$	$3.123^{+0.755}_{-1.511}$	$2.032^{+0.328}_{-0.532}$	$0.094^{+0.354}_{-0.033}$
	+2%/-4%	+11%/-3%	+179%/-286%	+24%/-48%	+16%/-26%	+377%/-35%
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 010814863-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-22 ± 4	$1.98^{+1.24}_{-1.07}$	5333^{+414}_{-640}	6551^{+4353}_{-1728}	$2.214^{+7.624}_{-1.453}$
Alt.	-39 ± 18	$2.63^{+1.33}_{-1.28}$	5345^{+421}_{-655}	6531^{+3410}_{-1804}	$2.104^{+6.244}_{-1.369}$

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

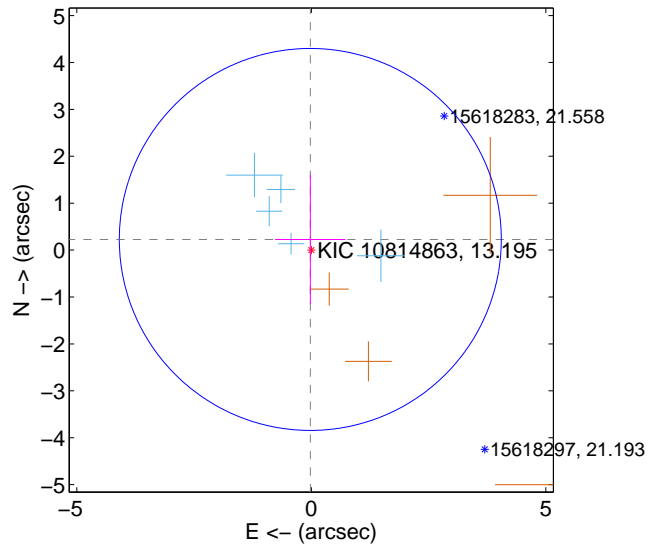
Supplemental centroid analysis for 010814863-02. Kepler magnitude: 13.20. Transit SNR 6.41

There are 5 quarters with good PRF difference image offsets

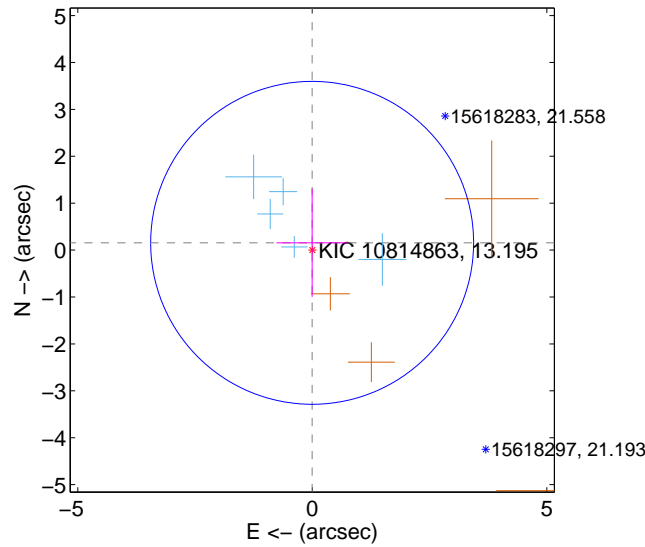
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.228 ± 1.357	0.17	0.022 ± 0.750	0.227 ± 1.381
PRF-fit source offset from KIC position	0.155 ± 1.147	0.13	0.004 ± 0.761	0.155 ± 1.153
photometric centroid source offset	1.32 ± 0.71	1.88	-1.27 ± 0.70	-0.38 ± 0.77

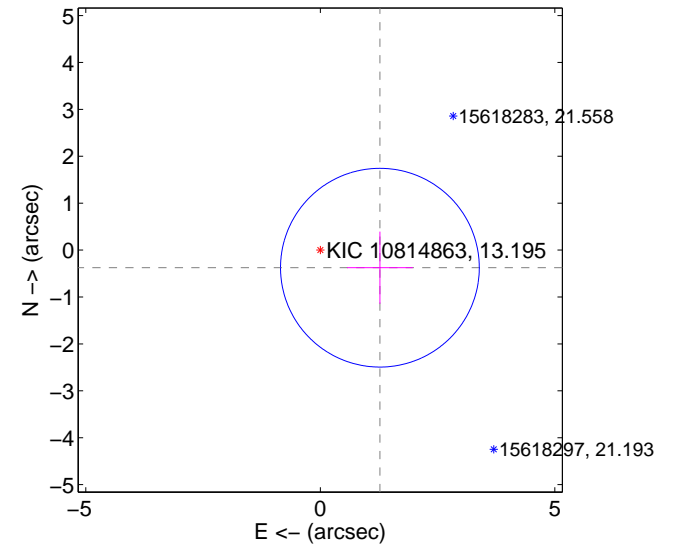
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

