

KIC 005007345

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})
005007345-01	OBS	2406.01	7.010712	138.405655	217.3	2.197	18.5	20.7	2.48	5814	4.21	1055.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005007345-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

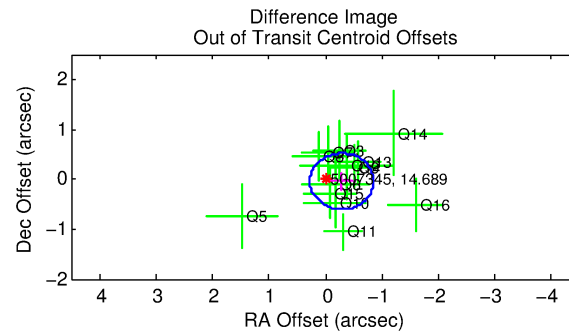
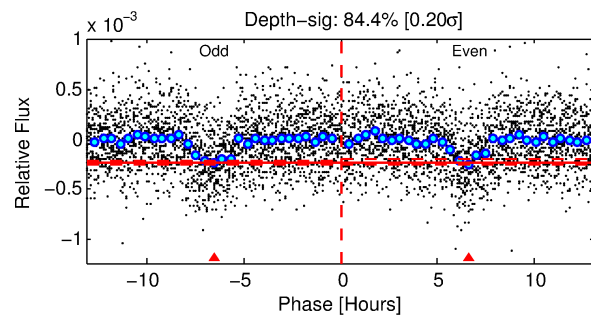
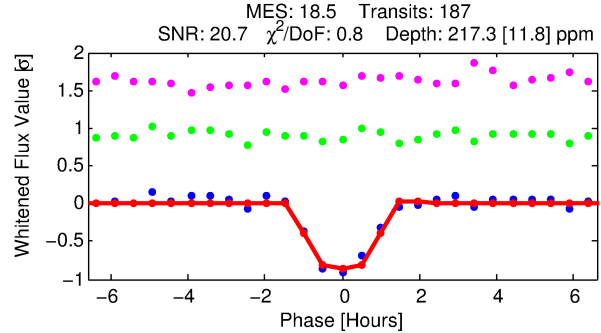
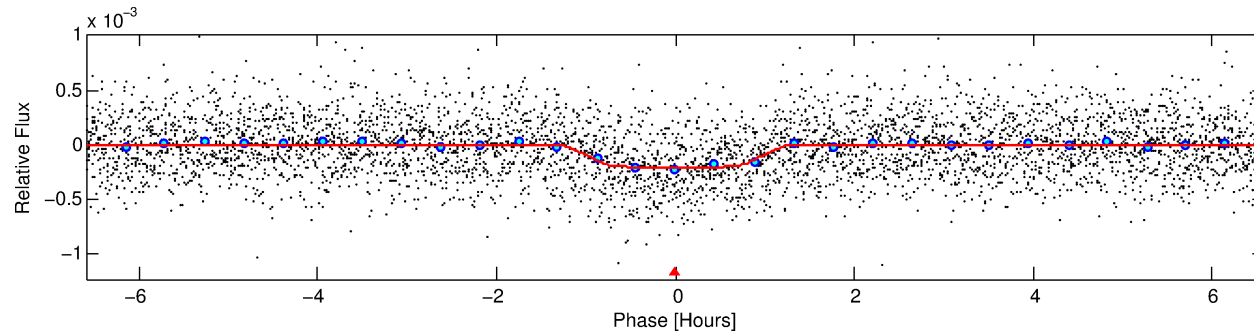
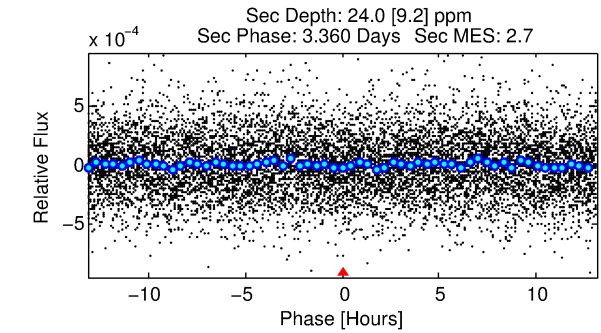
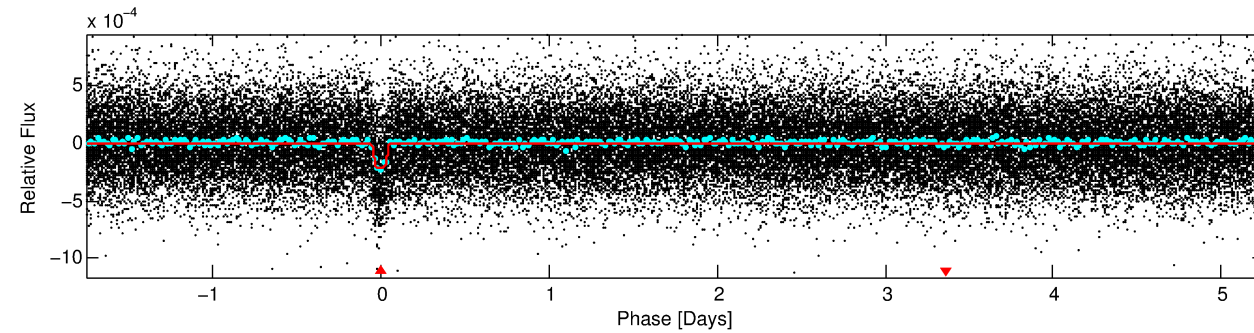
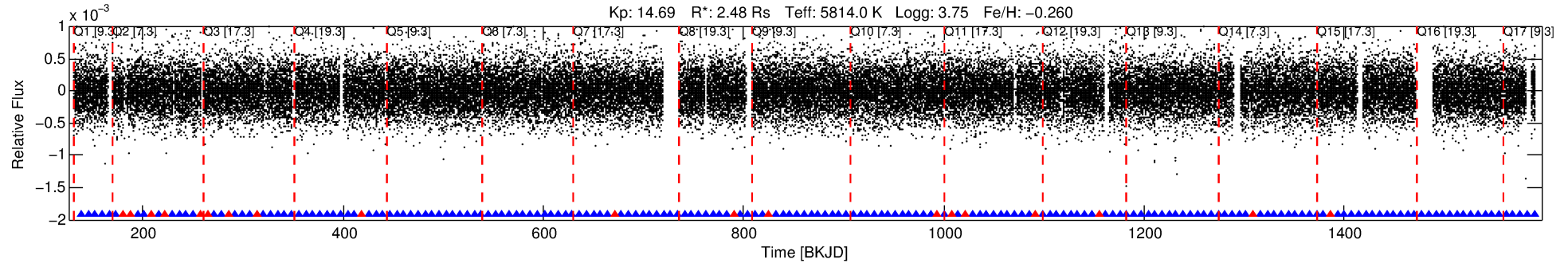
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005007345-01

No Significant Match Found

DV One-Page Summary

KIC: 5007345 Candidate: 1 of 1 Period: 7.011 d
KOI: K02406.01 Corr: 0.974



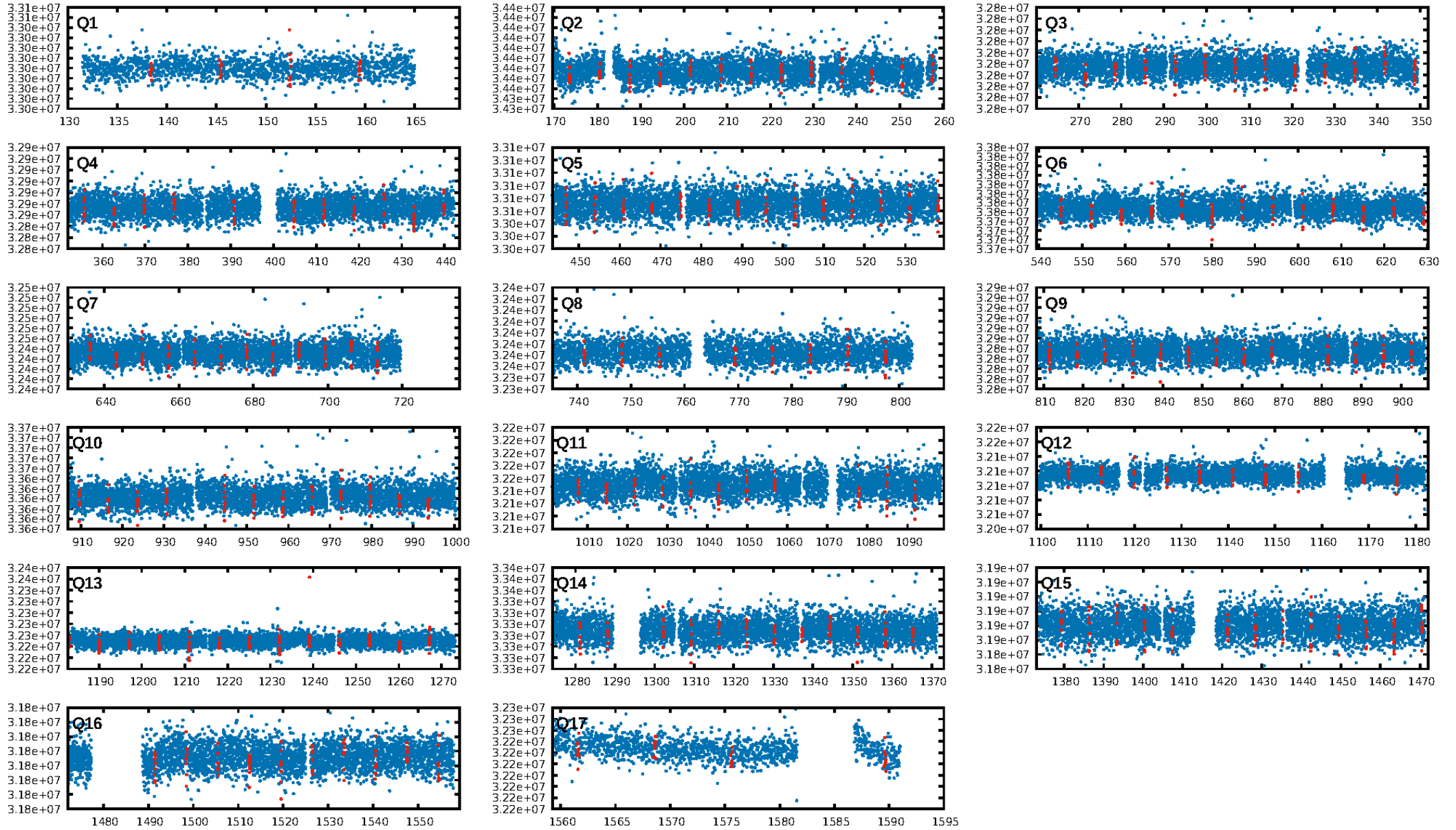
DV Fit Results:

