

KIC 008149341

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})
008149341-01	OBS	No	1.000354	132.220519	111.1	4.192	14.7	15.8	2.23	7783	2.75	28575.88
008149341-02	OBS	No	2.227636	133.365584	202.9	14.835	10.4	14.3	2.23	7783	4.33	9826.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008149341-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008149341-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

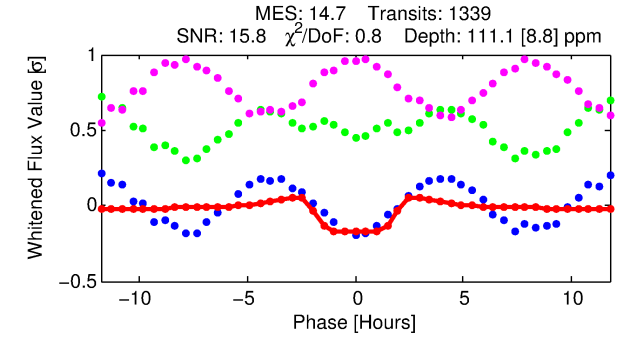
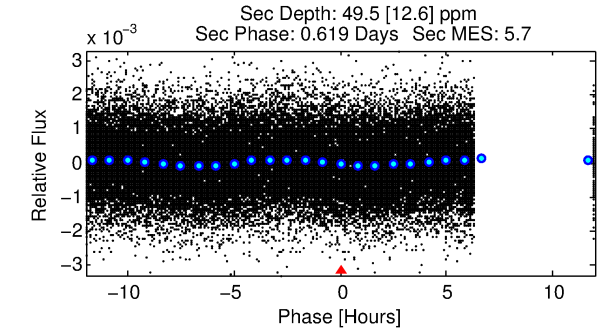
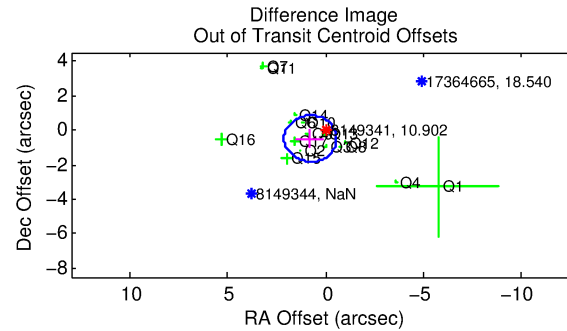
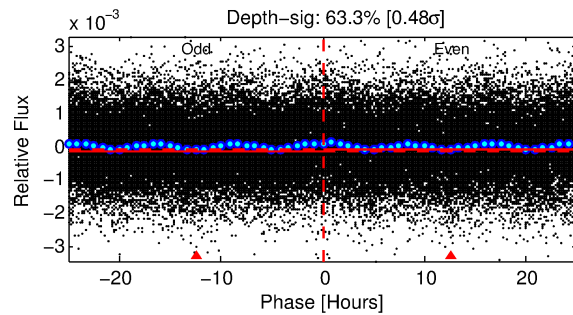
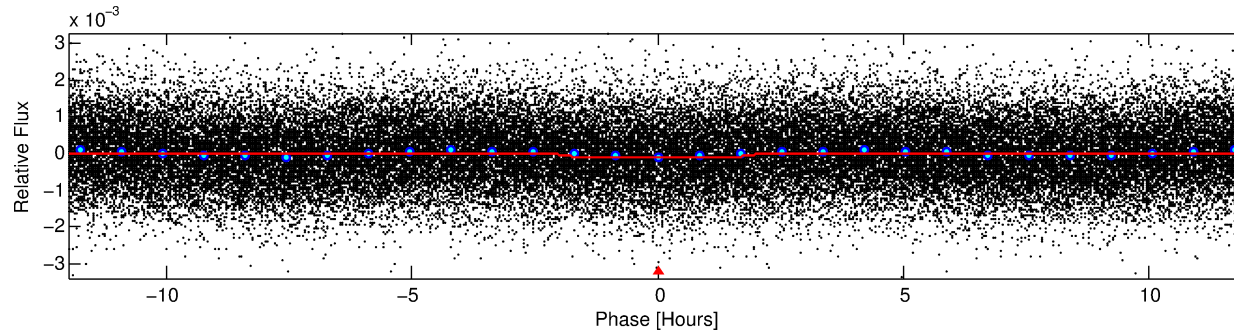
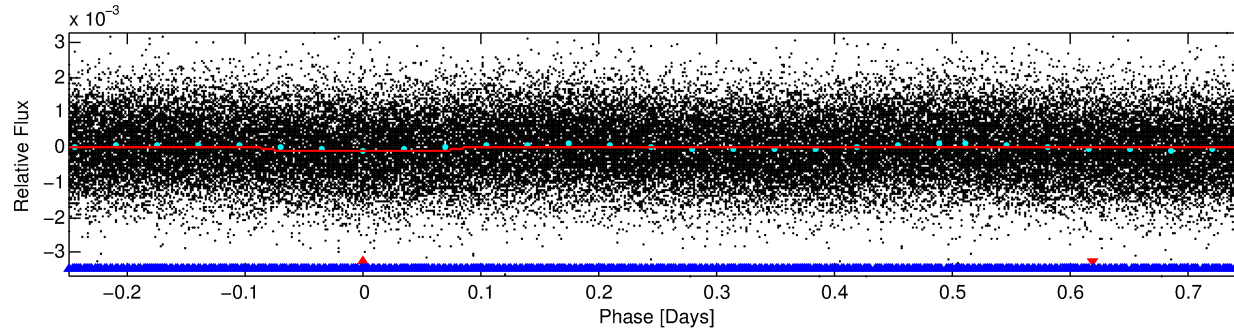
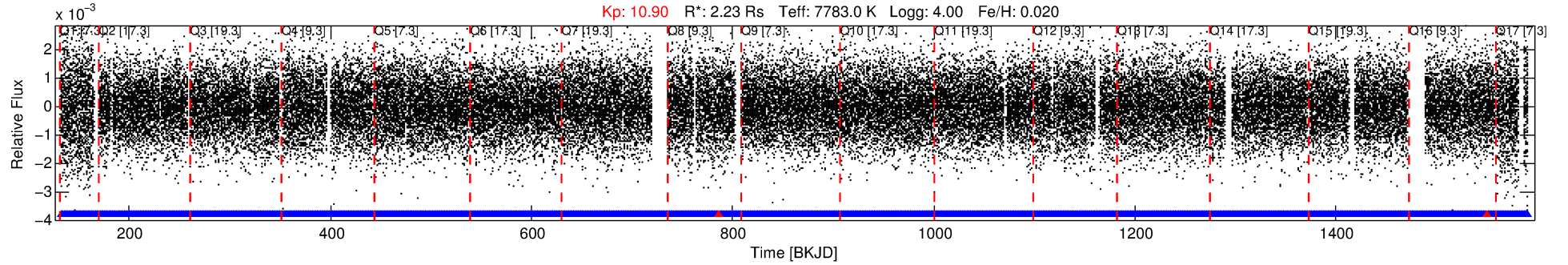
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008149341-01

No Significant Match Found

DV One-Page Summary

KIC: 8149341 Candidate: 1 of 2 Period: 1.000 d



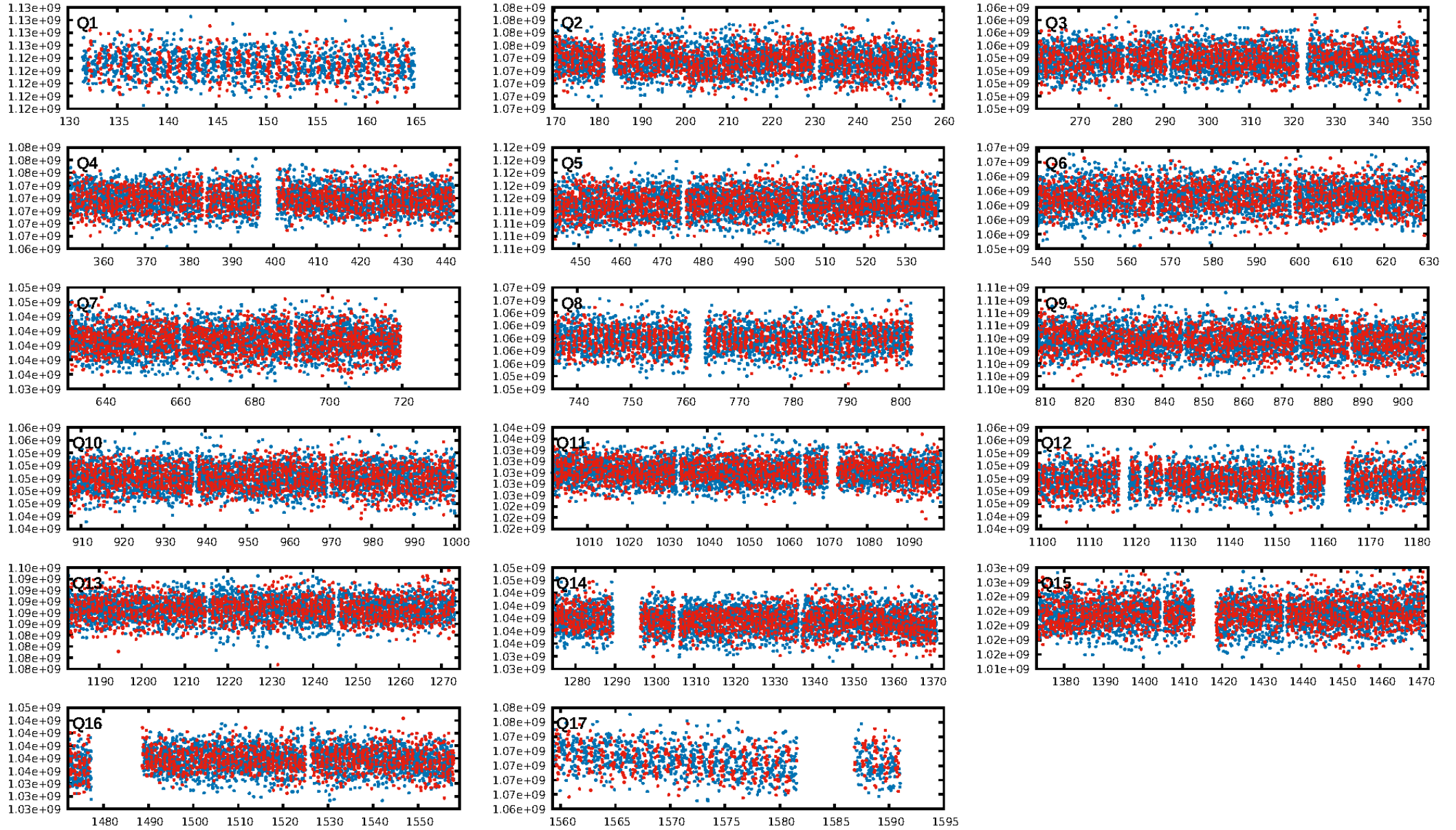
DV Fit Results:

Period = 1.00035 [0.00001] d
Epoch = 132.2205 [0.0029] BKJD
 $R_p/R^* = 0.0113$ [0.0031]
 $a/R^* = 1.24$ [0.78]
 $b = 0.91$ [0.34]
 $\text{Seff} = 28575.88$ [11343.60]
 $T_{\text{eq}} = 3315$ [329] K
 $R_p = 2.75$ [1.07] R_e
 $a = 0.0240$ [0.0057] AU
 $A_g = 2.07$ [1.46] [0.74 σ]
 $T_{\text{eff}} = 6150$ [973] K [2.76 σ]

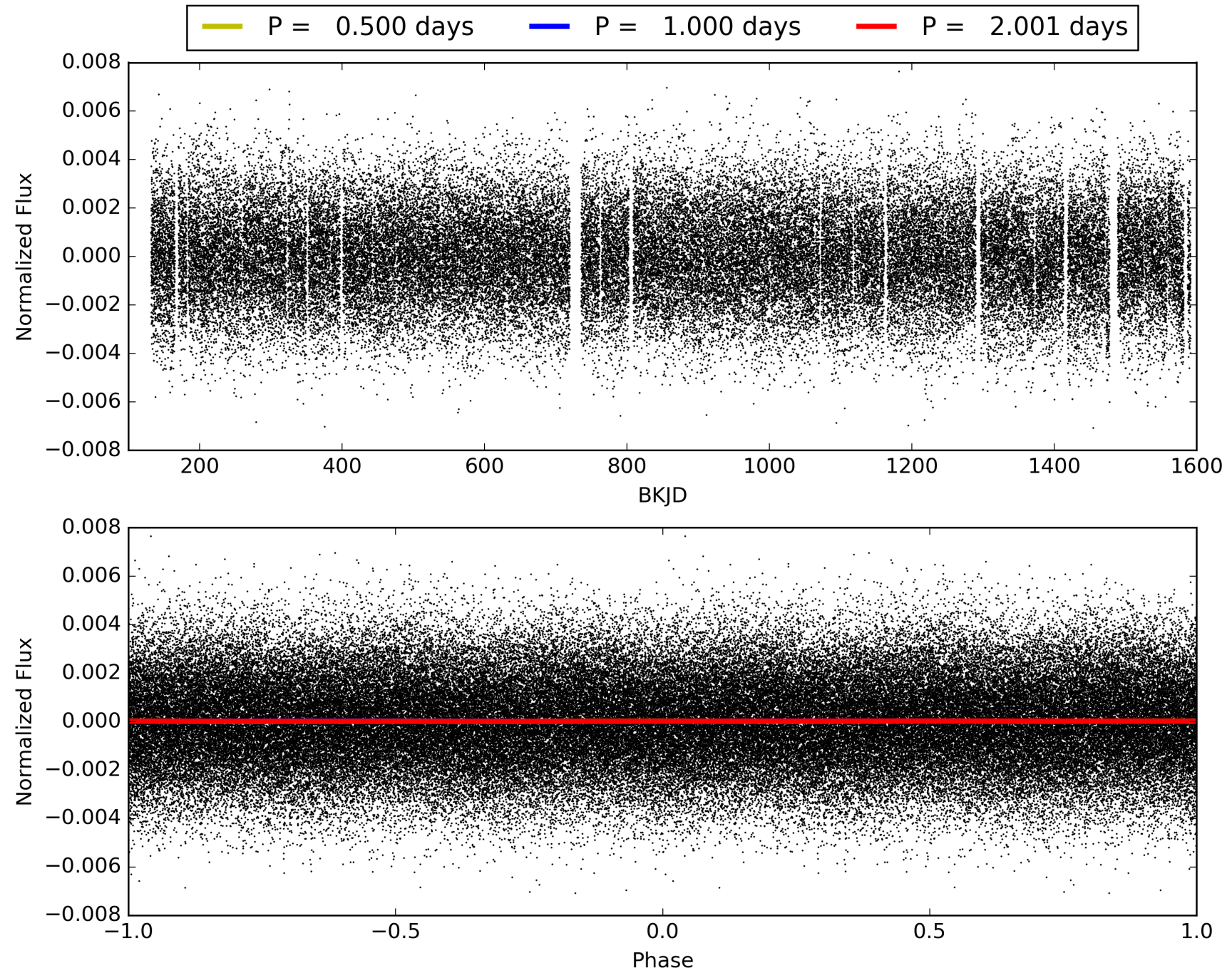
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 94.4% [1.91 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.00e-05
RollingBand-fgt: 1.00 [1278/1280]
GhostDiagnostic-chr: 1.256
Centroid-sig: 27.0%
Centroid-so: 0.134 arcsec [1.46 σ]
OotOffset-rm: 0.928 arcsec [2.08 σ]
KicOffset-rm: 1.142 arcsec [2.35 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008149341-01, PDC Light Curves

