

KIC 003347643

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})
003347643-01	OBS	No	0.652807	131.875151	44.5	1.265	10.2	13.1	1.69	6287	1.33	16270.20
003347643-02	OBS	No	0.987062	132.063357	26.9	10.074	8.5	12.8	1.69	6287	0.88	9375.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003347643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003347643-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

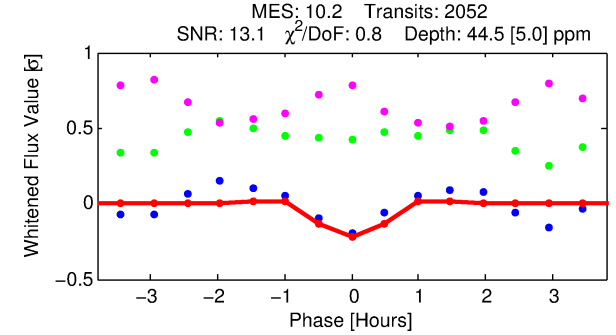
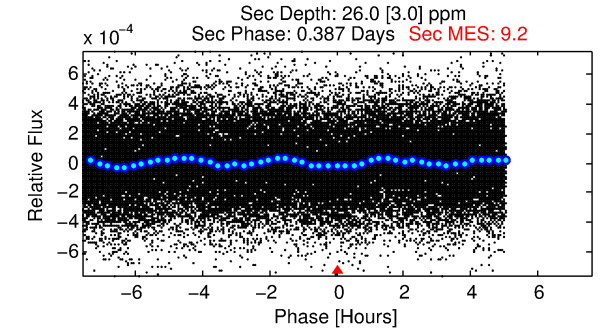
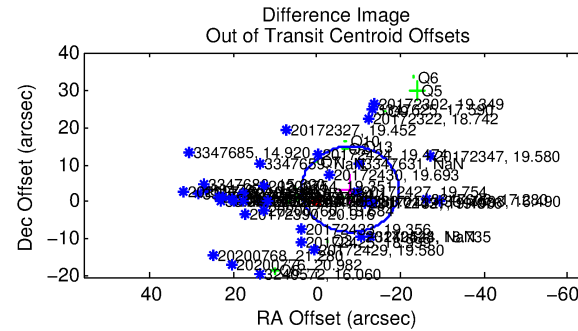
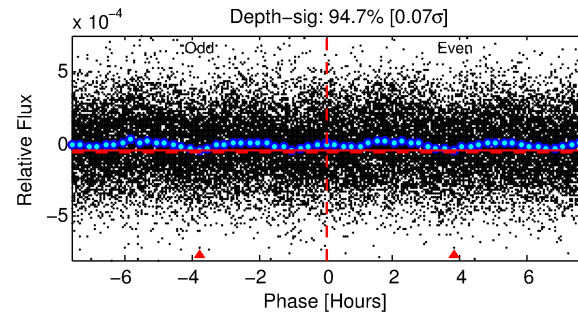
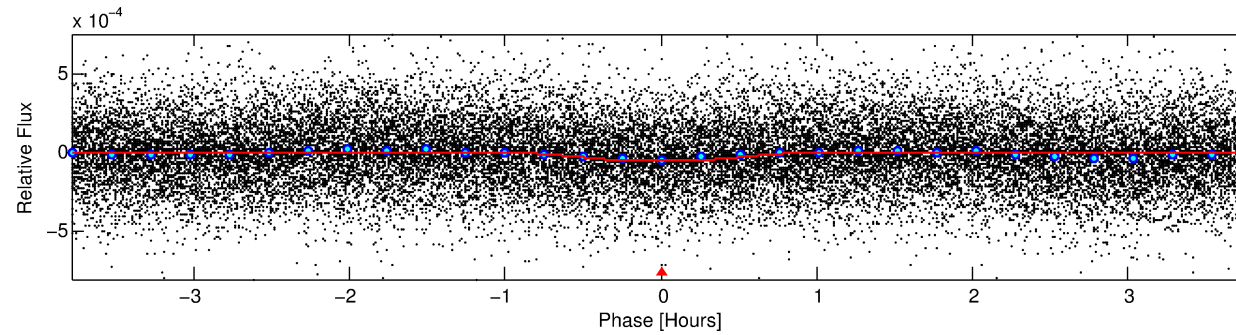
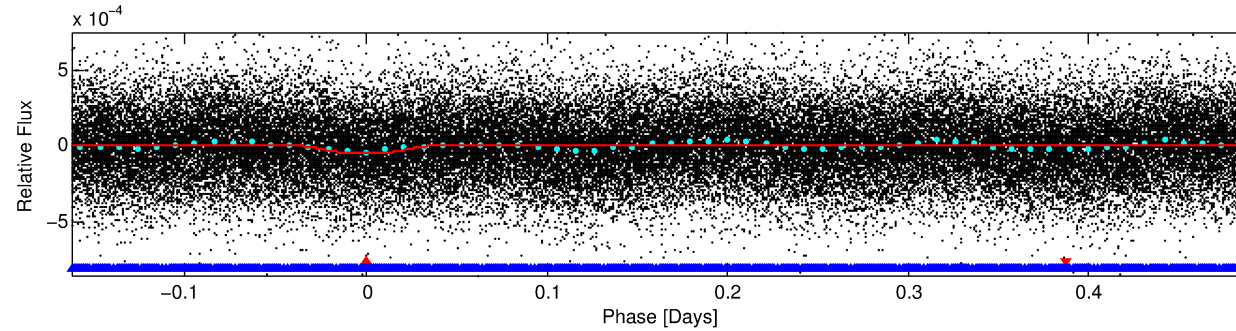
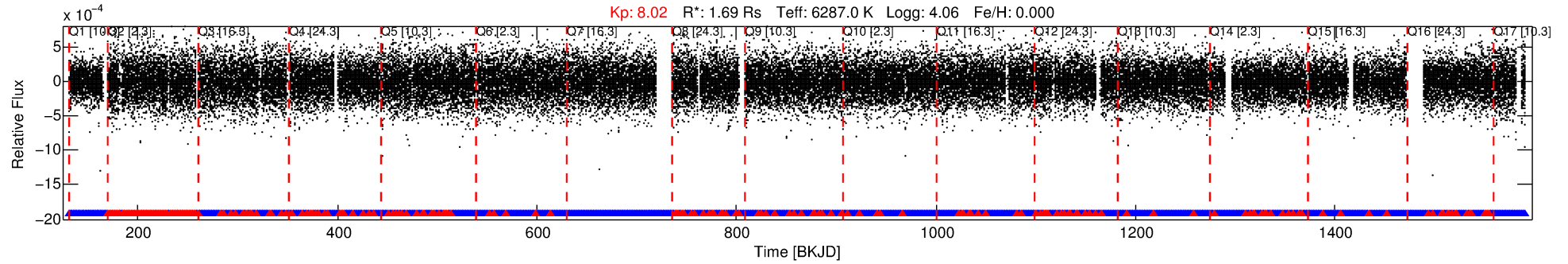
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003347643-01

No Significant Match Found

DV One-Page Summary

KIC: 3347643 Candidate: 1 of 2 Period: 0.653 d



DV Fit Results:

Period = 0.65281 [0.00001] d
Epoch = 131.8752 [0.0015] BKJD
Rp/R* = 0.0072 [0.0022]
a/R* = 1.99 [2.44]
b = 0.90 [0.34]
Seff = 16270.20 [10799.40]
Teq = 2880 [478] K
Rp = 1.33 [0.64] Re
a = 0.0157 [0.0055] AU
Ag = 1.98 [1.64] [0.60 σ]
Teffp = 5282 [950] K [2.26 σ]

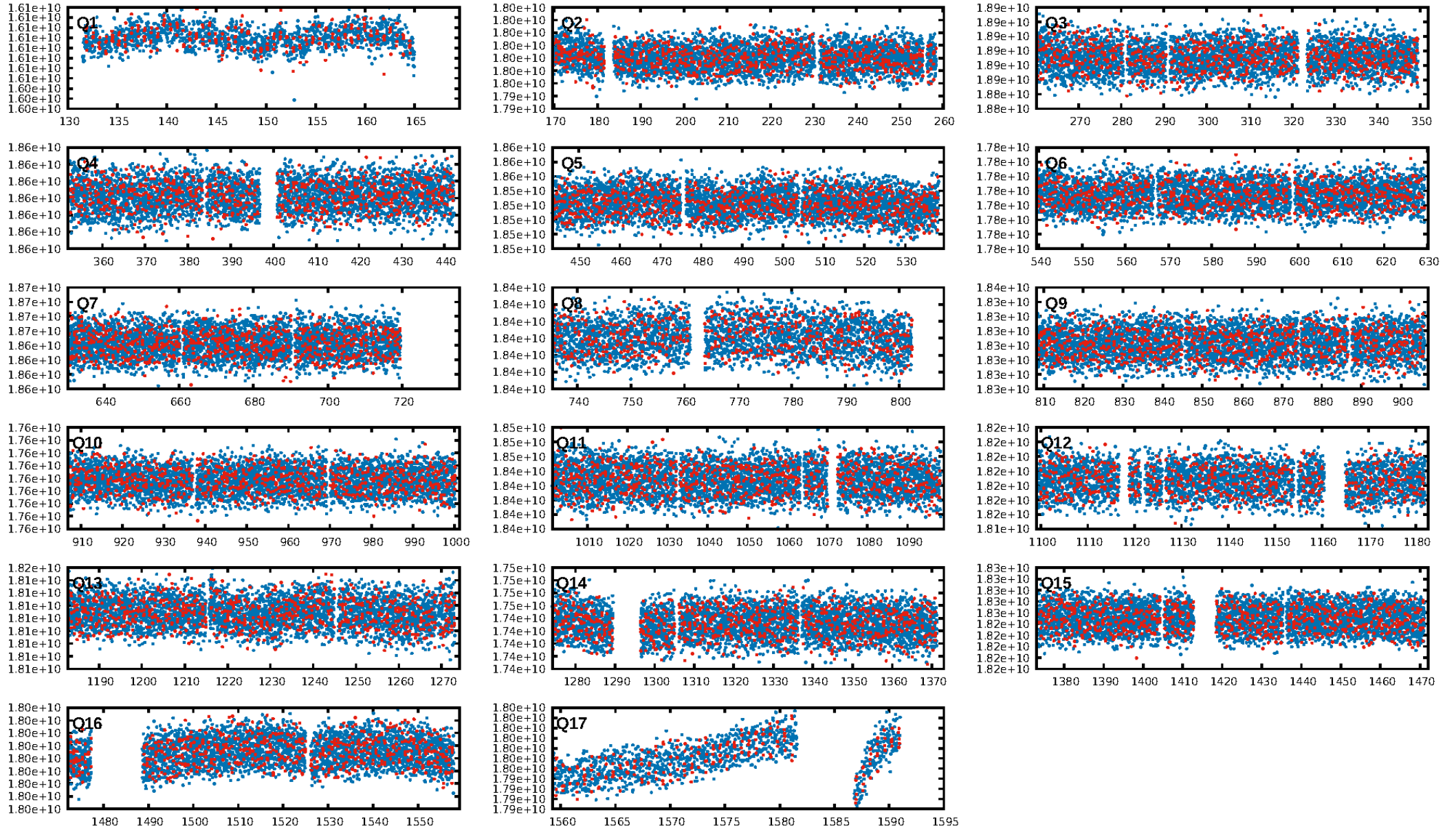
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 57.1% [0.79 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.85 [1667/1960]
GhostDiagnostic-chr: N/A
Centroid-sig: 27.7%
Centroid-so: 2.287 arcsec [4.20 σ]
OotOffset-rm: 8.639 arcsec [2.22 σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-rm: 14.762 arcsec [3.66 σ]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.00 [0/15]
DiffImageOverlap-fno: 1.00 [17/17]

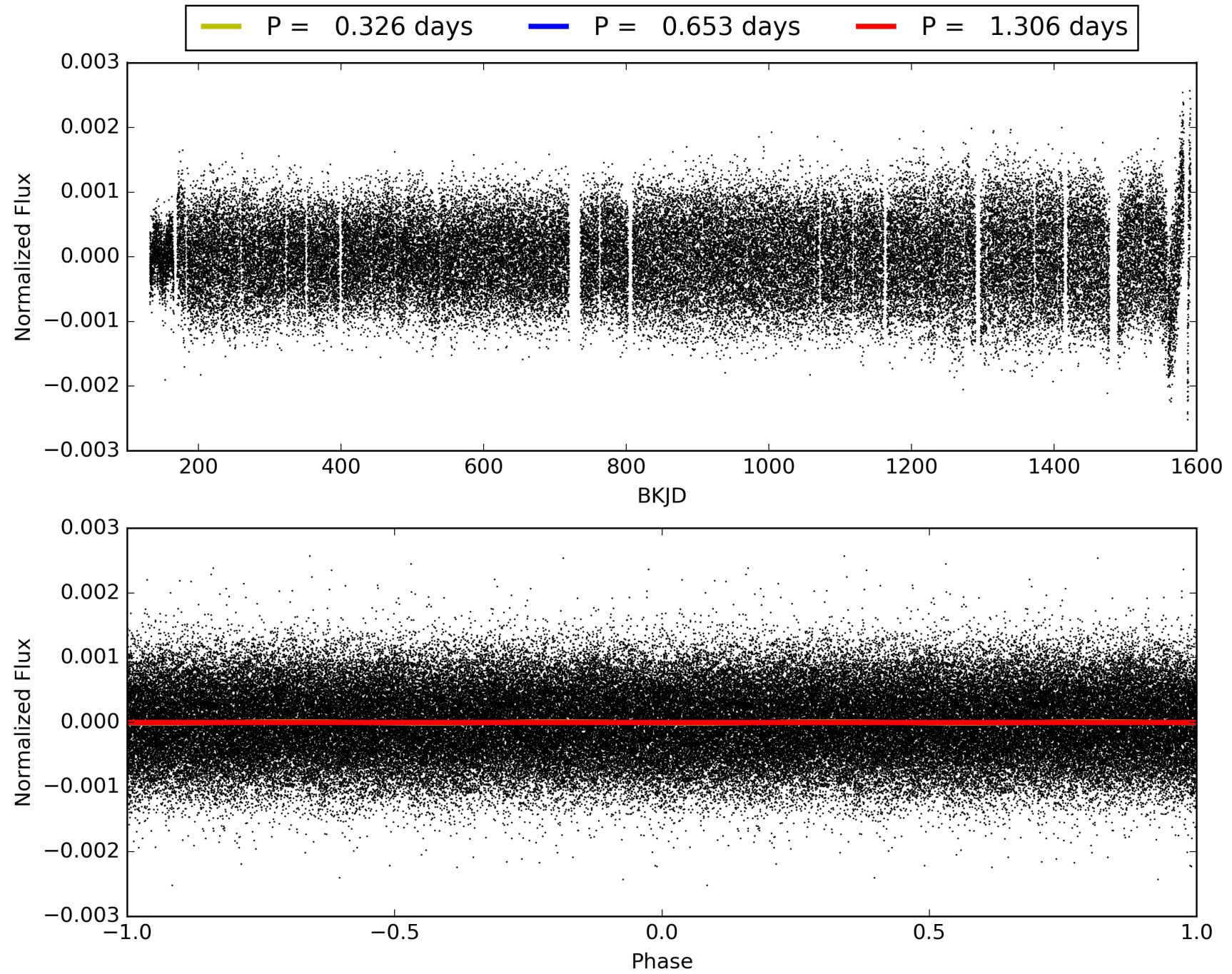
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:32:45 Z

