

KIC 006668729

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})
006668729-01	OBS	No	0.510484	131.860432	296.3	0.890	10.3	14.7	3.38	7968	6.90	0.00
006668729-02	OBS	No	0.510482	131.557080	224.1	0.607	9.7	9.3	3.38	7968	6.06	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006668729-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006668729-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

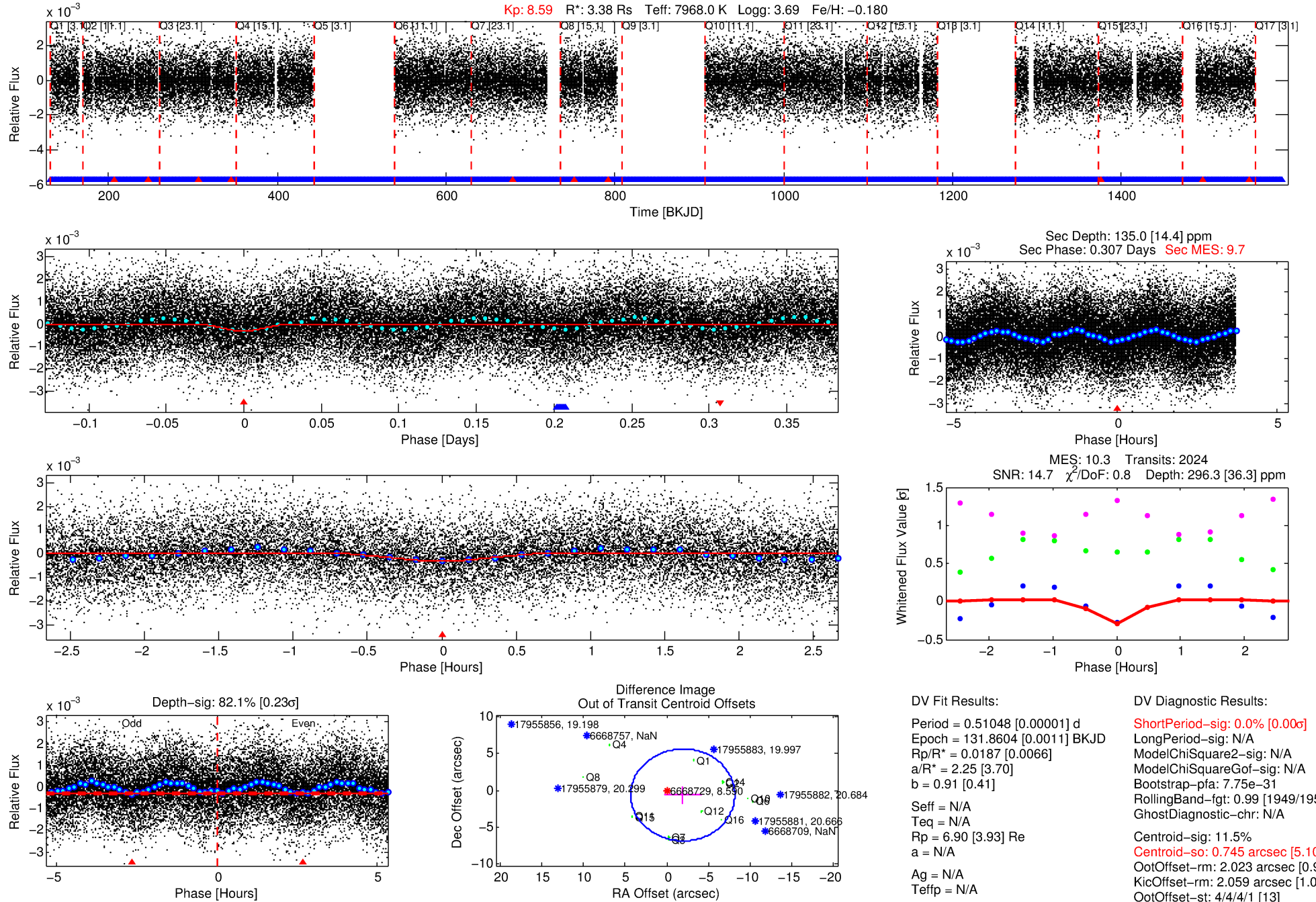
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006668729-01

No Significant Match Found

DV One-Page Summary

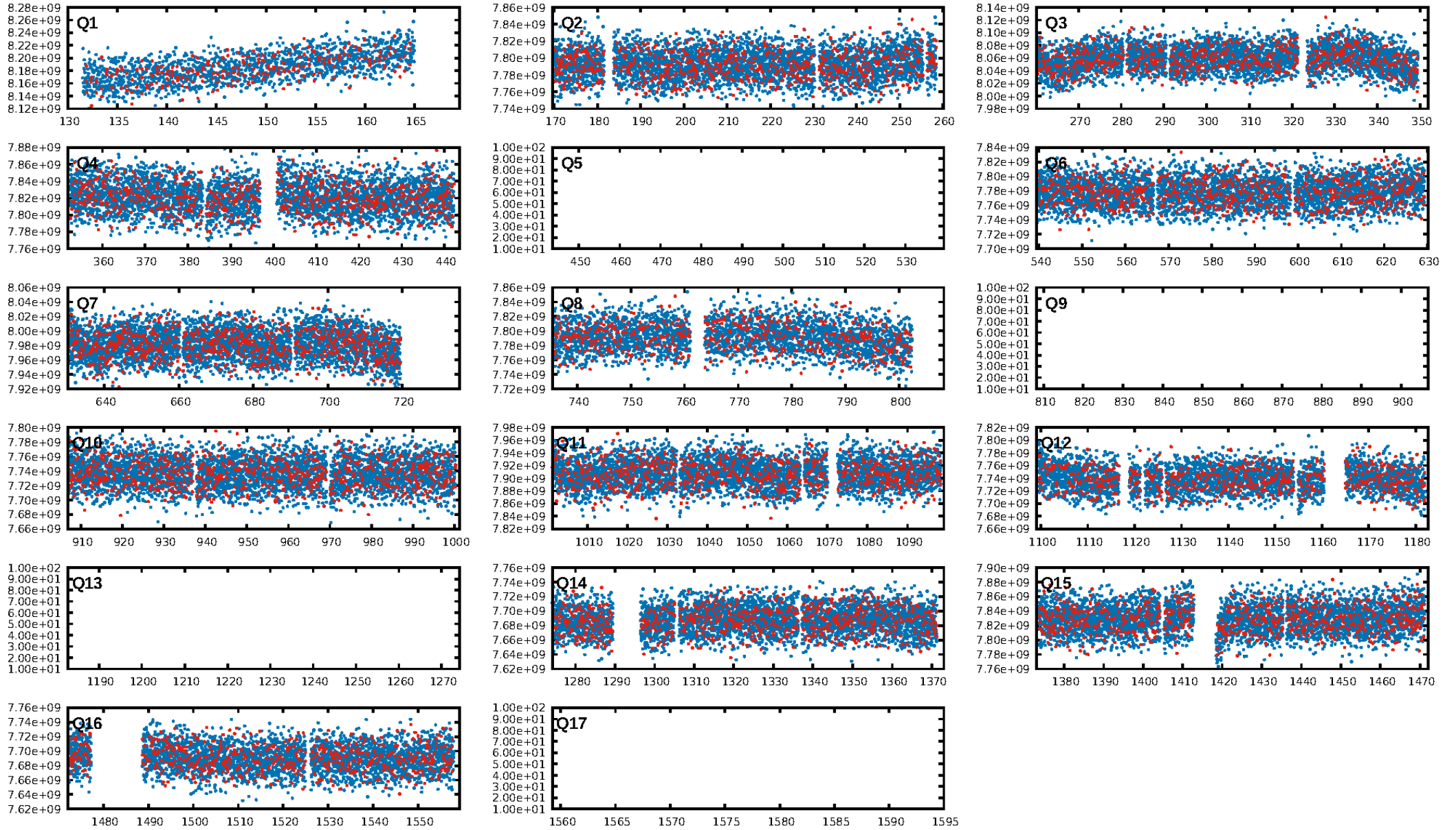
KIC: 6668729 Candidate: 1 of 2 Period: 0.510 d



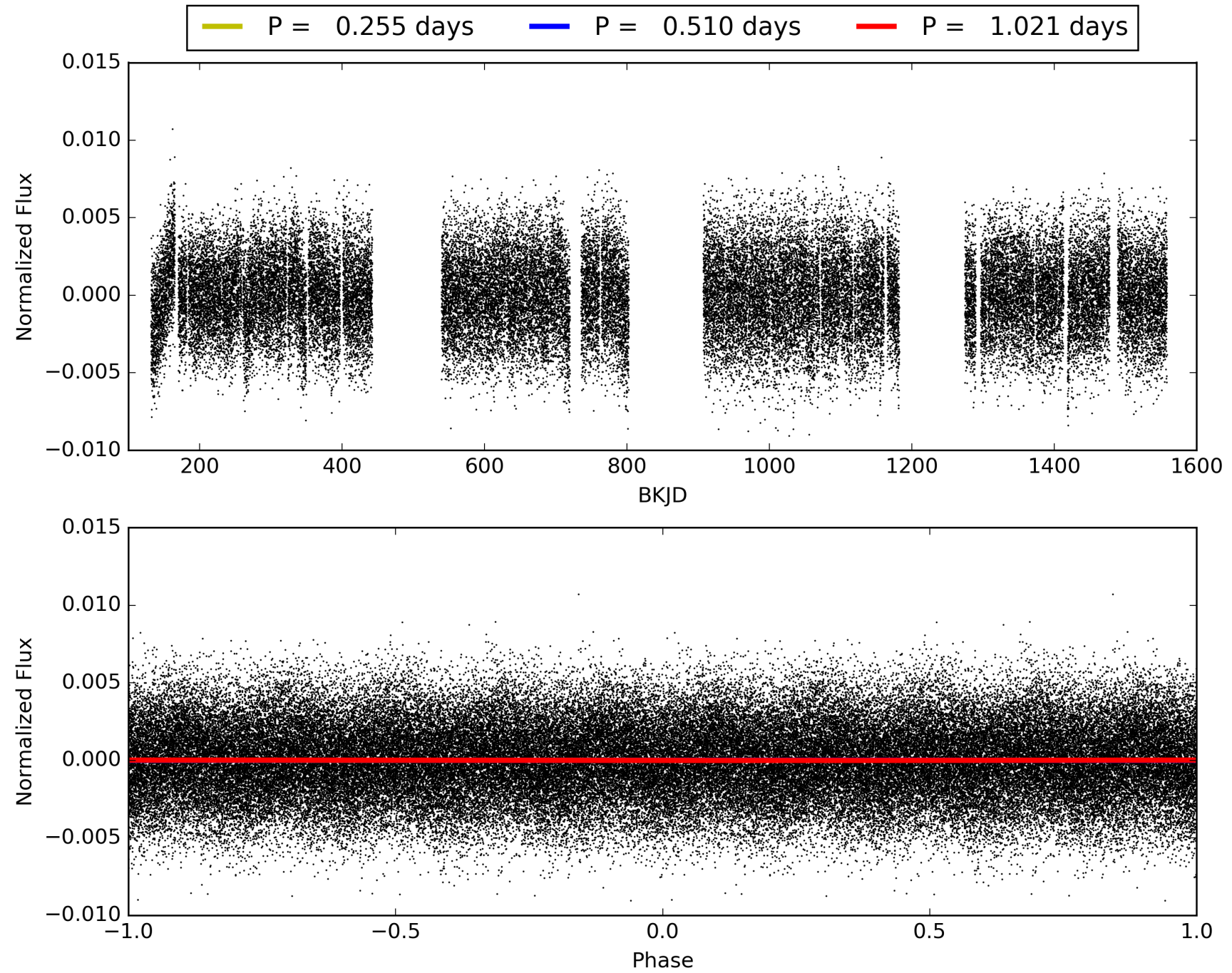
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:52:20 Z

