

KIC 011724091

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})
011724091-01	OBS	7475.01	1.559097	131.769579	203750.1	4.561	5707.5	2572.2	2.62	7279	121.78	16878.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011724091-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT

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.

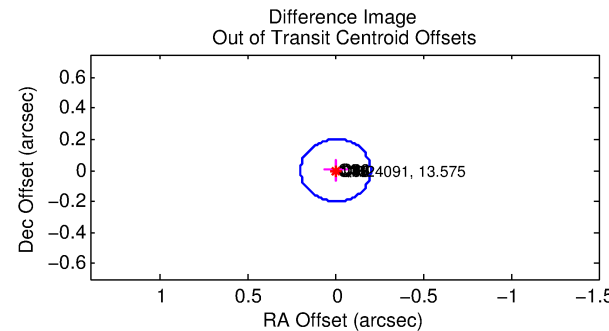
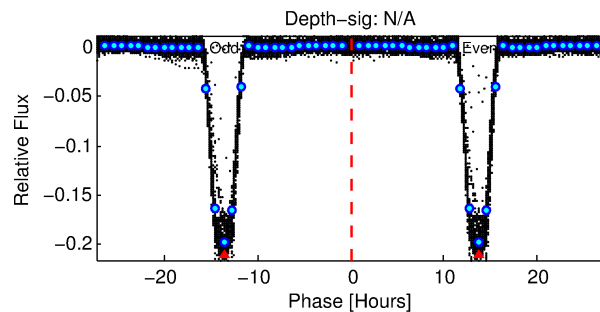
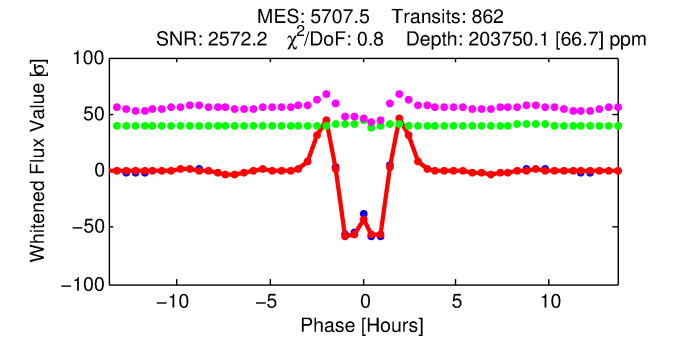
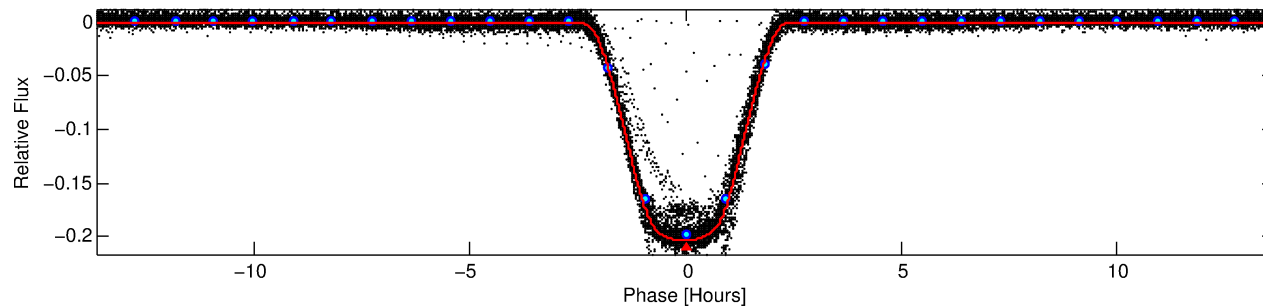
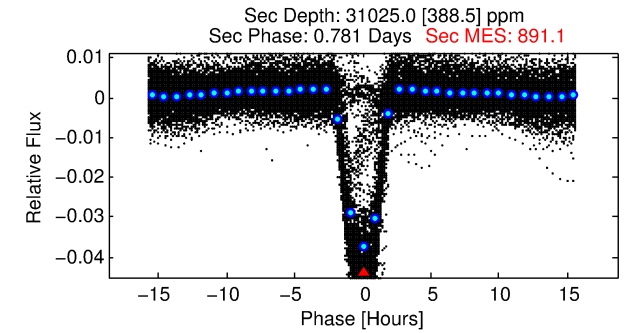
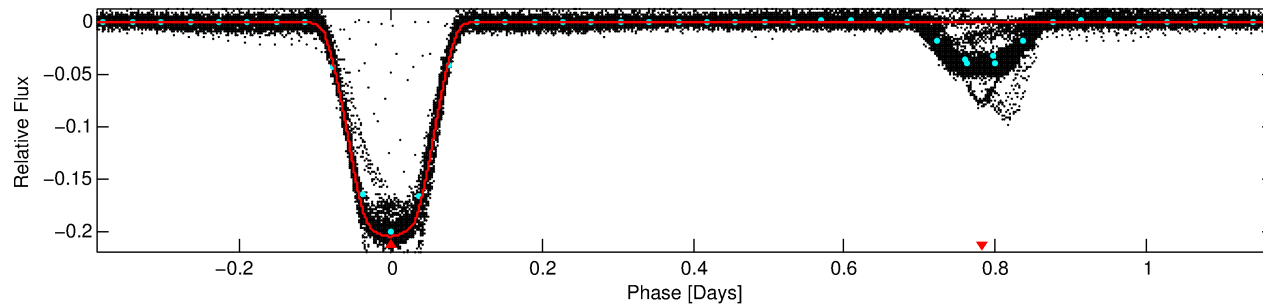
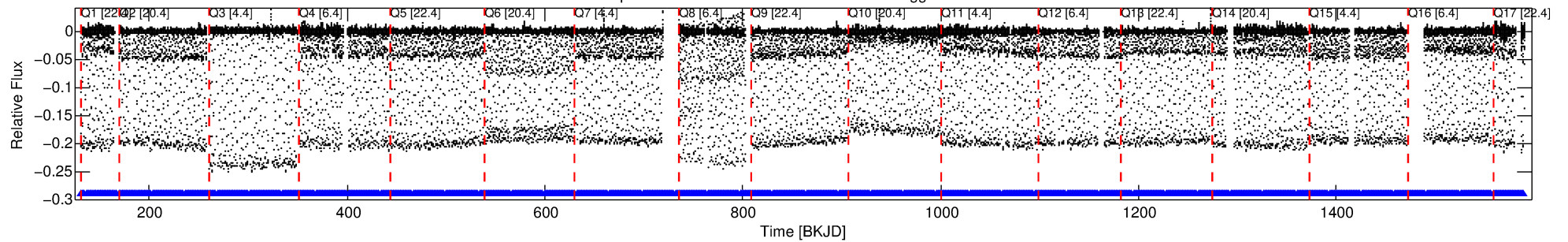
Ephemeris Match Information For 011724091-01

No Significant Match Found

DV One-Page Summary

KIC: 11724091 Candidate: 1 of 1 Period: 1.559 d
KOI: K07475.01 Corr: 0.960

Kp: 13.57 R*: 2.62 Rs Teff: 7279.0 K Logg: 3.86 Fe/H: -0.040



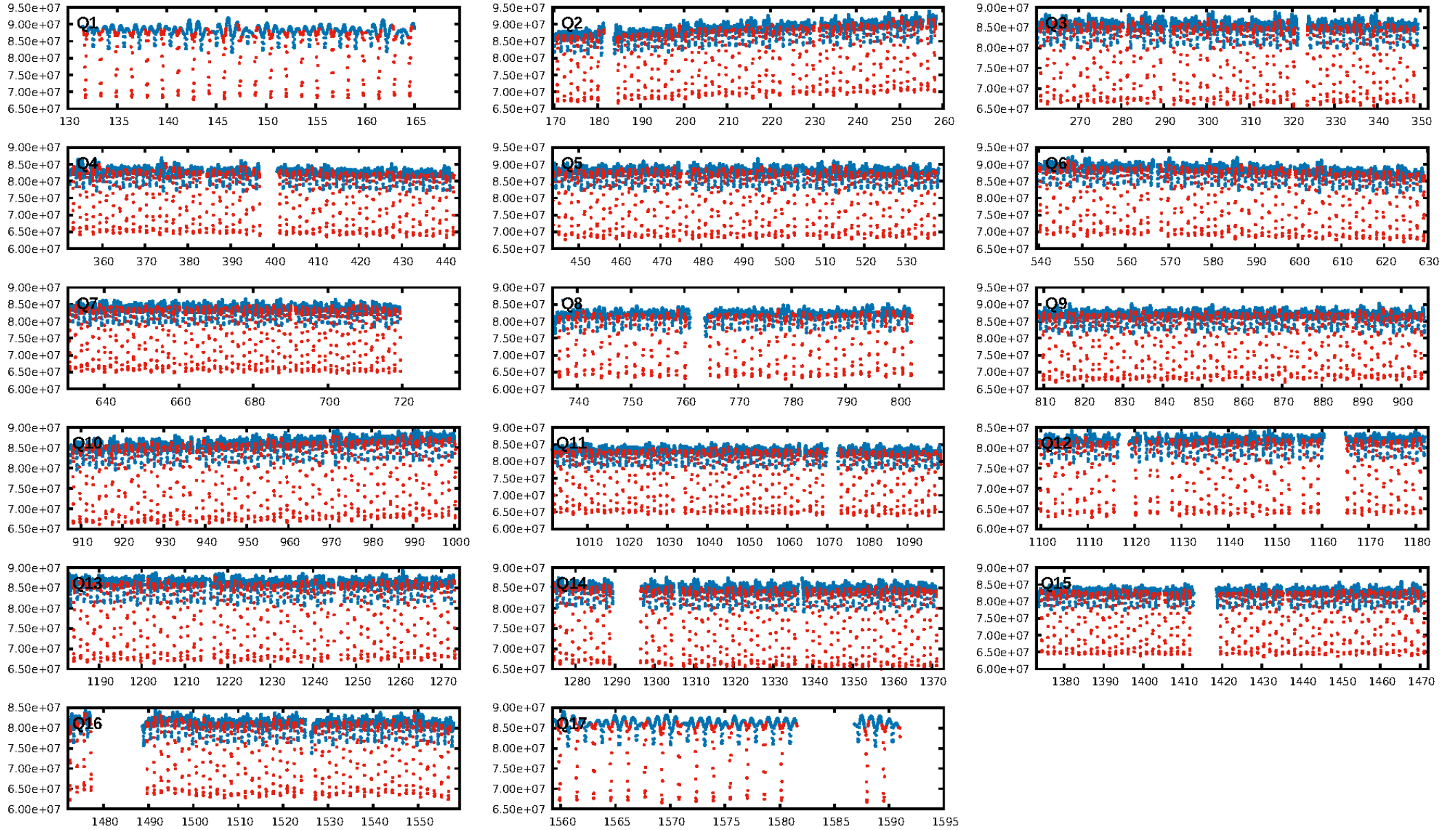
DV Fit Results:

