

KIC 009713244

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})
009713244-01	OBS	No	0.685379	132.106883	44.0	1.659	11.0	11.0	2.07	7839	1.59	41102.63
009713244-02	OBS	No	1.475825	131.796462	67.2	17.710	9.8	18.6	2.07	7839	2.27	14781.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009713244-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009713244-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—CENT_FEW_DIFS

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

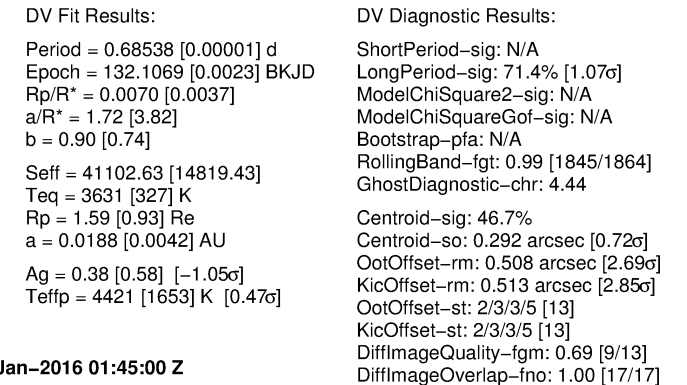
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

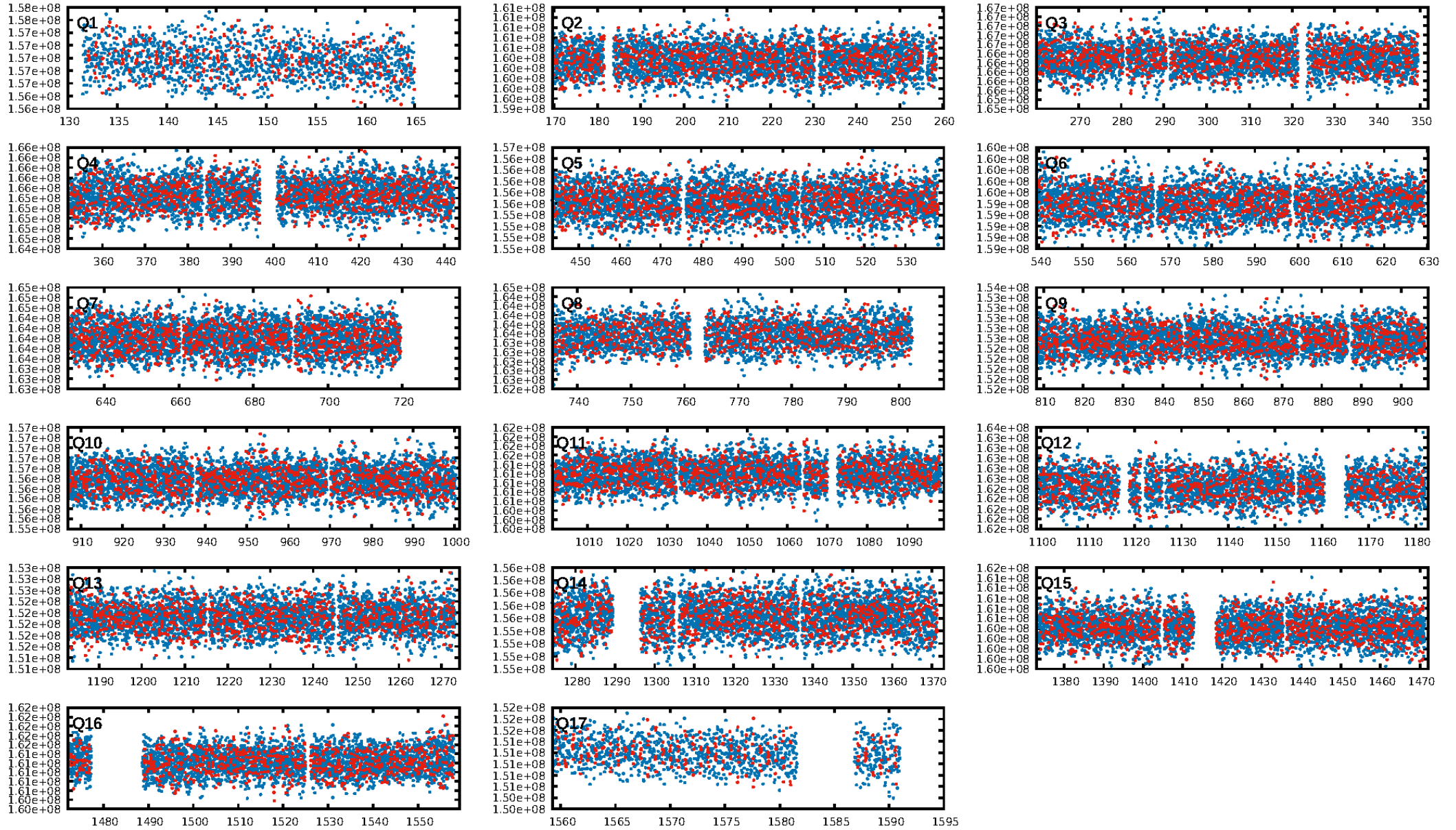
Ephemeris Match Information For 009713244-01

No Significant Match Found

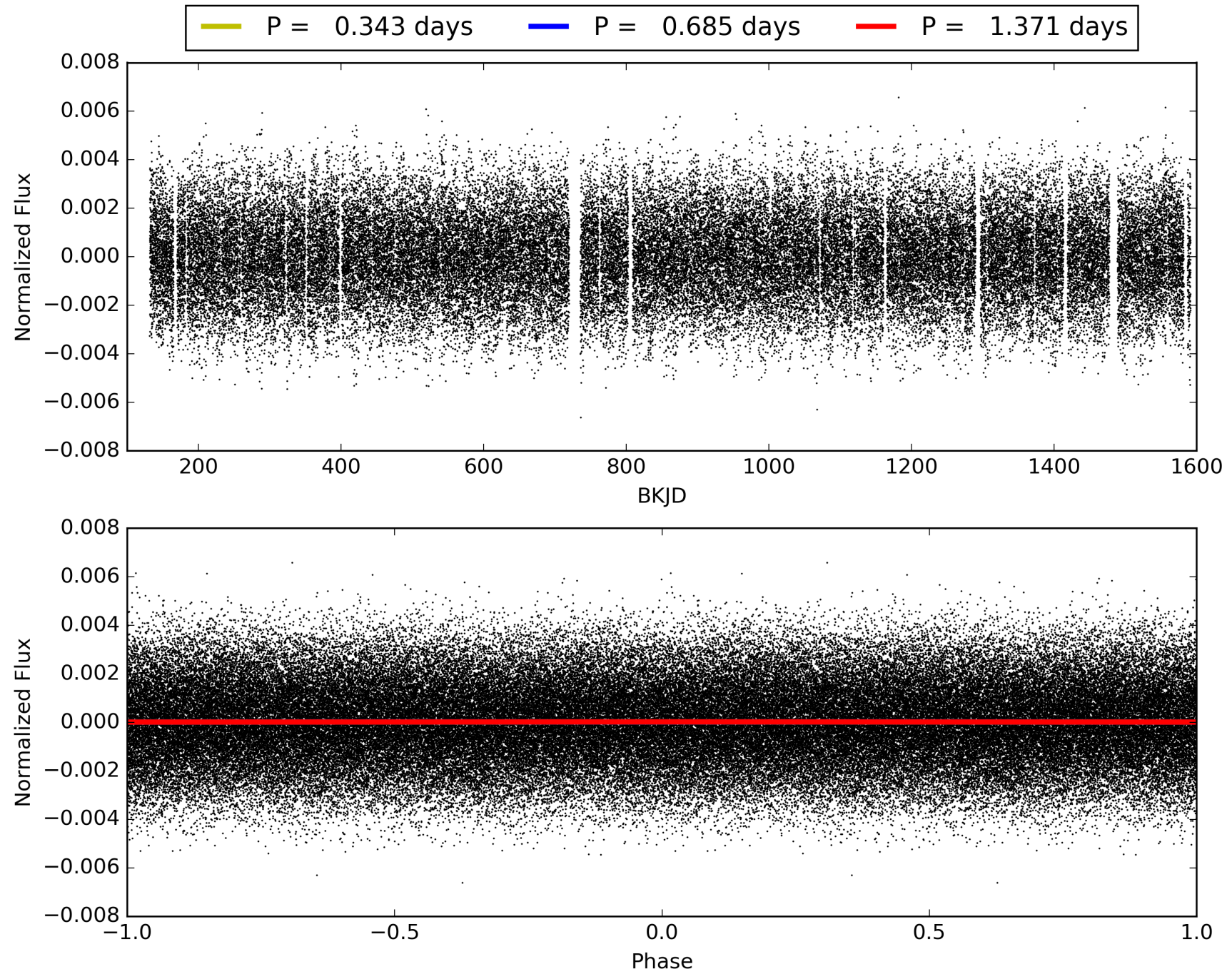
KIC: 9713244 Candidate: 1 of 2 Period: 0.685 d



