

KIC 008804845

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})
008804845-01	OBS	2039.01	5.425838	135.870397	245.3	2.660	25.9	28.2	0.93	5594	1.76	212.19
008804845-02	OBS	2039.02	0.762133	131.615568	70.5	1.133	12.6	15.4	0.93	5594	0.78	2906.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008804845-01	OBS	PC	0.95	0	0	0	0	NO_COMMENT
008804845-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

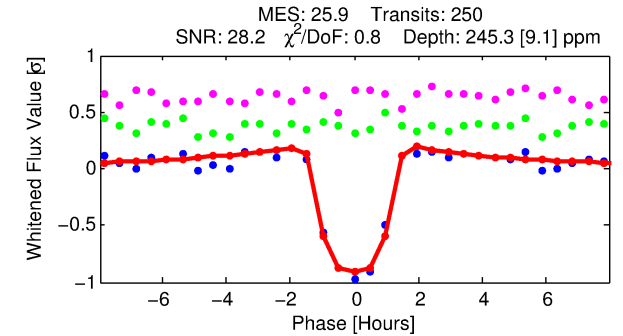
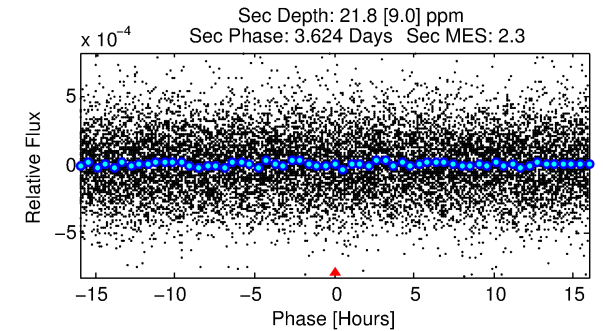
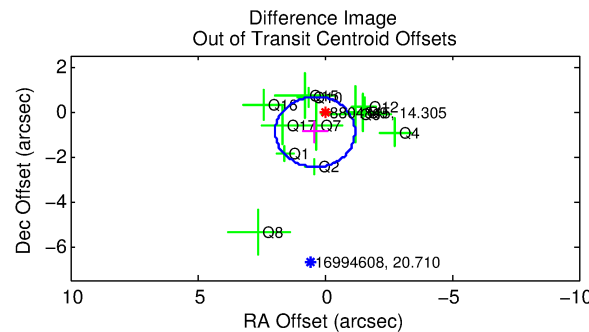
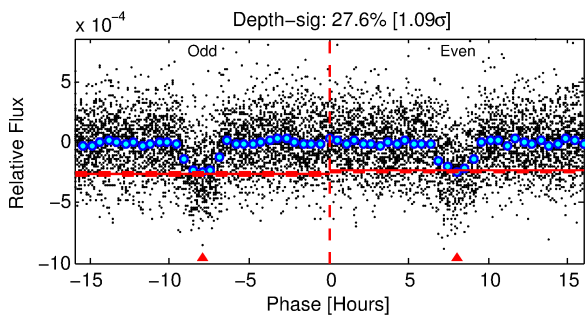
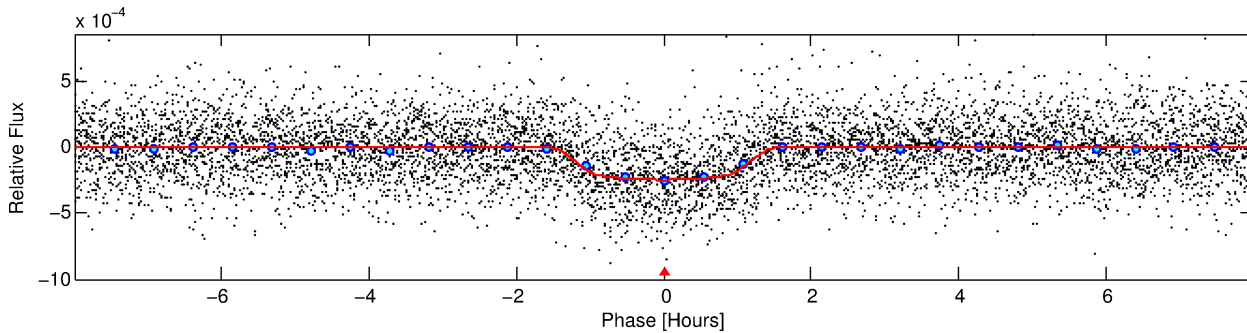
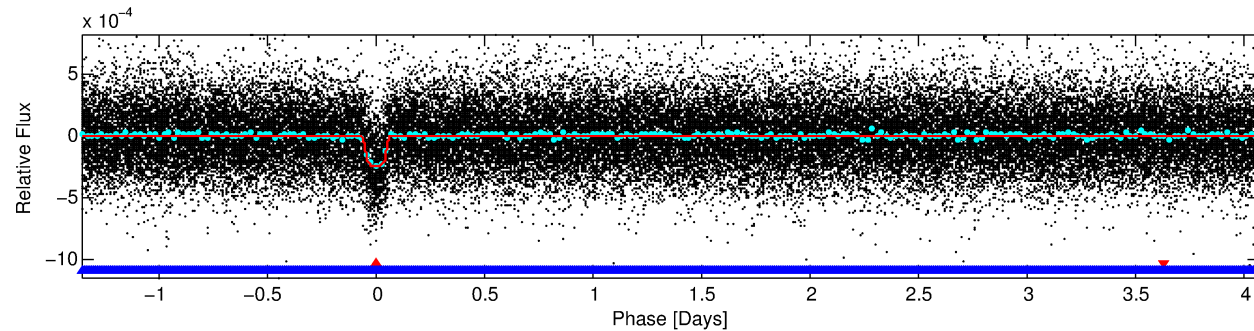
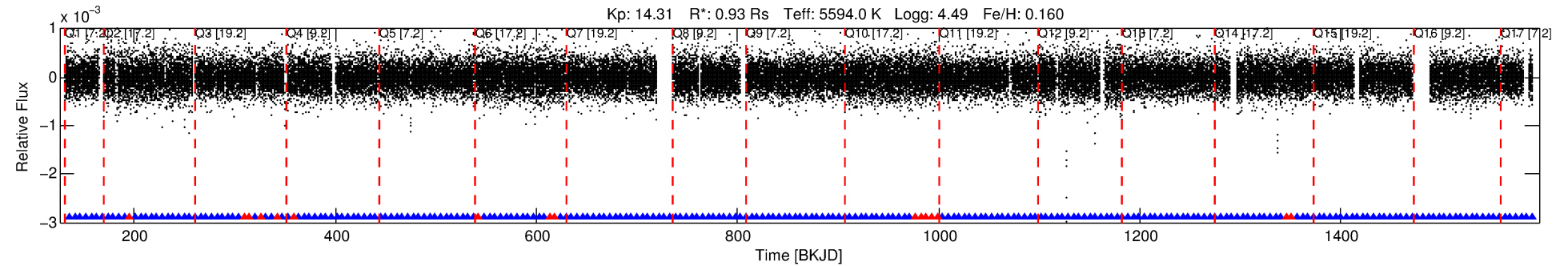
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008804845-01

No Significant Match Found

DV One-Page Summary

KIC: 8804845 Candidate: 1 of 2 Period: 5.426 d
KOI: K02039.01 Corr: 0.969



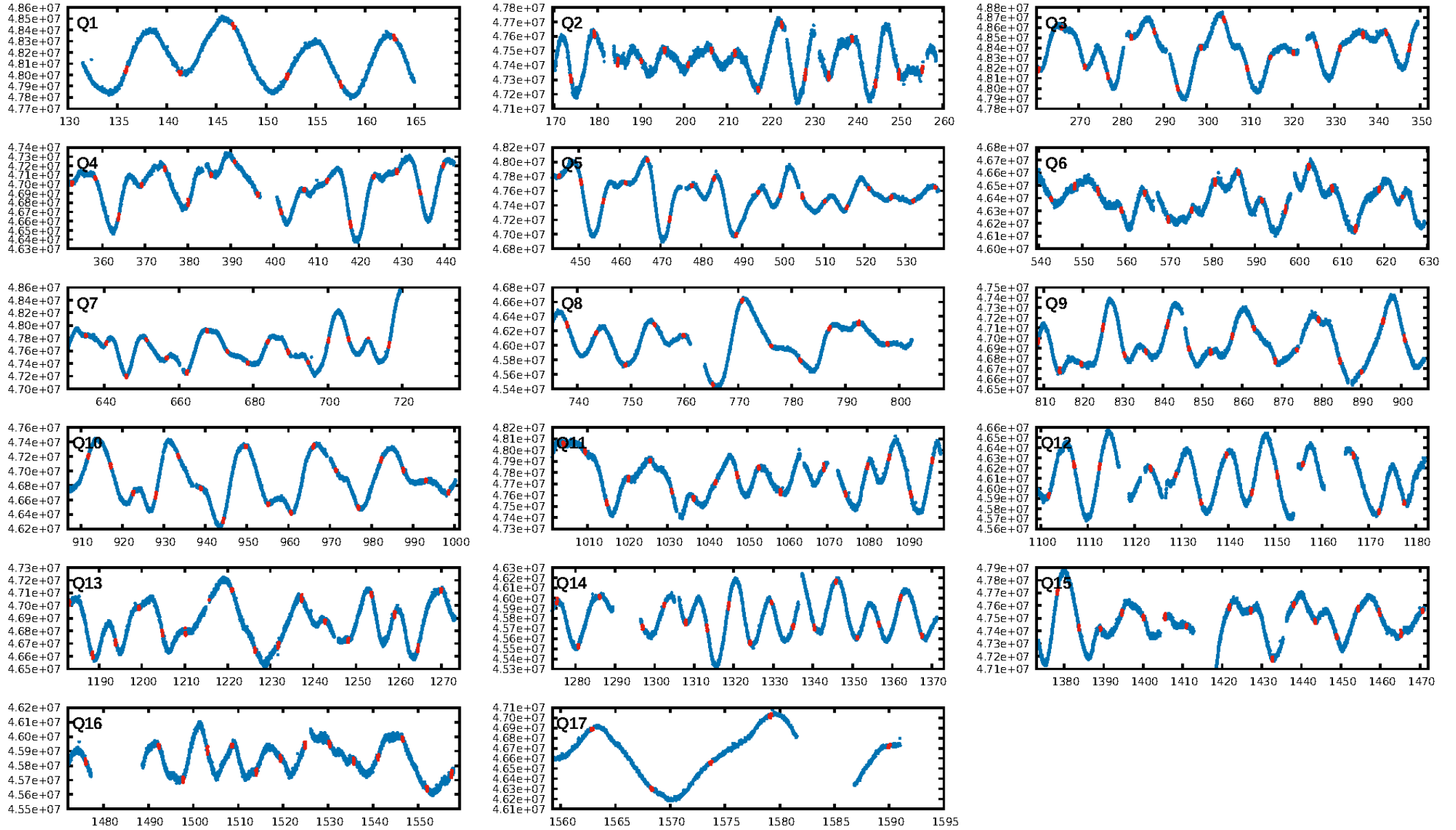
DV Fit Results:

Period = 5.42584 [0.00001] d
Epoch = 135.8704 [0.0015] BKJD
Rp/R* = 0.0173 [0.0030]
a/R* = 7.36 [5.66]
b = 0.90 [0.16]
Seff = 212.19 [43.40]
Teff = 973 [50] K
Rp = 1.76 [0.39] Re
a = 0.0601 [0.0075] AU
Ag = 14.00 [8.08] [1.61 σ]
Teffp = 2911 [397] K [4.84 σ]

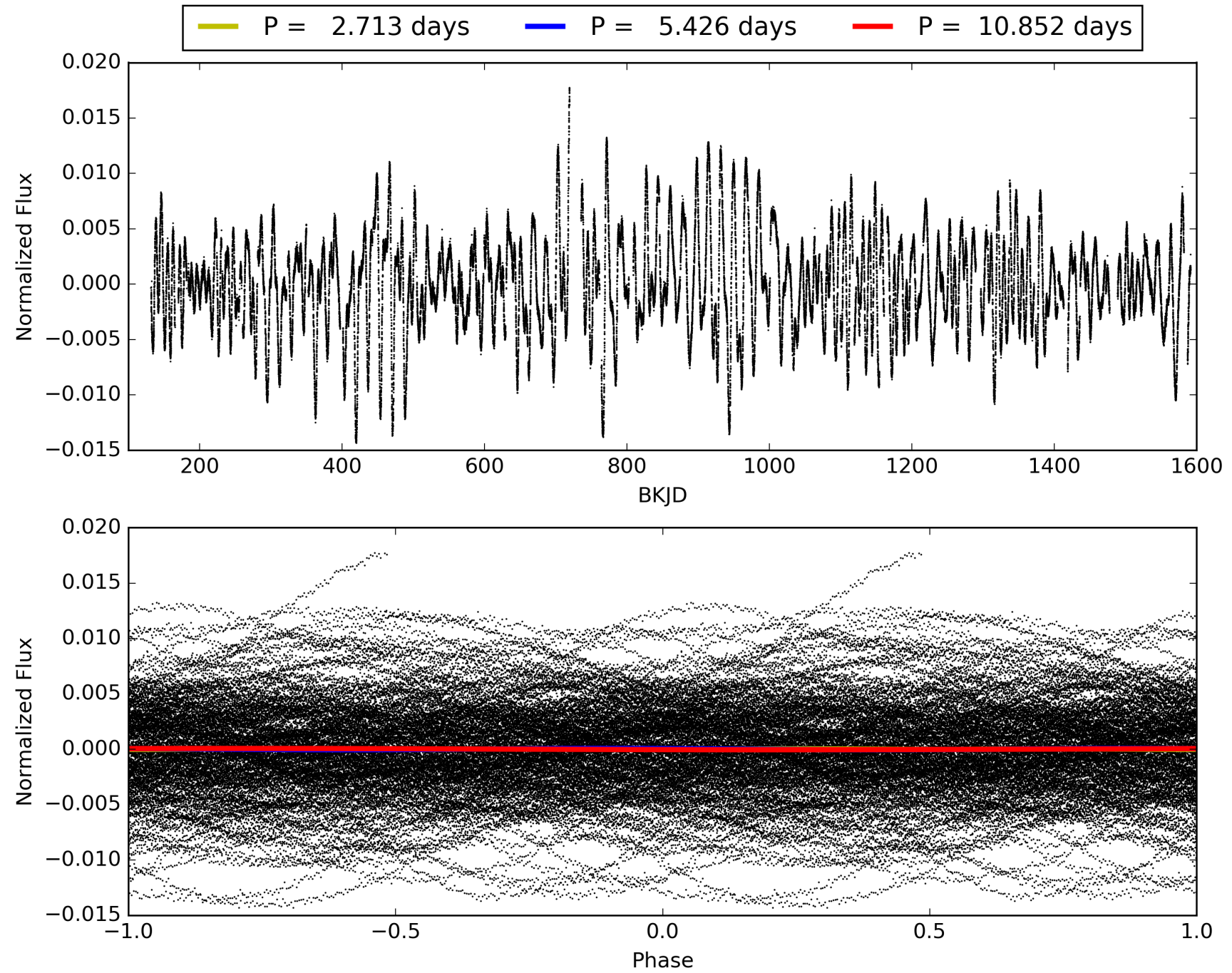
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [38.71 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.14e-138
RollingBand-fgt: 0.93 [223/239]
GhostDiagnostic-chr: 1.96
Centroid-sig: 0.4%
Centroid-so: 0.712 arcsec [1.64 σ]
OotOffset-rm: 0.983 arcsec [1.88 σ]
KicOffset-rm: 1.057 arcsec [2.00 σ]
OotOffset-st: 3/2/4/3 [12]
KicOffset-st: 3/2/4/3 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 0.88 [15/17]