Period = 1.55910 [0.00000] d
Epoch = 131.7696 [0.0000] BKJD
Rp/R* = 0.4253 [0.0001]
a/R* = 3.77 [0.00]
b = 0.24 [0.00]
Seff = 16878.21 [10102.58]
Teff = 2906 [435] K
Rp = 121.78 [46.83] Re
a = 0.0320 [0.0115] AU
Ag = 1.18 [0.67] [0.27σ]
Teffp = 4684 [223] K [3.64σ]

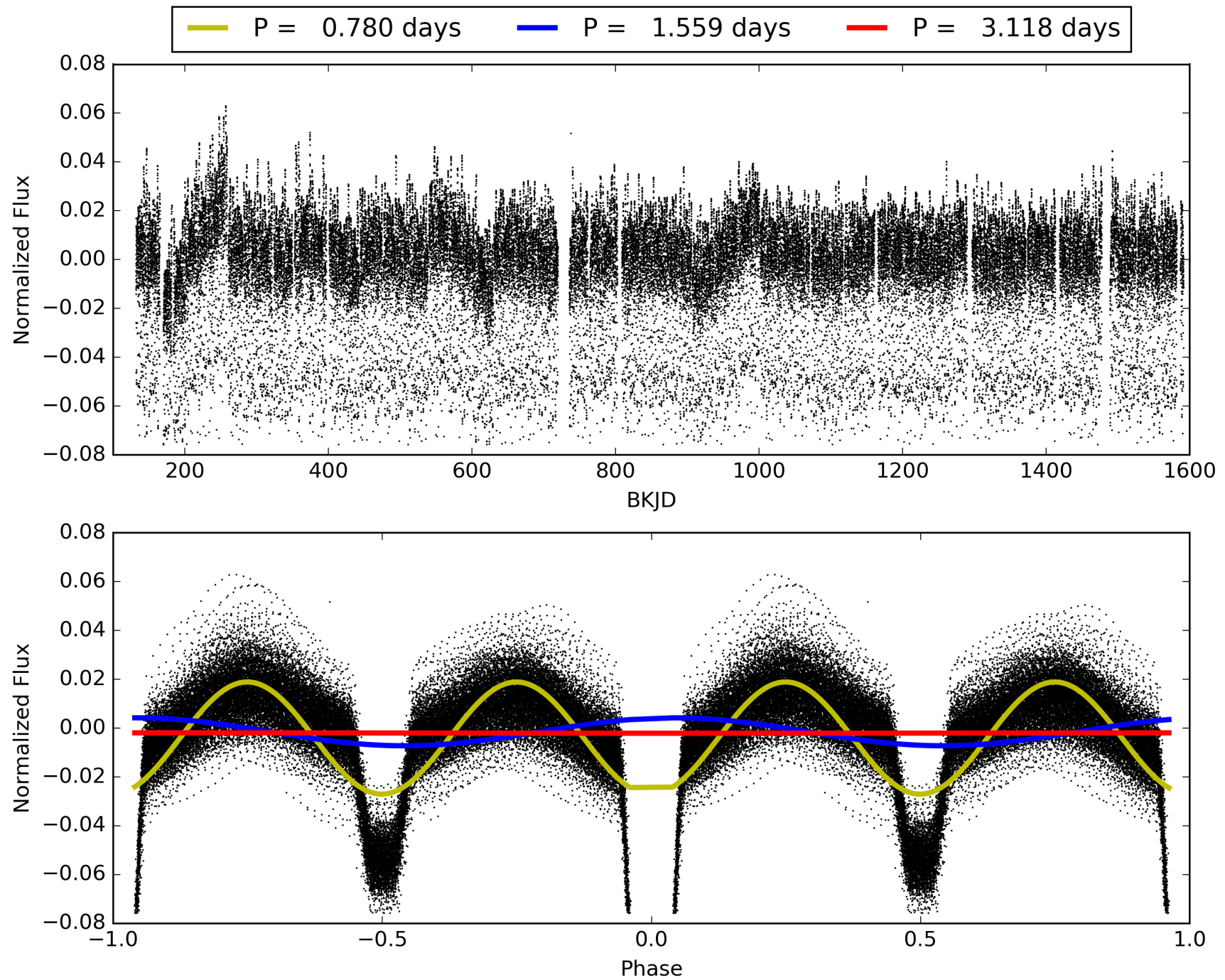
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [823/823]
GhostDiagnostic-chr: 1.418
Centroid-sig: 0.0%
Centroid-so: 0.067 arcsec [189.88σ]
OotOffset-rm: 0.001 arcsec [0.02σ]
KicOffset-rm: 0.080 arcsec [1.19σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011724091-01, PDC Light Curves

