

KIC 008216763

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})
008216763-01	OBS	4838.01	13.297227	136.564775	168.7	2.867	8.1	8.3	0.61	4352	0.95	13.44
008216763-02	OBS	4838.03	24.073019	148.931731	185.4	3.726	8.1	7.8	0.61	4352	0.97	6.09
008216763-03	OBS	4838.02	6.333465	133.709216	122.7	2.862	7.9	8.6	0.61	4352	0.75	36.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008216763-01	OBS	PC	0.96	0	0	0	0	NO_COMMENT
008216763-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008216763-03	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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

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

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

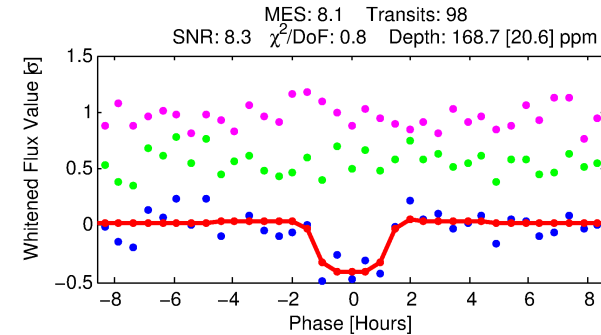
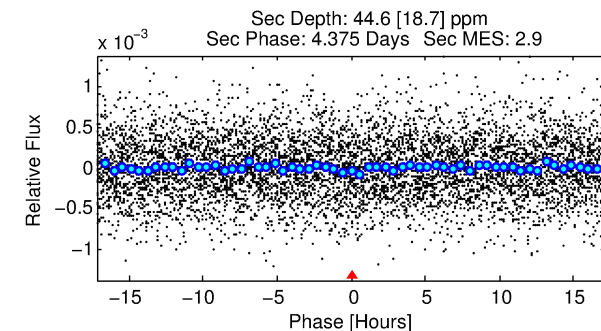
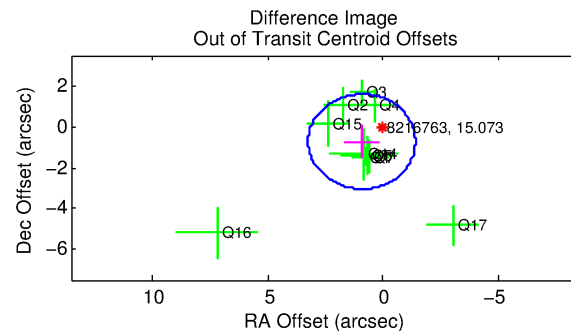
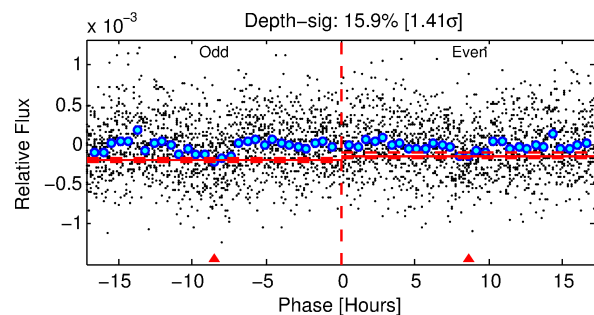
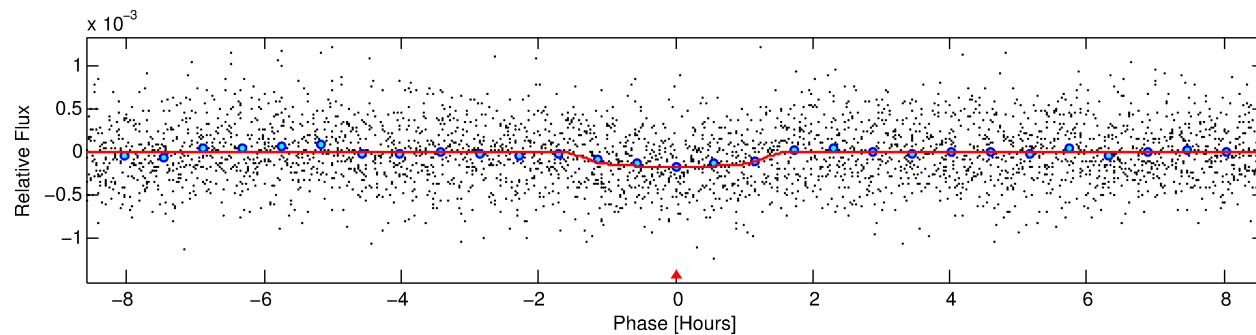
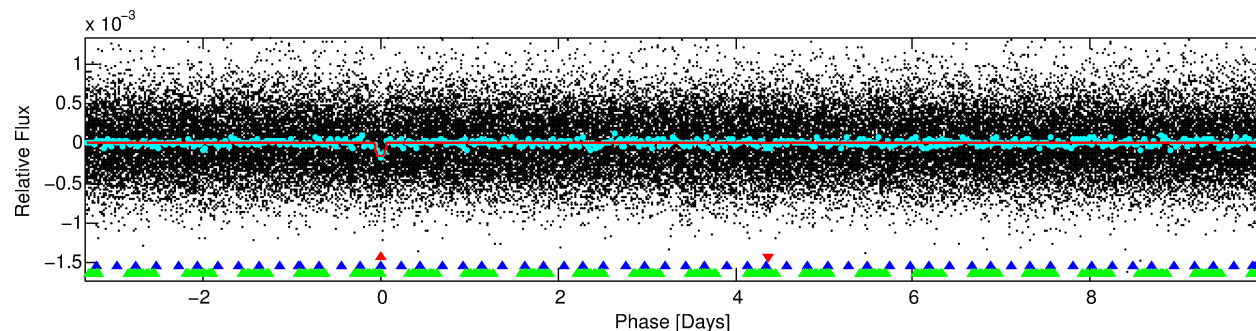
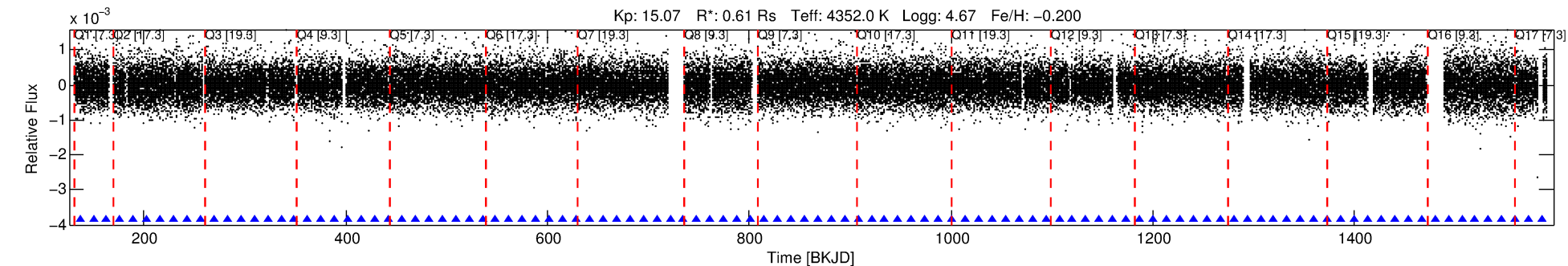
Ephemeris Match Information For 008216763-01

No Significant Match Found

DV One-Page Summary

KIC: 8216763 Candidate: 1 of 3 Period: 13.297 d

KOI: K04838.01 Corr: 0.938



DV Fit Results:

Period = 13.29723 [0.00013] d
Epoch = 136.5648 [0.0074] BKJD
Rp/R* = 0.0143 [0.0135]
a/R* = 17.99 [63.39]
b = 0.88 [0.94]
Seff = 13.44 [1.98]
Teq = 488 [18] K
Rp = 0.95 [0.91] Re
a = 0.0948 [0.0064] AU
Ag = 242.11 [468.56] [0.51 σ]
Teffp = 2977 [1442] K [1.73 σ]

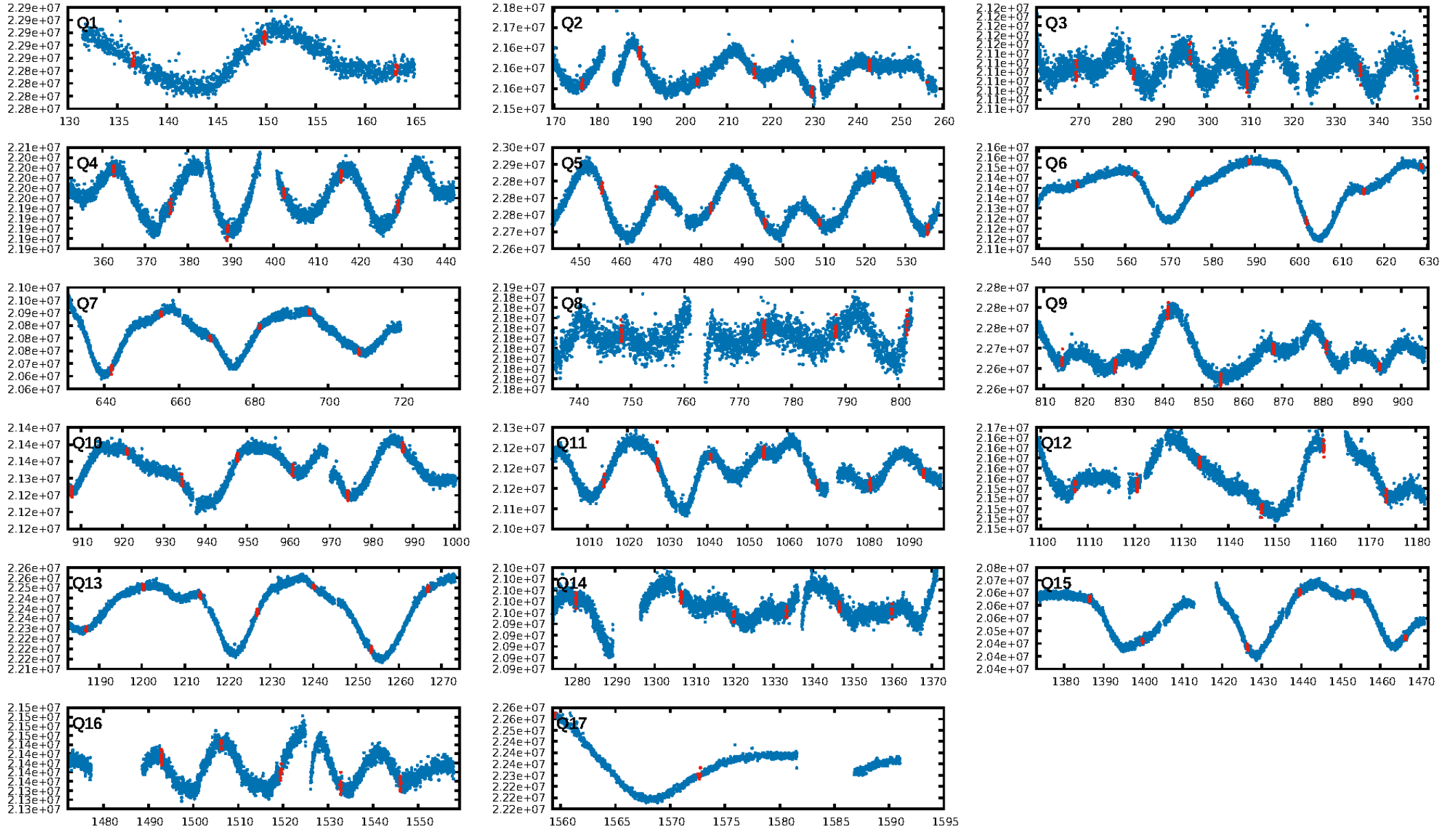
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [41.26 σ]
LongPeriod-sig: 100.0% [55.01 σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.94e-16
RollingBand-fgt: 1.00 [93/93]
GhostDiagnostic-chr: -2.51
Centroid-sig: N/A
Centroid-so: 1.010 arcsec [0.66 σ]
OotOffset-rm: 1.176 arcsec [1.52 σ]
KicOffset-rm: 1.070 arcsec [1.37 σ]
OotOffset-st: 2/3/2/3 [10]
KicOffset-st: 2/3/2/3 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [17/17]

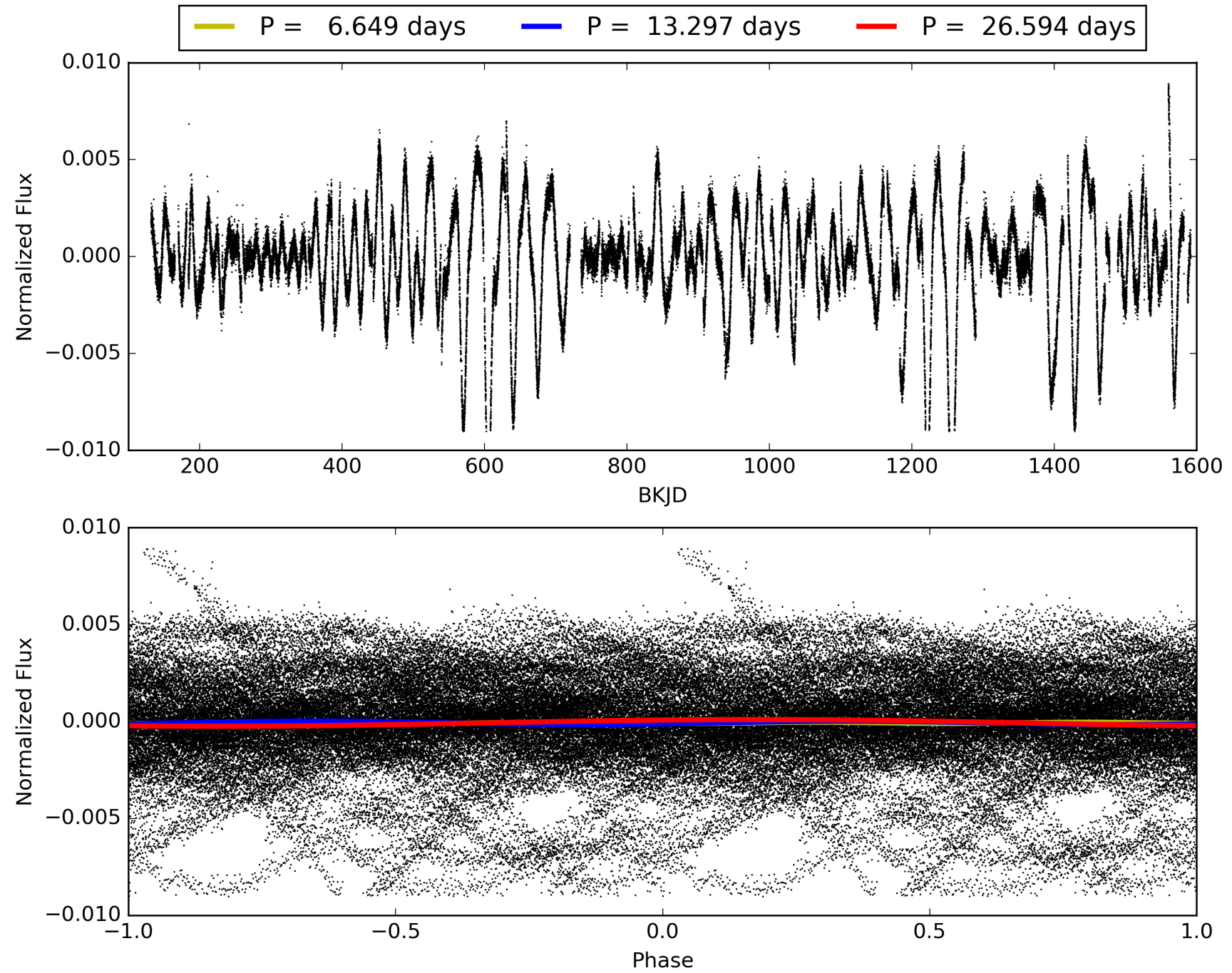
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:28:07 Z

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

TCE 008216763-01, PDC Light Curves

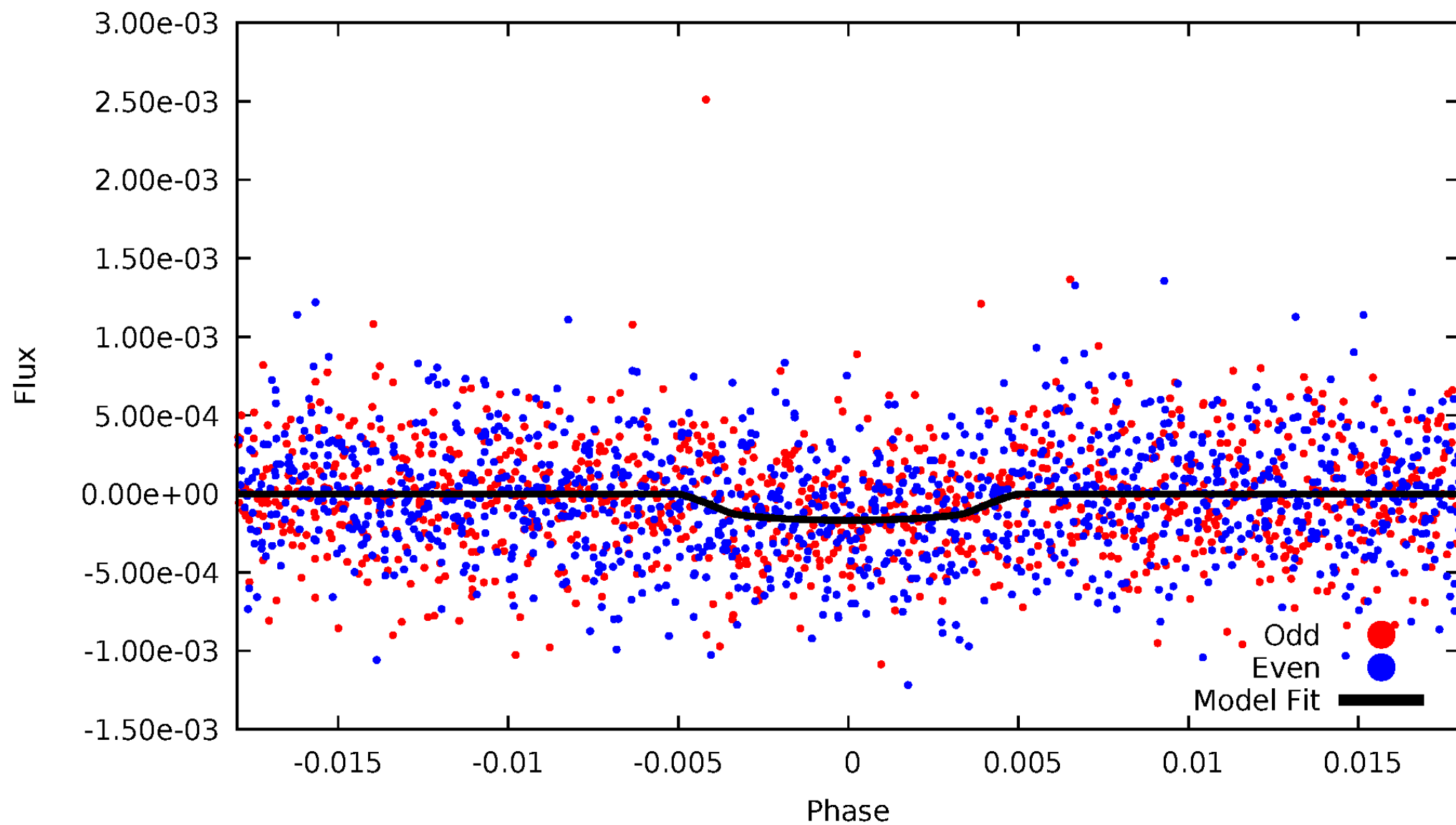


TCE 008216763-01



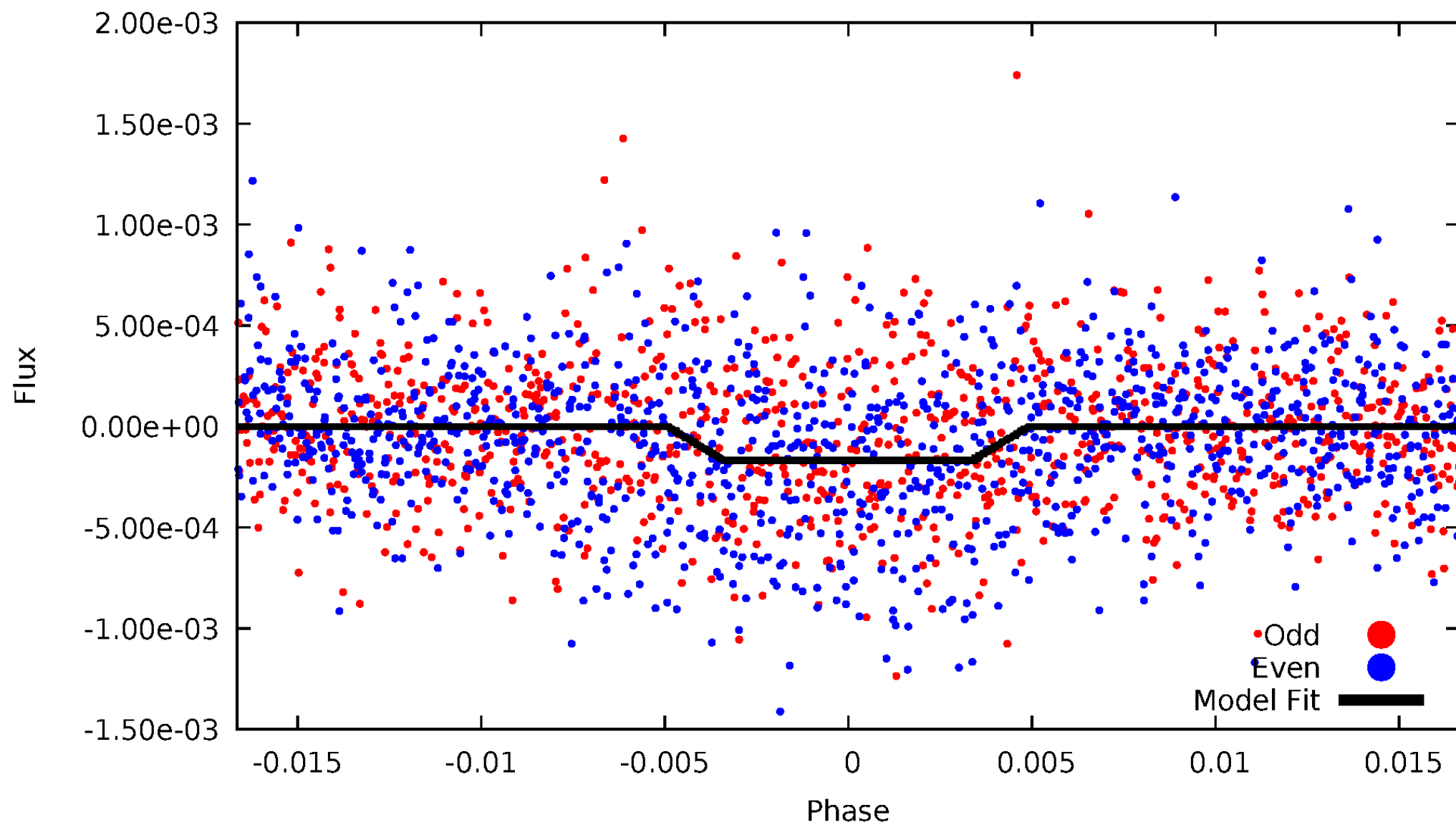
DV Odd/Even

TCE 008216763-01



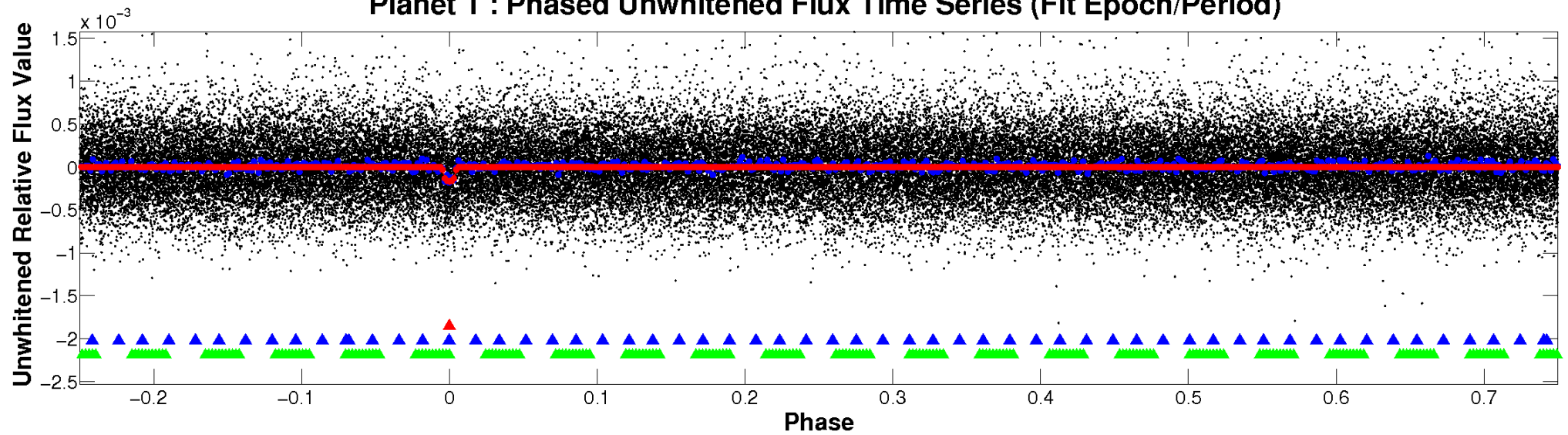
ALT Odd/Even

TCE 008216763-01

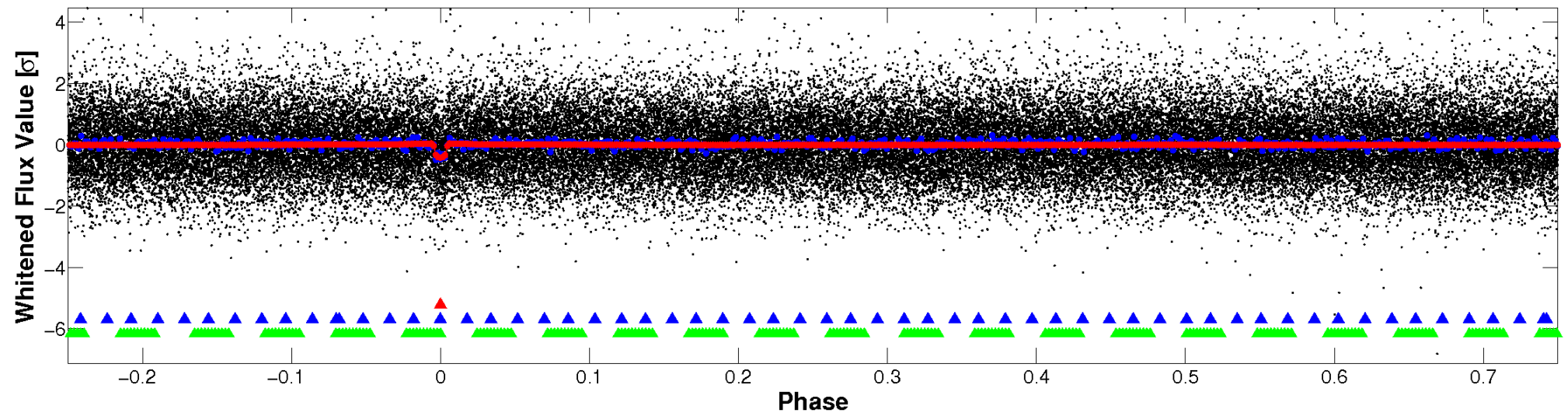


Non-Whitened Vs. Whitened Light Curve

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

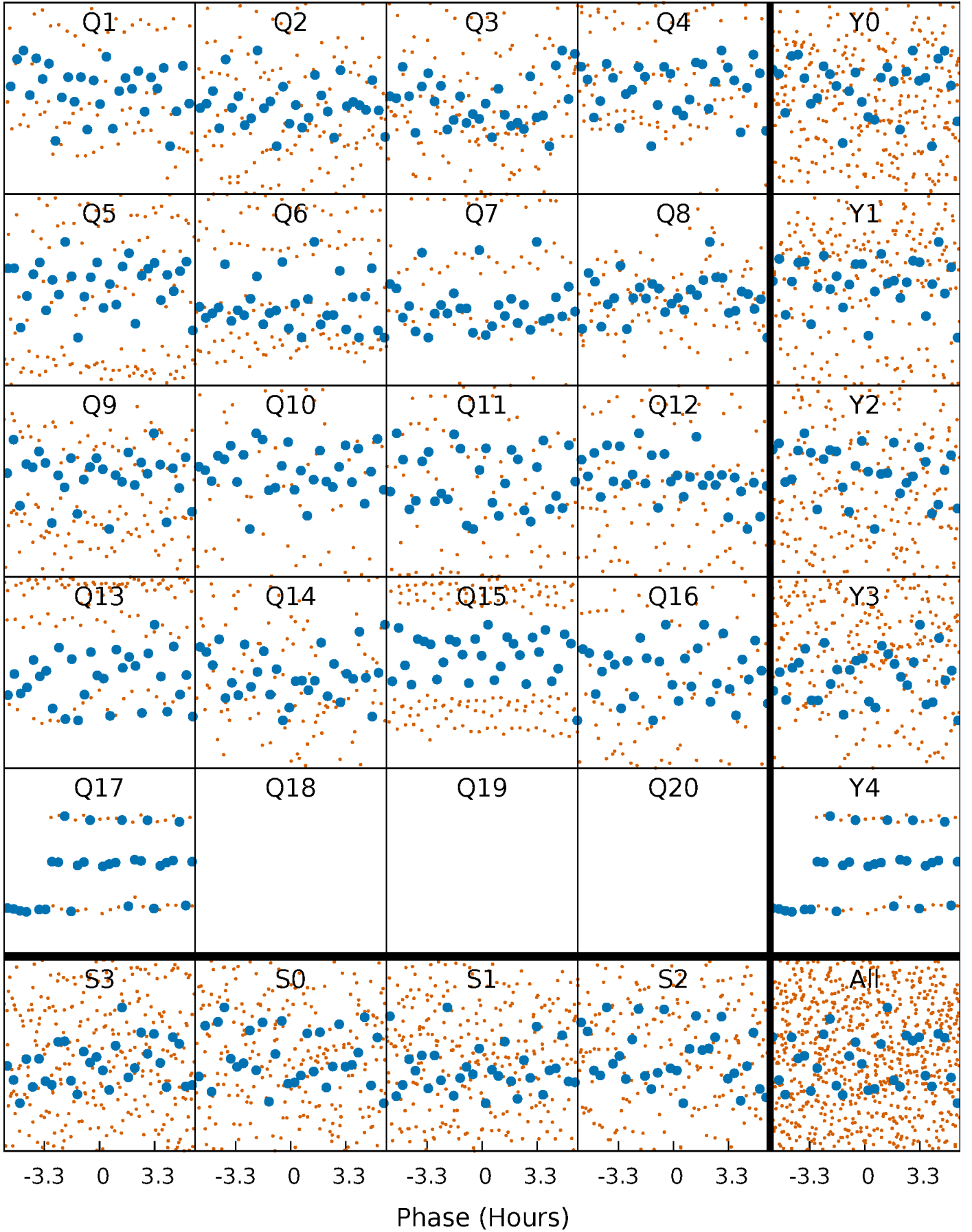


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



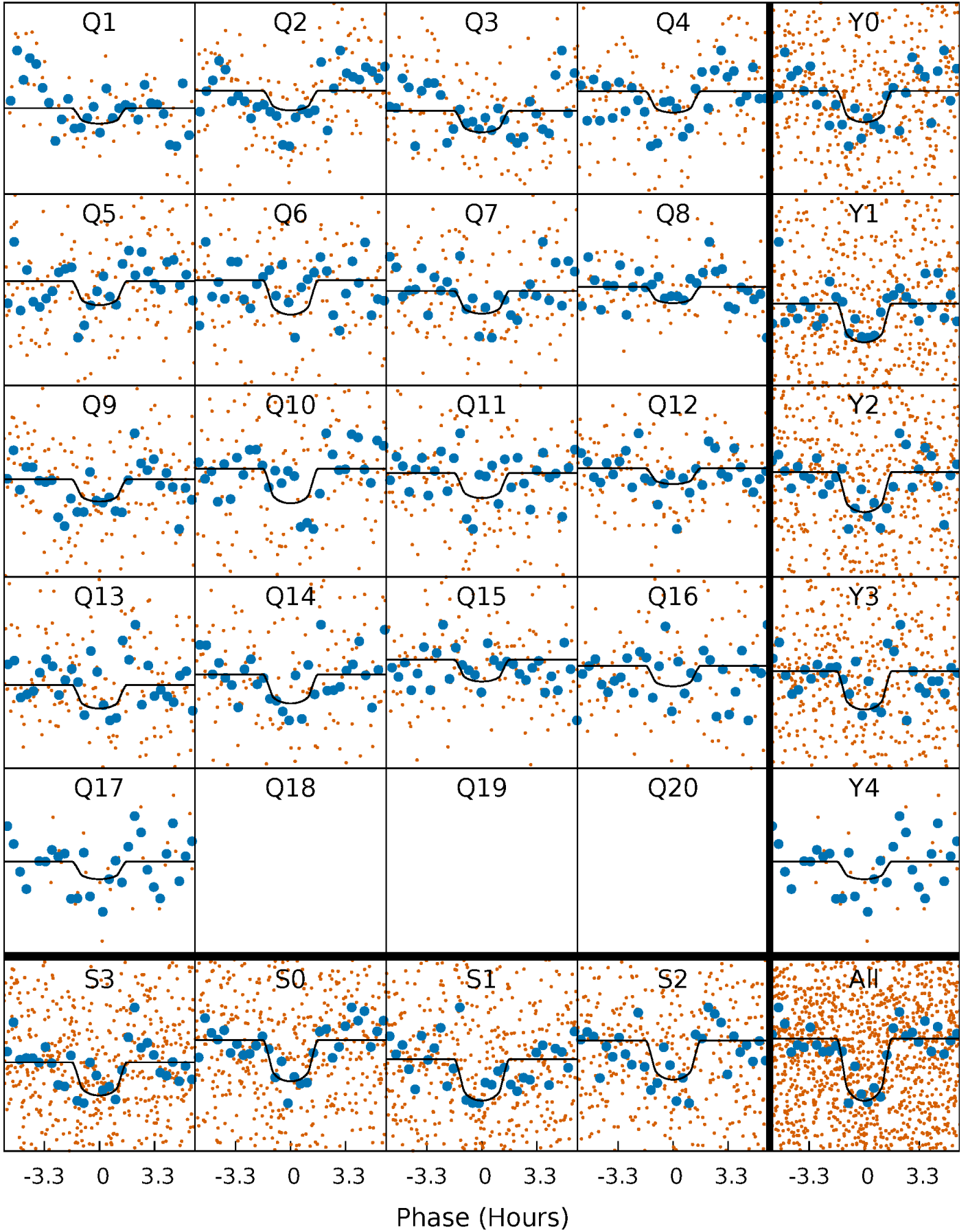
PDC Quarter-Phased Transit Curves

TCE 008216763-01 P= 13.297227 Days $T_0=136.564775$ (BKJD)



