

KIC 012206313

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})
012206313-01	OBS	2714.01	14.383292	140.570409	168.4	8.670	28.8	31.0	1.29	6115	1.87	148.12
012206313-02	OBS	2714.02	47.318664	170.066053	254.3	12.064	26.3	28.7	1.29	6115	2.58	30.27
012206313-03	OBS	2714.03	184.262242	255.225885	300.4	11.981	16.1	16.5	1.29	6115	2.52	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012206313-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT
012206313-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012206313-03	OBS	PC	0.95	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.

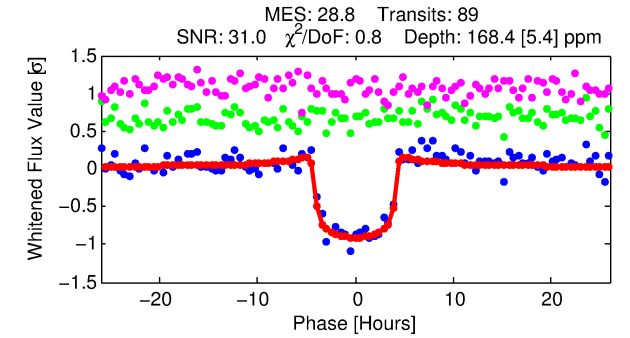
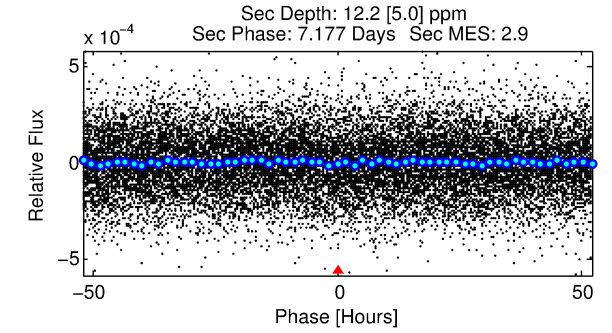
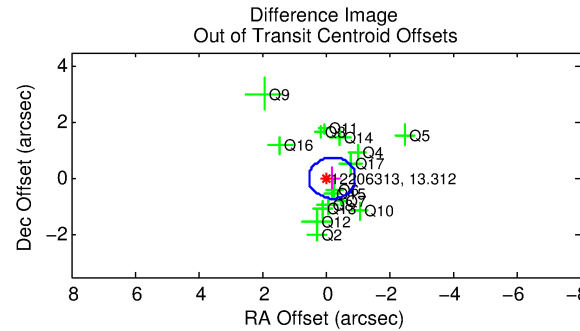
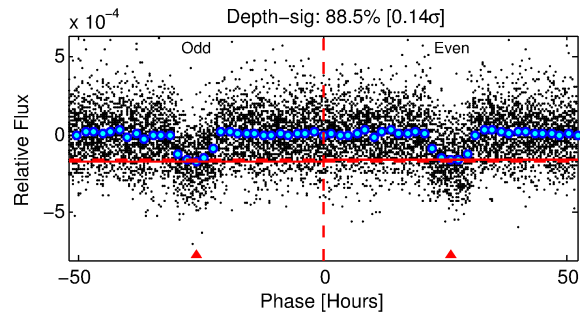
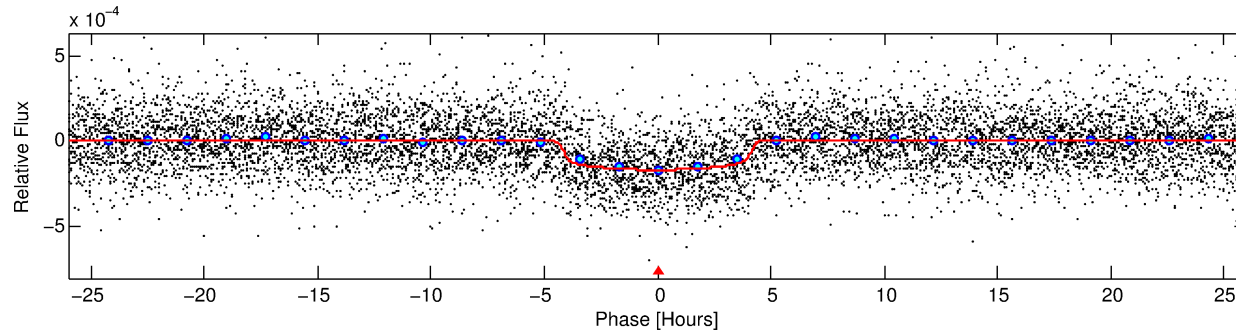
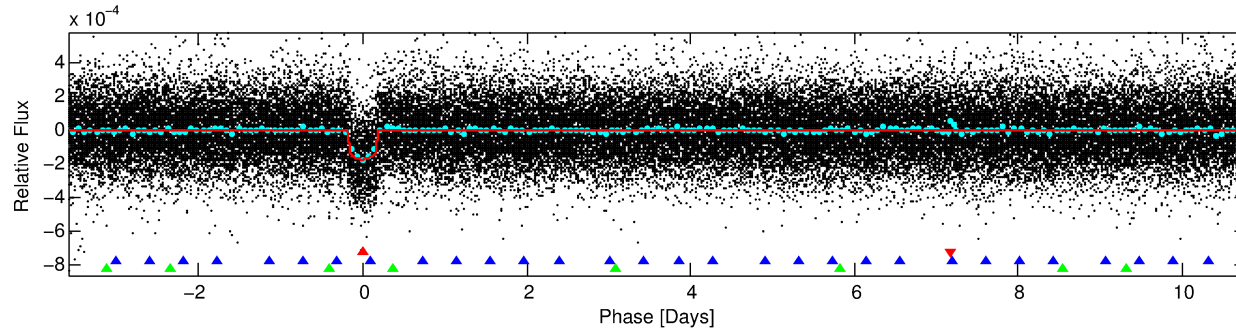
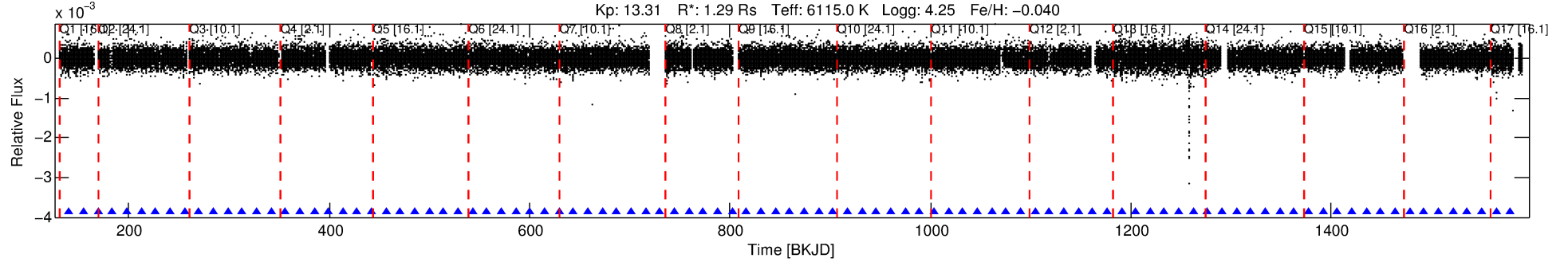
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012206313-01

No Significant Match Found

DV One-Page Summary

KIC: 12206313 Candidate: 1 of 3 Period: 14.383 d
KOI: K02714.01 Name: Kepler-401b Corr: 0.990



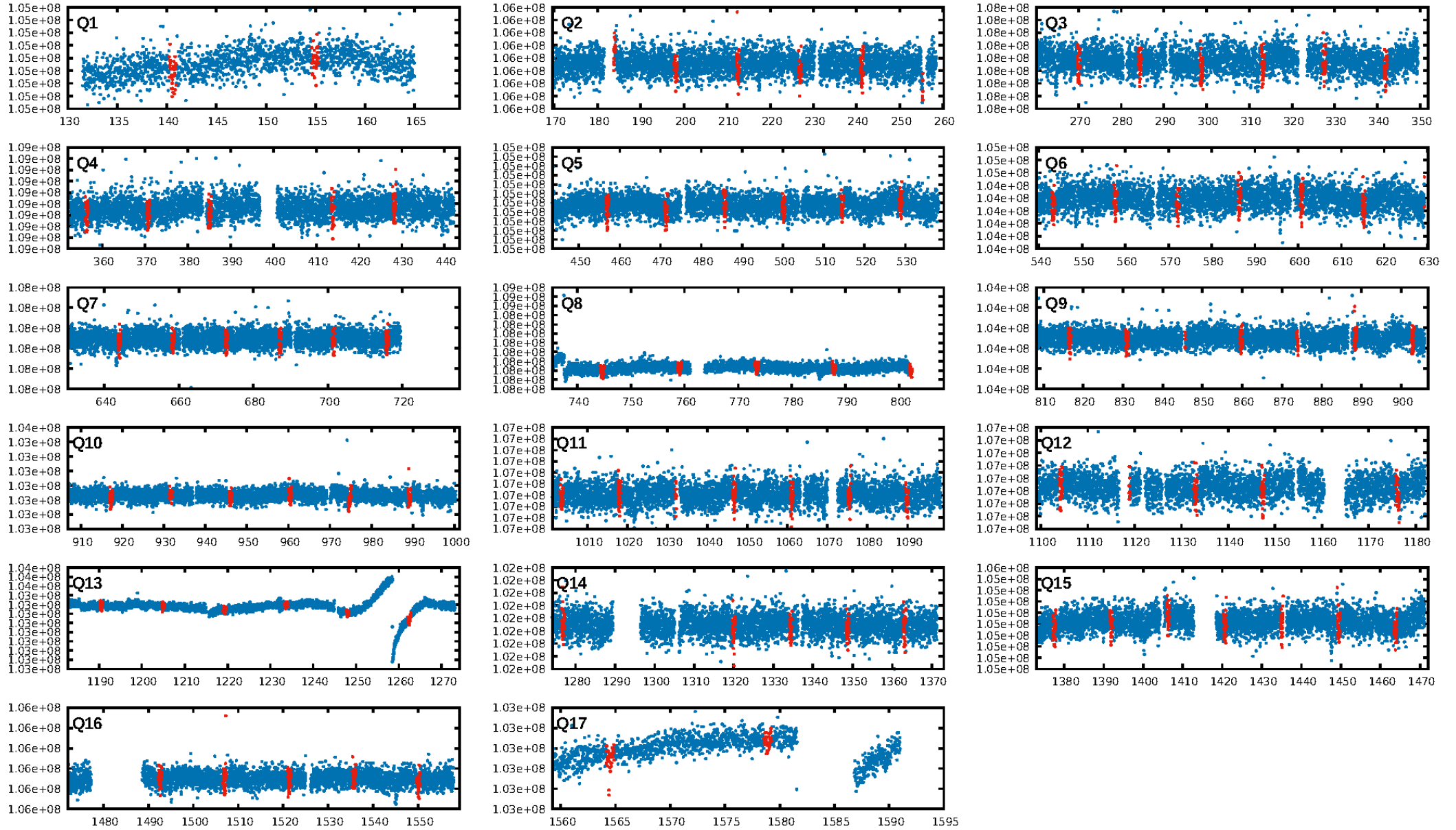
DV Fit Results:

Period = 14.38329 [0.00007] d
Epoch = 140.5704 [0.0042] BKJD
Rp/R* = 0.0133 [0.0015]
a/R* = 7.61 [4.35]
b = 0.82 [0.24]
Seff = 148.12 [37.61]
Teq = 890 [56] K
Rp = 1.87 [0.38] Re
a = 0.1187 [0.0182] AU
Ag = 26.99 [14.33] [1.81 σ]
Teffp = 3135 [378] K [5.87 σ]

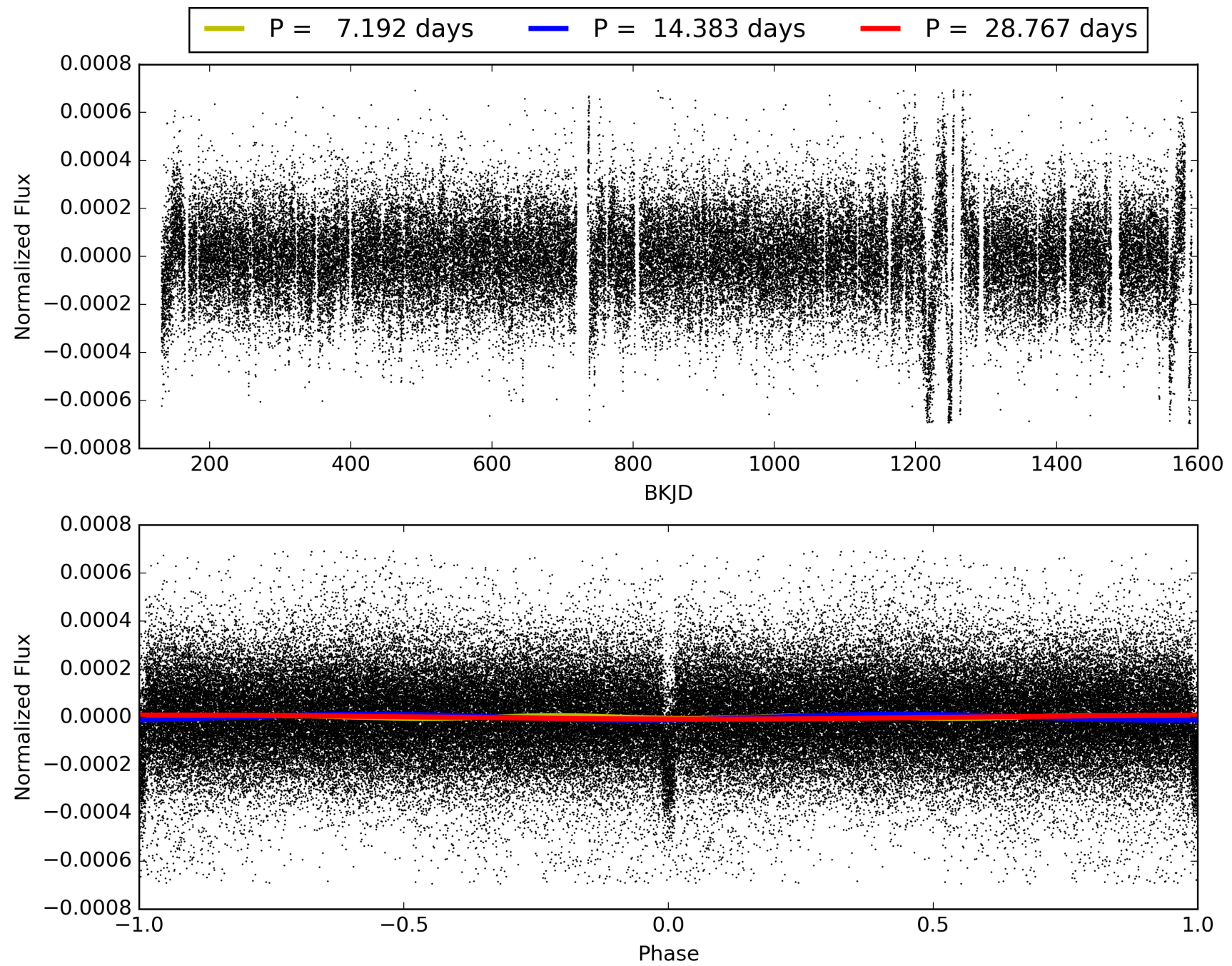
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [53.21 σ]
ModelChiSquare2-sig: 97.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.14e-174
RollingBand-fgt: 1.00 [85/85]
GhostDiagnostic-chr: 4.545
Centroid-sig: 0.0%
Centroid-so: 0.649 arcsec [1.49 σ]
OotOffset-rm: 0.209 arcsec [0.85 σ]
KicOffset-rm: 0.227 arcsec [0.89 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012206313-01, PDC Light Curves

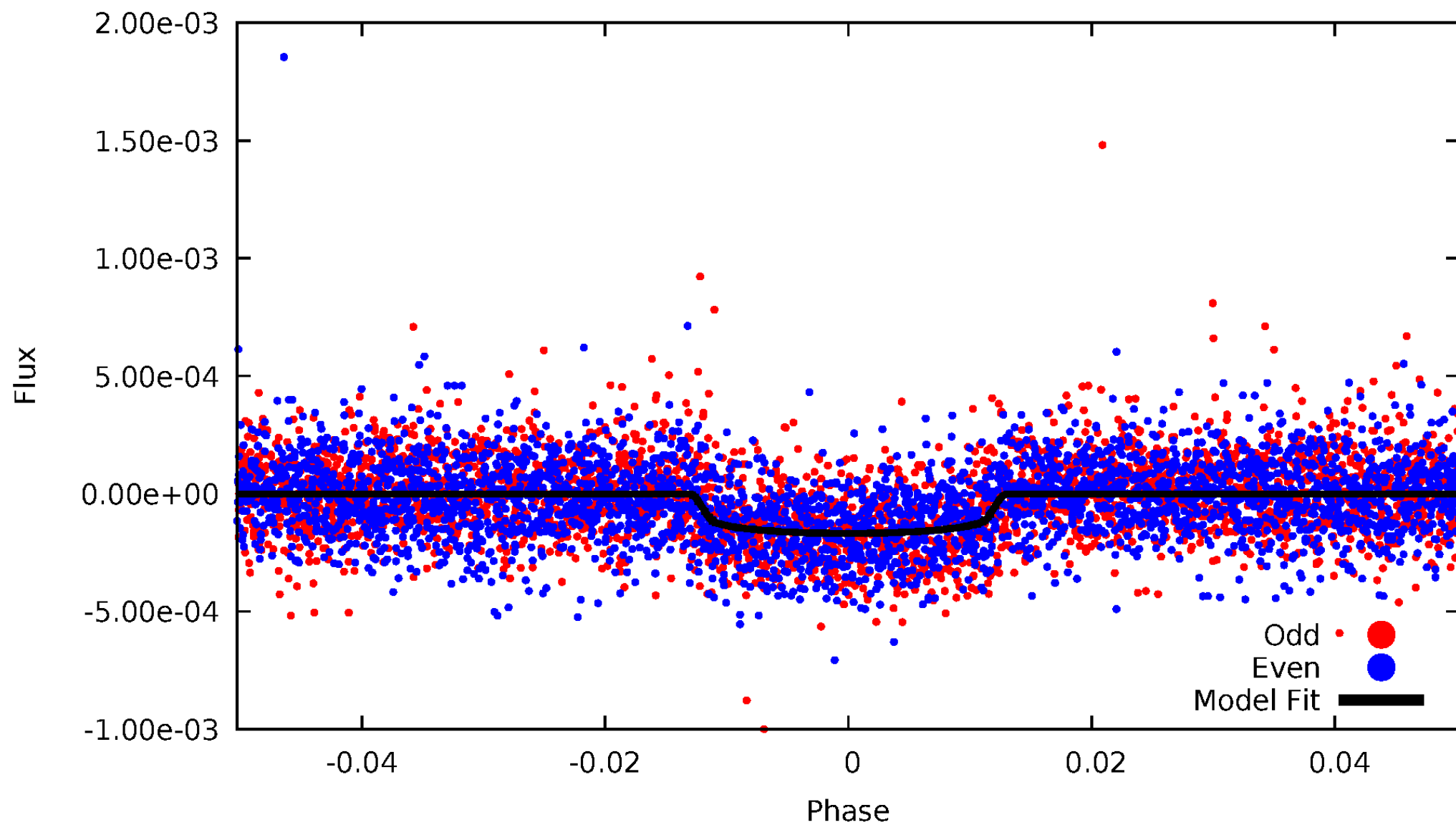


TCE 012206313-01



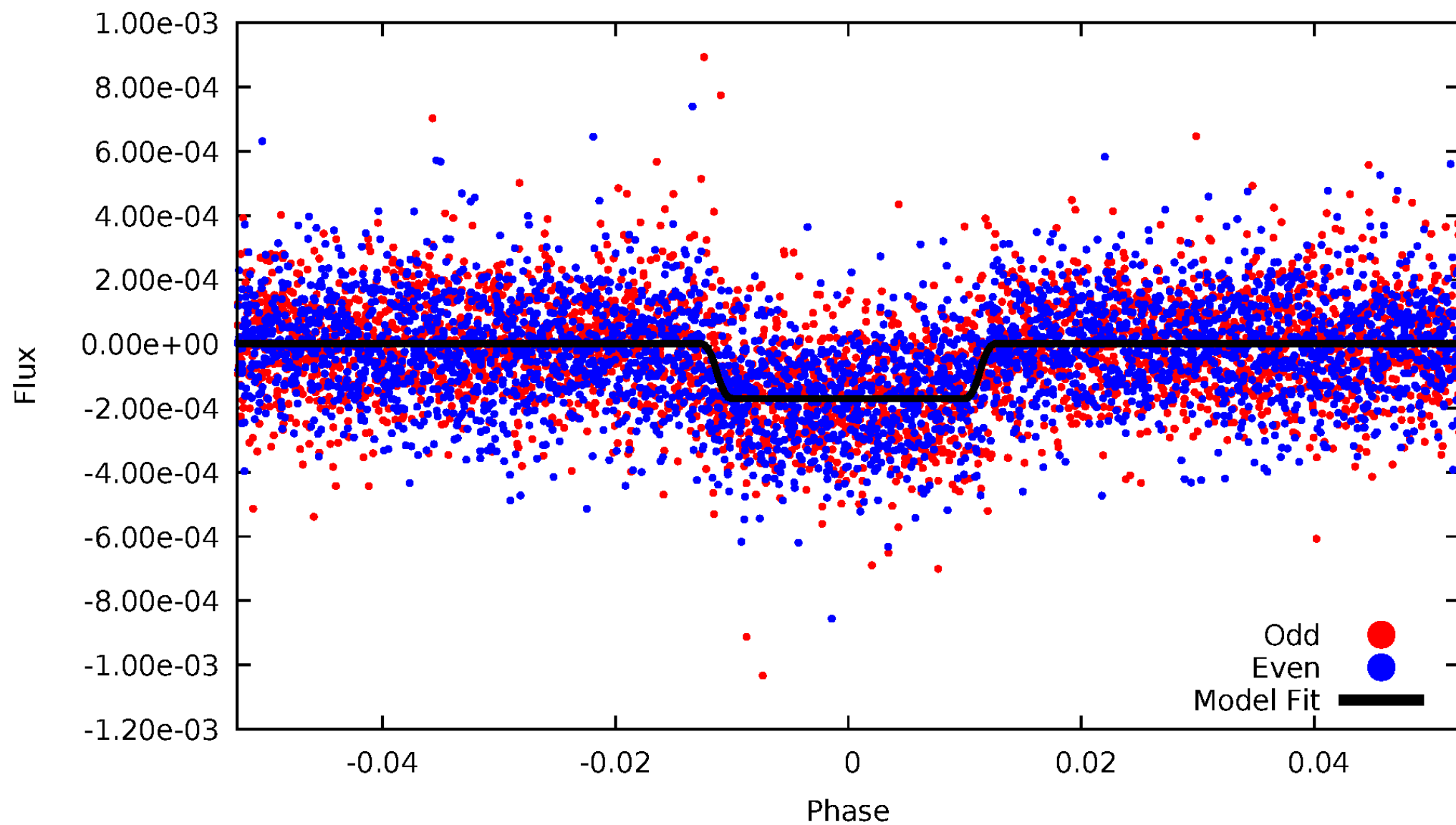
DV Odd/Even

TCE 012206313-01

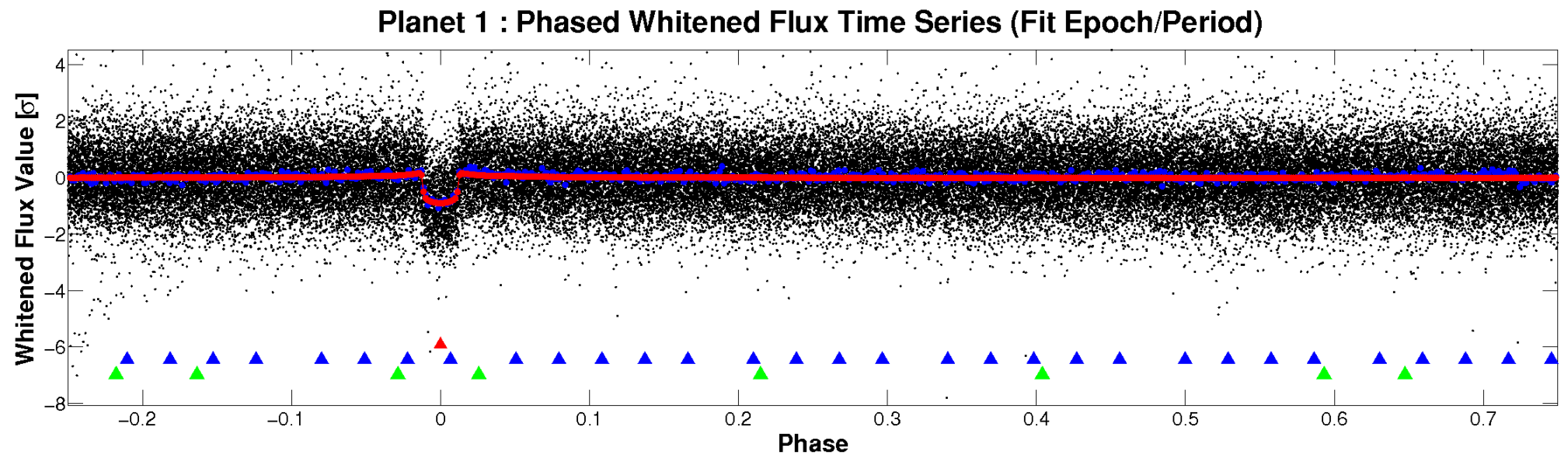
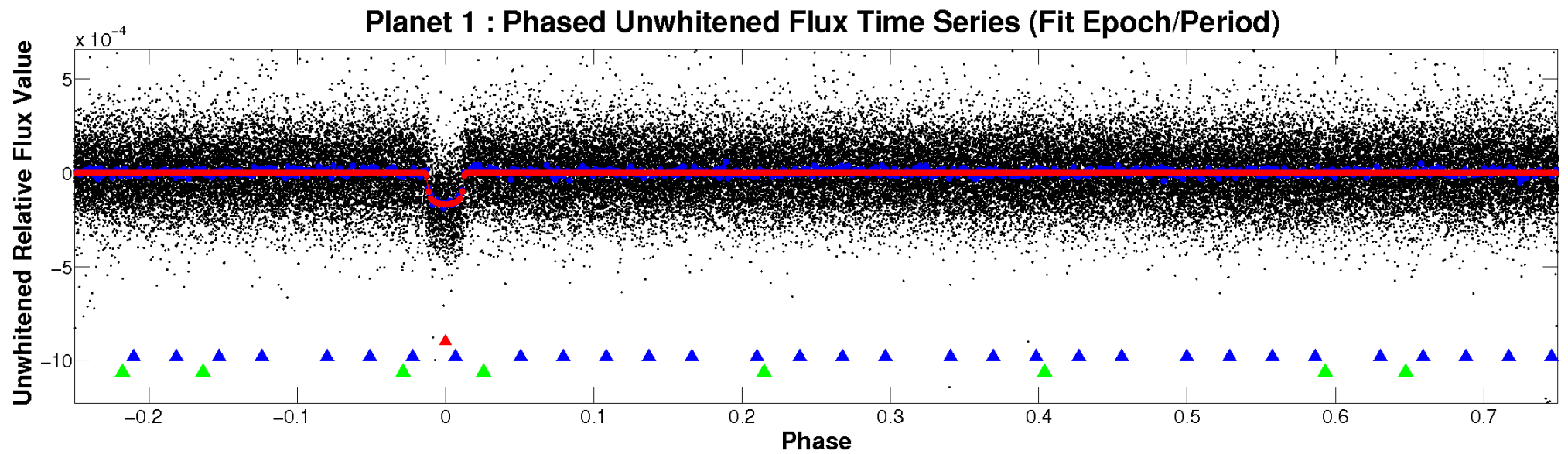


