

KIC 007902204

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})
007902204-01	OBS	6931.01	2.540312	133.779677	169.0	2.030	9.1	10.3	0.91	5778	1.39	612.59
007902204-02	OBS	No	367.823152	236.332901	1172.6	13.133	7.9	8.2	0.91	5778	3.19	0.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007902204-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
007902204-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

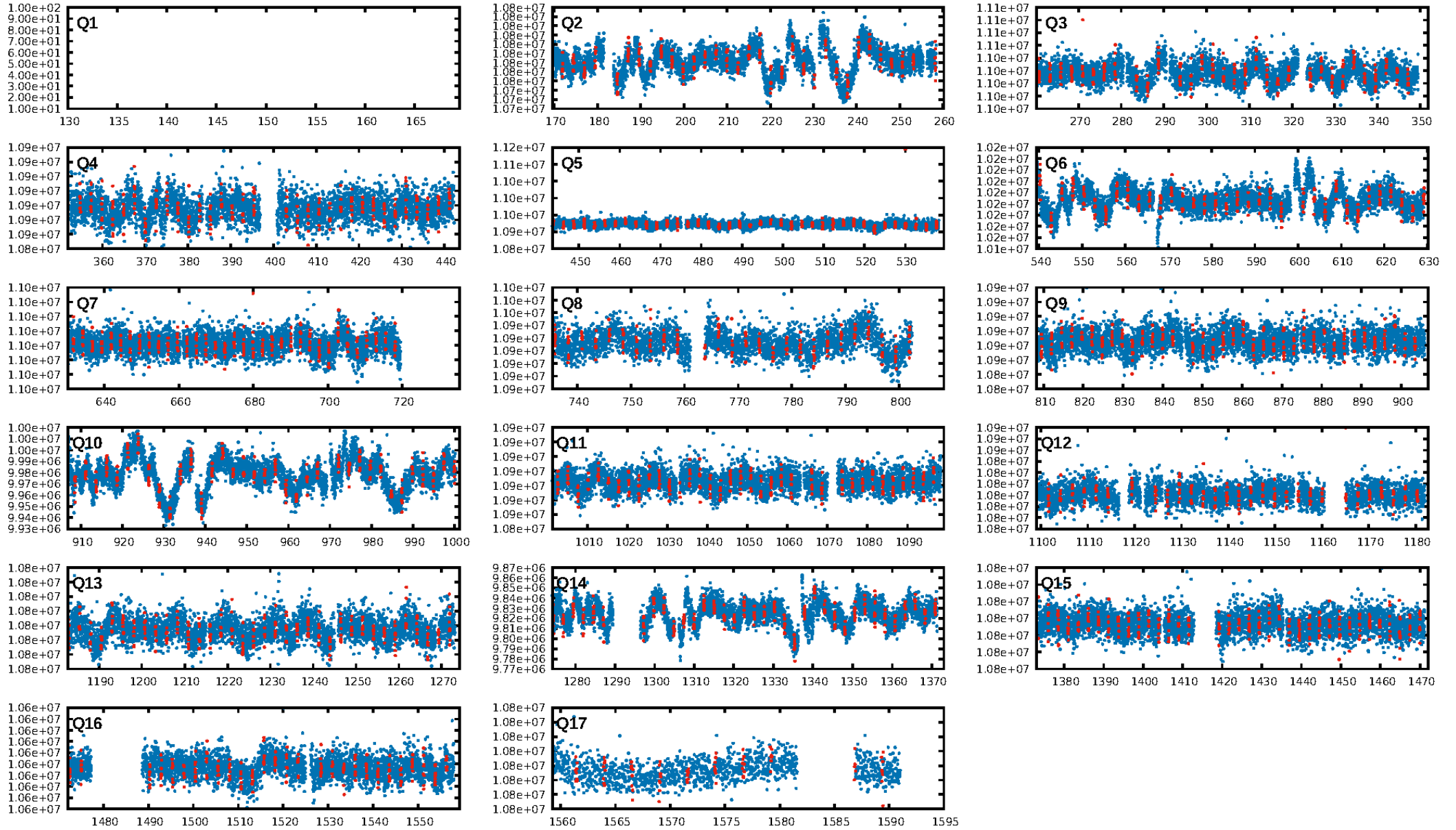
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007902204-01