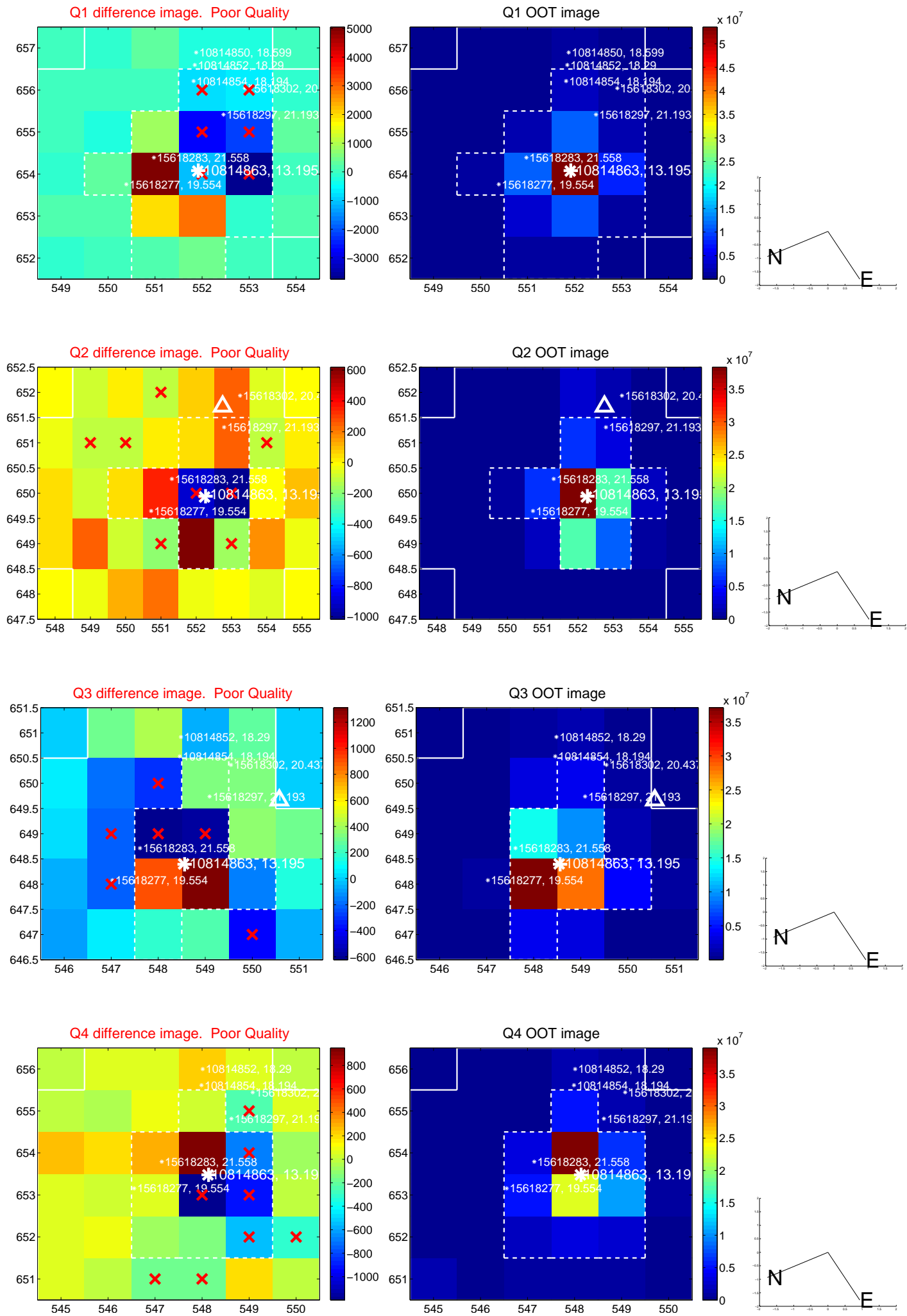


offset from photometric centroids

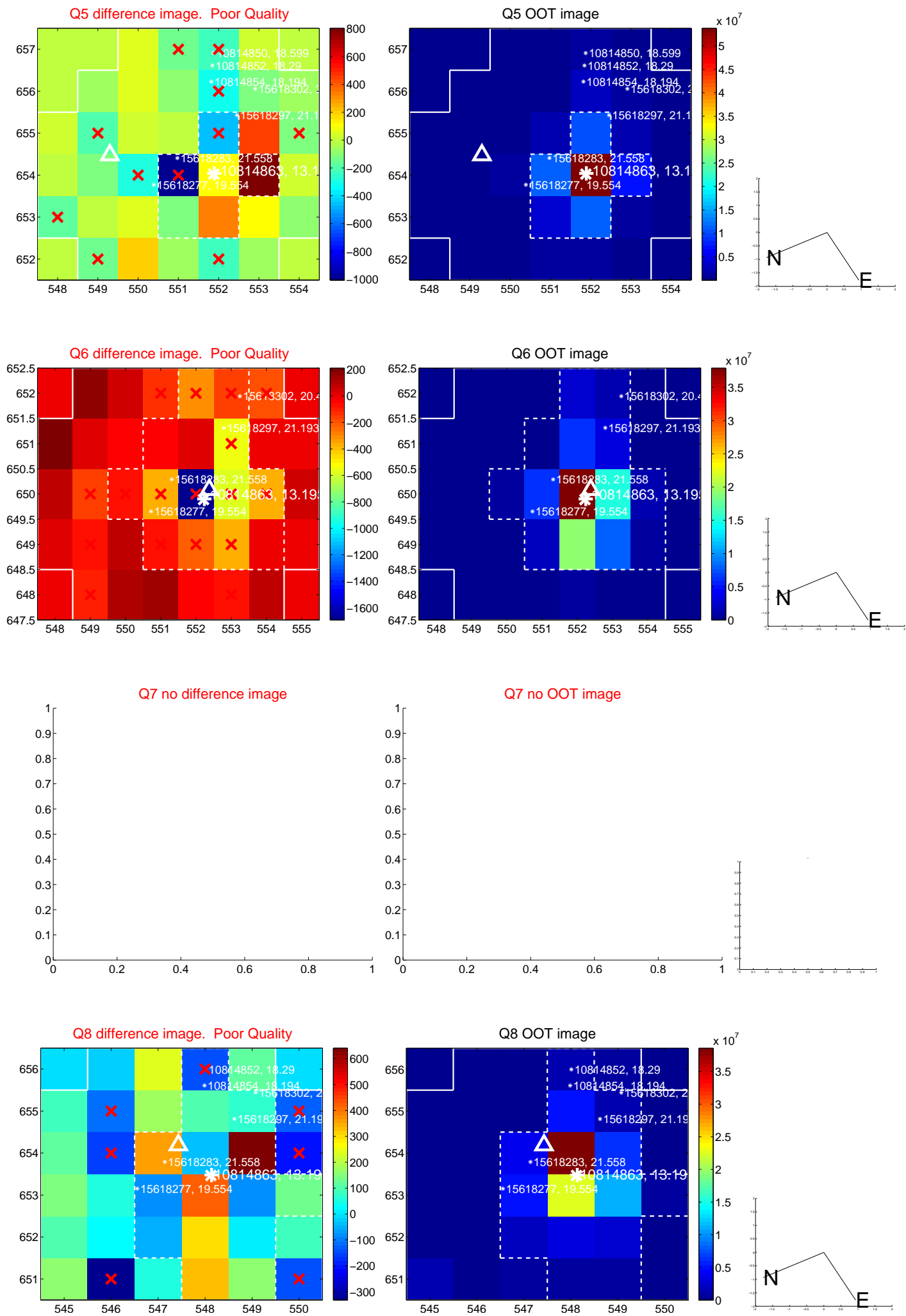


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

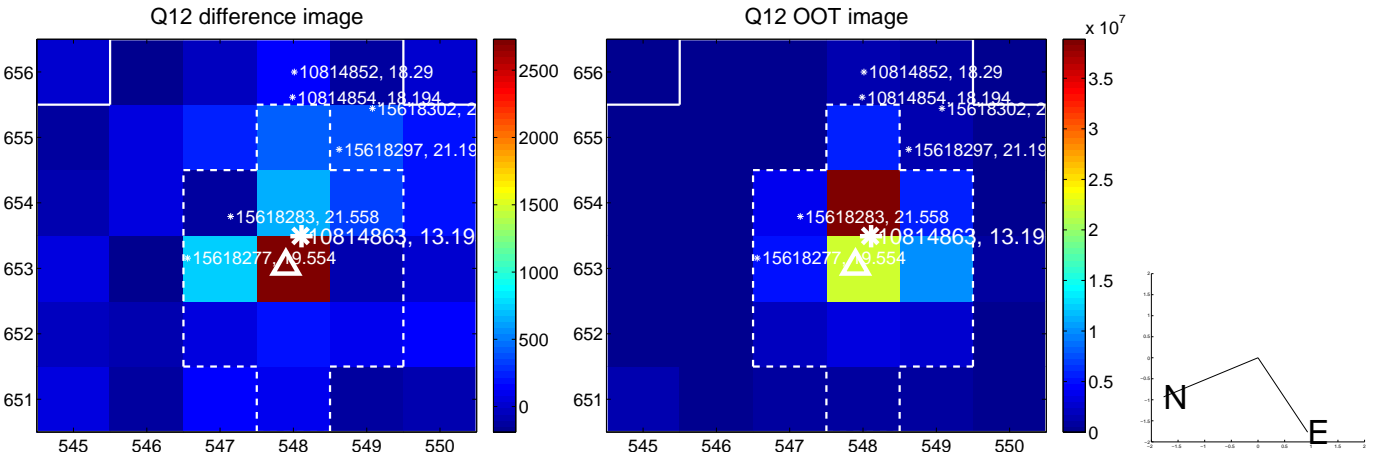
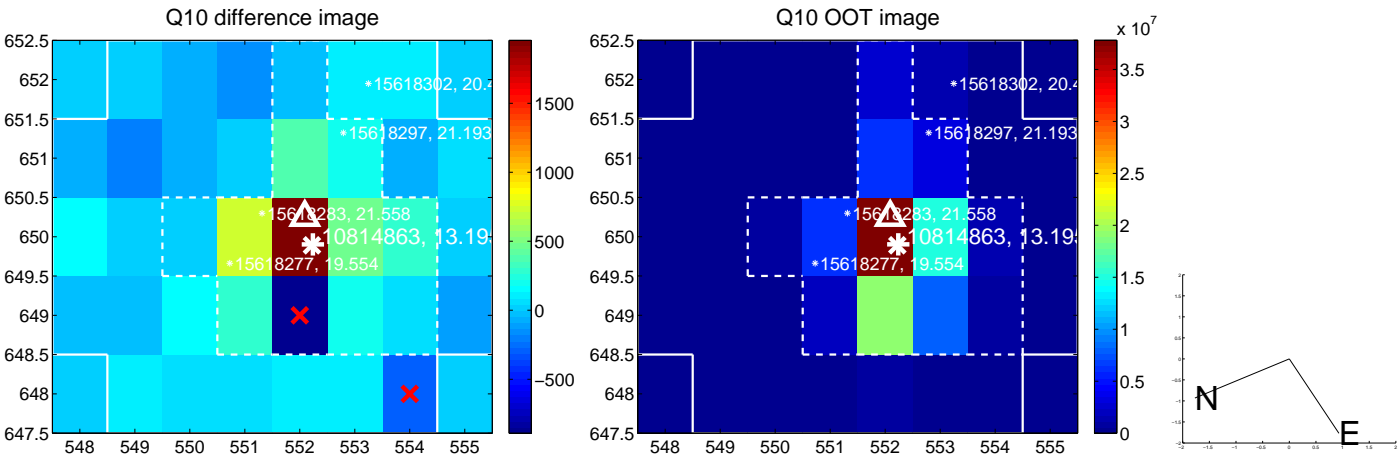
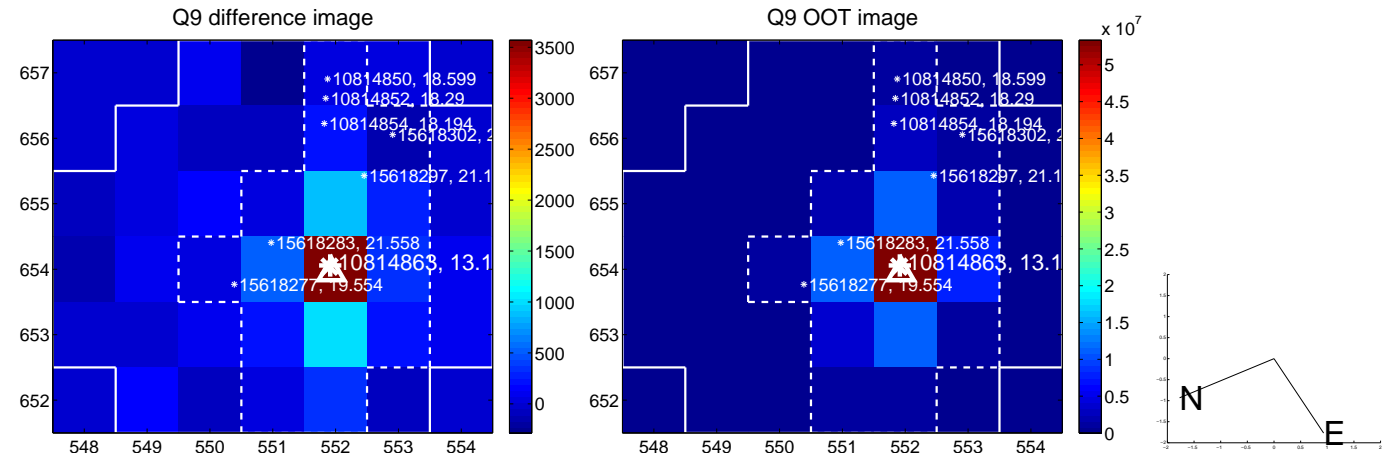
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



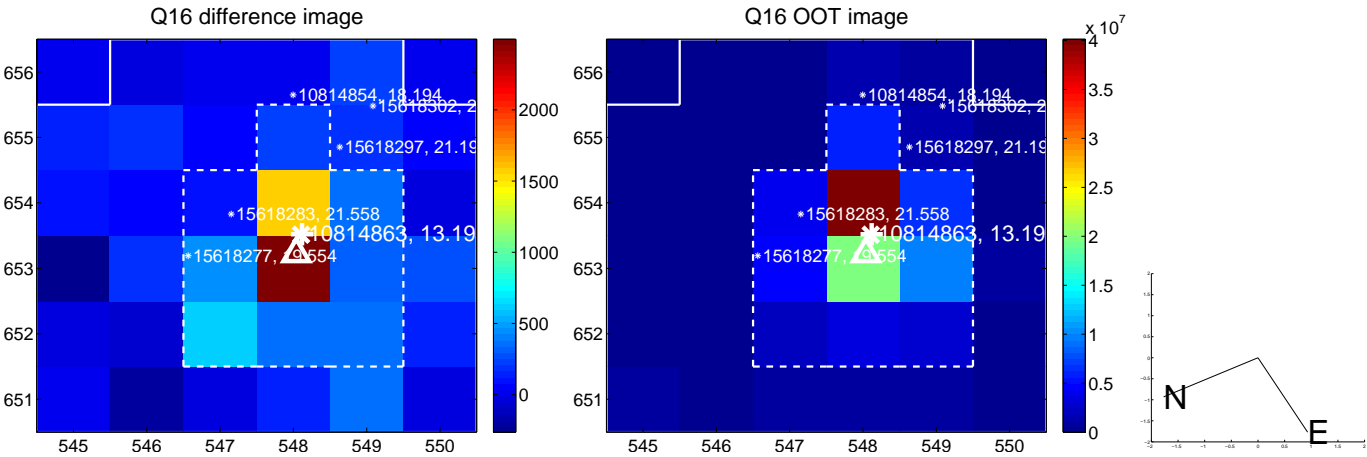
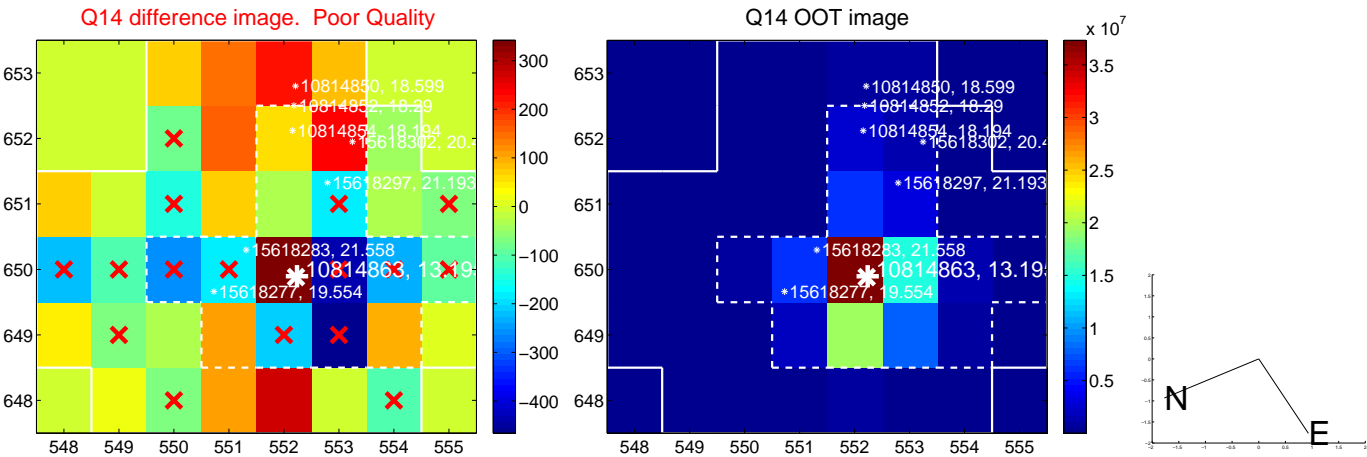
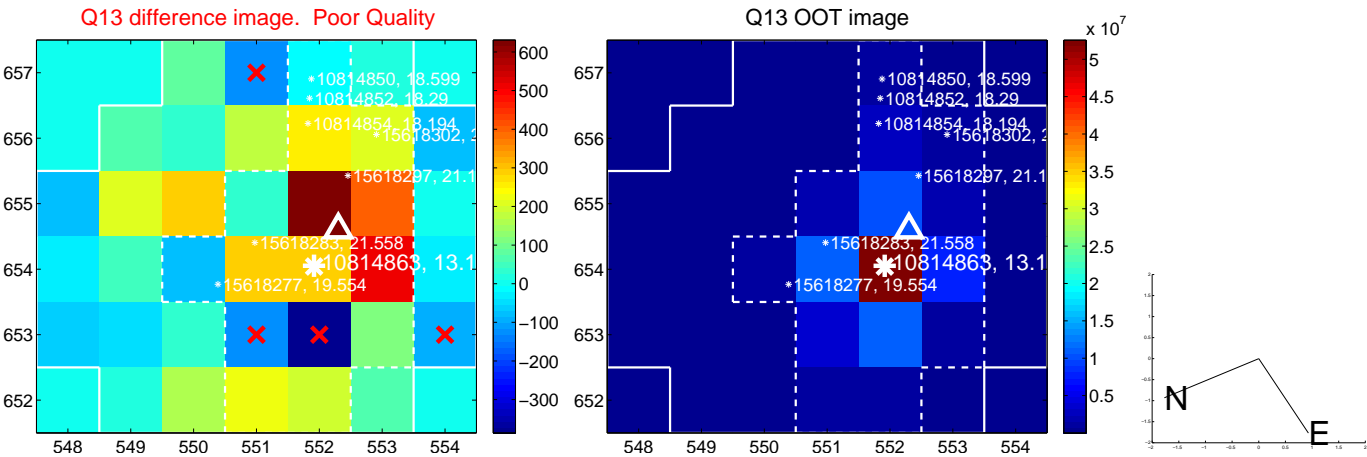
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



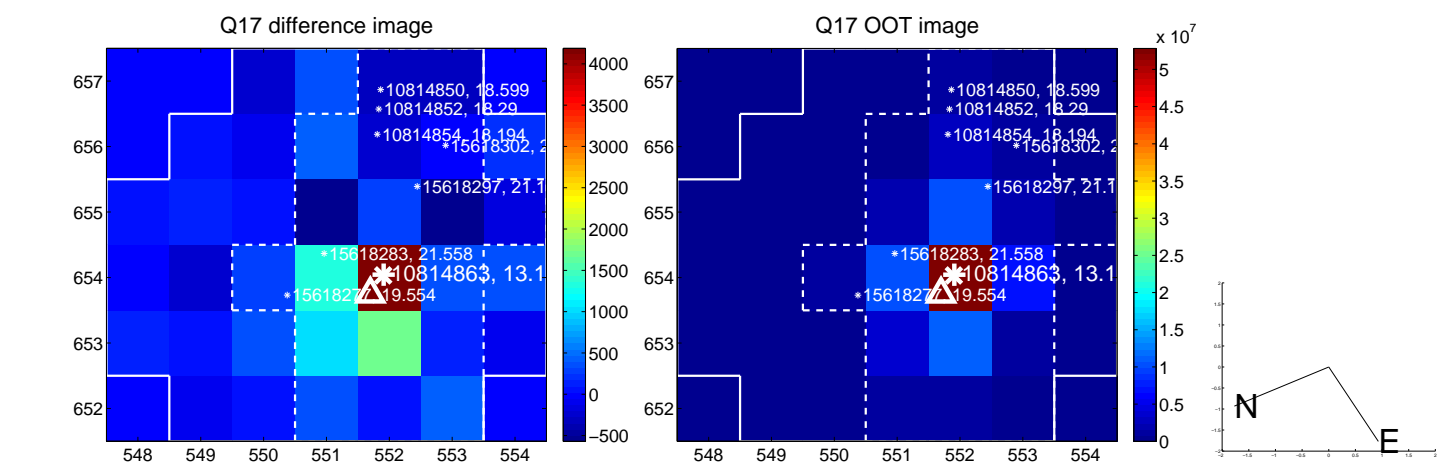
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



