

KIC 009411412

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})
009411412-01	OBS	2101.01	2.892219	132.877726	364.0	1.395	22.5	25.8	0.61	4229	1.44	94.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009411412-01	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.

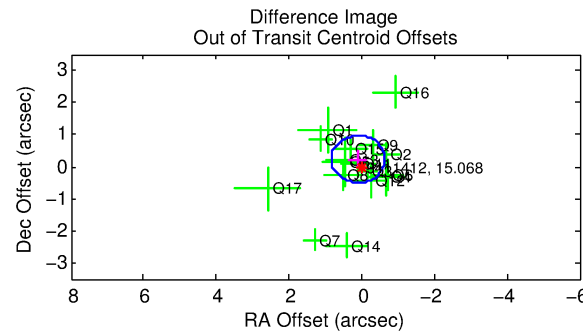
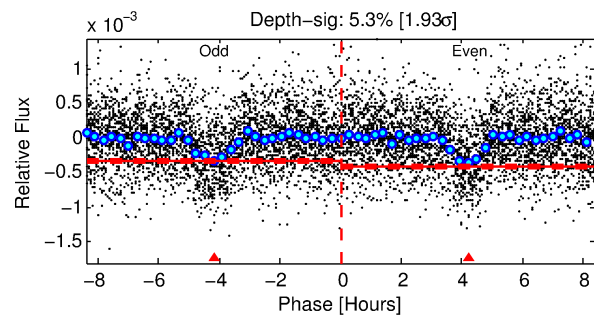
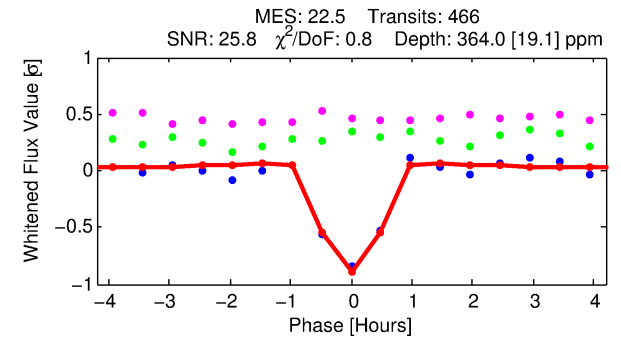
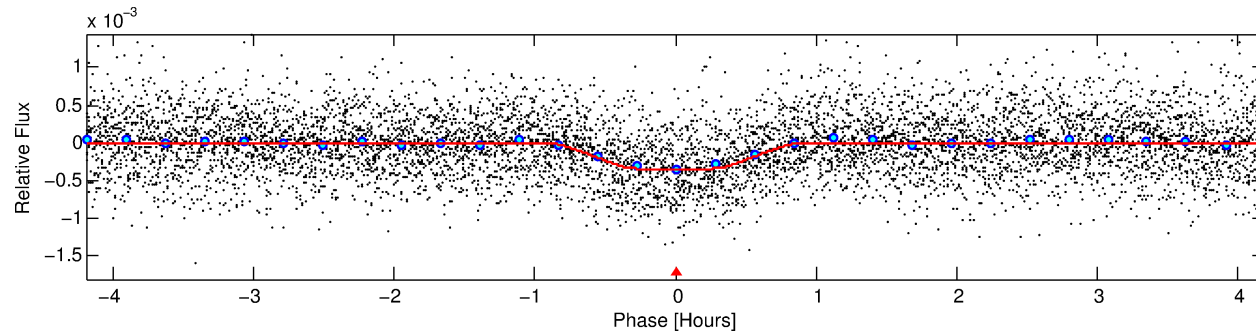
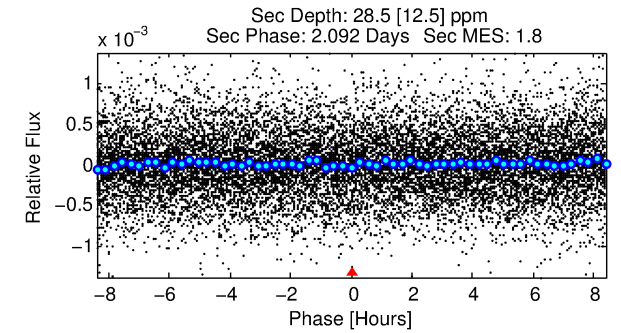
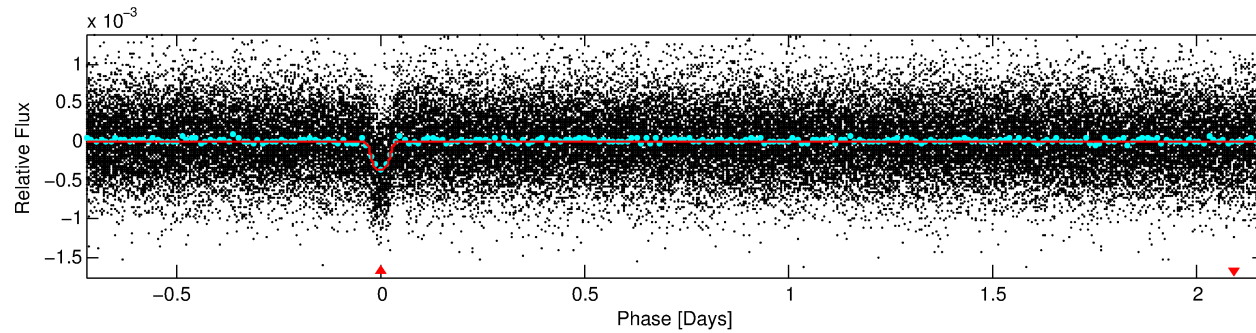
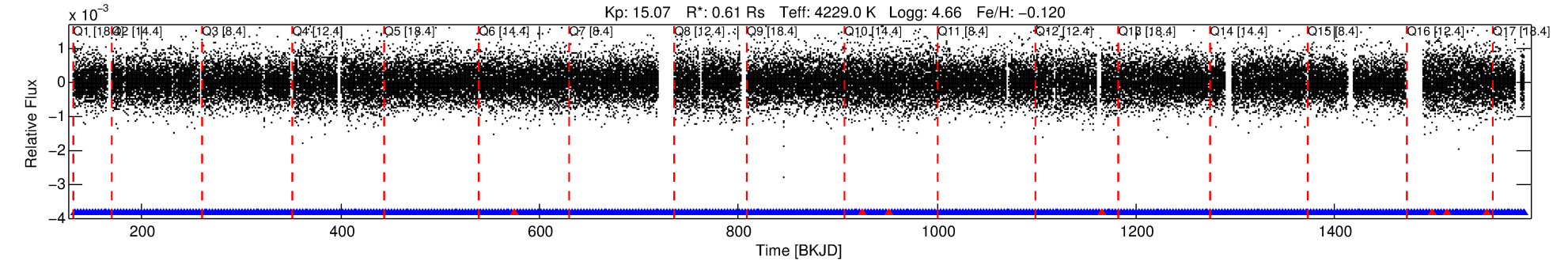
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009411412-01

No Significant Match Found

DV One-Page Summary

KIC: 9411412 Candidate: 1 of 1 Period: 2.892 d
KOI: K02101.01 Corr: 0.983



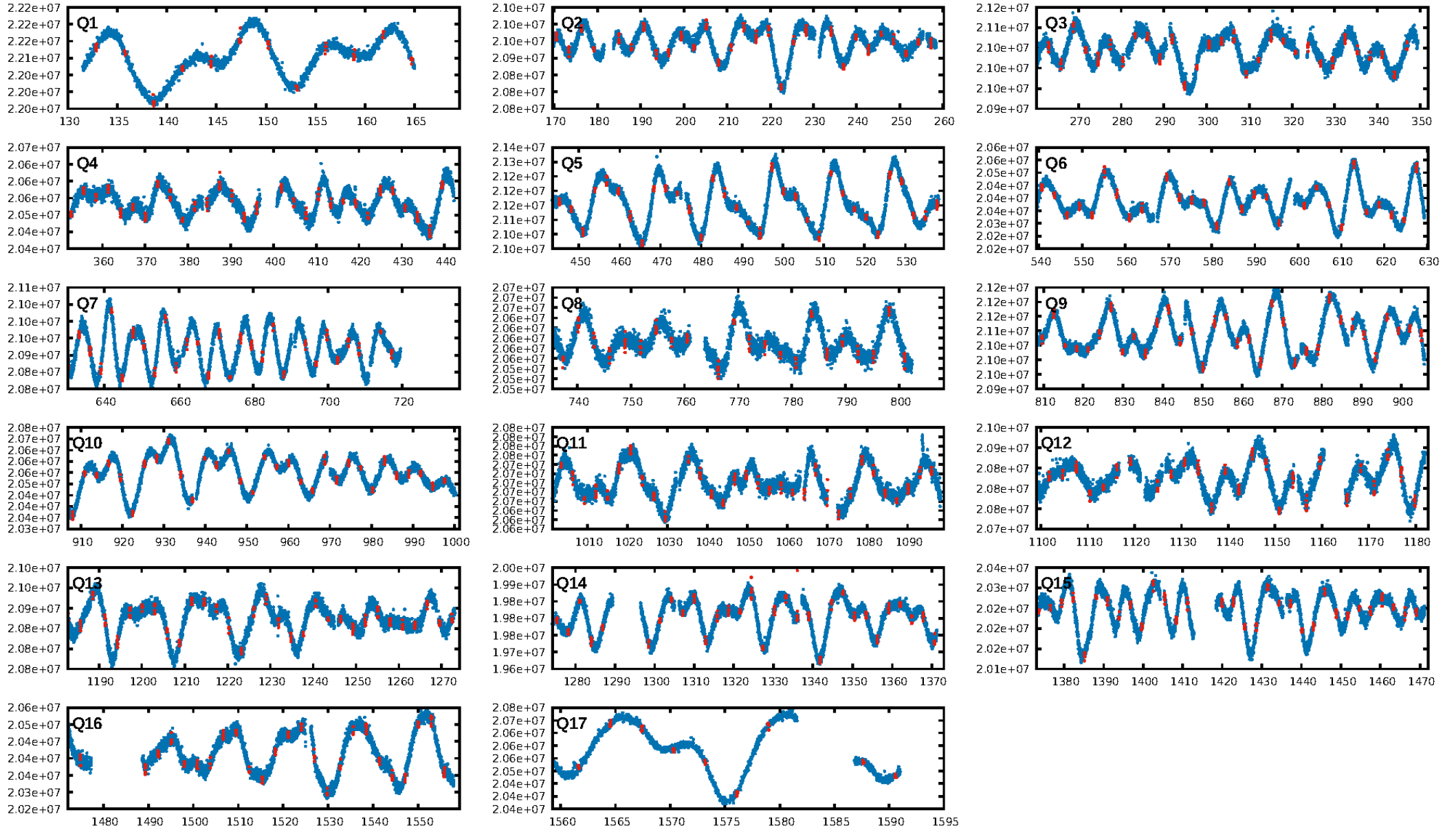
DV Fit Results:

