

KIC 005078879

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})
005078879-01	OBS	6508.01	1.039370	131.624166	370.3	0.518	44.5	77.4	3.14	6429	7.55	28759.68
005078879-02	OBS	No	1.039366	132.140456	73.1	0.615	8.7	16.5	3.14	6429	3.21	28759.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005078879-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
005078879-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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.

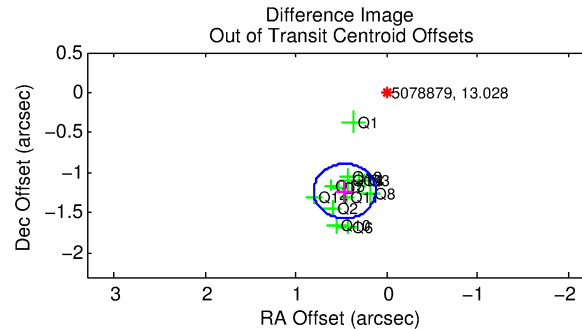
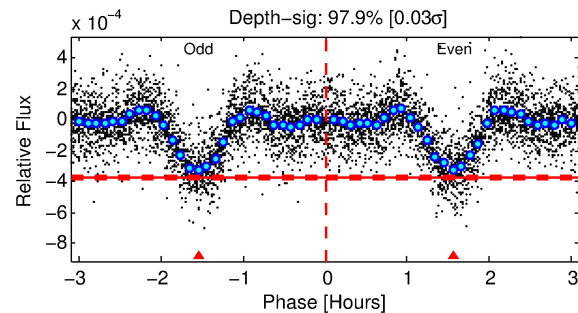
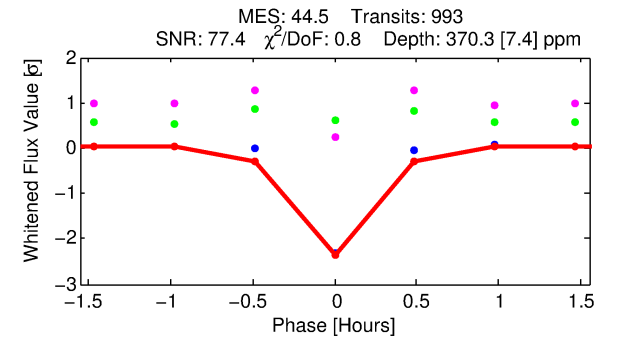
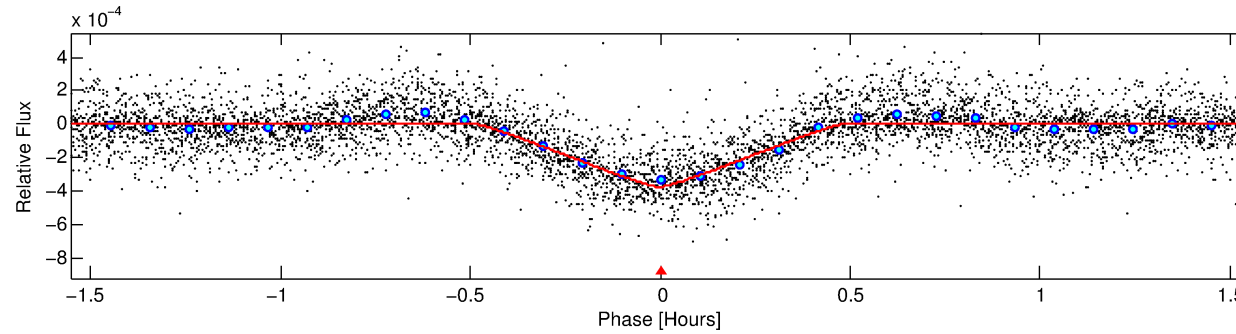
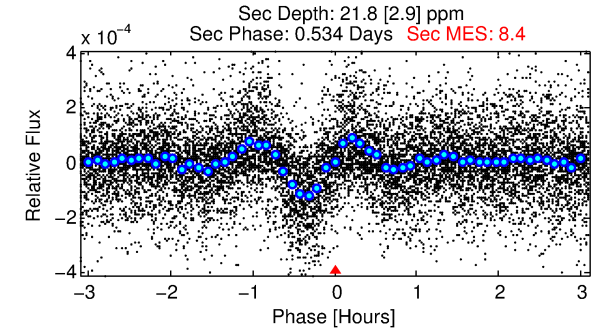
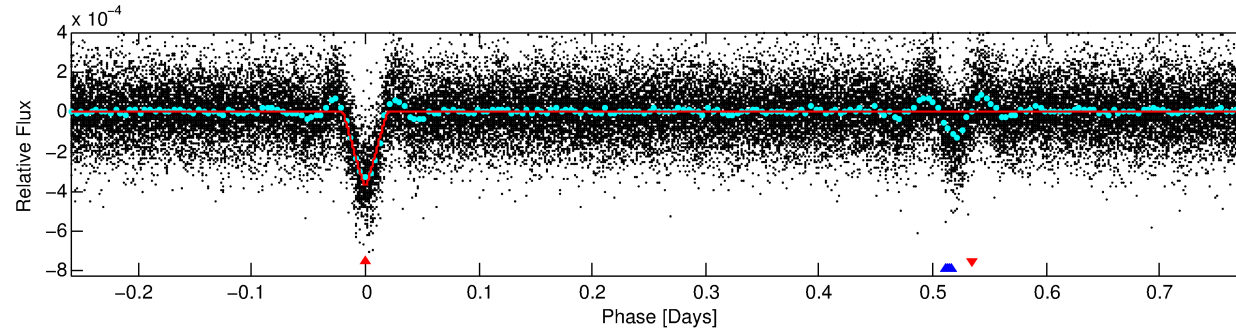
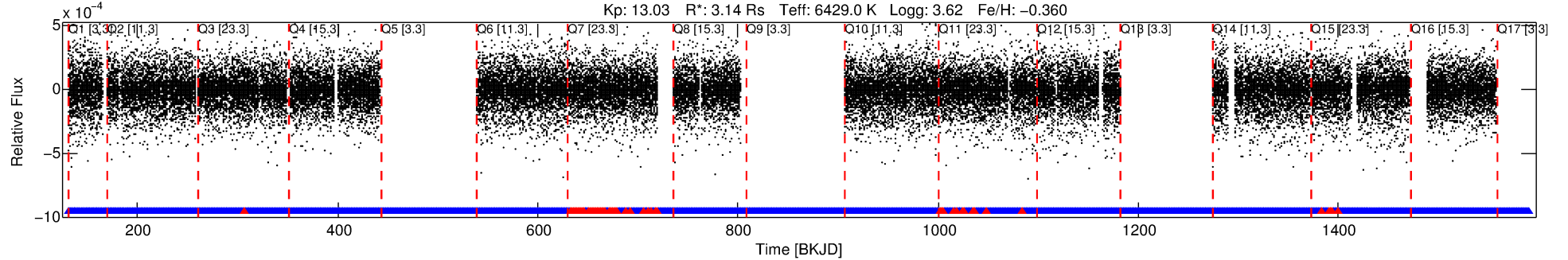
Ephemeris Match Information For 005078879-01

No Significant Match Found

DV One-Page Summary

KIC: 5078879 Candidate: 1 of 2 Period: 1.039 d
KOI: K06508 Corr: No Ephemeris Match

Kp: 13.03 R*: 3.14 Rs Teff: 6429.0 K Logg: 3.62 Fe/H: -0.360



DV Fit Results:

Period = 1.03937 [0.00000] d
Epoch = 131.6242 [0.0001] BKJD
Rp/R* = 0.0221 [0.0011]
a/R* = 7.48 [1.95]
b = 0.90 [0.06]
Seff = 28759.68 [17962.95]
Teq = 3321 [519] K
Rp = 7.56 [3.08] Re
a = 0.0229 [0.0088] AU
Ag = 0.11 [0.07] [-12.67σ]
Teffp = 2958 [148] K [-0.67σ]

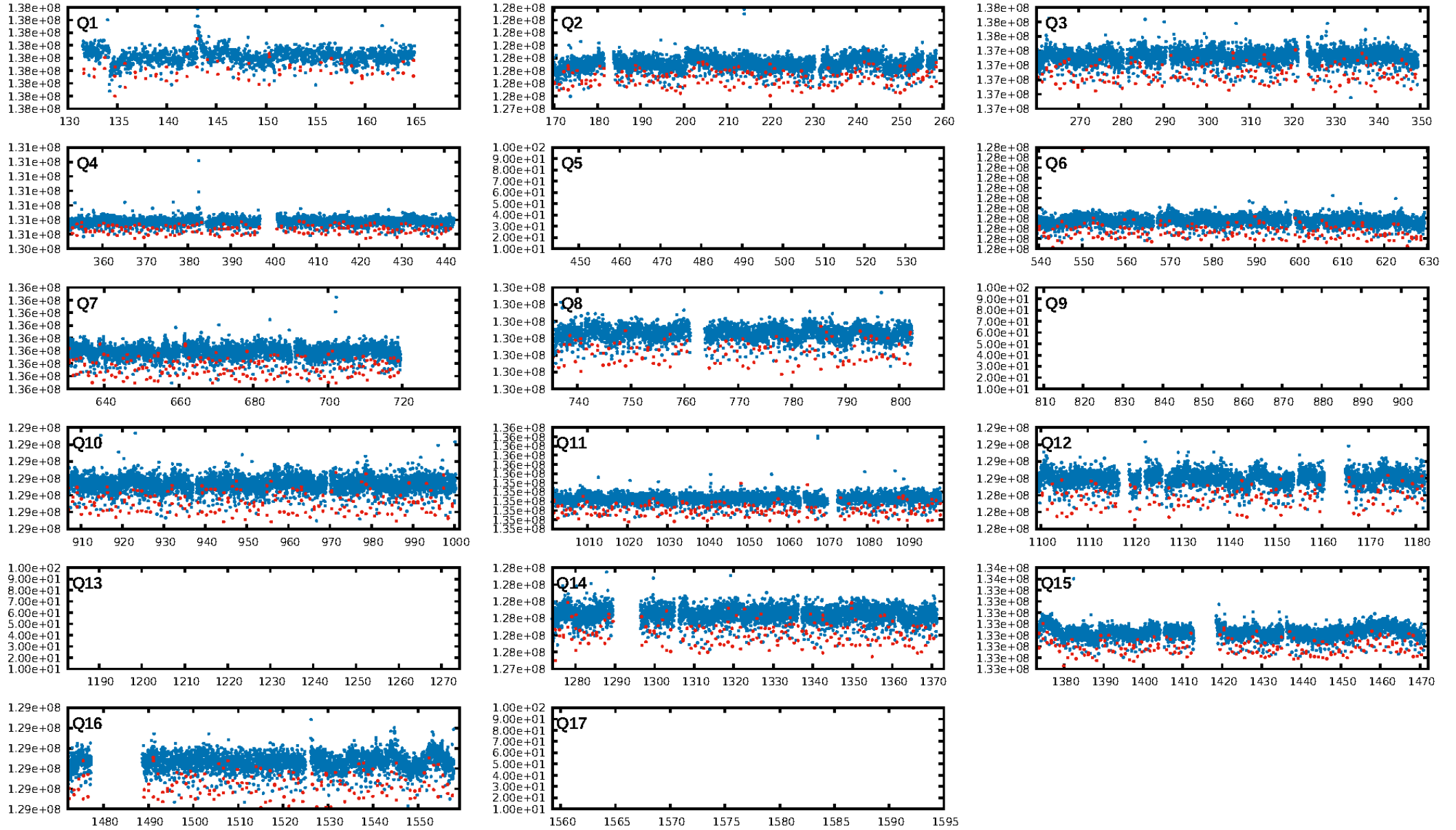
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.94 [900/960]
GhostDiagnostic-chr: 2.503
Centroid-sig: 0.0%
Centroid-so: 3.133 arcsec [21.26σ]
OotOffset-rm: 1.315 arcsec [11.56σ]
KicOffset-rm: 1.270 arcsec [12.36σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

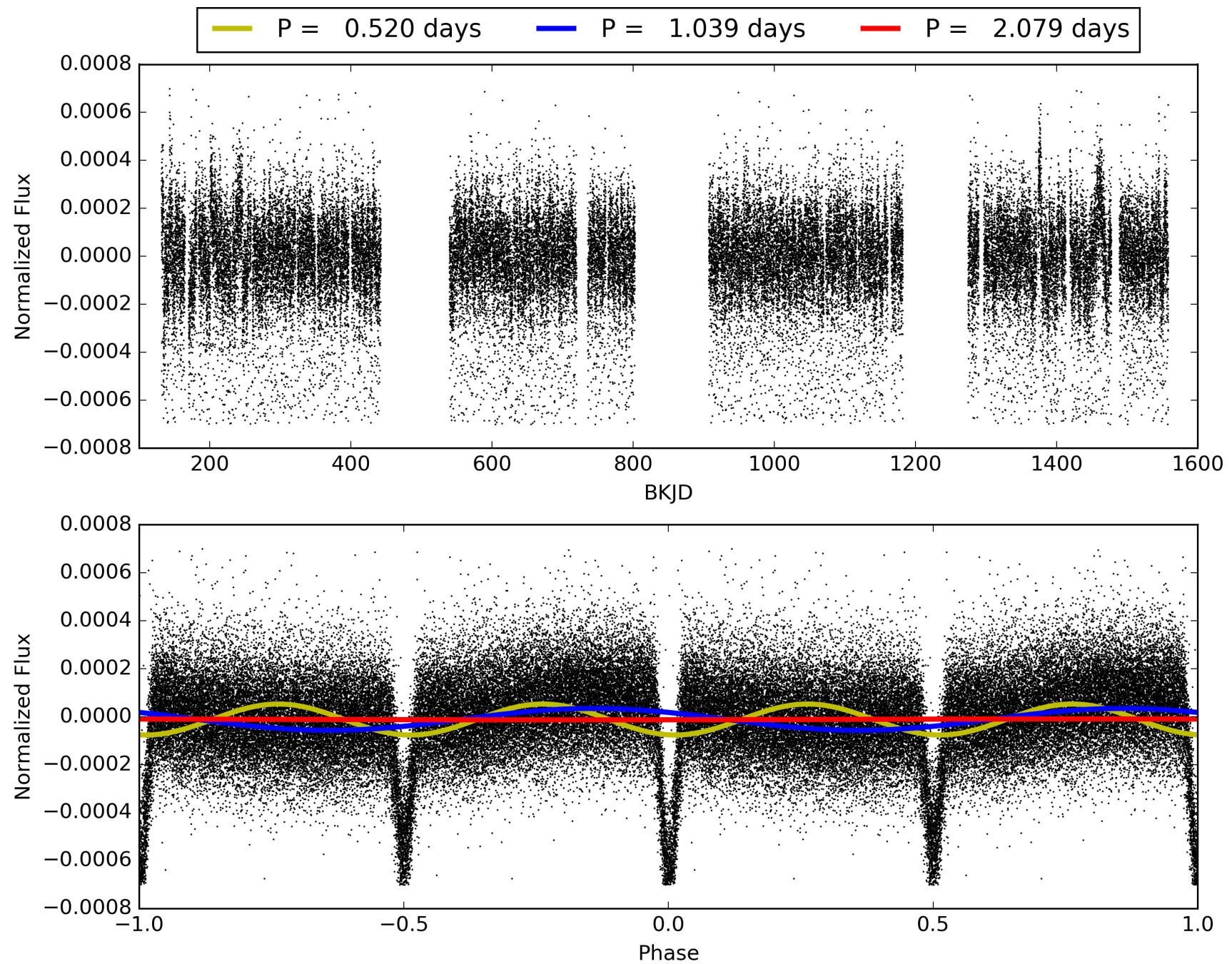
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:21:12 Z

