

KIC 007174617

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})
007174617-01	OBS	6156.01	1.608356	131.588838	87174.9	1.952	3099.4	1632.0	0.59	5022	17.54	389.61
007174617-02	OBS	No	1.608373	132.384344	1016.6	1.754	31.1	37.9	0.59	5022	2.25	389.61
007174617-03	OBS	No	1.609427	132.385185	151.5	1.425	8.7	4.2	0.59	5022	0.87	389.27
007174617-04	OBS	No	1.609252	132.229944	686.2	2.000	9.0	-1.0	0.59	5022	1.52	389.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007174617-01	OBS	PC	0.87	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE
007174617-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007174617-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007174617-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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 007174617-01

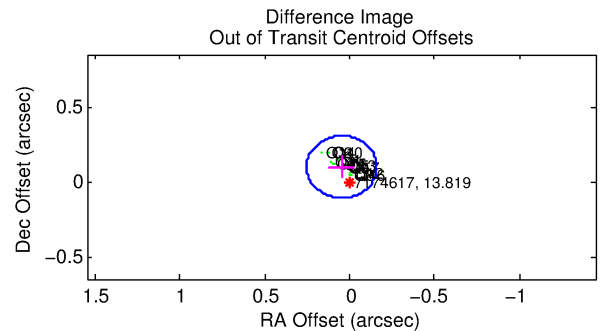
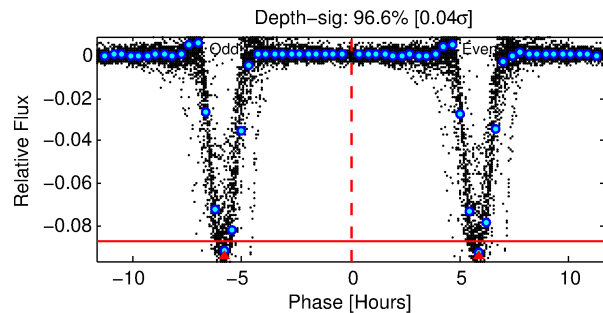
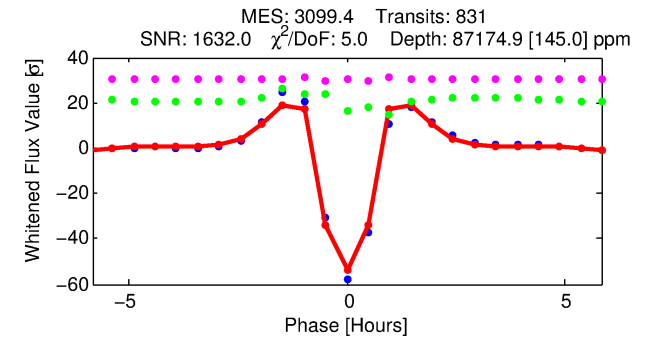
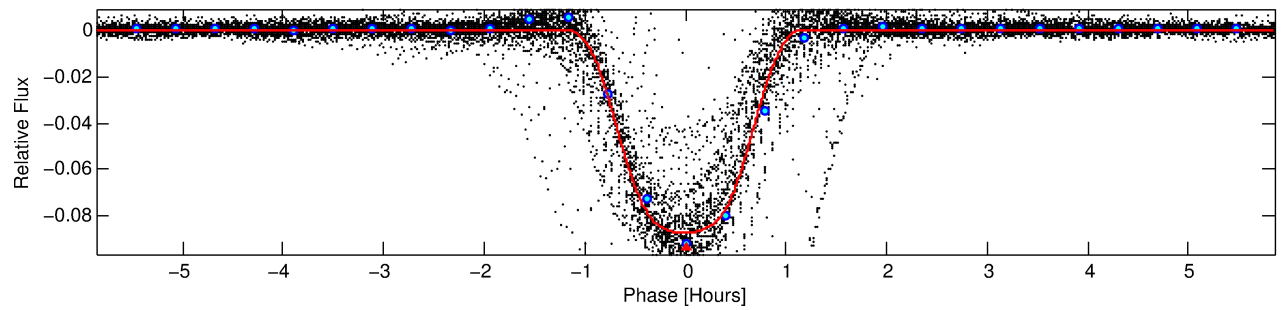
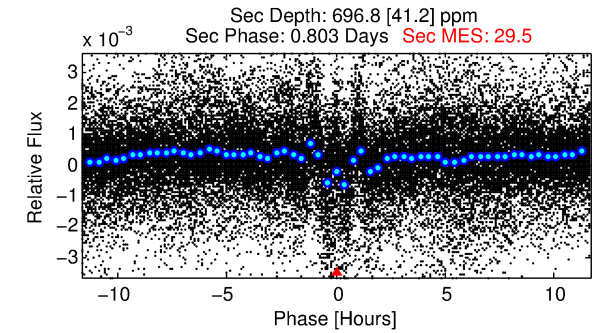
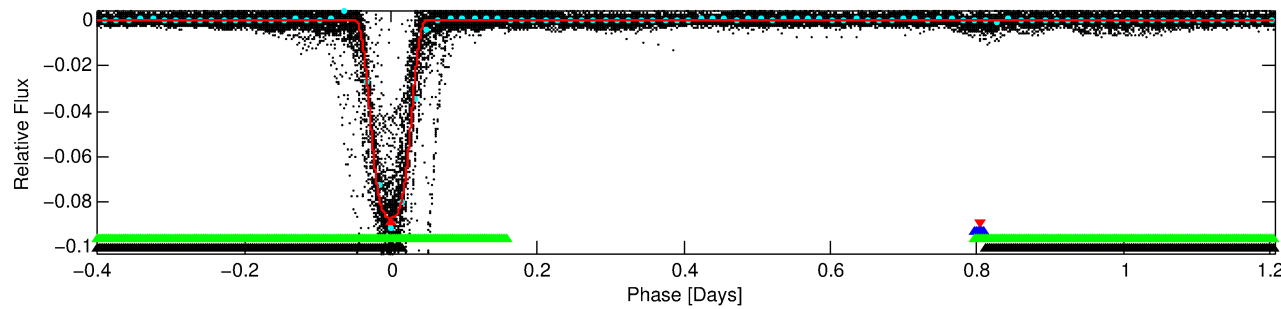
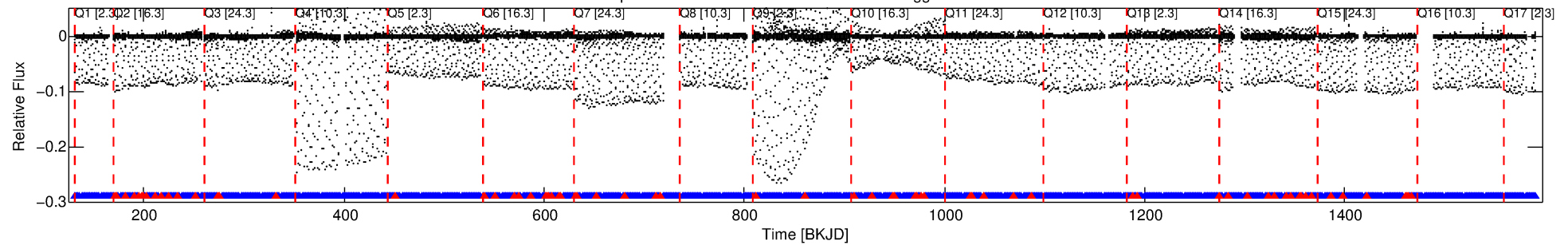
No Significant Match Found

DV One-Page Summary

KIC: 7174617 Candidate: 1 of 4 Period: 1.608 d

KOI: K06156.01 Corr: 0.953

Kp: 13.82 R*: 0.59 Rs Teff: 5022.0 K Logg: 4.67 Fe/H: -1.100



DV Fit Results:

Period = 1.60836 [0.00000] d
Epoch = 131.5888 [0.0000] BKJD
Rp/R* = 0.2729 [0.0005]
a/R* = 7.76 [0.04]
b = 0.34 [0.01]
Seff = 389.61 [59.08]
Teff = 1133 [43] K
Rp = 17.54 [1.22] Re
a = 0.0225 [0.0014] AU
Ag = 0.63 [0.07] [-5.30σ]
Teffp = 1562 [52] K [6.34σ]

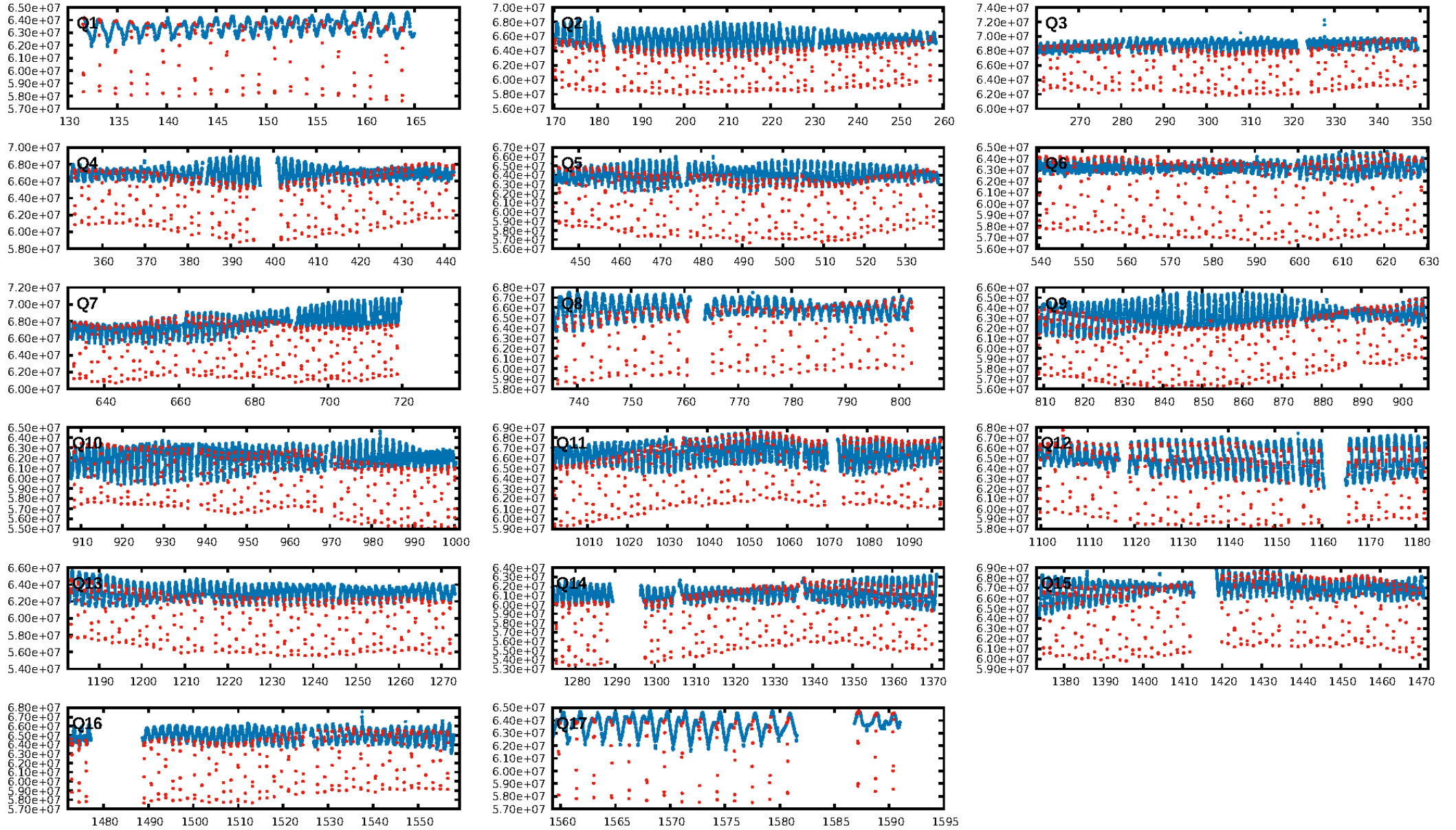
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [724/793]
GhostDiagnostic-chr: 1.136
Centroid-sig: N/A
Centroid-so: 0.375 arcsec [313.83σ]
OotOffset-rm: 0.109 arcsec [1.58σ]
KicOffset-rm: 0.259 arcsec [3.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.53 [9/17]

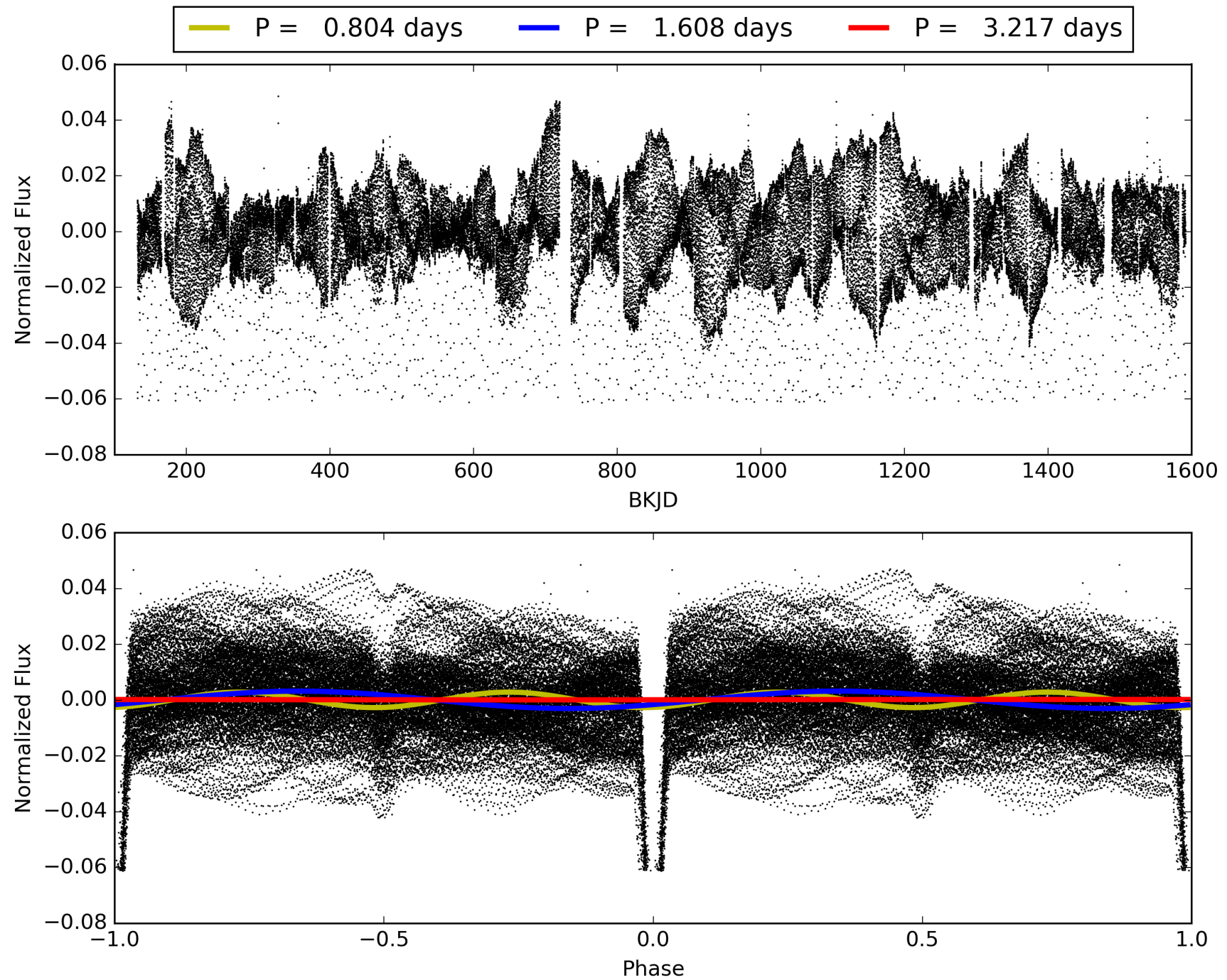
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:05:51 Z

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

TCE 007174617-01, PDC Light Curves

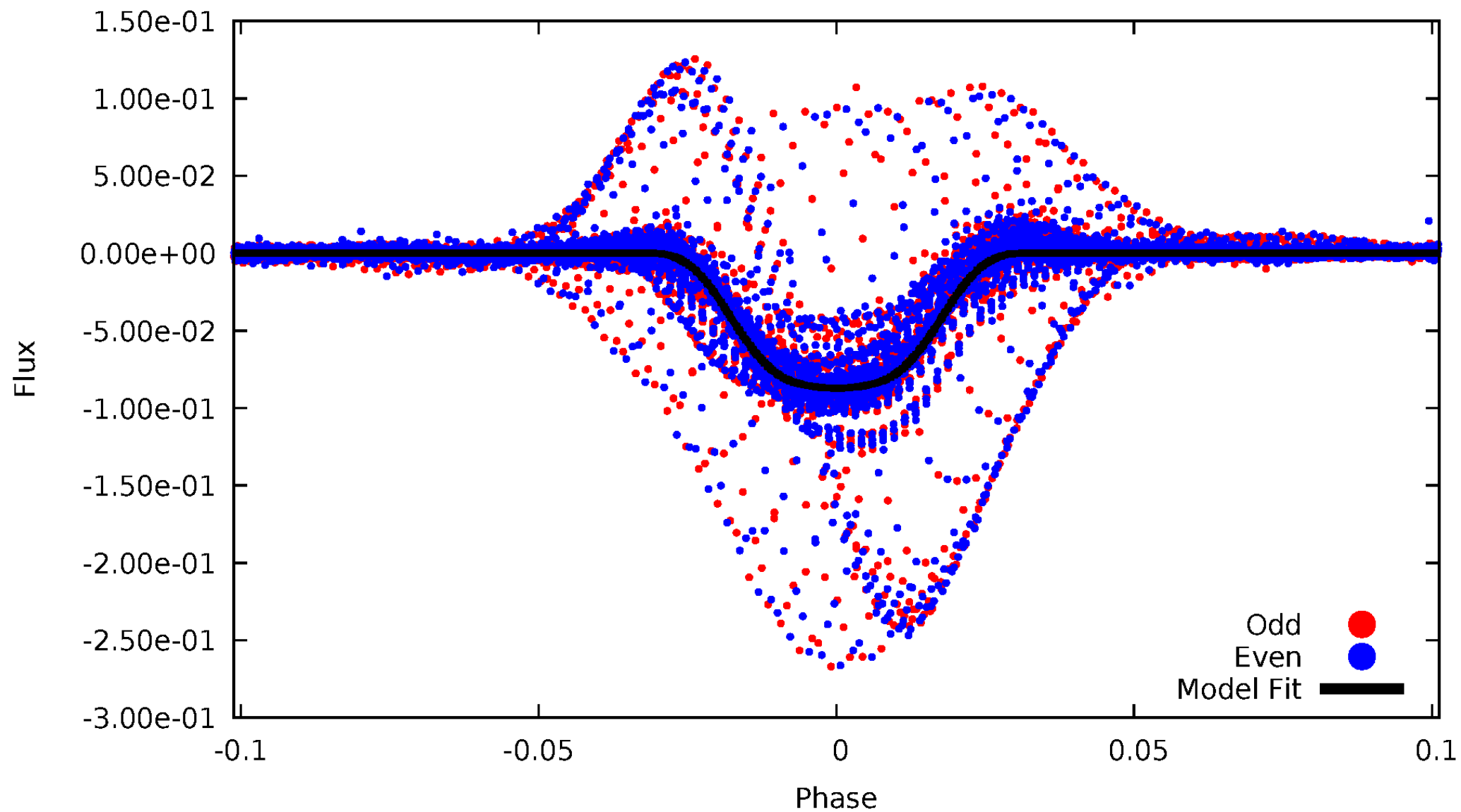


TCE 007174617-01



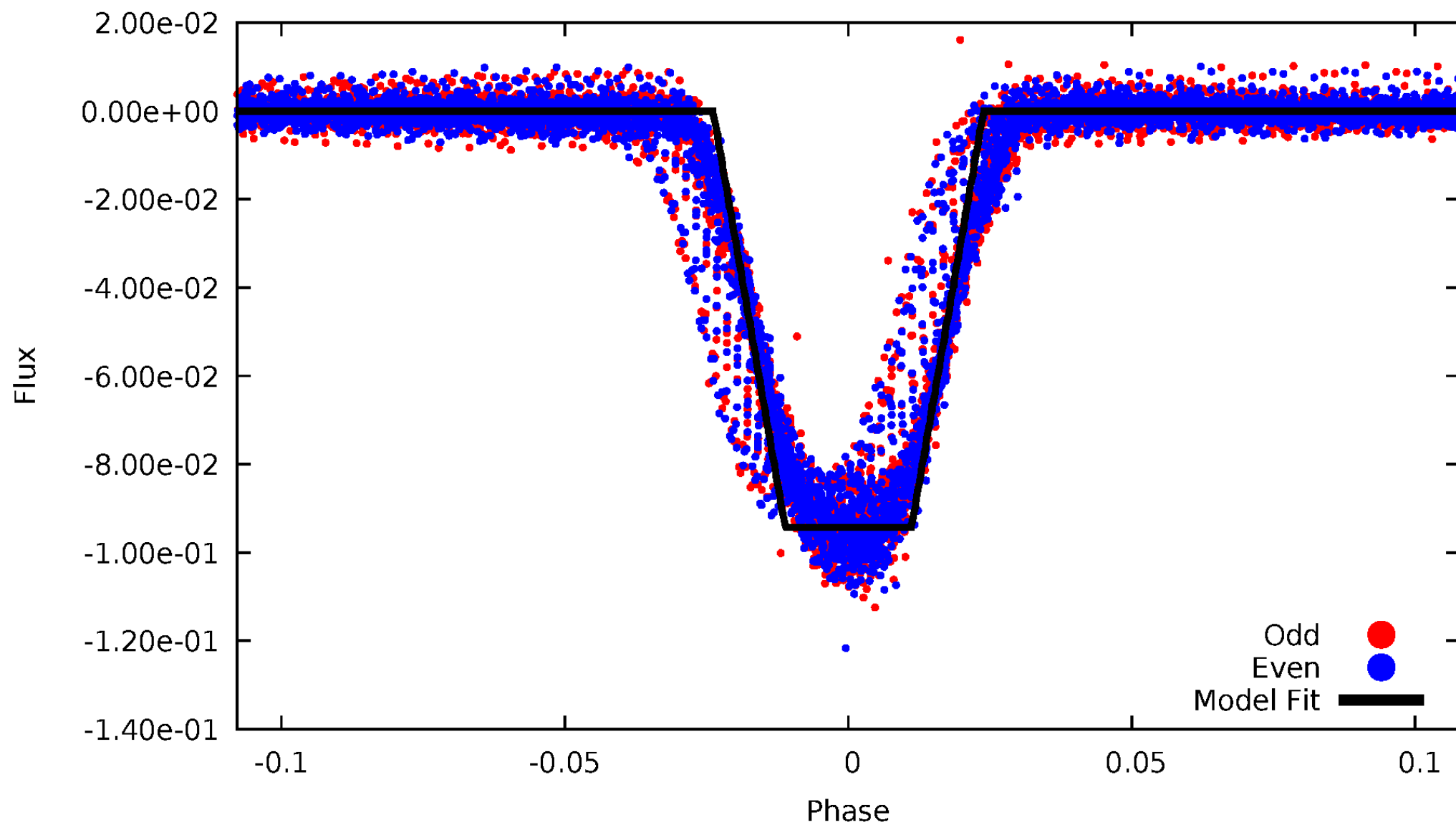
DV Odd/Even

TCE 007174617-01



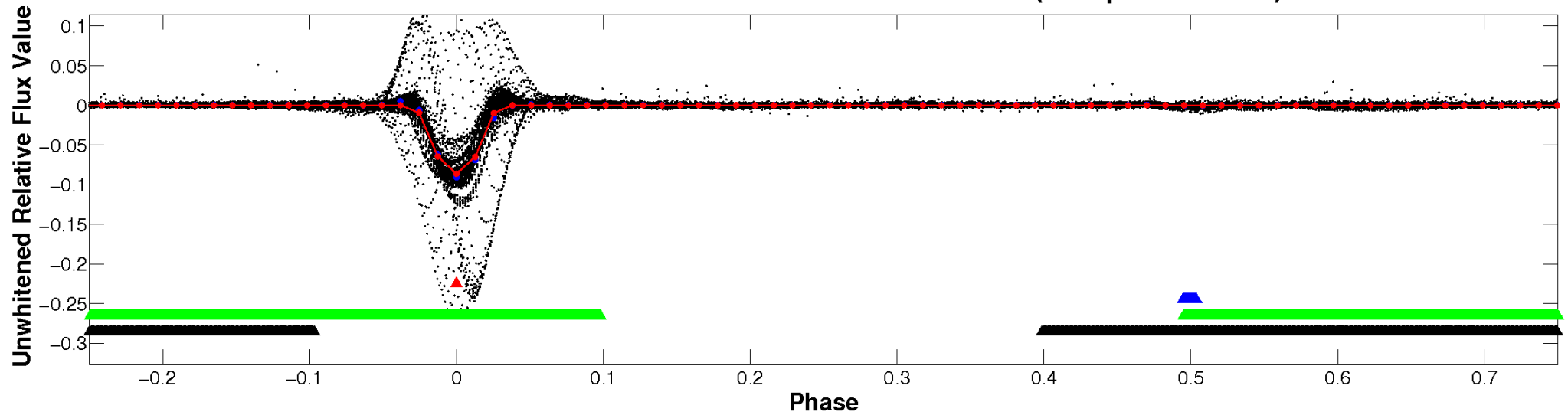
ALT Odd/Even

TCE 007174617-01

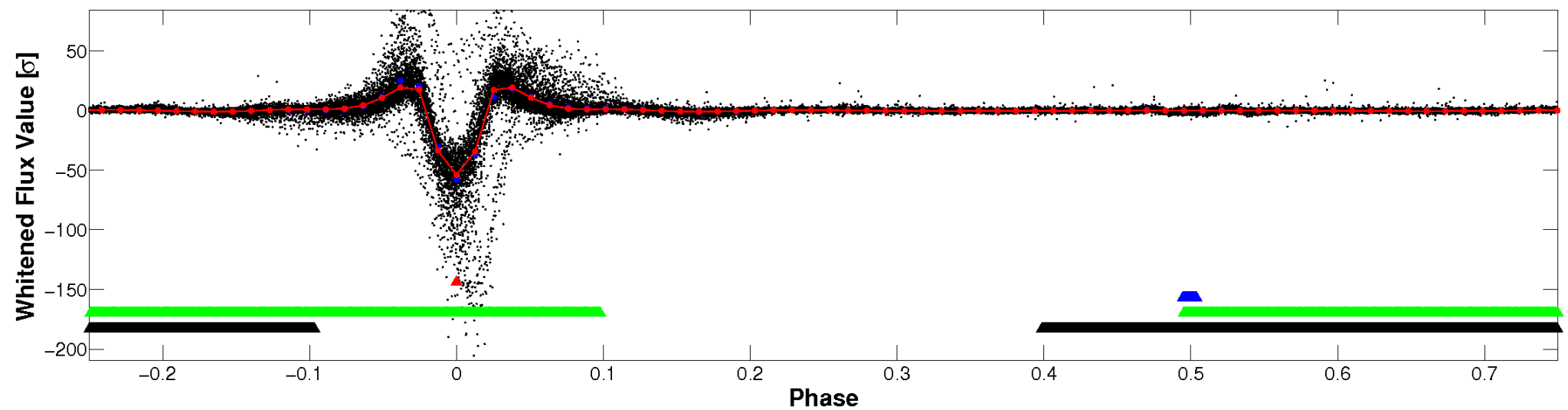


Non-Whitened Vs. Whitened Light Curve

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

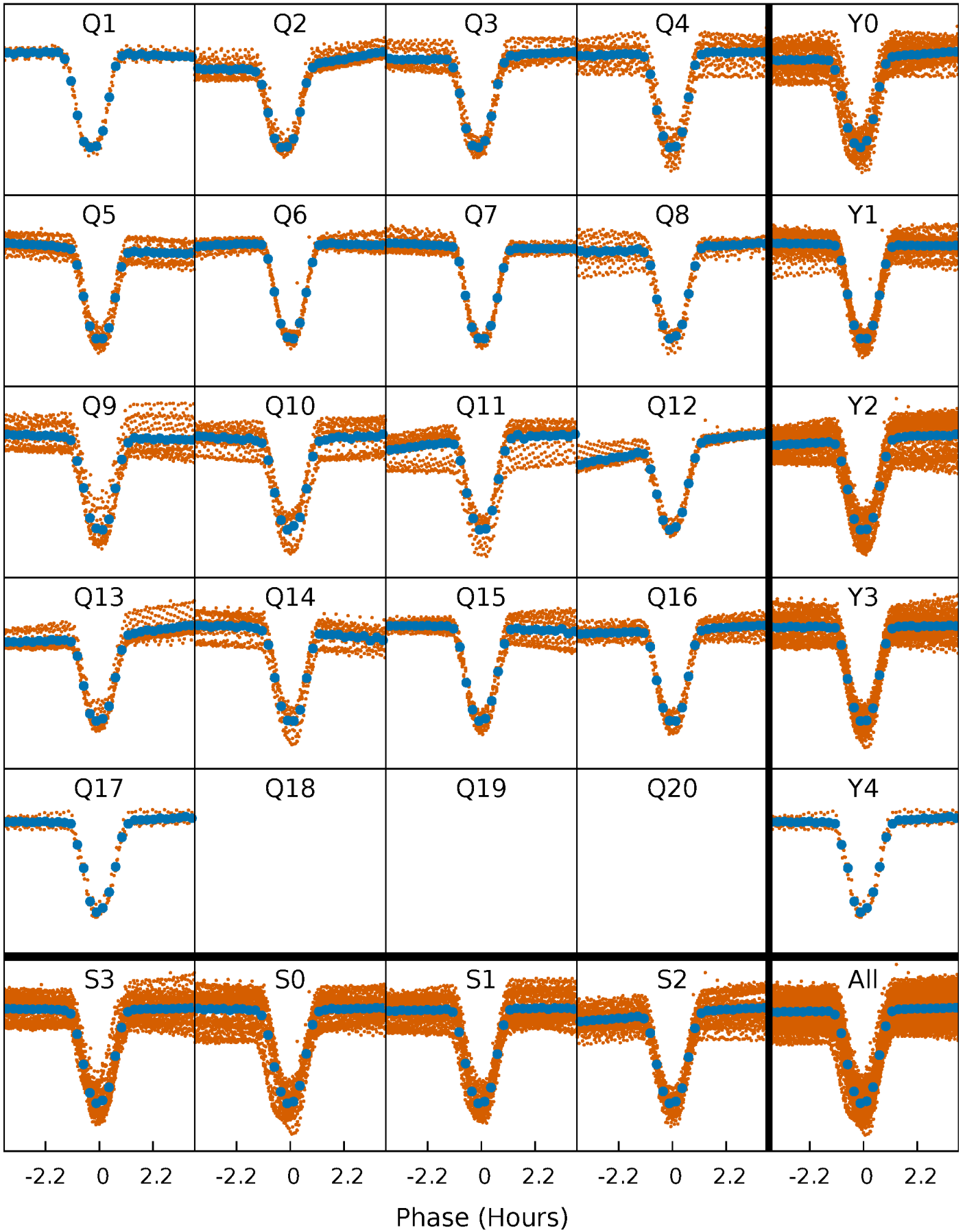


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



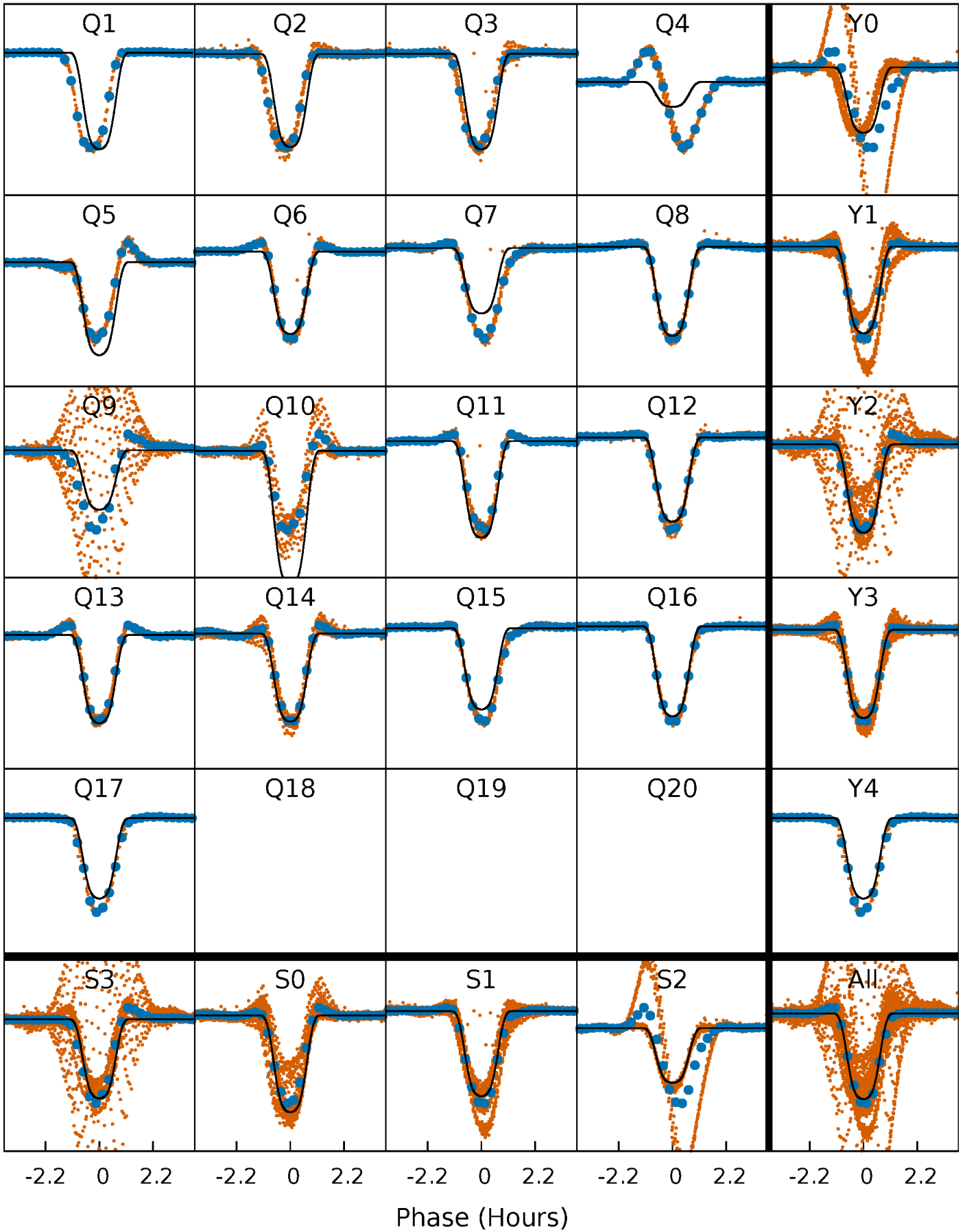
PDC Quarter-Phased Transit Curves

TCE 007174617-01 P= 1.608357 Days $T_0=131.588838$ (BKJD)