TCE 008804845-01, PDC Light Curves

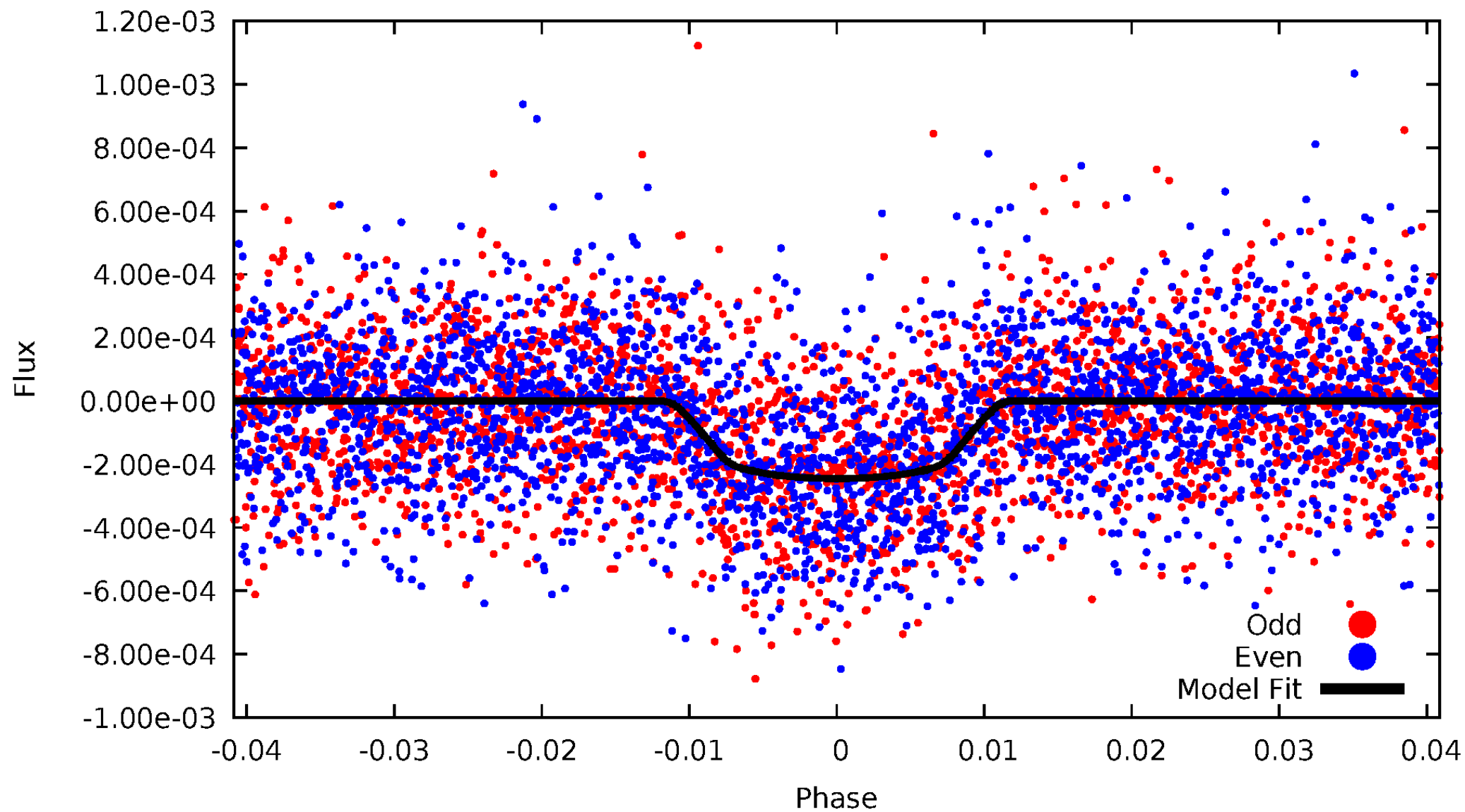


TCE 008804845-01



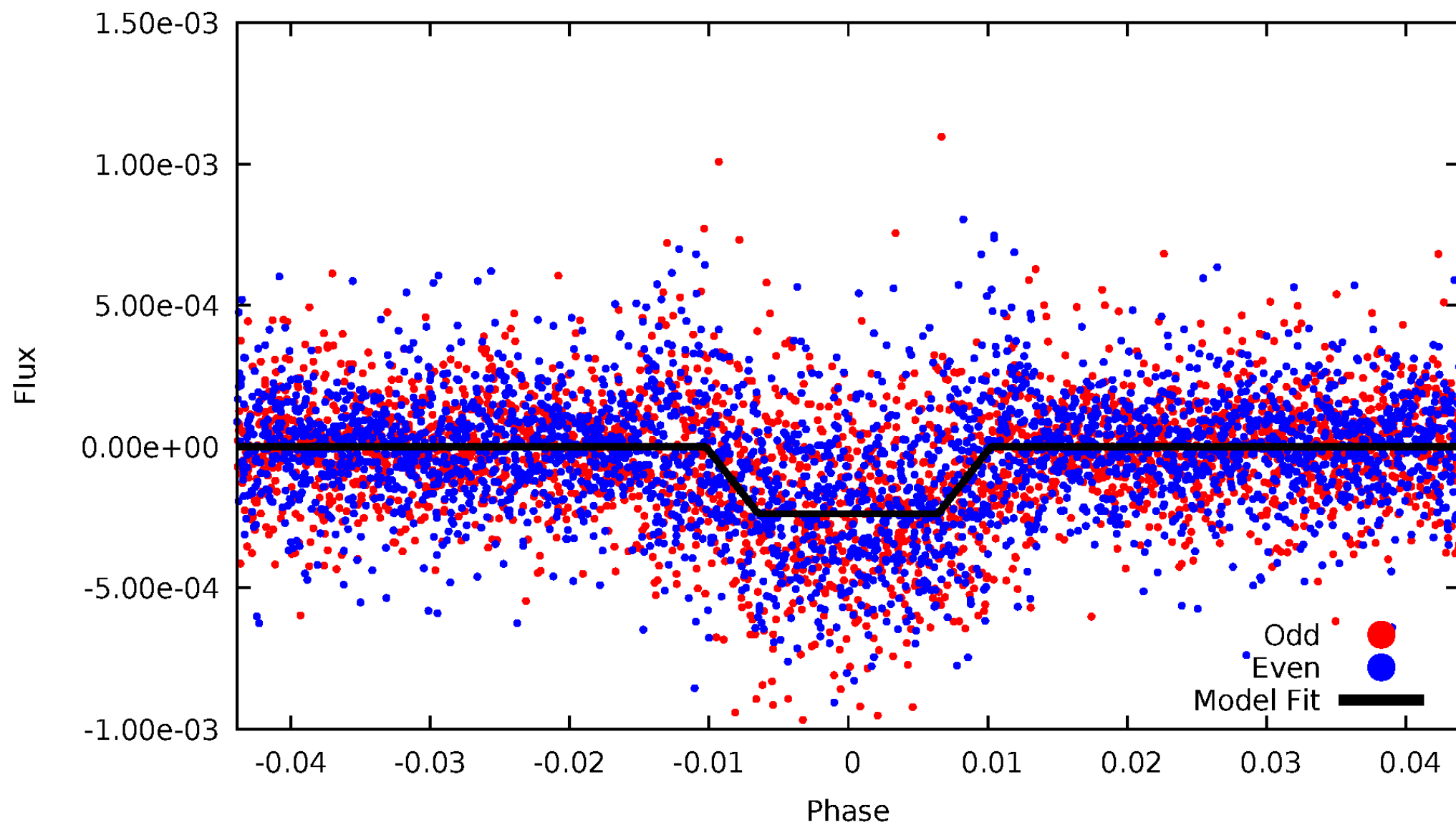
DV Odd/Even

TCE 008804845-01



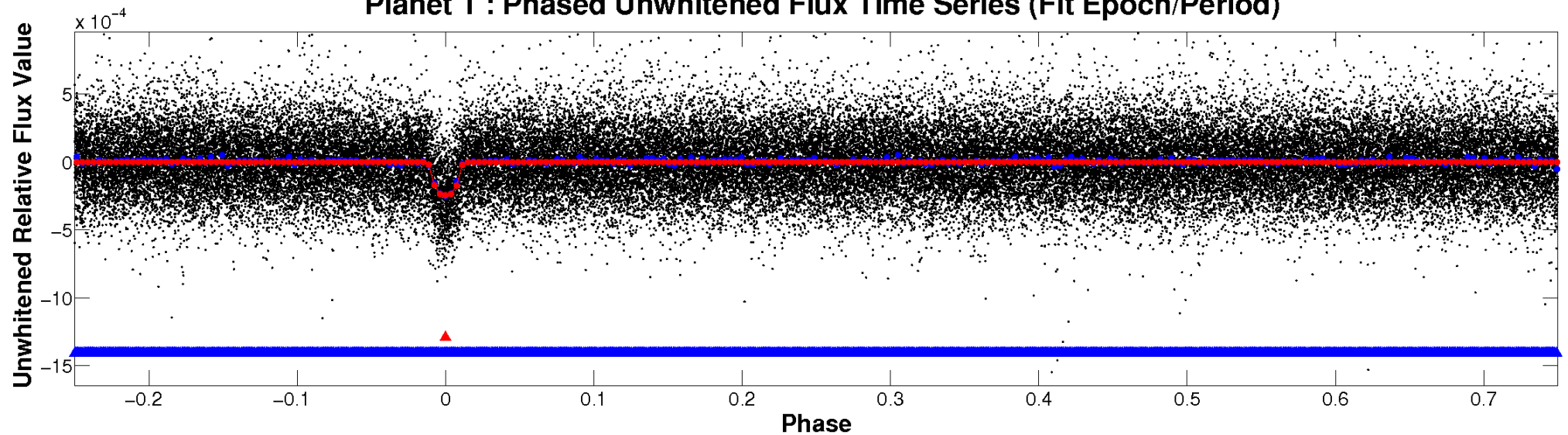
ALT Odd/Even

TCE 008804845-01

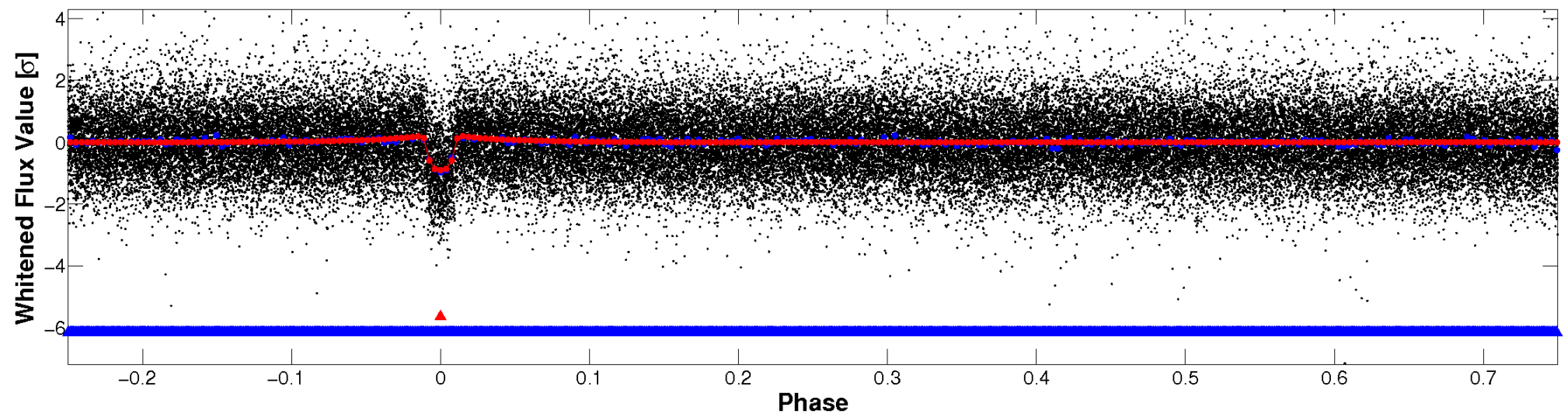


Non-Whitened Vs. Whitened Light Curve

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

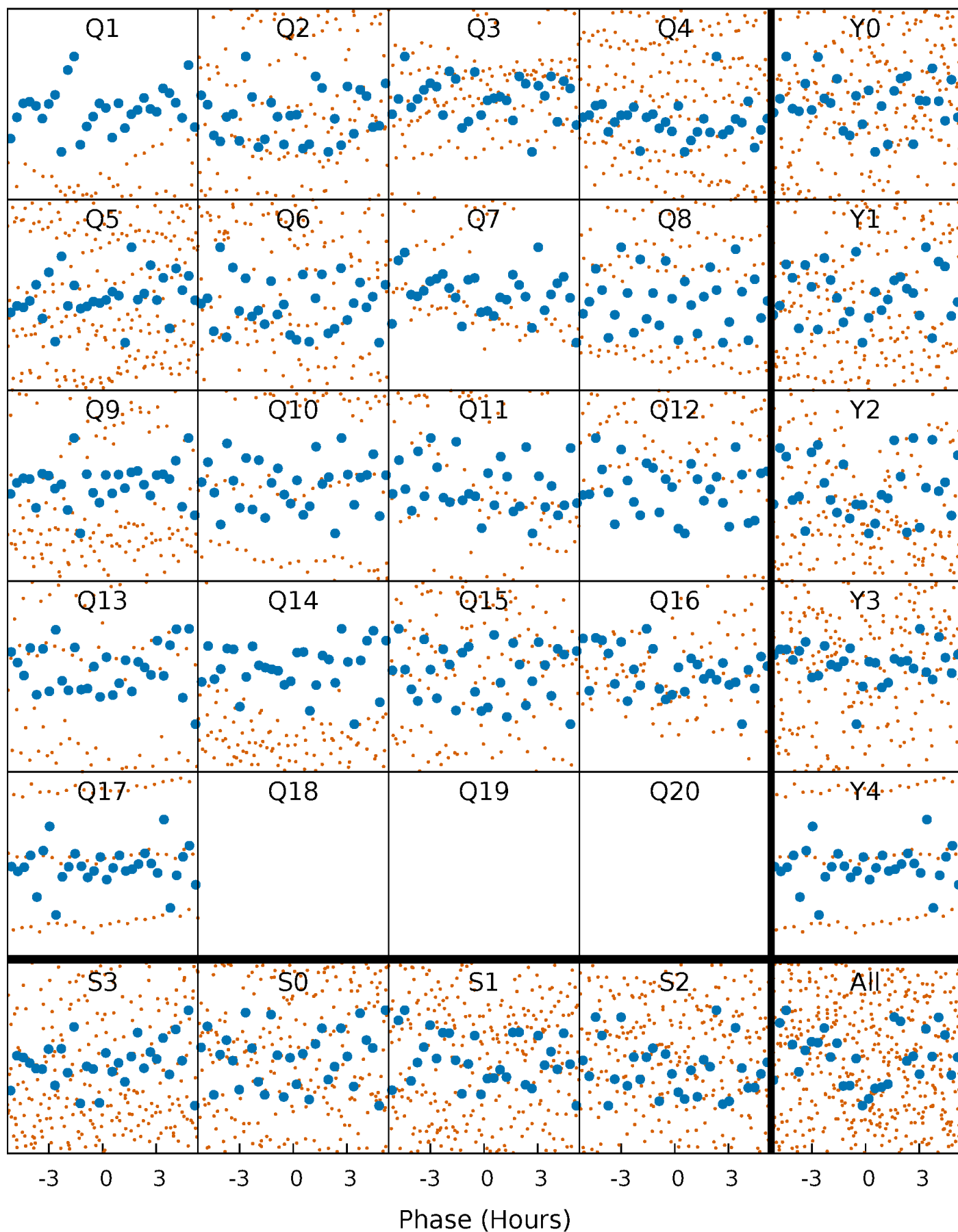


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



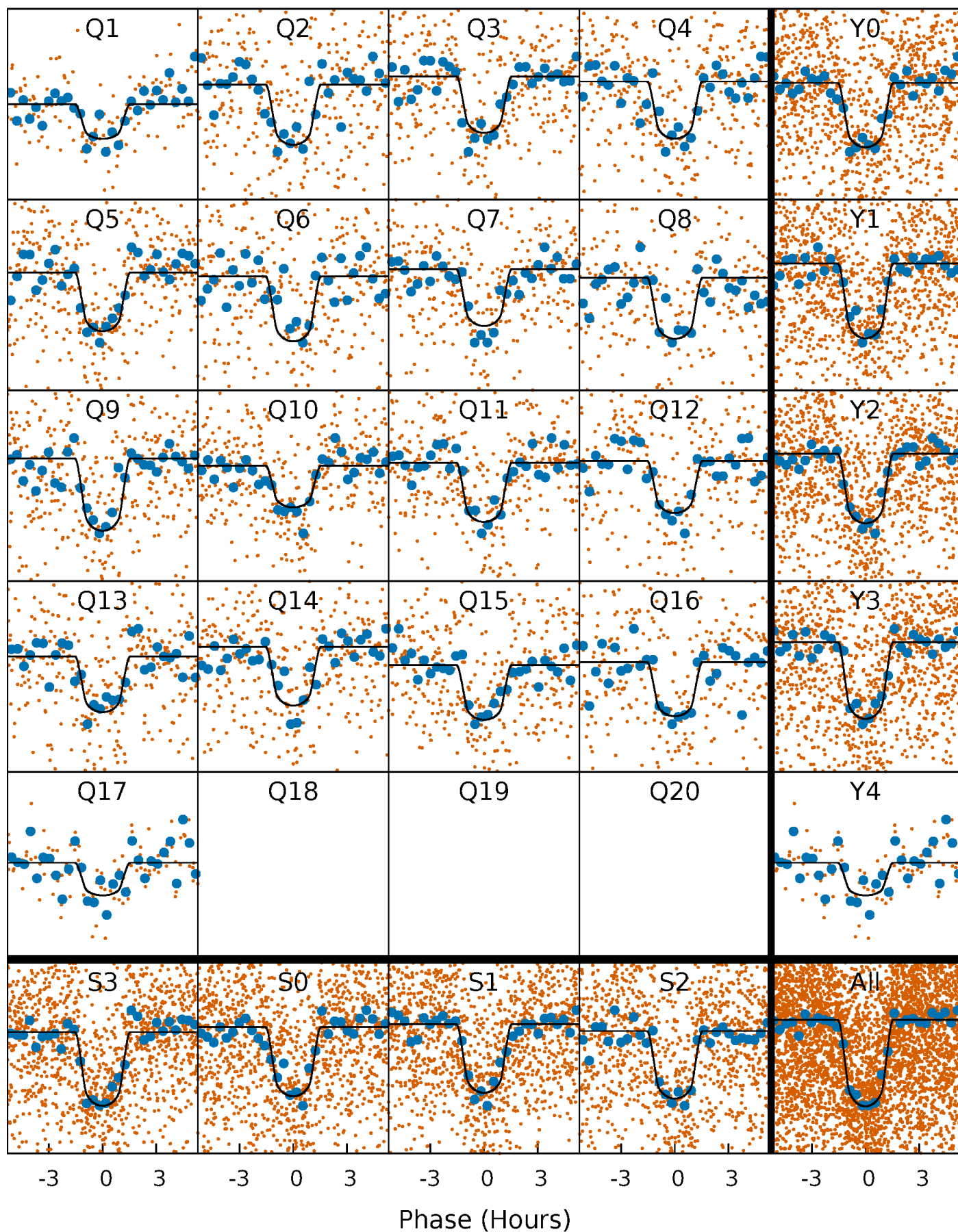
PDC Quarter-Phased Transit Curves

TCE 008804845-01 P= 5.425838 Days $T_0=135.870397$ (BKJD)



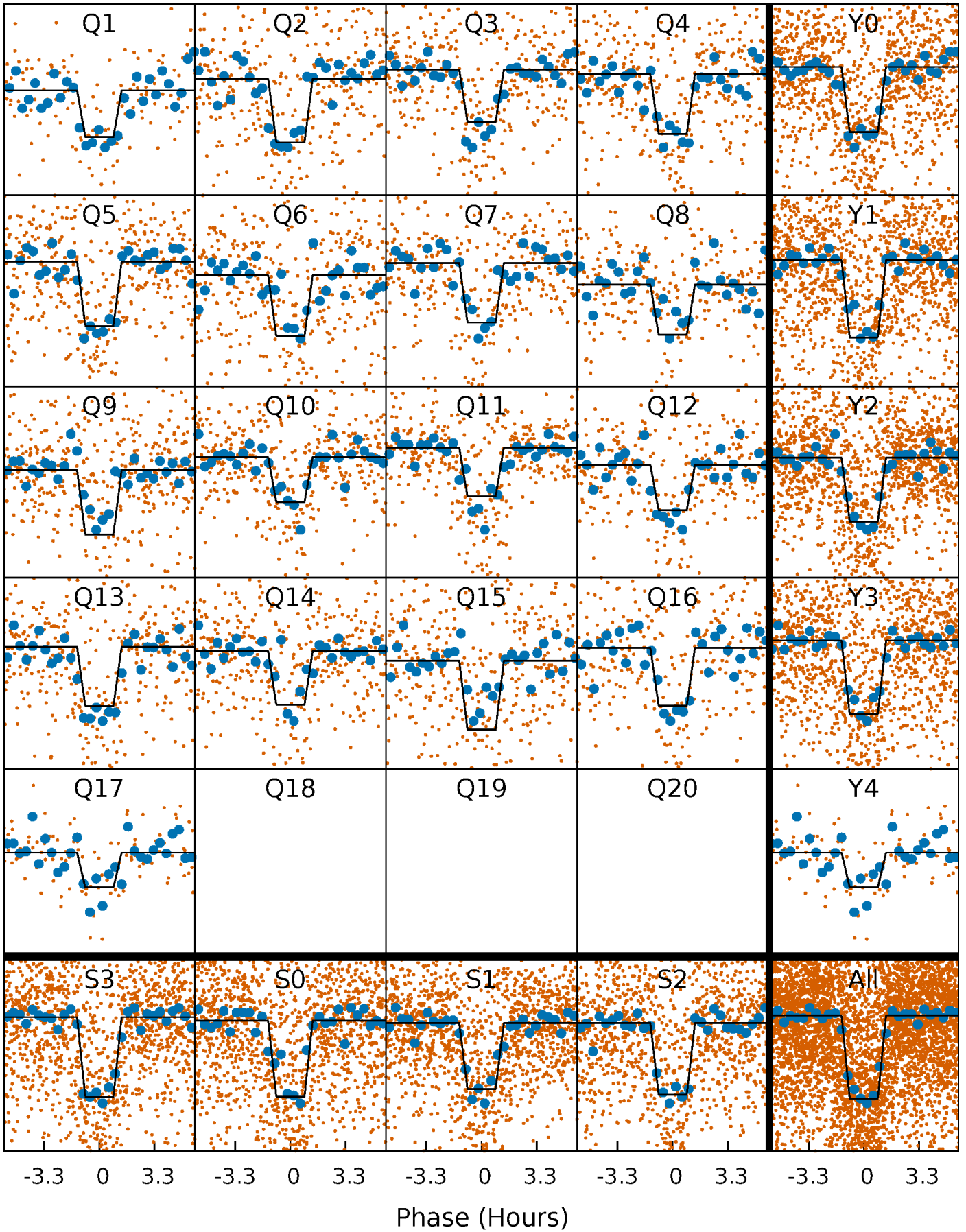
DV Quarter-Phased Transit Curves

TCE 008804845-01 P= 5.425838 Days $T_0=135.870397$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

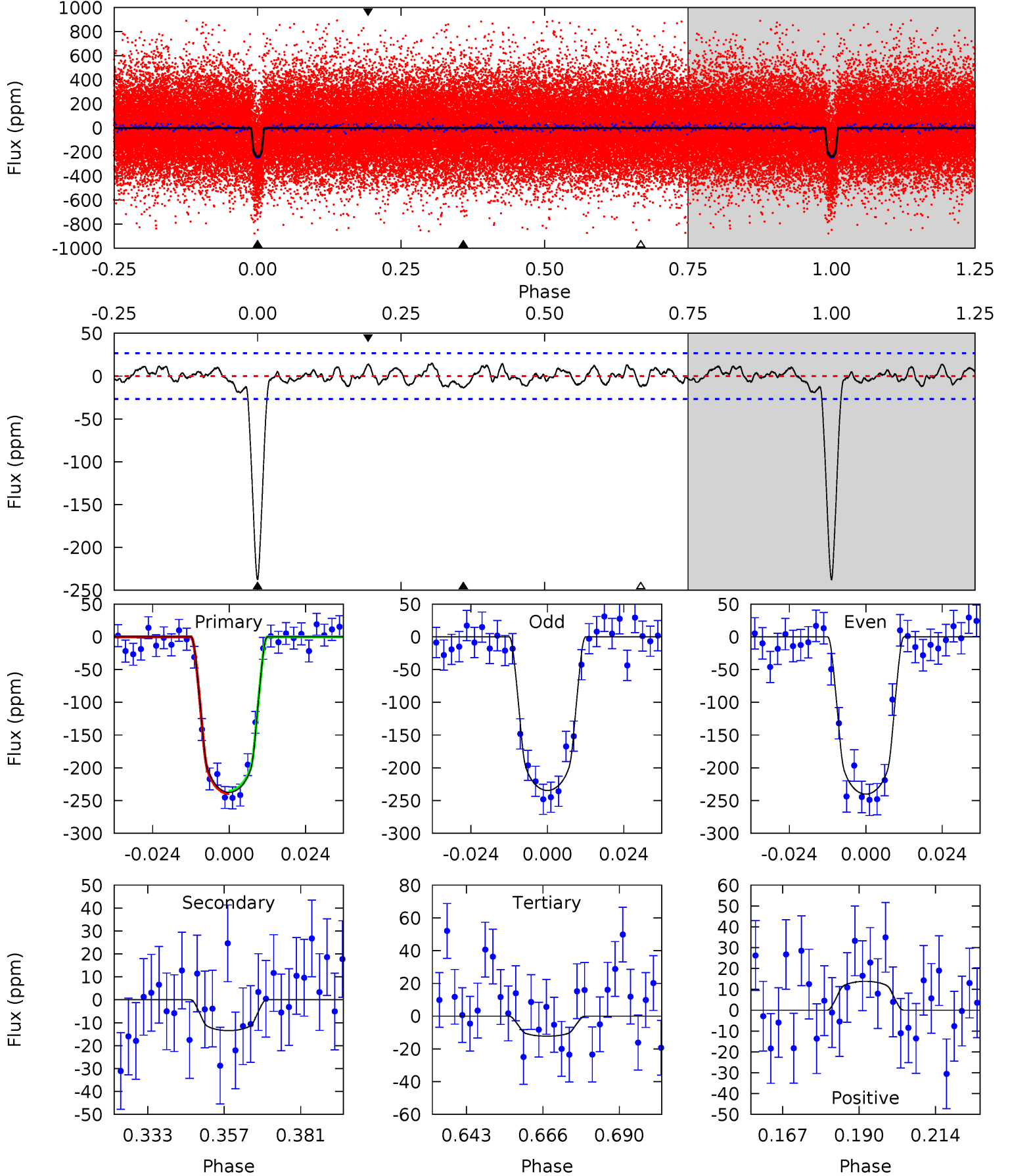
TCE 008804845-01 P= 5.425837 Days $T_0=135.869791$ (BKJD)



DV Model-Shift Uniqueness Test

008804845-01, P = 5.425838 Days, E = 130.444559 Days

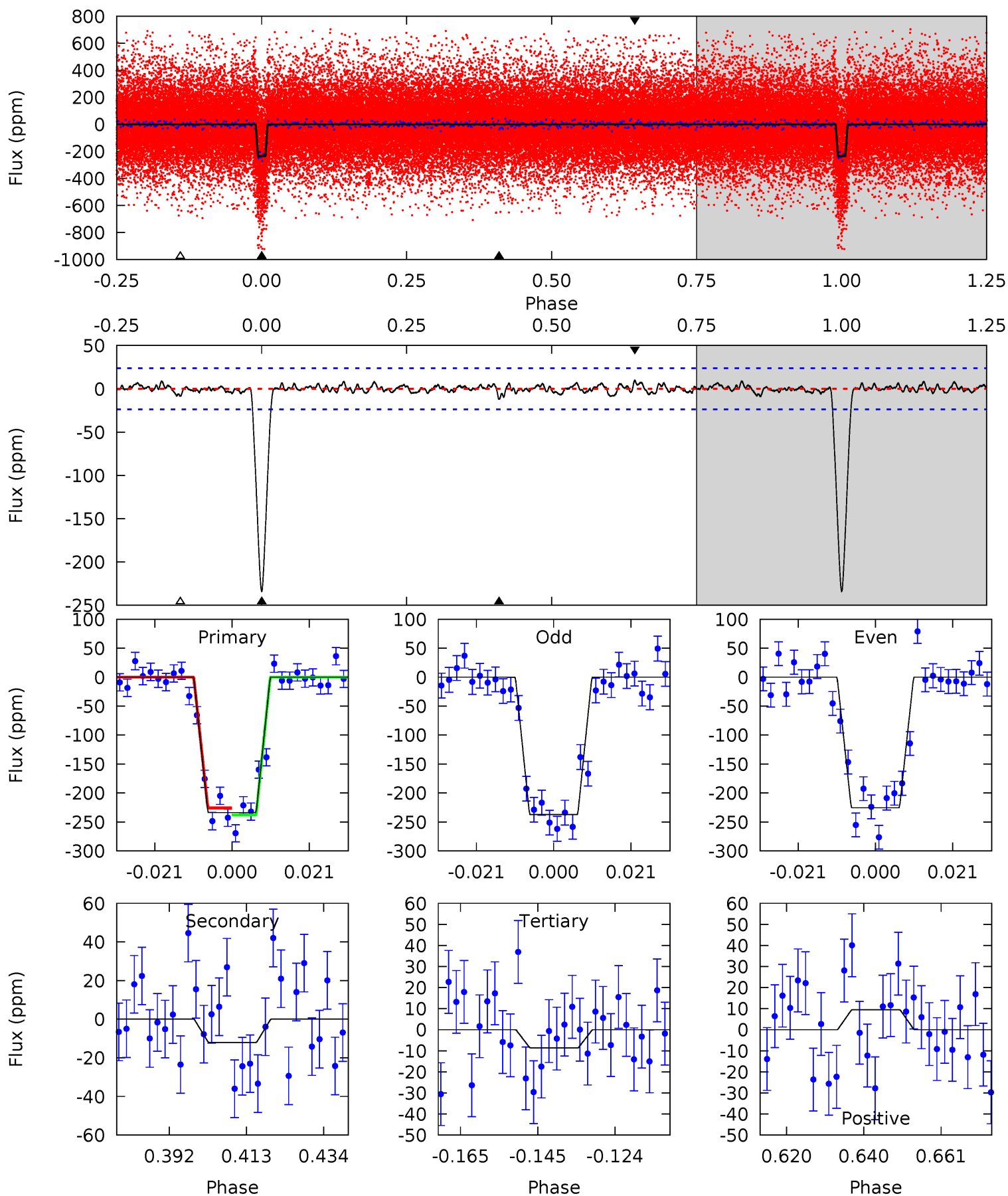
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.1	2.44	2.23	2.51	4.86	2.26	1.23	40.9	40.6	0.22	-0.07	0.51	0.96	0.06	0.34