Period = 7.01071 [0.00002] d
Epoch = 138.4057 [0.0024] BKJD
Rp/R* = 0.0156 [0.0059]
a/R* = 12.82 [23.65]
b = 0.87 [0.53]
Seff = 1055.87 [425.80]
Teff = 1454 [147] K
Rp = 4.21 [2.04] Re
a = 0.0771 [0.0204] AU
Ag = 4.42 [4.13] [0.83σ]
Teffp = 3258 [690] K [2.56σ]

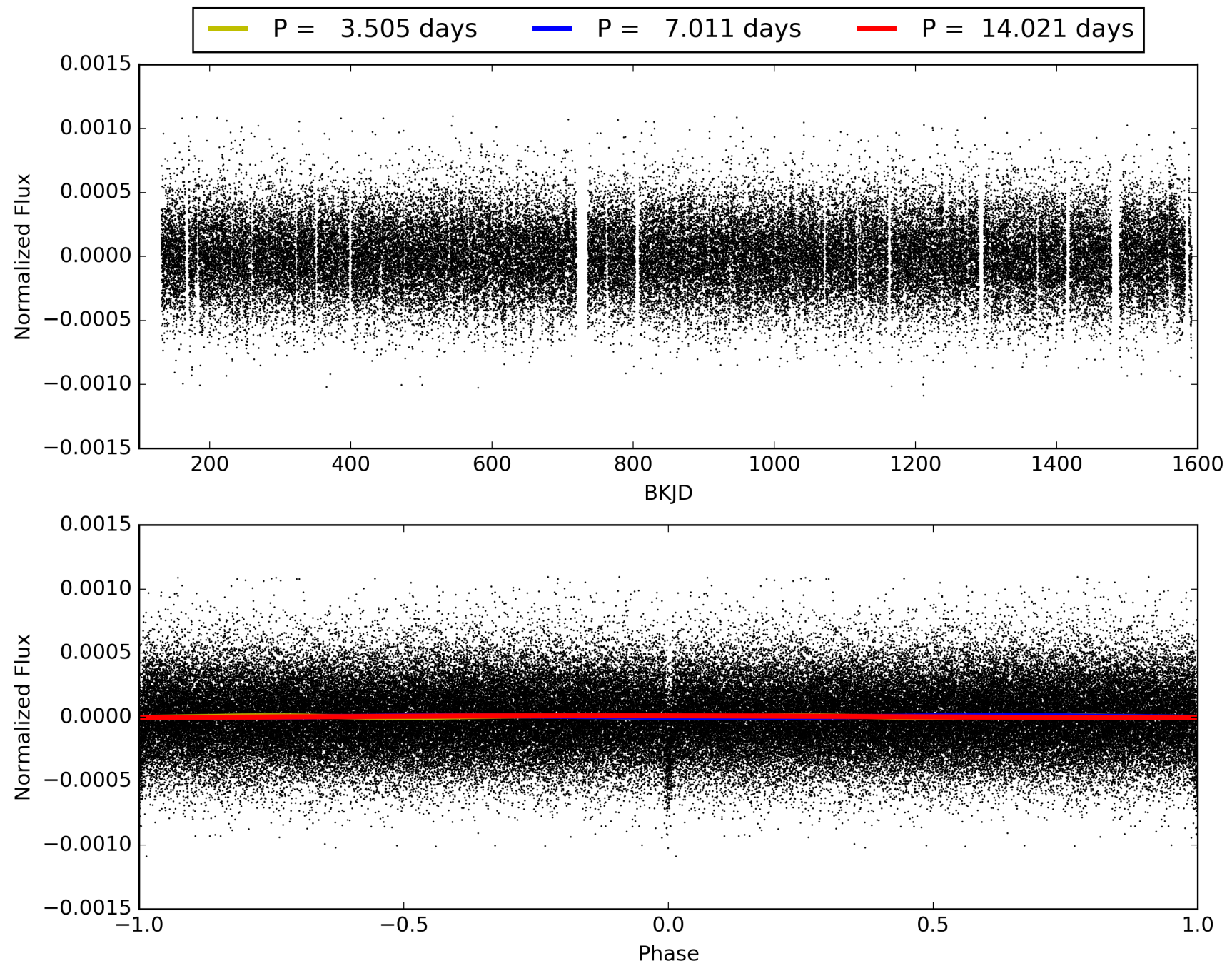
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.64e-74
RollingBand-fgt: 0.89 [160/179]
GhostDiagnostic-chr: 3.274
Centroid-sig: 0.0%
Centroid-so: 1.315 arcsec [2.08σ]
OotOffset-rm: 0.288 arcsec [1.54σ]
KicOffset-rm: 0.227 arcsec [1.11σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005007345-01, PDC Light Curves