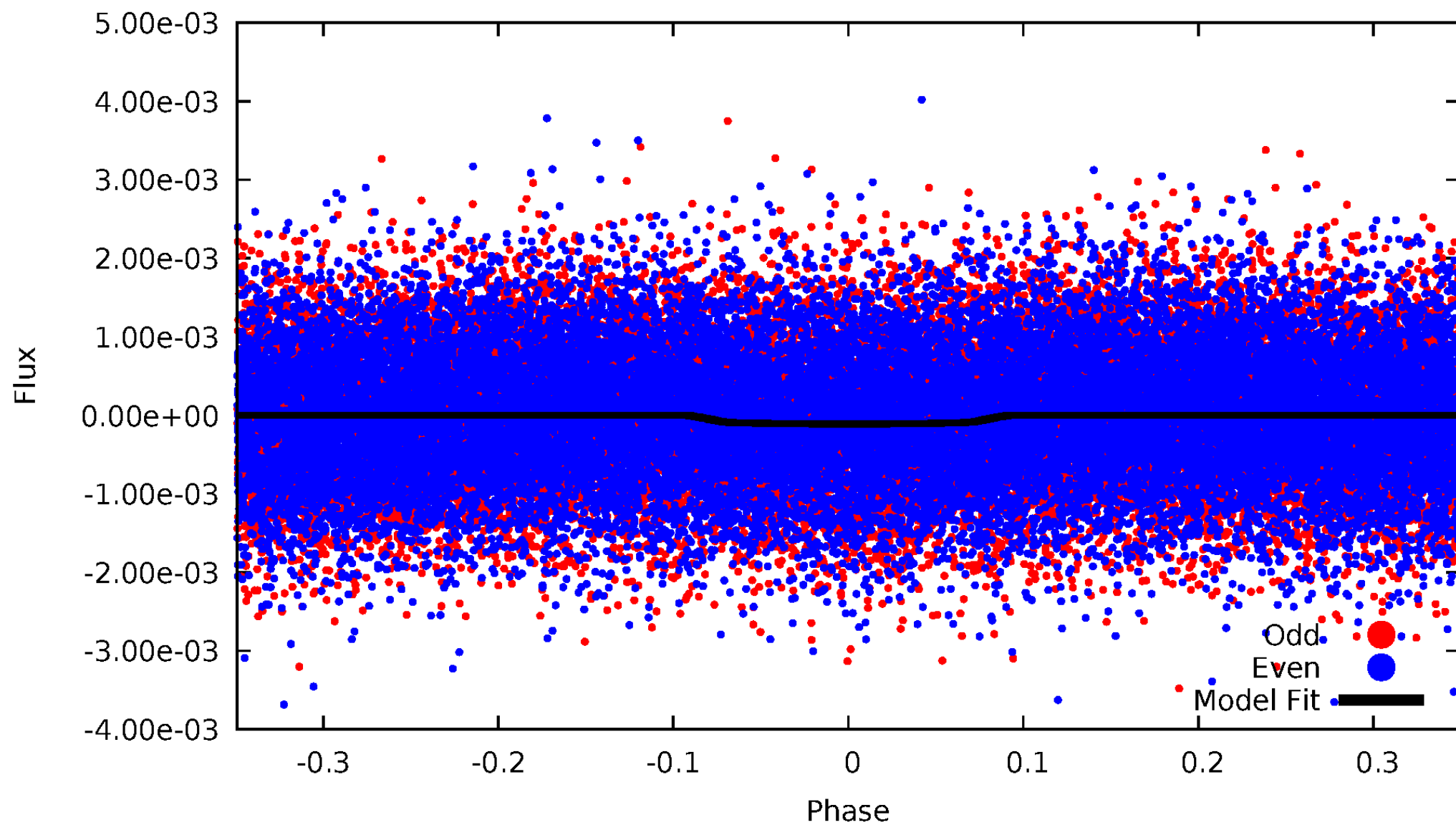


TCE 008149341-01



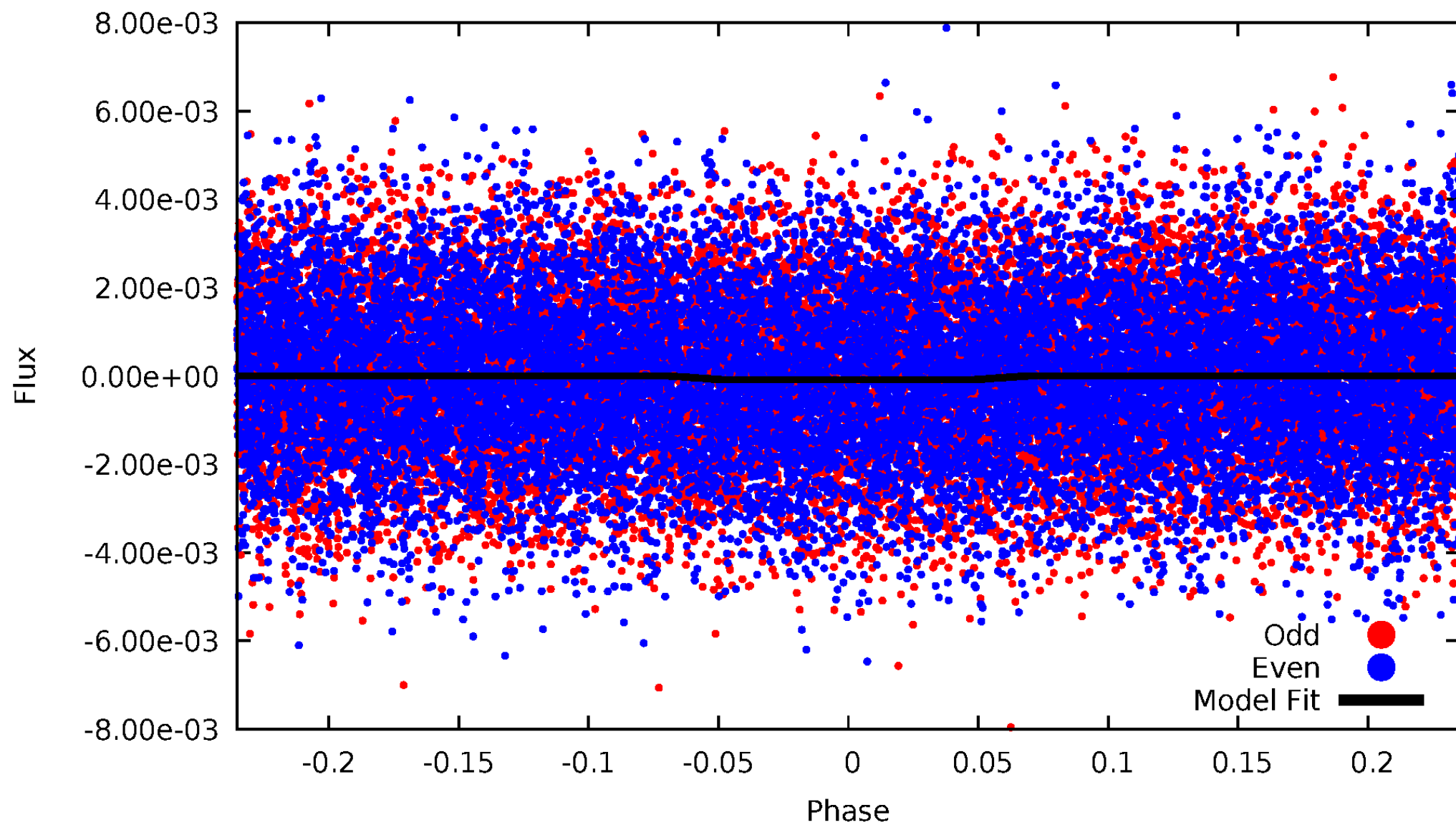
DV Odd/Even

TCE 008149341-01



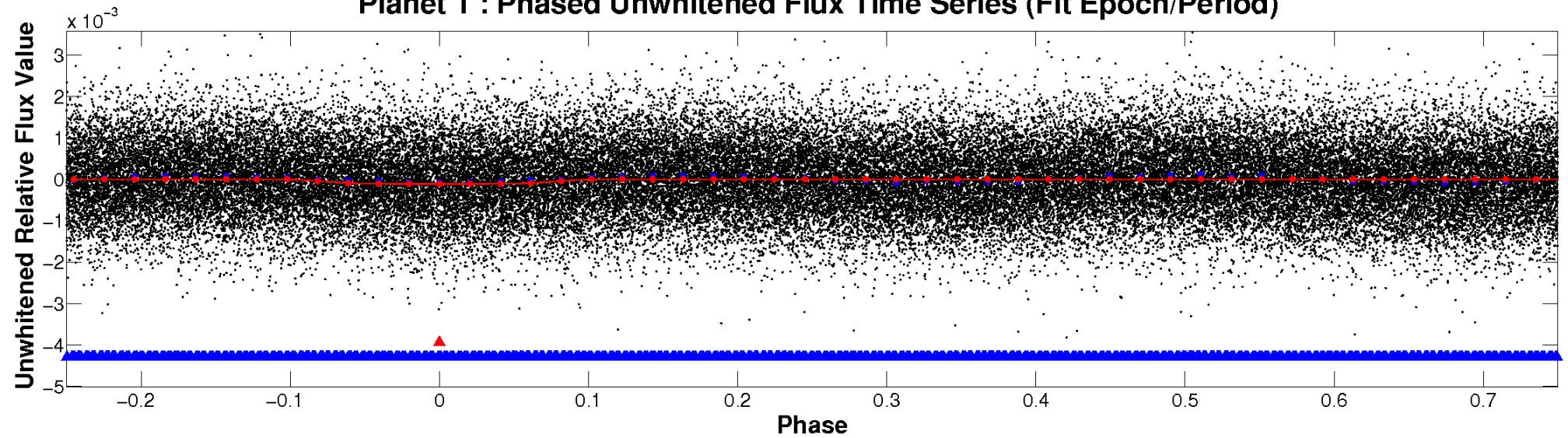
ALT Odd/Even

TCE 008149341-01

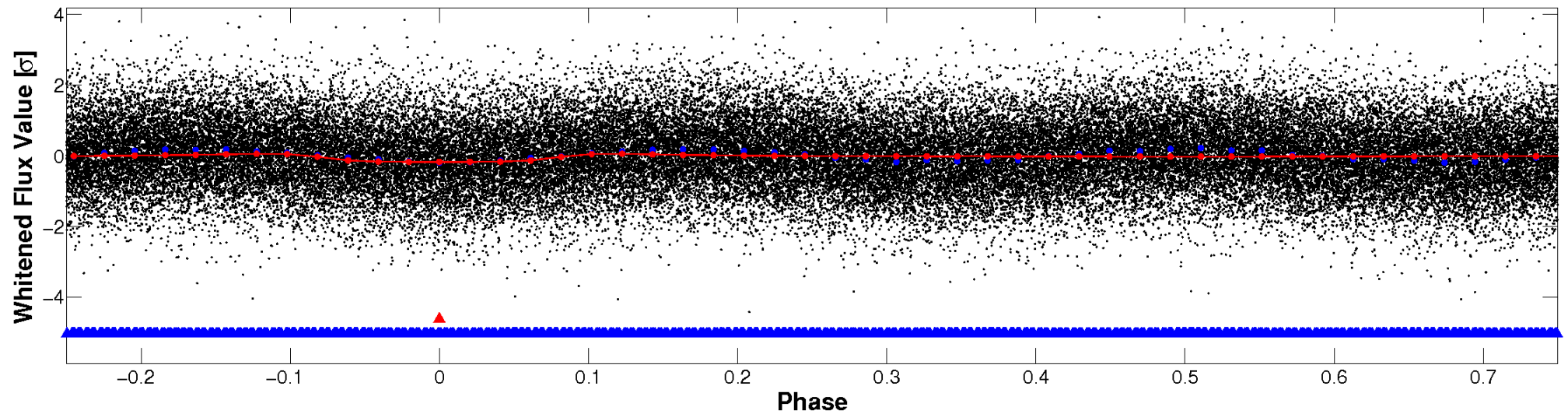


Non-Whitened Vs. Whitened Light Curve

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

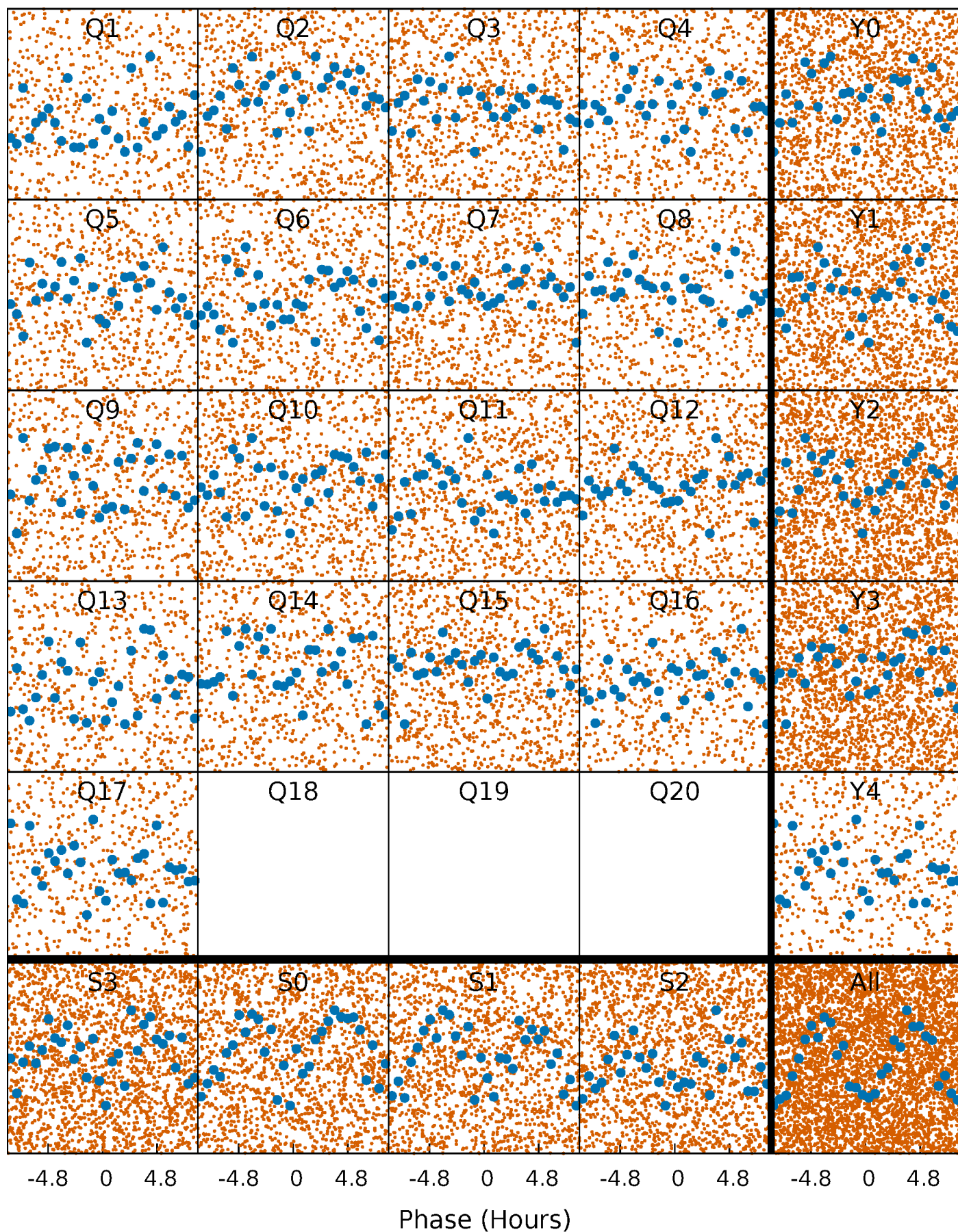


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



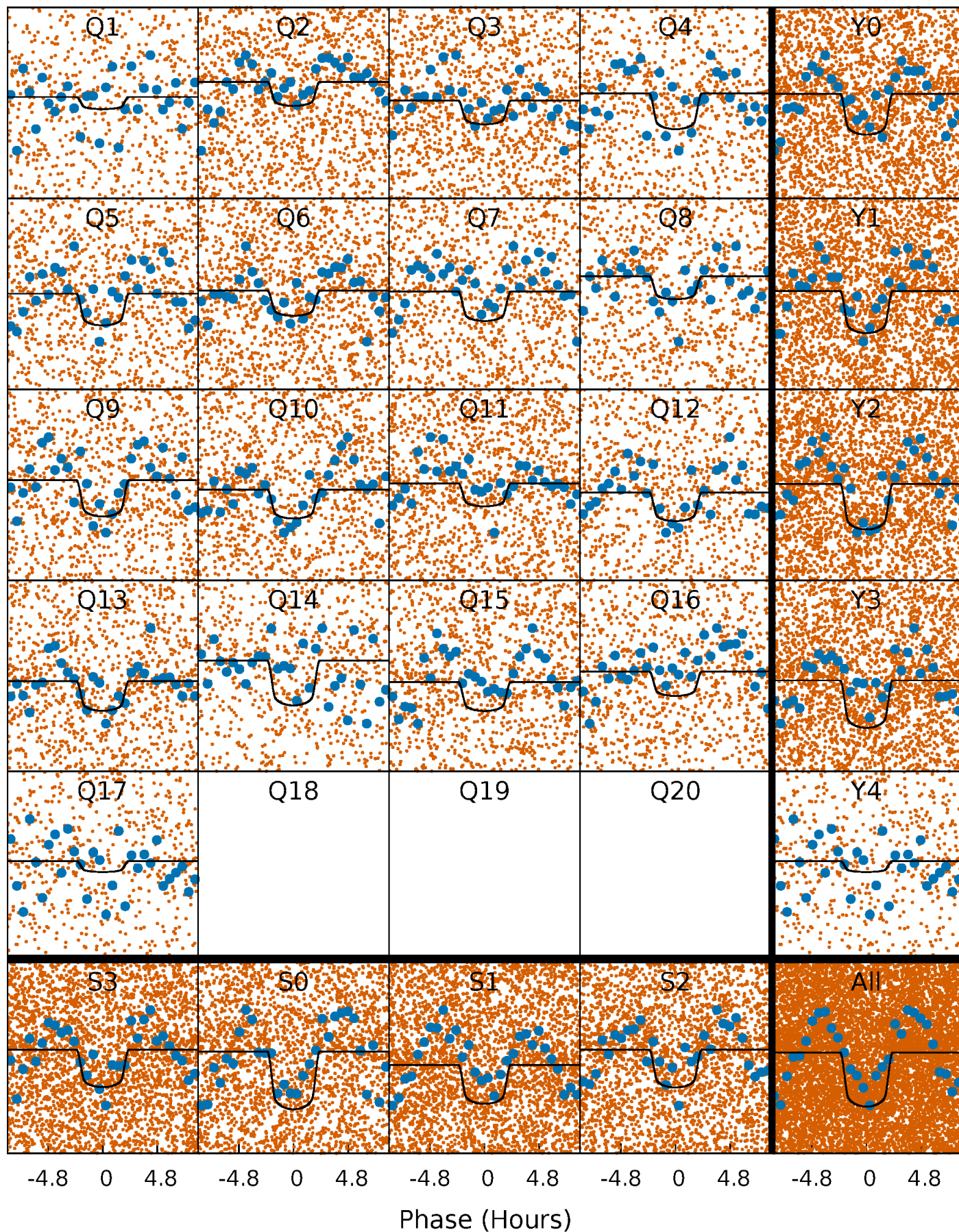
PDC Quarter-Phased Transit Curves

TCE 008149341-01 P= 1.000354 Days $T_0=132.220519$ (BKJD)