Alt Model-Shift Uniqueness Test

008804845-01, P = 5.425837 Days, E = 130.443954 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.0	2.46	1.78	1.96	4.89	2.31	0.68	46.2	46.1	0.69	0.51	1.21	1.01	0.04	1.25



Stellar Parameters For KIC 008804845

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5594^{+75}_{-83}	$4.489^{+0.038}_{-0.113}$	$0.160^{+0.150}_{-0.150}$	$0.934^{+0.127}_{-0.054}$	$0.981^{+0.048}_{-0.066}$	$1.694^{+0.241}_{-0.559}$
	+1%/-1%	+1%/-3%	+94%/-94%	+14%/-6%	+5%/-7%	+14%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008804845-01 / KOI 2039.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 6	$1.79^{+0.34}_{-0.31}$	1373^{+44}_{-36}	3155^{+248}_{-283}	$8.226^{+5.116}_{-3.887}$
Alt.	-12 ± 5	$1.60^{+0.37}_{-0.35}$	1370^{+48}_{-35}	3215^{+295}_{-295}	$9.333^{+6.912}_{-4.395}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

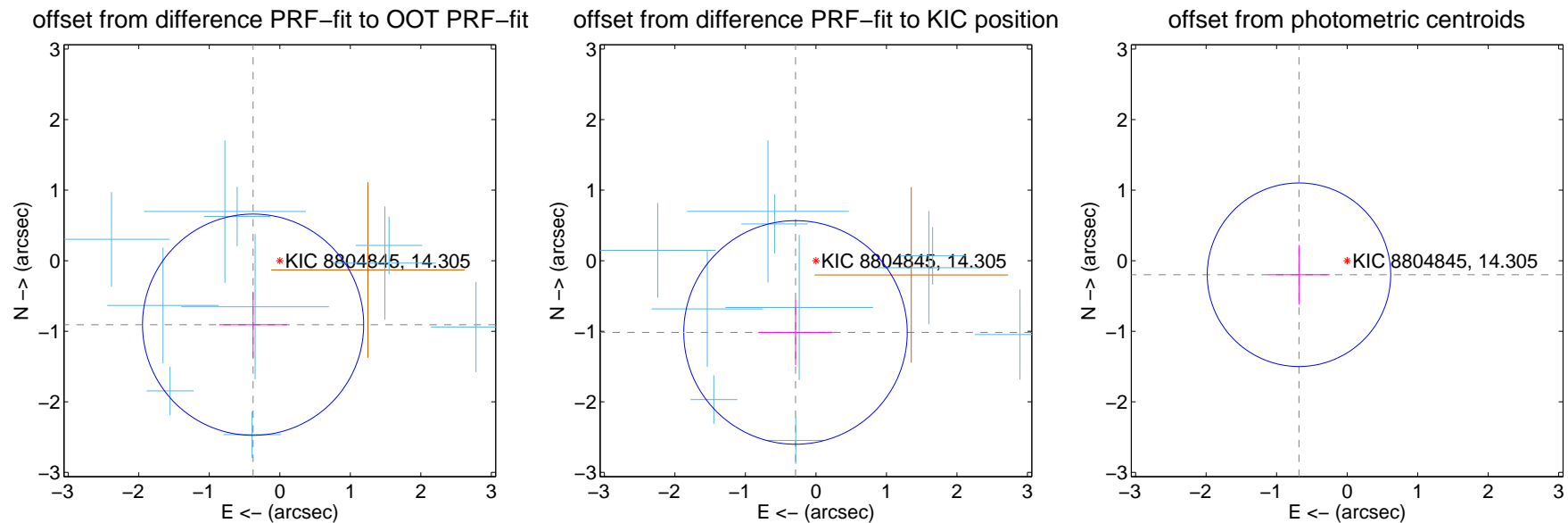
DV Centroid Data

Supplemental centroid analysis for 008804845-01. Kepler magnitude: 14.30. Transit SNR 28.20

There are 10 quarters with good PRF difference image offsets

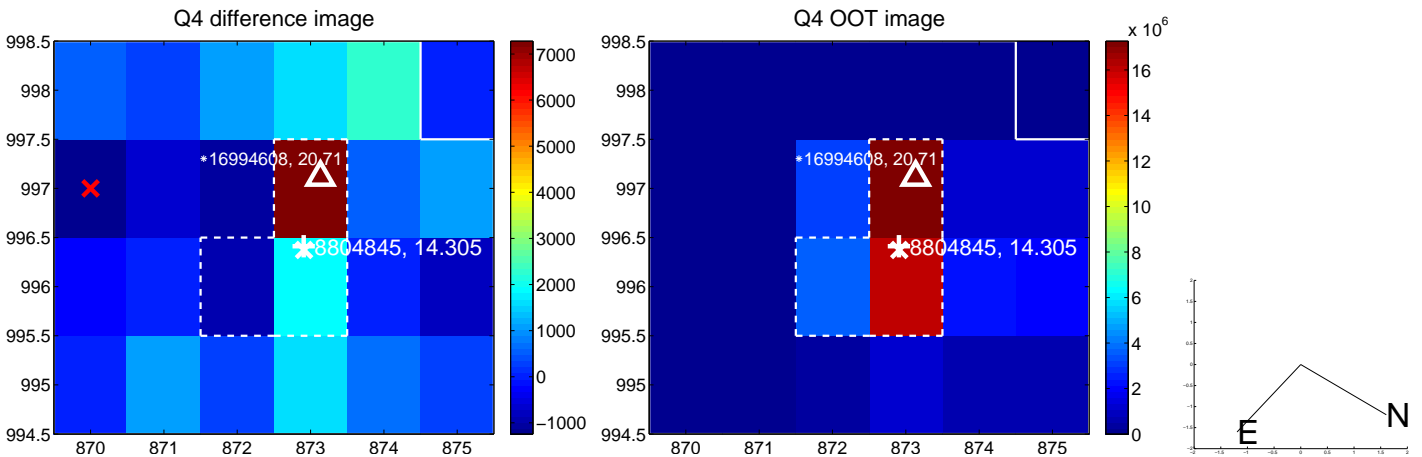
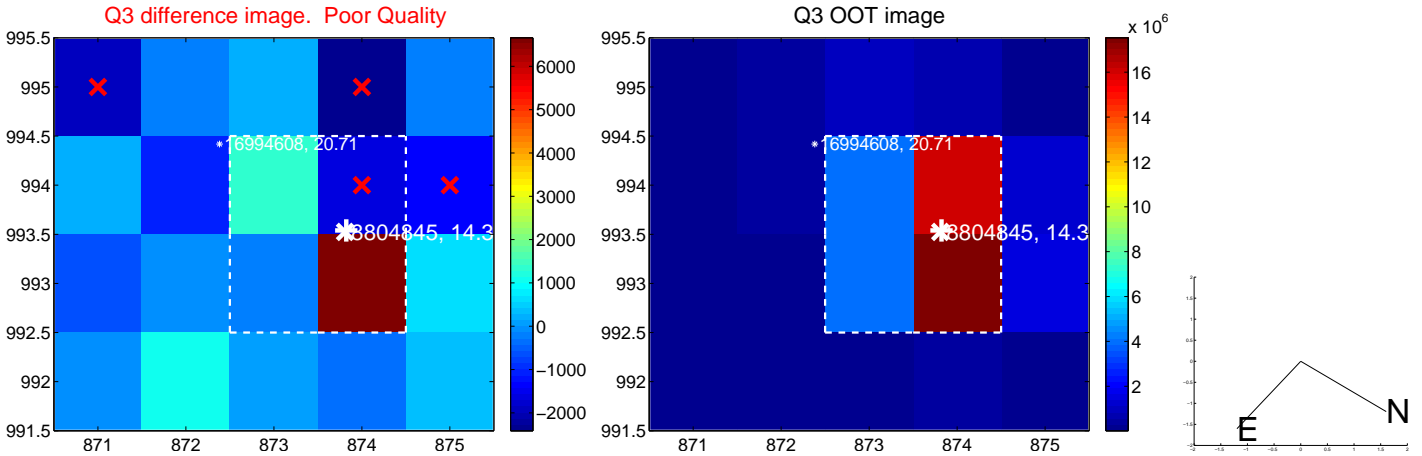
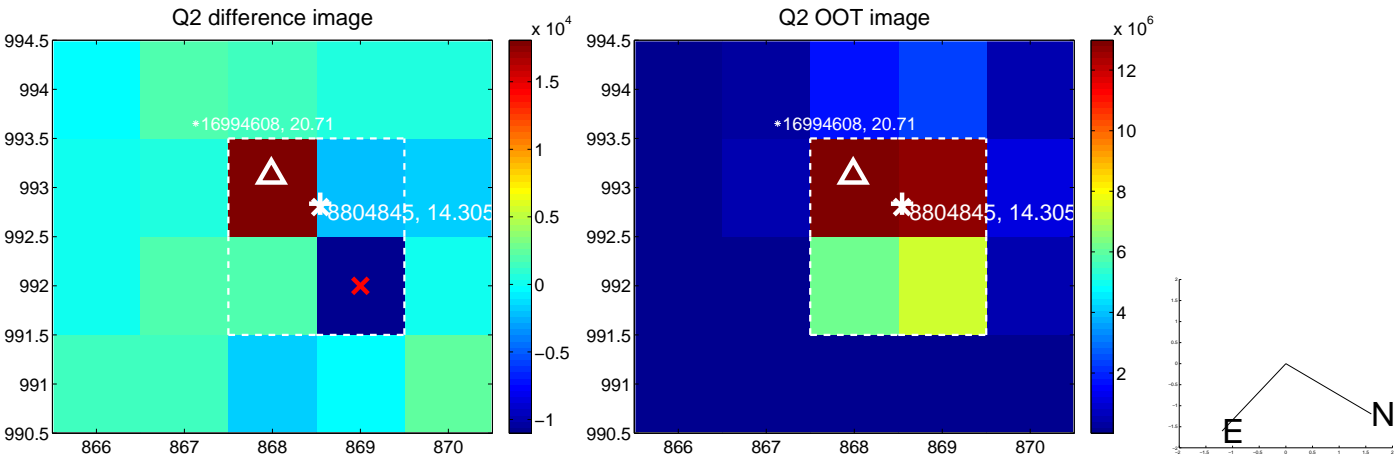
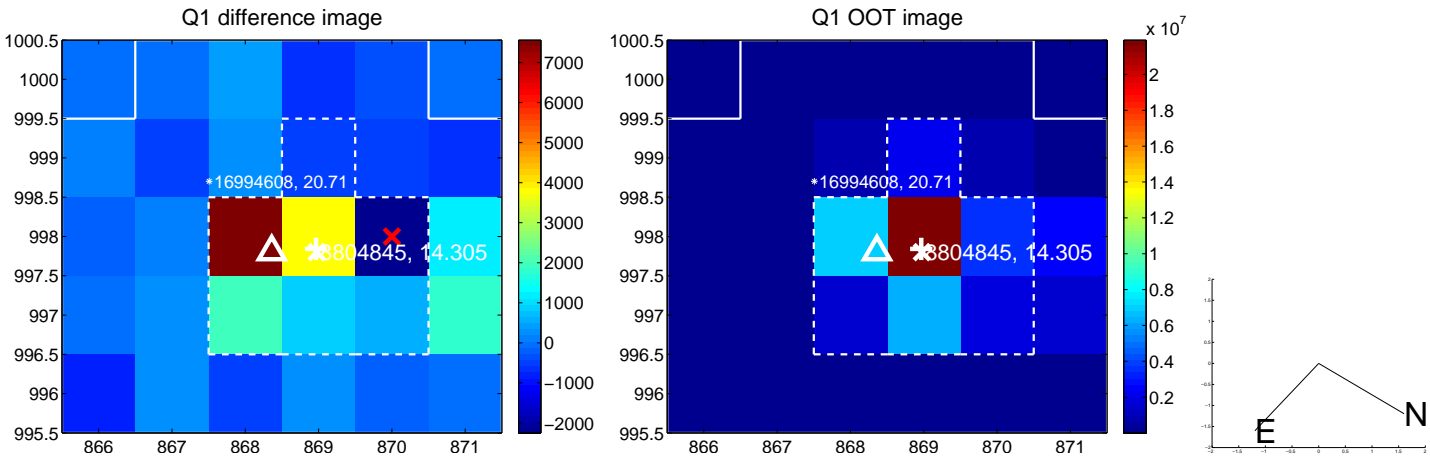
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.983 ± 0.523	1.88	0.379 ± 0.482	-0.907 ± 0.465
PRF-fit source offset from KIC position	1.057 ± 0.528	2.00	0.289 ± 0.529	-1.017 ± 0.463
photometric centroid source offset	0.71 ± 0.43	1.64	0.68 ± 0.43	-0.20 ± 0.42

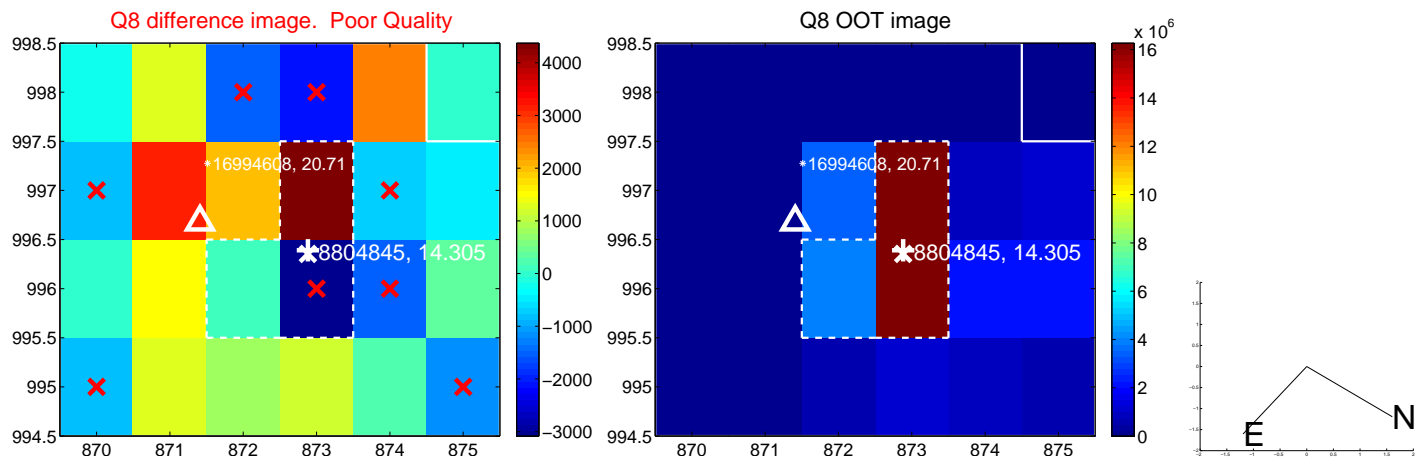
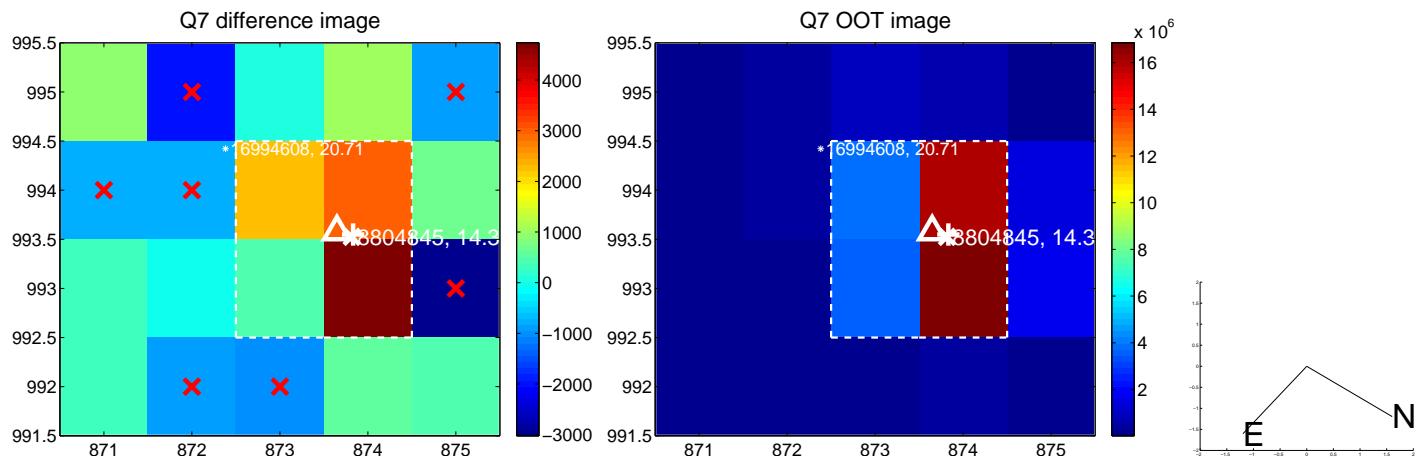
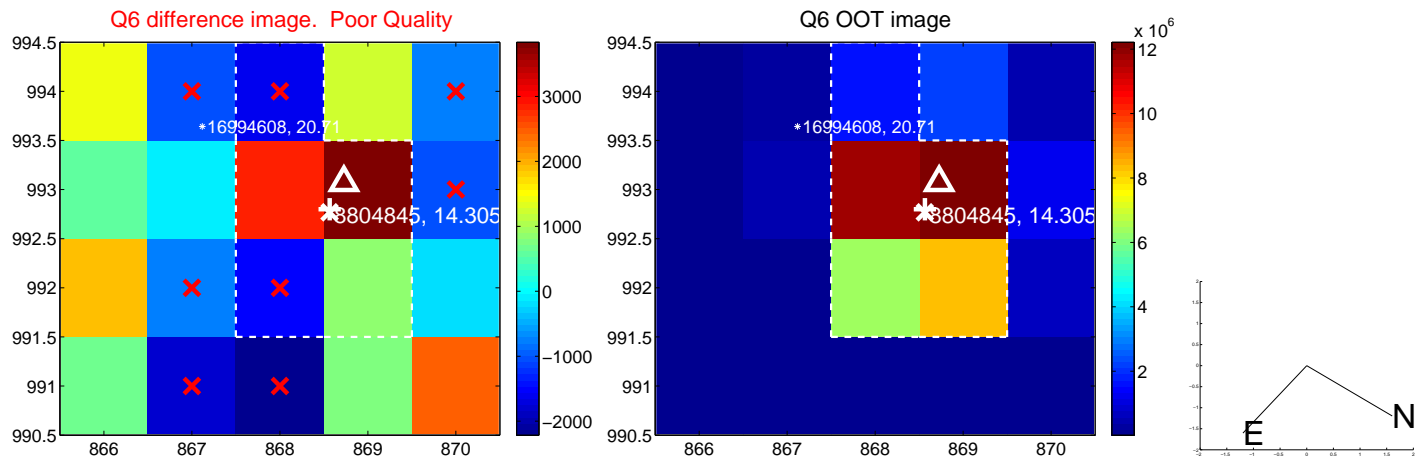
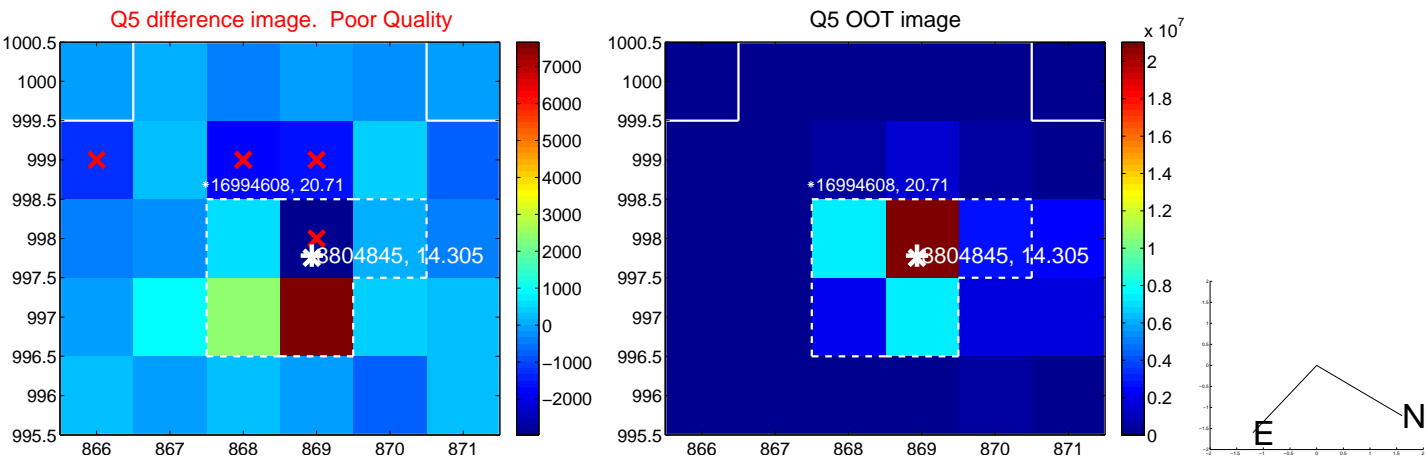


