

KIC 003734868

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})
003734868-01	OBS	0805.01	10.328037	133.268860	16925.2	7.748	589.4	592.3	1.02	5627	13.17	119.54
003734868-02	OBS	No	10.328104	139.420262	513.0	8.504	18.7	20.2	1.02	5627	2.73	119.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003734868-01	OBS	FP	0.05	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
003734868-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

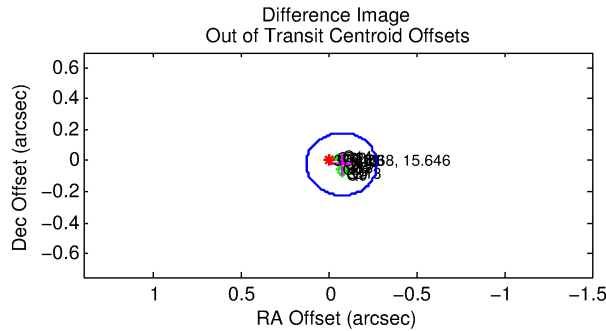
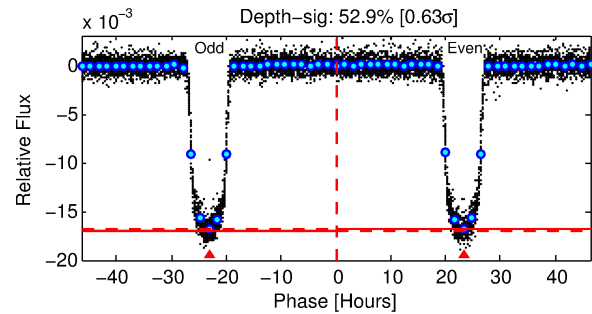
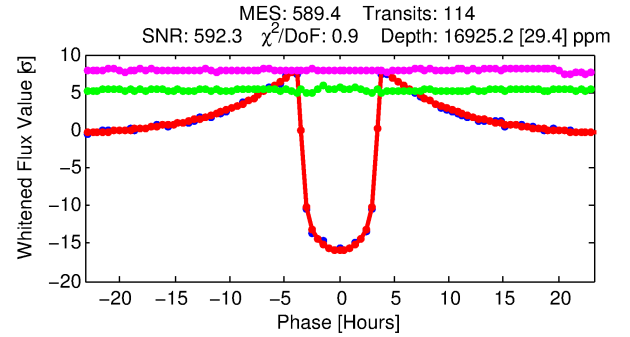
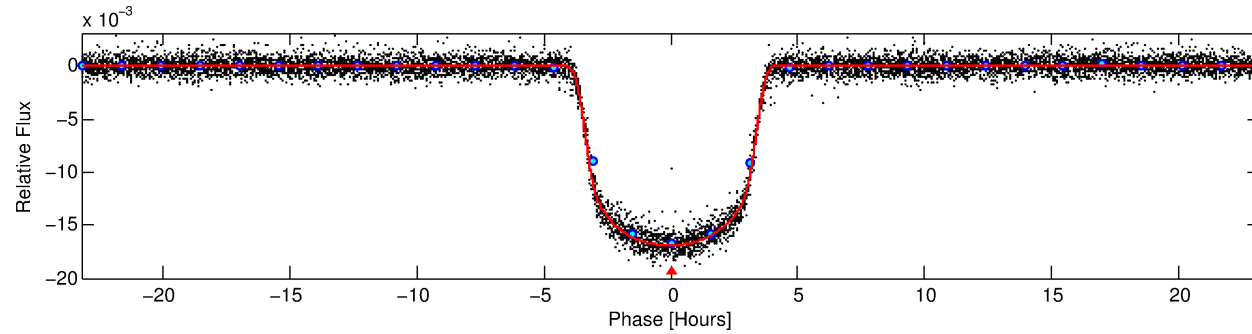
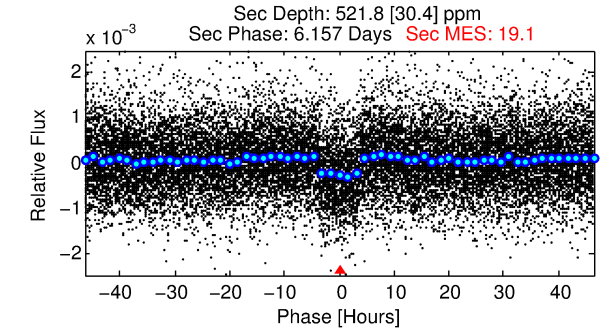
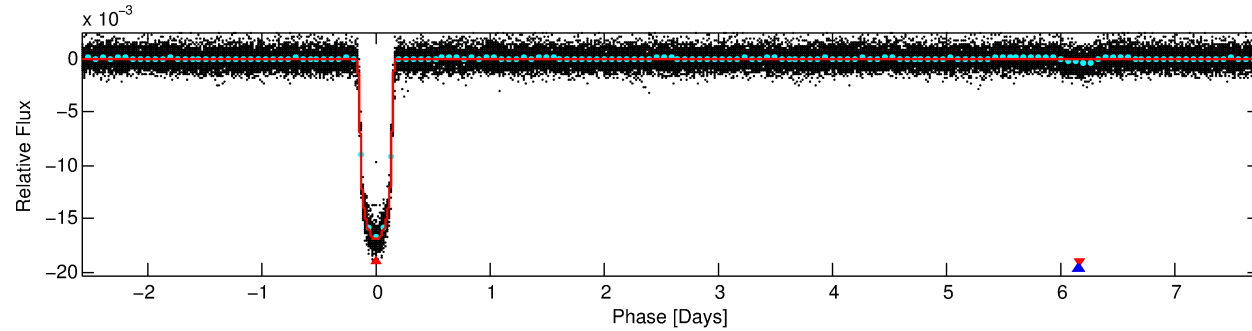
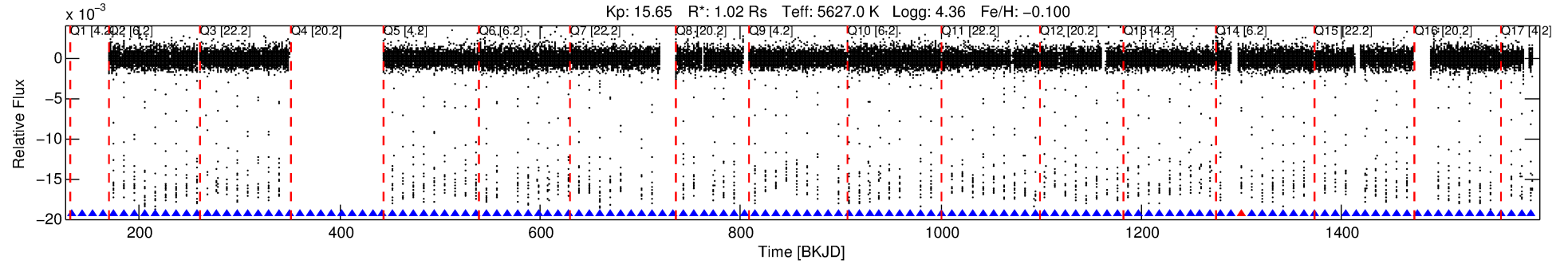
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003734868-01

No Significant Match Found

DV One-Page Summary

KIC: 3734868 Candidate: 1 of 2 Period: 10.328 d
KOI: K00805.01 Corr: 0.997



DV Fit Results:

Period = 10.32804 [0.00000] d
Epoch = 133.2689 [0.0002] BKJD
Rp/R* = 0.1179 [0.0003]
a/R* = 11.35 [0.11]
b = 0.11 [0.09]
Seff = 119.54 [42.10]
Teq = 843 [74] K
Rp = 13.17 [3.60] Re
a = 0.0888 [0.0203] AU
Ag = 13.04 [4.38] [2.75 σ]
Teffp = 2477 [83] K [14.70 σ]

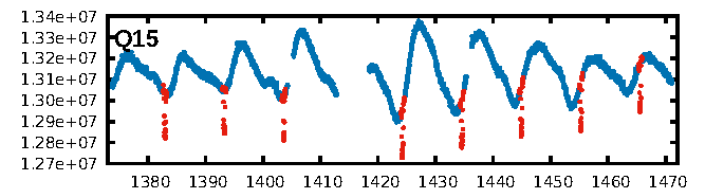
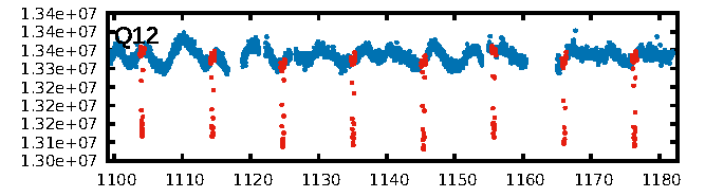
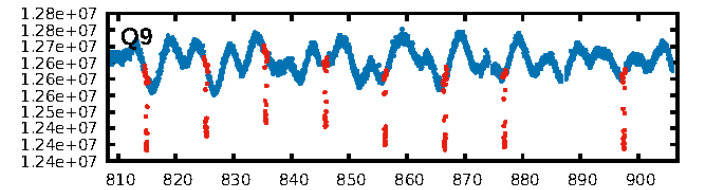
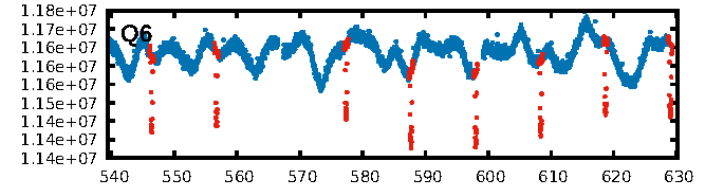
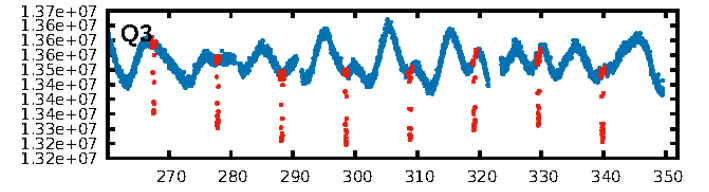
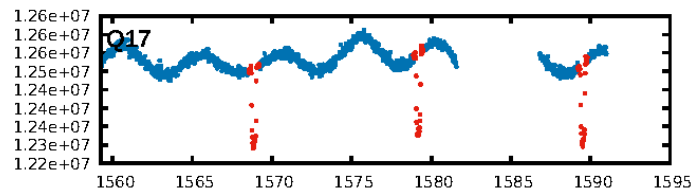
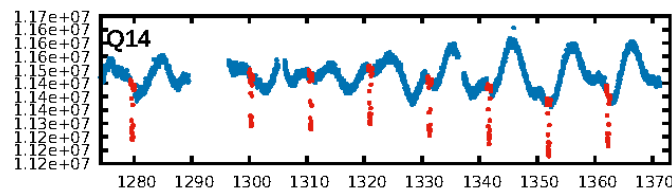
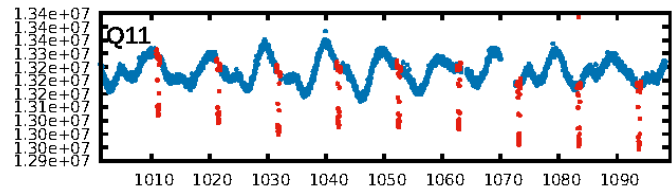
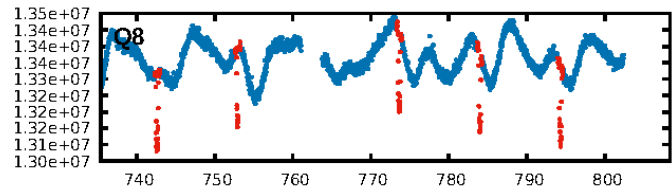
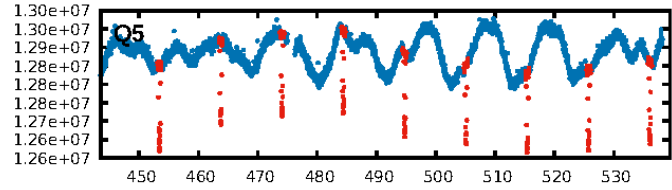
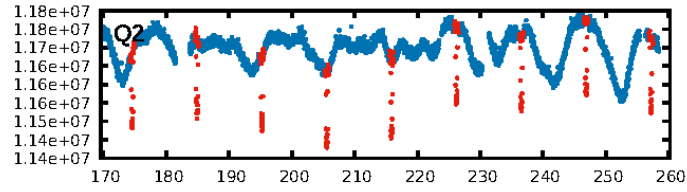
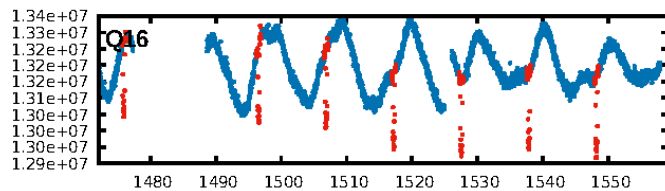
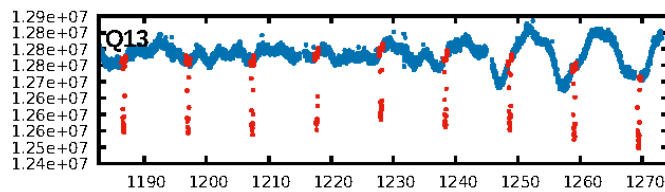
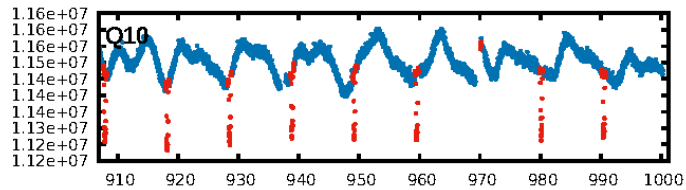
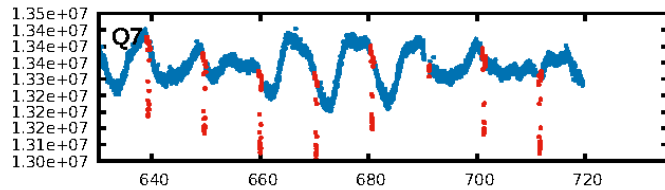
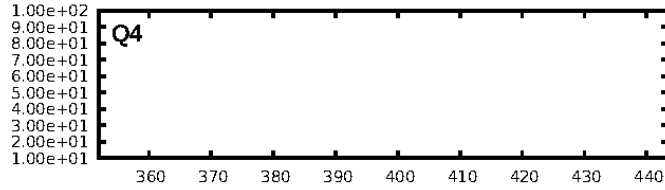
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [110/111]
GhostDiagnostic-chr: 2.377
Centroid-sig: 0.0%
Centroid-so: 0.141 arcsec [8.69 σ]
OotOffset-rm: 0.075 arcsec [1.12 σ]
KicOffset-rm: 0.053 arcsec [0.76 σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

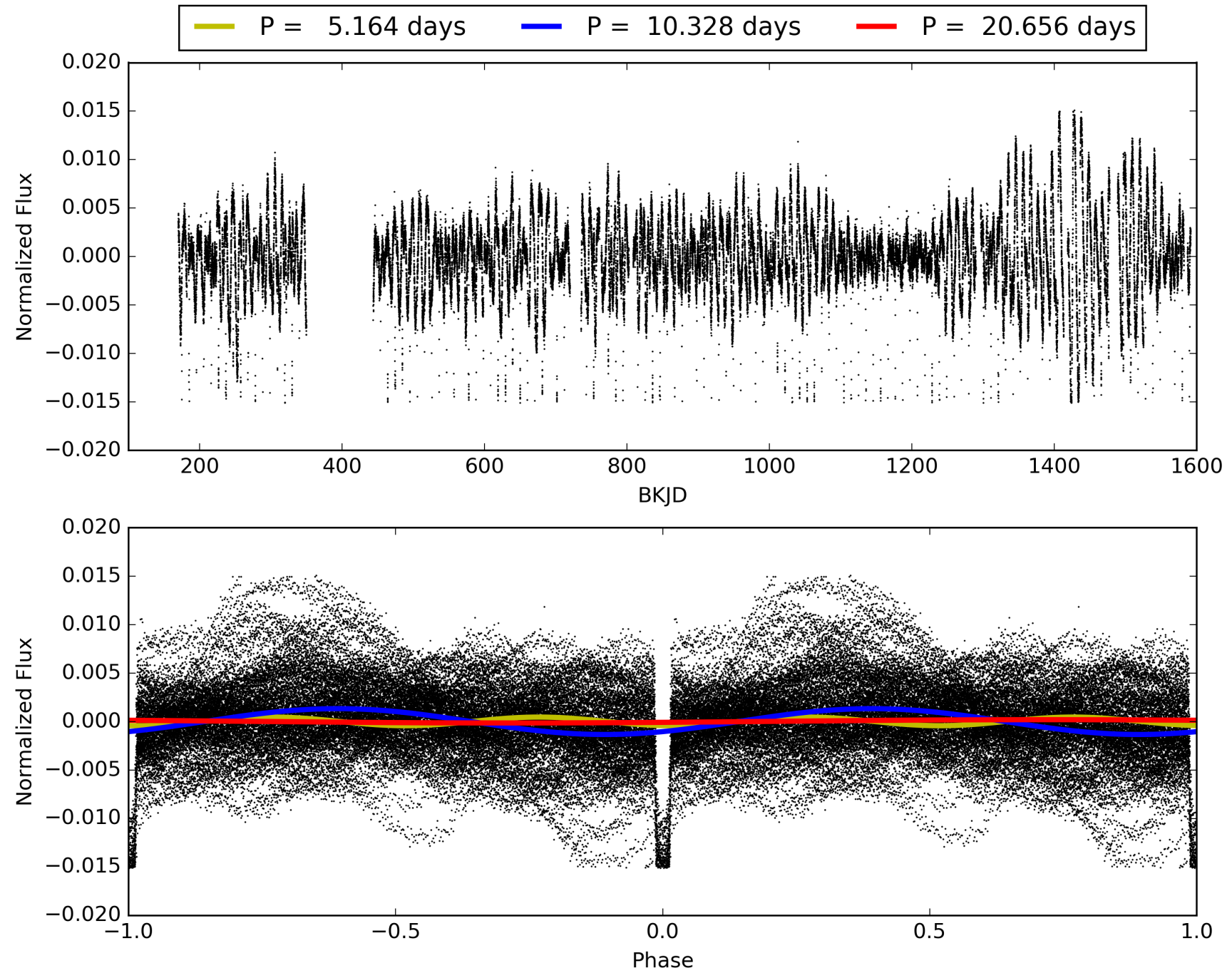
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:00:45 Z