ALT Odd/Even

TCE 012206313-01

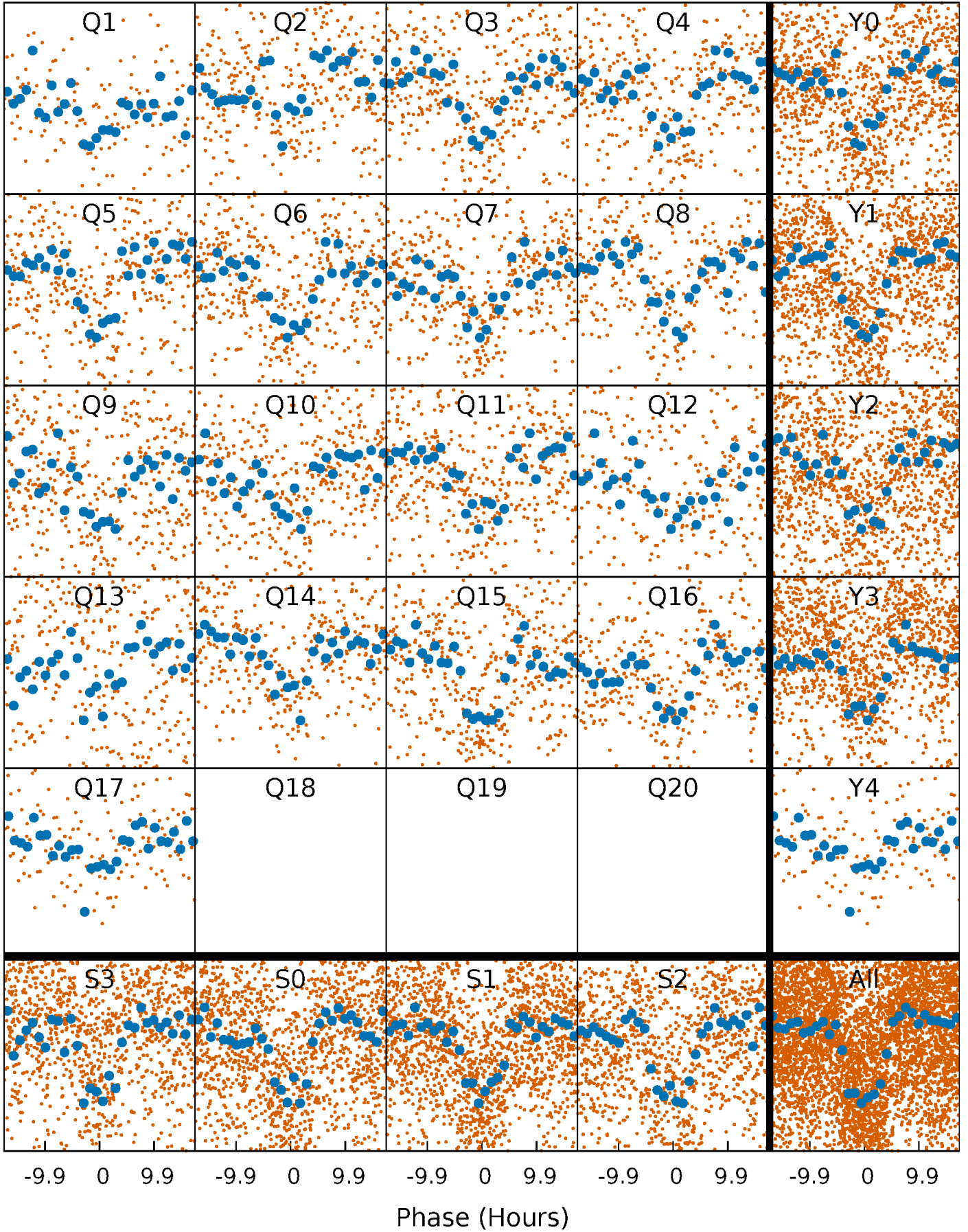


Non-Whitened Vs. Whitened Light Curve



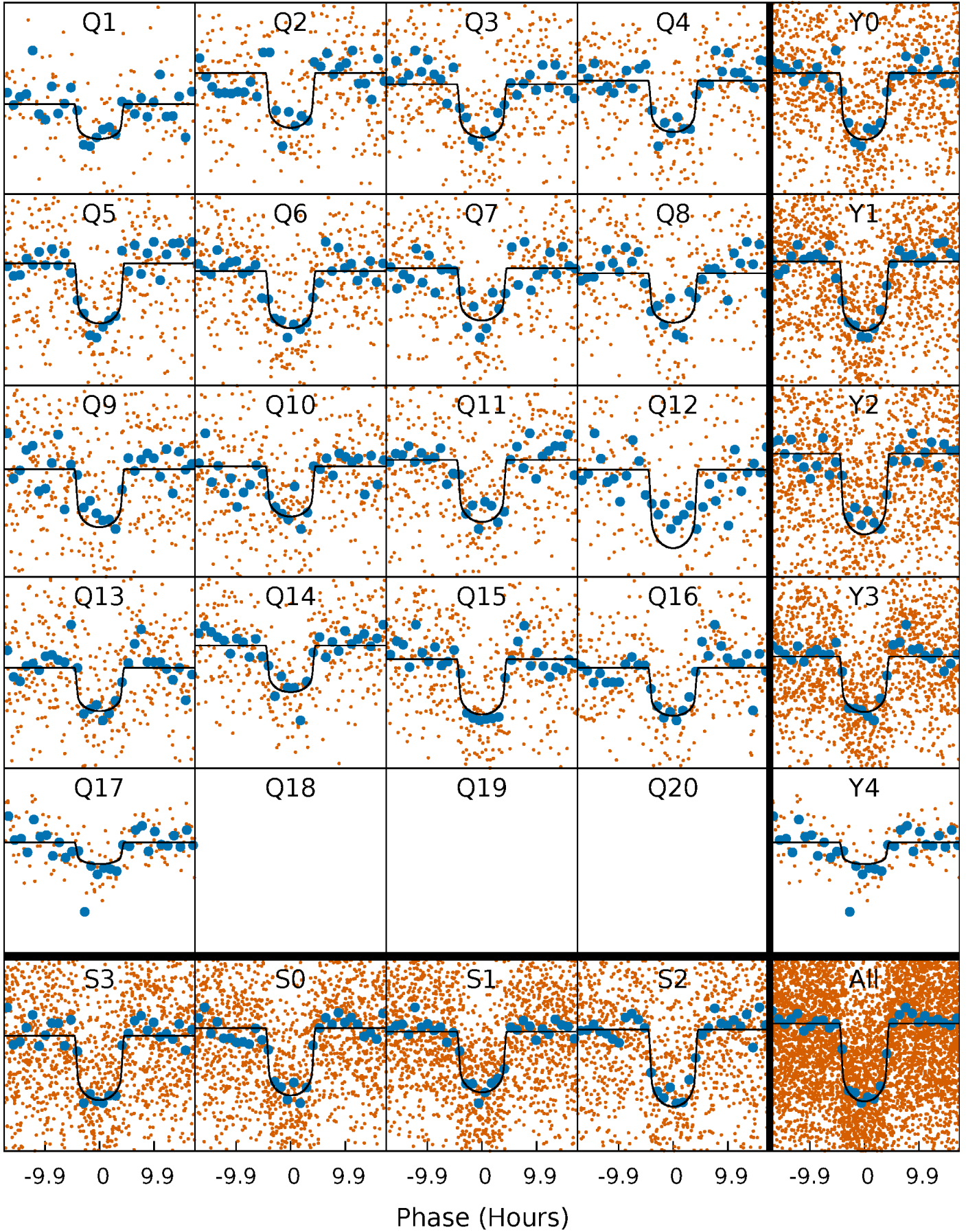
PDC Quarter-Phased Transit Curves

TCE 012206313-01 P= 14.383292 Days $T_0=140.570409$ (BKJD)



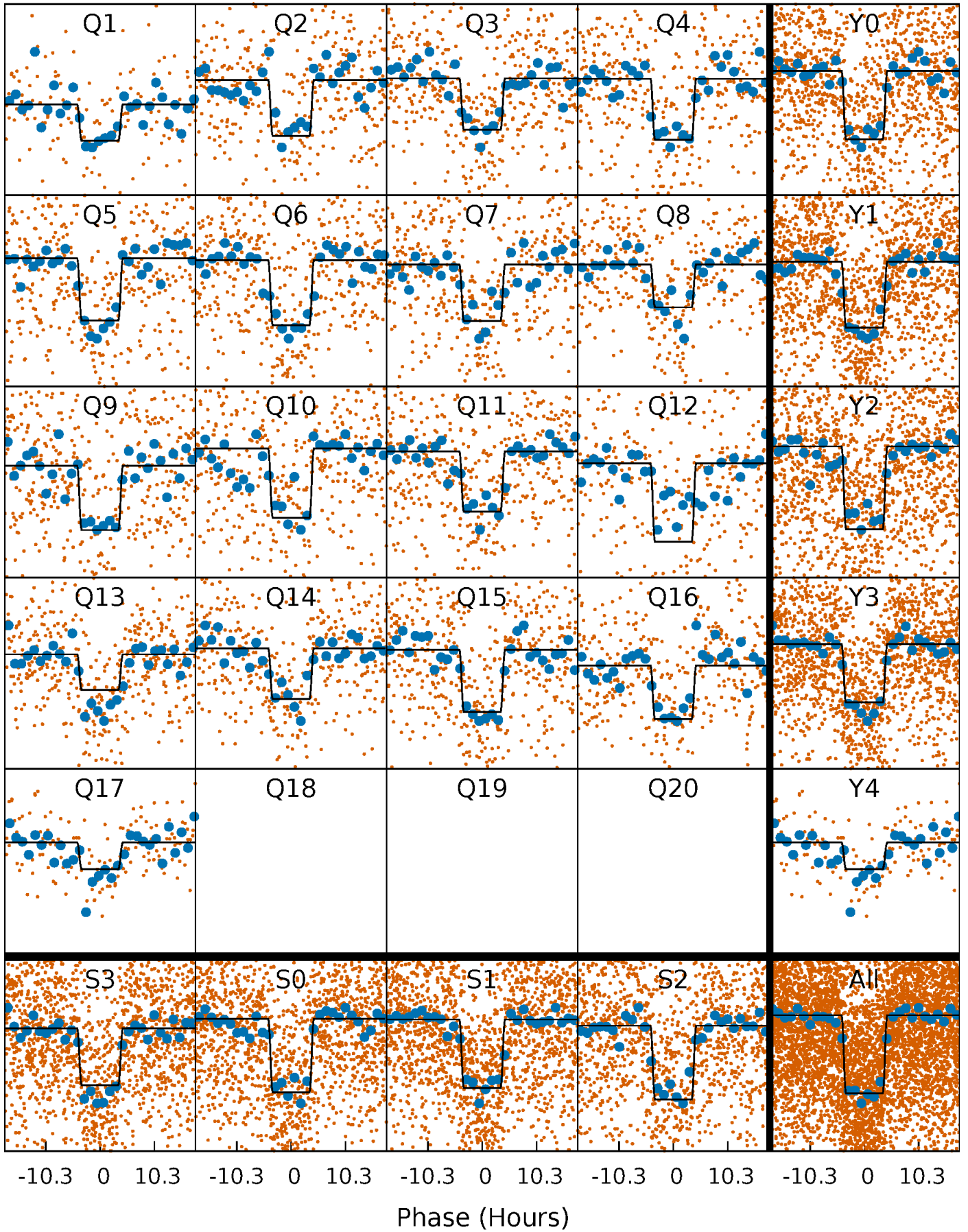
DV Quarter-Phased Transit Curves

TCE 012206313-01 P= 14.383292 Days $T_0=140.570409$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

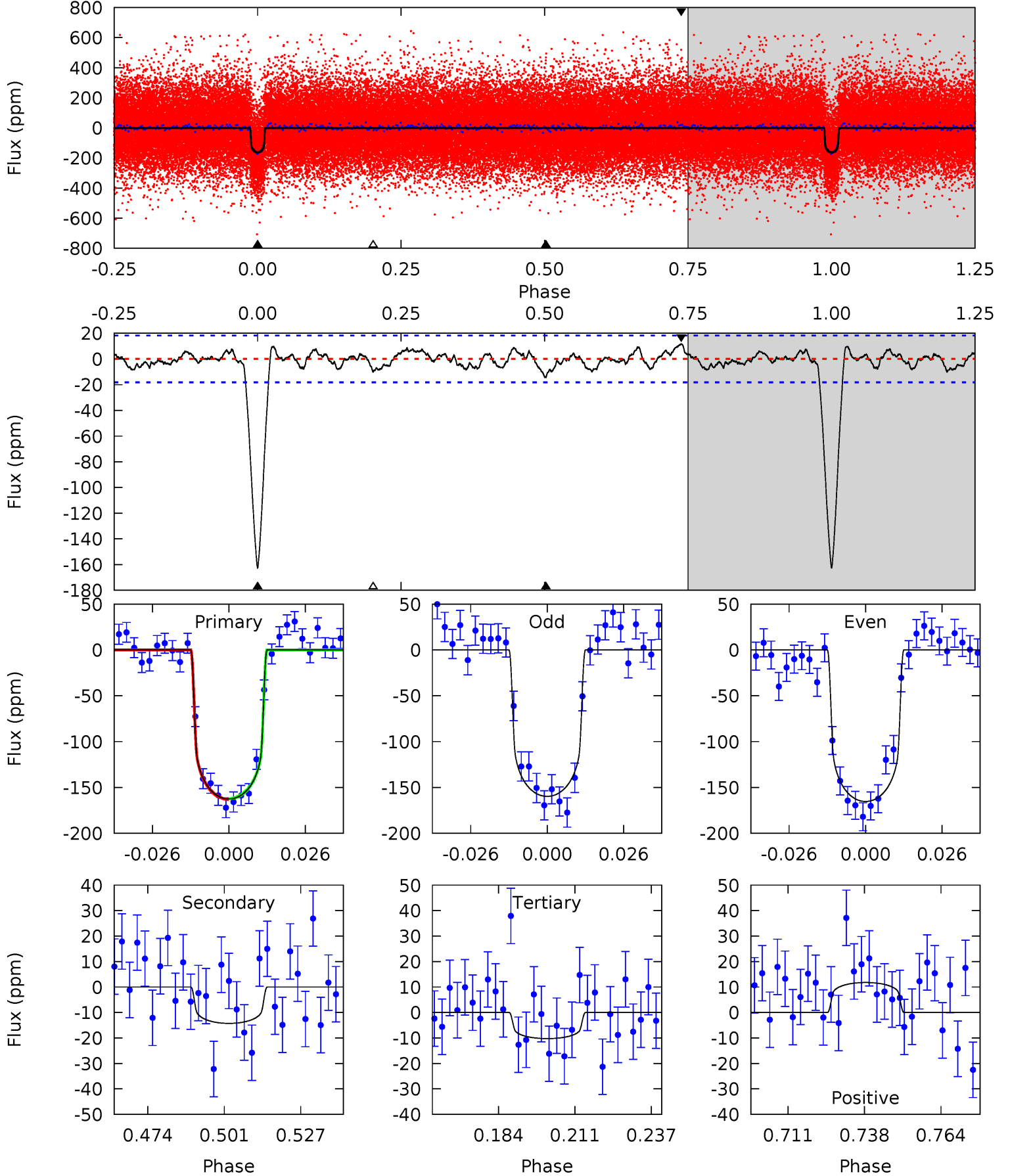
TCE 012206313-01 P= 14.383363 Days $T_0=140.569189$ (BKJD)



DV Model-Shift Uniqueness Test

012206313-01, P = 14.383292 Days, E = 126.187117 Days

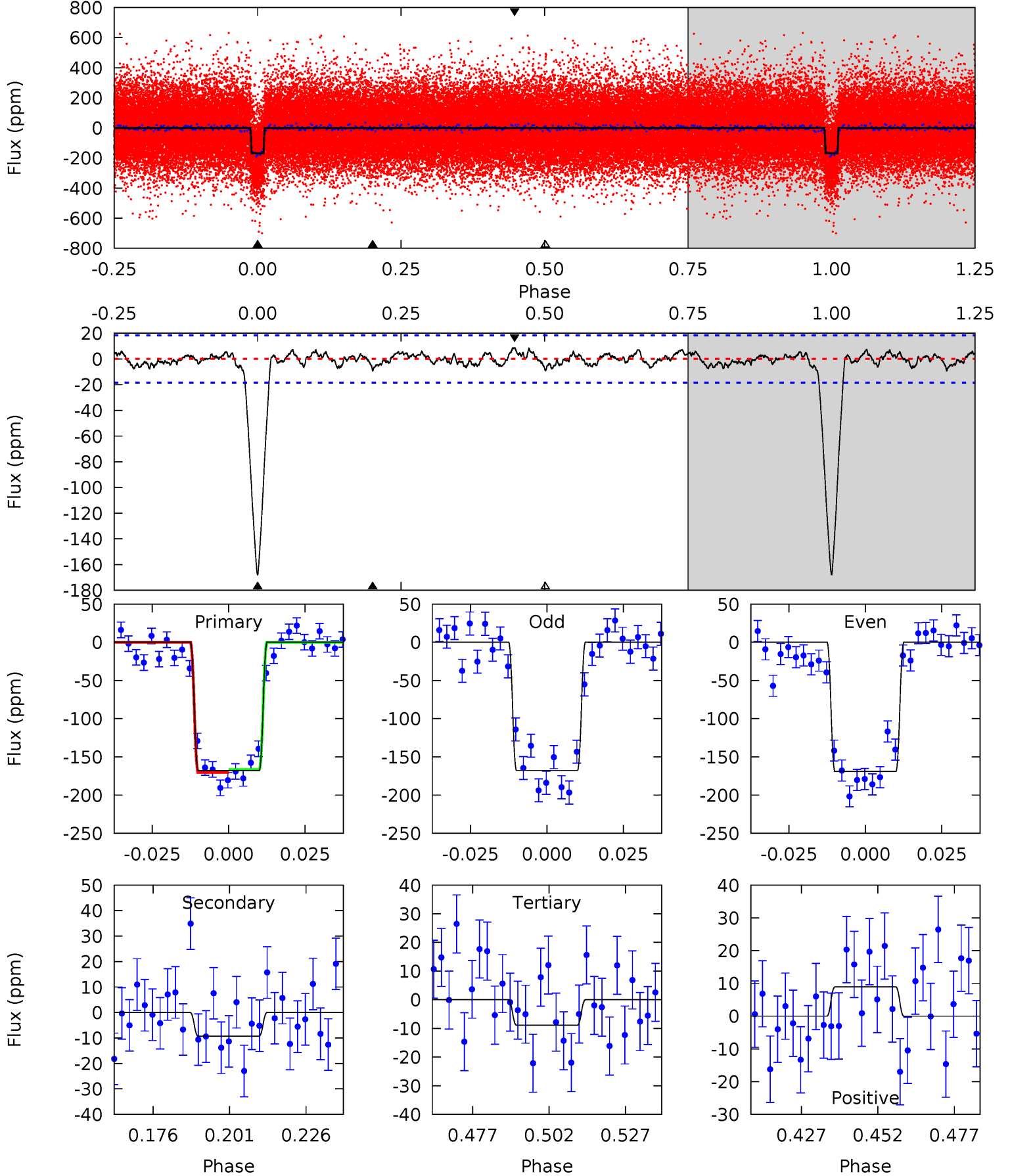
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.2	3.79	2.72	3.13	4.84	2.22	1.20	40.5	40.1	1.07	0.67	0.74	1.00	0.07	0.10



Alt Model-Shift Uniqueness Test

012206313-01, $P = 14.383363$ Days, $E = 126.185826$ 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	2.45	2.34	2.35	4.85	2.24	0.95	41.9	41.9	0.11	0.10	0.20	1.06	0.05	0.52



Stellar Parameters For KIC 012206313

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6115^{+122}_{-135}	$4.249^{+0.137}_{-0.112}$	$-0.040^{+0.150}_{-0.150}$	$1.291^{+0.216}_{-0.216}$	$1.077^{+0.102}_{-0.074}$	$0.705^{+0.463}_{-0.238}$
	+2%/-2%	+3%/-3%	+375%/-375%	+17%/-17%	+9%/-7%	+66%/-34%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 012206313-01 / KOI 2714.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 4	$1.86^{+0.30}_{-0.27}$	1241^{+61}_{-62}	3684^{+246}_{-228}	33^{+16}_{-12}
Alt.	-9 ± 4	$1.82^{+0.31}_{-0.26}$	1239^{+60}_{-61}	3444^{+258}_{-292}	21^{+13}_{-9}

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 $A_{obs} \gg 1.0$

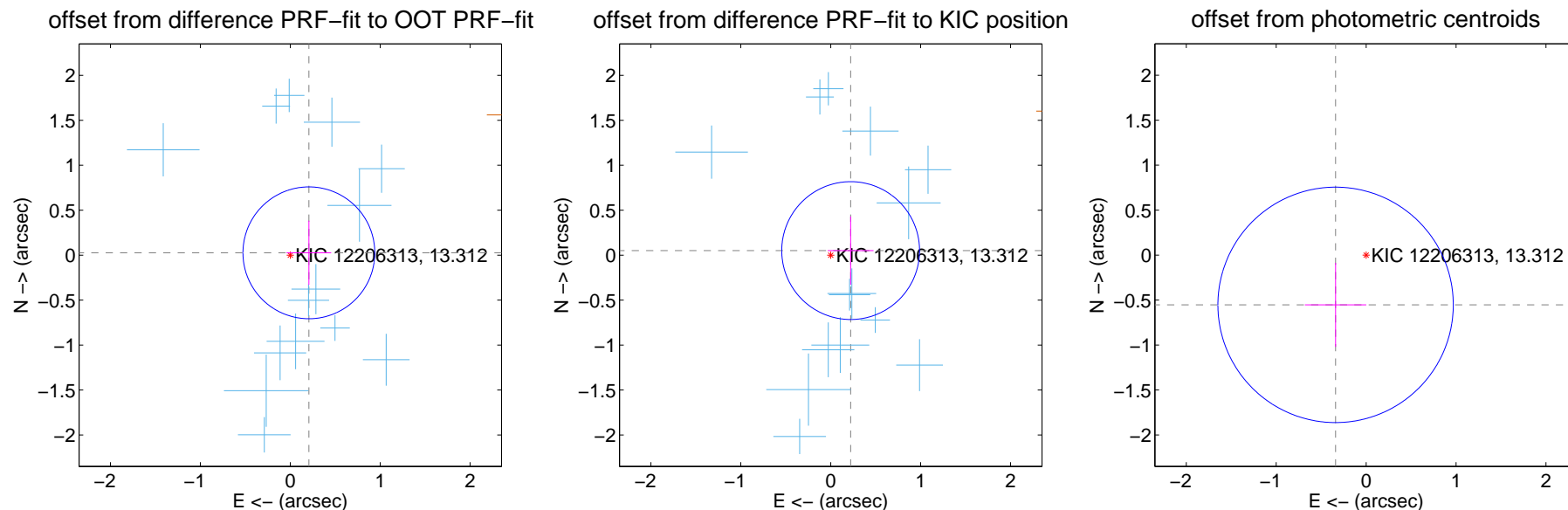
DV Centroid Data

Supplemental centroid analysis for 012206313-01. Kepler magnitude: 13.31. Transit SNR 30.96

There are 14 quarters with good PRF difference image offsets

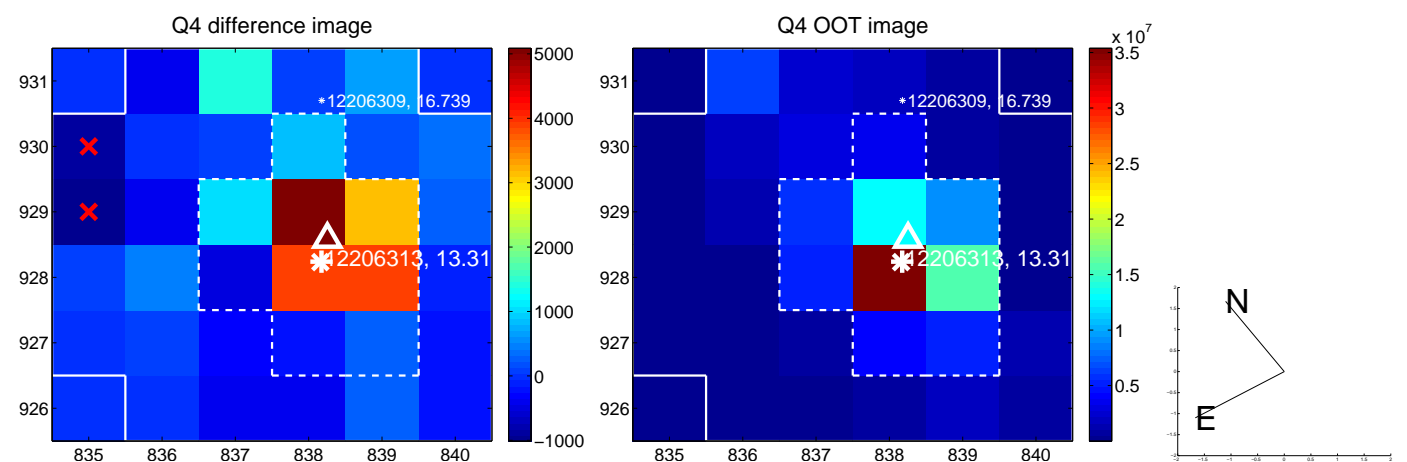
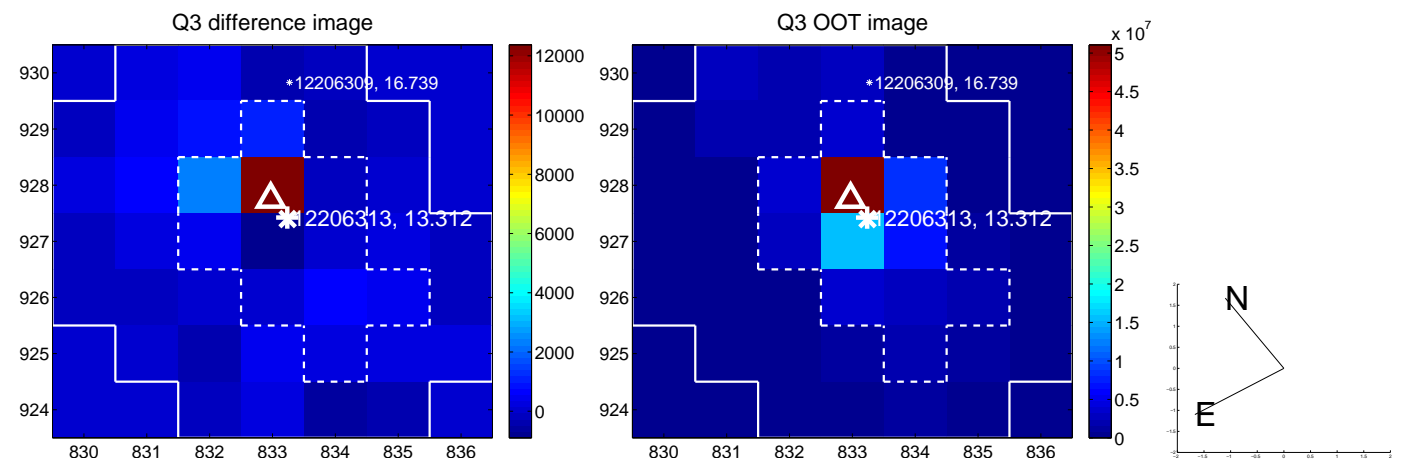
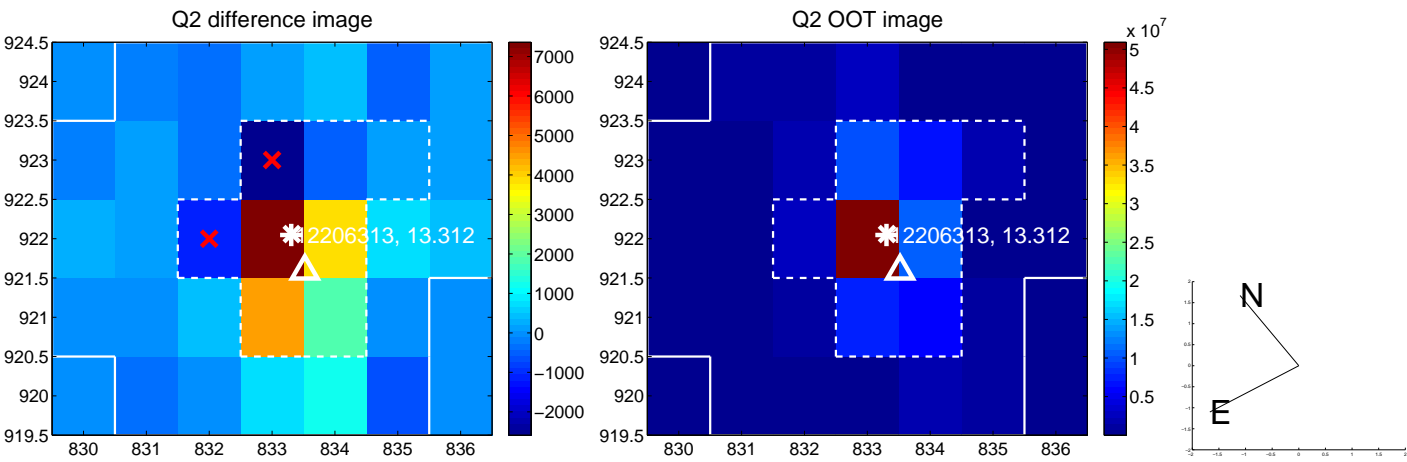
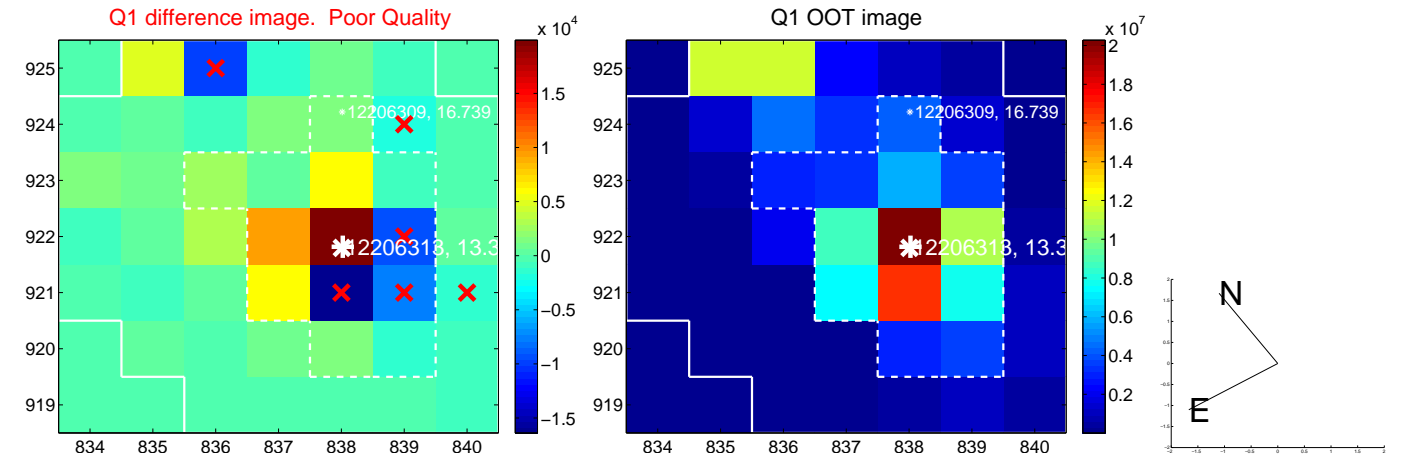
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.209 ± 0.244	0.85	-0.207 ± 0.249	0.026 ± 0.358
PRF-fit source offset from KIC position	0.227 ± 0.256	0.89	-0.222 ± 0.255	0.051 ± 0.379
photometric centroid source offset	0.65 ± 0.44	1.49	0.34 ± 0.34	-0.55 ± 0.47

