

KIC 008915335

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})
008915335-01	OBS	No	0.550761	132.060905	84.1	1.319	12.3	13.1	3.38	7968	3.62	149377.61
008915335-02	OBS	No	0.550769	131.729349	79.8	1.216	11.8	12.6	3.38	7968	3.06	149374.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008915335-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008915335-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—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.

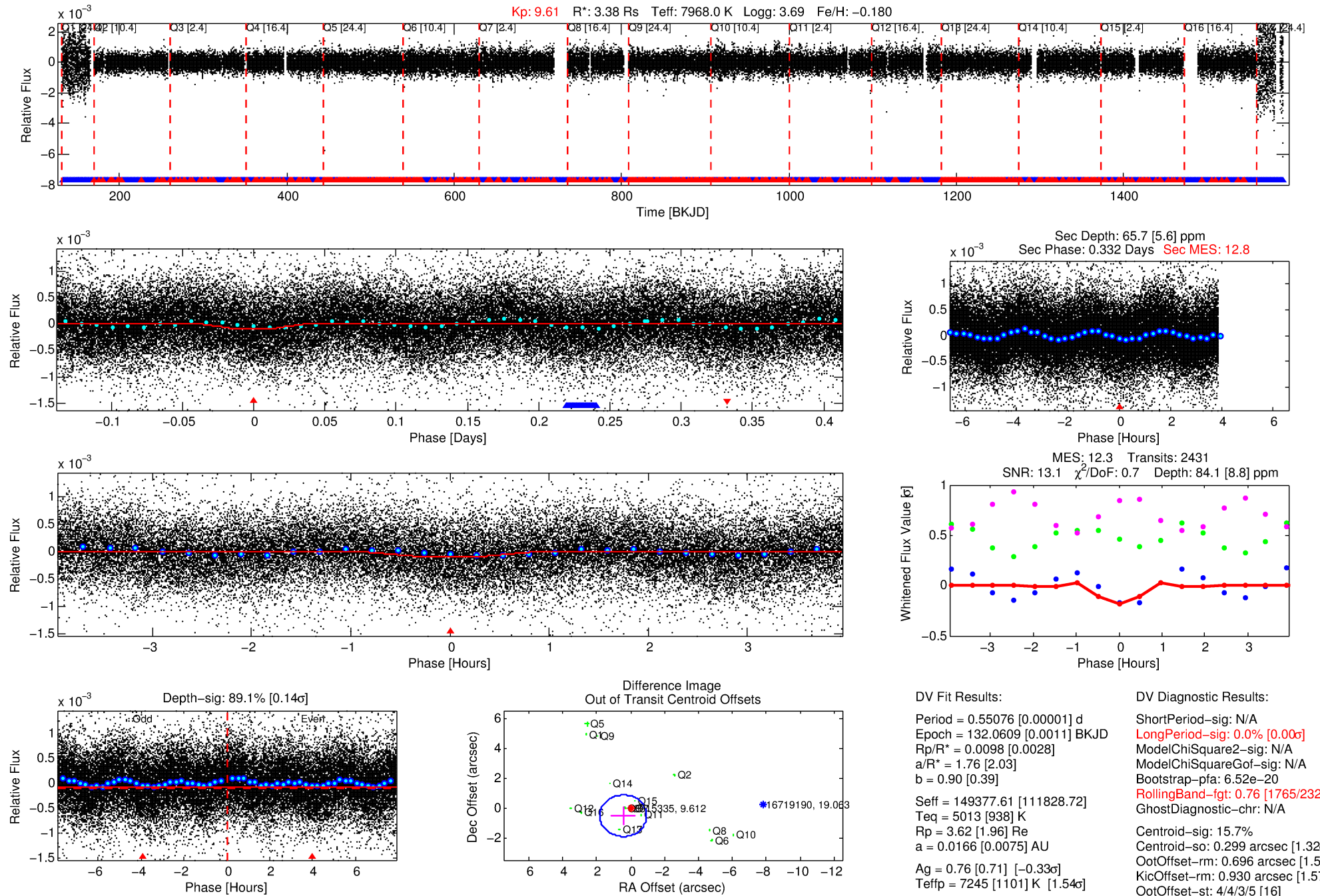
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008915335-01

No Significant Match Found

DV One-Page Summary

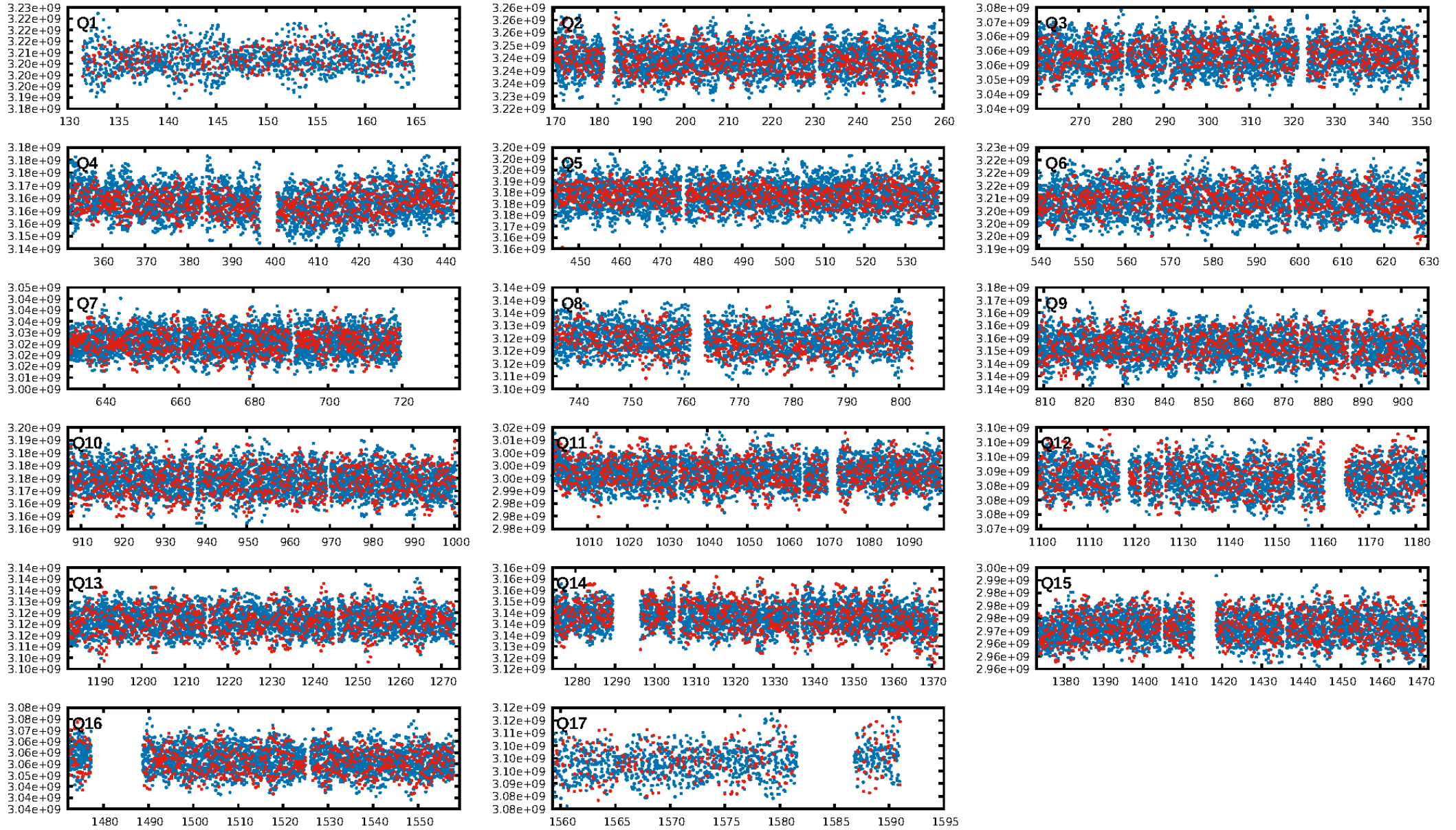
KIC: 8915335 Candidate: 1 of 2 Period: 0.551 d



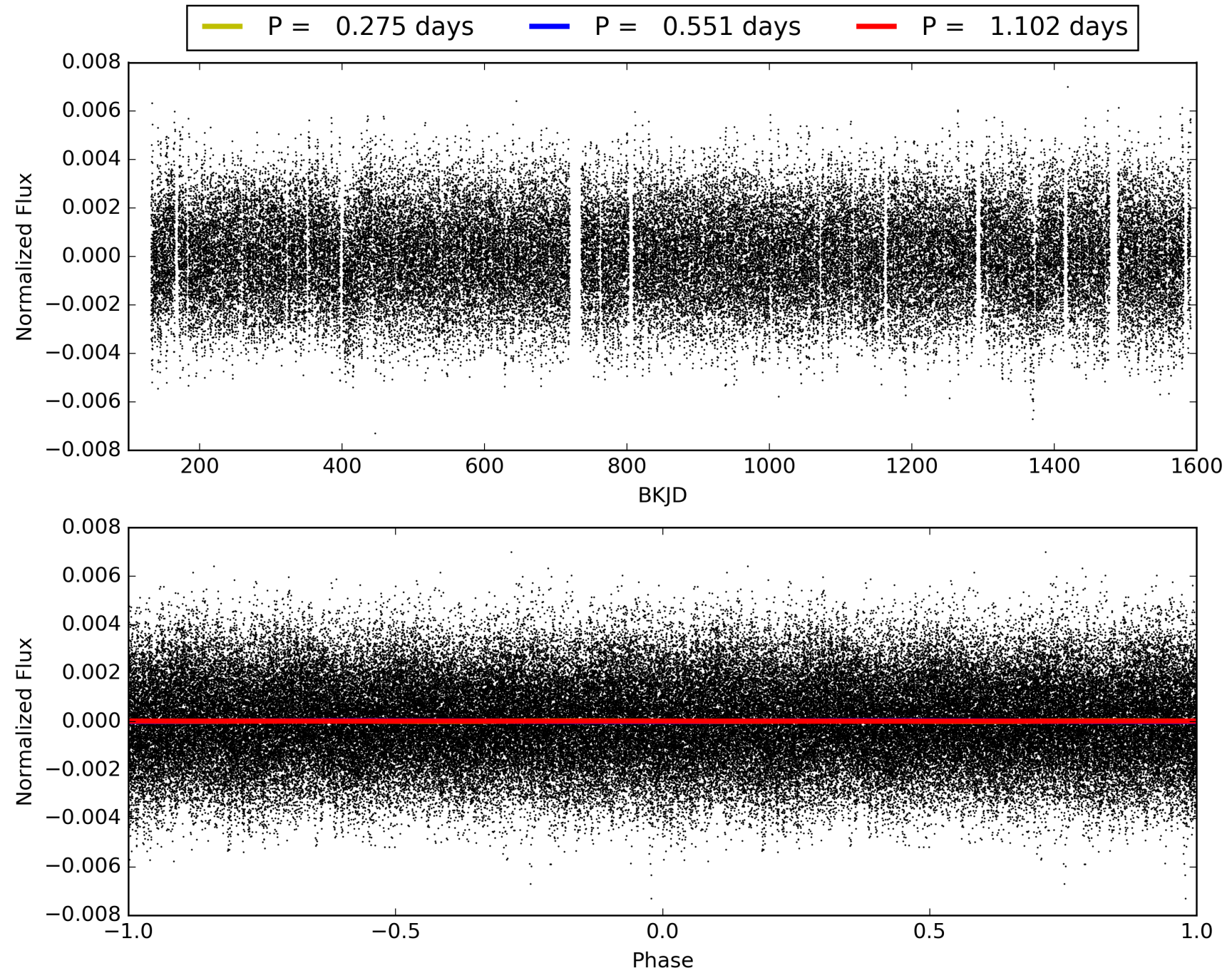
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:36:34 Z

