

KIC 010814711

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})
010814711-01	OBS	No	0.695670	131.956542	10.3	2.743	11.2	11.6	2.68	9164	0.99	124359.40
010814711-02	OBS	No	0.695642	131.624986	5.9	3.745	12.1	8.7	2.68	9164	0.68	124366.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010814711-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
010814711-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

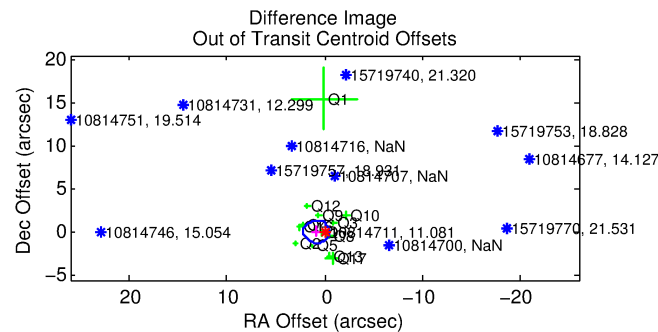
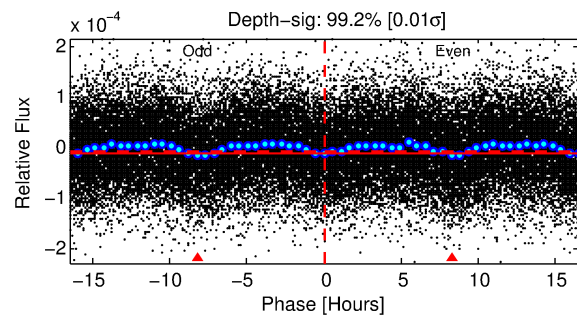
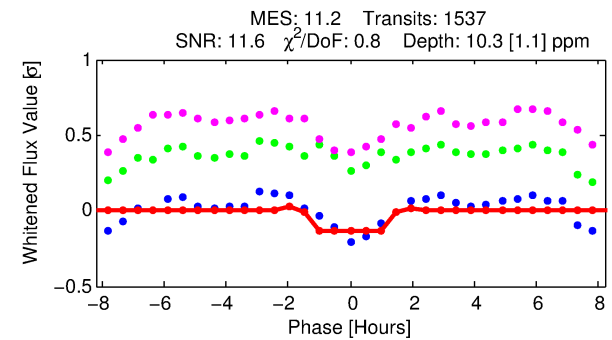
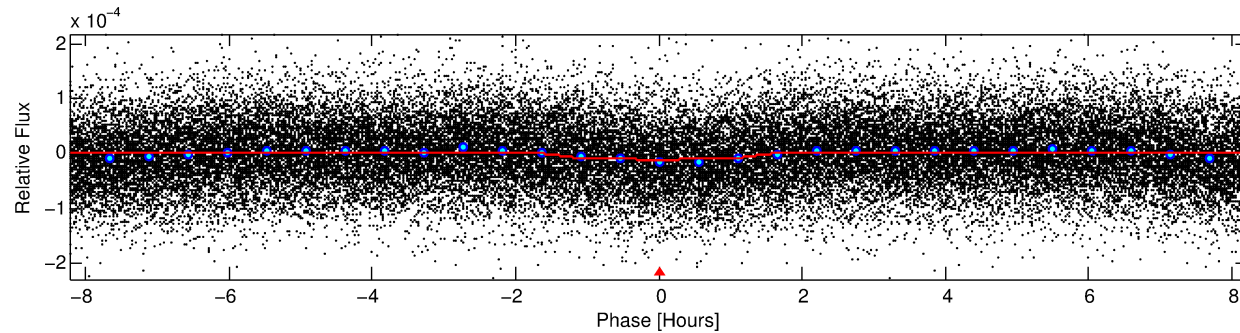
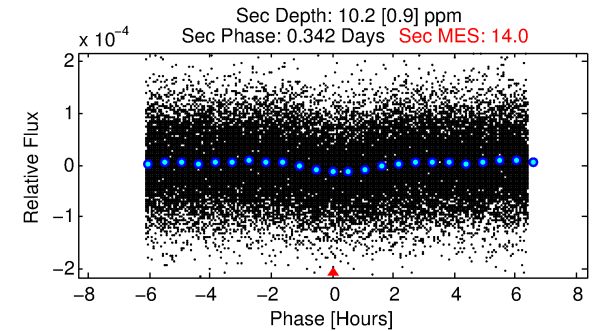
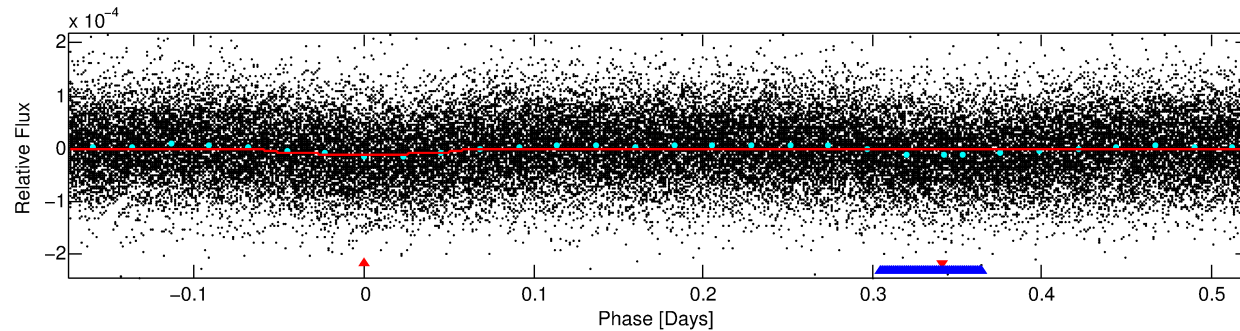
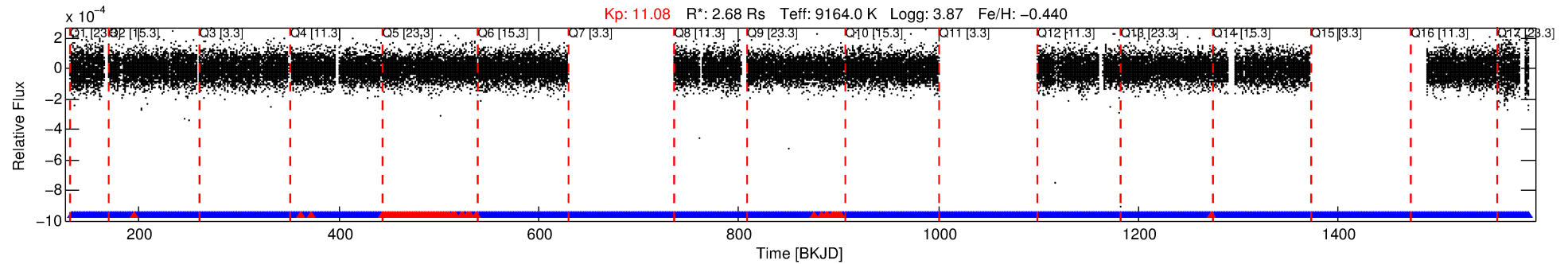
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010814711-01

No Significant Match Found

DV One-Page Summary

KIC: 10814711 Candidate: 1 of 2 Period: 0.696 d



DV Fit Results:

Period = 0.69567 [0.00001] d
Epoch = 131.9565 [0.0023] BKJD
Rp/R* = 0.0034 [0.0006]
a/R* = 1.27 [0.56]
b = 0.90 [0.24]
Seff = 124359.40 [75561.62]
Teq = 4788 [727] K
Rp = 0.99 [0.41] Re
a = 0.0191 [0.0070] AU
Ag = 2.08 [1.40] [0.77σ]
Teffp = 8887 [831] K [3.71σ]

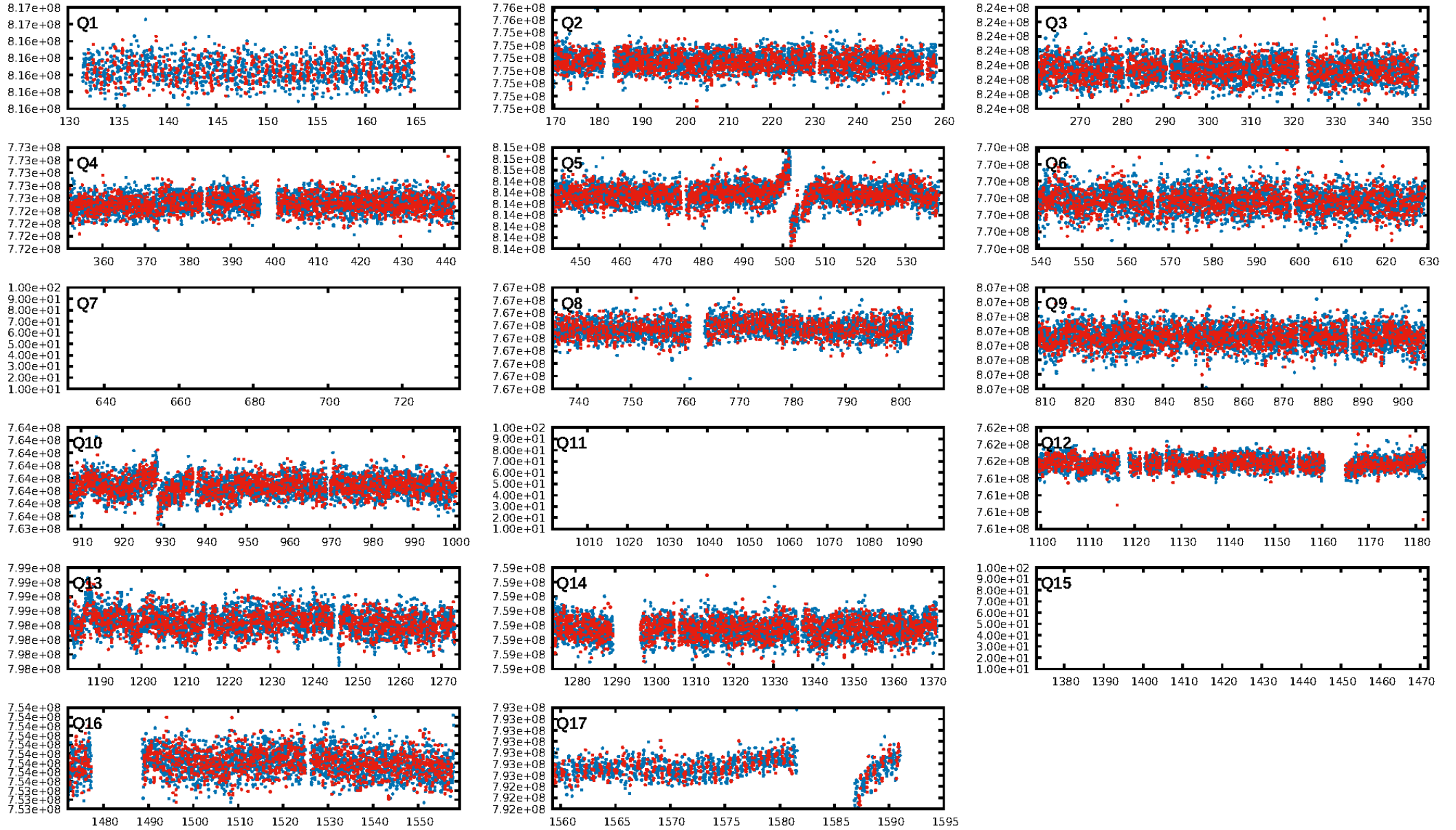
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [1348/1451]
GhostDiagnostic-chr: -12.26
Centroid-sig: 0.3%
Centroid-so: 2.522 arcsec [2.53σ]
OotOffset-rm: 0.859 arcsec [1.96σ]
OotOffset-st: 3/1/4/5 [13]
KicOffset-rm: 0.882 arcsec [1.92σ]
KicOffset-st: 3/1/4/5 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 0.00 [0/14]

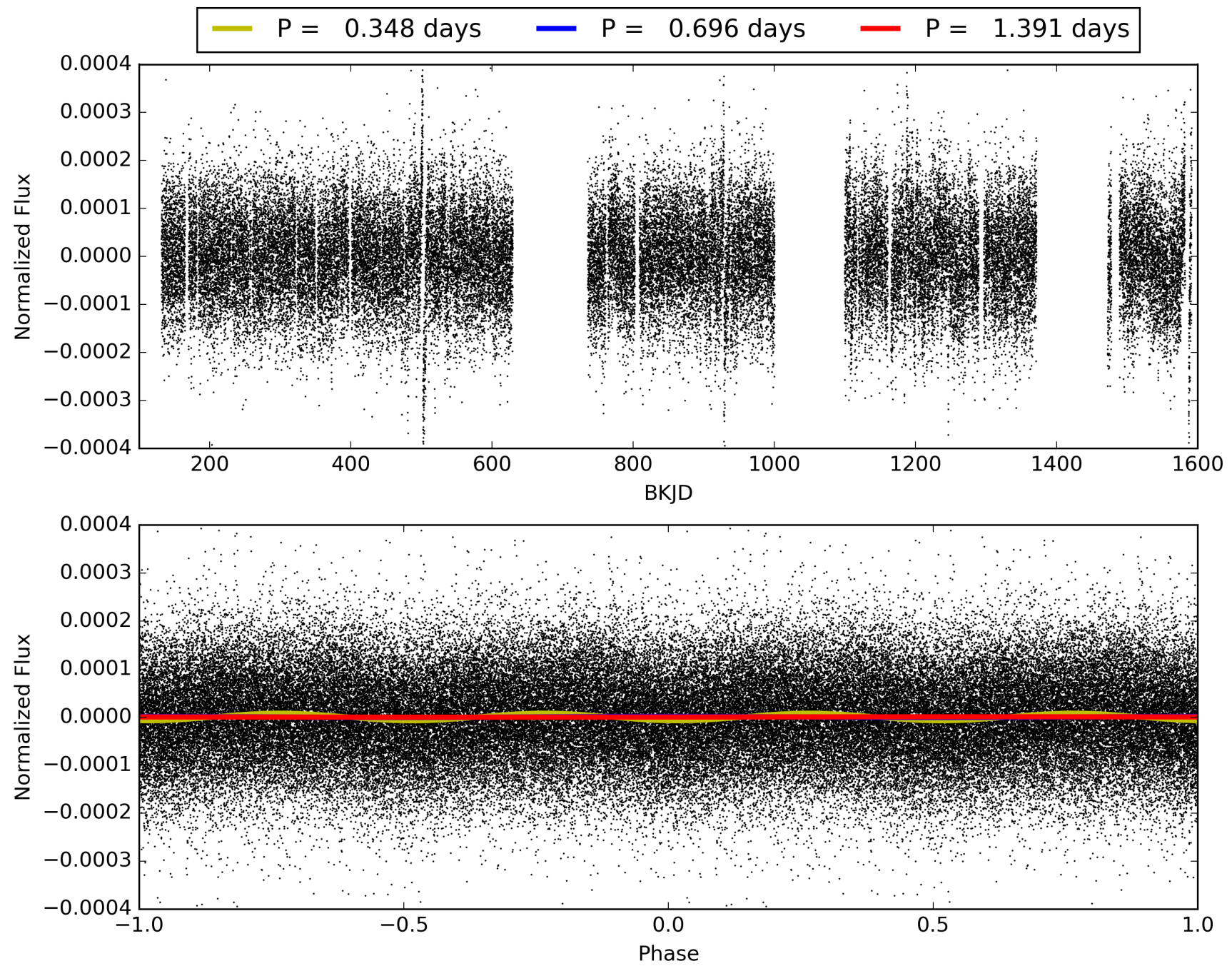
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:41:04 Z