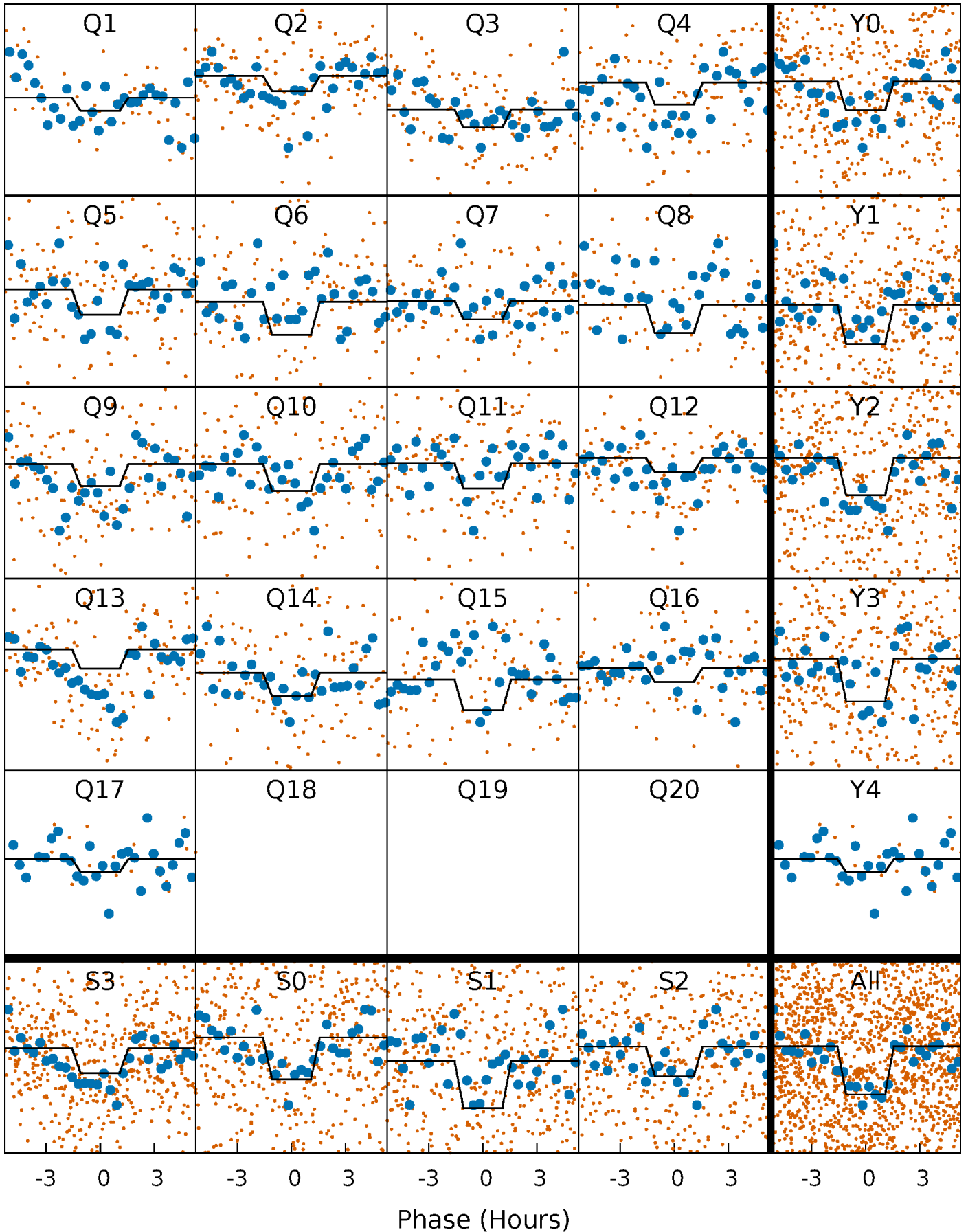
DV Quarter-Phased Transit Curves

TCE 008216763-01 P= 13.297227 Days $T_0=136.564775$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

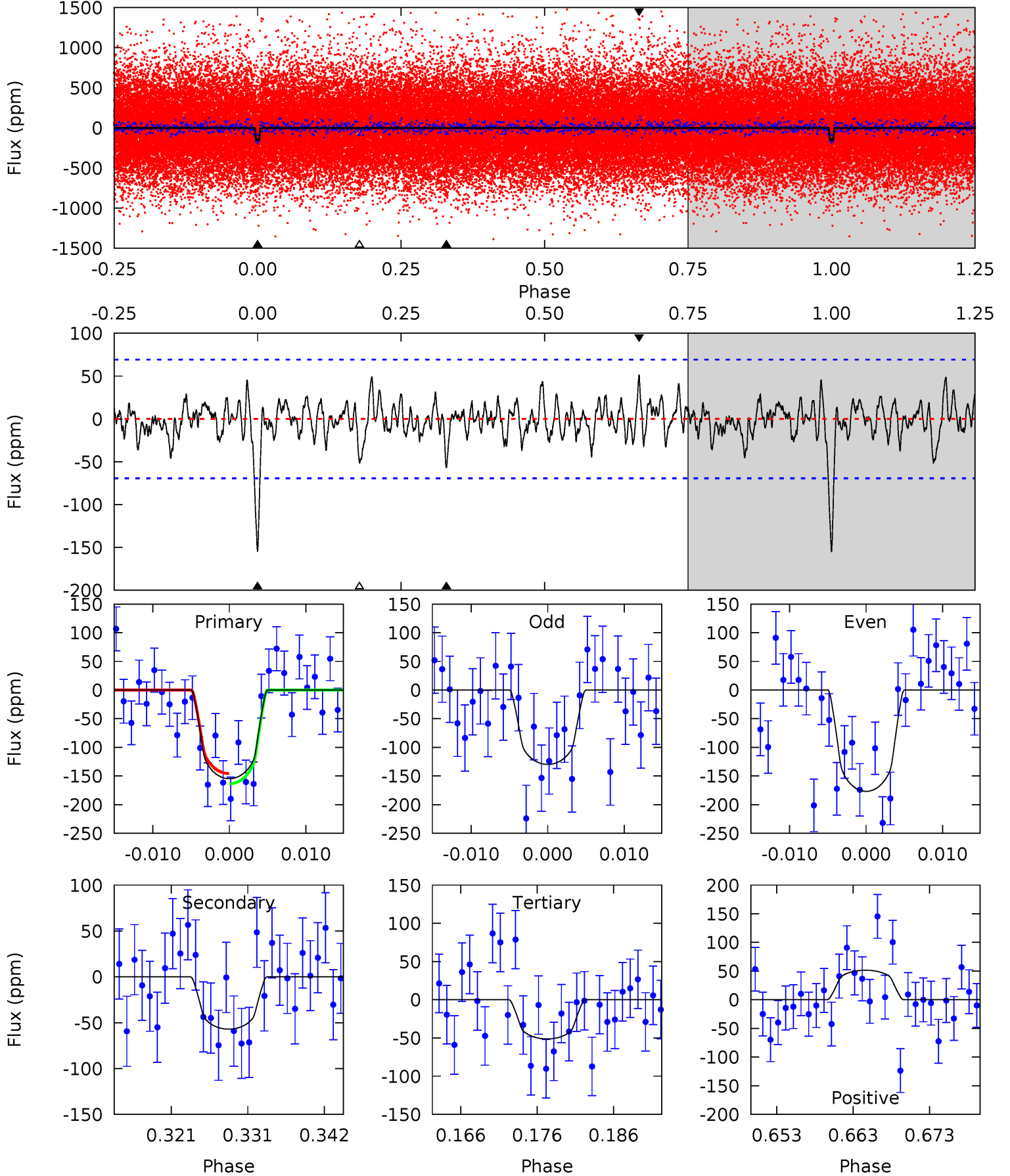
TCE 008216763-01 P= 13.297064 Days $T_0=136.572791$ (BKJD)



DV Model-Shift Uniqueness Test

008216763-01, $P = 13.297227$ Days, $E = 123.267548$ Days

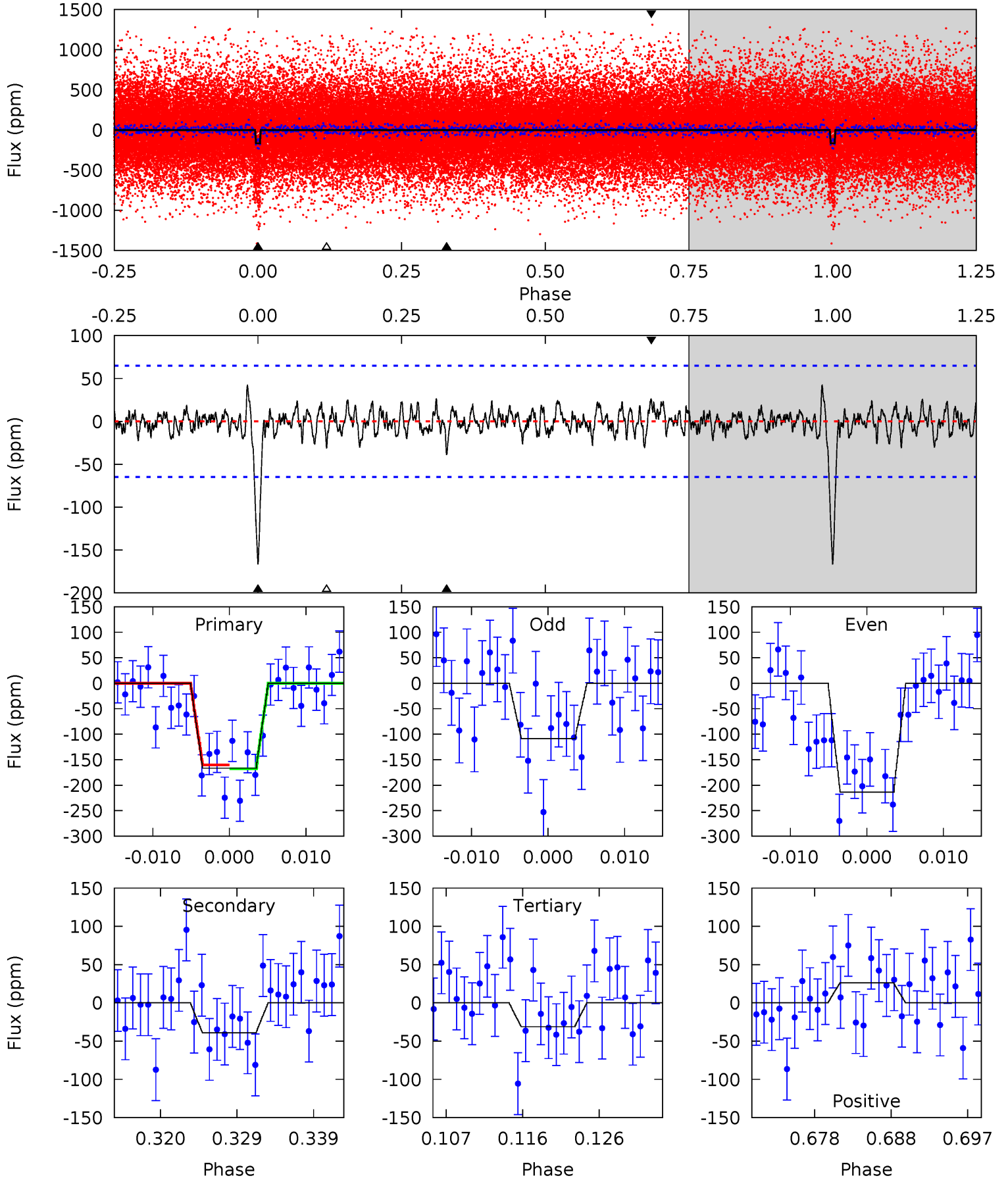
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	4.14	3.71	3.73	5.02	2.56	1.16	7.50	7.48	0.42	0.40	1.71	0.94	0.25	0.64



Alt Model-Shift Uniqueness Test

008216763-01, $P = 13.297064$ Days, $E = 123.275727$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	3.04	2.42	2.03	5.03	2.59	0.84	10.5	10.9	0.63	1.01	4.06	1.26	0.20	0.29



Stellar Parameters For KIC 008216763

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4352^{+116}_{-129}	$4.671^{+0.032}_{-0.042}$	$-0.200^{+0.300}_{-0.300}$	$0.613^{+0.055}_{-0.050}$	$0.640^{+0.055}_{-0.061}$	$3.916^{+0.610}_{-0.634}$
	+3%/-3%	+1%/-1%	+150%/-150%	+9%/-8%	+9%/-10%	+16%/-16%
Source	PHO1	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 008216763-01 / KOI 4838.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-57 ± 14	$1.12^{+0.91}_{-0.67}$	684^{+22}_{-21}	3310^{+1194}_{-534}	217^{+1151}_{-153}
Alt.	-39 ± 13	$1.10^{+0.78}_{-0.70}$	682^{+22}_{-21}	3175^{+1231}_{-488}	161^{+1025}_{-112}

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 $A_{obs} \gg 1.0$

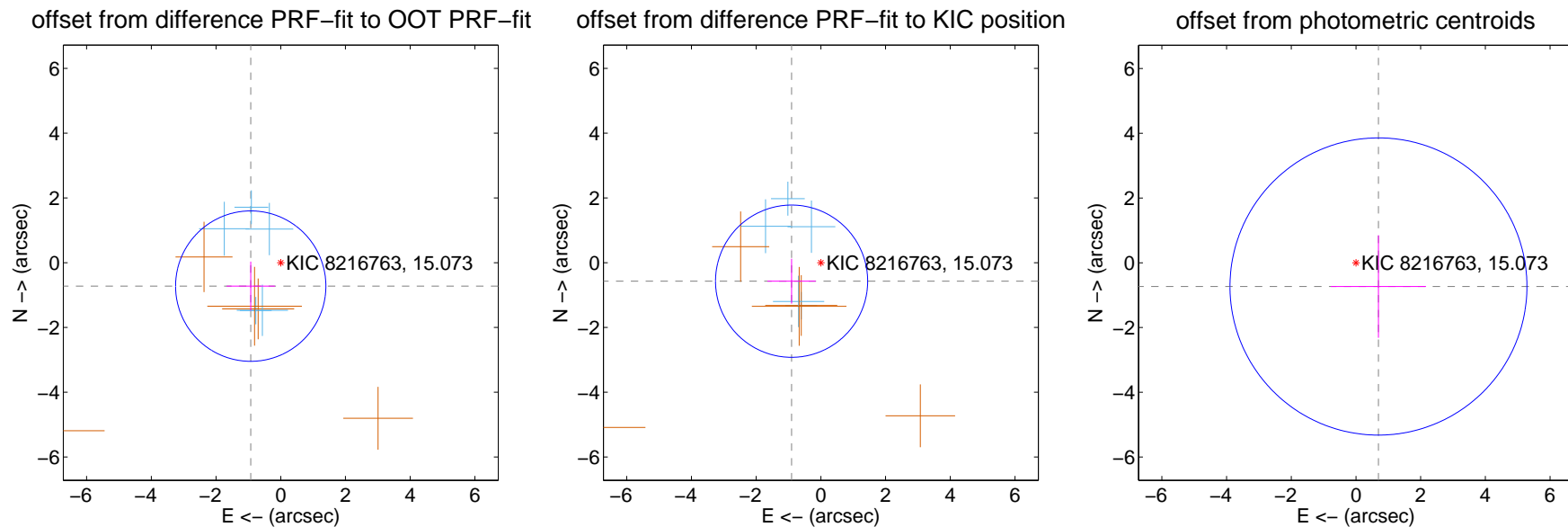
DV Centroid Data

Supplemental centroid analysis for 008216763-01. Kepler magnitude: 15.07. Transit SNR 8.34

There are 5 quarters with good PRF difference image offsets

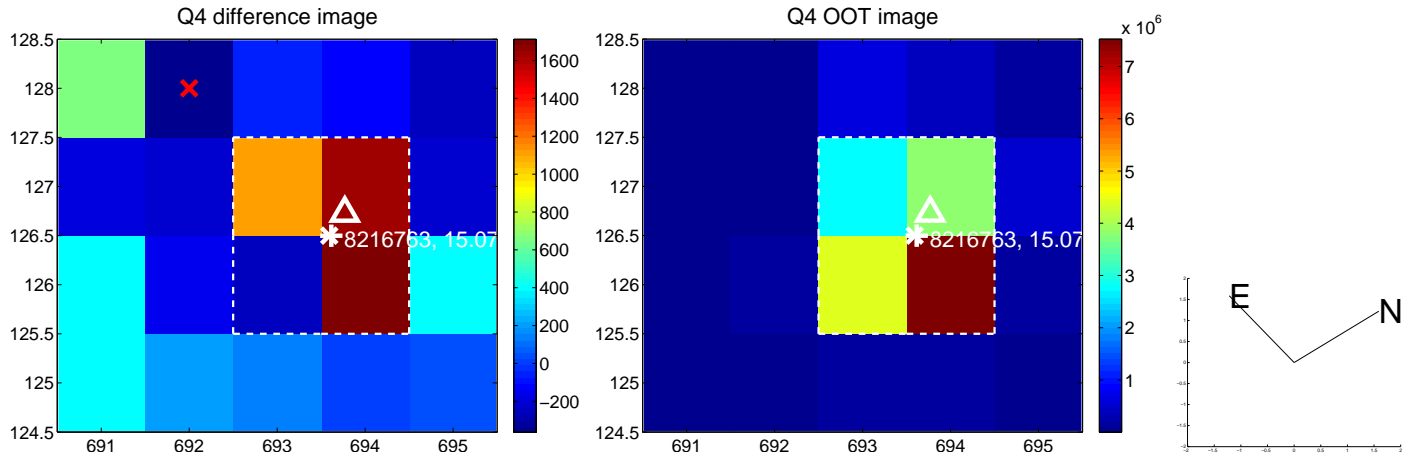
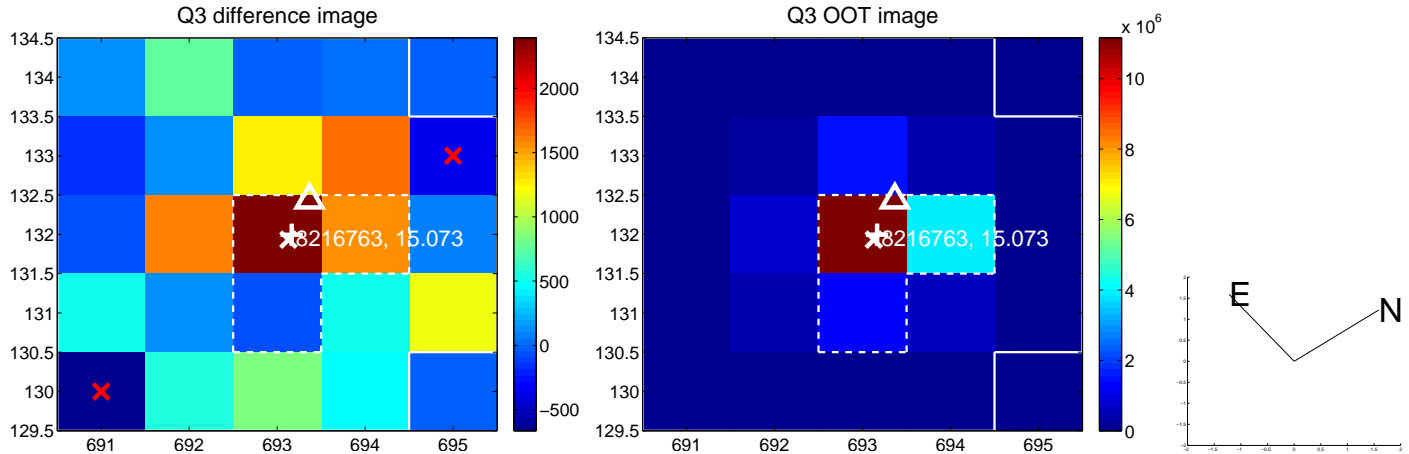
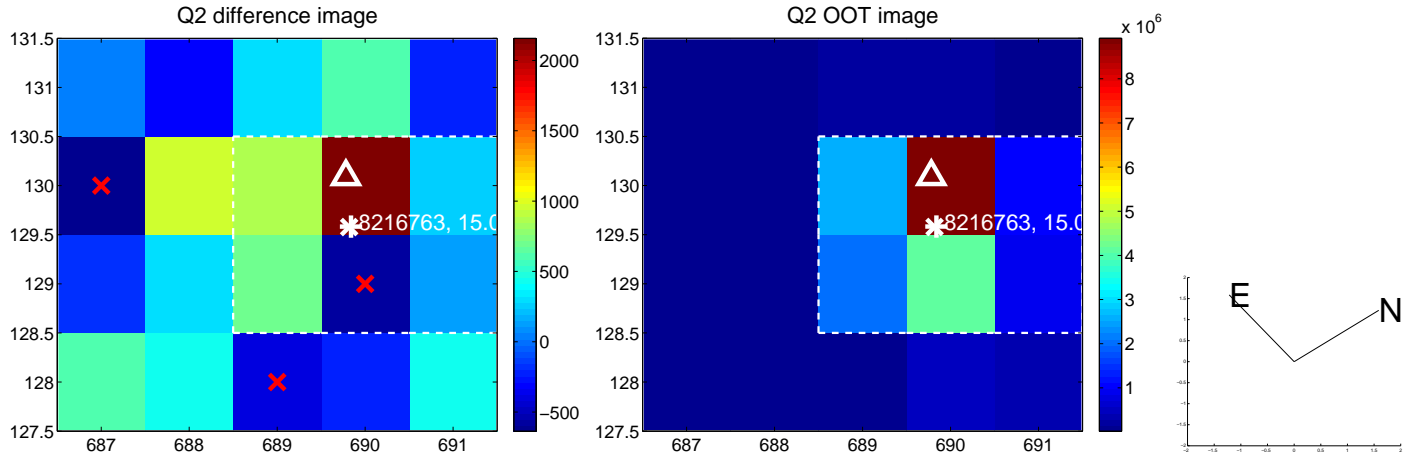
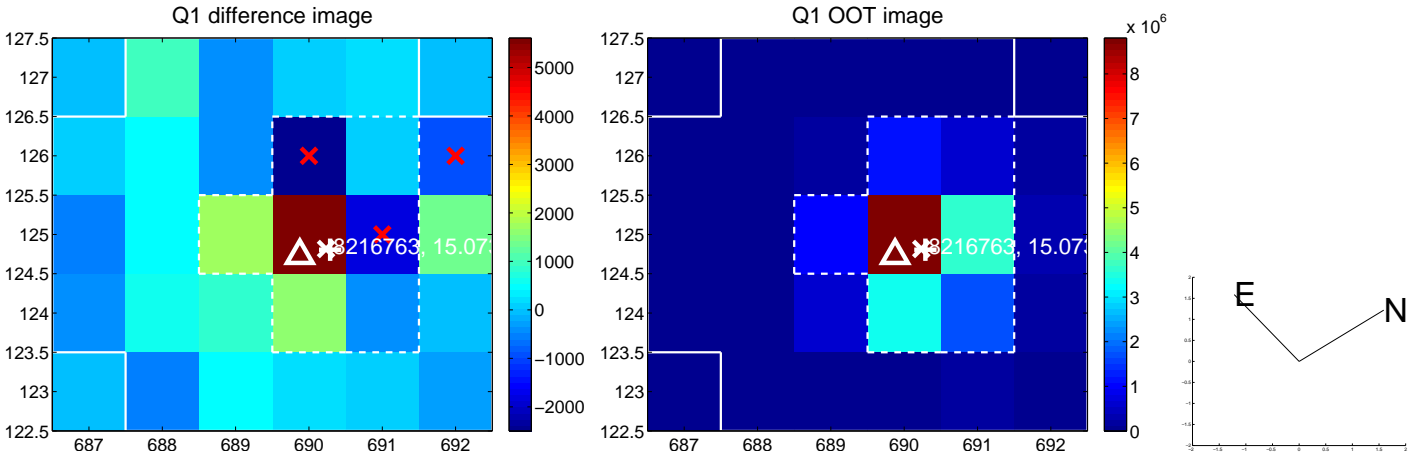
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.176 ± 0.774	1.52	0.928 ± 0.747	-0.723 ± 0.755
PRF-fit source offset from KIC position	1.070 ± 0.783	1.37	0.905 ± 0.748	-0.571 ± 0.693
photometric centroid source offset	1.01 ± 1.53	0.66	-0.70 ± 1.47	-0.73 ± 1.58

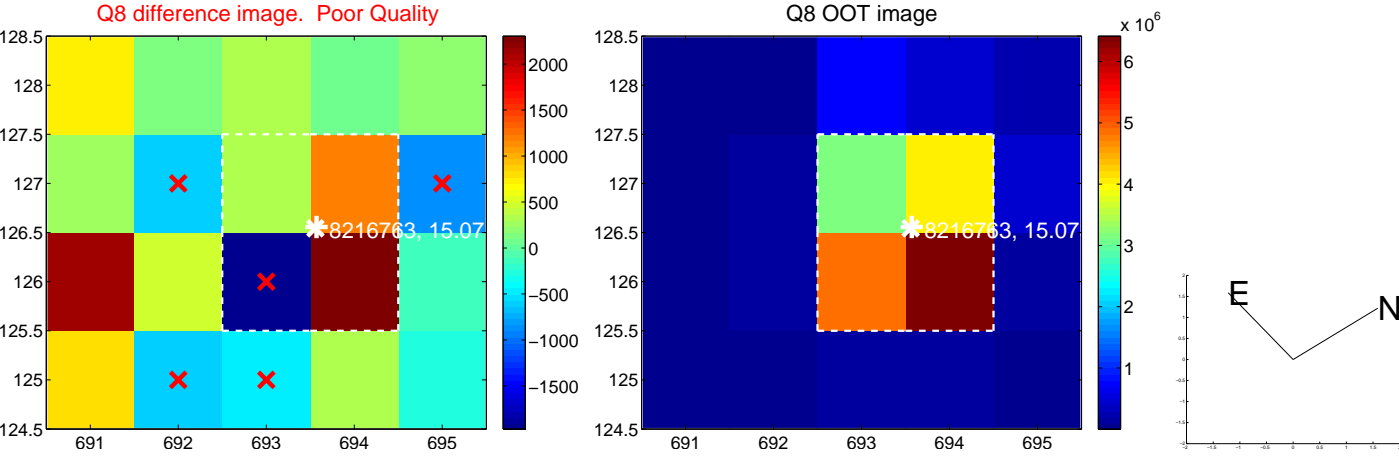
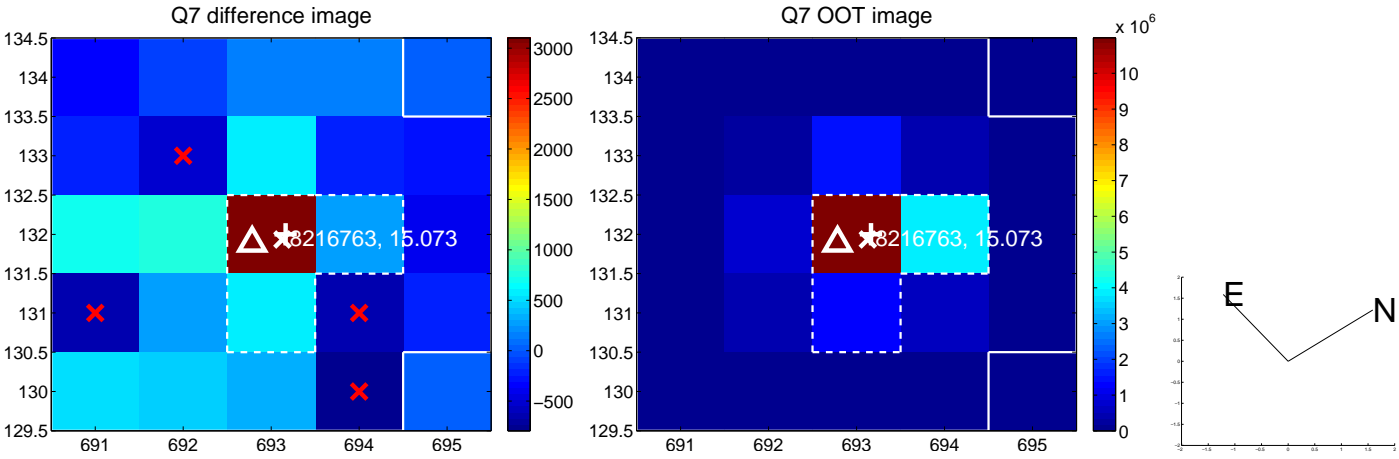
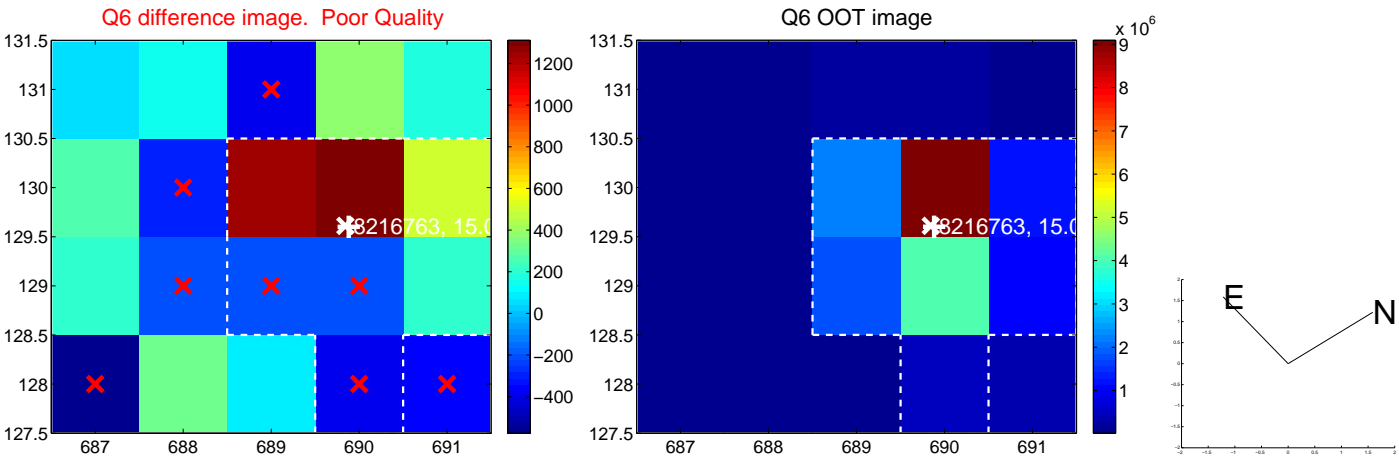
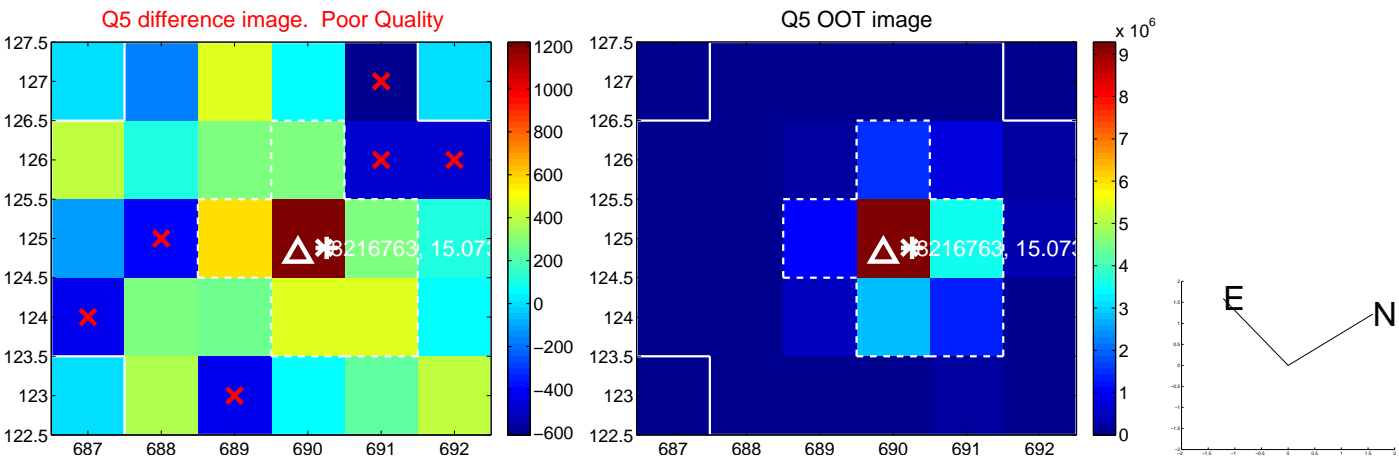