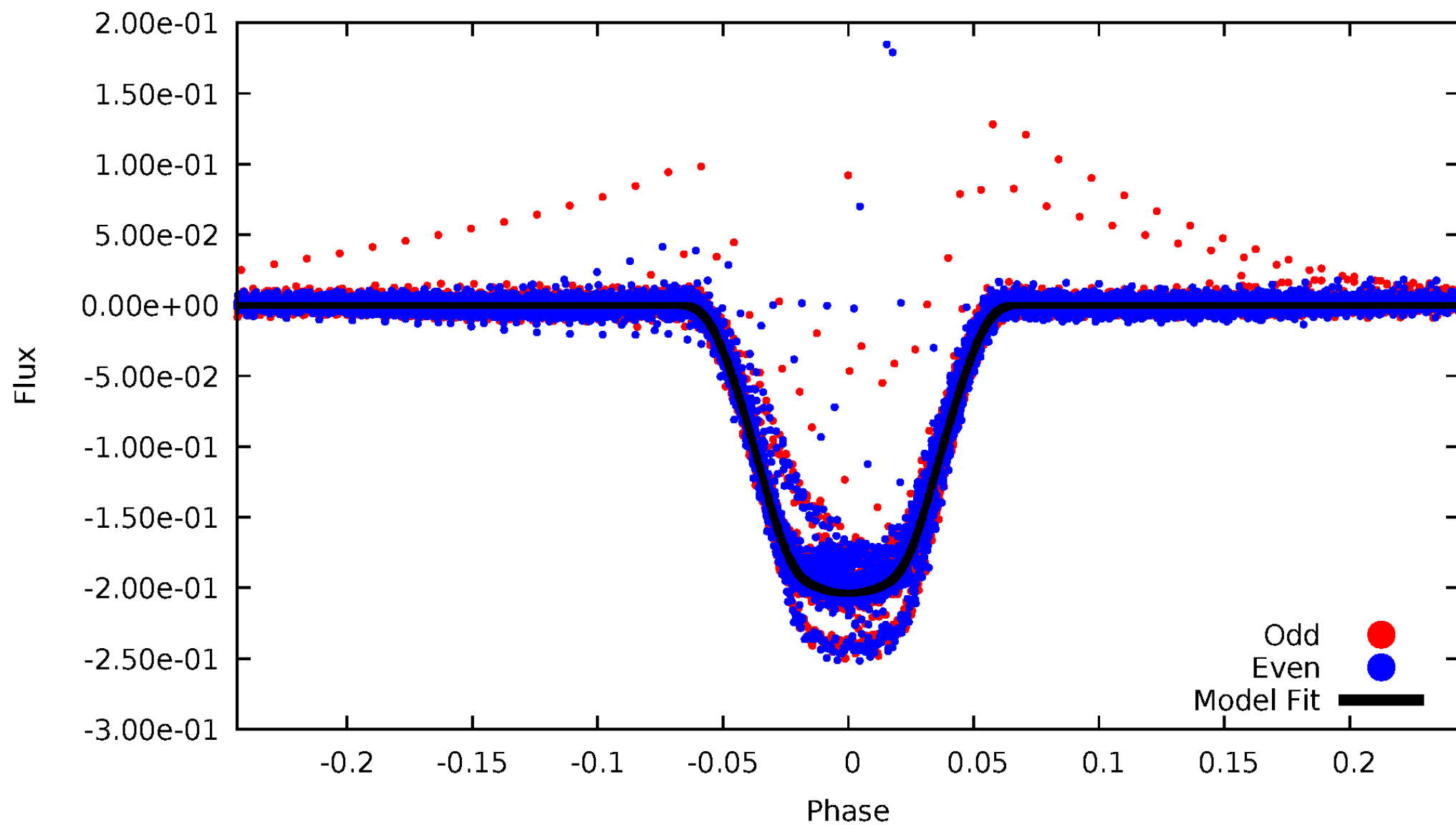


TCE 011724091-01



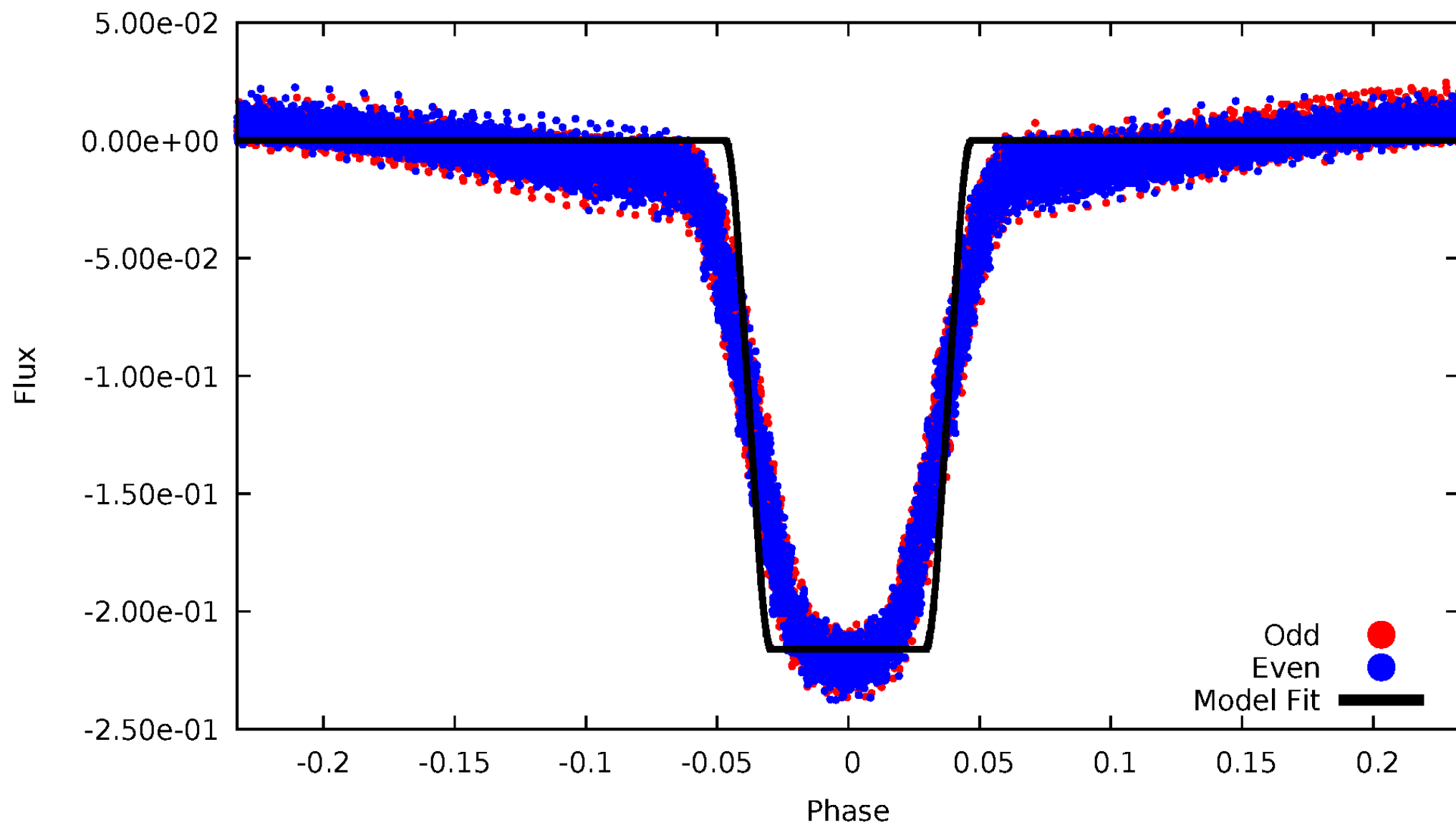
DV Odd/Even

TCE 011724091-01



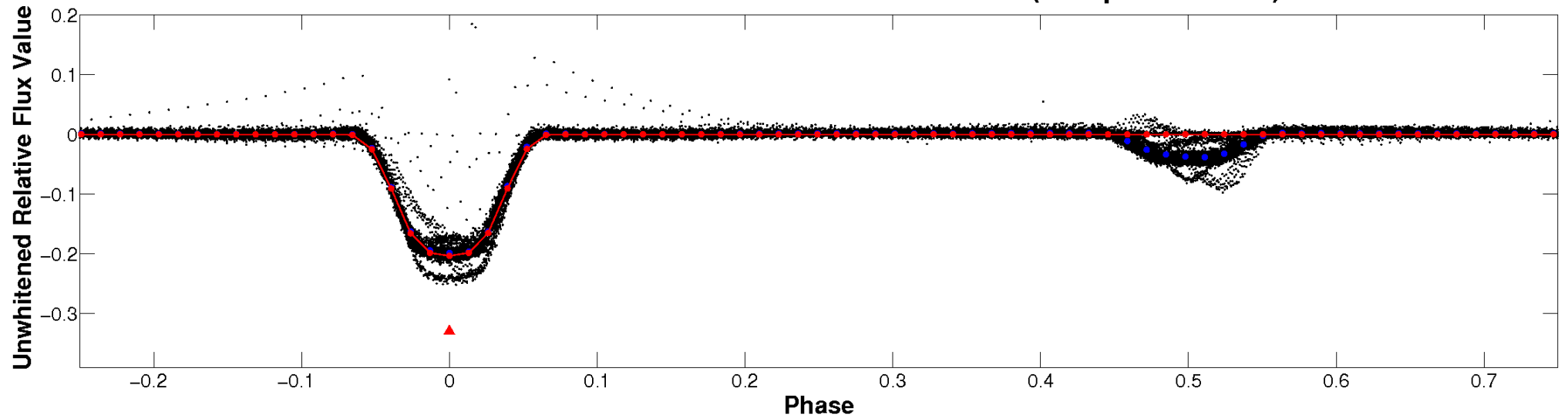
ALT Odd/Even

TCE 011724091-01

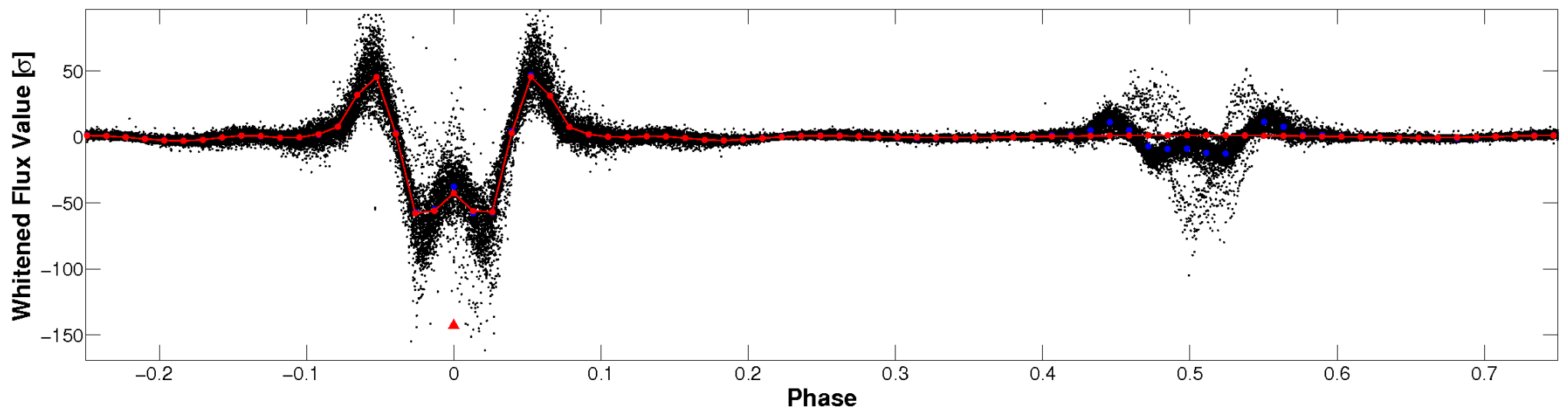


Non-Whitened Vs. Whitened Light Curve