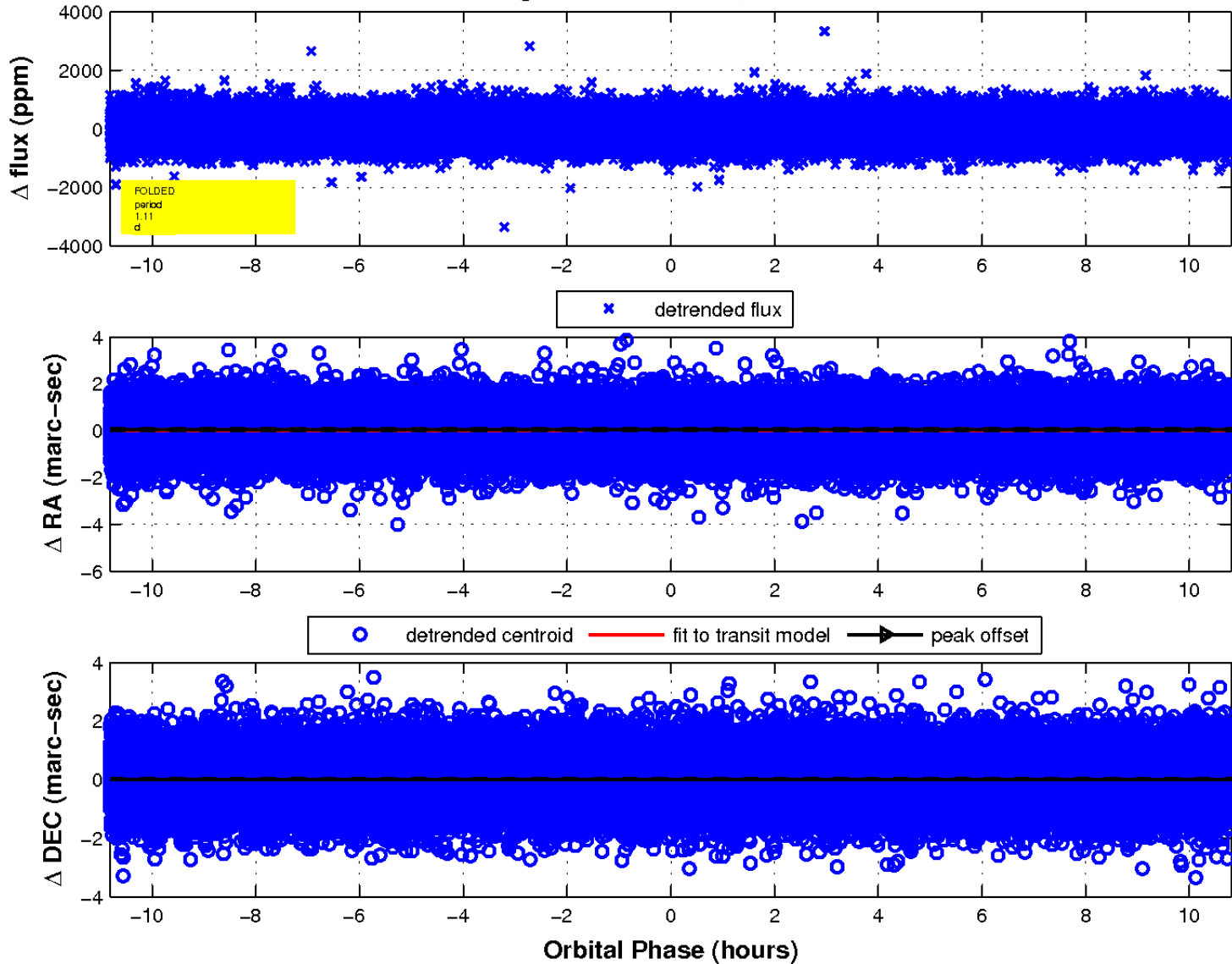
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

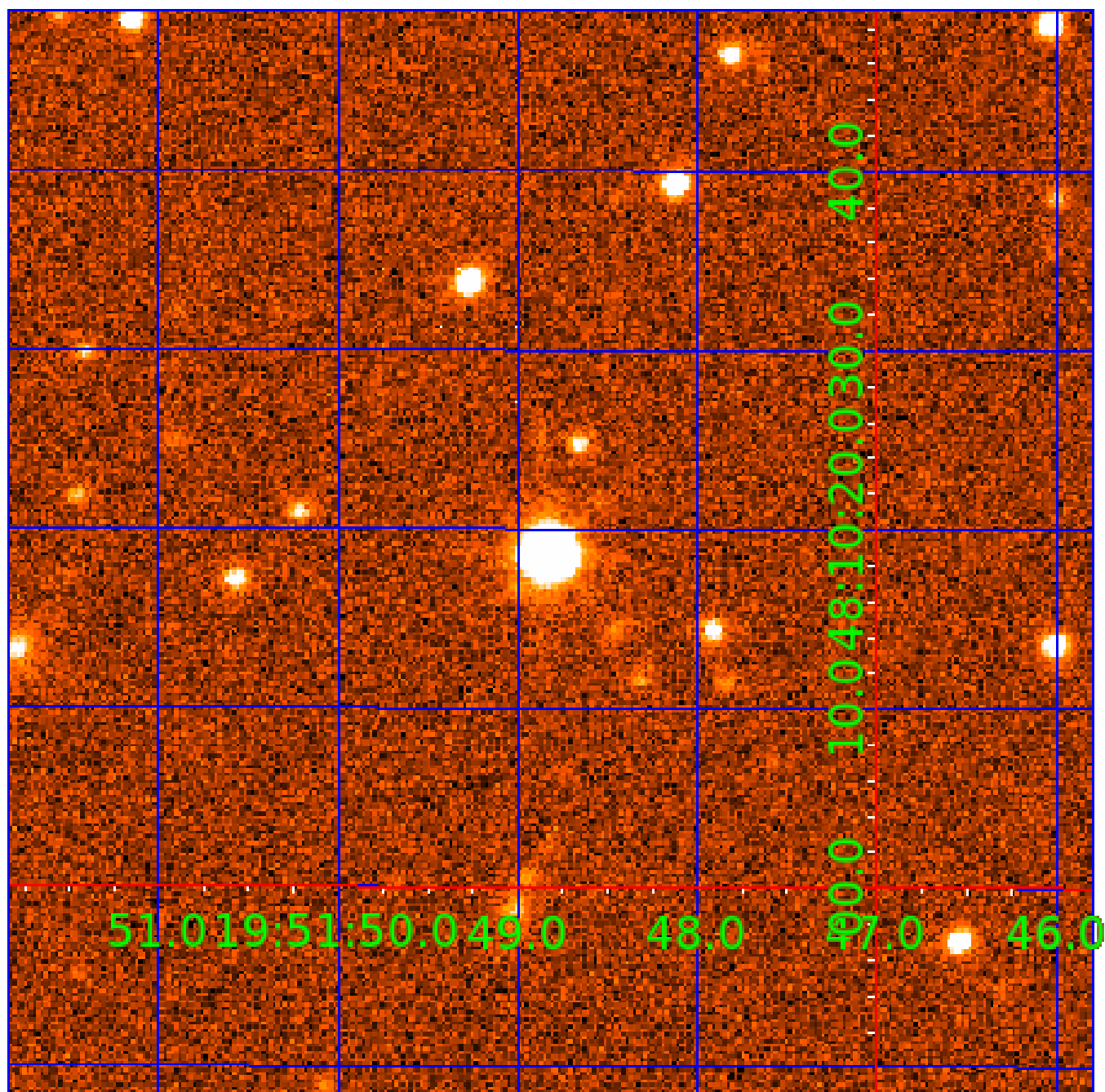


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 010814863

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})
010814863-01	OBS	No	0.555442	131.722878	45.4	2.013	8.8	9.0	3.12	8283	2.39	146501.19
010814863-02	OBS	No	1.110900	132.547141	36.5	3.605	8.0	6.4	3.12	8283	2.19	58137.93
010814863-03	OBS	No	70.194952	166.582238	570.9	3.312	7.5	7.7	3.12	8283	8.81	231.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010814863-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010814863-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
010814863-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

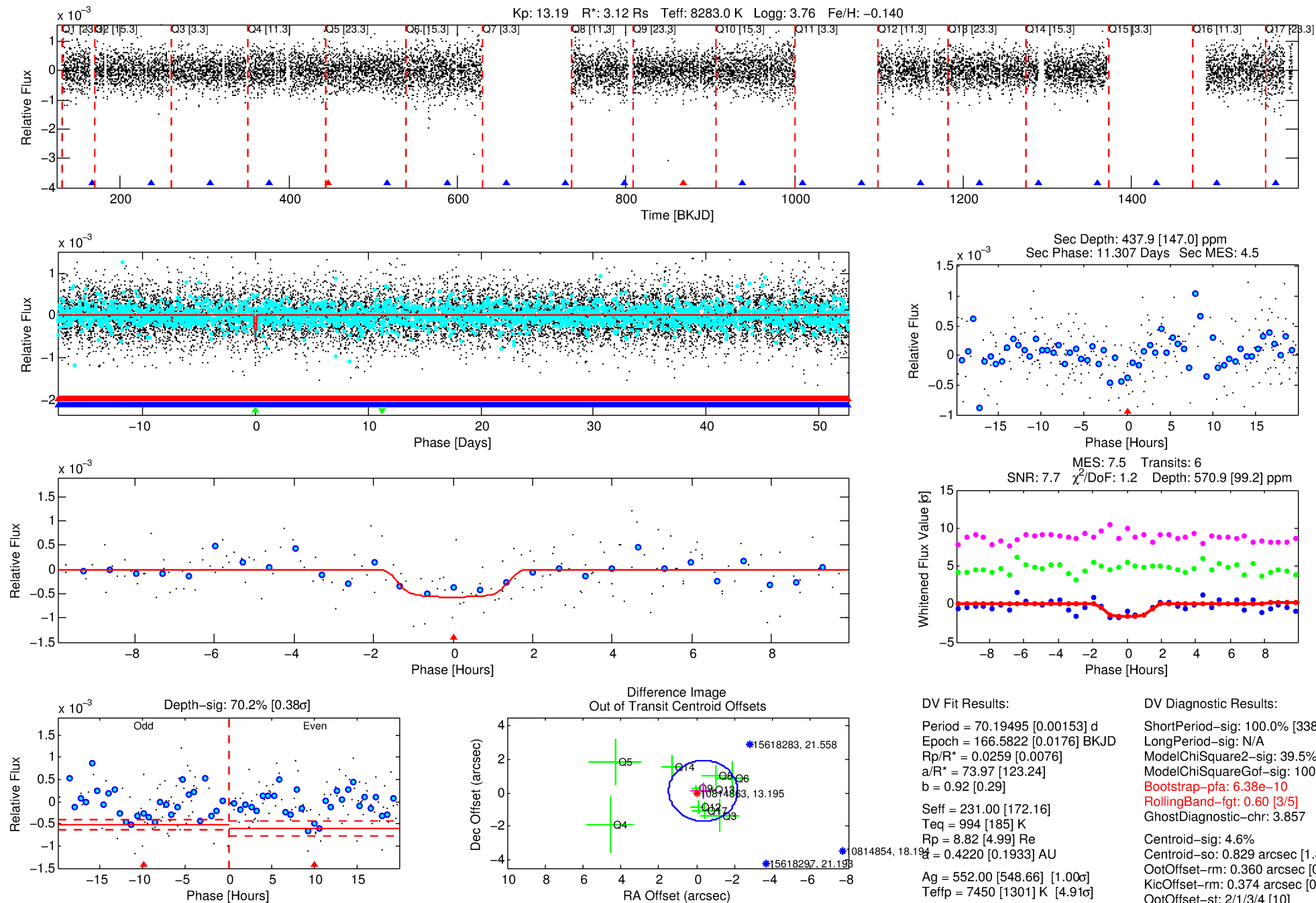
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010814863-03

No Significant Match Found

DV One-Page Summary

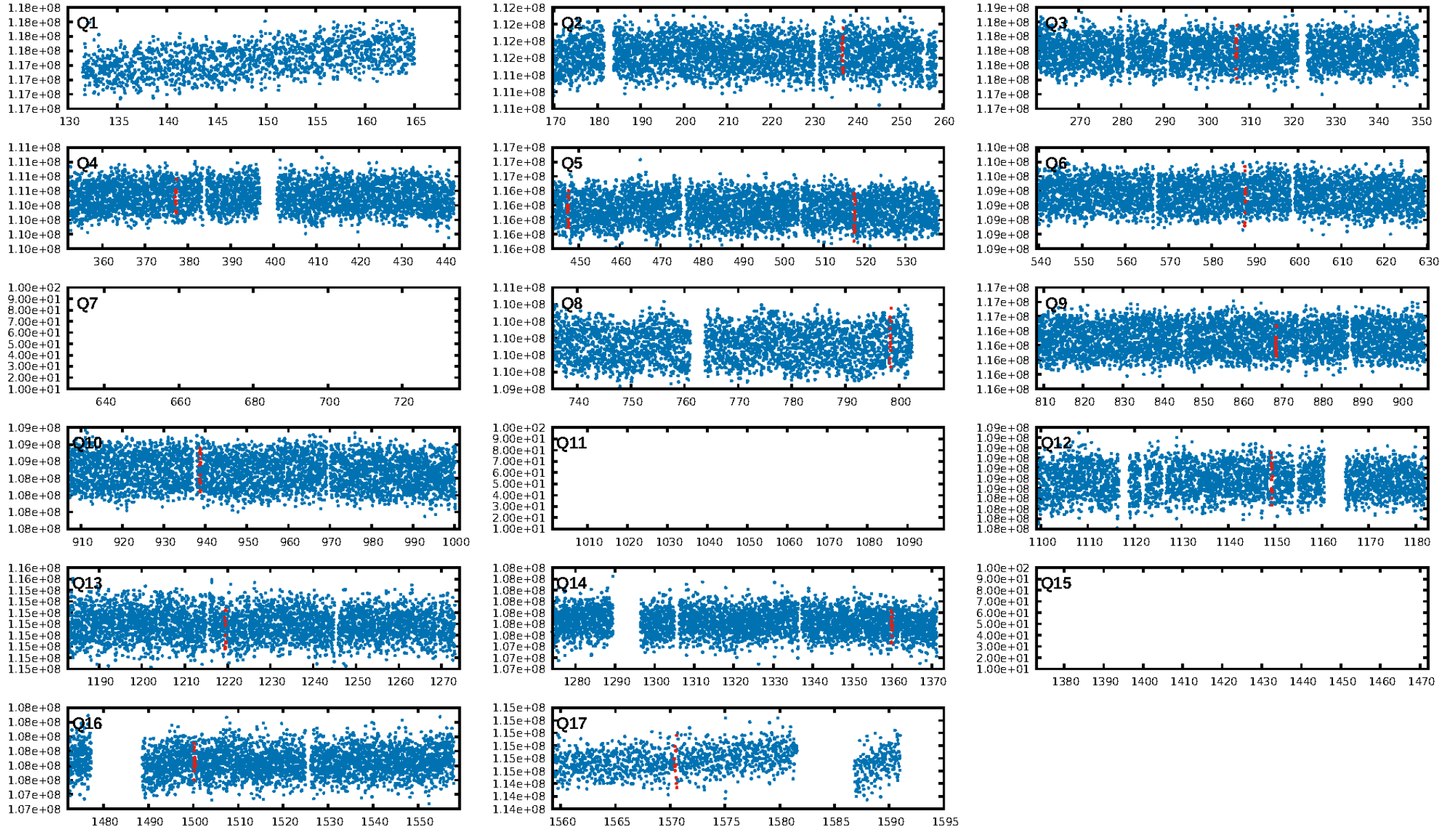
KIC: 10814863 Candidate: 3 of 3 Period: 70.195 d



