

KIC 008023317

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})
008023317-01	OBS	6049.01	16.578440	146.754688	36684.3	7.449	3967.4	2998.5	2.30	5870	49.16	300.98
008023317-02	OBS	No	16.578849	141.074712	1545.9	6.253	192.9	185.7	2.30	5870	10.71	300.97
008023317-03	OBS	No	16.579711	141.537007	220.0	72.570	8.9	19.8	2.30	5870	6.89	300.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008023317-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—HAS_SEC_TCE
008023317-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008023317-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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.

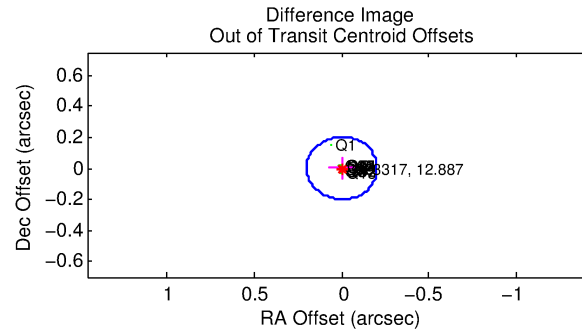
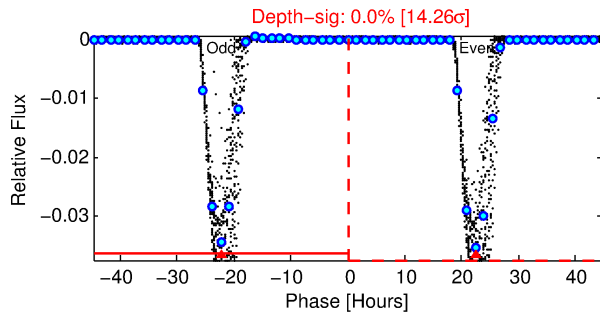
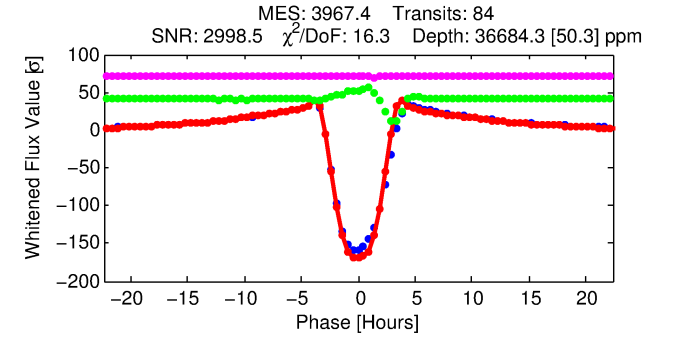
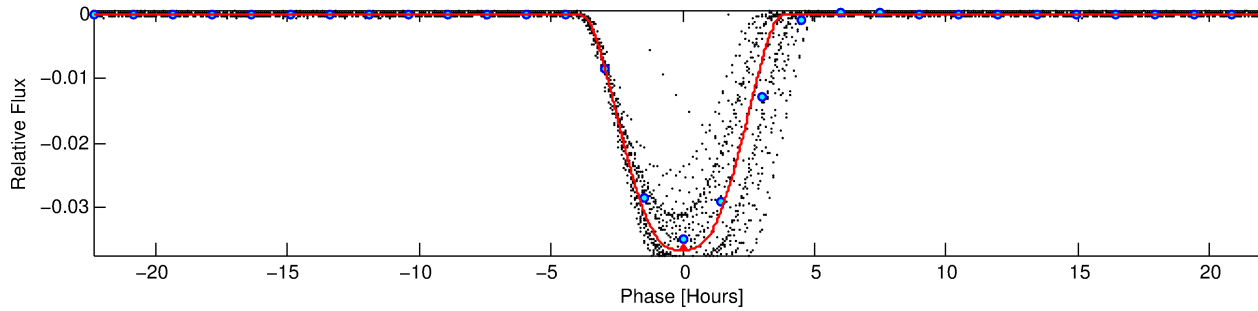
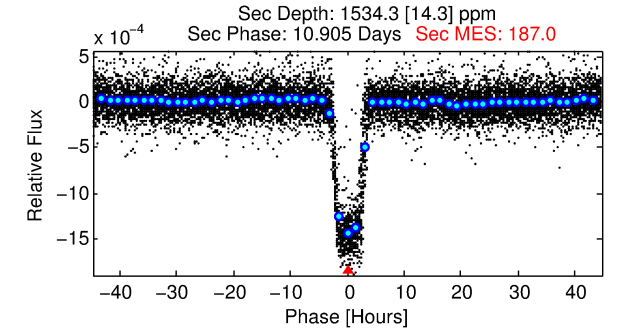
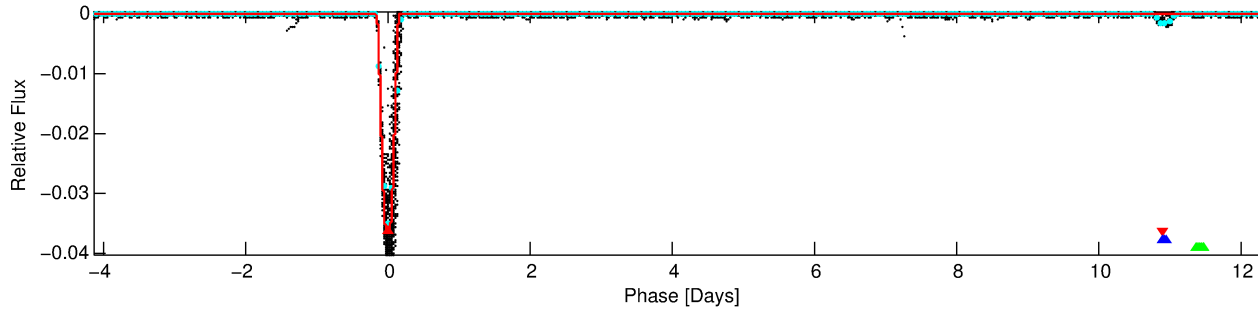
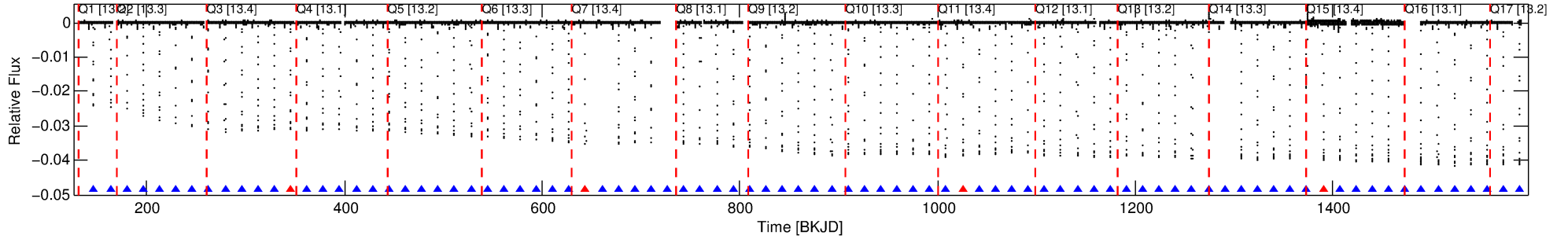
Ephemeris Match Information For 008023317-01

No Significant Match Found

DV One-Page Summary

KIC: 8023317 Candidate: 1 of 3 Period: 16.578 d
KOI: K06049.01 Corr: 0.955

Kp: 12.89 R*: 2.30 Rs Teff: 5870.0 K Logg: 3.81 Fe/H: -0.140



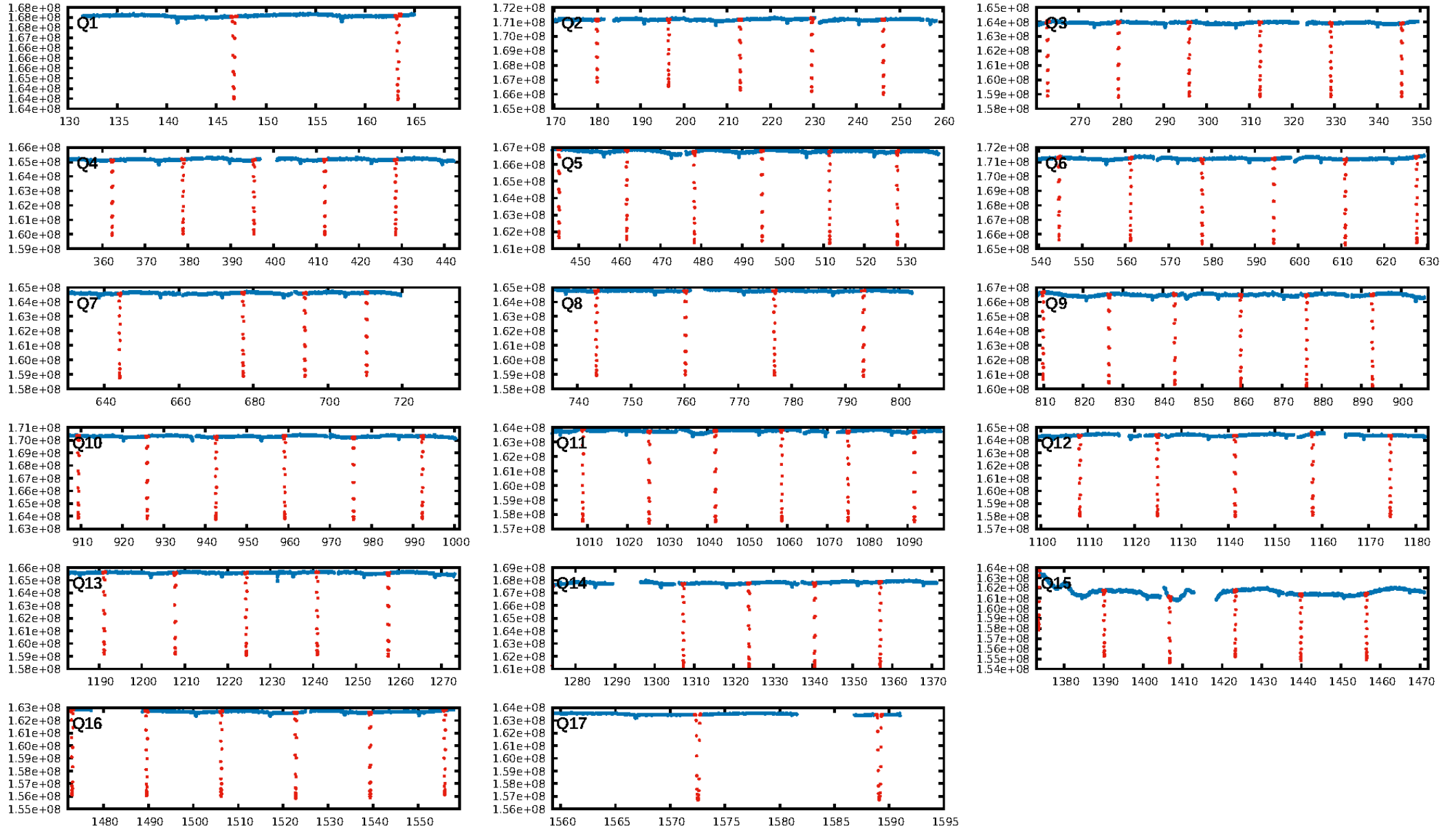
DV Fit Results:

Period = 16.57844 [0.00000] d
Epoch = 146.7547 [0.0001] BKJD
Rp/R* = 0.1959 [0.0002]
a/R* = 15.37 [0.02]
b = 0.79 [0.00]
Seff = 300.98 [169.45]
Teq = 1062 [149] K
Rp = 49.16 [17.59] Re
a = 0.1367 [0.0470] AU
Ag = 6.53 [3.59] [1.54σ]
Teffp = 2625 [79] K [9.26σ]

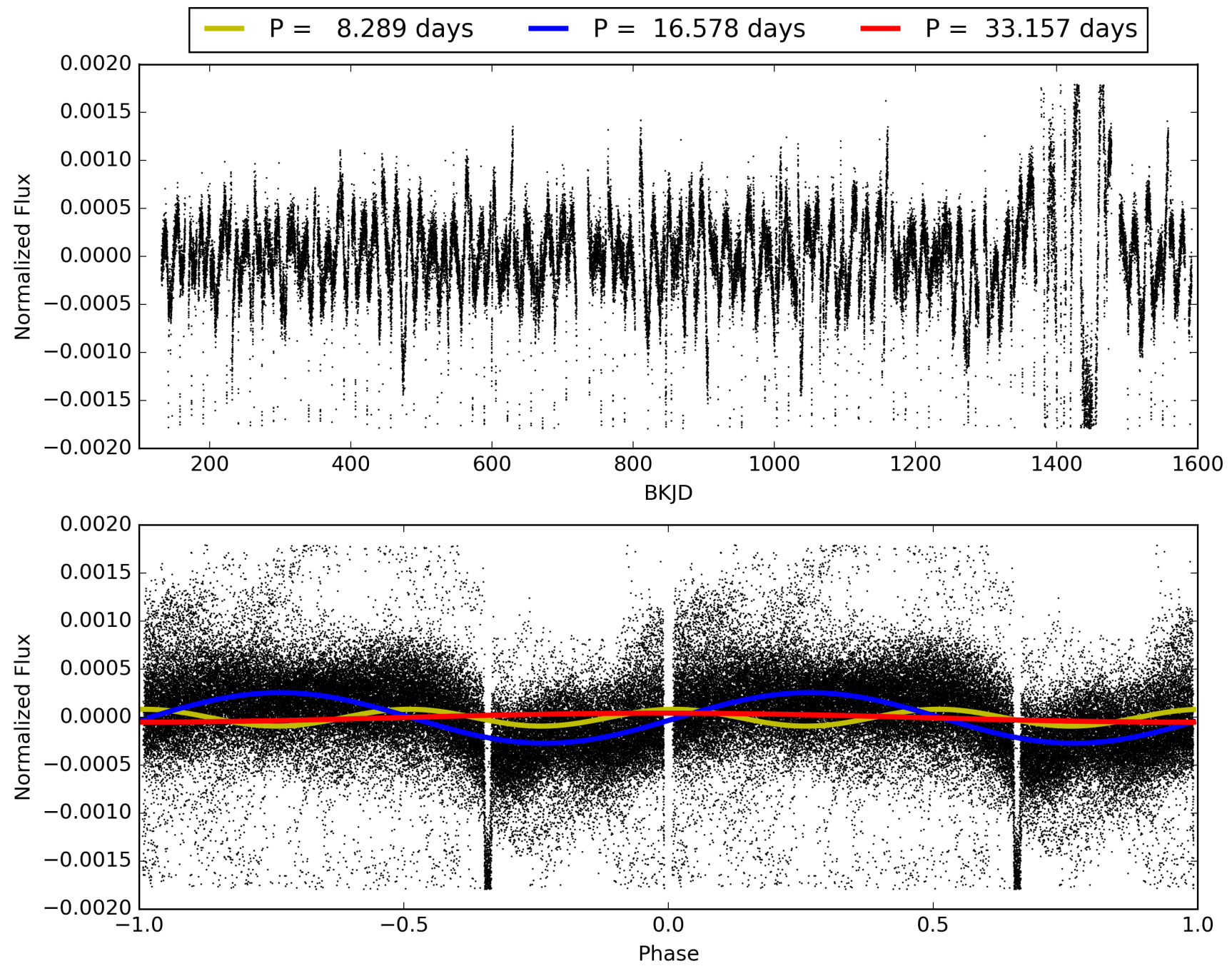
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [76/80]
GhostDiagnostic-chr: 3.631
Centroid-sig: 0.0%
Centroid-so: 0.102 arcsec [53.50σ]
OotOffset-rm: 0.002 arcsec [0.04σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.093 arcsec [1.37σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008023317-01, PDC Light Curves

