

KIC 004991208

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})
004991208-01	OBS	2951.01	2.443558	132.809021	65.7	1.795	10.9	11.9	0.87	5561	0.76	576.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004991208-01	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.

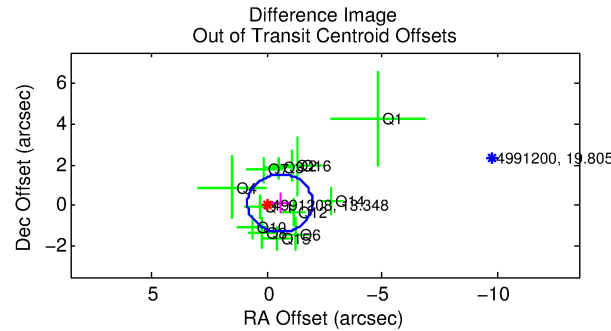
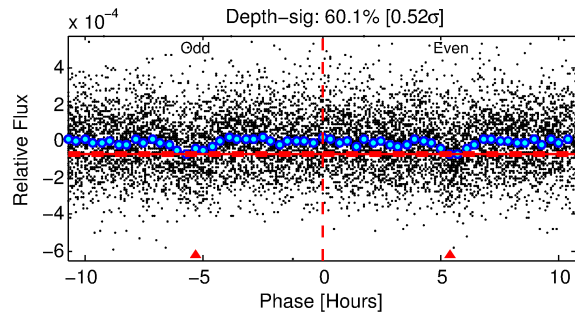
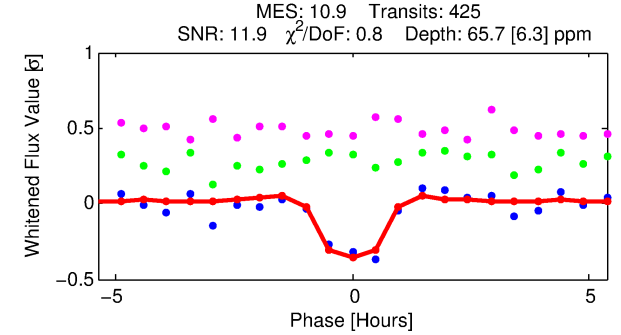
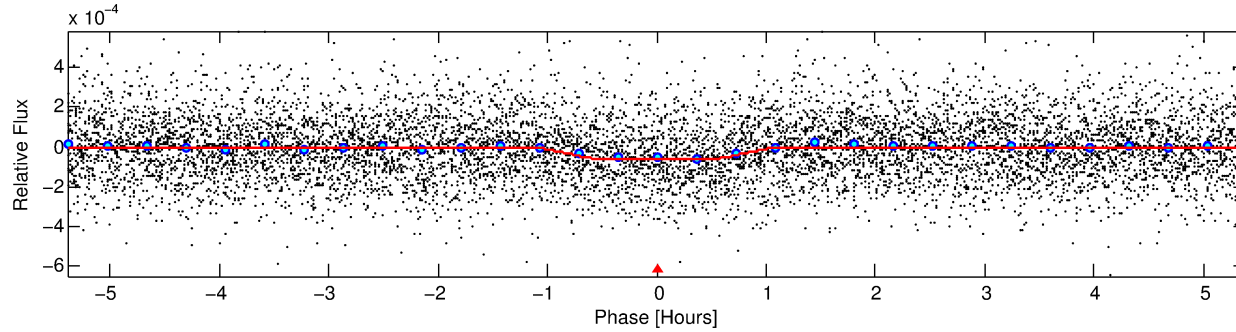
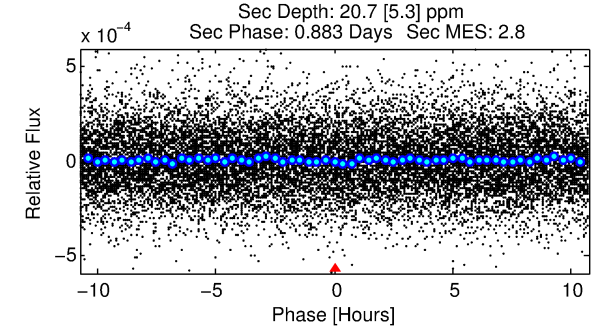
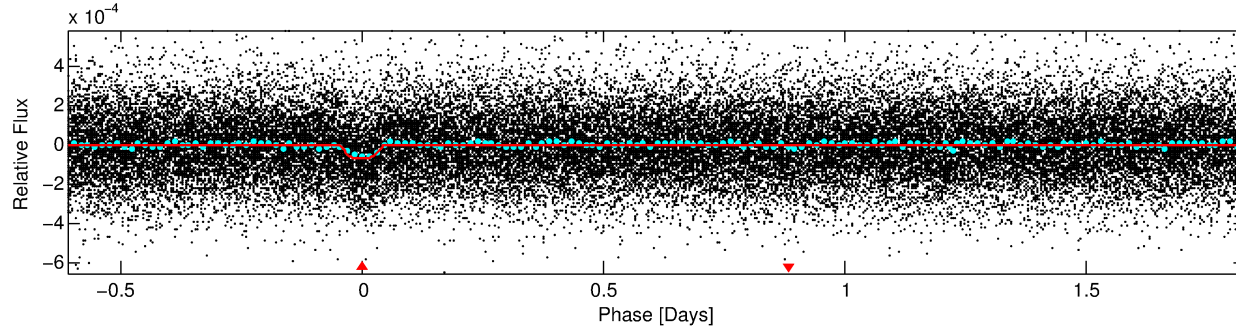
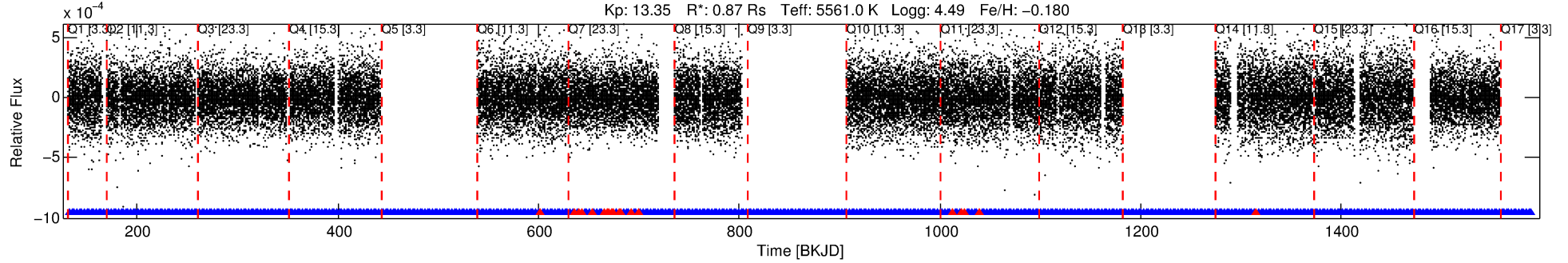
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004991208-01

No Significant Match Found

DV One-Page Summary

KIC: 4991208 Candidate: 1 of 1 Period: 2.444 d
KOI: K02951.01 Corr: 0.955



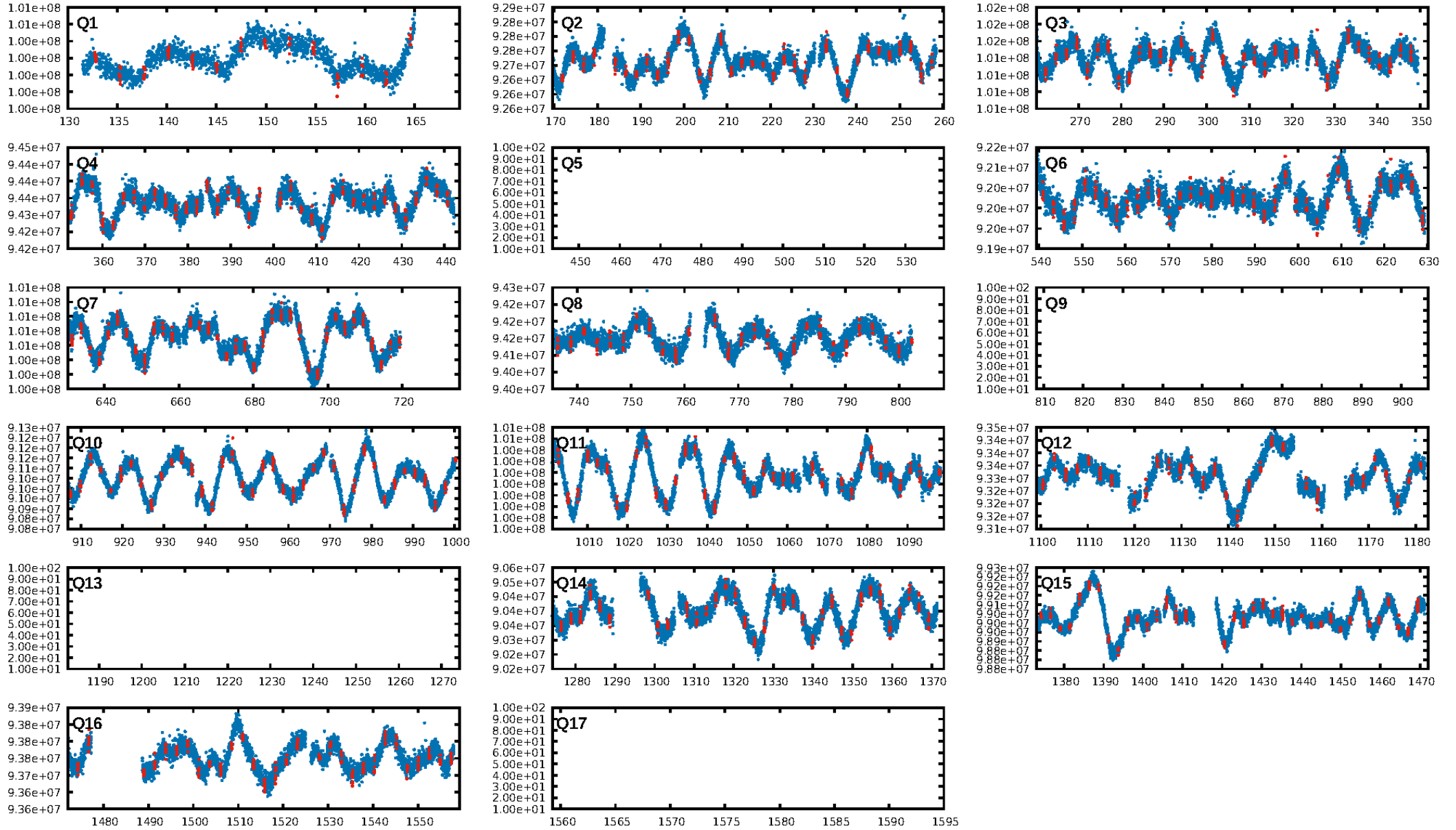
DV Fit Results:

Period = 2.44356 [0.00001] d
Epoch = 132.8090 [0.0022] BKJD
Rp/R* = 0.0080 [0.0026]
a/R* = 7.45 [10.19]
b = 0.71 [0.97]
Seff = 576.53 [95.03]
Teq = 1249 [51] K
Rp = 0.76 [0.27] Re
a = 0.0337 [0.0033] AU
Ag = 22.31 [16.12] [1.32σ]
Teffp = 4198 [748] K [3.93σ]

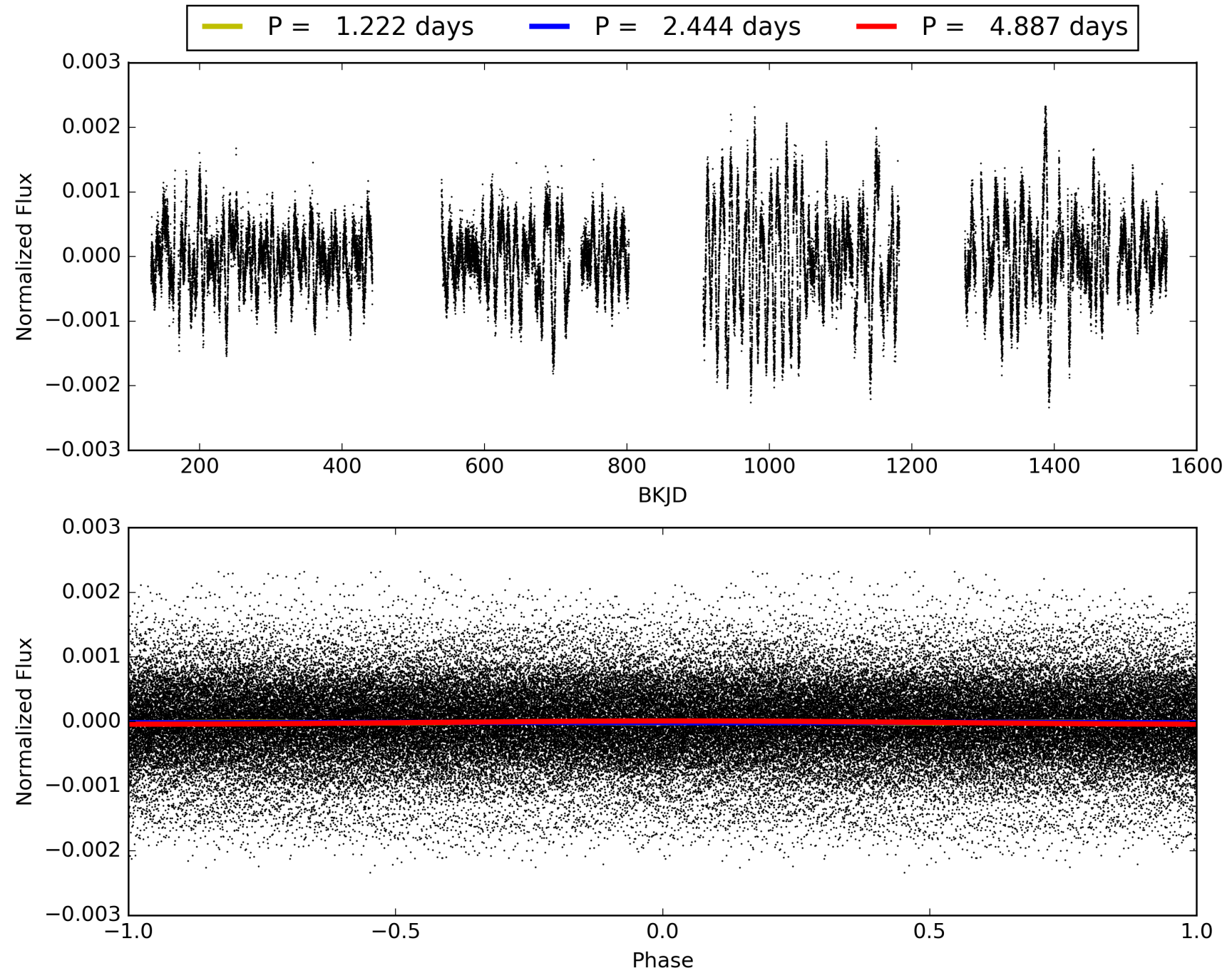
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.55e-26
RollingBand-fgt: 0.95 [392/411]
GhostDiagnostic-chr: 7.658
Centroid-sig: 65.2%
Centroid-so: 0.839 arcsec [0.83σ]
OotOffset-rm: 0.582 arcsec [1.24σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-rm: 0.599 arcsec [1.51σ]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 004991208-01, PDC Light Curves