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

TCE 003347643-01, PDC Light Curves

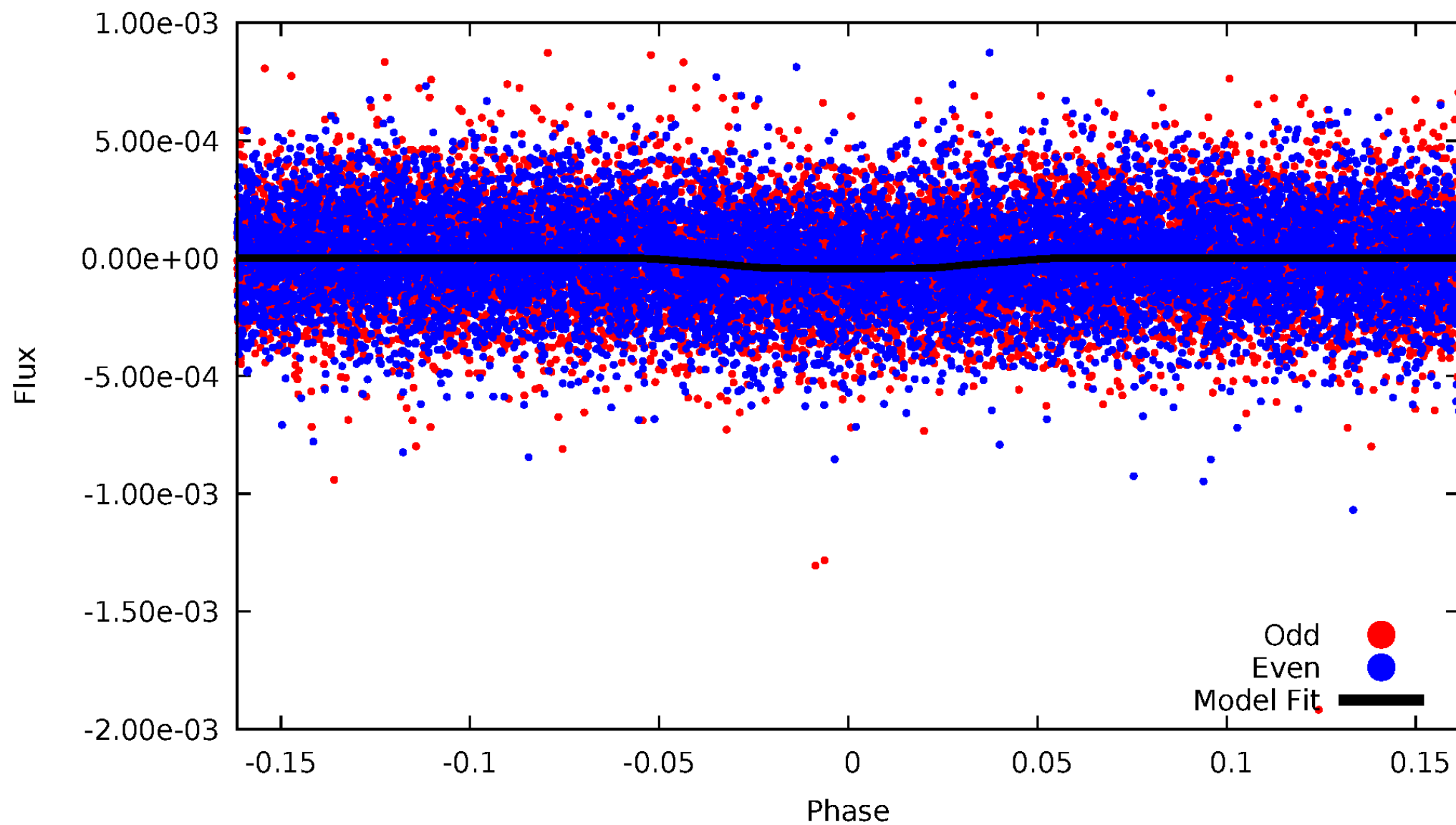


TCE 003347643-01



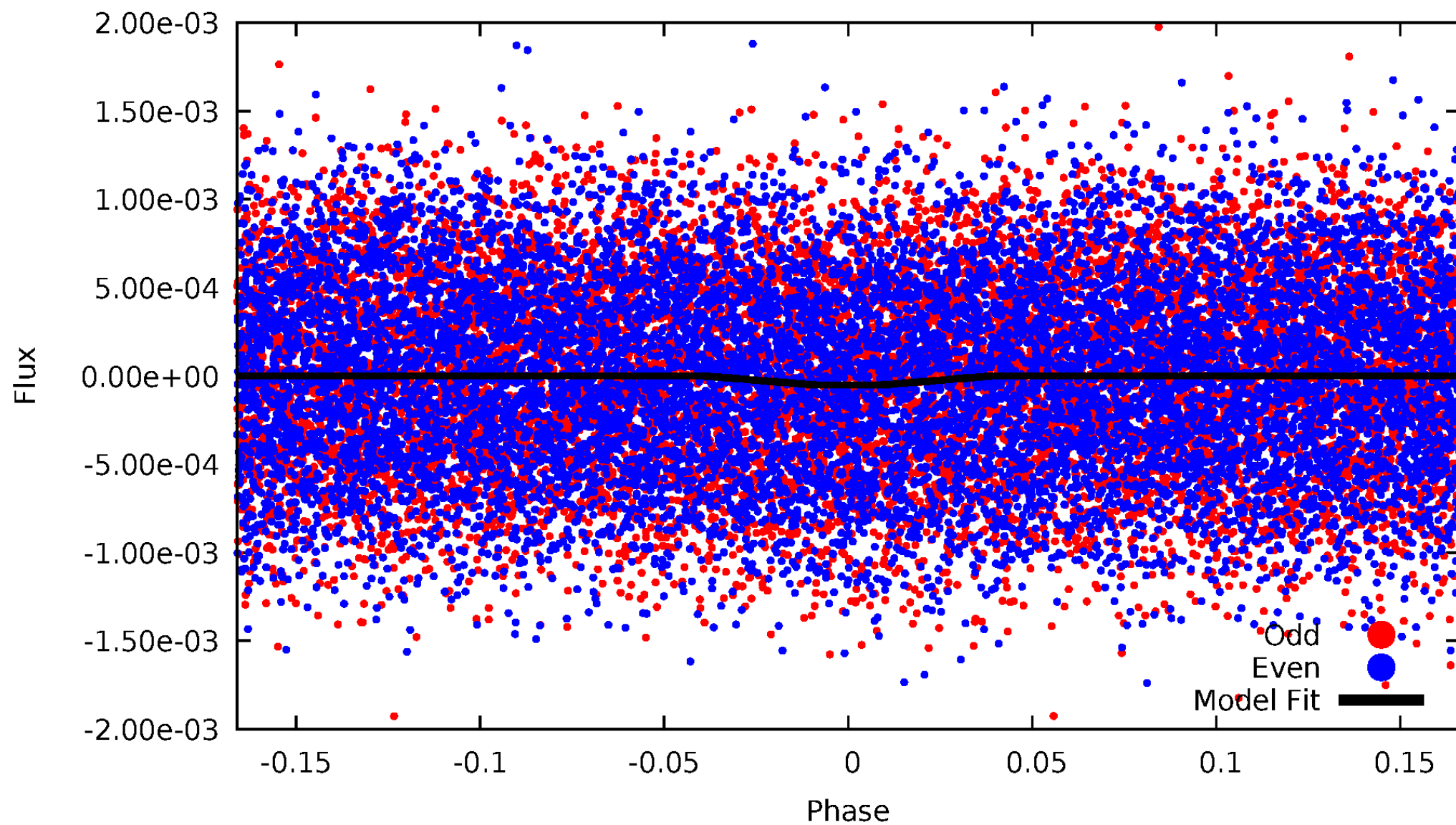
DV Odd/Even

TCE 003347643-01

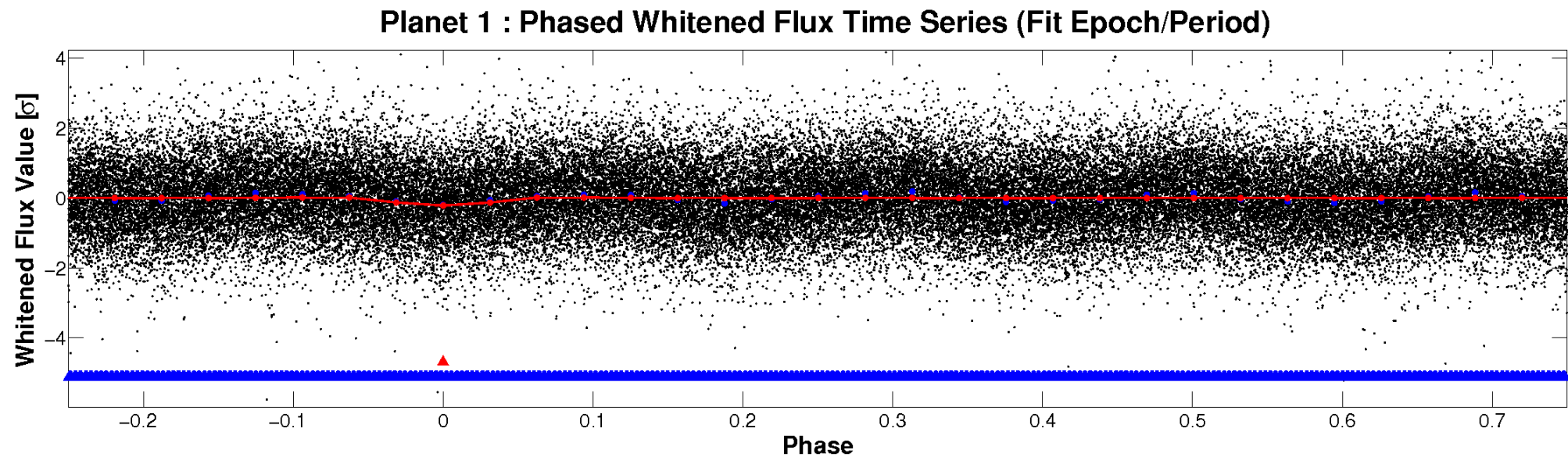
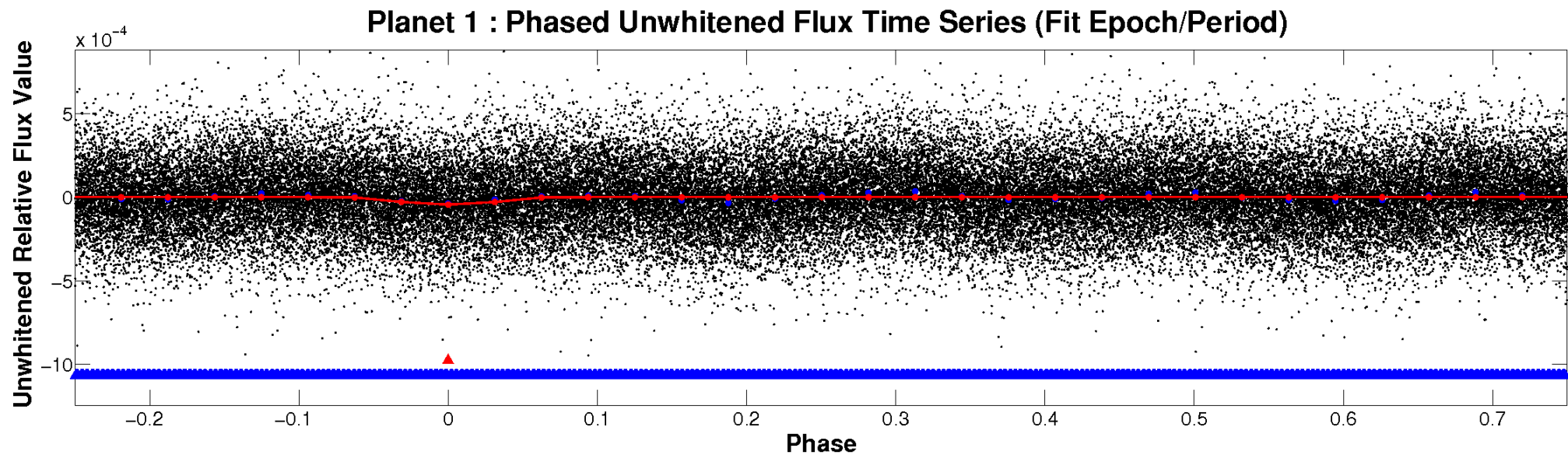


ALT Odd/Even

TCE 003347643-01

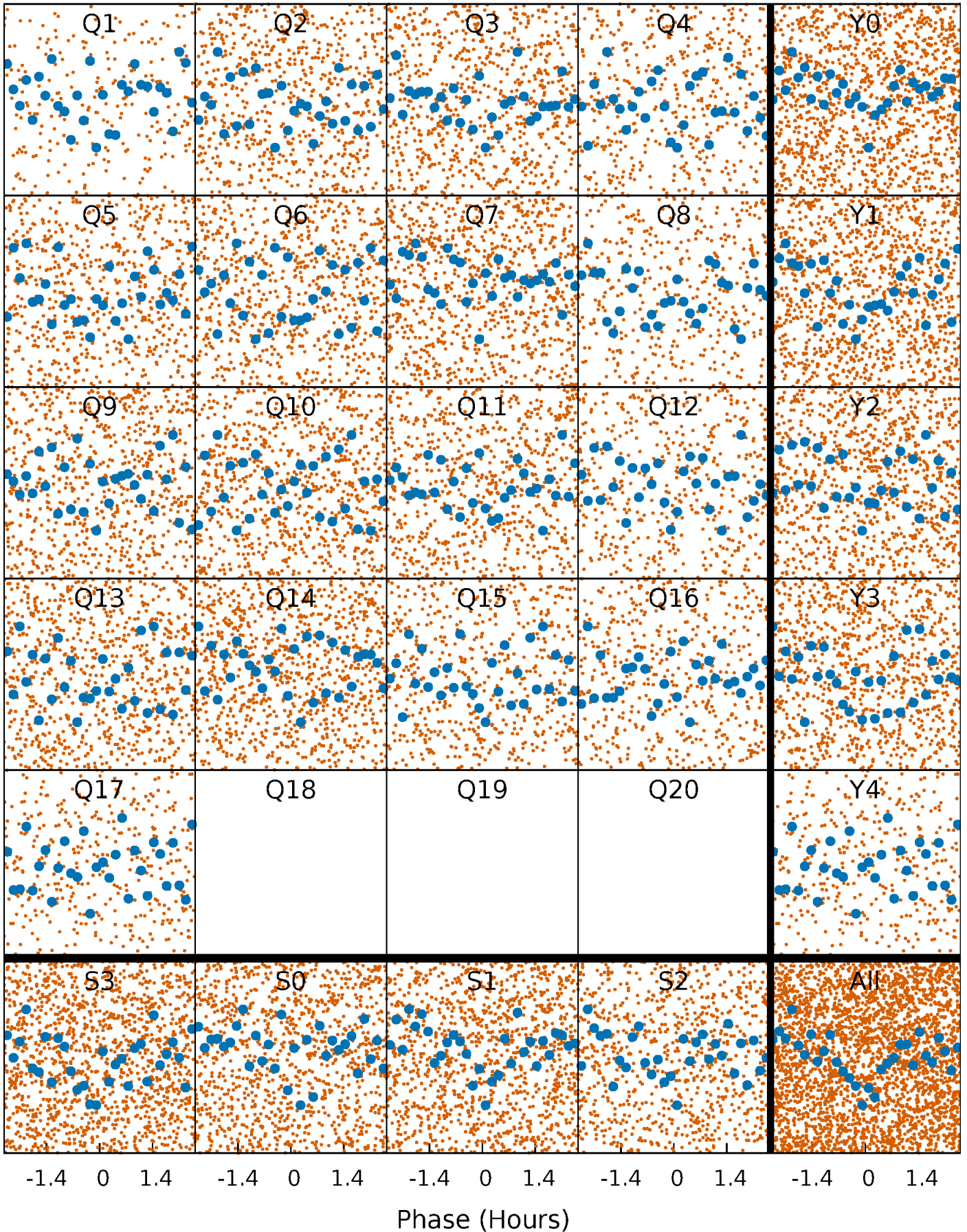


Non-Whitened Vs. Whitened Light Curve



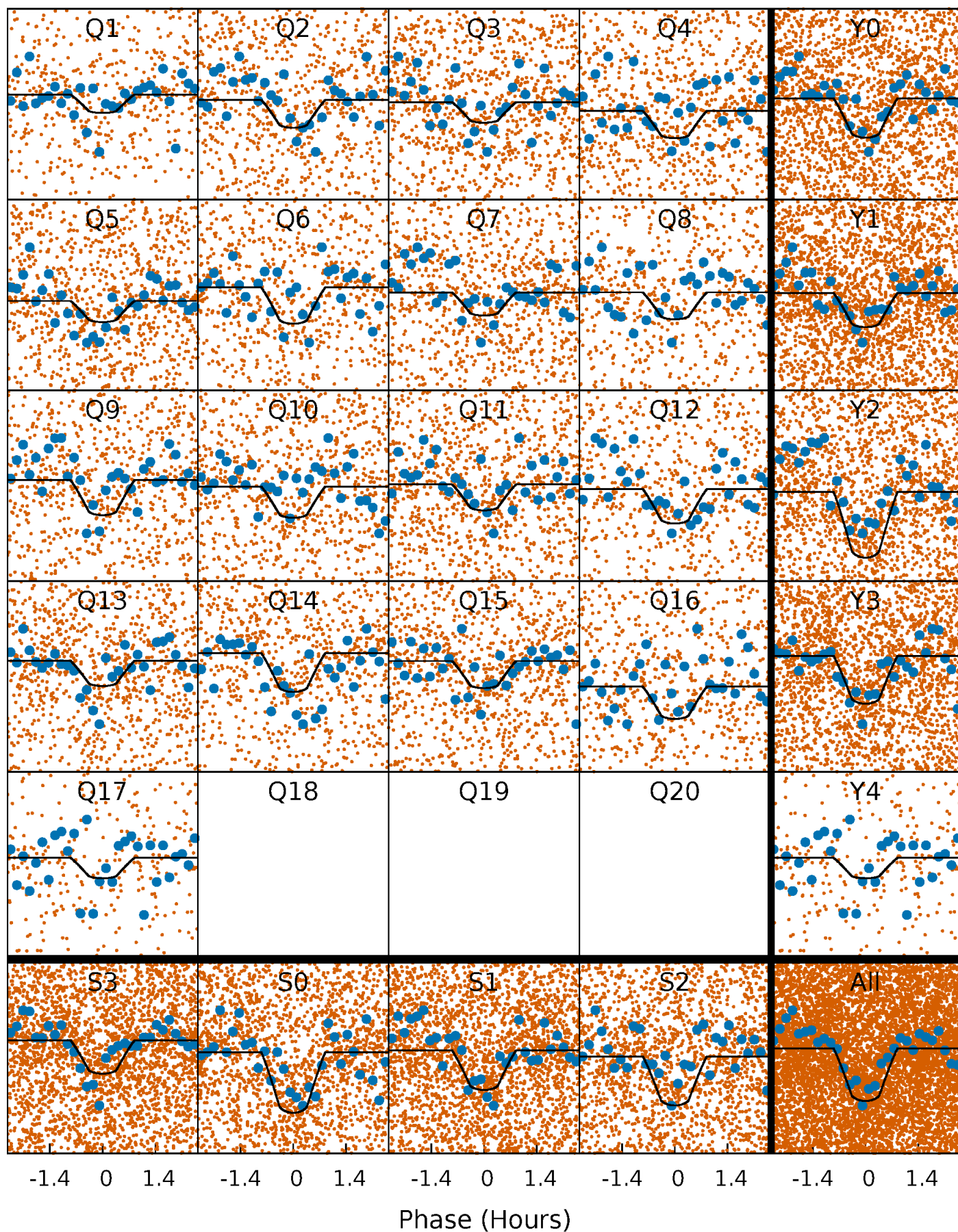
PDC Quarter-Phased Transit Curves

TCE 003347643-01 P= 0.652807 Days $T_0=131.875151$ (BKJD)



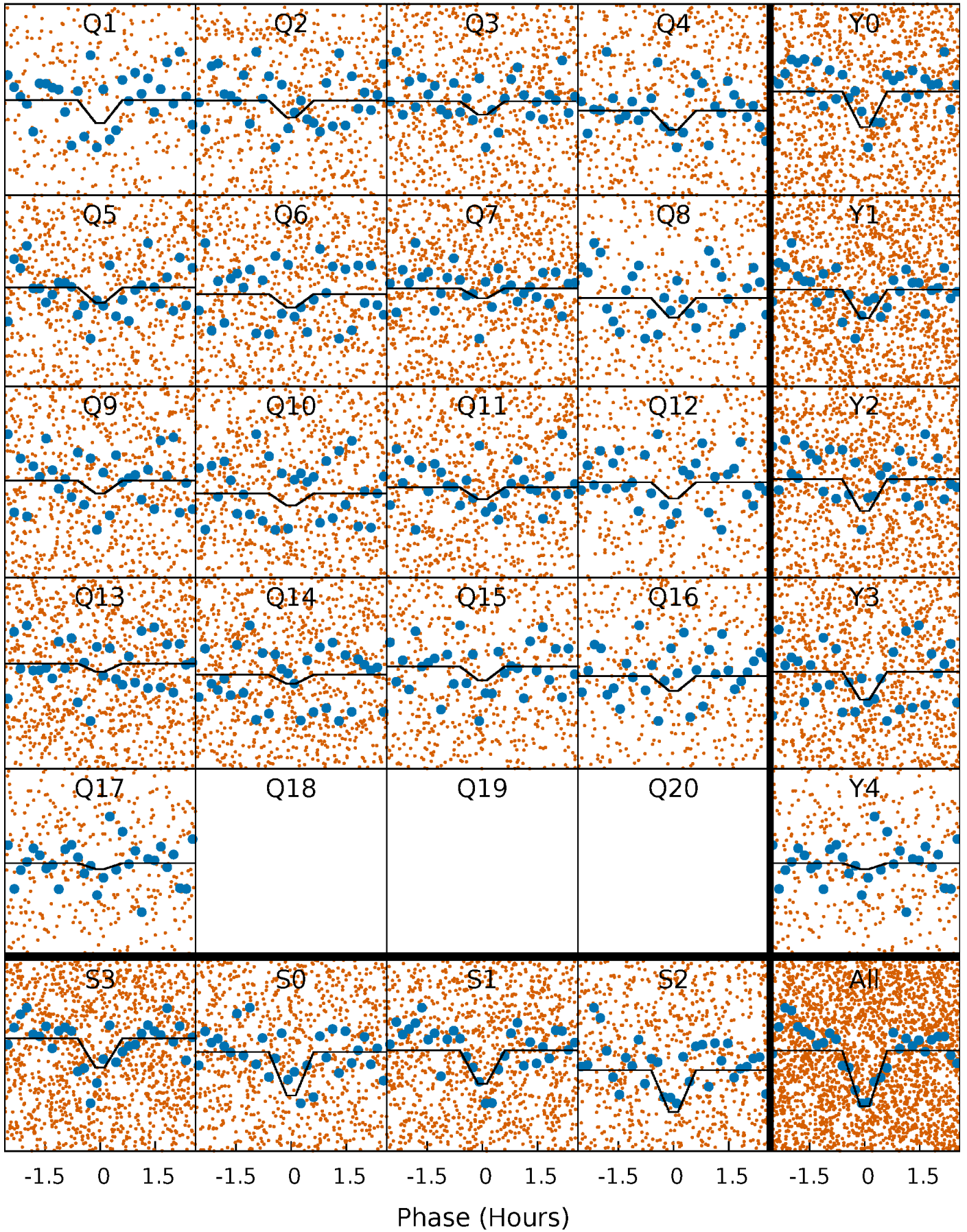
DV Quarter-Phased Transit Curves

TCE 003347643-01 P= 0.652807 Days $T_0=131.875151$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