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

TCE 005078879-01, PDC Light Curves

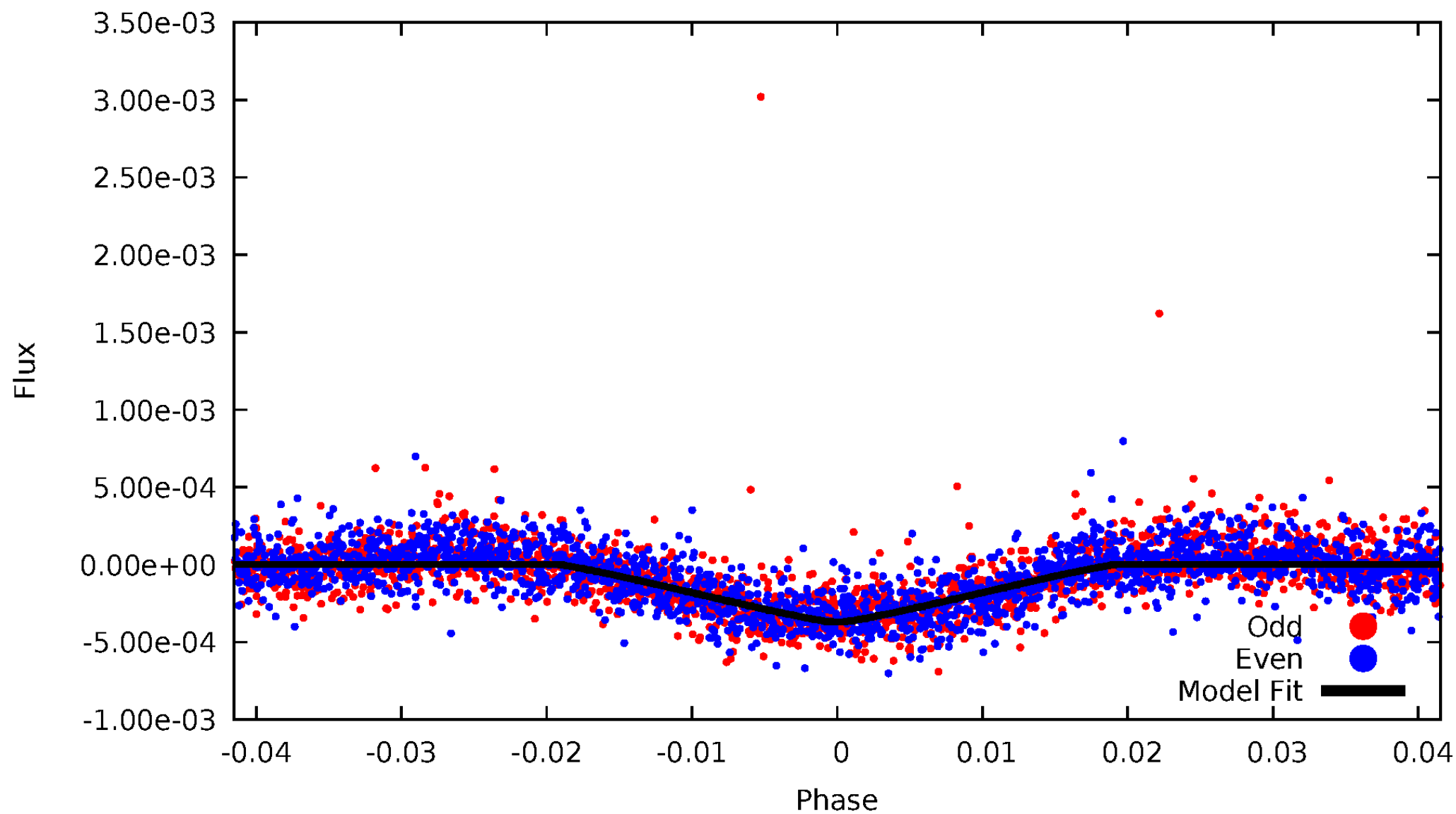


TCE 005078879-01



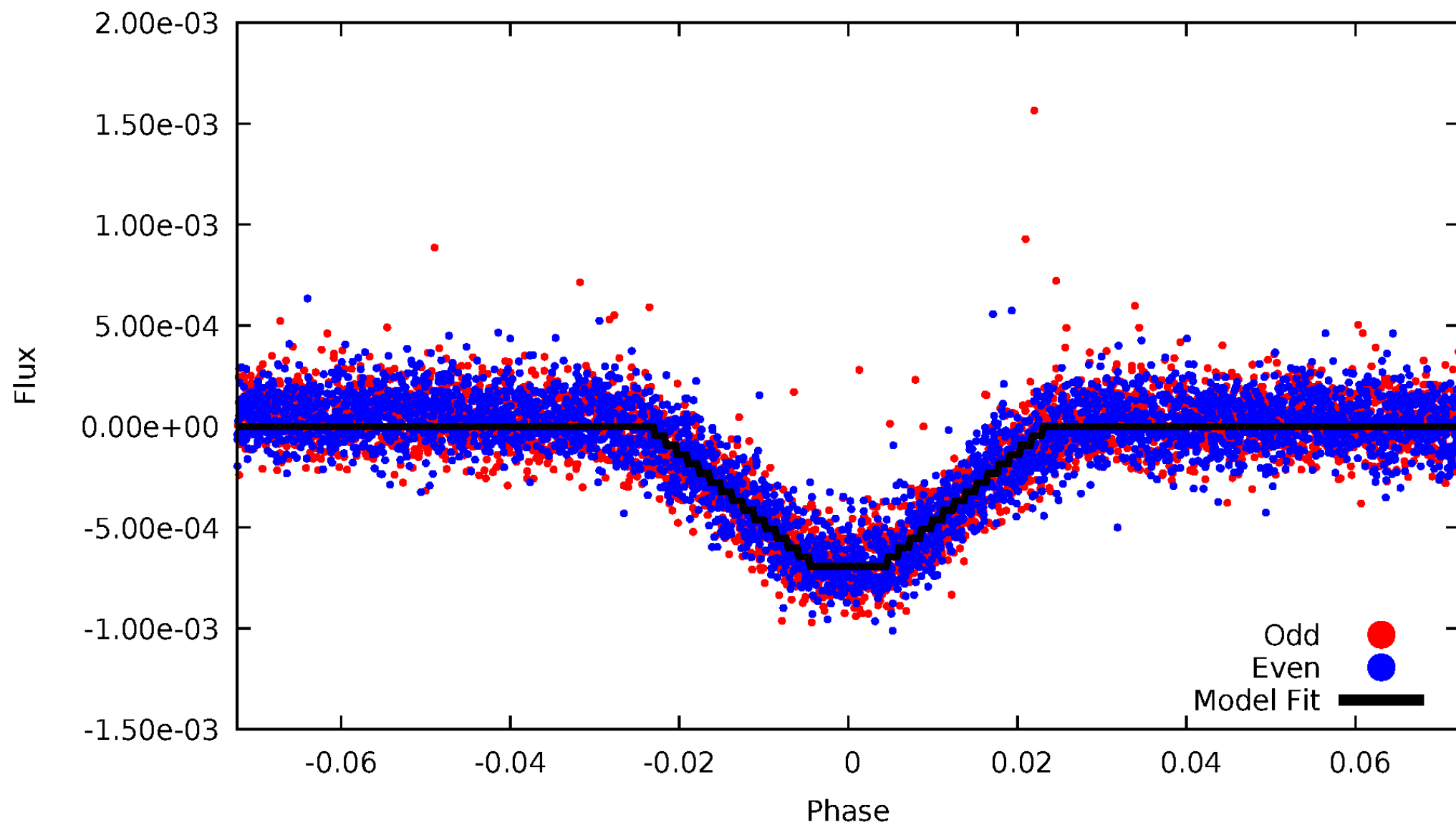
DV Odd/Even

TCE 005078879-01

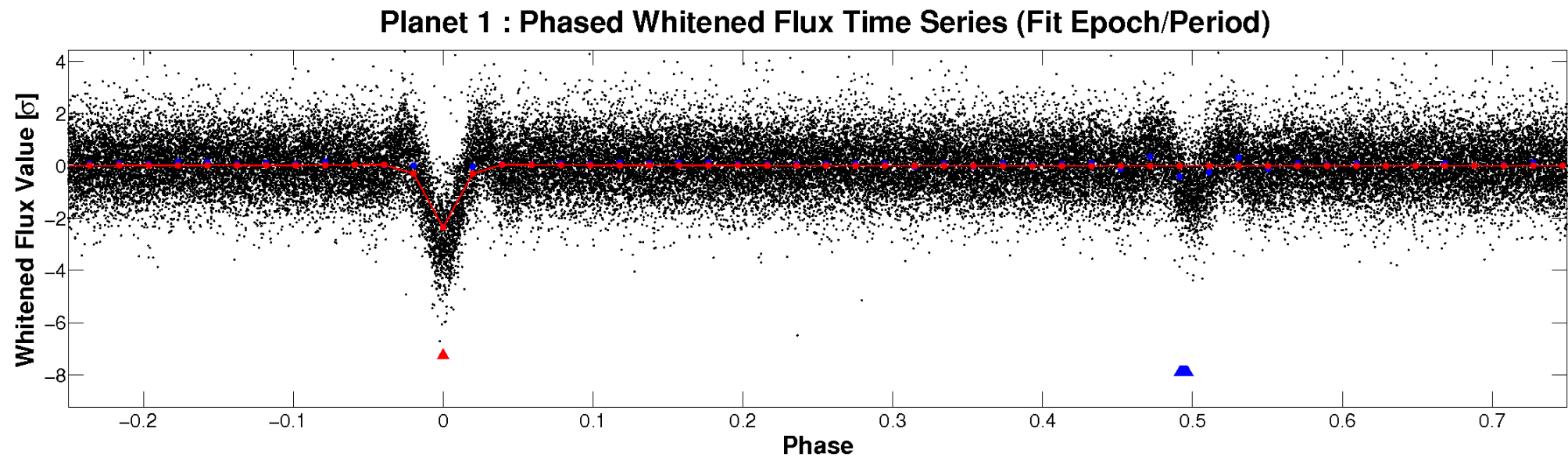
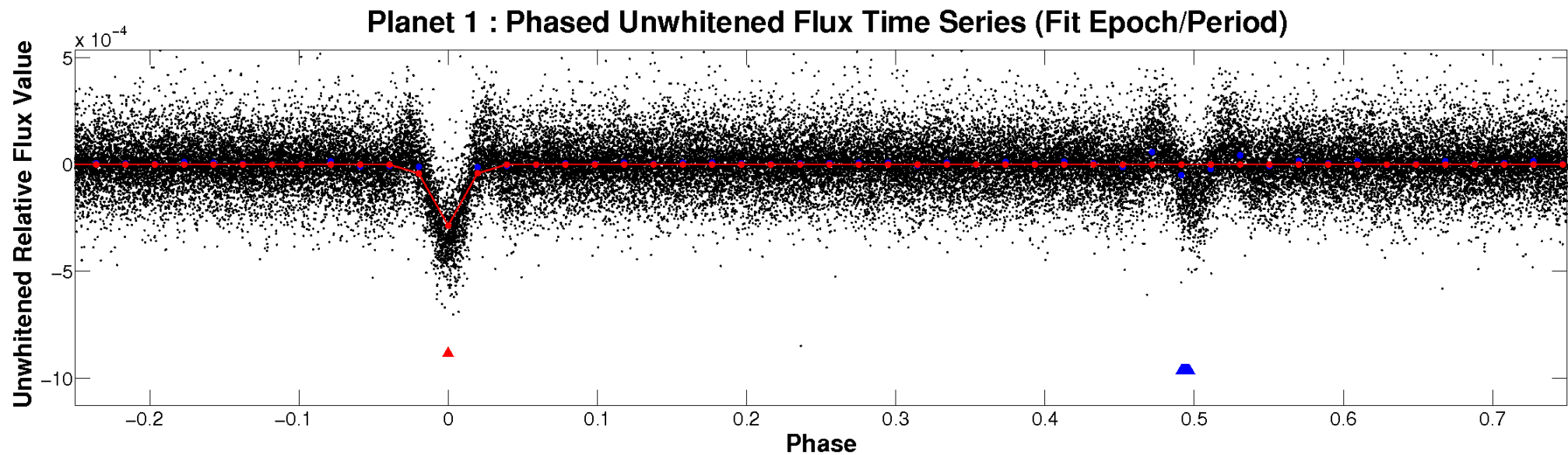


ALT Odd/Even

TCE 005078879-01

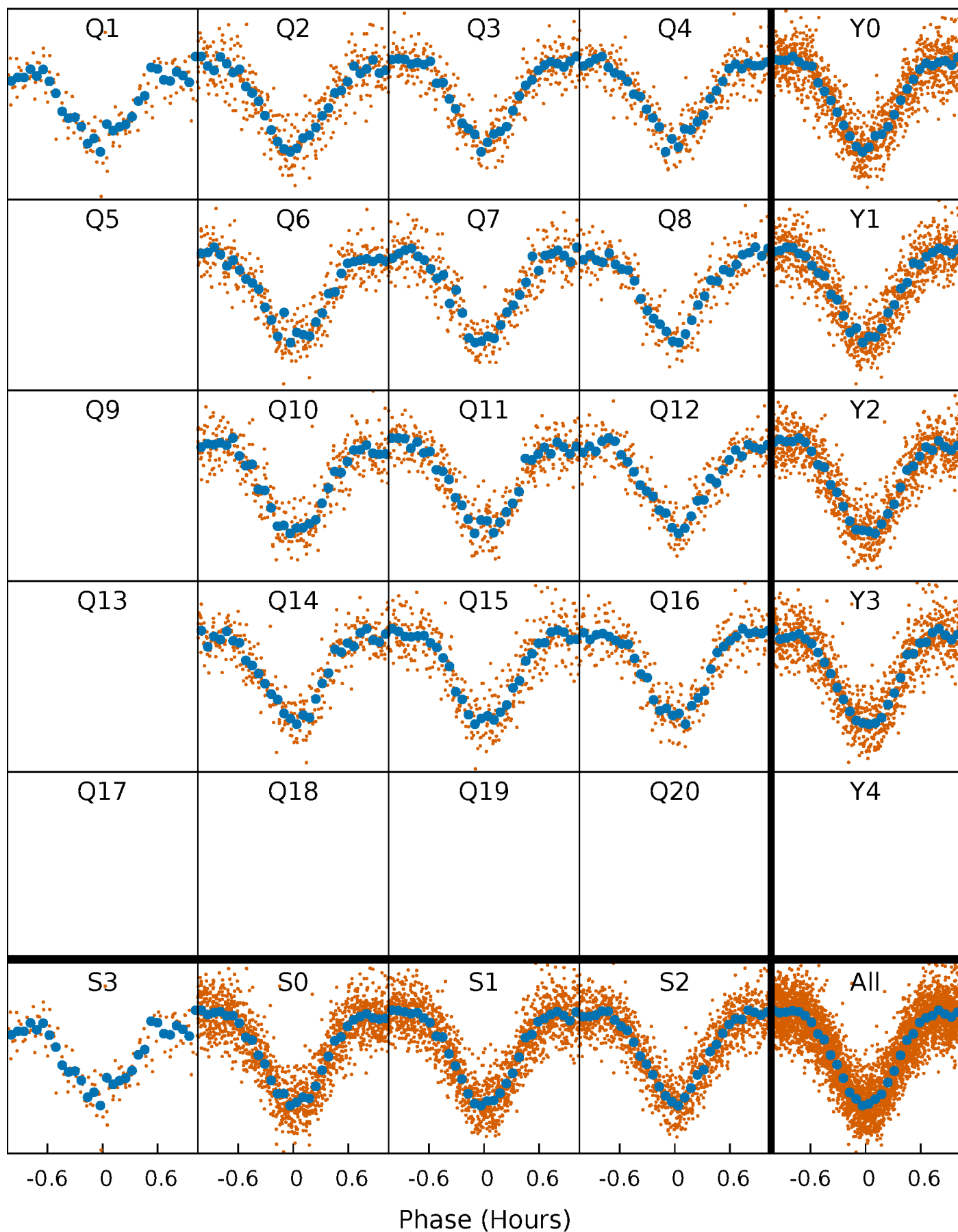


Non-Whitened Vs. Whitened Light Curve



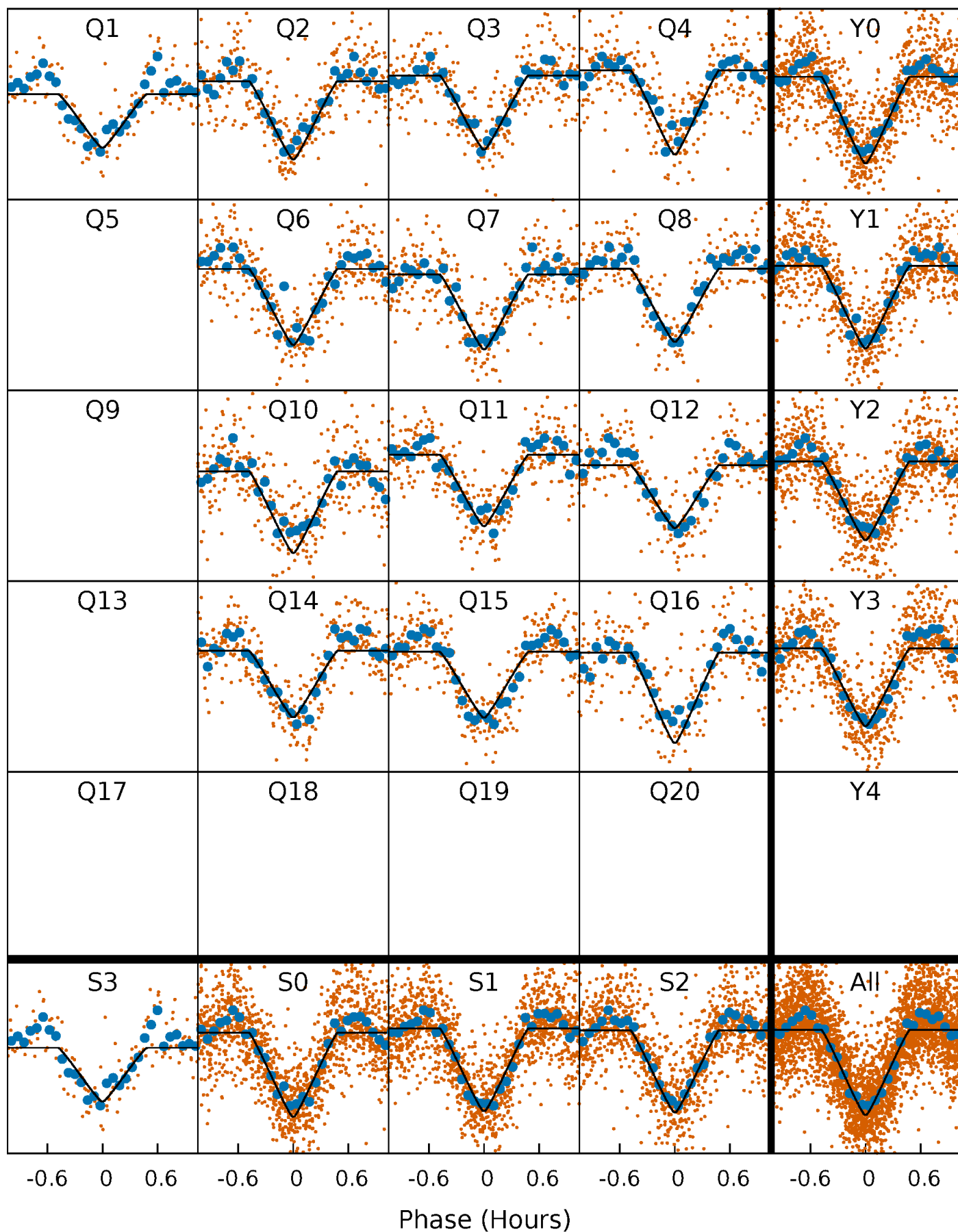
PDC Quarter-Phased Transit Curves

TCE 005078879-01 P= 1.039370 Days $T_0=131.624166$ (BKJD)



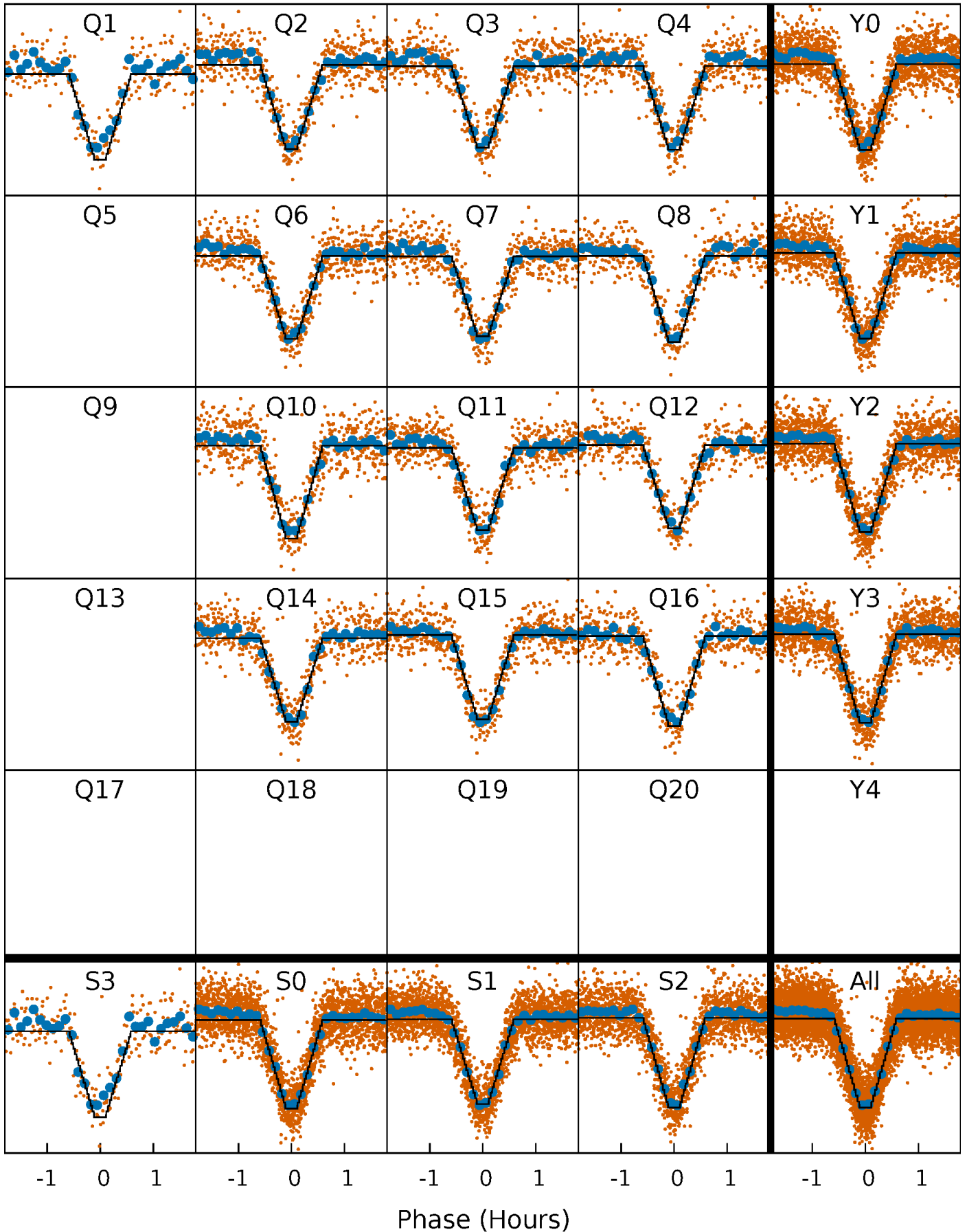
DV Quarter-Phased Transit Curves

TCE 005078879-01 P= 1.039370 Days $T_0=131.624166$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

