

KIC 007215678

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})
007215678-01	OBS	2354.01	1.151243	132.644620	235.0	1.021	30.3	37.5	0.92	6086	1.67	2249.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007215678-01	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.

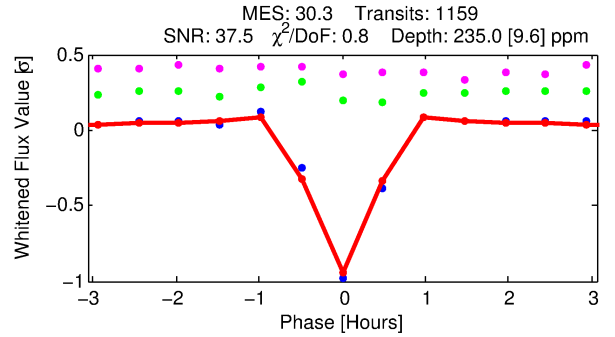
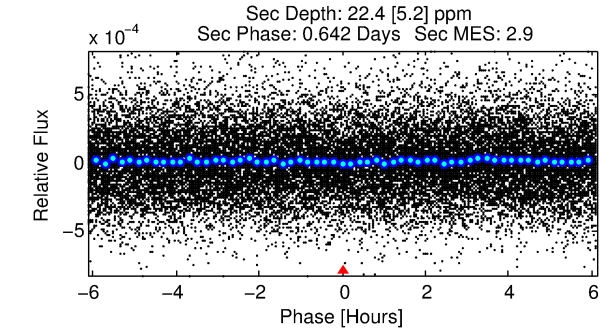
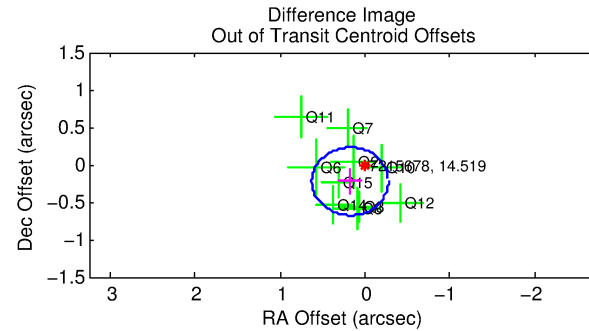
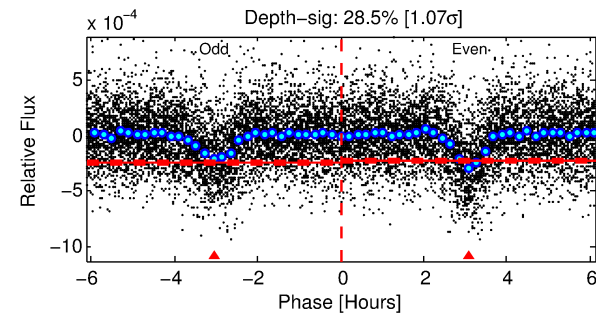
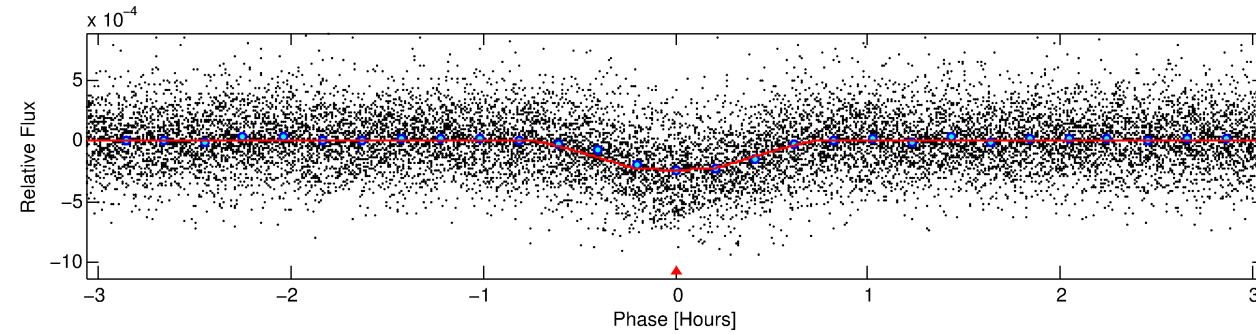
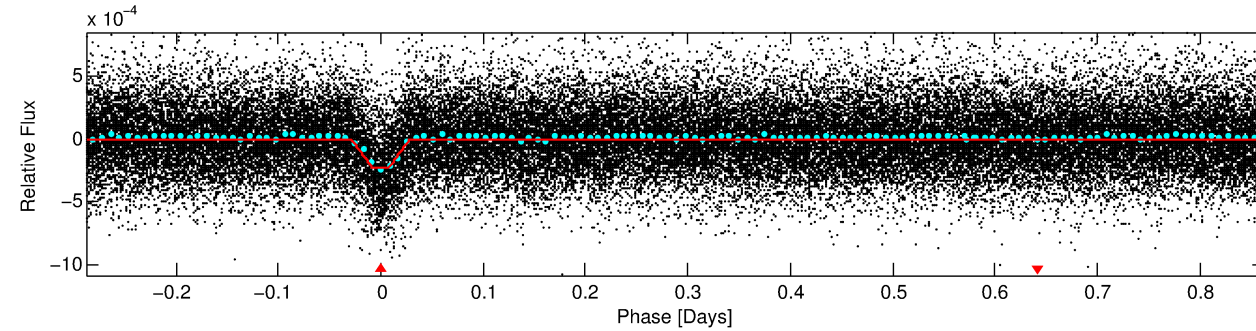
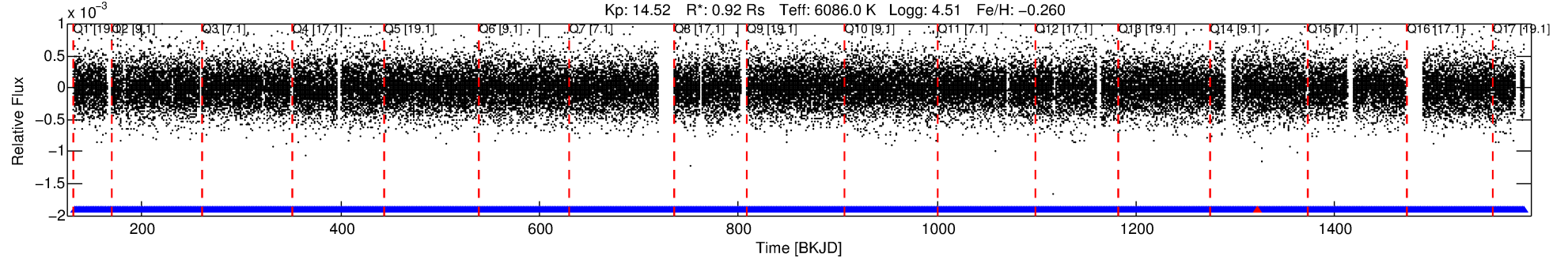
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007215678-01

No Significant Match Found

DV One-Page Summary

KIC: 7215678 Candidate: 1 of 1 Period: 1.151 d
KOI: K02354.01 Corr: 0.882



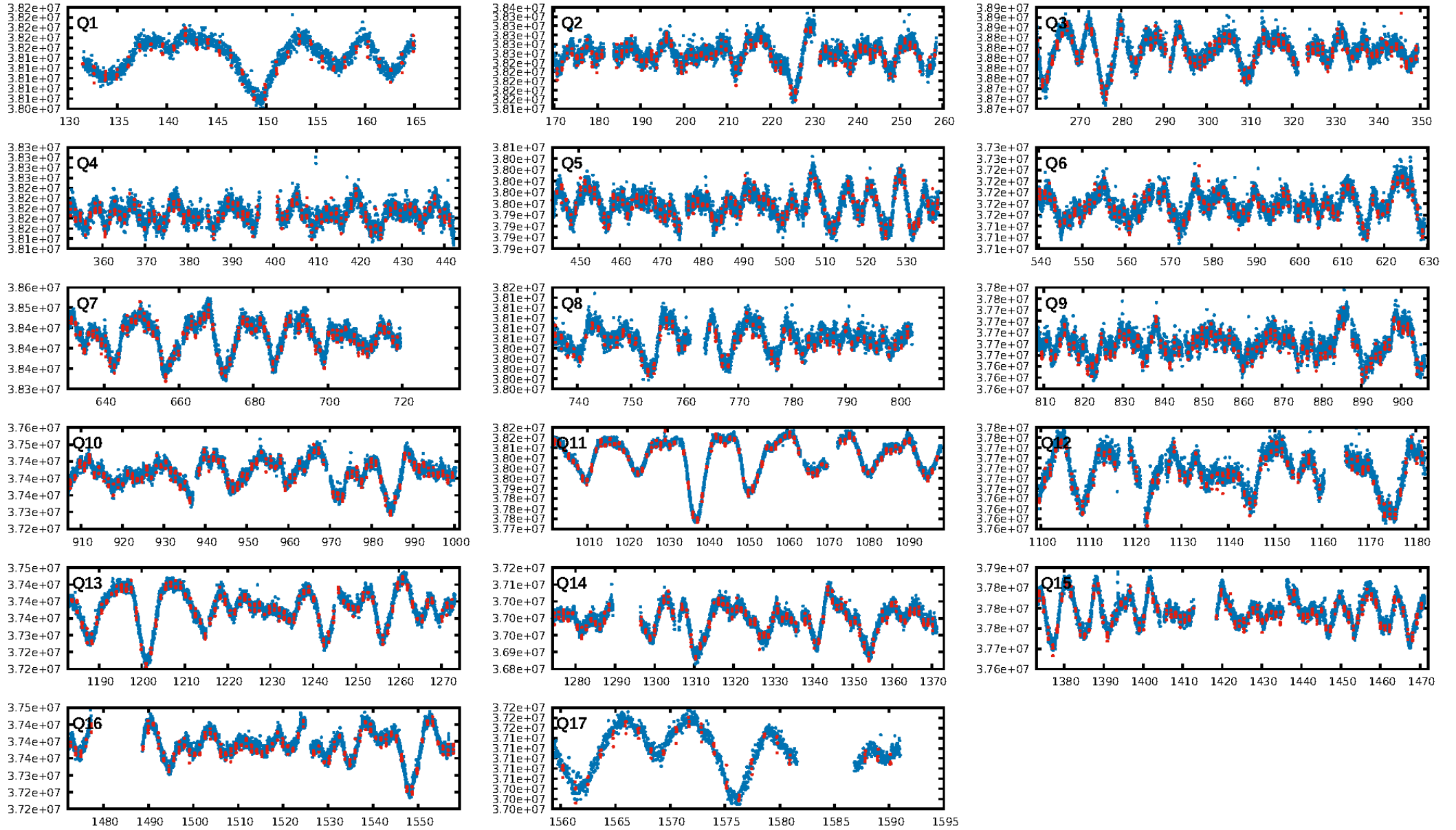
DV Fit Results:

Period = 1.15124 [0.00000] d
Epoch = 132.6446 [0.0004] BKJD
Rp/R* = 0.0167 [0.0027]
a/R* = 4.18 [3.34]
b = 0.90 [0.18]
Seff = 2249.95 [929.53]
Teq = 1756 [181] K
Rp = 1.67 [0.59] Re
a = 0.0215 [0.0057] AU
Ag = 2.03 [1.14] [0.91 σ]
Teffp = 3242 [340] K [3.85 σ]

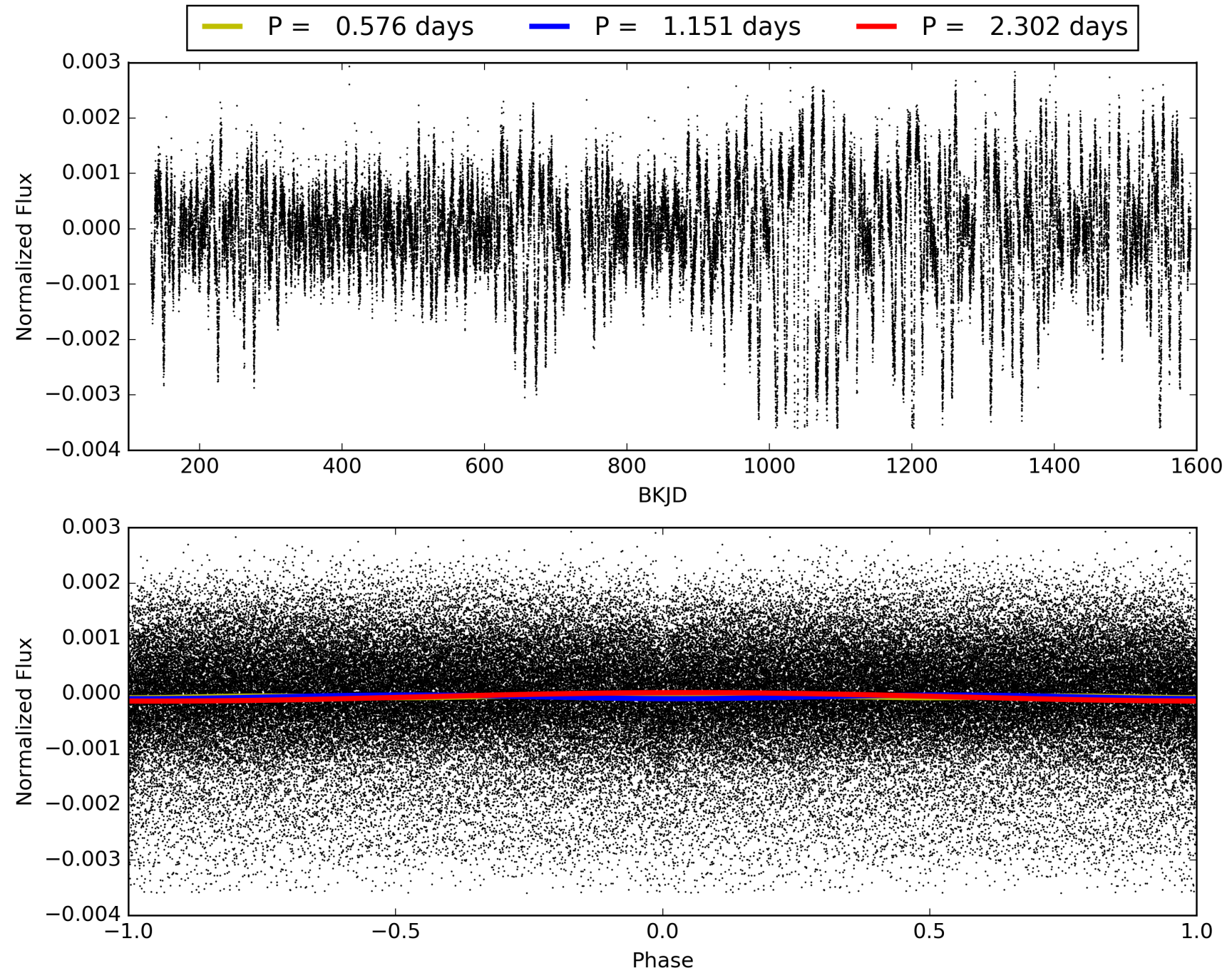
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.50e-185
RollingBand-fgt: 1.00 [1106/1107]
GhostDiagnostic-chr: 23.86
Centroid-sig: 0.0%
Centroid-so: 0.522 arcsec [1.79 σ]
OotOffset-rm: 0.282 arcsec [1.87 σ]
KicOffset-rm: 0.197 arcsec [1.30 σ]
OotOffset-st: 4/4/2/0 [10]
KicOffset-st: 4/4/2/5 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007215678-01, PDC Light Curves