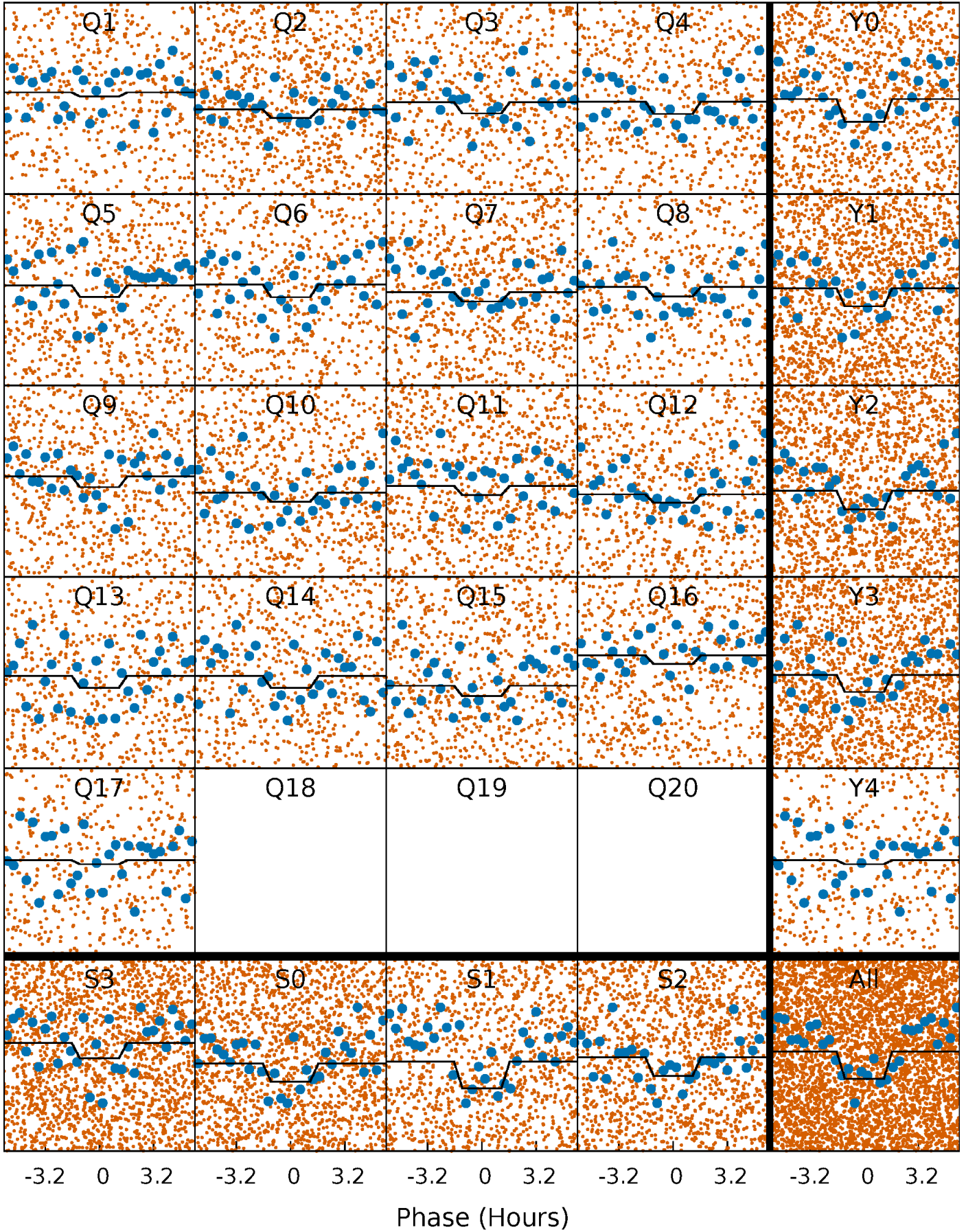
DV Quarter-Phased Transit Curves

TCE 008149341-01 P= 1.000354 Days $T_0=132.220519$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

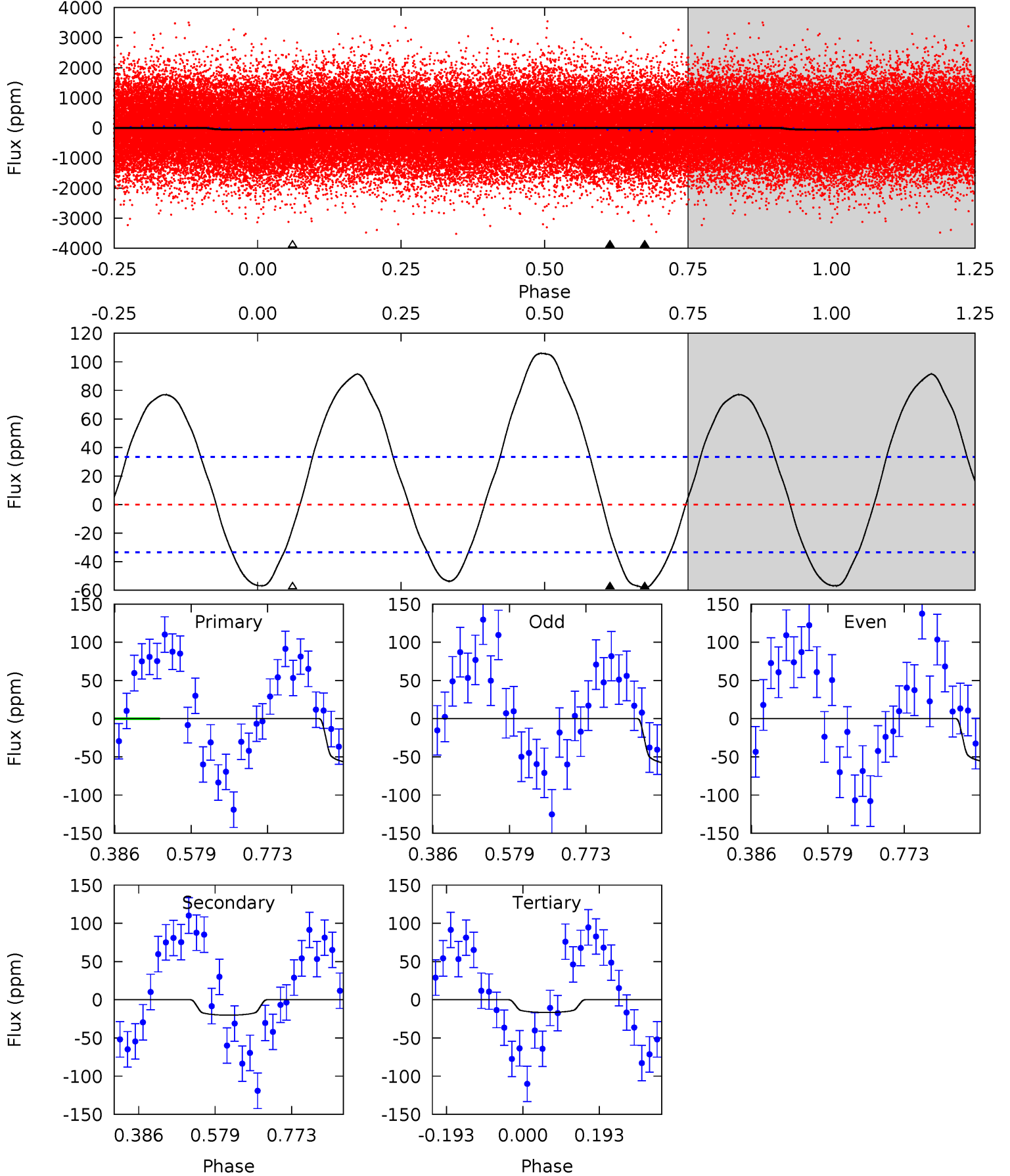
TCE 008149341-01 P= 1.000364 Days $T_0=132.213974$ (BKJD)



DV Model-Shift Uniqueness Test

008149341-01, P = 1.000354 Days, E = 131.220165 Days

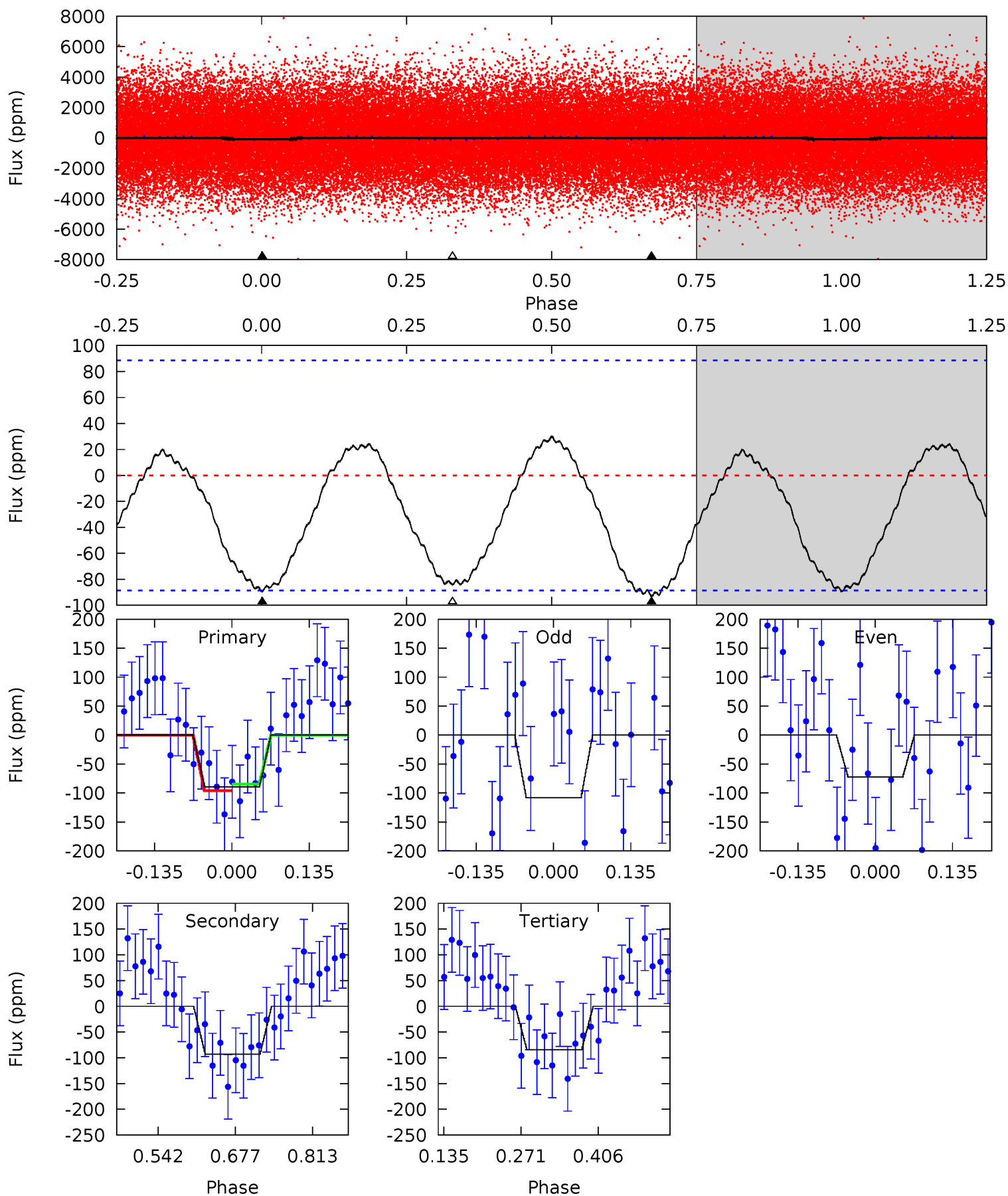
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.75	2.68	2.20	0	4.42	1.30	6.35	5.54	7.75	0.48	2.68	0.16	0.92	0.64	0.78



Alt Model-Shift Uniqueness Test

008149341-01, P = 1.000364 Days, E = 131.213610 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.55	4.74	4.29	0	4.50	1.49	1.99	0.26	4.55	0.45	4.74	0.91	0.90	0.24	0.29



Stellar Parameters For KIC 008149341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7783^{+214}_{-349}	$4.003^{+0.198}_{-0.149}$	$0.020^{+0.200}_{-0.350}$	$2.234^{+0.498}_{-0.609}$	$1.830^{+0.121}_{-0.363}$	$0.231^{+0.264}_{-0.091}$
	+3%/-4%	+5%/-4%	+1000%/-1750%	+22%/-27%	+7%/-20%	+114%/-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 008149341-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-20 ± 8	$2.64^{+0.87}_{-0.83}$	4580^{+322}_{-354}	4482^{+1027}_{-1058}	$0.868^{+1.175}_{-0.458}$
Alt.	-93 ± 20	$2.24^{+0.84}_{-0.74}$	4634^{+301}_{-370}	7678^{+2532}_{-1381}	$5.617^{+7.186}_{-2.914}$

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 $A_{obs} \gg 1.0$

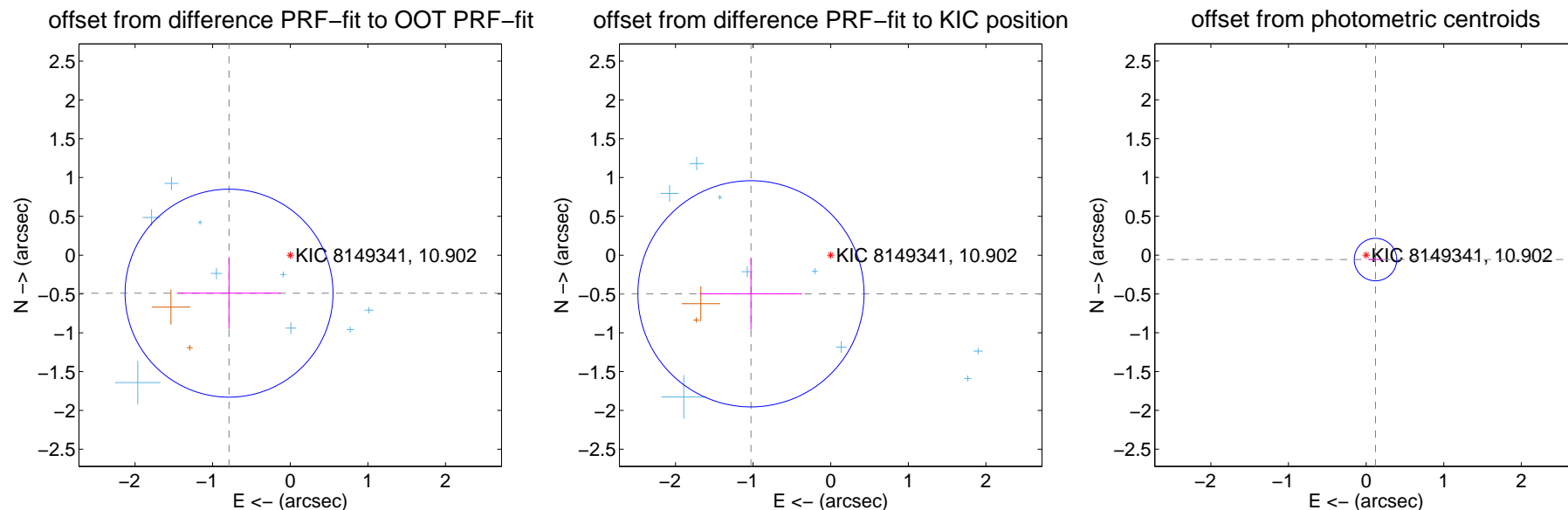
DV Centroid Data

Supplemental centroid analysis for 008149341-01. **Kepler magnitude: 10.90.** Transit SNR 15.79

There are 12 quarters with good PRF difference image offsets

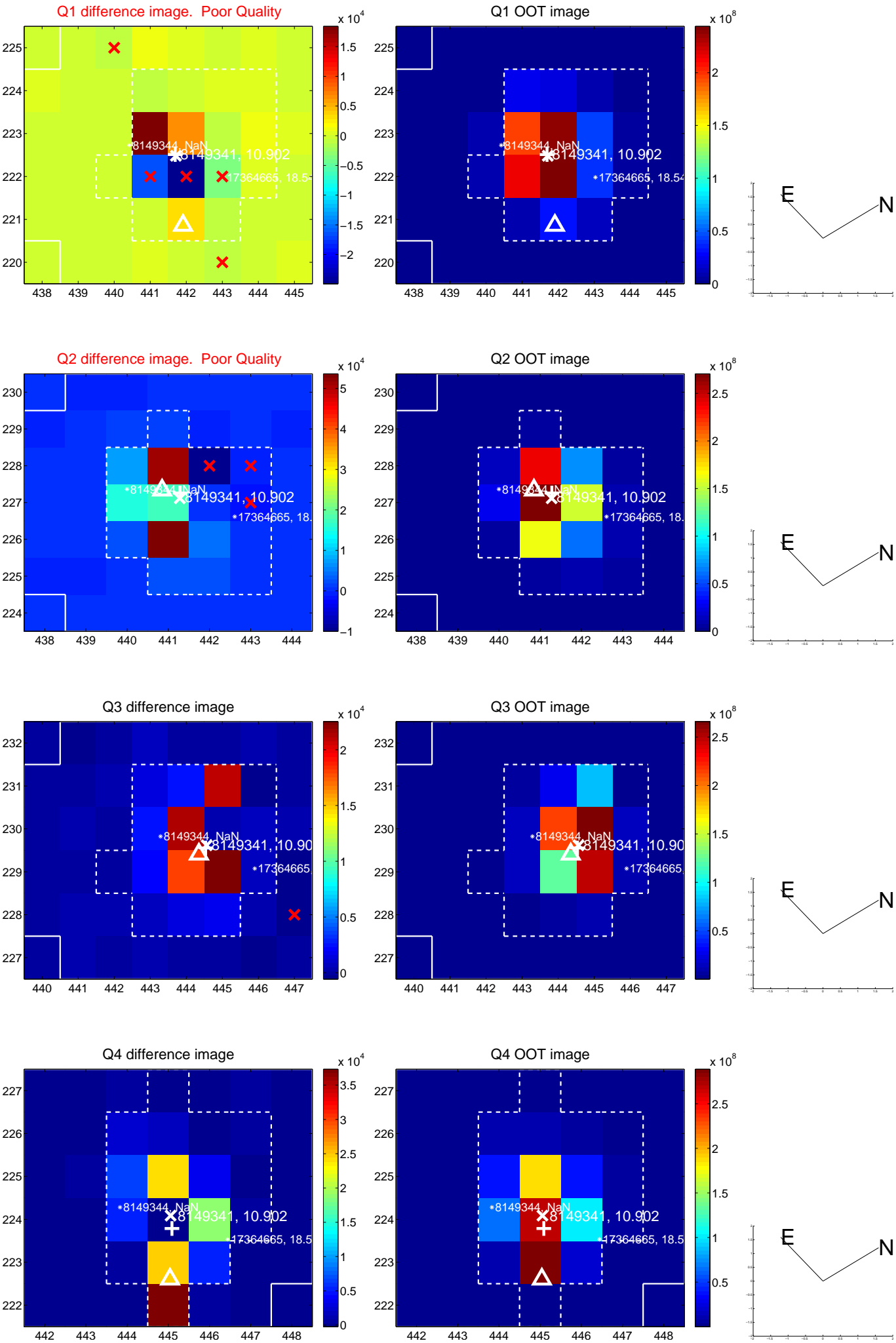
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.928 ± 0.447	2.08	0.789 ± 0.668	-0.490 ± 0.463
PRF-fit source offset from KIC position	1.142 ± 0.486	2.35	1.028 ± 0.660	-0.498 ± 0.459
photometric centroid source offset	0.13 ± 0.09	1.46	-0.12 ± 0.09	-0.06 ± 0.09

