

KIC 004918303

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})
004918303-01	OBS	5104.01	21.157778	150.589720	211.7	4.761	8.6	9.0	1.01	6063	1.65	51.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004918303-01	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.

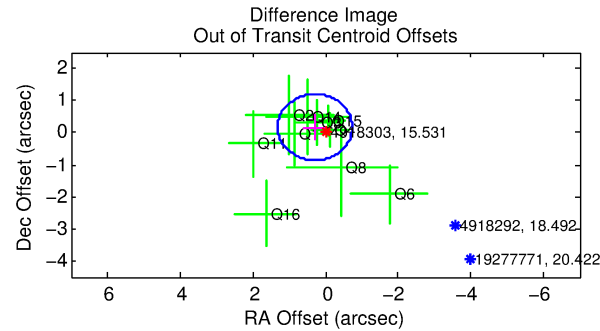
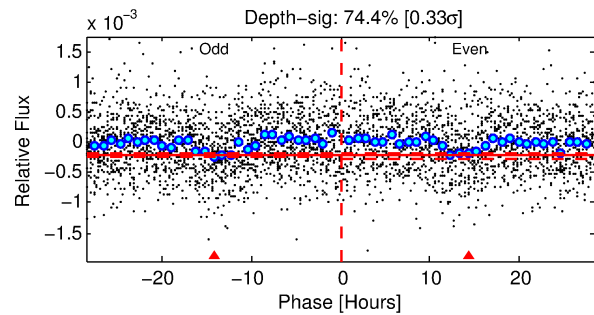
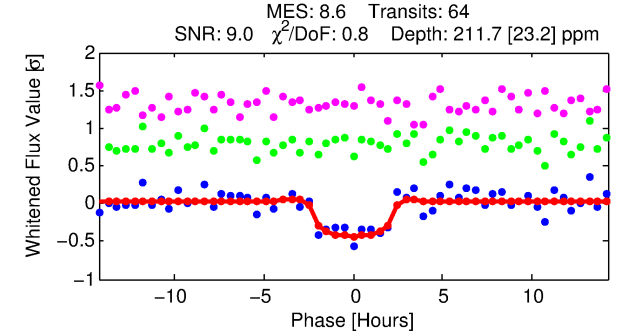
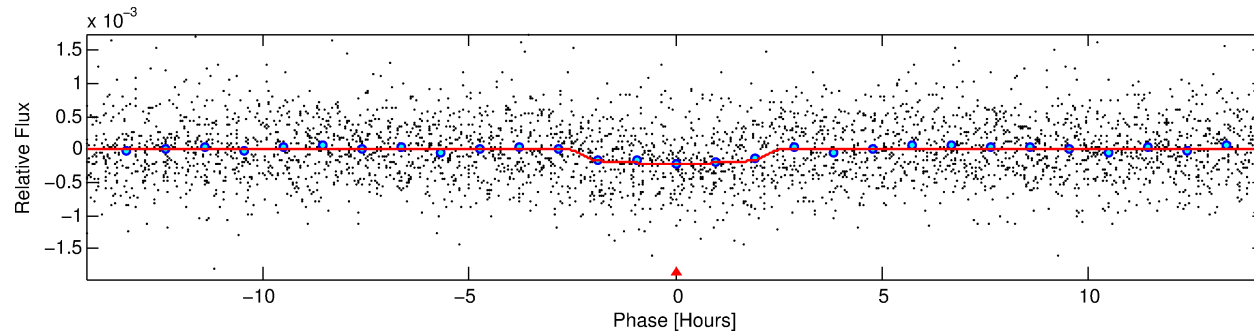
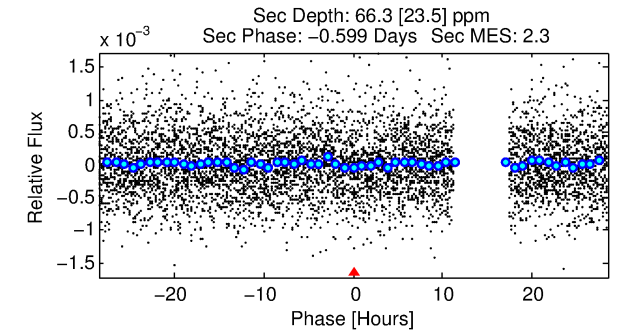
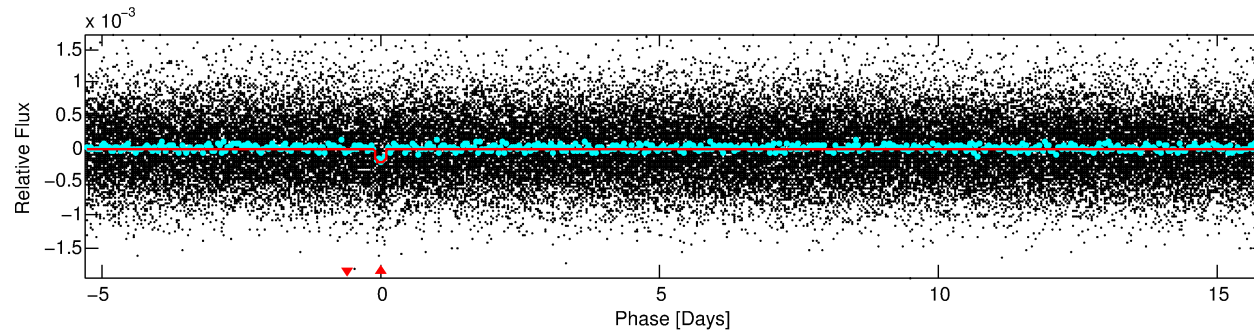
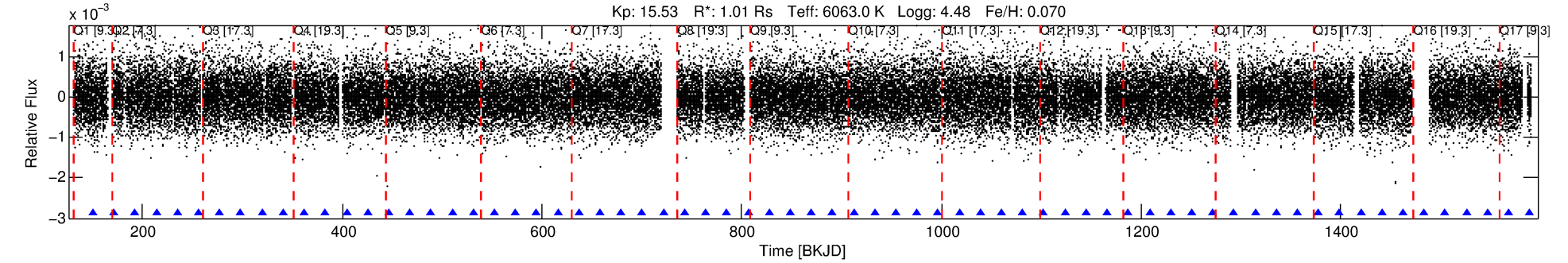
Ephemeris Match Information For 004918303-01

No Significant Match Found

DV One-Page Summary

KIC: 4918303 Candidate: 1 of 1 Period: 21.158 d

KOI: K05104.01 Corr: 0.983



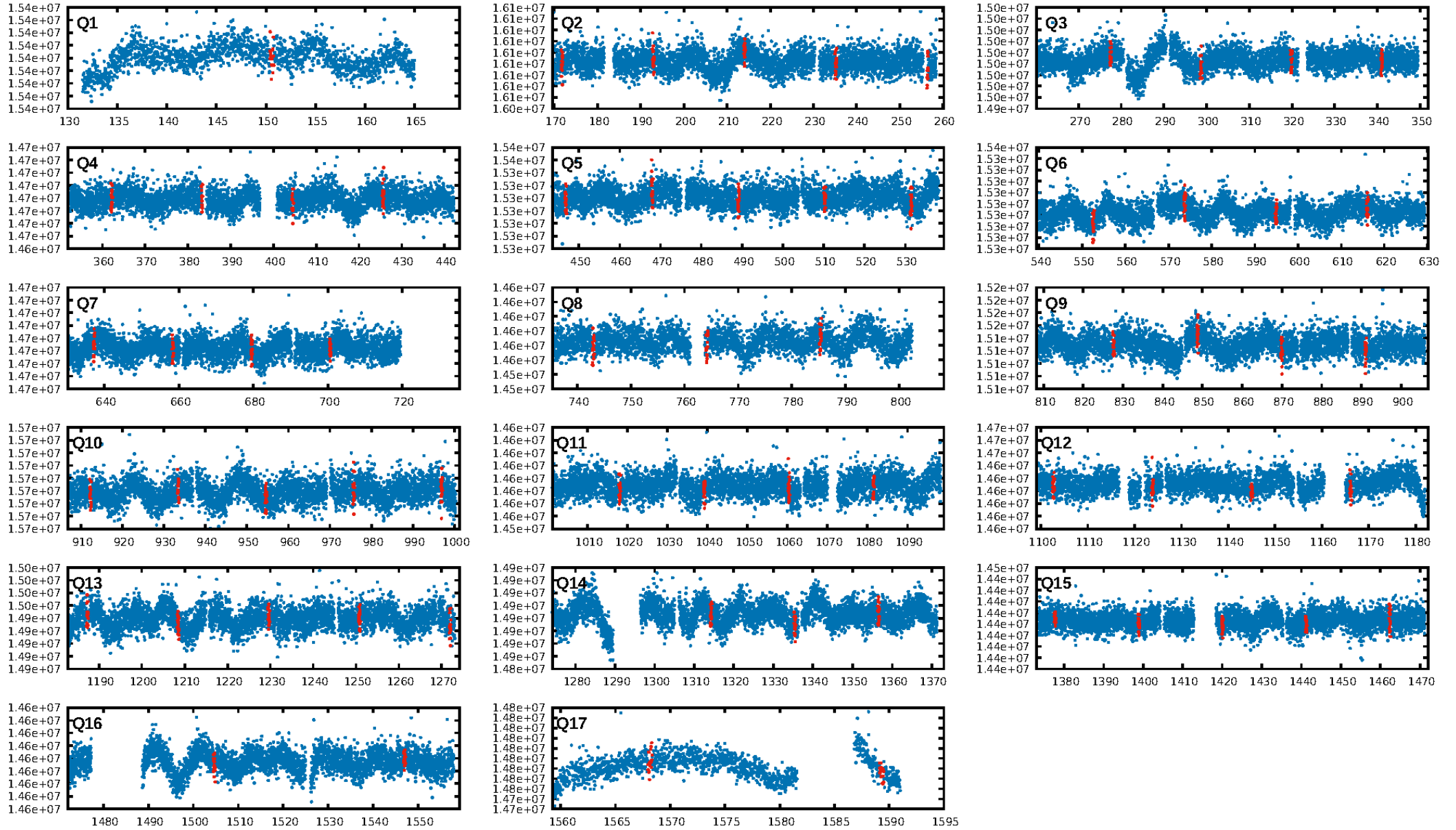
DV Fit Results:

Period = 21.15778 [0.00027] d
Epoch = 150.5897 [0.0104] BKJD
Rp/R* = 0.0150 [0.0095]
a/R* = 20.02 [62.15]
b = 0.83 [1.21]
Seff = 51.34 [19.76]
Teq = 683 [66] K
Rp = 1.65 [1.15] Re
a = 0.1554 [0.0375] AU
Ag = 322.79 [442.57] [0.73σ]
Teffp = 4473 [1488] K [2.54σ]

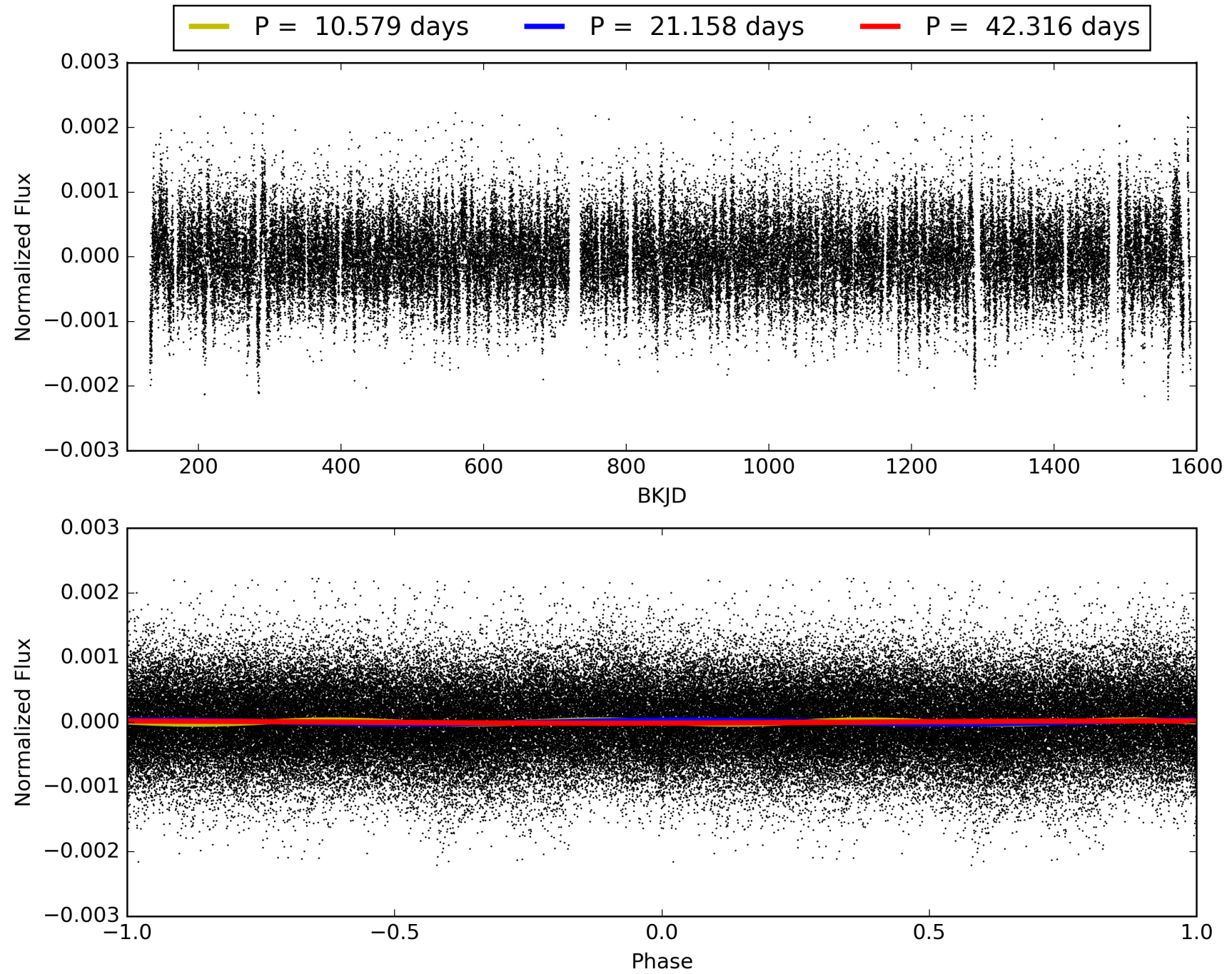
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.07e-18
RollingBand-fgt: 1.00 [61/61]
GhostDiagnostic-chr: -2.064
Centroid-sig: 2.5%
Centroid-so: 2.644 arcsec [1.72σ]
OotOffset-rm: 0.339 arcsec [0.99σ]
KicOffset-rm: 0.346 arcsec [0.98σ]
OotOffset-st: 3/3/3/1 [10]
KicOffset-st: 3/3/3/1 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004918303-01, PDC Light Curves