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

TCE 006668729-01, PDC Light Curves

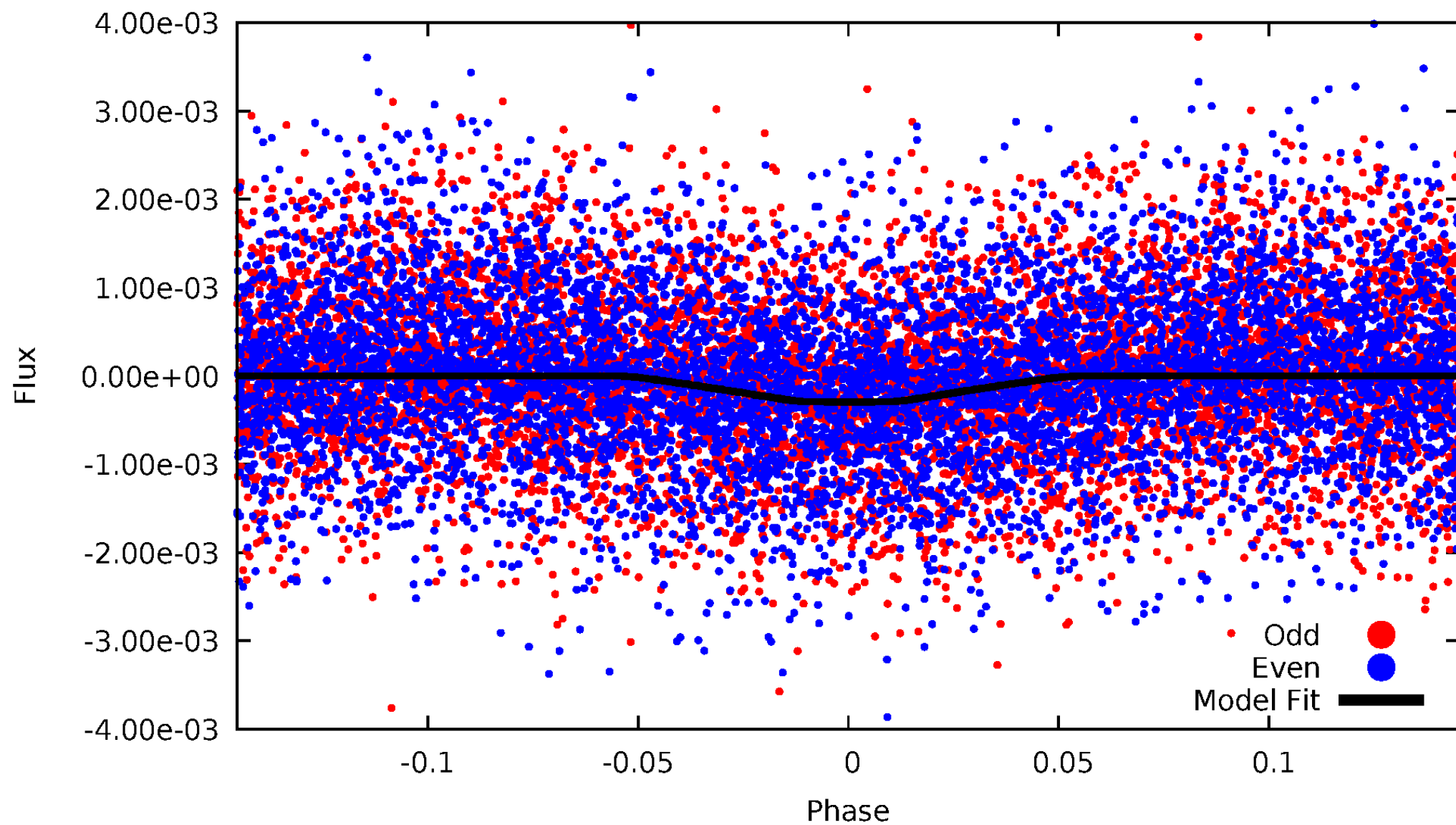


TCE 006668729-01



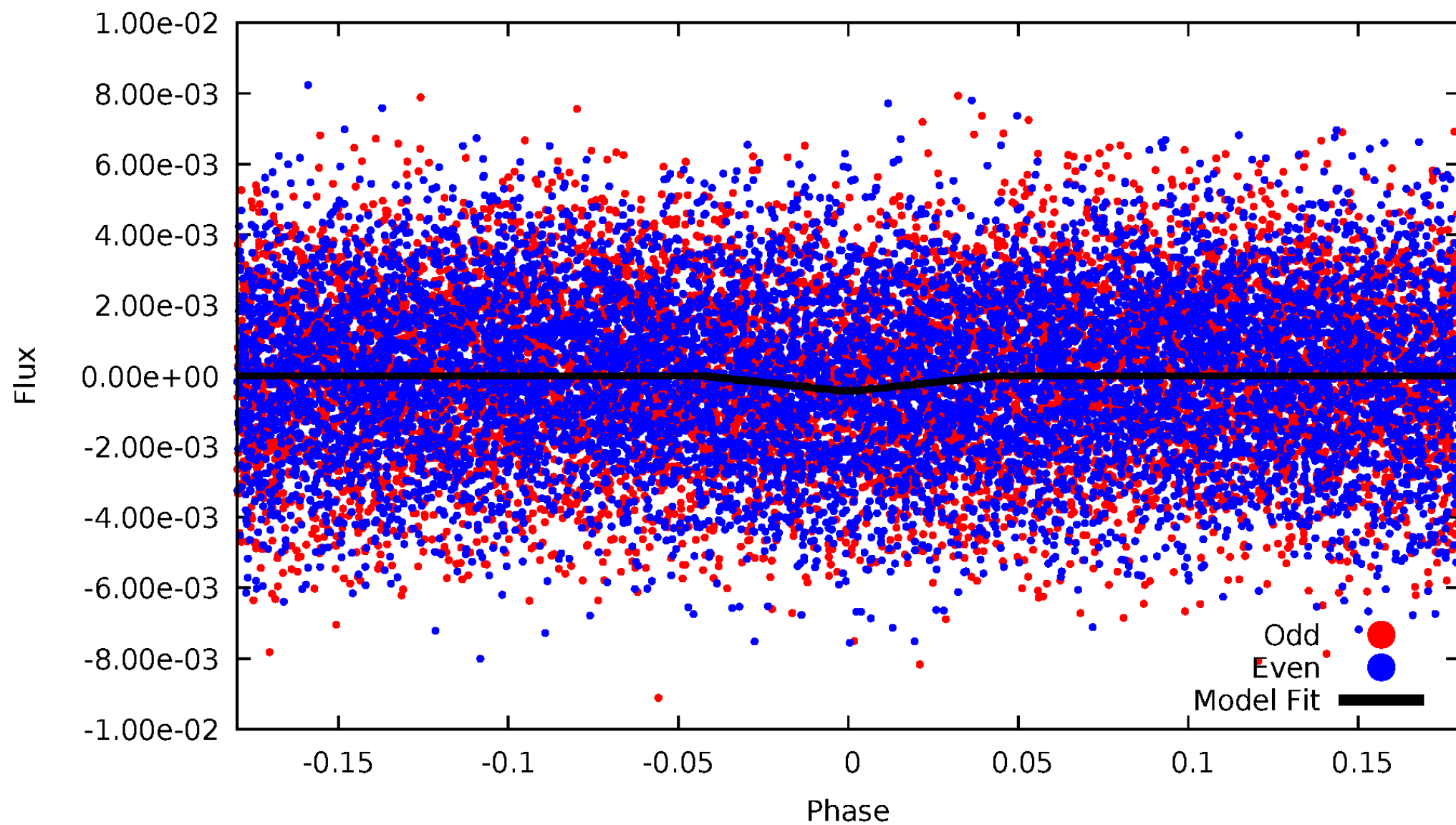
DV Odd/Even

TCE 006668729-01



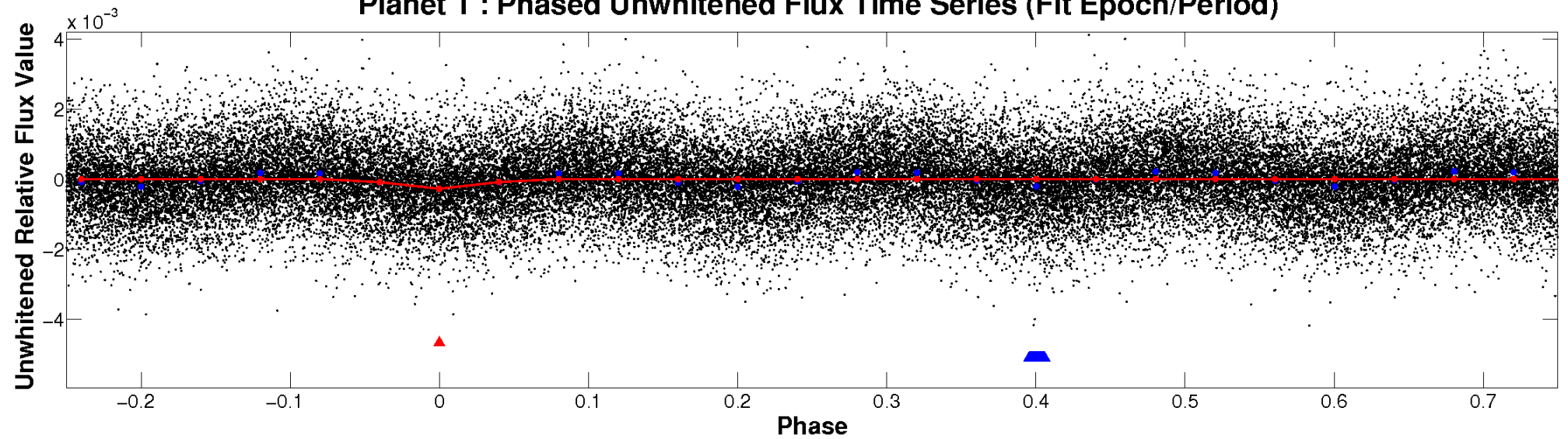
ALT Odd/Even

TCE 006668729-01

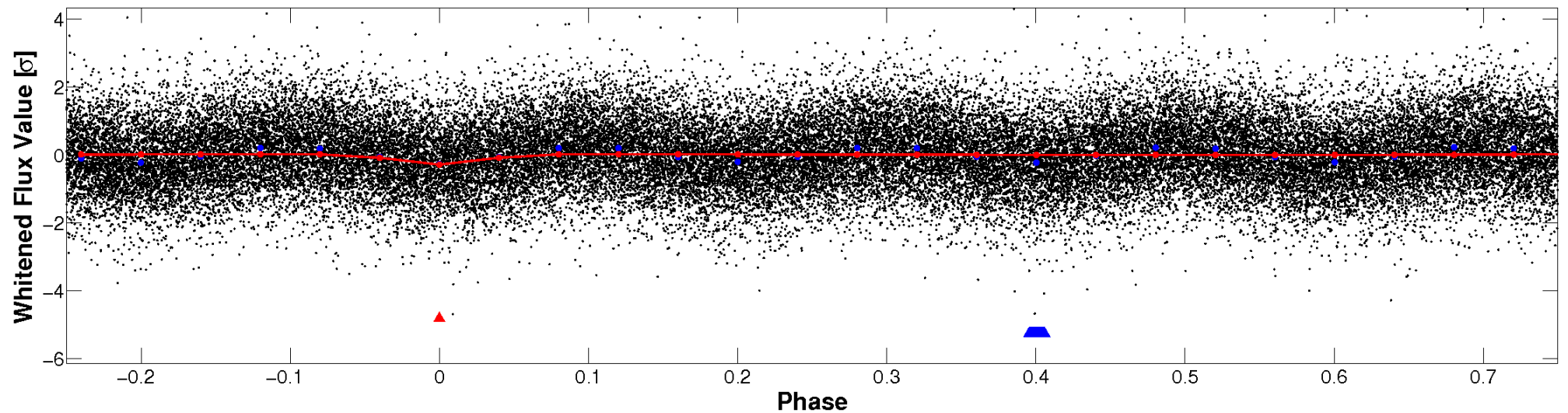


Non-Whitened Vs. Whitened Light Curve

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

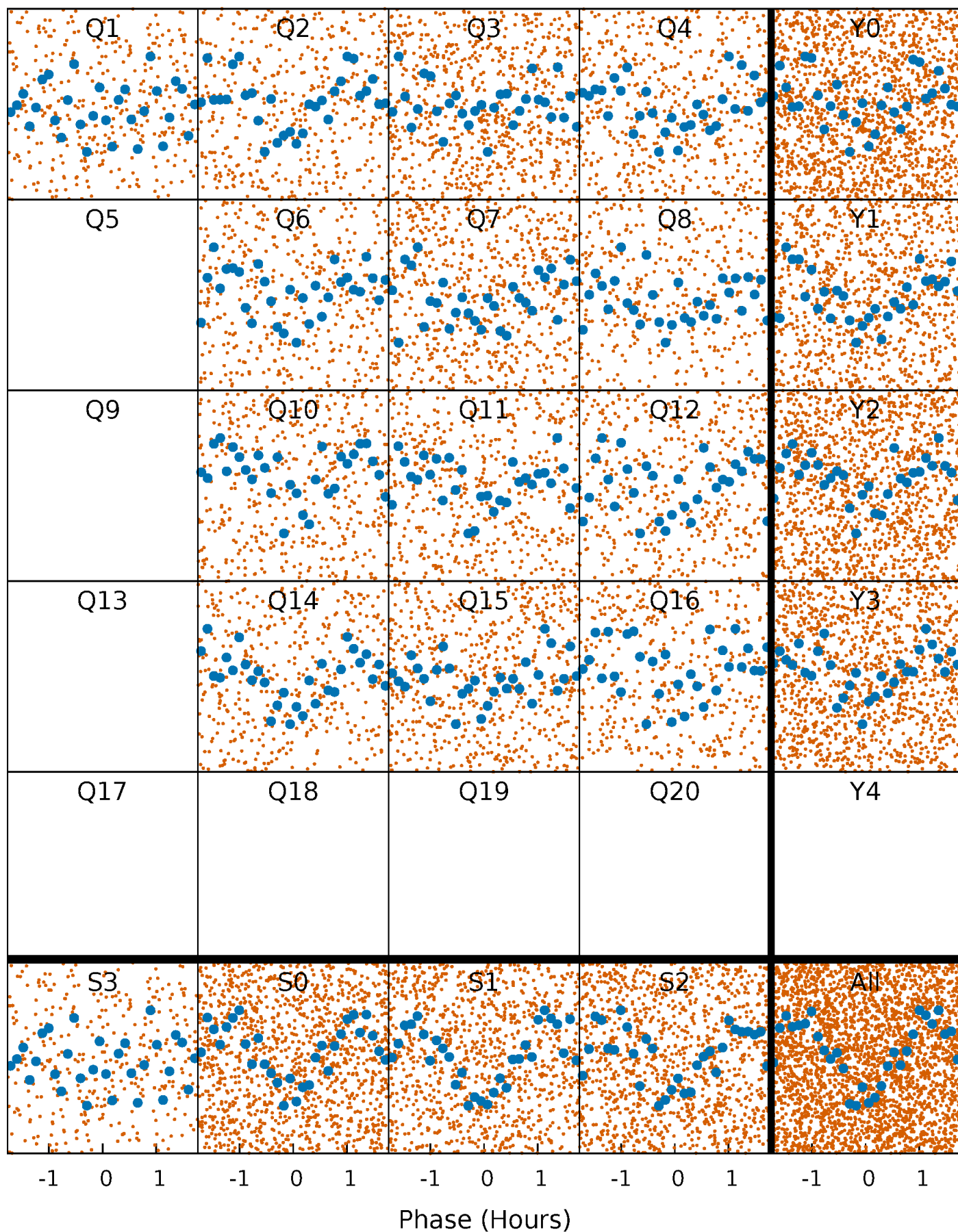


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



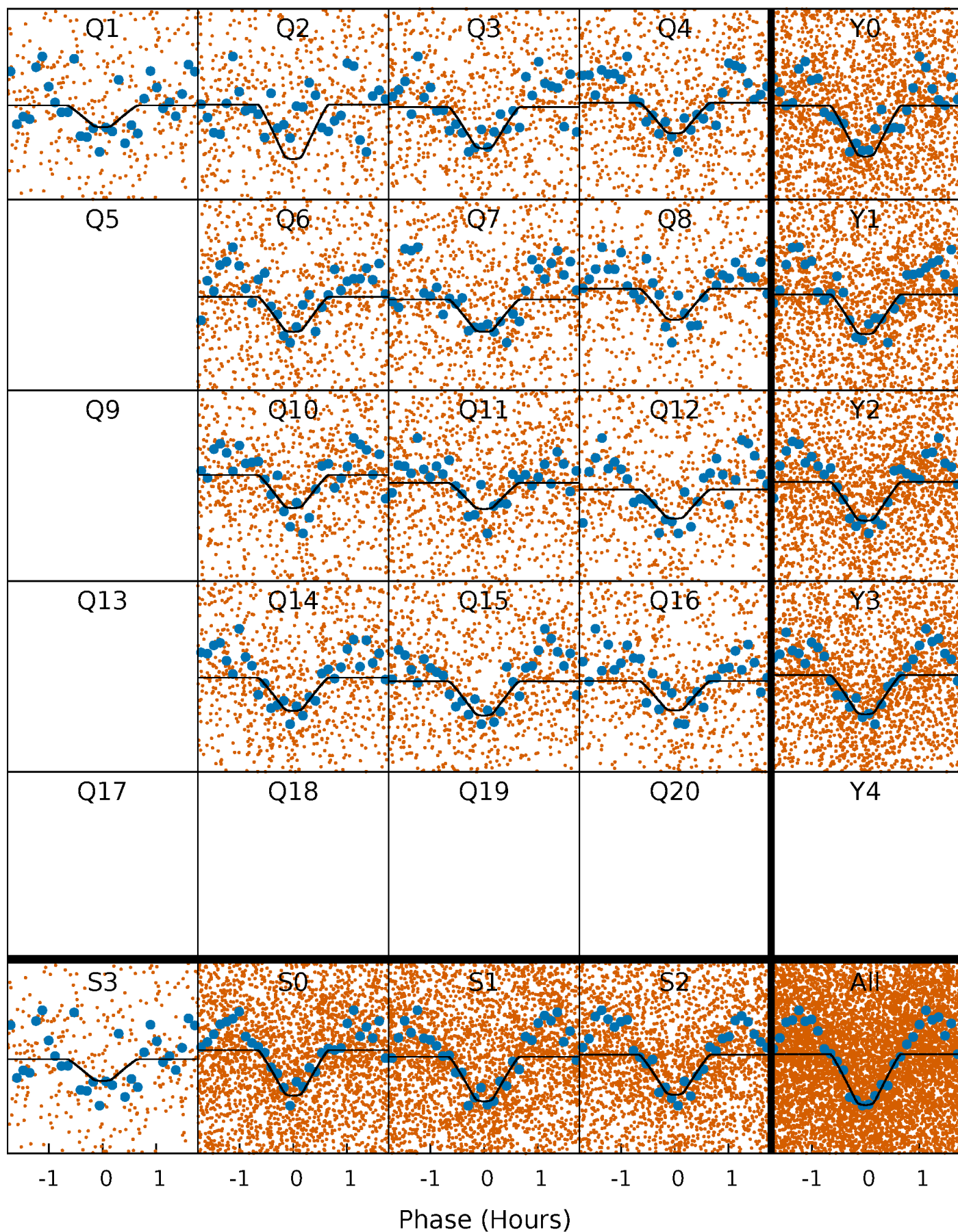
PDC Quarter-Phased Transit Curves

TCE 006668729-01 P= 0.510484 Days $T_0=131.860432$ (BKJD)



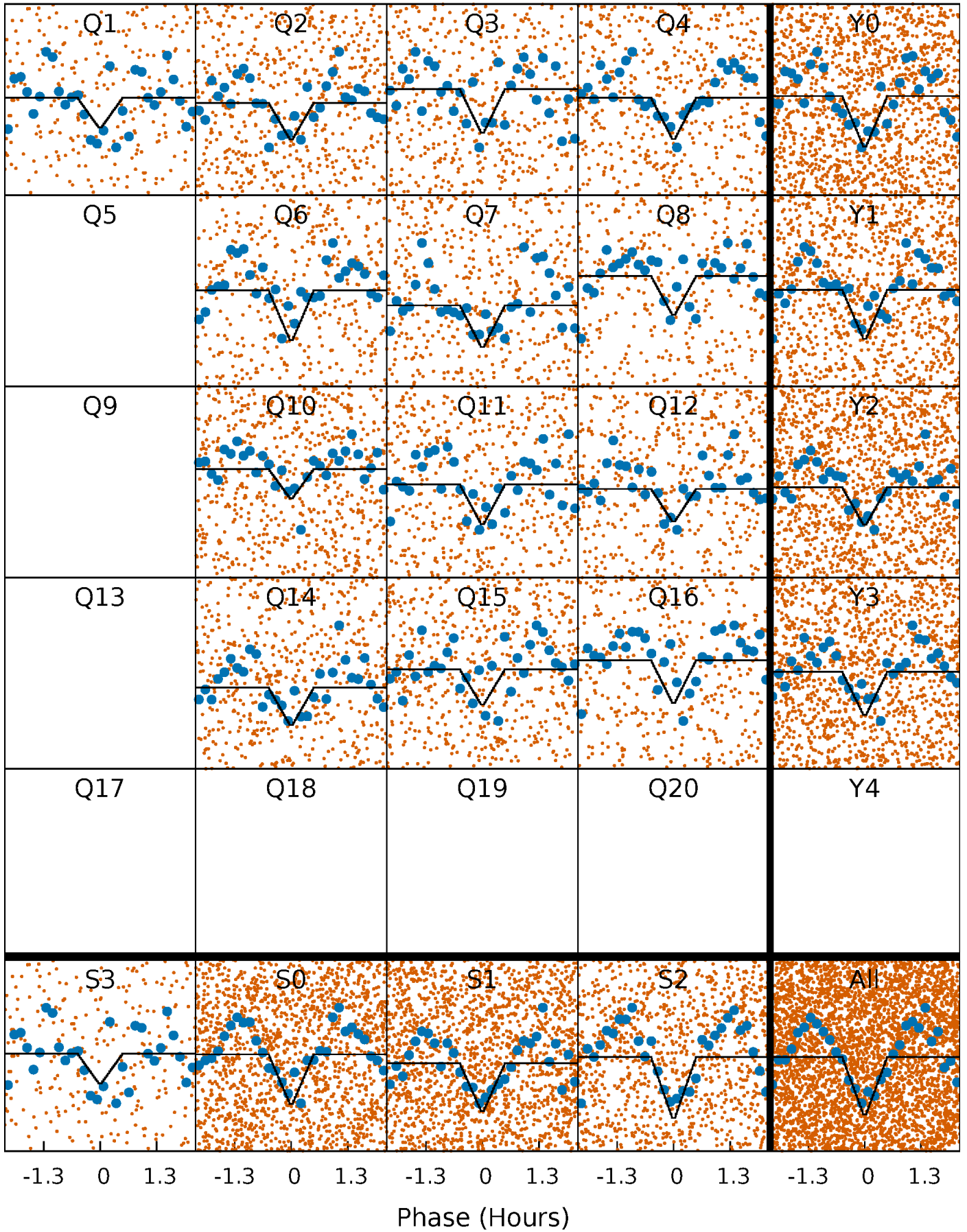
DV Quarter-Phased Transit Curves

TCE 006668729-01 P= 0.510484 Days $T_0=131.860432$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

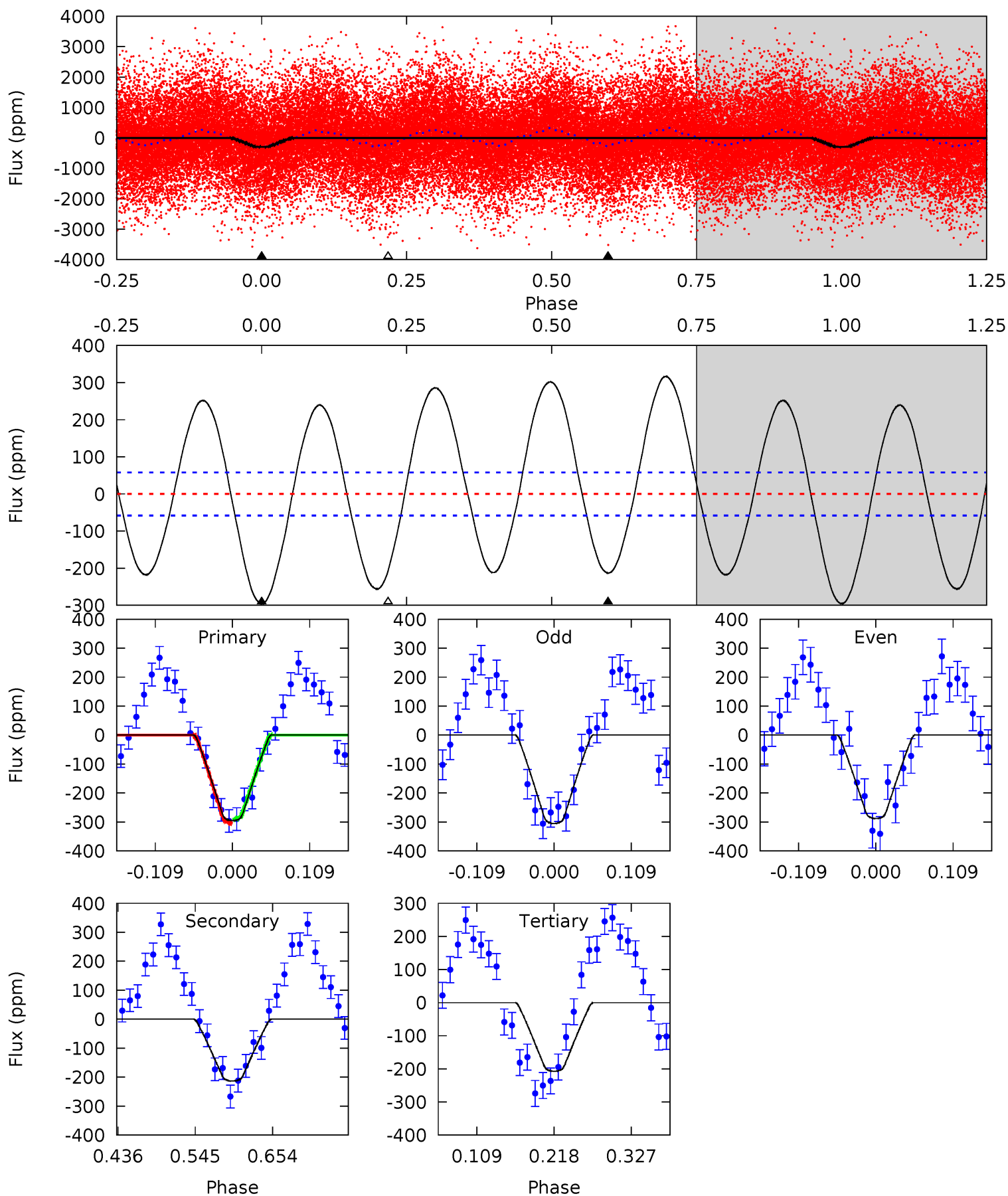
TCE 006668729-01 P= 0.510482 Days $T_0=131.861257$ (BKJD)