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

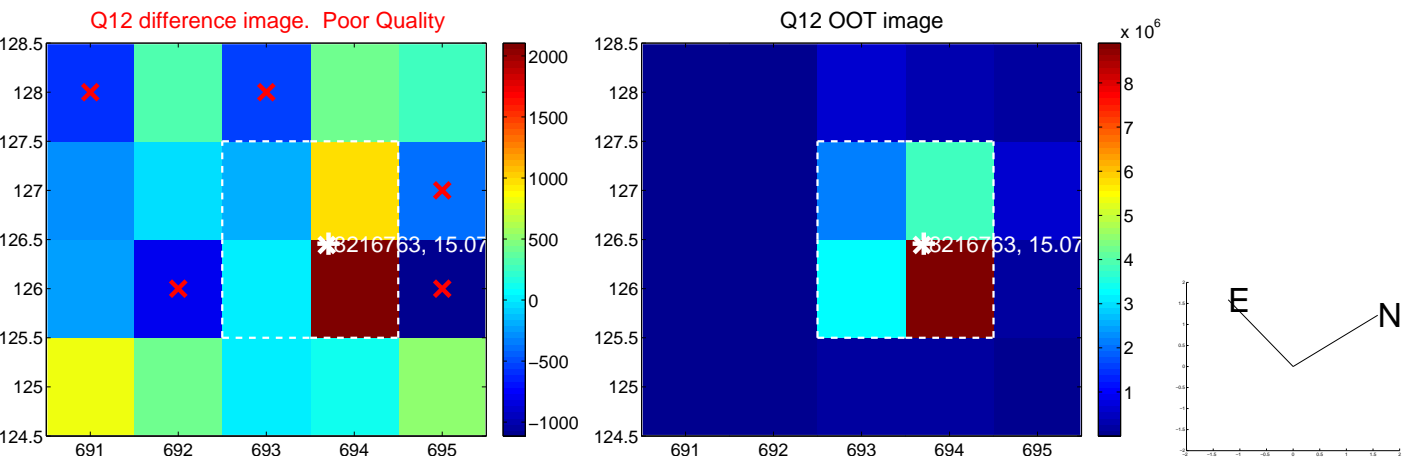
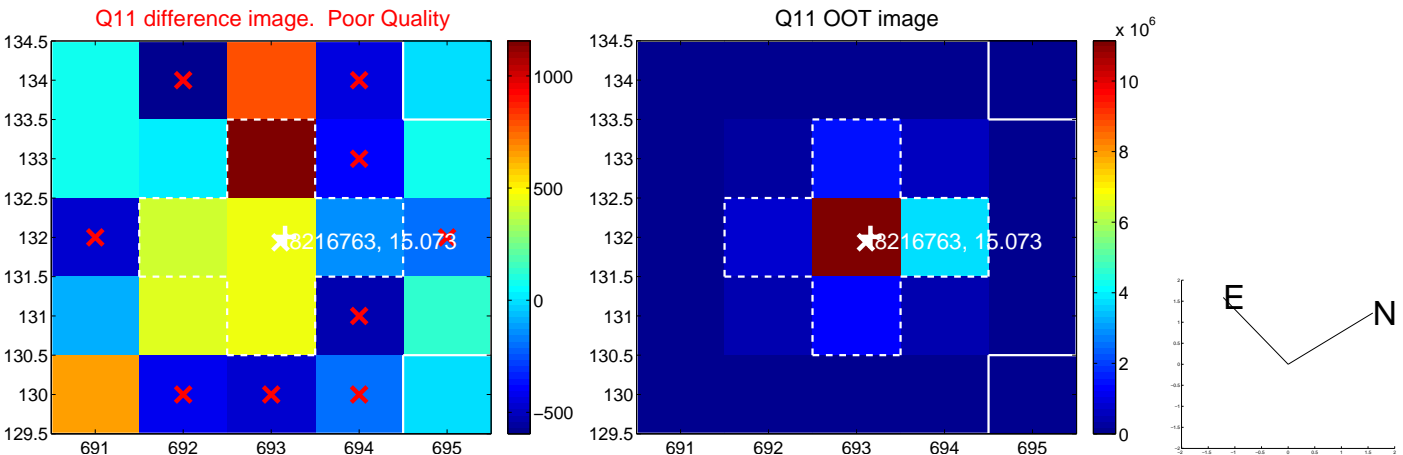
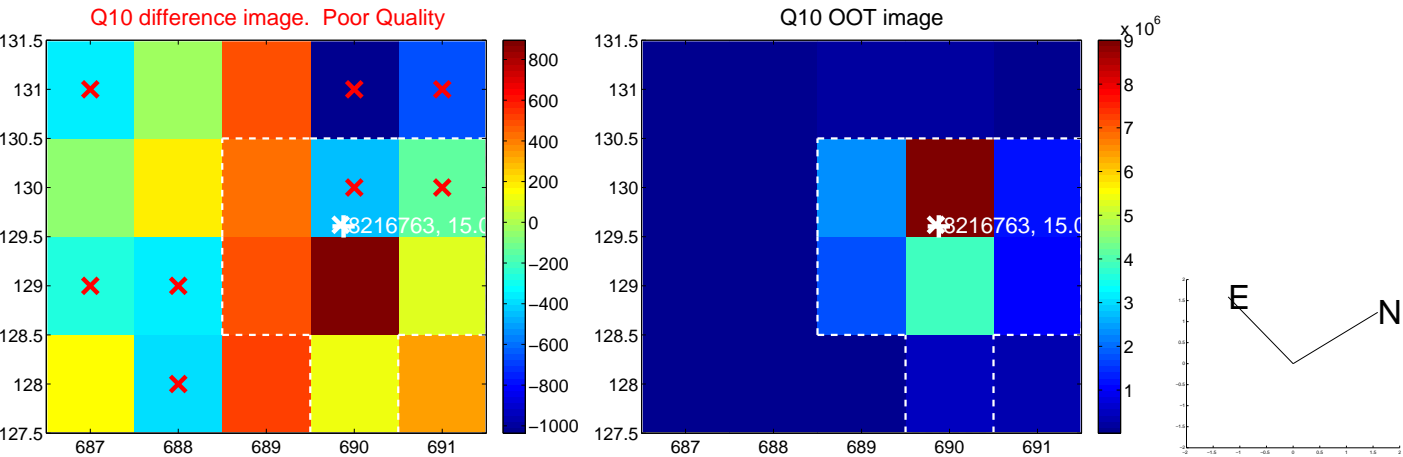
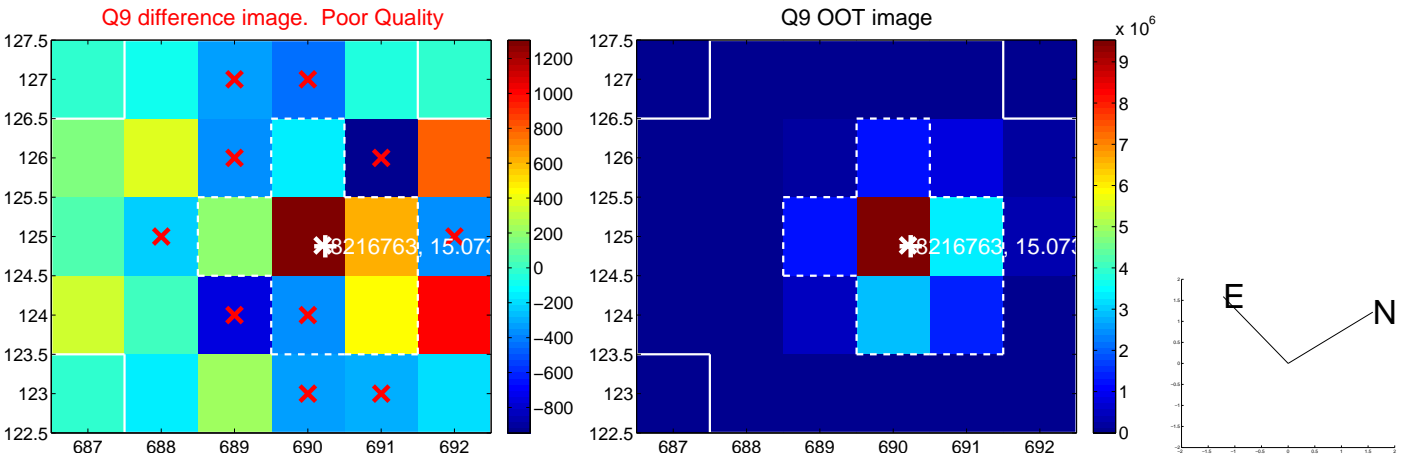
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



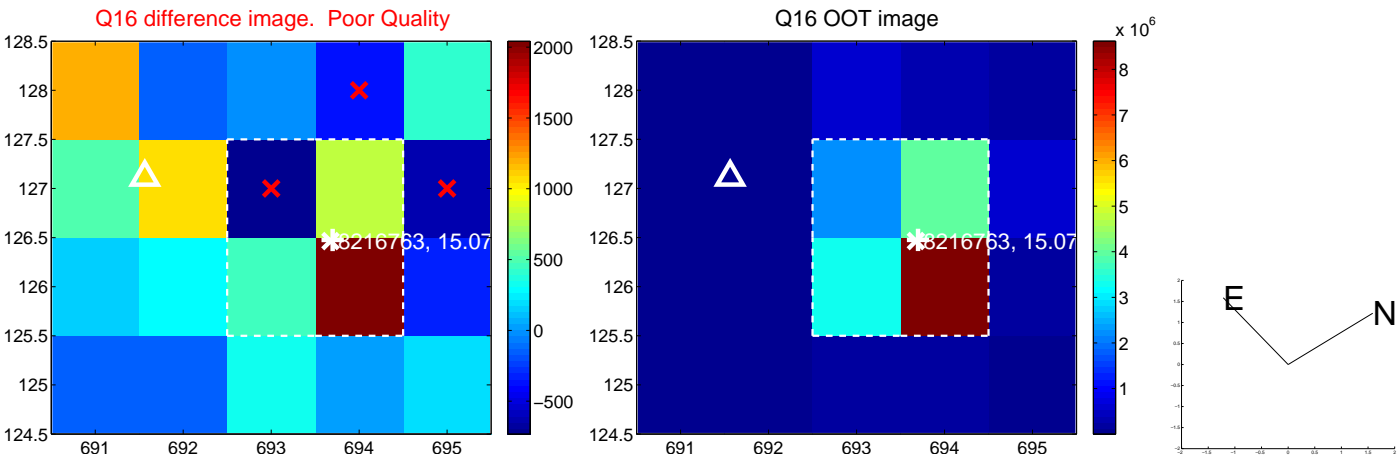
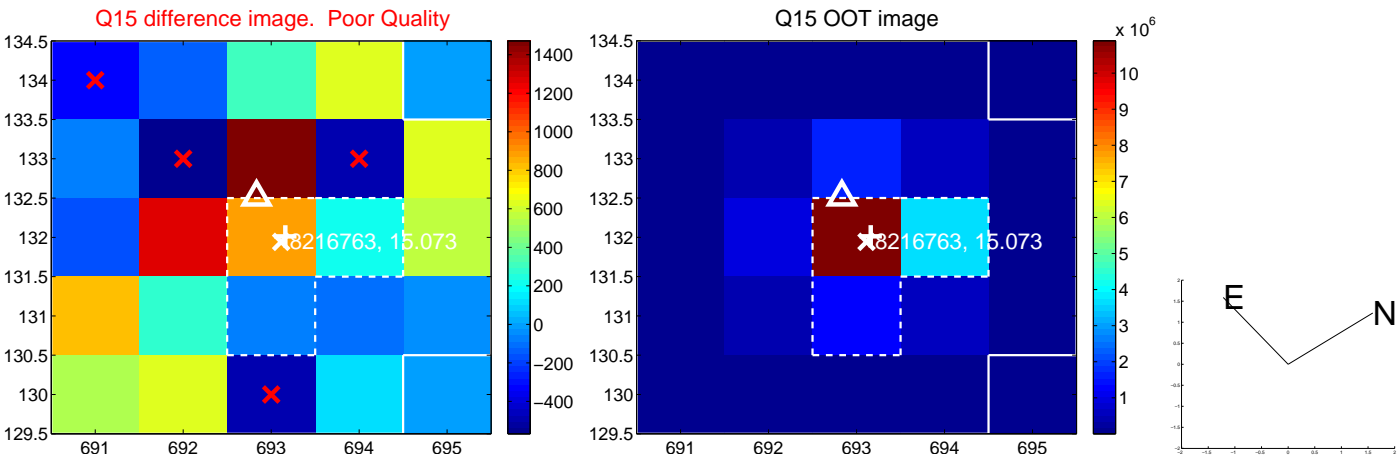
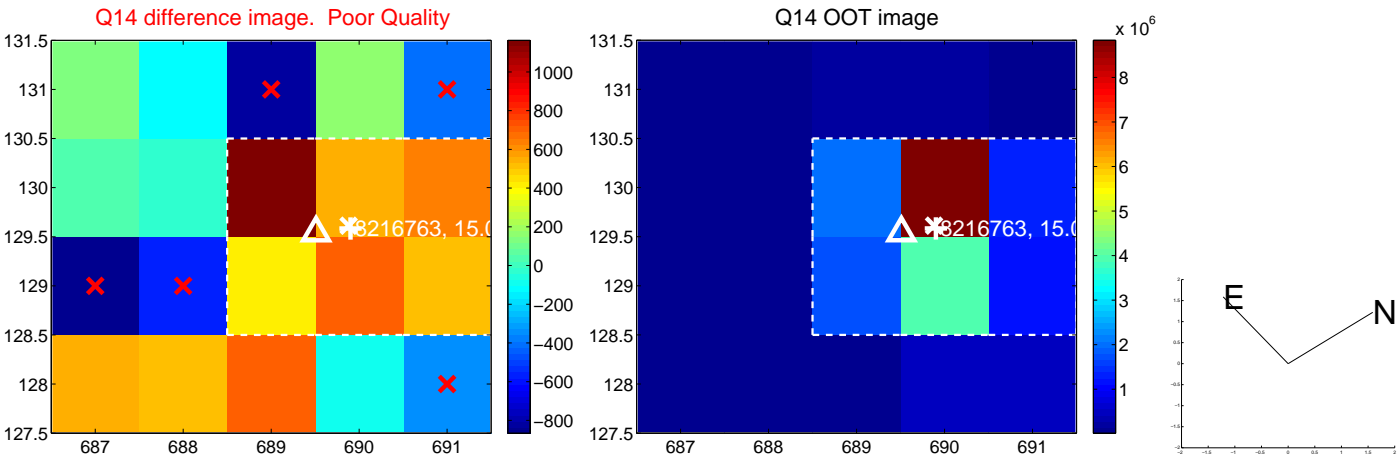
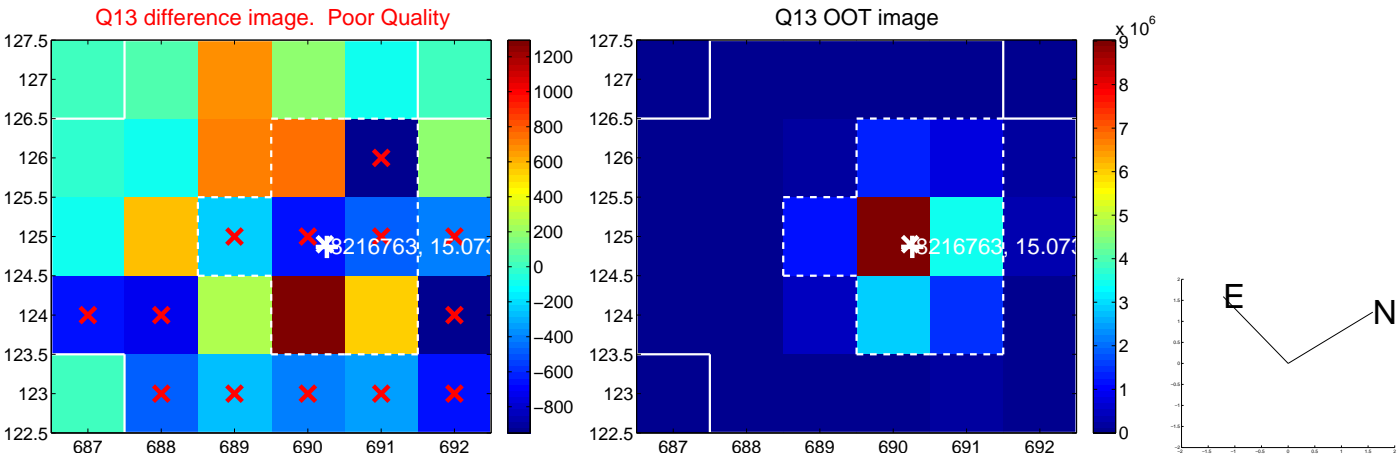
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



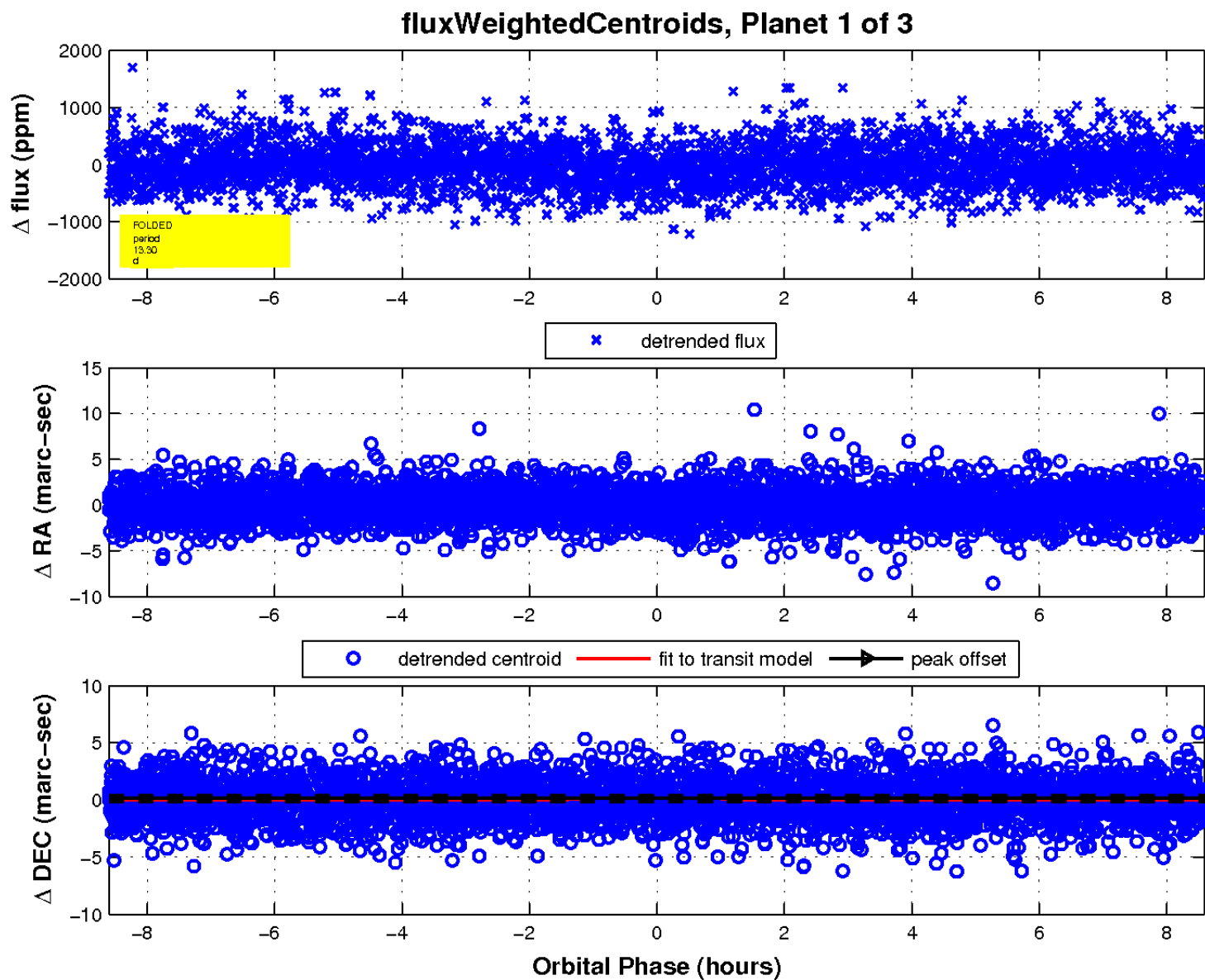
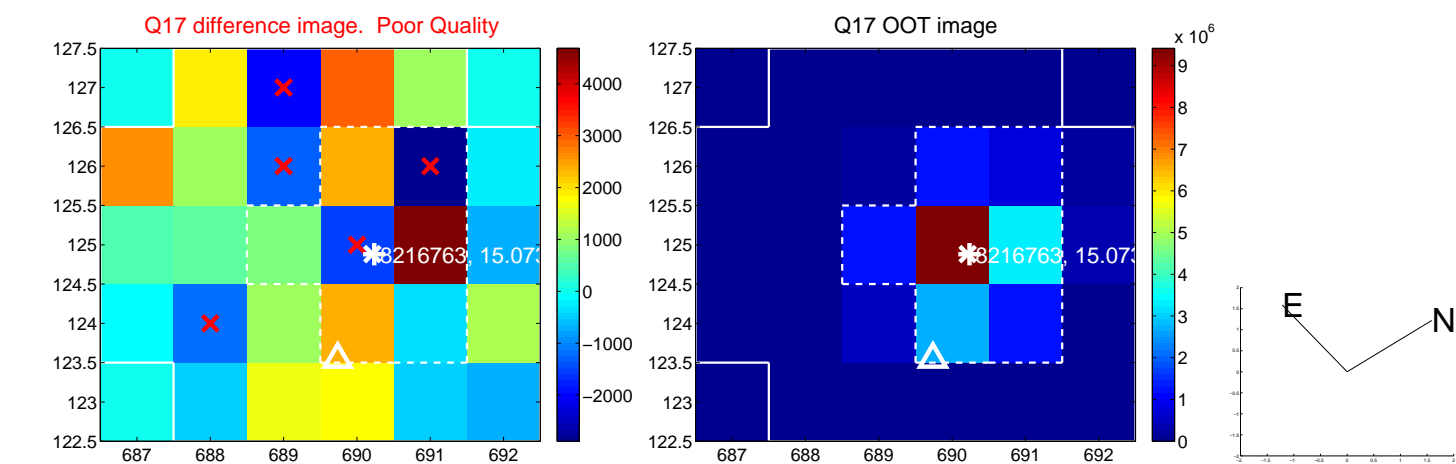
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

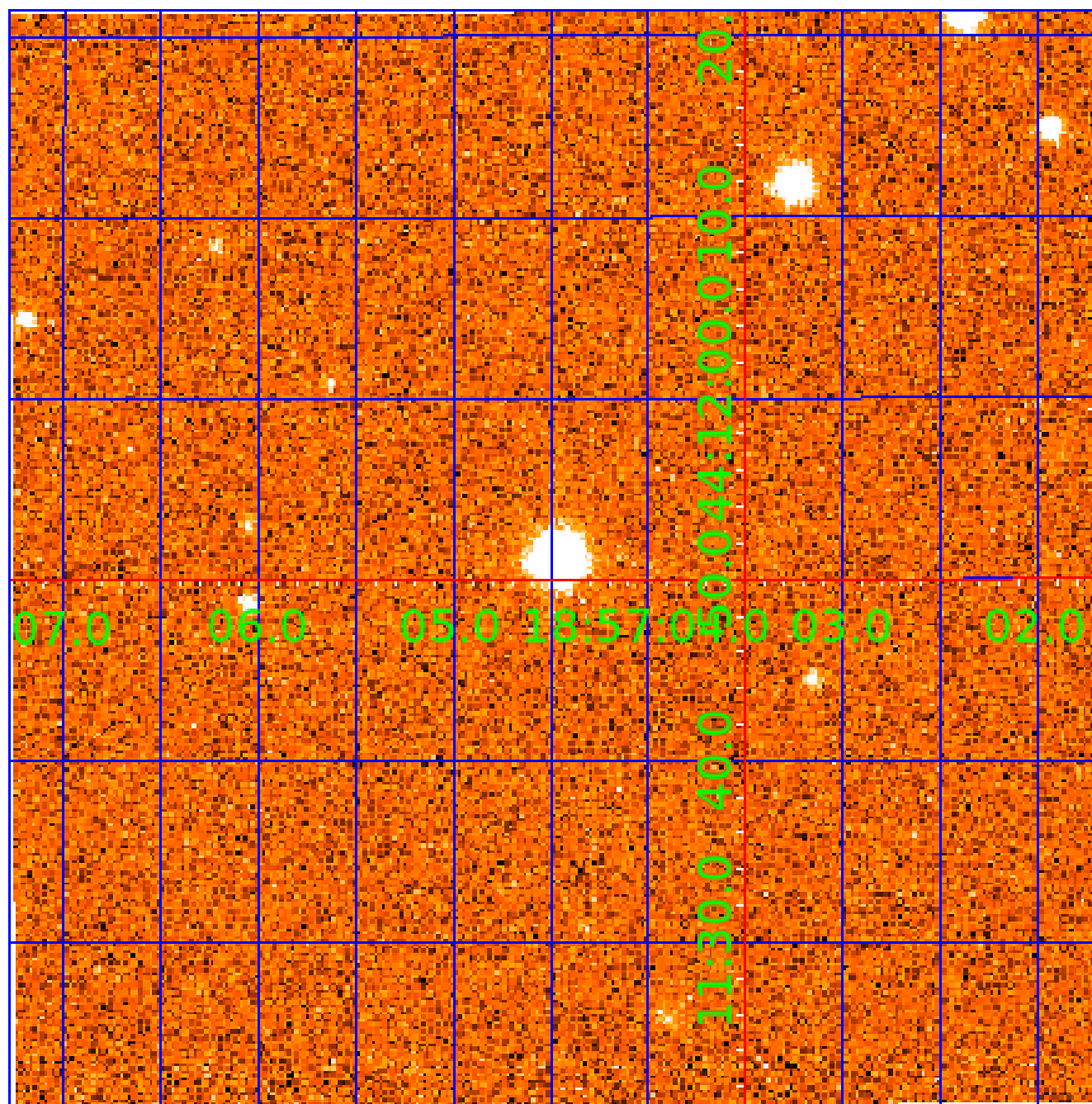


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008216763

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})
008216763-01	OBS	4838.01	13.297227	136.564775	168.7	2.867	8.1	8.3	0.61	4352	0.95	13.44
008216763-02	OBS	4838.03	24.073019	148.931731	185.4	3.726	8.1	7.8	0.61	4352	0.97	6.09
008216763-03	OBS	4838.02	6.333465	133.709216	122.7	2.862	7.9	8.6	0.61	4352	0.75	36.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008216763-01	OBS	PC	0.96	0	0	0	0	NO_COMMENT
008216763-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008216763-03	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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

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

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

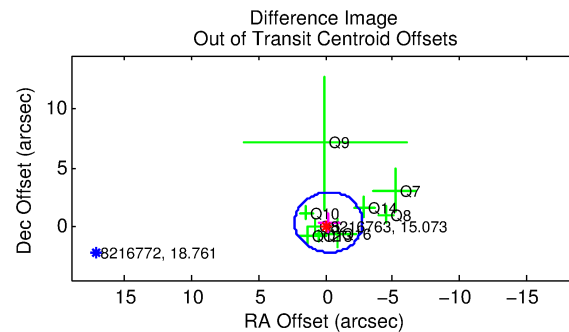
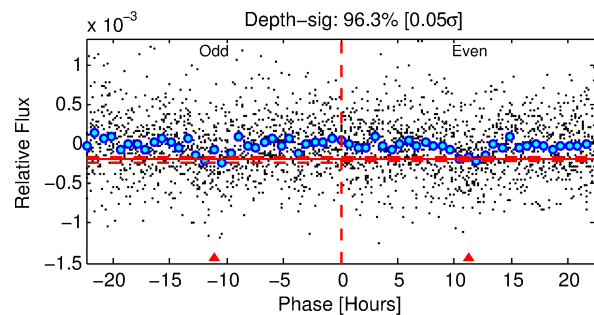
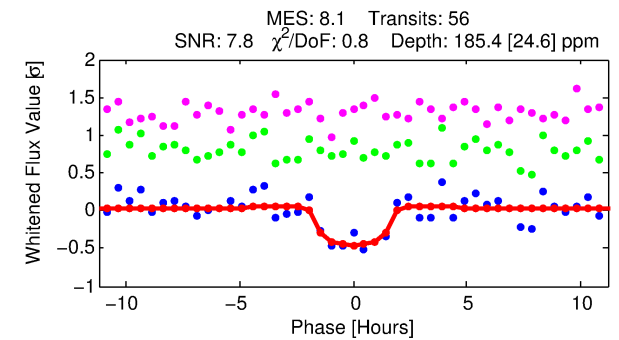
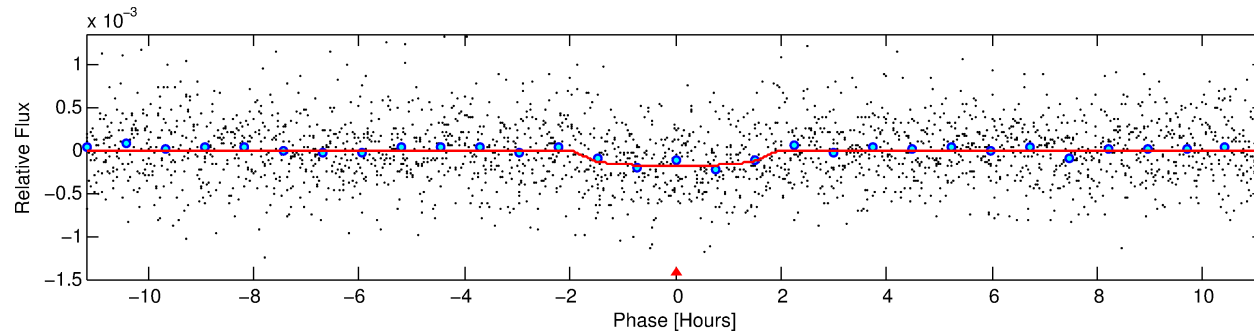
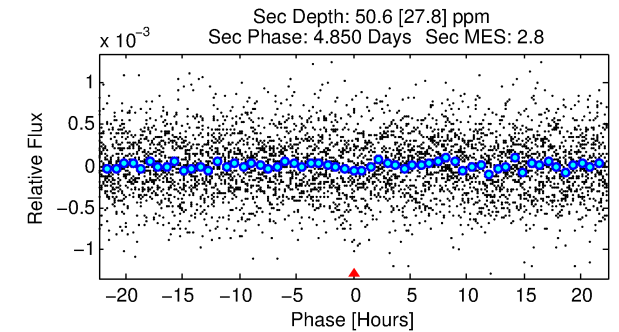
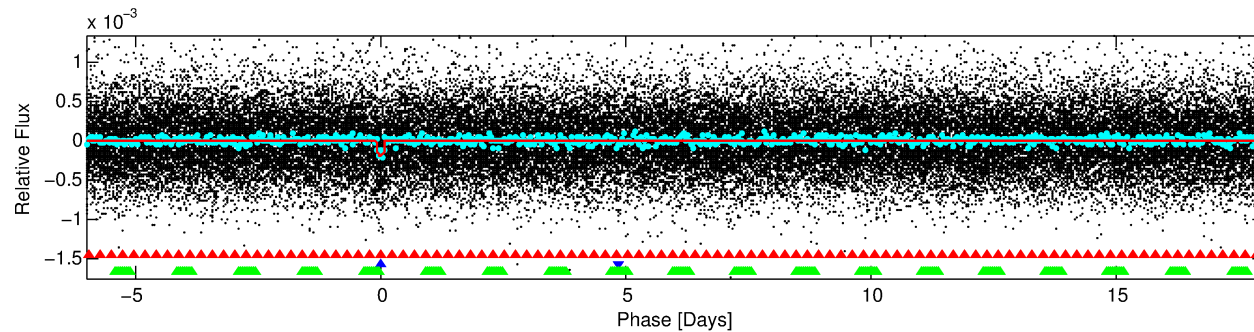
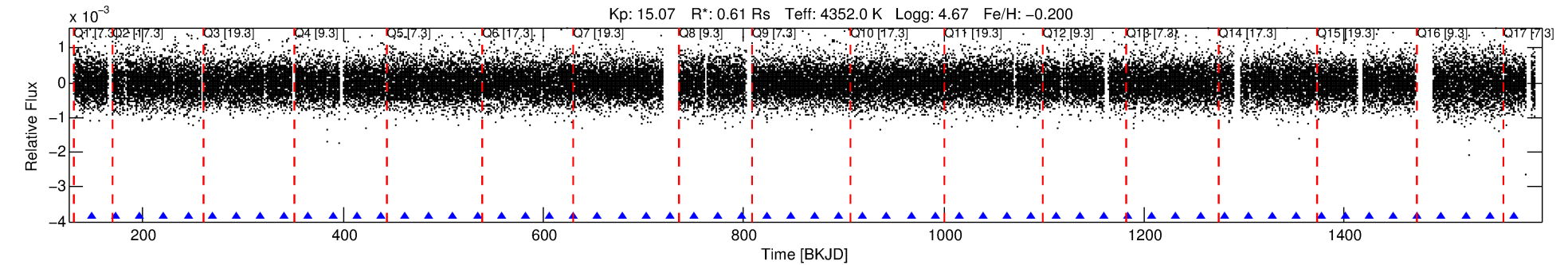
Ephemeris Match Information For 008216763-02