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

TCE 003734868-01, PDC Light Curves

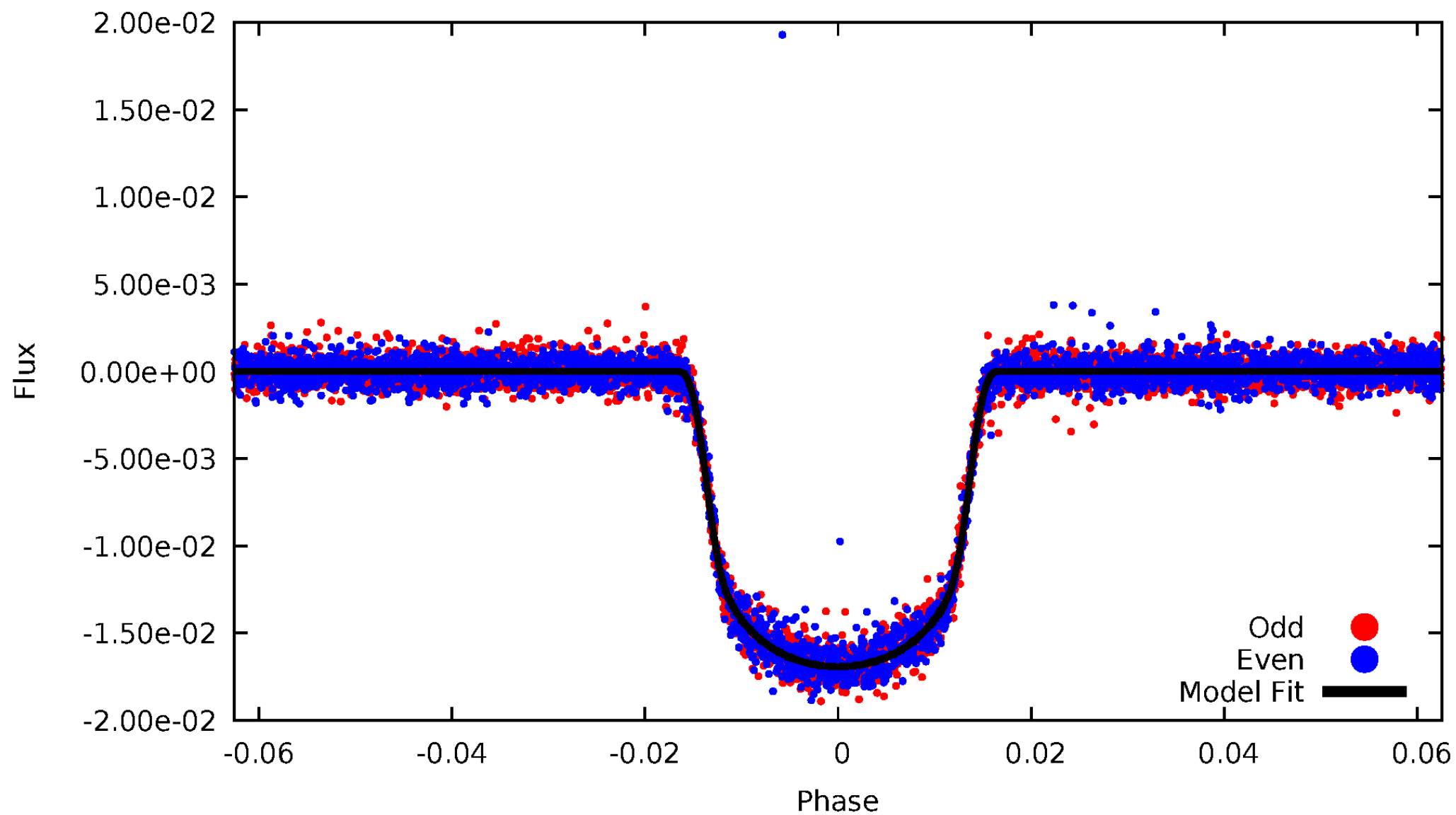


TCE 003734868-01



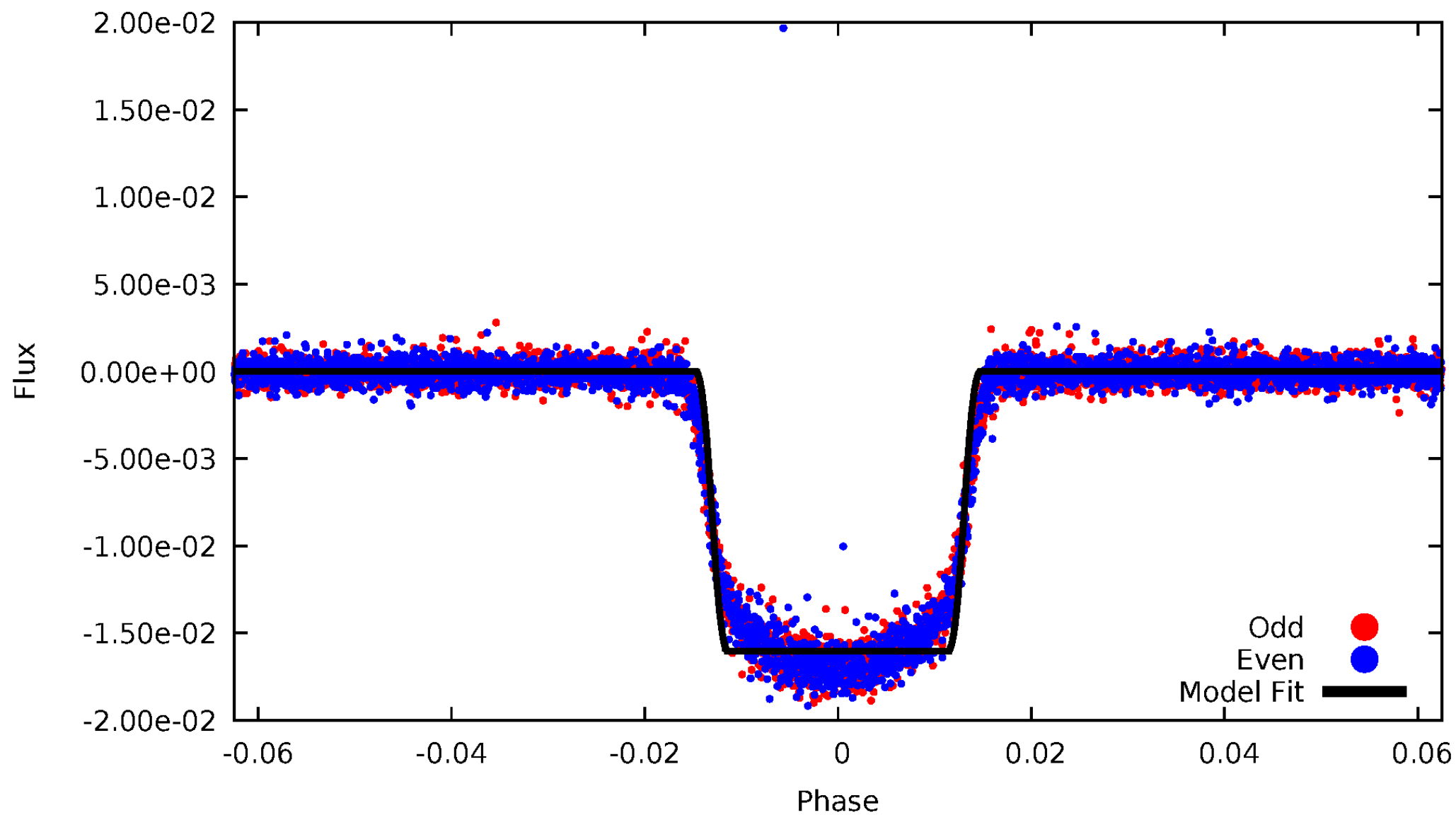
DV Odd/Even

TCE 003734868-01



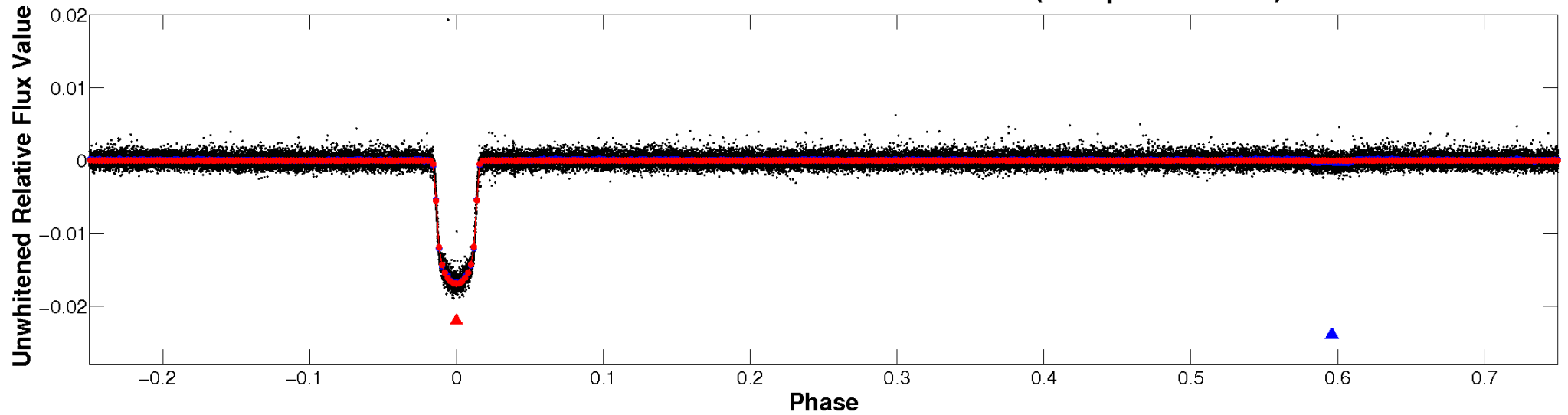
ALT Odd/Even

TCE 003734868-01

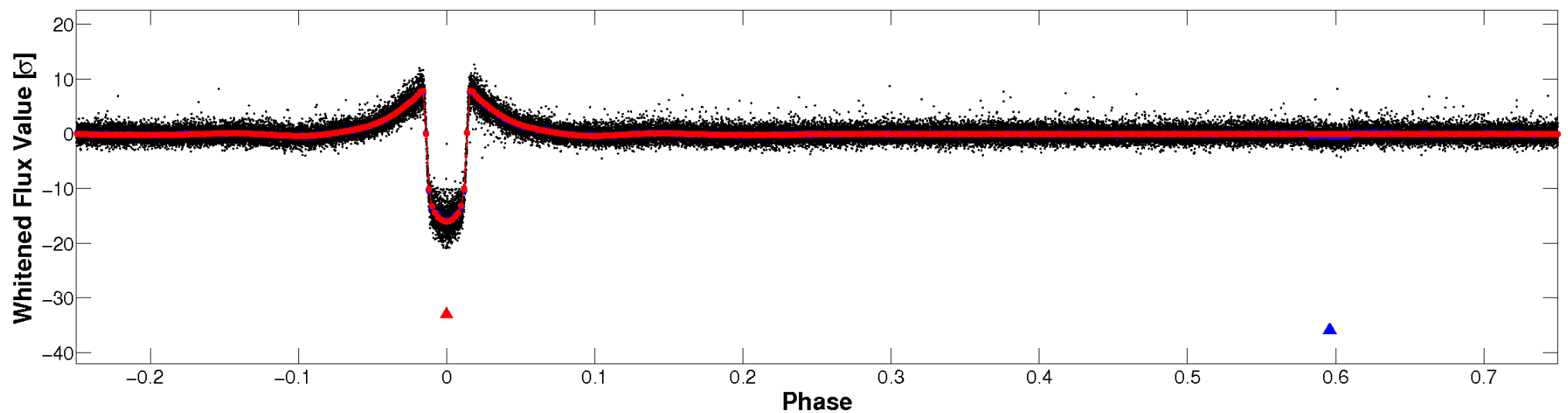


Non-Whitened Vs. Whitened Light Curve

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

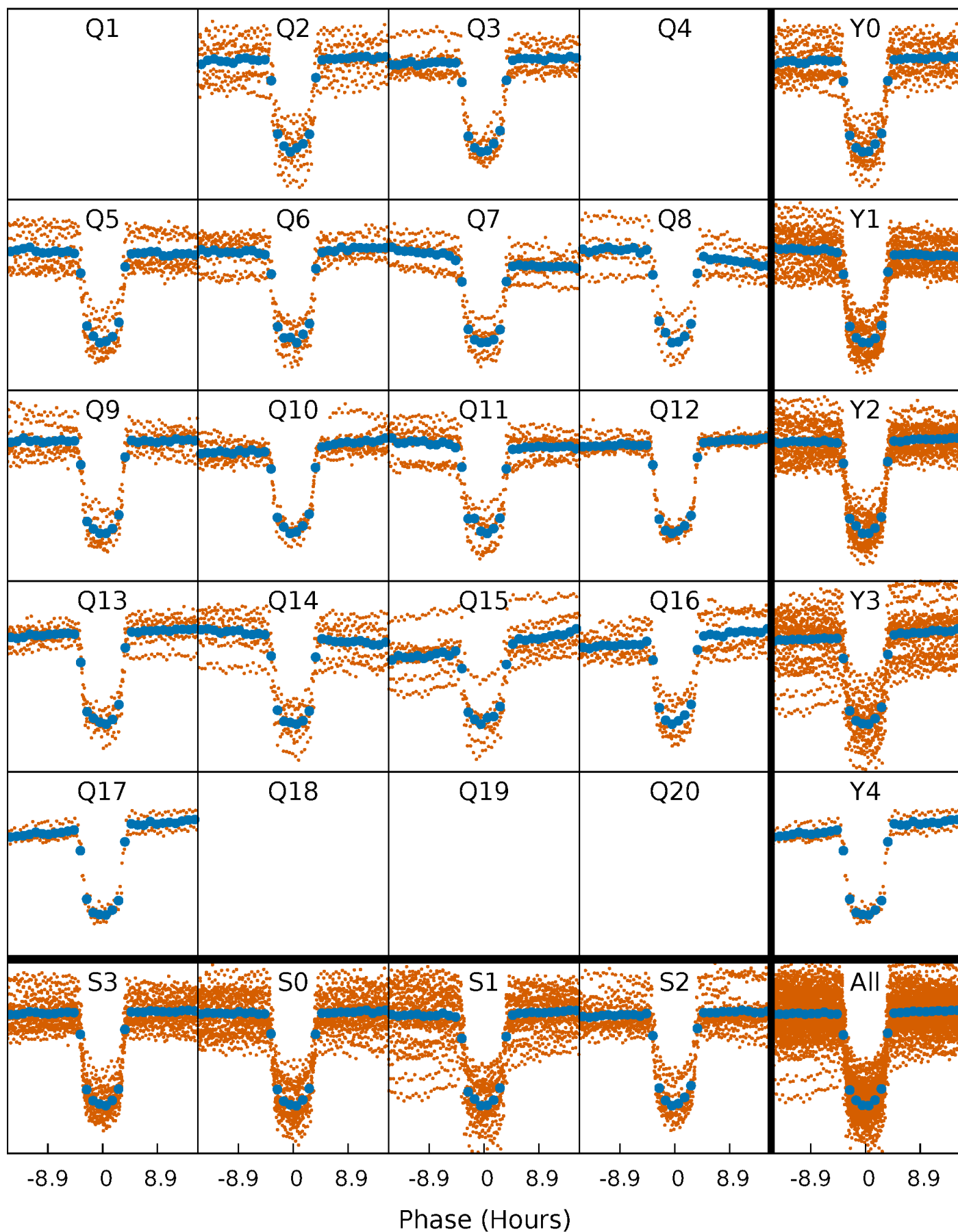


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



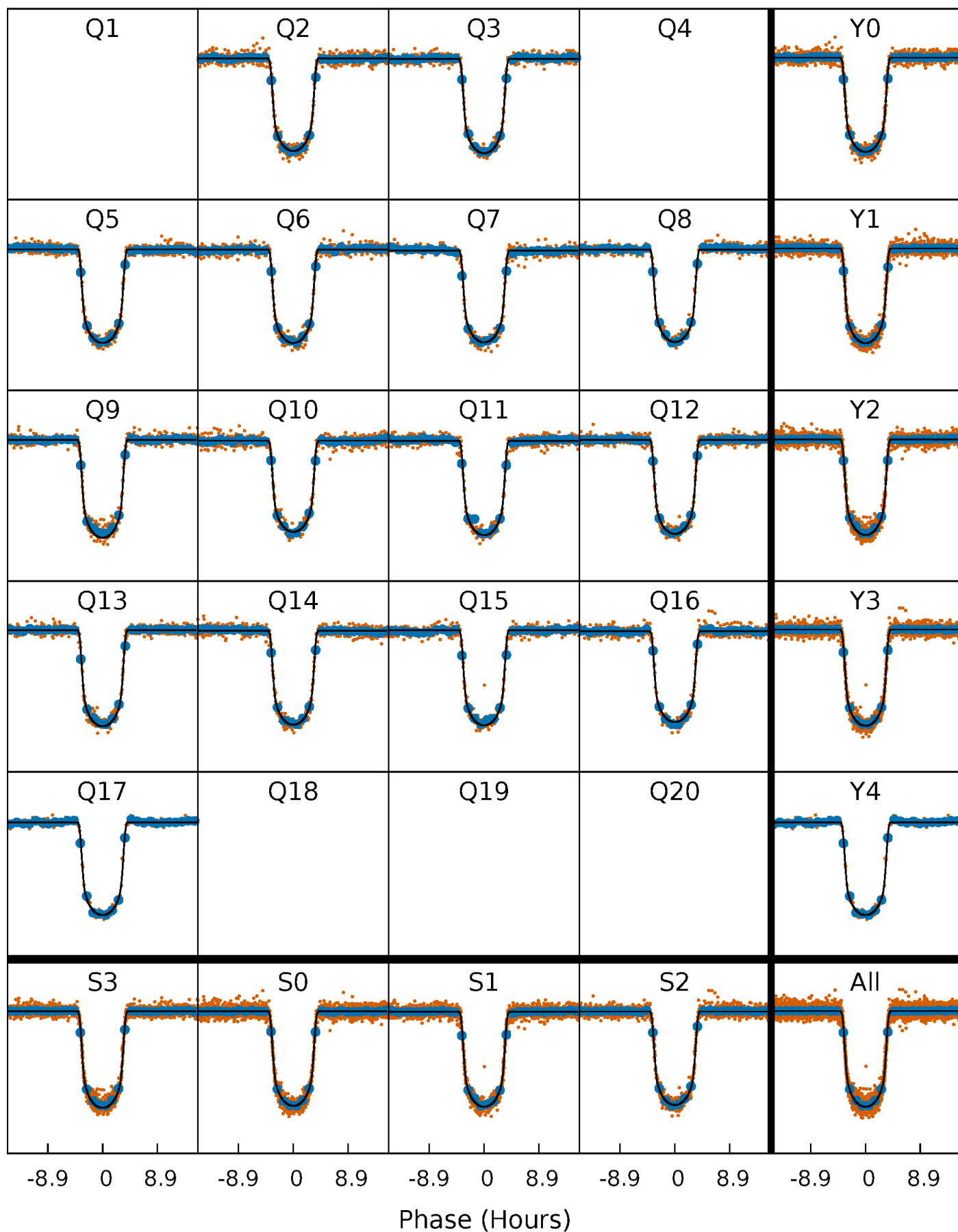
PDC Quarter-Phased Transit Curves

TCE 003734868-01 P= 10.328037 Days $T_0=133.268860$ (BKJD)



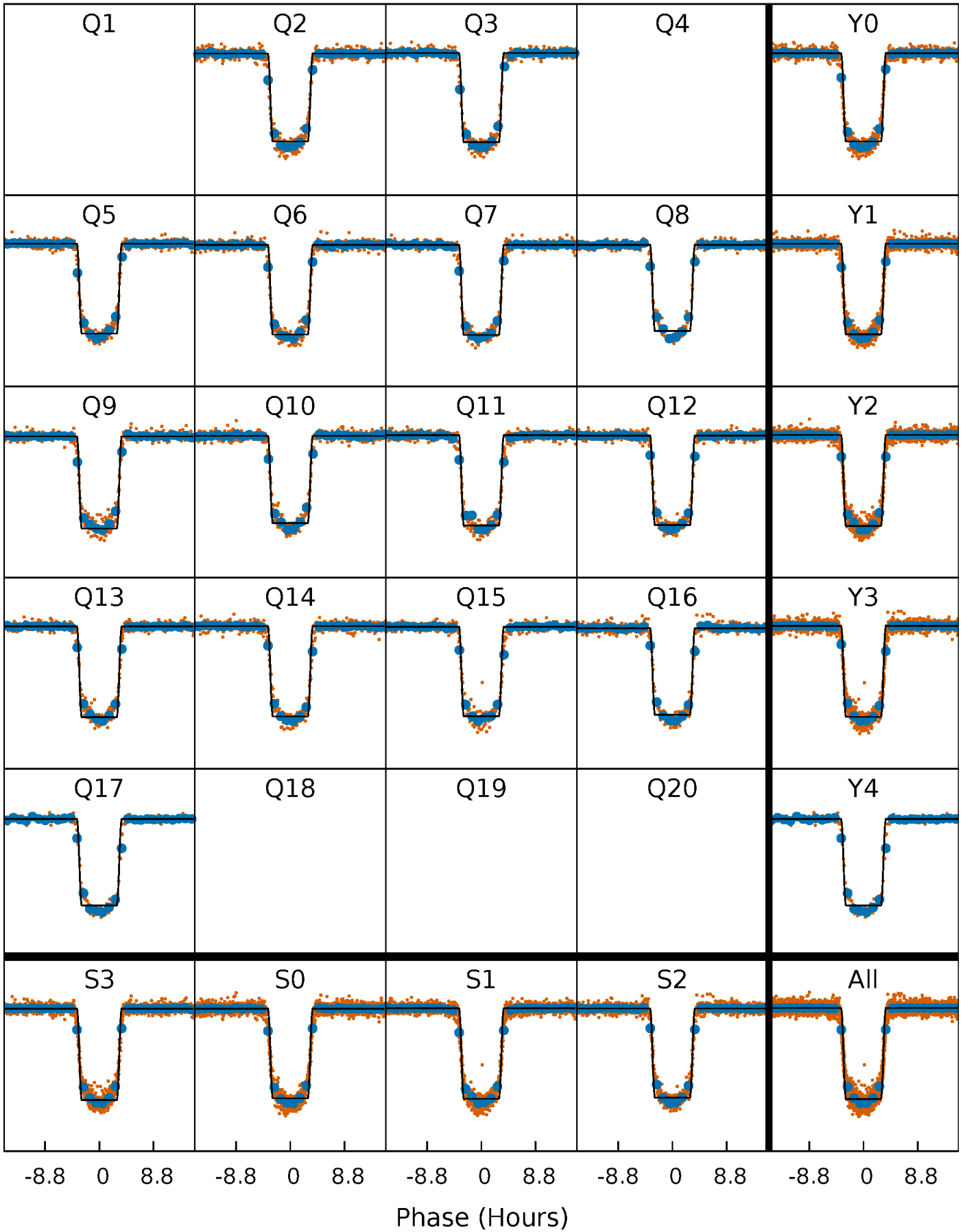
DV Quarter-Phased Transit Curves

TCE 003734868-01 P= 10.328037 Days $T_0=133.268860$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