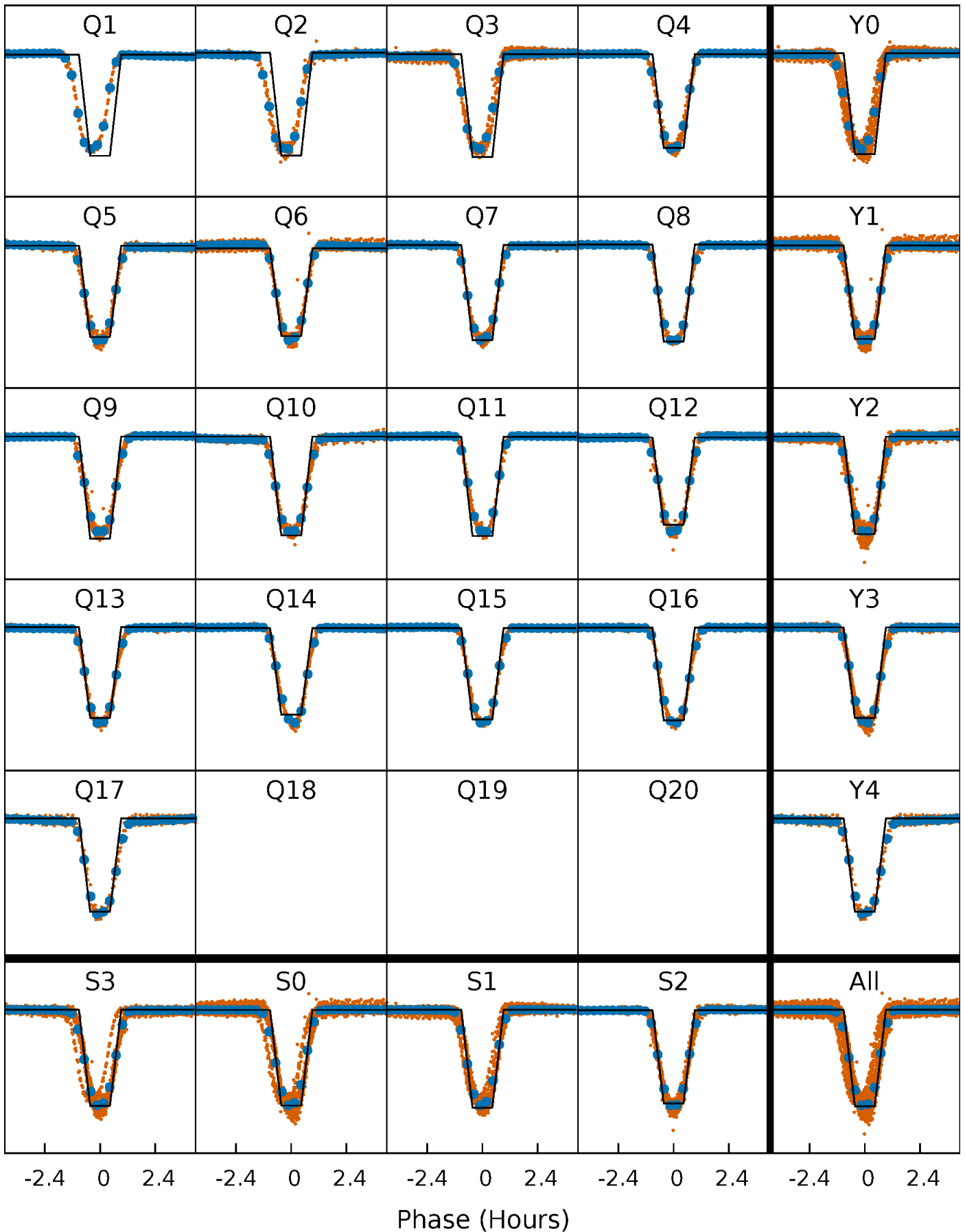
DV Quarter-Phased Transit Curves

TCE 007174617-01 P= 1.608357 Days $T_0=131.588838$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

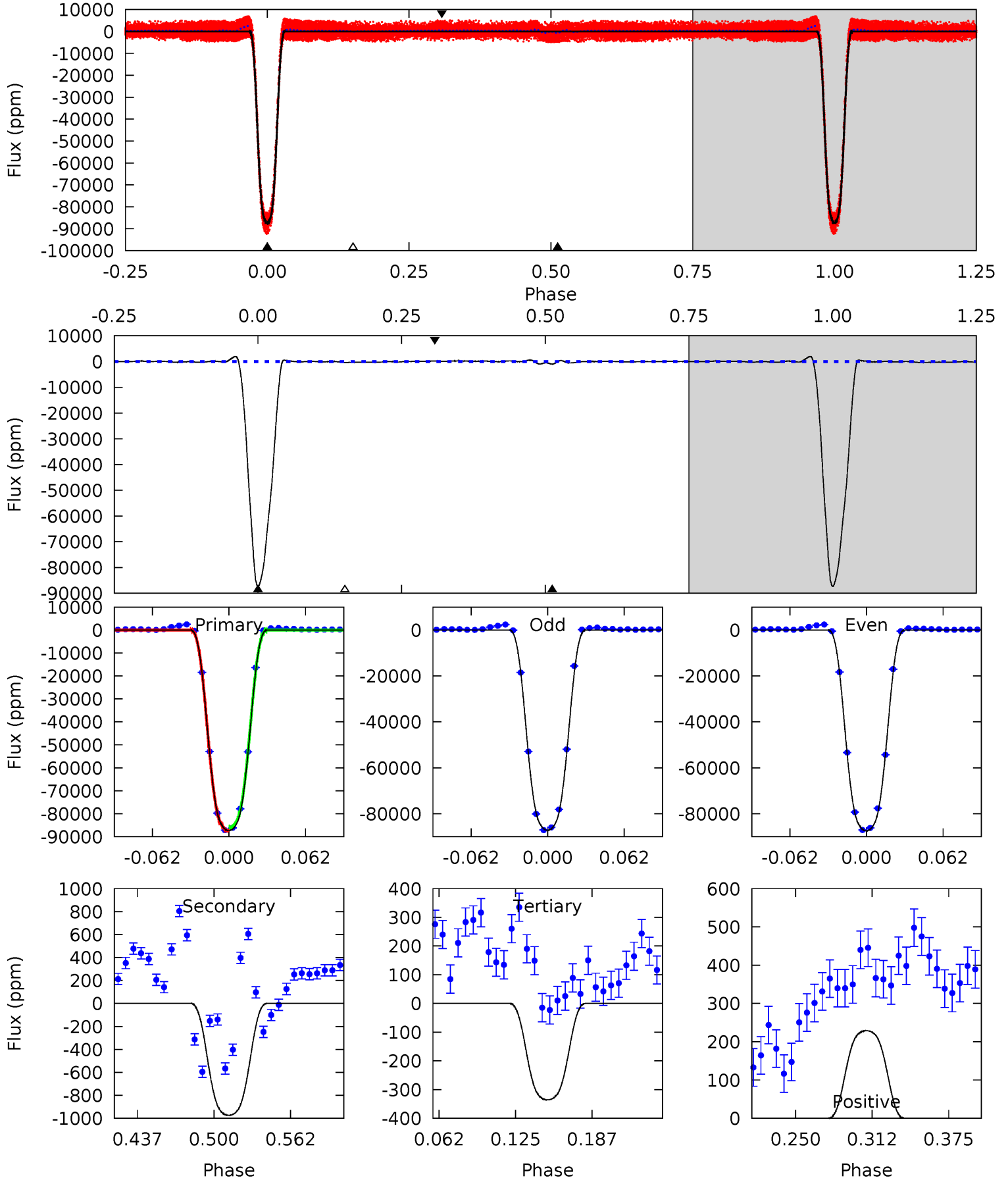
TCE 007174617-01 P= 1.608352 Days $T_0=131.590461$ (BKJD)



DV Model-Shift Uniqueness Test

007174617-01, P = 1.608357 Days, E = 129.980481 Days

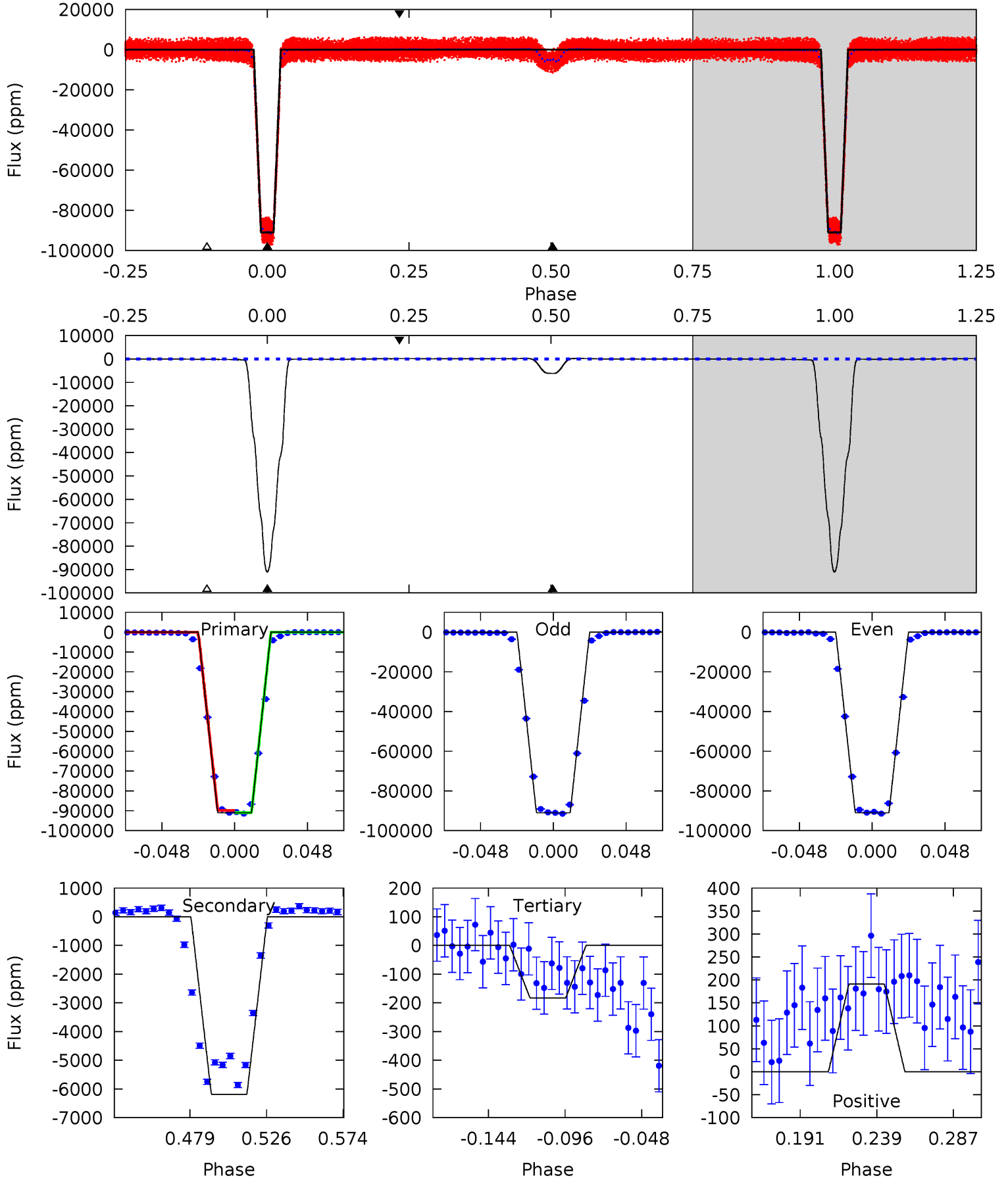
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2441	27.2	9.38	6.39	4.66	1.86	3.92	2431	2434	17.8	20.8	3.51	1.04	0.02	0



Alt Model-Shift Uniqueness Test

007174617-01, P = 1.608352 Days, E = 129.982109 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2214	150.5	4.46	4.64	4.72	1.98	2.82	2210	2210	146.1	145.9	0.47	0.99	0.00	13.3



Stellar Parameters For KIC 007174617

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5022^{+151}_{-151}	$4.668^{+0.052}_{-0.036}$	$-1.100^{+0.300}_{-0.300}$	$0.589^{+0.041}_{-0.037}$	$0.589^{+0.052}_{-0.022}$	$4.053^{+0.858}_{-0.543}$
	+3%/-3%	+1%/-1%	+27%/-27%	+7%/-6%	+9%/-4%	+21%/-13%
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 007174617-01 / KOI 6156.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-974 ± 36	$17.54^{+0.78}_{-0.66}$	1579^{+55}_{-53}	2397^{+43}_{-43}	$0.888^{+0.072}_{-0.062}$
Alt.	-6189 ± 41	$19.71^{+0.81}_{-0.69}$	1579^{+51}_{-54}	3099^{+60}_{-65}	$4.503^{+0.332}_{-0.285}$

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 $A_{\text{obs}} \gg 1.0$

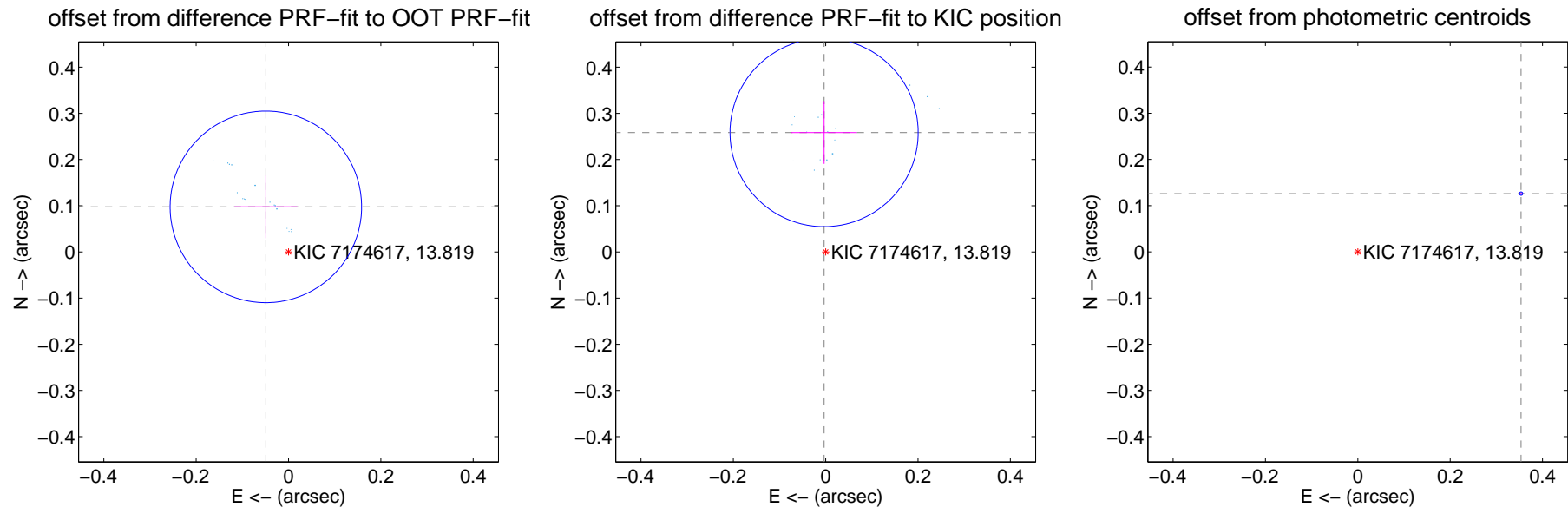
DV Centroid Data

Supplemental centroid analysis for 007174617-01. Kepler magnitude: 13.82. Transit SNR 1632.04

There are 17 quarters with good PRF difference image offsets

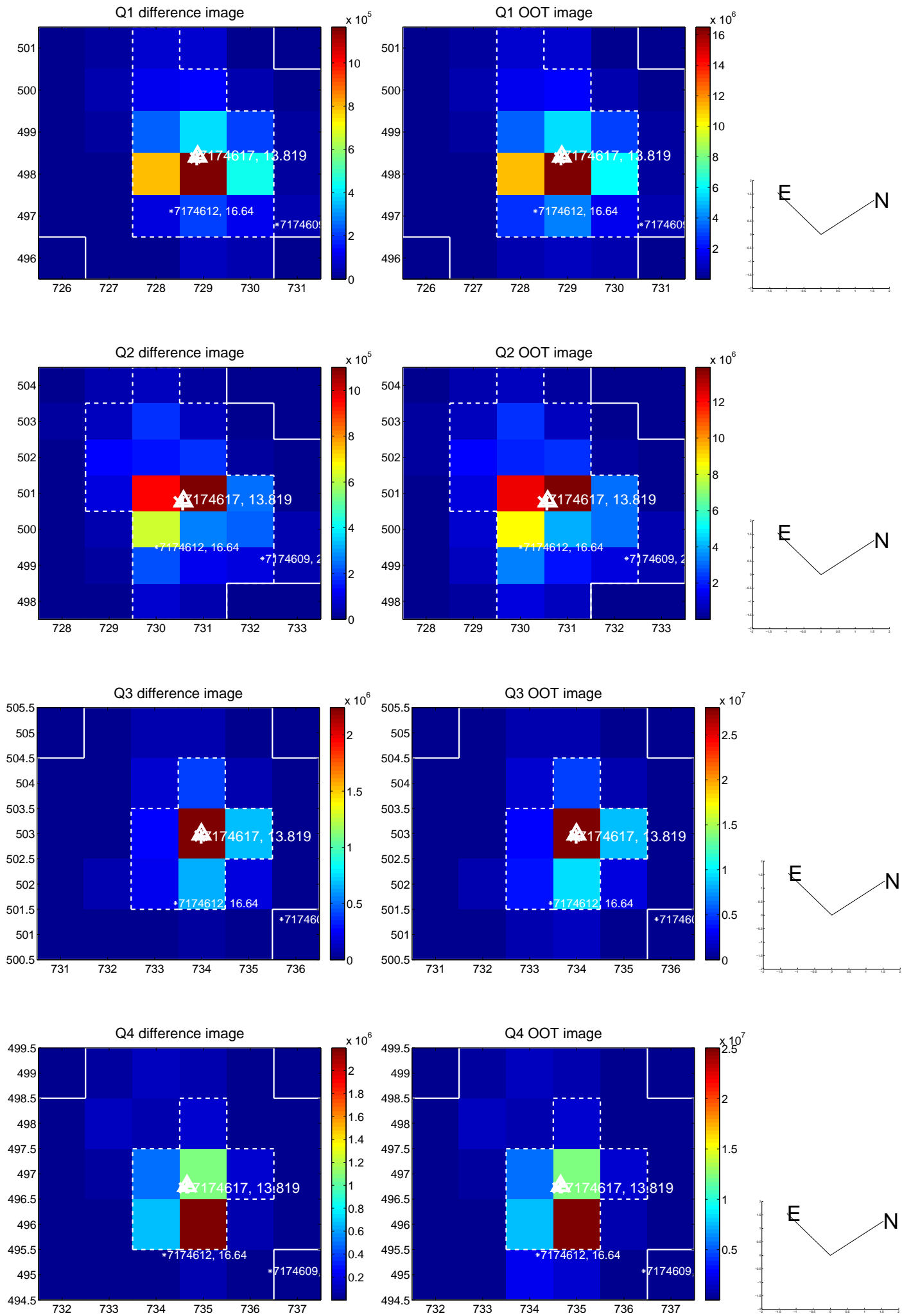
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.109 ± 0.069	1.58	0.049 ± 0.068	0.098 ± 0.068
PRF-fit source offset from KIC position	0.259 ± 0.068	3.81	0.003 ± 0.071	0.259 ± 0.068
photometric centroid source offset	0.38 ± 0.00	313.83	-0.35 ± 0.00	0.13 ± 0.00

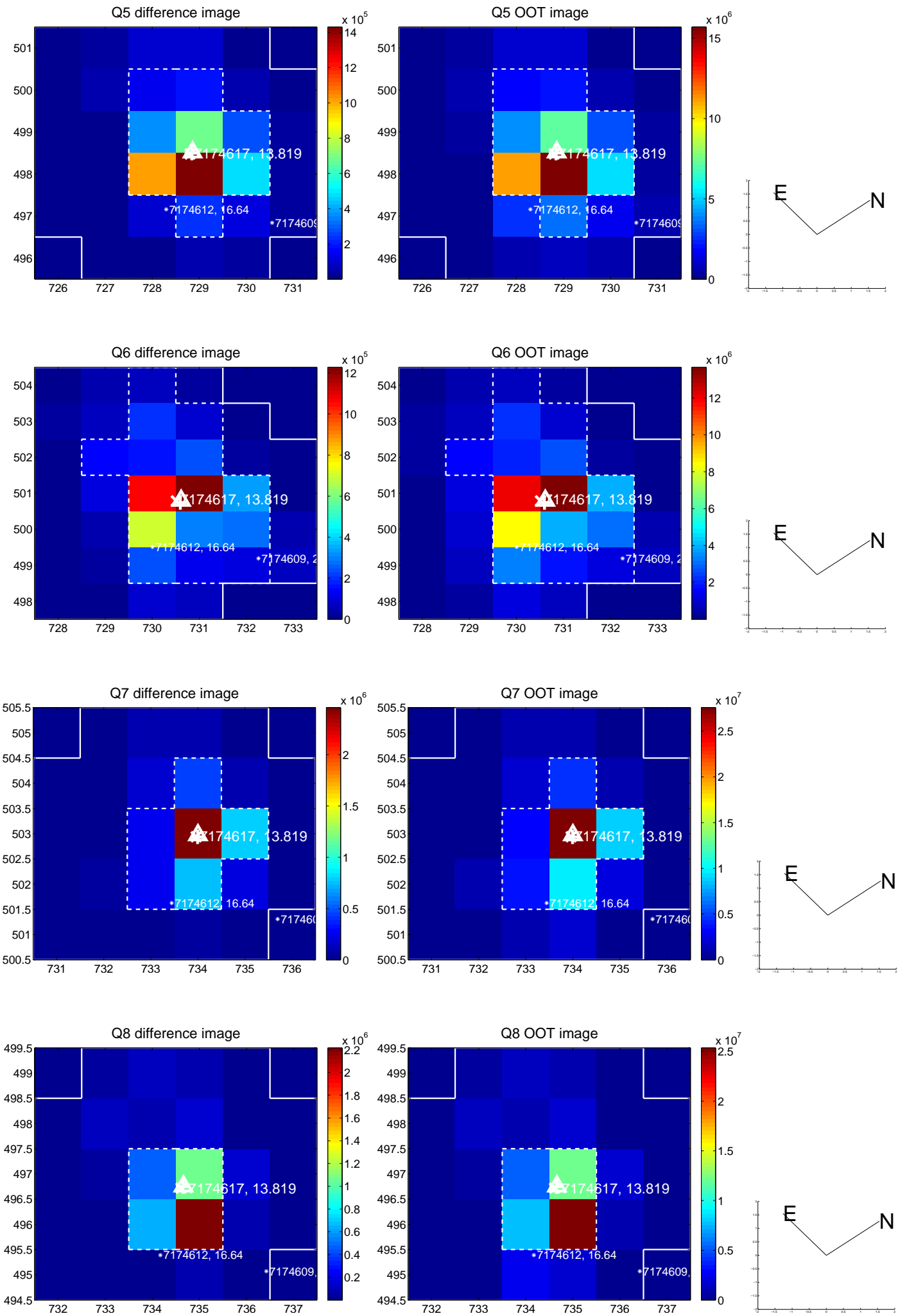


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

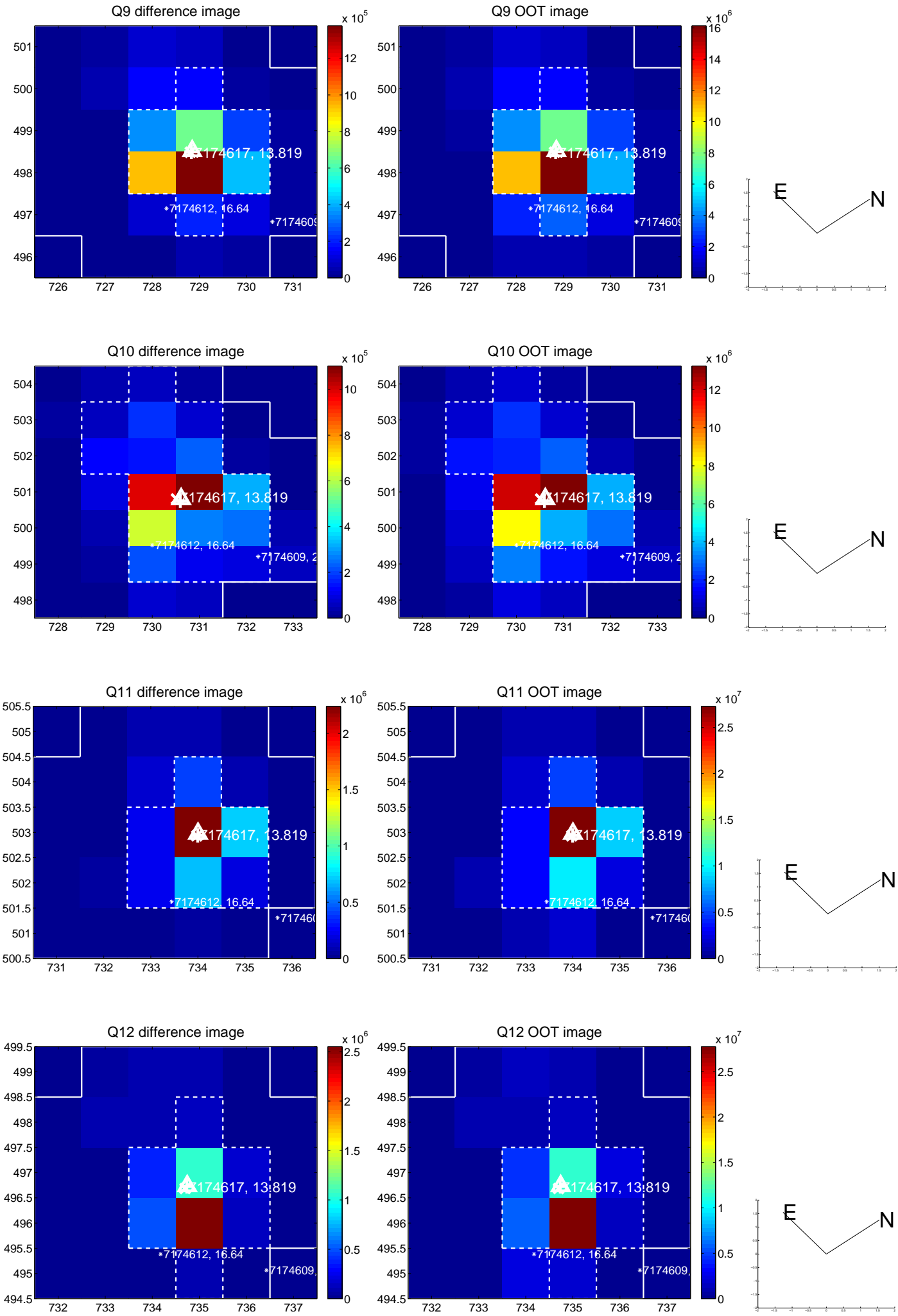
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



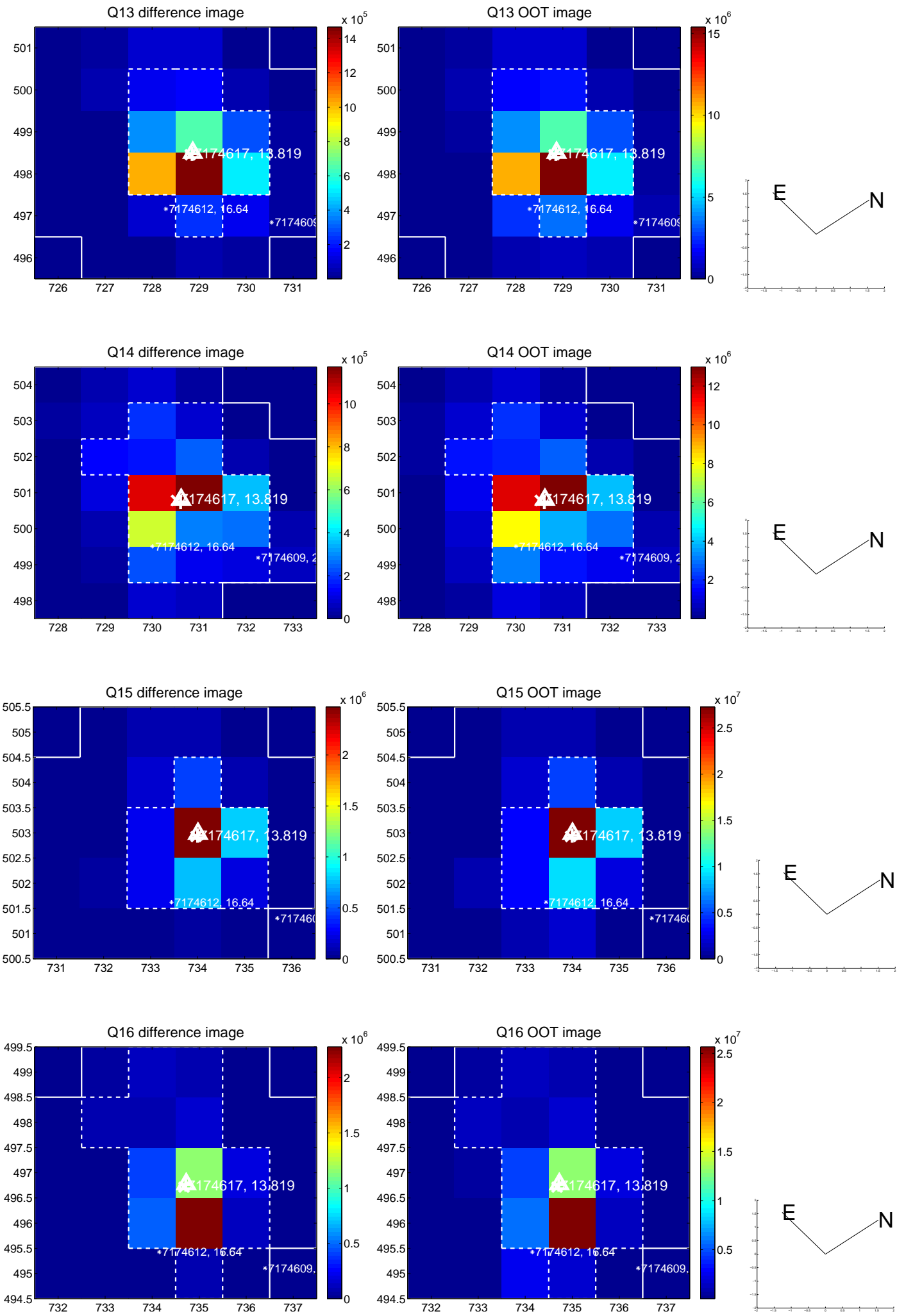
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



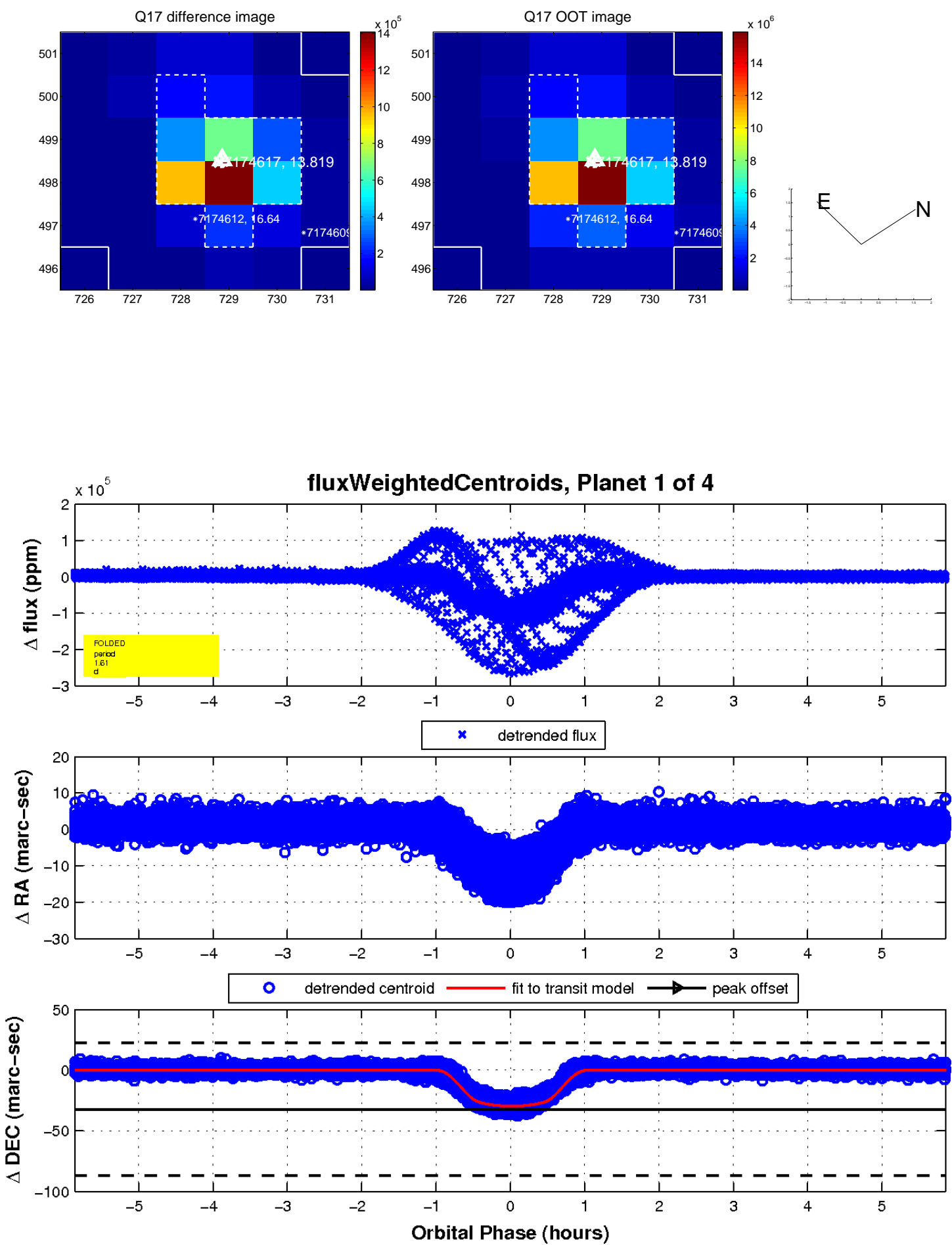
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

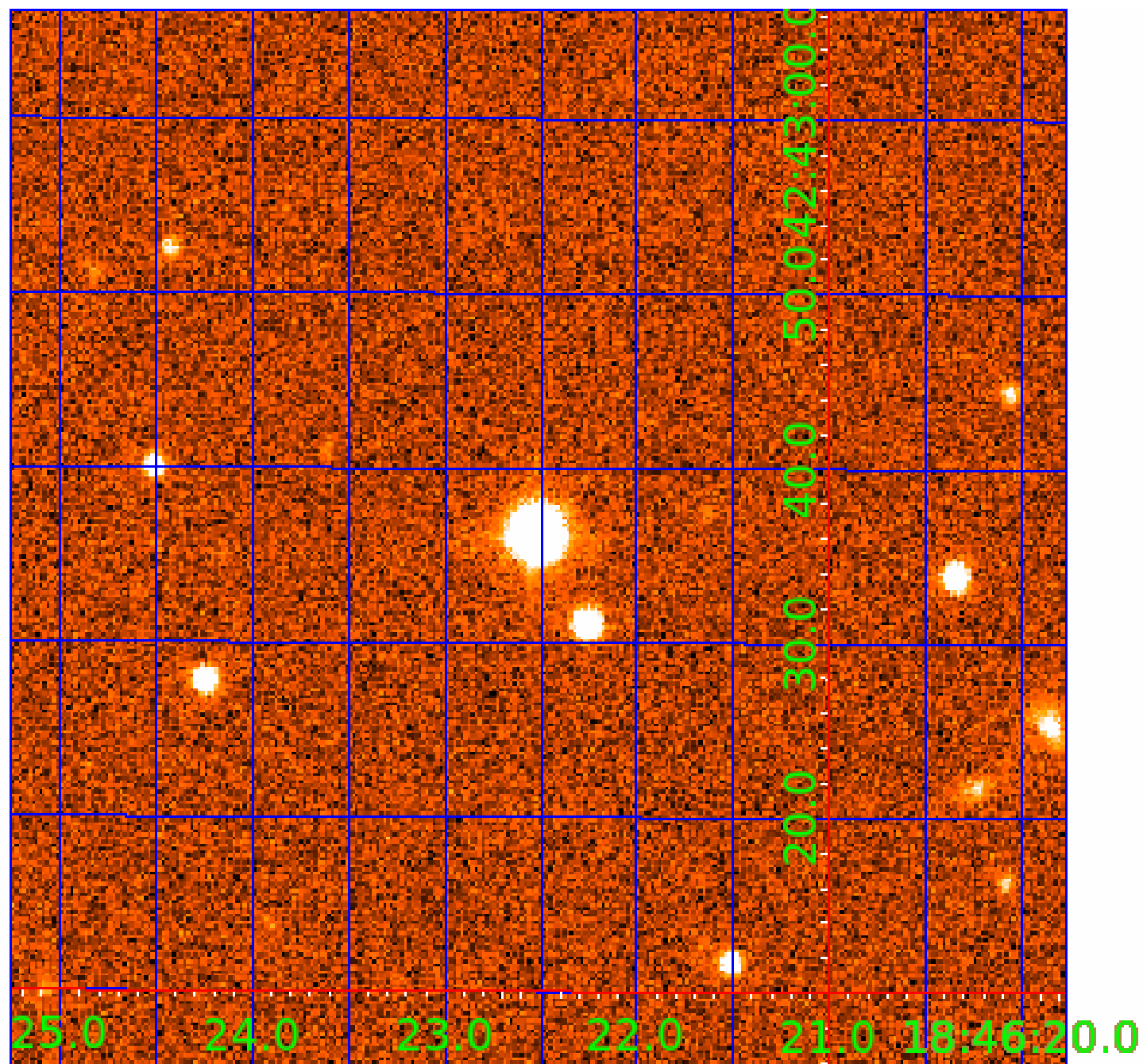


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007174617

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})
007174617-01	OBS	6156.01	1.608356	131.588838	87174.9	1.952	3099.4	1632.0	0.59	5022	17.54	389.61
007174617-02	OBS	No	1.608373	132.384344	1016.6	1.754	31.1	37.9	0.59	5022	2.25	389.61
007174617-03	OBS	No	1.609427	132.385185	151.5	1.425	8.7	4.2	0.59	5022	0.87	389.27
007174617-04	OBS	No	1.609252	132.229944	686.2	2.000	9.0	-1.0	0.59	5022	1.52	389.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007174617-01	OBS	PC	0.87	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE
007174617-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007174617-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007174617-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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.