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

TCE 008915335-01, PDC Light Curves

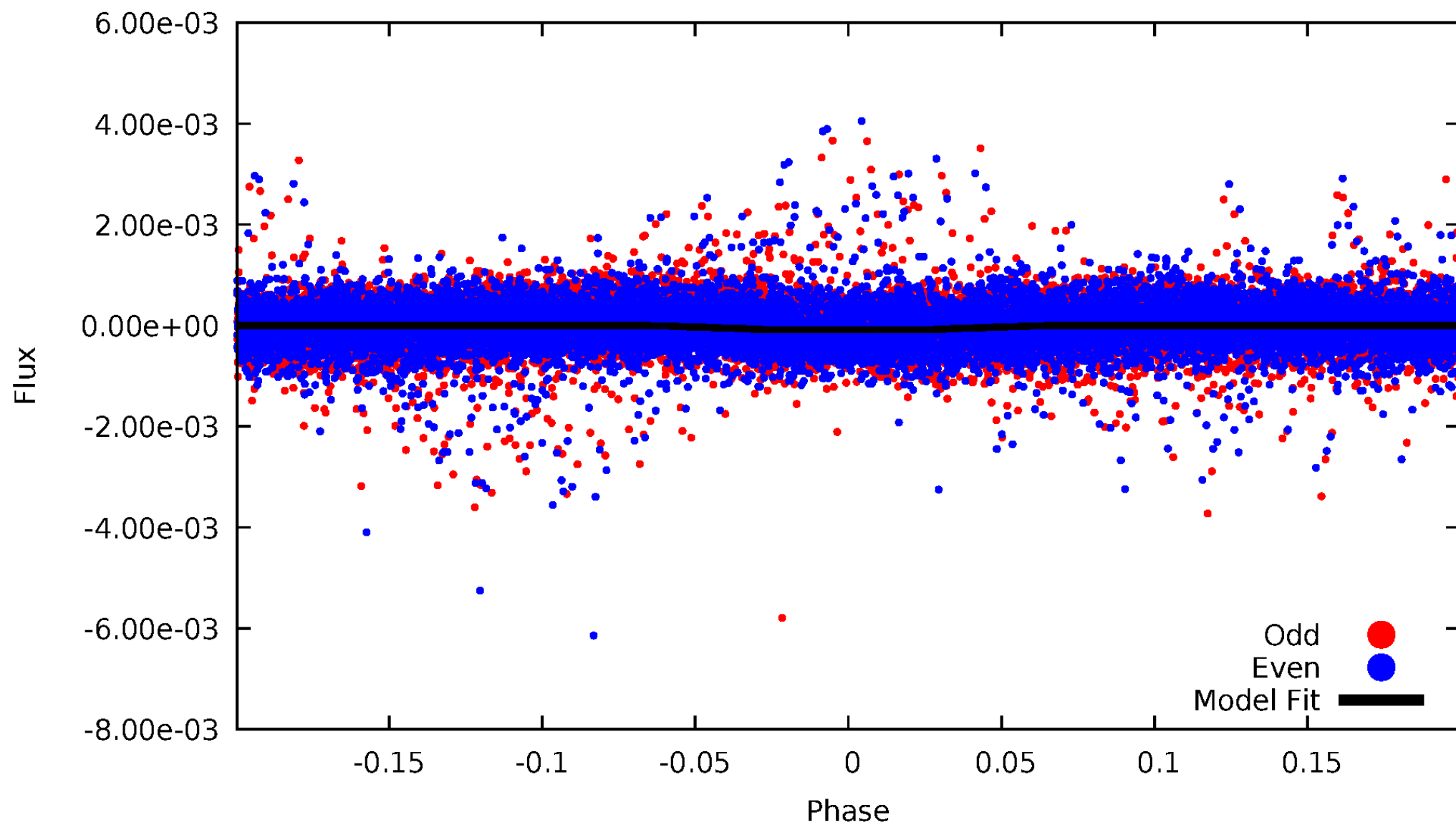


TCE 008915335-01



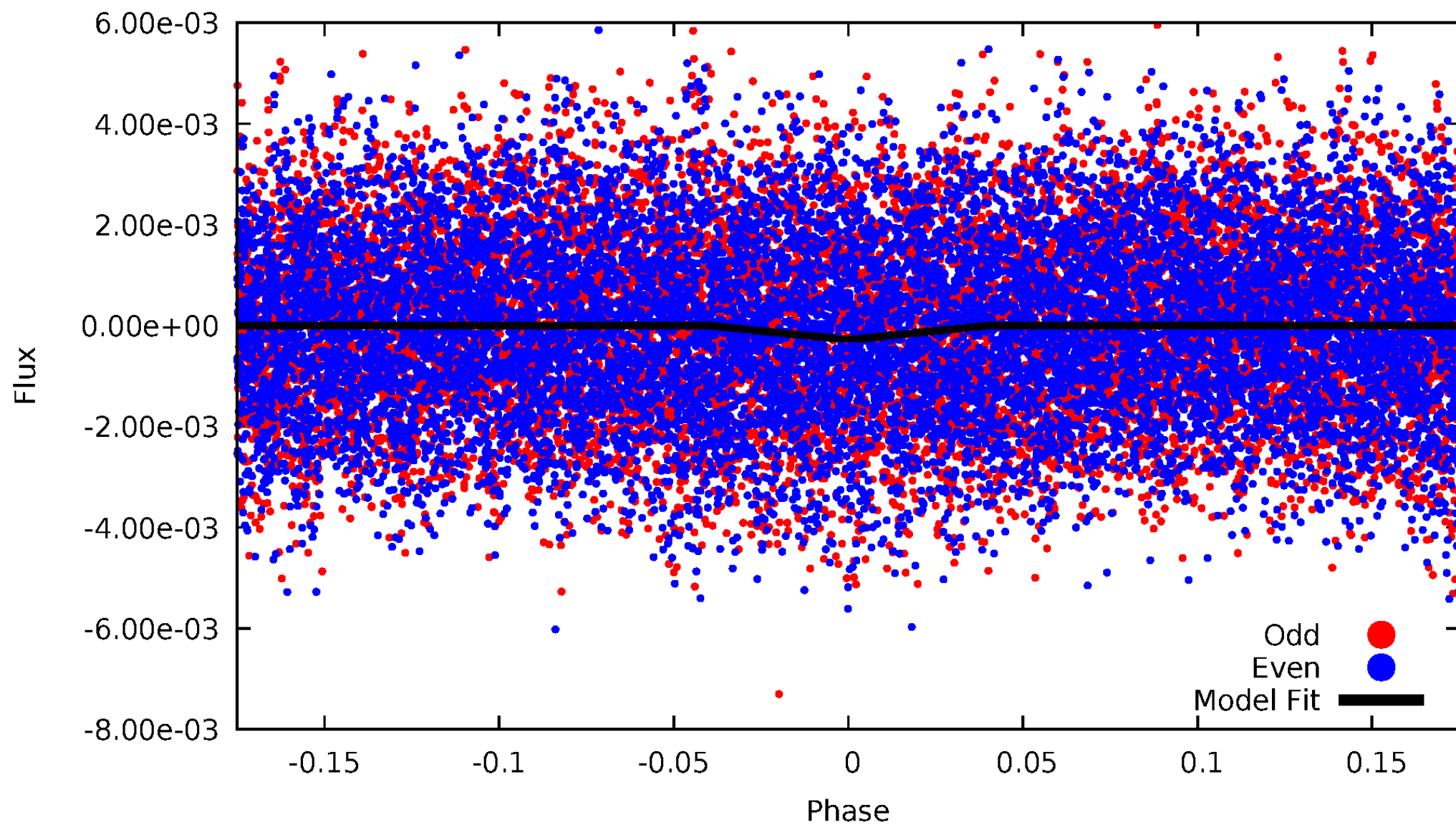
DV Odd/Even

TCE 008915335-01



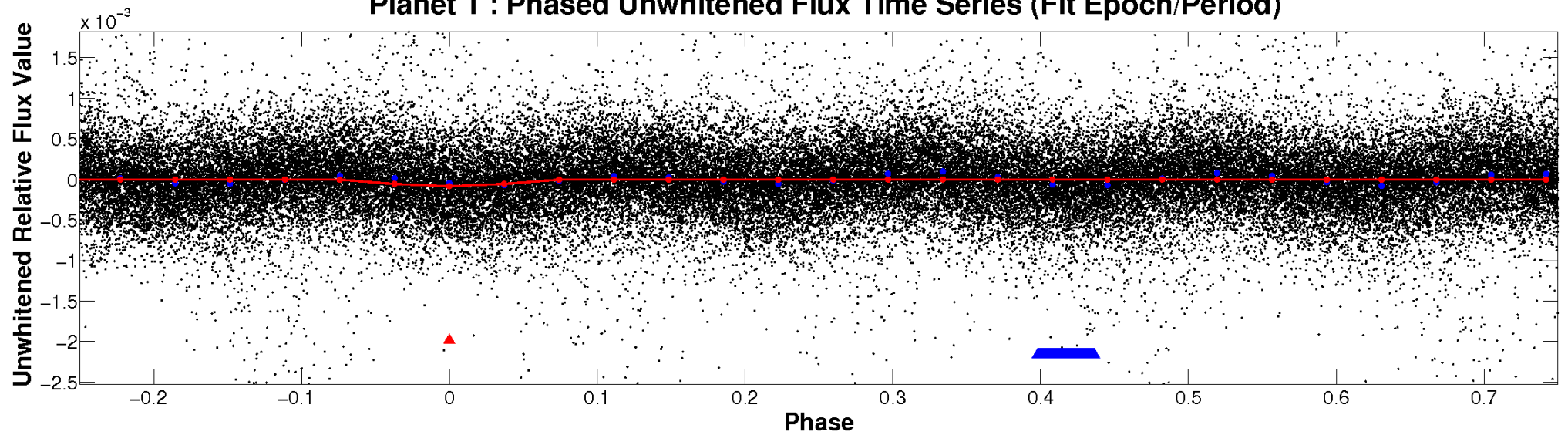
ALT Odd/Even

TCE 008915335-01

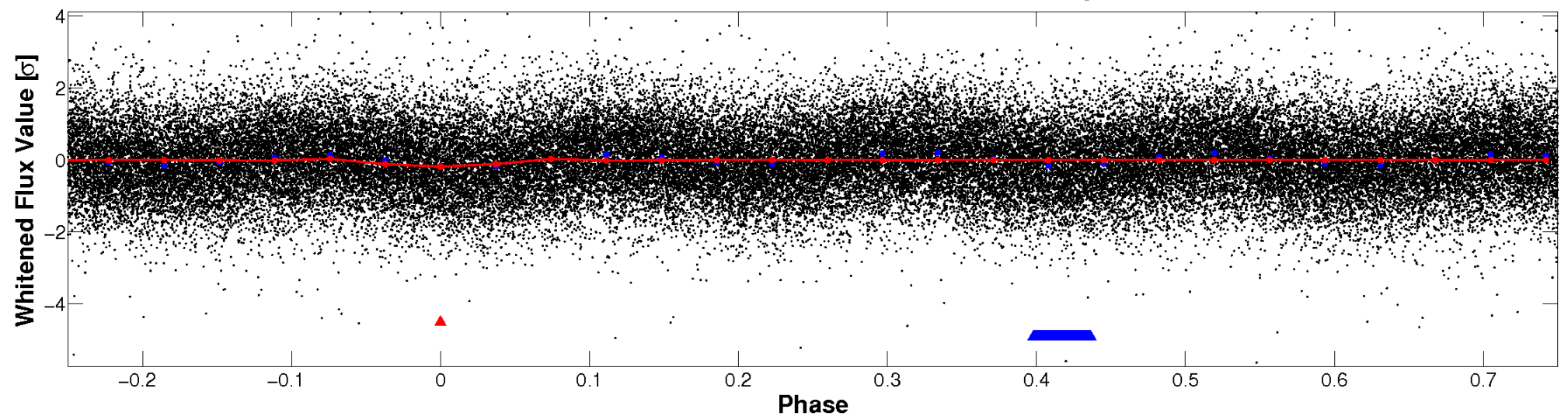


Non-Whitened Vs. Whitened Light Curve

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

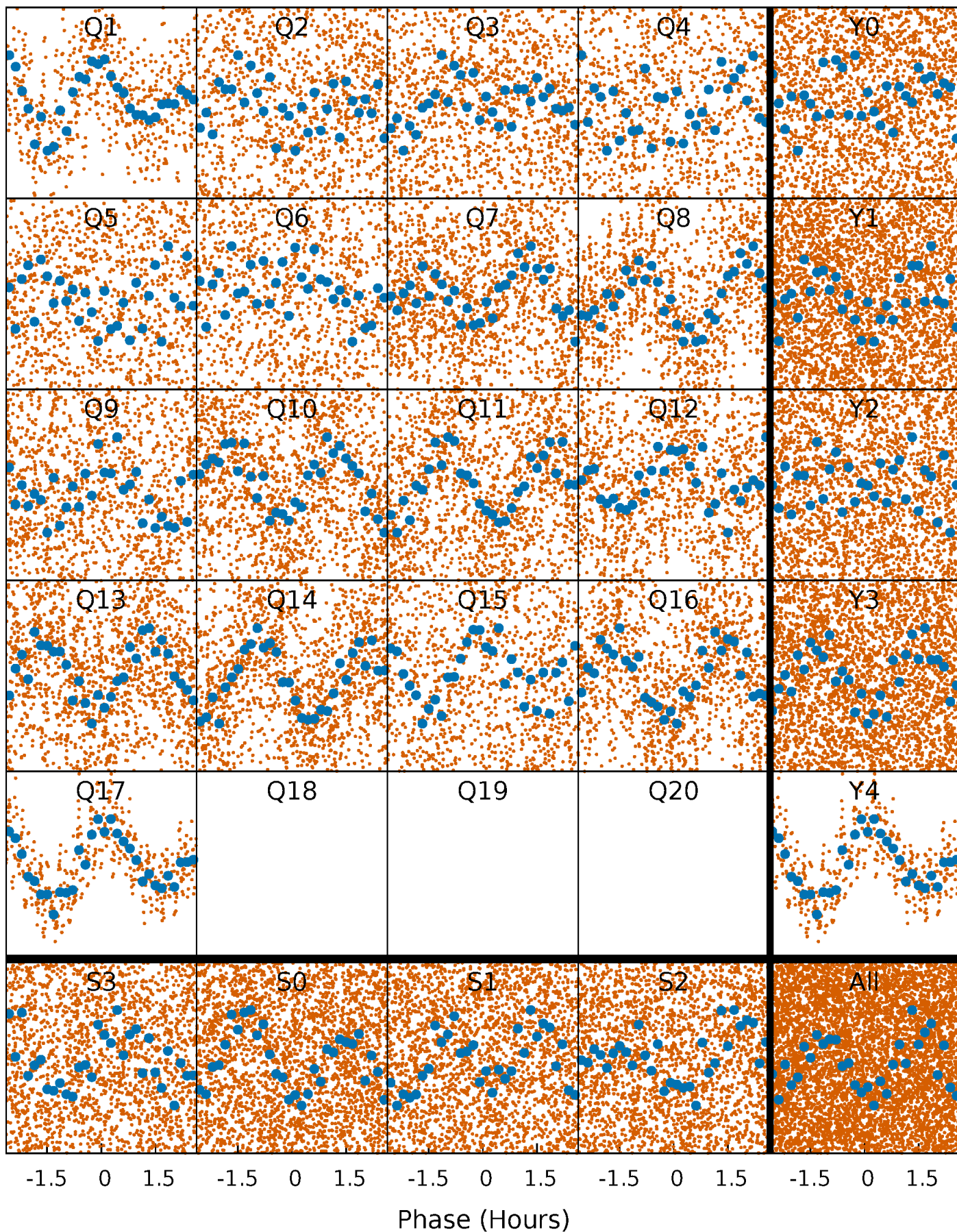


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



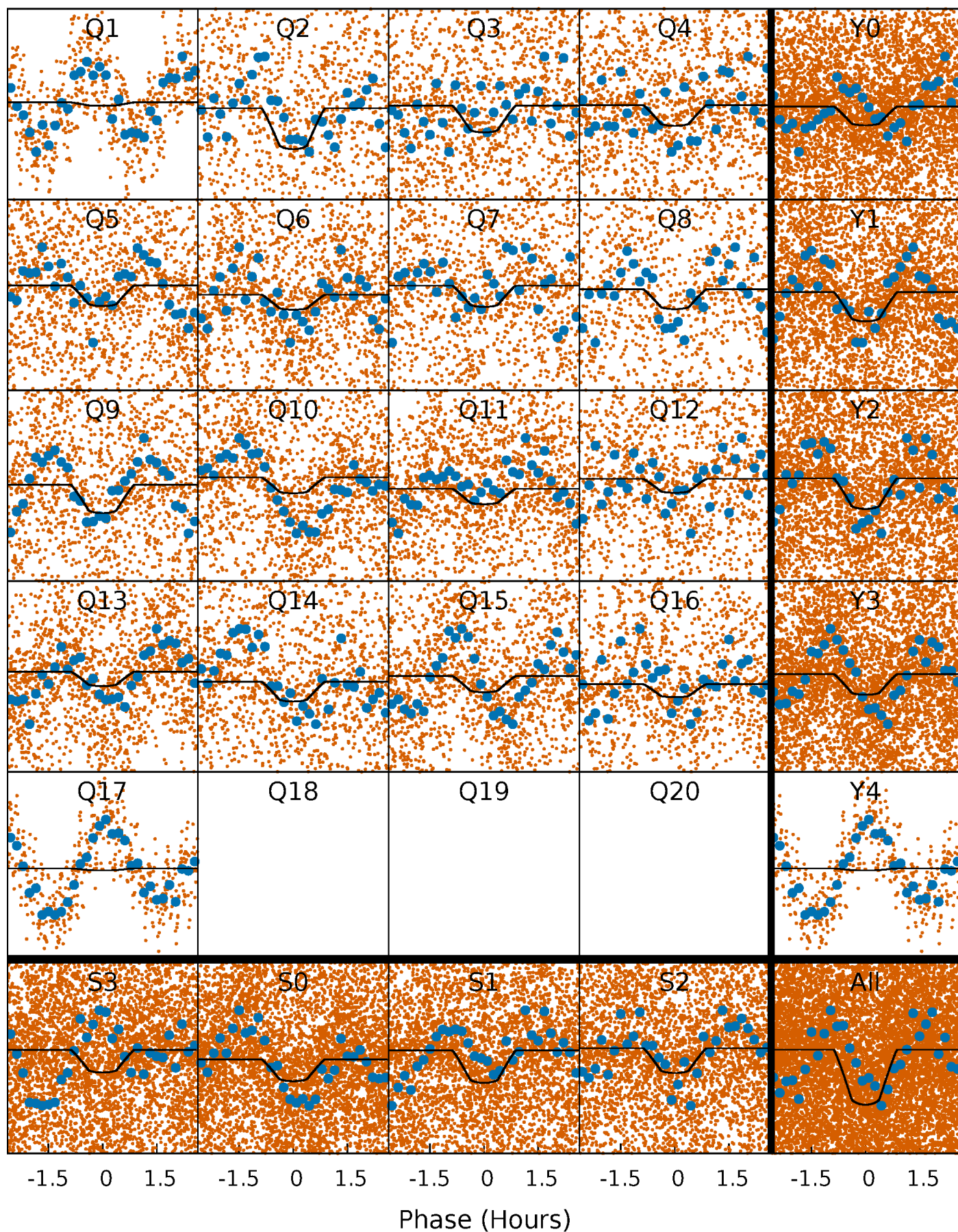
PDC Quarter-Phased Transit Curves

TCE 008915335-01 P= 0.550761 Days $T_0=132.060905$ (BKJD)



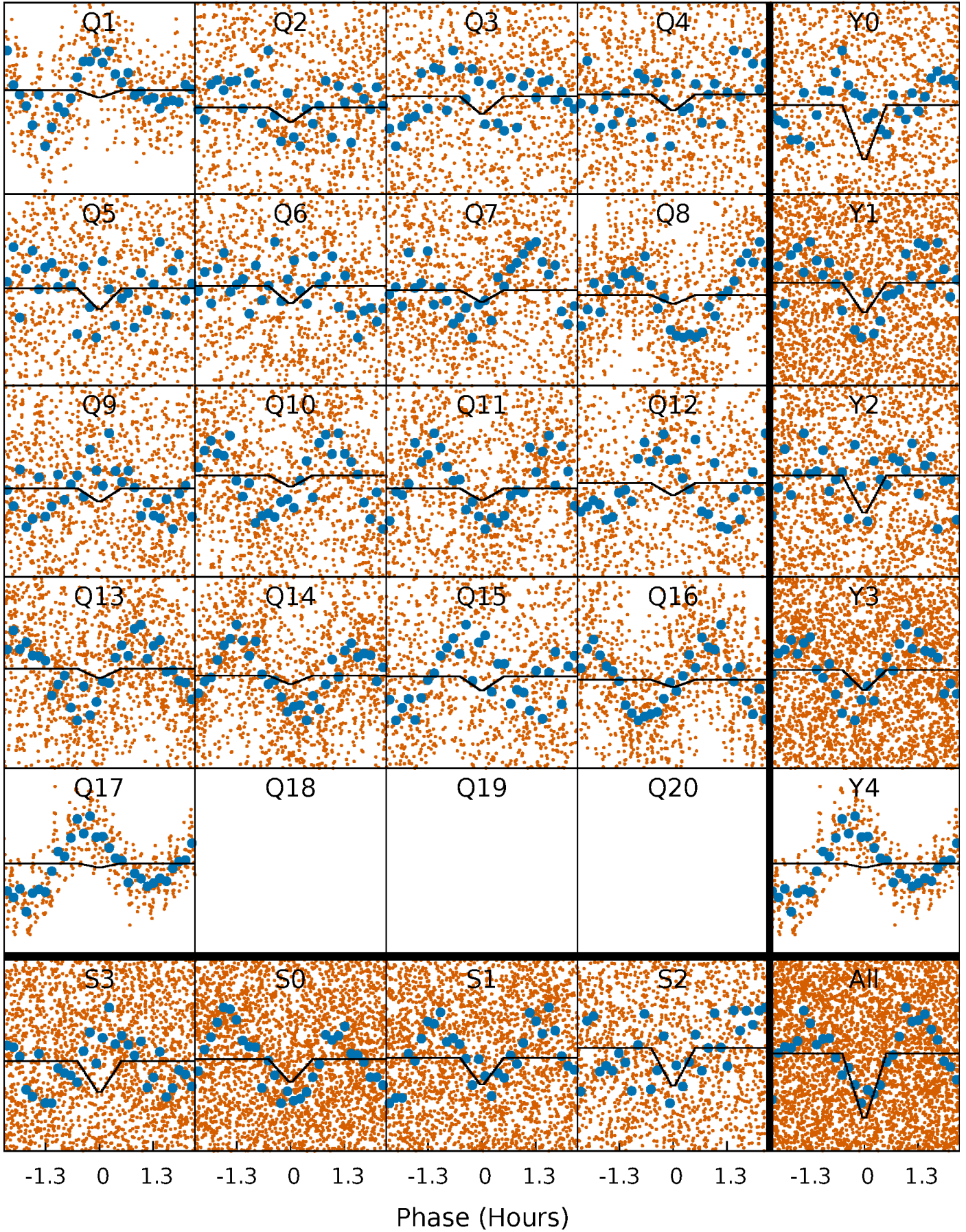
DV Quarter-Phased Transit Curves

TCE 008915335-01 P= 0.550761 Days $T_0=132.060905$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

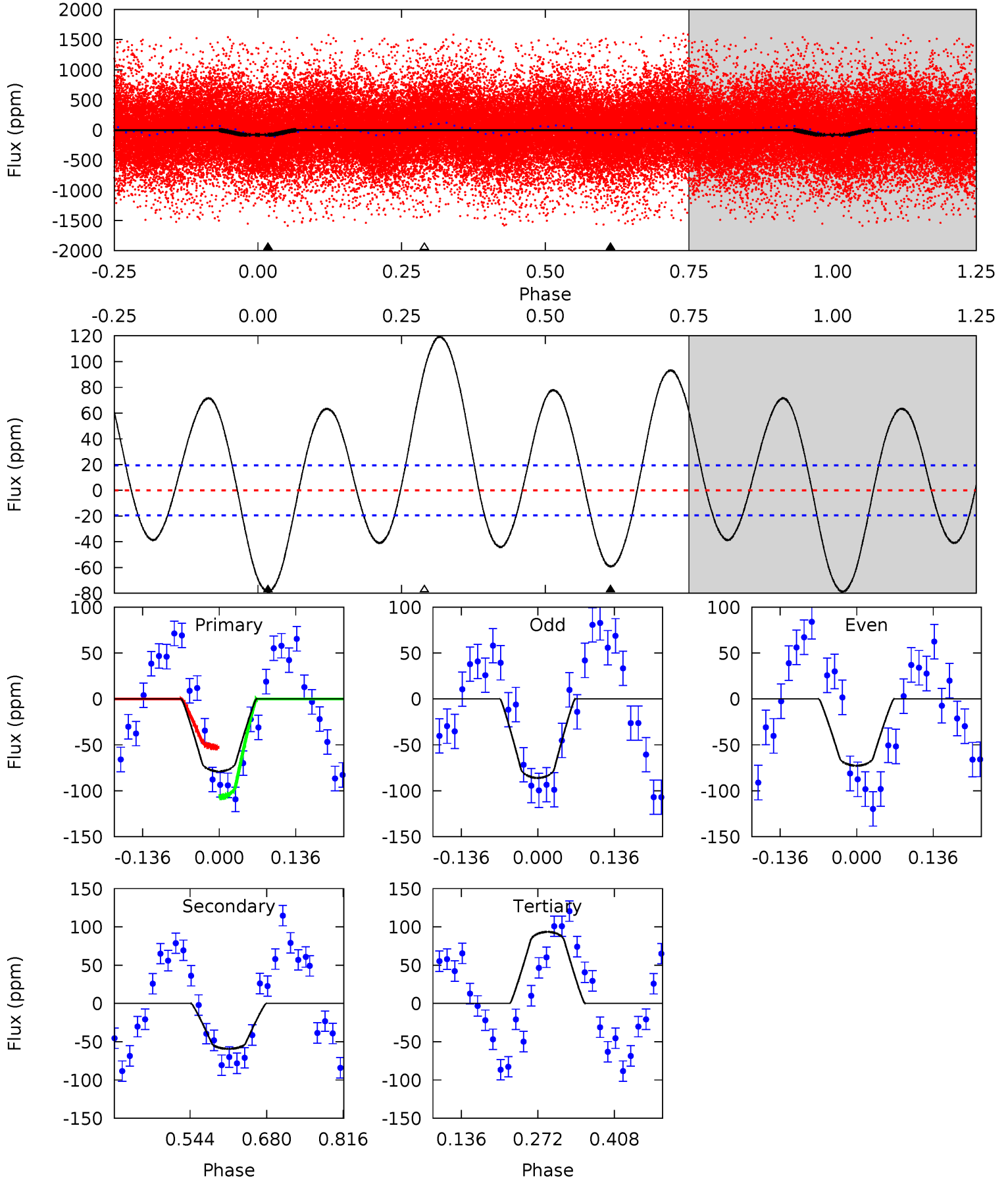
TCE 008915335-01 P= 0.550770 Days $T_0=132.054390$ (BKJD)



