

KIC 008331919

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})
008331919-01	OBS	No	1.706917	132.630285	60.7	3.636	11.3	10.5	2.00	8254	1.81	14544.85
008331919-02	OBS	No	0.632548	132.059503	39.2	6.403	7.9	10.9	2.00	8254	1.26	54642.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008331919-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008331919-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

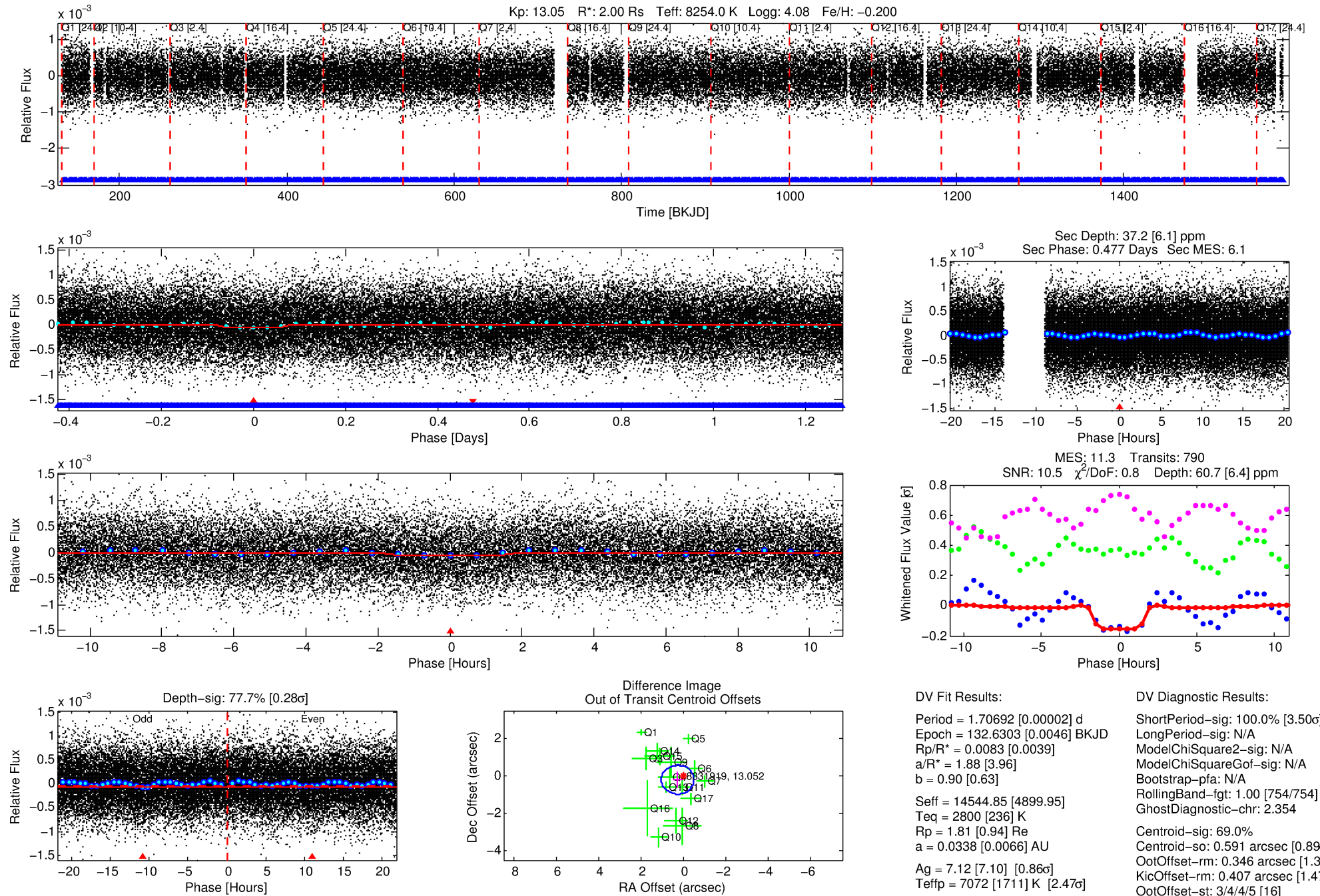
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008331919-01

No Significant Match Found

DV One-Page Summary

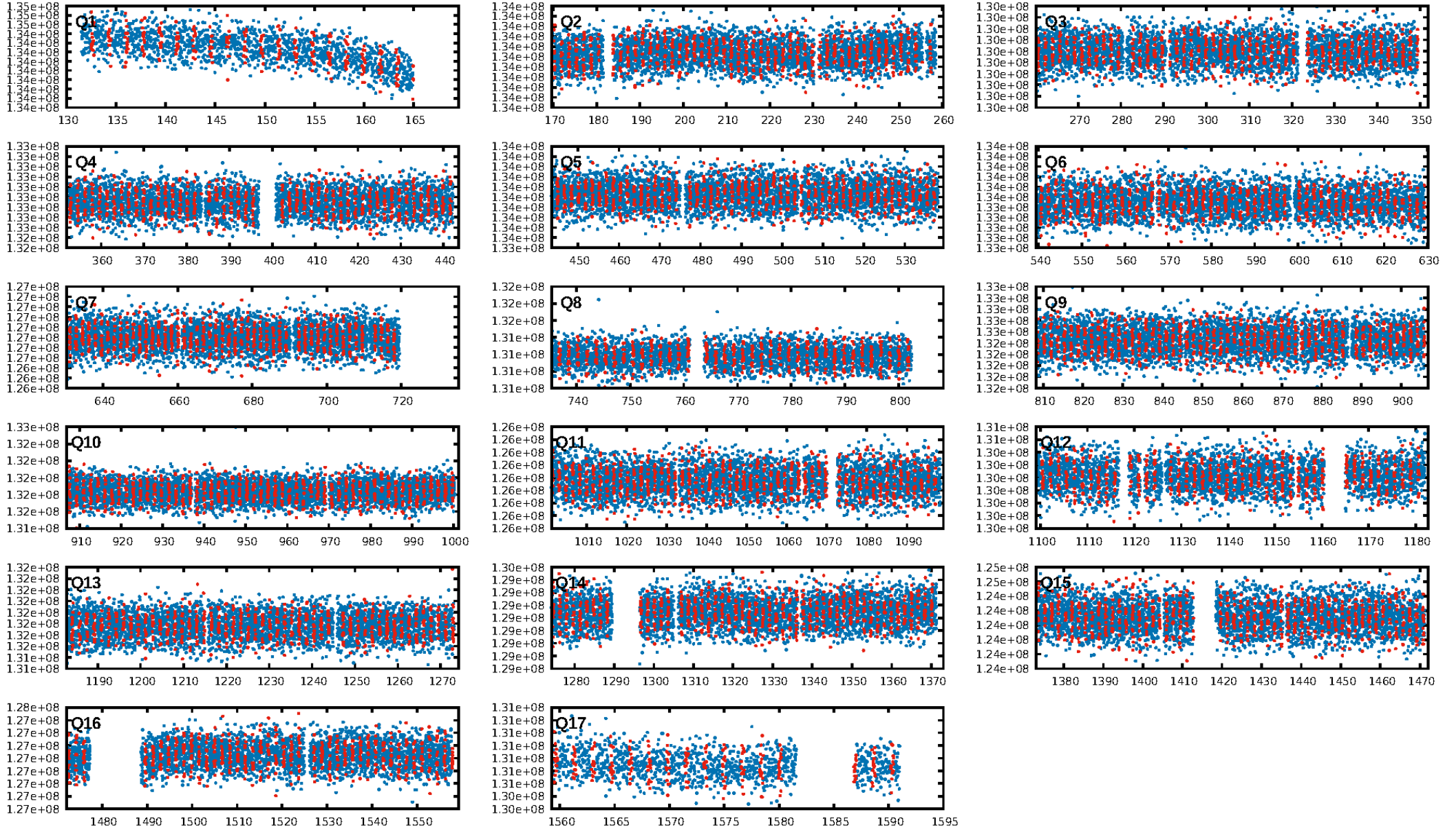
KIC: 8331919 Candidate: 1 of 2 Period: 1.707 d



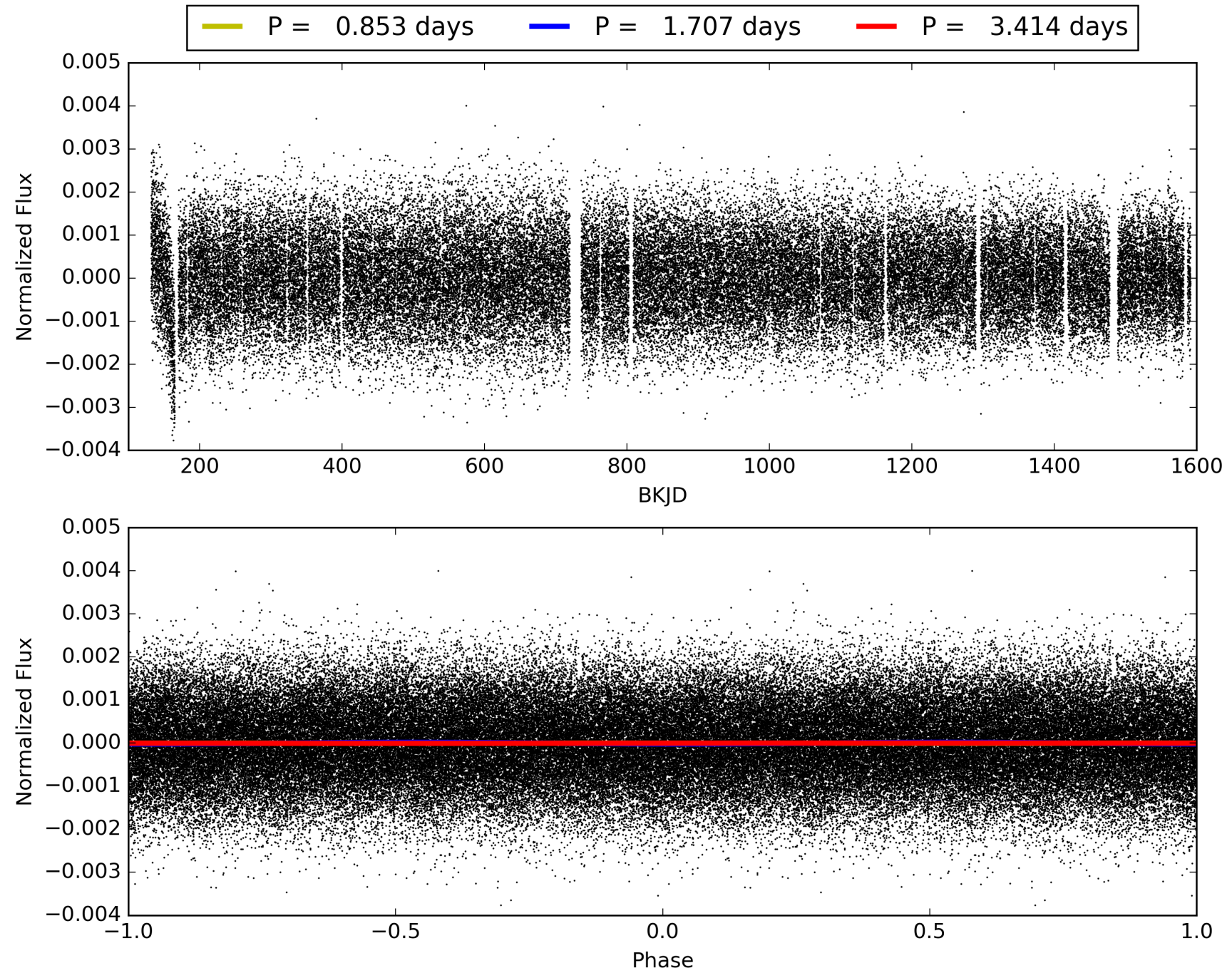
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:58:09 Z