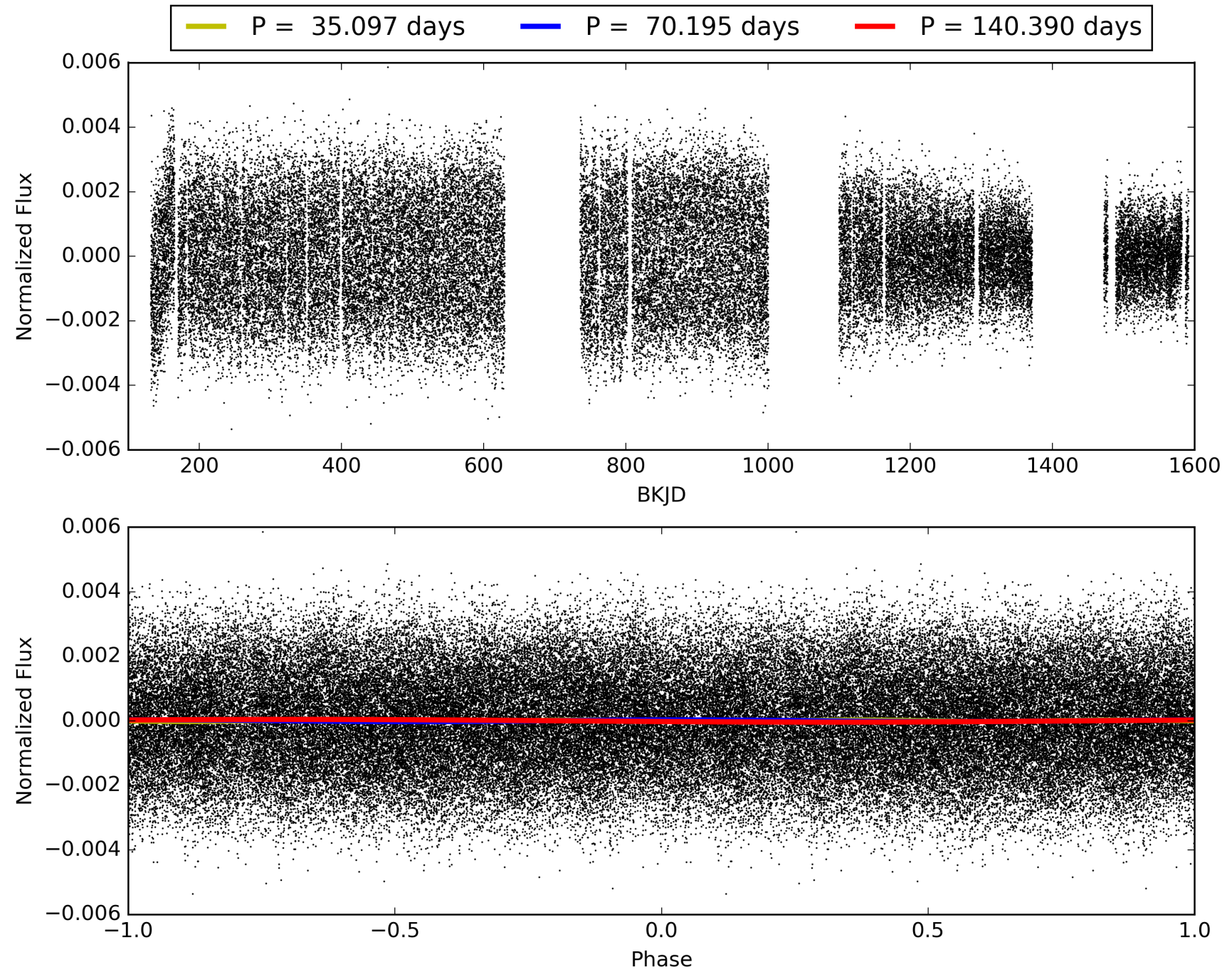
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:10:49 Z