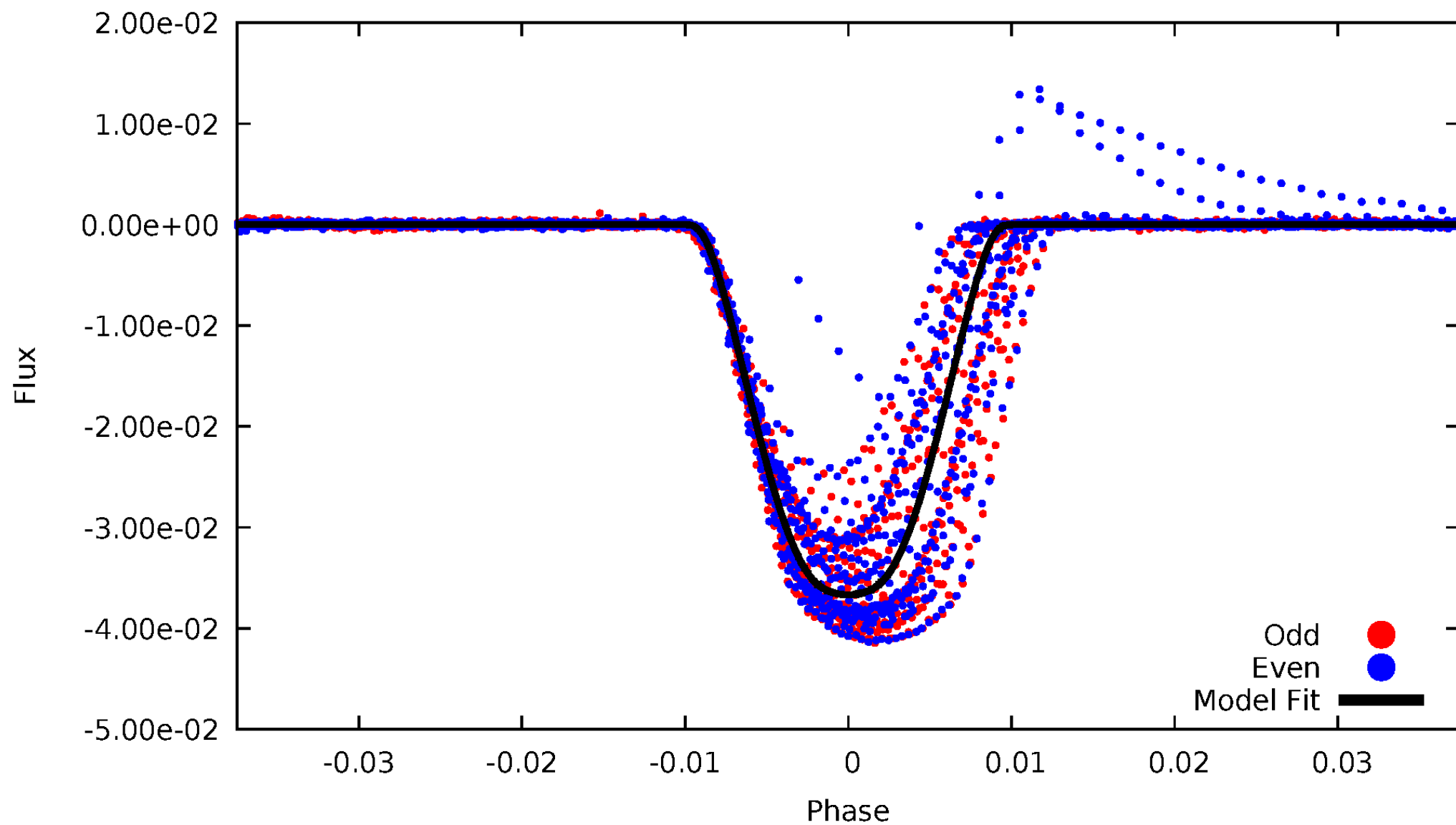


TCE 008023317-01



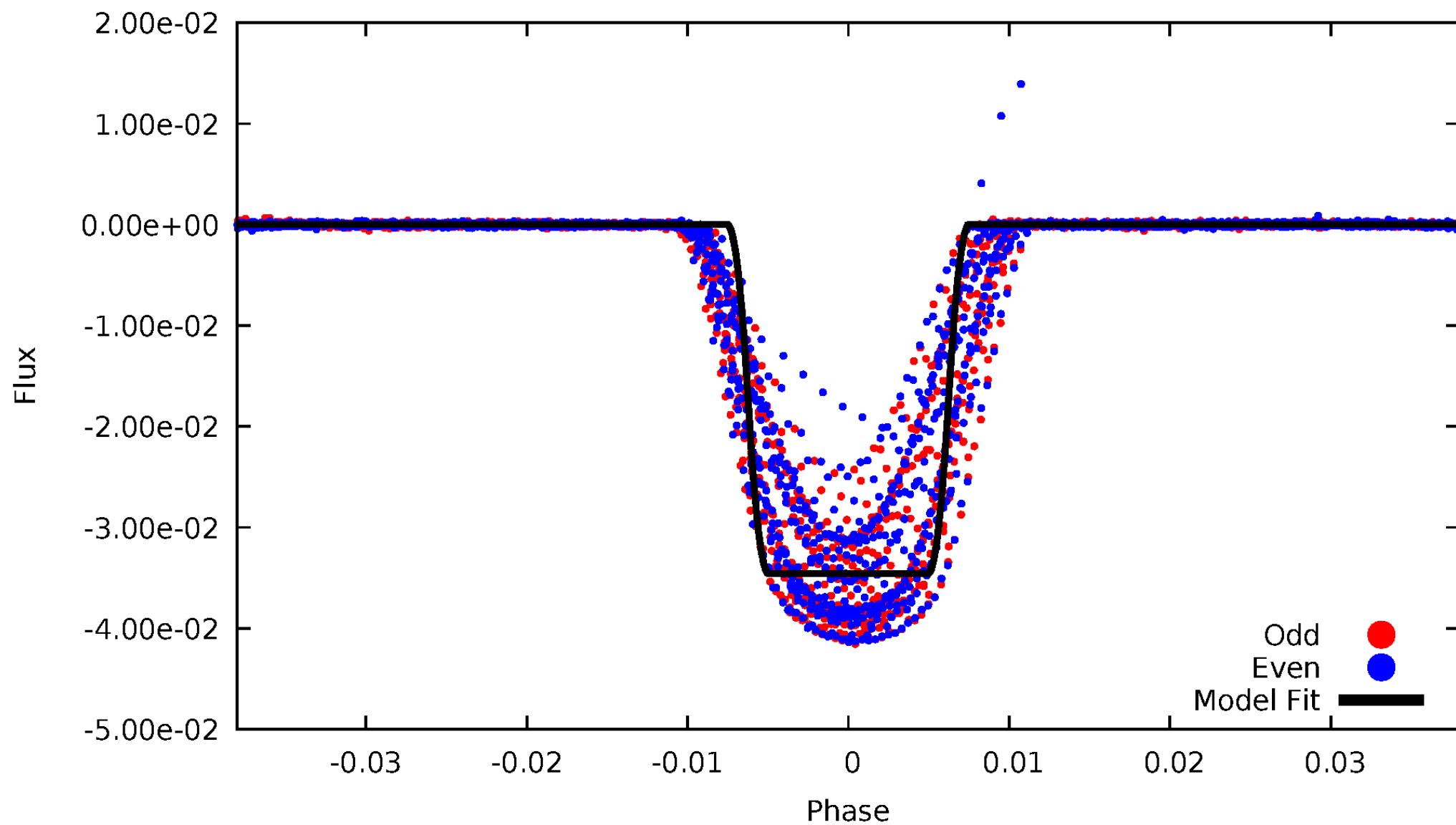
DV Odd/Even

TCE 008023317-01



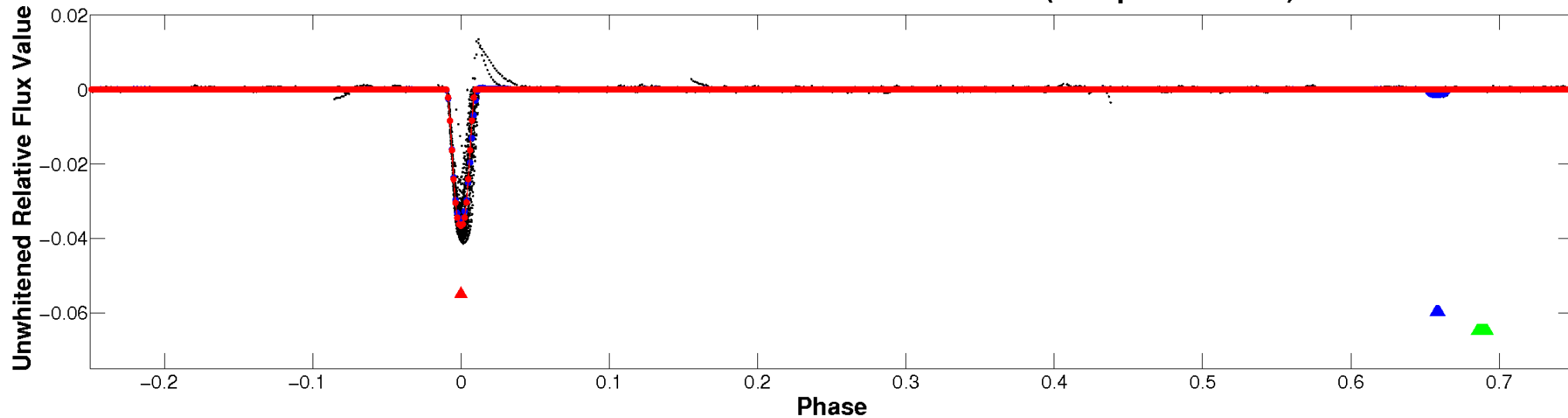
ALT Odd/Even

TCE 008023317-01

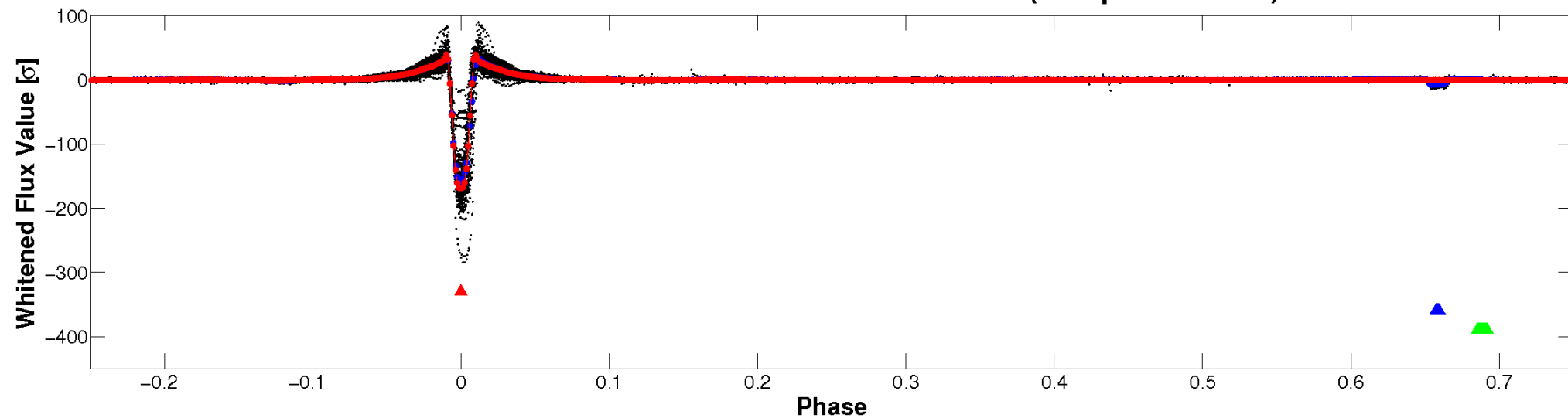


Non-Whitened Vs. Whitened Light Curve

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

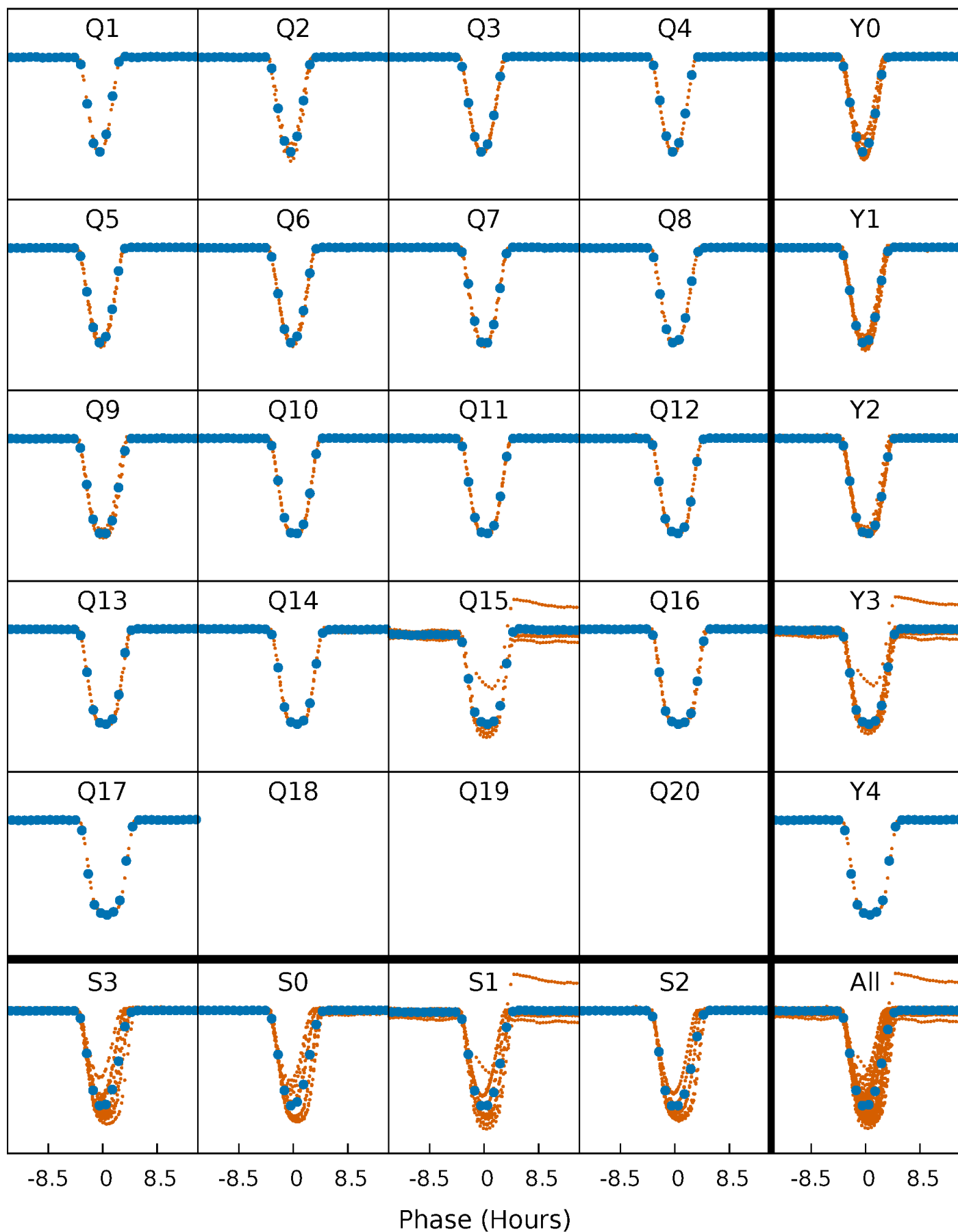


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



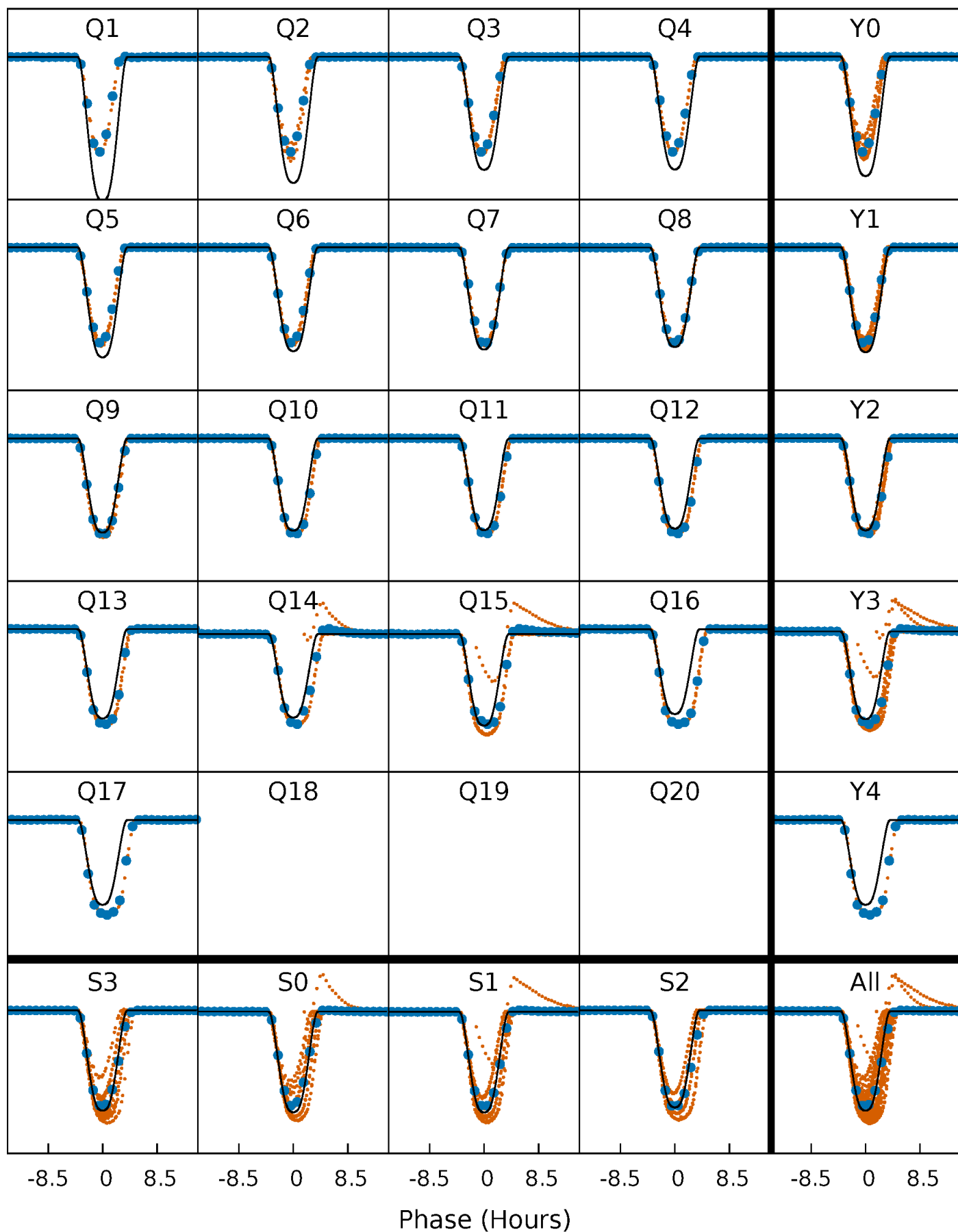
PDC Quarter-Phased Transit Curves

TCE 008023317-01 P= 16.578440 Days $T_0=146.754688$ (BKJD)



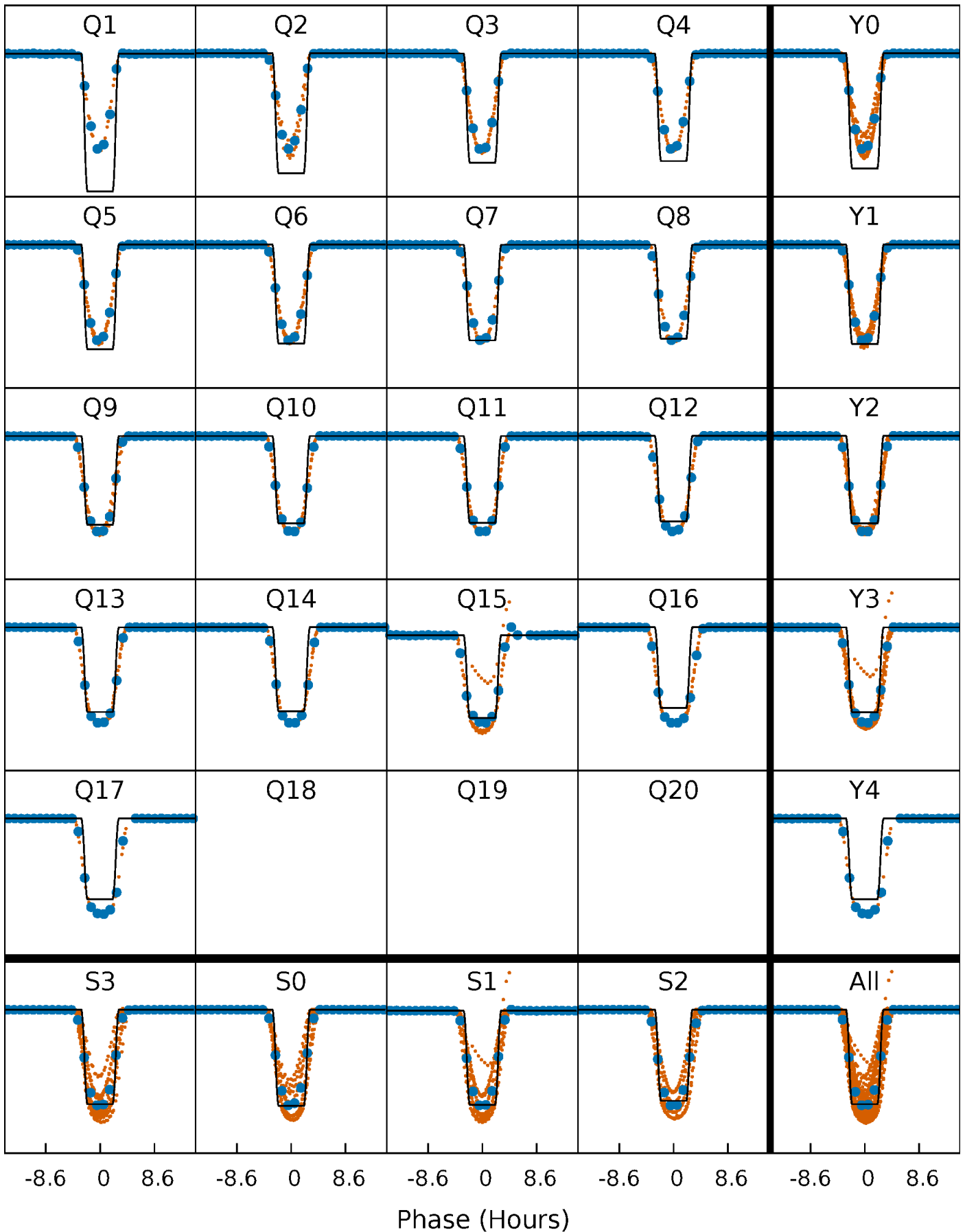
DV Quarter-Phased Transit Curves

TCE 008023317-01 P= 16.578440 Days $T_0=146.754688$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

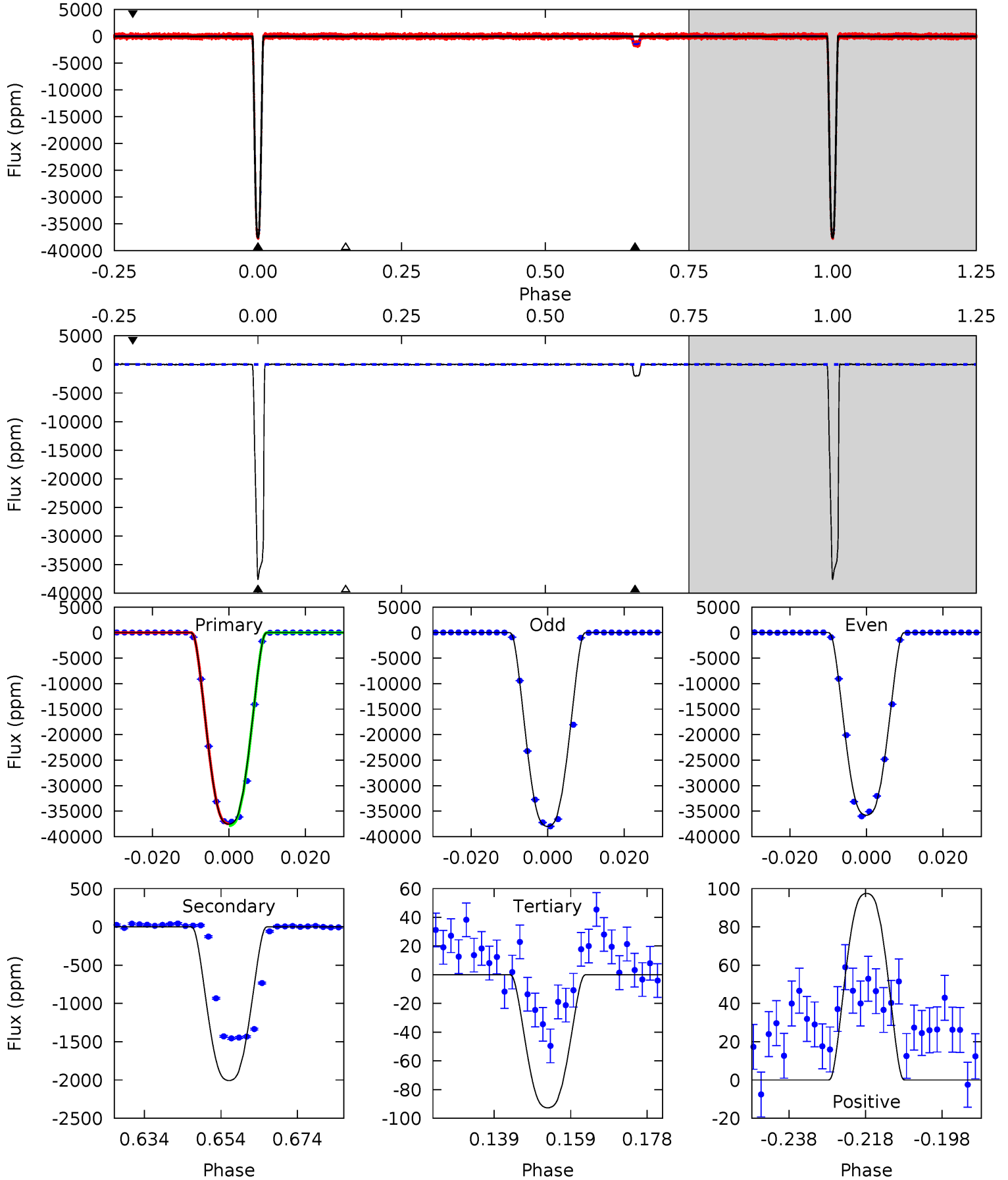
TCE 008023317-01 P= 16.578809 Days $T_0=146.743788$ (BKJD)



DV Model-Shift Uniqueness Test

008023317-01, P = 16.578440 Days, E = 130.176248 Days

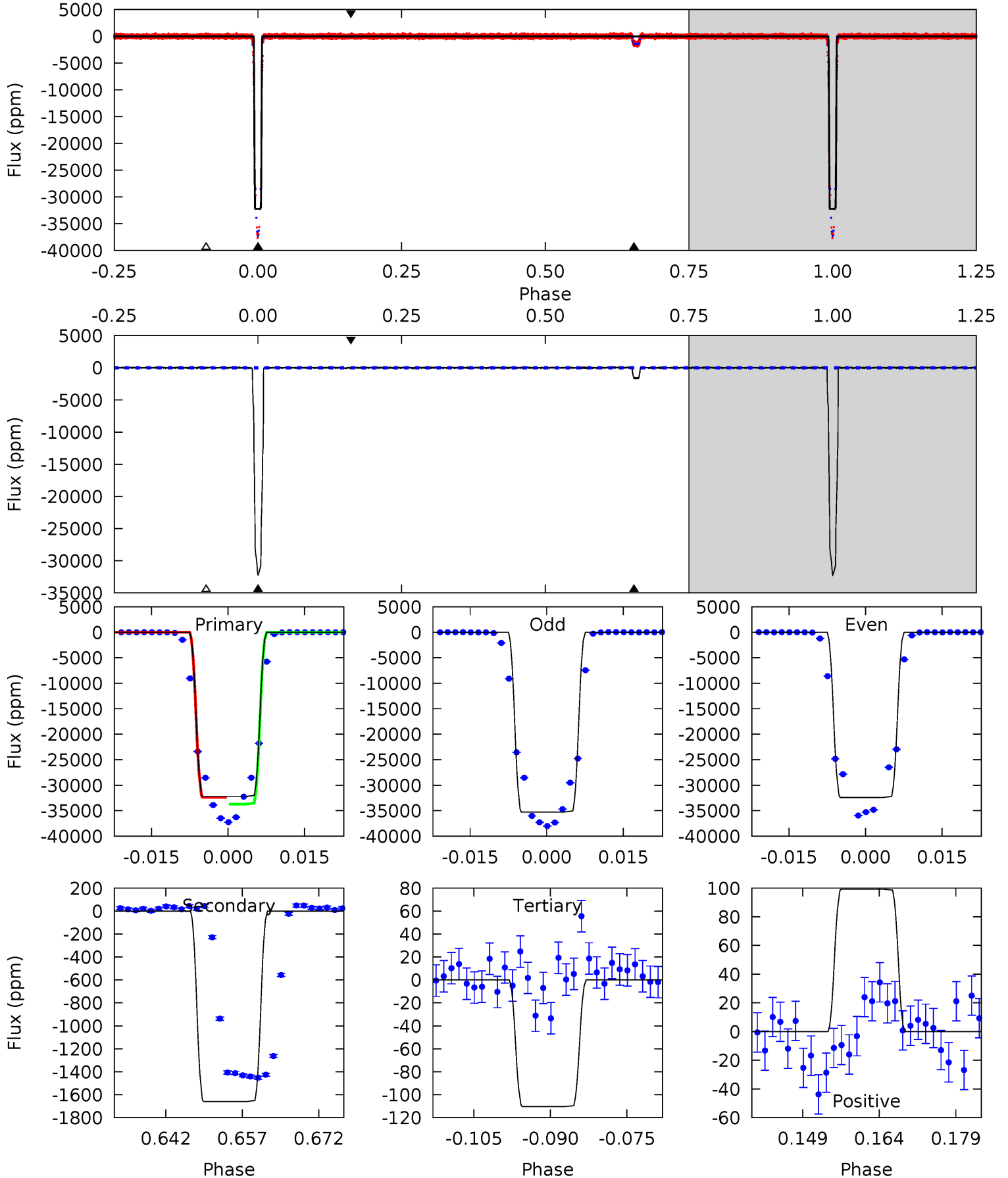
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3930	210.1	9.70	10.2	4.89	2.33	2.69	3920	3920	200.4	199.9	118.7	0.93	0.00	12.1



Alt Model-Shift Uniqueness Test

008023317-01, P = 16.578809 Days, E = 130.164979 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1595	82.2	5.46	4.91	4.95	2.43	1.28	1590	1590	76.8	77.3	80.7	0.93	0.00	0



Stellar Parameters For KIC 008023317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5870^{+175}_{-146}	$3.808^{+0.323}_{-0.108}$	$-0.140^{+0.350}_{-0.250}$	$2.300^{+0.443}_{-0.823}$	$1.239^{+0.178}_{-0.267}$	$0.143^{+0.332}_{-0.047}$
	+3%/-2%	+8%/-3%	+250%/-179%	+19%/-36%	+14%/-22%	+231%/-33%
Source	PHO1	FLK73	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 008023317-01 / KOI 6049.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2008 ± 10	$47.98^{+5.89}_{-8.43}$	1461^{+95}_{-117}	3332^{+67}_{-50}	$8.970^{+3.780}_{-1.561}$
Alt.	-1660 ± 20	$45.04^{+5.71}_{-8.39}$	1462^{+87}_{-143}	3290^{+54}_{-56}	$8.333^{+3.835}_{-1.561}$

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 $A_{obs} \gg 1.0$

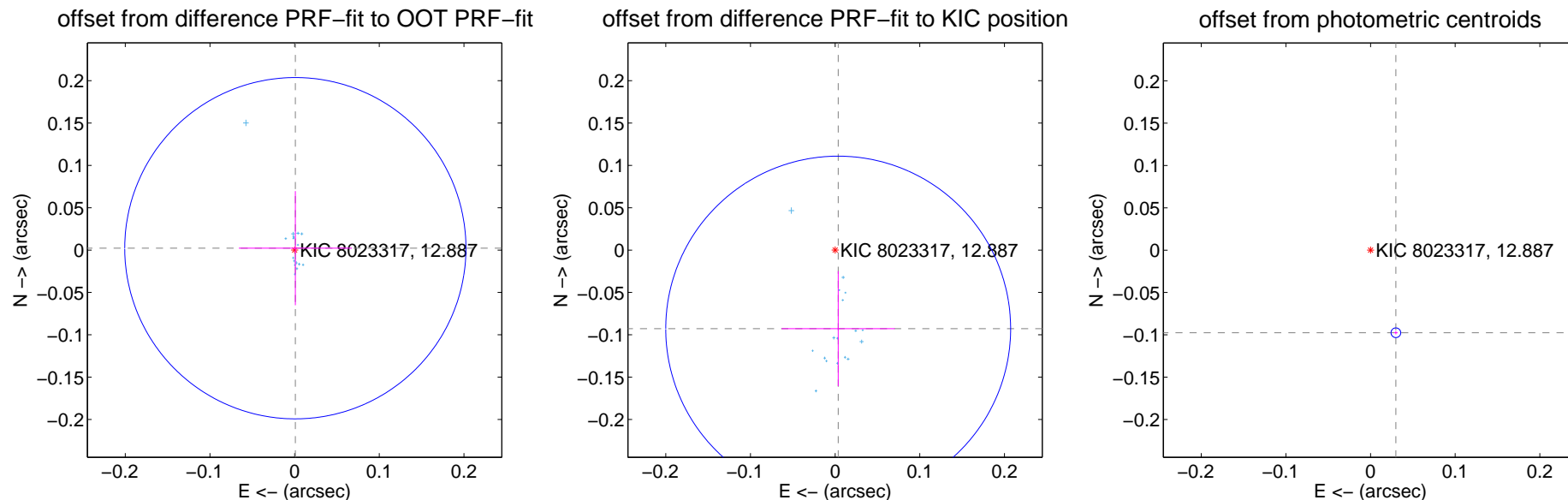
DV Centroid Data

Supplemental centroid analysis for 008023317-01. Kepler magnitude: 12.89. Transit SNR 2998.55

There are 17 quarters with good PRF difference image offsets

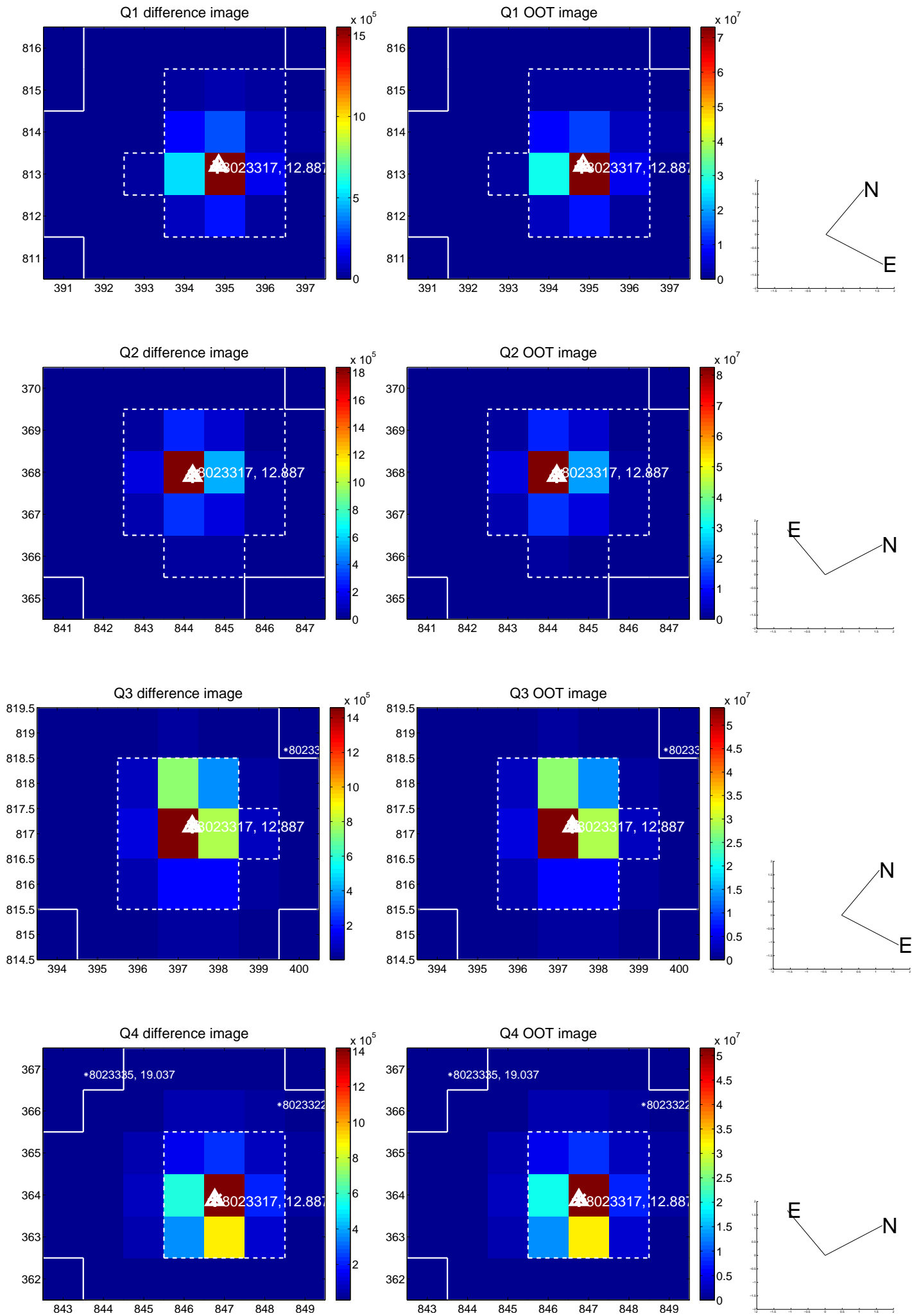
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.067	0.04	-0.001 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.093 ± 0.068	1.37	-0.004 ± 0.067	-0.093 ± 0.068
photometric centroid source offset	0.10 ± 0.00	53.50	-0.03 ± 0.00	-0.10 ± 0.00