DV Model-Shift Uniqueness Test

008915335-01, P = 0.550761 Days, E = 131.510144 Days

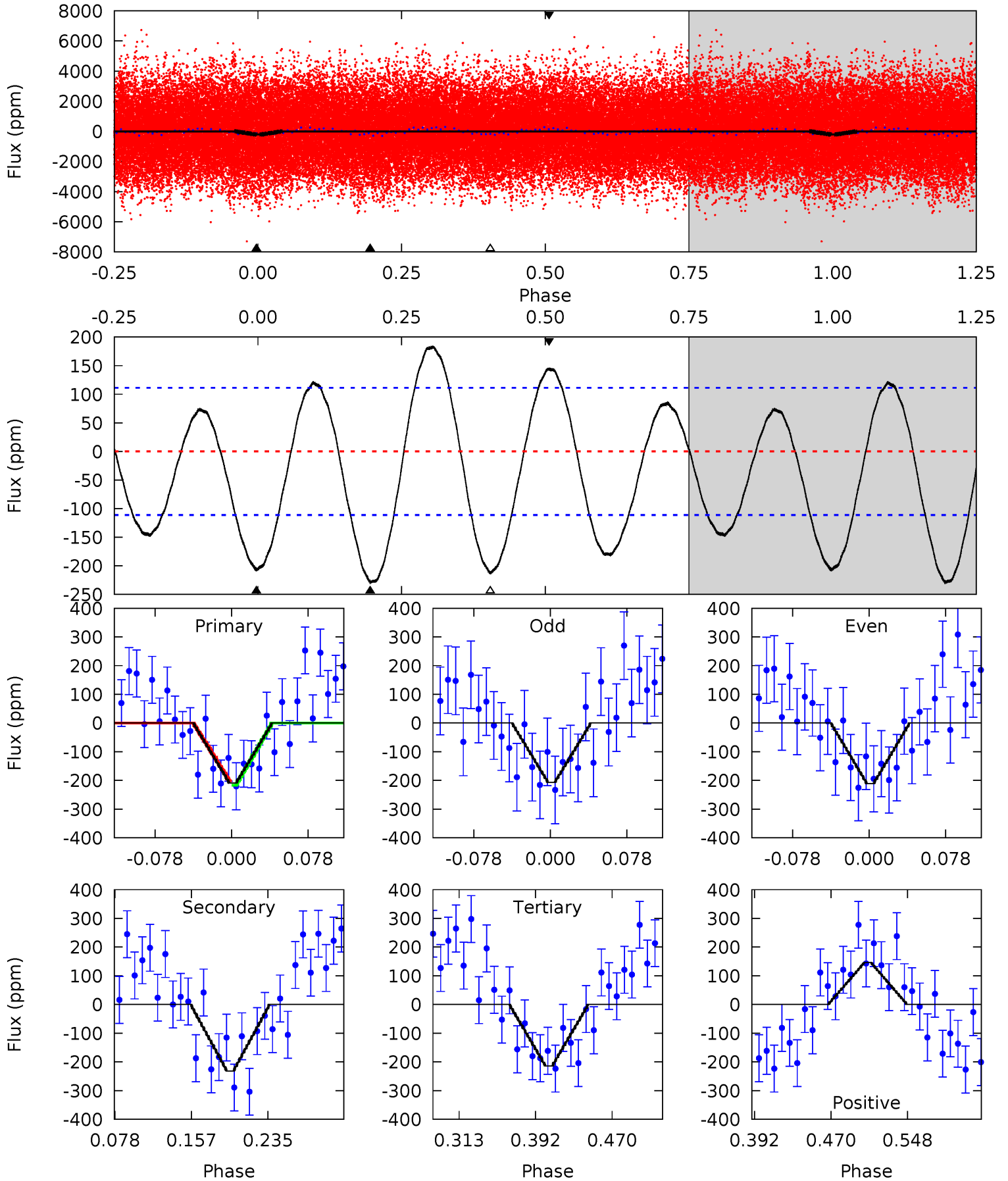
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	13.7	-21.6	0	4.50	1.49	11.4	39.9	18.3	35.4	13.7	1.54	0.57	0.60	6.31



Alt Model-Shift Uniqueness Test

008915335-01, P = 0.550770 Days, E = 131.503620 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.70	9.63	8.90	6.07	4.62	1.76	4.73	-0.21	2.62	0.72	3.55	0.08	0.93	0.44	0.33



Stellar Parameters For KIC 008915335

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7968^{+222}_{-333}	$3.685^{+0.432}_{-0.108}$	$-0.180^{+0.200}_{-0.300}$	$3.380^{+0.831}_{-1.544}$	$2.017^{+0.374}_{-0.457}$	$0.074^{+0.297}_{-0.029}$
	+3%/-4%	+12%/-3%	+111%/-167%	+25%/-46%	+19%/-23%	+403%/-39%
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 008915335-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-59 ± 4	$3.25^{+1.32}_{-1.17}$	6774^{+536}_{-840}	6167^{+1883}_{-1419}	$0.857^{+1.214}_{-0.419}$
Alt.	-232 ± 24	$5.55^{+1.41}_{-1.55}$	6774^{+520}_{-844}	7033^{+1229}_{-911}	$1.197^{+0.968}_{-0.457}$

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 $A_{obs} \gg 1.0$

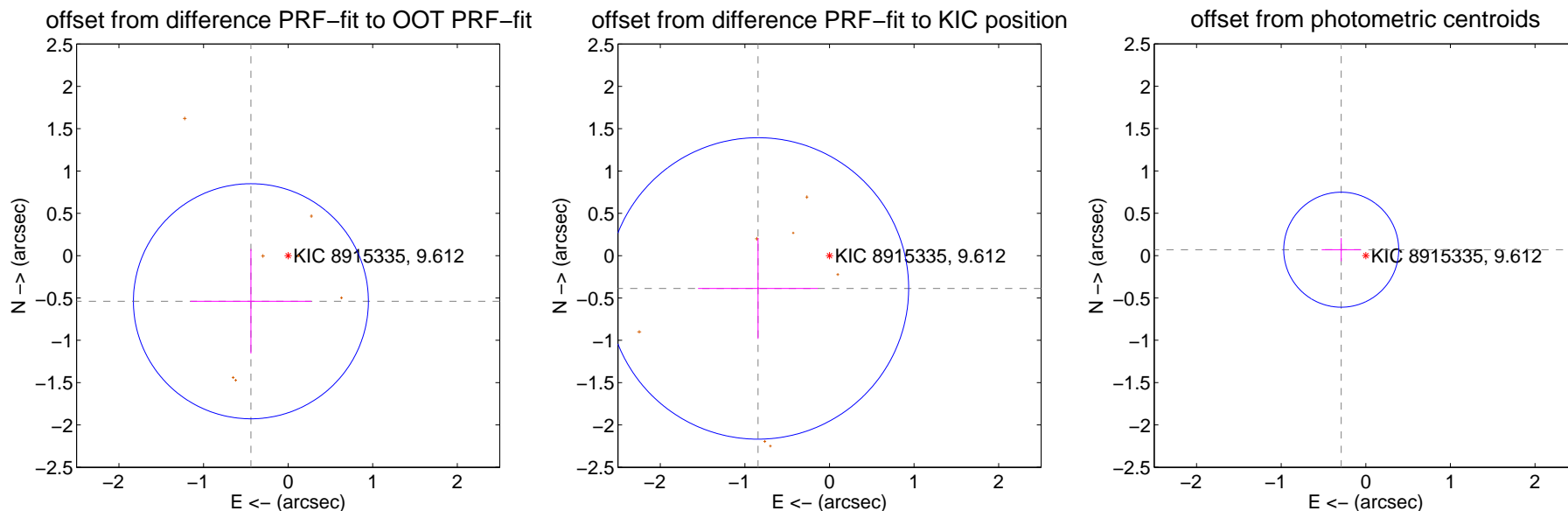
DV Centroid Data

Supplemental centroid analysis for 008915335-01. **Kepler magnitude: 9.61.** Transit SNR 13.05

There are 0 quarters with good PRF difference image offsets

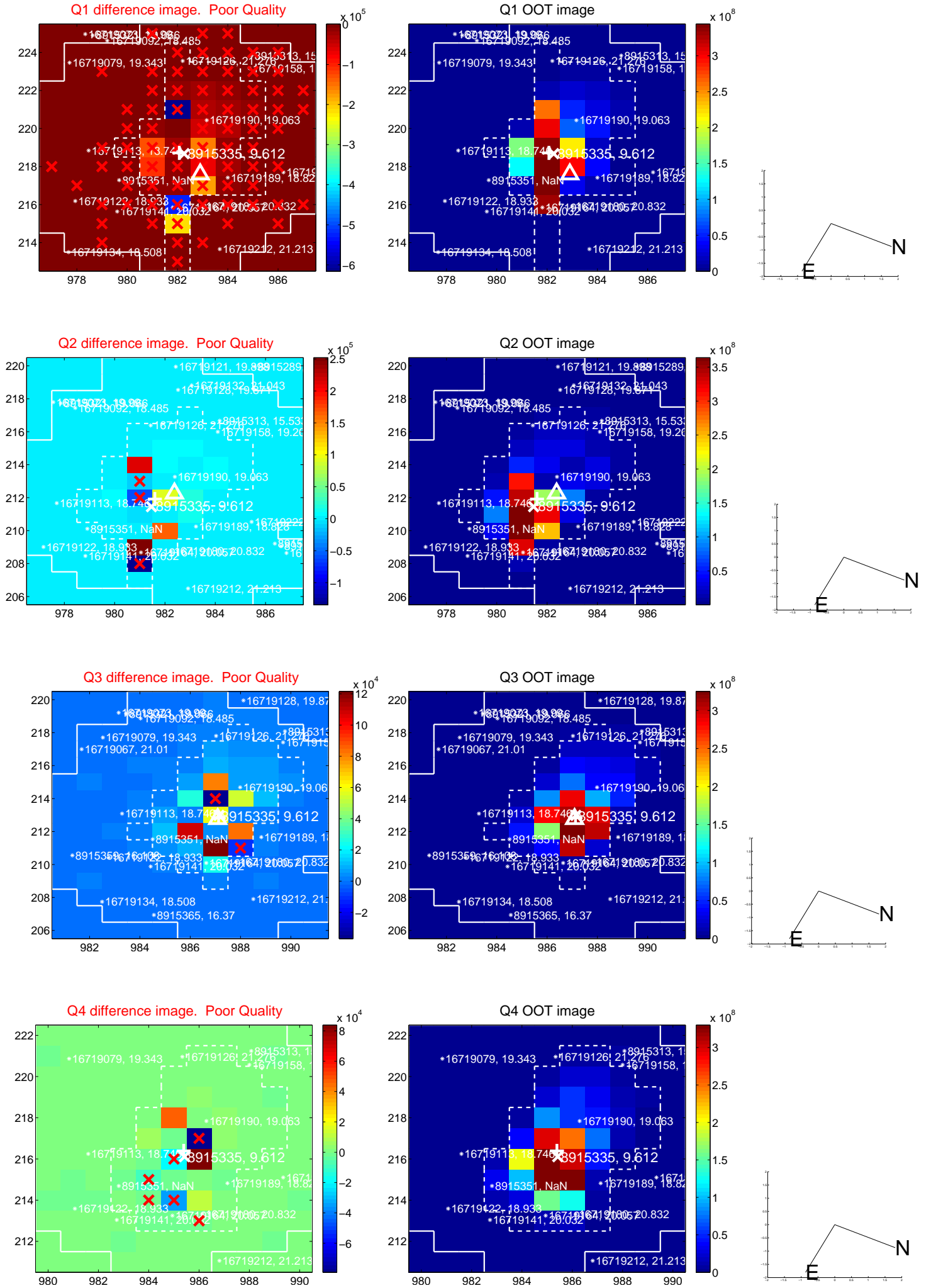
The direct PRF centroid is offset from the target star catalog position by about 0.78 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.696 ± 0.463	1.50	0.440 ± 0.715	-0.539 ± 0.617
PRF-fit source offset from KIC position	0.930 ± 0.594	1.57	0.845 ± 0.709	-0.387 ± 0.595
photometric centroid source offset	0.30 ± 0.23	1.32	0.29 ± 0.23	0.07 ± 0.14