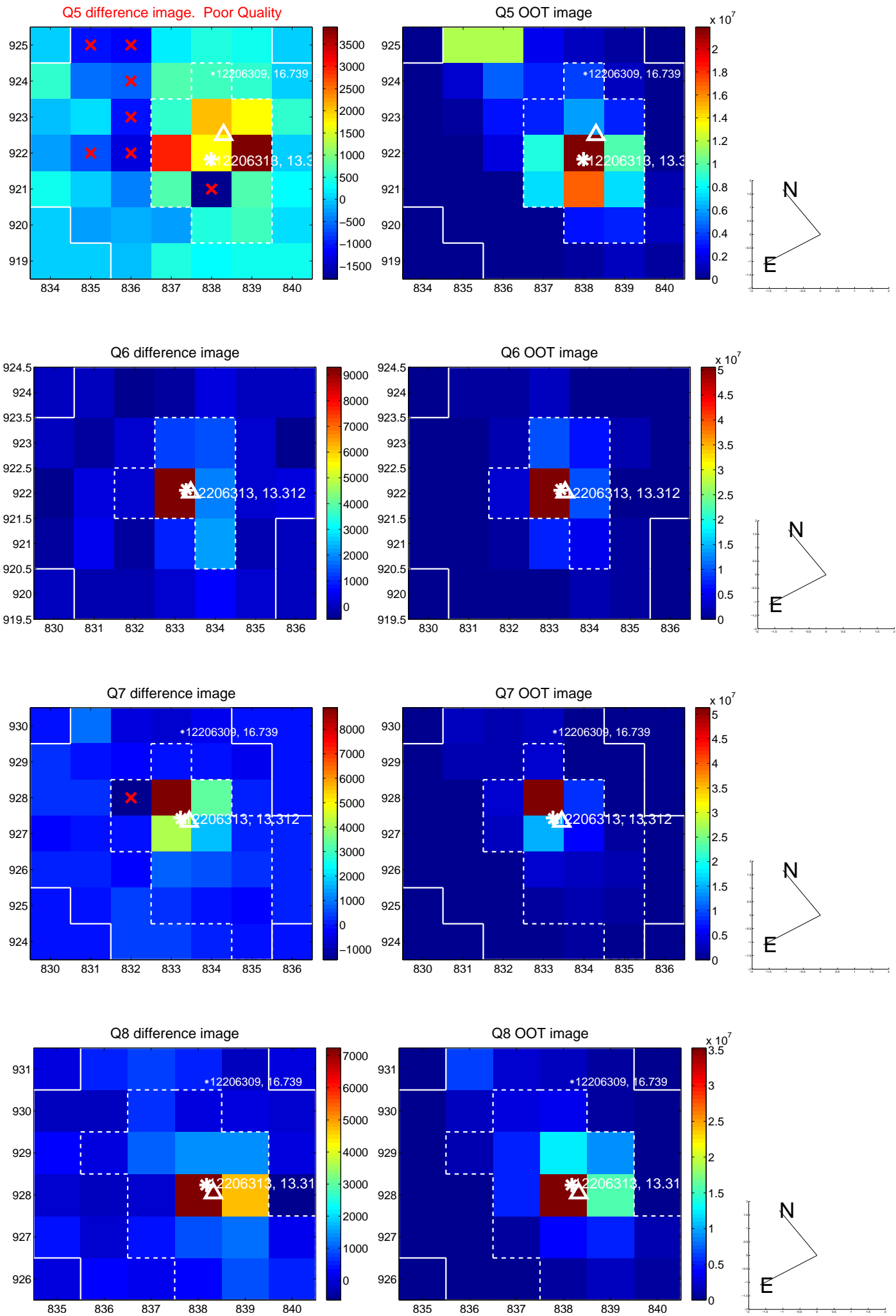


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

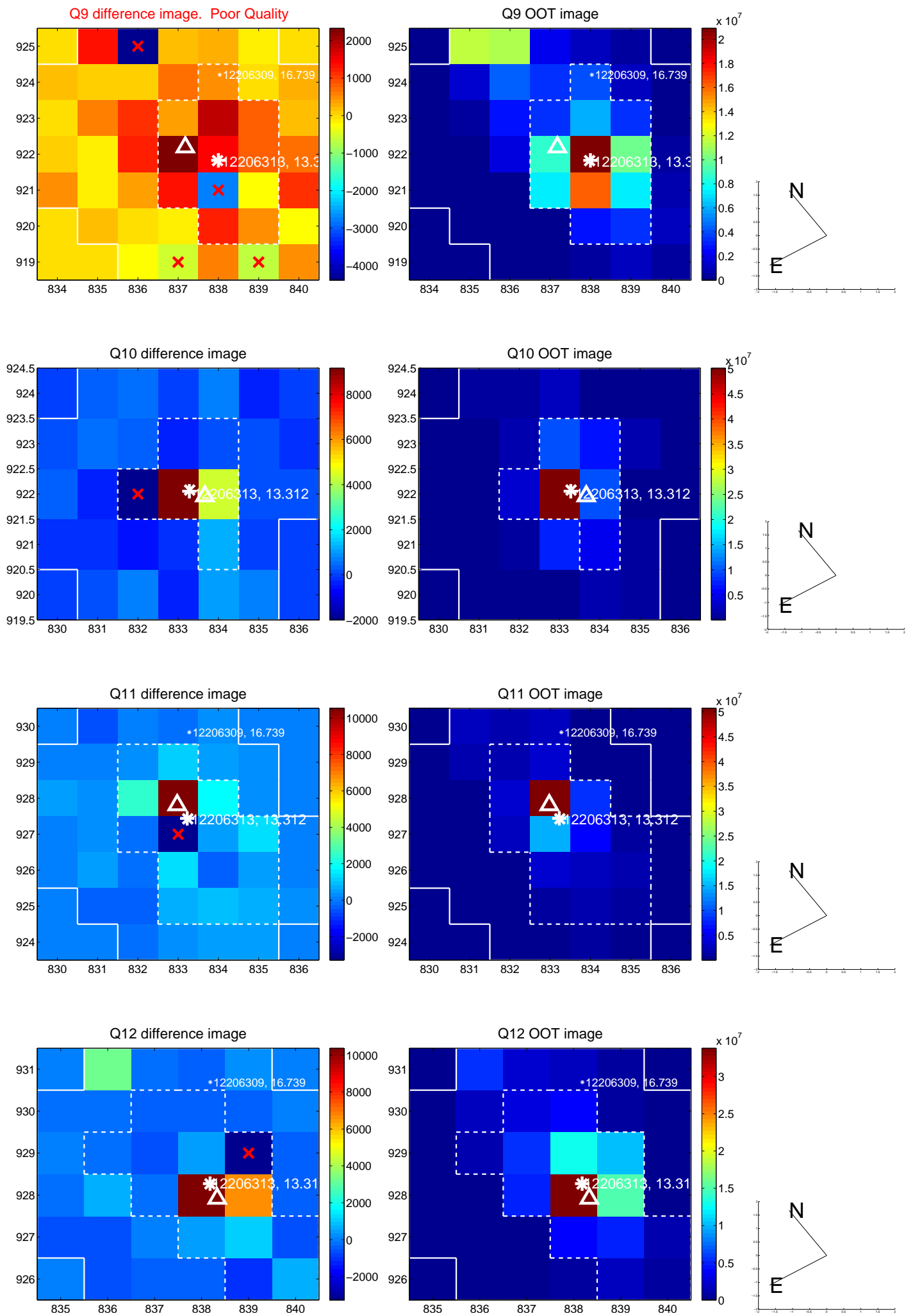
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



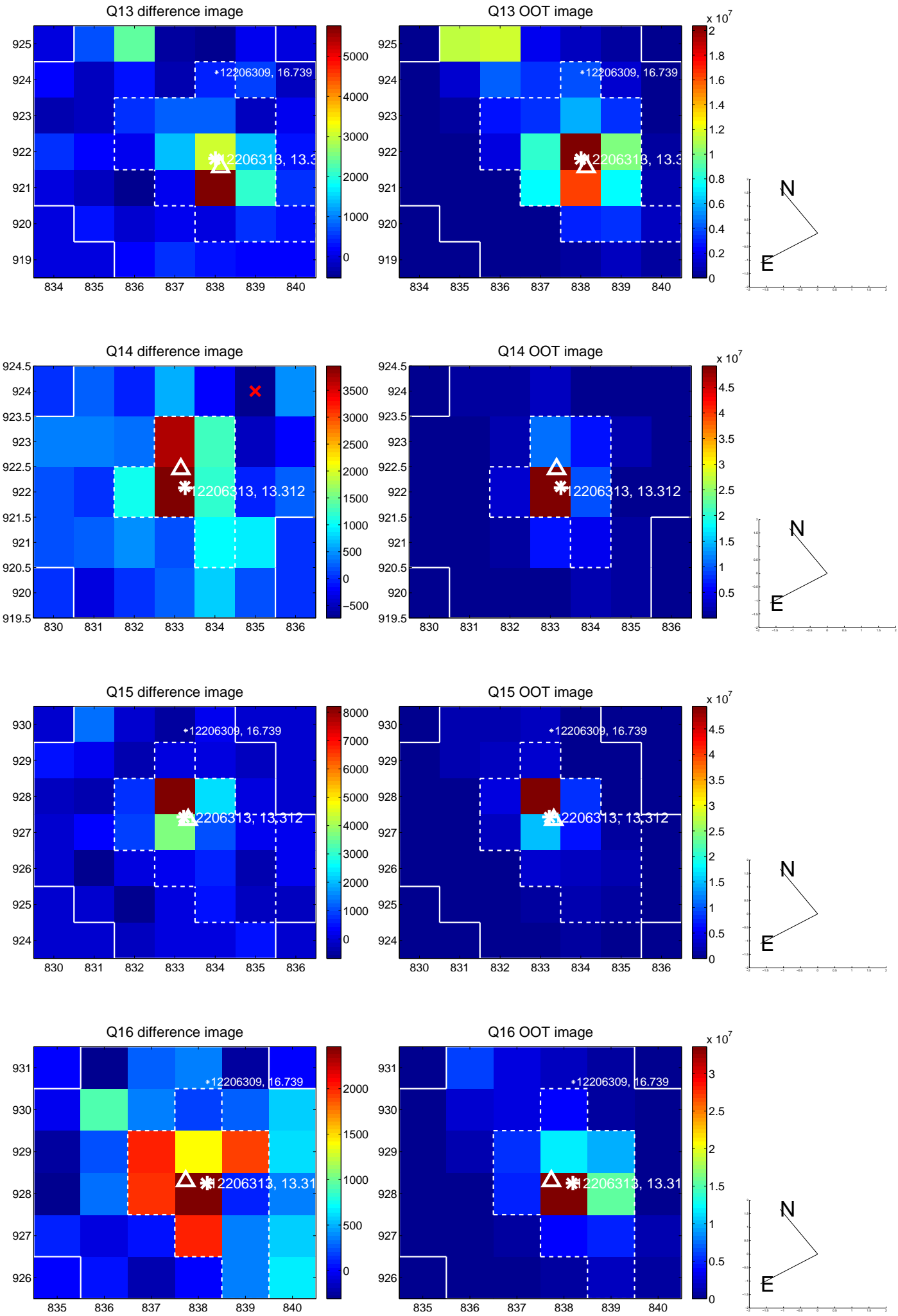
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



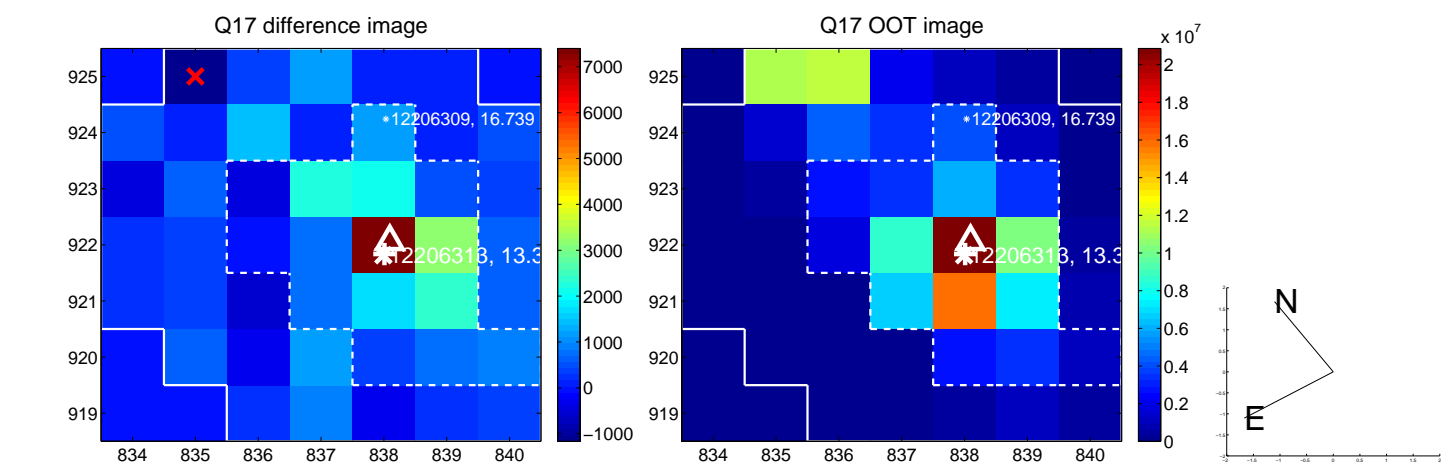
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



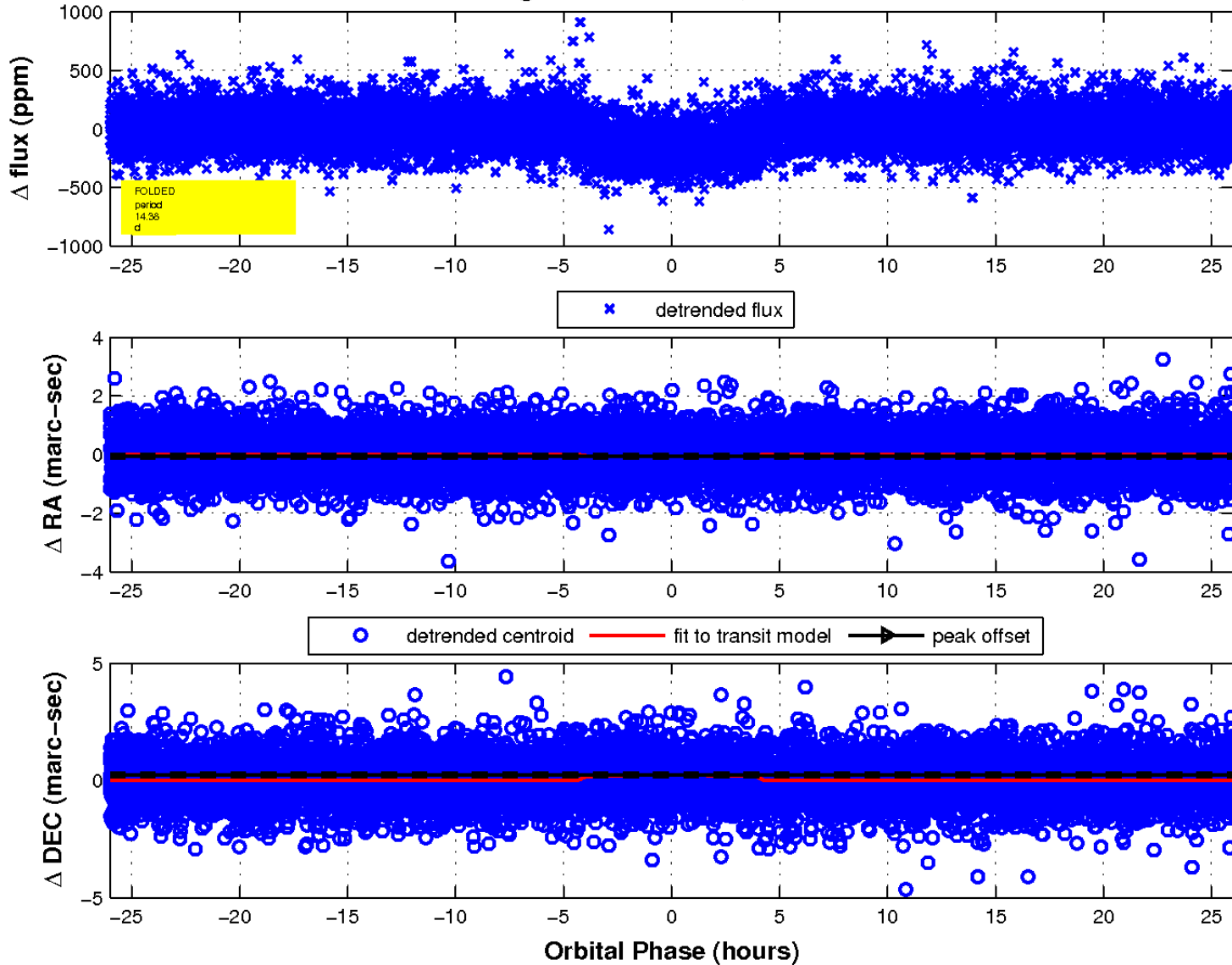
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

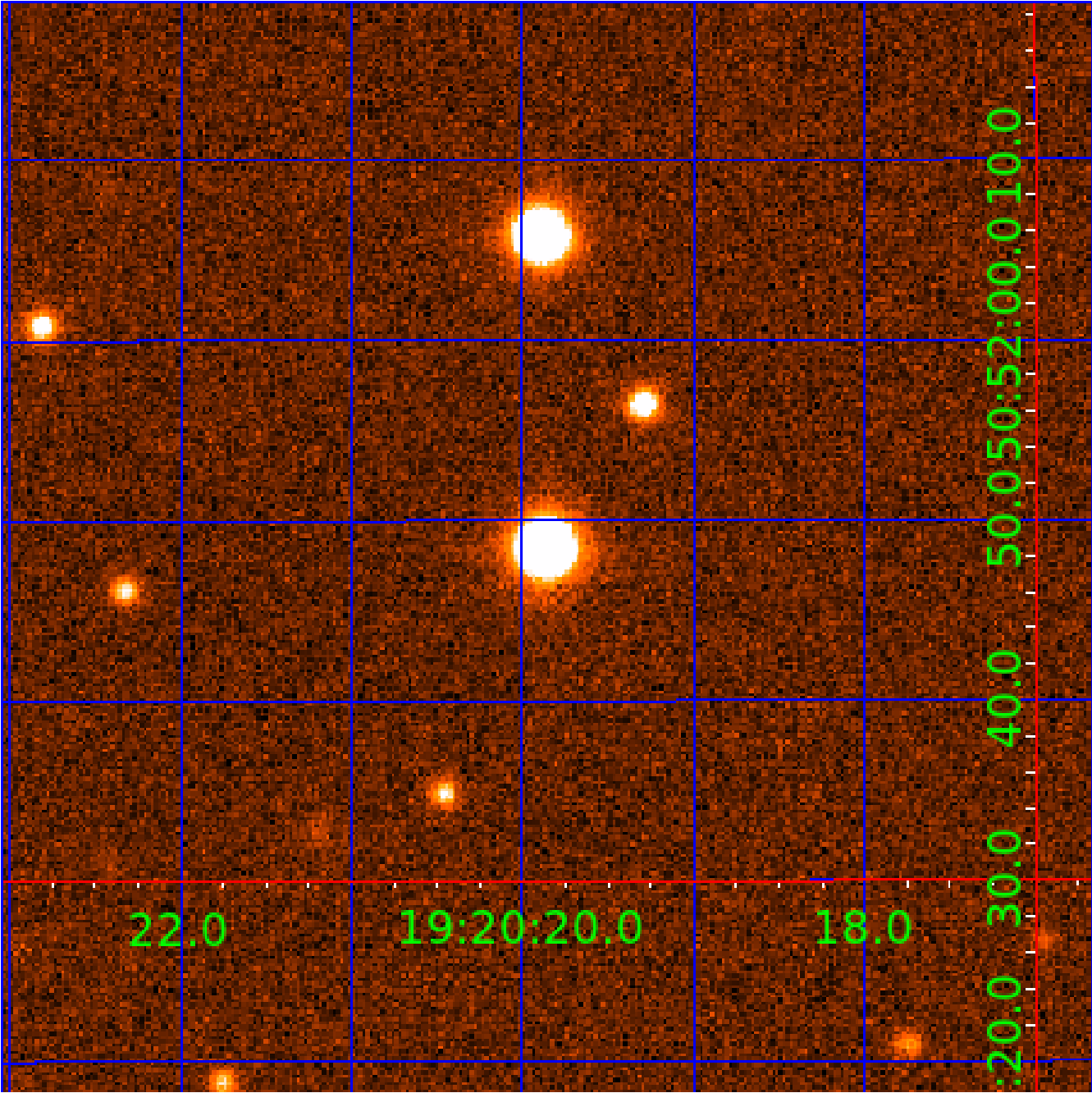


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 012206313

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})
012206313-01	OBS	2714.01	14.383292	140.570409	168.4	8.670	28.8	31.0	1.29	6115	1.87	148.12
012206313-02	OBS	2714.02	47.318664	170.066053	254.3	12.064	26.3	28.7	1.29	6115	2.58	30.27
012206313-03	OBS	2714.03	184.262242	255.225885	300.4	11.981	16.1	16.5	1.29	6115	2.52	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012206313-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT
012206313-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012206313-03	OBS	PC	0.95	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.

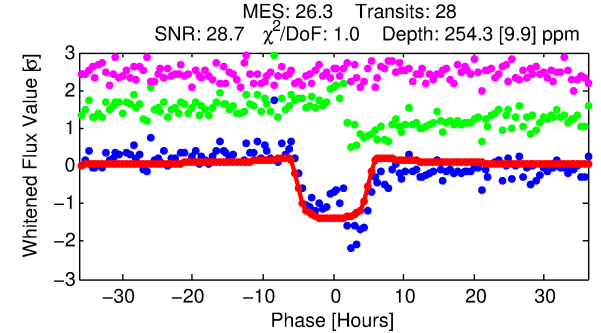
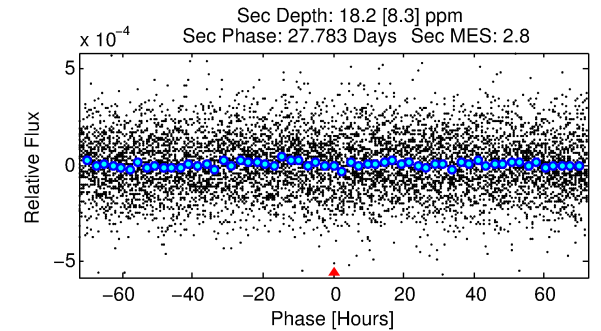
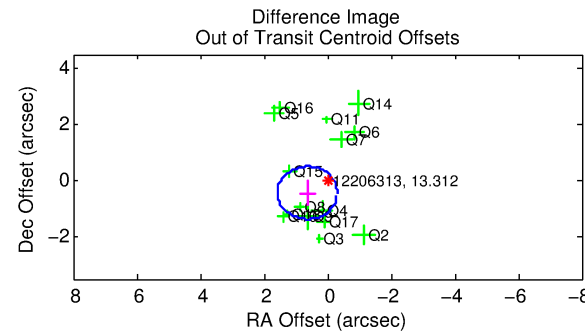
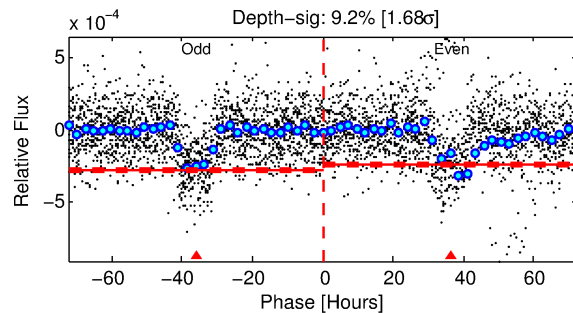
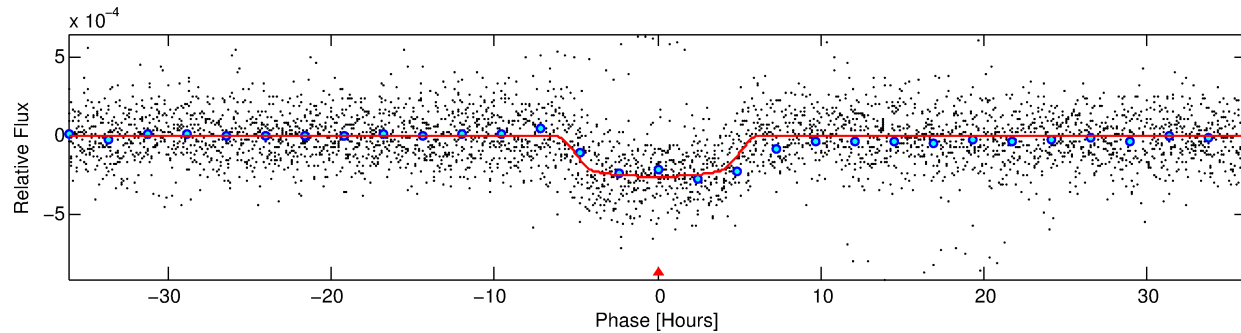
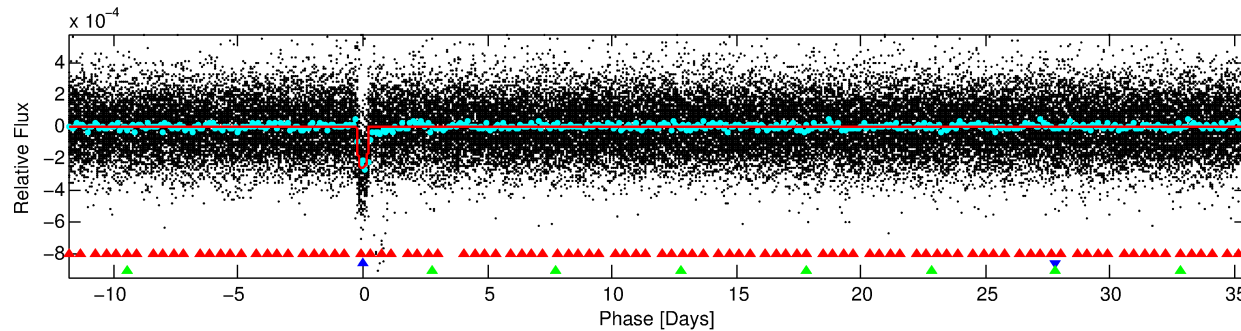
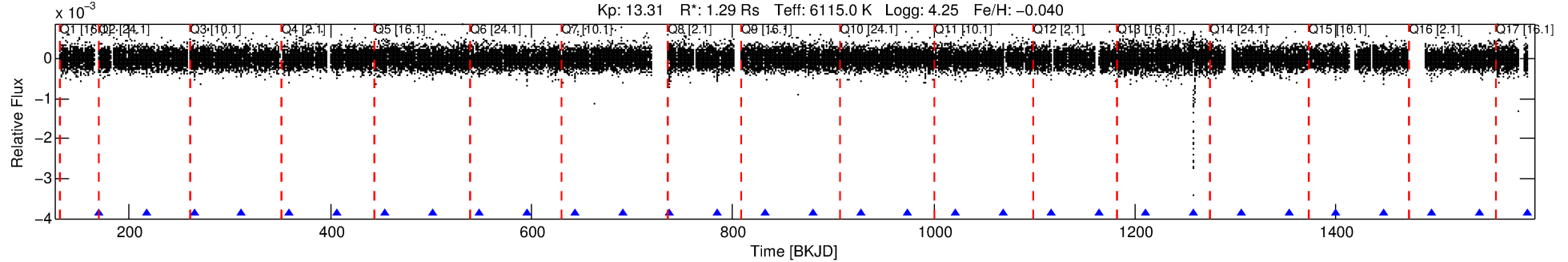
Ephemeris Match Information For 012206313-02