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

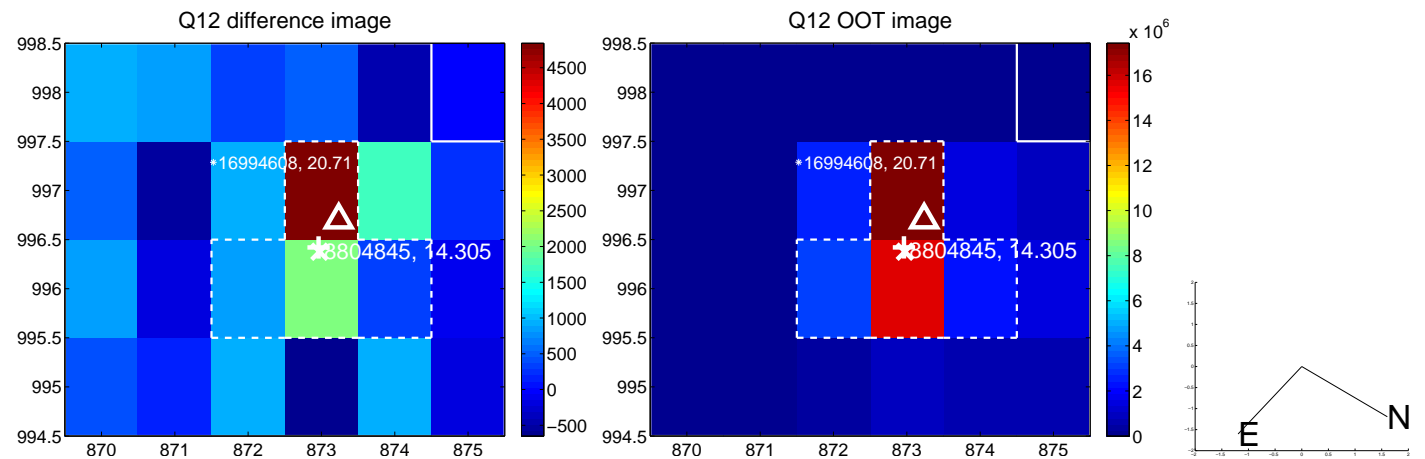
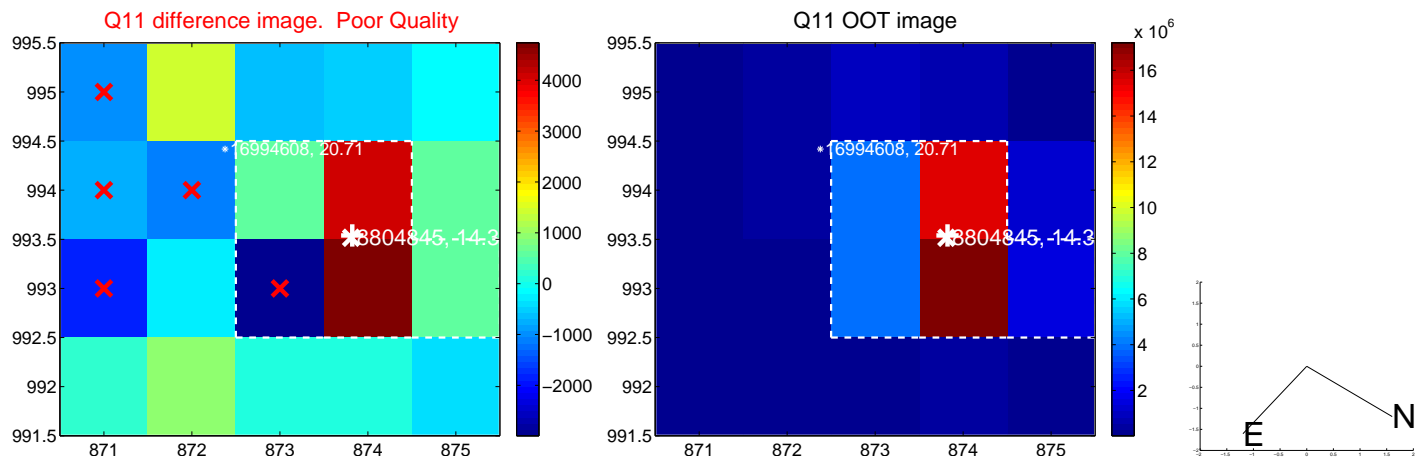
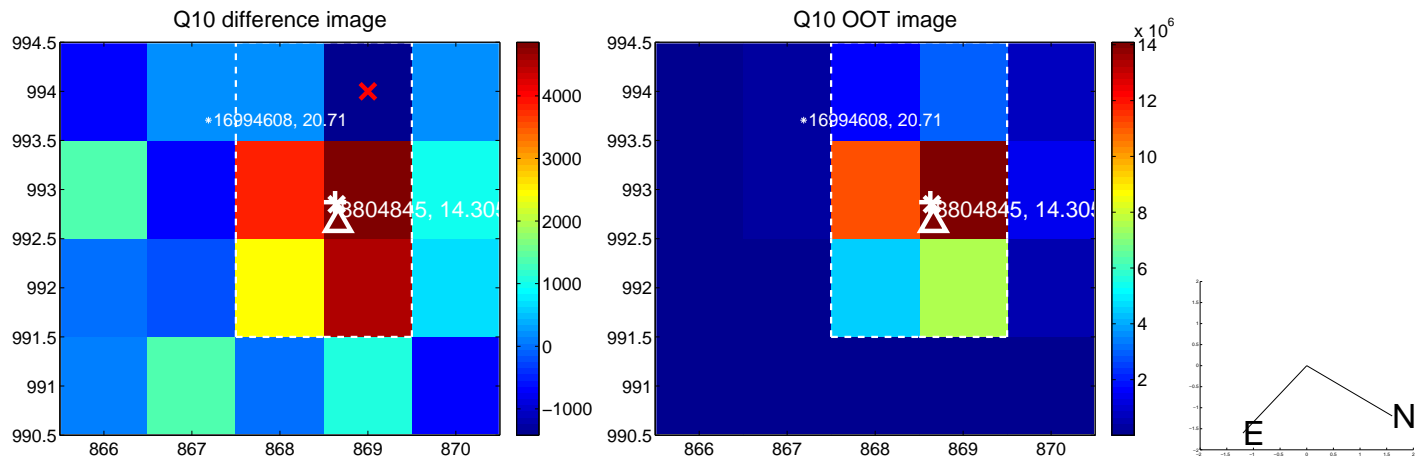
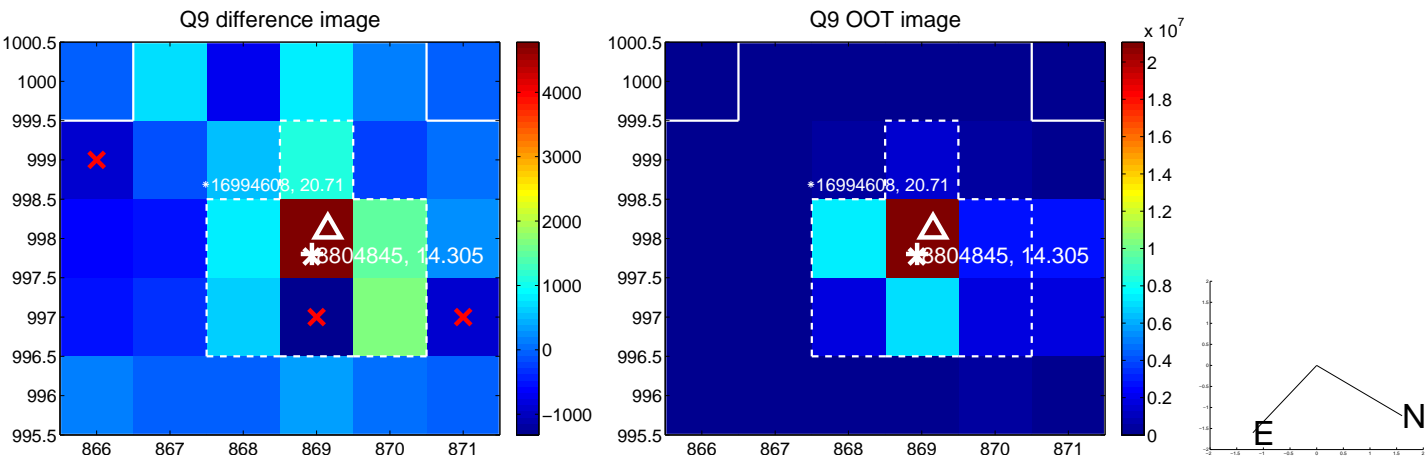
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



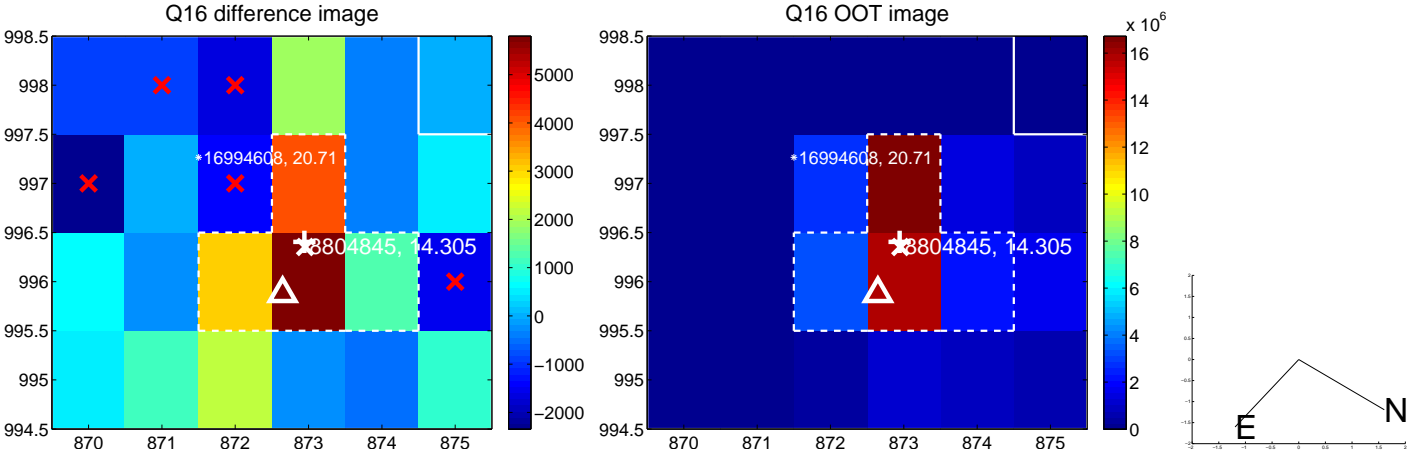
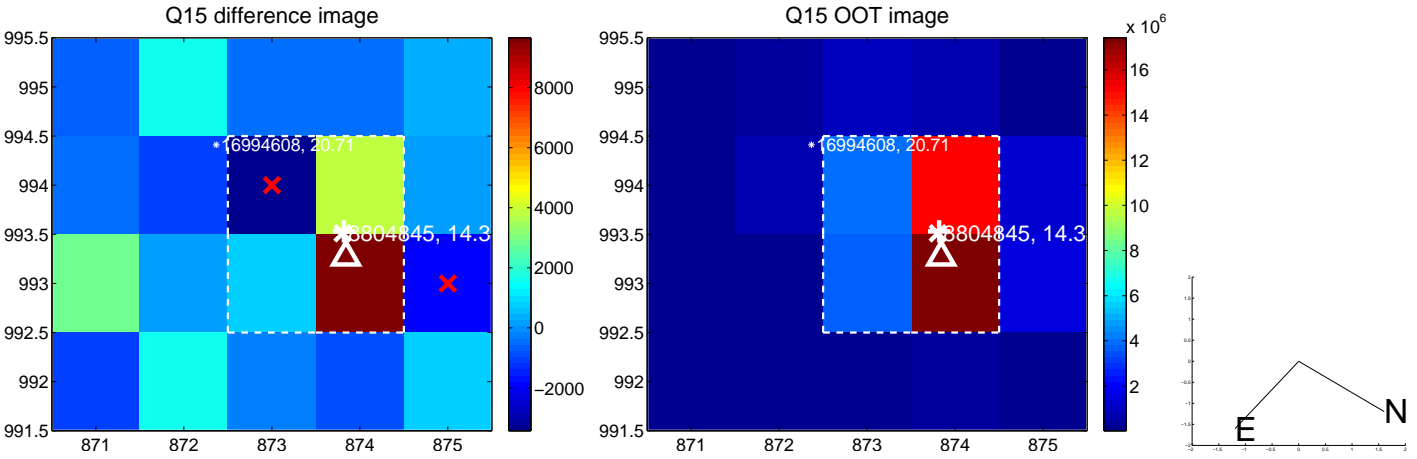
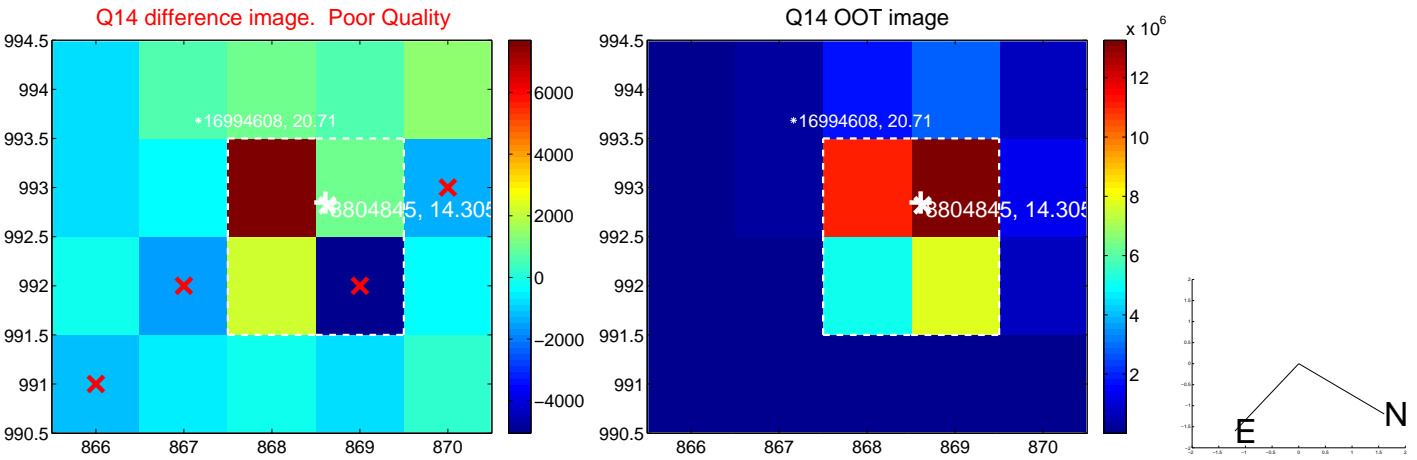
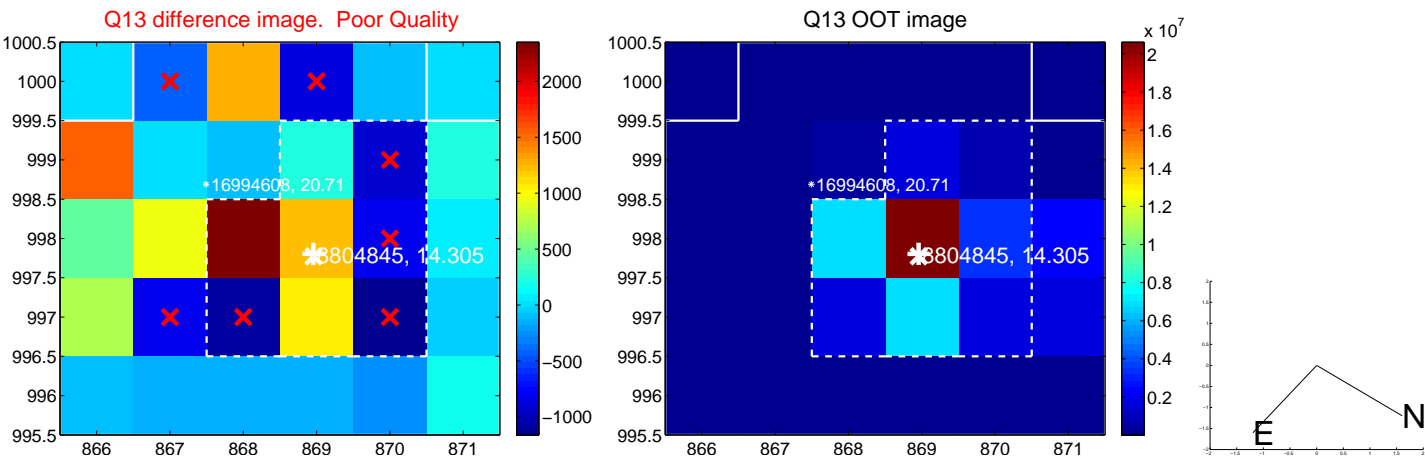
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



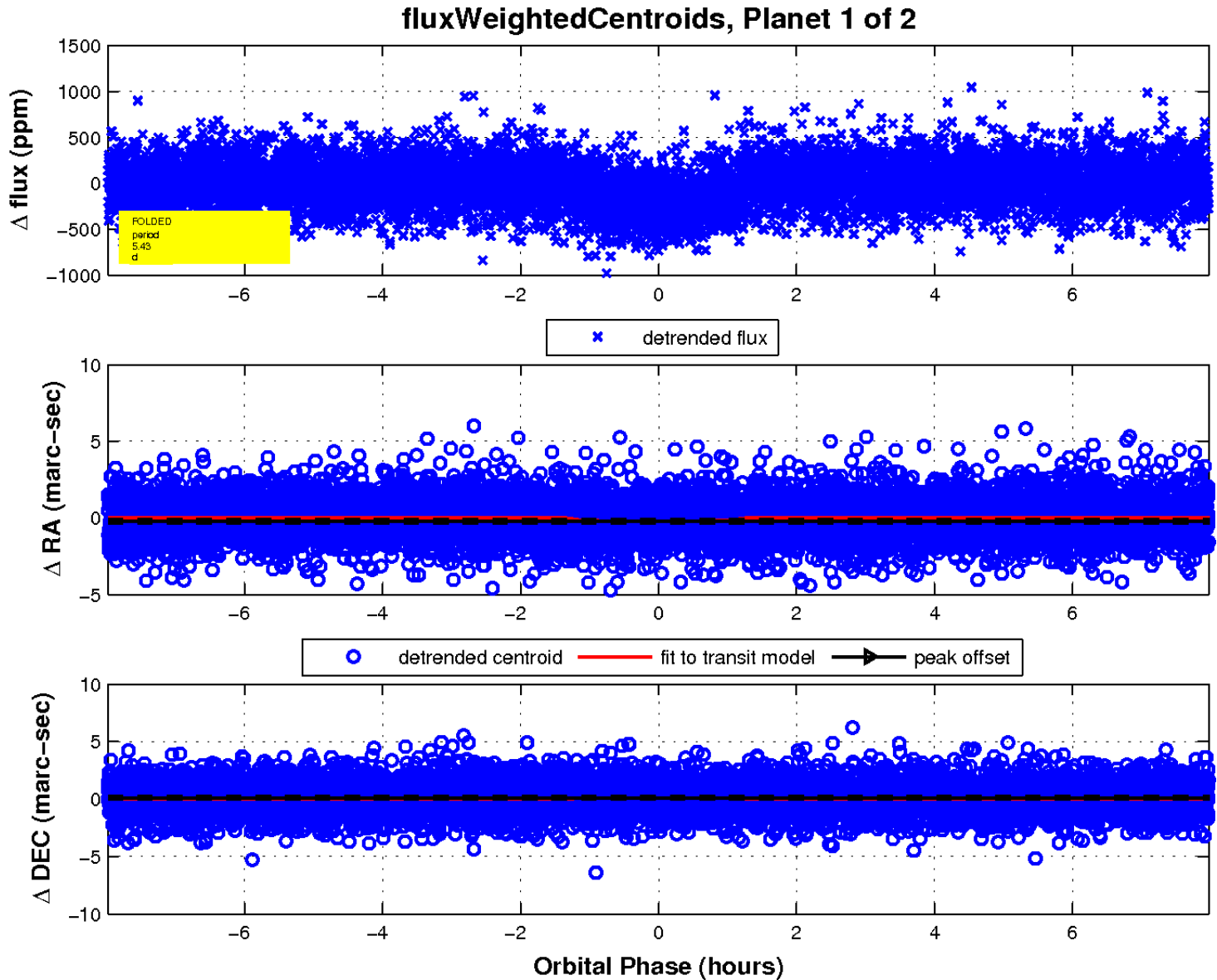
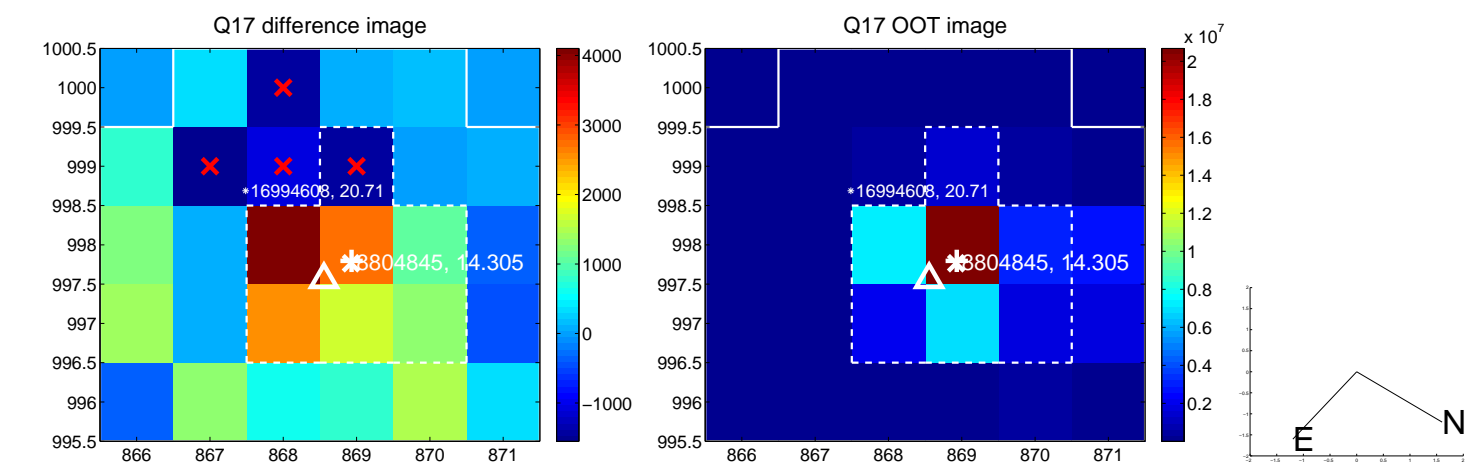
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