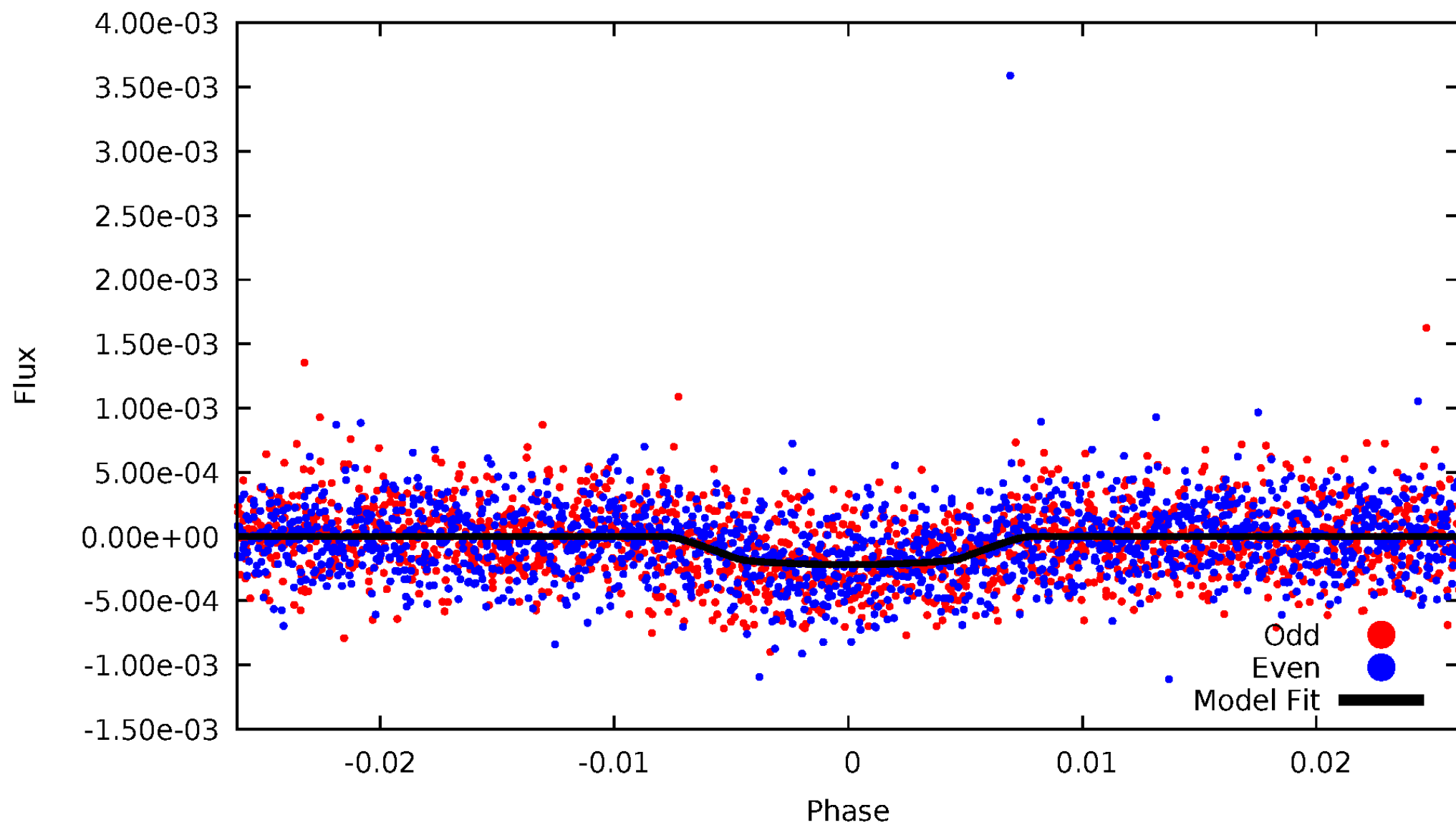


TCE 005007345-01



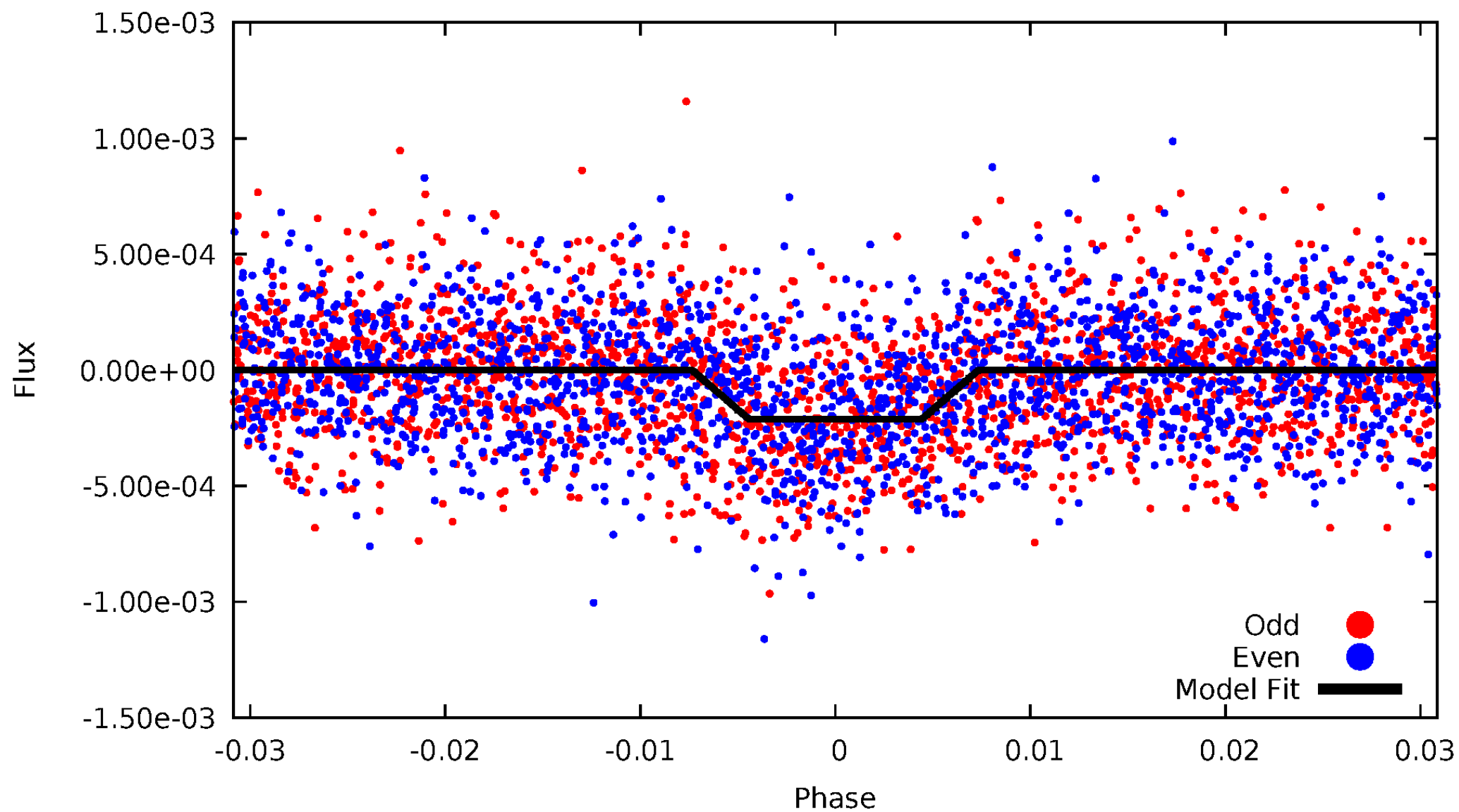
DV Odd/Even

TCE 005007345-01



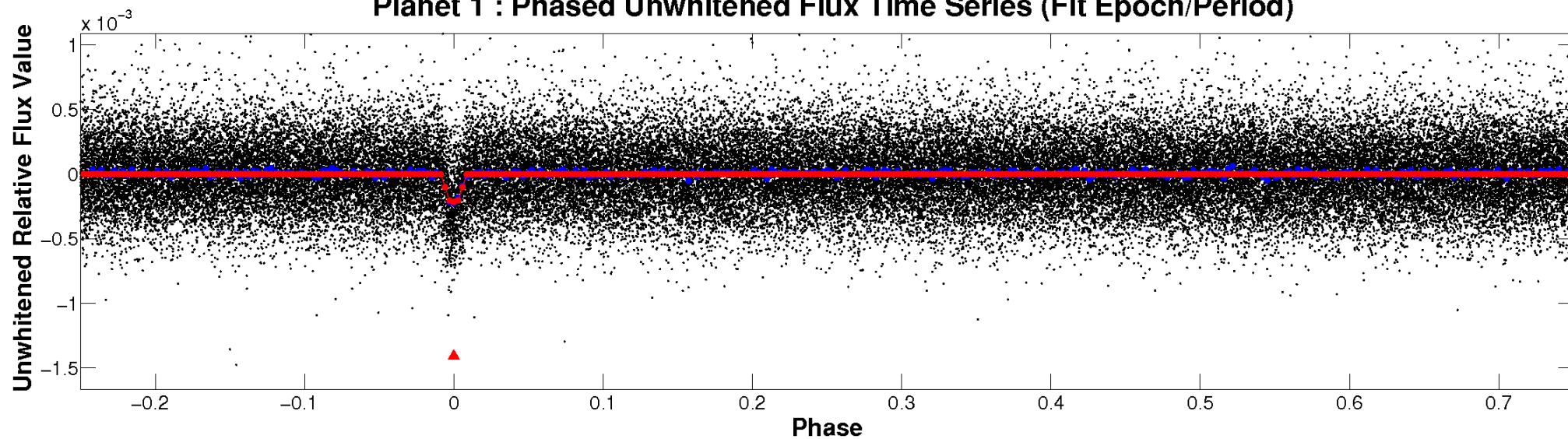
ALT Odd/Even

TCE 005007345-01

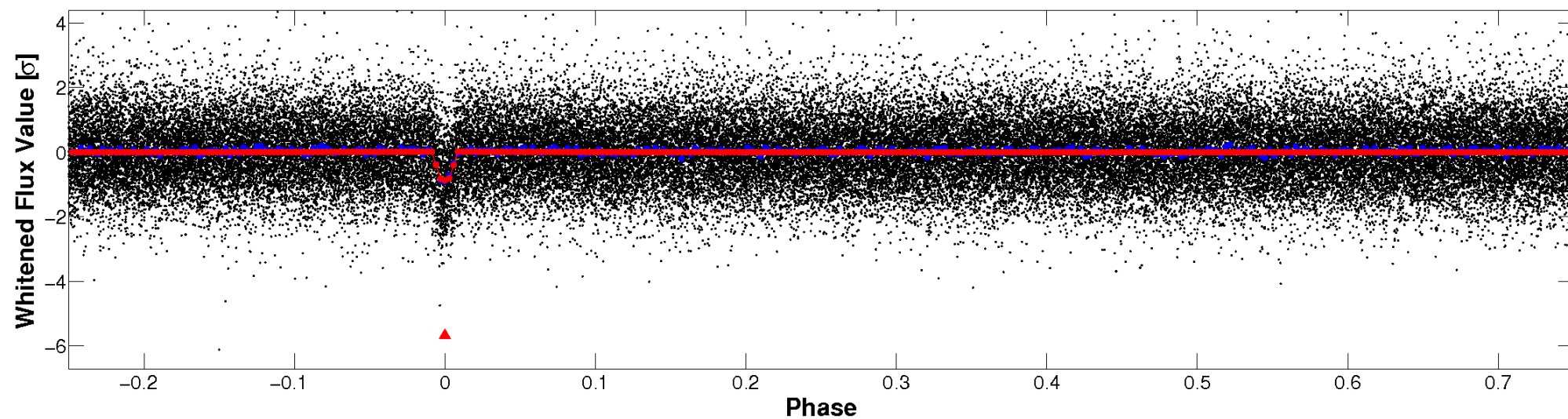


Non-Whitened Vs. Whitened Light Curve