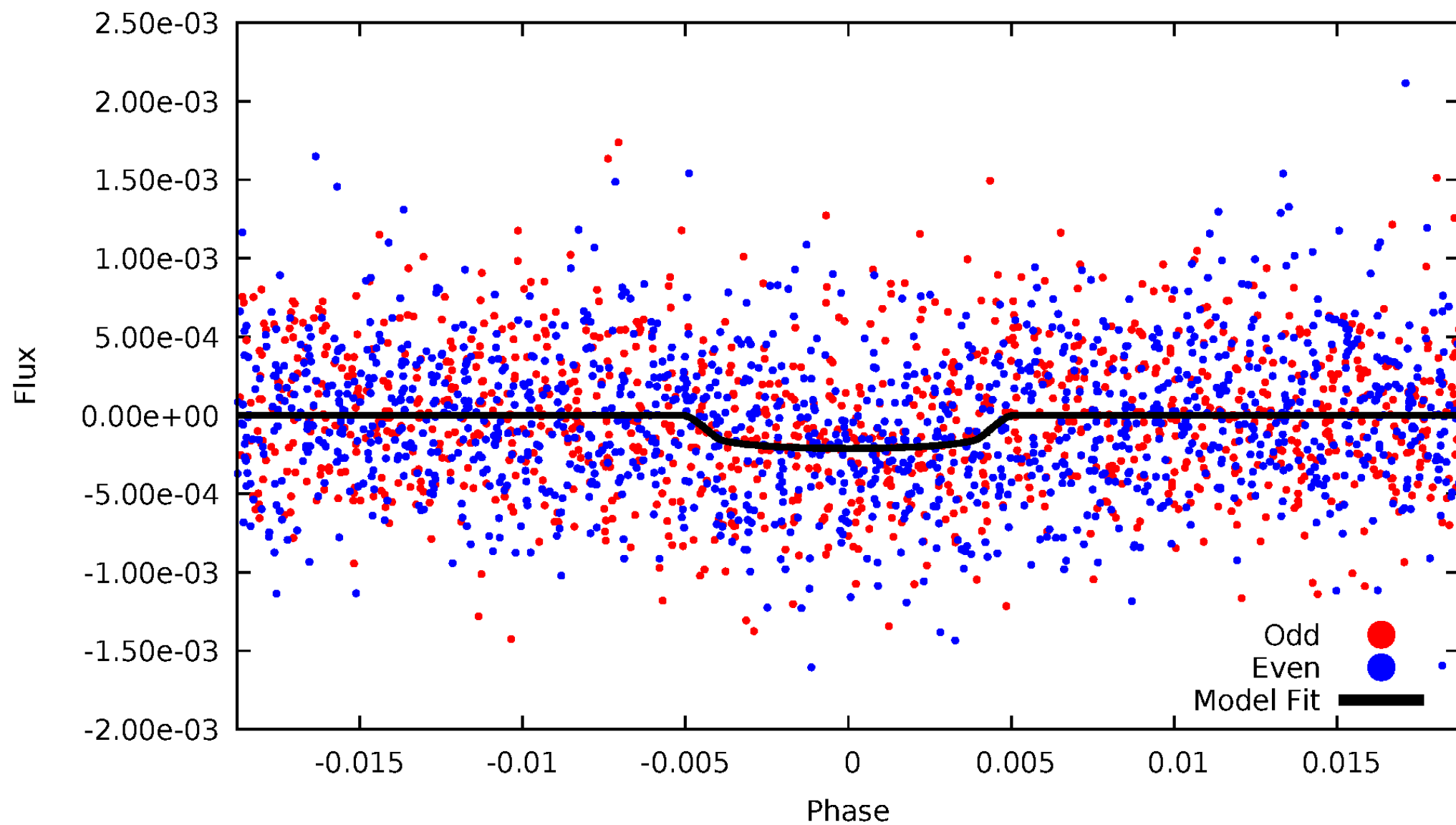


TCE 004918303-01



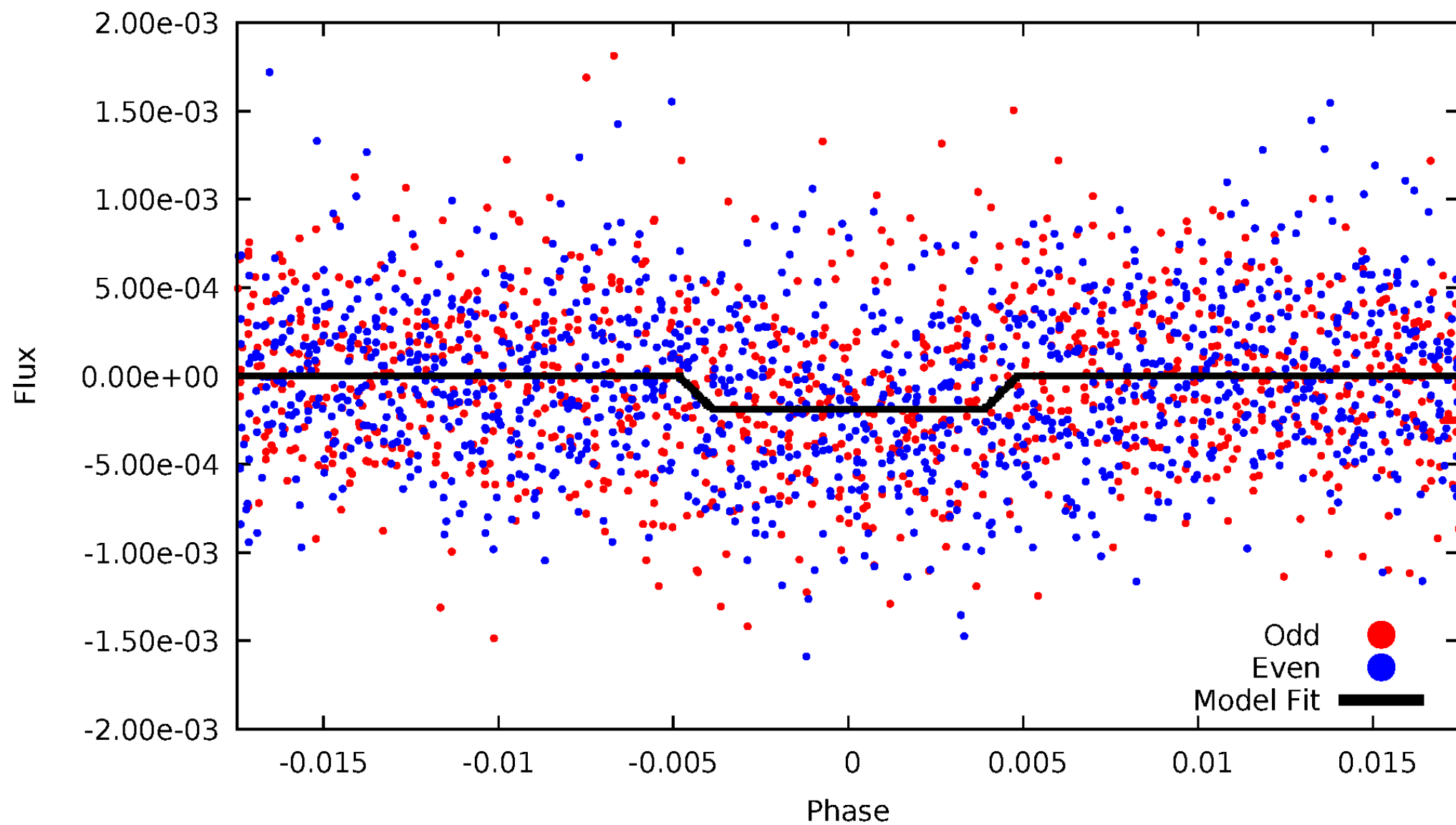
DV Odd/Even

TCE 004918303-01



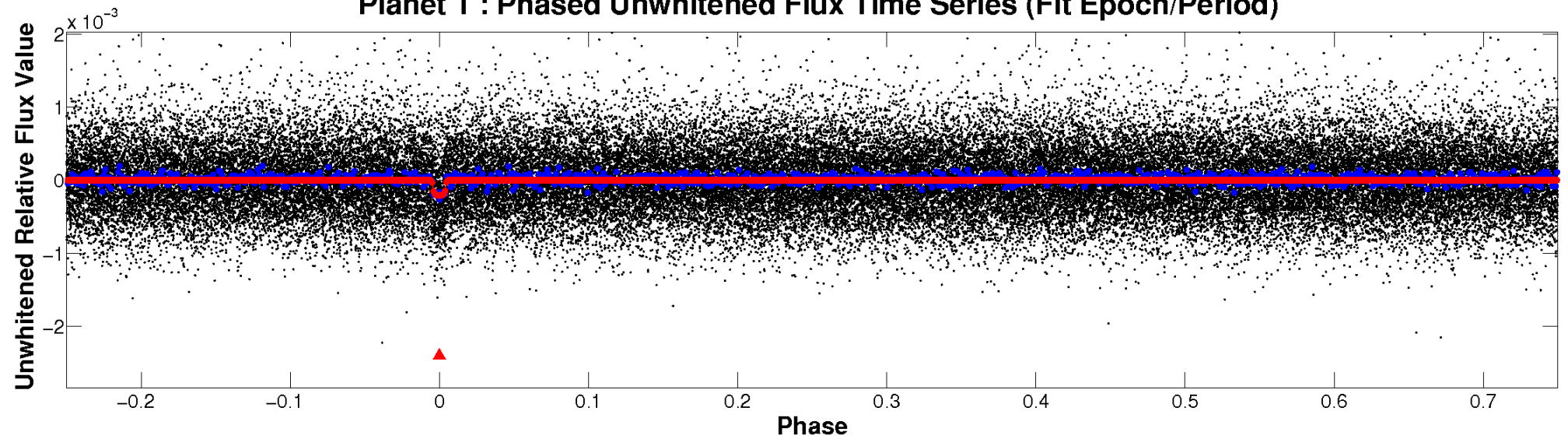
ALT Odd/Even

TCE 004918303-01

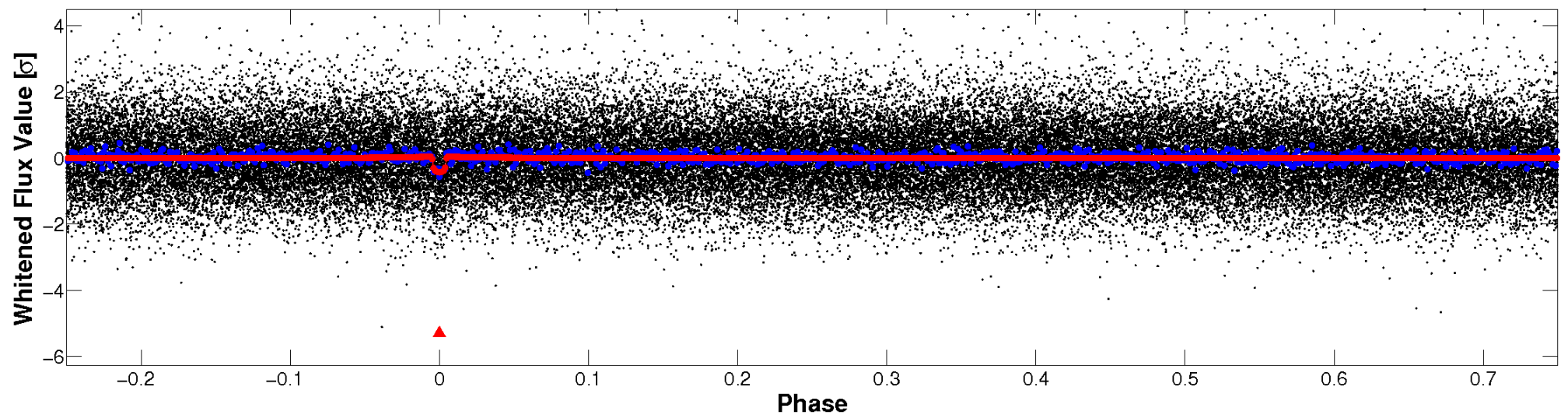


Non-Whitened Vs. Whitened Light Curve