No Significant Match Found

DV One-Page Summary

KIC: 8216763 Candidate: 2 of 3 Period: 24.073 d

KOI: K04838 Corr: No Ephemeris Match



DV Fit Results:

Period = 24.07302 [0.00032] d
Epoch = 148.9317 [0.0103] BKJD
Rp/R* = 0.0144 [0.0147]
a/R* = 28.14 [102.60]
b = 0.84 [1.32]
Seff = 6.09 [0.90]
Teq = 401 [15] K
Rp = 0.97 [0.99] Re
a = 0.1408 [0.0096] AU
Ag = 592.18 [1254.00] [0.47σ]
Teffp = 3055 [1619] K [1.64σ]

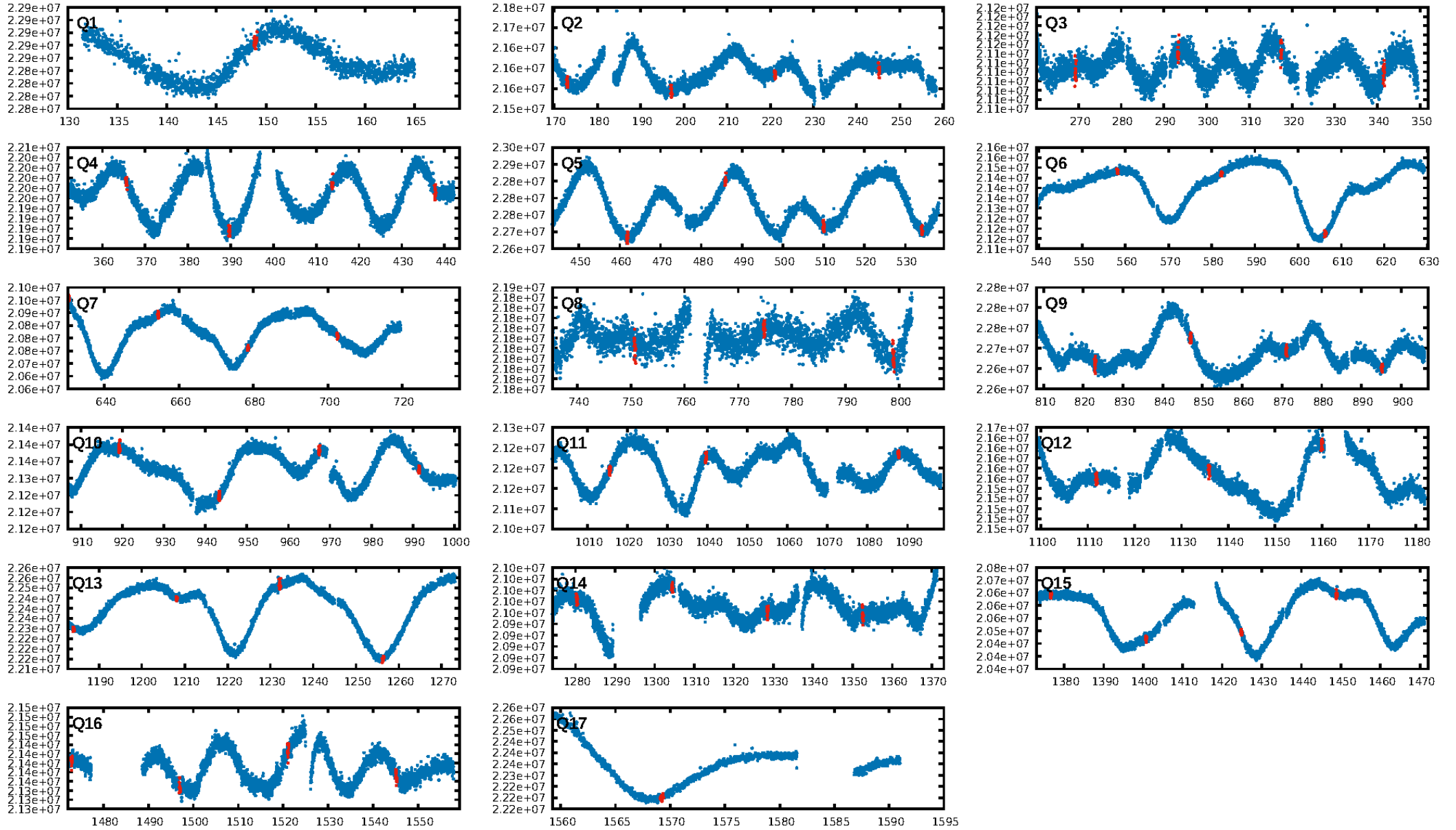
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [55.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.71e-16
RollingBand-fgt: 1.00 [54/54]
GhostDiagnostic-chr: -2.797
Centroid-sig: N/A
Centroid-so: 2.736 arcsec [1.68σ]
OotOffset-rm: 0.442 arcsec [0.52σ]
KicOffset-rm: 0.570 arcsec [0.67σ]
OotOffset-st: 2/1/3/3 [9]
KicOffset-st: 2/1/3/3 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 1.00 [17/17]

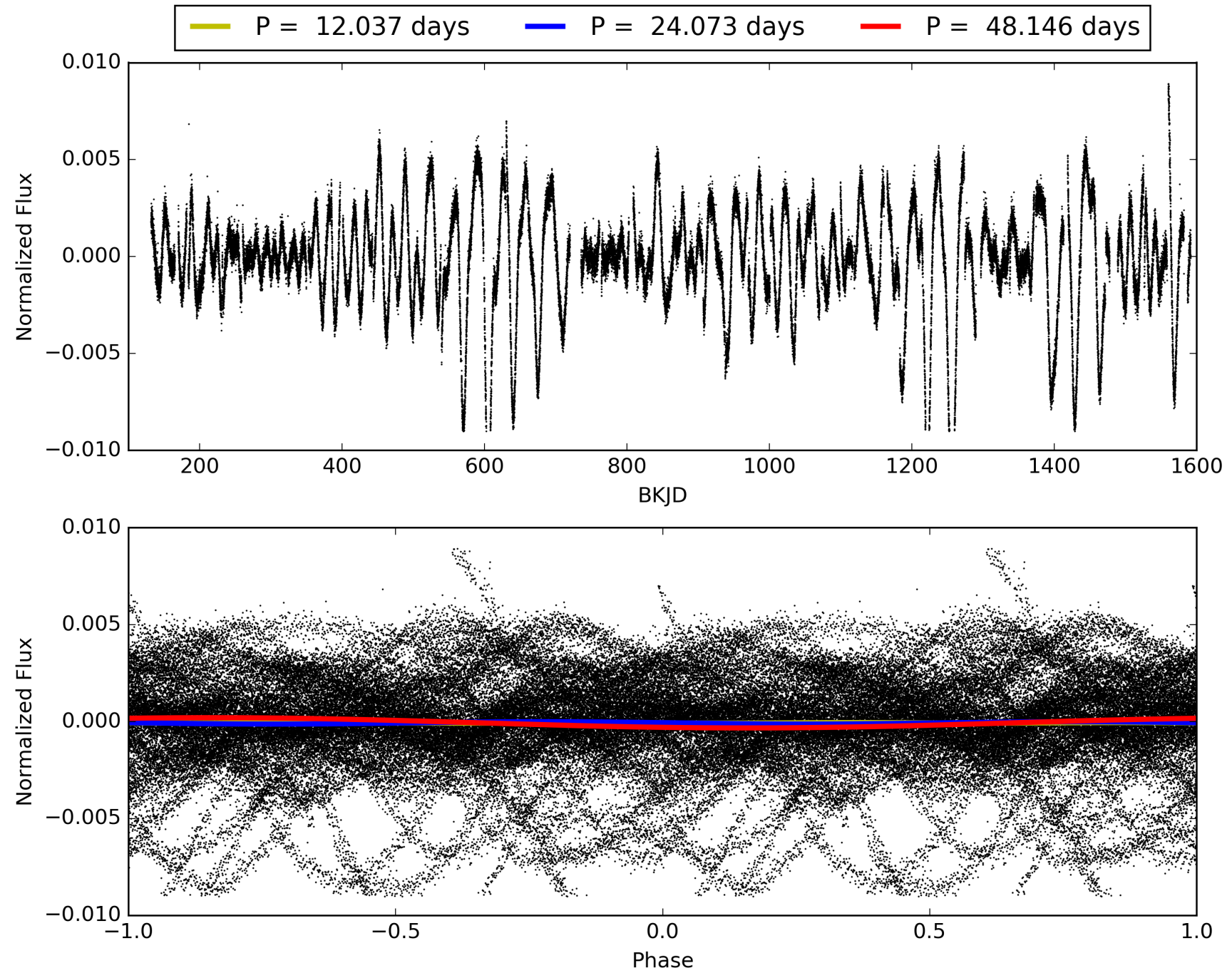
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:28:14 Z

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

TCE 008216763-02, PDC Light Curves

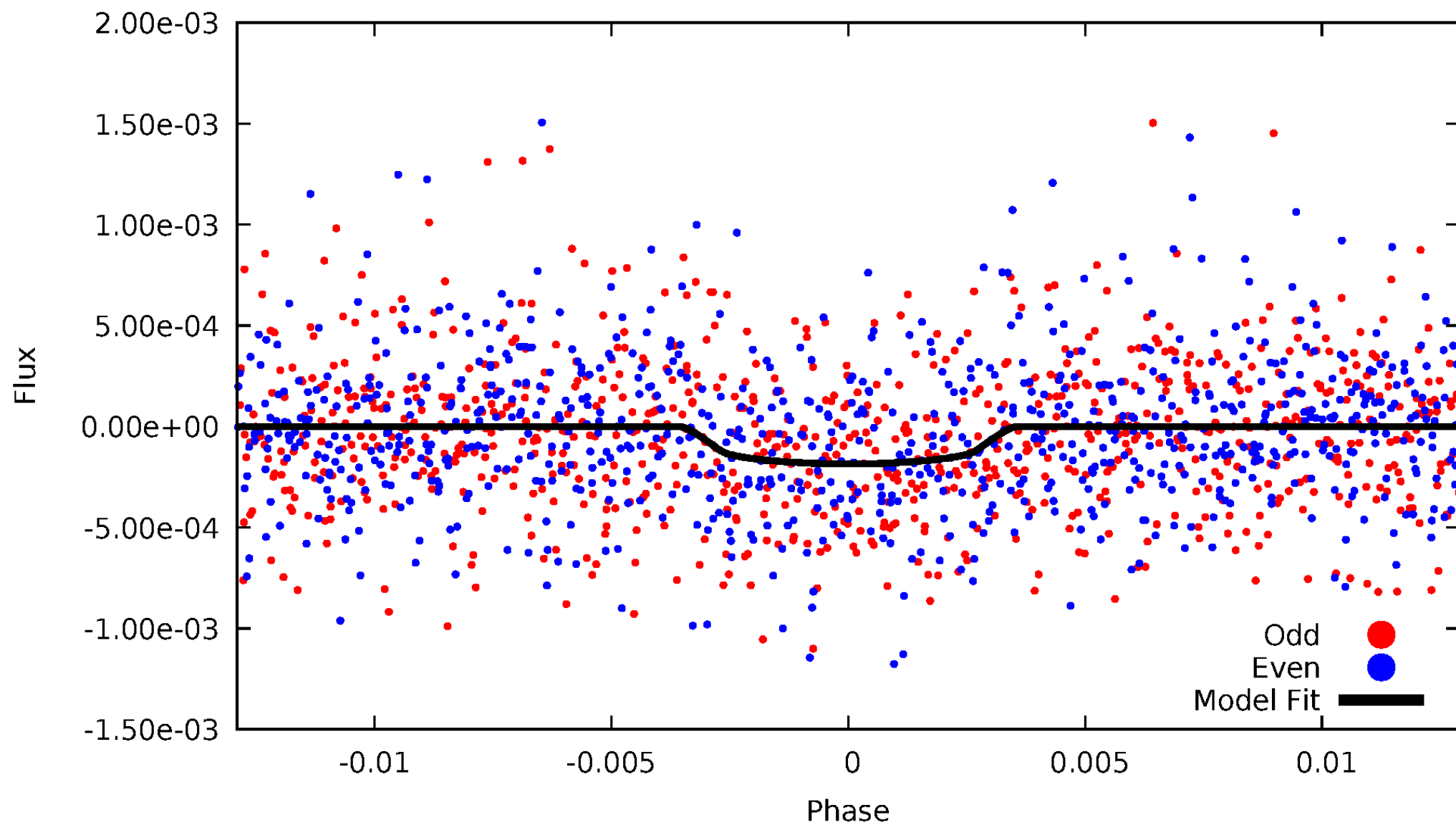


TCE 008216763-02



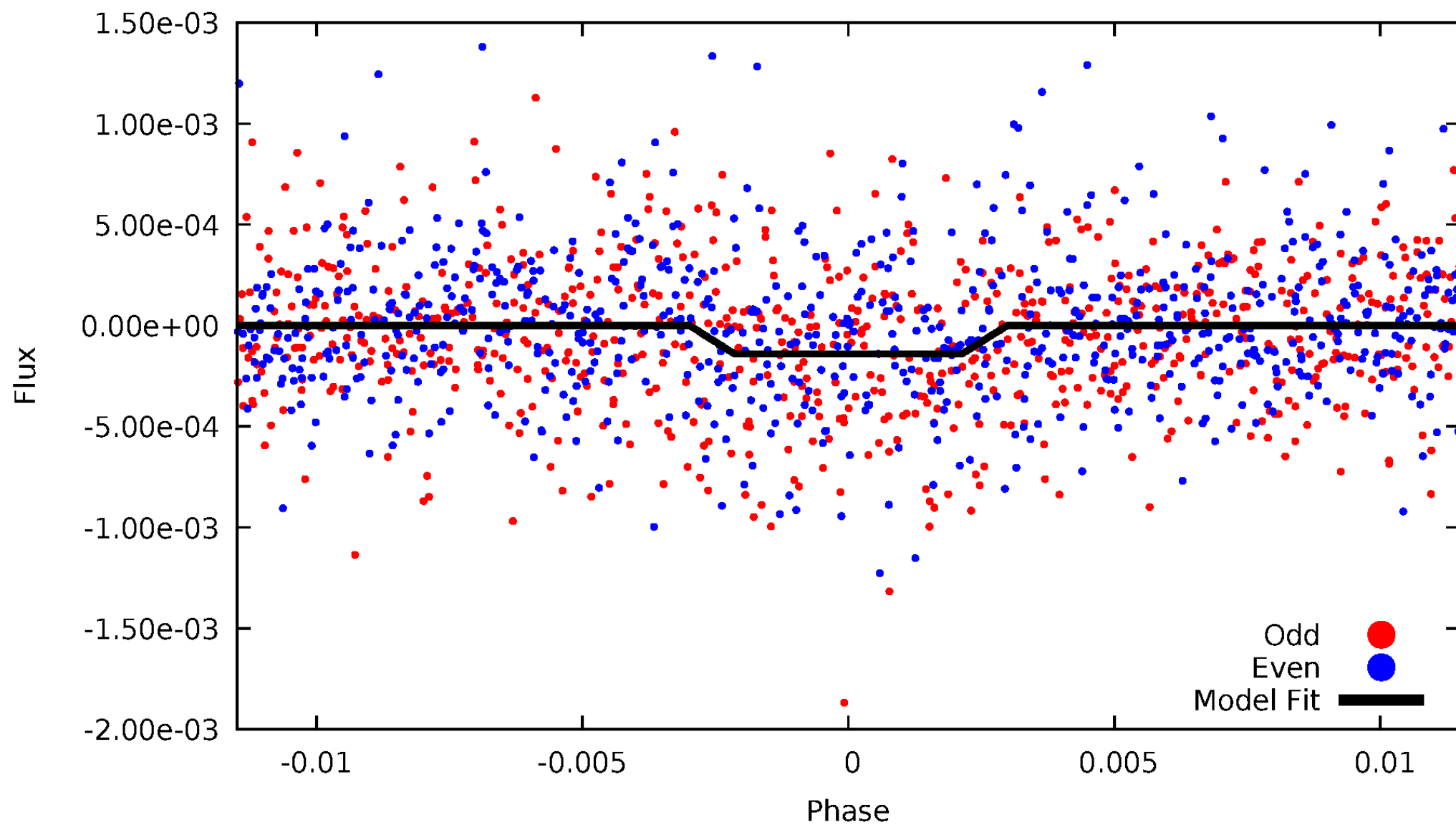
DV Odd/Even

TCE 008216763-02



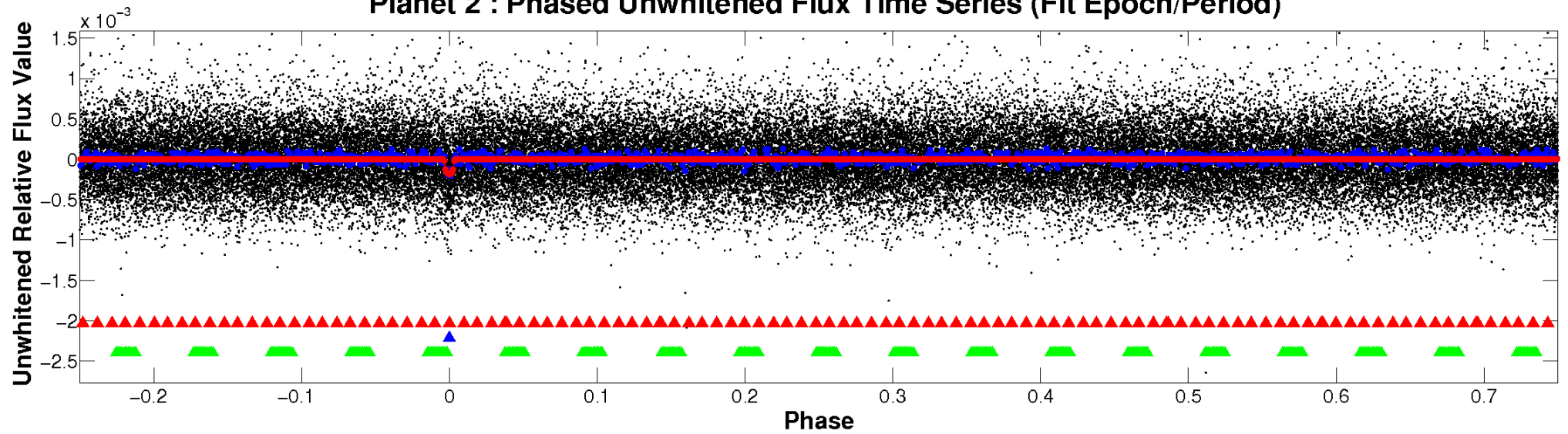
ALT Odd/Even

TCE 008216763-02

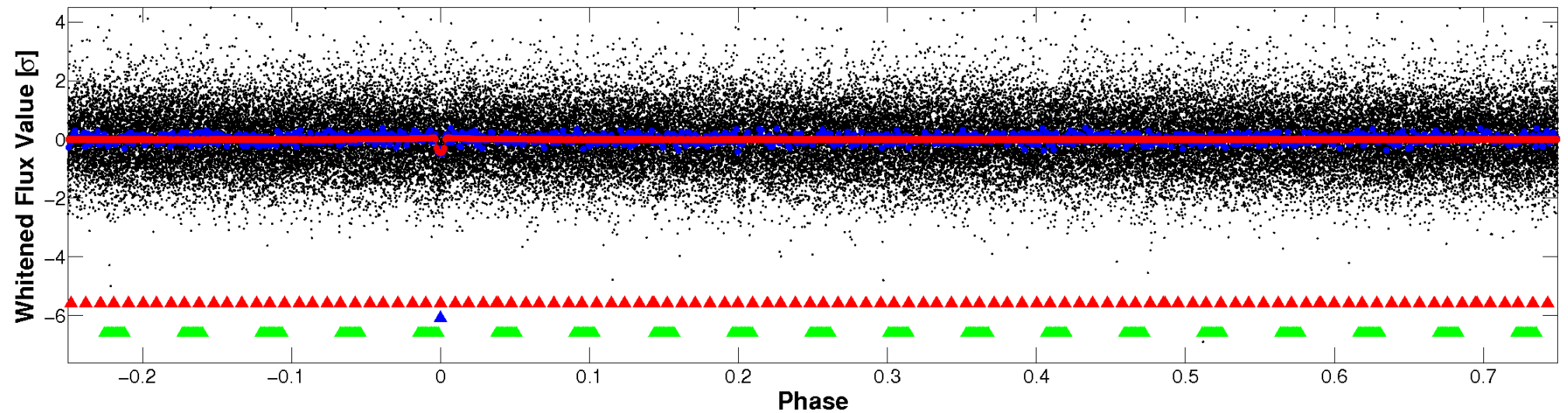


Non-Whitened Vs. Whitened Light Curve

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

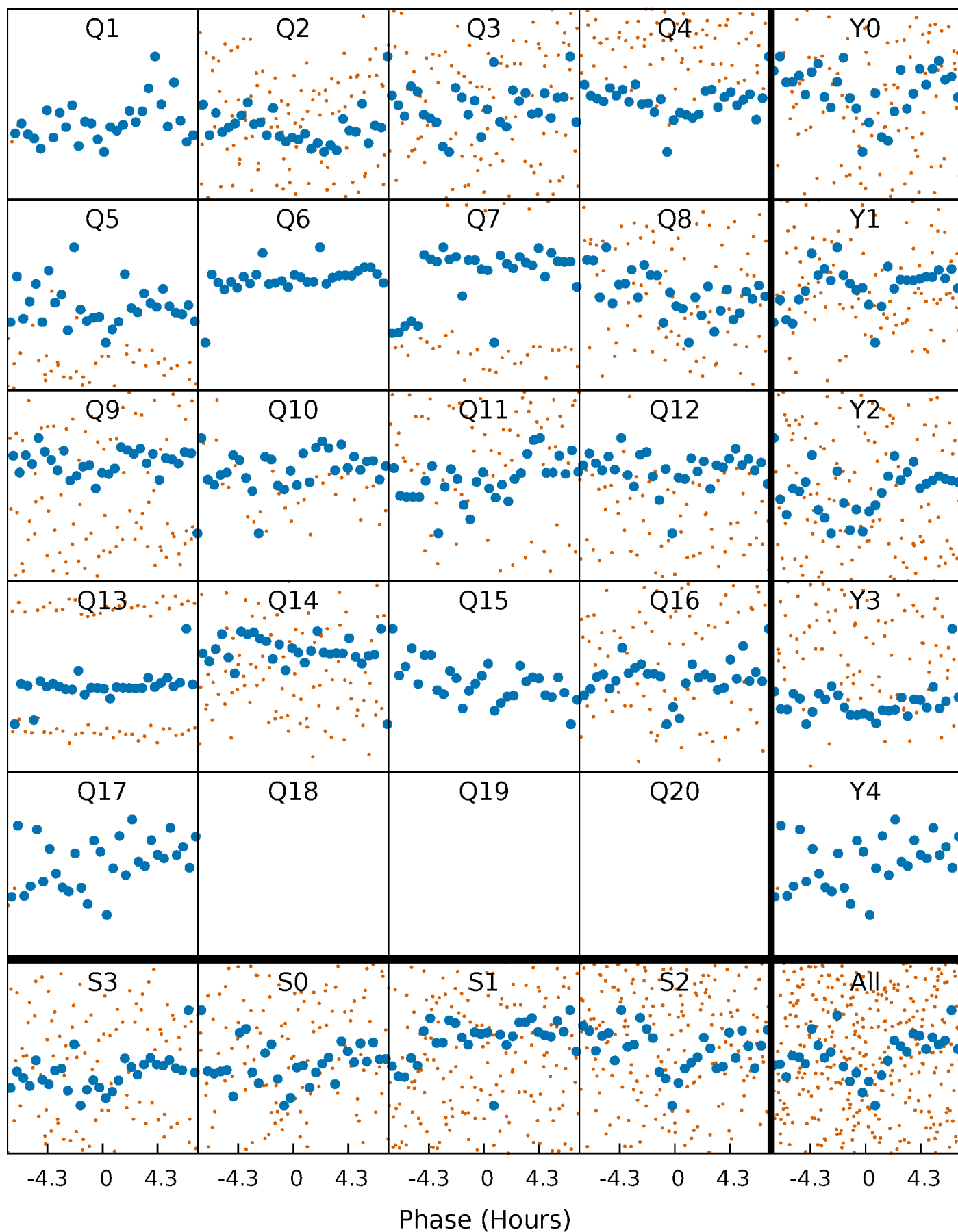


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



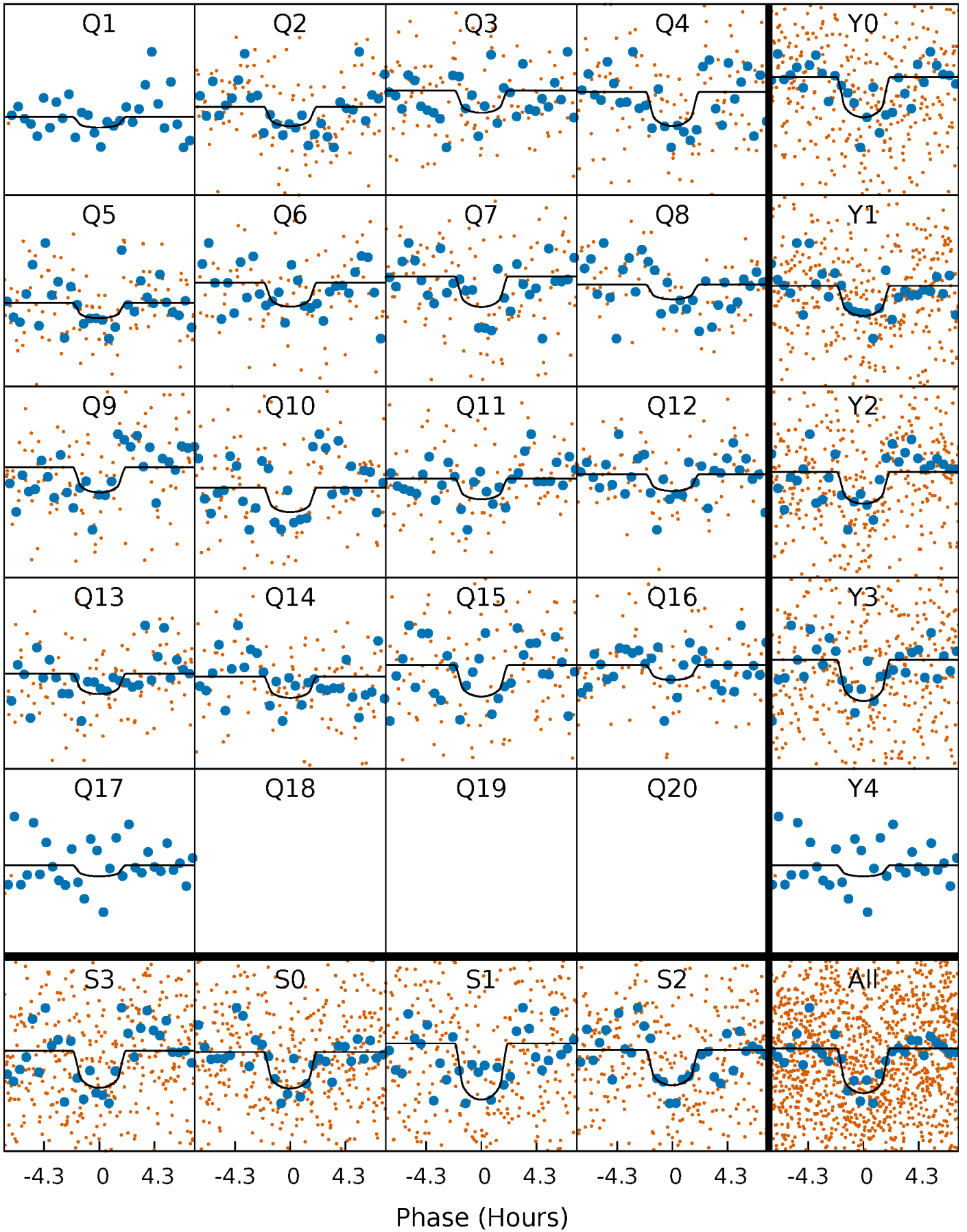
PDC Quarter-Phased Transit Curves

TCE 008216763-02 P= 24.073019 Days $T_0=148.931731$ (BKJD)