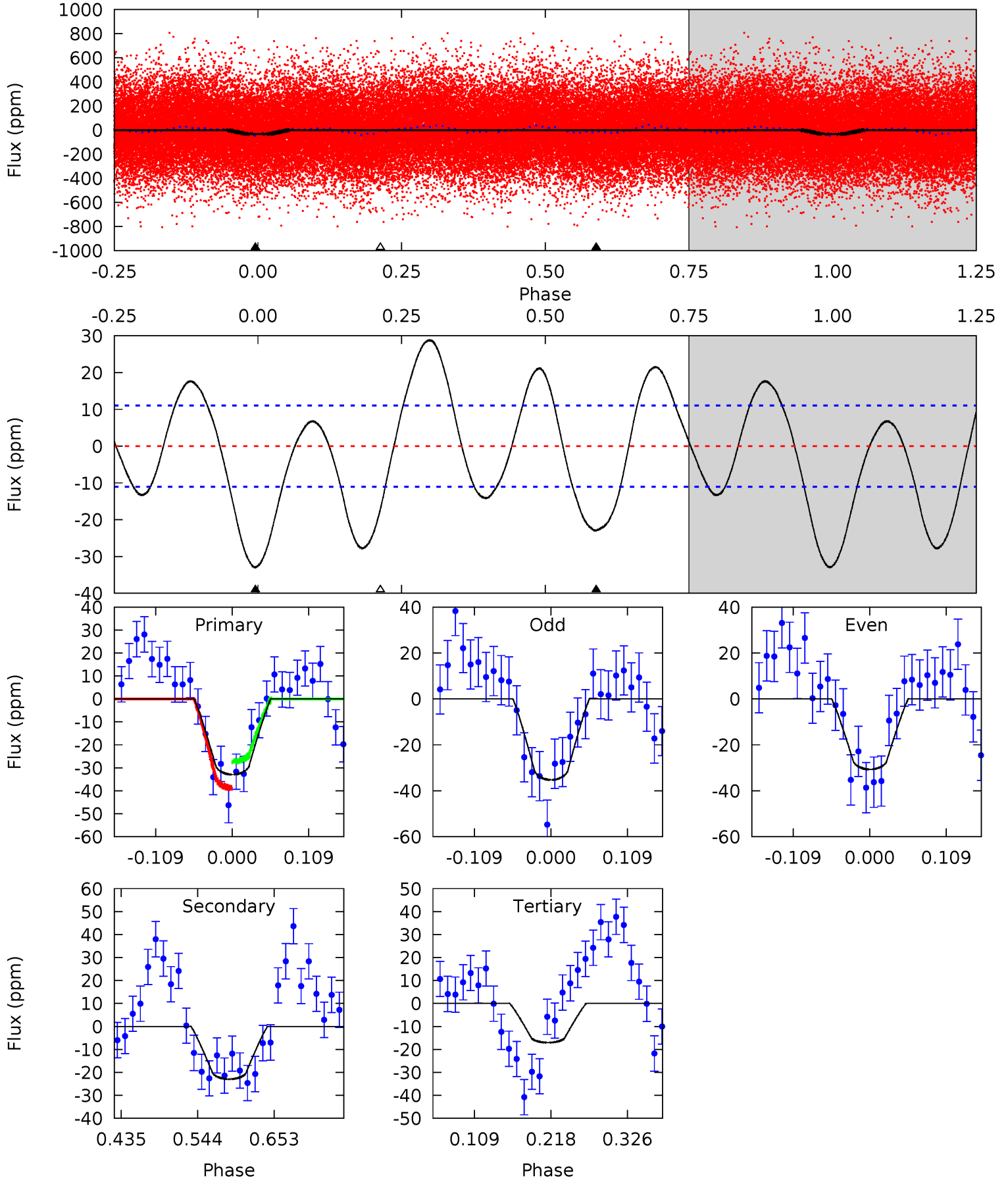
TCE 003347643-01 P= 0.652806 Days $T_0=131.875283$ (BKJD)



DV Model-Shift Uniqueness Test

003347643-01, P = 0.652807 Days, E = 131.222344 Days

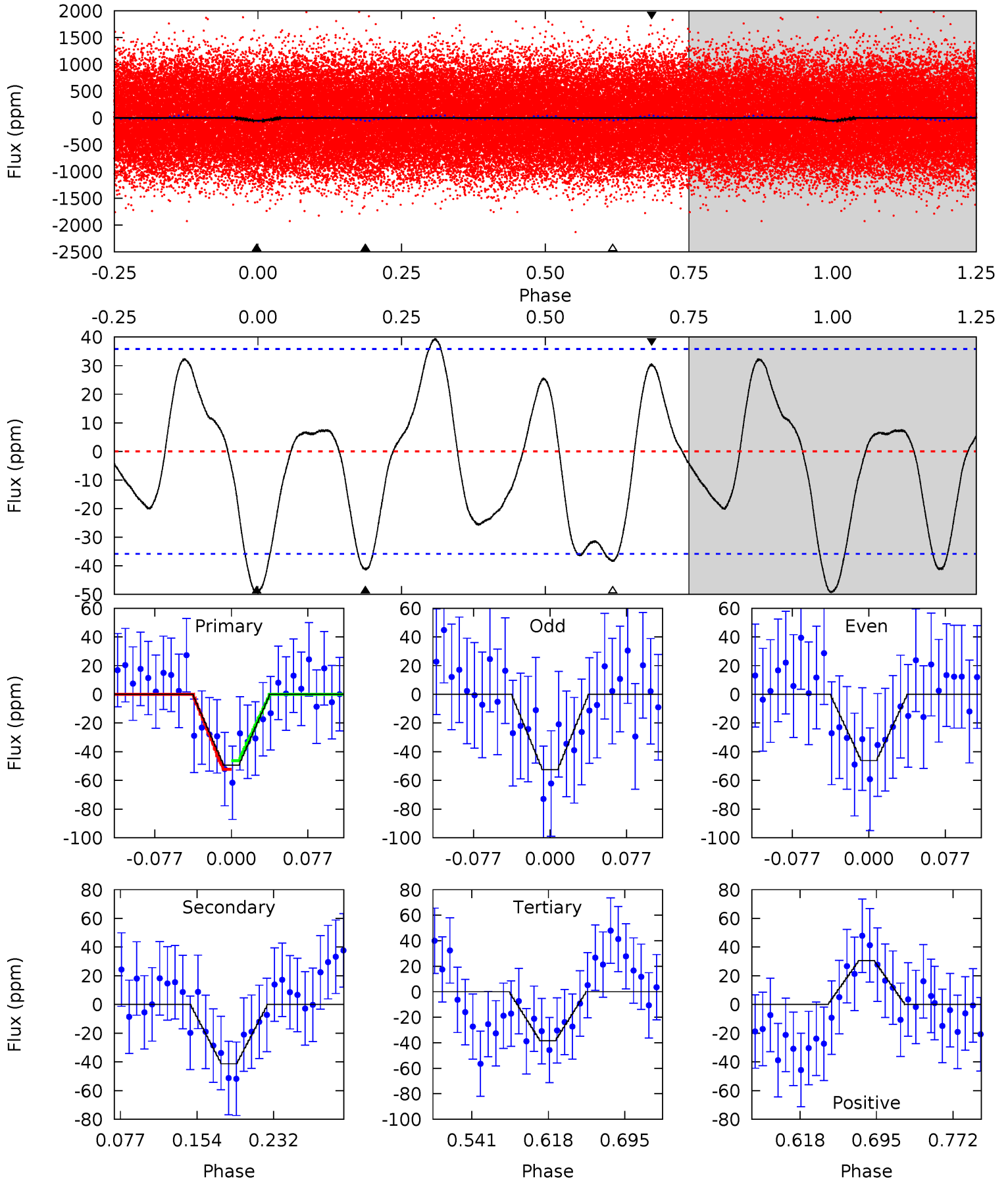
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	9.47	7.02	0	4.55	1.60	6.19	6.57	13.6	2.44	9.47	0.95	1.04	0.47	2.39



Alt Model-Shift Uniqueness Test

003347643-01, P = 0.652806 Days, E = 131.222477 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.35	5.32	4.94	3.93	4.62	1.77	2.84	1.41	2.42	0.37	1.39	0.41	1.00	0.44	0.39



Stellar Parameters For KIC 003347643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6287^{+359}_{-584}	$4.064^{+0.319}_{-0.172}$	$0.000^{+0.250}_{-0.300}$	$1.693^{+0.521}_{-0.636}$	$1.211^{+0.222}_{-0.271}$	$0.352^{+0.904}_{-0.161}$
	+6%/-9%	+8%/-4%	+inf%/-inf%	+31%/-38%	+18%/-22%	+257%/-46%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003347643-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-23 ± 2	$1.27^{+0.48}_{-0.44}$	3939^{+445}_{-476}	4931^{+1127}_{-695}	$1.950^{+2.318}_{-0.947}$
Alt.	-41 ± 8	$1.27^{+0.50}_{-0.42}$	3941^{+449}_{-494}	5709^{+1339}_{-839}	$3.350^{+4.412}_{-1.603}$

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

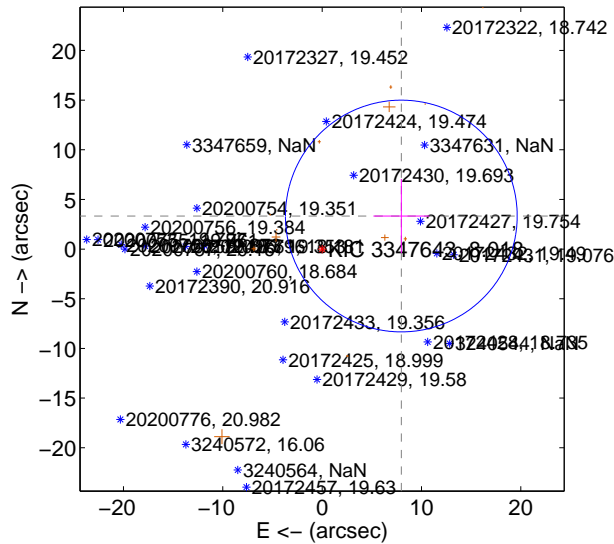
Supplemental centroid analysis for 003347643-01. **Kepler magnitude: 8.02.** Transit SNR 13.08

There are 0 quarters with good PRF difference image offsets

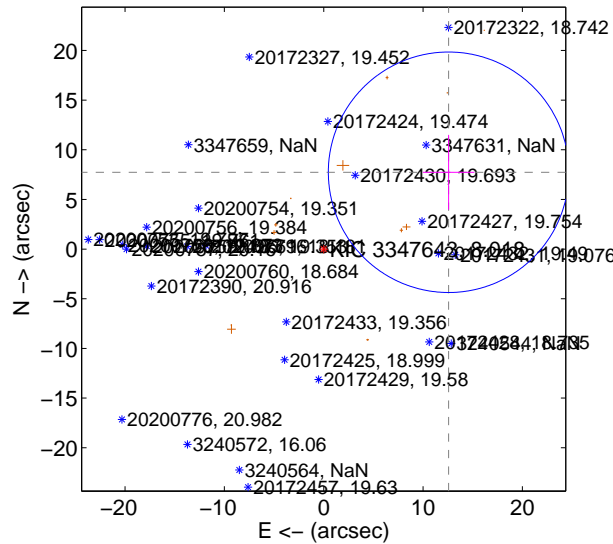
The OOT PRF centroid is offset from the target star catalog position by about 10.68 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.639 ± 3.888	2.22	-7.972 ± 2.812	3.330 ± 3.737
PRF-fit source offset from KIC position	14.762 ± 4.036	3.66	-12.573 ± 2.596	7.736 ± 3.766
photometric centroid source offset	2.29 ± 0.54	4.20	-1.31 ± 0.37	1.87 ± 0.61

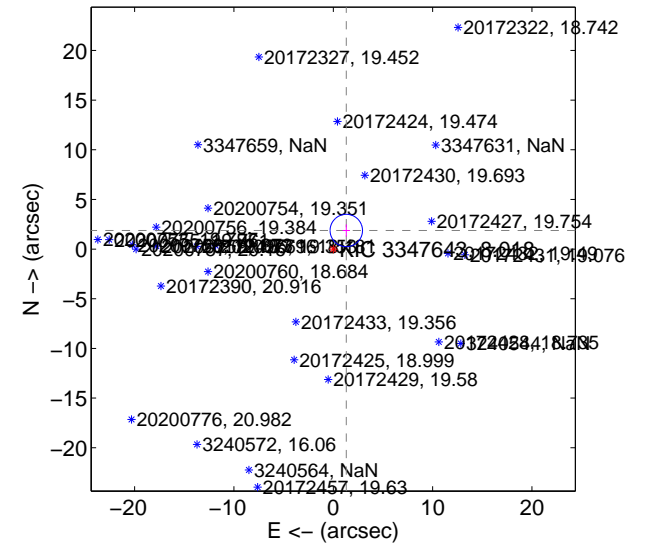
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