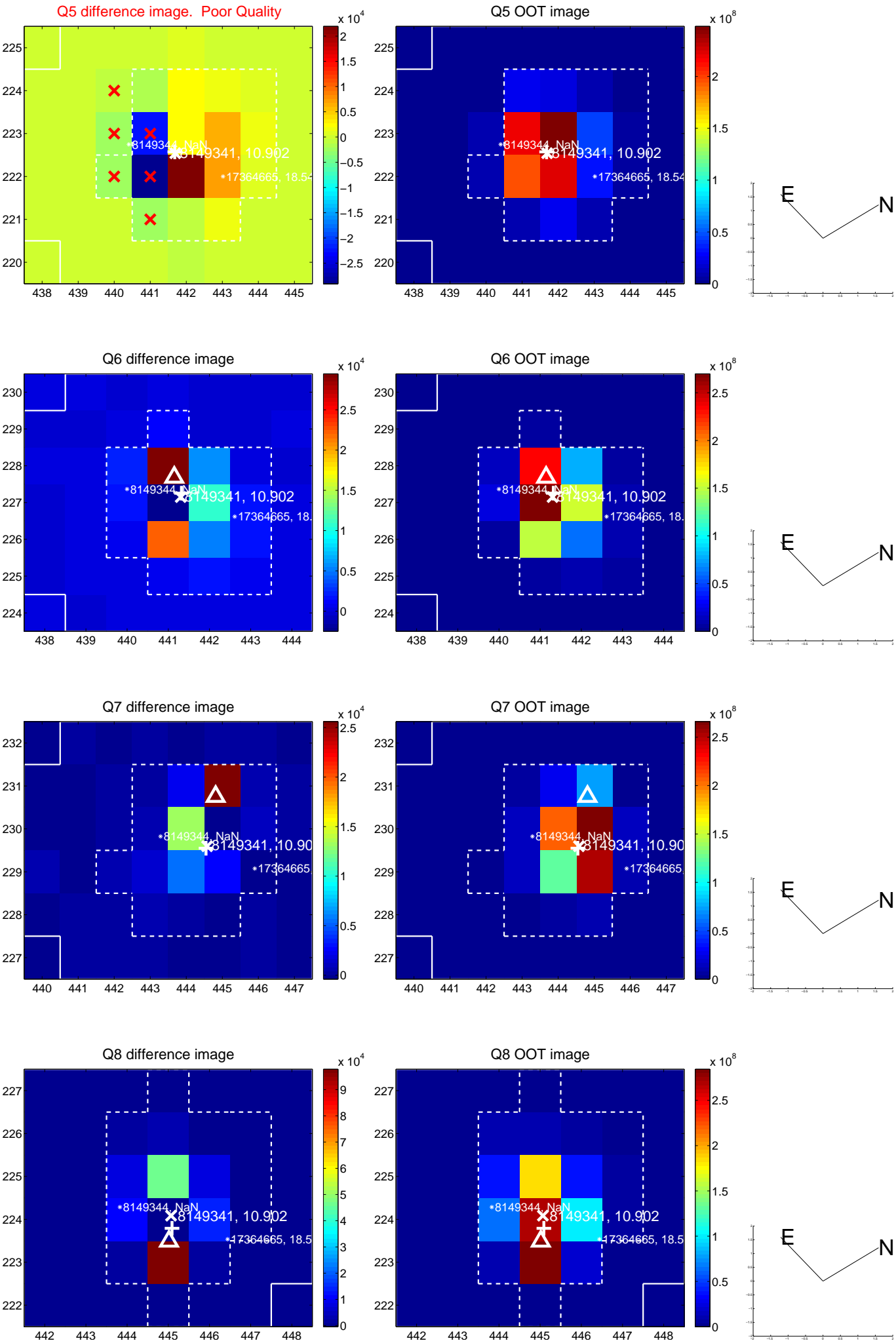


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

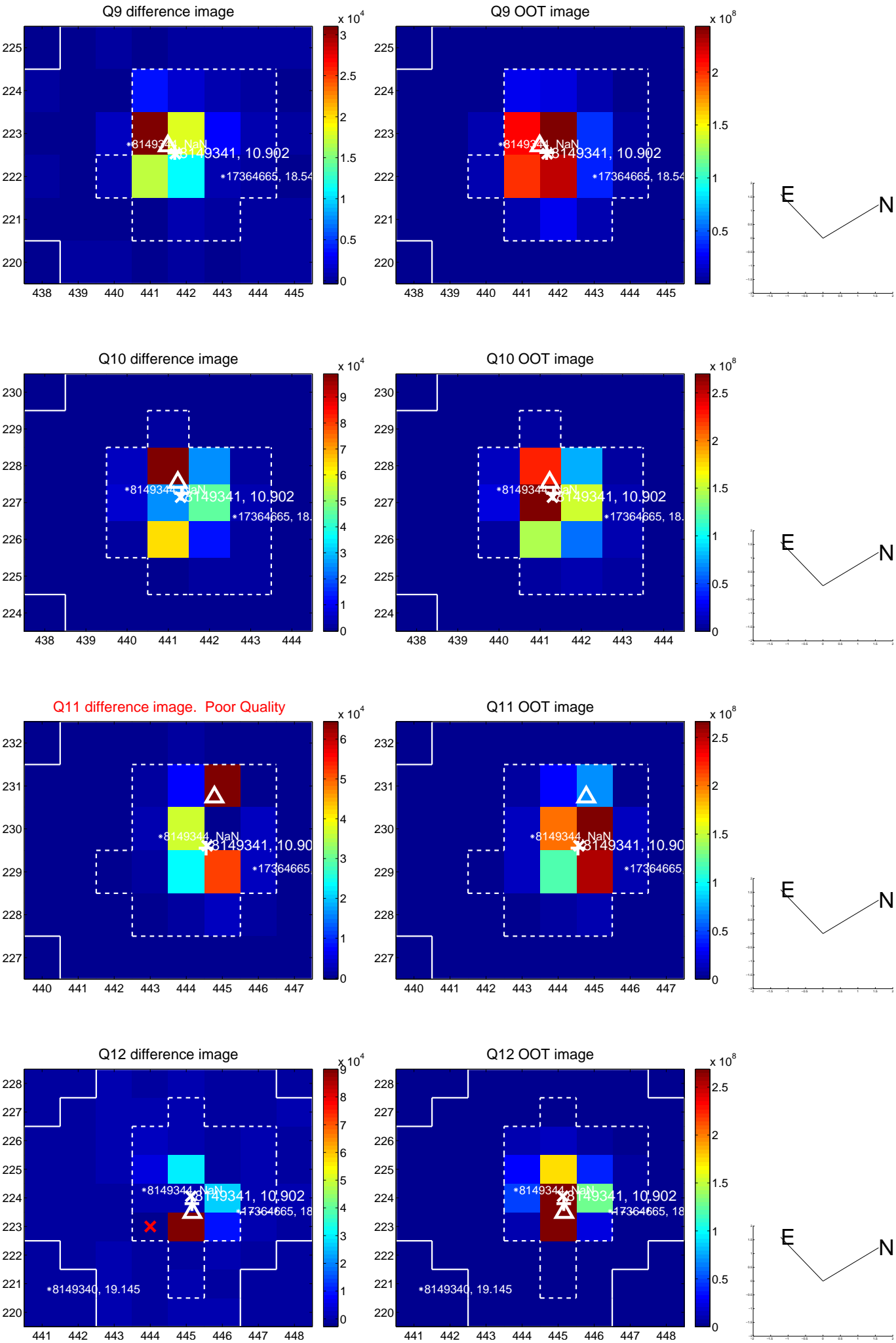
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



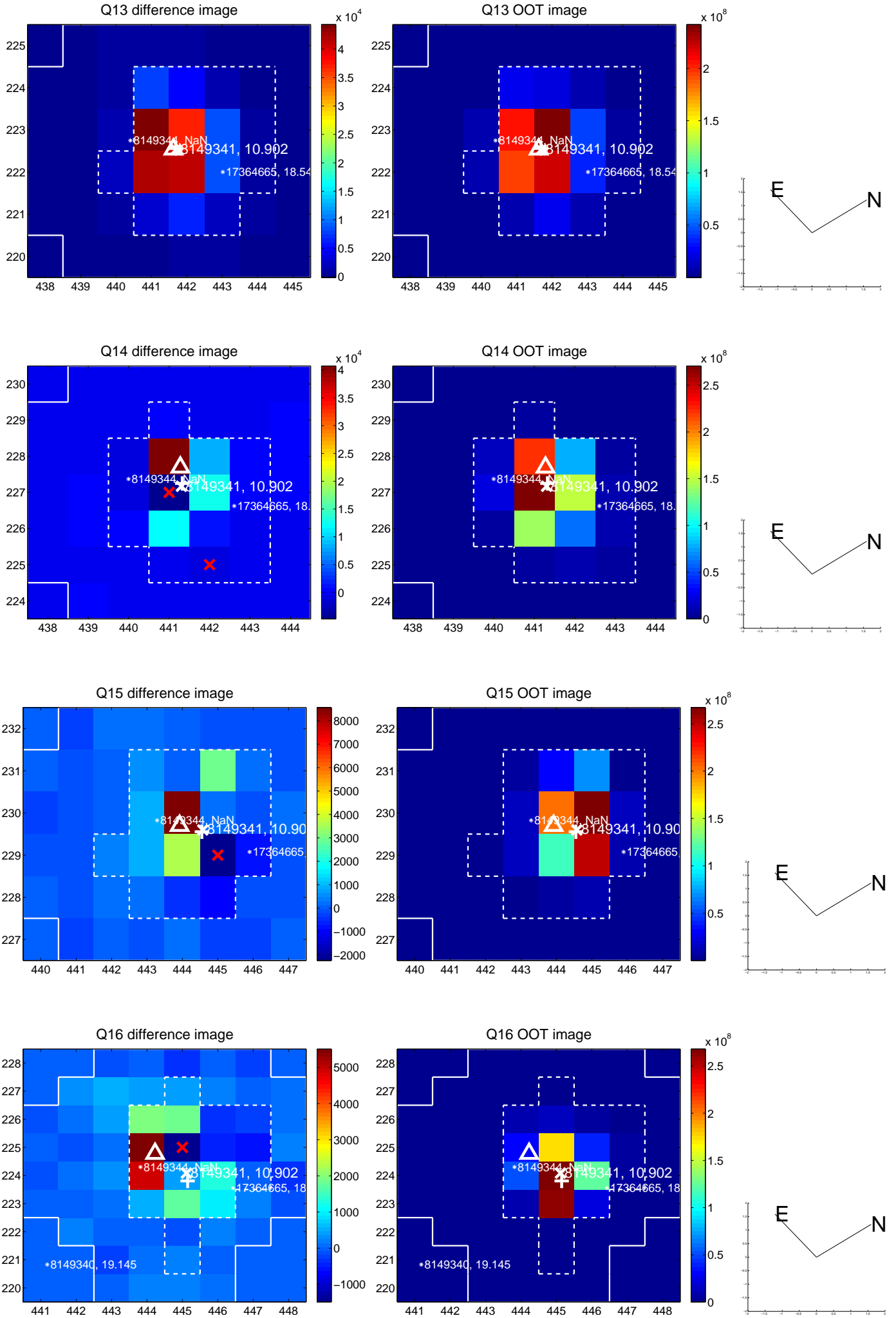
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



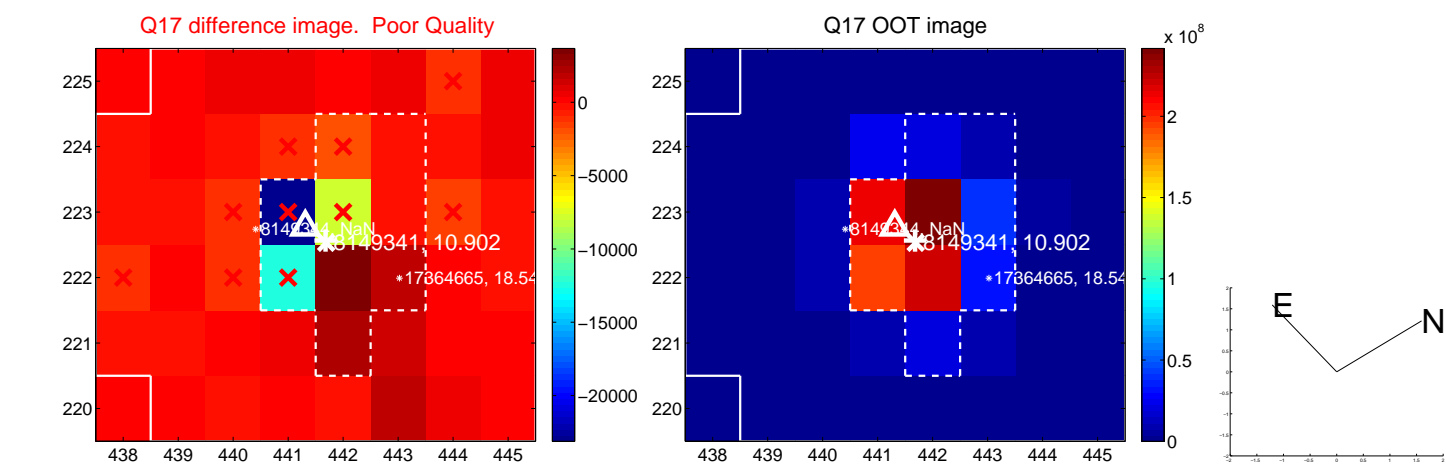
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



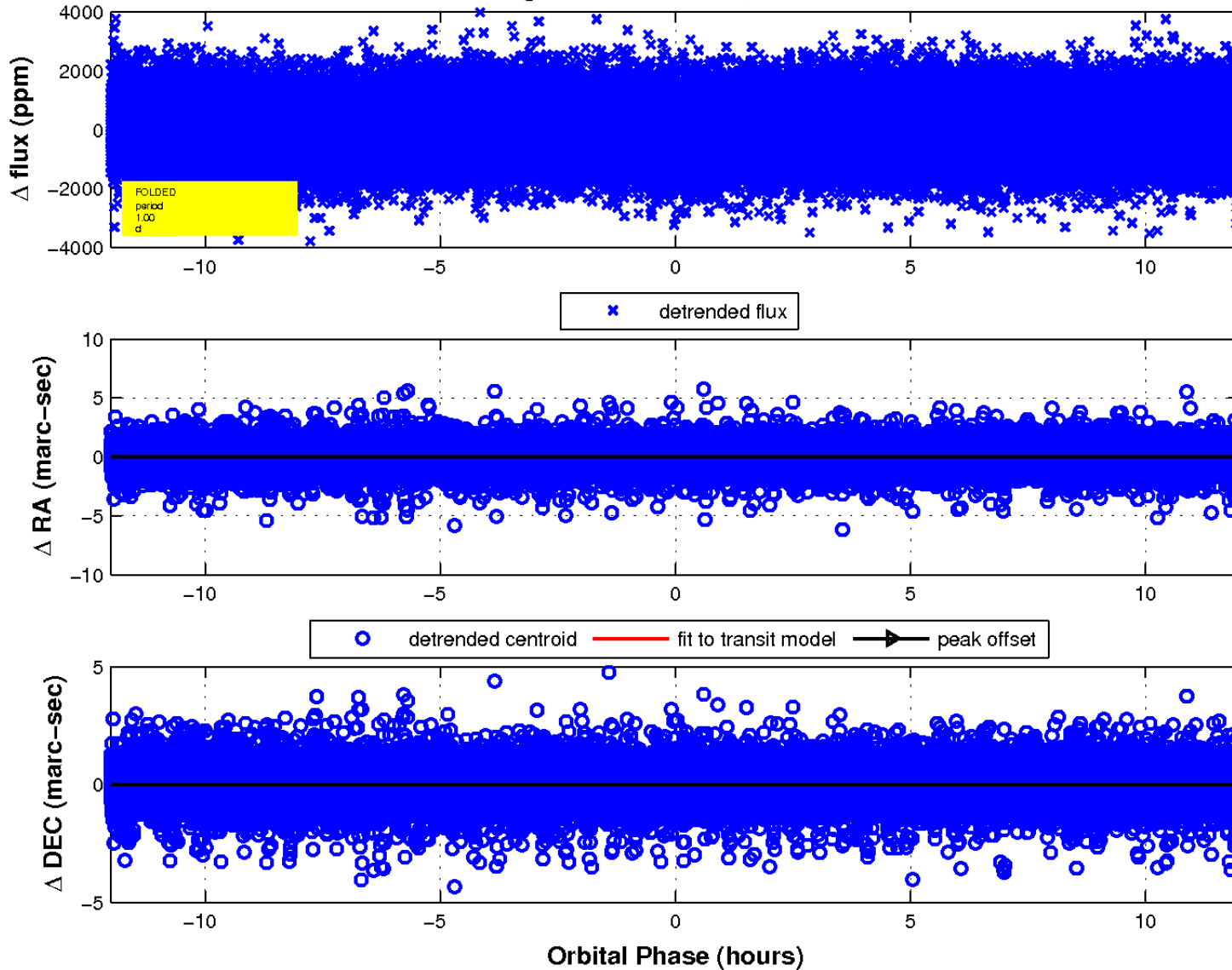
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