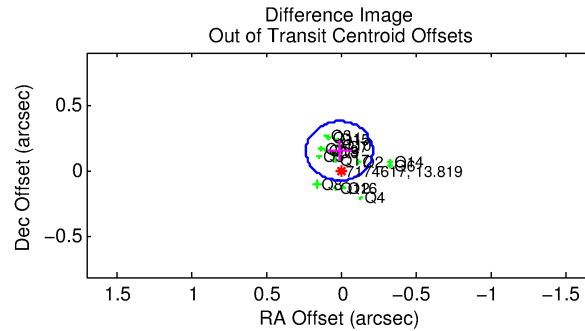
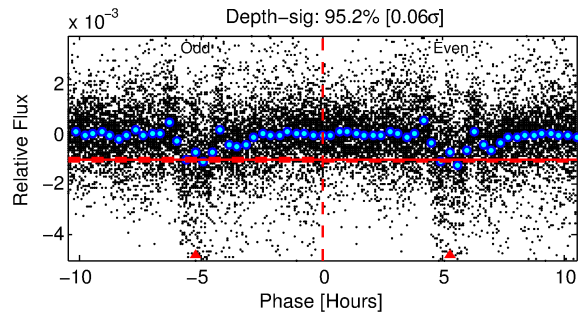
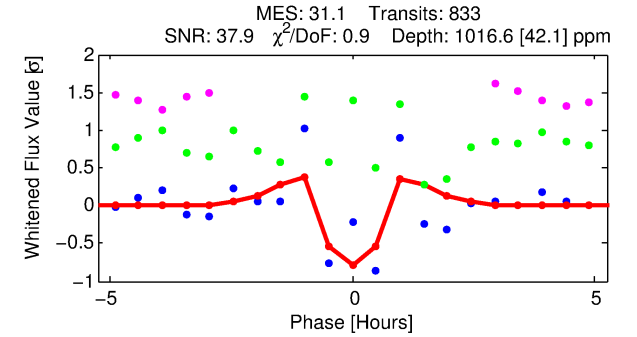
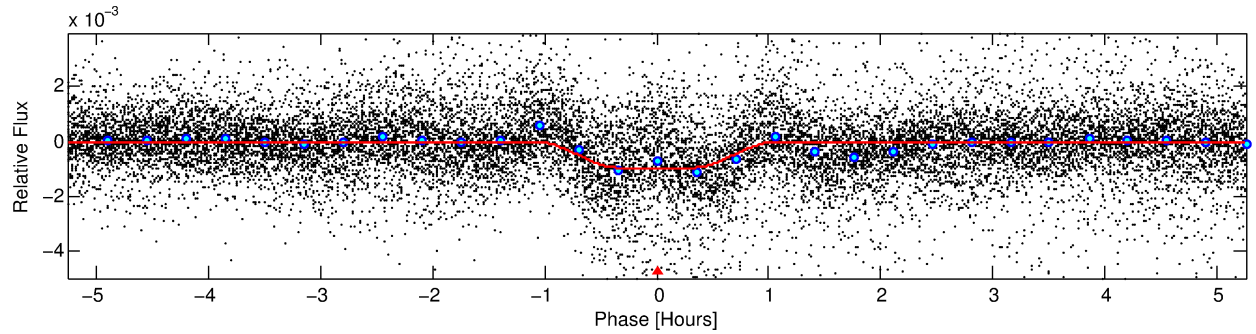
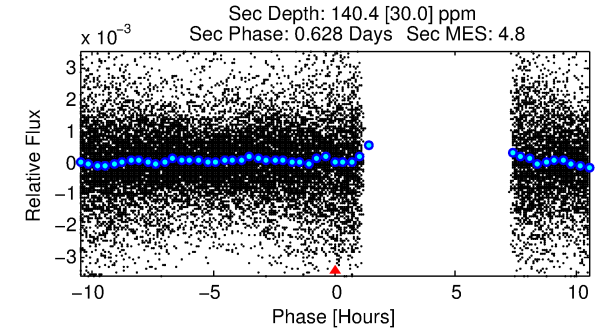
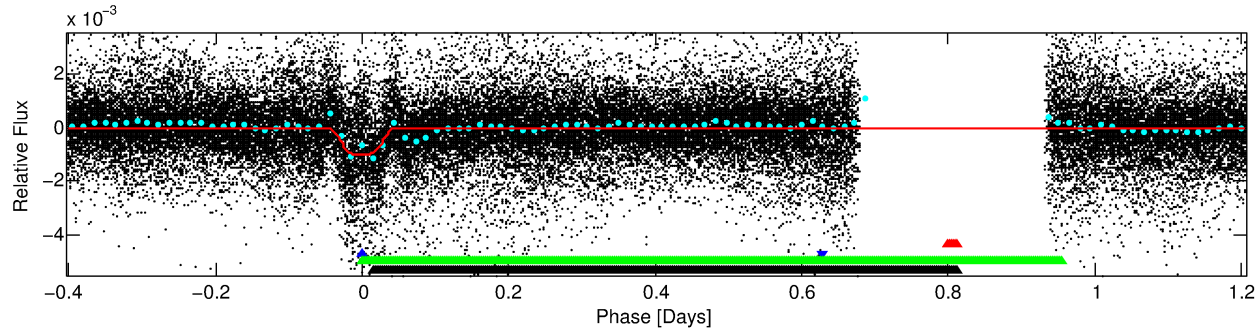
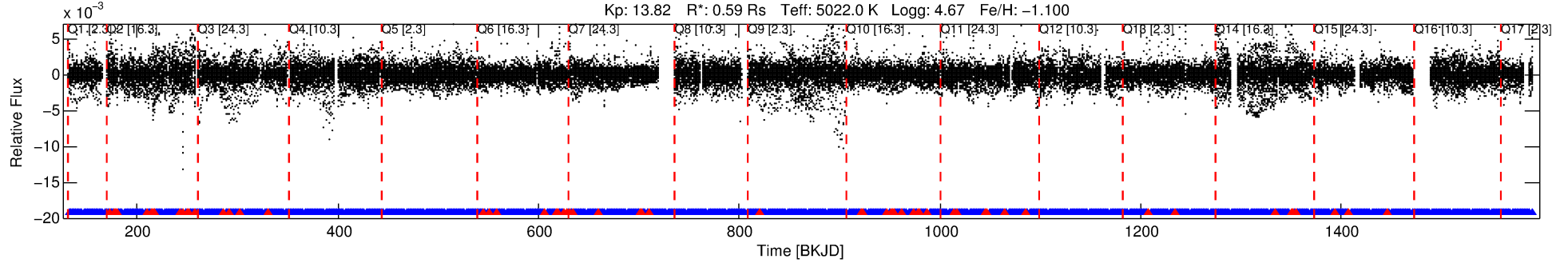
Ephemeris Match Information For 007174617-02

No Significant Match Found

DV One-Page Summary

KIC: 7174617 Candidate: 2 of 4 Period: 1.608 d
KOI: K06156 Corr: No Ephemeris Match

Kp: 13.82 R*: 0.59 Rs Teff: 5022.0 K Logg: 4.67 Fe/H: -1.100



DV Fit Results:

Period = 1.60837 [0.00000] d
Epoch = 132.3843 [0.0004] BKJD
Rp/R* = 0.0351 [0.0023]
a/R* = 3.70 [0.85]
b = 0.90 [0.05]
Seff = 389.61 [59.07]
Teq = 1133 [43] K
Rp = 2.26 [0.22] Re
a = 0.0225 [0.0014] AU
Ag = 7.71 [2.06] [3.25σ]
Teffp = 2918 [203] K [8.59σ]

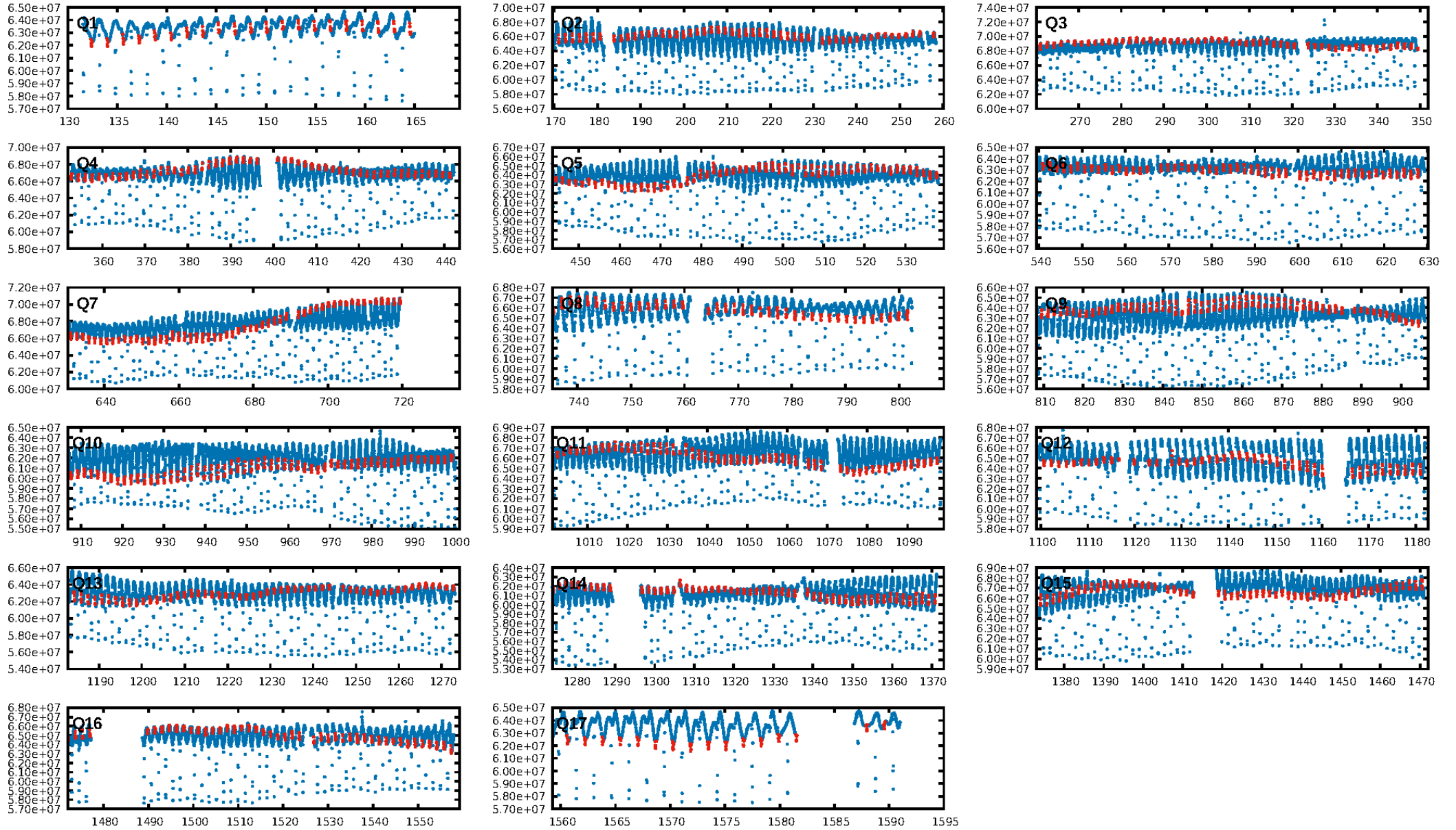
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.6% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [738/796]
GhostDiagnostic-chr: 0.4892
Centroid-sig: N/A
Centroid-so: 1.254 arcsec [11.97σ]
OotOffset-rm: 0.154 arcsec [2.07σ]
KicOffset-rm: 0.269 arcsec [3.73σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.59 [10/17]

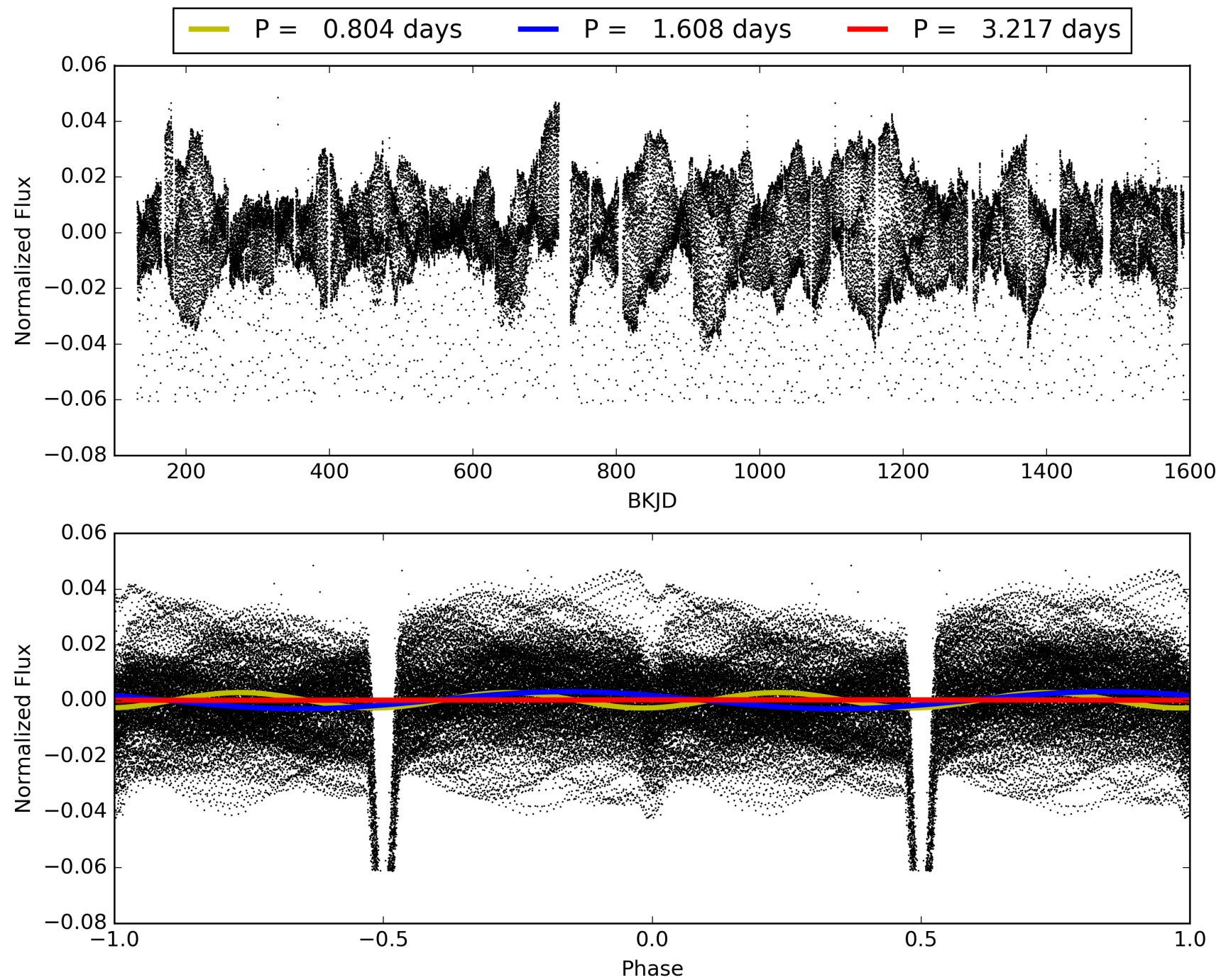
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:05:58 Z

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

TCE 007174617-02, PDC Light Curves

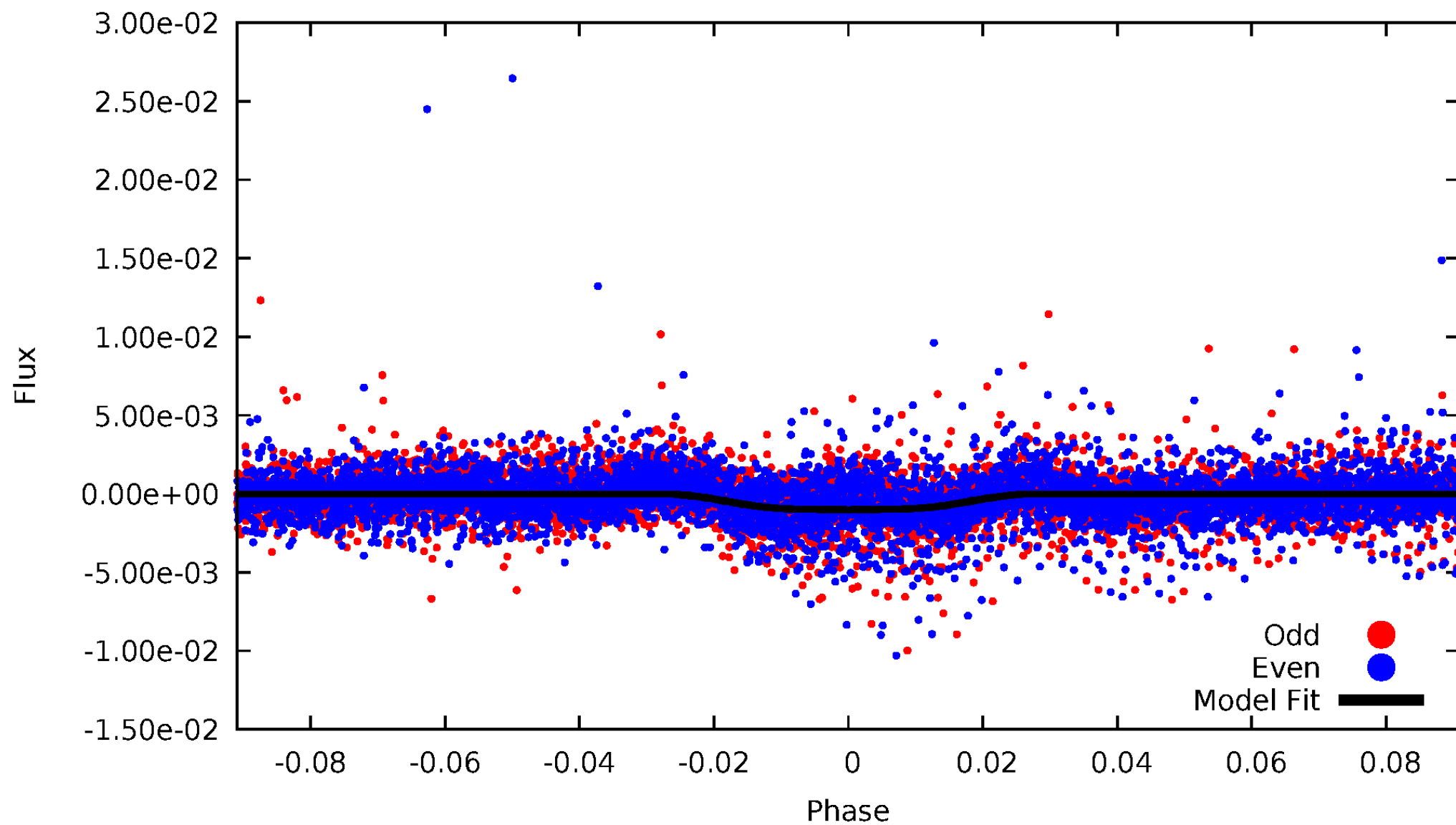


TCE 007174617-02



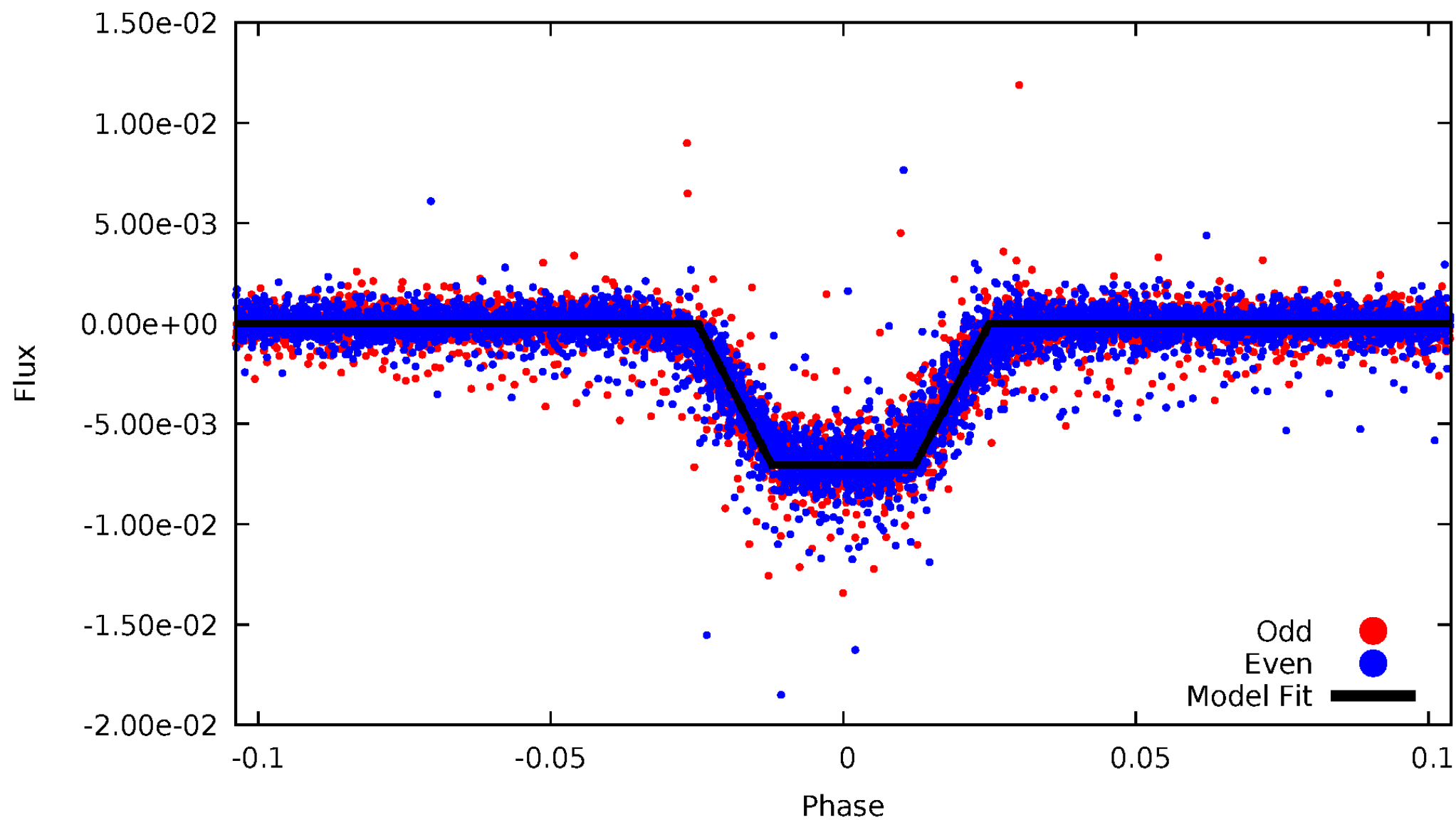
DV Odd/Even

TCE 007174617-02



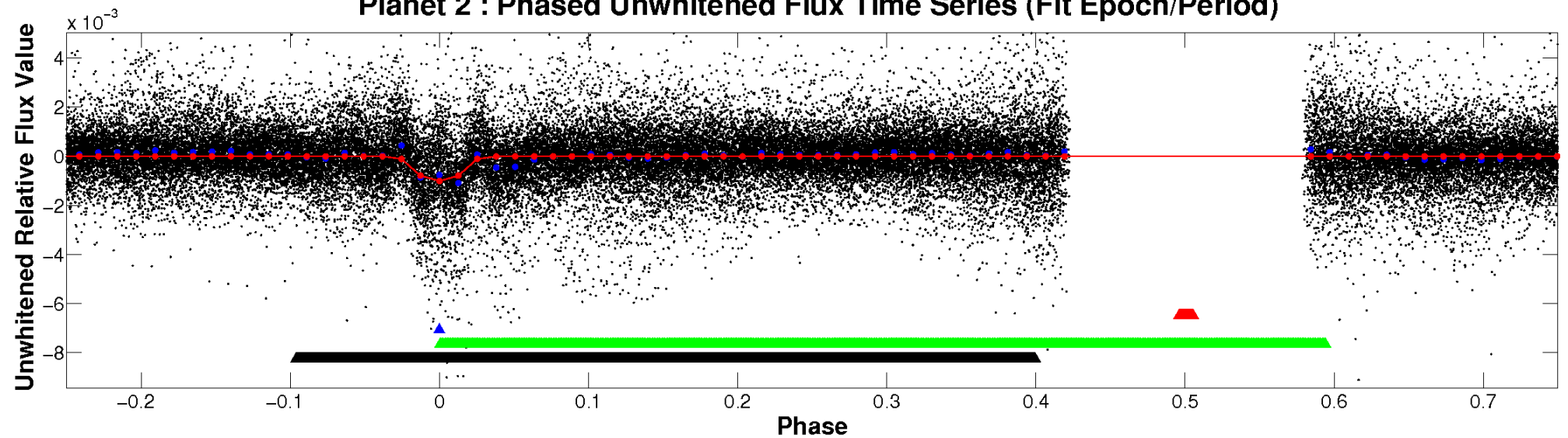
ALT Odd/Even

TCE 007174617-02

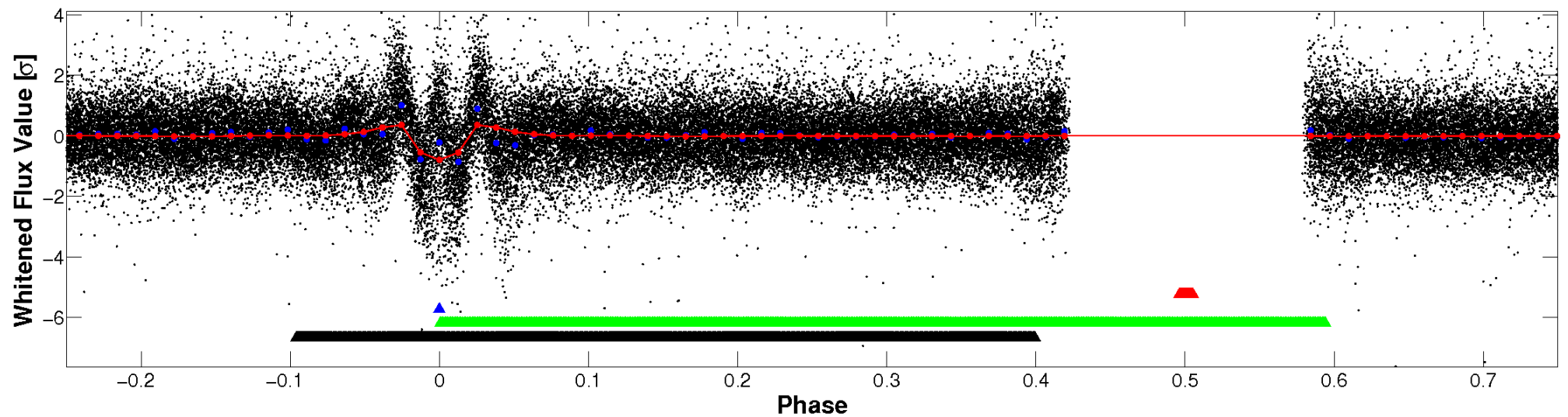


Non-Whitened Vs. Whitened Light Curve

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

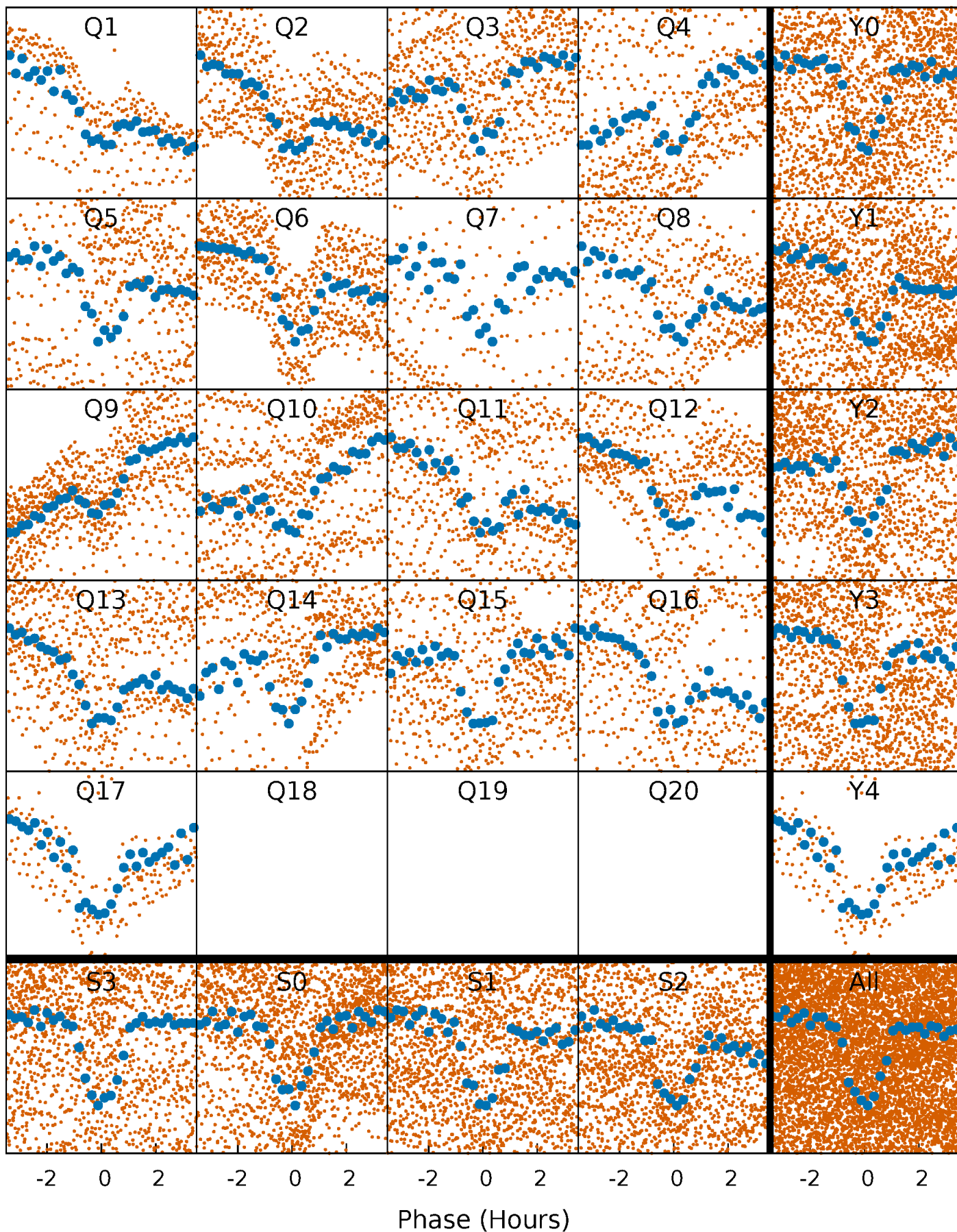


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



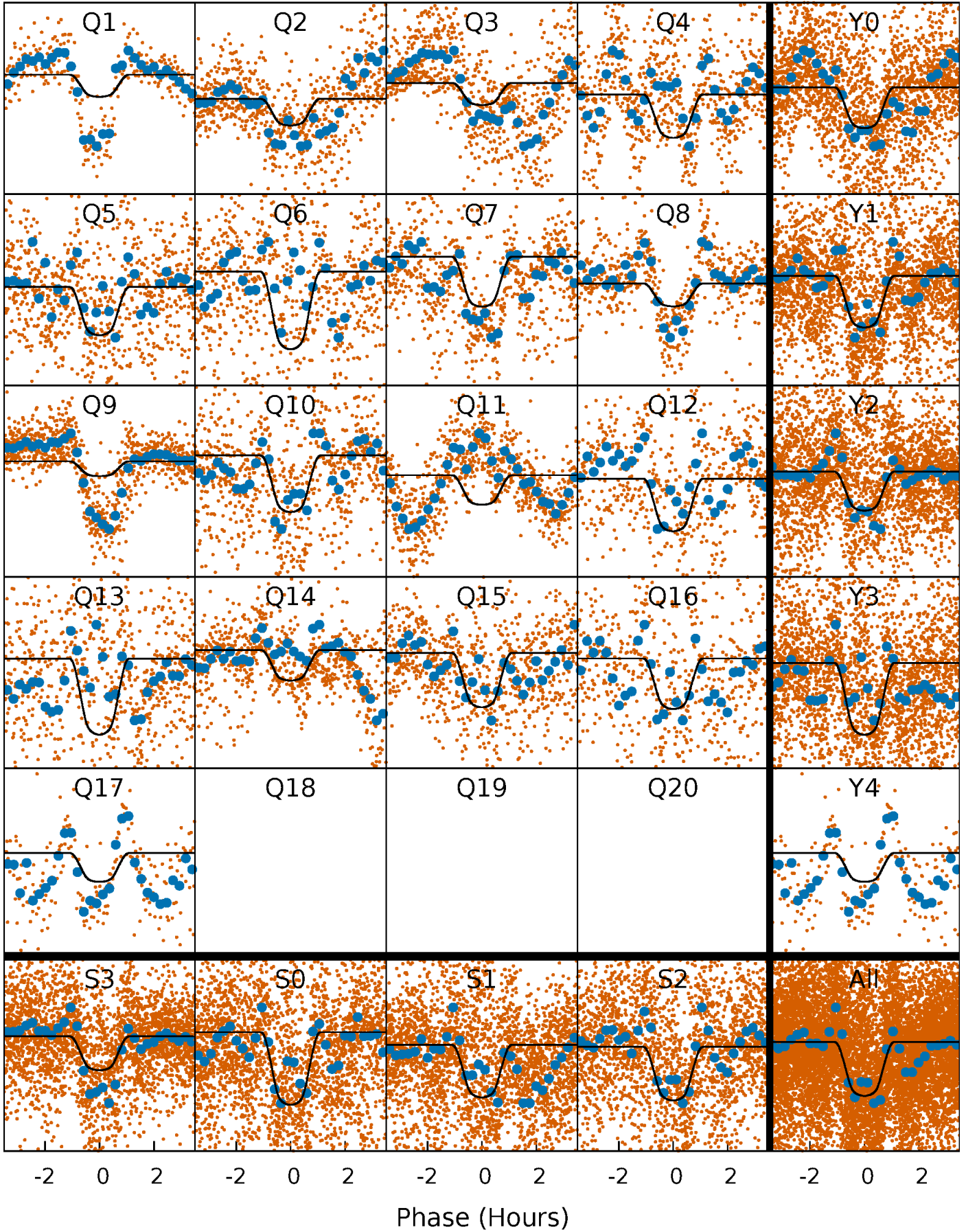
PDC Quarter-Phased Transit Curves

TCE 007174617-02 P= 1.608373 Days $T_0=132.384344$ (BKJD)



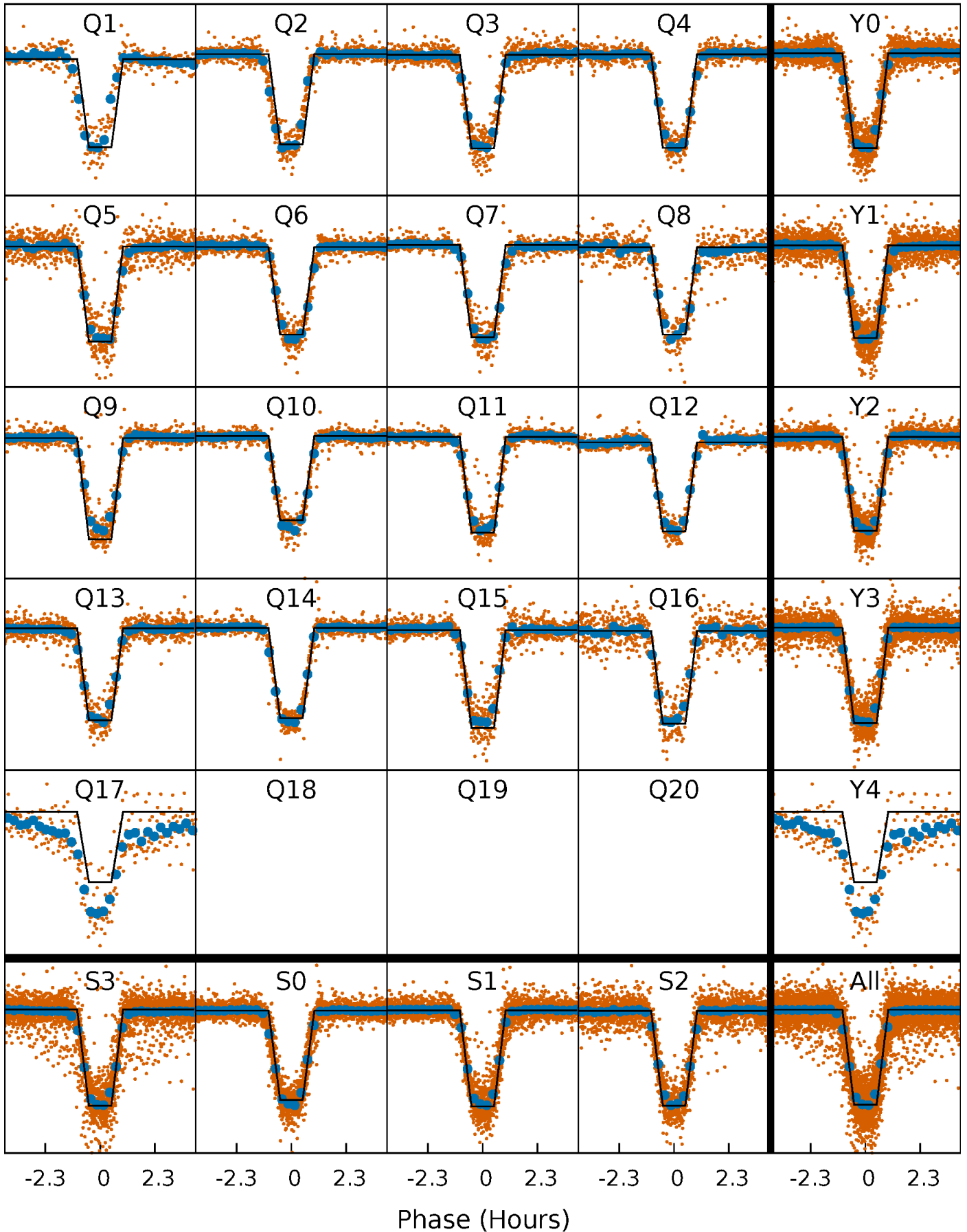
DV Quarter-Phased Transit Curves

TCE 007174617-02 P= 1.608373 Days $T_0=132.384344$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