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

TCE 010814711-01, PDC Light Curves

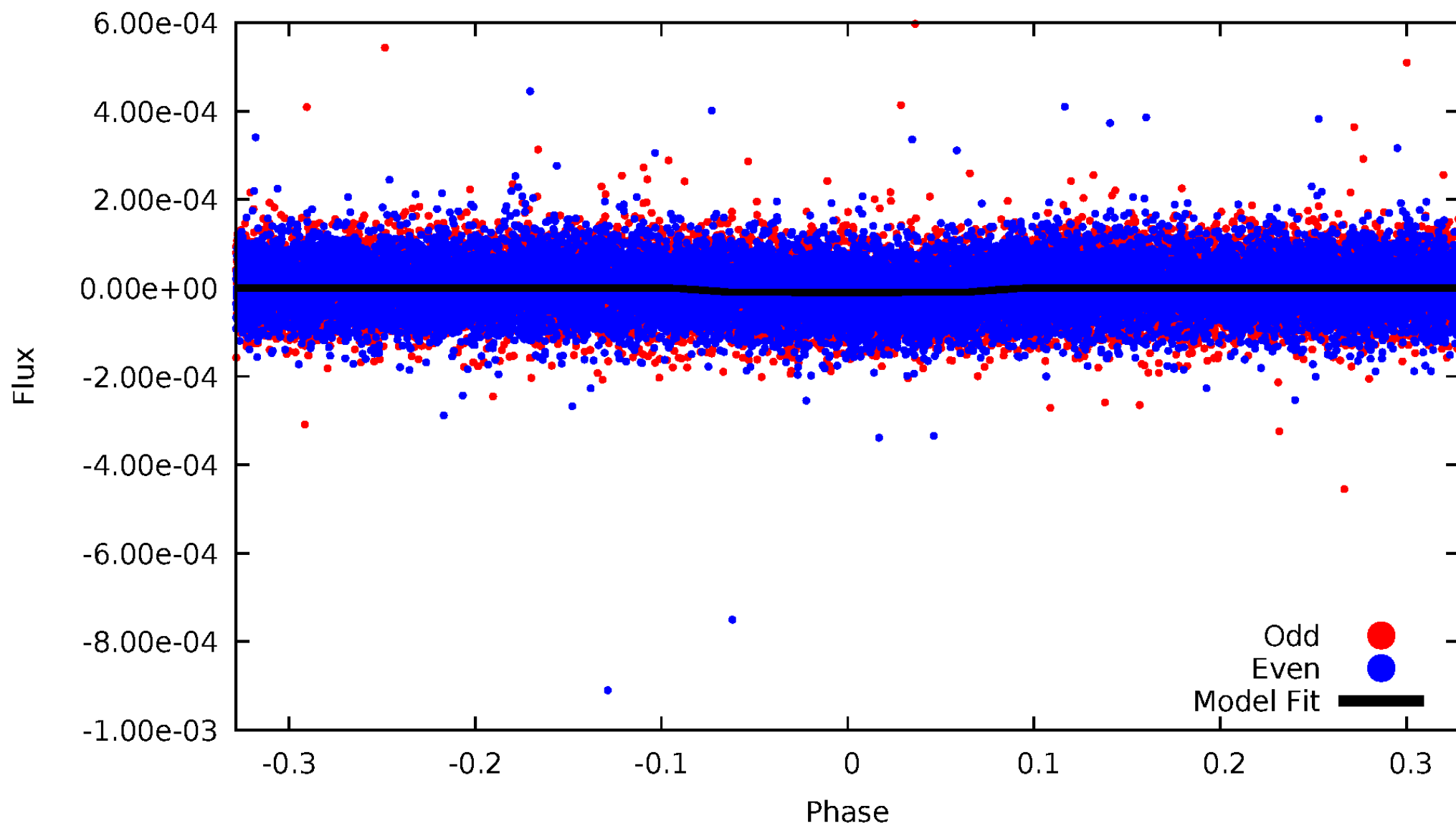


TCE 010814711-01



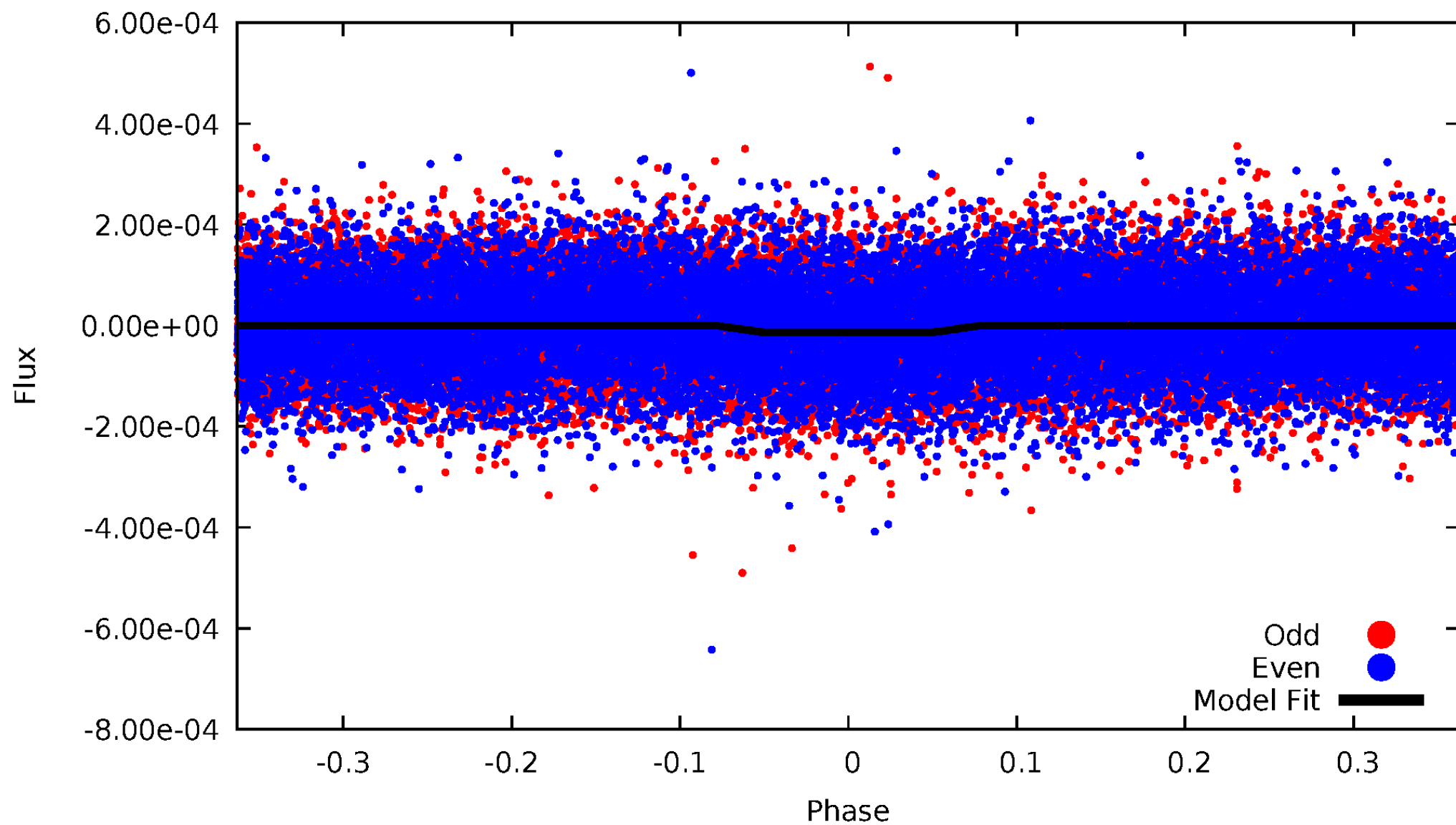
DV Odd/Even

TCE 010814711-01



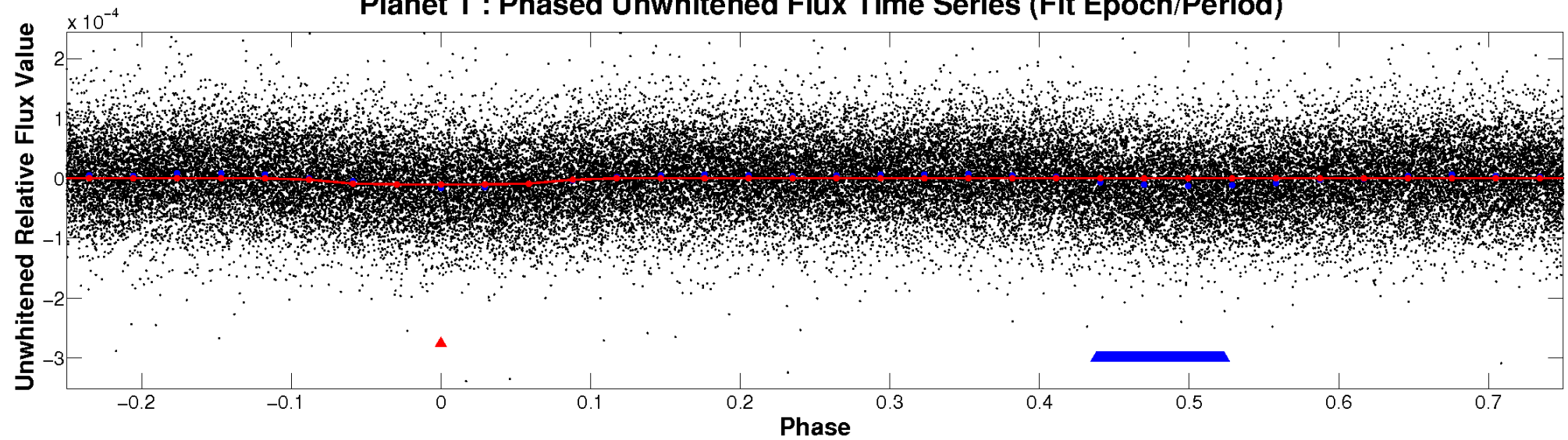
ALT Odd/Even

TCE 010814711-01

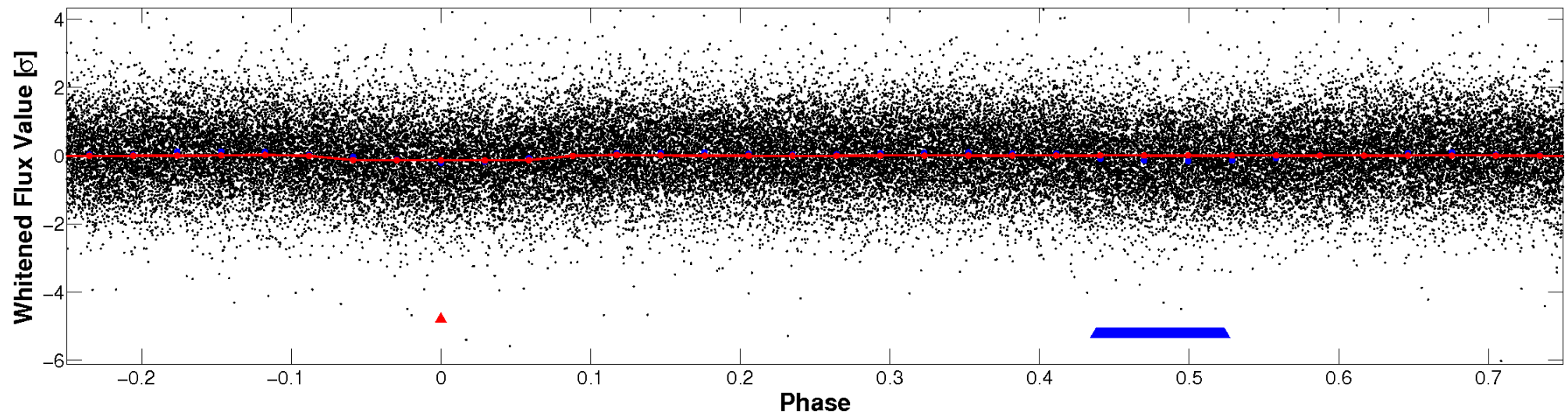


Non-Whitened Vs. Whitened Light Curve

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

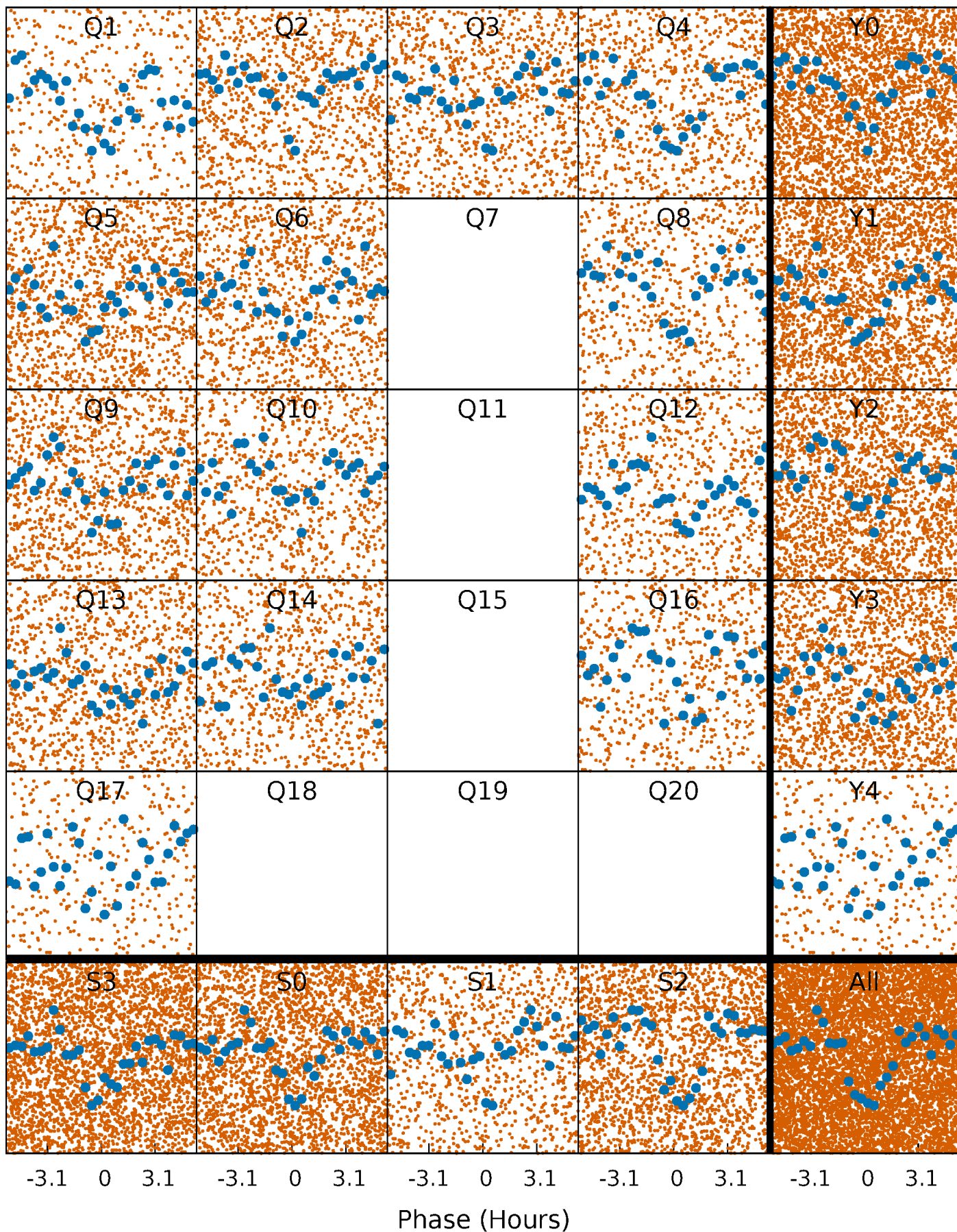


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



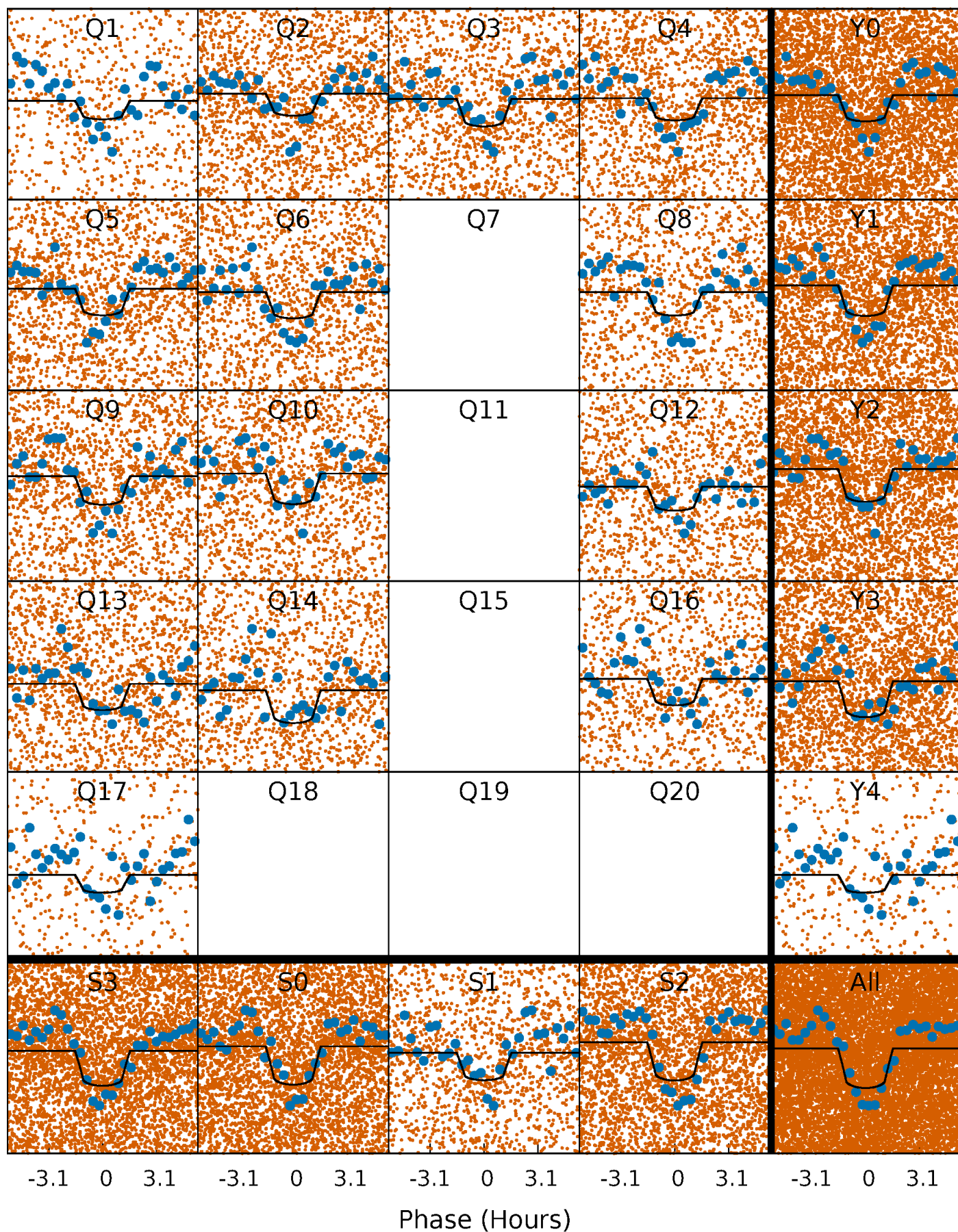
PDC Quarter-Phased Transit Curves

TCE 010814711-01 P= 0.695670 Days $T_0=131.956542$ (BKJD)



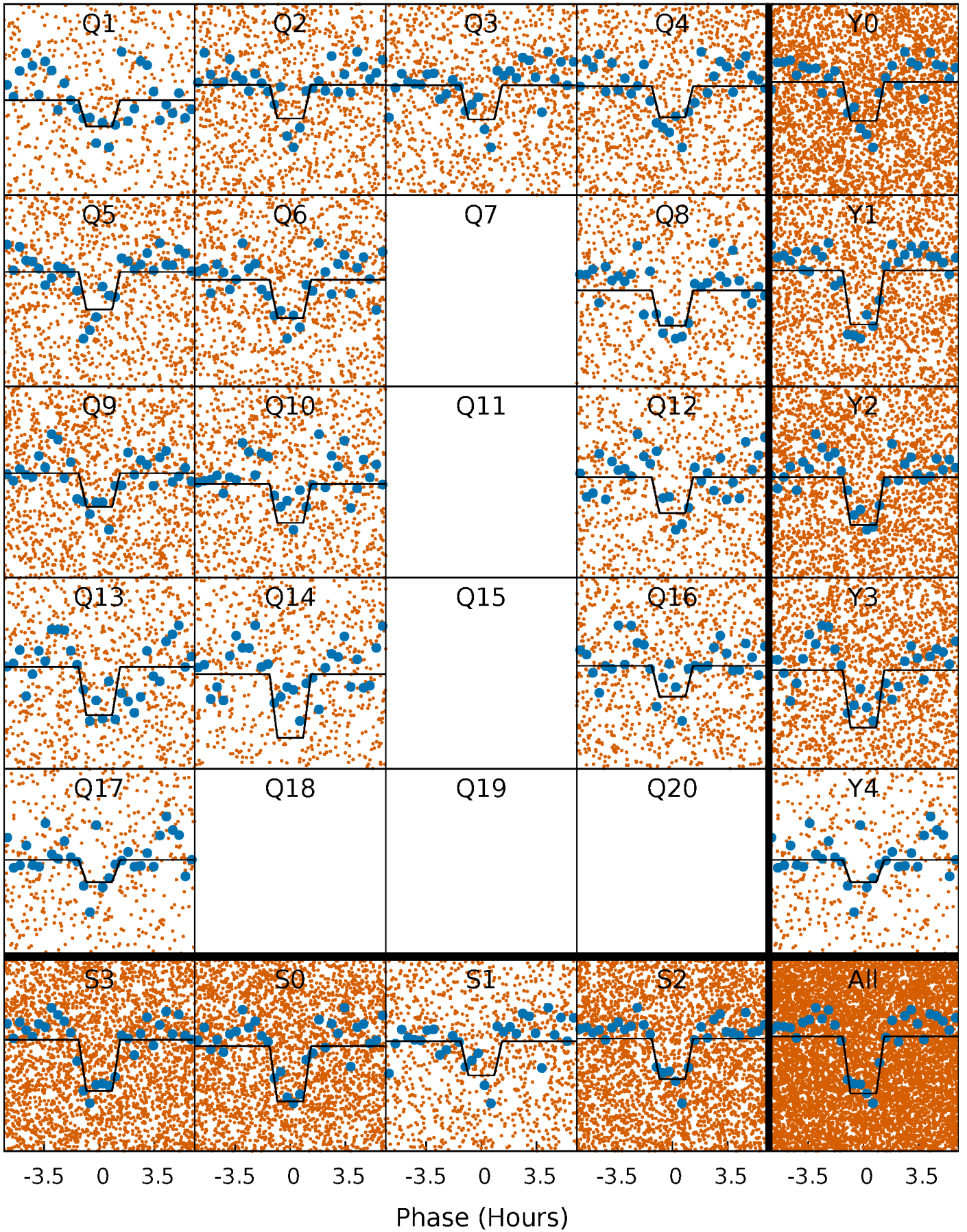
DV Quarter-Phased Transit Curves

TCE 010814711-01 P= 0.695670 Days $T_0=131.956542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

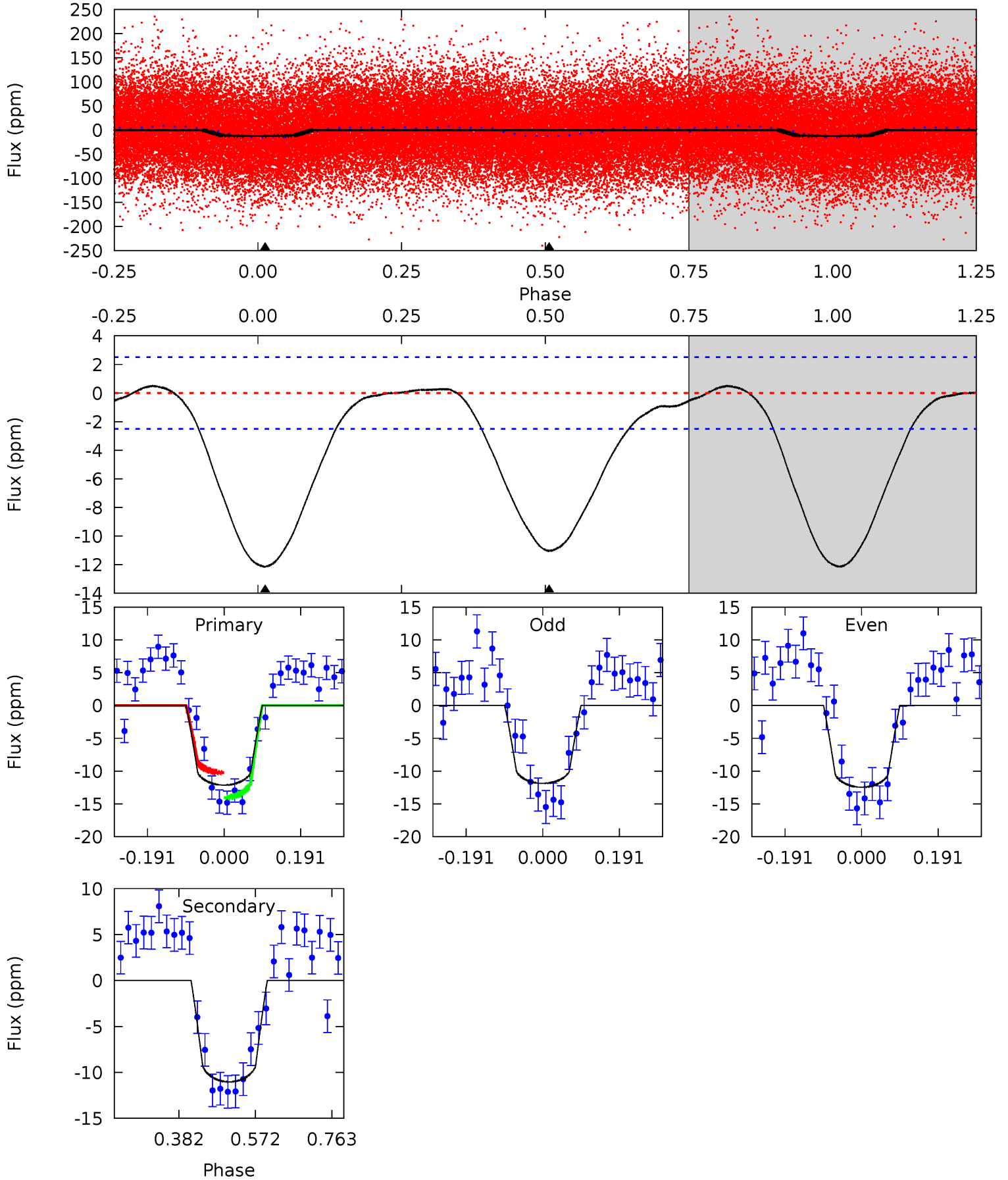
TCE 010814711-01 P= 0.695680 Days $T_0=131.955626$ (BKJD)