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

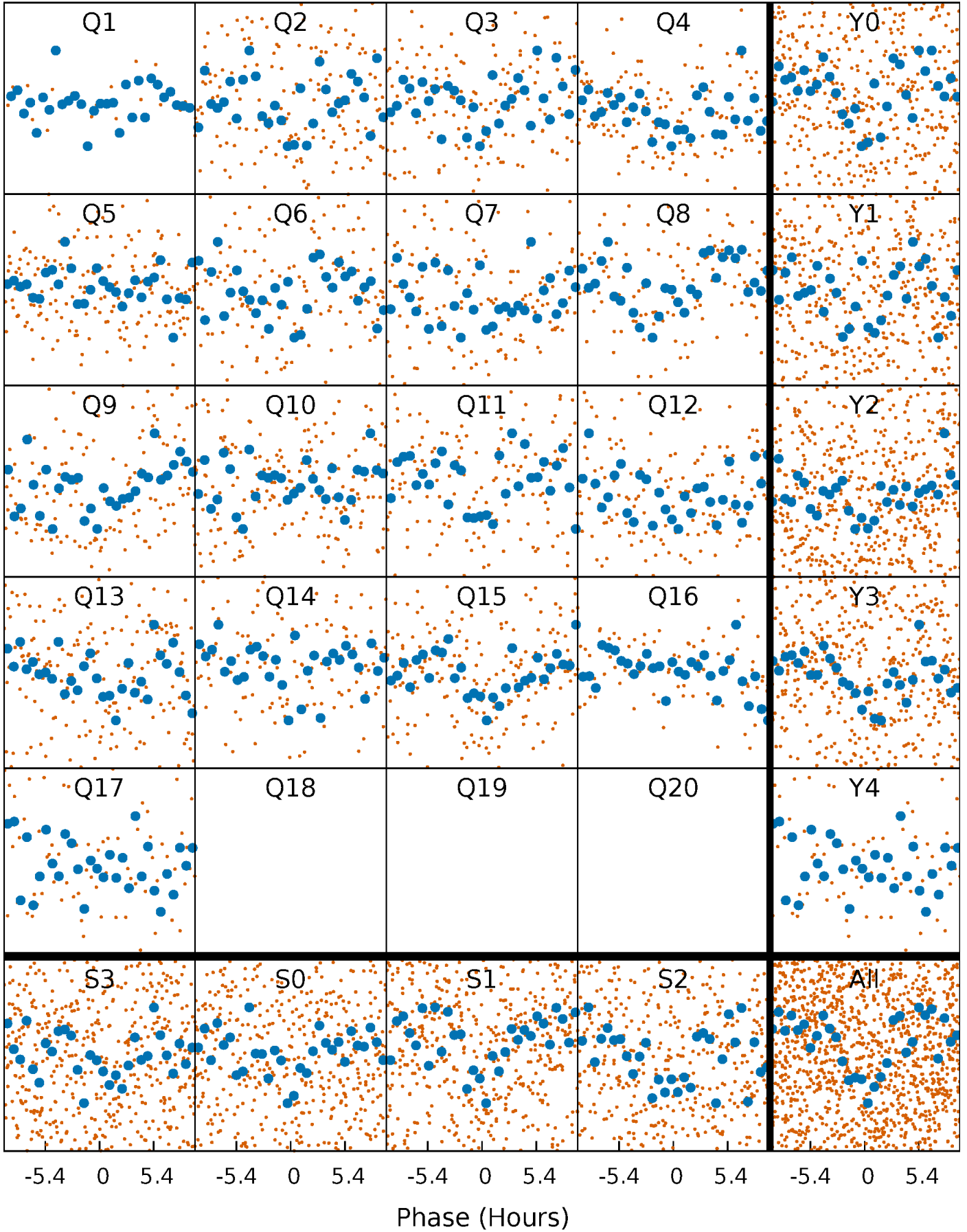


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



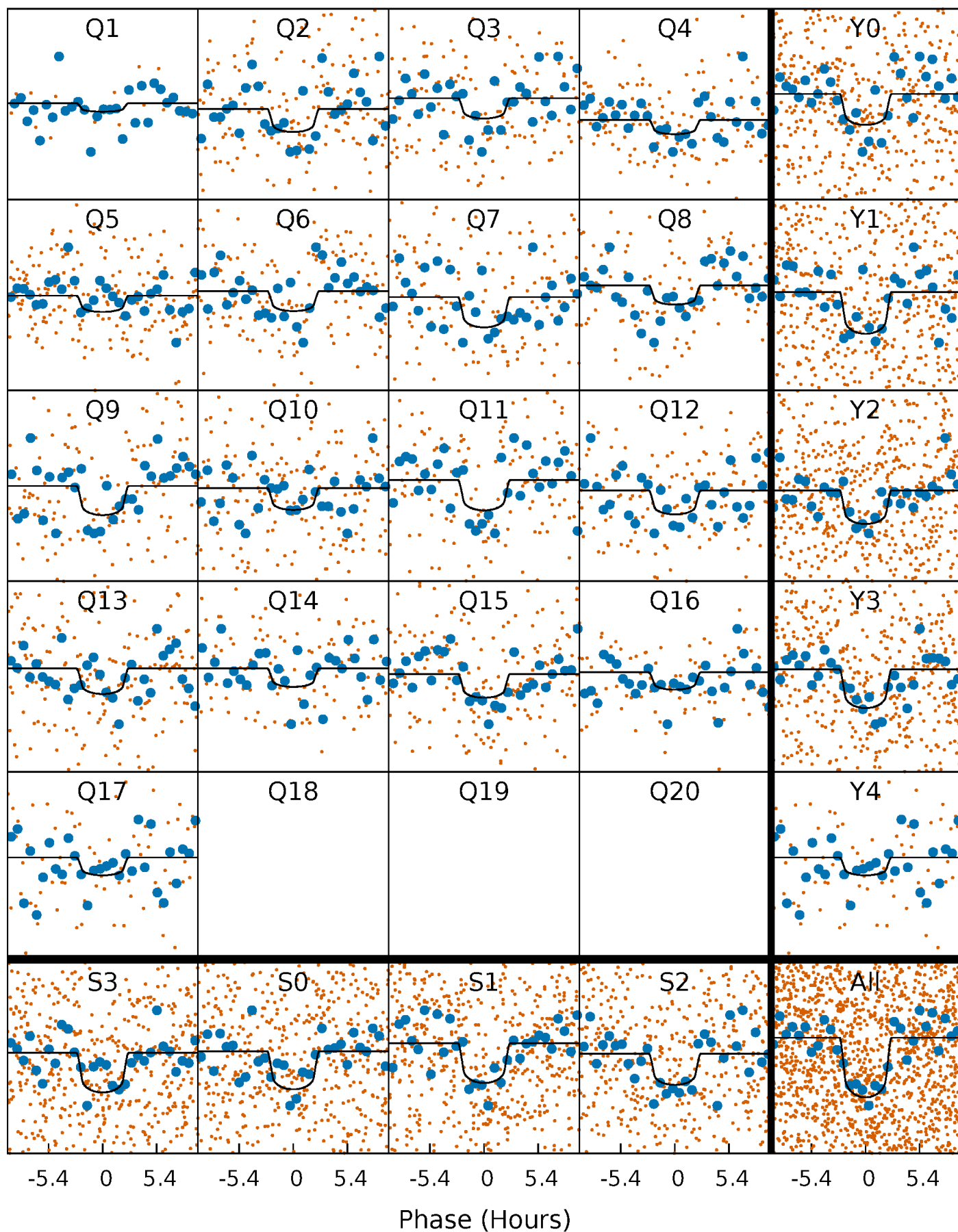
PDC Quarter-Phased Transit Curves

TCE 004918303-01 P= 21.157778 Days $T_0=150.589720$ (BKJD)