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

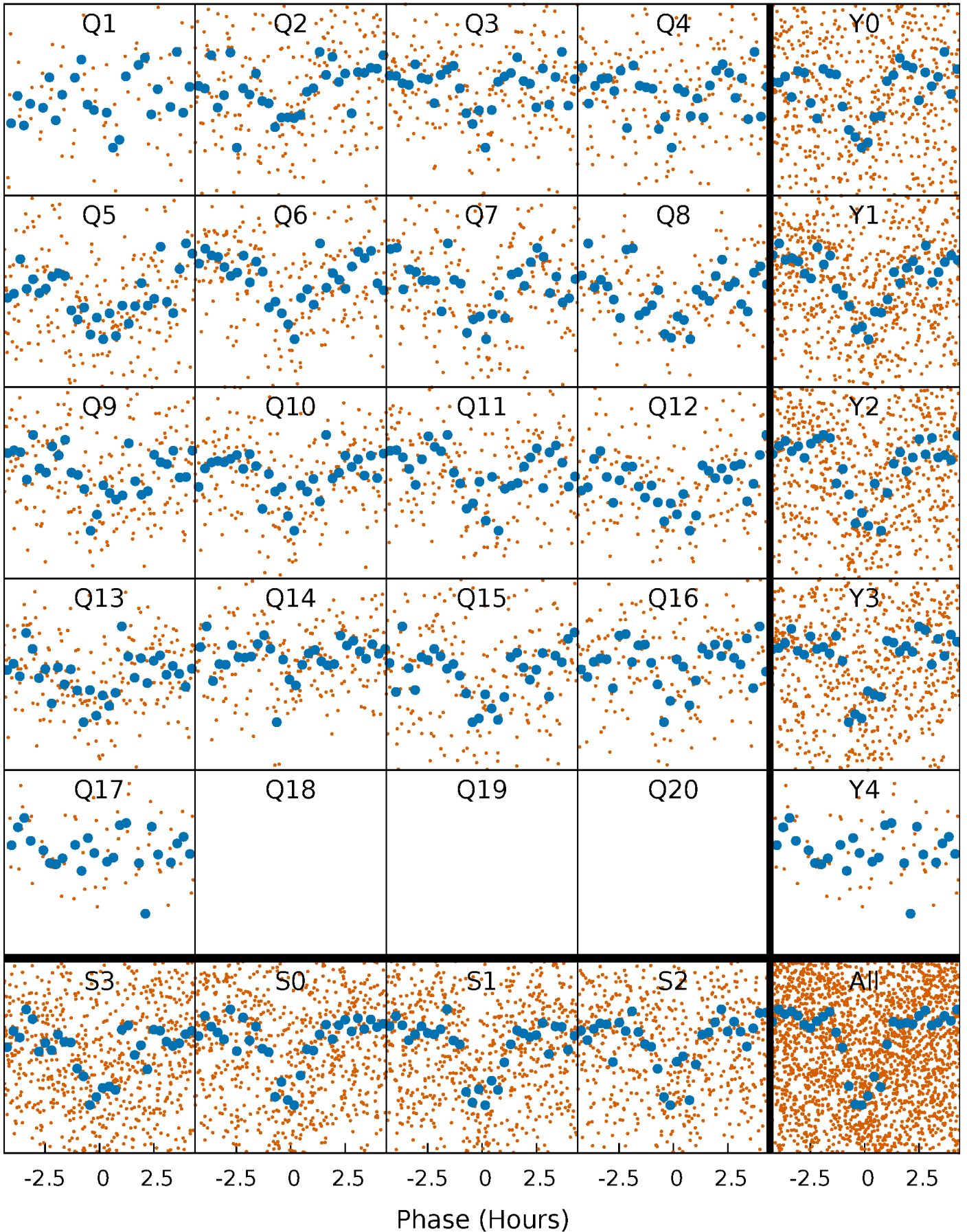


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



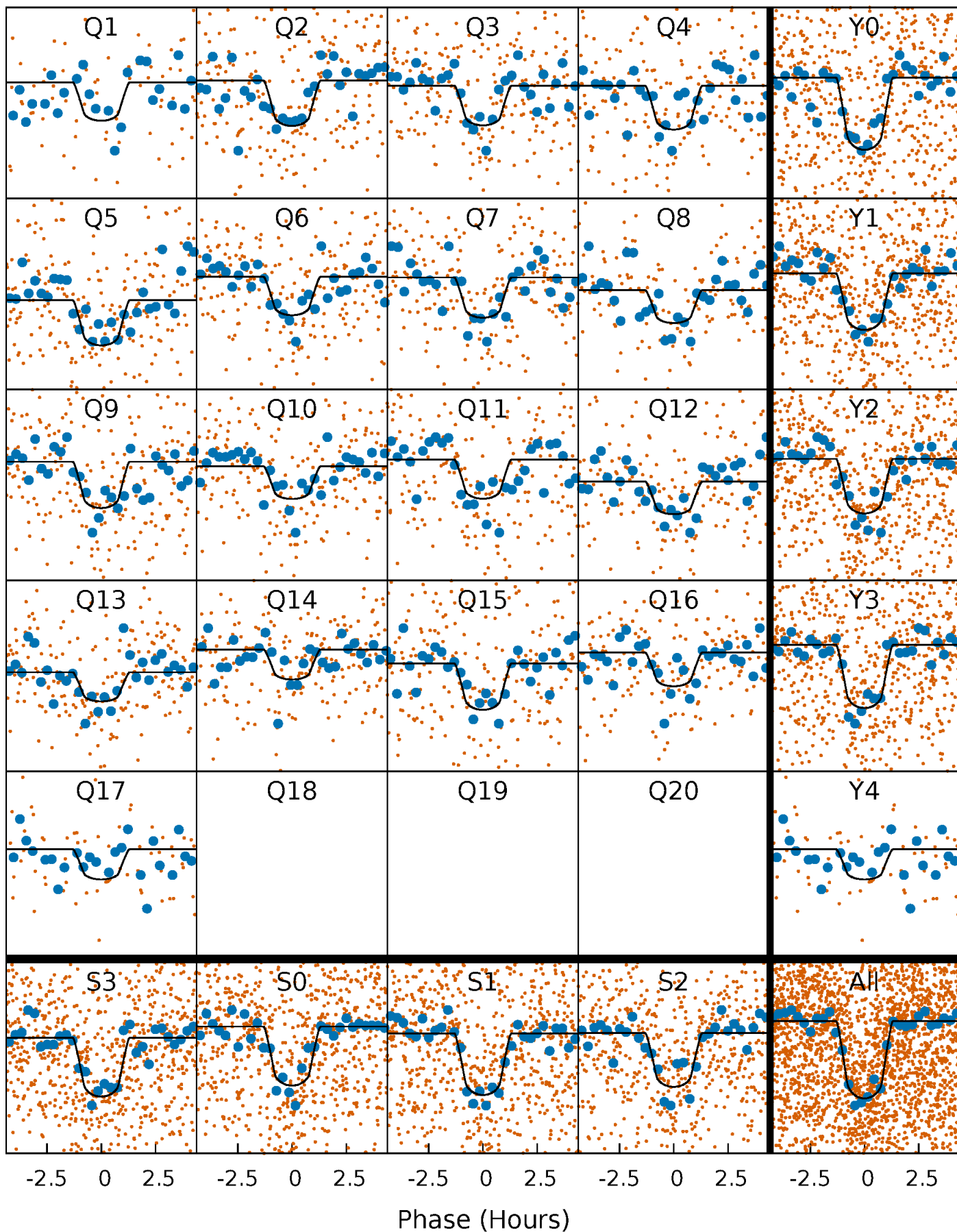
PDC Quarter-Phased Transit Curves

TCE 005007345-01 P= 7.010712 Days $T_0=138.405655$ (BKJD)