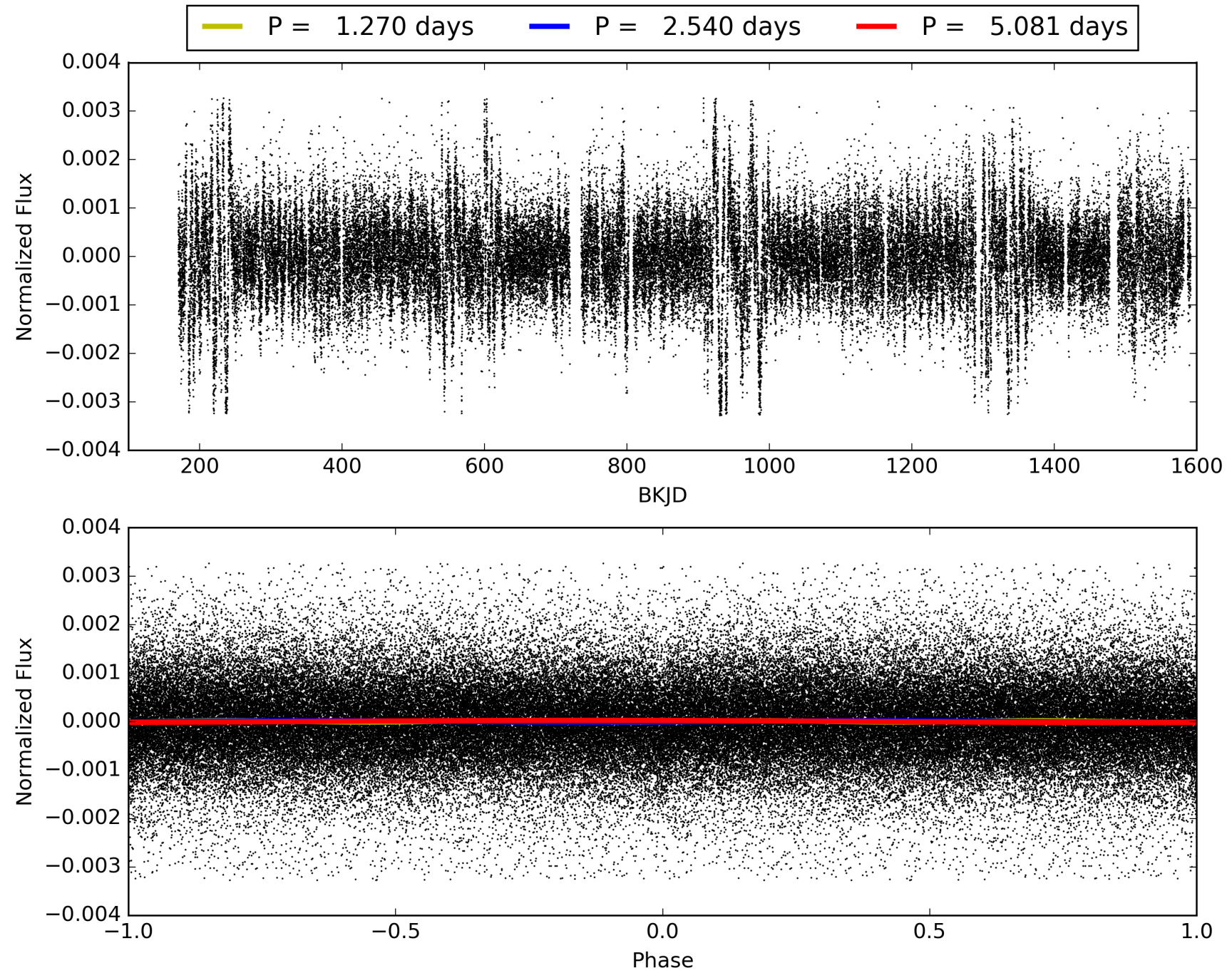
No Significant Match Found

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

TCE 007902204-01, PDC Light Curves

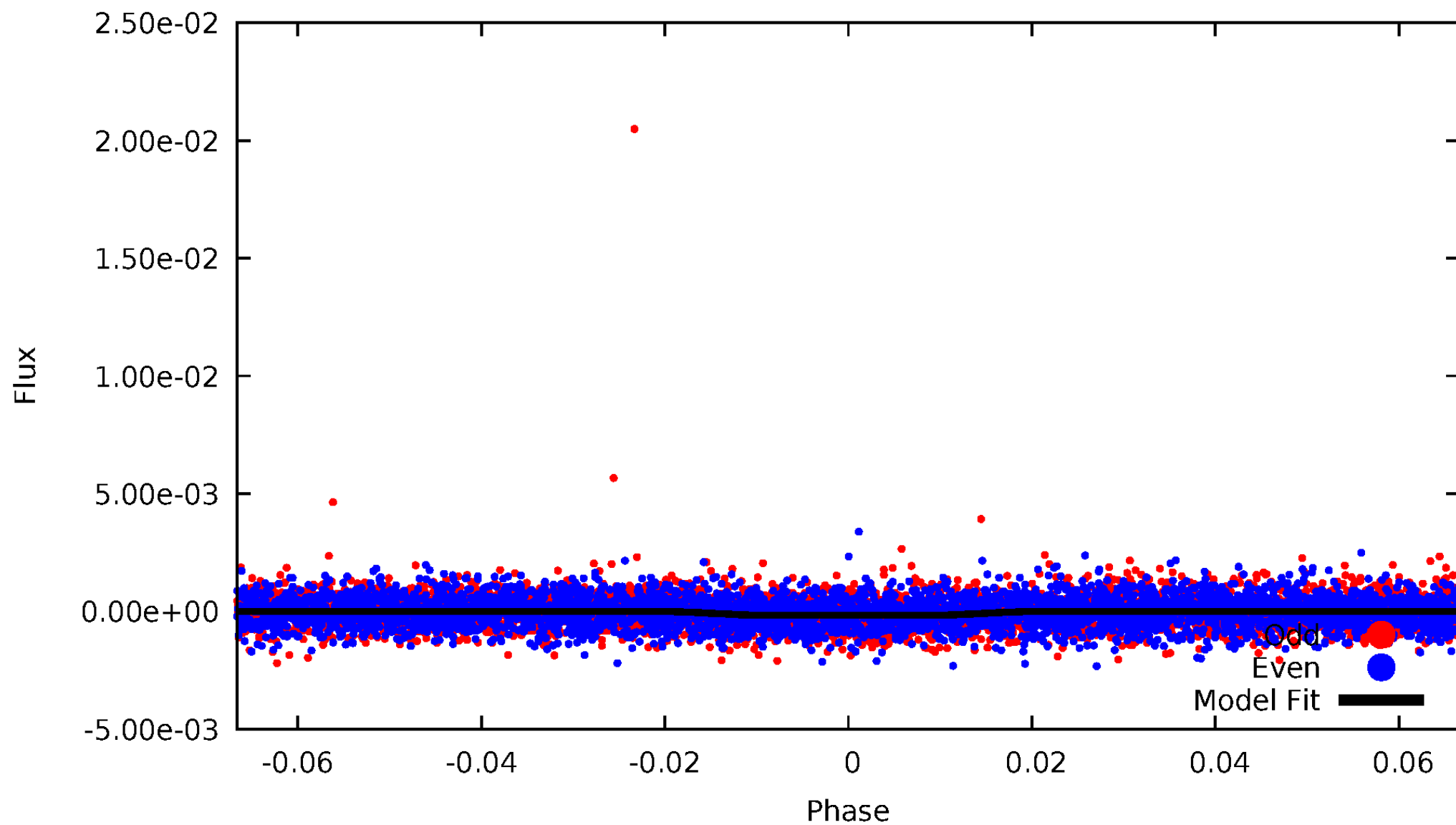


TCE 007902204-01



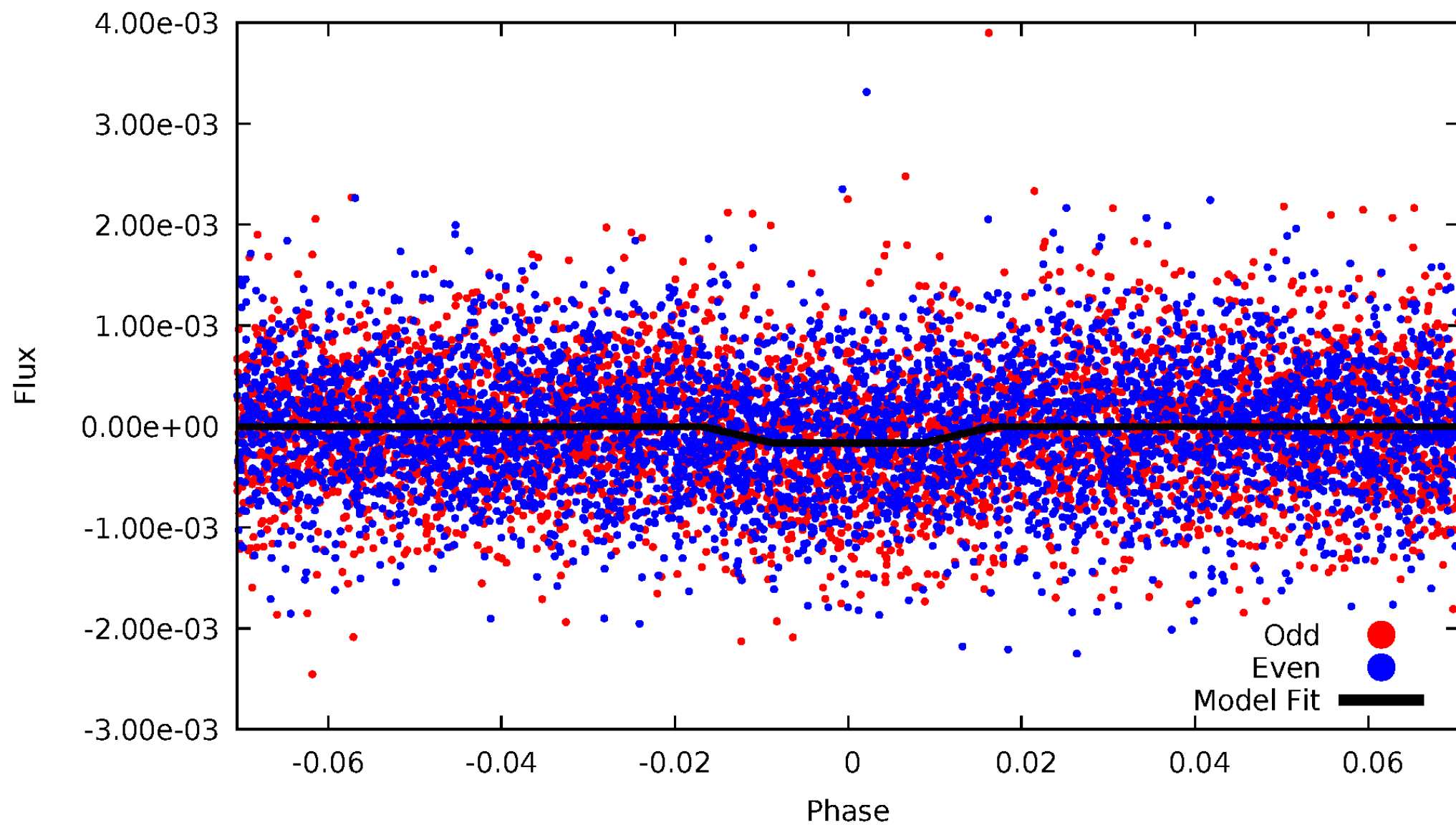
DV Odd/Even

TCE 007902204-01



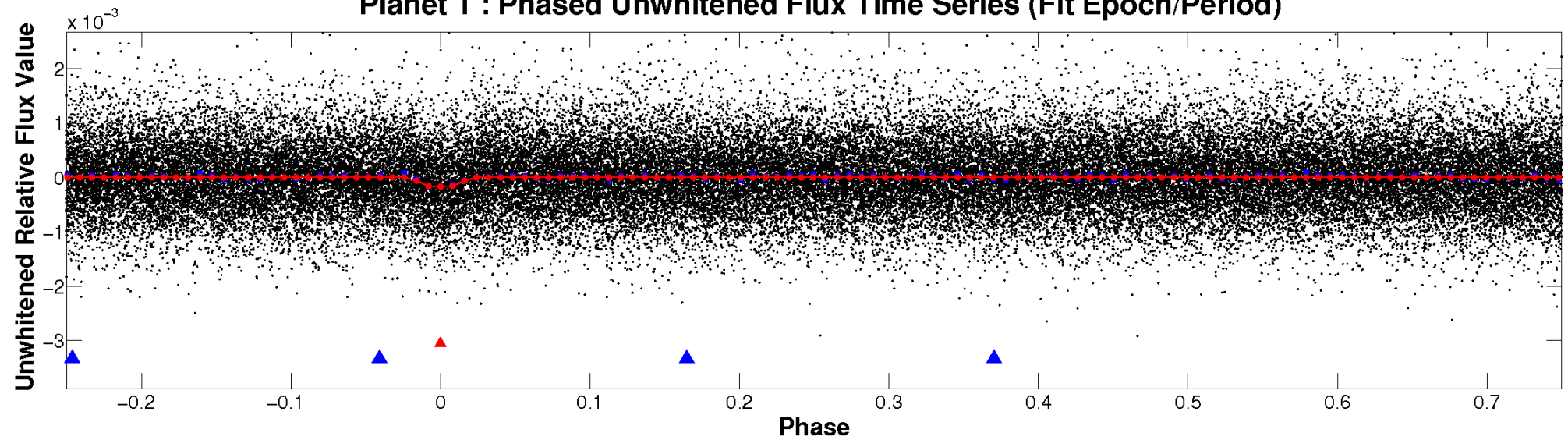
ALT Odd/Even

TCE 007902204-01

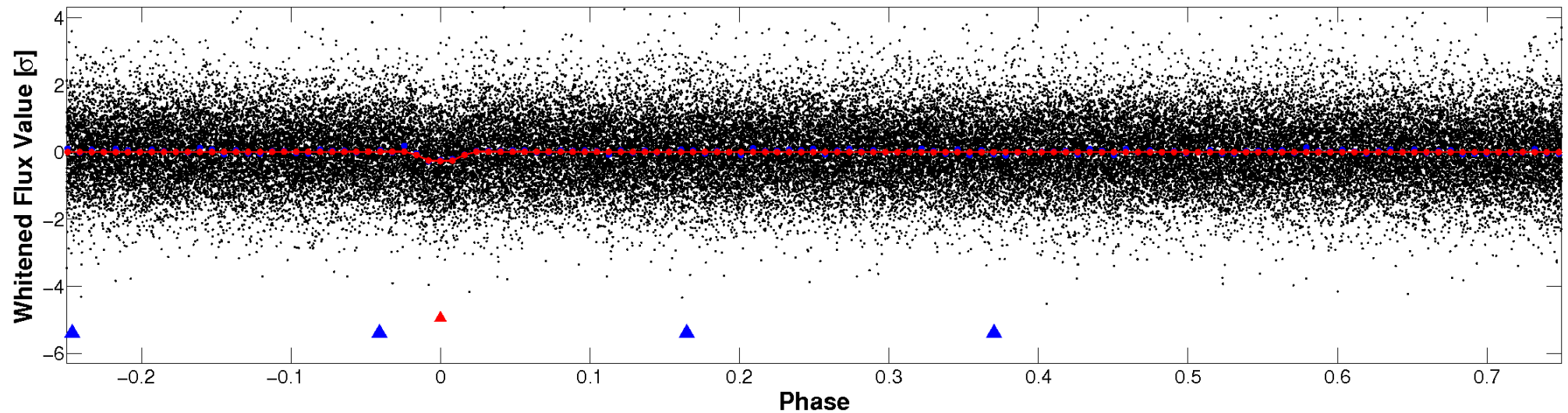


Non-Whitened Vs. Whitened Light Curve

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

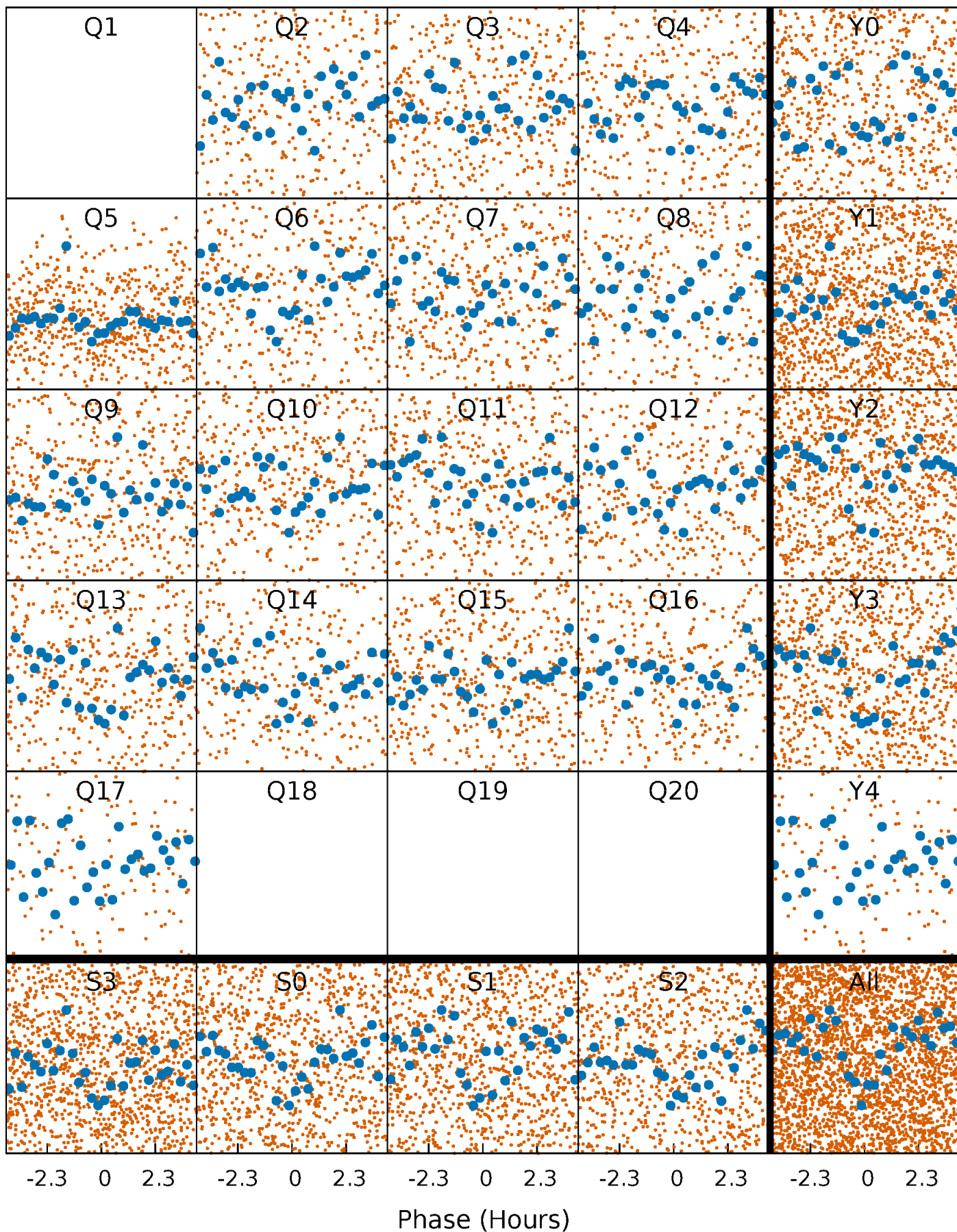


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



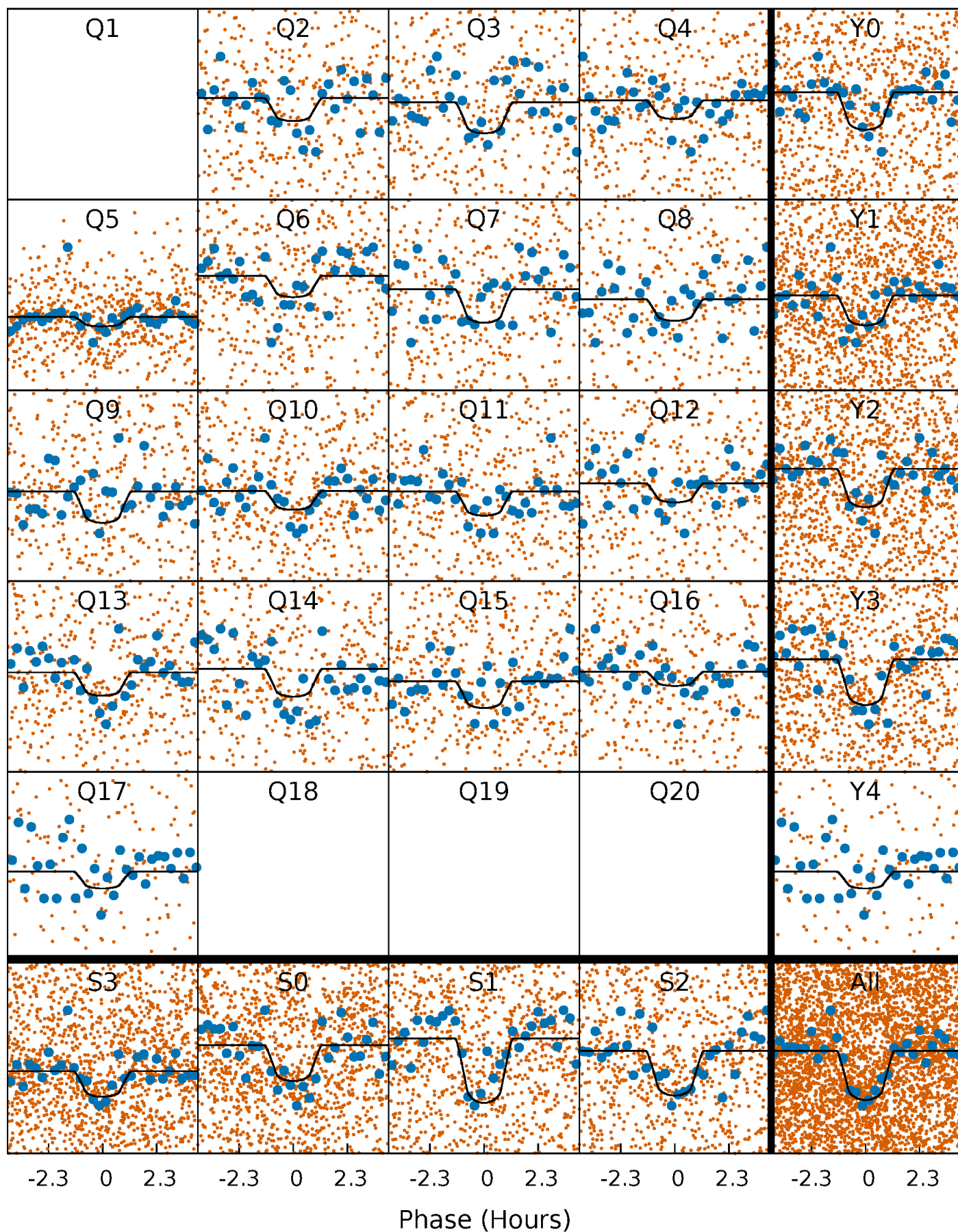
PDC Quarter-Phased Transit Curves

TCE 007902204-01 P= 2.540312 Days $T_0=133.779677$ (BKJD)



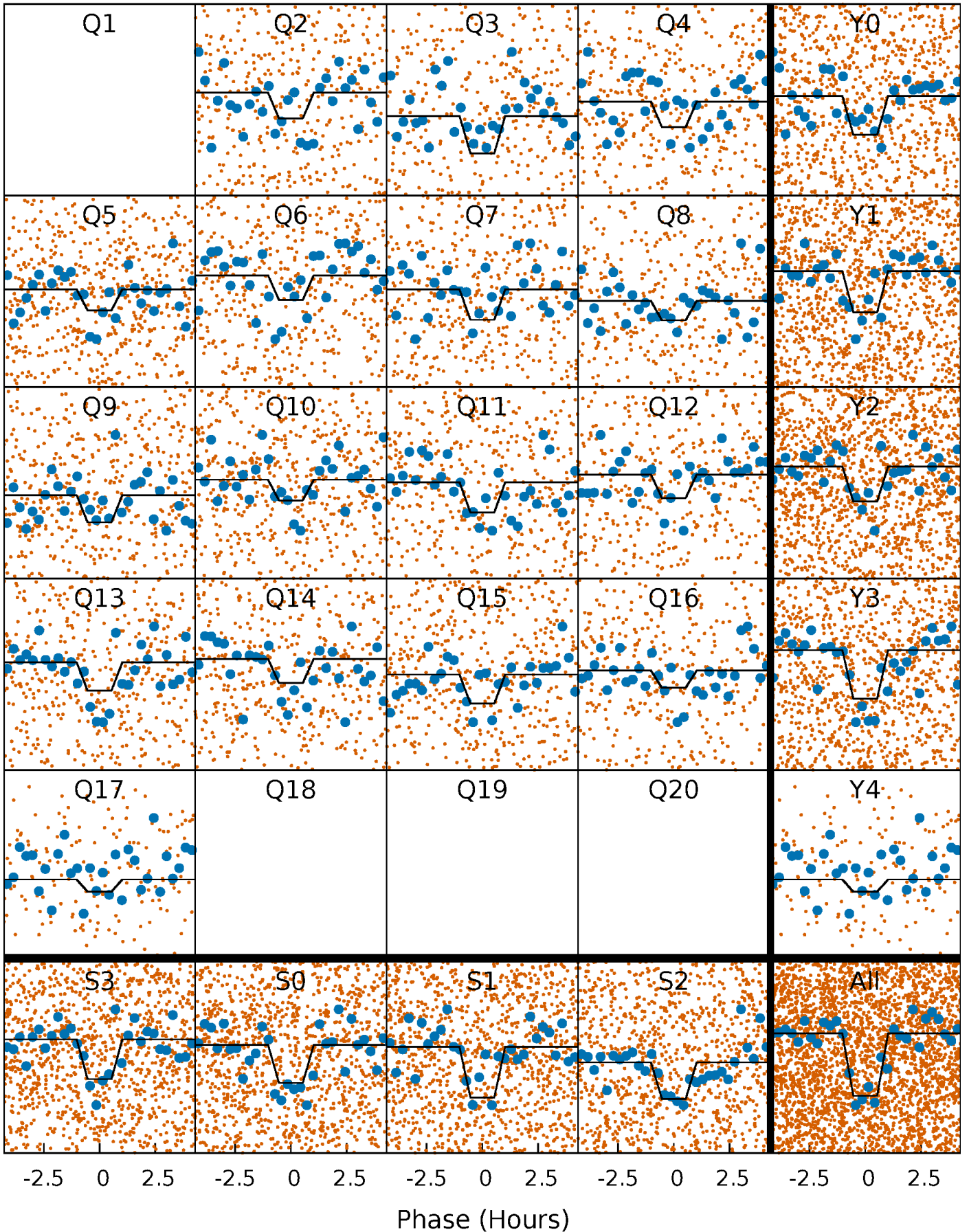
DV Quarter-Phased Transit Curves

TCE 007902204-01 P= 2.540312 Days $T_0=133.779677$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

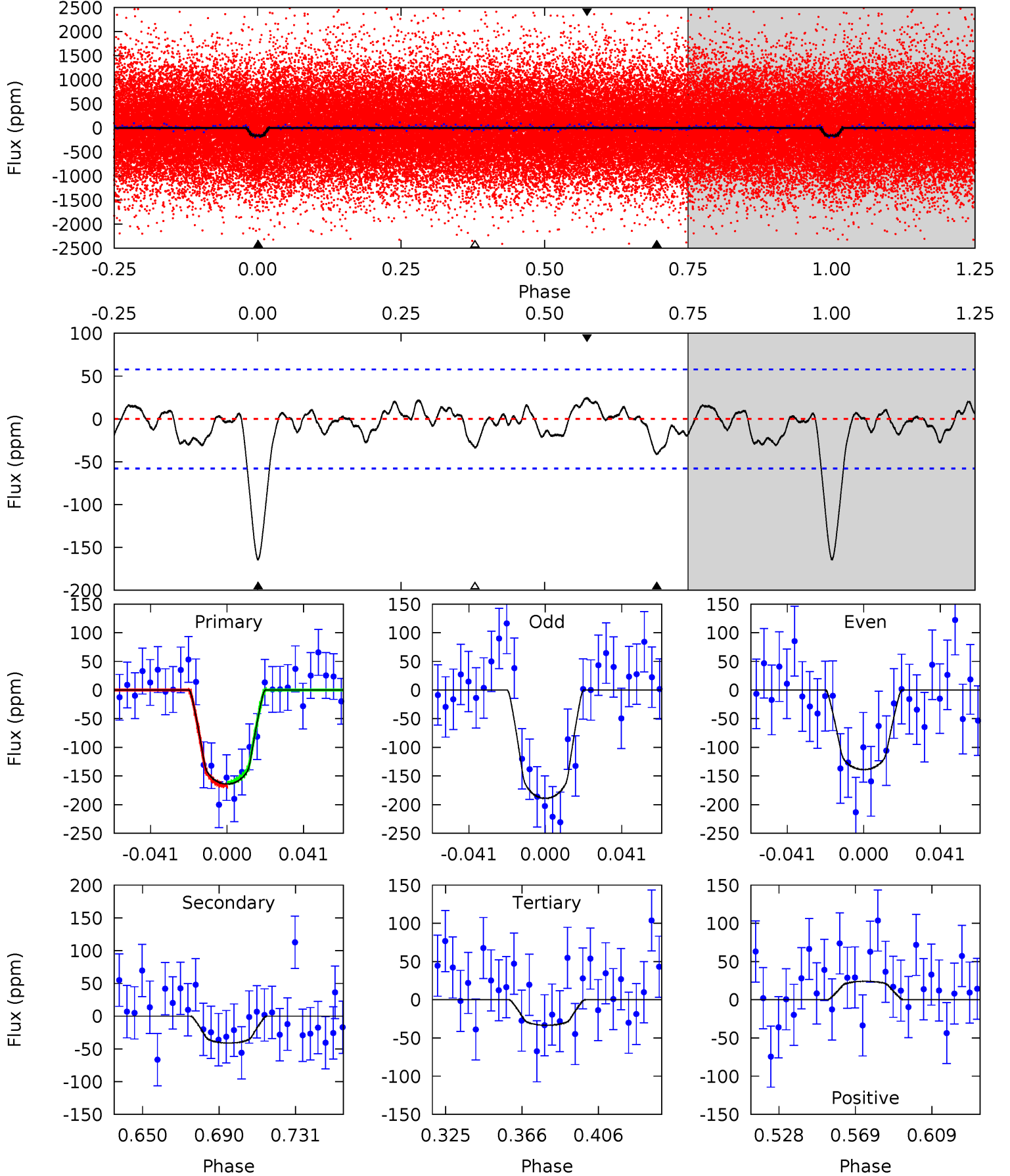
TCE 007902204-01 P= 2.540325 Days $T_0=133.774593$ (BKJD)