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

TCE 008331919-01, PDC Light Curves

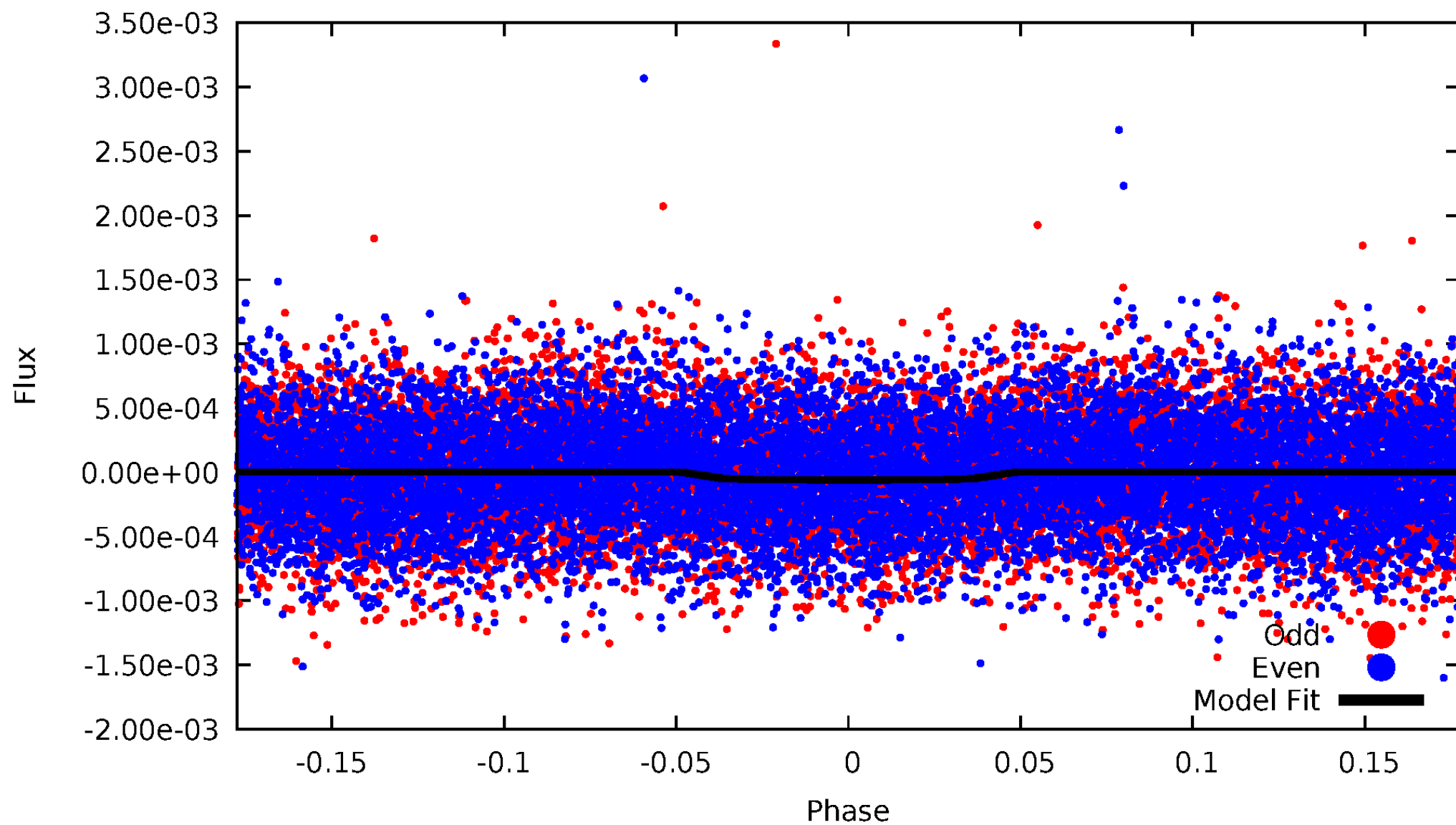


TCE 008331919-01



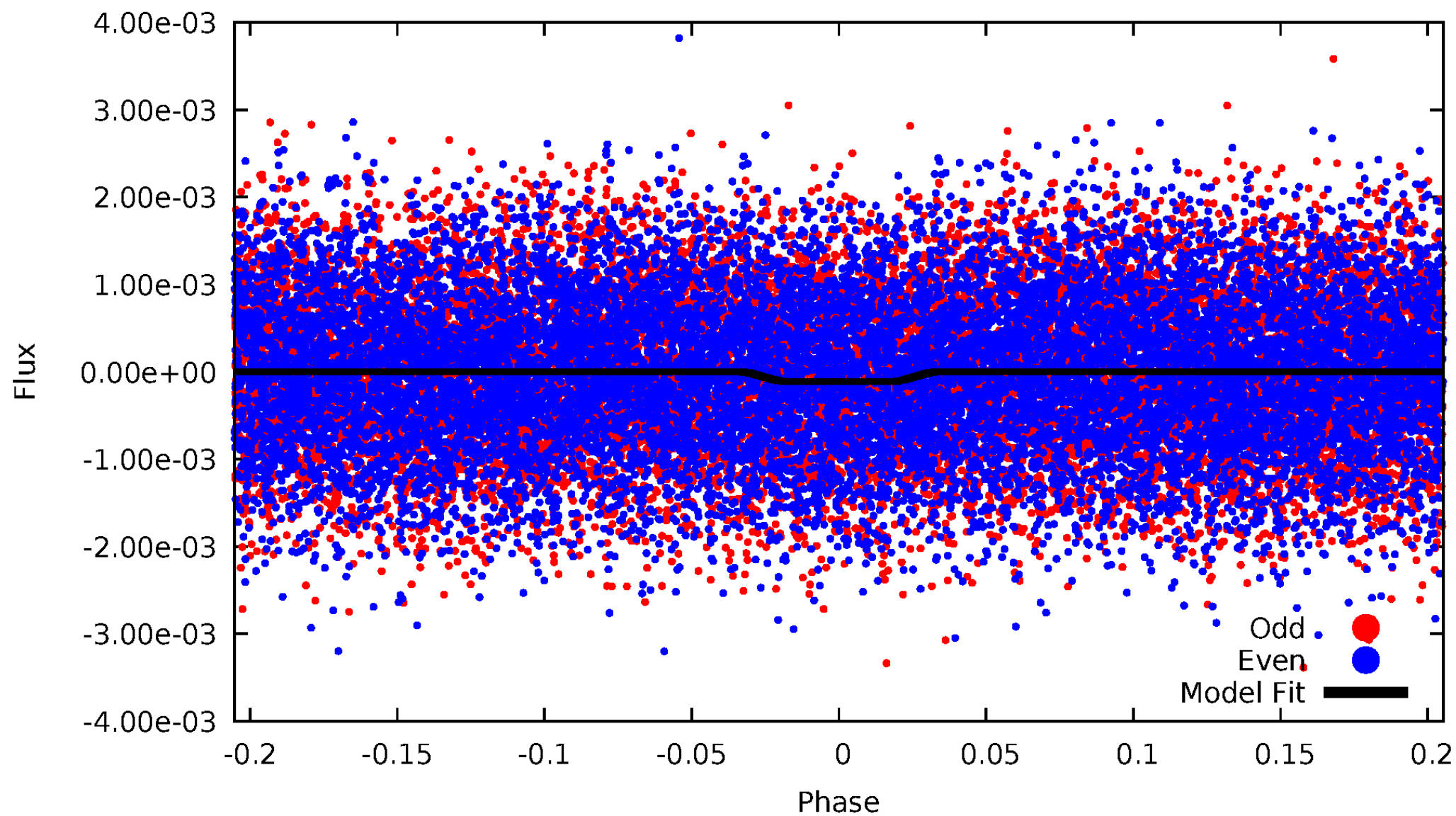
DV Odd/Even

TCE 008331919-01



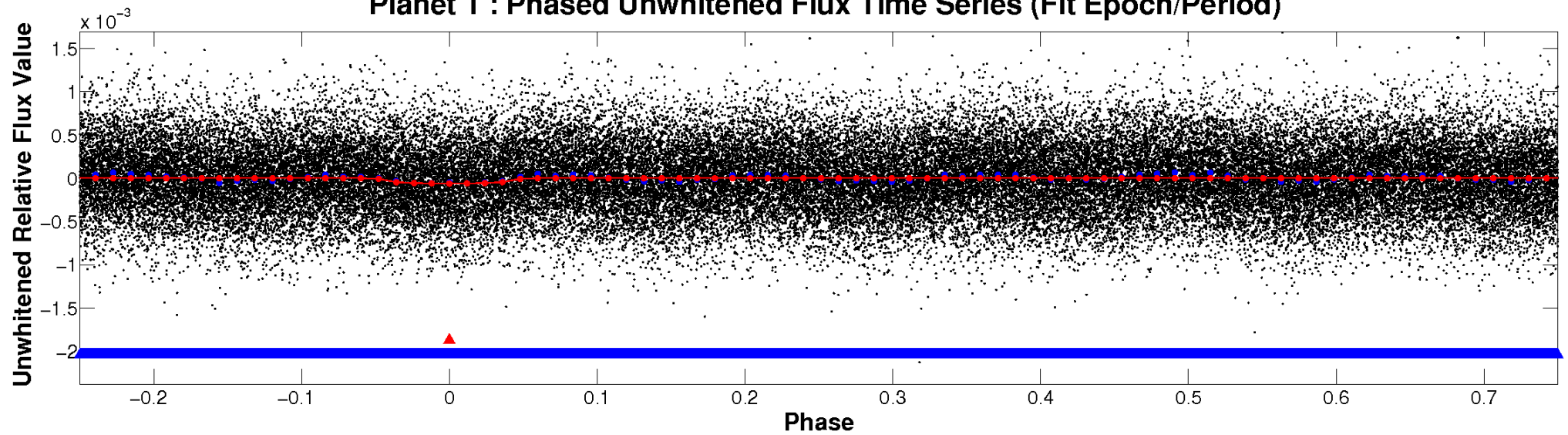
ALT Odd/Even

TCE 008331919-01

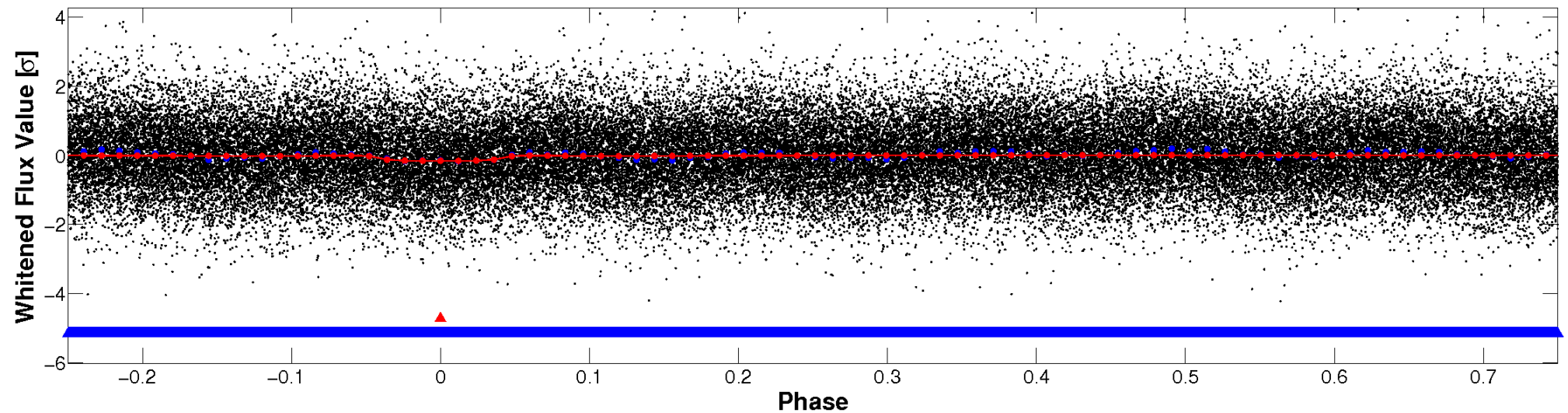


Non-Whitened Vs. Whitened Light Curve

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

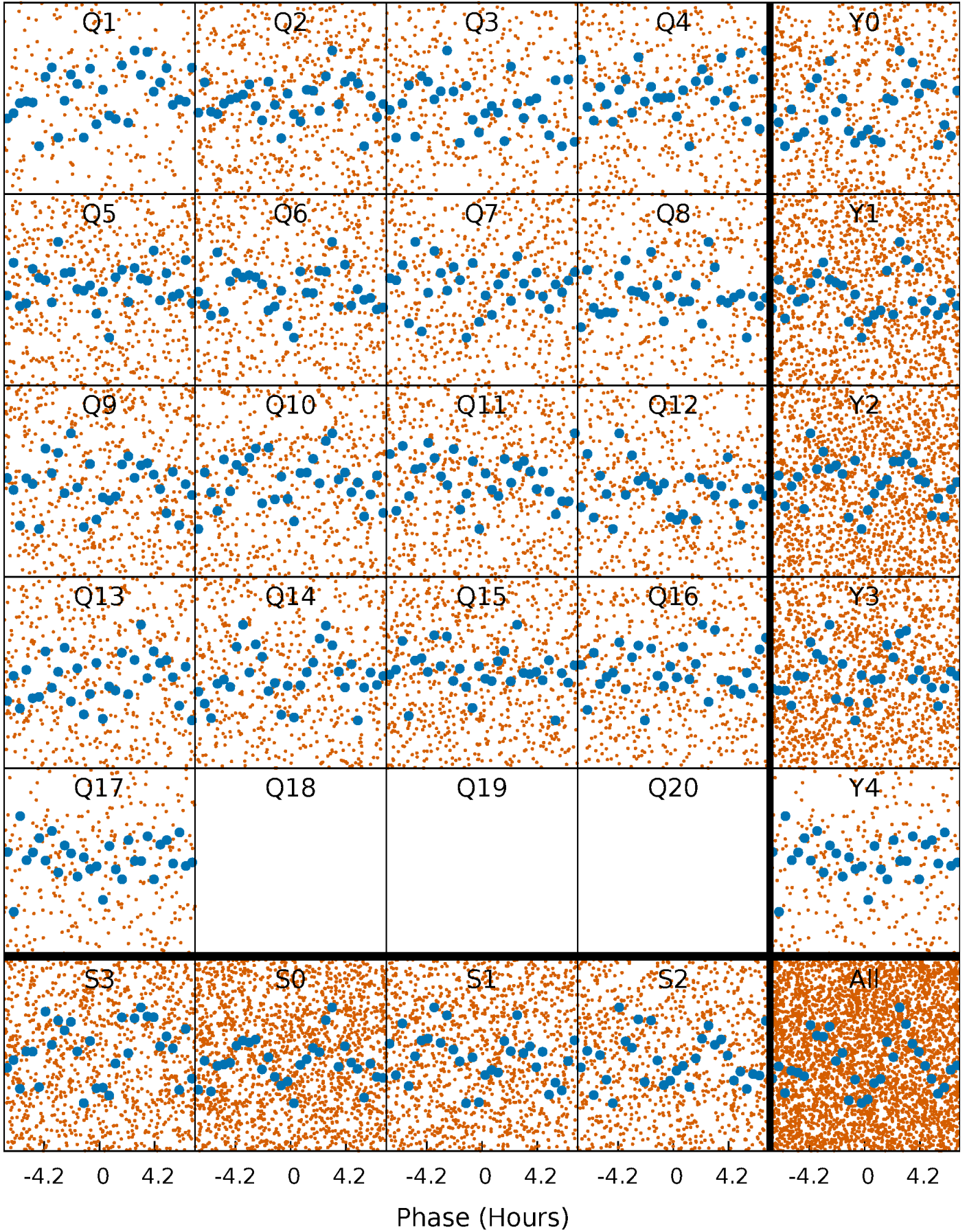


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



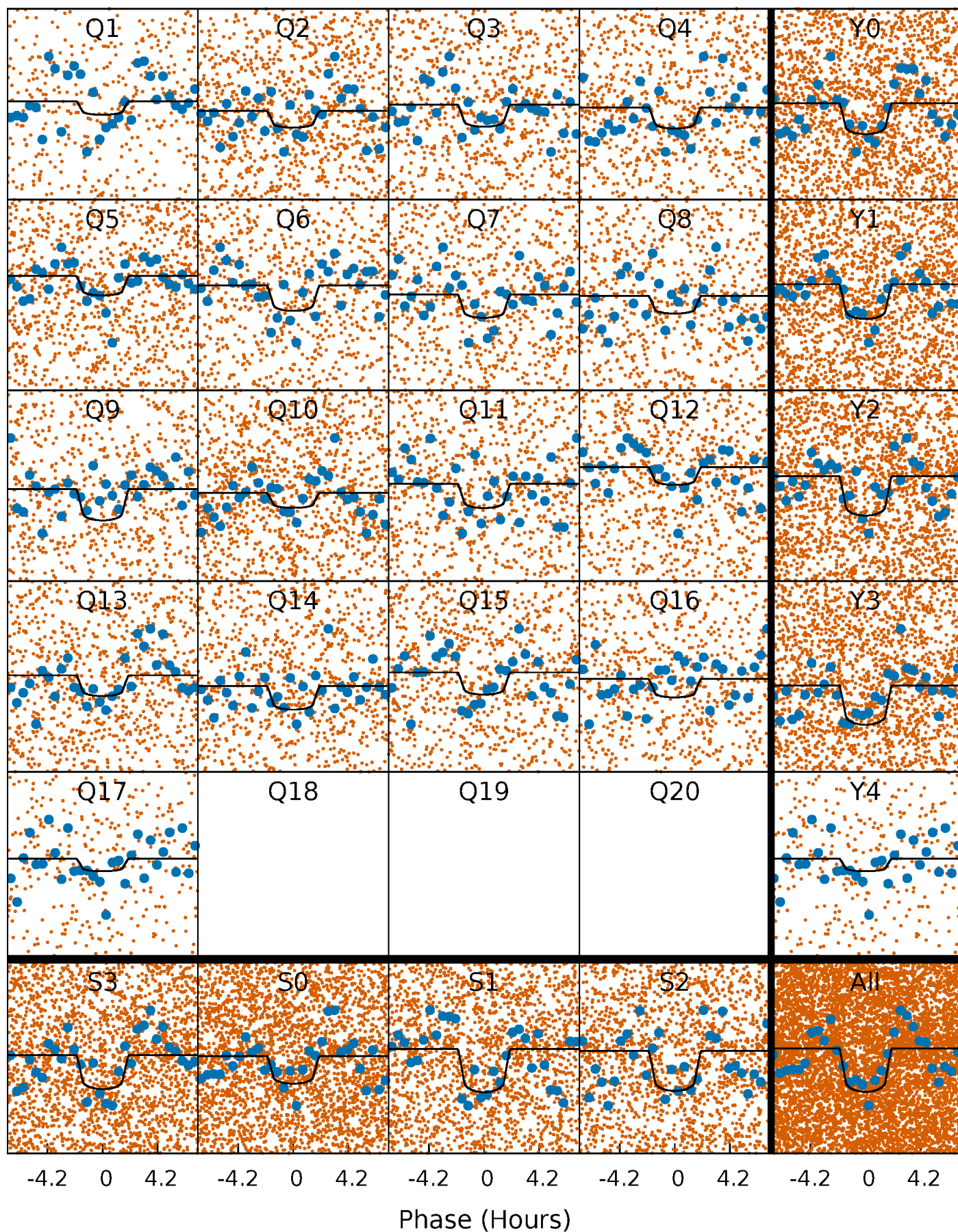
PDC Quarter-Phased Transit Curves

TCE 008331919-01 P= 1.706917 Days $T_0=132.630285$ (BKJD)



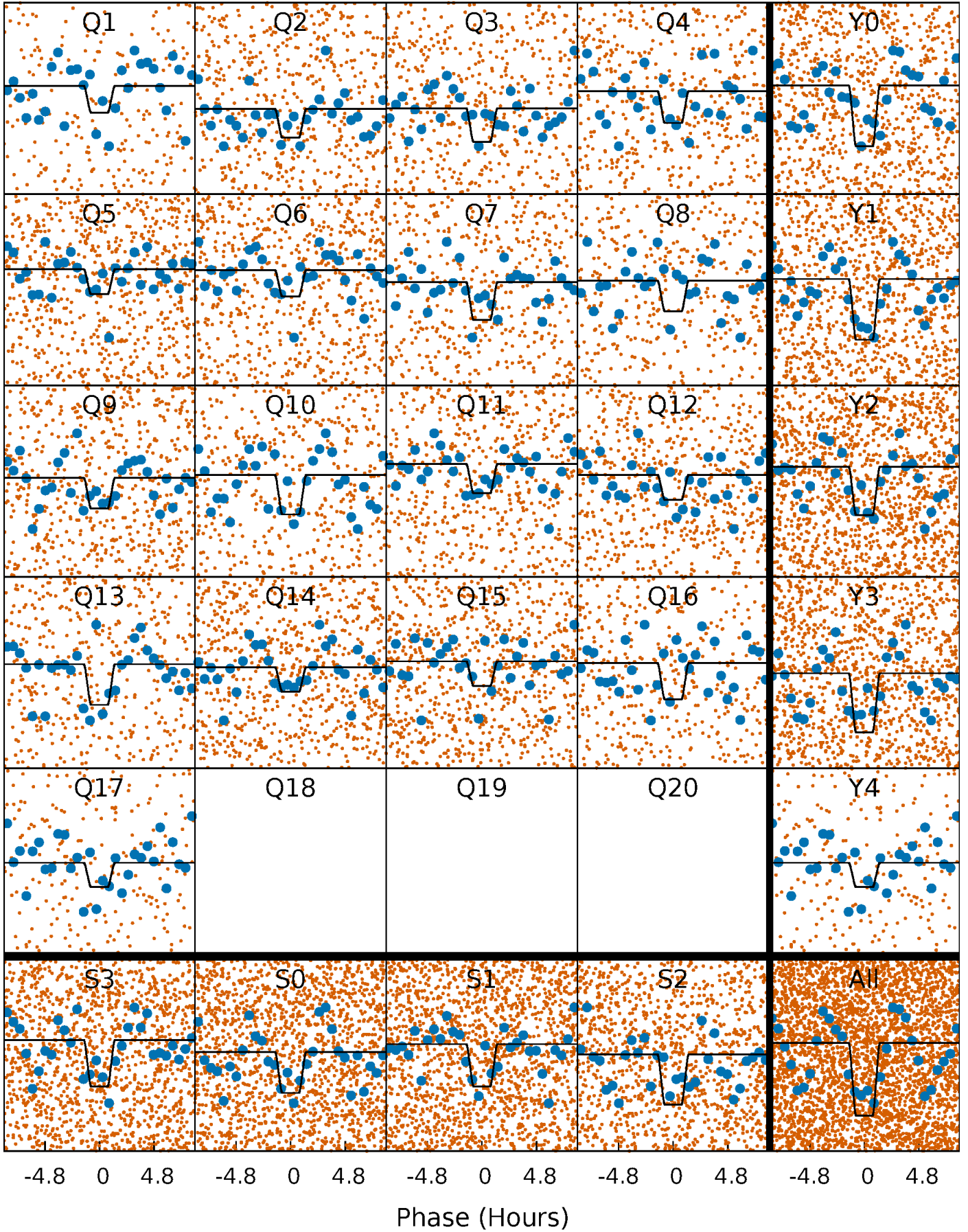
DV Quarter-Phased Transit Curves

TCE 008331919-01 P= 1.706917 Days $T_0=132.630285$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

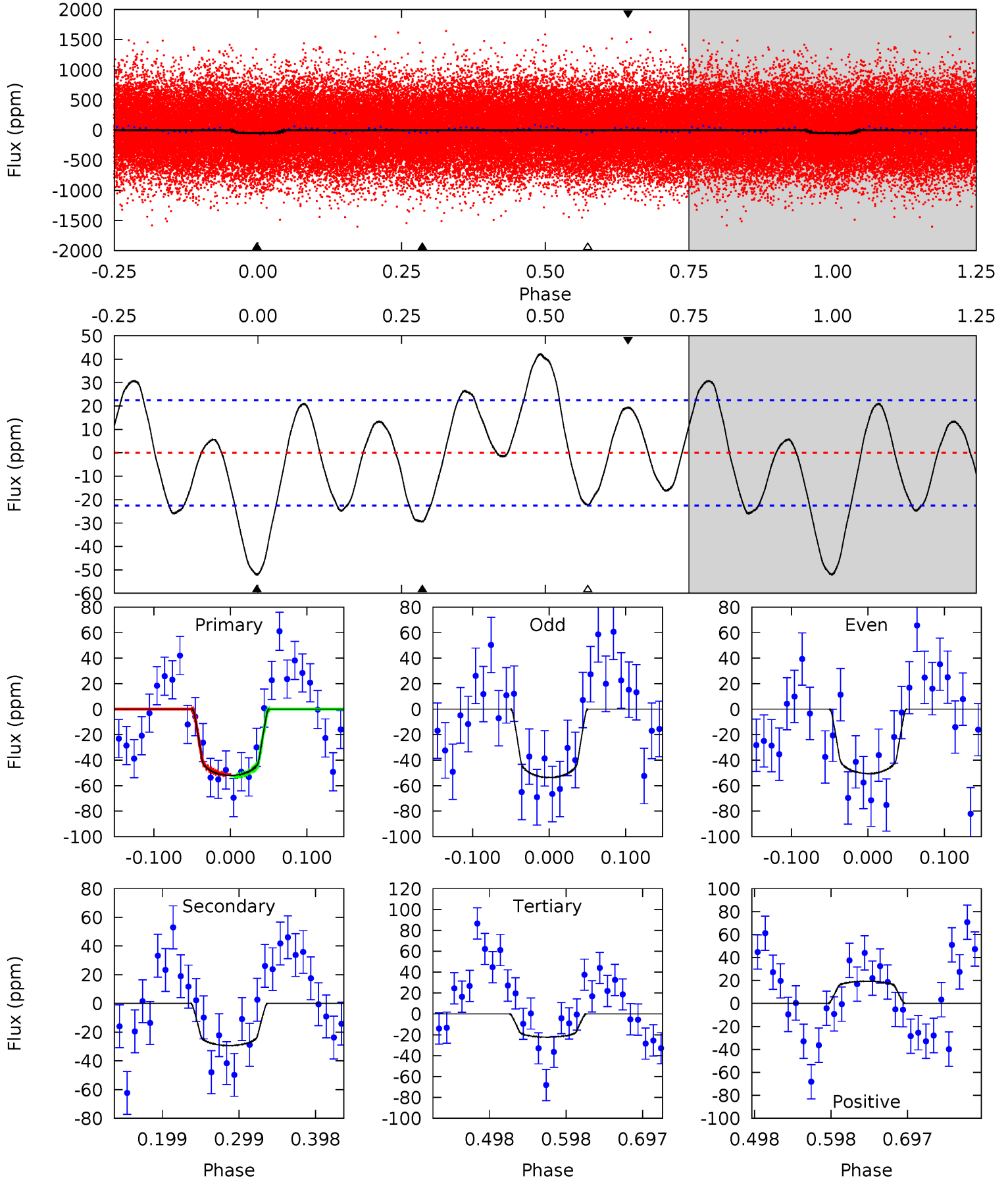
TCE 008331919-01 P= 1.706913 Days $T_0=132.624843$ (BKJD)



DV Model-Shift Uniqueness Test

008331919-01, P = 1.706917 Days, E = 130.923368 Days

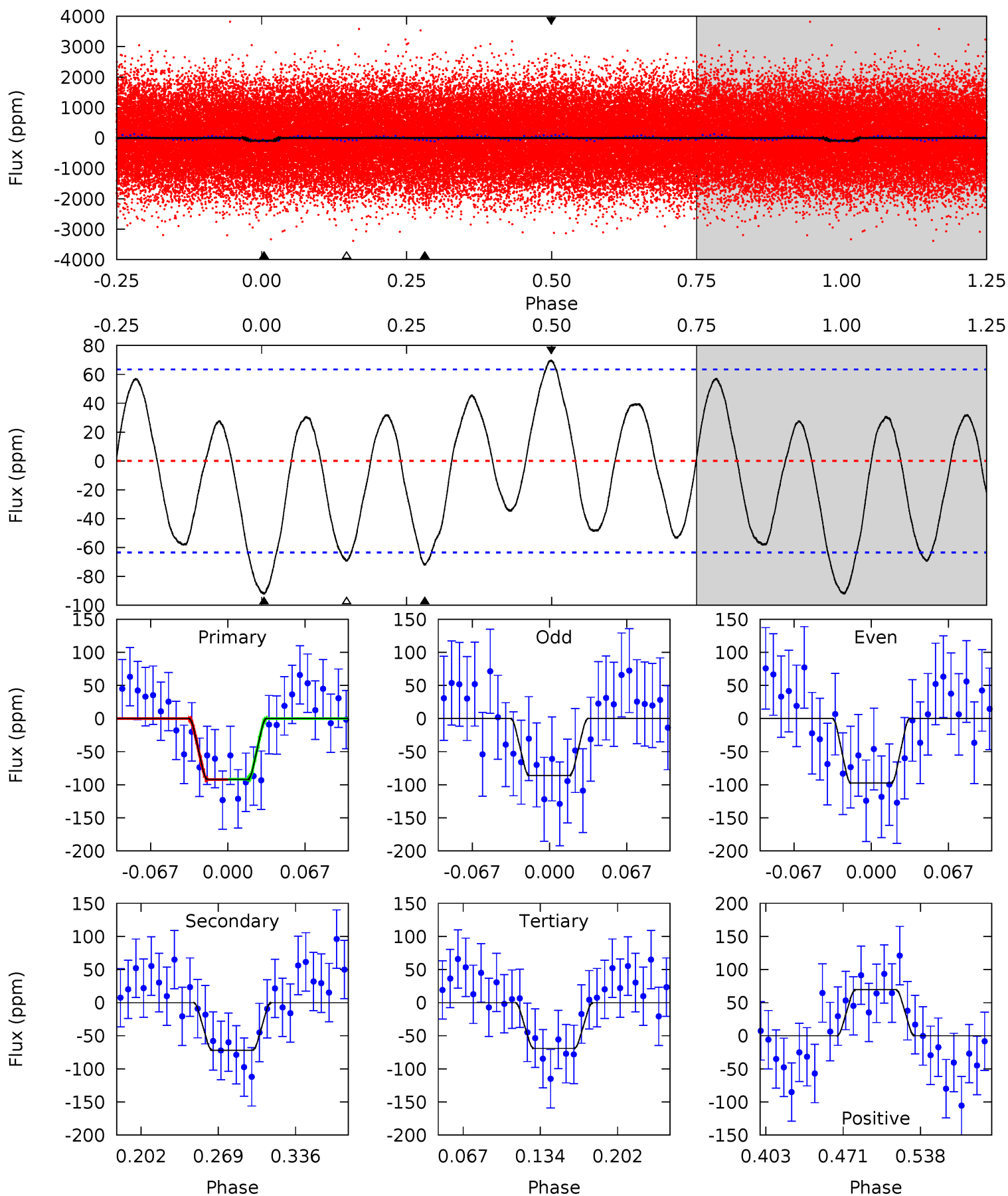
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	5.95	4.51	3.92	4.57	1.65	3.80	6.02	6.61	1.43	2.02	0.32	1.30	0.45	0.12