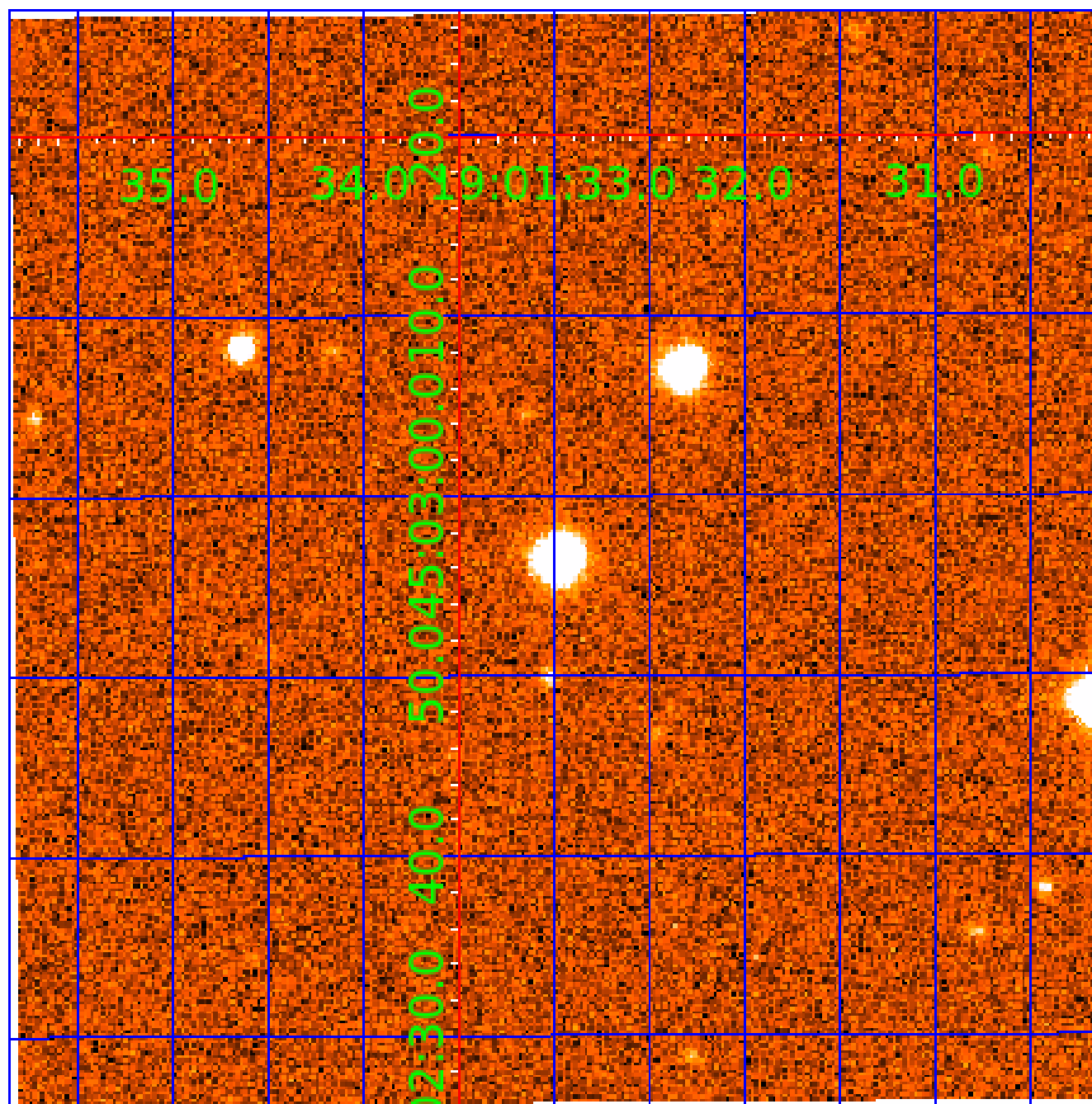


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008804845

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})
008804845-01	OBS	2039.01	5.425838	135.870397	245.3	2.660	25.9	28.2	0.93	5594	1.76	212.19
008804845-02	OBS	2039.02	0.762133	131.615568	70.5	1.133	12.6	15.4	0.93	5594	0.78	2906.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008804845-01	OBS	PC	0.95	0	0	0	0	NO_COMMENT
008804845-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

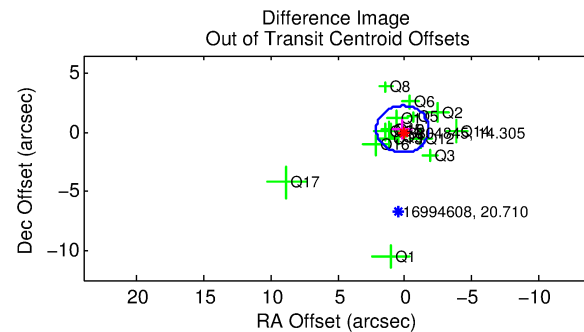
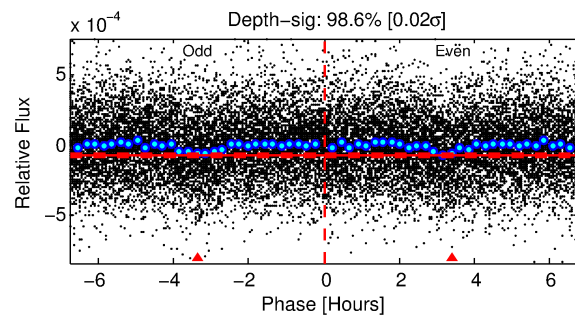
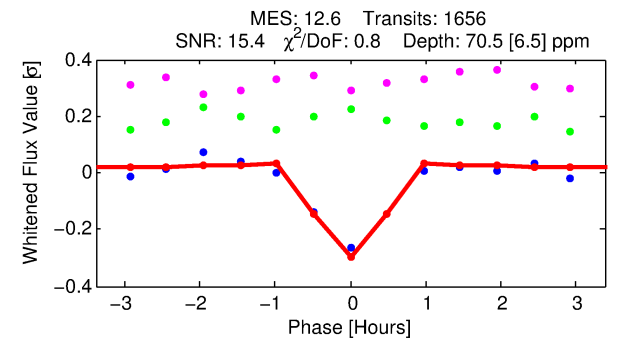
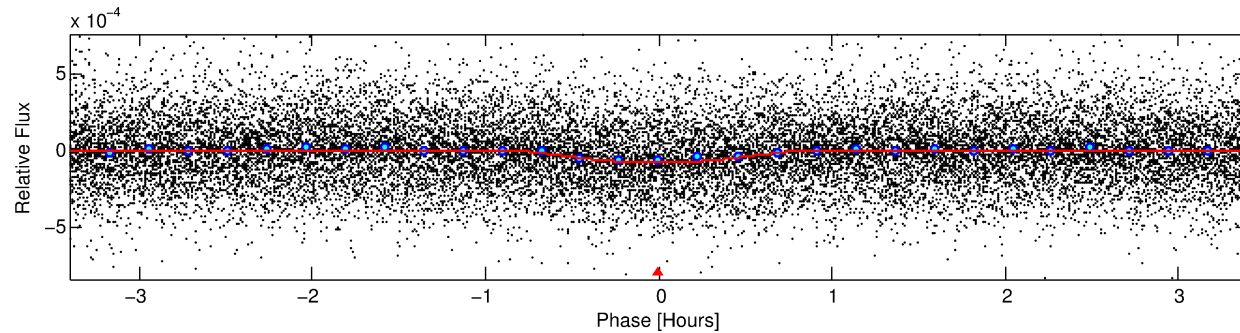
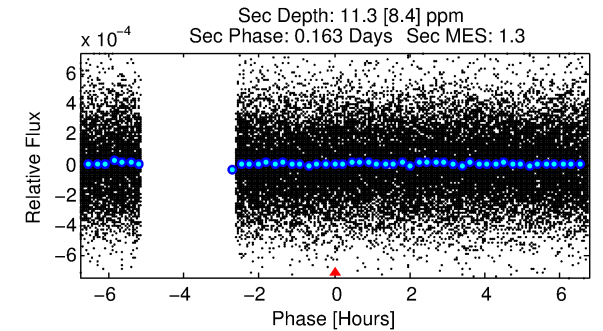
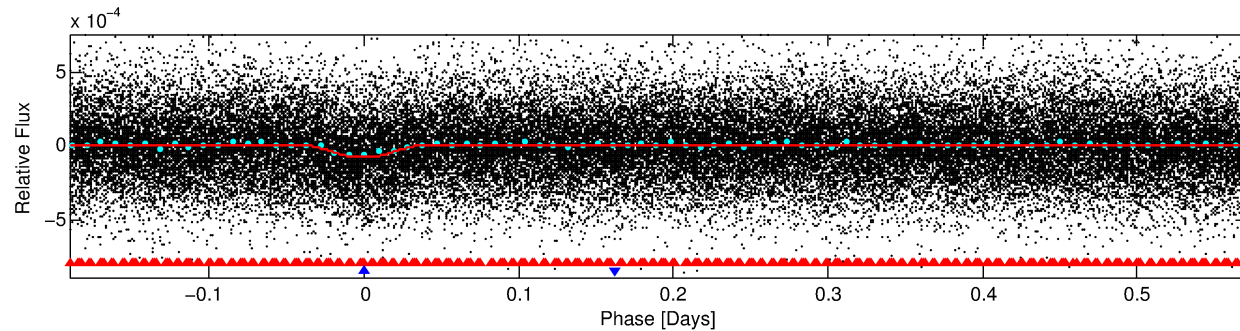
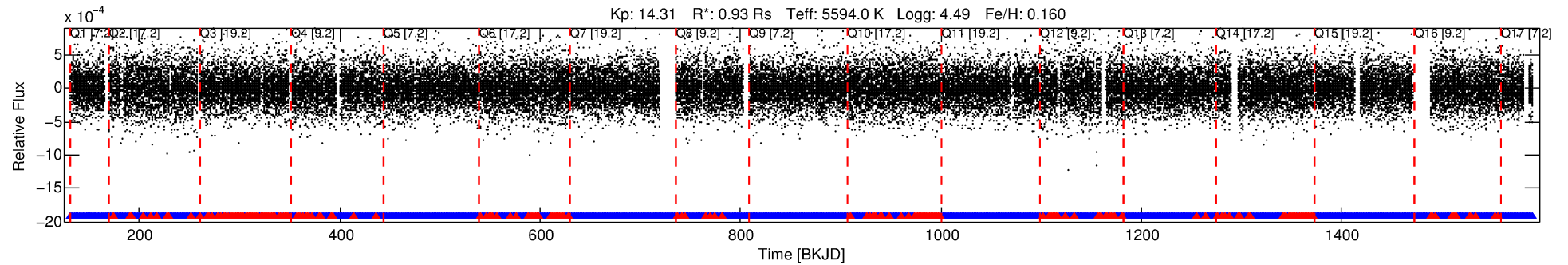
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008804845-02

No Significant Match Found

DV One-Page Summary

KIC: 8804845 Candidate: 2 of 2 Period: 0.762 d
KOI: K02039.02 Corr: 0.955



DV Fit Results:

Period = 0.76213 [0.00001] d
Epoch = 131.6156 [0.0012] BKJD
Rp/R* = 0.0077 [0.0056]
a/R* = 5.05 [14.34]
b = 0.26 [10.85]
Seff = 2906.08 [594.35]
Teq = 1872 [96] K
Rp = 0.78 [0.58] Re
a = 0.0162 [0.0020] AU
Ag = 2.68 [4.41] [0.38σ]
Teffp = 3703 [1516] K [1.21σ]

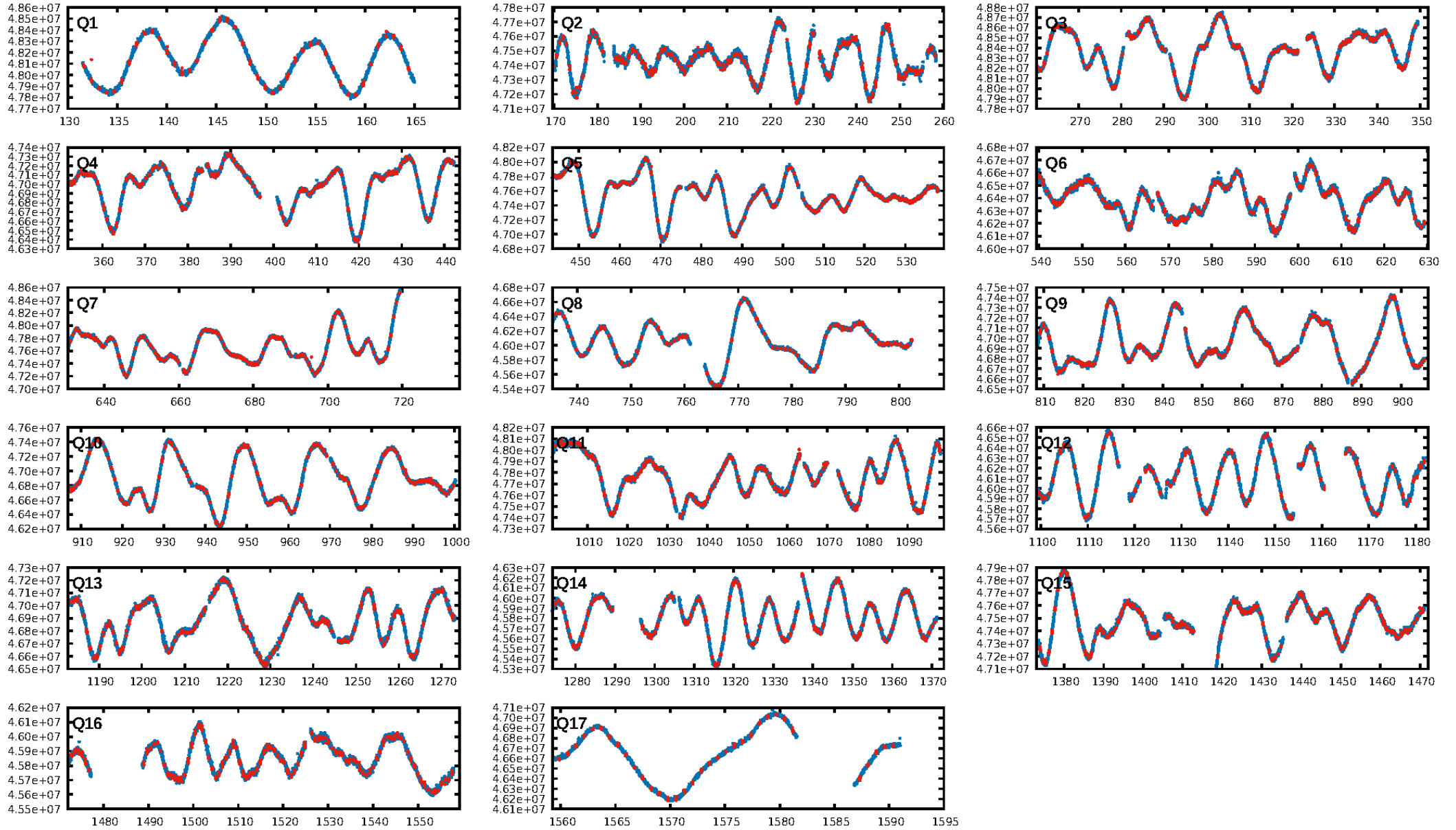
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [38.71σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.08e-35
RollingBand-fgt: 0.84 [1327/1583]
GhostDiagnostic-chr: -16.29
Centroid-sig: 9.1%
Centroid-so: 1.147 arcsec [1.40σ]
OotOffset-rm: 0.296 arcsec [0.45σ]
KicOffset-rm: 0.205 arcsec [0.30σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

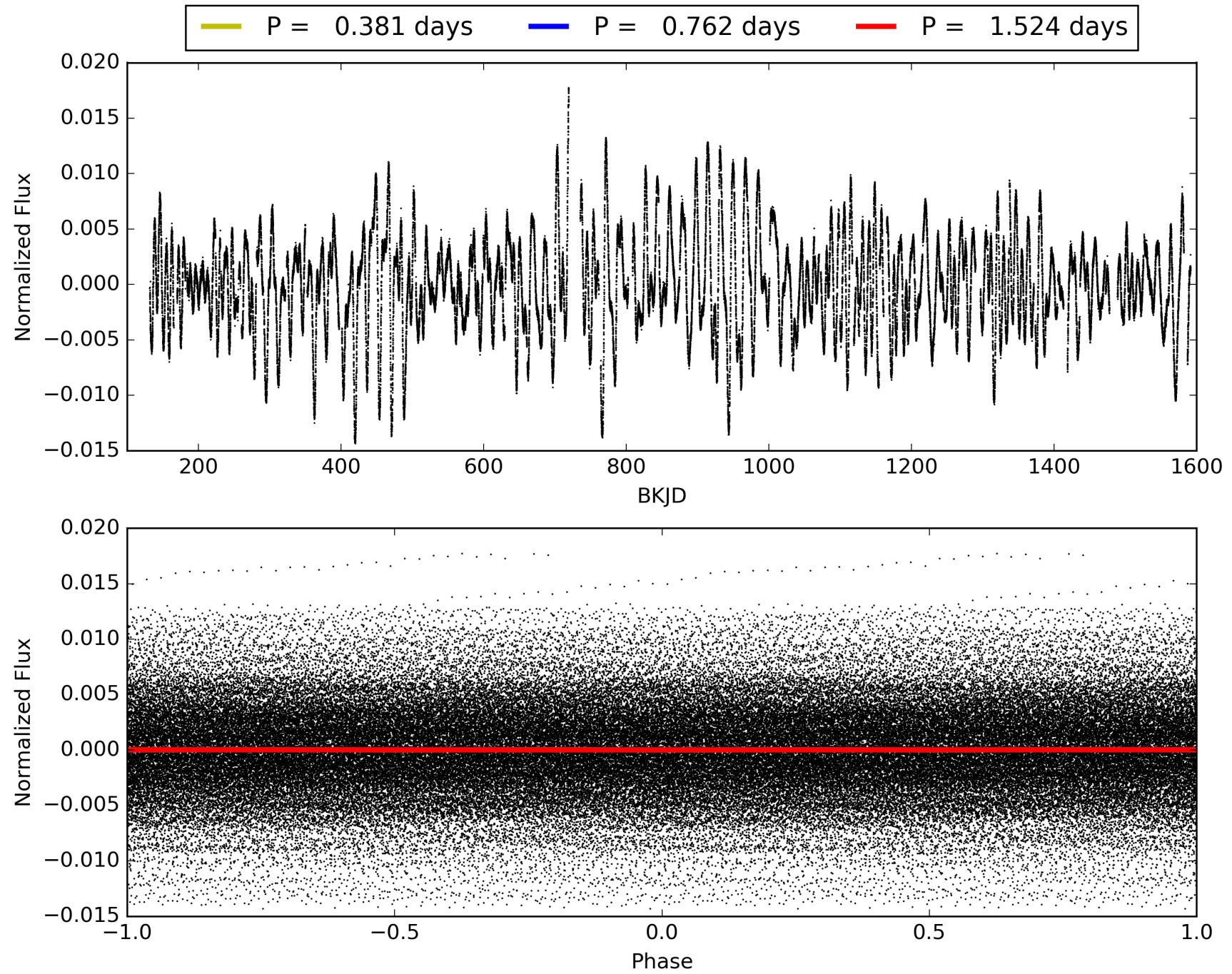
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:08:11 Z