Period = 2.89222 [0.00001] d
Epoch = 132.8777 [0.0009] BKJD
Rp/R* = 0.0215 [0.0075]
a/R* = 7.70 [10.27]
b = 0.90 [0.29]
Seff = 94.07 [8.88]
Teq = 794 [19] K
Rp = 1.44 [0.51] Re
a = 0.0339 [0.0013] AU
Ag = 8.68 [7.18] [1.07σ]
Teffp = 2108 [437] K [3.01σ]

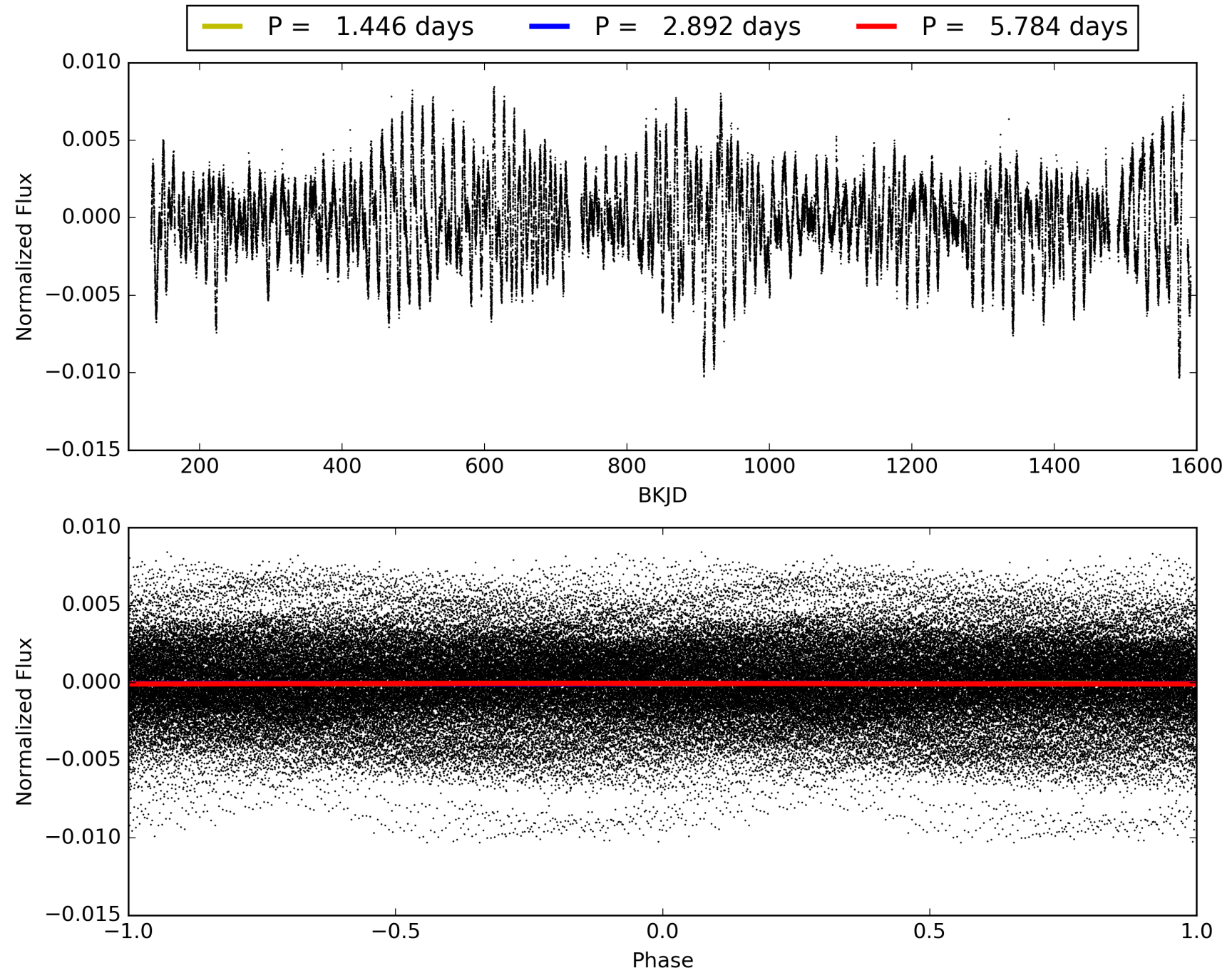
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.17e-108
RollingBand-fgt: 0.98 [438/445]
GhostDiagnostic-chr: 8.875
Centroid-sig: 56.4%
Centroid-so: 0.493 arcsec [1.20σ]
OotOffset-rm: 0.253 arcsec [1.04σ]
KicOffset-rm: 0.474 arcsec [2.07σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009411412-01, PDC Light Curves