Alt Model-Shift Uniqueness Test

008331919-01, P = 1.706913 Days, E = 130.917930 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	5.27	5.07	5.10	4.65	1.83	2.71	1.67	1.64	0.20	0.17	0.42	1.06	0.43	0.01



Stellar Parameters For KIC 008331919

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8254^{+226}_{-340}	$4.083^{+0.165}_{-0.135}$	$-0.200^{+0.250}_{-0.300}$	$1.996^{+0.446}_{-0.446}$	$1.757^{+0.146}_{-0.271}$	$0.311^{+0.282}_{-0.129}$
	+3%/-4%	+4%/-3%	+125%/-150%	+22%/-22%	+8%/-15%	+91%/-41%
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 008331919-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-29 ± 5	$1.74^{+0.91}_{-0.74}$	3901^{+251}_{-256}	6376^{+2774}_{-1212}	$5.818^{+12.450}_{-3.232}$
Alt.	-72 ± 14	$2.22^{+0.88}_{-0.79}$	3888^{+257}_{-265}	7172^{+2270}_{-1288}	$9.014^{+12.195}_{-4.851}$

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 $A_{obs} \gg 1.0$

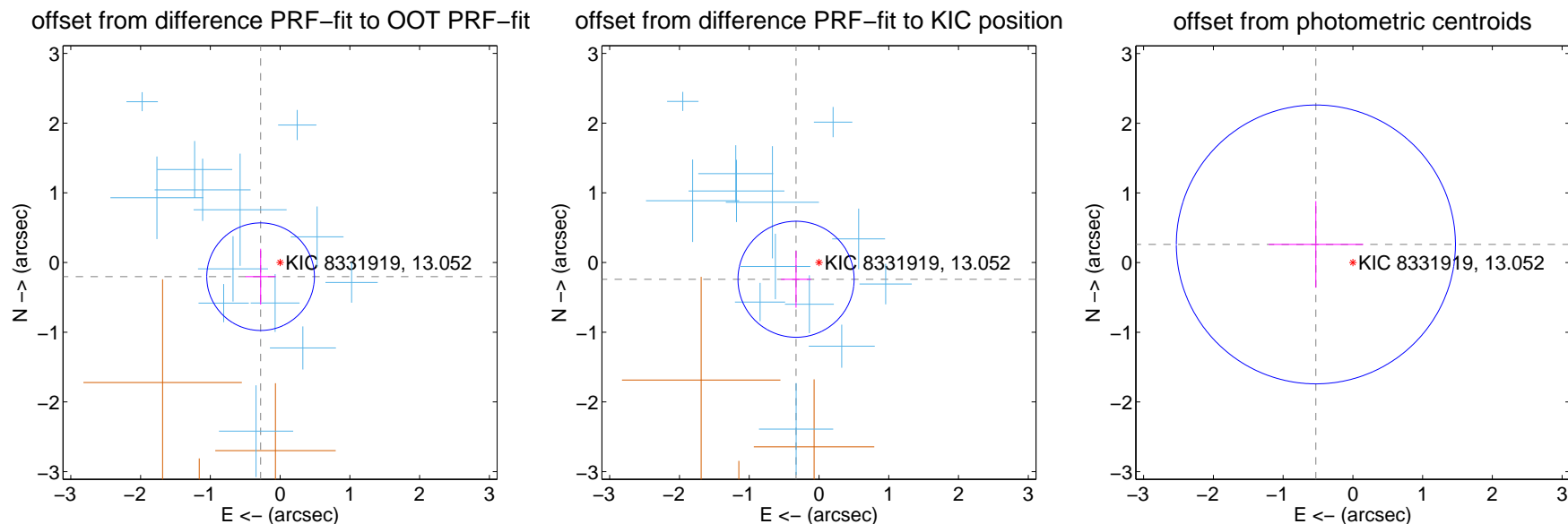
DV Centroid Data

Supplemental centroid analysis for 008331919-01. Kepler magnitude: 13.05. Transit SNR 10.46

There are 13 quarters with good PRF difference image offsets

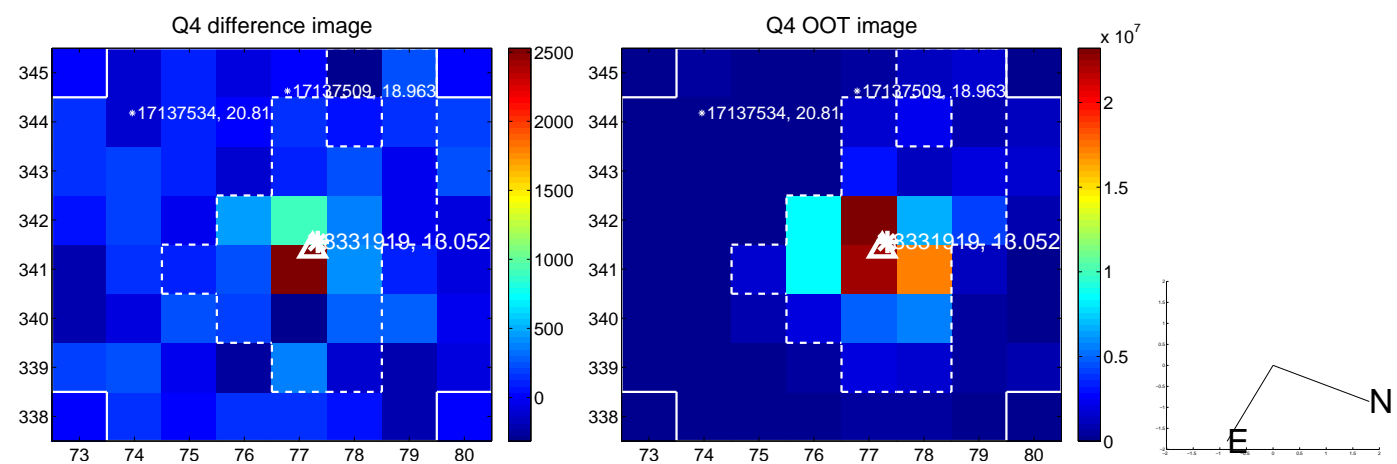
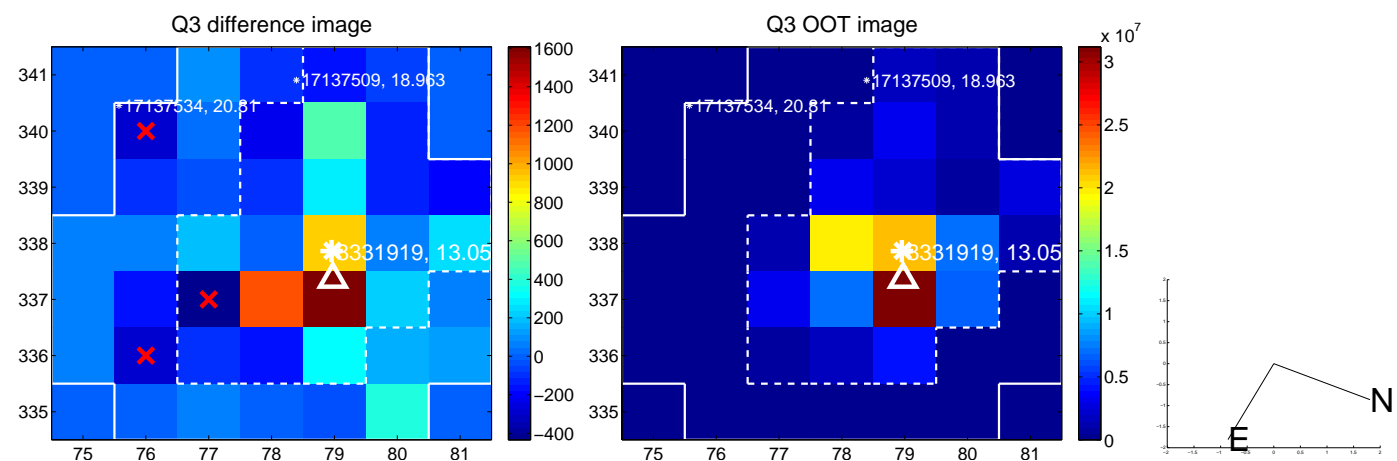
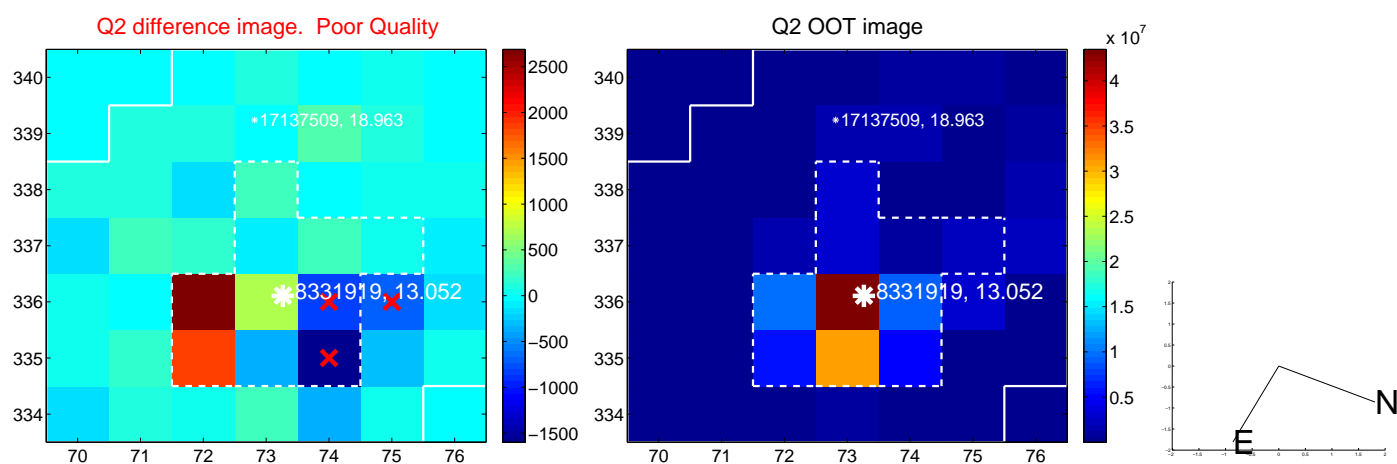
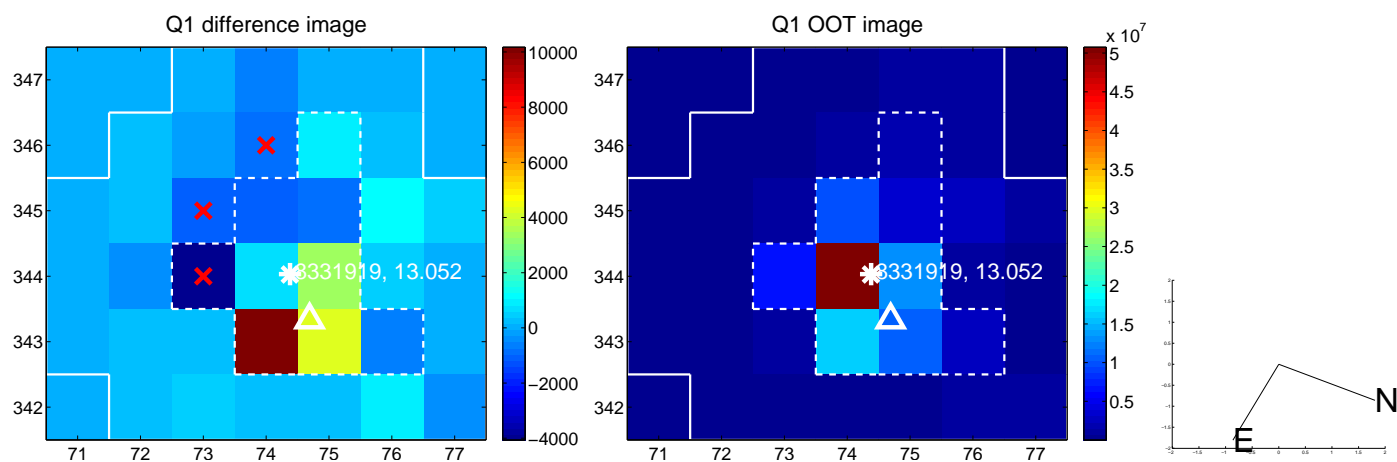
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.346 ± 0.257	1.34	0.280 ± 0.216	-0.203 ± 0.402
PRF-fit source offset from KIC position	0.407 ± 0.277	1.47	0.329 ± 0.217	-0.240 ± 0.408
photometric centroid source offset	0.59 ± 0.67	0.89	0.53 ± 0.68	0.26 ± 0.62

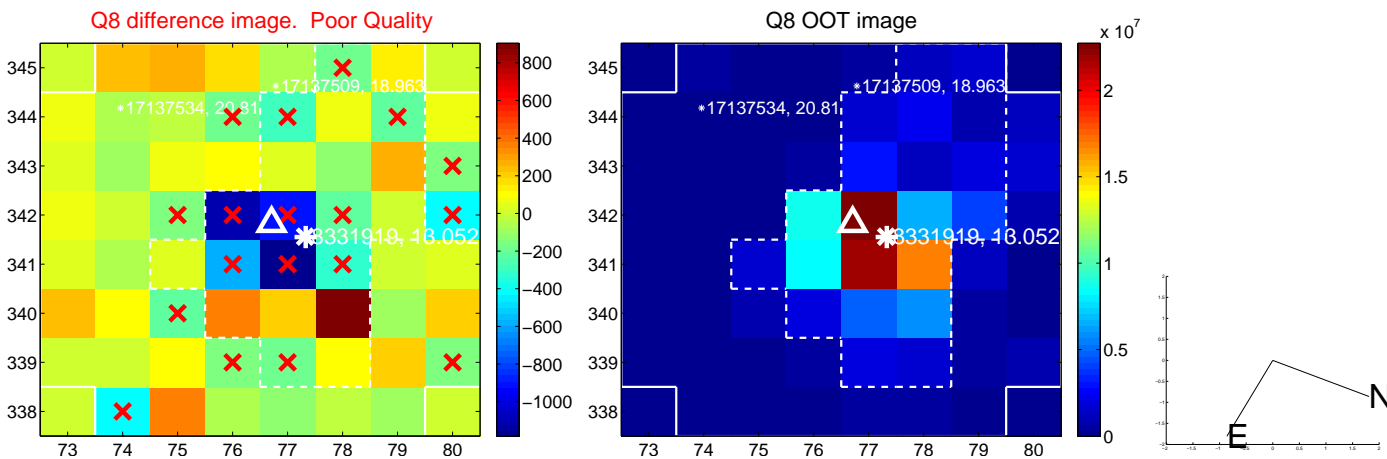
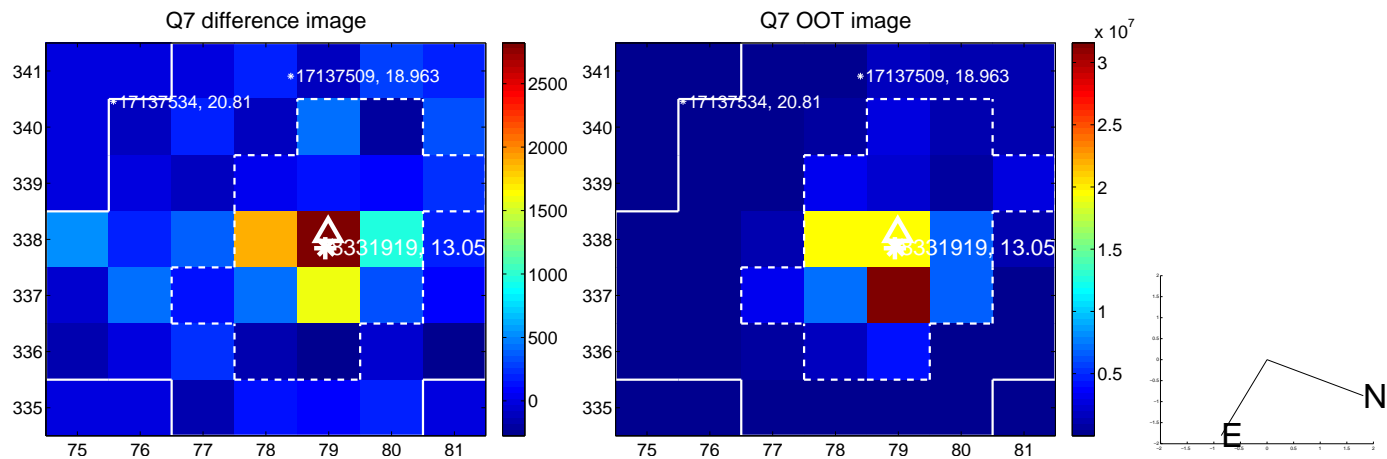
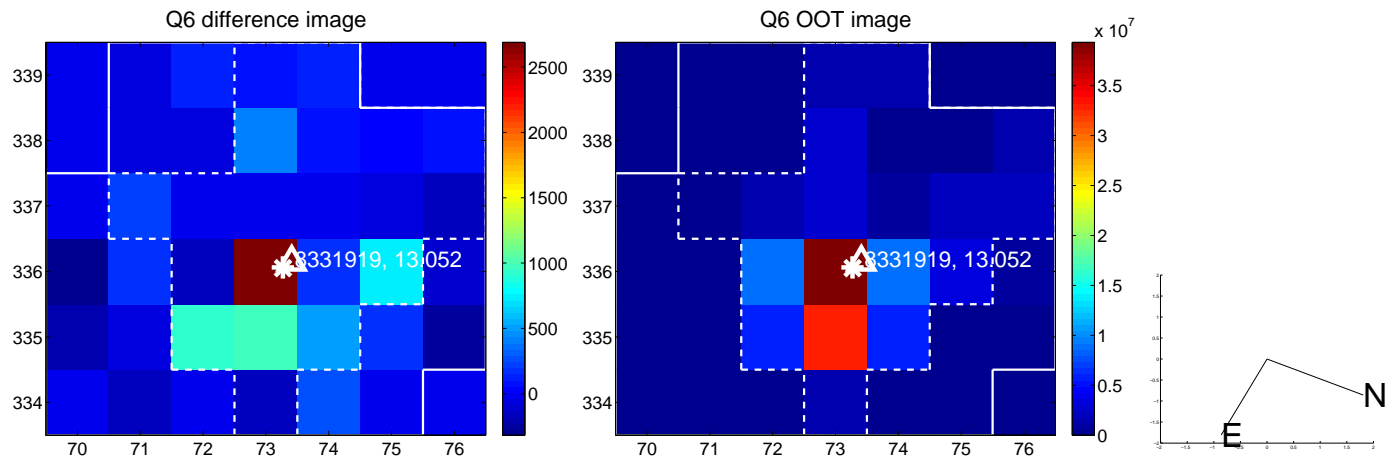
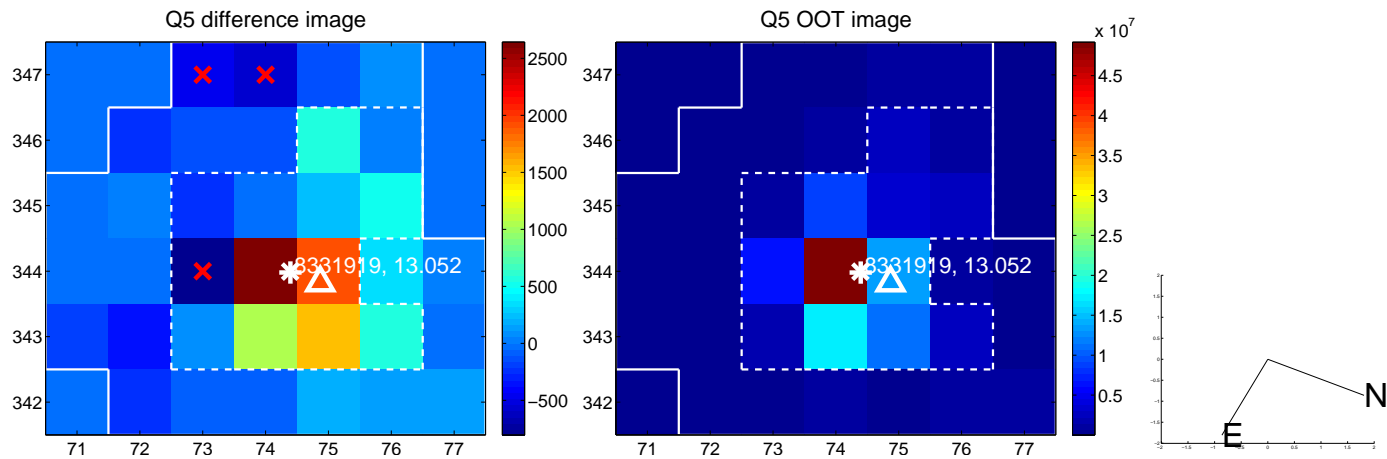


