

KIC 005702939

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})
005702939-01	OBS	3000.01	18.398070	144.925847	150.6	5.091	14.6	15.5	1.01	5605	1.73	52.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005702939-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

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

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

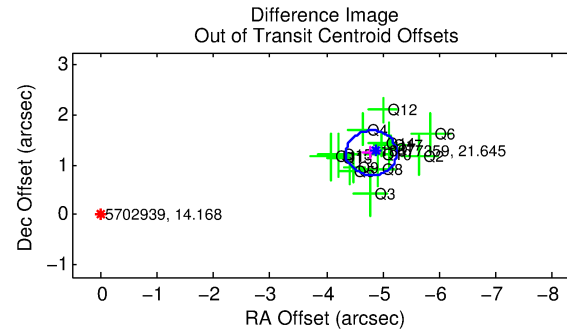
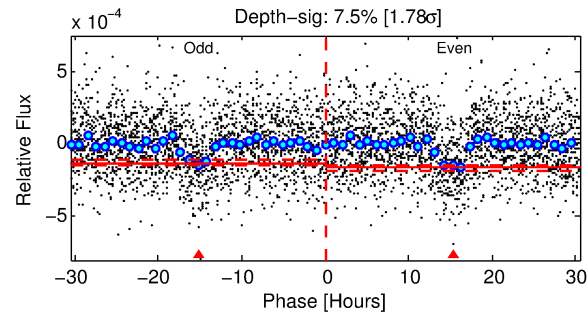
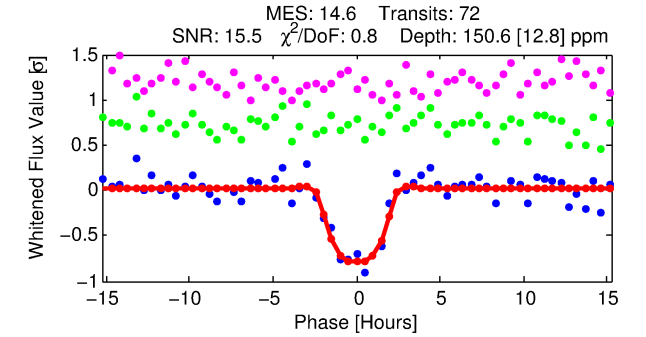
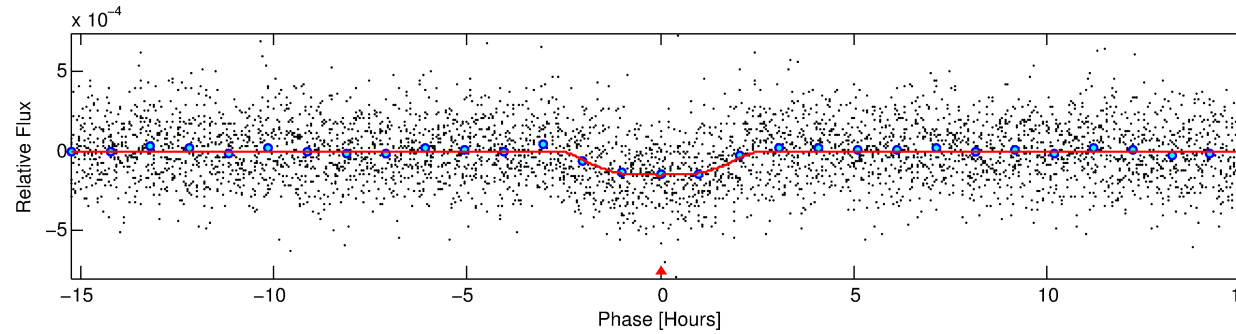
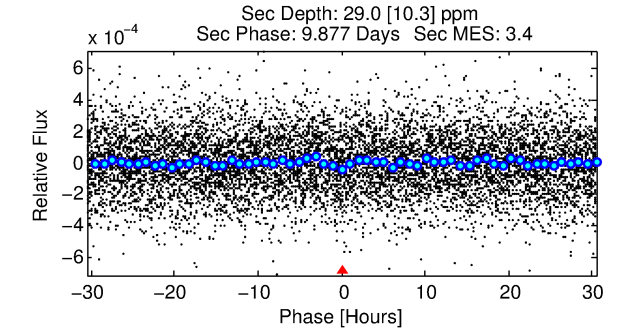
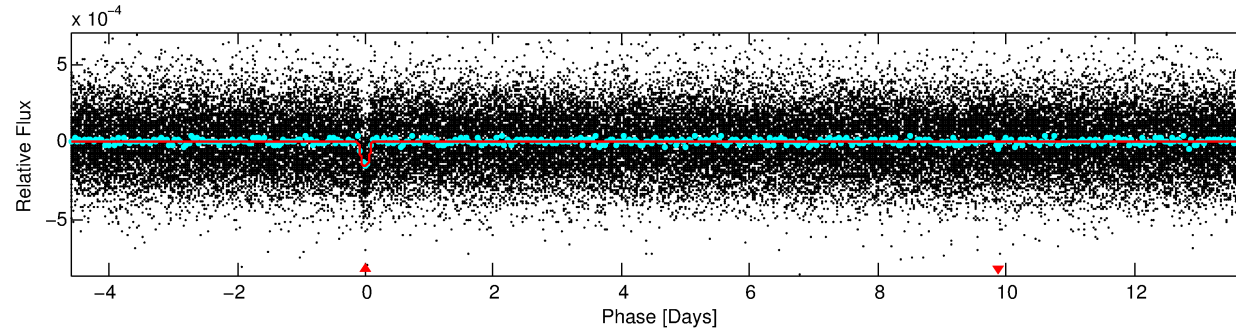
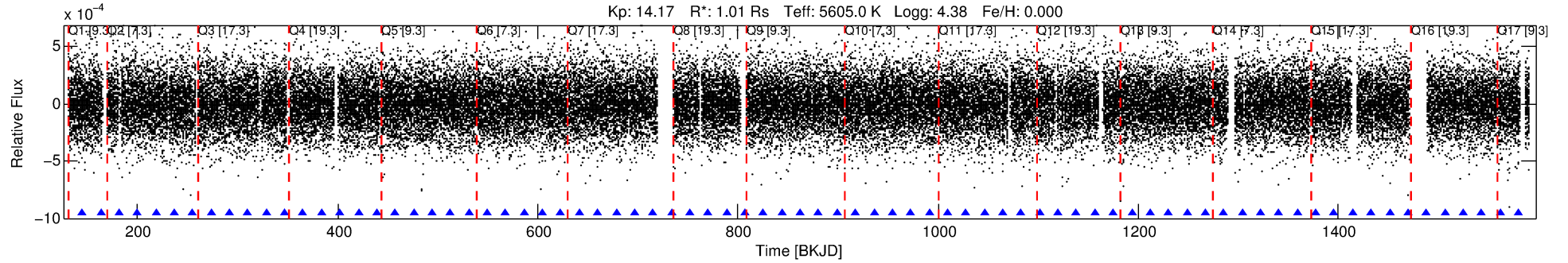
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005702939-01

No Significant Match Found

DV One-Page Summary

KIC: 5702939 Candidate: 1 of 1 Period: 18.398 d
KOI: K03000.01 Corr: 0.859



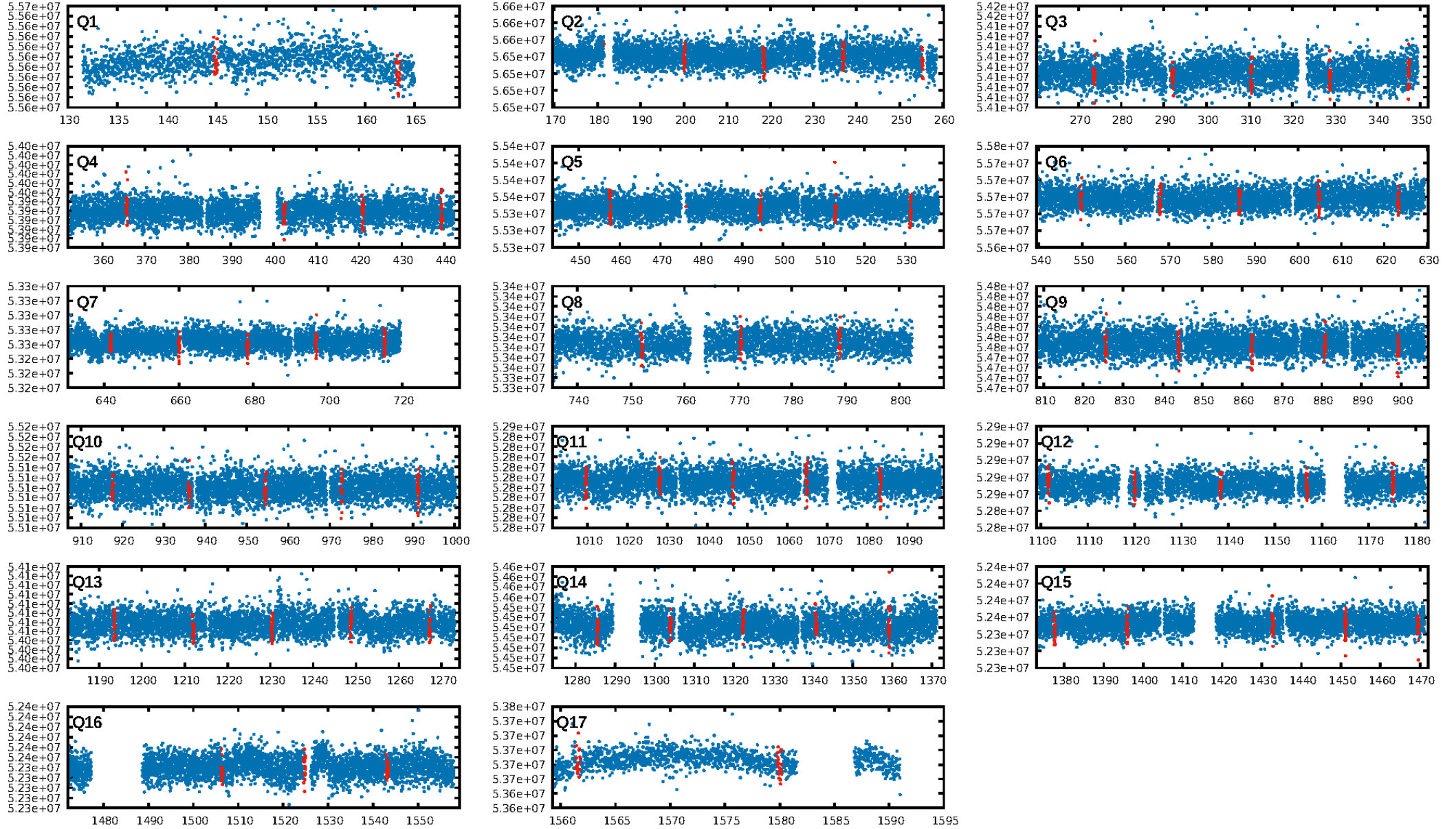
DV Fit Results:

Period = 18.39807 [0.00018] d
Epoch = 144.9258 [0.0079] BKJD
Rp/R* = 0.0156 [0.0010]
a/R* = 7.44 [1.20]
b = 0.98 [0.01]
Seff = 52.38 [10.79]
Teq = 686 [35] K
Rp = 1.73 [0.27] Re
a = 0.1319 [0.0166] AU
Ag = 92.71 [39.25] [2.34σ]
Teffp = 3291 [316] K [8.20σ]

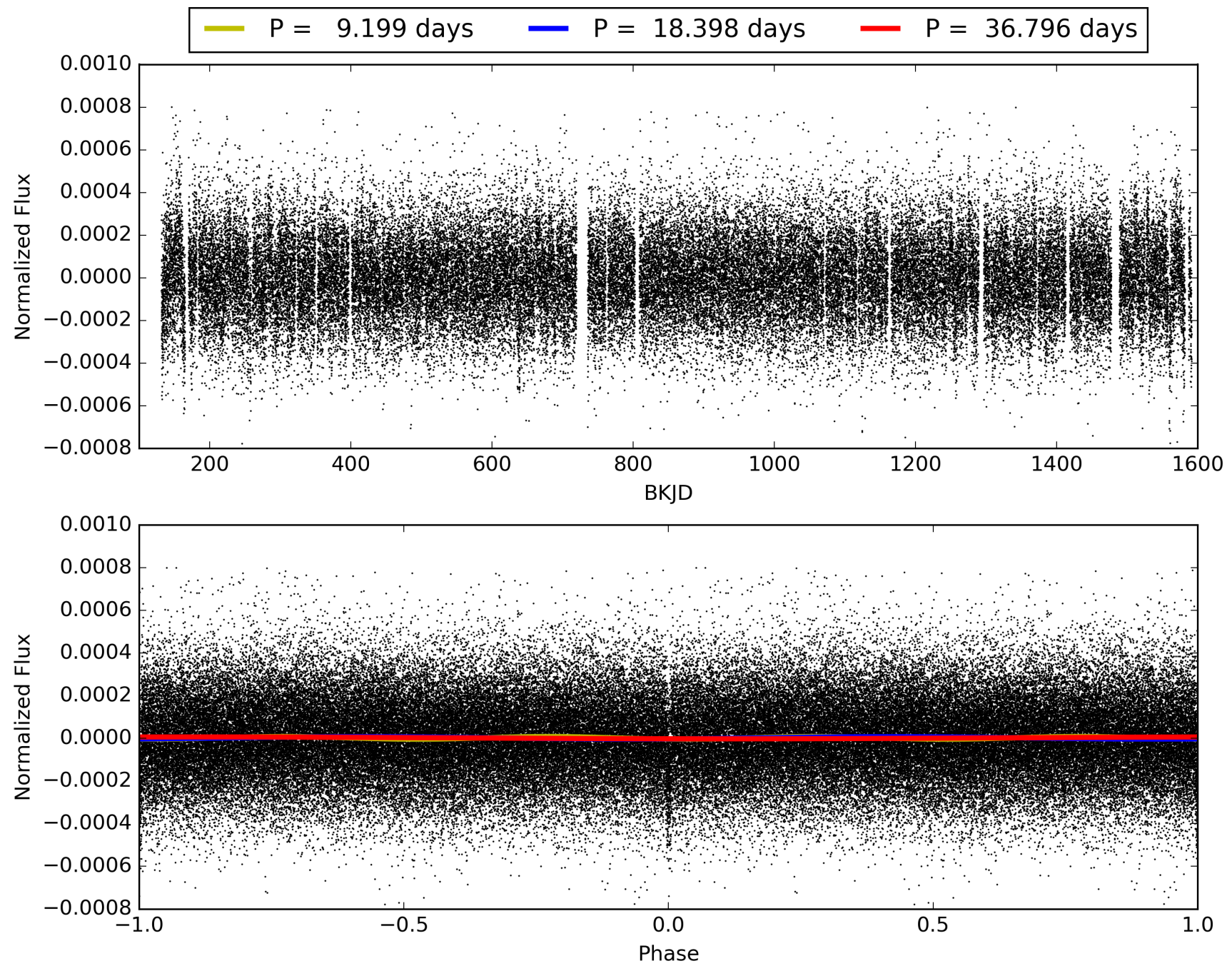
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.20e-47
RollingBand-fgt: 1.00 [68/68]
GhostDiagnostic-chr: 0.4268
Centroid-sig: 0.0%
Centroid-so: 8.391 arcsec [9.84σ]
OotOffset-rm: 4.949 arcsec [33.13σ]
KicOffset-rm: 4.958 arcsec [31.11σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.87 [13/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005702939-01, PDC Light Curves

