

KIC 008717065

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})
008717065-01	OBS	No	0.717284	131.915580	29.0	2.630	11.5	12.8	2.58	7648	1.61	62360.19
008717065-02	OBS	No	0.717270	131.686370	20.1	2.332	9.5	8.2	2.58	7648	1.34	62361.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008717065-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
008717065-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

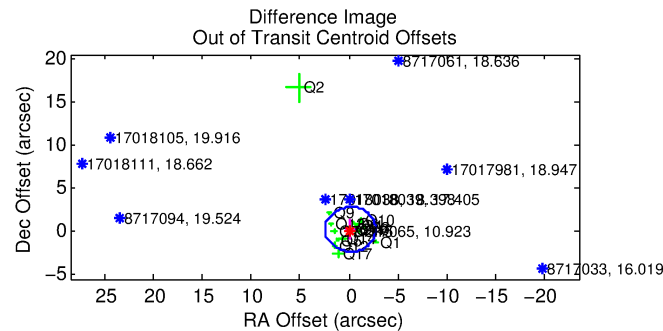
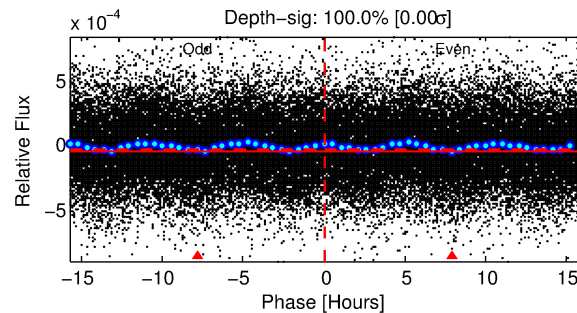
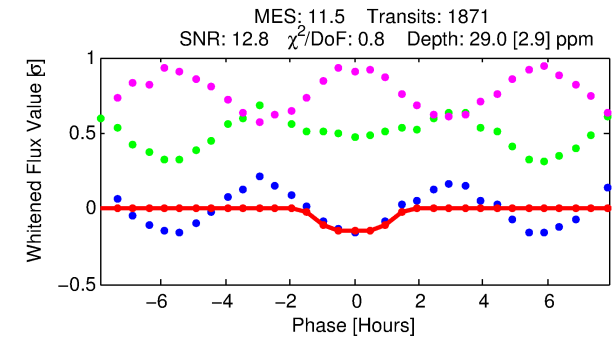
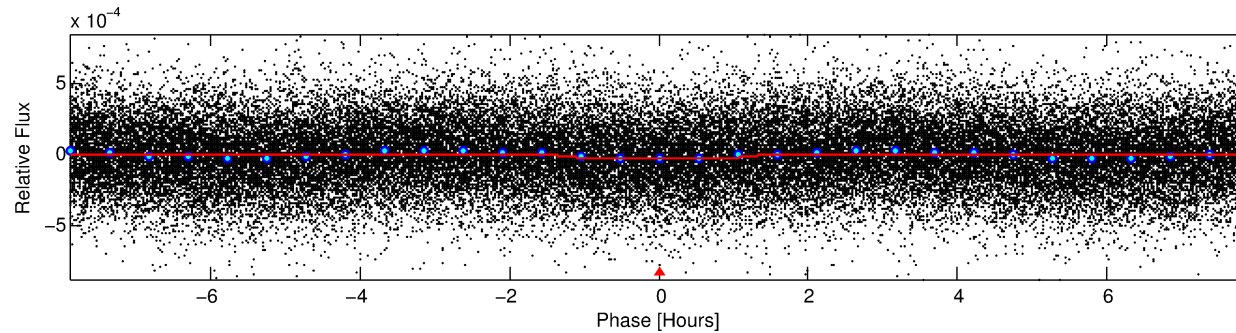
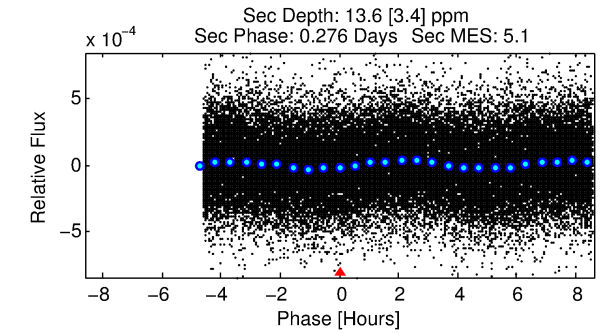
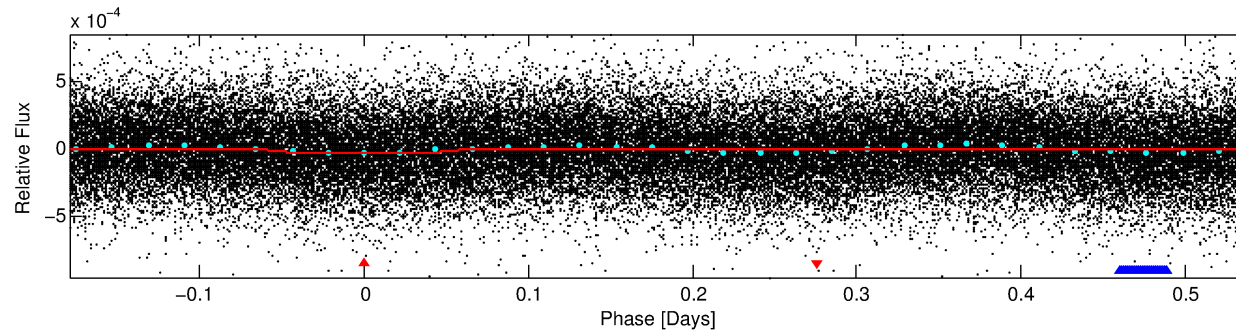
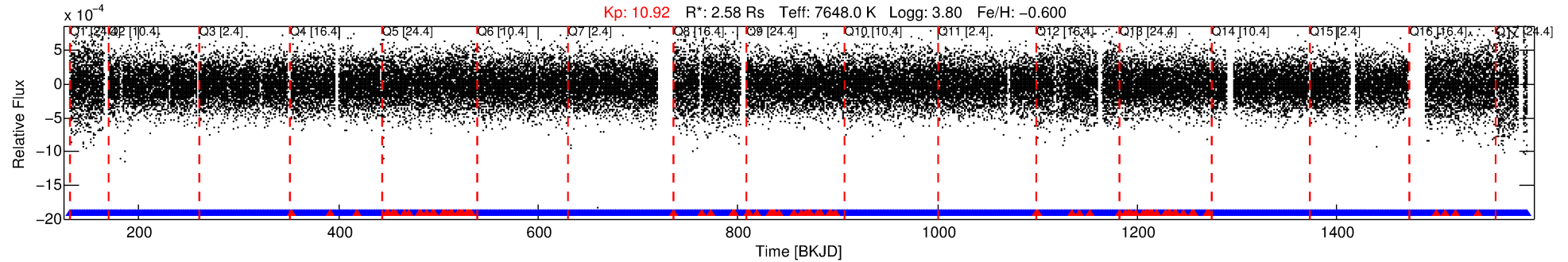
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008717065-01

No Significant Match Found

DV One-Page Summary

KIC: 8717065 Candidate: 1 of 2 Period: 0.717 d



DV Fit Results:

Period = 0.71728 [0.00001] d
Epoch = 131.9156 [0.0028] BKJD
 $R_p/R^* = 0.0057$ [0.0019]
 $a/R^* = 1.32$ [1.16]
 $b = 0.90$ [0.44]
 $\text{Seff} = 62360.19$ [47553.77]
 $T_{\text{eq}} = 4030$ [768] K
 $R_p = 1.61$ [0.92] R_e
 $a = 0.0181$ [0.0083] AU
 $\text{Ag} = 0.94$ [0.96] [-0.06σ]
 $T_{\text{eff}} = 6134$ [1097] K [1.57σ]

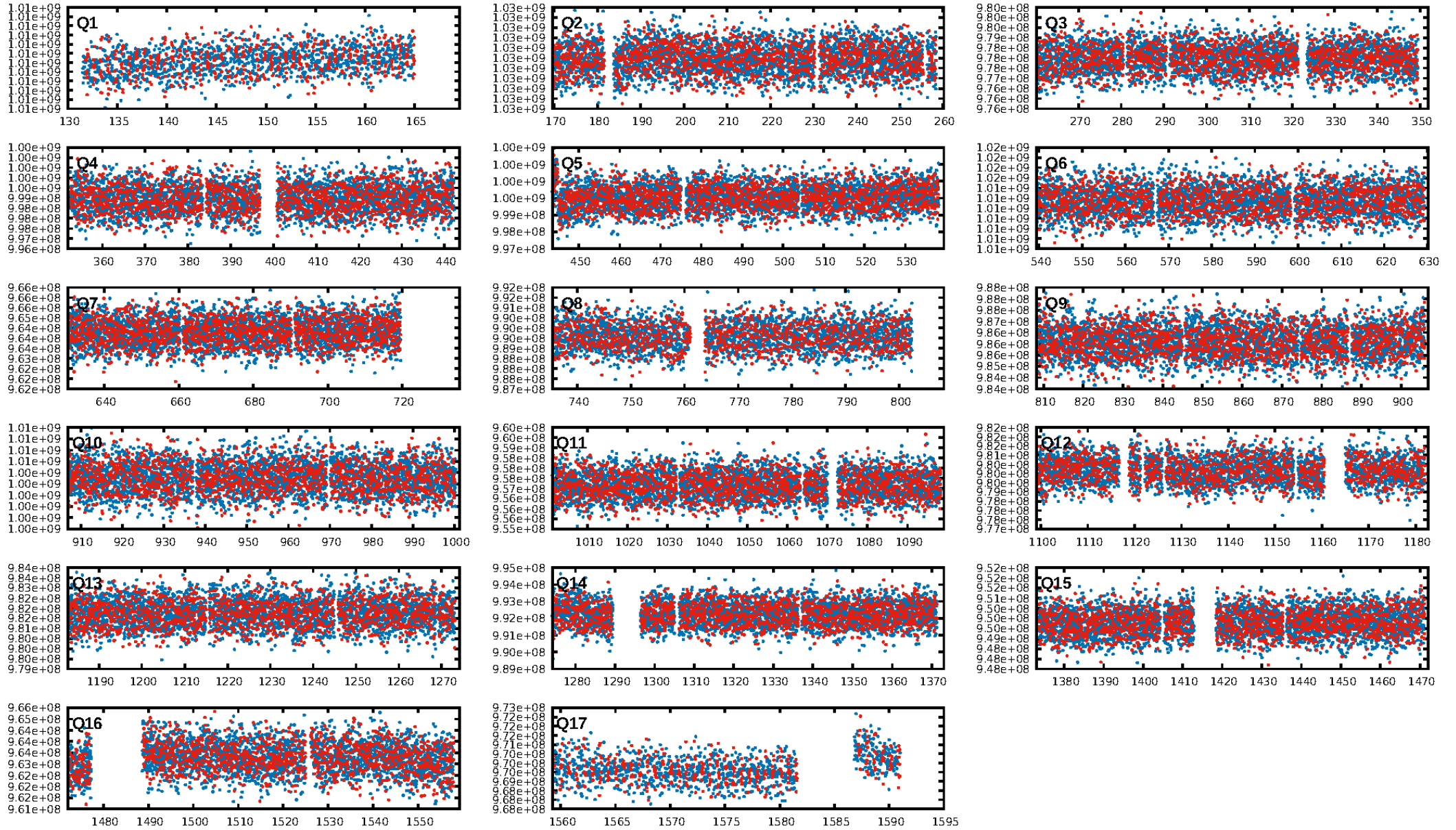
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.47e-11
RollingBand-fgt: 0.95 [1699/1786]
GhostDiagnostic-chr: 3.433
Centroid-sig: N/A
Centroid-so: 0.355 arcsec [1.01σ]
OotOffset-rm: 0.265 arcsec [0.31σ]
KicOffset-rm: 0.168 arcsec [0.40σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 0.00 [0/17]

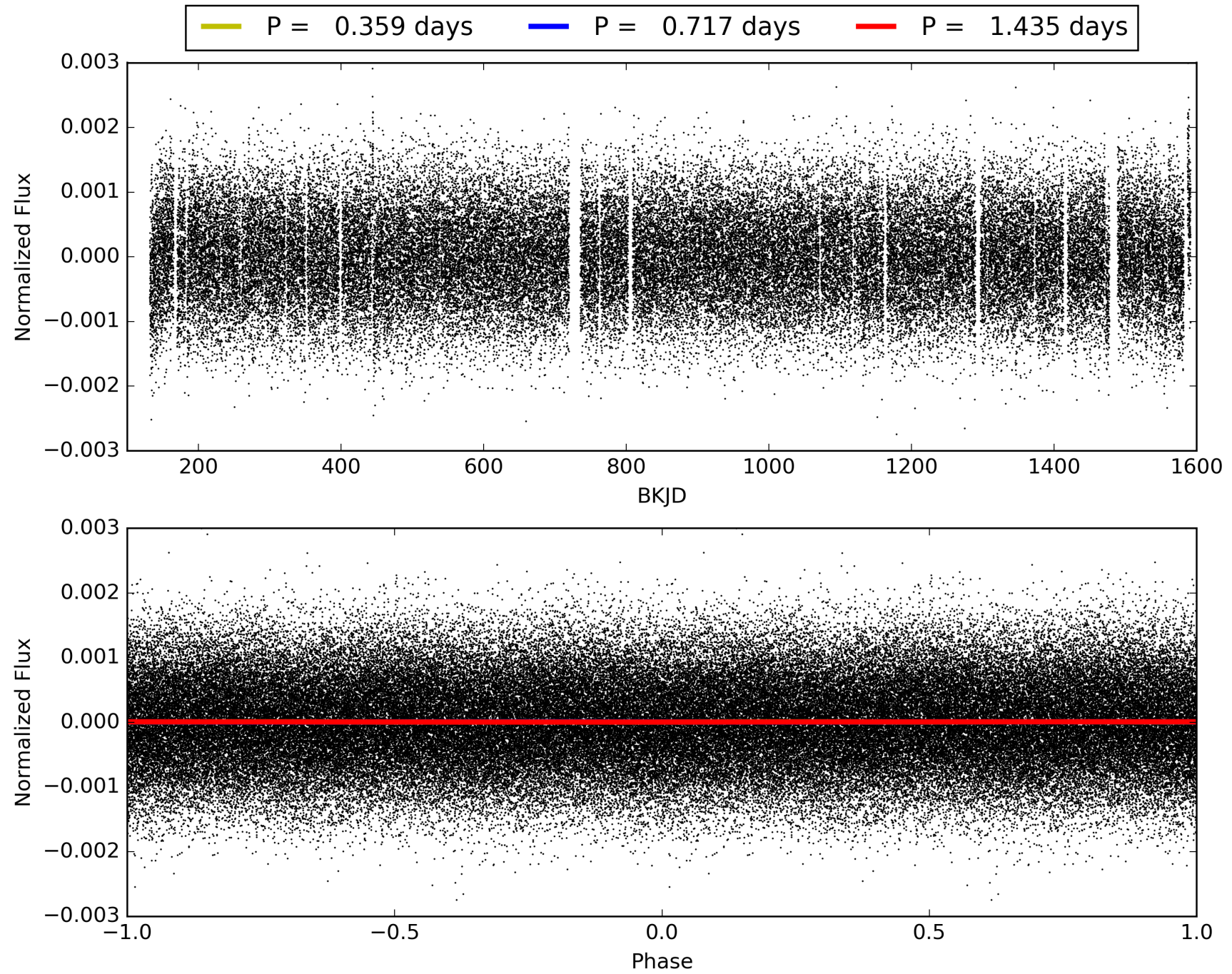
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:38:23 Z