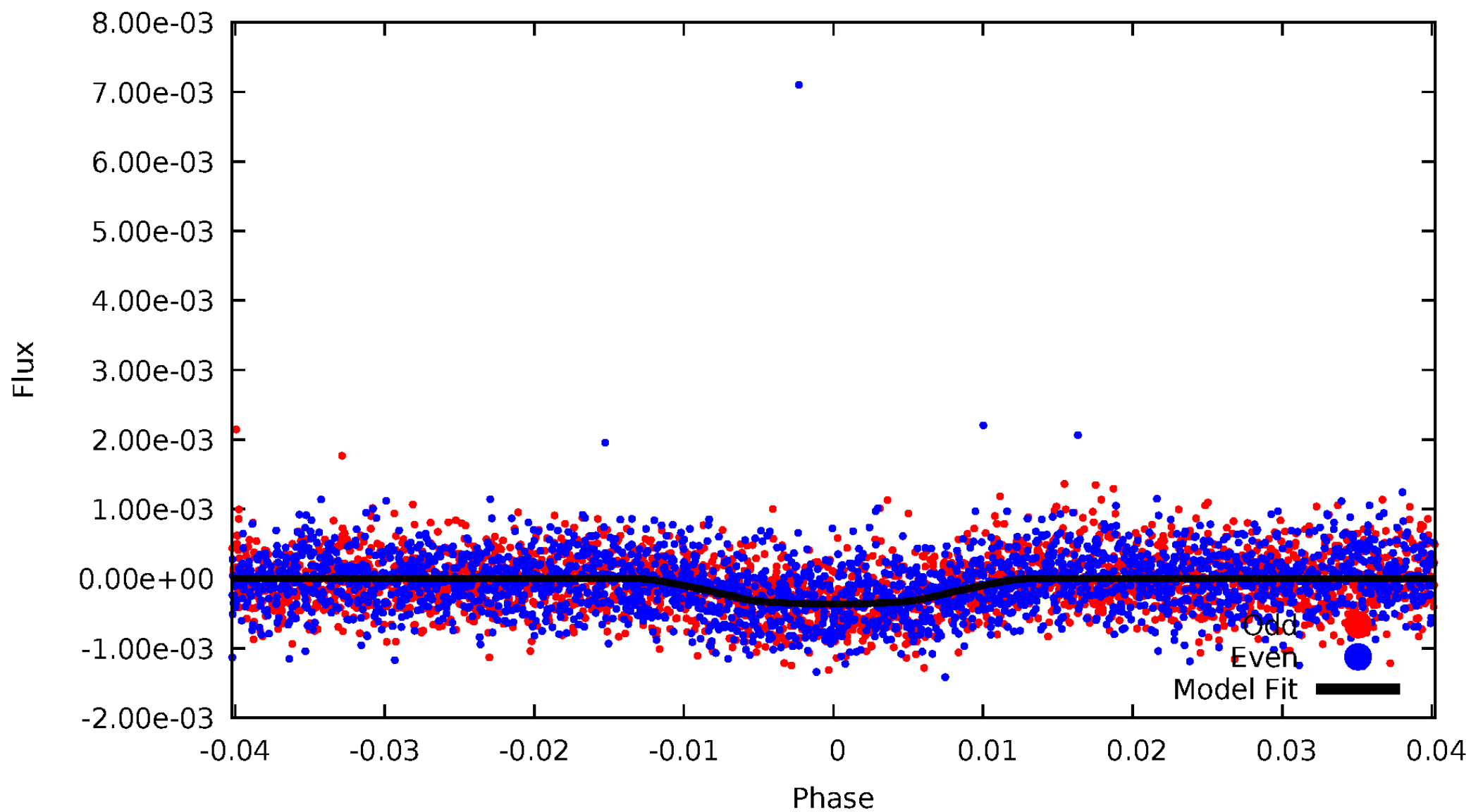


TCE 009411412-01



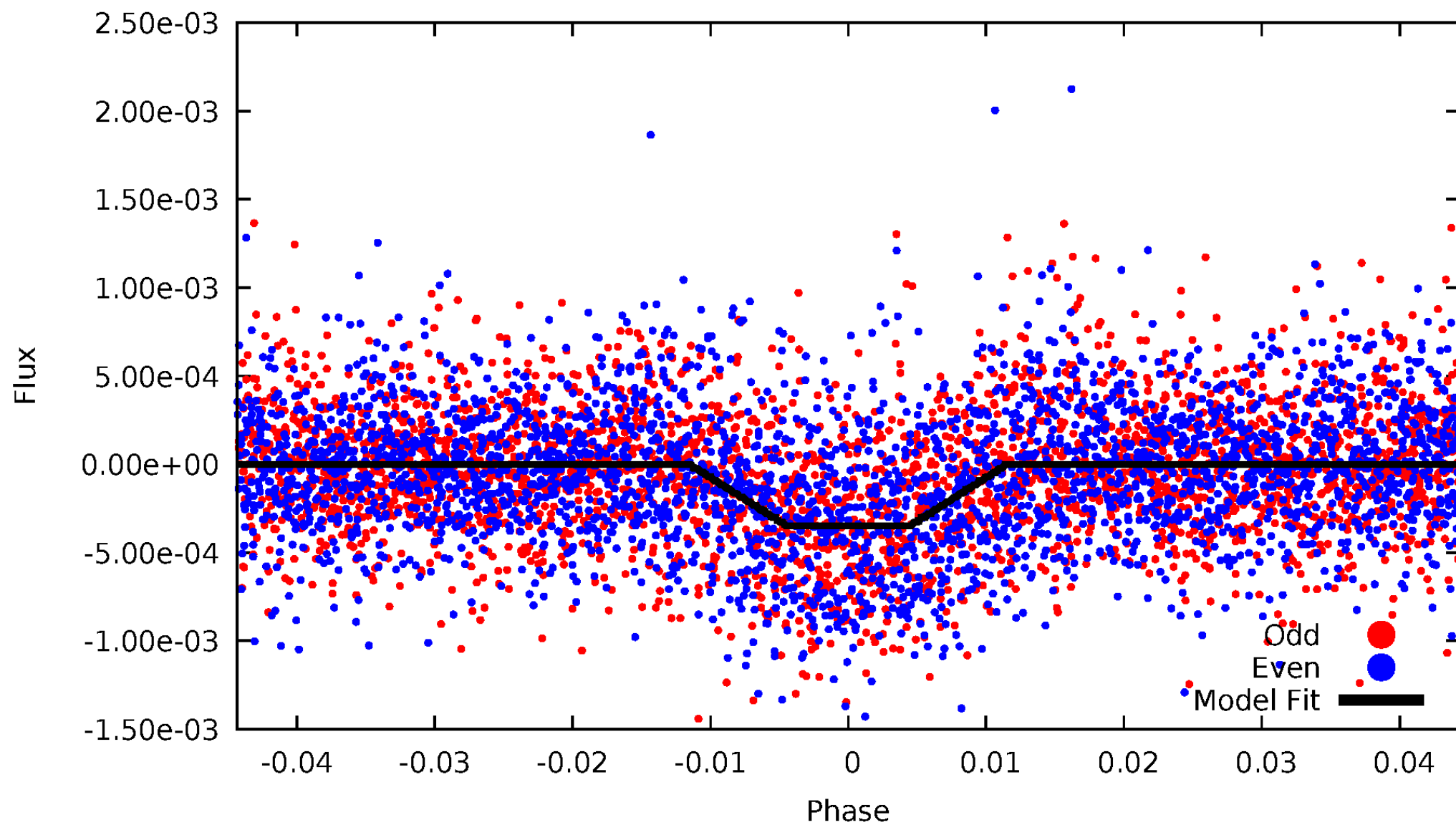
DV Odd/Even

TCE 009411412-01

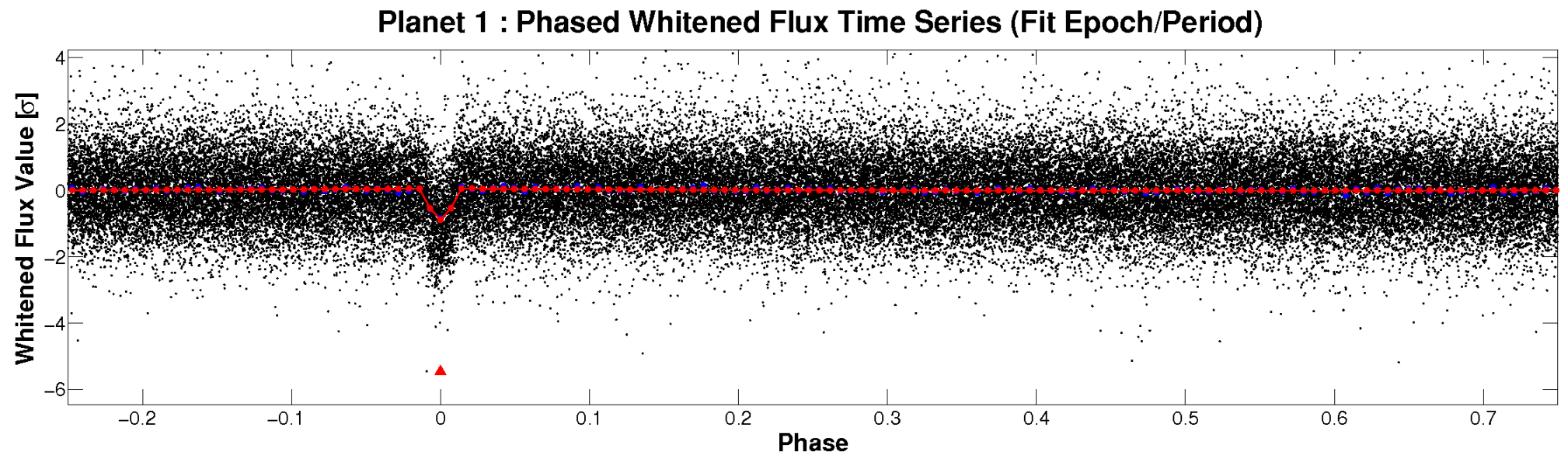
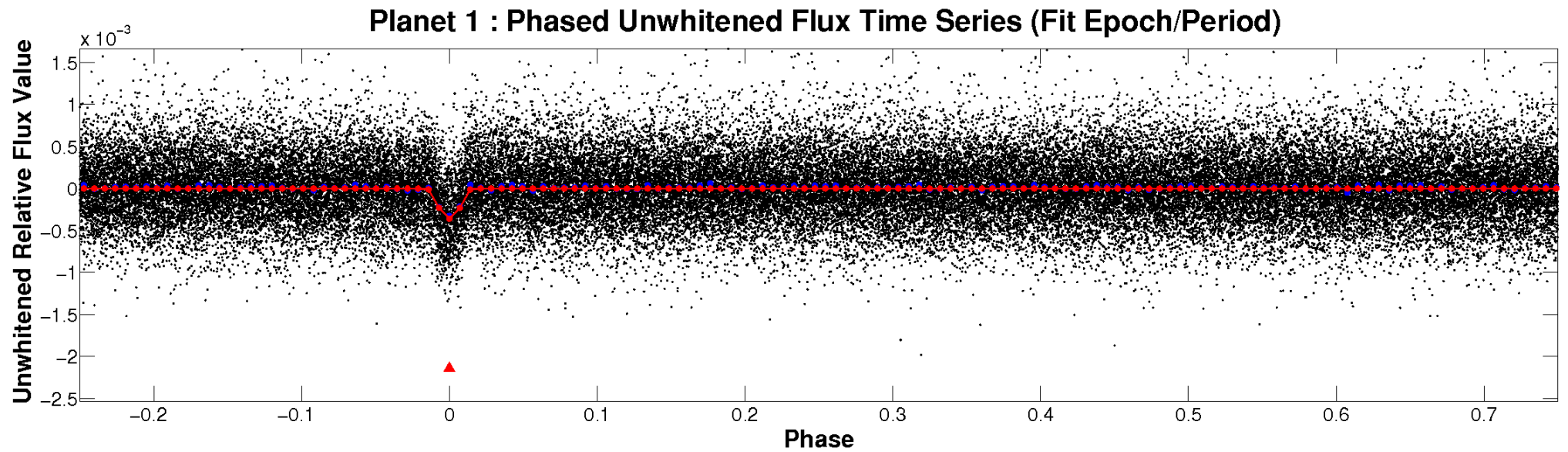