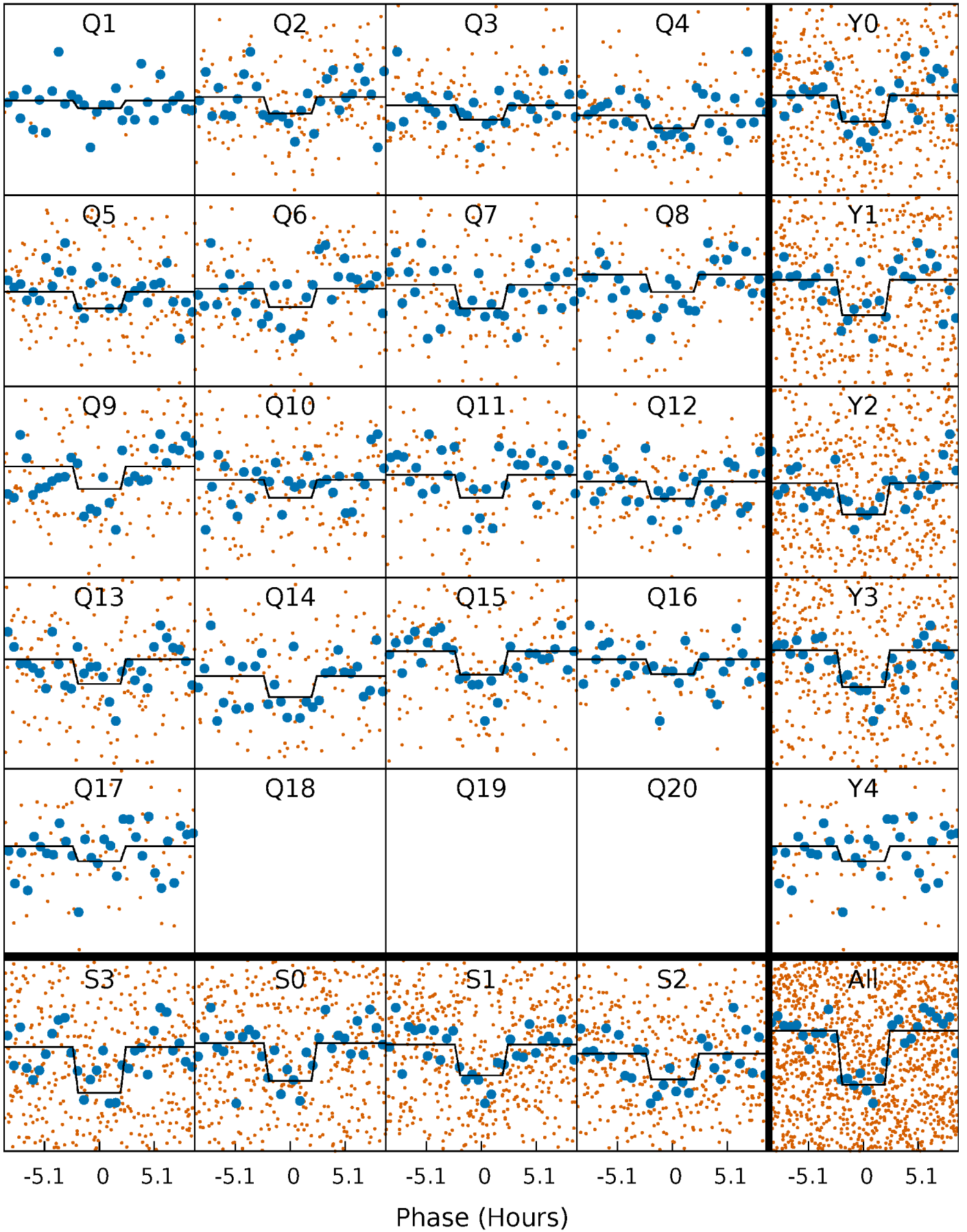
DV Quarter-Phased Transit Curves

TCE 004918303-01 P= 21.157778 Days $T_0=150.589720$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

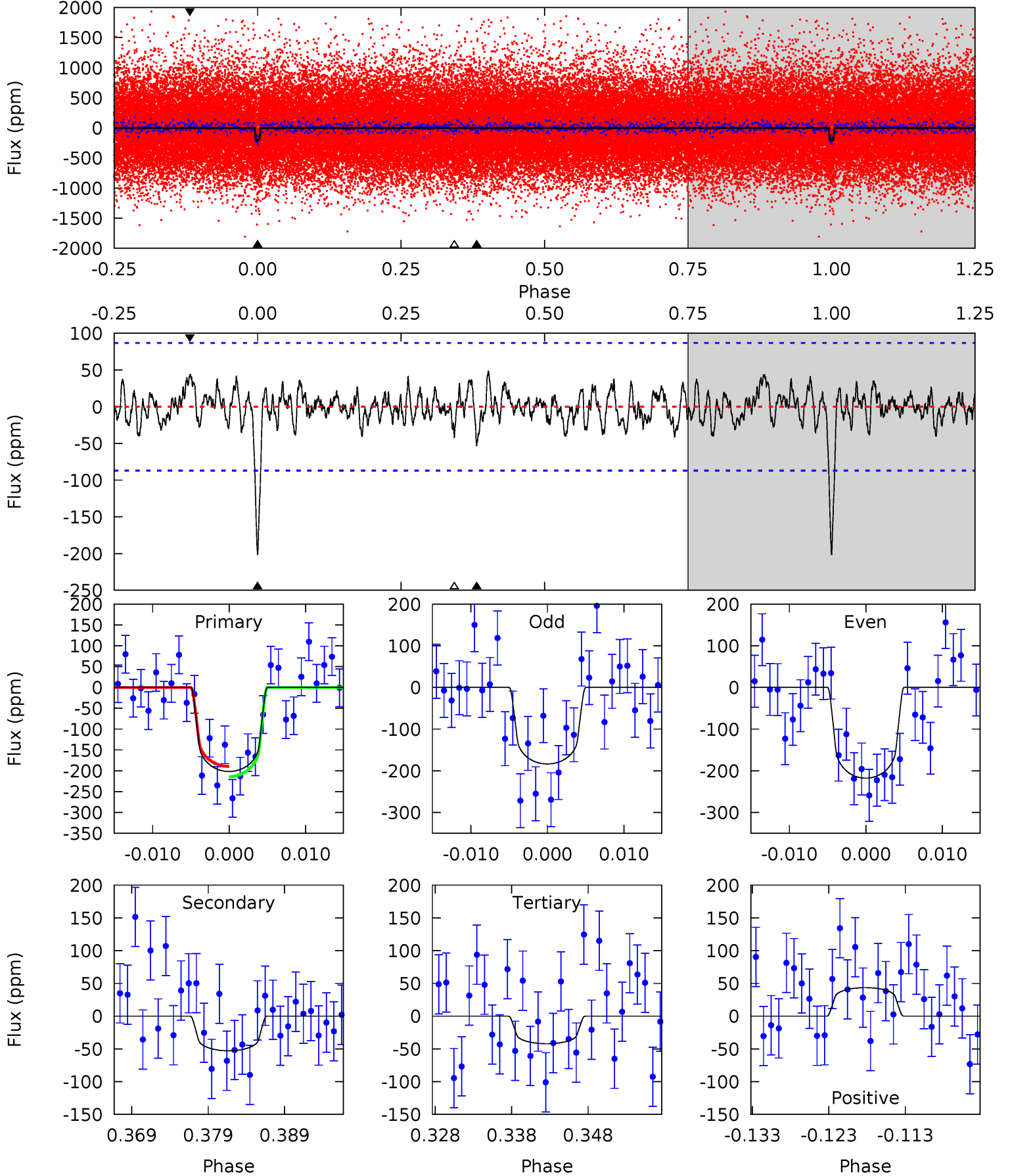
TCE 004918303-01 P= 21.158127 Days $T_0=150.577185$ (BKJD)



DV Model-Shift Uniqueness Test

004918303-01, P = 21.157778 Days, E = 129.431942 Days

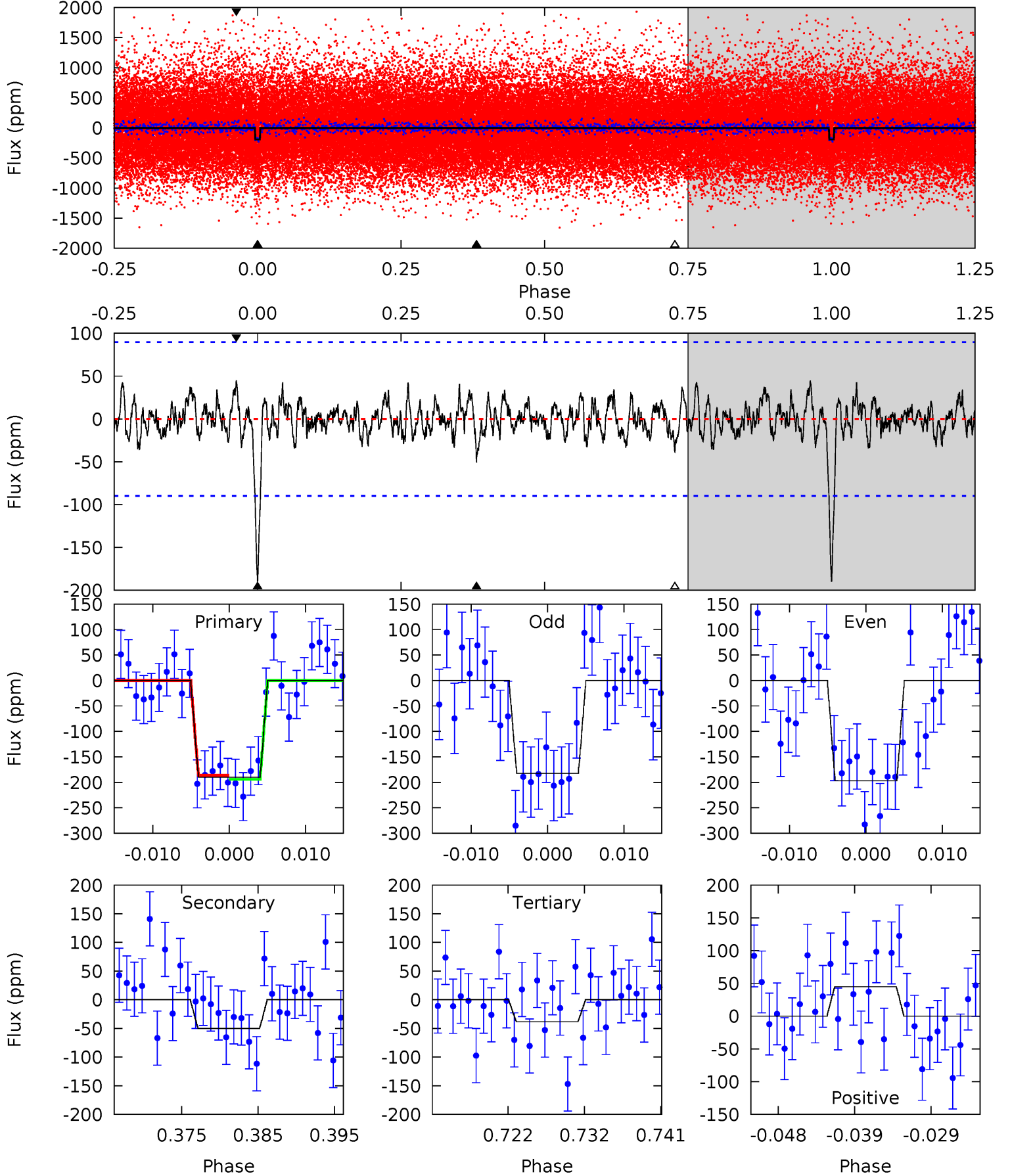
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	3.06	2.43	2.51	5.02	2.57	1.00	9.22	9.15	0.62	0.54	0.99	1.03	0.19	0.71