No Significant Match Found

DV One-Page Summary

KIC: 12206313 Candidate: 2 of 3 Period: 47.319 d
KOI: K02714.02 Name: Kepler-401c Corr: 0.936

Kp: 13.31 R*: 1.29 Rs Teff: 6115.0 K Logg: 4.25 Fe/H: -0.040



DV Fit Results:

Period = 47.31866 [0.00047] d
Epoch = 170.0661 [0.0081] BKJD
Rp/R* = 0.0183 [0.0006]
a/R* = 11.03 [1.43]
b = 0.95 [0.01]
Seff = 30.27 [7.69]
Teq = 598 [38] K
Rp = 2.58 [0.44] Re
a = 0.2626 [0.0403] AU
Ag = 104.31 [54.24] [1.90σ]
Teffp = 2955 [348] K [6.74σ]

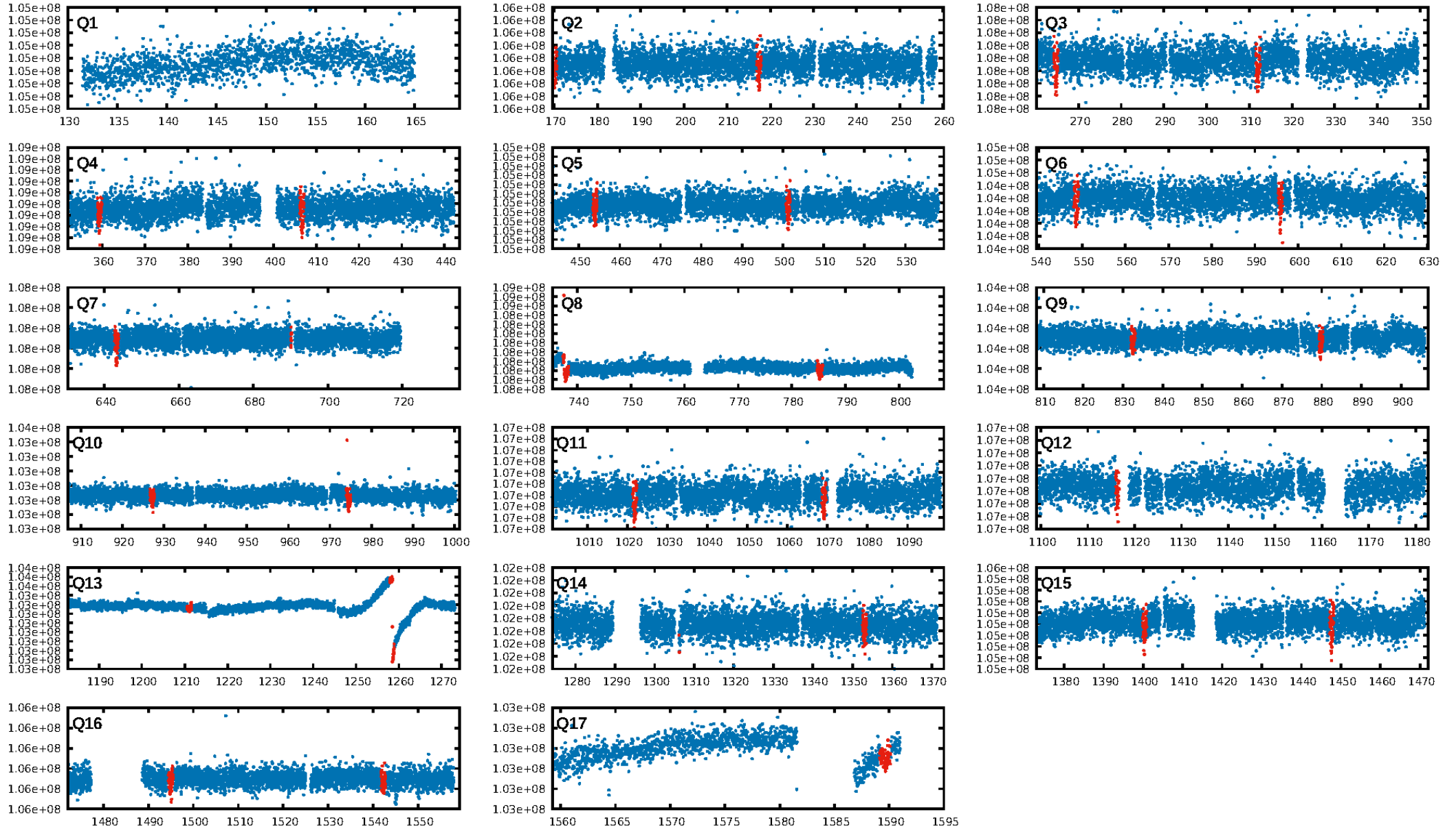
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [53.21σ]
LongPeriod-sig: 100.0% [193.30σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.39e-145
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: 6.829
Centroid-sig: 92.0%
Centroid-so: 0.807 arcsec [1.60σ]
OotOffset-rm: 0.772 arcsec [2.47σ]
KicOffset-rm: 0.734 arcsec [2.17σ]
OotOffset-st: 4/4/3/4 [15]
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DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 0.93 [14/15]

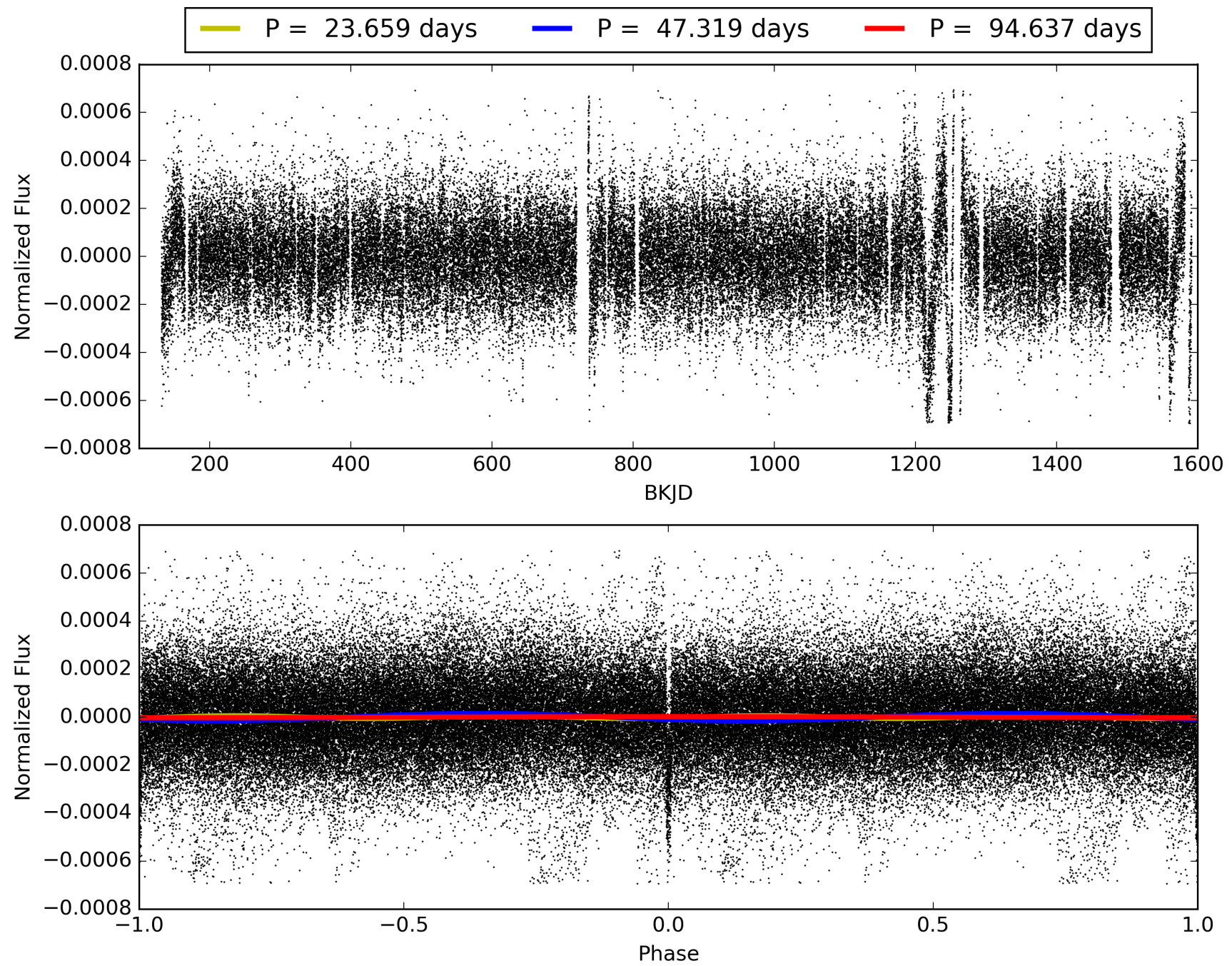
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:42:59 Z

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

TCE 012206313-02, PDC Light Curves

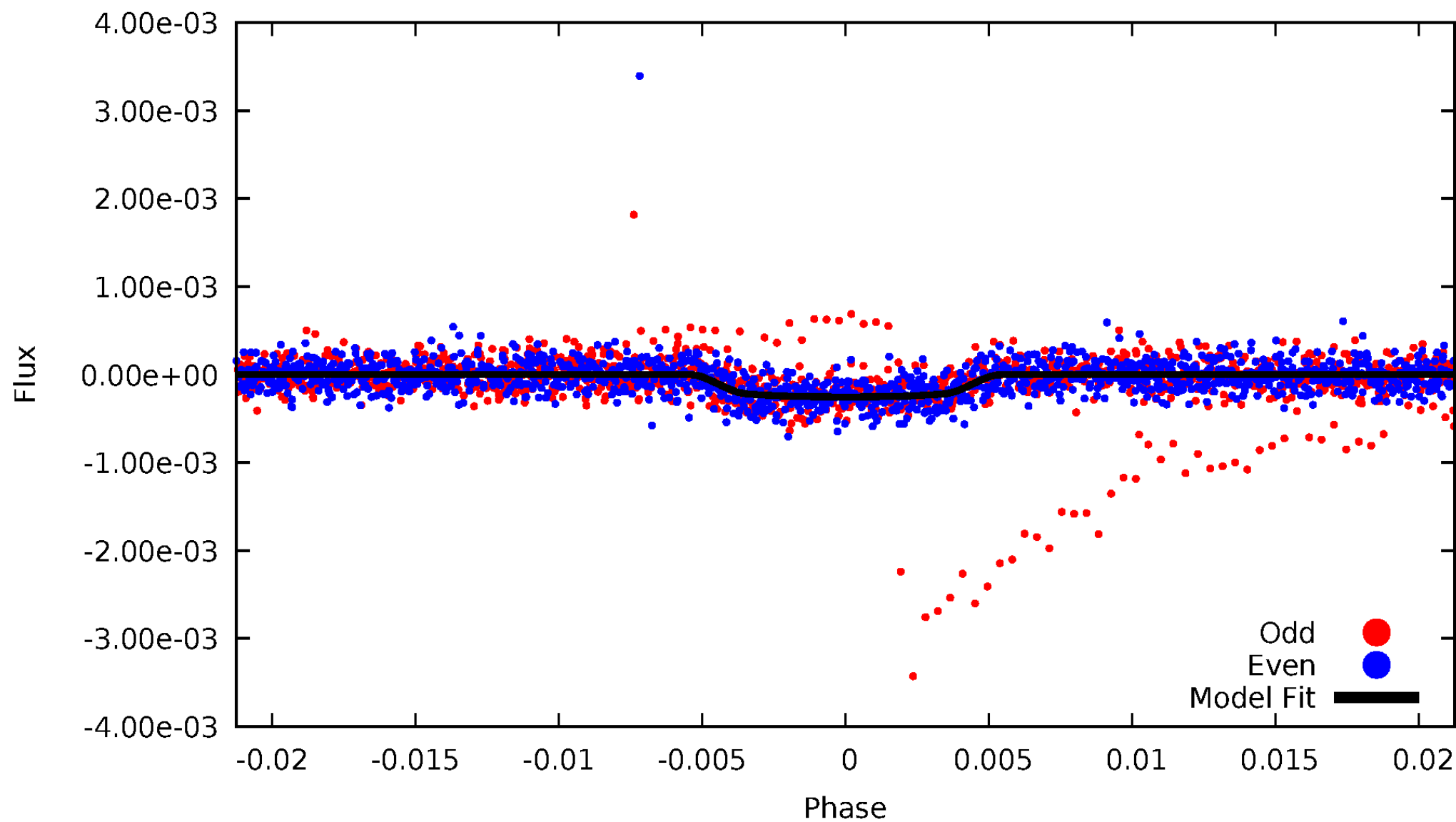


TCE 012206313-02



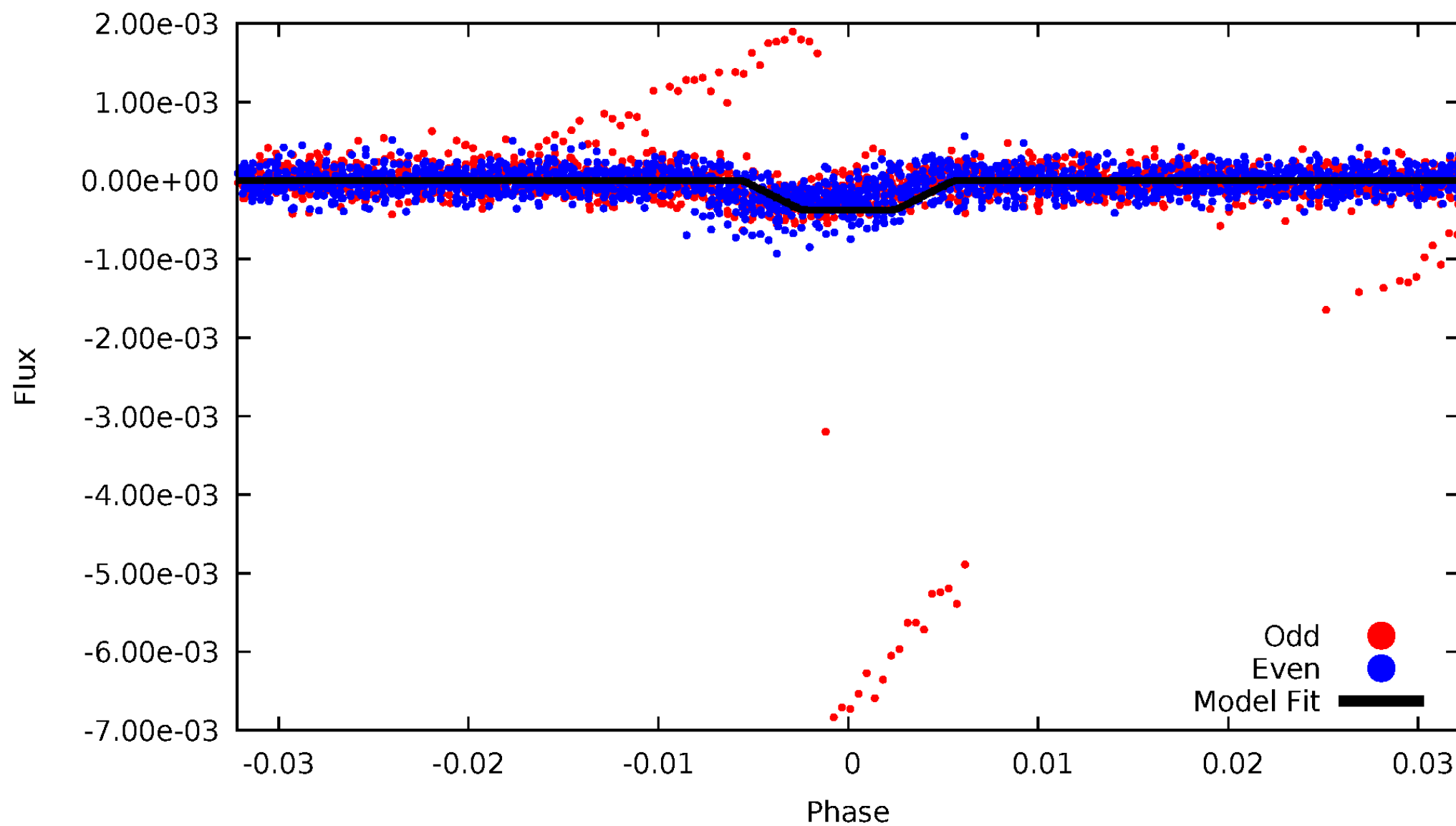
DV Odd/Even

TCE 012206313-02



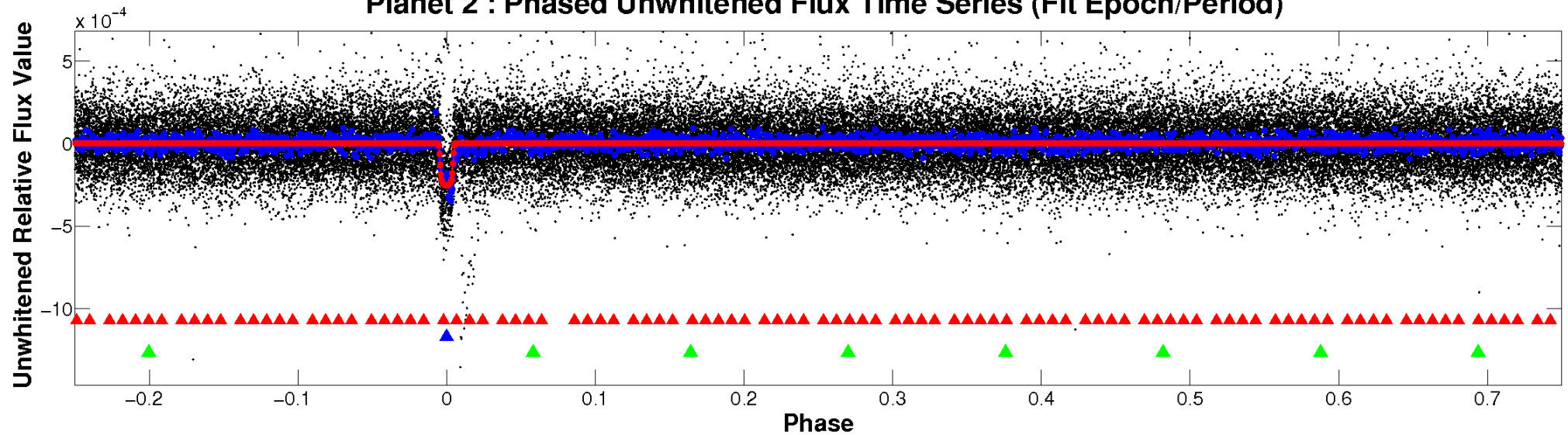
ALT Odd/Even

TCE 012206313-02

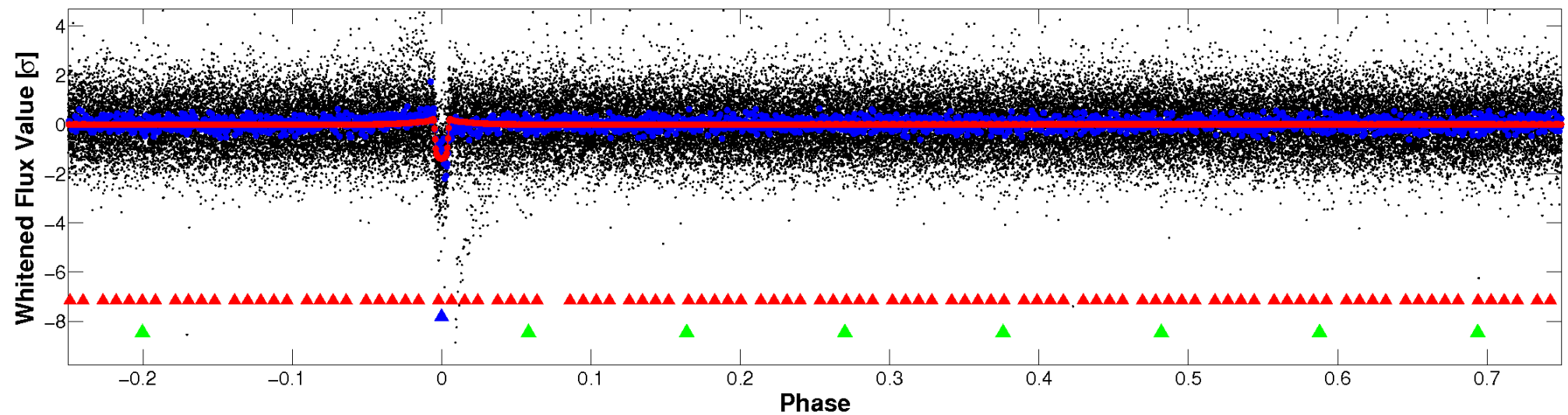


Non-Whitened Vs. Whitened Light Curve

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

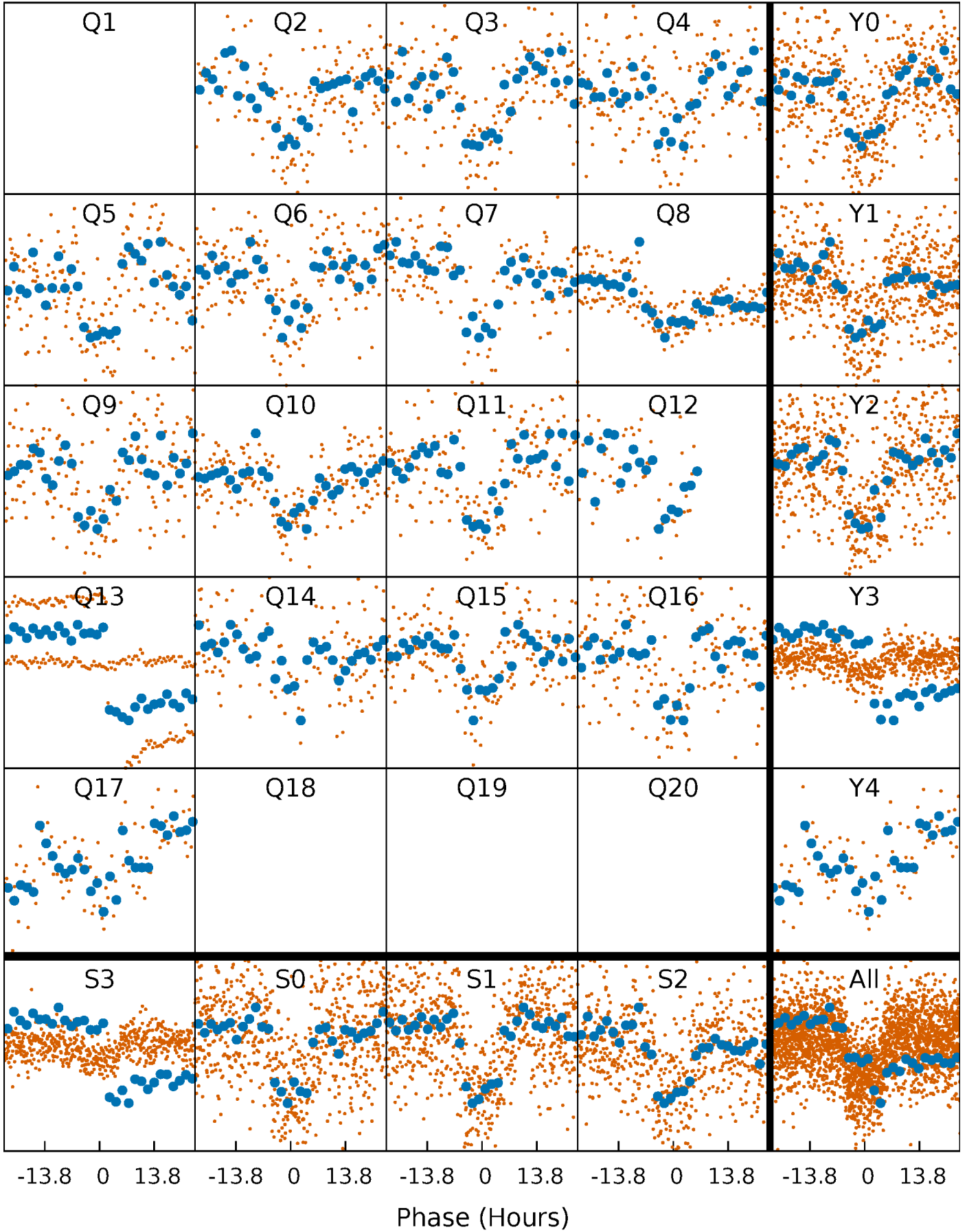


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



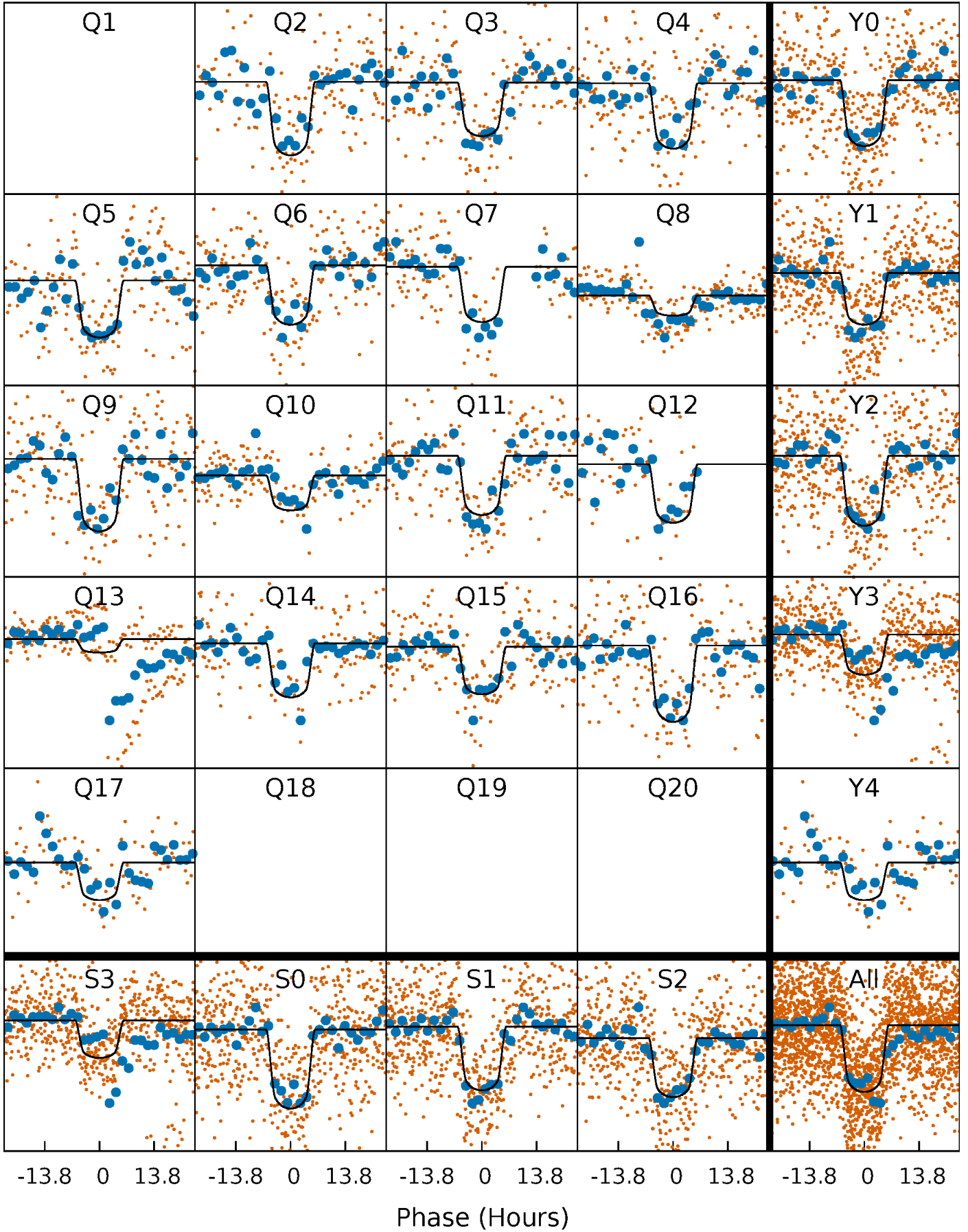
PDC Quarter-Phased Transit Curves

TCE 012206313-02 P= 47.318664 Days $T_0=170.066053$ (BKJD)