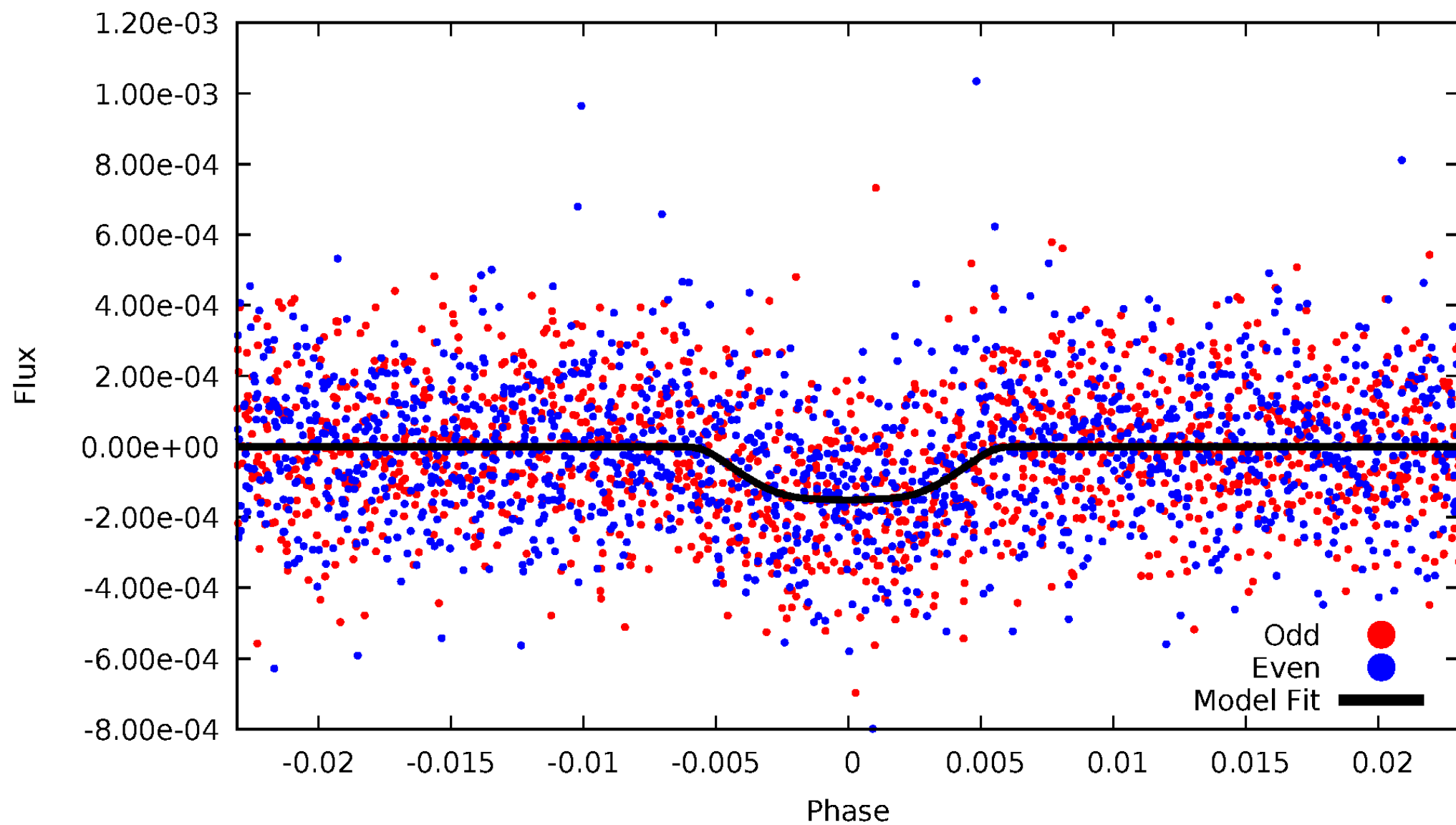


TCE 005702939-01



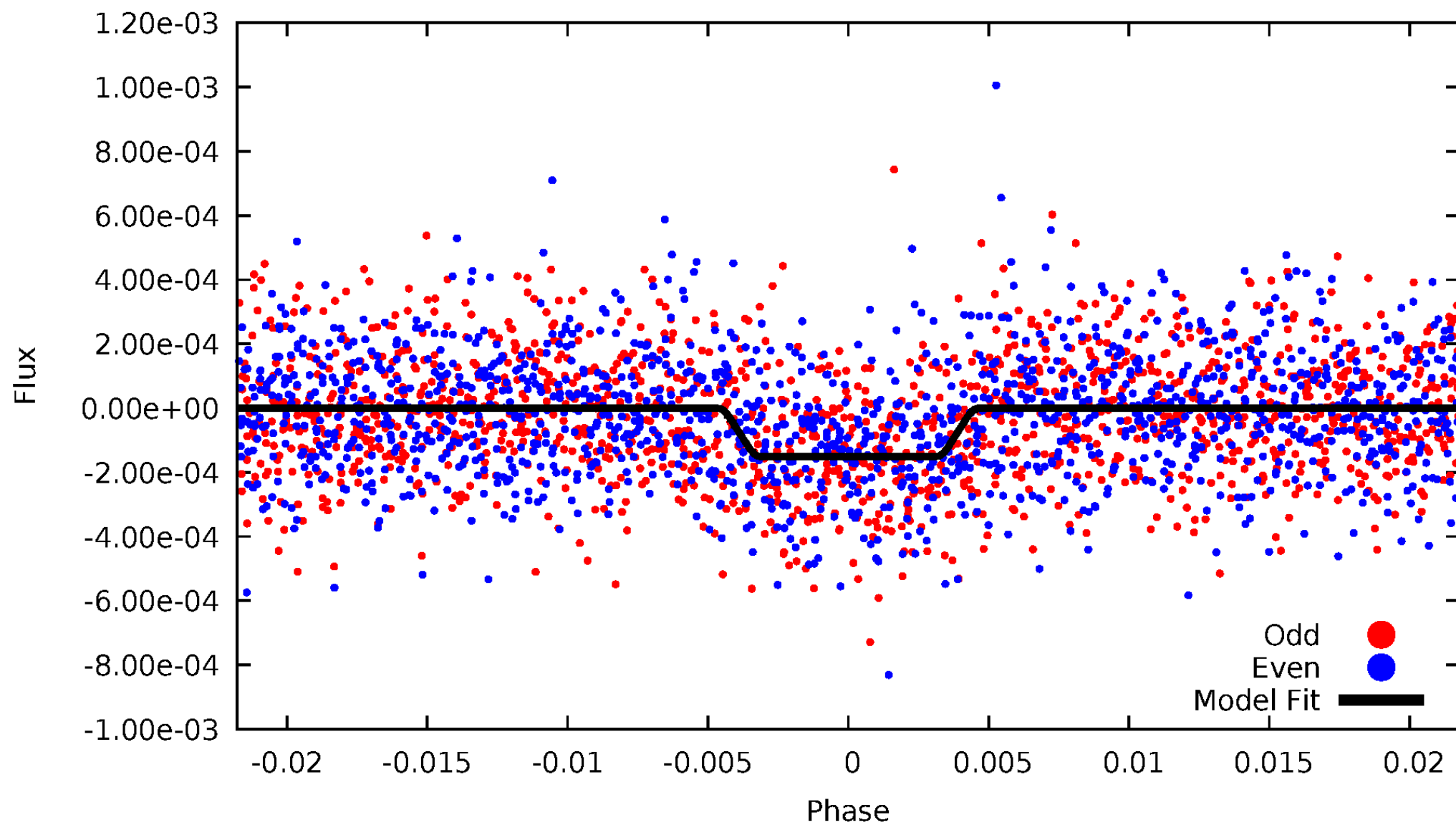
DV Odd/Even

TCE 005702939-01

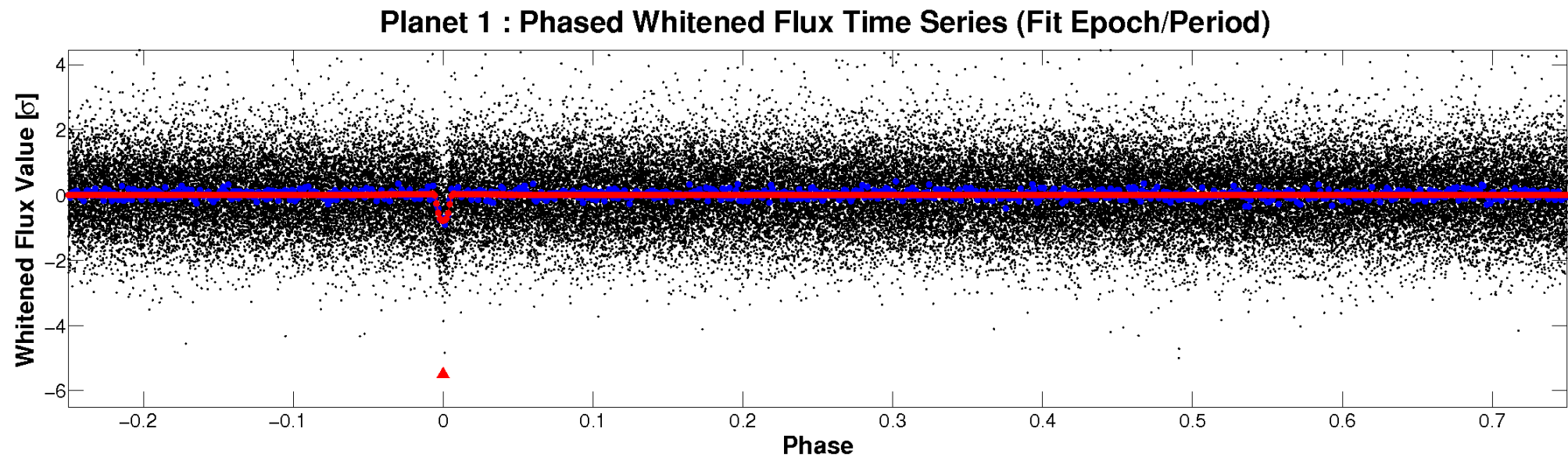
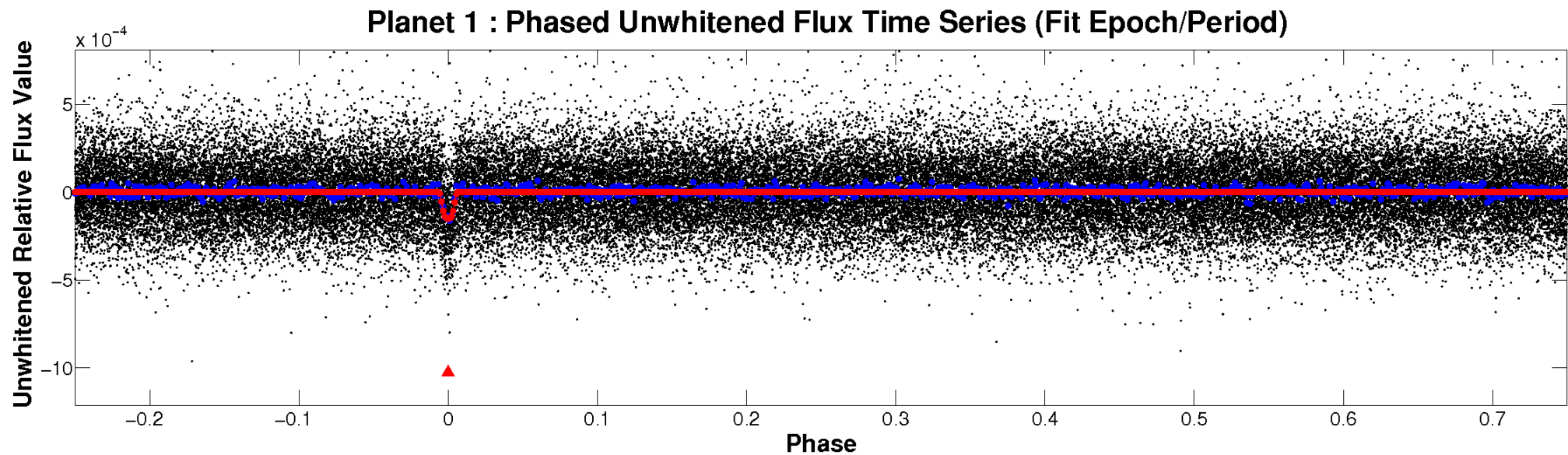