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

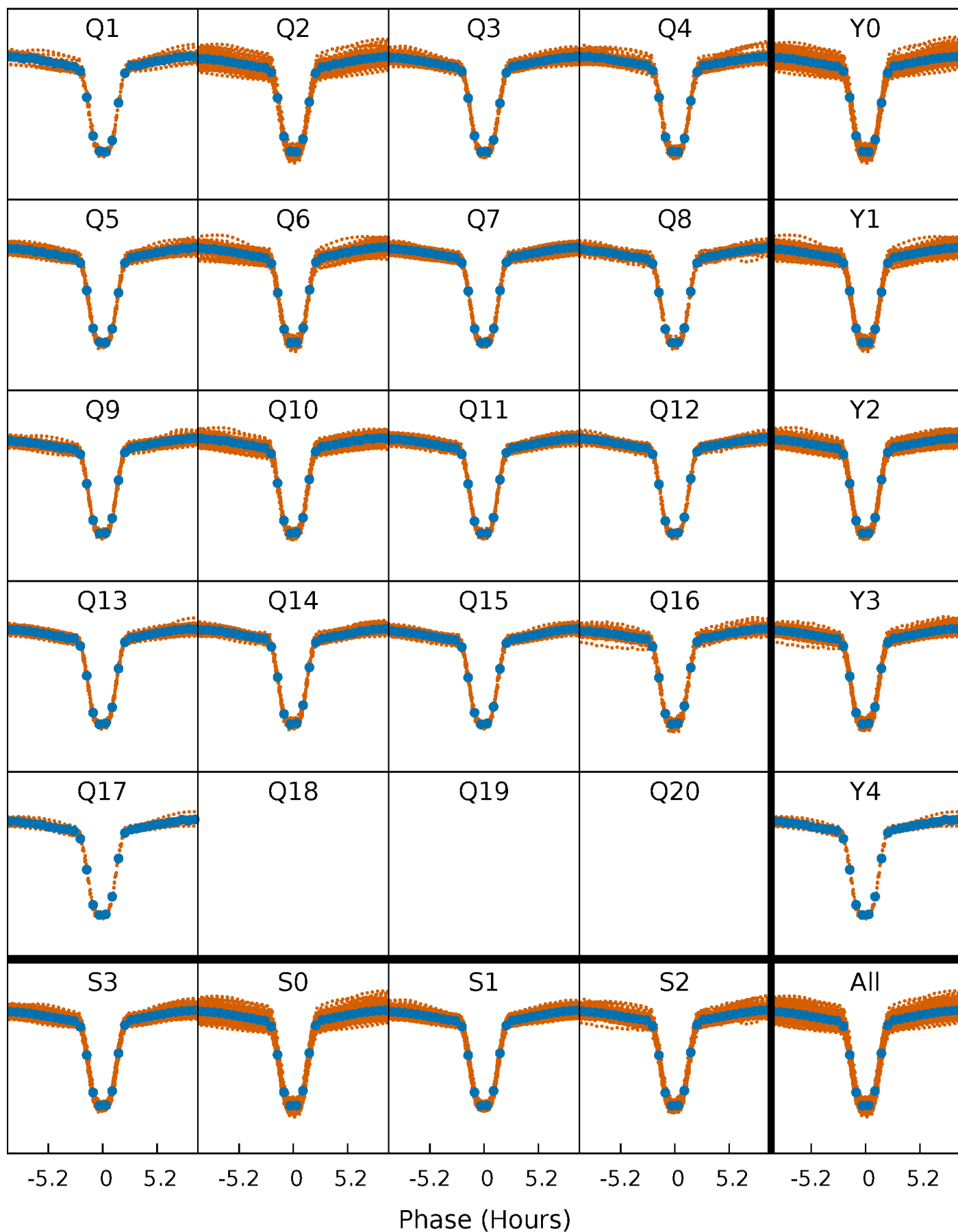


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



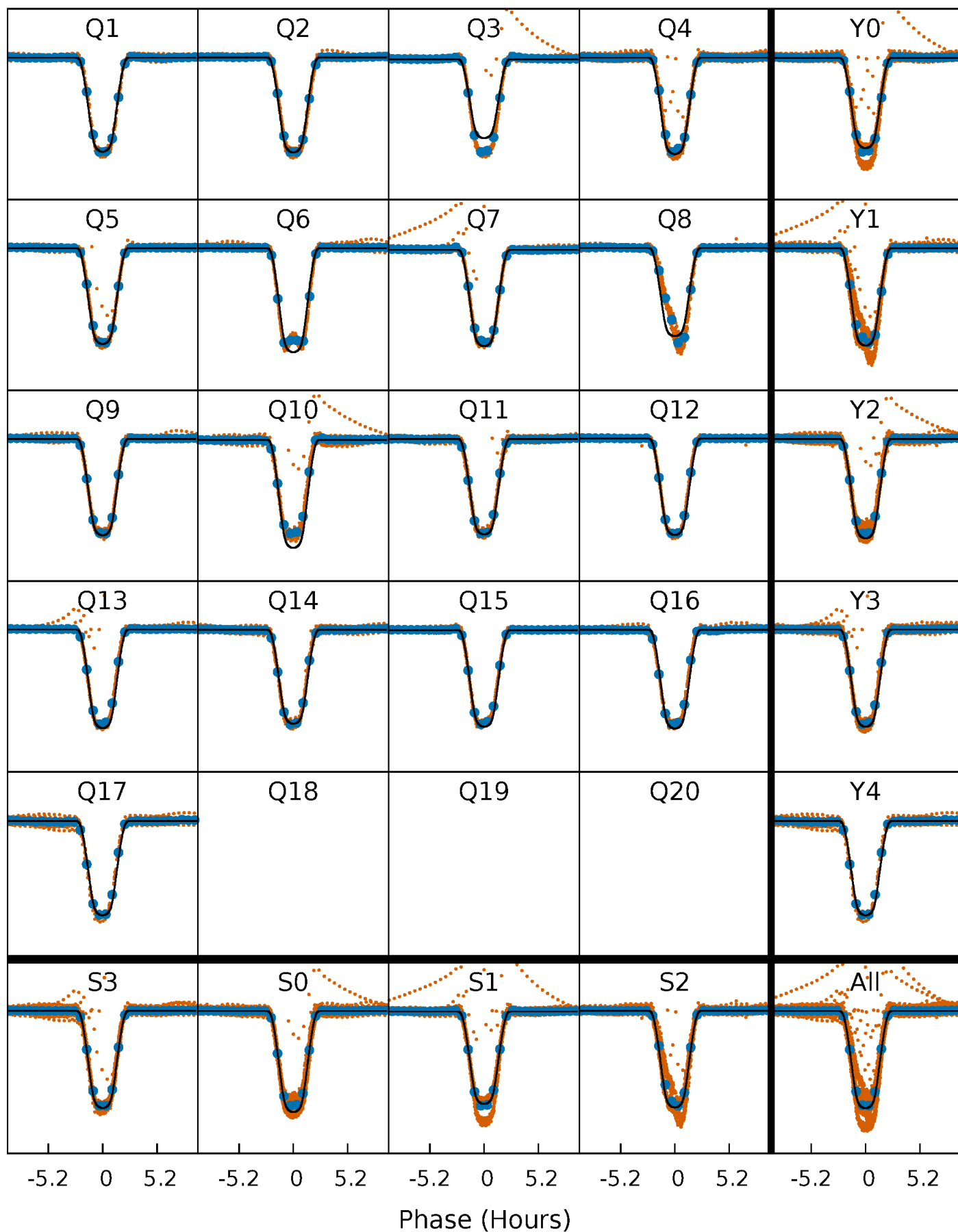
PDC Quarter-Phased Transit Curves

TCE 011724091-01 P= 1.559097 Days $T_0=131.769579$ (BKJD)