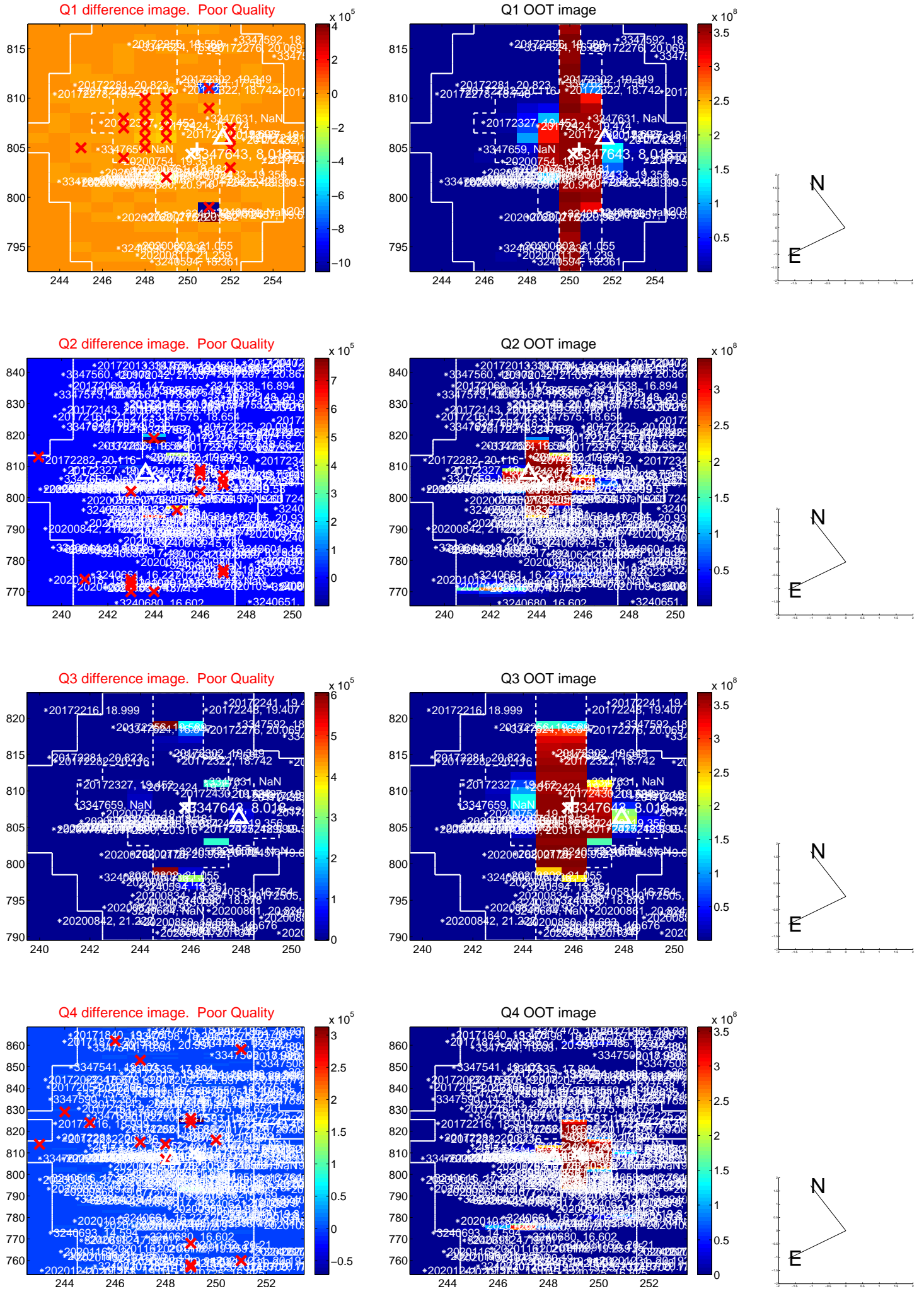


offset from photometric centroids

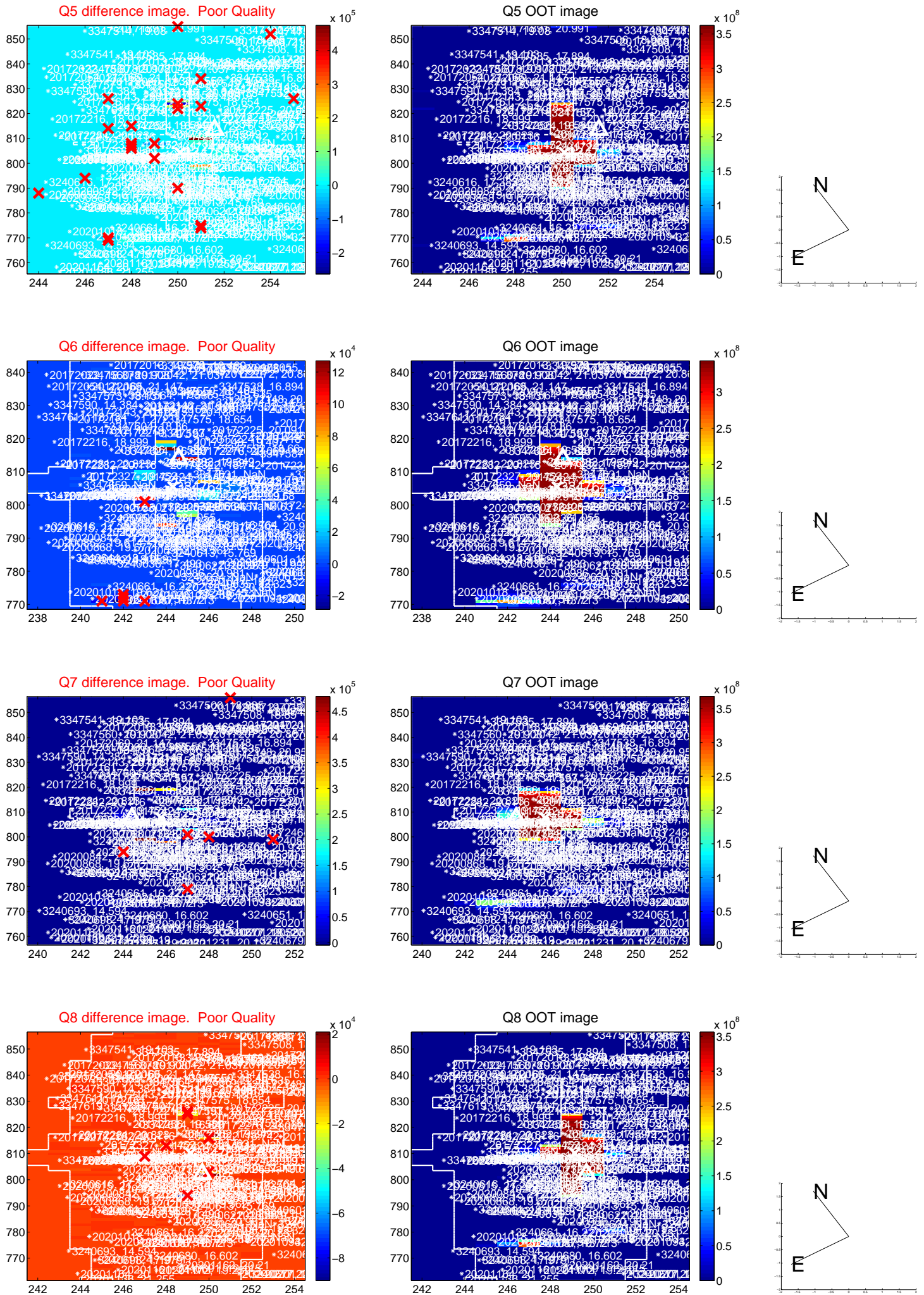


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

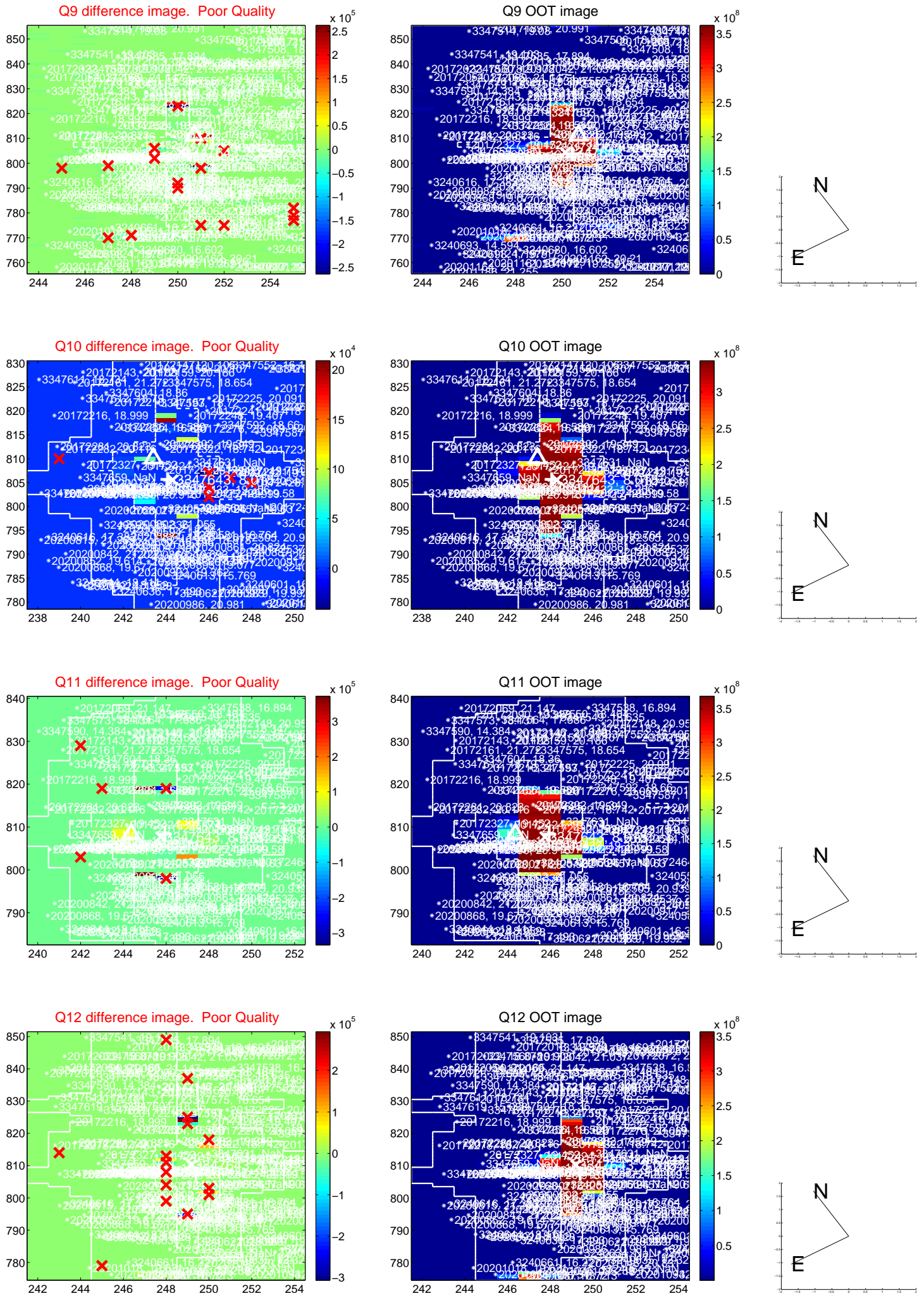
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



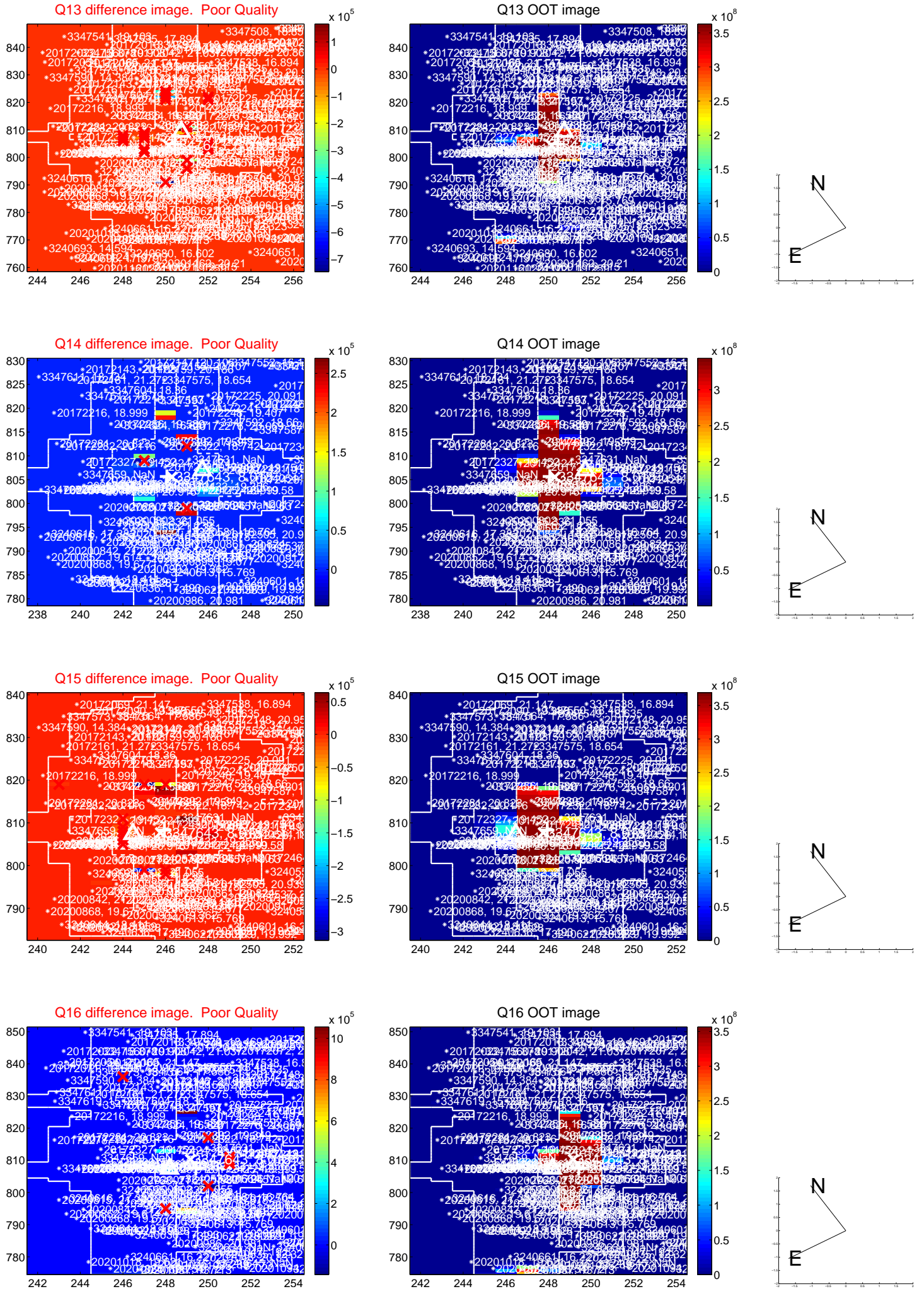
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



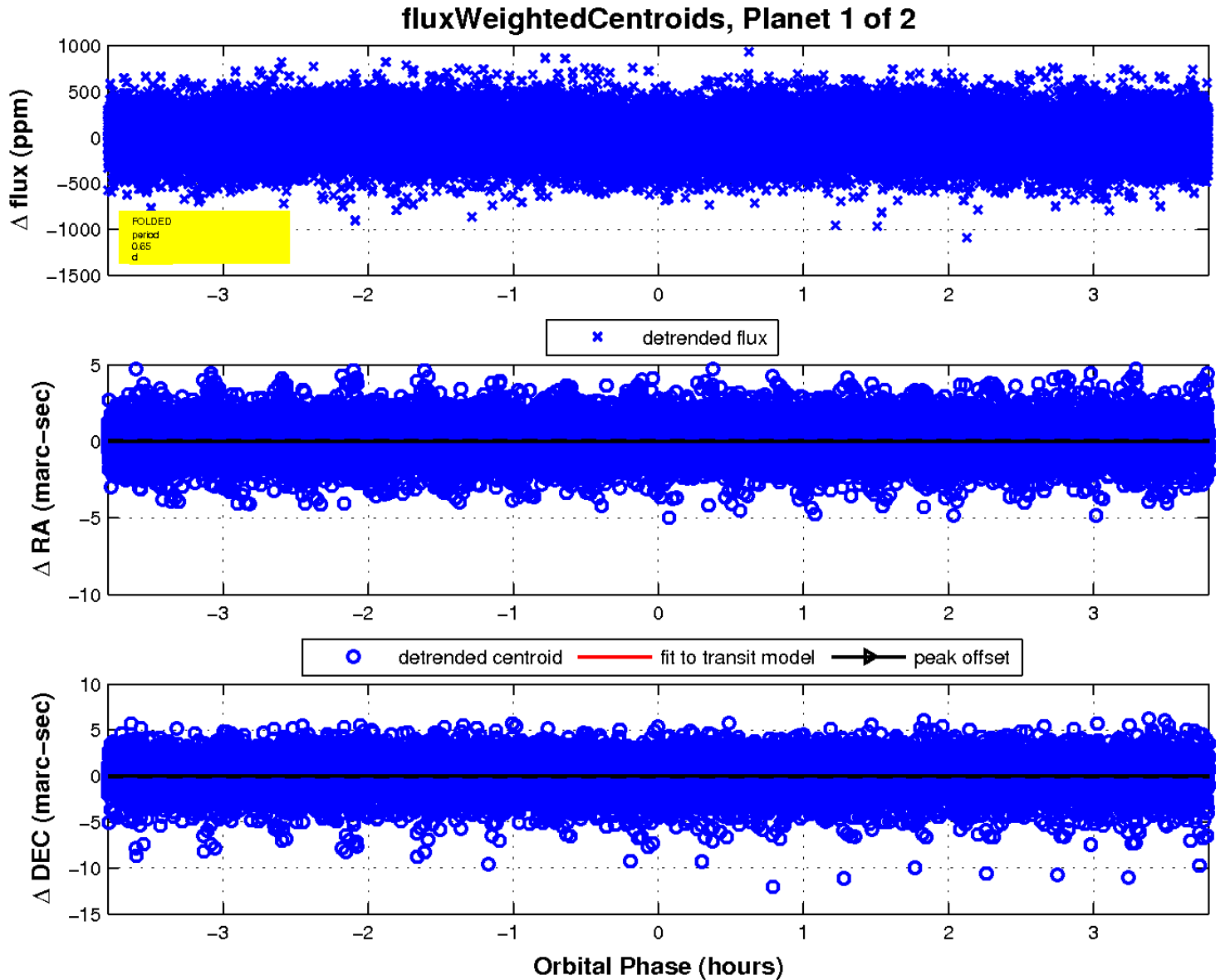
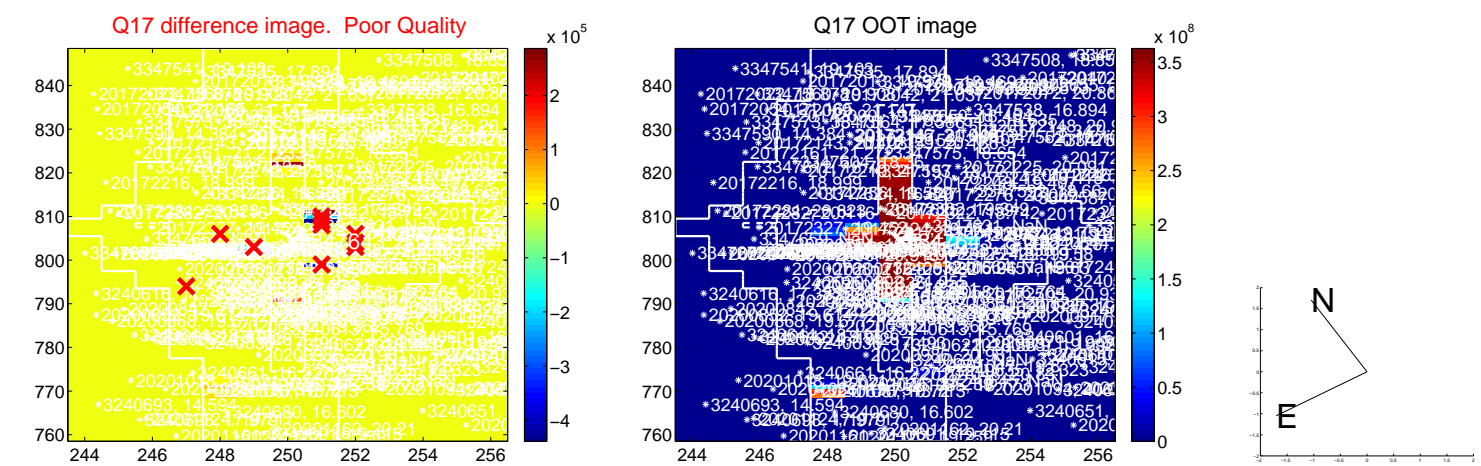
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



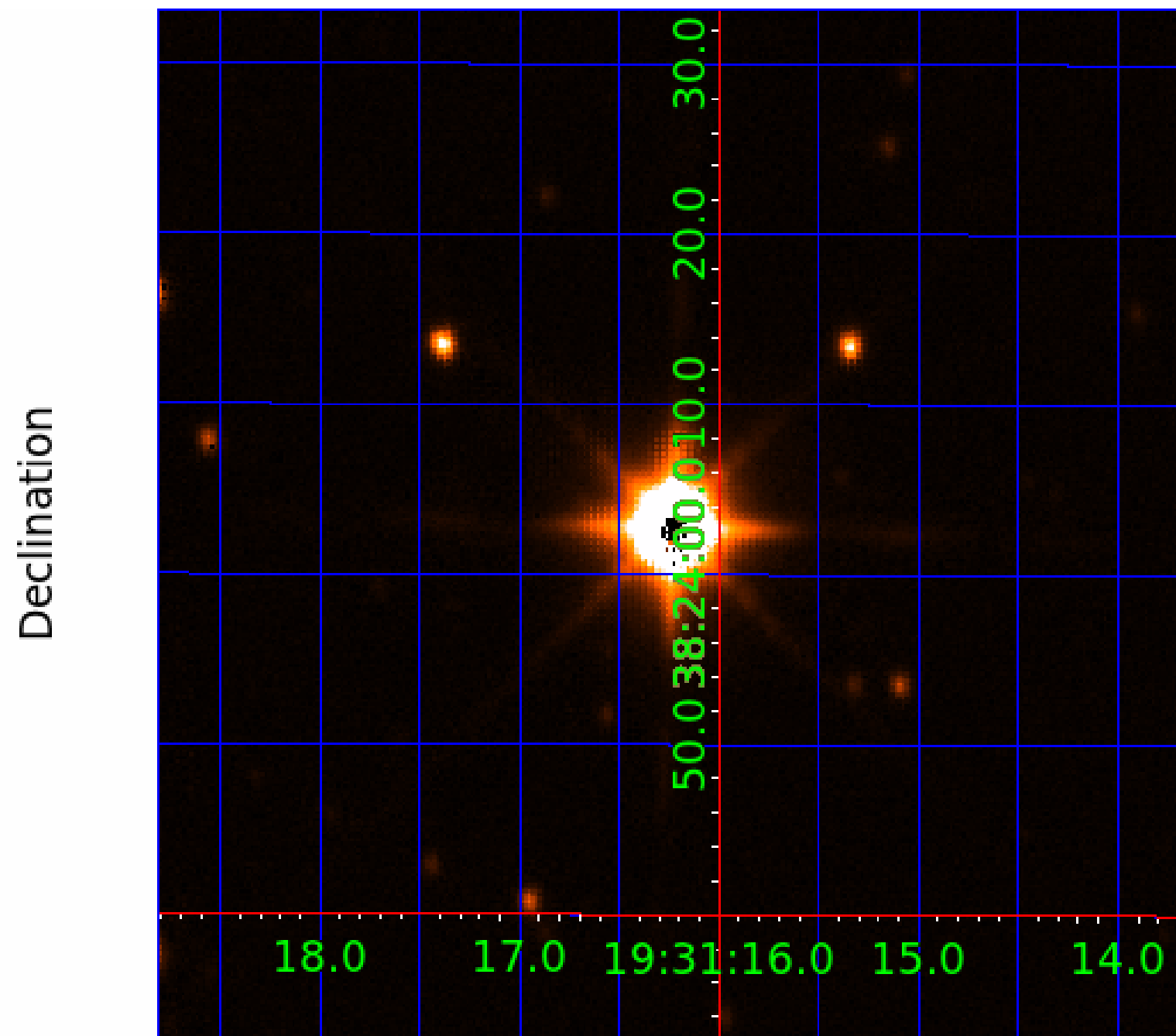
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003347643