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

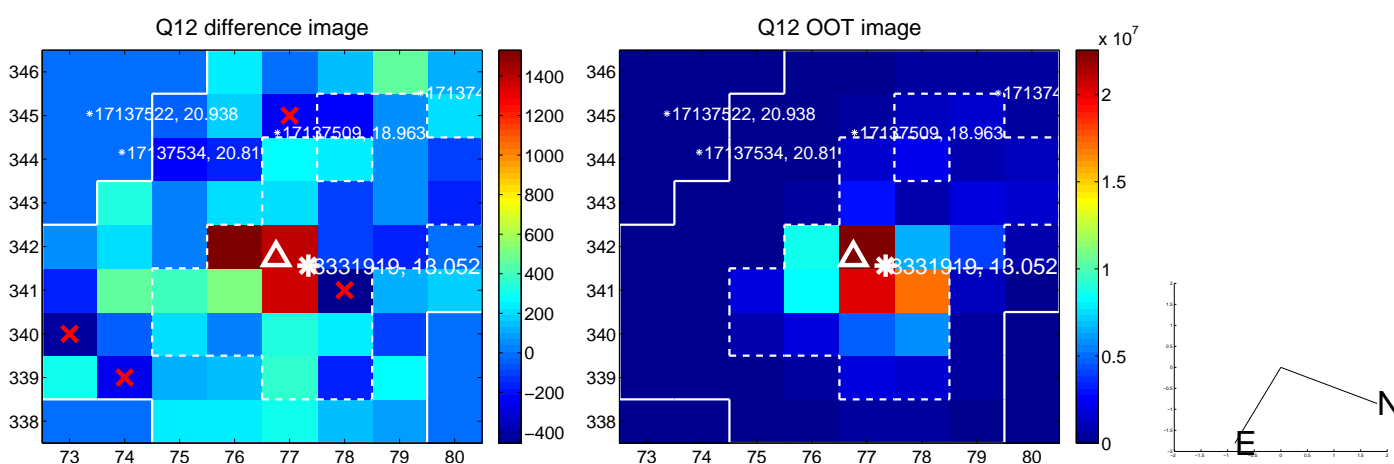
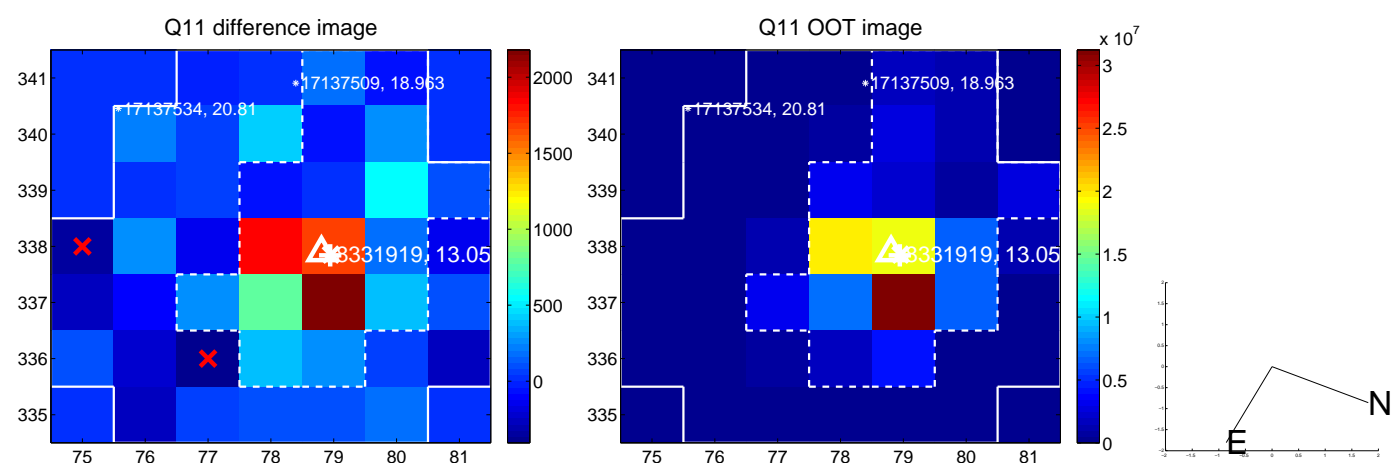
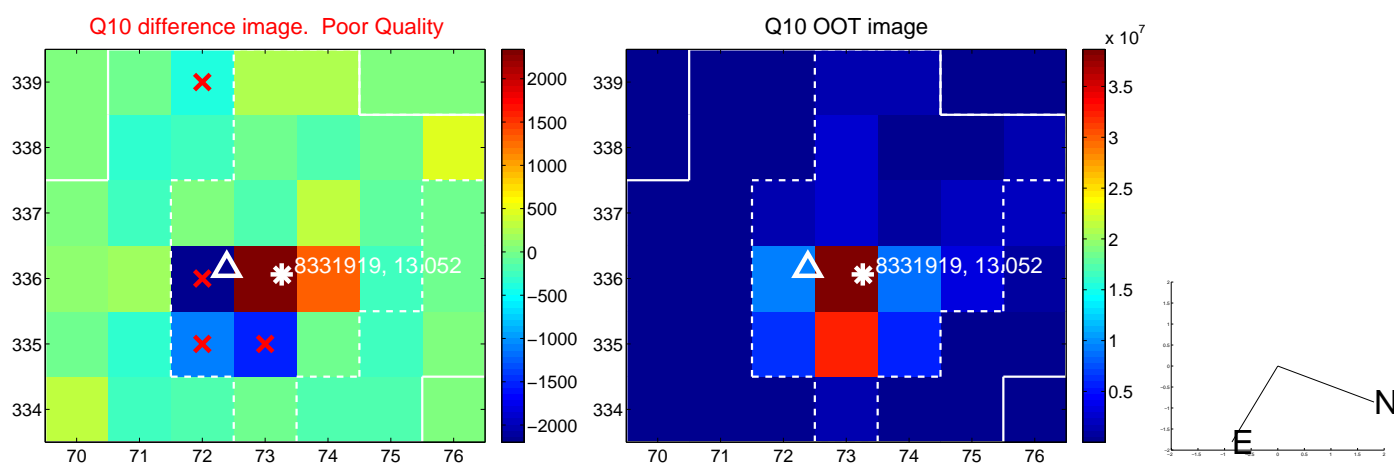
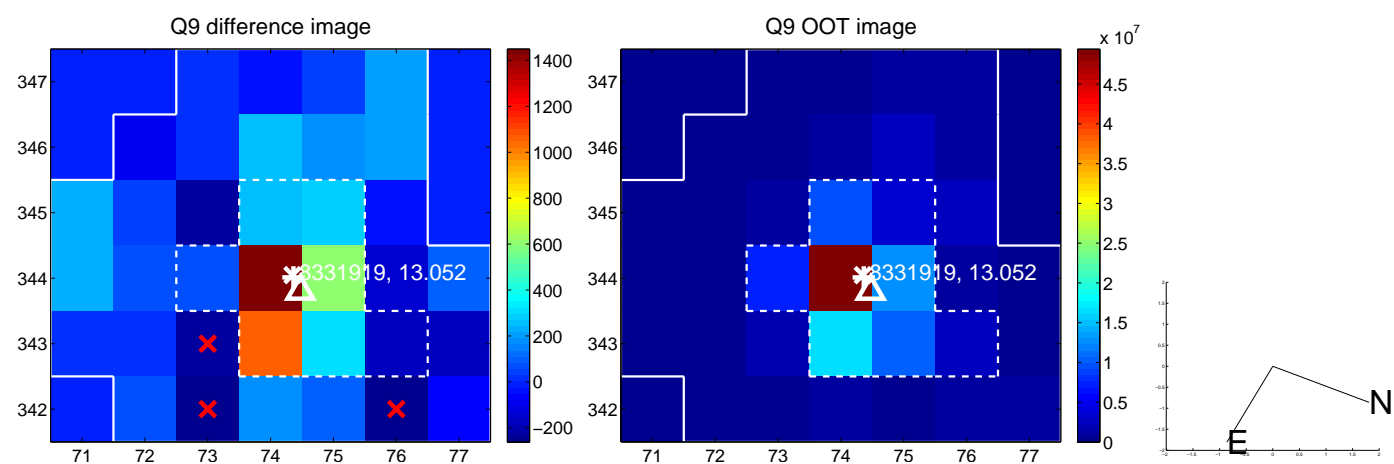
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



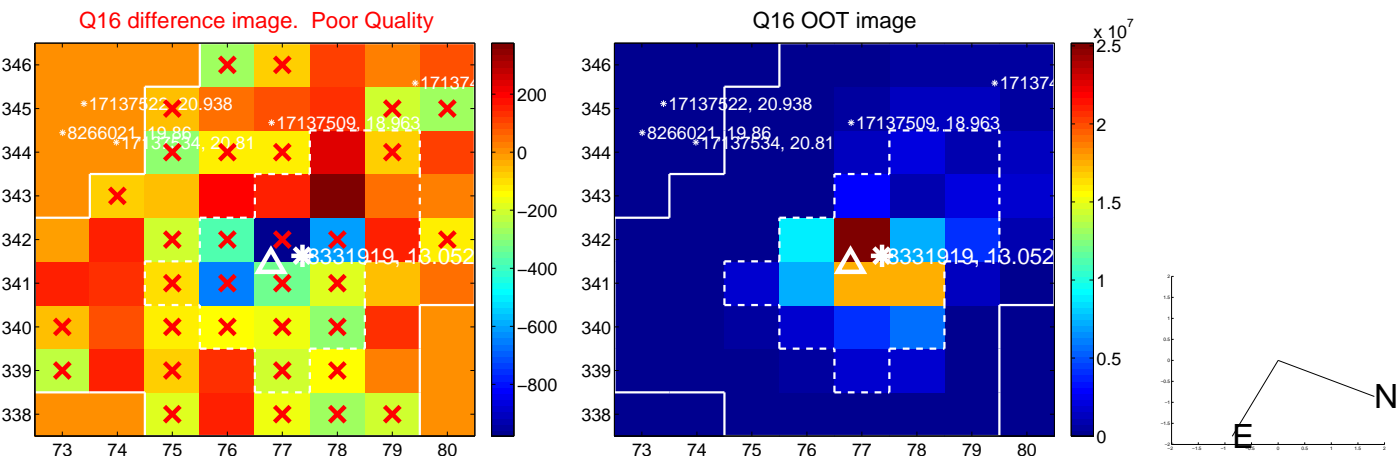
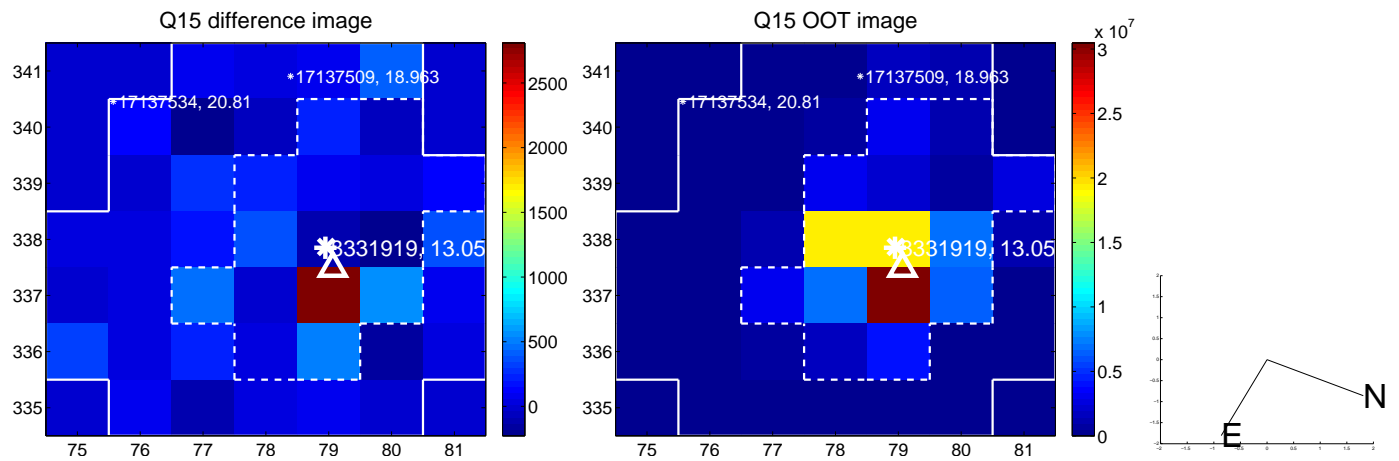
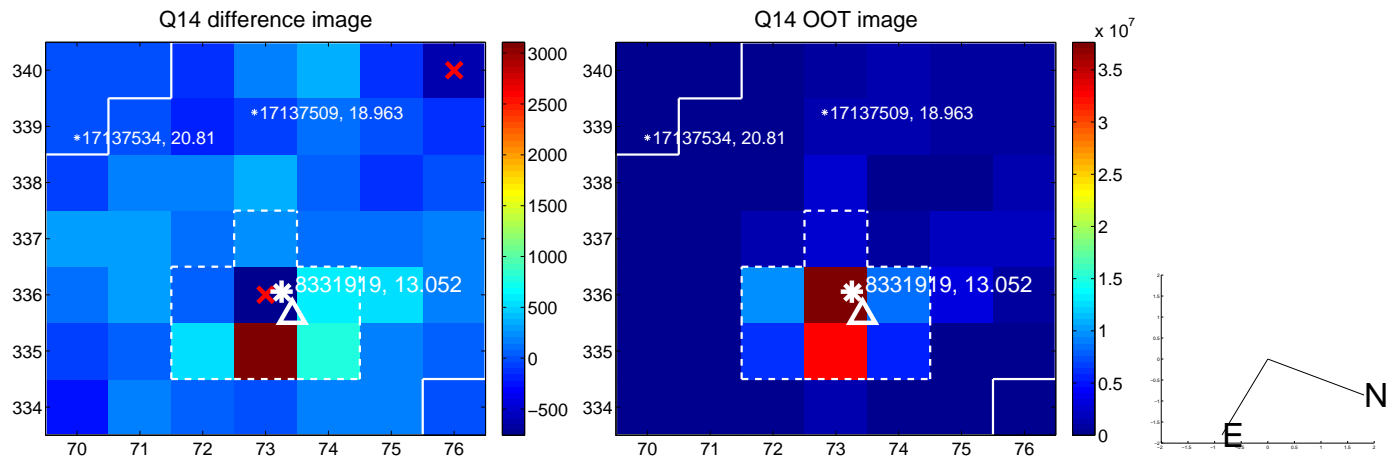
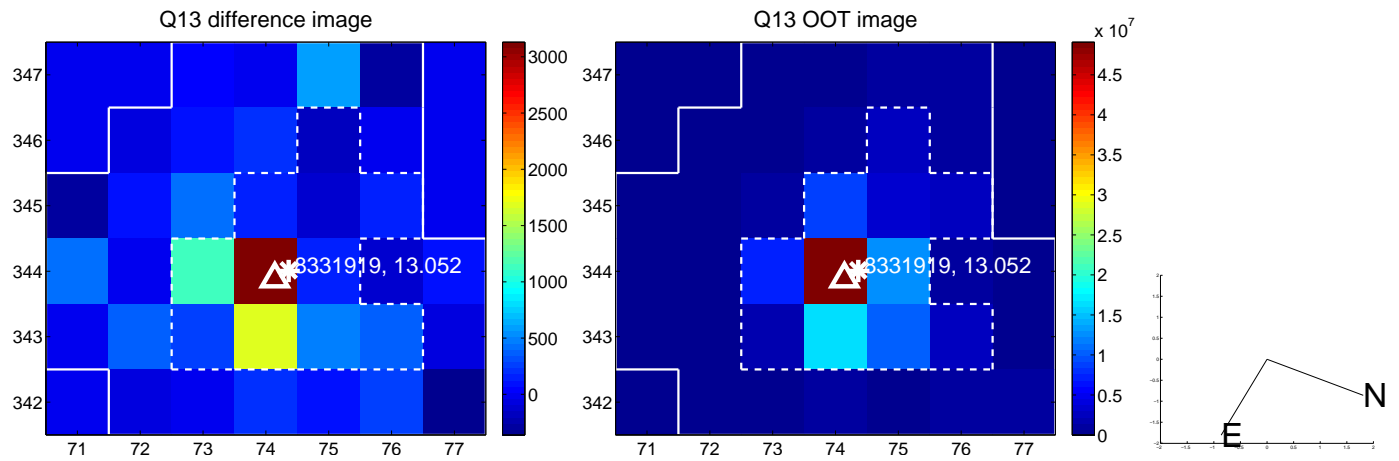
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



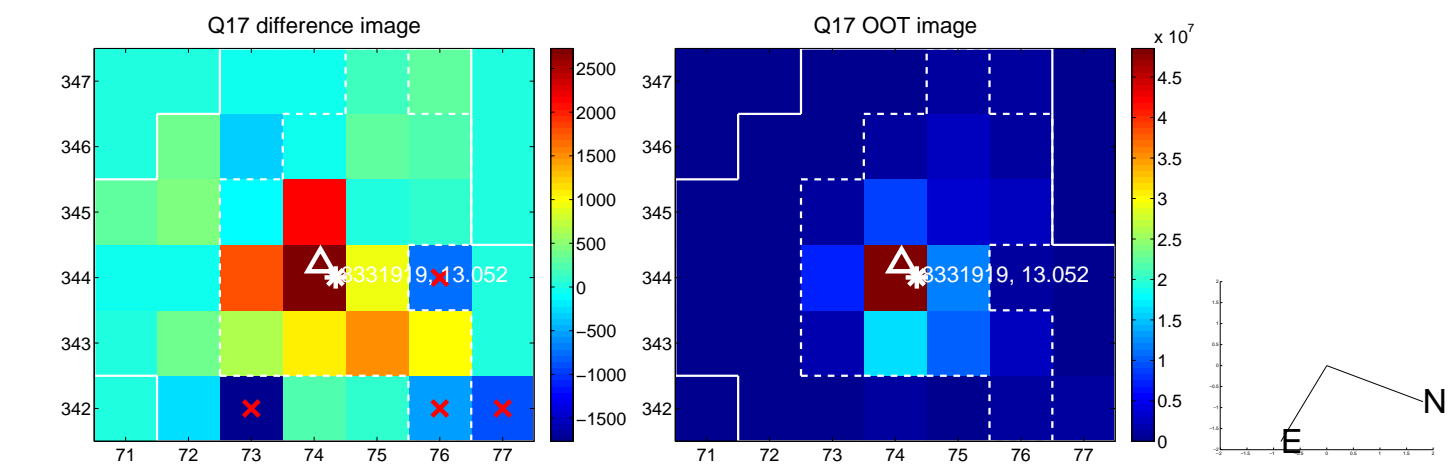
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



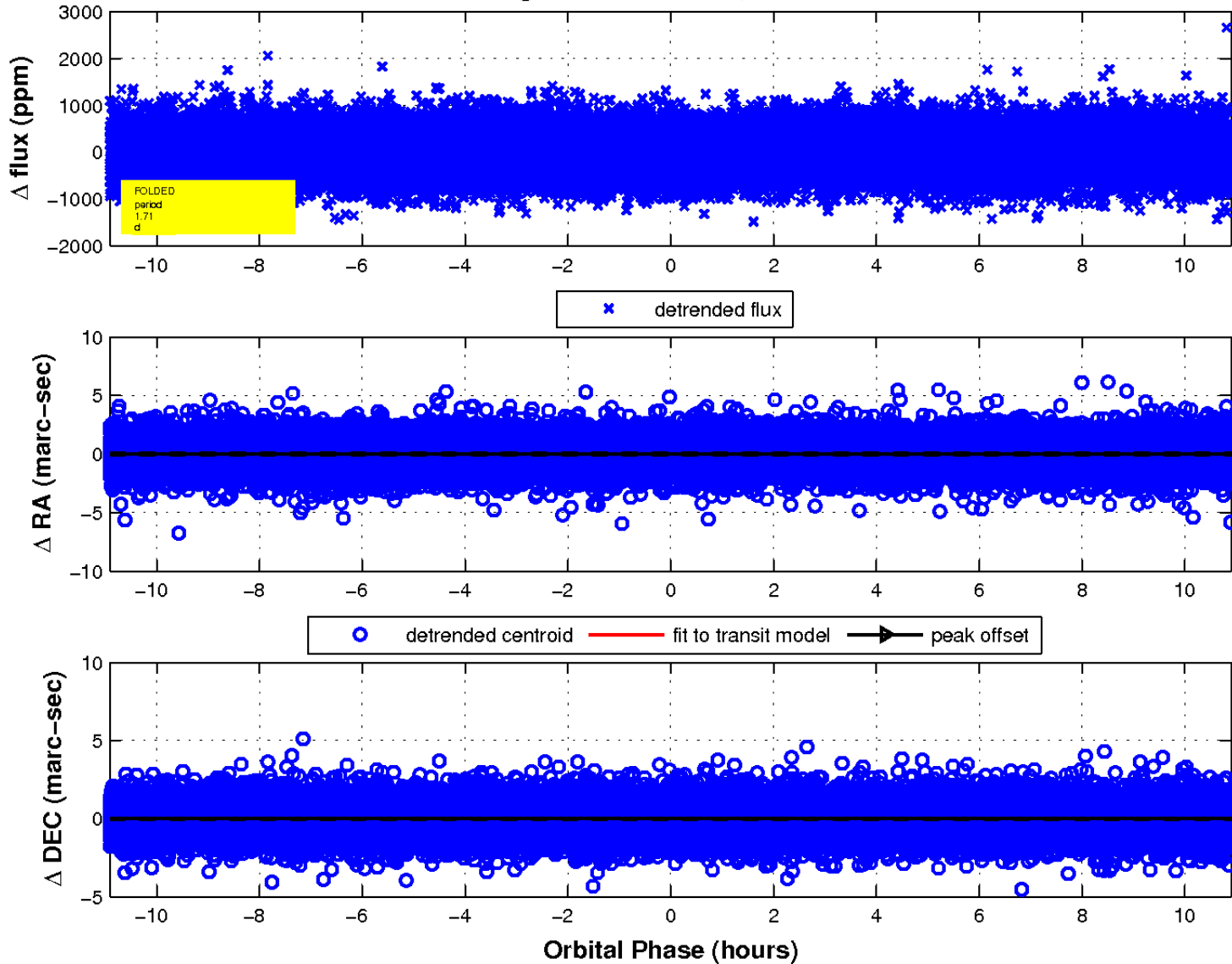
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