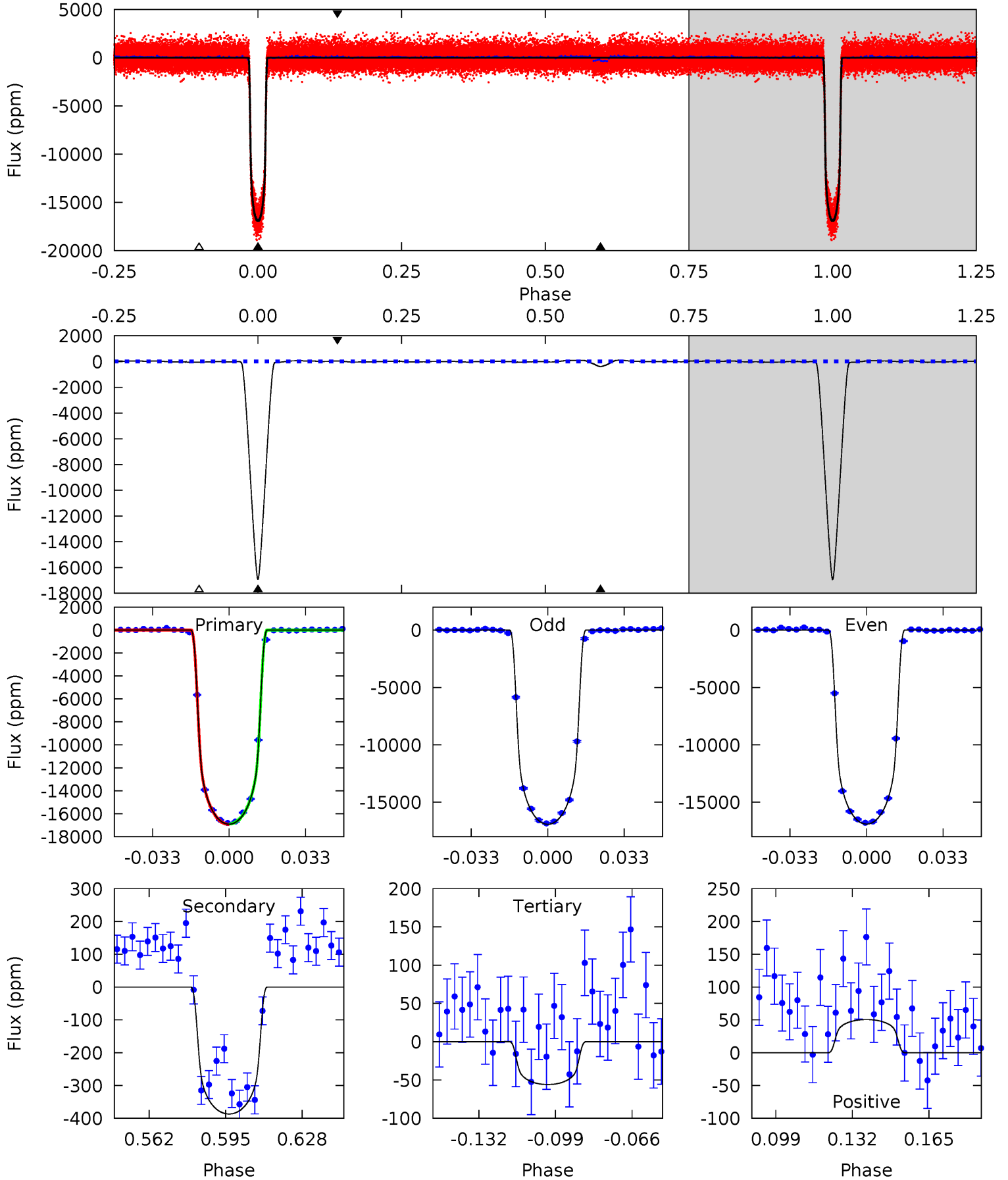
TCE 003734868-01 P= 10.327980 Days $T_0=133.272871$ (BKJD)



DV Model-Shift Uniqueness Test

003734868-01, P = 10.328037 Days, E = 133.268860 Days

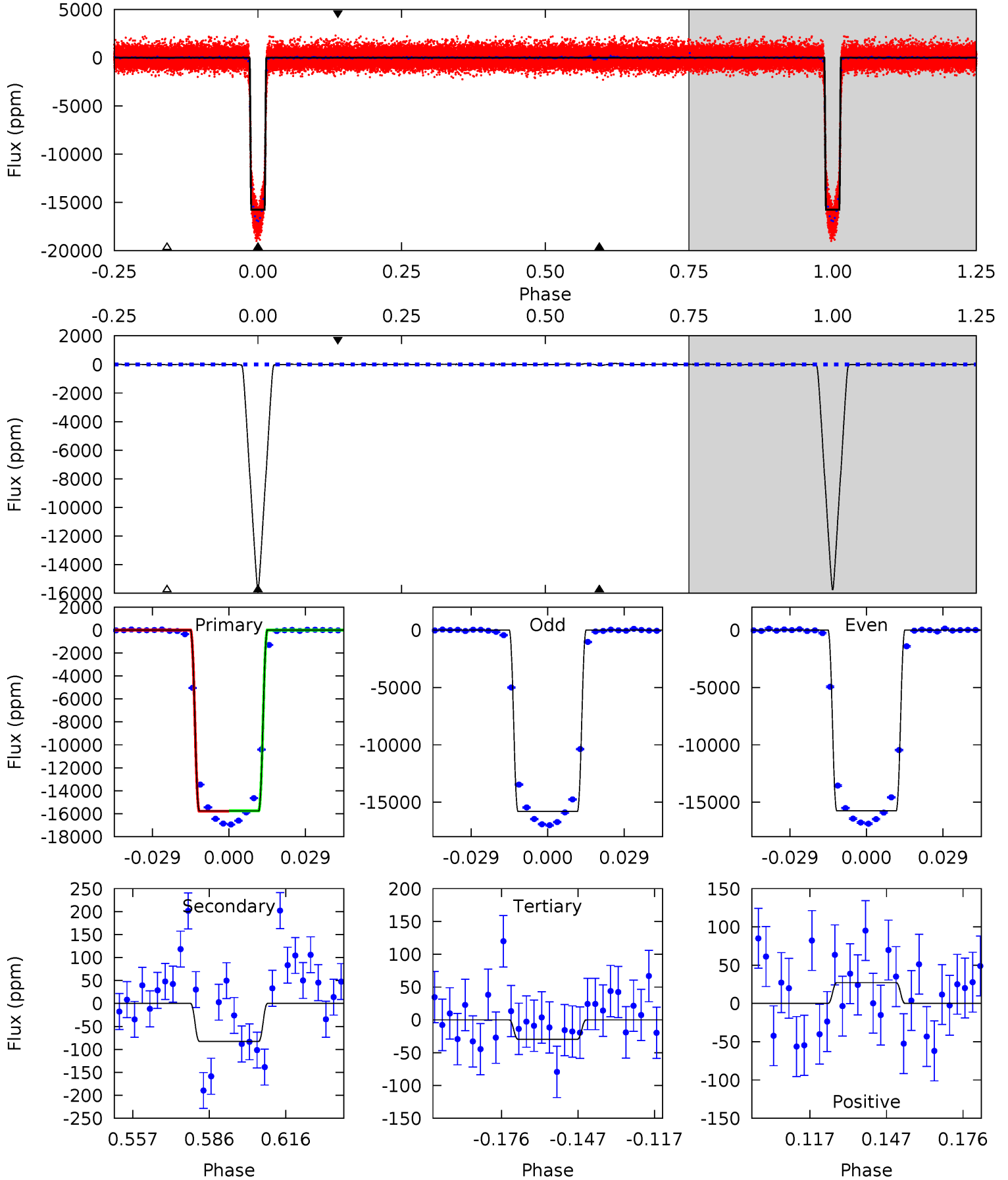
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1119	25.6	3.70	3.34	4.79	2.13	2.15	1115	1116	21.9	22.3	0.55	1.00	0.01	1.37



Alt Model-Shift Uniqueness Test

003734868-01, P = 10.327980 Days, E = 133.272871 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1145	5.99	2.15	1.98	4.82	2.18	0.72	1142	1143	3.84	4.01	1.68	1.00	0.00	1.79



Stellar Parameters For KIC 003734868

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5627^{+169}_{-169}	$4.359^{+0.180}_{-0.180}$	$-0.100^{+0.300}_{-0.250}$	$1.024^{+0.280}_{-0.186}$	$0.874^{+0.125}_{-0.073}$	$1.146^{+0.855}_{-0.565}$
	+3%/-3%	+4%/-4%	+300%/-250%	+27%/-18%	+14%/-8%	+75%/-49%
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 003734868-01 / KOI 0805.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-387 ± 15	$13.07^{+2.18}_{-1.29}$	1176^{+88}_{-72}	2960^{+59}_{-57}	$9.868^{+2.256}_{-2.423}$
Alt.	-82 ± 14	$14.07^{+2.23}_{-1.63}$	1171^{+94}_{-76}	2346^{+58}_{-80}	$1.788^{+0.597}_{-0.485}$

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 $A_{obs} \gg 1.0$

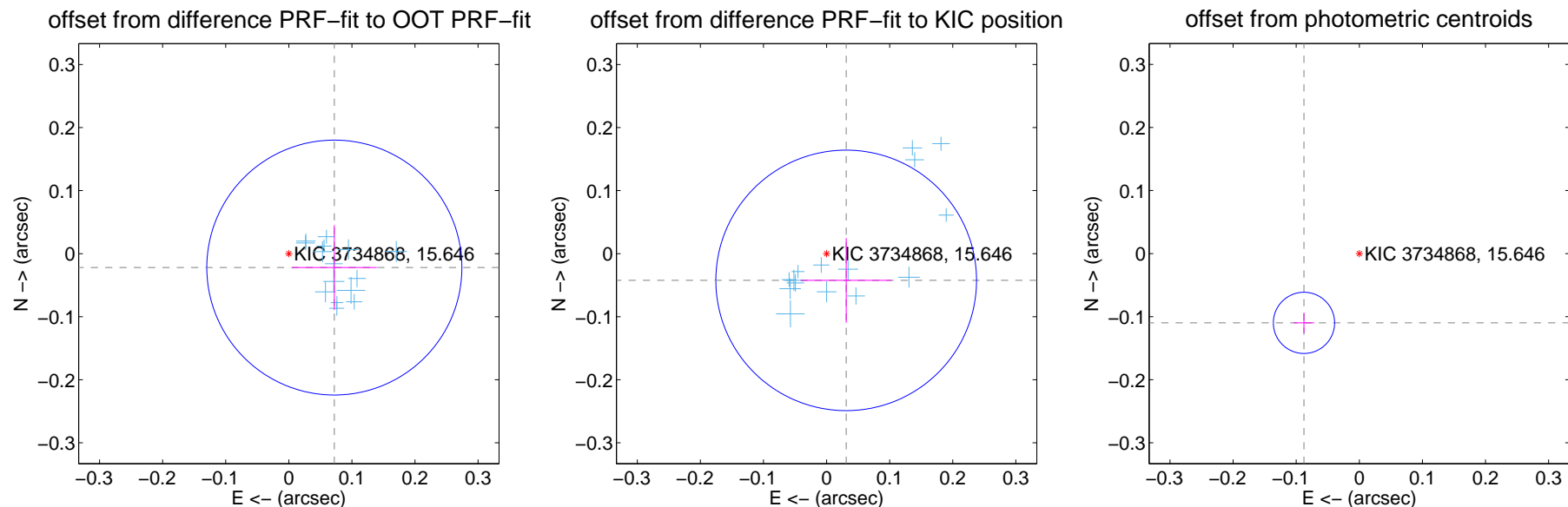
DV Centroid Data

Supplemental centroid analysis for 003734868-01. Kepler magnitude: 15.65. Transit SNR 592.31

There are 15 quarters with good PRF difference image offsets

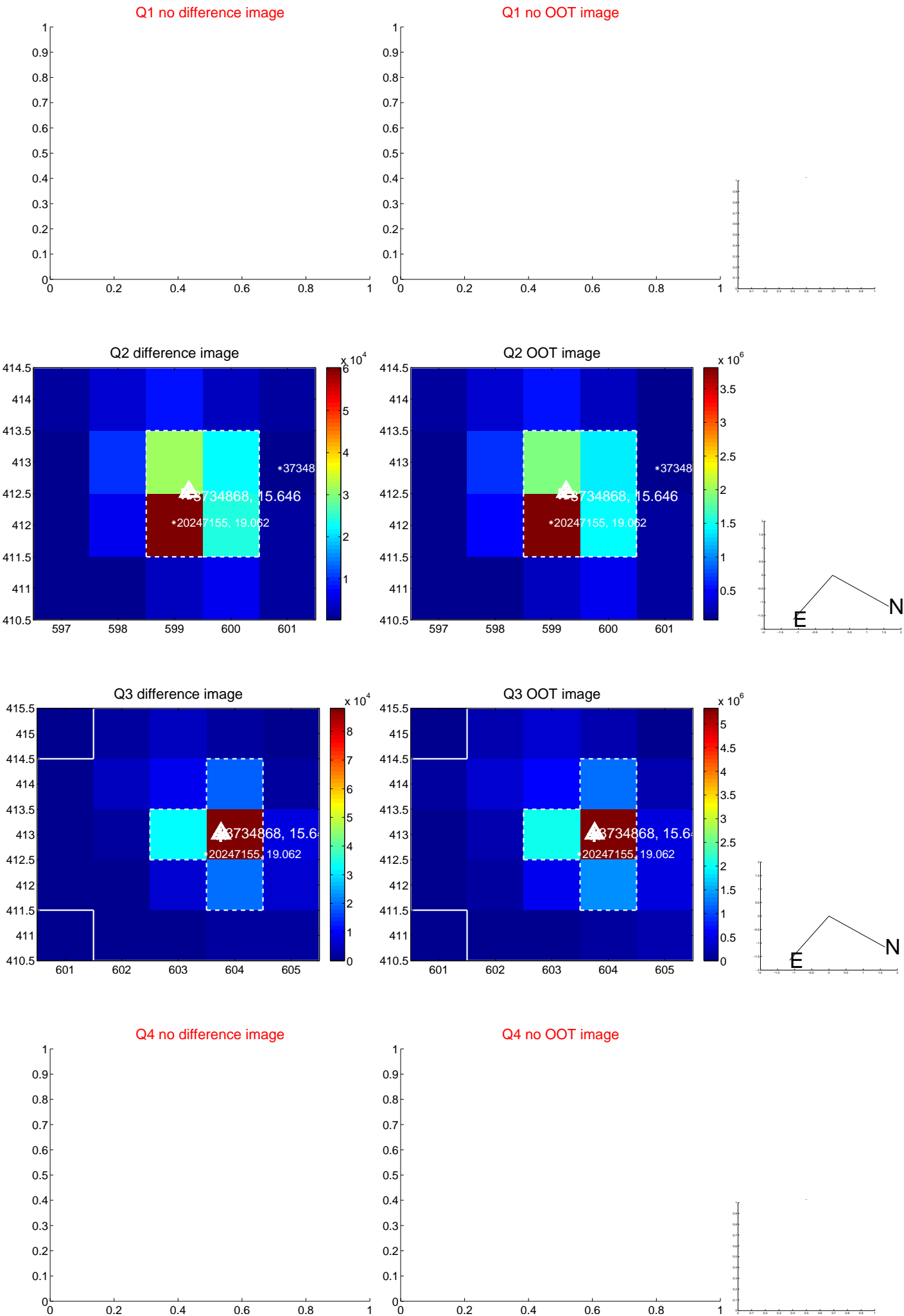
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.075 ± 0.067	1.12	-0.072 ± 0.067	-0.022 ± 0.067
PRF-fit source offset from KIC position	0.053 ± 0.069	0.76	-0.031 ± 0.072	-0.042 ± 0.067
photometric centroid source offset	0.14 ± 0.02	8.69	0.09 ± 0.02	-0.11 ± 0.02

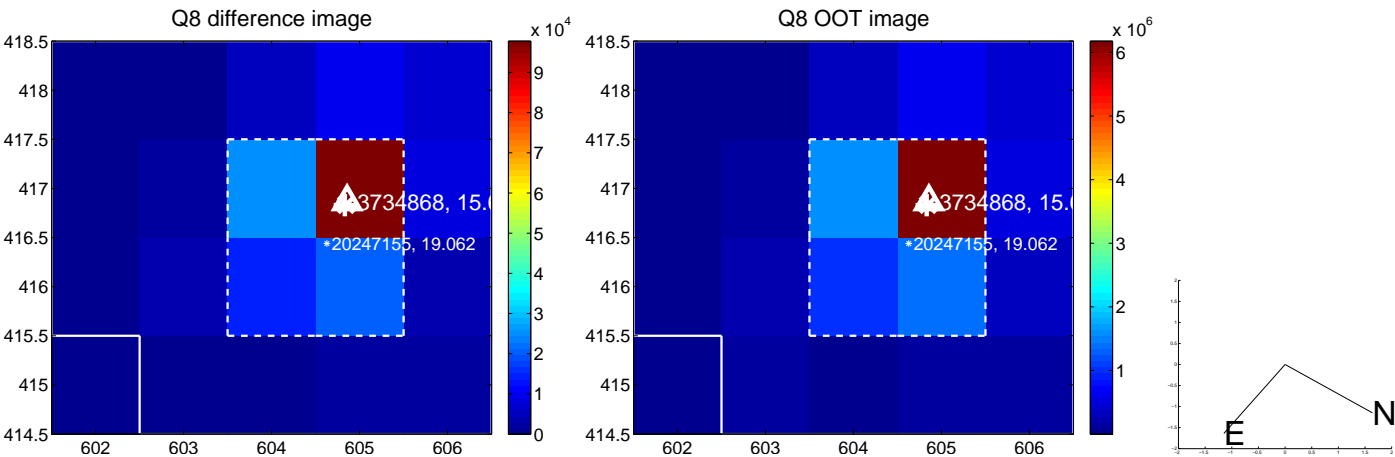
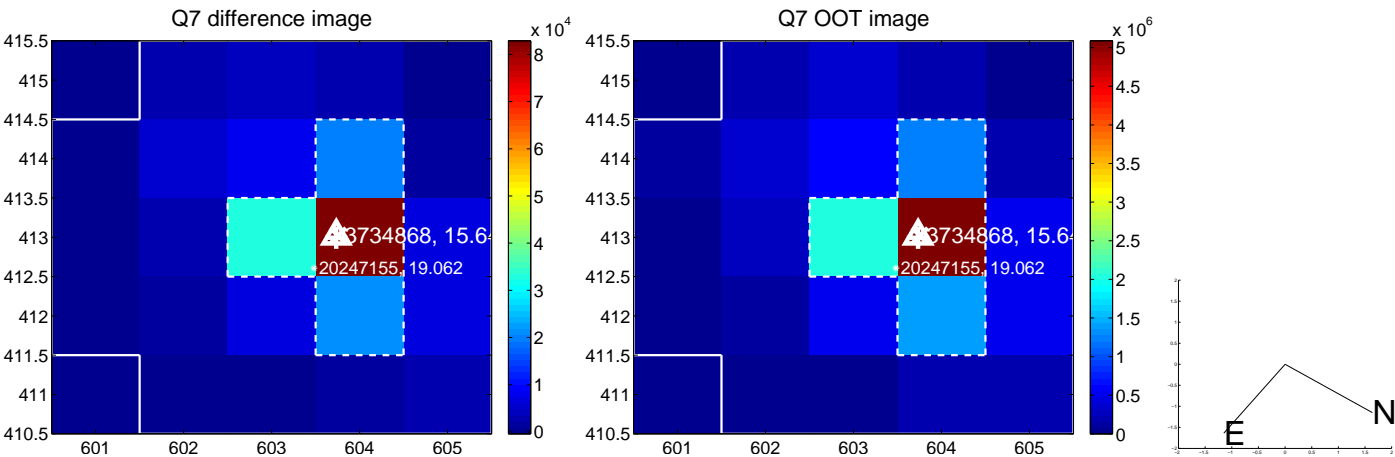
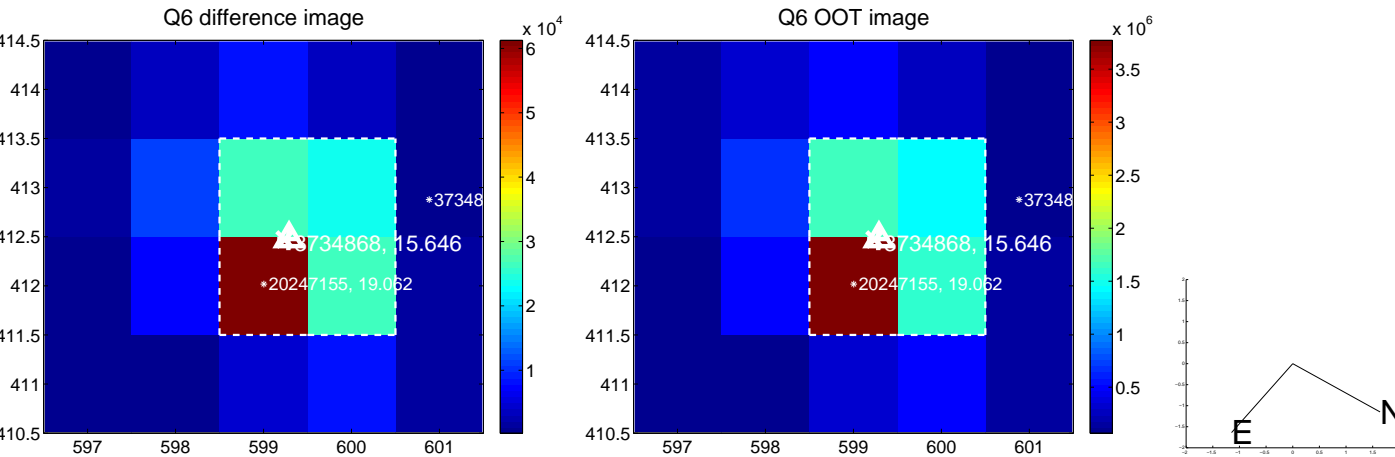
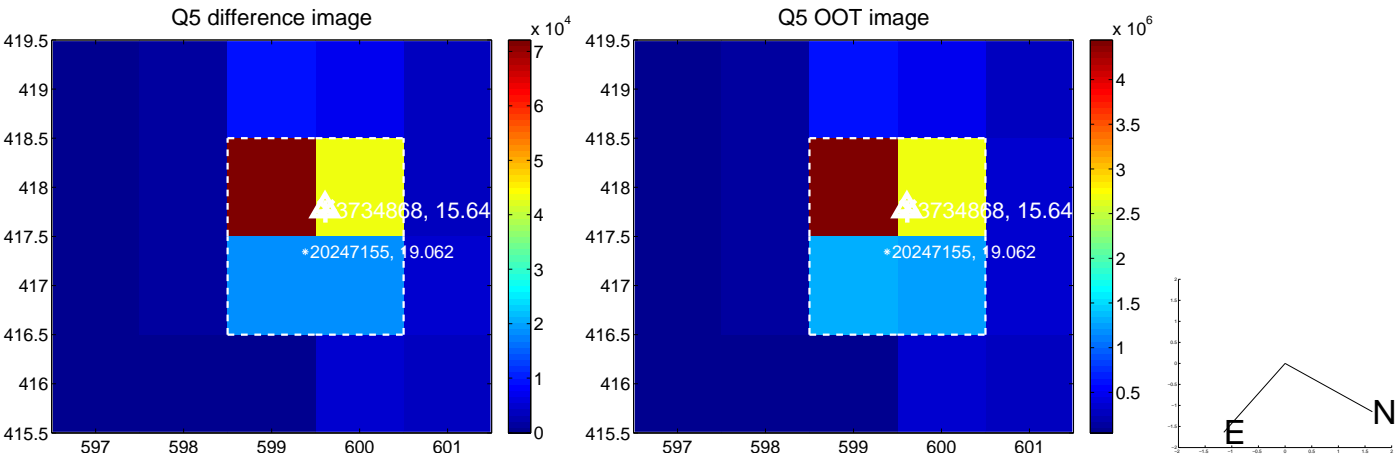