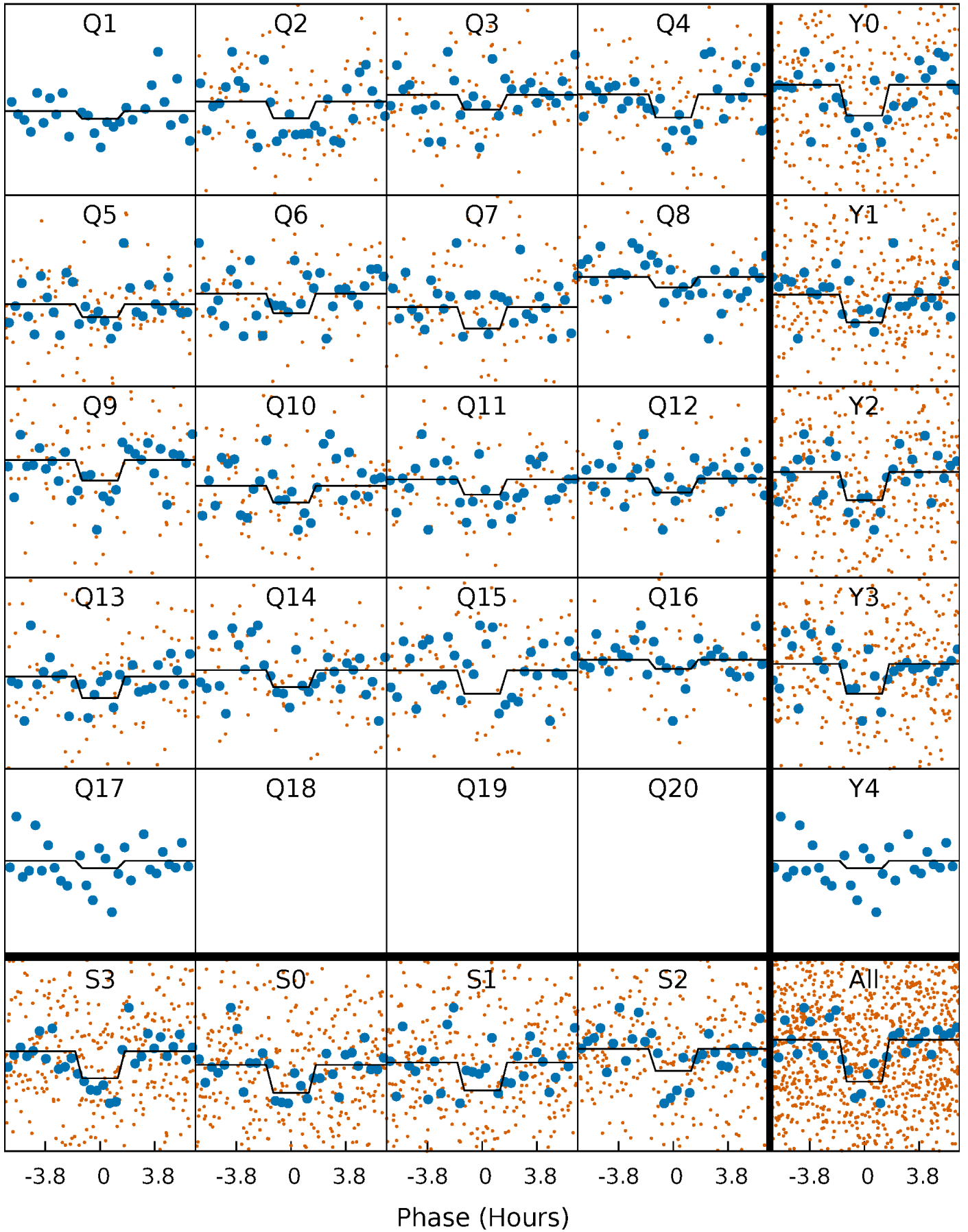
DV Quarter-Phased Transit Curves

TCE 008216763-02 P= 24.073019 Days $T_0=148.931731$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

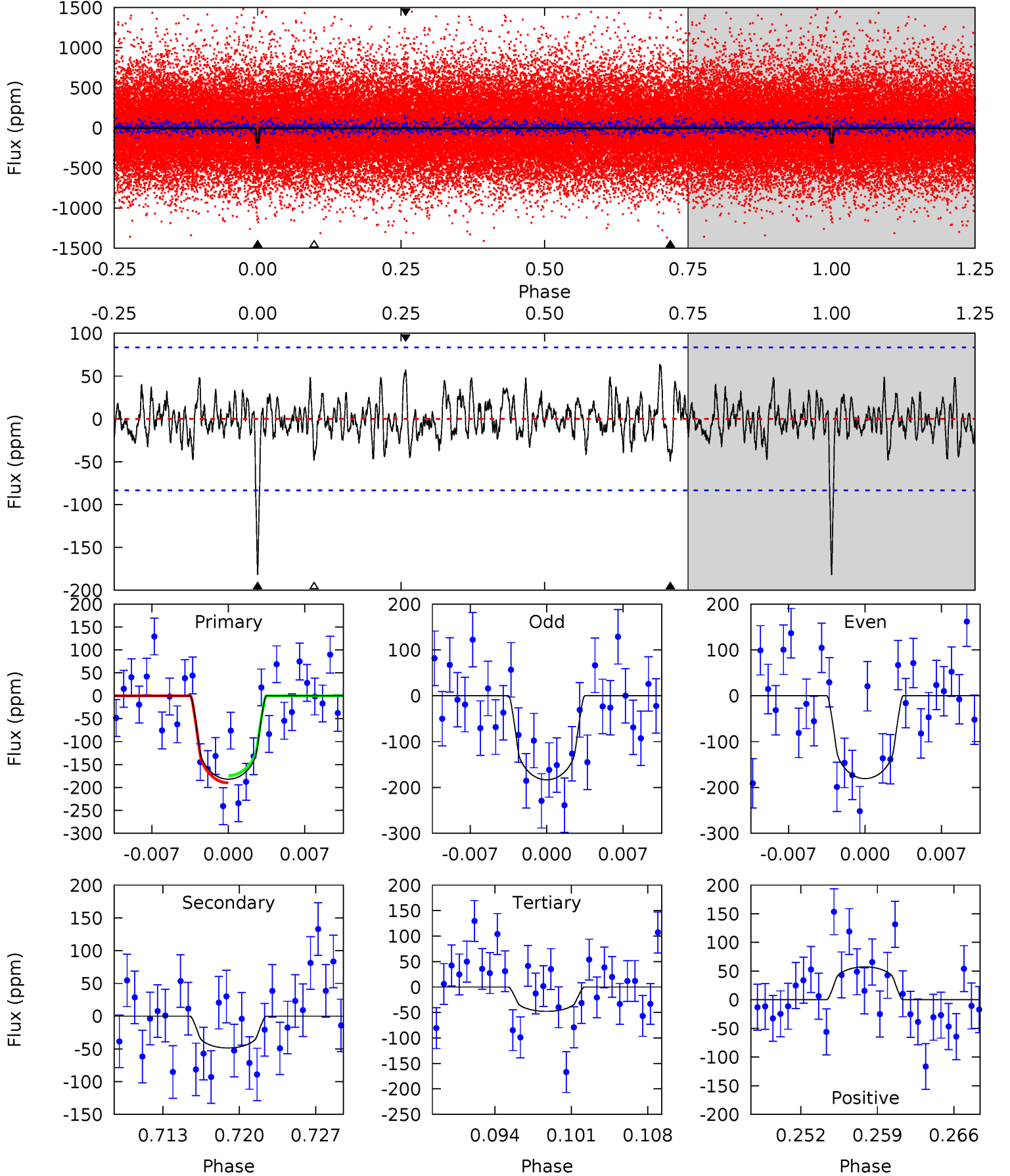
TCE 008216763-02 P= 24.072550 Days $T_0=148.942550$ (BKJD)



DV Model-Shift Uniqueness Test

008216763-02, P = 24.073019 Days, E = 124.858712 Days

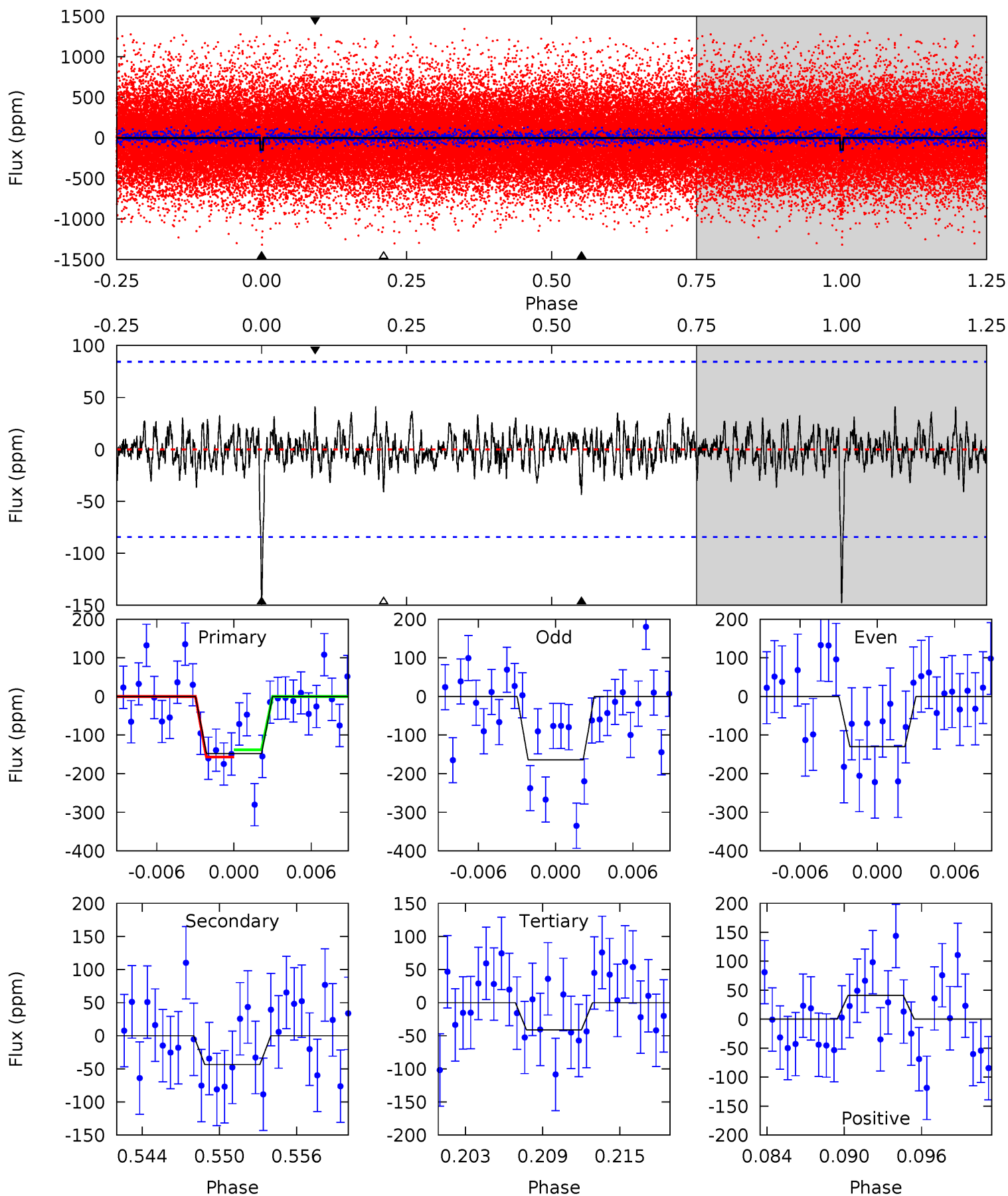
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	2.97	2.92	3.50	5.09	2.69	1.12	8.19	7.61	0.05	-0.53	0.08	0.98	0.26	0.48



Alt Model-Shift Uniqueness Test

008216763-02, $P = 24.072550$ Days, $E = 124.870000$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.97	2.65	2.49	2.51	5.12	2.75	0.77	6.48	6.46	0.15	0.14	1.05	1.07	0.22	0.57



Stellar Parameters For KIC 008216763

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4352^{+116}_{-129}	$4.671^{+0.032}_{-0.042}$	$-0.200^{+0.300}_{-0.300}$	$0.613^{+0.055}_{-0.050}$	$0.640^{+0.055}_{-0.061}$	$3.916^{+0.610}_{-0.634}$
	+3%/-3%	+1%/-1%	+150%/-150%	+9%/-8%	+9%/-10%	+16%/-16%
Source	PHO1	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 008216763-02 / KOI 4838.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 16	$1.10^{+0.85}_{-0.70}$	562^{+18}_{-19}	3246^{+1285}_{-496}	411^{+2950}_{-280}
Alt.	-44 ± 16	$1.05^{+0.88}_{-0.67}$	560^{+18}_{-18}	3207^{+1366}_{-501}	397^{+2632}_{-278}

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

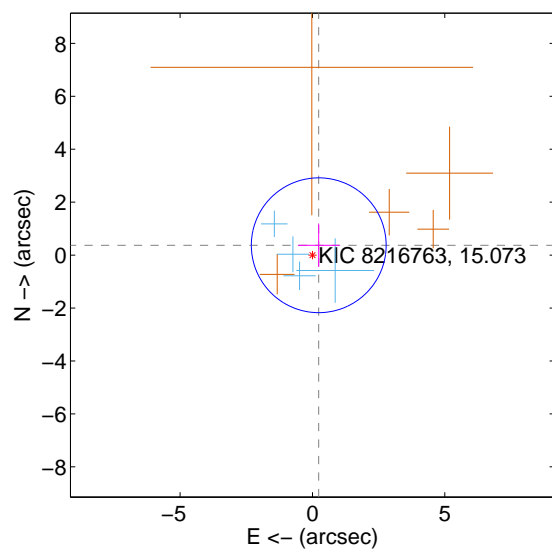
Supplemental centroid analysis for 008216763-02. Kepler magnitude: 15.07. Transit SNR 7.83

There are 4 quarters with good PRF difference image offsets

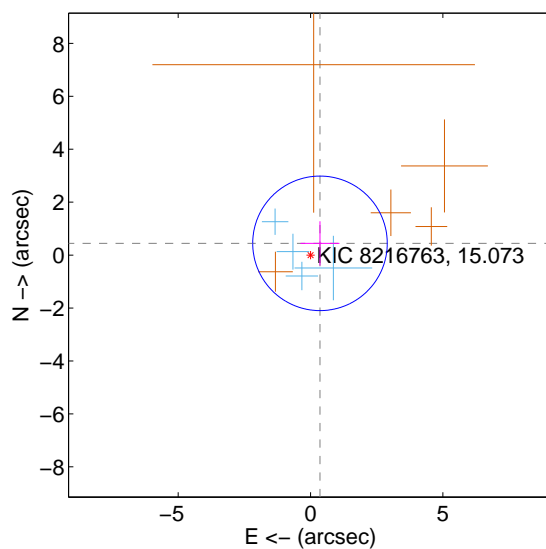
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.442 ± 0.849	0.52	-0.238 ± 0.787	0.372 ± 0.820
PRF-fit source offset from KIC position	0.570 ± 0.847	0.67	-0.358 ± 0.735	0.444 ± 0.835
photometric centroid source offset	2.74 ± 1.63	1.68	0.61 ± 1.52	2.67 ± 1.63

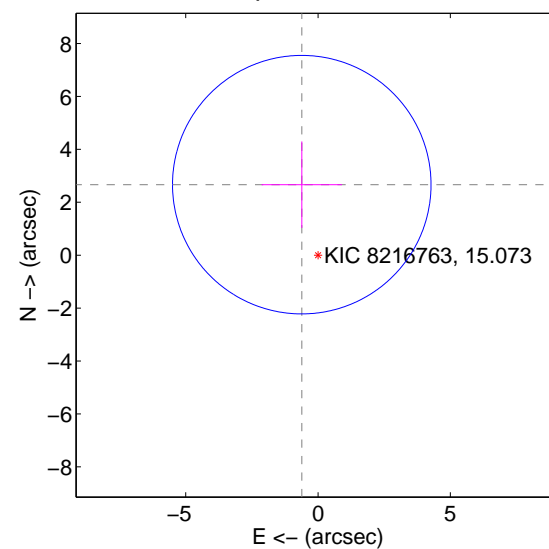
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

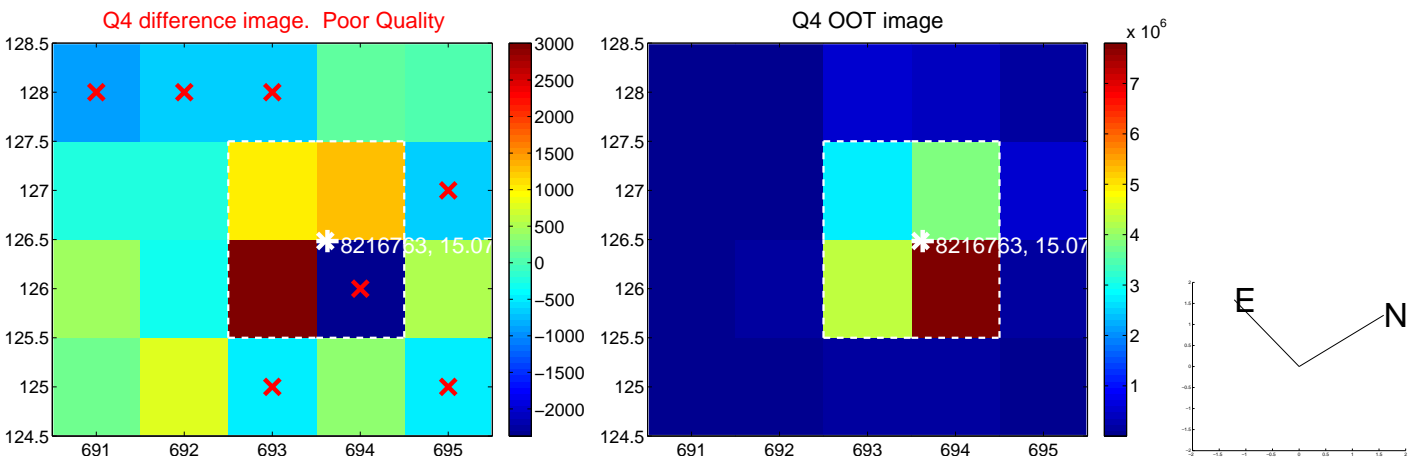
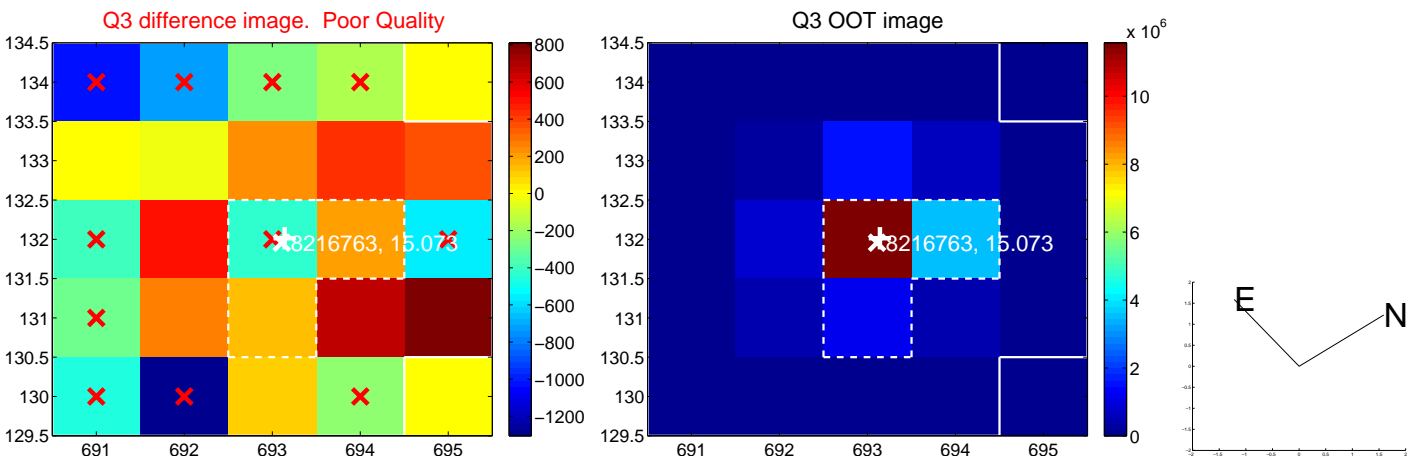
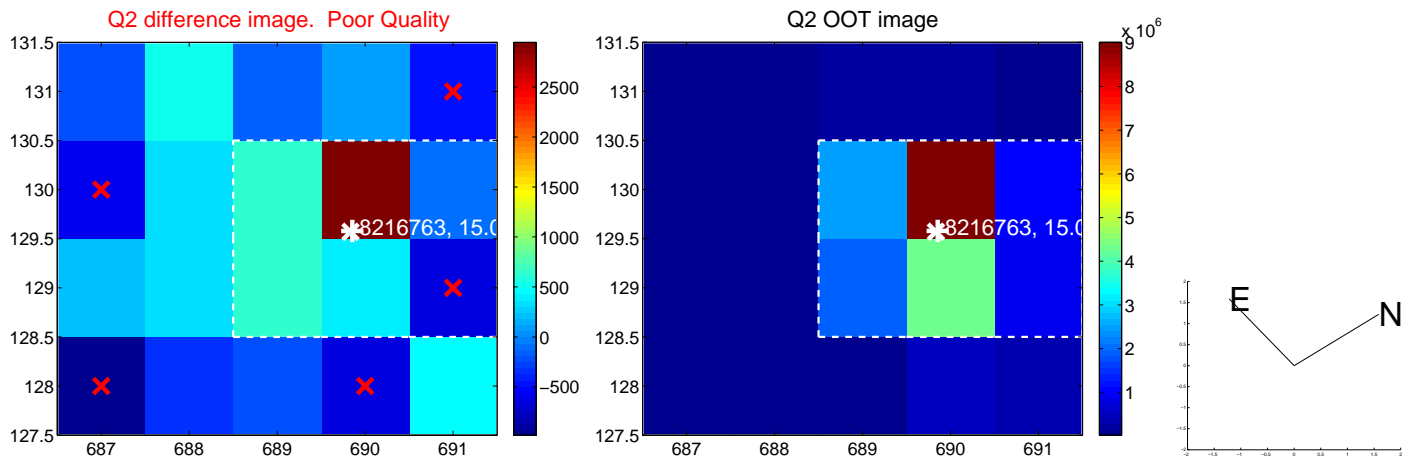
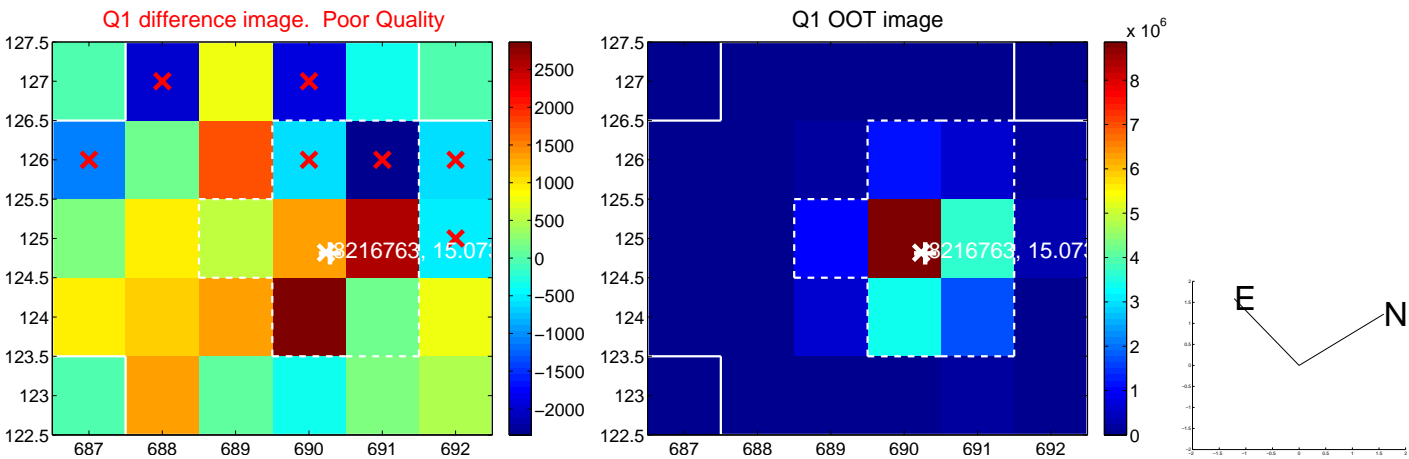


offset from photometric centroids

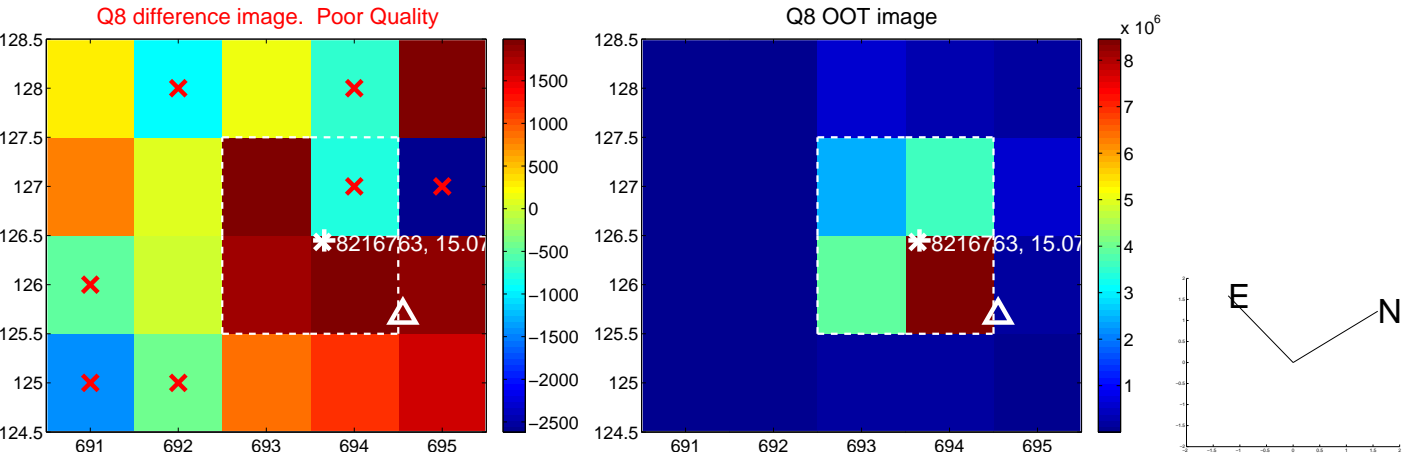
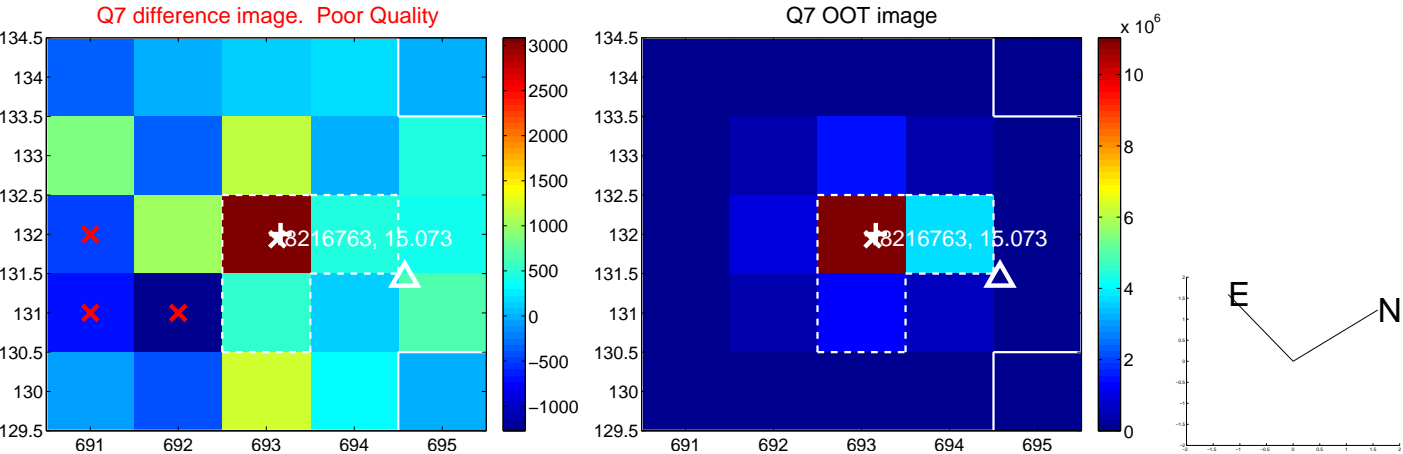
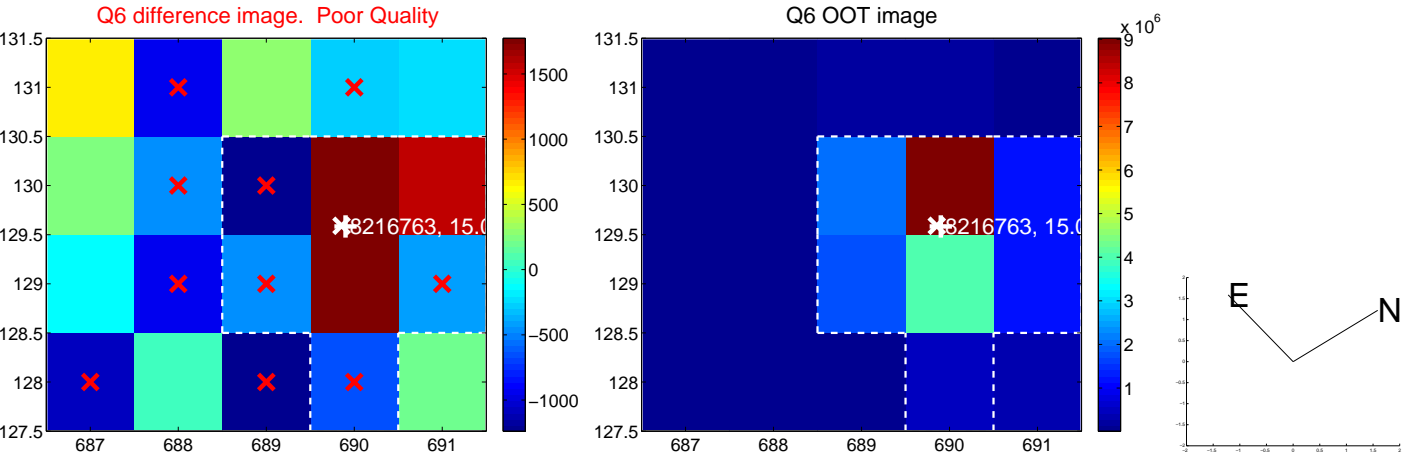
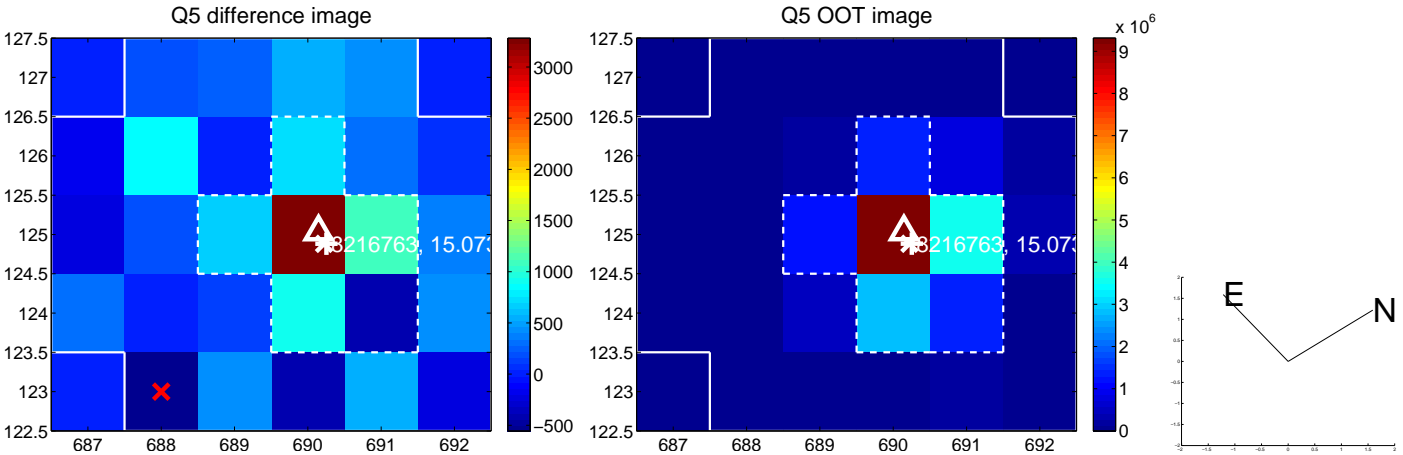


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

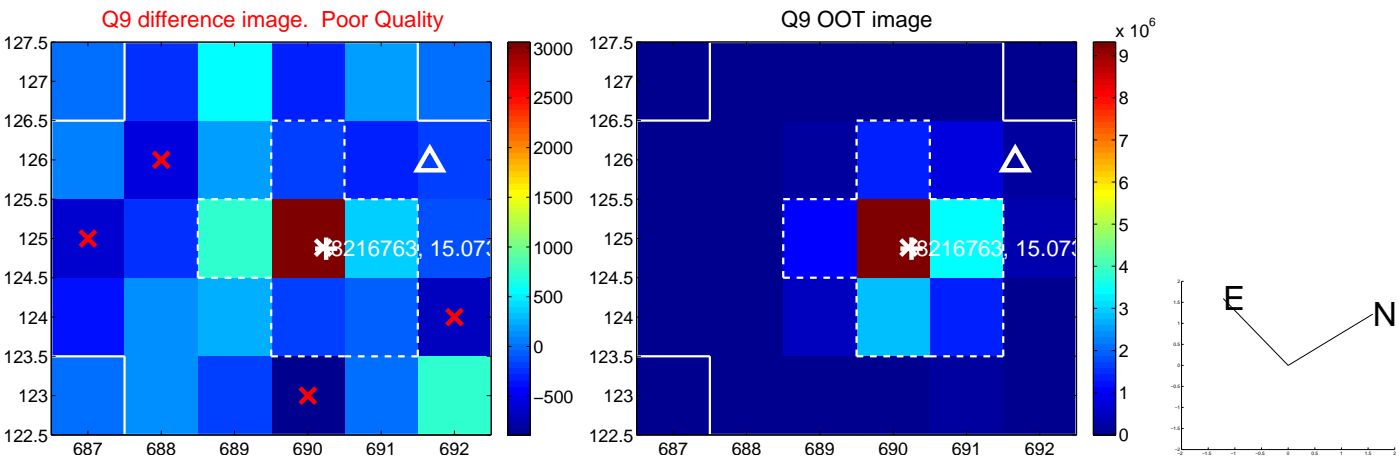
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