TCE 009713244-01, PDC Light Curves

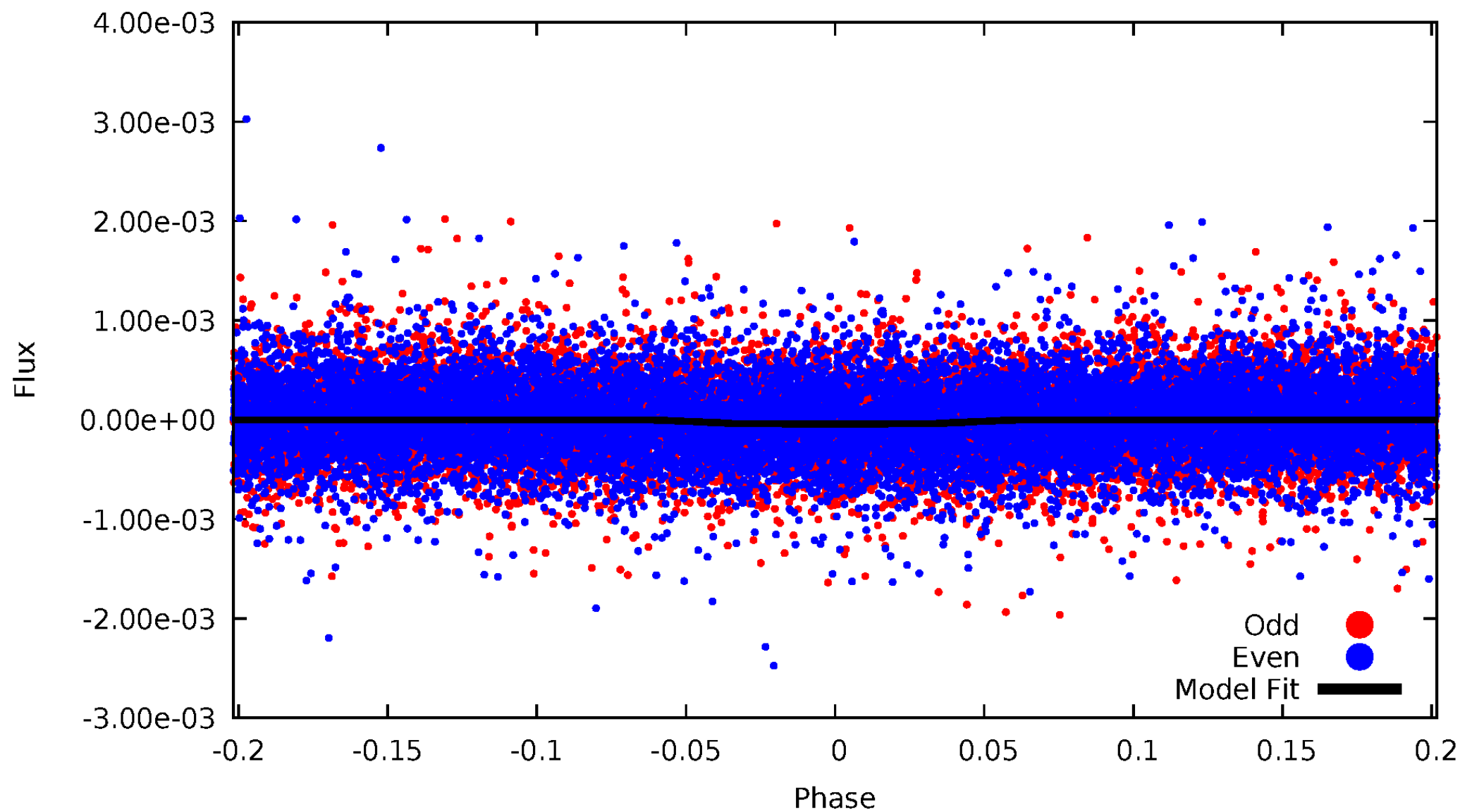


TCE 009713244-01



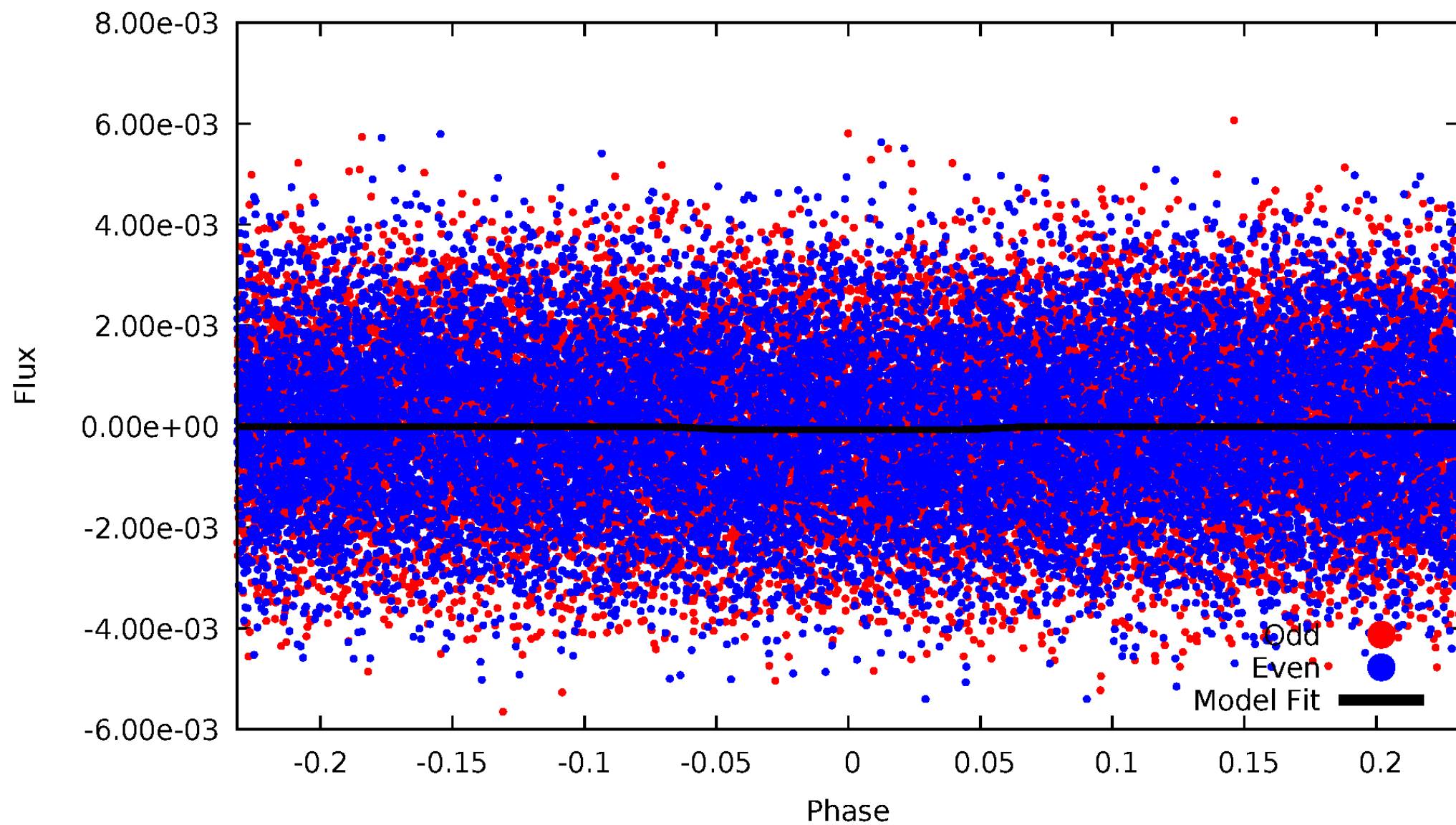
DV Odd/Even

TCE 009713244-01



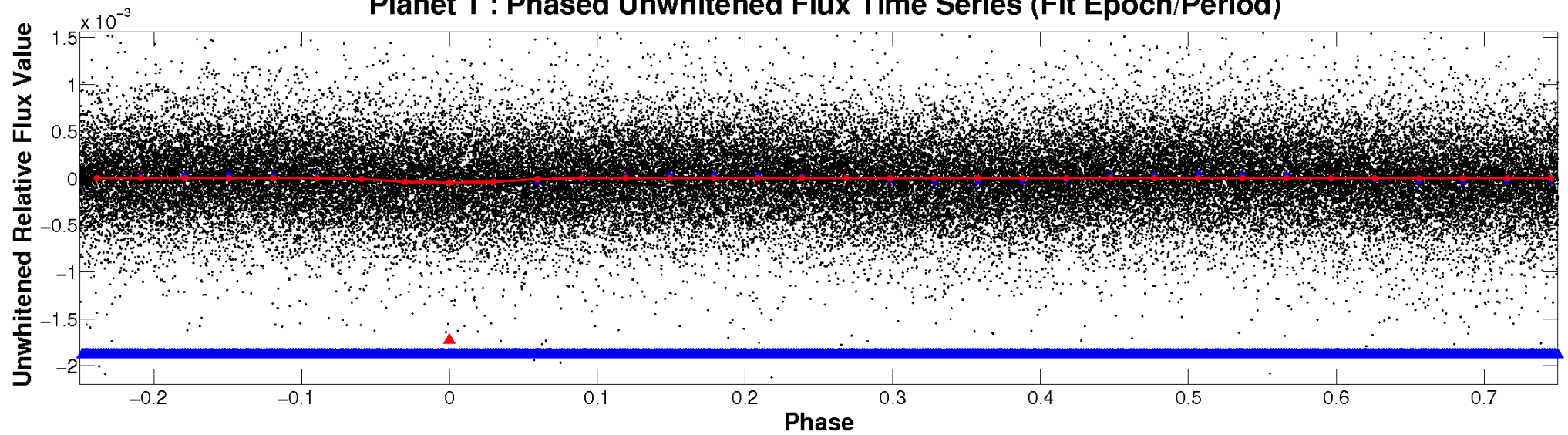
ALT Odd/Even

TCE 009713244-01

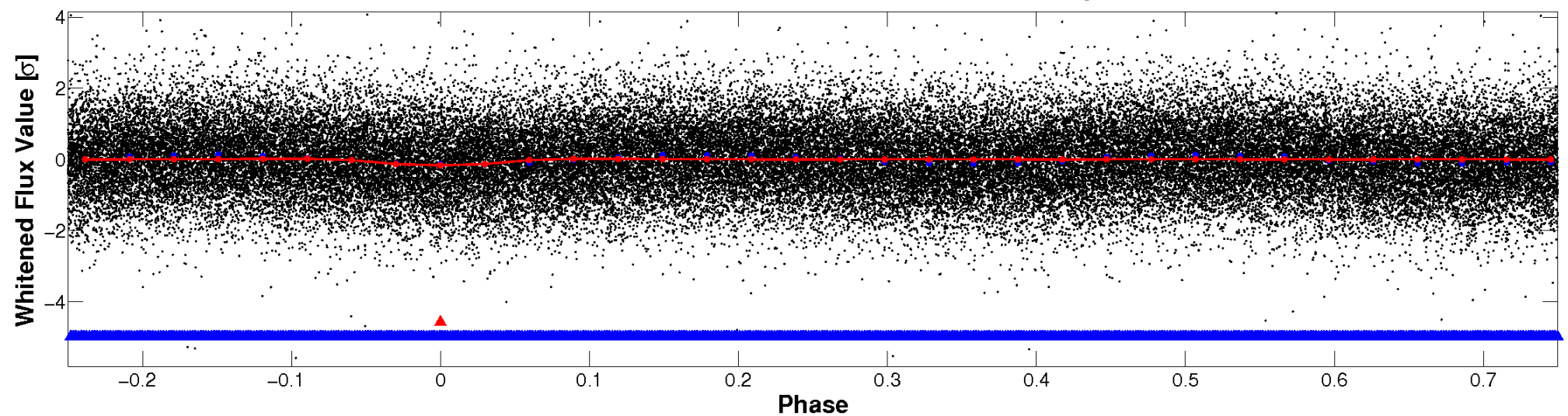


Non-Whitened Vs. Whitened Light Curve

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

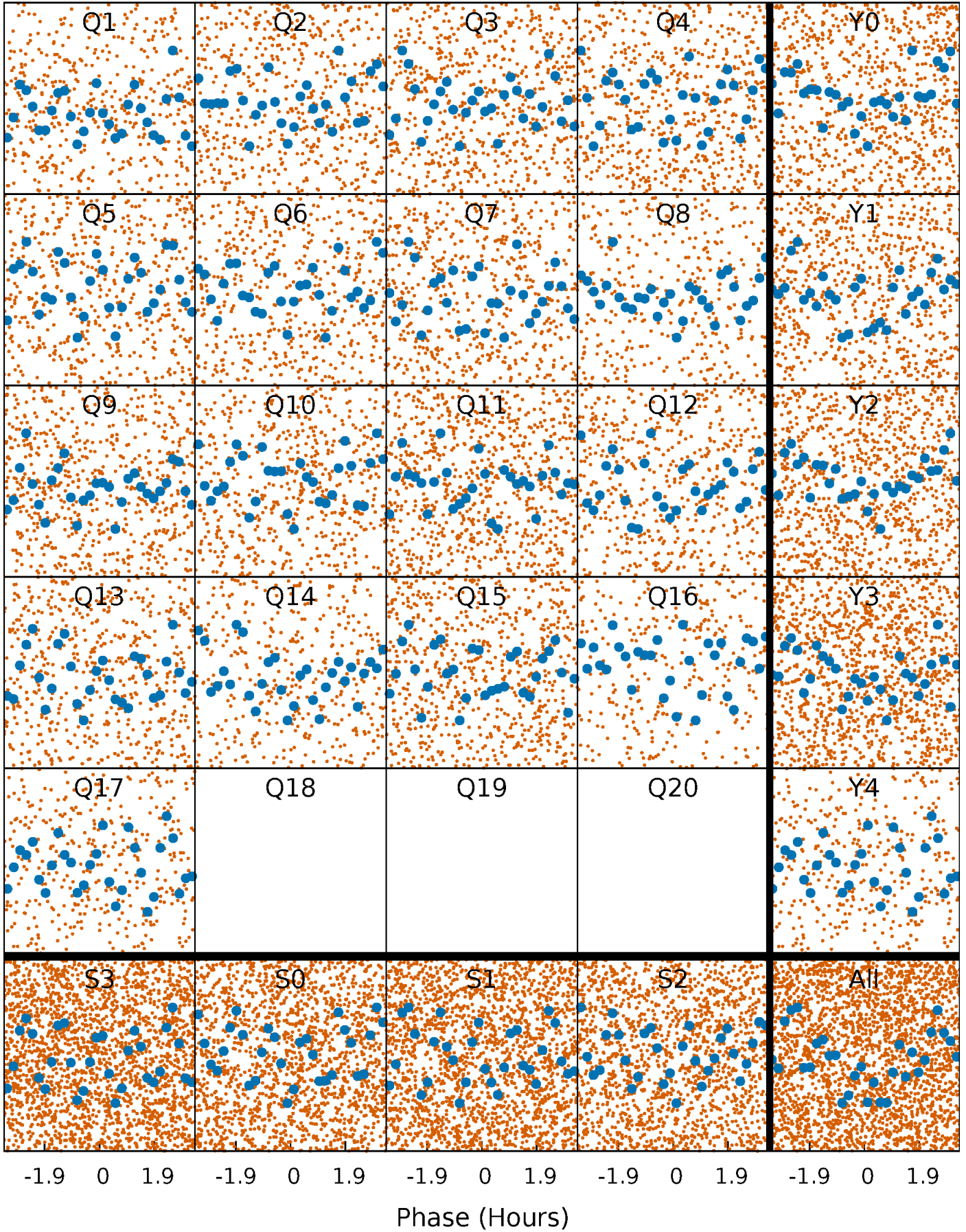


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



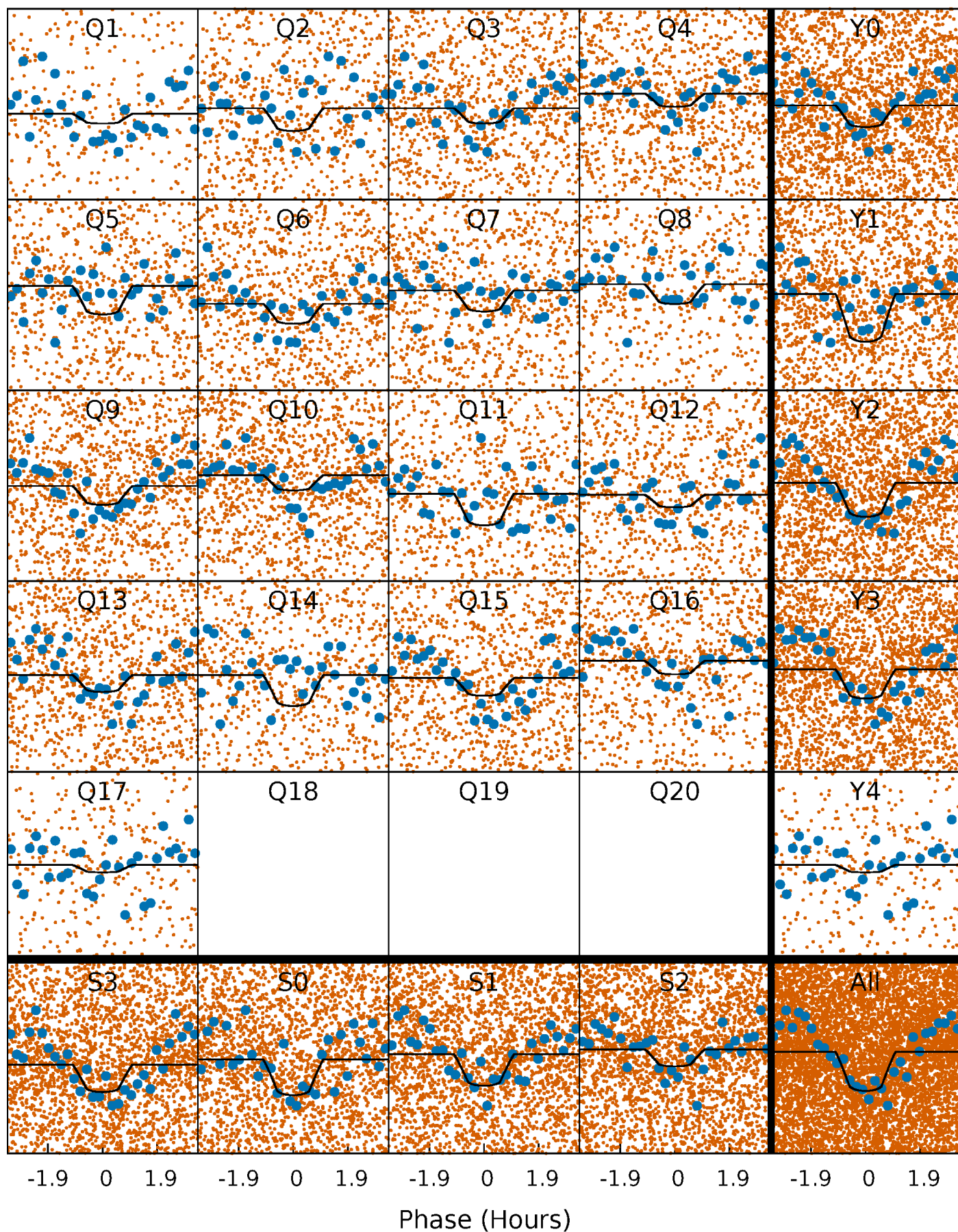
PDC Quarter-Phased Transit Curves

TCE 009713244-01 P= 0.685379 Days $T_0=132.106883$ (BKJD)



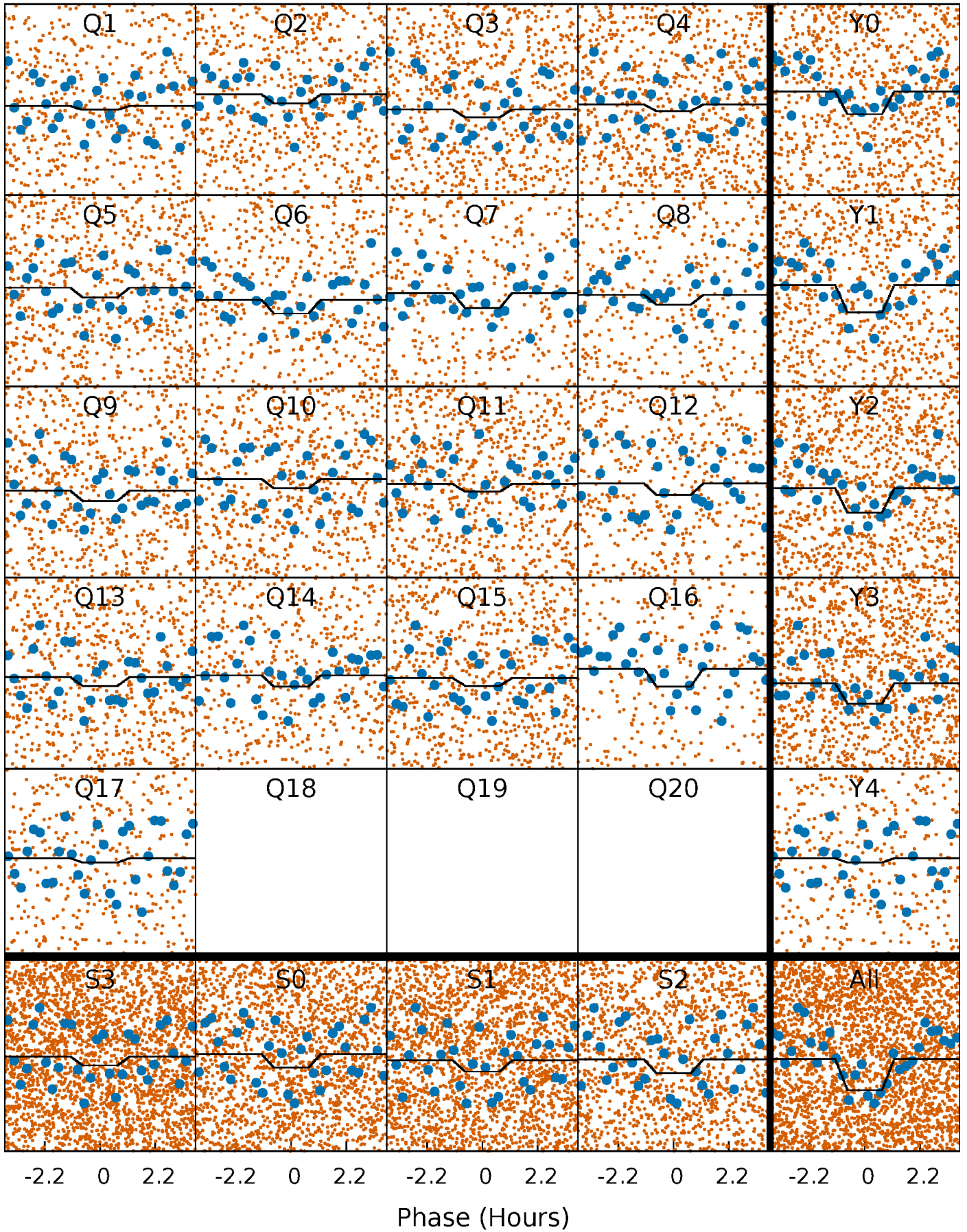
DV Quarter-Phased Transit Curves

TCE 009713244-01 P= 0.685379 Days $T_0=132.106883$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

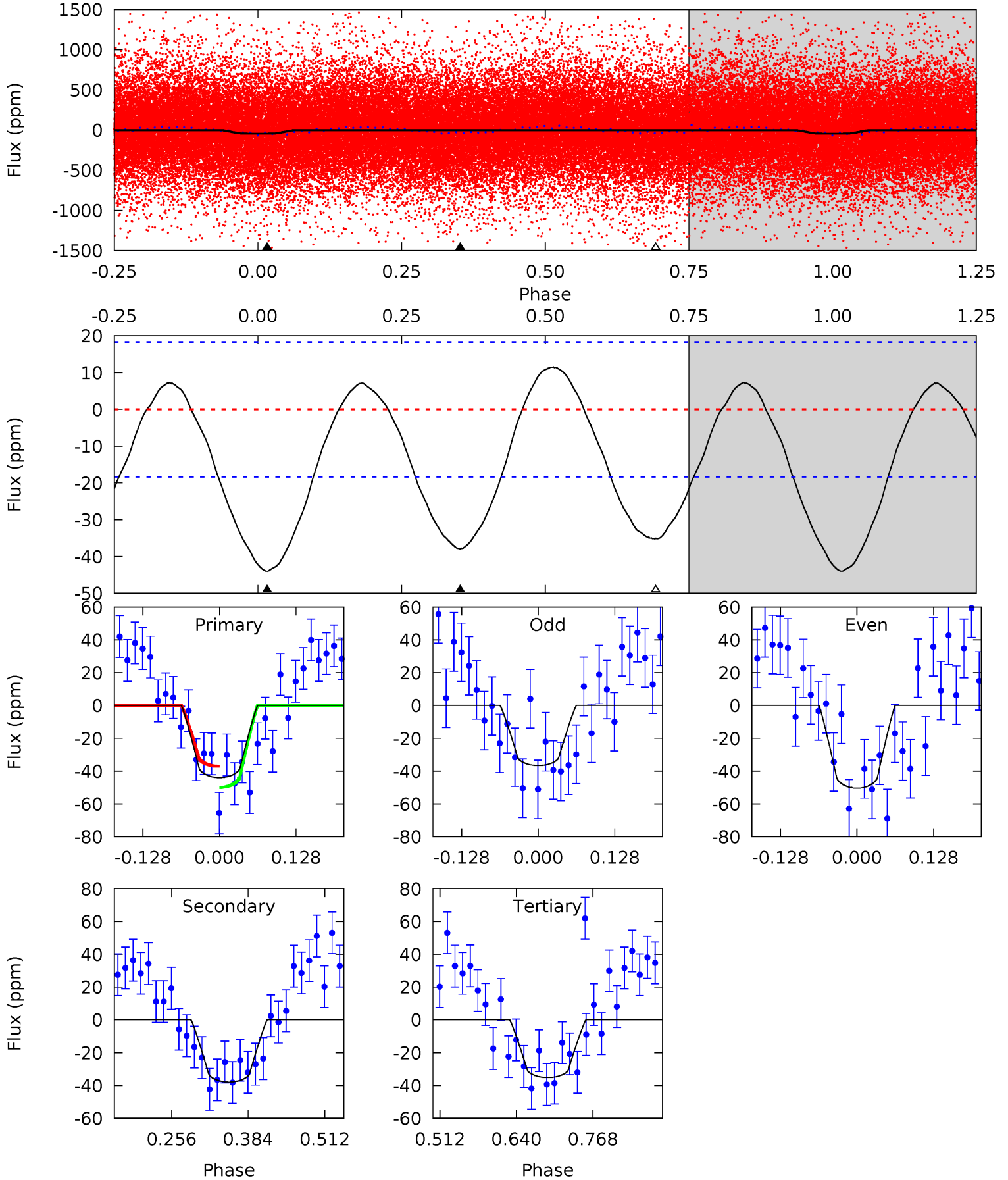
TCE 009713244-01 P= 0.685383 Days $T_0=132.101657$ (BKJD)