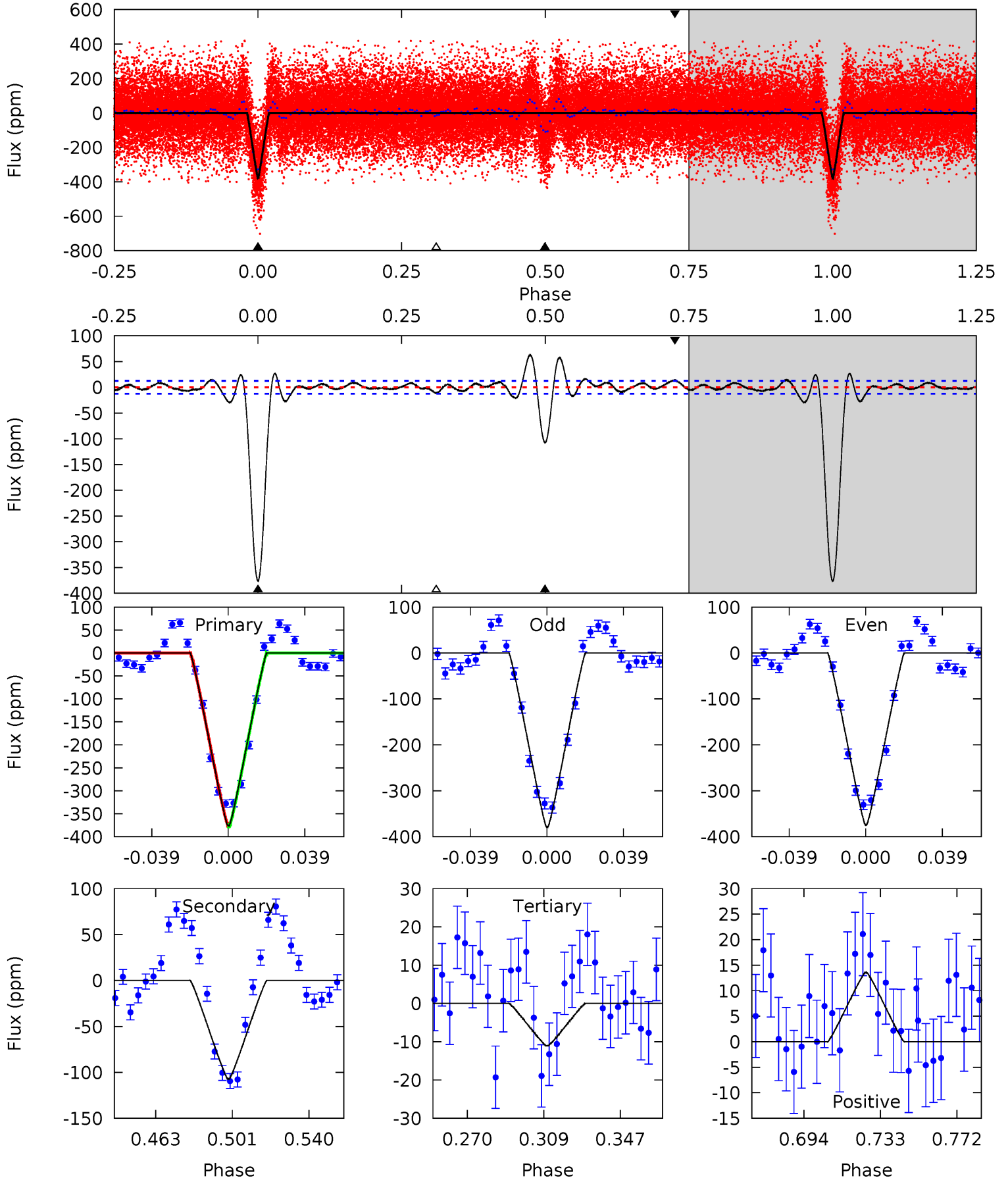
TCE 005078879-01 P= 1.039371 Days $T_0=131.623975$ (BKJD)



DV Model-Shift Uniqueness Test

005078879-01, P = 1.039370 Days, E = 130.584796 Days

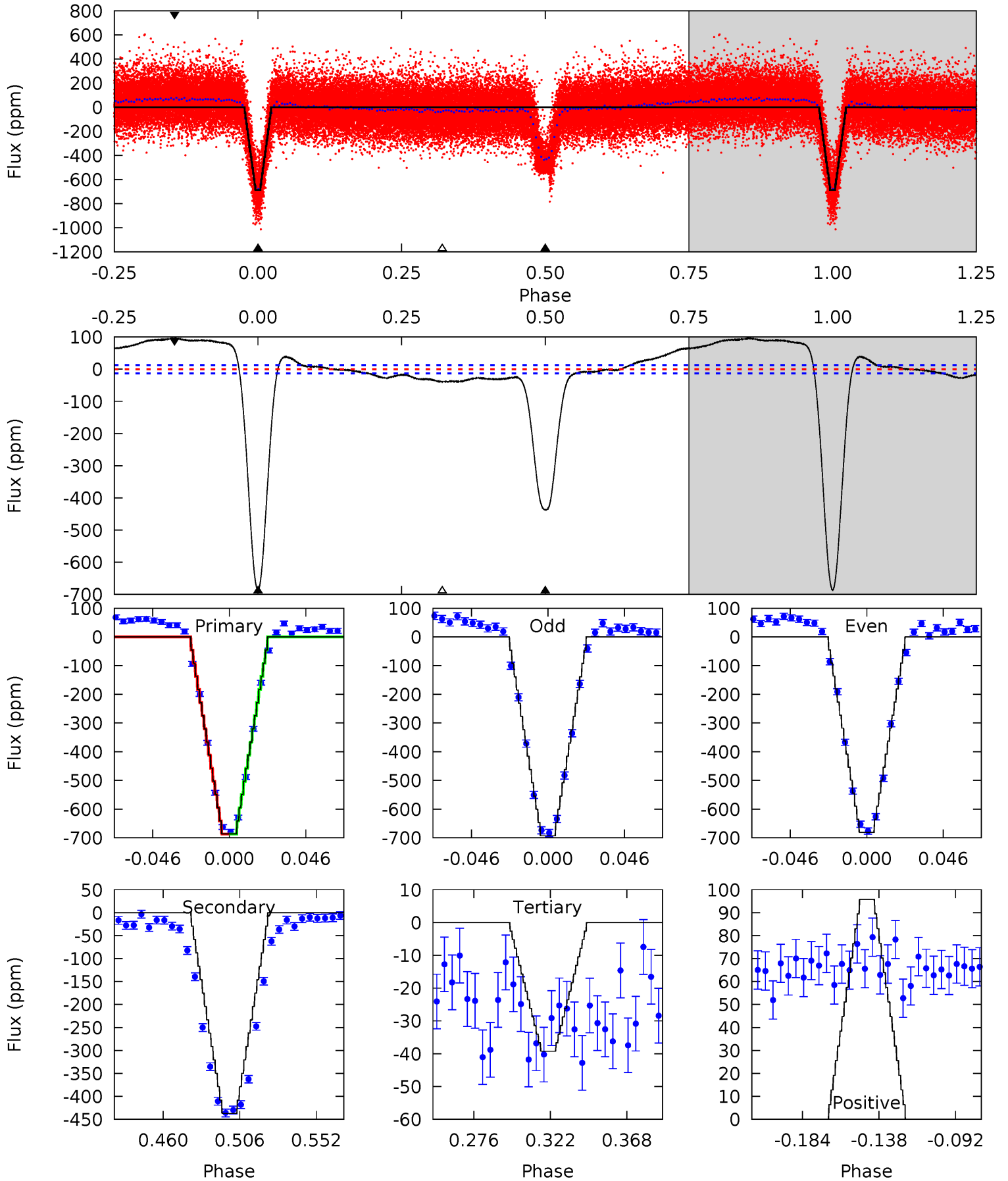
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
143.5	41.0	4.23	5.18	4.76	2.07	3.02	139.3	138.4	36.7	35.8	0.93	0.99	0.14	0.89



Alt Model-Shift Uniqueness Test

005078879-01, P = 1.039371 Days, E = 130.584604 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
250.3	159.5	14.3	34.9	4.73	2.00	16.6	236.0	215.4	145.2	124.5	2.22	0.98	0.12	0.10



Stellar Parameters For KIC 005078879

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+176}_{-176}	$3.615^{+0.360}_{-0.090}$	$-0.360^{+0.350}_{-0.300}$	$3.137^{+0.508}_{-1.269}$	$1.479^{+0.229}_{-0.344}$	$0.068^{+0.183}_{-0.019}$
	+3%/-3%	+10%/-2%	+97%/-83%	+16%/-40%	+15%/-23%	+271%/-28%
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 005078879-01 / KOI 6508.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-107 ± 3	$7.30^{+0.95}_{-1.43}$	4530^{+281}_{-405}	4017^{+244}_{-269}	$0.592^{+0.287}_{-0.123}$
Alt.	-437 ± 3	$8.73^{+1.21}_{-1.59}$	4565^{+265}_{-441}	5497^{+209}_{-193}	$1.670^{+0.800}_{-0.318}$

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 $A_{obs} \gg 1.0$

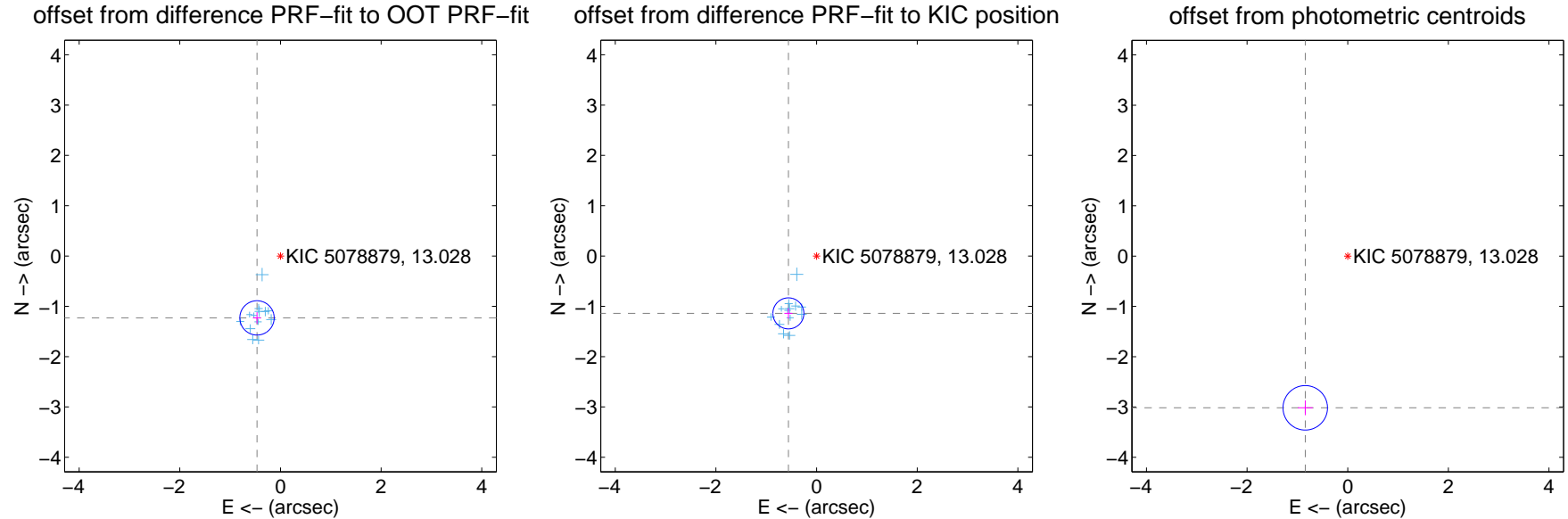
DV Centroid Data

Supplemental centroid analysis for 005078879-01. Kepler magnitude: 13.03. Transit SNR 77.42

There are 13 quarters with good PRF difference image offsets

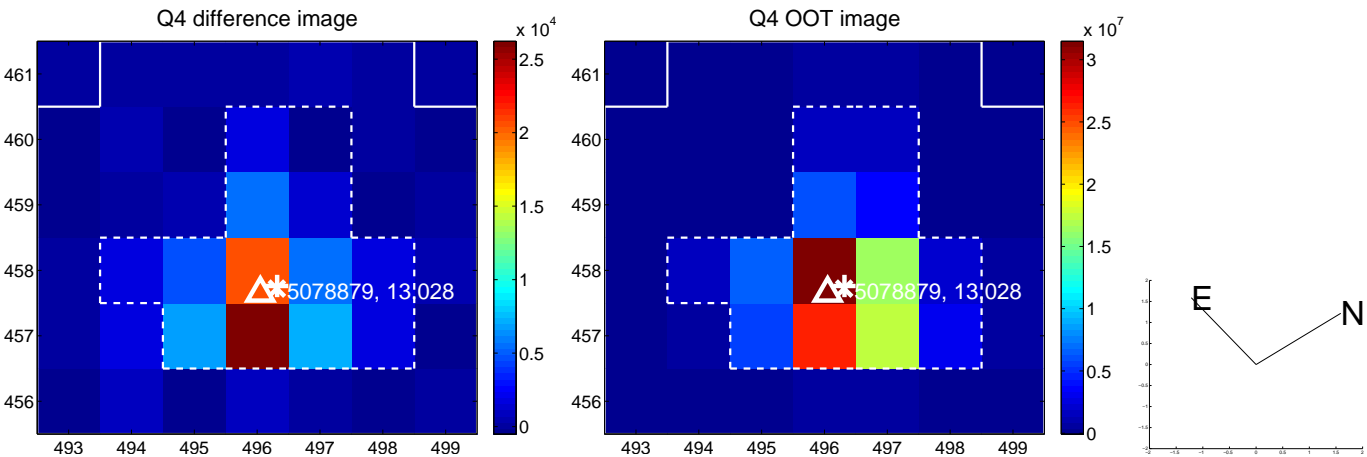
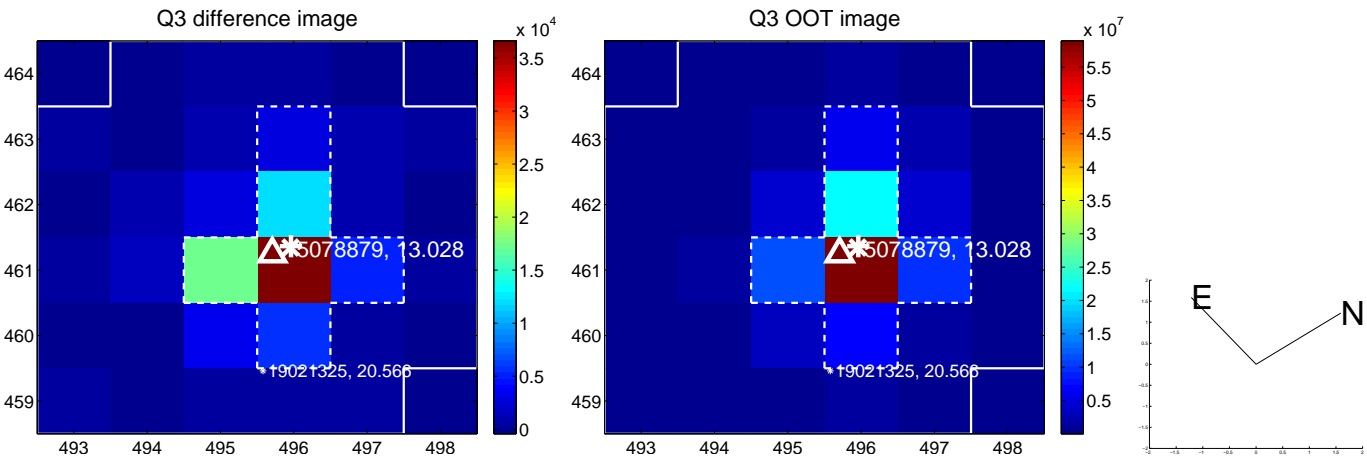
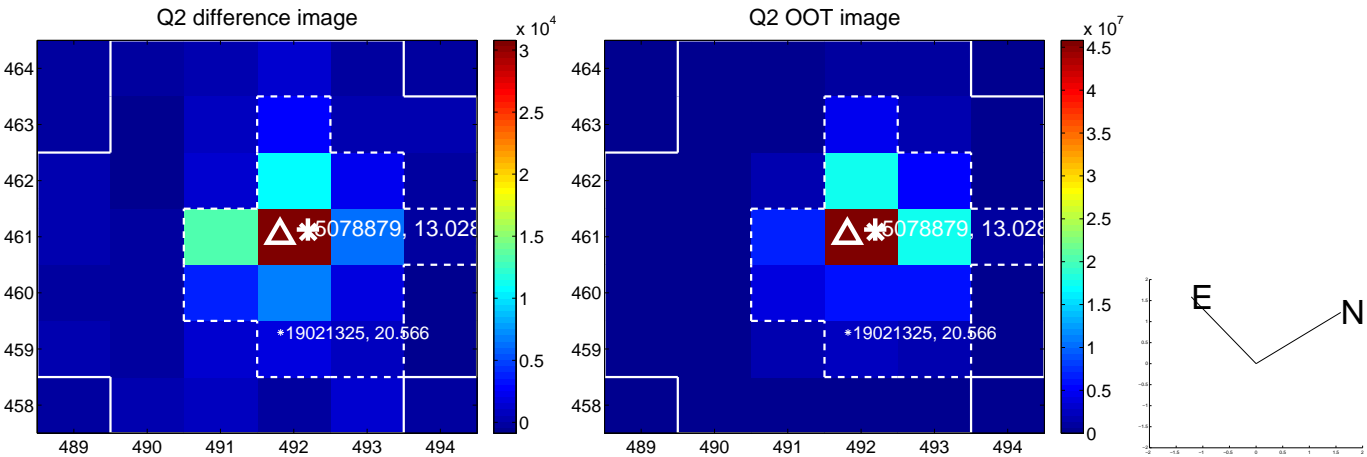
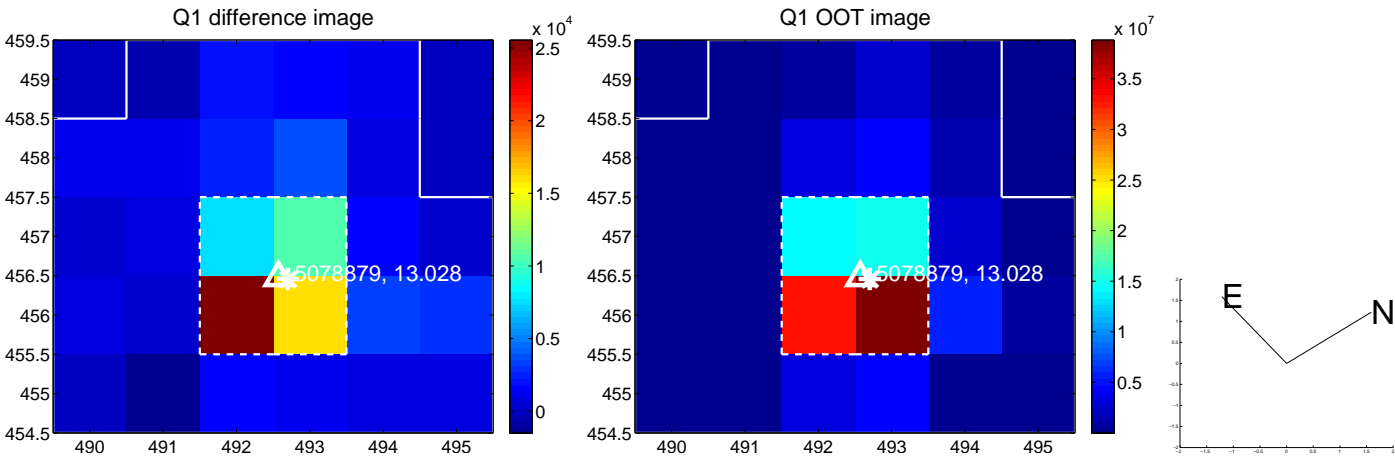
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.315 \pm 0.114	11.56	0.466 \pm 0.080	-1.230 \pm 0.114
PRF-fit source offset from KIC position	1.270 \pm 0.103	12.36	0.560 \pm 0.080	-1.140 \pm 0.101
photometric centroid source offset	3.13 \pm 0.15	21.26	0.84 \pm 0.15	-3.02 \pm 0.15