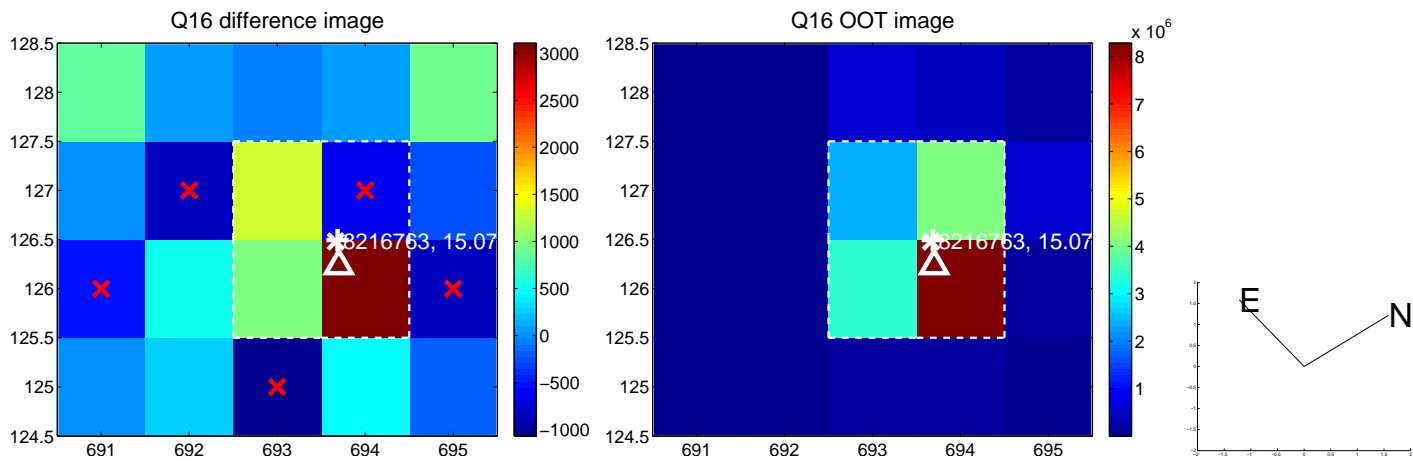
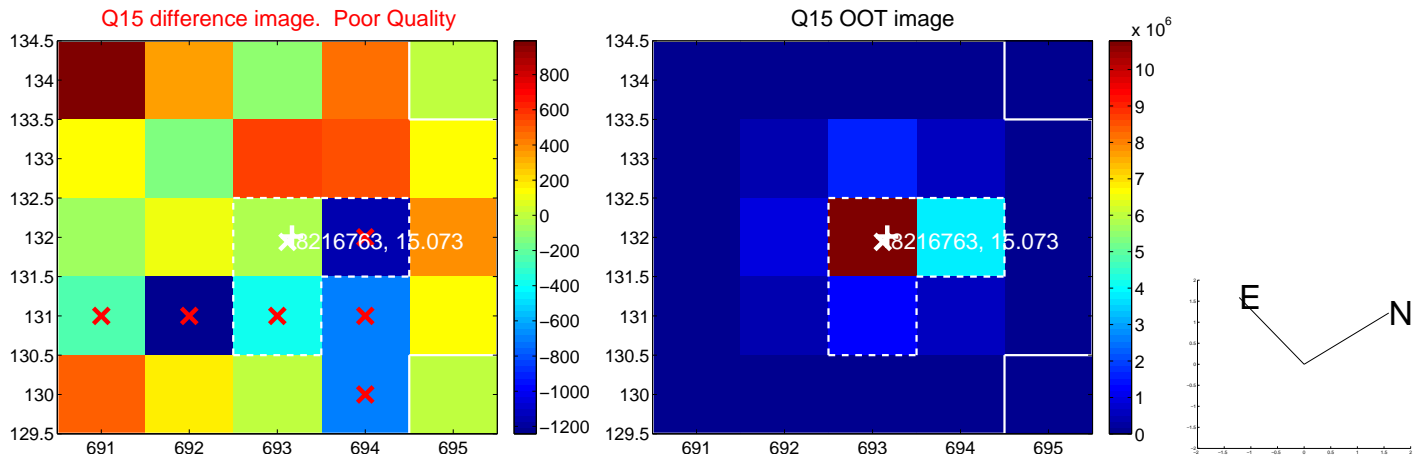
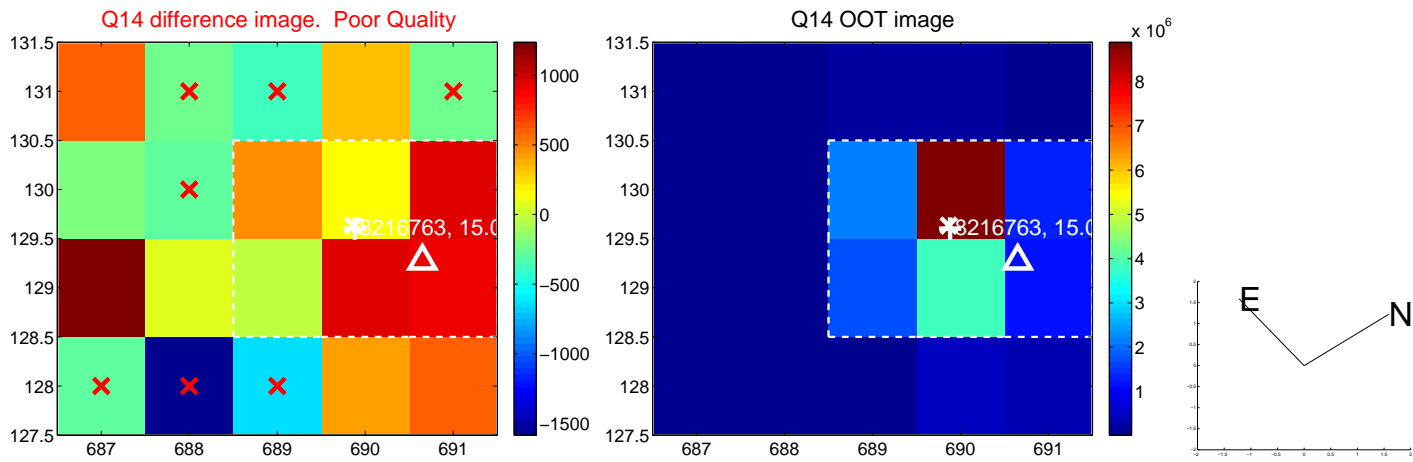
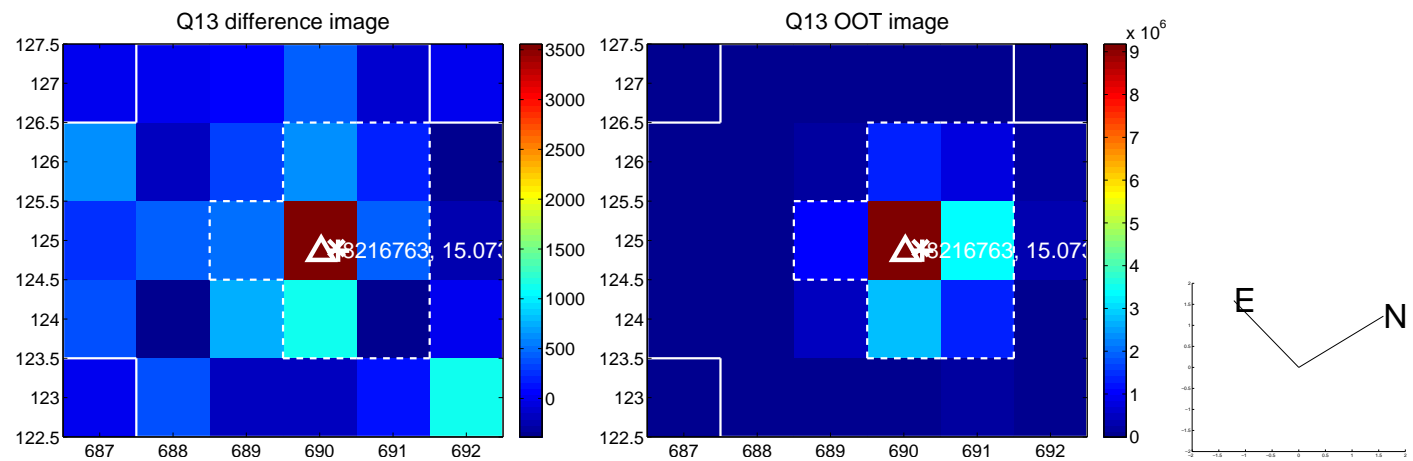
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



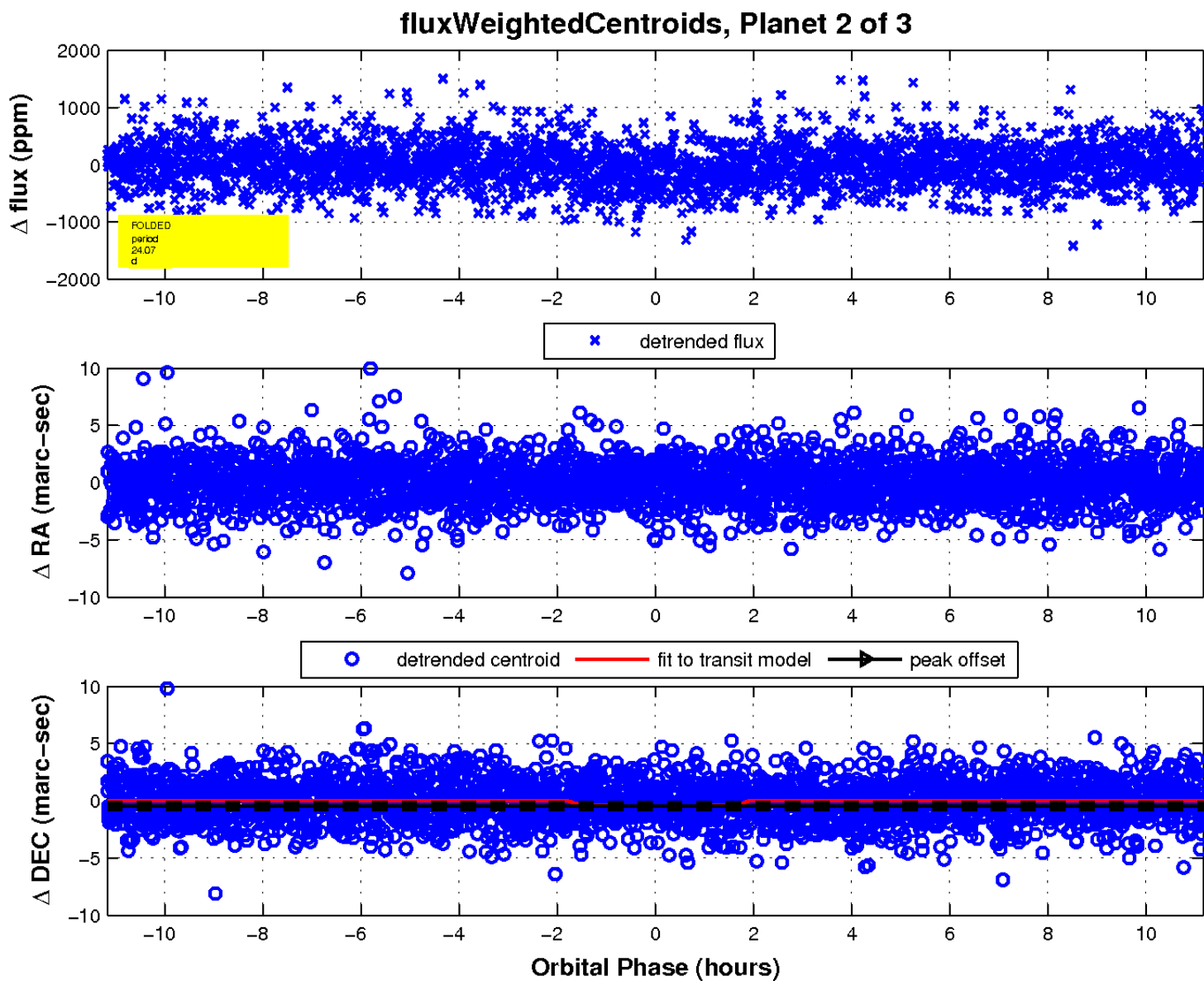
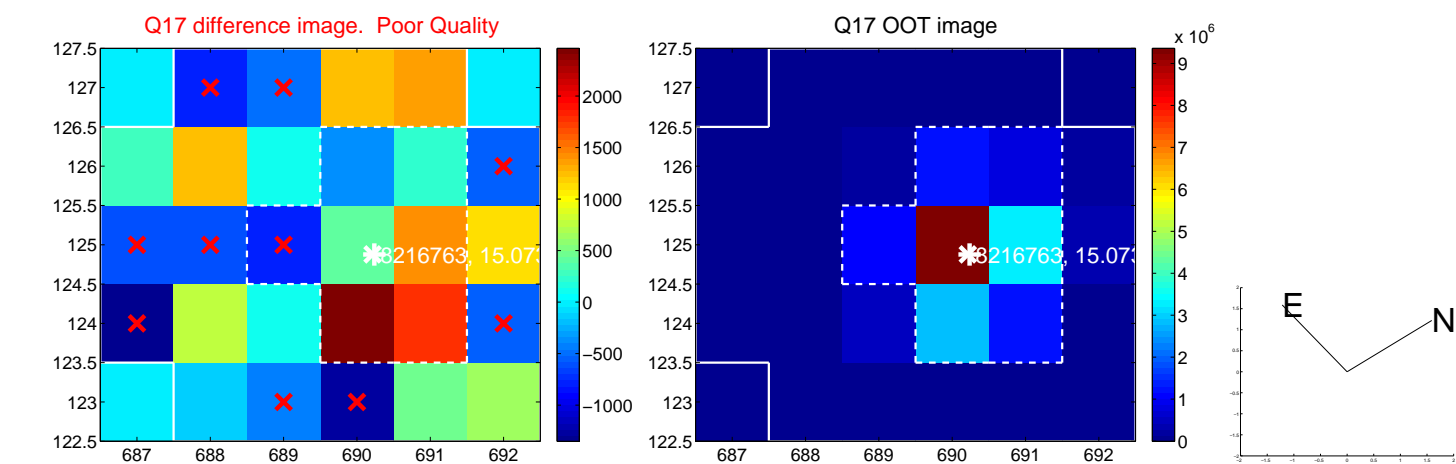
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

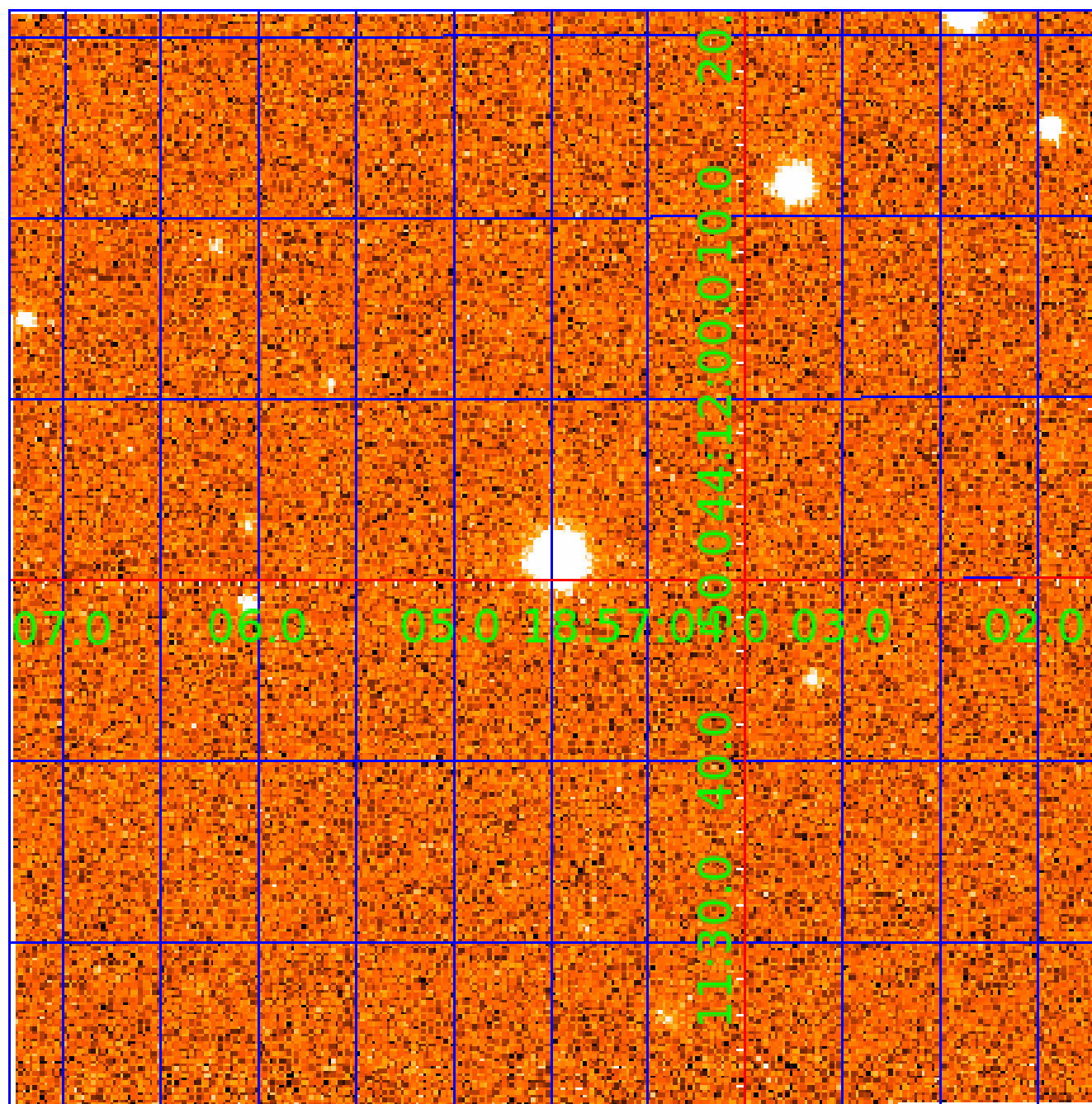


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008216763

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})
008216763-01	OBS	4838.01	13.297227	136.564775	168.7	2.867	8.1	8.3	0.61	4352	0.95	13.44
008216763-02	OBS	4838.03	24.073019	148.931731	185.4	3.726	8.1	7.8	0.61	4352	0.97	6.09
008216763-03	OBS	4838.02	6.333465	133.709216	122.7	2.862	7.9	8.6	0.61	4352	0.75	36.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008216763-01	OBS	PC	0.96	0	0	0	0	NO_COMMENT
008216763-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008216763-03	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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

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

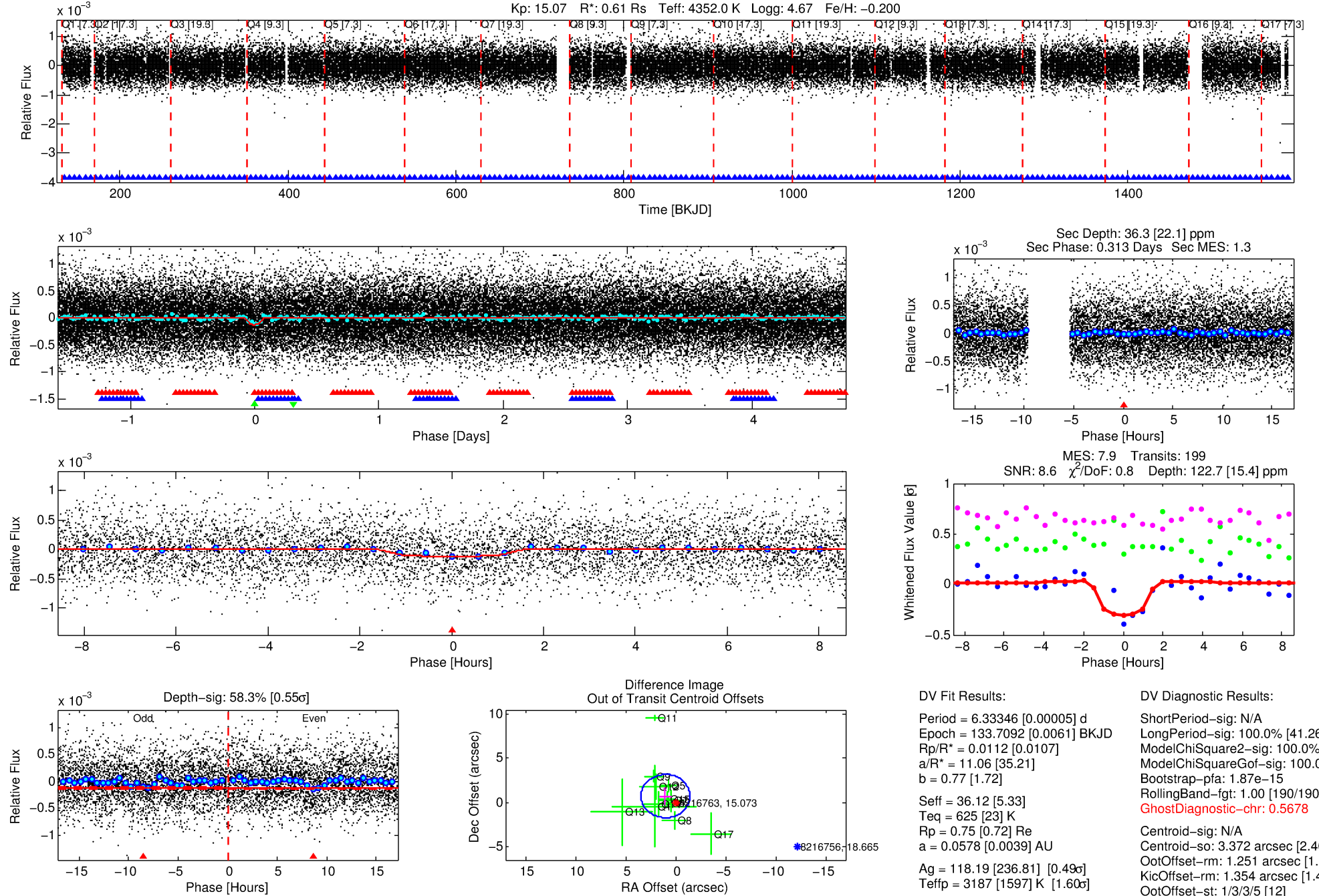
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008216763-03

No Significant Match Found

DV One-Page Summary

KIC: 8216763 Candidate: 3 of 3 Period: 6.333 d
KOI: K04838.02 Corr: 0.834



DV Fit Results:

Period = 6.33346 [0.00005] d
Epoch = 133.7092 [0.0061] BKJD
Rp/R* = 0.0112 [0.0107]
a/R* = 11.06 [35.21]
b = 0.77 [1.72]
Seff = 36.12 [5.33]
Teff = 625 [23] K
Rp = 0.75 [0.72] Re
a = 0.0578 [0.0039] AU
Ag = 118.19 [236.81] [0.49 σ]
Teffp = 3187 [1597] K [1.60 σ]

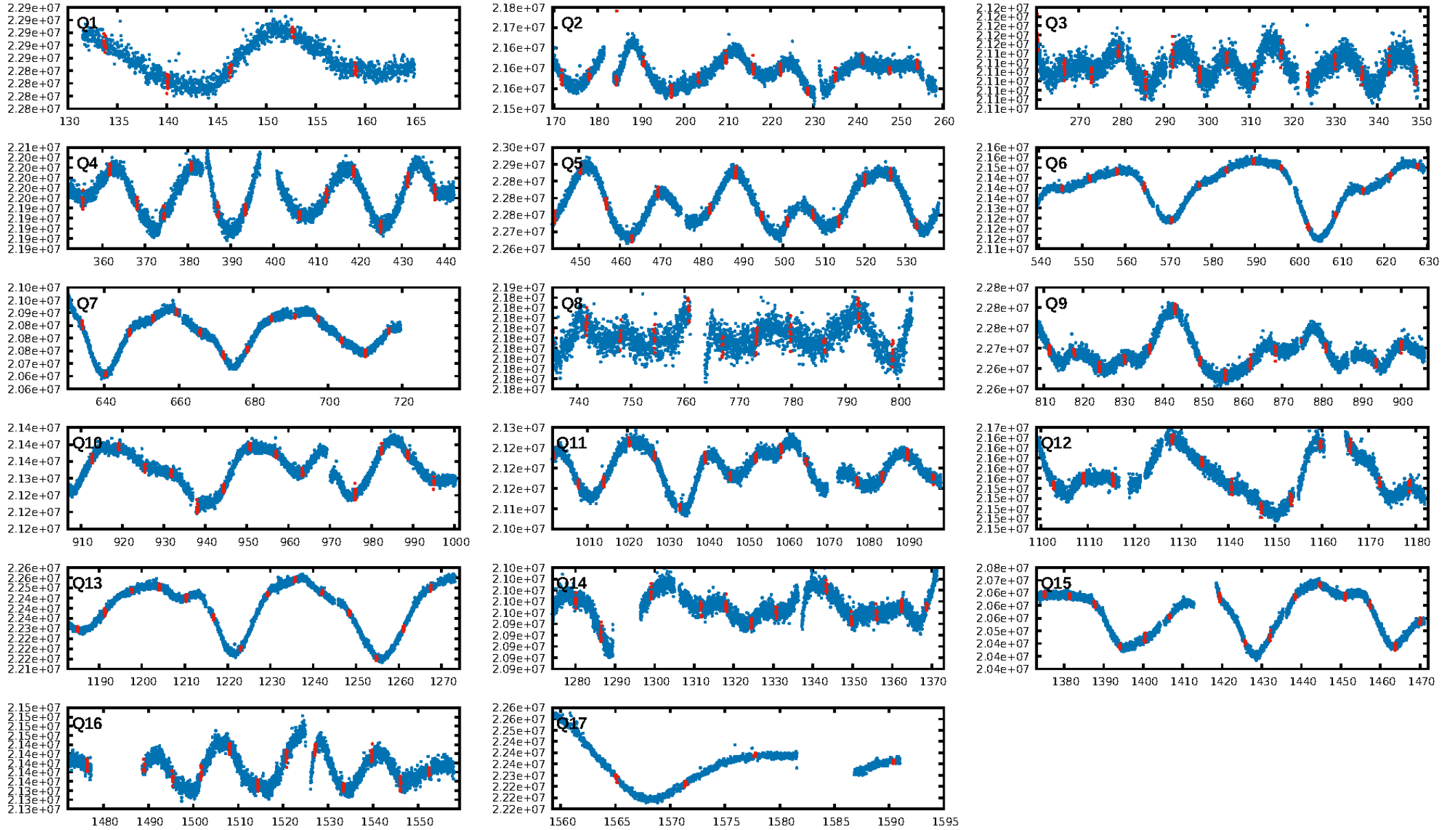
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [41.26 σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.87e-15
RollingBand-fgt: 1.00 [190/190]
GhostDiagnostic-chr: 0.5678
Centroid-sig: N/A
Centroid-so: 3.372 arcsec [2.40 σ]
OotOffset-rm: 1.251 arcsec [1.53 σ]
KicOffset-rm: 1.354 arcsec [1.41 σ]
OotOffset-st: 1/3/3/5 [12]
KicOffset-st: 1/3/3/5 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 1.00 [17/17]

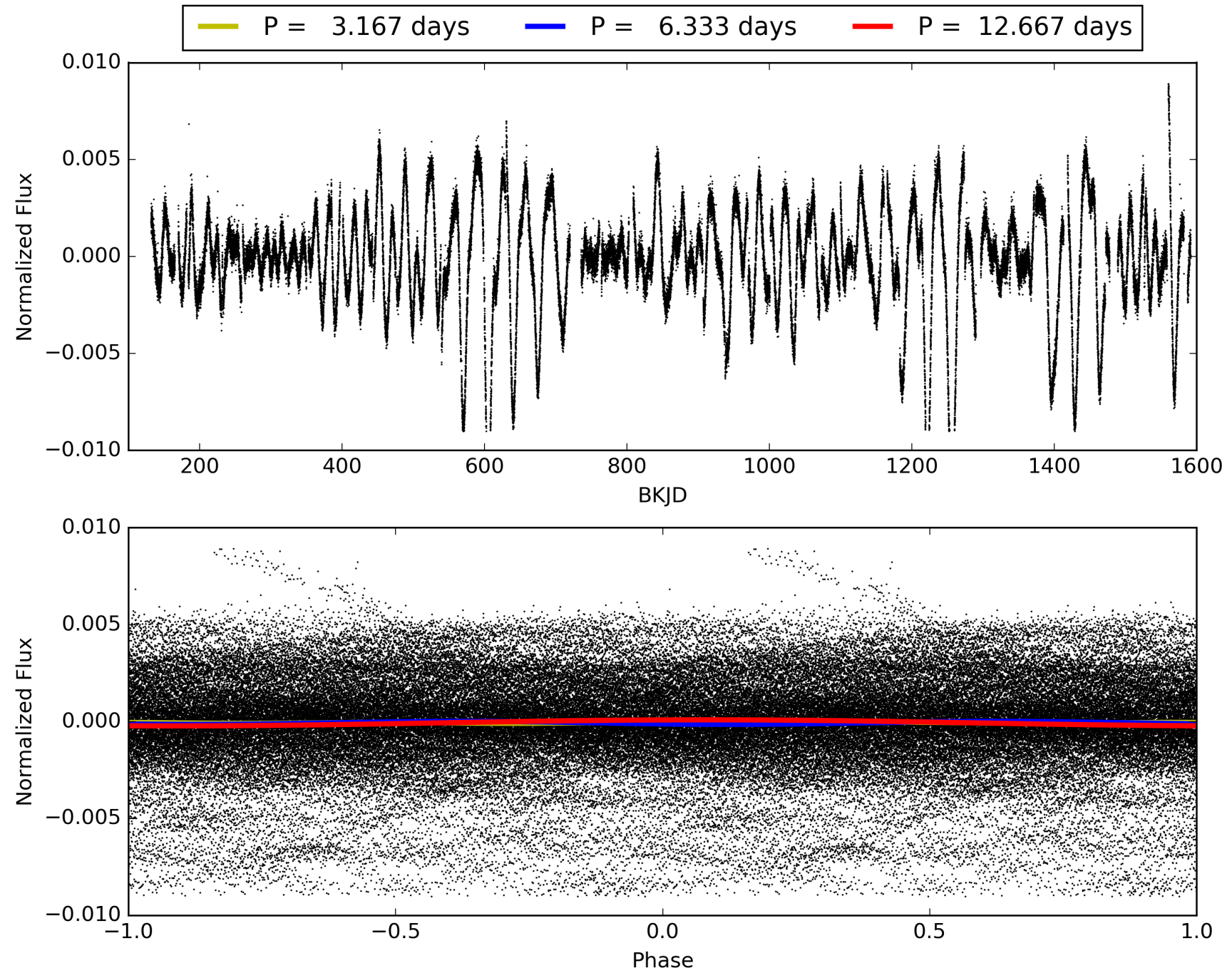
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:28:20 Z