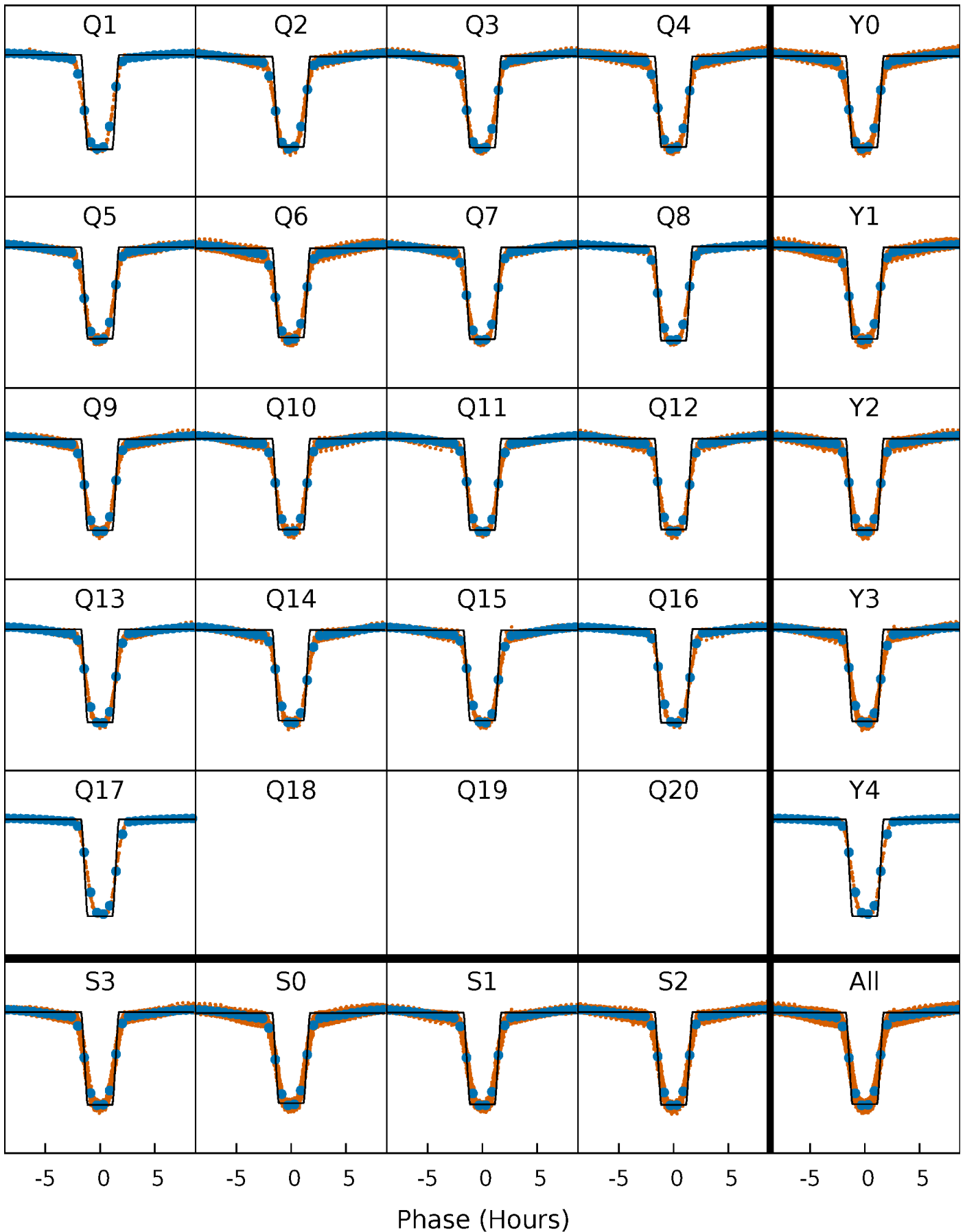
DV Quarter-Phased Transit Curves

TCE 011724091-01 P= 1.559097 Days $T_0=131.769579$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

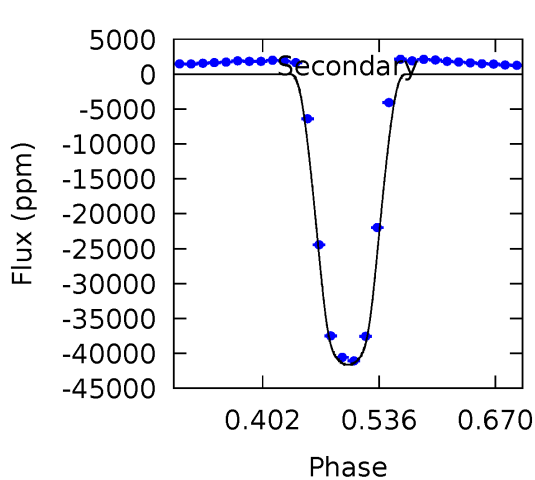
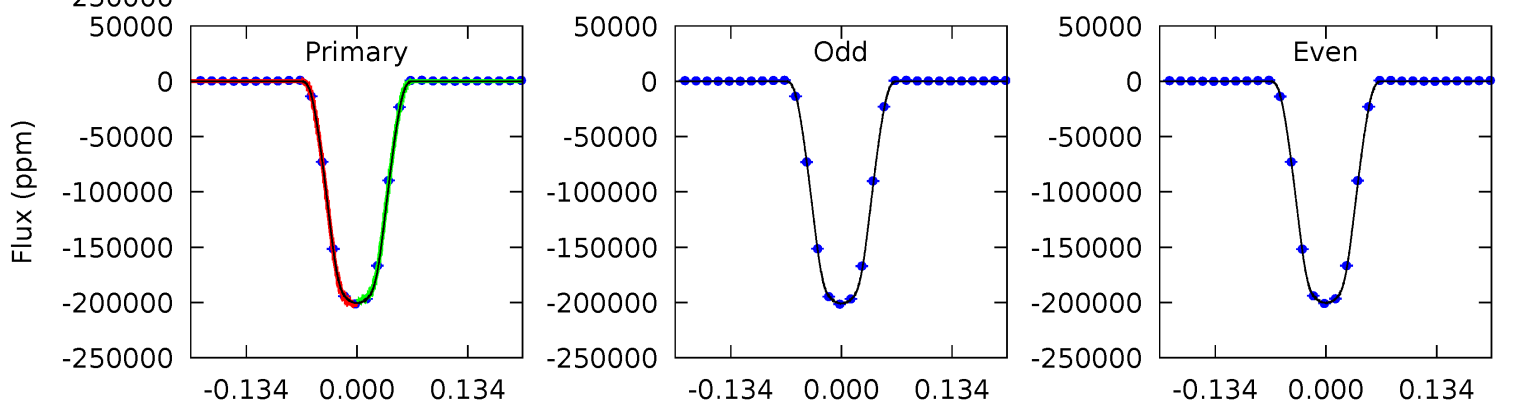
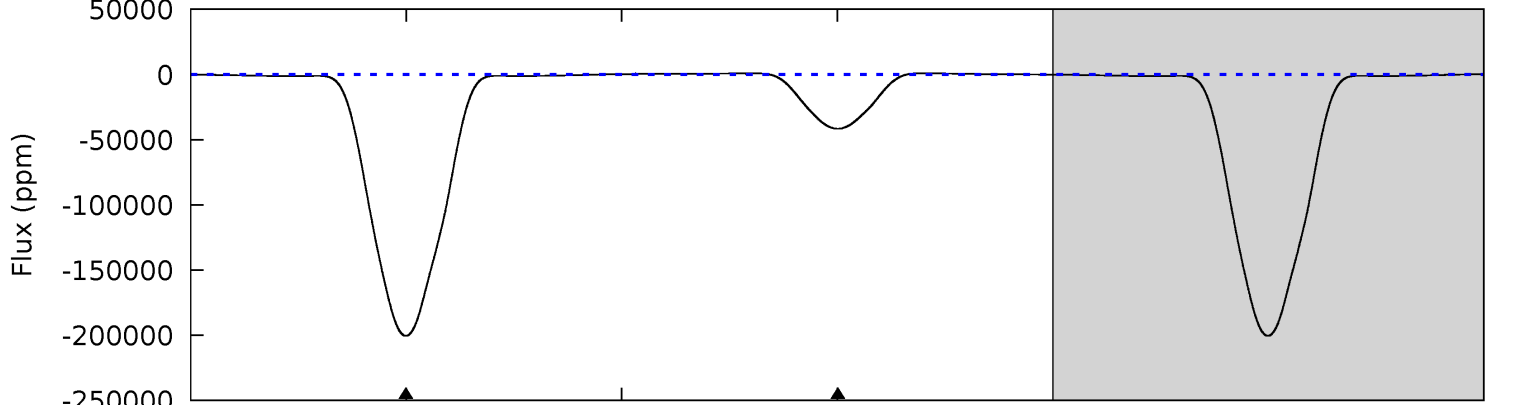
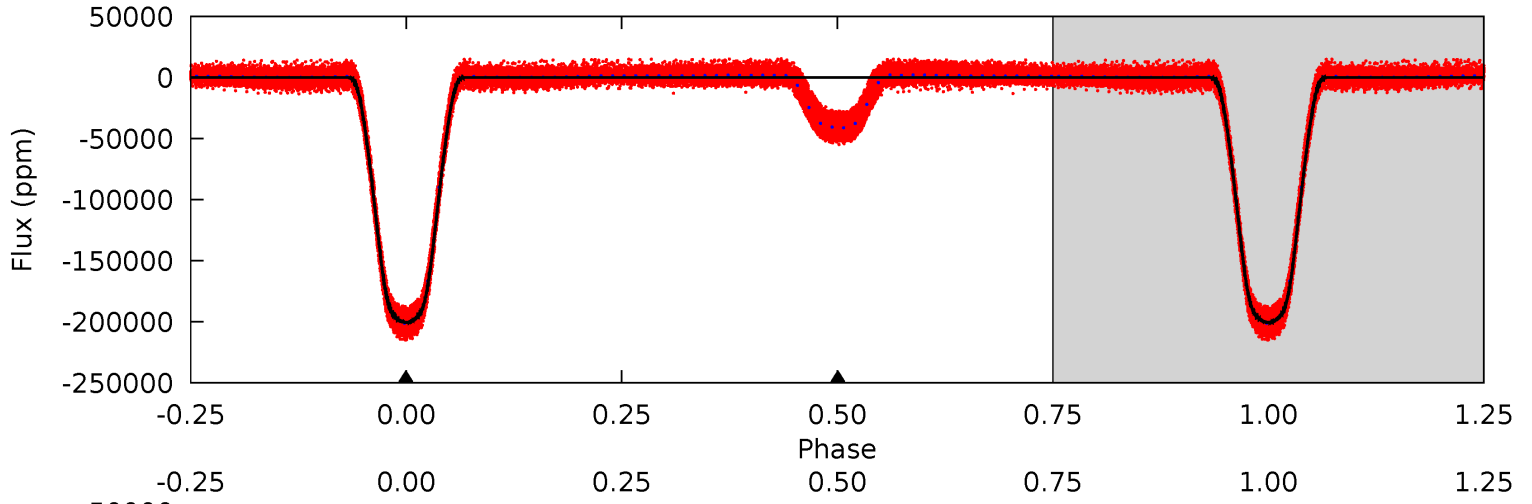
TCE 011724091-01 P= 1.559077 Days $T_0=131.779352$ (BKJD)