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})
003347643-01	OBS	No	0.652807	131.875151	44.5	1.265	10.2	13.1	1.69	6287	1.33	16270.20
003347643-02	OBS	No	0.987062	132.063357	26.9	10.074	8.5	12.8	1.69	6287	0.88	9375.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003347643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003347643-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

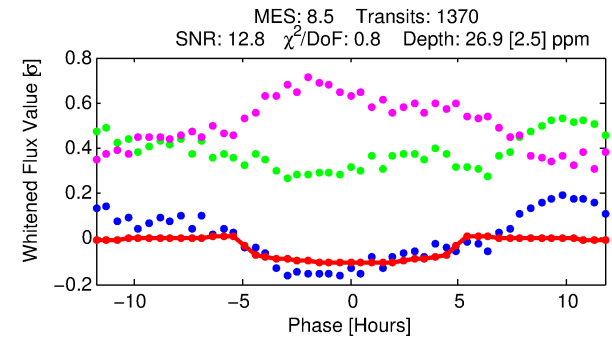
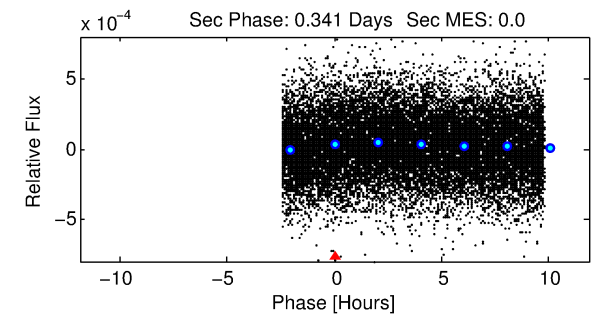
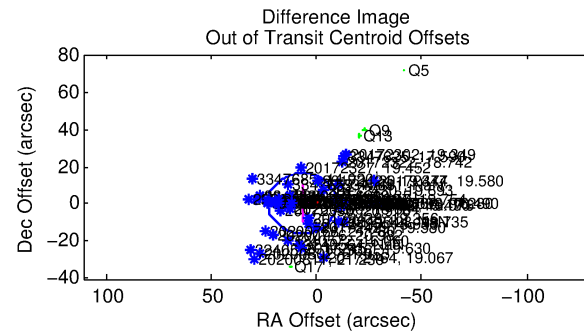
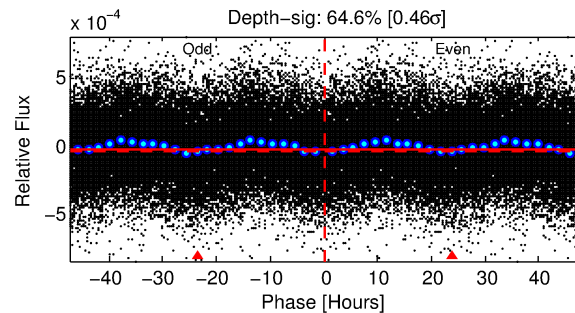
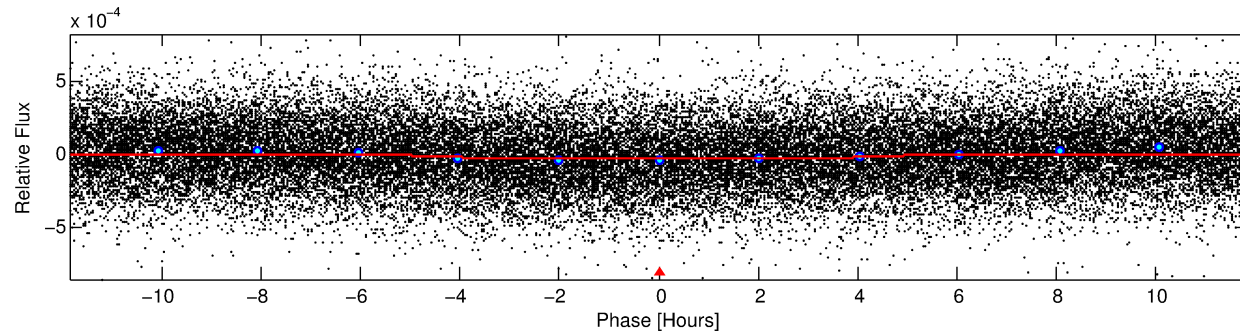
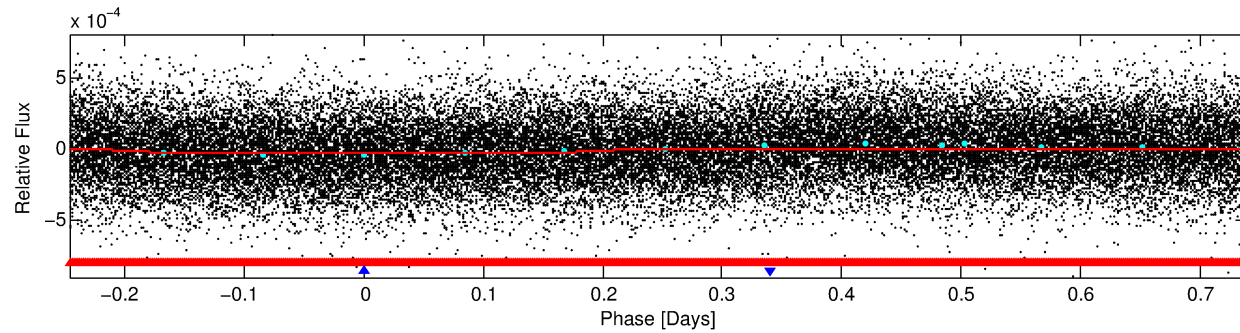
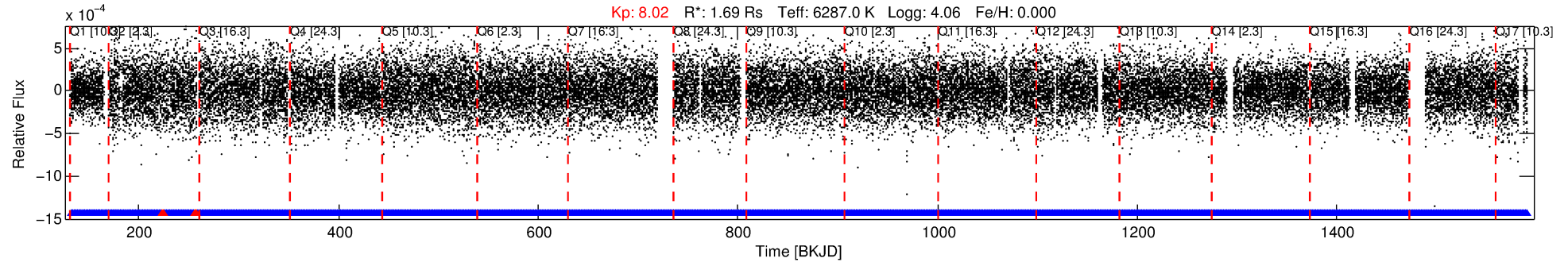
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003347643-02

No Significant Match Found

DV One-Page Summary

KIC: 3347643 Candidate: 2 of 2 Period: 0.987 d



DV Fit Results:

Period = 0.98706 [0.00002] d
Epoch = 132.0634 [0.0071] BKJD
Rp/R* = 0.0048 [0.0038]
a/R* = 1.03 [0.25]
b = 0.10 [41.47]
Seff = 9375.20 [6222.82]
Teq = 2509 [416] K
Rp = 0.88 [0.78] Re
a = 0.0207 [0.0072] AU
Ag = N/A
Teffp = N/A

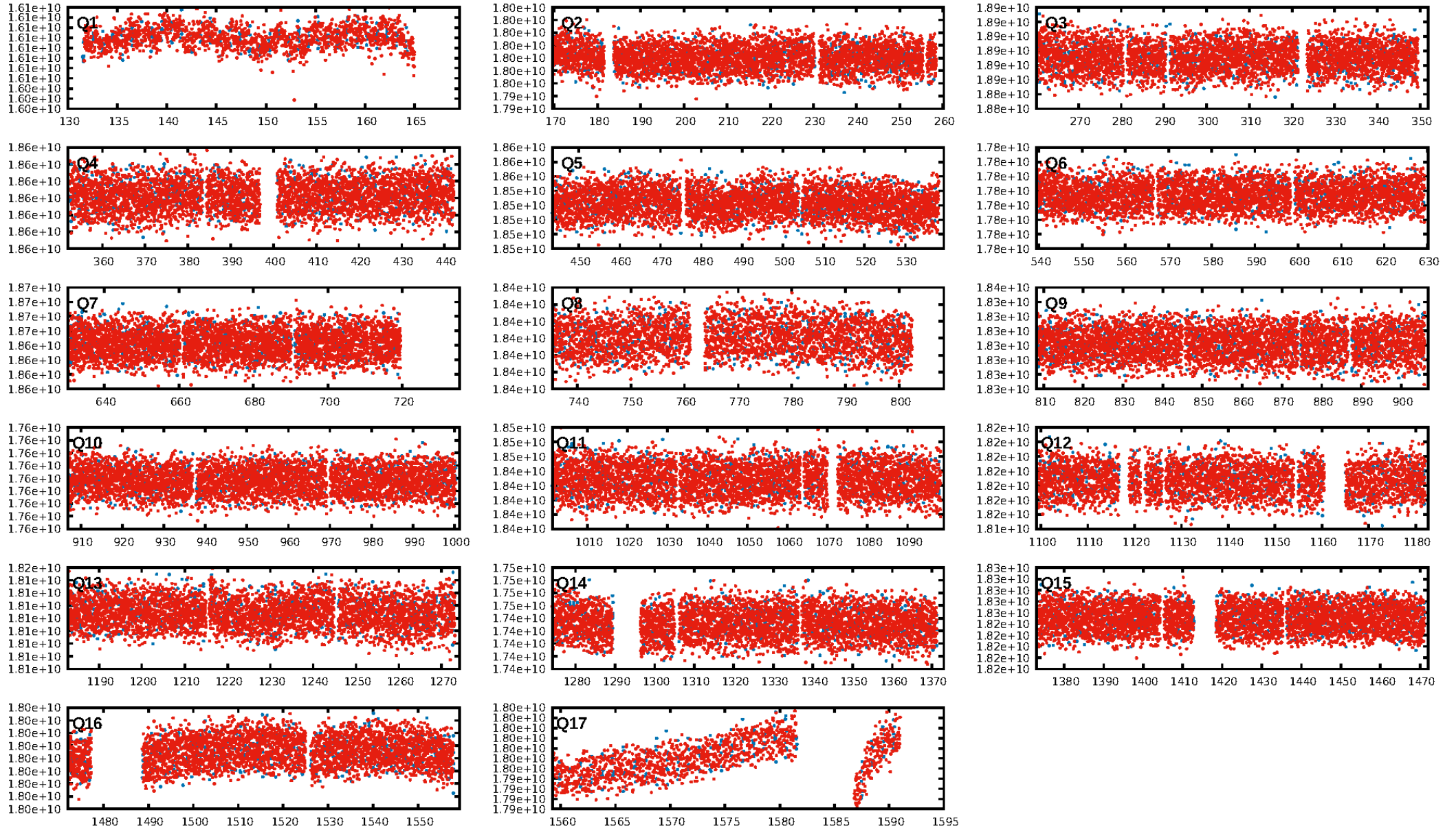
DV Diagnostic Results:

ShortPeriod-sig: 57.1% [0.79 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1304/1308]
GhostDiagnostic-chr: N/A
Centroid-sig: 11.6%
Centroid-so: 0.981 arcsec [1.38 σ]
OotOffset-rm: 6.849 arcsec [1.26 σ]
KicOffset-rm: 5.303 arcsec [1.92 σ]
OotOffset-st: 0/4/0/5 [9]
KicOffset-st: 0/4/0/5 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 0.00 [0/17]

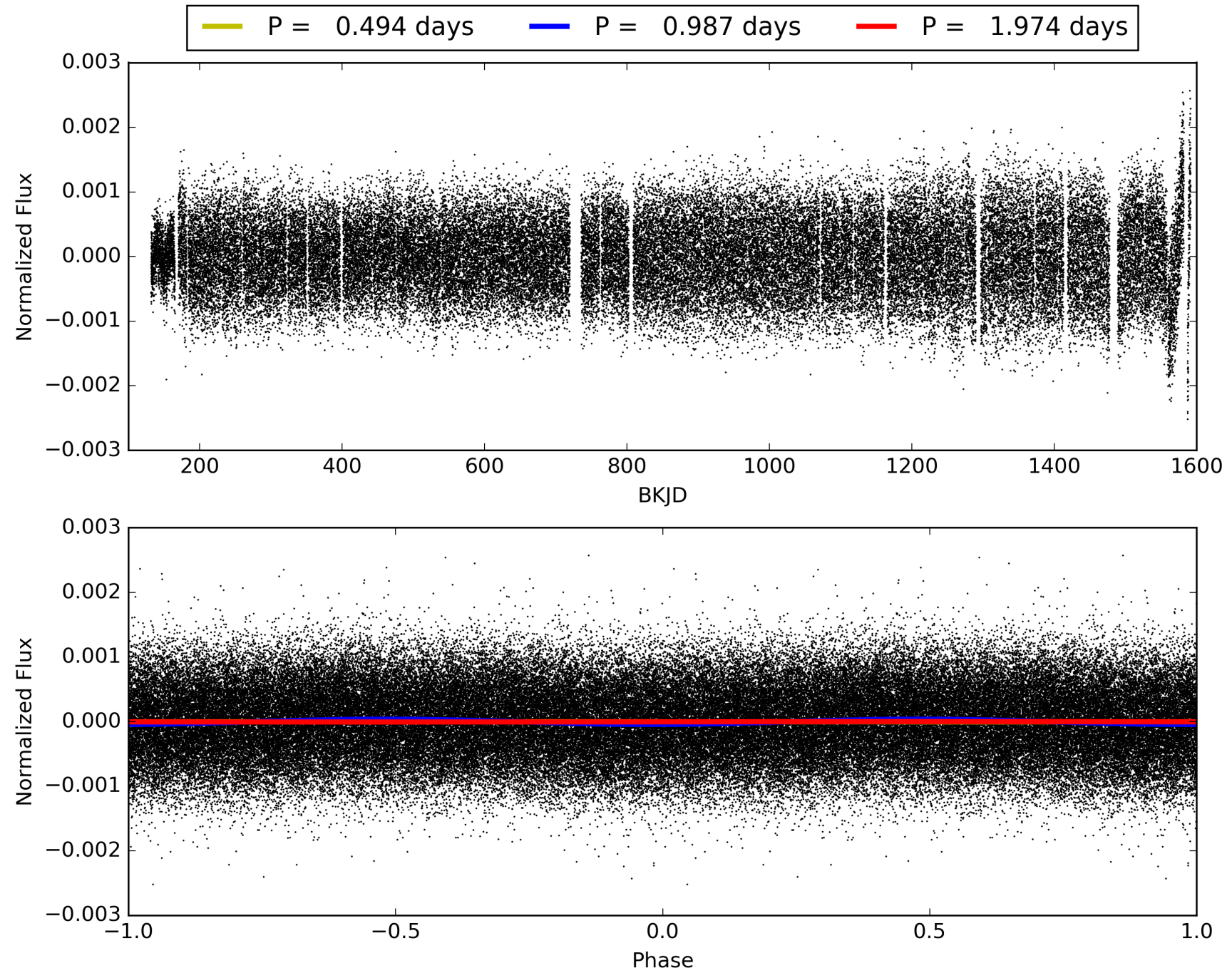
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:33:00 Z