ALT Odd/Even

TCE 009411412-01

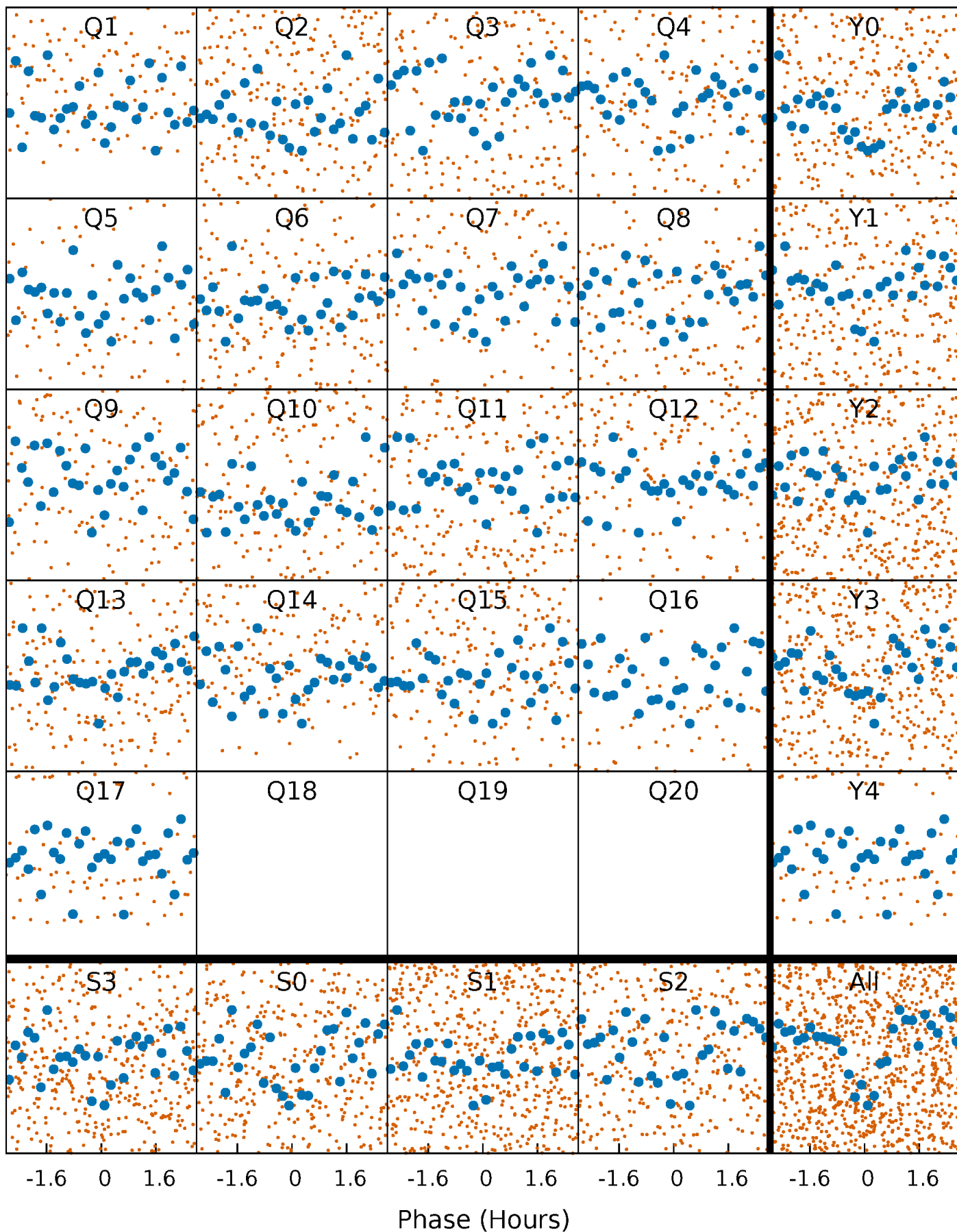


Non-Whitened Vs. Whitened Light Curve



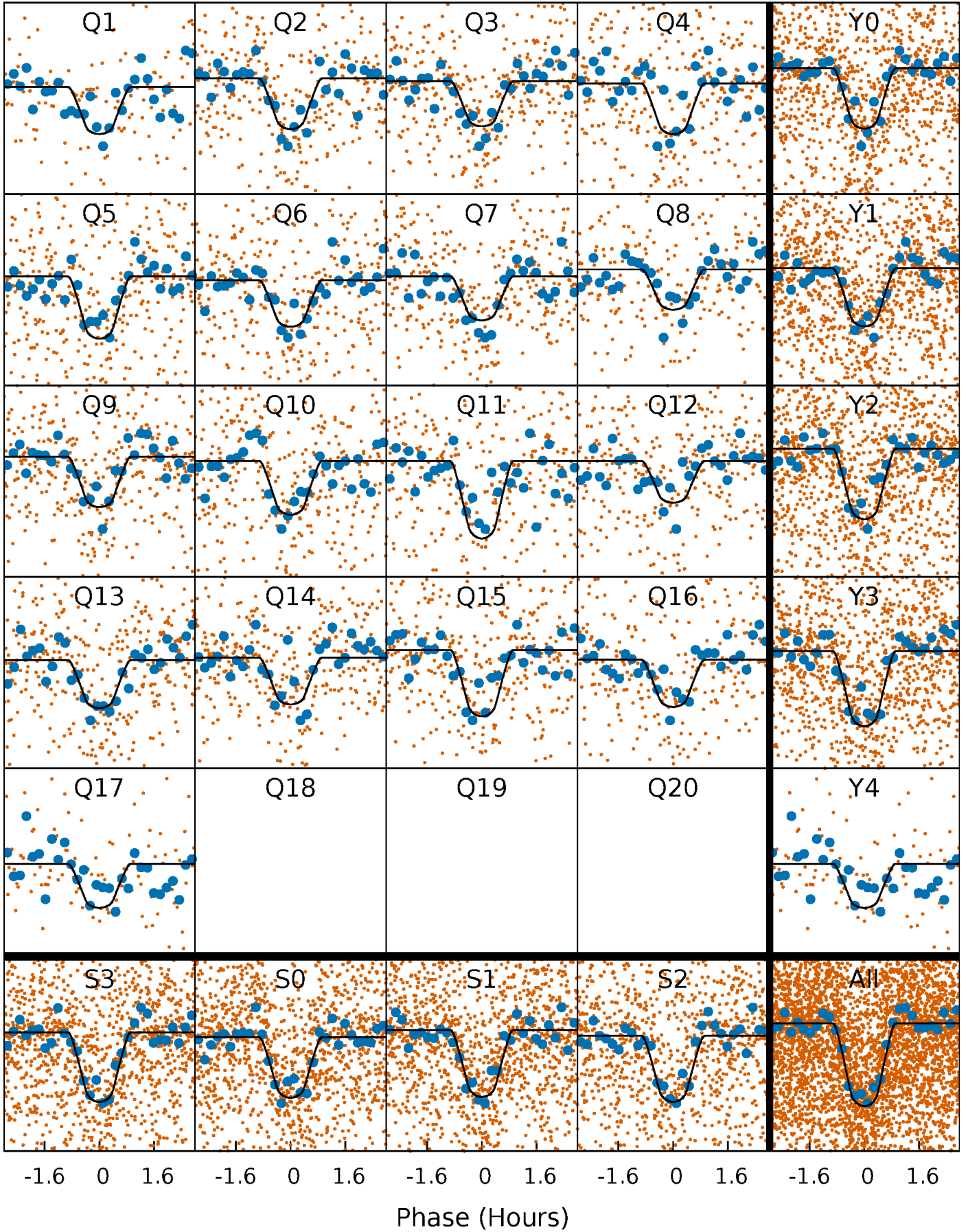
PDC Quarter-Phased Transit Curves

TCE 009411412-01 P= 2.892219 Days $T_0=132.877726$ (BKJD)