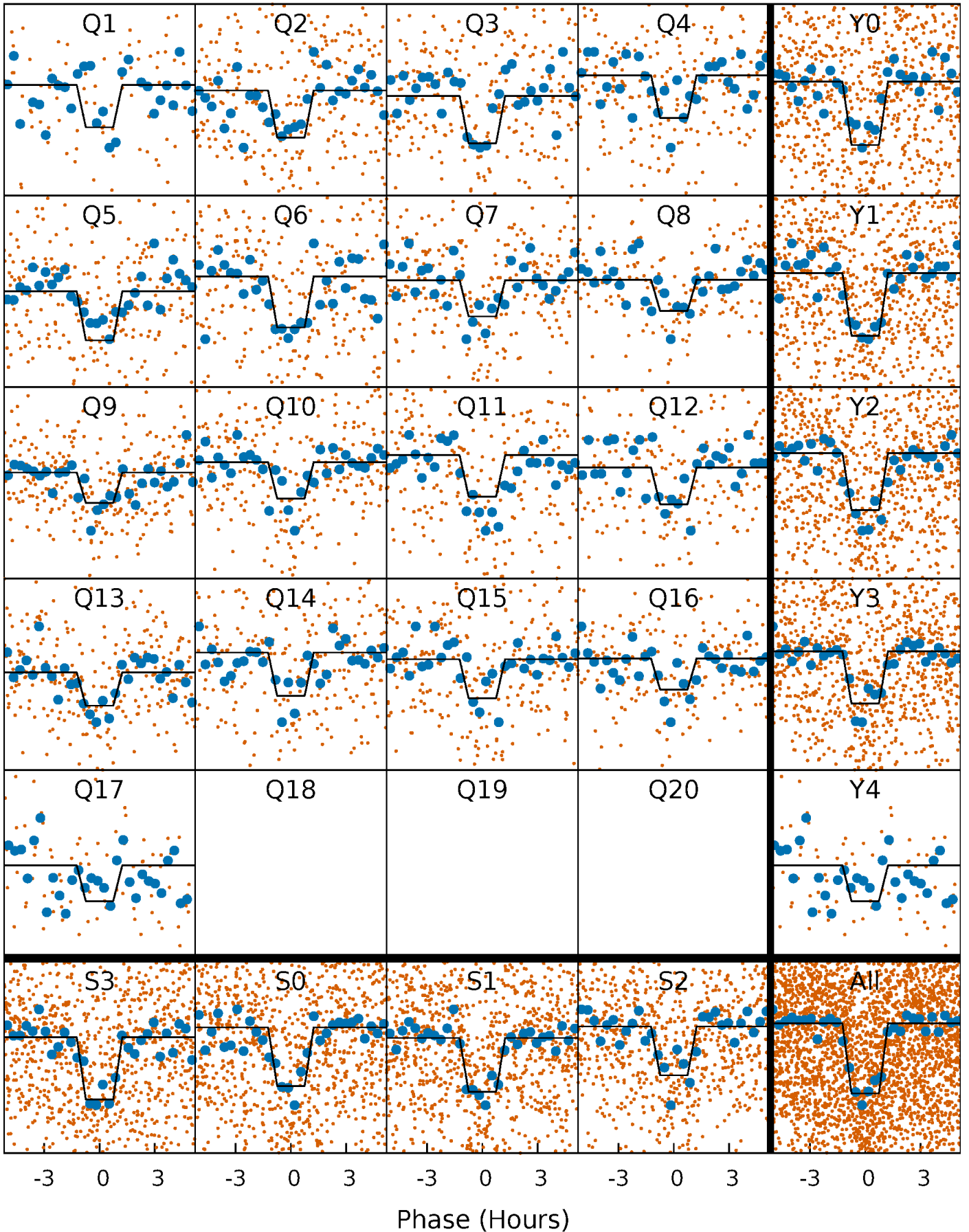
DV Quarter-Phased Transit Curves

TCE 005007345-01 P= 7.010712 Days $T_0=138.405655$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

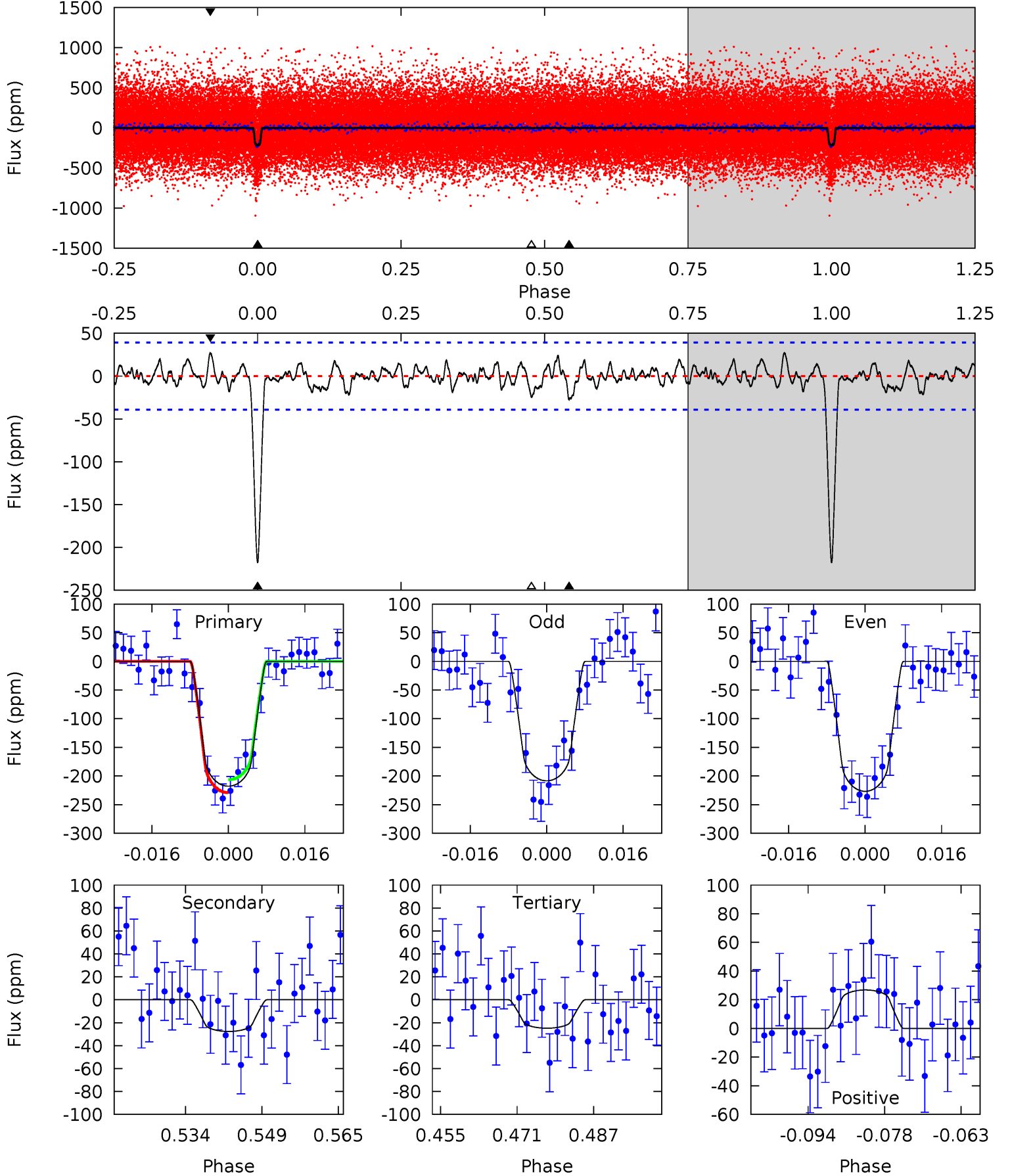
TCE 005007345-01 P= 7.010687 Days $T_0=138.408352$ (BKJD)



DV Model-Shift Uniqueness Test

005007345-01, P = 7.010712 Days, E = 131.394943 Days

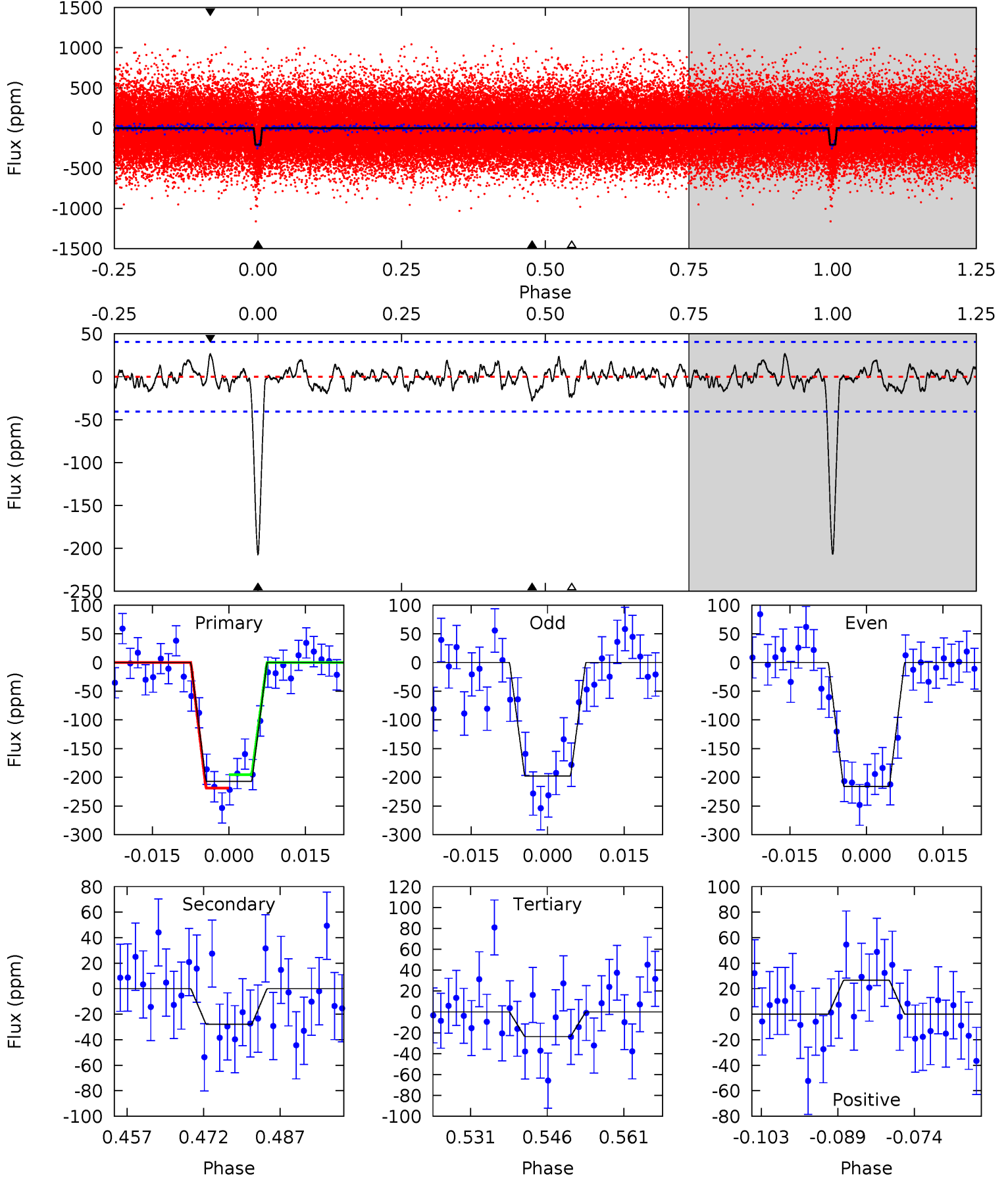
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.5	3.49	3.13	3.39	4.94	2.42	1.11	24.3	24.1	0.36	0.10	1.16	1.04	0.11	1.43