Alt Model-Shift Uniqueness Test

004918303-01, P = 21.158127 Days, E = 129.419058 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	2.80	2.16	2.51	5.03	2.59	0.86	8.49	8.14	0.64	0.28	0.41	0.96	0.19	0.21



Stellar Parameters For KIC 004918303

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6063^{+190}_{-211}	$4.476^{+0.050}_{-0.200}$	$0.070^{+0.250}_{-0.350}$	$1.012^{+0.282}_{-0.101}$	$1.117^{+0.130}_{-0.159}$	$1.519^{+0.374}_{-0.729}$
	+3%/-3%	+1%/-4%	+357%/-500%	+28%/-10%	+12%/-14%	+25%/-48%
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 004918303-01 / KOI 5104.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-53 ± 17	$1.75^{+1.05}_{-1.00}$	970^{+71}_{-43}	4399^{+1977}_{-723}	225^{+925}_{-145}
Alt.	-50 ± 18	$1.69^{+1.15}_{-1.01}$	977^{+71}_{-51}	4361^{+2139}_{-755}	213^{+1067}_{-142}

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

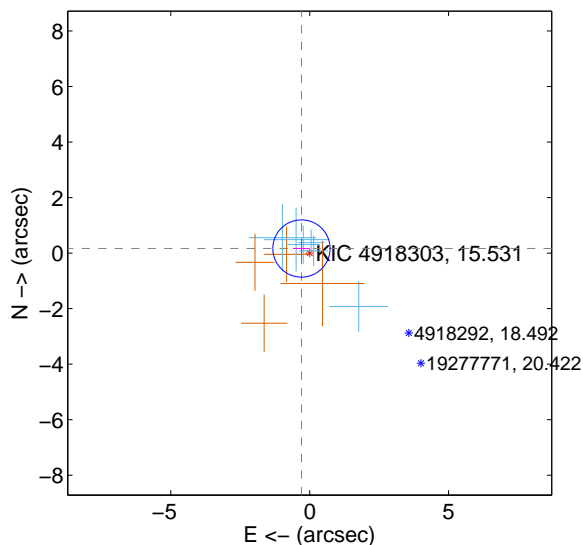
Supplemental centroid analysis for 004918303-01. Kepler magnitude: 15.53. Transit SNR 8.96

There are 6 quarters with good PRF difference image offsets

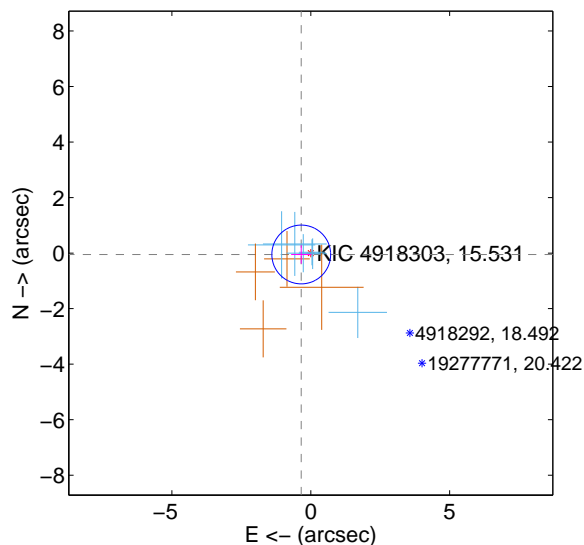
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.339 ± 0.343	0.99	0.296 ± 0.303	0.166 ± 0.363
PRF-fit source offset from KIC position	0.346 ± 0.353	0.98	0.343 ± 0.365	-0.050 ± 0.332
photometric centroid source offset	2.64 ± 1.54	1.72	1.11 ± 1.50	-2.40 ± 1.55

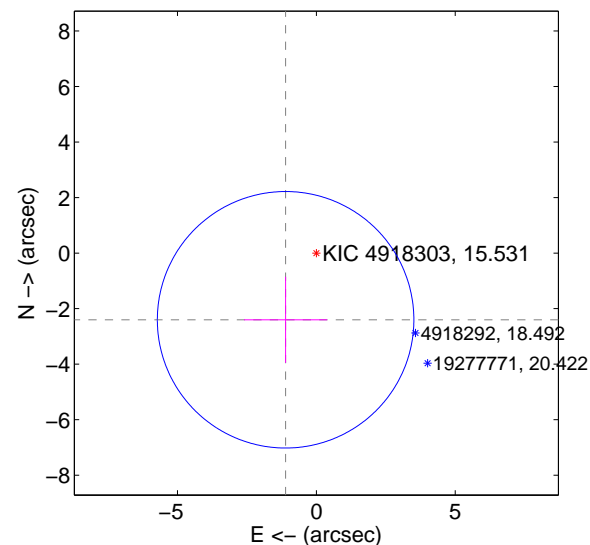
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