DV Model-Shift Uniqueness Test

010814711-01, P = 0.695670 Days, E = 131.260872 Days

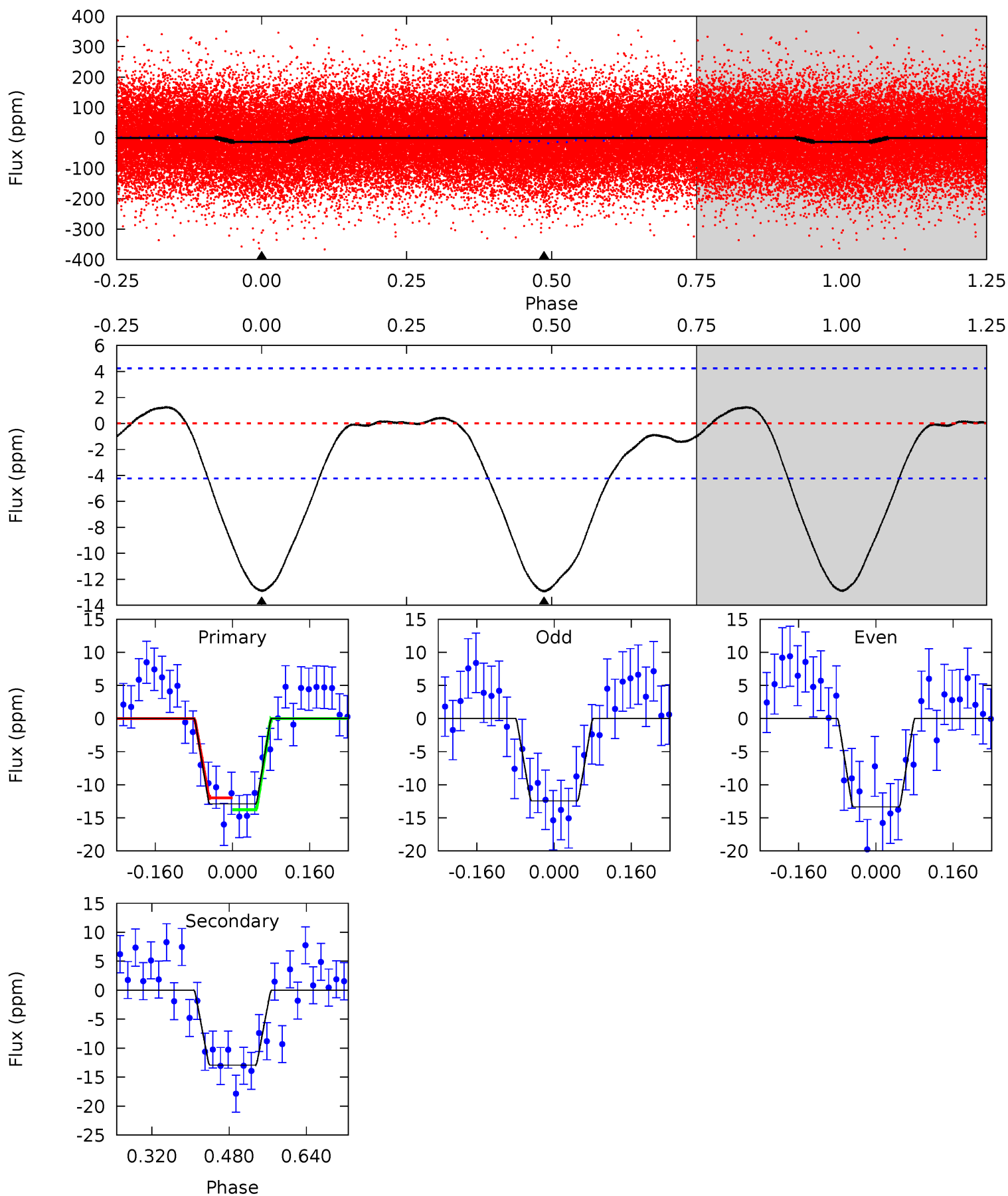
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	19.5	0	0	4.43	1.31	0.77	21.4	21.4	19.5	19.5	0.52	0.96	0.04	3.34



Alt Model-Shift Uniqueness Test

010814711-01, P = 0.695680 Days, E = 131.259946 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	13.6	0	0	4.47	1.41	0.80	13.6	13.6	13.6	13.6	0.48	1.11	0.09	0.94



Stellar Parameters For KIC 010814711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9164^{+317}_{-381}	$3.865^{+0.343}_{-0.147}$	$-0.440^{+0.550}_{-0.300}$	$2.679^{+0.834}_{-1.019}$	$1.919^{+0.584}_{-0.315}$	$0.141^{+0.376}_{-0.059}$
	+3%/-4%	+9%/-4%	+125%/-68%	+31%/-38%	+30%/-16%	+267%/-42%
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 010814711-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 1	$0.98^{+0.28}_{-0.25}$	6550^{+555}_{-659}	8528^{+1445}_{-927}	$2.427^{+1.786}_{-0.840}$
Alt.	-13 ± 1	$1.06^{+0.27}_{-0.25}$	6574^{+539}_{-686}	8521^{+1260}_{-983}	$2.370^{+1.691}_{-0.796}$

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

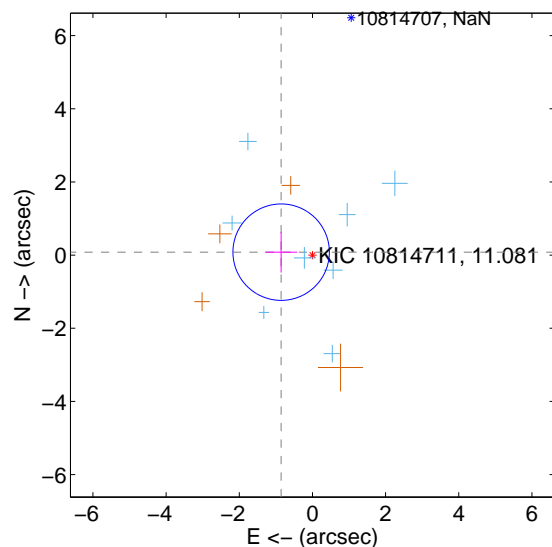
Supplemental centroid analysis for 010814711-01. **Kepler magnitude: 11.08.** Transit SNR 11.65

There are 8 quarters with good PRF difference image offsets

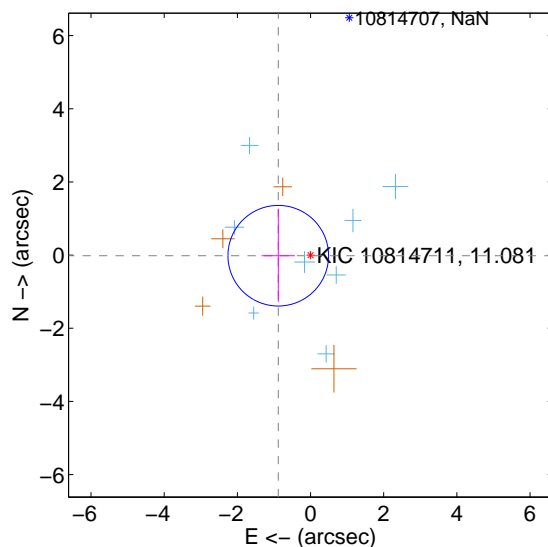
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.859 ± 0.439	1.96	0.855 ± 0.438	0.080 ± 0.557
PRF-fit source offset from KIC position	0.882 ± 0.458	1.92	0.882 ± 0.454	-0.017 ± 1.263
photometric centroid source offset	2.52 ± 1.00	2.53	2.36 ± 1.01	-0.90 ± 0.90

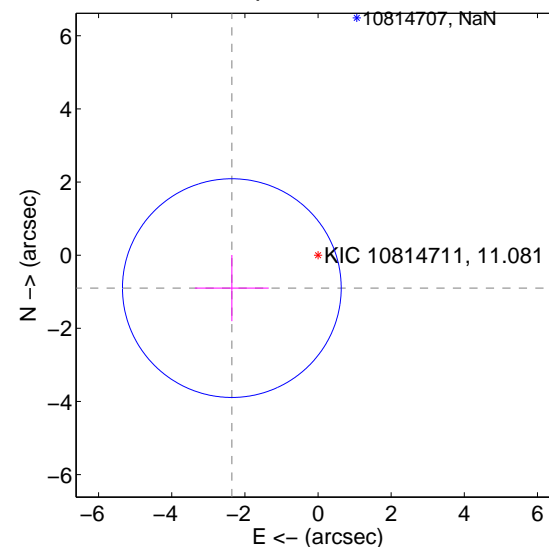
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

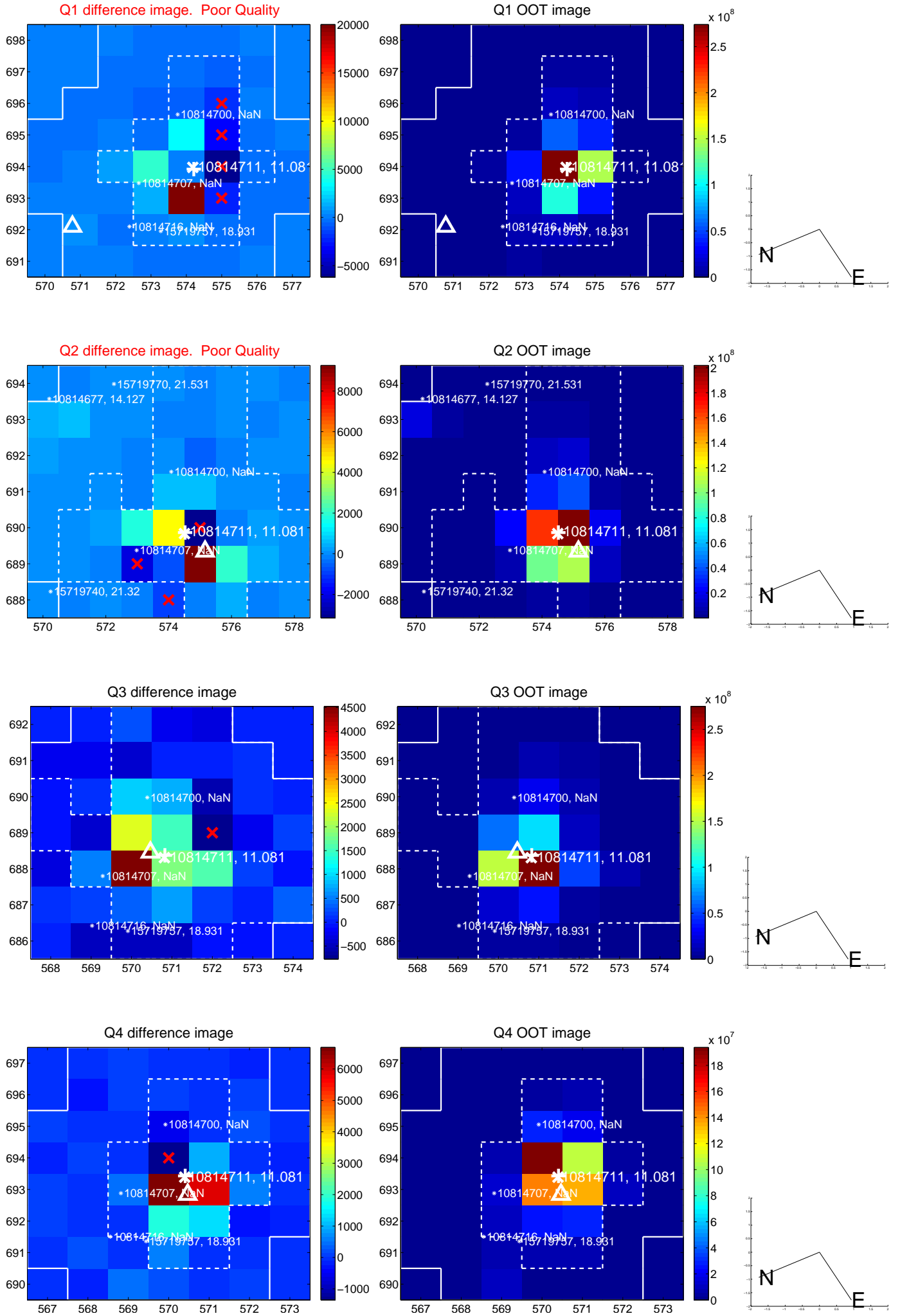


offset from photometric centroids

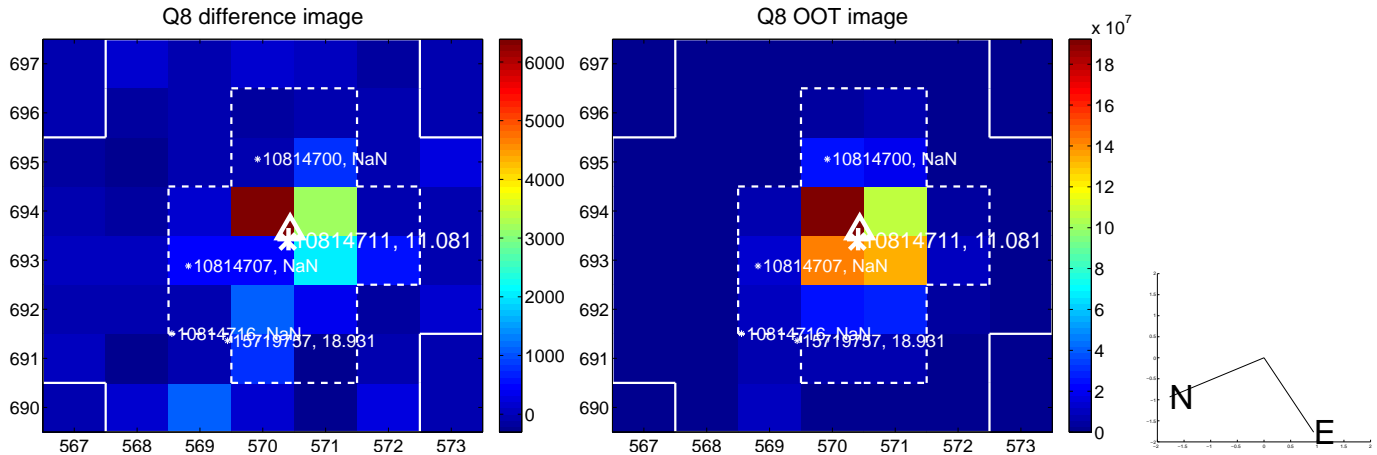
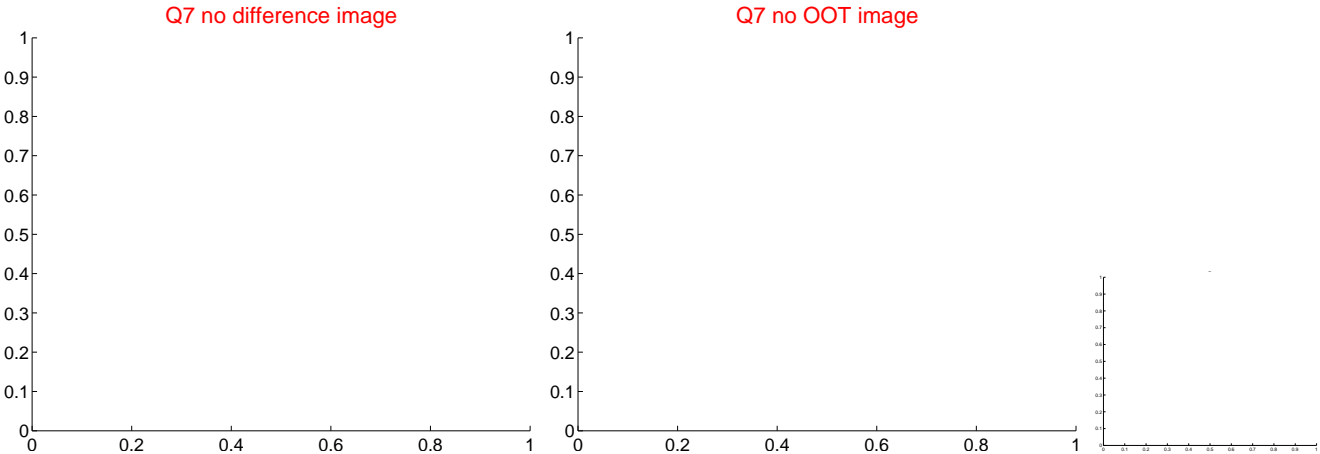
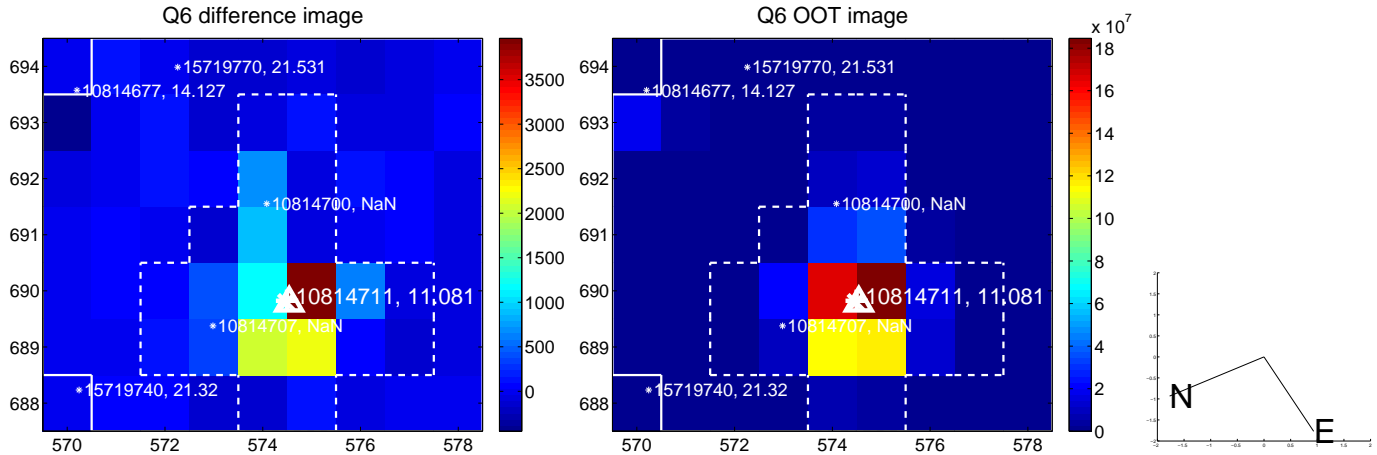
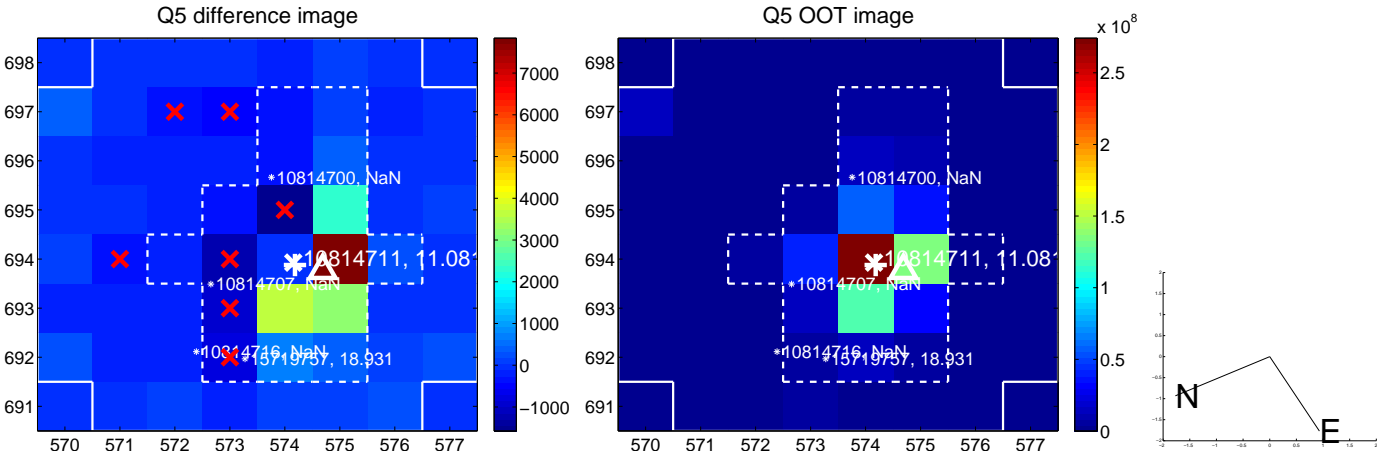