DV Model-Shift Uniqueness Test

006668729-01, P = 0.510484 Days, E = 131.349948 Days

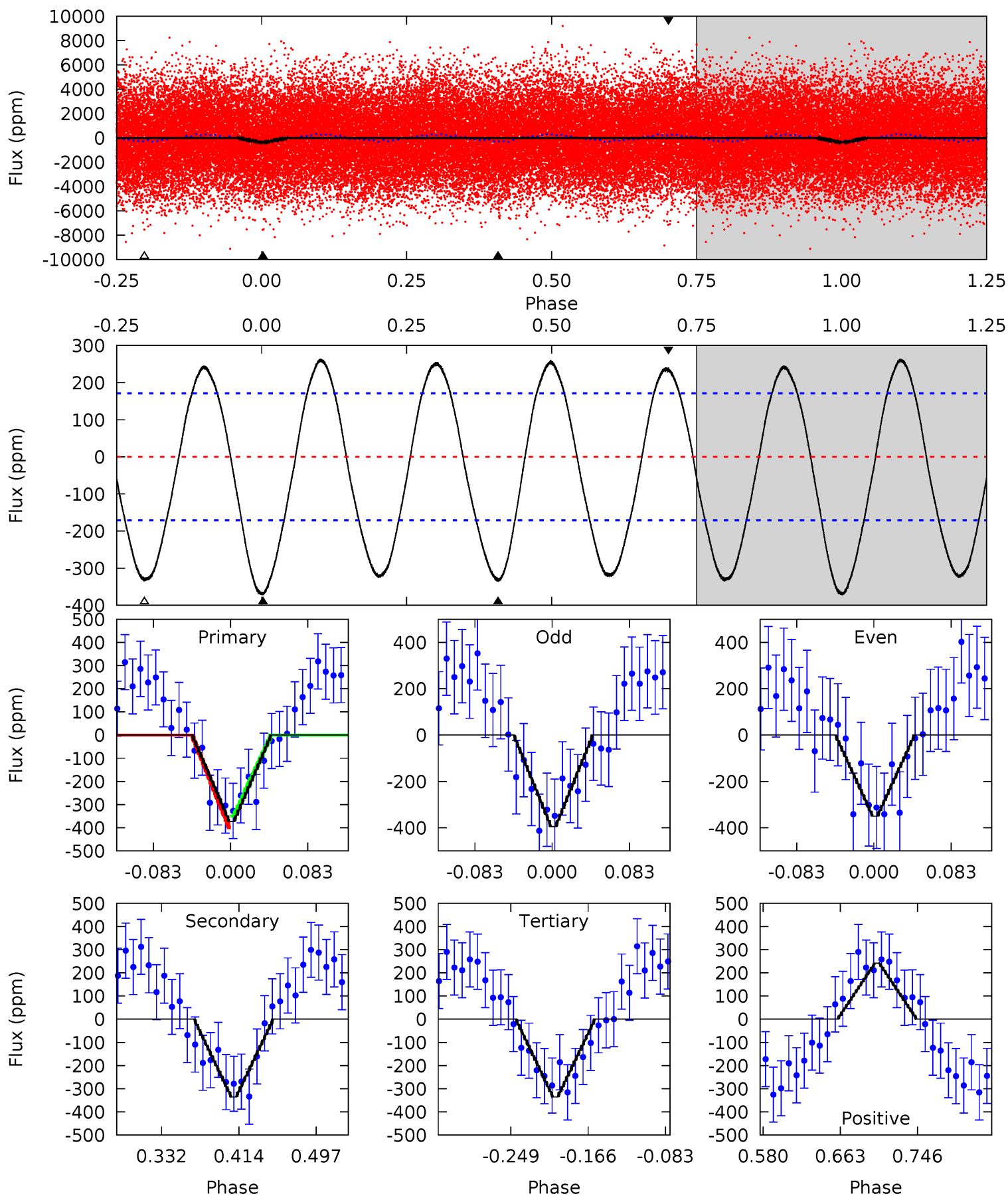
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.2	16.7	16.2	0	4.55	1.60	13.7	6.92	23.2	0.49	16.7	0.67	1.03	0.52	0.52



Alt Model-Shift Uniqueness Test

006668729-01, P = 0.510482 Days, E = 131.350775 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	9.03	9.03	6.49	4.60	1.73	5.56	0.99	3.53	0.00	2.55	0.60	0.95	0.41	0.68



Stellar Parameters For KIC 006668729

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7968^{+220}_{-331}	$3.685^{+0.432}_{-0.108}$	$-0.180^{+0.200}_{-0.300}$	$3.380^{+0.701}_{-1.519}$	$2.017^{+0.382}_{-0.509}$	$0.074^{+0.297}_{-0.024}$
	+3%/-4%	+12%/-3%	+111%/-167%	+21%/-45%	+19%/-25%	+403%/-33%
Source	KIC0	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 006668729-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-214 ± 13	$6.28^{+2.62}_{-2.26}$	6936^{+539}_{-824}	5995^{+2034}_{-1754}	$0.763^{+1.056}_{-0.386}$
Alt.	-336 ± 37	$6.81^{+2.97}_{-2.50}$	6923^{+578}_{-799}	6713^{+2380}_{-1629}	$1.007^{+1.497}_{-0.516}$

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 $A_{obs} \gg 1.0$

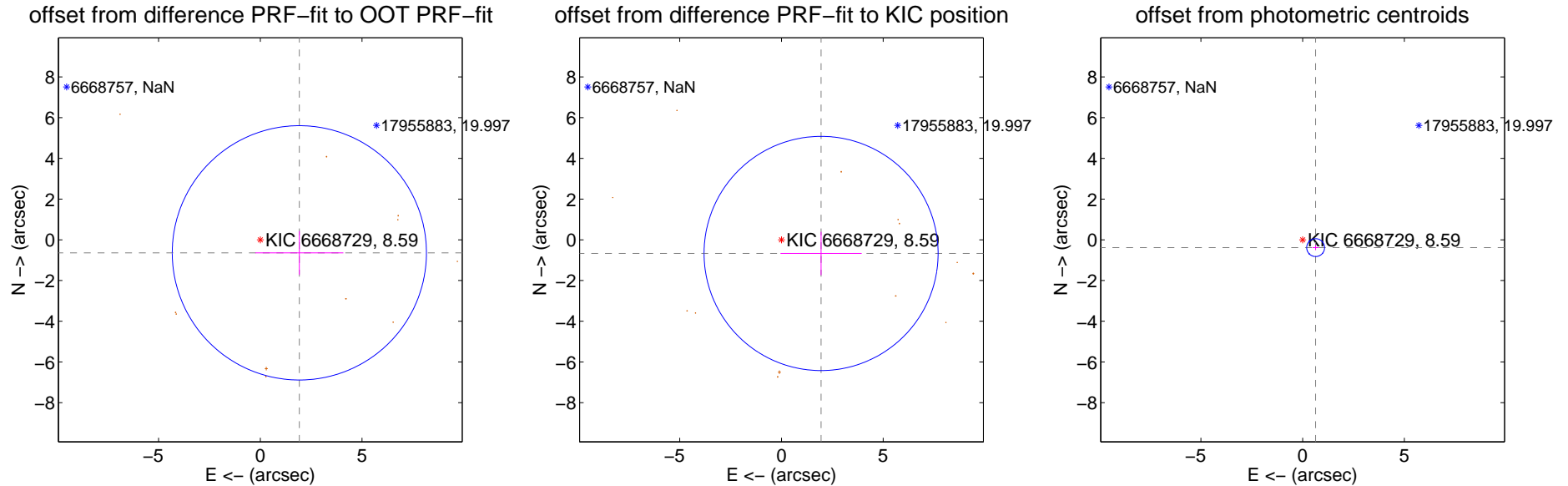
DV Centroid Data

Supplemental centroid analysis for 006668729-01. **Kepler magnitude: 8.59.** Transit SNR 14.74

There are 0 quarters with good PRF difference image offsets

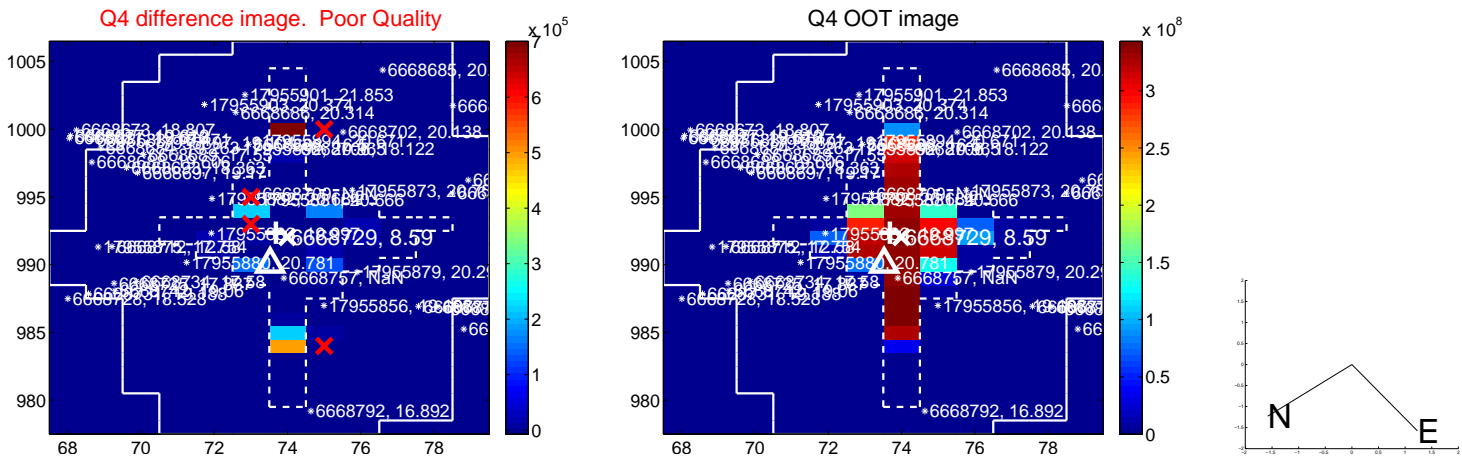
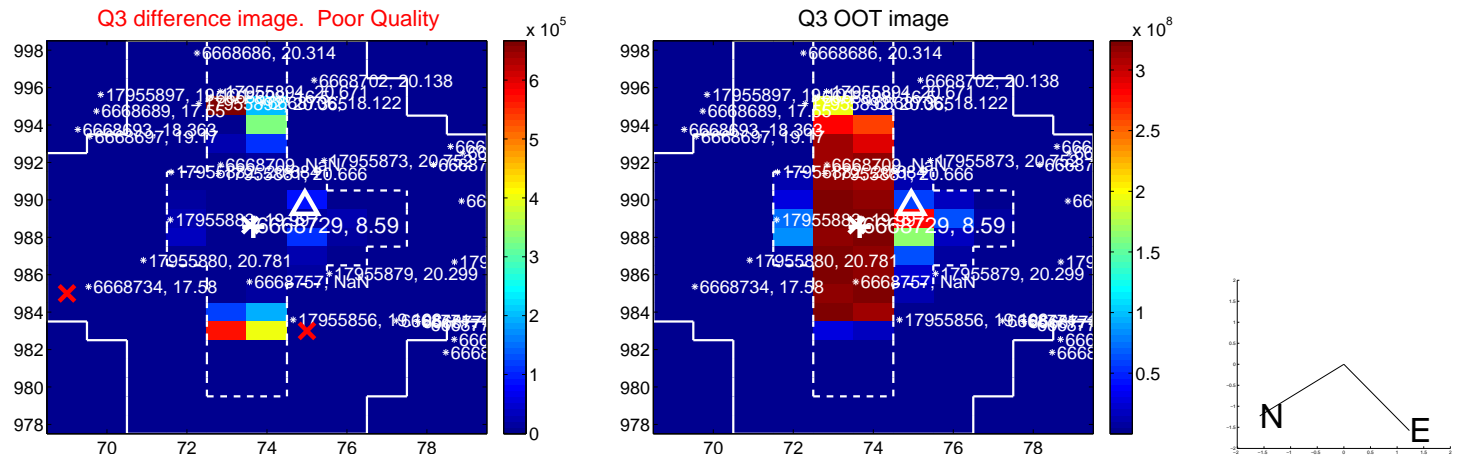
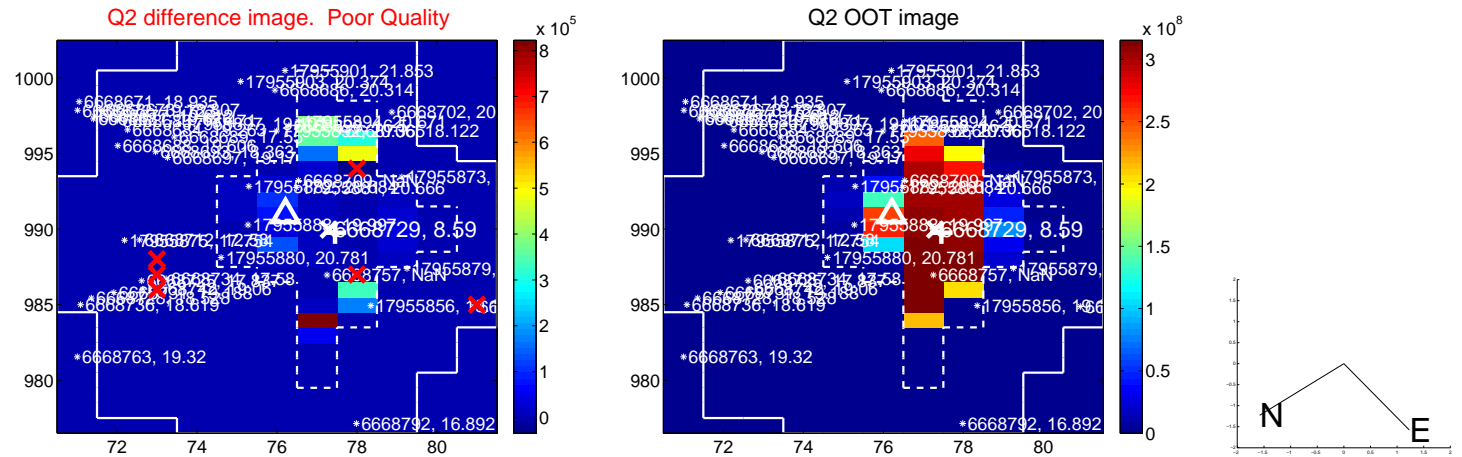
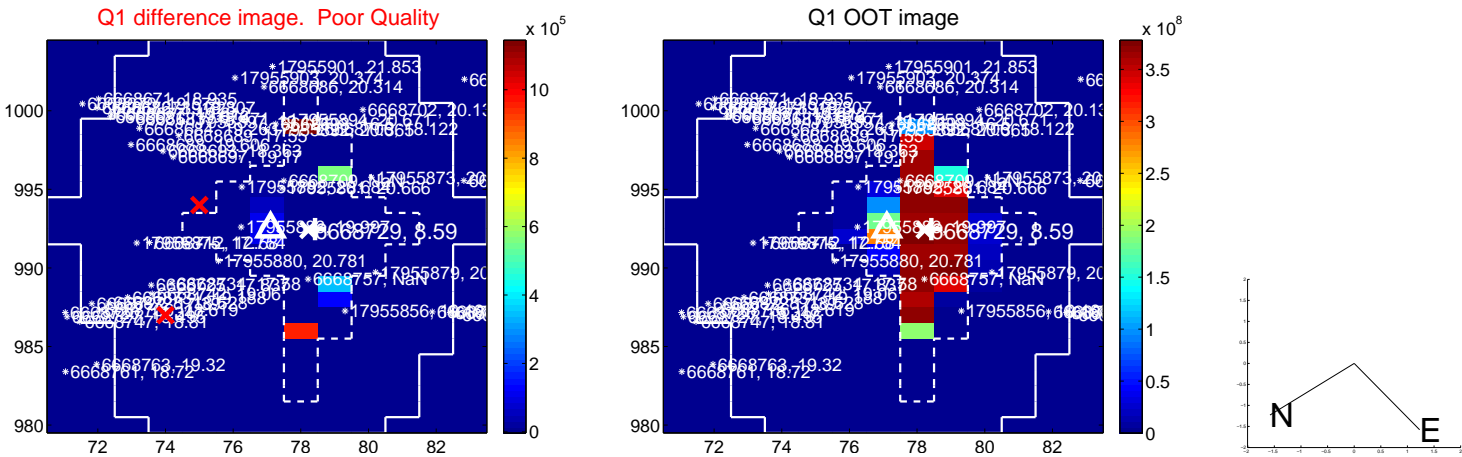
The direct PRF centroid is offset from the target star catalog position by about 1.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.023 ± 2.081	0.97	-1.919 ± 2.165	-0.641 ± 1.073
PRF-fit source offset from KIC position	2.059 ± 1.917	1.07	-1.947 ± 1.994	-0.670 ± 1.064
photometric centroid source offset	0.75 ± 0.15	5.10	-0.64 ± 0.15	-0.38 ± 0.12