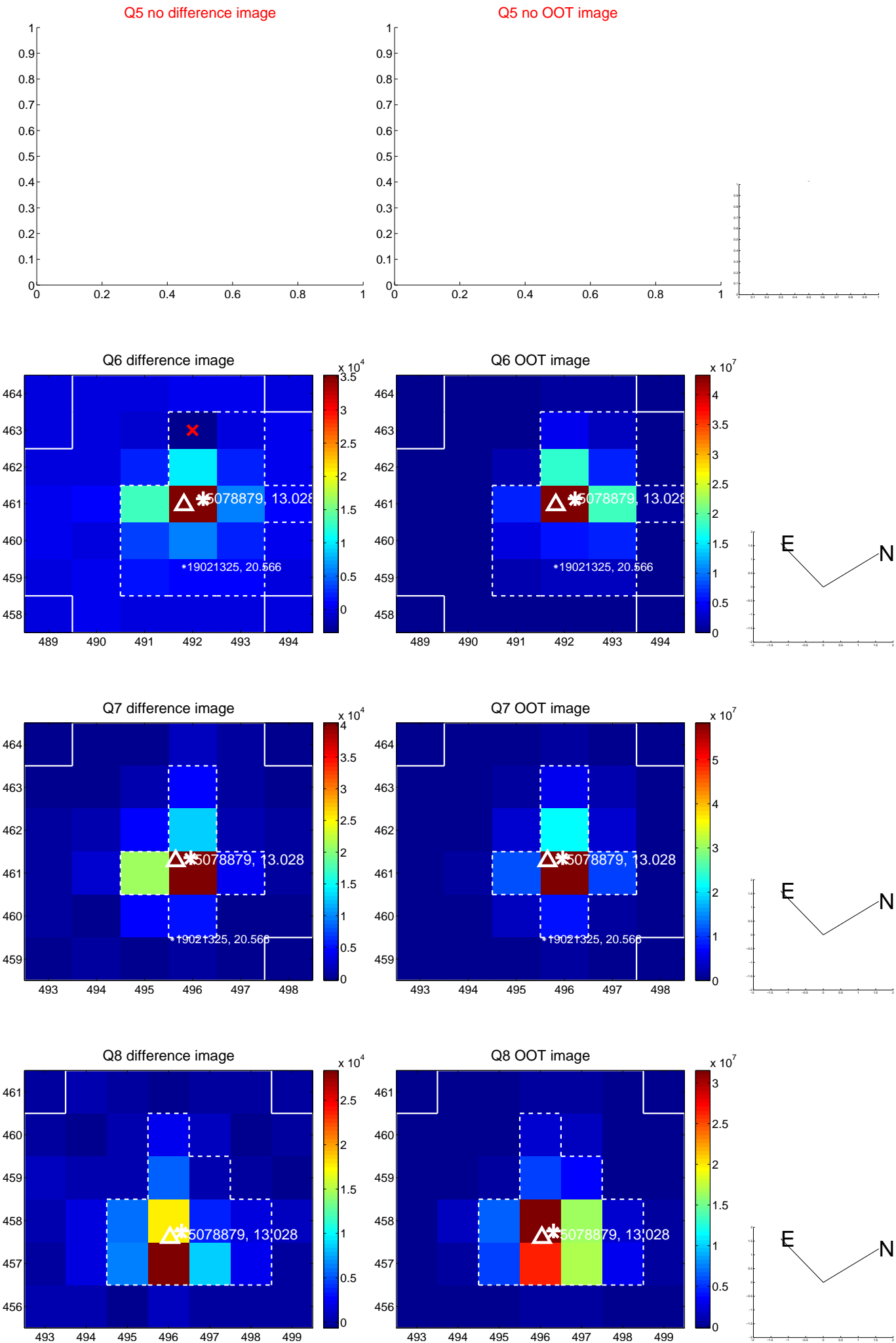


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

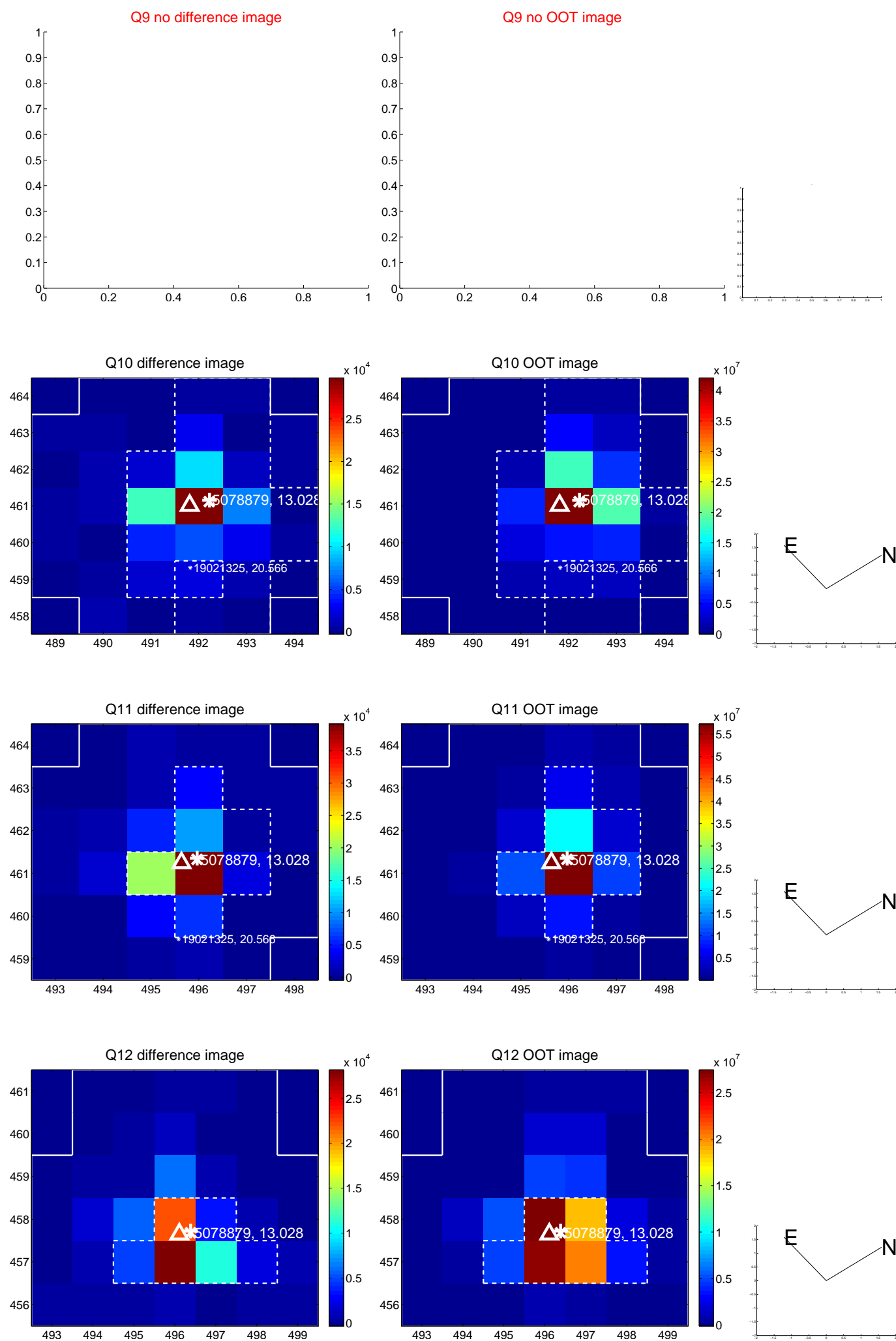
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



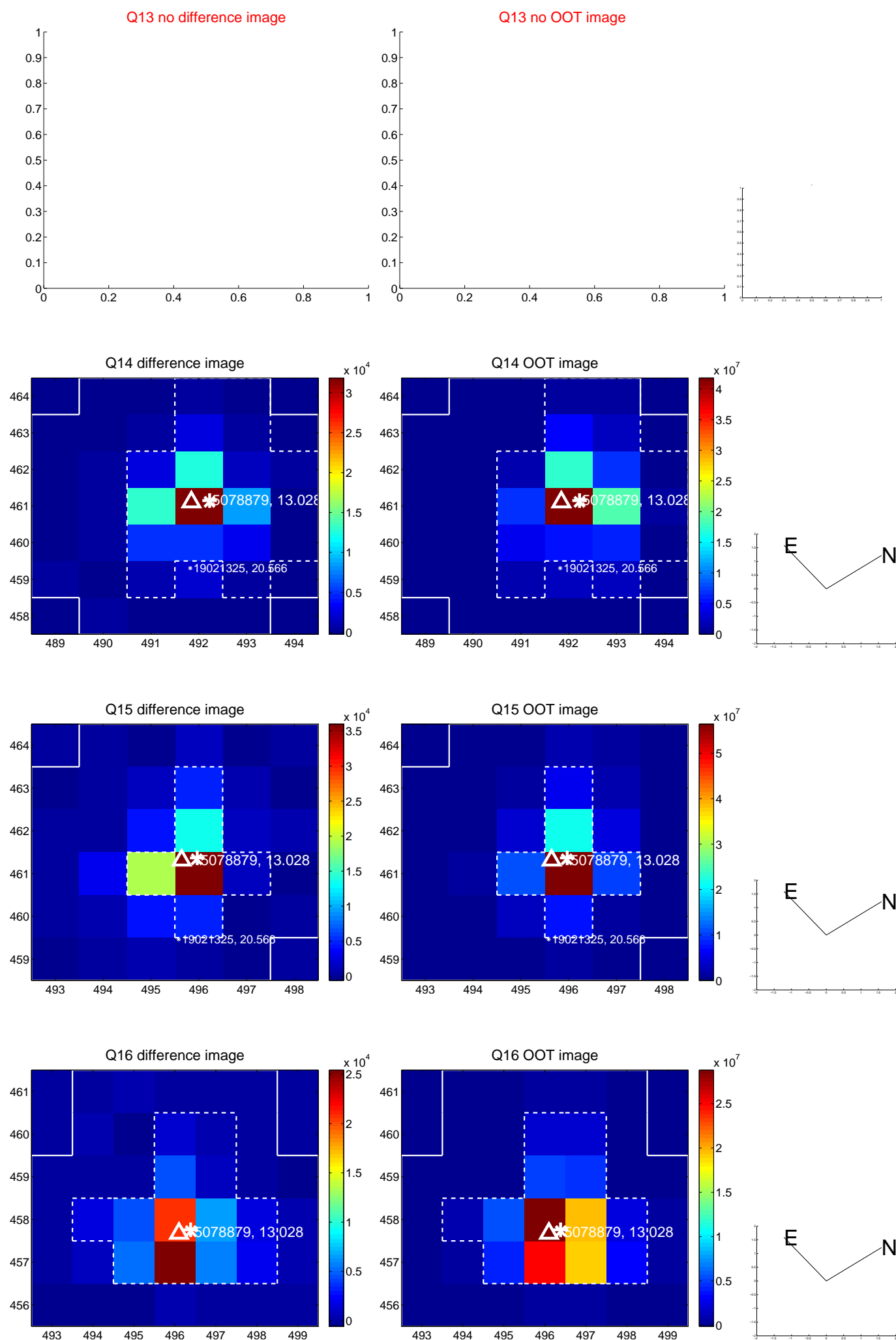
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



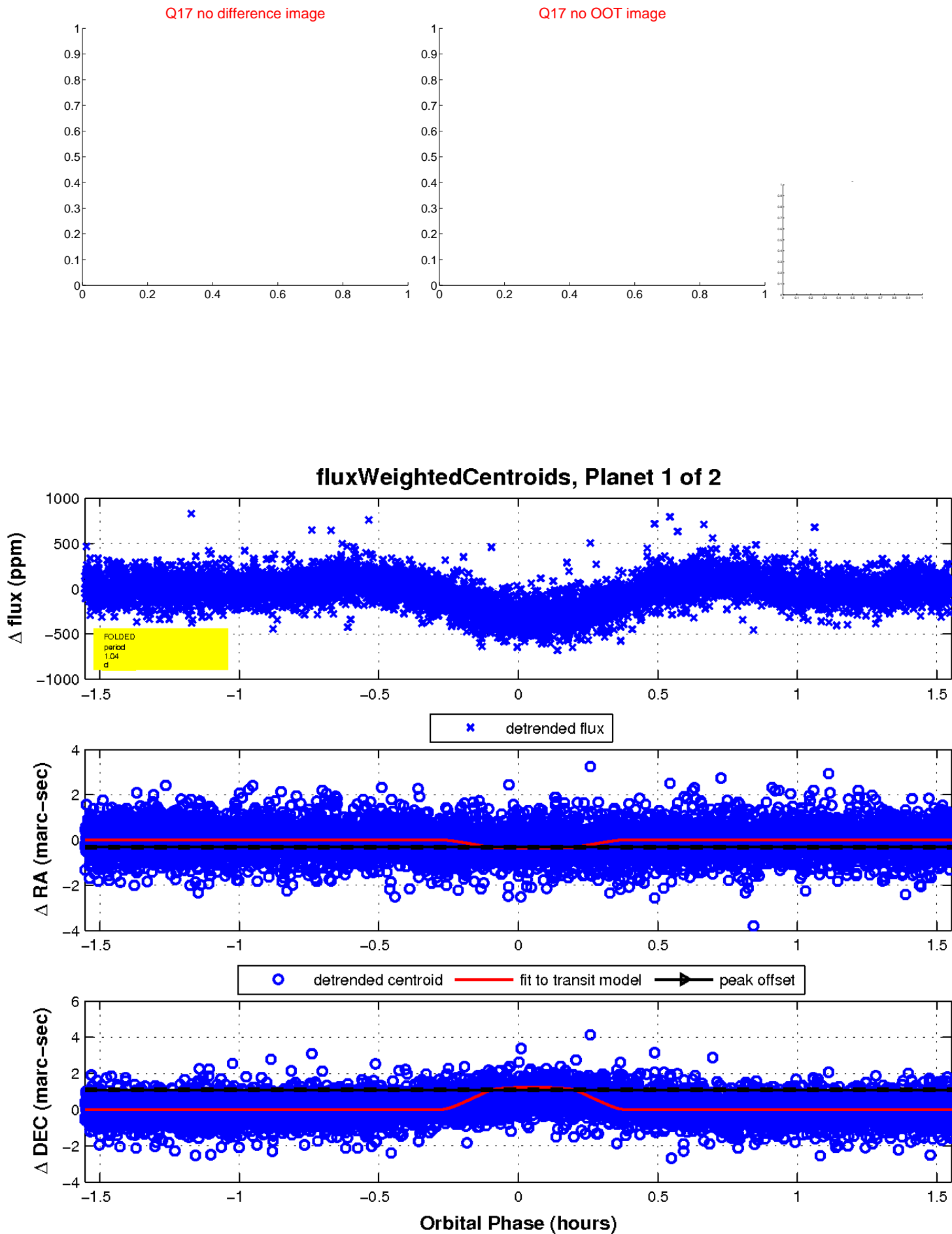
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



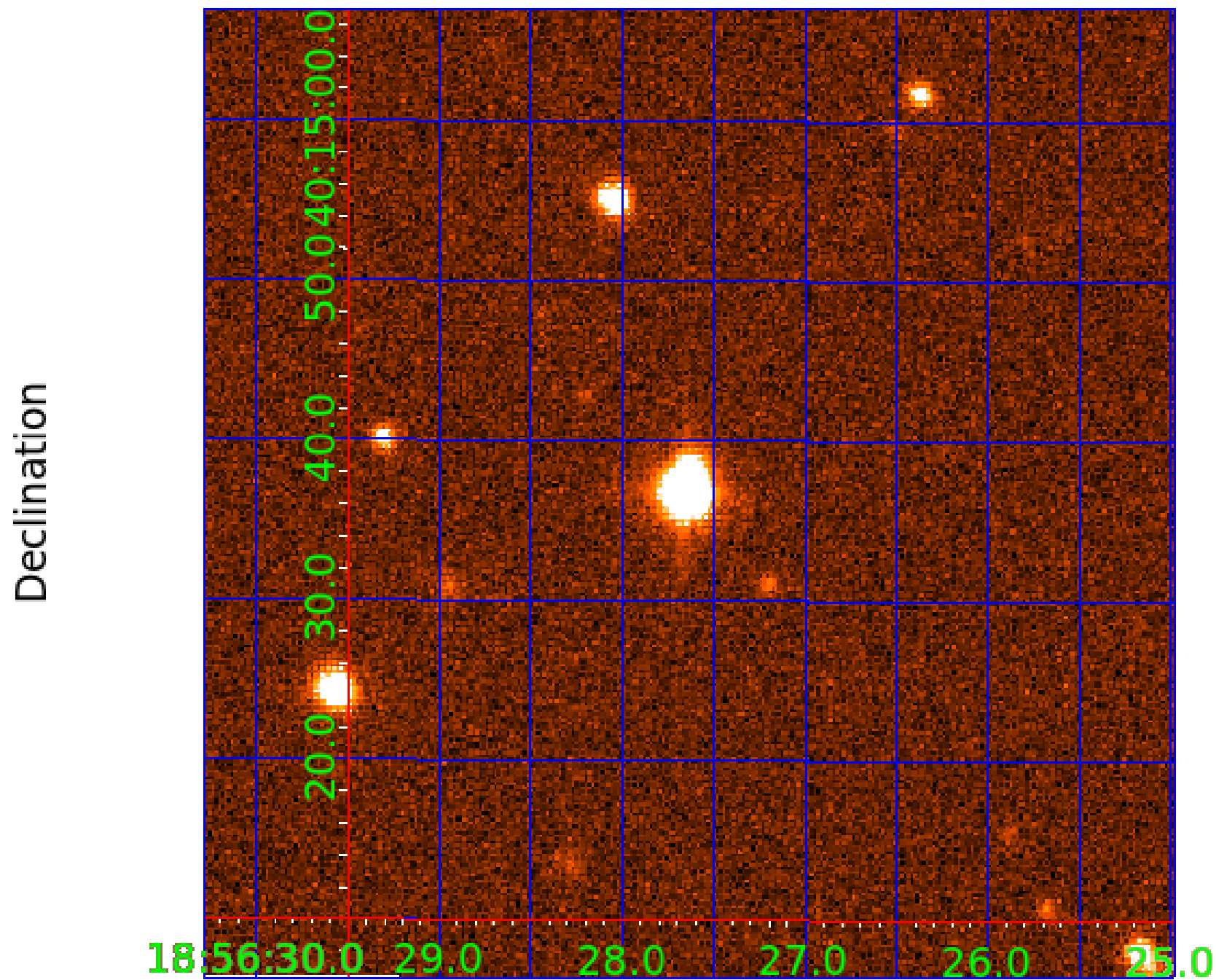
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 005078879

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})
005078879-01	OBS	6508.01	1.039370	131.624166	370.3	0.518	44.5	77.4	3.14	6429	7.55	28759.68
005078879-02	OBS	No	1.039366	132.140456	73.1	0.615	8.7	16.5	3.14	6429	3.21	28759.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005078879-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
005078879-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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.