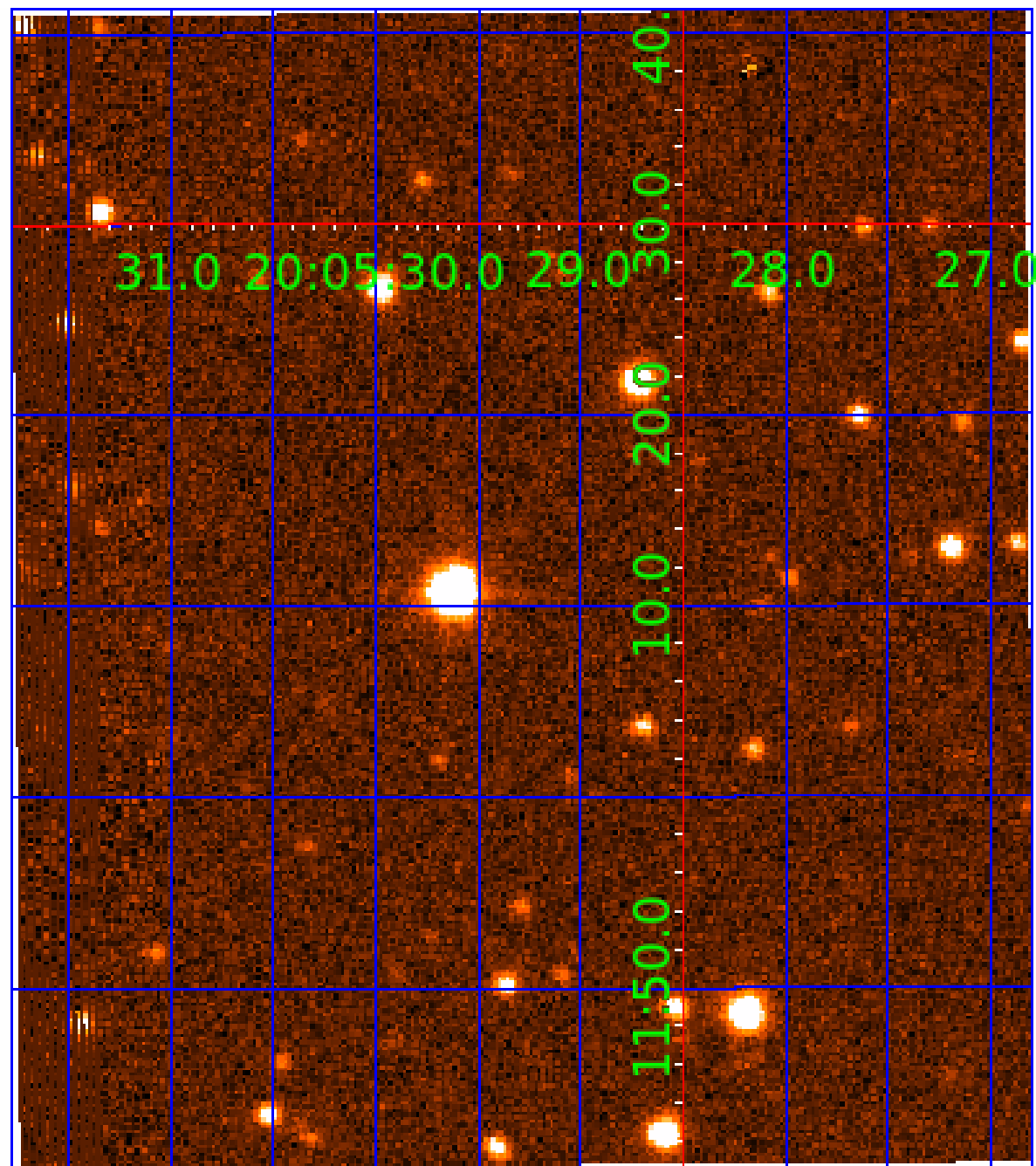


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008331919

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})
008331919-01	OBS	No	1.706917	132.630285	60.7	3.636	11.3	10.5	2.00	8254	1.81	14544.85
008331919-02	OBS	No	0.632548	132.059503	39.2	6.403	7.9	10.9	2.00	8254	1.26	54642.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008331919-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008331919-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

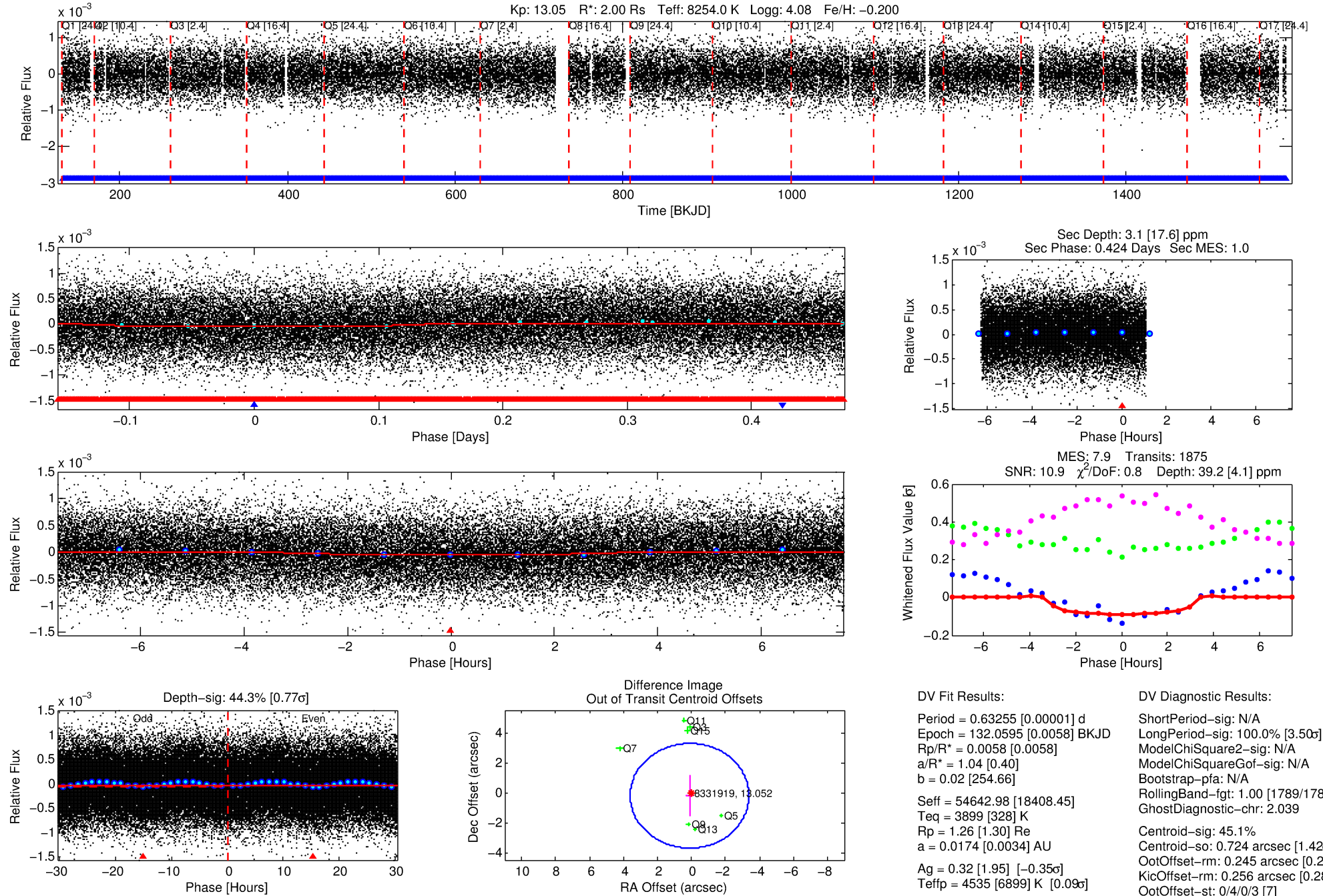
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008331919-02

No Significant Match Found

DV One-Page Summary

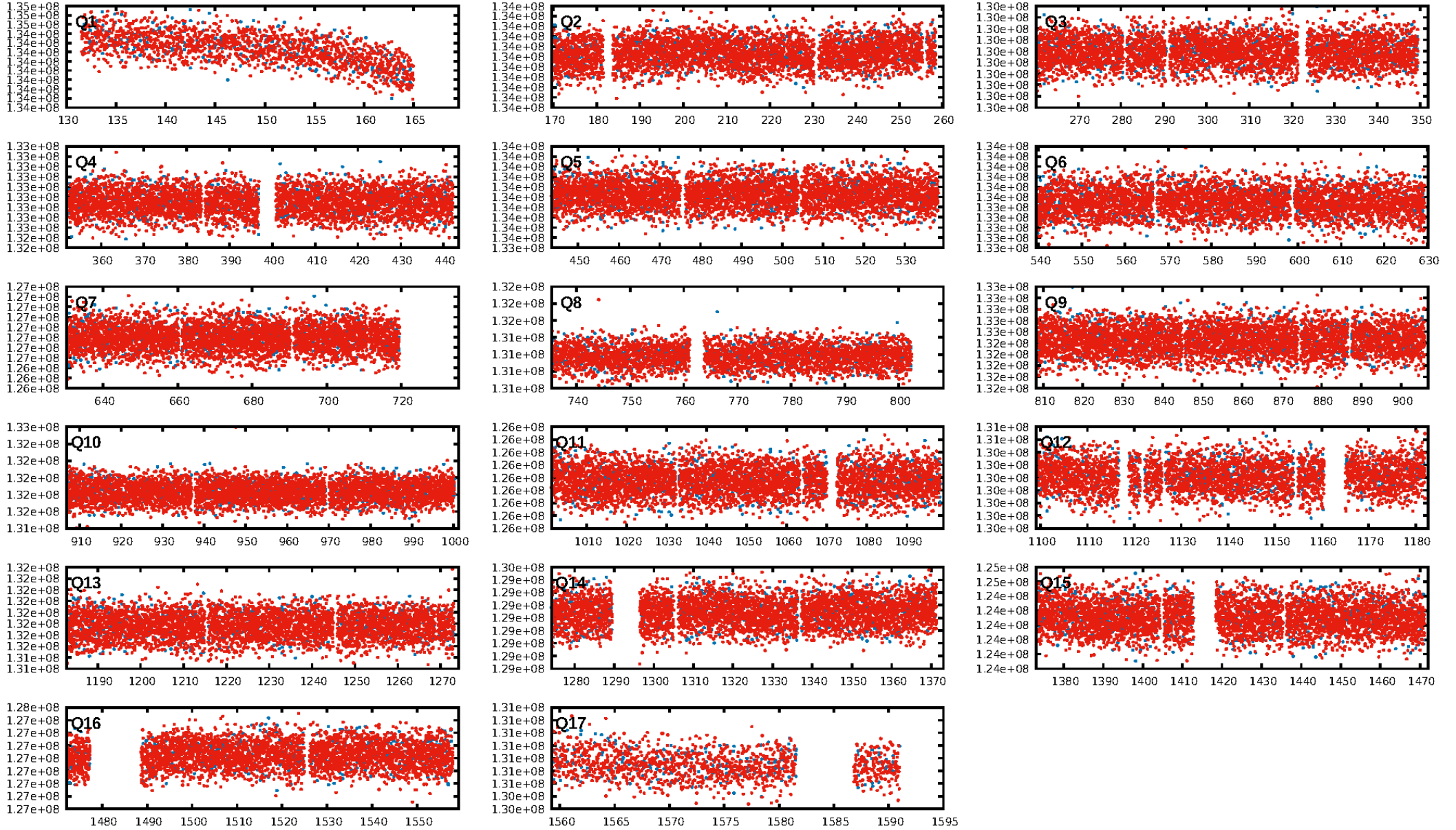
KIC: 8331919 Candidate: 2 of 2 Period: 0.633 d



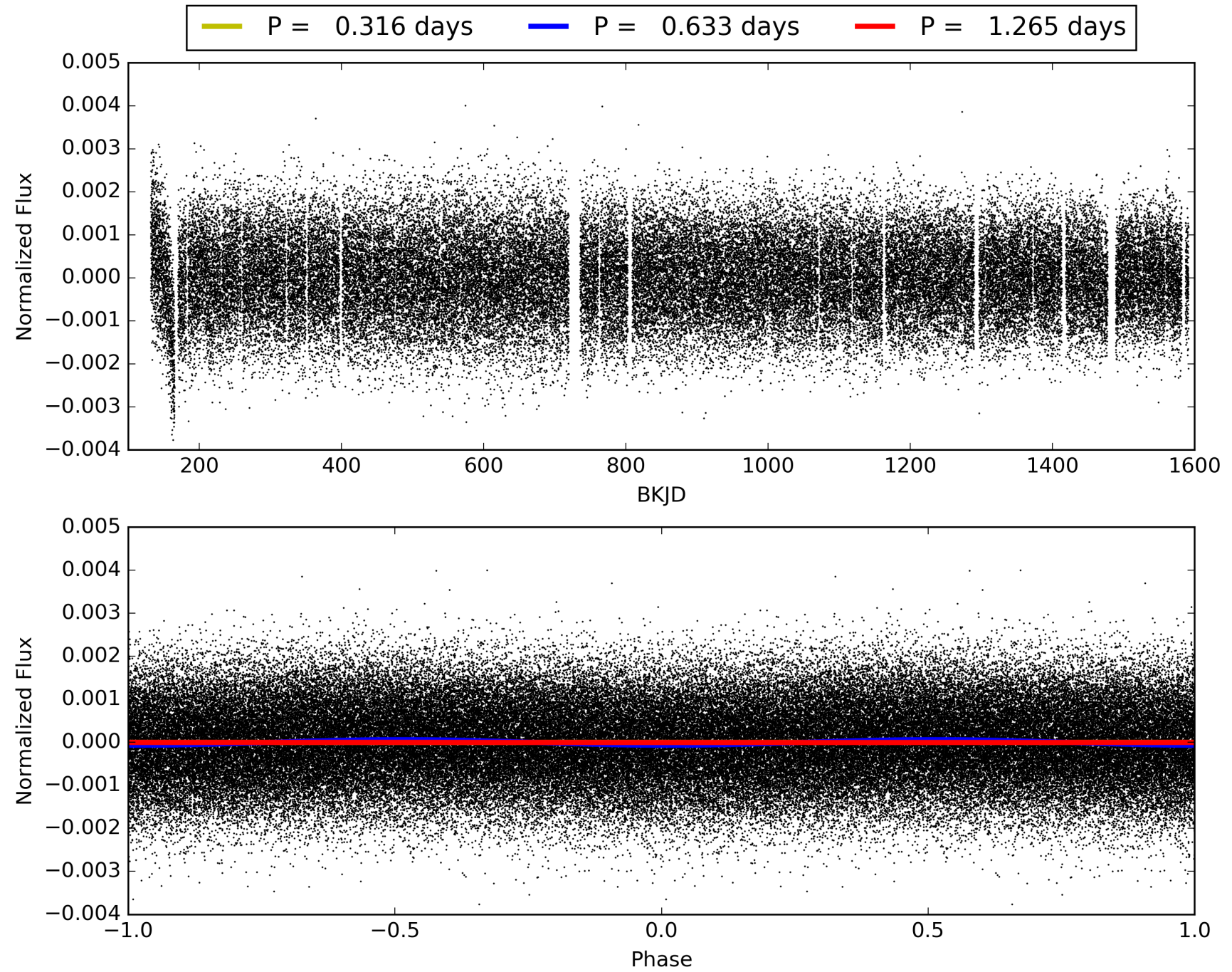
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:58:24 Z