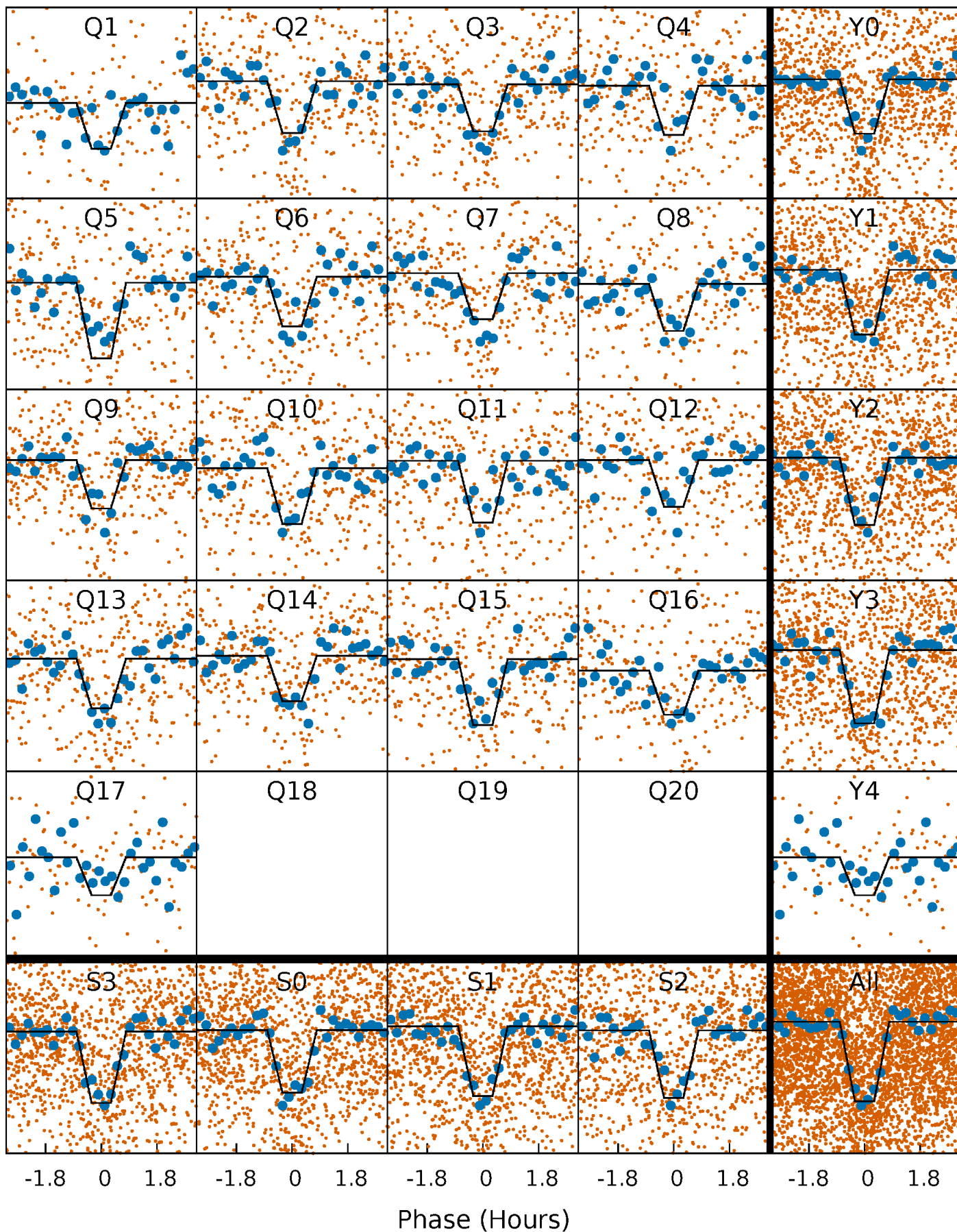
DV Quarter-Phased Transit Curves

TCE 009411412-01 P= 2.892219 Days $T_0=132.877726$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

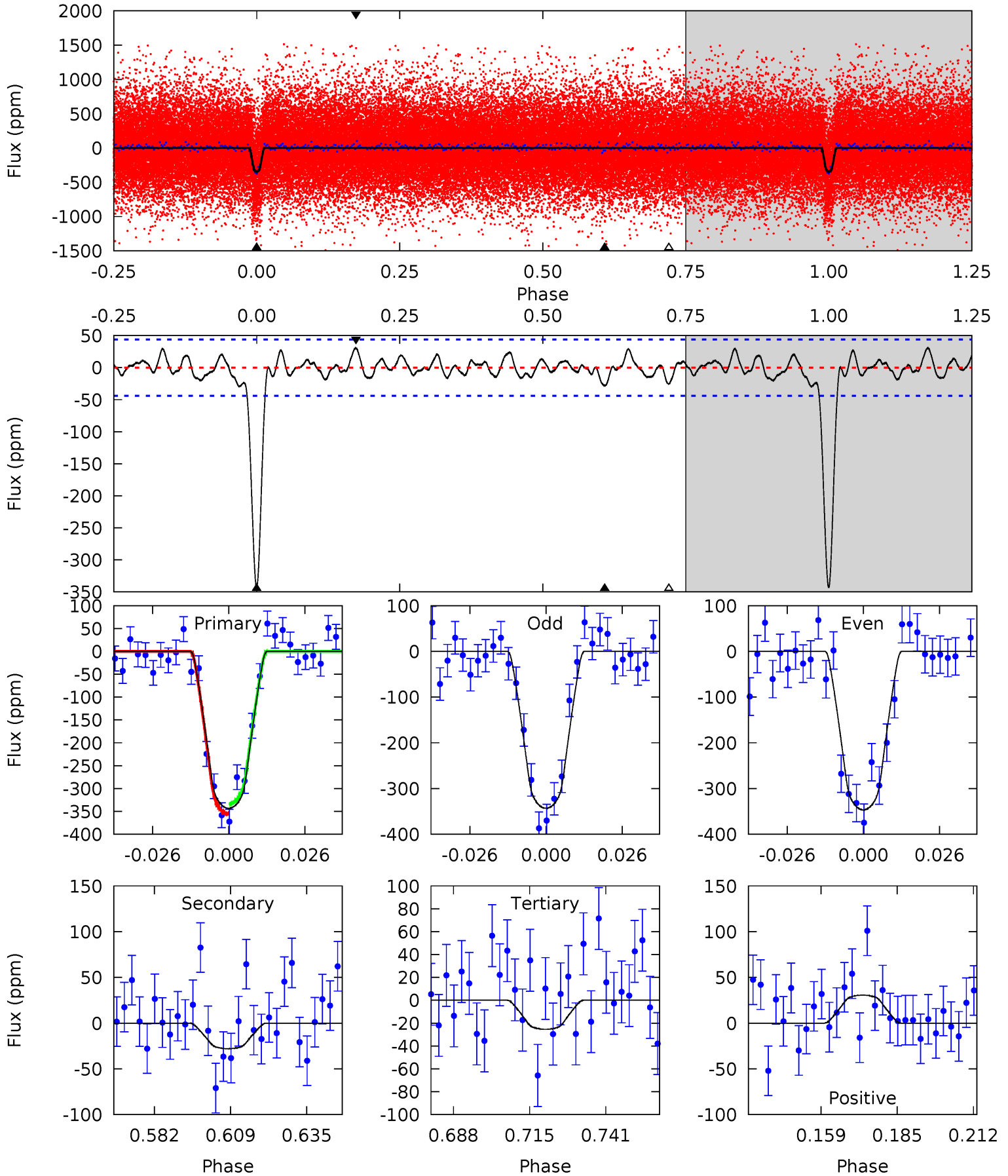
TCE 009411412-01 P= 2.892209 Days $T_0=132.879017$ (BKJD)



DV Model-Shift Uniqueness Test

009411412-01, P = 2.892219 Days, E = 129.985507 Days

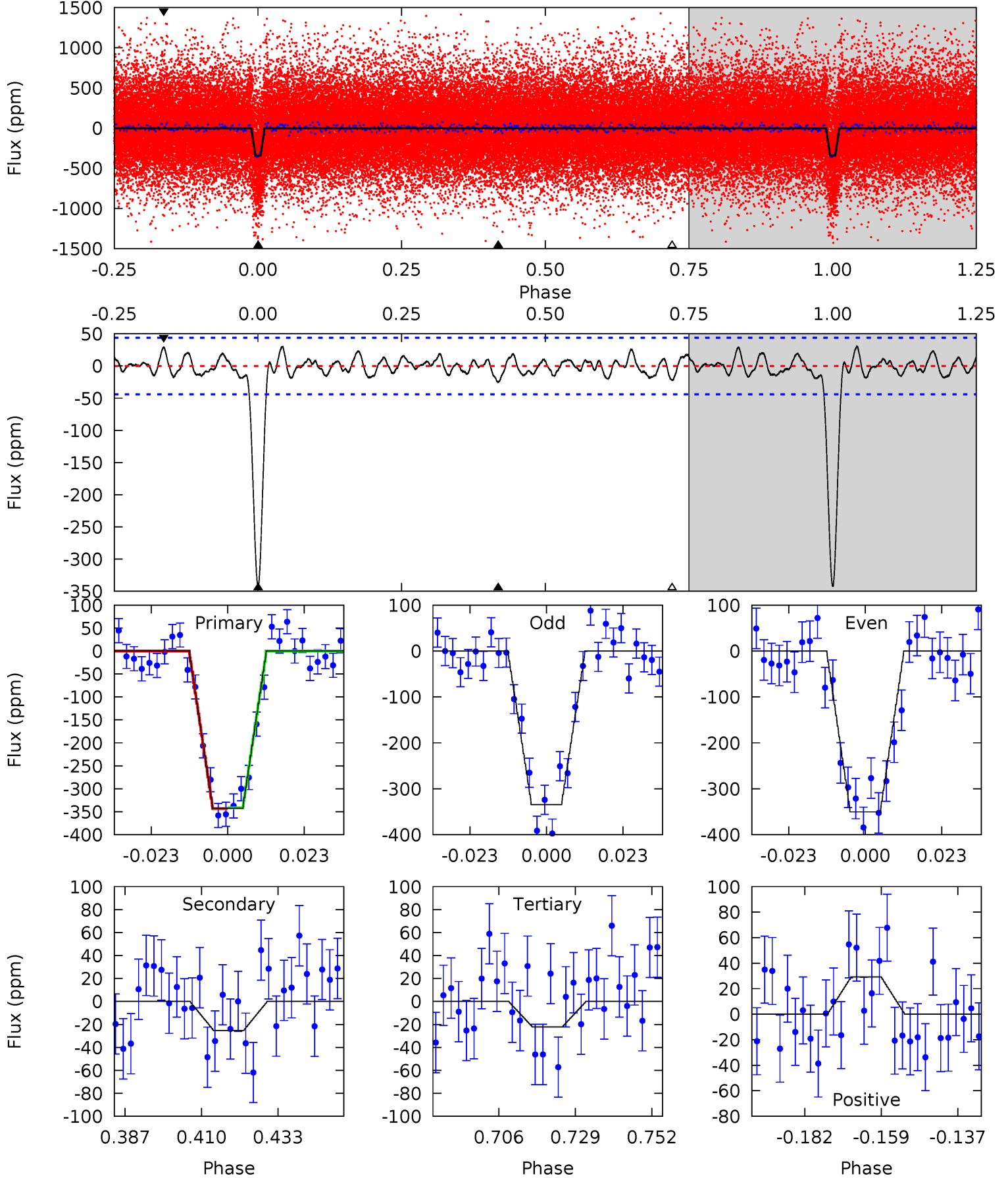
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.8	3.08	2.80	3.37	4.84	2.22	1.26	35.0	34.4	0.28	-0.29	0.19	0.96	0.08	1.23