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

TCE 008804845-02, PDC Light Curves

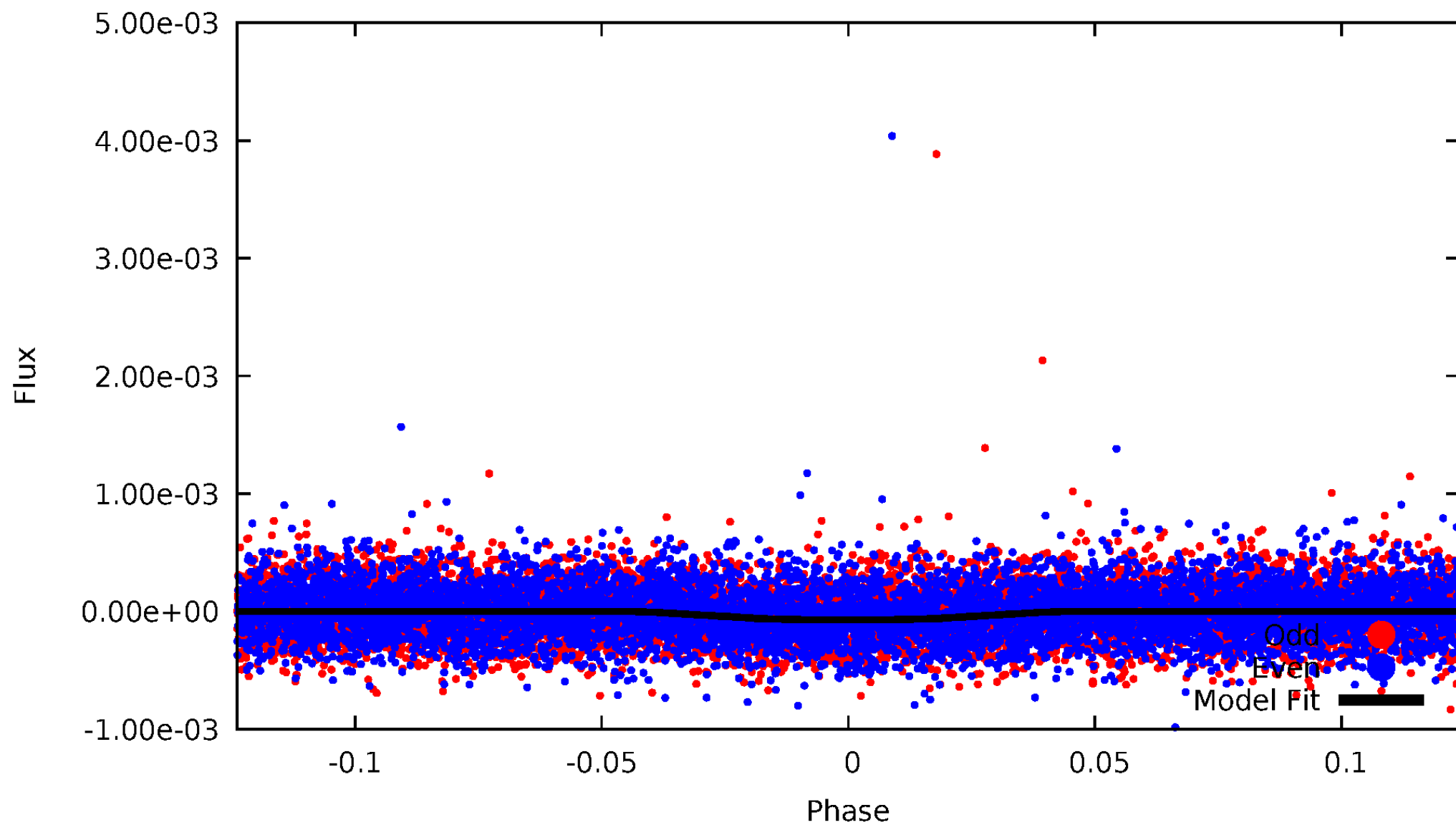


TCE 008804845-02



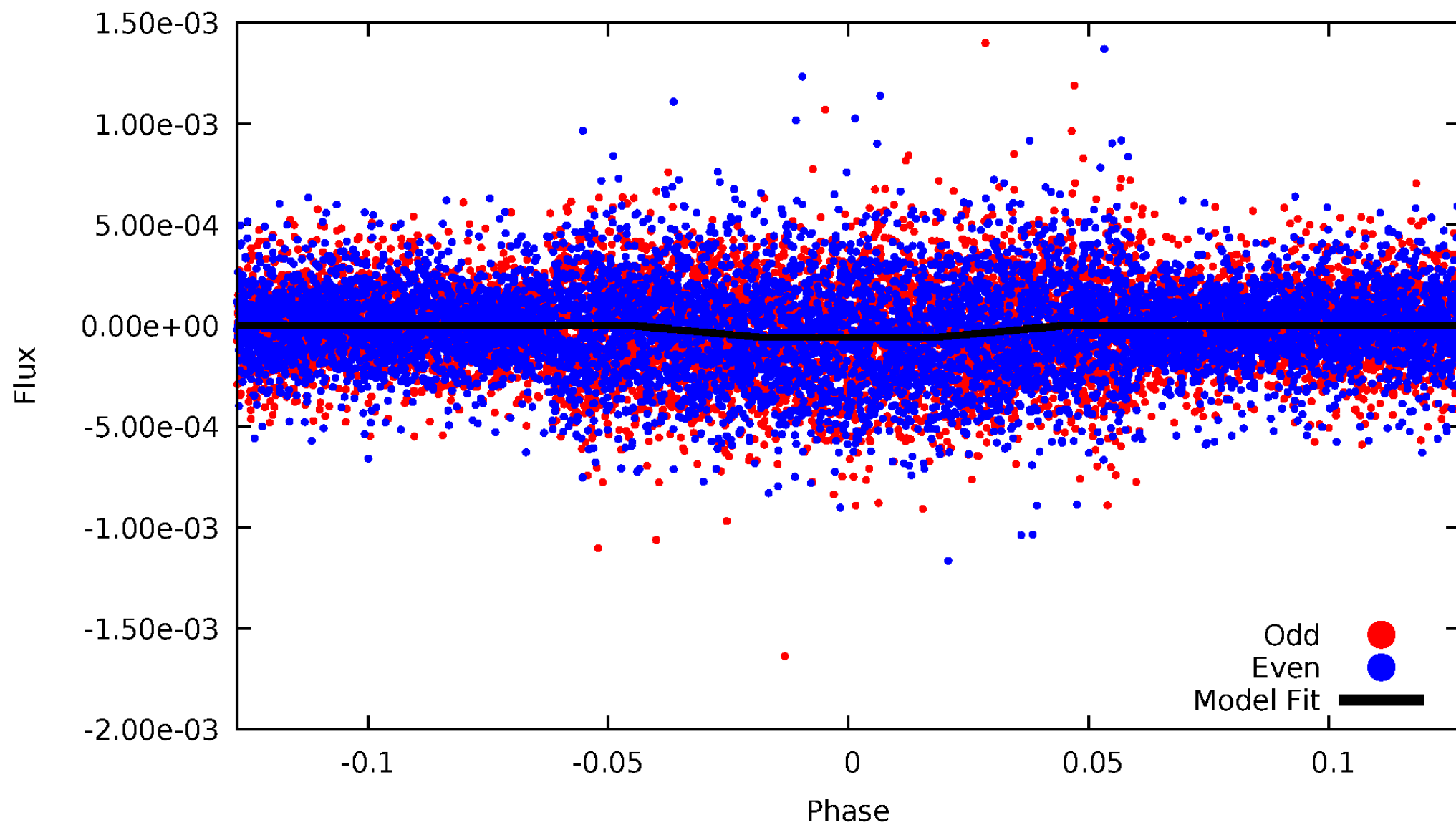
DV Odd/Even

TCE 008804845-02



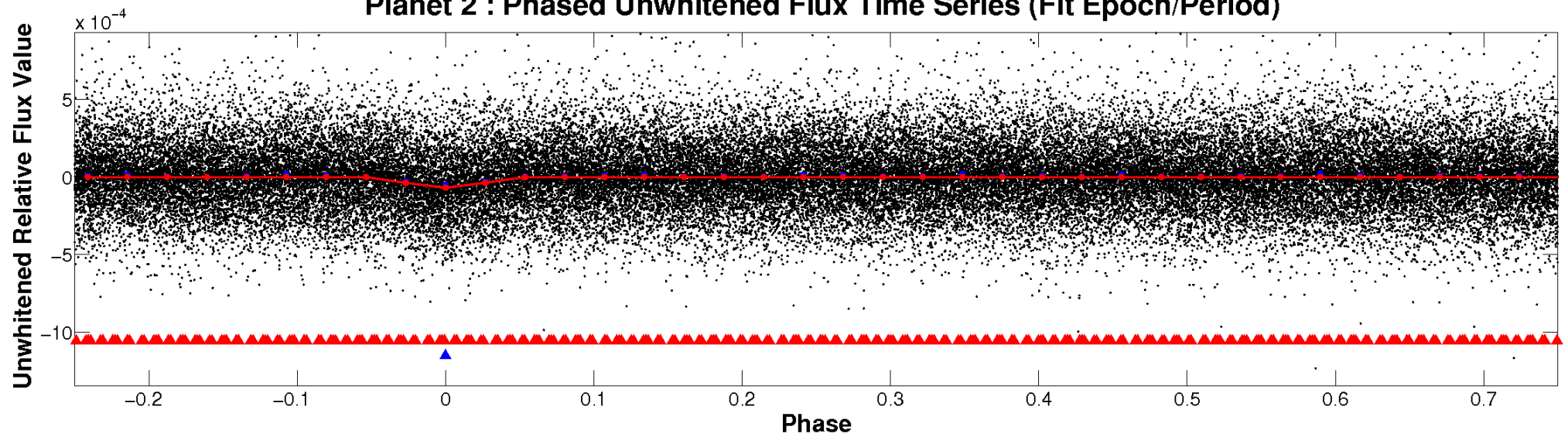
ALT Odd/Even

TCE 008804845-02

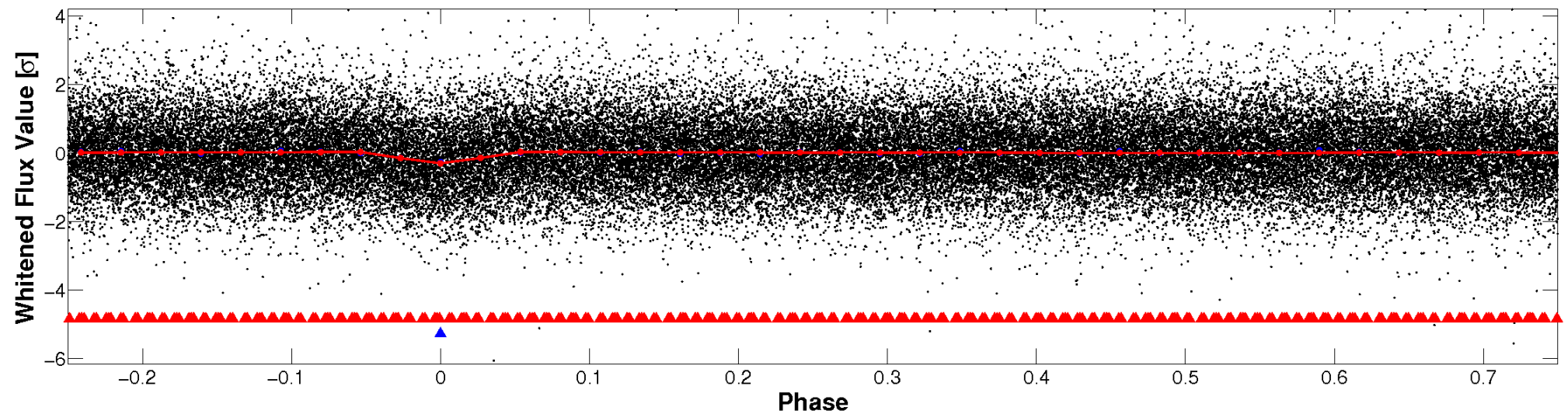


Non-Whitened Vs. Whitened Light Curve

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

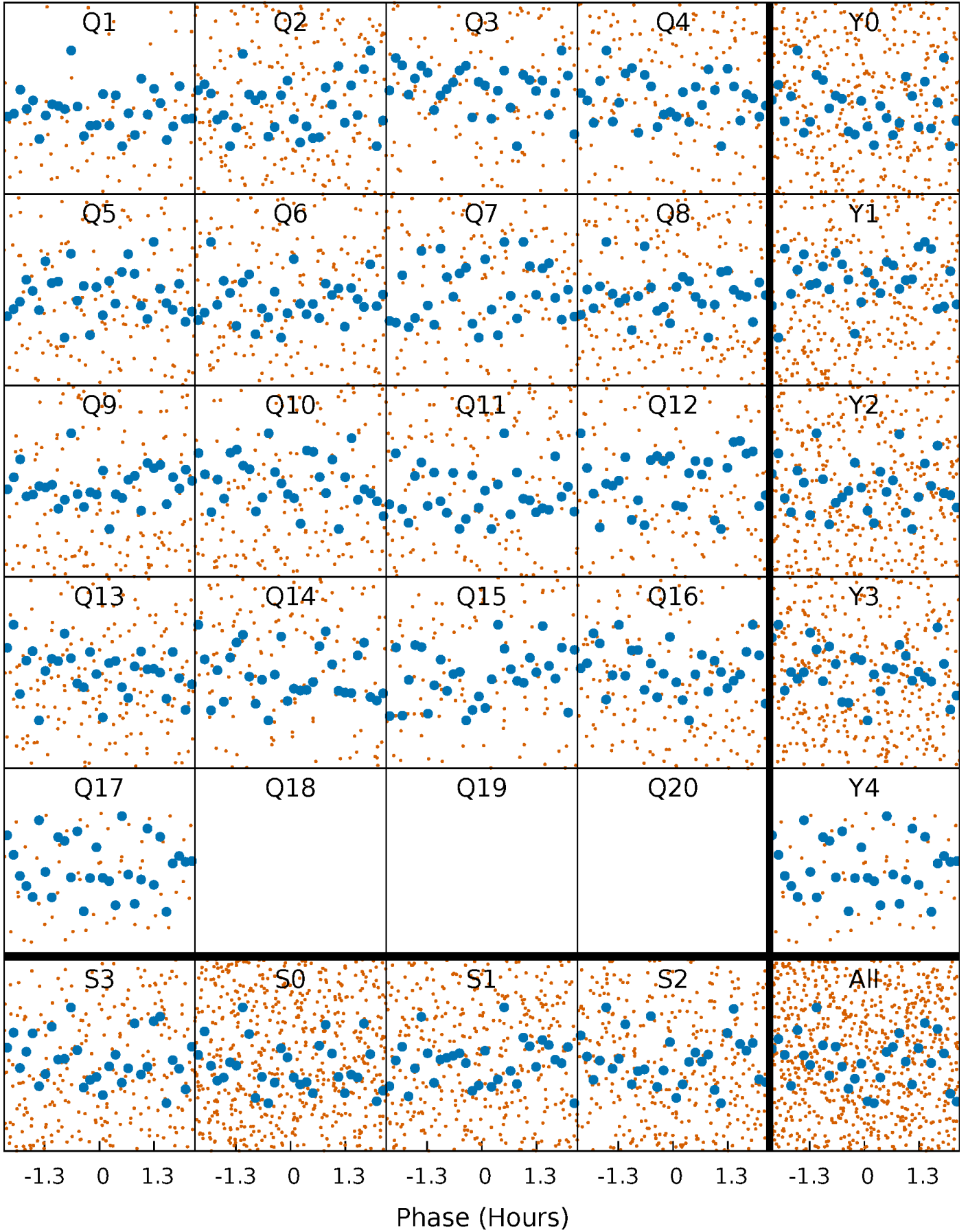


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



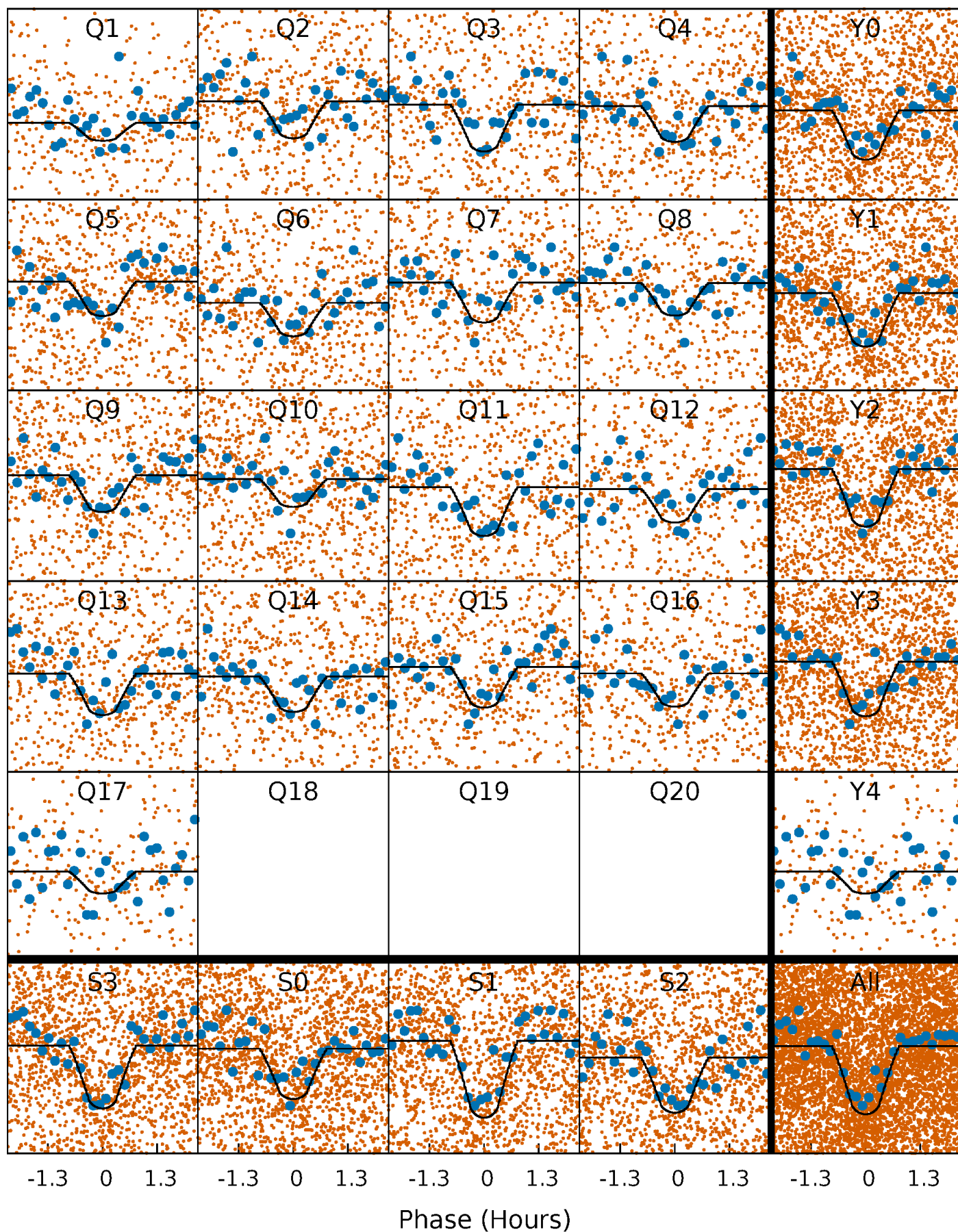
PDC Quarter-Phased Transit Curves

TCE 008804845-02 P= 0.762133 Days $T_0=131.615568$ (BKJD)



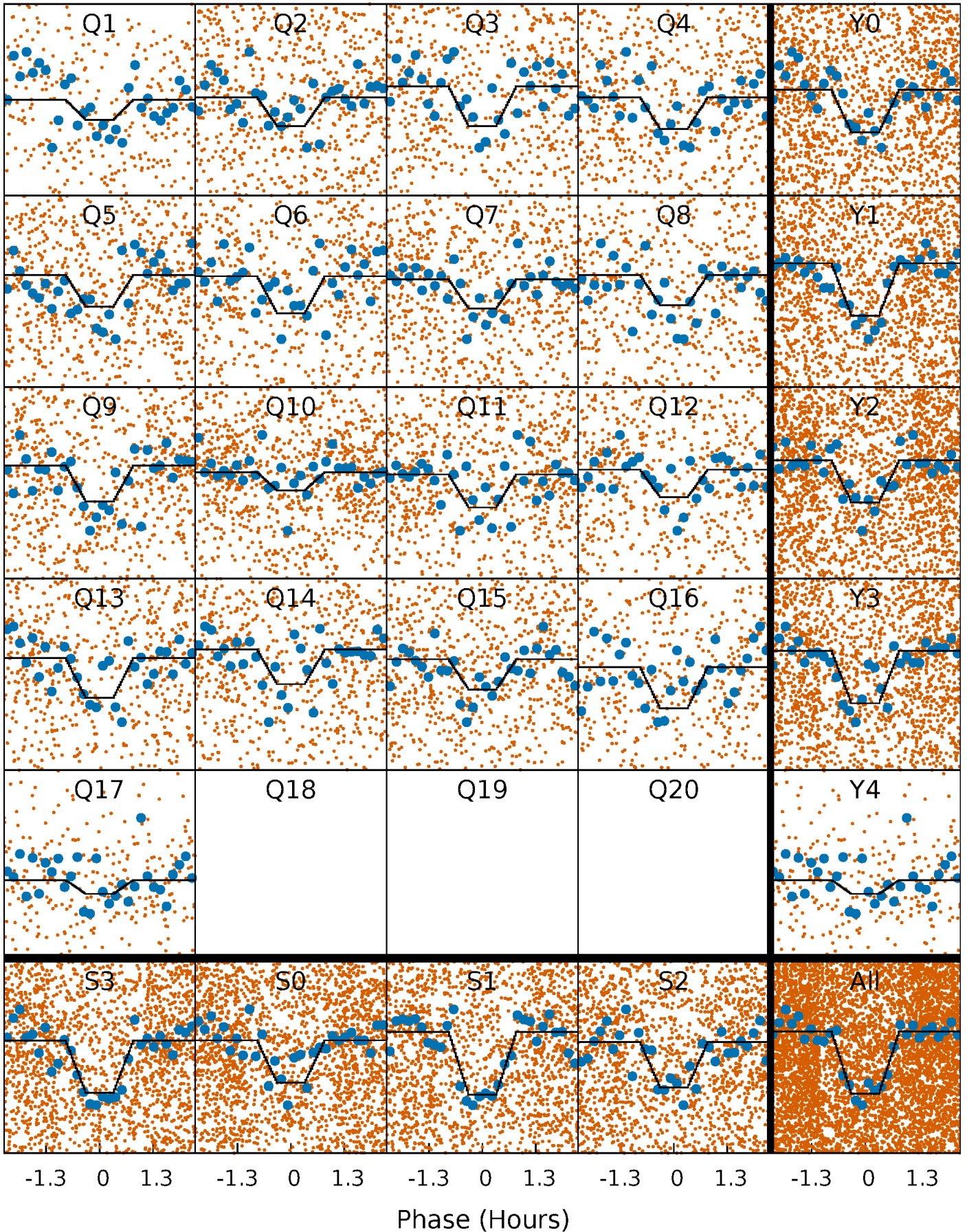
DV Quarter-Phased Transit Curves

TCE 008804845-02 P= 0.762133 Days $T_0=131.615568$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

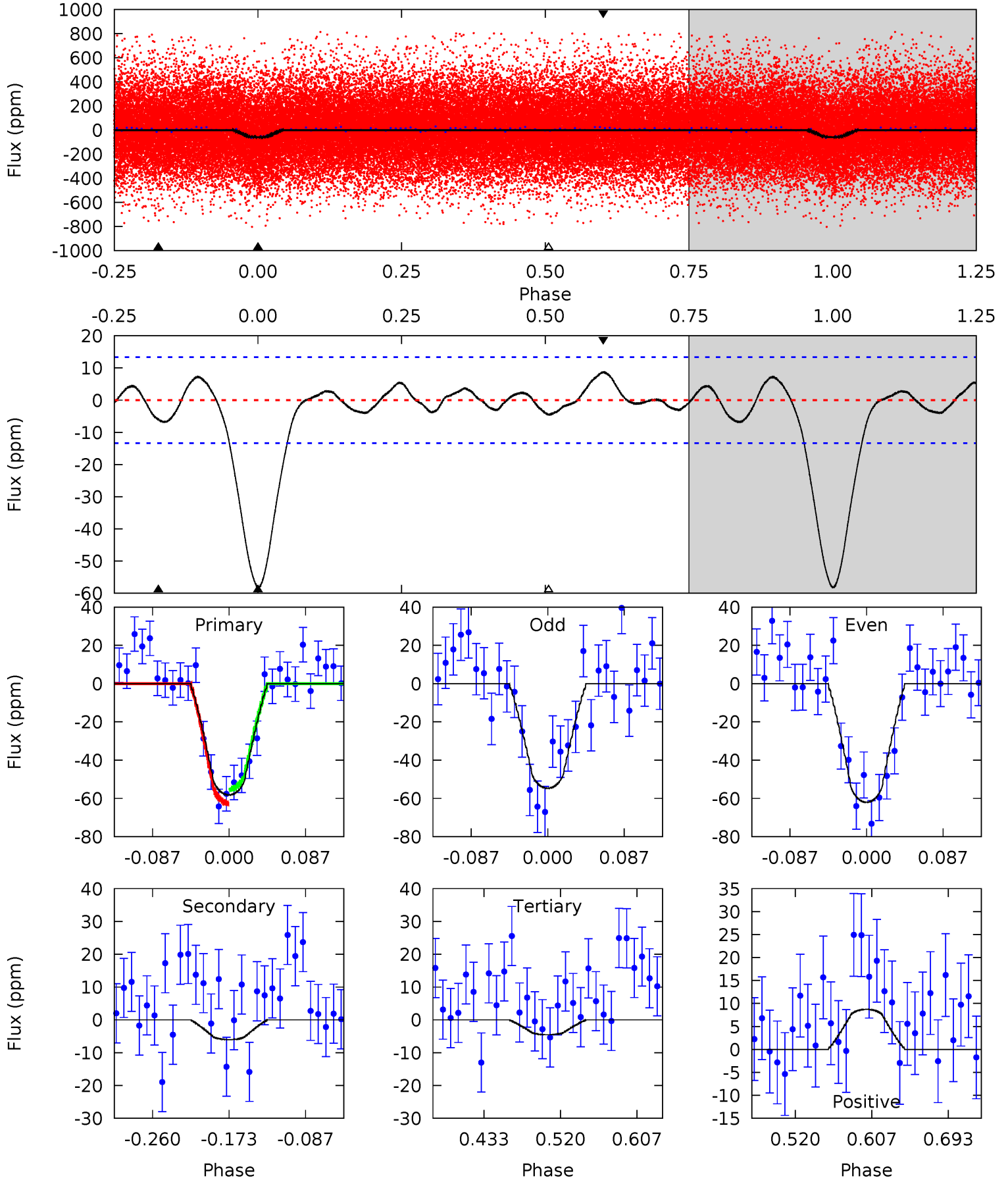
TCE 008804845-02 $P = 0.762134$ Days $T_0 = 131.614865$ (BKJD)