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

TCE 010814863-03, PDC Light Curves

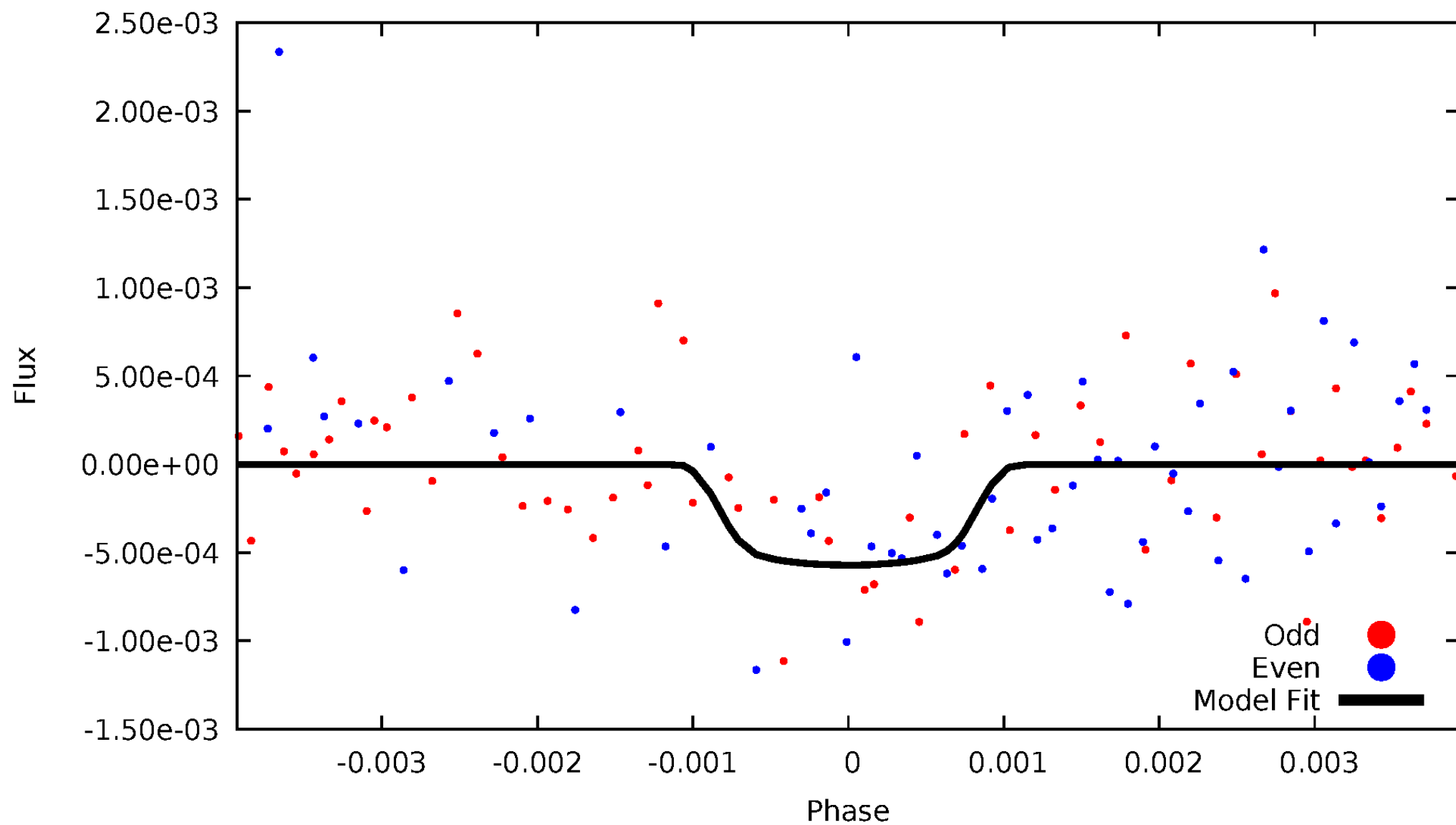


TCE 010814863-03



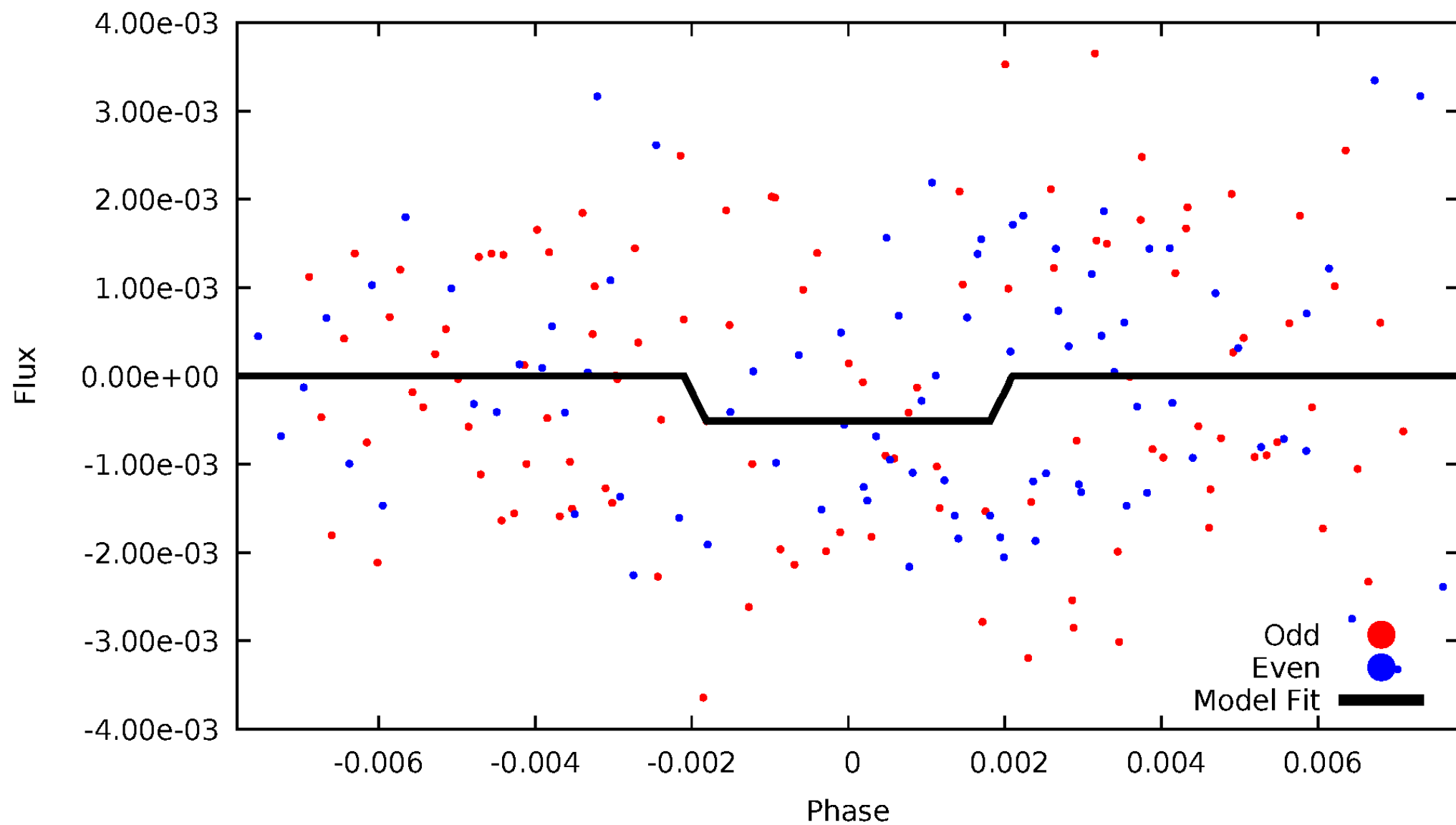
DV Odd/Even

TCE 010814863-03



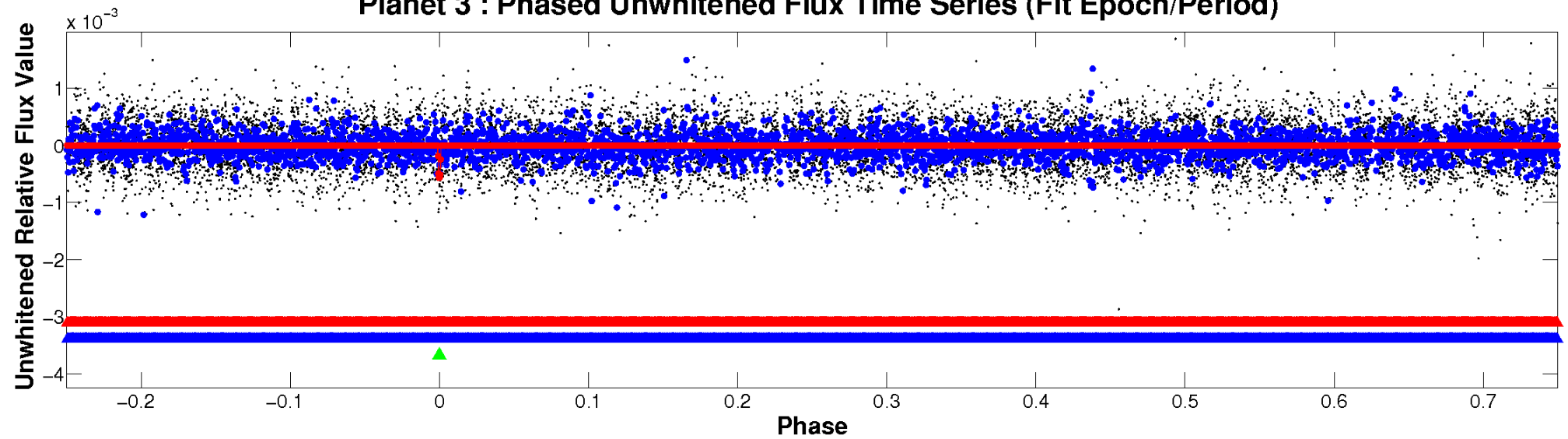
ALT Odd/Even

TCE 010814863-03

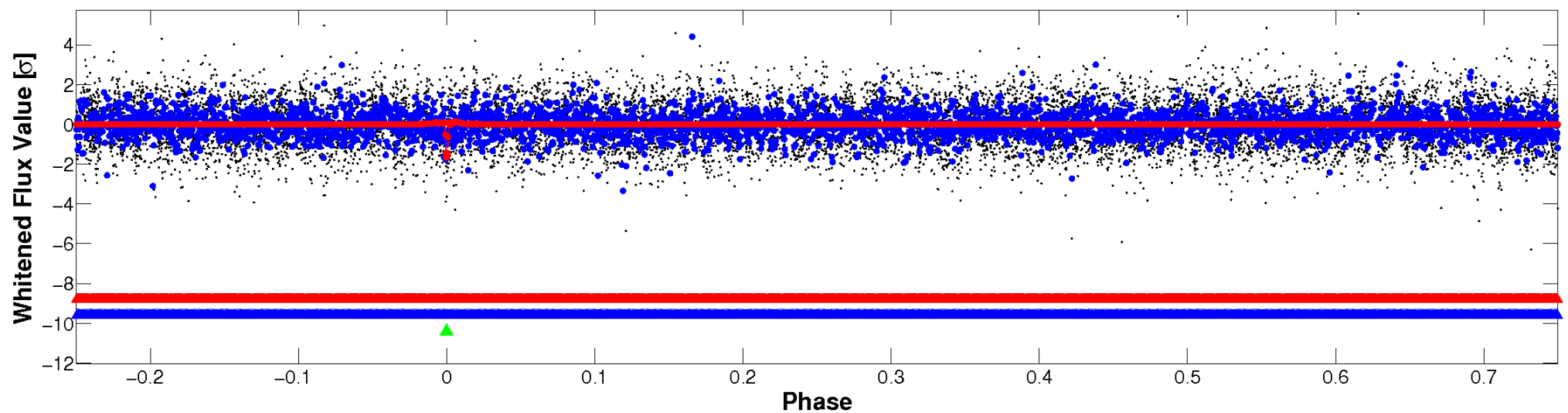


Non-Whitened Vs. Whitened Light Curve

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

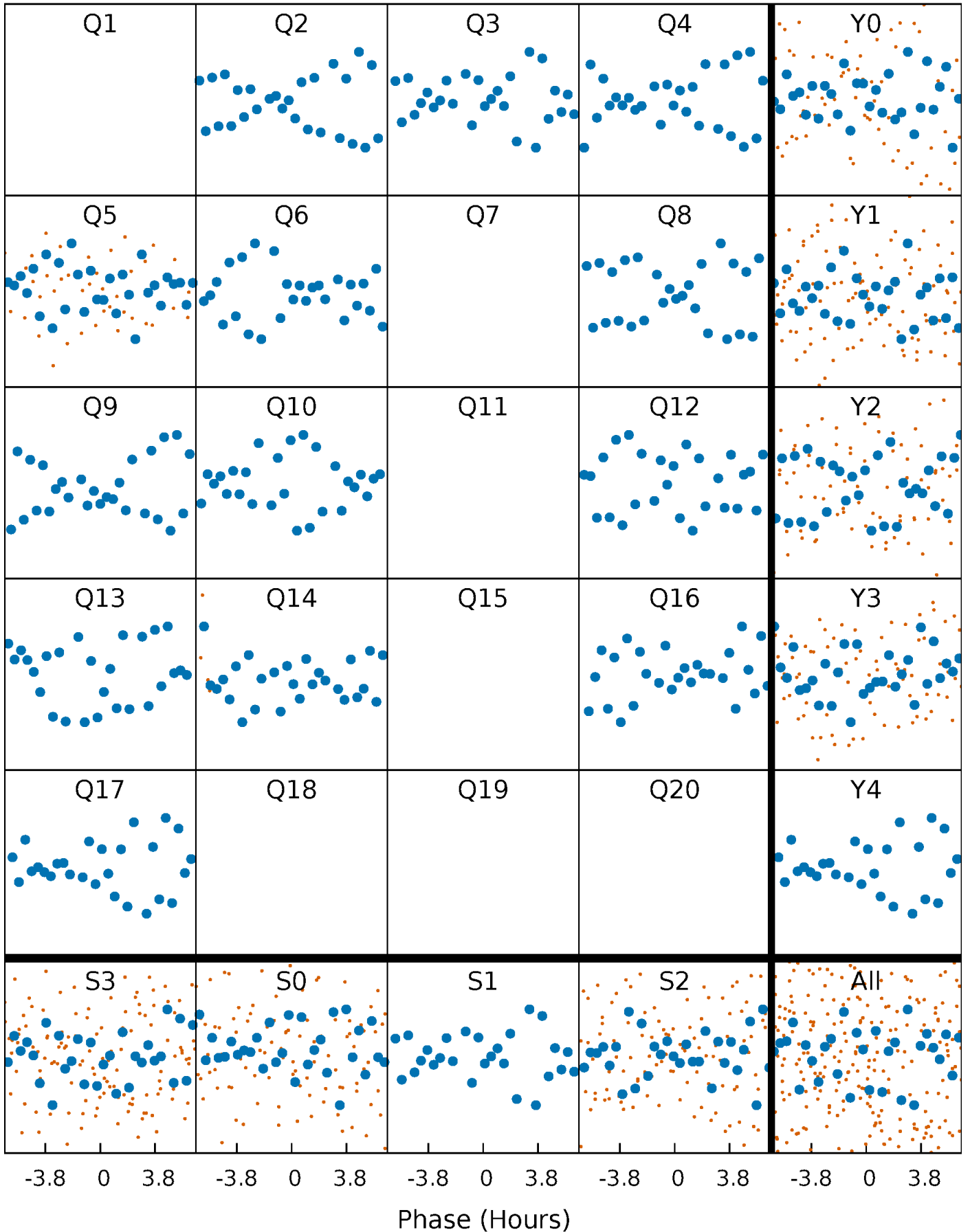


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



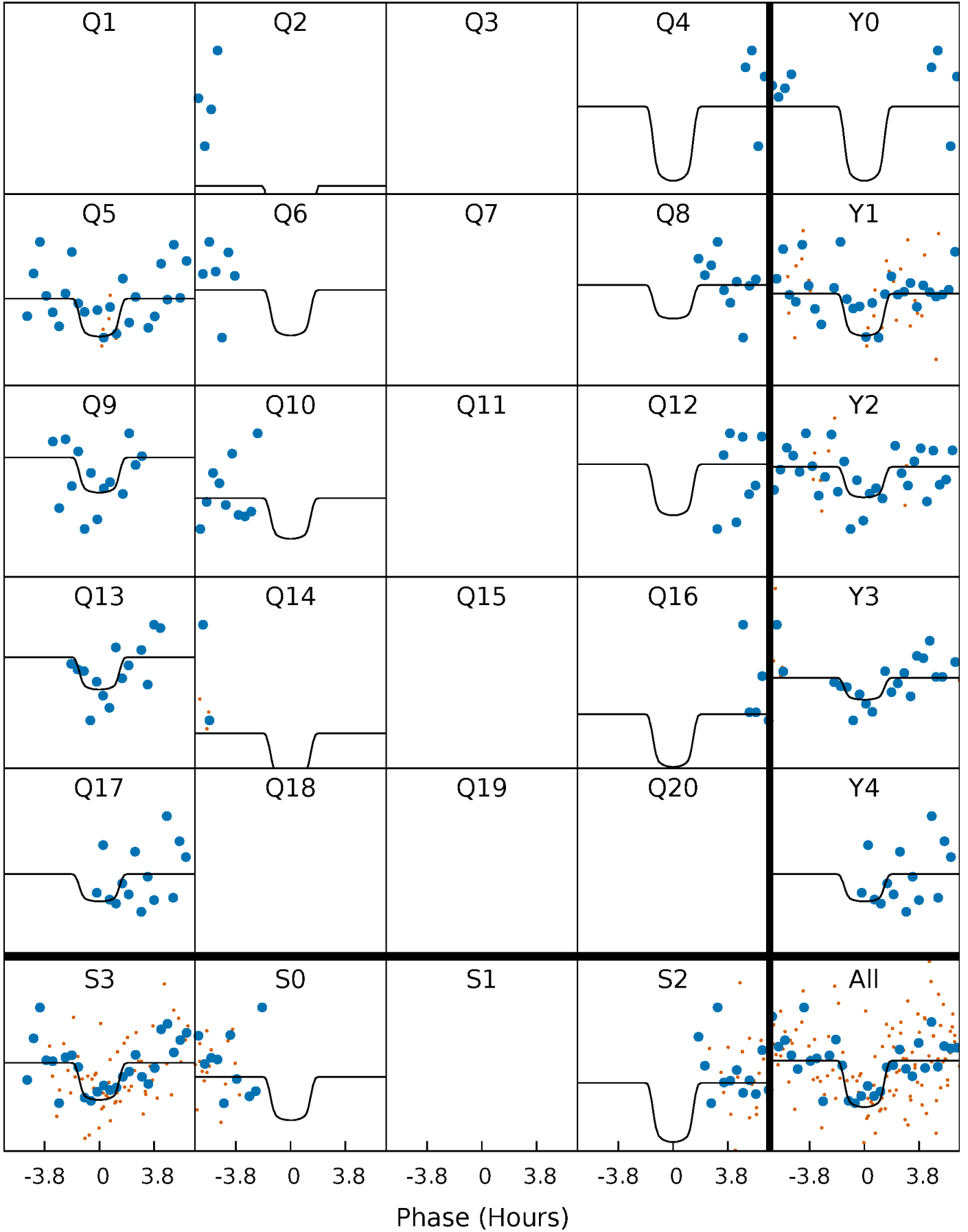
PDC Quarter-Phased Transit Curves

TCE 010814863-03 P= 70.194952 Days $T_0=166.582238$ (BKJD)



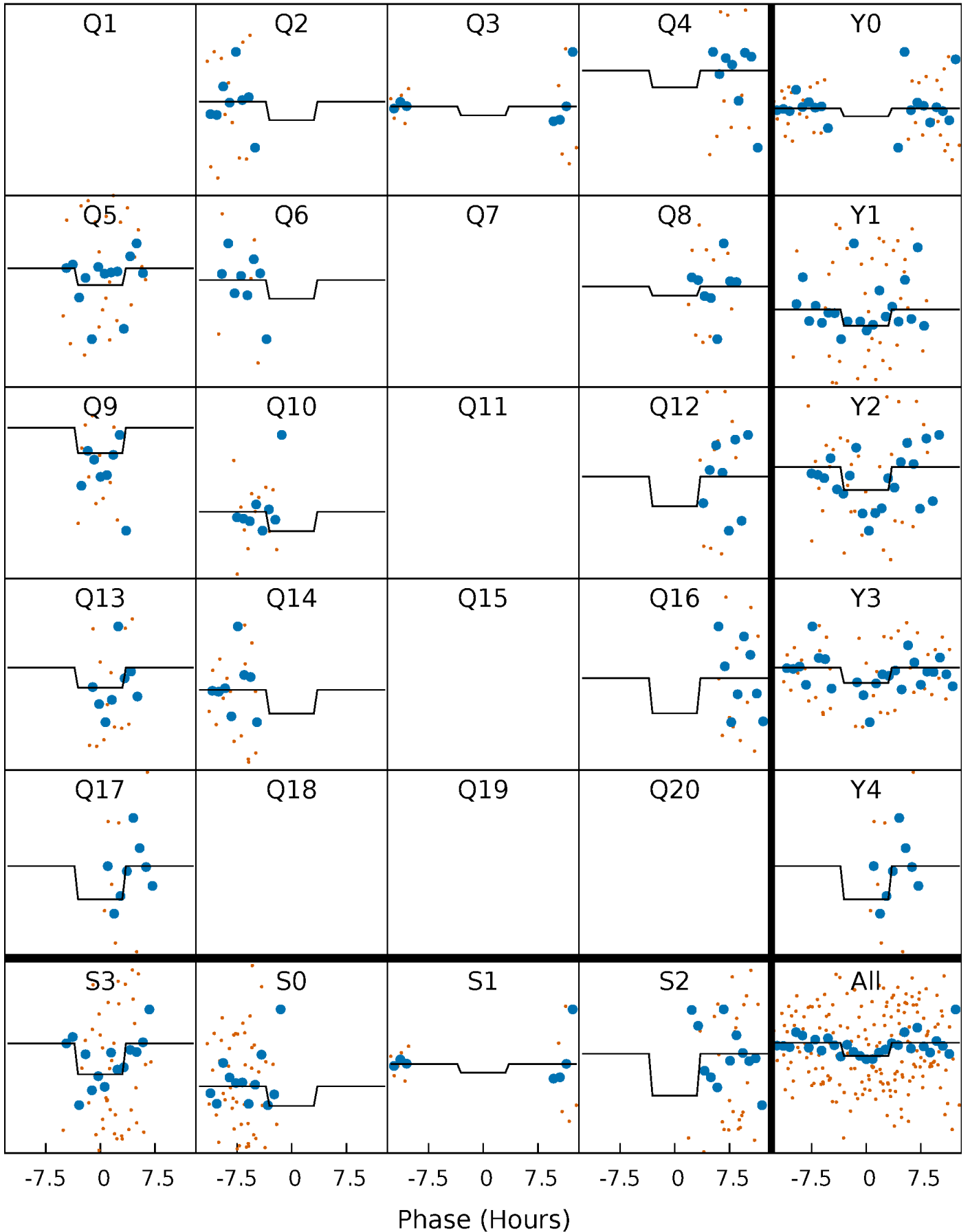
DV Quarter-Phased Transit Curves

TCE 010814863-03 P= 70.194952 Days $T_0=166.582238$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