Alt Model-Shift Uniqueness Test

009411412-01, P = 2.892209 Days, E = 129.986808 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.9	2.79	2.45	3.23	4.87	2.28	1.17	35.4	34.6	0.35	-0.43	0.87	0.94	0.08	0.08



Stellar Parameters For KIC 009411412

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4229^{+84}_{-84}	$4.655^{+0.025}_{-0.020}$	$-0.120^{+0.150}_{-0.150}$	$0.615^{+0.025}_{-0.031}$	$0.625^{+0.029}_{-0.033}$	$3.779^{+0.454}_{-0.299}$
	+2%/-2%	+1%/-0%	+125%/-125%	+4%/-5%	+5%/-5%	+12%/-8%
Source	SPE60	SPE60	SPE60	DSEP		

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

Secondary Eclipse Parameters for KIC 009411412-01 / KOI 2101.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-28 ± 9	$1.45^{+0.51}_{-0.49}$	1107^{+26}_{-22}	2709^{+362}_{-241}	$8.251^{+10.439}_{-4.249}$
Alt.	-25 ± 9	$1.23^{+0.49}_{-0.50}$	1108^{+25}_{-24}	2803^{+472}_{-308}	10^{+20}_{-6}

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

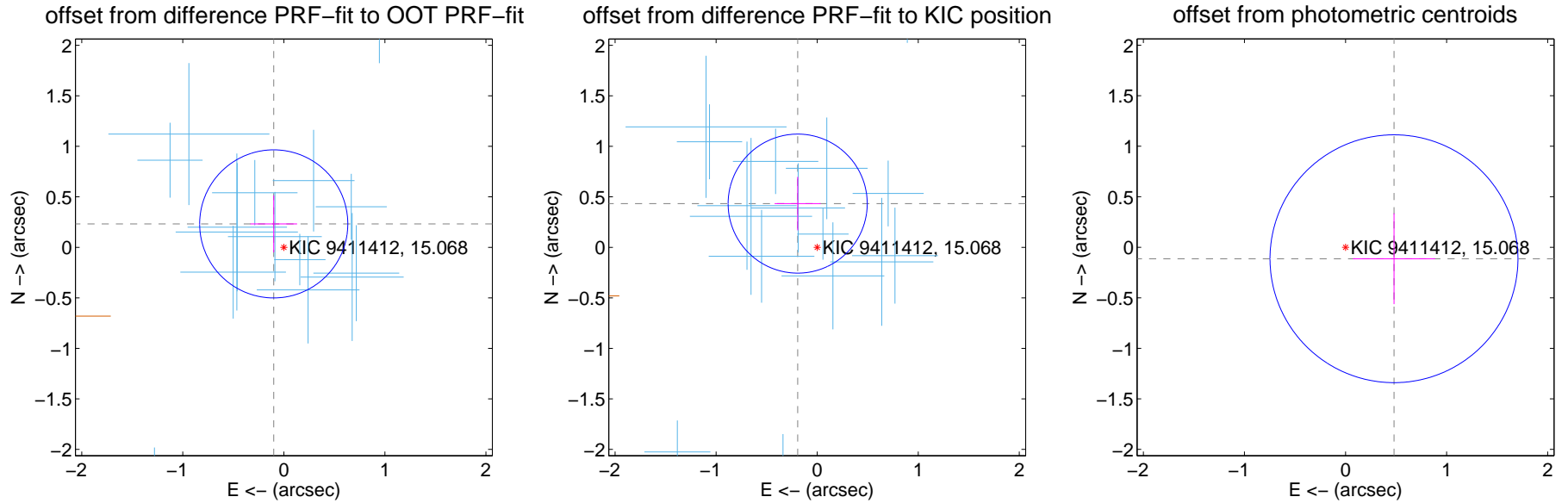
DV Centroid Data

Supplemental centroid analysis for 009411412-01. Kepler magnitude: 15.07. Transit SNR 25.78

There are 16 quarters with good PRF difference image offsets

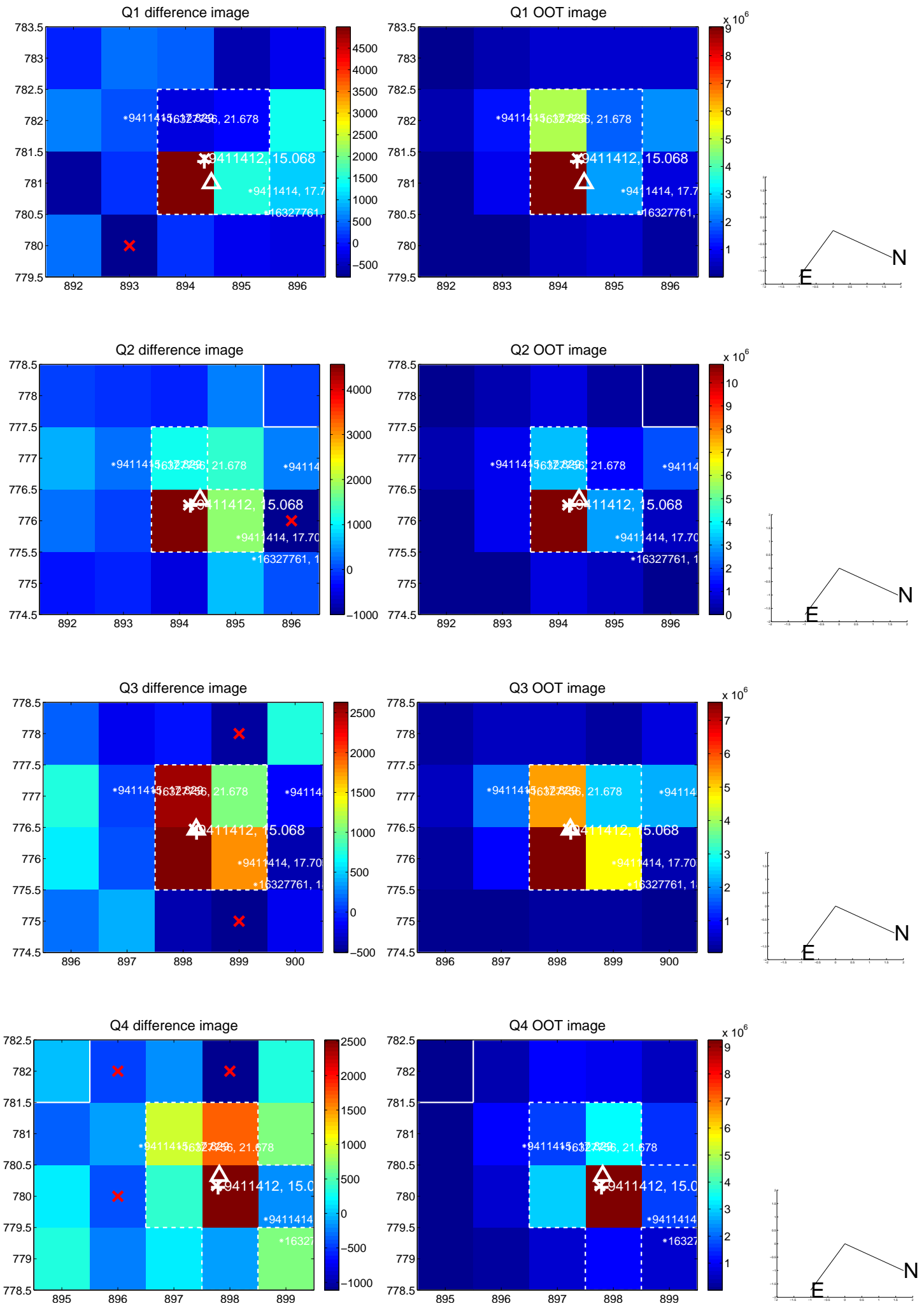
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.253 ± 0.244	1.04	0.100 ± 0.231	0.232 ± 0.282
PRF-fit source offset from KIC position	0.474 ± 0.229	2.07	0.193 ± 0.228	0.433 ± 0.264
photometric centroid source offset	0.49 ± 0.41	1.20	-0.48 ± 0.41	-0.11 ± 0.45