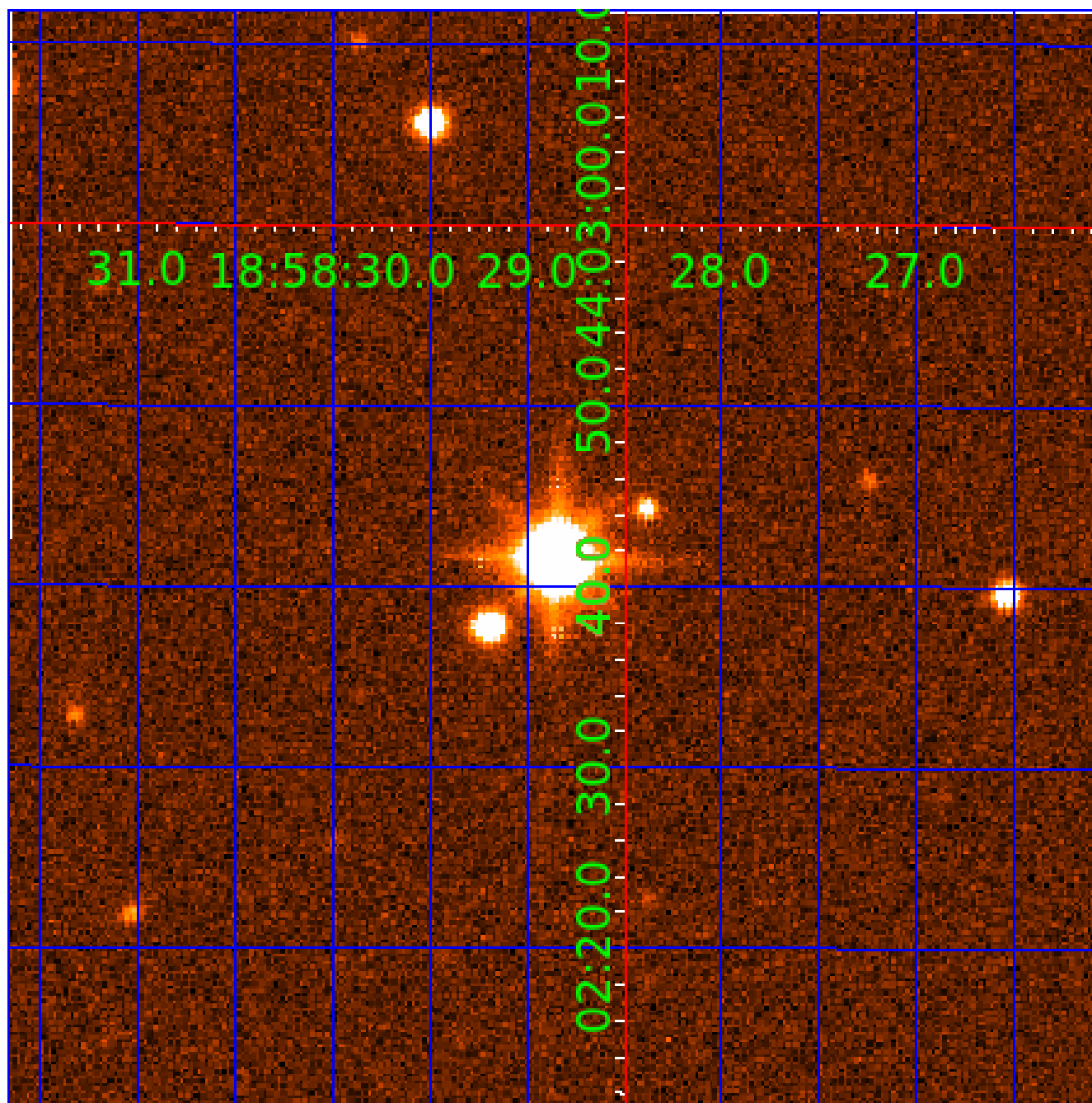


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008149341

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})
008149341-01	OBS	No	1.000354	132.220519	111.1	4.192	14.7	15.8	2.23	7783	2.75	28575.88
008149341-02	OBS	No	2.227636	133.365584	202.9	14.835	10.4	14.3	2.23	7783	4.33	9826.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008149341-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008149341-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

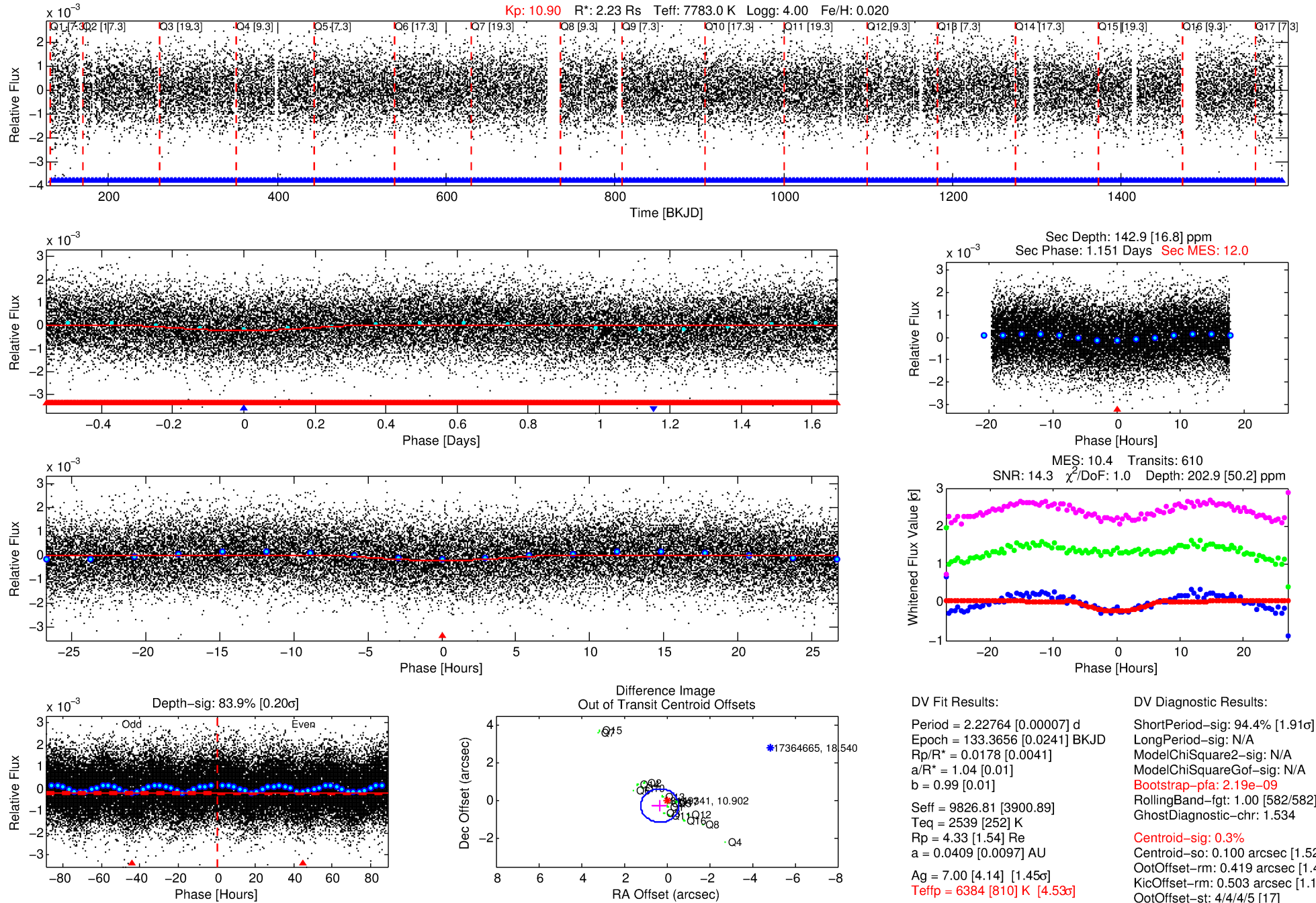
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008149341-02

No Significant Match Found

DV One-Page Summary

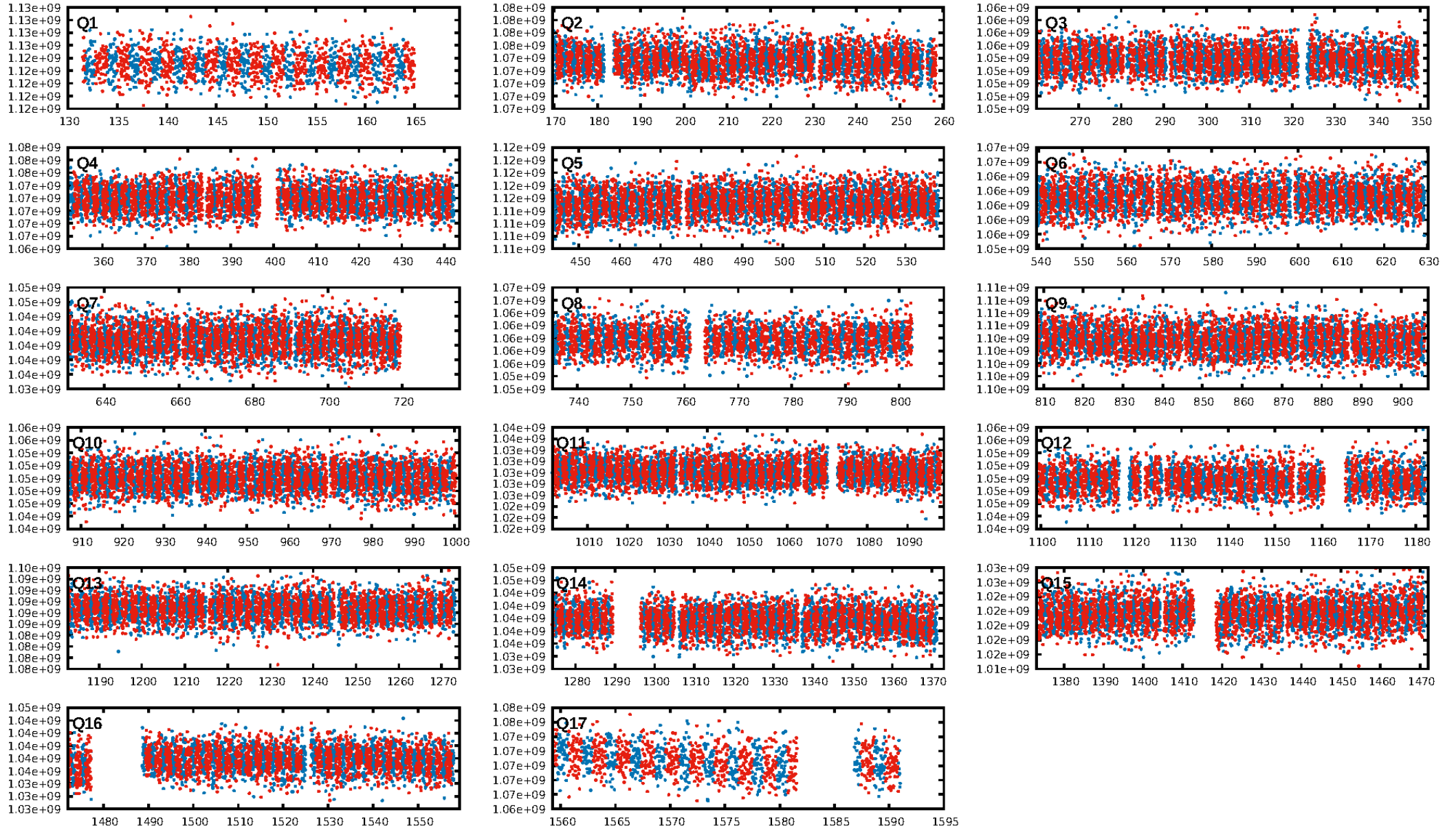
KIC: 8149341 Candidate: 2 of 2 Period: 2.228 d



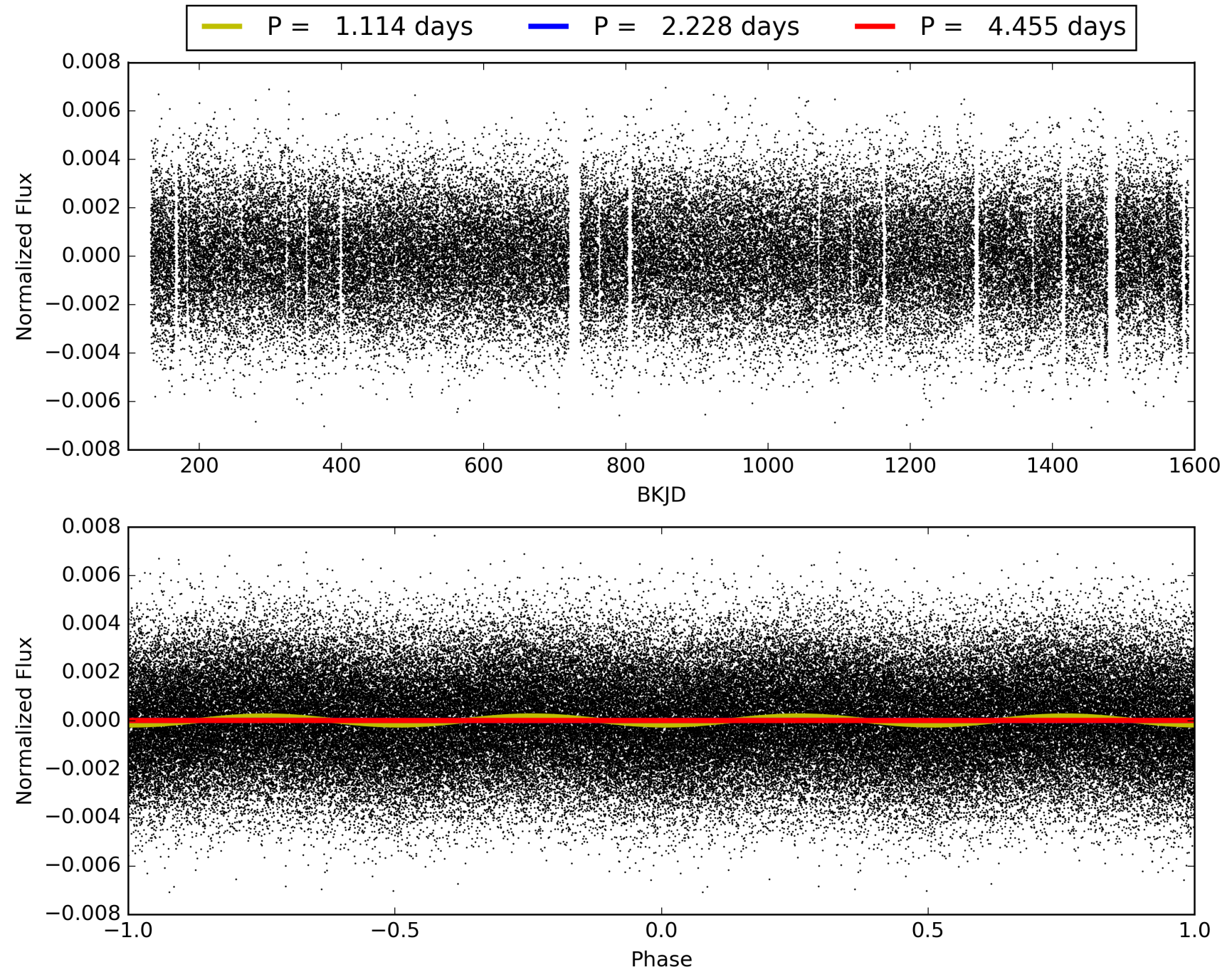
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 21:27:13 Z