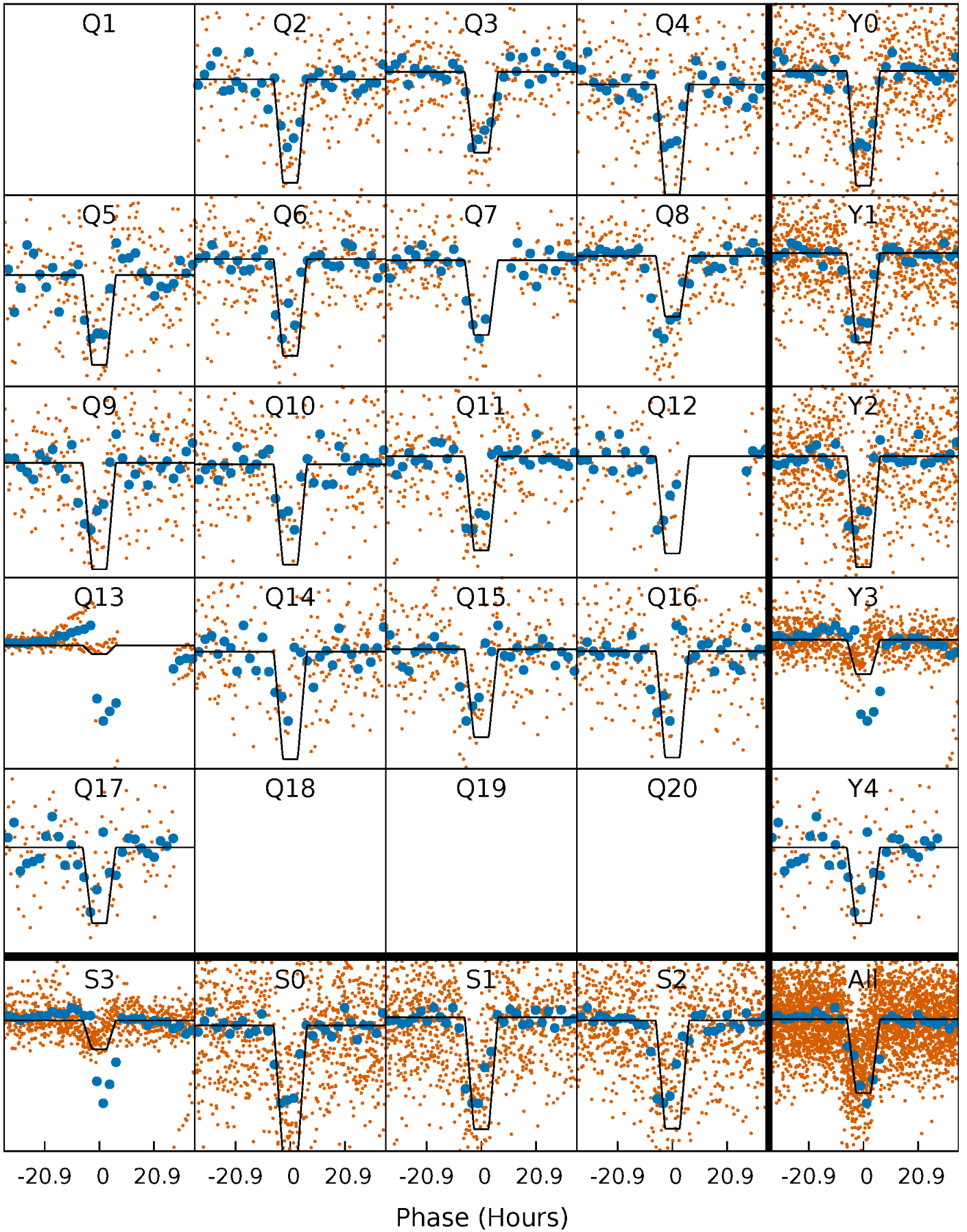
DV Quarter-Phased Transit Curves

TCE 012206313-02 P= 47.318664 Days $T_0=170.066053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

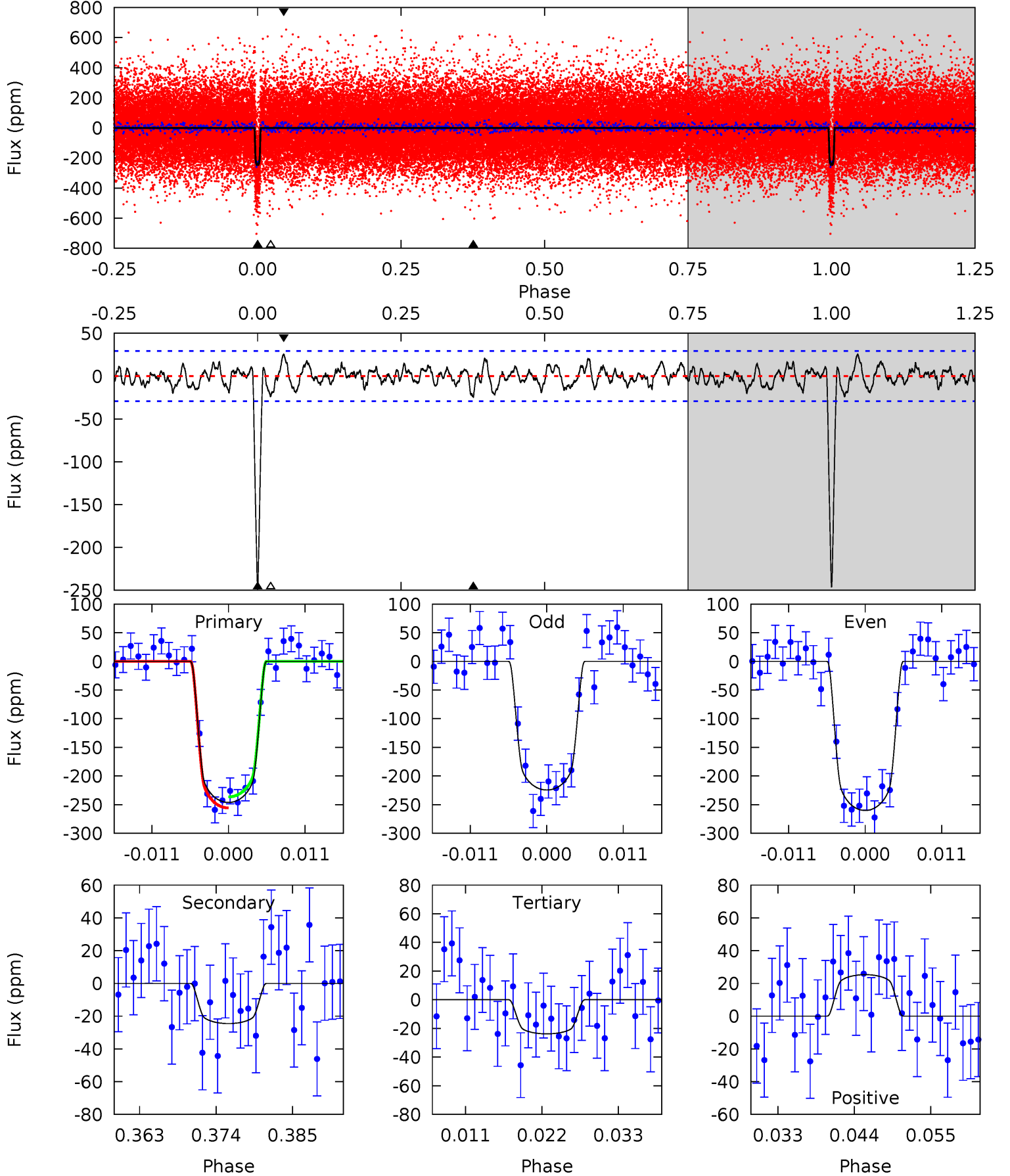
TCE 012206313-02 P= 47.324498 Days $T_0=170.079724$ (BKJD)



DV Model-Shift Uniqueness Test

012206313-02, $P = 47.318664$ Days, $E = 122.747389$ Days

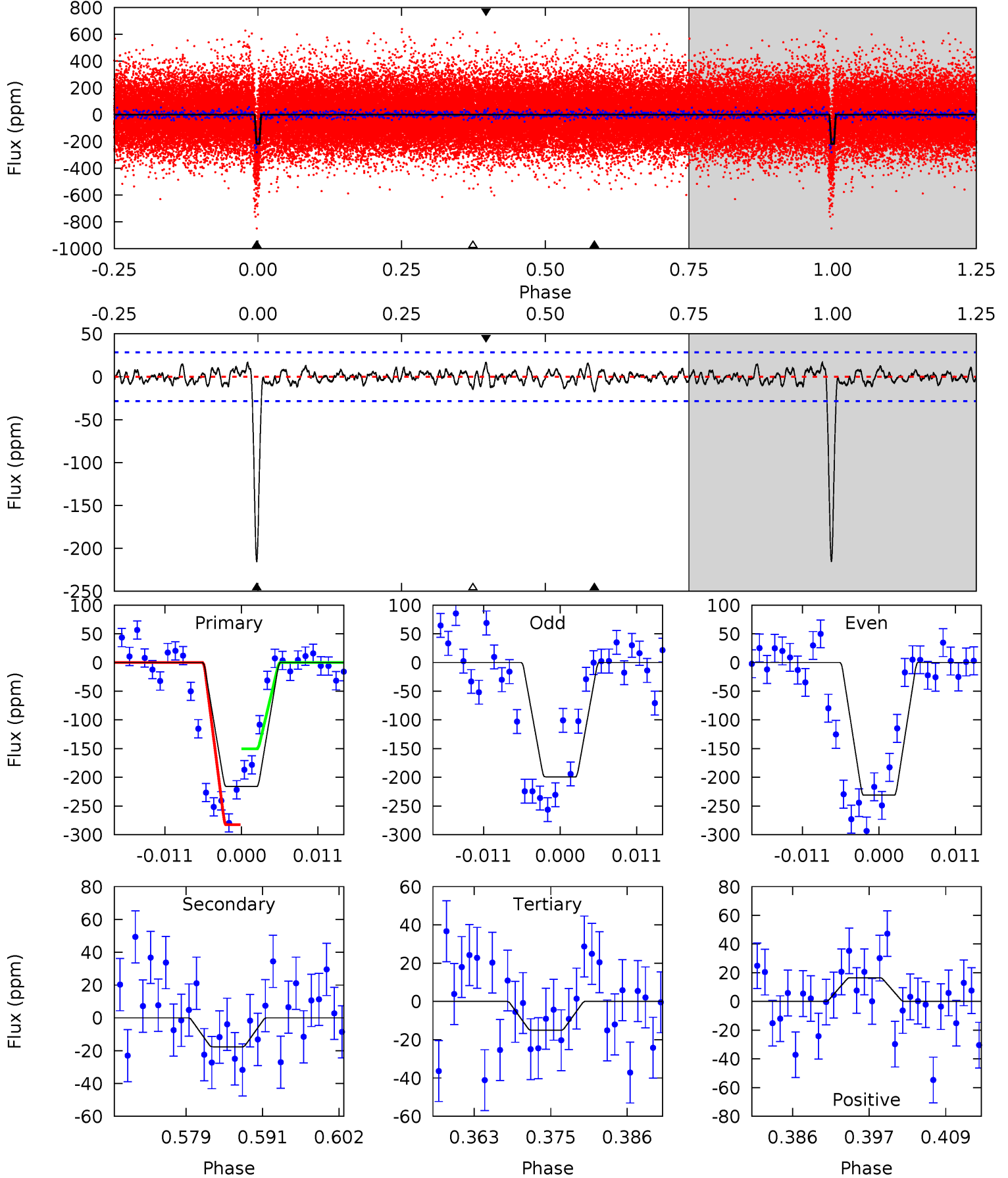
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.0	4.19	4.07	4.32	5.01	2.54	1.46	38.0	37.7	0.12	-0.13	3.04	1.07	0.09	1.65



Alt Model-Shift Uniqueness Test

012206313-02, P = 47.324498 Days, E = 122.755226 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.9	3.09	2.63	2.89	5.00	2.53	0.98	35.2	35.0	0.46	0.20	2.79	1.64	0.07	11.6



Stellar Parameters For KIC 012206313

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6115^{+122}_{-135}	$4.249^{+0.137}_{-0.112}$	$-0.040^{+0.150}_{-0.150}$	$1.291^{+0.216}_{-0.216}$	$1.077^{+0.102}_{-0.074}$	$0.705^{+0.463}_{-0.238}$
	+2%/-2%	+3%/-3%	+375%/-375%	+17%/-17%	+9%/-7%	+66%/-34%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 012206313-02 / KOI 2714.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-25 ± 6	$2.57^{+0.28}_{-0.24}$	833^{+41}_{-41}	3623^{+134}_{-171}	141^{+46}_{-42}
Alt.	-18 ± 6	$2.73^{+0.29}_{-0.26}$	832^{+42}_{-41}	3365^{+166}_{-222}	88^{+41}_{-32}

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

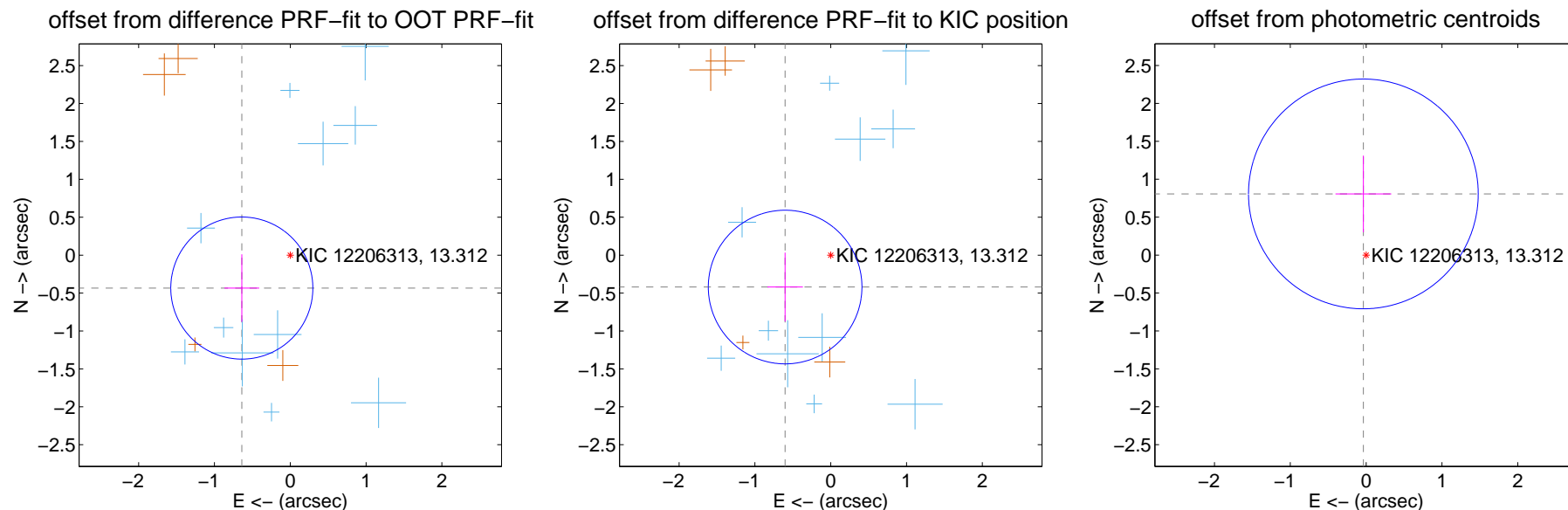
DV Centroid Data

Supplemental centroid analysis for 012206313-02. Kepler magnitude: 13.31. Transit SNR 28.73

There are 11 quarters with good PRF difference image offsets

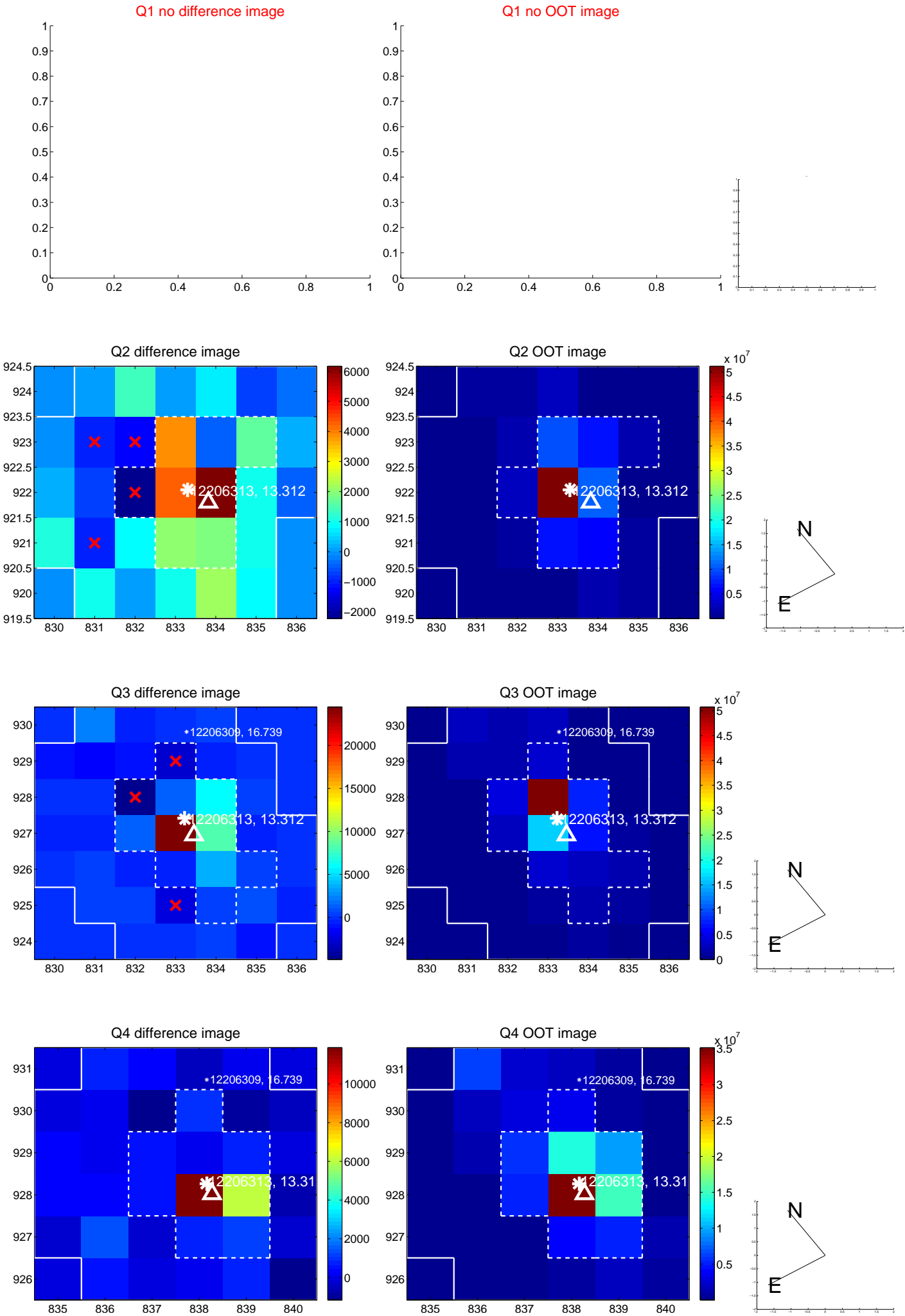
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.772 ± 0.312	2.47	0.639 ± 0.229	-0.434 ± 0.445
PRF-fit source offset from KIC position	0.734 ± 0.338	2.17	0.601 ± 0.235	-0.420 ± 0.454
photometric centroid source offset	0.81 ± 0.50	1.60	0.04 ± 0.37	0.81 ± 0.51

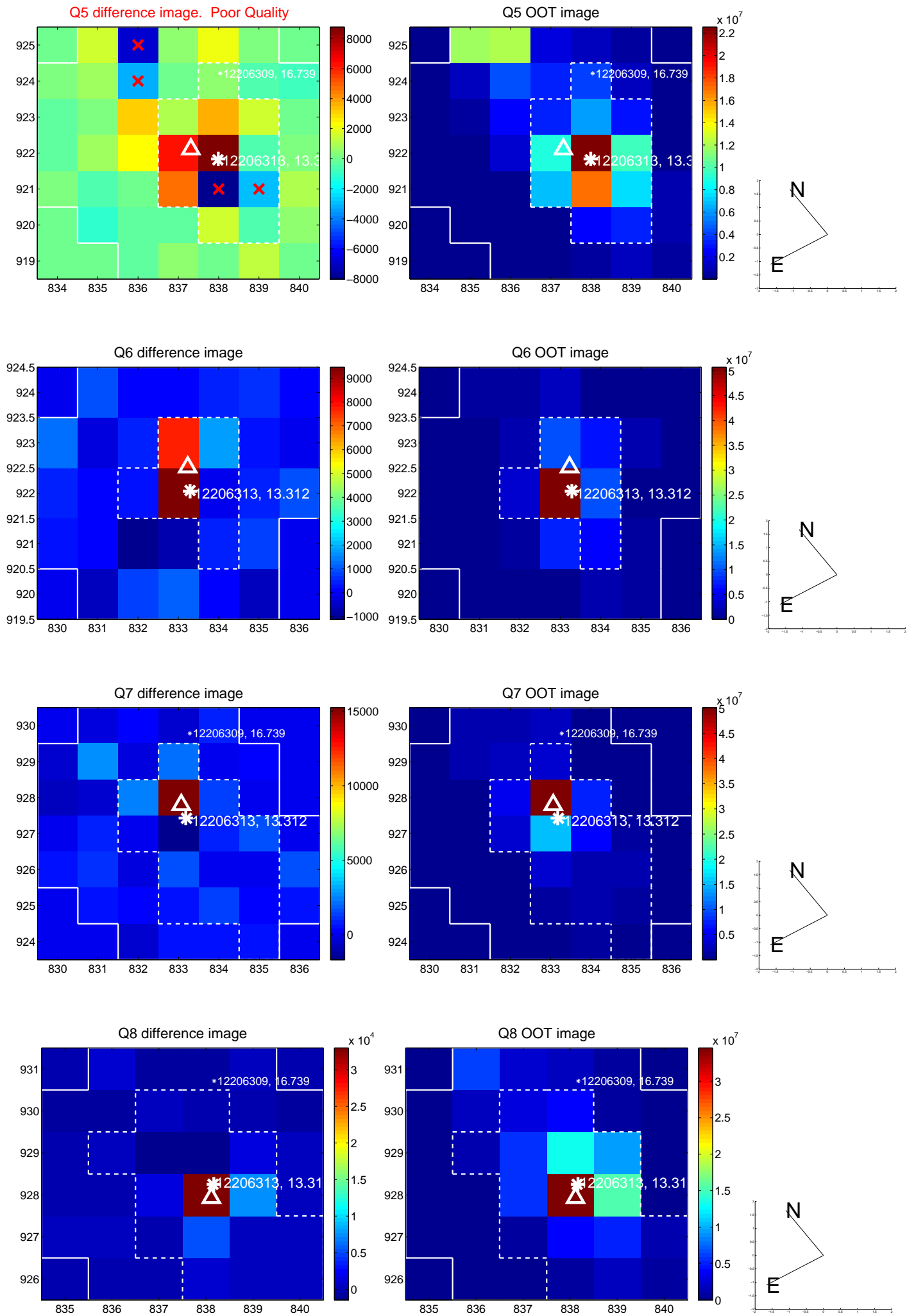


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

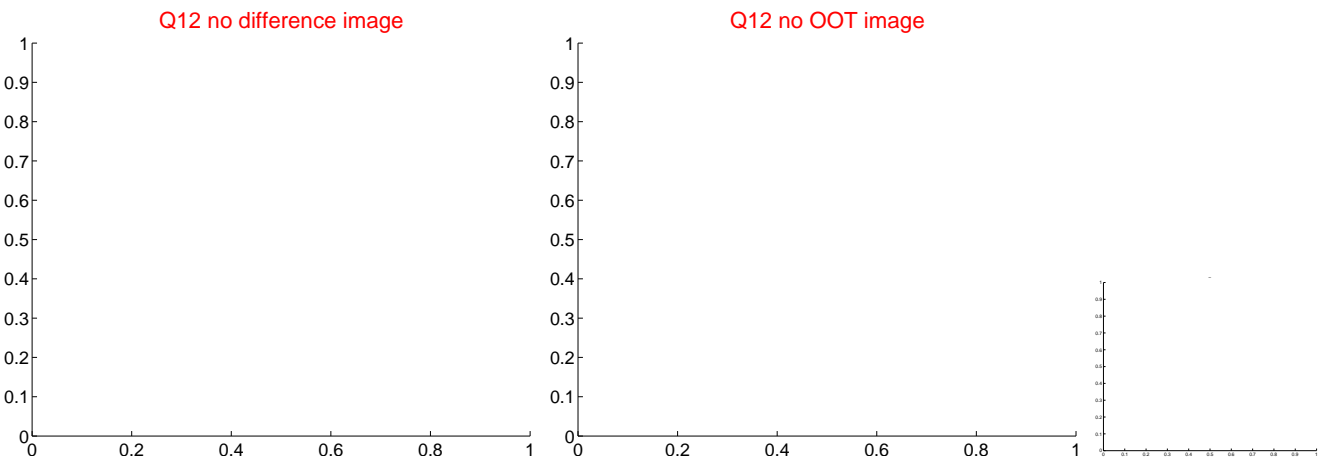
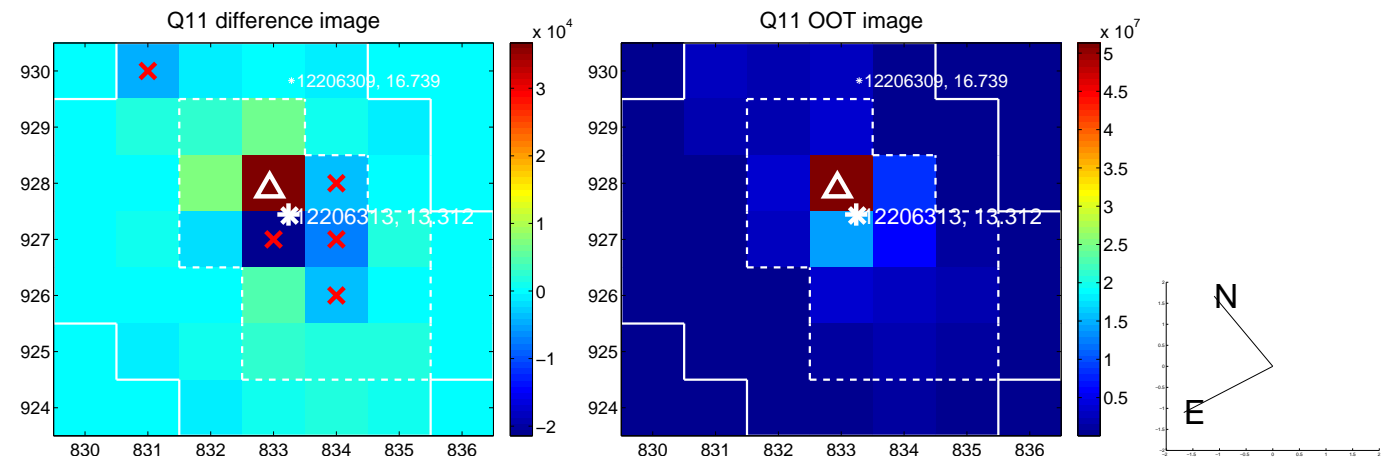
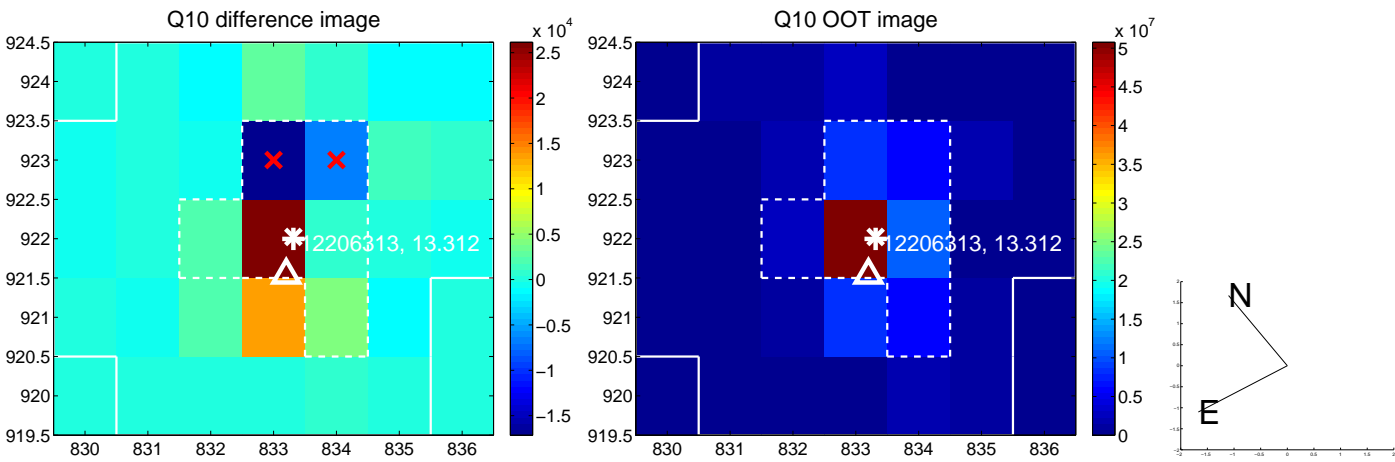
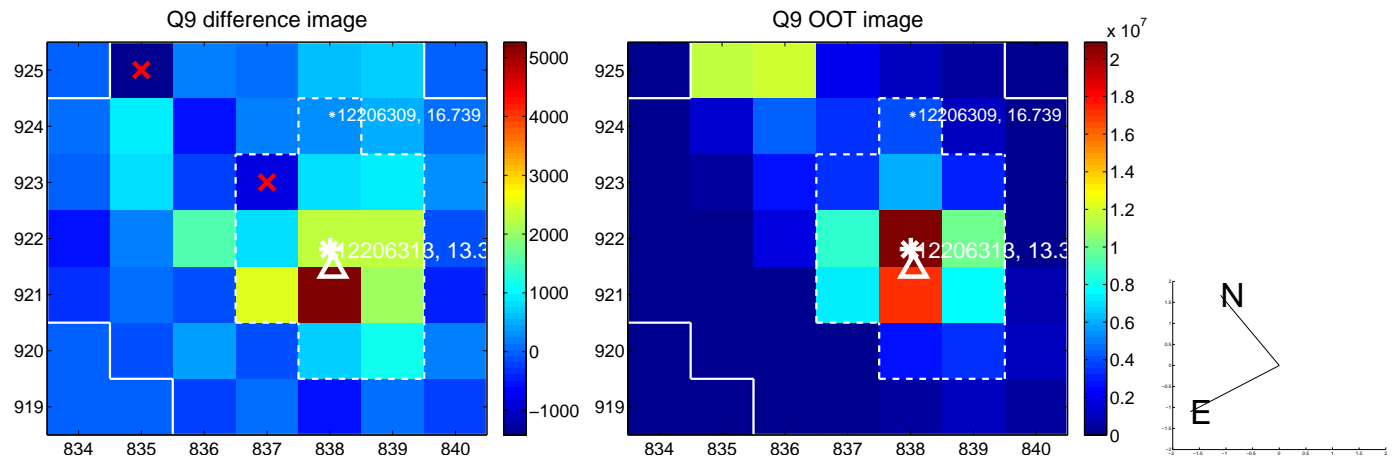
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