DV Model-Shift Uniqueness Test

011724091-01, P = 1.559097 Days, E = 130.210482 Days

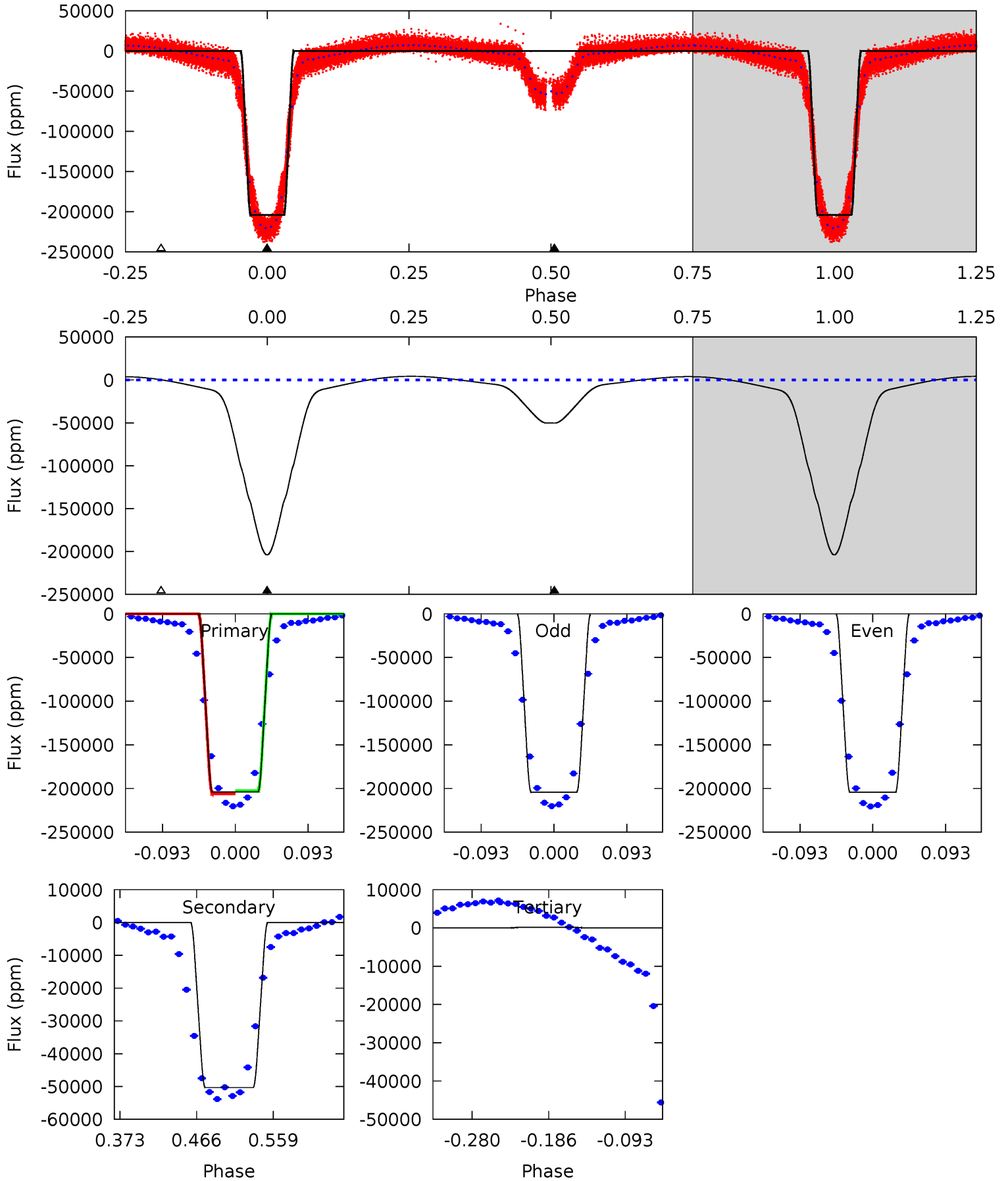
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5503	1143	0	0	4.50	1.50	15.8	5503	5503	1143	1143	6.81	1.00	0.00	46.6



Alt Model-Shift Uniqueness Test

011724091-01, P = 1.559077 Days, E = 130.220275 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2443	602.8	-2.34	0	4.58	1.68	51.6	2445	2443	605.1	602.8	0.27	1.00	0.02	20.7



Stellar Parameters For KIC 011724091

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7279^{+230}_{-345}	$3.856^{+0.330}_{-0.132}$	$-0.040^{+0.200}_{-0.350}$	$2.624^{+0.543}_{-1.009}$	$1.800^{+0.177}_{-0.412}$	$0.140^{+0.372}_{-0.049}$
	+3%/-5%	+9%/-3%	+500%/-875%	+21%/-38%	+10%/-23%	+265%/-35%
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 011724091-01 / KOI 7475.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-41644 ± 36	$121.16^{+14.18}_{-26.99}$	3994^{+331}_{-417}	4901^{+143}_{-171}	$1.688^{+0.923}_{-0.350}$
Alt.	-50336 ± 84	$128.50^{+17.99}_{-28.20}$	3943^{+342}_{-419}	4930^{+133}_{-165}	$1.800^{+0.947}_{-0.408}$

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

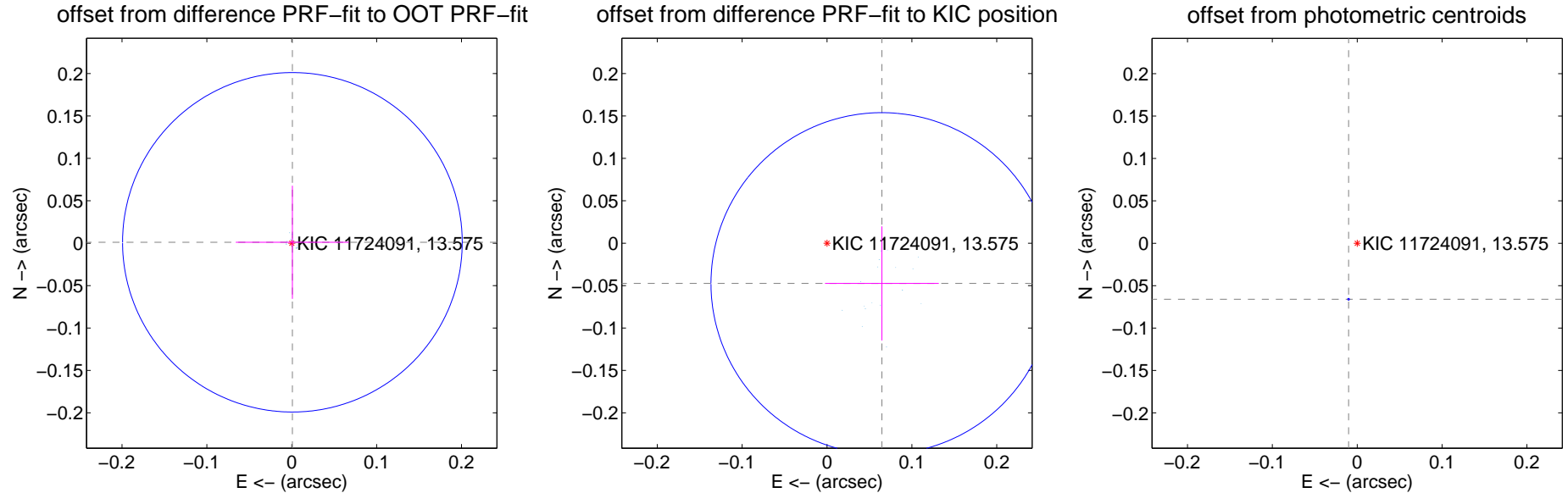
DV Centroid Data

Supplemental centroid analysis for 011724091-01. Kepler magnitude: 13.57. Transit SNR 2572.17