Alt Model-Shift Uniqueness Test

005007345-01, P = 7.010687 Days, E = 131.397665 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.3	3.40	2.89	3.25	4.95	2.44	1.03	22.4	22.0	0.51	0.15	1.10	1.04	0.11	1.44



Stellar Parameters For KIC 005007345

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5814^{+78}_{-78}	$3.745^{+0.225}_{-0.090}$	$-0.260^{+0.150}_{-0.150}$	$2.476^{+0.402}_{-0.747}$	$1.243^{+0.130}_{-0.241}$	$0.115^{+0.151}_{-0.034}$
	+1%/-1%	+6%/-2%	+58%/-58%	+16%/-30%	+10%/-19%	+131%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005007345-01 / KOI 2406.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-28 ± 8	$3.99^{+1.68}_{-1.59}$	2013^{+82}_{-128}	3725^{+808}_{-461}	$5.547^{+10.567}_{-3.001}$
Alt.	-28 ± 8	$3.82^{+1.73}_{-1.48}$	2006^{+98}_{-136}	3805^{+712}_{-460}	$6.284^{+9.922}_{-3.457}$

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 $A_{obs} \gg 1.0$

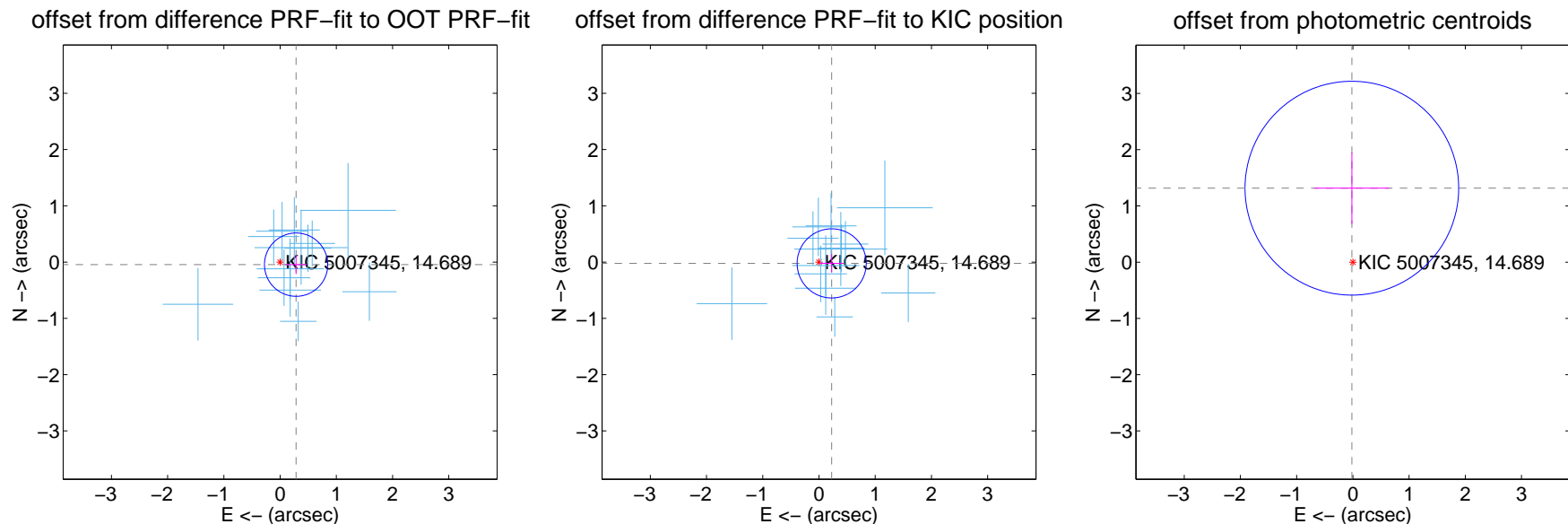
DV Centroid Data

Supplemental centroid analysis for 005007345-01. Kepler magnitude: 14.69. Transit SNR 20.66

There are 13 quarters with good PRF difference image offsets

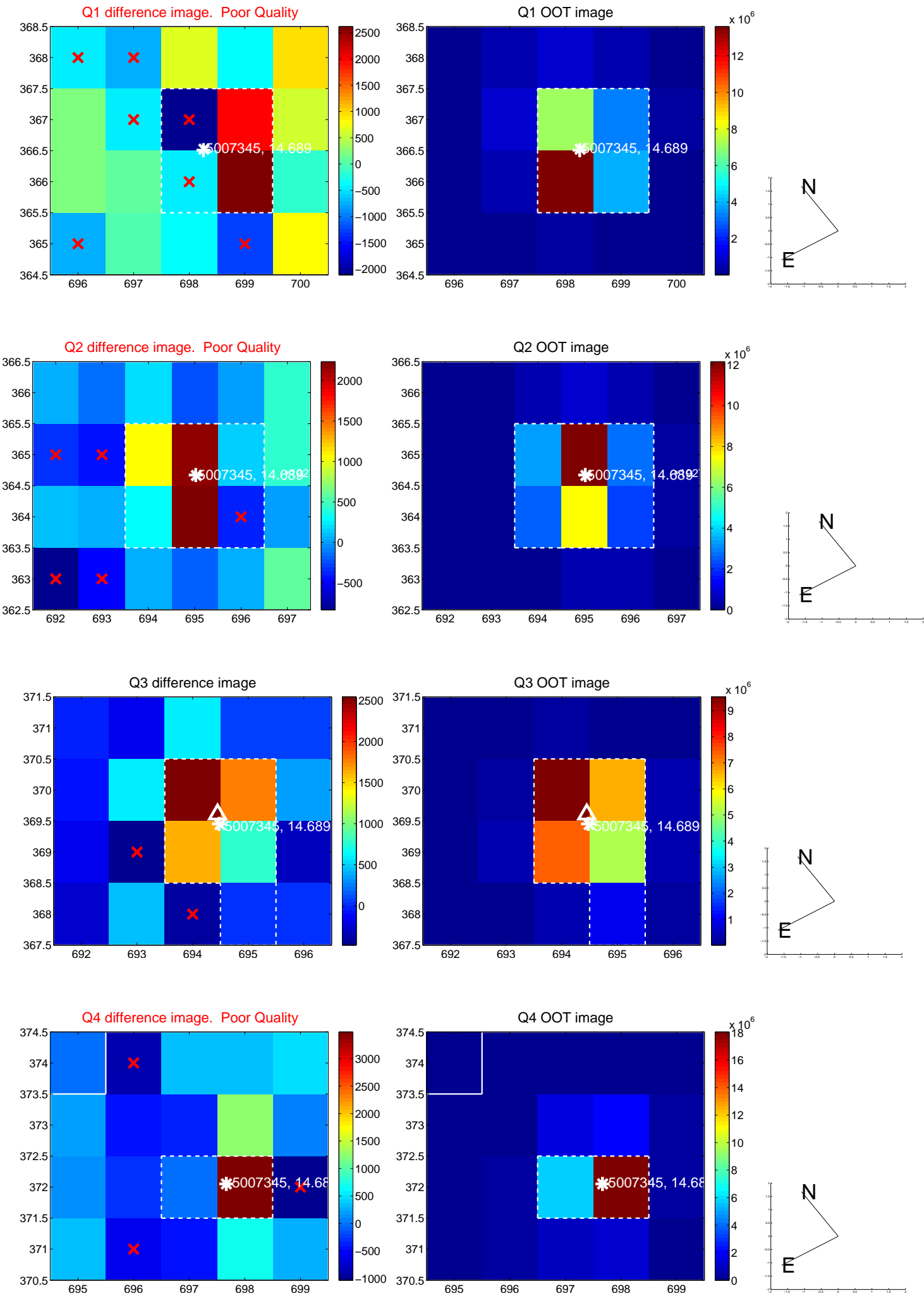
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.288 ± 0.188	1.54	-0.285 ± 0.195	-0.046 ± 0.168
PRF-fit source offset from KIC position	0.227 ± 0.205	1.11	-0.226 ± 0.211	-0.023 ± 0.165
photometric centroid source offset	1.32 ± 0.63	2.08	0.02 ± 0.67	1.32 ± 0.63