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

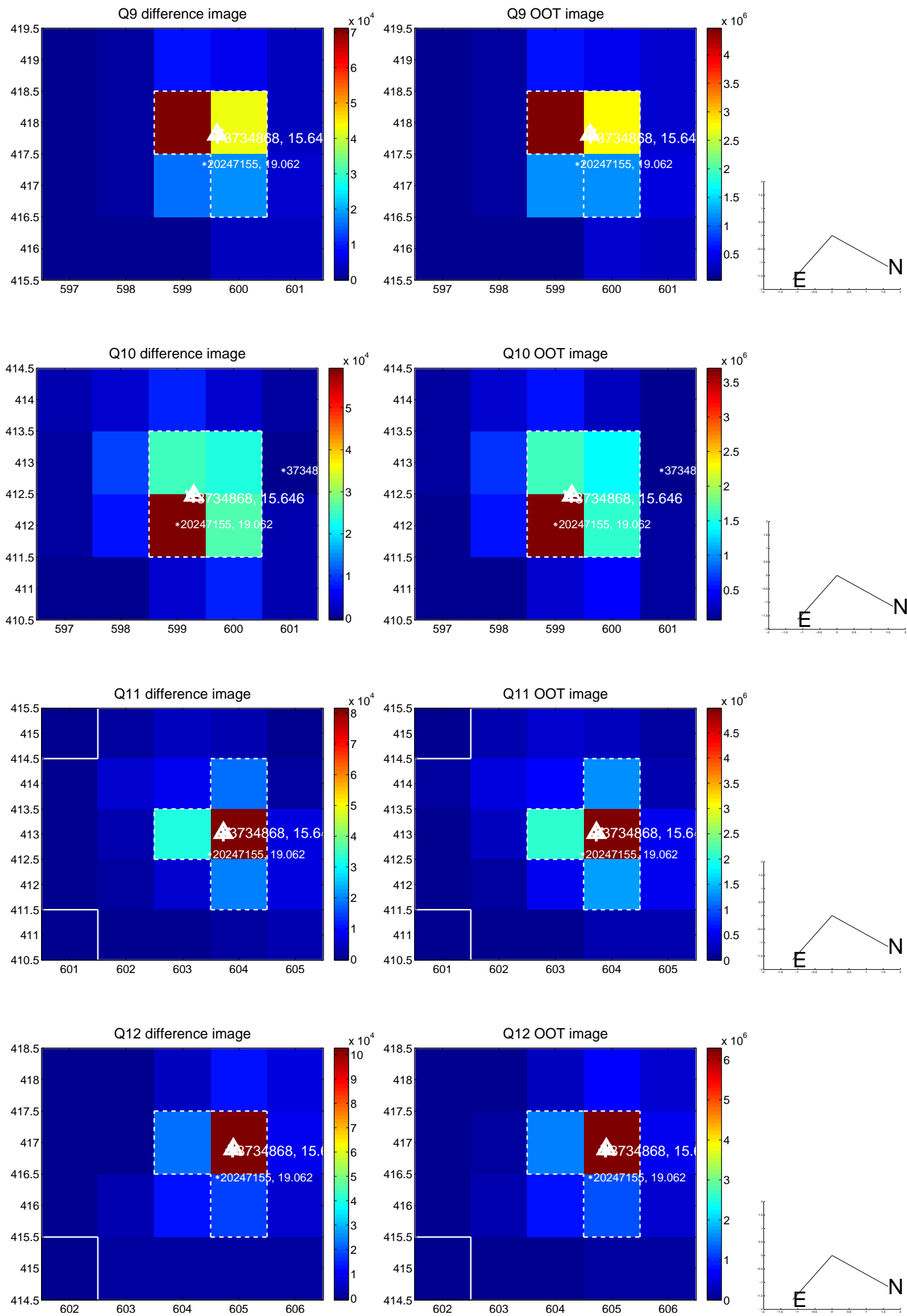
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



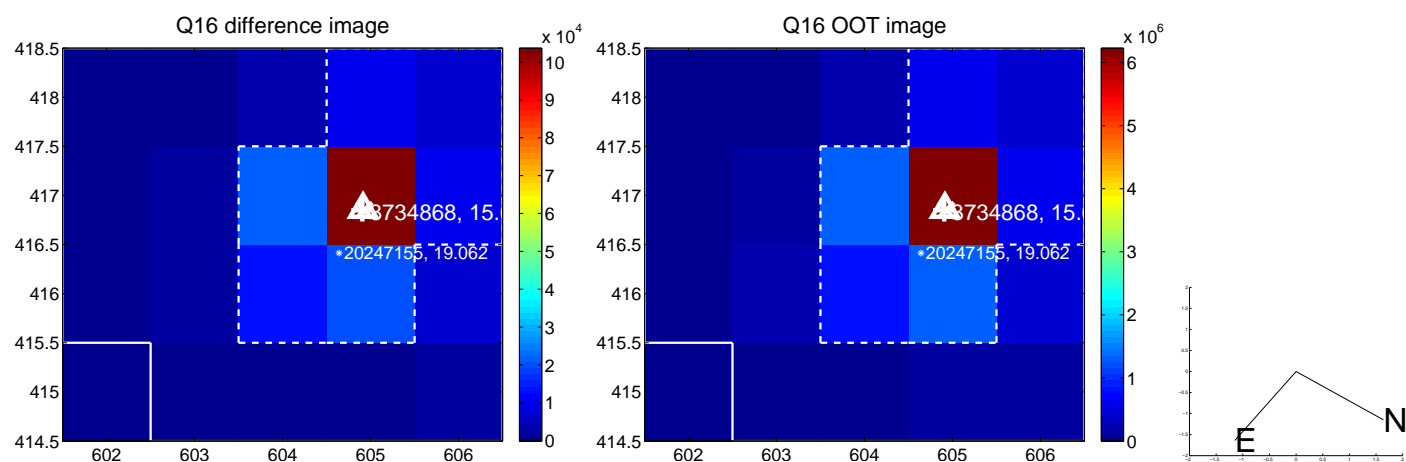
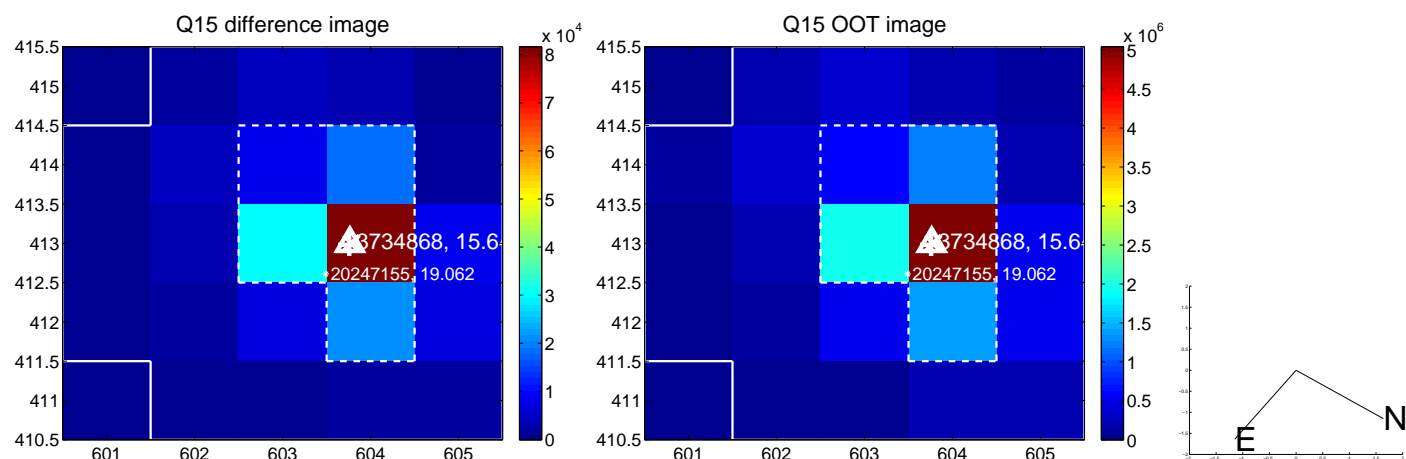
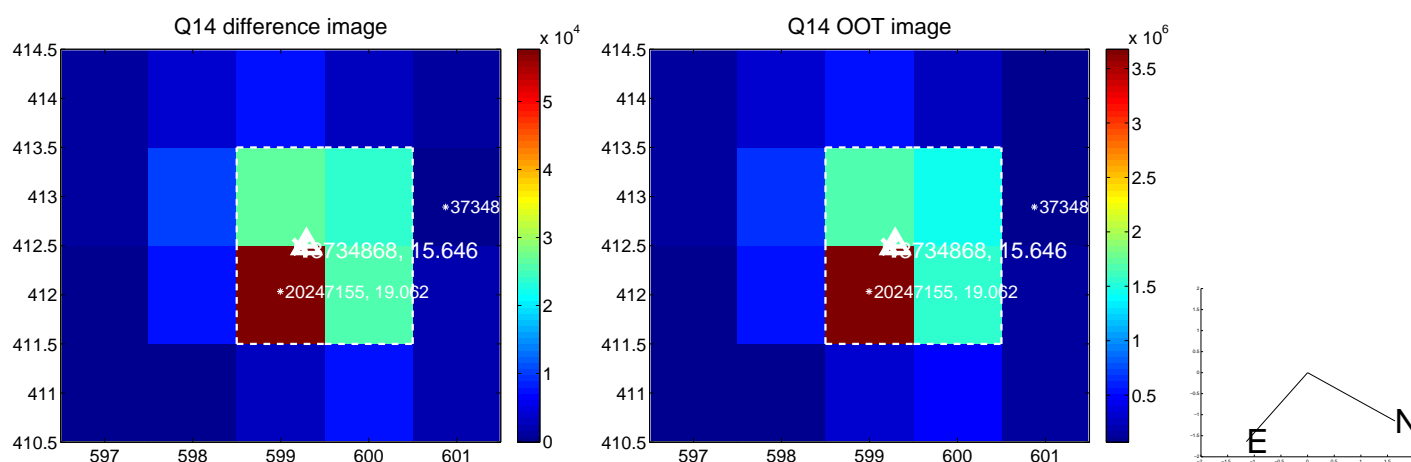
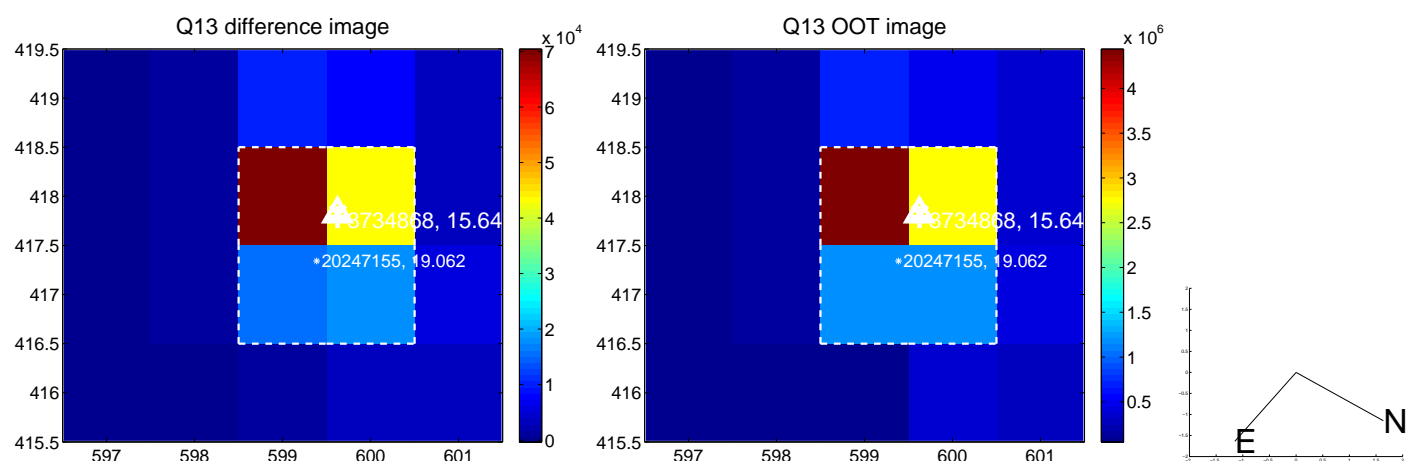
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



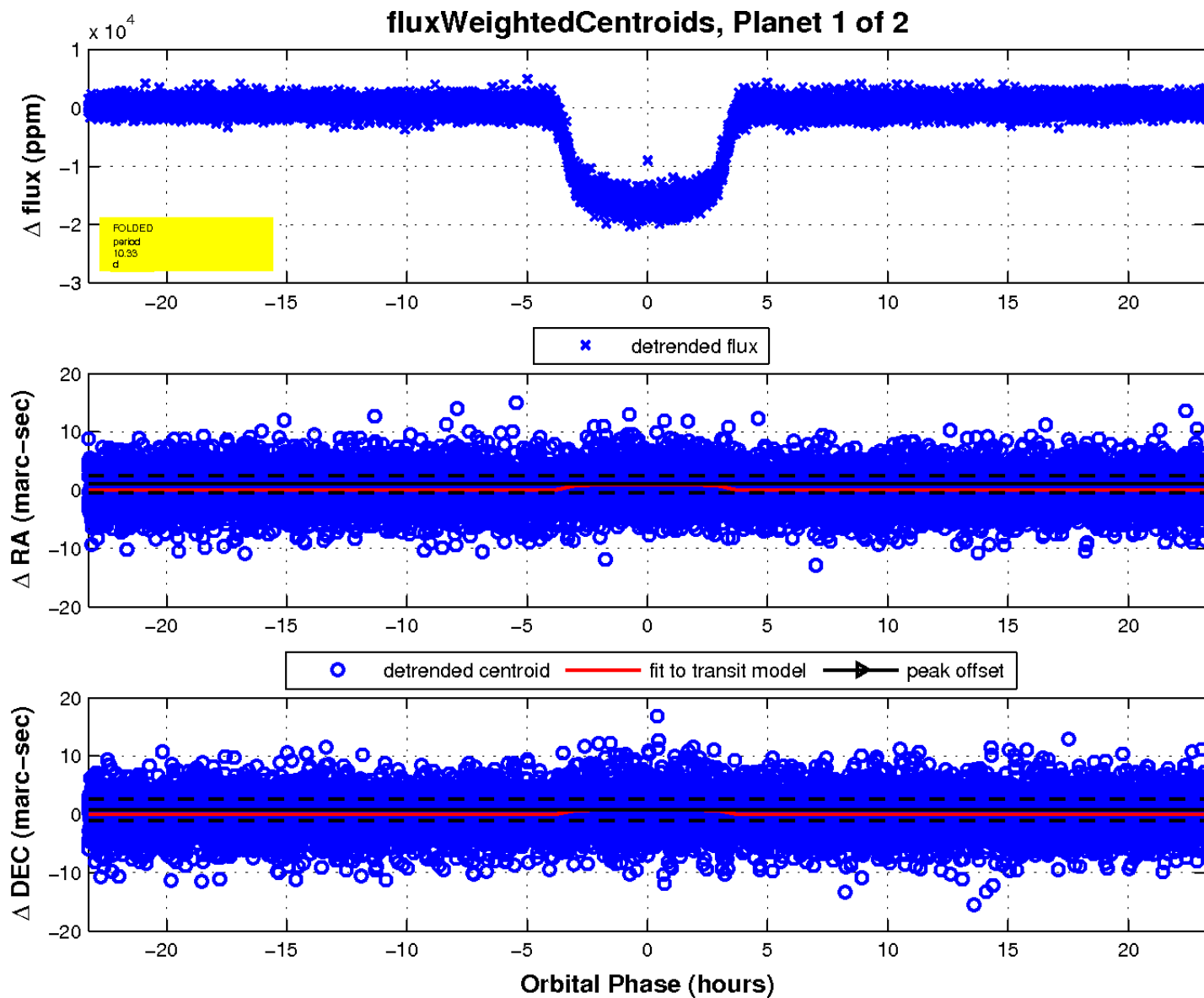
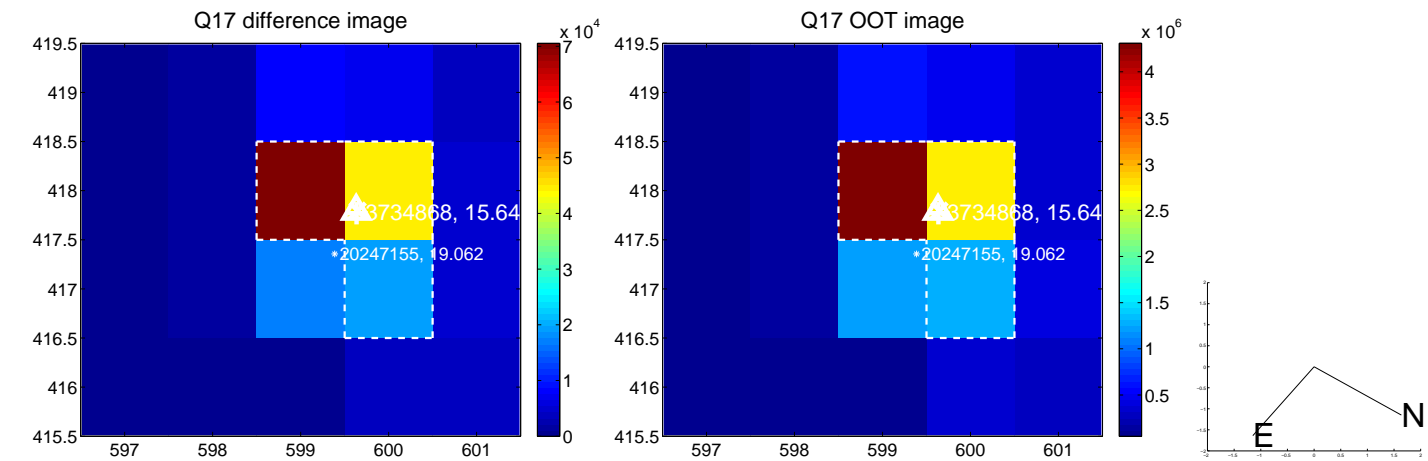
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

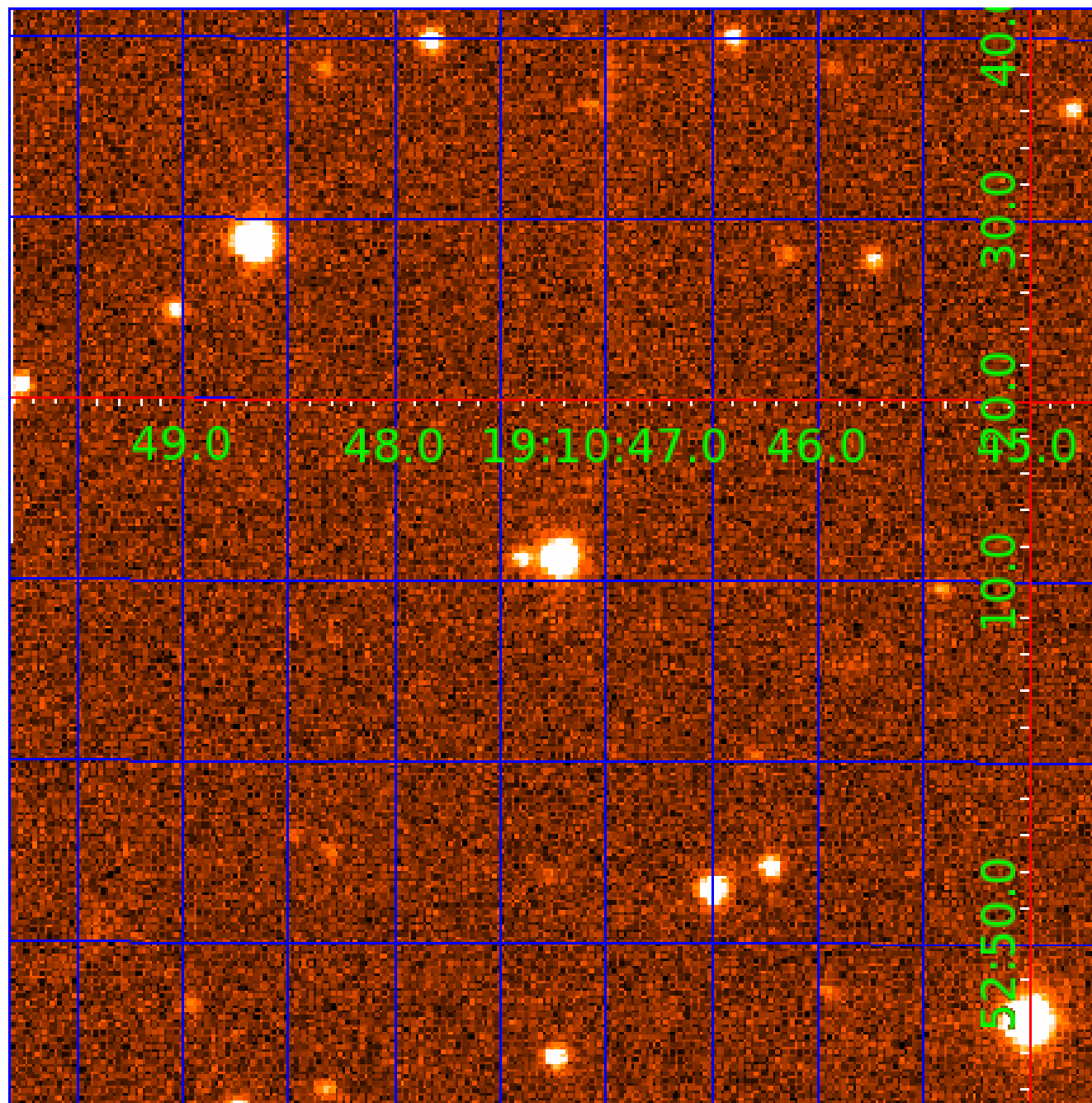


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003734868

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})
003734868-01	OBS	0805.01	10.328037	133.268860	16925.2	7.748	589.4	592.3	1.02	5627	13.17	119.54
003734868-02	OBS	No	10.328104	139.420262	513.0	8.504	18.7	20.2	1.02	5627	2.73	119.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003734868-01	OBS	FP	0.05	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
003734868-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