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

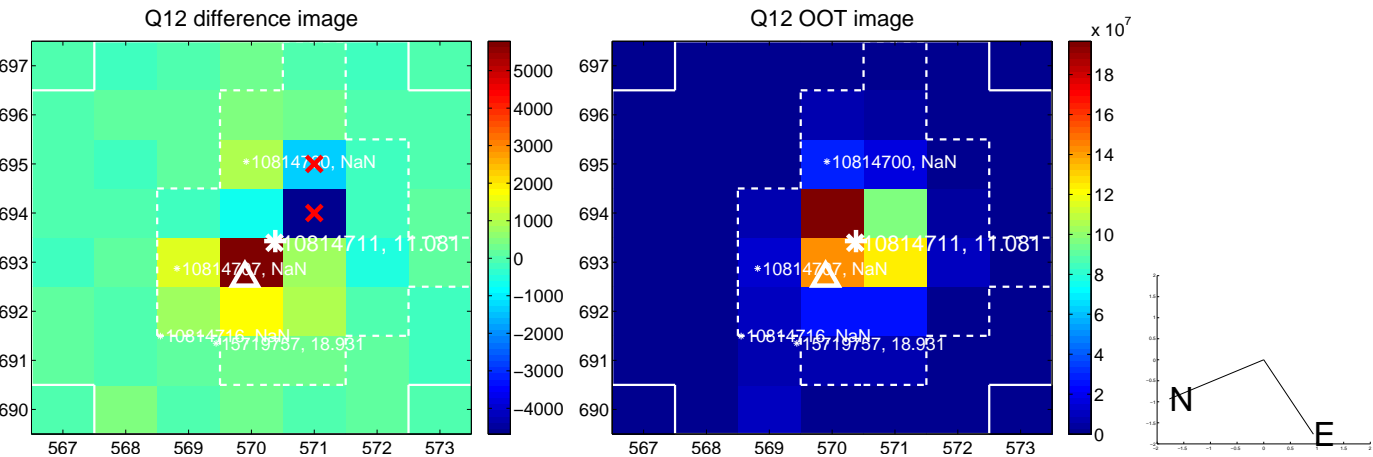
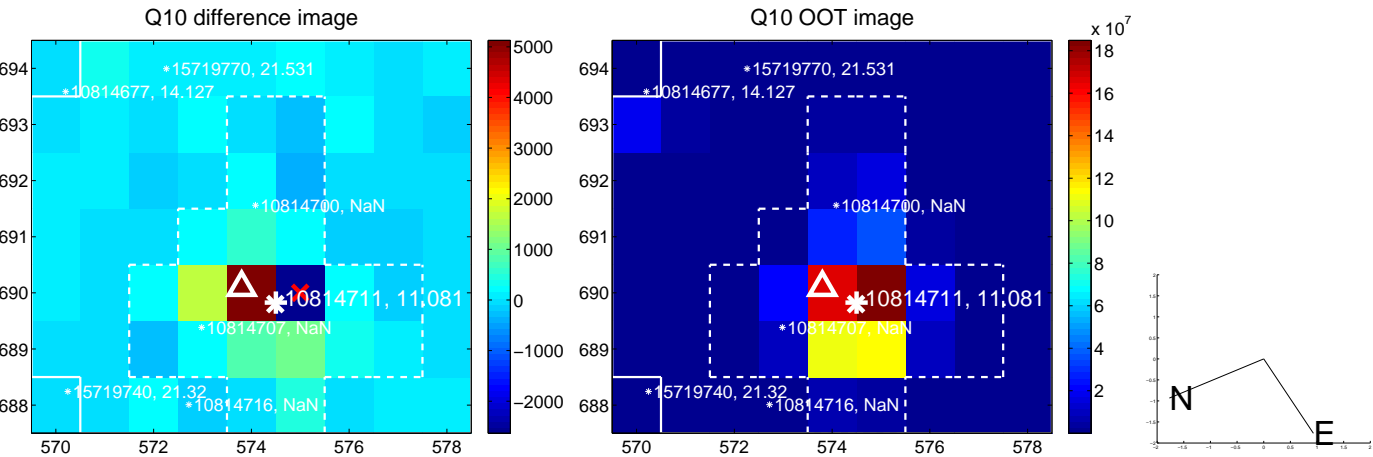
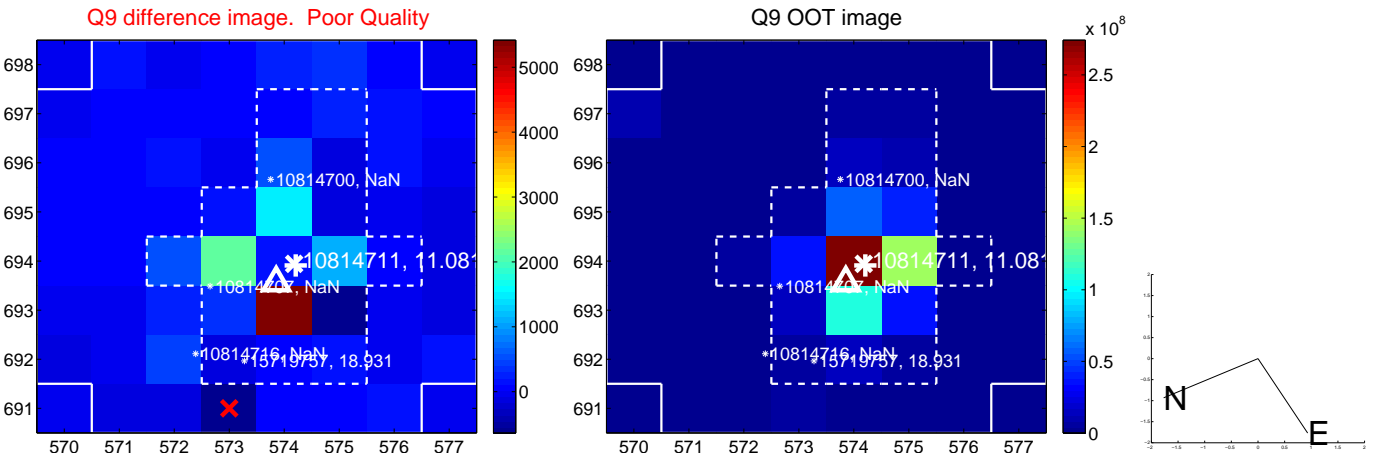
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



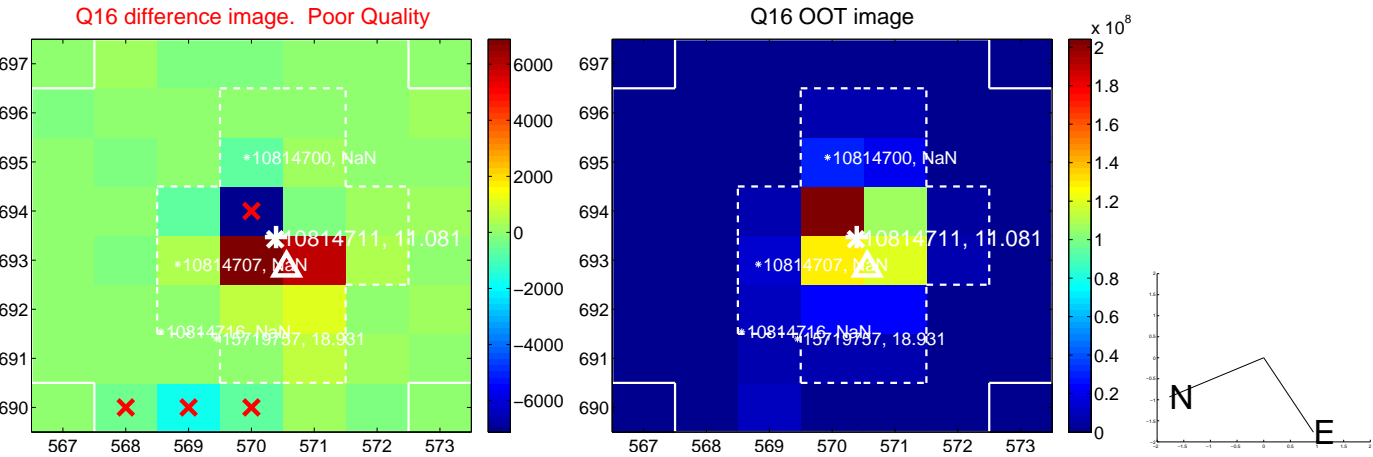
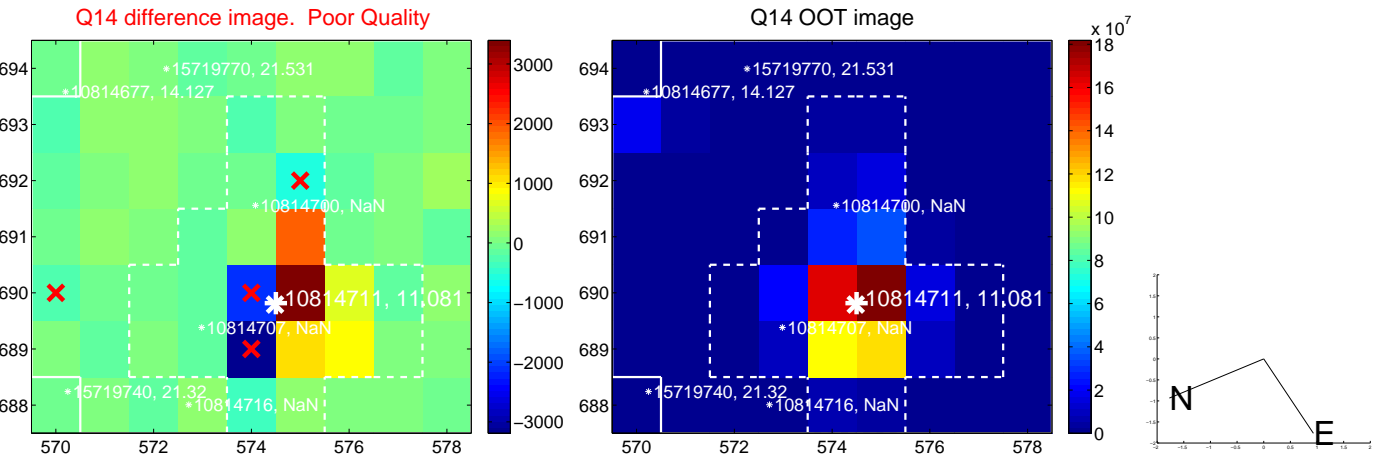
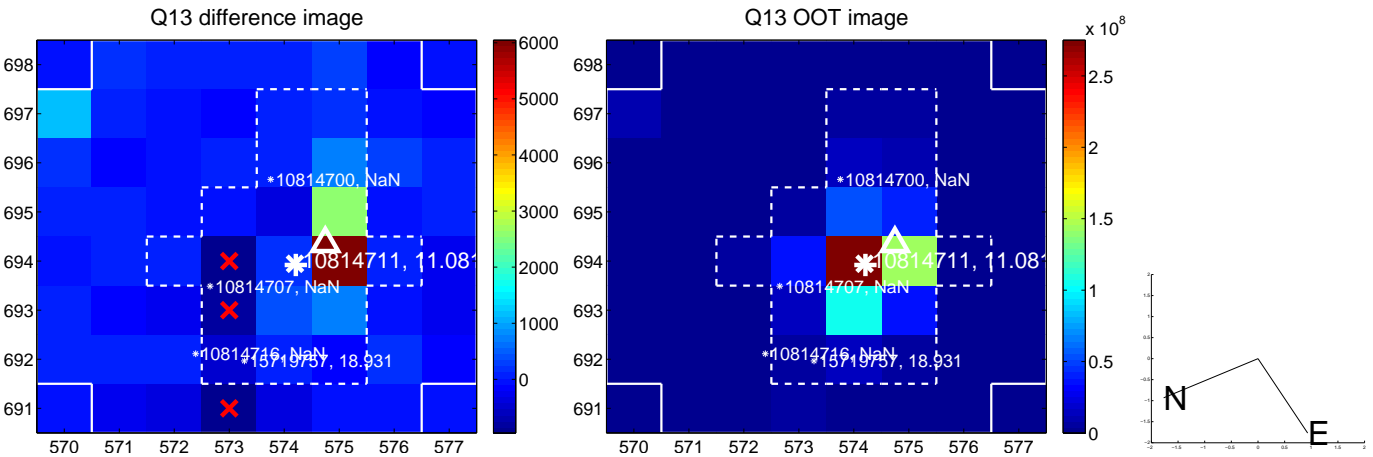
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



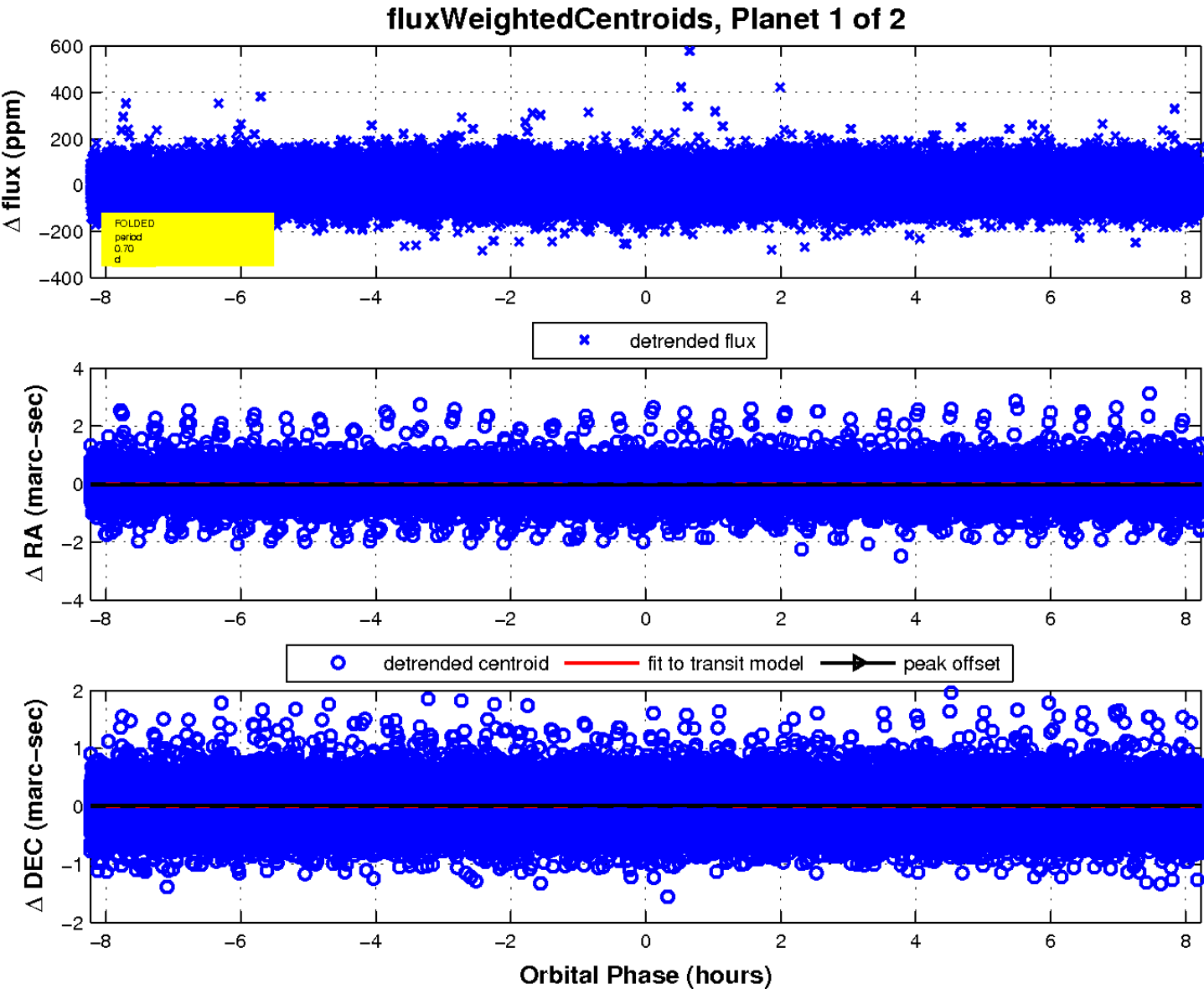
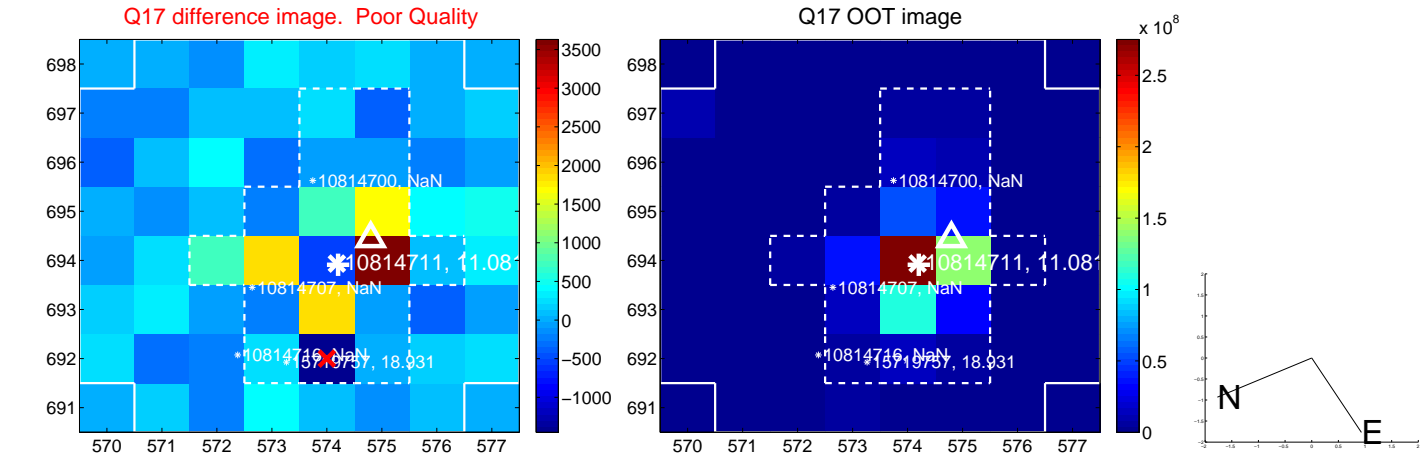
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



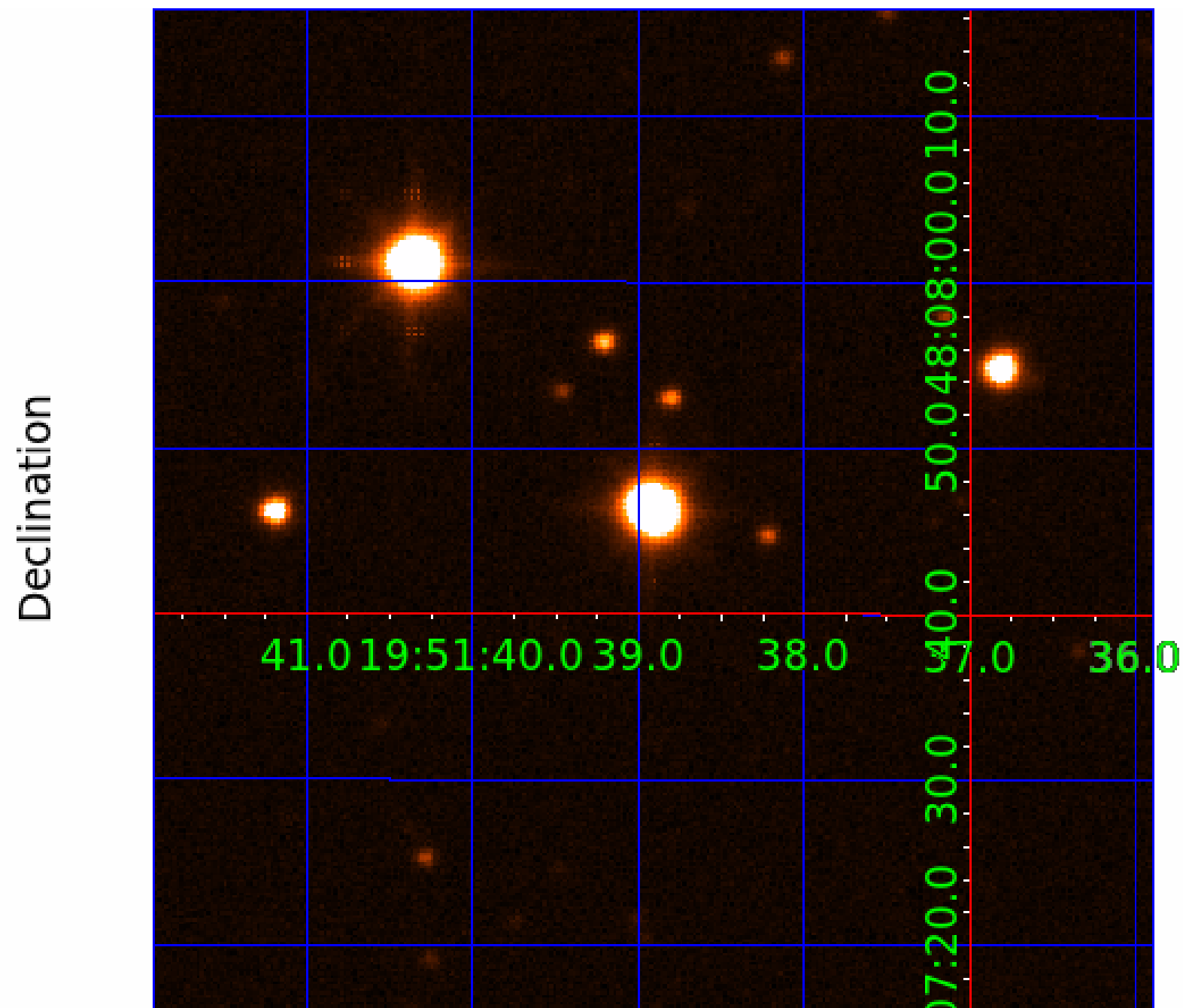
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010814711