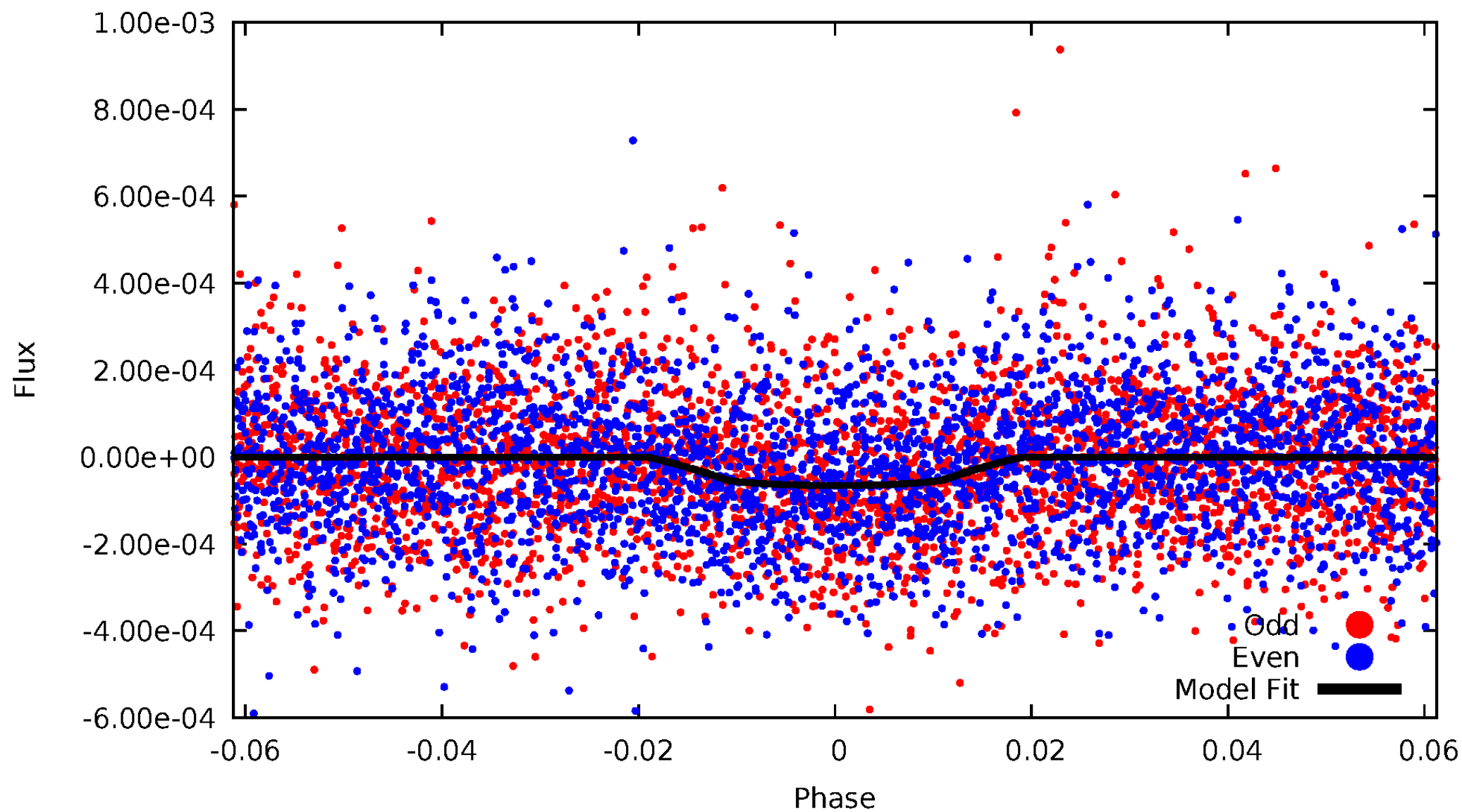


TCE 004991208-01



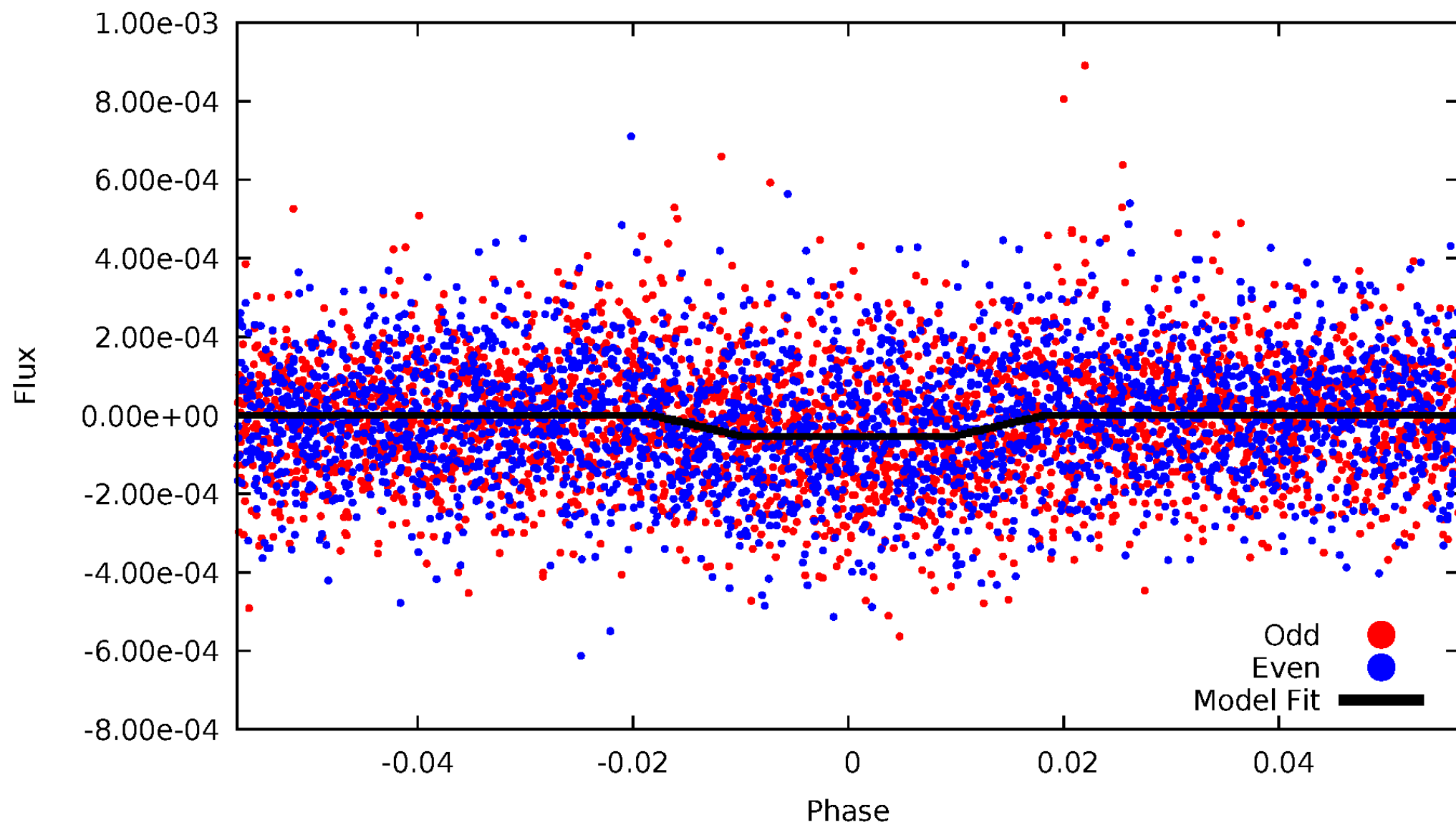
DV Odd/Even

TCE 004991208-01



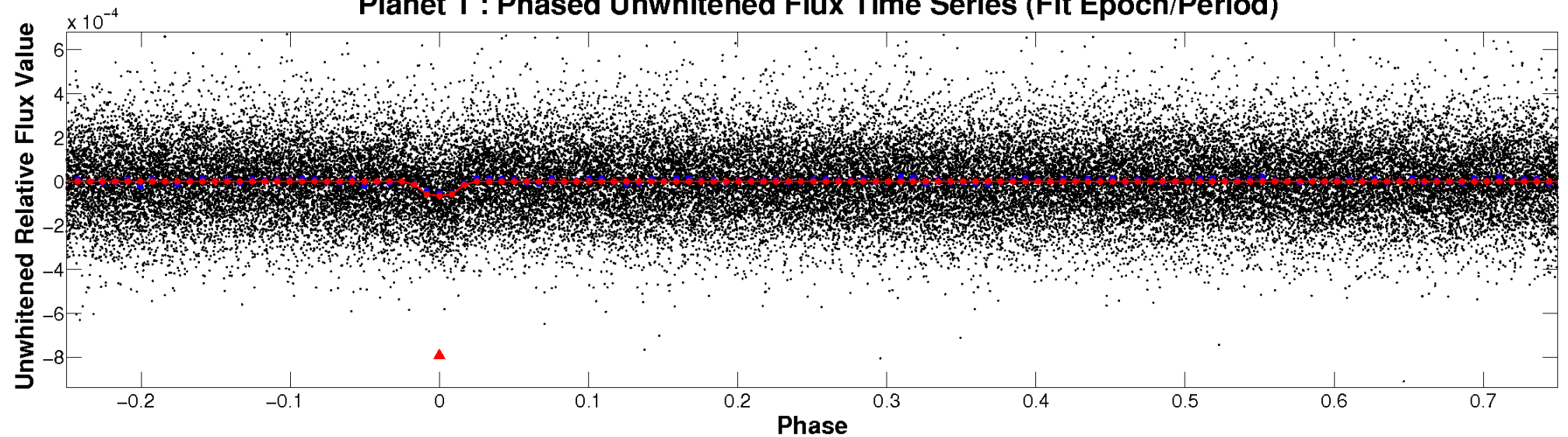
ALT Odd/Even

TCE 004991208-01

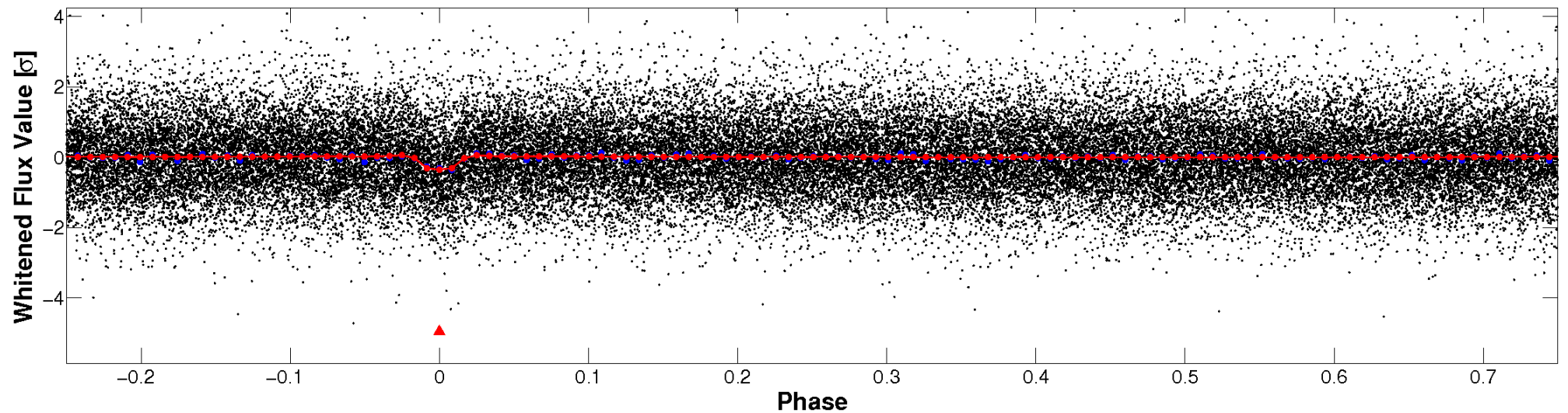


Non-Whitened Vs. Whitened Light Curve

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

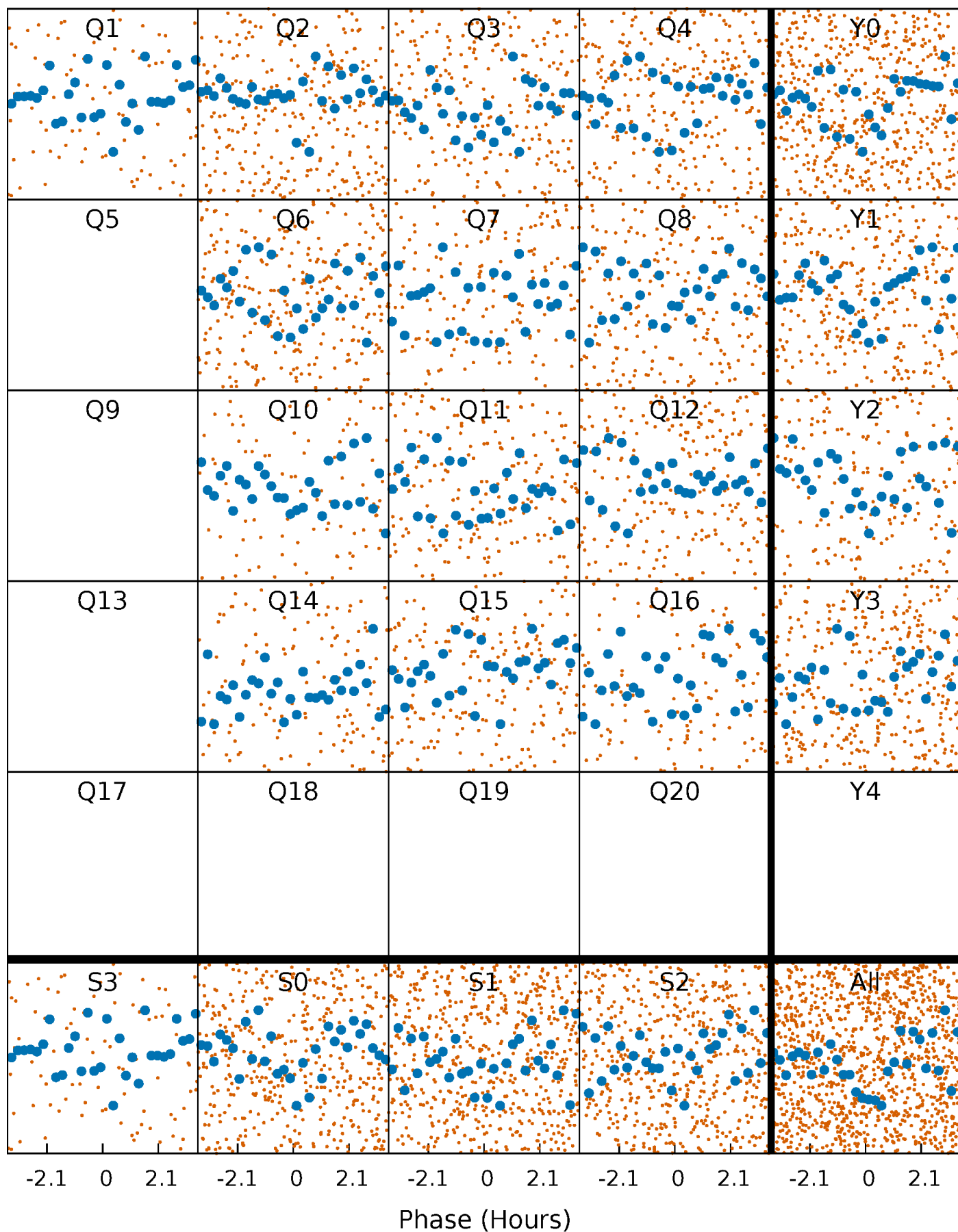