There are 17 quarters with good PRF difference image offsets

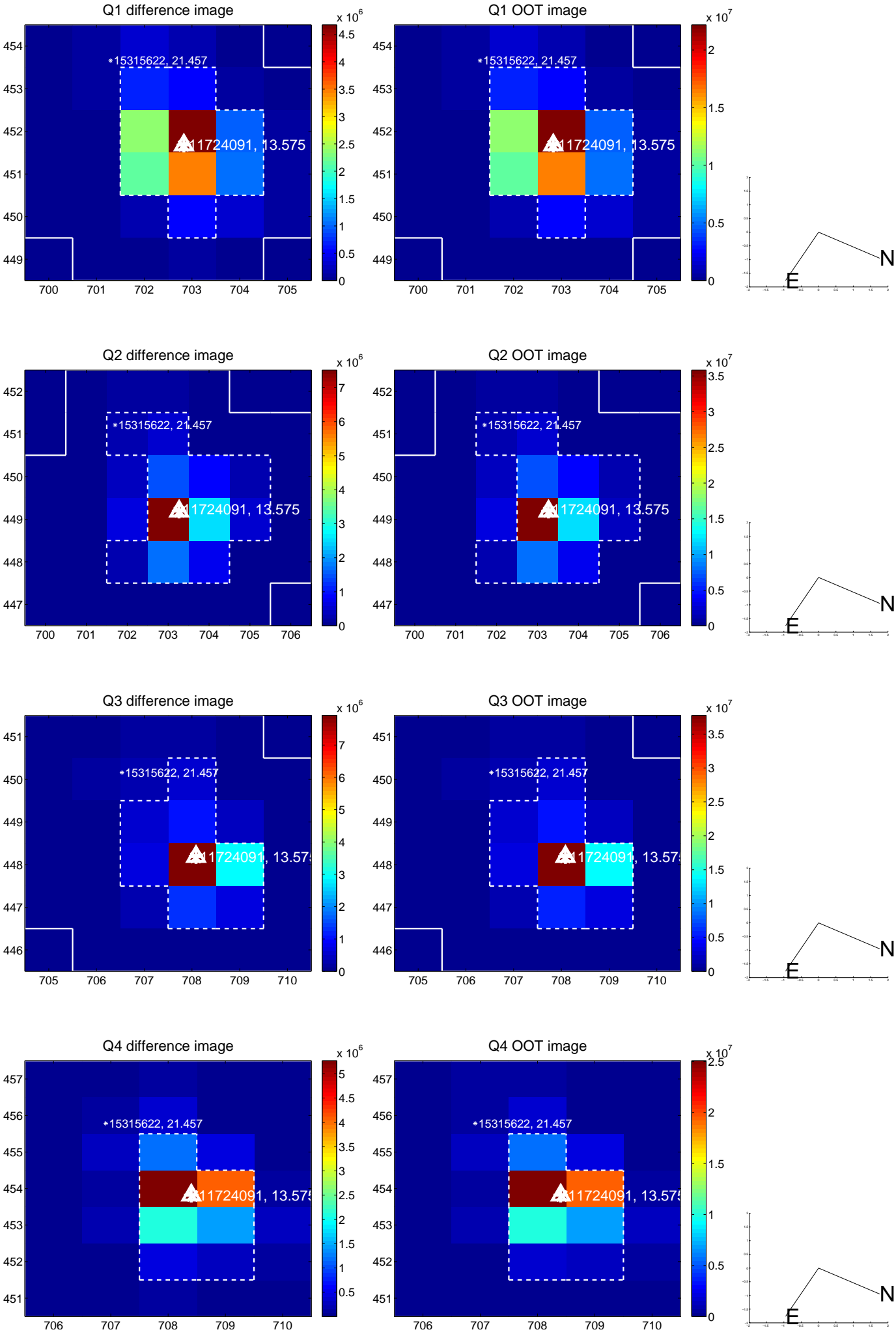
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.001 ± 0.067	0.02	-0.001 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.080 ± 0.067	1.19	-0.065 ± 0.067	-0.047 ± 0.067
photometric centroid source offset	0.07 ± 0.00	189.88	0.01 ± 0.00	-0.07 ± 0.00

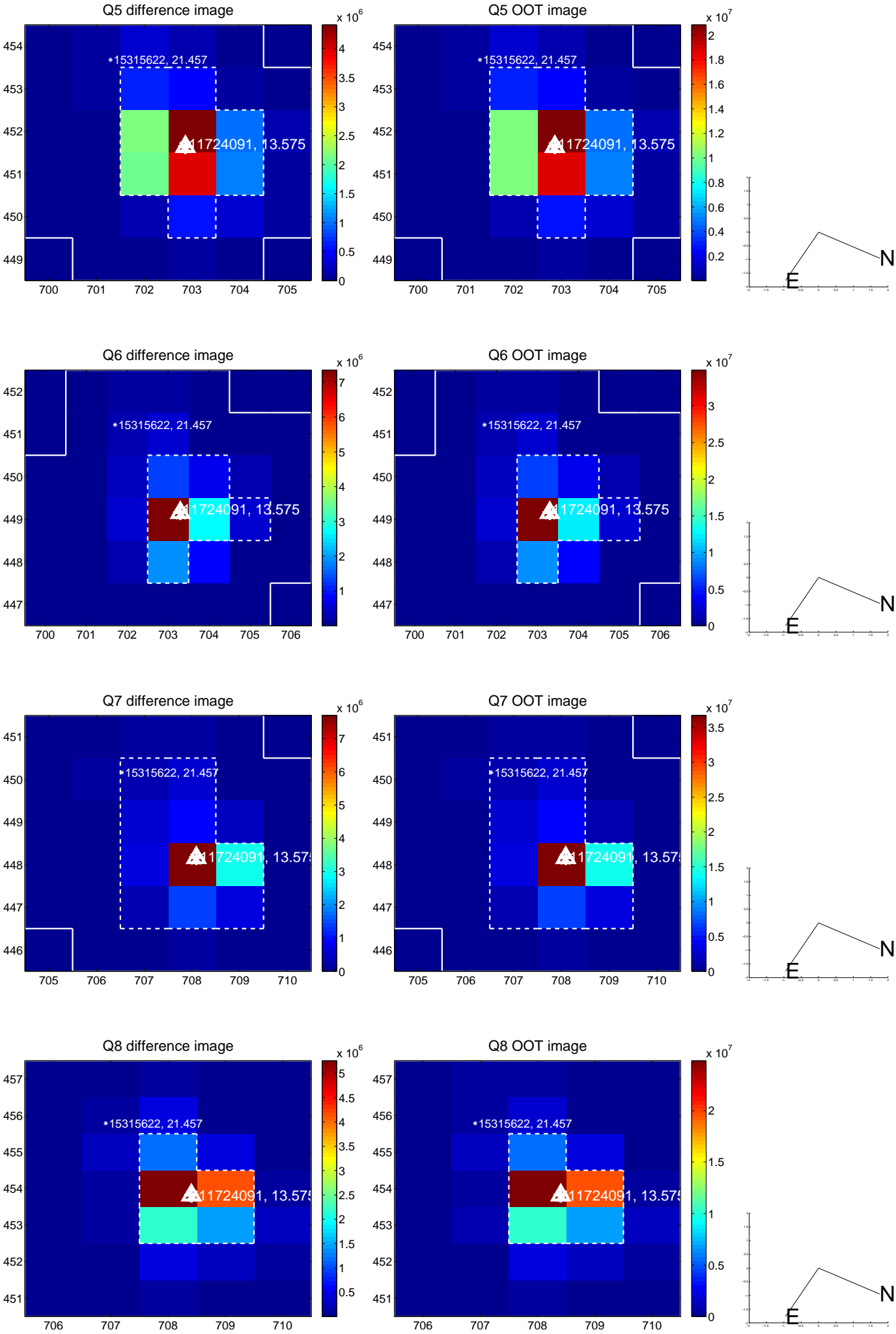


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

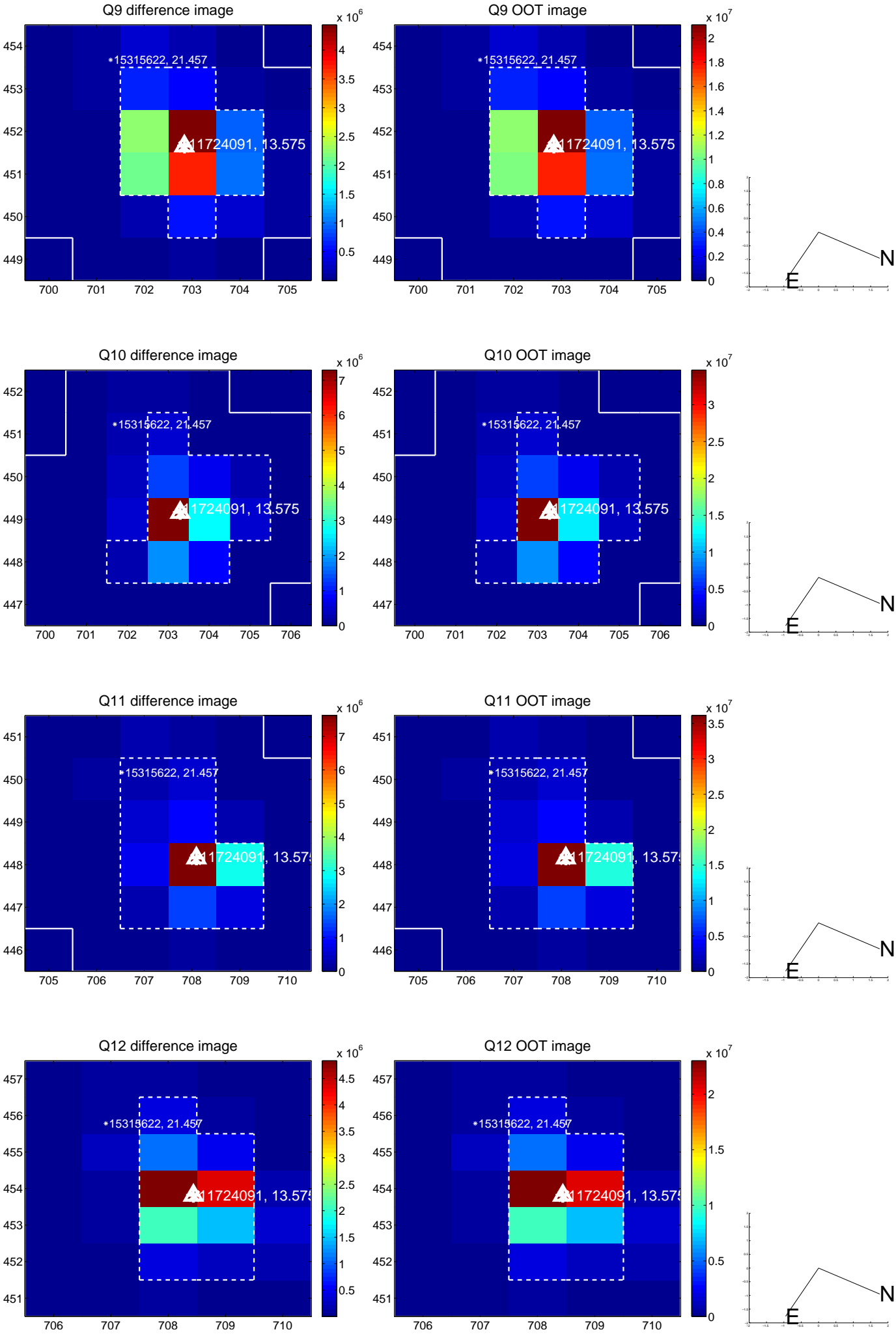
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