DV Model-Shift Uniqueness Test

009713244-01, P = 0.685379 Days, E = 131.421504 Days

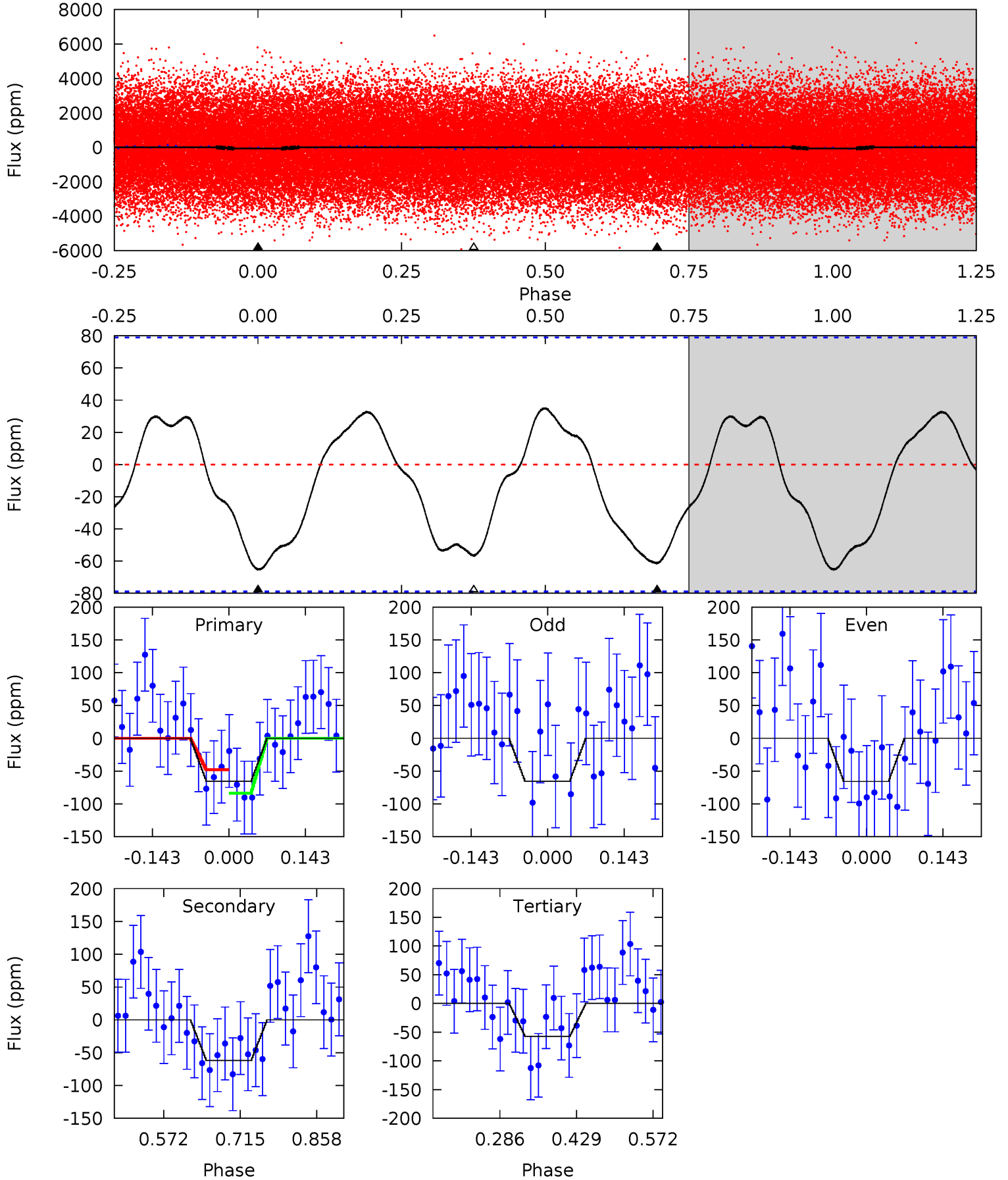
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	9.33	8.66	0	4.51	1.52	3.89	2.17	10.8	0.67	9.33	1.71	0.92	0.21	1.60



Alt Model-Shift Uniqueness Test

009713244-01, P = 0.685383 Days, E = 131.416274 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.73	3.52	3.26	0	4.49	1.46	1.80	0.48	3.73	0.26	3.52	0.01	0.93	0.35	1.02



Stellar Parameters For KIC 009713244

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7839^{+219}_{-344}	$4.080^{+0.112}_{-0.168}$	$0.210^{+0.150}_{-0.400}$	$2.069^{+0.561}_{-0.374}$	$1.878^{+0.203}_{-0.279}$	$0.298^{+0.186}_{-0.133}$
	+3%/-4%	+3%/-4%	+71%/-190%	+27%/-18%	+11%/-15%	+62%/-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 009713244-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-38 ± 4	$1.60^{+0.81}_{-0.74}$	5088^{+338}_{-315}	6930^{+3930}_{-1520}	$2.784^{+6.801}_{-1.585}$
Alt.	-62 ± 18	$1.89^{+0.92}_{-0.76}$	5097^{+378}_{-303}	7280^{+3457}_{-1632}	$3.164^{+6.825}_{-1.832}$

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 $A_{obs} \gg 1.0$

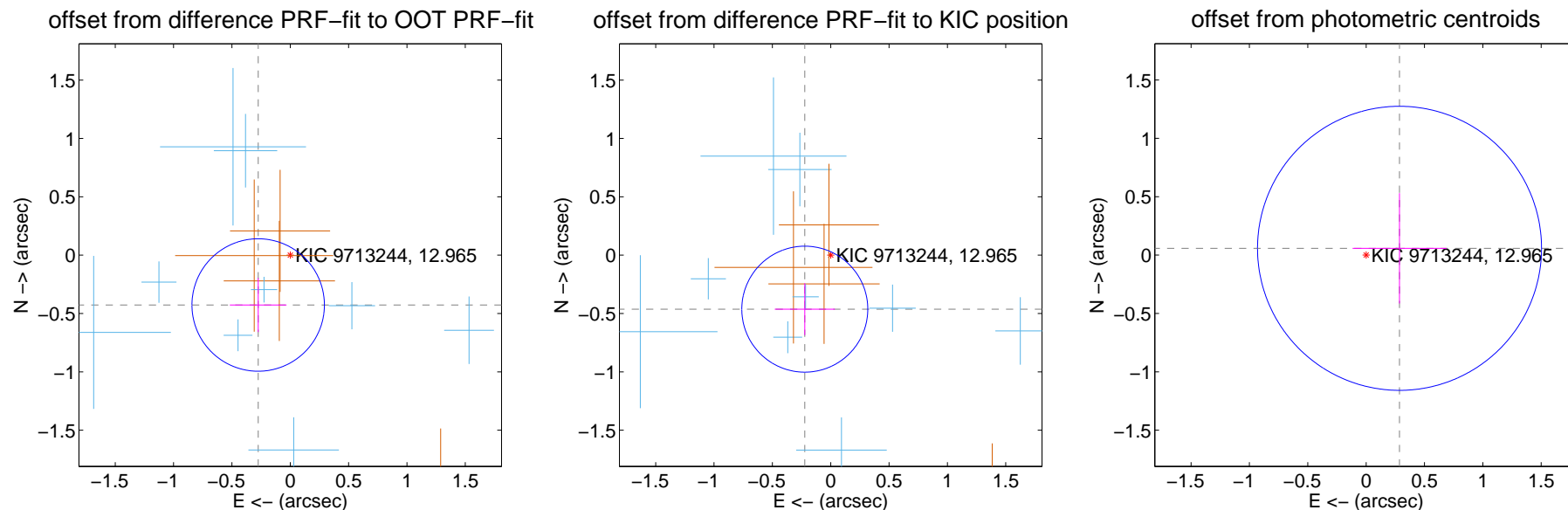
DV Centroid Data

Supplemental centroid analysis for 009713244-01. Kepler magnitude: 12.96. Transit SNR 11.02

There are 9 quarters with good PRF difference image offsets

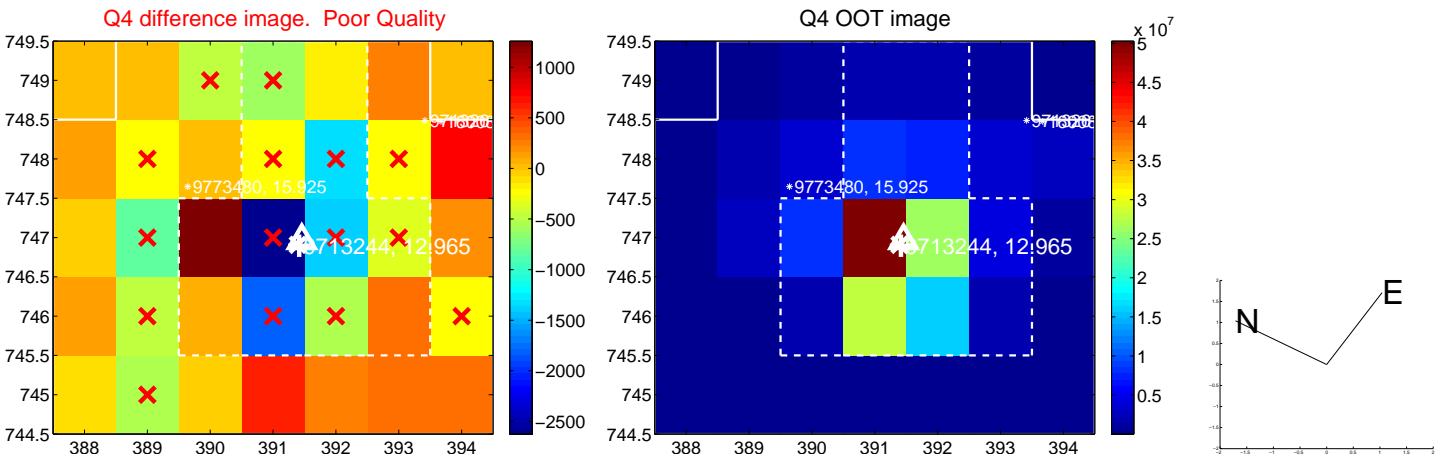
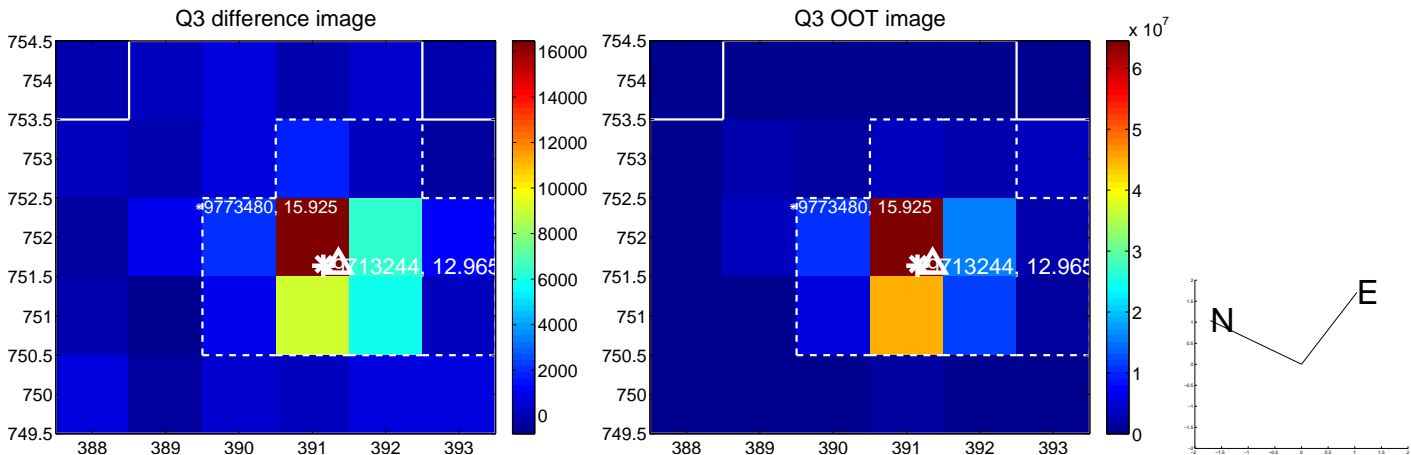
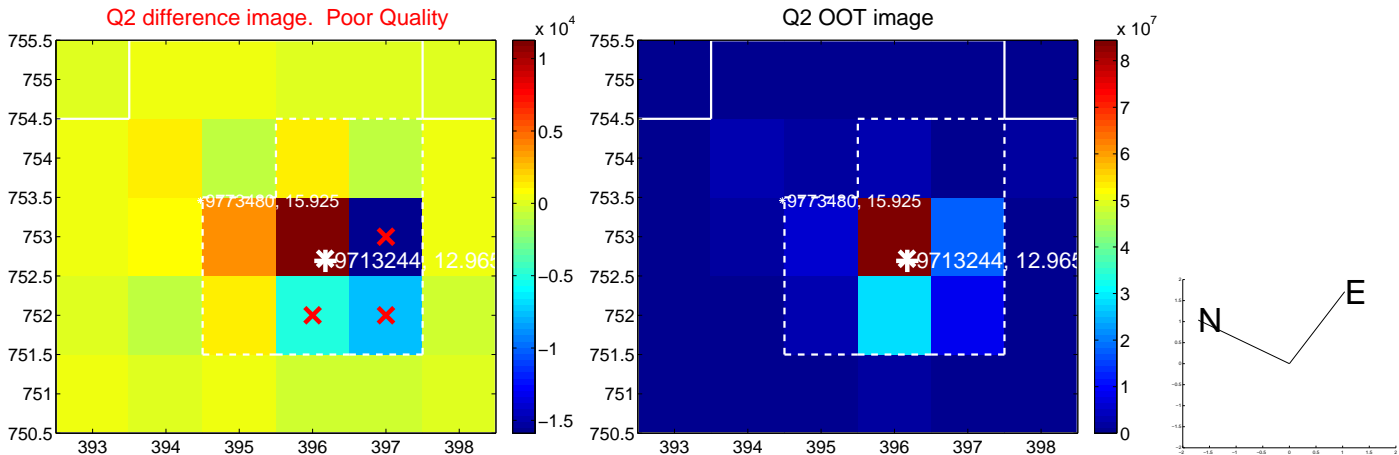
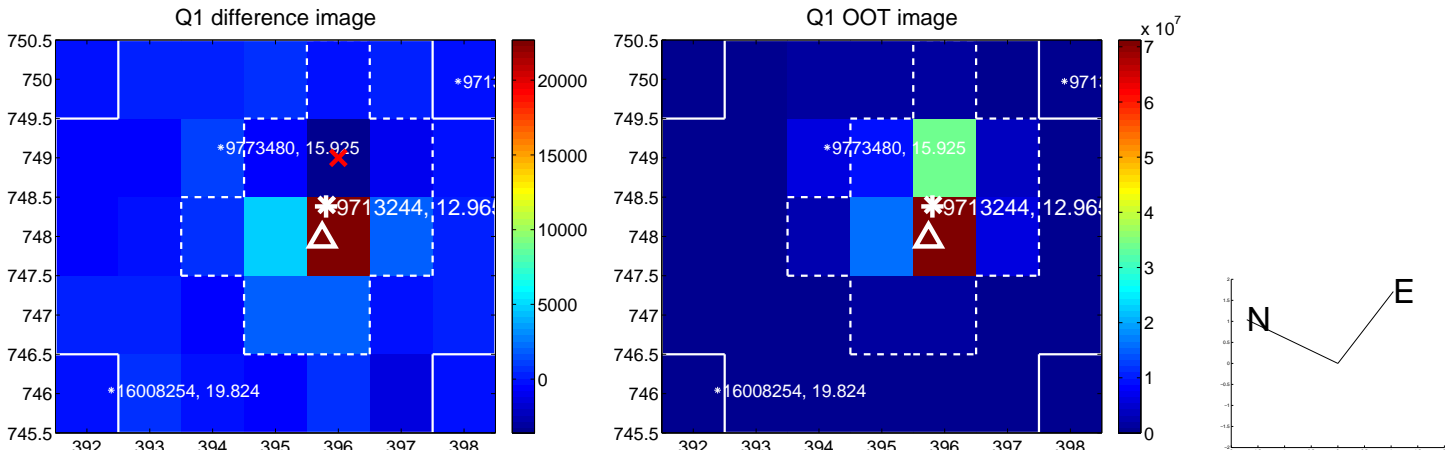
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.508 ± 0.189	2.69	0.275 ± 0.243	-0.427 ± 0.231
PRF-fit source offset from KIC position	0.513 ± 0.180	2.85	0.222 ± 0.257	-0.463 ± 0.222
photometric centroid source offset	0.29 ± 0.41	0.72	-0.29 ± 0.40	0.06 ± 0.47