DV Model-Shift Uniqueness Test

007902204-01, P = 2.540312 Days, E = 133.779677 Days

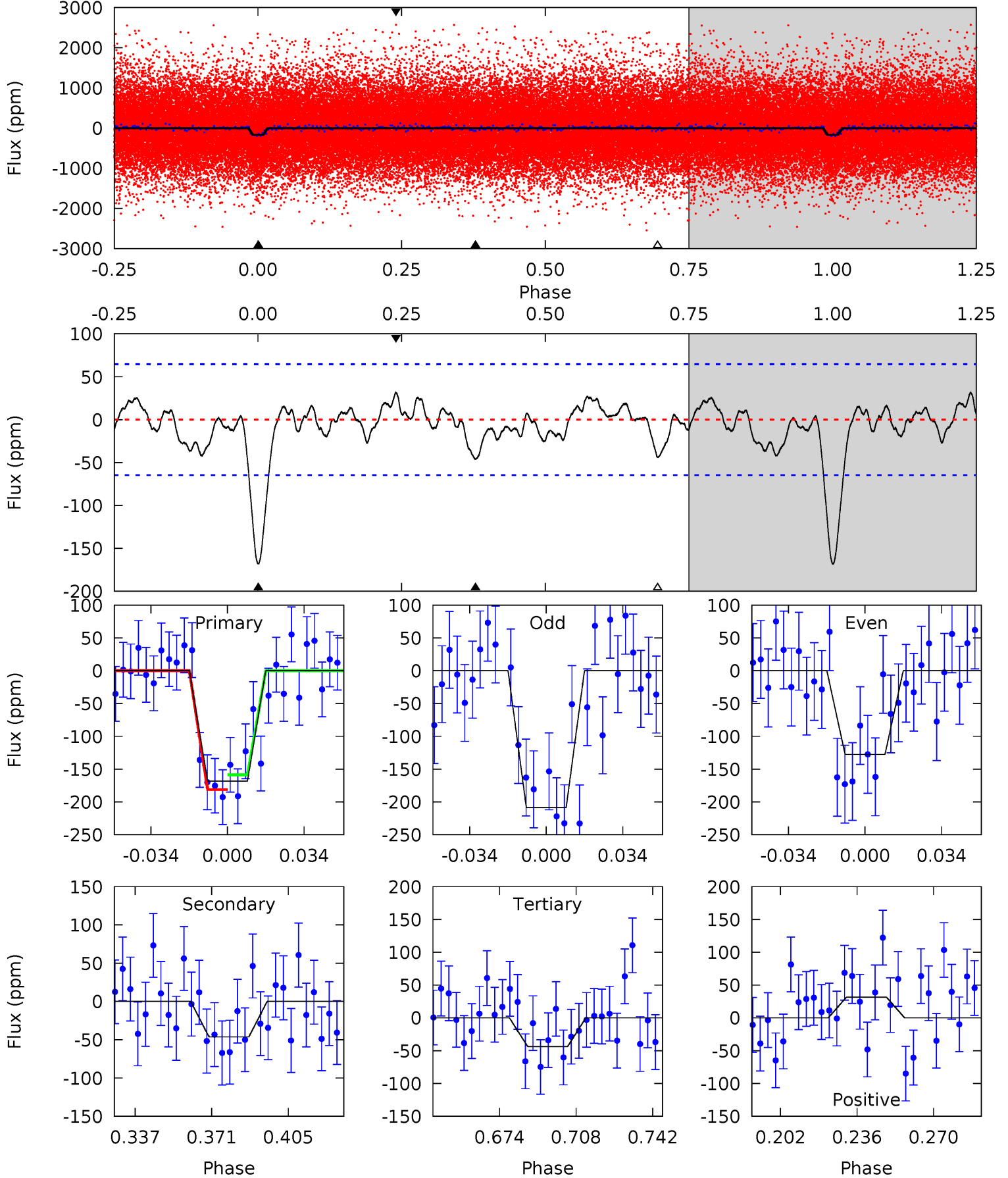
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	3.38	2.75	1.99	4.75	2.05	1.07	10.7	11.5	0.63	1.39	2.07	1.04	0.13	0.24



Alt Model-Shift Uniqueness Test

007902204-01, P = 2.540325 Days, E = 133.774593 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	3.43	3.24	2.35	4.79	2.12	1.18	9.23	10.1	0.19	1.09	3.00	0.94	0.16	0.83



Stellar Parameters For KIC 007902204

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5778^{+162}_{-182}	$4.531^{+0.036}_{-0.204}$	$0.070^{+0.250}_{-0.300}$	$0.911^{+0.257}_{-0.069}$	$1.028^{+0.102}_{-0.125}$	$1.914^{+0.372}_{-1.021}$
	+3%/-3%	+1%/-5%	+357%/-429%	+28%/-8%	+10%/-12%	+19%/-53%
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 007902204-01 / KOI 6931.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-41 ± 12	$1.67^{+1.19}_{-1.01}$	1815^{+126}_{-81}	3956^{+1824}_{-705}	11^{+55}_{-7}
Alt.	-46 ± 13	$1.53^{+1.23}_{-0.92}$	1811^{+128}_{-84}	4161^{+1999}_{-822}	14^{+75}_{-10}

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

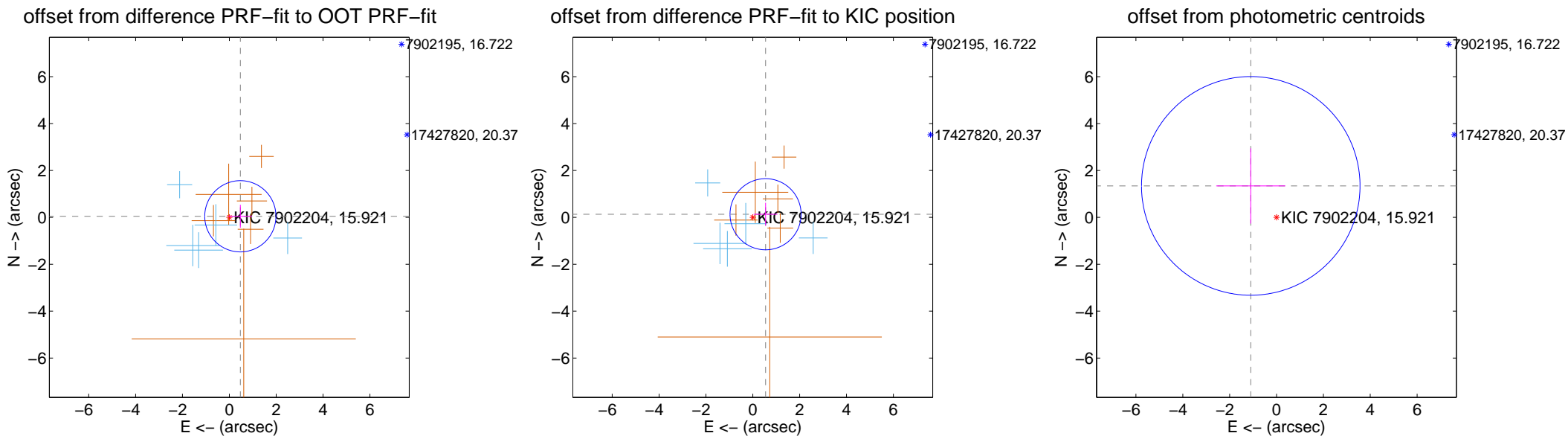
DV Centroid Data

Supplemental centroid analysis for 007902204-01. Kepler magnitude: 15.92. Transit SNR 10.27

There are 5 quarters with good PRF difference image offsets

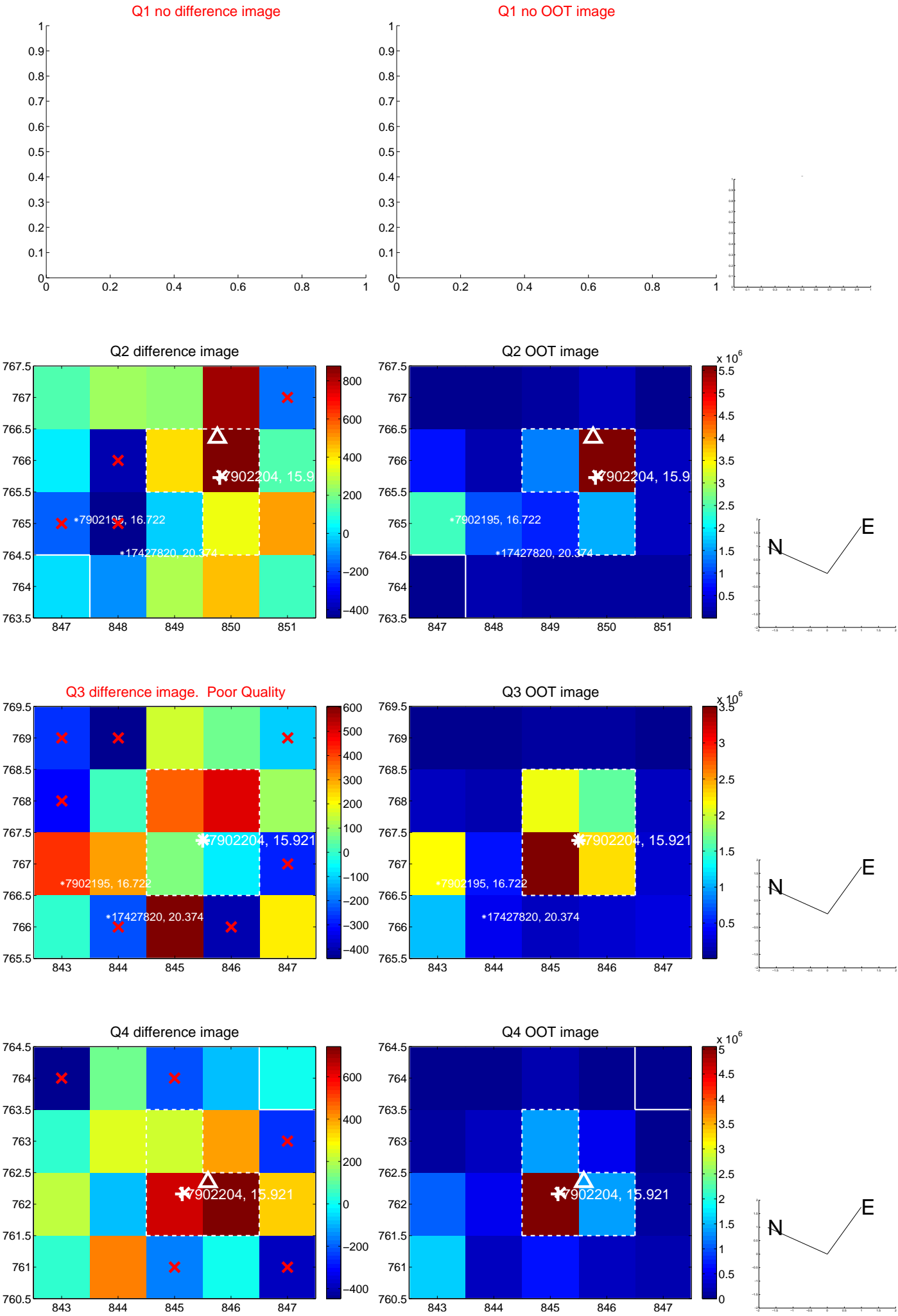
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.472 ± 0.507	0.93	-0.470 ± 0.507	0.047 ± 0.488
PRF-fit source offset from KIC position	0.561 ± 0.506	1.11	-0.545 ± 0.507	0.134 ± 0.488
photometric centroid source offset	1.73 ± 1.55	1.12	1.10 ± 1.48	1.34 ± 1.60

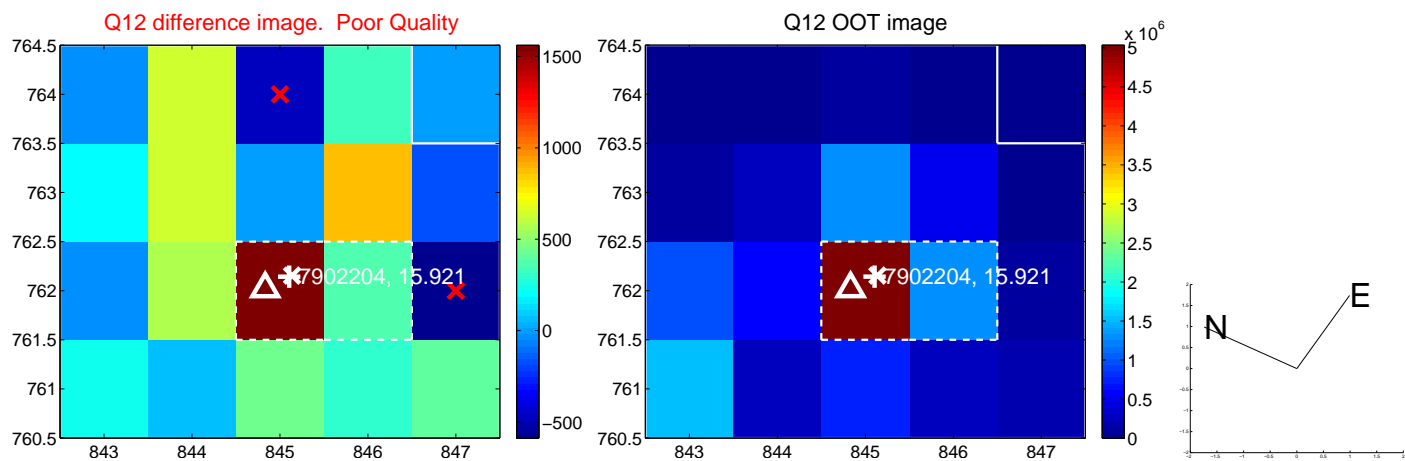
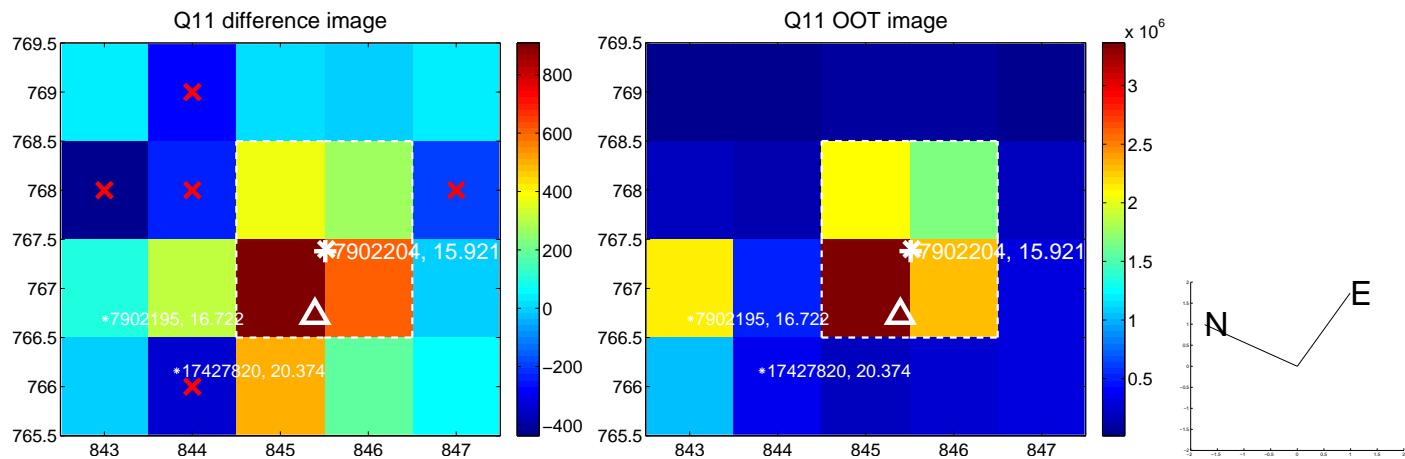
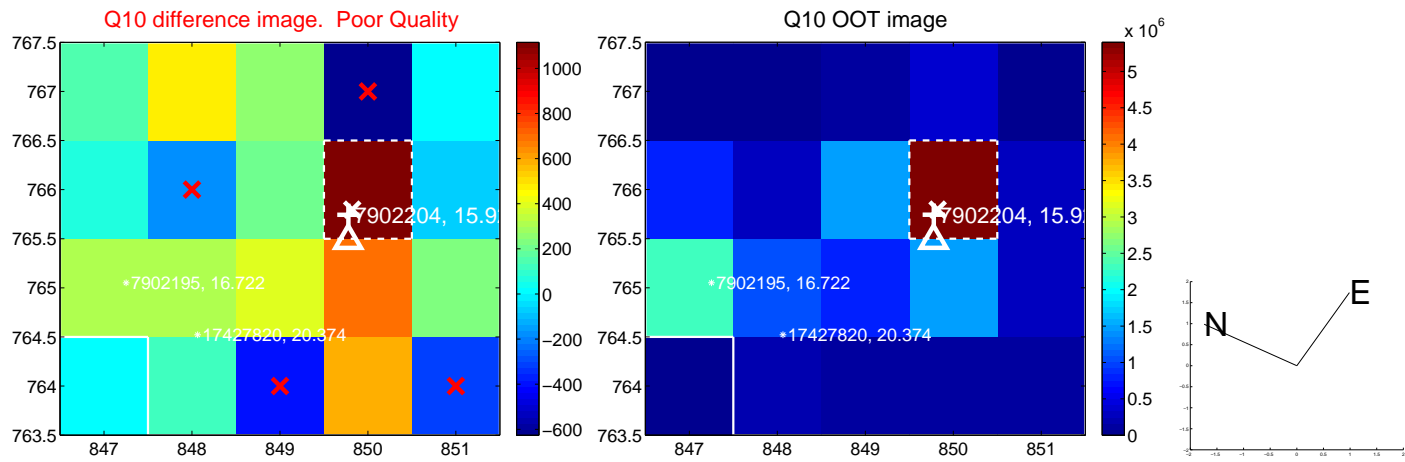
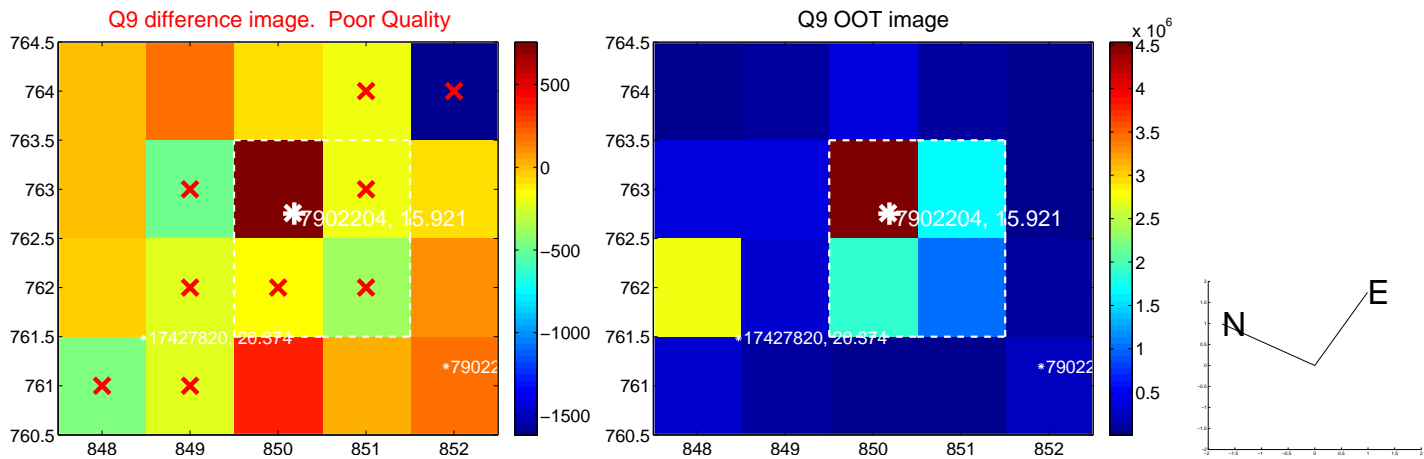