ALT Odd/Even

TCE 005702939-01

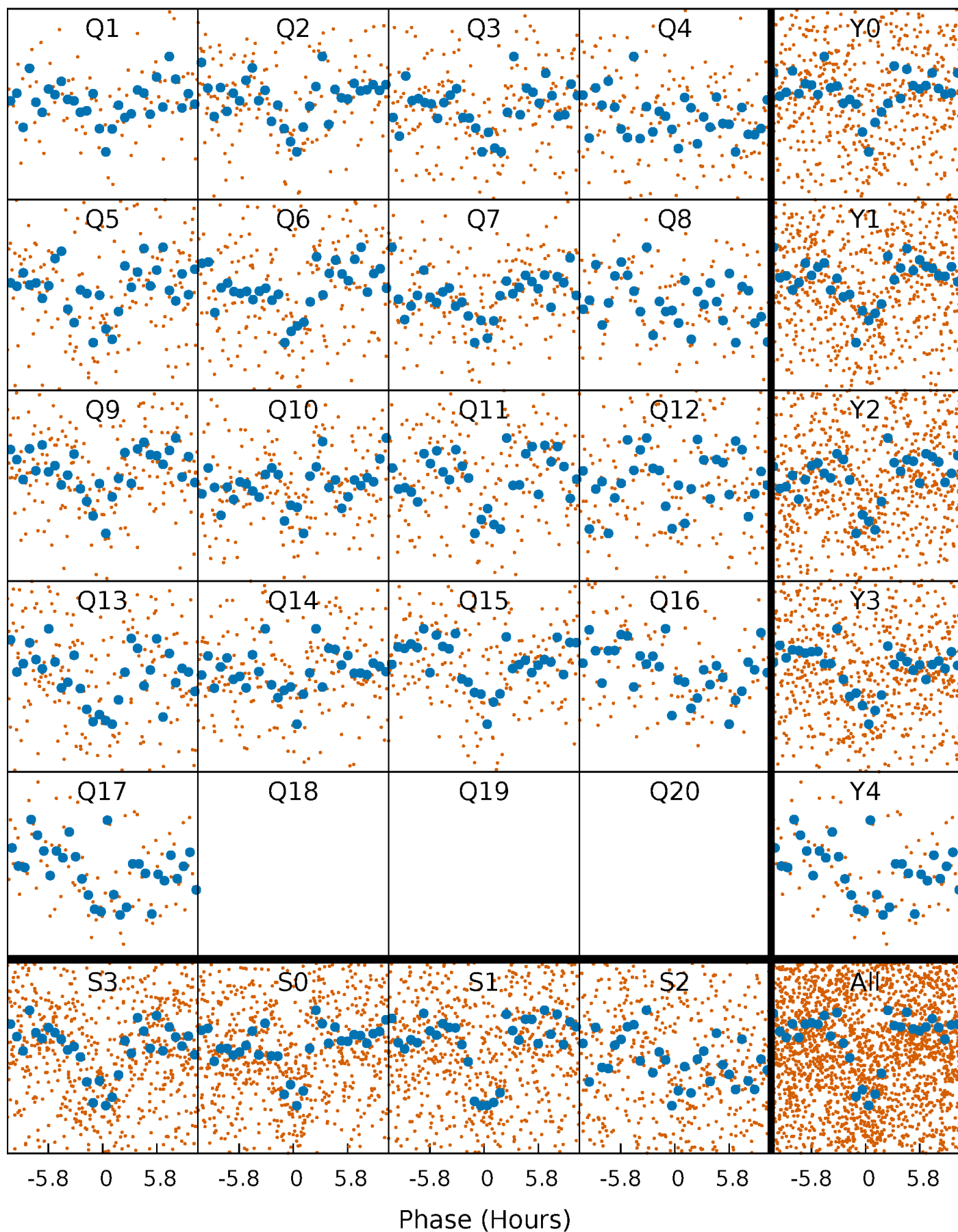


Non-Whitened Vs. Whitened Light Curve



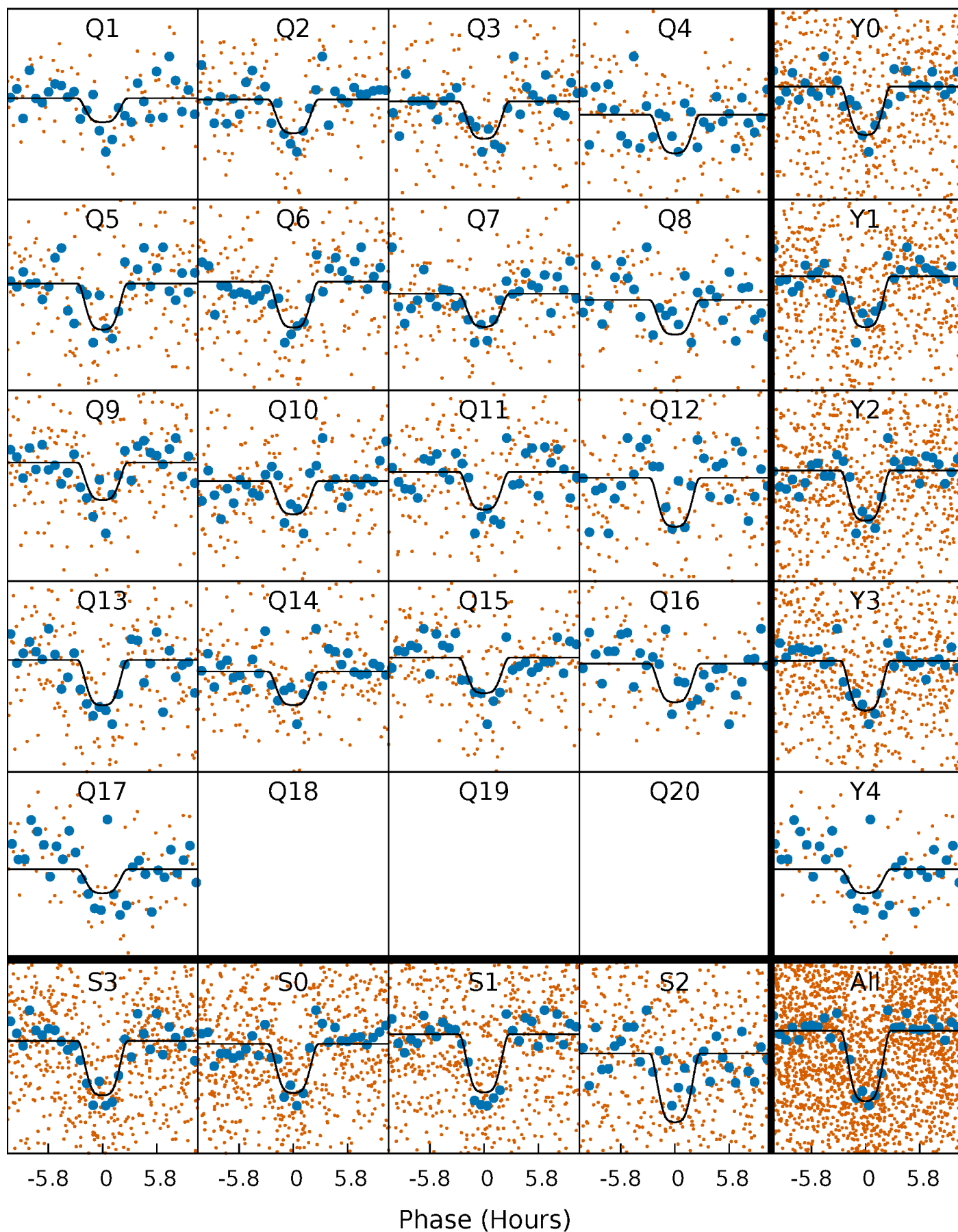
PDC Quarter-Phased Transit Curves

TCE 005702939-01 P= 18.398070 Days $T_0=144.925847$ (BKJD)