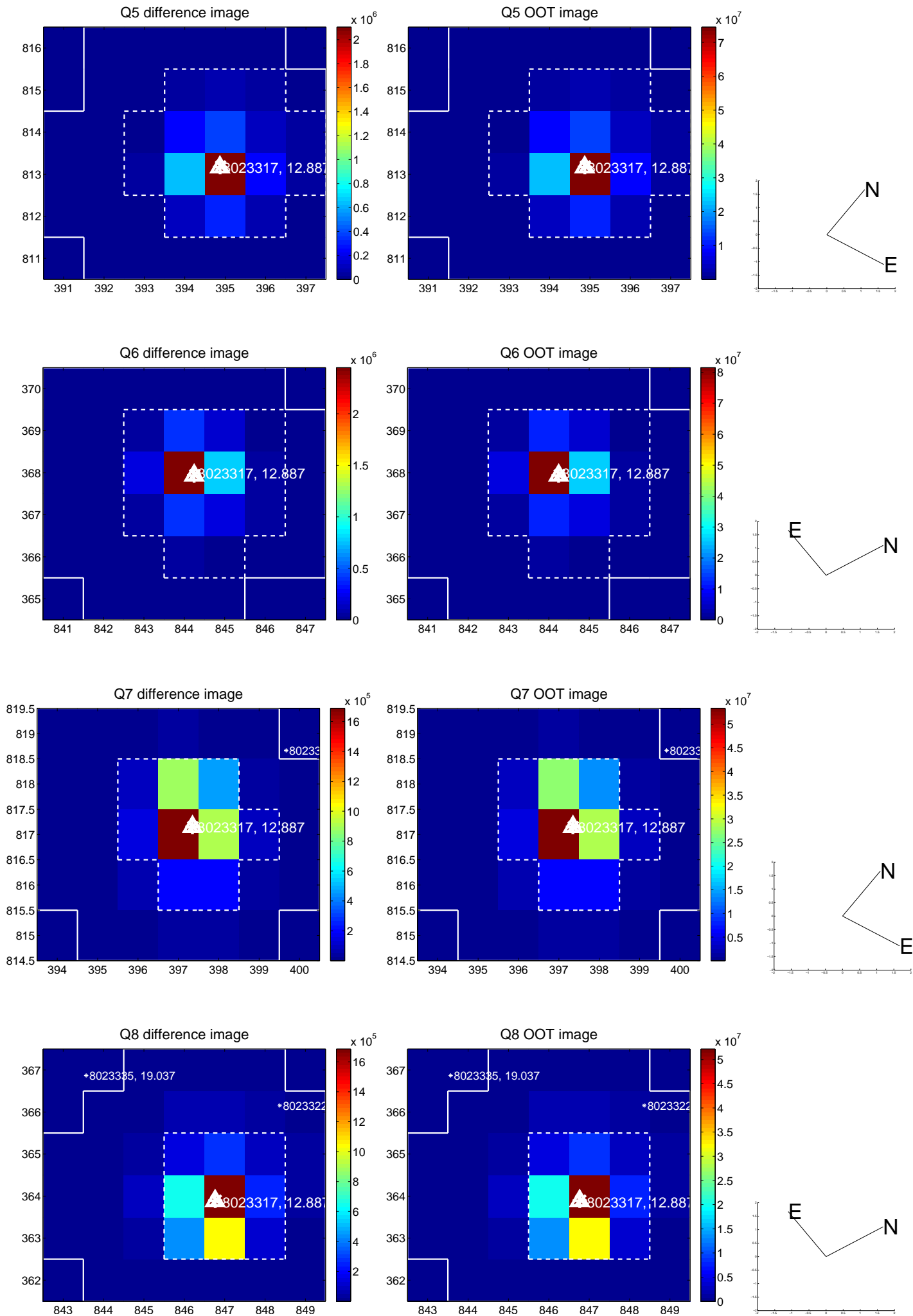


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

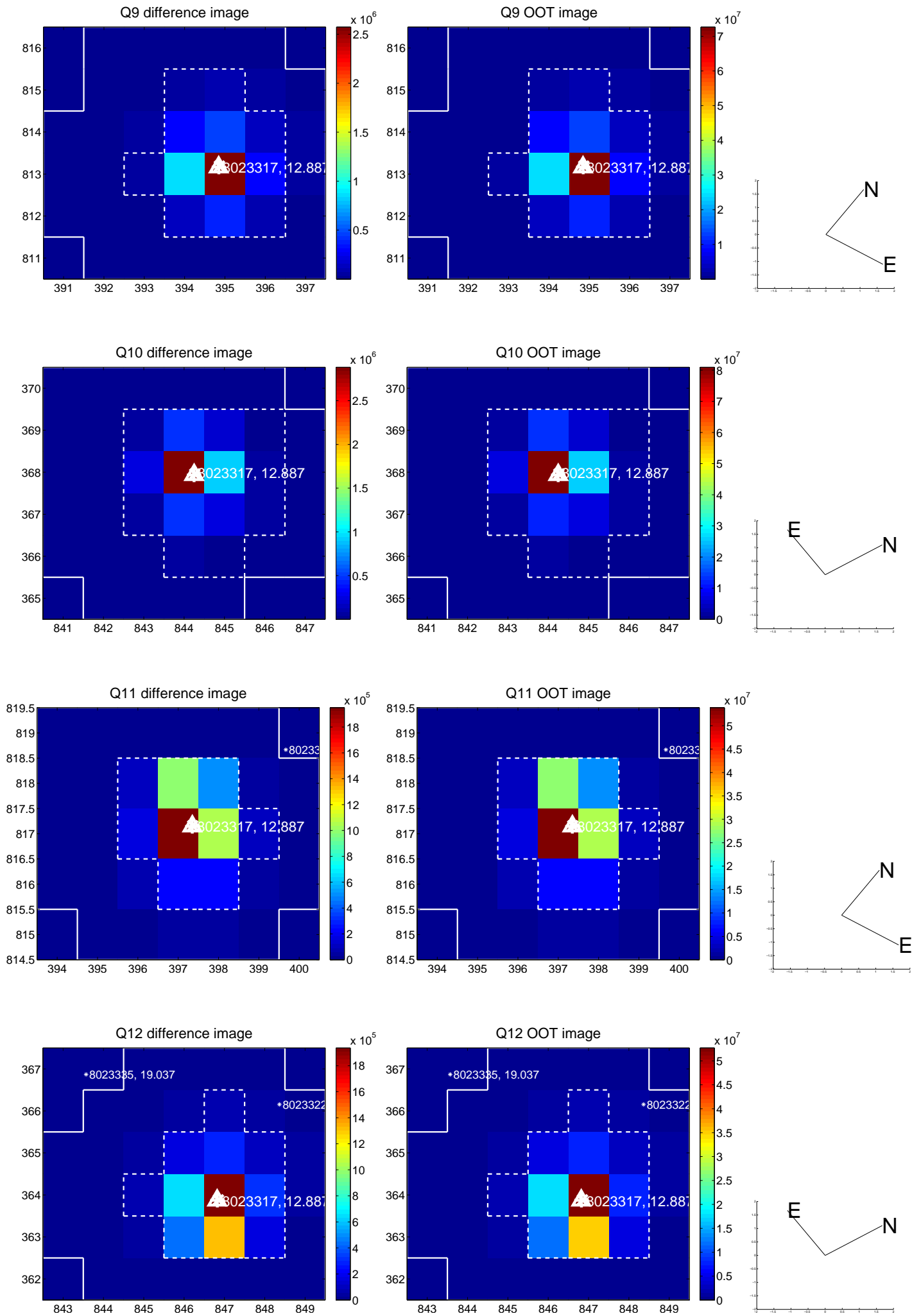
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



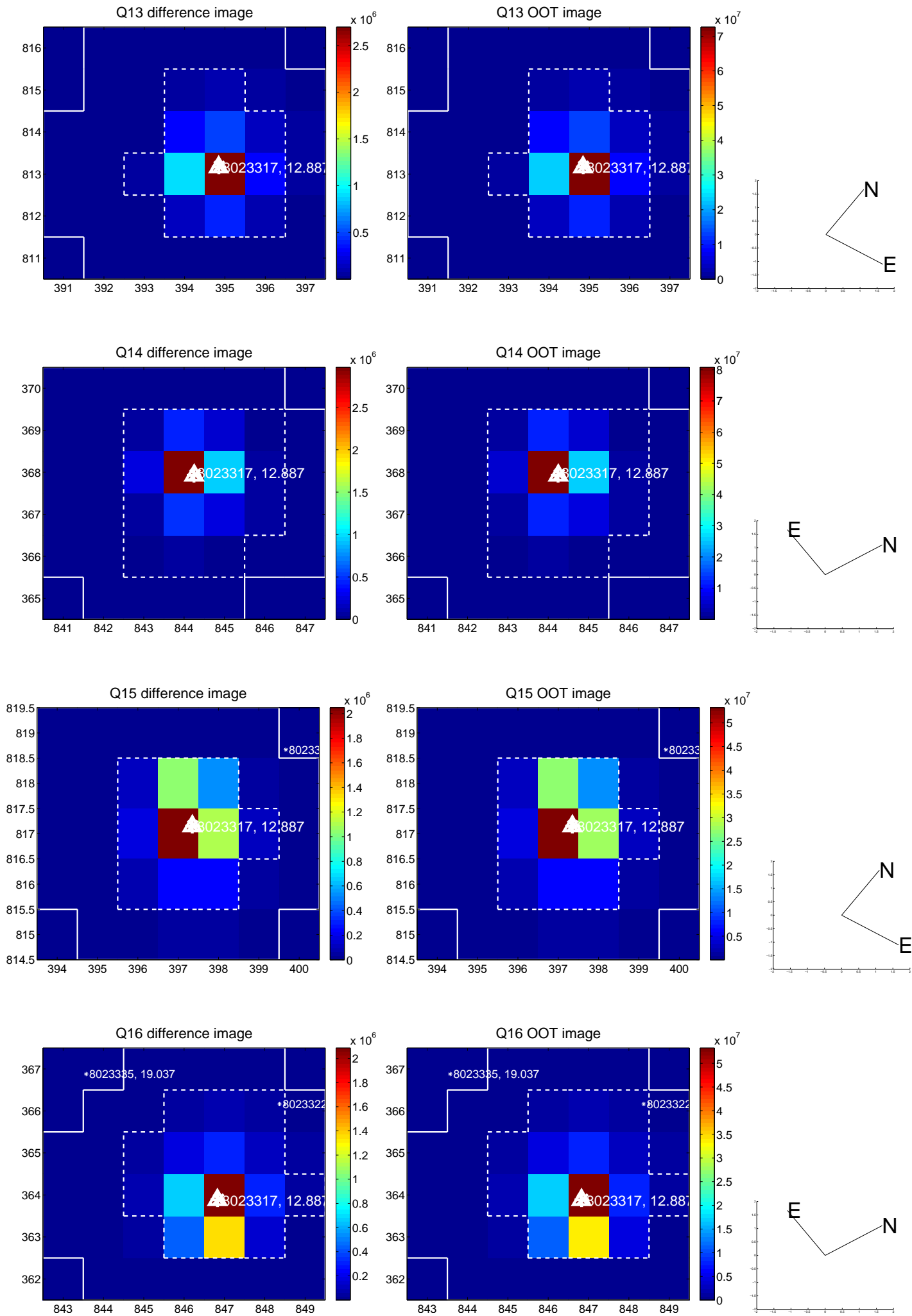
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



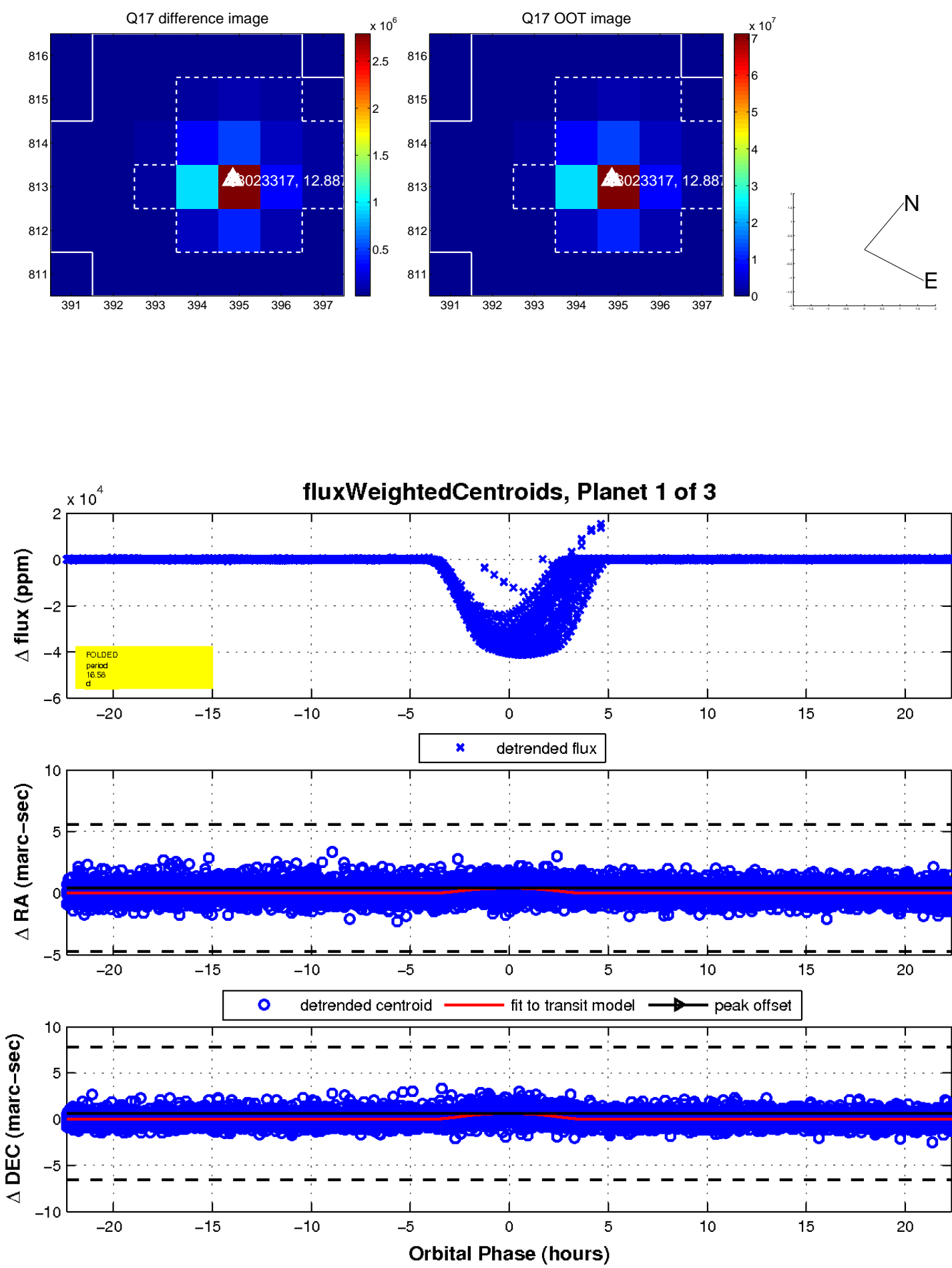
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

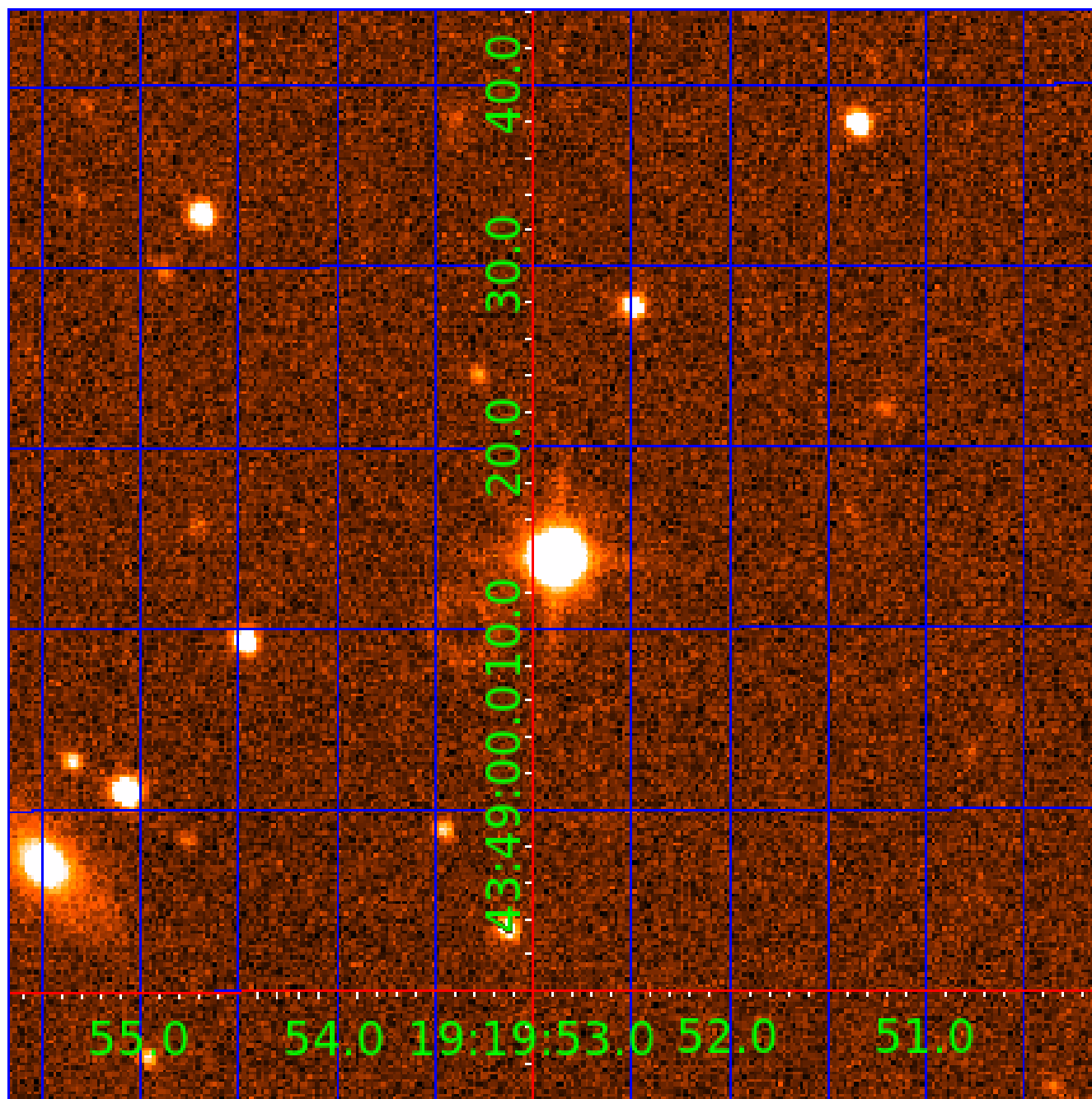


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008023317

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})
008023317-01	OBS	6049.01	16.578440	146.754688	36684.3	7.449	3967.4	2998.5	2.30	5870	49.16	300.98
008023317-02	OBS	No	16.578849	141.074712	1545.9	6.253	192.9	185.7	2.30	5870	10.71	300.97
008023317-03	OBS	No	16.579711	141.537007	220.0	72.570	8.9	19.8	2.30	5870	6.89	300.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008023317-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—HAS_SEC_TCE
008023317-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008023317-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

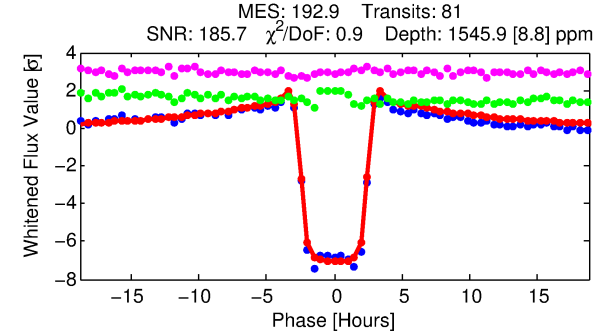
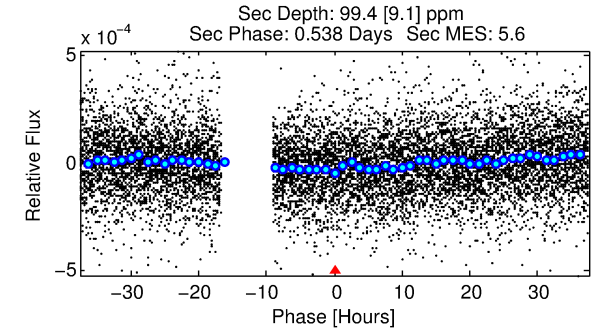
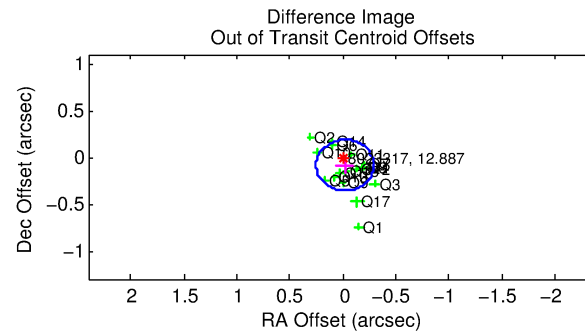
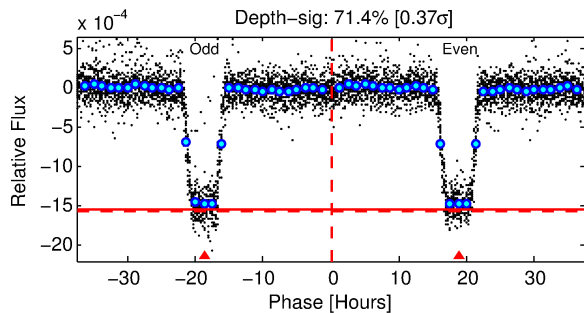
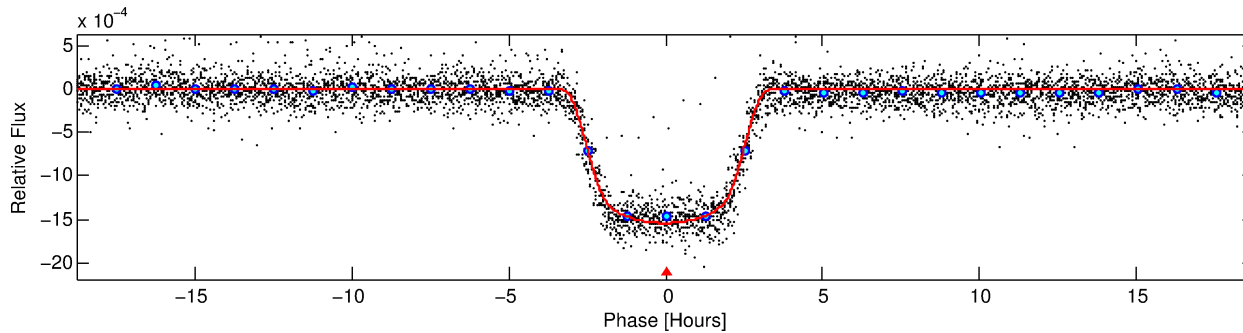
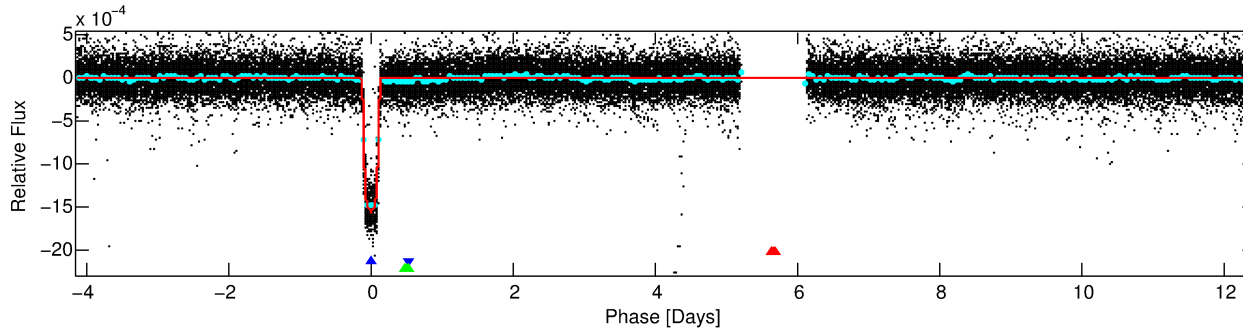
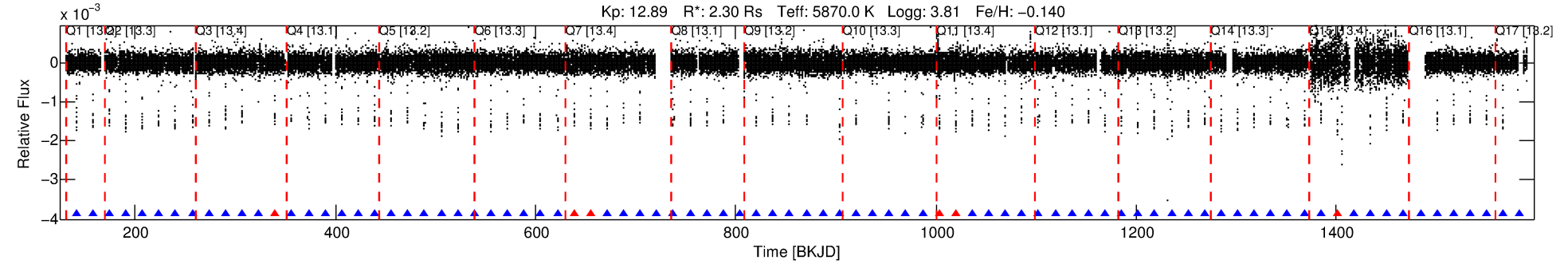
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008023317-02

No Significant Match Found

DV One-Page Summary

KIC: 8023317 Candidate: 2 of 3 Period: 16.579 d
KOI: K06049 Corr: No Ephemeris Match



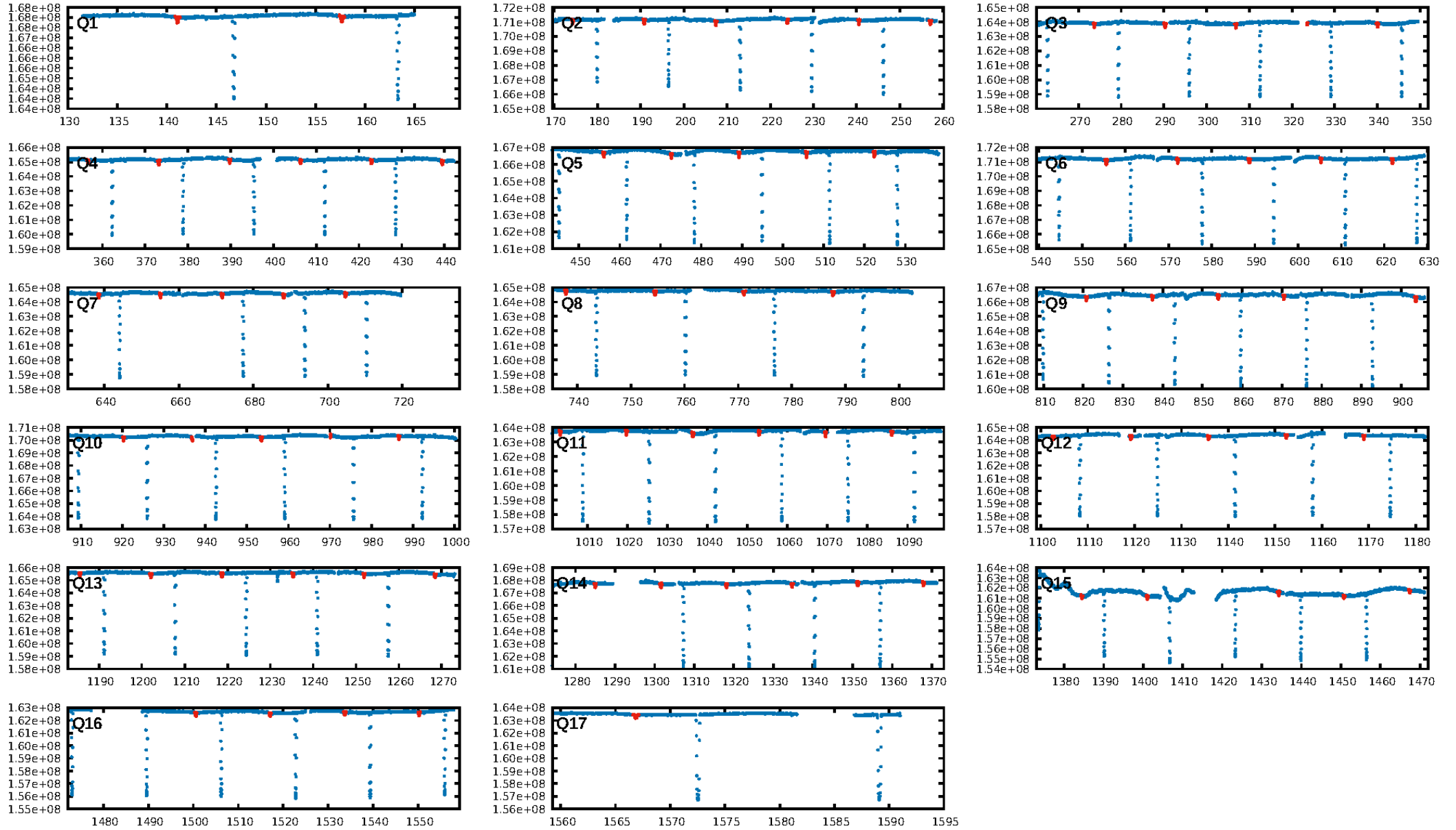
DV Fit Results:

Period = 16.57885 [0.00001] d
Epoch = 141.0747 [0.0005] BKJD
Rp/R* = 0.0427 [0.0002]
a/R* = 10.67 [0.15]
b = 0.90 [0.00]
Seff = 300.97 [169.45]
Teq = 1062 [149] K
Rp = 10.72 [3.83] Re
a = 0.1367 [0.0470] AU
Ag = 8.90 [4.97] [1.59 σ]
Teffp = 2836 [107] K [9.65 σ]

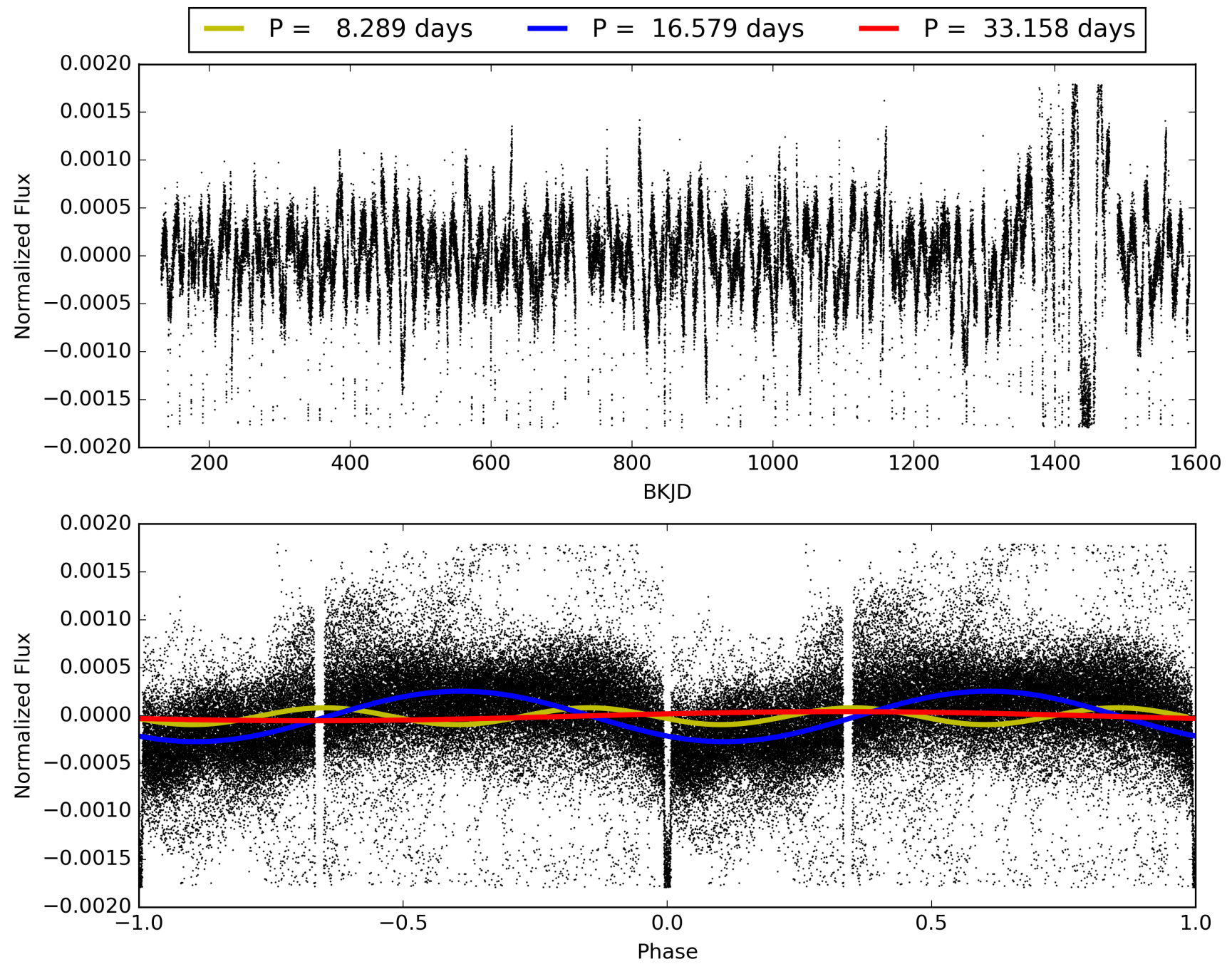
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: 58.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [72/78]
GhostDiagnostic-chr: 4.35
Centroid-sig: 0.0%
Centroid-so: 0.211 arcsec [4.54 σ]
OotOffset-rm: 0.088 arcsec [0.97 σ]
KicOffset-rm: 0.183 arcsec [2.03 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 008023317-02, PDC Light Curves

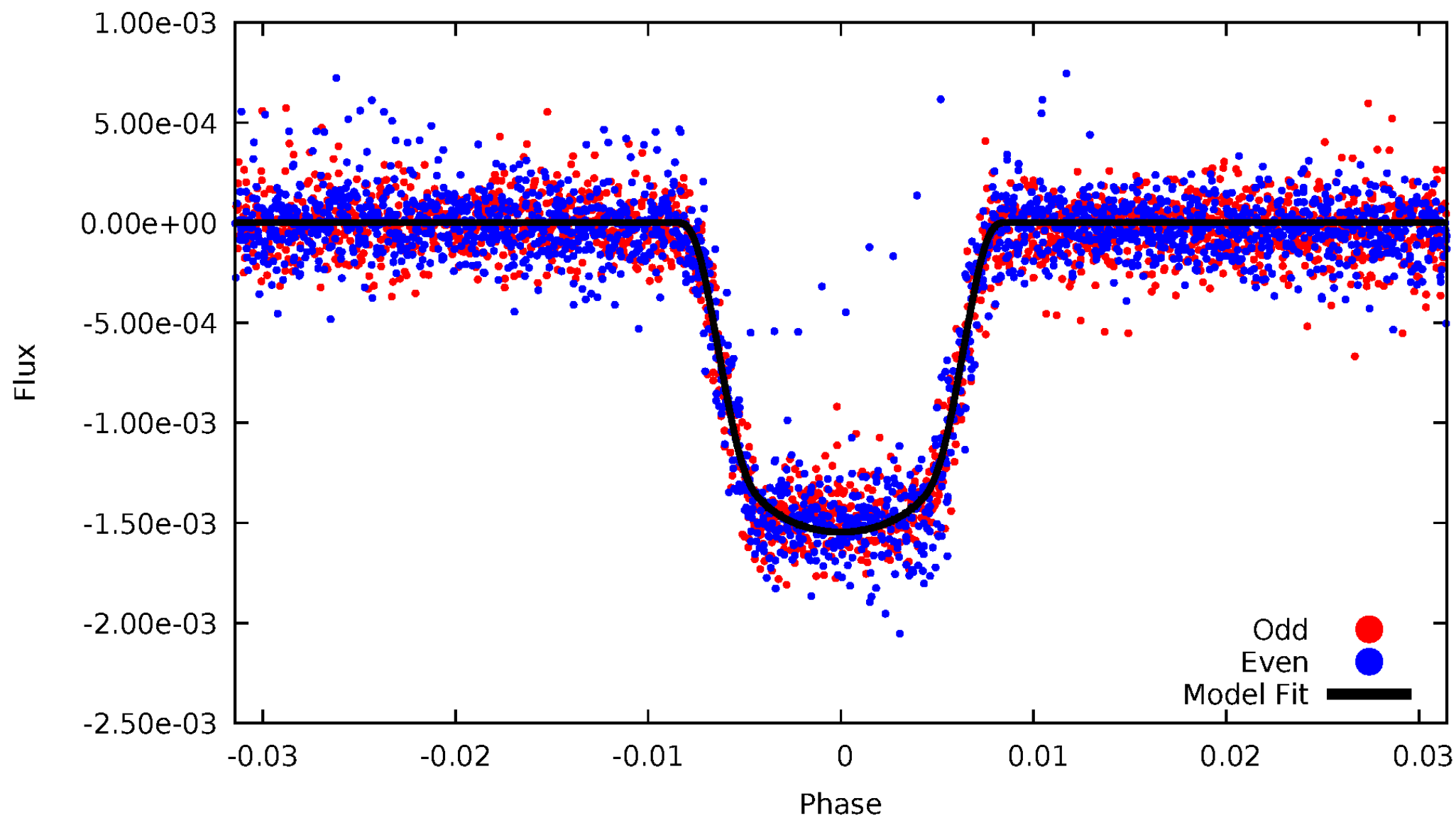


TCE 008023317-02



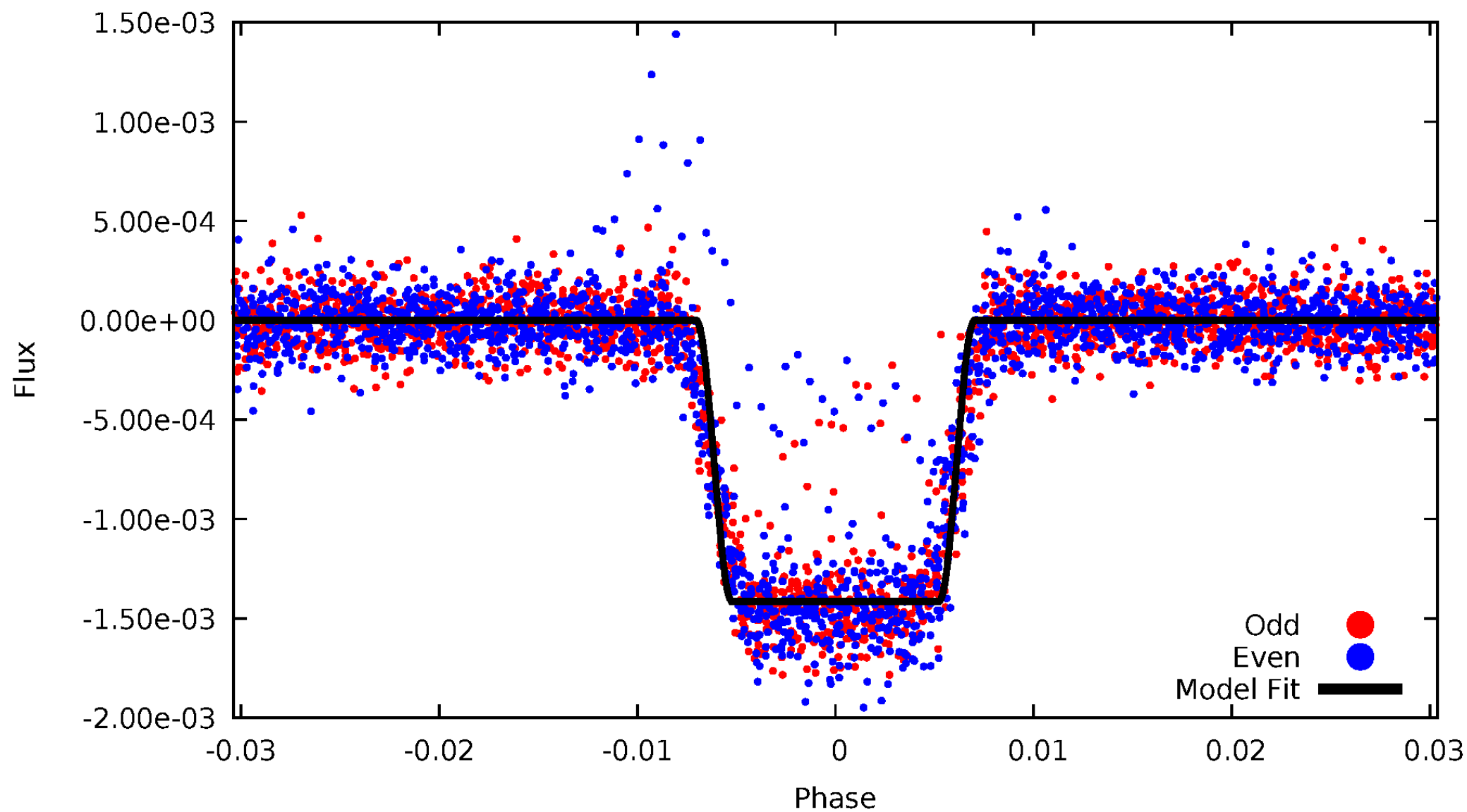
DV Odd/Even

TCE 008023317-02



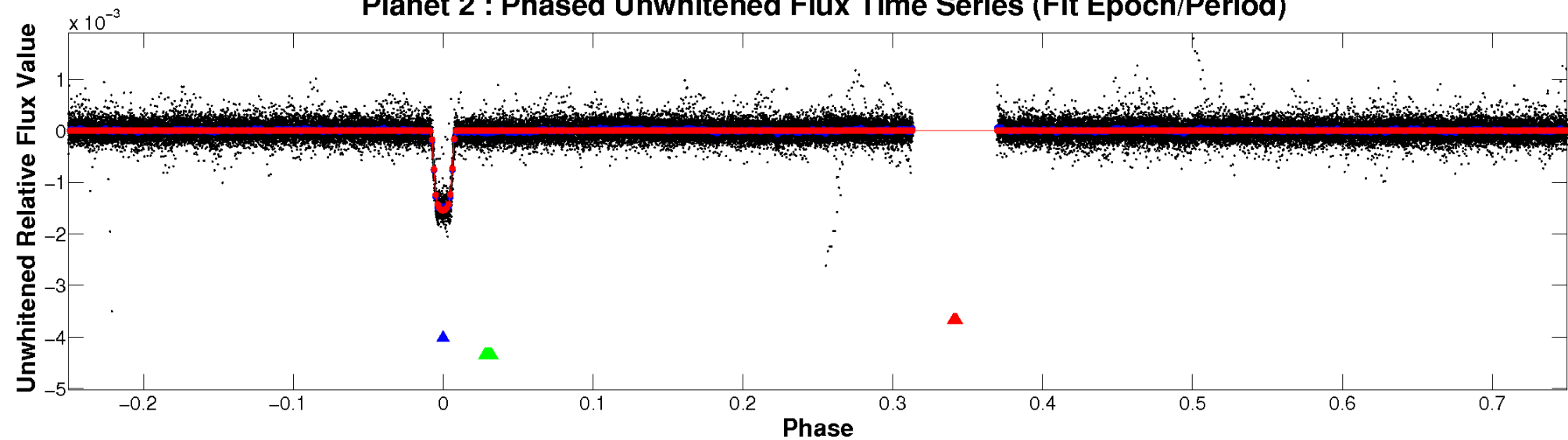
ALT Odd/Even

TCE 008023317-02

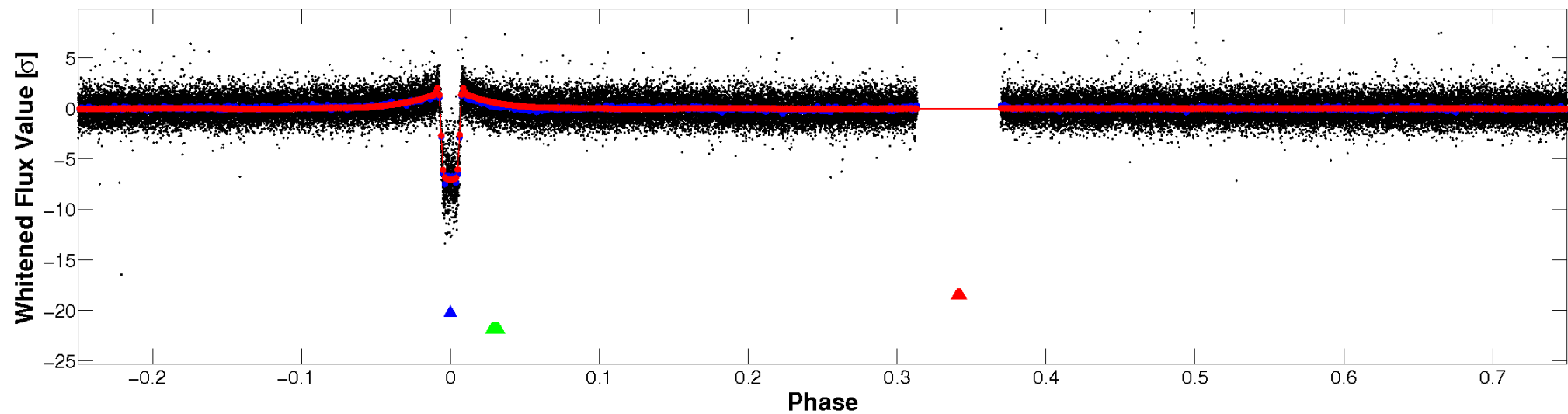


Non-Whitened Vs. Whitened Light Curve

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

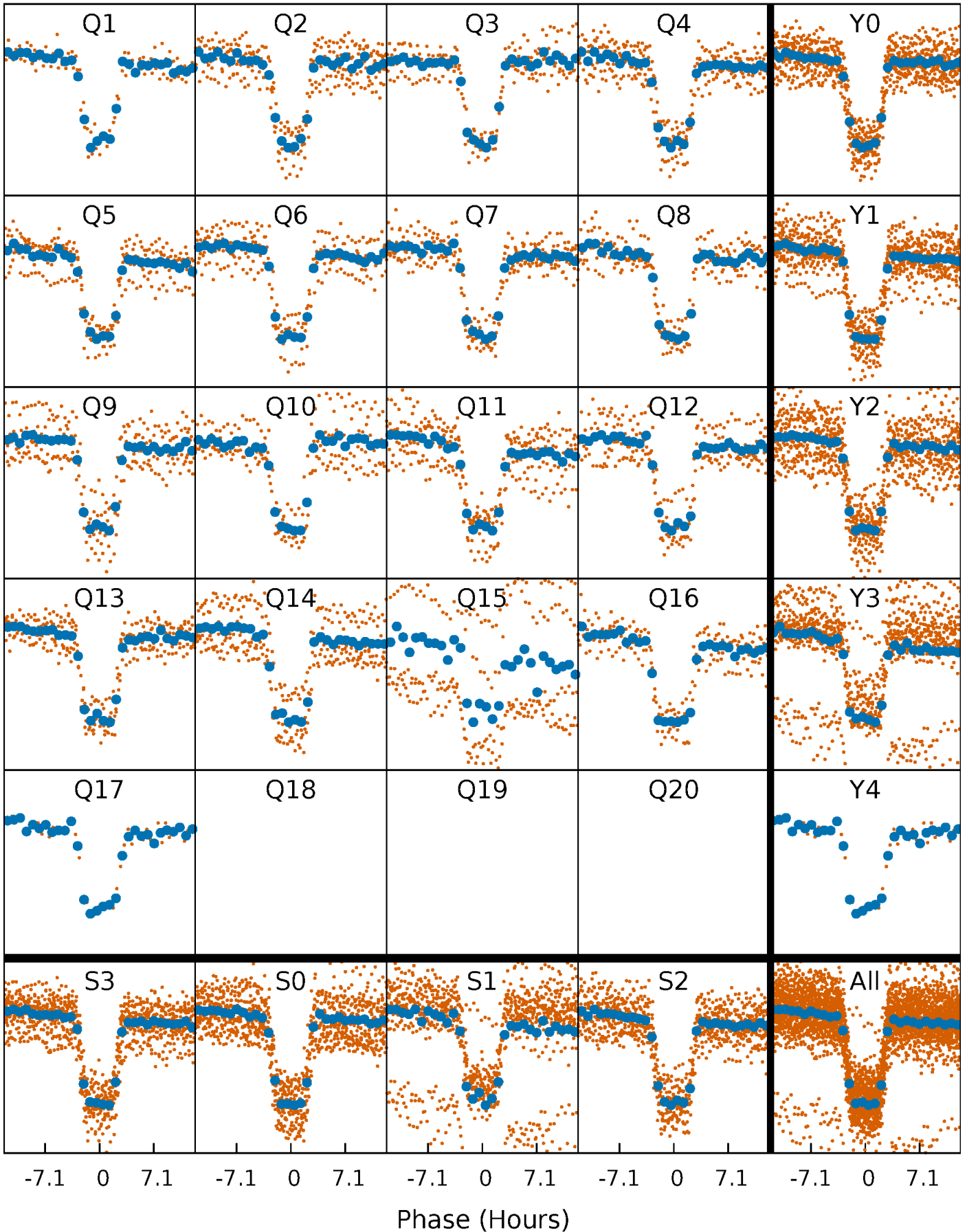


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



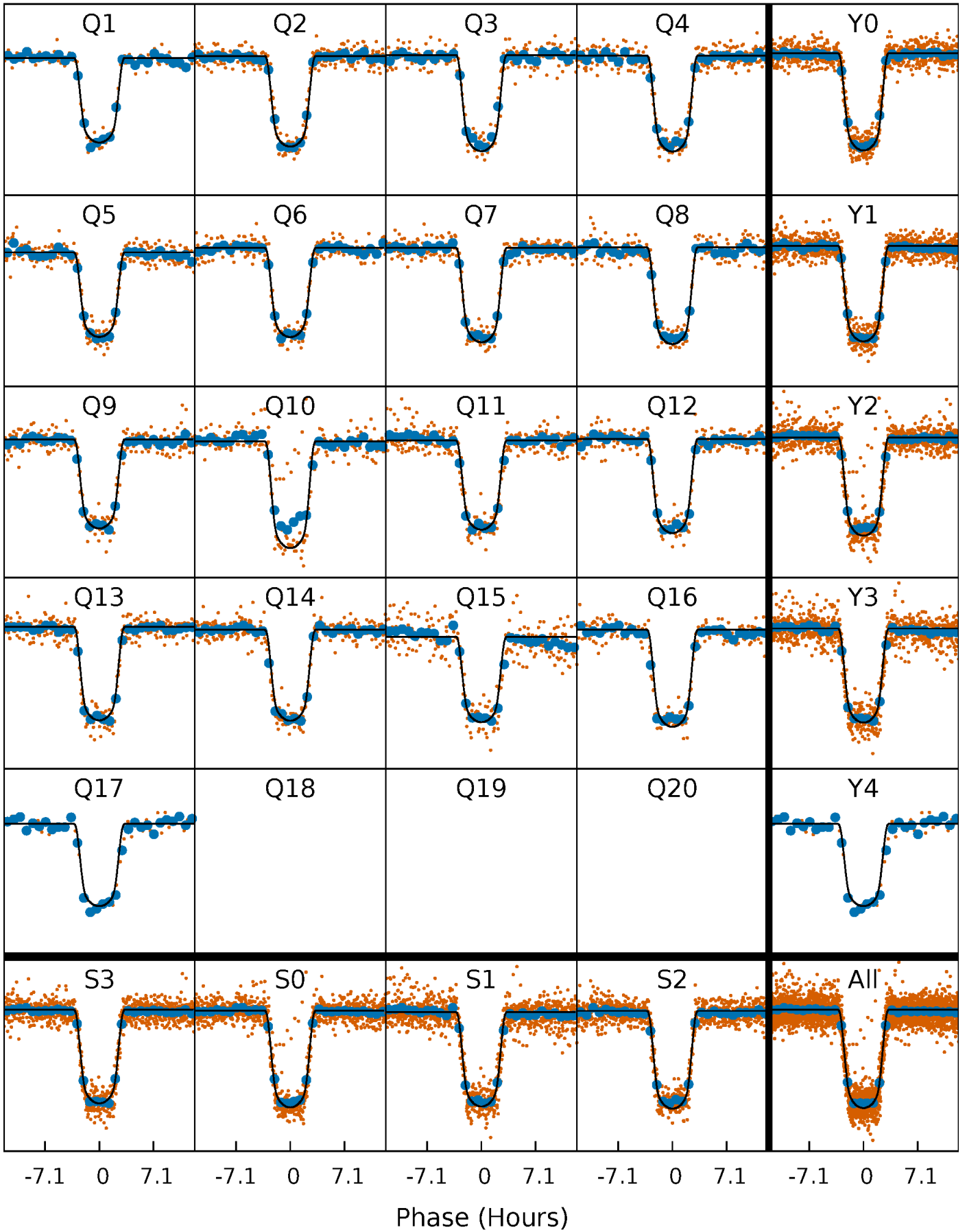
PDC Quarter-Phased Transit Curves

TCE 008023317-02 $P = 16.578849$ Days $T_0 = 141.074712$ (BKJD)



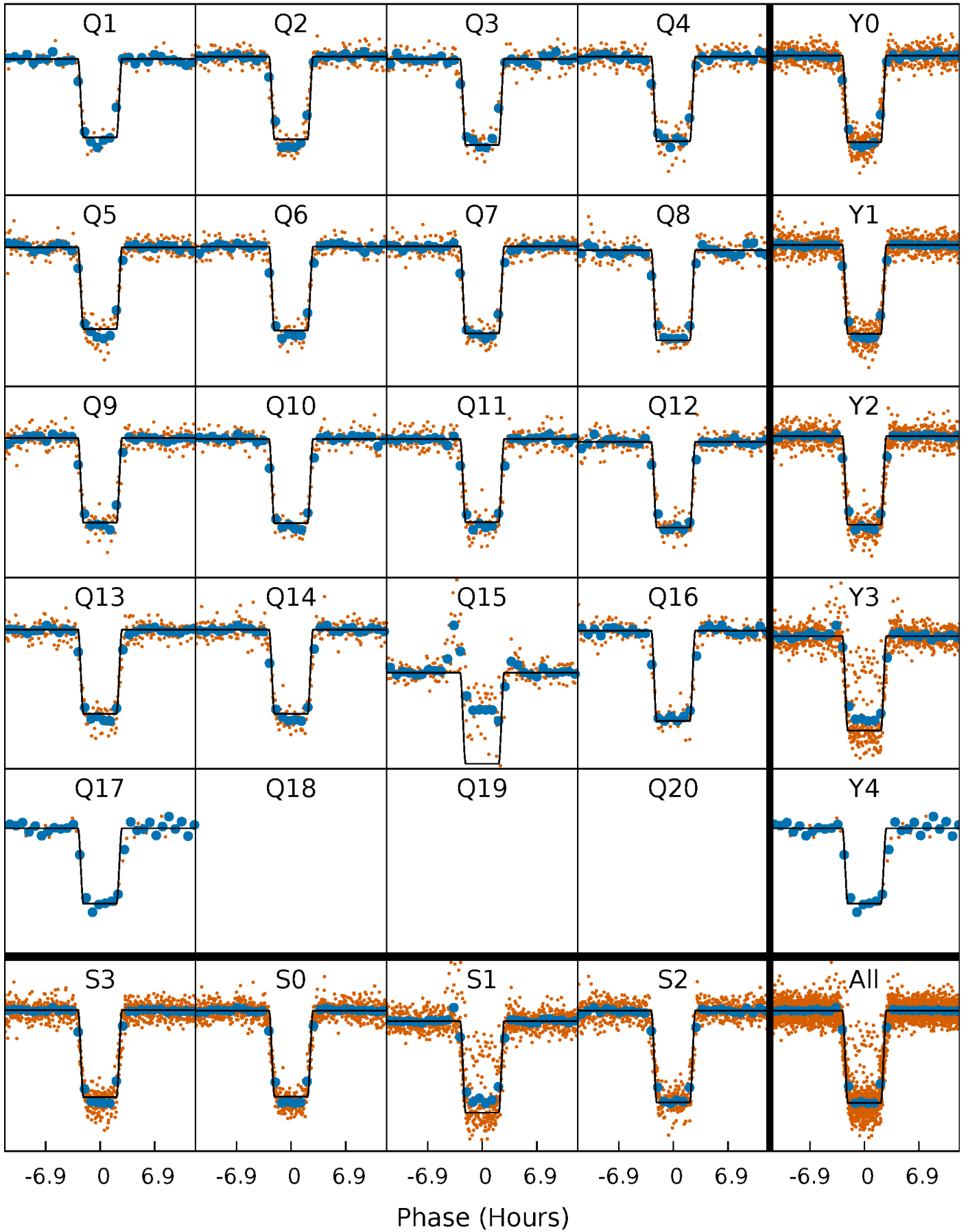
DV Quarter-Phased Transit Curves

TCE 008023317-02 P= 16.578849 Days $T_0=141.074712$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