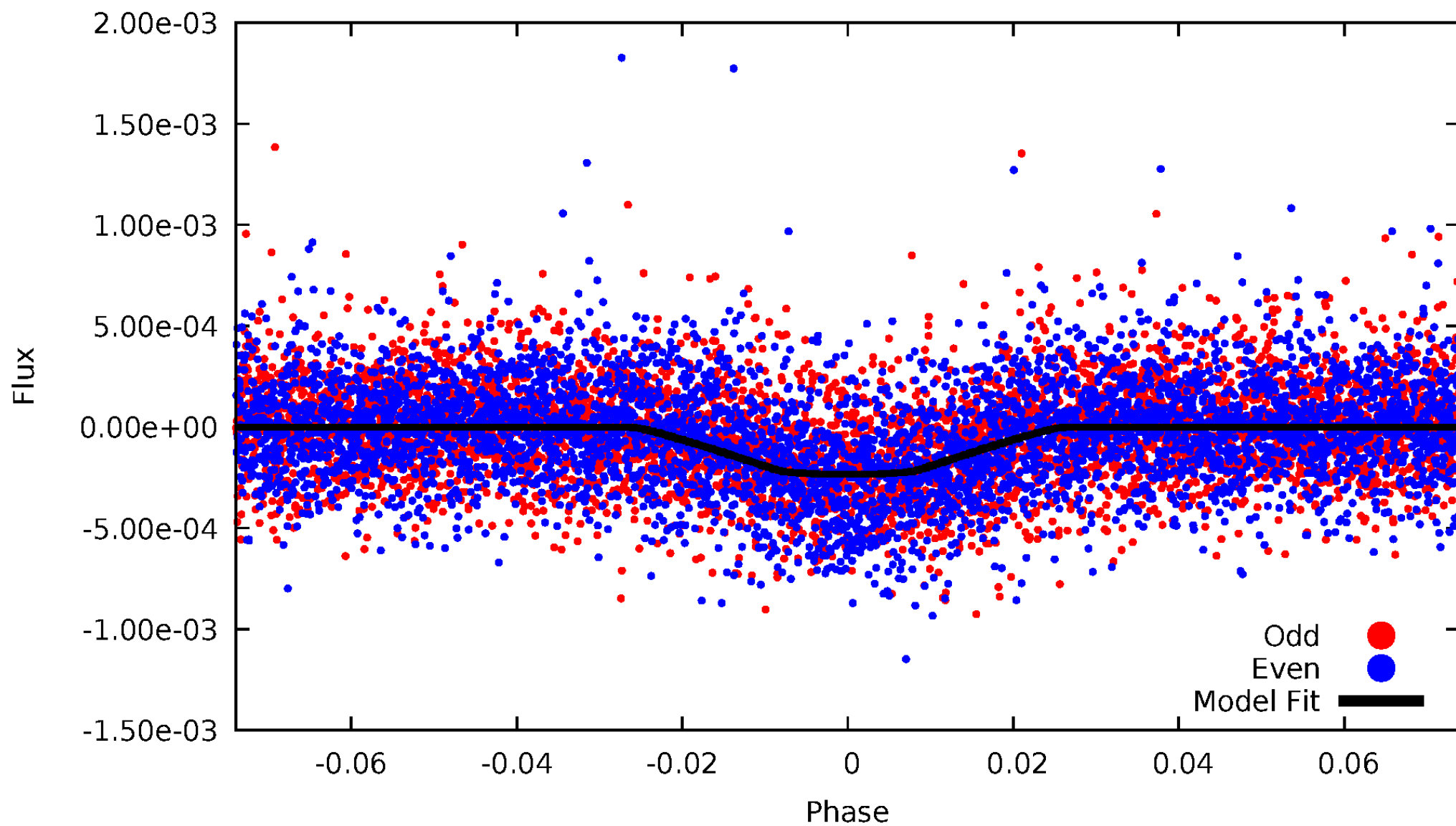


TCE 007215678-01



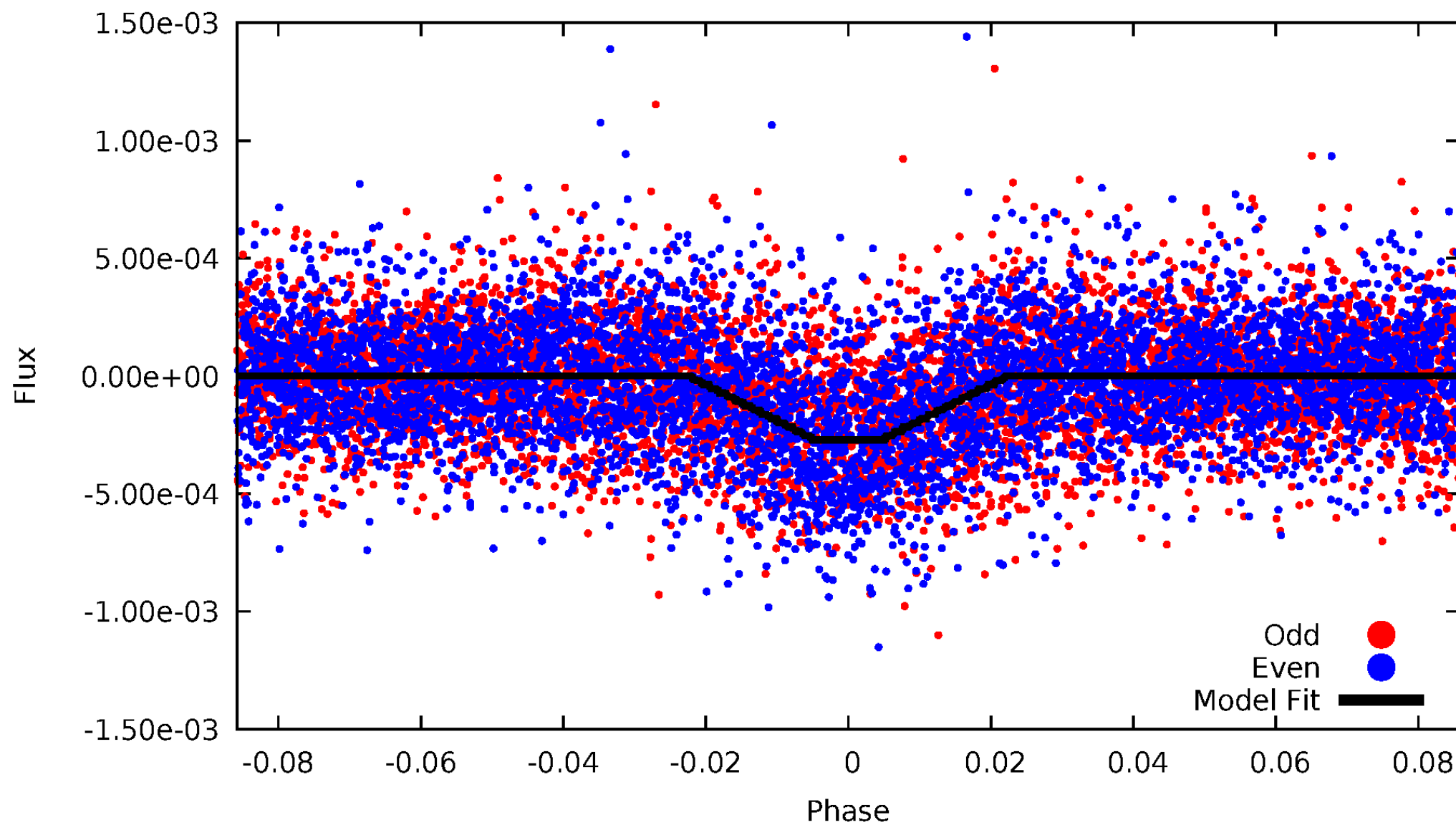
DV Odd/Even

TCE 007215678-01



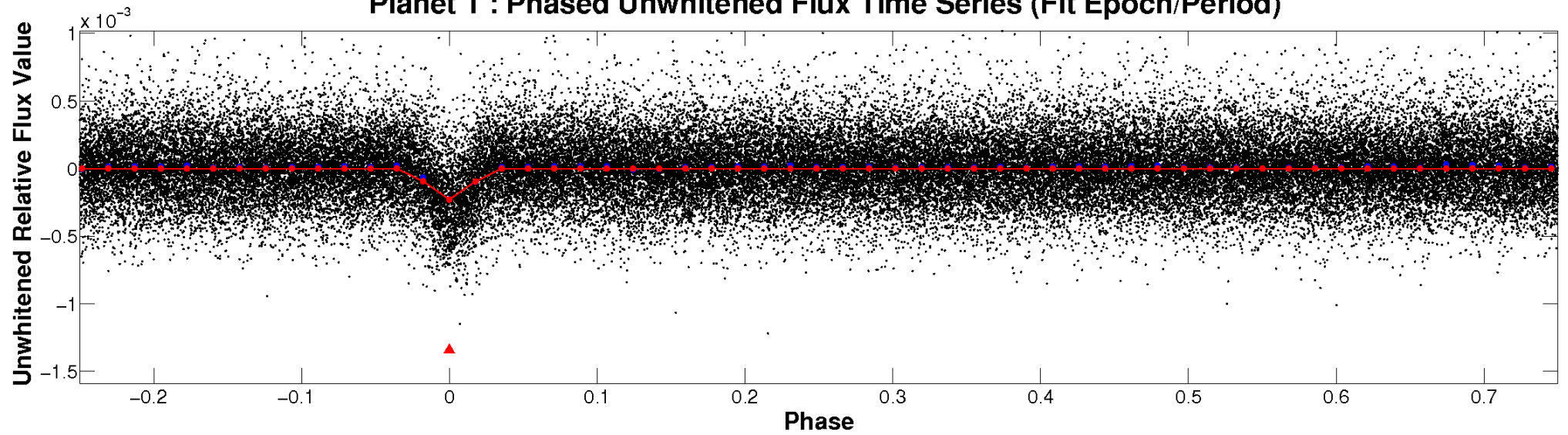
ALT Odd/Even

TCE 007215678-01

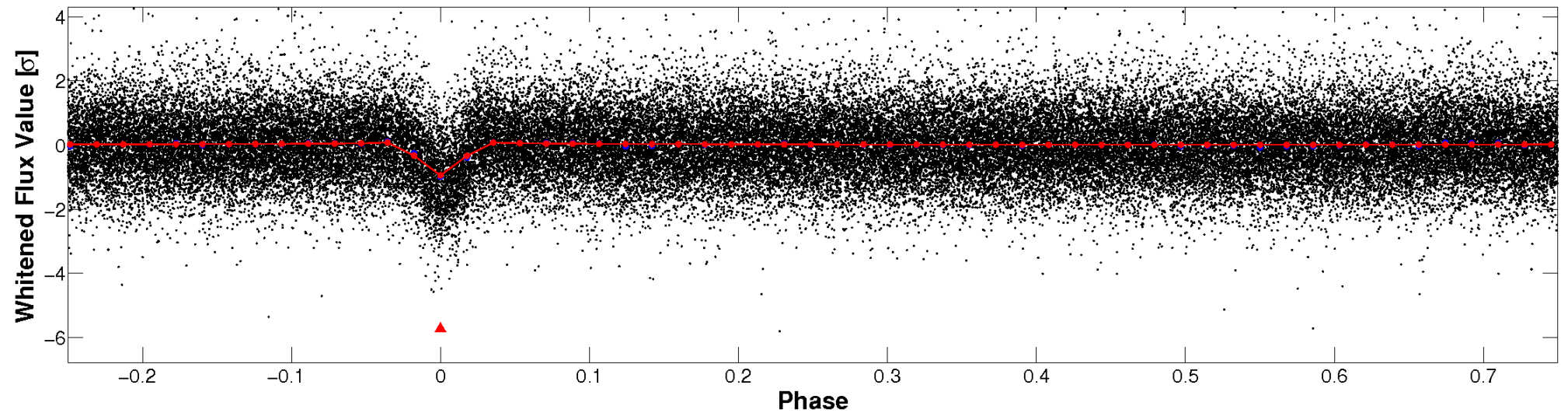


Non-Whitened Vs. Whitened Light Curve

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

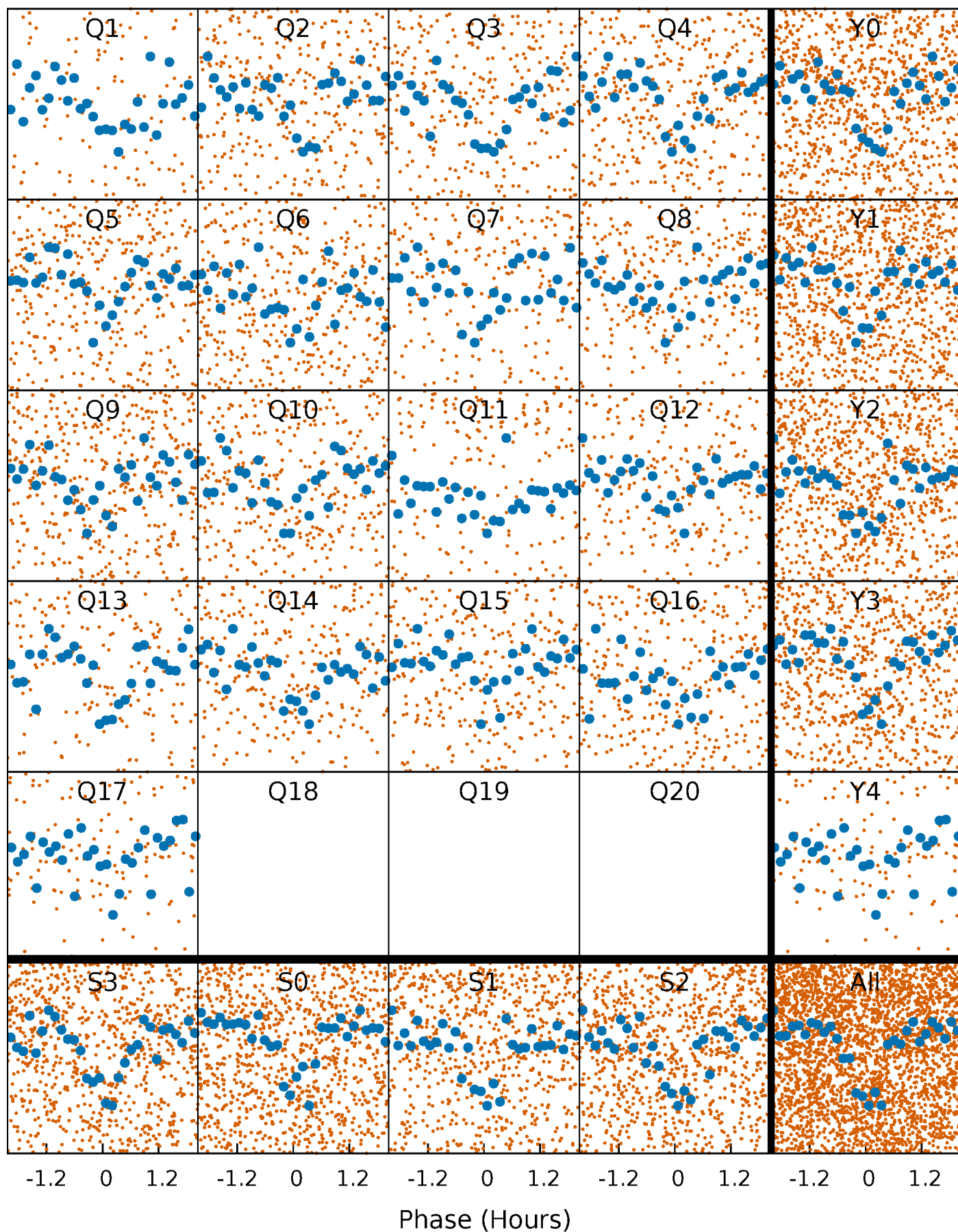