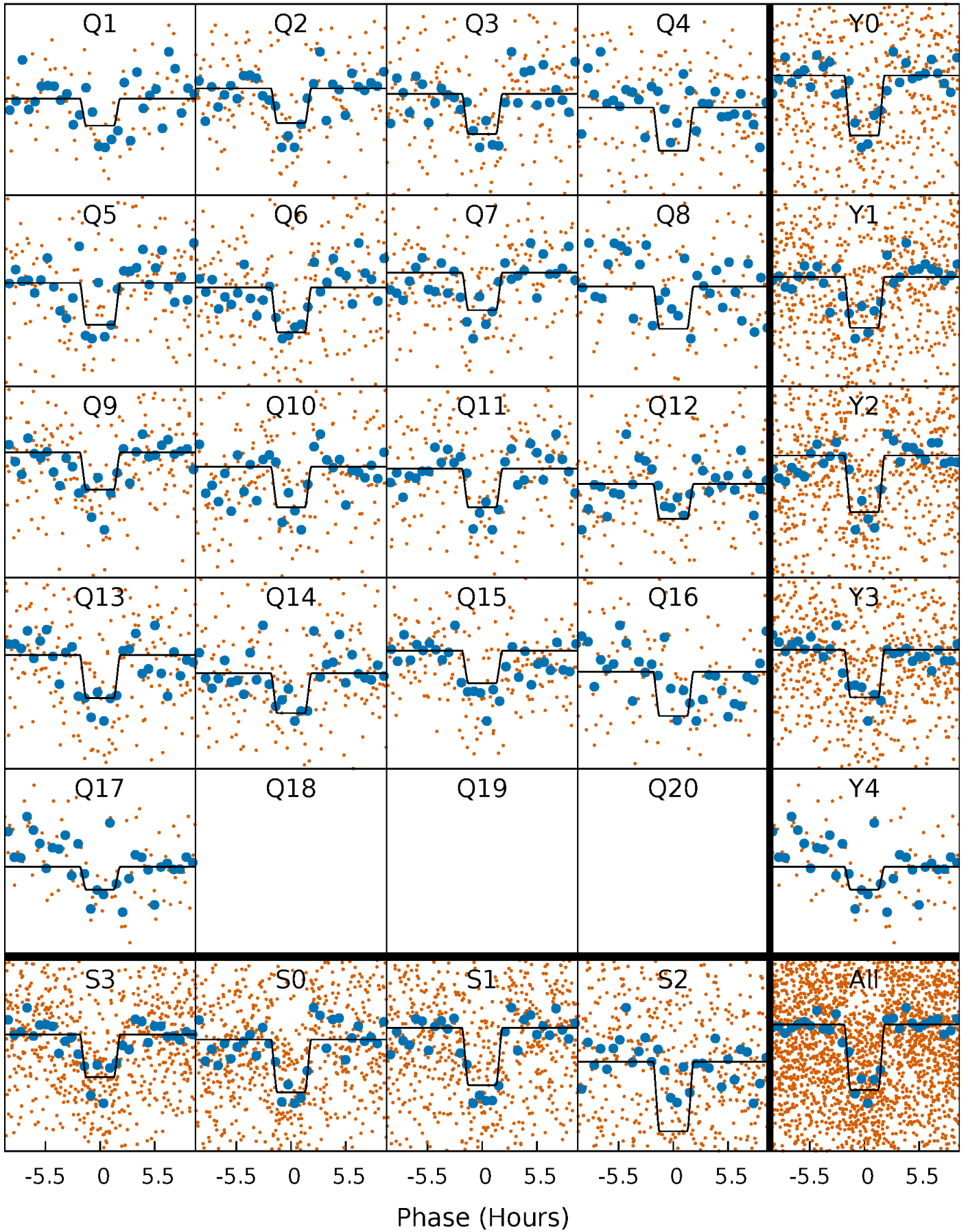
DV Quarter-Phased Transit Curves

TCE 005702939-01 P= 18.398070 Days $T_0=144.925847$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

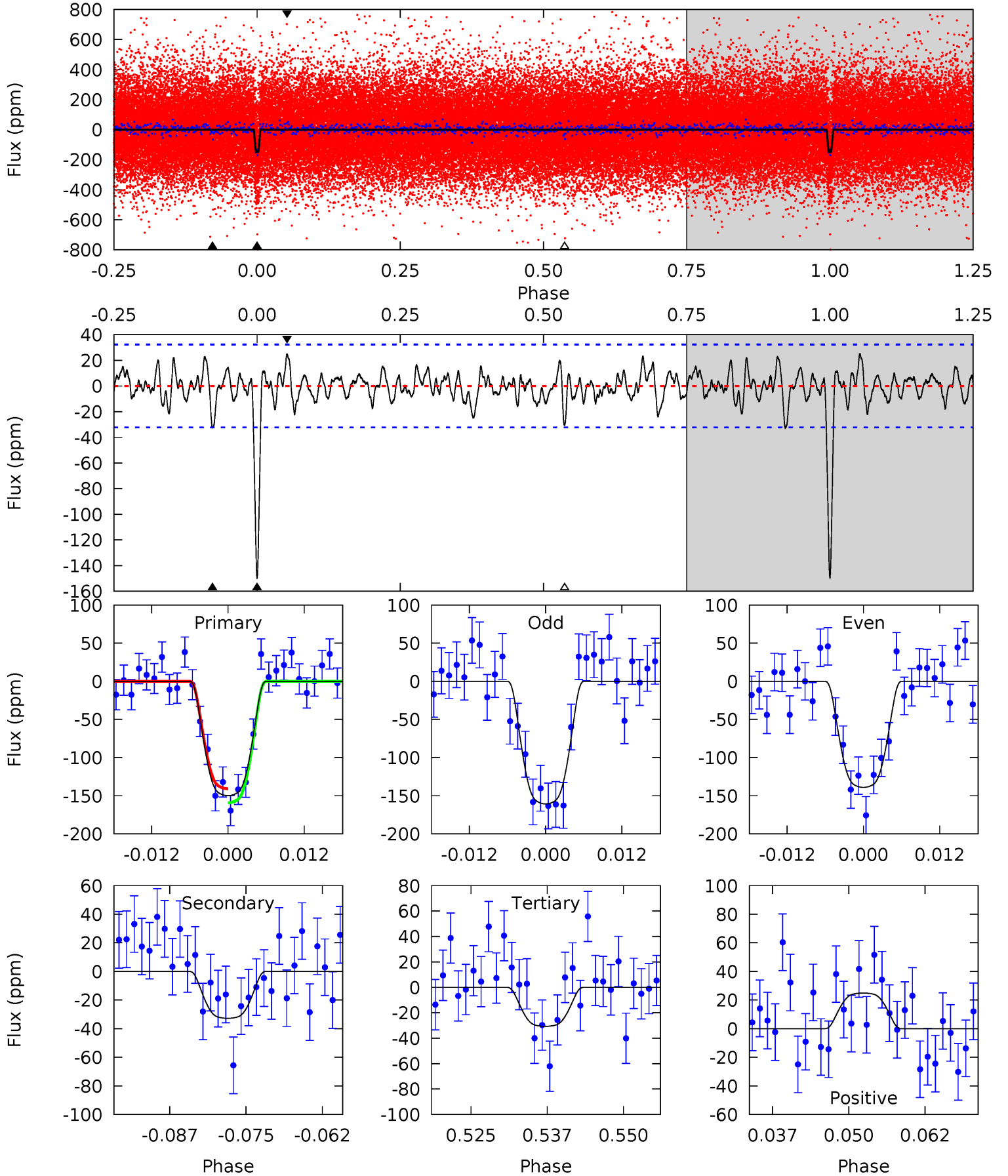
TCE 005702939-01 P= 18.397807 Days $T_0=144.935281$ (BKJD)