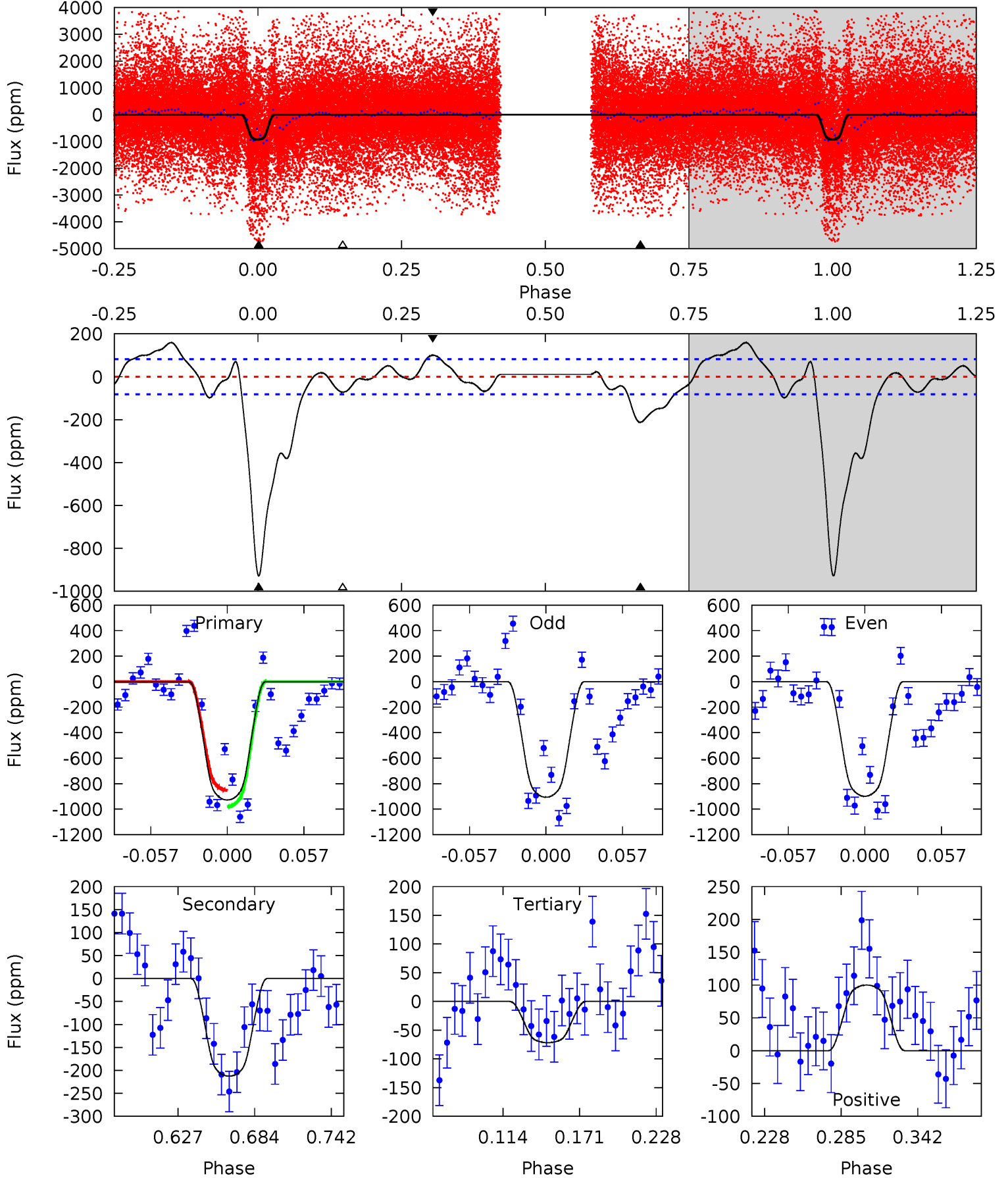
TCE 007174617-02 P= 1.608366 Days $T_0=132.388374$ (BKJD)



DV Model-Shift Uniqueness Test

007174617-02, P = 1.608373 Days, E = 130.775971 Days

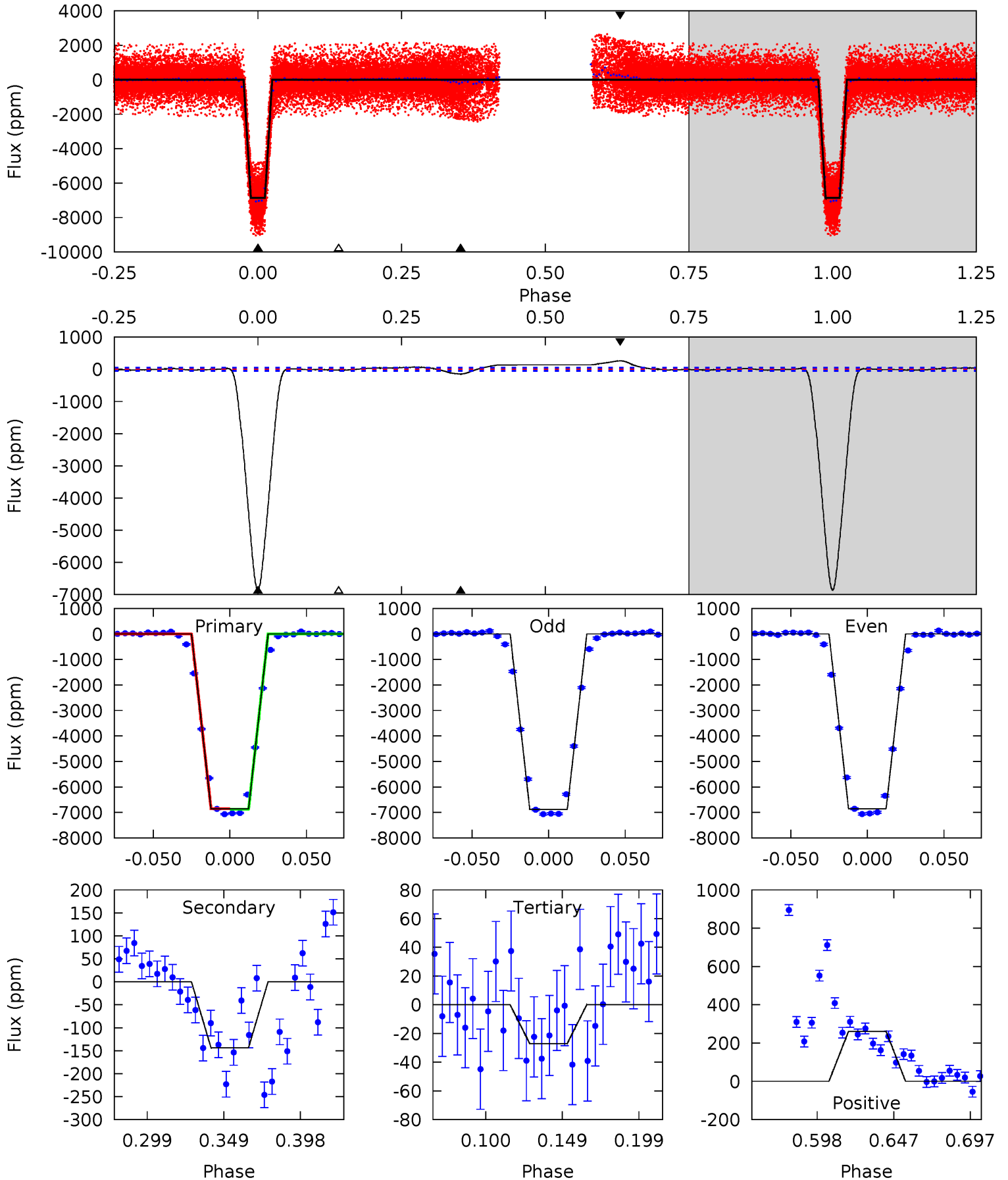
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.9	12.1	4.10	5.71	4.68	1.90	4.16	48.9	47.2	8.04	6.43	0.23	1.02	0.15	3.80



Alt Model-Shift Uniqueness Test

007174617-02, P = 1.608366 Days, E = 130.780008 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
653.0	13.7	2.57	24.9	4.71	1.96	5.27	650.5	628.2	11.1	-11.2	0.99	1.00	0.04	1.18



Stellar Parameters For KIC 007174617

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5022^{+151}_{-151}	$4.668^{+0.052}_{-0.036}$	$-1.100^{+0.300}_{-0.300}$	$0.589^{+0.041}_{-0.037}$	$0.589^{+0.052}_{-0.022}$	$4.053^{+0.858}_{-0.543}$
	+3%/-3%	+1%/-1%	+27%/-27%	+7%/-6%	+9%/-4%	+21%/-13%
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 007174617-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-213 ± 18	$2.26^{+0.17}_{-0.18}$	1578^{+56}_{-54}	3604^{+126}_{-122}	12^{+2}_{-2}
Alt.	-144 ± 11	$5.39^{+0.27}_{-0.23}$	1582^{+52}_{-54}	2585^{+56}_{-62}	$1.387^{+0.156}_{-0.140}$

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 $A_{\text{obs}} \gg 1.0$

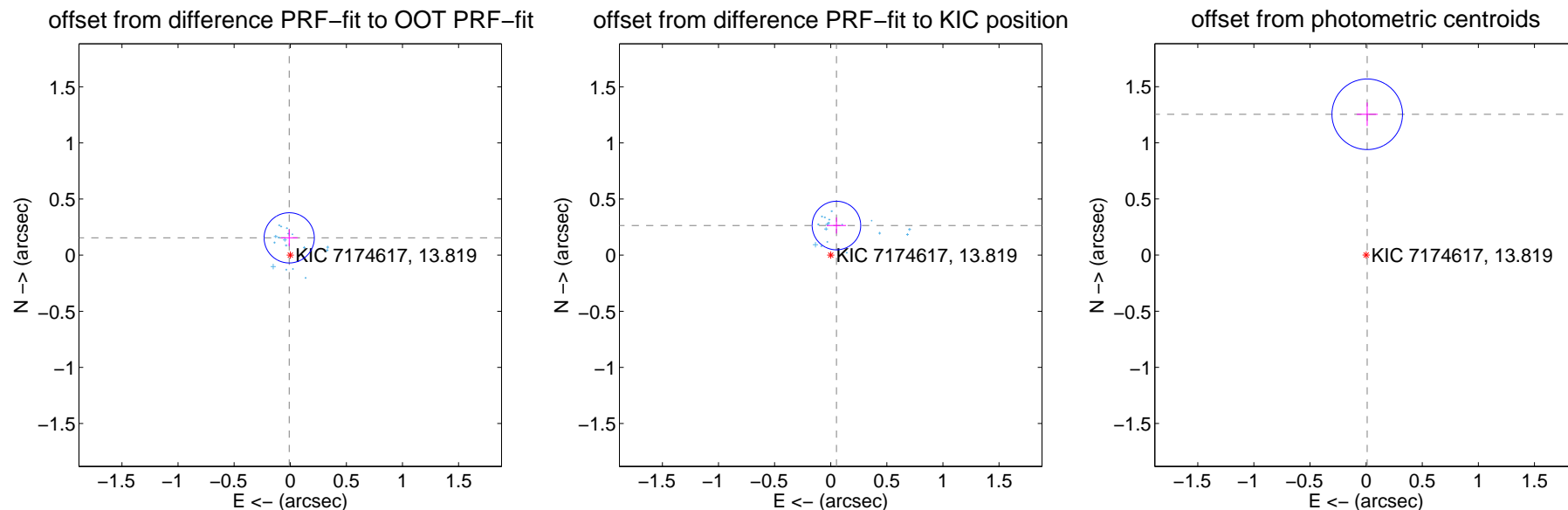
DV Centroid Data

Supplemental centroid analysis for 007174617-02. Kepler magnitude: 13.82. Transit SNR 37.92

There are 17 quarters with good PRF difference image offsets

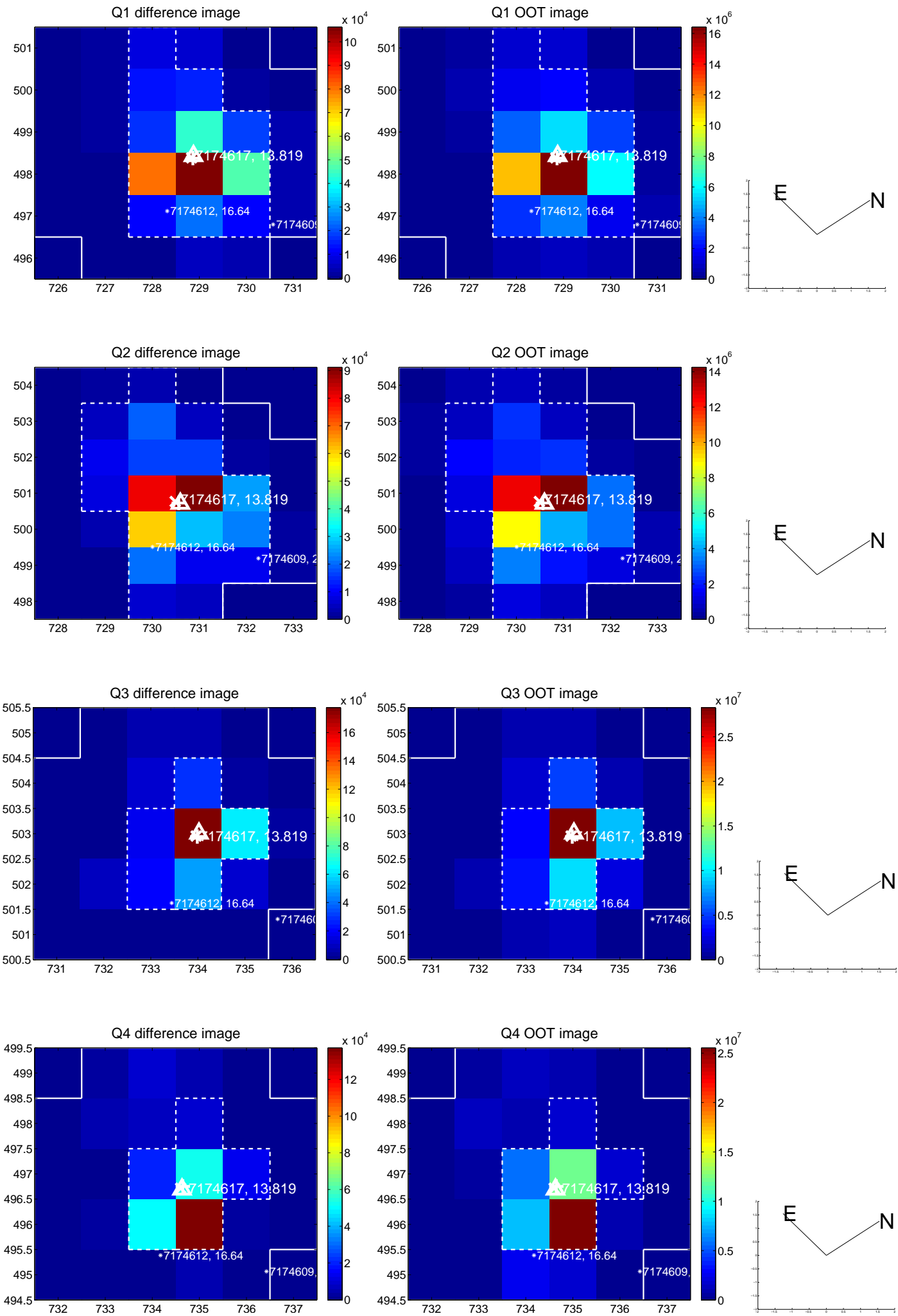
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.154 ± 0.075	2.07	0.009 ± 0.074	0.154 ± 0.074
PRF-fit source offset from KIC position	0.269 ± 0.072	3.73	-0.051 ± 0.086	0.264 ± 0.072
photometric centroid source offset	1.25 ± 0.10	11.97	-0.01 ± 0.09	1.25 ± 0.10

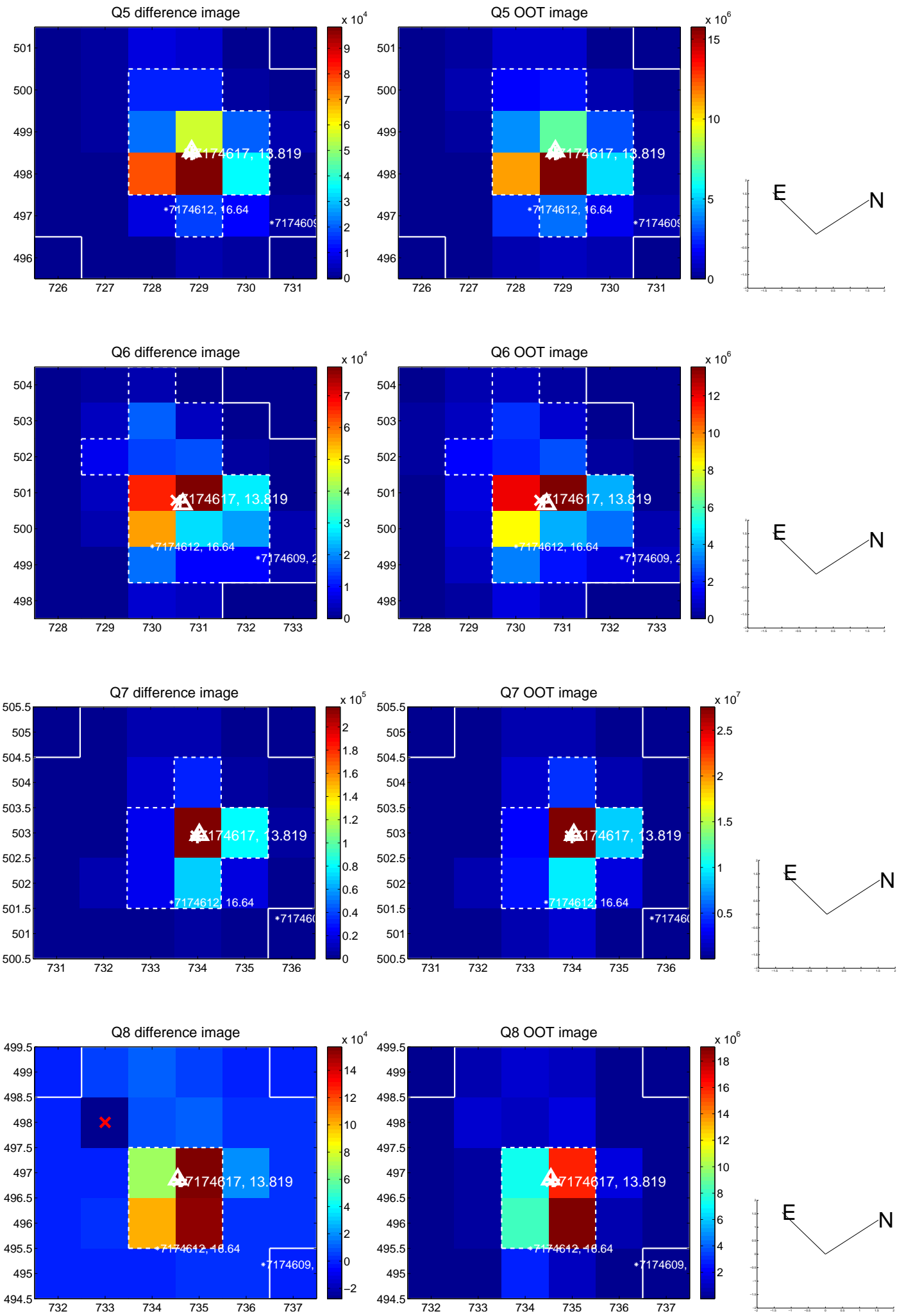


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

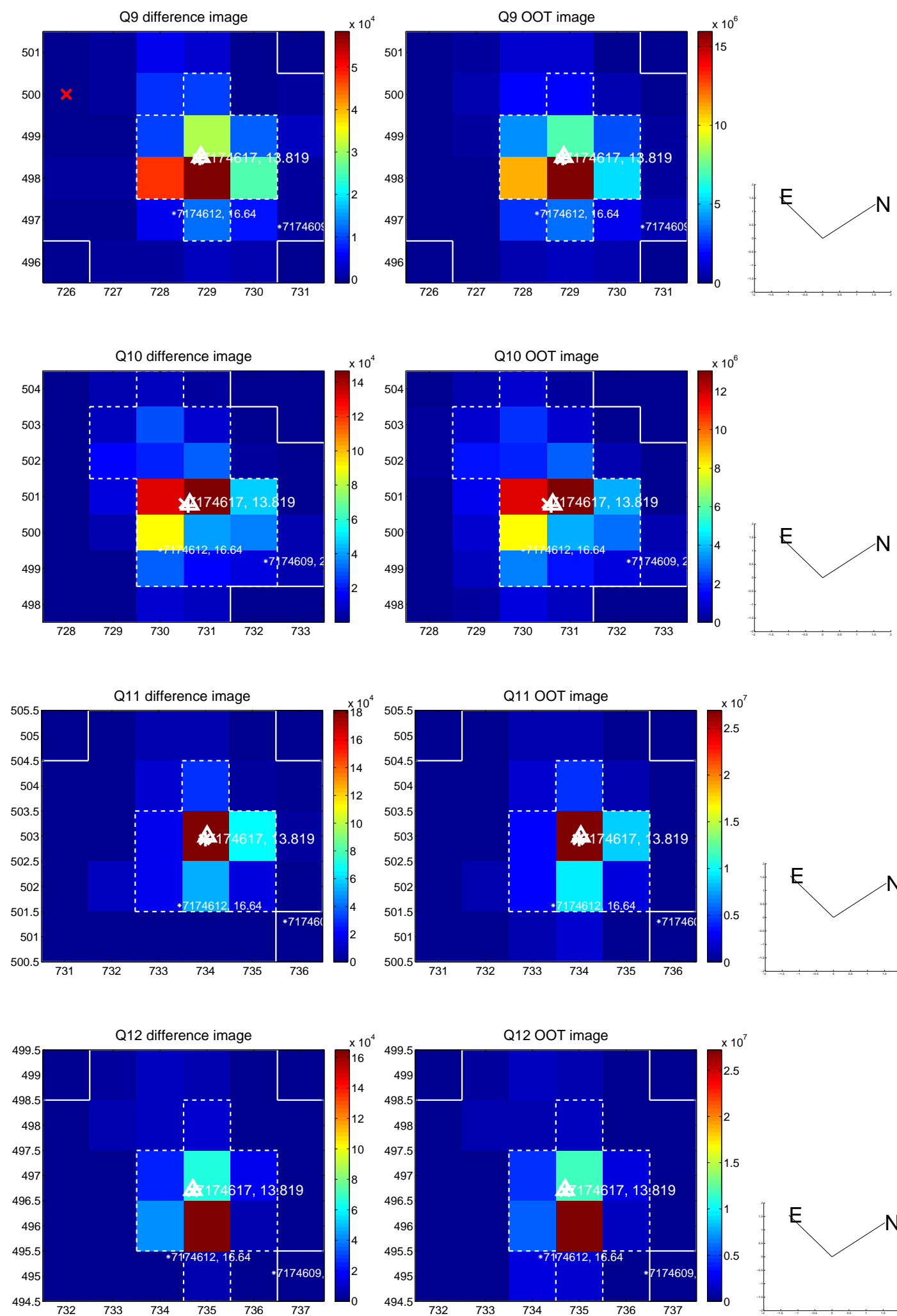
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



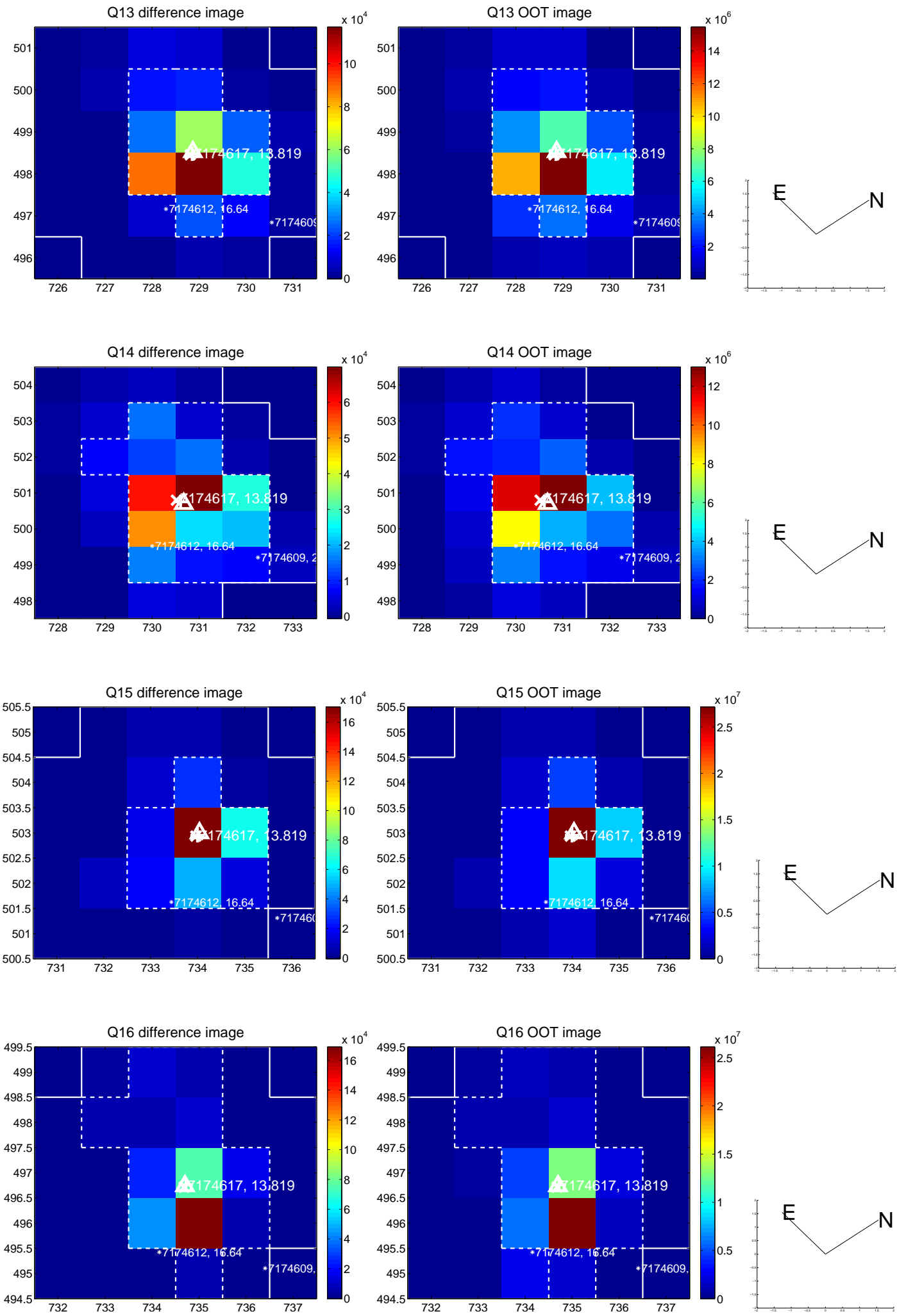
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



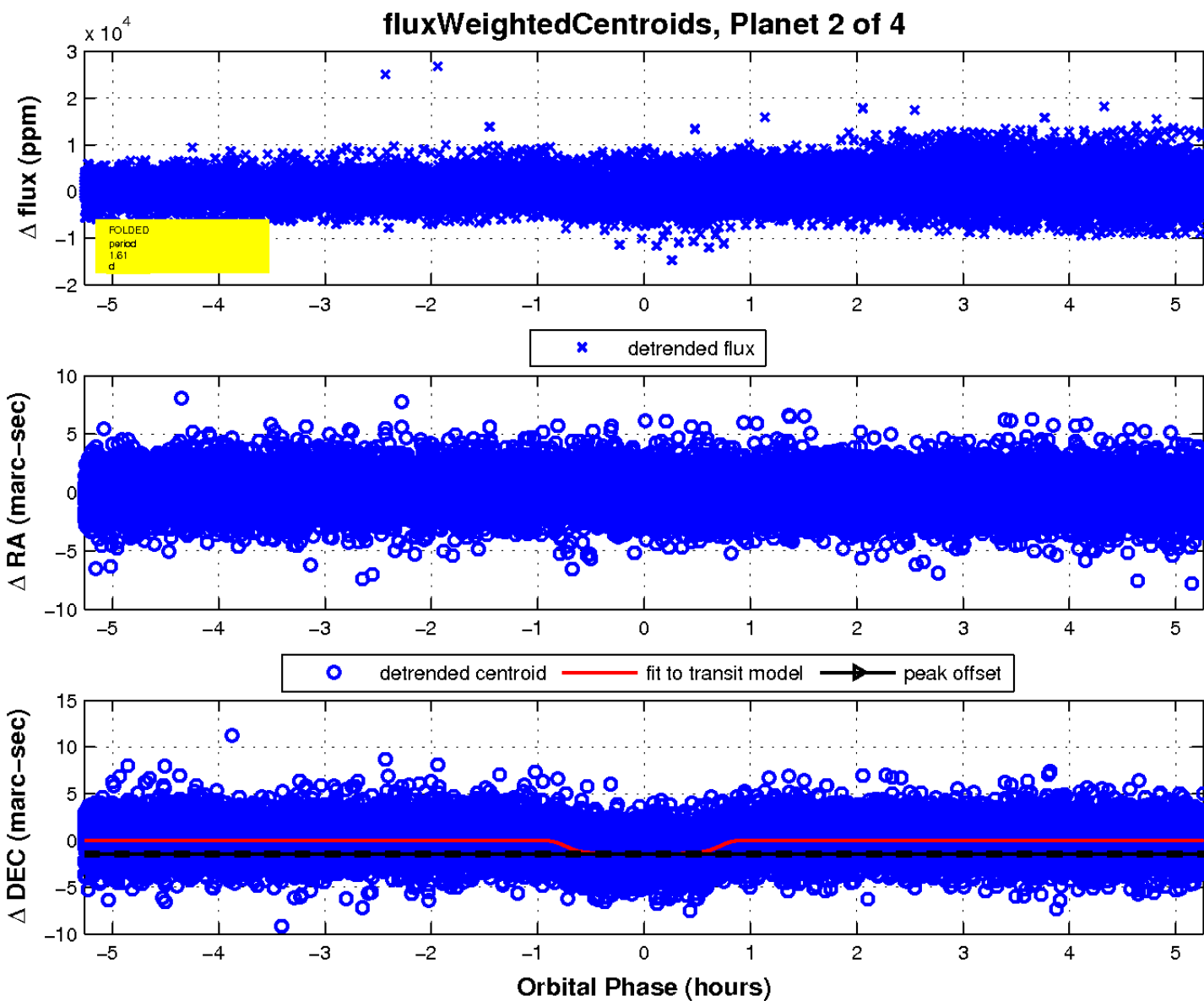
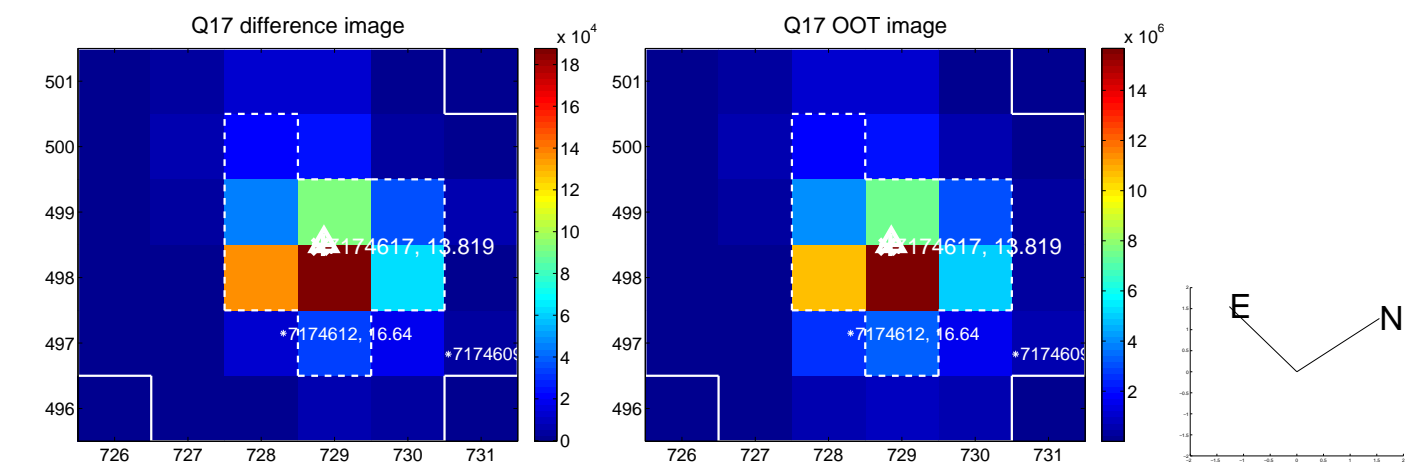
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

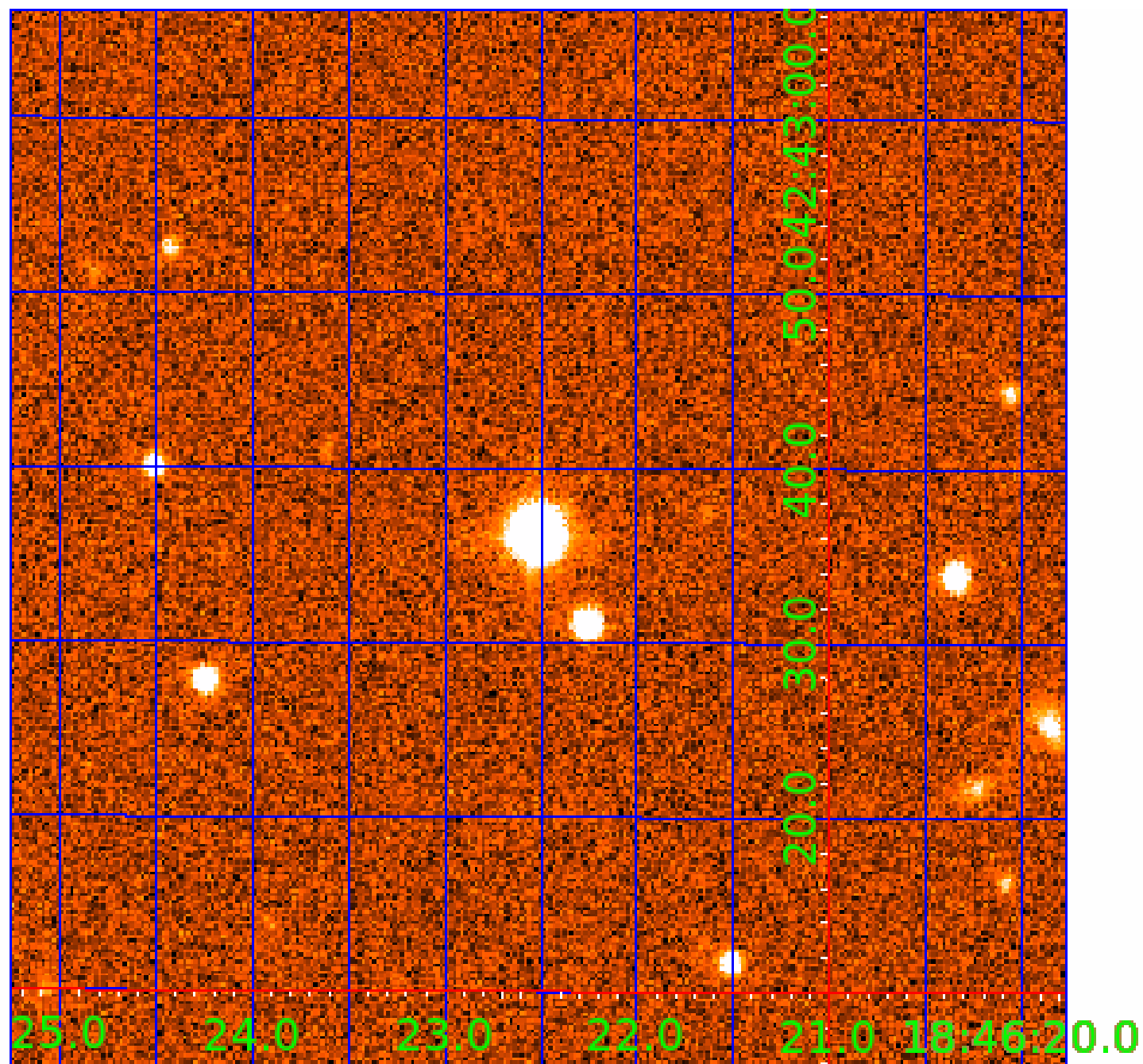


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007174617

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})
007174617-01	OBS	6156.01	1.608356	131.588838	87174.9	1.952	3099.4	1632.0	0.59	5022	17.54	389.61
007174617-02	OBS	No	1.608373	132.384344	1016.6	1.754	31.1	37.9	0.59	5022	2.25	389.61
007174617-03	OBS	No	1.609427	132.385185	151.5	1.425	8.7	4.2	0.59	5022	0.87	389.27
007174617-04	OBS	No	1.609252	132.229944	686.2	2.000	9.0	-1.0	0.59	5022	1.52	389.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007174617-01	OBS	PC	0.87	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE
007174617-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007174617-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007174617-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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 007174617-03