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

TCE 008331919-02, PDC Light Curves

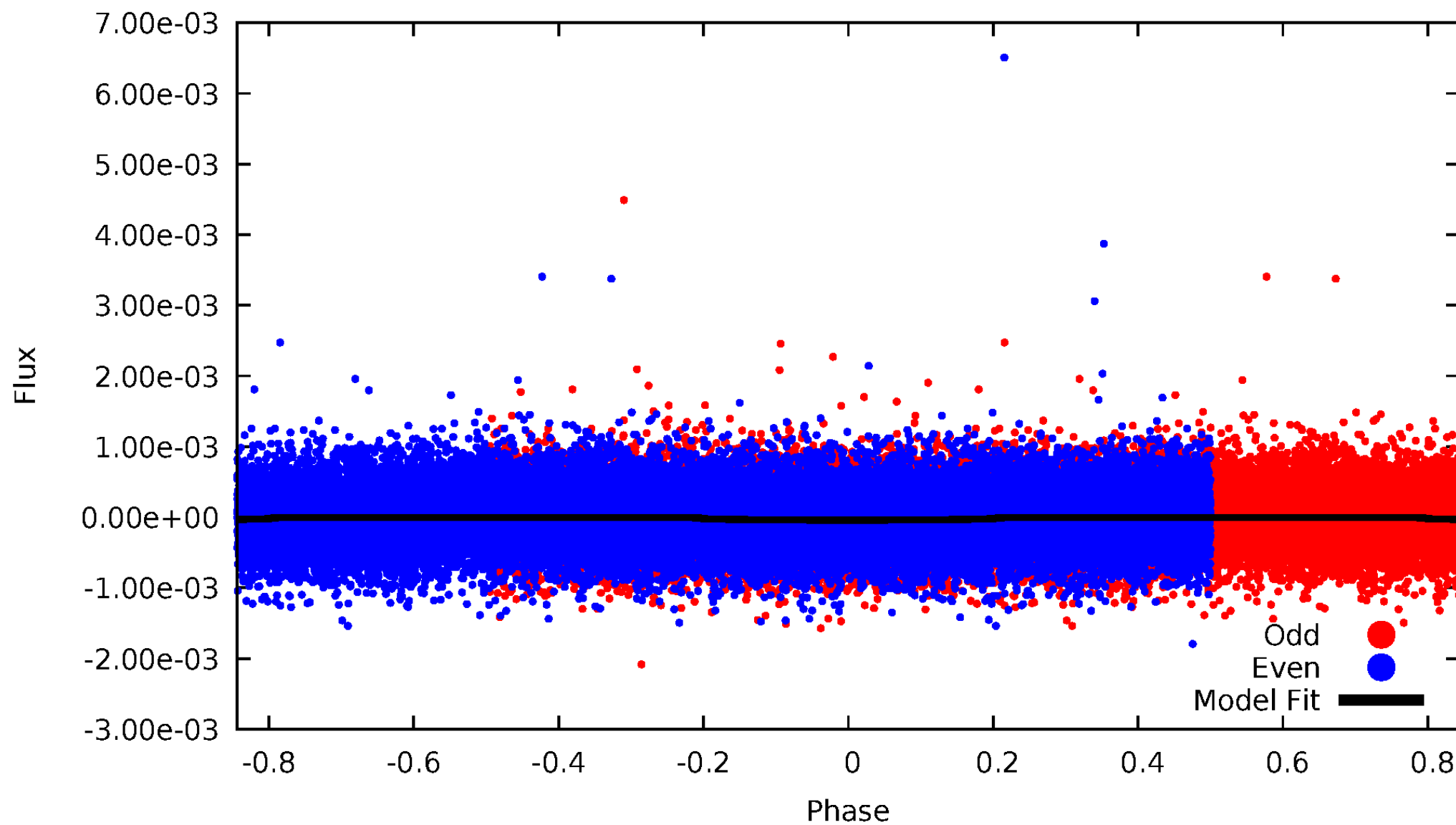


TCE 008331919-02



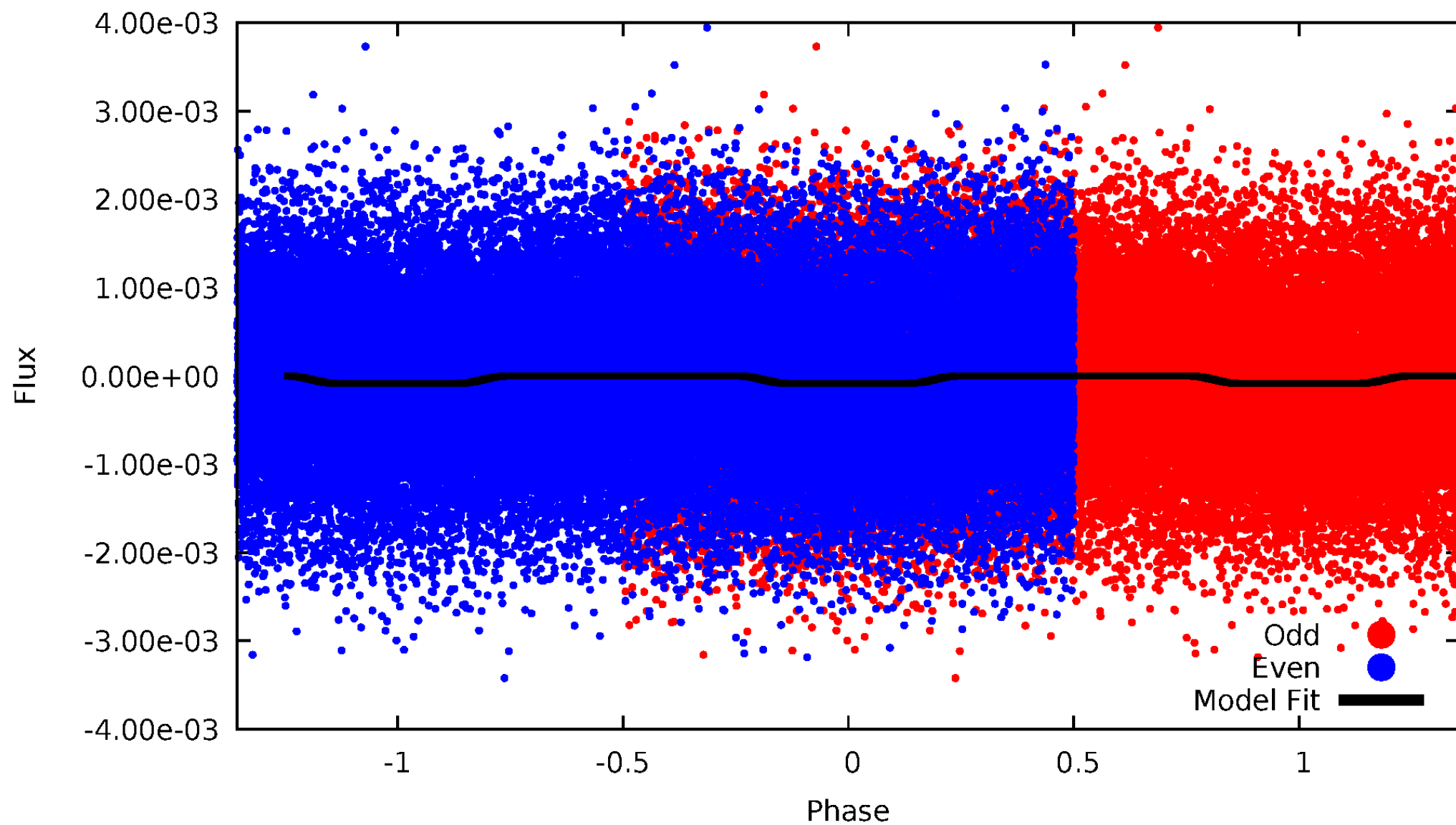
DV Odd/Even

TCE 008331919-02



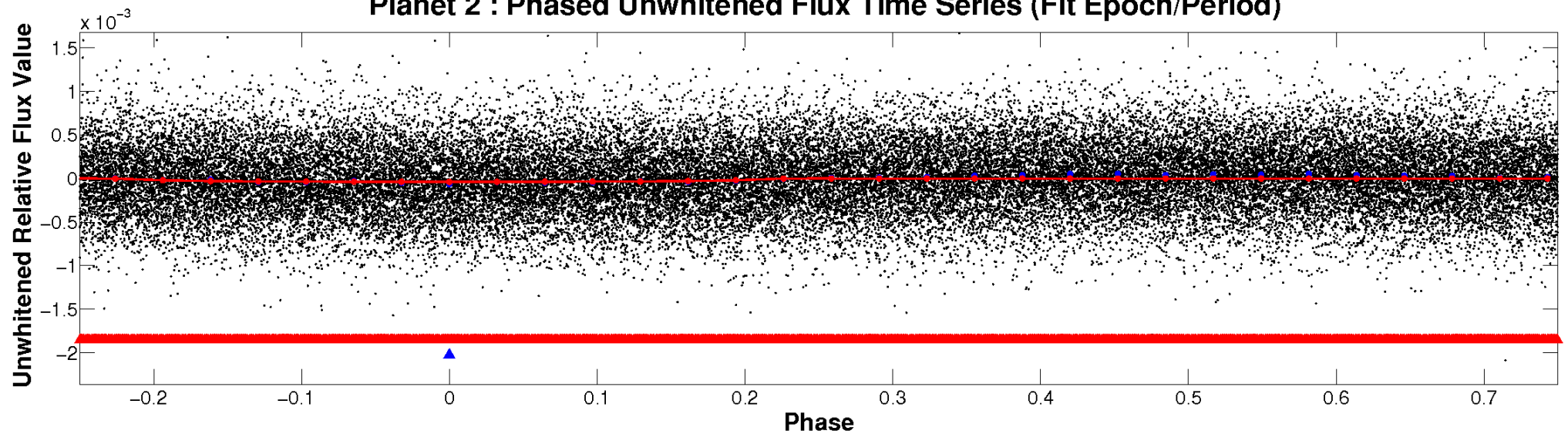
ALT Odd/Even

TCE 008331919-02

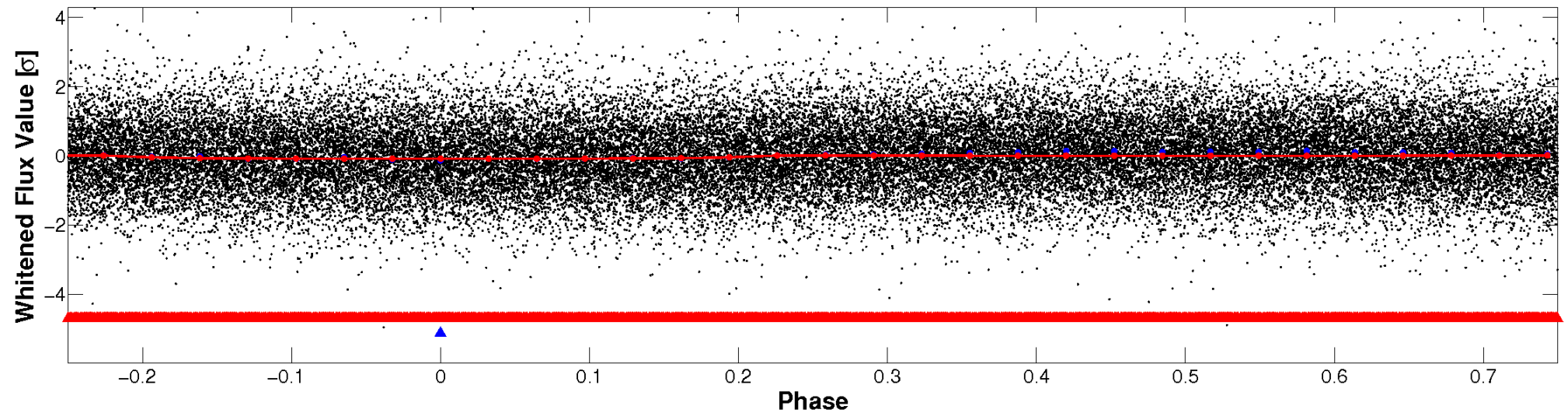


Non-Whitened Vs. Whitened Light Curve

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

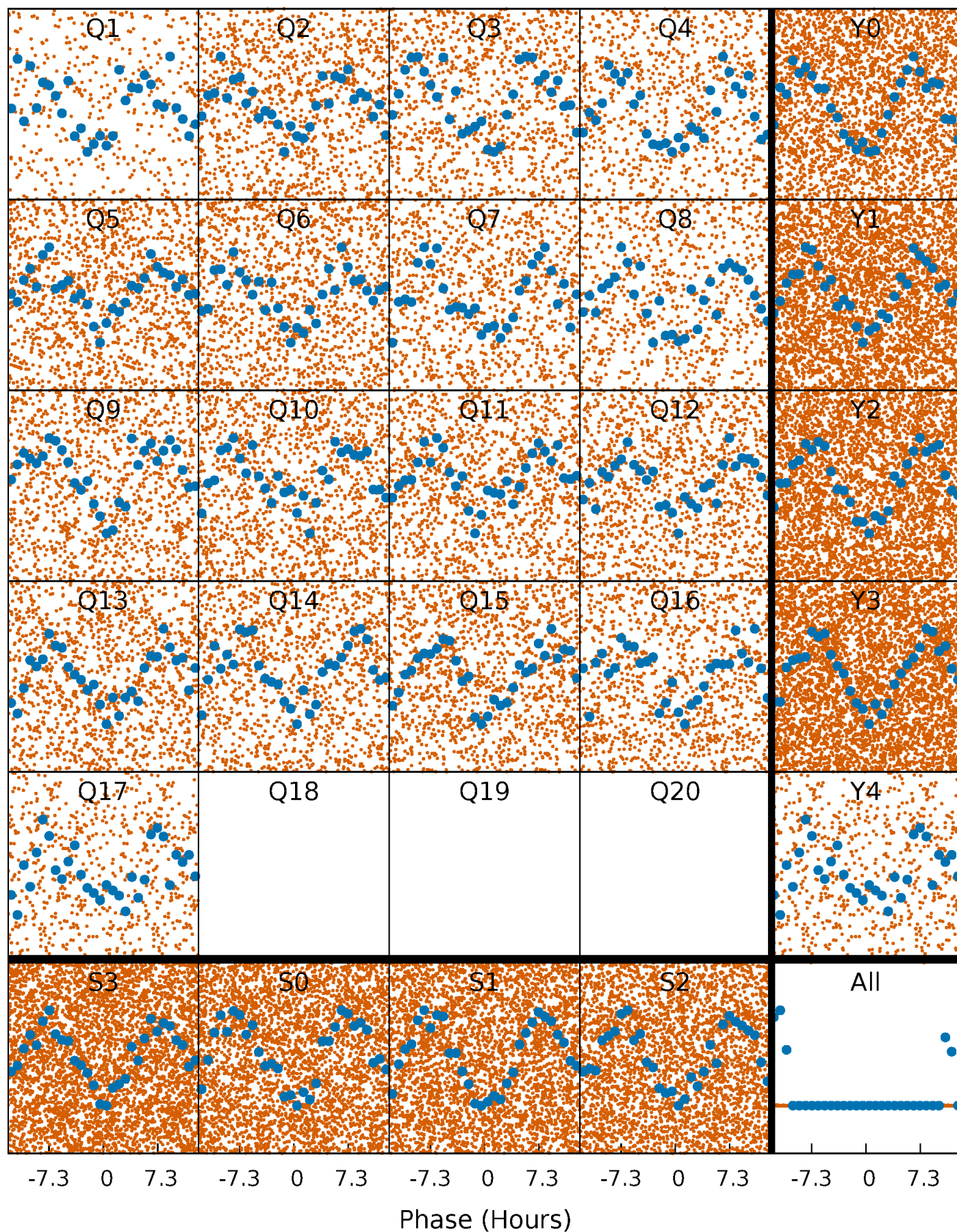


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



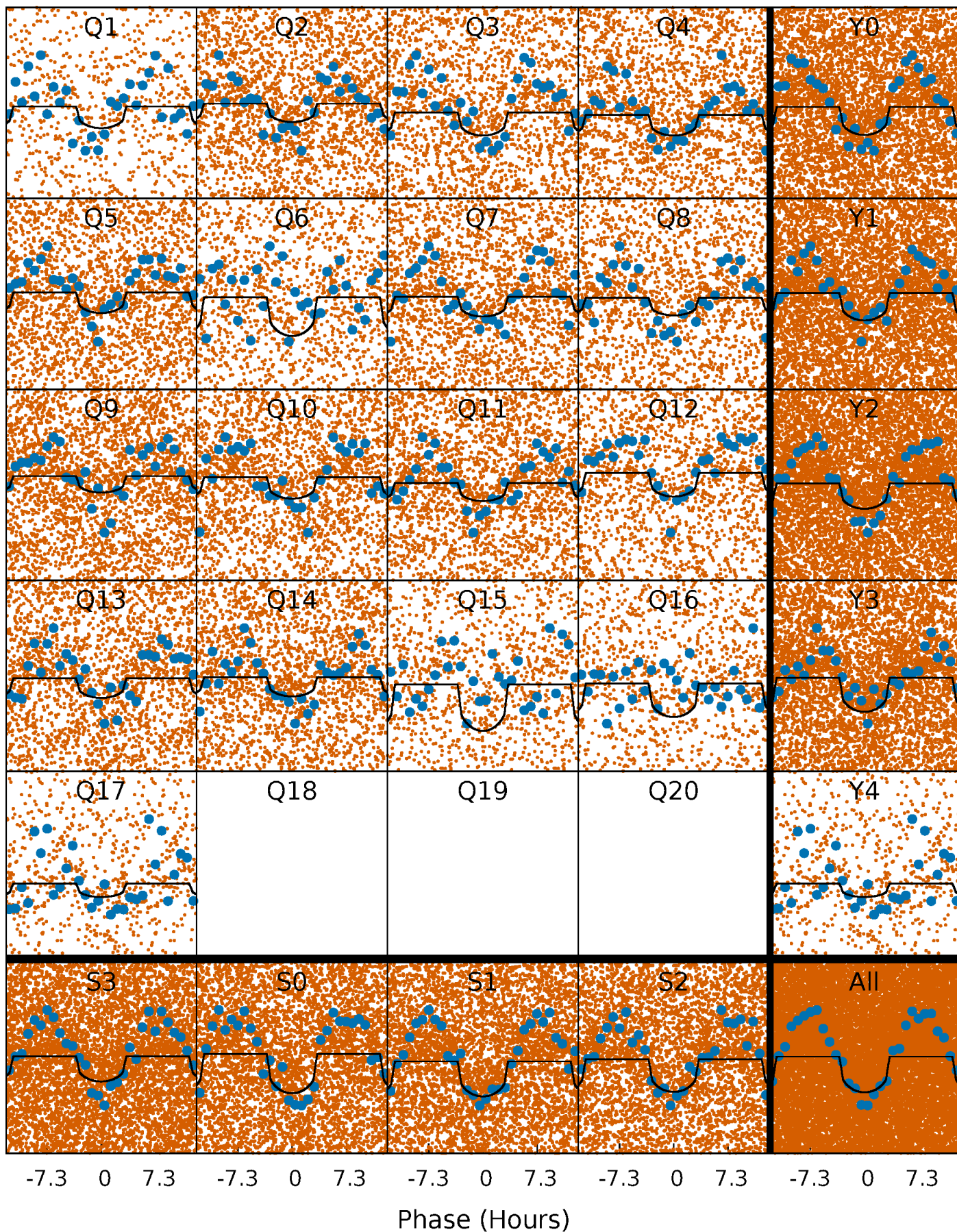
PDC Quarter-Phased Transit Curves

TCE 008331919-02 P= 0.632548 Days $T_0=132.059503$ (BKJD)



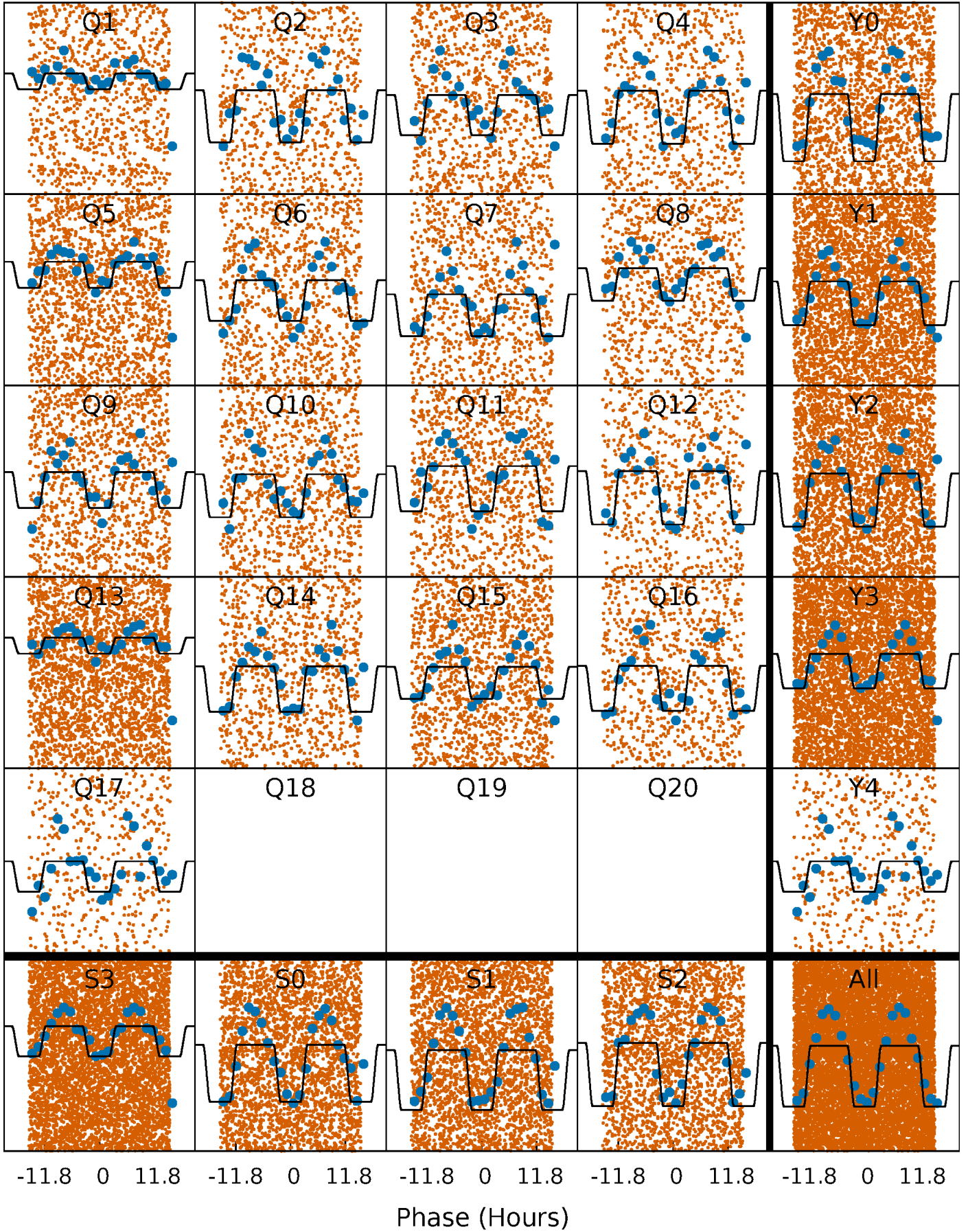
DV Quarter-Phased Transit Curves

TCE 008331919-02 P= 0.632548 Days $T_0=132.059503$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

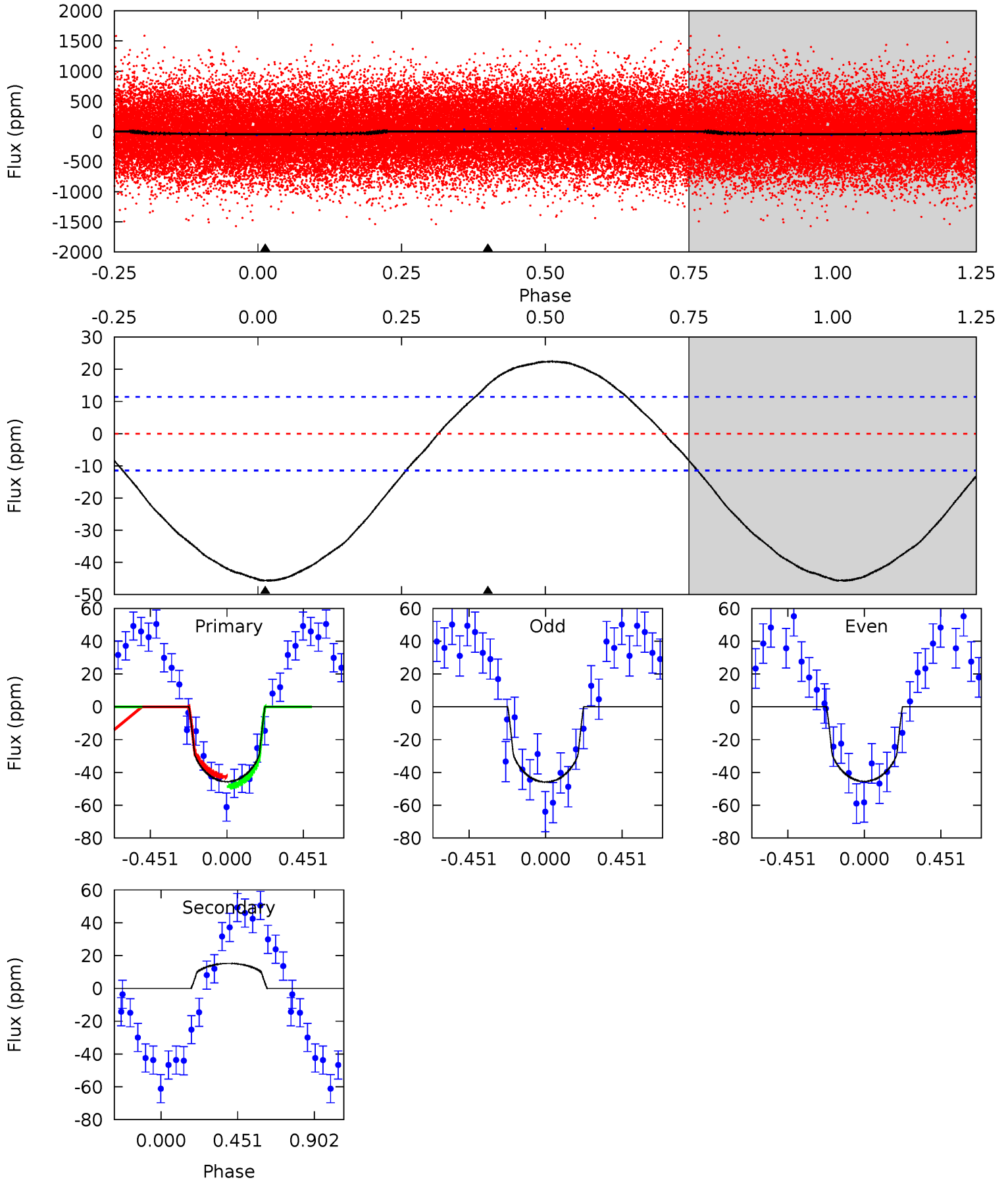
TCE 008331919-02 P= 0.632565 Days $T_0=132.039087$ (BKJD)