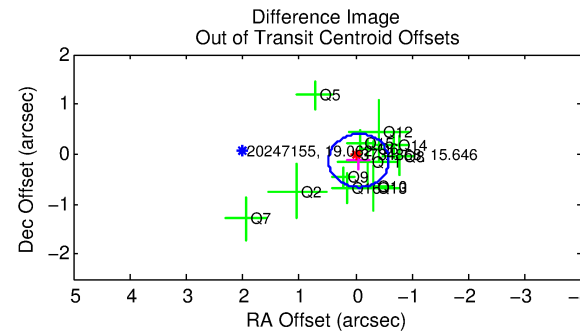
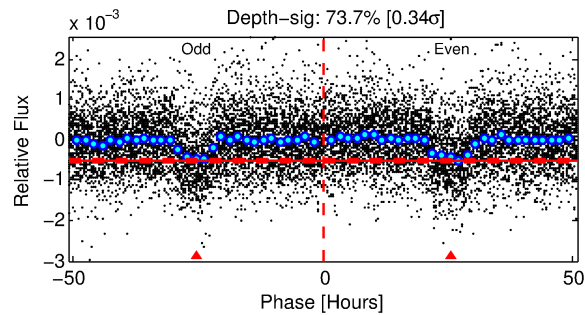
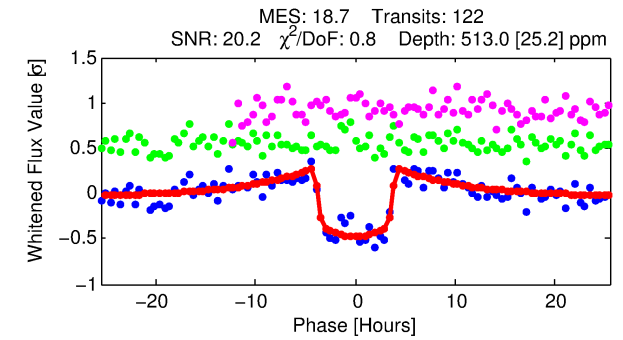
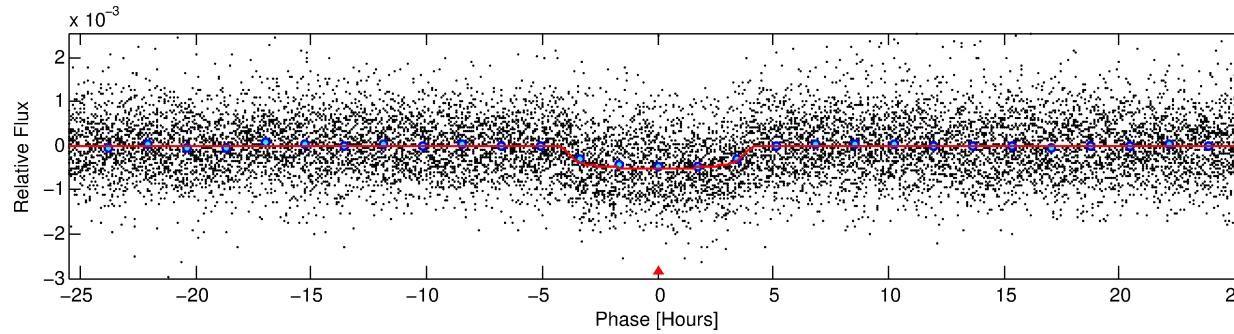
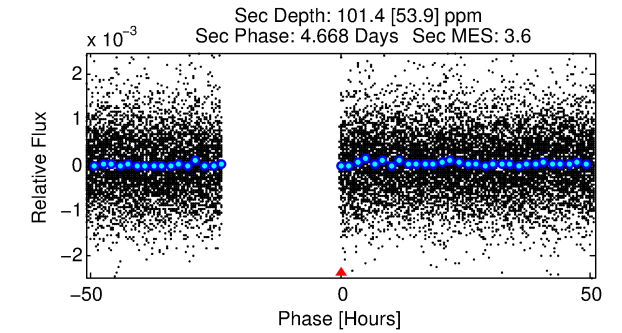
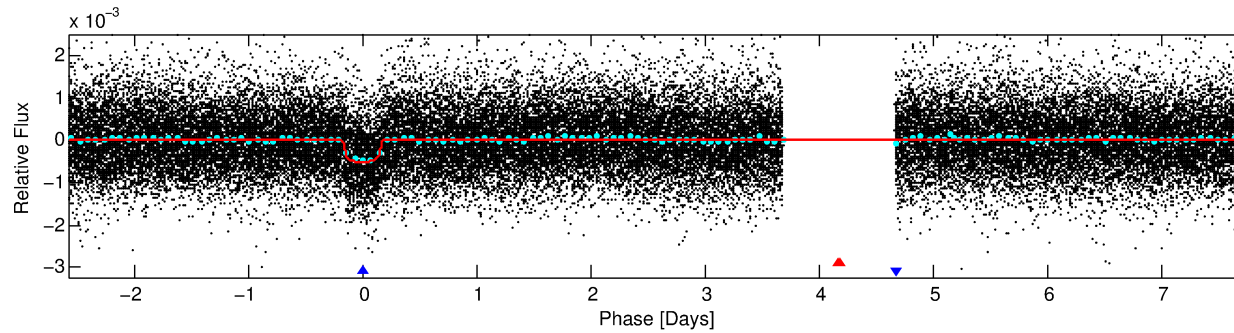
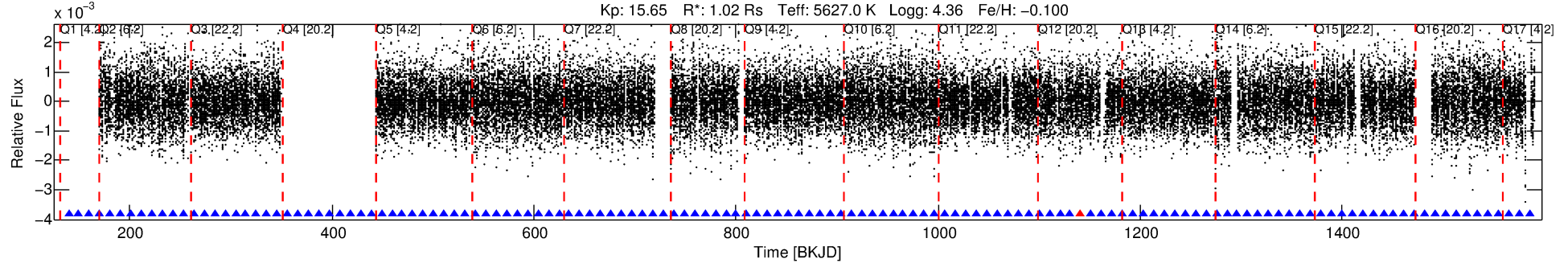
Ephemeris Match Information For 003734868-02

No Significant Match Found

DV One-Page Summary

KIC: 3734868 Candidate: 2 of 2 Period: 10.328 d
KOI: K00805 Corr: No Ephemeris Match

Kp: 15.65 R*: 1.02 Rs Teff: 5627.0 K Logg: 4.36 Fe/H: -0.100



DV Fit Results:

Period = 10.32810 [0.00008] d
Epoch = 139.4203 [0.0062] BKJD
Rp/R* = 0.0245 [0.0014]
a/R* = 4.82 [1.06]
b = 0.89 [0.06]
Seff = 119.54 [42.10]
Teq = 843 [74] K
Rp = 2.73 [0.76] Re
a = 0.0888 [0.0203] AU
Ag = 58.75 [37.46] [1.54σ]
Teffp = 3609 [503] K [5.44σ]

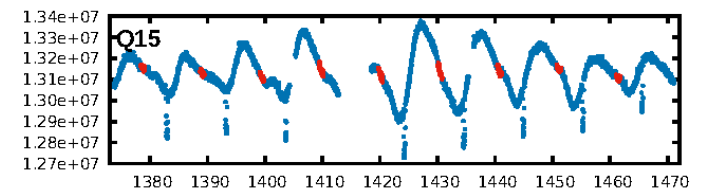
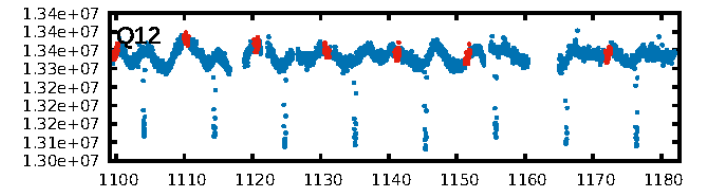
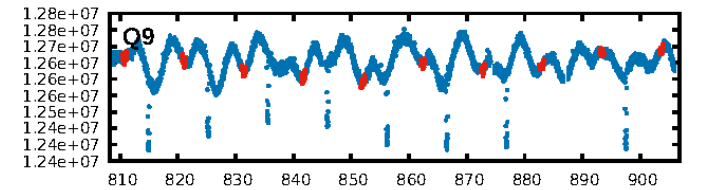
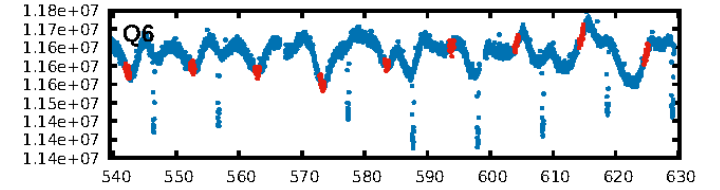
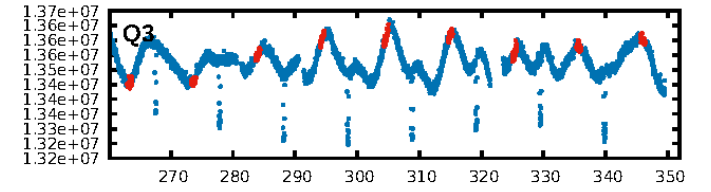
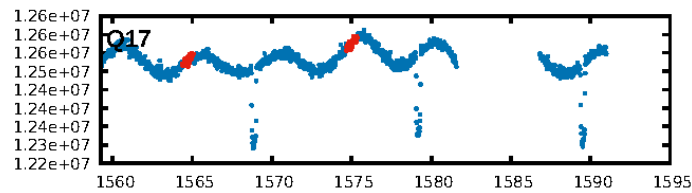
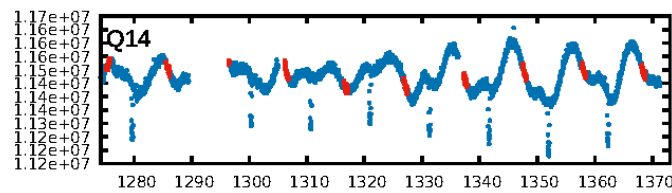
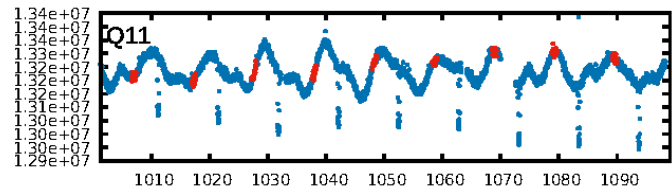
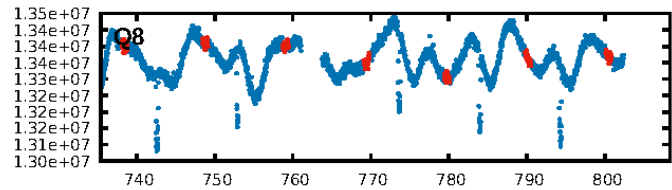
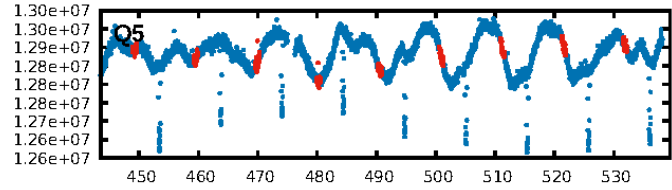
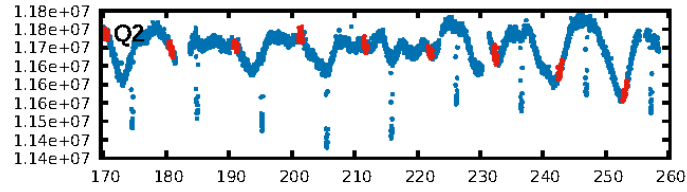
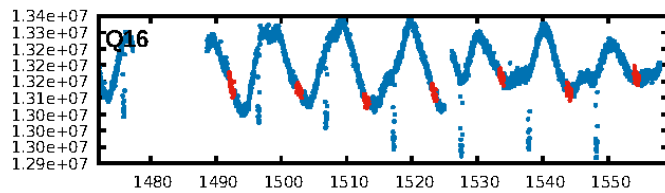
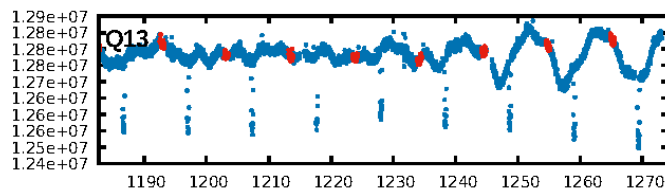
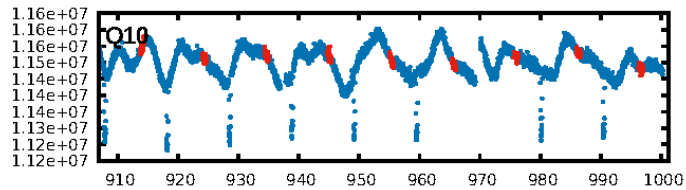
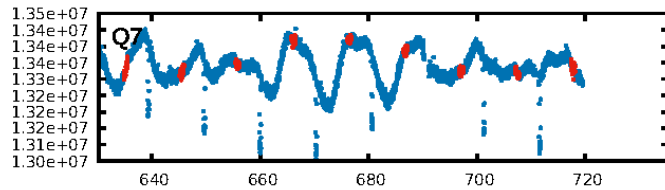
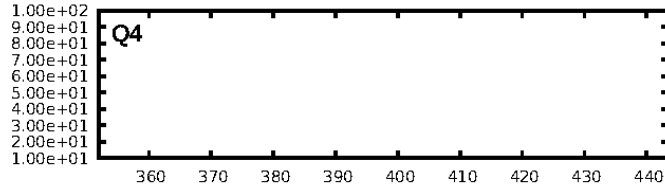
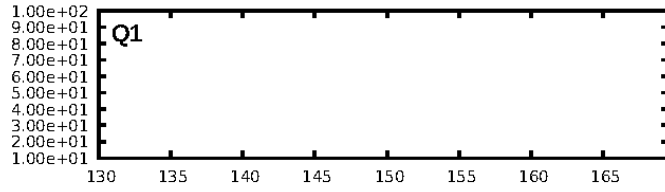
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.91e-68
RollingBand-fgt: 0.99 [119/120]
GhostDiagnostic-chr: 4.253
Centroid-sig: 4.7%
Centroid-so: 0.684 arcsec [1.40σ]
OotOffset-rm: 0.139 arcsec [0.78σ]
KicOffset-rm: 0.094 arcsec [0.51σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [15/15]

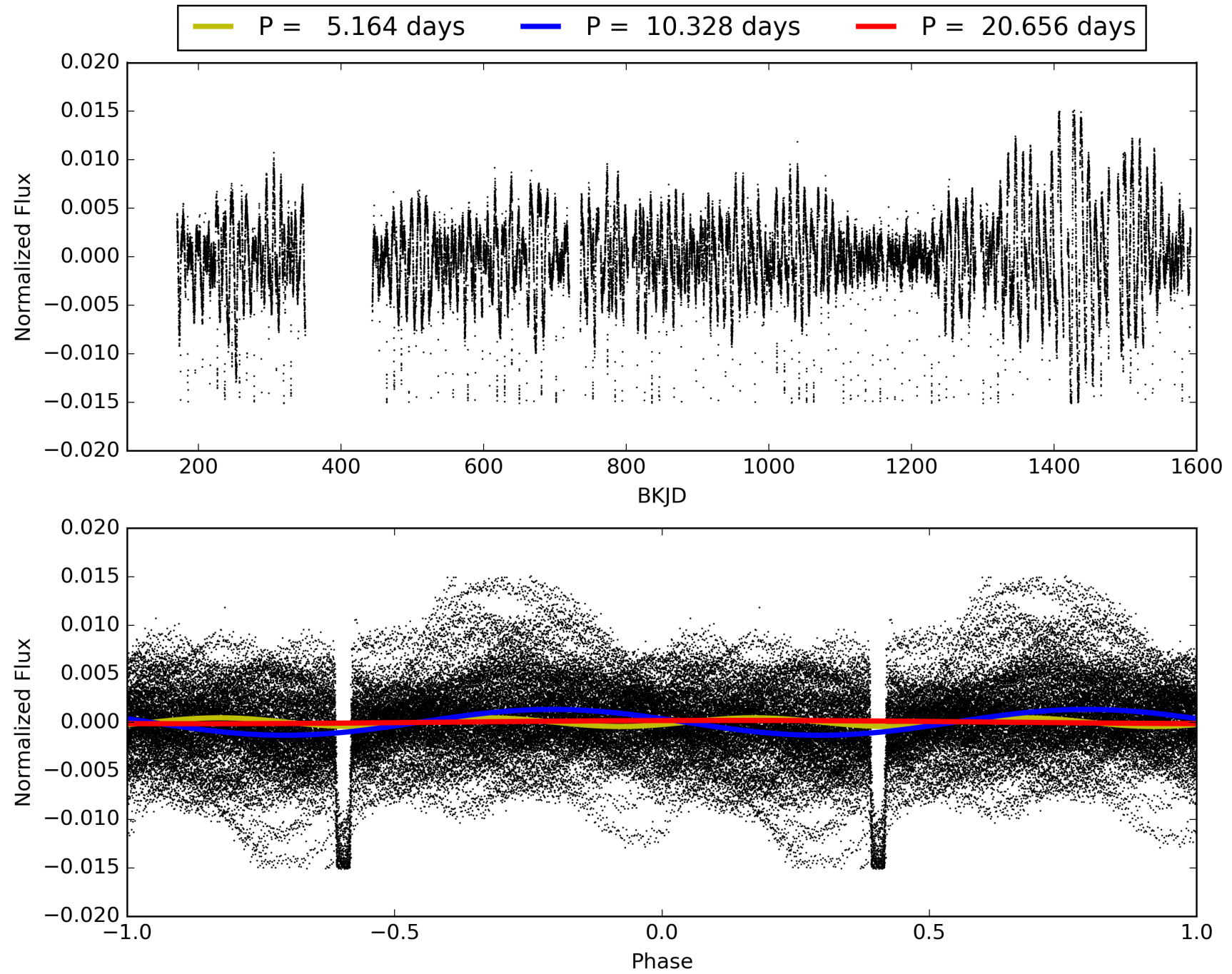
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:00:52 Z