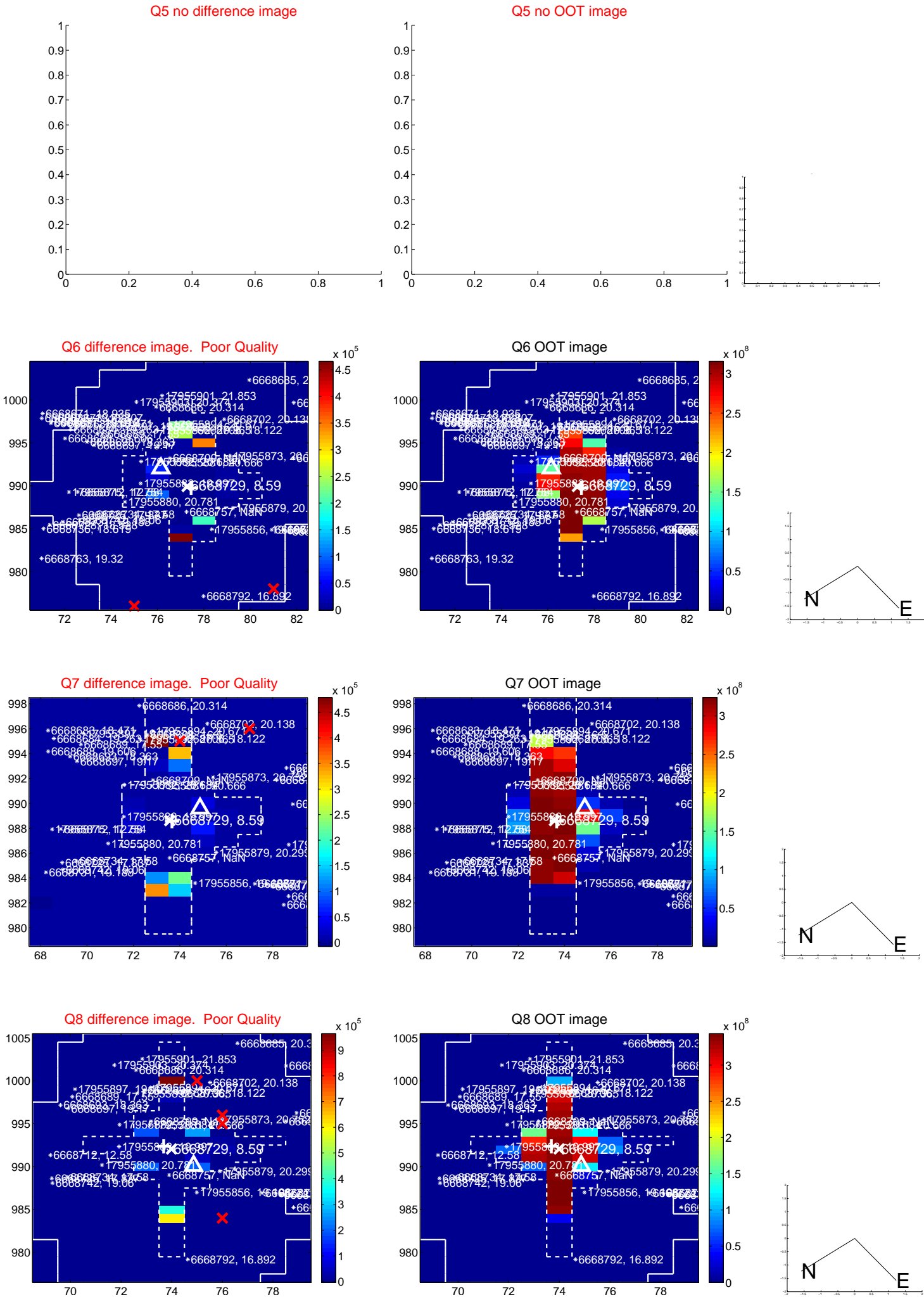


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

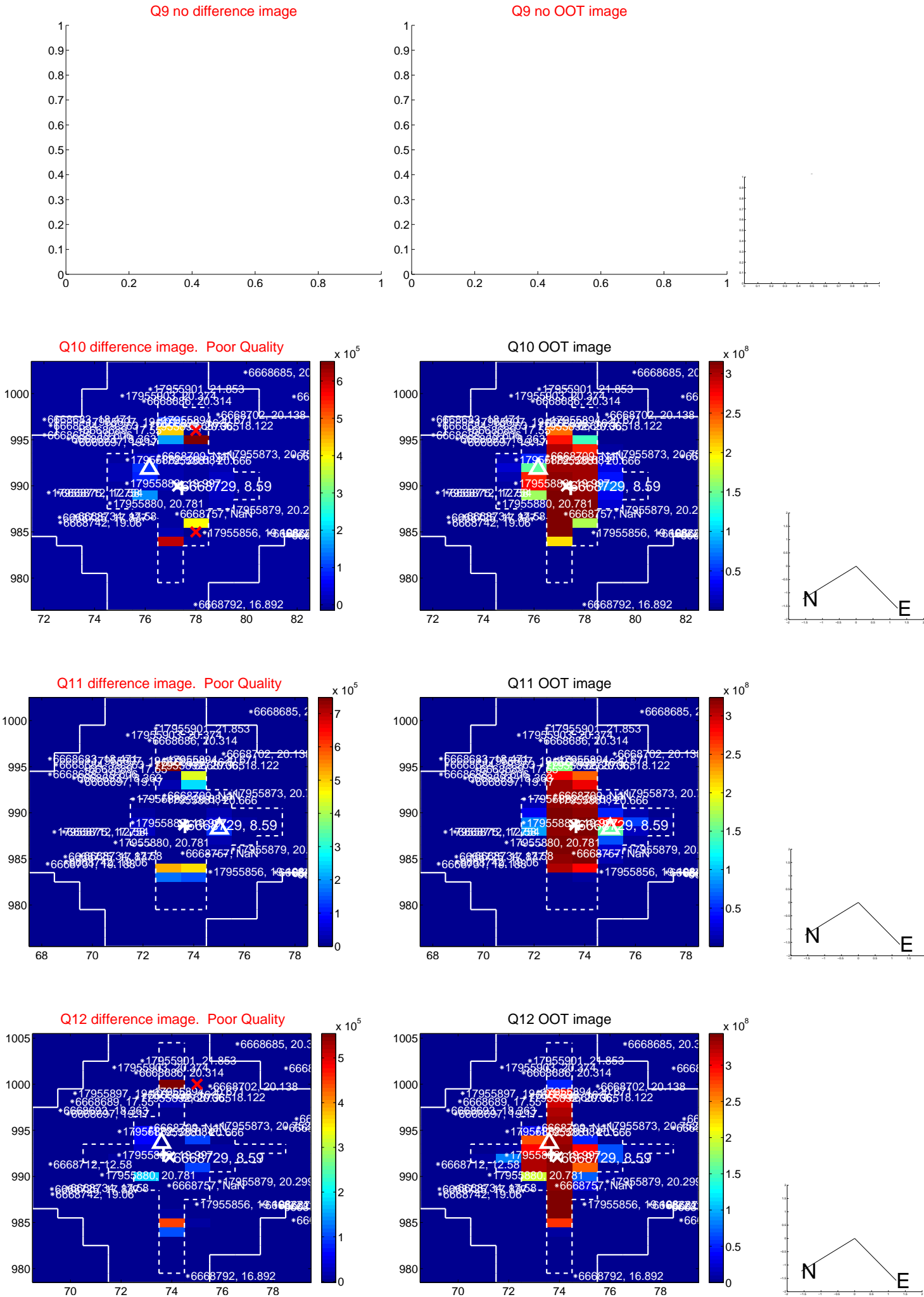
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



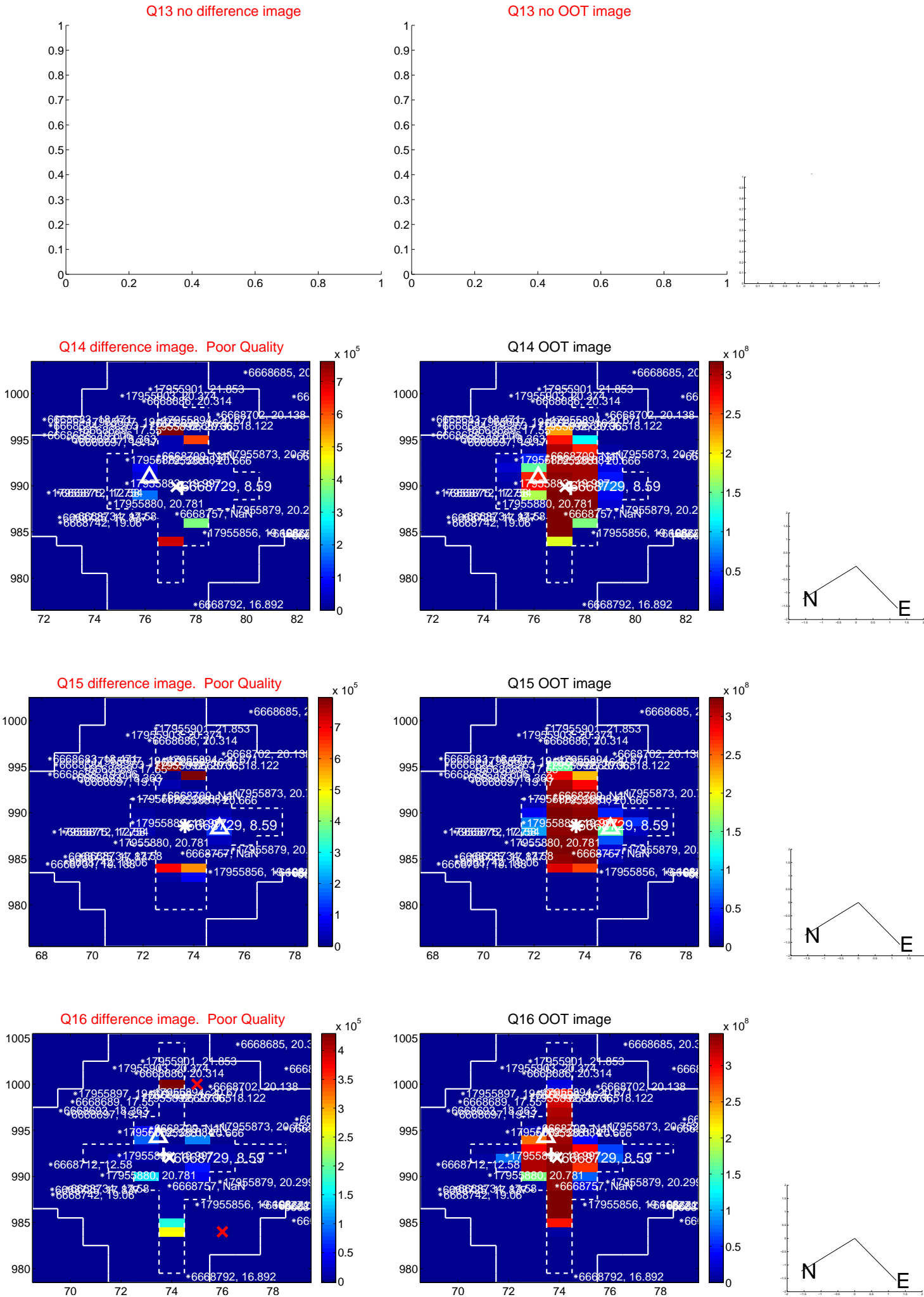
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



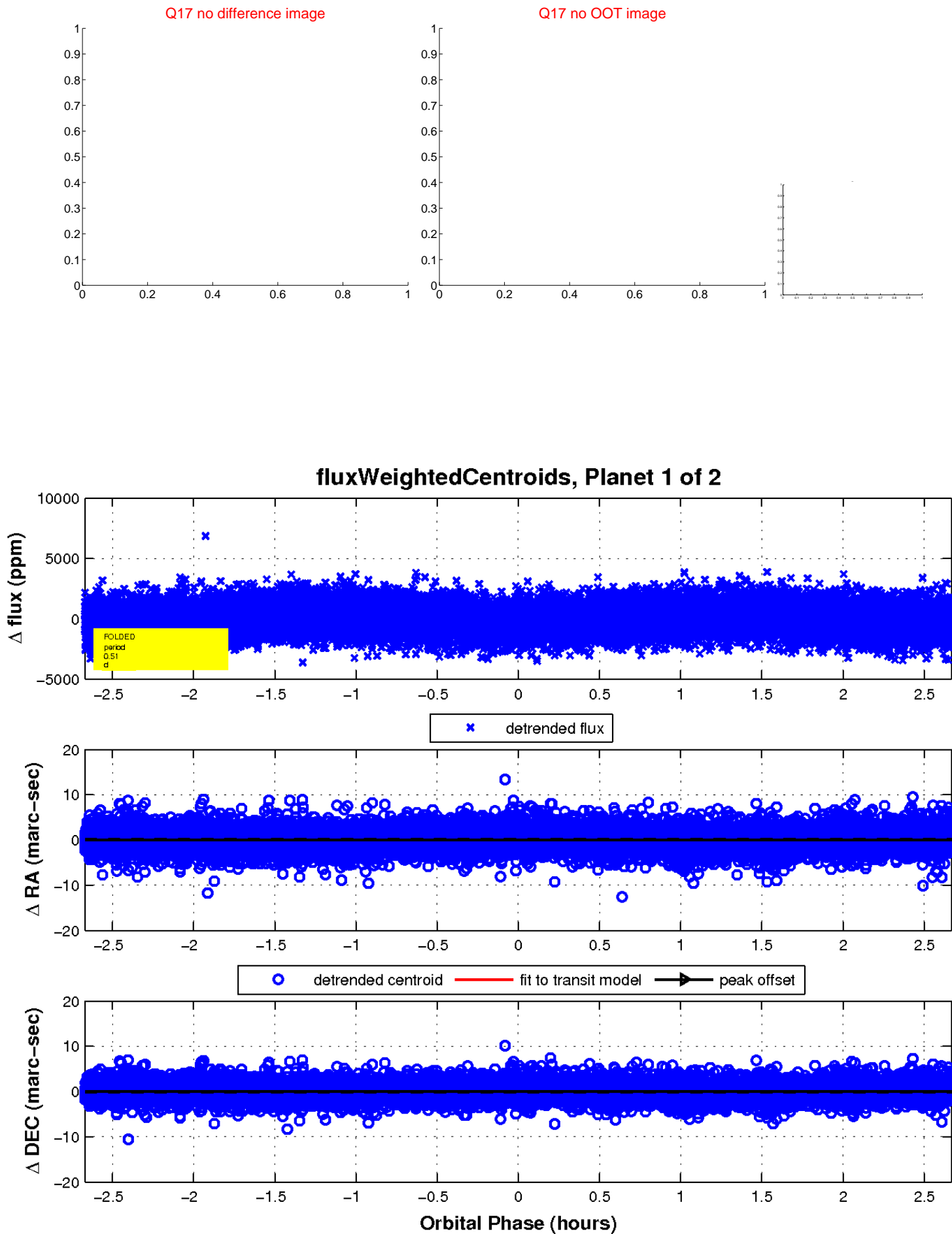
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



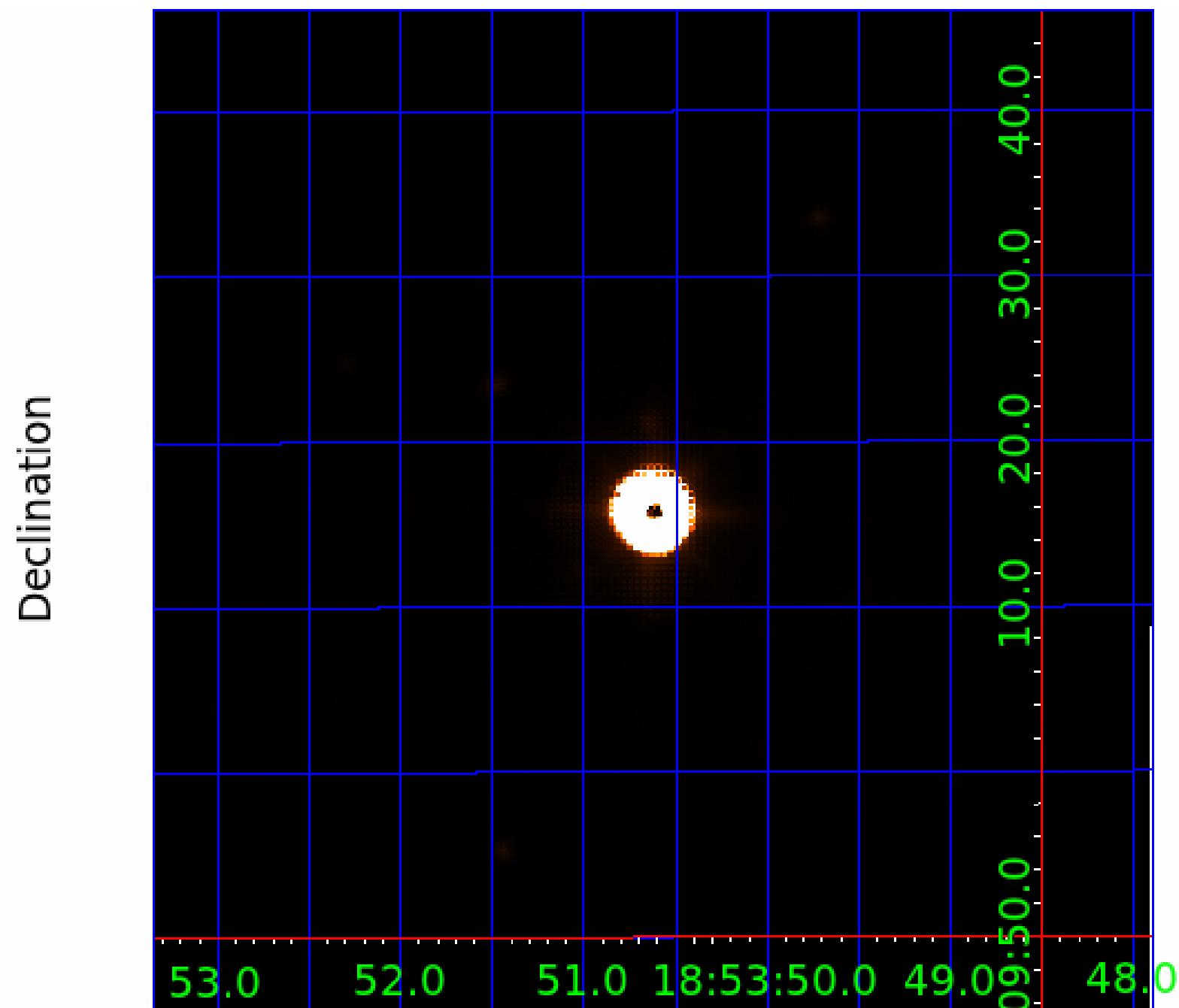
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image