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



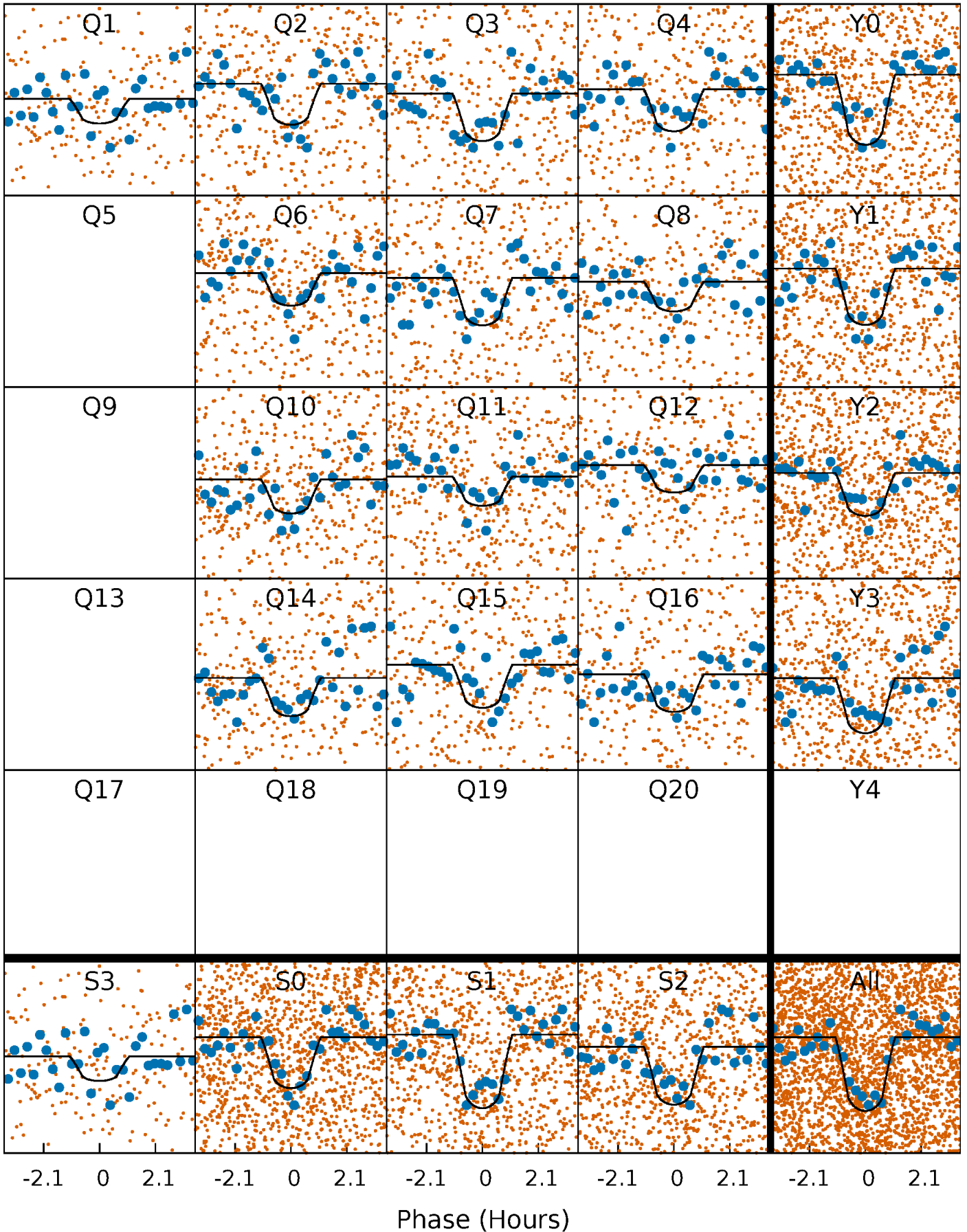
PDC Quarter-Phased Transit Curves

TCE 004991208-01 P= 2.443558 Days $T_0=132.809021$ (BKJD)



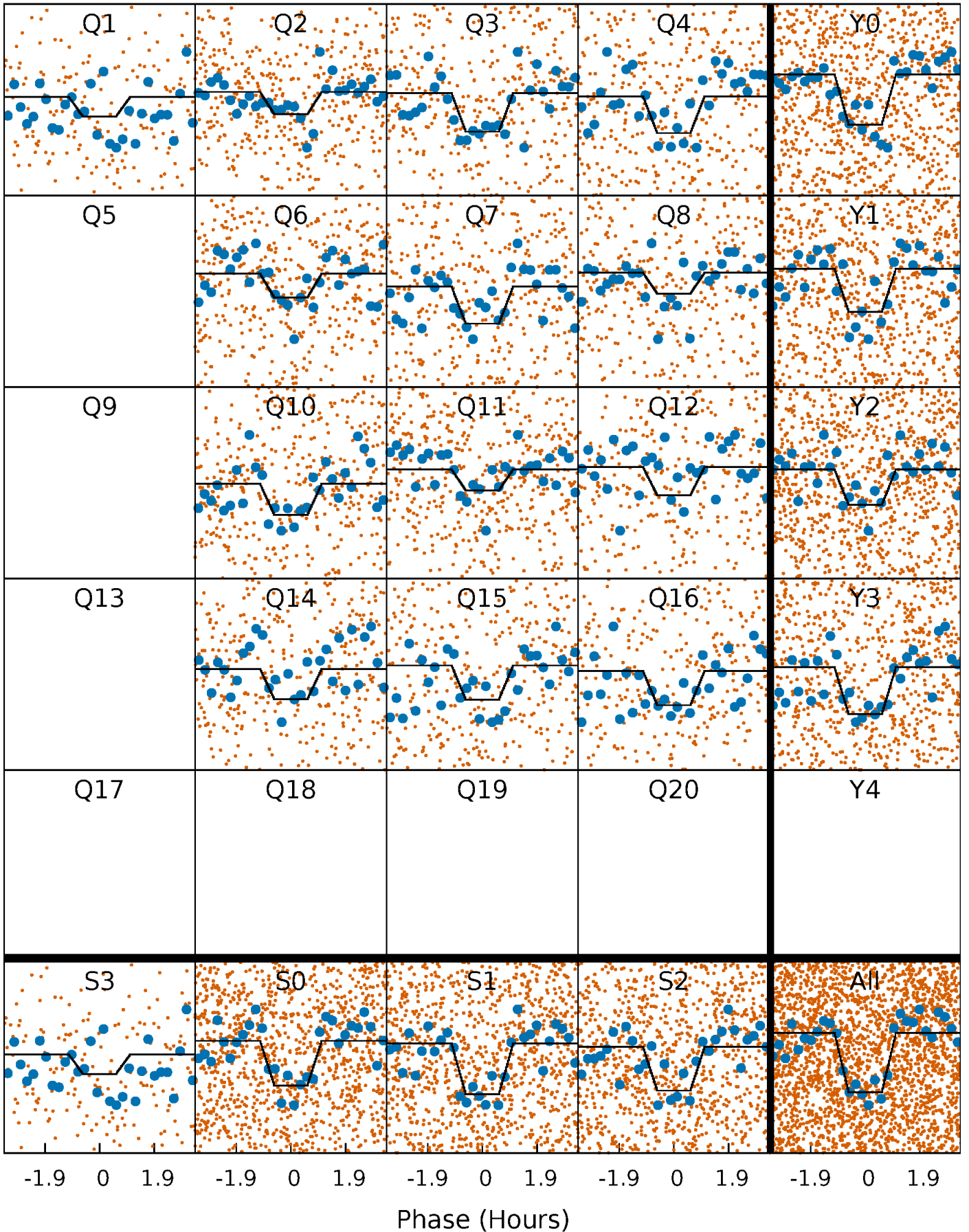
DV Quarter-Phased Transit Curves

TCE 004991208-01 P= 2.443558 Days $T_0=132.809021$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