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



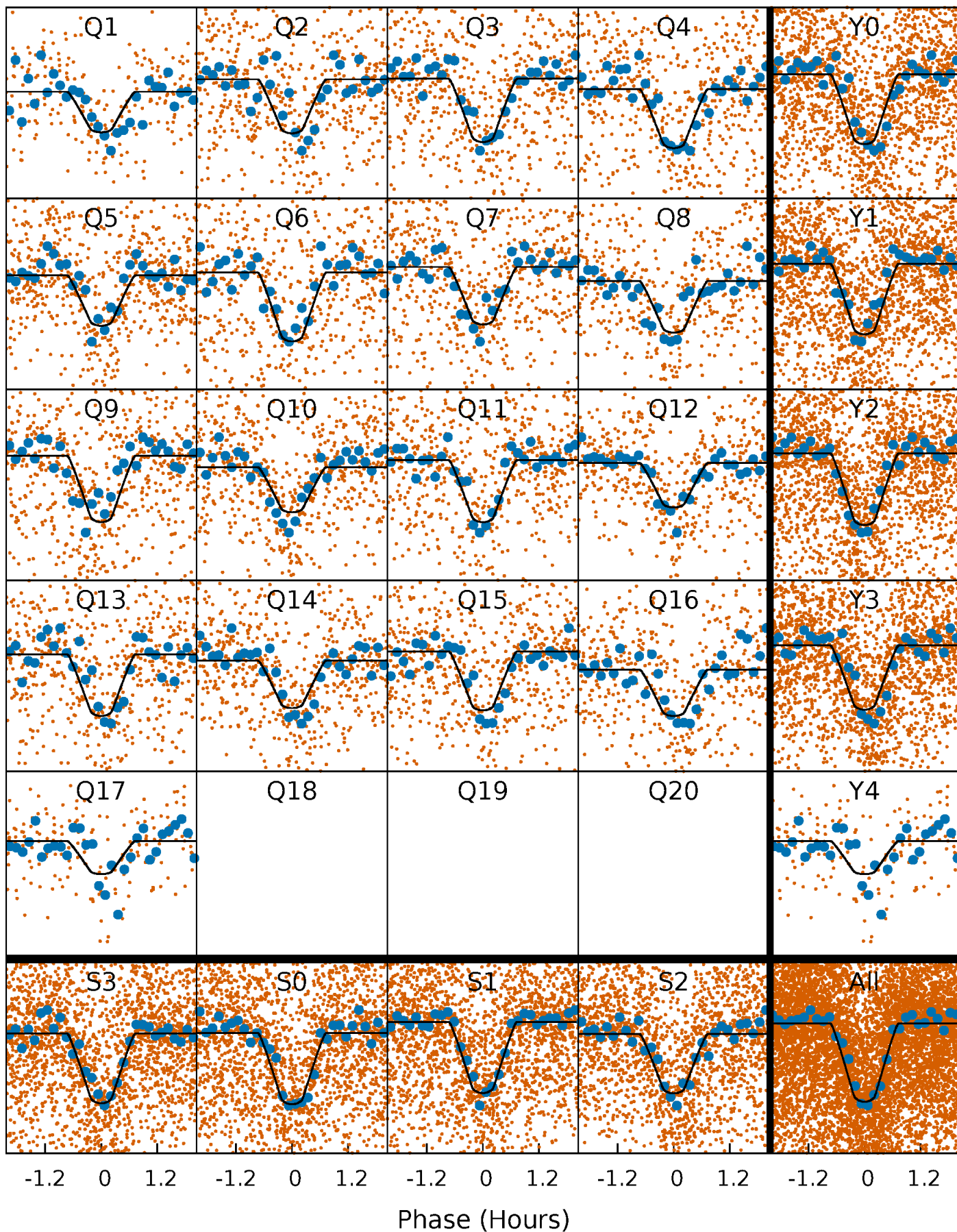
PDC Quarter-Phased Transit Curves

TCE 007215678-01 P= 1.151243 Days $T_0=132.644620$ (BKJD)



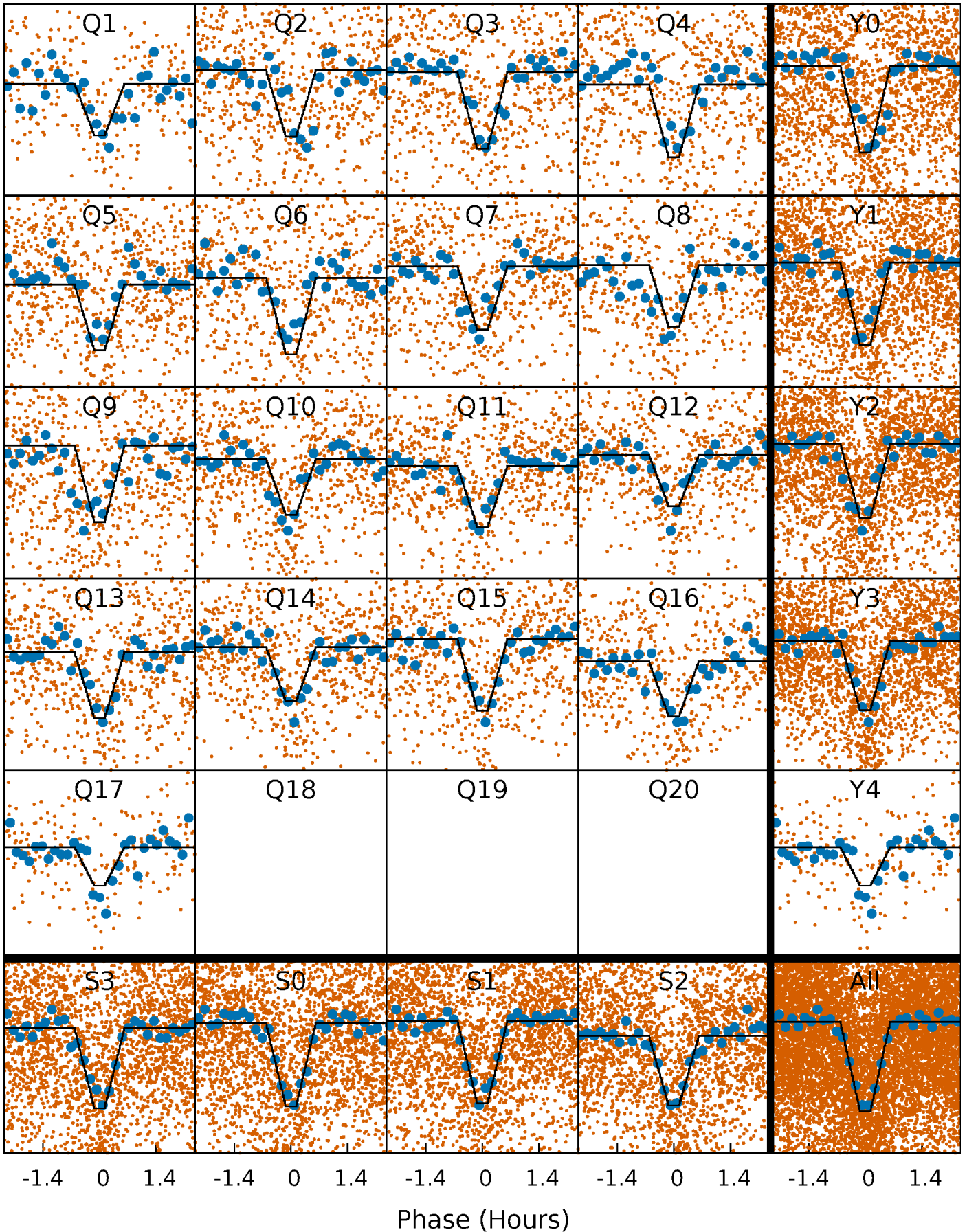
DV Quarter-Phased Transit Curves

TCE 007215678-01 P= 1.151243 Days $T_0=132.644620$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