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})
010814711-01	OBS	No	0.695670	131.956542	10.3	2.743	11.2	11.6	2.68	9164	0.99	124359.40
010814711-02	OBS	No	0.695642	131.624986	5.9	3.745	12.1	8.7	2.68	9164	0.68	124366.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010814711-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
010814711-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

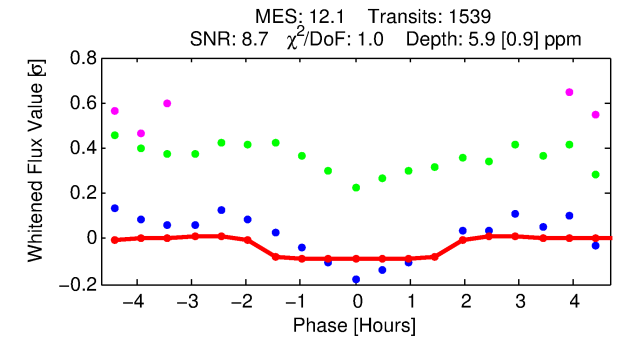
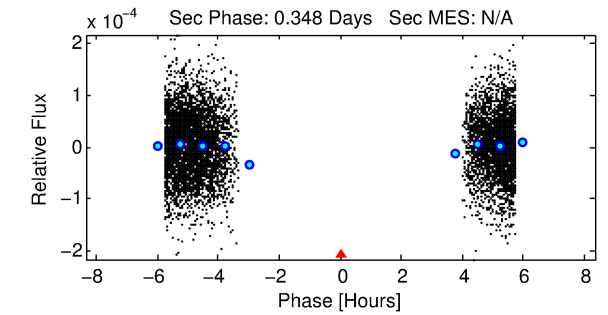
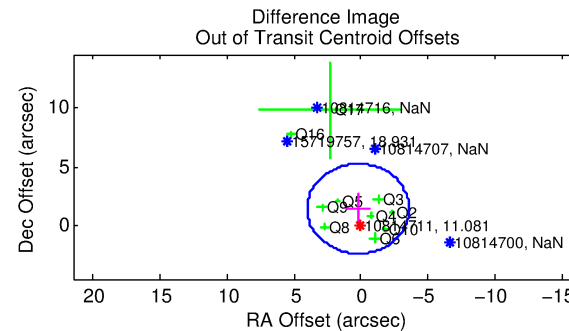
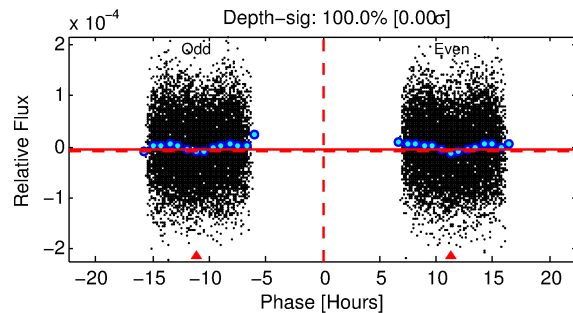
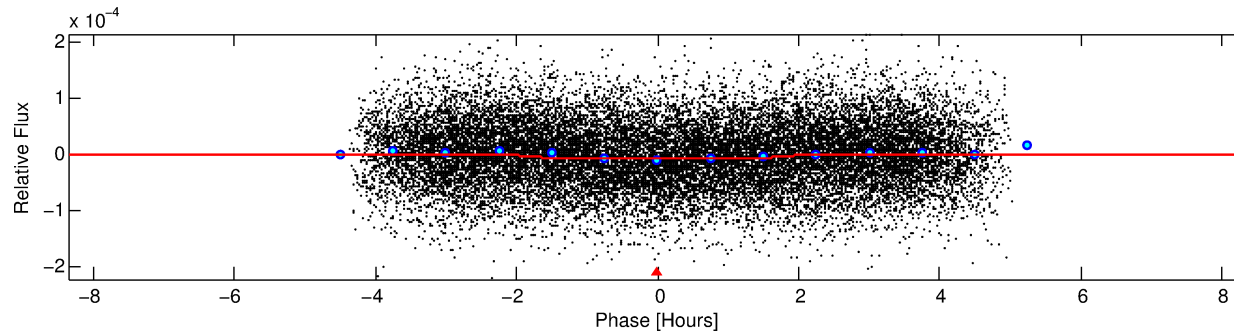
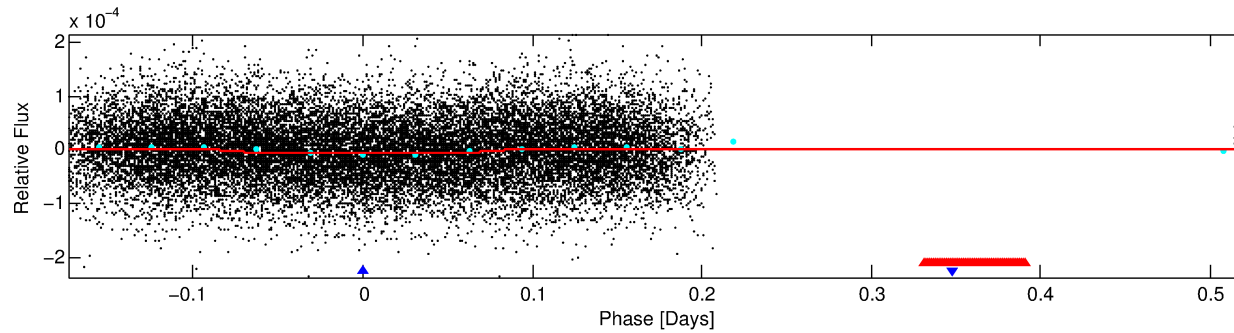
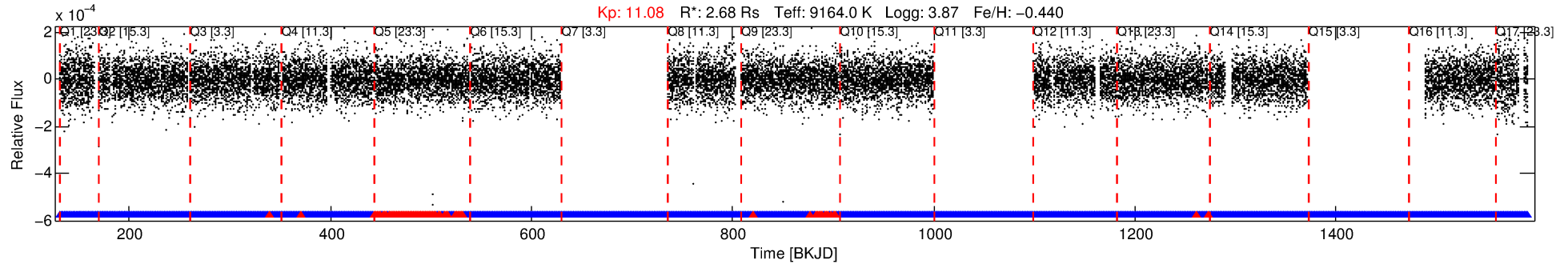
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010814711-02

No Significant Match Found

DV One-Page Summary

KIC: 10814711 Candidate: 2 of 2 Period: 0.696 d



DV Fit Results:

Period = 0.69564 [0.00001] d
Epoch = 131.6250 [0.0044] BKJD
Rp/R* = 0.0023 [0.0005]
a/R* = 1.43 [0.90]
b = 0.50 [1.85]
Seff = 124366.16 [75565.73]
Teq = 4789 [727] K
Rp = 0.68 [0.29] Re
a = 0.0191 [0.0070] AU

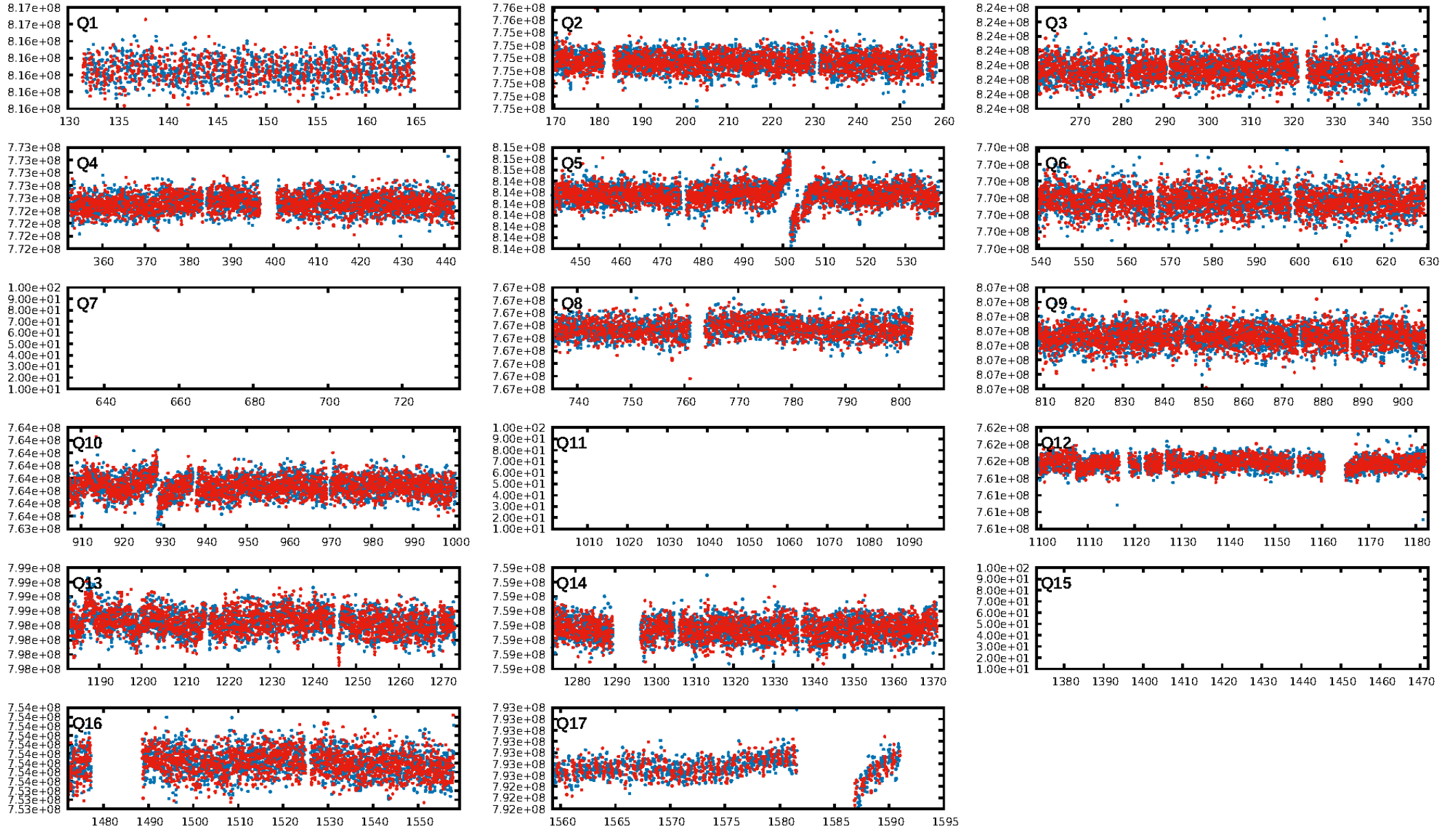
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [1342/1451]
GhostDiagnostic-chr: 8.551
Centroid-sig: 4.6%
Centroid-so: 2.918 arcsec [1.85σ]
OotOffset-rm: 1.458 arcsec [1.15σ]
KicOffset-rm: 1.394 arcsec [1.33σ]
OotOffset-st: 3/1/3/3 [10]
KicOffset-st: 3/1/3/3 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 0.00 [0/14]

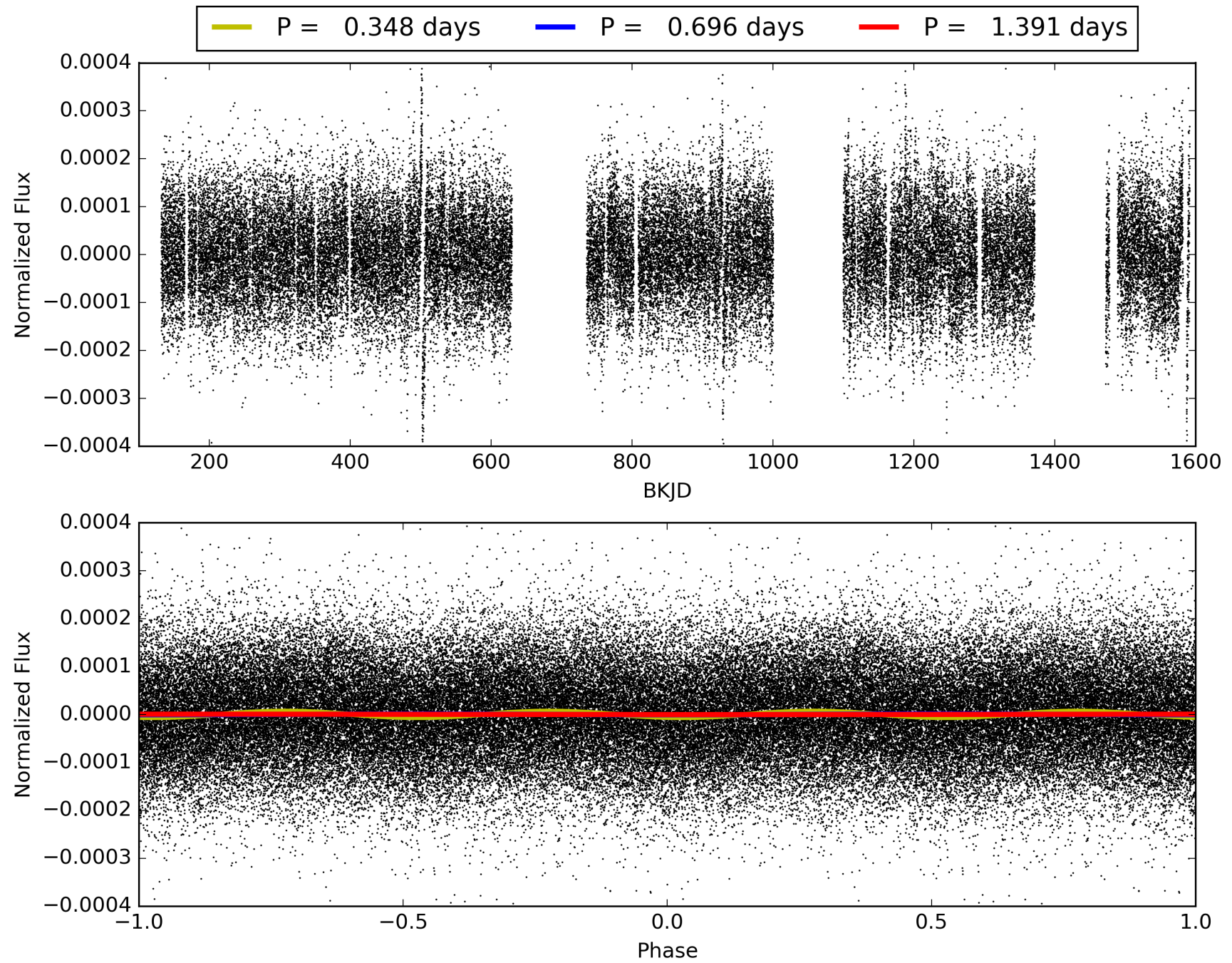
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:41:17 Z