KIC 006668729

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})
006668729-01	OBS	No	0.510484	131.860432	296.3	0.890	10.3	14.7	3.38	7968	6.90	0.00
006668729-02	OBS	No	0.510482	131.557080	224.1	0.607	9.7	9.3	3.38	7968	6.06	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006668729-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006668729-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

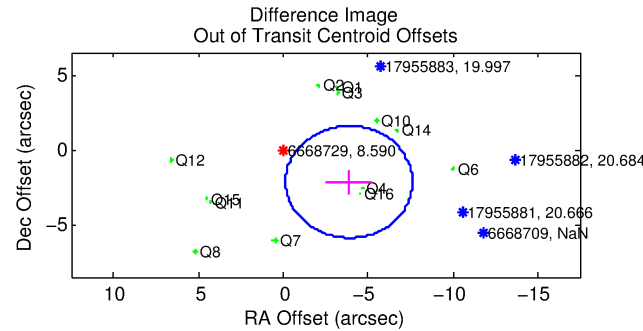
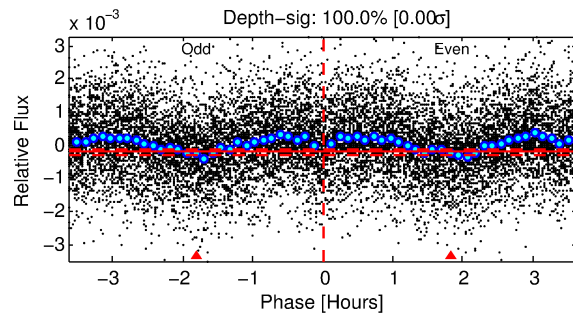
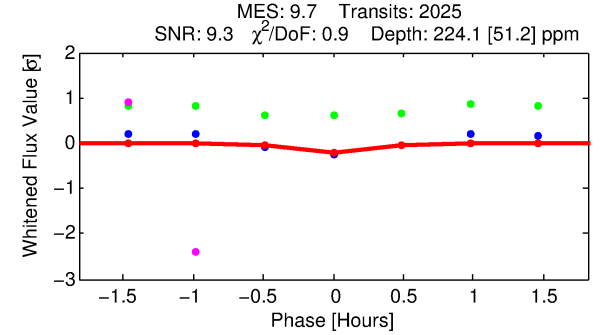
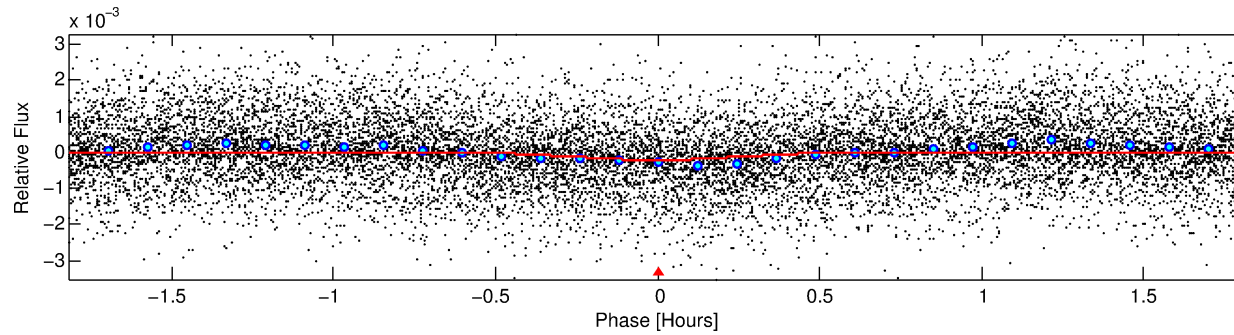
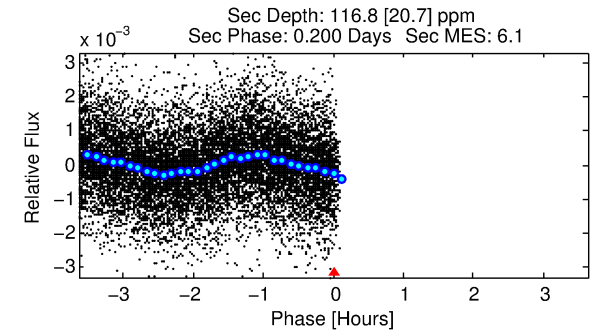
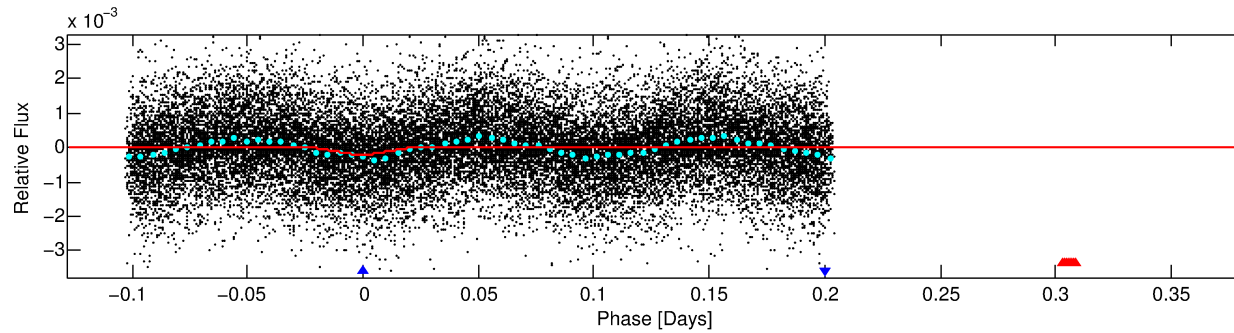
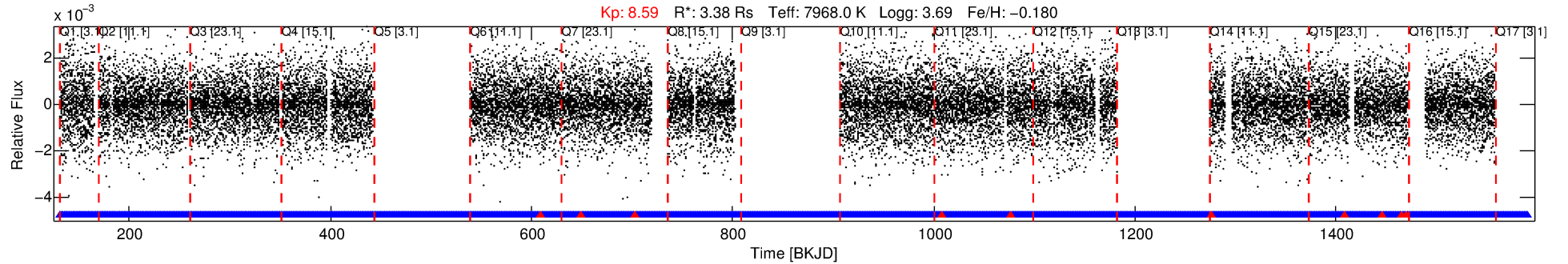
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006668729-02

No Significant Match Found

DV One-Page Summary

KIC: 6668729 Candidate: 2 of 2 Period: 0.510 d



DV Fit Results:

Period = 0.51048 [0.00001] d
Epoch = 131.5571 [0.0014] BKJD
 $R_p/R^* = 0.0164$ [0.0060]
 $a/R^* = 3.19$ [5.80]
 $b = 0.90$ [0.44]
 $\text{Seff} = \text{N/A}$
 $\text{Teq} = \text{N/A}$
 $R_p = 6.06$ [3.51] R_e
 $a = \text{N/A}$
 $\text{Ag} = \text{N/A}$
 $\text{Teff} = \text{N/A}$

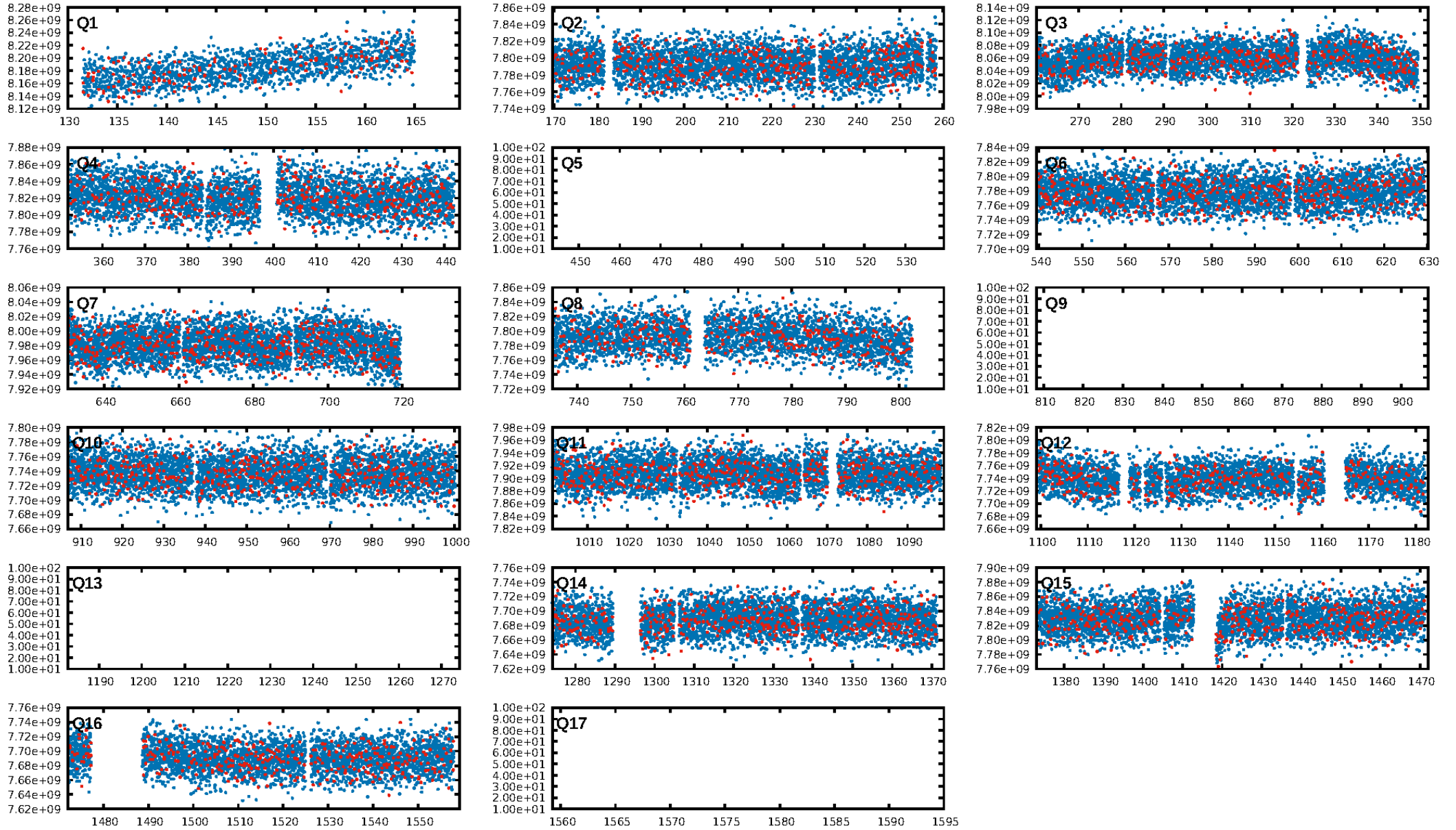
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.79e-28
RollingBand-fgt: 0.99 [1949/1959]
GhostDiagnostic-chr: N/A
Centroid-sig: 73.5%
Centroid-so: 0.788 arcsec [3.44σ]
OotOffset-rm: 4.445 arcsec [3.57σ]
KicOffset-rm: 4.412 arcsec [3.38σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 0.00 [0/13]

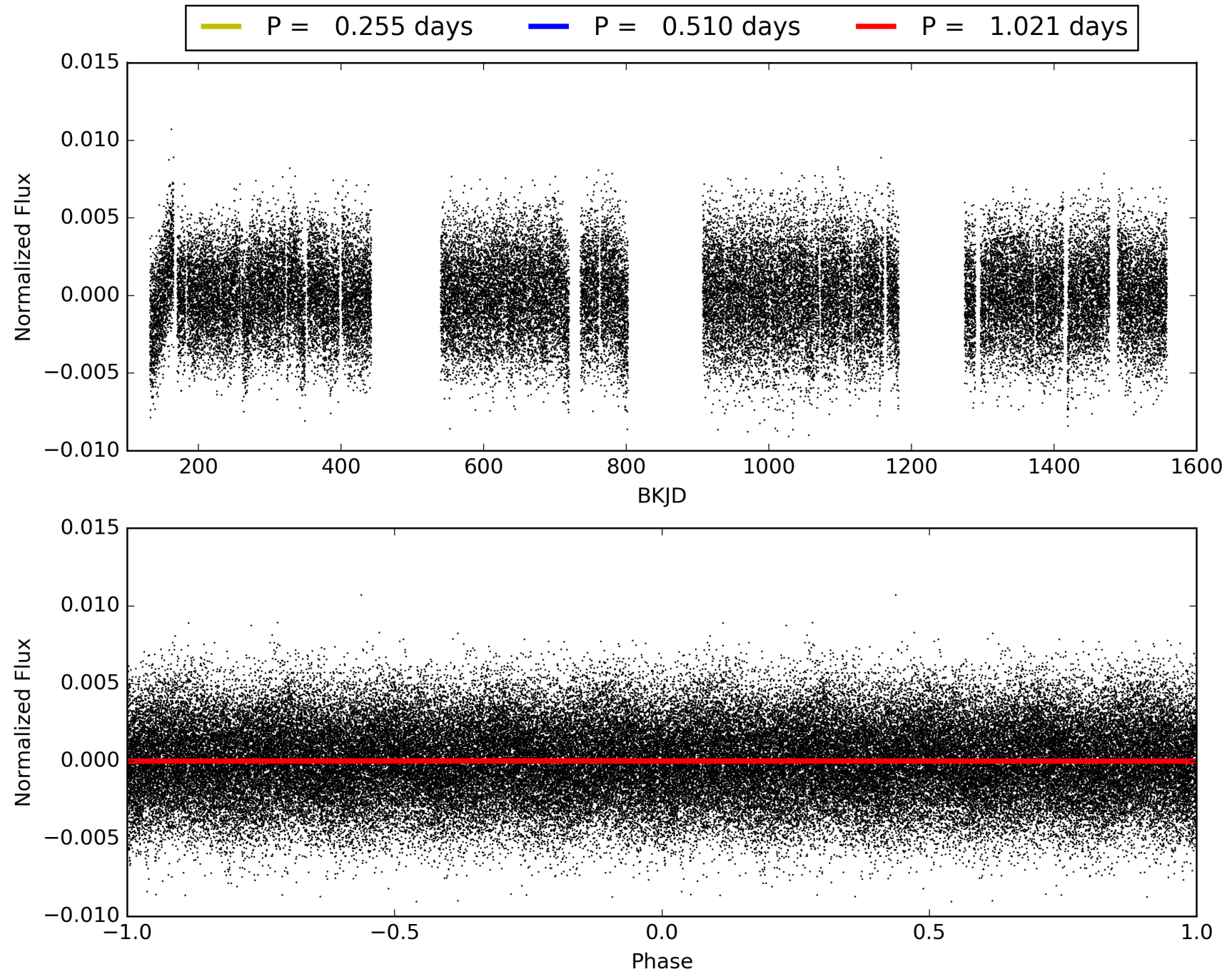
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:52:29 Z