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

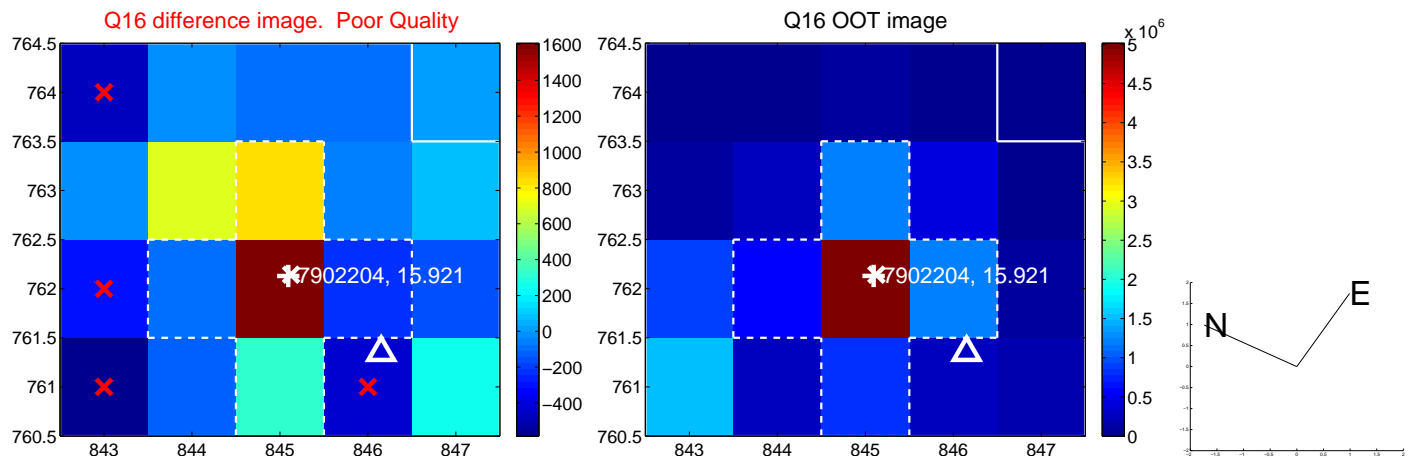
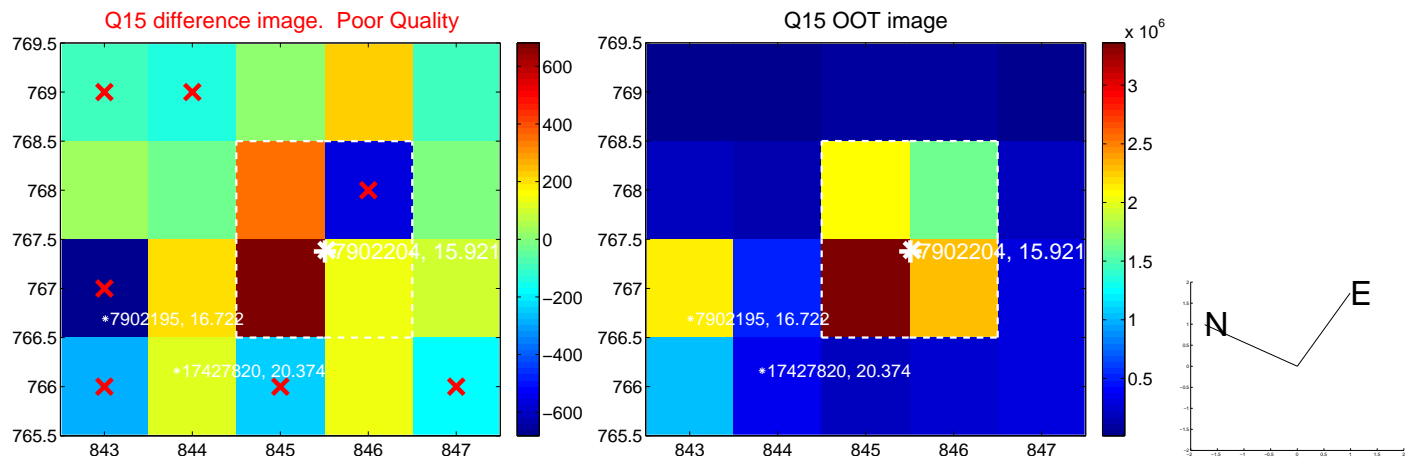
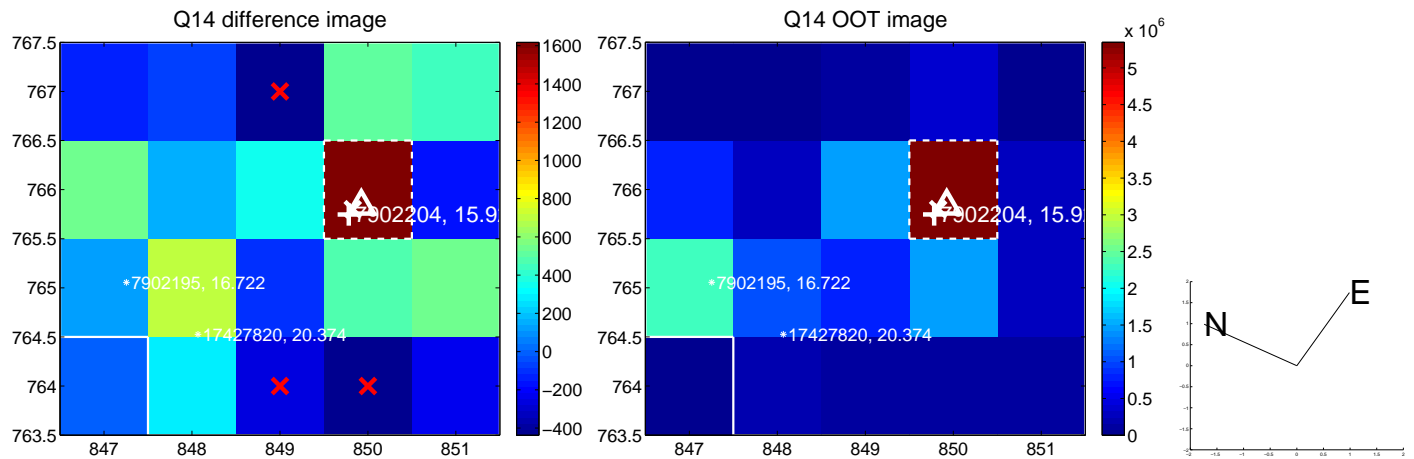
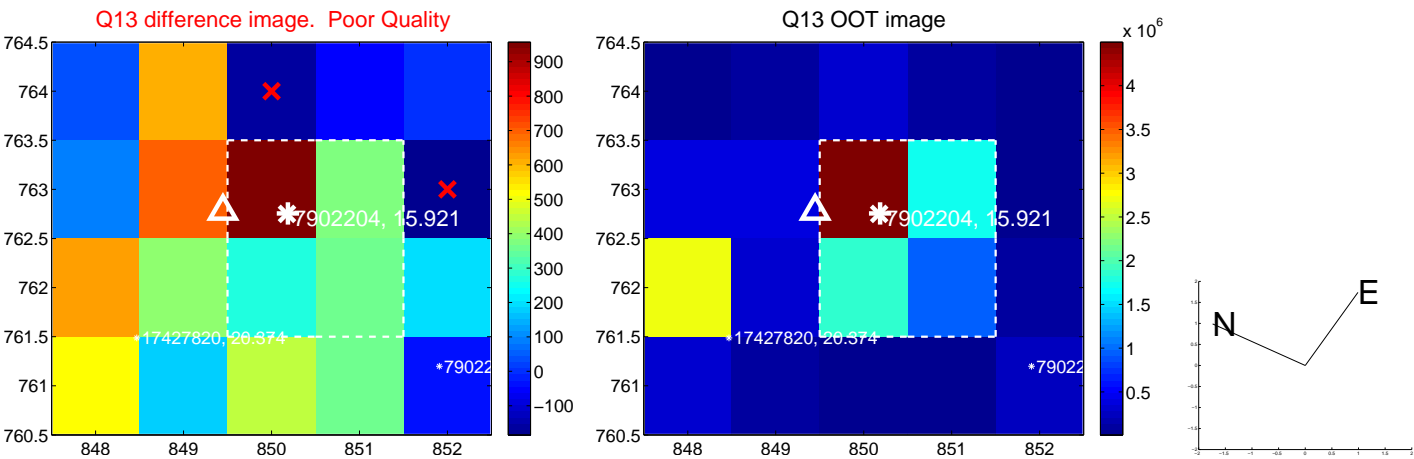
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



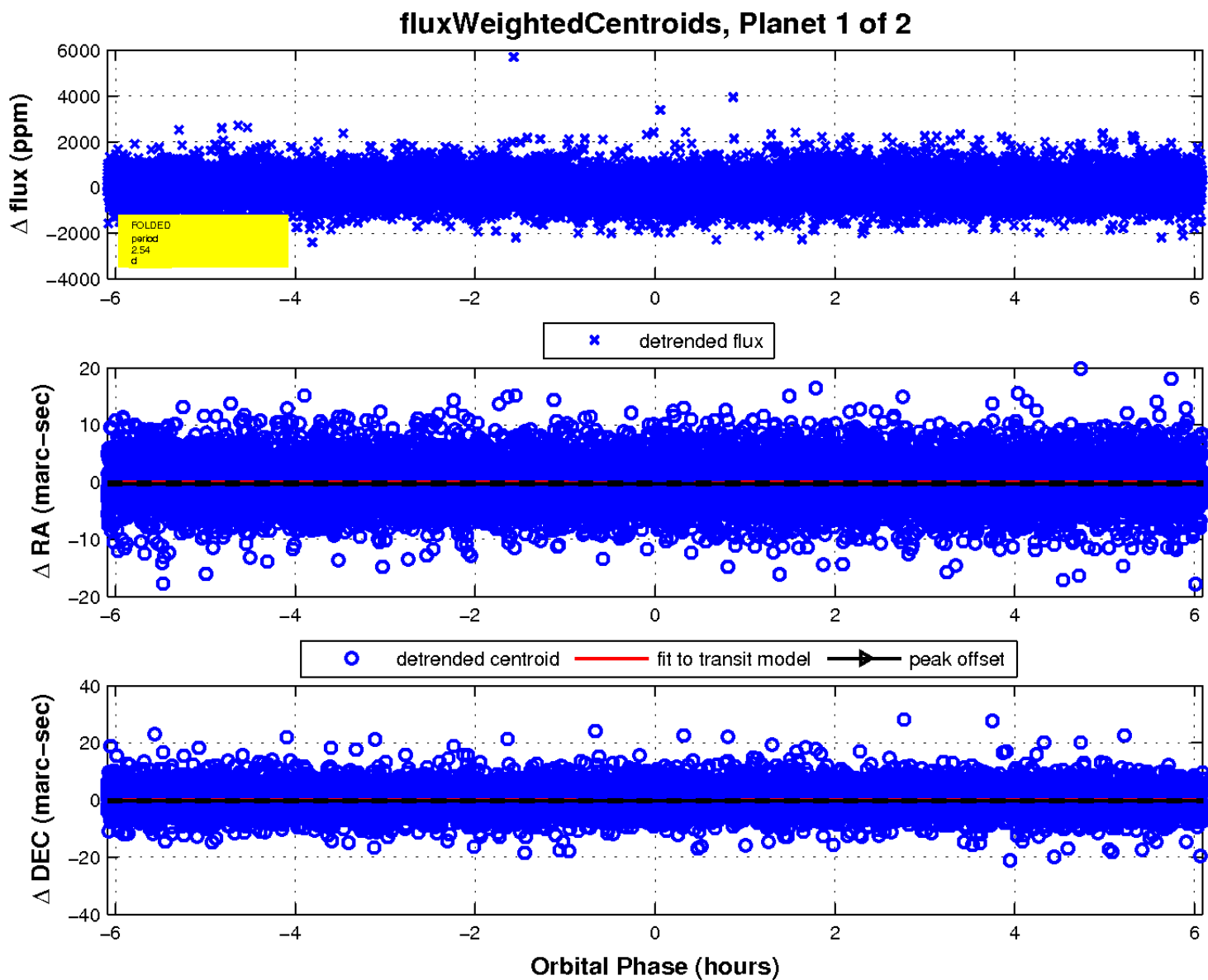
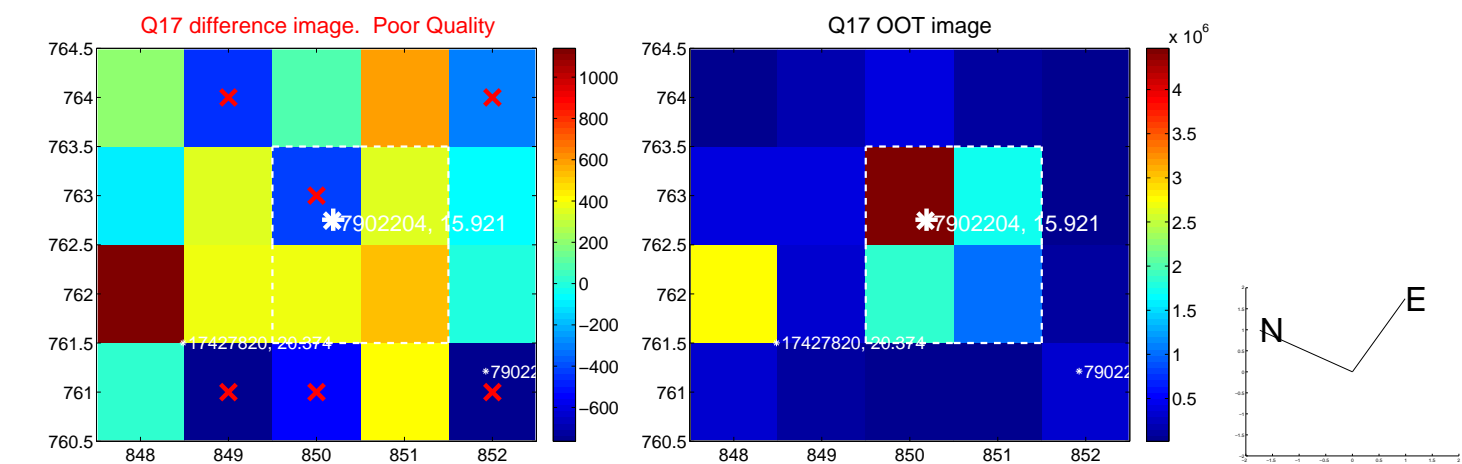
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

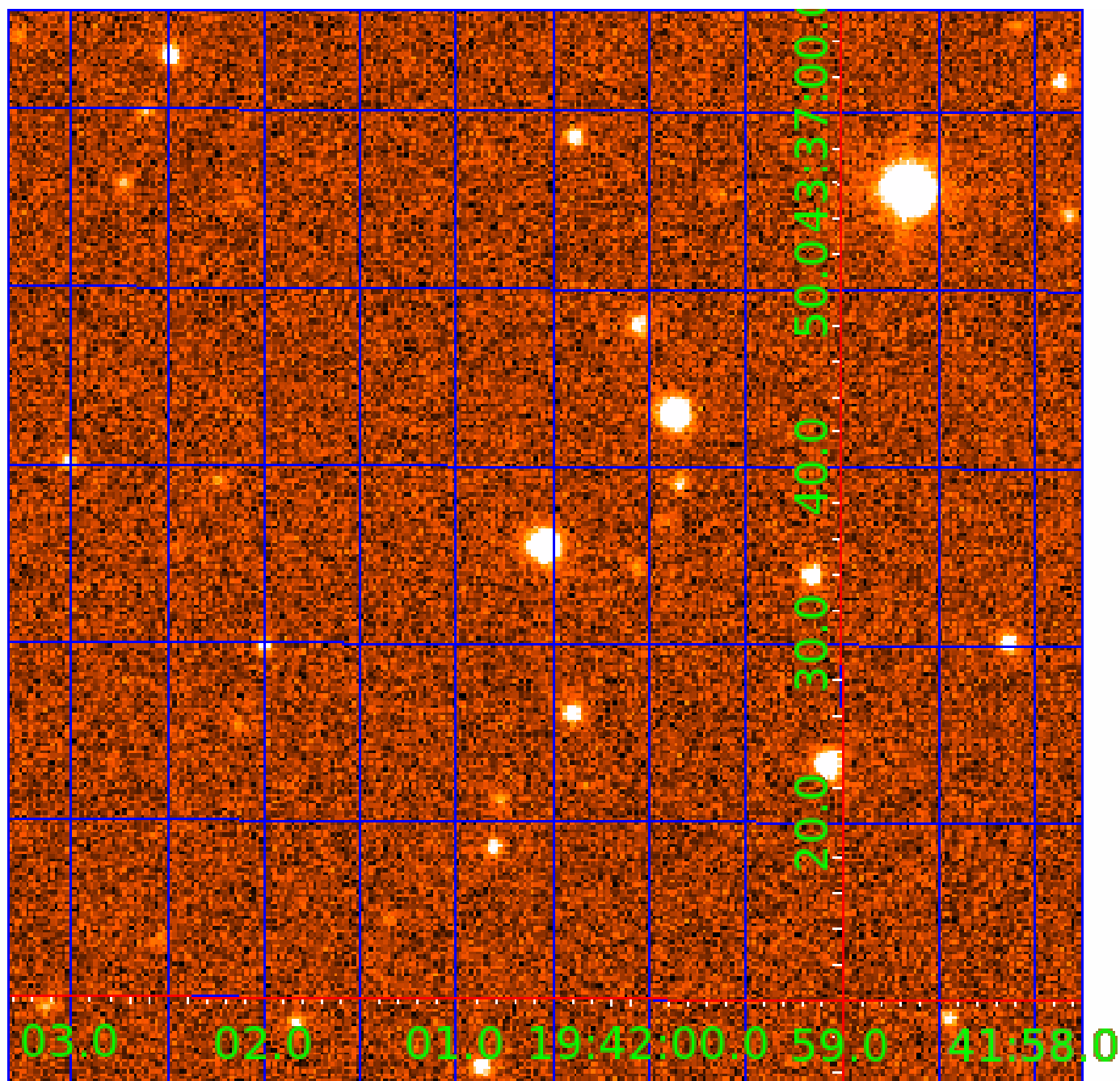


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination



KIC 007902204

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})
007902204-01	OBS	6931.01	2.540312	133.779677	169.0	2.030	9.1	10.3	0.91	5778	1.39	612.59
007902204-02	OBS	No	367.823152	236.332901	1172.6	13.133	7.9	8.2	0.91	5778	3.19	0.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007902204-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
007902204-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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.