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

TCE 003734868-02, PDC Light Curves

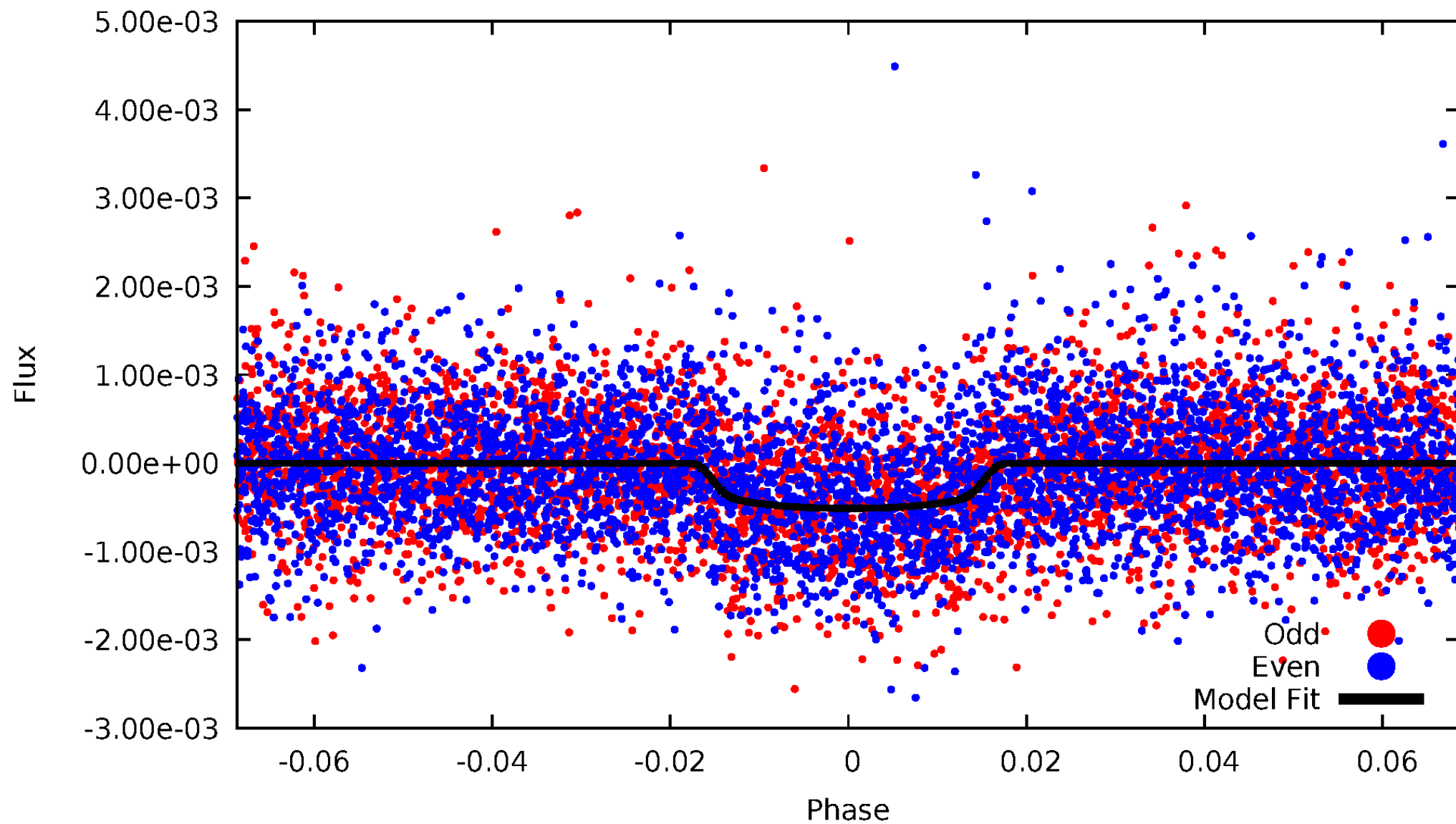


TCE 003734868-02



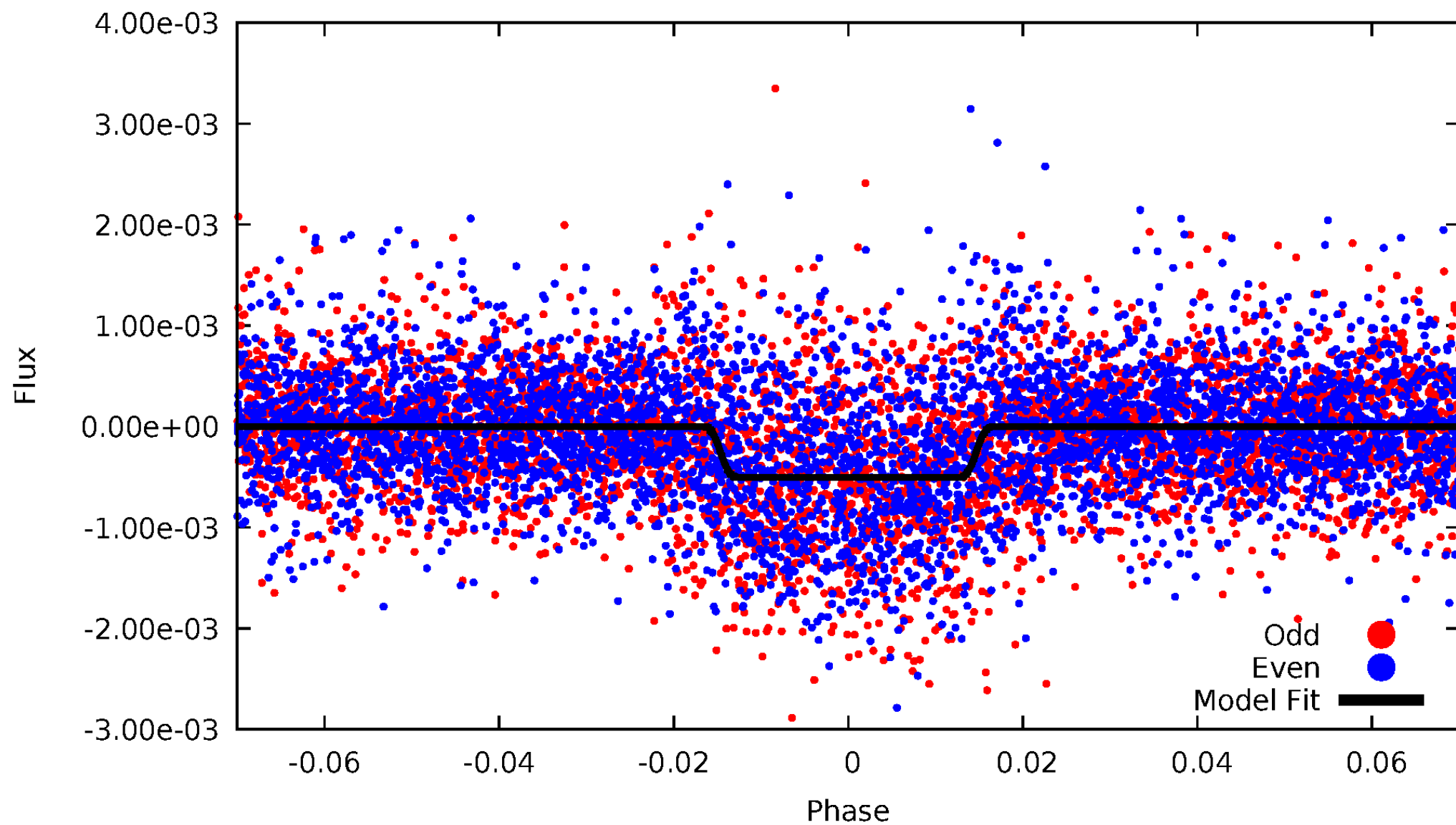
DV Odd/Even

TCE 003734868-02



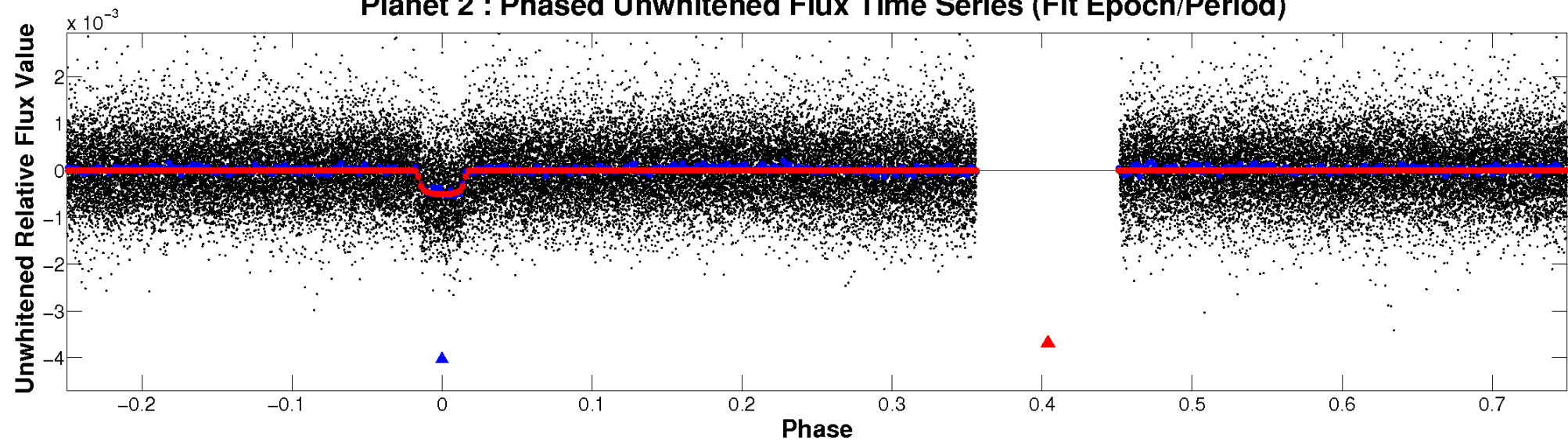
ALT Odd/Even

TCE 003734868-02

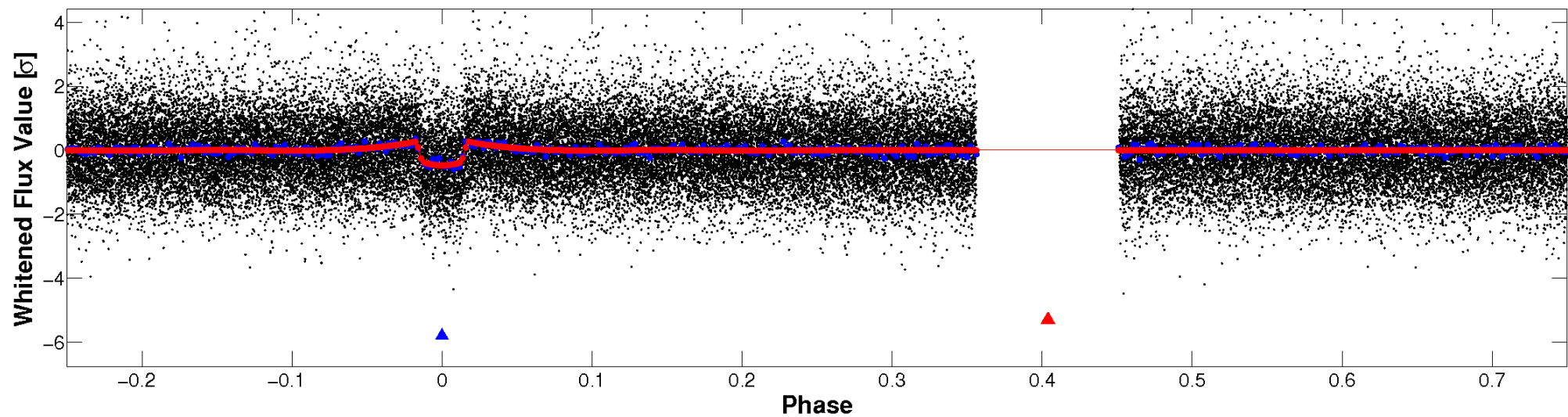


Non-Whitened Vs. Whitened Light Curve

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

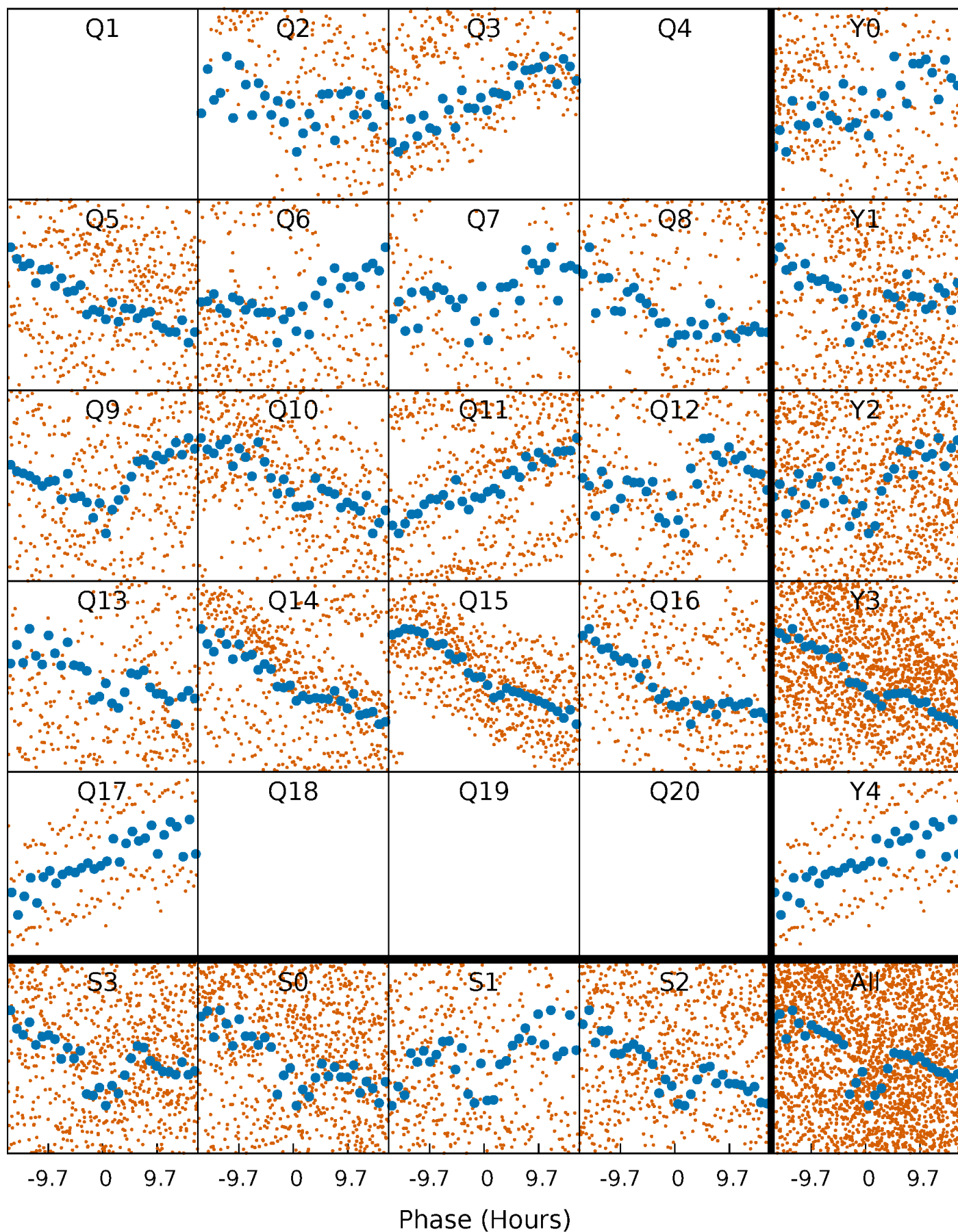


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



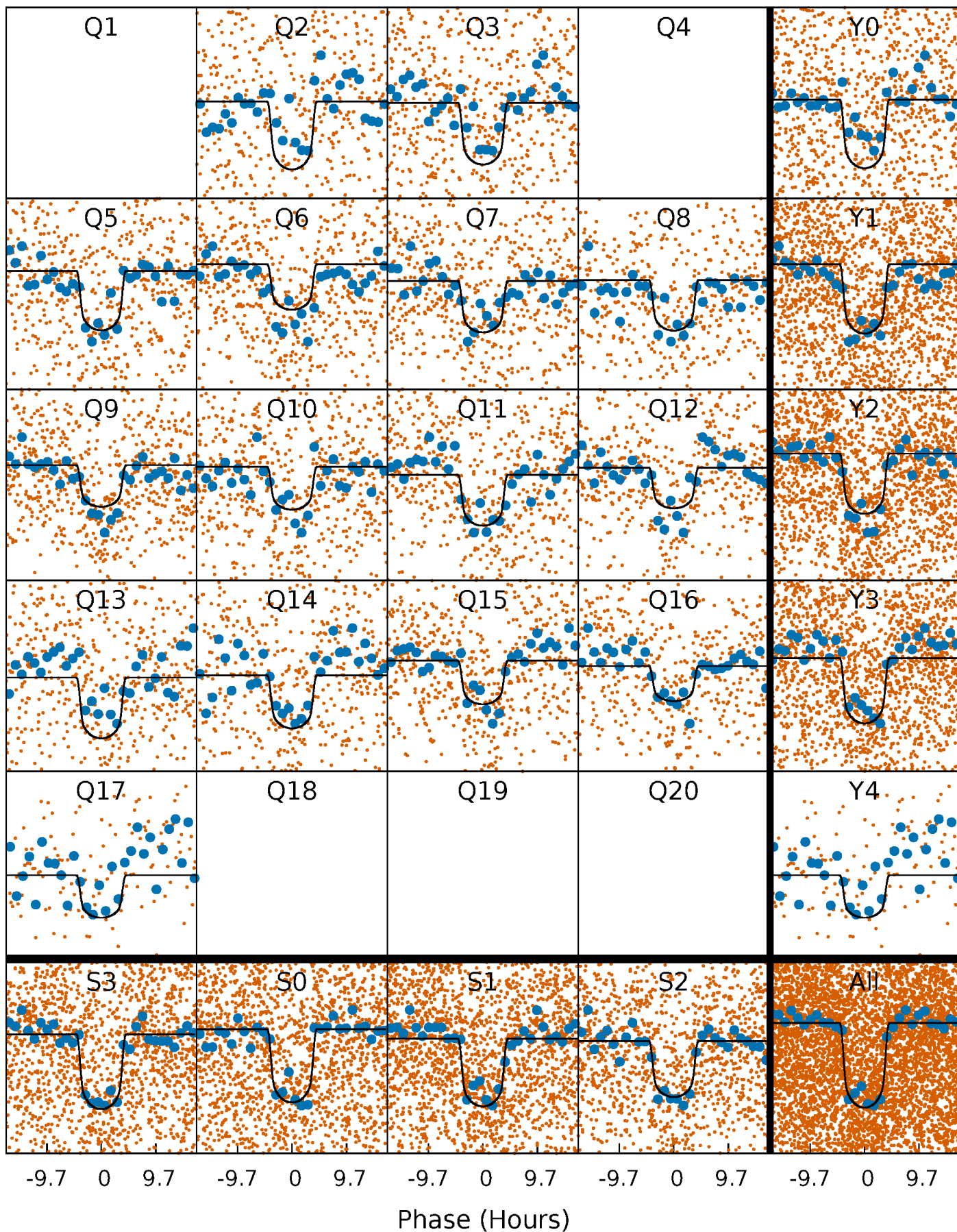
PDC Quarter-Phased Transit Curves

TCE 003734868-02 P= 10.328104 Days $T_0=139.420262$ (BKJD)



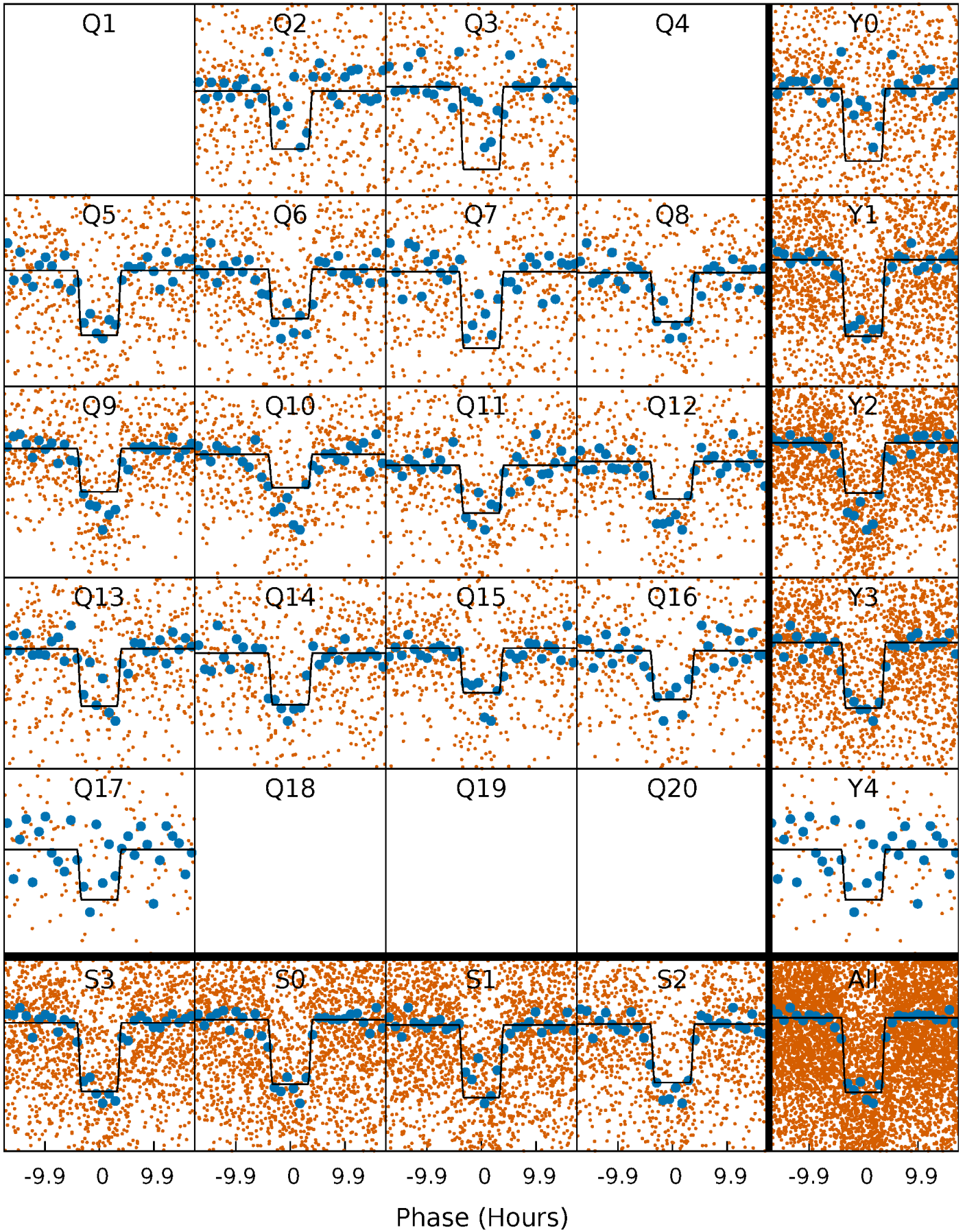
DV Quarter-Phased Transit Curves

TCE 003734868-02 P= 10.328104 Days $T_0=139.420262$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