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

TCE 008717065-01, PDC Light Curves

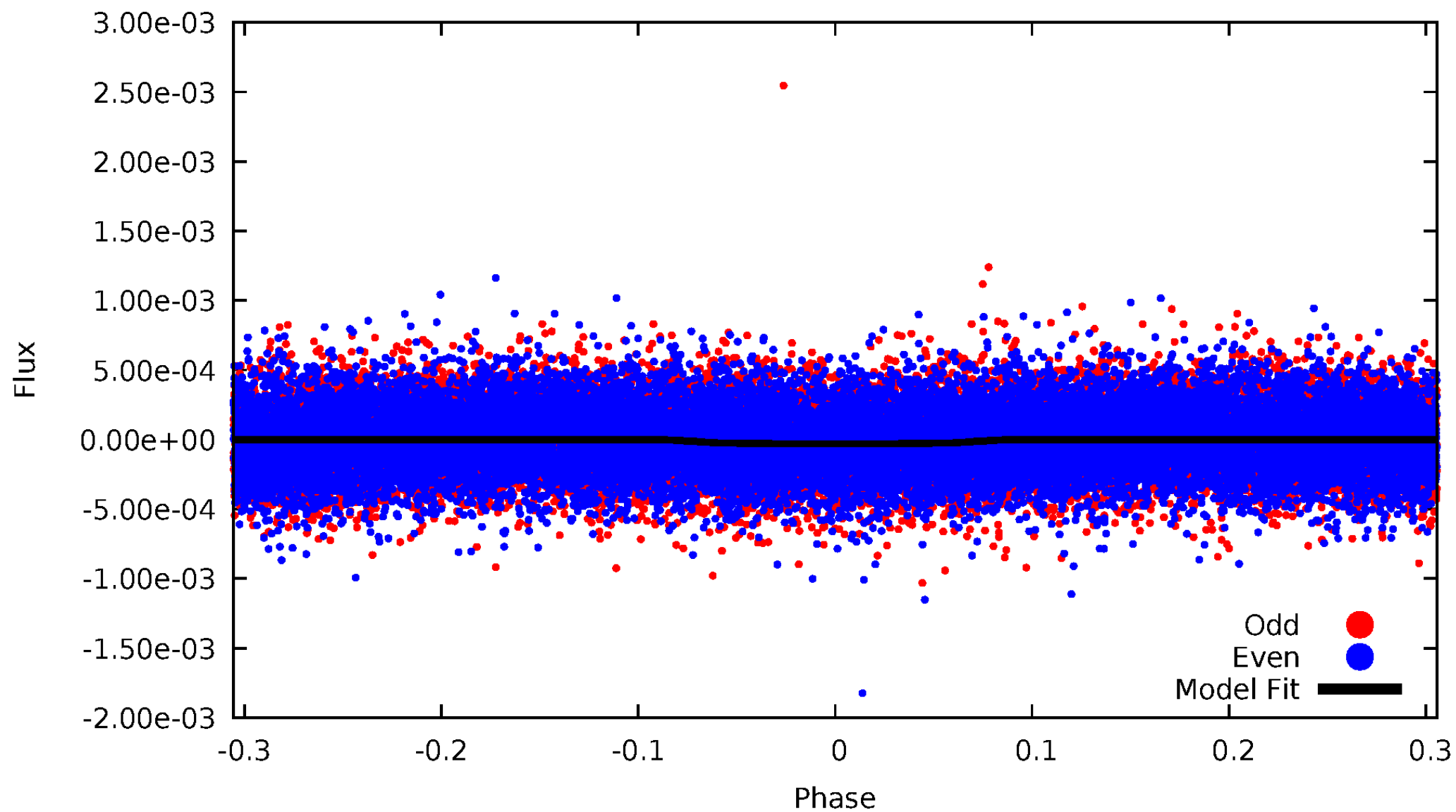


TCE 008717065-01



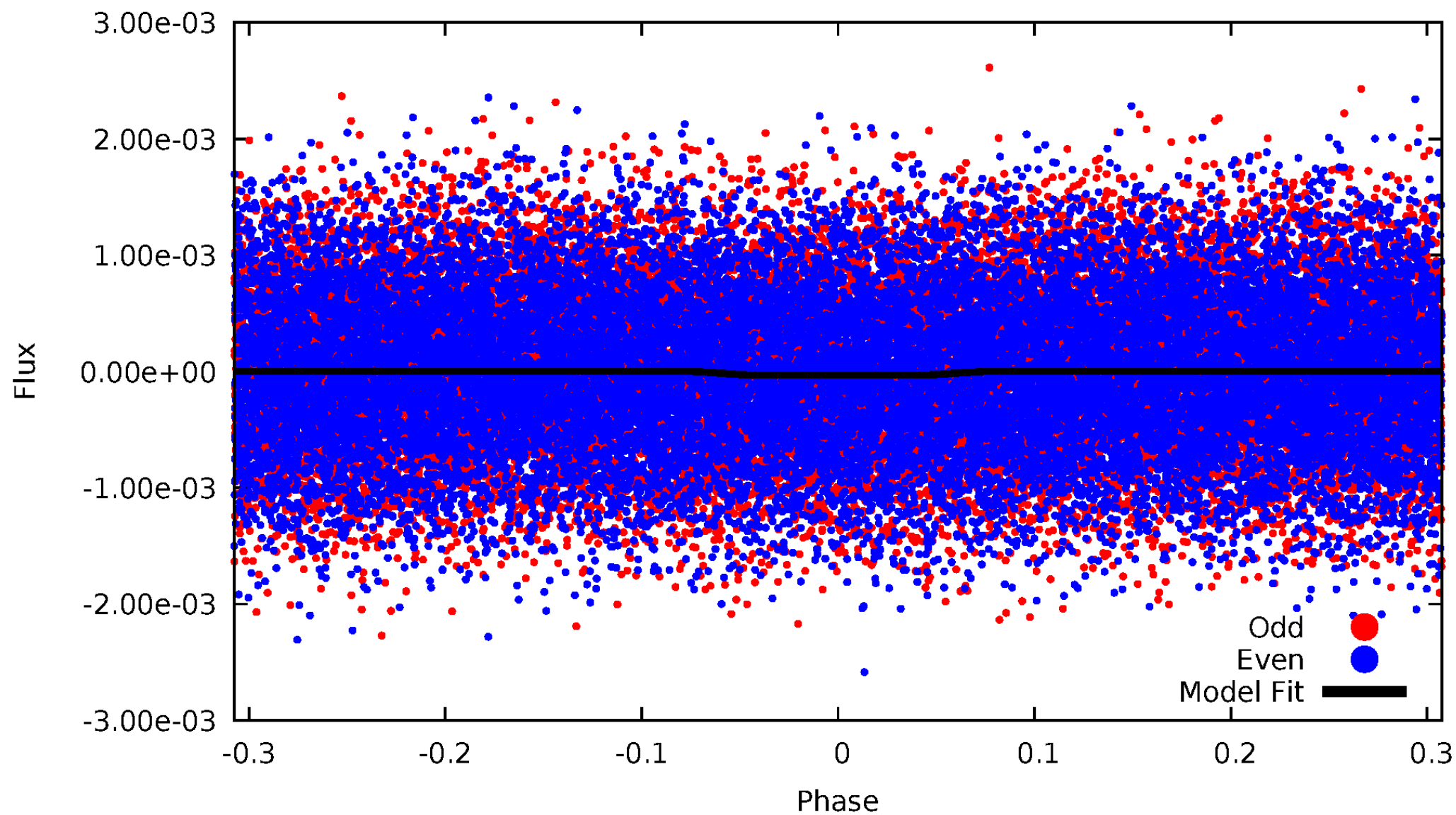
DV Odd/Even

TCE 008717065-01

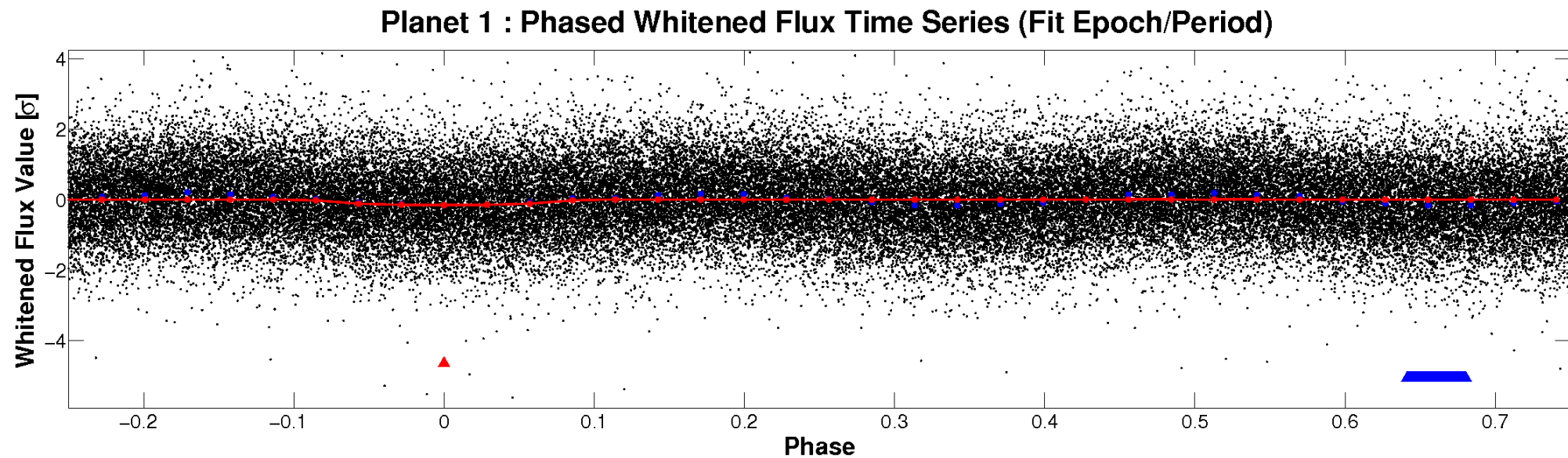
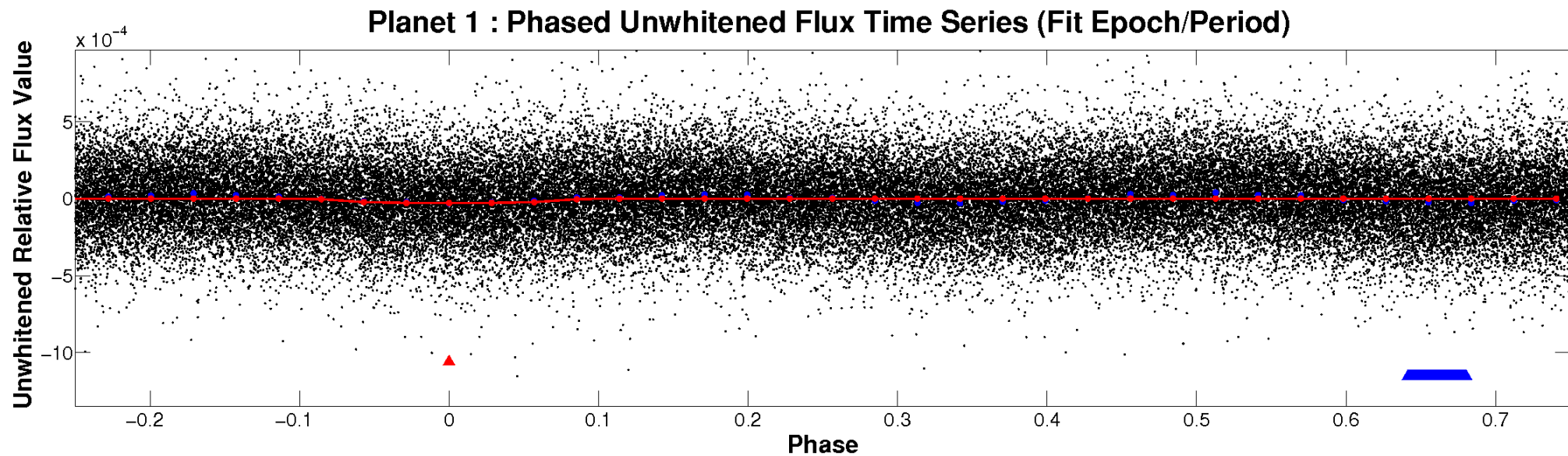


ALT Odd/Even

TCE 008717065-01

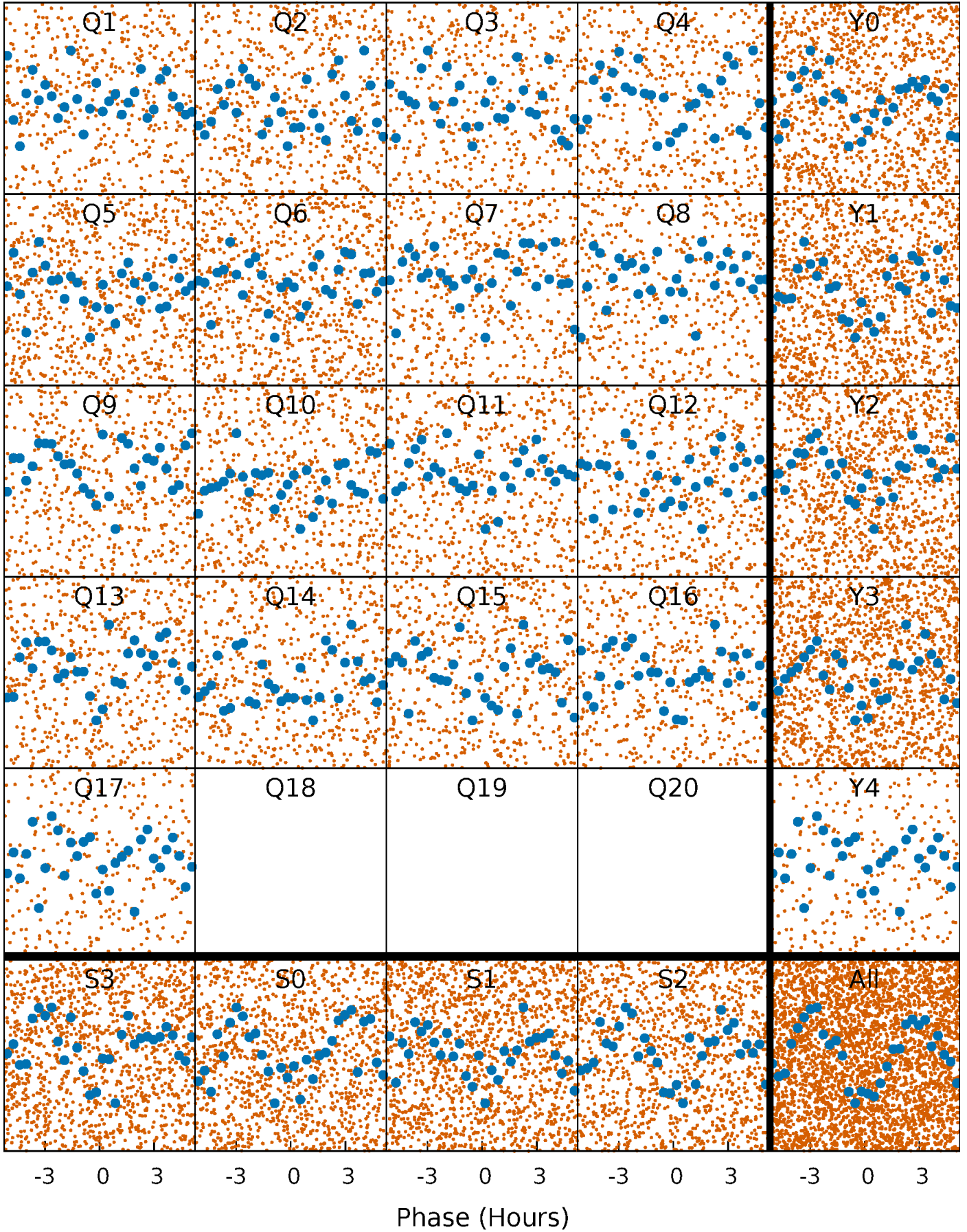


Non-Whitened Vs. Whitened Light Curve



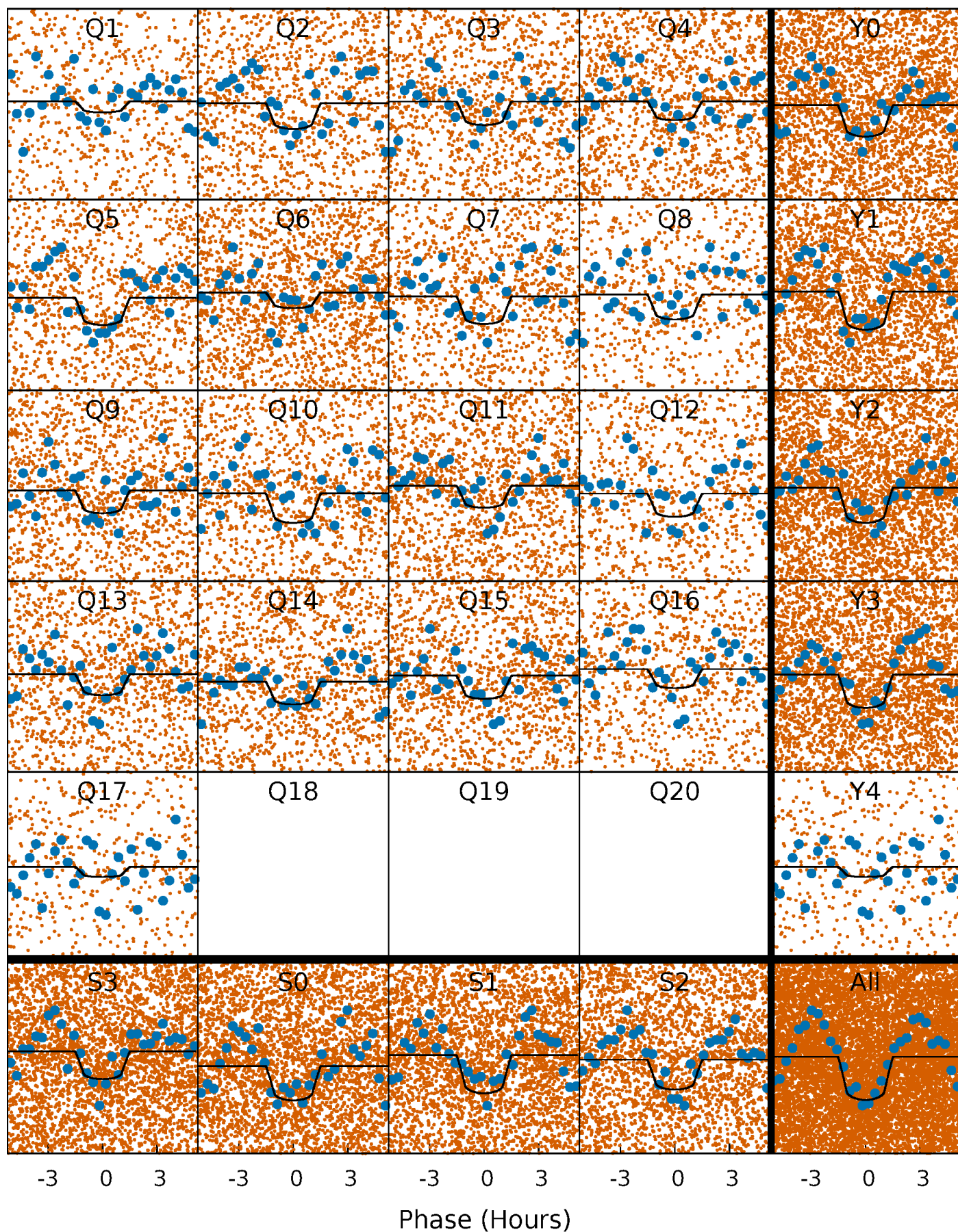
PDC Quarter-Phased Transit Curves

TCE 008717065-01 P= 0.717284 Days $T_0=131.915580$ (BKJD)



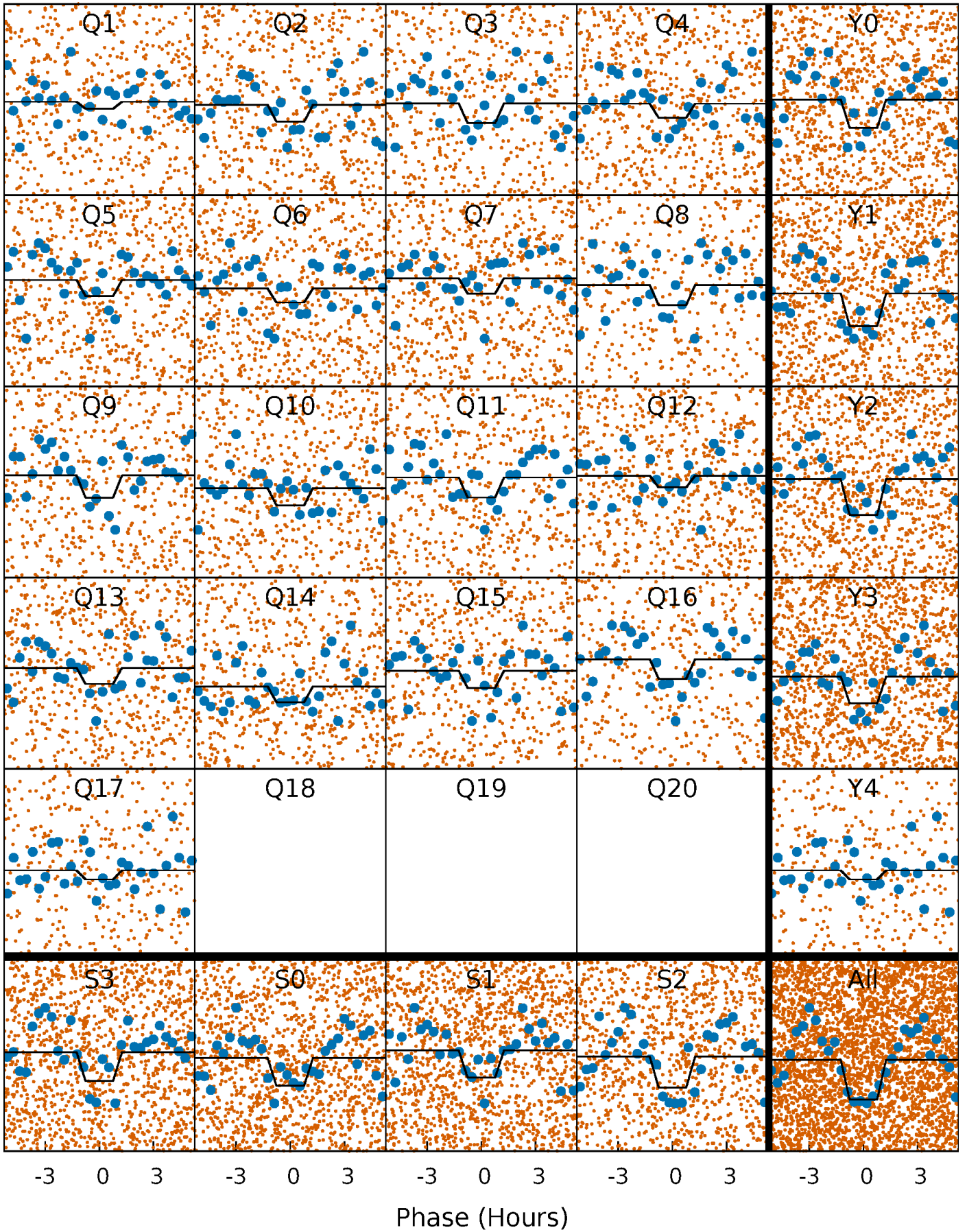
DV Quarter-Phased Transit Curves

TCE 008717065-01 P= 0.717284 Days $T_0=131.915580$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