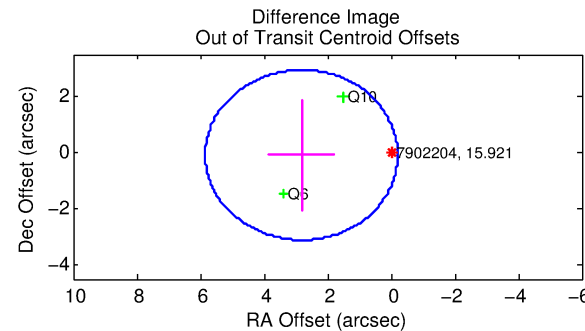
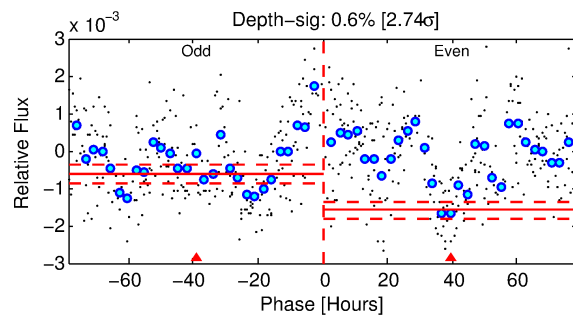
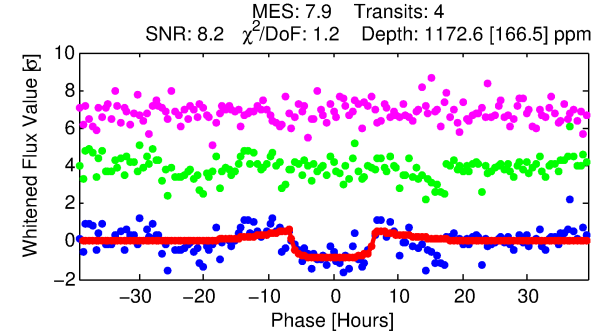
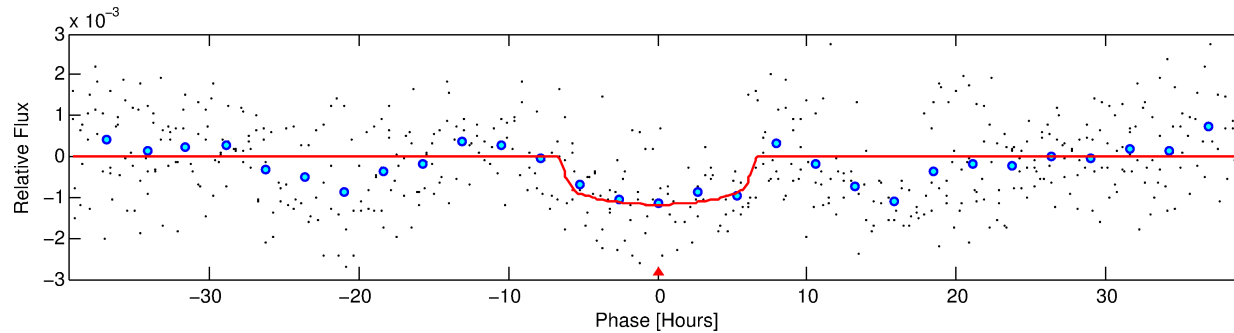
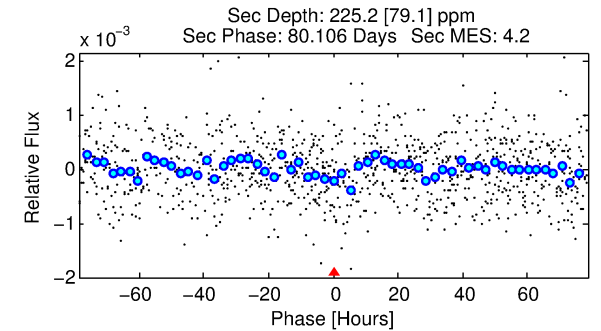
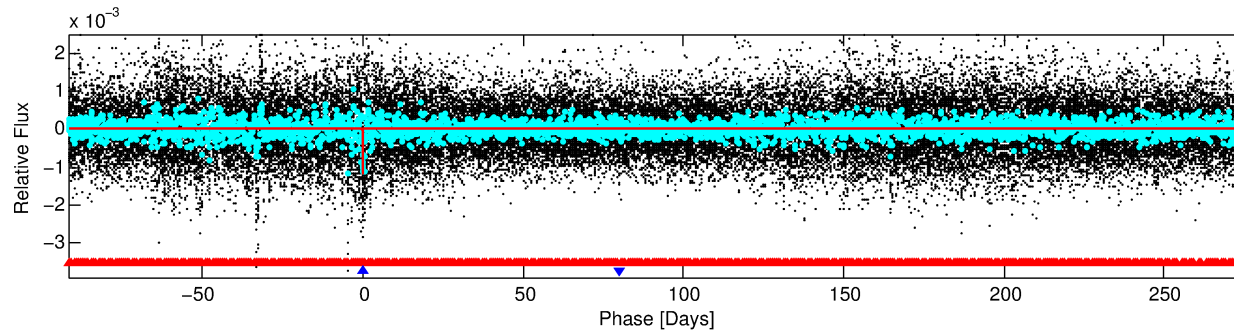
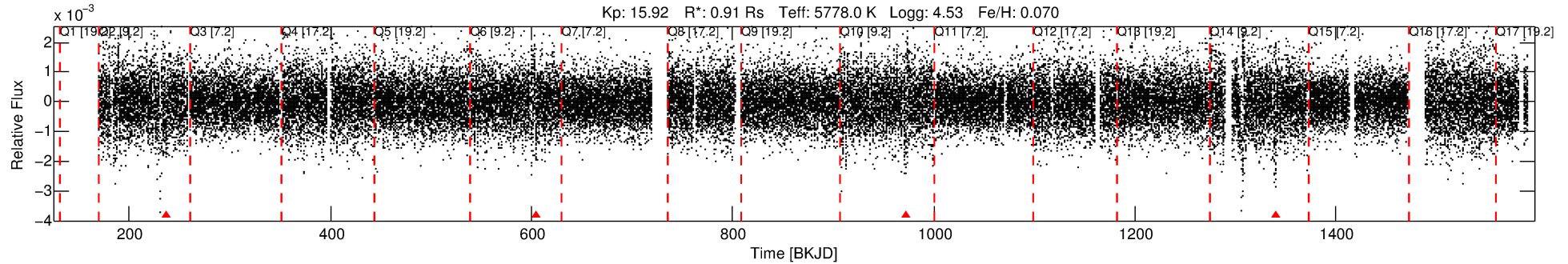
Ephemeris Match Information For 007902204-02

No Significant Match Found

DV One-Page Summary

KIC: 7902204 Candidate: 2 of 2 Period: 367.823 d
KOI: K06931 Corr: No Ephemeris Match

Kp: 15.92 R*: 0.91 Rs Teff: 5778.0 K Logg: 4.53 Fe/H: 0.070



DV Fit Results:

Period = 367.82315 [0.00913] d
Epoch = 236.3329 [0.0169] BKJD
Rp/R* = 0.0321 [0.0133]
a/R* = 190.88 [330.66]
b = 0.52 [2.44]
Seff = 0.81 [0.31]
Teq = 242 [23] K
Rp = 3.20 [1.60] Re
a = 1.0142 [0.2482] AU
Ag = 12483.11 [12100.43] [1.03σ]
Teffp = 3948 [895] K [4.14σ]

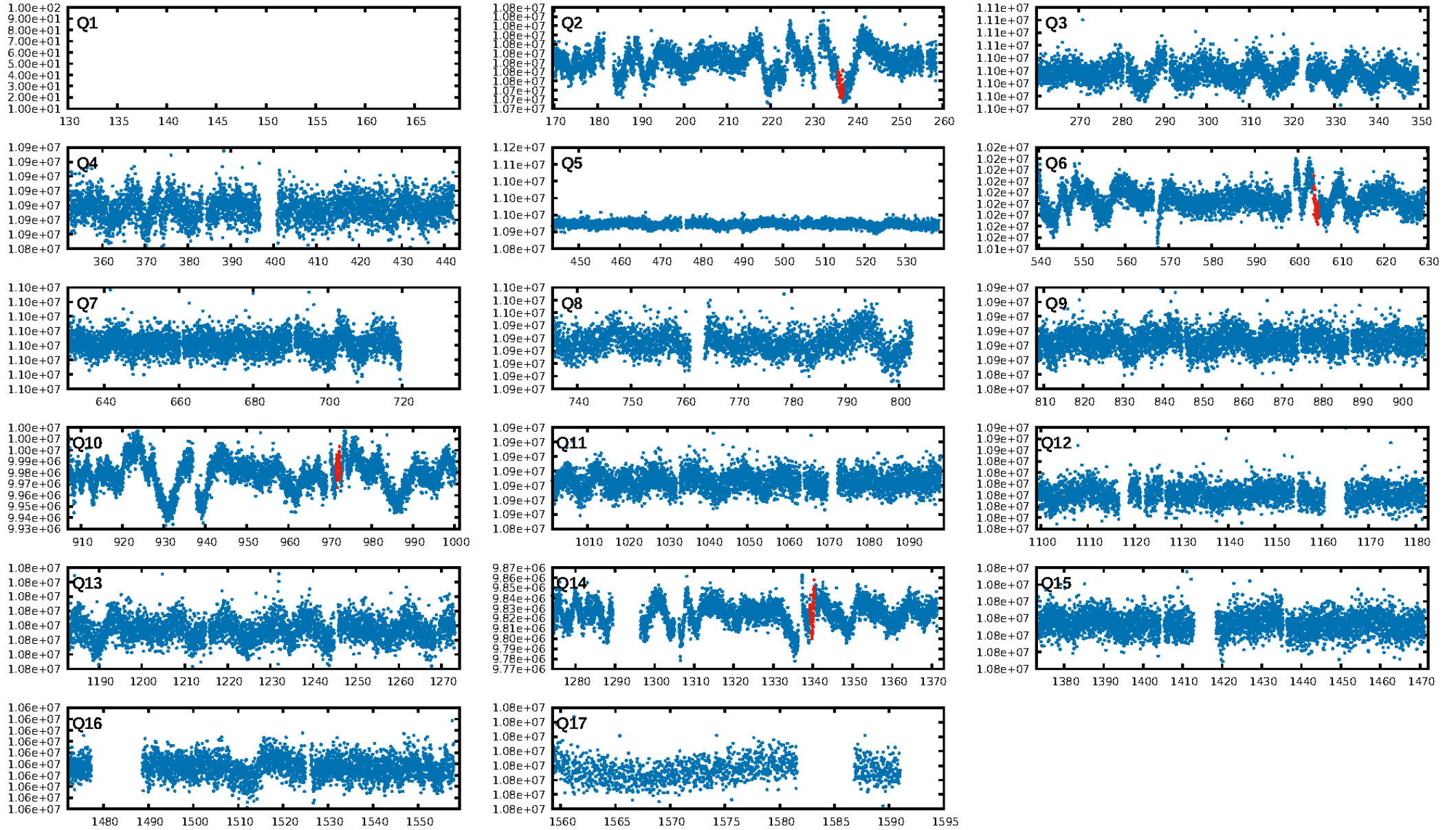
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [659.71σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.3%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 4.50e-13
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 0.4378
Centroid-sig: 0.0%
Centroid-so: 6.261 arcsec [3.91σ]
OotOffset-rm: 2.819 arcsec [2.79σ]
KicOffset-rm: 2.531 arcsec [2.48σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
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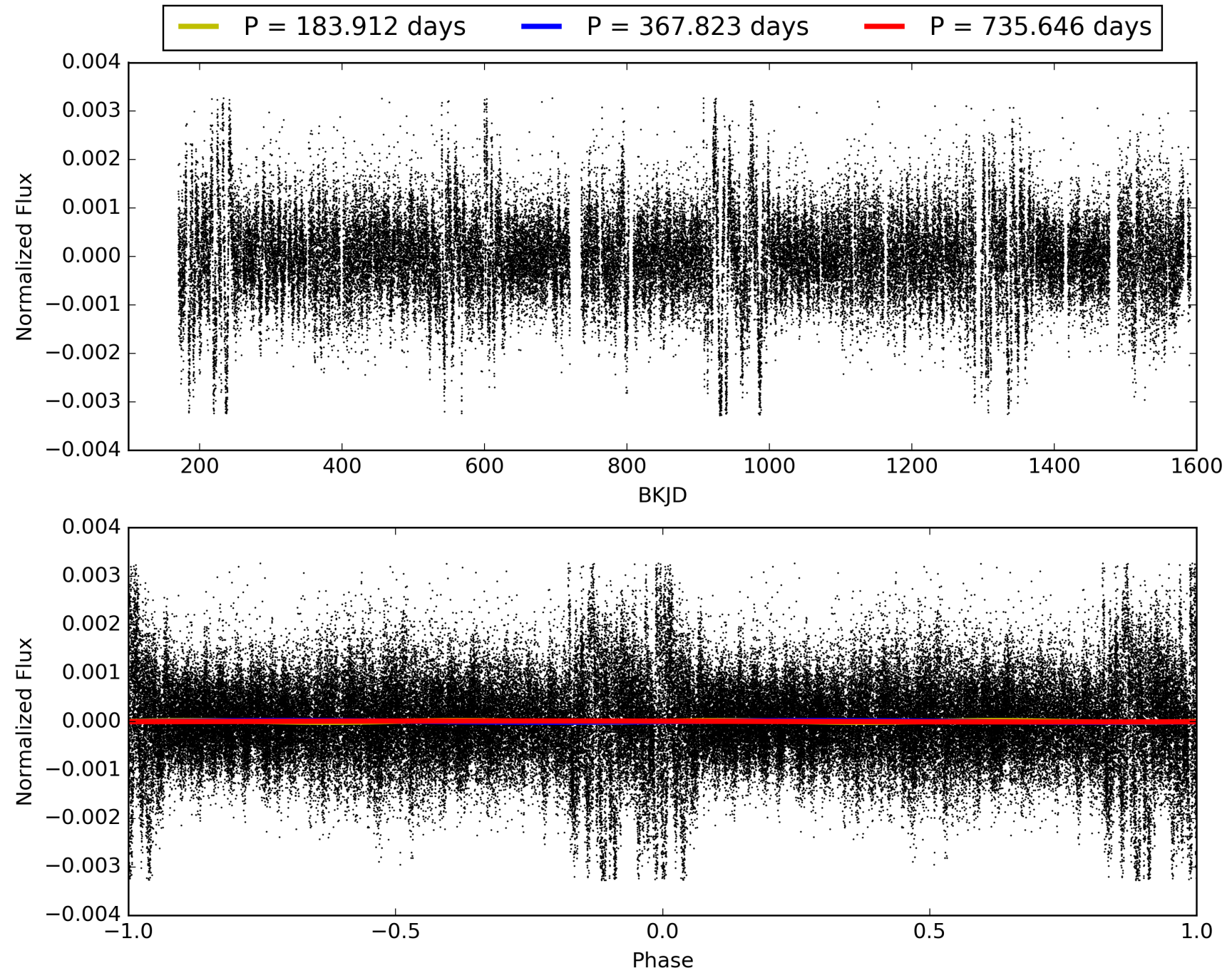
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:40:16 Z