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

TCE 003347643-02, PDC Light Curves

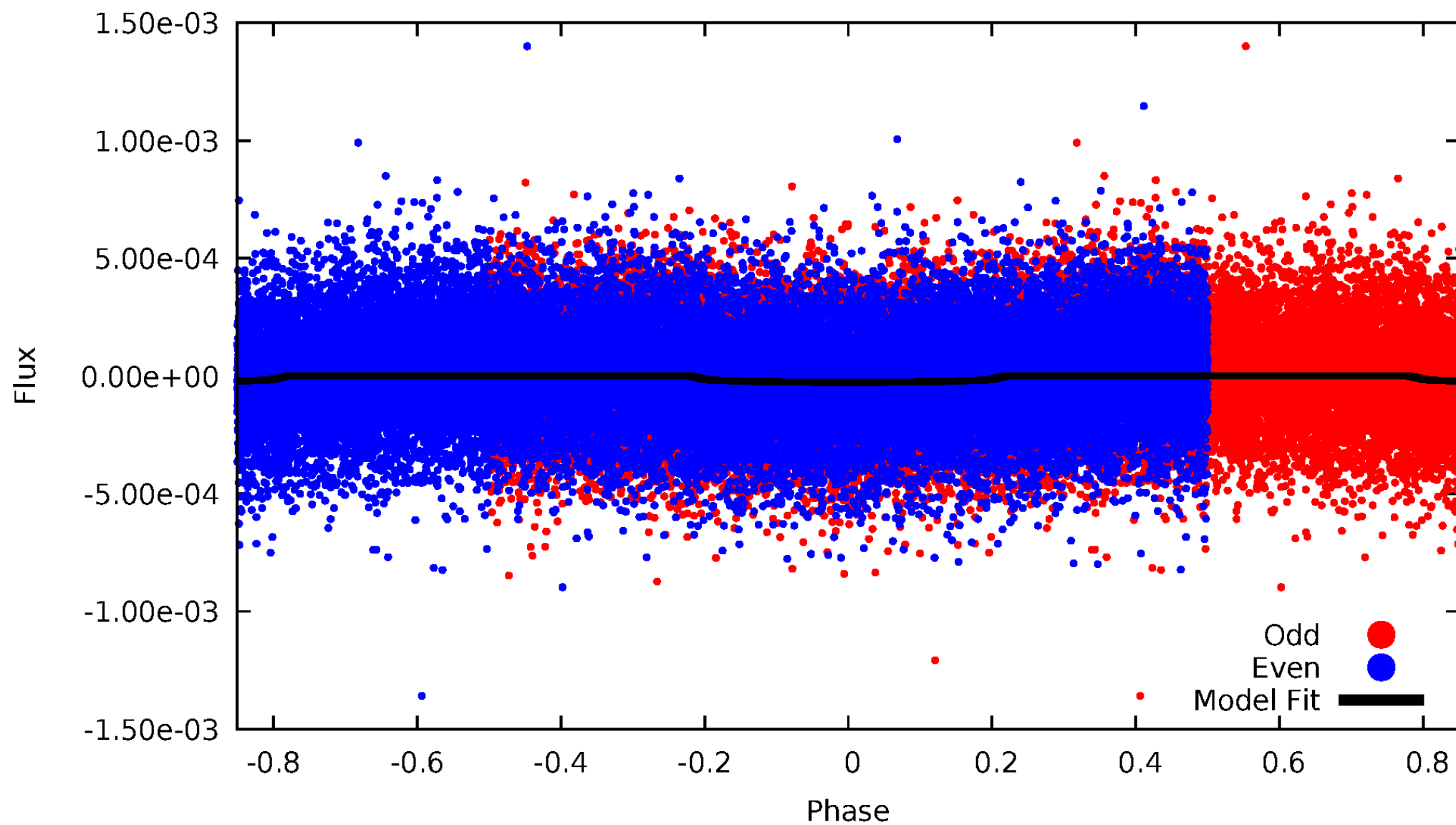


TCE 003347643-02



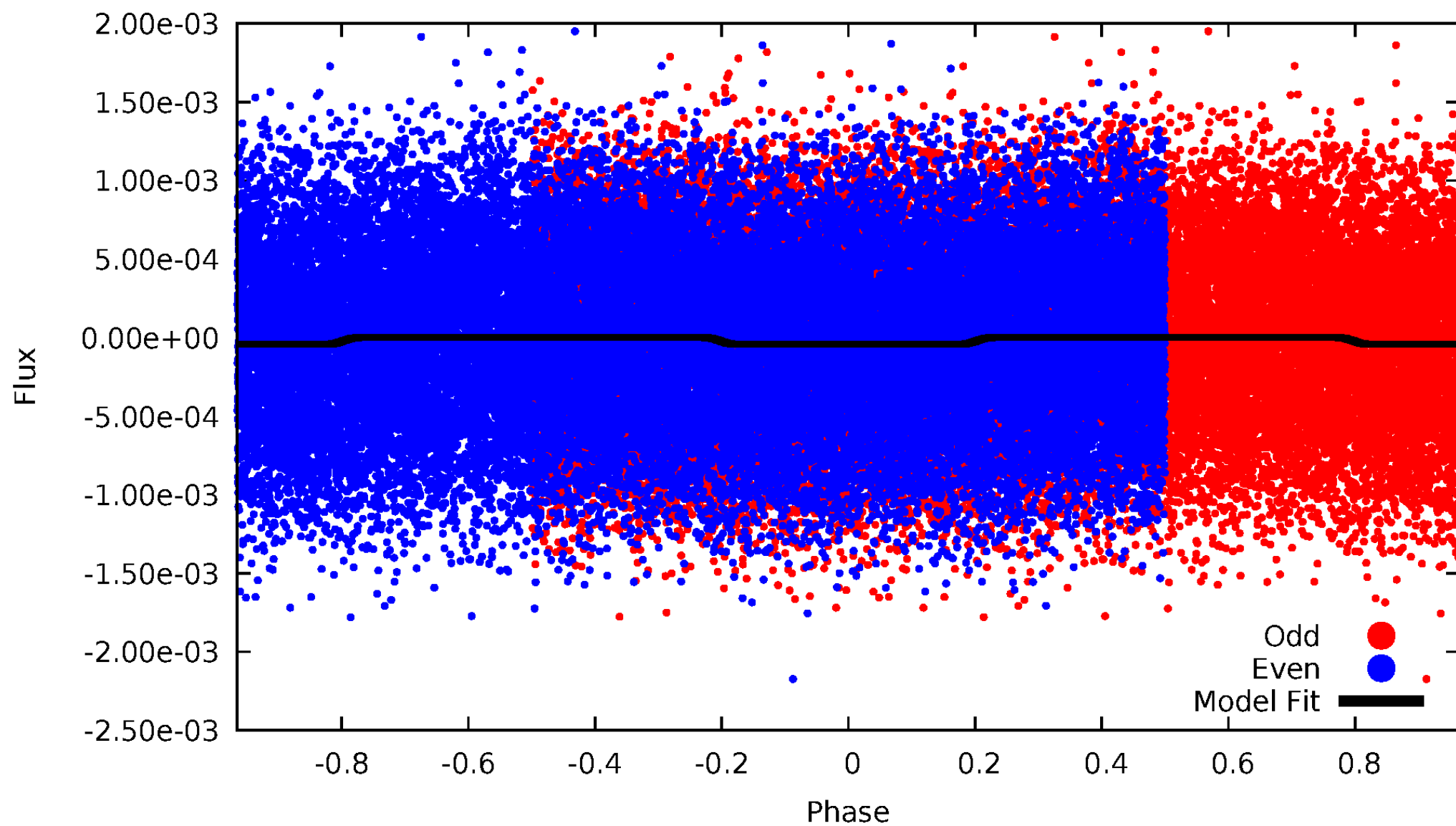
DV Odd/Even

TCE 003347643-02



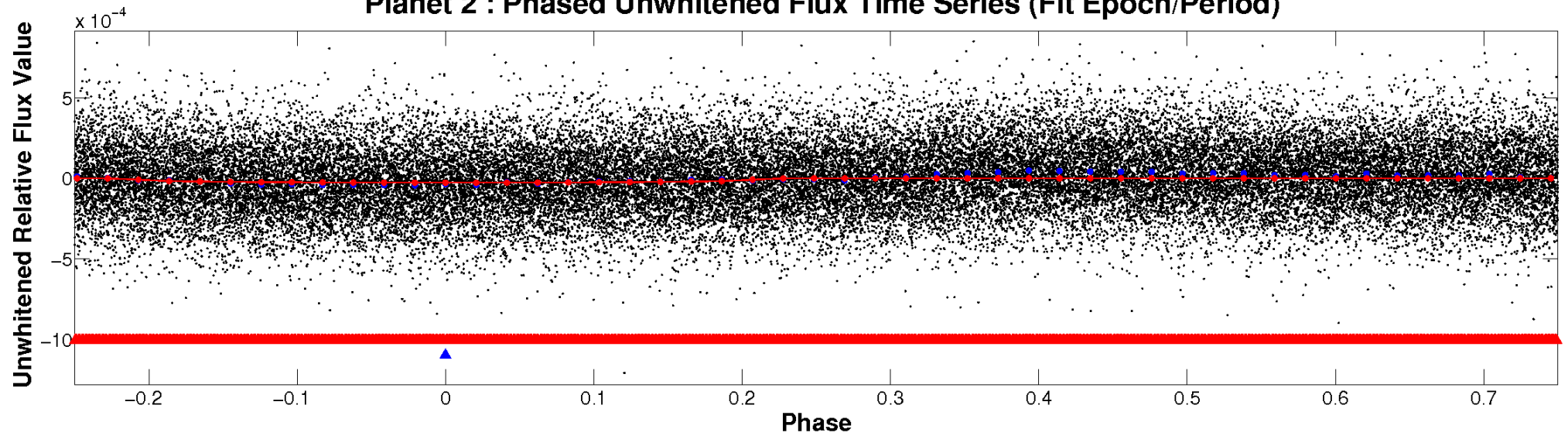
ALT Odd/Even

TCE 003347643-02

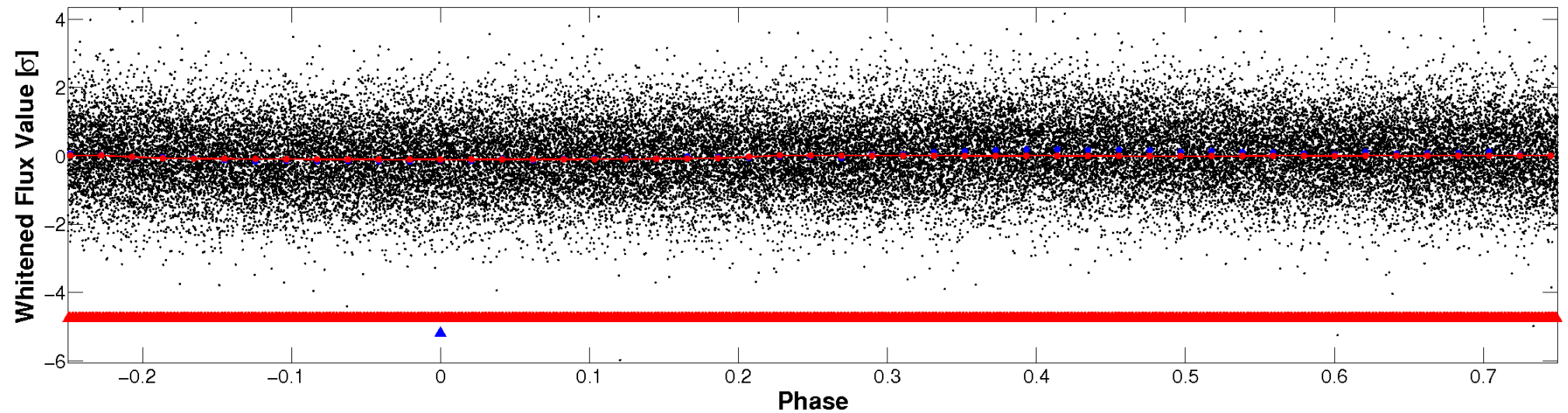


Non-Whitened Vs. Whitened Light Curve

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

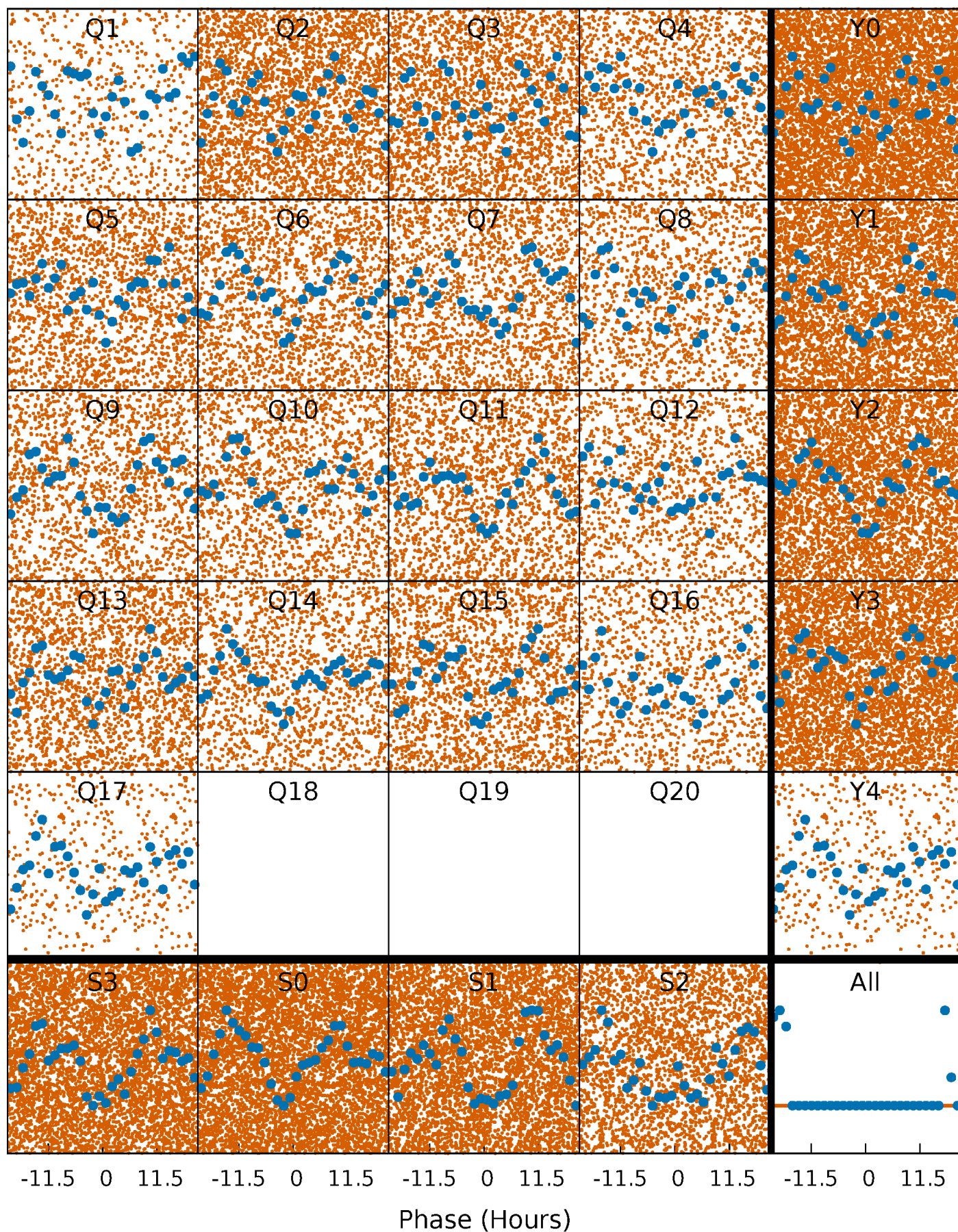


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



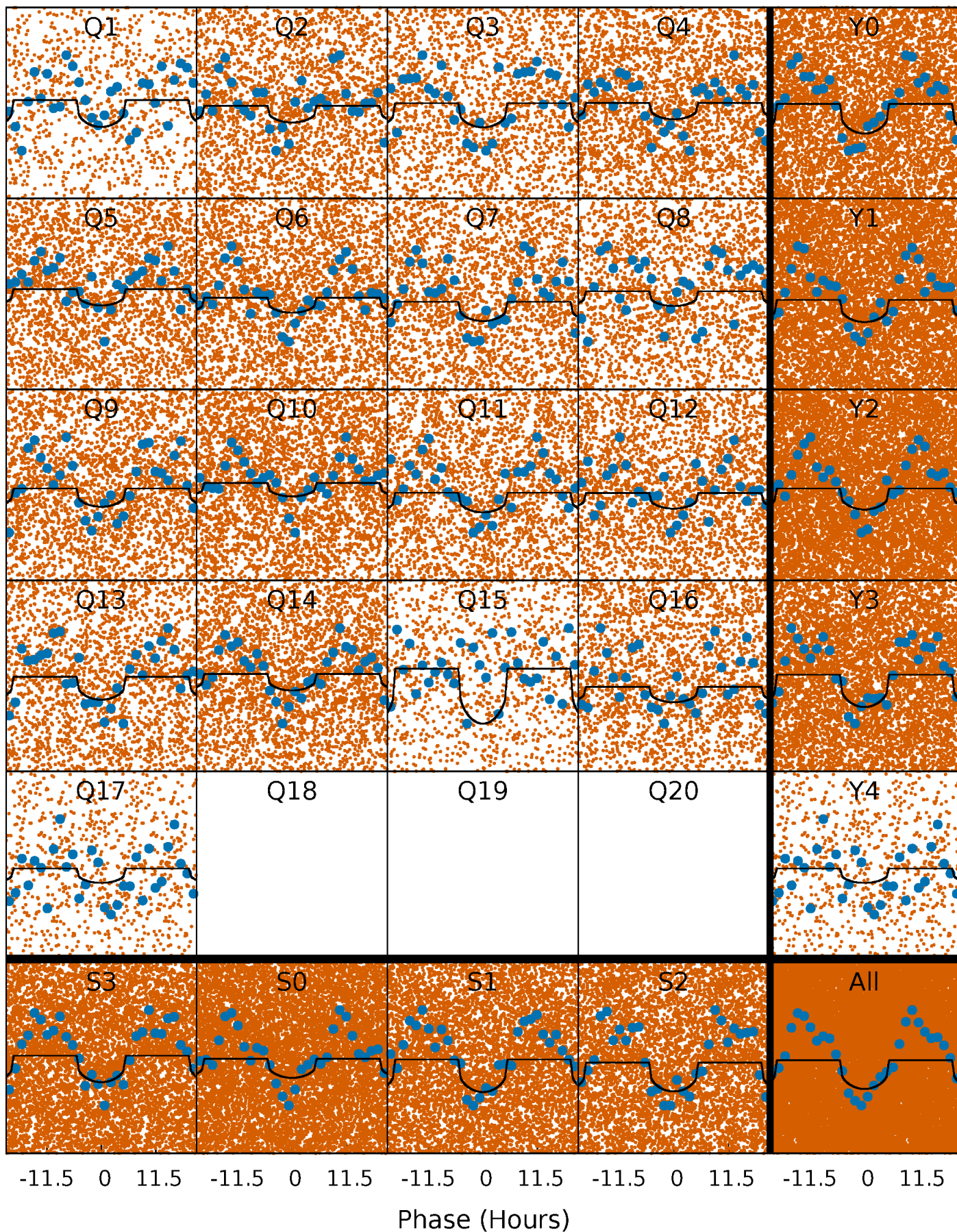
PDC Quarter-Phased Transit Curves

TCE 003347643-02 P= 0.987062 Days $T_0=132.063357$ (BKJD)



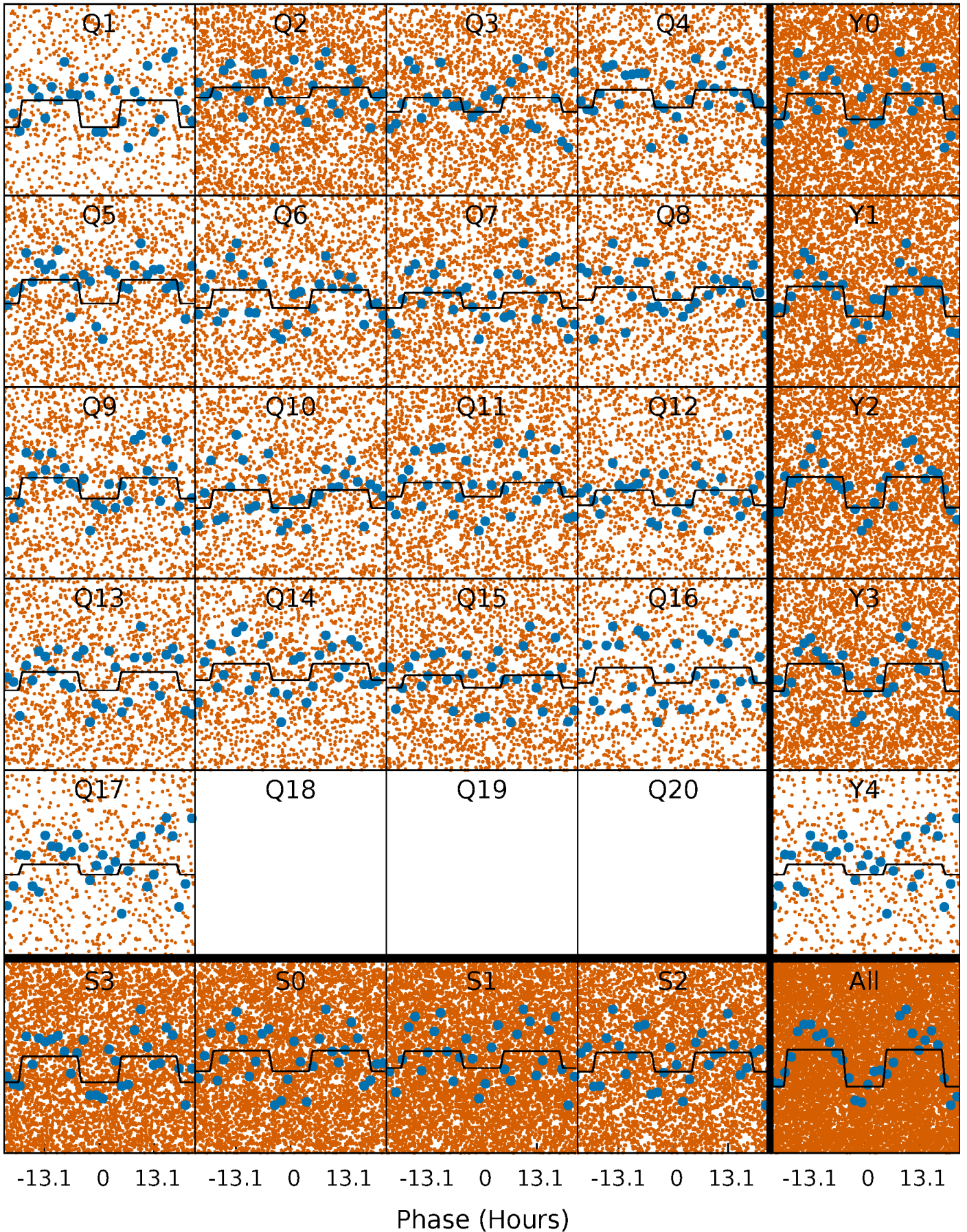
DV Quarter-Phased Transit Curves

TCE 003347643-02 P= 0.987062 Days $T_0=132.063357$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