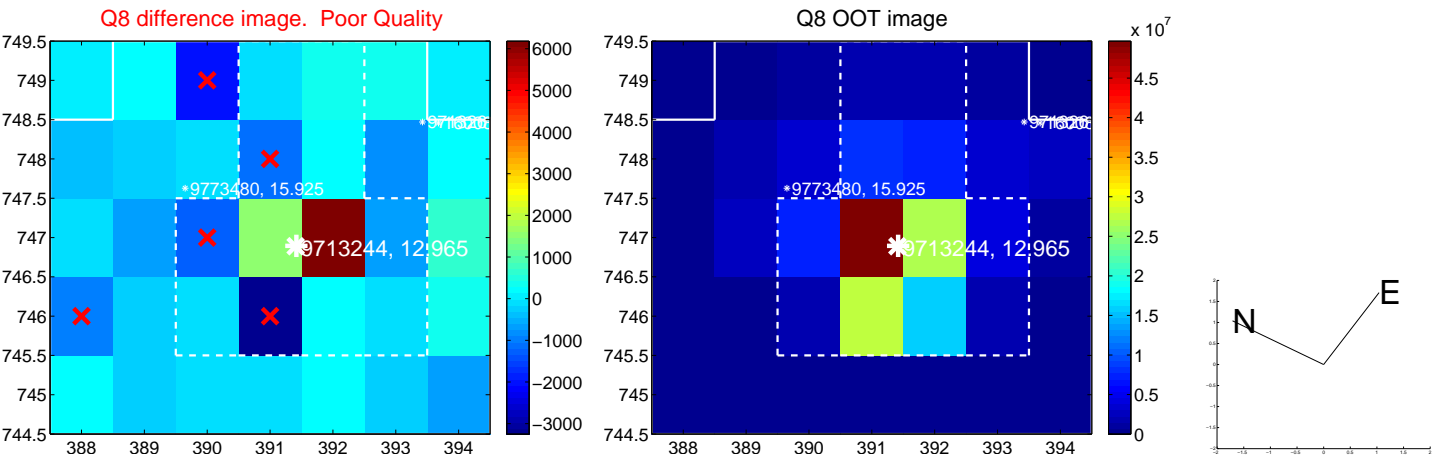
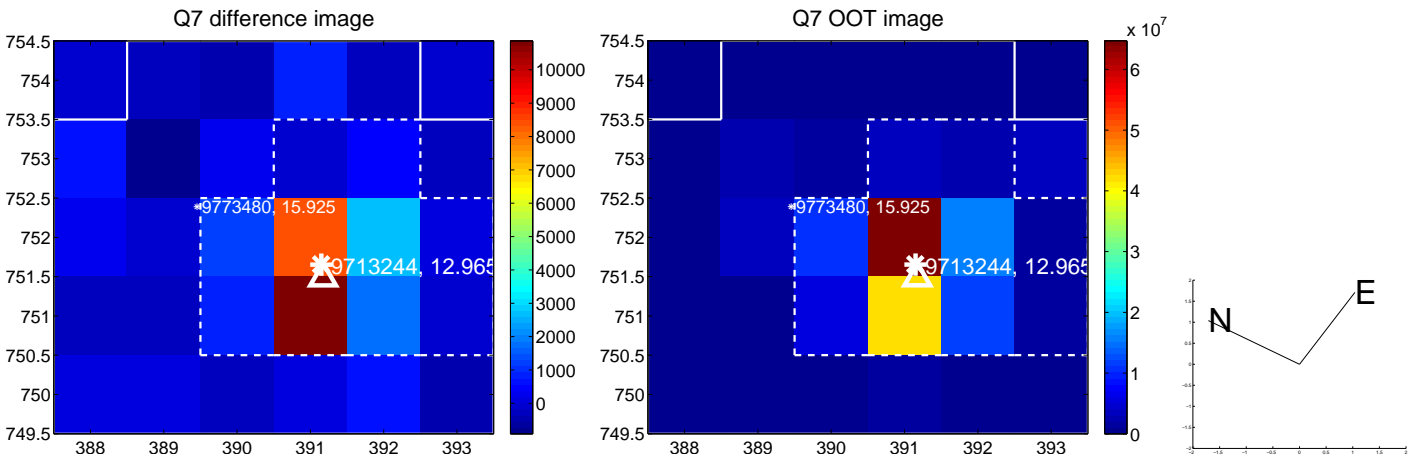
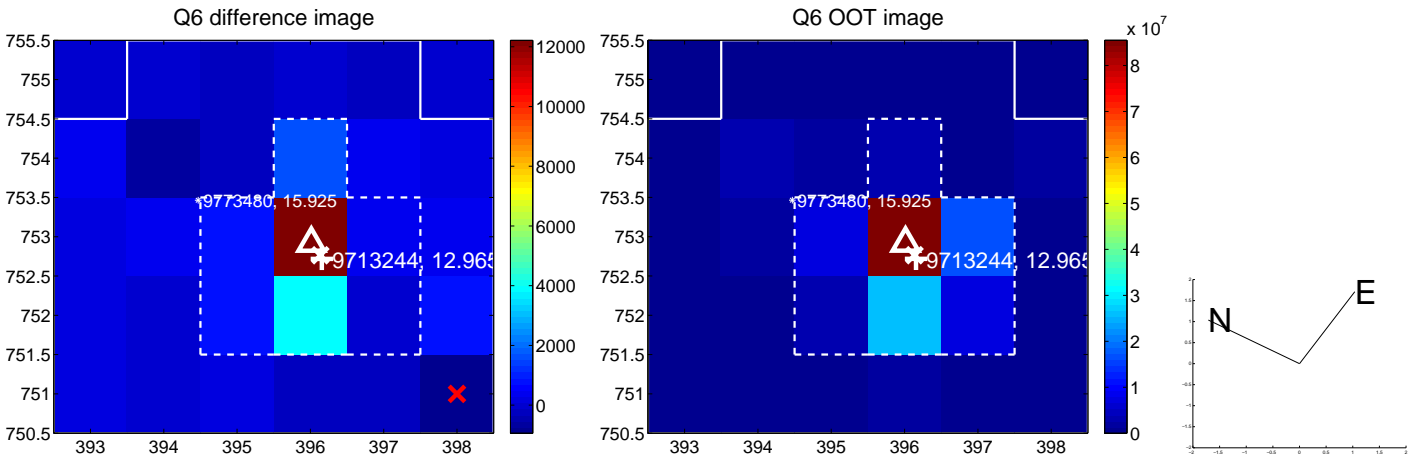
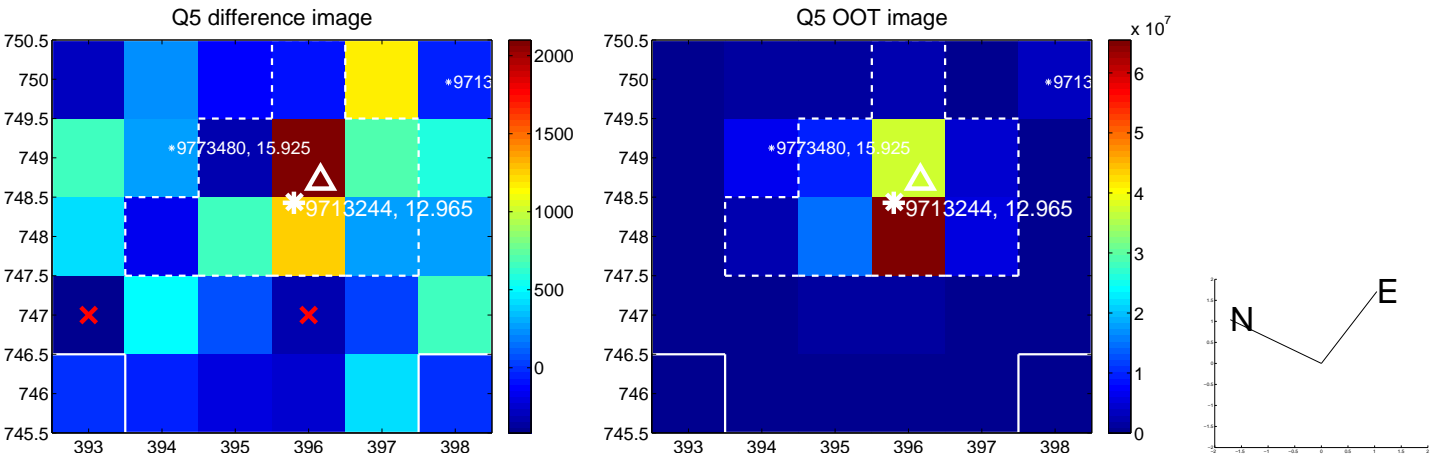


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

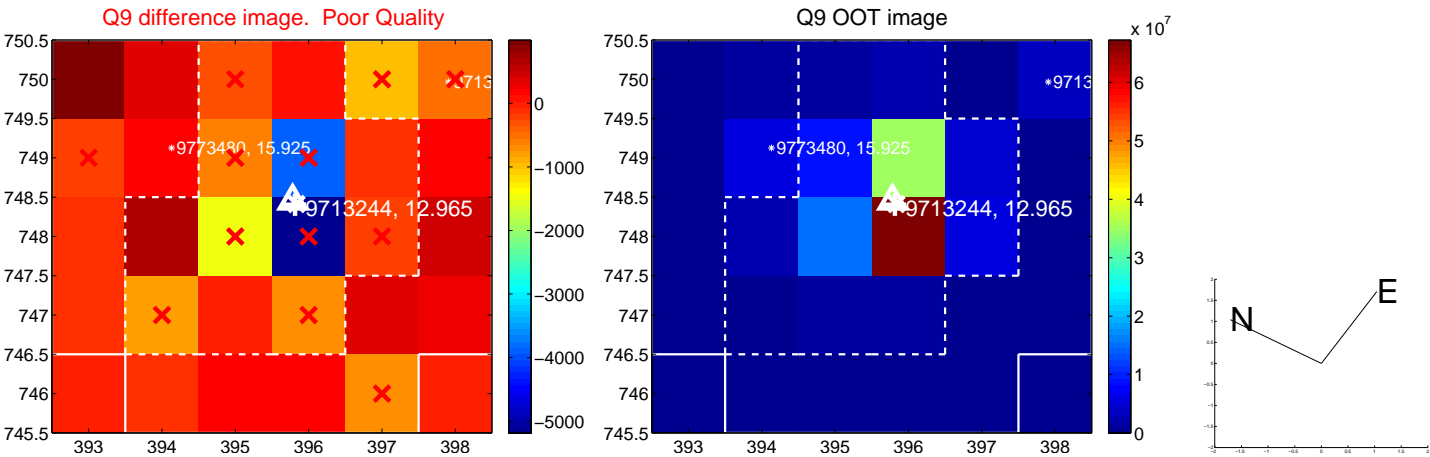
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



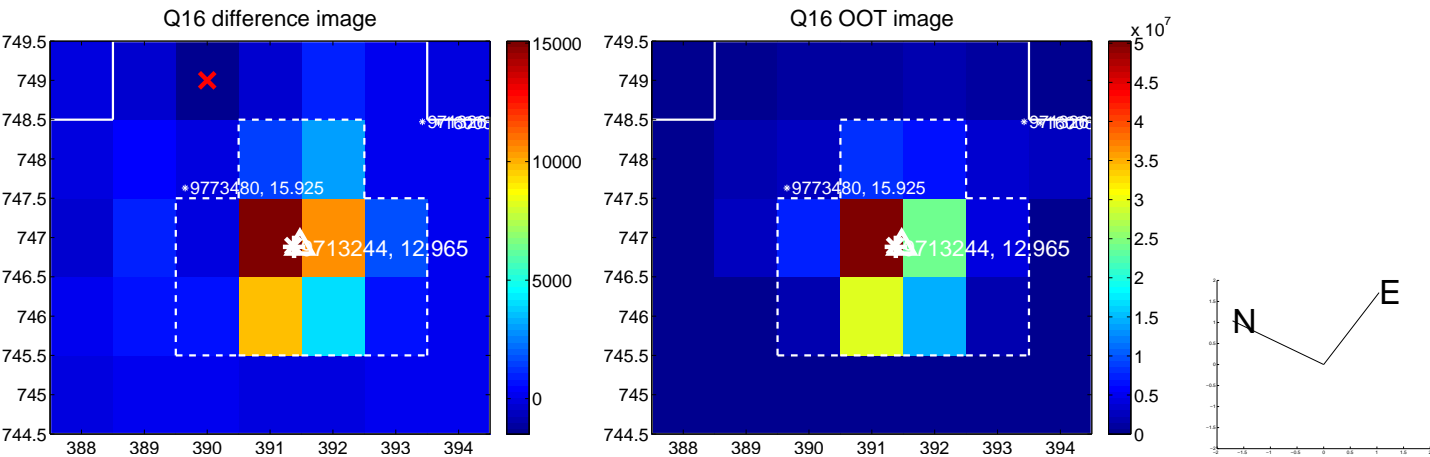
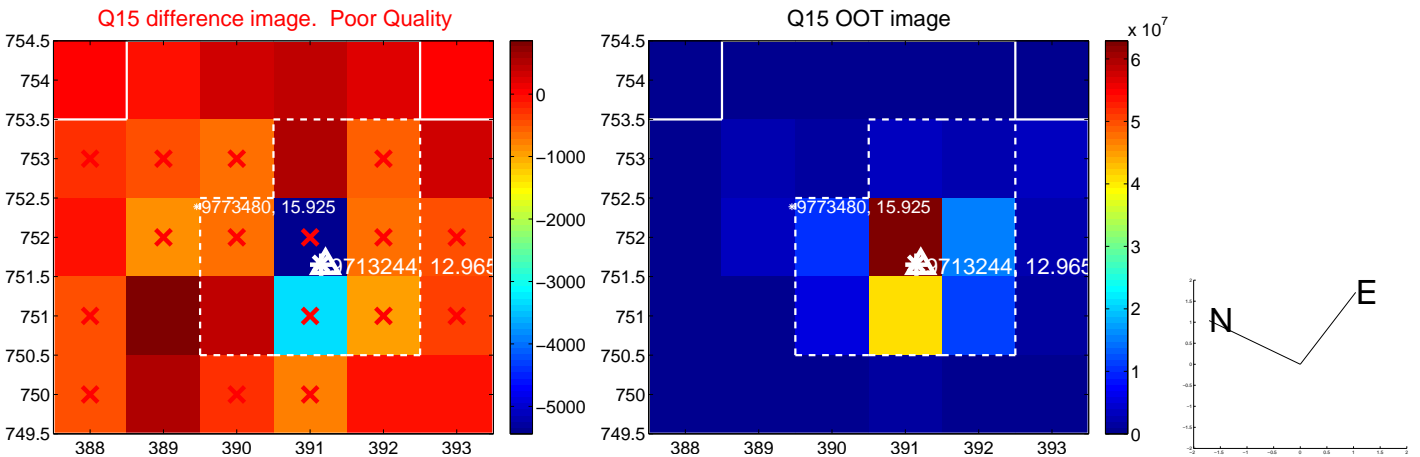
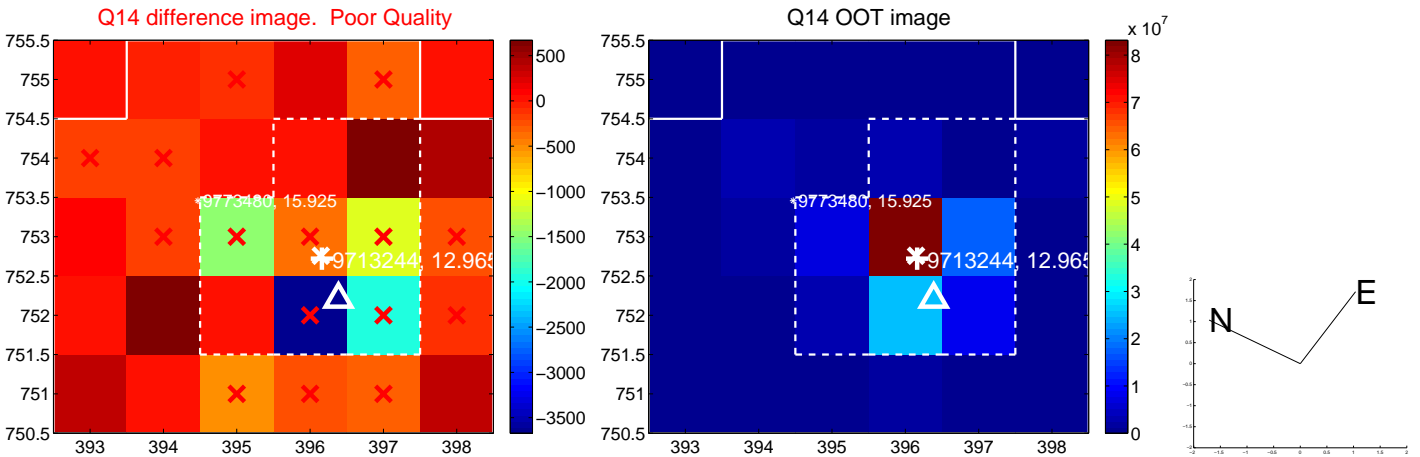
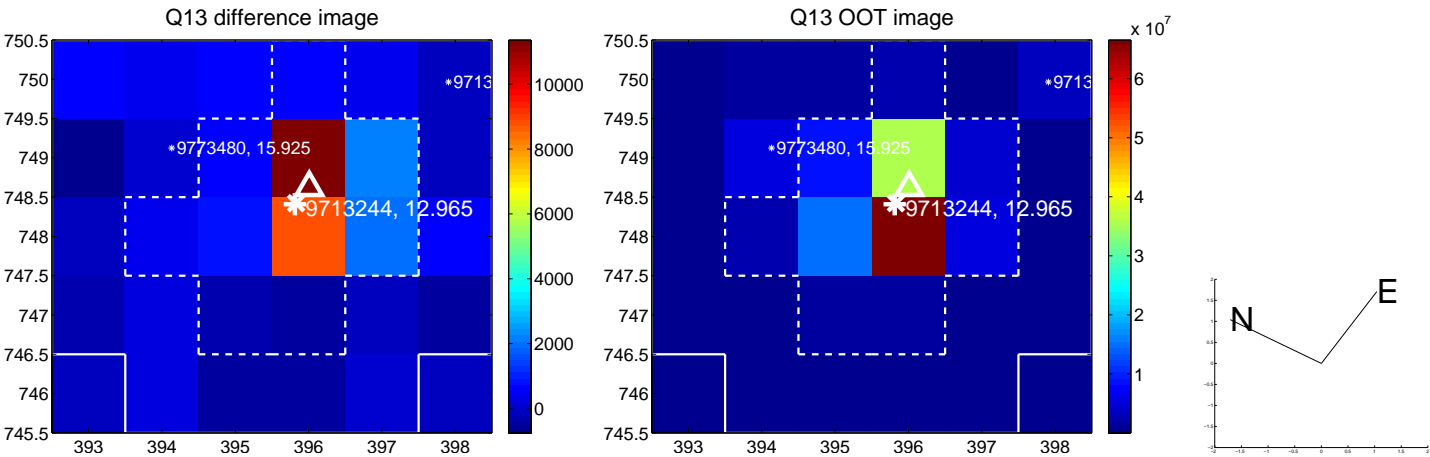
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