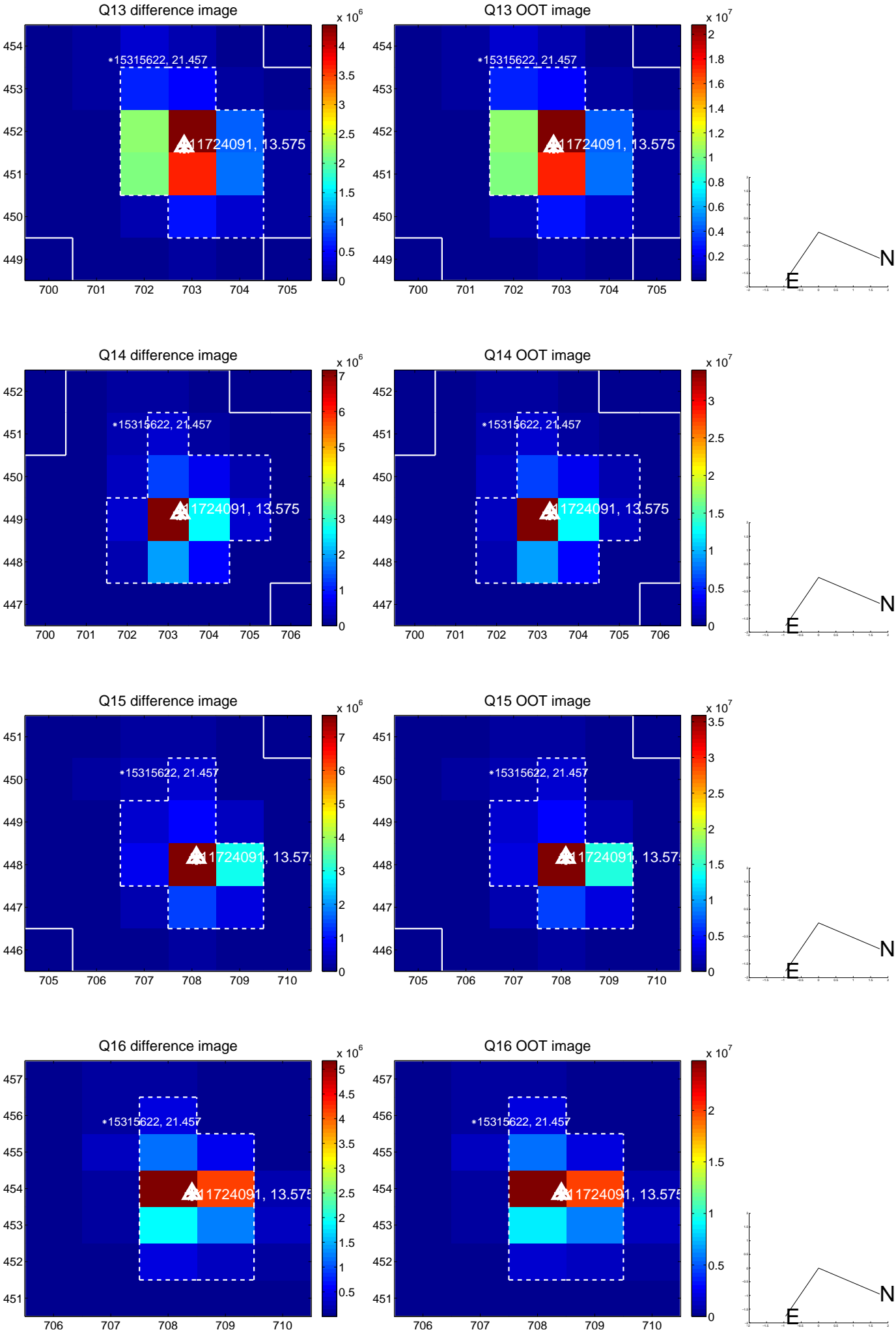
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



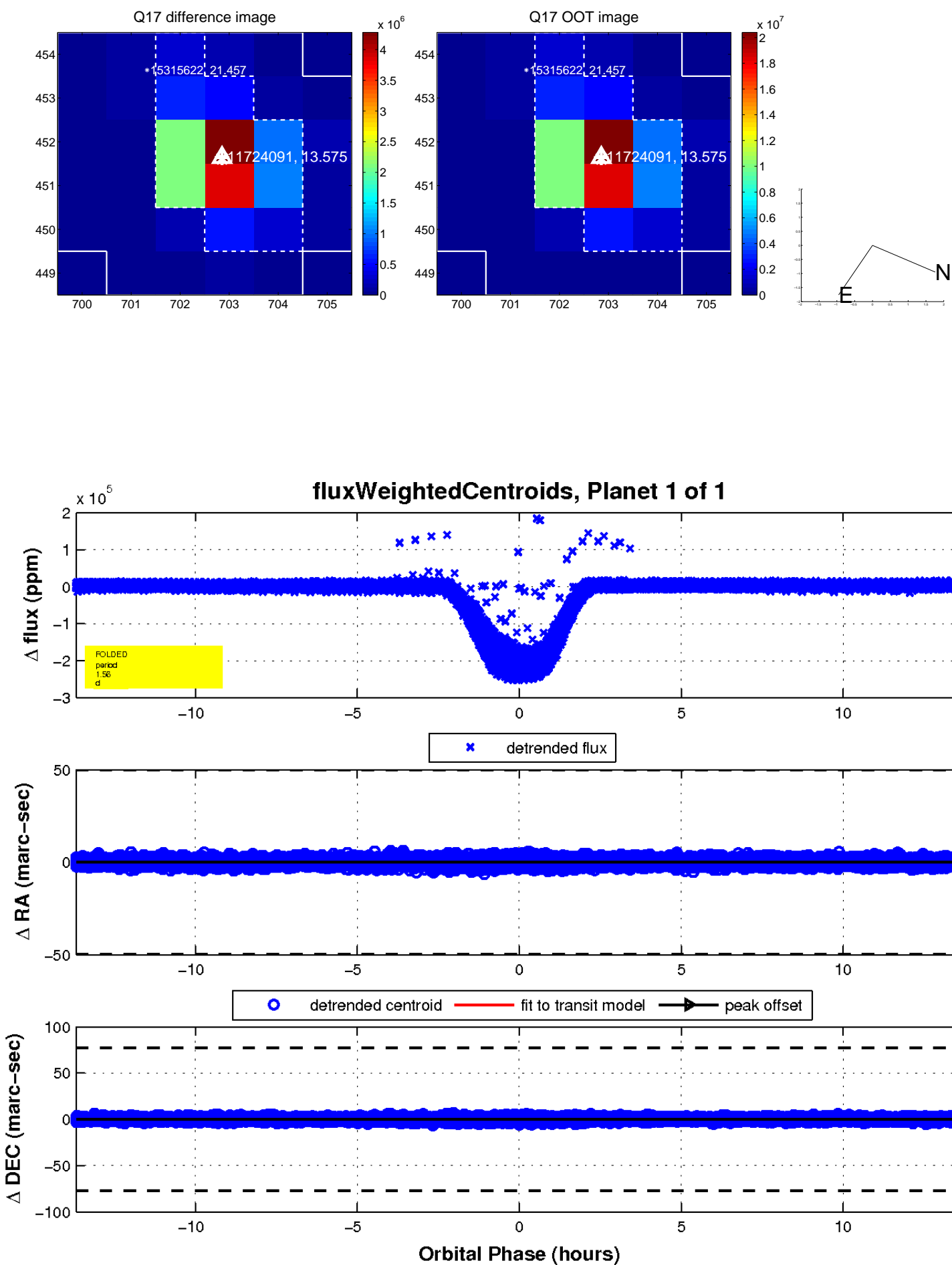
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