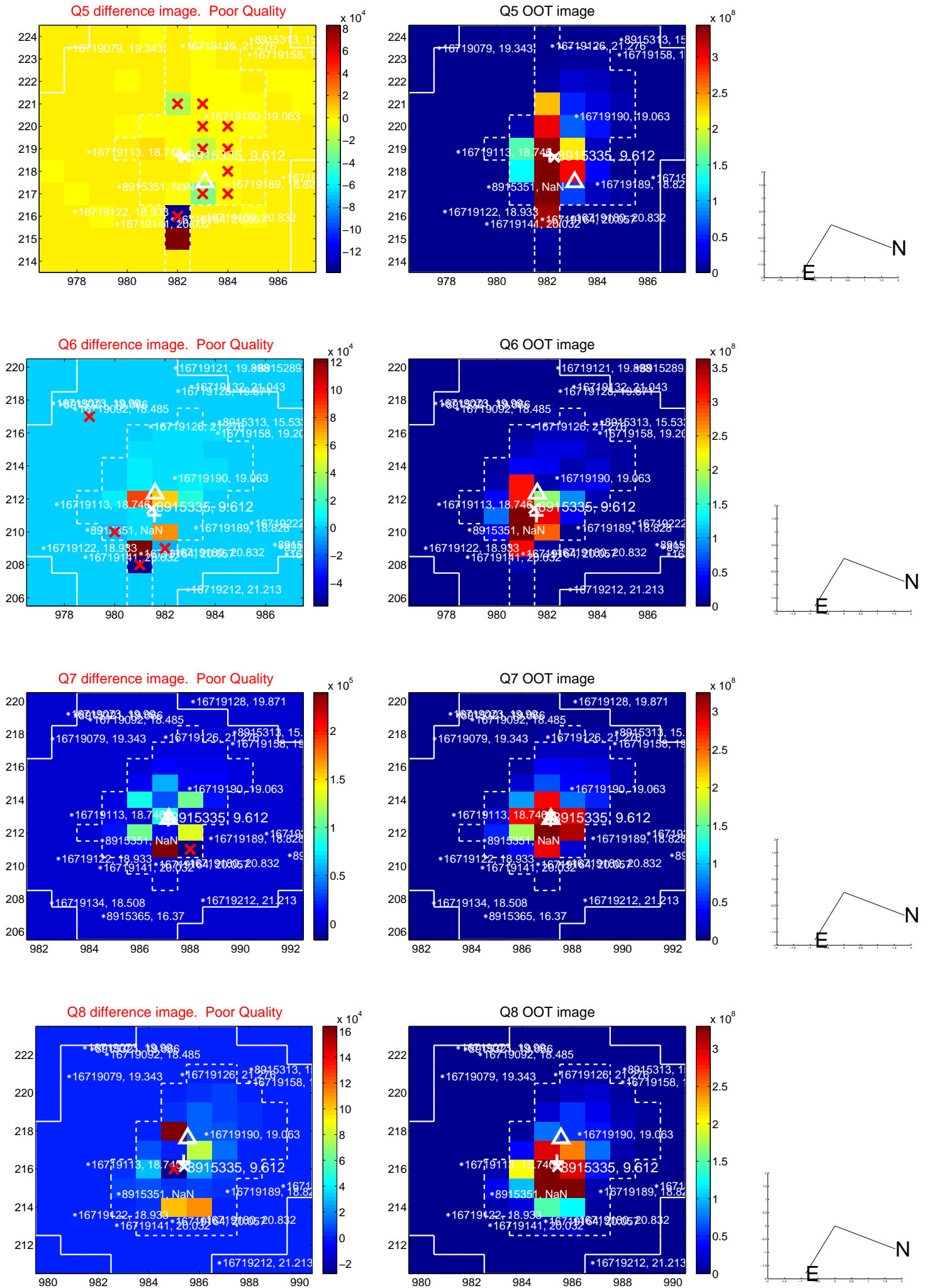


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

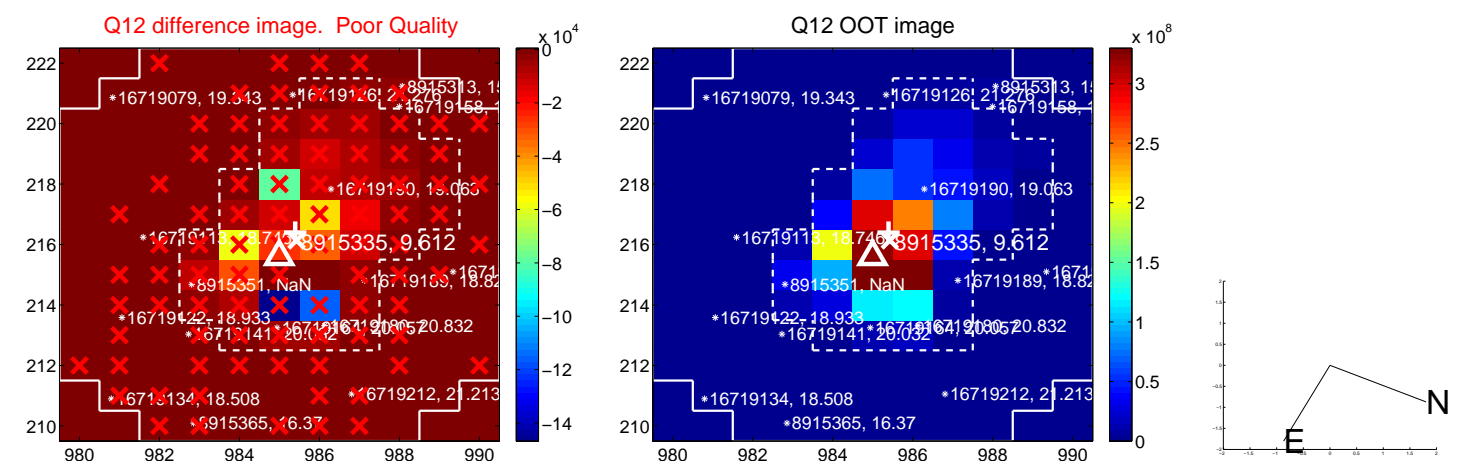
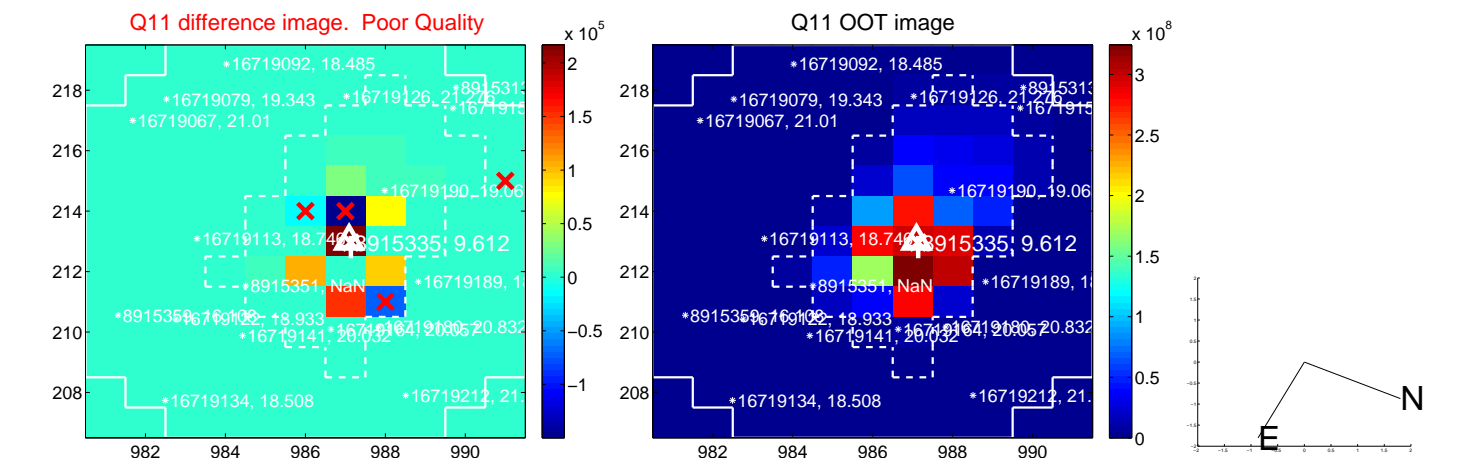
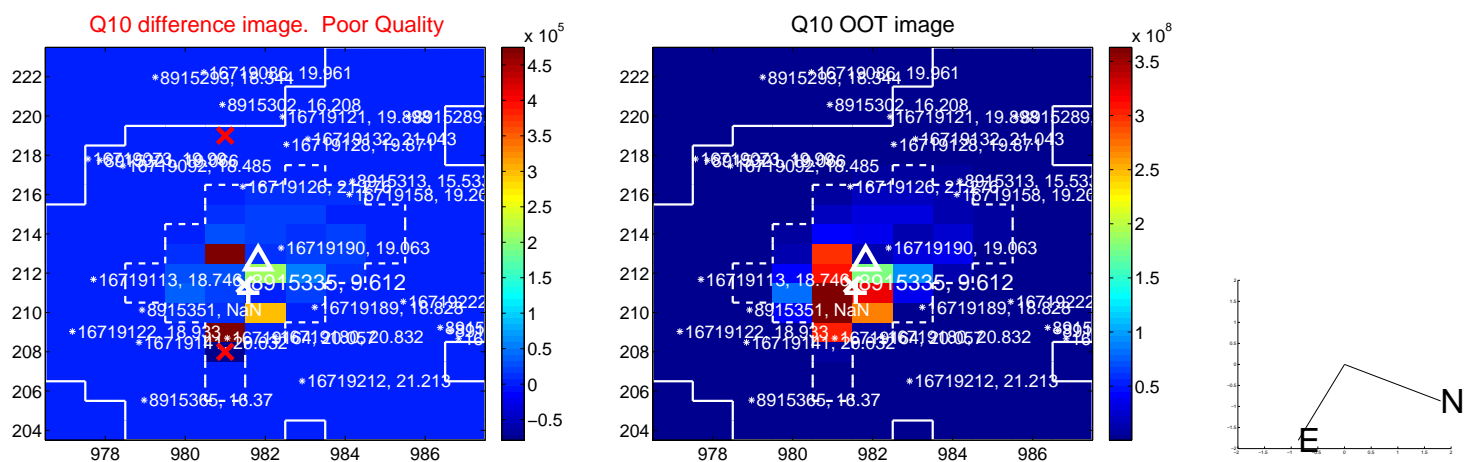
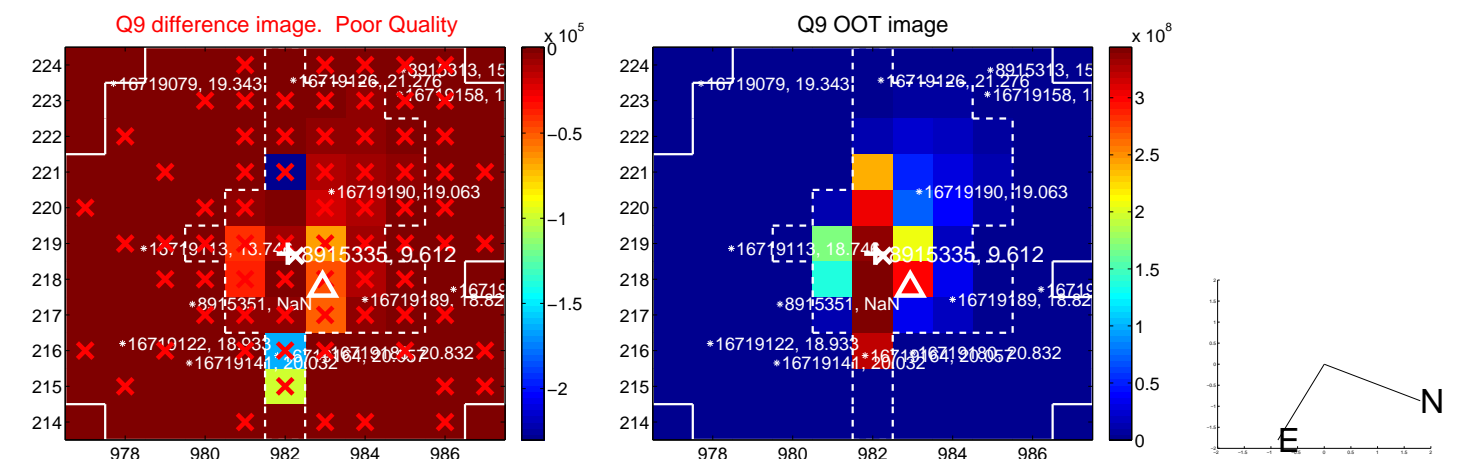
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



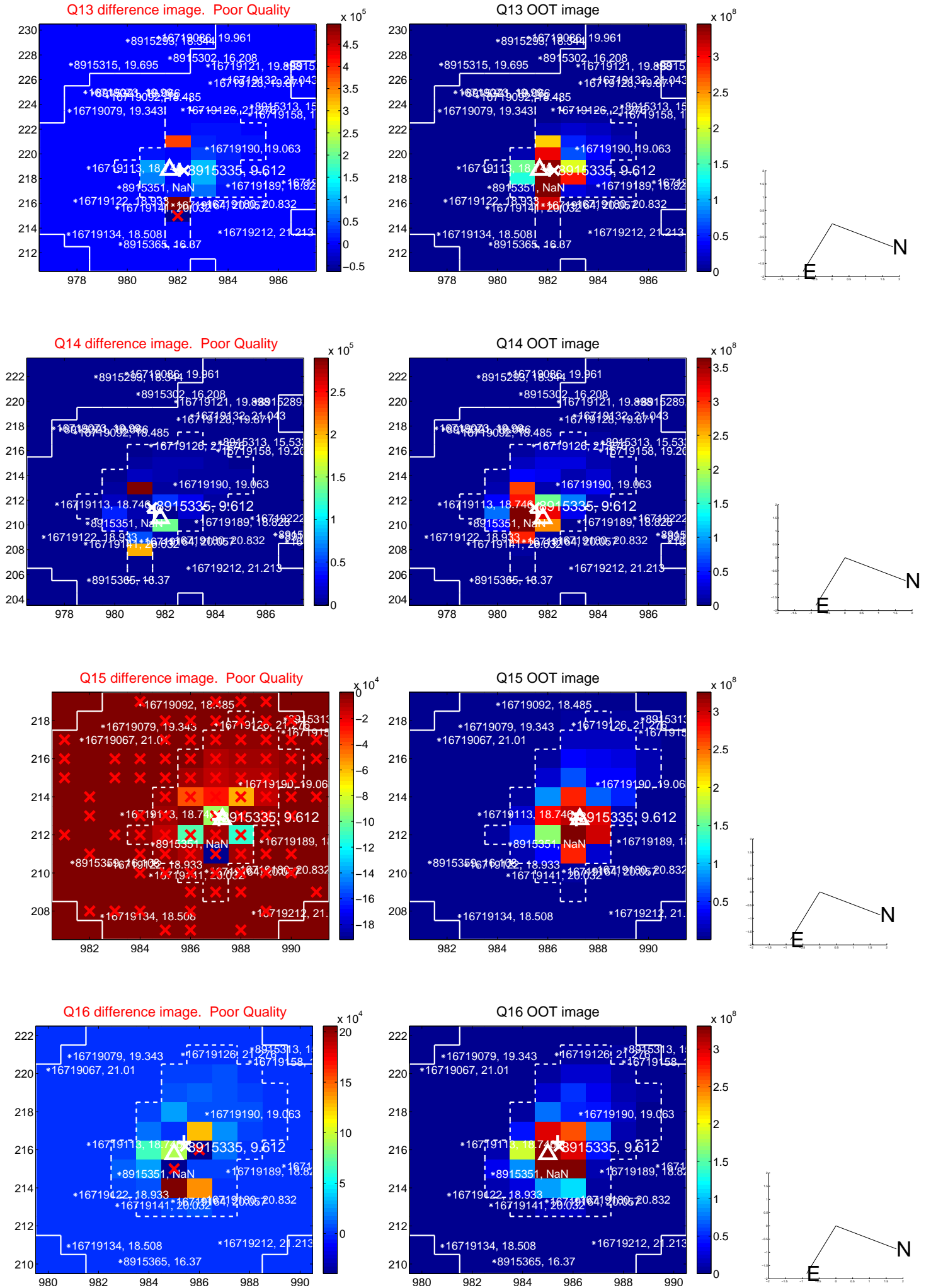
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



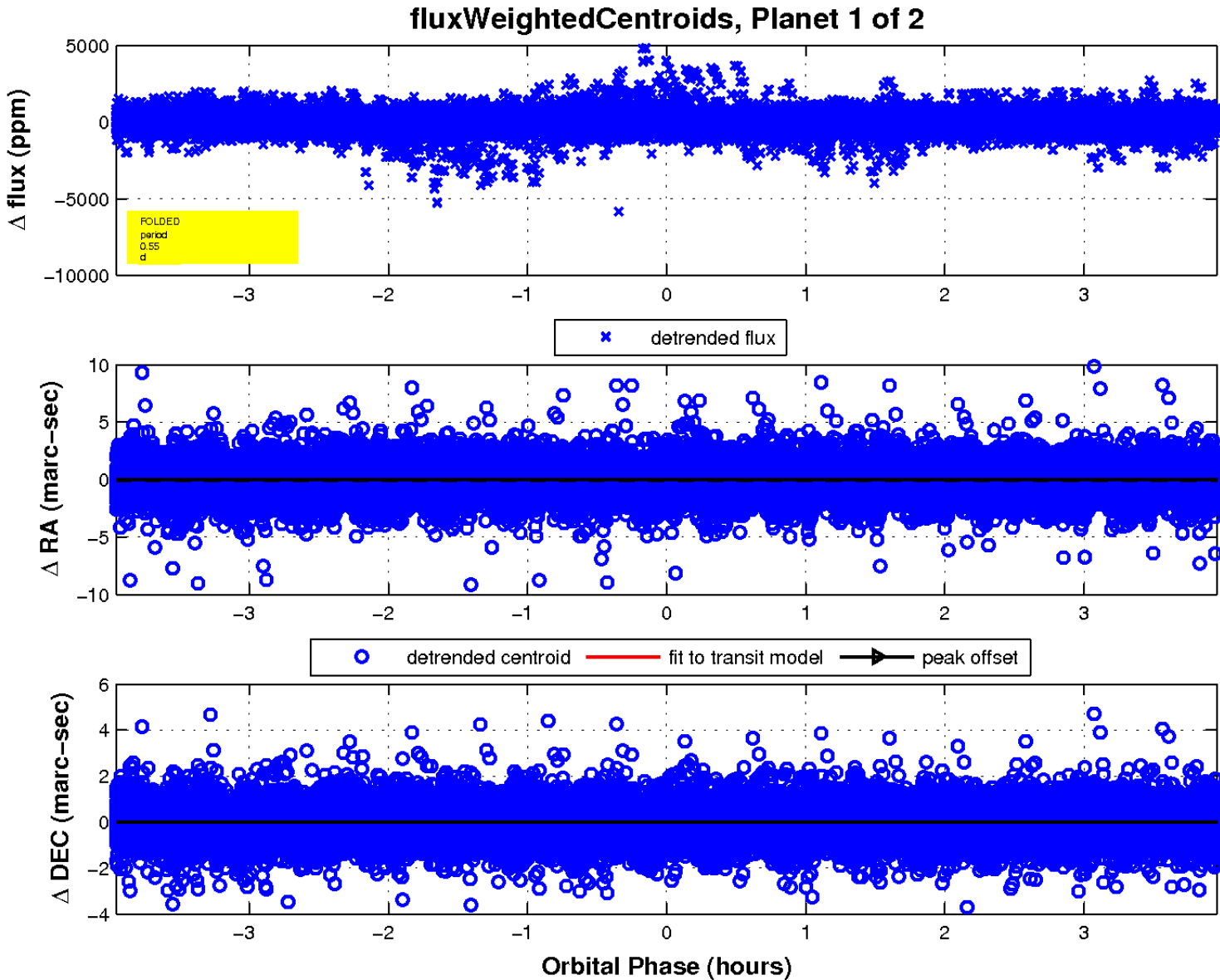
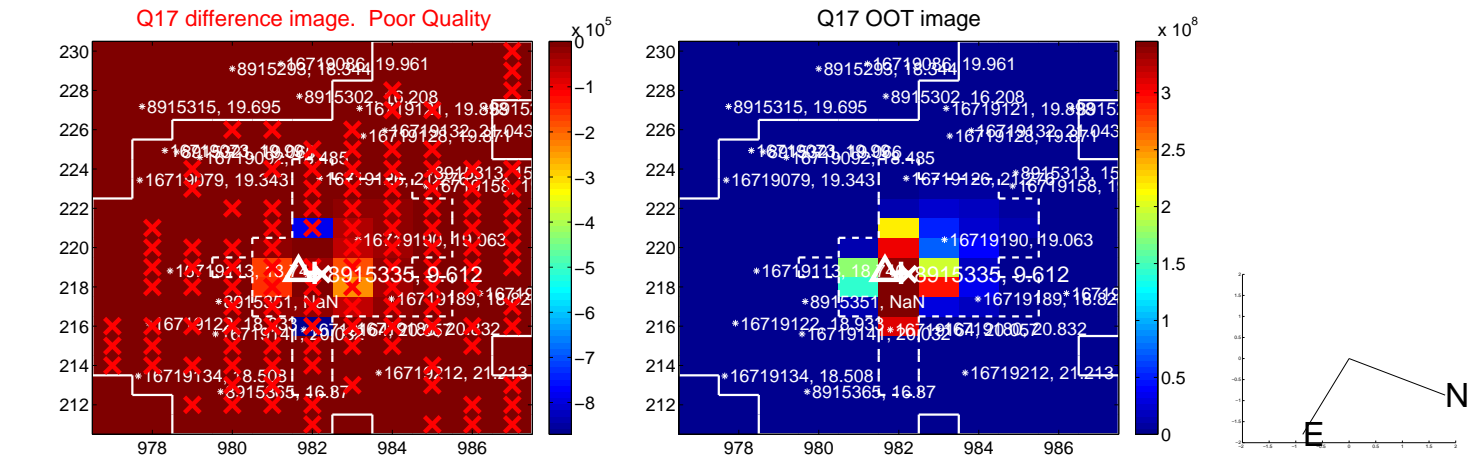
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