DV Model-Shift Uniqueness Test

005702939-01, P = 18.398070 Days, E = 126.527777 Days

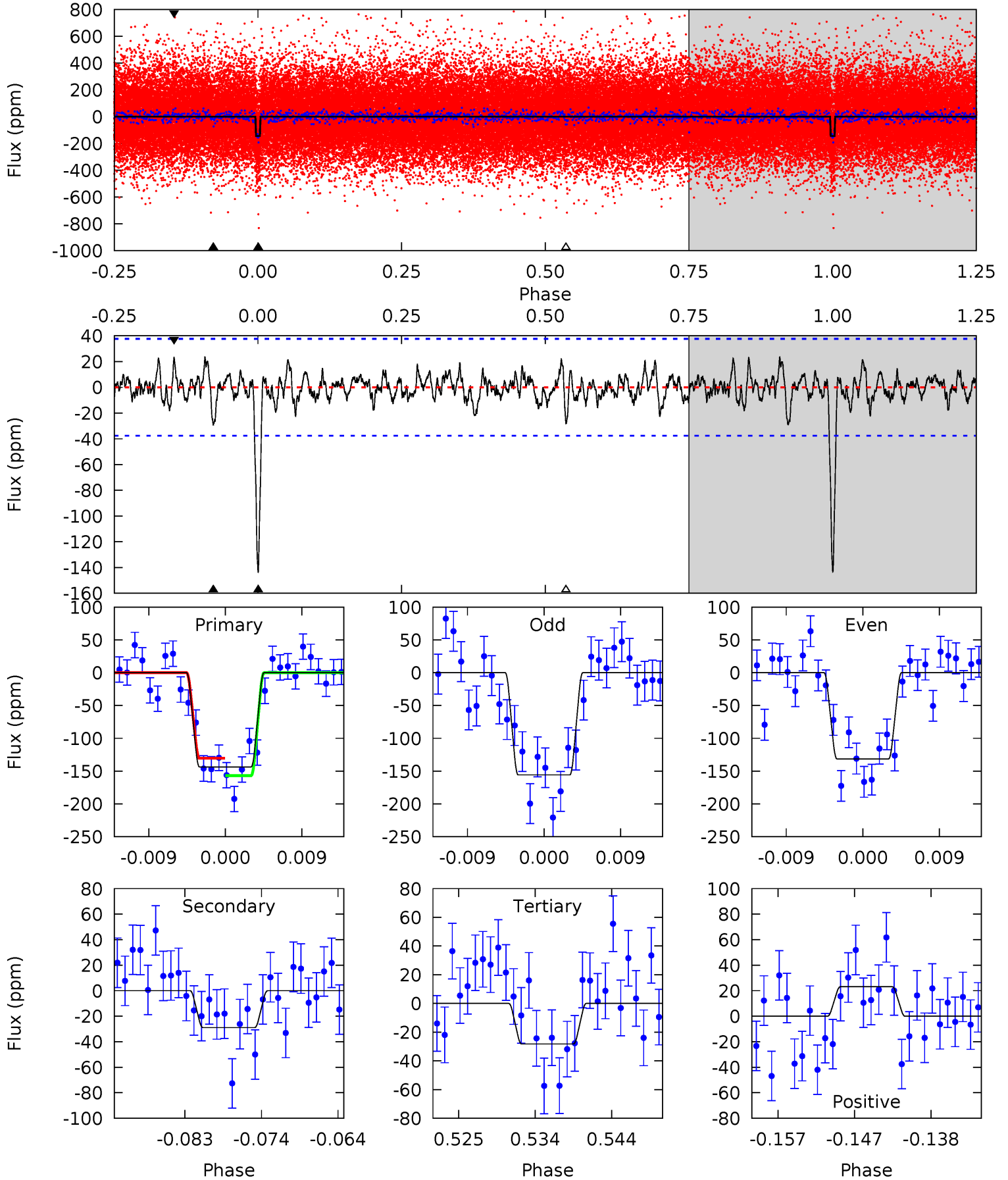
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.1	5.05	4.72	3.84	4.98	2.50	1.36	18.4	19.3	0.33	1.21	1.67	0.95	0.14	1.43



Alt Model-Shift Uniqueness Test

005702939-01, P = 18.397807 Days, E = 126.537474 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	3.87	3.79	3.10	5.04	2.60	1.08	15.5	16.1	0.09	0.78	1.64	0.96	0.14	1.77



Stellar Parameters For KIC 005702939

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5605^{+101}_{-101}	$4.381^{+0.110}_{-0.099}$	$0.000^{+0.150}_{-0.150}$	$1.015^{+0.142}_{-0.116}$	$0.904^{+0.068}_{-0.046}$	$1.217^{+0.570}_{-0.390}$
	+2%/-2%	+3%/-2%	+inf%/-inf%	+14%/-11%	+8%/-5%	+47%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 005702939-01 / KOI 3000.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-33 ± 6	$1.73^{+0.18}_{-0.16}$	958^{+38}_{-38}	3766^{+148}_{-162}	103^{+33}_{-24}
Alt.	-29 ± 7	$1.36^{+0.16}_{-0.14}$	959^{+35}_{-40}	4013^{+221}_{-234}	150^{+55}_{-46}

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

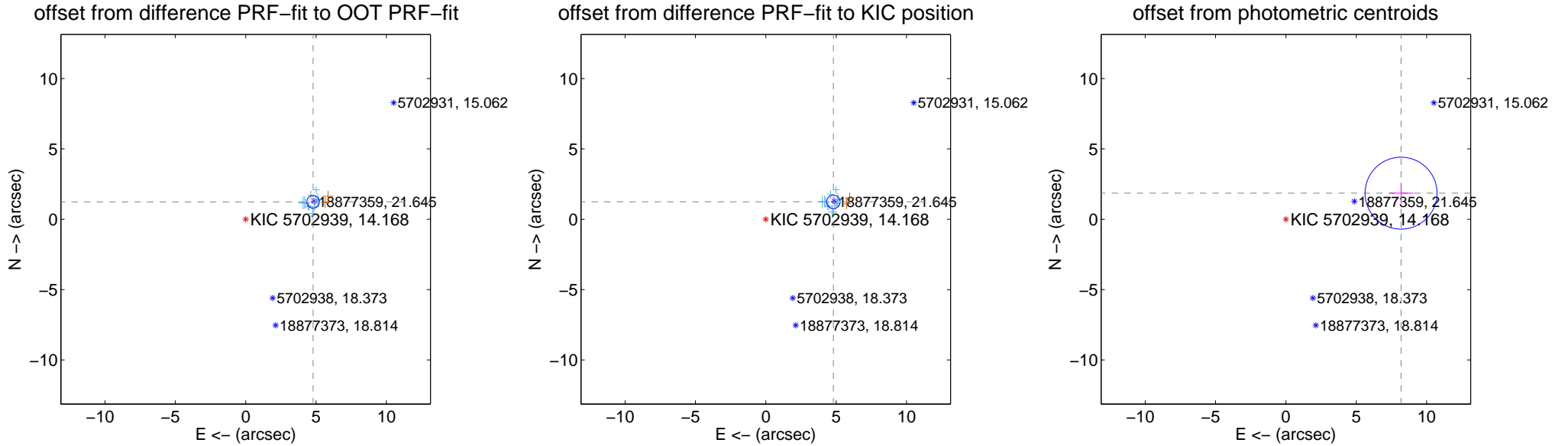
DV Centroid Data

Supplemental centroid analysis for 005702939-01. Kepler magnitude: 14.17. Transit SNR 15.53

There are 13 quarters with good PRF difference image offsets

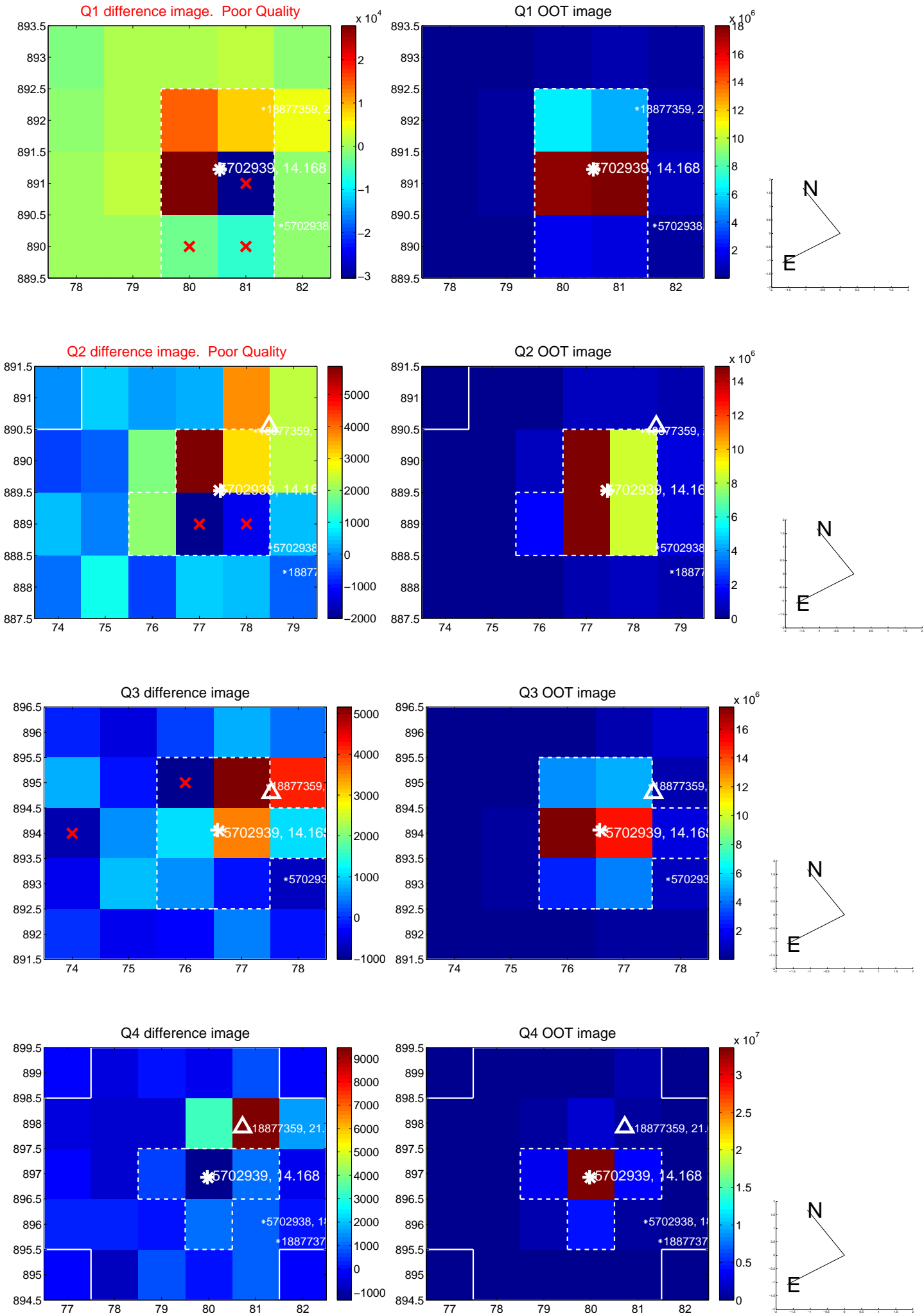
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.949 ± 0.149	33.13	-4.792 ± 0.145	1.237 ± 0.114
PRF-fit source offset from KIC position	4.958 ± 0.159	31.11	-4.801 ± 0.157	1.238 ± 0.120
photometric centroid source offset	8.39 ± 0.85	9.84	-8.18 ± 0.86	1.85 ± 0.74