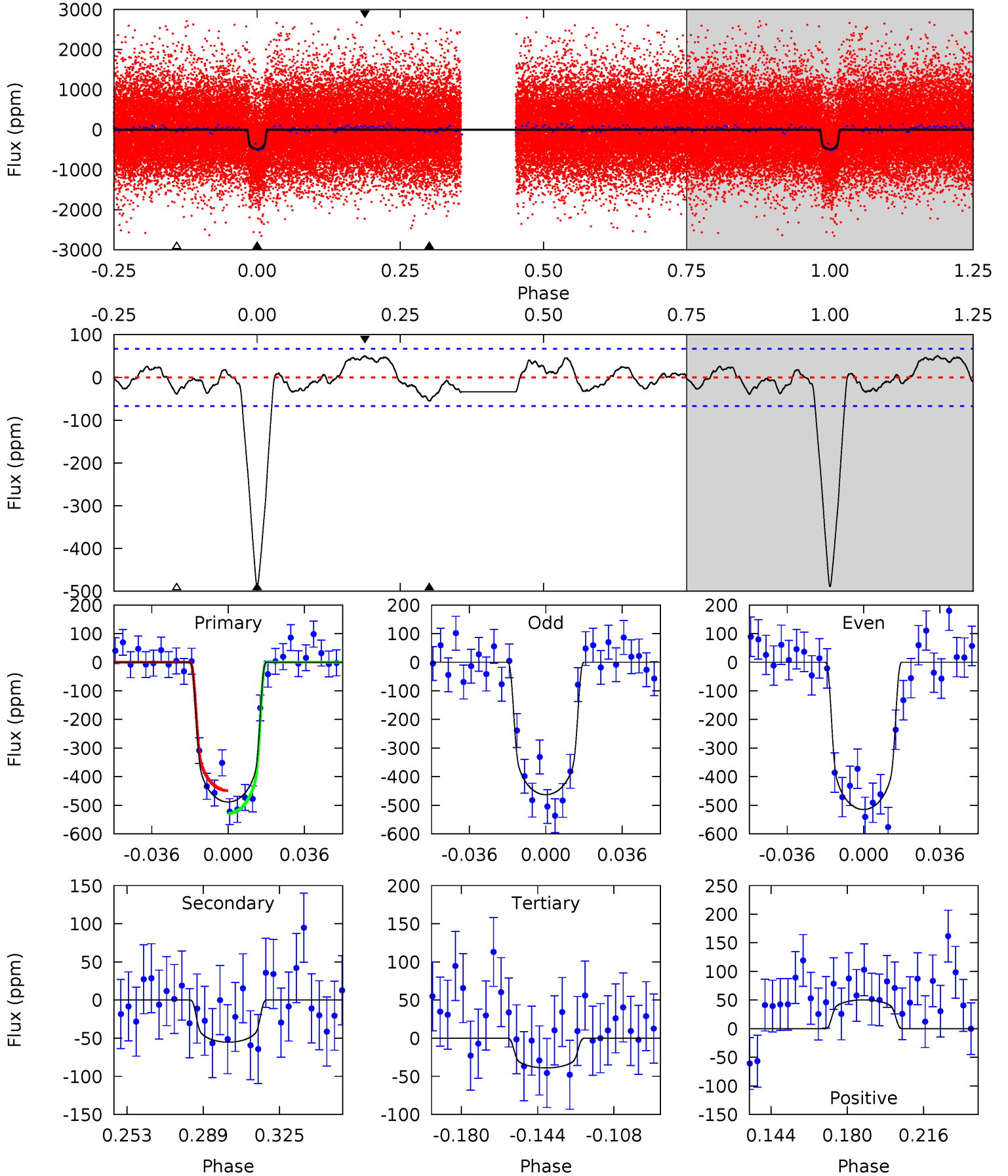
TCE 003734868-02 P= 10.328420 Days $T_0=139.398629$ (BKJD)



DV Model-Shift Uniqueness Test

003734868-02, $P = 10.328104$ Days, $E = 139.420262$ Days

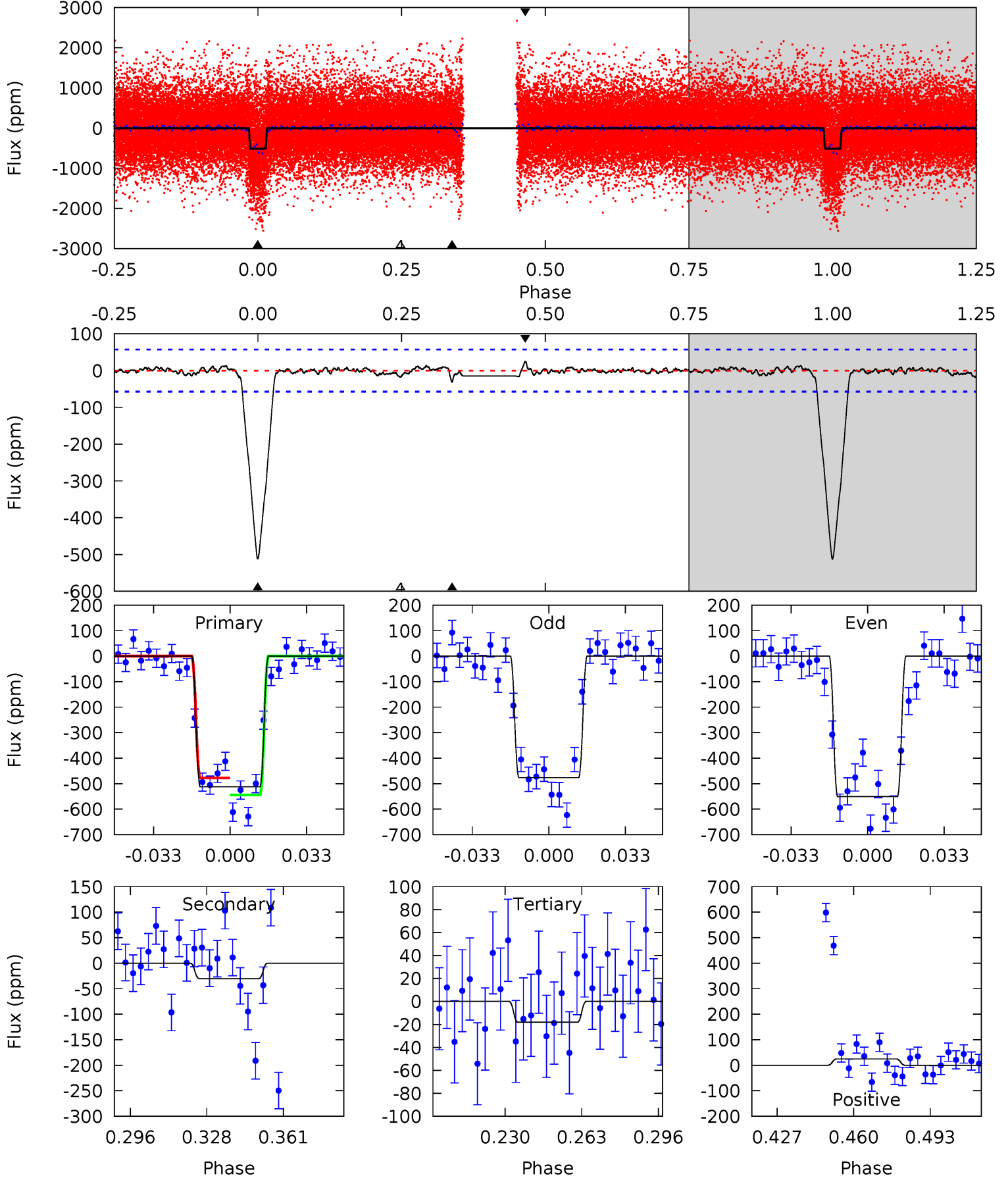
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.9	3.94	2.78	3.59	4.77	2.10	1.65	32.1	31.3	1.17	0.35	1.84	0.99	0.09	2.83



Alt Model-Shift Uniqueness Test

003734868-02, P = 10.328420 Days, E = 139.398629 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.7	2.53	1.51	2.08	4.79	2.13	0.49	41.2	40.6	1.02	0.45	3.11	1.07	0.05	2.76



Stellar Parameters For KIC 003734868

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5627^{+169}_{-169}	$4.359^{+0.180}_{-0.180}$	$-0.100^{+0.300}_{-0.250}$	$1.024^{+0.280}_{-0.186}$	$0.874^{+0.125}_{-0.073}$	$1.146^{+0.855}_{-0.565}$
	+3%/-3%	+4%/-4%	+300%/-250%	+27%/-18%	+14%/-8%	+75%/-49%
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 003734868-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-55 ± 14	$2.75^{+0.45}_{-0.35}$	1179^{+87}_{-78}	3555^{+167}_{-201}	31^{+14}_{-10}
Alt.	-30 ± 12	$2.52^{+0.42}_{-0.34}$	1176^{+86}_{-79}	3321^{+193}_{-268}	20^{+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 $A_{obs} \gg 1.0$

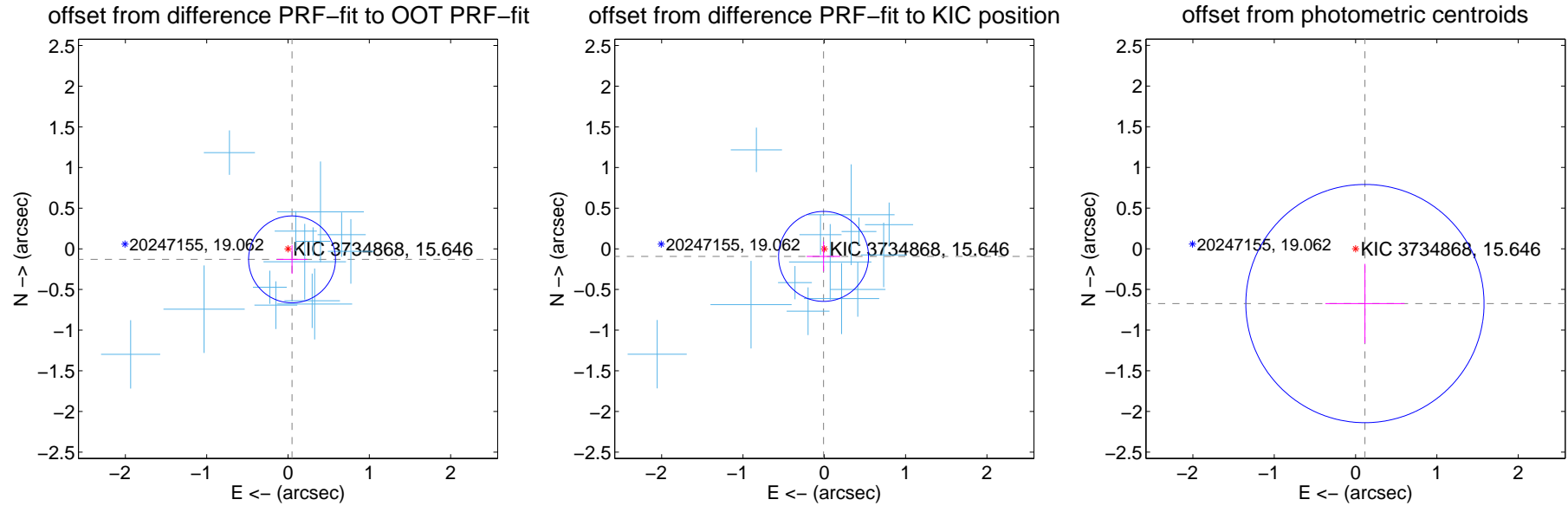
DV Centroid Data

Supplemental centroid analysis for 003734868-02. Kepler magnitude: 15.65. Transit SNR 20.21

There are 13 quarters with good PRF difference image offsets

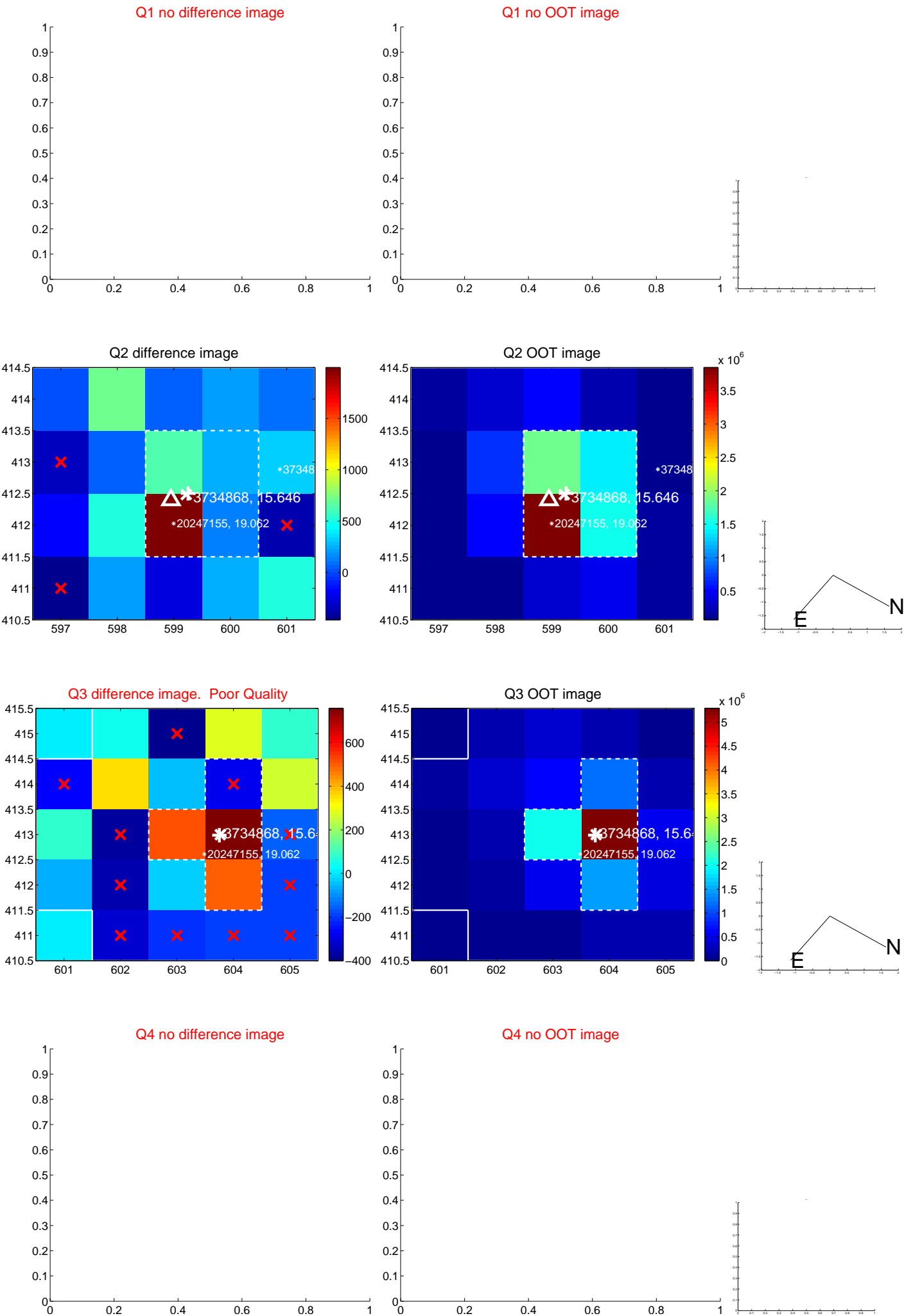
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.139 ± 0.178	0.78	-0.049 ± 0.186	-0.130 ± 0.177
PRF-fit source offset from KIC position	0.094 ± 0.184	0.51	0.009 ± 0.207	-0.093 ± 0.184
photometric centroid source offset	0.68 ± 0.49	1.40	-0.12 ± 0.49	-0.67 ± 0.49

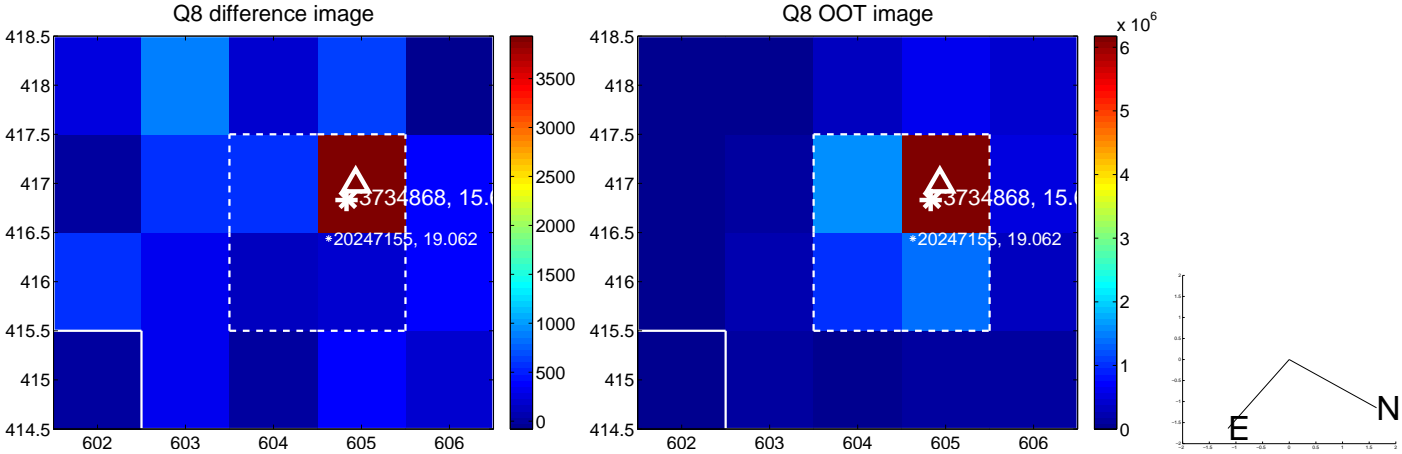
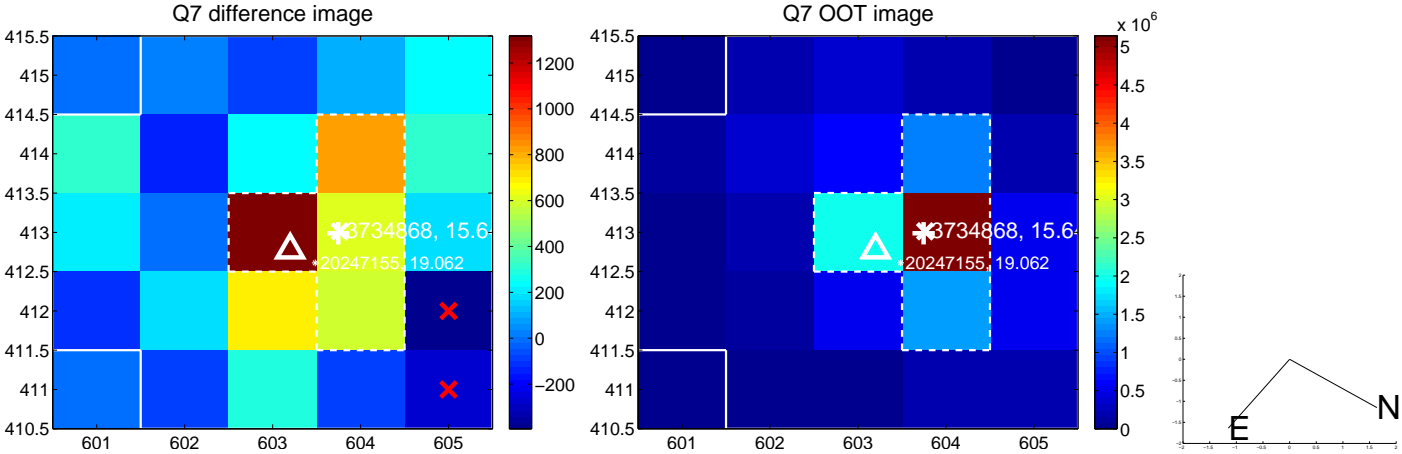
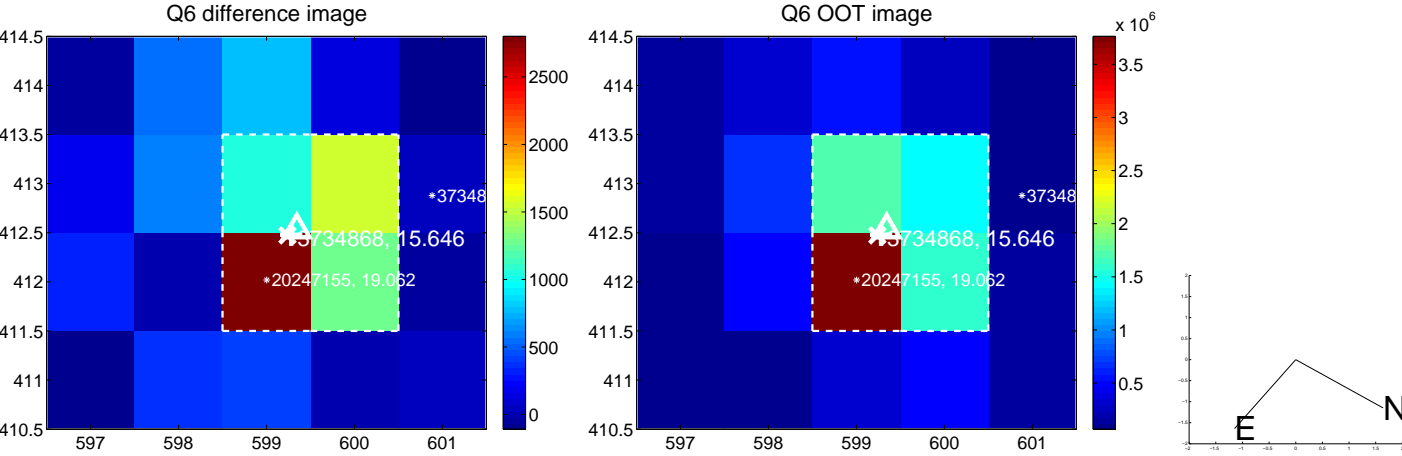
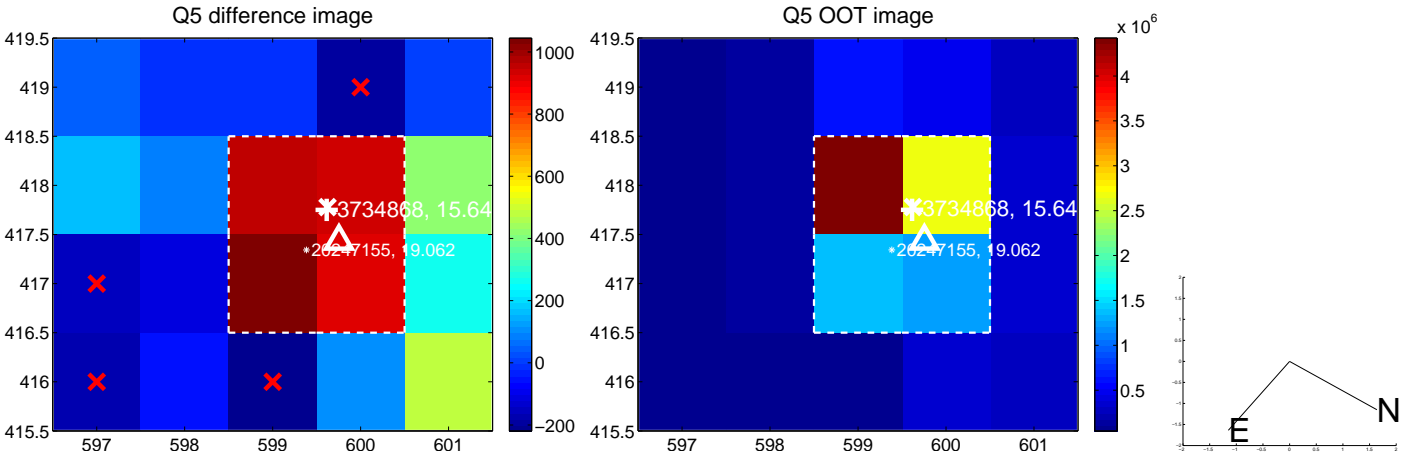


