

KIC 007661409

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})
007661409-01	OBS	0957.01	3.140521	134.498194	600.2	6.216	43.0	50.1	0.97	6108	3.63	690.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007661409-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

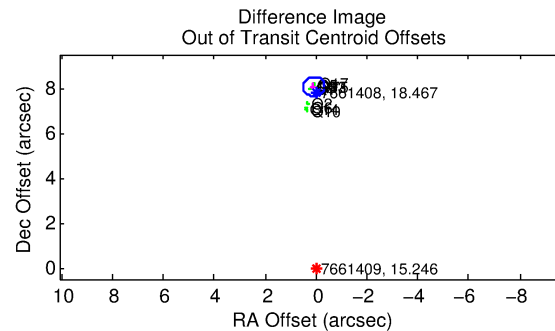
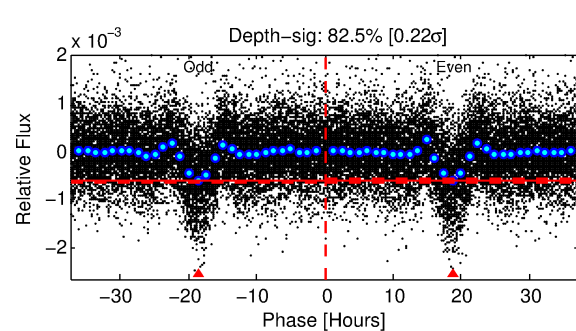
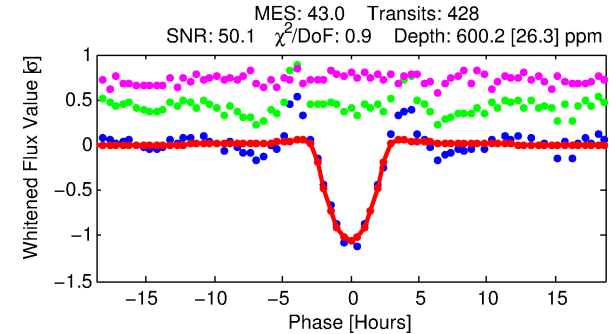
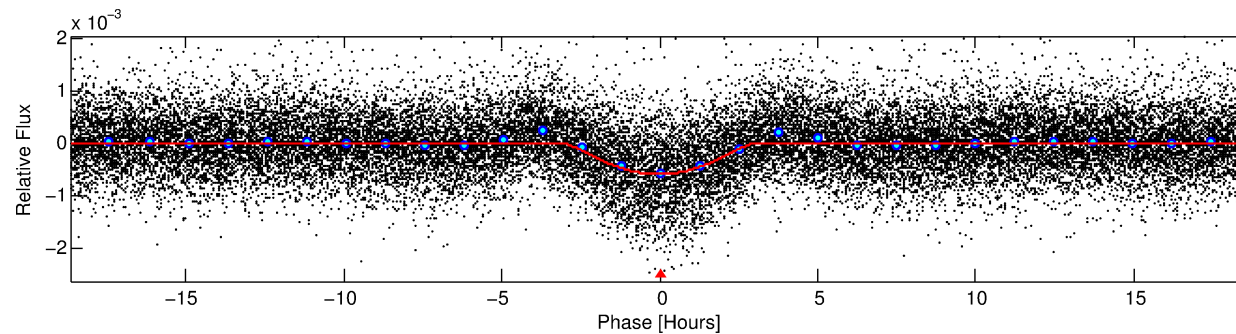
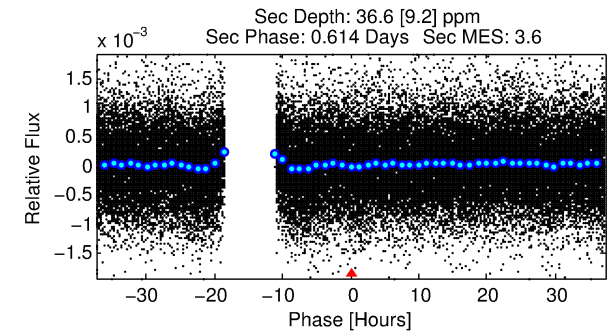
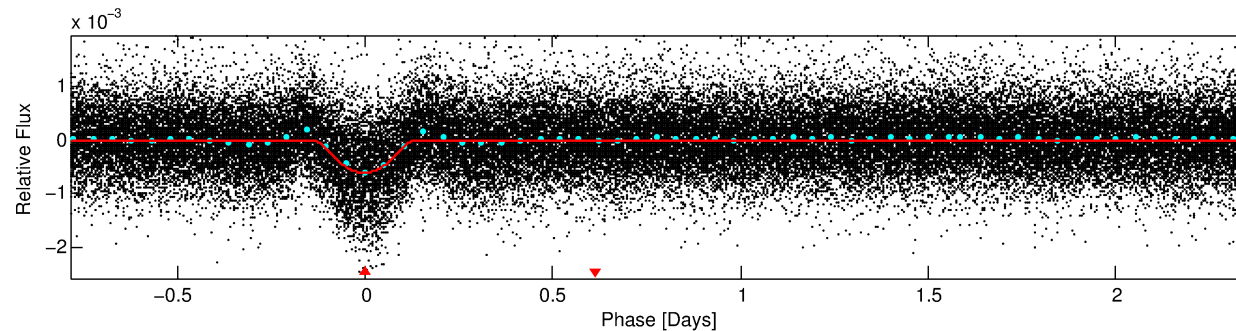
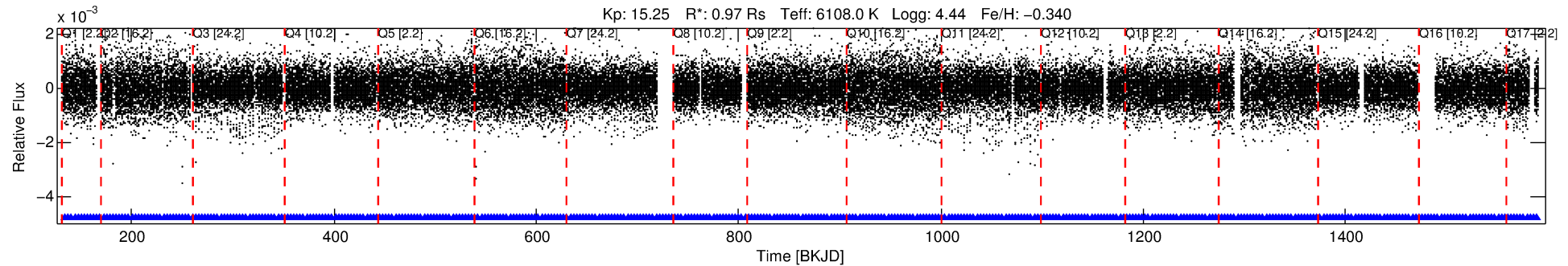
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007661409-01