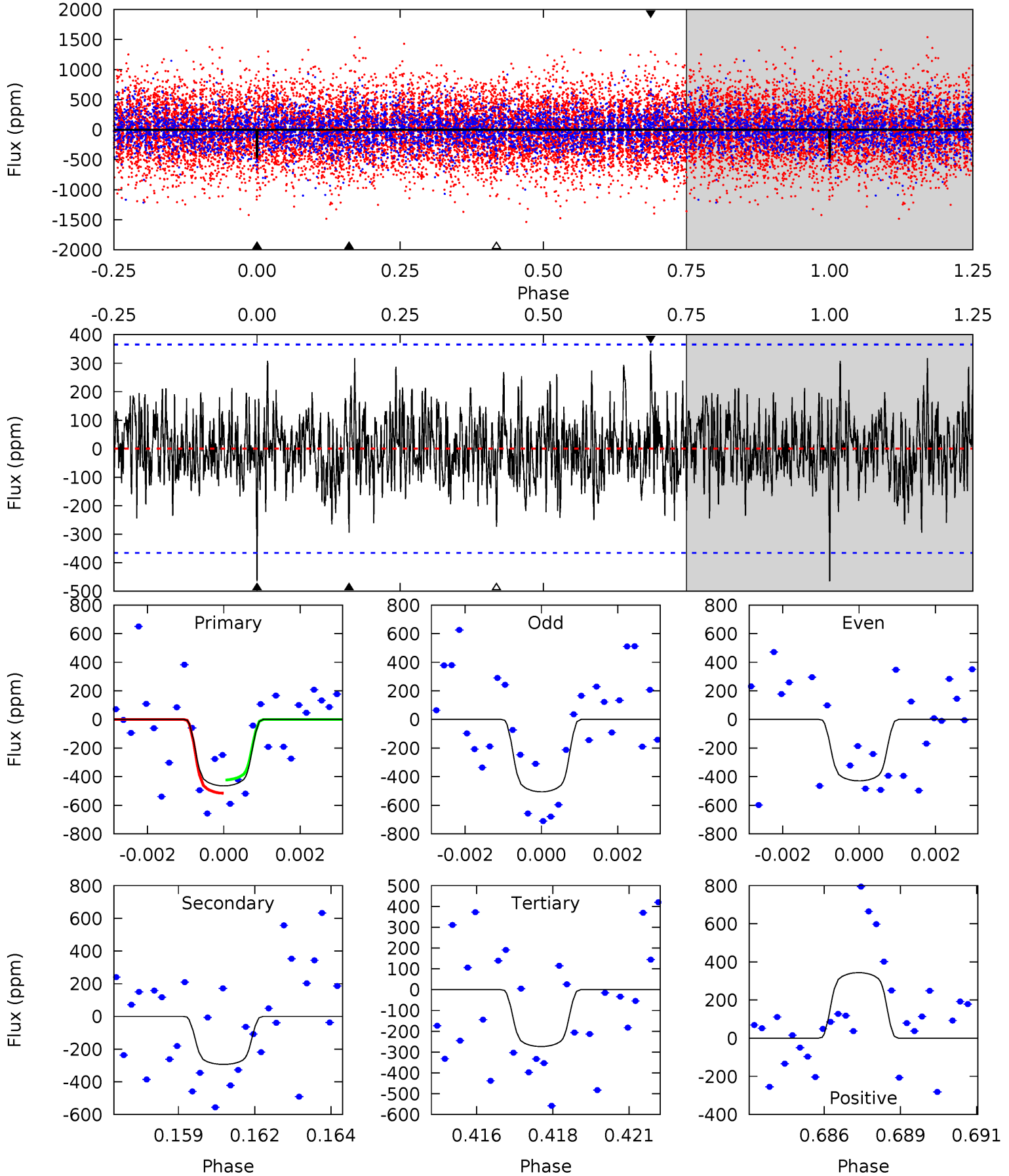
TCE 010814863-03 P= 70.192561 Days $T_0=166.588463$ (BKJD)



DV Model-Shift Uniqueness Test

010814863-03, P = 70.194952 Days, E = 96.387286 Days

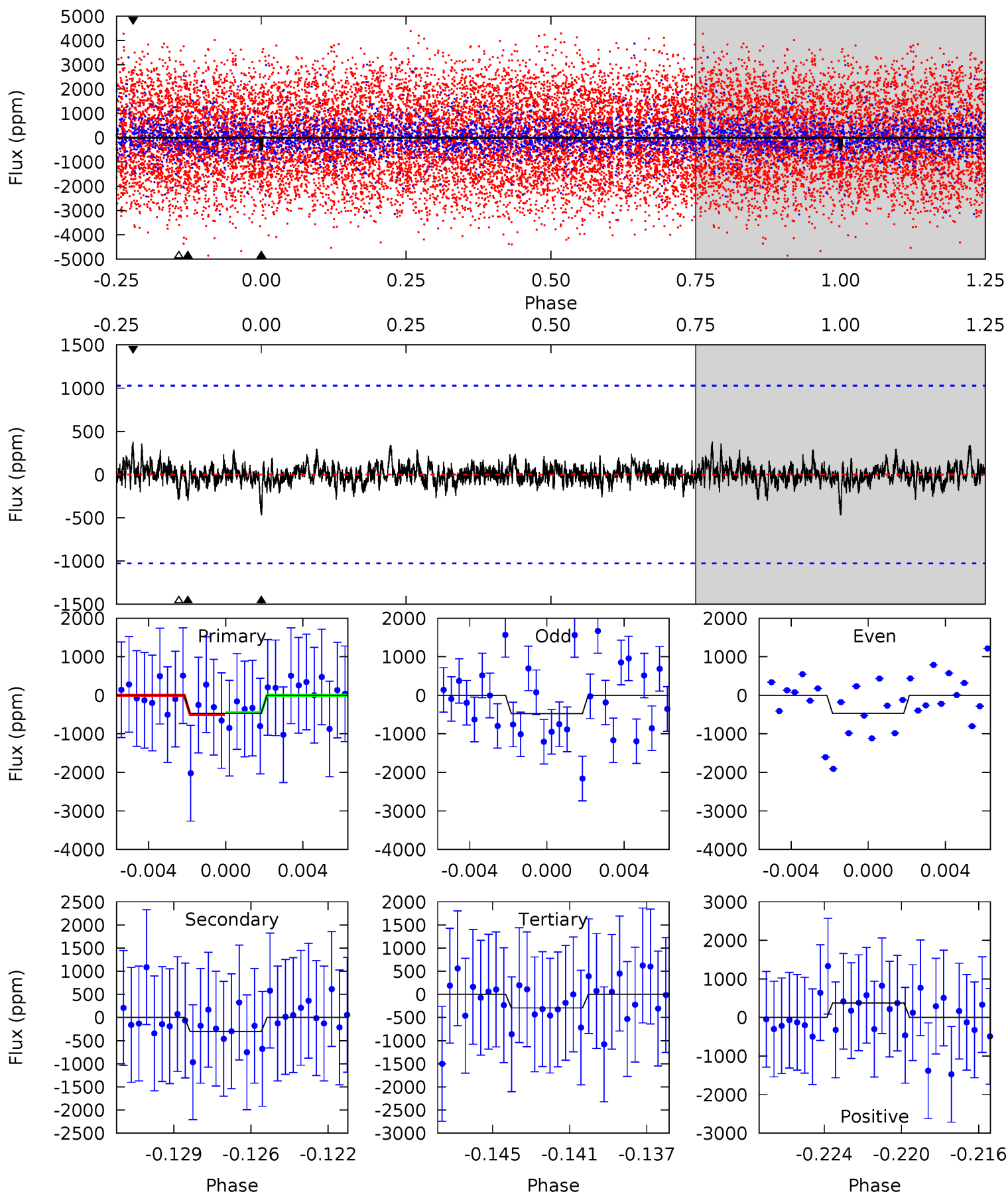
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.74	4.26	3.97	4.99	5.31	3.06	1.36	2.77	1.75	0.29	-0.73	0.56	1.14	0.43	0.66



Alt Model-Shift Uniqueness Test

010814863-03, P = 70.192561 Days, E = 96.395902 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.38	1.54	1.48	1.91	5.20	2.88	0.44	0.90	0.47	0.06	-0.37	0.02	0.87	0.45	0.12



Stellar Parameters For KIC 010814863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8283^{+201}_{-345}	$3.757^{+0.424}_{-0.106}$	$-0.140^{+0.250}_{-0.400}$	$3.123^{+0.755}_{-1.511}$	$2.032^{+0.328}_{-0.532}$	$0.094^{+0.354}_{-0.033}$
	+2%/-4%	+11%/-3%	+179%/-286%	+24%/-48%	+16%/-26%	+377%/-35%
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 010814863-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-294 ± 69	$7.96^{+3.08}_{-2.71}$	1336^{+106}_{-152}	6400^{+1548}_{-859}	429^{+547}_{-206}
Alt.	-305 ± 197	$6.99^{+2.95}_{-2.72}$	1337^{+110}_{-153}	7026^{+2378}_{-1791}	564^{+1115}_{-406}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

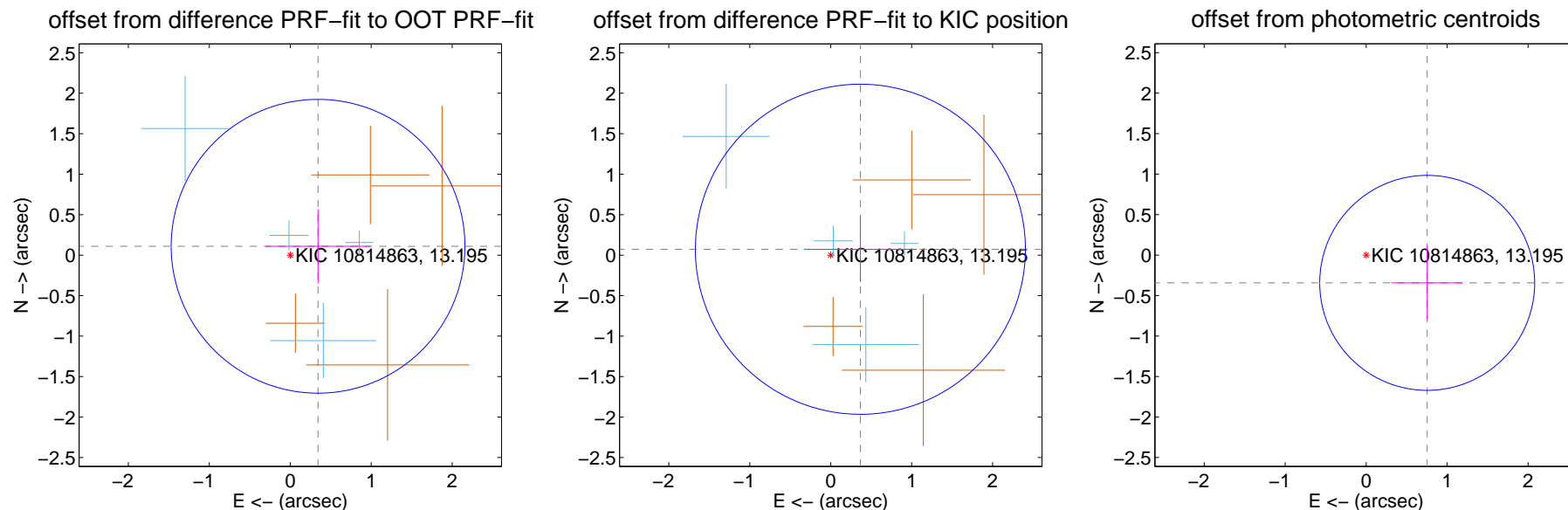
DV Centroid Data

Supplemental centroid analysis for 010814863-03. Kepler magnitude: 13.20. Transit SNR 7.66

There are 4 quarters with good PRF difference image offsets

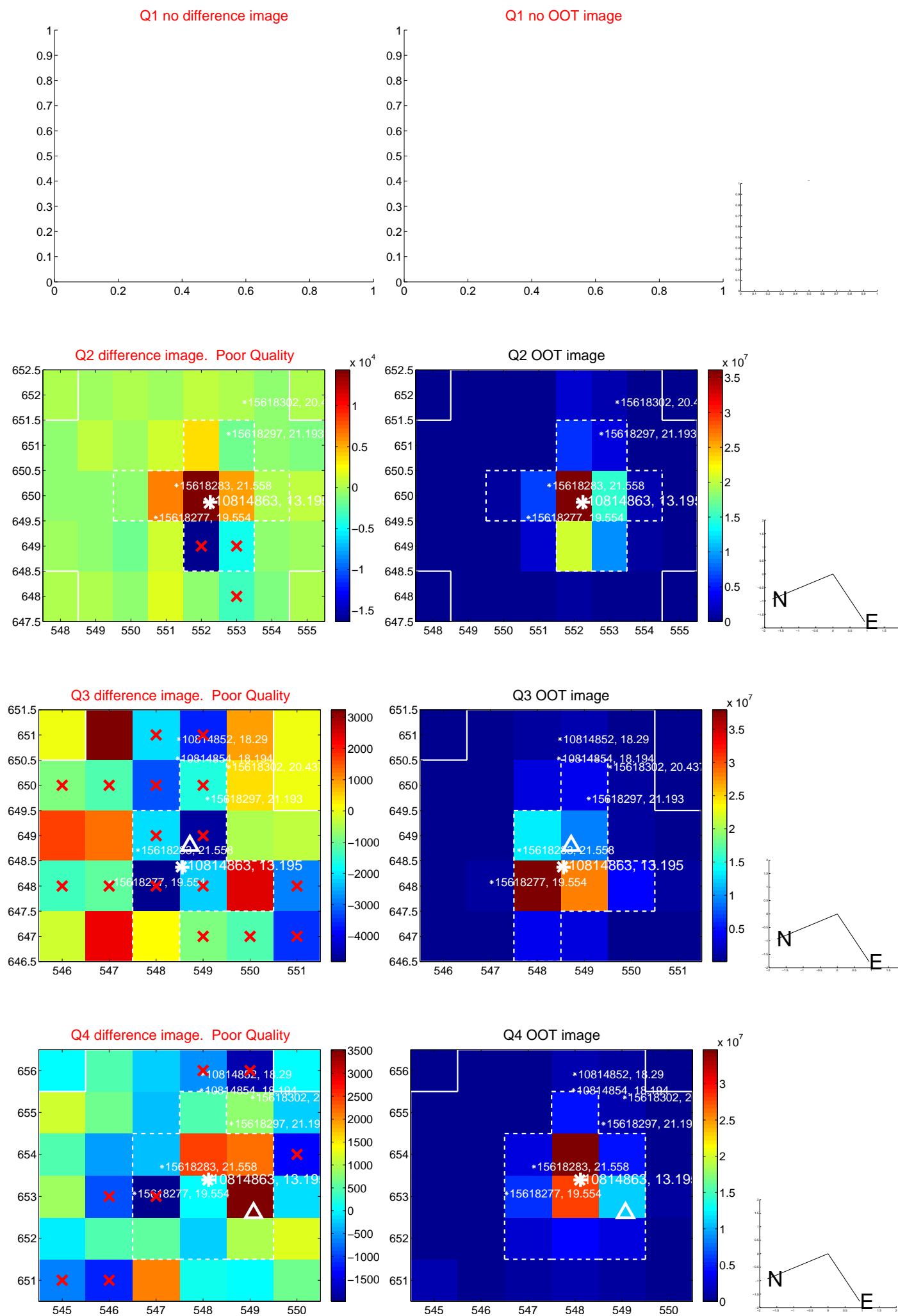
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.360 ± 0.605	0.60	-0.343 ± 0.648	0.110 ± 0.459
PRF-fit source offset from KIC position	0.374 ± 0.680	0.55	-0.367 ± 0.697	0.073 ± 0.406
photometric centroid source offset	0.83 ± 0.44	1.87	-0.75 ± 0.44	-0.34 ± 0.46