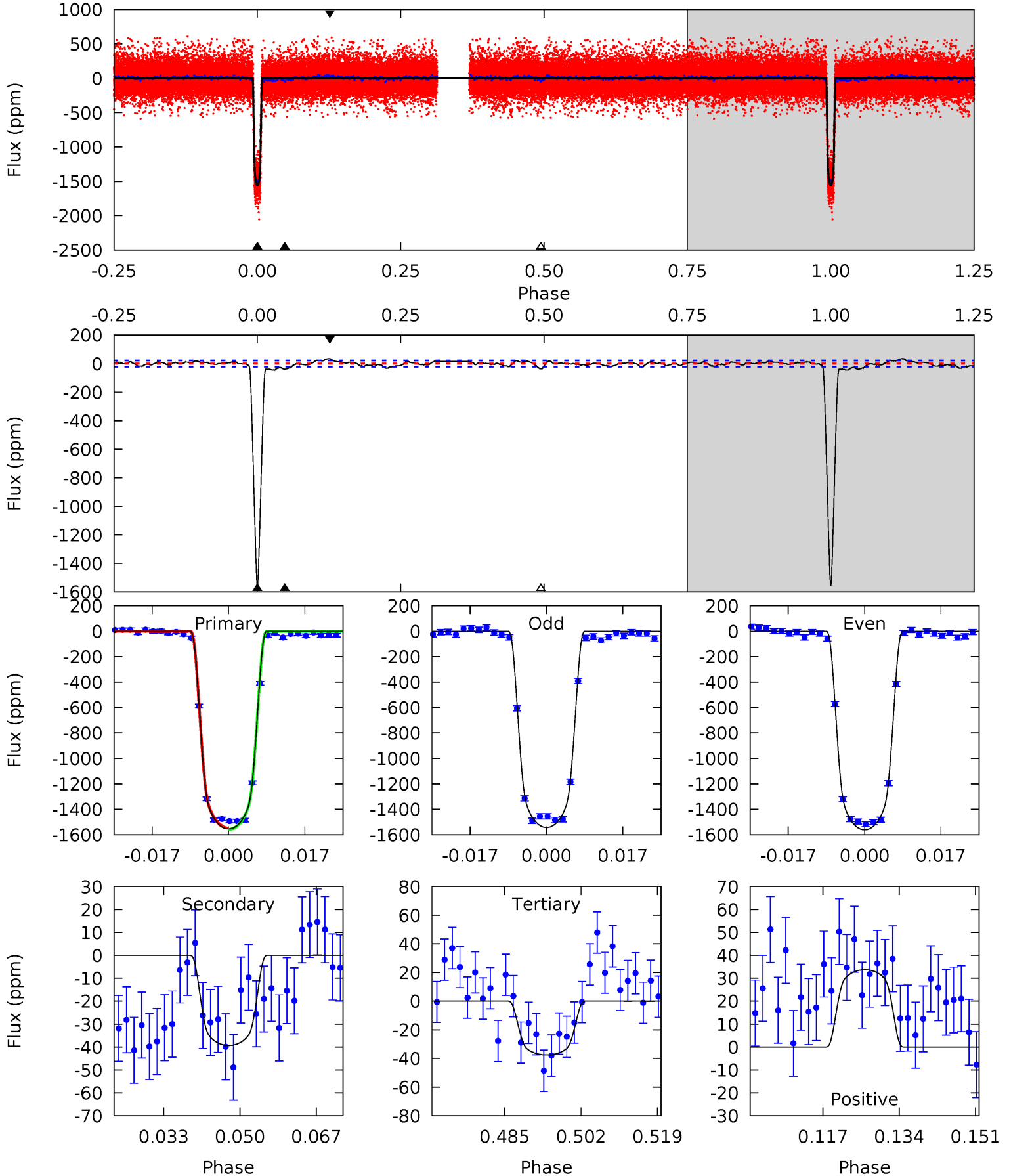
TCE 008023317-02 P= 16.578720 Days $T_0=141.080274$ (BKJD)



DV Model-Shift Uniqueness Test

008023317-02, P = 16.578849 Days, E = 124.495863 Days

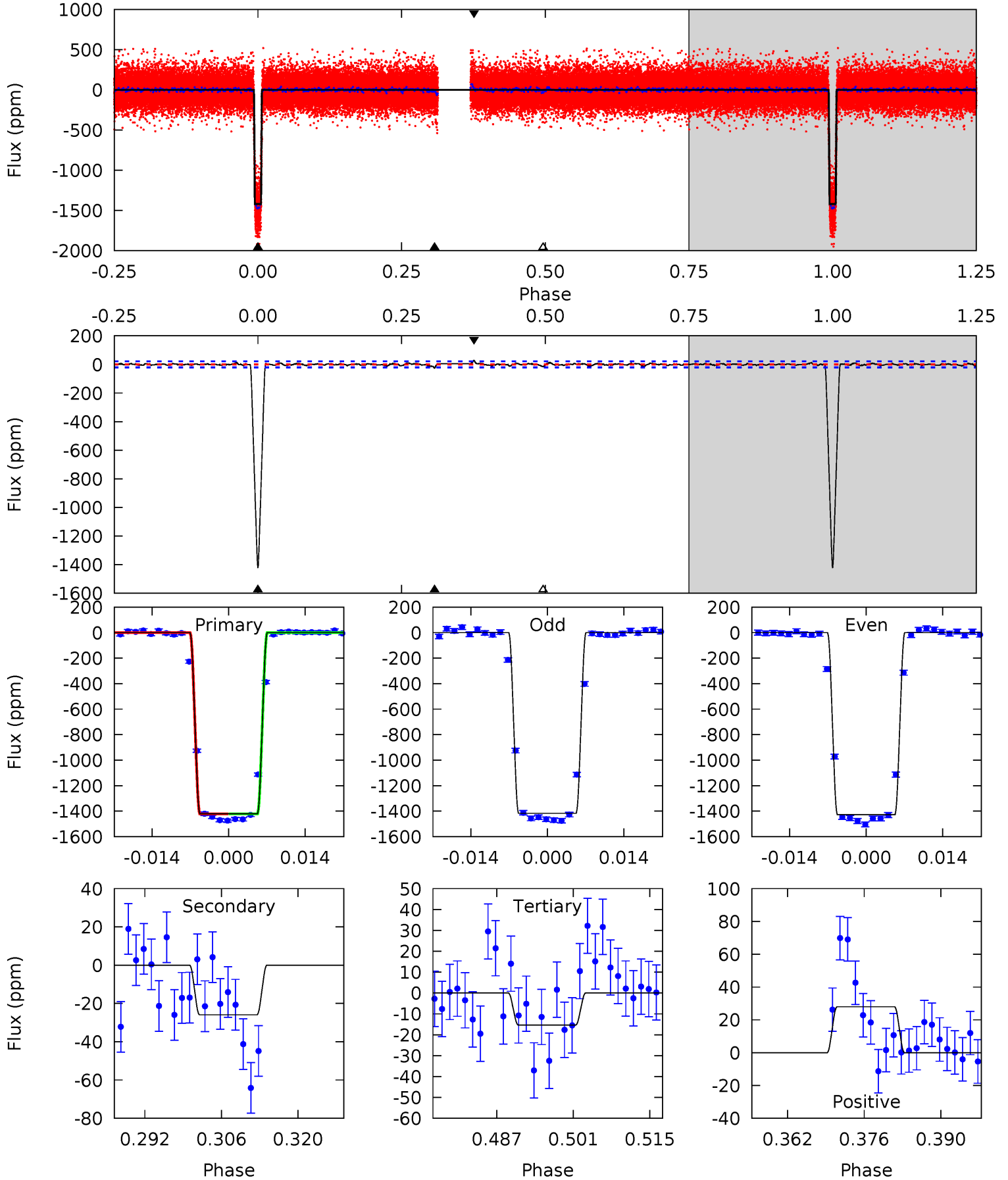
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
350.0	8.86	8.44	7.60	4.93	2.39	2.84	341.6	342.4	0.42	1.27	2.09	1.01	0.02	1.10



Alt Model-Shift Uniqueness Test

008023317-02, P = 16.578720 Days, E = 124.501554 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
330.5	6.04	3.57	6.52	4.96	2.46	1.10	326.9	324.0	2.47	-0.48	1.26	0.98	0.02	0



Stellar Parameters For KIC 008023317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5870^{+175}_{-146}	$3.808^{+0.323}_{-0.108}$	$-0.140^{+0.350}_{-0.250}$	$2.300^{+0.443}_{-0.823}$	$1.239^{+0.178}_{-0.267}$	$0.143^{+0.332}_{-0.047}$
	+3%/-2%	+8%/-3%	+250%/-179%	+19%/-36%	+14%/-22%	+231%/-33%
Source	PHO1	FLK73	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 008023317-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-39 ± 4	$10.54^{+1.24}_{-2.08}$	1462^{+92}_{-137}	2912^{+62}_{-70}	$3.757^{+1.796}_{-0.872}$
Alt.	-26 ± 4	$9.25^{+1.06}_{-1.94}$	1463^{+91}_{-146}	2844^{+80}_{-83}	$3.243^{+1.630}_{-0.854}$

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

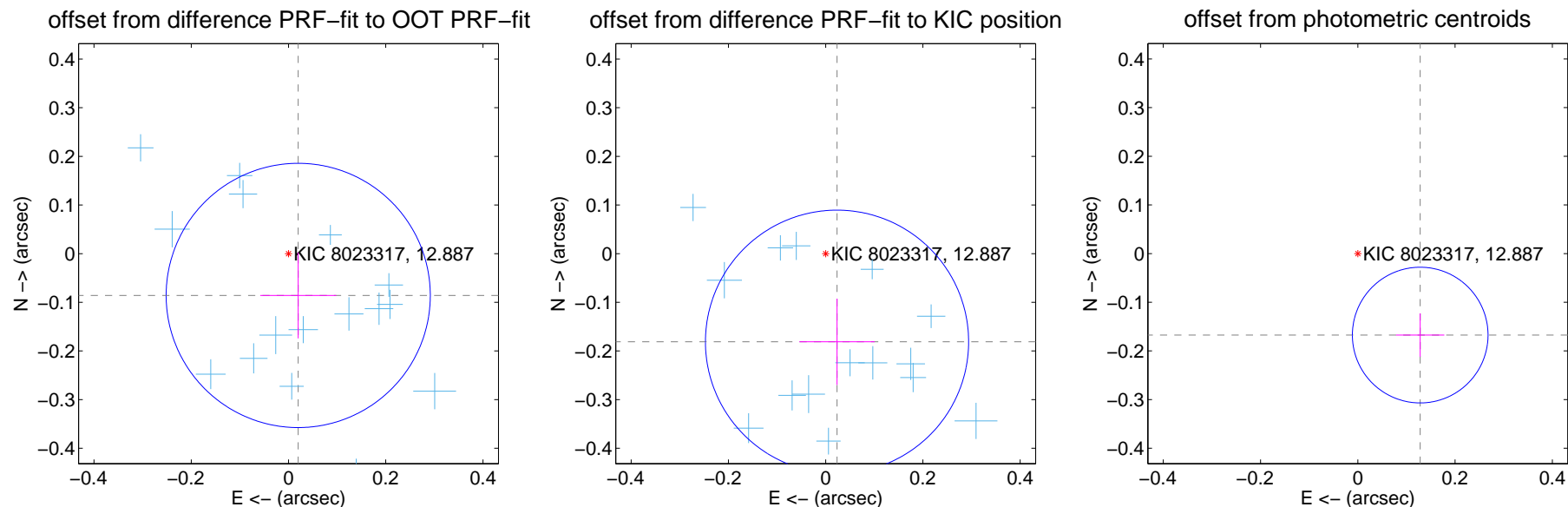
DV Centroid Data

Supplemental centroid analysis for 008023317-02. Kepler magnitude: 12.89. Transit SNR 185.74

There are 17 quarters with good PRF difference image offsets

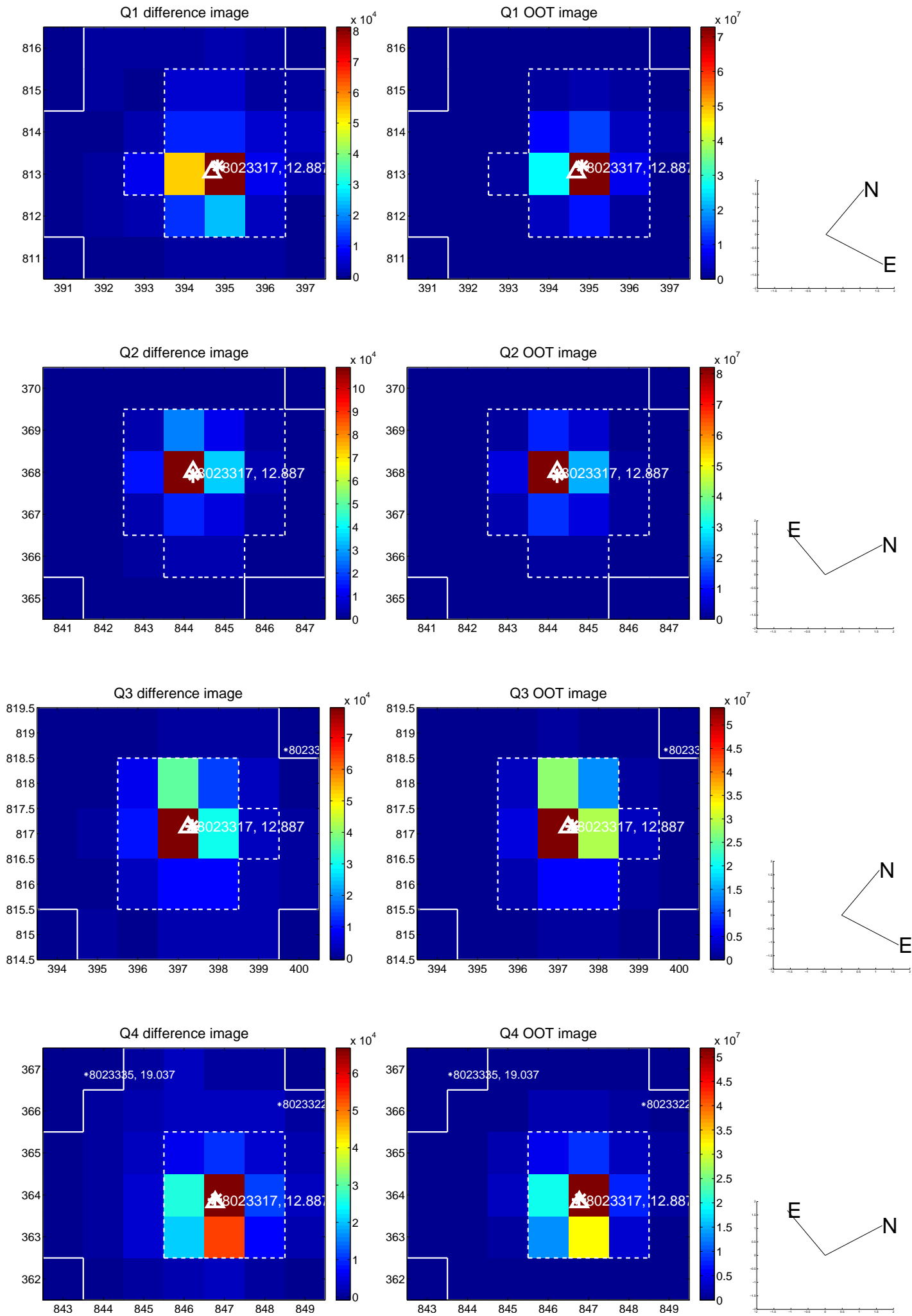
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.088 ± 0.091	0.97	-0.020 ± 0.078	-0.086 ± 0.088
PRF-fit source offset from KIC position	0.183 ± 0.090	2.03	-0.023 ± 0.077	-0.181 ± 0.089
photometric centroid source offset	0.21 ± 0.05	4.54	-0.13 ± 0.05	-0.17 ± 0.04

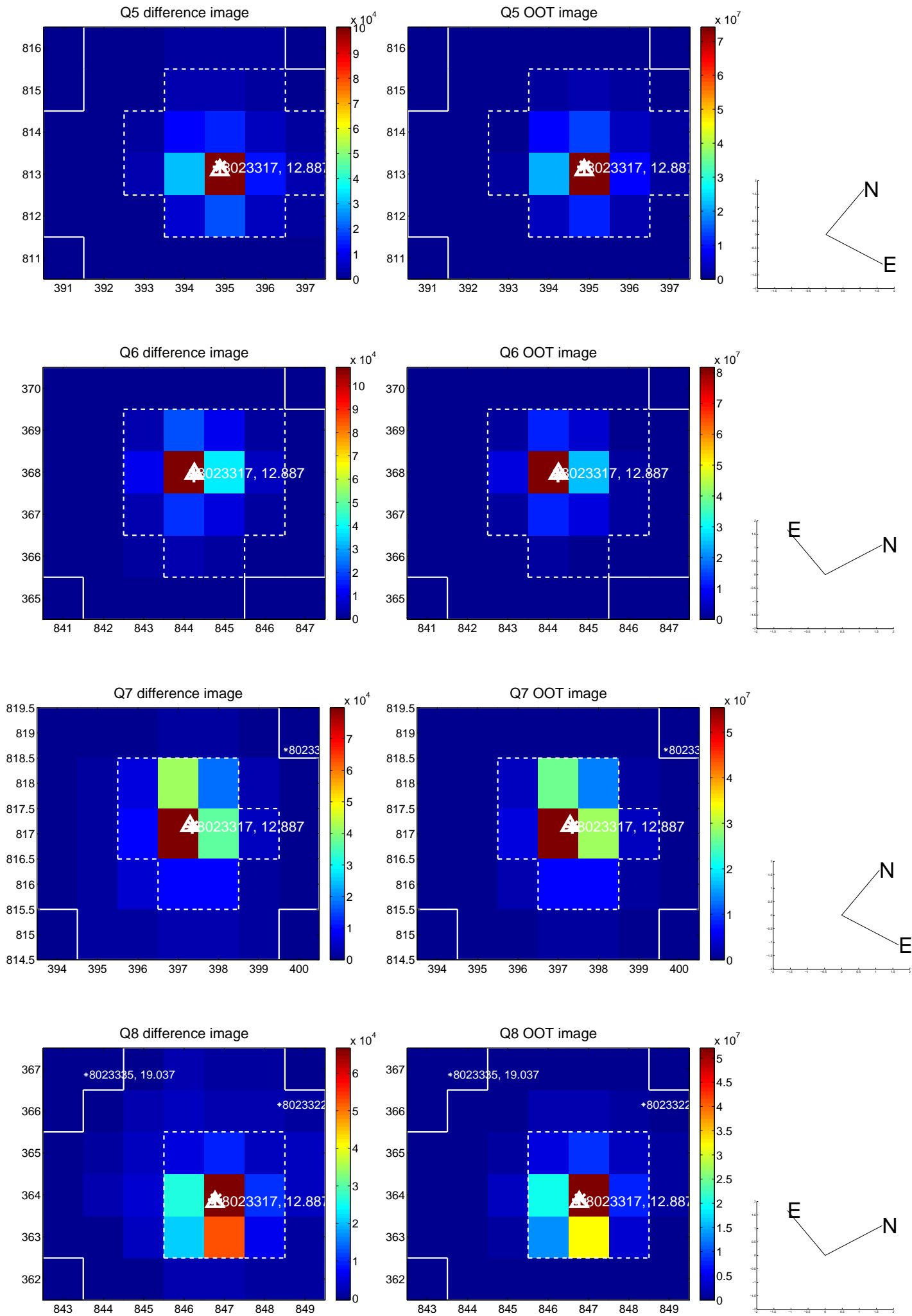


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

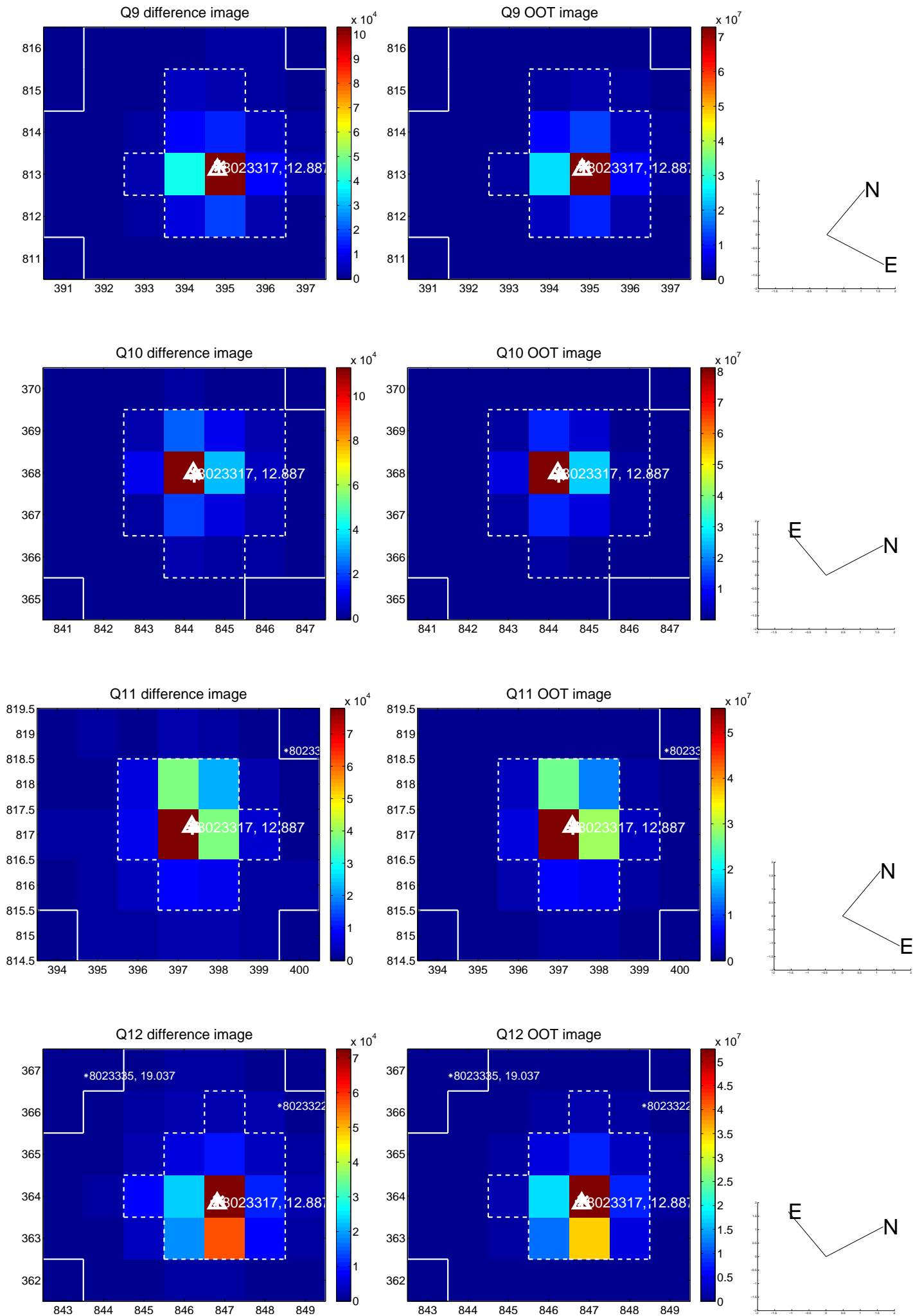
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



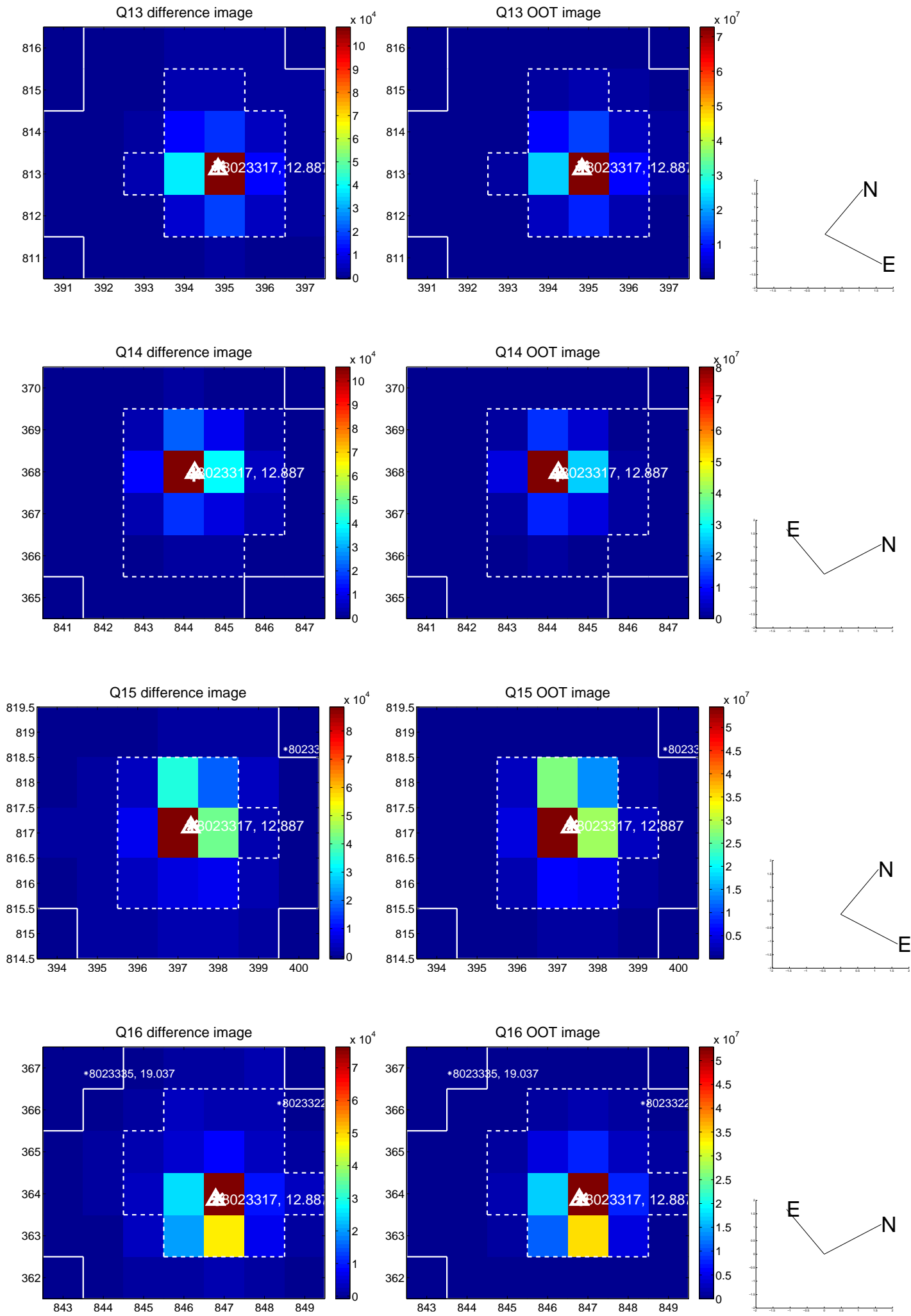
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