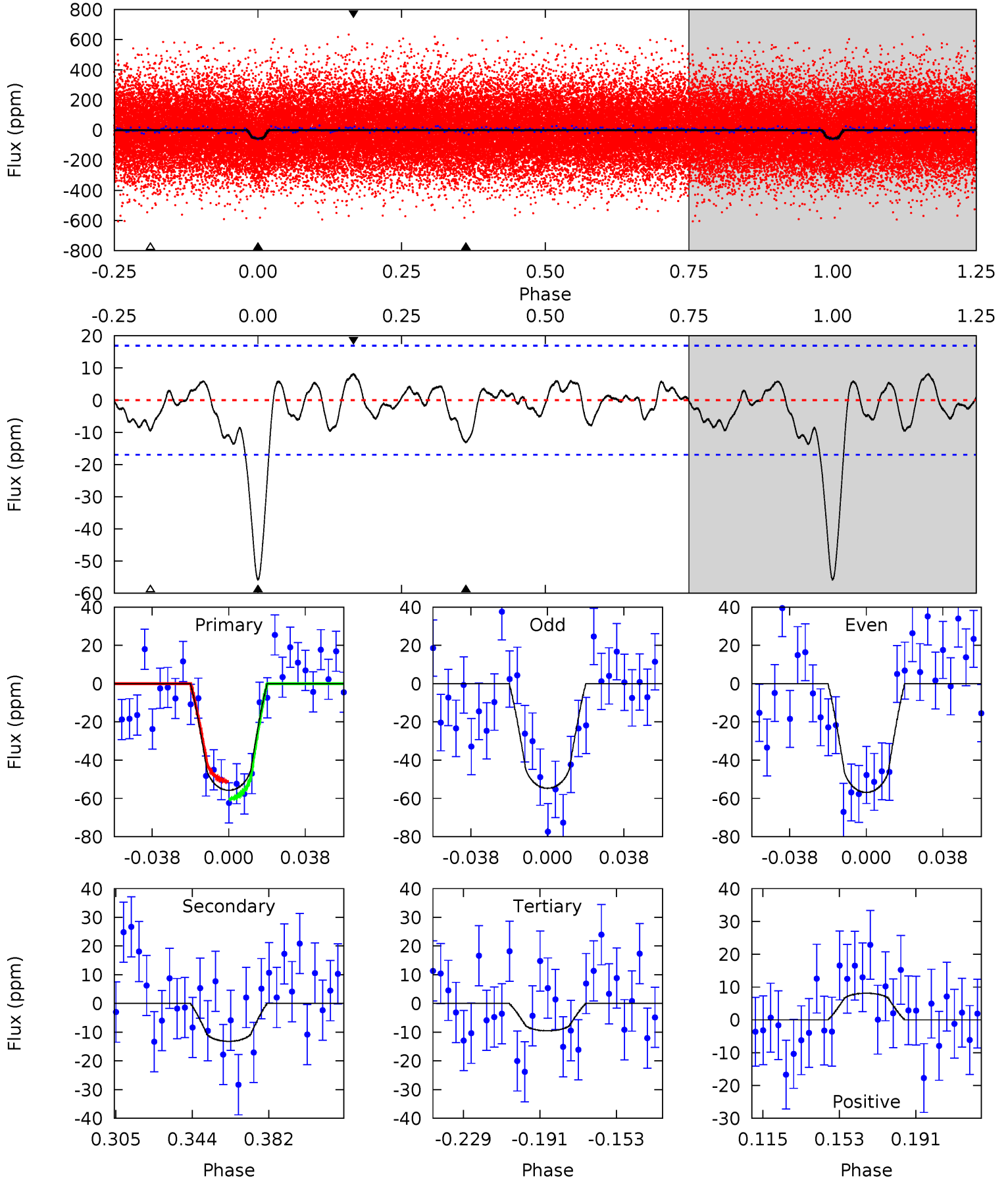
TCE 004991208-01 $P = 2.443582$ Days $T_0 = 132.803298$ (BKJD)



DV Model-Shift Uniqueness Test

004991208-01, P = 2.443558 Days, E = 130.365463 Days

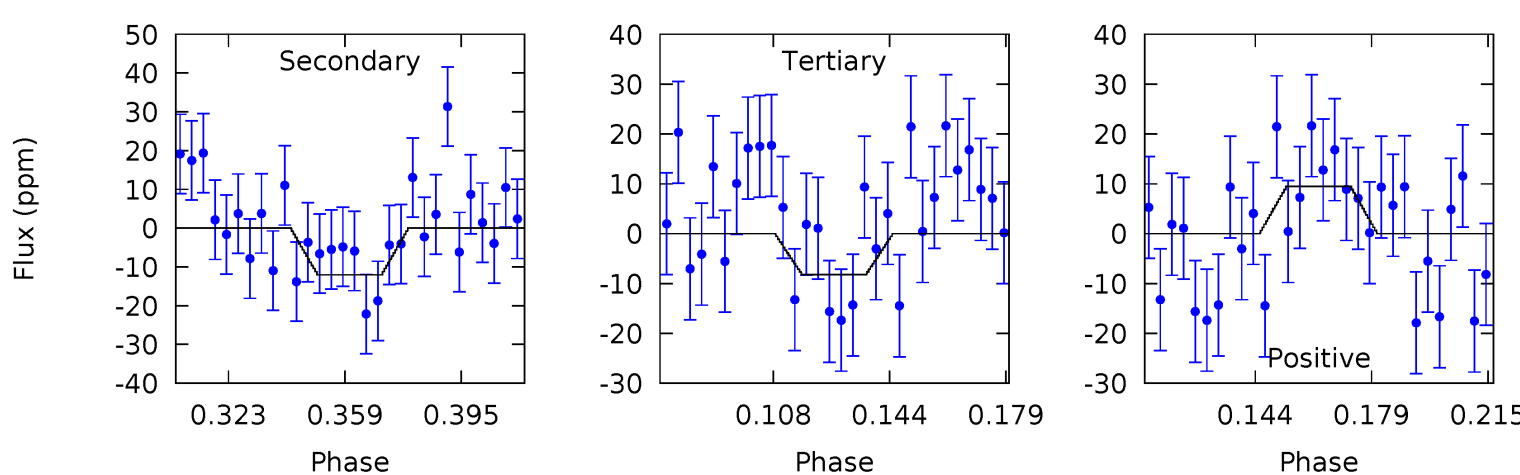
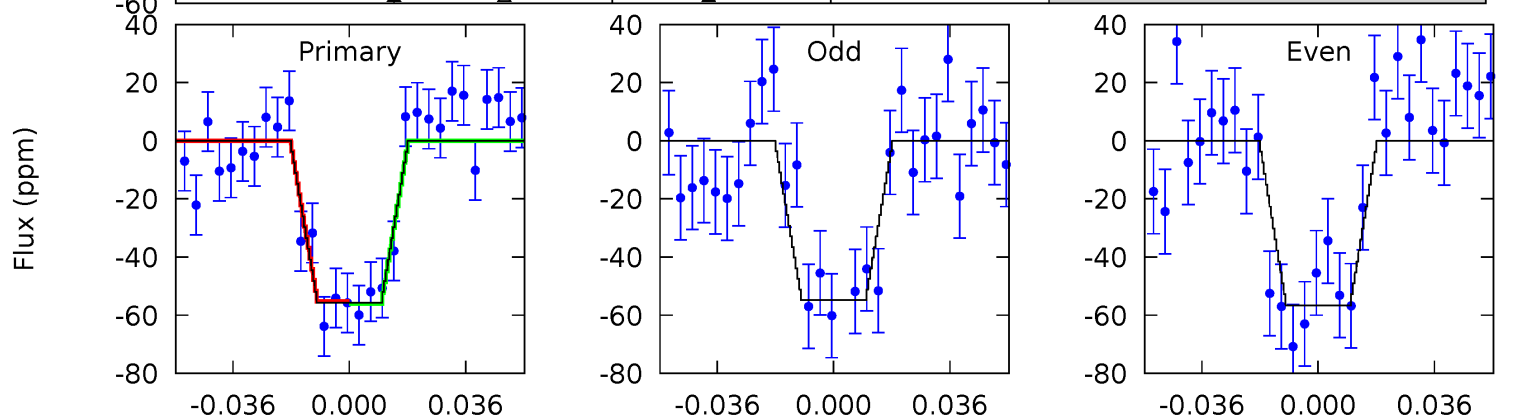
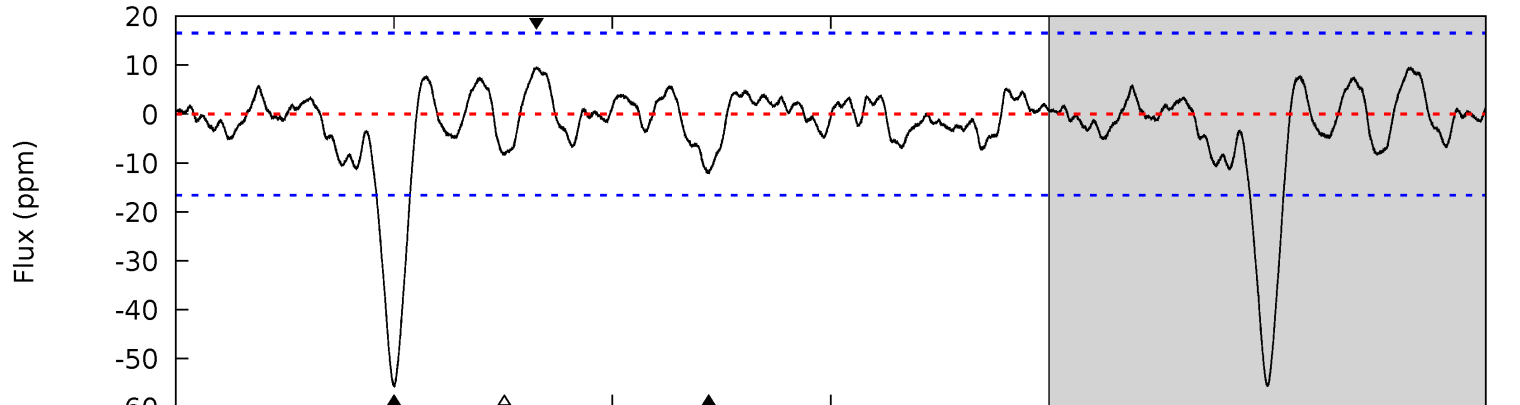
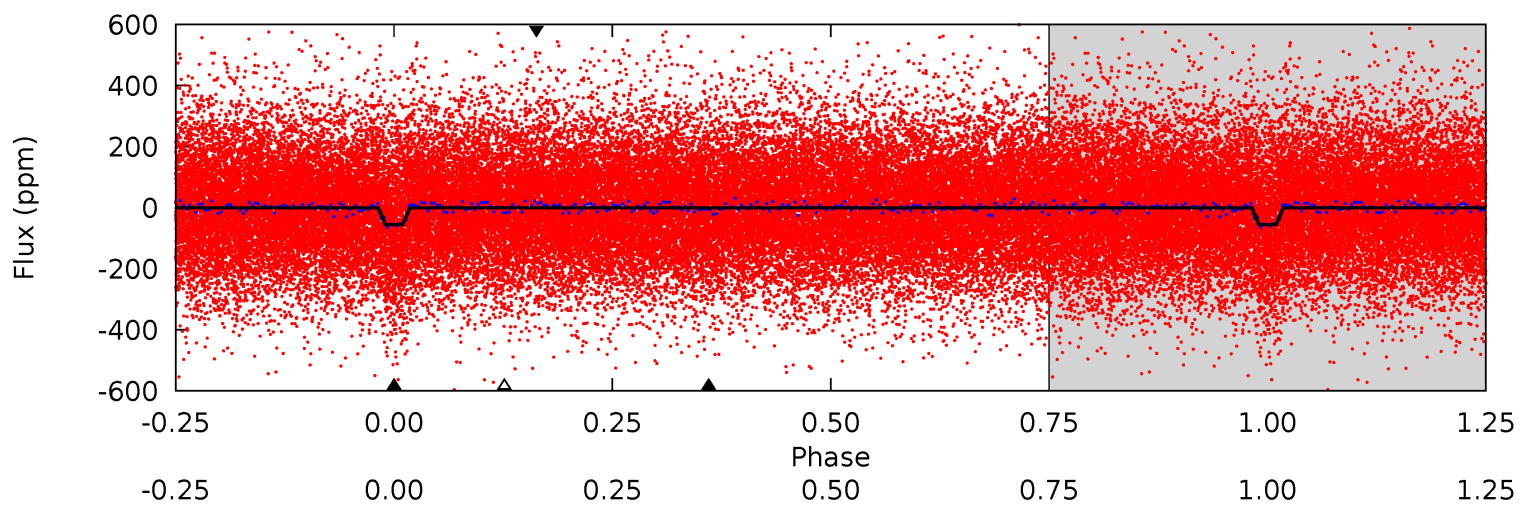
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	3.71	2.68	2.28	4.76	2.07	1.24	13.0	13.4	1.03	1.43	0.30	0.92	0.13	1.28