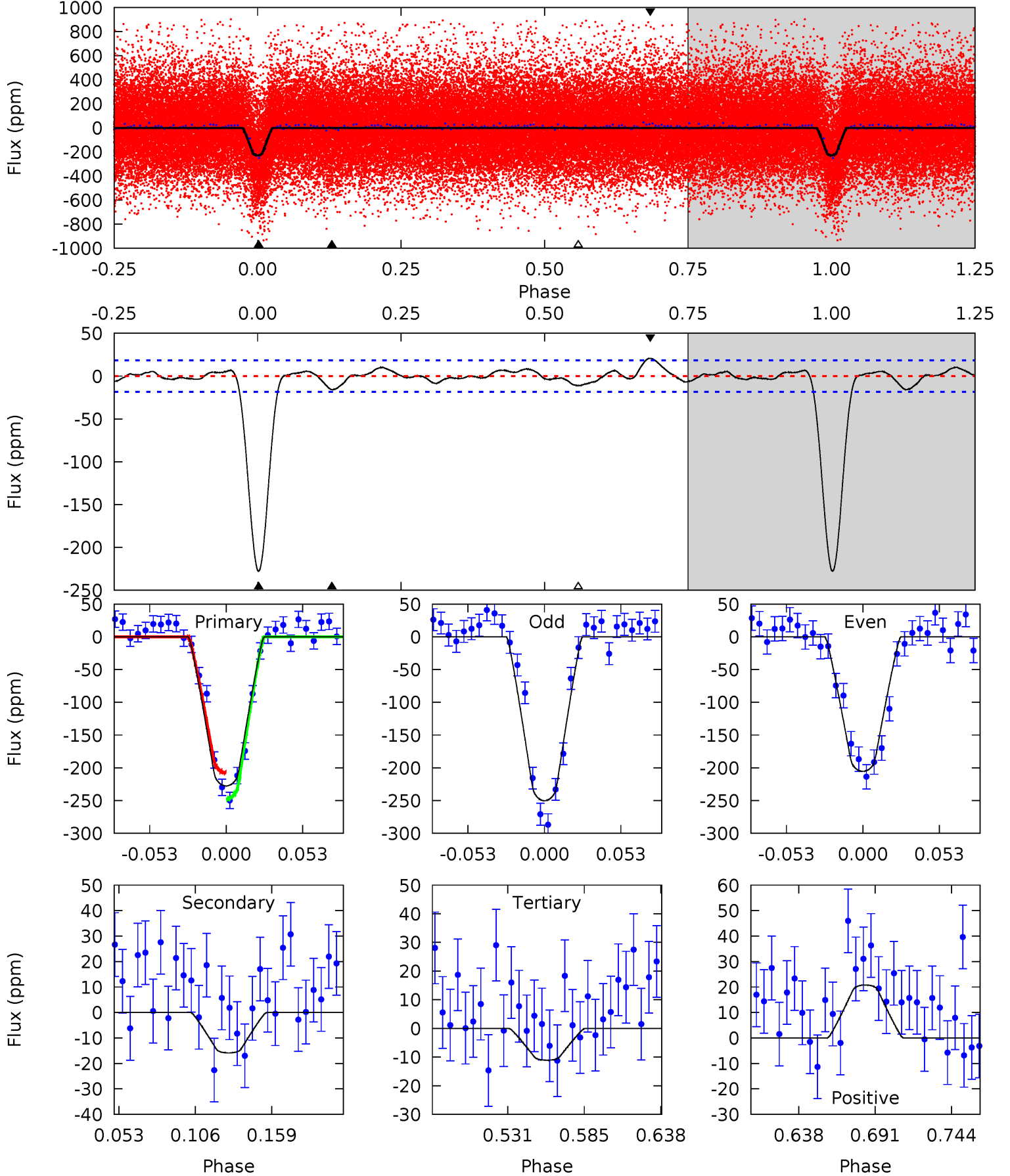
TCE 007215678-01 P= 1.151247 Days $T_0=132.643569$ (BKJD)



DV Model-Shift Uniqueness Test

007215678-01, P = 1.151243 Days, E = 131.493377 Days

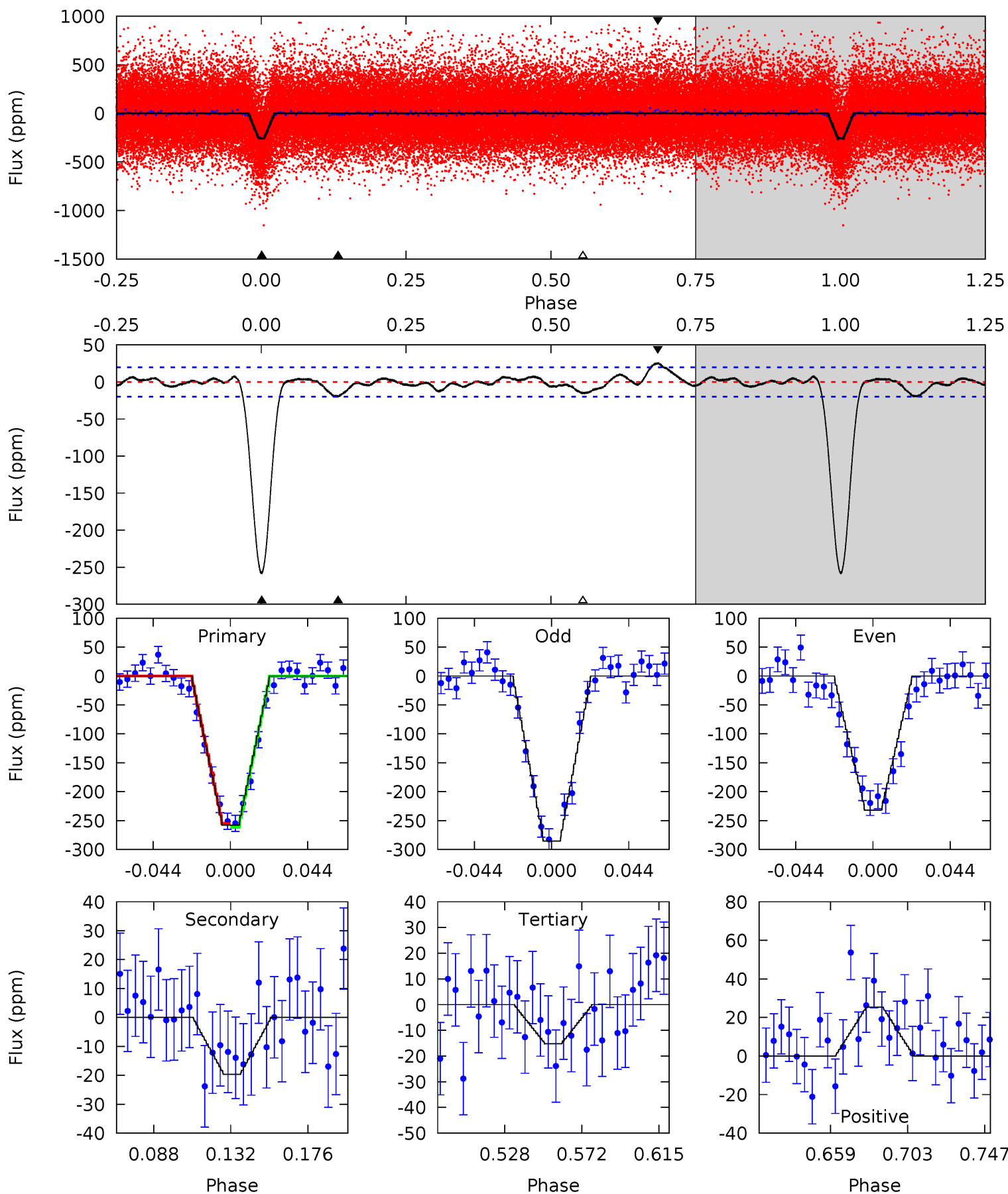
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.4	4.08	2.85	5.34	4.70	1.93	1.52	55.6	53.1	1.23	-1.26	5.78	0.96	0.08	5.14



Alt Model-Shift Uniqueness Test

007215678-01, P = 1.151247 Days, E = 131.492322 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.4	4.67	3.62	6.04	4.73	2.01	1.65	57.7	55.3	1.06	-1.36	6.36	0.97	0.09	0.74



Stellar Parameters For KIC 007215678

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6086^{+164}_{-200}	$4.511^{+0.040}_{-0.216}$	$-0.260^{+0.300}_{-0.300}$	$0.921^{+0.288}_{-0.096}$	$1.003^{+0.129}_{-0.129}$	$1.808^{+0.389}_{-0.982}$
	+3%/-3%	+1%/-5%	+115%/-115%	+31%/-10%	+13%/-13%	+22%/-54%
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 007215678-01 / KOI 2354.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 4	$1.77^{+0.43}_{-0.31}$	2531^{+188}_{-131}	3313^{+300}_{-311}	$1.253^{+0.648}_{-0.504}$
Alt.	-20 ± 4	$1.72^{+0.38}_{-0.31}$	2515^{+179}_{-120}	3479^{+309}_{-256}	$1.611^{+0.900}_{-0.571}$