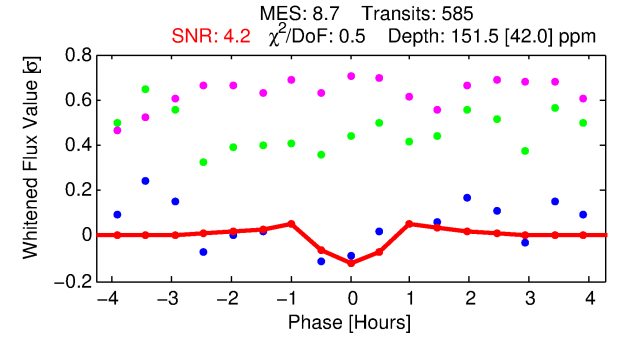
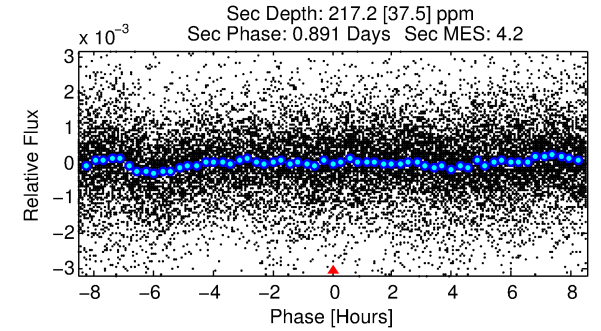
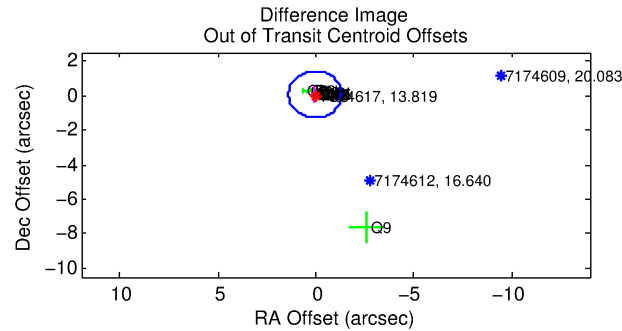
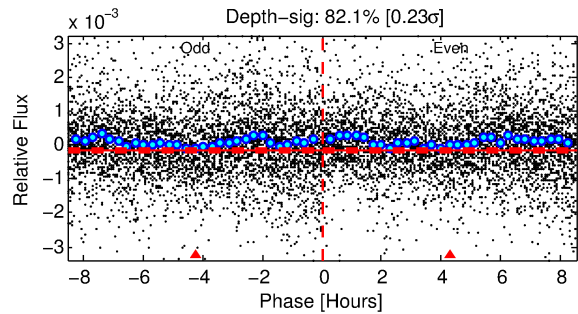
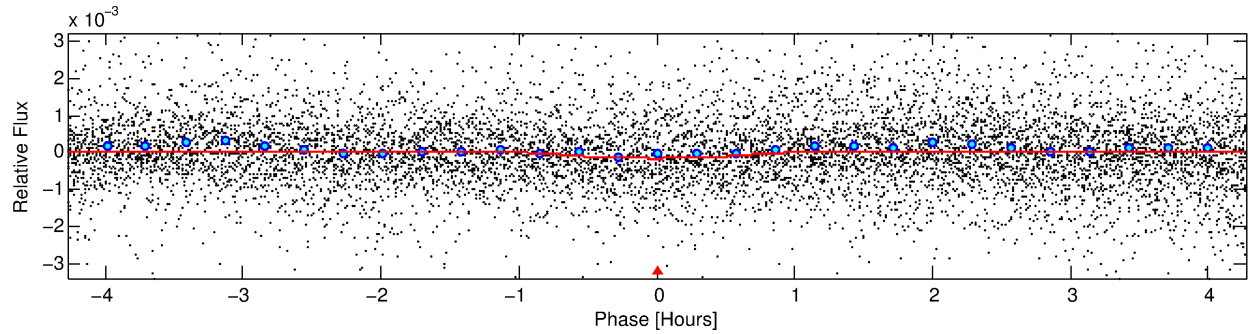
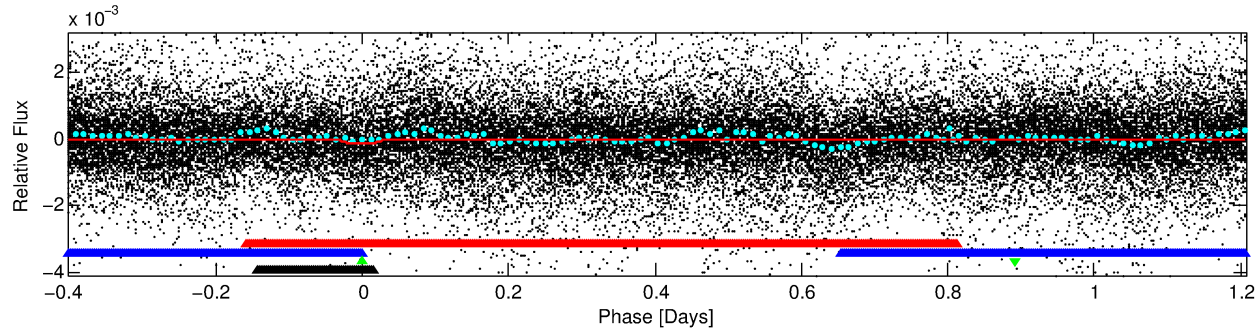
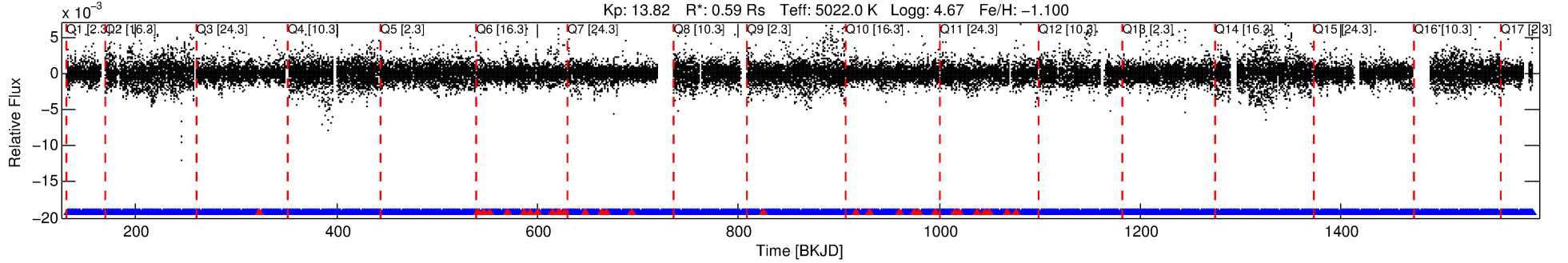
No Significant Match Found

DV One-Page Summary

KIC: 7174617 Candidate: 3 of 4 Period: 1.609 d

KOI: K06156 Corr: No Ephemeris Match

Kp: 13.82 R*: 0.59 Rs Teff: 5022.0 K Logg: 4.67 Fe/H: -1.100



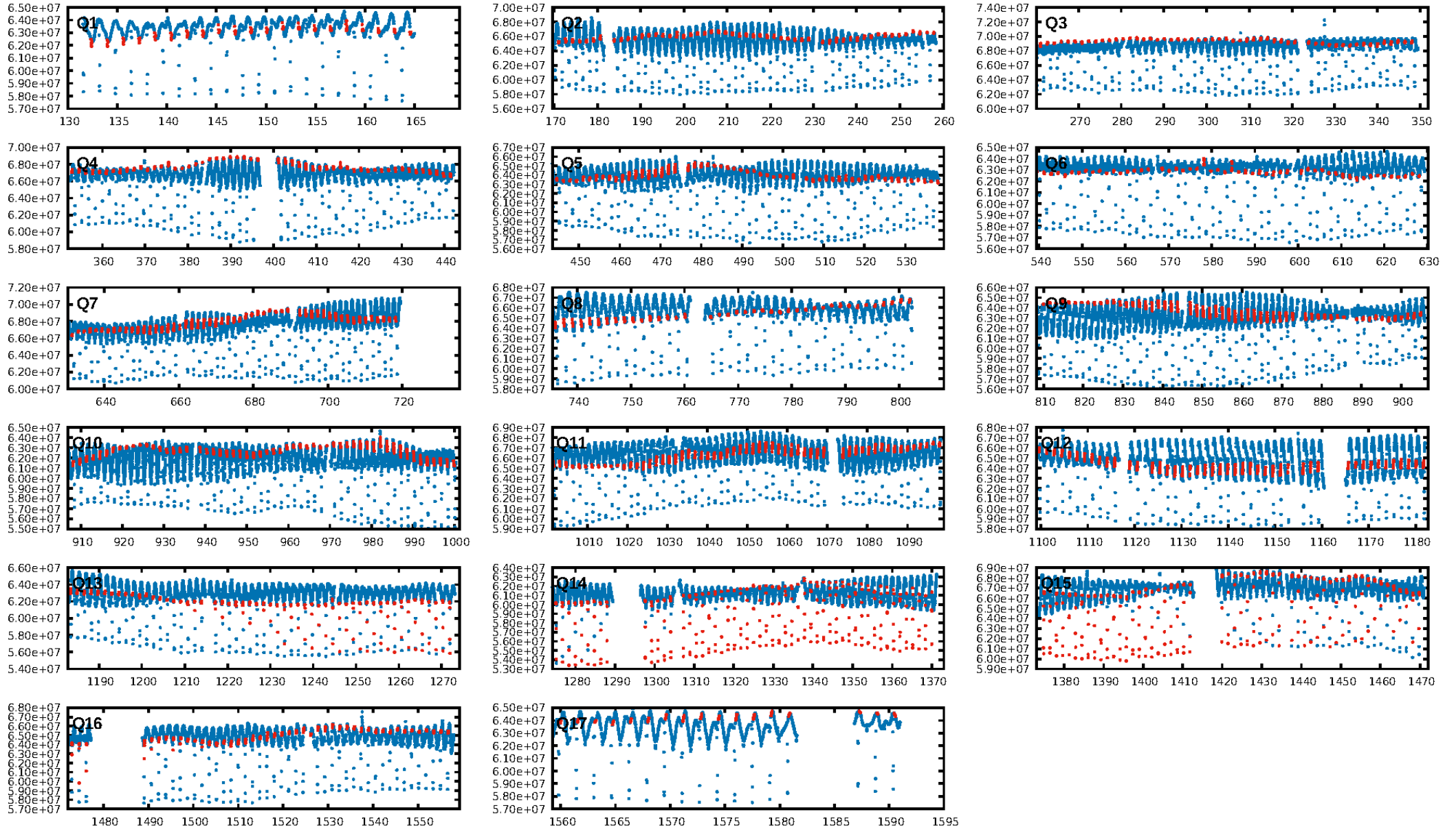
DV Fit Results:

Period = 1.60943 [0.00002] d
Epoch = 132.3852 [0.0031] BKJD
Rp/R* = 0.0135 [0.0144]
a/R* = 4.20 [18.40]
b = 0.90 [1.05]
Seff = 389.27 [59.02]
Teq = 1133 [43] K
Rp = 0.87 [0.92] Re
a = 0.0225 [0.0014] AU
Ag = 80.77 [172.73] [0.46σ]
Teffp = 5250 [2809] K [1.47σ]

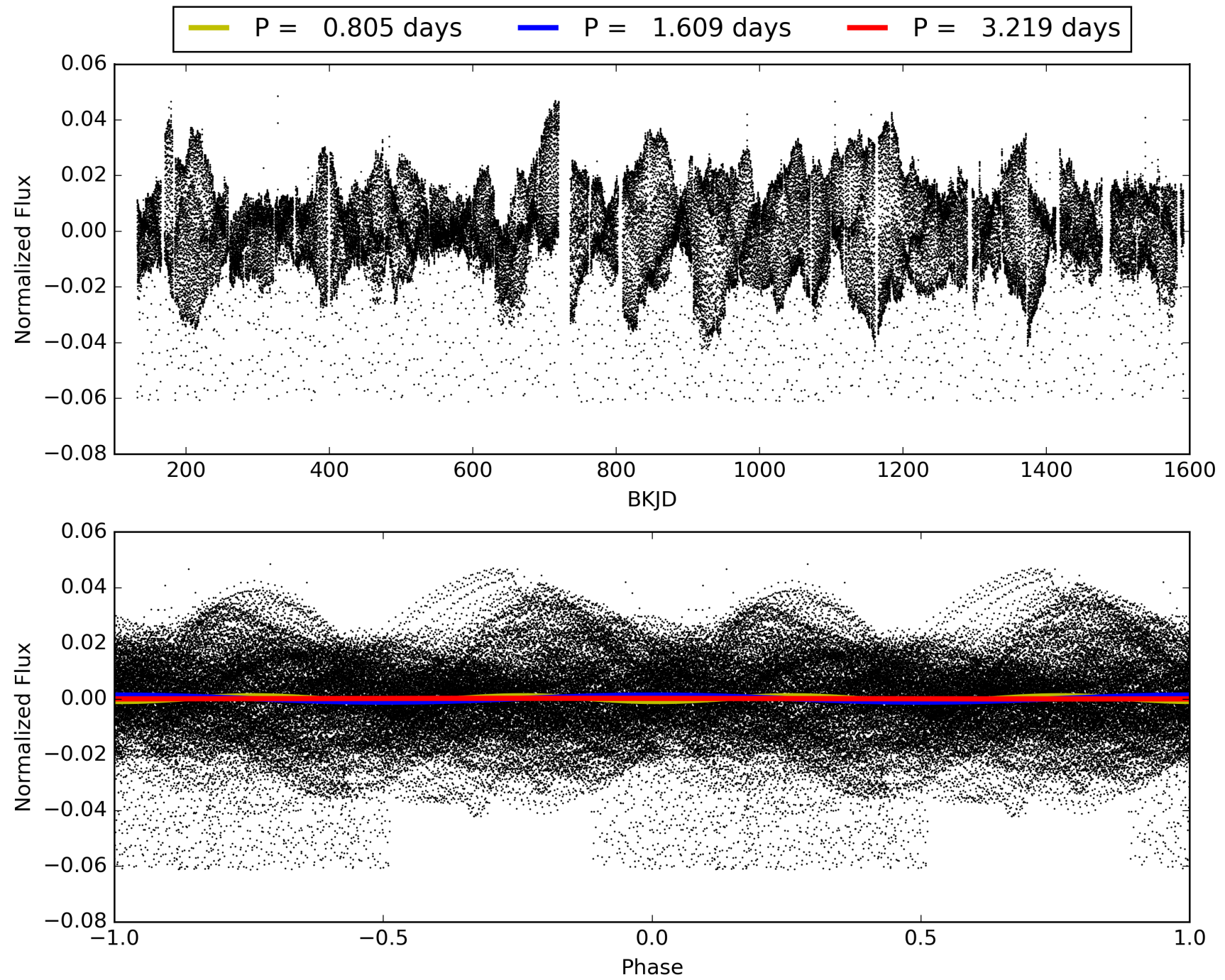
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [538/568]
GhostDiagnostic-chr: -0.5506
Centroid-sig: N/A
Centroid-so: 0.556 arcsec [0.83σ]
OotOffset-rm: 0.089 arcsec [0.20σ]
KicOffset-rm: 0.299 arcsec [0.65σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.41 [7/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 007174617-03, PDC Light Curves

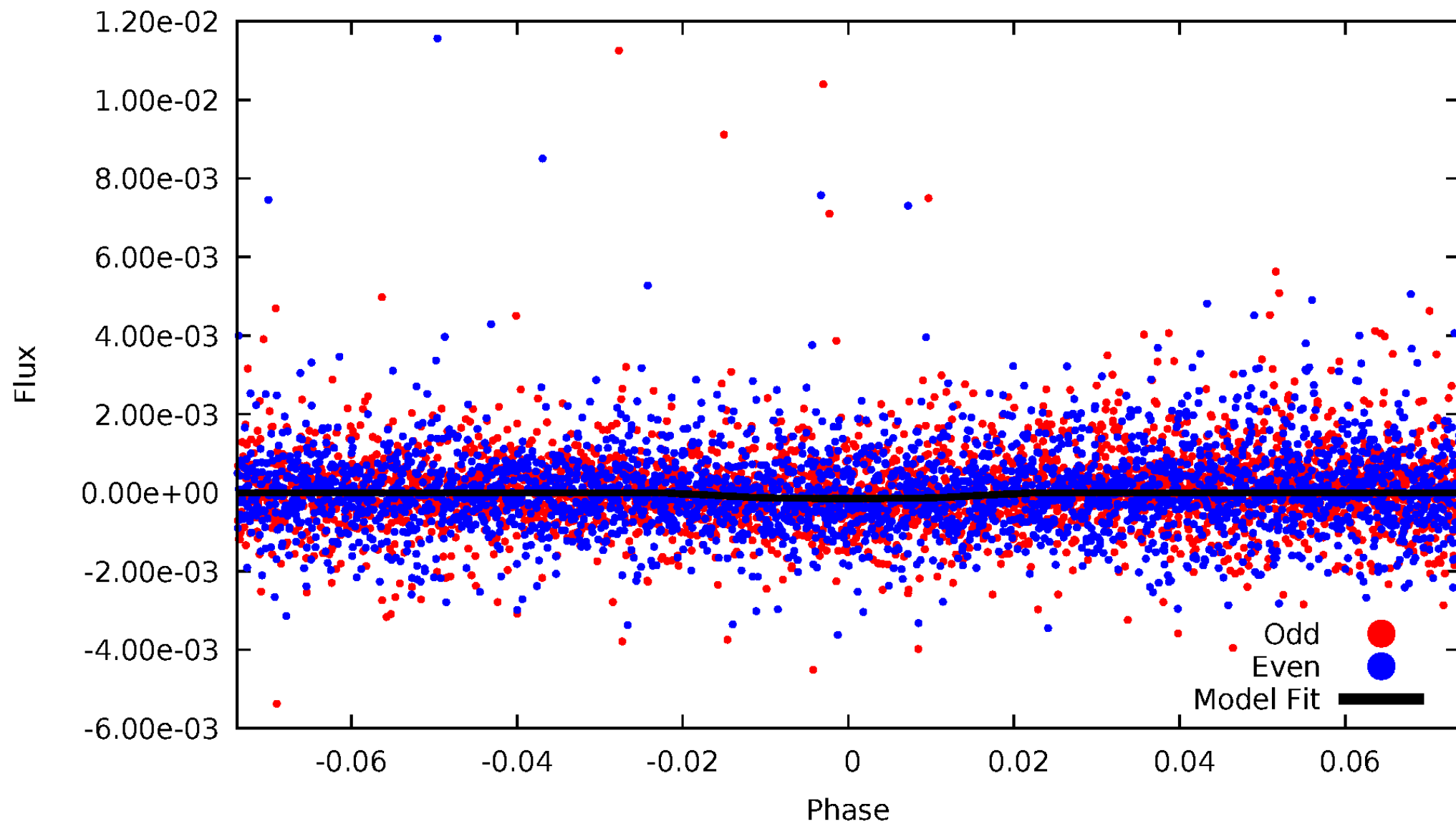


TCE 007174617-03



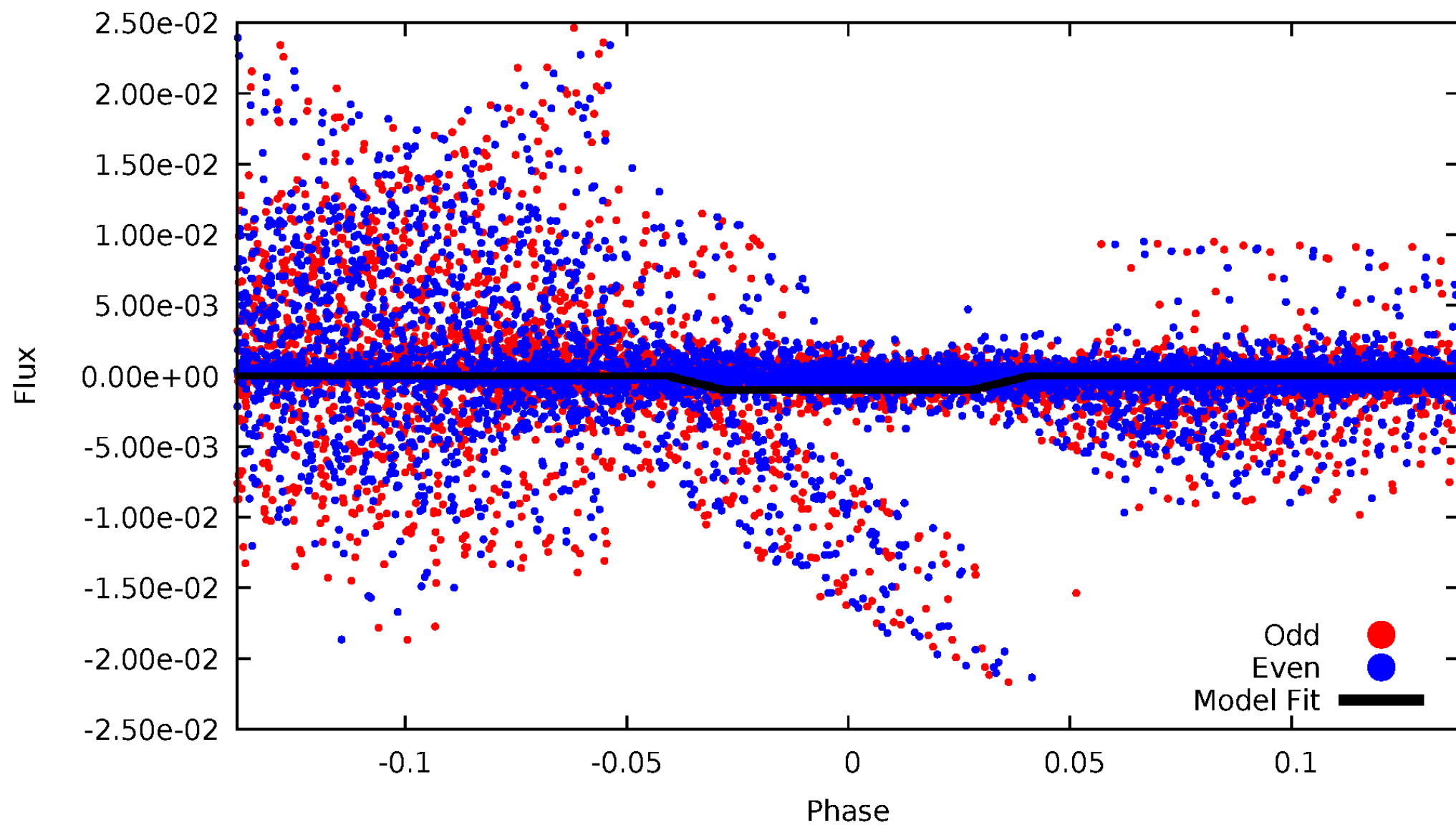
DV Odd/Even

TCE 007174617-03



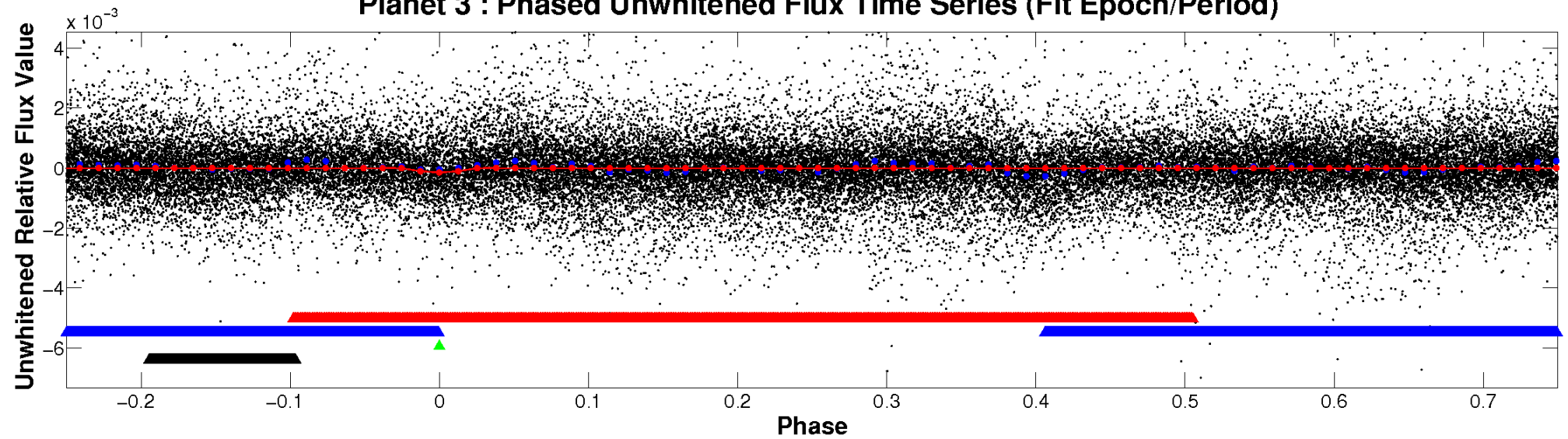
ALT Odd/Even

TCE 007174617-03

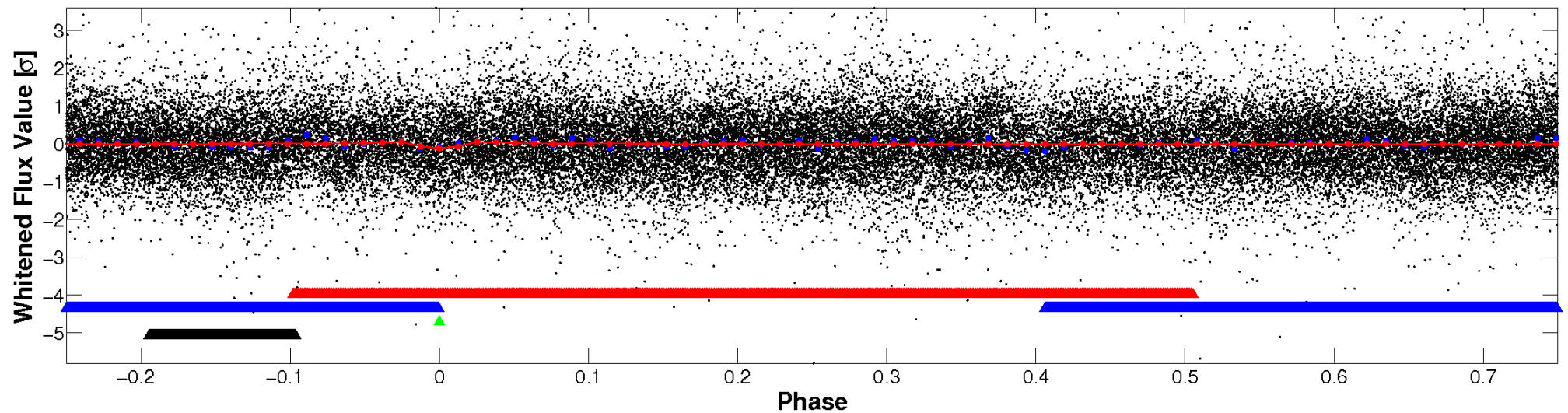


Non-Whitened Vs. Whitened Light Curve

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

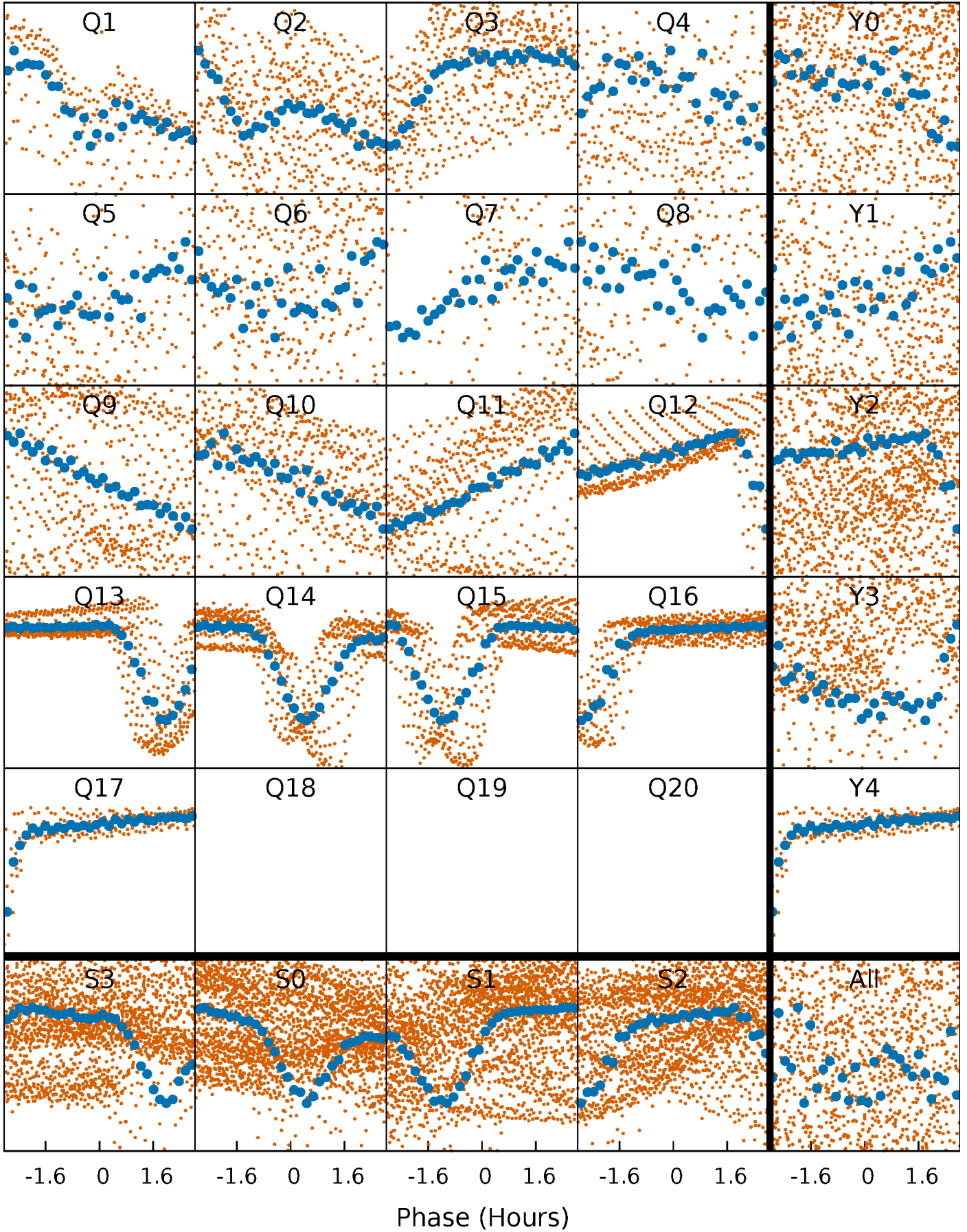


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



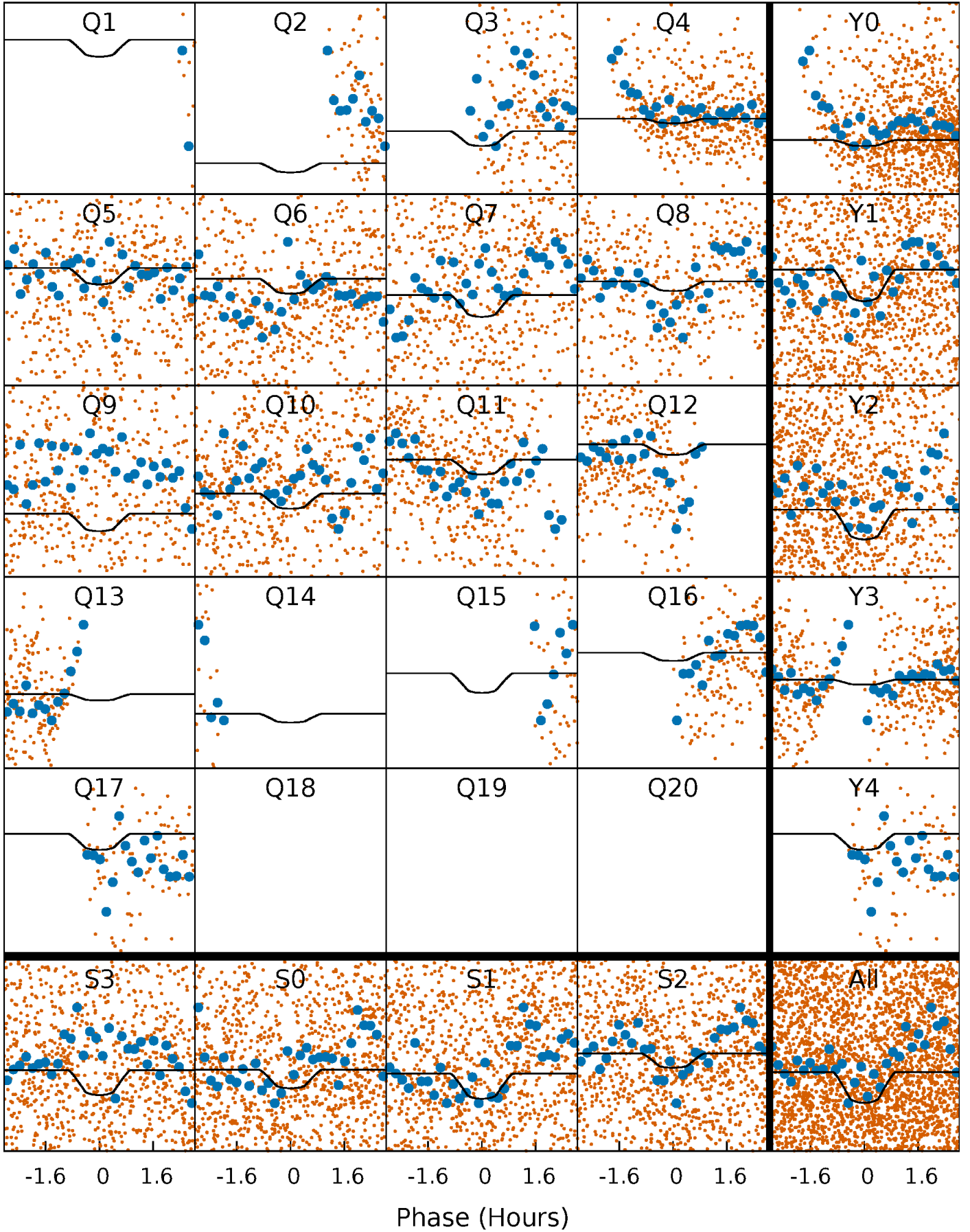
PDC Quarter-Phased Transit Curves

TCE 007174617-03 P= 1.609427 Days $T_0=132.385185$ (BKJD)