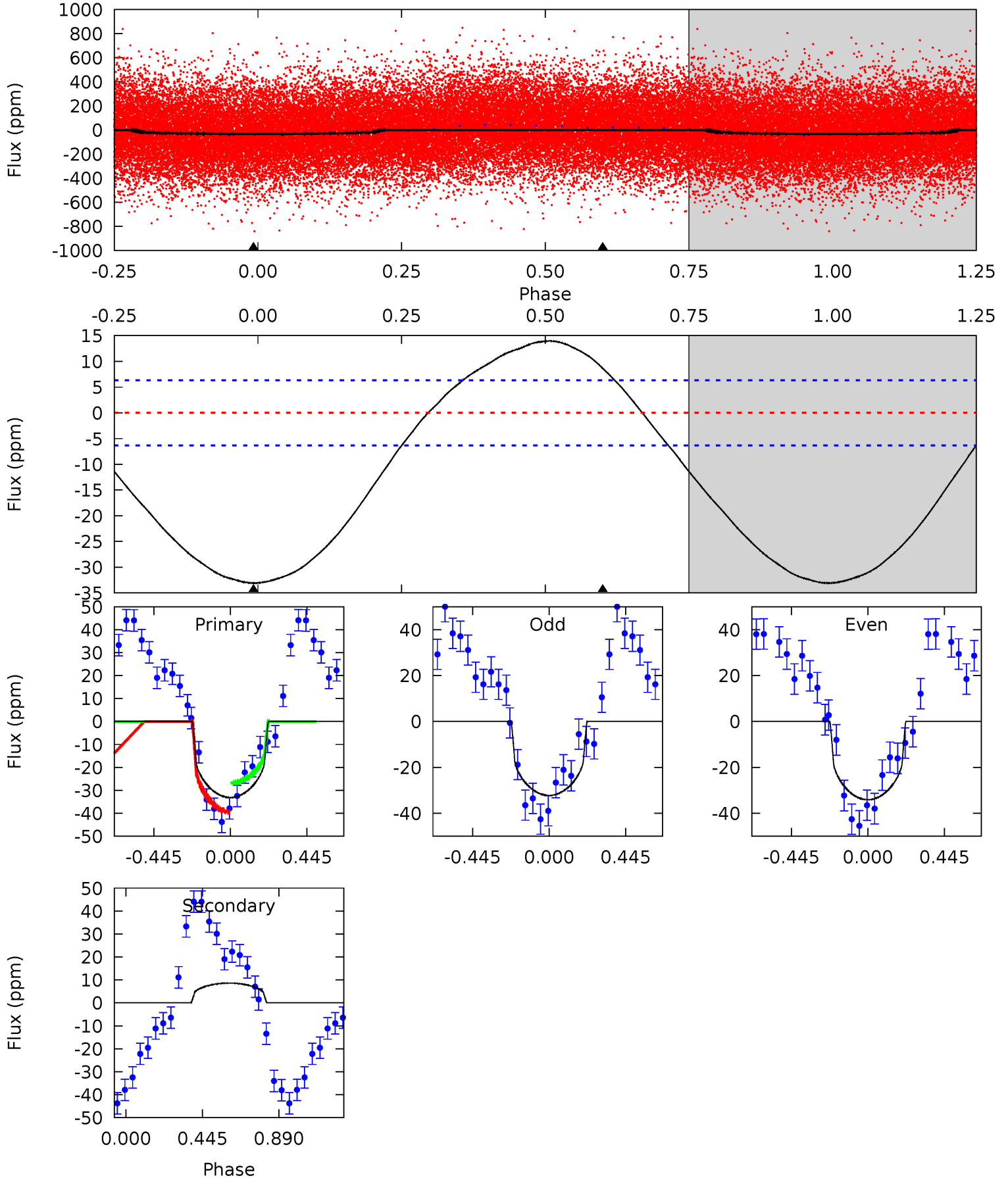
TCE 003347643-02 P= 0.987044 Days $T_0=132.085123$ (BKJD)



DV Model-Shift Uniqueness Test

003347643-02, P = 0.987062 Days, E = 131.076295 Days

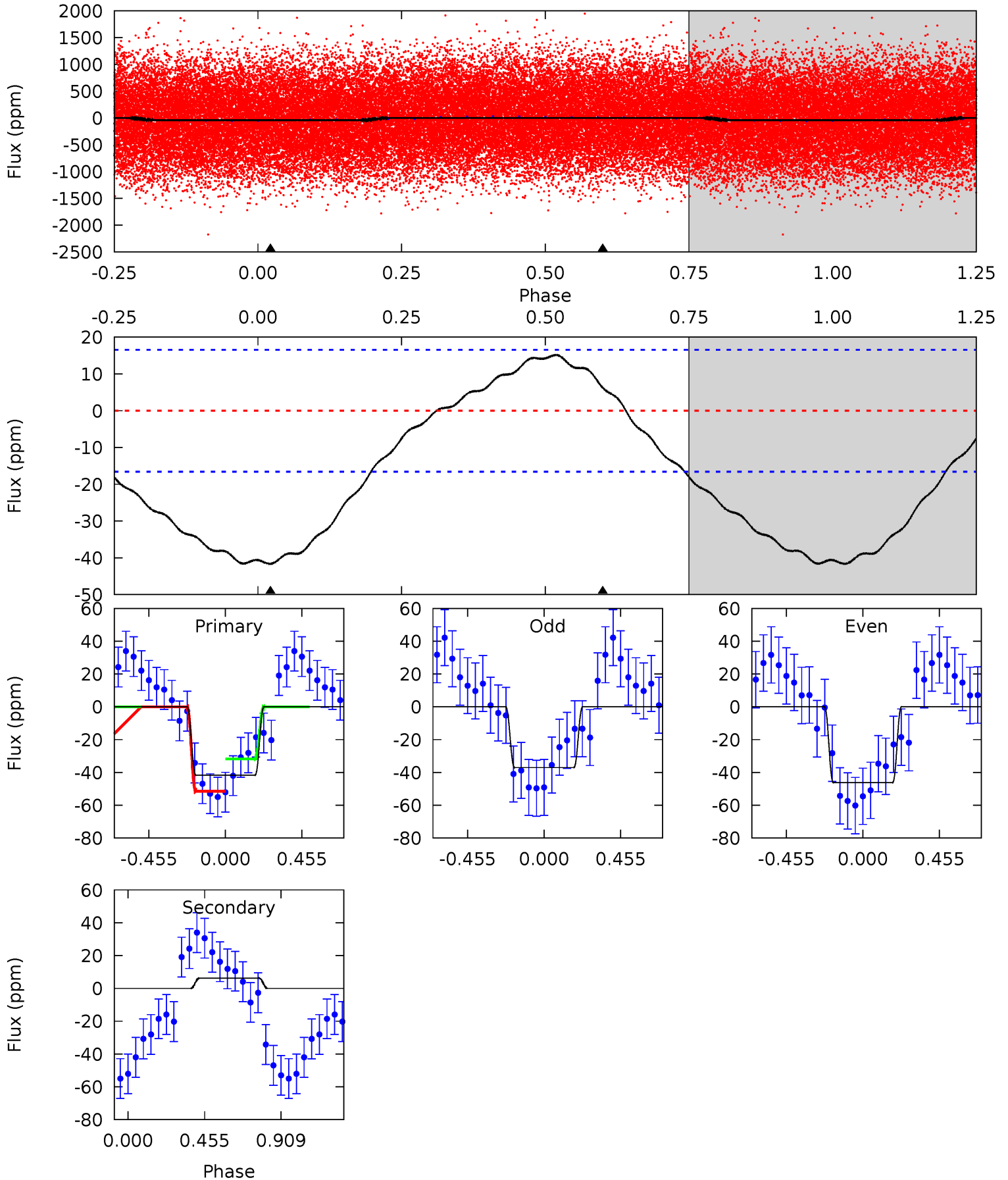
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	-5.79	0	0	4.24	0.76	2.40	22.2	22.2	-5.79	-5.79	0.62	0.96	0.30	4.27



Alt Model-Shift Uniqueness Test

003347643-02, $P = 0.987044$ Days, $E = 131.098079$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	-1.59	0	0	4.24	0.75	0.70	10.6	10.6	-1.59	-1.59	1.19	0.98	0.27	2.54



Stellar Parameters For KIC 003347643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6287^{+359}_{-584}	$4.064^{+0.319}_{-0.172}$	$0.000^{+0.250}_{-0.300}$	$1.693^{+0.521}_{-0.636}$	$1.211^{+0.222}_{-0.271}$	$0.352^{+0.904}_{-0.161}$
	+6%/-9%	+8%/-4%	+inf%/-inf%	+31%/-38%	+18%/-22%	+257%/-46%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003347643-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	9 ± 1	$0.95^{+0.63}_{-0.57}$	3405^{+385}_{-422}	-4891^{+792}_{-2591}	$-2.225^{+1.410}_{-12.914}$
Alt.	6 ± 4	$1.16^{+0.73}_{-0.63}$	3411^{+392}_{-432}	-4257^{+648}_{-1411}	$-0.995^{+0.746}_{-4.290}$

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 $A_{obs} \gg 1.0$

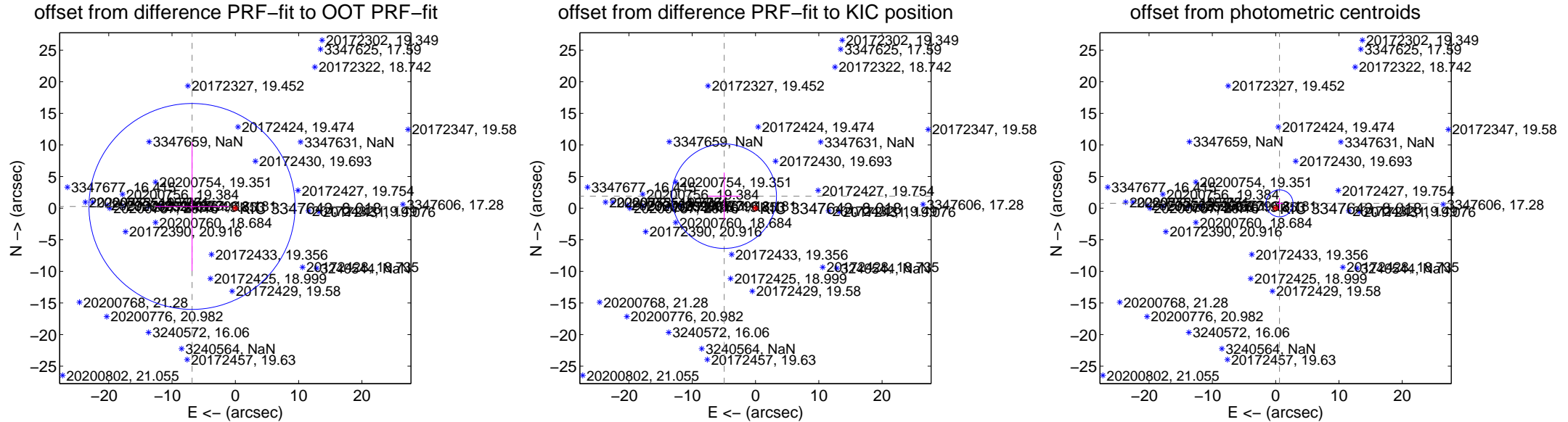
DV Centroid Data

Supplemental centroid analysis for 003347643-02. **Kepler magnitude: 8.02.** Transit SNR 12.85

There are 0 quarters with good PRF difference image offsets

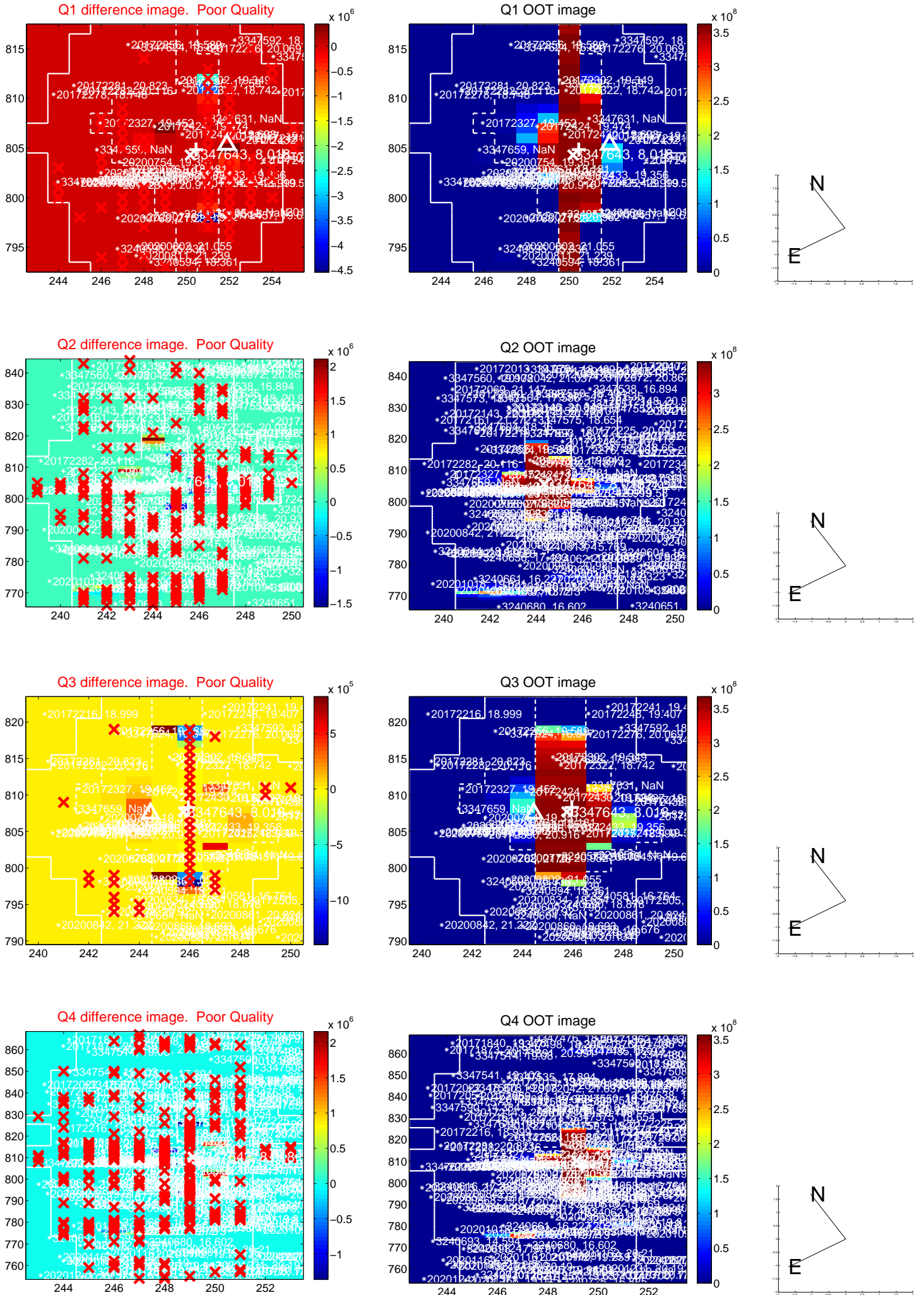
The OOT PRF centroid is offset from the target star catalog position by about 2.27 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.849 ± 5.429	1.26	6.843 ± 5.819	0.273 ± 10.194
PRF-fit source offset from KIC position	5.303 ± 2.755	1.92	4.951 ± 2.578	1.899 ± 3.745
photometric centroid source offset	0.98 ± 0.71	1.38	-0.61 ± 0.51	0.77 ± 0.81