DV Model-Shift Uniqueness Test

008804845-02, P = 0.762133 Days, E = 130.853435 Days

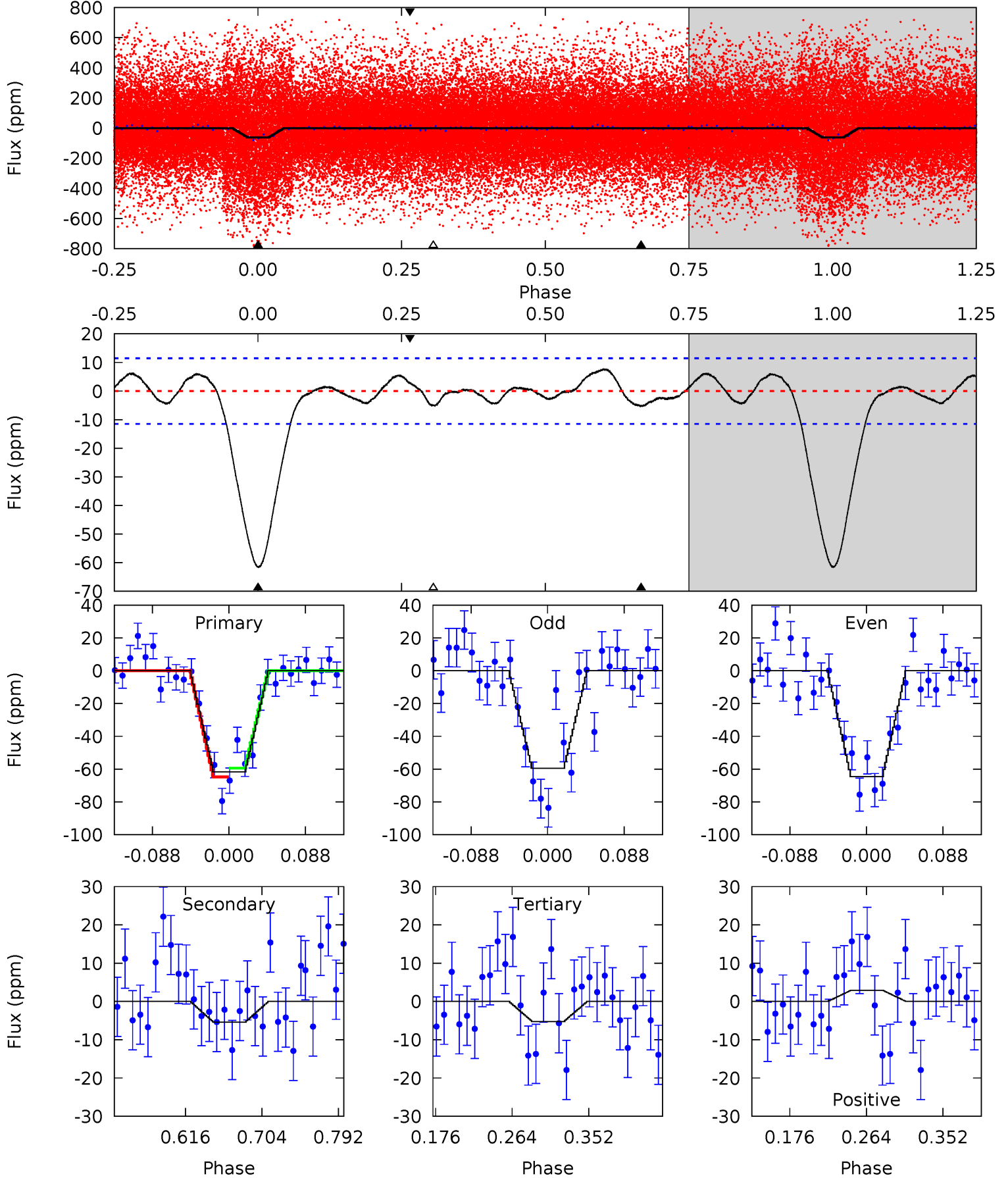
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	2.07	1.56	2.99	4.59	1.71	1.02	18.4	17.0	0.51	-0.92	1.26	0.84	0.13	1.27



Alt Model-Shift Uniqueness Test

008804845-02, P = 0.762134 Days, E = 130.852731 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.7	2.17	2.09	1.16	4.59	1.71	1.18	22.6	23.5	0.07	1.00	1.00	1.01	0.11	1.05



Stellar Parameters For KIC 008804845

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5594^{+75}_{-83}	$4.489^{+0.038}_{-0.113}$	$0.160^{+0.150}_{-0.150}$	$0.934^{+0.127}_{-0.054}$	$0.981^{+0.048}_{-0.066}$	$1.694^{+0.241}_{-0.559}$
	+1%/-1%	+1%/-3%	+94%/-94%	+14%/-6%	+5%/-7%	+14%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008804845-02 / KOI 2039.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 3	$0.84^{+0.60}_{-0.48}$	2641^{+98}_{-65}	3315^{+1388}_{-1479}	$1.079^{+5.120}_{-0.773}$
Alt.	-5 ± 2	$0.85^{+0.56}_{-0.48}$	2634^{+107}_{-64}	3258^{+1302}_{-1176}	$1.017^{+4.323}_{-0.696}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

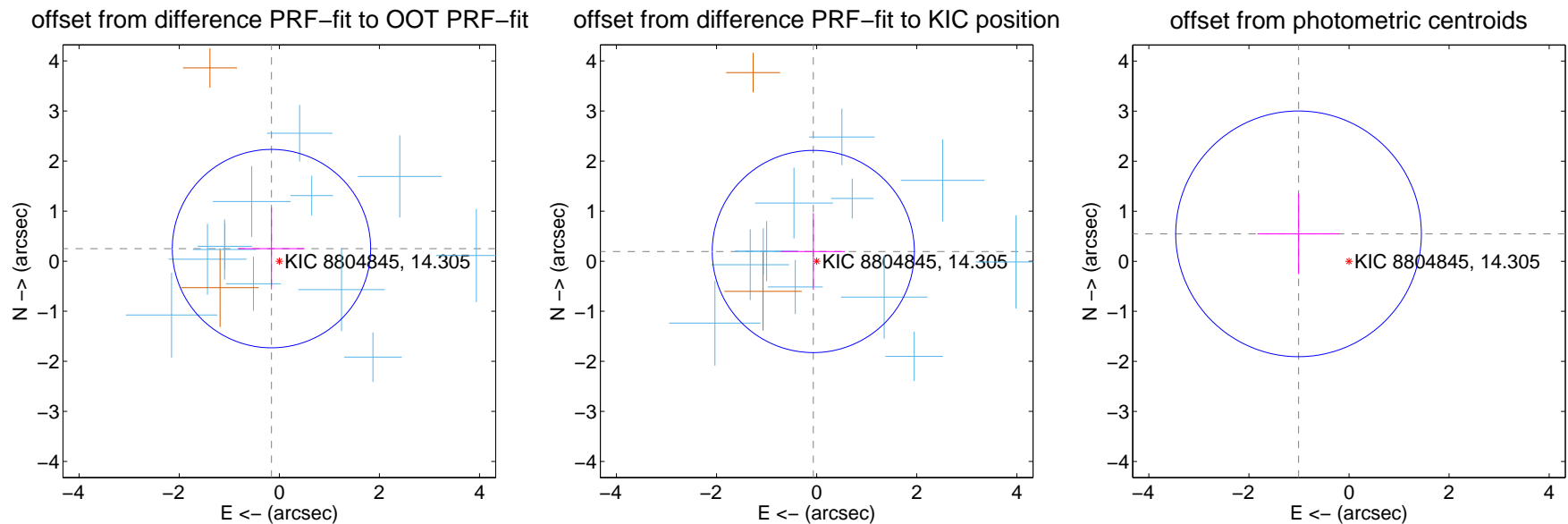
DV Centroid Data

Supplemental centroid analysis for 008804845-02. Kepler magnitude: 14.30. Transit SNR 15.40

There are 12 quarters with good PRF difference image offsets

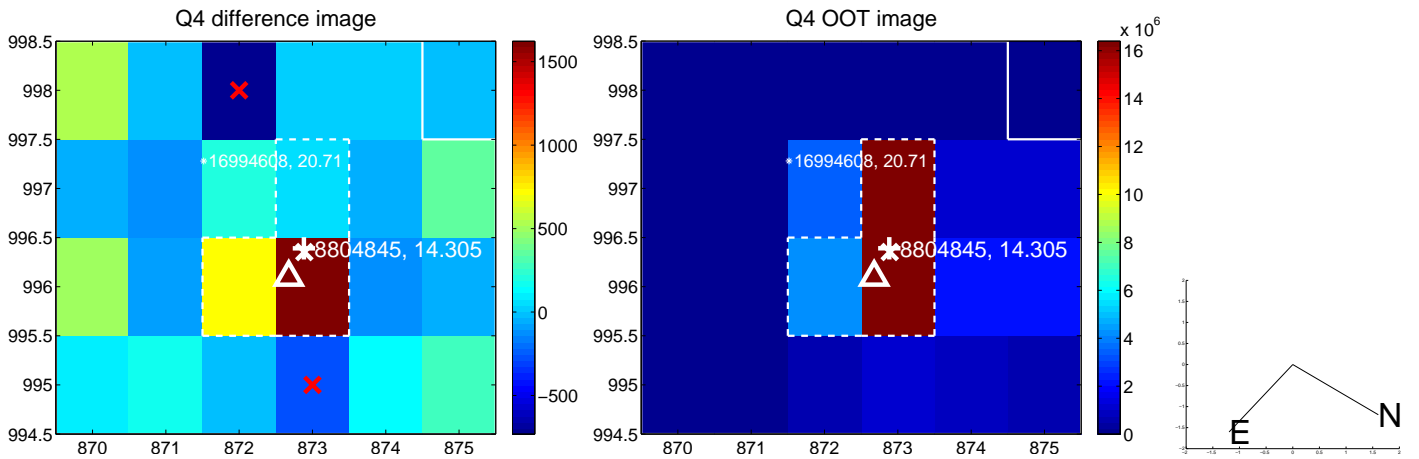
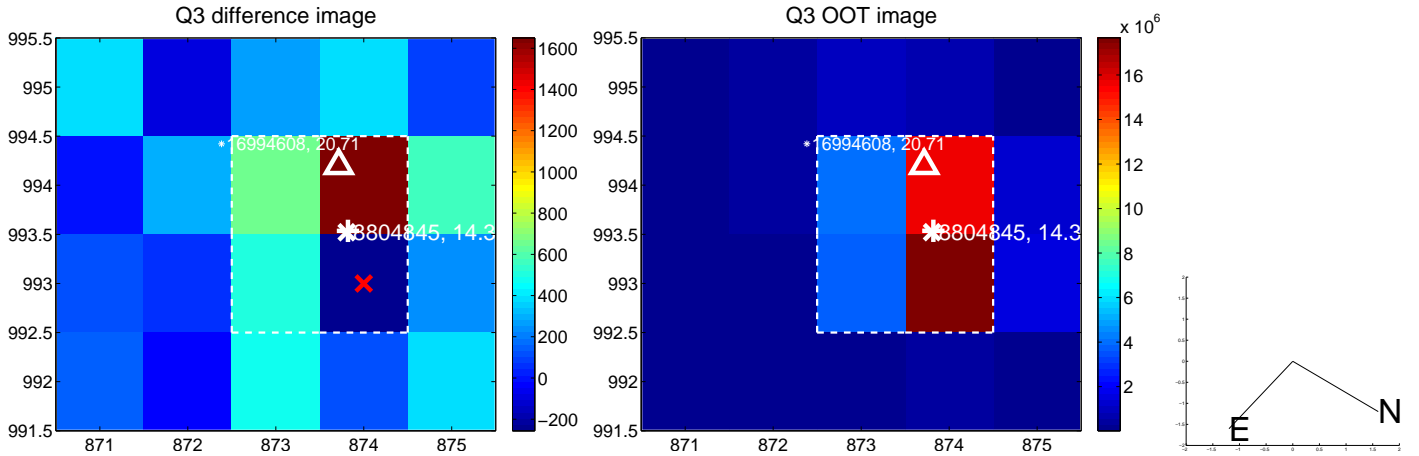
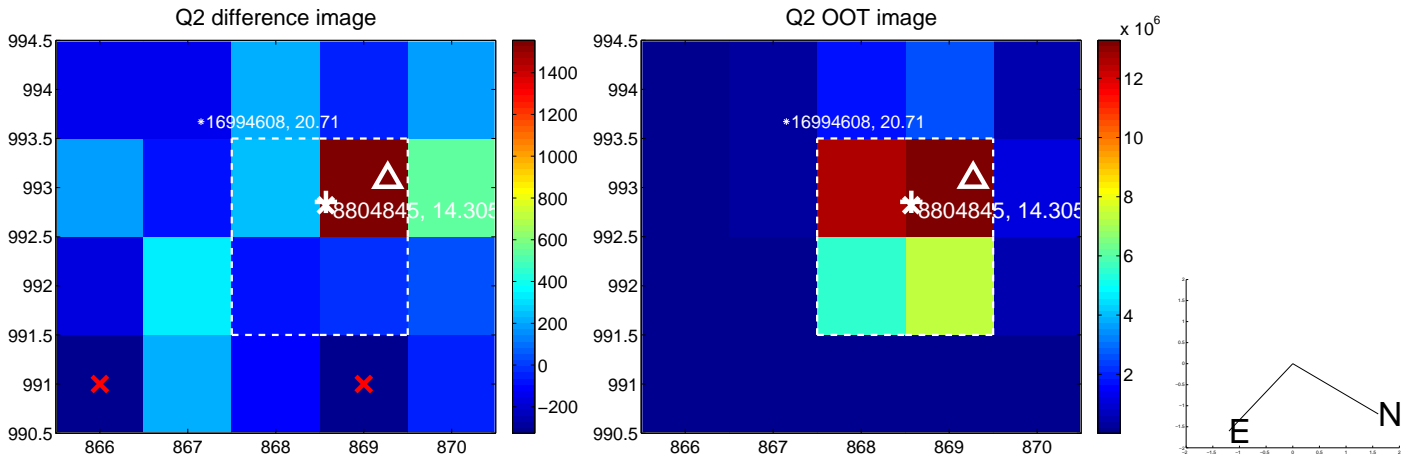
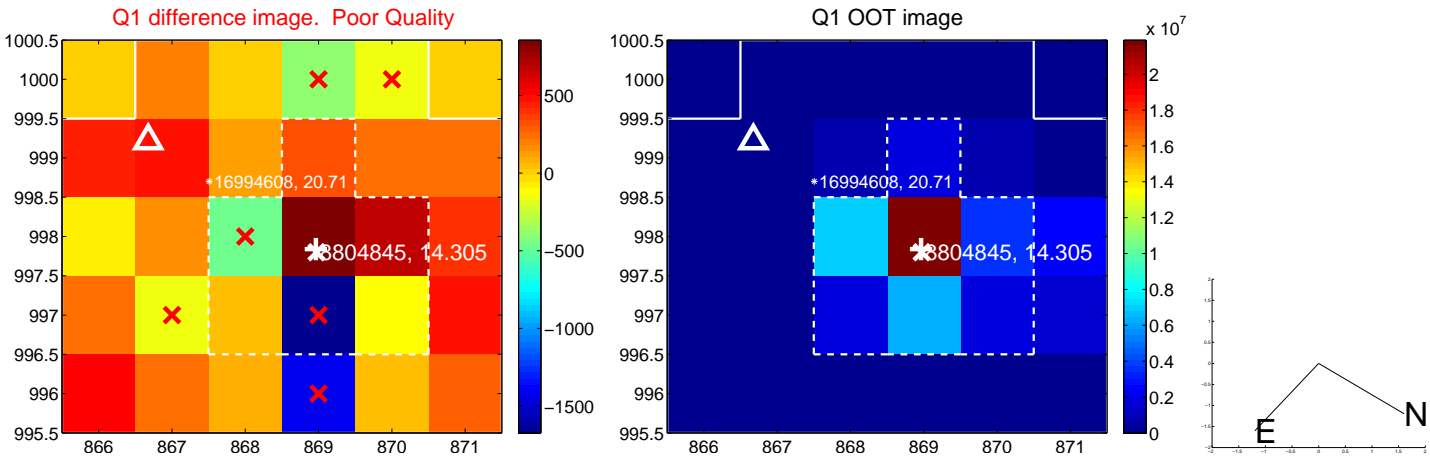
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.296 ± 0.660	0.45	0.157 ± 0.659	0.251 ± 0.815
PRF-fit source offset from KIC position	0.205 ± 0.673	0.30	0.067 ± 0.637	0.194 ± 0.766
photometric centroid source offset	1.15 ± 0.82	1.40	1.01 ± 0.82	0.55 ± 0.80

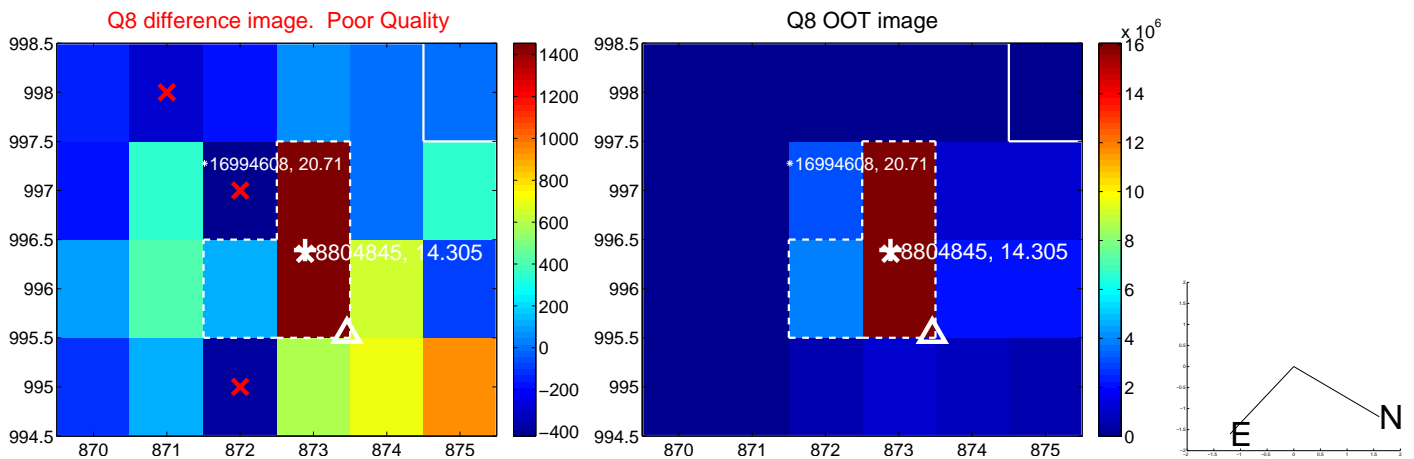
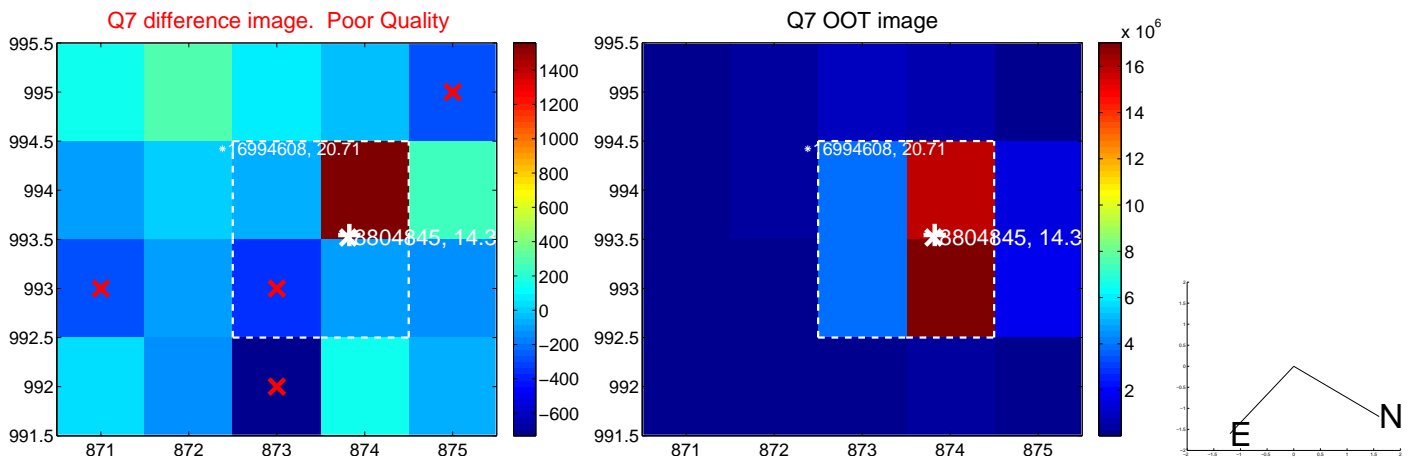
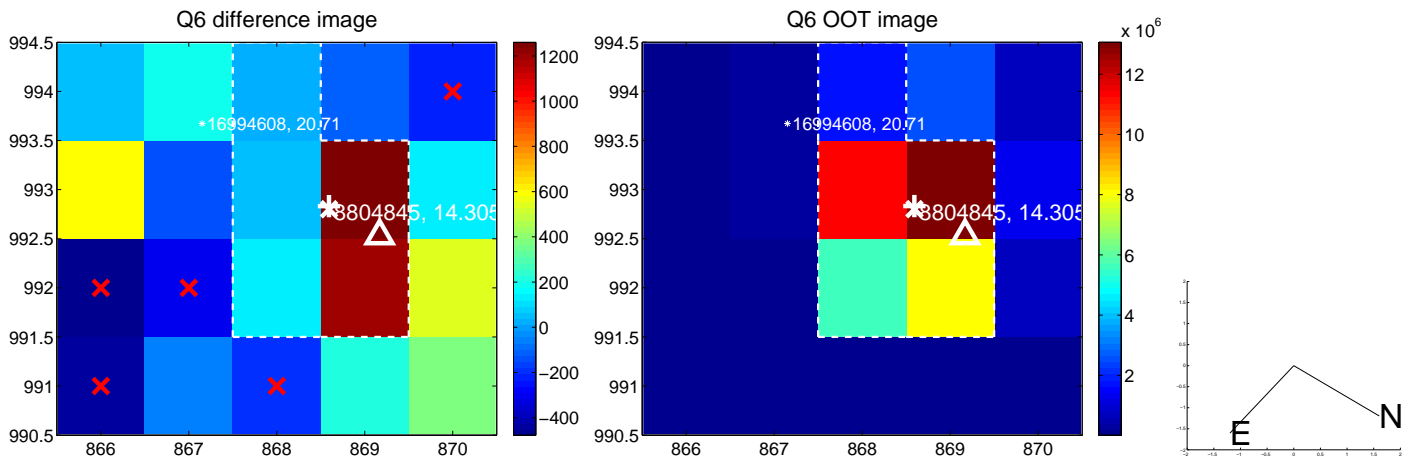
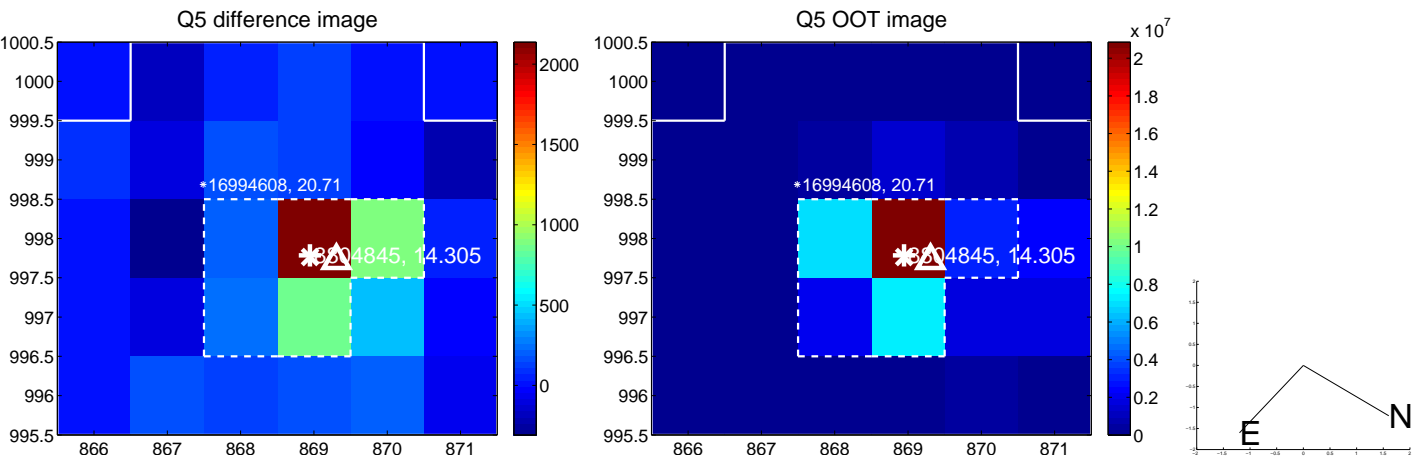