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

TCE 007902204-02, PDC Light Curves

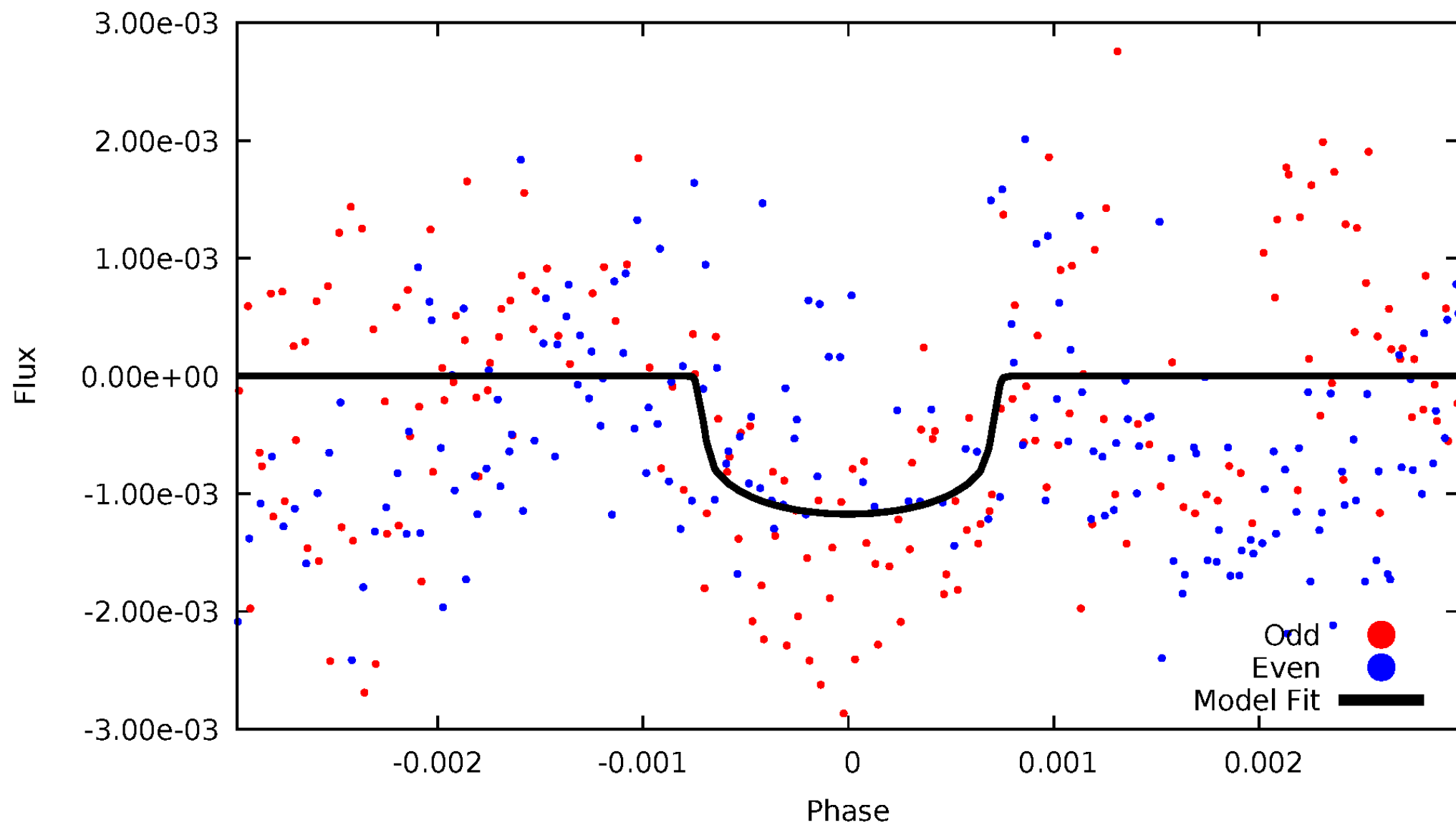


TCE 007902204-02



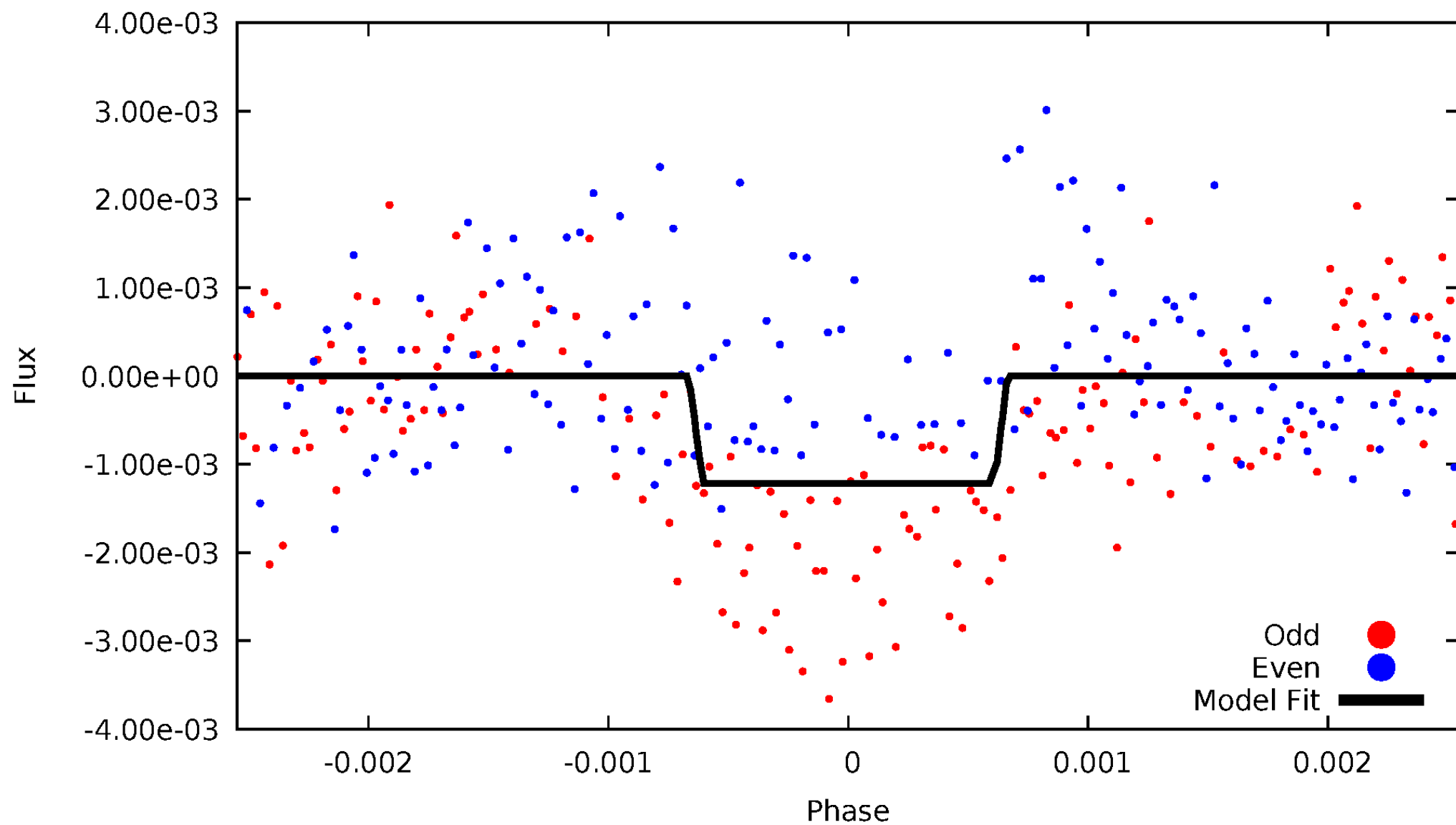
DV Odd/Even

TCE 007902204-02



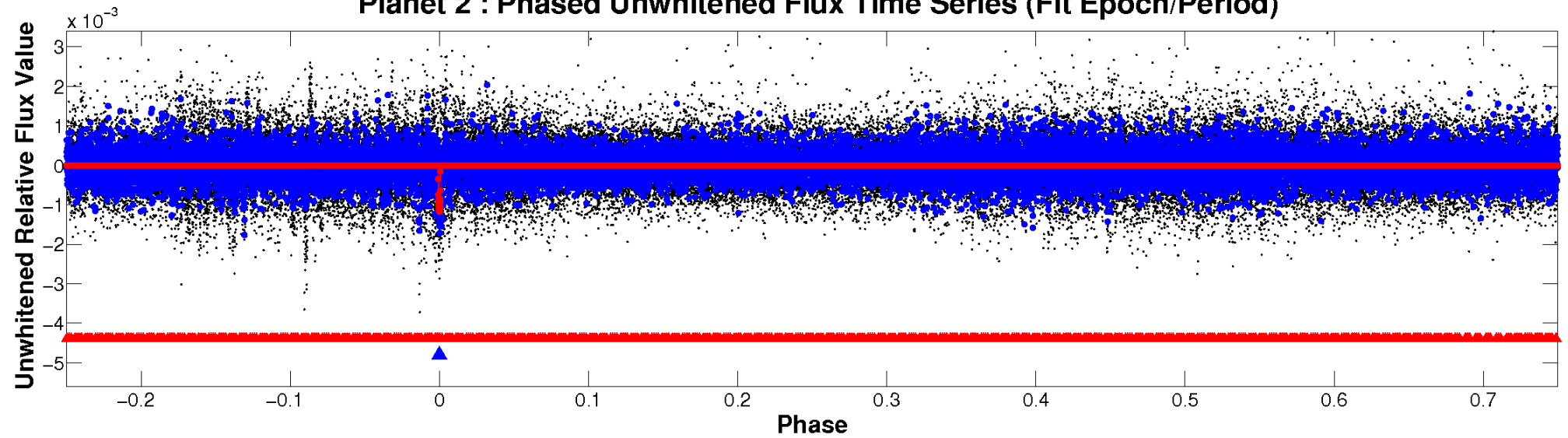
ALT Odd/Even

TCE 007902204-02

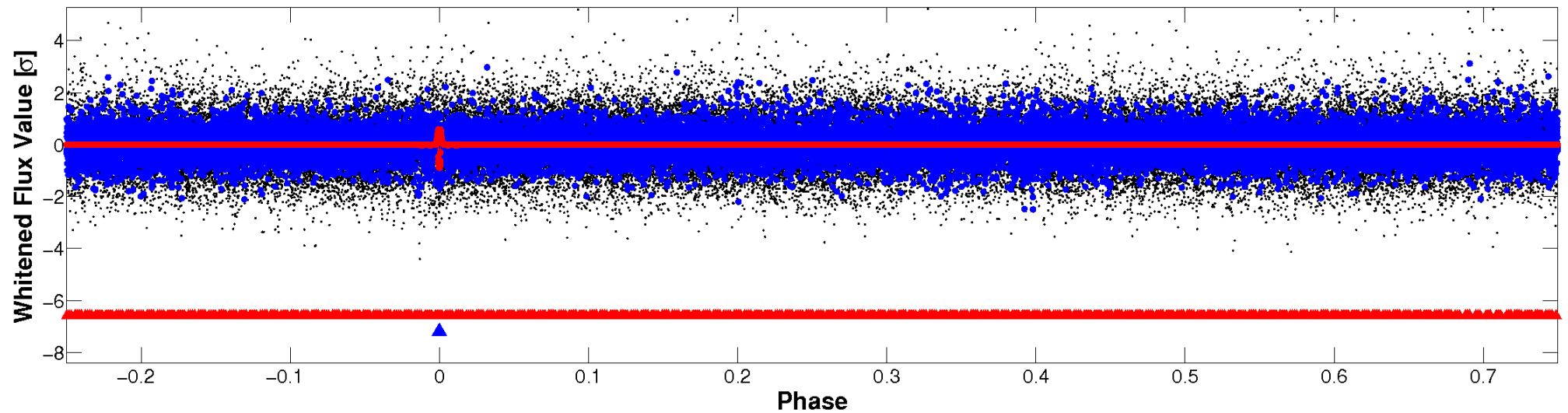


Non-Whitened Vs. Whitened Light Curve

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

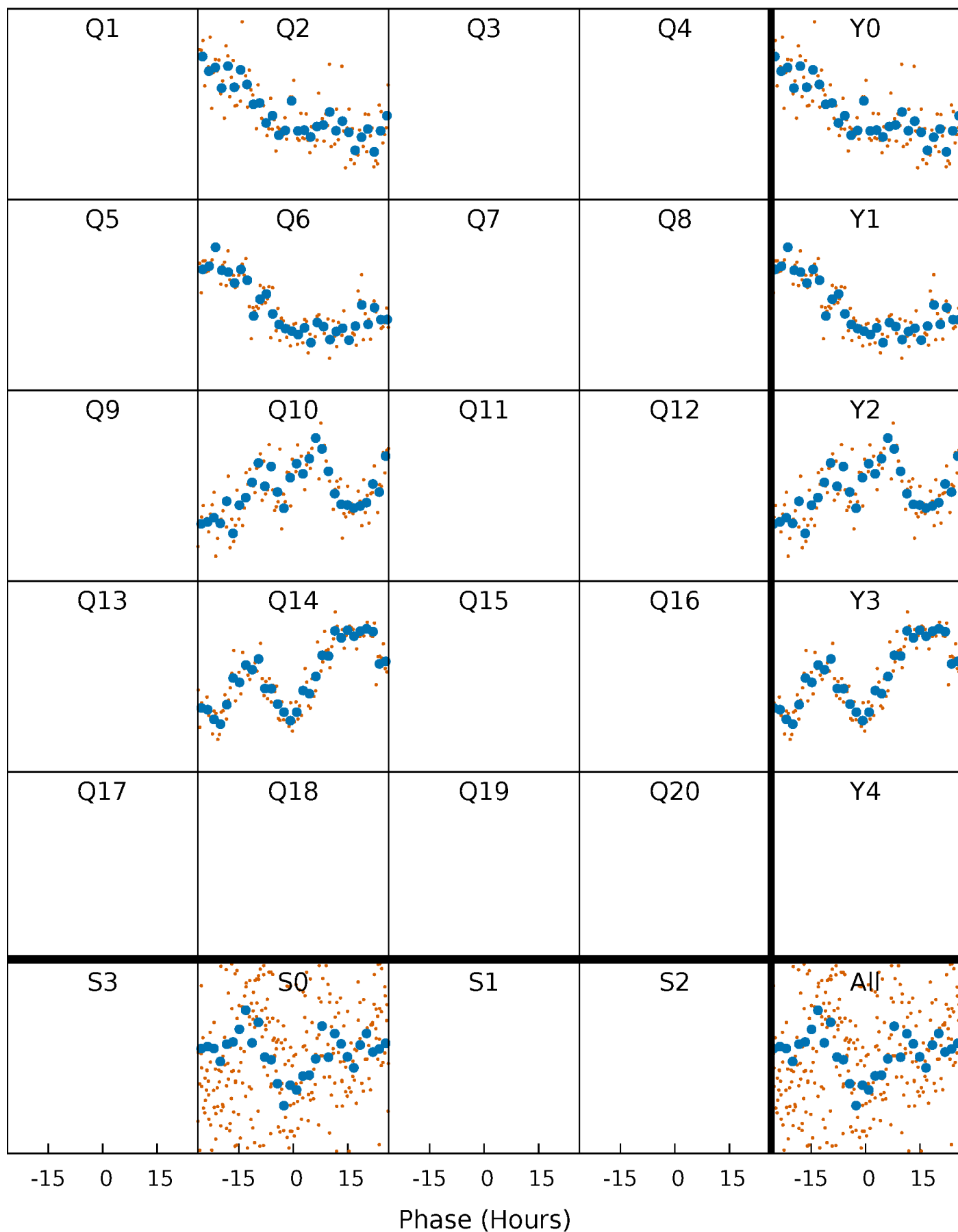


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



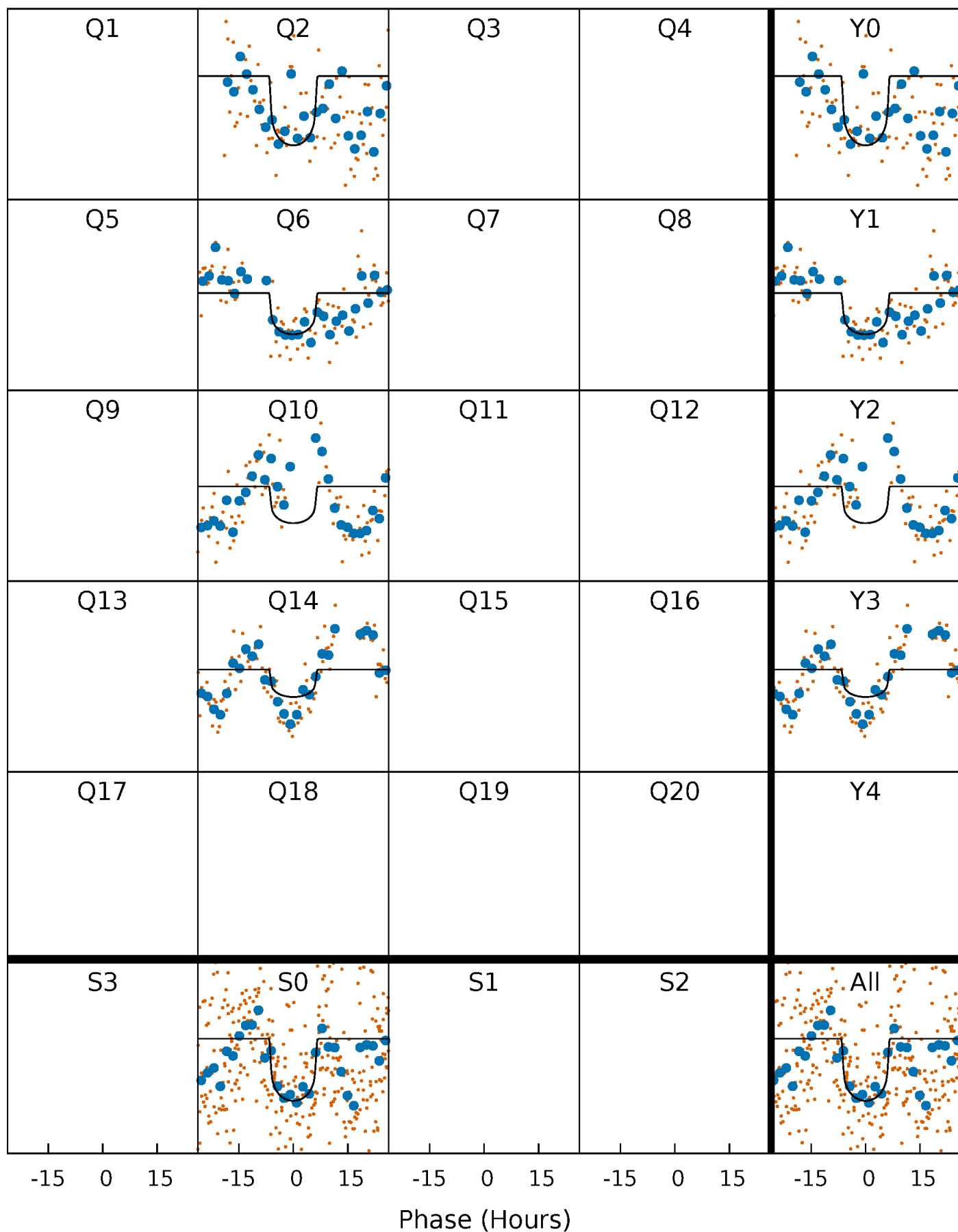
PDC Quarter-Phased Transit Curves

TCE 007902204-02 P=367.823152 Days $T_0=236.332901$ (BKJD)



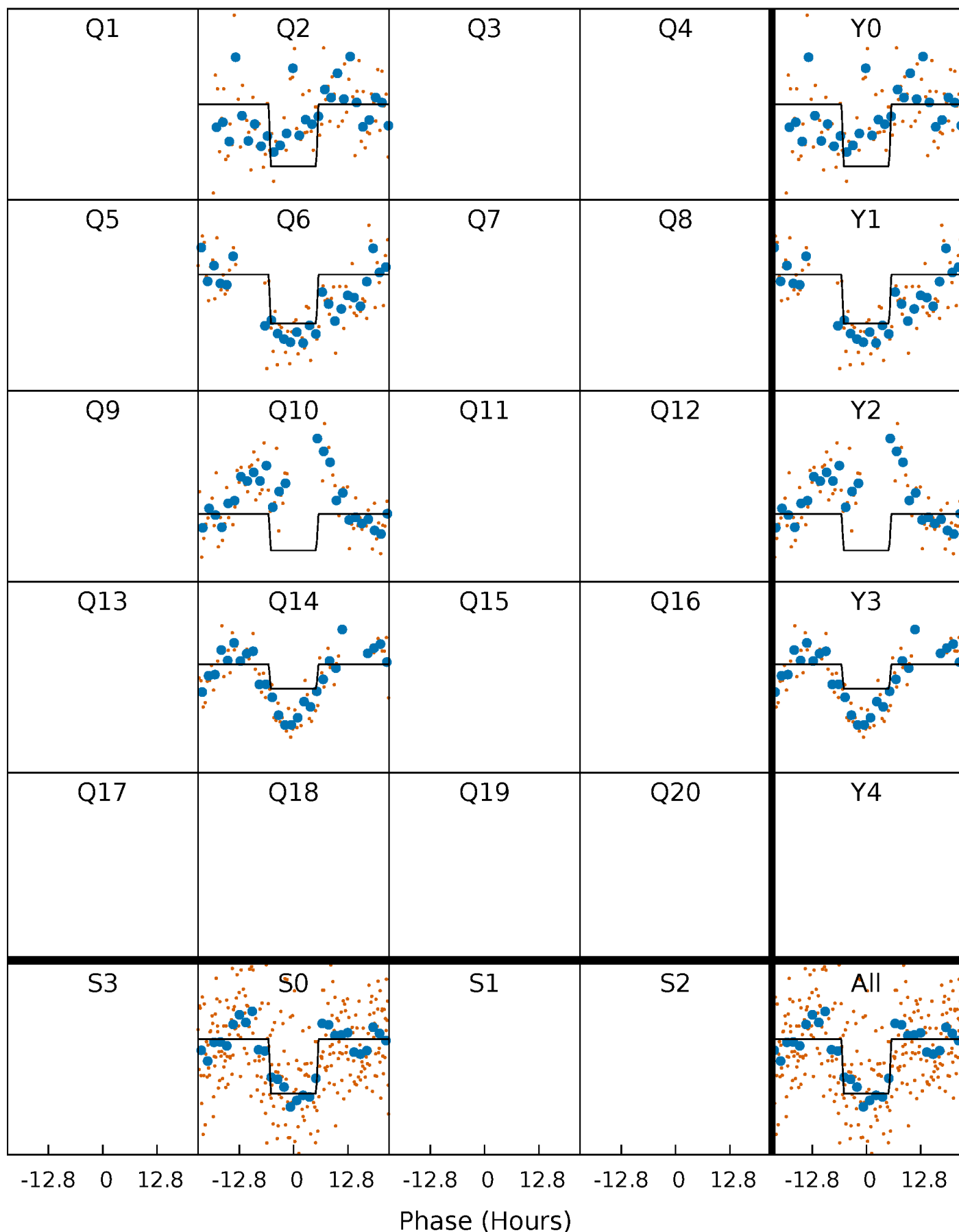
DV Quarter-Phased Transit Curves

TCE 007902204-02 P=367.823152 Days $T_0=236.332901$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