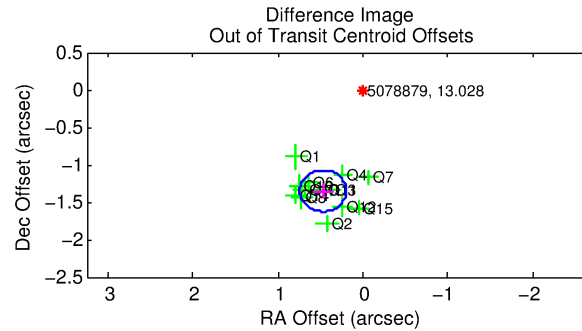
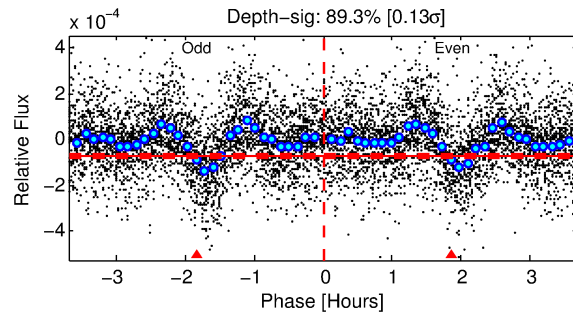
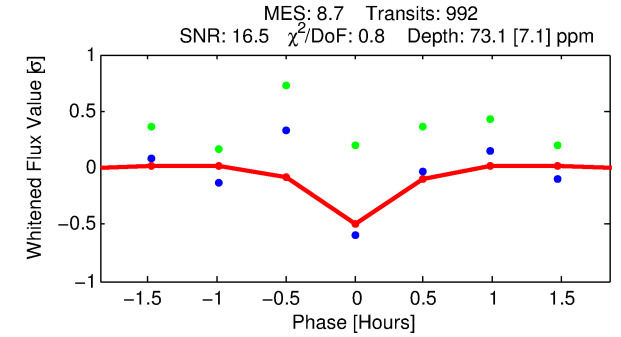
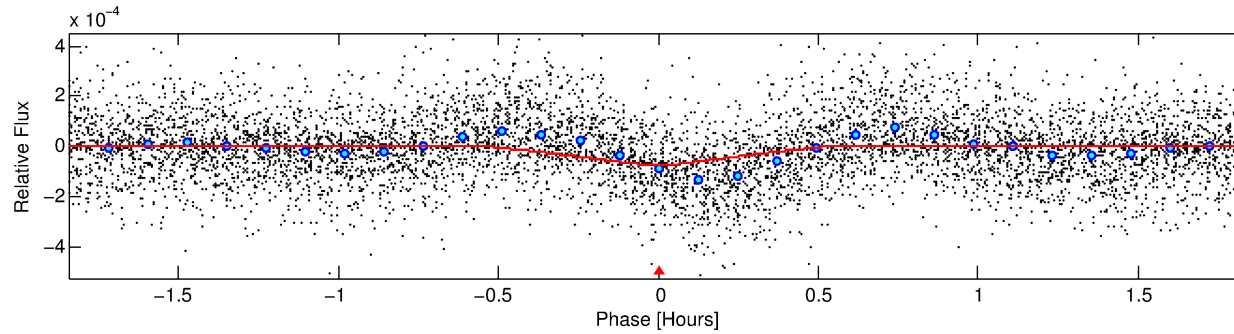
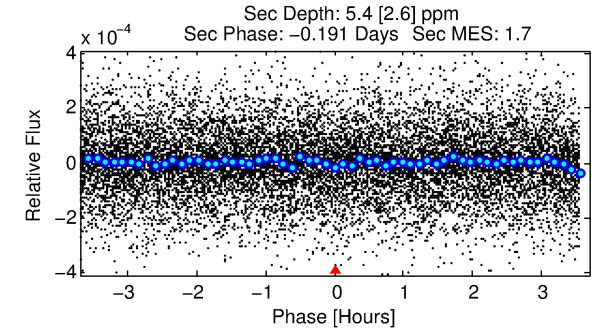
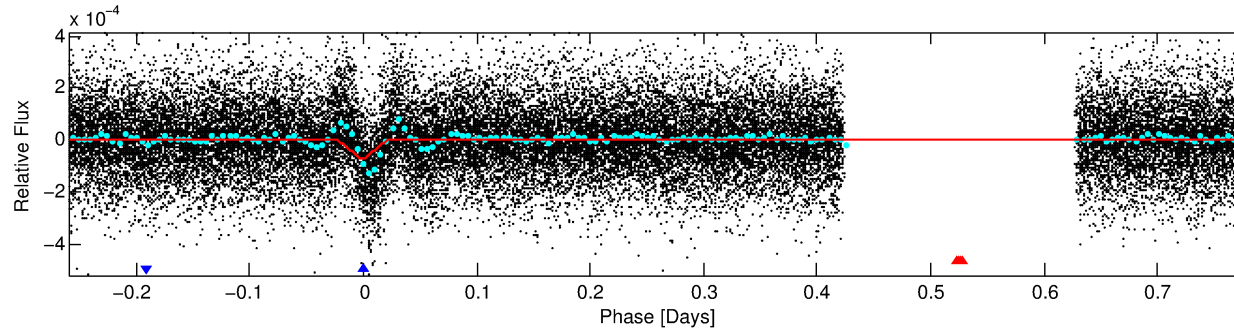
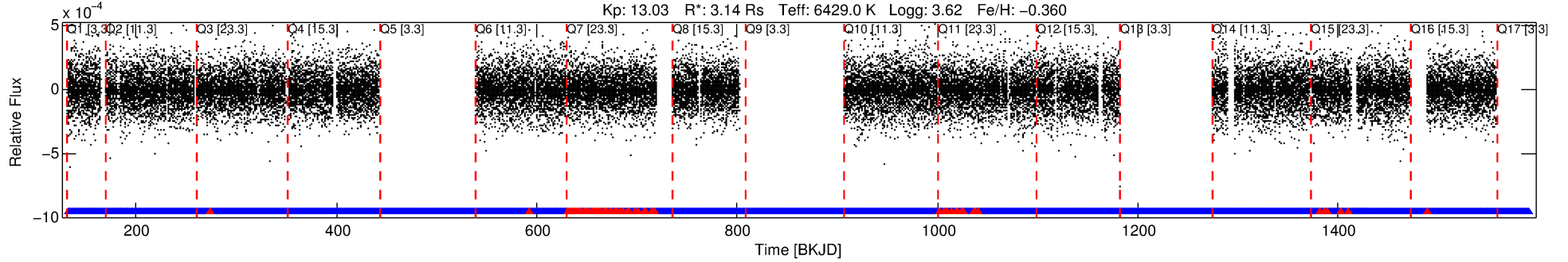
Ephemeris Match Information For 005078879-02

No Significant Match Found

DV One-Page Summary

KIC: 5078879 Candidate: 2 of 2 Period: 1.039 d
KOI: K06508 Corr: No Ephemeris Match

Kp: 13.03 R*: 3.14 Rs Teff: 6429.0 K Logg: 3.62 Fe/H: -0.360



DV Fit Results:

Period = 1.03937 [0.00001] d
Epoch = 132.1405 [0.0008] BKJD
Rp/R* = 0.0094 [0.0017]
a/R* = 5.91 [5.77]
b = 0.90 [0.21]
Seff = 28759.82 [17963.04]
Teq = 3321 [519] K
Rp = 3.22 [1.42] Re
a = 0.0229 [0.0088] AU
Ag = 0.15 [0.13] [-6.57σ]
Teffp = 3194 [491] K [-0.18σ]

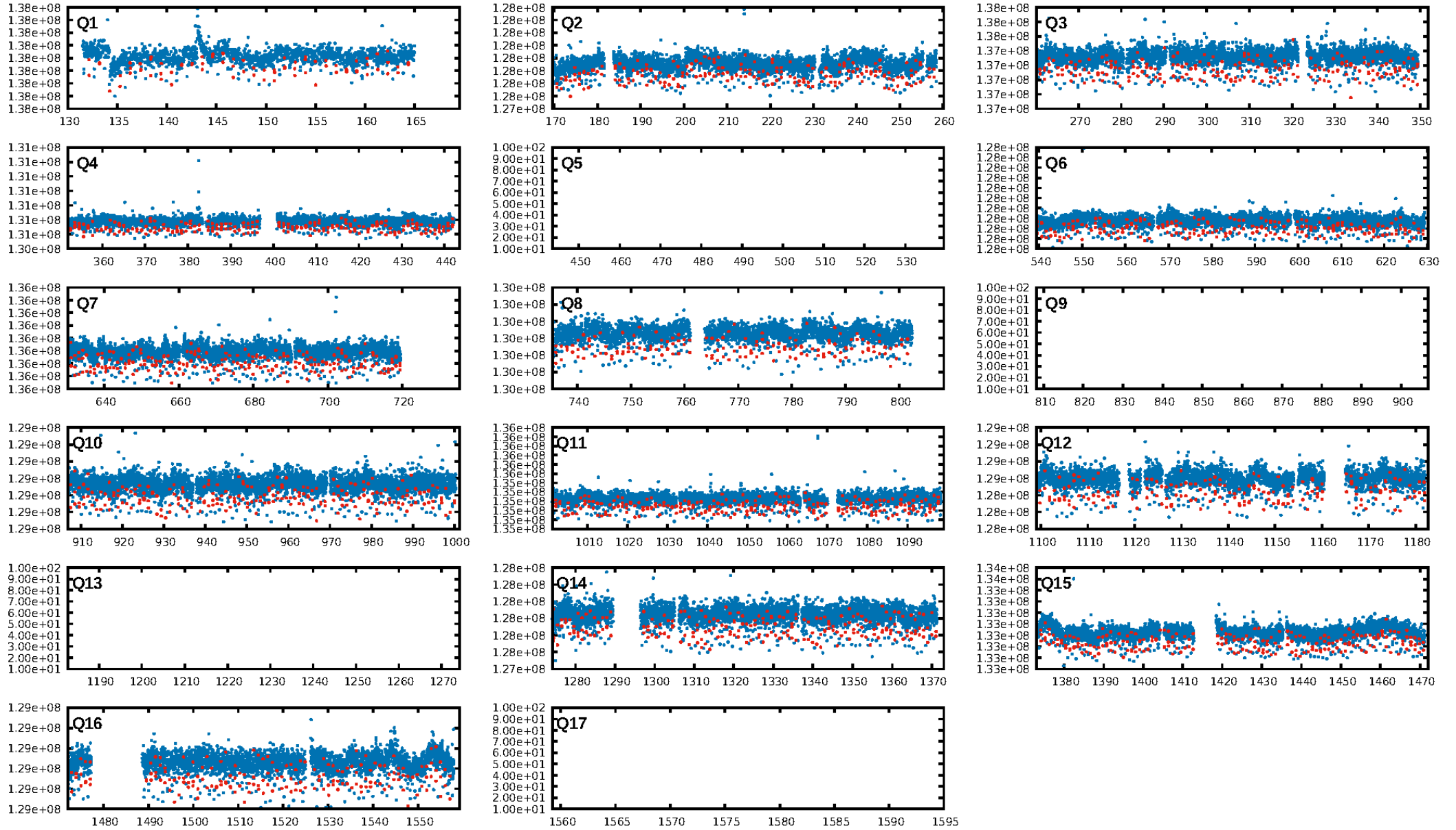
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.47e-18
RollingBand-fgt: 0.93 [893/960]
GhostDiagnostic-chr: 0.715
Centroid-sig: 0.0%
Centroid-so: 6.616 arcsec [9.53σ]
OotOffset-rm: 1.429 arcsec [15.56σ]
KicOffset-rm: 1.381 arcsec [15.07σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
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DiffImageOverlap-fno: 1.00 [13/13]

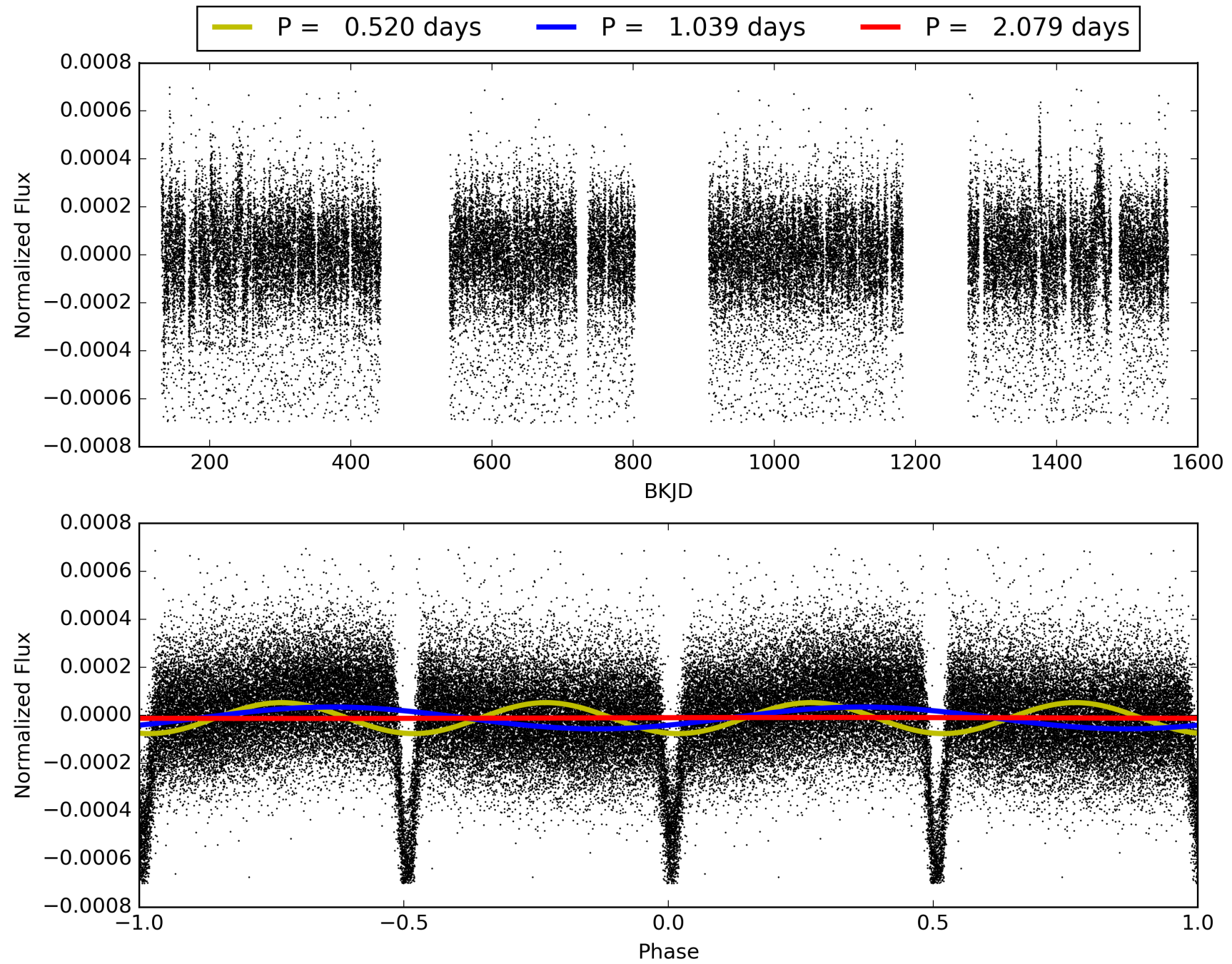
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:21:18 Z