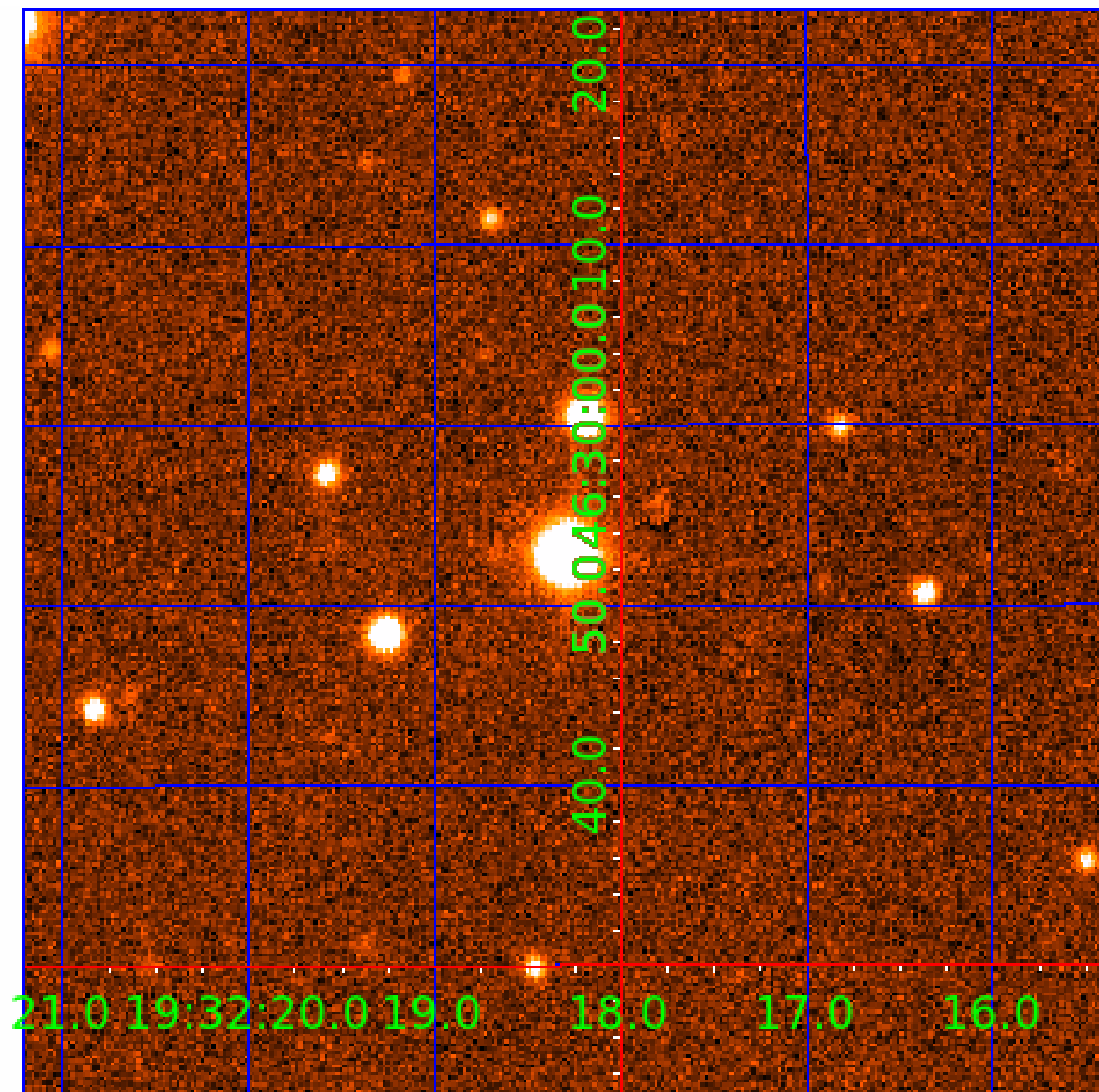


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009713244

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})
009713244-01	OBS	No	0.685379	132.106883	44.0	1.659	11.0	11.0	2.07	7839	1.59	41102.63
009713244-02	OBS	No	1.475825	131.796462	67.2	17.710	9.8	18.6	2.07	7839	2.27	14781.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009713244-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009713244-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—CENT_FEW_DIFS

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

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

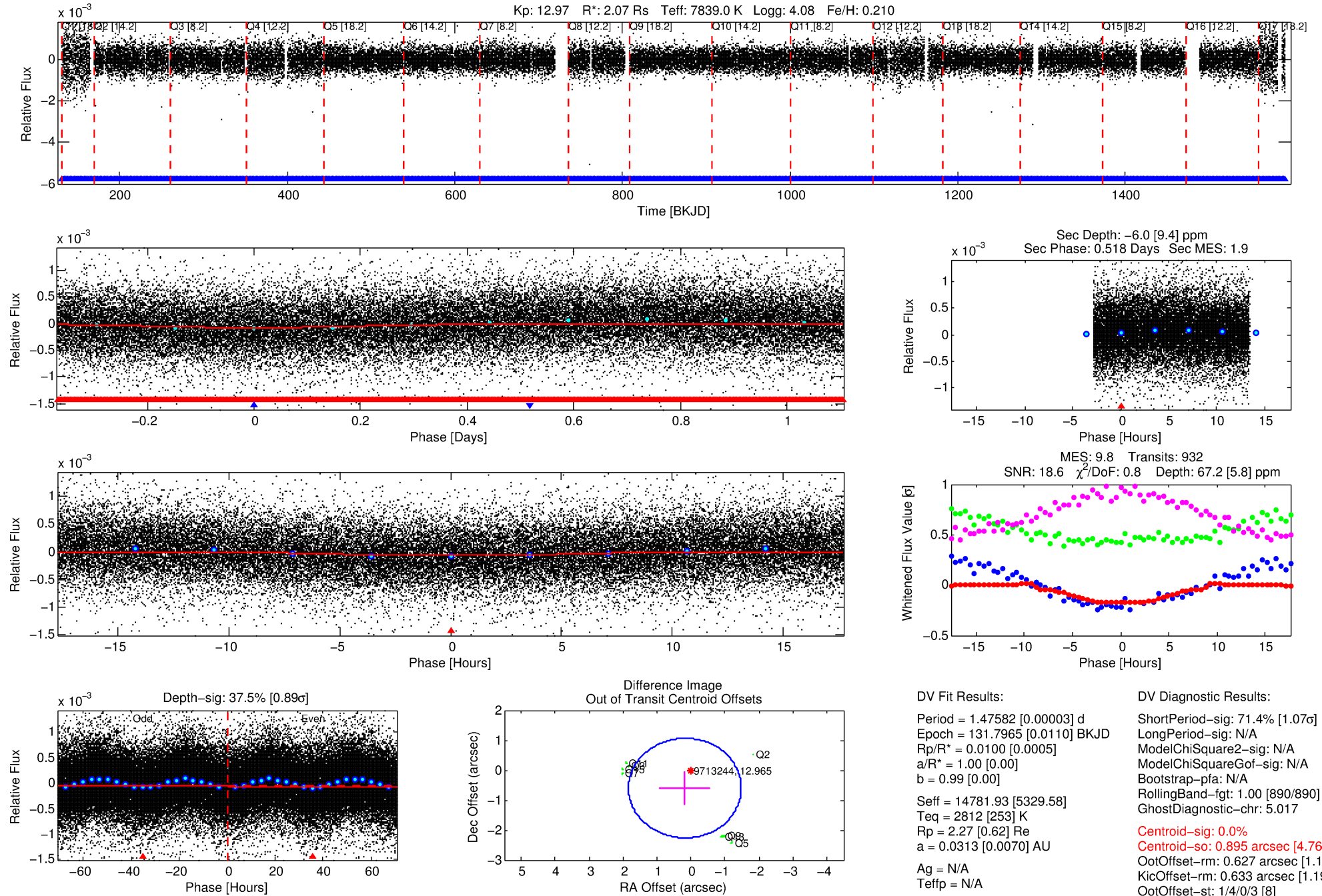
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009713244-02

No Significant Match Found

DV One-Page Summary

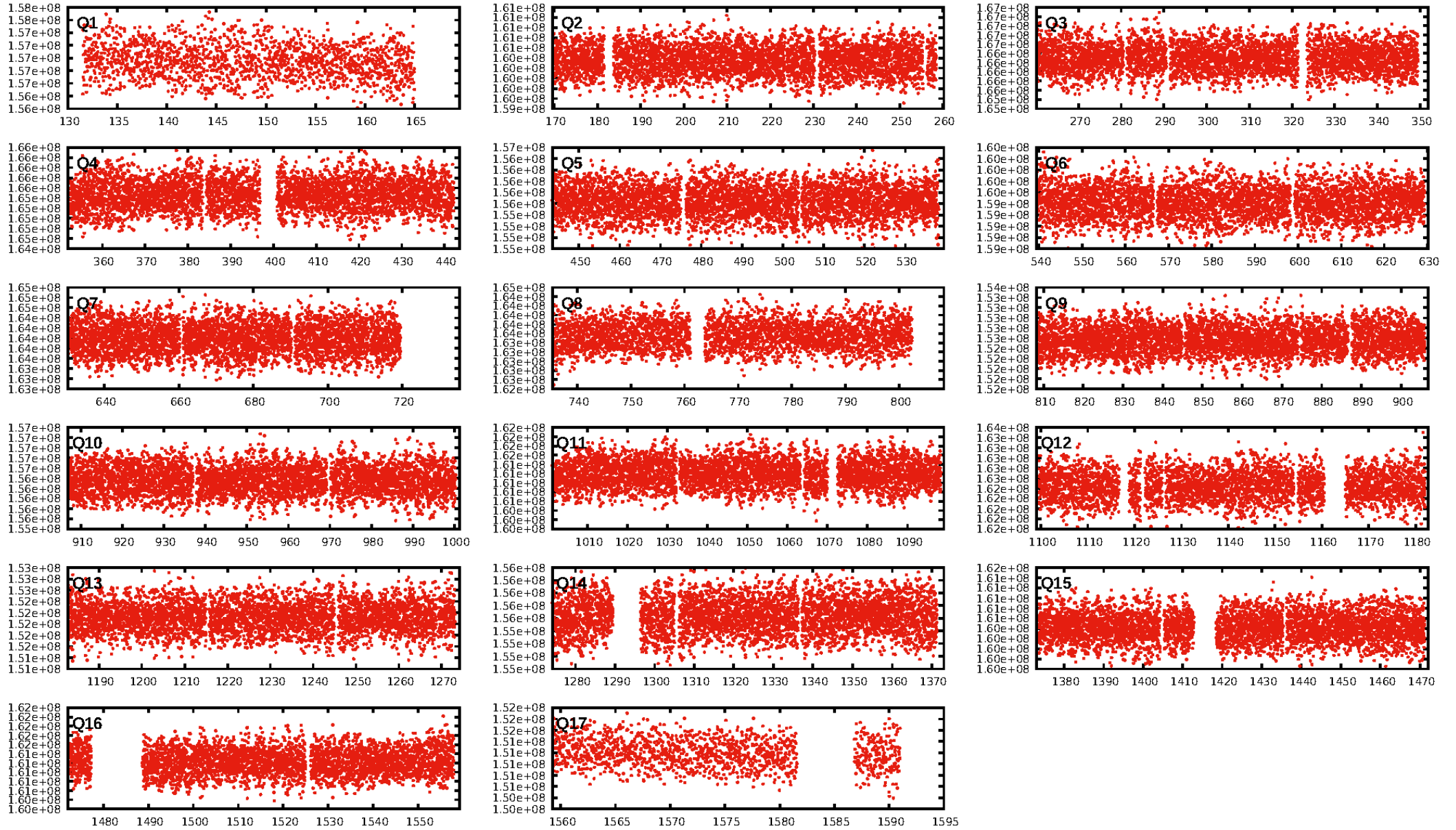
KIC: 9713244 Candidate: 2 of 2 Period: 1.476 d



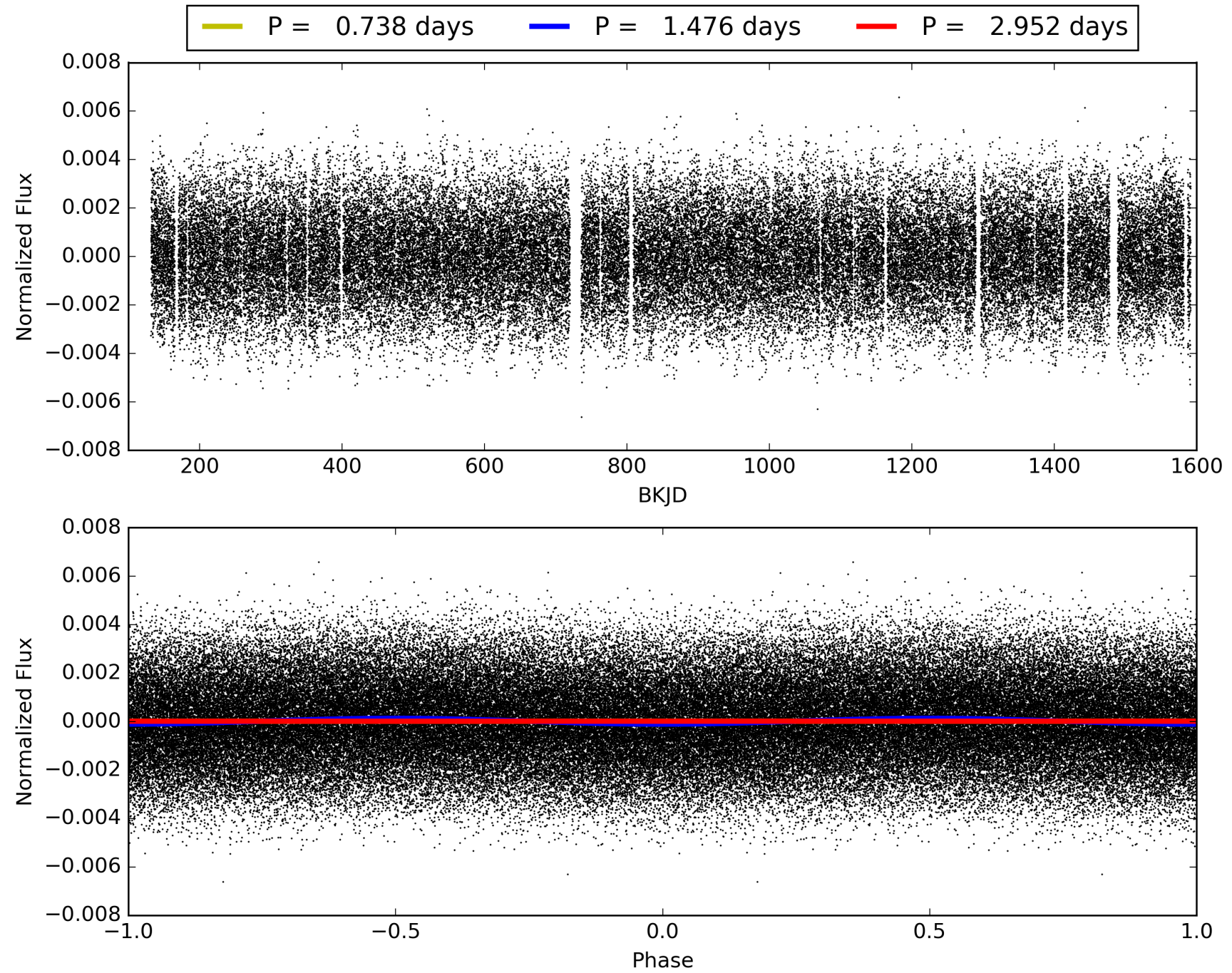
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:45:22 Z