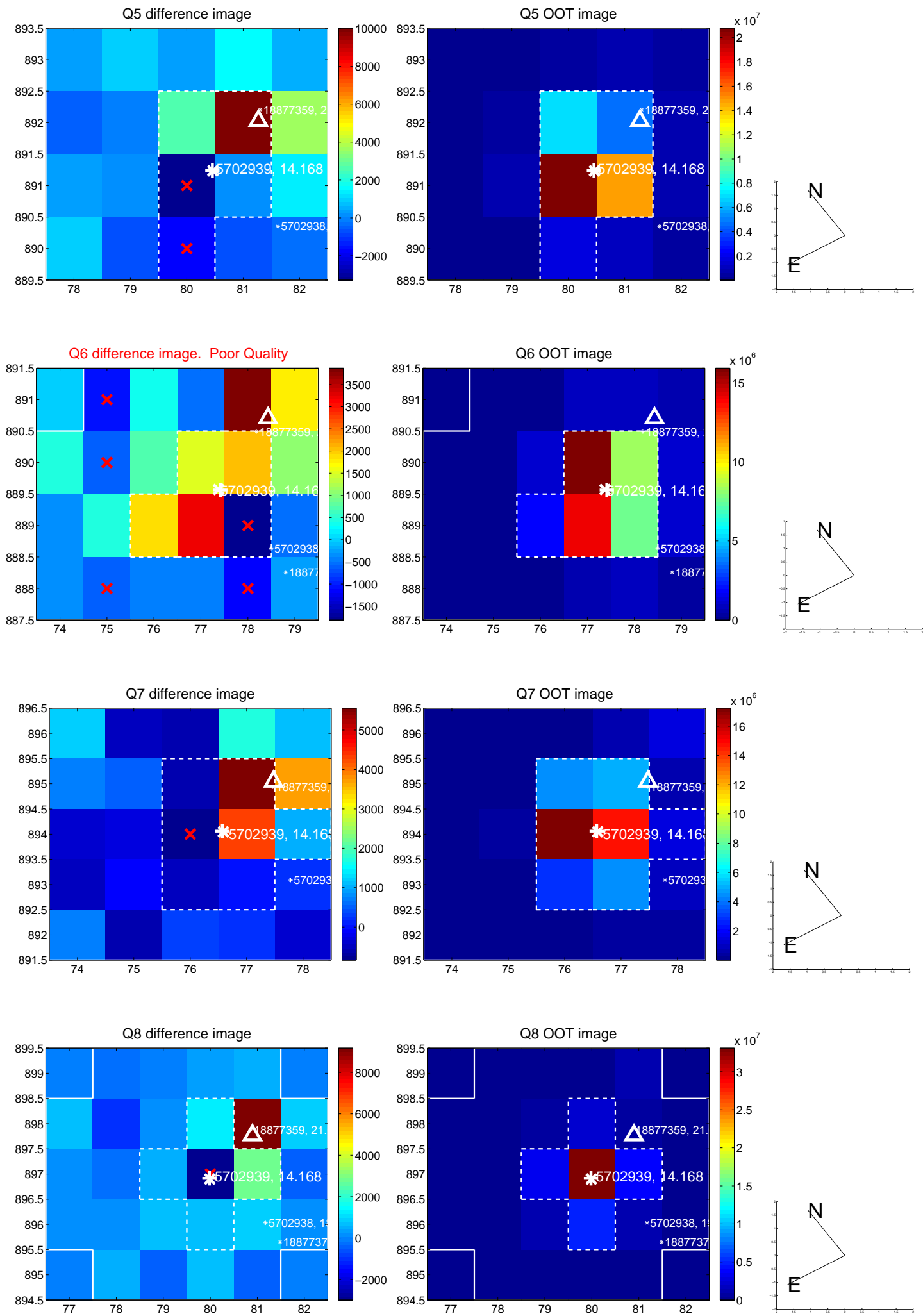


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

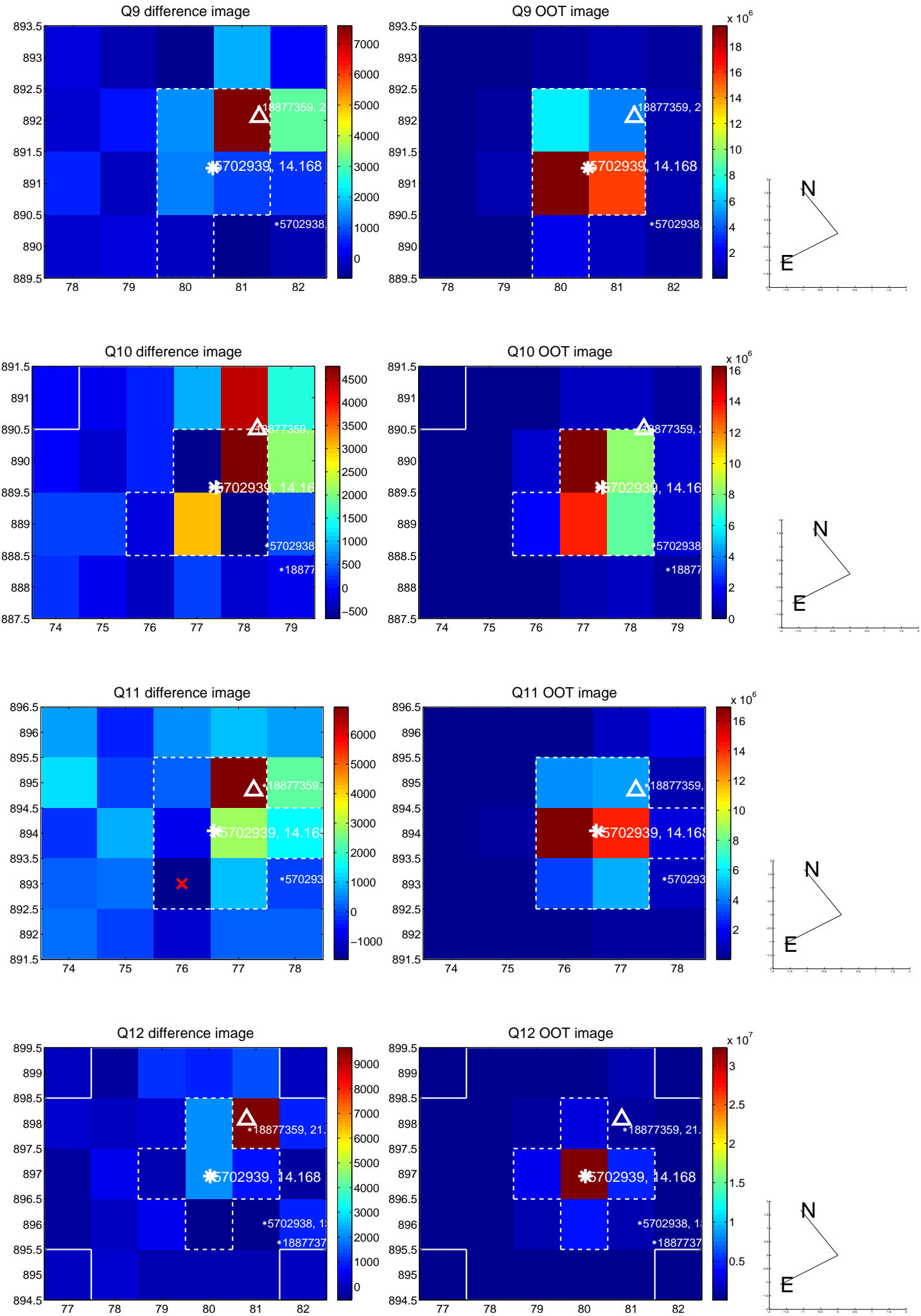
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