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

TCE 005078879-02, PDC Light Curves

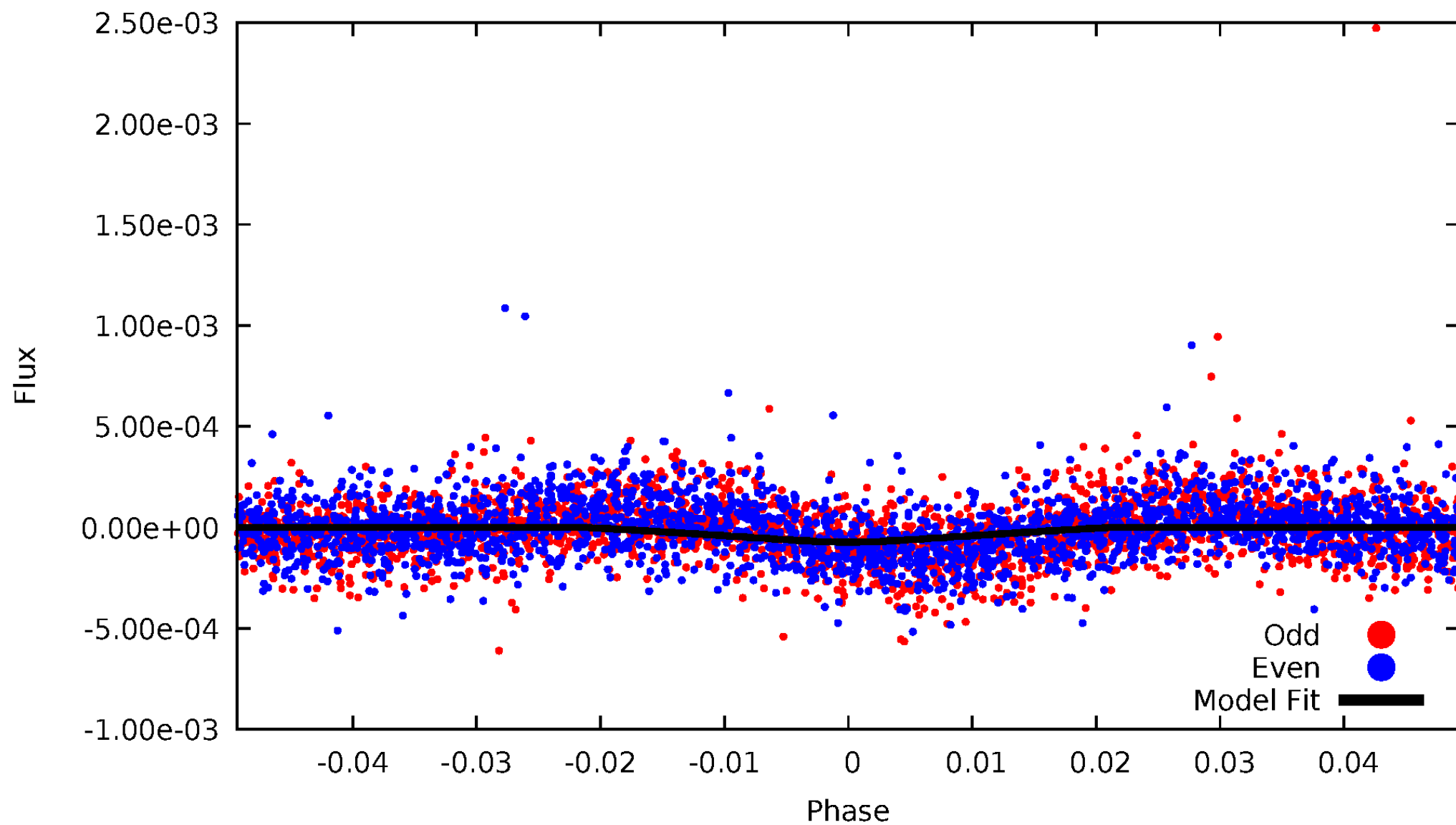


TCE 005078879-02



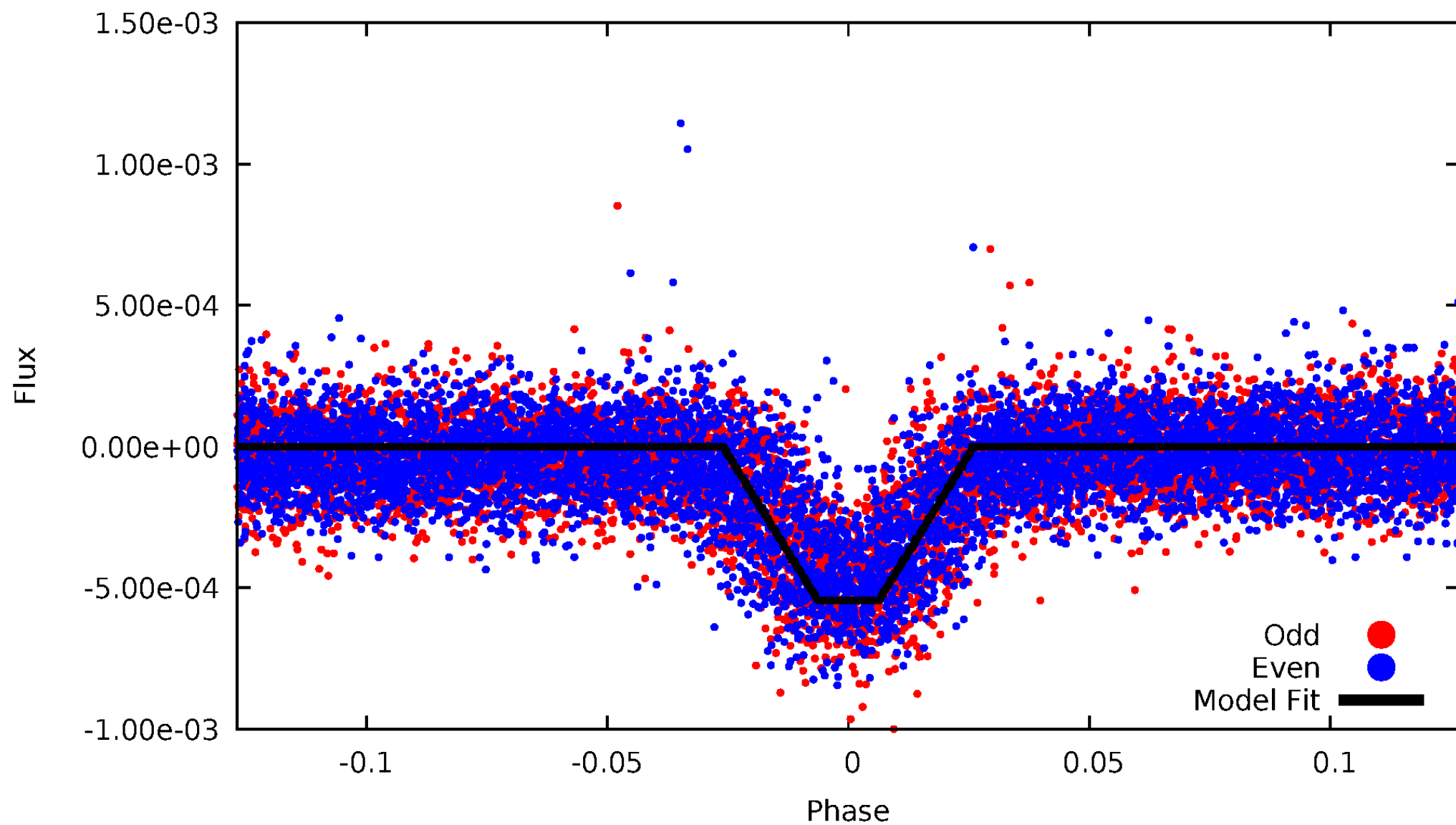
DV Odd/Even

TCE 005078879-02



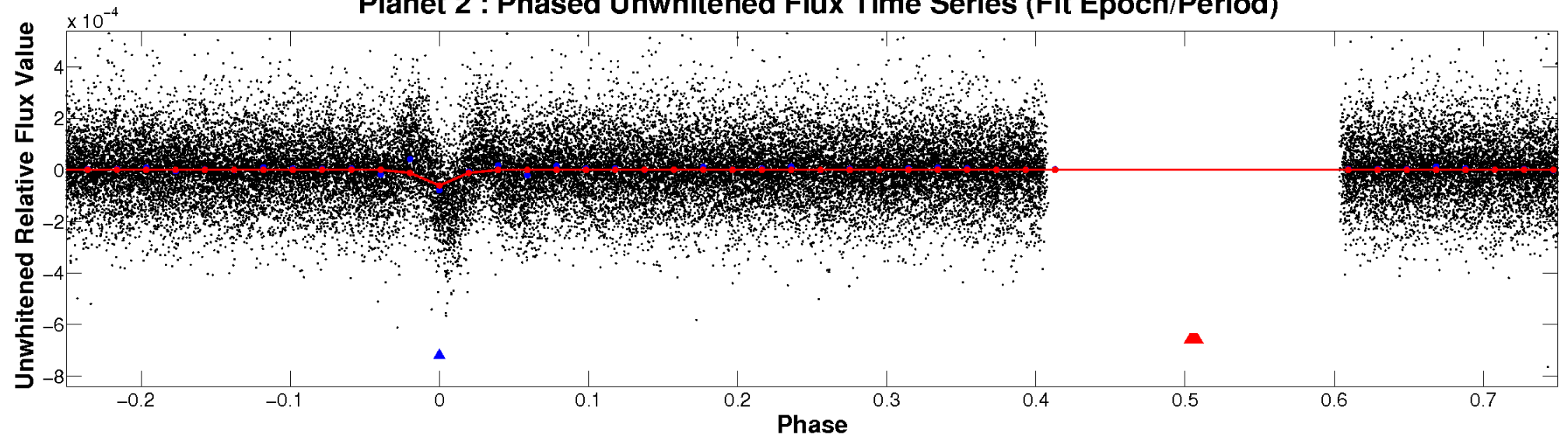
ALT Odd/Even

TCE 005078879-02

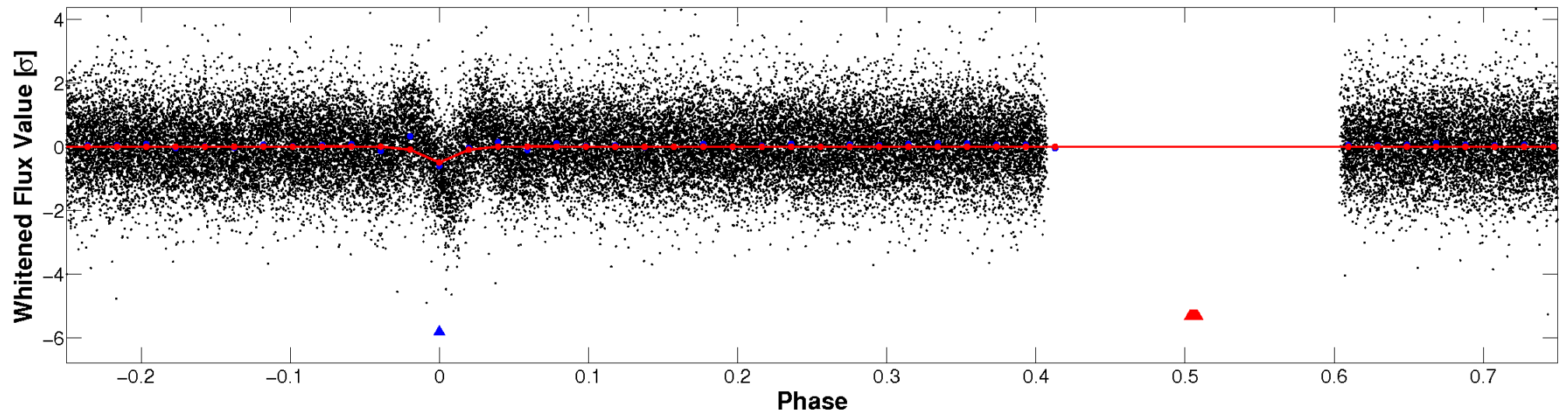


Non-Whitened Vs. Whitened Light Curve

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

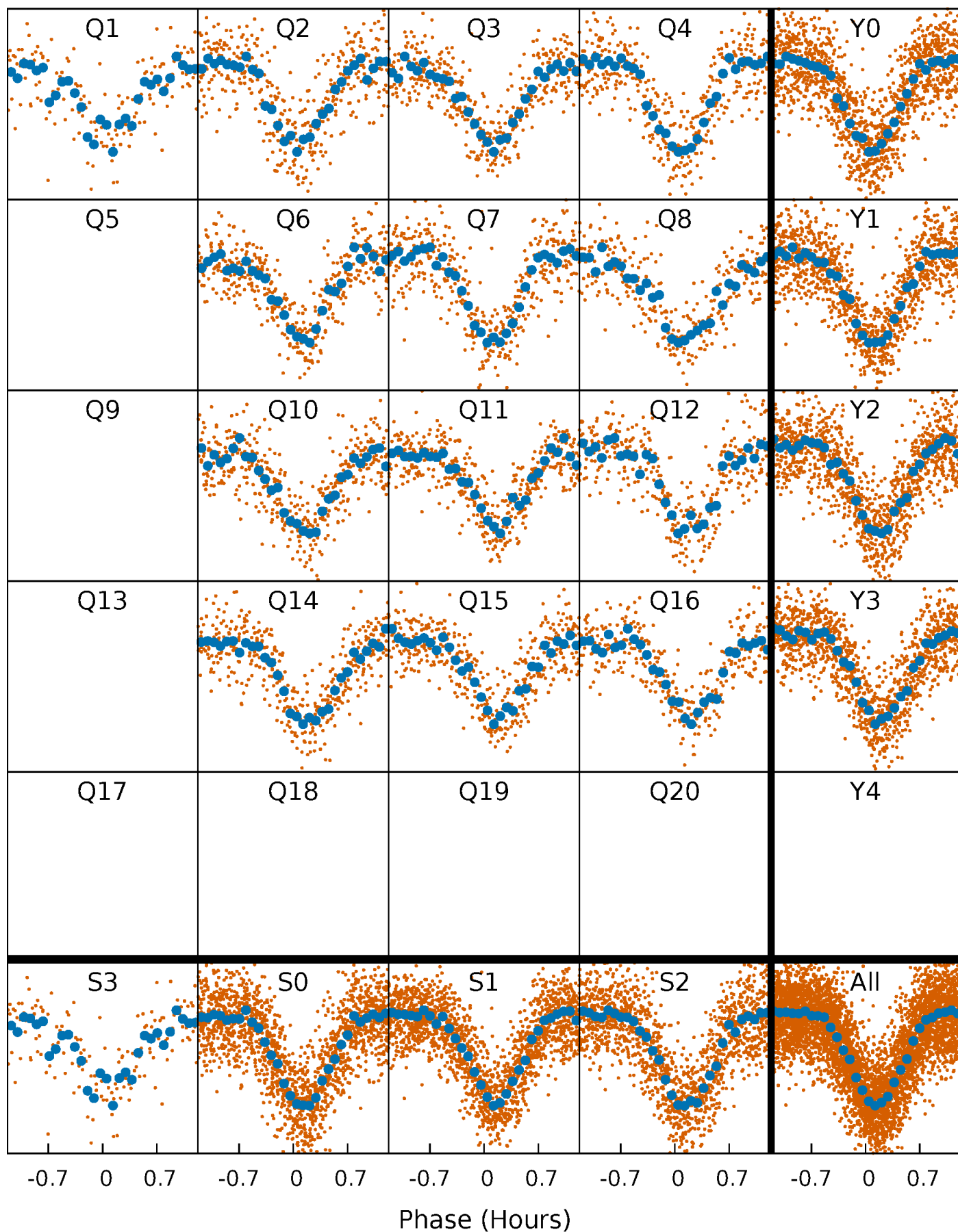


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



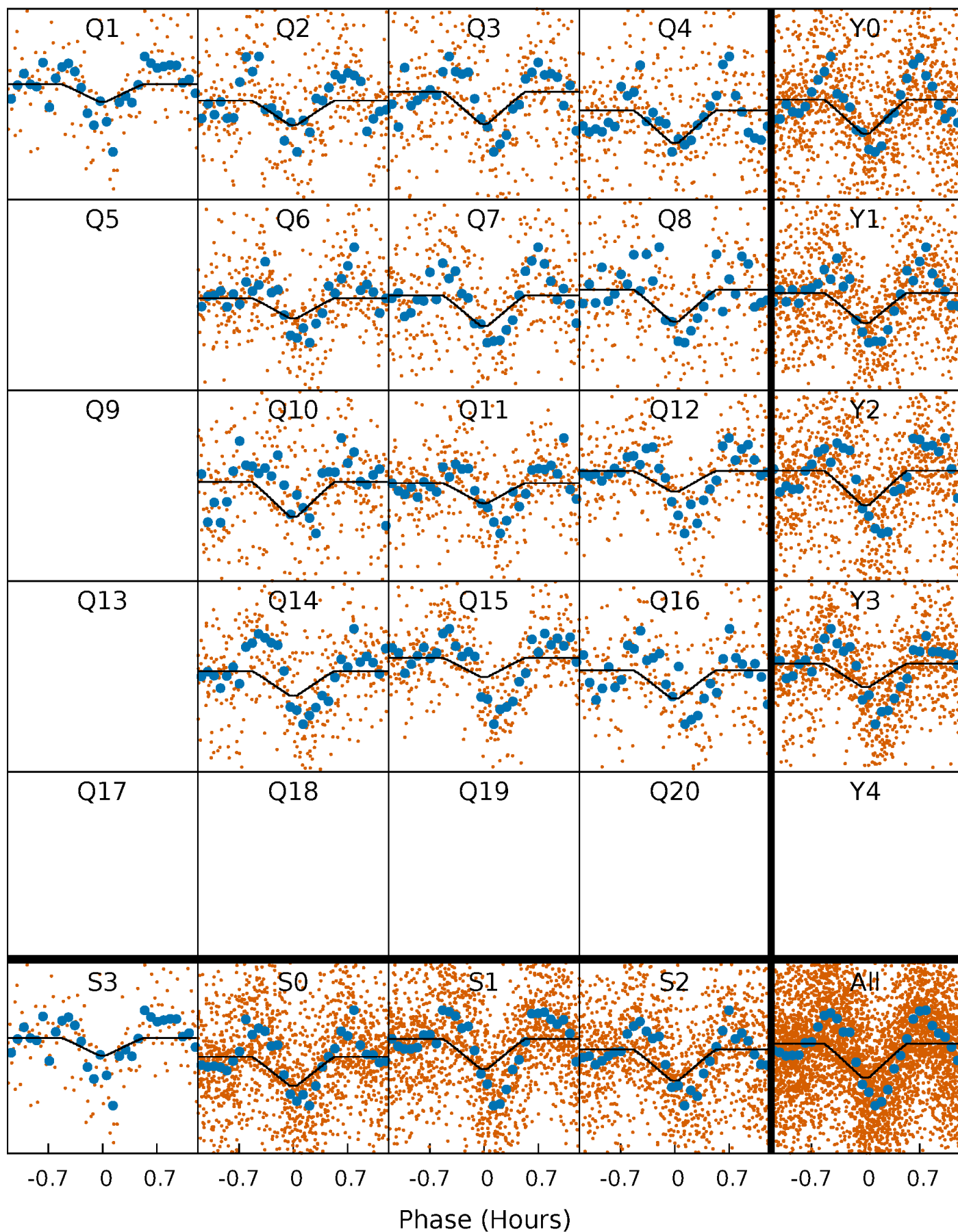
PDC Quarter-Phased Transit Curves

TCE 005078879-02 P= 1.039366 Days $T_0=132.140456$ (BKJD)