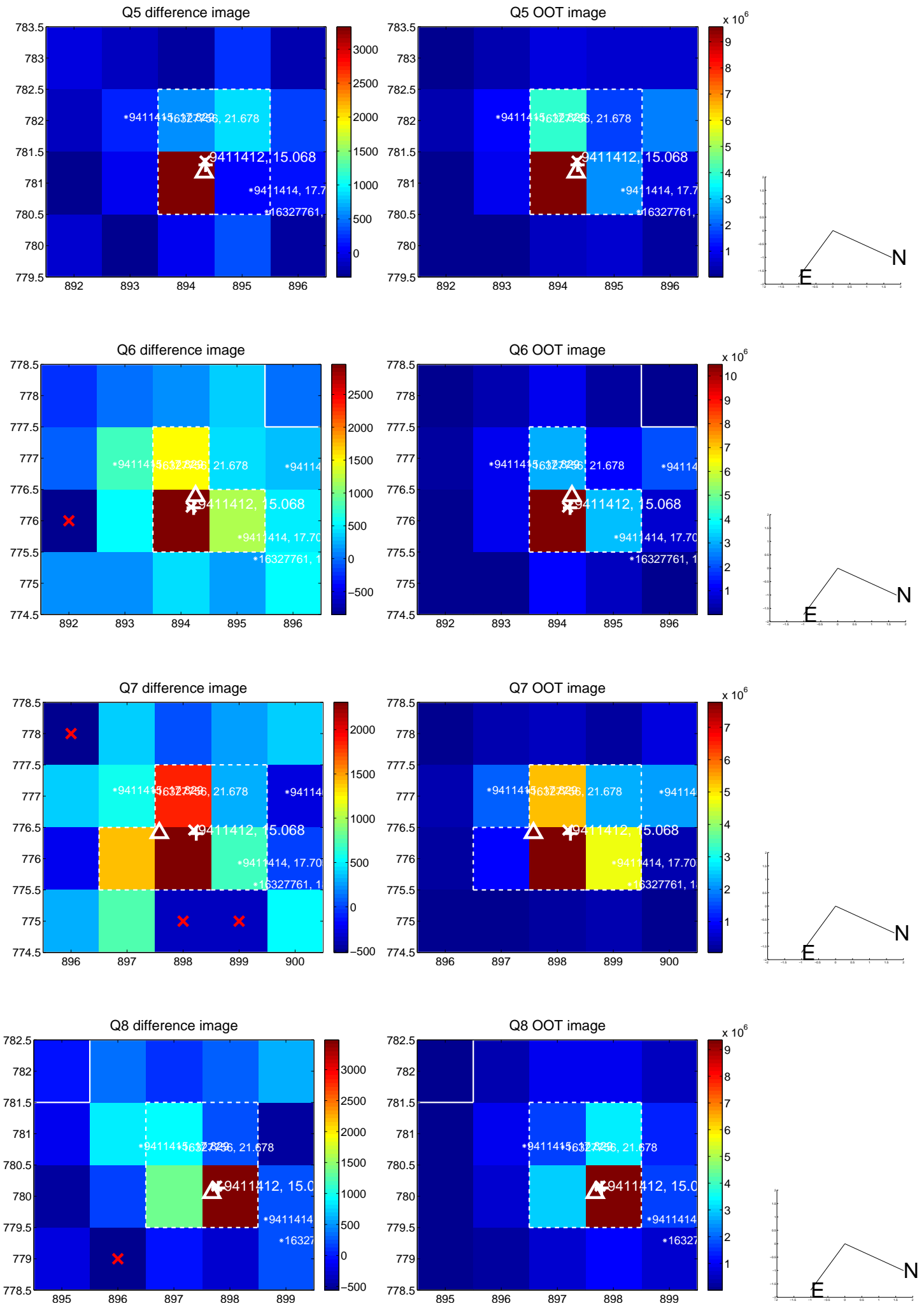


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

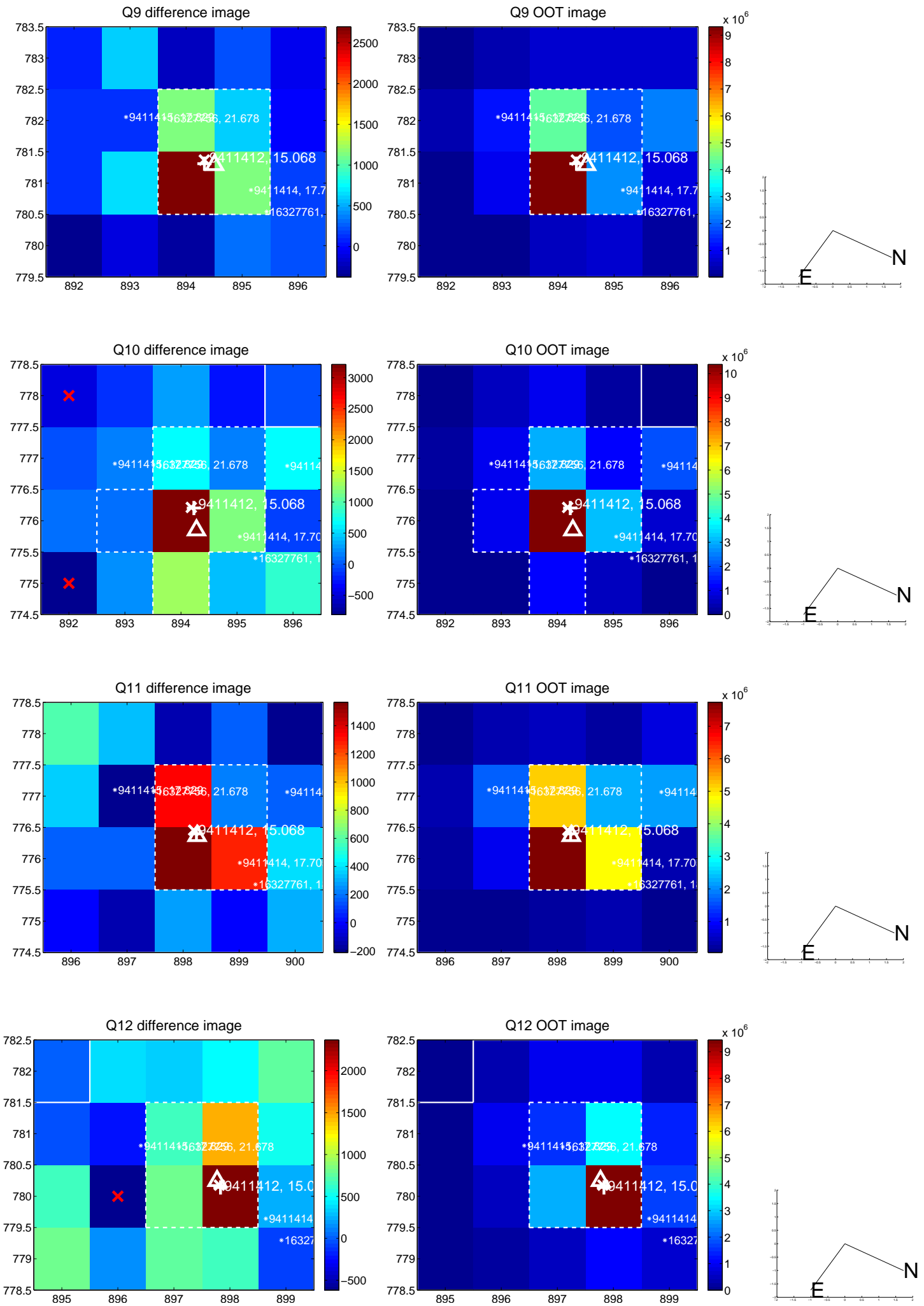
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