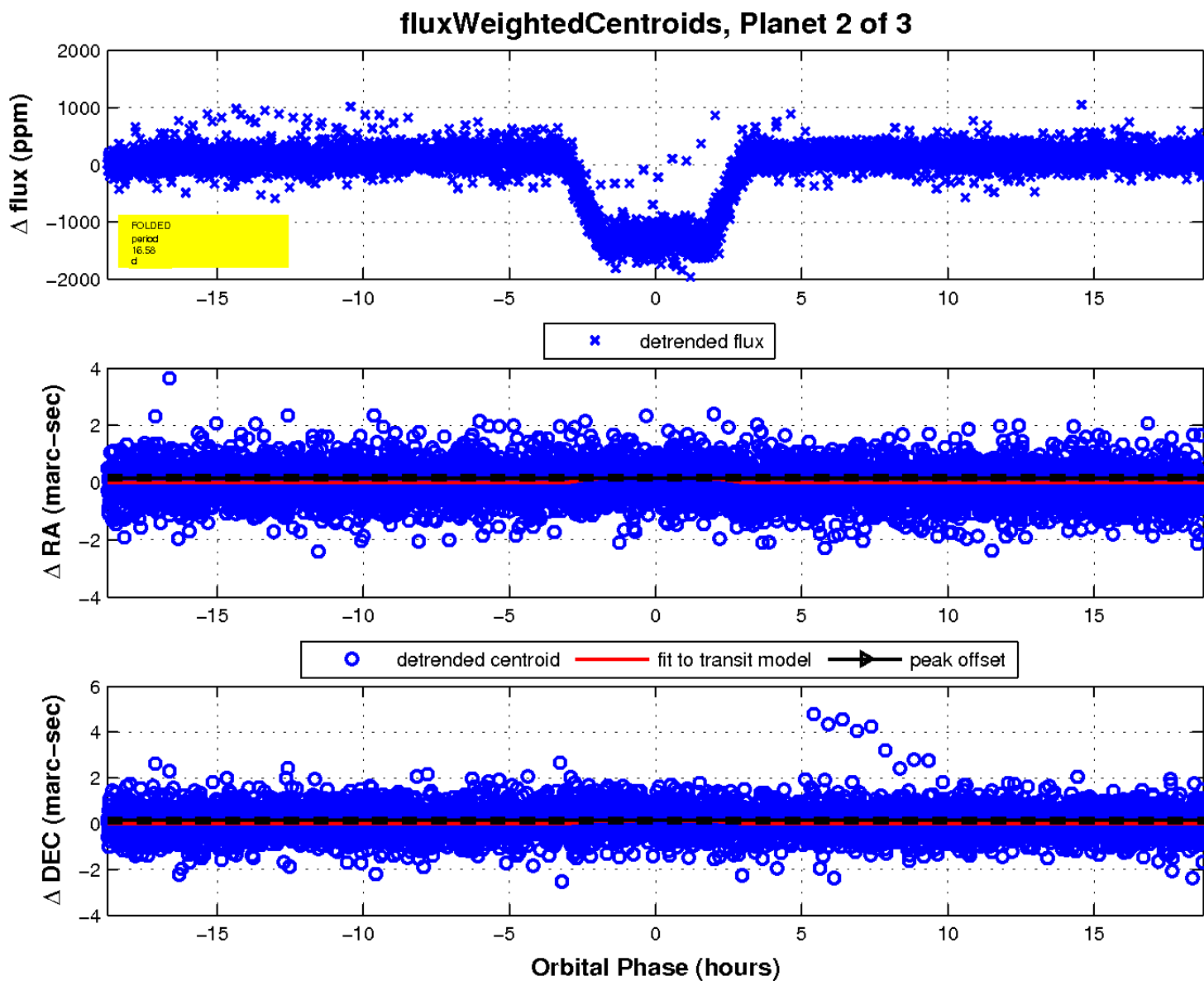
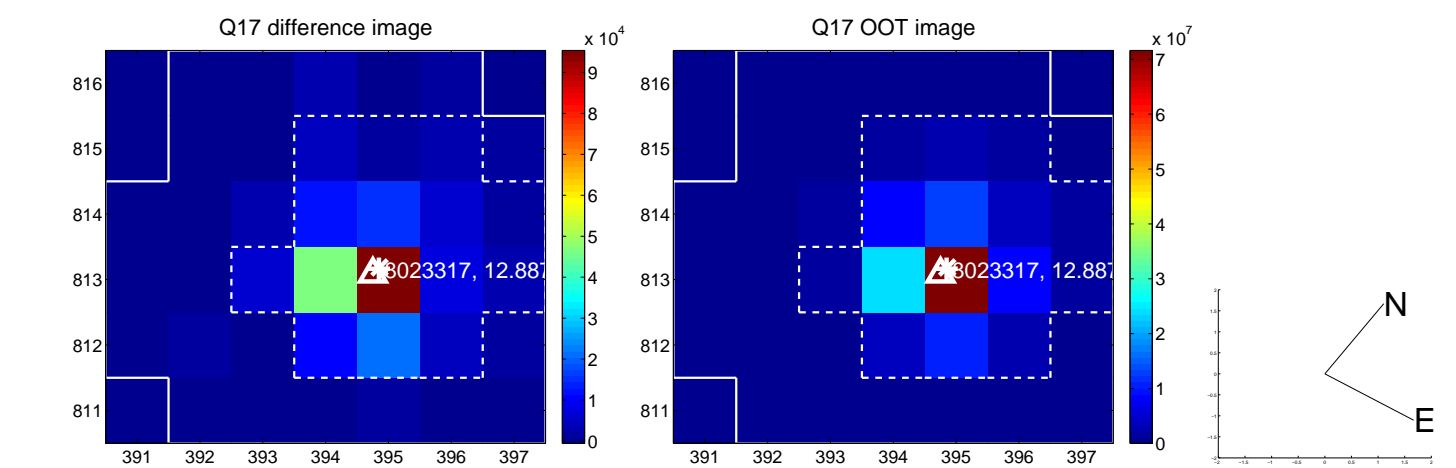
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

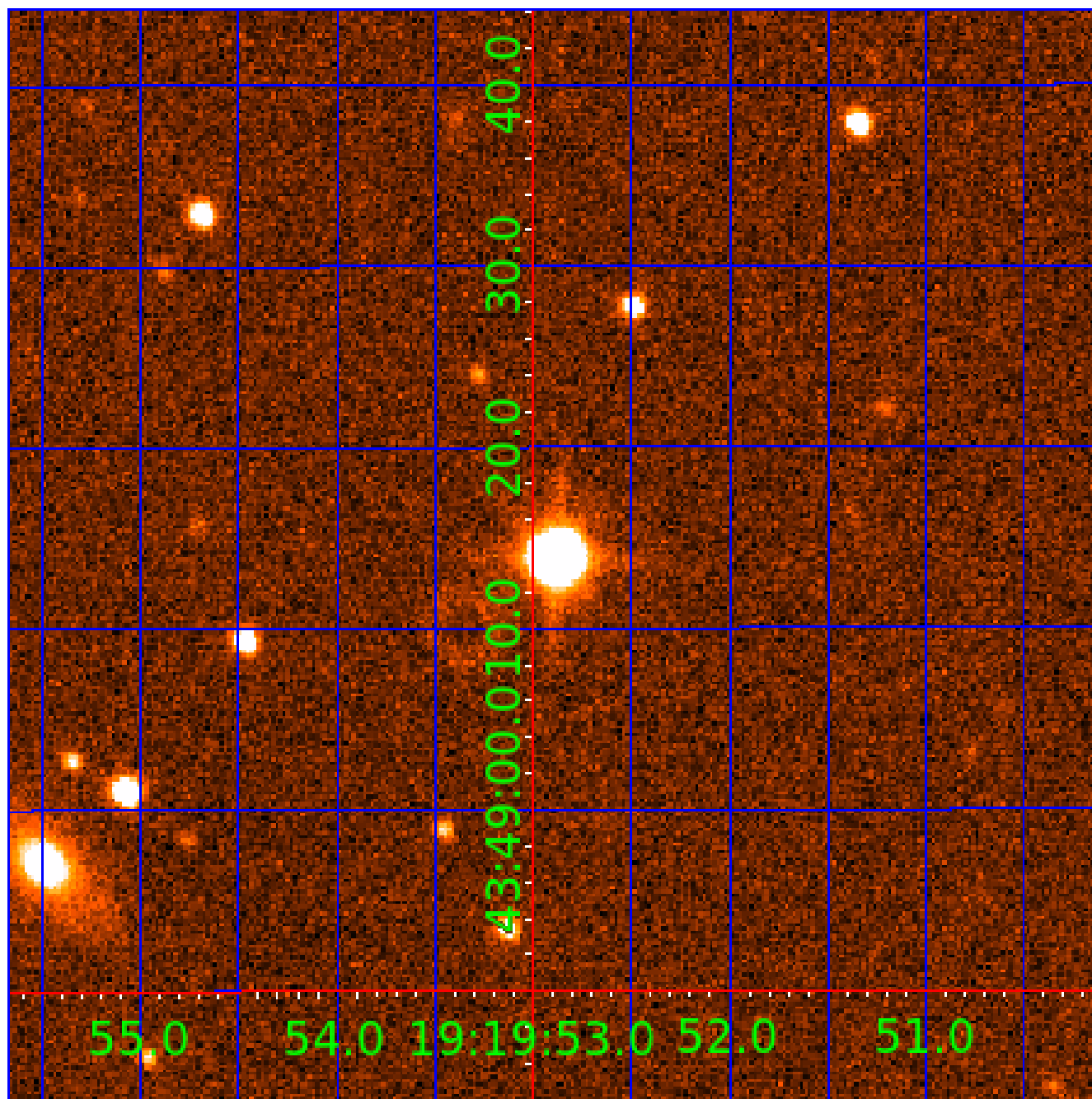


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008023317

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})
008023317-01	OBS	6049.01	16.578440	146.754688	36684.3	7.449	3967.4	2998.5	2.30	5870	49.16	300.98
008023317-02	OBS	No	16.578849	141.074712	1545.9	6.253	192.9	185.7	2.30	5870	10.71	300.97
008023317-03	OBS	No	16.579711	141.537007	220.0	72.570	8.9	19.8	2.30	5870	6.89	300.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008023317-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—HAS_SEC_TCE
008023317-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008023317-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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 008023317-03

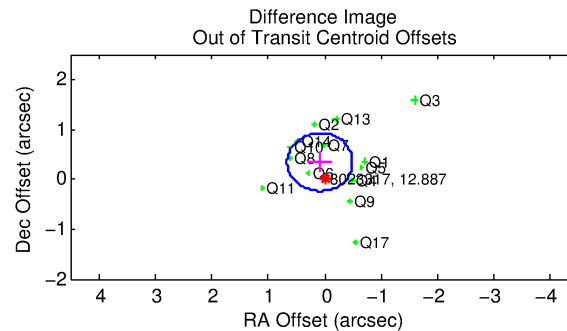
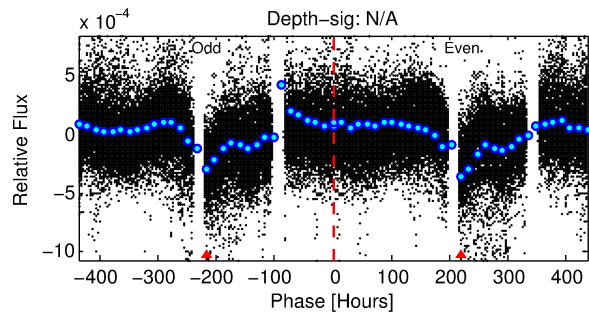
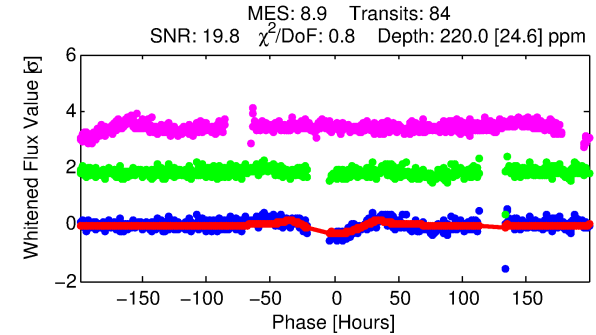
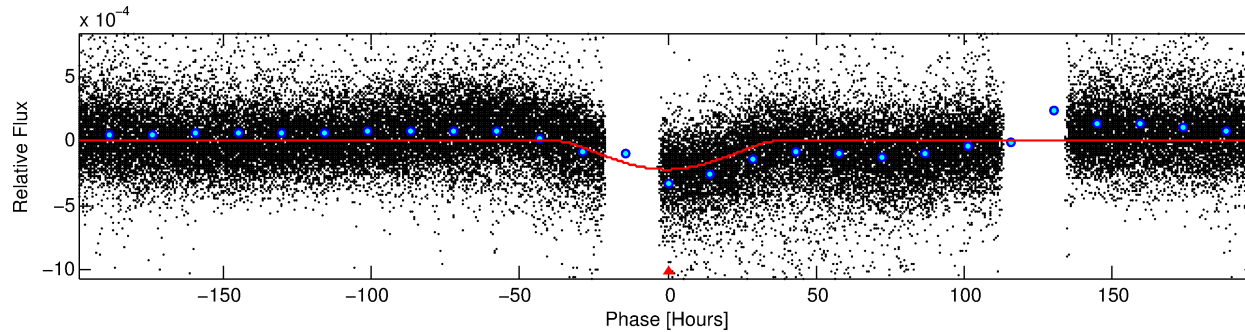
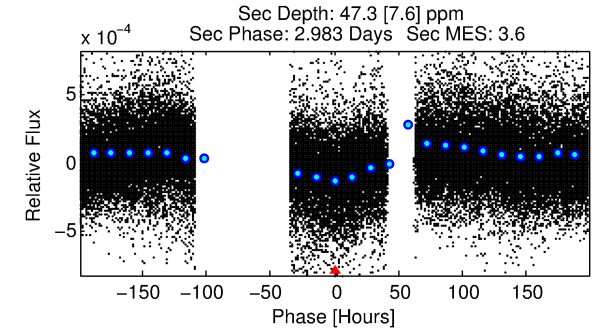
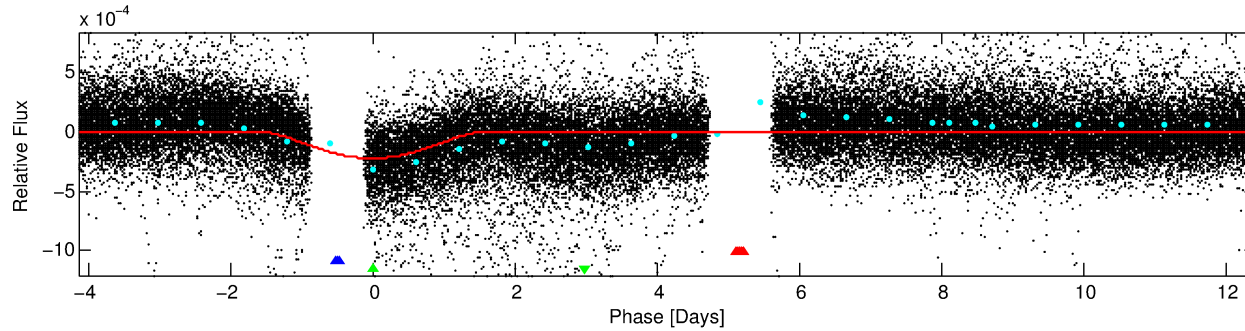
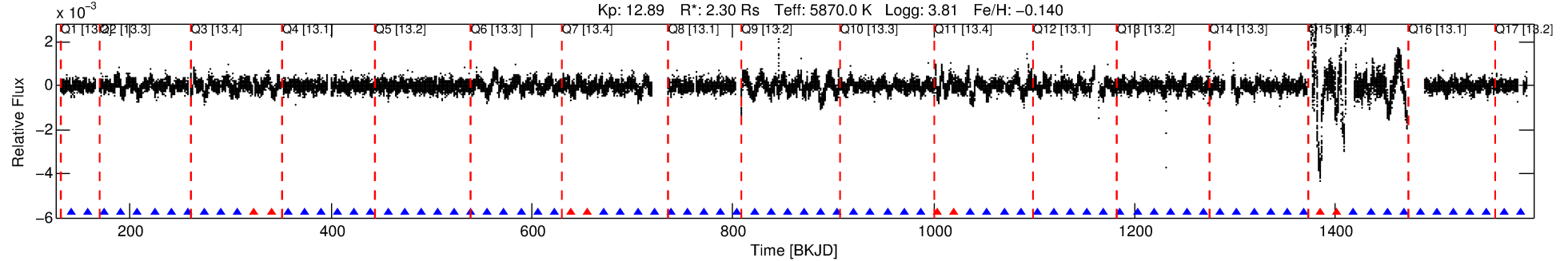
No Significant Match Found

DV One-Page Summary

KIC: 8023317 Candidate: 3 of 3 Period: 16.580 d

KOI: K06049 Corr: No Ephemeris Match

Kp: 12.89 R*: 2.30 Rs Teff: 5870.0 K Logg: 3.81 Fe/H: -0.140



DV Fit Results:

Period = 16.57971 [0.00101] d
Epoch = 141.5370 [0.0472] BKJD
Rp/R* = 0.0275 [0.0175]
a/R* = 1.09 [0.01]
b = 1.00 [0.03]
Seff = 300.95 [169.44]
Teq = 1062 [149] K
Rp = 6.89 [5.04] Re
a = 0.1367 [0.0470] AU
Ag = 10.23 [14.32] [0.64σ]
Teffp = 2937 [948] K [1.95σ]

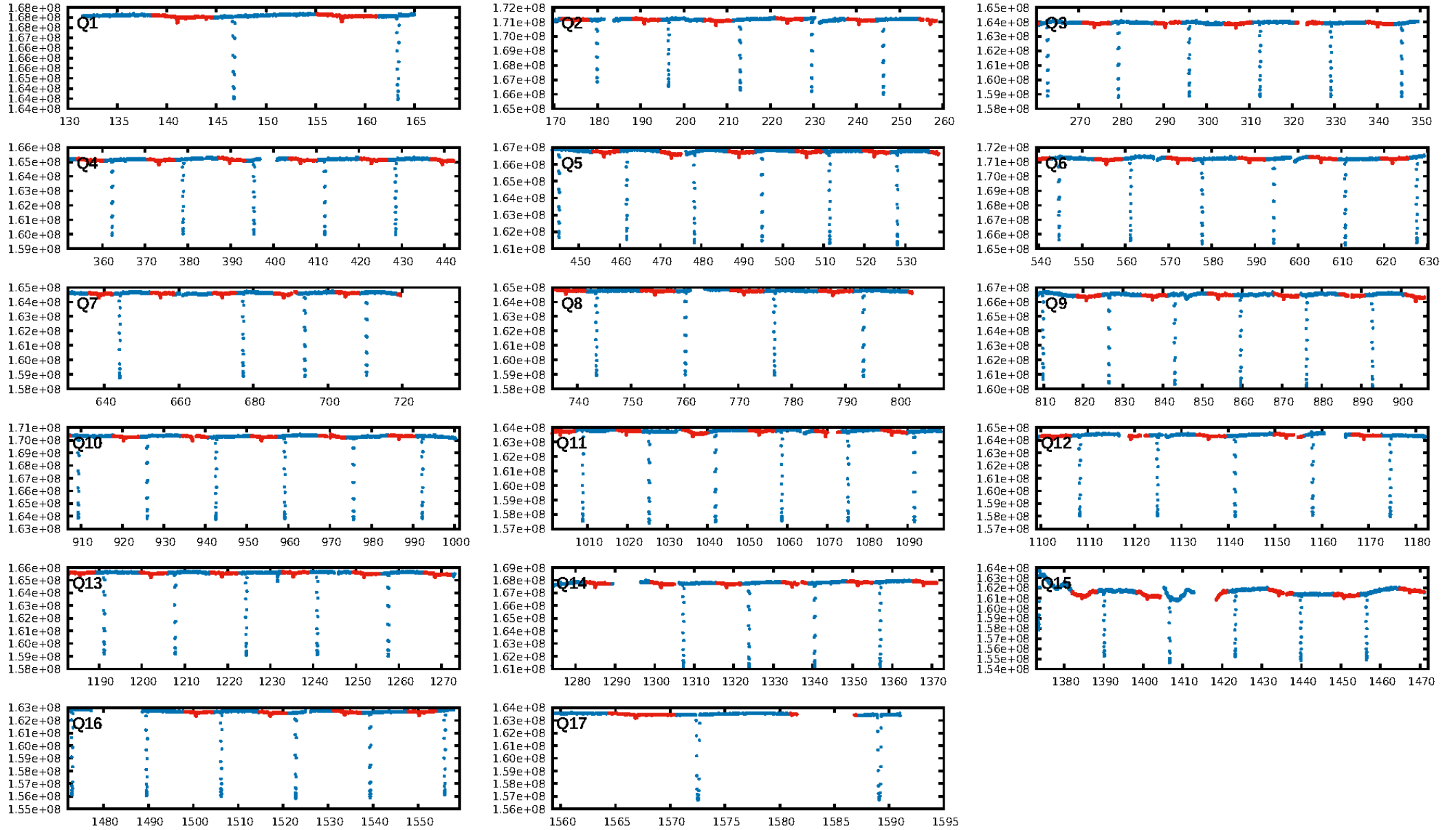
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [73/81]
GhostDiagnostic-chr: 1.221
Centroid-sig: 0.0%
Centroid-so: 0.365 arcsec [2.10σ]
OotOffset-rm: 0.351 arcsec [1.82σ]
KicOffset-rm: 0.247 arcsec [1.33σ]
OotOffset-st: 4/3/2/5 [14]
KicOffset-st: 4/3/2/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

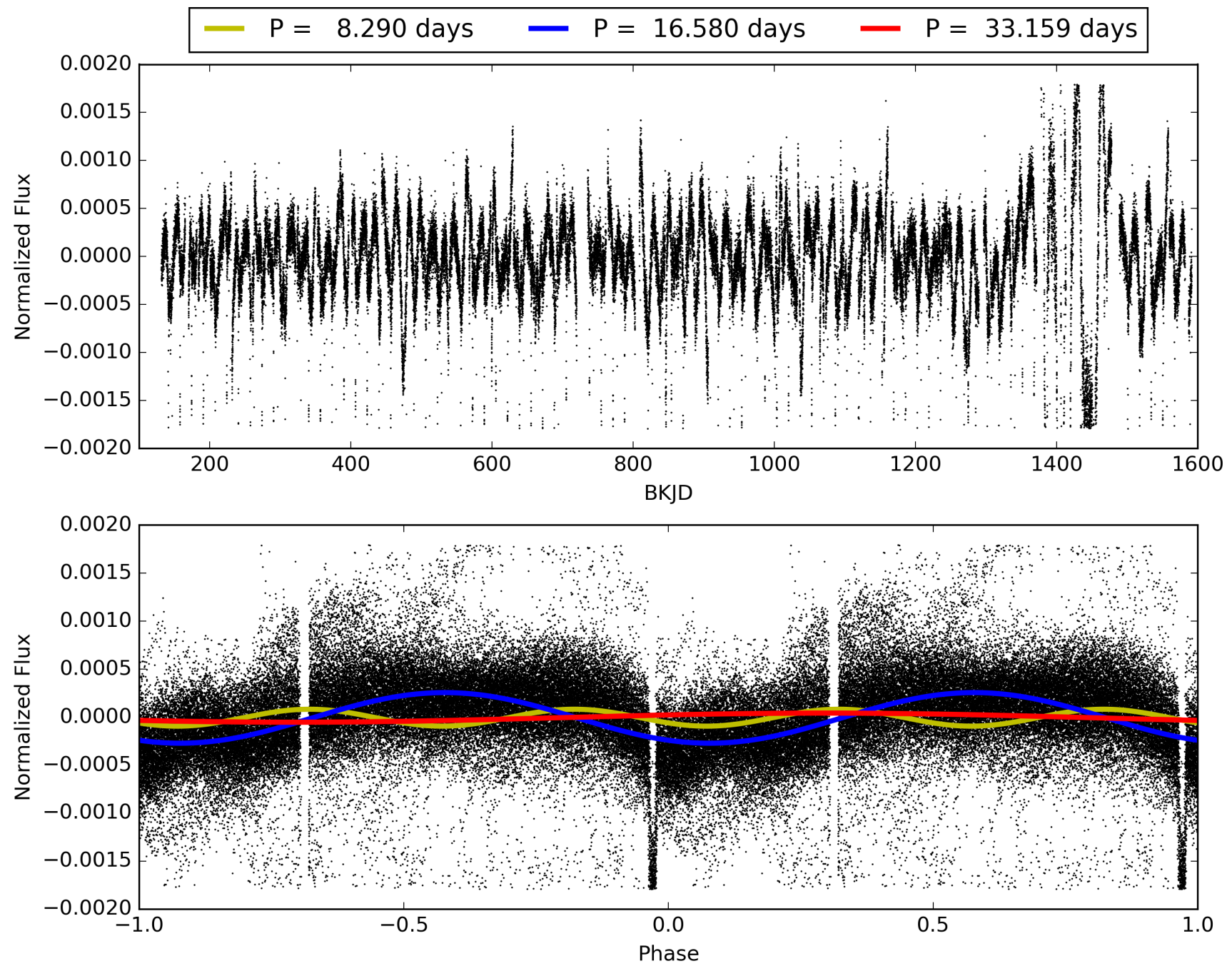
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:55:45 Z