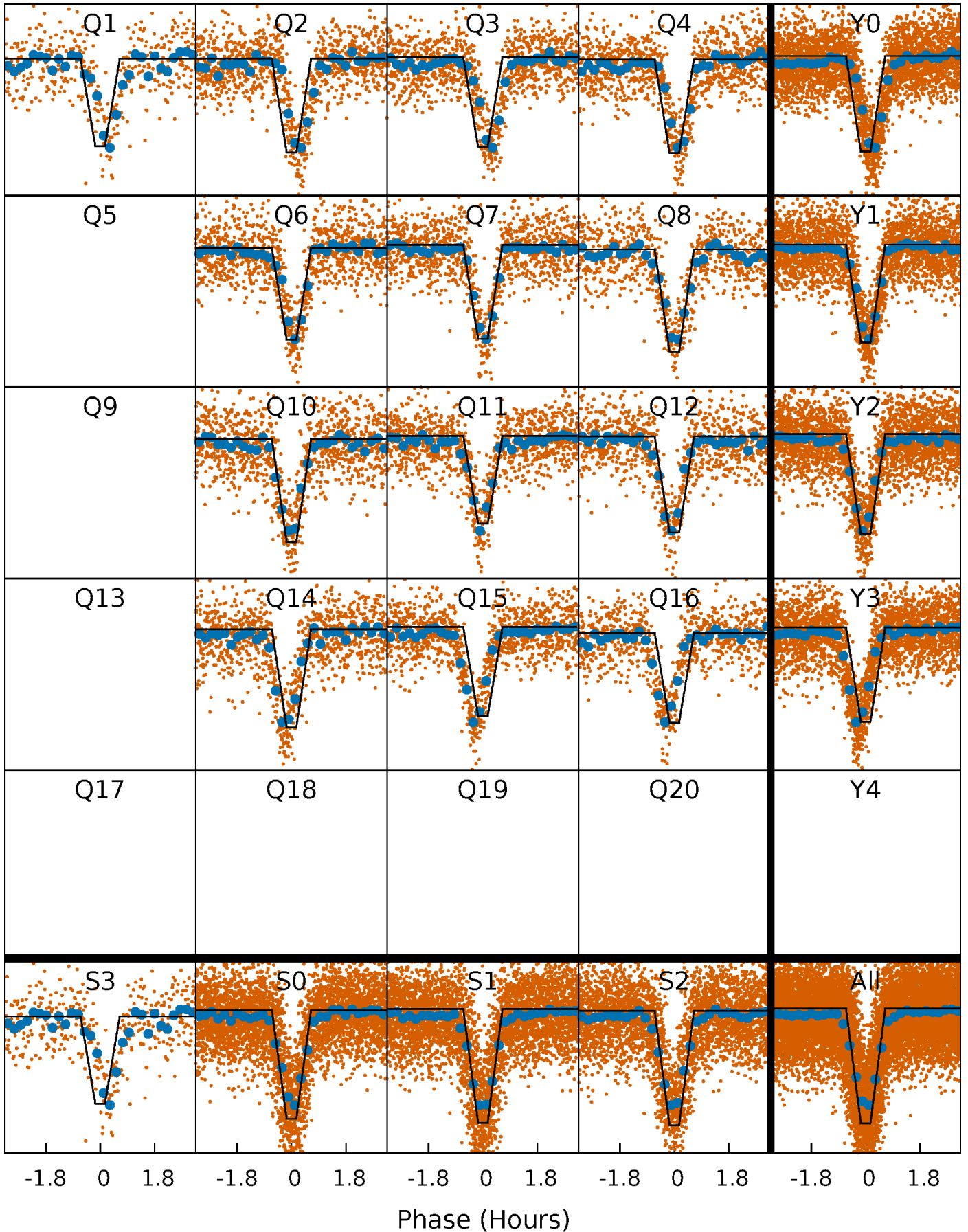
DV Quarter-Phased Transit Curves

TCE 005078879-02 P= 1.039366 Days $T_0=132.140456$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

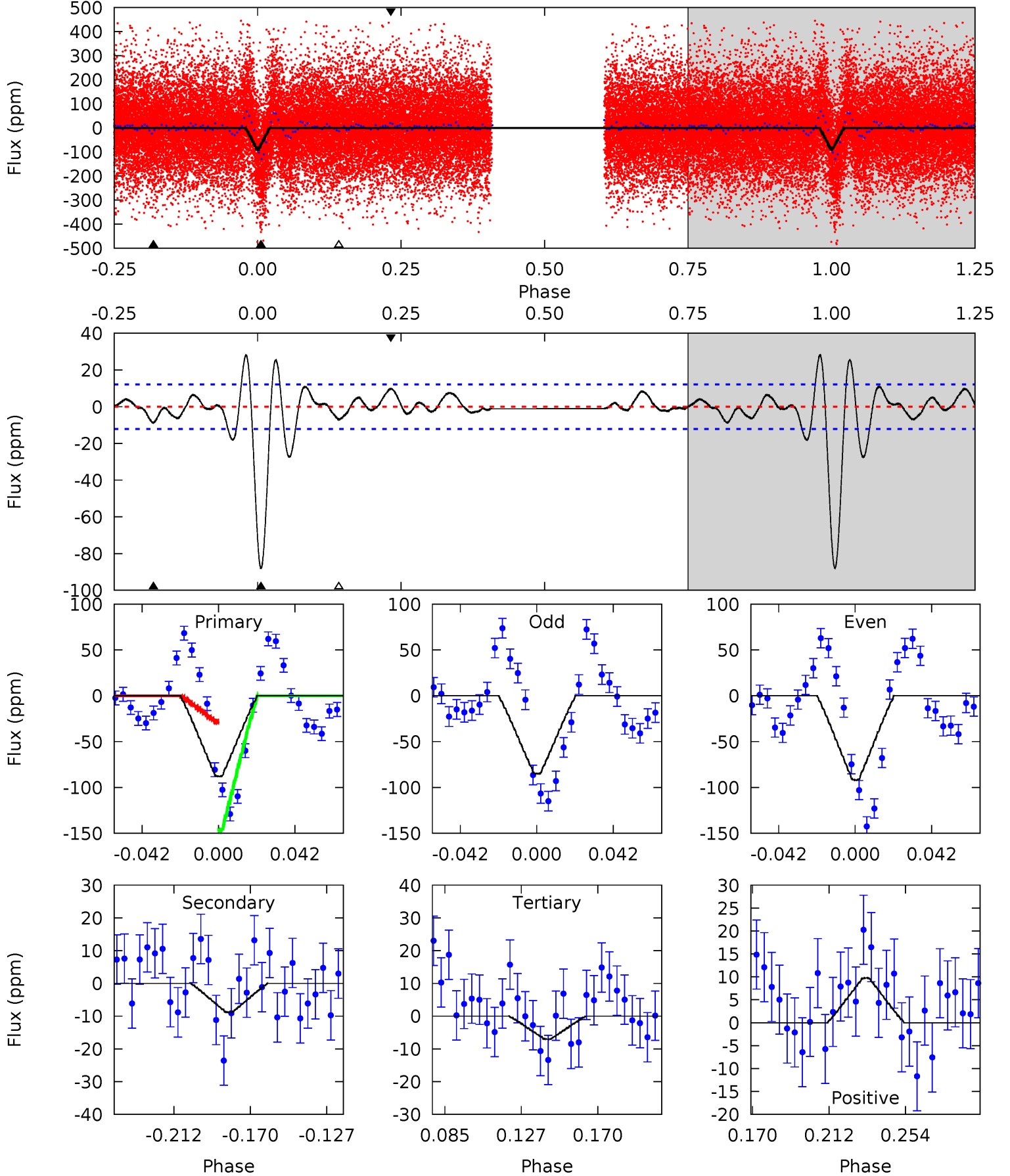
TCE 005078879-02 P= 1.039389 Days $T_0=132.131040$ (BKJD)



DV Model-Shift Uniqueness Test

005078879-02, P = 1.039366 Days, E = 131.101090 Days

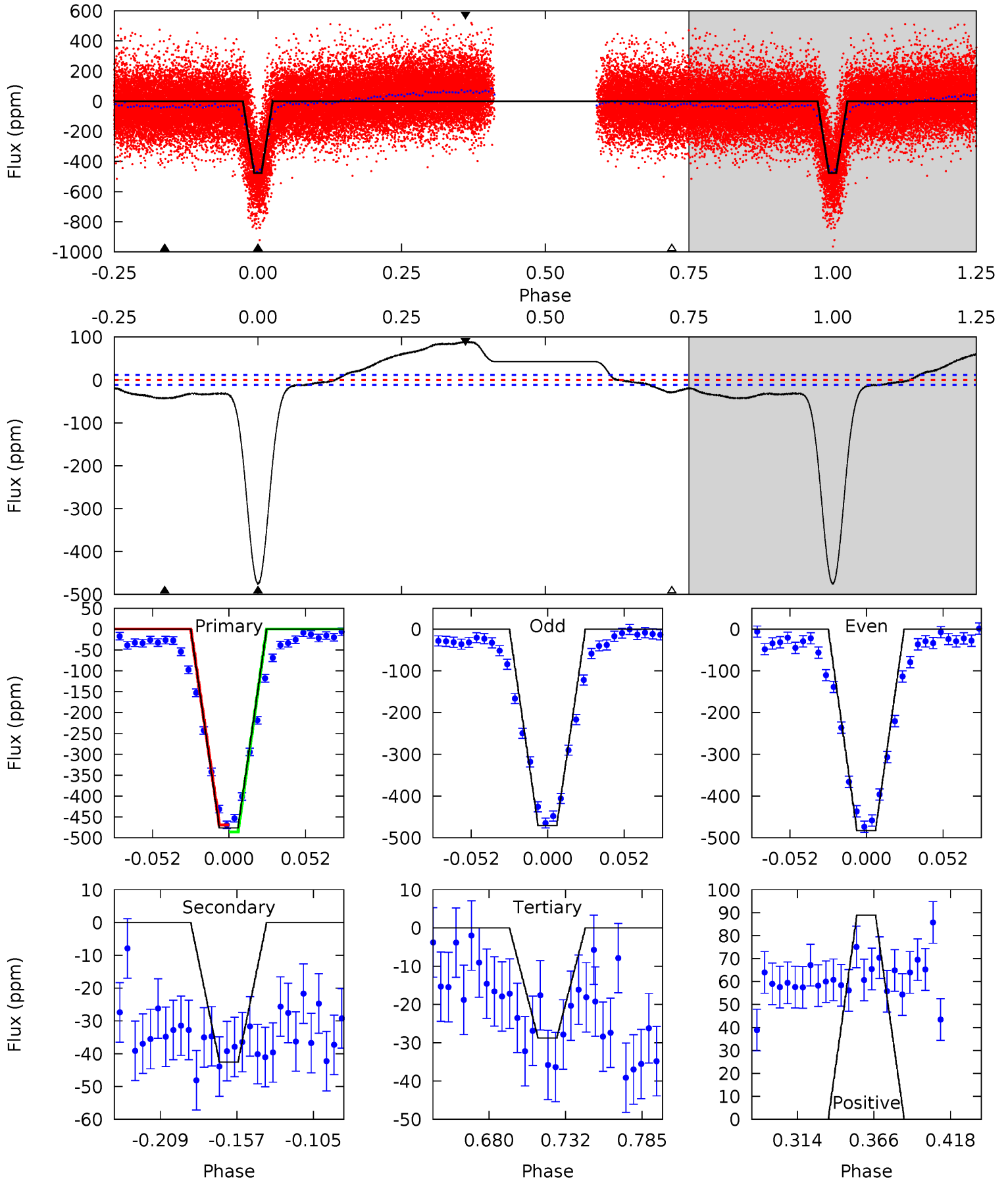
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.3	3.45	2.74	3.80	4.74	2.03	2.36	31.6	30.5	0.71	-0.35	1.32	1.02	0.24	23.3



Alt Model-Shift Uniqueness Test

005078879-02, P = 1.039389 Days, E = 131.091651 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
185.9	16.6	11.2	34.7	4.70	1.94	16.2	174.7	151.2	5.38	-18.1	2.30	1.00	0.16	3.26



Stellar Parameters For KIC 005078879

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+176}_{-176}	$3.615^{+0.360}_{-0.090}$	$-0.360^{+0.350}_{-0.300}$	$3.137^{+0.508}_{-1.269}$	$1.479^{+0.229}_{-0.344}$	$0.068^{+0.183}_{-0.019}$
	+3%/-3%	+10%/-2%	+97%/-83%	+16%/-40%	+15%/-23%	+271%/-28%
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 005078879-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 3	$3.02^{+0.68}_{-0.76}$	4539^{+259}_{-453}	-2676^{+6340}_{-898}	$0.280^{+0.249}_{-0.115}$
Alt.	-43 ± 3	$7.69^{+1.16}_{-1.60}$	4555^{+283}_{-465}	-3304^{+5938}_{-346}	$0.213^{+0.113}_{-0.052}$

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 $A_{obs} \gg 1.0$

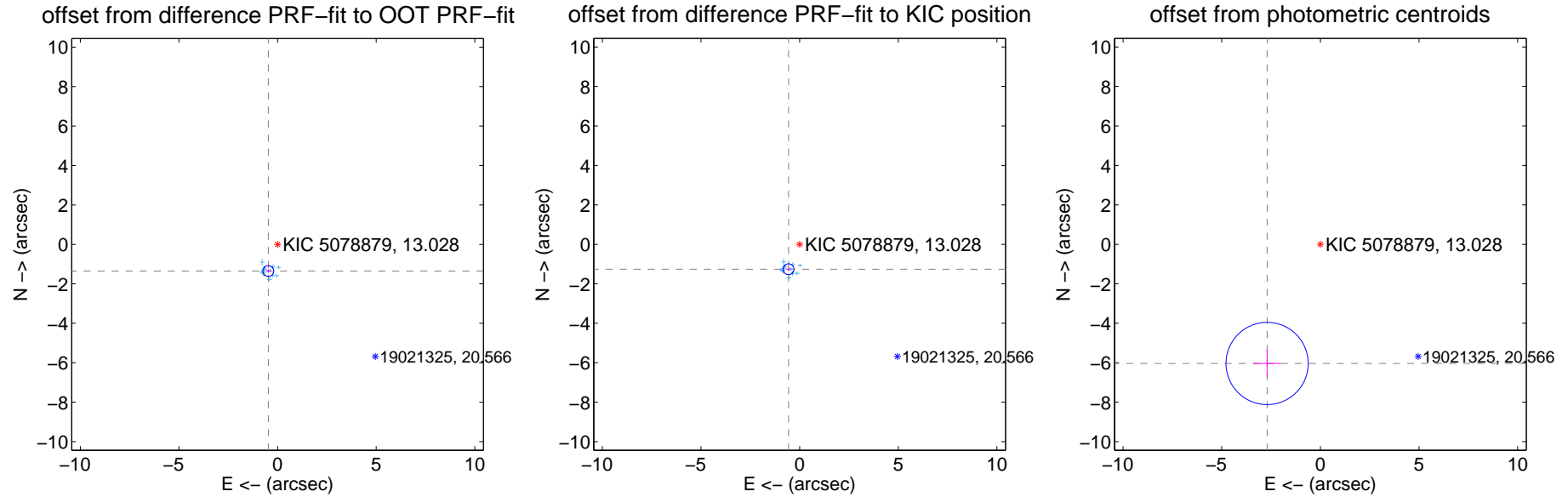
DV Centroid Data

Supplemental centroid analysis for 005078879-02. Kepler magnitude: 13.03. Transit SNR 16.51

There are 13 quarters with good PRF difference image offsets

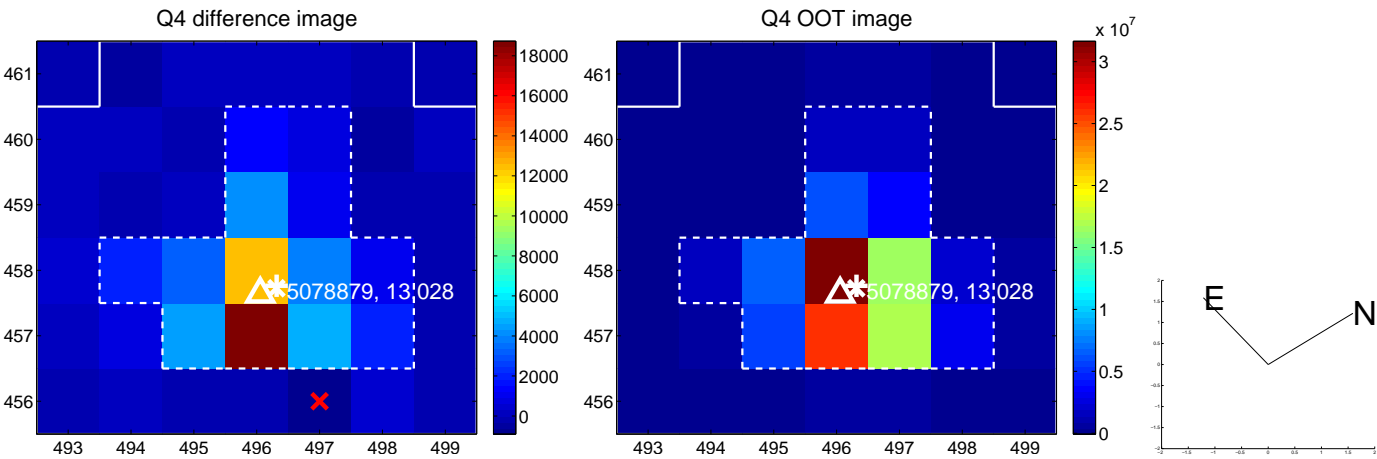
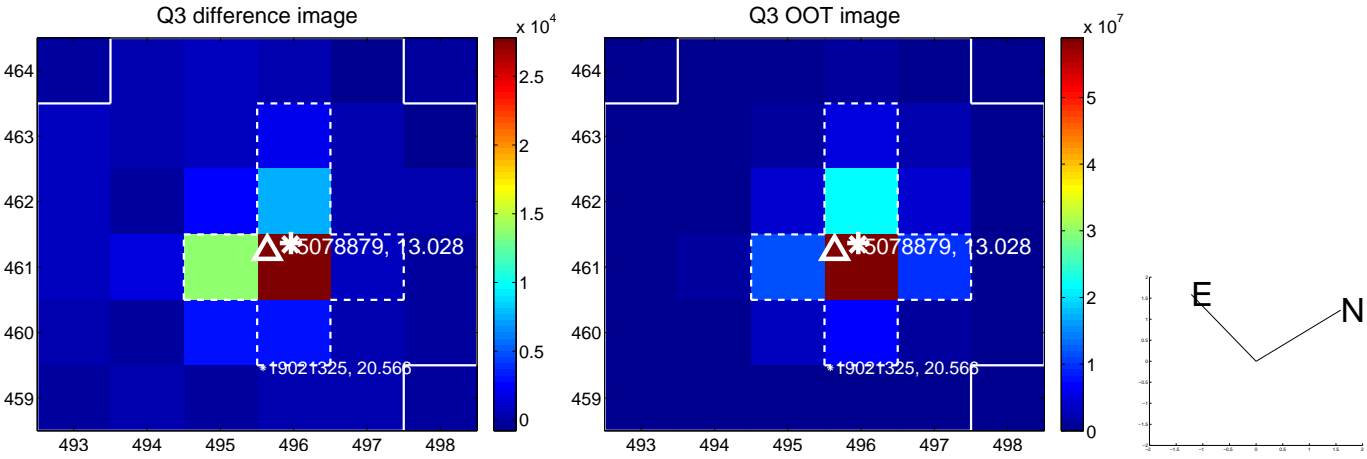
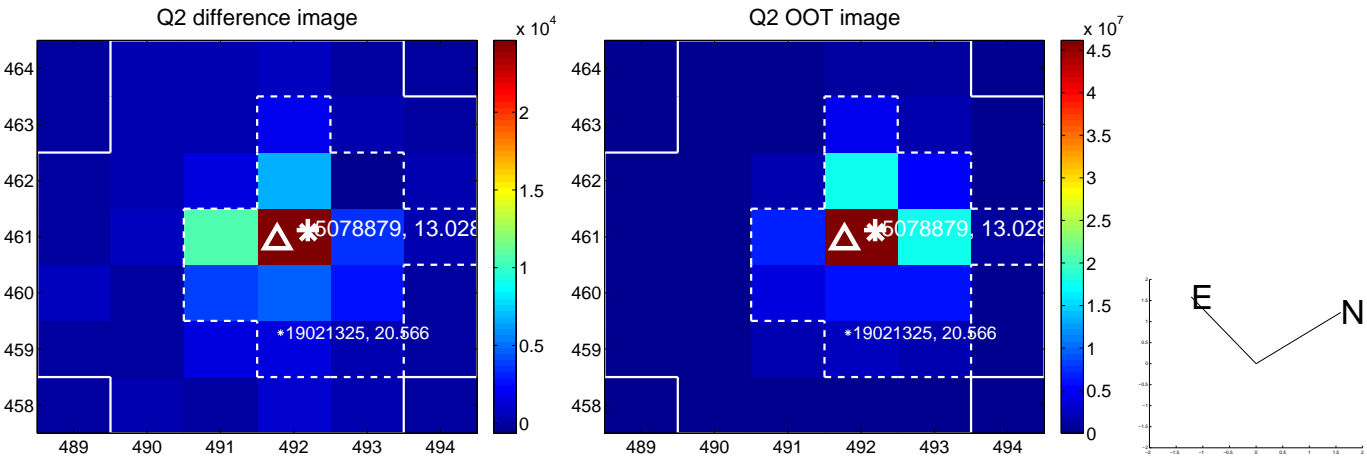
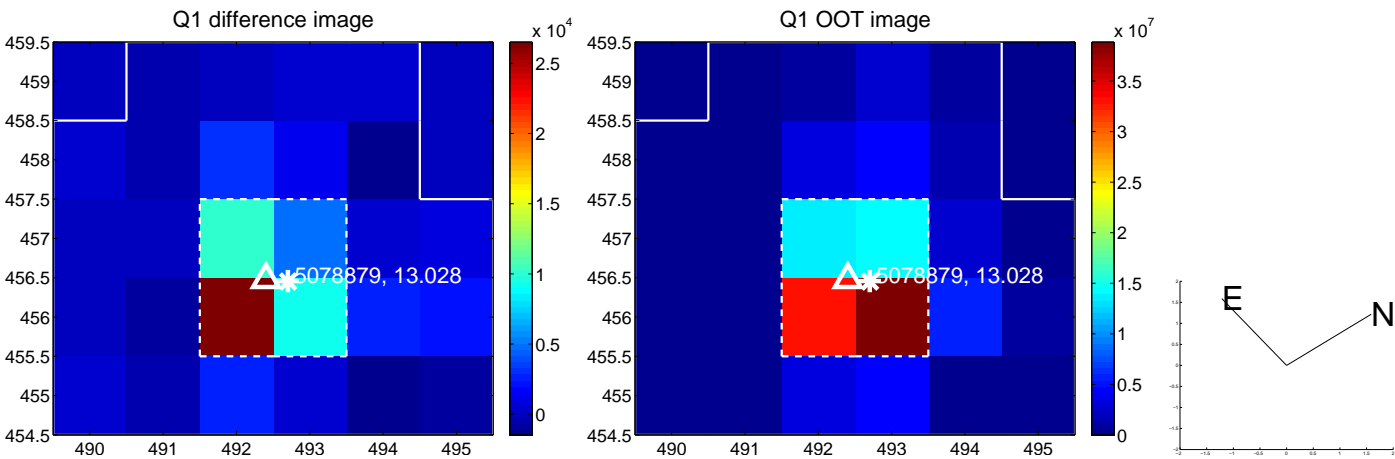
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.429 ± 0.092	15.56	0.468 ± 0.108	-1.351 ± 0.090
PRF-fit source offset from KIC position	1.381 ± 0.092	15.07	0.562 ± 0.109	-1.261 ± 0.088
photometric centroid source offset	6.62 ± 0.69	9.53	2.70 ± 0.69	-6.04 ± 0.69