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

TCE 006668729-02, PDC Light Curves

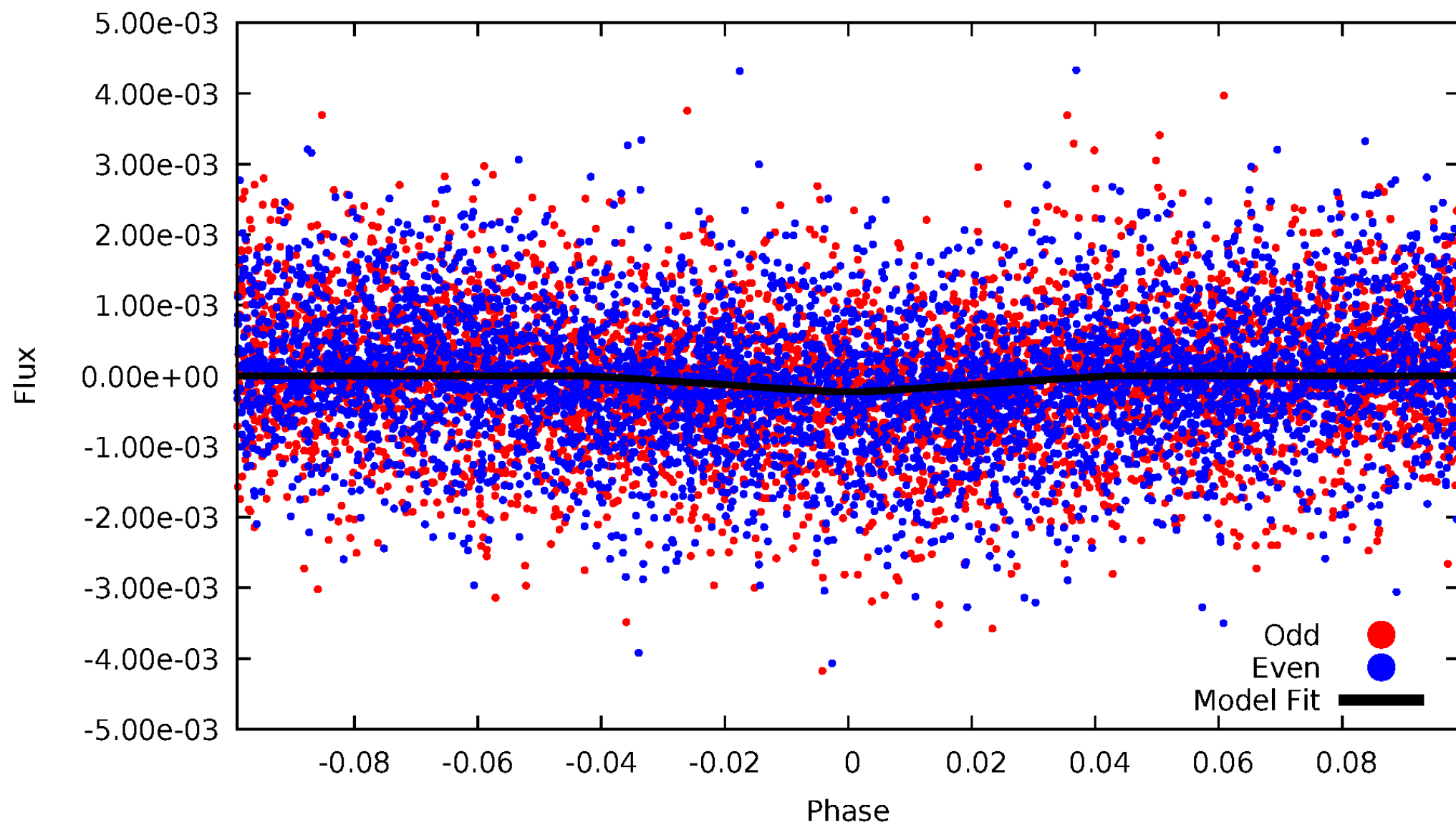


TCE 006668729-02



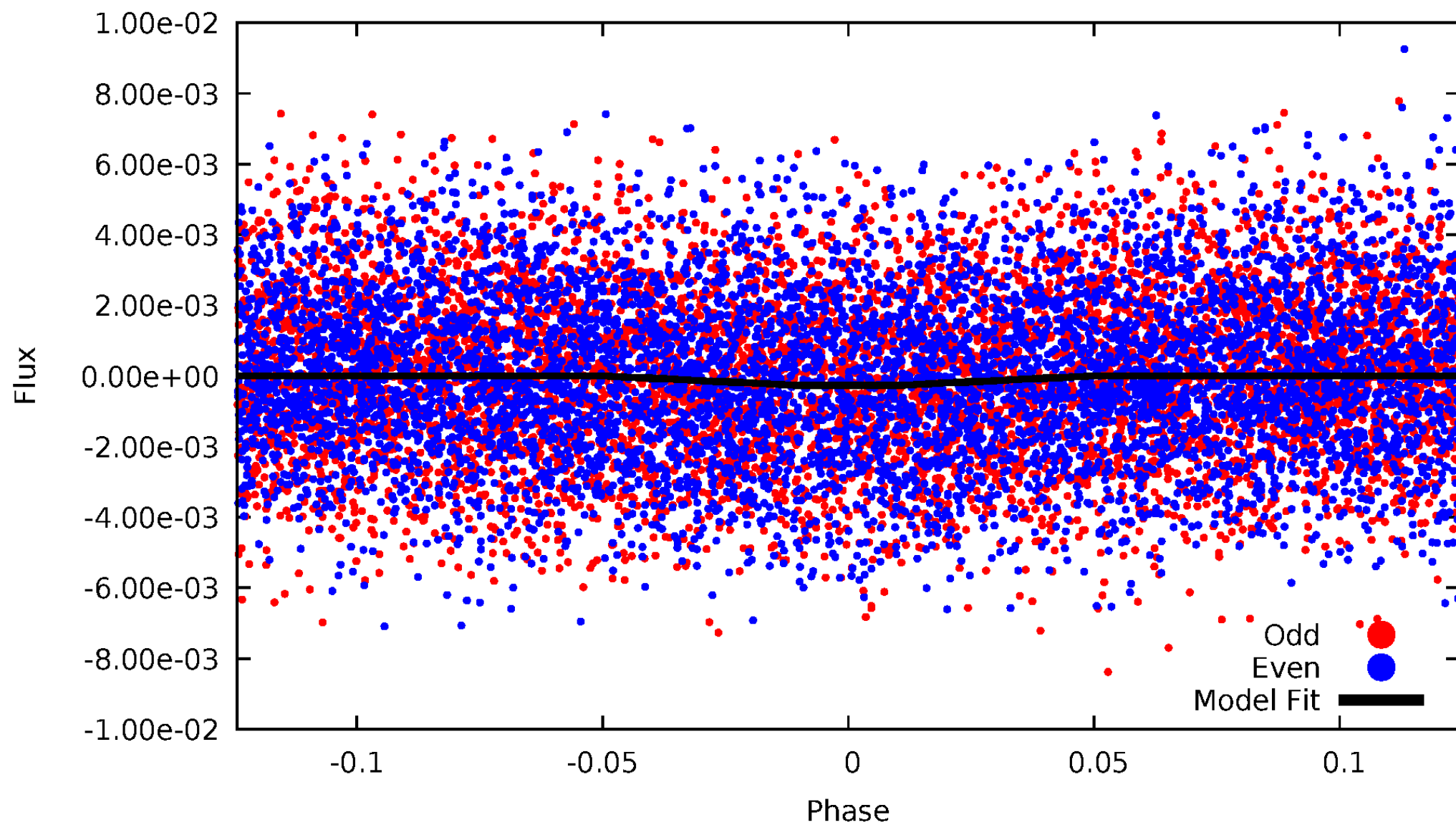
DV Odd/Even

TCE 006668729-02



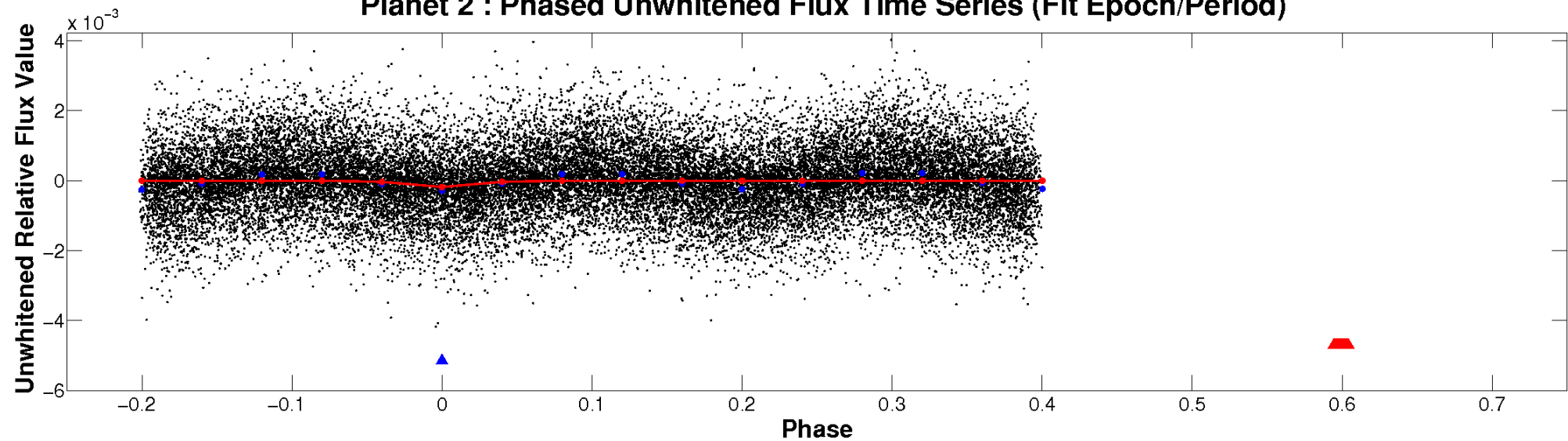
ALT Odd/Even

TCE 006668729-02

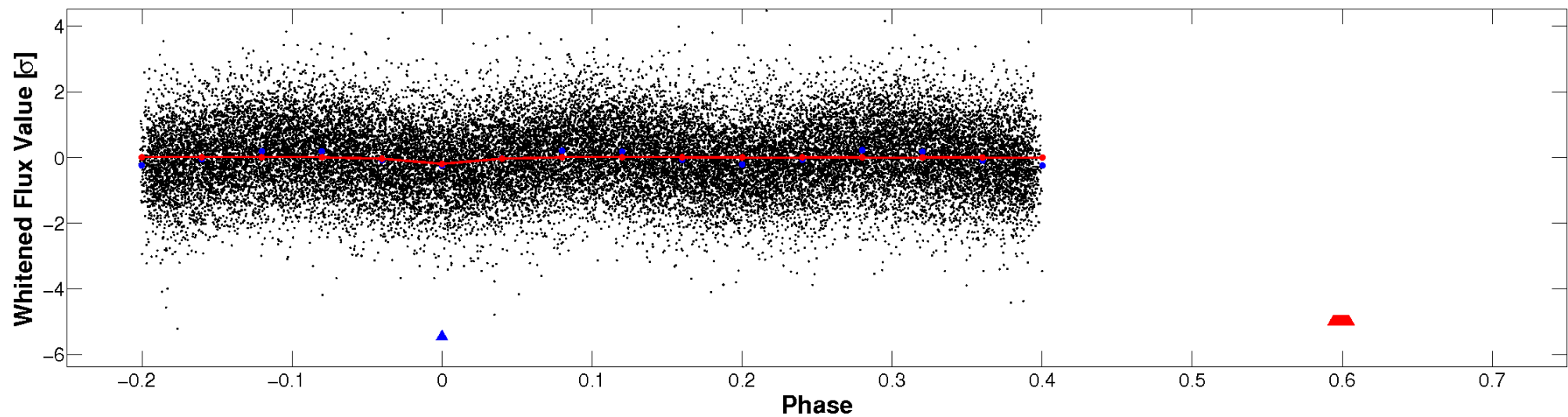


Non-Whitened Vs. Whitened Light Curve

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

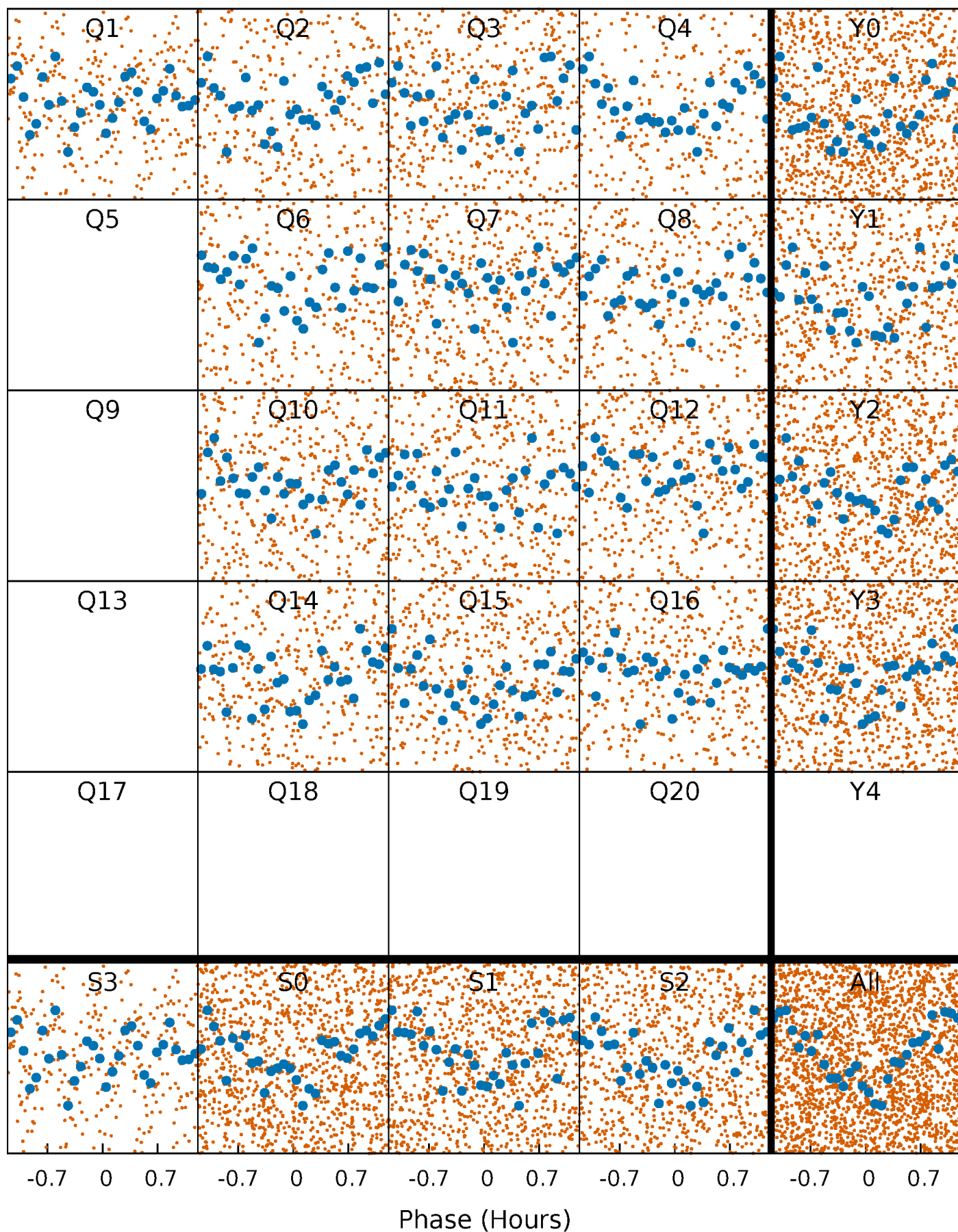


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



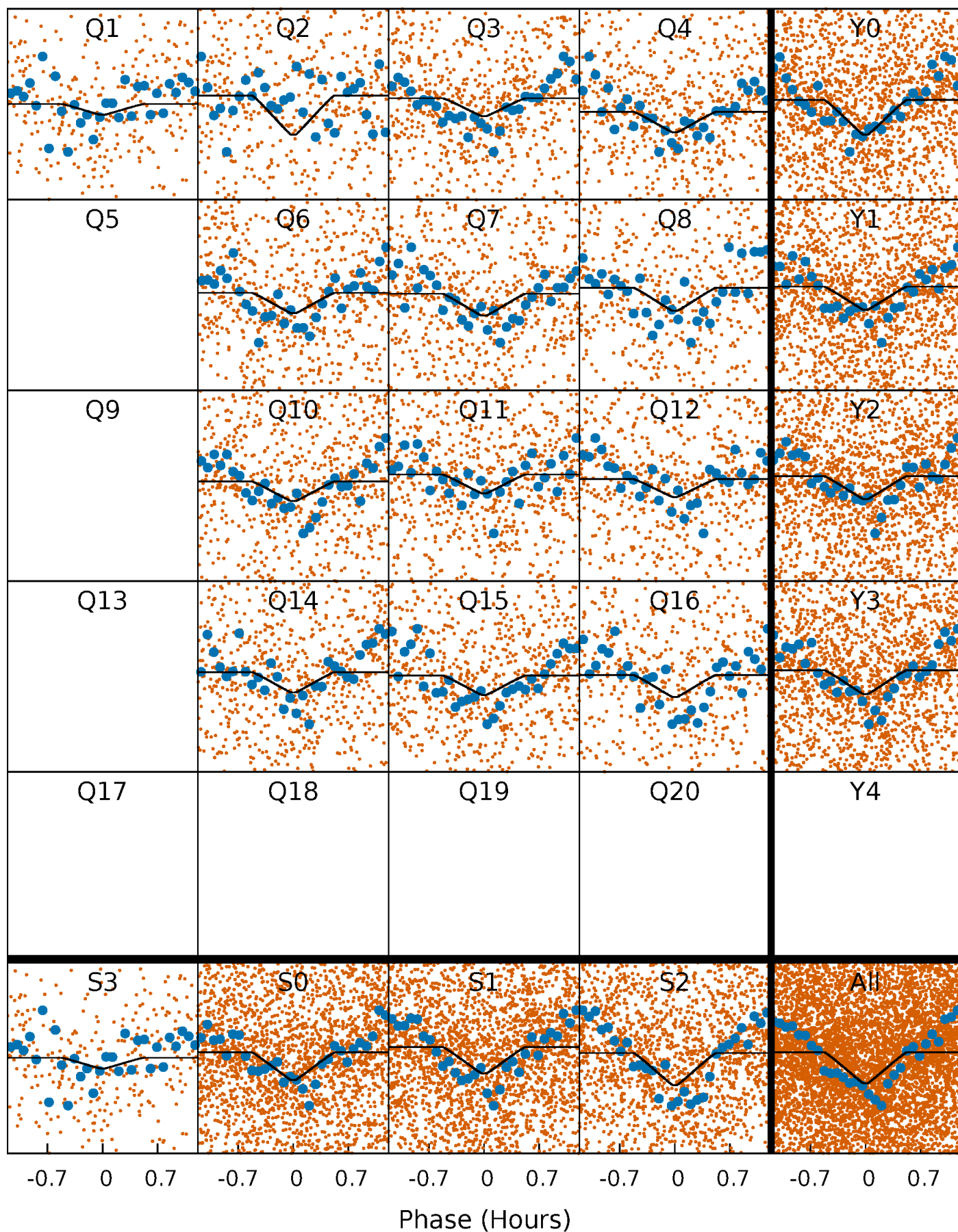
PDC Quarter-Phased Transit Curves

TCE 006668729-02 P= 0.510482 Days $T_0=131.557079$ (BKJD)



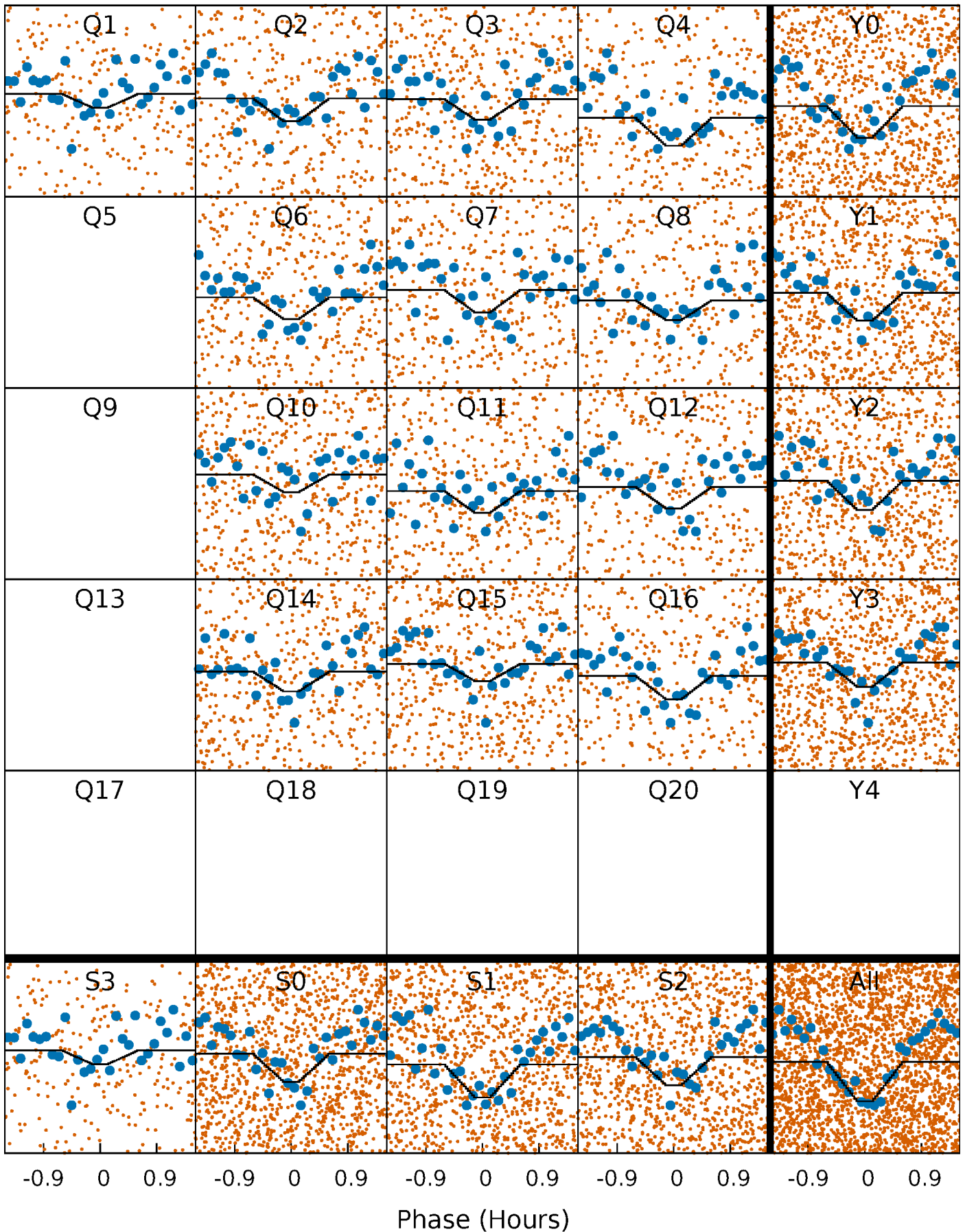
DV Quarter-Phased Transit Curves

TCE 006668729-02 P= 0.510482 Days $T_0=131.557079$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