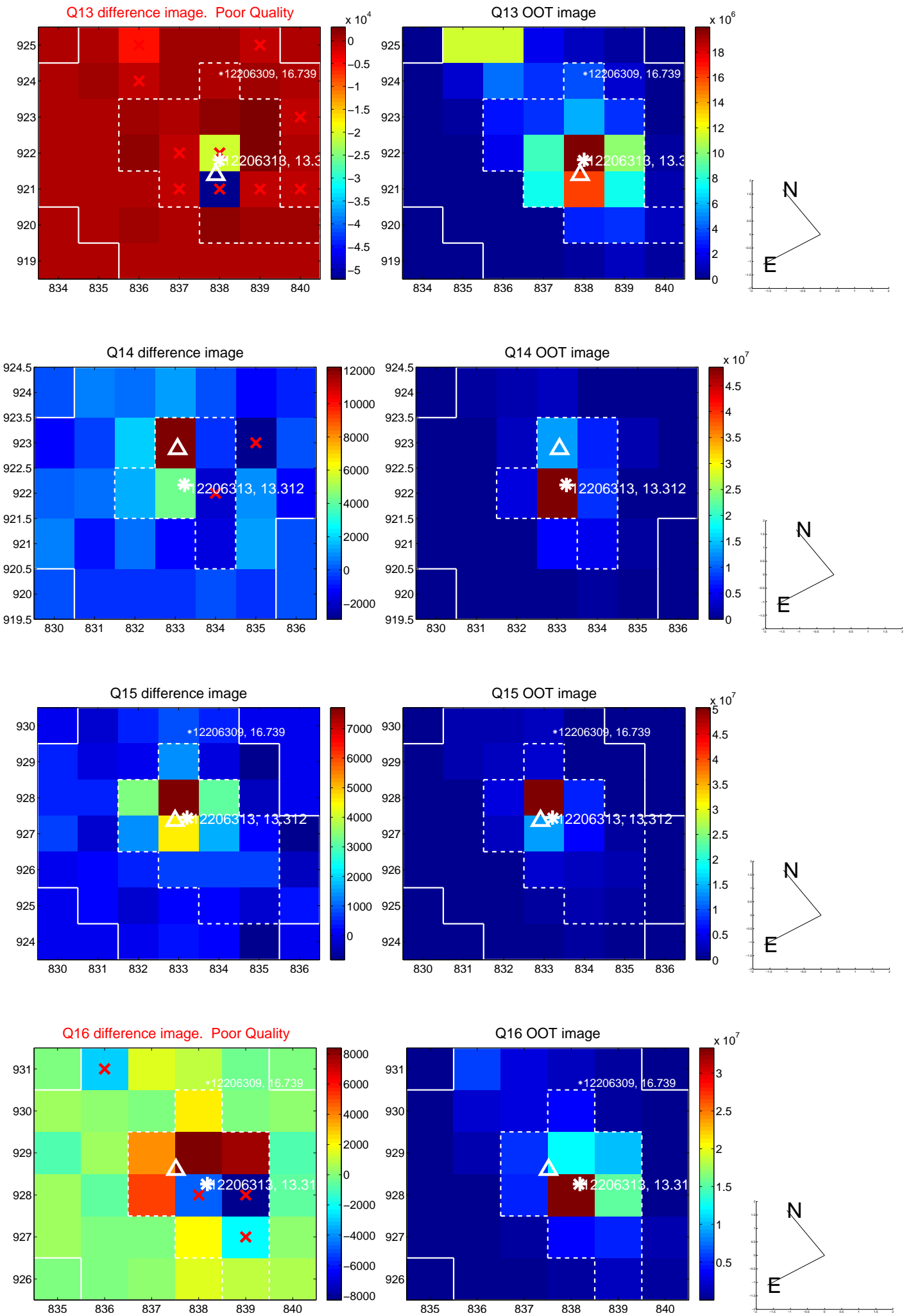
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



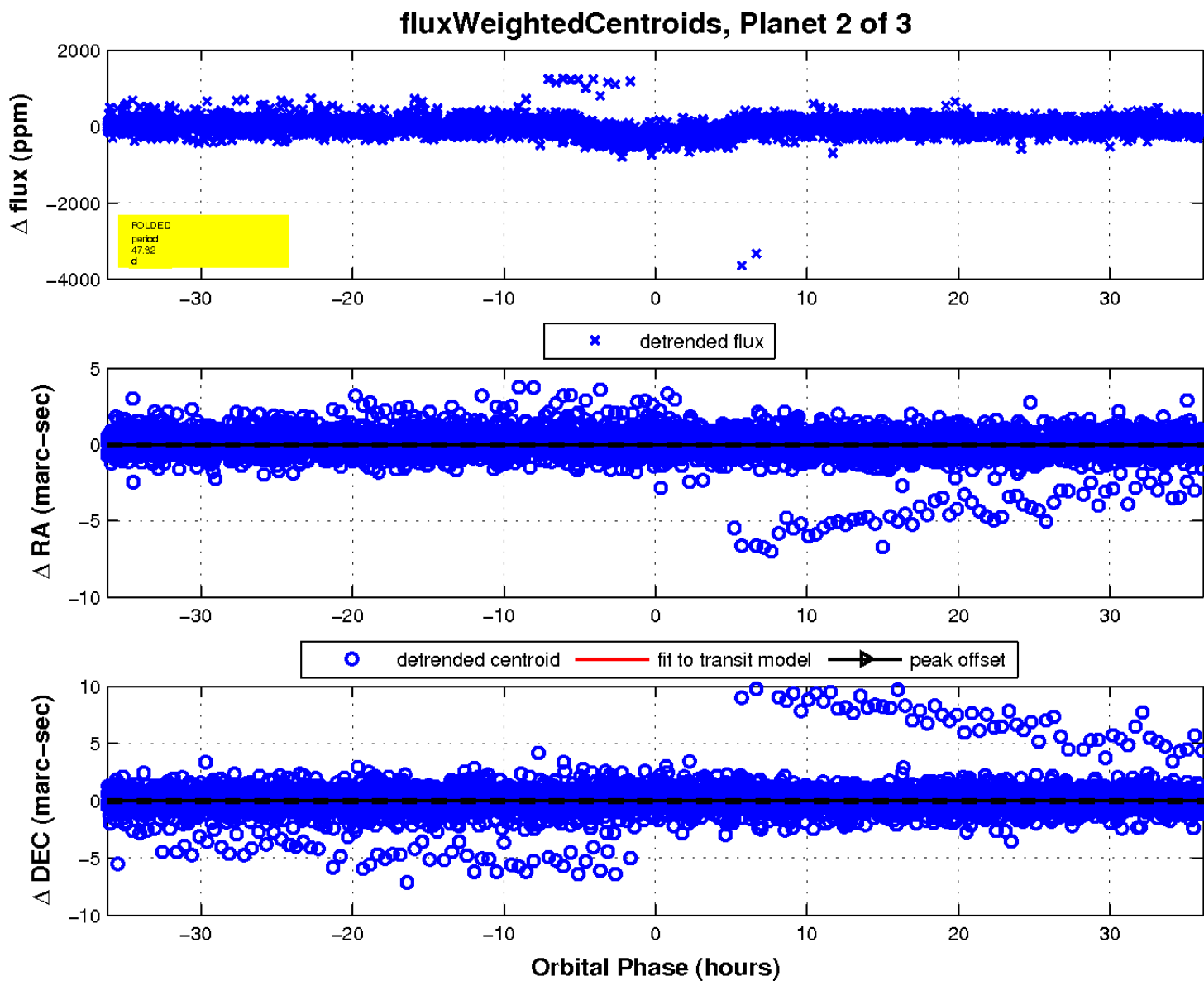
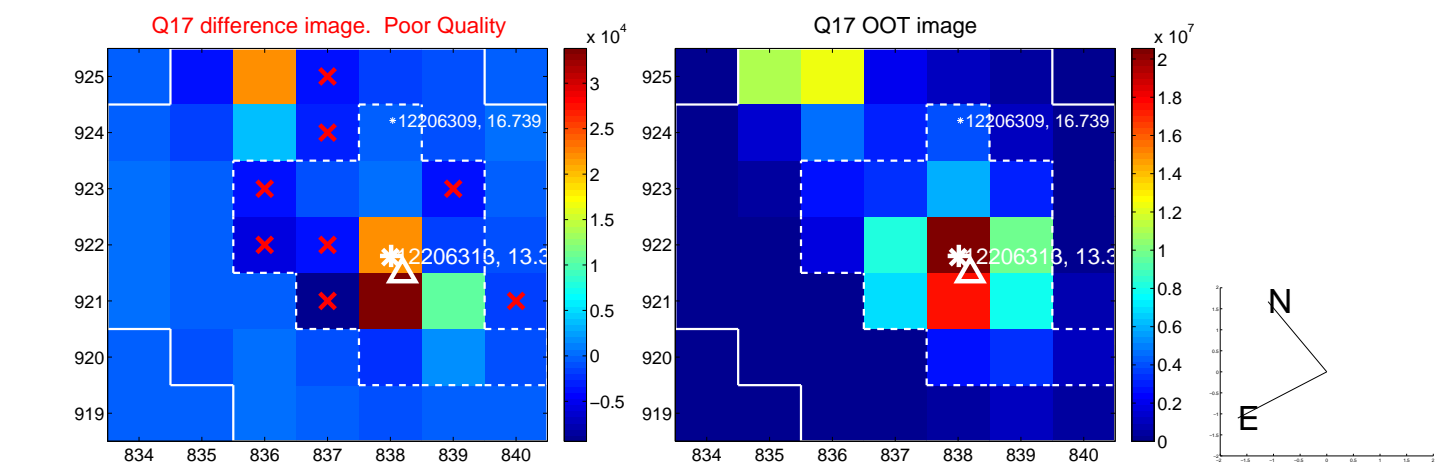
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

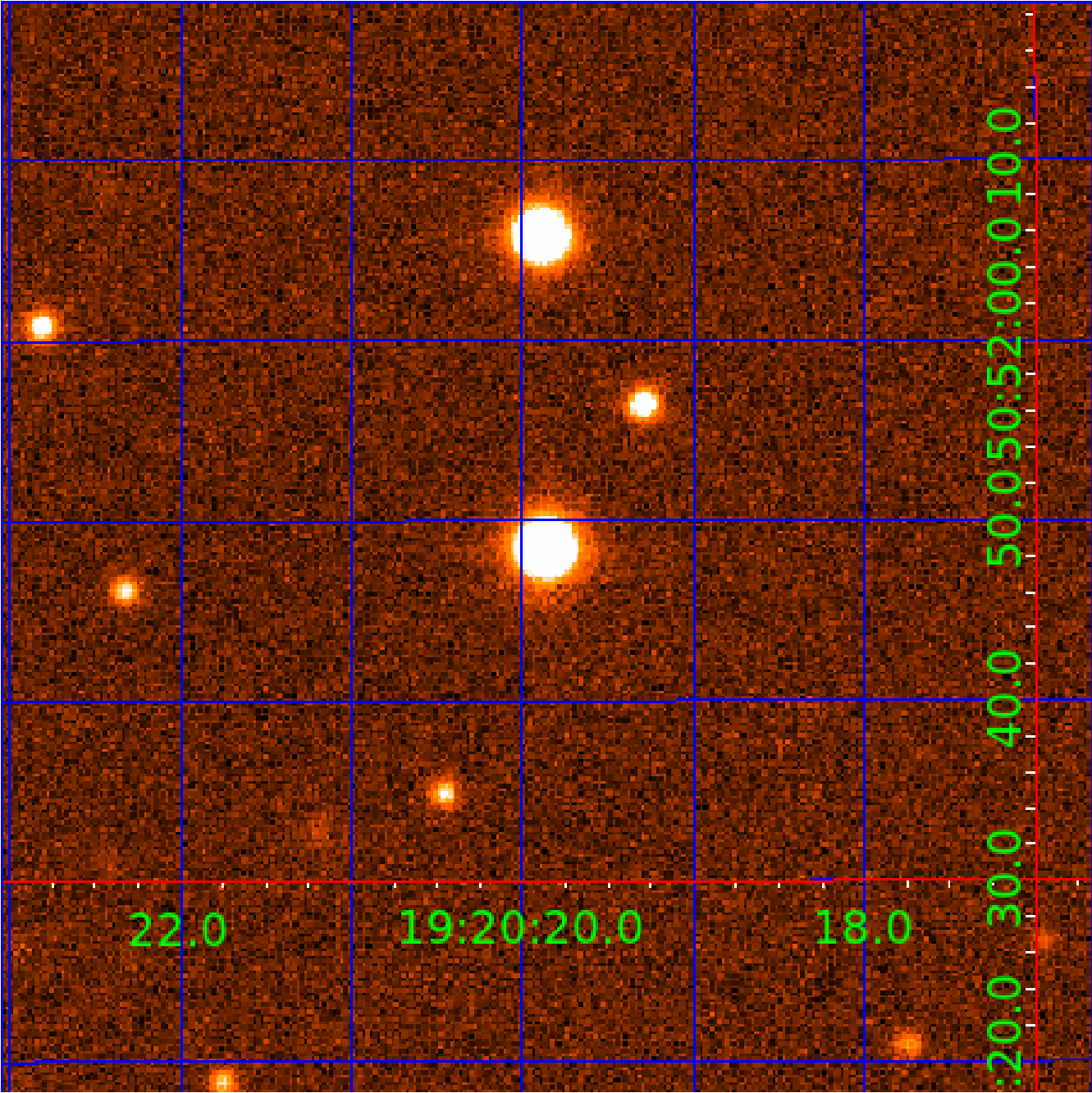


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012206313

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})
012206313-01	OBS	2714.01	14.383292	140.570409	168.4	8.670	28.8	31.0	1.29	6115	1.87	148.12
012206313-02	OBS	2714.02	47.318664	170.066053	254.3	12.064	26.3	28.7	1.29	6115	2.58	30.27
012206313-03	OBS	2714.03	184.262242	255.225885	300.4	11.981	16.1	16.5	1.29	6115	2.52	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012206313-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT
012206313-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012206313-03	OBS	PC	0.95	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.

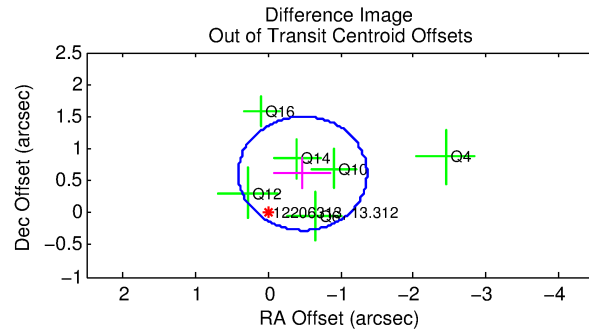
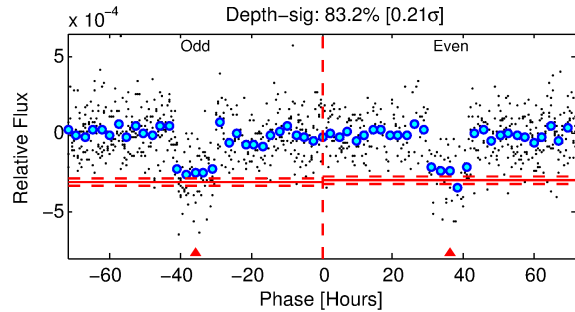
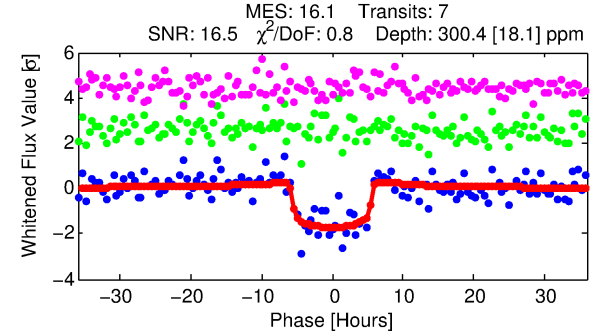
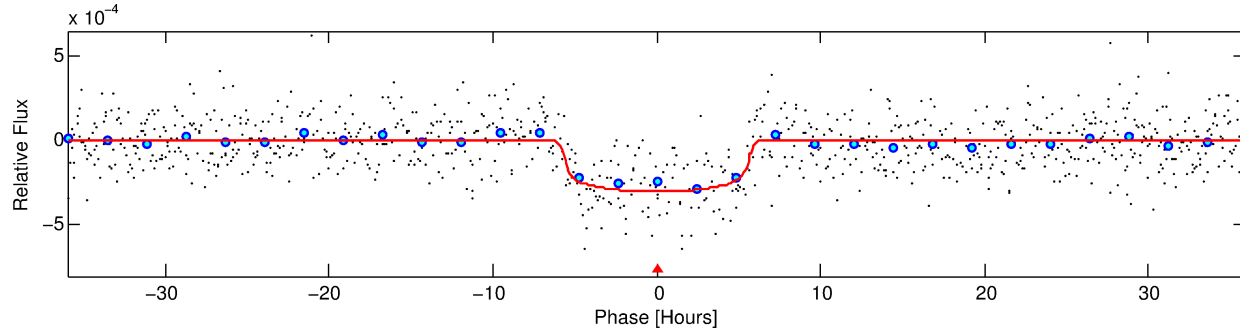
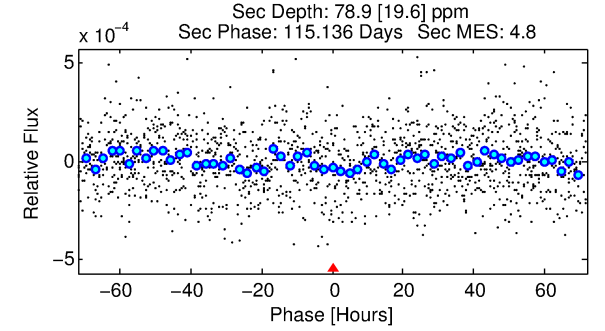
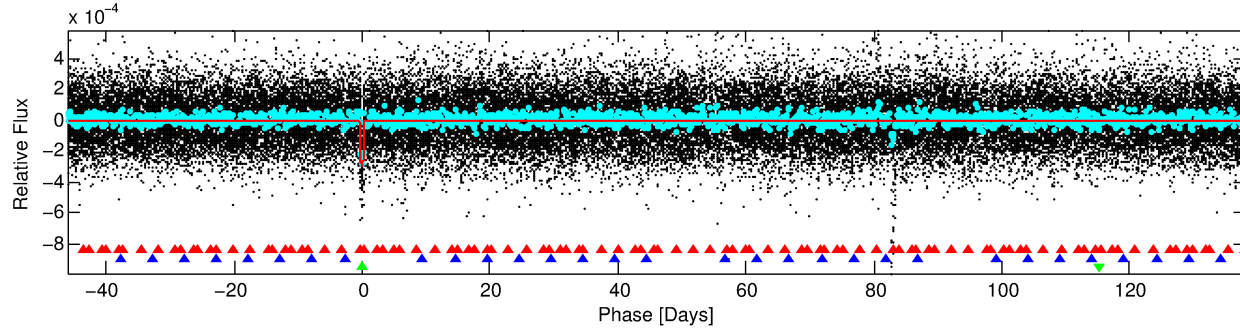
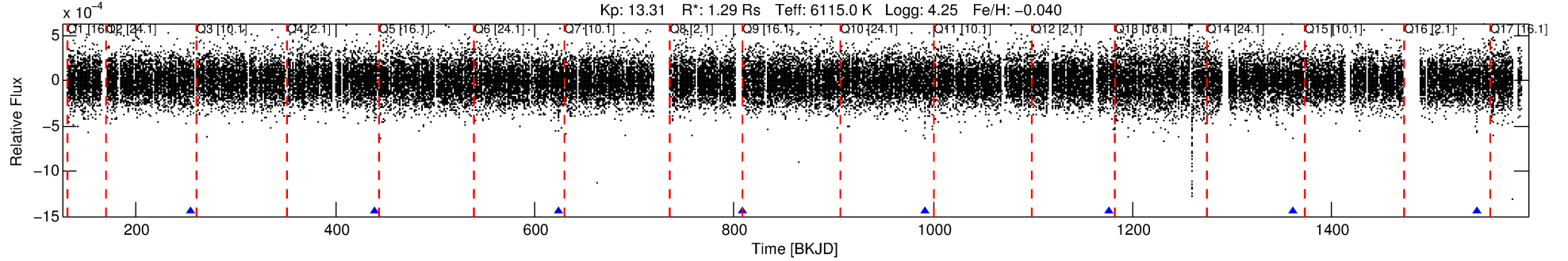
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012206313-03

No Significant Match Found

DV One-Page Summary

KIC: 12206313 Candidate: 3 of 3 Period: 184.262 d
KOI: K02714.03 Corr: 0.960



DV Fit Results:

Period = 184.26224 [0.00221] d
Epoch = 255.2259 [0.0096] BKJD
Rp/R* = 0.0179 [0.0020]
a/R* = 68.28 [36.65]
b = 0.84 [0.20]
Seff = 4.94 [1.25]
Teq = 380 [24] K
Rp = 2.52 [0.51] Re
a = 0.6500 [0.0996] AU
Ag = 2889.10 [1182.82] [2.44σ]
Teffp = 4309 [371] K [10.56σ]

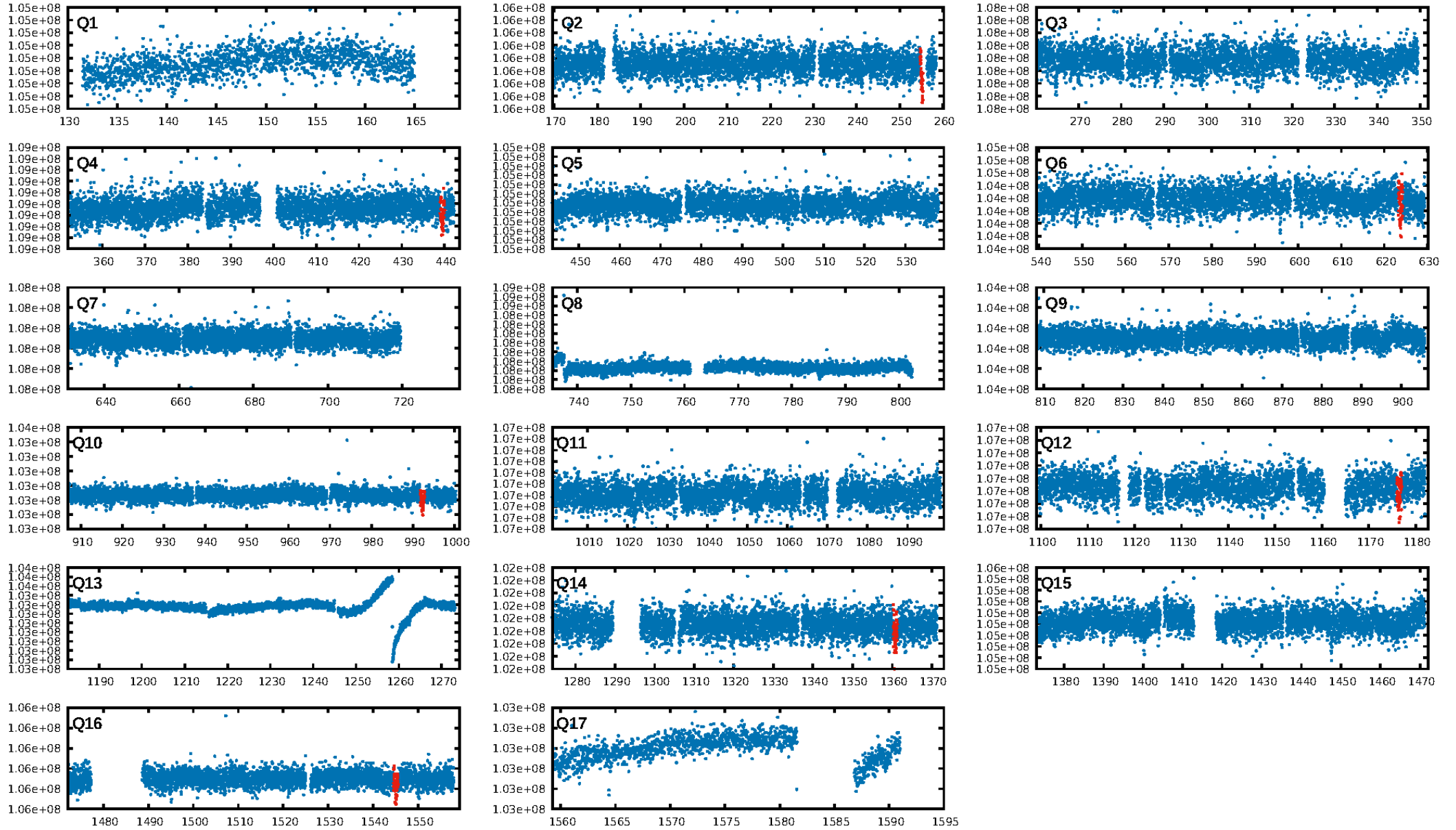
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [193.30σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.43e-59
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 3.032
Centroid-sig: 10.2%
Centroid-so: 1.570 arcsec [2.27σ]
OotOffset-rm: 0.777 arcsec [2.63σ]
KicOffset-rm: 0.777 arcsec [2.57σ]
OotOffset-st: 3/0/3/0 [6]
KicOffset-st: 3/0/3/0 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.83 [5/6]