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

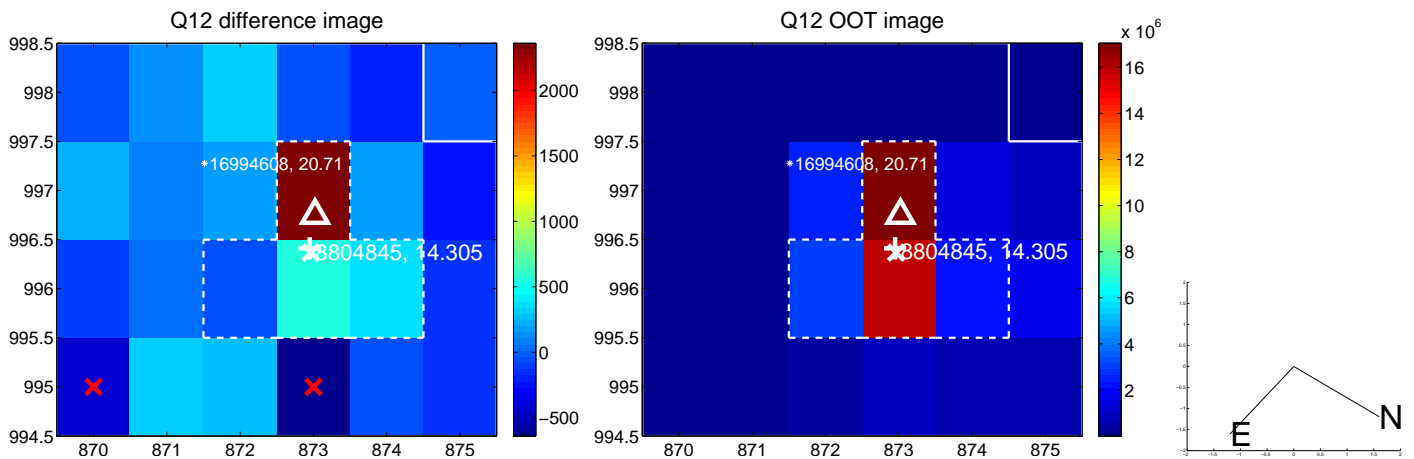
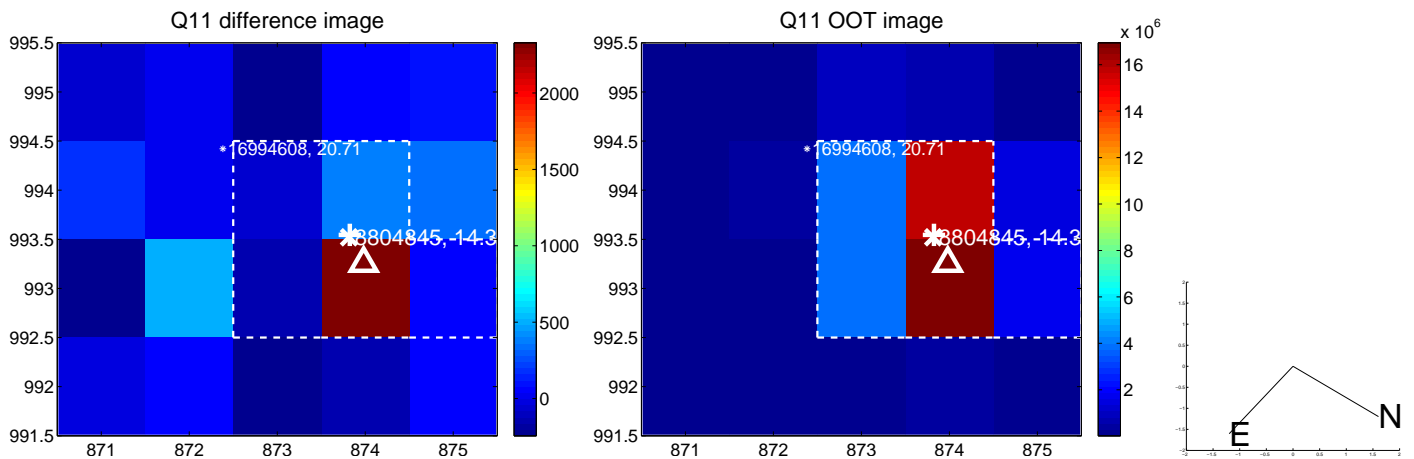
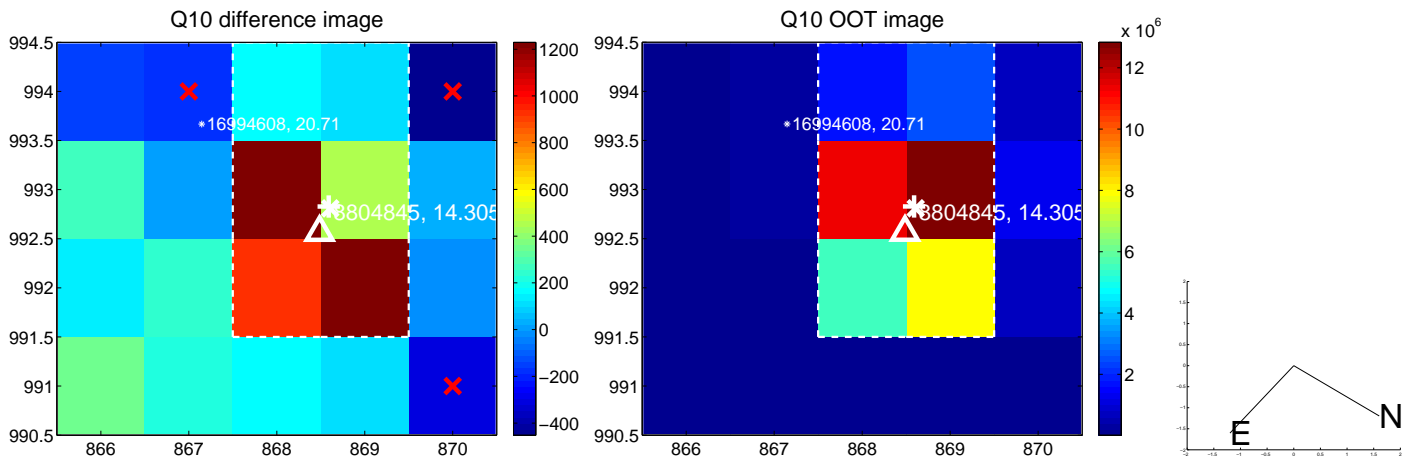
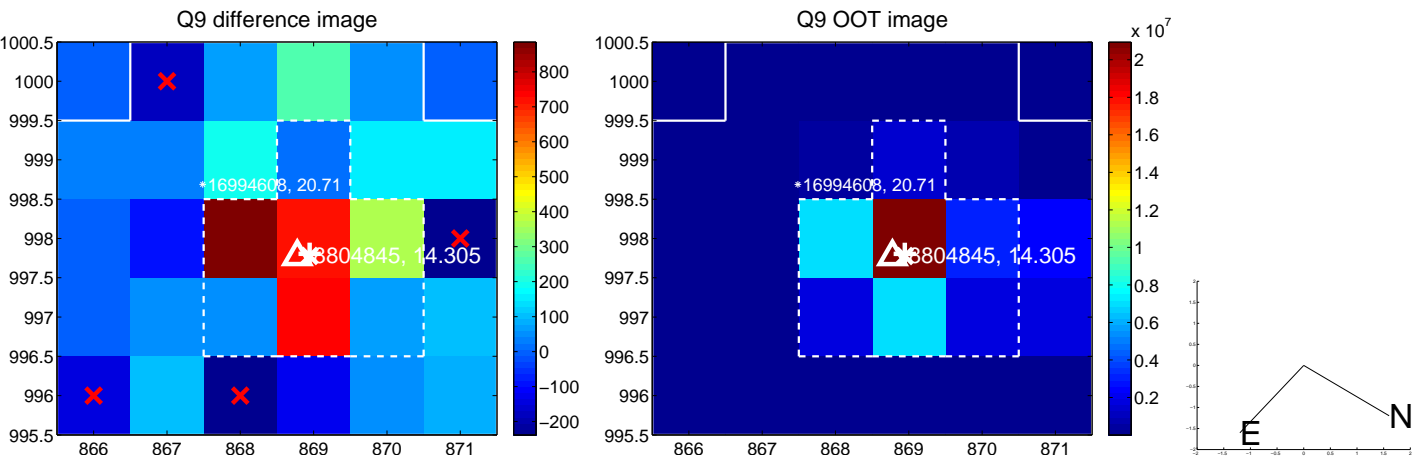
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



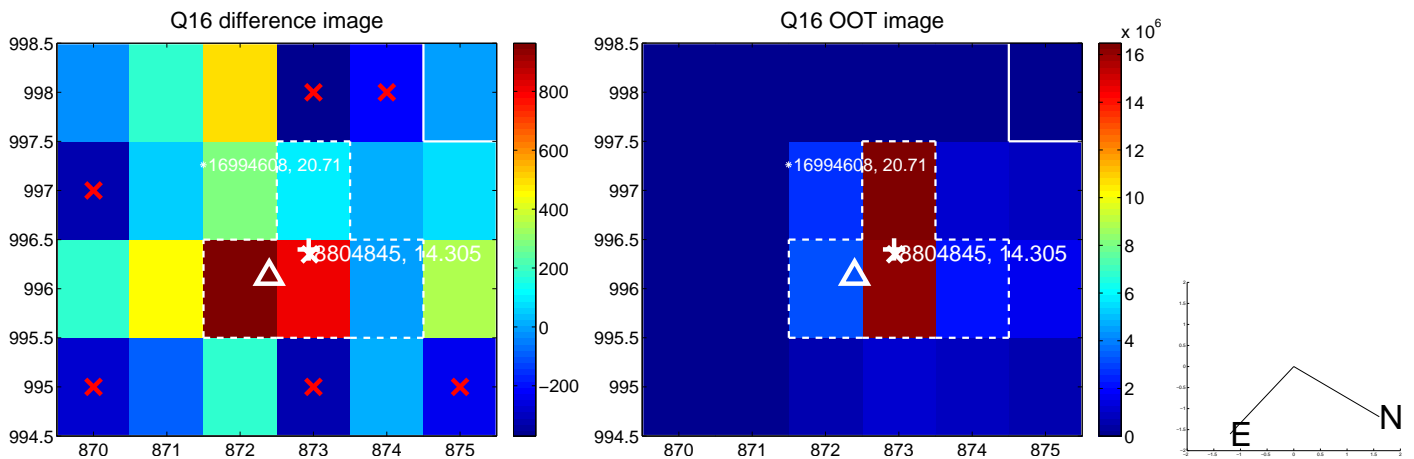
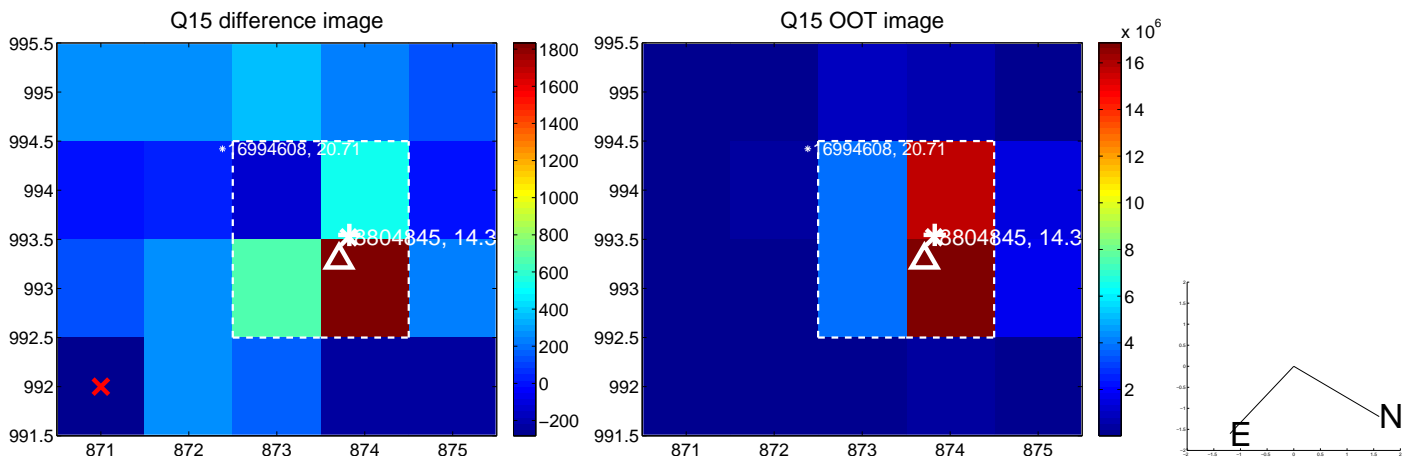
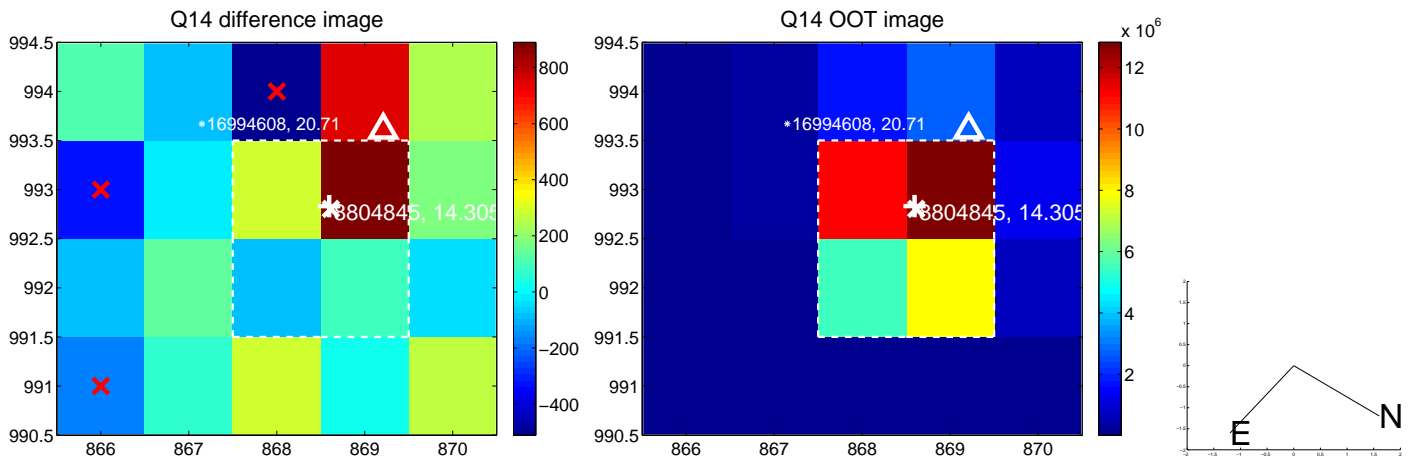
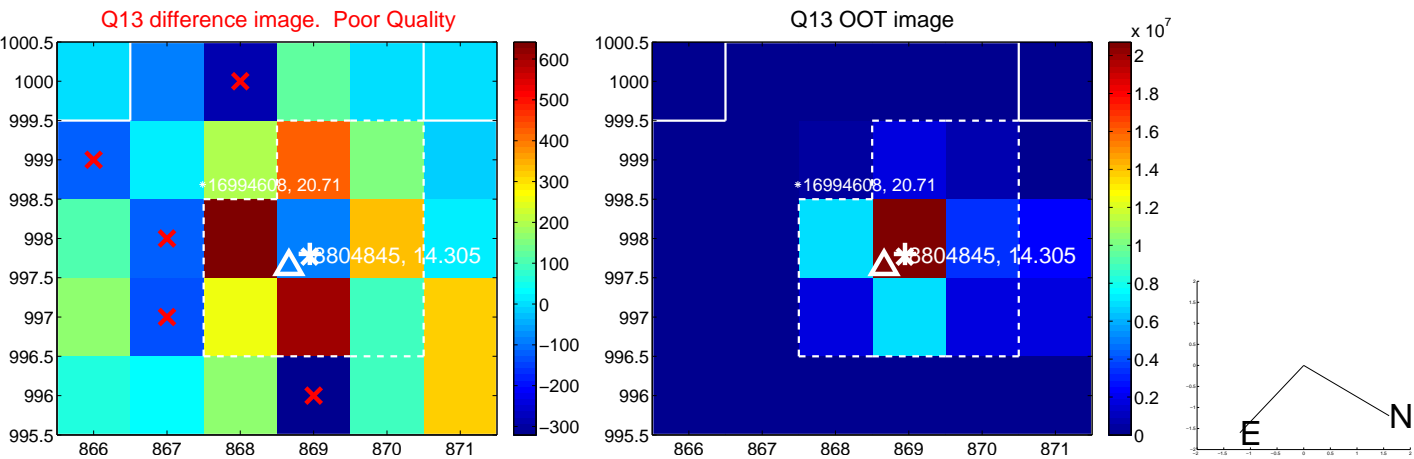
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



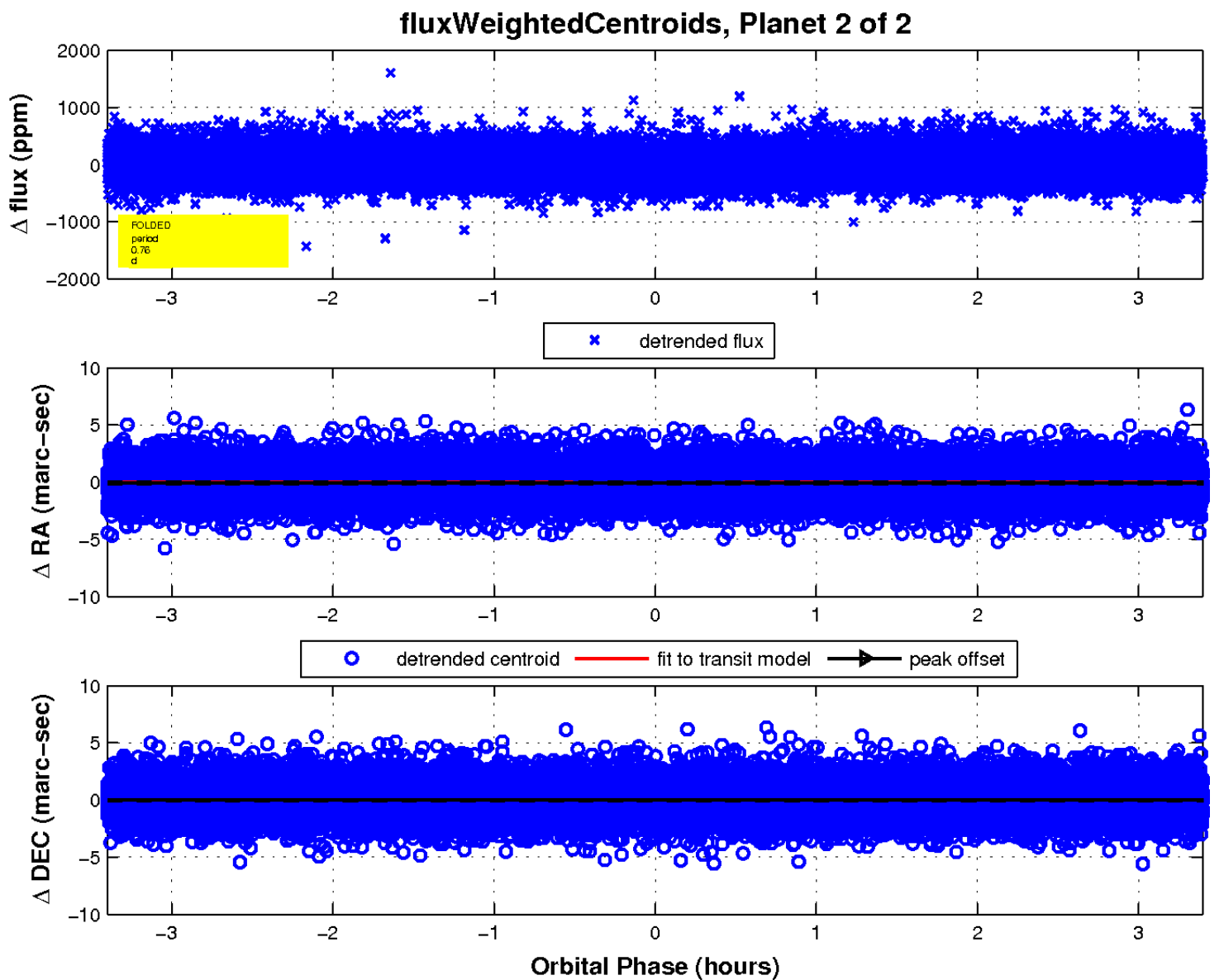
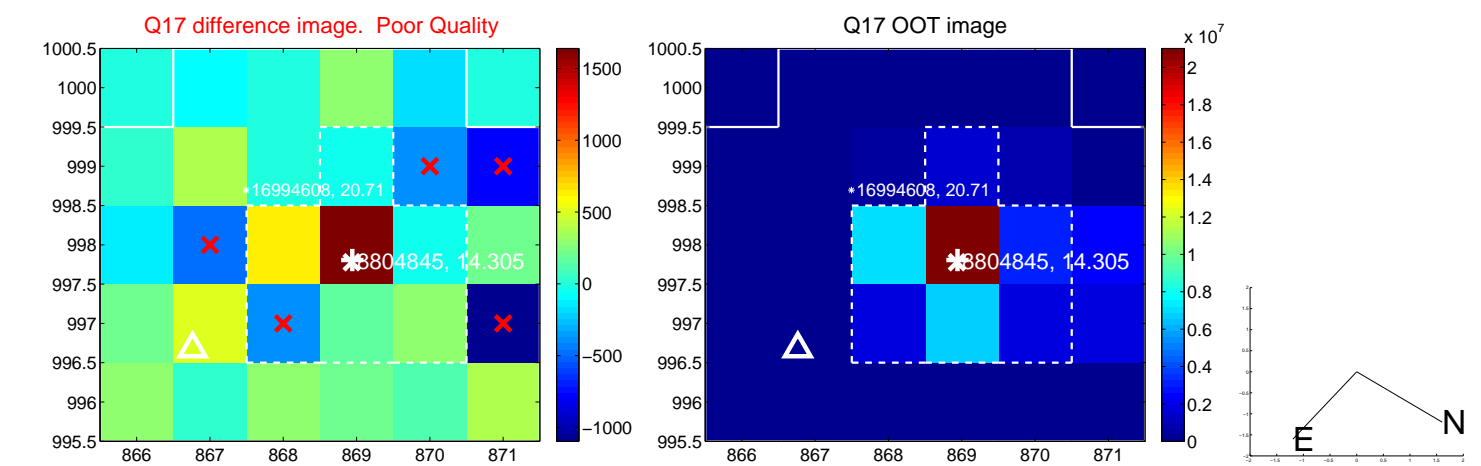
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