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

TCE 008149341-02, PDC Light Curves

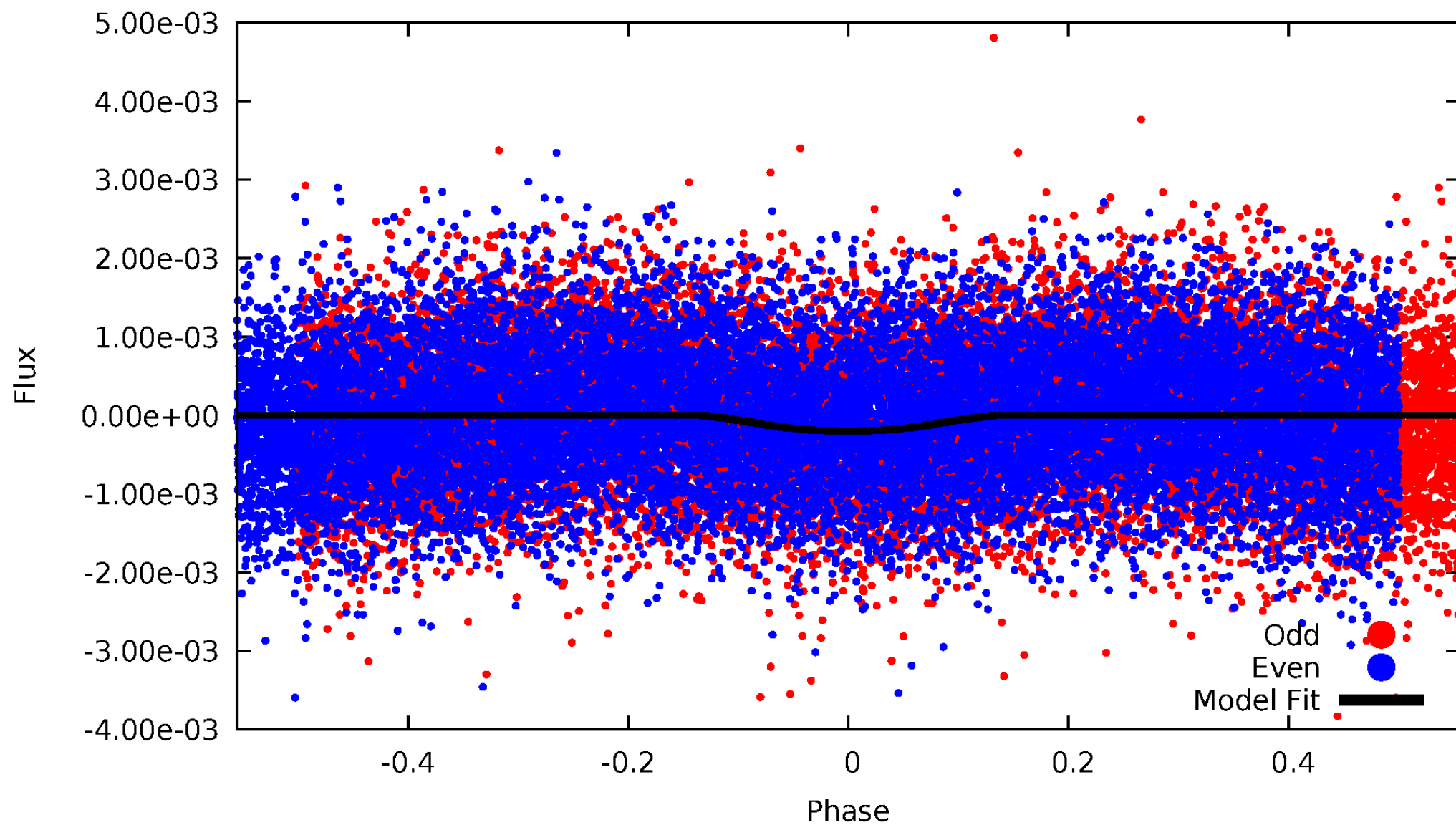


TCE 008149341-02



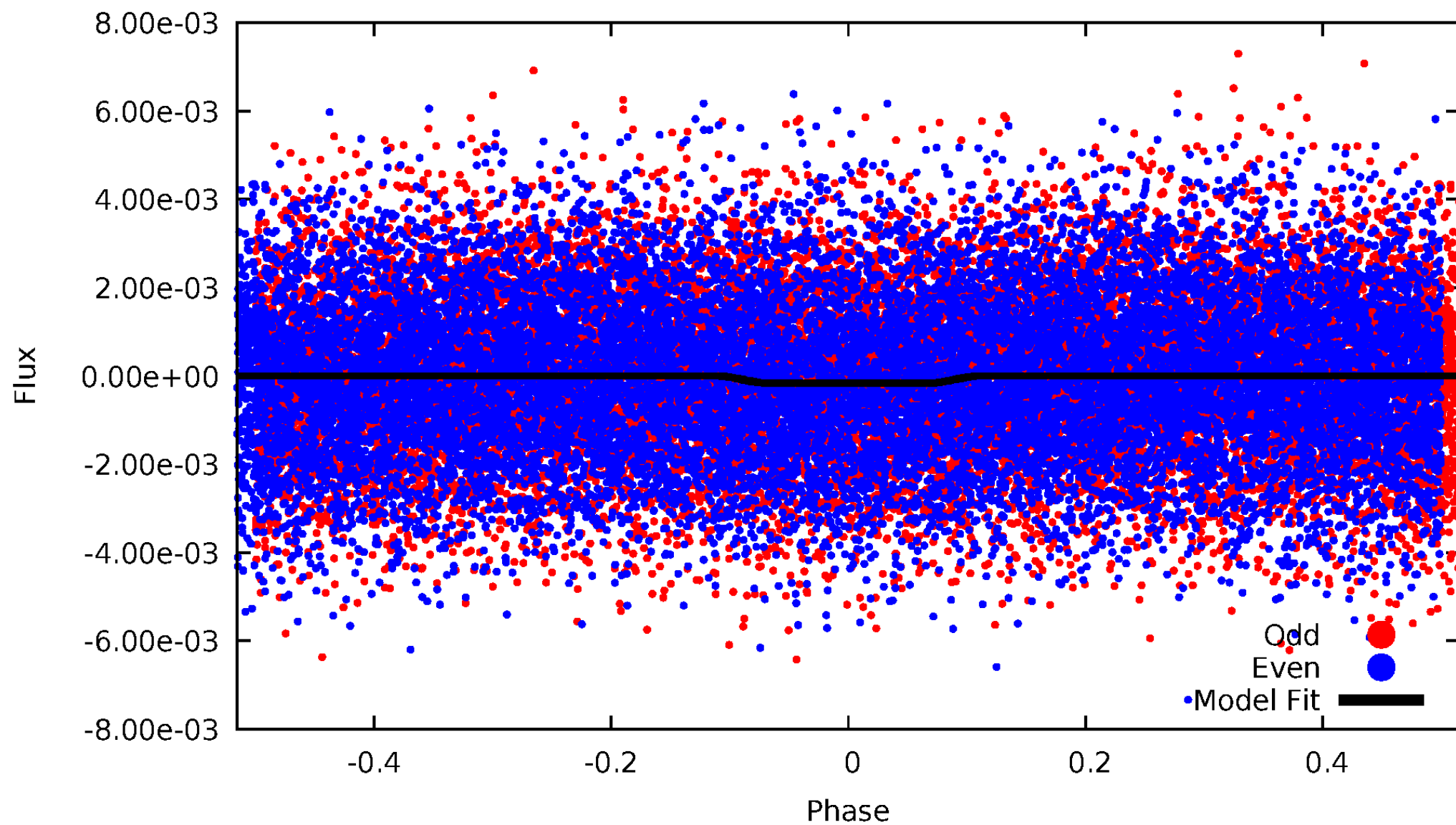
DV Odd/Even

TCE 008149341-02



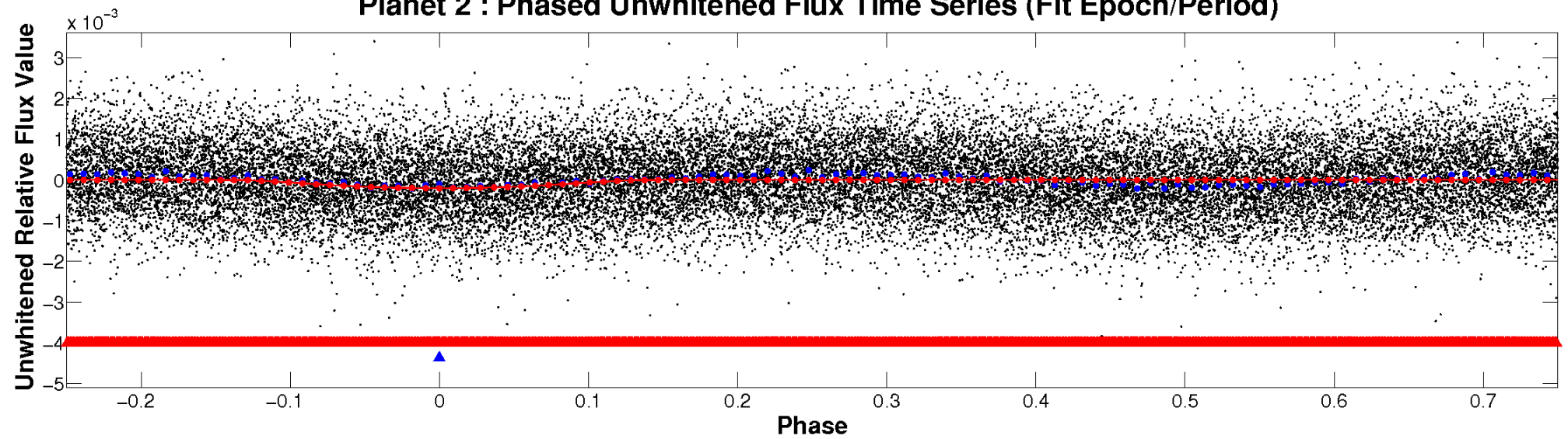
ALT Odd/Even

TCE 008149341-02

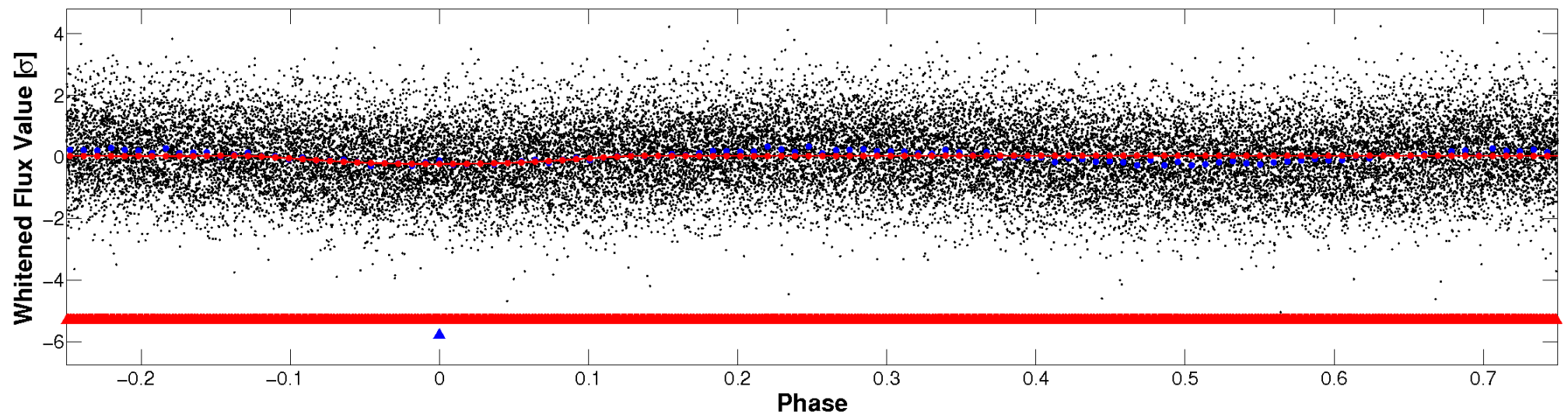


Non-Whitened Vs. Whitened Light Curve

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

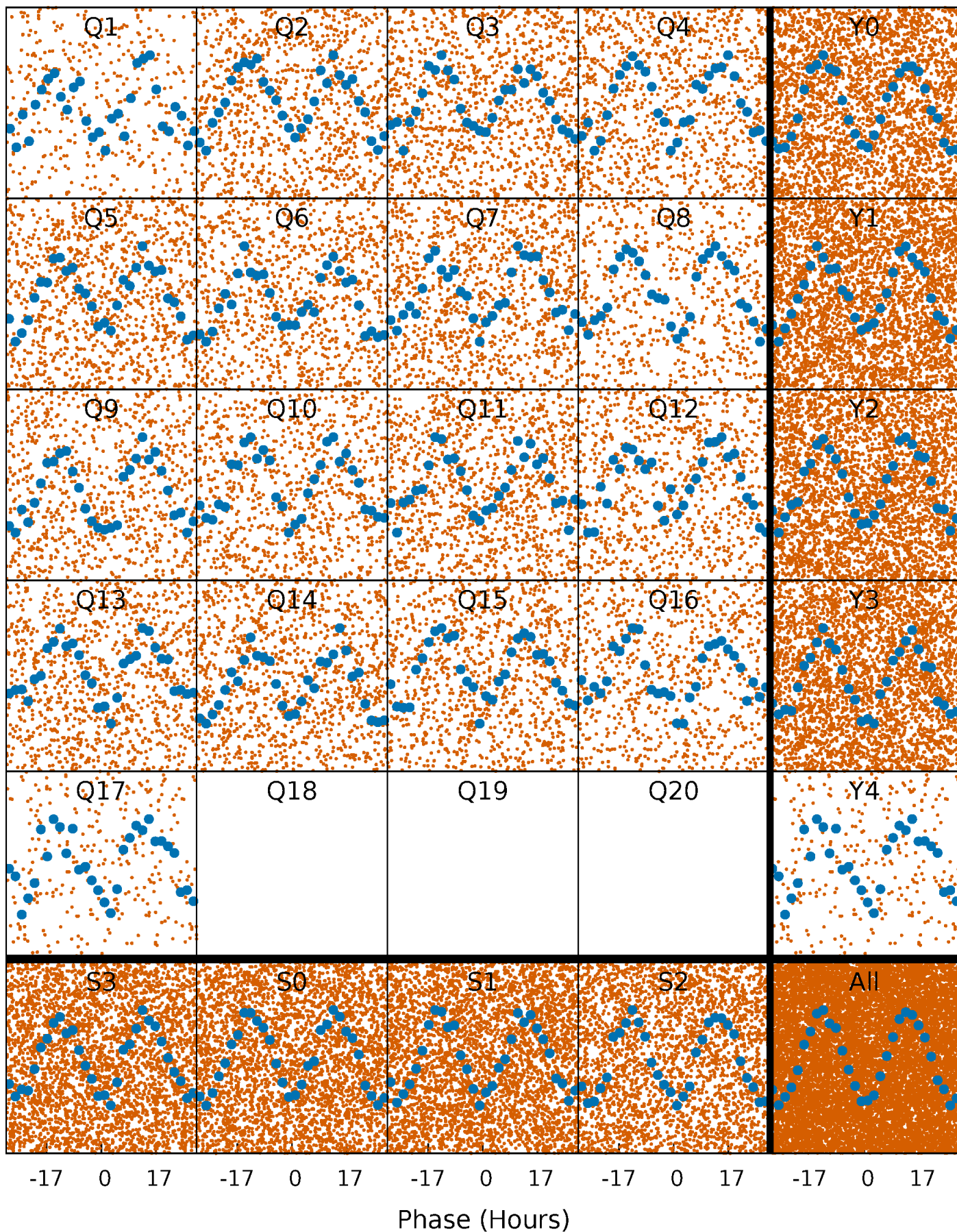


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



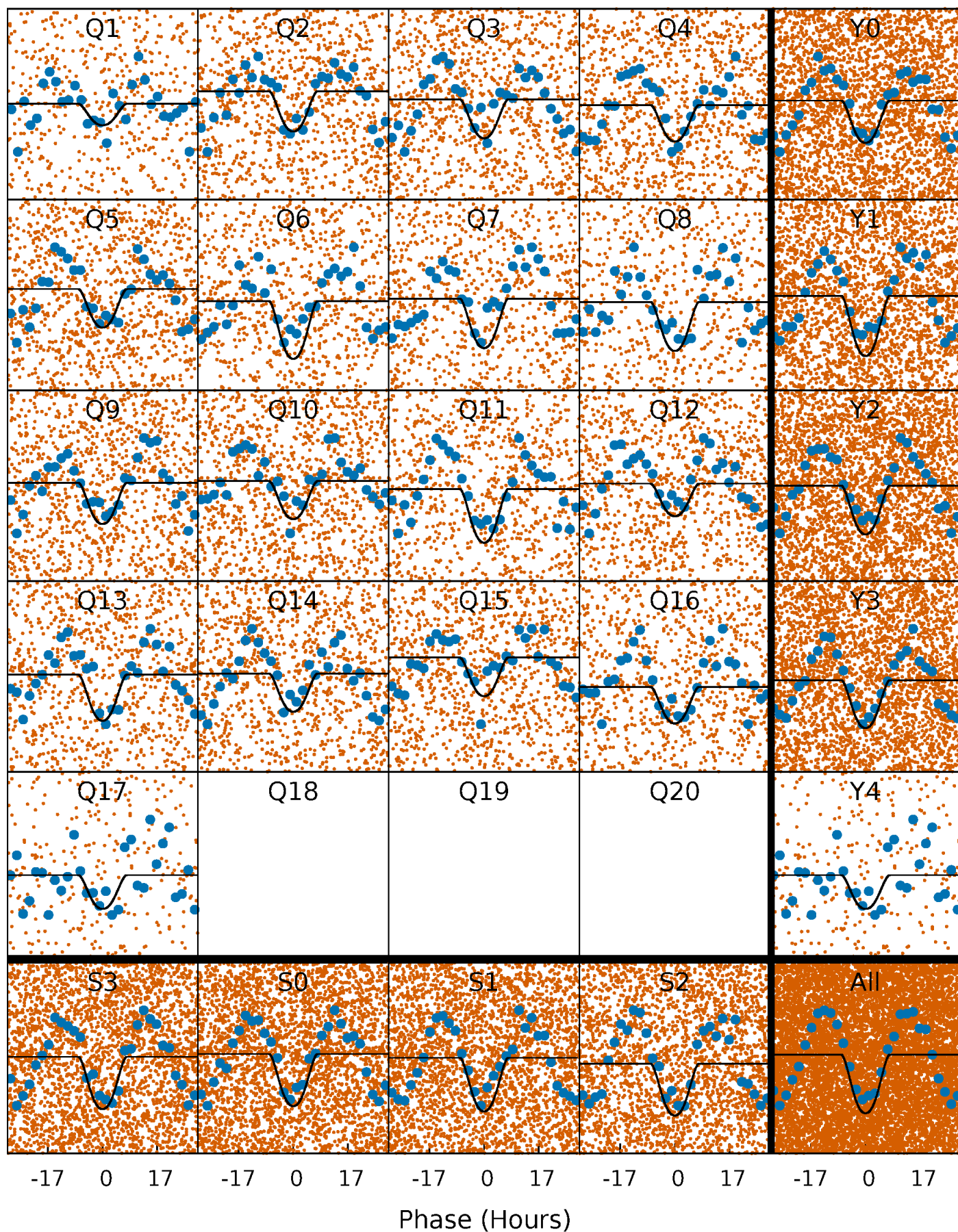
PDC Quarter-Phased Transit Curves

TCE 008149341-02 P= 2.227636 Days $T_0=133.365584$ (BKJD)