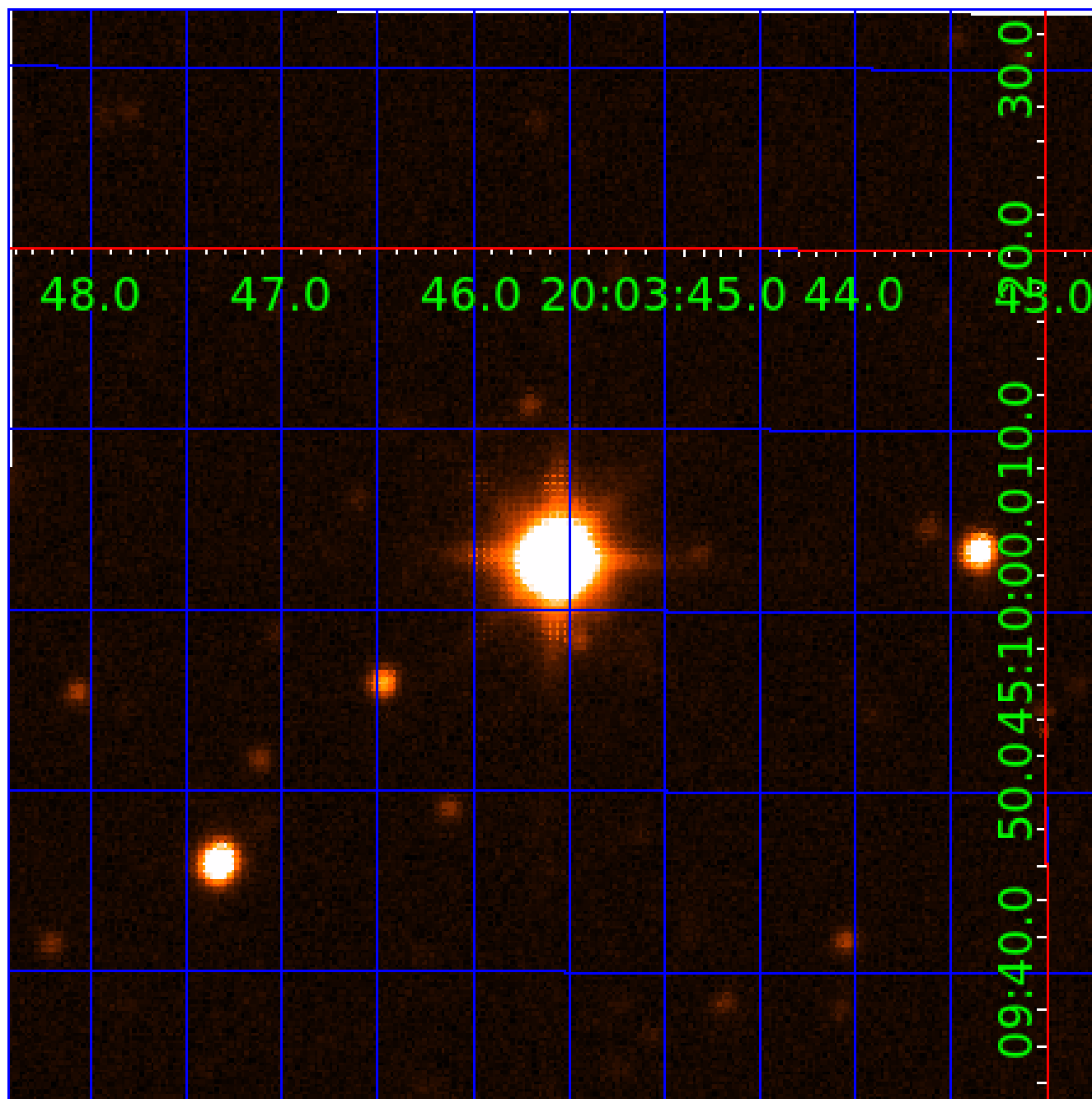


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008915335

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})
008915335-01	OBS	No	0.550761	132.060905	84.1	1.319	12.3	13.1	3.38	7968	3.62	149377.61
008915335-02	OBS	No	0.550769	131.729349	79.8	1.216	11.8	12.6	3.38	7968	3.06	149374.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008915335-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008915335-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—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.

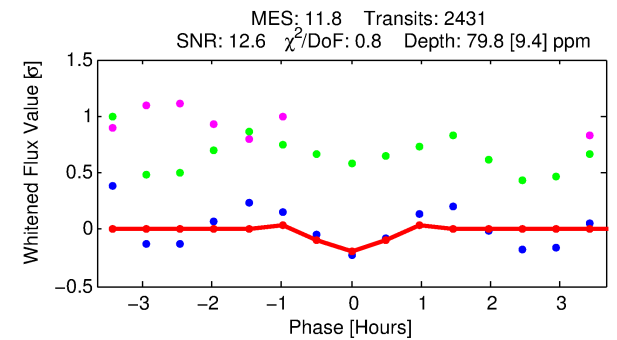
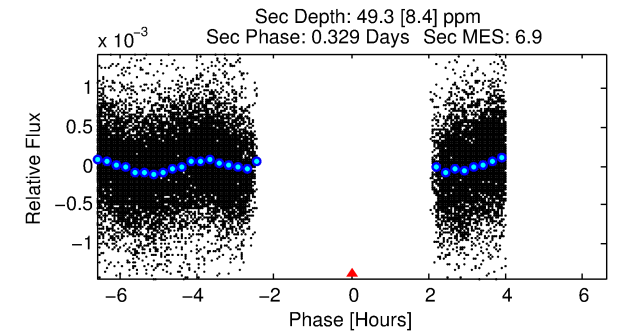
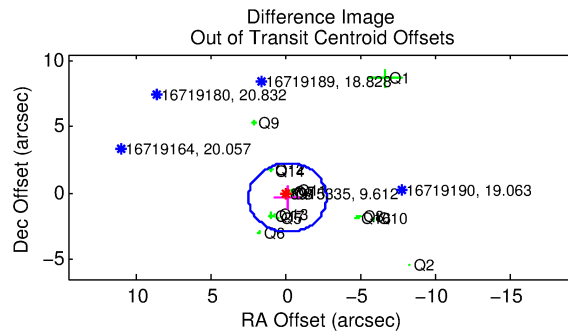
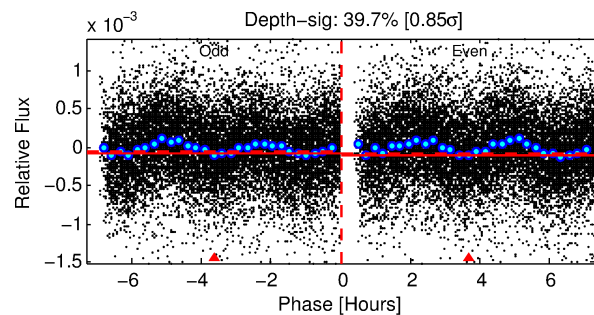
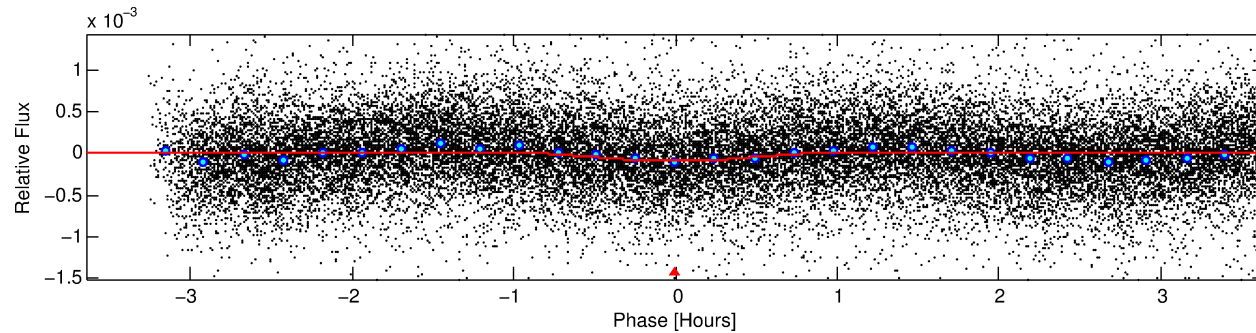
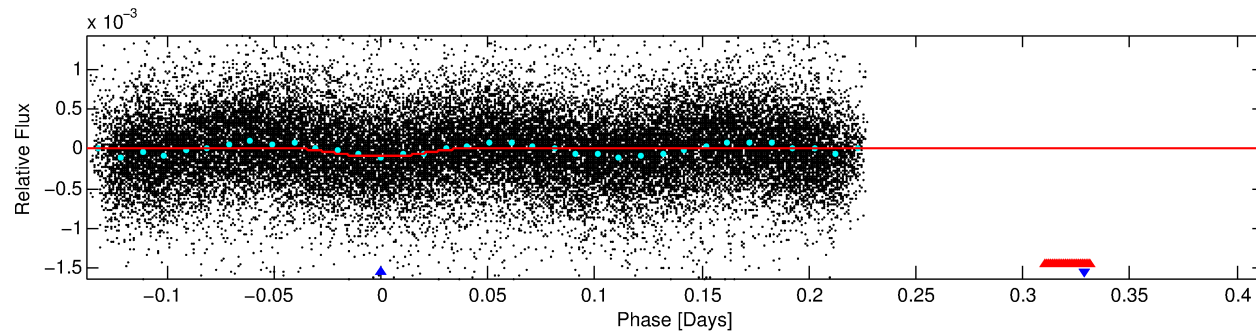
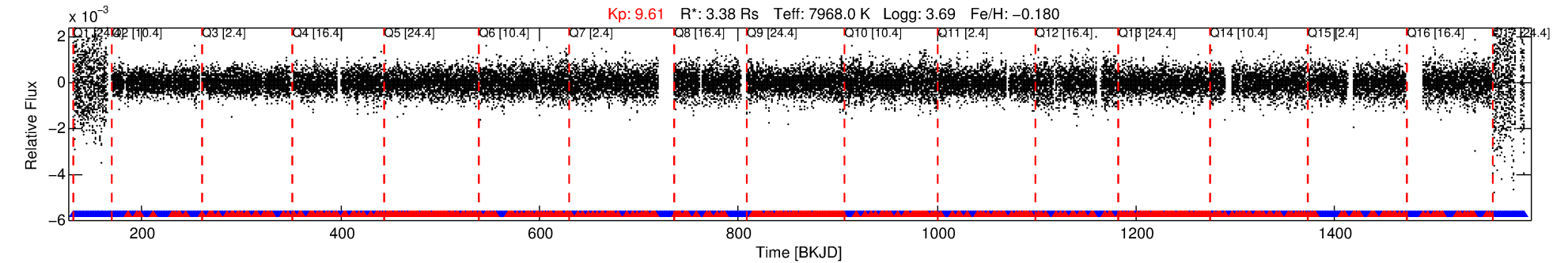
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008915335-02

No Significant Match Found

DV One-Page Summary

KIC: 8915335 Candidate: 2 of 2 Period: 0.551 d



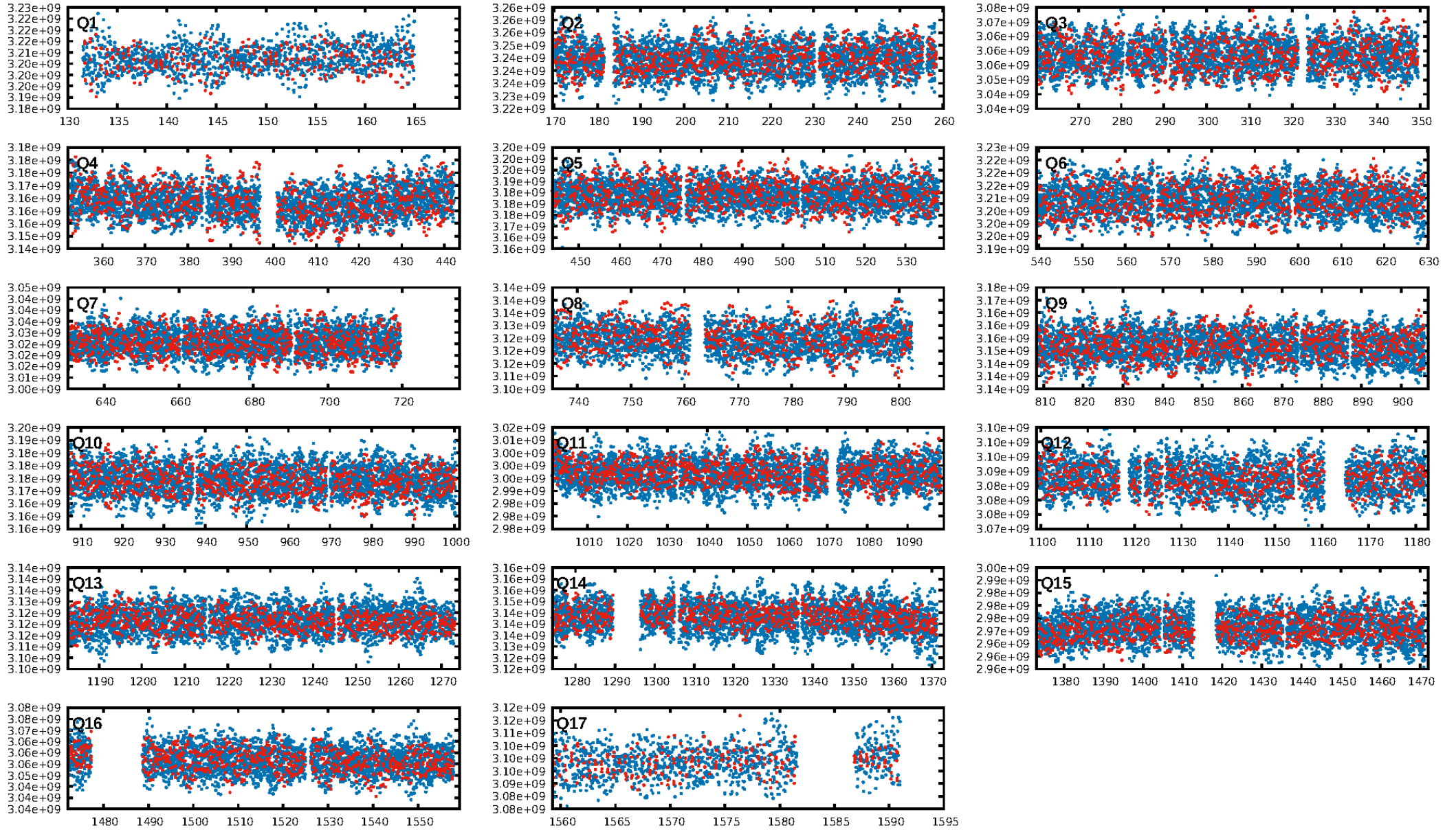
DV Fit Results:

Period = 0.55077 [0.00001] d
Epoch = 131.7293 [0.0012] BKJD
Rp/R* = 0.0083 [0.0072]
a/R* = 3.53 [15.65]
b = 0.07 [69.82]
Seff = 149374.73 [111826.56]
Teq = 5013 [938] K
Rp = 3.06 [3.01] Re
a = 0.0166 [0.0075] AU
Ag = 0.80 [1.52] [-0.13 σ]
Teff = 7329 [3224] K [0.69 σ]

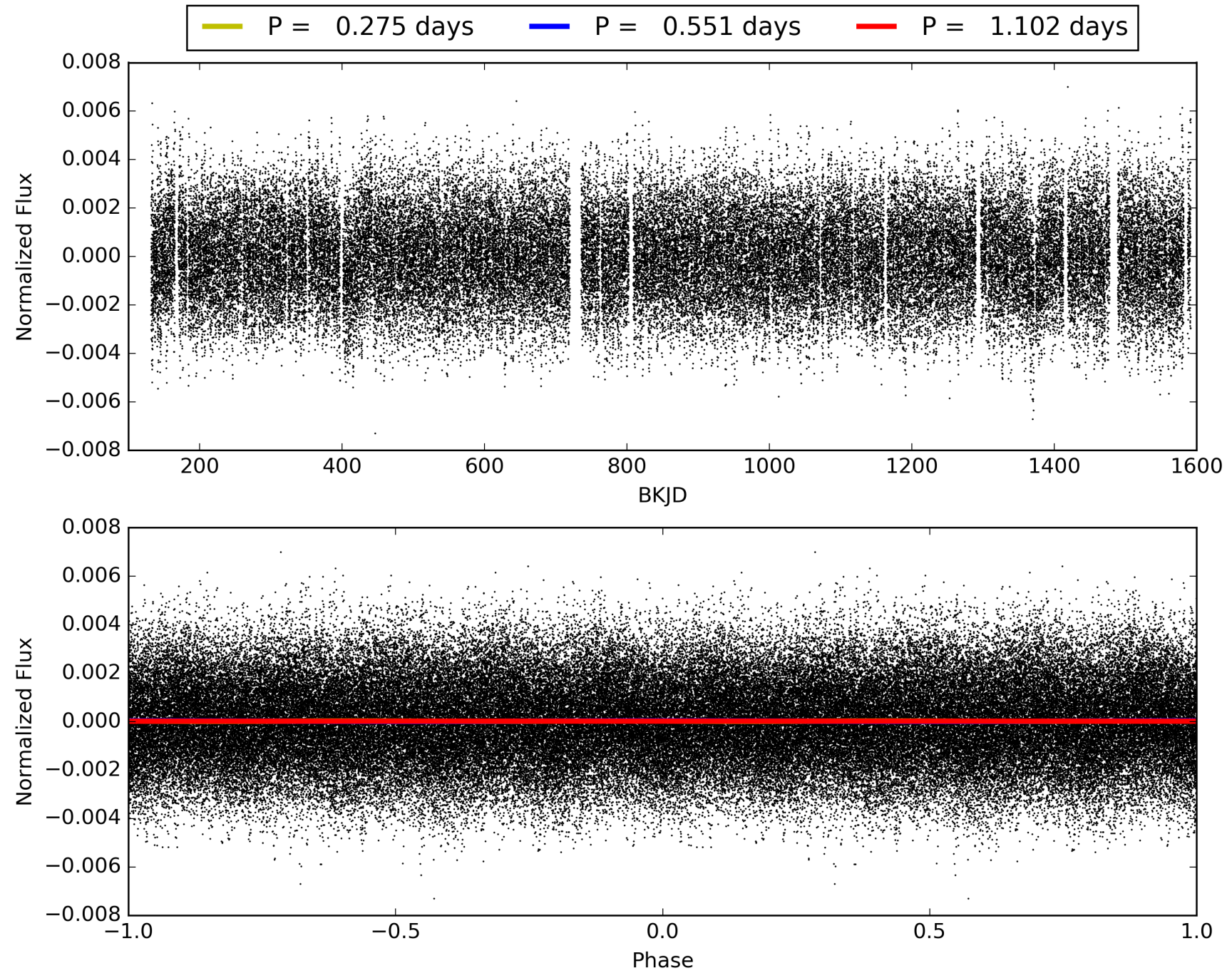
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.85e-18
RollingBand-fgt: 0.77 [1786/2321]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.2%
Centroid-so: 0.297 arcsec [1.53 σ]
OotOffset-rm: 0.380 arcsec [0.44 σ]
KicOffset-rm: 0.389 arcsec [0.44 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 008915335-02, PDC Light Curves