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

TCE 008023317-03, PDC Light Curves

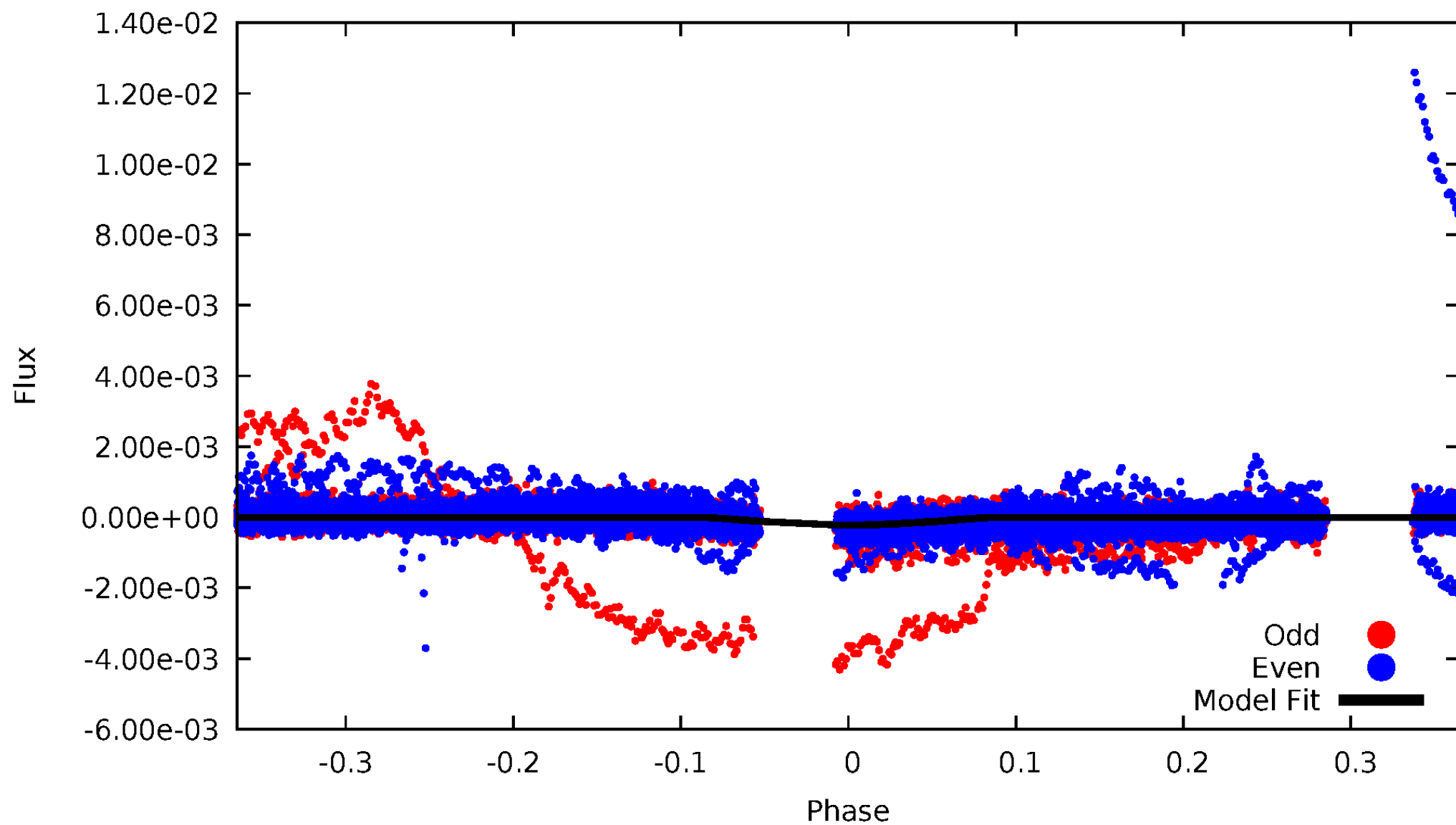


TCE 008023317-03



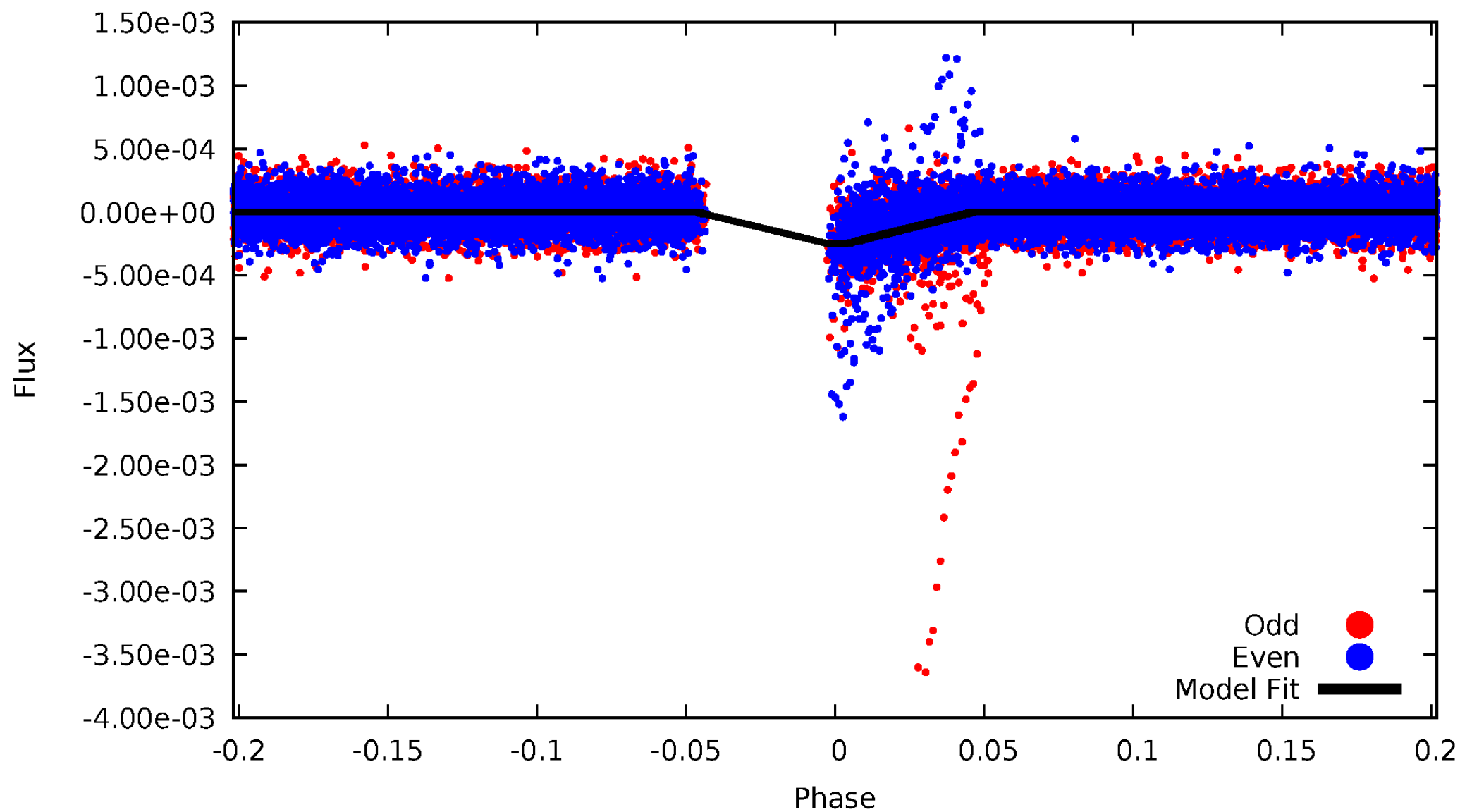
DV Odd/Even

TCE 008023317-03



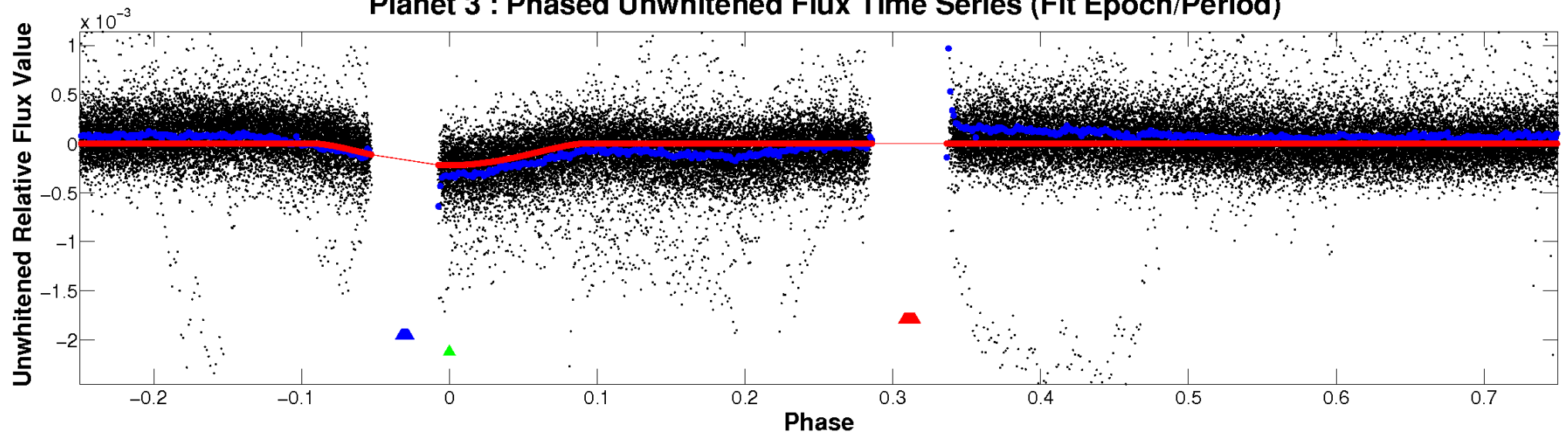
ALT Odd/Even

TCE 008023317-03

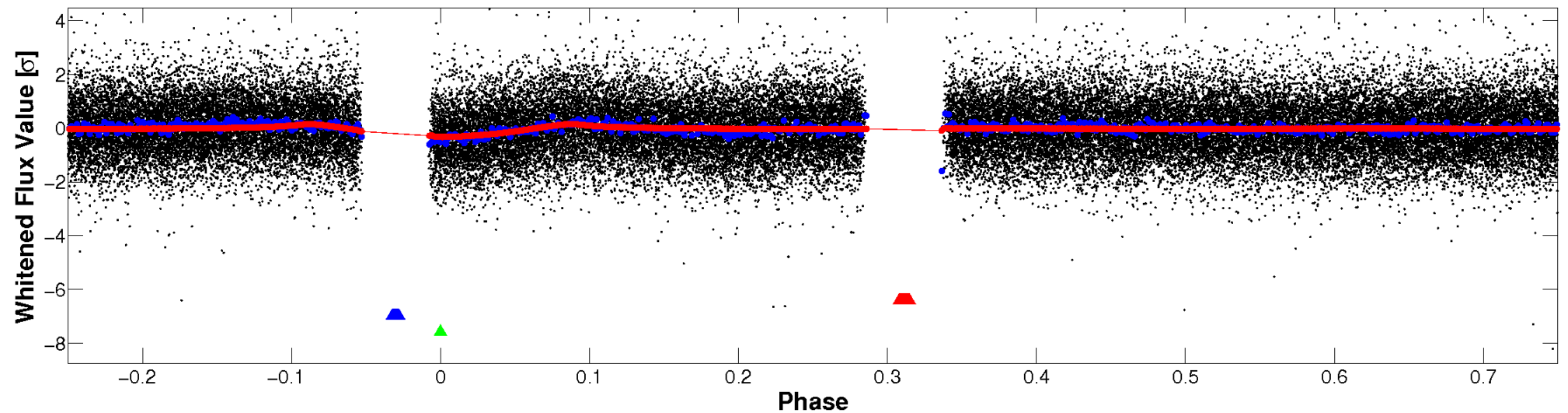


Non-Whitened Vs. Whitened Light Curve

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

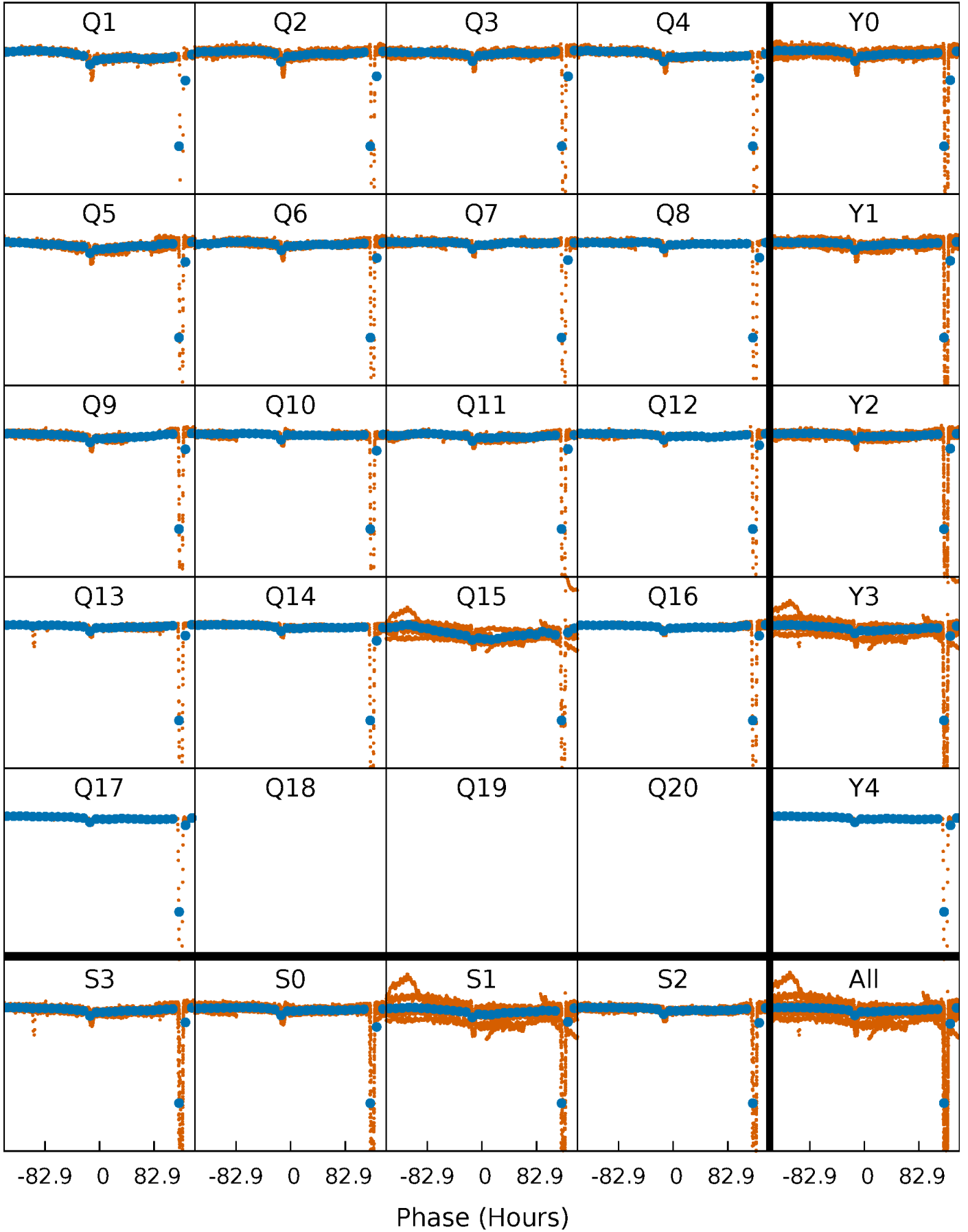


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



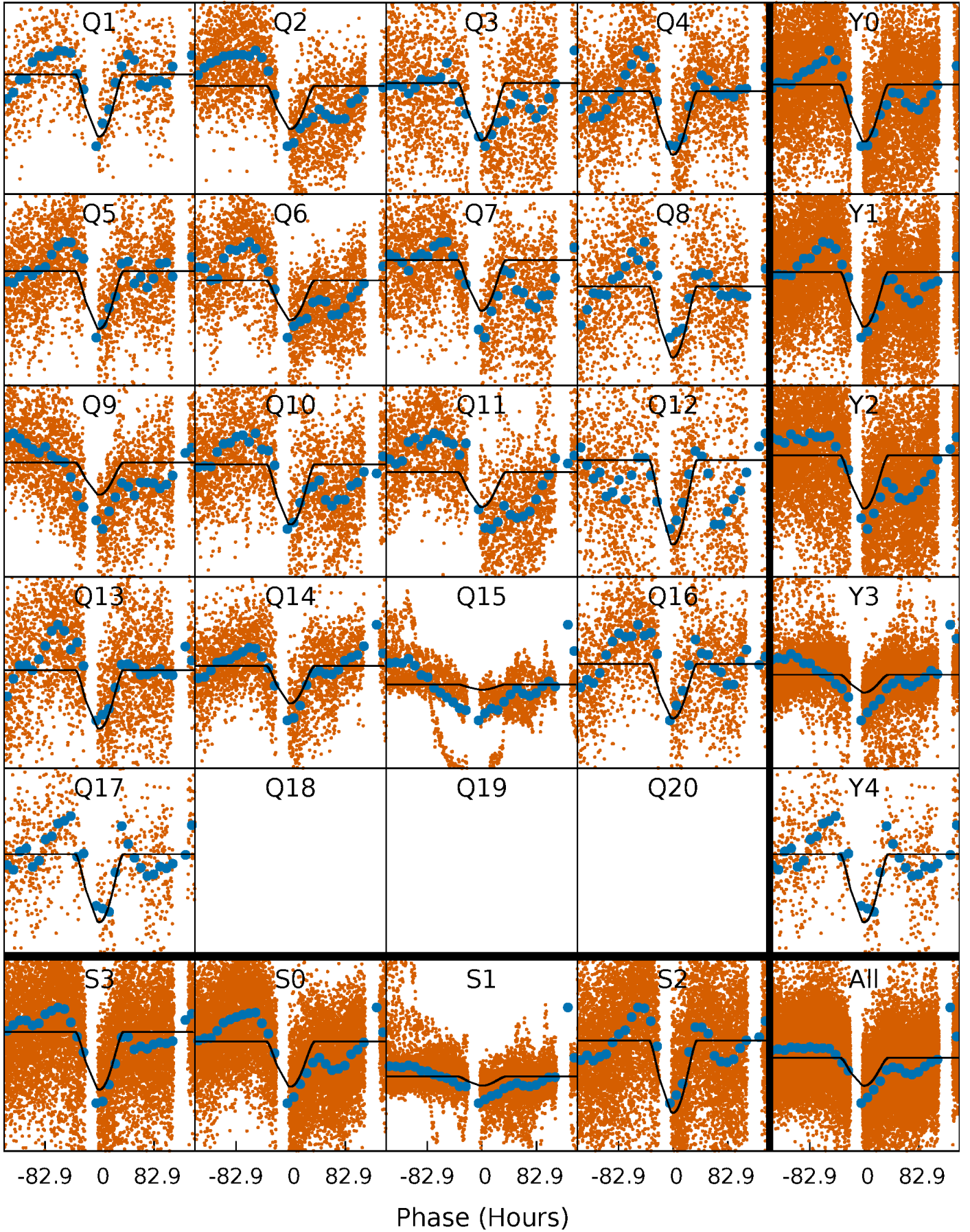
PDC Quarter-Phased Transit Curves

TCE 008023317-03 P= 16.579711 Days $T_0=141.537006$ (BKJD)



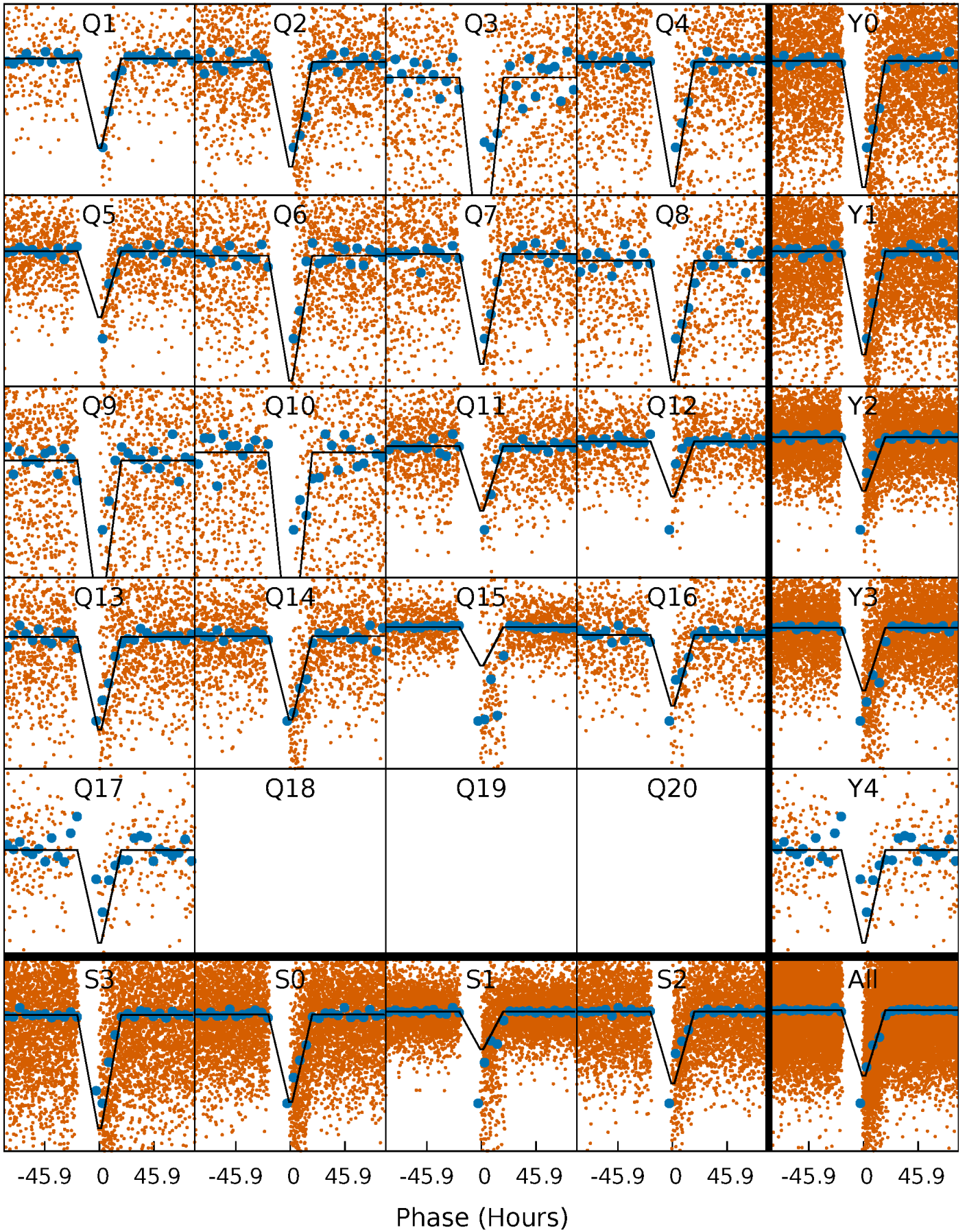
DV Quarter-Phased Transit Curves

TCE 008023317-03 P= 16.579711 Days $T_0=141.537006$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

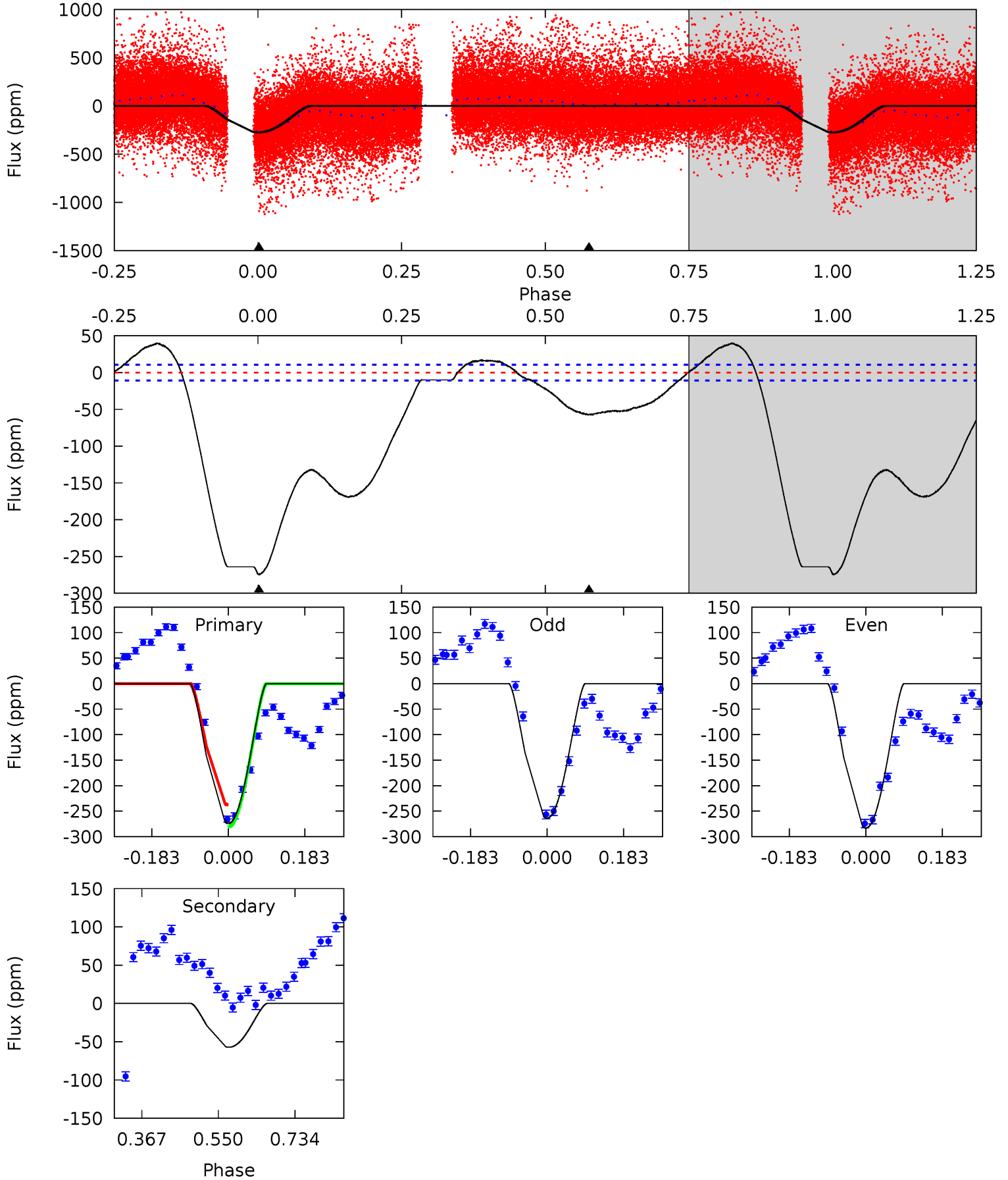
TCE 008023317-03 P= 16.580512 Days $T_0=141.380057$ (BKJD)



DV Model-Shift Uniqueness Test

008023317-03, P = 16.579711 Days, E = 124.957295 Days

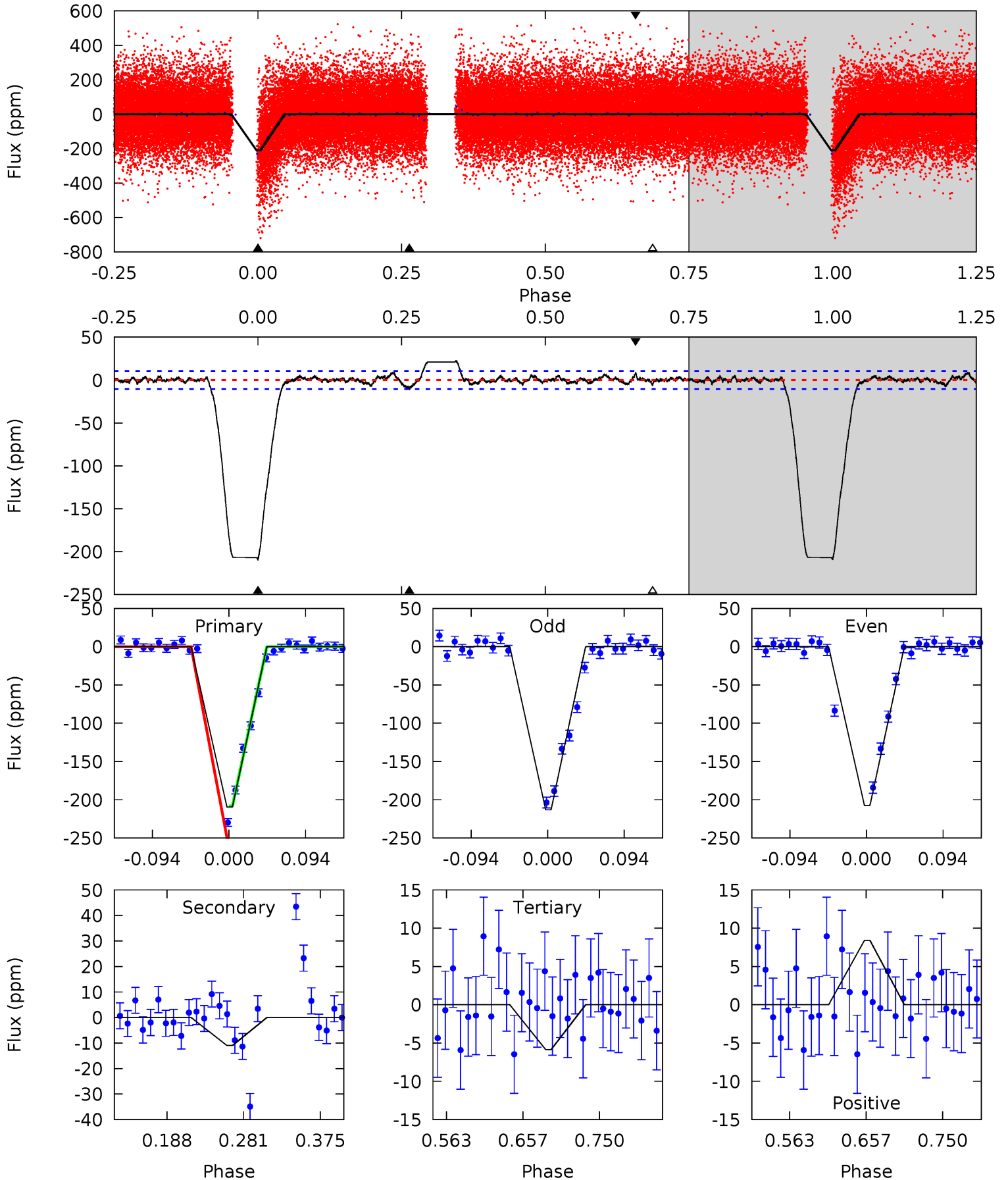
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
114.2	23.8	0	0	4.44	1.33	25.6	114.2	114.2	23.8	23.8	4.04	1.25	0.13	8.80



Alt Model-Shift Uniqueness Test

008023317-03, P = 16.580512 Days, E = 124.799545 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
91.0	4.77	2.54	3.65	4.58	1.68	0.94	88.4	87.3	2.23	1.12	1.19	1.67	0.10	3.18



Stellar Parameters For KIC 008023317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5870^{+175}_{-146}	$3.808^{+0.323}_{-0.108}$	$-0.140^{+0.350}_{-0.250}$	$2.300^{+0.443}_{-0.823}$	$1.239^{+0.178}_{-0.267}$	$0.143^{+0.332}_{-0.047}$
	+3%/-2%	+8%/-3%	+250%/-179%	+19%/-36%	+14%/-22%	+231%/-33%
Source	PHO1	FLK73	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 008023317-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-57 ± 2	$6.84^{+4.40}_{-3.82}$	1464^{+93}_{-139}	3477^{+1153}_{-465}	13^{+53}_{-8}
Alt.	-11 ± 2	$4.55^{+4.30}_{-2.96}$	1457^{+95}_{-131}	3031^{+1305}_{-522}	$5.392^{+36.664}_{-3.993}$