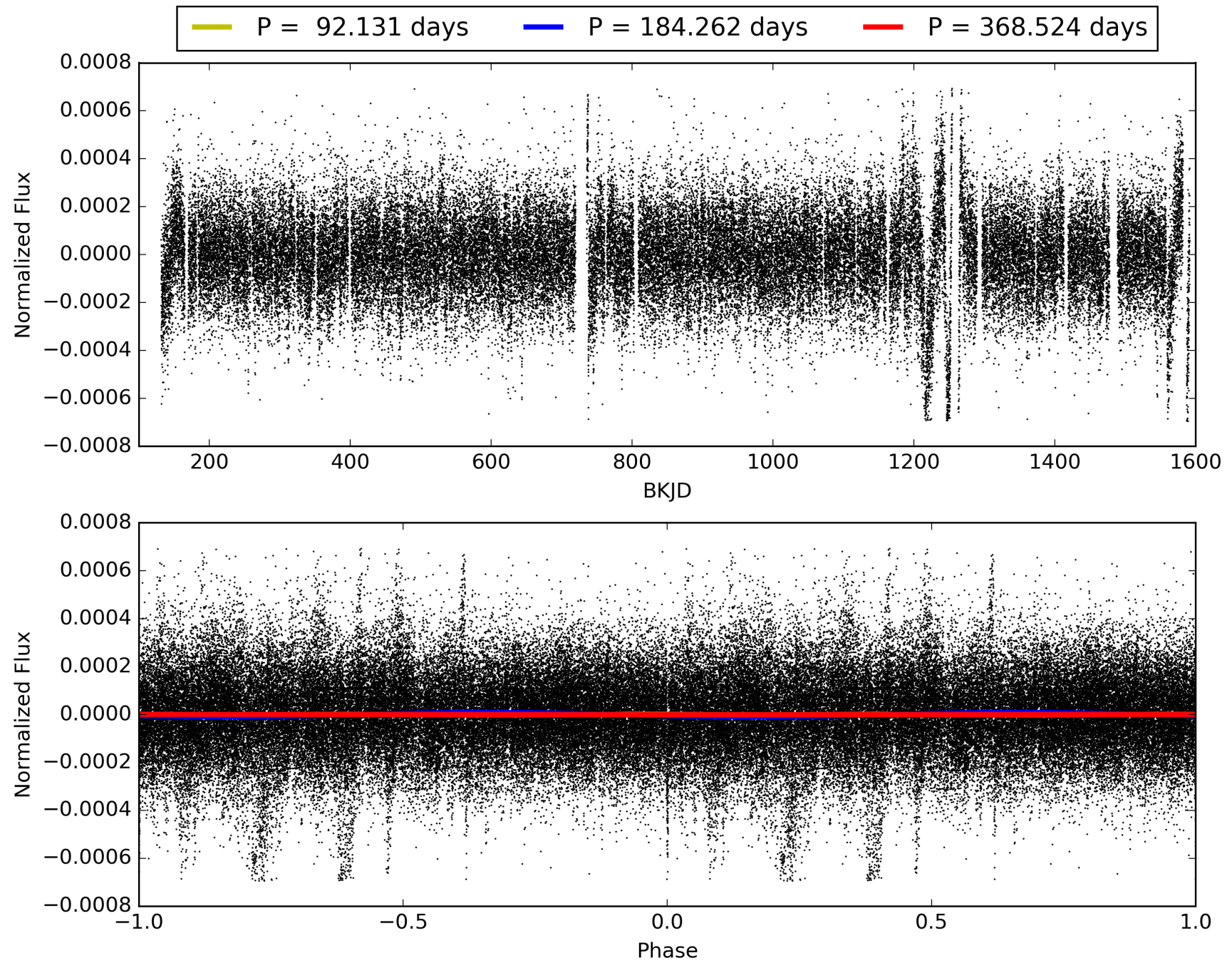
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:43:06 Z

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

TCE 012206313-03, PDC Light Curves

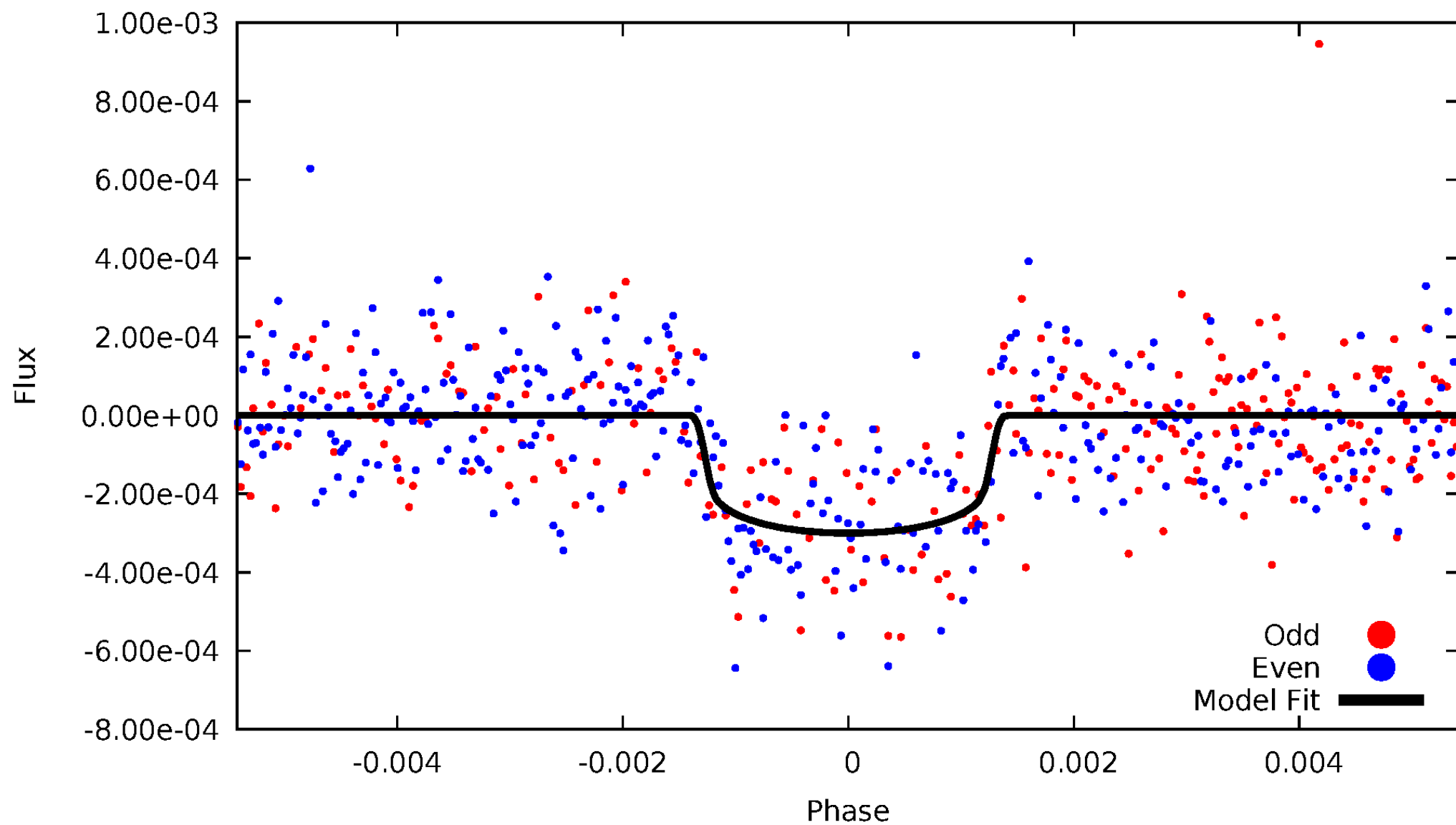


TCE 012206313-03



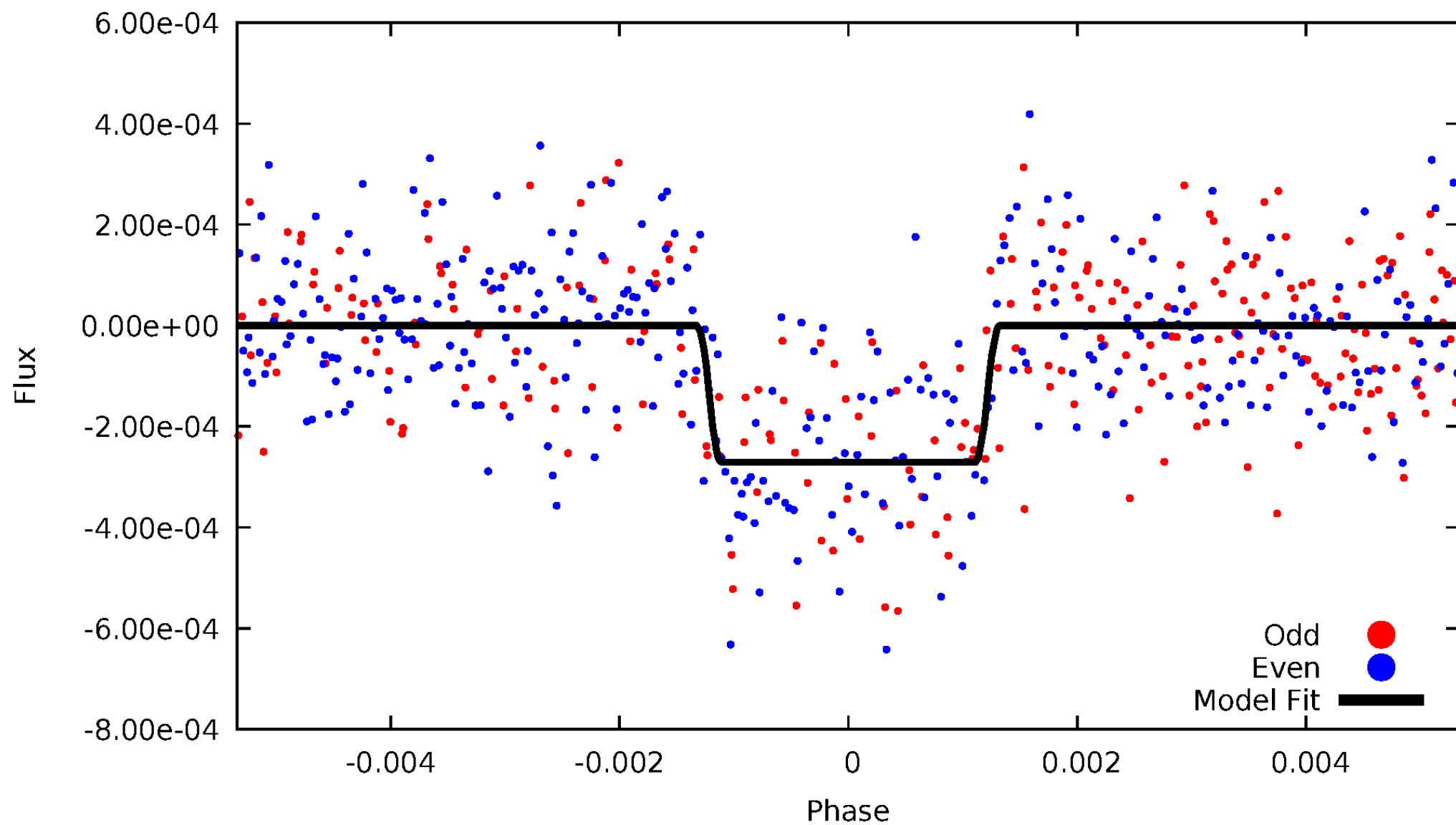
DV Odd/Even

TCE 012206313-03

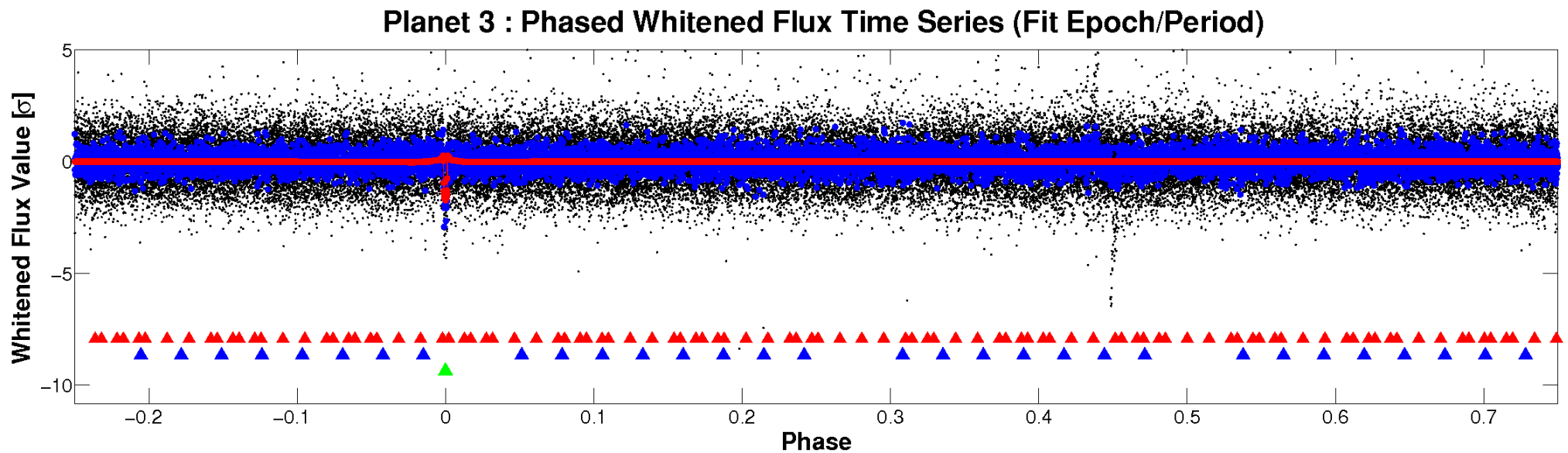
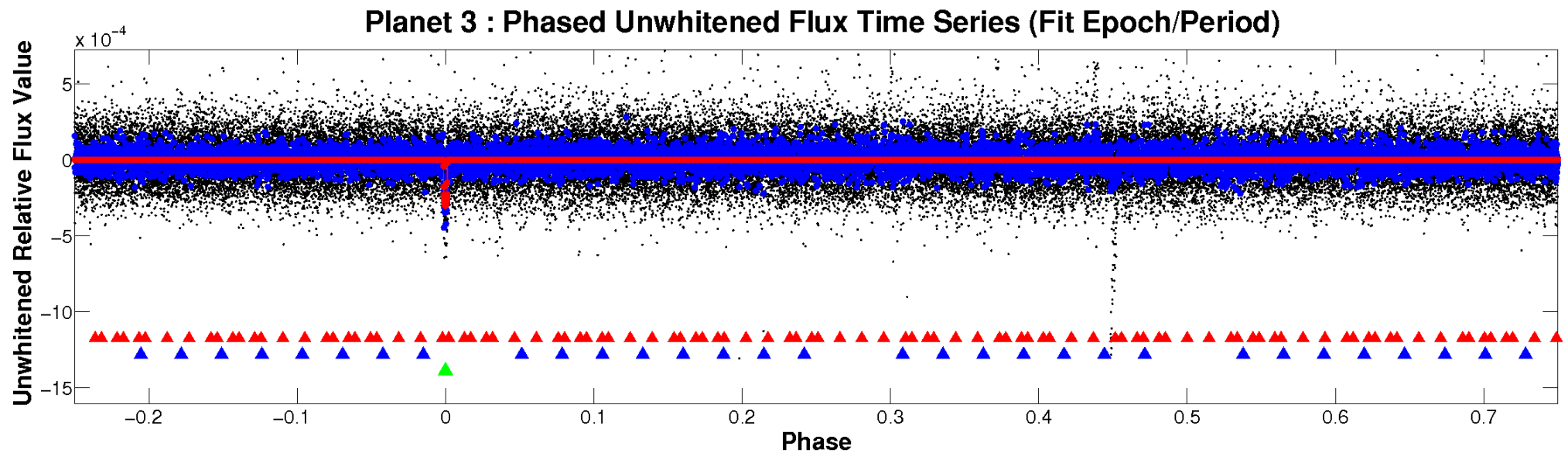


ALT Odd/Even

TCE 012206313-03

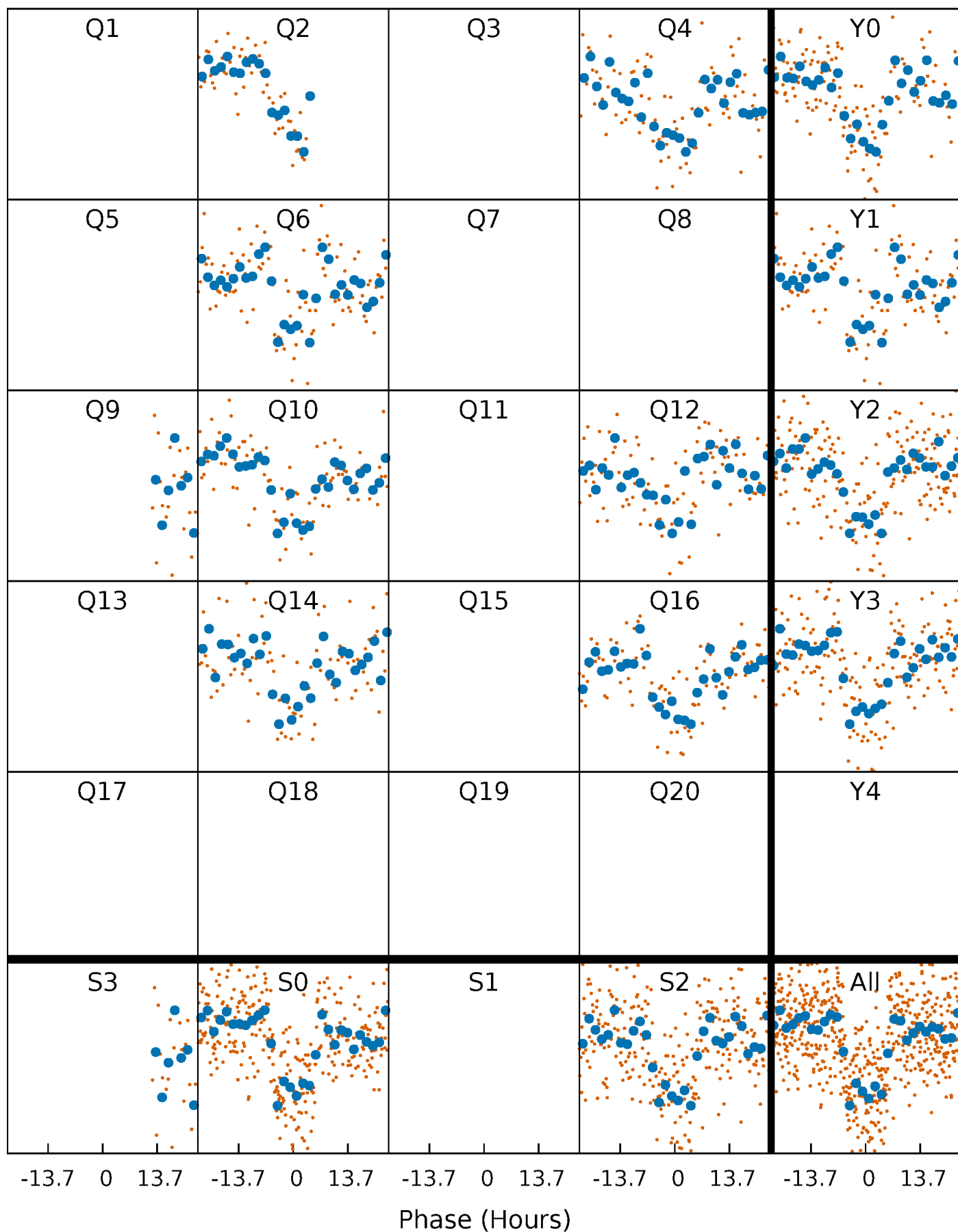


Non-Whitened Vs. Whitened Light Curve



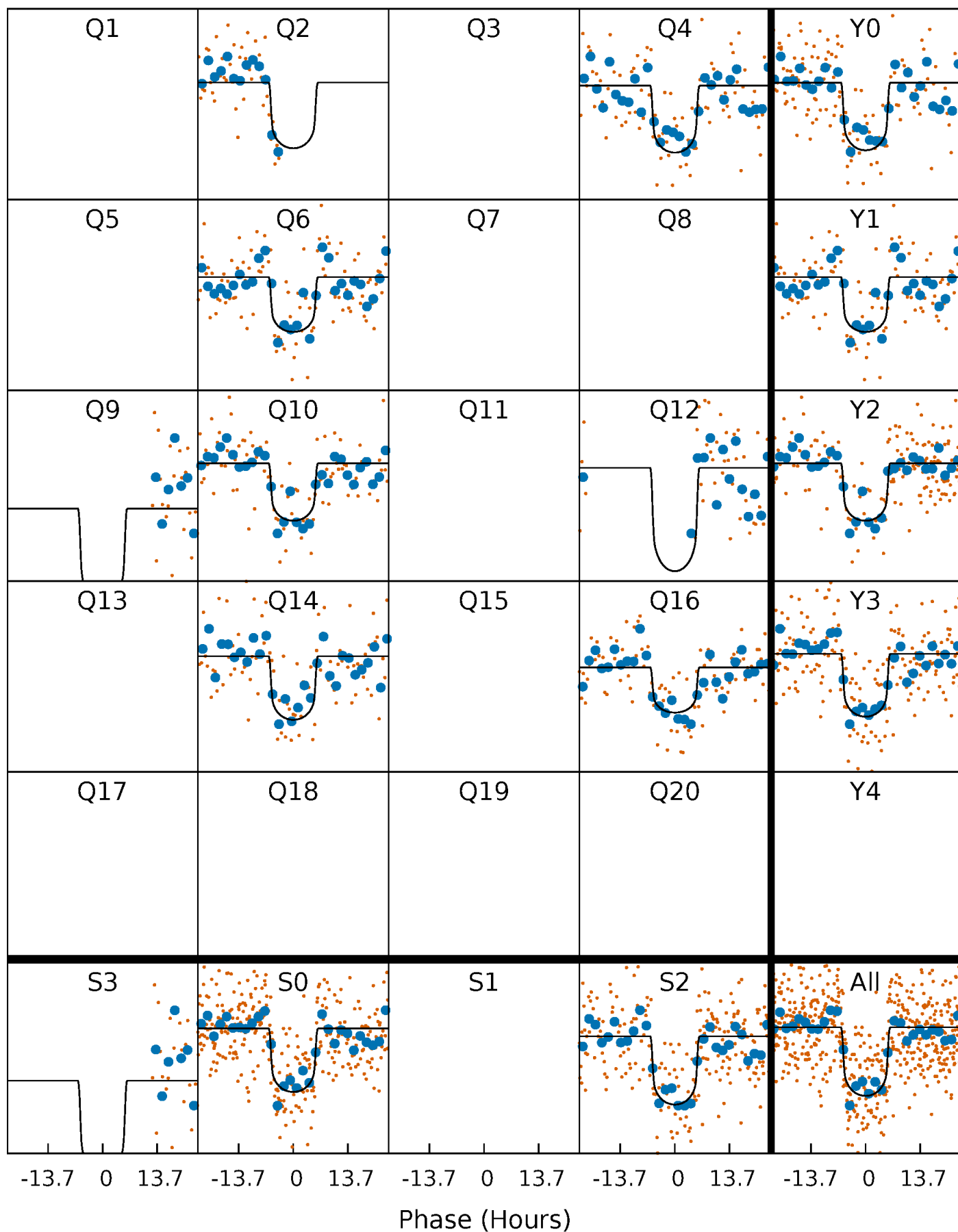
PDC Quarter-Phased Transit Curves

TCE 012206313-03 $P=184.262242$ Days $T_0=255.225885$ (BKJD)



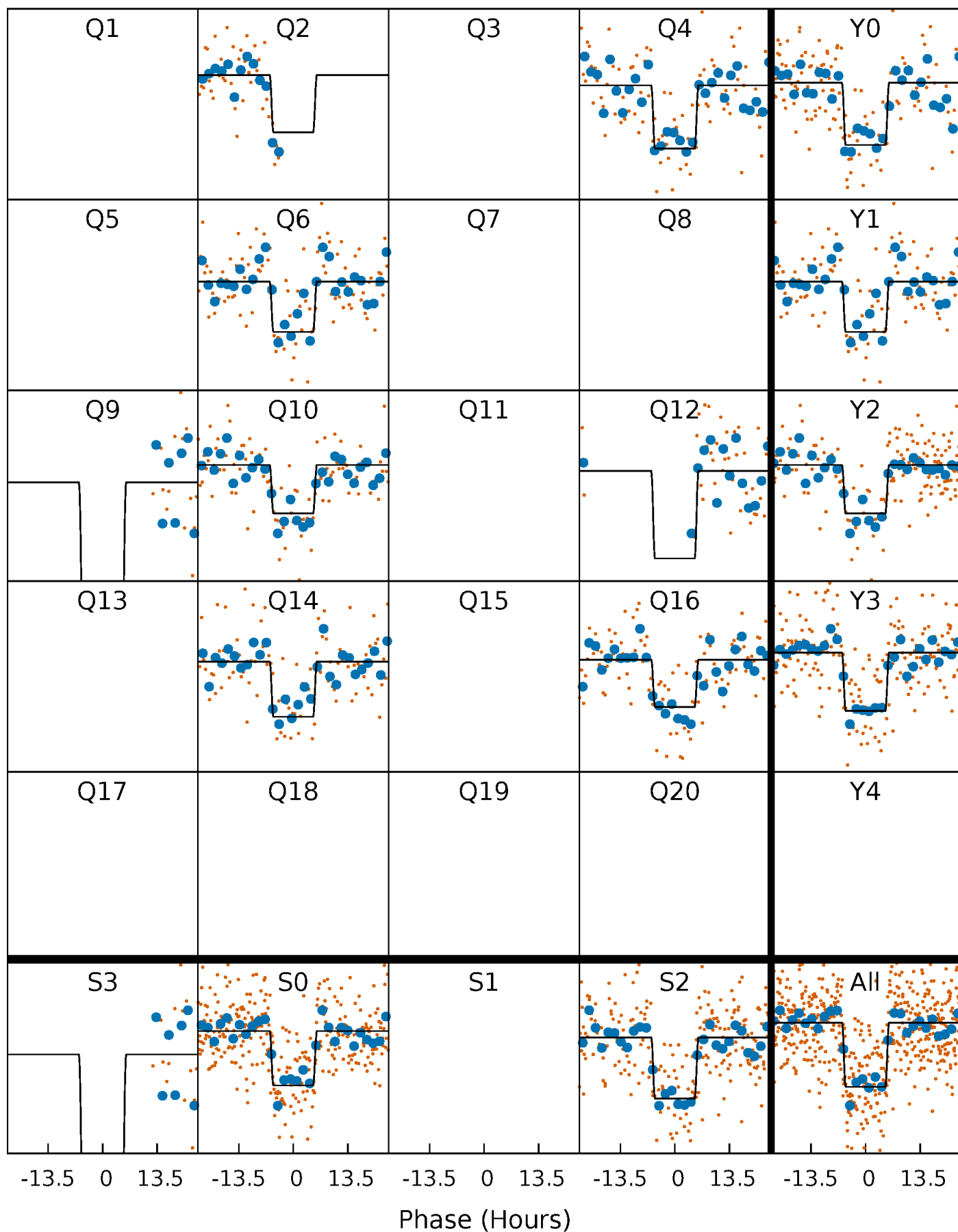
DV Quarter-Phased Transit Curves

TCE 012206313-03 P=184.262242 Days $T_0=255.225885$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