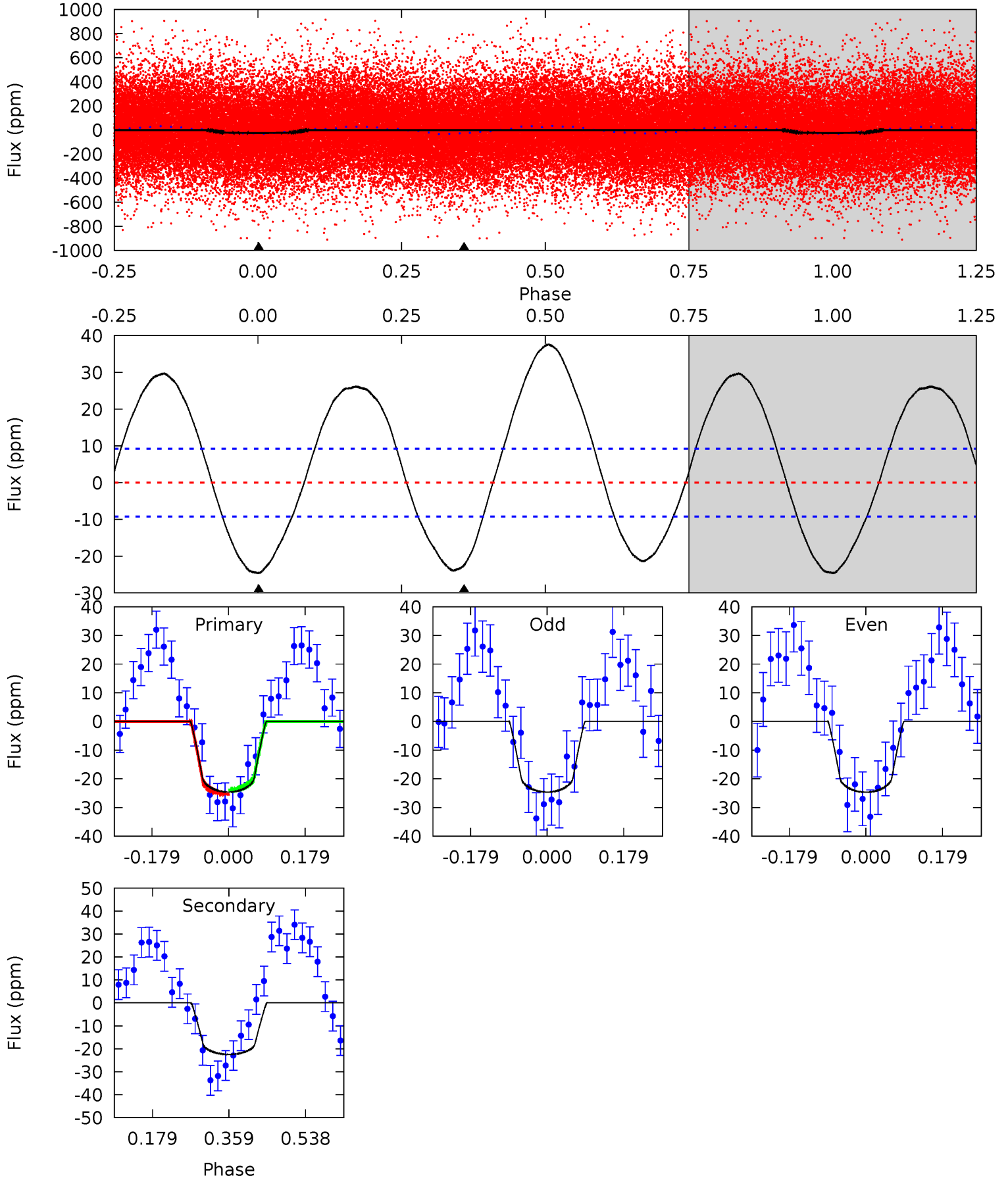
TCE 008717065-01 P= 0.717284 Days $T_0=131.915587$ (BKJD)



DV Model-Shift Uniqueness Test

008717065-01, P = 0.717284 Days, E = 131.198296 Days

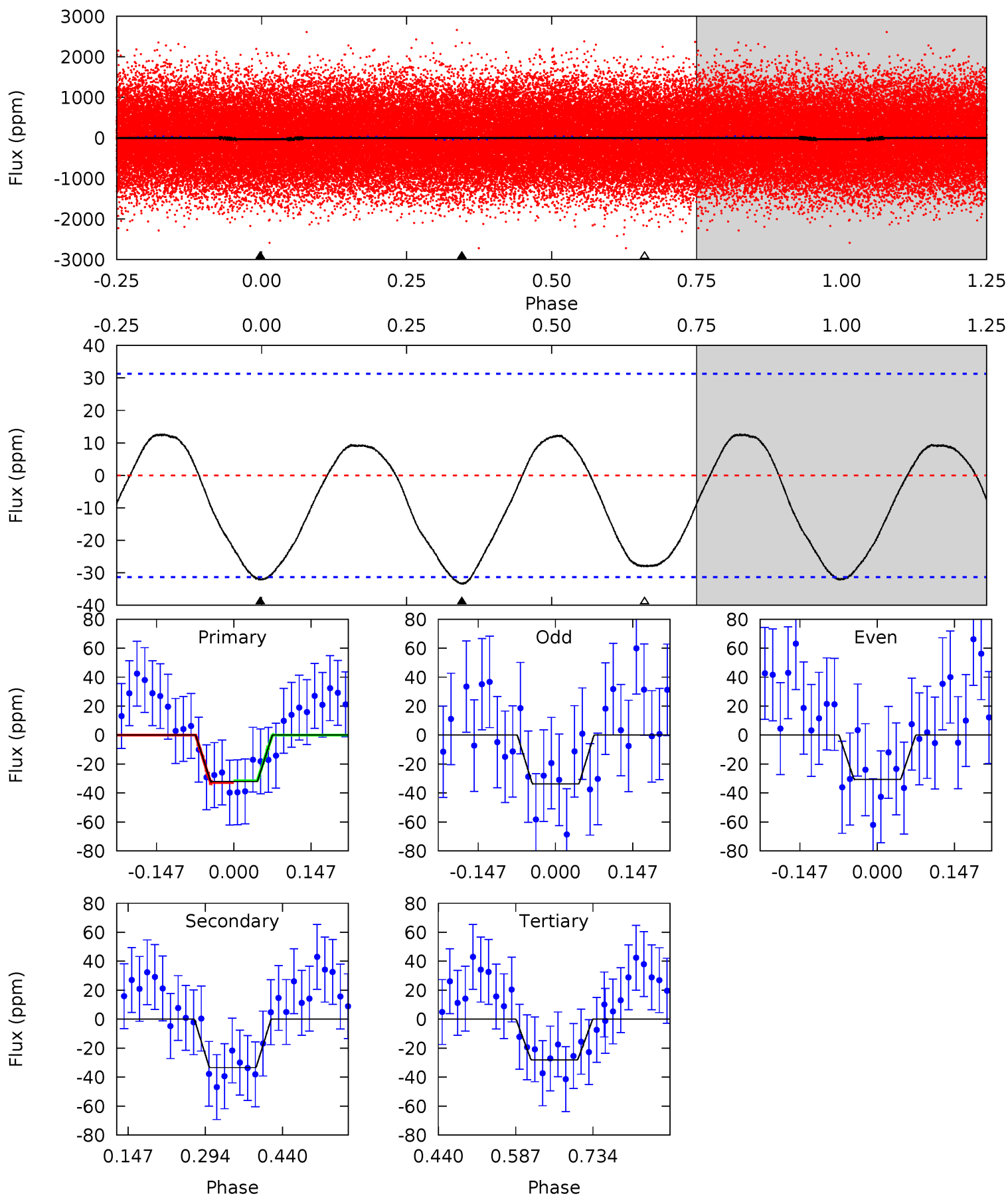
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	10.8	0	0	4.44	1.34	8.22	11.8	11.8	10.8	10.8	0.01	1.04	0.60	0.35



Alt Model-Shift Uniqueness Test

008717065-01, P = 0.717284 Days, E = 131.198303 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.60	4.79	4.02	0	4.48	1.45	2.16	0.58	4.60	0.77	4.79	0.22	0.96	0.27	0.10



Stellar Parameters For KIC 008717065

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7648^{+246}_{-300}	$3.800^{+0.442}_{-0.078}$	$-0.600^{+0.300}_{-0.300}$	$2.577^{+0.400}_{-1.201}$	$1.527^{+0.201}_{-0.327}$	$0.126^{+0.537}_{-0.032}$
	+3%/-4%	+12%/-2%	+50%/-50%	+16%/-47%	+13%/-21%	+428%/-25%
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 008717065-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 2	$1.44^{+0.66}_{-0.56}$	5445^{+376}_{-677}	6463^{+2107}_{-1072}	$1.945^{+3.152}_{-1.016}$
Alt.	-33 ± 7	$1.42^{+0.63}_{-0.52}$	5412^{+393}_{-626}	7456^{+2316}_{-1392}	$3.005^{+4.532}_{-1.621}$

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 $A_{obs} \gg 1.0$

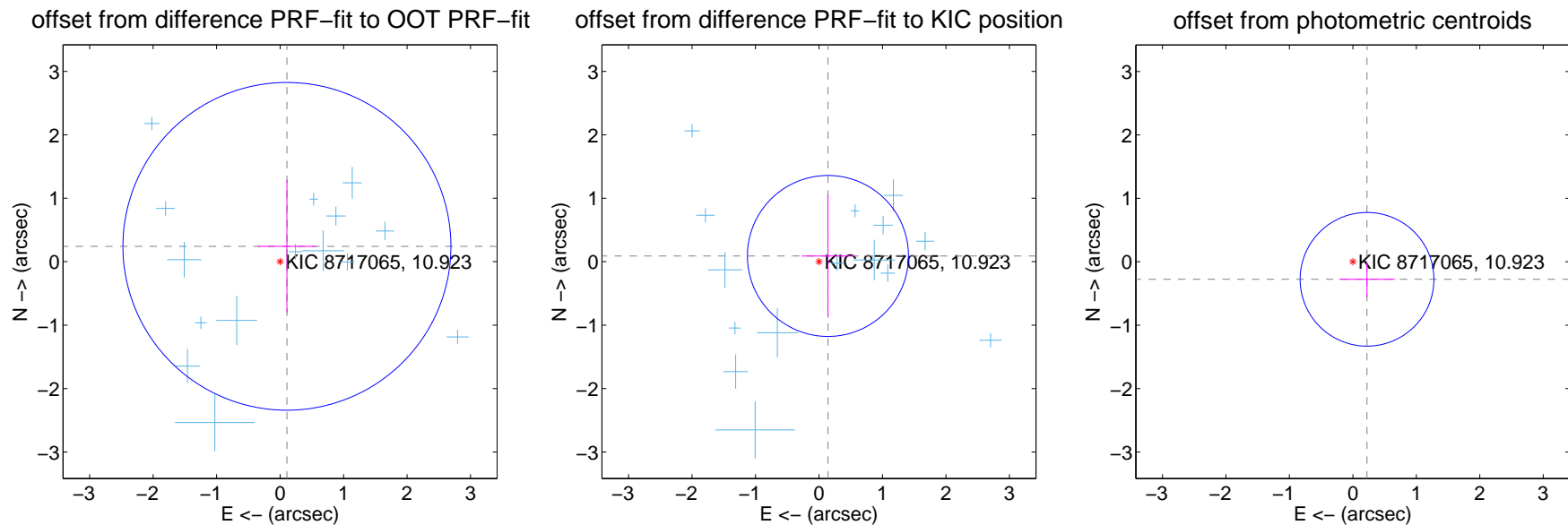
DV Centroid Data

Supplemental centroid analysis for 008717065-01. **Kepler magnitude: 10.92.** Transit SNR 12.77

There are 15 quarters with good PRF difference image offsets

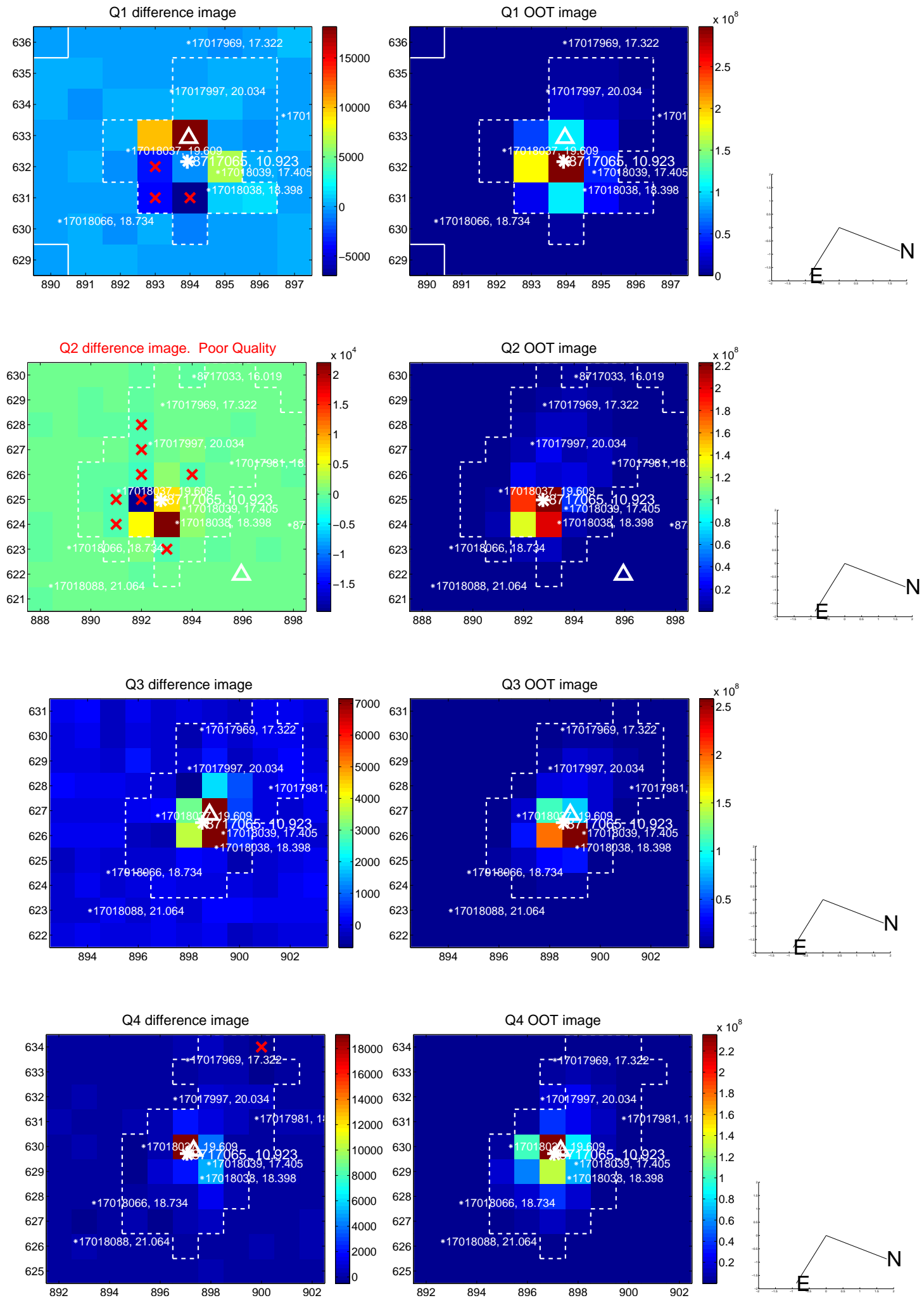
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.265 ± 0.861	0.31	-0.107 ± 0.456	0.242 ± 1.044
PRF-fit source offset from KIC position	0.168 ± 0.423	0.40	-0.141 ± 0.411	0.090 ± 0.973
photometric centroid source offset	0.36 ± 0.35	1.01	-0.22 ± 0.44	-0.28 ± 0.28