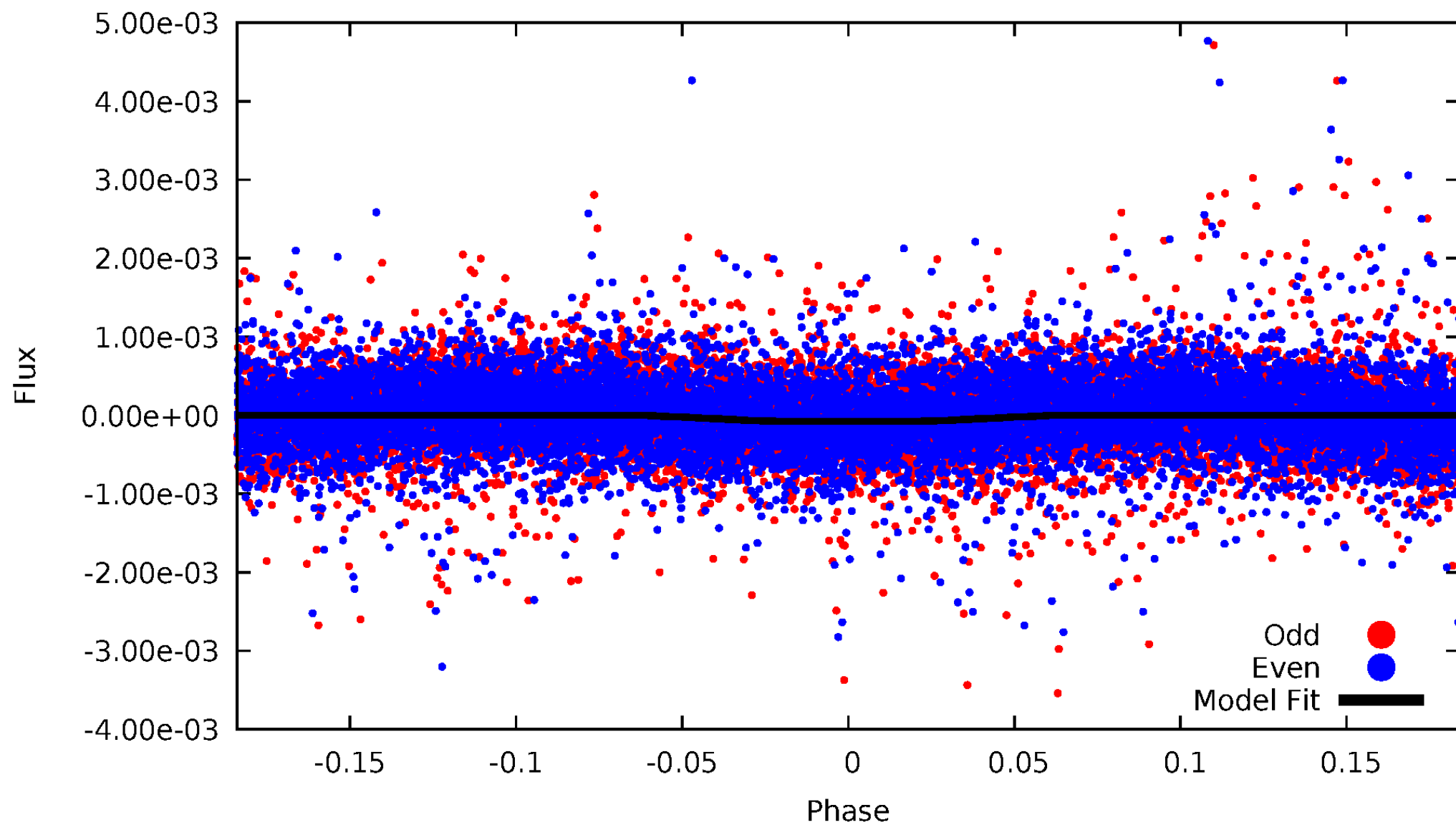


TCE 008915335-02



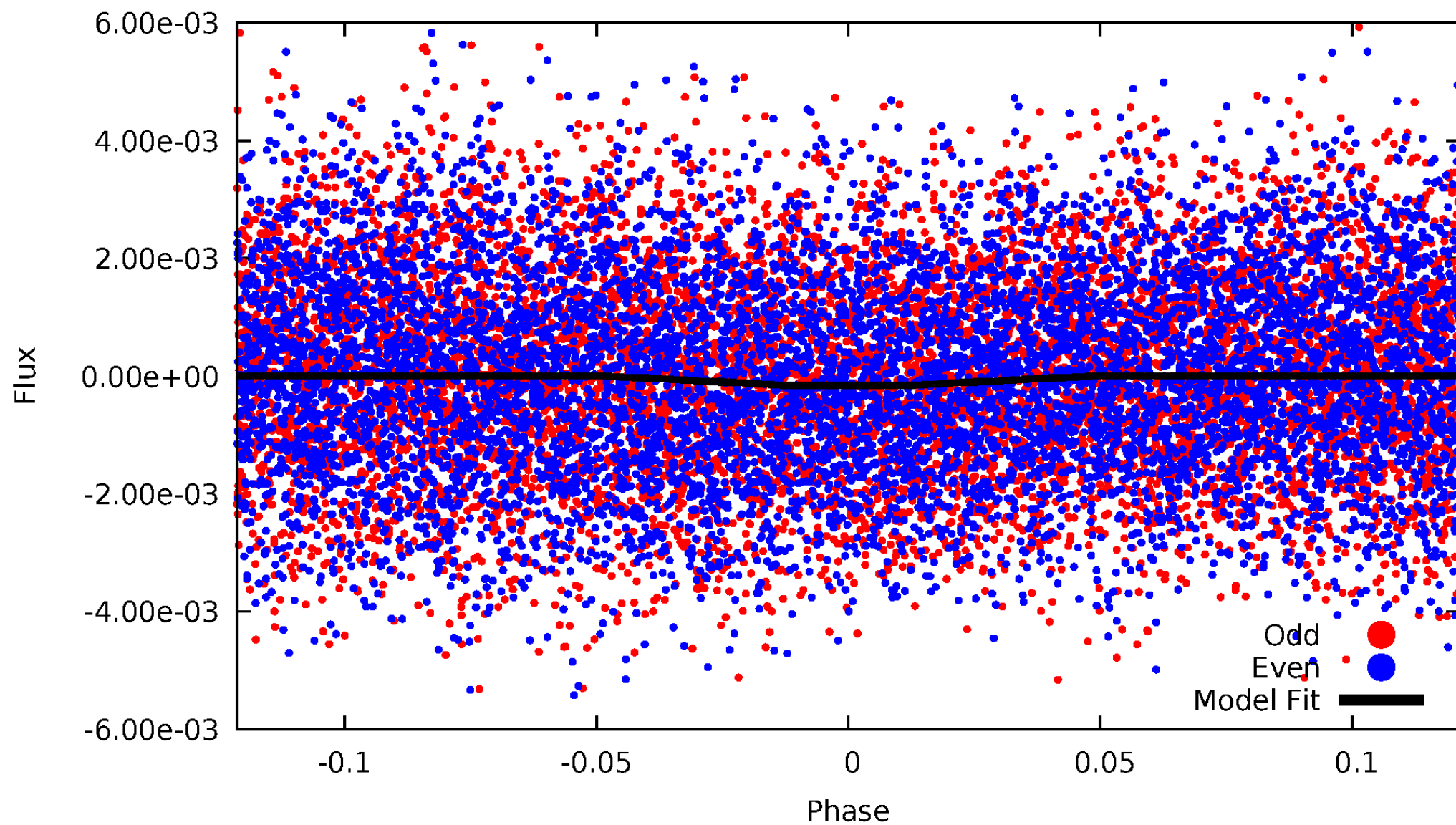
DV Odd/Even

TCE 008915335-02



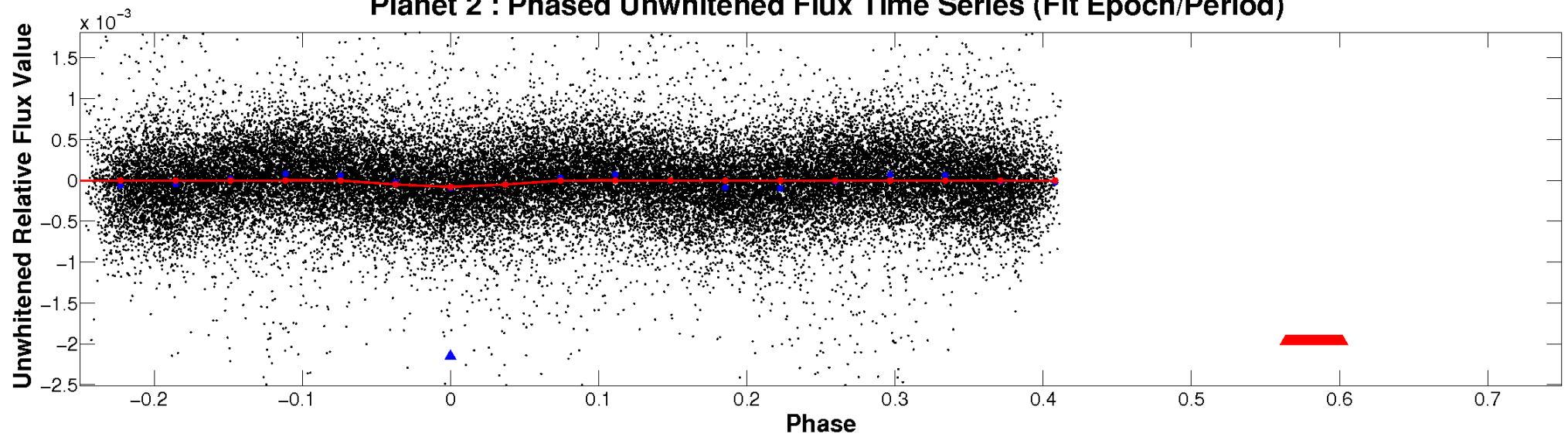
ALT Odd/Even

TCE 008915335-02

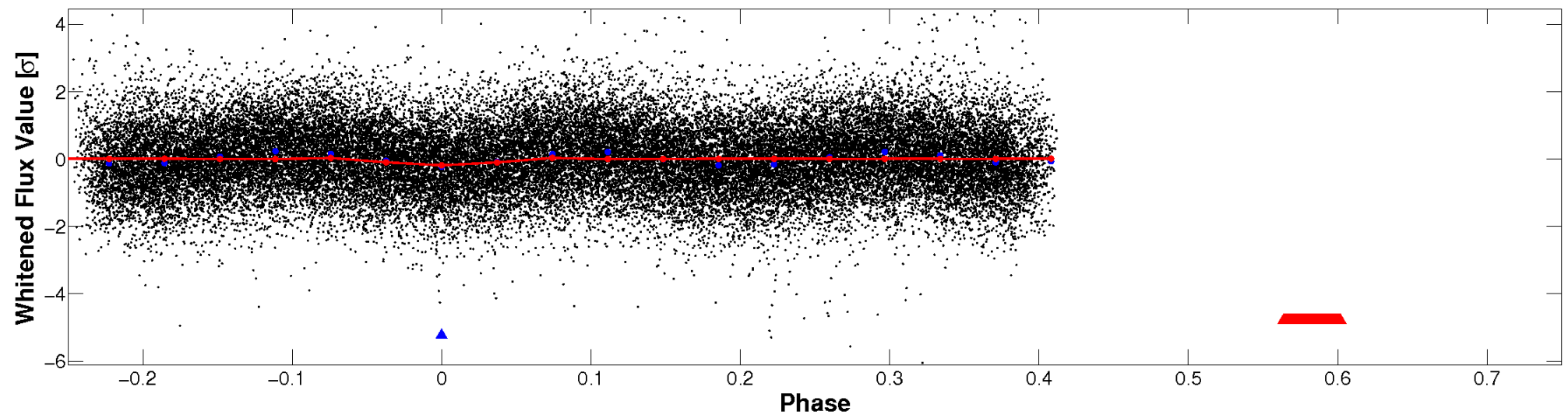


Non-Whitened Vs. Whitened Light Curve

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

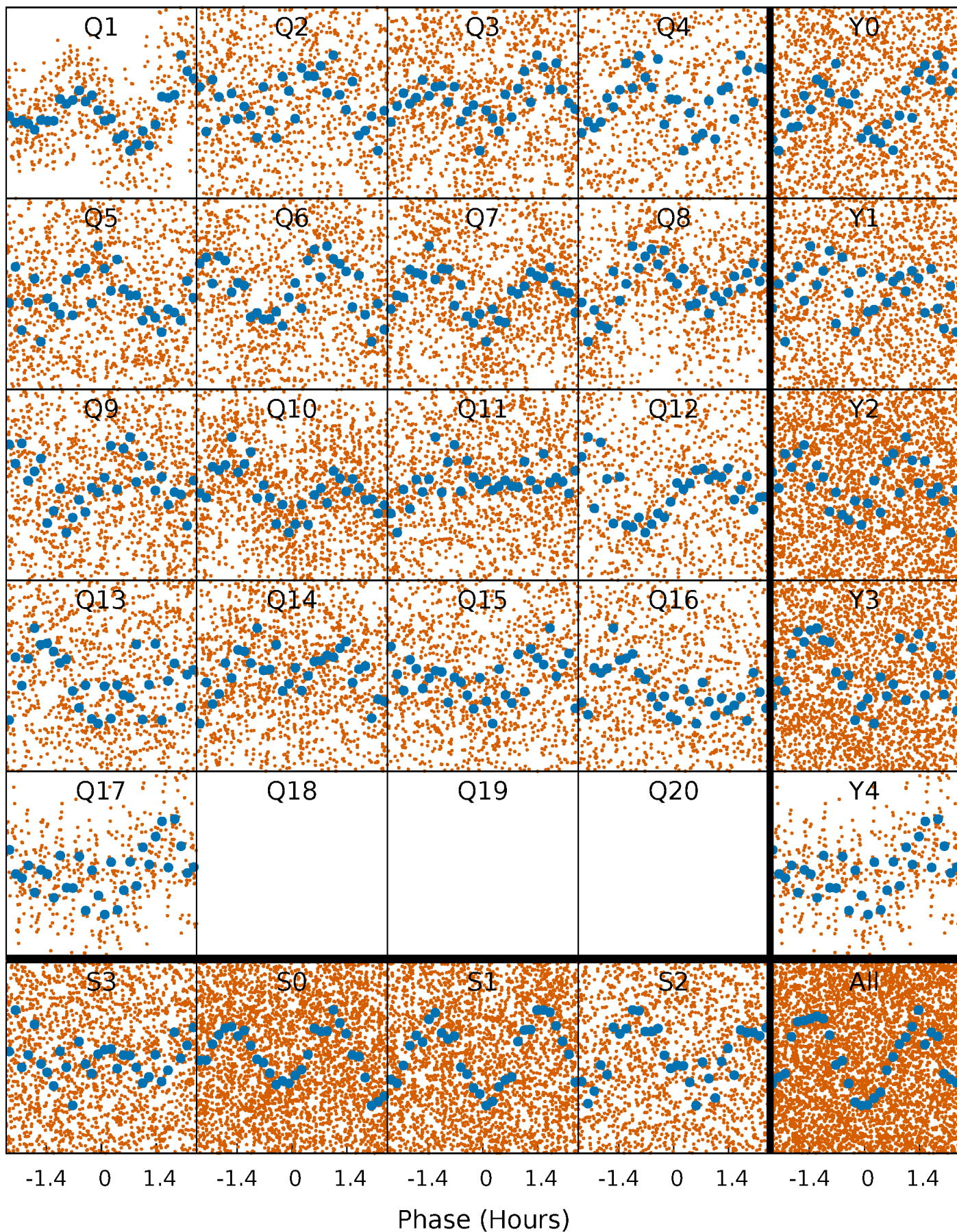


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



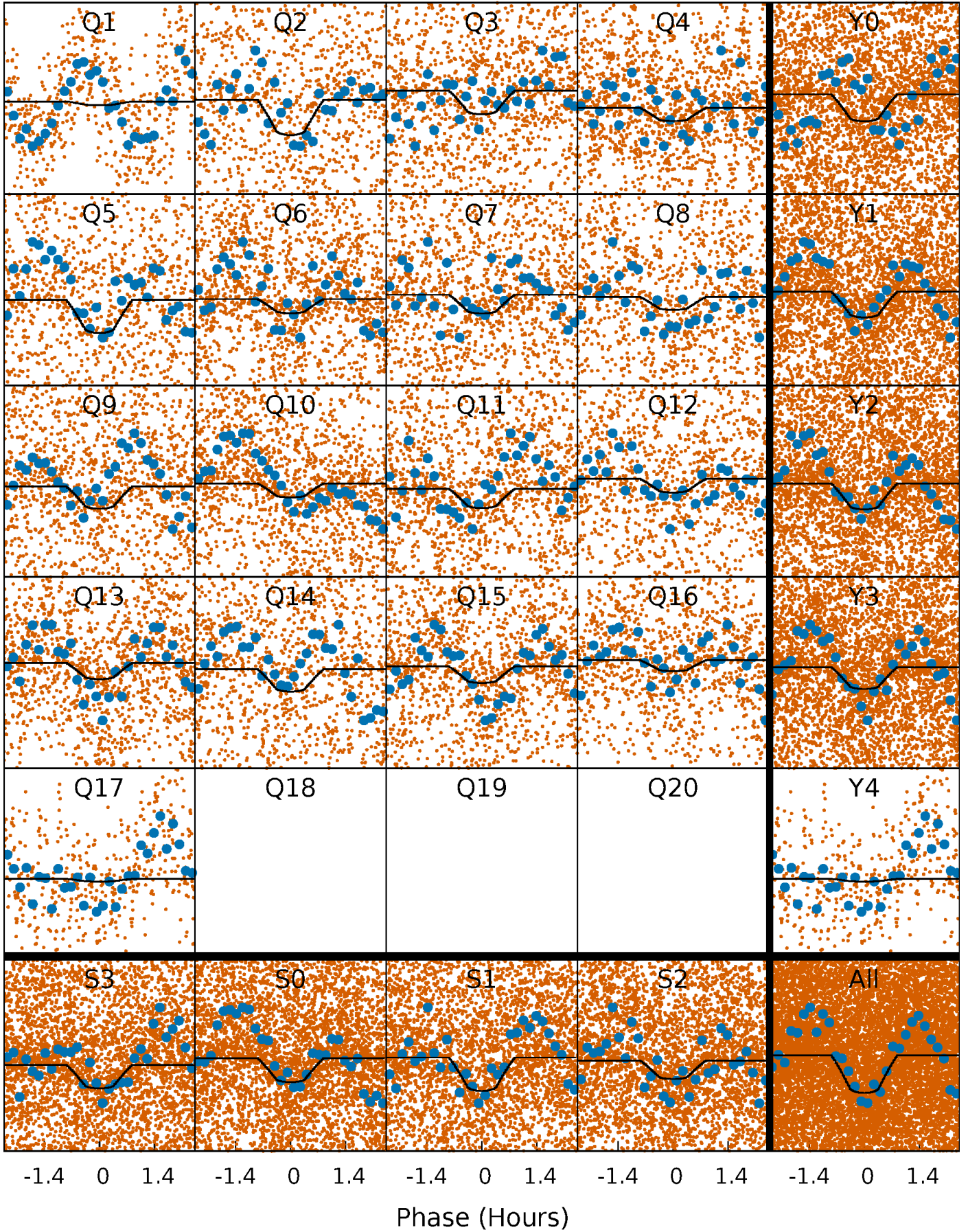
PDC Quarter-Phased Transit Curves

TCE 008915335-02 P= 0.550769 Days $T_0=131.729349$ (BKJD)