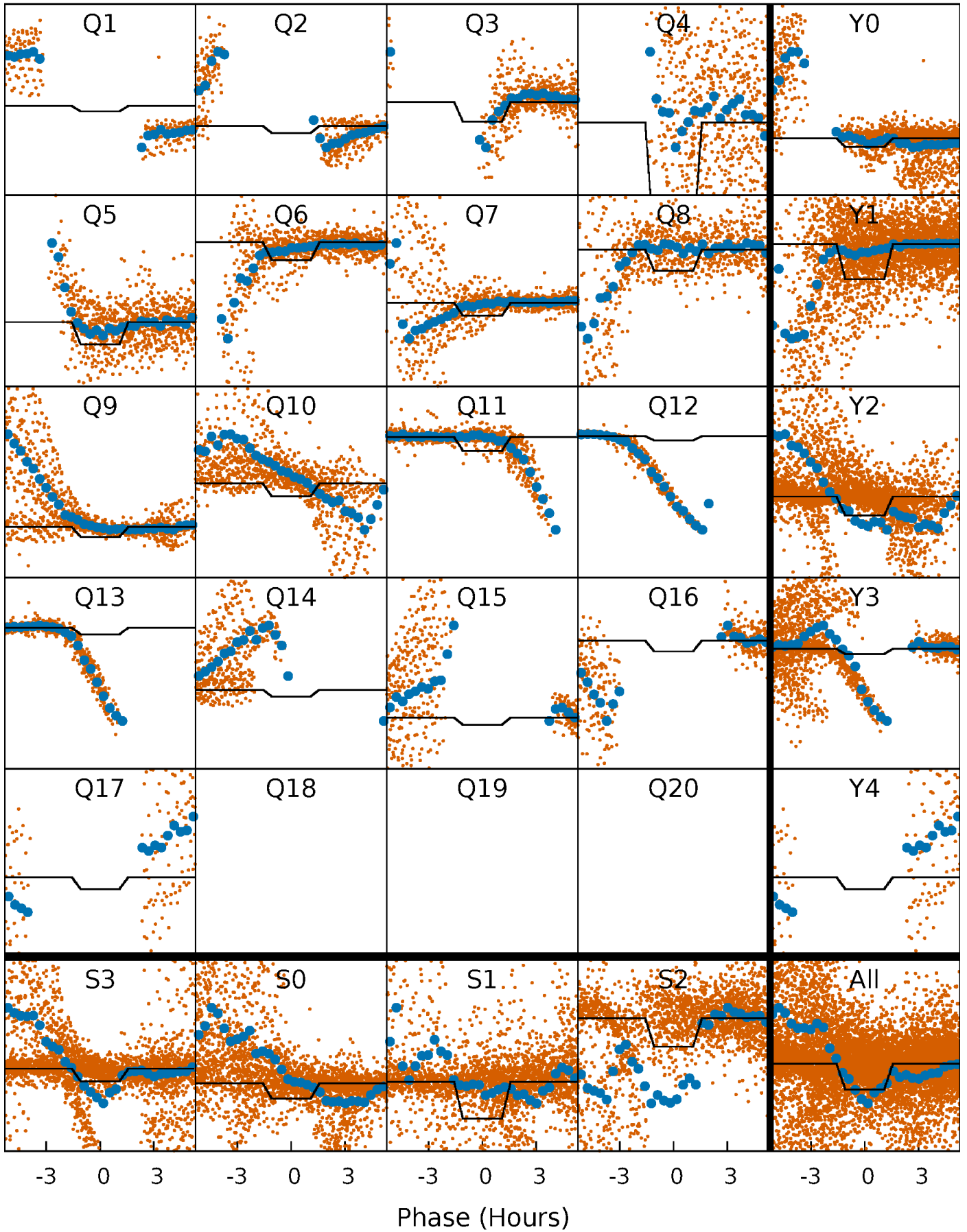
DV Quarter-Phased Transit Curves

TCE 007174617-03 P= 1.609427 Days $T_0=132.385185$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

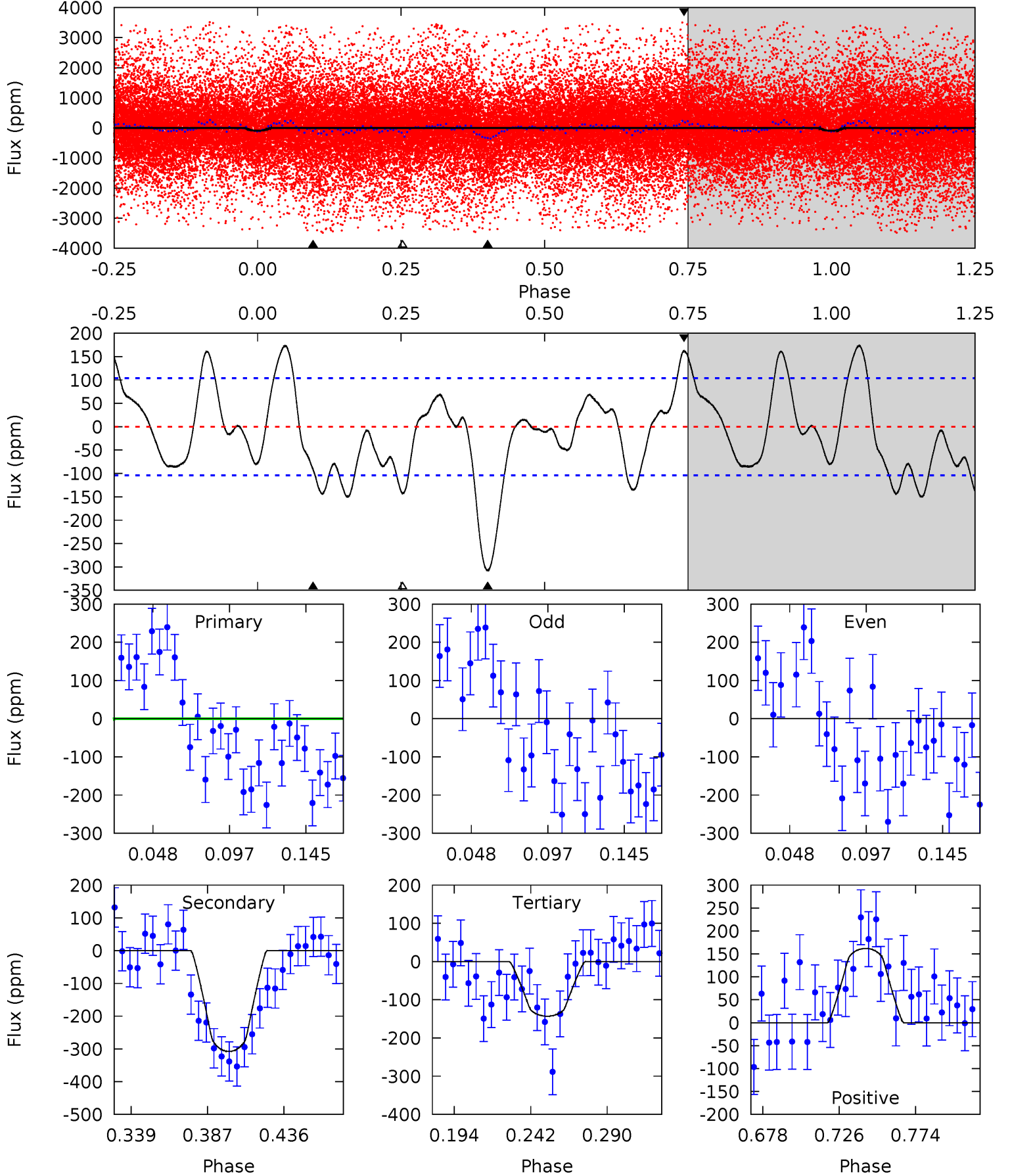
TCE 007174617-03 P= 1.609297 Days $T_0=132.391587$ (BKJD)



DV Model-Shift Uniqueness Test

007174617-03, P = 1.609427 Days, E = 130.775758 Days

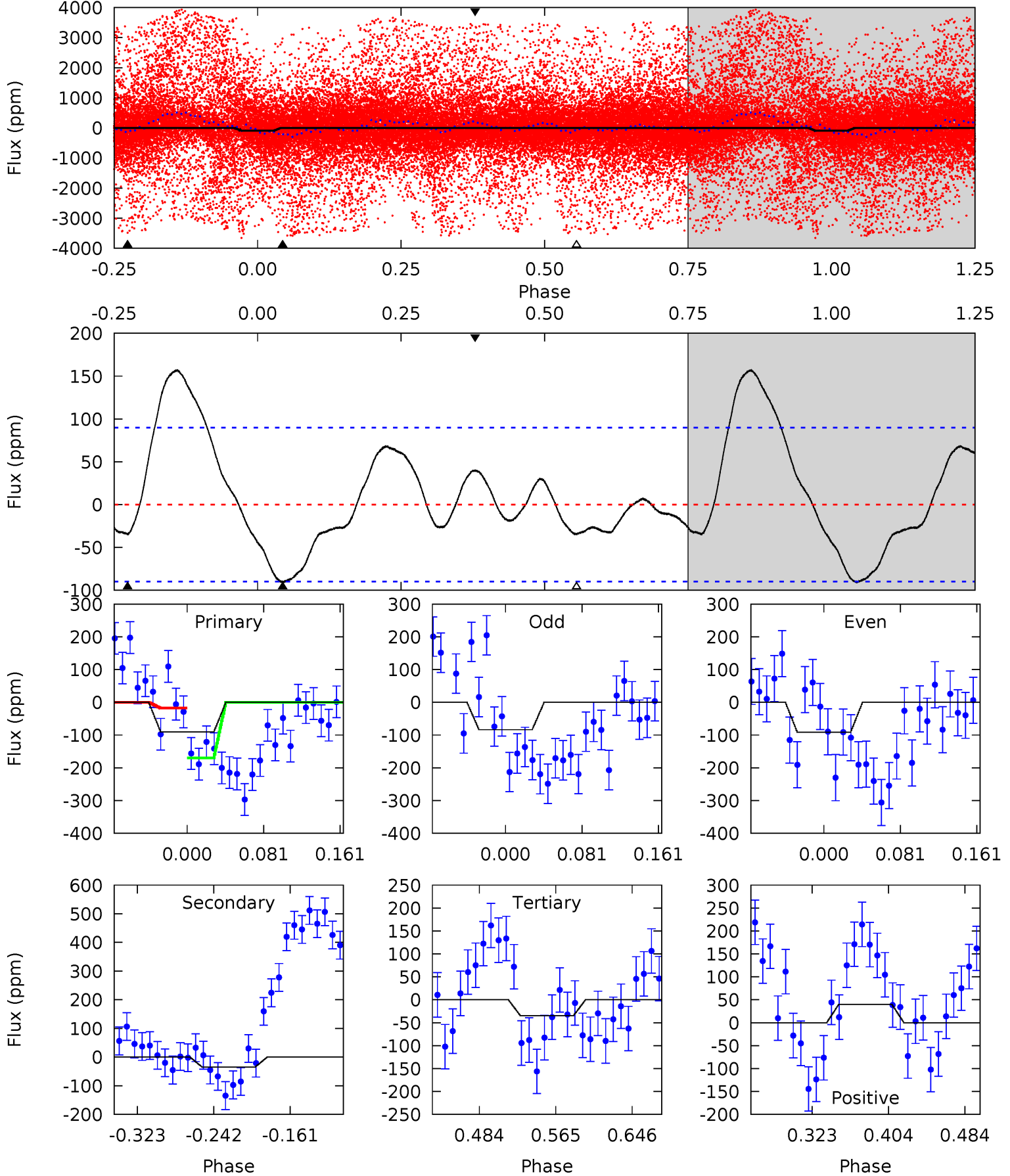
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.13	14.0	6.49	7.34	4.71	1.97	3.33	-2.35	-3.21	7.47	6.61	1.19	0.46	0.36	0.20



Alt Model-Shift Uniqueness Test

007174617-03, P = 1.609297 Days, E = 130.782290 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.65	1.78	1.77	2.05	4.61	1.75	2.12	2.87	2.60	0.00	-0.27	0.21	14.5	0.63	3.82



Stellar Parameters For KIC 007174617

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5022^{+151}_{-151}	$4.668^{+0.052}_{-0.036}$	$-1.100^{+0.300}_{-0.300}$	$0.589^{+0.041}_{-0.037}$	$0.589^{+0.052}_{-0.022}$	$4.053^{+0.858}_{-0.543}$
	+3%/-3%	+1%/-1%	+27%/-27%	+7%/-6%	+9%/-4%	+21%/-13%
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 007174617-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-308 ± 22	$1.05^{+0.84}_{-0.63}$	1575^{+59}_{-55}	5162^{+3087}_{-1102}	79^{+419}_{-56}
Alt.	-35 ± 19	$2.03^{+0.87}_{-0.88}$	1576^{+58}_{-55}	2762^{+602}_{-460}	$2.138^{+5.394}_{-1.411}$

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 $A_{\text{obs}} \gg 1.0$

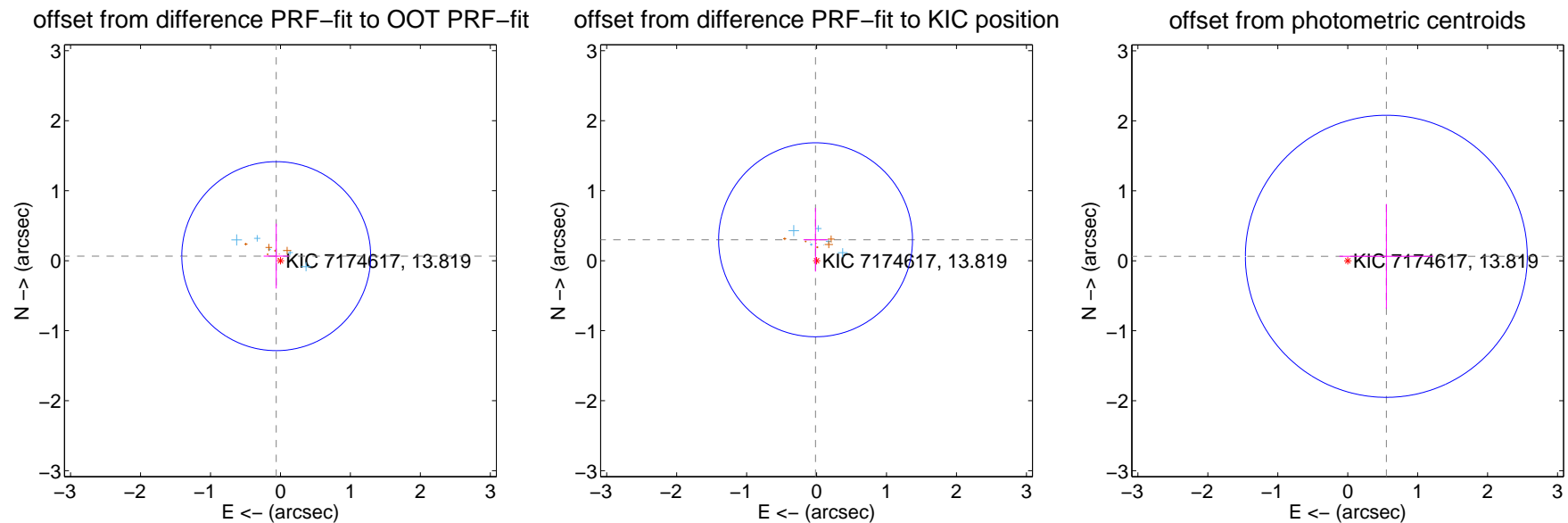
DV Centroid Data

Supplemental centroid analysis for 007174617-03. Kepler magnitude: 13.82. Transit SNR 4.15

There are 7 quarters with good PRF difference image offsets

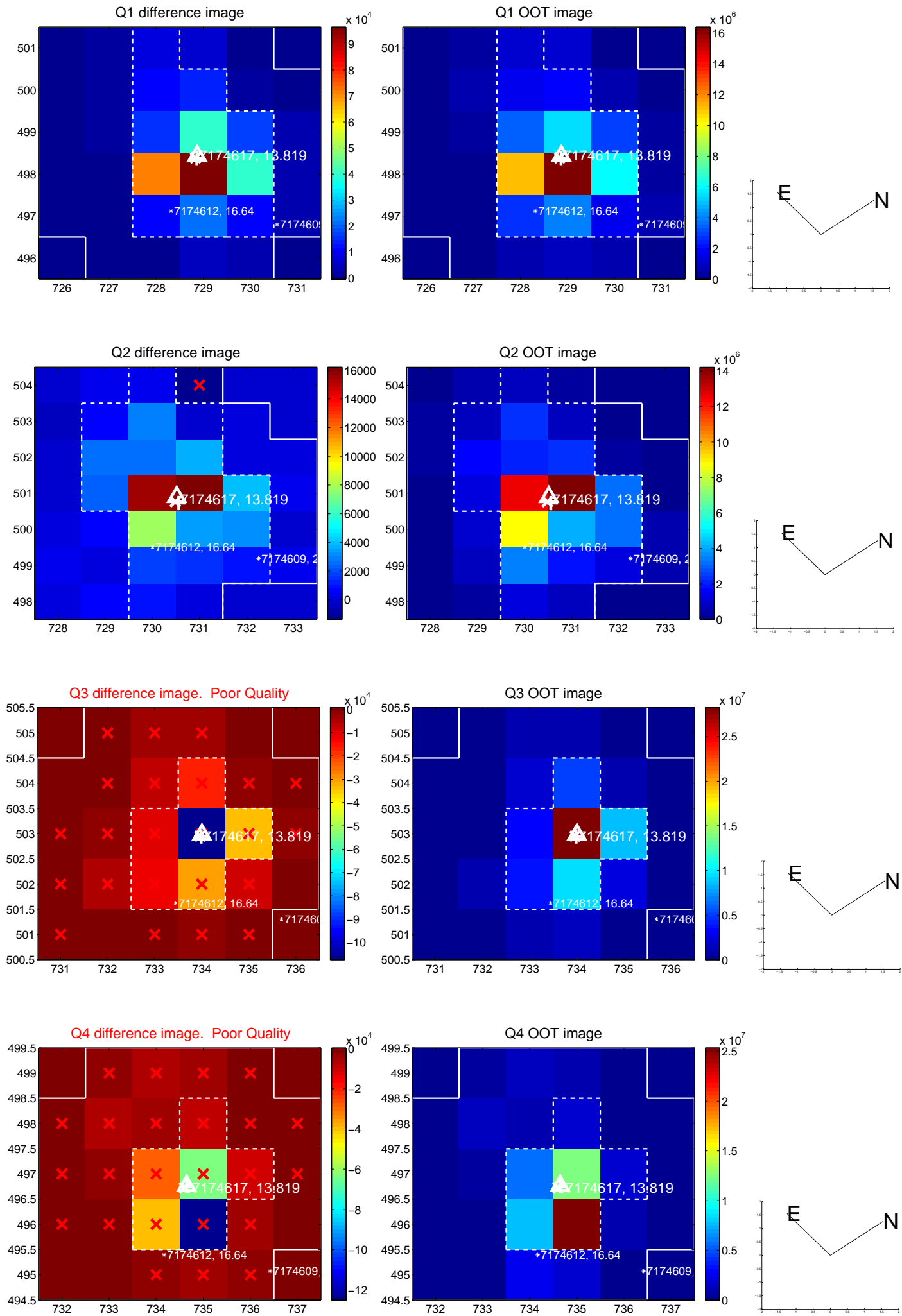
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.089 ± 0.450	0.20	0.060 ± 0.179	0.065 ± 0.462
PRF-fit source offset from KIC position	0.299 ± 0.462	0.65	0.015 ± 0.173	0.299 ± 0.455
photometric centroid source offset	0.56 ± 0.67	0.83	-0.55 ± 0.67	0.06 ± 0.75

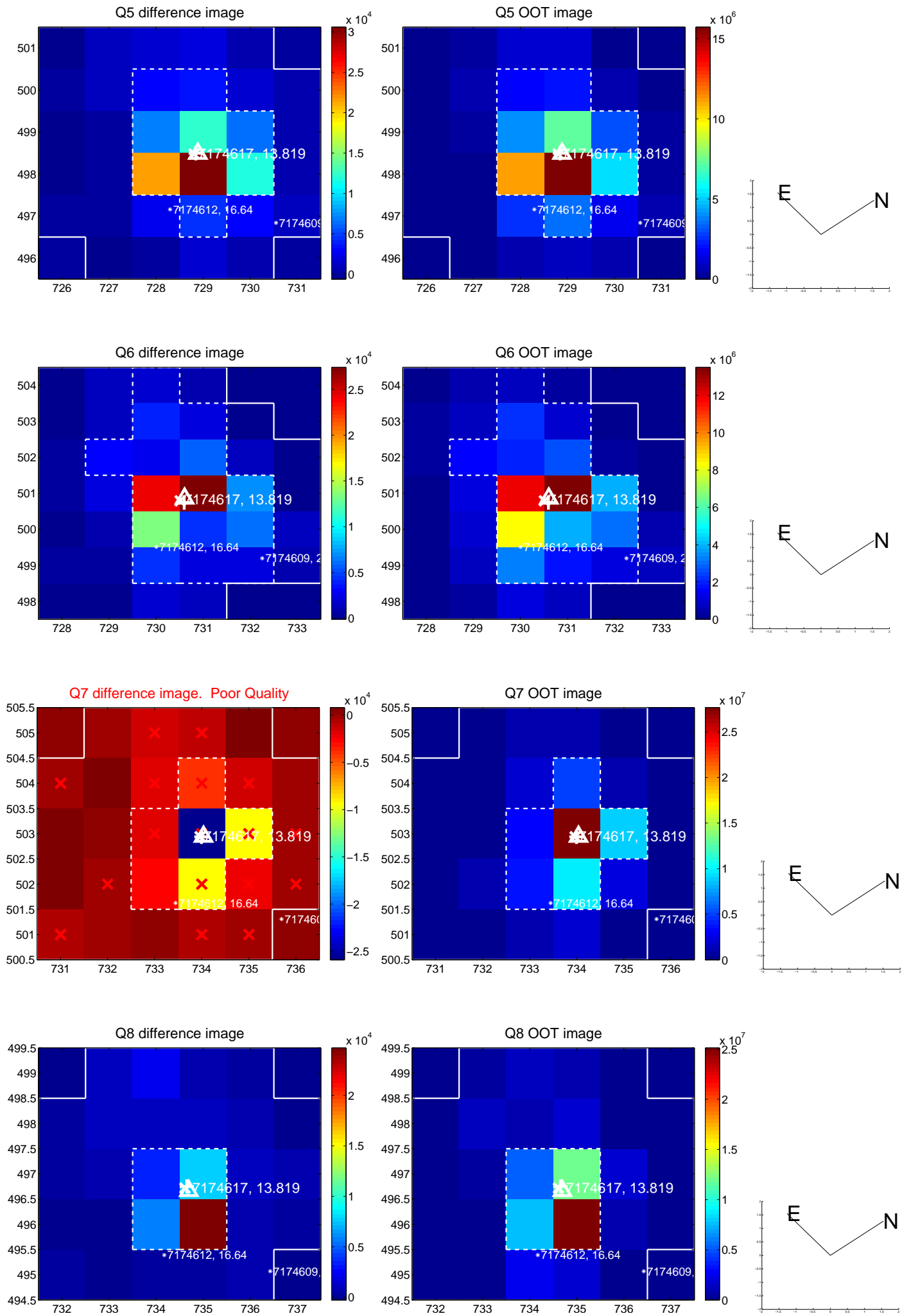


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

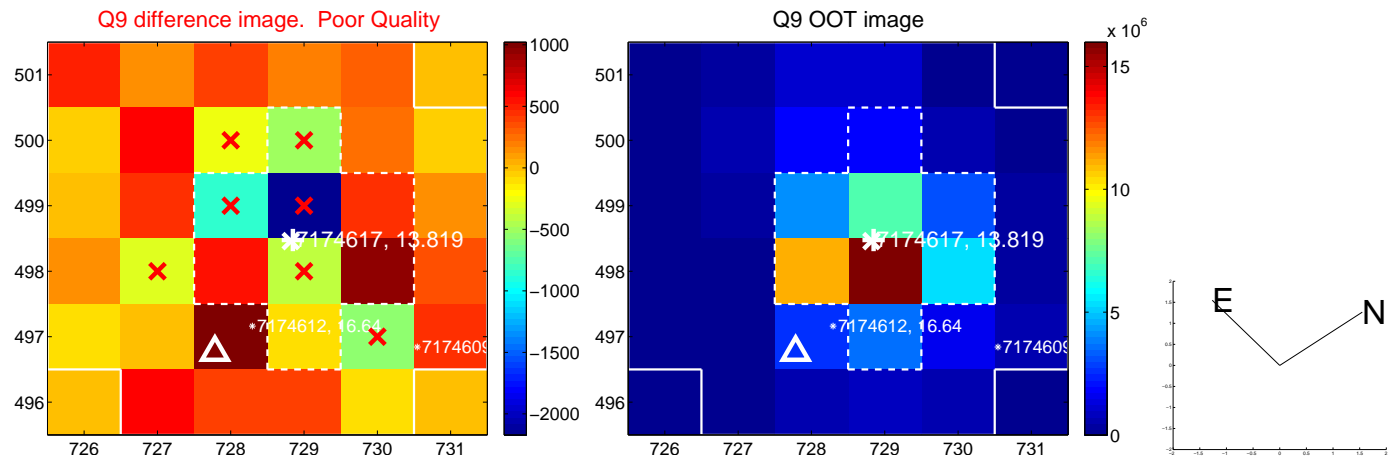
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



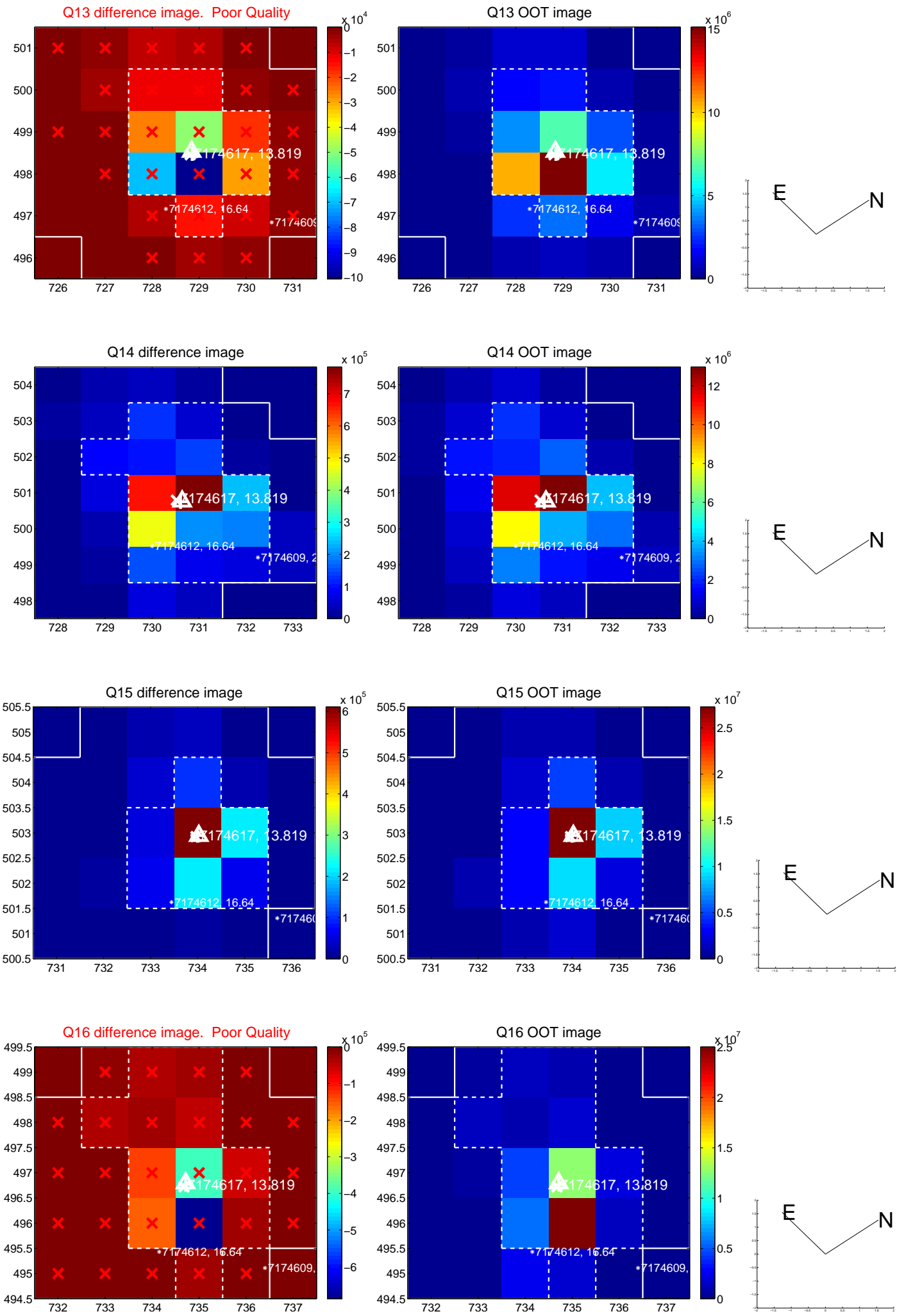
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



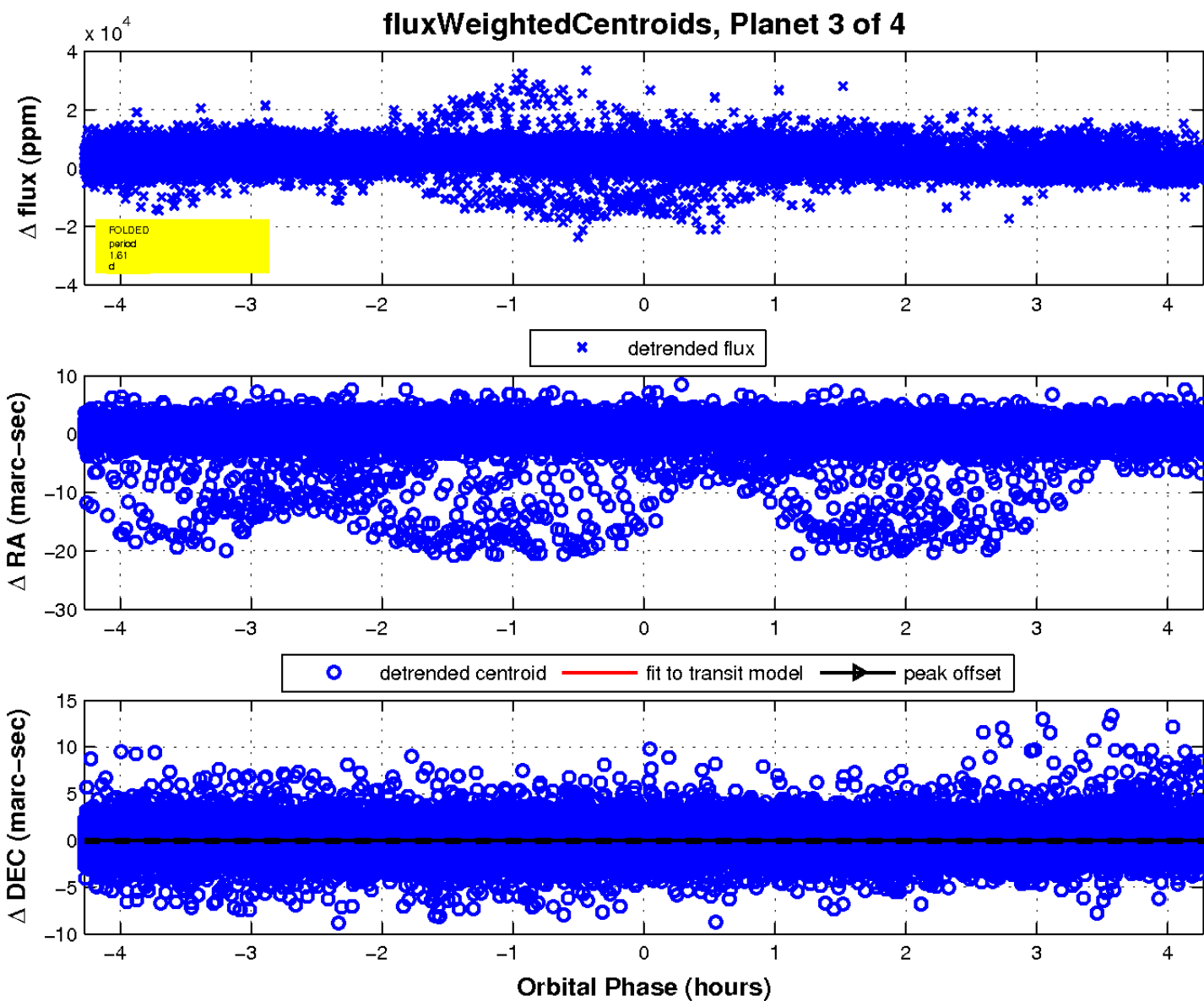
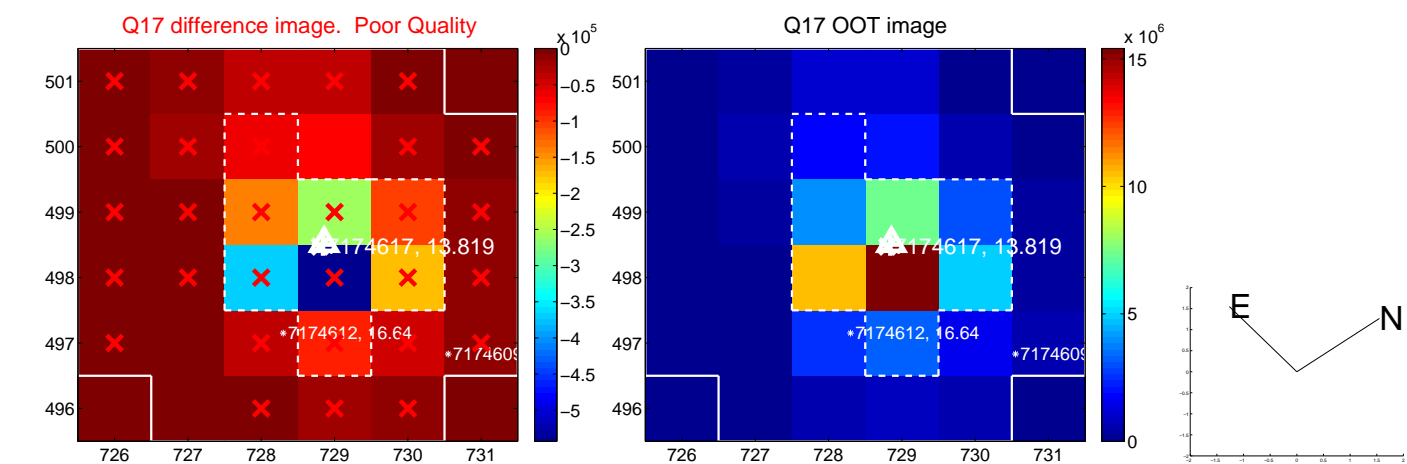
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