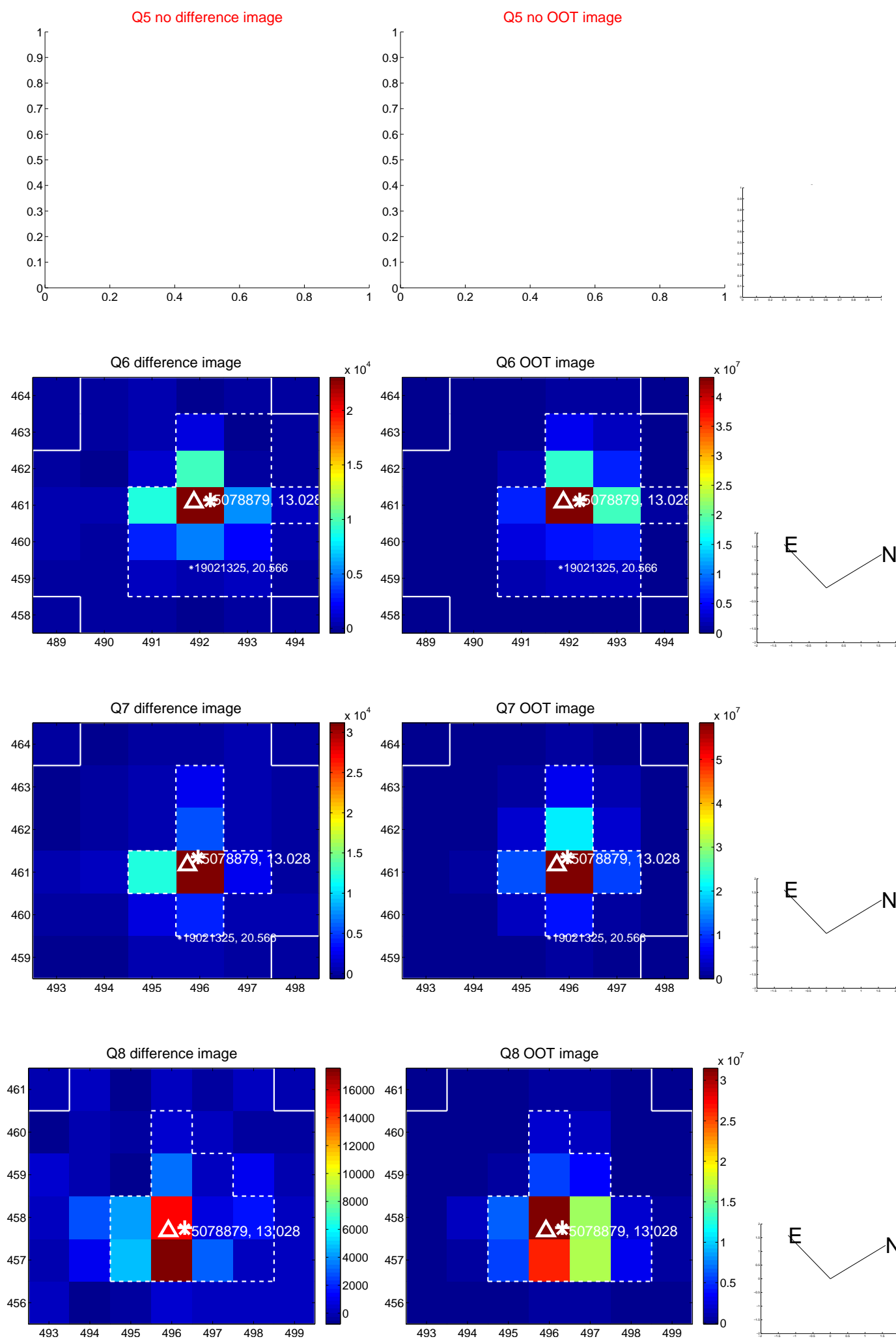


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

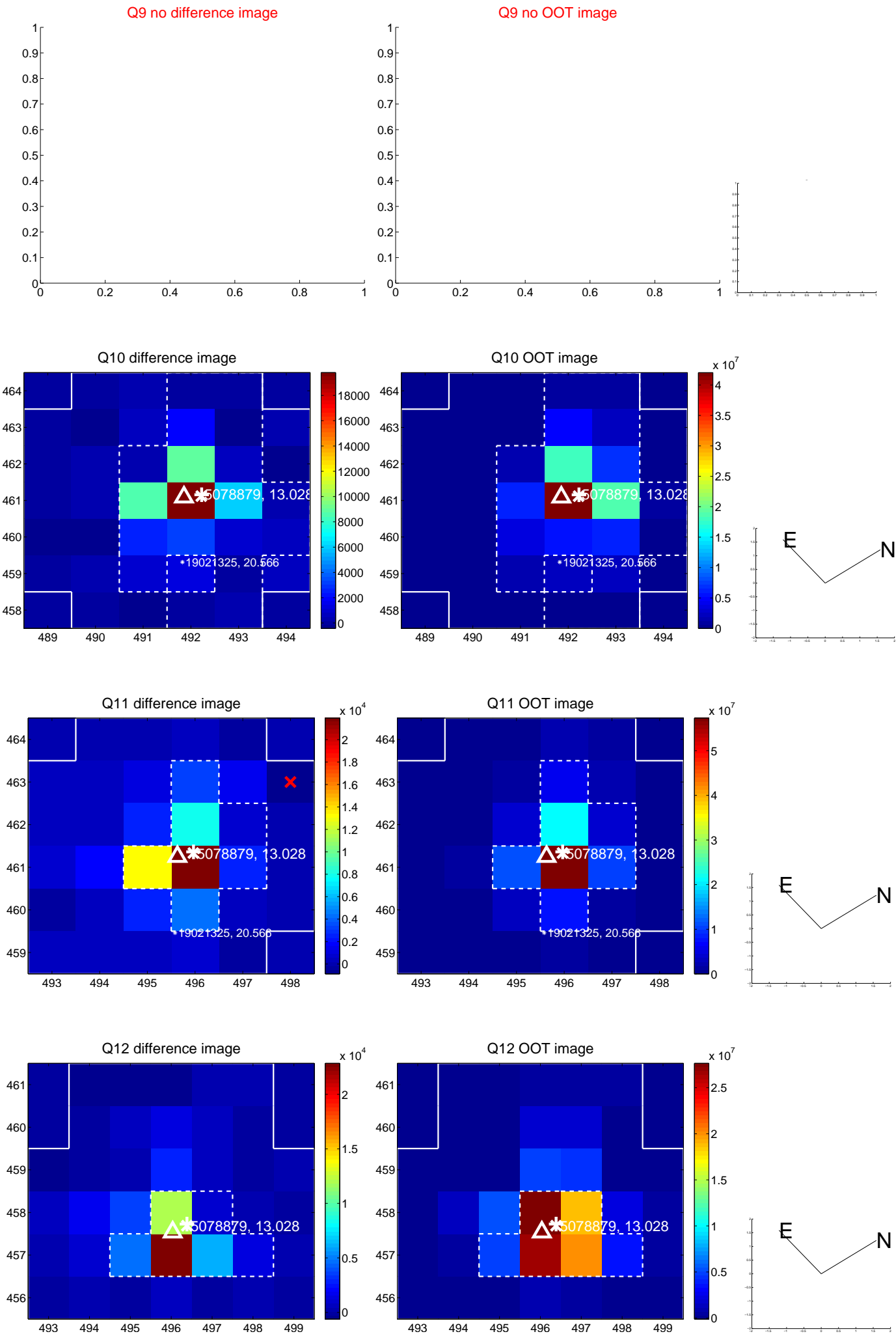
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



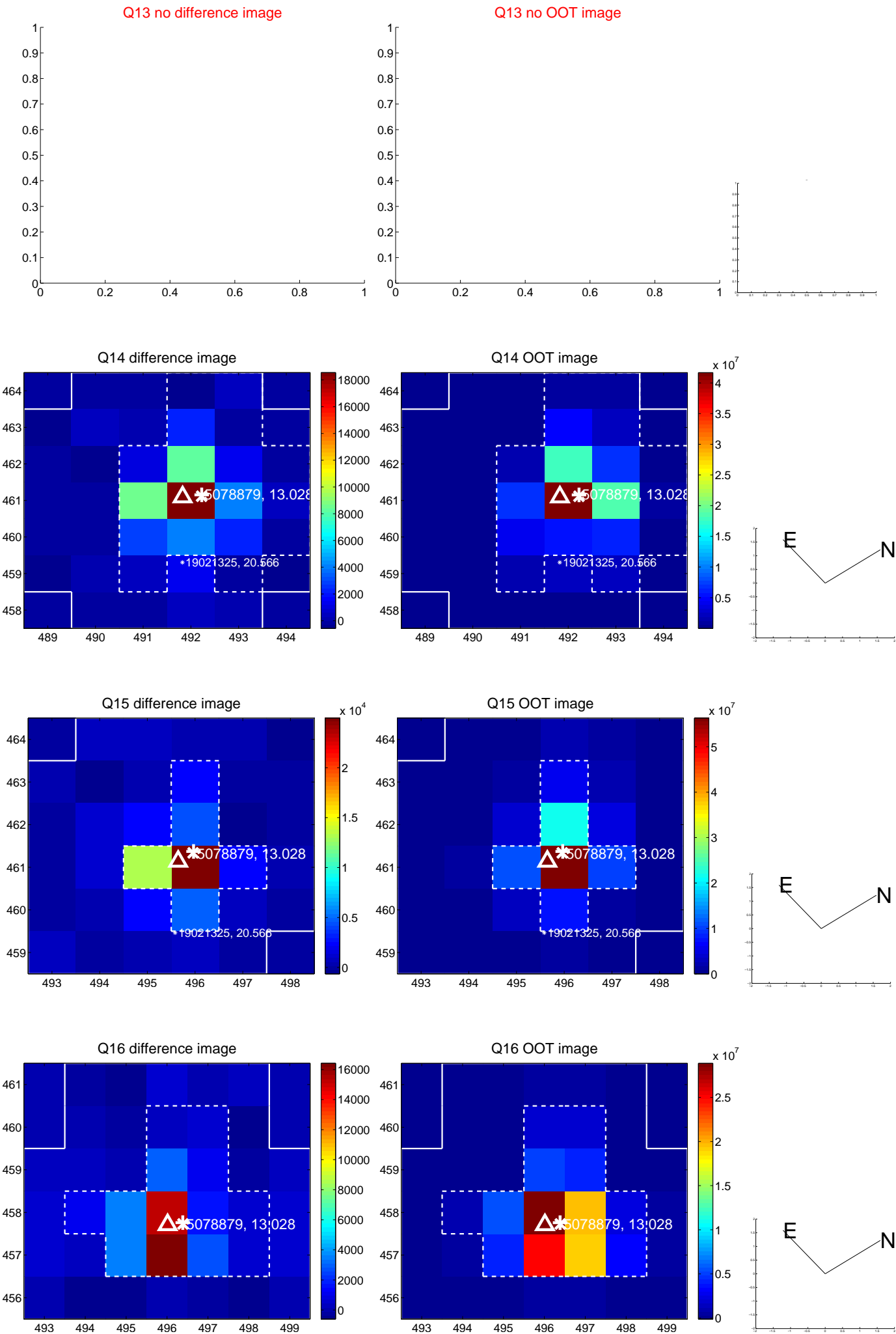
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



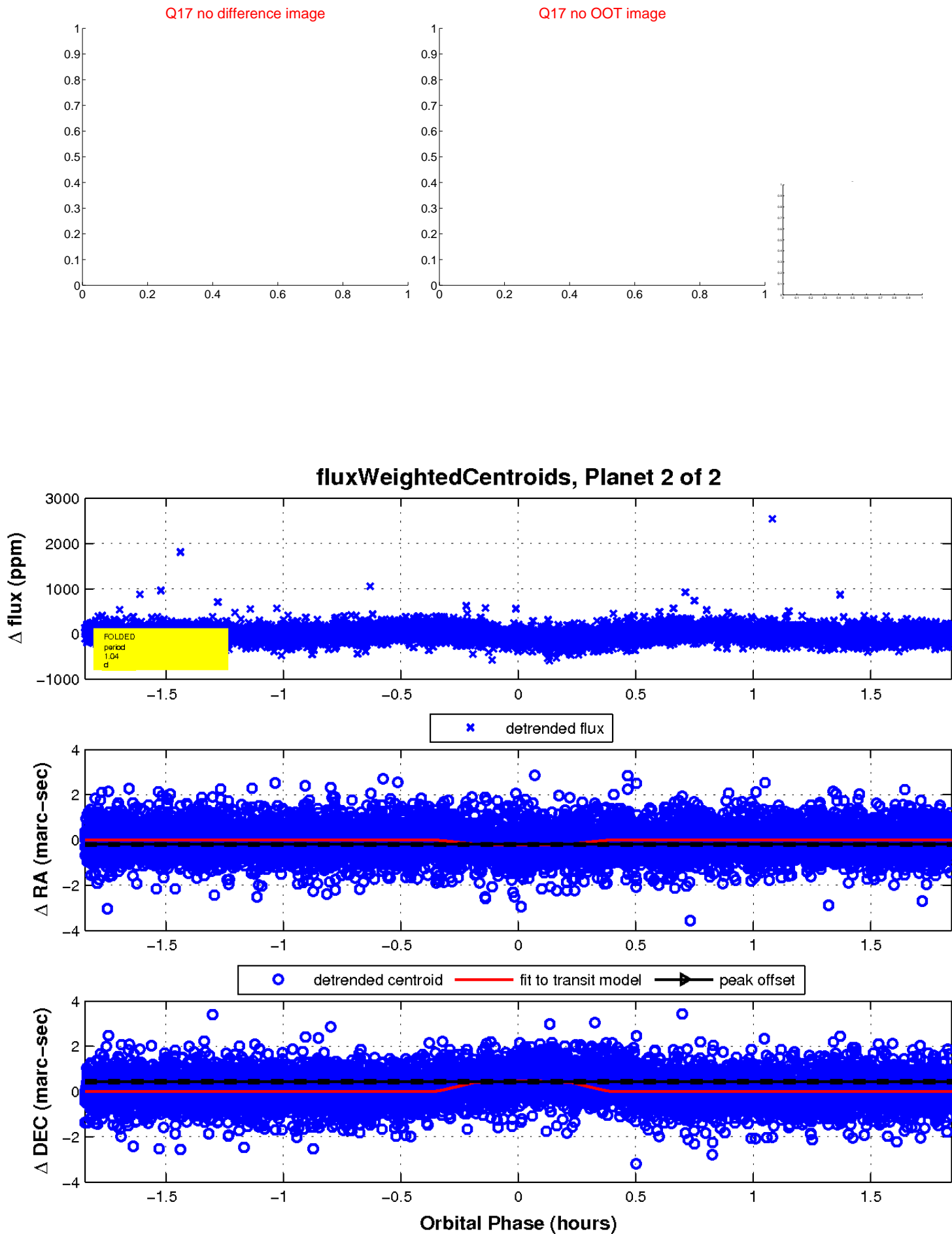
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