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

TCE 008216763-03, PDC Light Curves

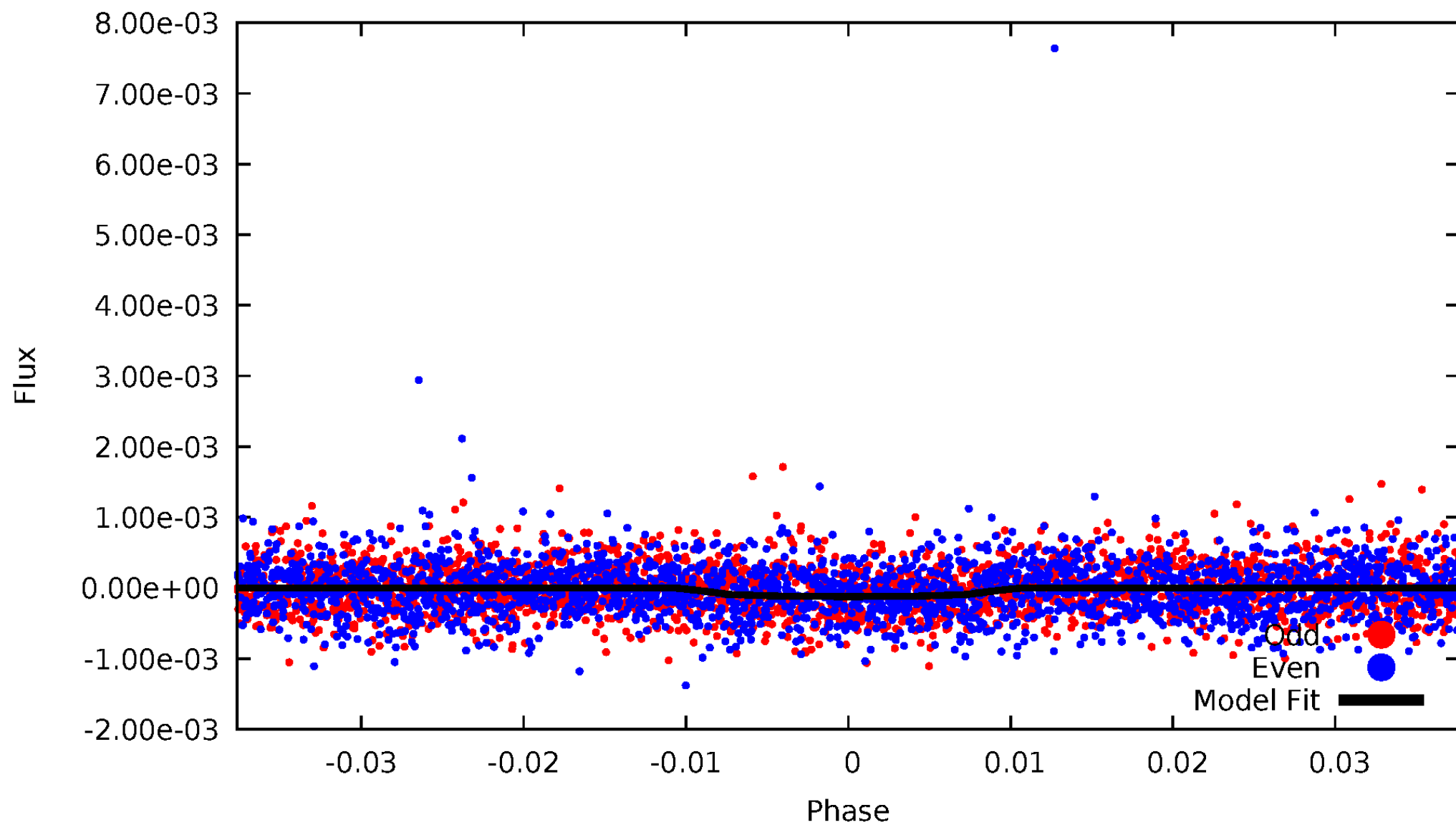


TCE 008216763-03



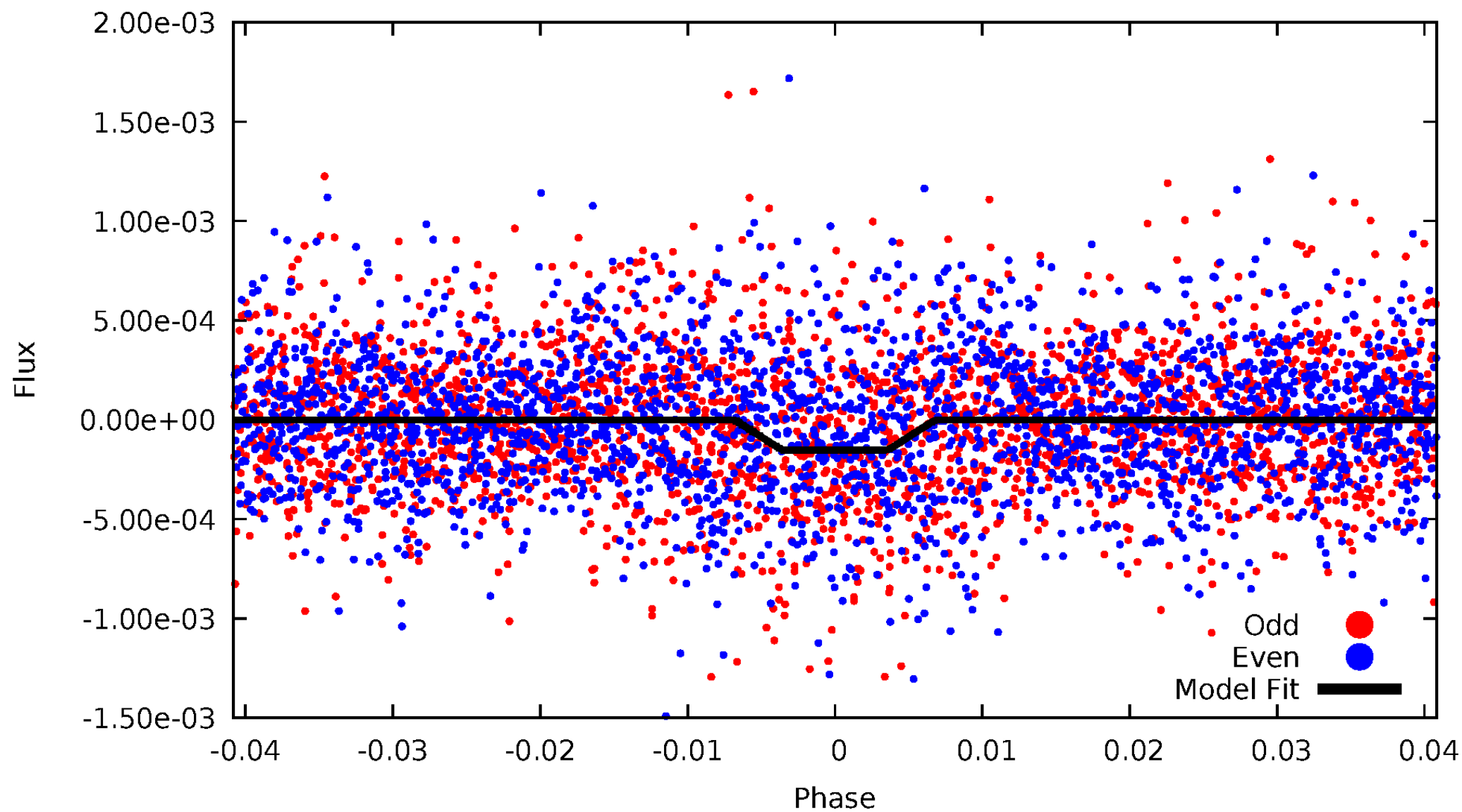
DV Odd/Even

TCE 008216763-03



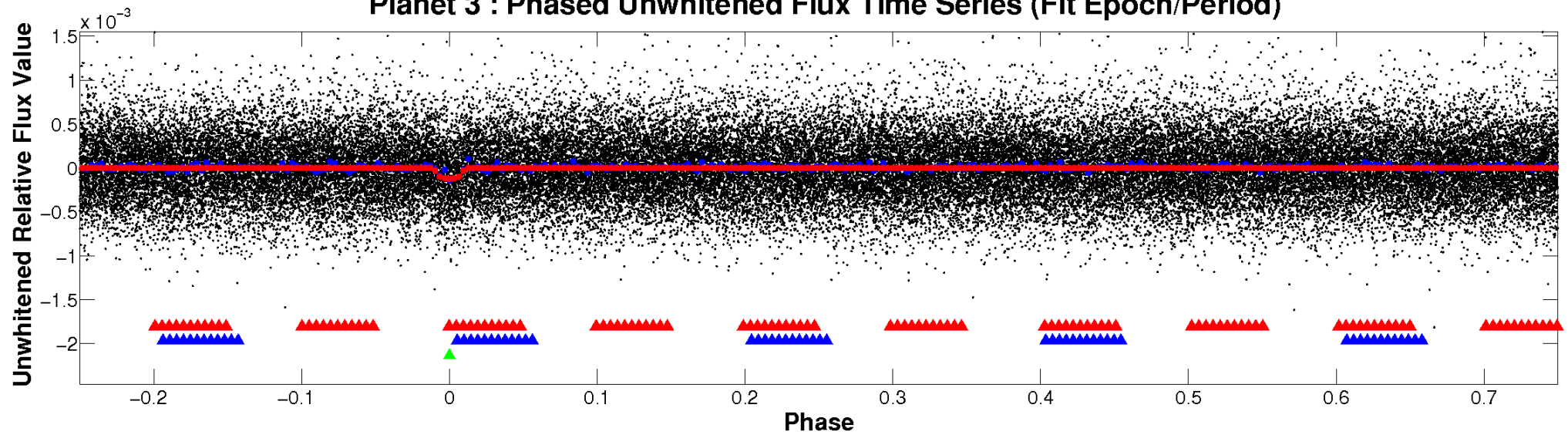
ALT Odd/Even

TCE 008216763-03

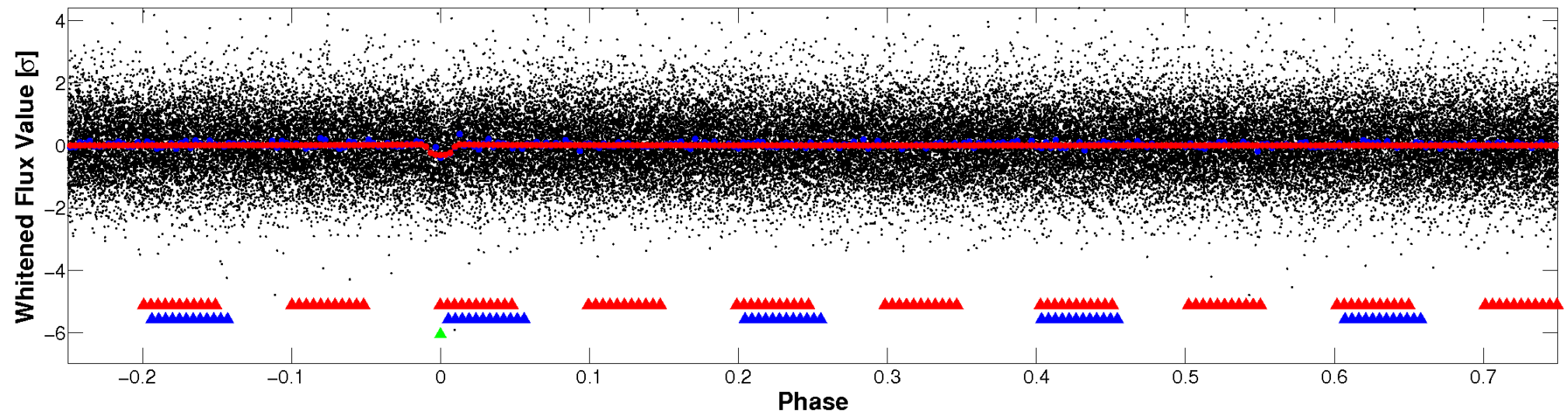


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

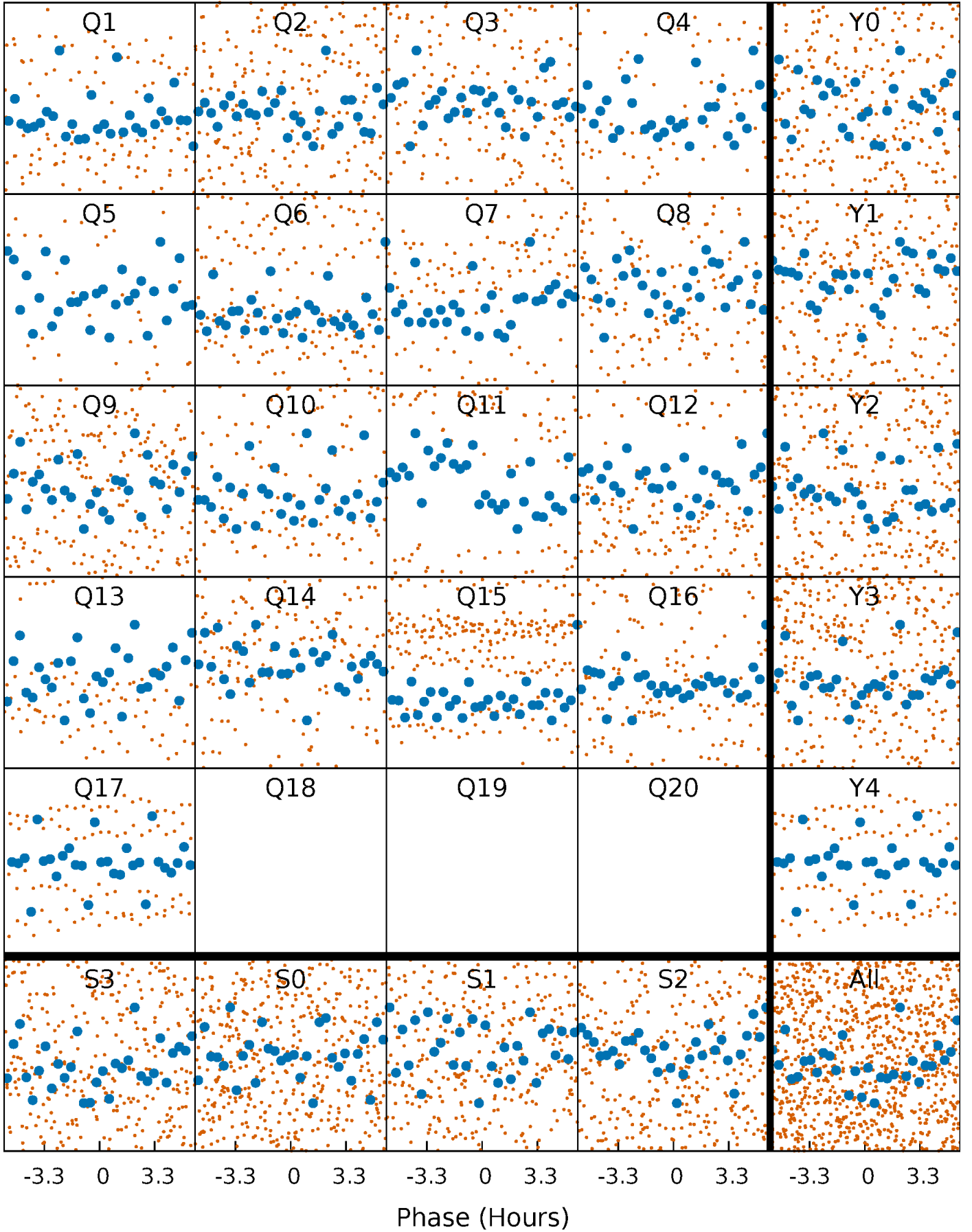


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



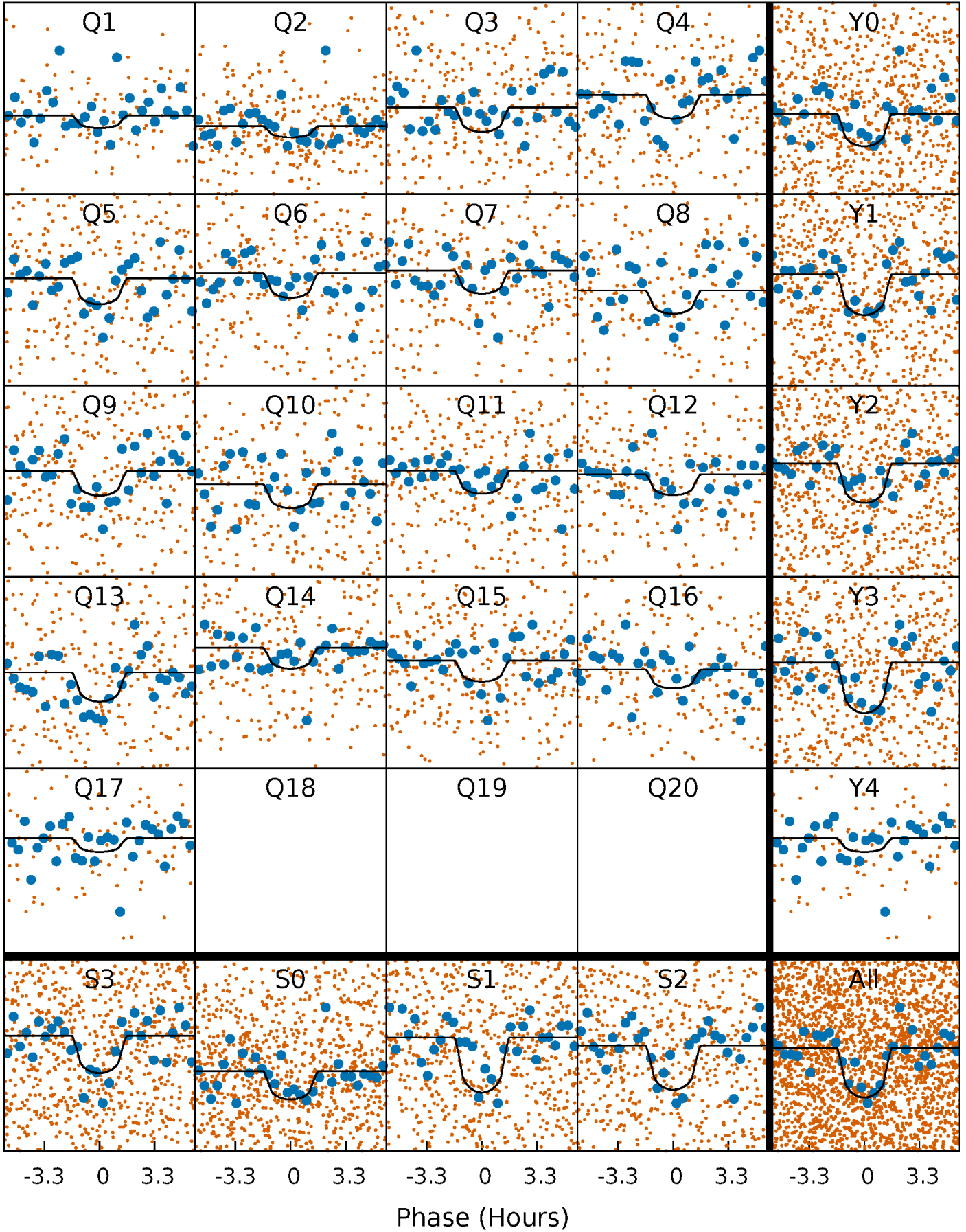
PDC Quarter-Phased Transit Curves

TCE 008216763-03 P= 6.333465 Days $T_0=133.709216$ (BKJD)



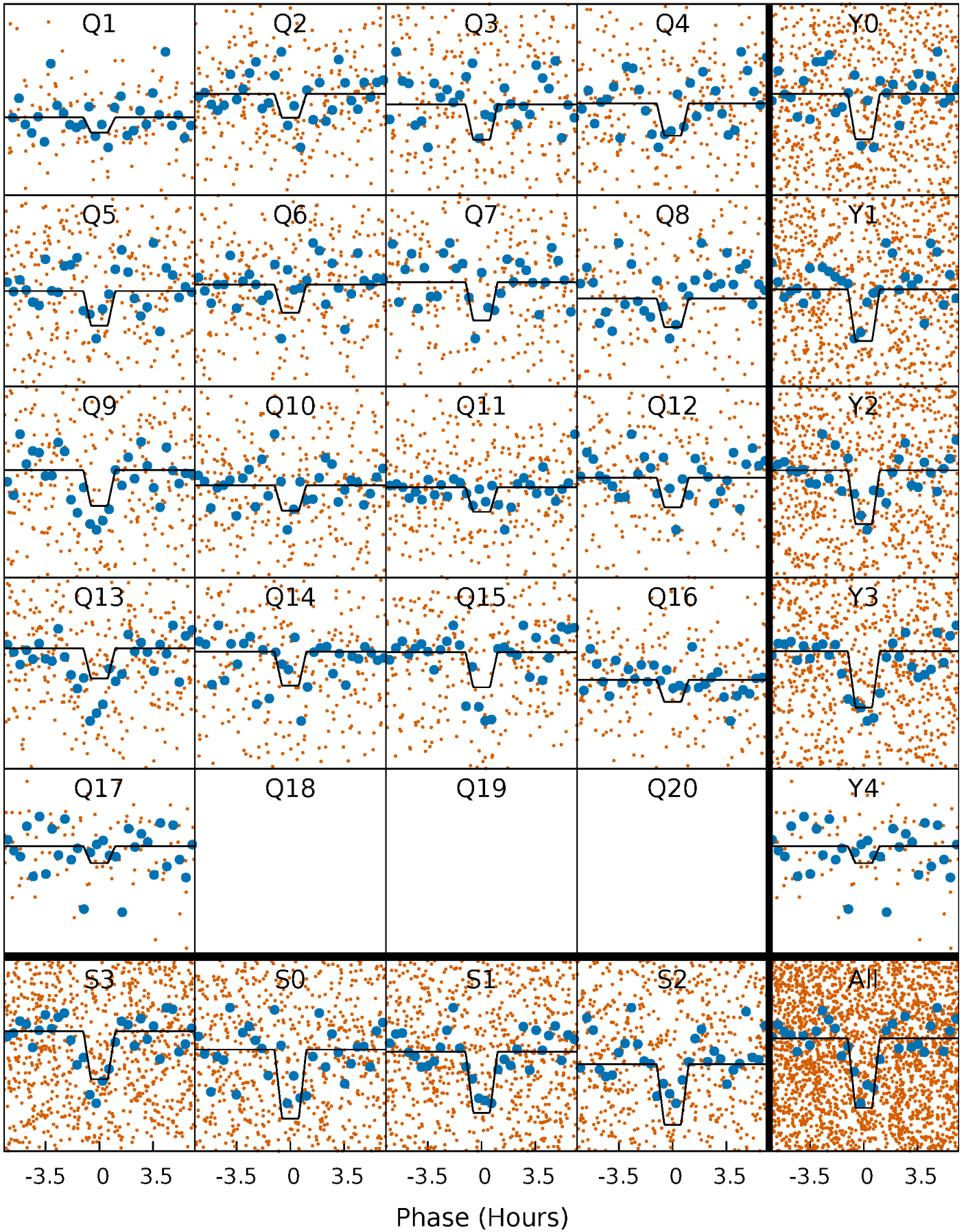
DV Quarter-Phased Transit Curves

TCE 008216763-03 P= 6.333465 Days $T_0=133.709216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

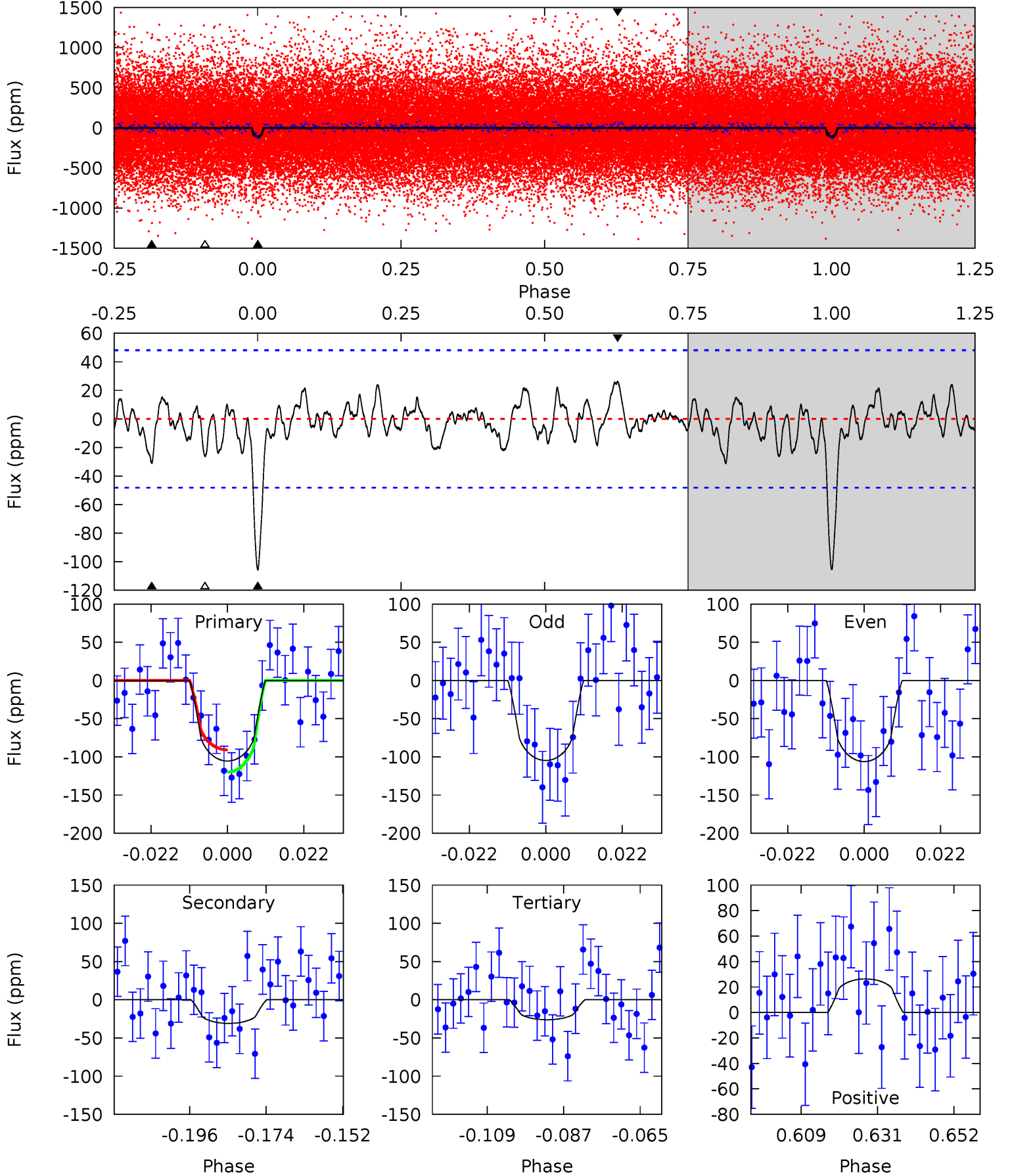
TCE 008216763-03 P= 6.333472 Days $T_0=133.717722$ (BKJD)



DV Model-Shift Uniqueness Test

008216763-03, P = 6.333465 Days, E = 127.375751 Days

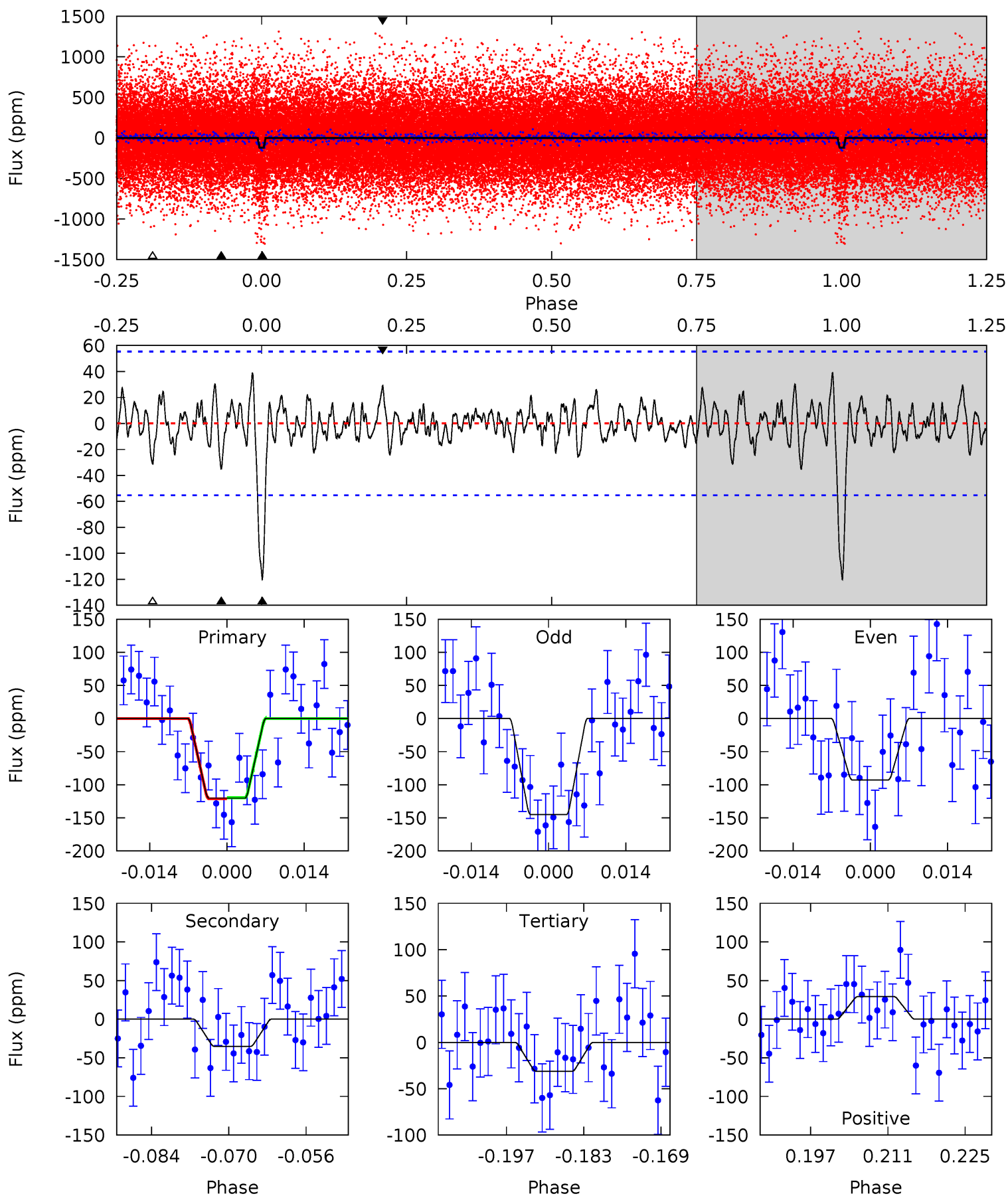
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	3.13	2.65	2.67	4.88	2.29	1.01	8.03	8.00	0.49	0.47	0.07	0.91	0.20	1.48



Alt Model-Shift Uniqueness Test

008216763-03, P = 6.333472 Days, E = 127.384250 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	3.15	2.79	2.62	4.96	2.46	0.95	7.99	8.16	0.36	0.54	2.34	0.89	0.24	0.07



Stellar Parameters For KIC 008216763

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} \text{ (g}\cdot\text{cm}^{-3})$
	4352^{+116}_{-129}	$4.671^{+0.032}_{-0.042}$	$-0.200^{+0.300}_{-0.300}$	$0.613^{+0.055}_{-0.050}$	$0.640^{+0.055}_{-0.061}$	$3.916^{+0.610}_{-0.634}$
	+3%/-3%	+1%/-1%	+150%/-150%	+9%/-8%	+9%/-10%	+16%/-16%
Source	PHO1	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 008216763-03 / KOI 4838.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-31 ± 10	$0.92^{+0.64}_{-0.56}$	875^{+29}_{-27}	3223^{+1174}_{-489}	66^{+369}_{-43}
Alt.	-35 ± 11	$0.91^{+0.69}_{-0.53}$	874^{+28}_{-27}	3255^{+1229}_{-493}	75^{+392}_{-52}