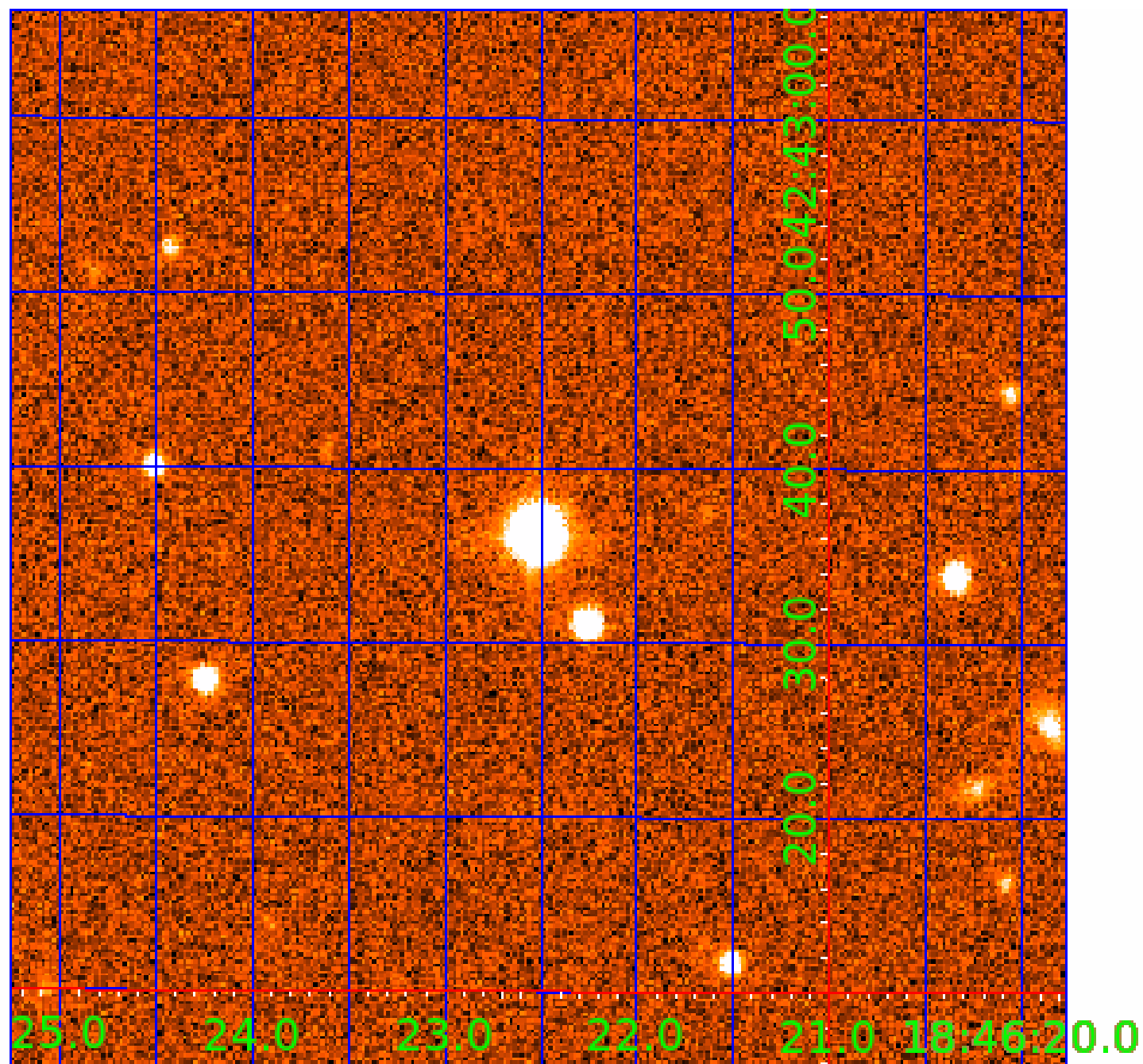


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007174617

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})
007174617-01	OBS	6156.01	1.608356	131.588838	87174.9	1.952	3099.4	1632.0	0.59	5022	17.54	389.61
007174617-02	OBS	No	1.608373	132.384344	1016.6	1.754	31.1	37.9	0.59	5022	2.25	389.61
007174617-03	OBS	No	1.609427	132.385185	151.5	1.425	8.7	4.2	0.59	5022	0.87	389.27
007174617-04	OBS	No	1.609252	132.229944	686.2	2.000	9.0	-1.0	0.59	5022	1.52	389.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007174617-01	OBS	PC	0.87	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE
007174617-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007174617-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007174617-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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 007174617-04

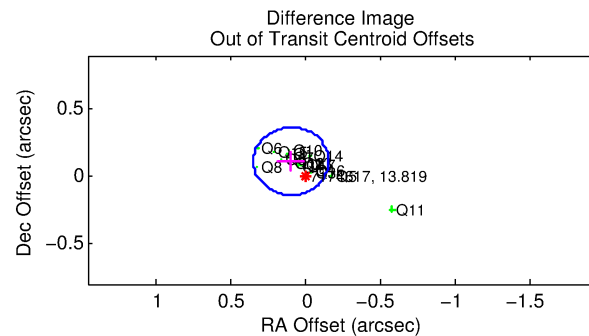
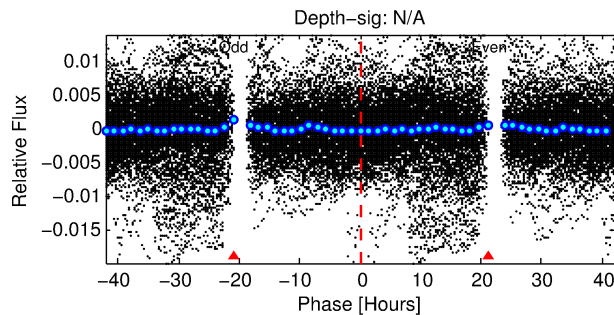
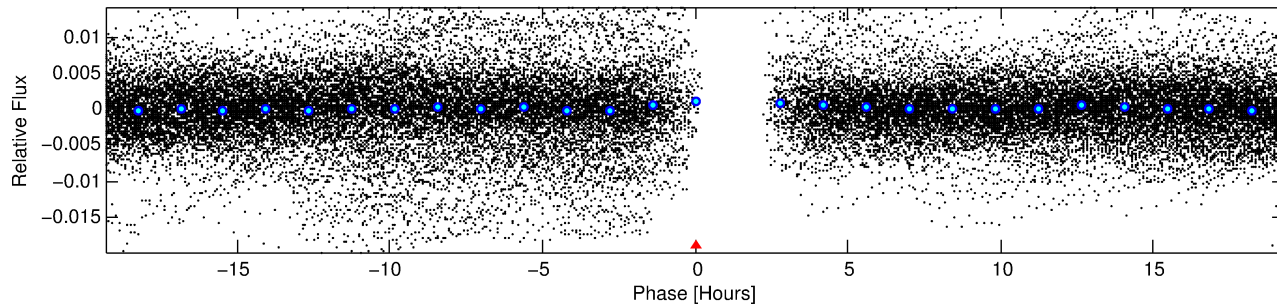
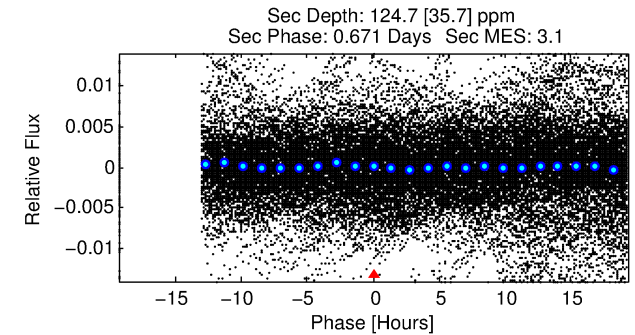
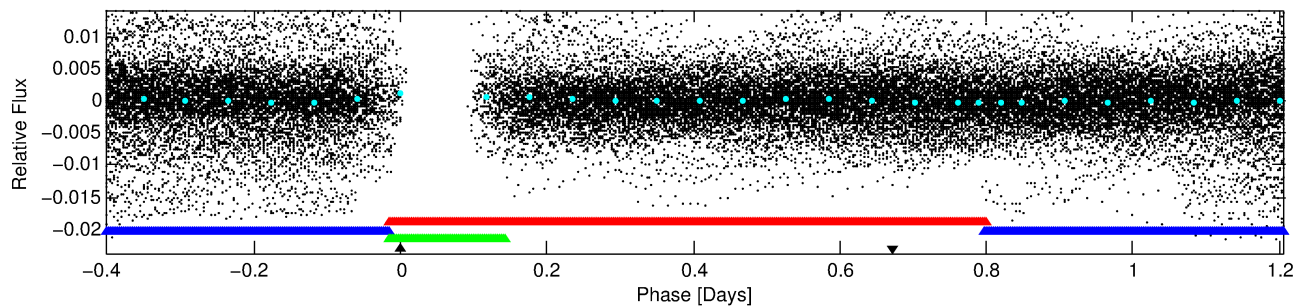
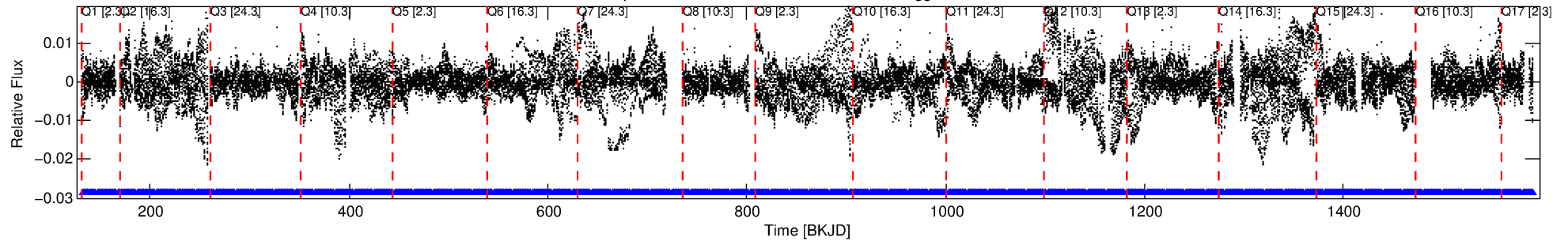
No Significant Match Found

DV One-Page Summary

KIC: 7174617 Candidate: 4 of 4 Period: 1.609 d

KOI: K06156 Corr: No Ephemeris Match

Kp: 13.82 R*: 0.59 Rs Teff: 5022.0 K Logg: 4.67 Fe/H: -1.100



TPS TCE Results:

Period = 1.60925 d
Epoch = 132.2299 BKJD

DV fit results are unavailable

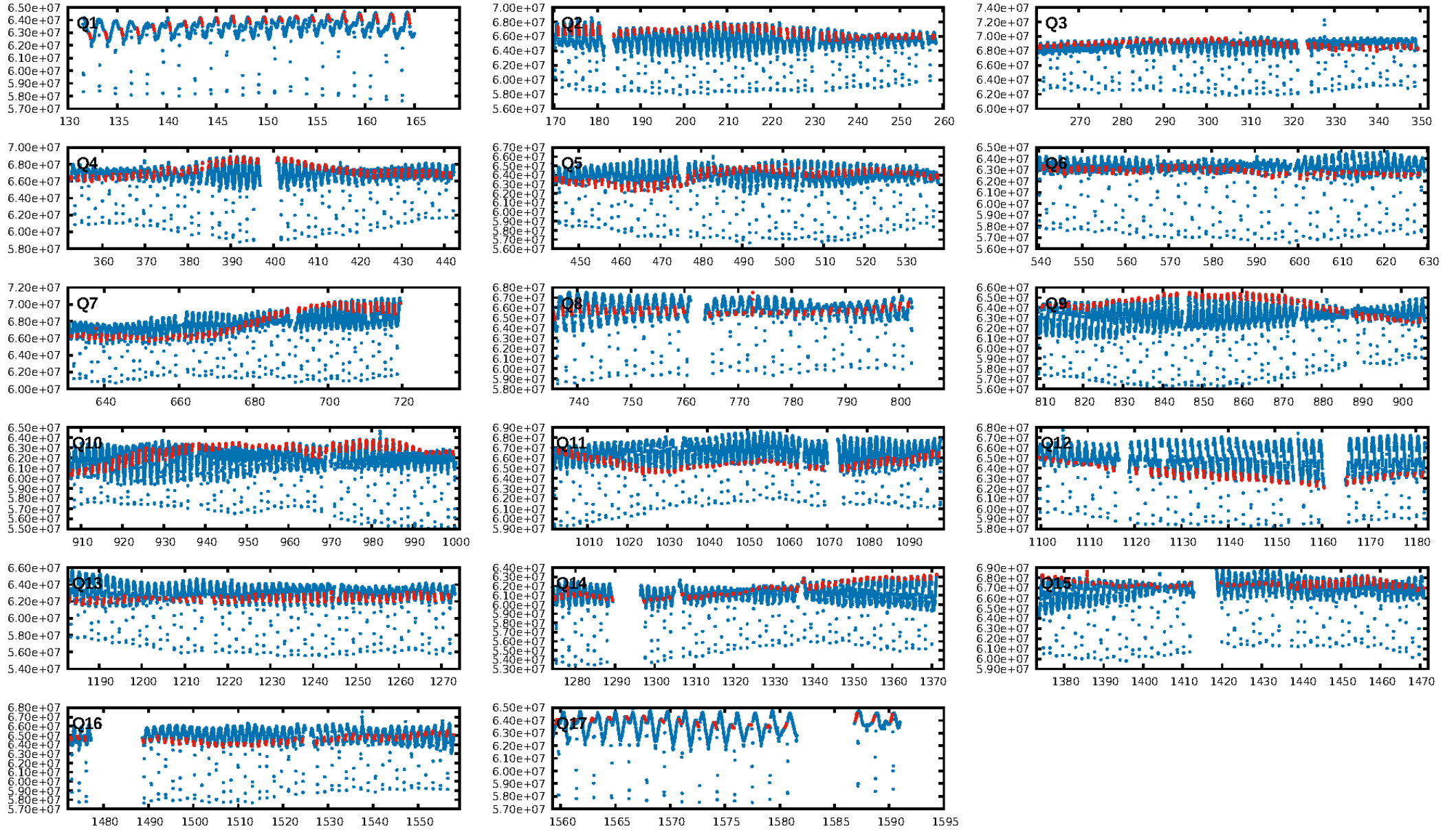
DV Diagnostic Results:

ShortPeriod-sig: 0.6% [0.01 σ]
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [791/791]
GhostDiagnostic-chr: -0.2905
Centroid-sig: N/A
Centroid-so: 0.544 arcsec [45.39 σ]
OotOffset-rm: 0.146 arcsec [1.74 σ]
KicOffset-rm: 0.291 arcsec [3.86 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 0.00 [0/17]

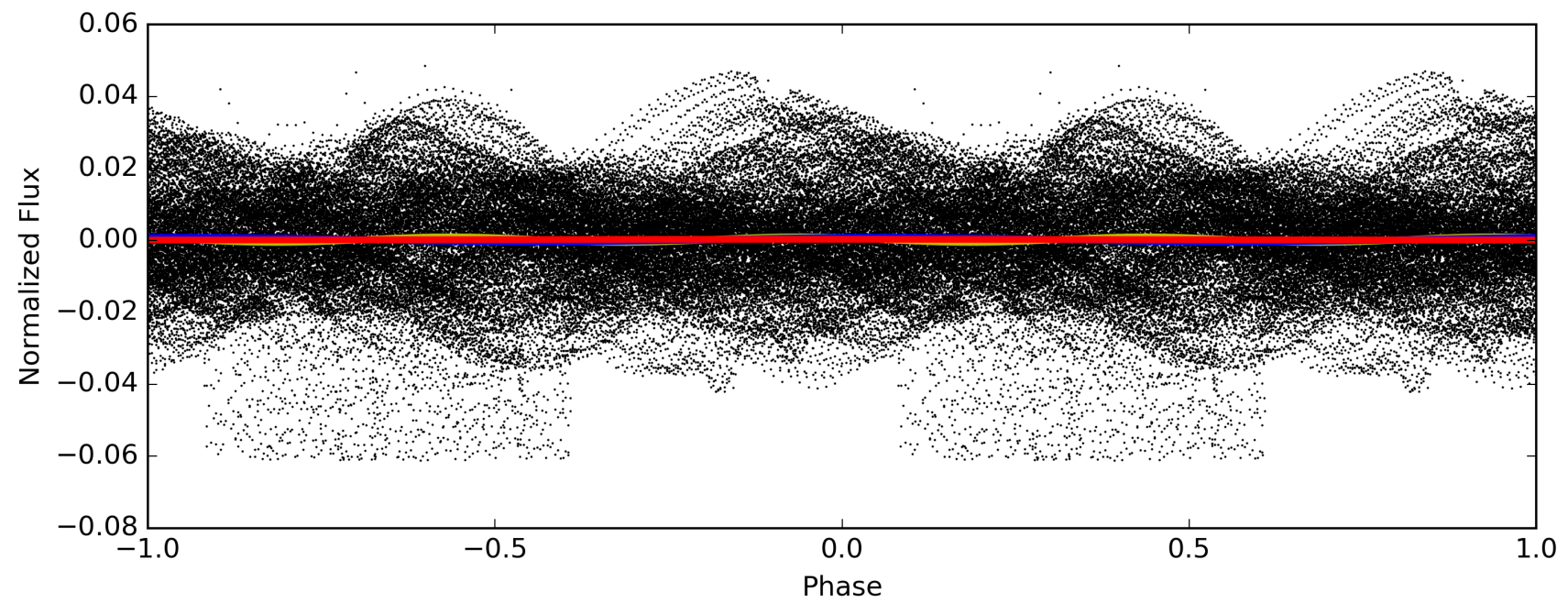
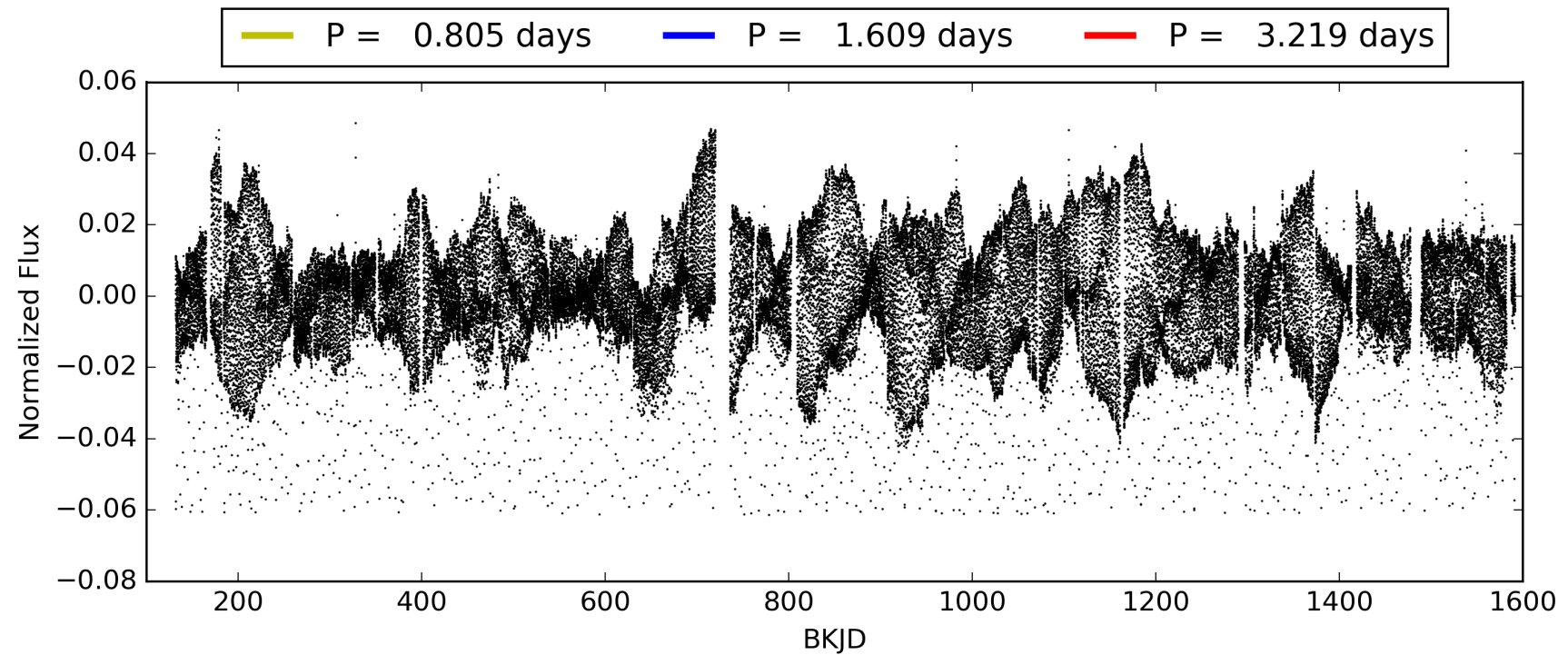
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:06:14 Z

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

TCE 007174617-04, PDC Light Curves

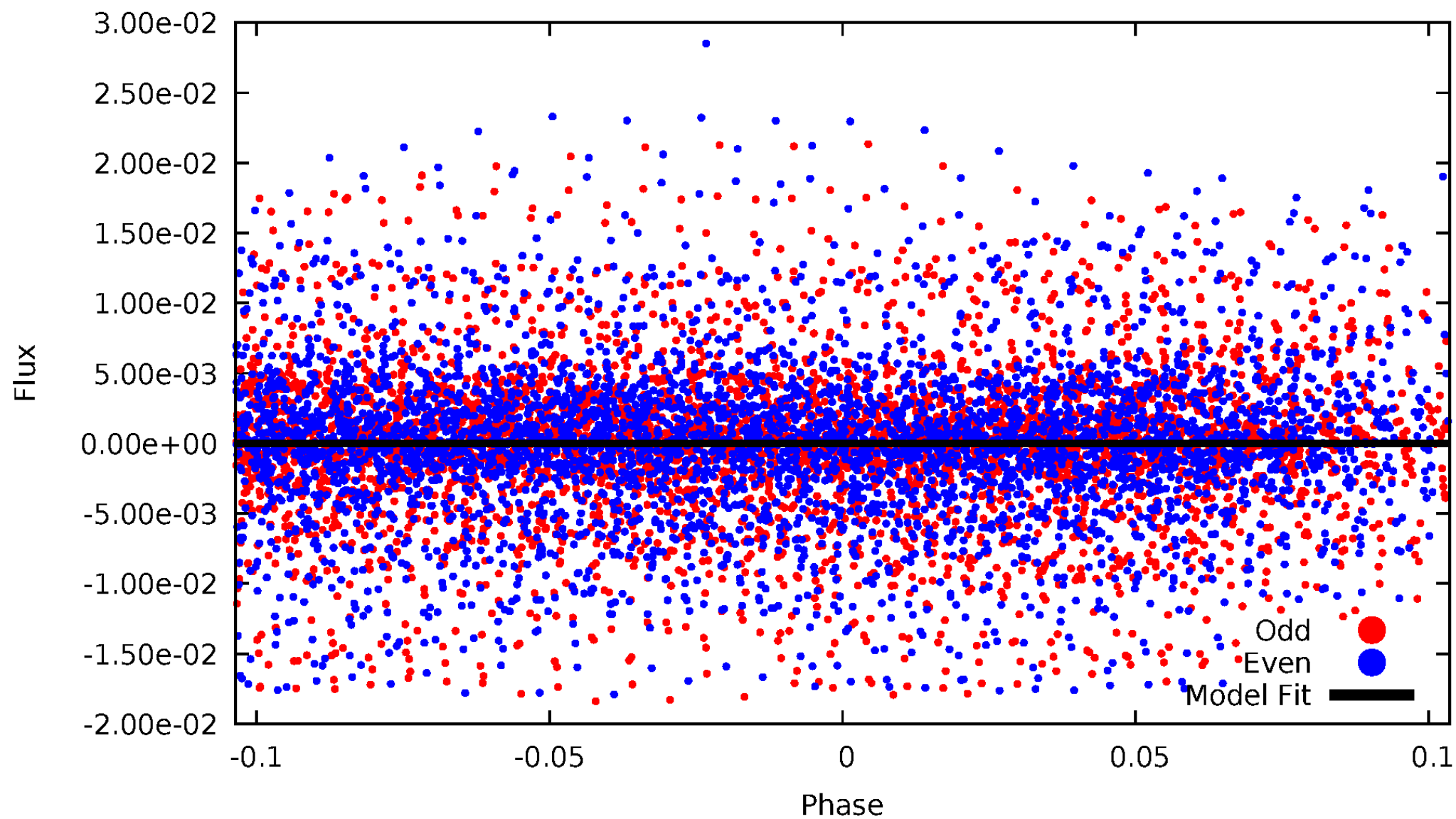


TCE 007174617-04



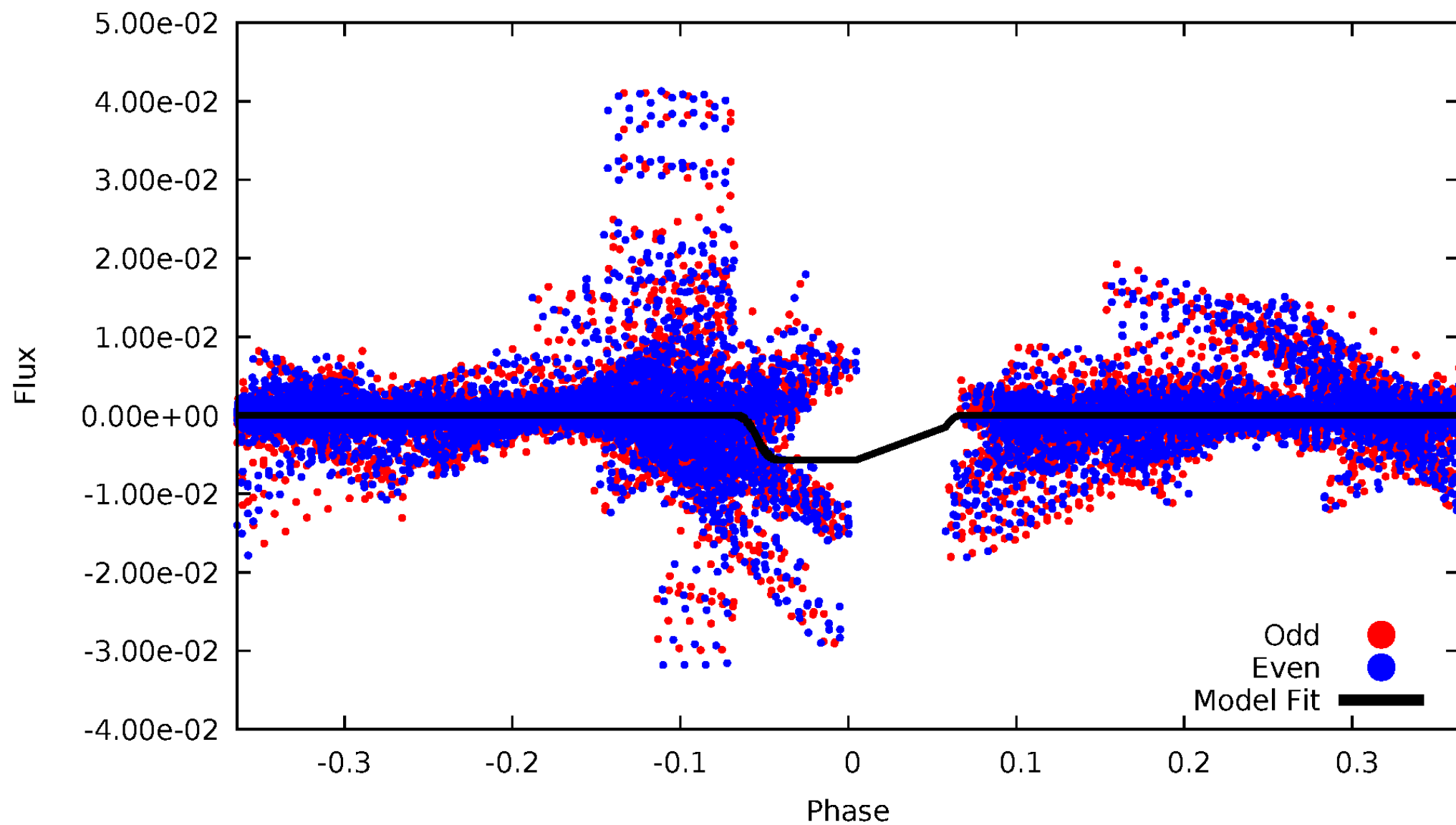
DV Odd/Even

TCE 007174617-04



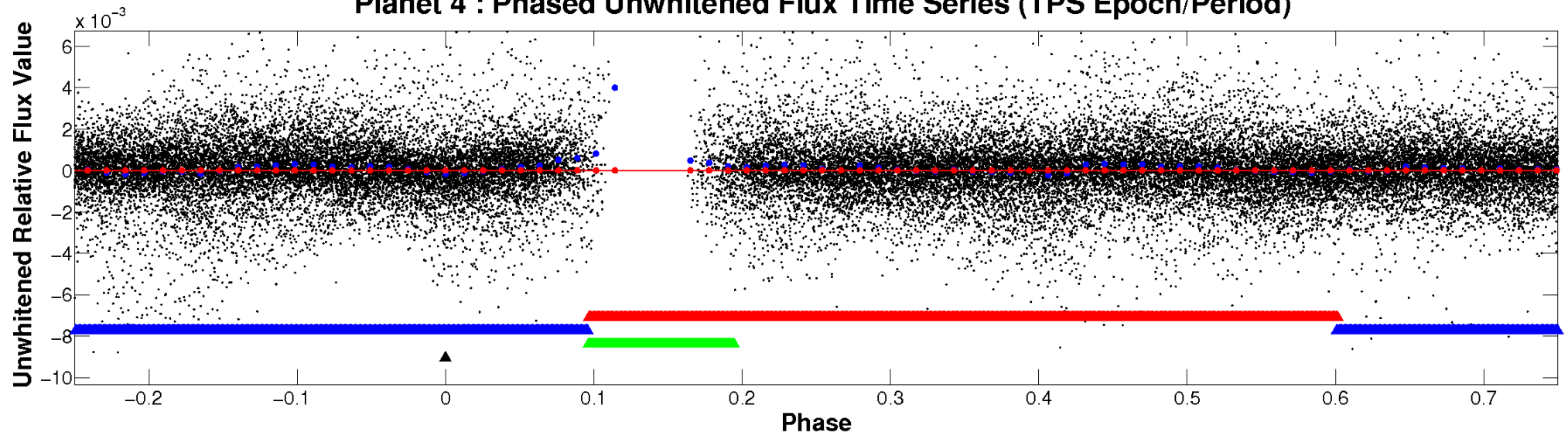
ALT Odd/Even

TCE 007174617-04

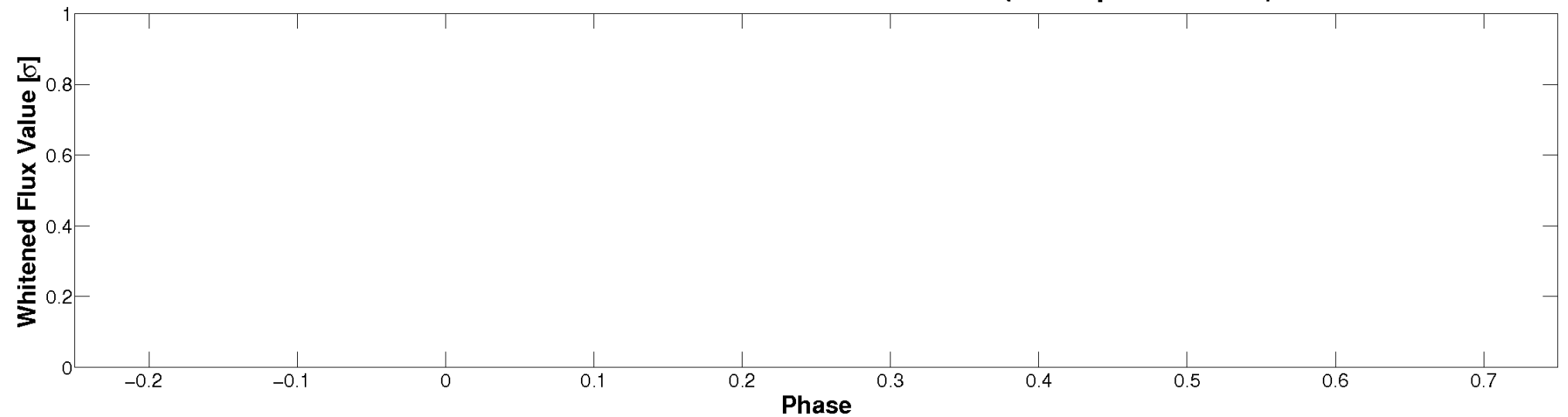


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

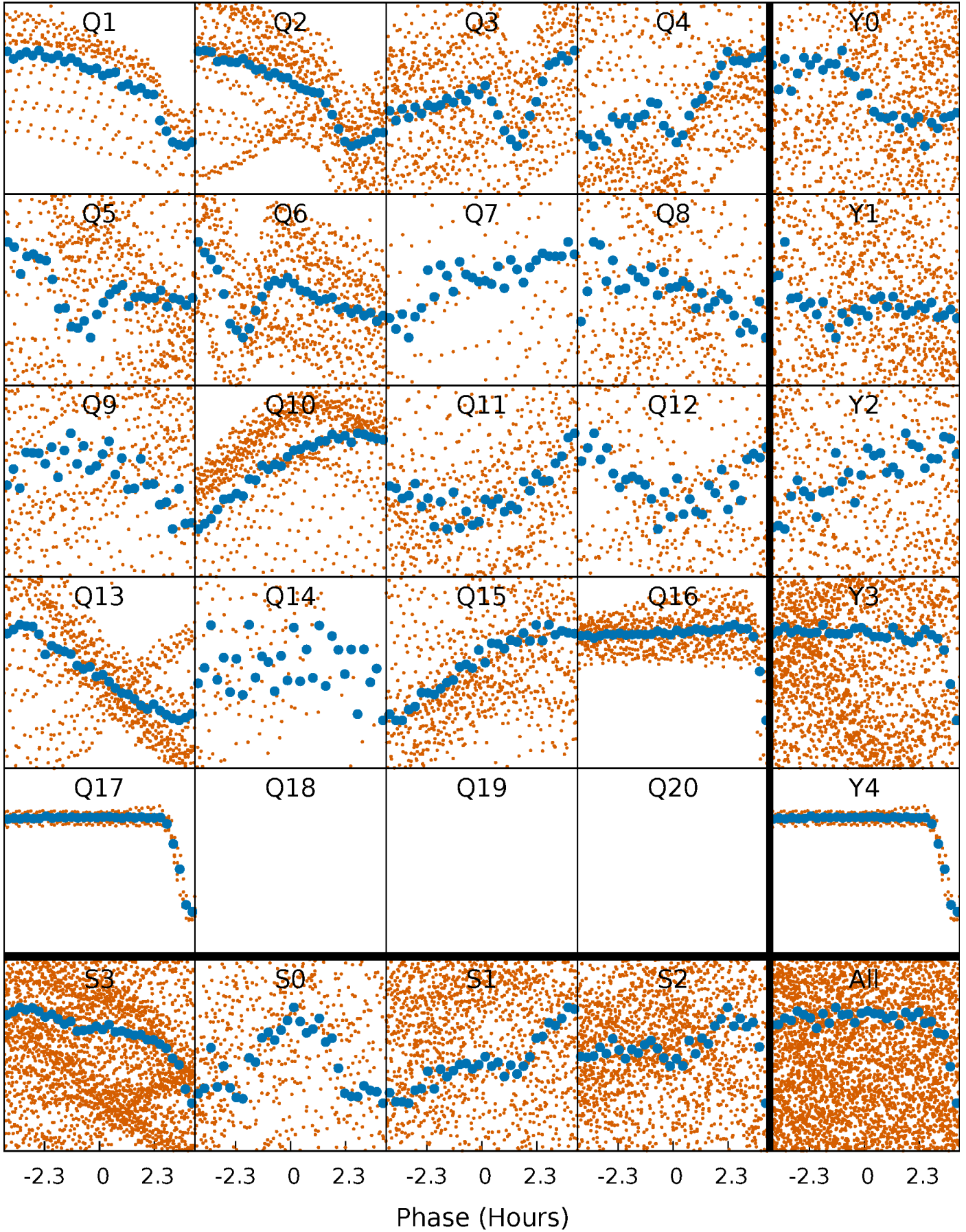


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



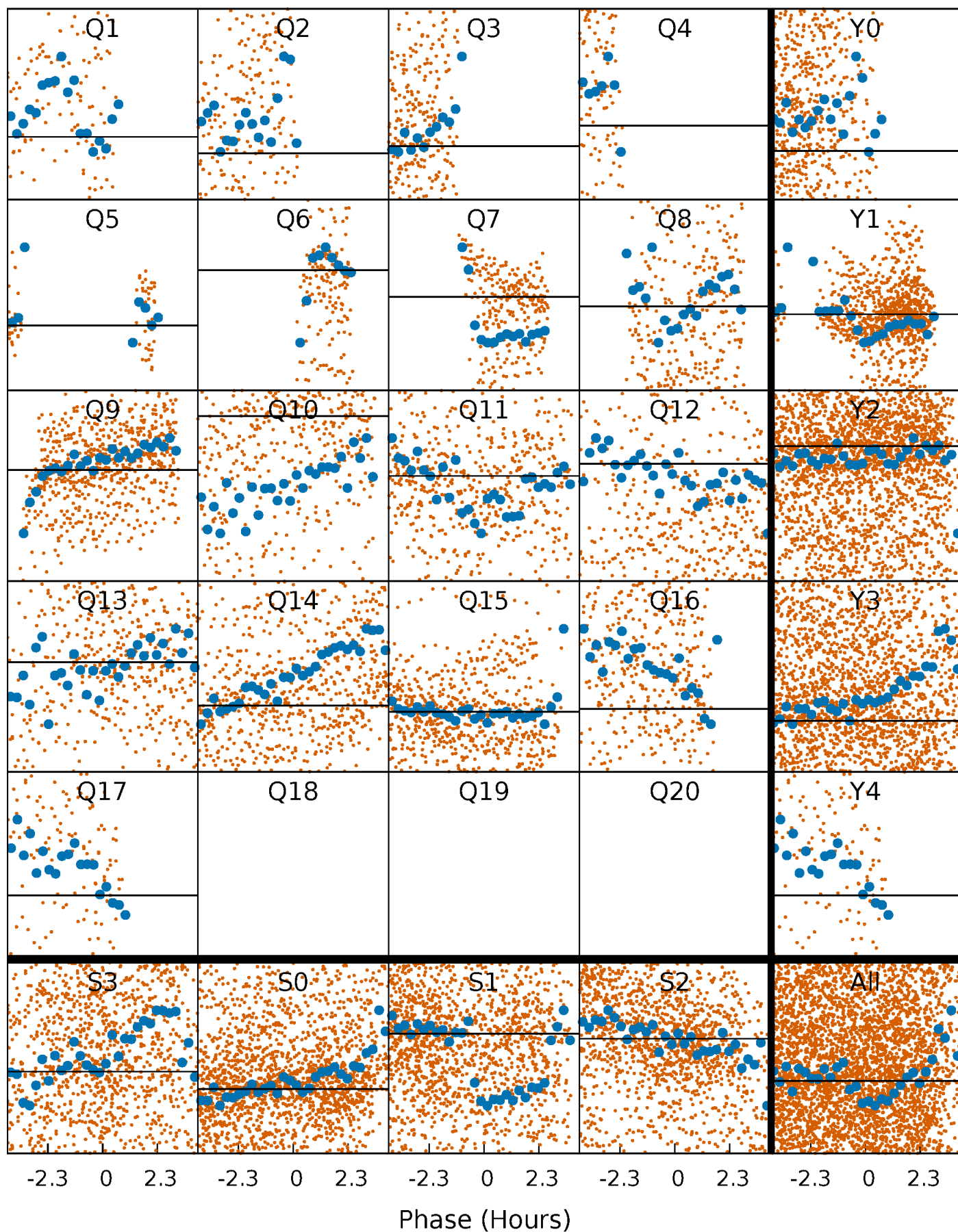
PDC Quarter-Phased Transit Curves

TCE 007174617-04 P= 1.609252 Days $T_0=132.229944$ (BKJD)