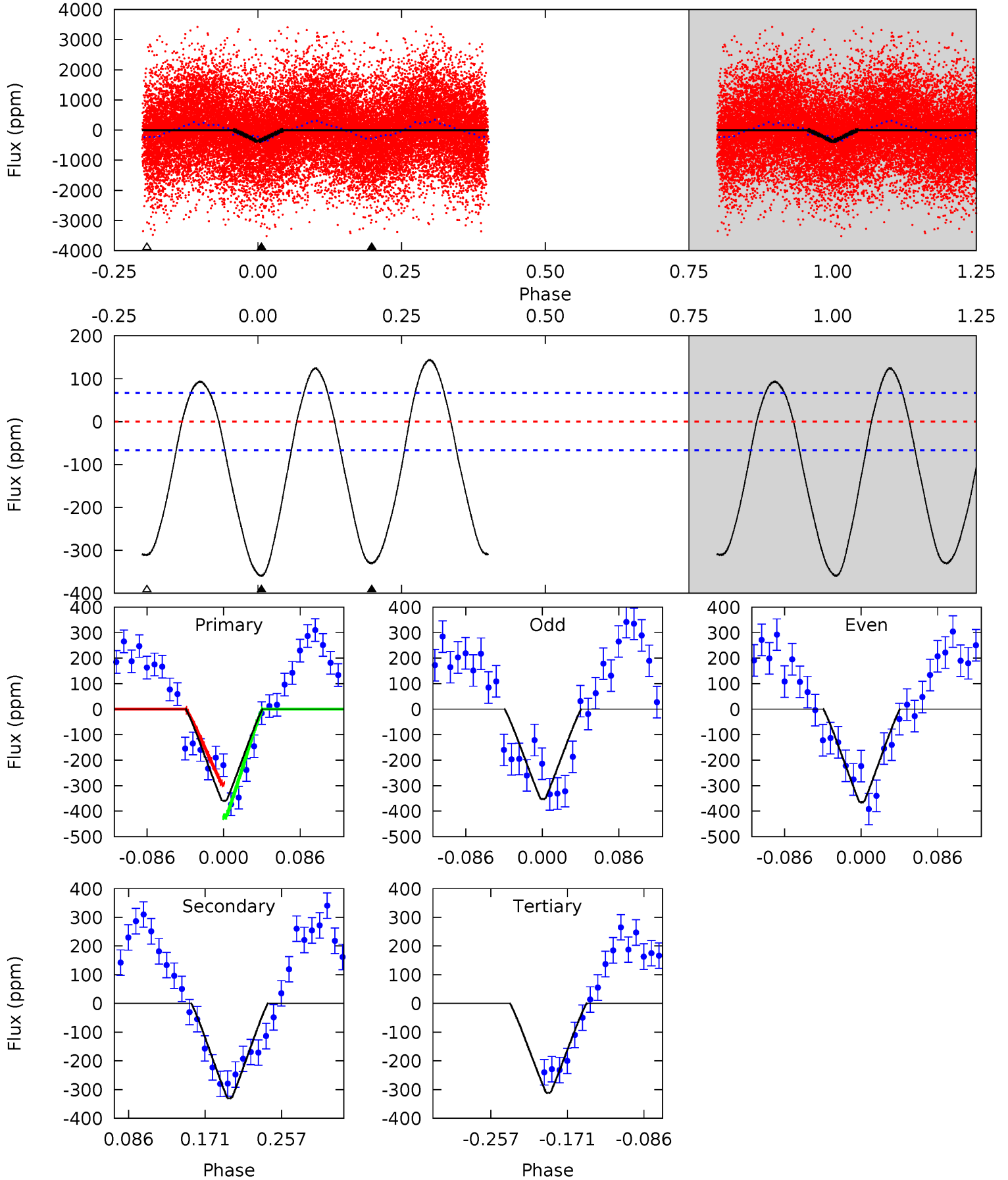
TCE 006668729-02 P= 0.510482 Days $T_0=131.557075$ (BKJD)



DV Model-Shift Uniqueness Test

006668729-02, P = 0.510482 Days, E = 131.046597 Days

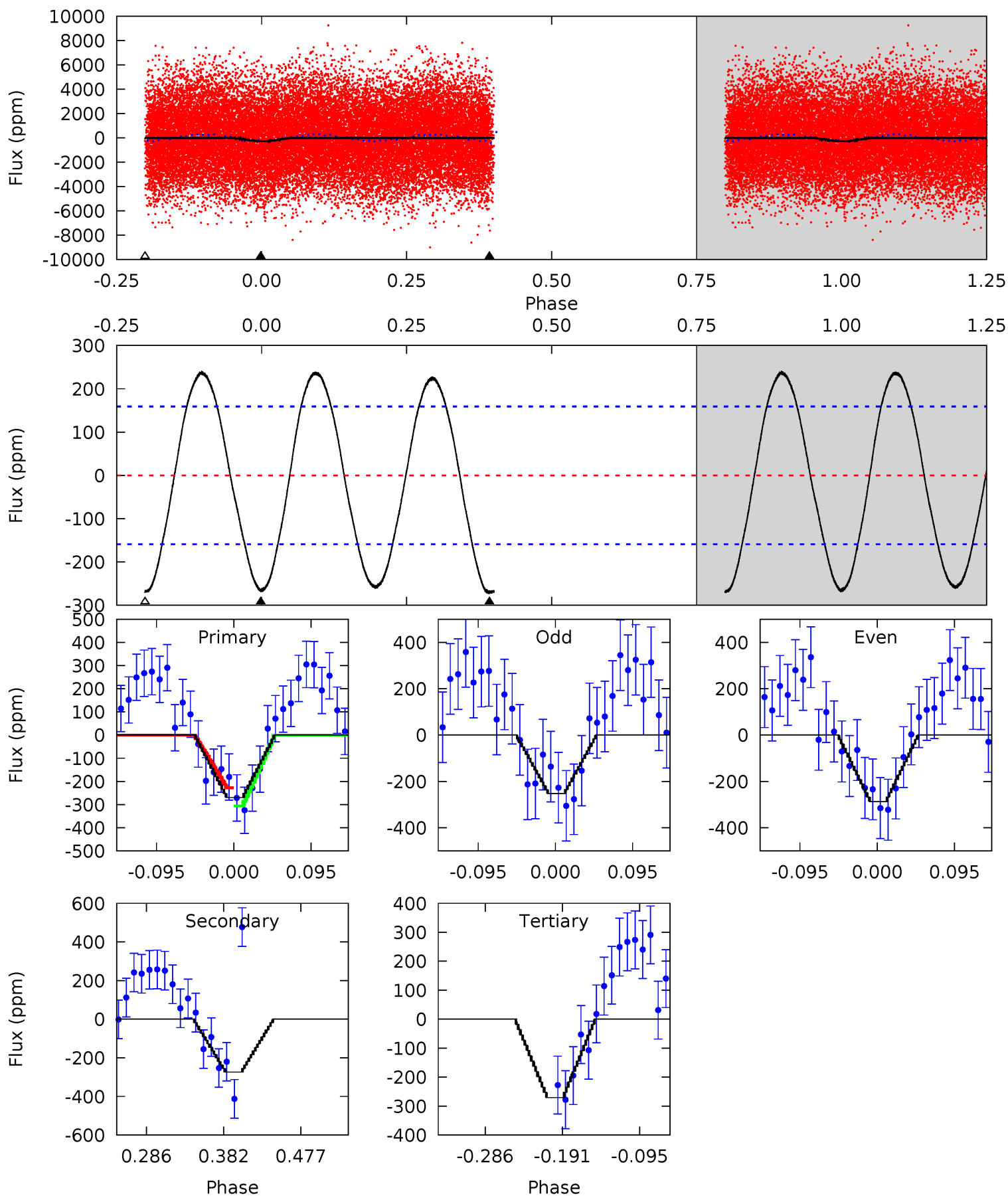
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	22.8	21.5	0	4.60	1.72	10.9	3.34	24.8	1.31	22.8	0.42	1.20	0.29	4.45



Alt Model-Shift Uniqueness Test

006668729-02, P = 0.510482 Days, E = 131.046593 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	7.88	7.80	0	4.57	1.67	5.06	-0.03	7.77	0.08	7.88	0.50	0.77	0.47	1.13



Stellar Parameters For KIC 006668729

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7968^{+220}_{-331}	$3.685^{+0.432}_{-0.108}$	$-0.180^{+0.200}_{-0.300}$	$3.380^{+0.701}_{-1.519}$	$2.017^{+0.382}_{-0.509}$	$0.074^{+0.297}_{-0.024}$
	+3%/-4%	+12%/-3%	+111%/-167%	+21%/-45%	+19%/-25%	+403%/-33%
Source	KIC0	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 006668729-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-330 ± 14	$5.48^{+2.52}_{-2.15}$	6946^{+529}_{-749}	7783^{+3264}_{-1658}	$1.495^{+2.496}_{-0.771}$
Alt.	-274 ± 35	$5.61^{+2.33}_{-2.24}$	6970^{+520}_{-795}	7312^{+3013}_{-1702}	$1.230^{+2.024}_{-0.629}$

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 $A_{obs} \gg 1.0$

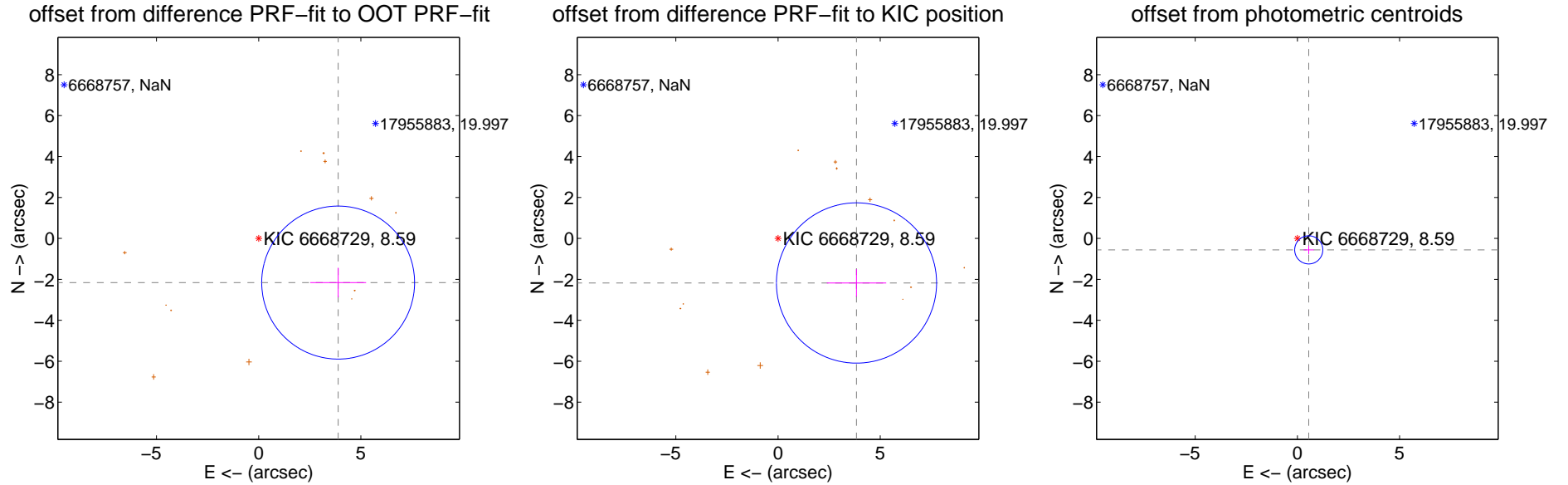
DV Centroid Data

Supplemental centroid analysis for 006668729-02. **Kepler magnitude: 8.59.** Transit SNR 9.30

There are 0 quarters with good PRF difference image offsets

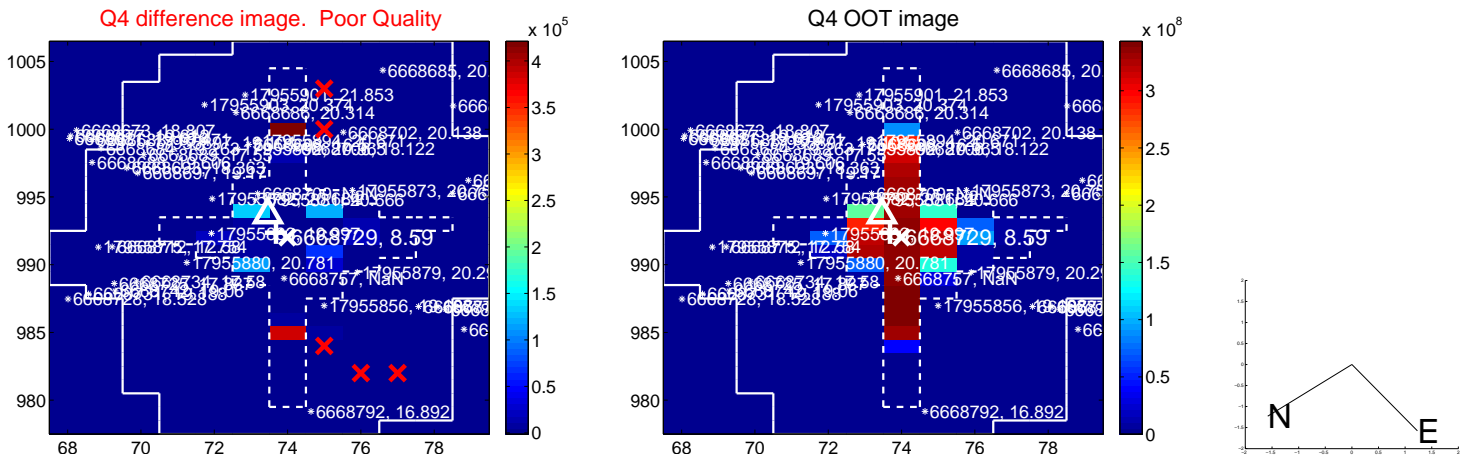
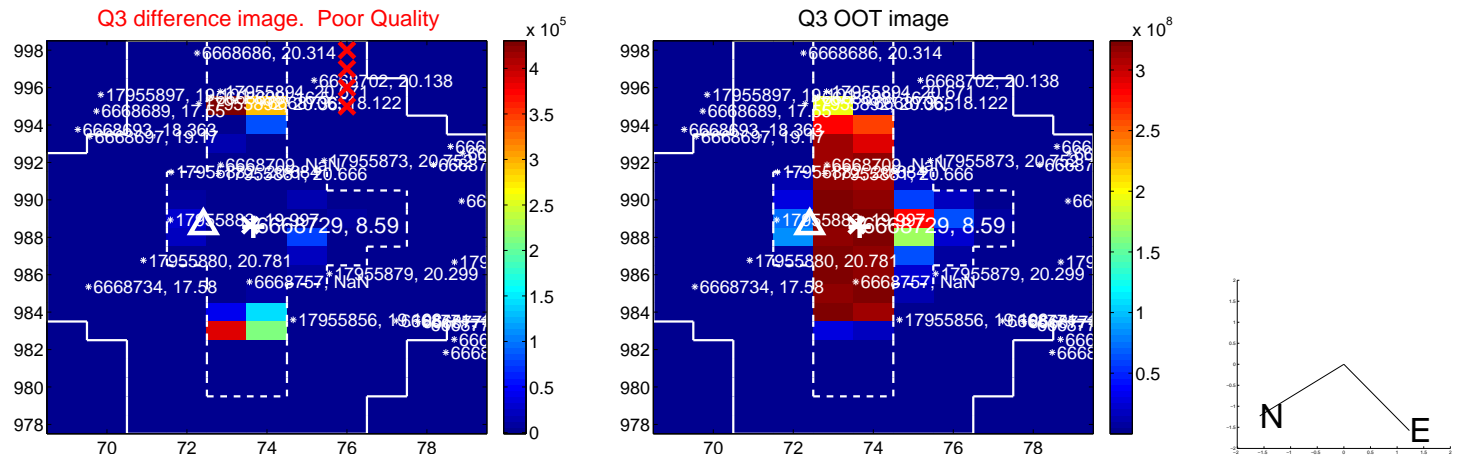
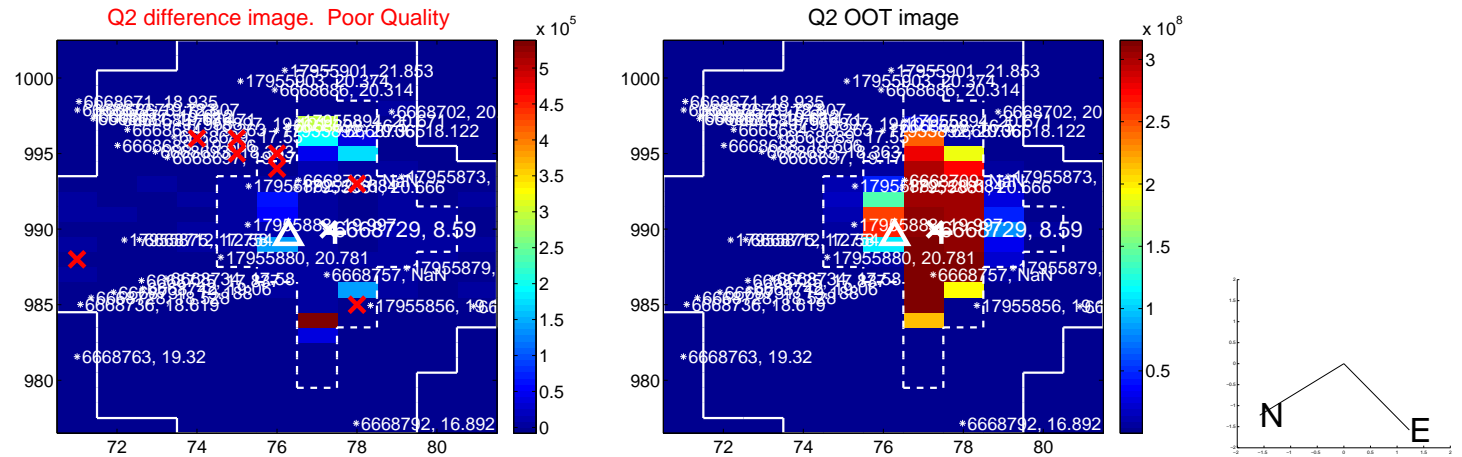
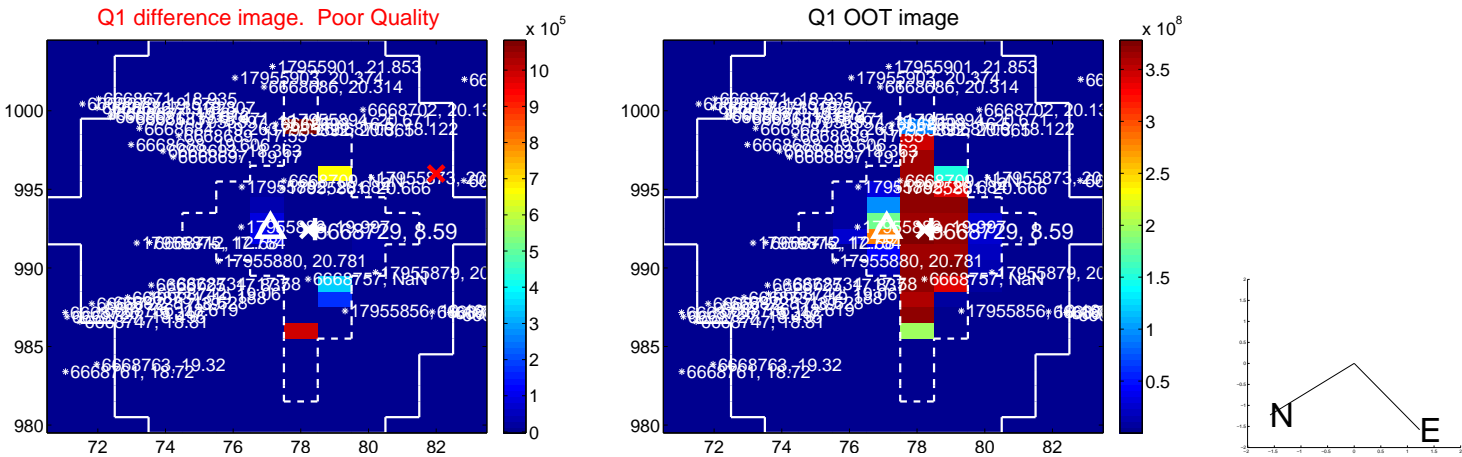
The direct PRF centroid is offset from the target star catalog position by about 1.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.445 ± 1.246	3.57	-3.886 ± 1.367	-2.157 ± 0.723
PRF-fit source offset from KIC position	4.412 ± 1.305	3.38	-3.838 ± 1.451	-2.176 ± 0.672
photometric centroid source offset	0.79 ± 0.23	3.44	-0.56 ± 0.25	-0.56 ± 0.20