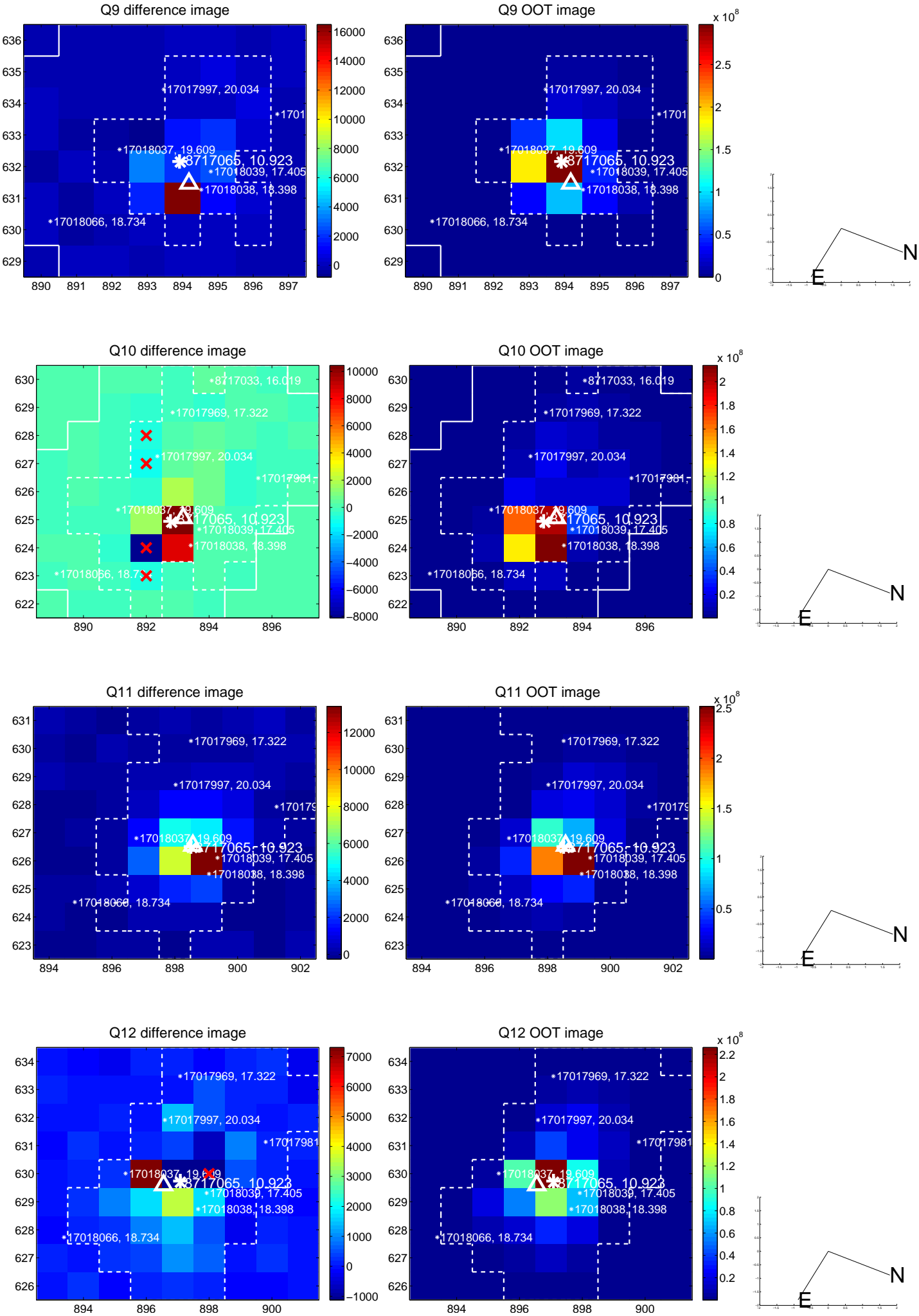


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

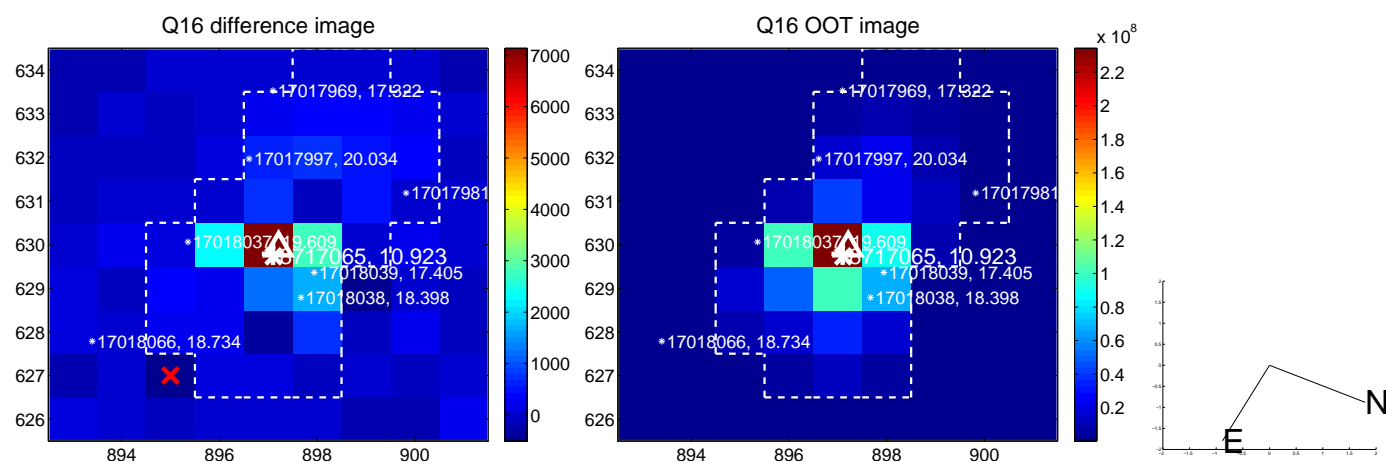
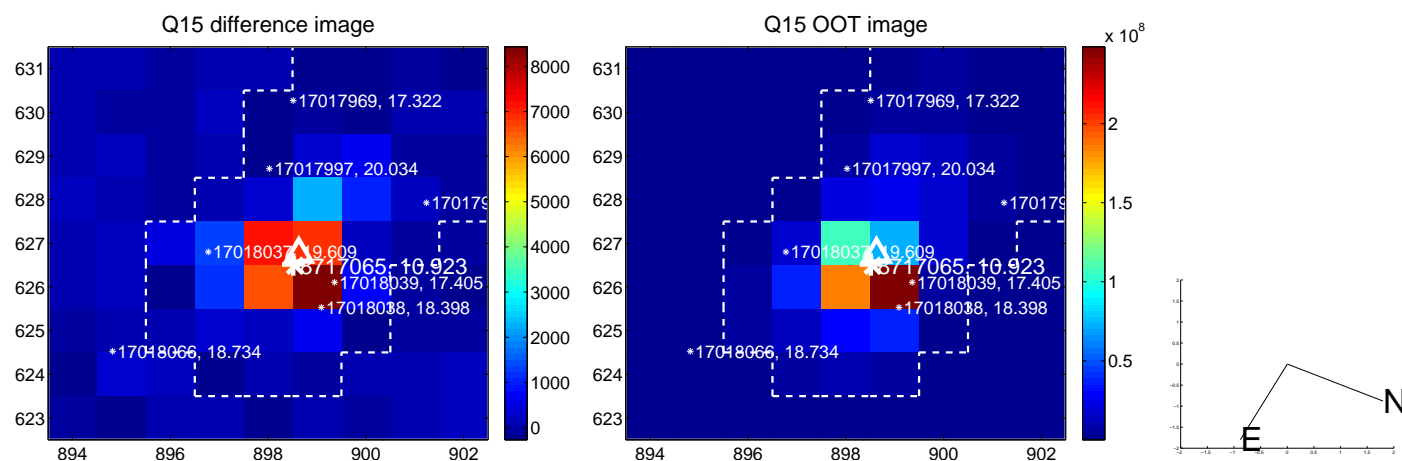
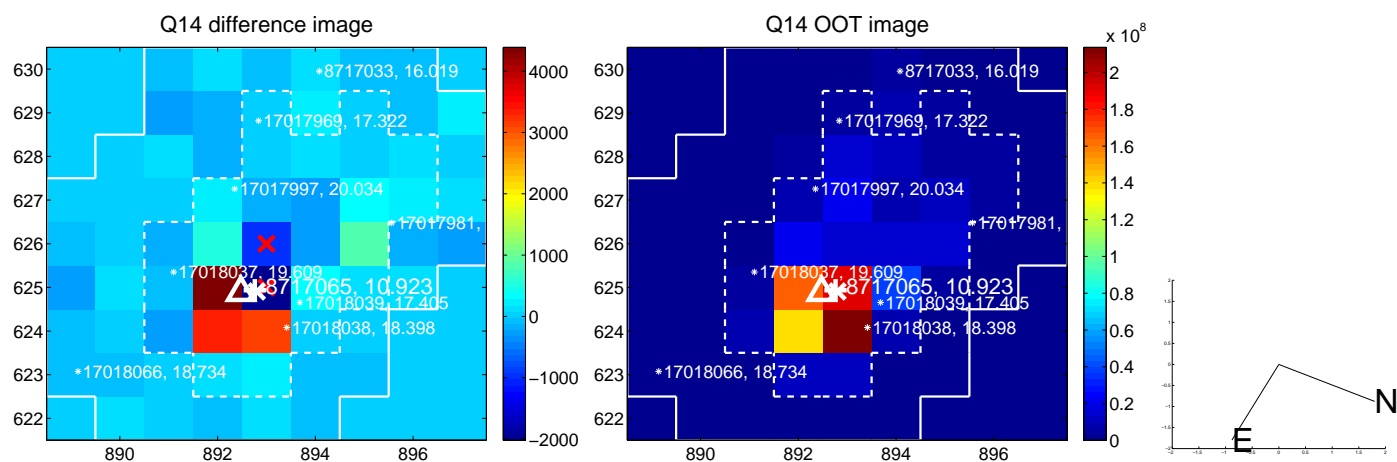
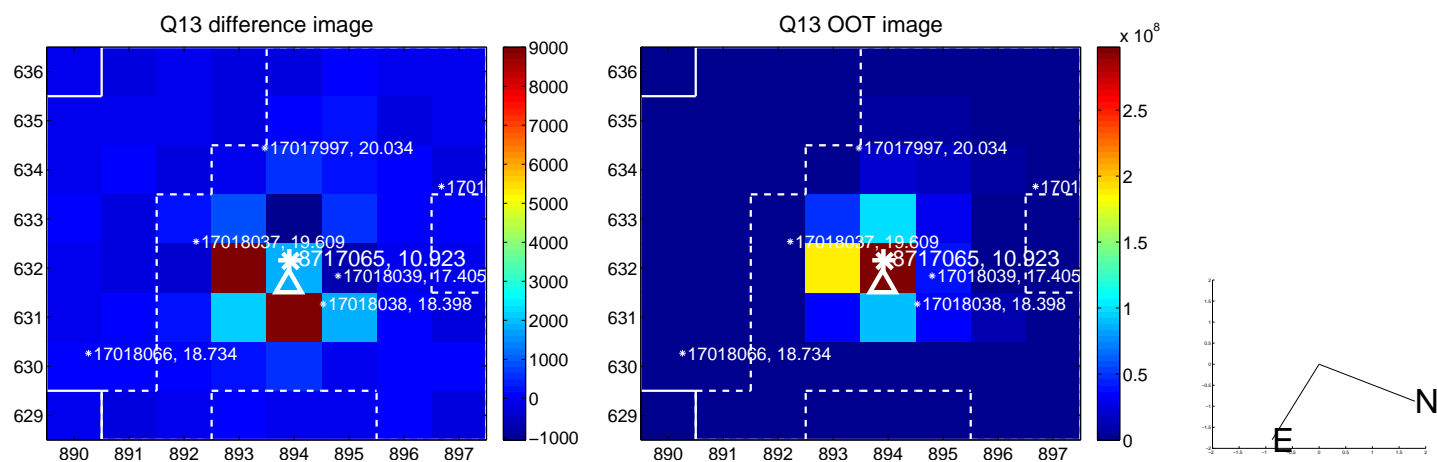
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



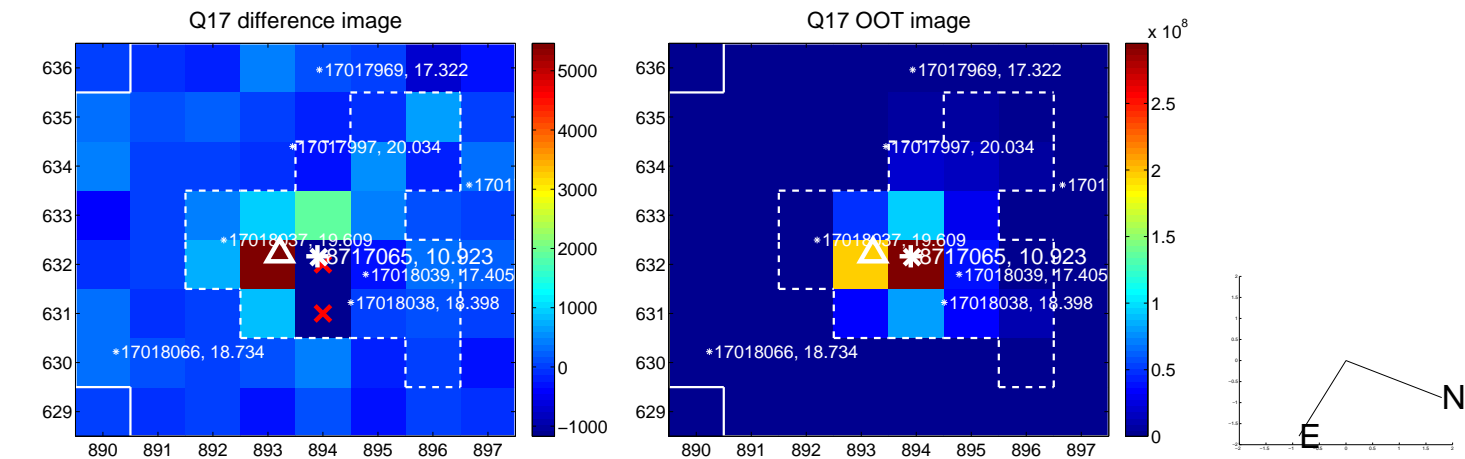
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



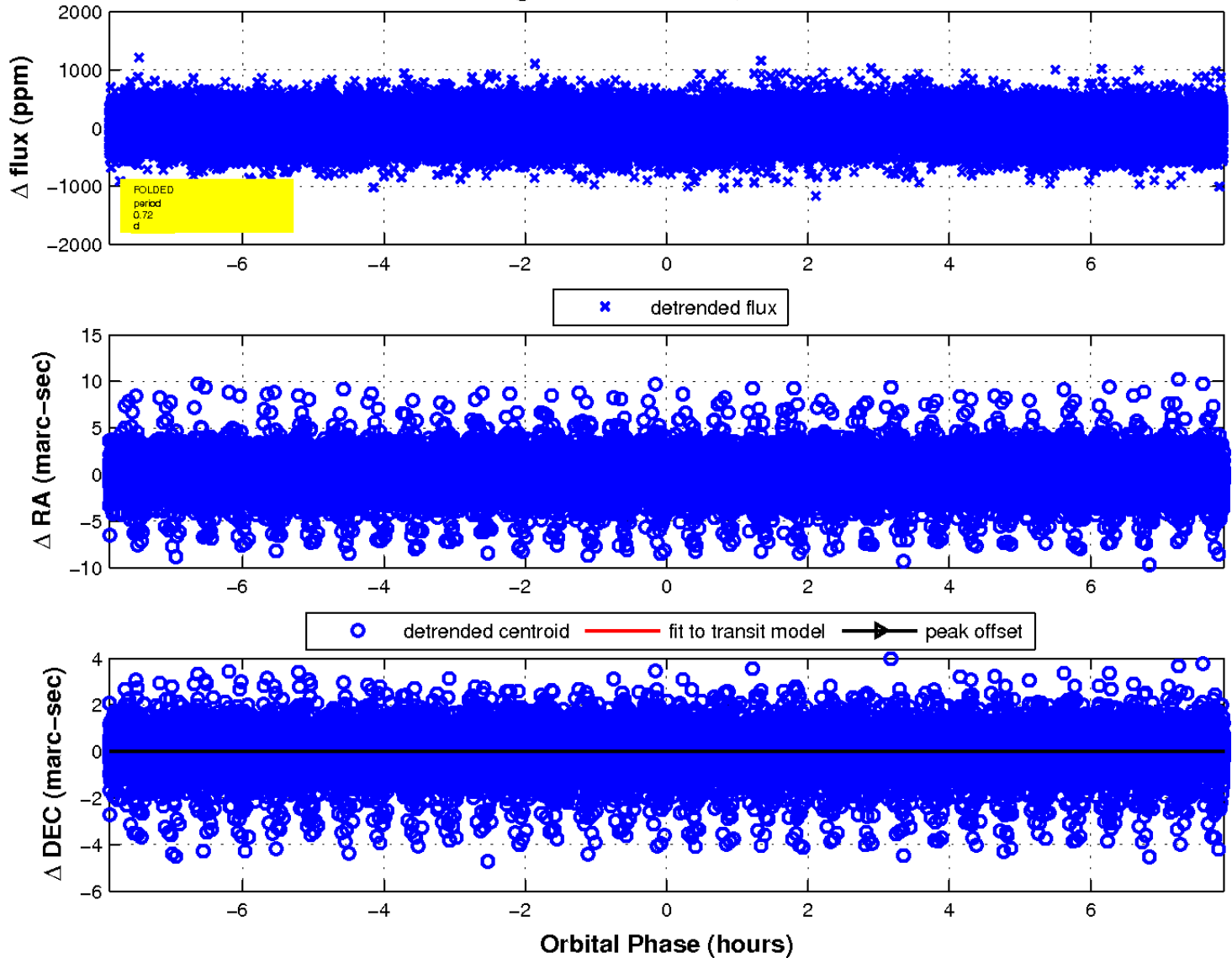
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

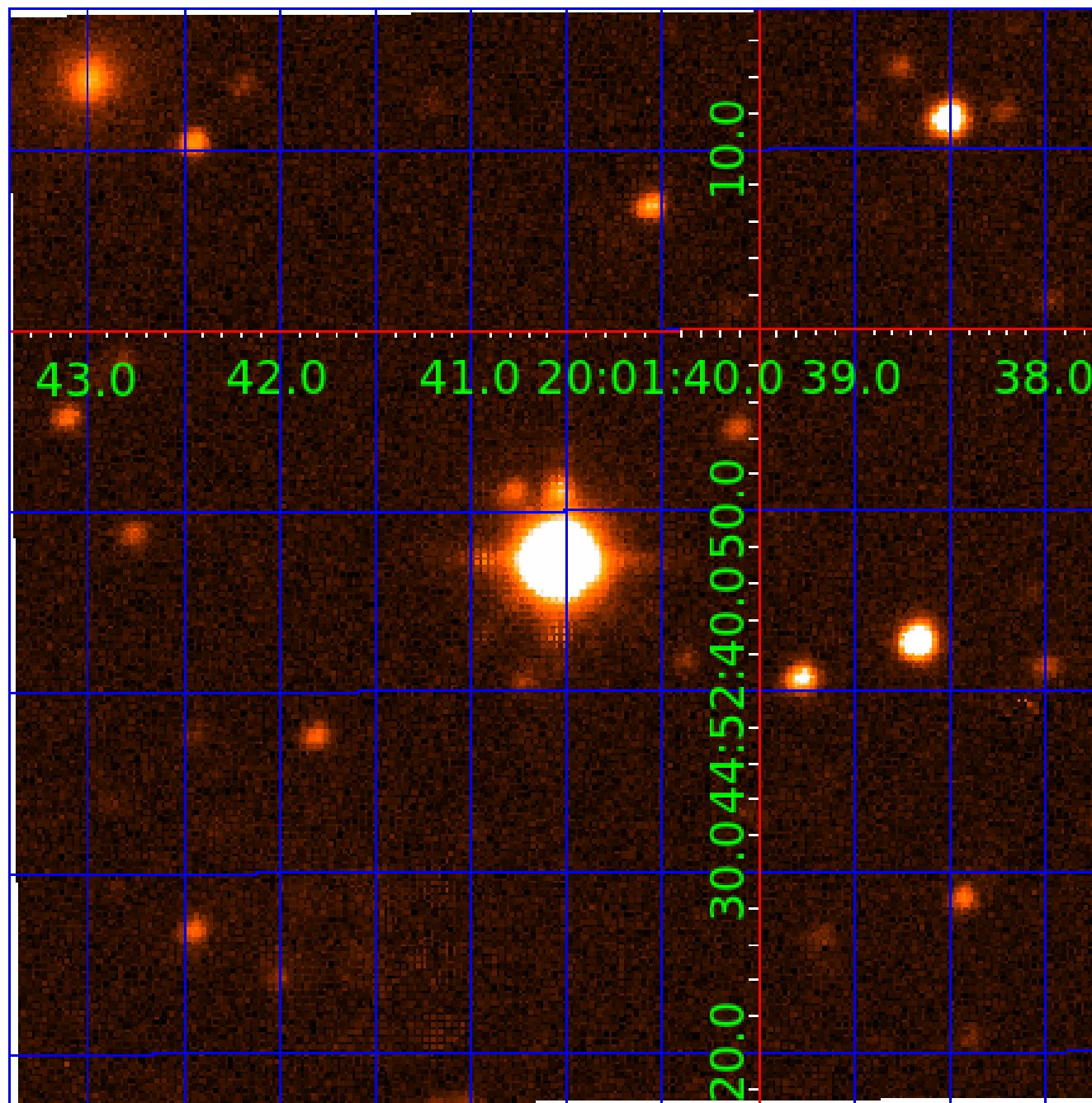


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008717065

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})
008717065-01	OBS	No	0.717284	131.915580	29.0	2.630	11.5	12.8	2.58	7648	1.61	62360.19
008717065-02	OBS	No	0.717270	131.686370	20.1	2.332	9.5	8.2	2.58	7648	1.34	62361.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008717065-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
008717065-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