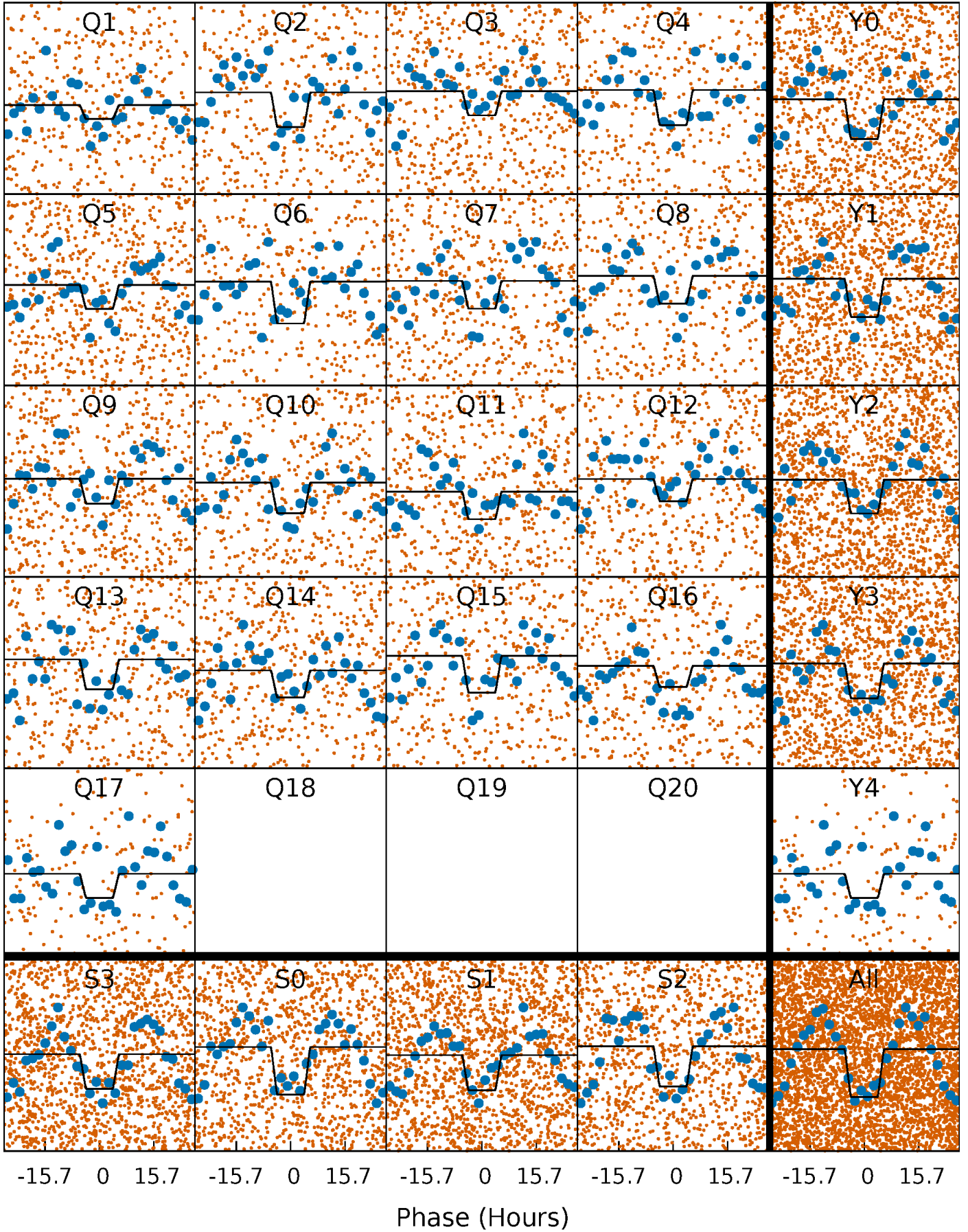
DV Quarter-Phased Transit Curves

TCE 008149341-02 P= 2.227636 Days $T_0=133.365584$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

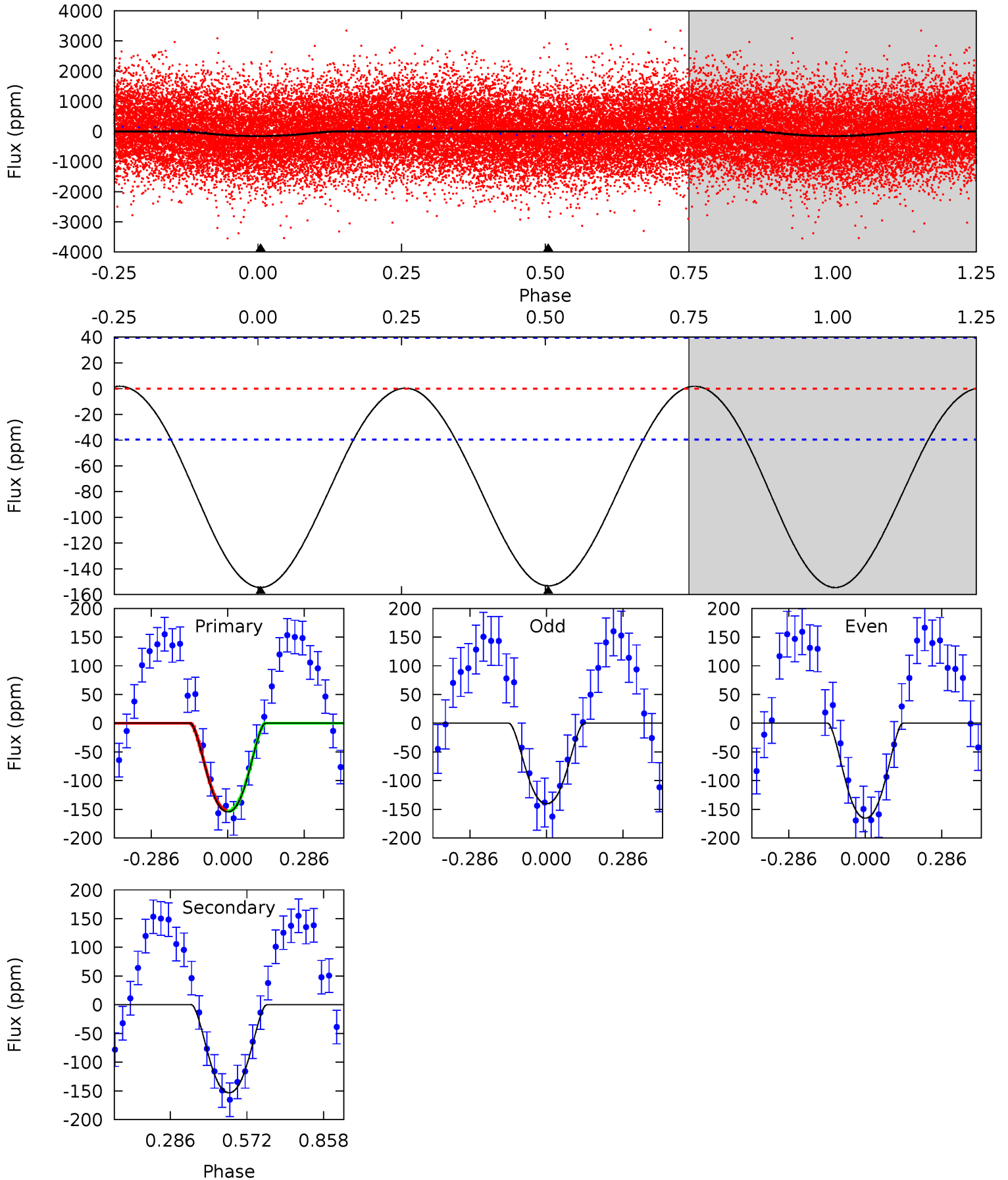
TCE 008149341-02 P= 2.227607 Days $T_0=133.385490$ (BKJD)



DV Model-Shift Uniqueness Test

008149341-02, P = 2.227636 Days, E = 131.137948 Days

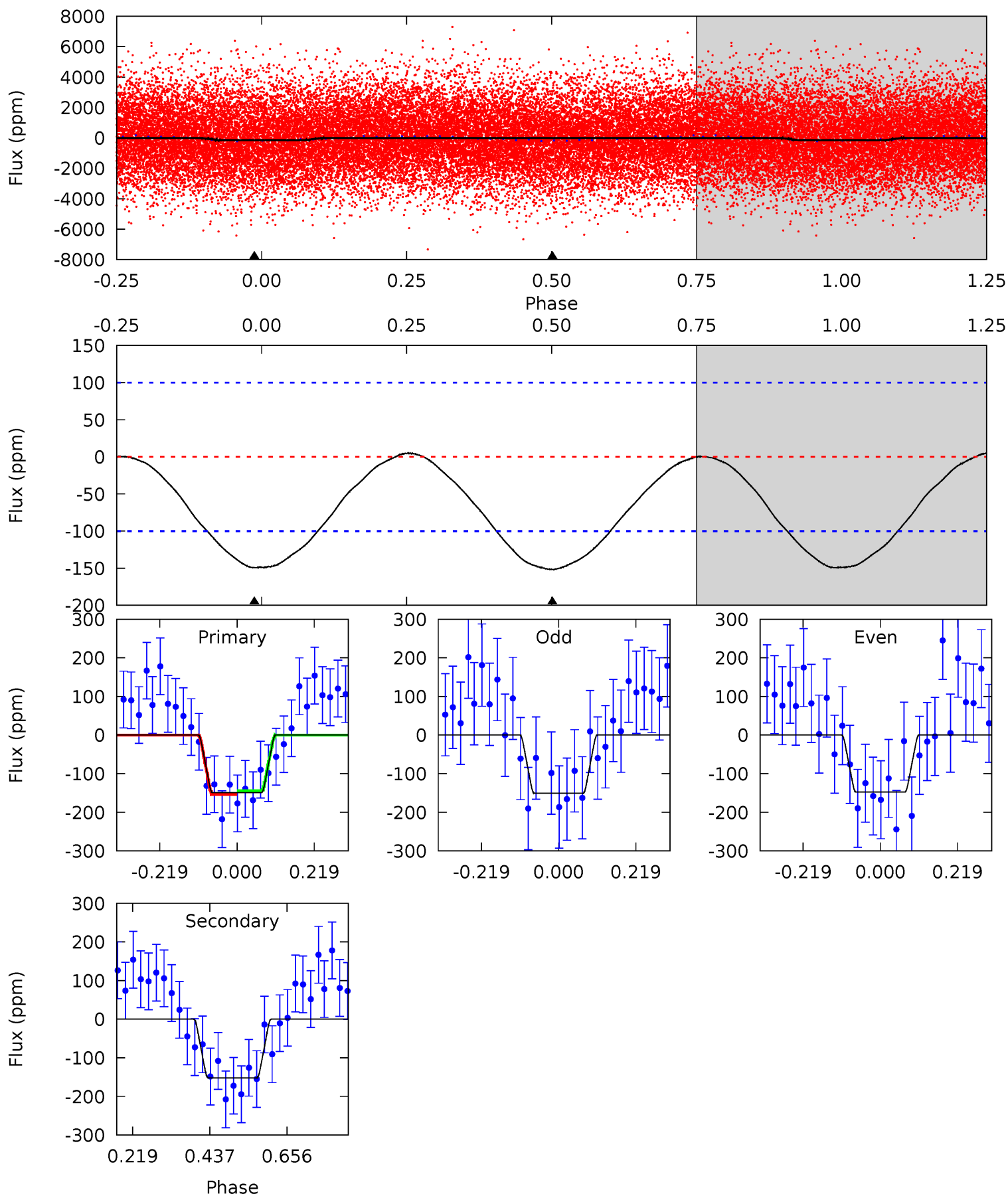
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	16.8	0	0	4.34	1.07	0.15	17.0	17.0	16.8	16.8	1.39	0.95	0.01	0.06



Alt Model-Shift Uniqueness Test

008149341-02, P = 2.227607 Days, E = 131.157883 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.56	6.67	0	0	4.40	1.23	0.17	6.56	6.56	6.67	6.67	0.07	1.73	0.03	0.21



Stellar Parameters For KIC 008149341

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7783^{+214}_{-349}	$4.003^{+0.198}_{-0.149}$	$0.020^{+0.200}_{-0.350}$	$2.234^{+0.498}_{-0.609}$	$1.830^{+0.121}_{-0.363}$	$0.231^{+0.264}_{-0.091}$
	+3%/-4%	+5%/-4%	+1000%/-1750%	+22%/-27%	+7%/-20%	+114%/-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 008149341-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-153 ± 9	$4.13^{+1.32}_{-1.01}$	3508^{+272}_{-275}	6267^{+1067}_{-701}	$8.126^{+5.822}_{-3.393}$
Alt.	-152 ± 23	$2.97^{+1.15}_{-0.99}$	3508^{+252}_{-260}	7498^{+2375}_{-1113}	15^{+19}_{-7}

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

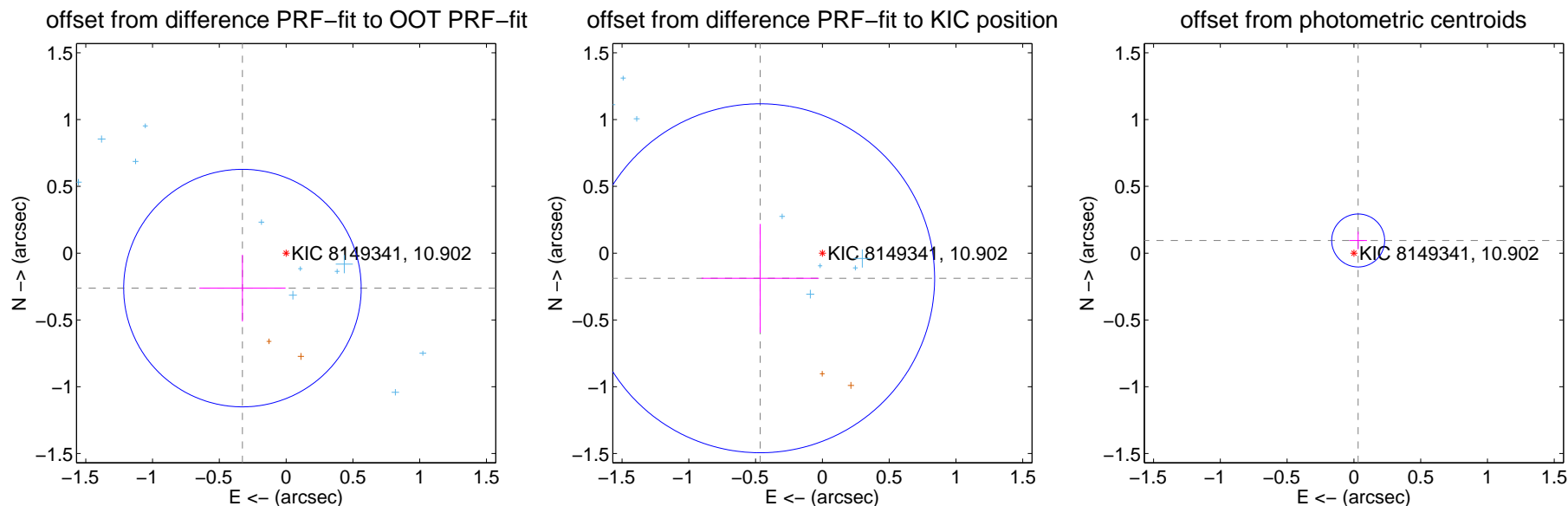
DV Centroid Data

Supplemental centroid analysis for 008149341-02. **Kepler magnitude: 10.90.** Transit SNR 14.30