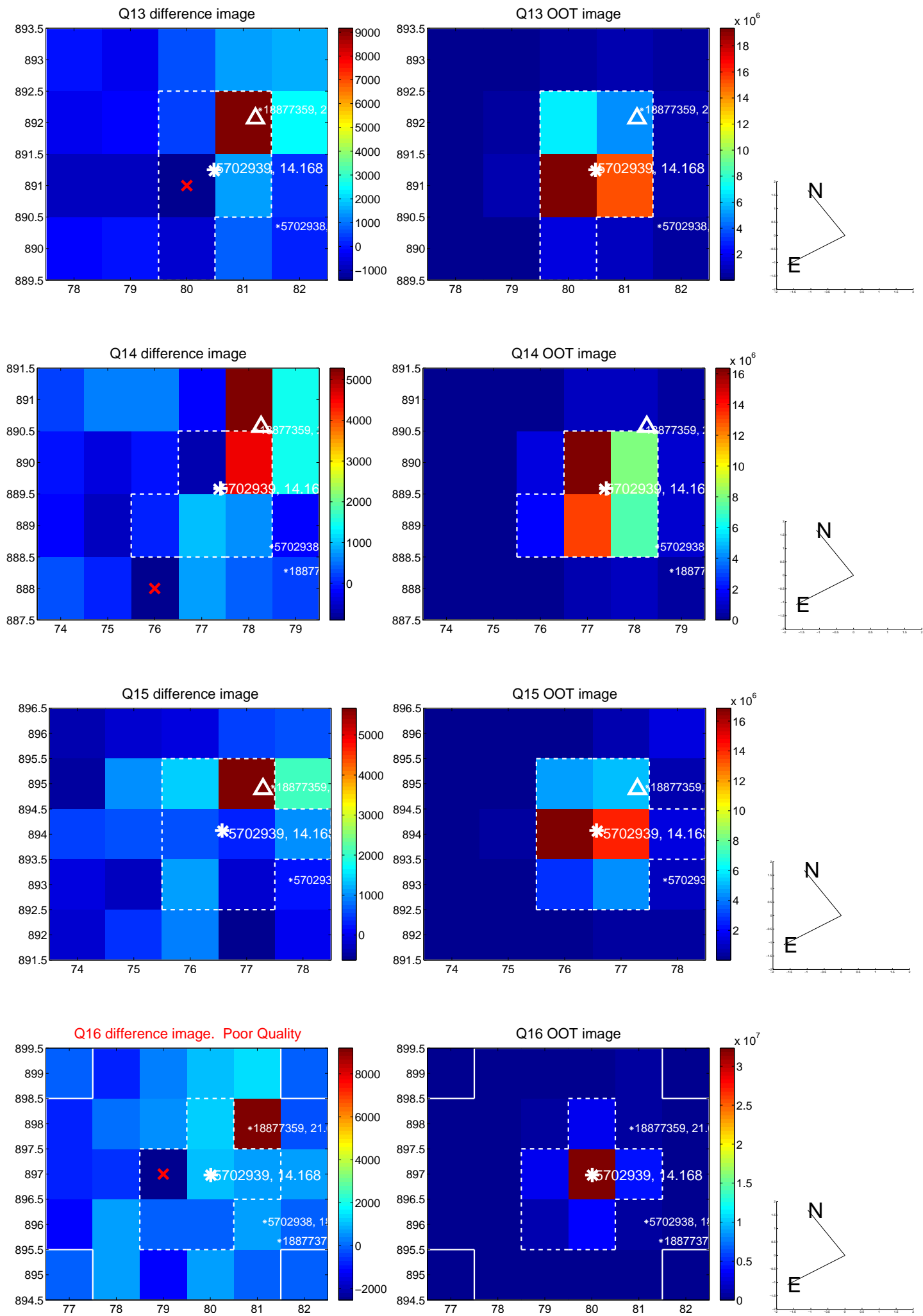
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



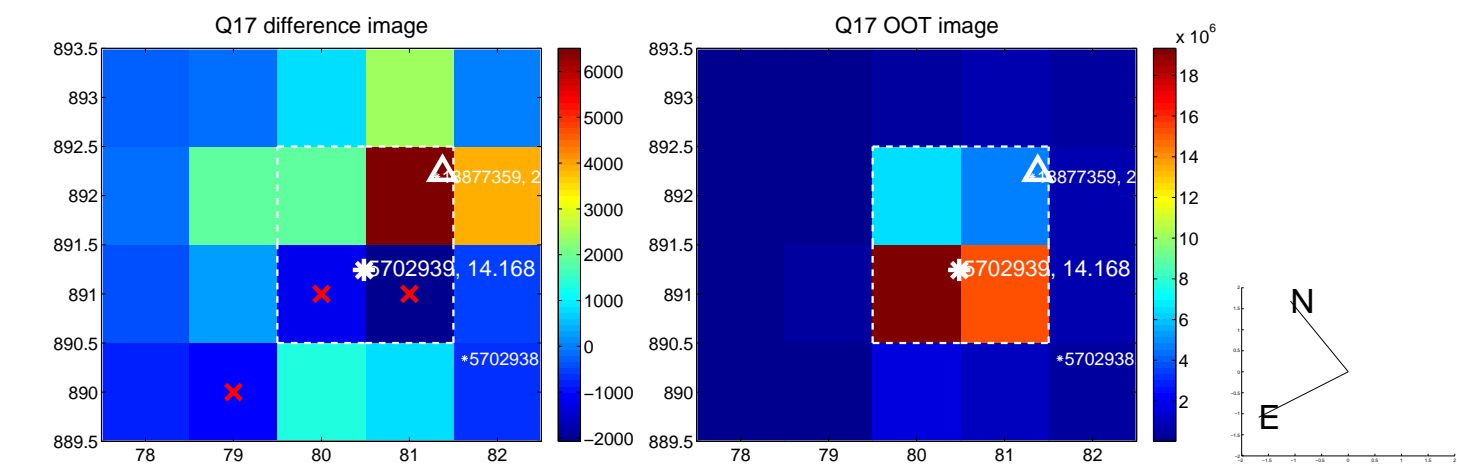
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



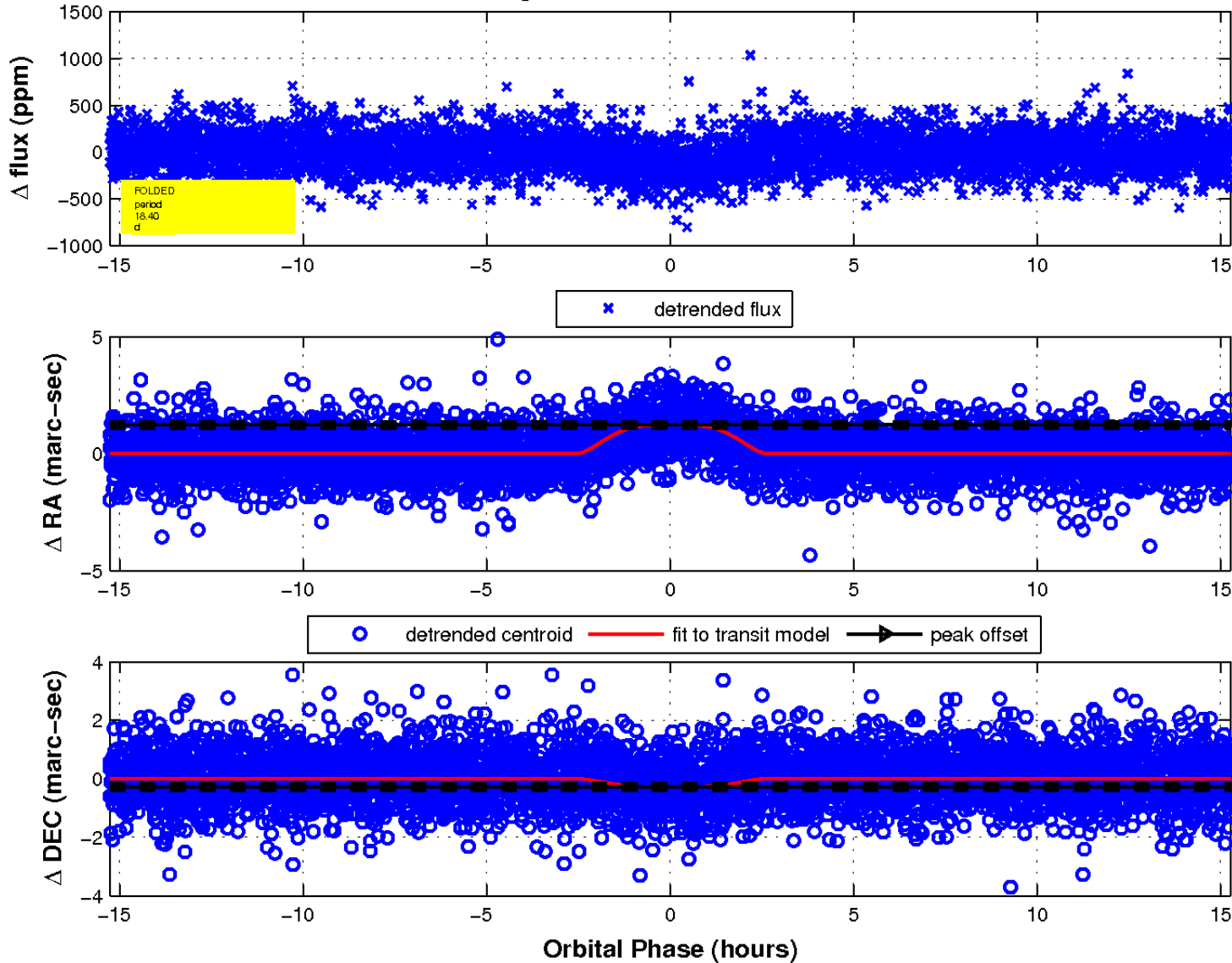
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