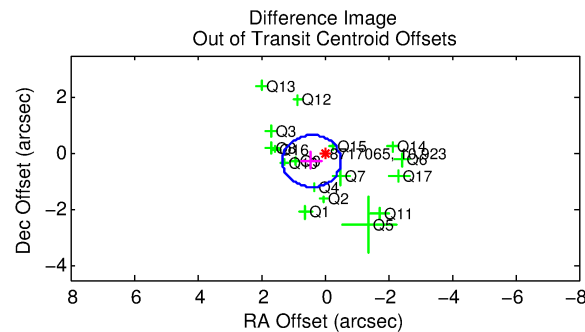
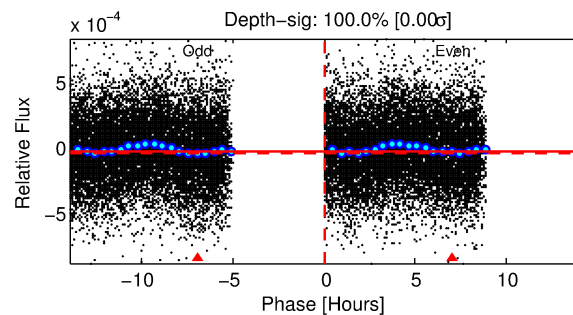
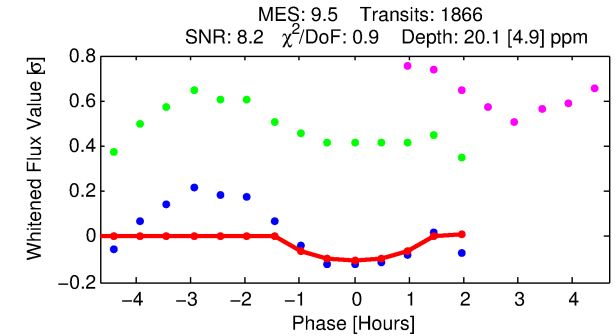
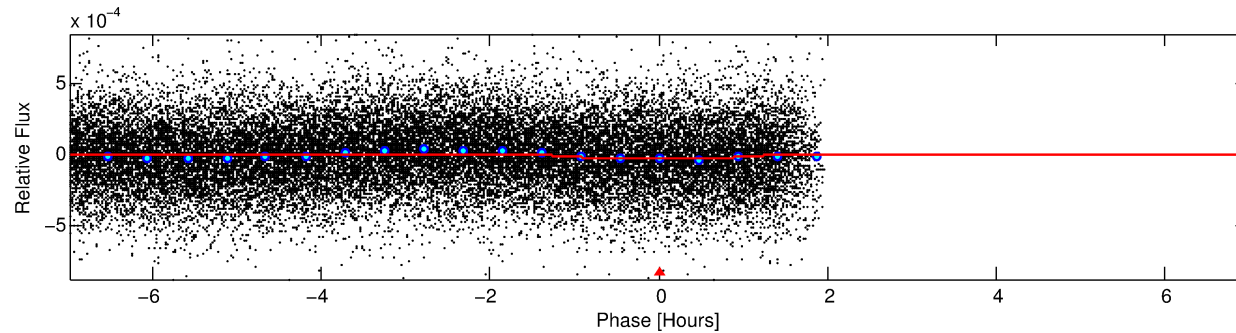
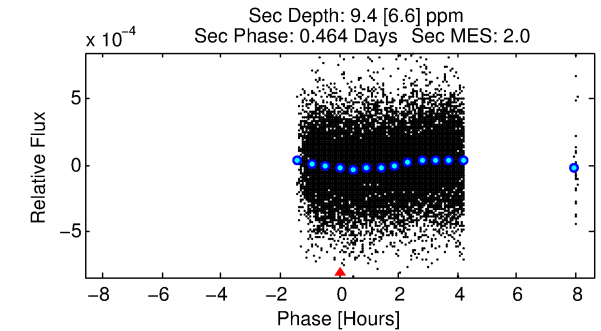
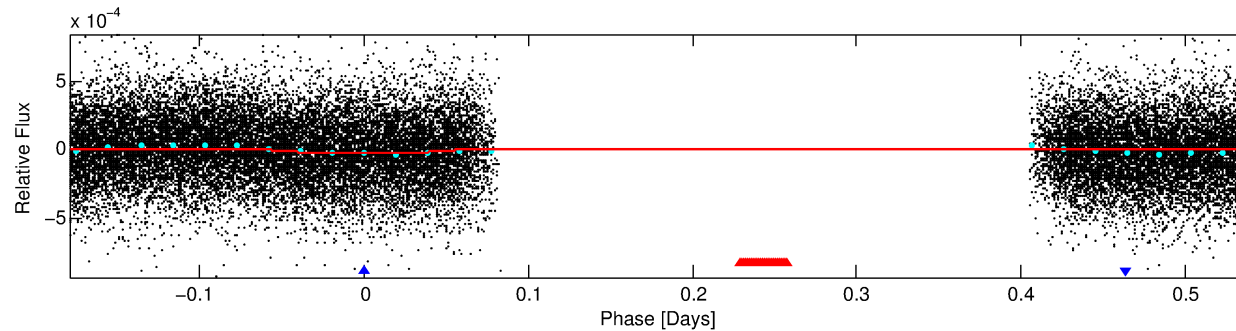
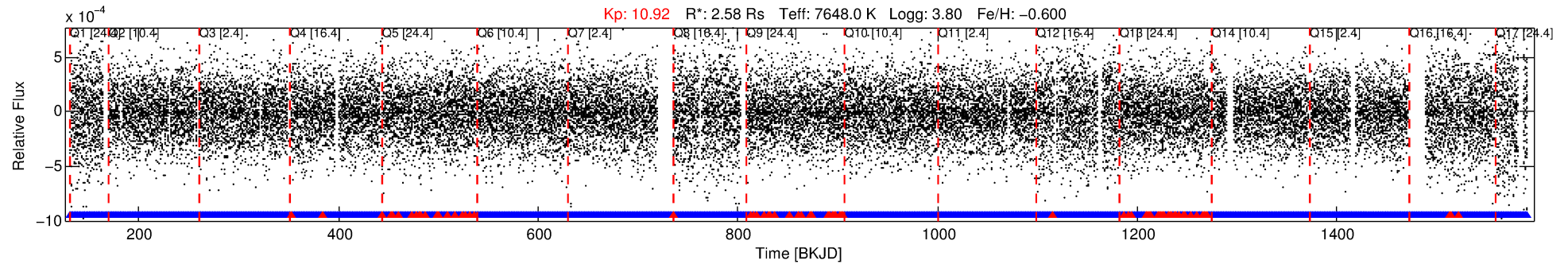
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008717065-02

No Significant Match Found

DV One-Page Summary

KIC: 8717065 Candidate: 2 of 2 Period: 0.717 d



DV Fit Results:

Period = 0.71727 [0.00003] d
Epoch = 131.6864 [0.0044] BKJD
 R_p/R^* = 0.0048 [0.0025]
 a/R^* = 1.41 [2.30]
 b = 0.90 [0.71]
 S_{eff} = 62361.79 [47554.99]
 T_{eq} = 4030 [768] K
 R_p = 1.34 [0.95] R_e
 a = 0.0181 [0.0083] AU
 A_g = 0.94 [1.39] [-0.05σ]
 T_{eff} = 6130 [1972] K [0.99σ]

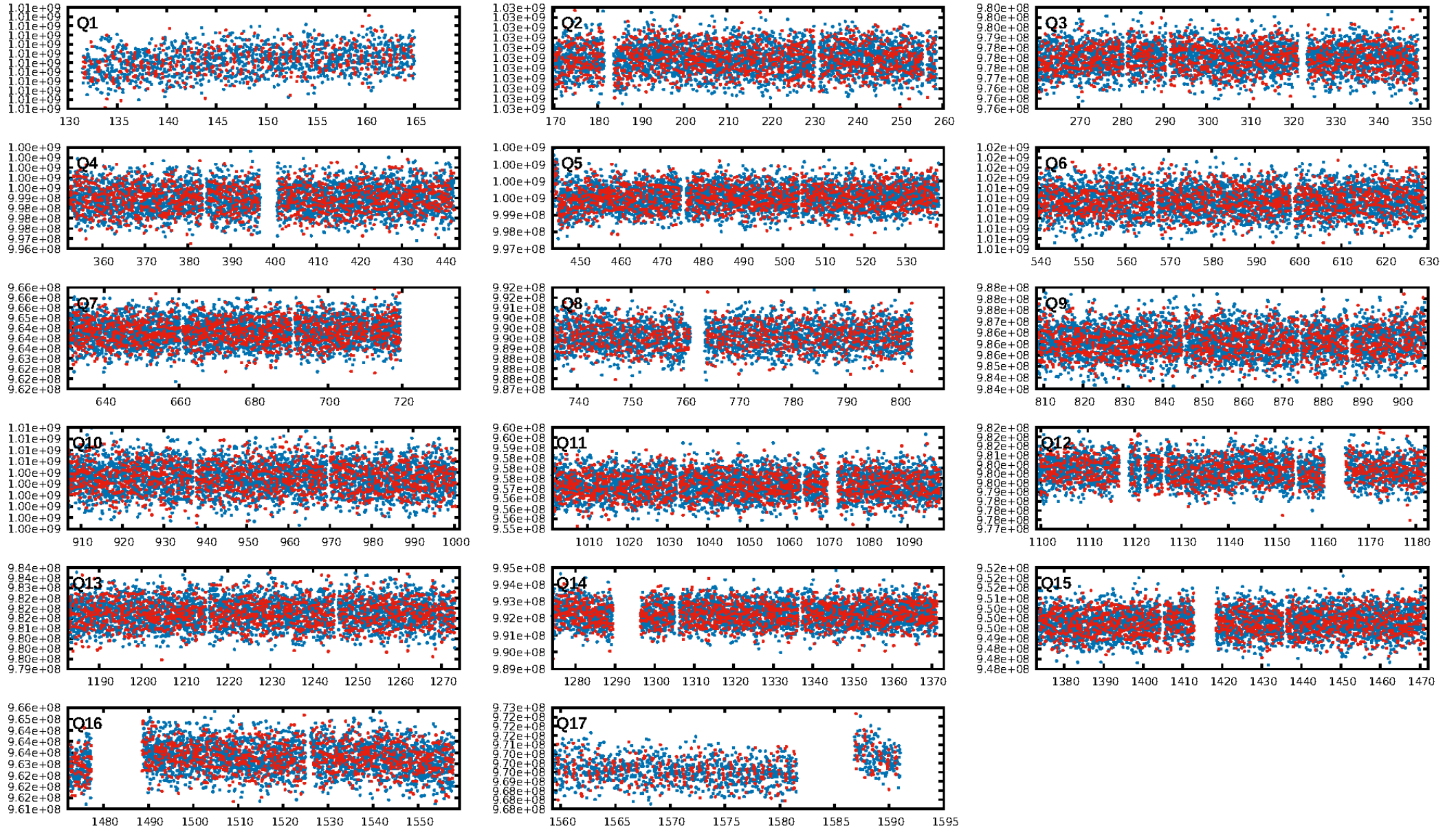
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.26e-06
RollingBand-fgt: 0.96 [1706/1782]
GhostDiagnostic-chr: 1.203
Centroid-sig: N/A
Centroid-so: 1.354 arcsec [2.17σ]
OotOffset-rm: 0.494 arcsec [1.60σ]
KicOffset-rm: 0.555 arcsec [1.86σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

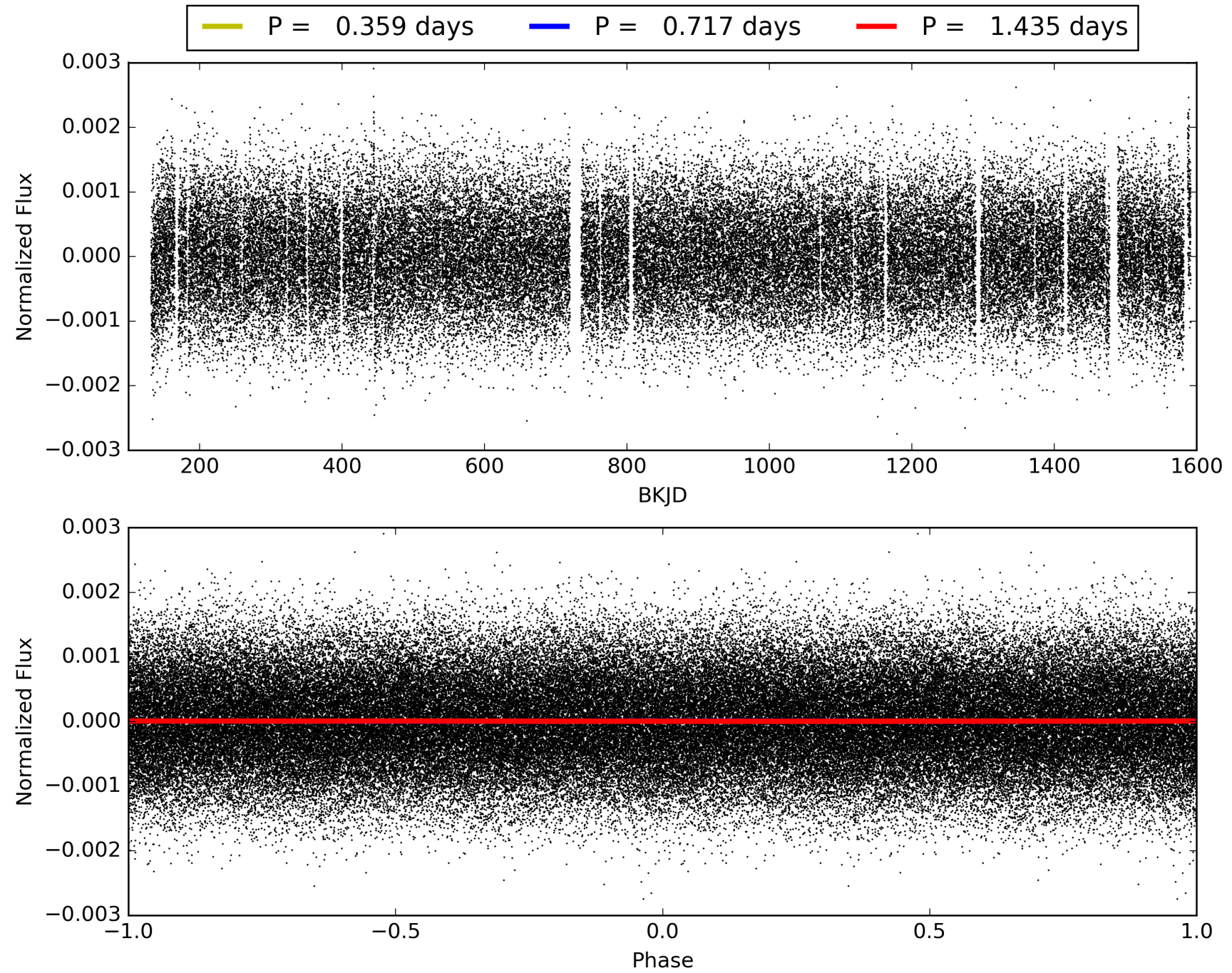
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:38:35 Z