DV Model-Shift Uniqueness Test

008331919-02, P = 0.632548 Days, E = 131.426955 Days

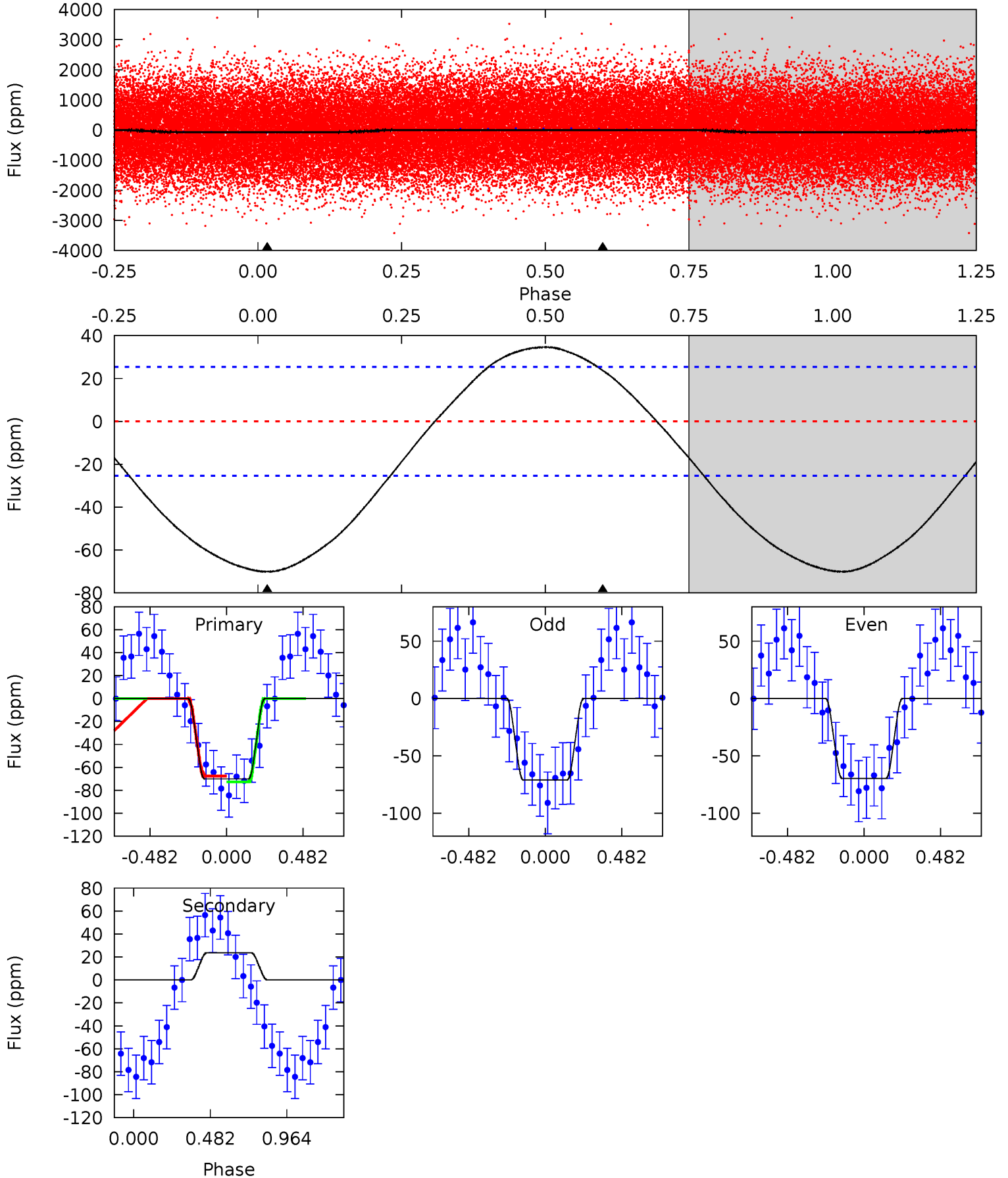
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	-5.63	0	0	4.24	0.75	2.06	16.9	16.9	-5.63	-5.63	0.08	1.15	0.33	1.11



Alt Model-Shift Uniqueness Test

008331919-02, P = 0.632565 Days, E = 131.406522 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	-3.95	0	0	4.22	0.70	1.49	11.7	11.7	-3.95	-3.95	0.11	1.00	0.33	0.42



Stellar Parameters For KIC 008331919

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8254^{+226}_{-340}	$4.083^{+0.165}_{-0.135}$	$-0.200^{+0.250}_{-0.300}$	$1.996^{+0.446}_{-0.446}$	$1.757^{+0.146}_{-0.271}$	$0.311^{+0.282}_{-0.129}$
	+3%/-4%	+4%/-3%	+125%/-150%	+22%/-22%	+8%/-15%	+91%/-41%
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 008331919-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	15 ± 3	$1.55^{+1.14}_{-0.94}$	5402^{+352}_{-384}	-6145^{+904}_{-3897}	$-0.997^{+0.662}_{-5.782}$
Alt.	24 ± 6	$2.07^{+1.29}_{-1.13}$	5420^{+374}_{-353}	-6079^{+850}_{-2725}	$-0.881^{+0.560}_{-3.553}$

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 $A_{obs} \gg 1.0$

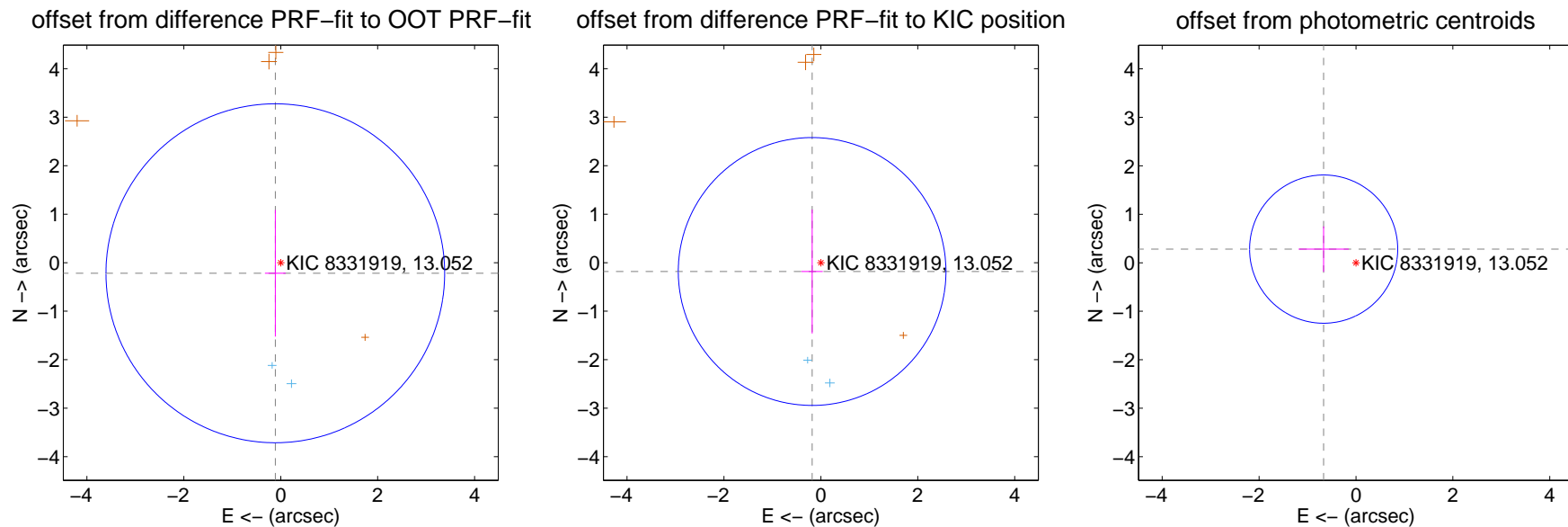
DV Centroid Data

Supplemental centroid analysis for 008331919-02. Kepler magnitude: 13.05. Transit SNR 10.90

There are 2 quarters with good PRF difference image offsets

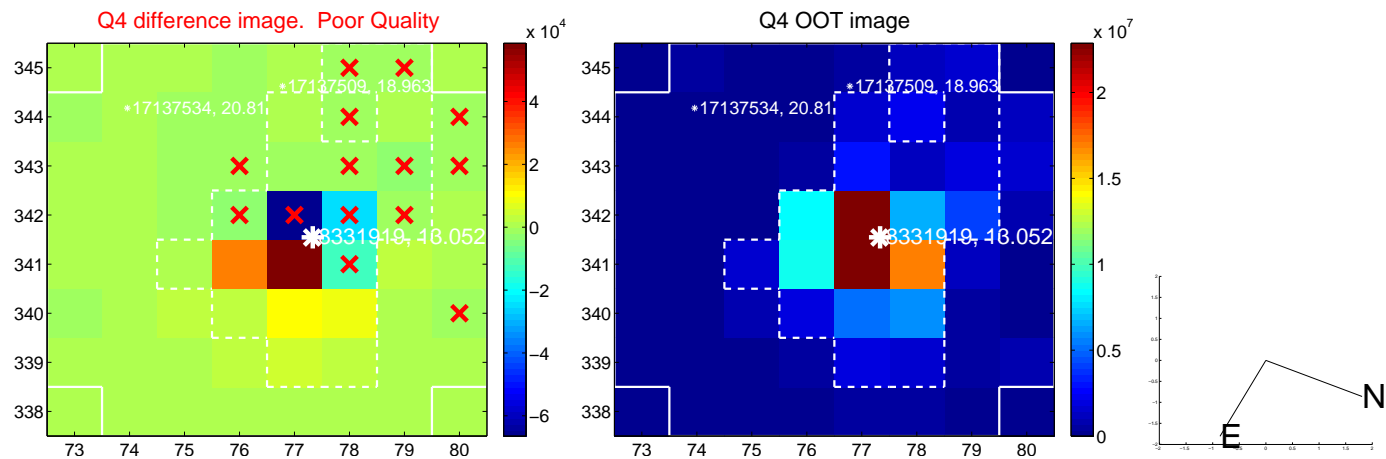
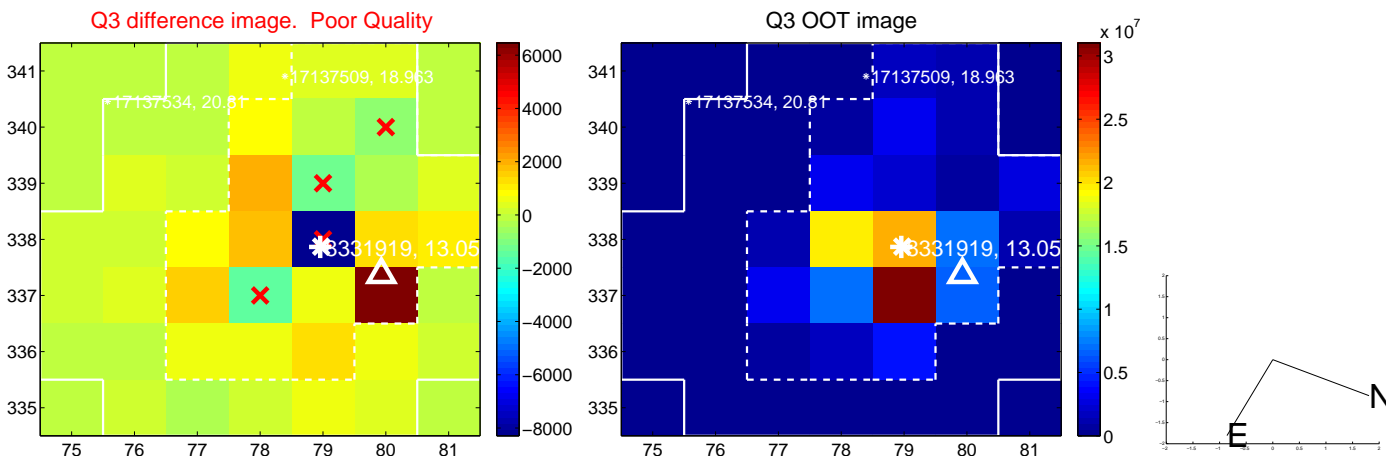
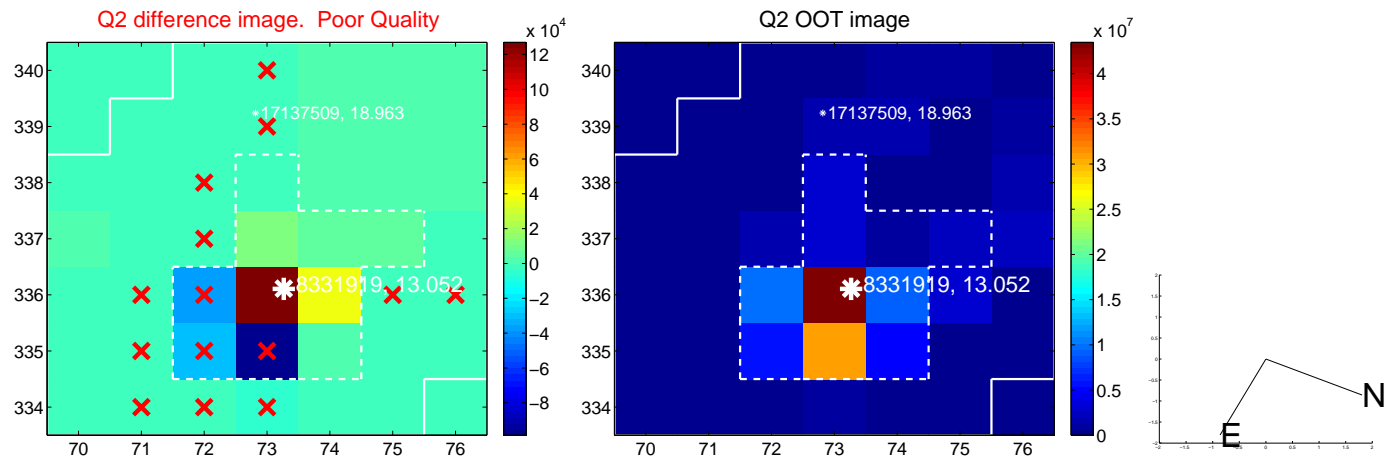
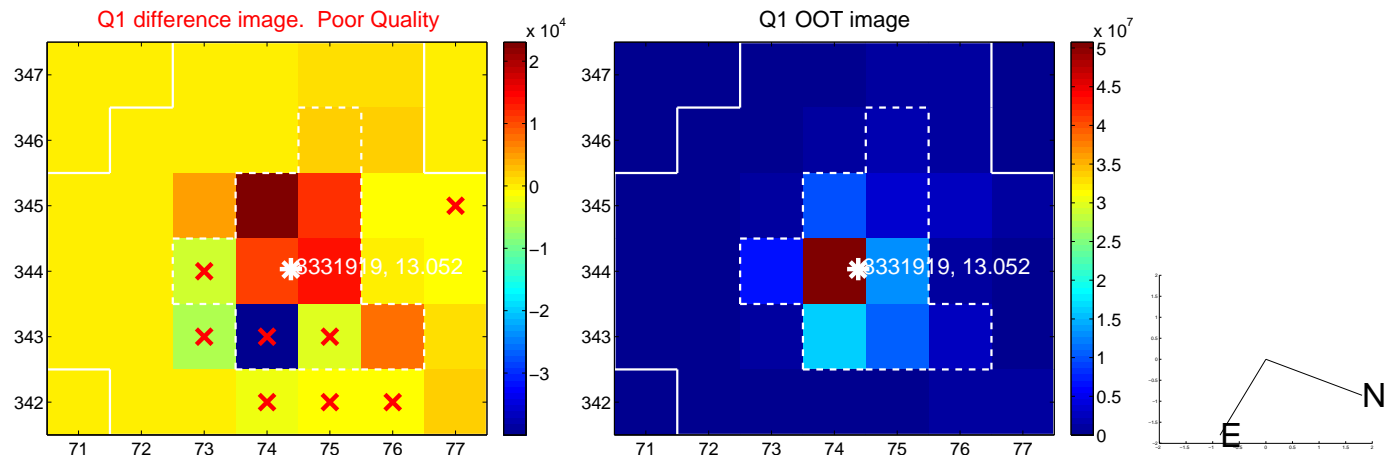
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.245 ± 1.165	0.21	0.112 ± 0.213	-0.218 ± 1.304
PRF-fit source offset from KIC position	0.256 ± 0.920	0.28	0.180 ± 0.219	-0.182 ± 1.279
photometric centroid source offset	0.72 ± 0.51	1.42	0.67 ± 0.52	0.28 ± 0.47