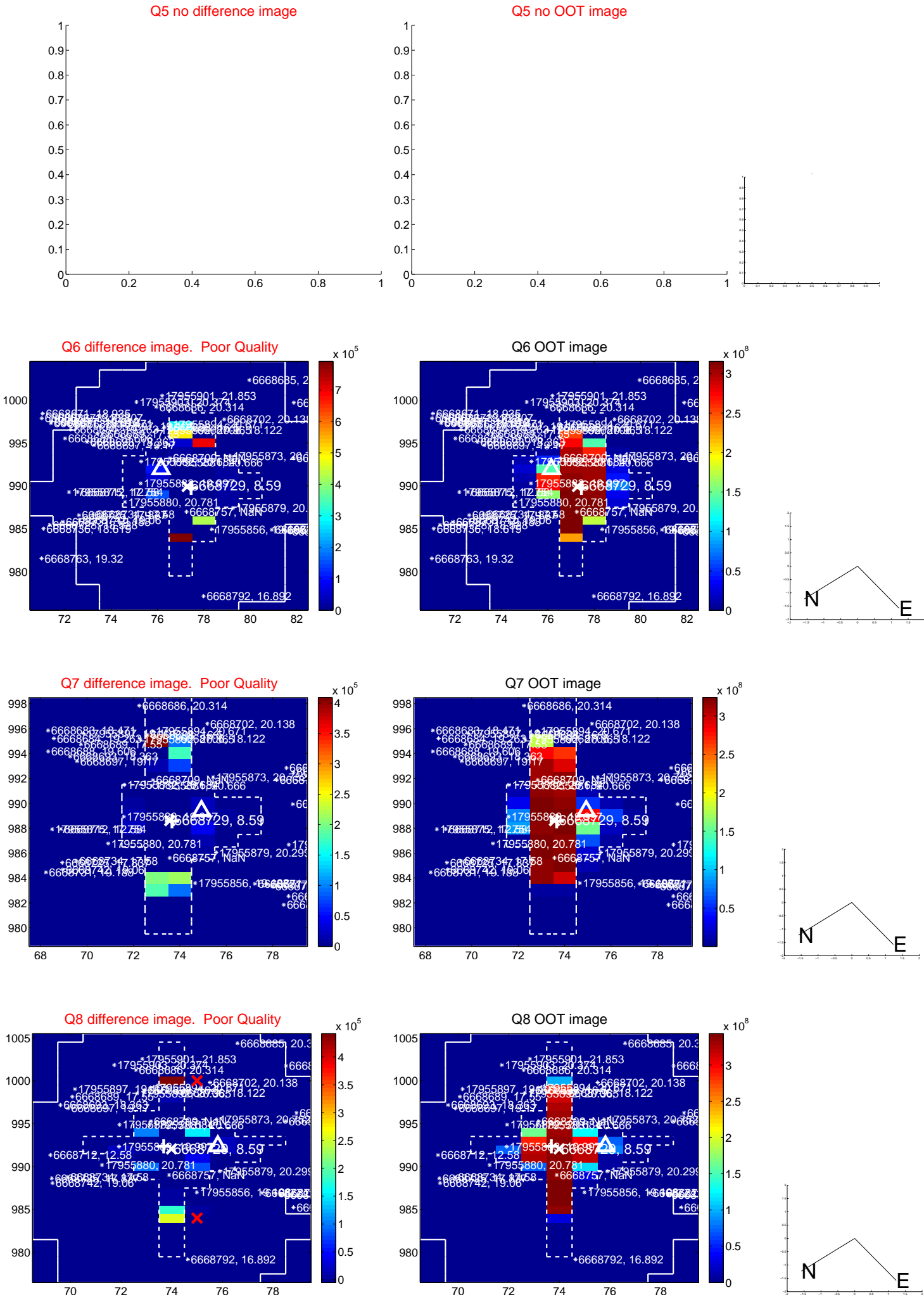


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

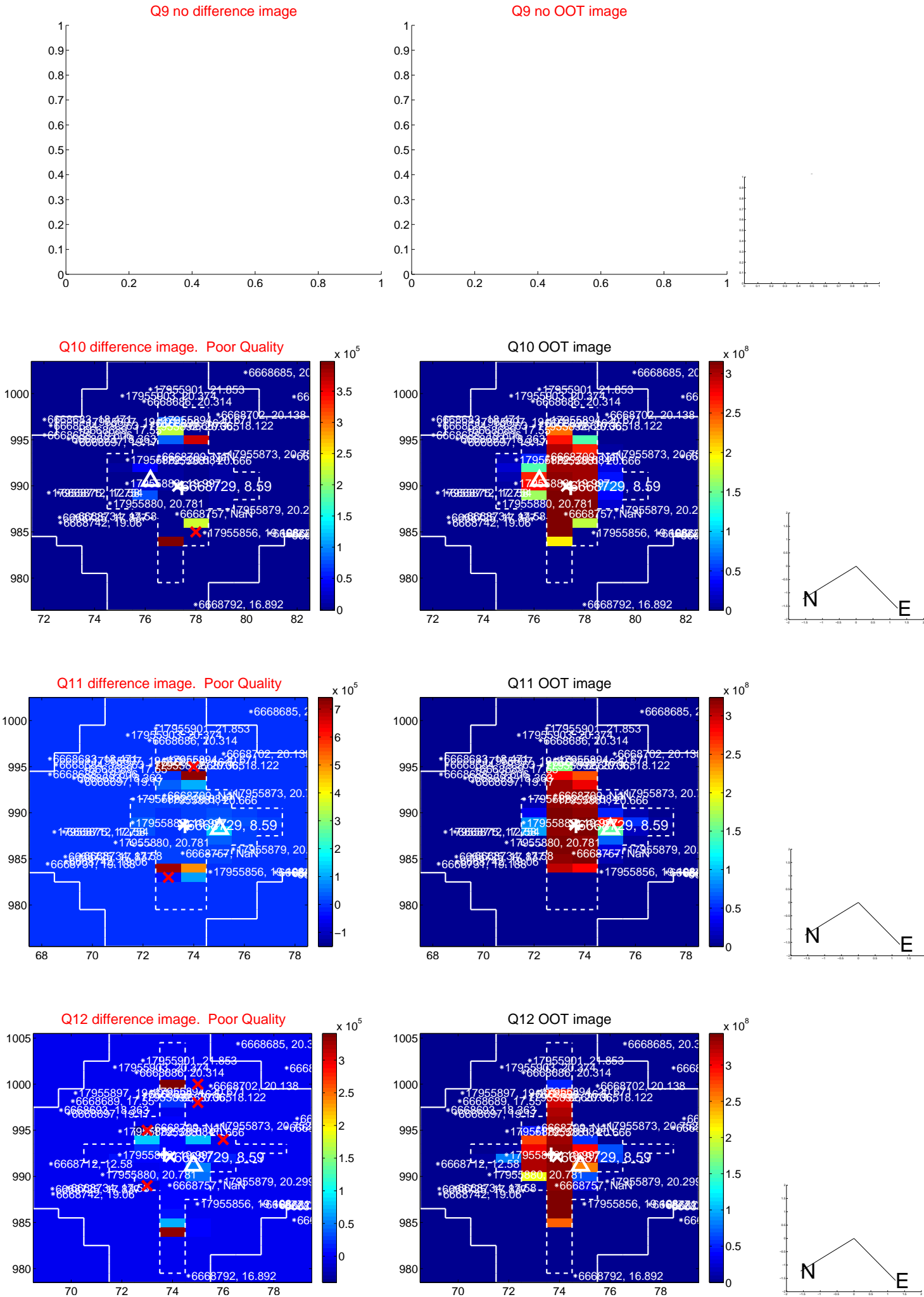
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



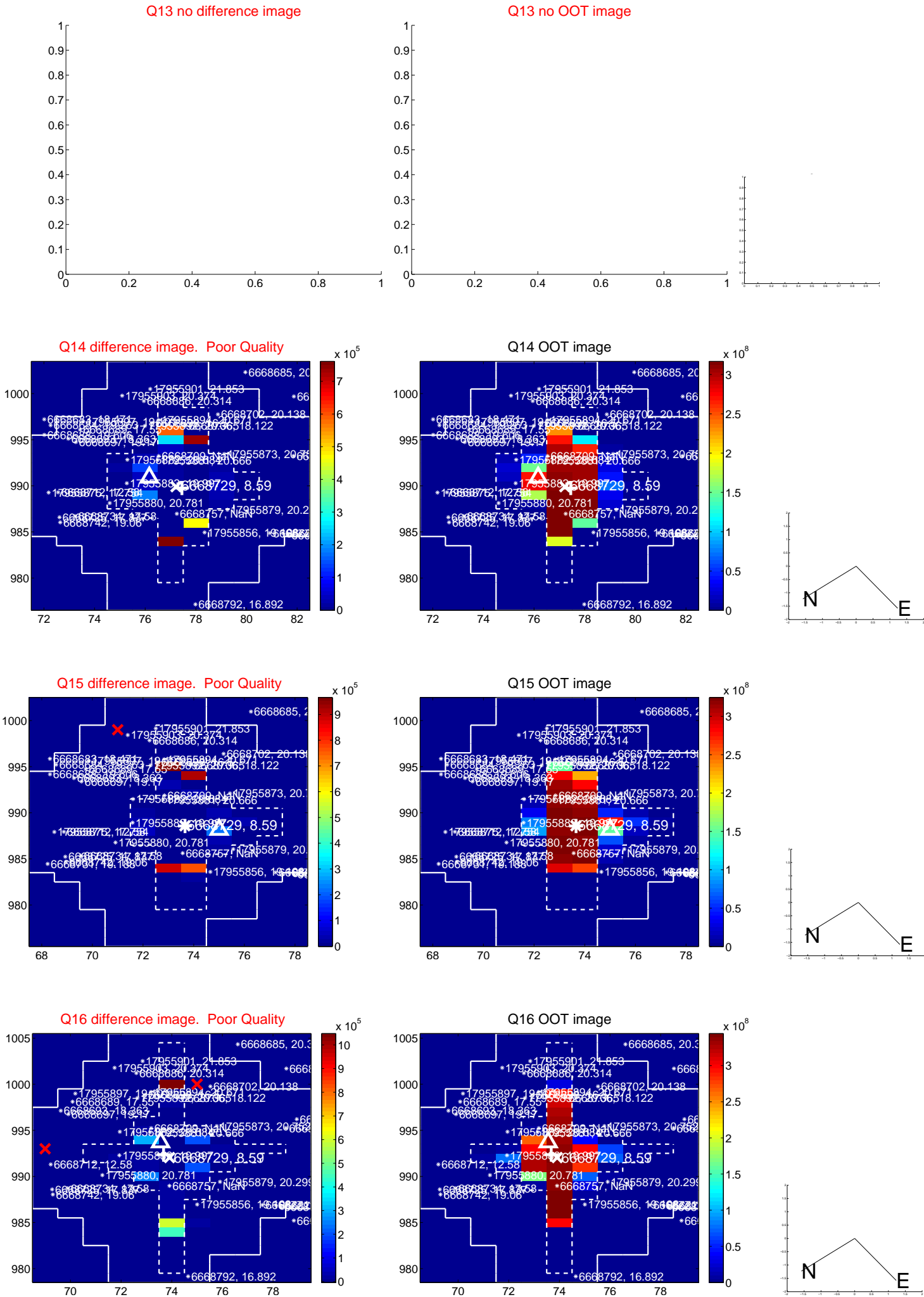
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



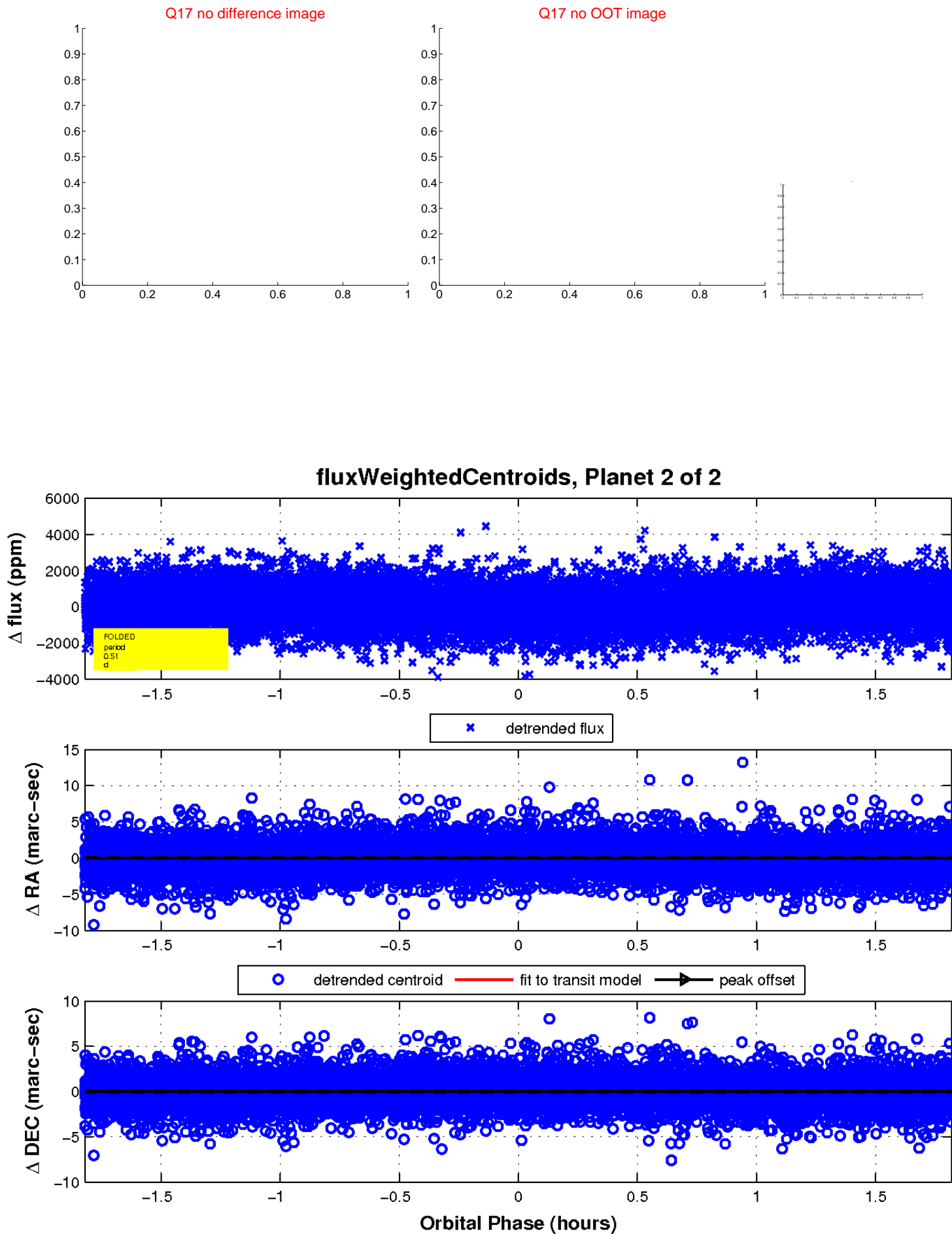
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