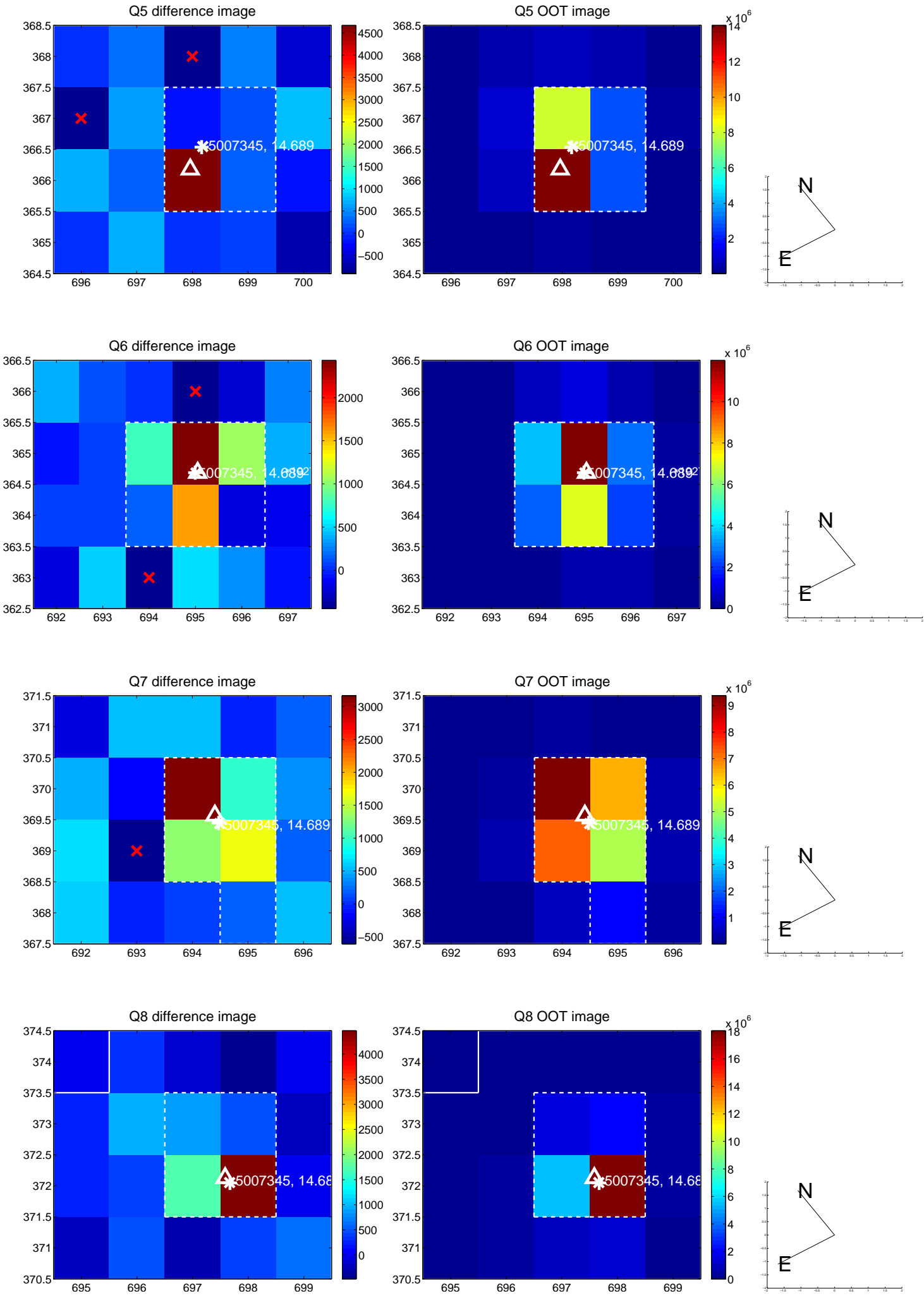


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

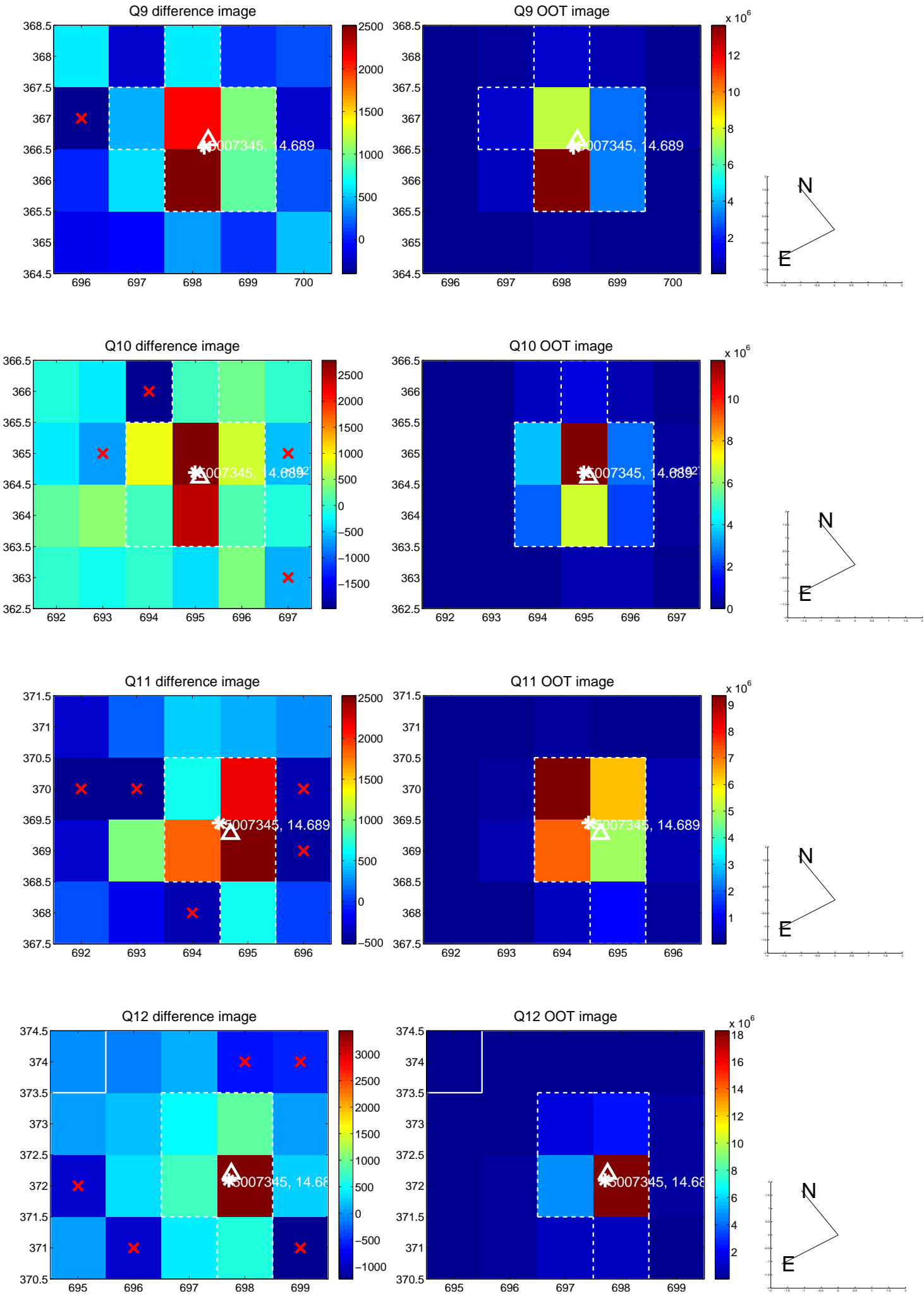
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