Alt Model-Shift Uniqueness Test

004991208-01, P = 2.443582 Days, E = 130.359716 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	3.47	2.37	2.73	4.78	2.10	1.14	13.7	13.3	1.10	0.74	0.26	1.02	0.15	0.13



Stellar Parameters For KIC 004991208

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5561^{+111}_{-111}	$4.486^{+0.072}_{-0.080}$	$-0.180^{+0.150}_{-0.150}$	$0.873^{+0.099}_{-0.066}$	$0.850^{+0.060}_{-0.043}$	$1.801^{+0.488}_{-0.458}$
	+2%/-2%	+2%/-2%	+83%/-83%	+11%/-8%	+7%/-5%	+27%/-25%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 004991208-01 / KOI 2951.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 4	$0.77^{+0.24}_{-0.24}$	1748^{+63}_{-54}	4027^{+614}_{-438}	14^{+15}_{-7}
Alt.	-12 ± 3	$0.70^{+0.25}_{-0.24}$	1750^{+59}_{-52}	4073^{+768}_{-473}	15^{+22}_{-8}

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

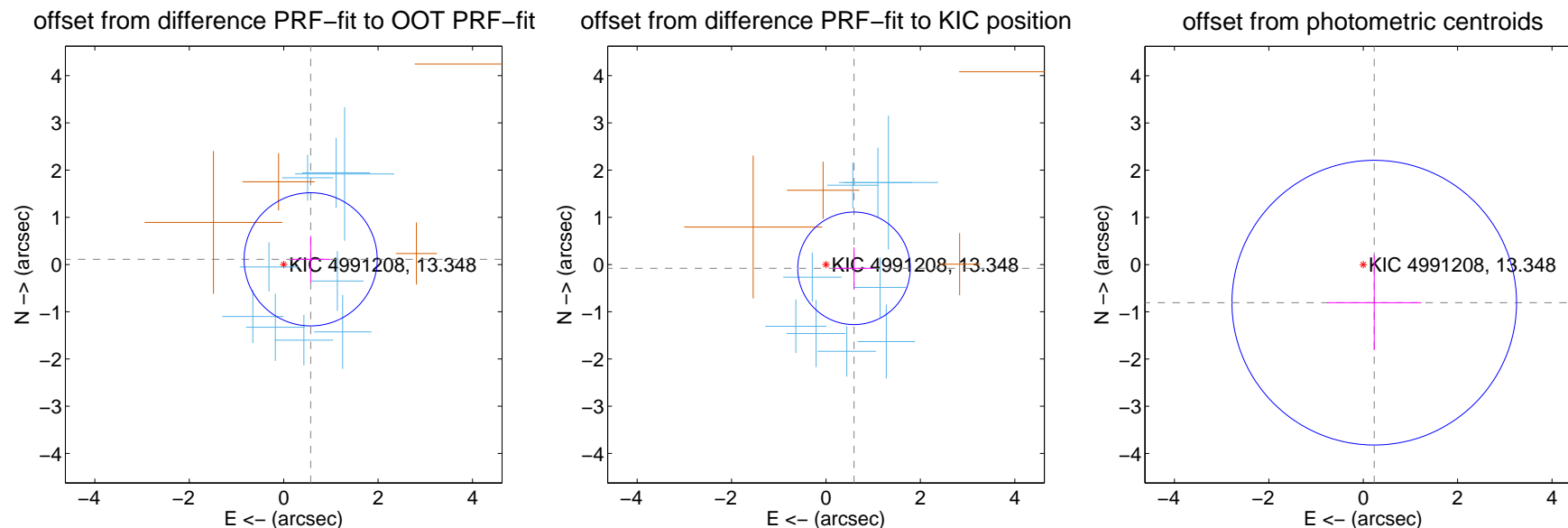
DV Centroid Data

Supplemental centroid analysis for 004991208-01. Kepler magnitude: 13.35. Transit SNR 11.92