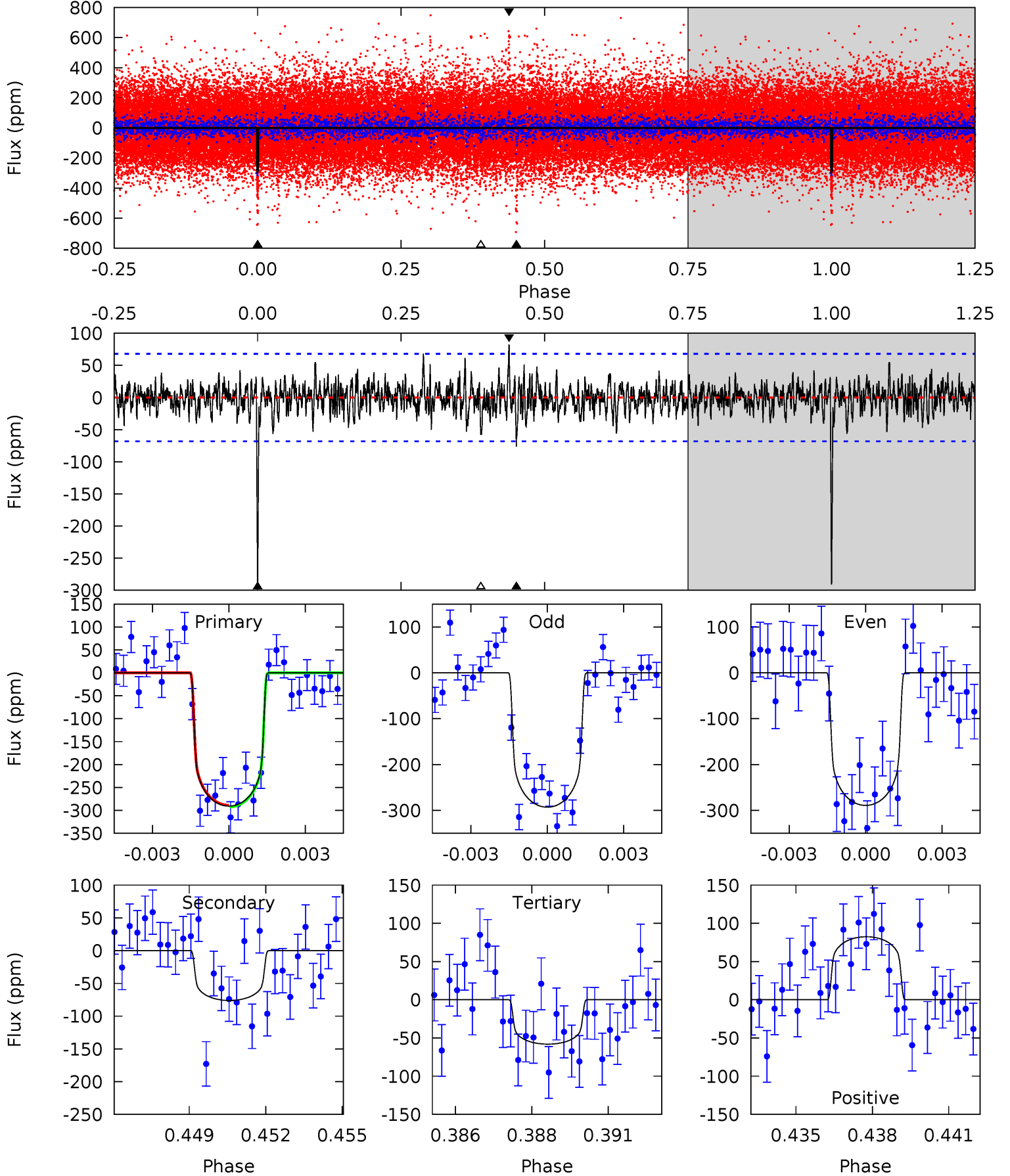
TCE 012206313-03 P=184.263033 Days $T_0=255.226463$ (BKJD)



DV Model-Shift Uniqueness Test

012206313-03, P = 184.262242 Days, E = 70.963643 Days

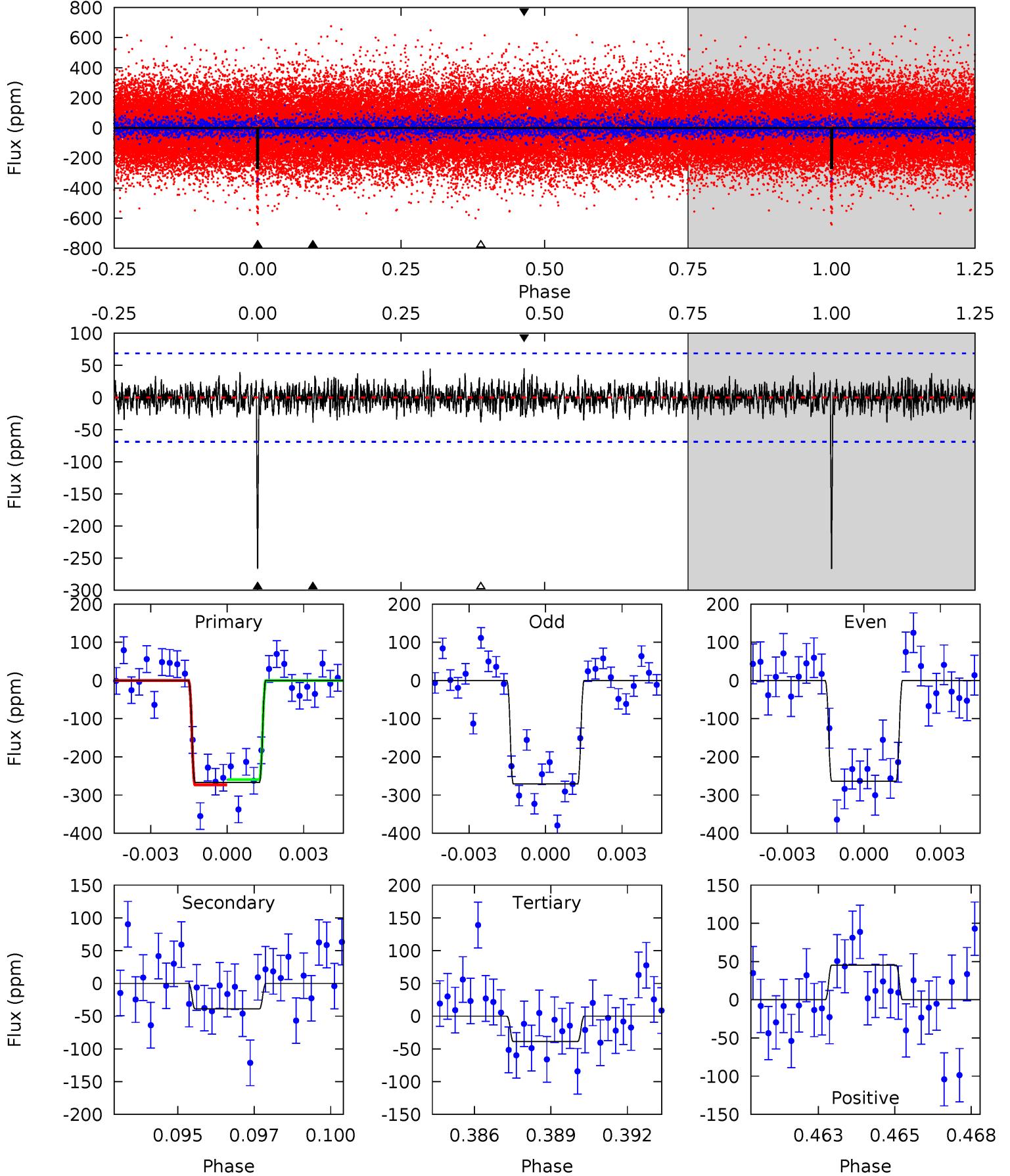
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.5	5.88	4.49	6.38	5.27	2.99	1.35	18.0	16.1	1.39	-0.49	0.15	1.03	0.22	0.14



Alt Model-Shift Uniqueness Test

012206313-03, P = 184.263033 Days, E = 70.963430 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	2.98	2.98	3.48	5.28	3.01	0.91	17.5	17.0	0.01	-0.50	0.25	1.08	0.15	0.51



Stellar Parameters For KIC 012206313

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6115^{+122}_{-135}	$4.249^{+0.137}_{-0.112}$	$-0.040^{+0.150}_{-0.150}$	$1.291^{+0.216}_{-0.216}$	$1.077^{+0.102}_{-0.074}$	$0.705^{+0.463}_{-0.238}$
	+2%/-2%	+3%/-3%	+375%/-375%	+17%/-17%	+9%/-7%	+66%/-34%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 012206313-03 / KOI 2714.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-76 ± 13	$2.55^{+0.35}_{-0.36}$	529^{+28}_{-25}	4447^{+266}_{-246}	2727^{+1081}_{-726}
Alt.	-39 ± 13	$2.32^{+0.36}_{-0.34}$	528^{+26}_{-23}	4036^{+306}_{-313}	1636^{+884}_{-626}

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 $A_{obs} \gg 1.0$

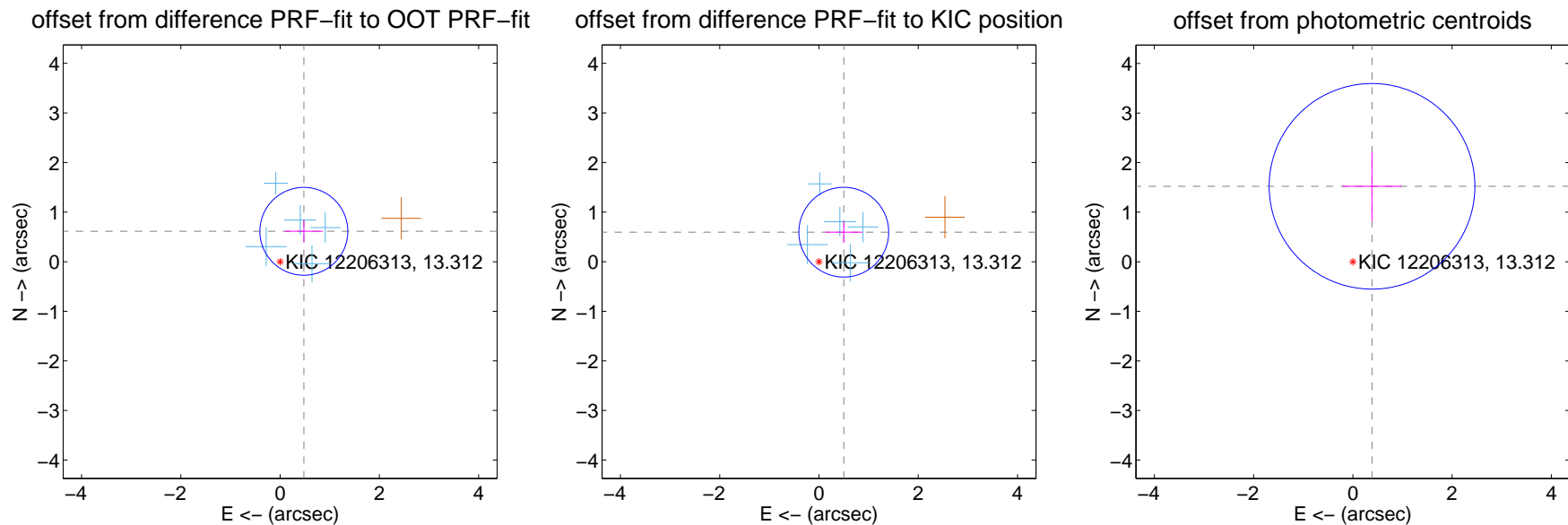
DV Centroid Data

Supplemental centroid analysis for 012206313-03. Kepler magnitude: 13.31. Transit SNR 16.47

There are 5 quarters with good PRF difference image offsets

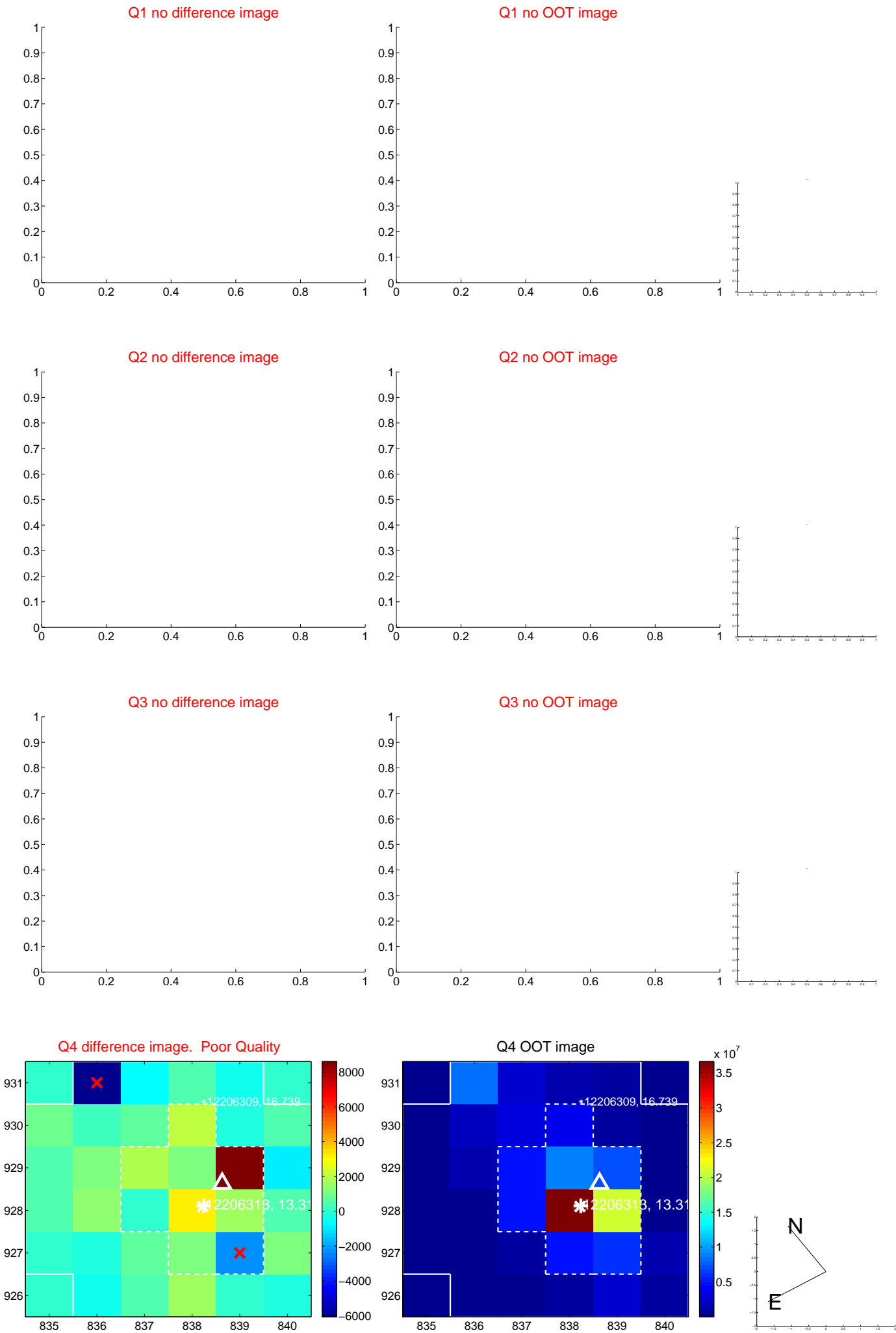
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.777 ± 0.295	2.63	-0.478 ± 0.382	0.613 ± 0.227
PRF-fit source offset from KIC position	0.777 ± 0.302	2.57	-0.500 ± 0.376	0.595 ± 0.210
photometric centroid source offset	1.57 ± 0.69	2.27	-0.39 ± 0.60	1.52 ± 0.70

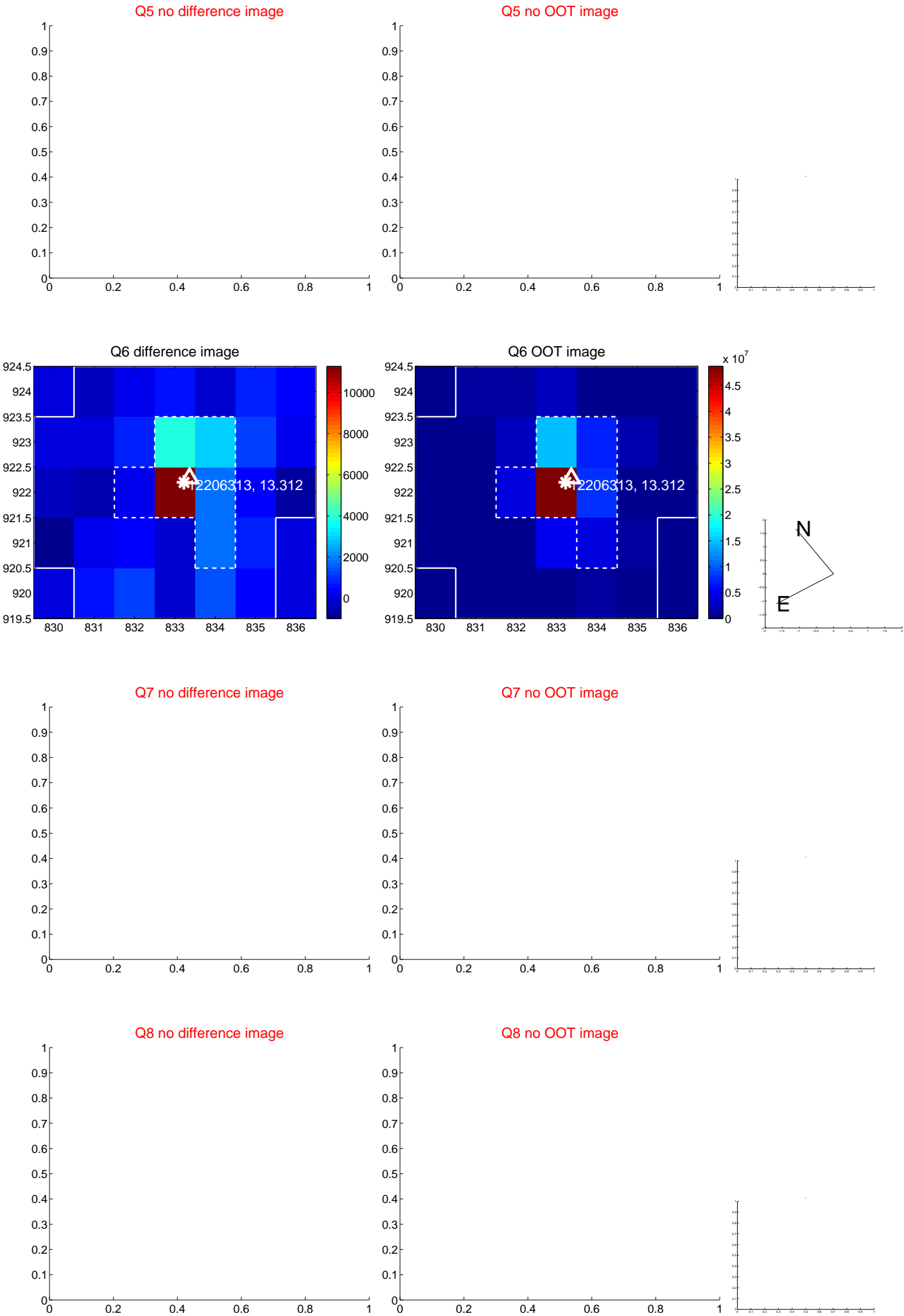


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

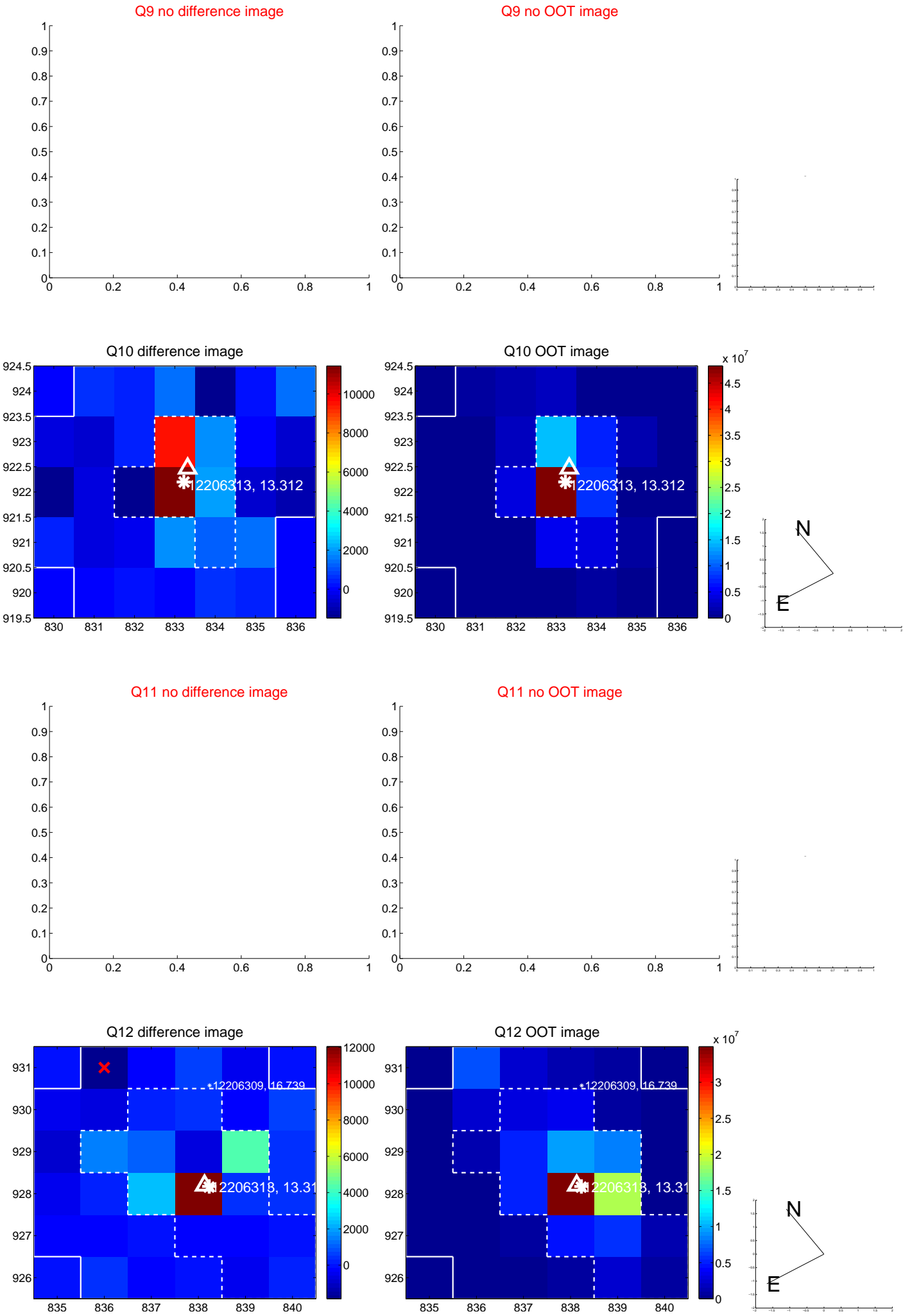
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



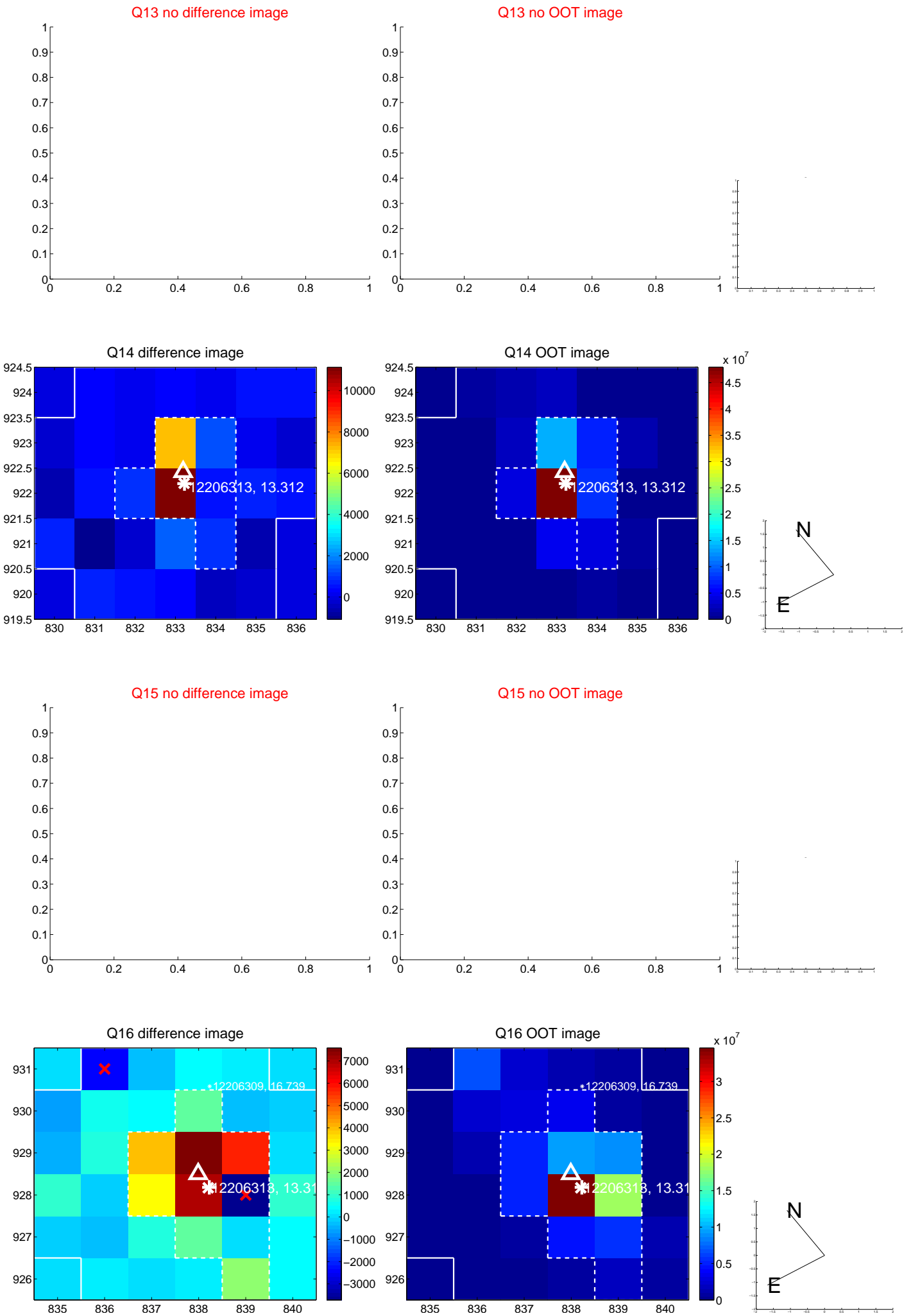
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



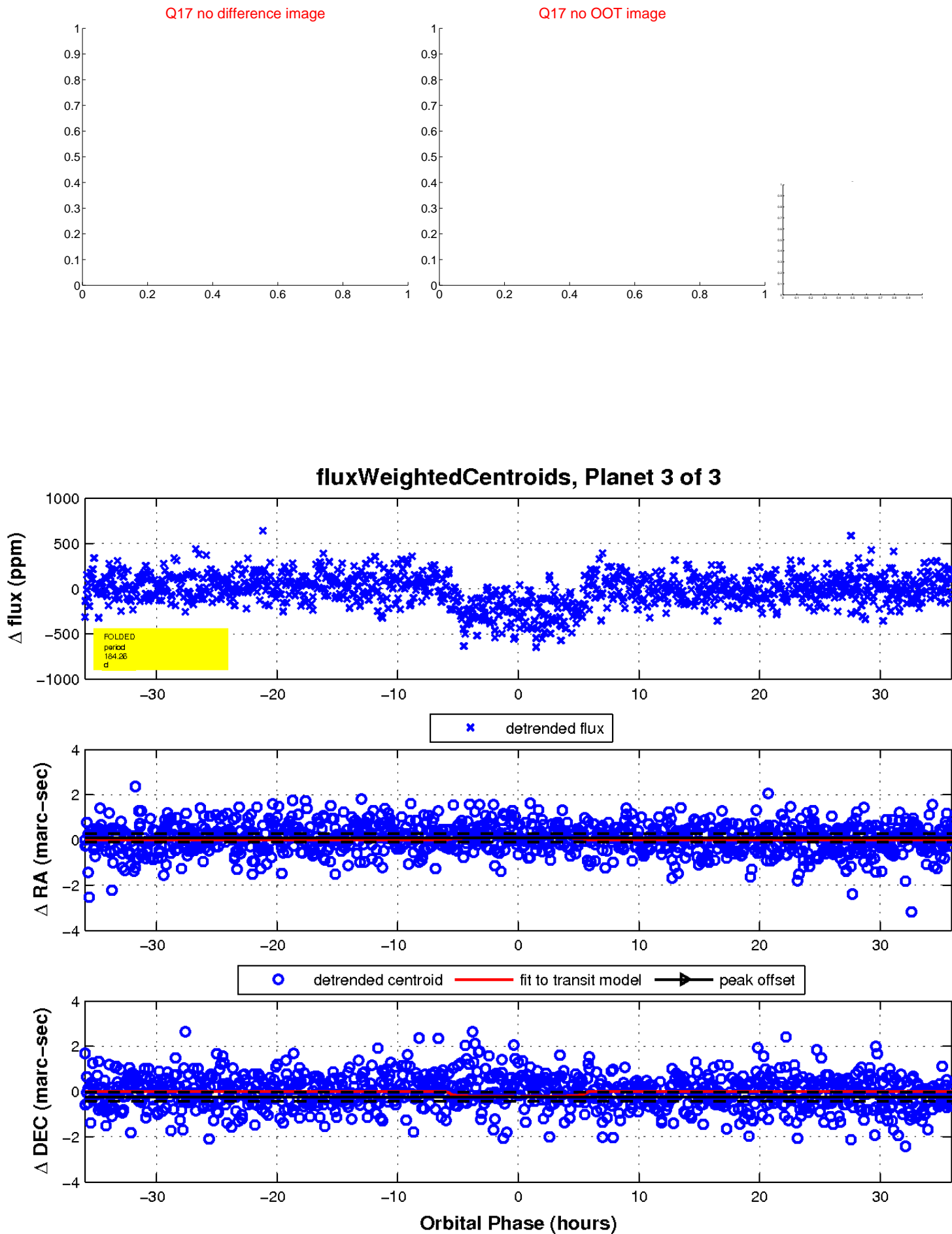
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