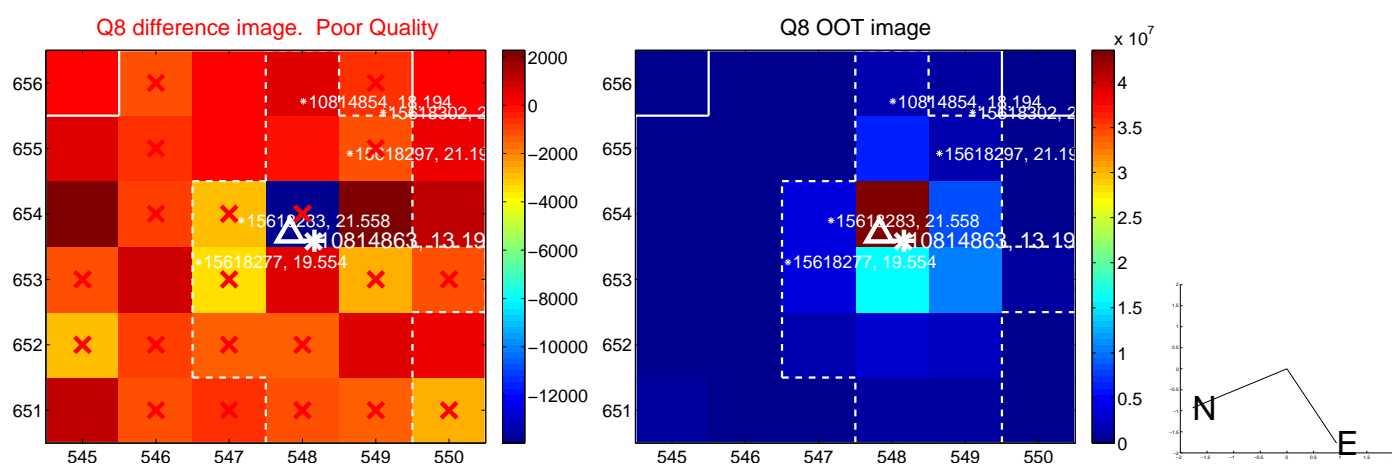
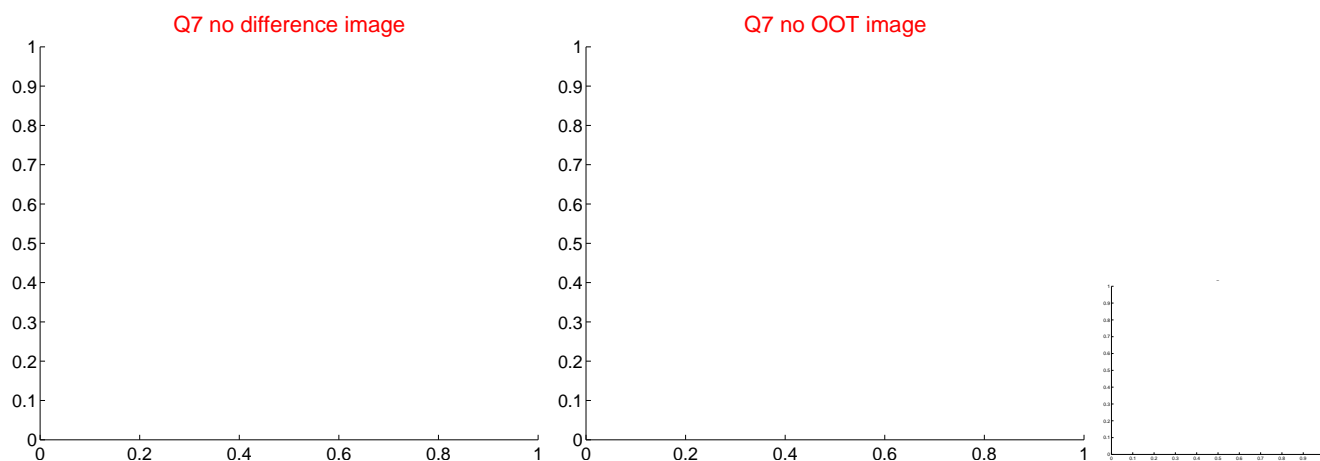
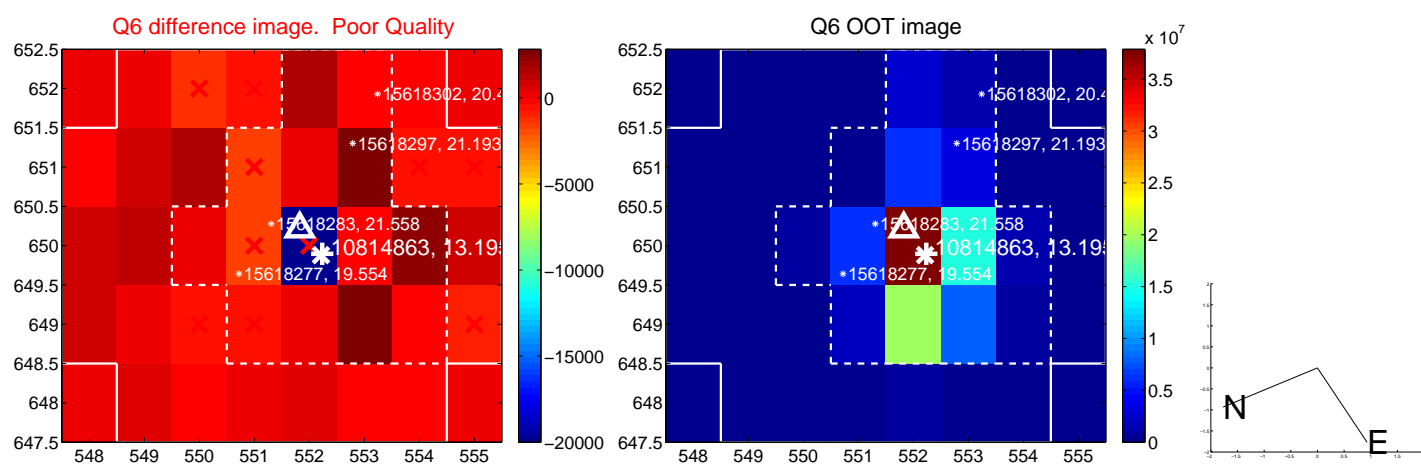
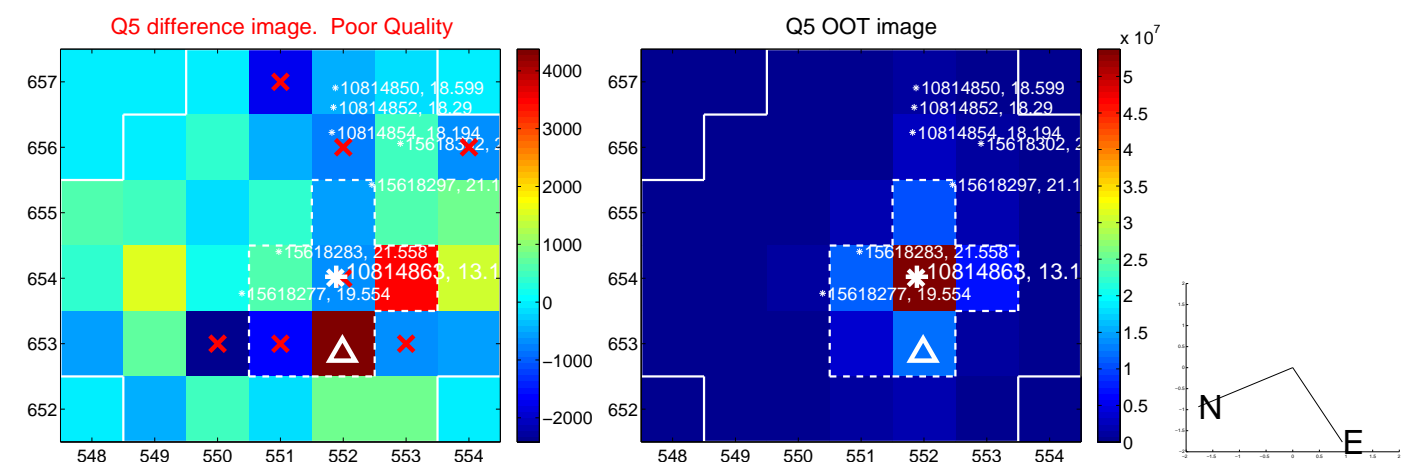


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

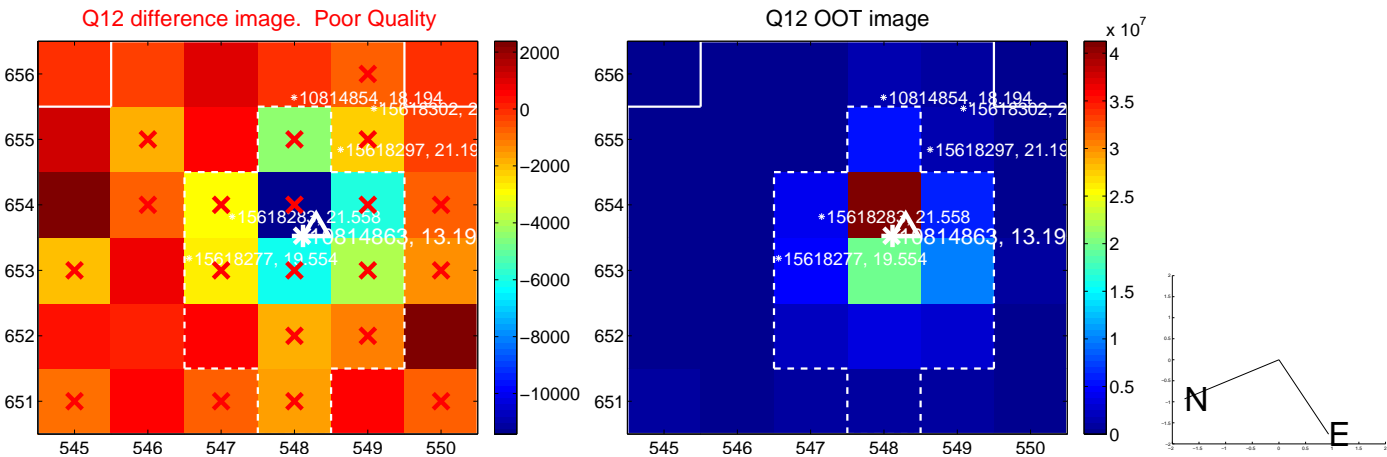
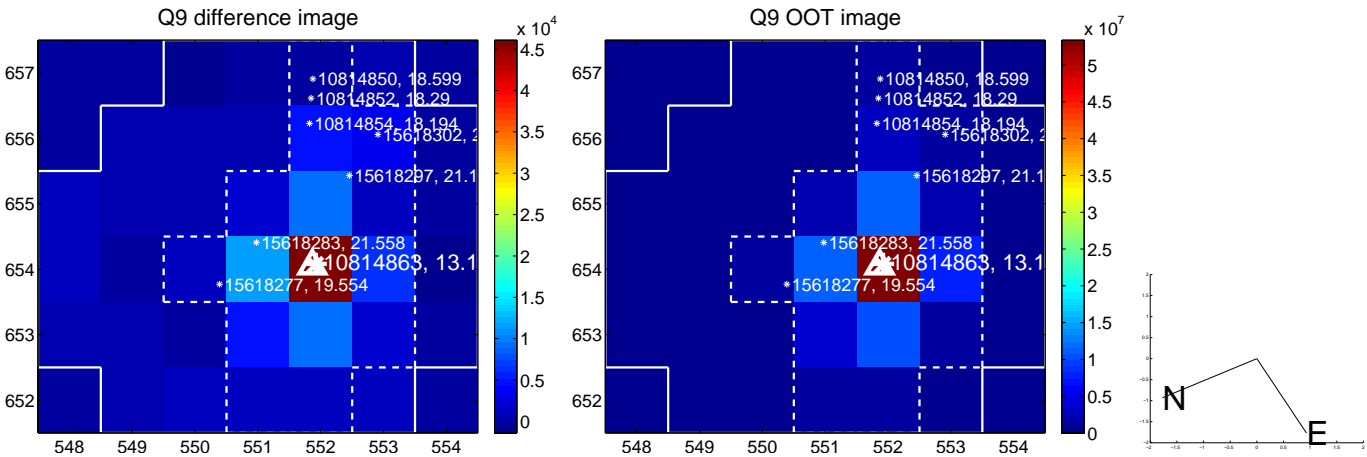
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