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

TCE 010814711-02, PDC Light Curves

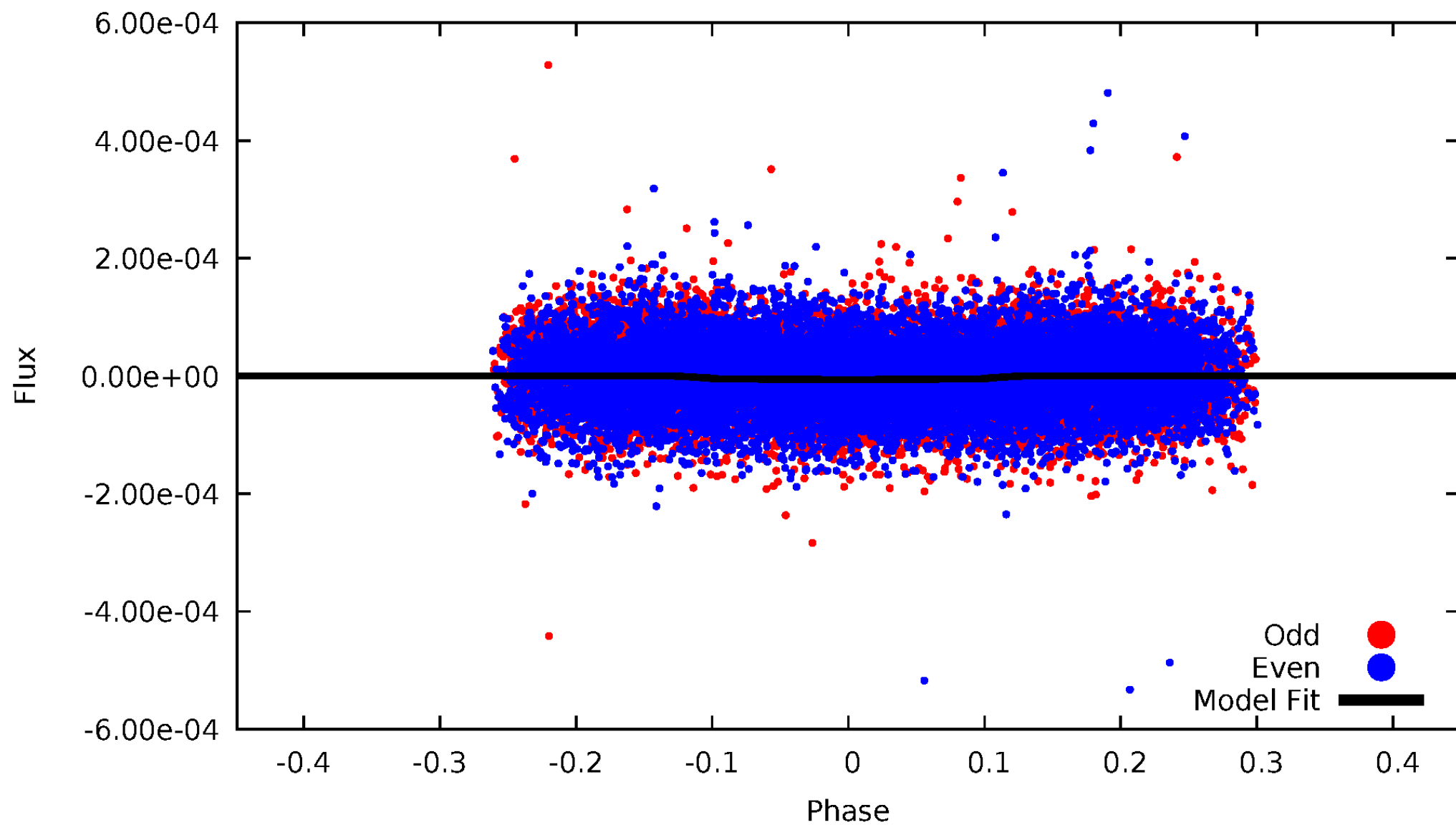


TCE 010814711-02



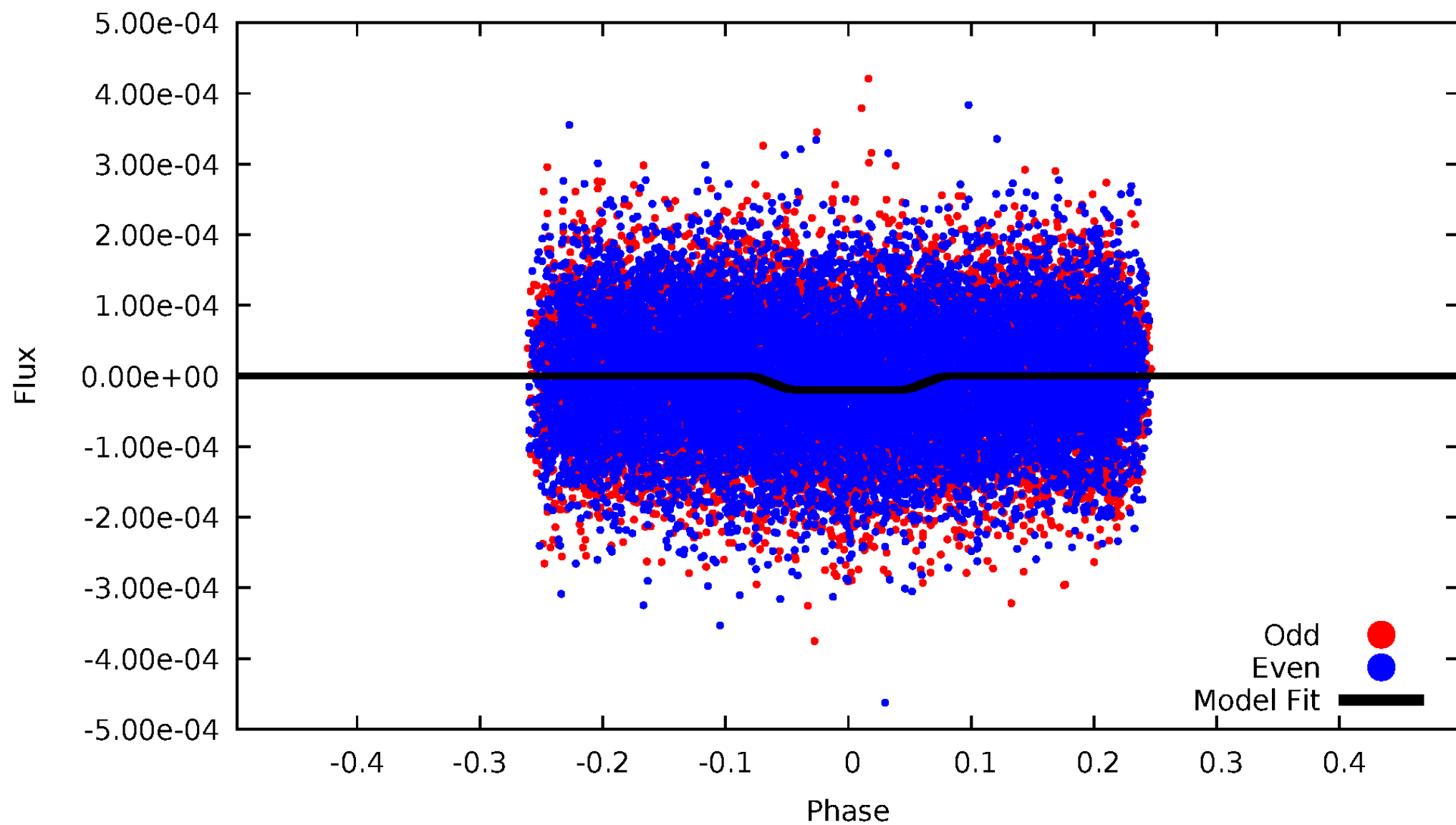
DV Odd/Even

TCE 010814711-02



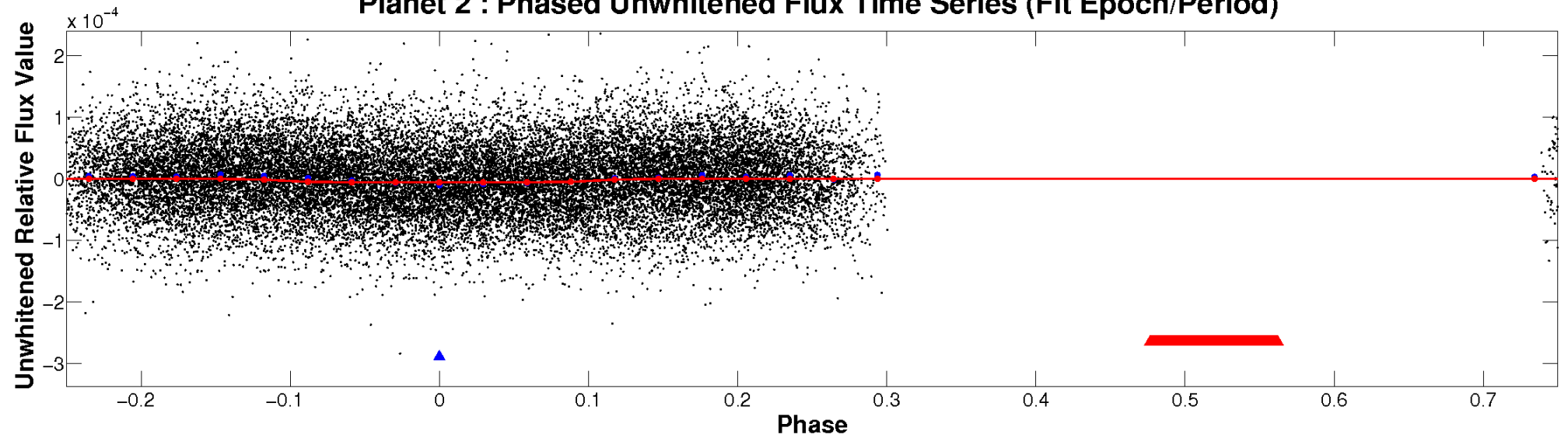
ALT Odd/Even

TCE 010814711-02

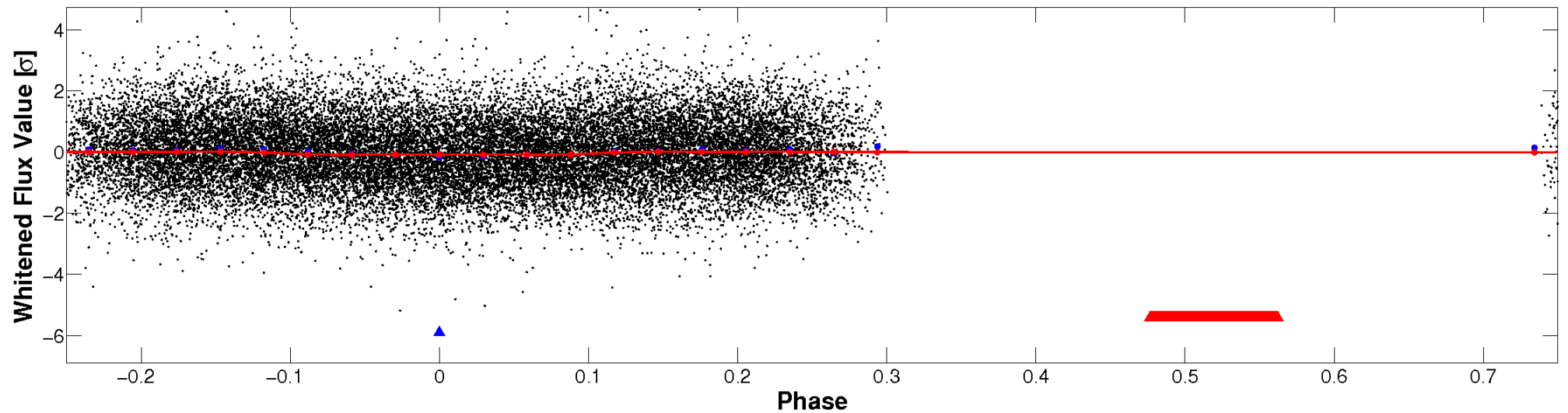


Non-Whitened Vs. Whitened Light Curve

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

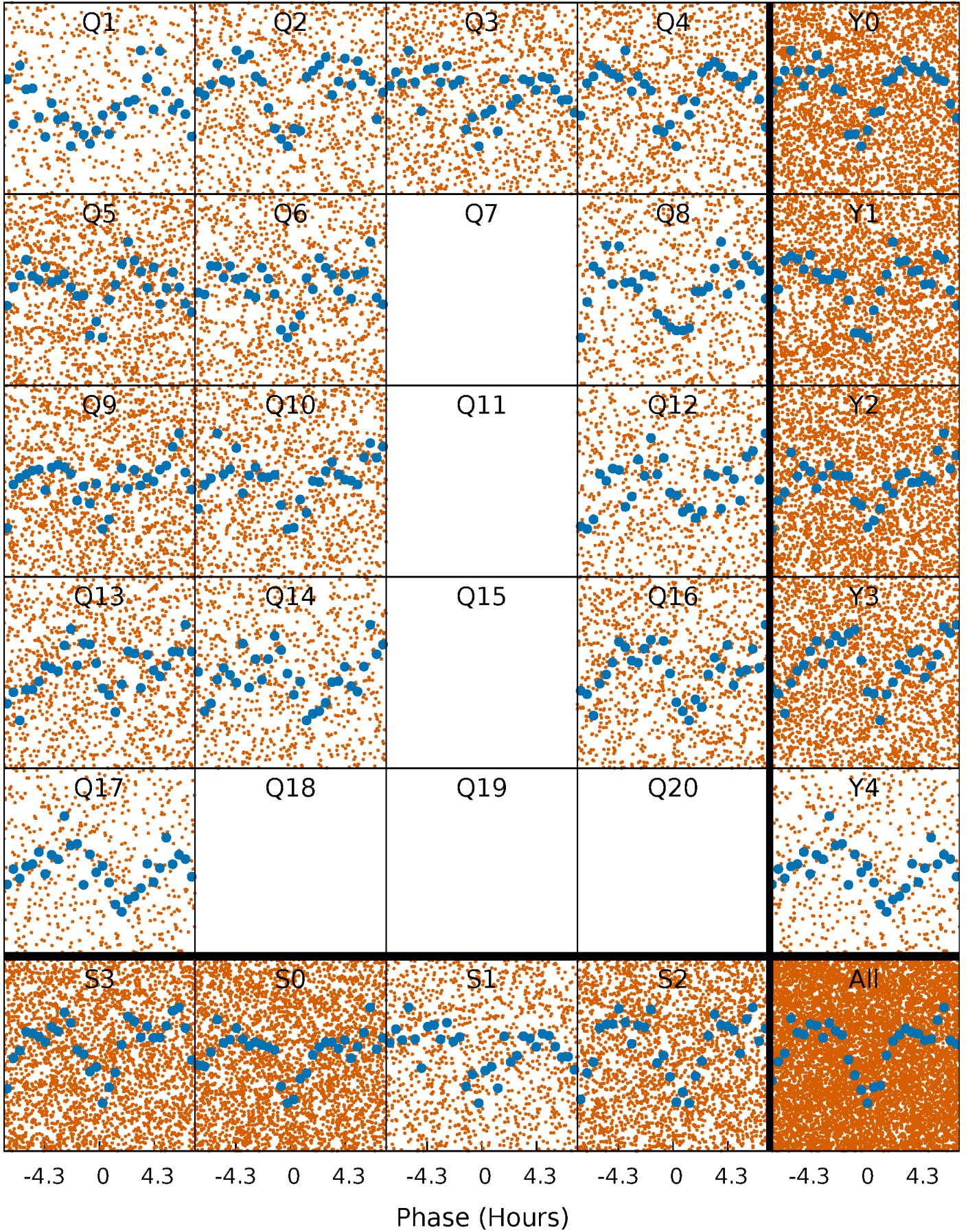


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



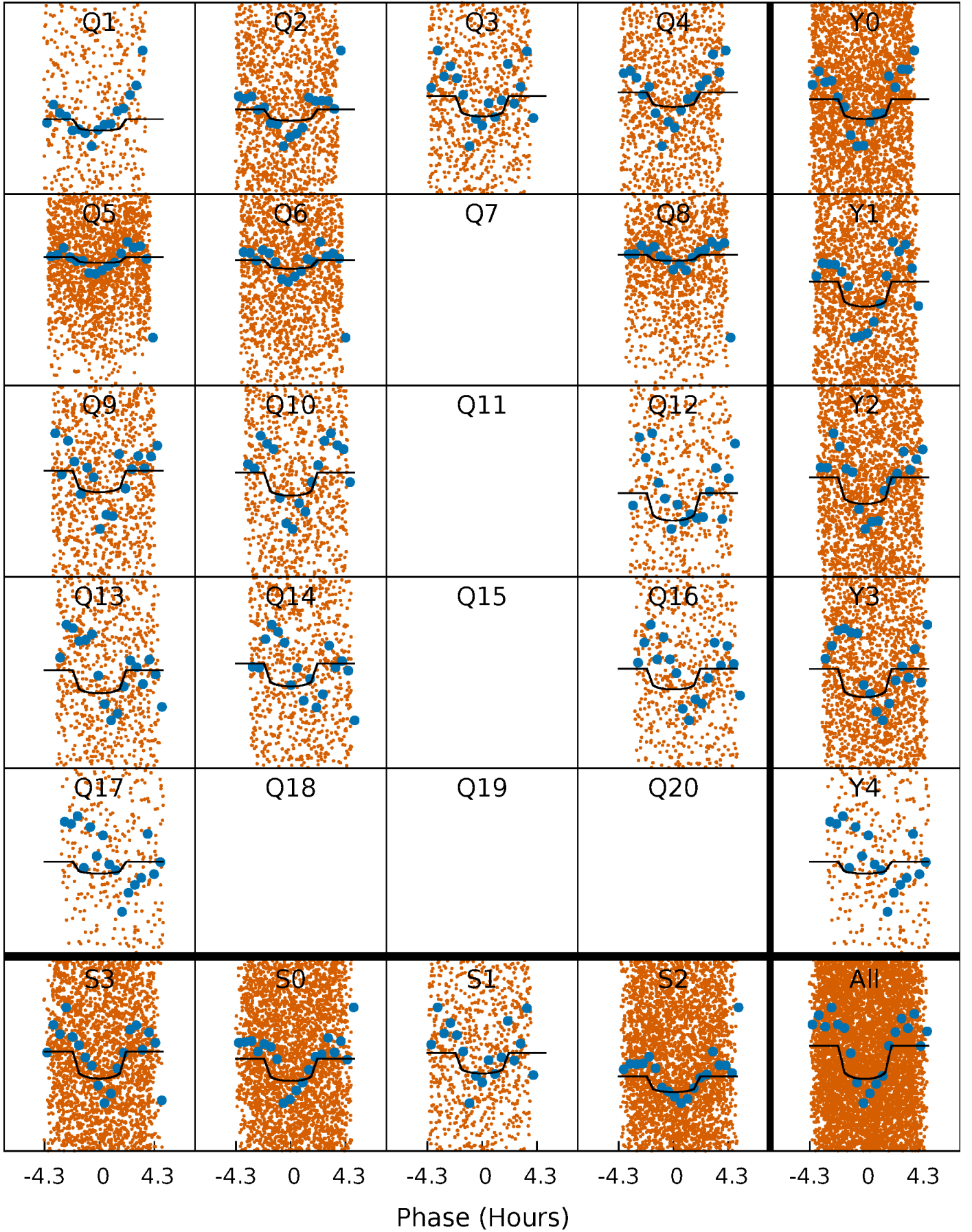
PDC Quarter-Phased Transit Curves

TCE 010814711-02 P= 0.695642 Days $T_0=131.624986$ (BKJD)



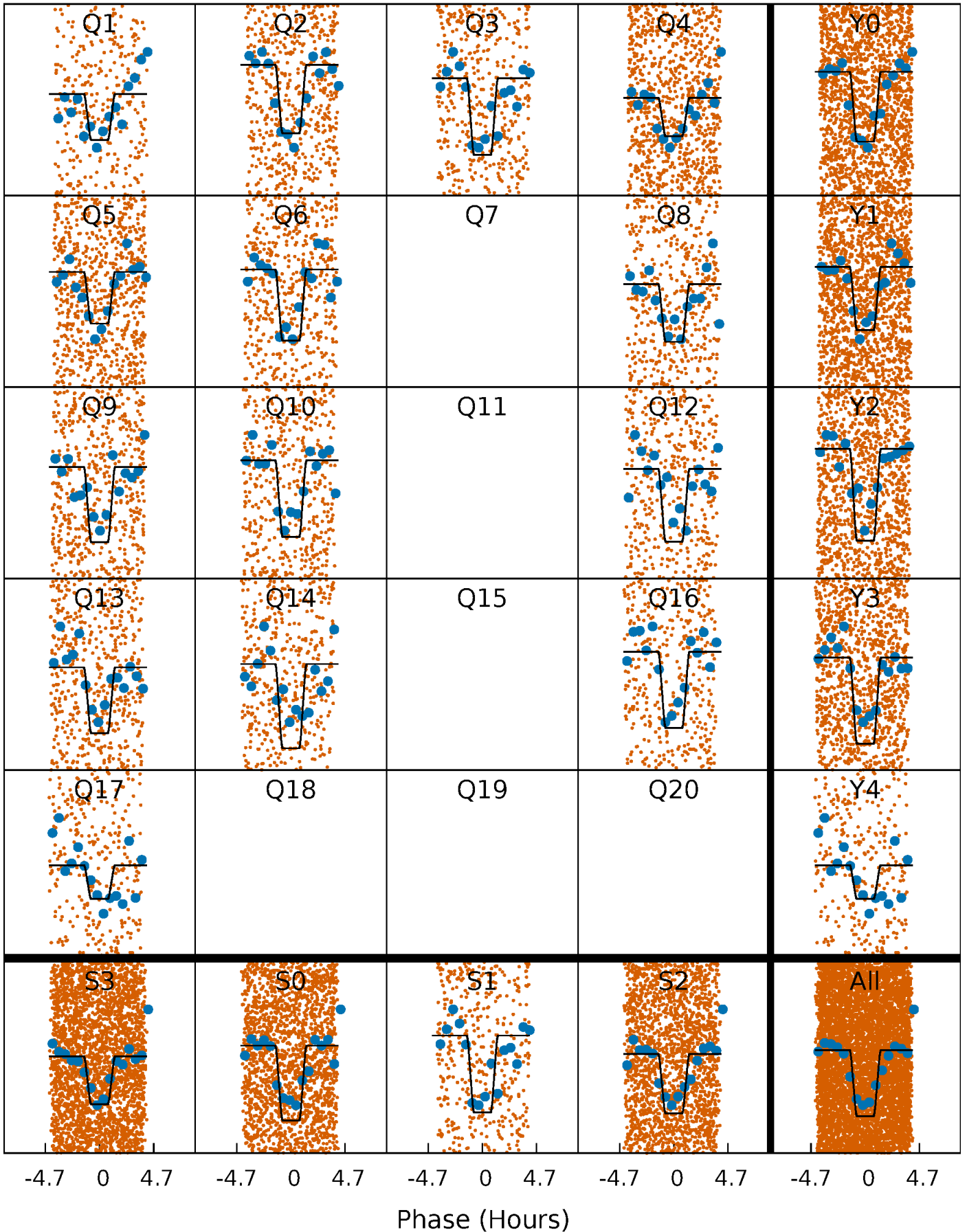
DV Quarter-Phased Transit Curves

TCE 010814711-02 P= 0.695642 Days $T_0=131.624986$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

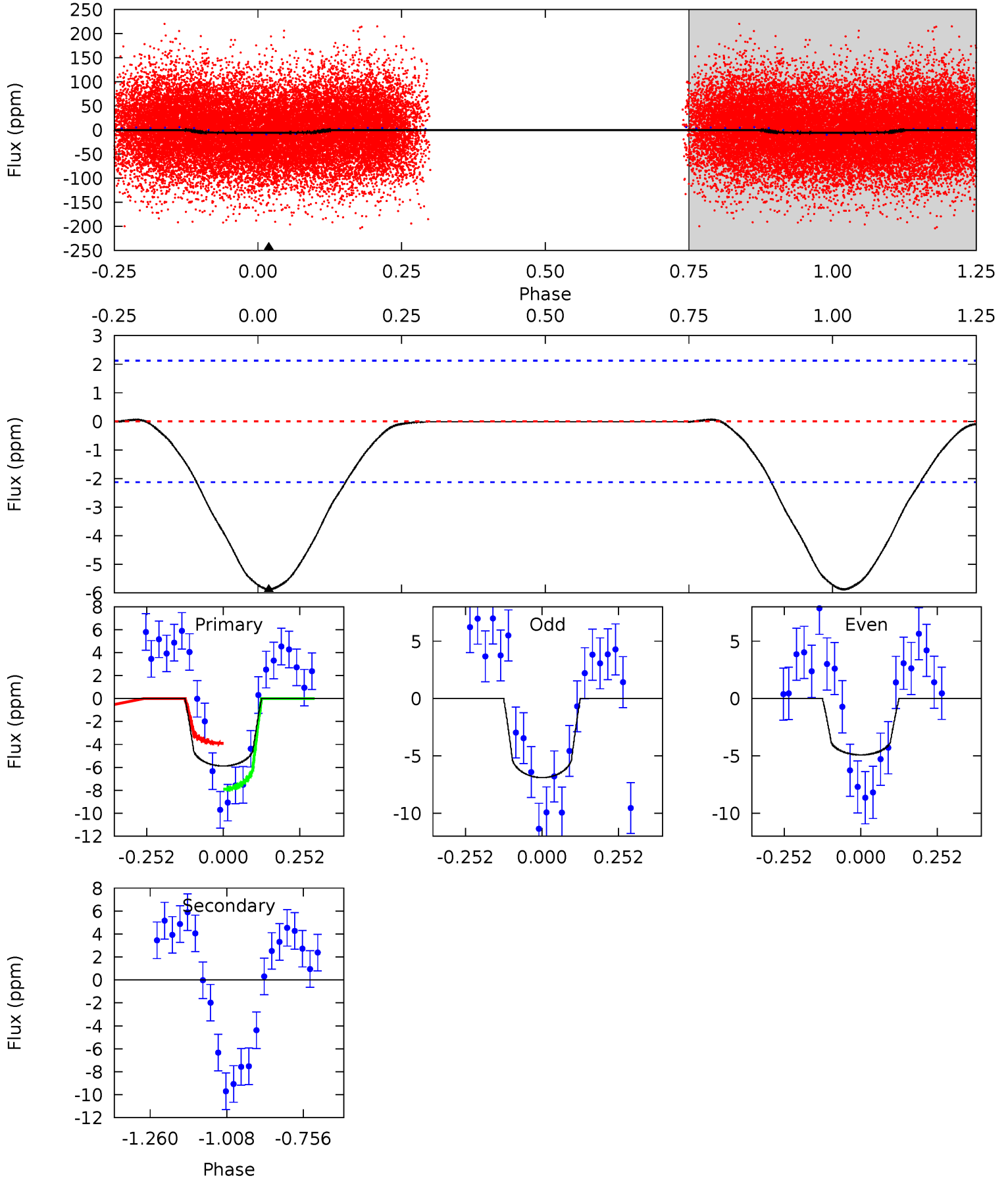
TCE 010814711-02 $P = 0.695680$ Days $T_0 = 131.603139$ (BKJD)