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

TCE 008717065-02, PDC Light Curves

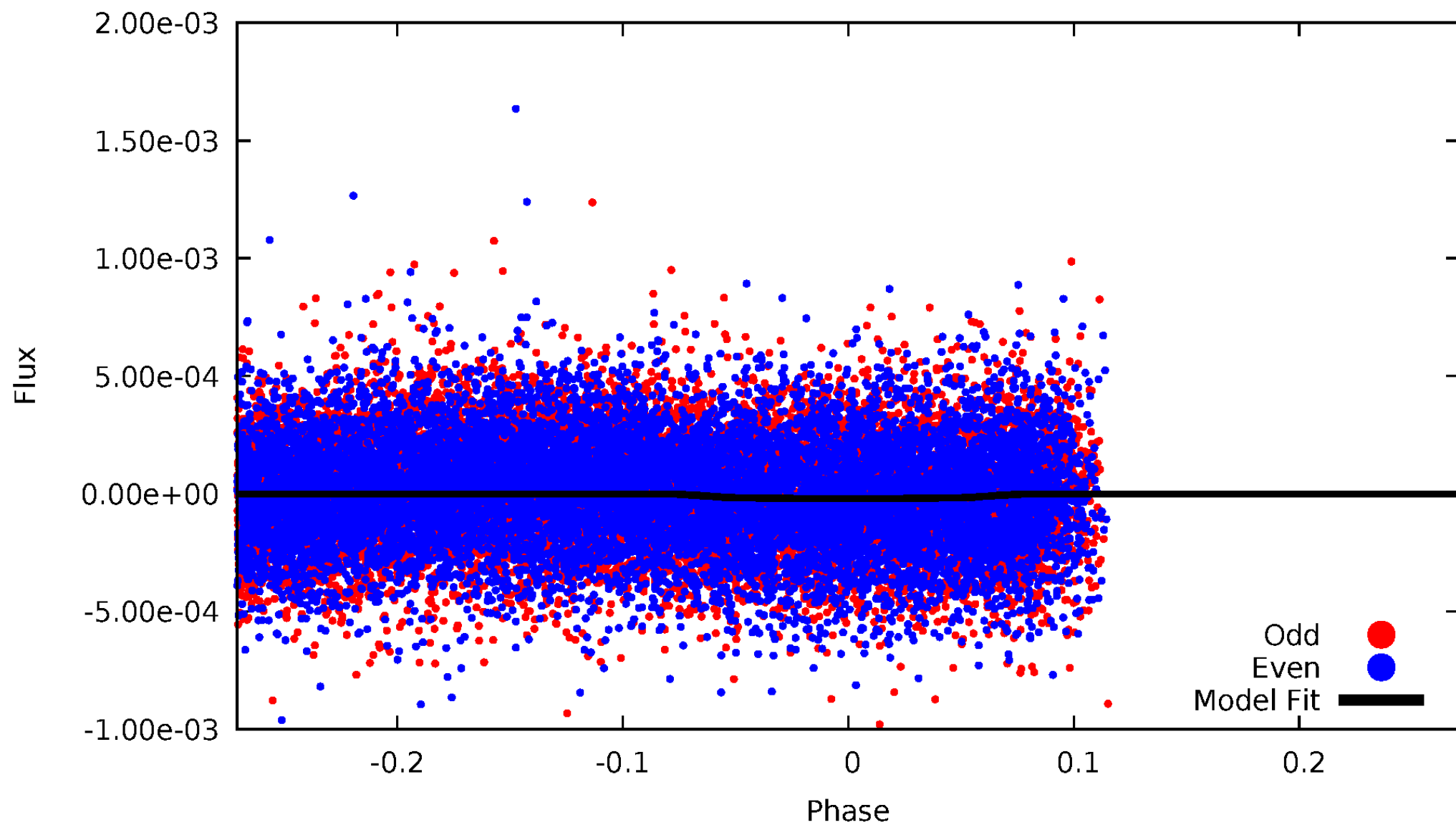


TCE 008717065-02



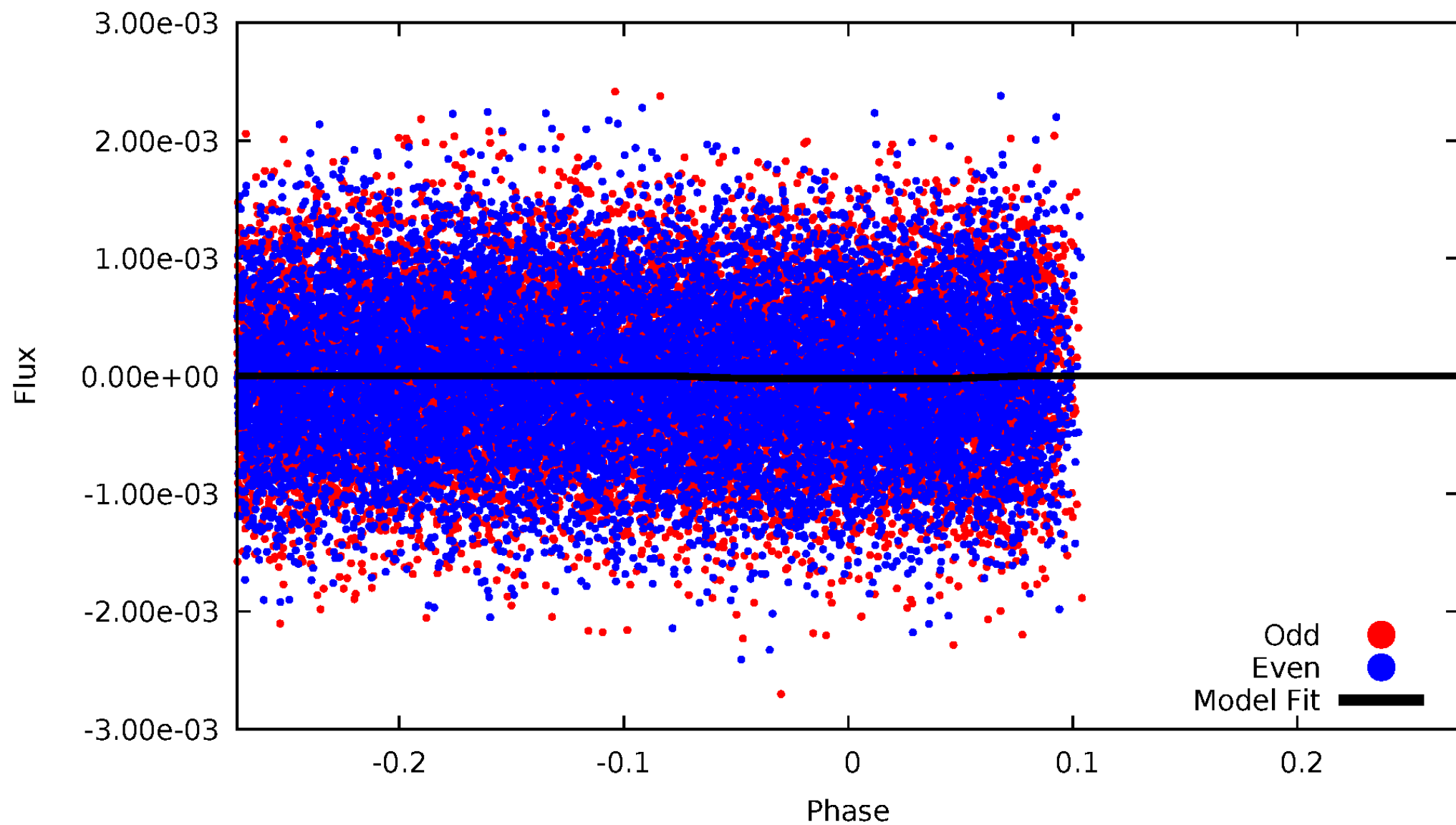
DV Odd/Even

TCE 008717065-02



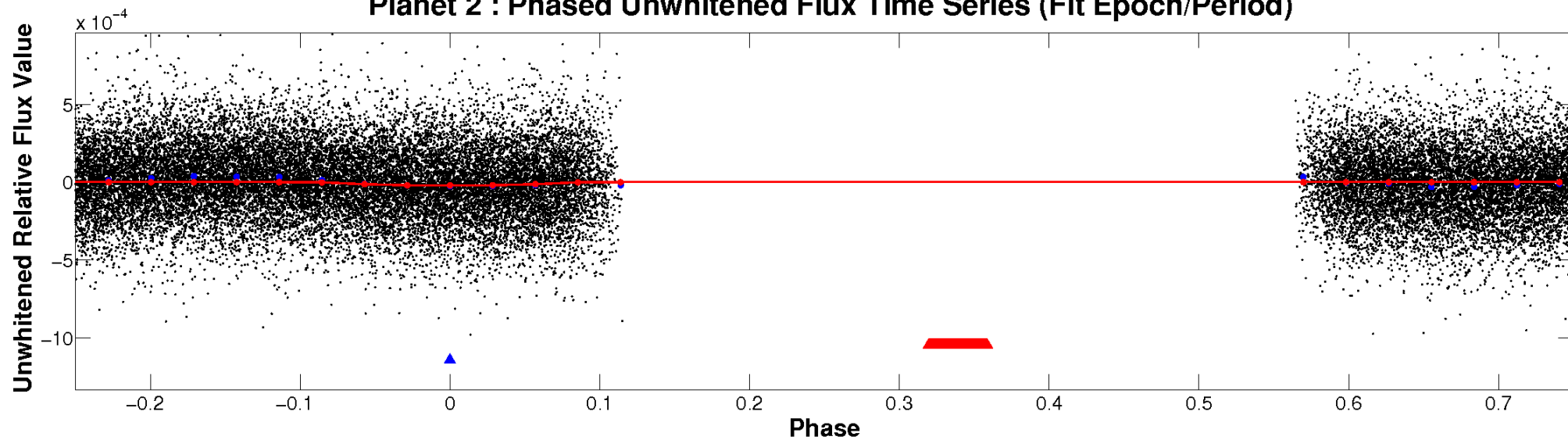
ALT Odd/Even

TCE 008717065-02

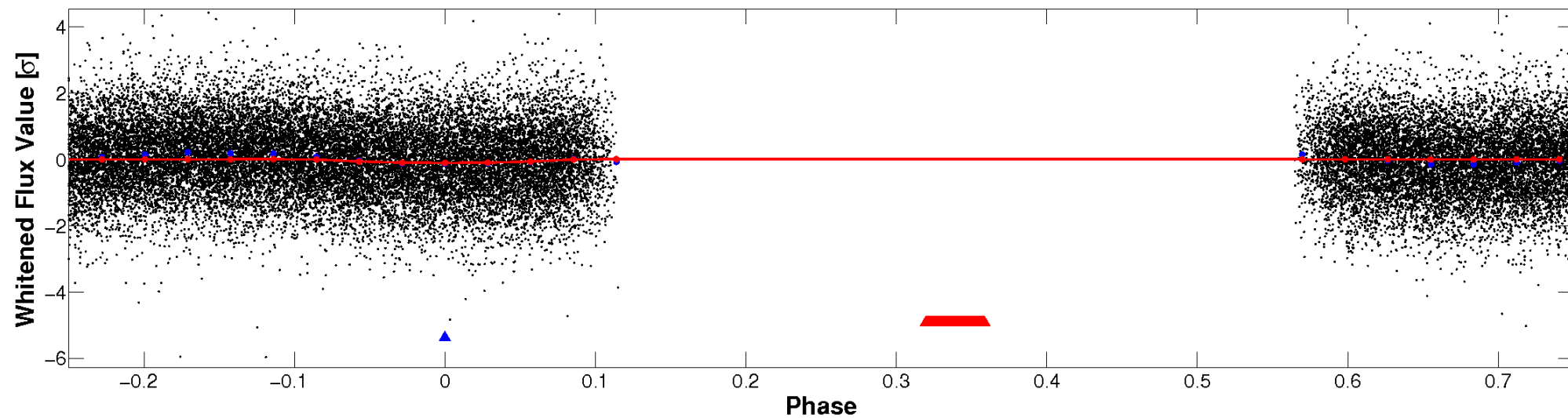


Non-Whitened Vs. Whitened Light Curve

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

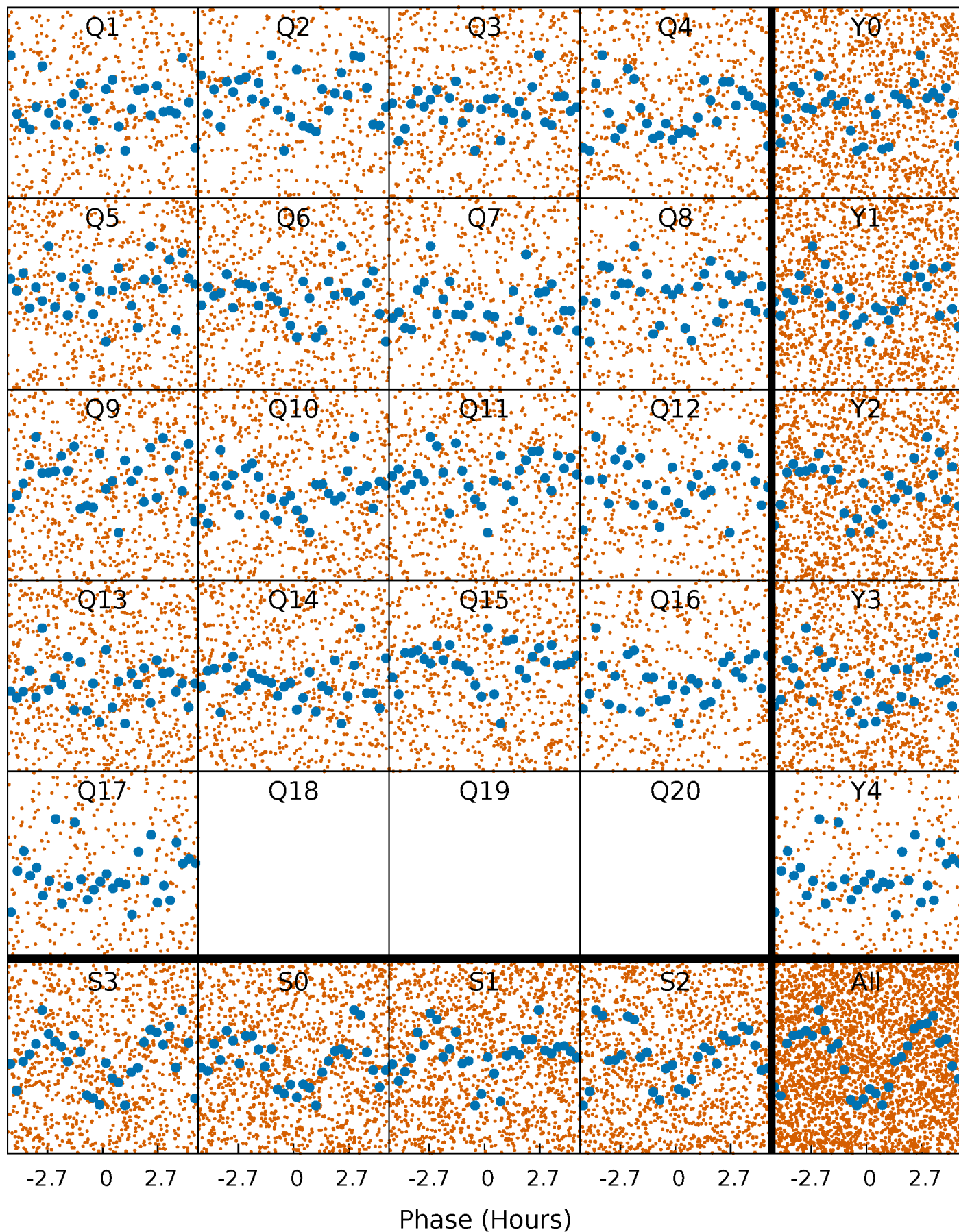


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



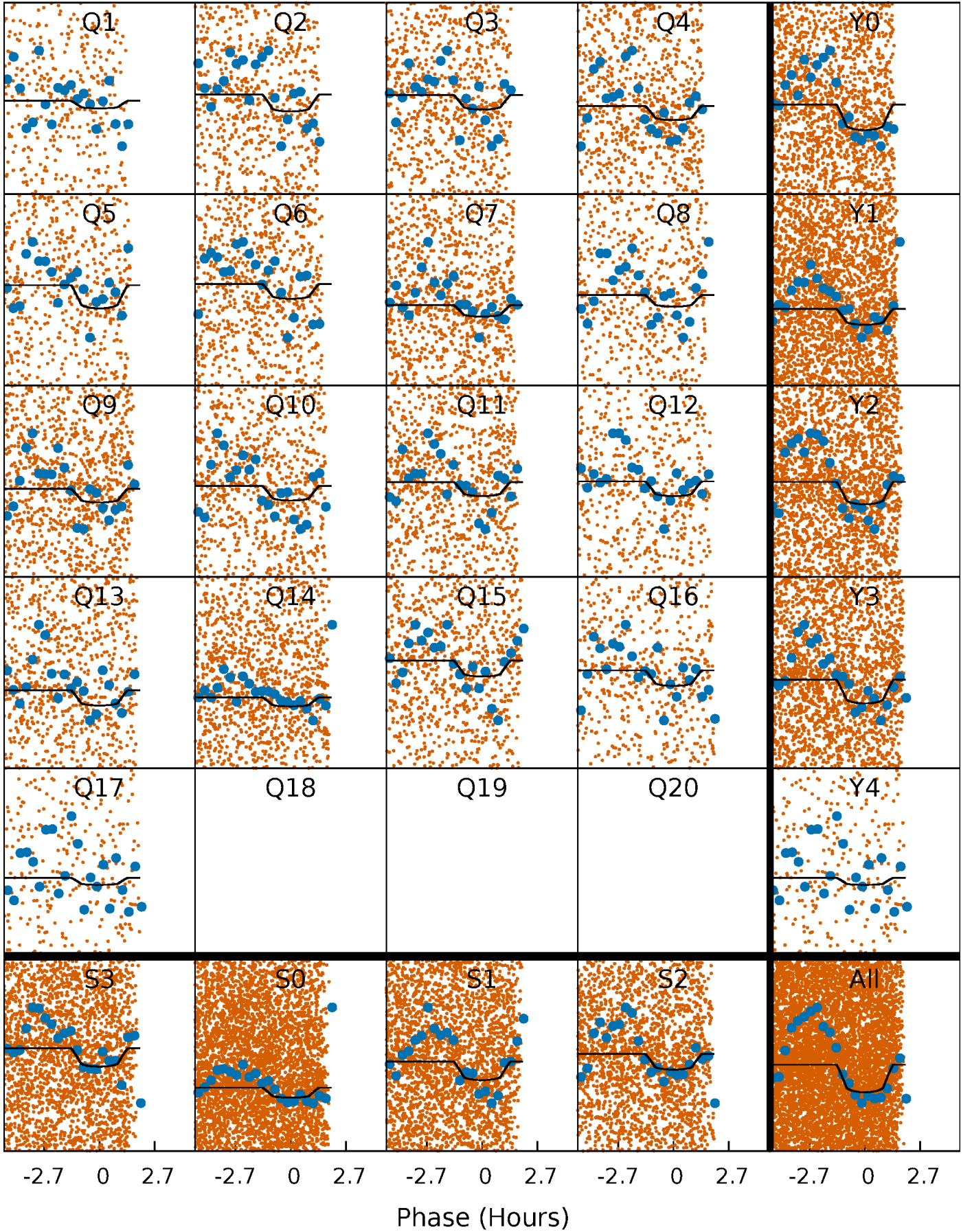
PDC Quarter-Phased Transit Curves

TCE 008717065-02 P= 0.717270 Days $T_0=131.686370$ (BKJD)



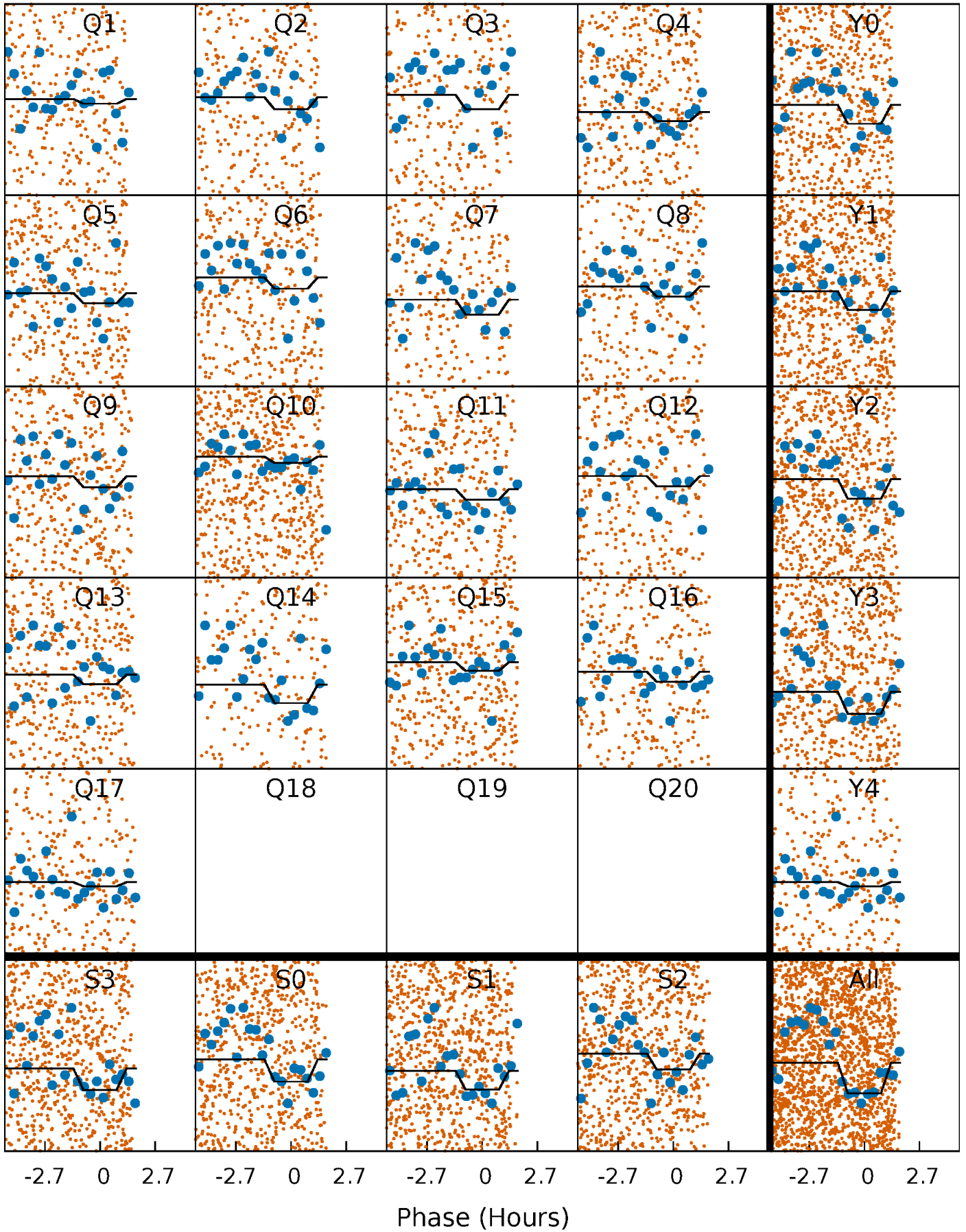
DV Quarter-Phased Transit Curves

TCE 008717065-02 P= 0.717270 Days $T_0=131.686370$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