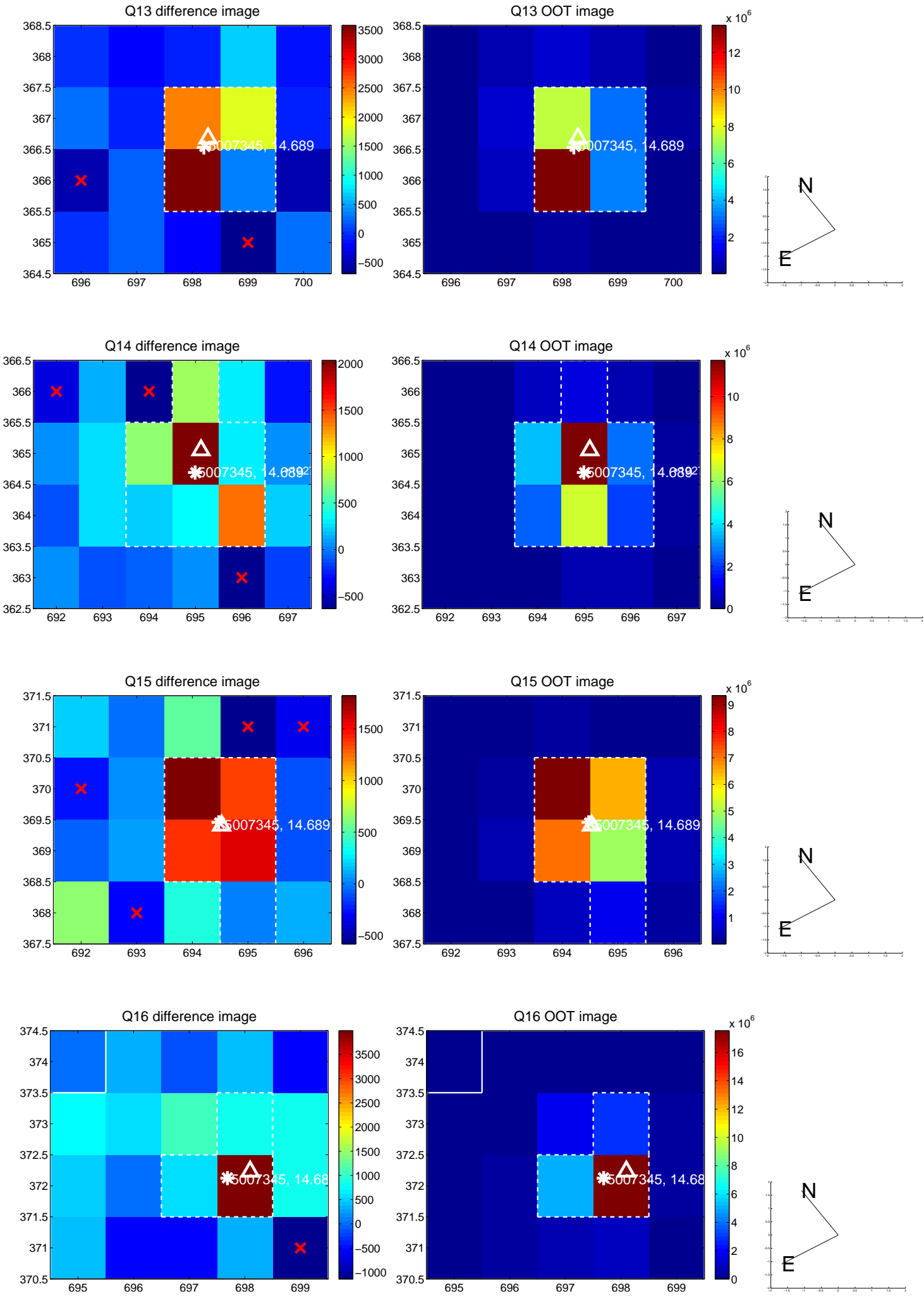
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



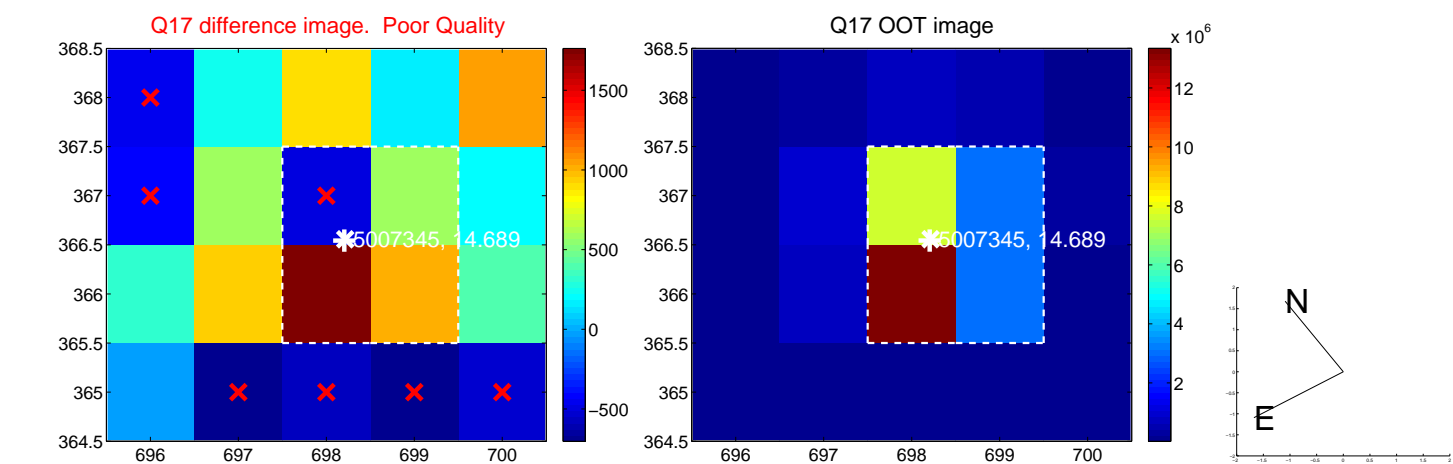
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



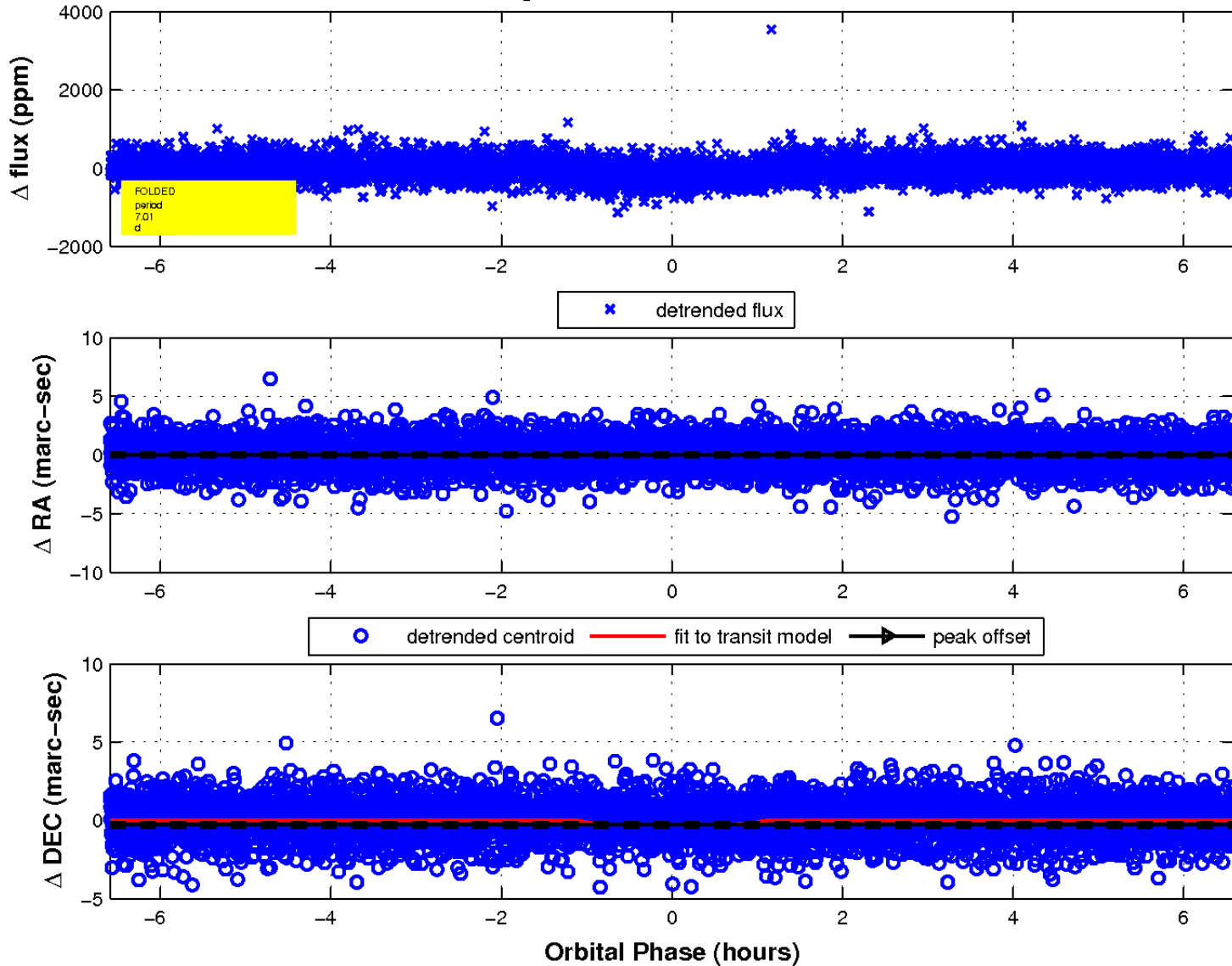
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