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 $A_{obs} \gg 1.0$

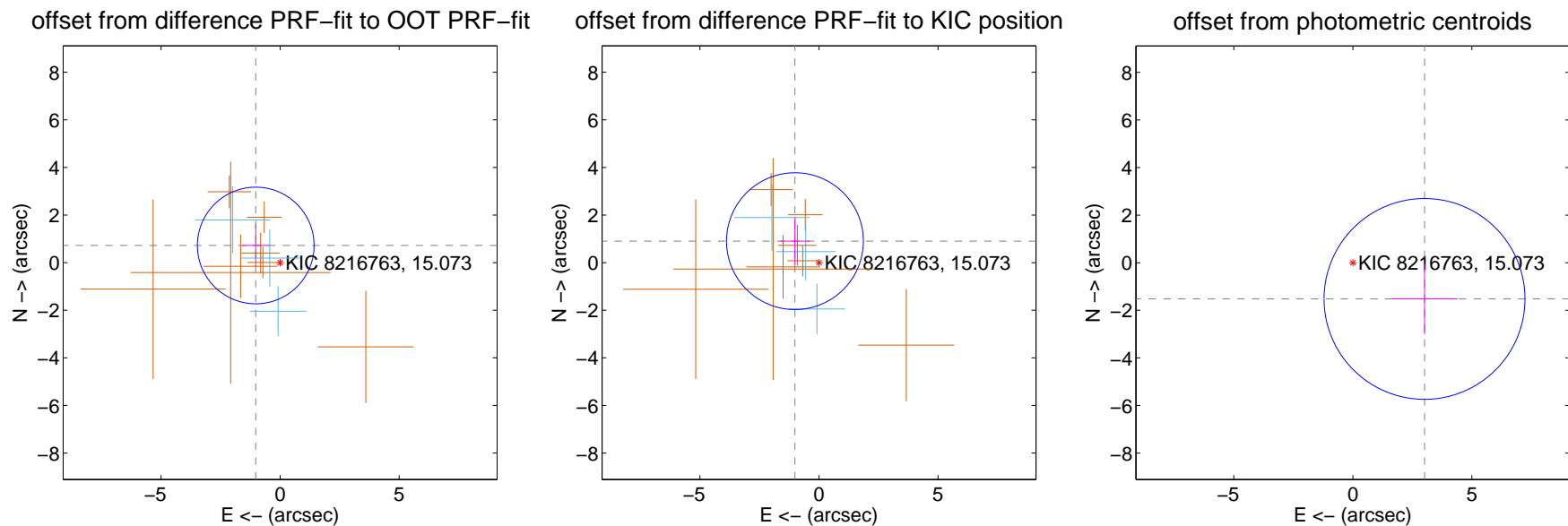
DV Centroid Data

Supplemental centroid analysis for 008216763-03. Kepler magnitude: 15.07. Transit SNR 8.64

There are 3 quarters with good PRF difference image offsets

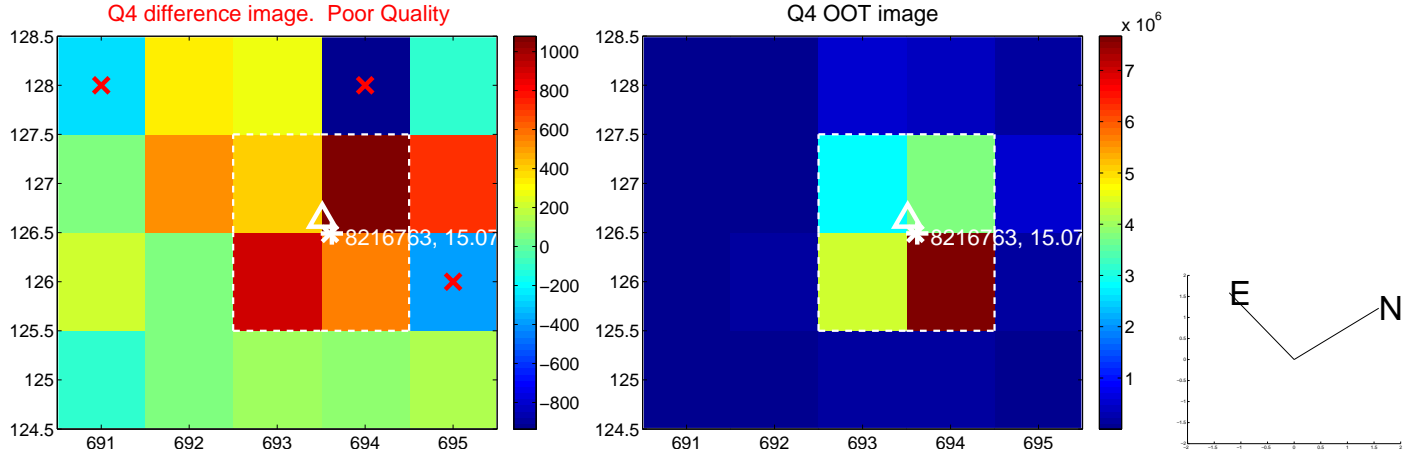
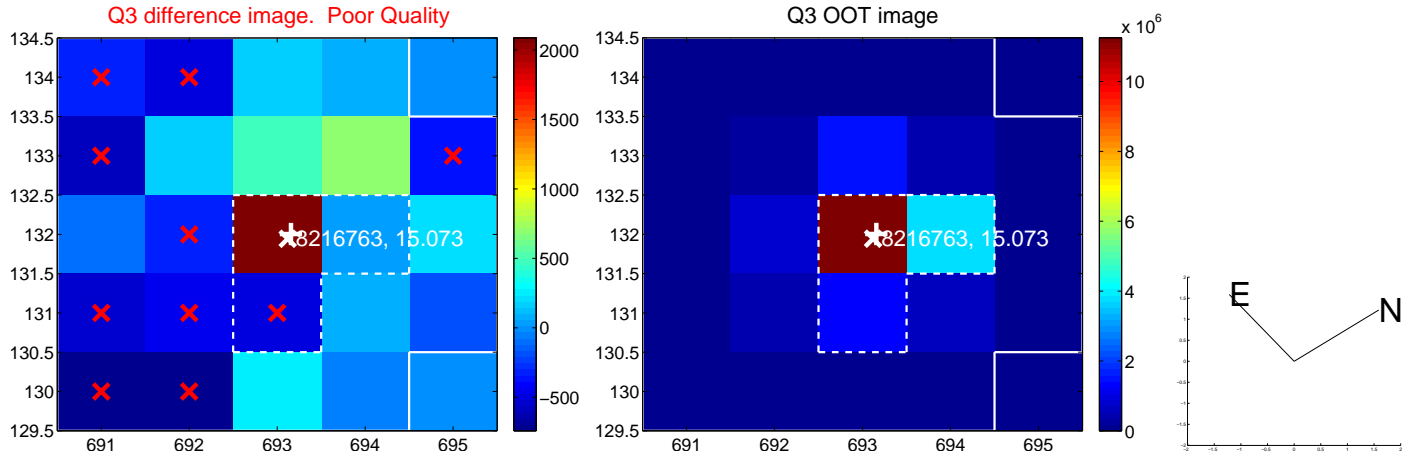
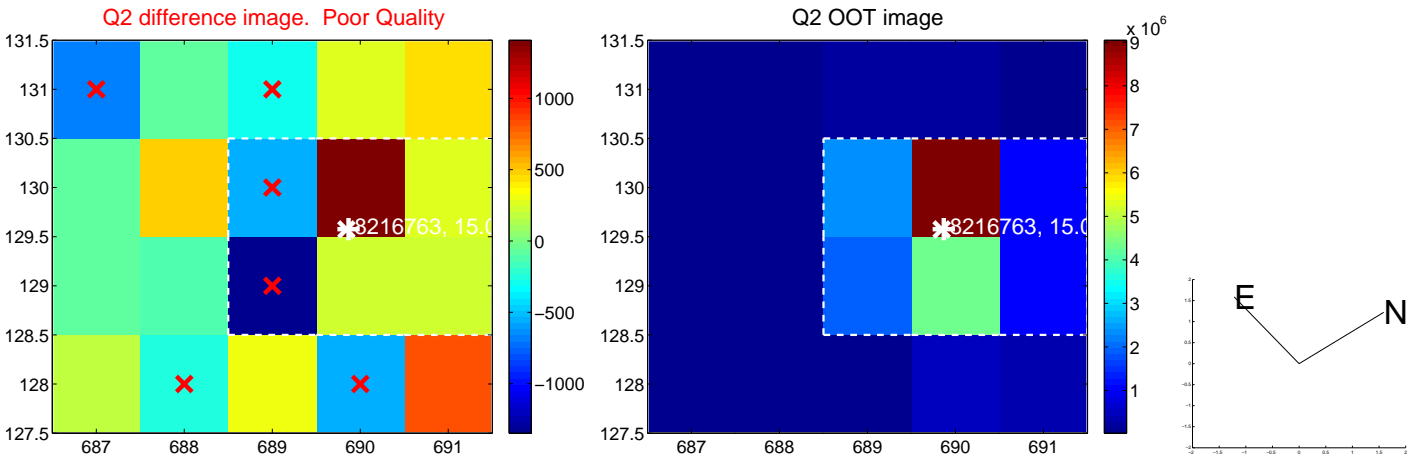
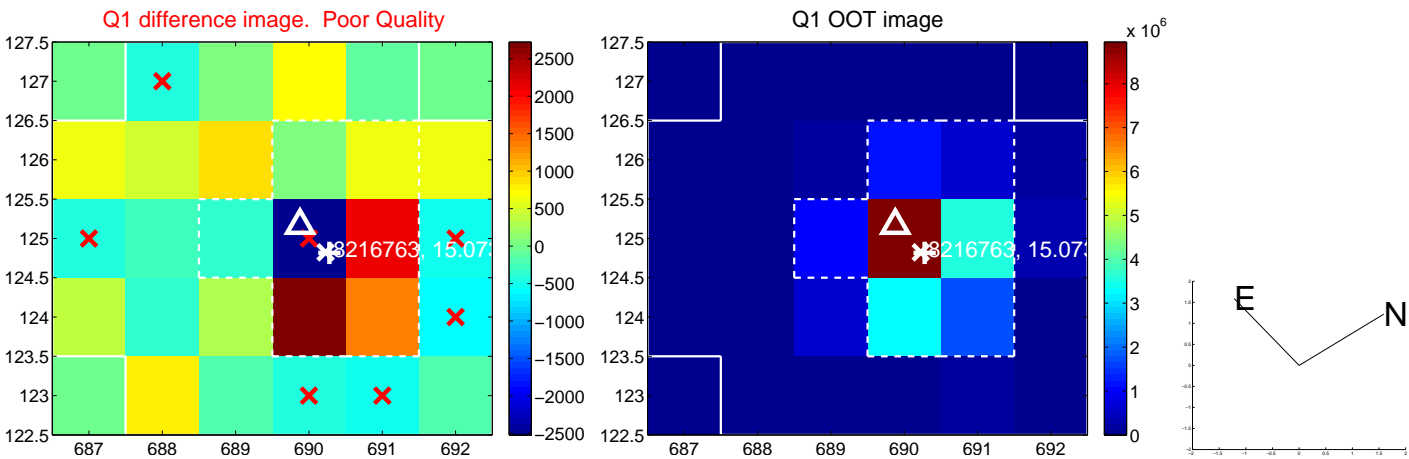
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.251 ± 0.817	1.53	1.023 ± 0.564	0.720 ± 0.881
PRF-fit source offset from KIC position	1.354 ± 0.958	1.41	1.010 ± 0.616	0.903 ± 1.002
photometric centroid source offset	3.37 ± 1.41	2.40	-3.01 ± 1.38	-1.52 ± 1.49

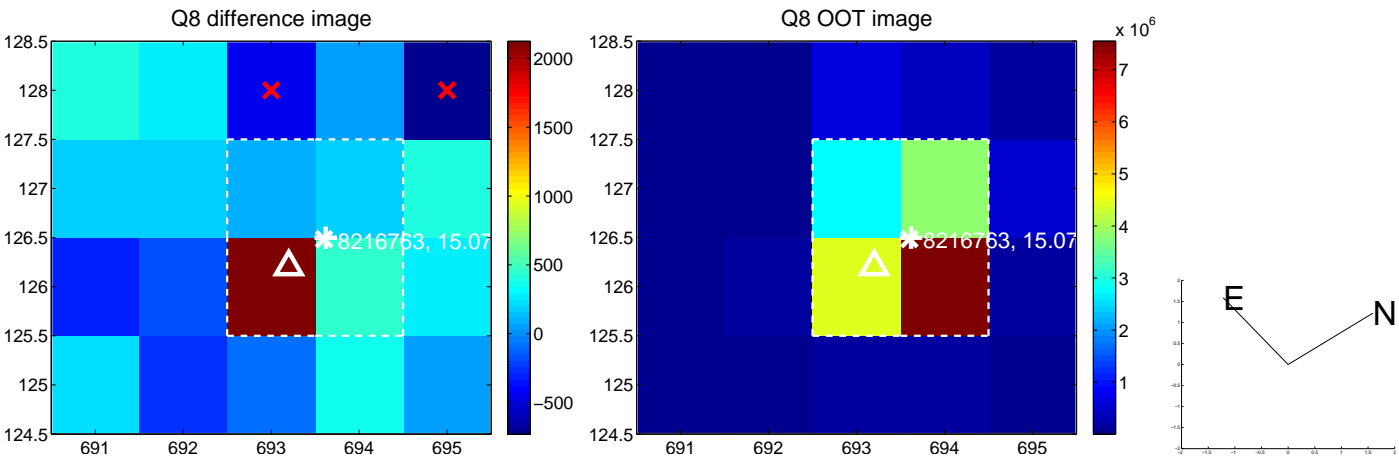
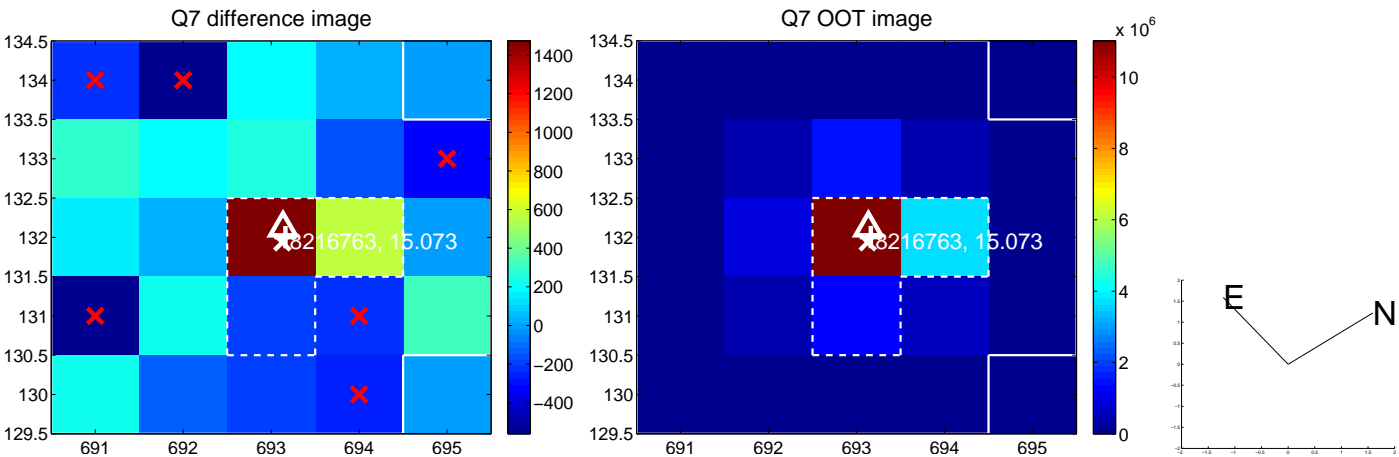
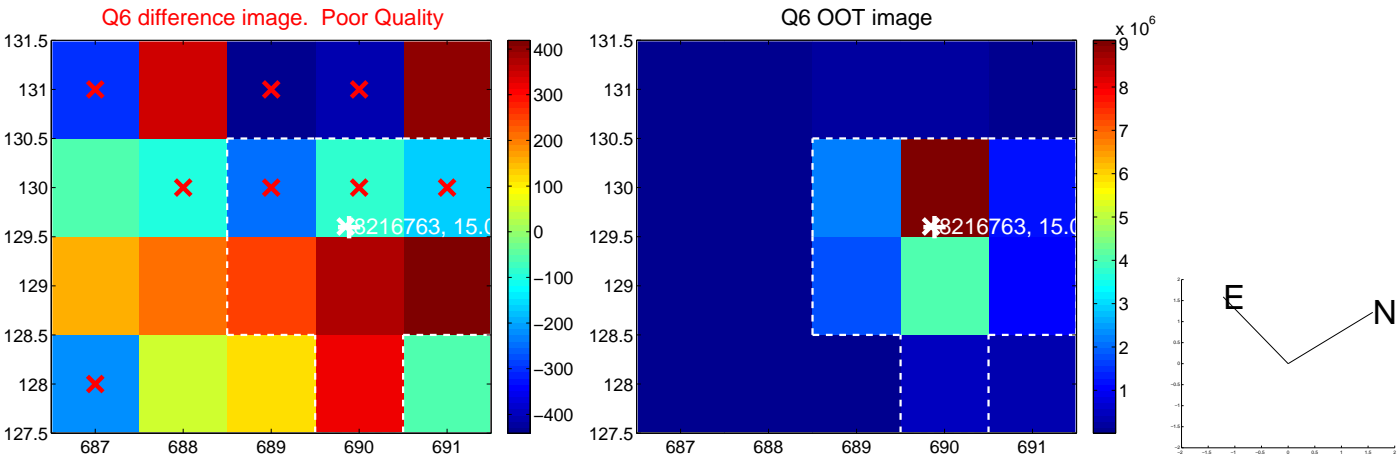
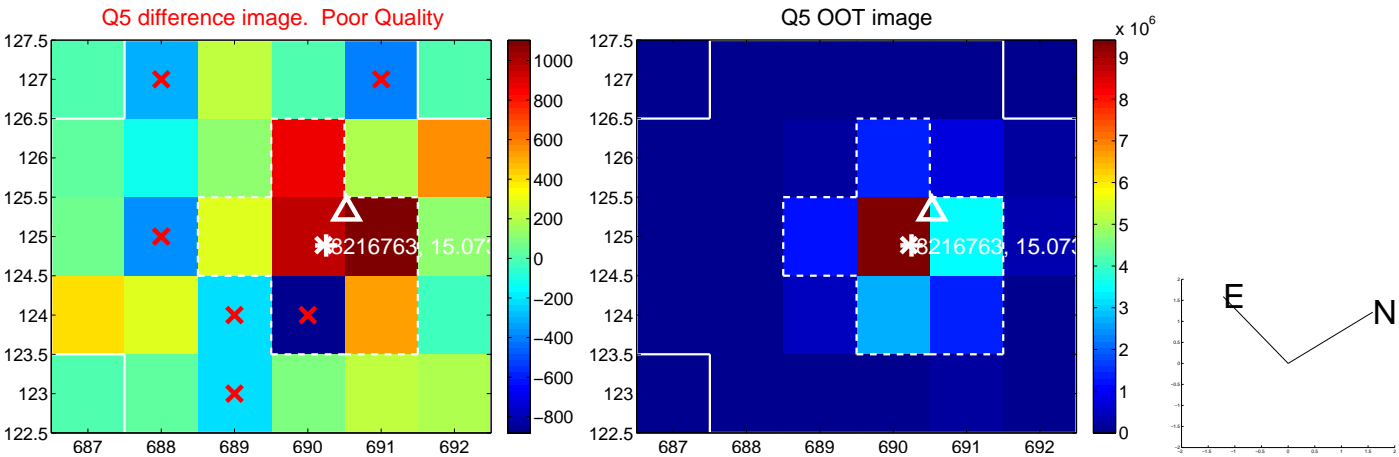


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

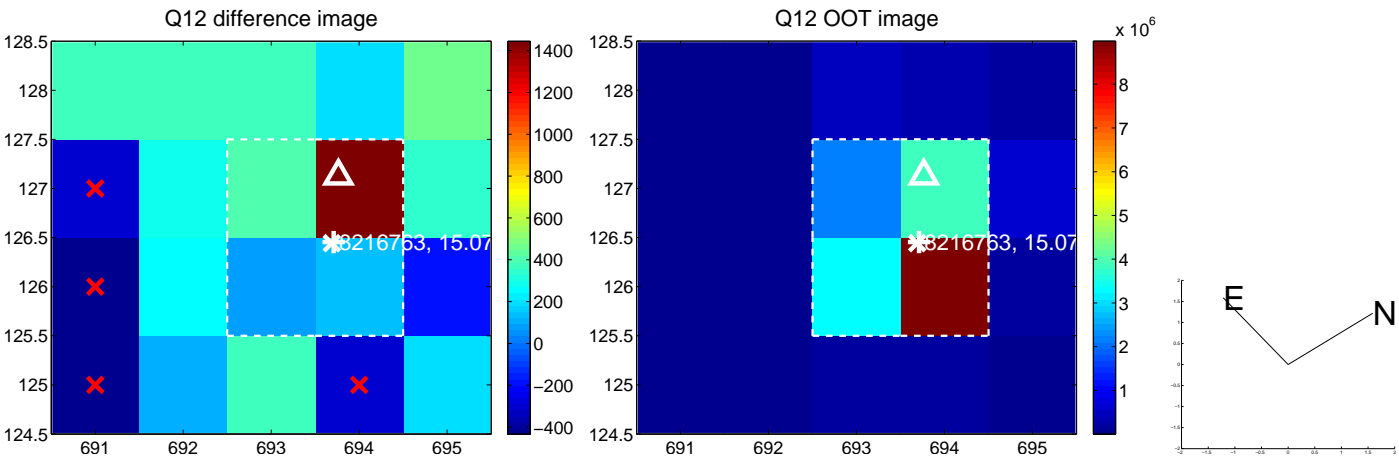
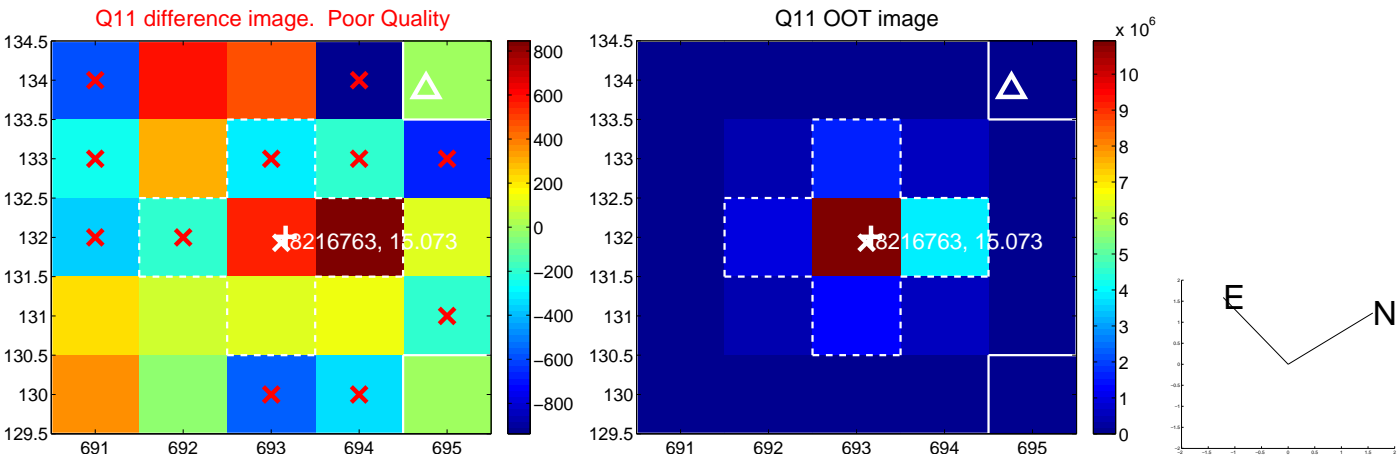
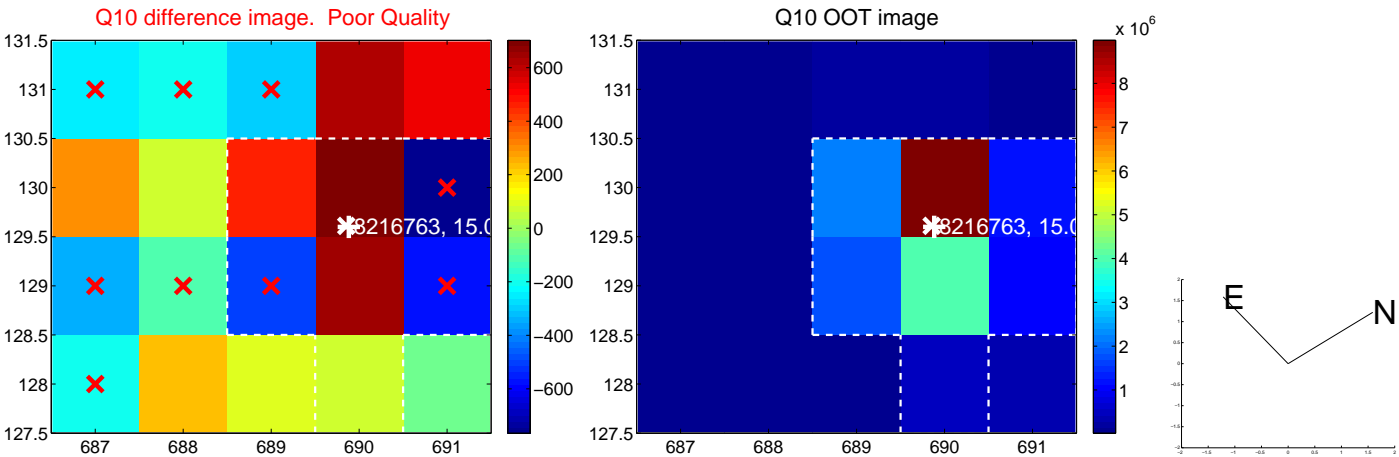
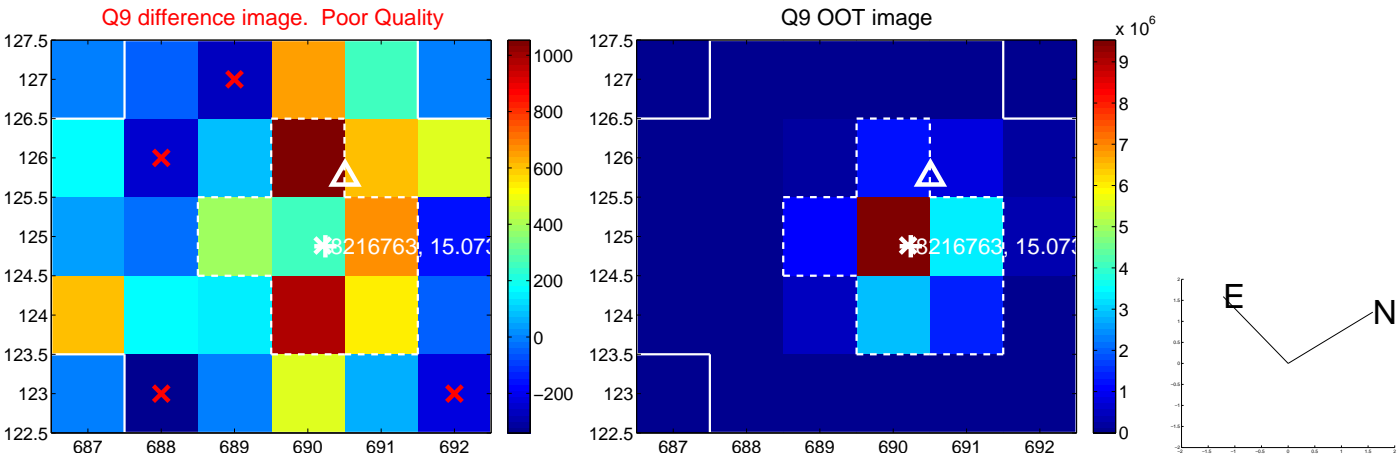
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



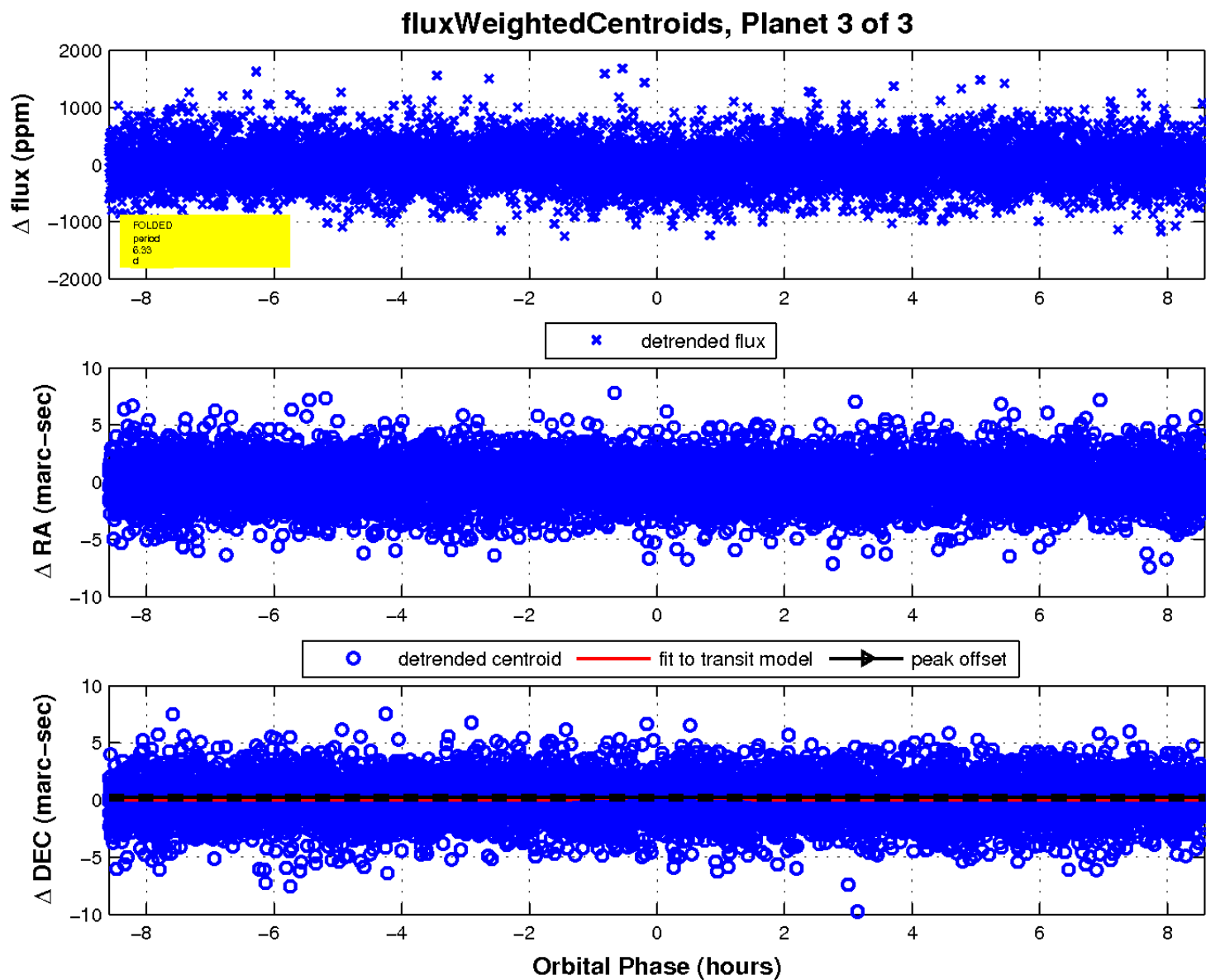
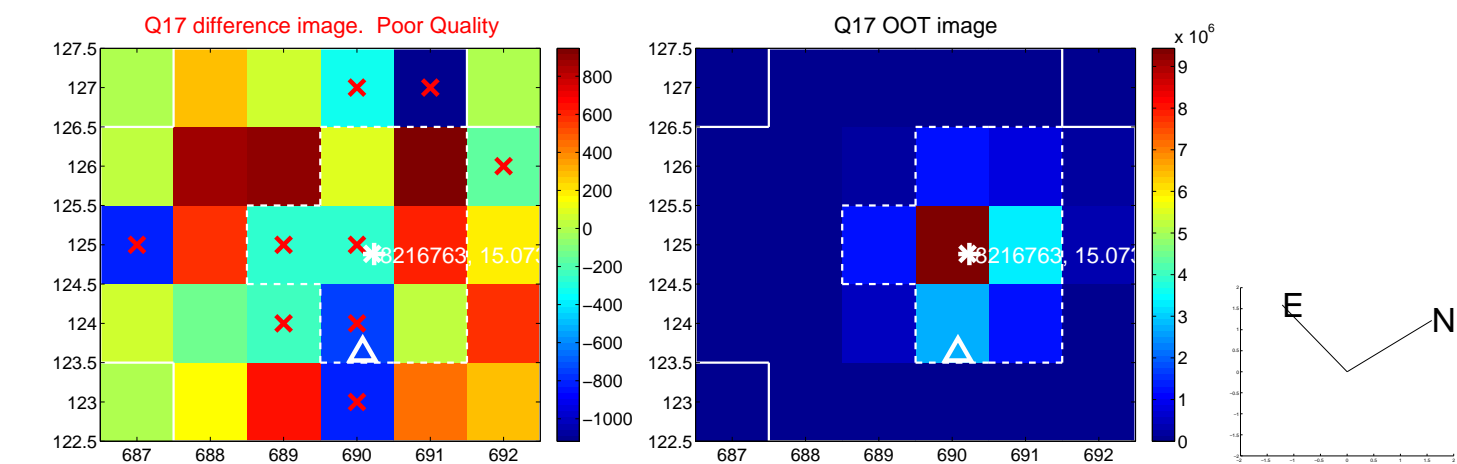
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