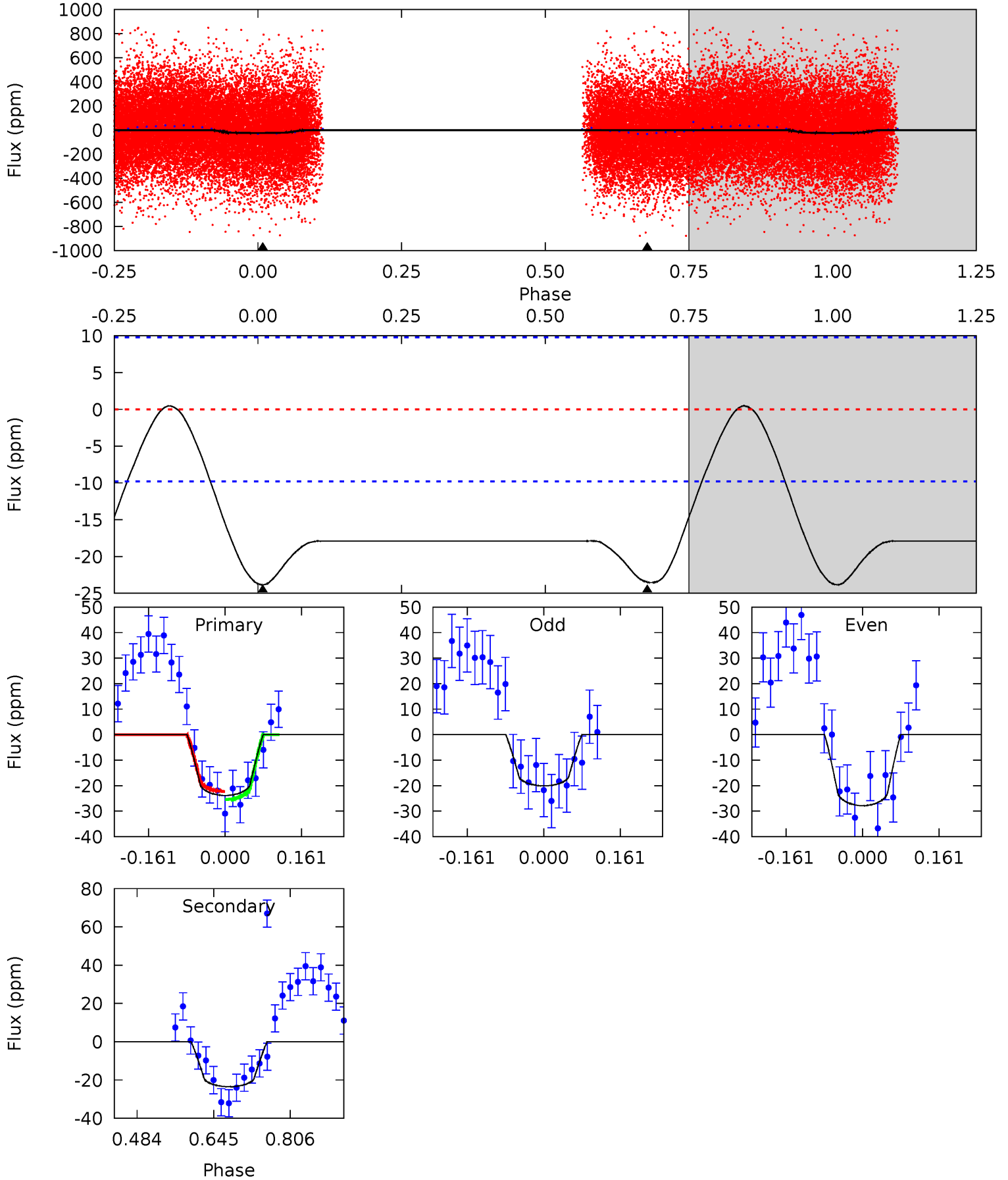
TCE 008717065-02 P= 0.717274 Days $T_0=131.686200$ (BKJD)



DV Model-Shift Uniqueness Test

008717065-02, P = 0.717270 Days, E = 130.969100 Days

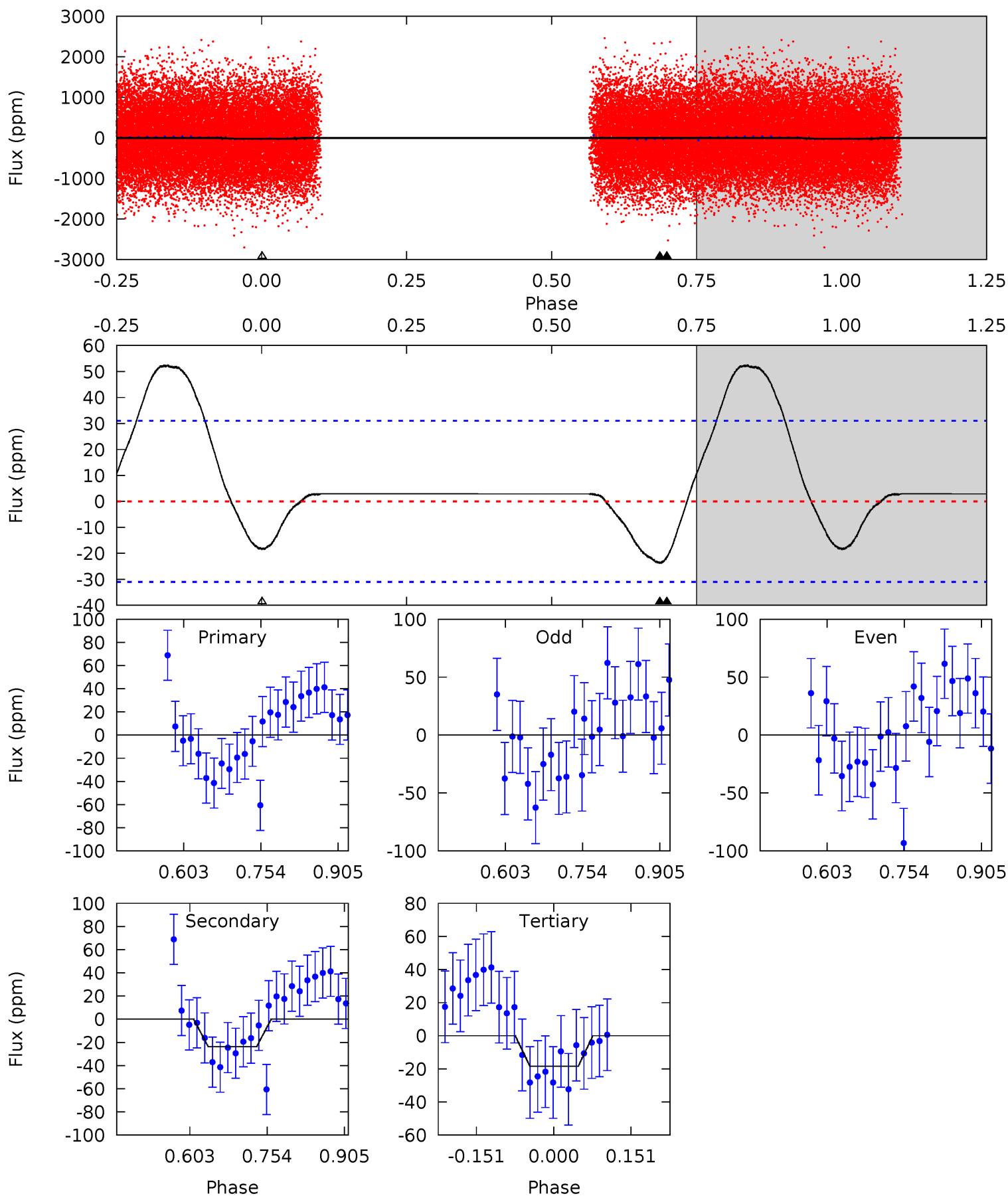
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	10.7	0	0	4.46	1.40	0.27	10.9	10.9	10.7	10.7	1.77	0.89	0.02	0.69



Alt Model-Shift Uniqueness Test

008717065-02, P = 0.717274 Days, E = 130.968926 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.11	3.42	2.65	0	4.48	1.44	3.28	0.46	3.11	0.77	3.42	0.05	0.87	0.69	0.50



Stellar Parameters For KIC 008717065

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7648^{+246}_{-300}	$3.800^{+0.442}_{-0.078}$	$-0.600^{+0.300}_{-0.300}$	$2.577^{+0.400}_{-1.201}$	$1.527^{+0.201}_{-0.327}$	$0.126^{+0.537}_{-0.032}$
	+3%/-4%	+12%/-2%	+50%/-50%	+16%/-47%	+13%/-21%	+428%/-25%
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 008717065-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-23 ± 2	$1.26^{+0.76}_{-0.67}$	5434^{+397}_{-648}	7306^{+4231}_{-1783}	$2.632^{+8.868}_{-1.614}$
Alt.	-24 ± 7	$1.12^{+0.73}_{-0.59}$	5427^{+411}_{-677}	7742^{+5608}_{-2089}	$3.323^{+11.039}_{-2.180}$

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 $A_{obs} \gg 1.0$

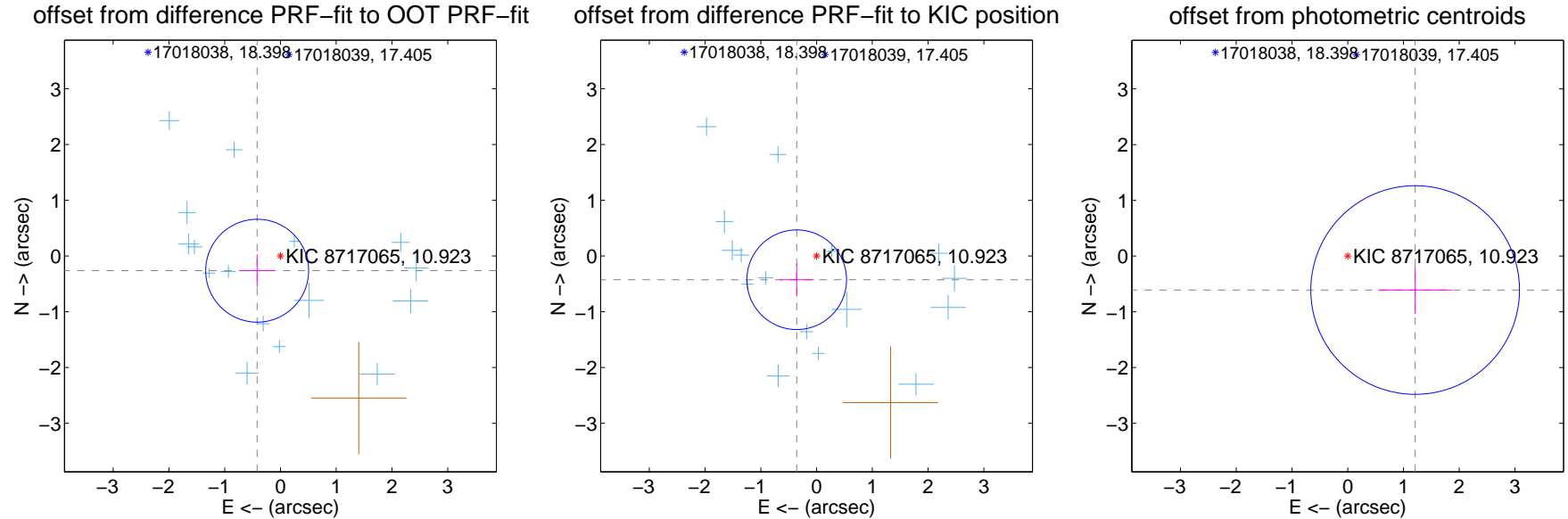
DV Centroid Data

Supplemental centroid analysis for 008717065-02. **Kepler magnitude: 10.92.** Transit SNR 8.22

There are 16 quarters with good PRF difference image offsets

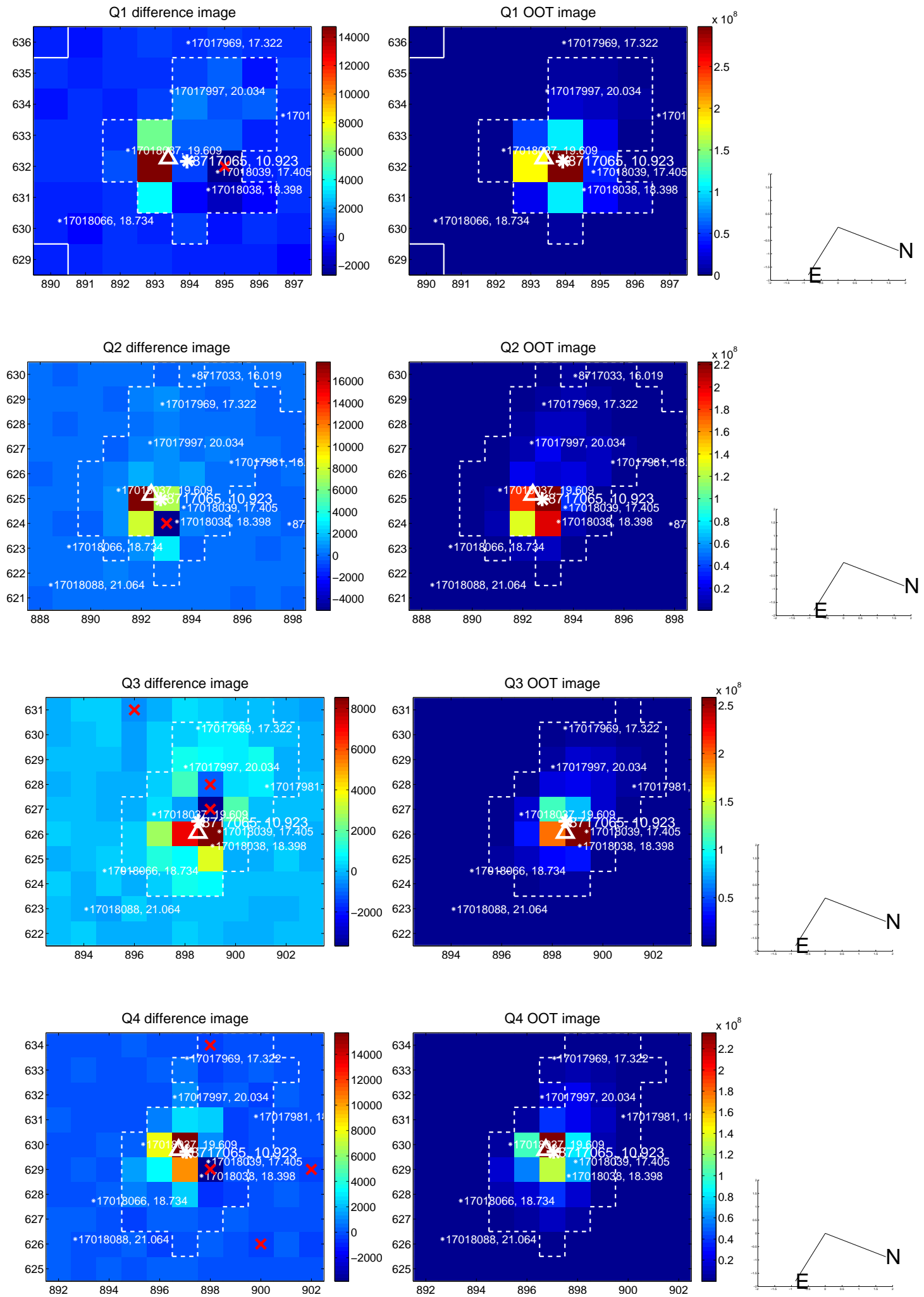
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.494 ± 0.308	1.60	0.418 ± 0.311	-0.263 ± 0.298
PRF-fit source offset from KIC position	0.555 ± 0.298	1.86	0.356 ± 0.307	-0.425 ± 0.291
photometric centroid source offset	1.35 ± 0.62	2.17	-1.21 ± 0.66	-0.61 ± 0.43