There are 9 quarters with good PRF difference image offsets

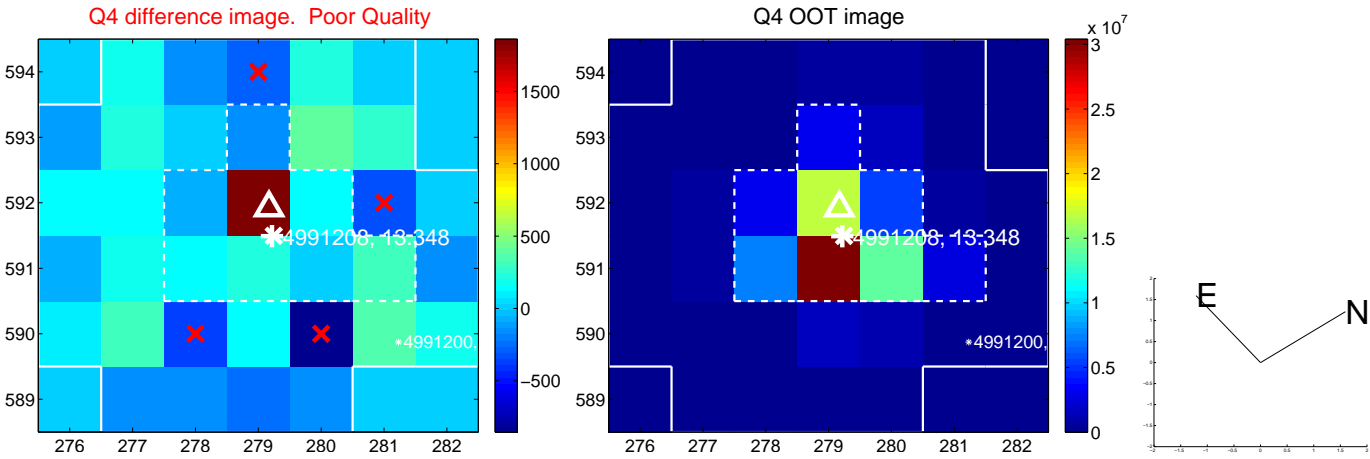
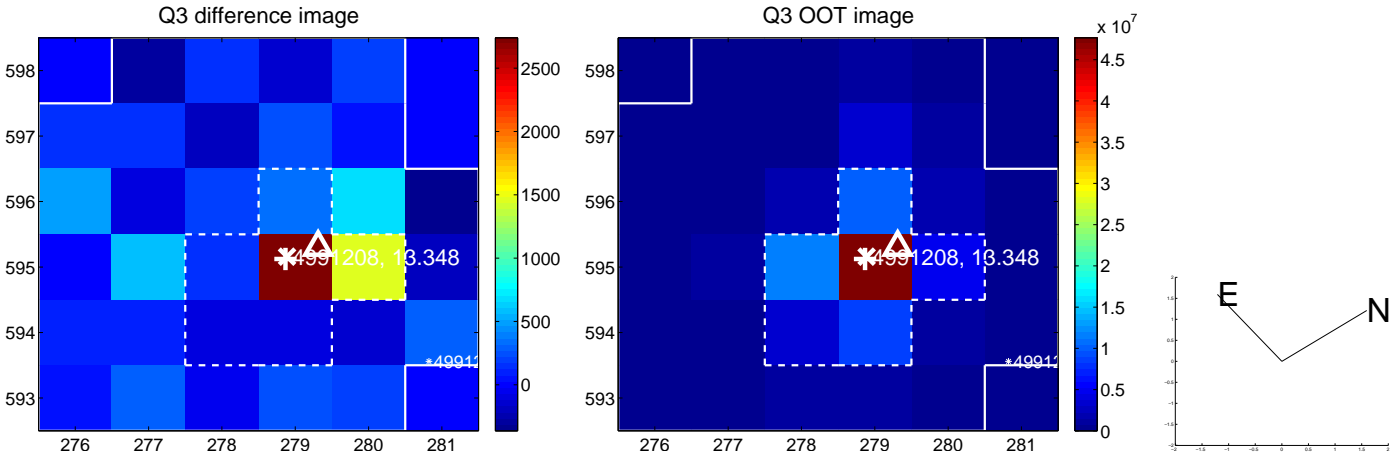
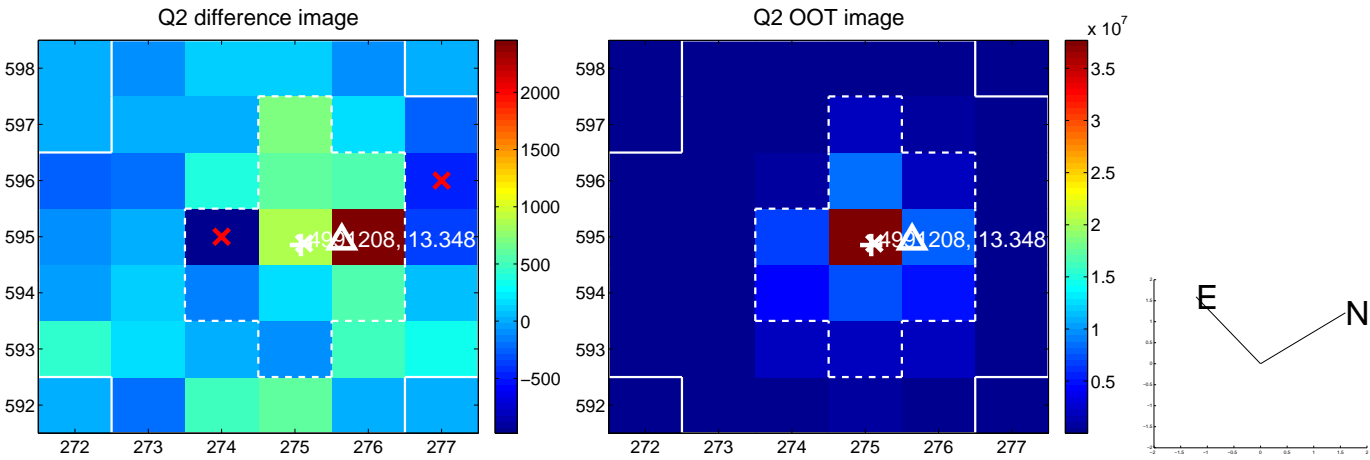
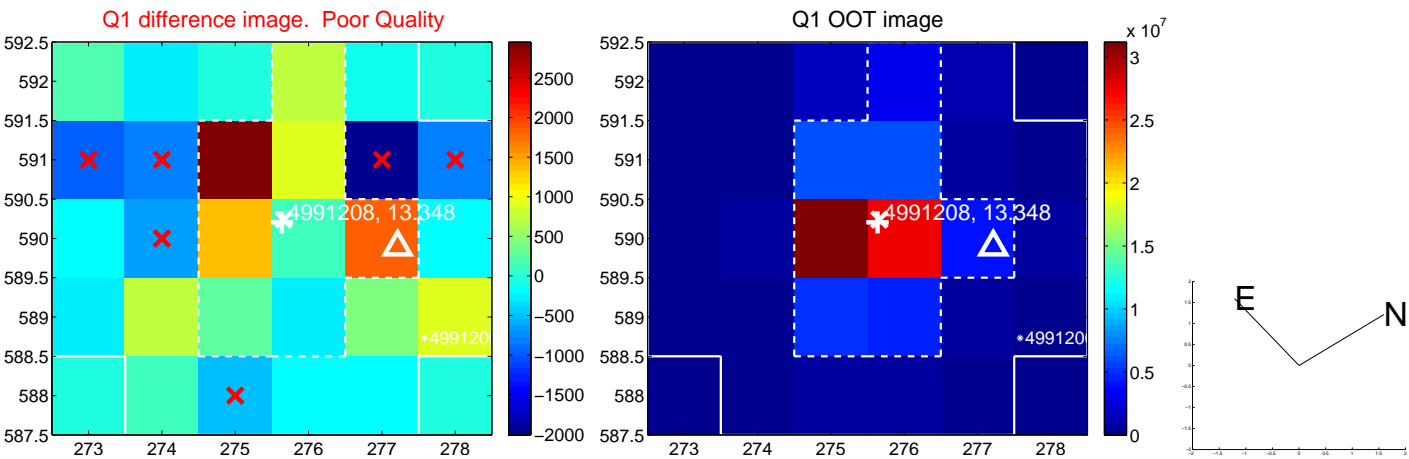
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.582 ± 0.470	1.24	-0.572 ± 0.423	0.110 ± 0.492
PRF-fit source offset from KIC position	0.599 ± 0.397	1.51	-0.594 ± 0.423	-0.080 ± 0.444
photometric centroid source offset	0.84 ± 1.01	0.83	-0.23 ± 1.00	-0.81 ± 1.01