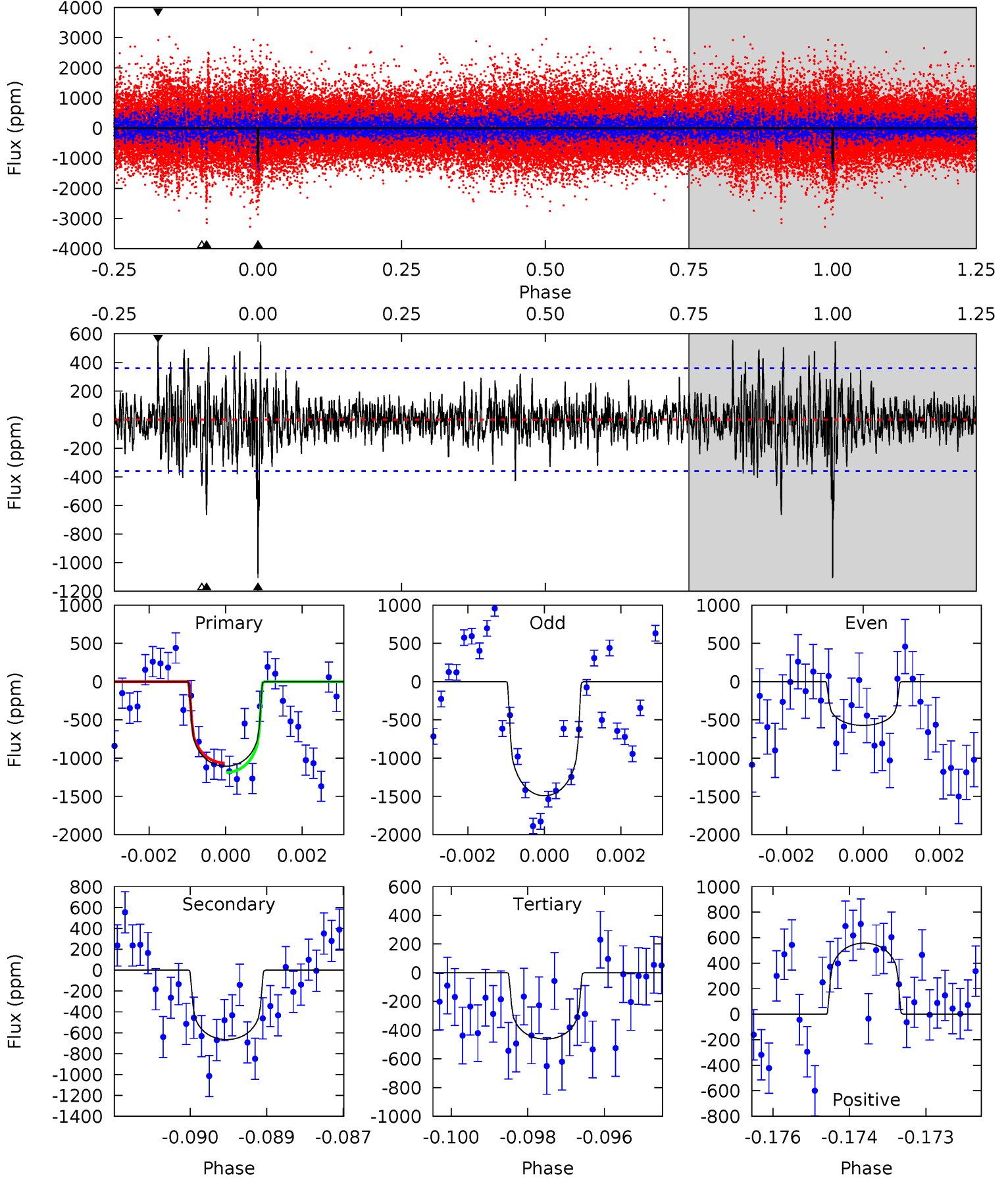
TCE 007902204-02 P=367.831325 Days $T_0=236.329214$ (BKJD)



DV Model-Shift Uniqueness Test

007902204-02, P = 367.823152 Days, E = 236.332901 Days

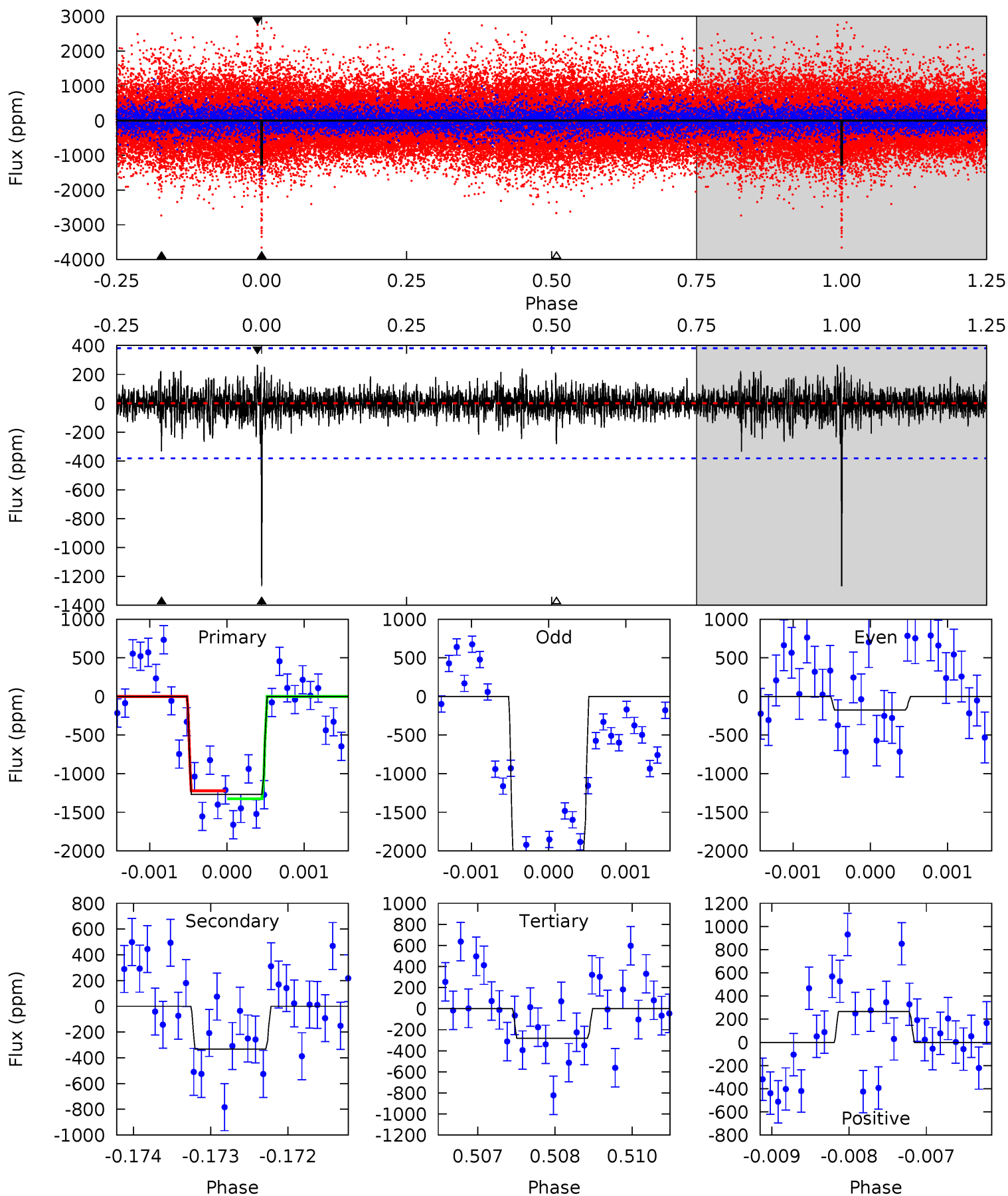
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	9.96	6.92	8.34	5.37	3.16	1.80	9.63	8.21	3.04	1.62	6.81	0.89	0.34	0.92



Alt Model-Shift Uniqueness Test

007902204-02, $P = 367.831325$ Days, $E = 236.329214$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	4.71	3.99	3.77	5.40	3.22	0.90	14.0	14.2	0.72	0.95	12.9	0.96	0.17	0.73



Stellar Parameters For KIC 007902204

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5778^{+162}_{-182}	$4.531^{+0.036}_{-0.204}$	$0.070^{+0.250}_{-0.300}$	$0.911^{+0.257}_{-0.069}$	$1.028^{+0.102}_{-0.125}$	$1.914^{+0.372}_{-1.021}$
	+3%/-3%	+1%/-5%	+357%/-429%	+28%/-8%	+10%/-12%	+19%/-53%
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 007902204-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-665 ± 67	$3.35^{+1.46}_{-1.42}$	346^{+22}_{-16}	5234^{+1562}_{-718}	33307^{+65005}_{-17754}
Alt.	-333 ± 71	$3.63^{+1.38}_{-1.38}$	346^{+21}_{-17}	4358^{+992}_{-483}	13777^{+22043}_{-6699}

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 $A_{obs} \gg 1.0$

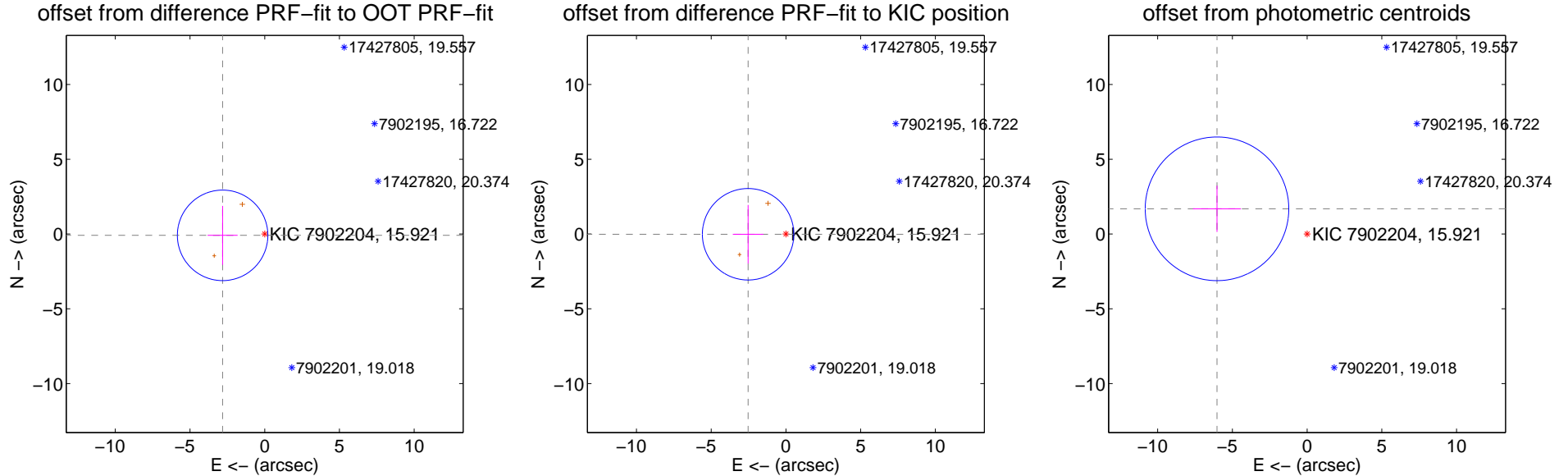
DV Centroid Data

Supplemental centroid analysis for 007902204-02. Kepler magnitude: 15.92. Transit SNR 8.24

There are 0 quarters with good PRF difference image offsets

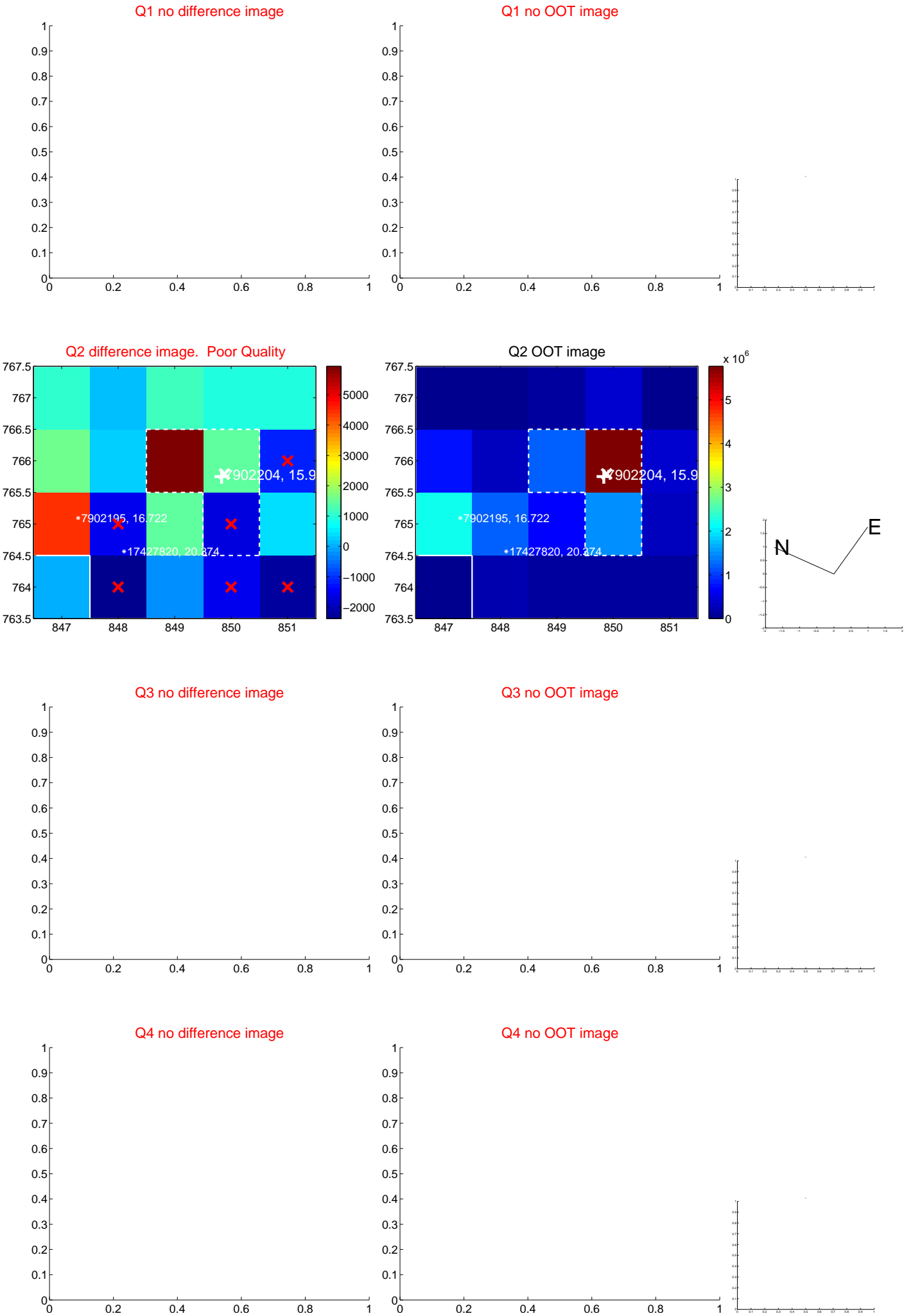
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.819 ± 1.009	2.79	2.817 ± 1.008	-0.088 ± 1.967
PRF-fit source offset from KIC position	2.531 ± 1.020	2.48	2.531 ± 1.020	-0.015 ± 1.960
photometric centroid source offset	6.26 ± 1.60	3.91	6.03 ± 1.61	1.69 ± 1.55