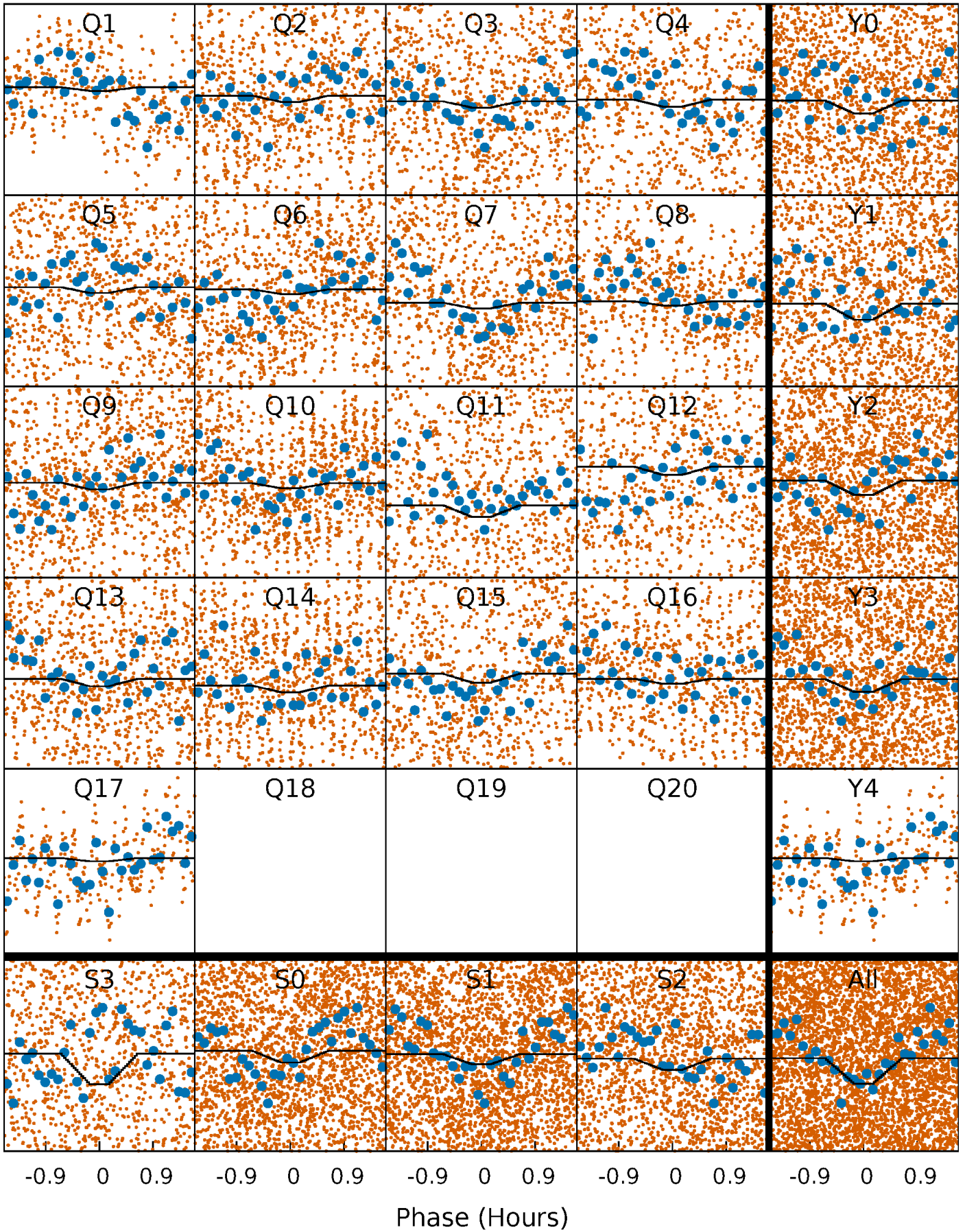
DV Quarter-Phased Transit Curves

TCE 008915335-02 P= 0.550769 Days $T_0=131.729349$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

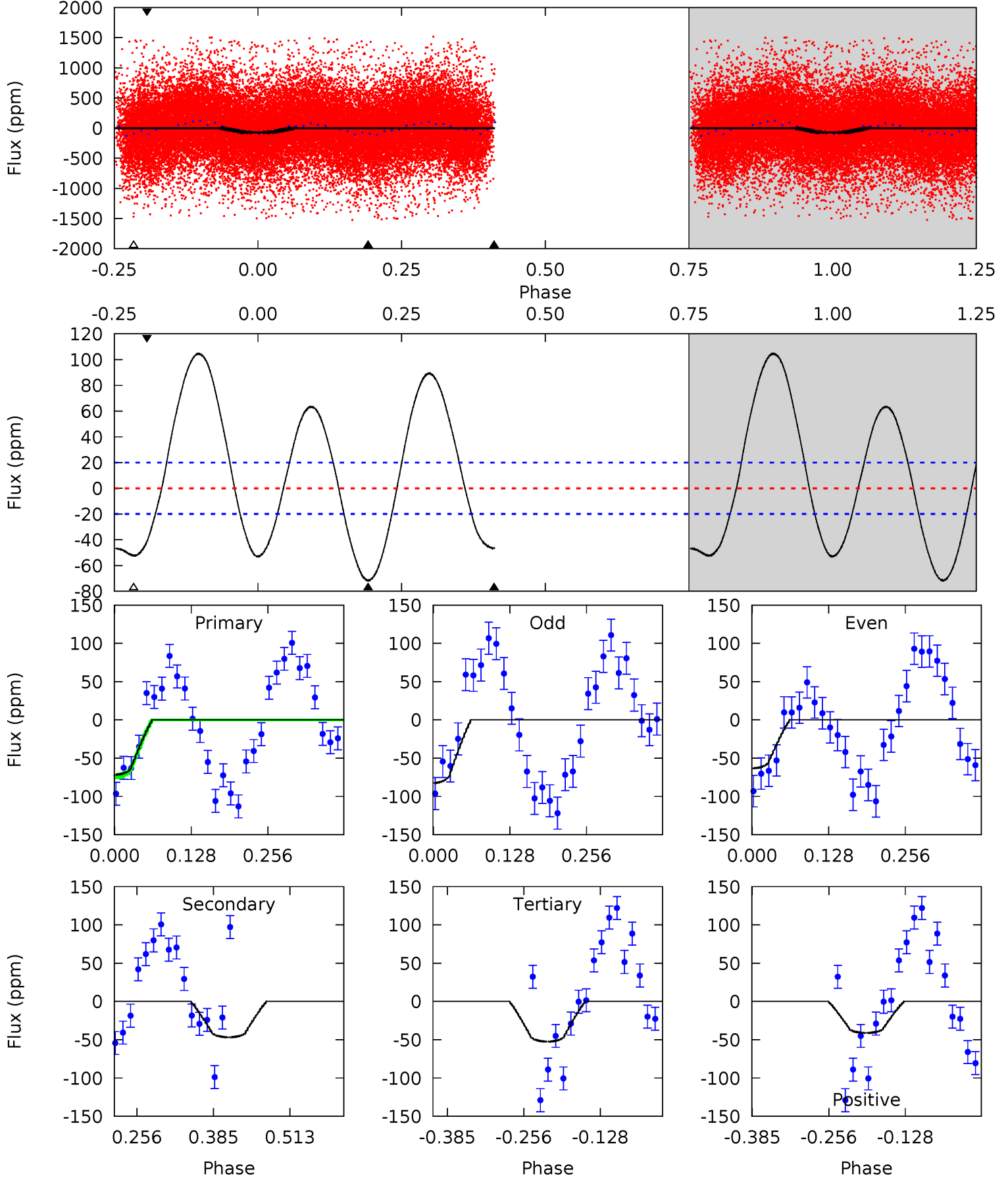
TCE 008915335-02 P= 0.550775 Days $T_0=131.724749$ (BKJD)



DV Model-Shift Uniqueness Test

008915335-02, P = 0.550769 Days, E = 131.178580 Days

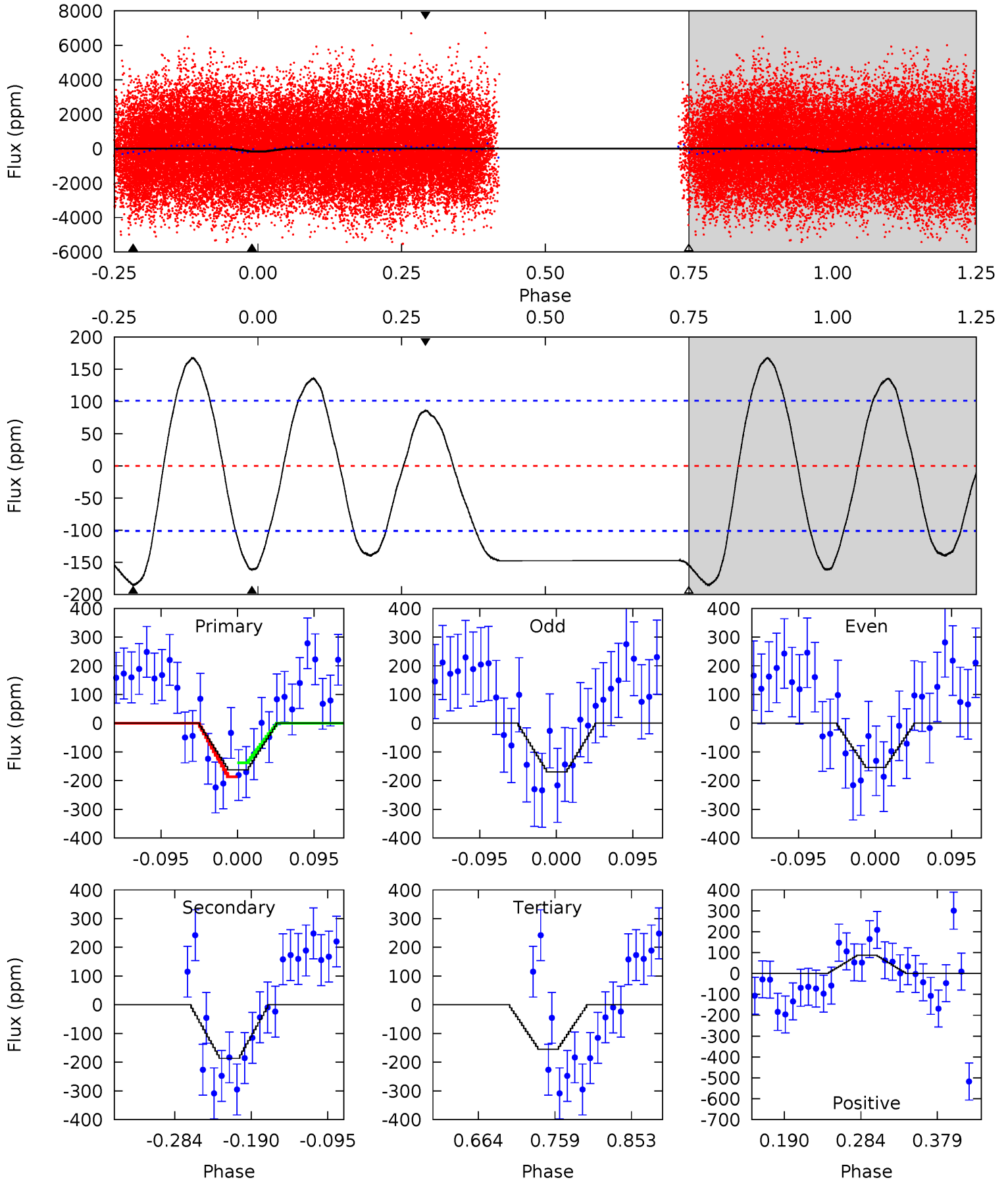
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	10.6	11.9	-9.31	4.51	1.52	12.3	4.36	25.5	-1.29	19.9	2.19	1.01	0.59	0.13



Alt Model-Shift Uniqueness Test

008915335-02, P = 0.550775 Days, E = 131.173974 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.32	8.43	7.00	3.93	4.58	1.67	4.25	0.32	3.40	1.43	4.51	0.36	0.71	0.47	1.13



Stellar Parameters For KIC 008915335

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7968^{+222}_{-333}	$3.685^{+0.432}_{-0.108}$	$-0.180^{+0.200}_{-0.300}$	$3.380^{+0.831}_{-1.544}$	$2.017^{+0.374}_{-0.457}$	$0.074^{+0.297}_{-0.029}$
	+3%/-4%	+12%/-3%	+111%/-167%	+25%/-46%	+19%/-23%	+403%/-39%
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 008915335-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-47 ± 4	$3.17^{+2.50}_{-2.07}$	6742^{+540}_{-791}	5649^{+6726}_{-9792}	$0.712^{+5.006}_{-0.487}$
Alt.	-187 ± 22	$4.35^{+2.81}_{-2.09}$	6728^{+524}_{-831}	7479^{+5413}_{-2240}	$1.523^{+4.298}_{-0.977}$

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 $A_{obs} \gg 1.0$

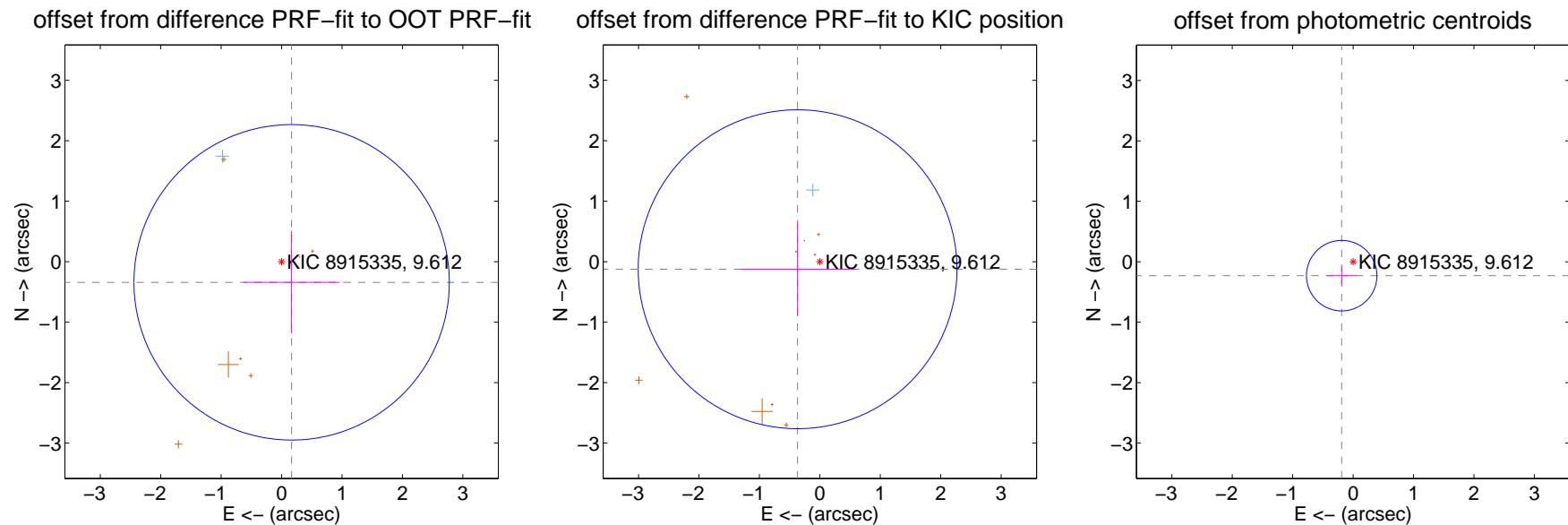
DV Centroid Data

Supplemental centroid analysis for 008915335-02. **Kepler magnitude: 9.61.** Transit SNR 12.58

There are 1 quarters with good PRF difference image offsets

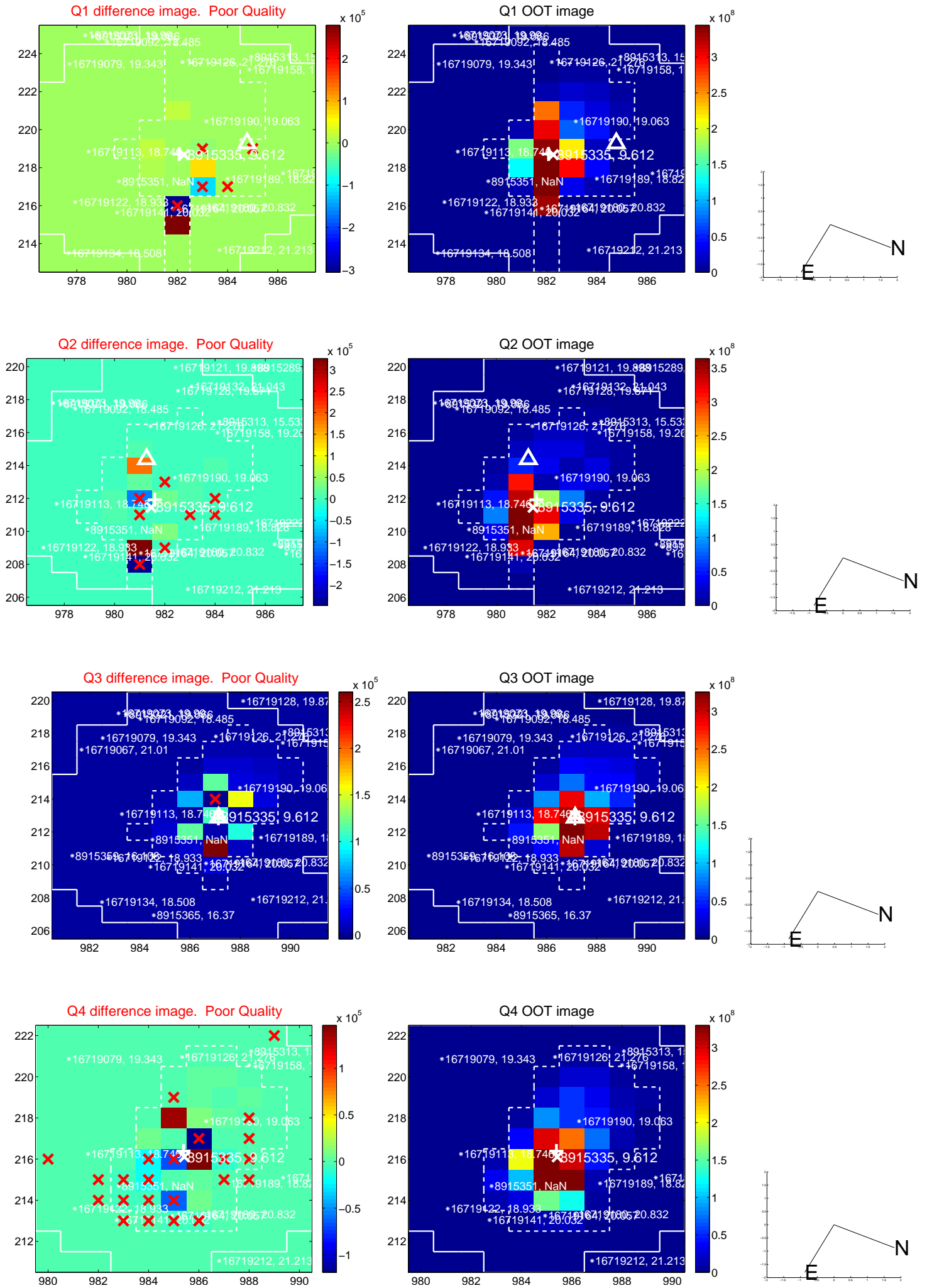
The direct PRF centroid is offset from the target star catalog position by about 0.78 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.380 ± 0.870	0.44	-0.166 ± 0.795	-0.341 ± 0.847
PRF-fit source offset from KIC position	0.389 ± 0.879	0.44	0.368 ± 0.950	-0.125 ± 0.772
photometric centroid source offset	0.30 ± 0.19	1.53	0.19 ± 0.25	-0.23 ± 0.15