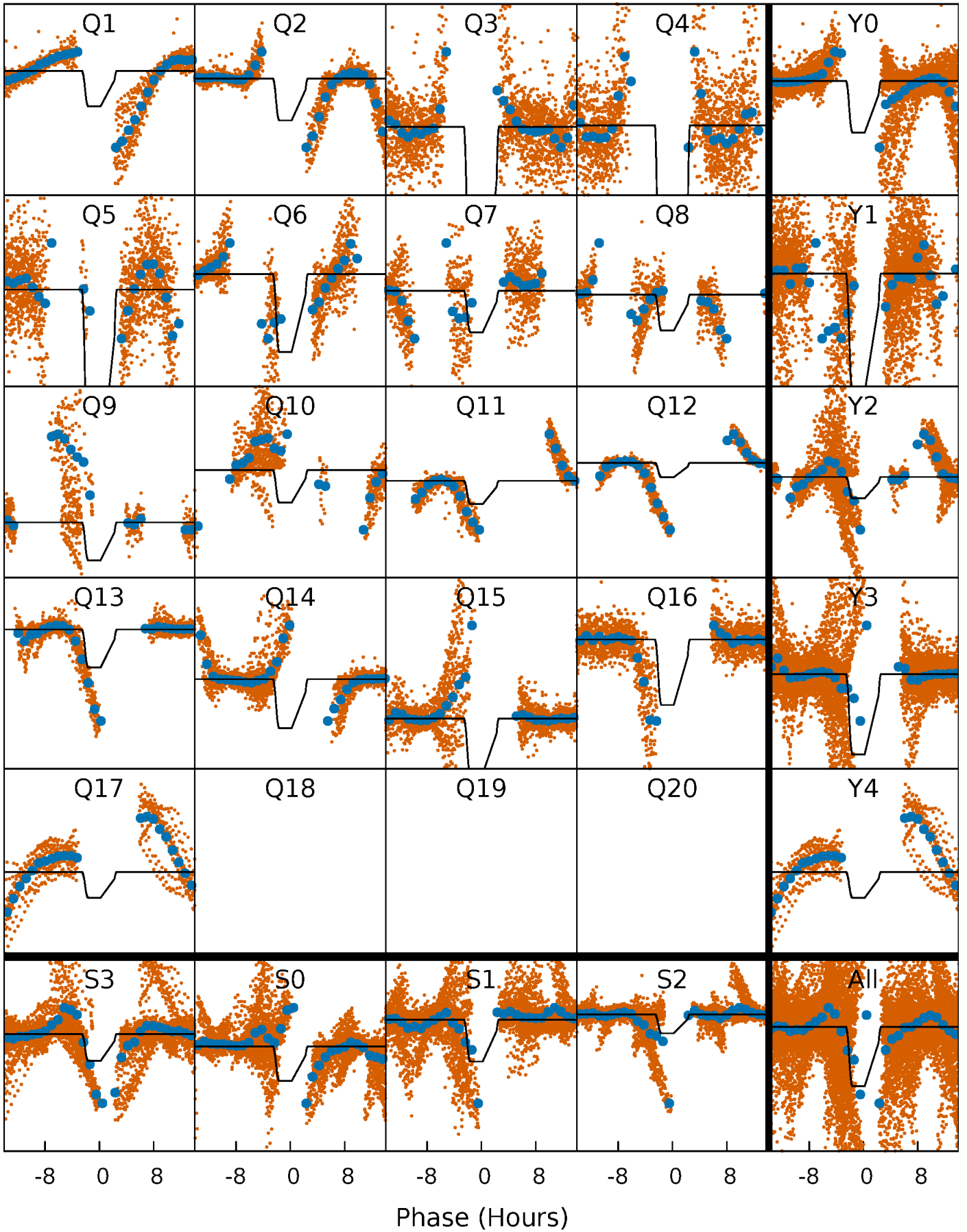
DV Quarter-Phased Transit Curves

TCE 007174617-04 P= 1.609252 Days $T_0=132.229944$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

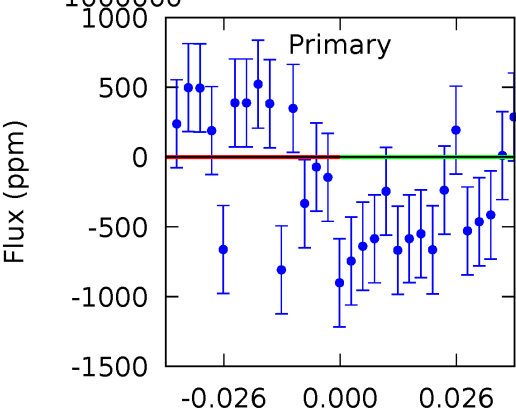
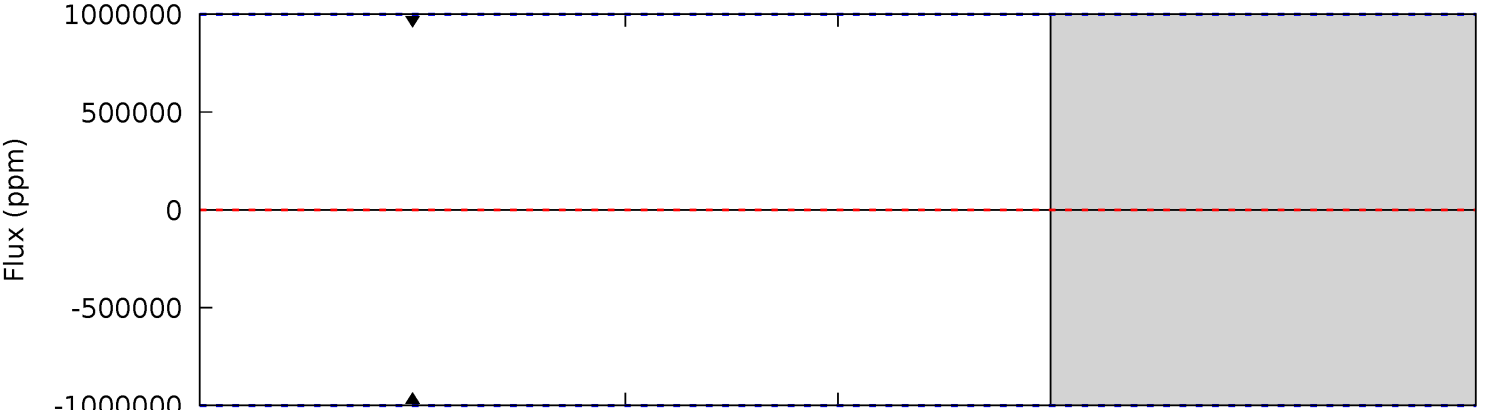
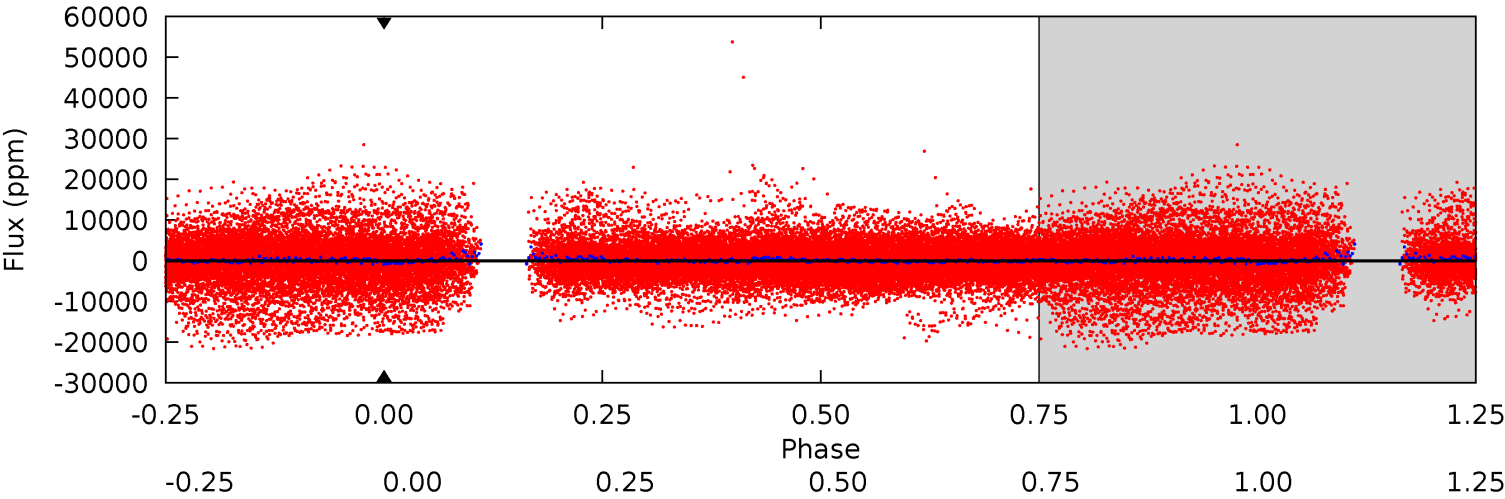
TCE 007174617-04 P= 1.609252 Days $T_0=132.399736$ (BKJD)



DV Model-Shift Uniqueness Test

007174617-04, P = 1.609252 Days, E = 130.620692 Days

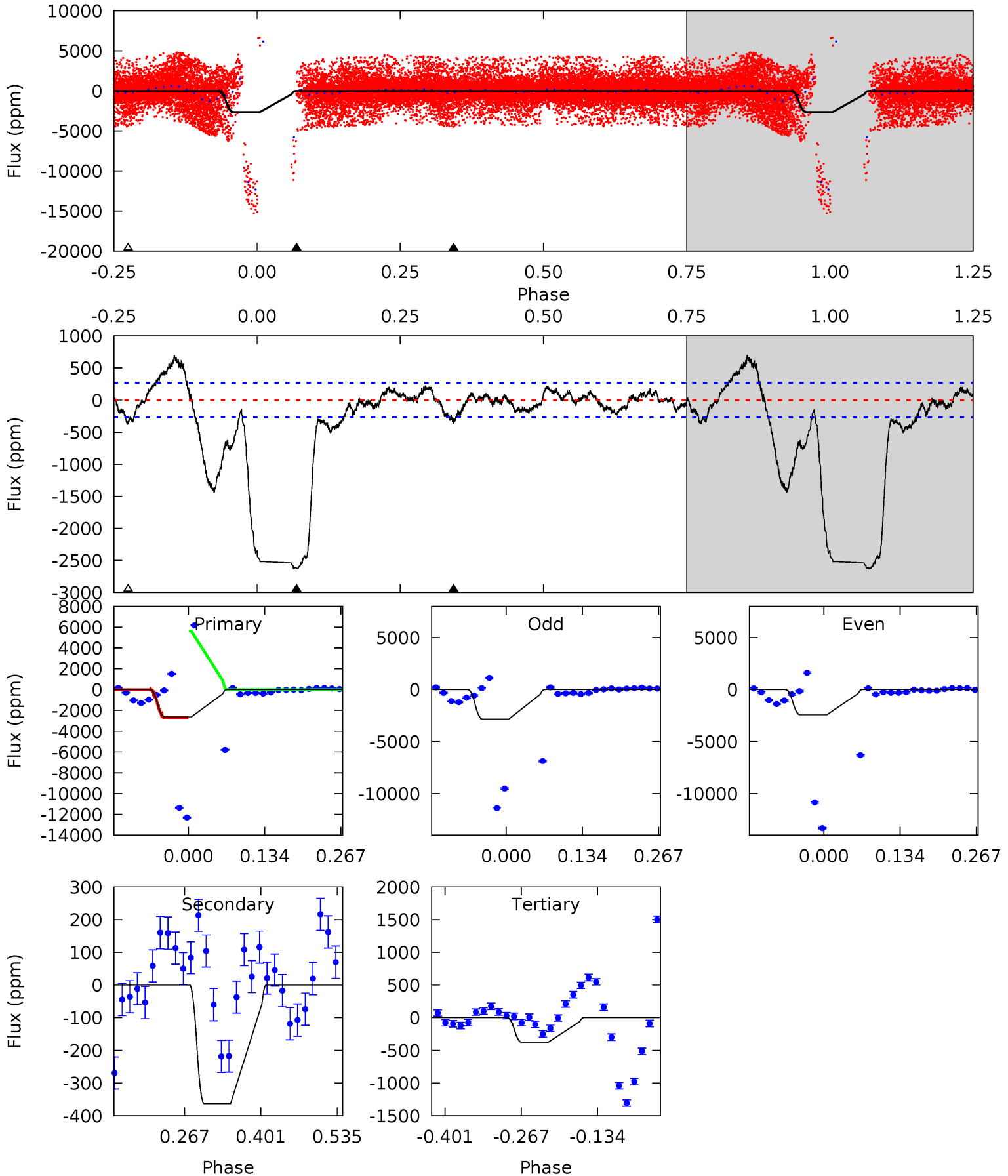
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007174617-04, P = 1.609252 Days, E = 130.790484 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.2	6.10	6.31	0	4.50	1.50	5.46	37.9	44.2	-0.21	6.10	3.34	3.52	0.21	8.76



Stellar Parameters For KIC 007174617

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5022^{+151}_{-151}	$4.668^{+0.052}_{-0.036}$	$-1.100^{+0.300}_{-0.300}$	$0.589^{+0.041}_{-0.037}$	$0.589^{+0.052}_{-0.022}$	$4.053^{+0.858}_{-0.543}$
	+3%/-3%	+1%/-1%	+27%/-27%	+7%/-6%	+9%/-4%	+21%/-13%
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 007174617-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$4.79^{+5.54}_{-3.23}$	1574^{+59}_{-54}	-3122^{+16891}_{-12902}	$-4.682^{+1859.126}_{-2680.117}$
Alt.	-362 ± 59	$6.52^{+5.25}_{-4.23}$	1575^{+50}_{-55}	2787^{+1165}_{-494}	$2.347^{+17.330}_{-1.644}$

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 $A_{\text{obs}} \gg 1.0$

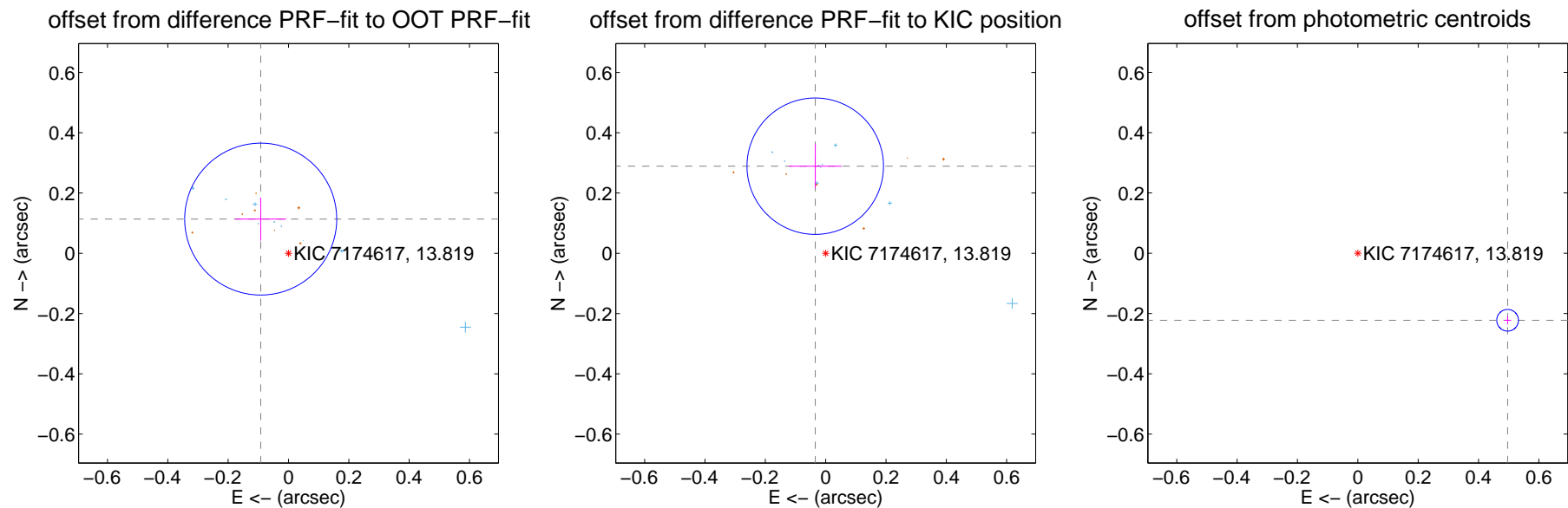
DV Centroid Data

Supplemental centroid analysis for 007174617-04. Kepler magnitude: 13.82. Transit SNR -1.00

There are 9 quarters with good PRF difference image offsets

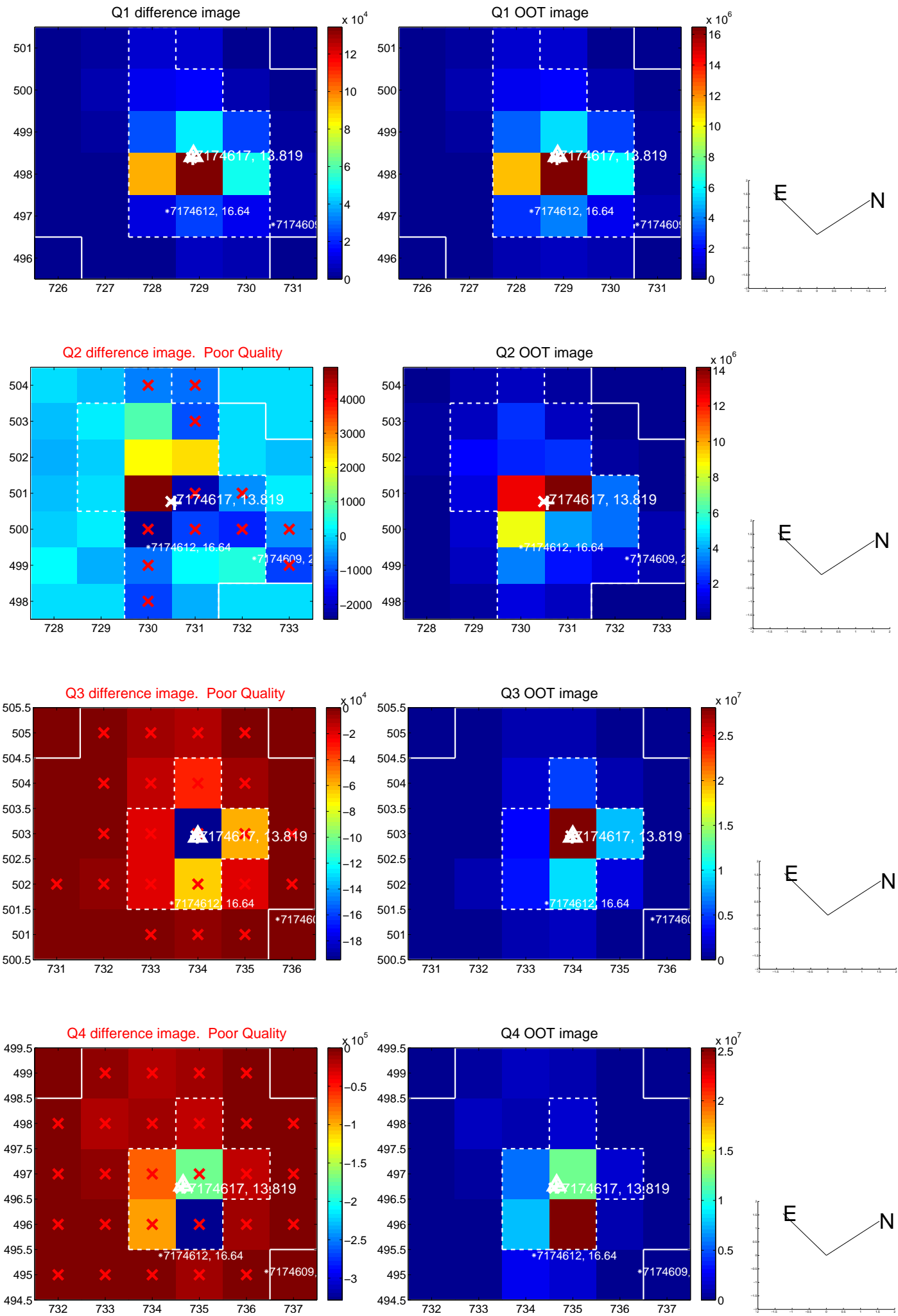
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.146 ± 0.084	1.74	0.092 ± 0.084	0.113 ± 0.072
PRF-fit source offset from KIC position	0.291 ± 0.075	3.86	0.035 ± 0.087	0.289 ± 0.073
photometric centroid source offset	0.54 ± 0.01	45.39	-0.50 ± 0.01	-0.22 ± 0.01

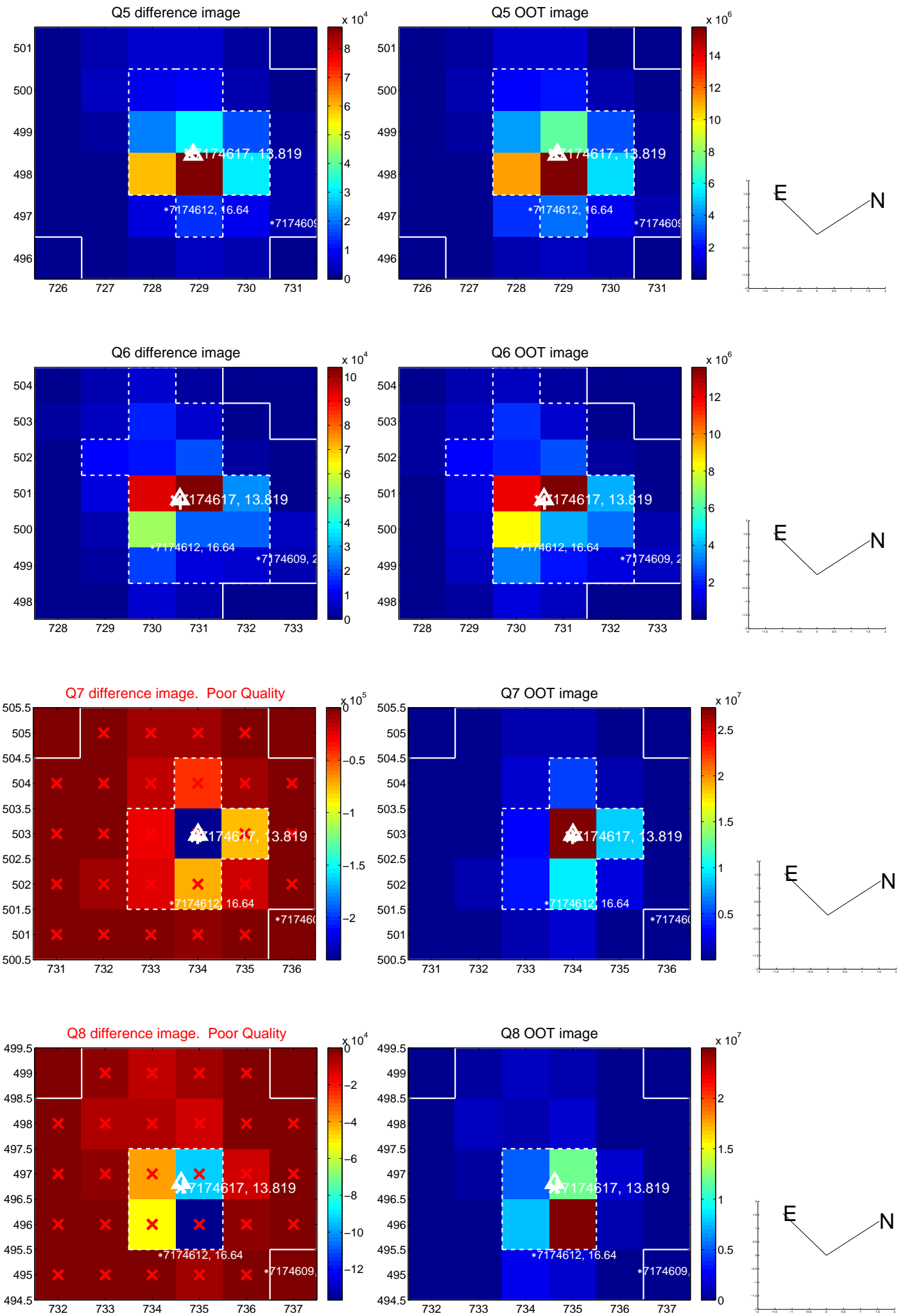


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

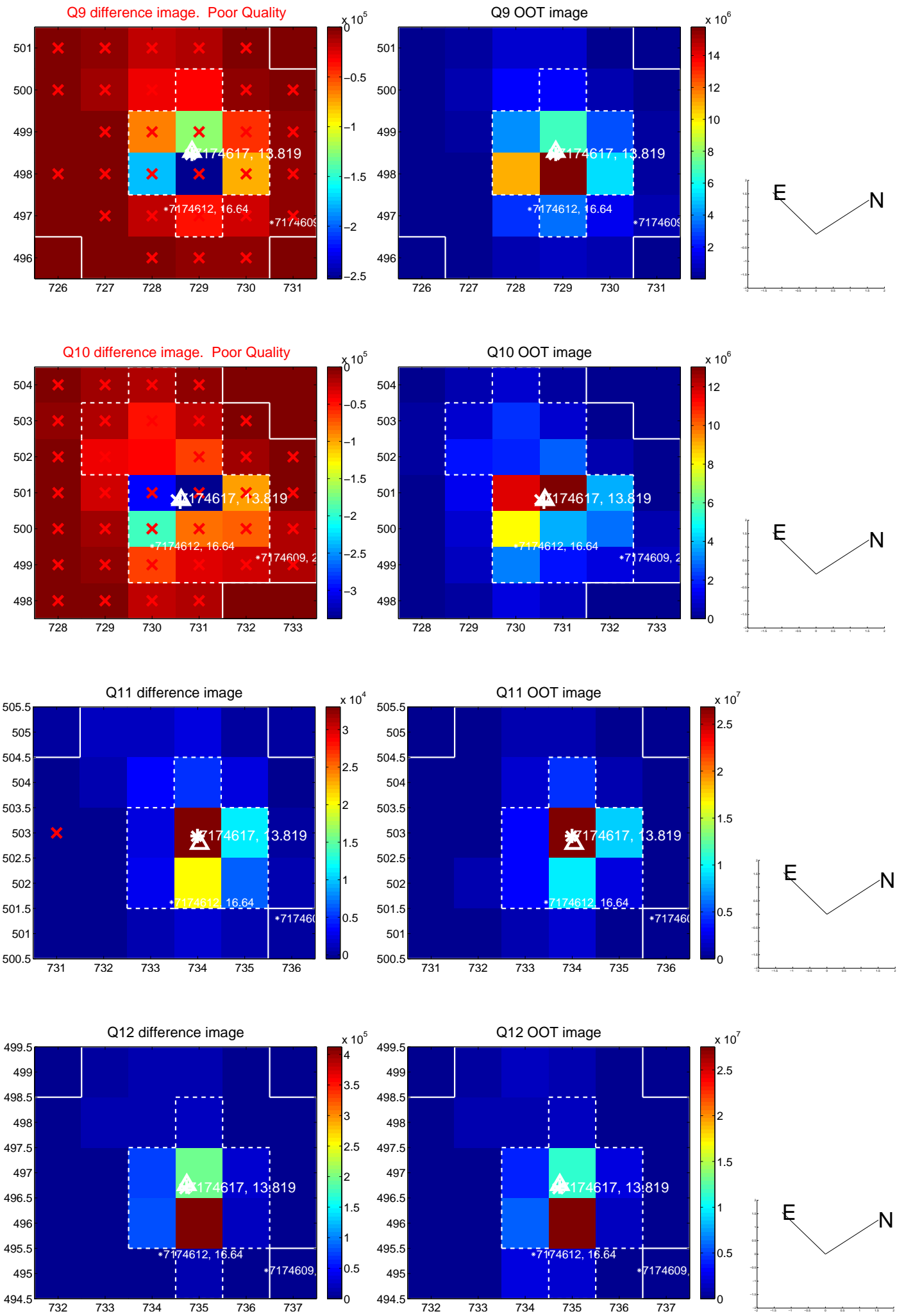
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



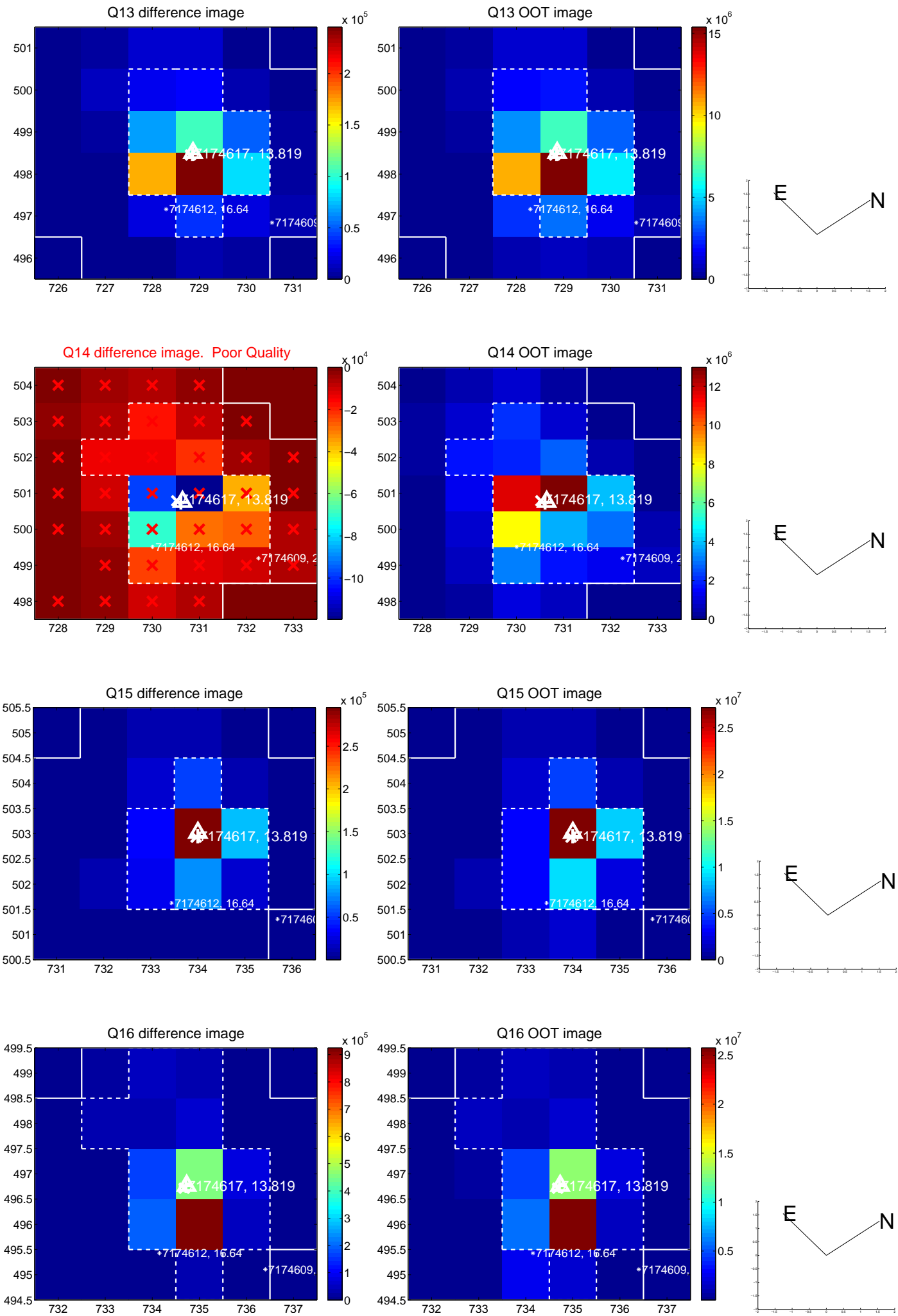
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



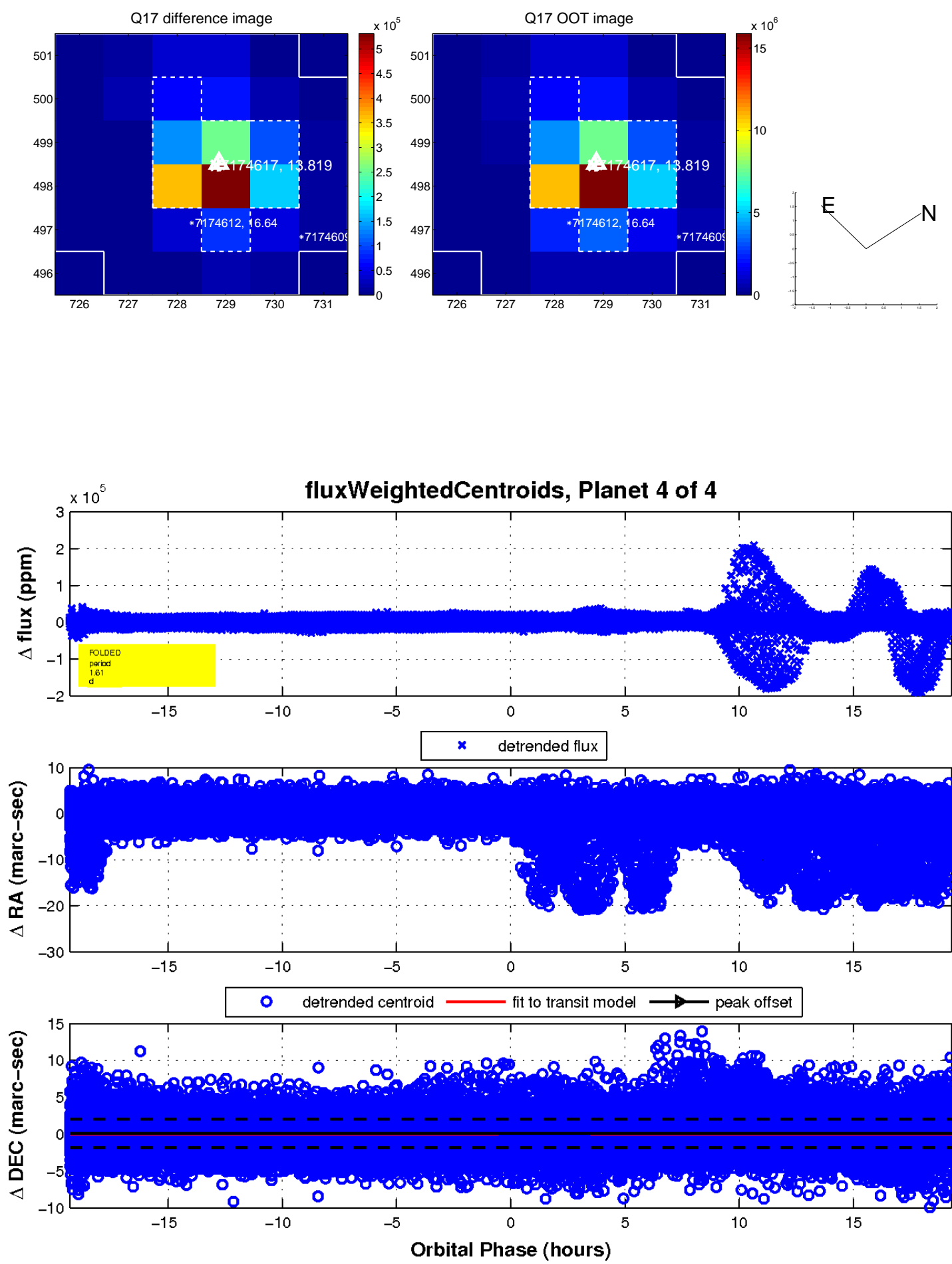
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