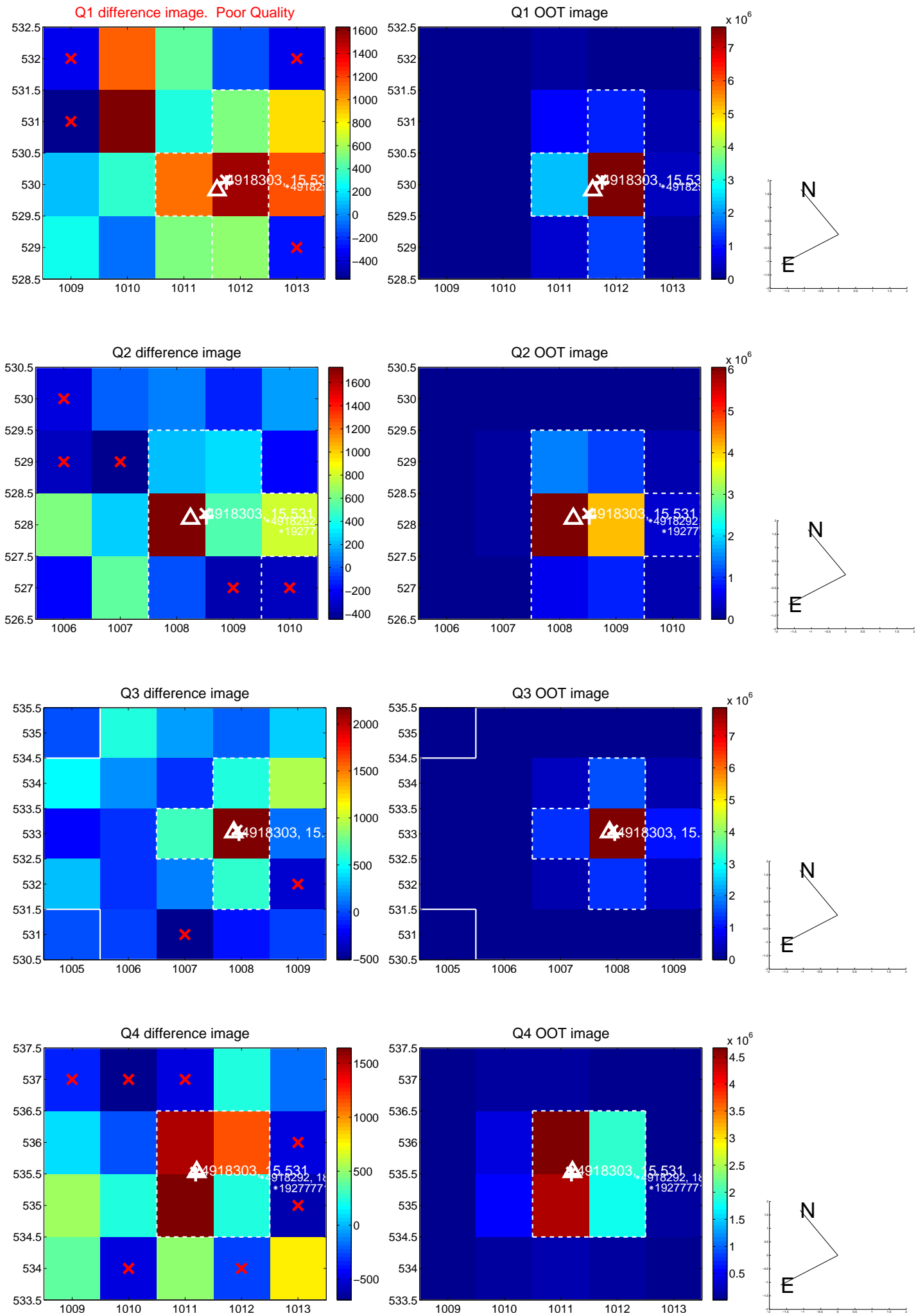


offset from photometric centroids

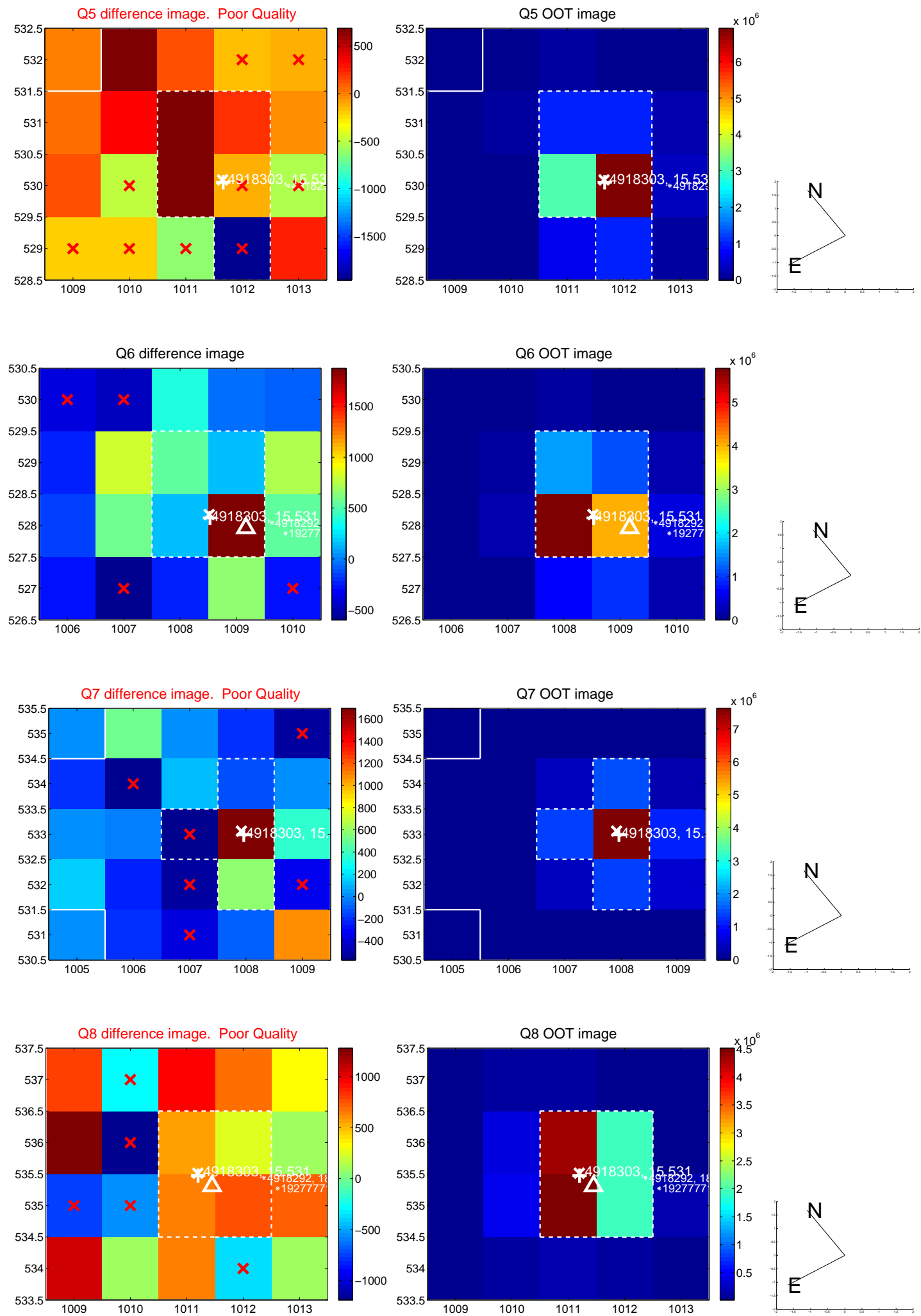


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

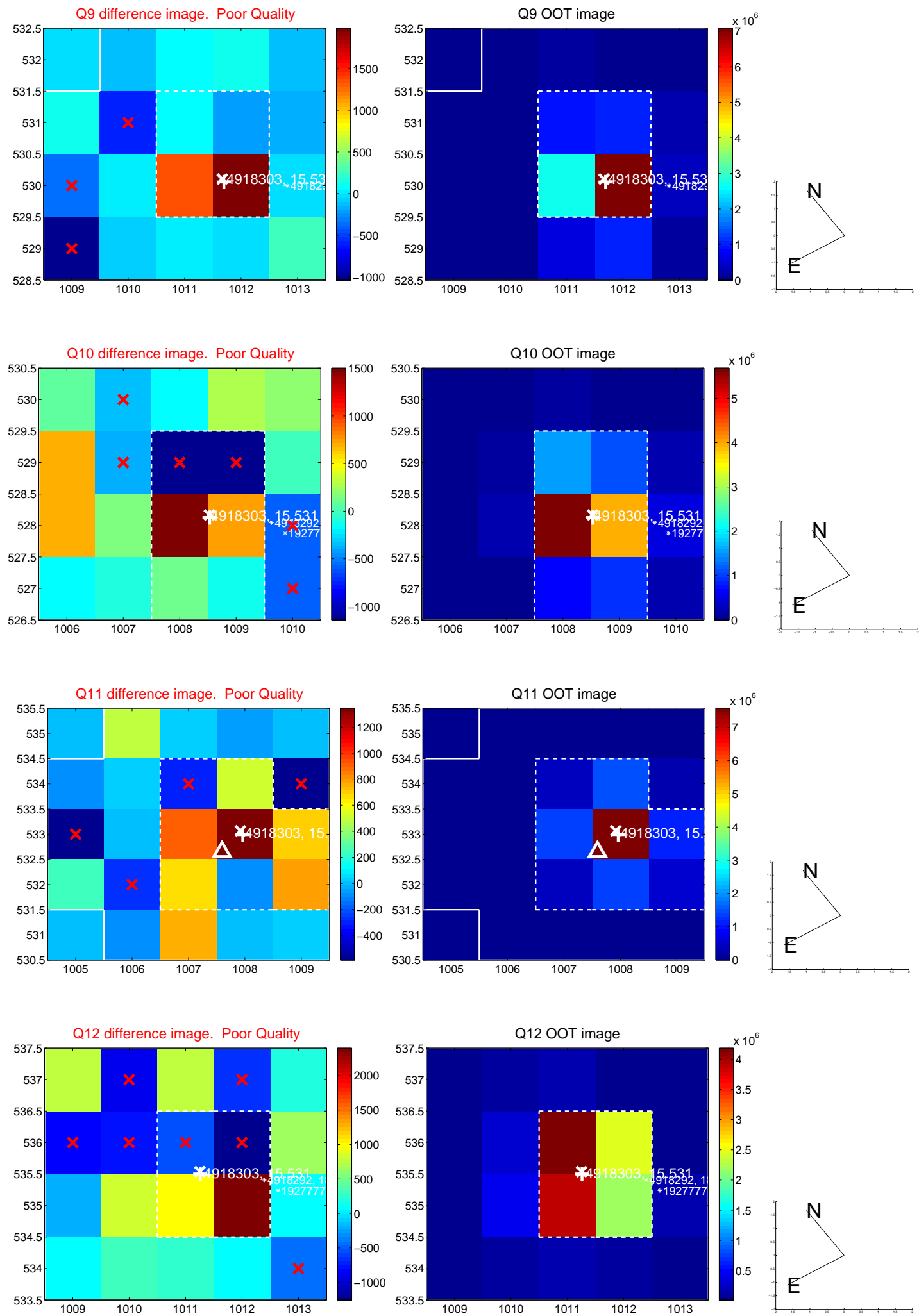
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