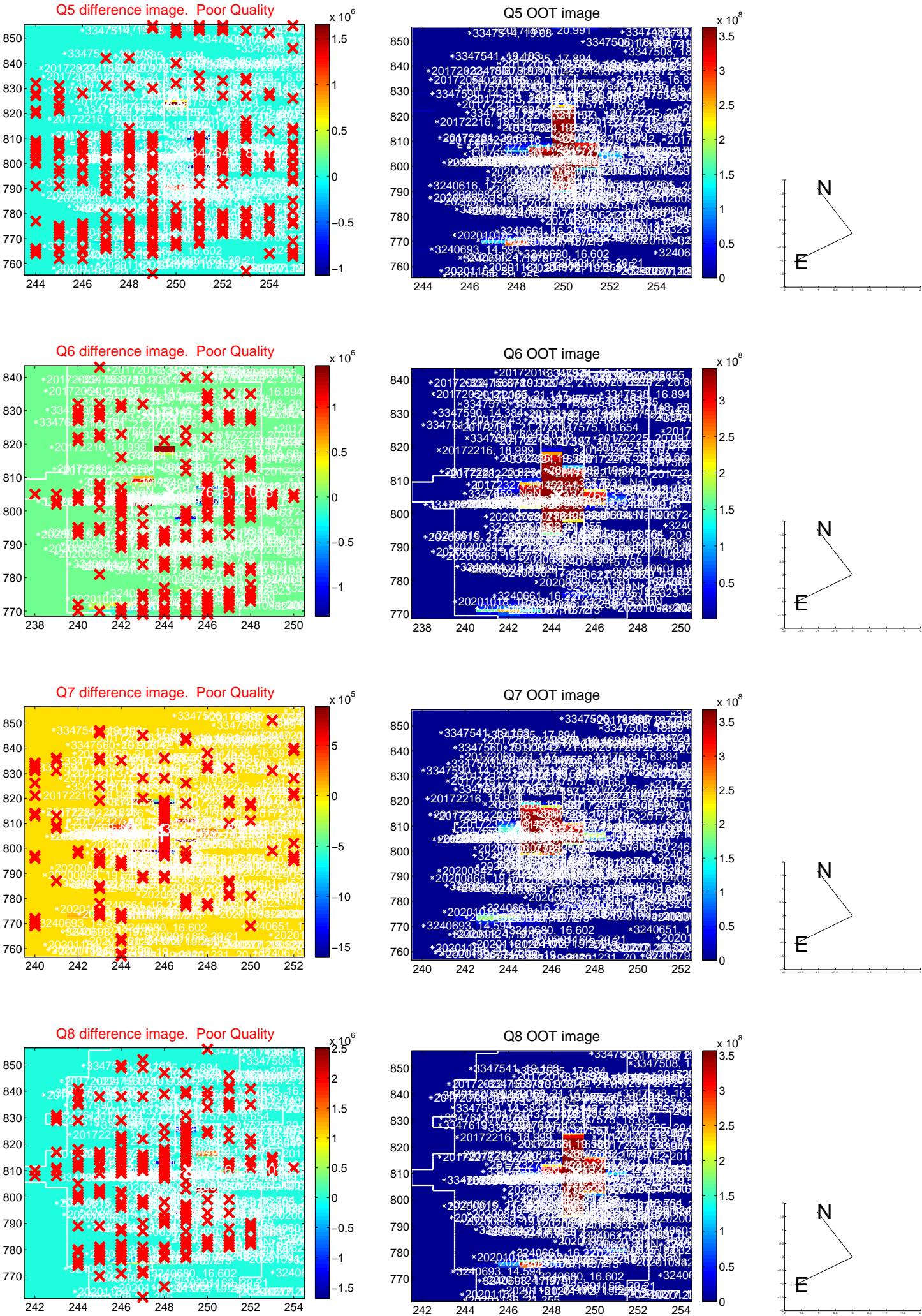


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

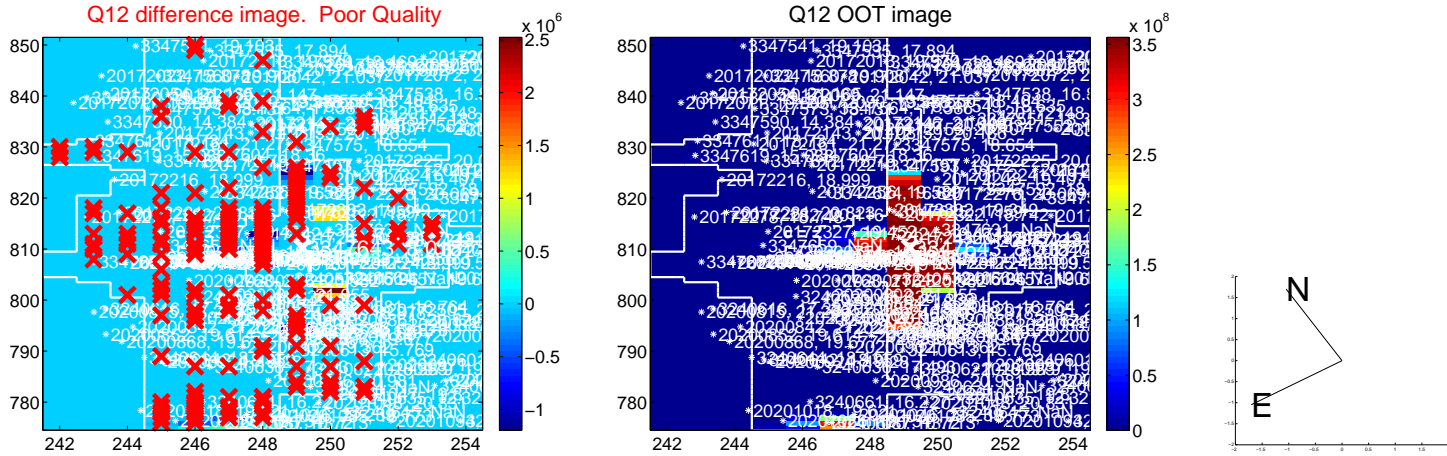
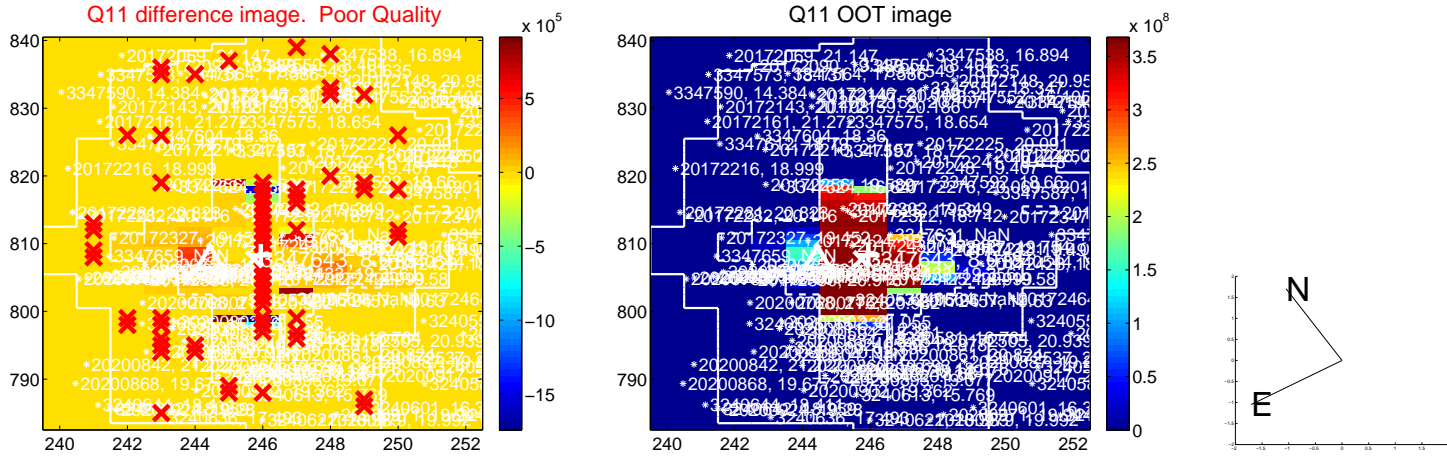
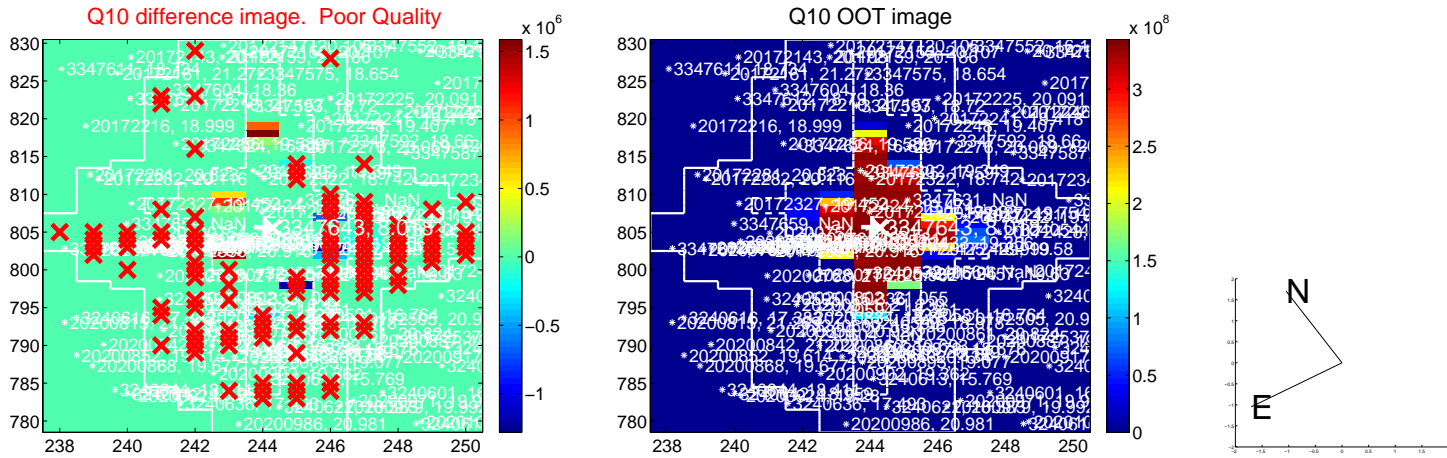
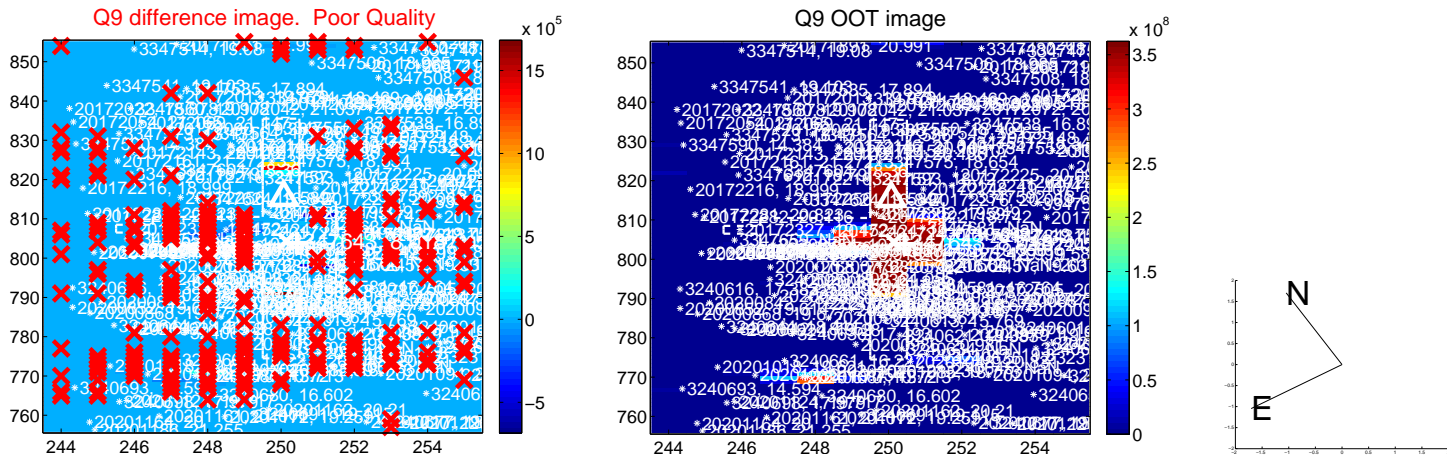
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



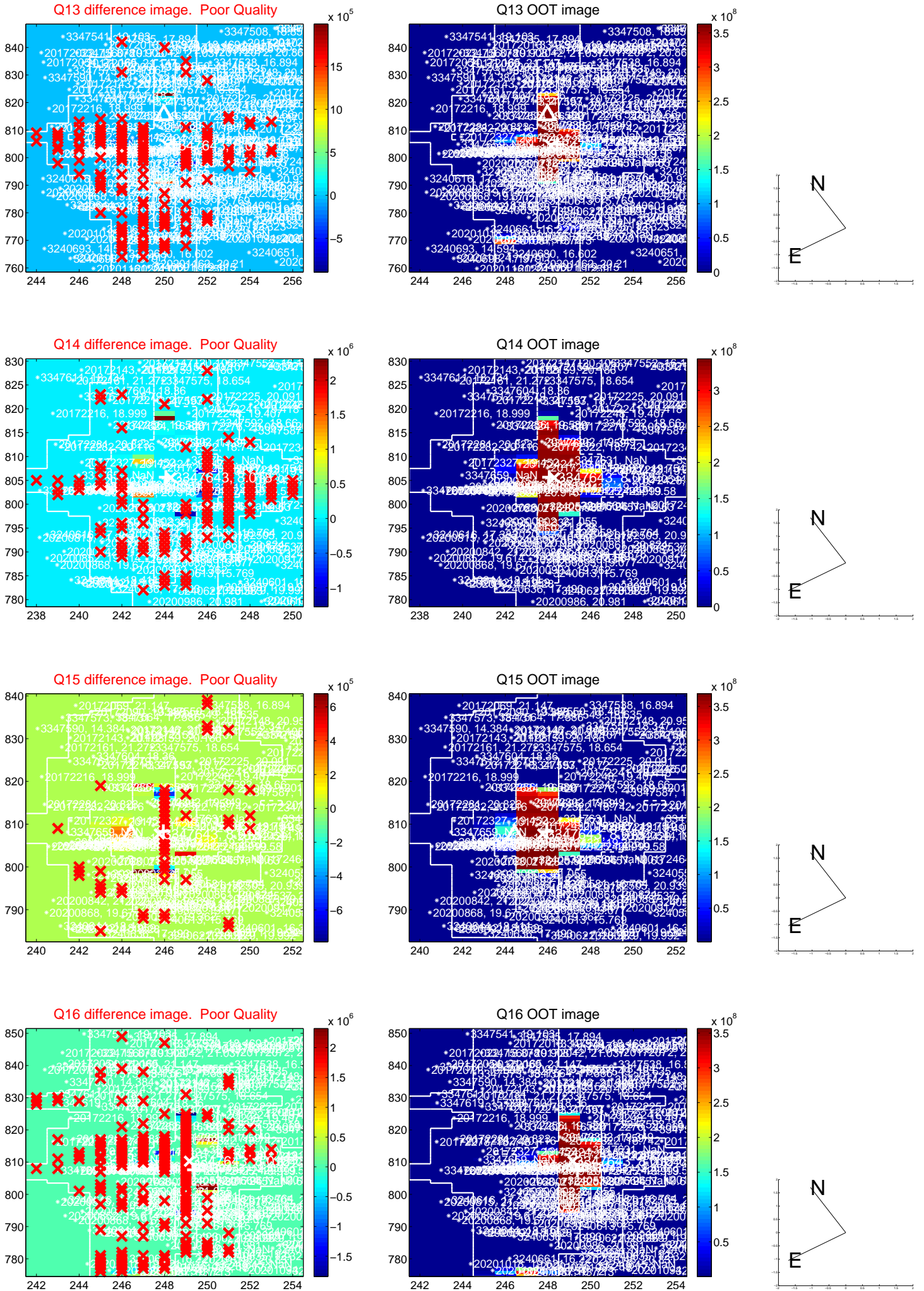
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



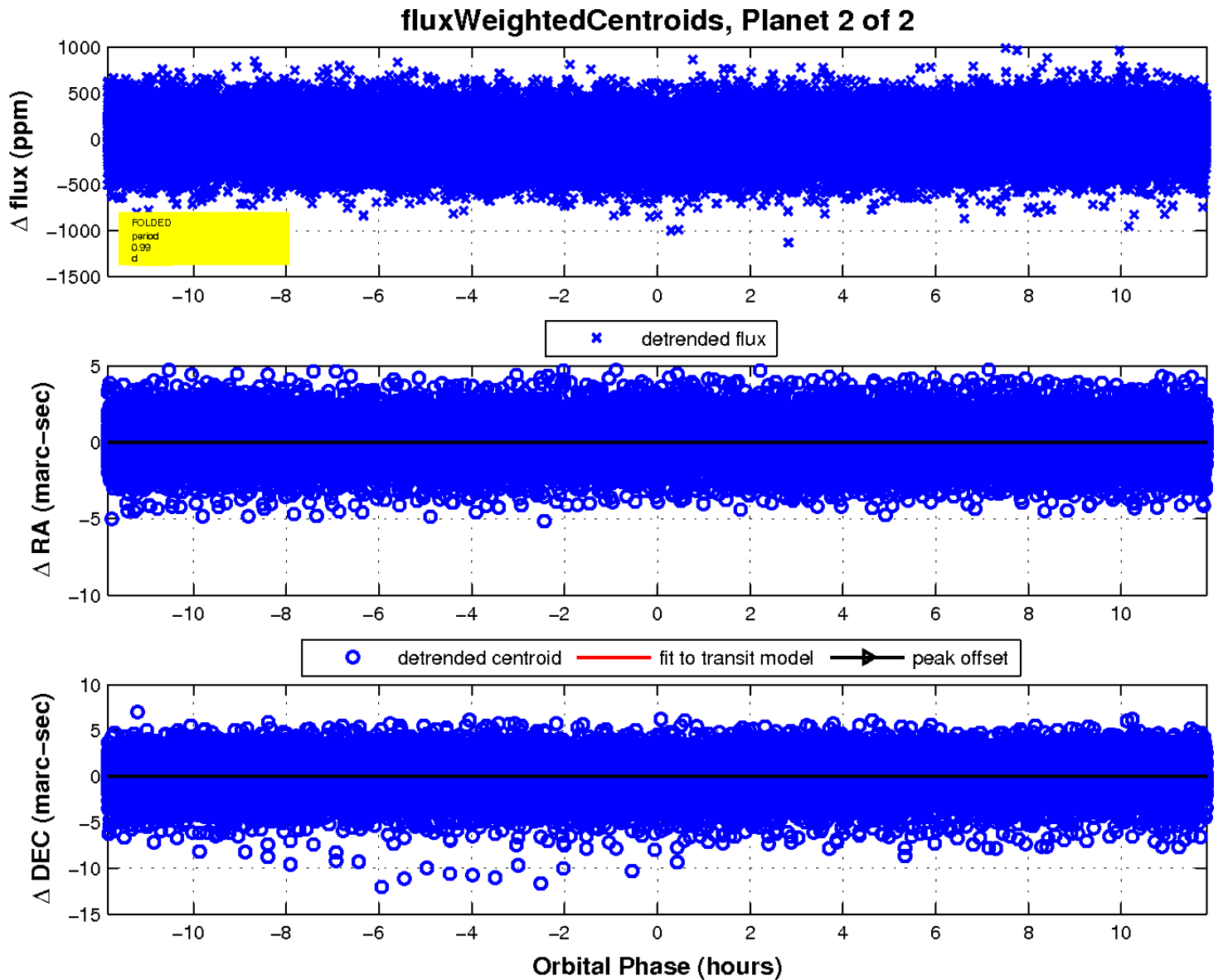
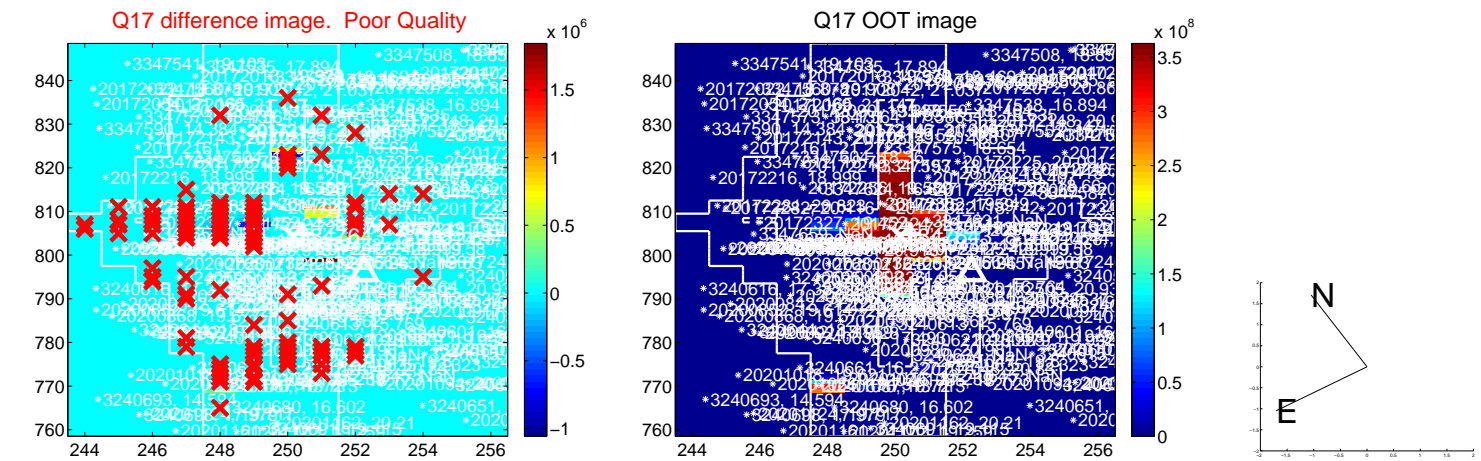
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