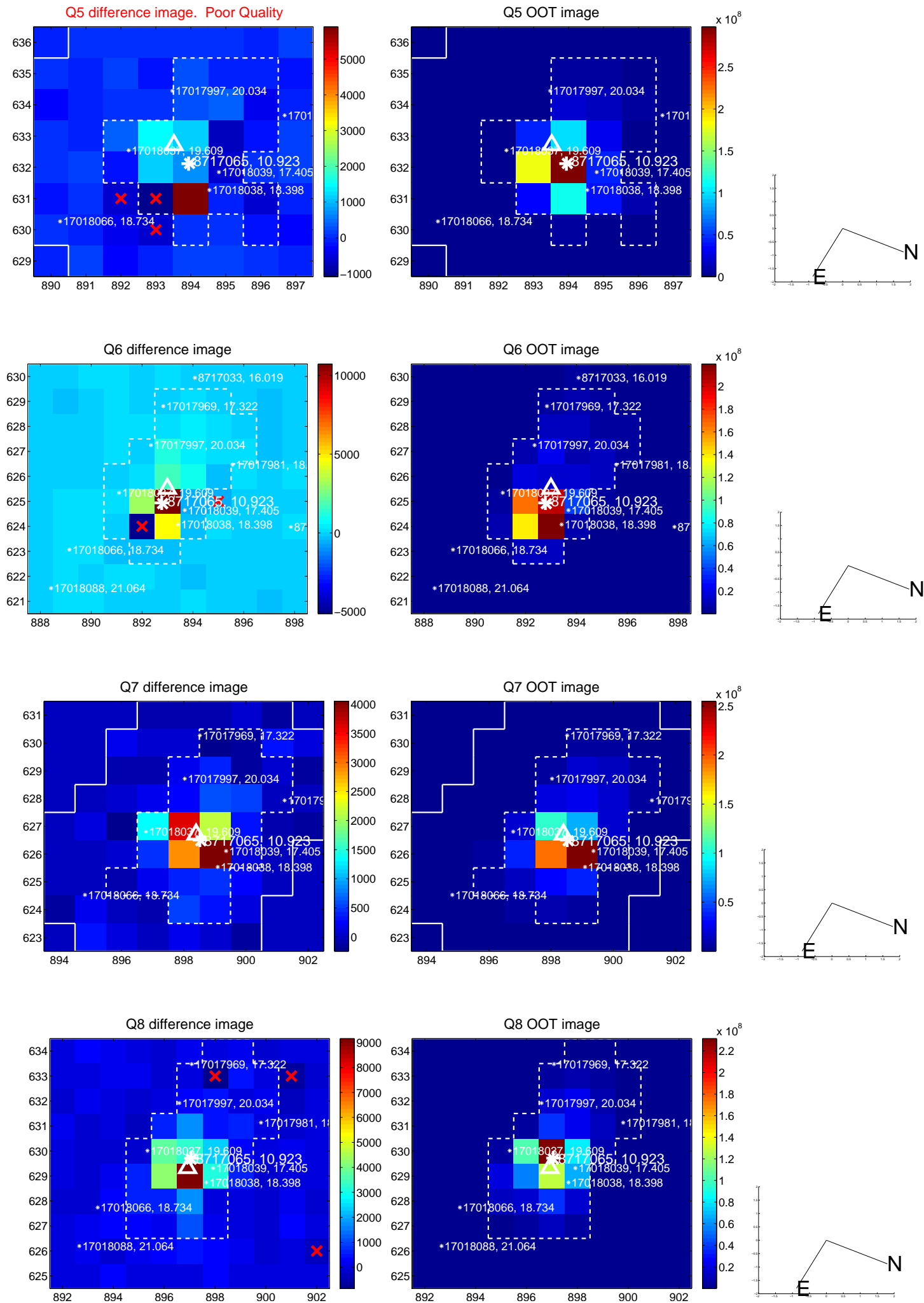


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

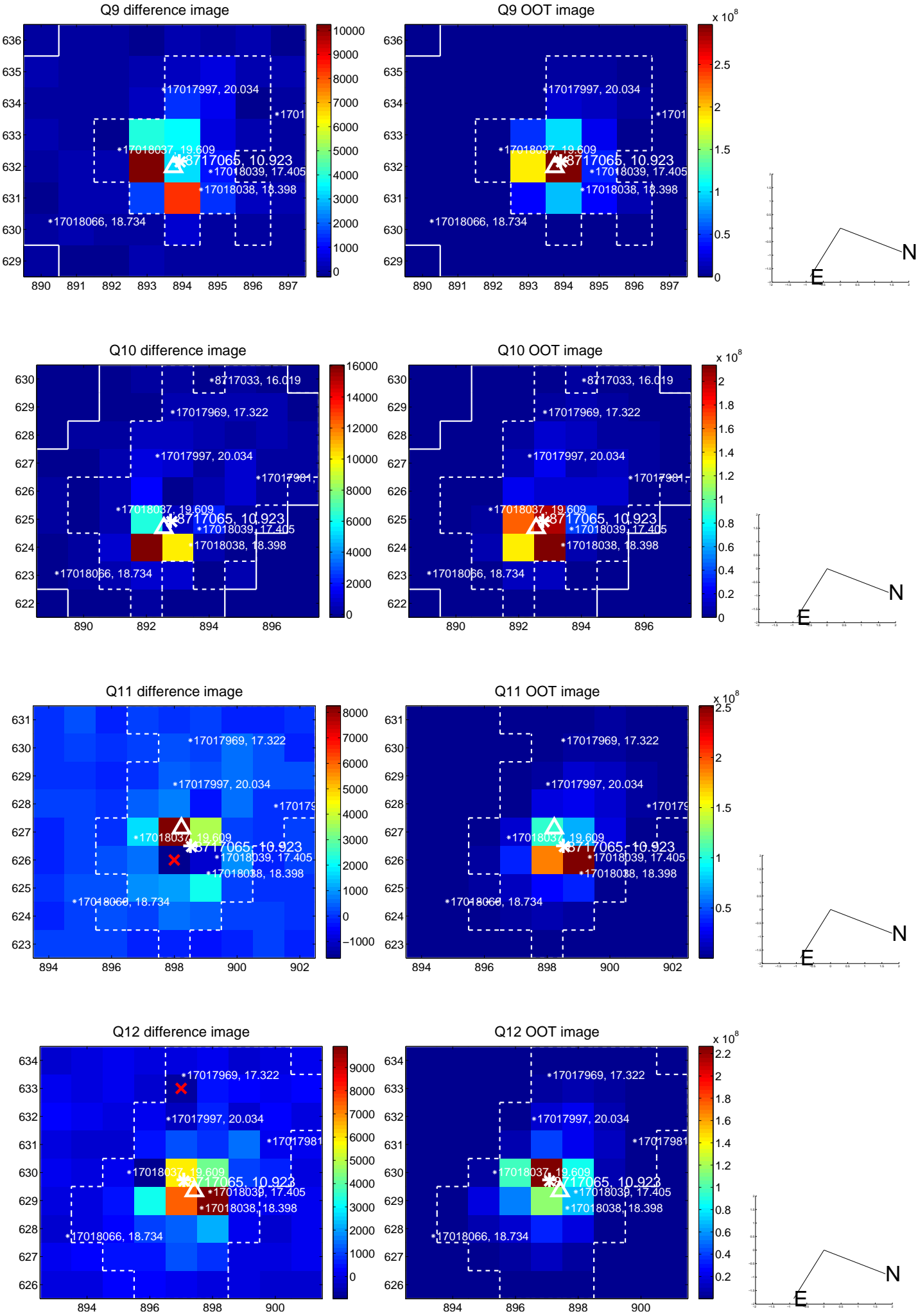
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



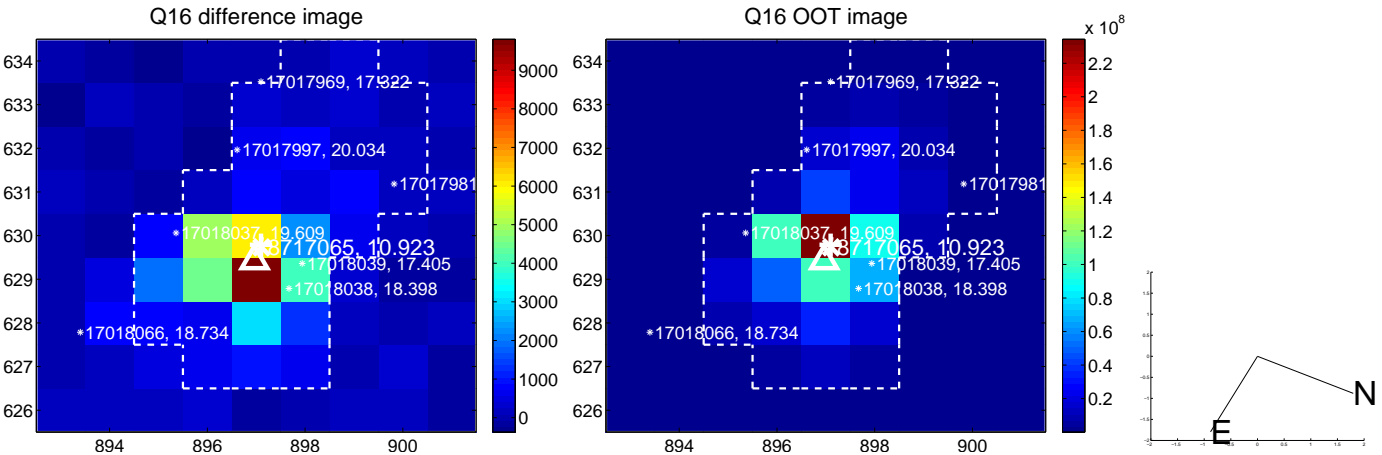
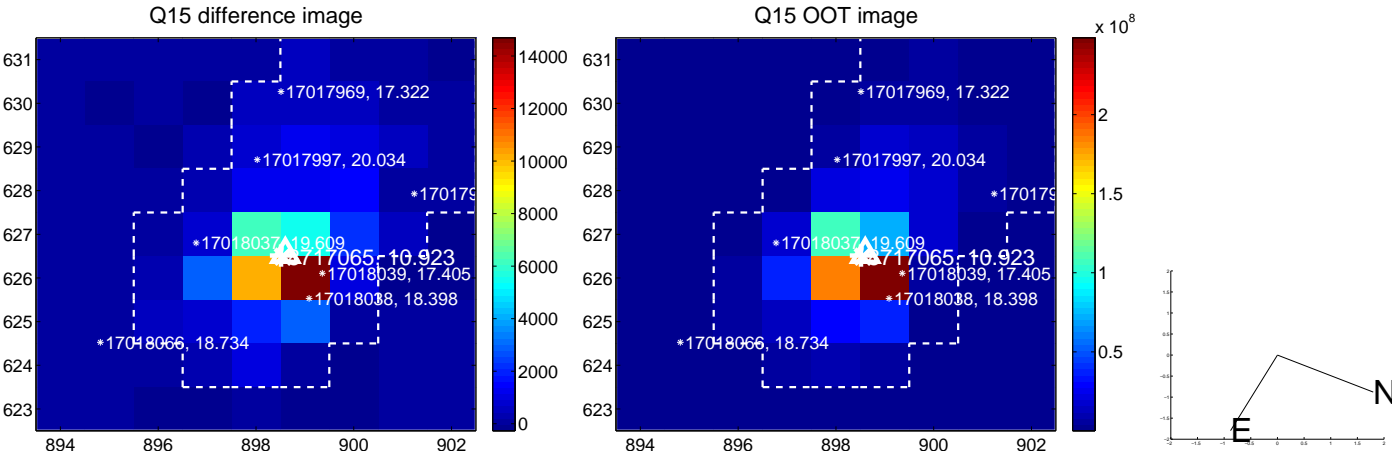
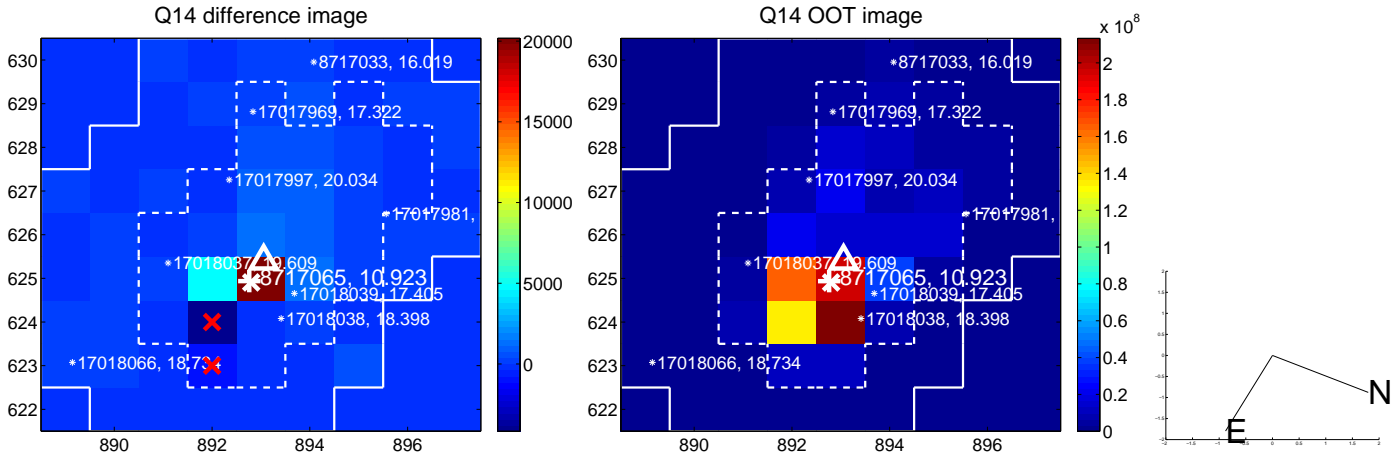
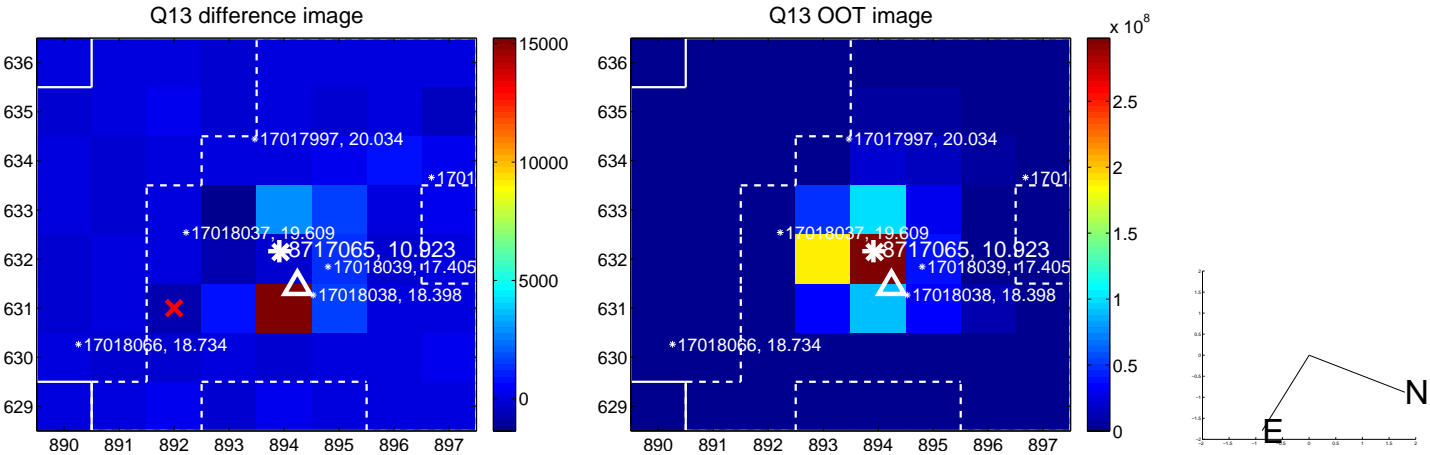
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



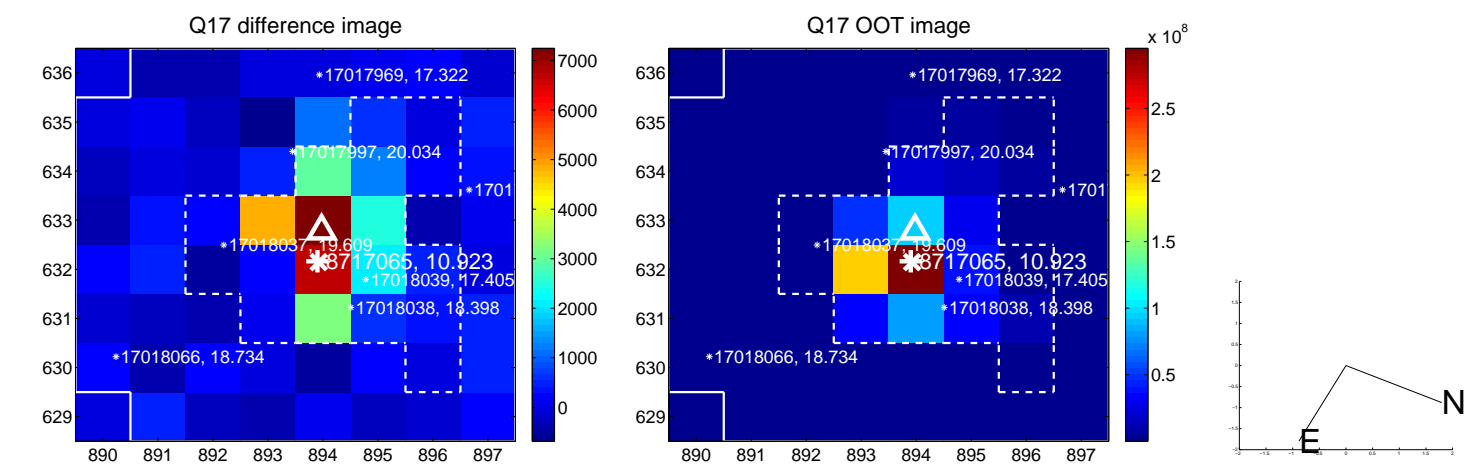
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



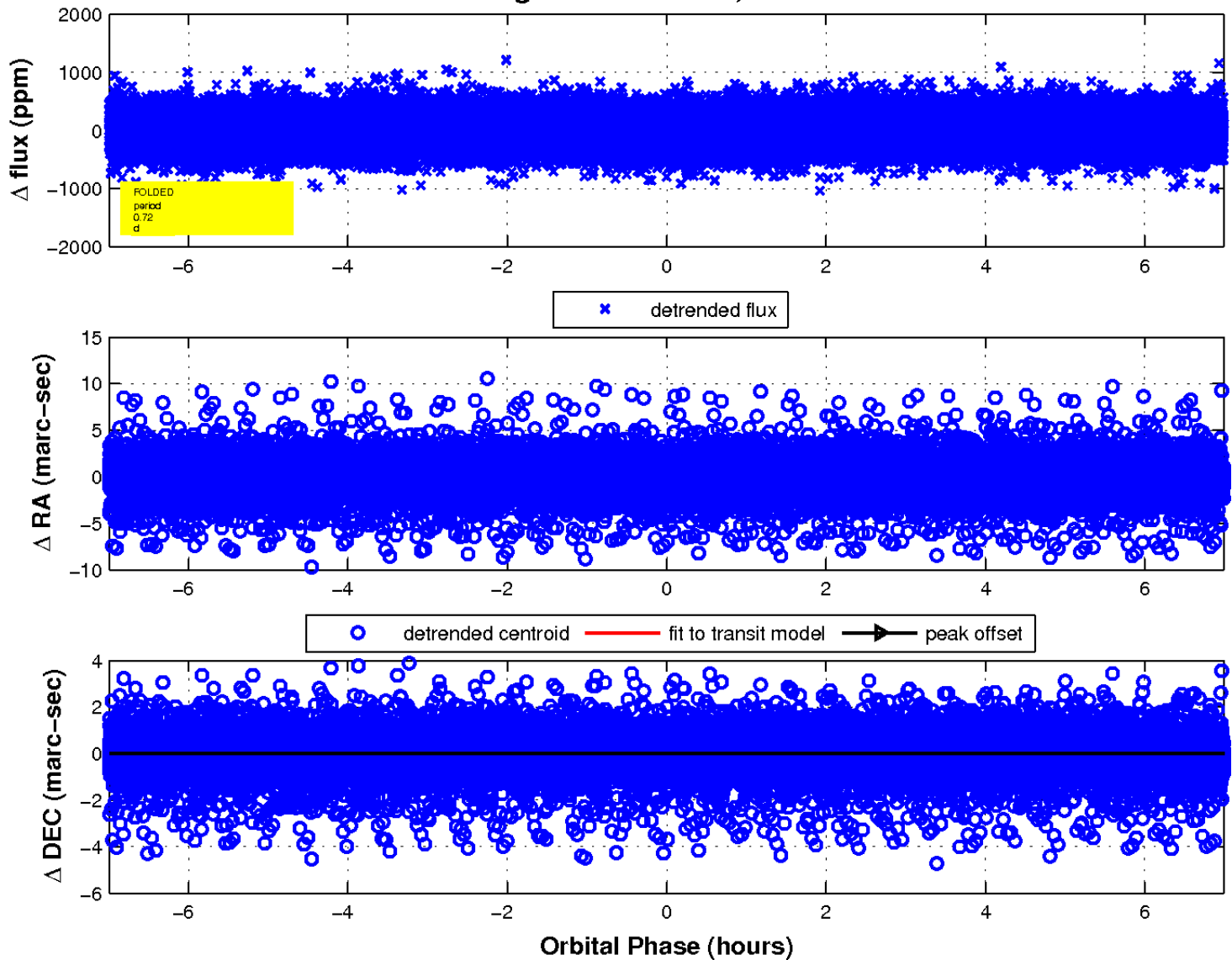
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