There are 15 quarters with good PRF difference image offsets

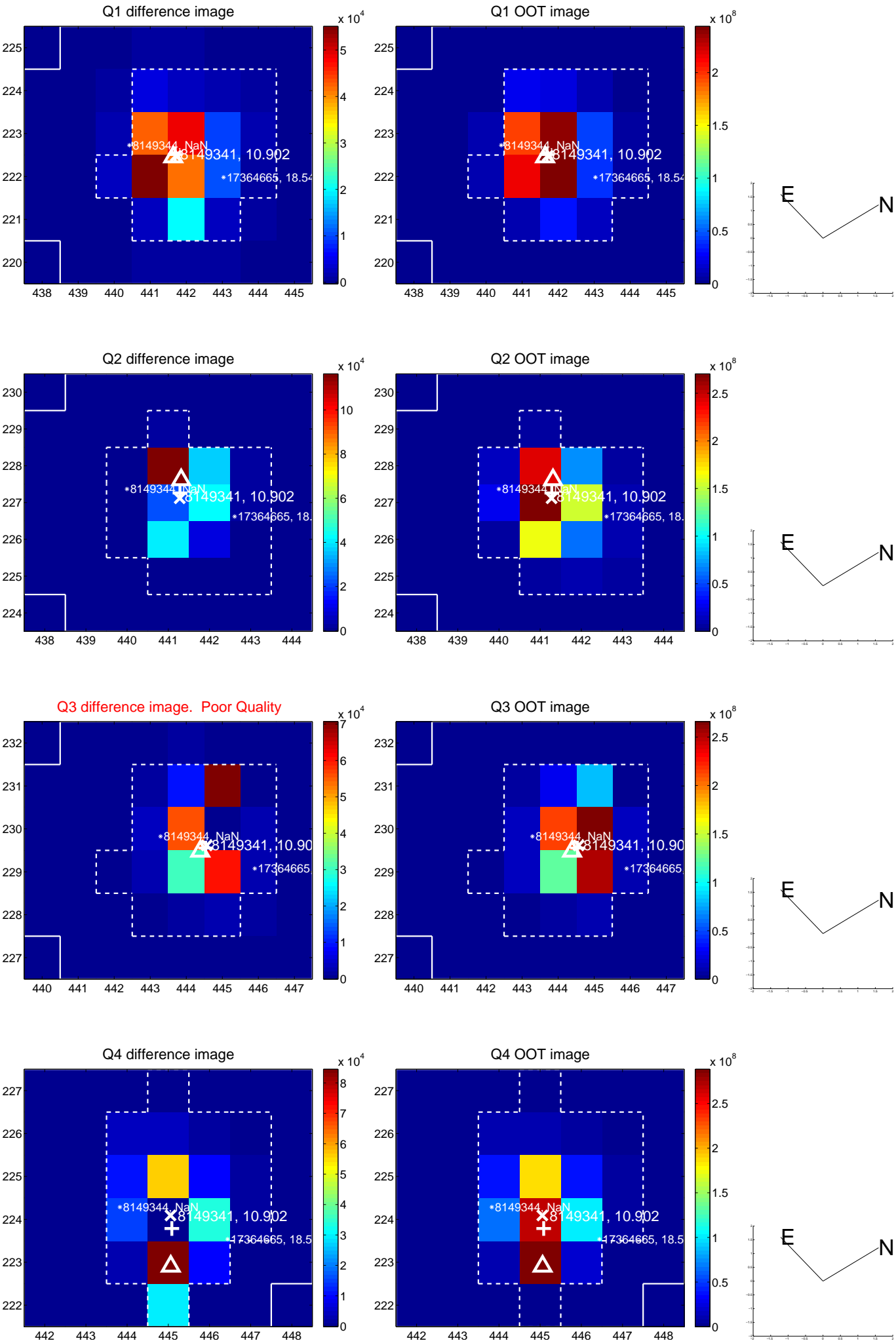
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.419 ± 0.296	1.41	0.327 ± 0.323	-0.262 ± 0.250
PRF-fit source offset from KIC position	0.503 ± 0.435	1.15	0.466 ± 0.440	-0.188 ± 0.407
photometric centroid source offset	0.10 ± 0.07	1.52	-0.03 ± 0.07	0.09 ± 0.07

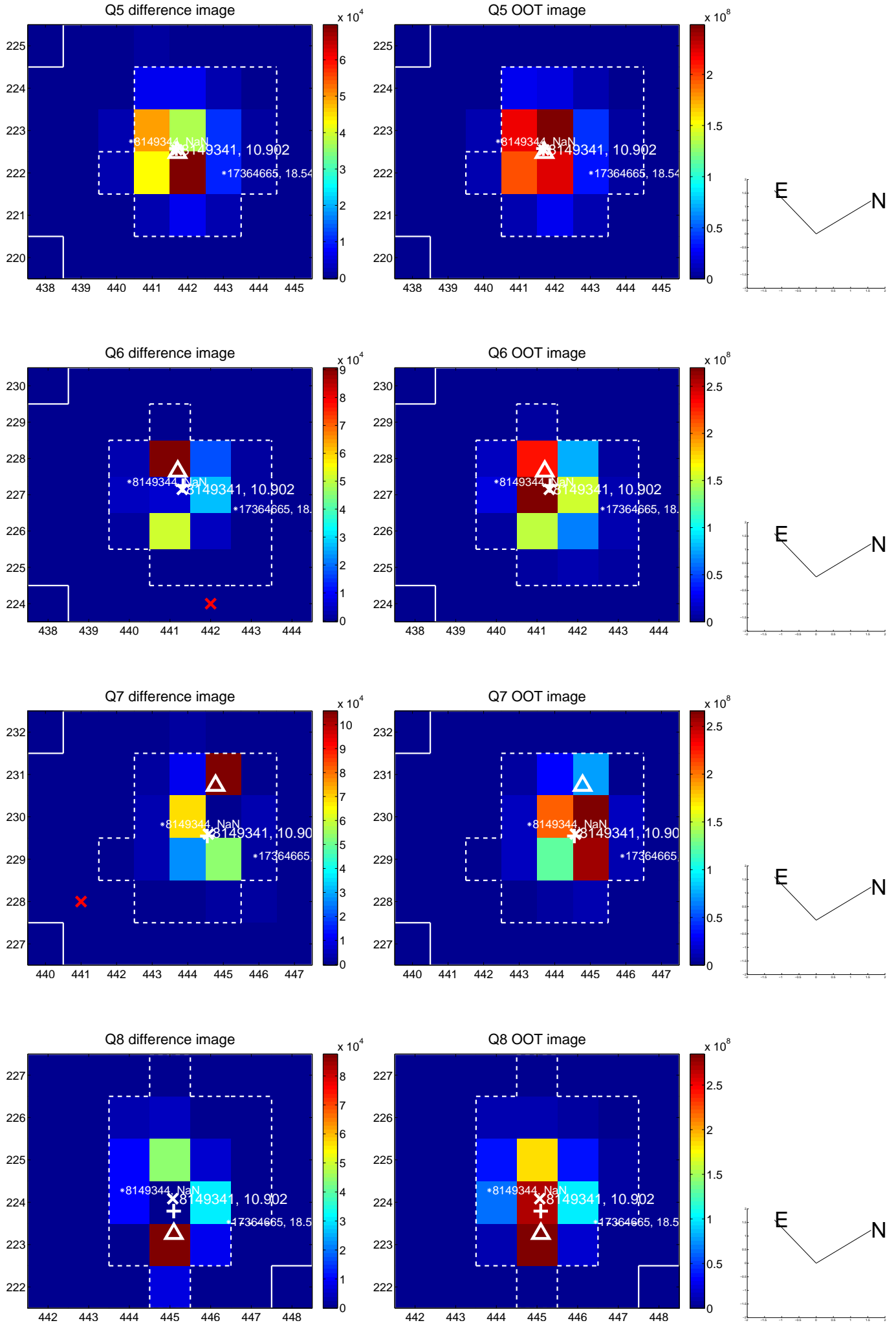


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

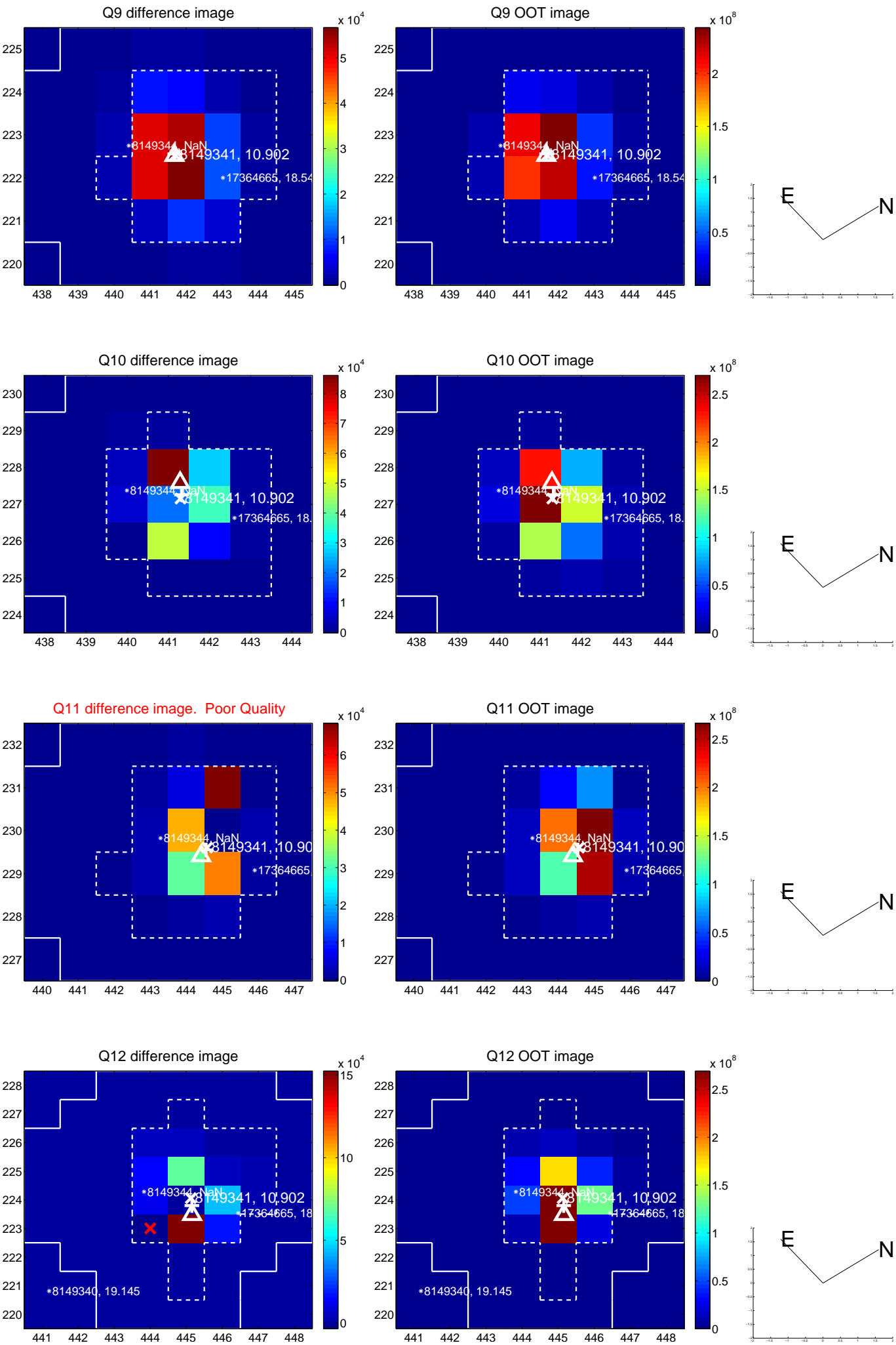
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



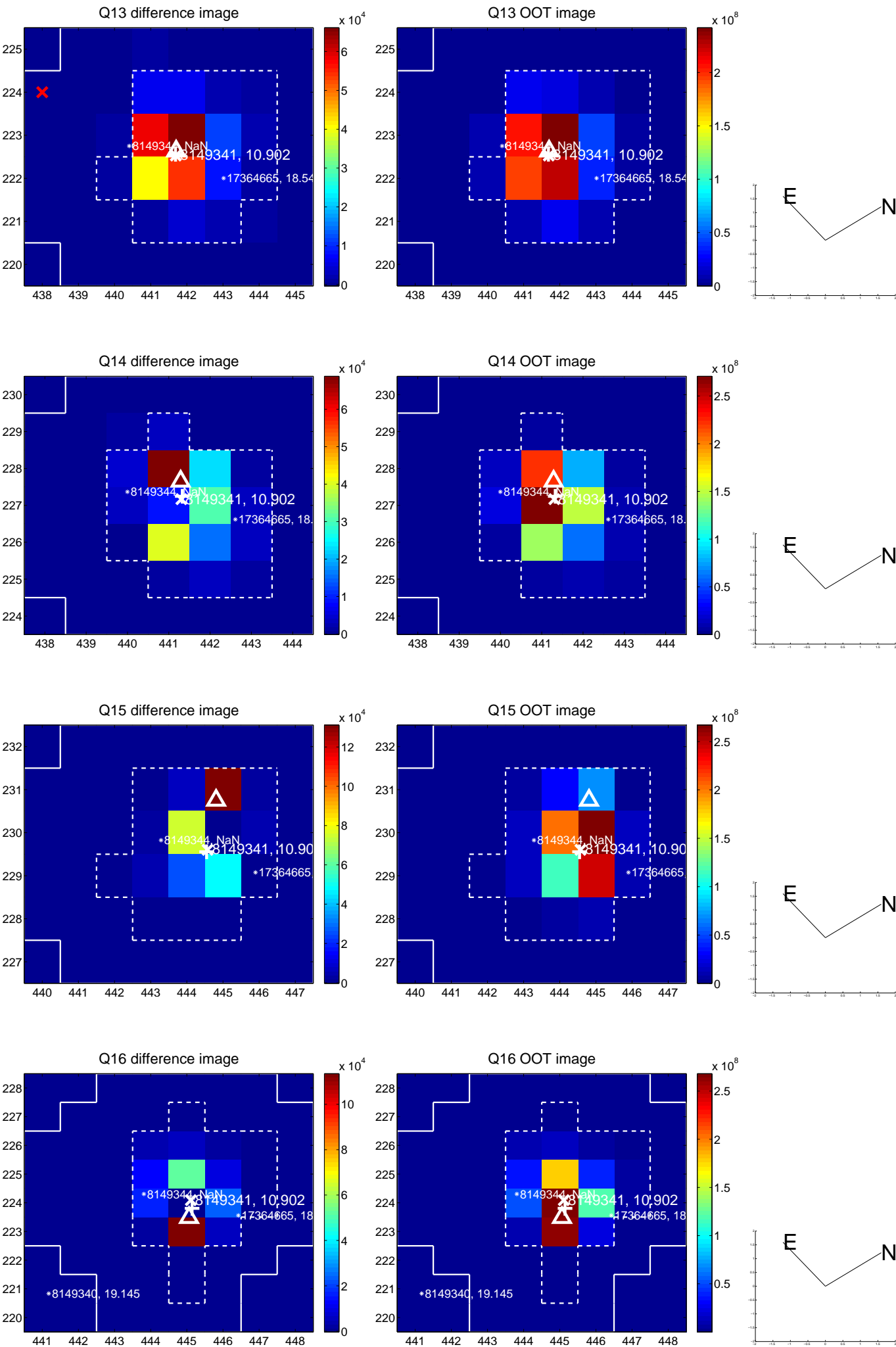
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



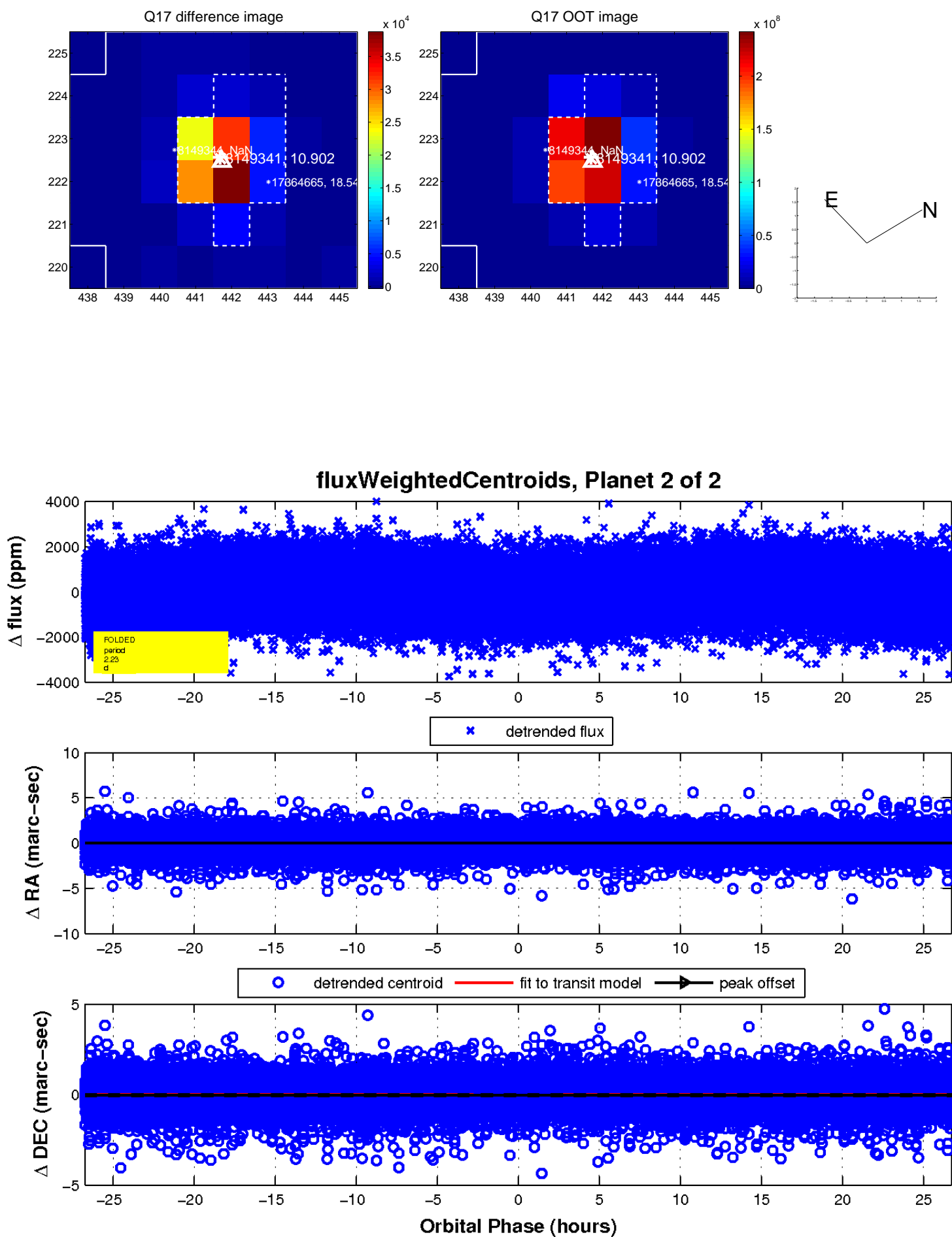
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