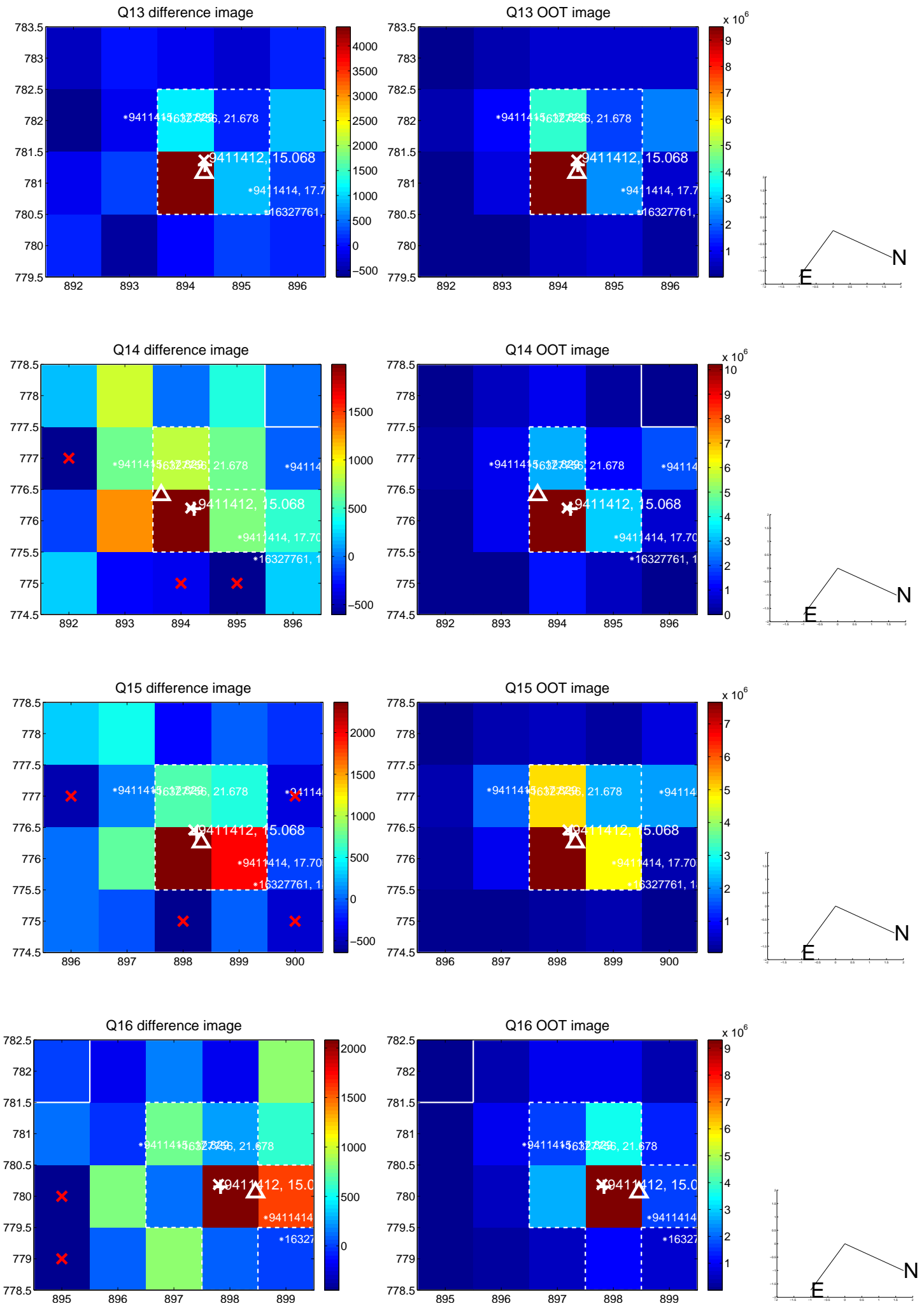
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



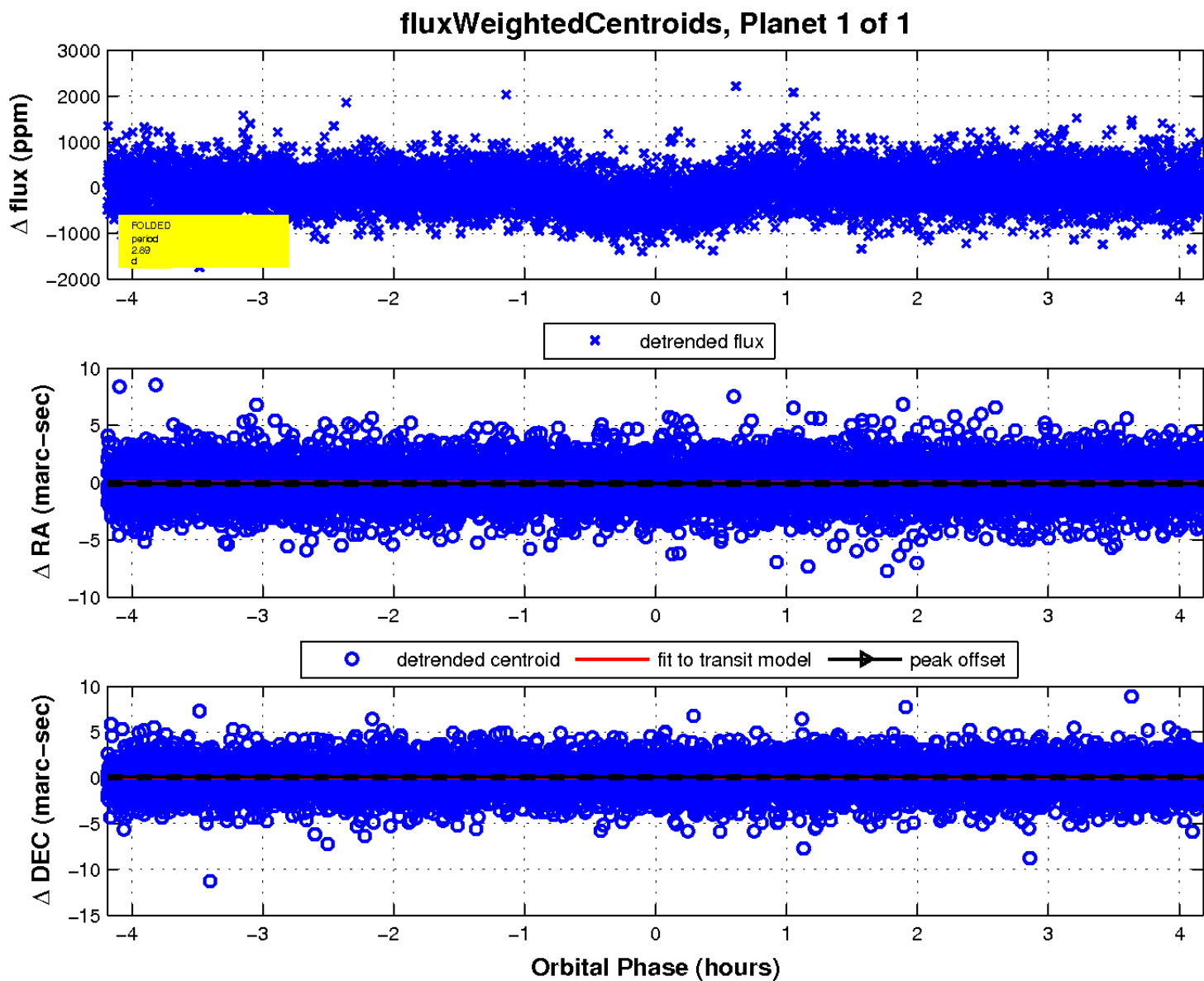
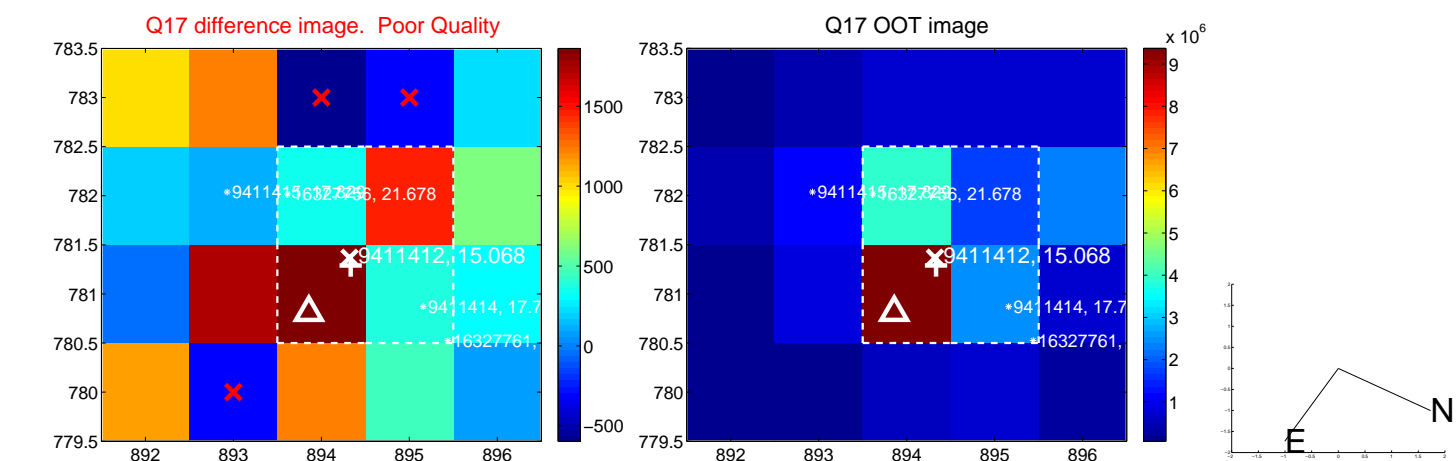
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