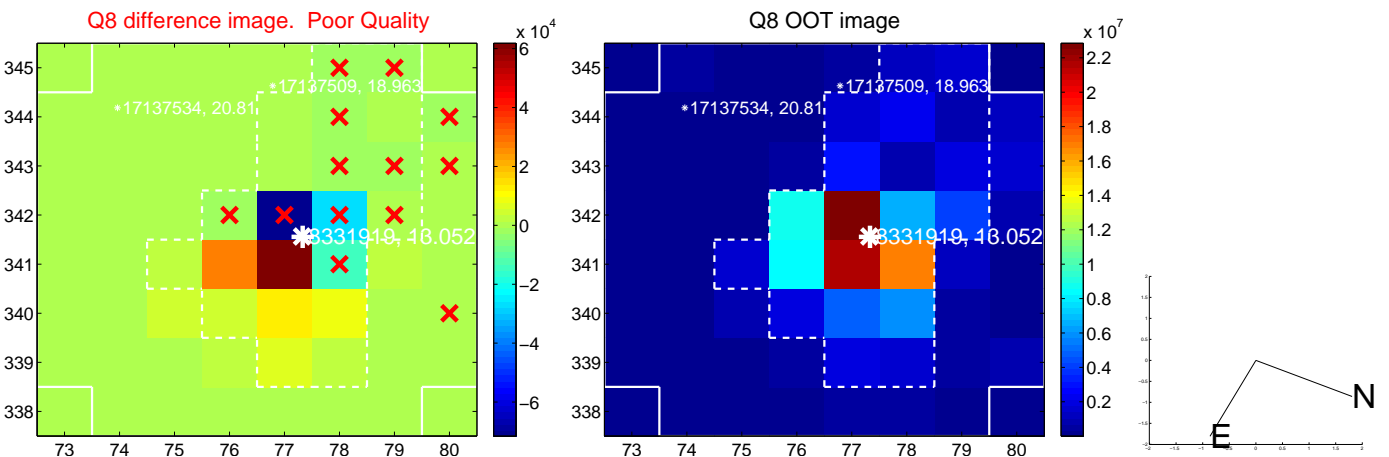
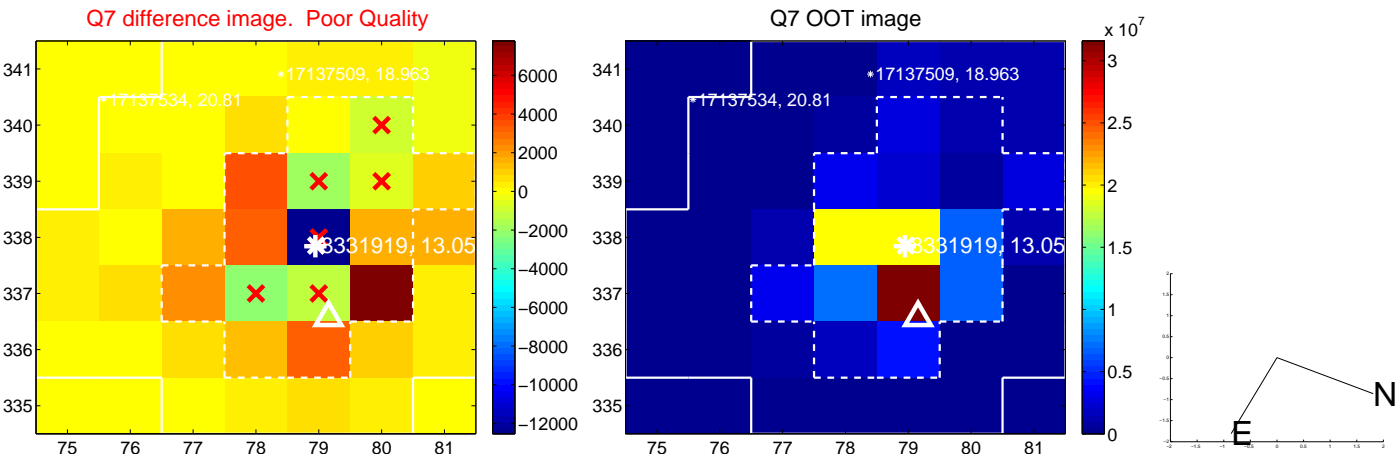
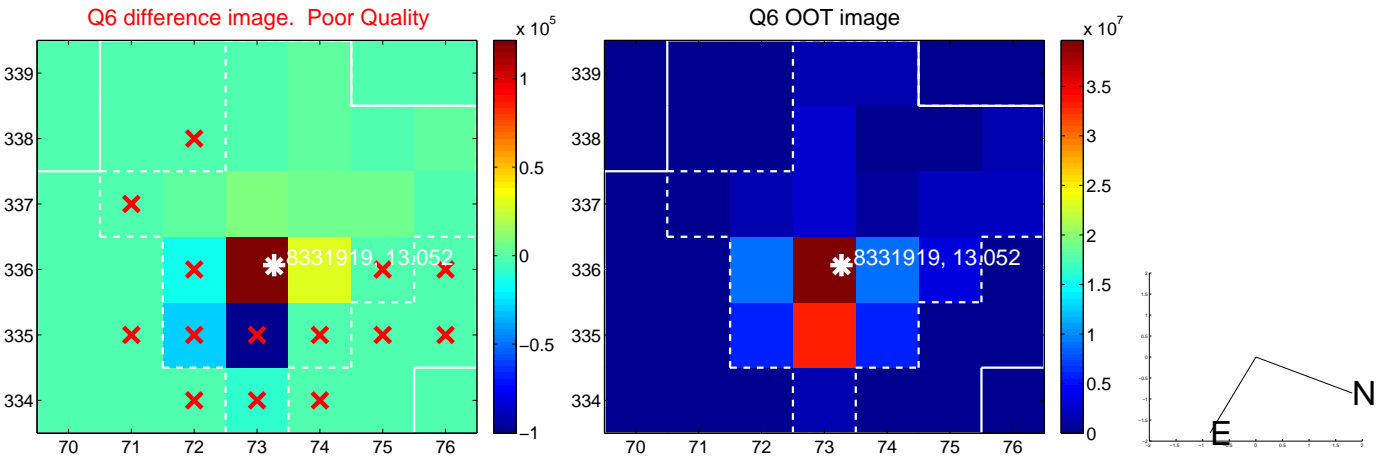
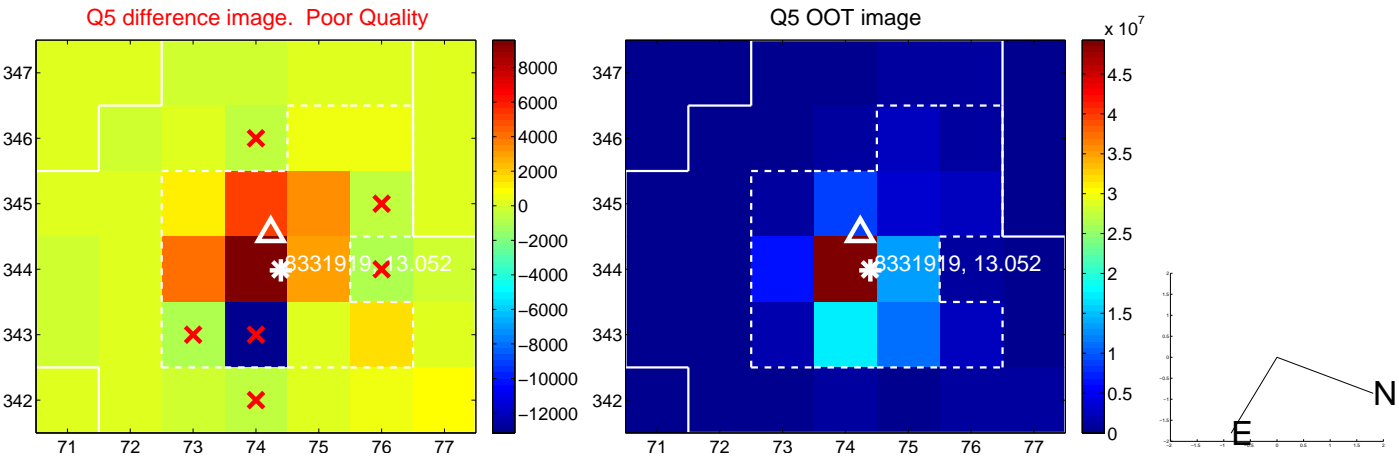


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

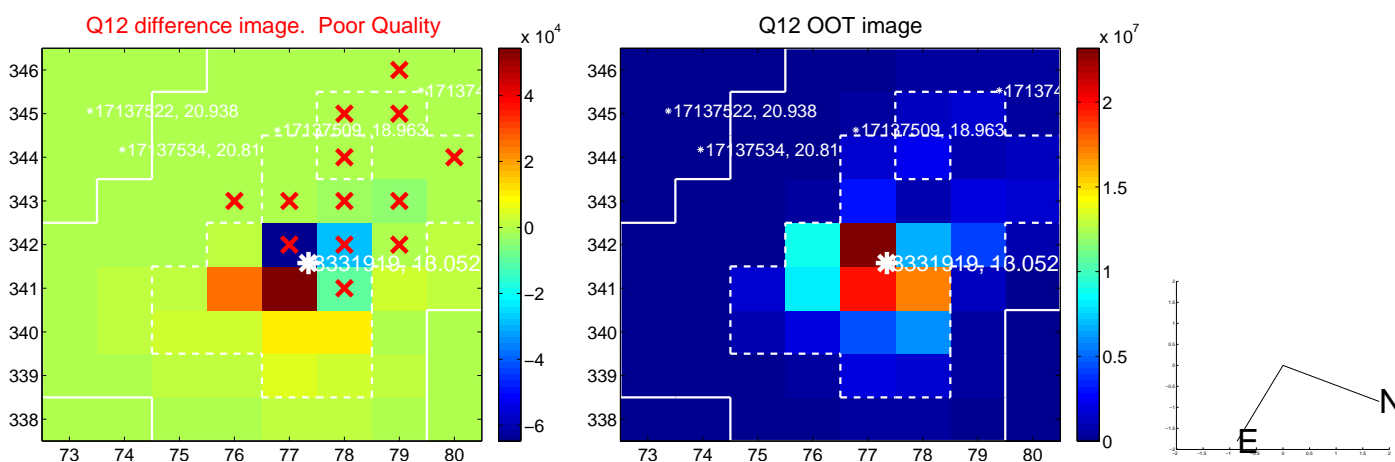
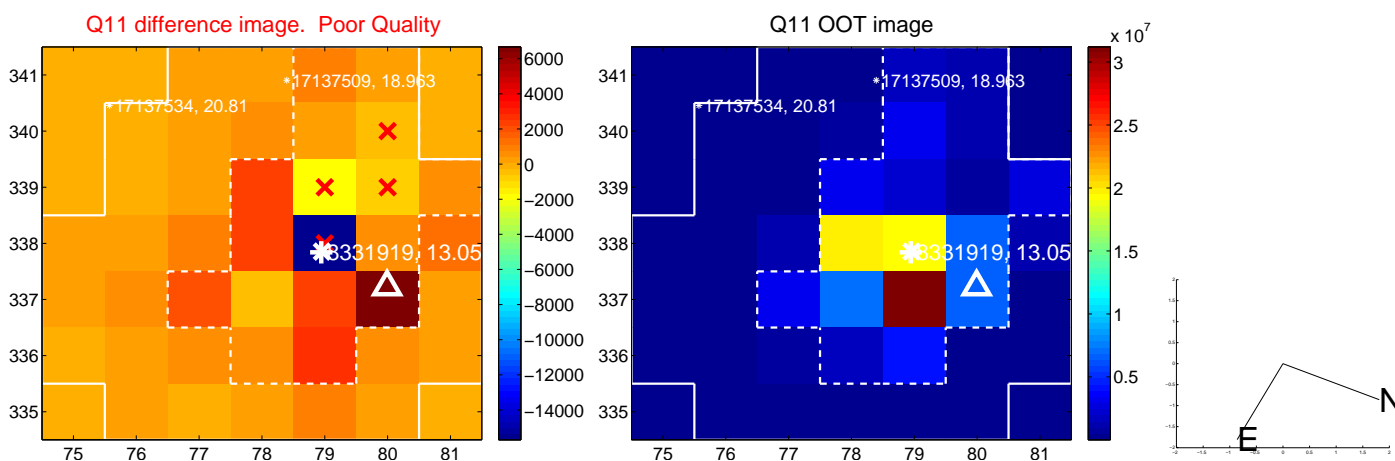
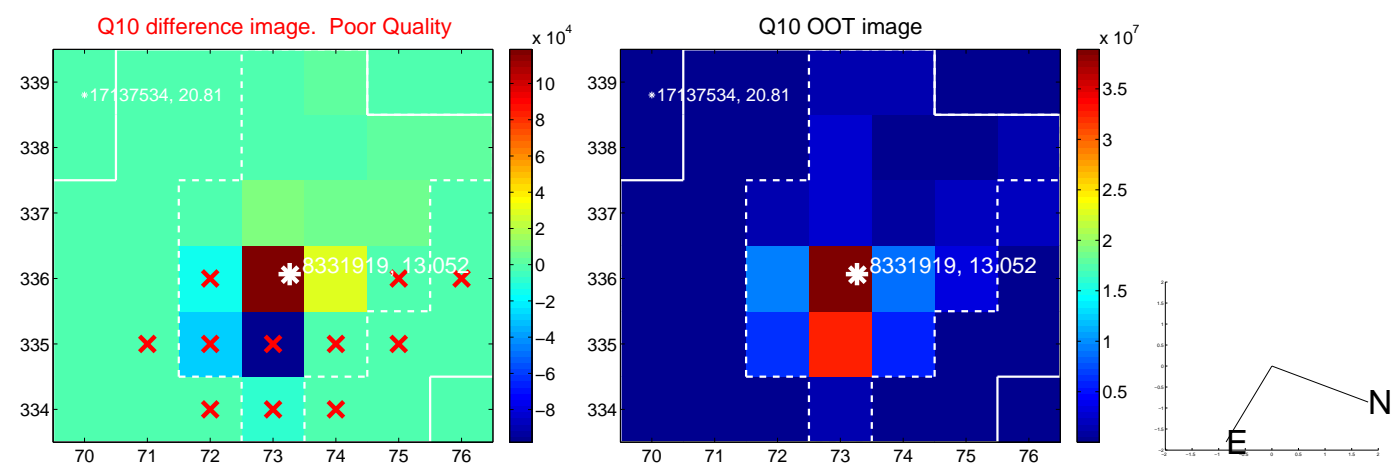
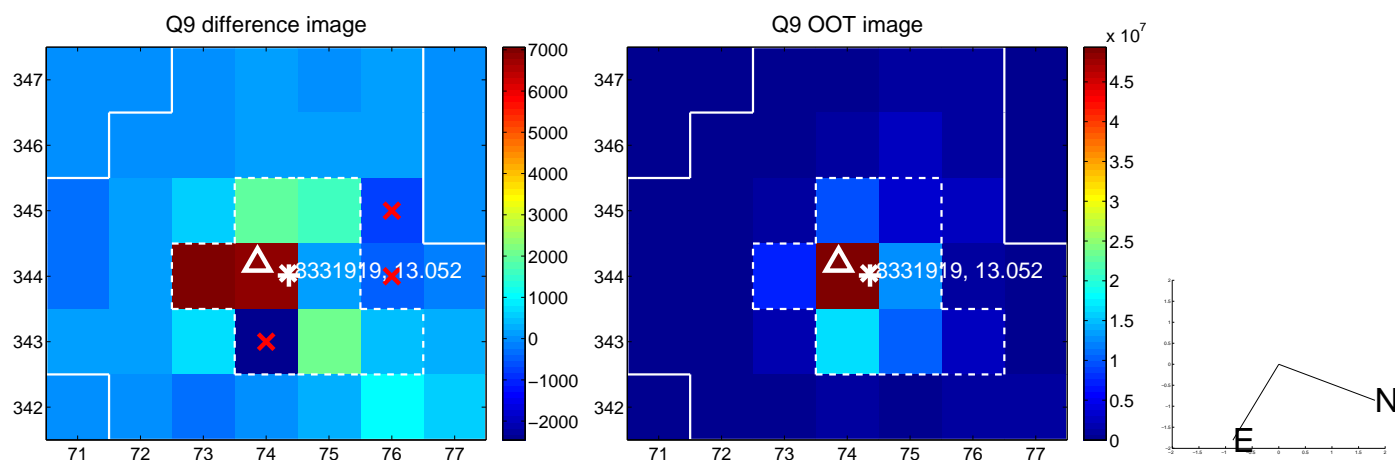
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



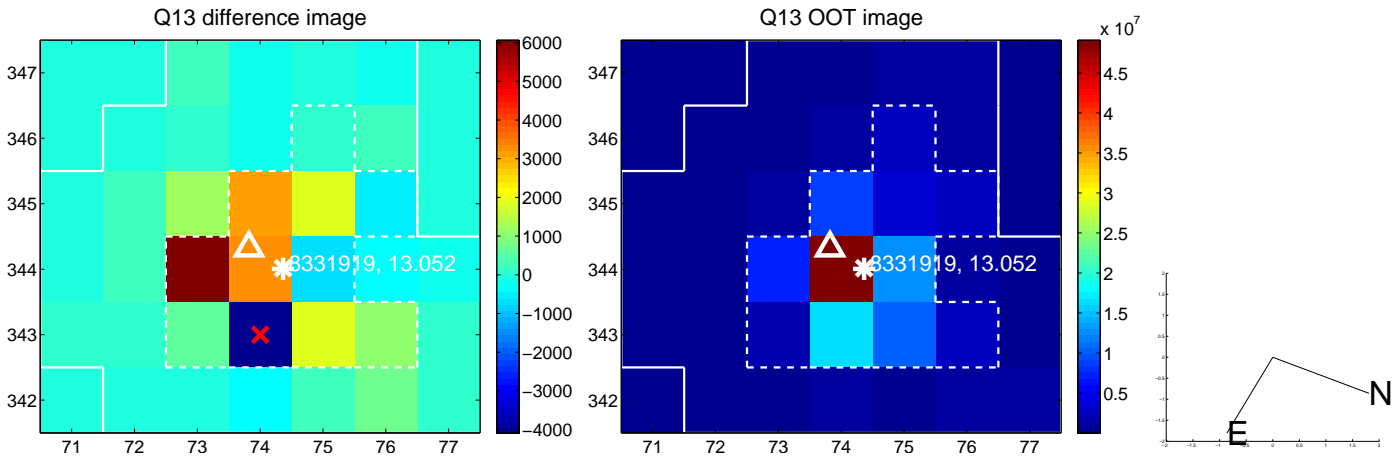
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



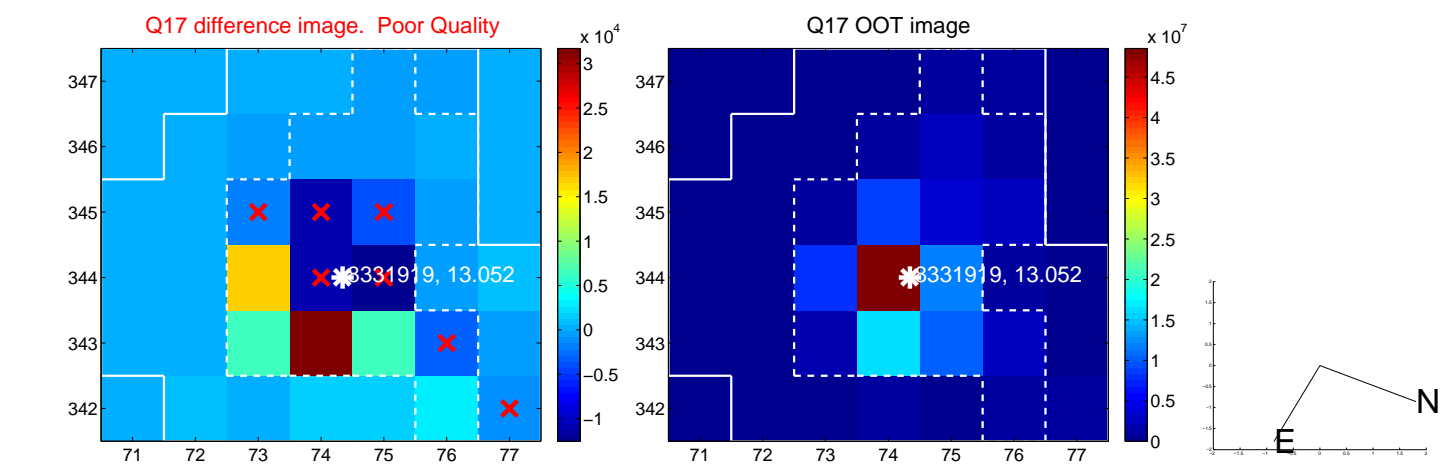
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



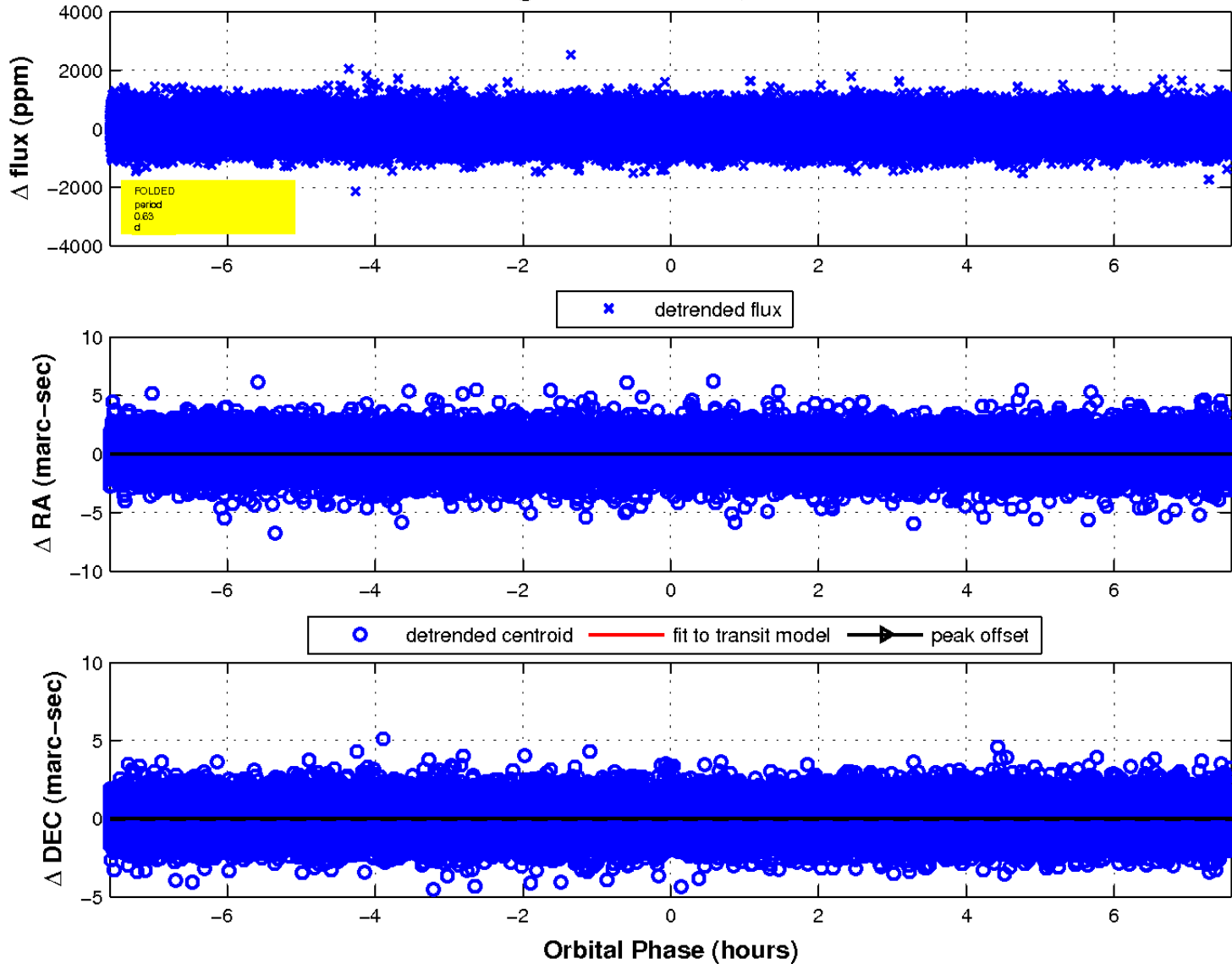
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