DV Model-Shift Uniqueness Test

010814711-02, P = 0.695642 Days, E = 130.929344 Days

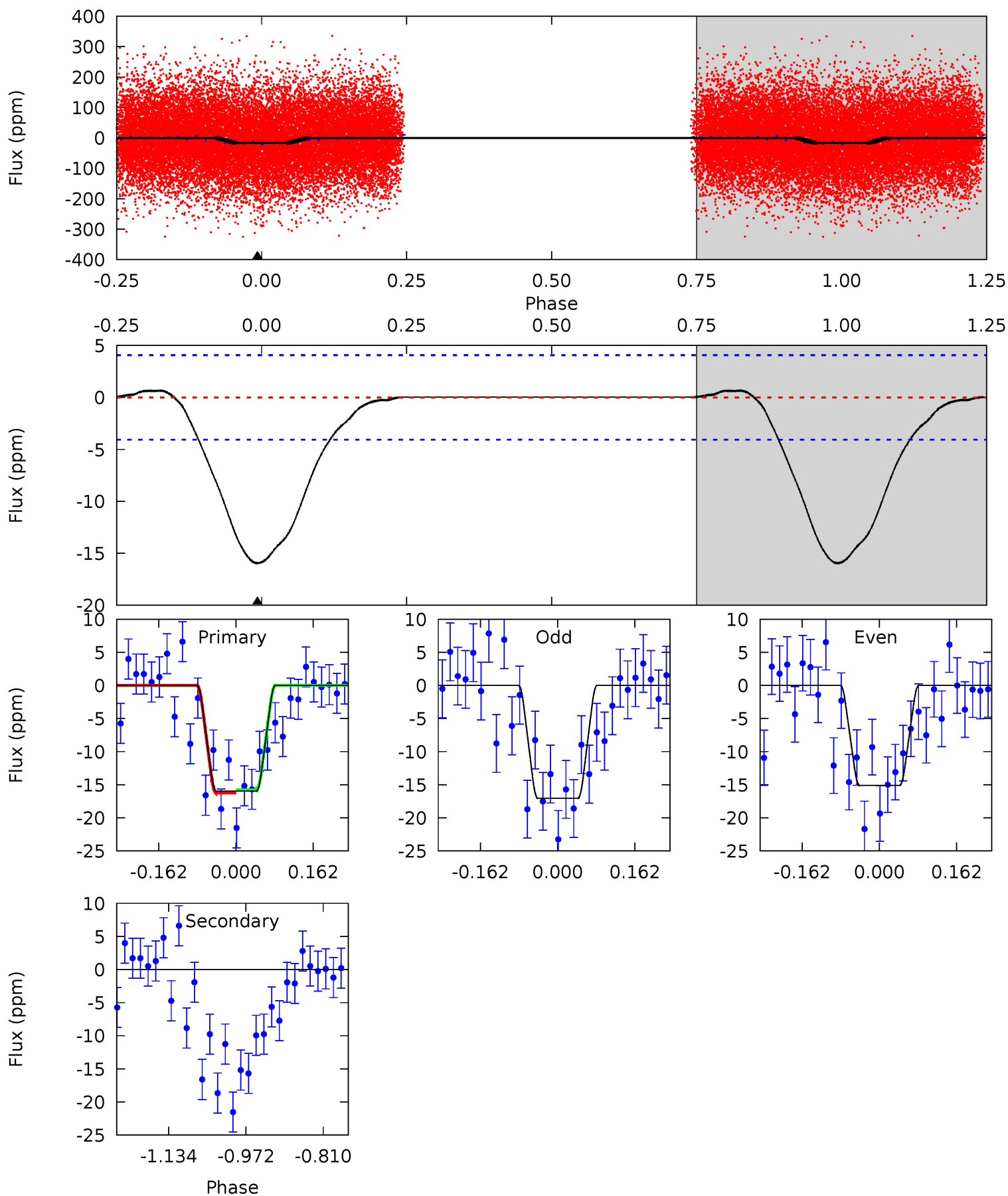
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	0	0	0	4.37	1.15	0.13	12.1	12.1	0	0	2.03	0.95	0.01	4.17



Alt Model-Shift Uniqueness Test

010814711-02, P = 0.695680 Days, E = 130.907459 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	0	0	0	4.46	1.40	0.68	17.5	17.5	0	0	1.07	1.03	0.04	0.24



Stellar Parameters For KIC 010814711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9164^{+317}_{-381}	$3.865^{+0.343}_{-0.147}$	$-0.440^{+0.550}_{-0.300}$	$2.679^{+0.834}_{-1.019}$	$1.919^{+0.584}_{-0.315}$	$0.141^{+0.376}_{-0.059}$
	+3%/-4%	+9%/-4%	+125%/-68%	+31%/-38%	+30%/-16%	+267%/-42%
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 010814711-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 0	$0.66^{+0.20}_{-0.18}$	6575^{+563}_{-664}	-5089^{+1541}_{-821}	$0.018^{+0.232}_{-0.251}$
Alt.	0 ± 1	$1.25^{+0.29}_{-0.26}$	6532^{+578}_{-656}	-5140^{+719}_{-518}	$0.000^{+0.131}_{-0.121}$

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

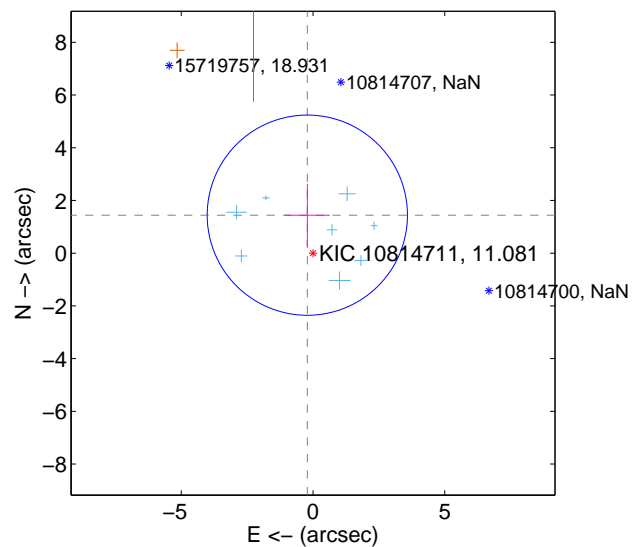
Supplemental centroid analysis for 010814711-02. **Kepler magnitude: 11.08.** Transit SNR 8.66

There are 8 quarters with good PRF difference image offsets

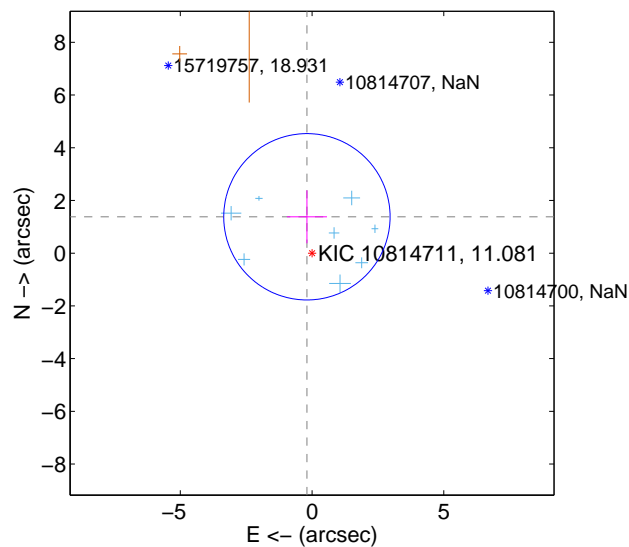
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.458 ± 1.266	1.15	0.215 ± 0.856	1.442 ± 1.188
PRF-fit source offset from KIC position	1.394 ± 1.052	1.33	0.194 ± 0.761	1.381 ± 1.004
photometric centroid source offset	2.92 ± 1.58	1.85	2.75 ± 1.60	-0.97 ± 1.41

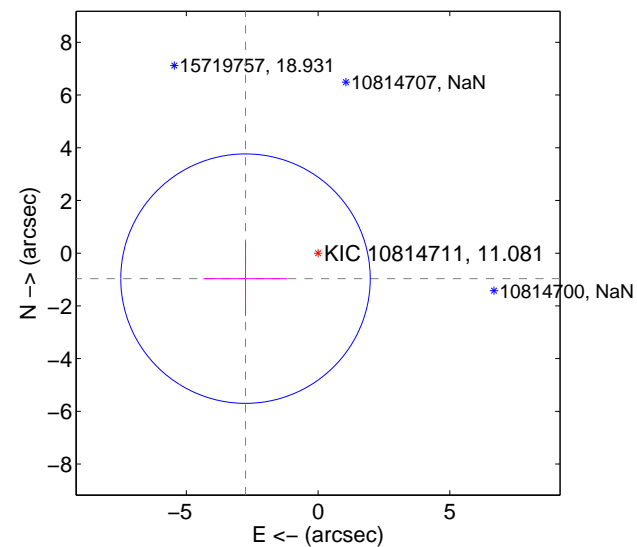
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

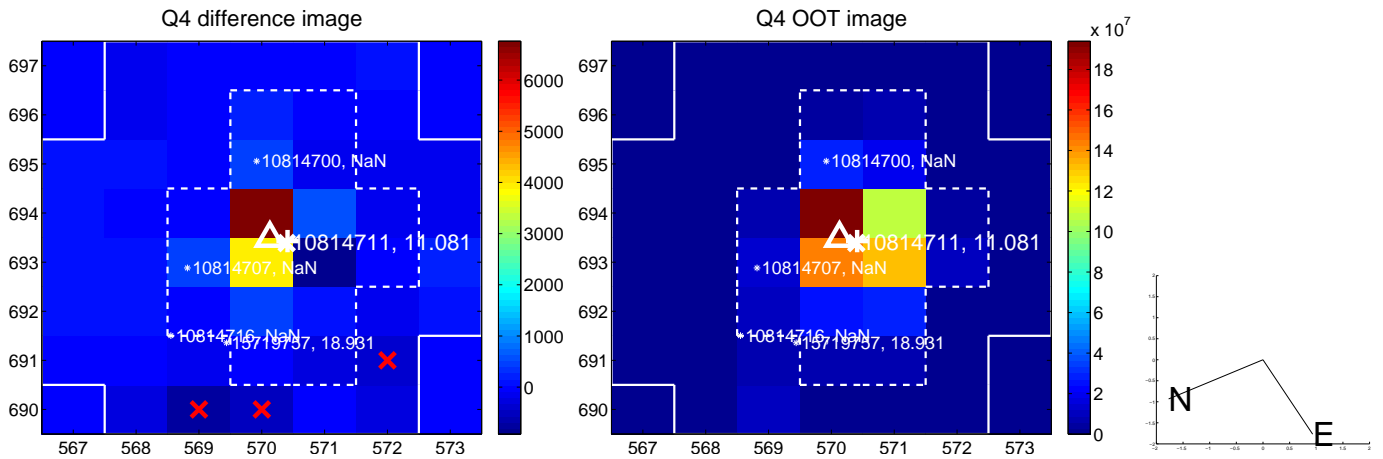
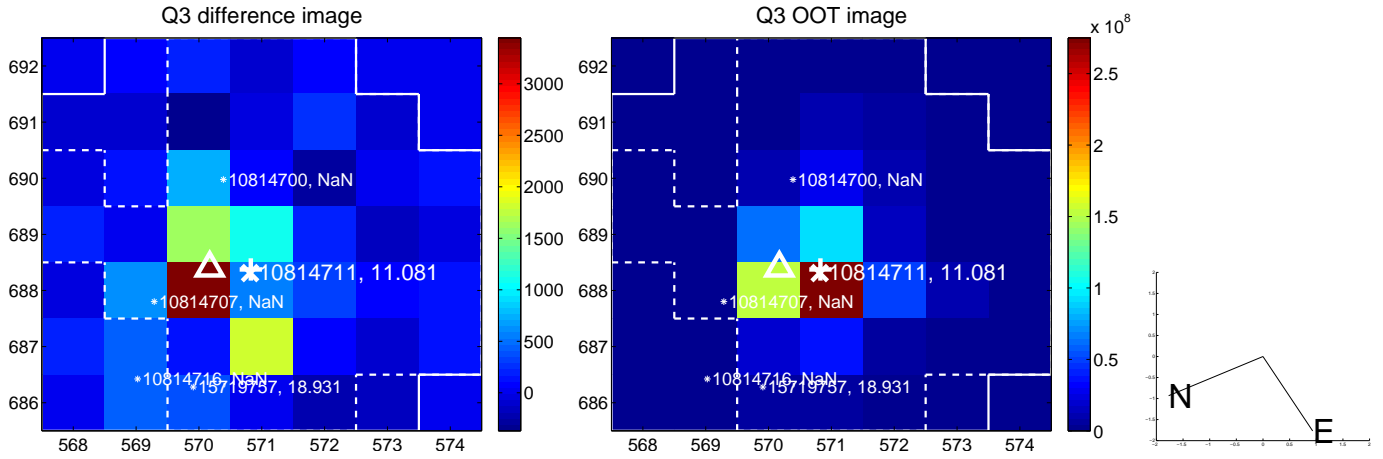
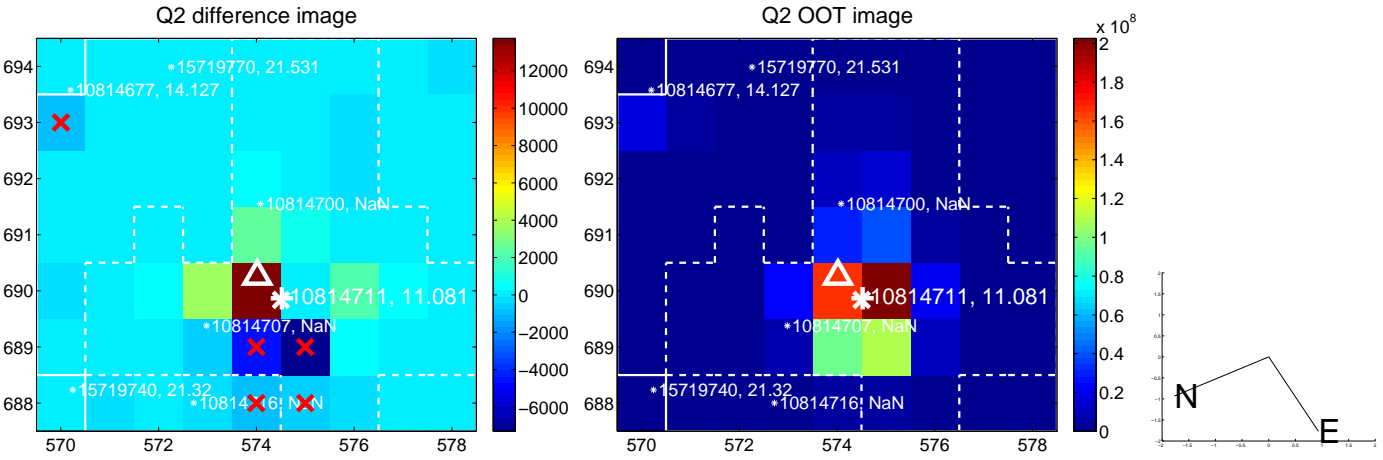
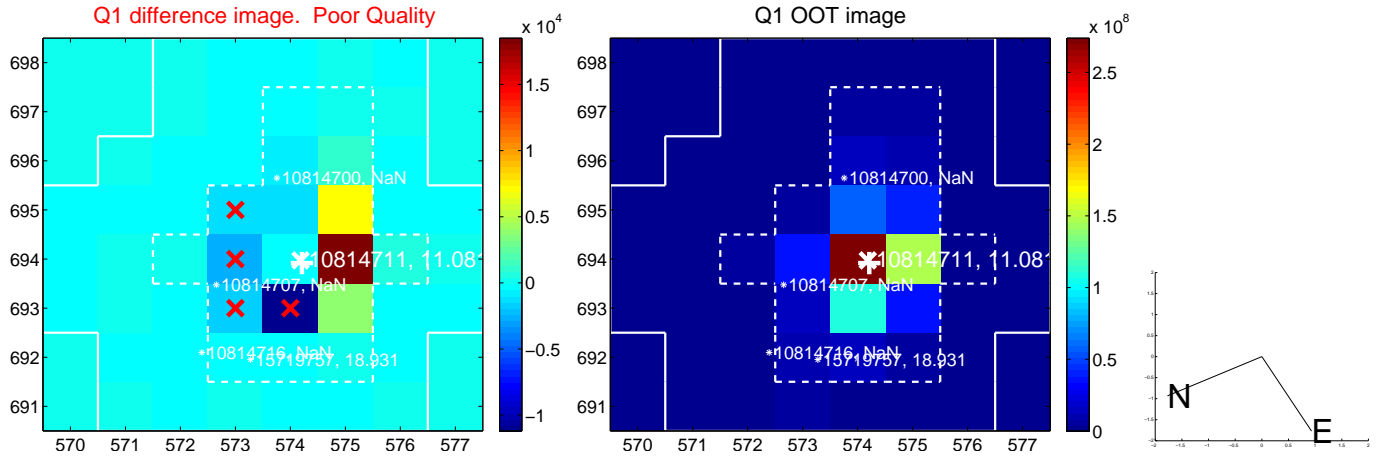