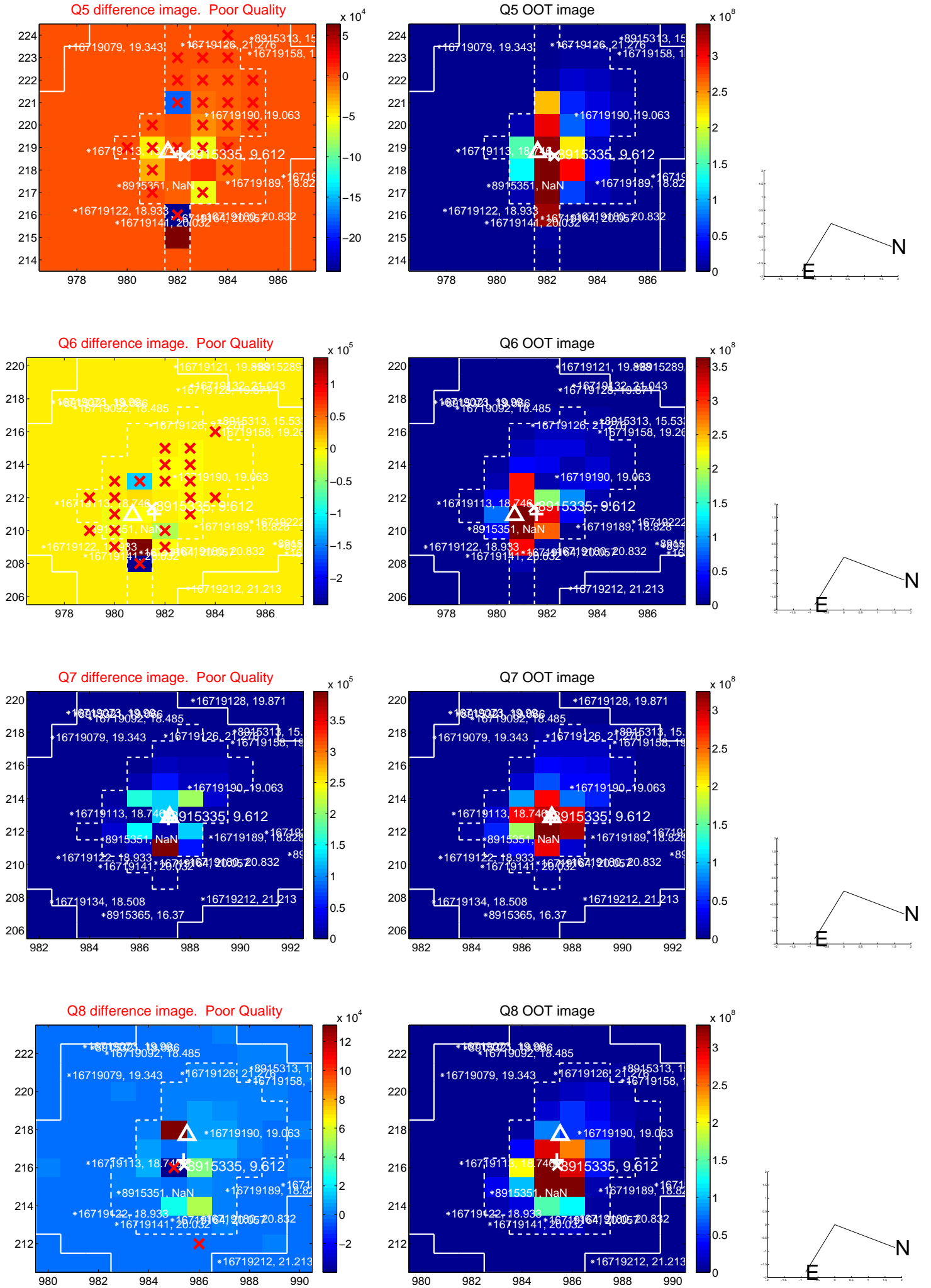


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

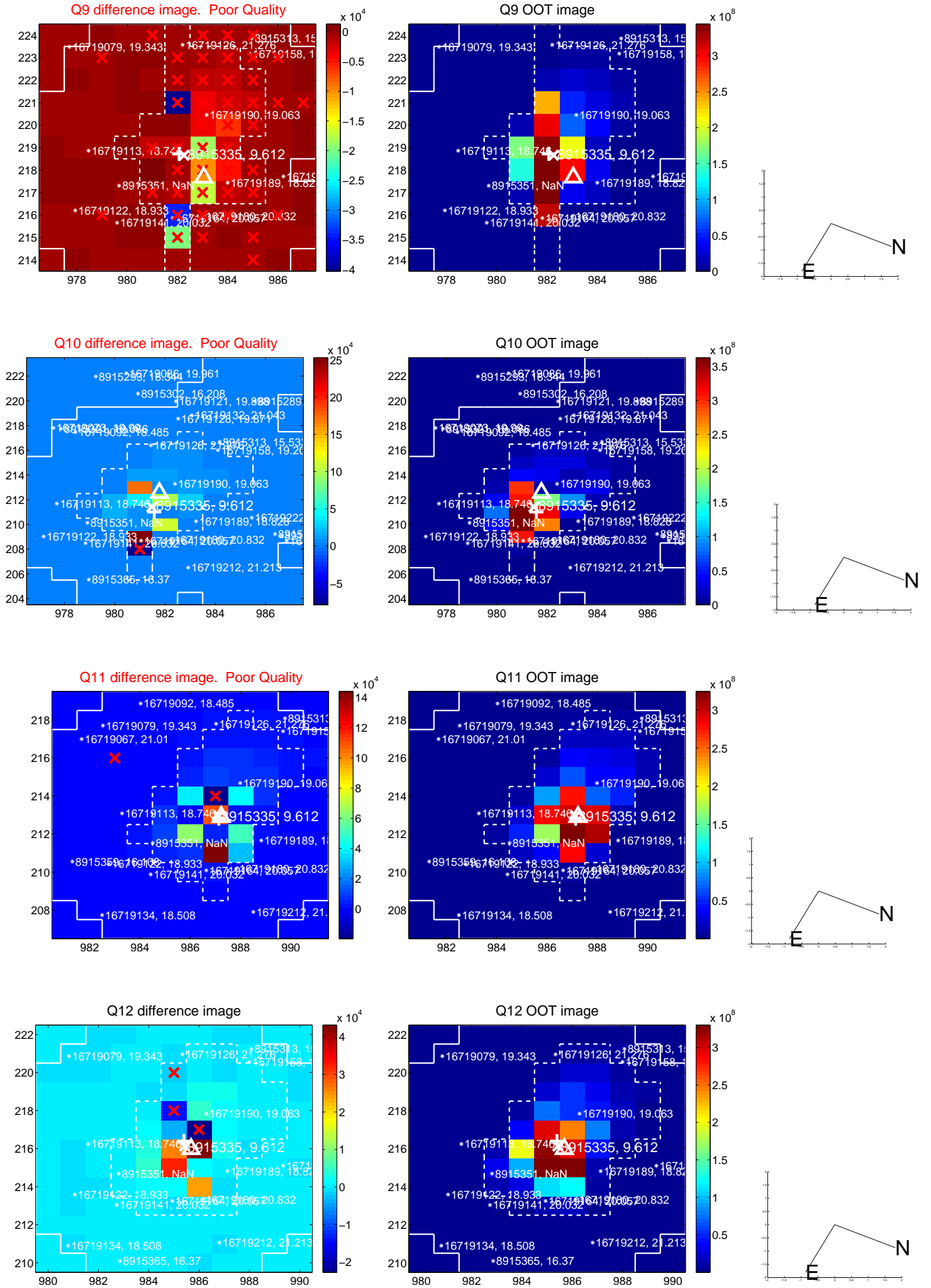
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



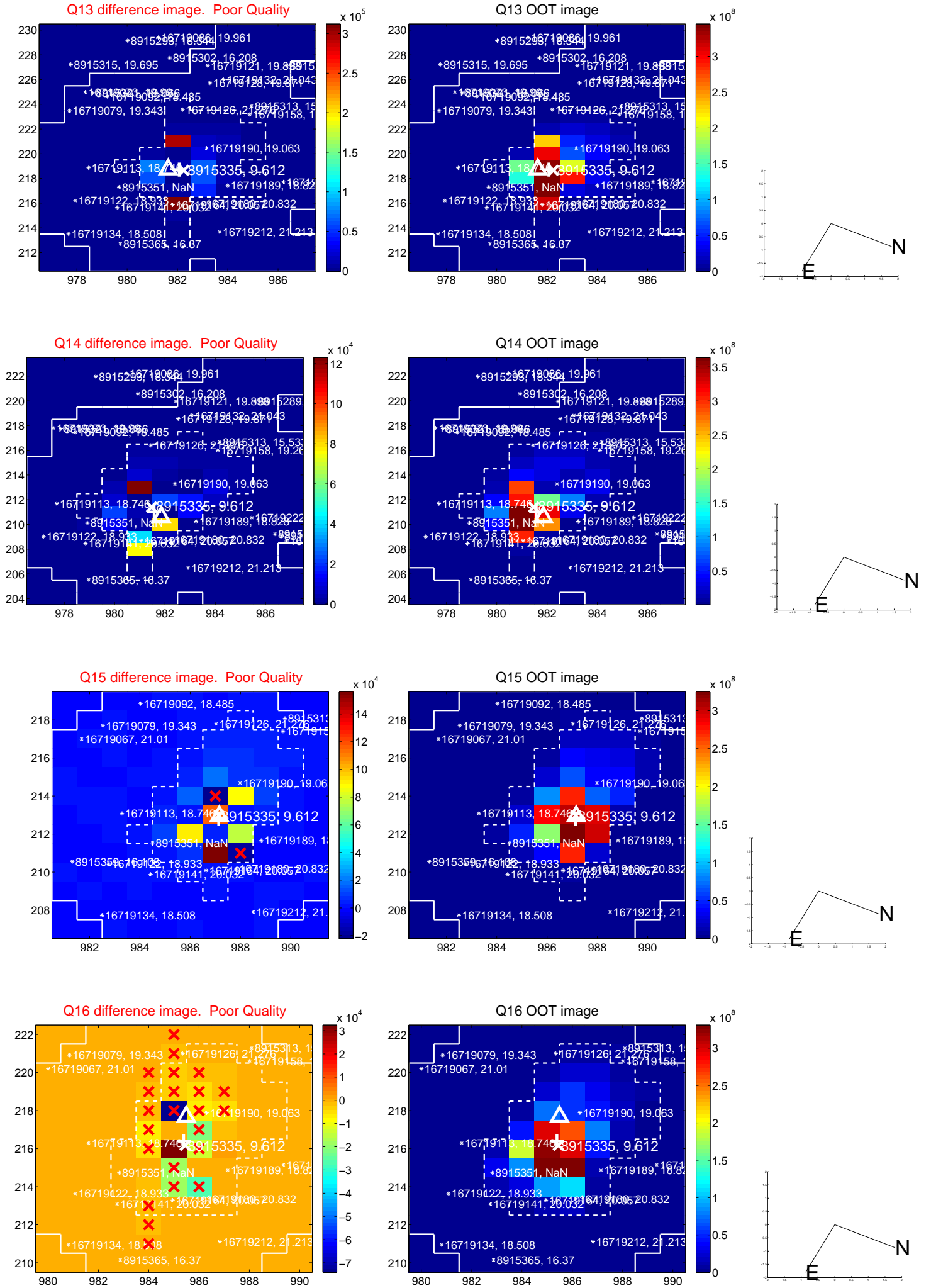
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



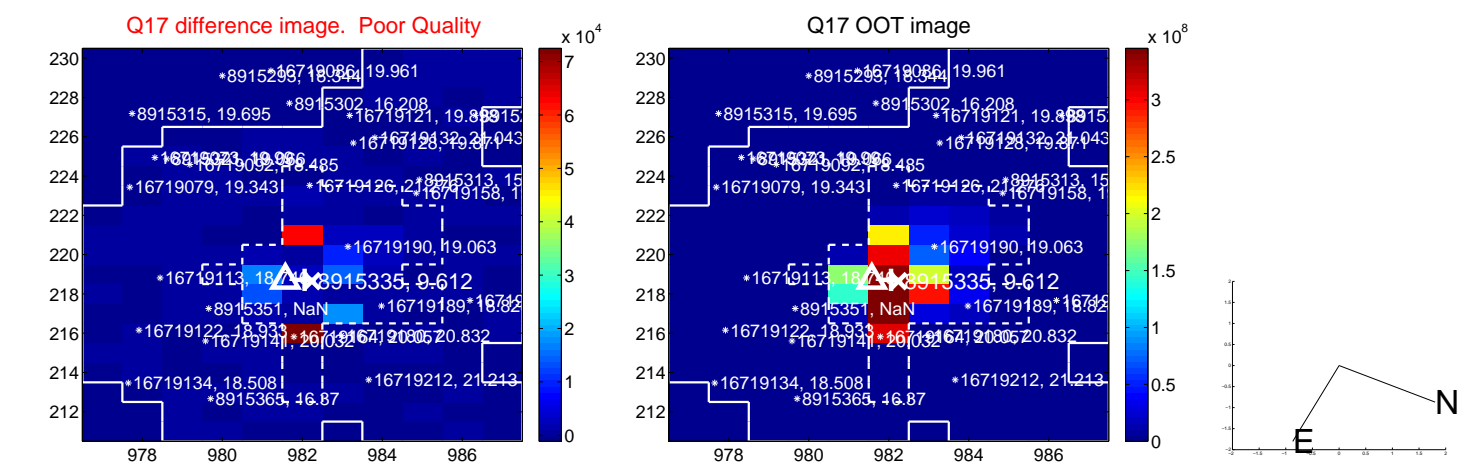
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



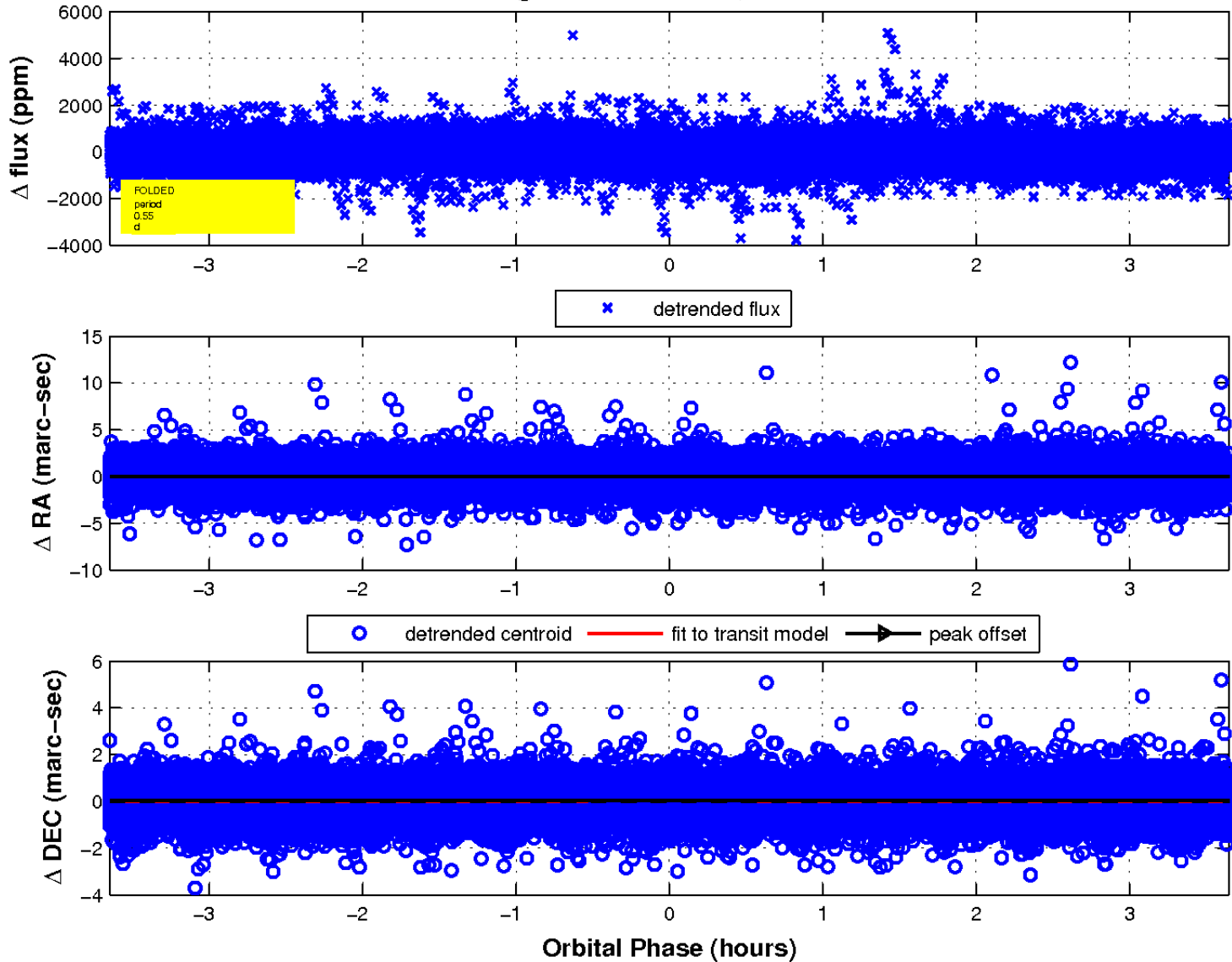
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