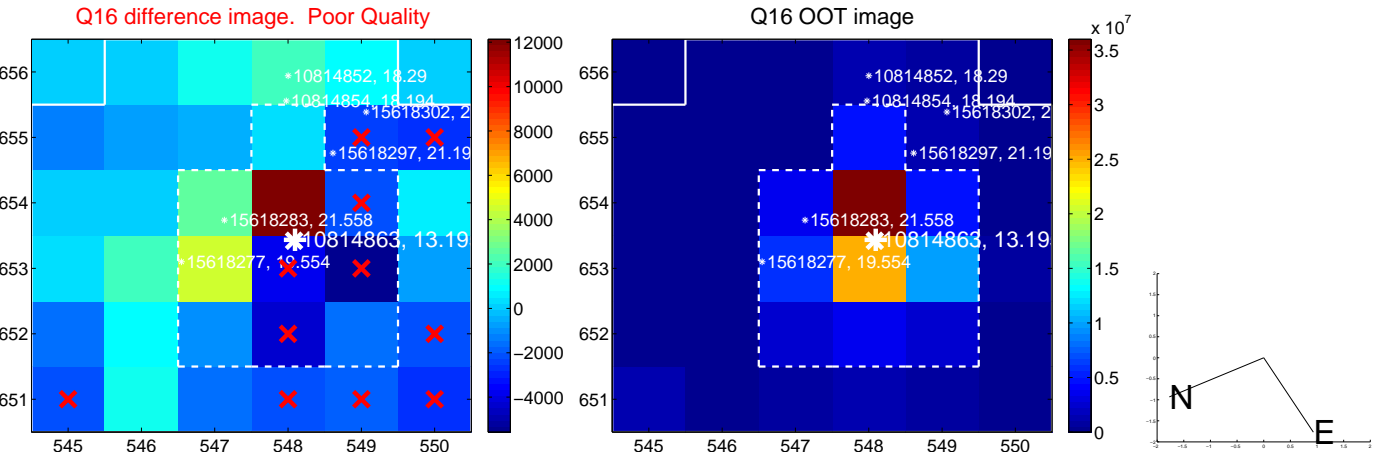
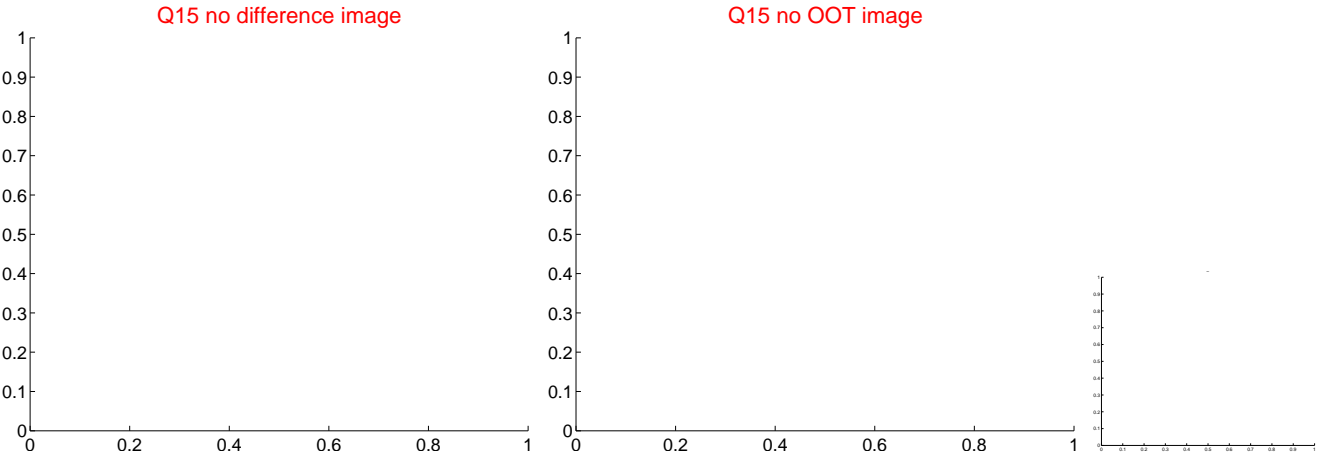
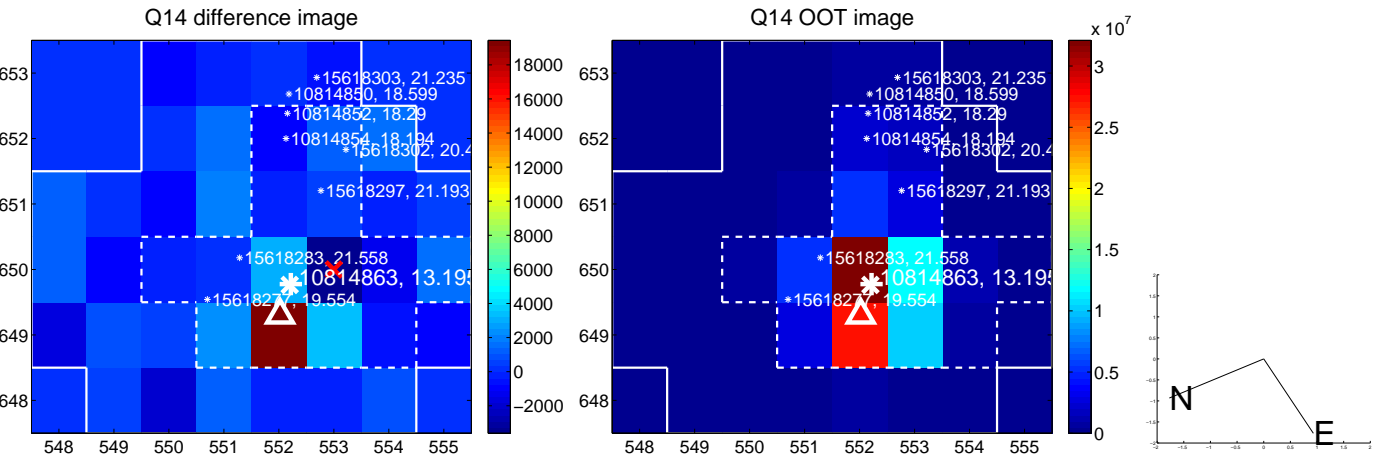
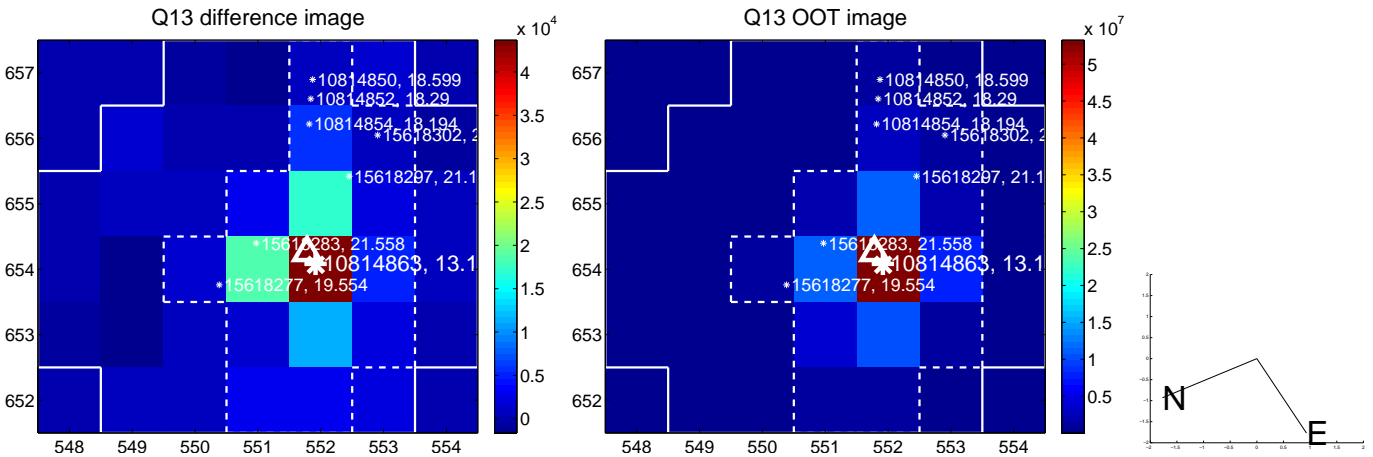
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



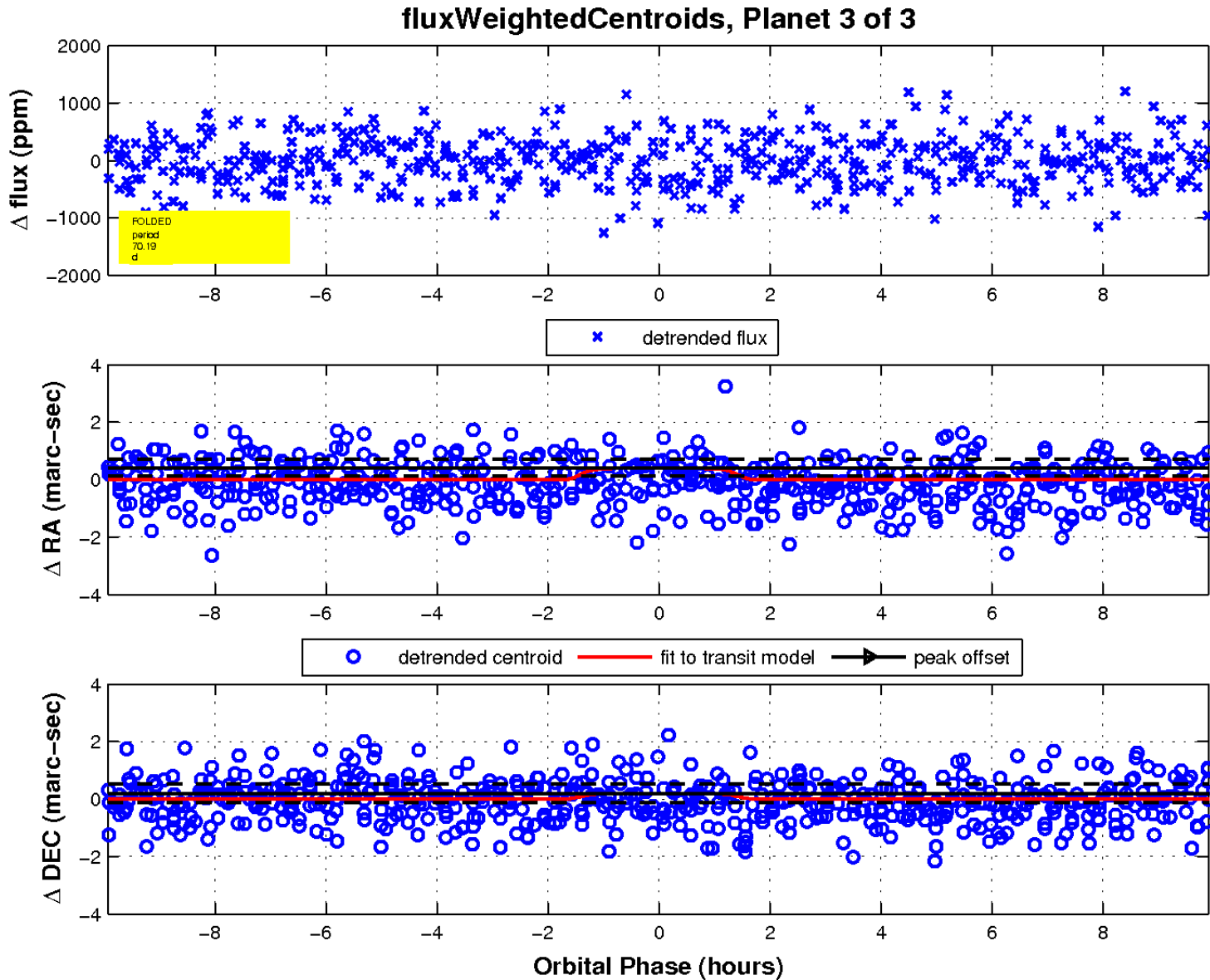
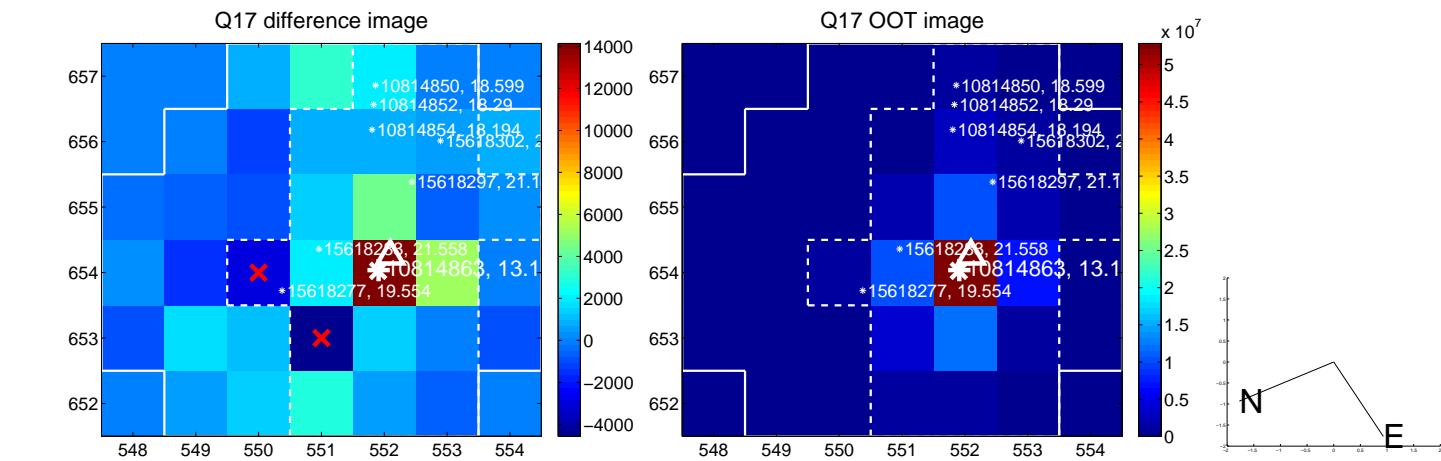
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