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

TCE 009713244-02, PDC Light Curves

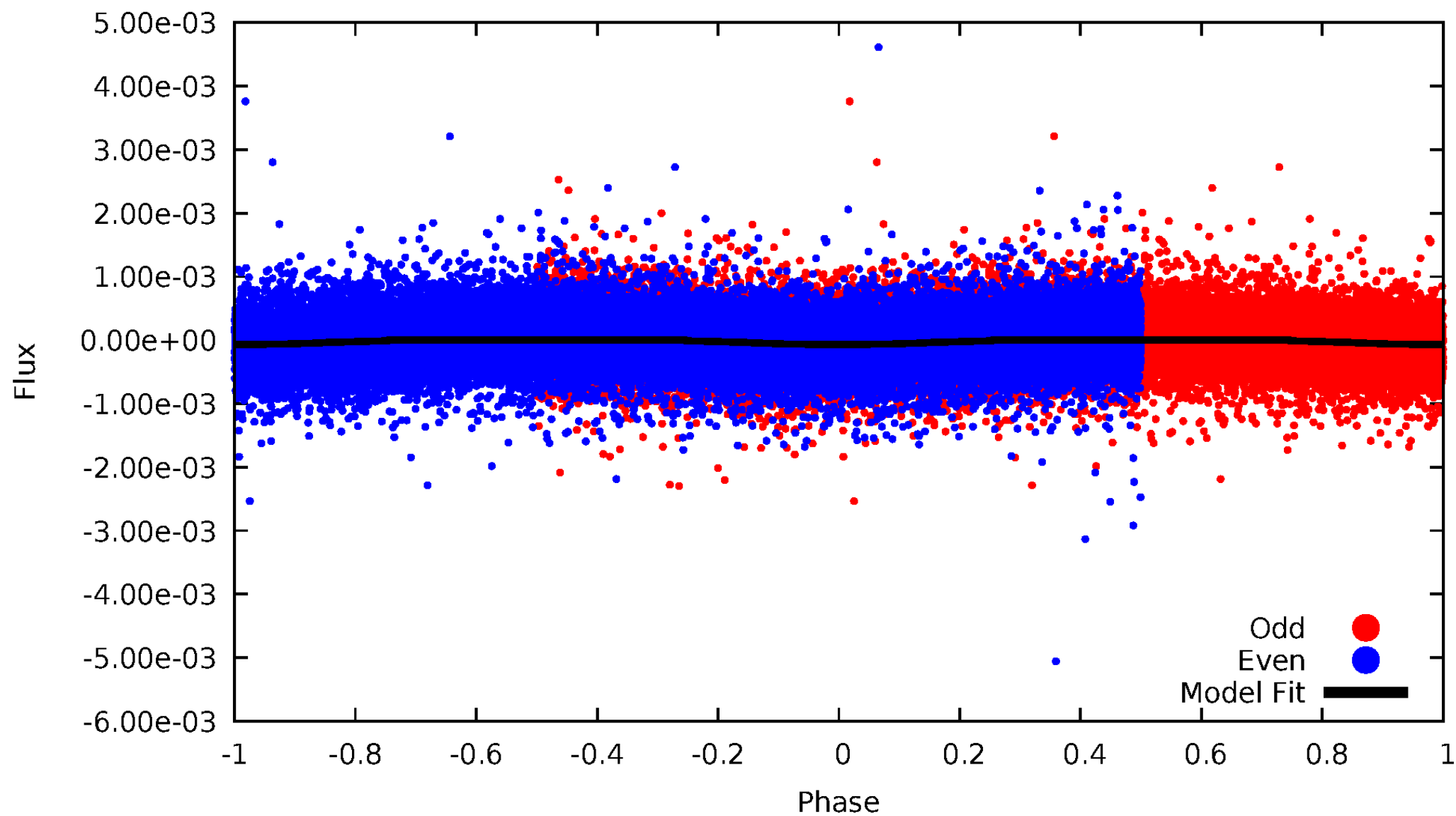


TCE 009713244-02



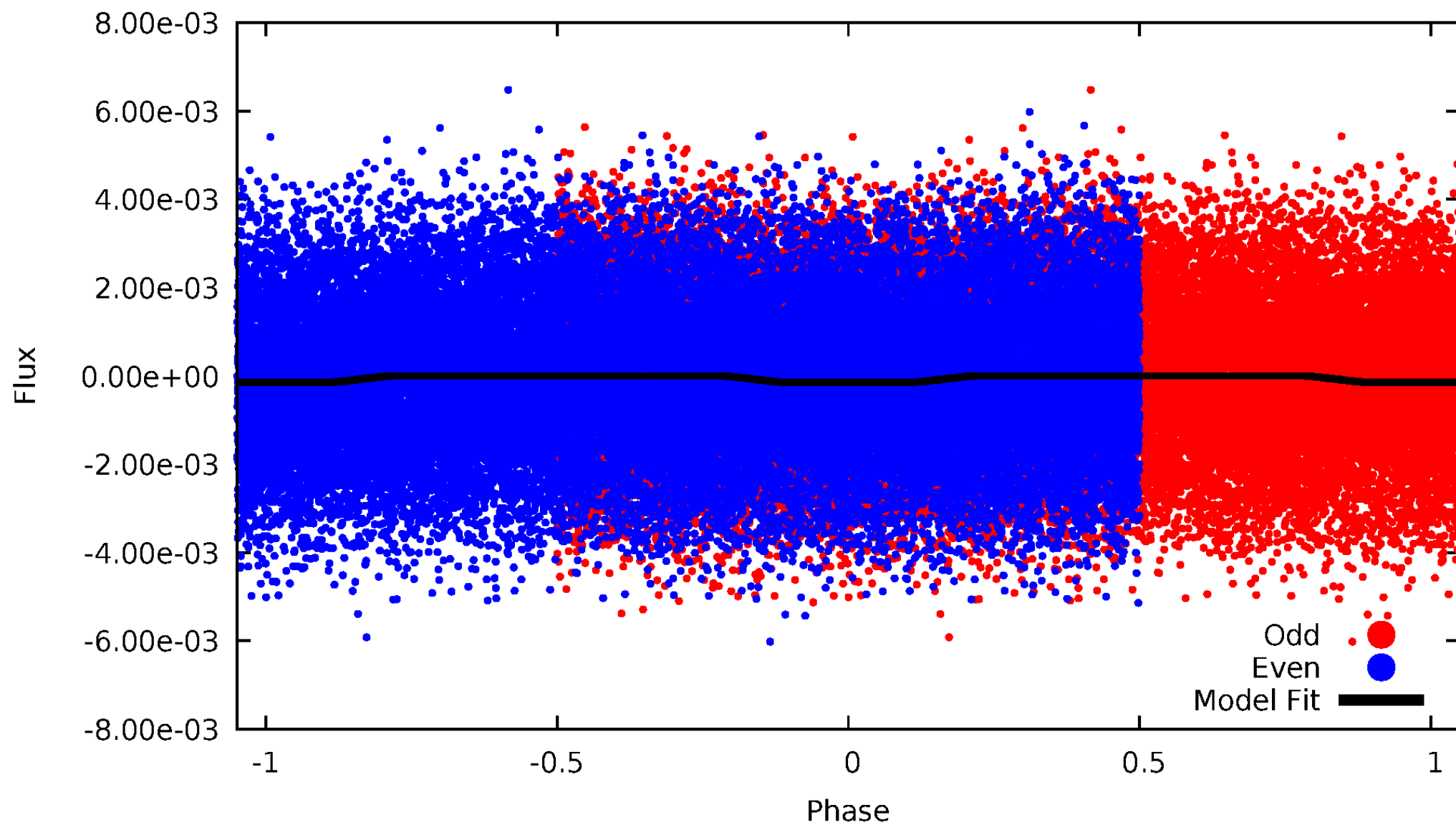
DV Odd/Even

TCE 009713244-02



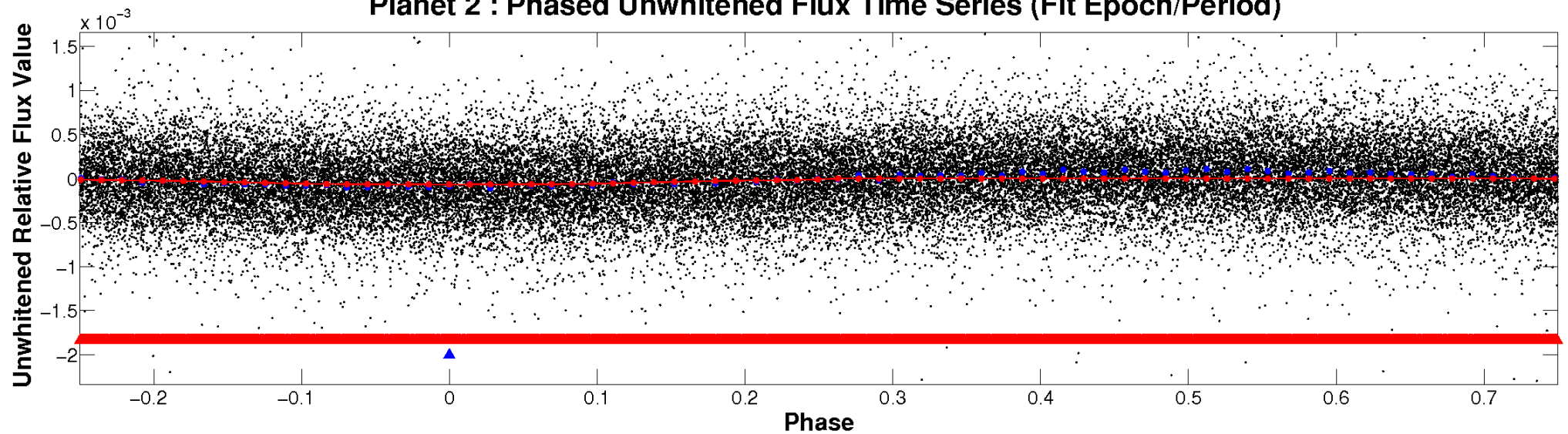
ALT Odd/Even

TCE 009713244-02

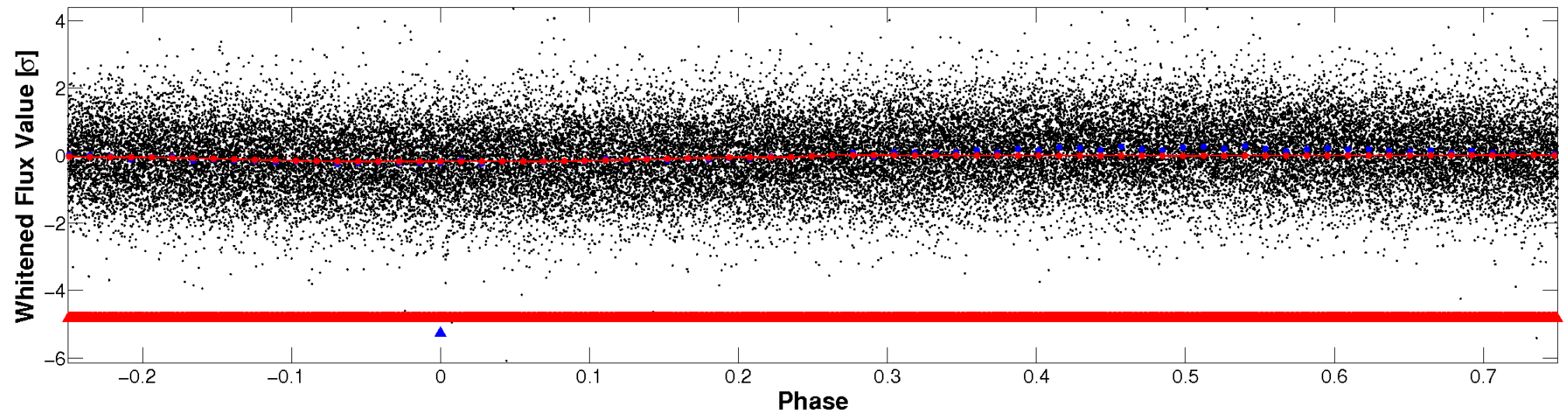


Non-Whitened Vs. Whitened Light Curve

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

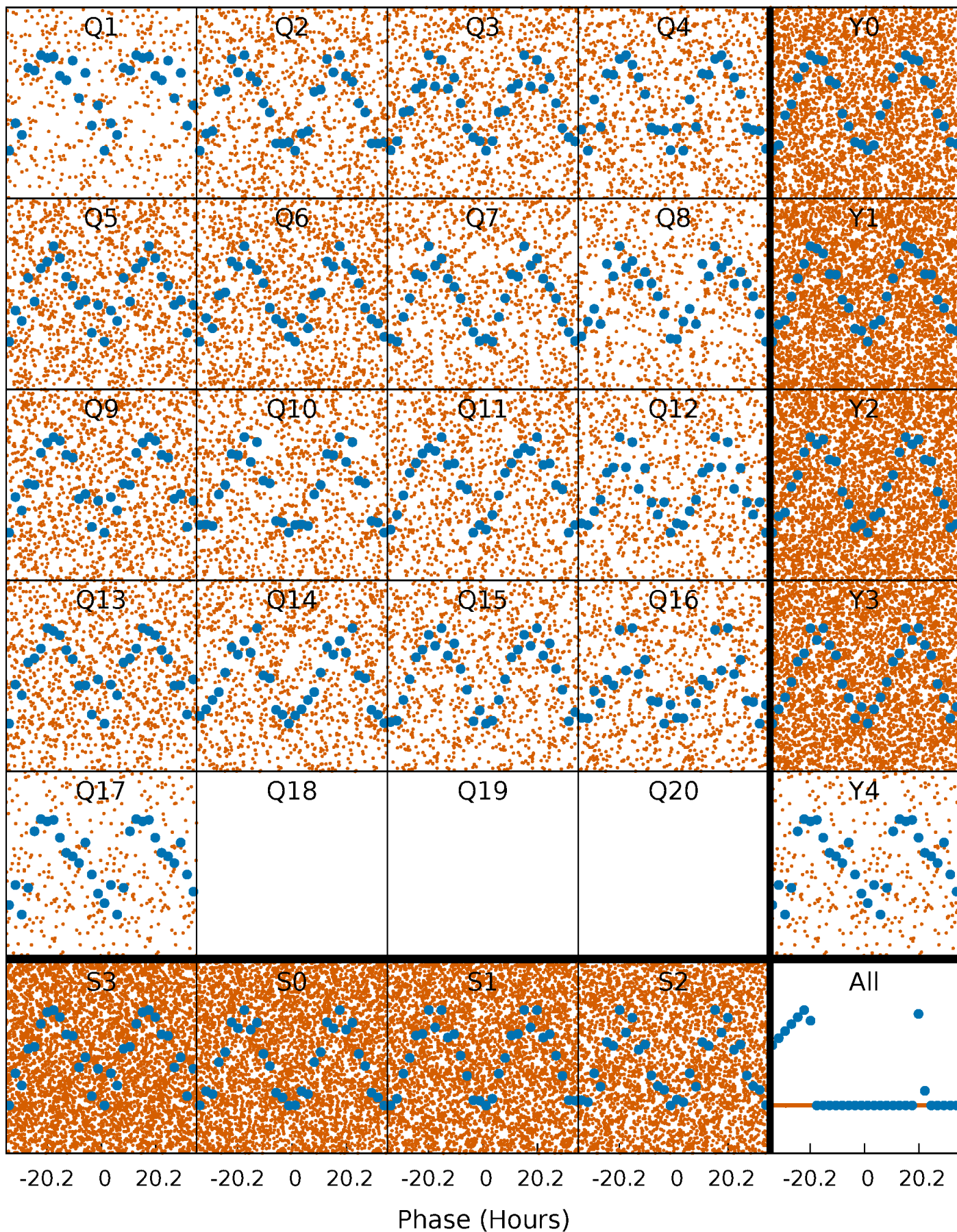


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



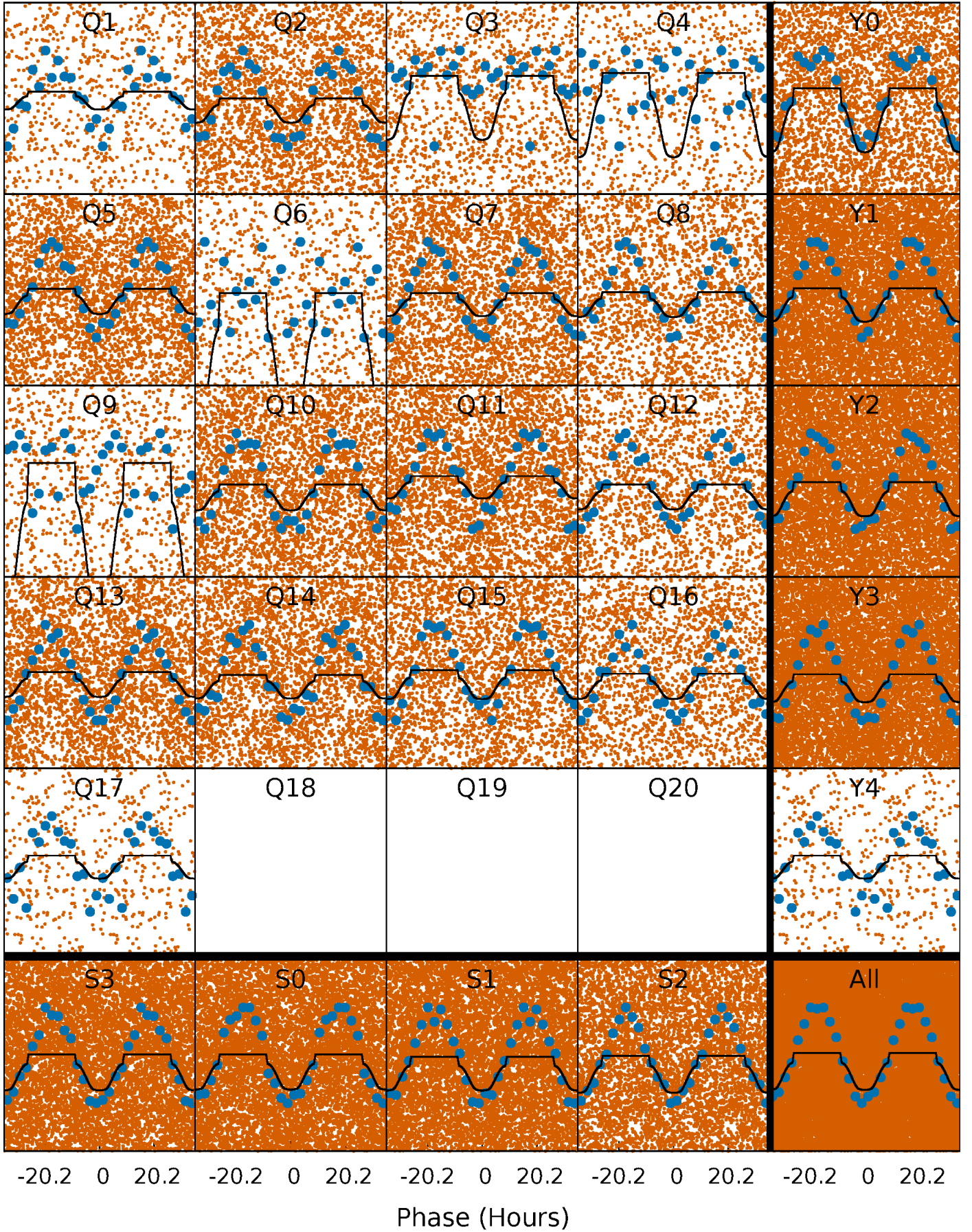
PDC Quarter-Phased Transit Curves

TCE 009713244-02 P= 1.475825 Days $T_0=131.796462$ (BKJD)