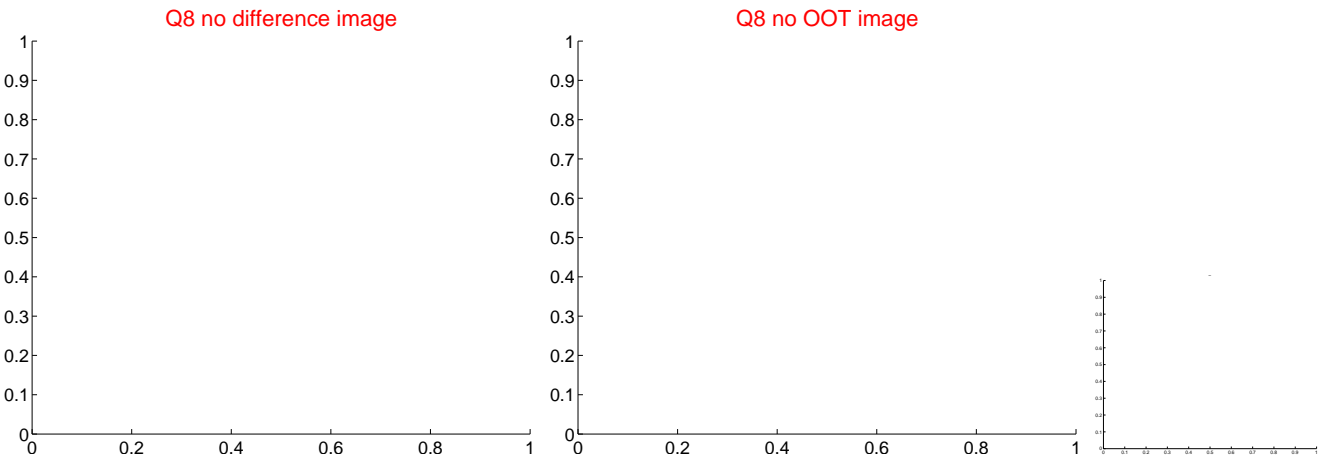
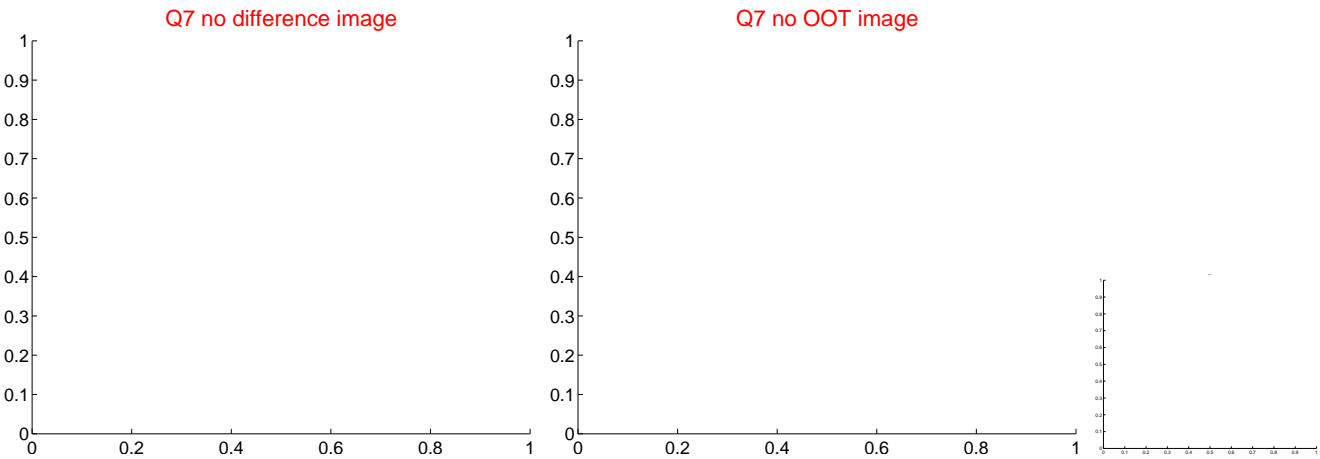
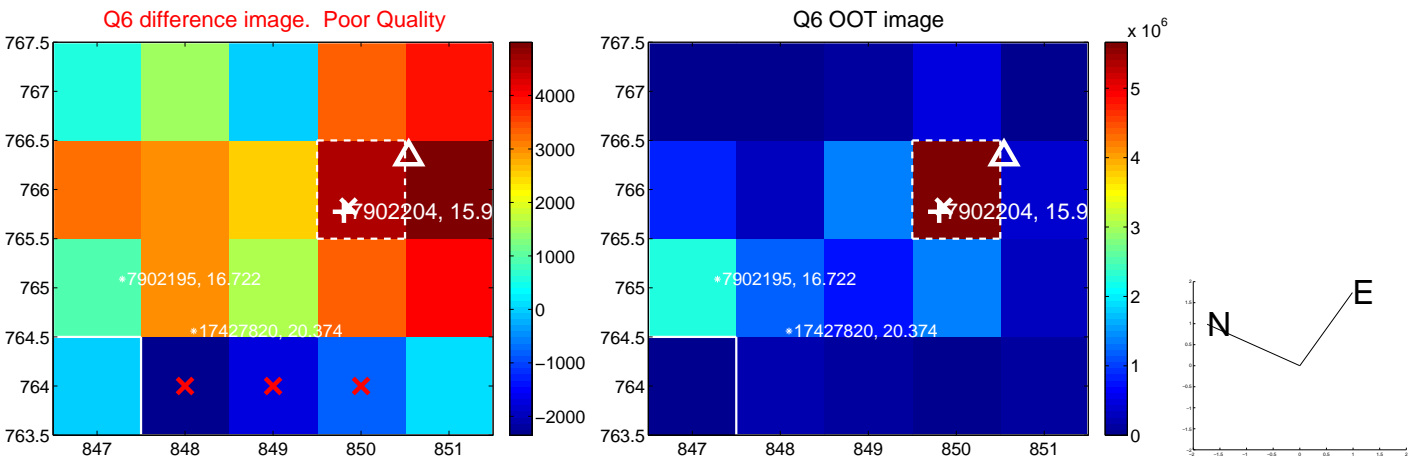
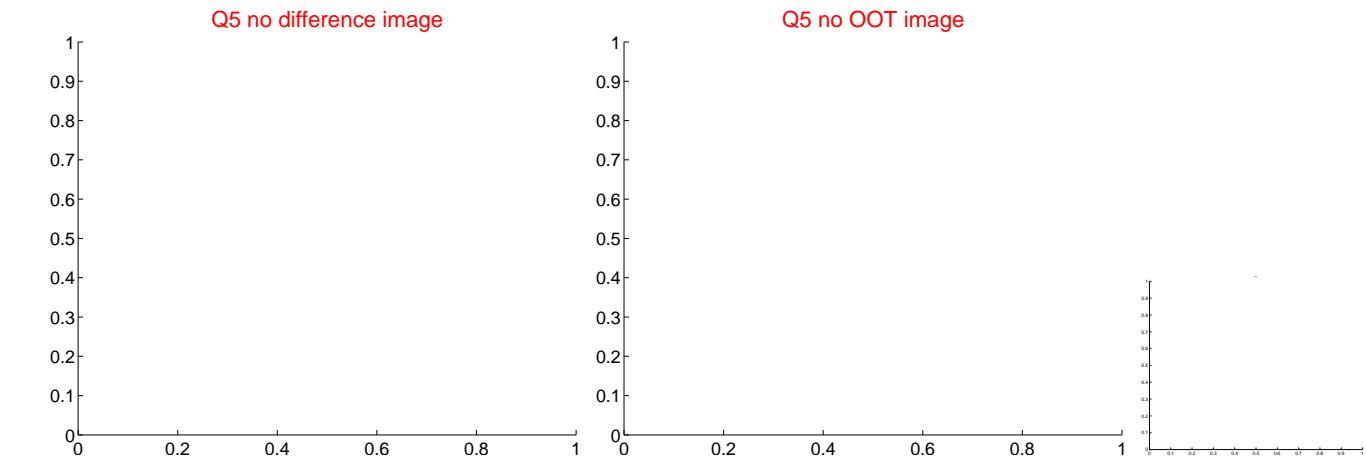


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

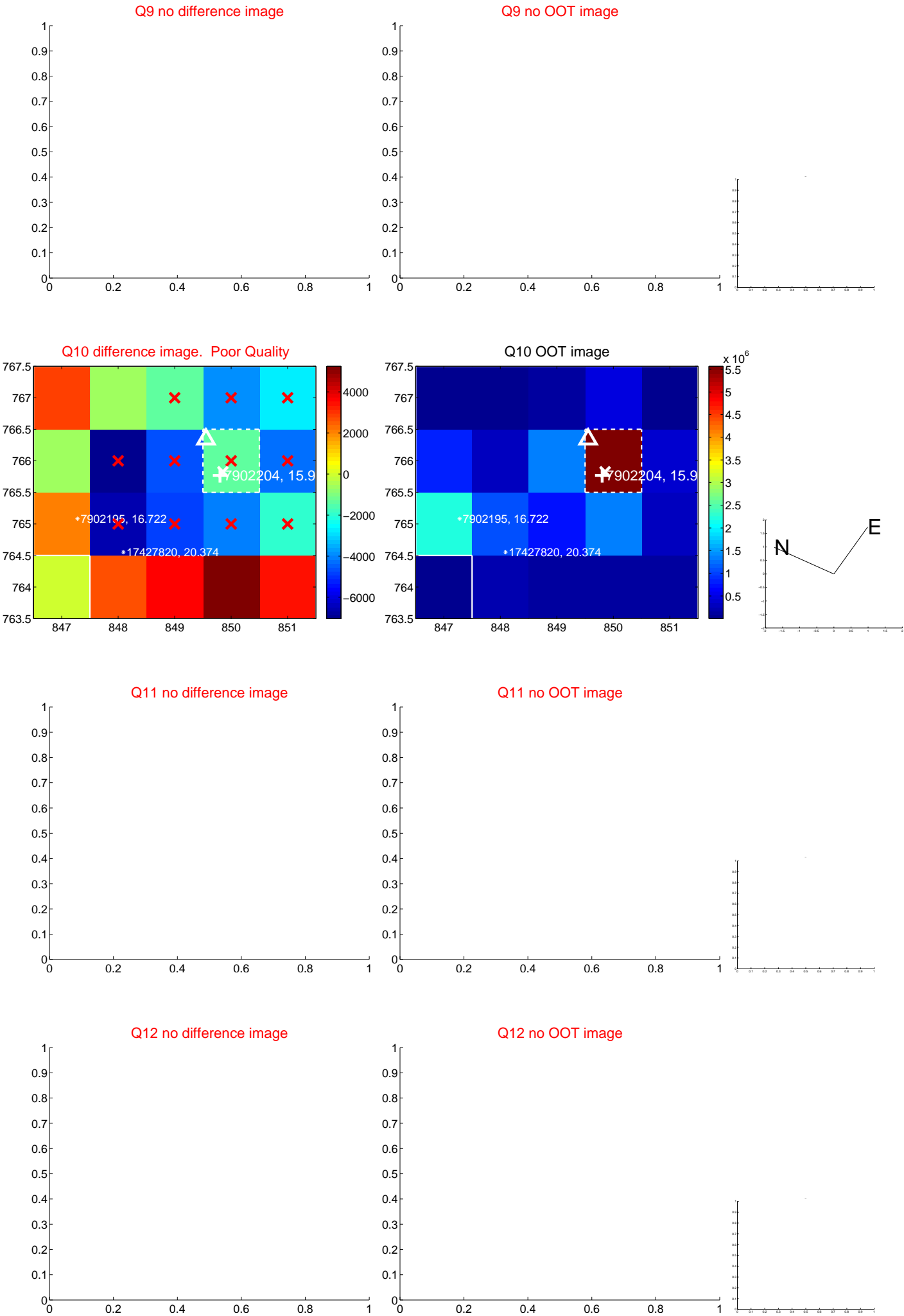
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



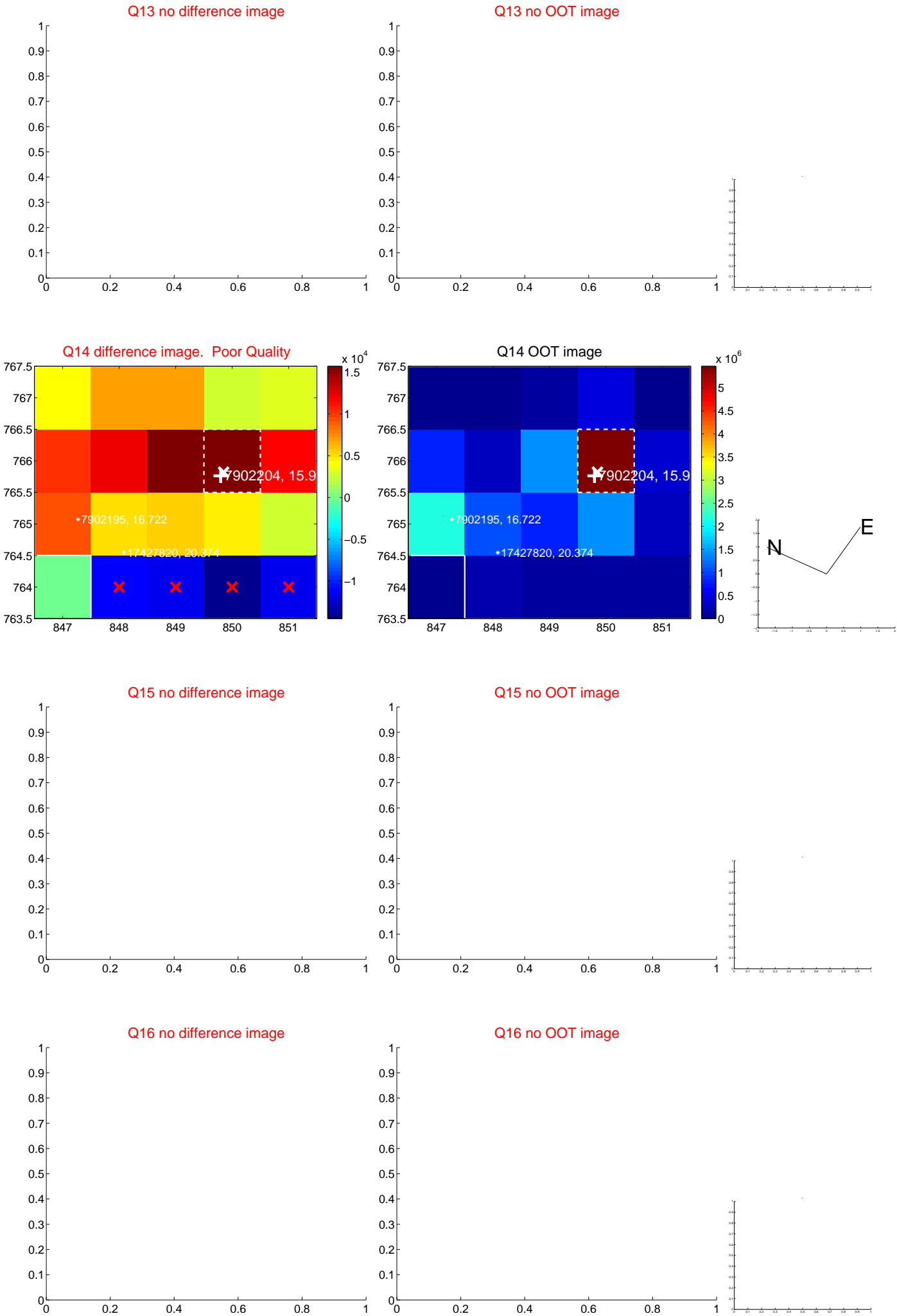
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



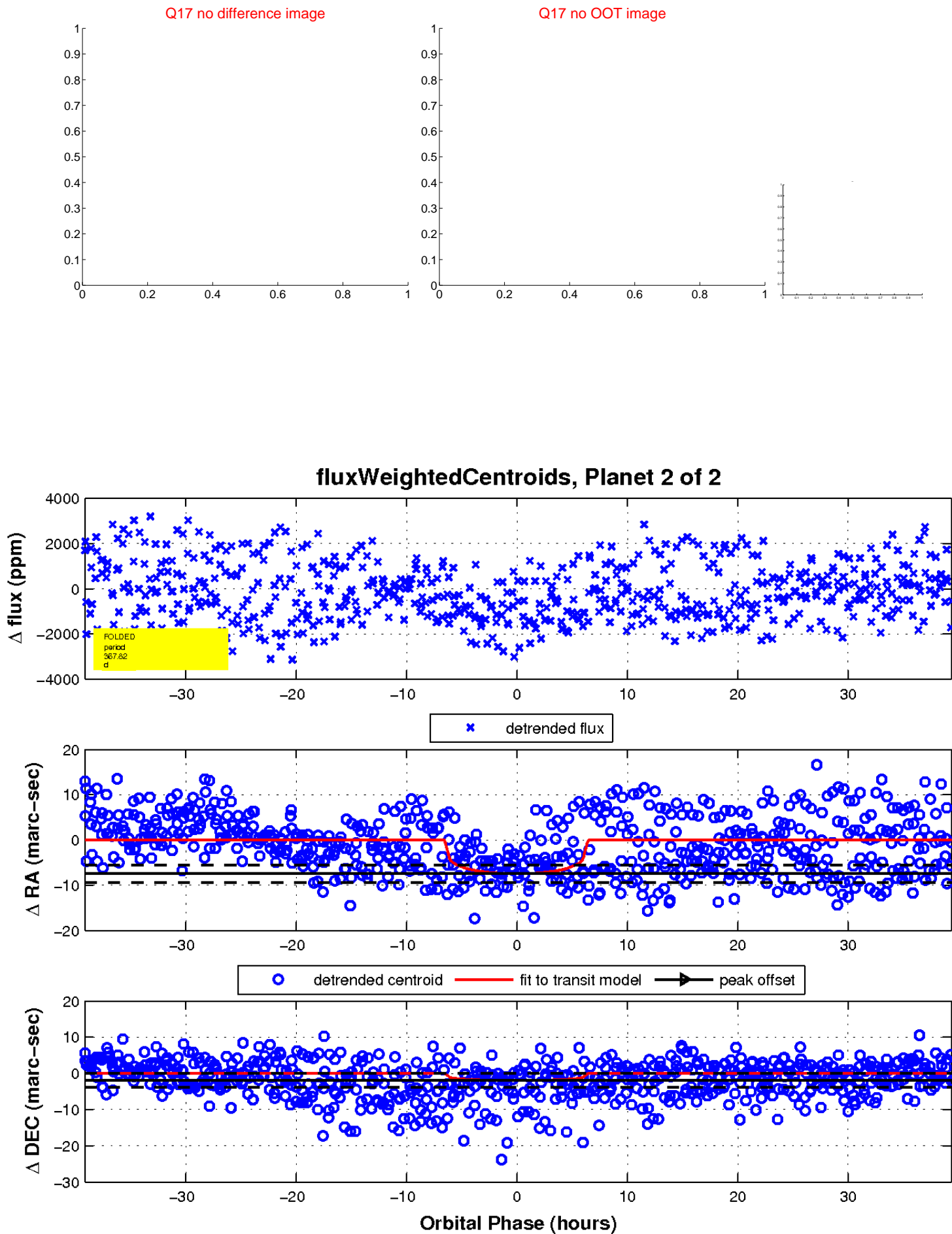
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