offset from photometric centroids

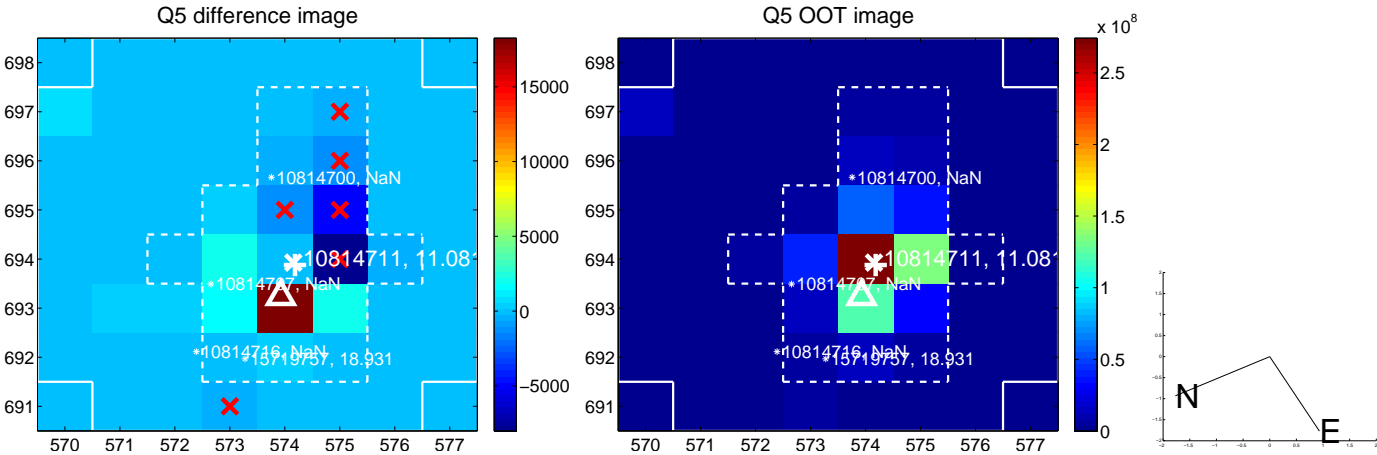


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

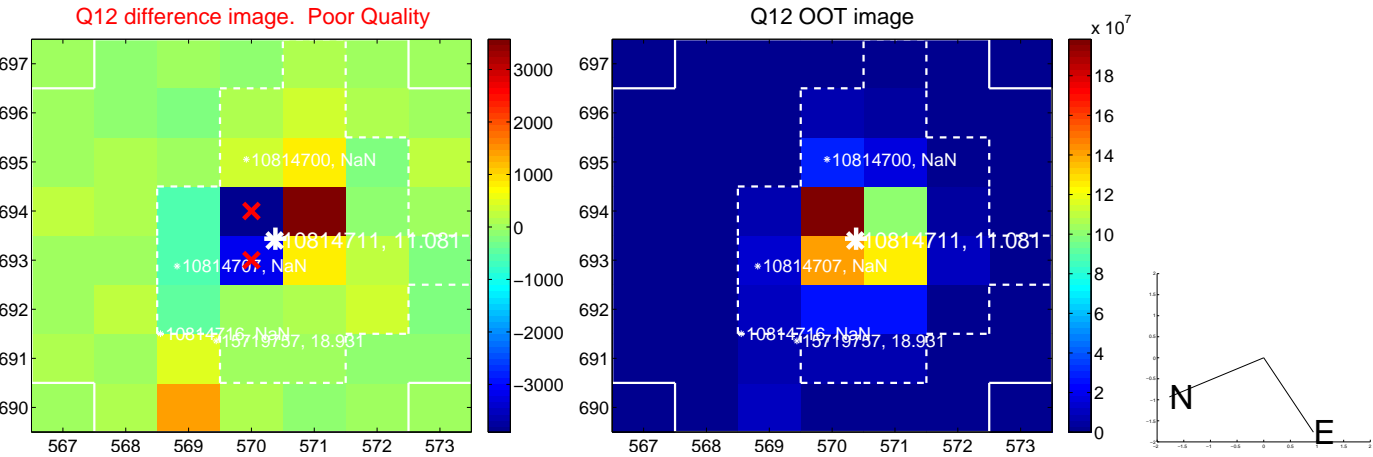
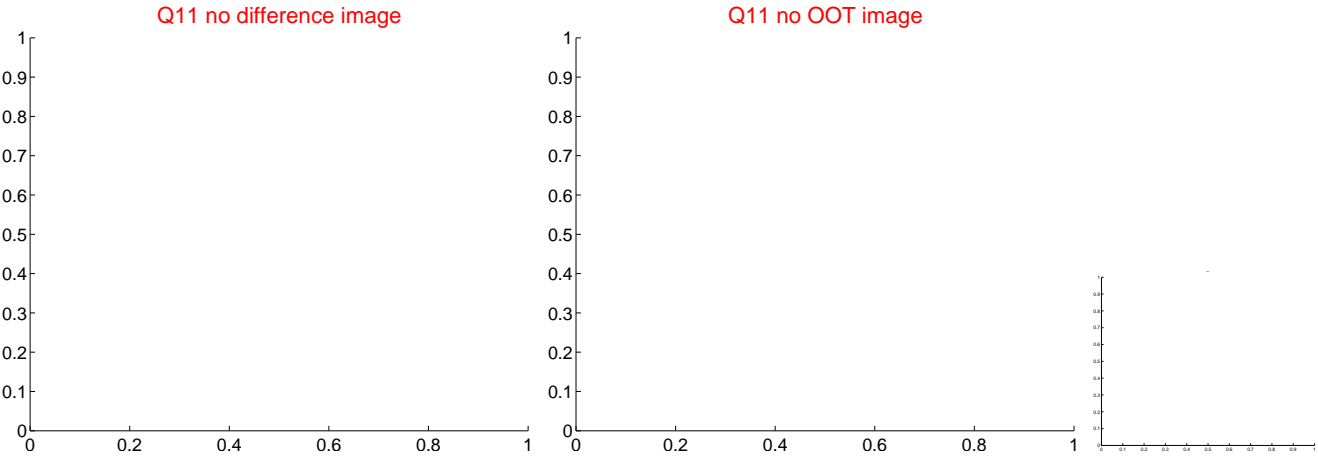
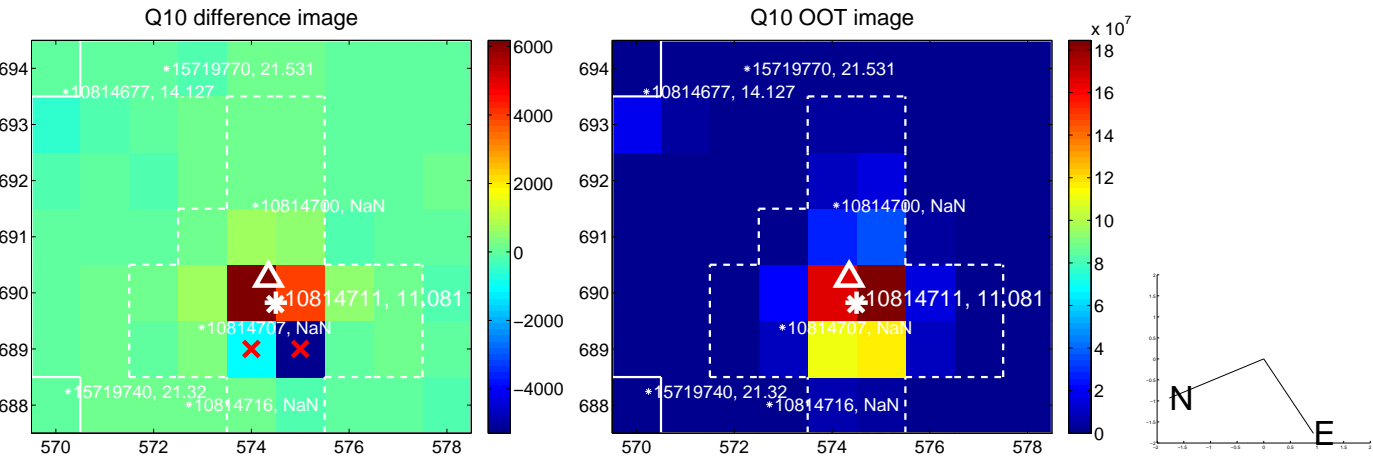
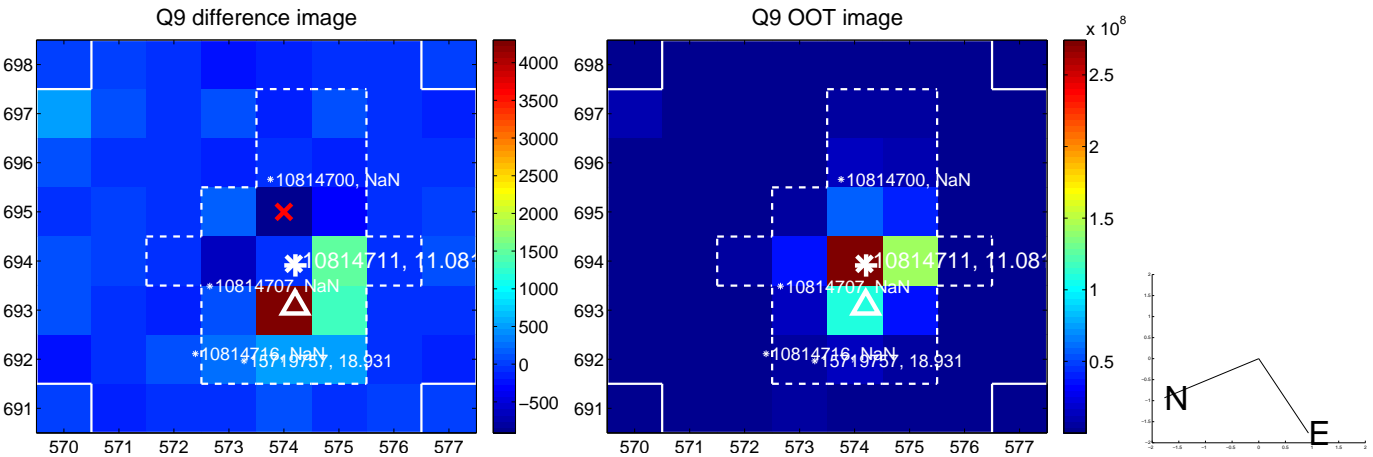
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



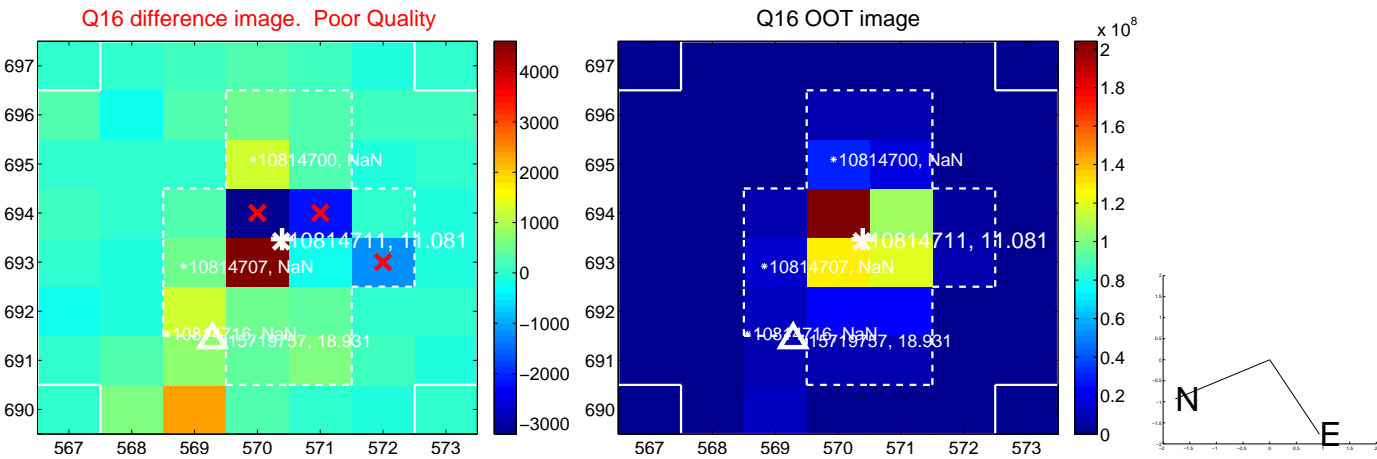
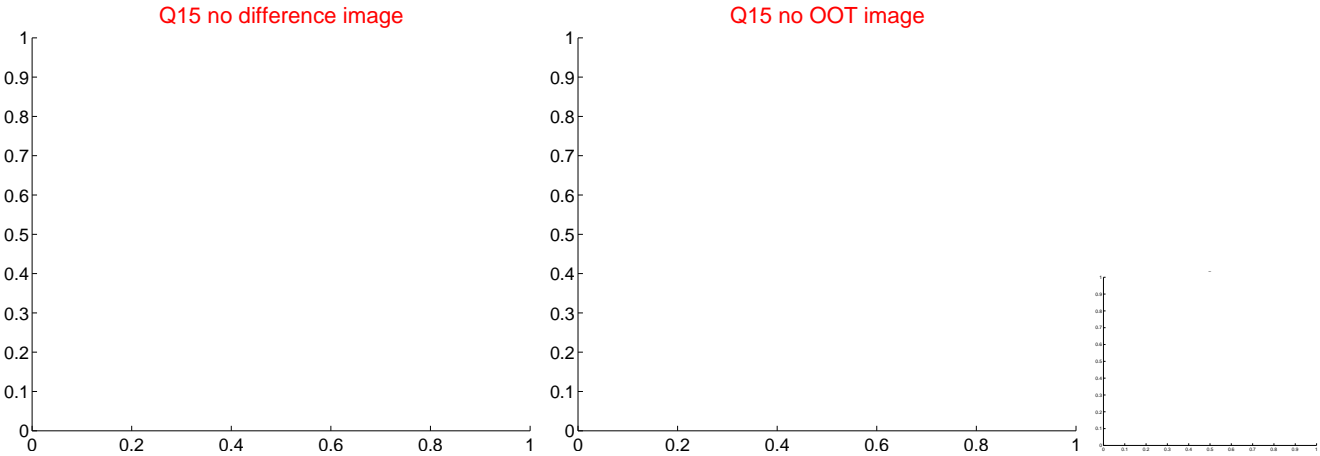
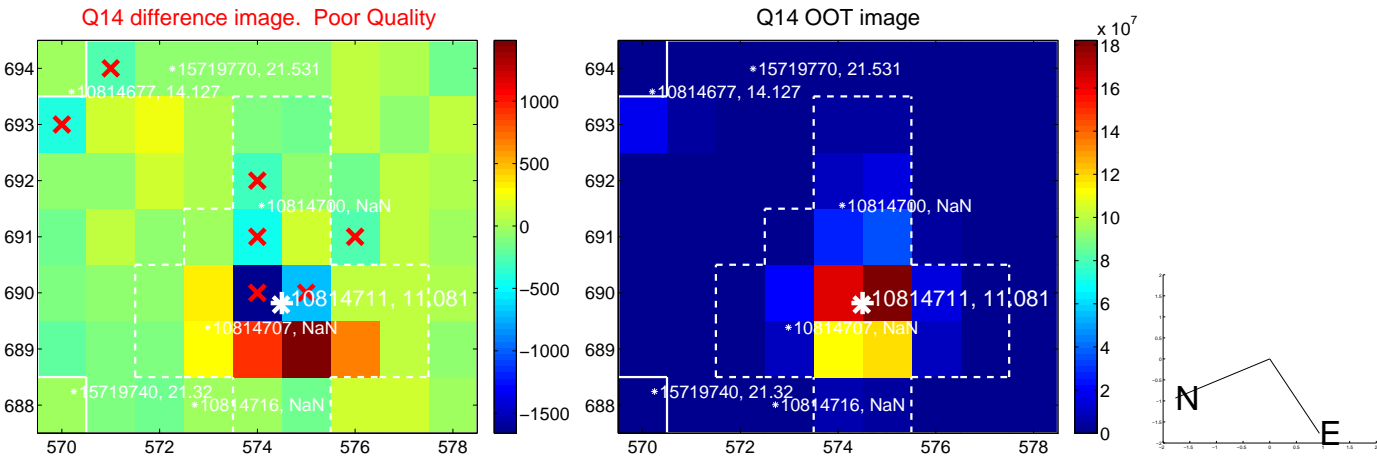
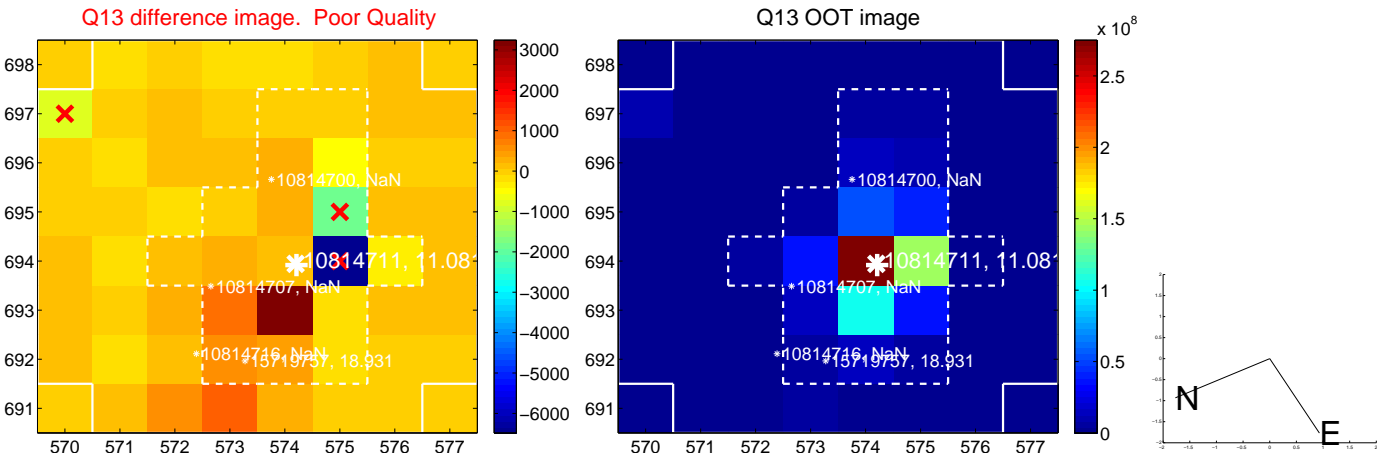
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



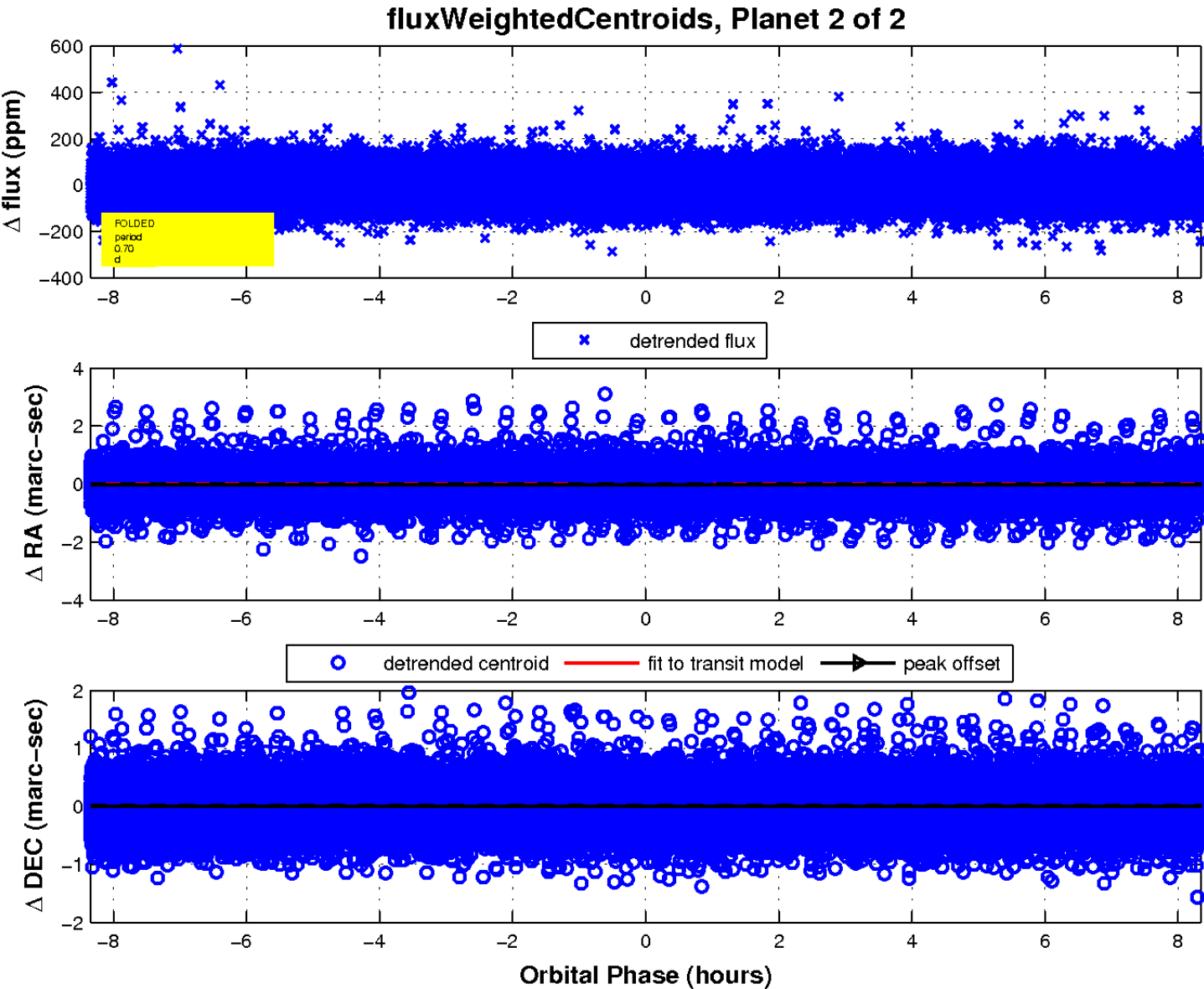
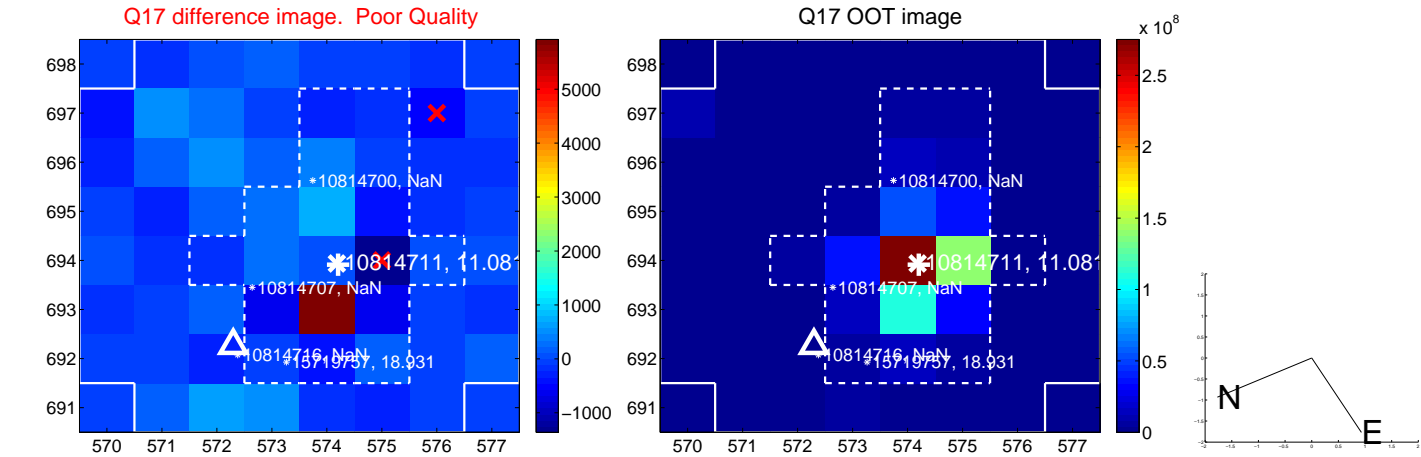
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