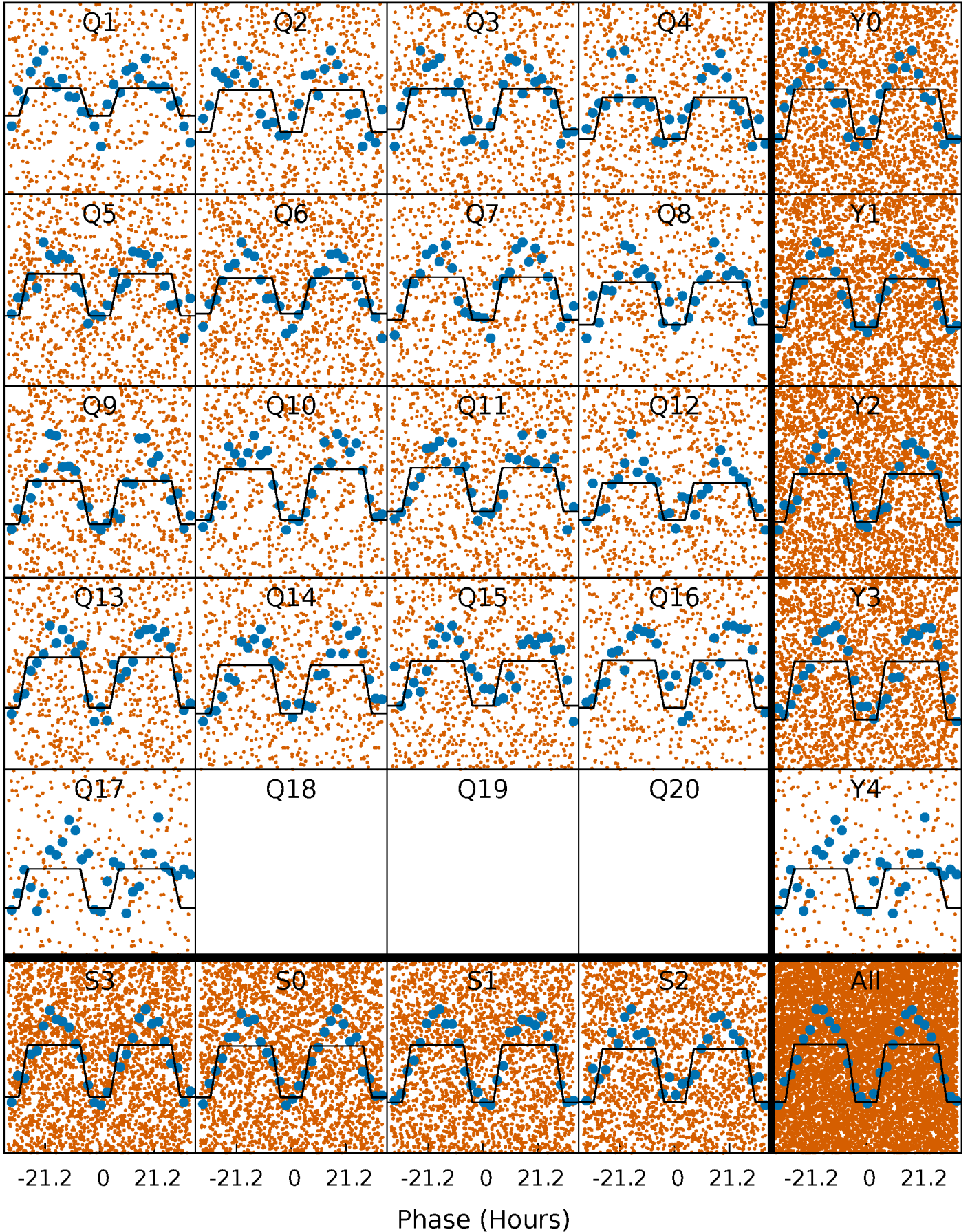
DV Quarter-Phased Transit Curves

TCE 009713244-02 P= 1.475825 Days $T_0=131.796462$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

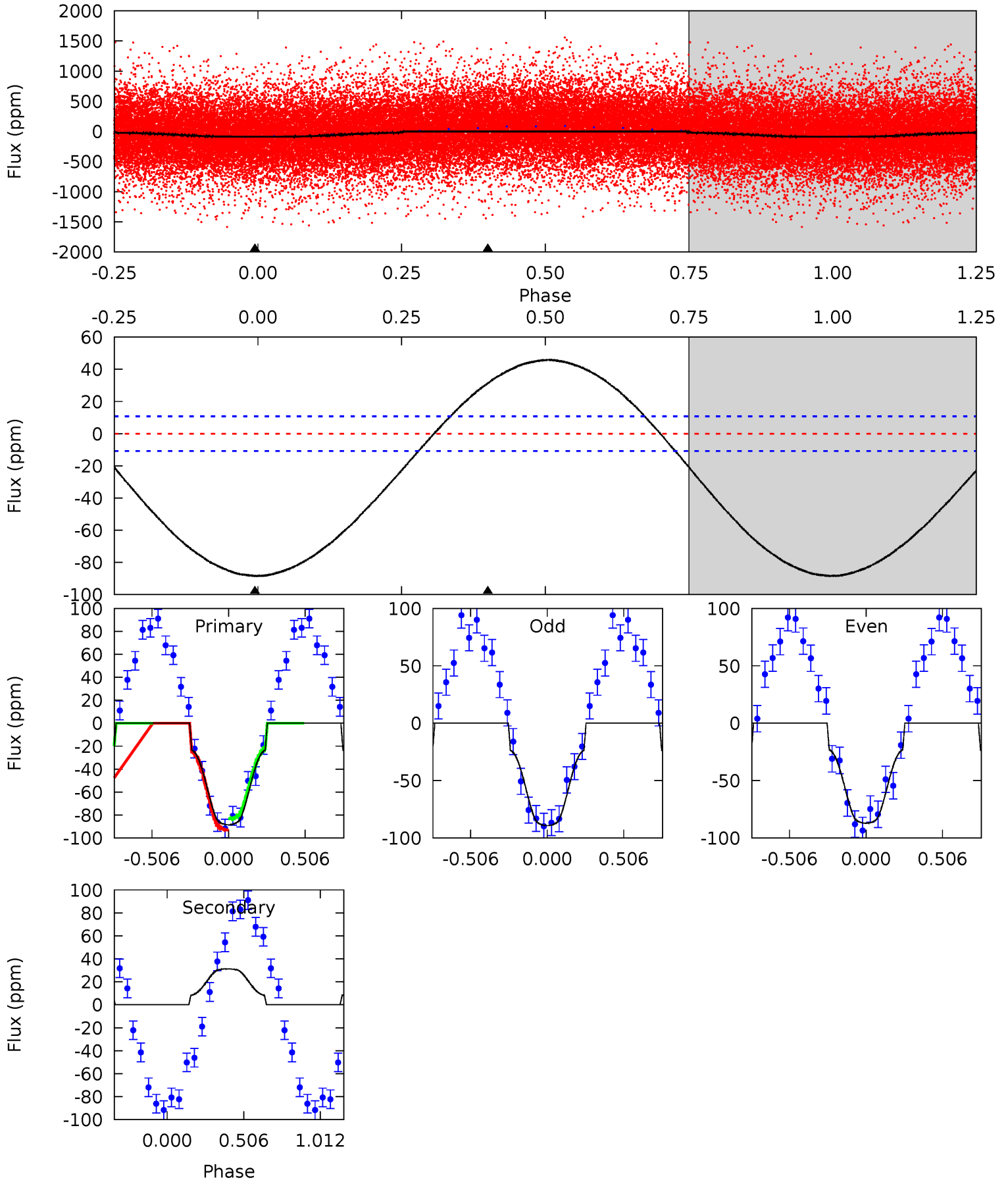
TCE 009713244-02 P= 1.475510 Days $T_0=131.931558$ (BKJD)



DV Model-Shift Uniqueness Test

009713244-02, P = 1.475825 Days, E = 130.320637 Days

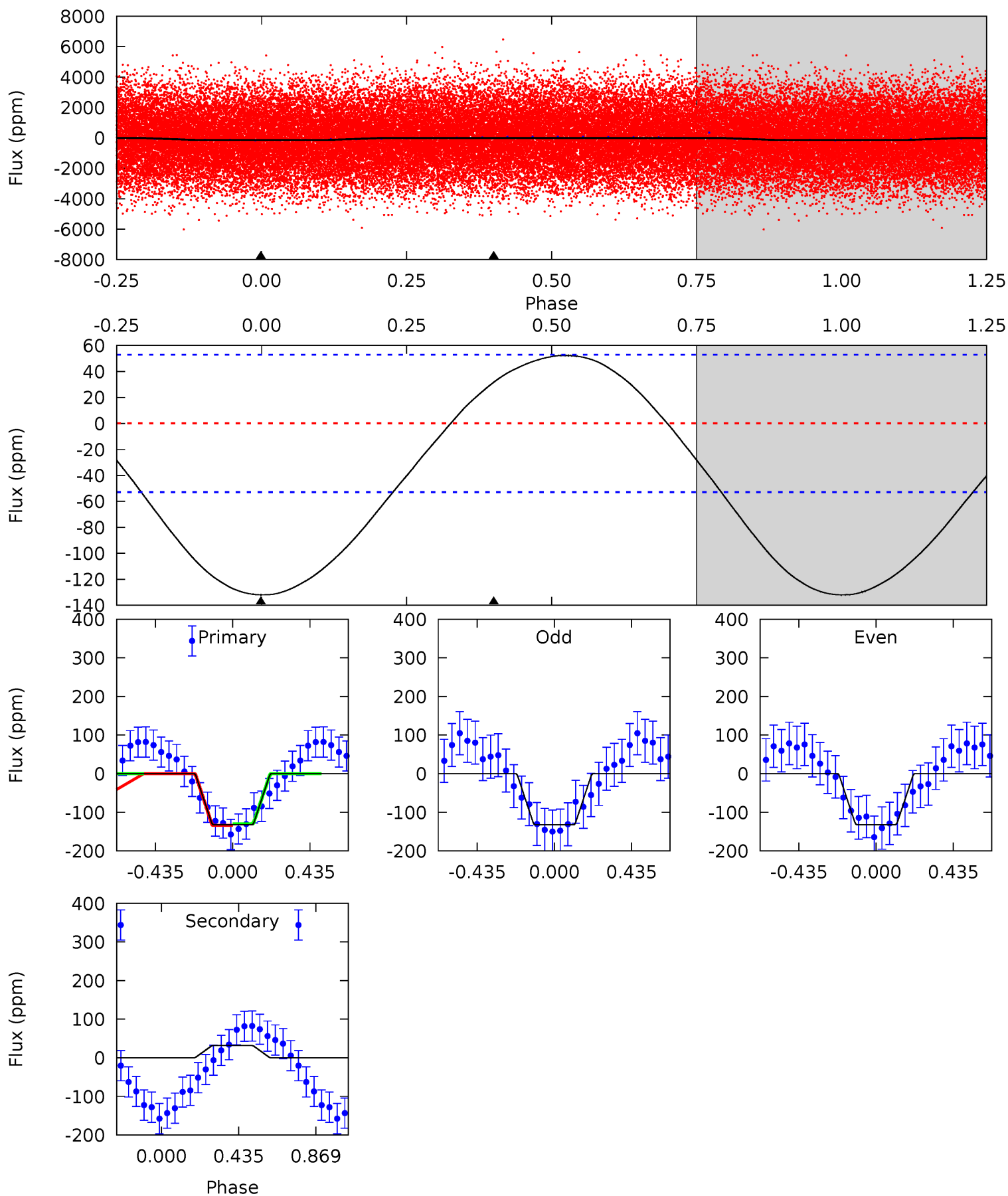
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	-12.2	0	0	4.21	0.67	4.75	34.7	34.7	-12.2	-12.2	0.41	0.86	0.34	1.96



Alt Model-Shift Uniqueness Test

009713244-02, P = 1.475510 Days, E = 130.456048 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	-2.54	0	0	4.25	0.78	1.26	10.6	10.6	-2.54	-2.54	0.01	1.18	0.28	0.15



Stellar Parameters For KIC 009713244

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7839^{+219}_{-344}	$4.080^{+0.112}_{-0.168}$	$0.210^{+0.150}_{-0.400}$	$2.069^{+0.561}_{-0.374}$	$1.878^{+0.203}_{-0.279}$	$0.298^{+0.186}_{-0.133}$
	+3%/-4%	+3%/-4%	+71%/-190%	+27%/-18%	+11%/-15%	+62%/-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 009713244-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	31 ± 3	$2.27^{+0.34}_{-0.23}$	3947^{+262}_{-240}	-5851^{+240}_{-210}	$-3.183^{+0.720}_{-0.805}$
Alt.	32 ± 12	$2.74^{+0.39}_{-0.30}$	3948^{+252}_{-241}	-5421^{+497}_{-439}	$-2.188^{+0.936}_{-1.124}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

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

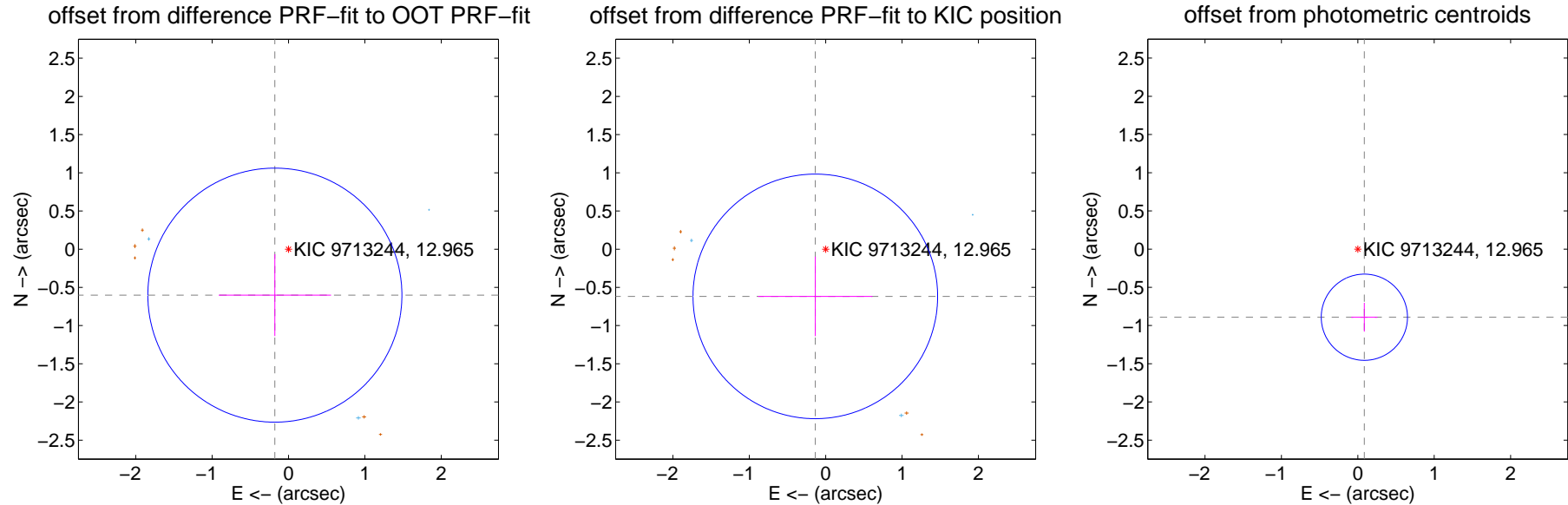
DV Centroid Data

Supplemental centroid analysis for 009713244-02. Kepler magnitude: 12.96. Transit SNR 18.57

There are 3 quarters with good PRF difference image offsets

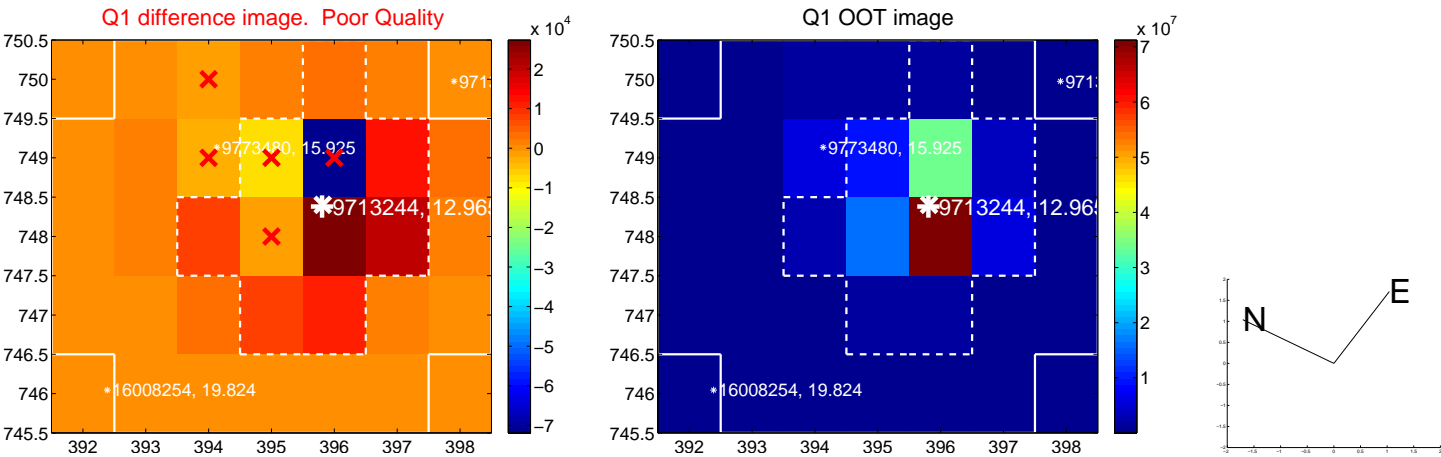
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.627 ± 0.554	1.13	0.178 ± 0.736	-0.601 ± 0.535
PRF-fit source offset from KIC position	0.633 ± 0.534	1.19	0.135 ± 0.748	-0.618 ± 0.521
photometric centroid source offset	0.90 ± 0.19	4.76	-0.09 ± 0.17	-0.89 ± 0.19