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

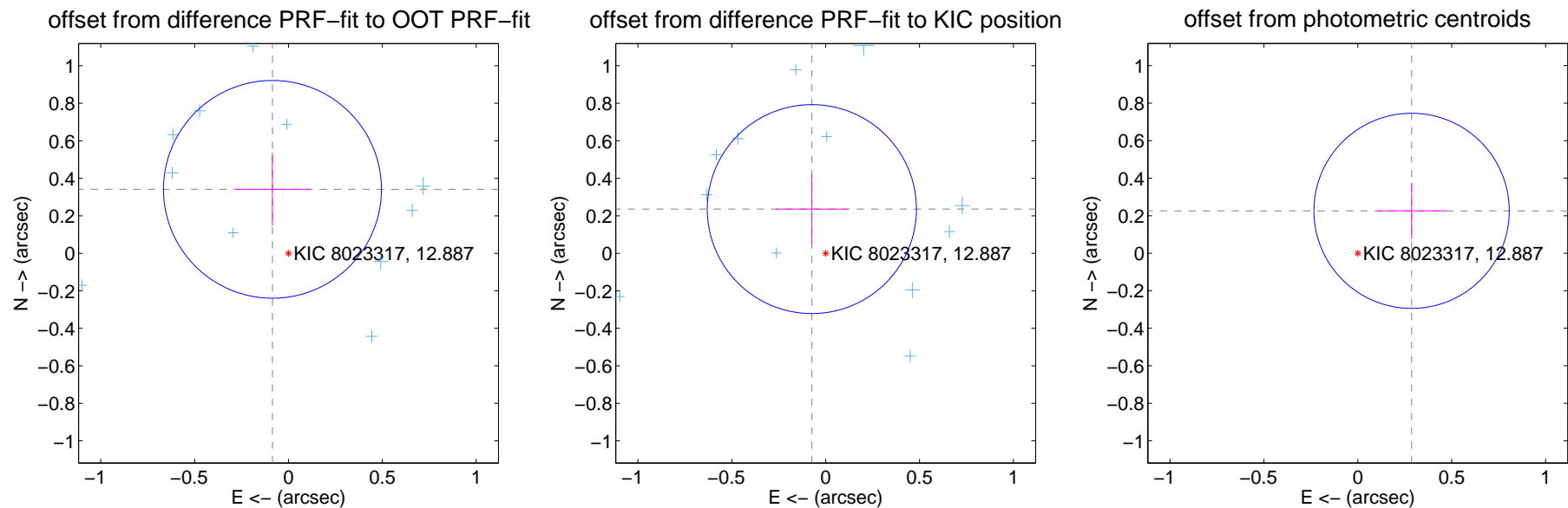
DV Centroid Data

Supplemental centroid analysis for 008023317-03. Kepler magnitude: 12.89. Transit SNR 19.80

There are 14 quarters with good PRF difference image offsets

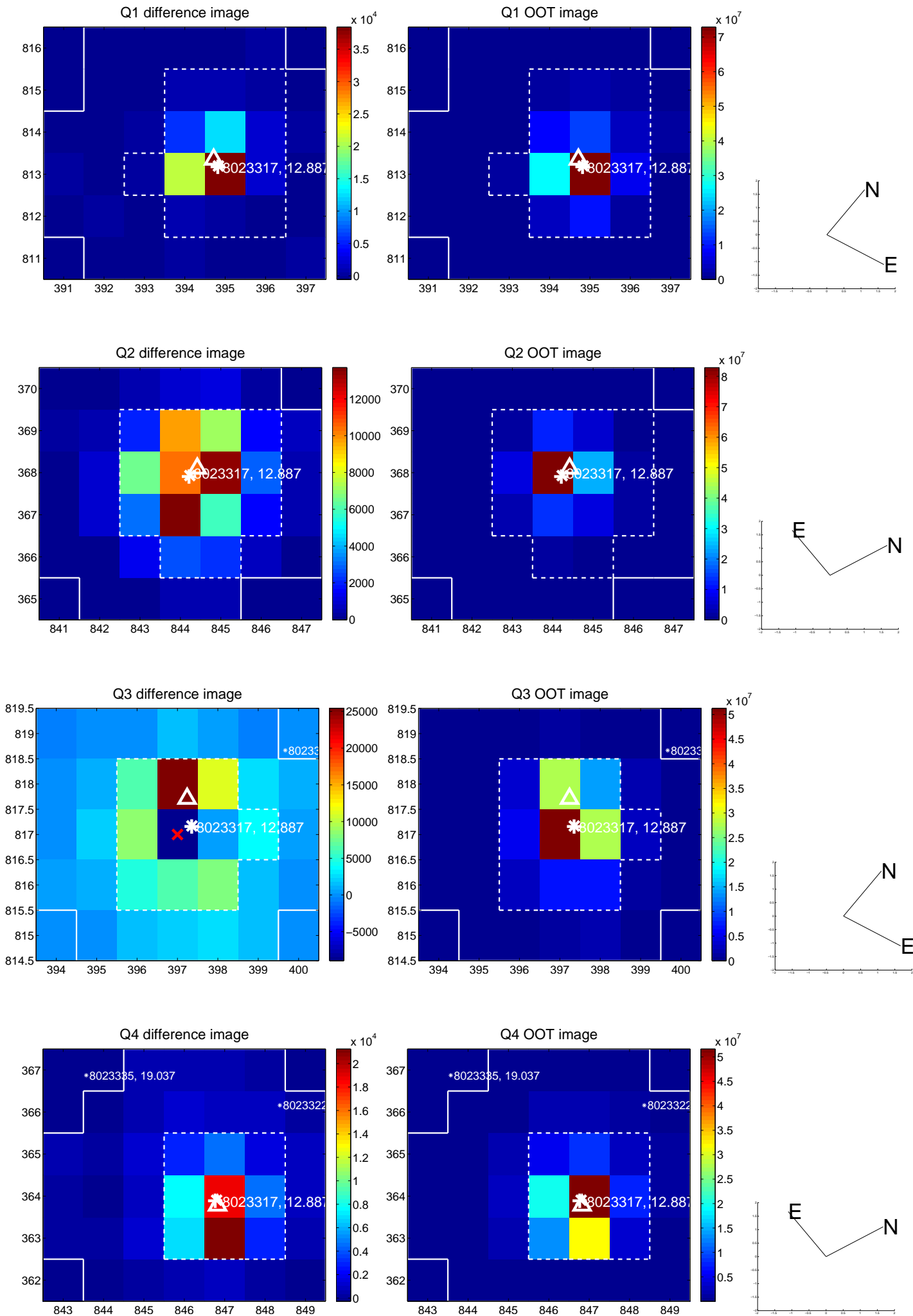
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.351 ± 0.193	1.82	0.085 ± 0.202	0.341 ± 0.194
PRF-fit source offset from KIC position	0.247 ± 0.186	1.33	0.074 ± 0.192	0.236 ± 0.185
photometric centroid source offset	0.36 ± 0.17	2.10	-0.29 ± 0.19	0.23 ± 0.15

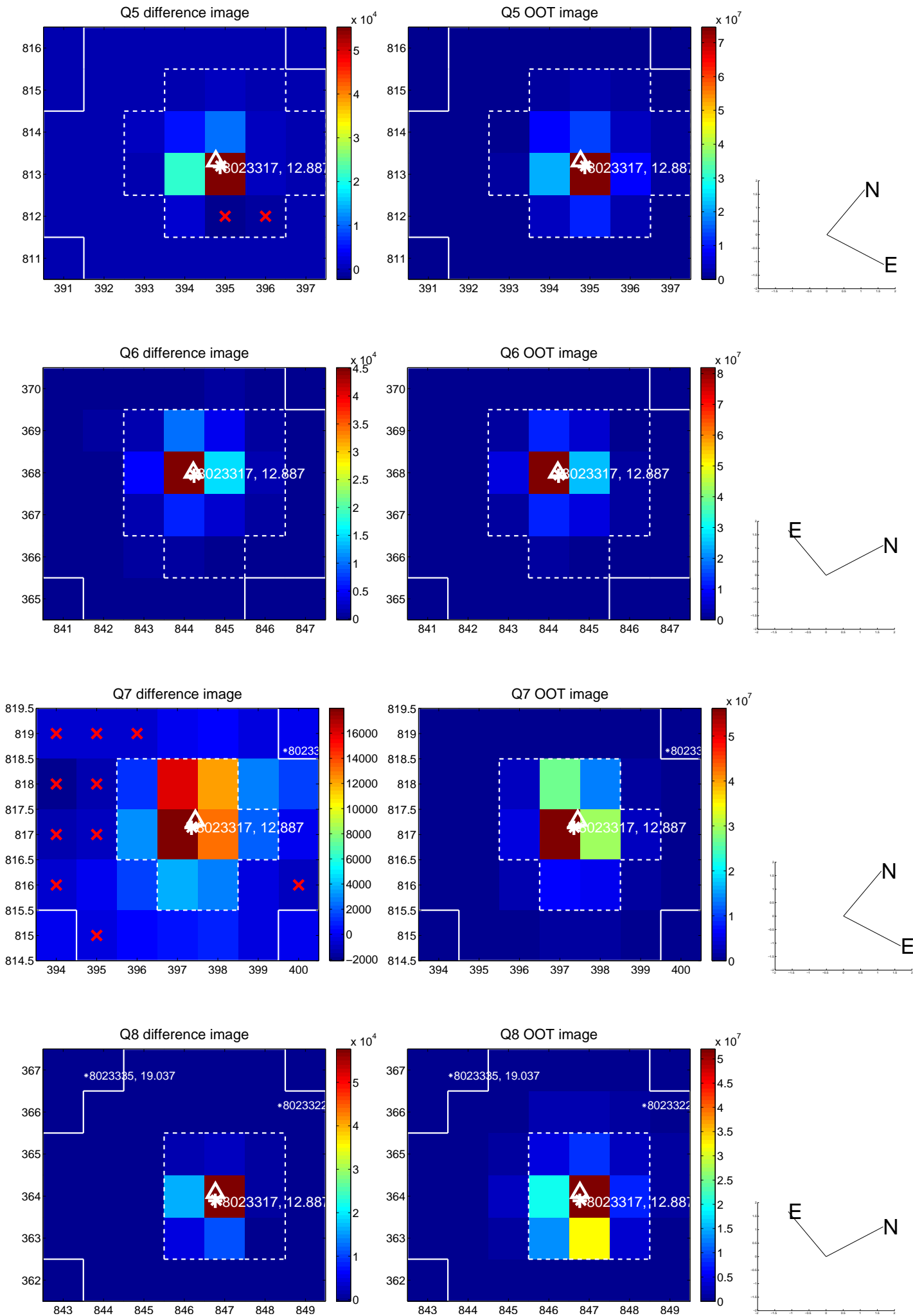


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

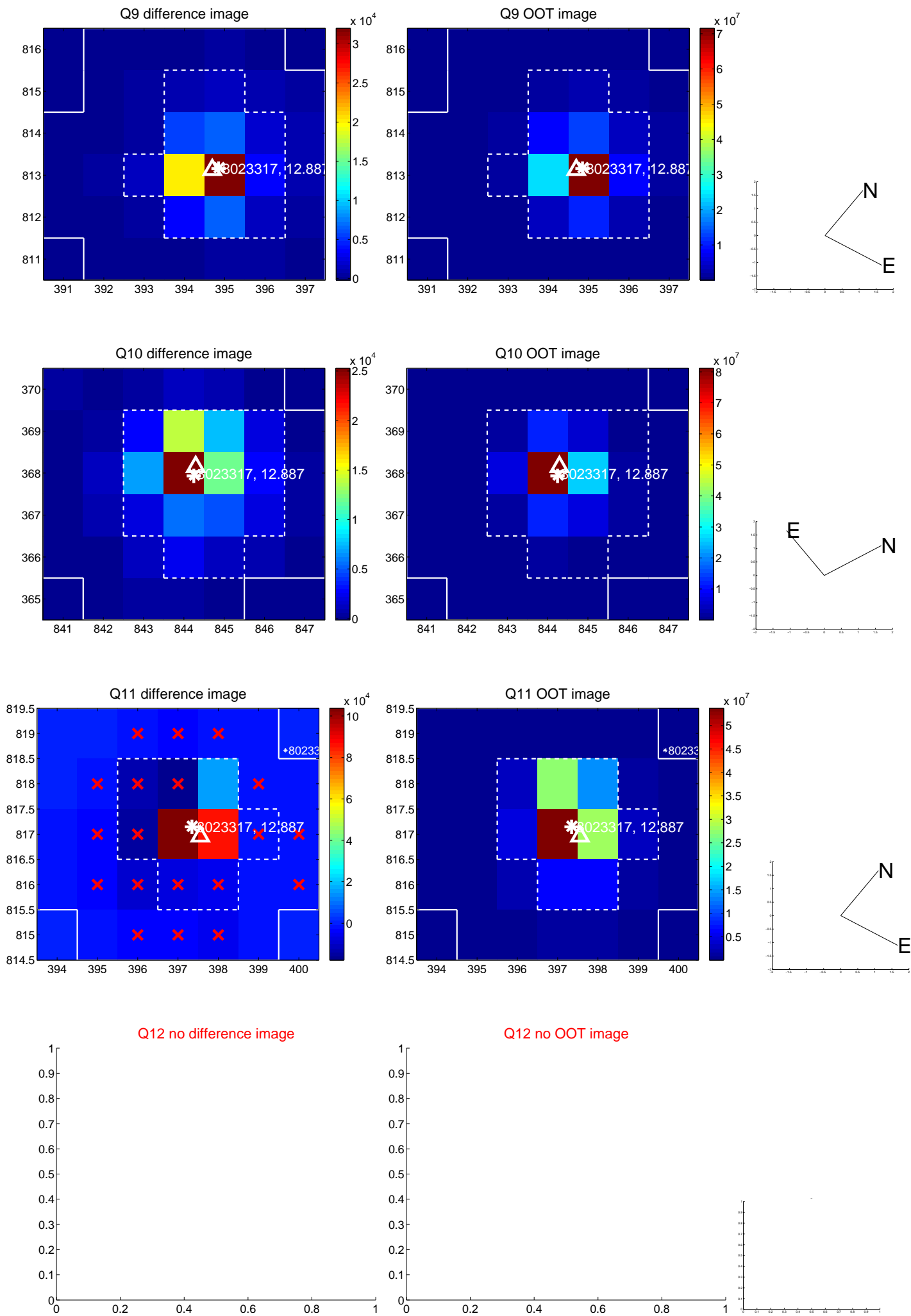
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



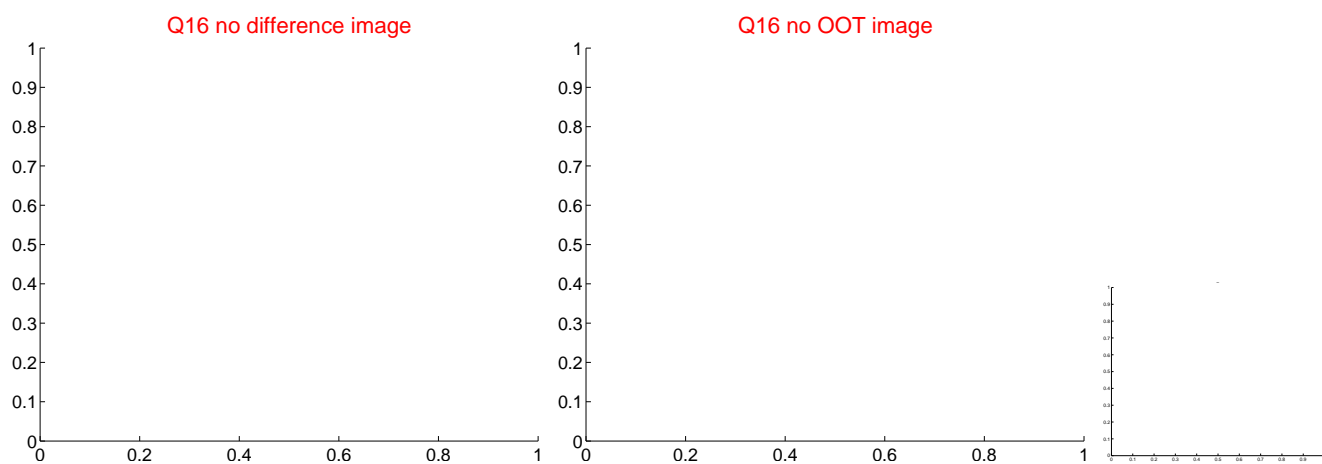
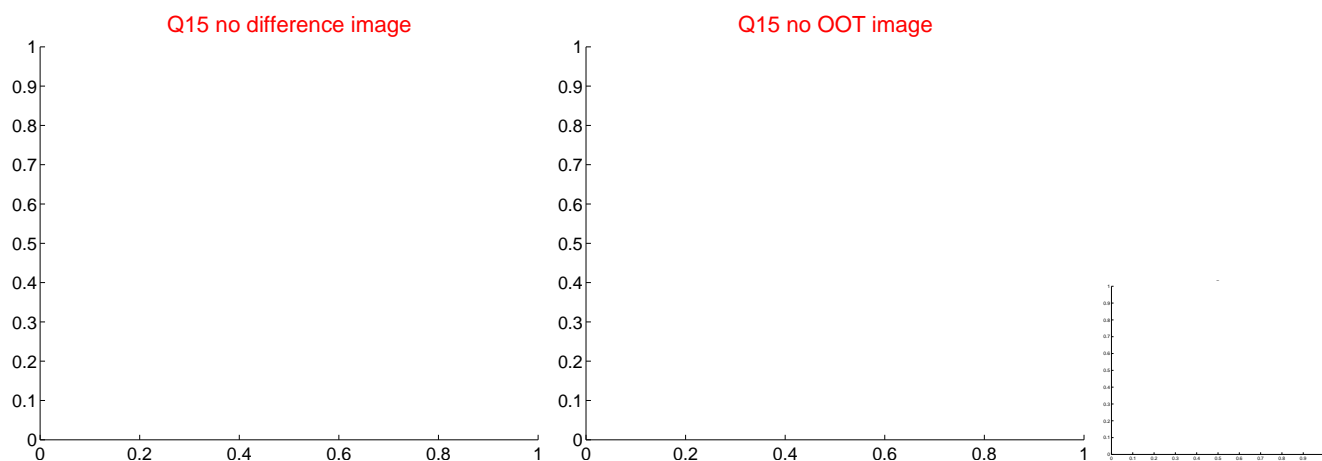
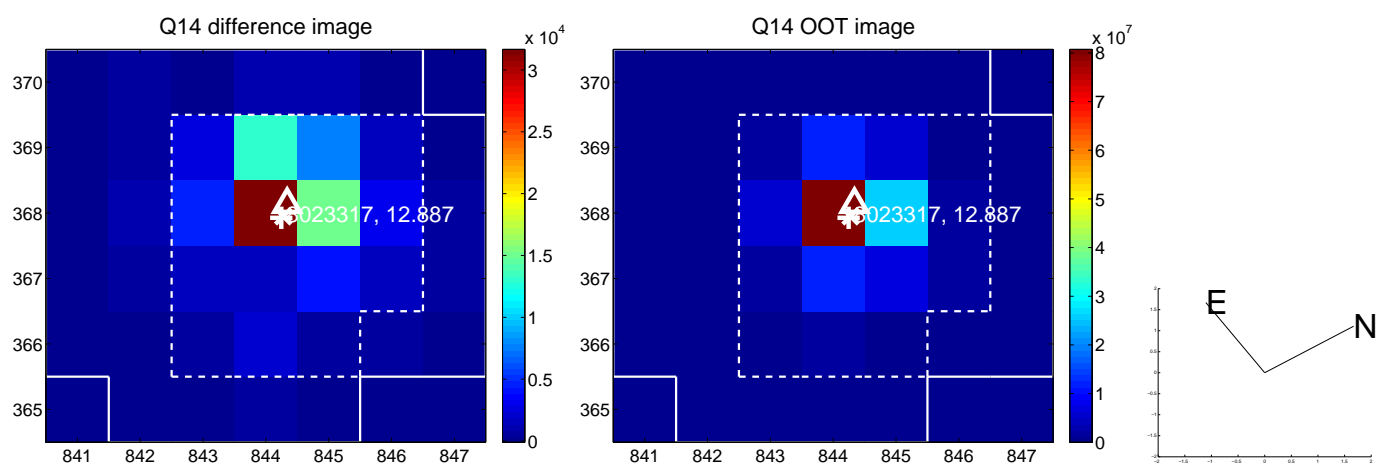
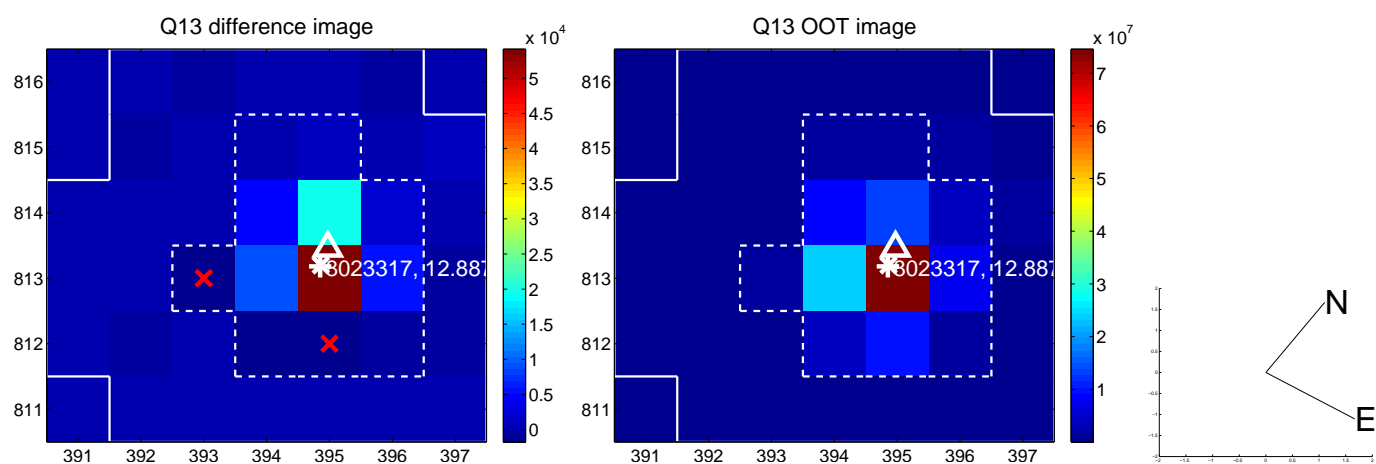
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



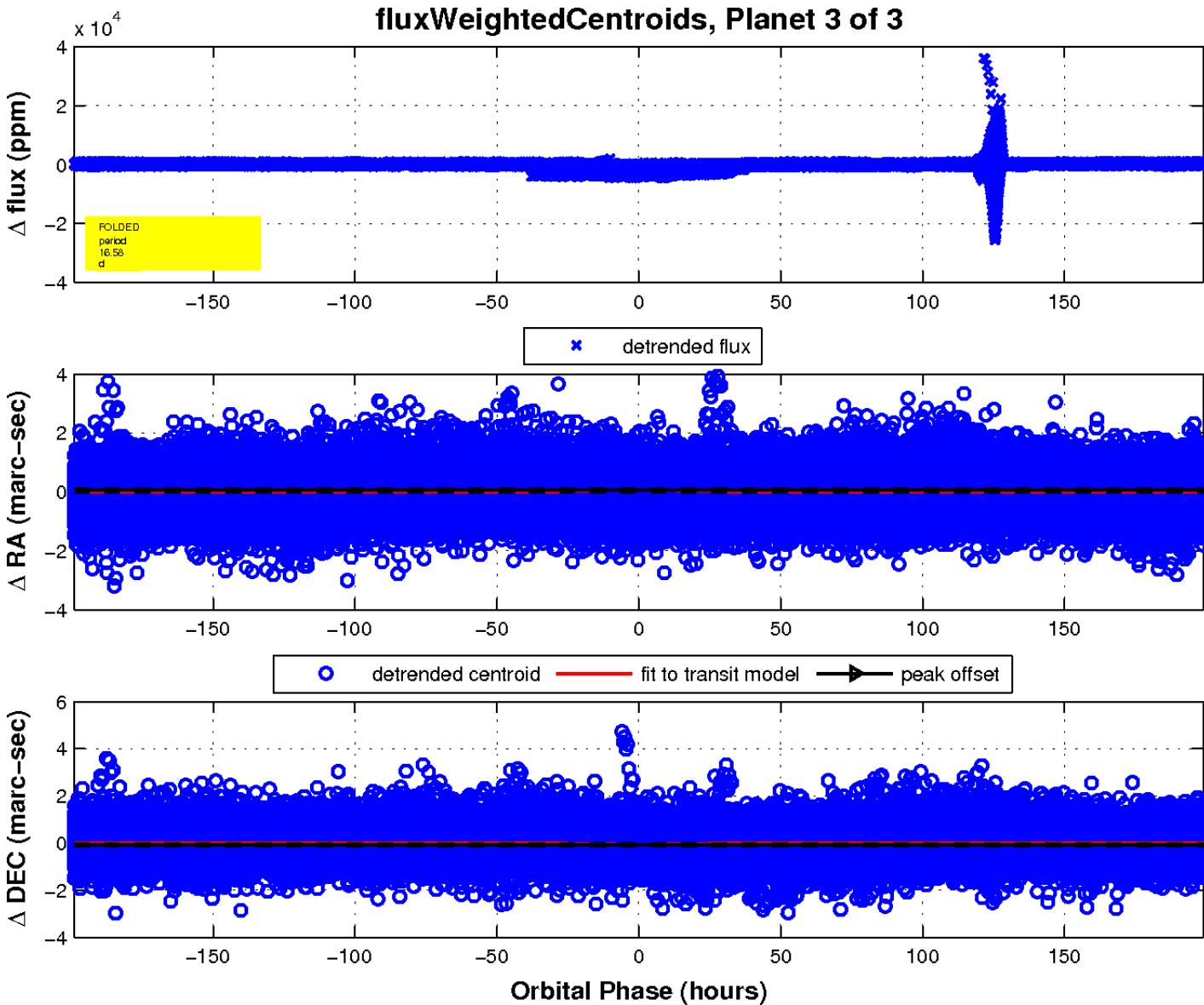
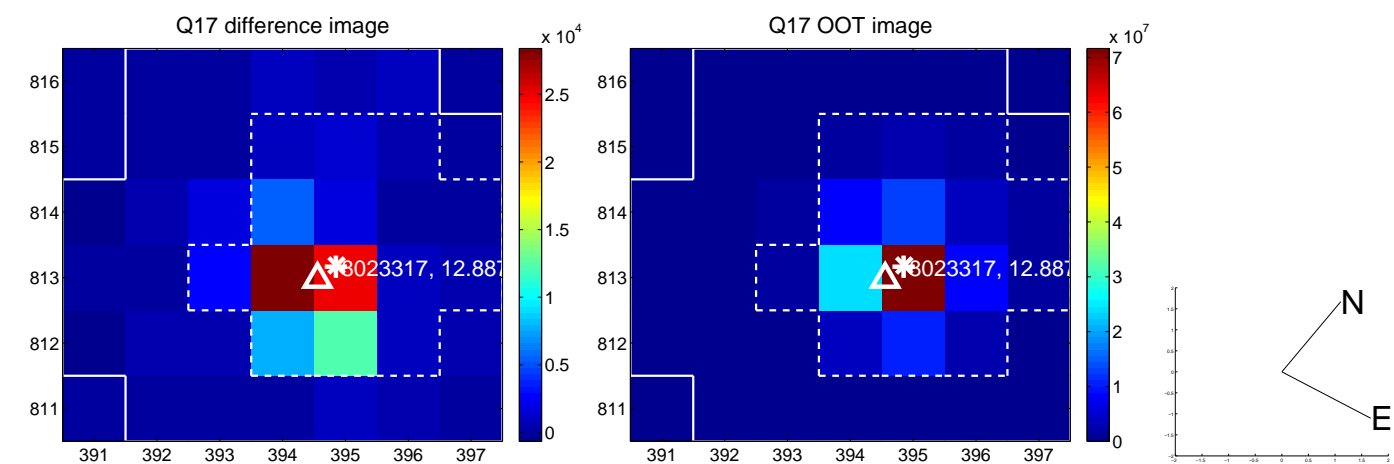
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