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

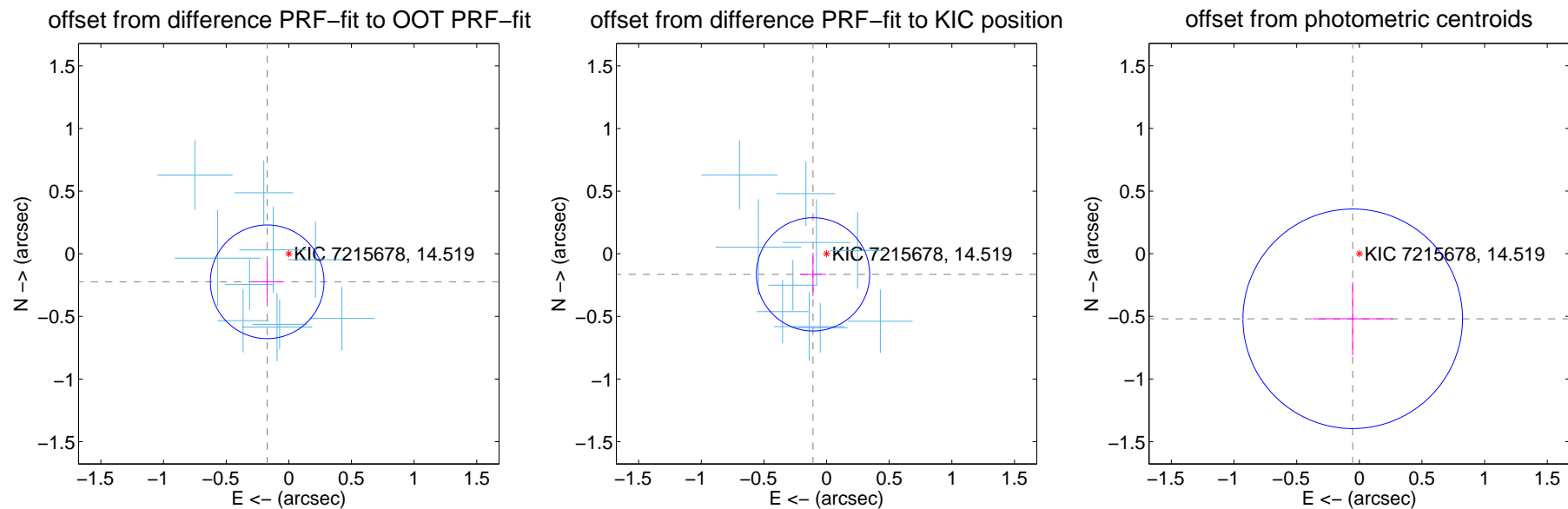
DV Centroid Data

Supplemental centroid analysis for 007215678-01. Kepler magnitude: 14.52. Transit SNR 37.49

There are 15 quarters with good PRF difference image offsets

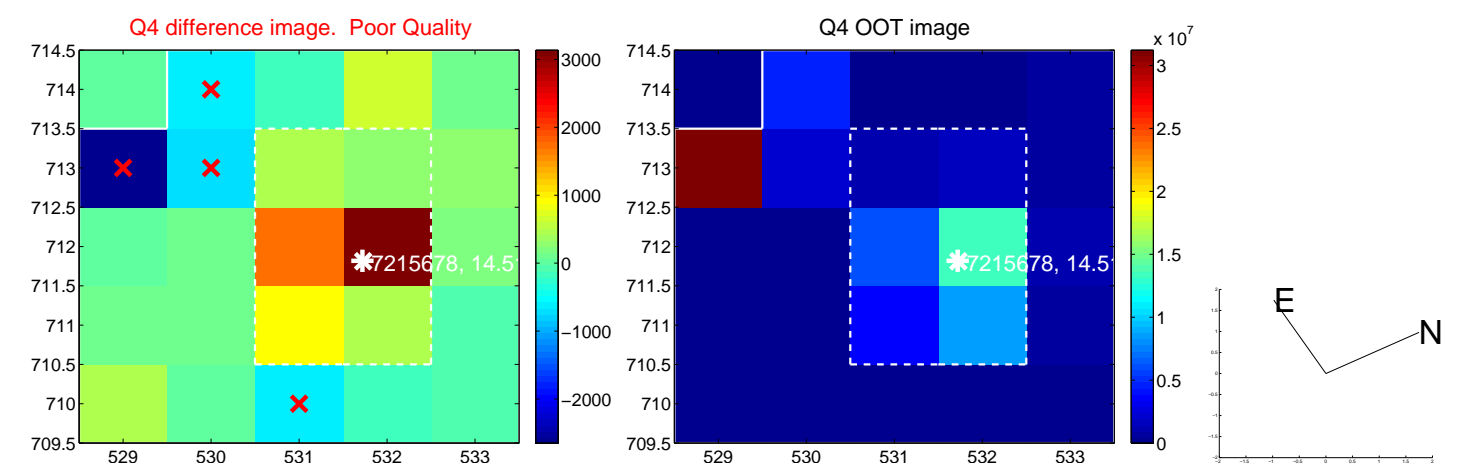
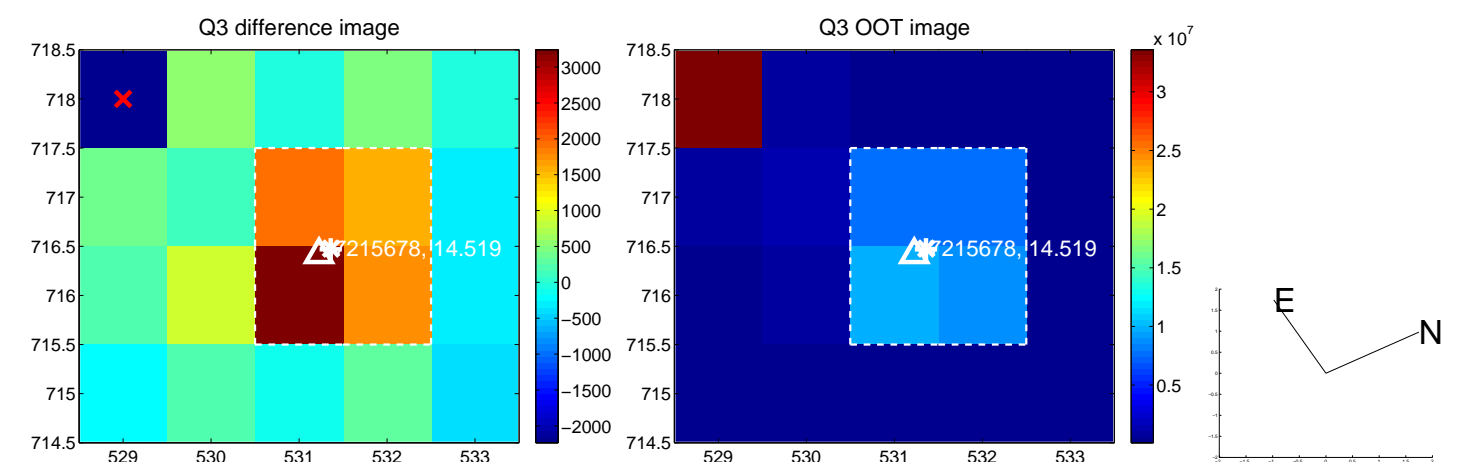
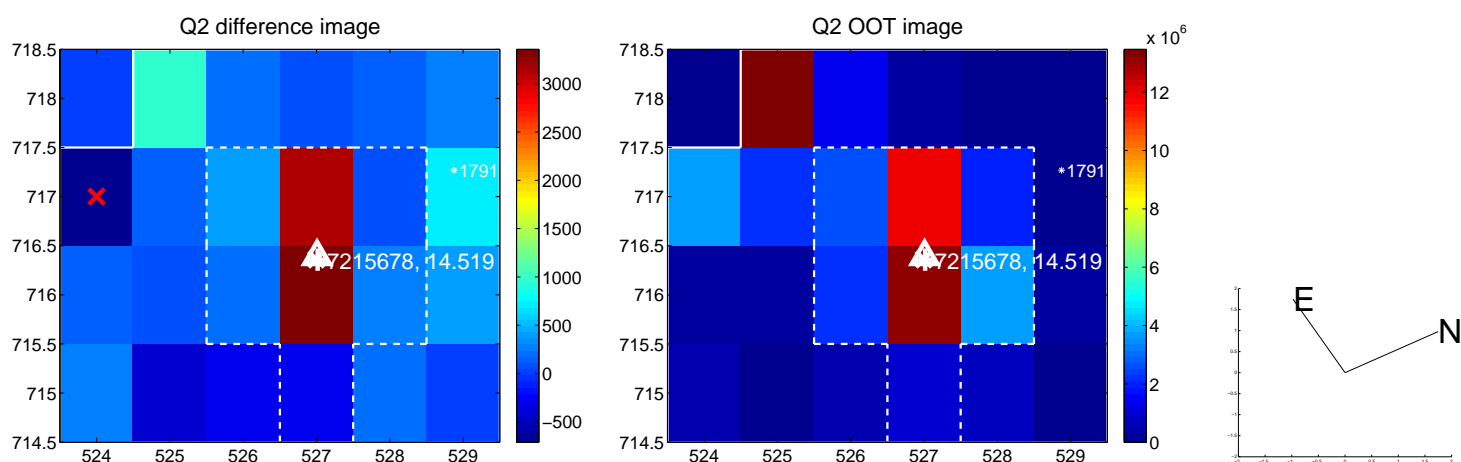
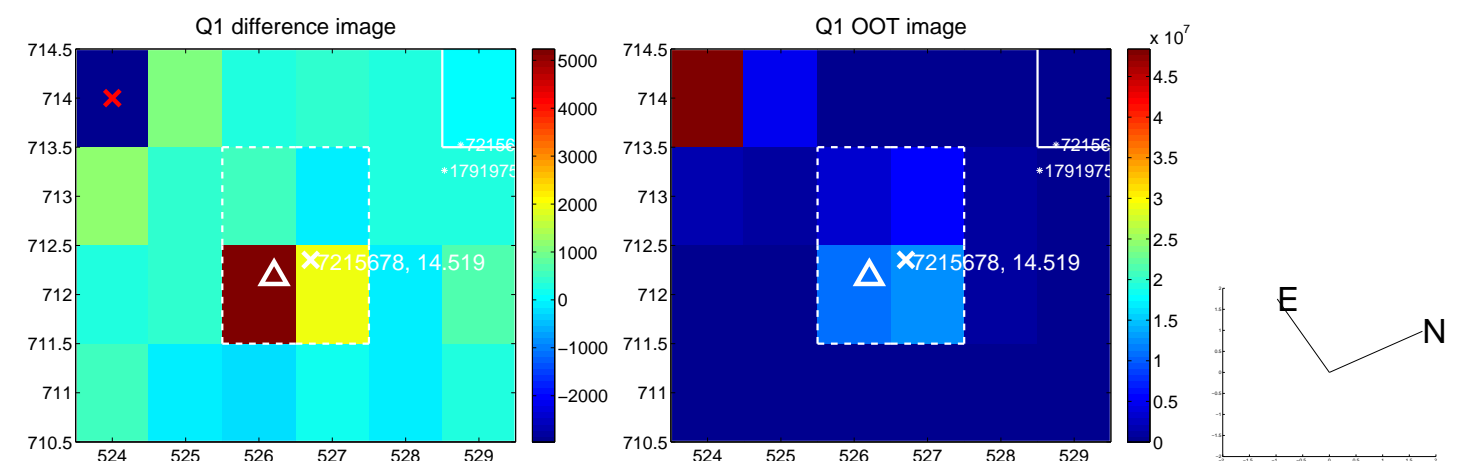
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.282 ± 0.151	1.87	0.173 ± 0.128	-0.224 ± 0.164
PRF-fit source offset from KIC position	0.197 ± 0.151	1.30	0.108 ± 0.105	-0.164 ± 0.173
photometric centroid source offset	0.52 ± 0.29	1.79	0.05 ± 0.32	-0.52 ± 0.29