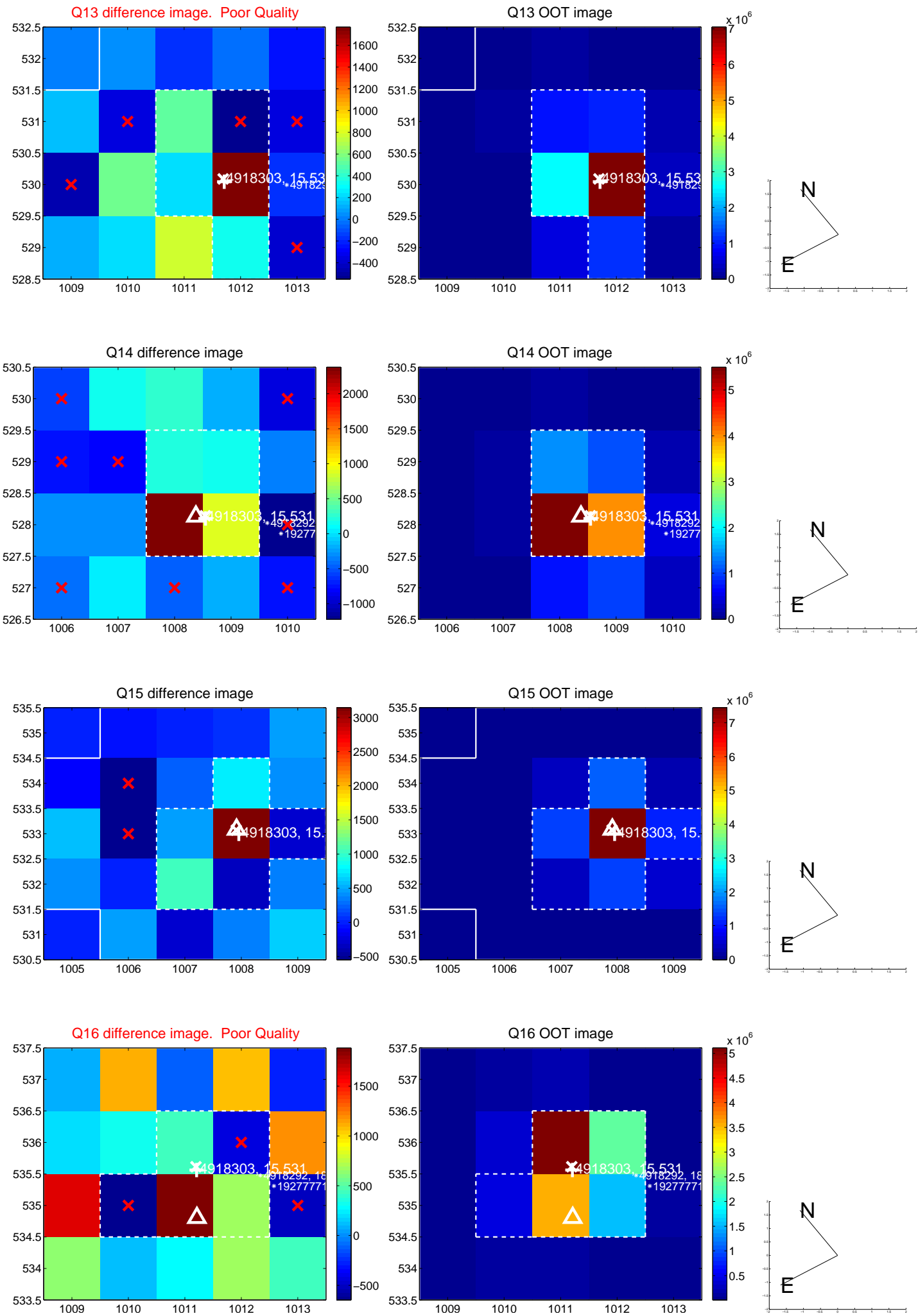
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



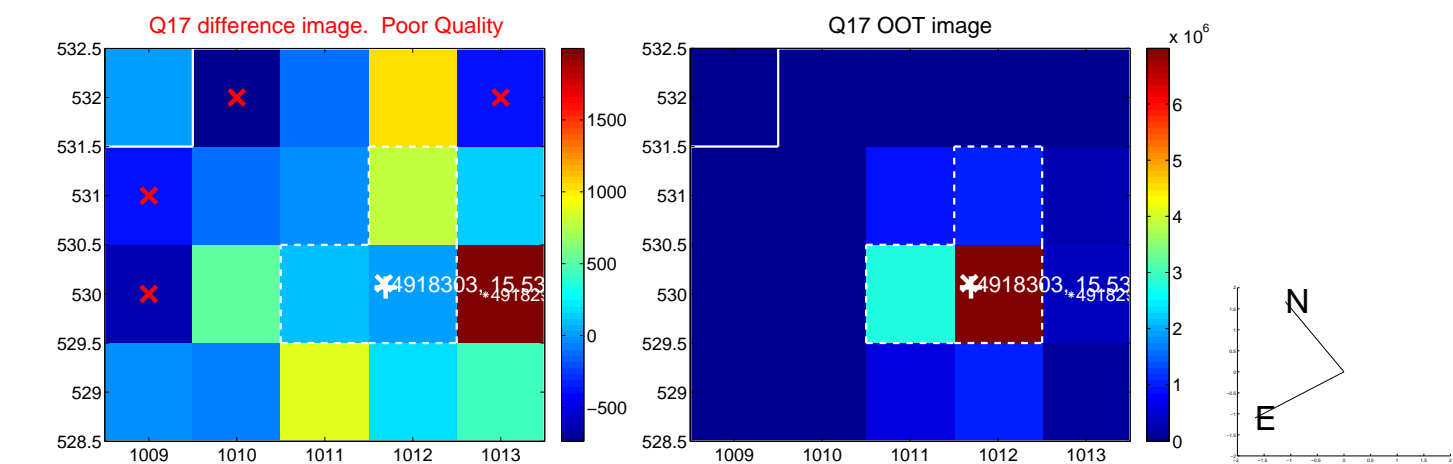
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



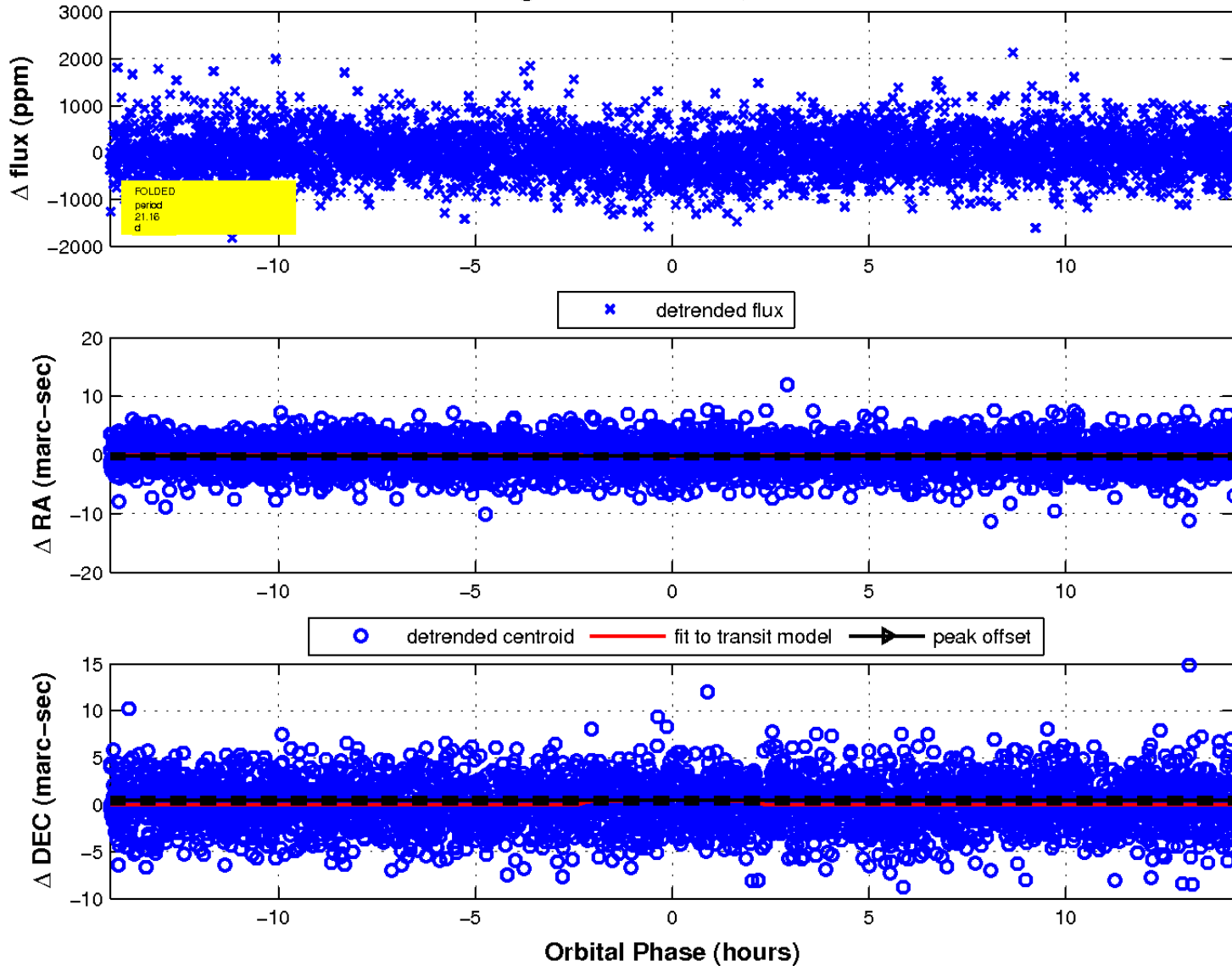
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