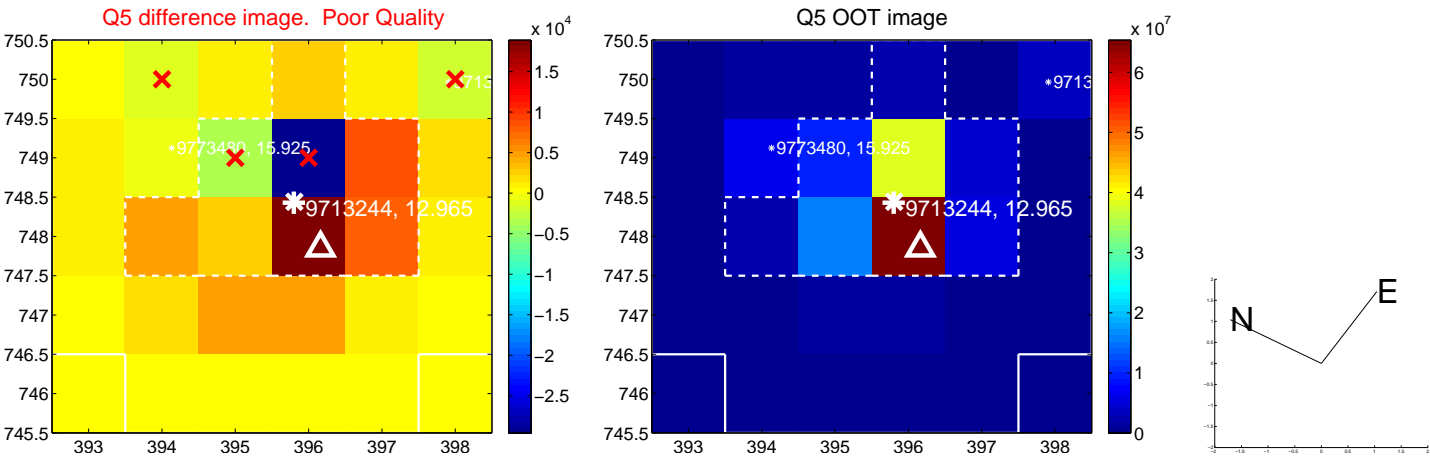


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

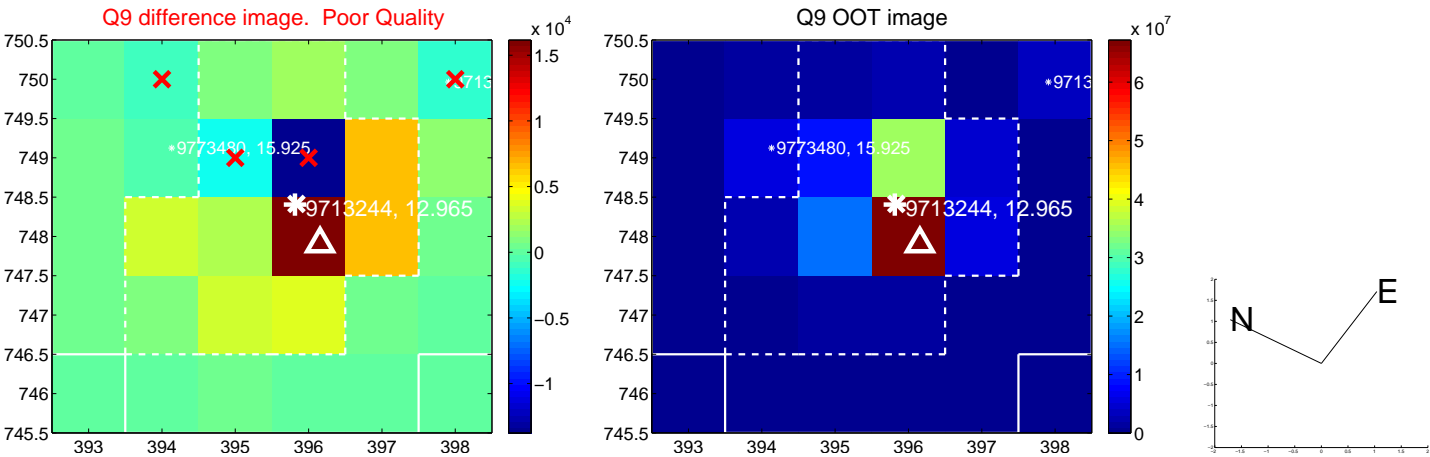
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



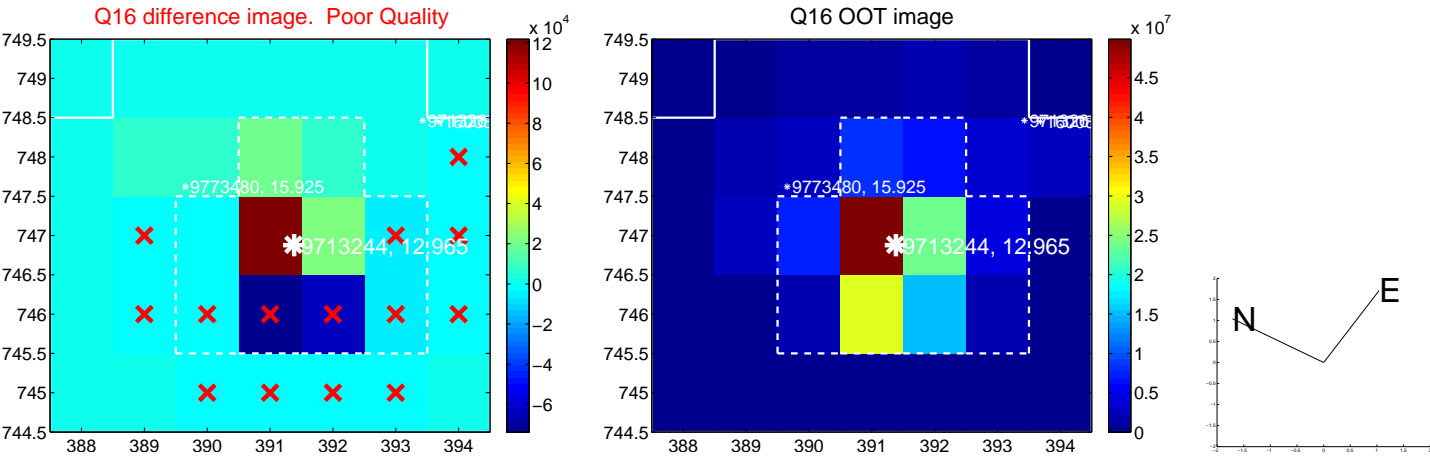
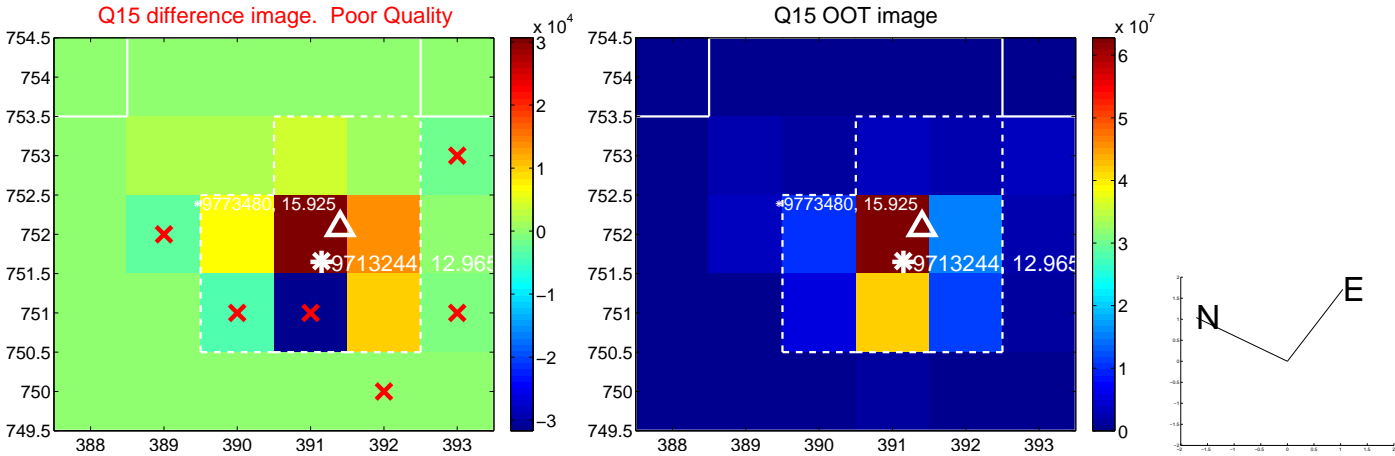
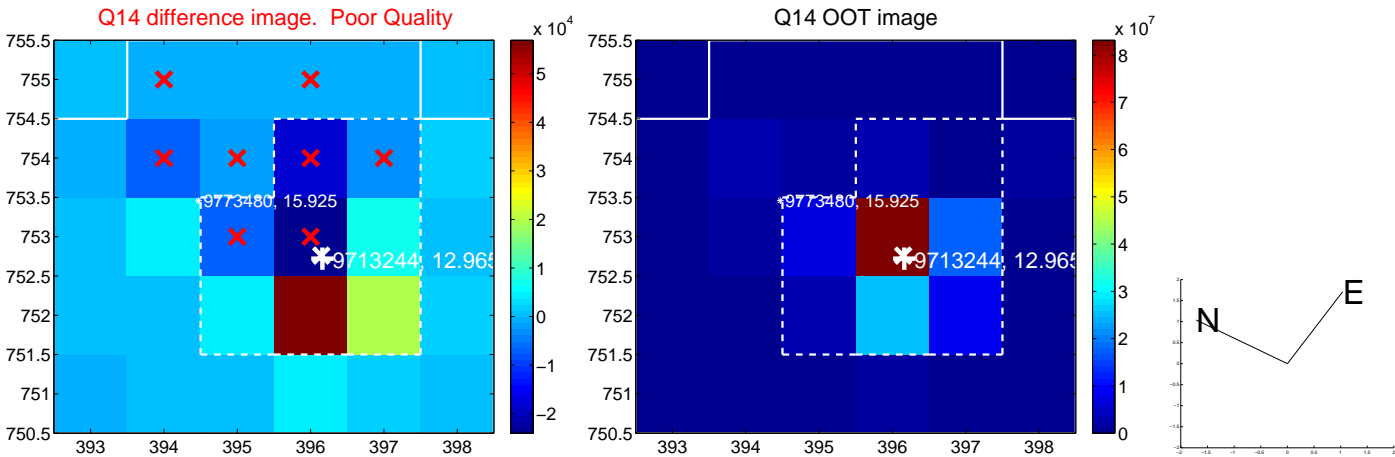
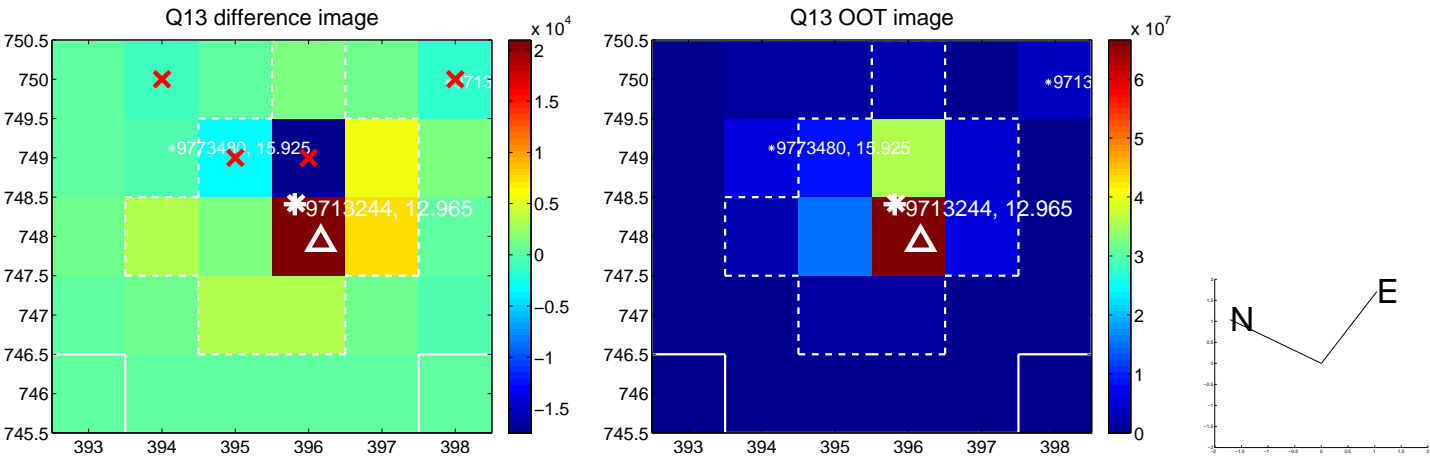
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



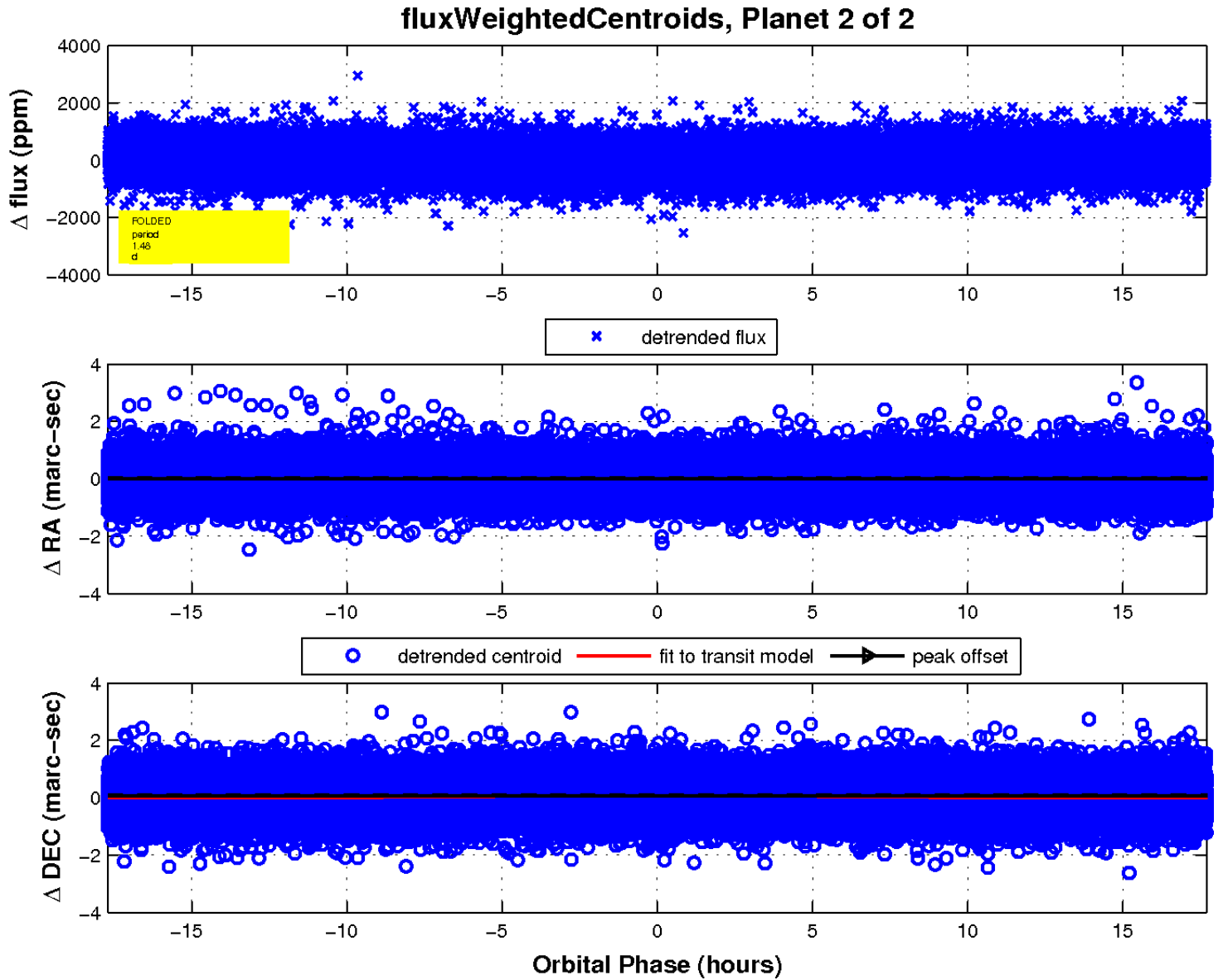
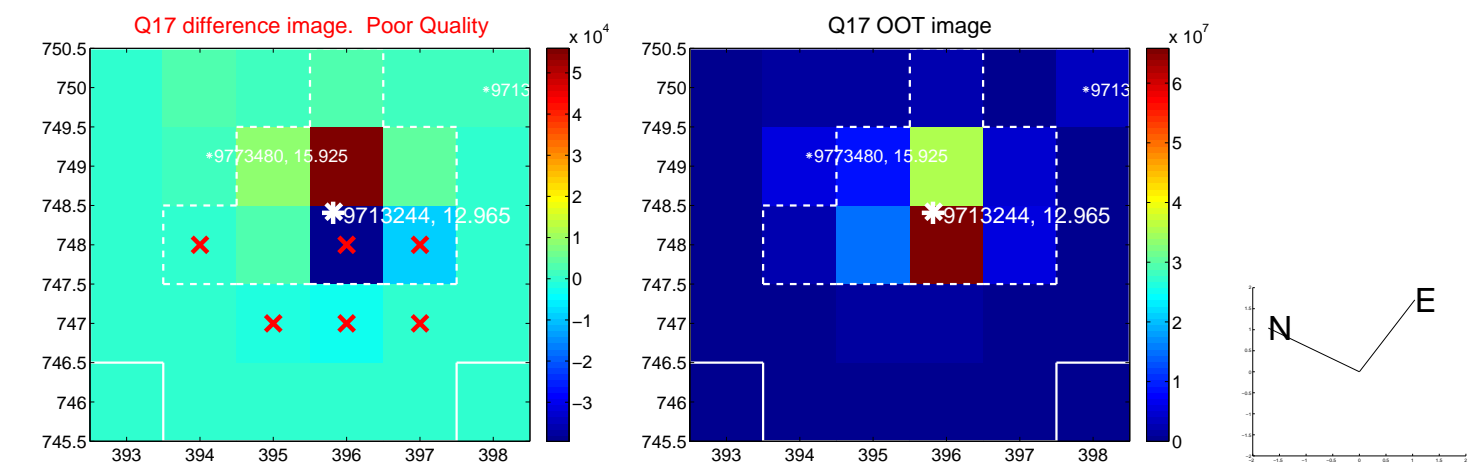
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