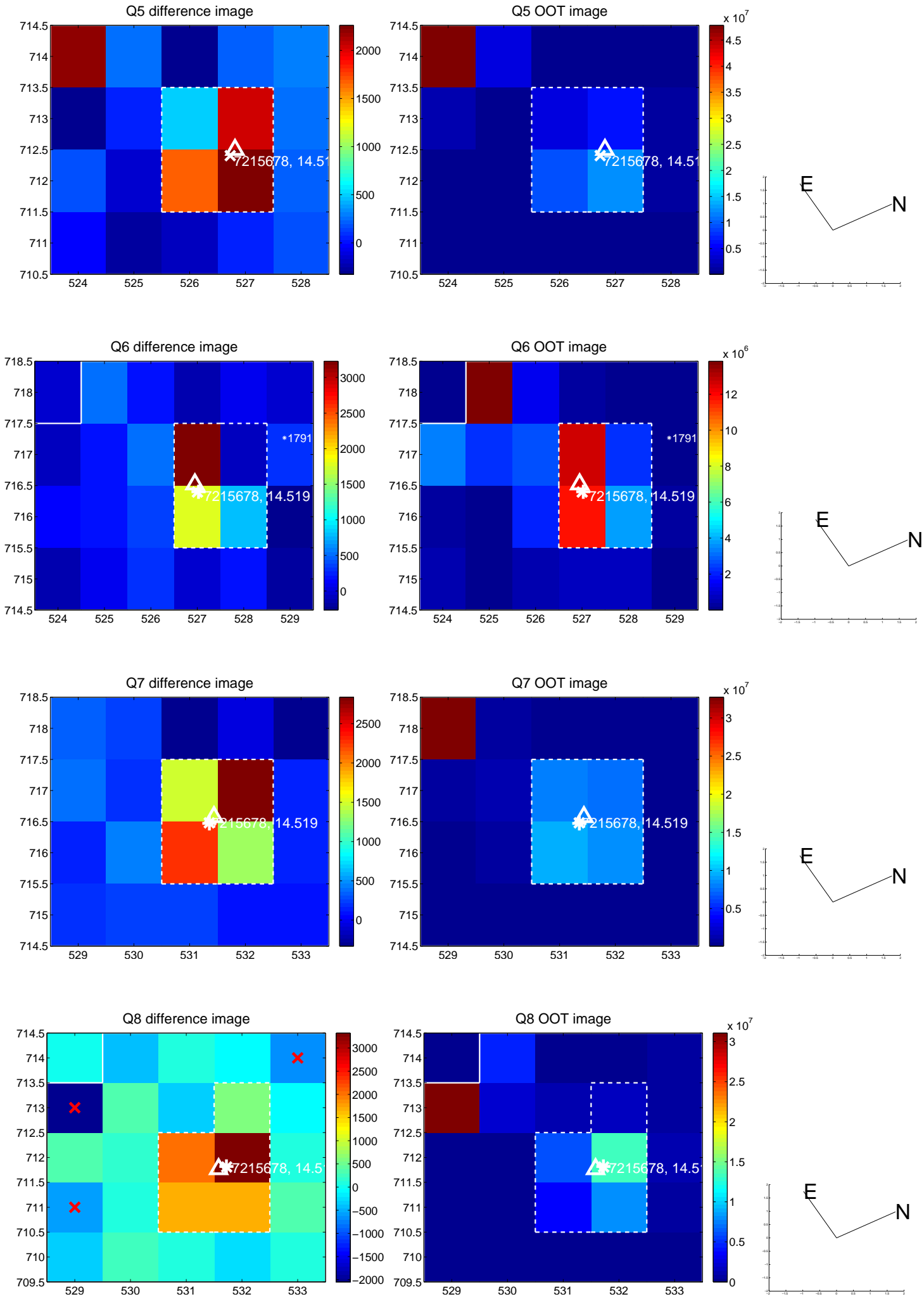


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

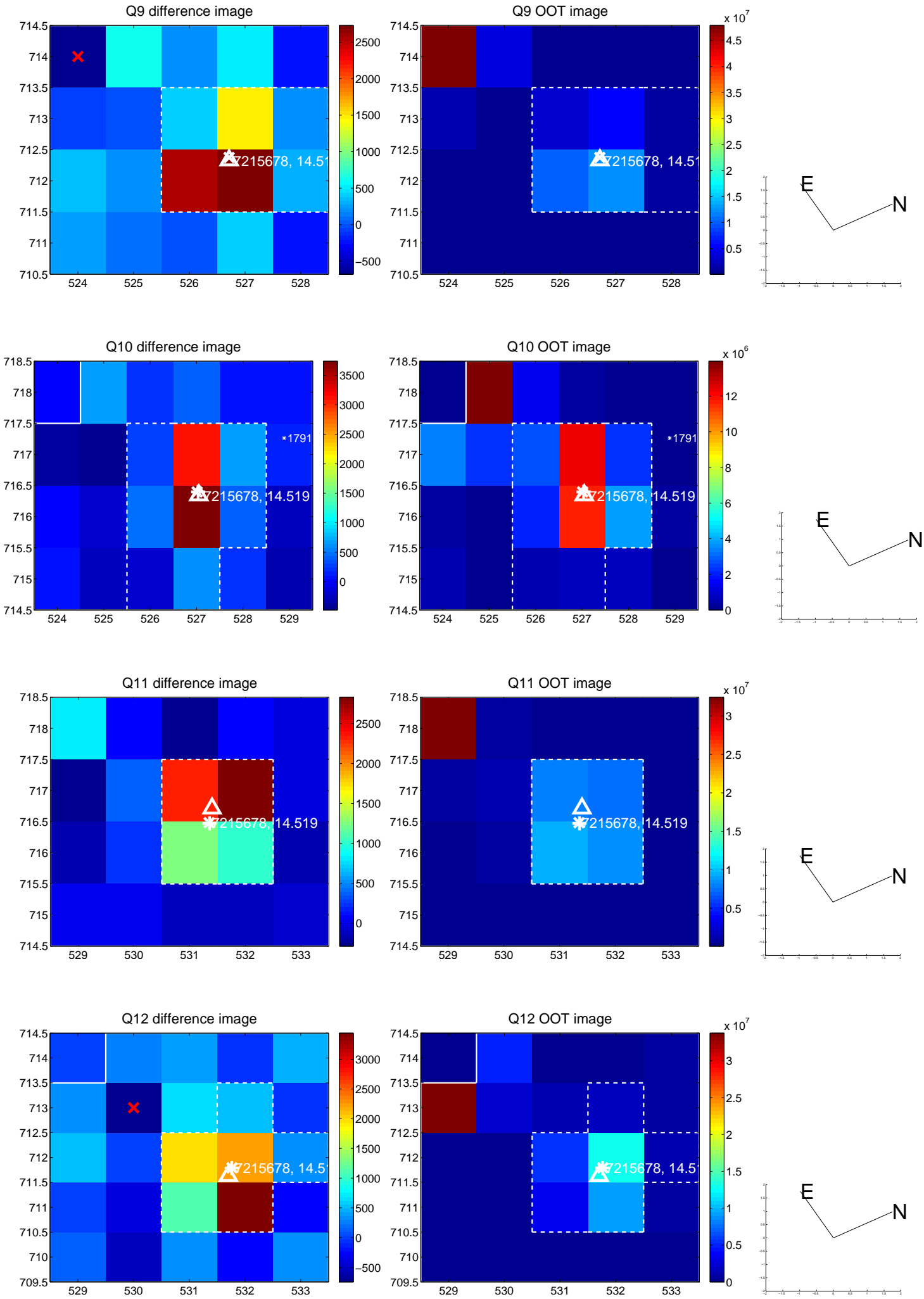
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