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

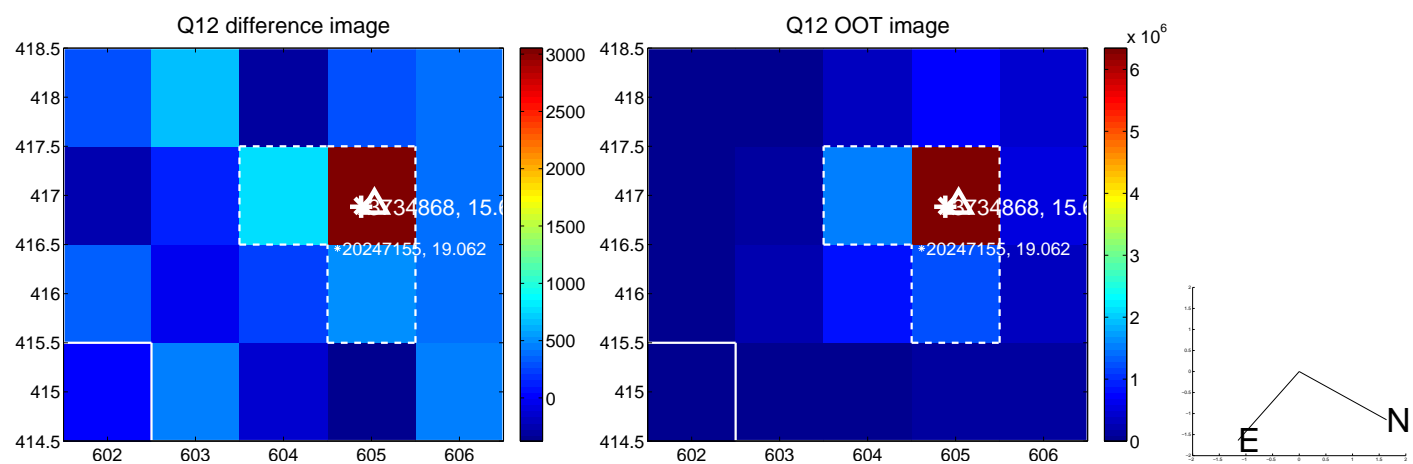
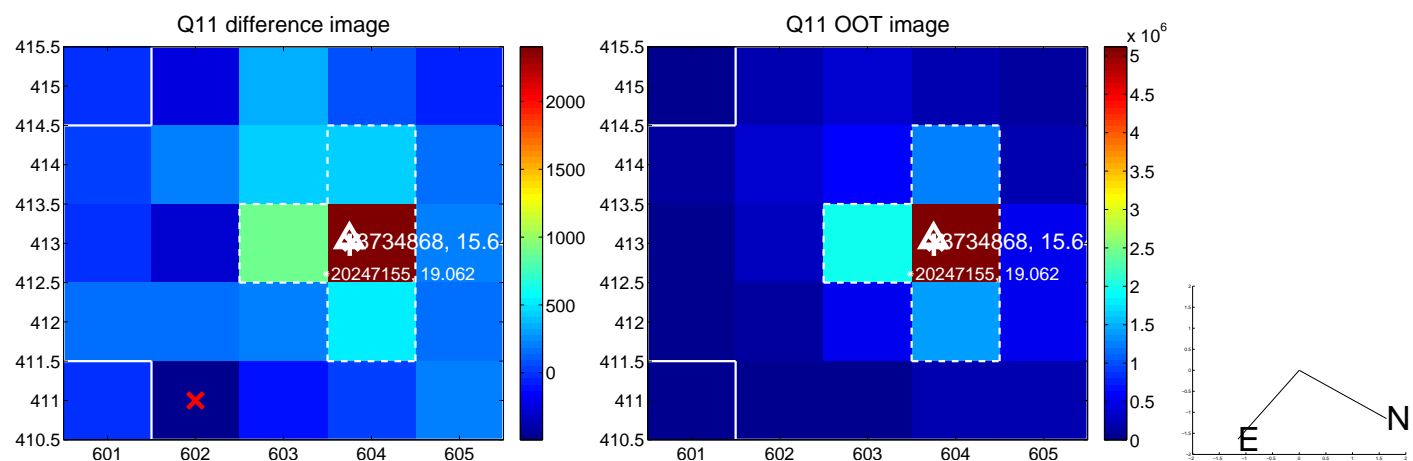
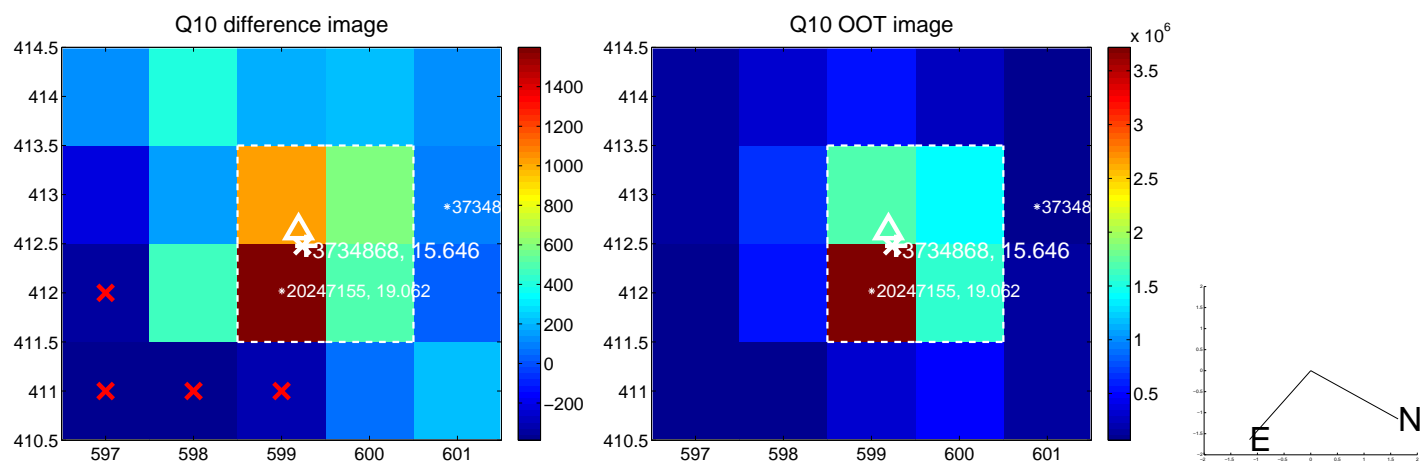
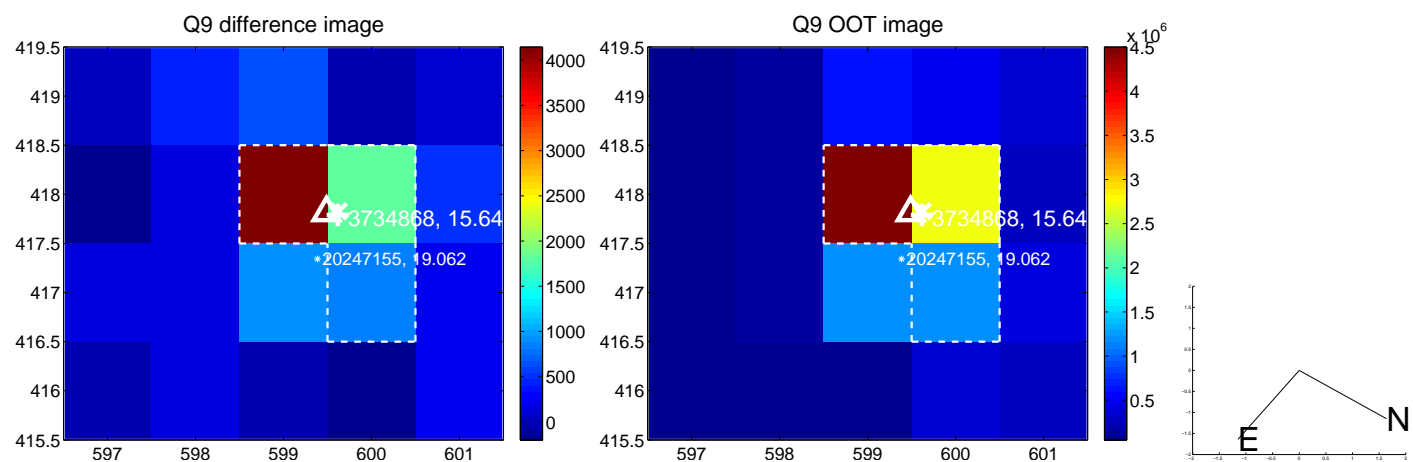
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



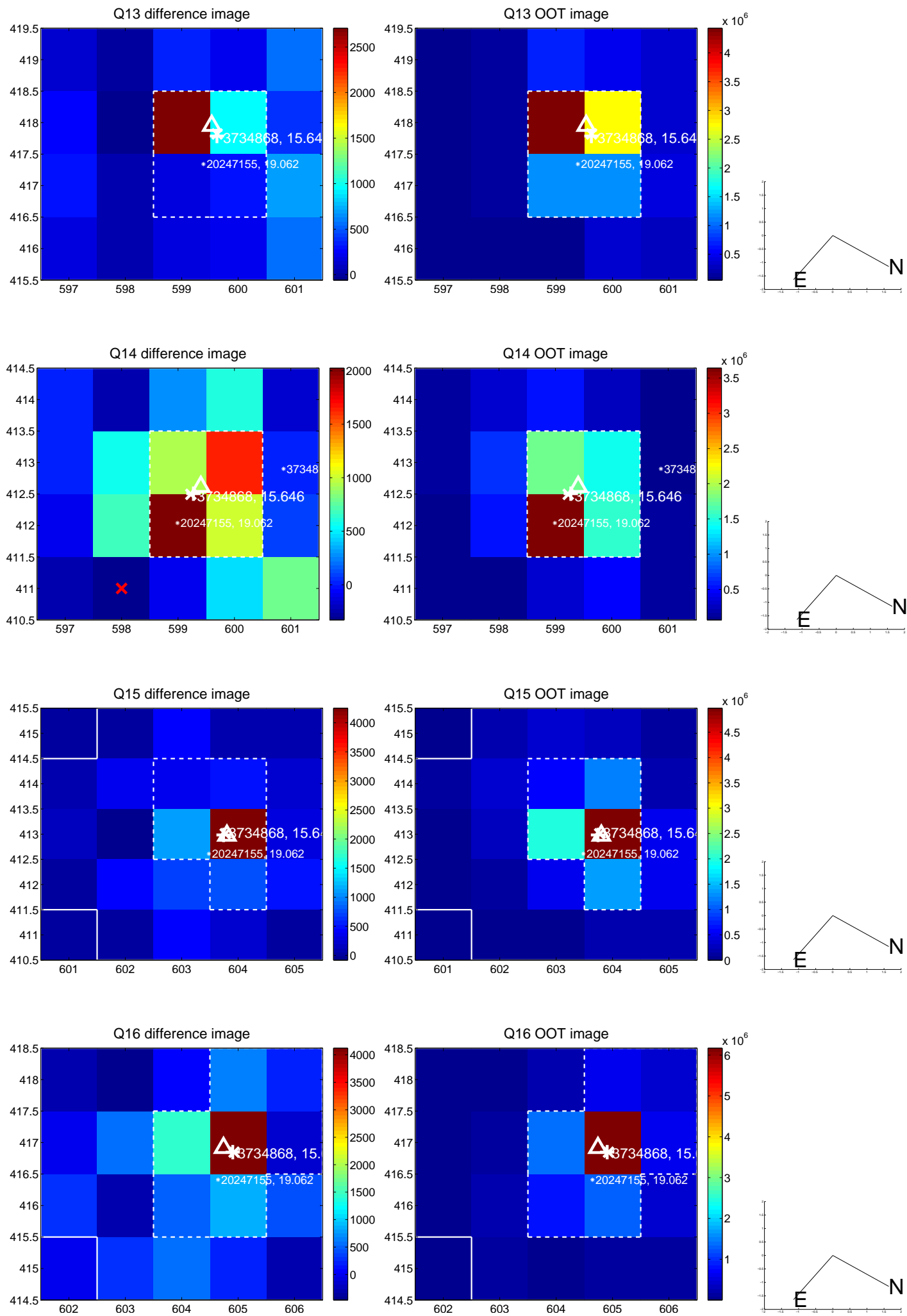
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



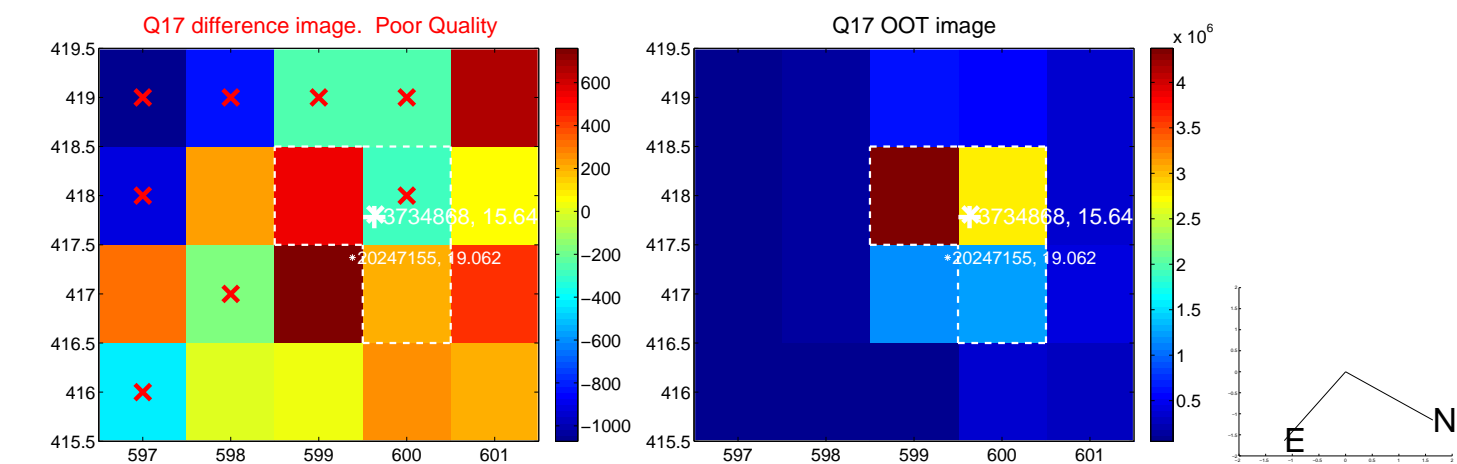
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



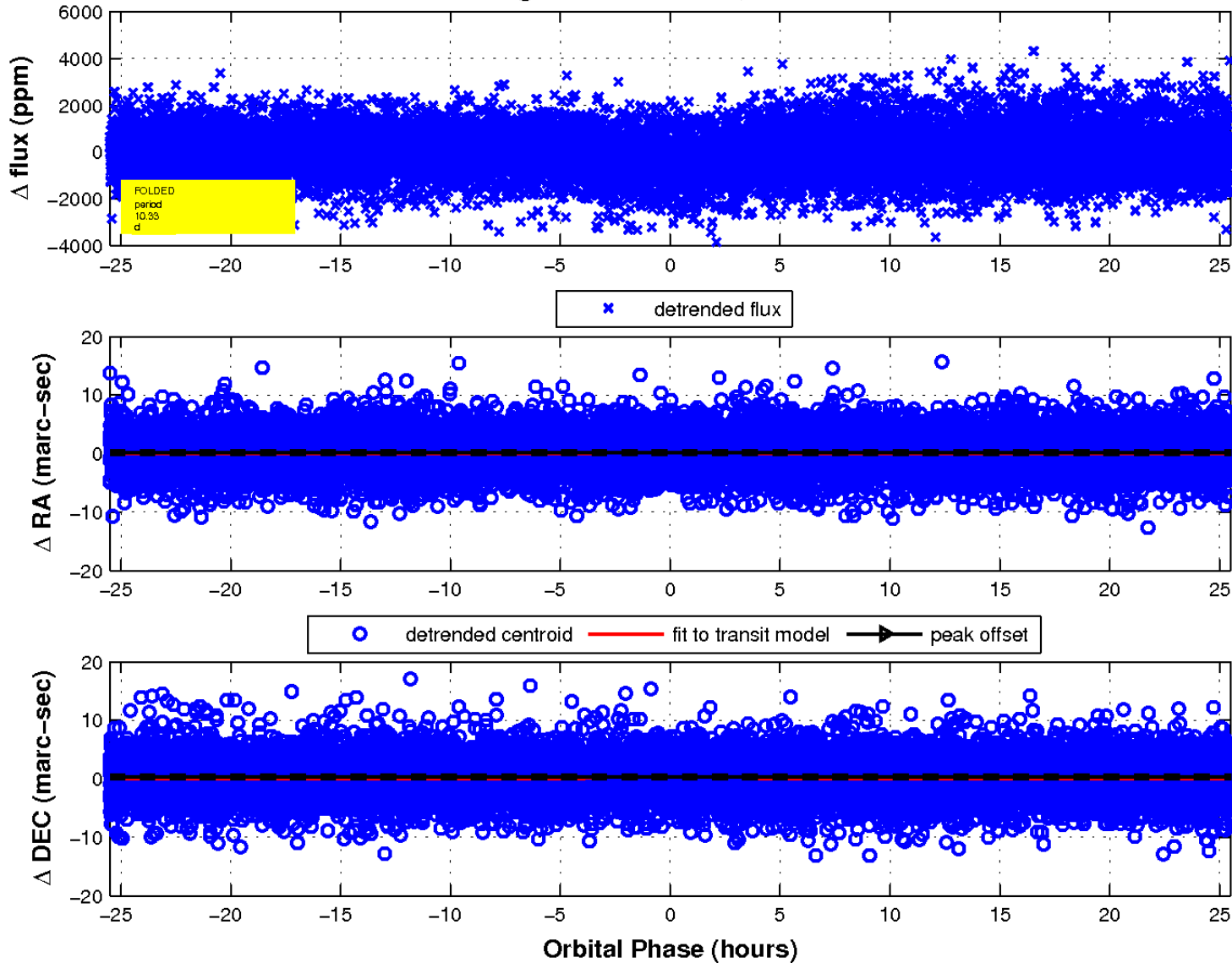
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