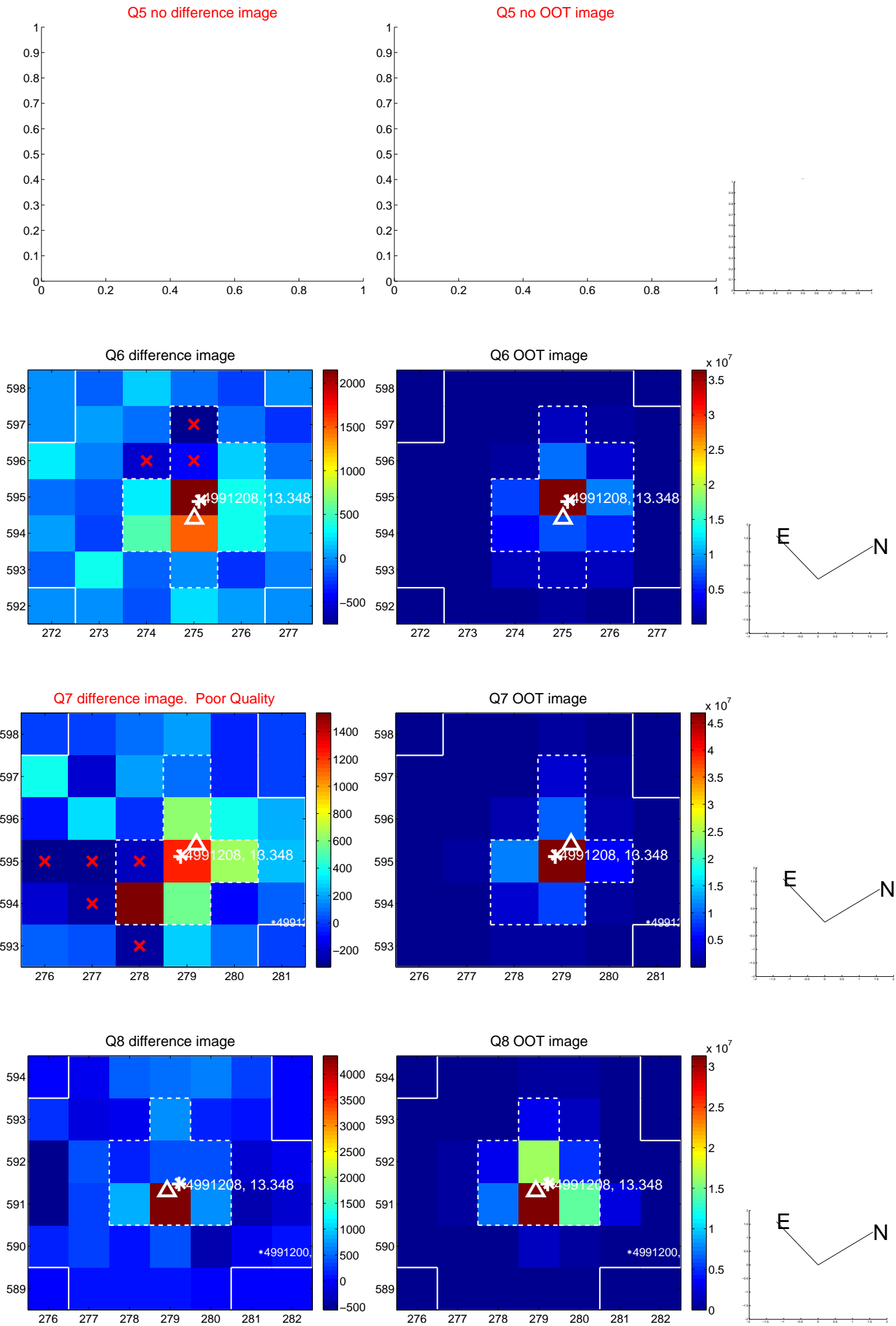


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

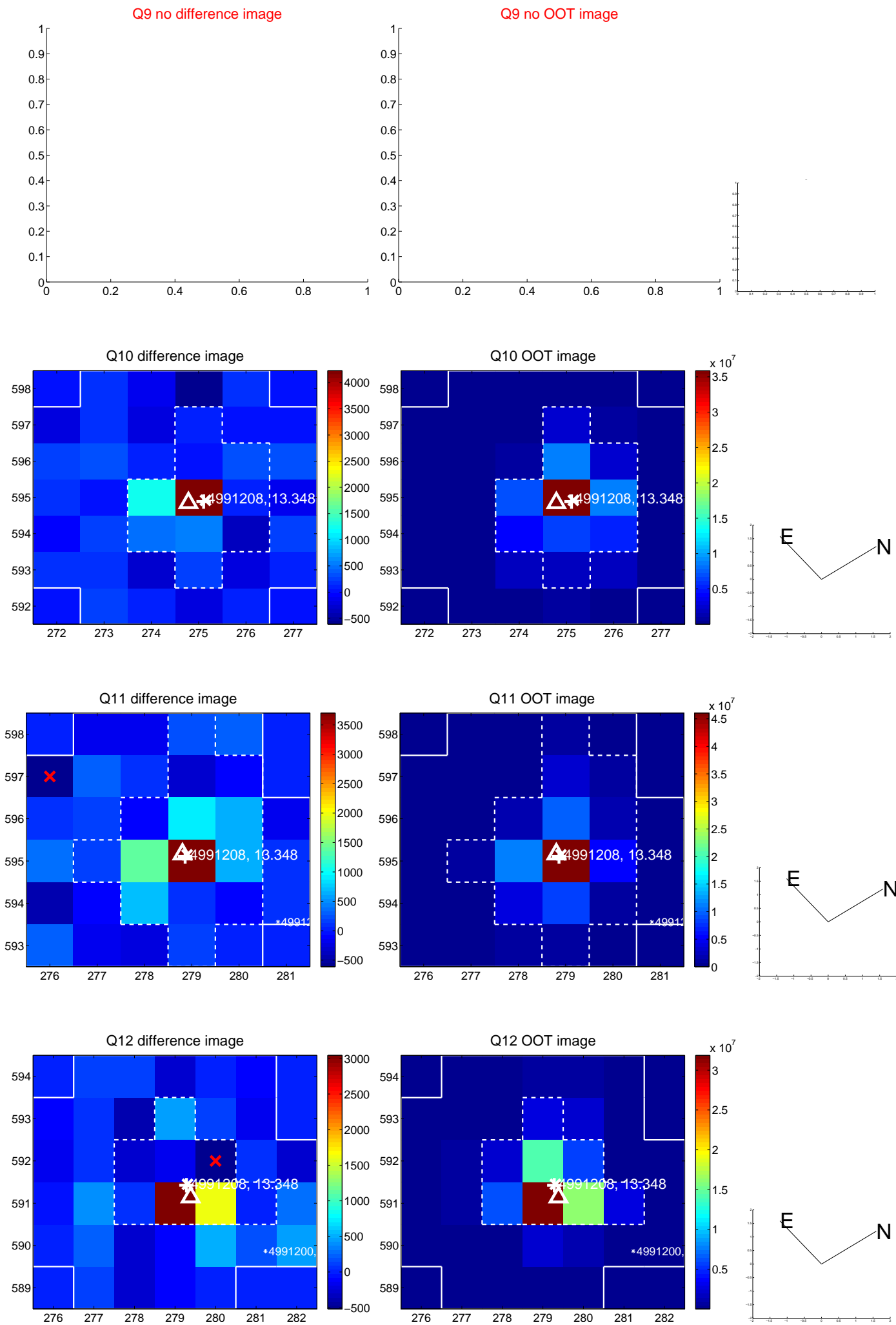
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



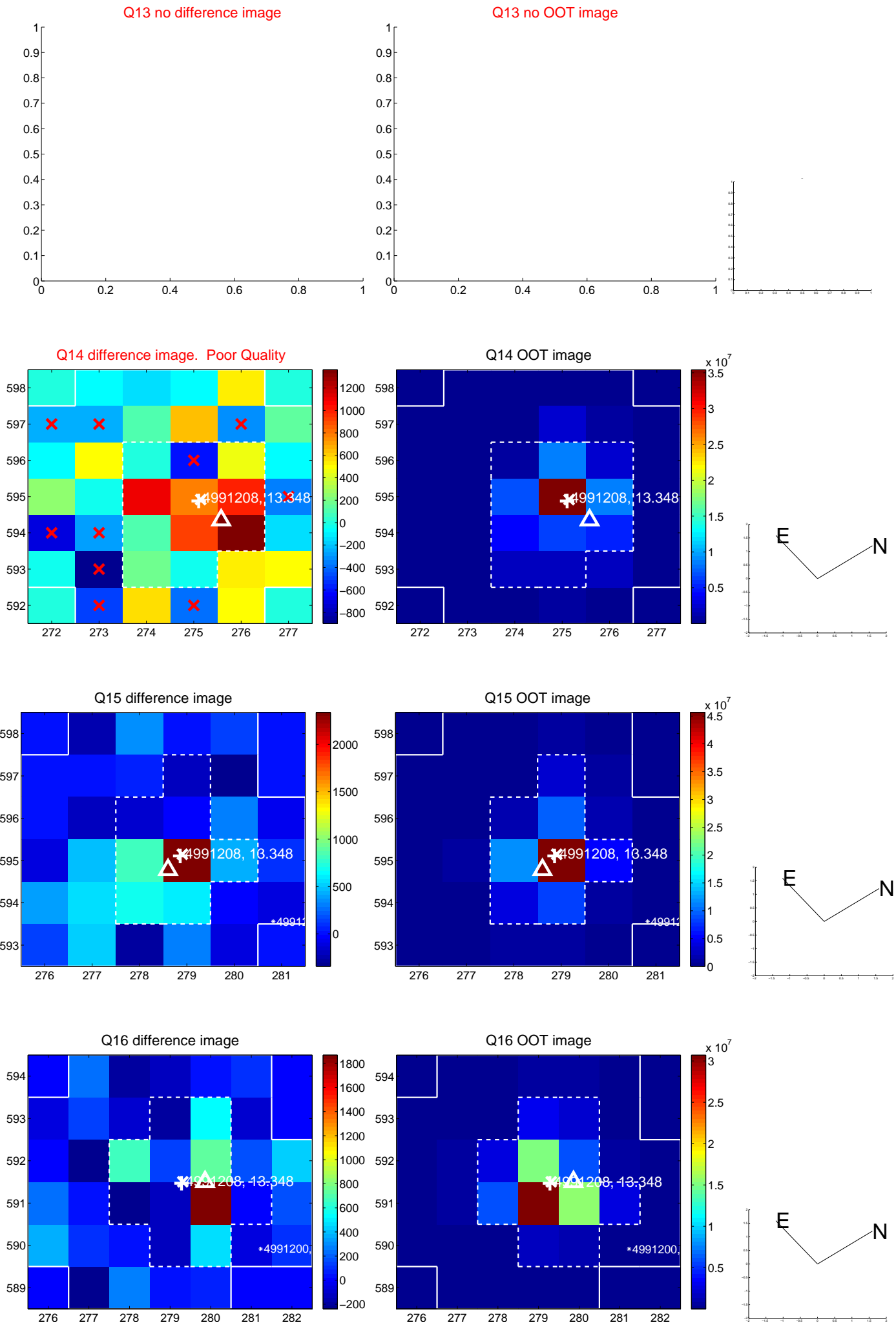
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



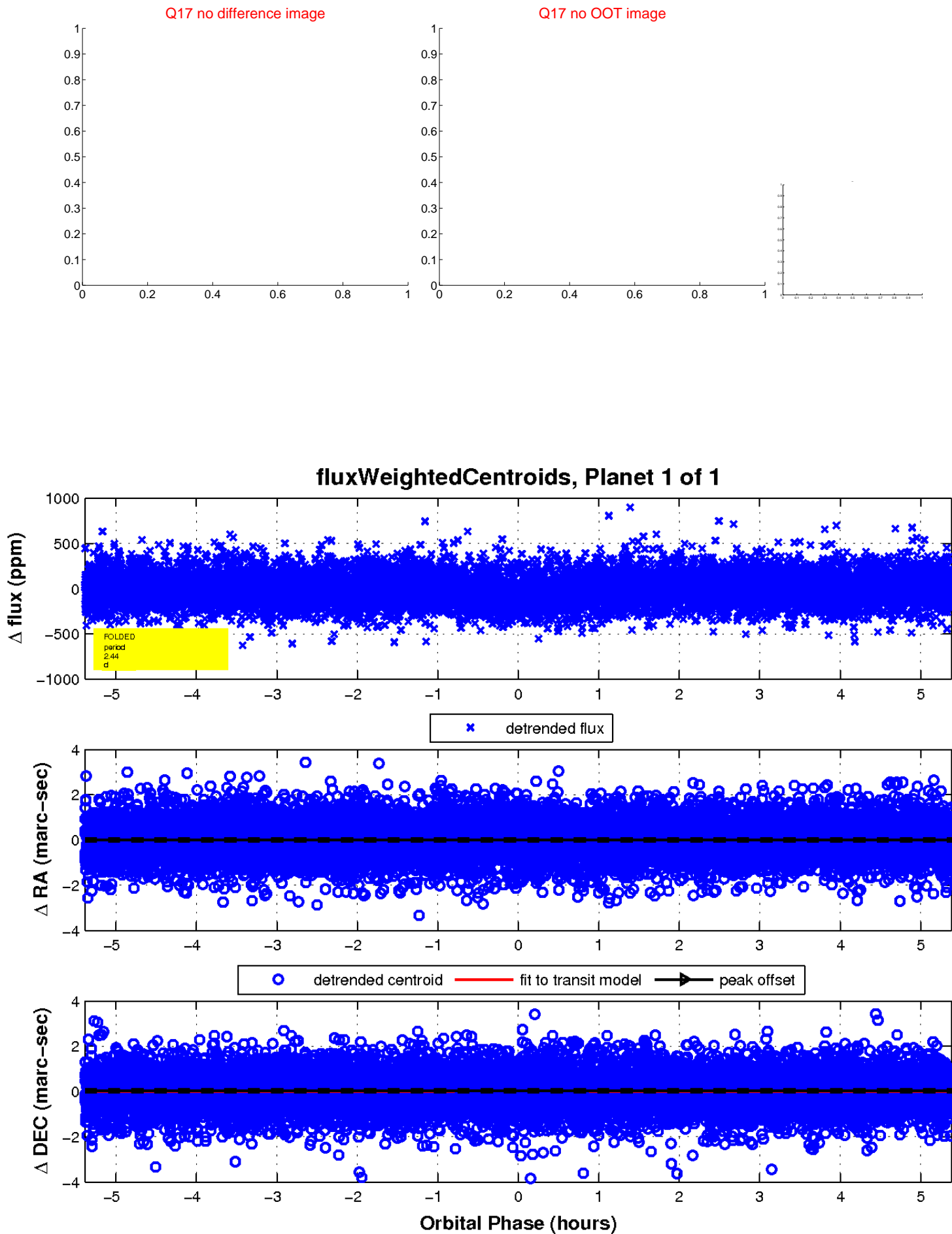
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