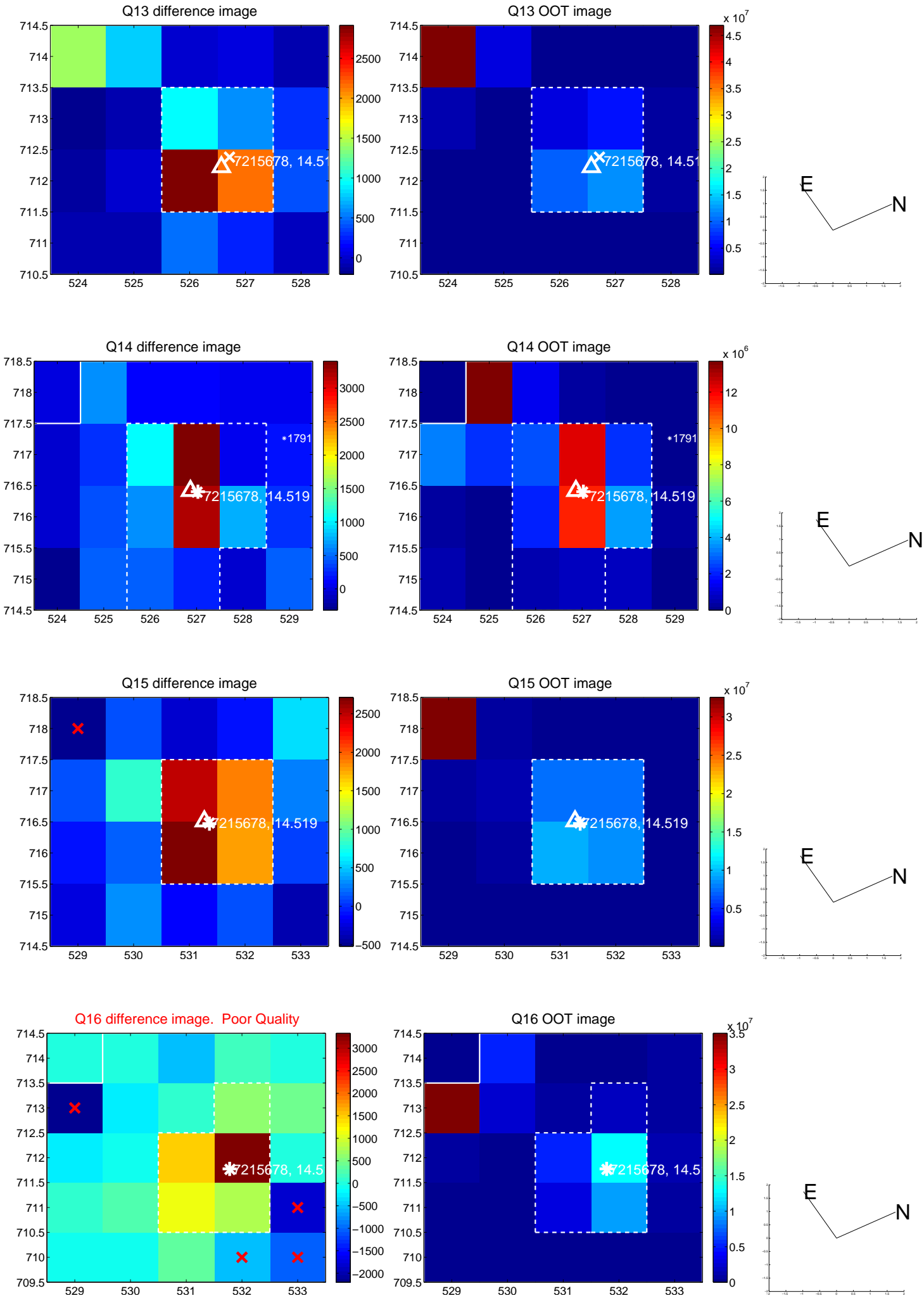
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



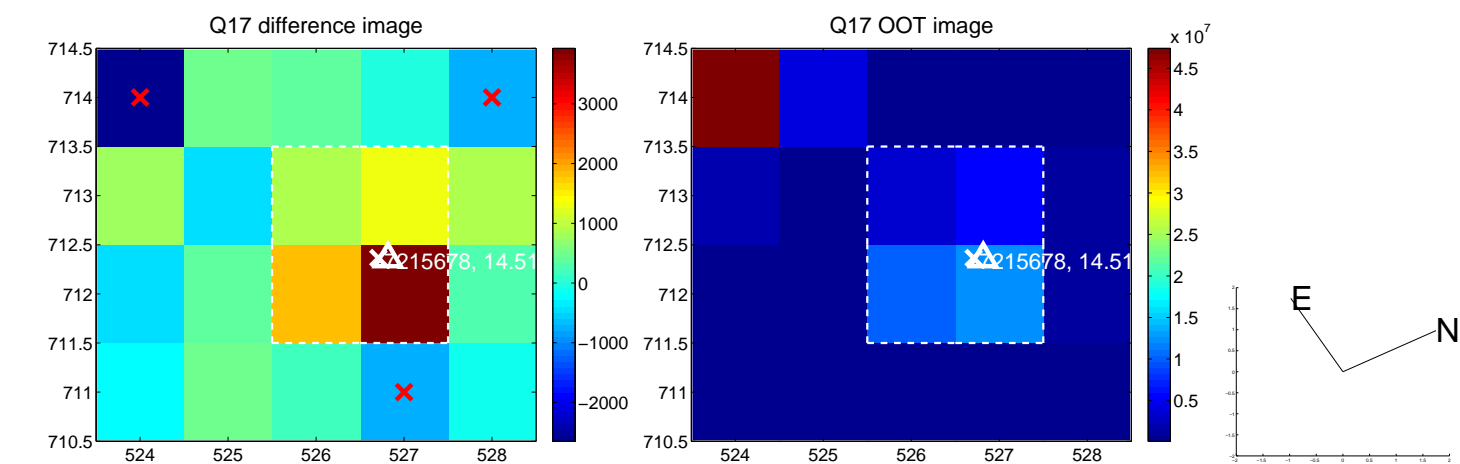
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



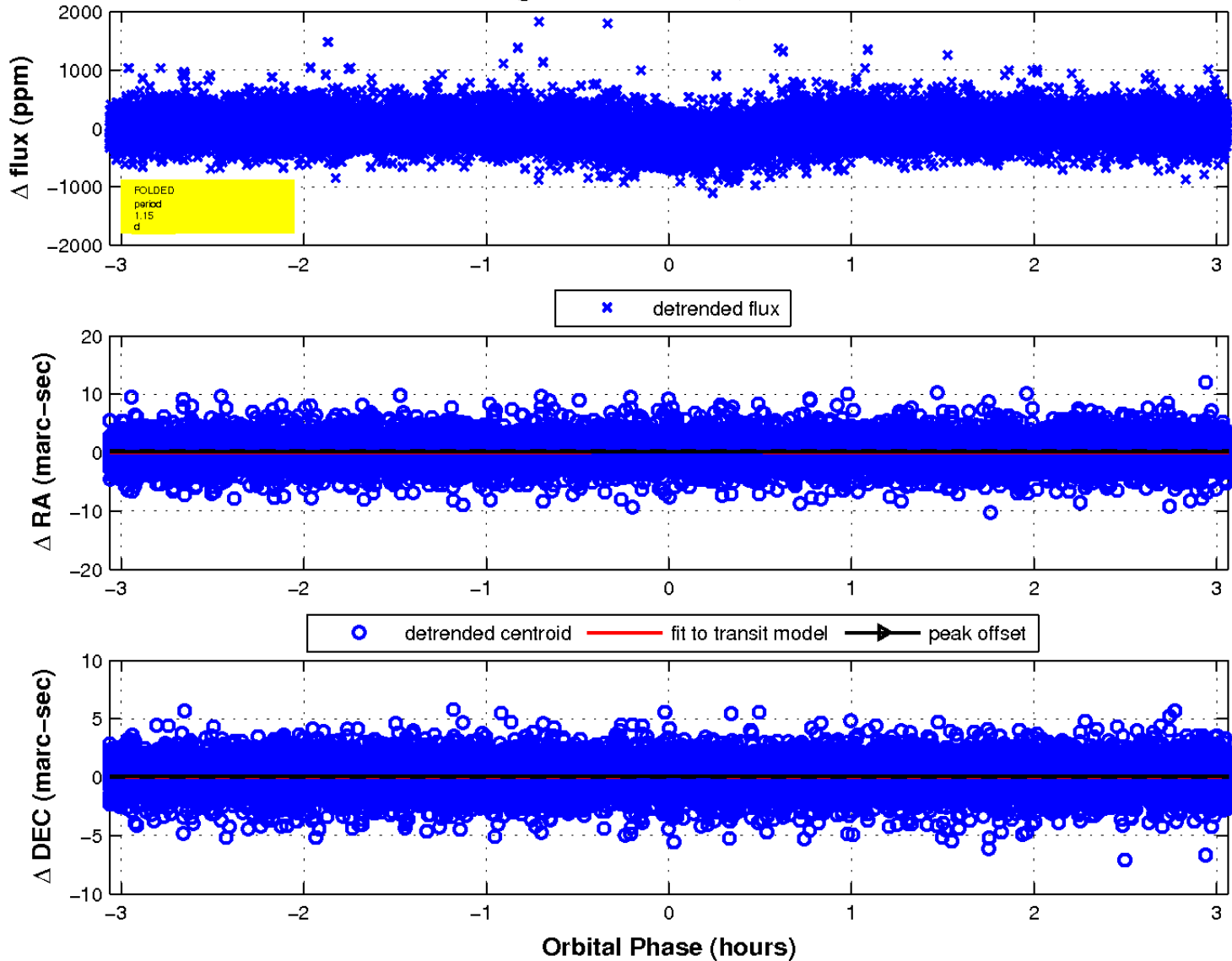
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