No Significant Match Found

DV One-Page Summary

KIC: 7661409 Candidate: 1 of 1 Period: 3.141 d
KOI: K00957.01 Corr: 0.871



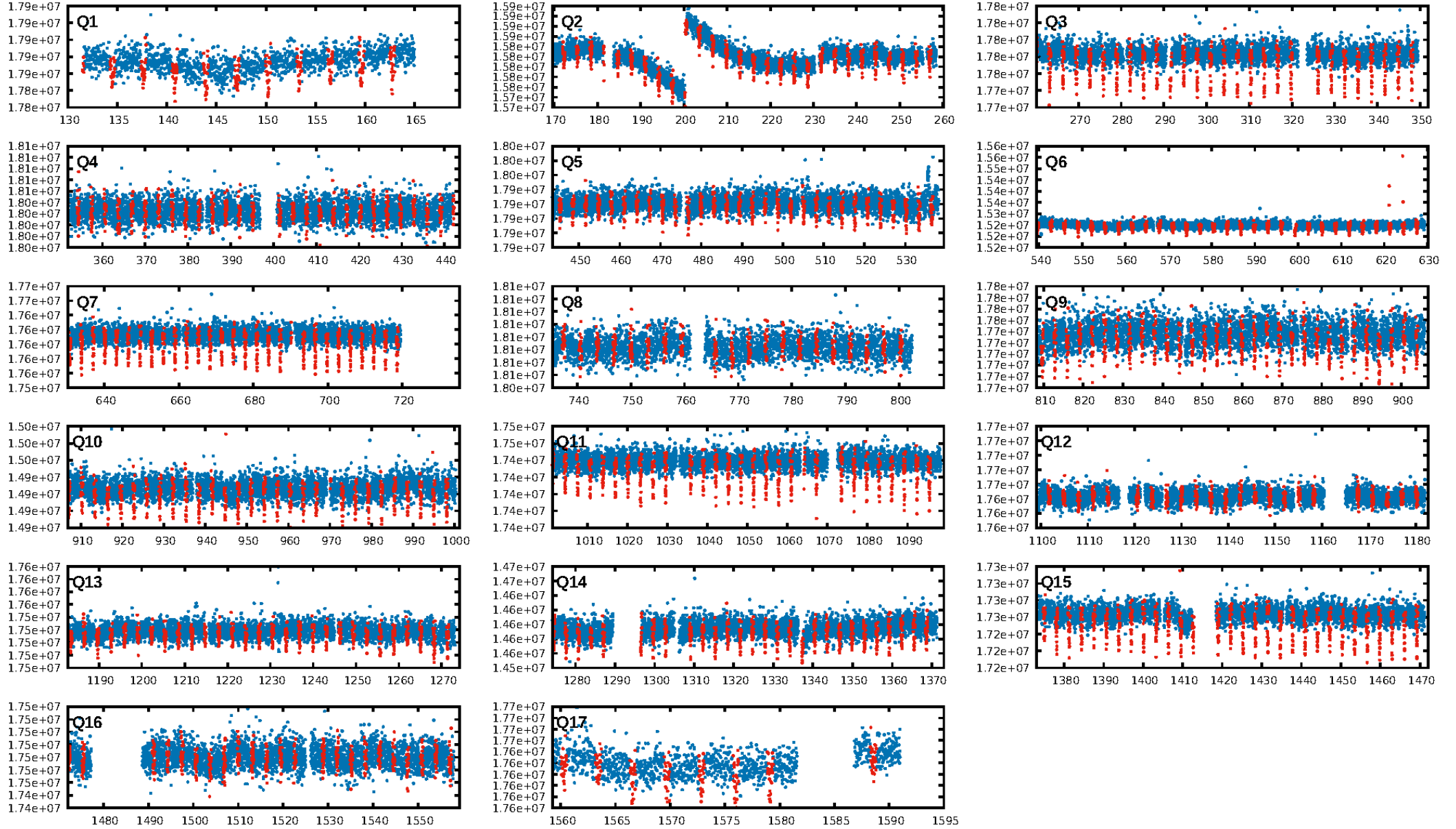
DV Fit Results:

Period = 3.14052 [0.00001] d
Epoch = 134.4982 [0.0027] BKJD
Rp/R* = 0.0342 [0.0085]
a/R* = 1.58 [0.09]
b = 0.98 [0.02]
Seff = 690.02 [262.85]
Teq = 1307 [124] K
Rp = 3.63 [1.42] Re
a = 0.0414 [0.0104] AU
Ag = 2.61 [1.73] [0.93σ]
Teff = 2569 [365] K [3.27σ]

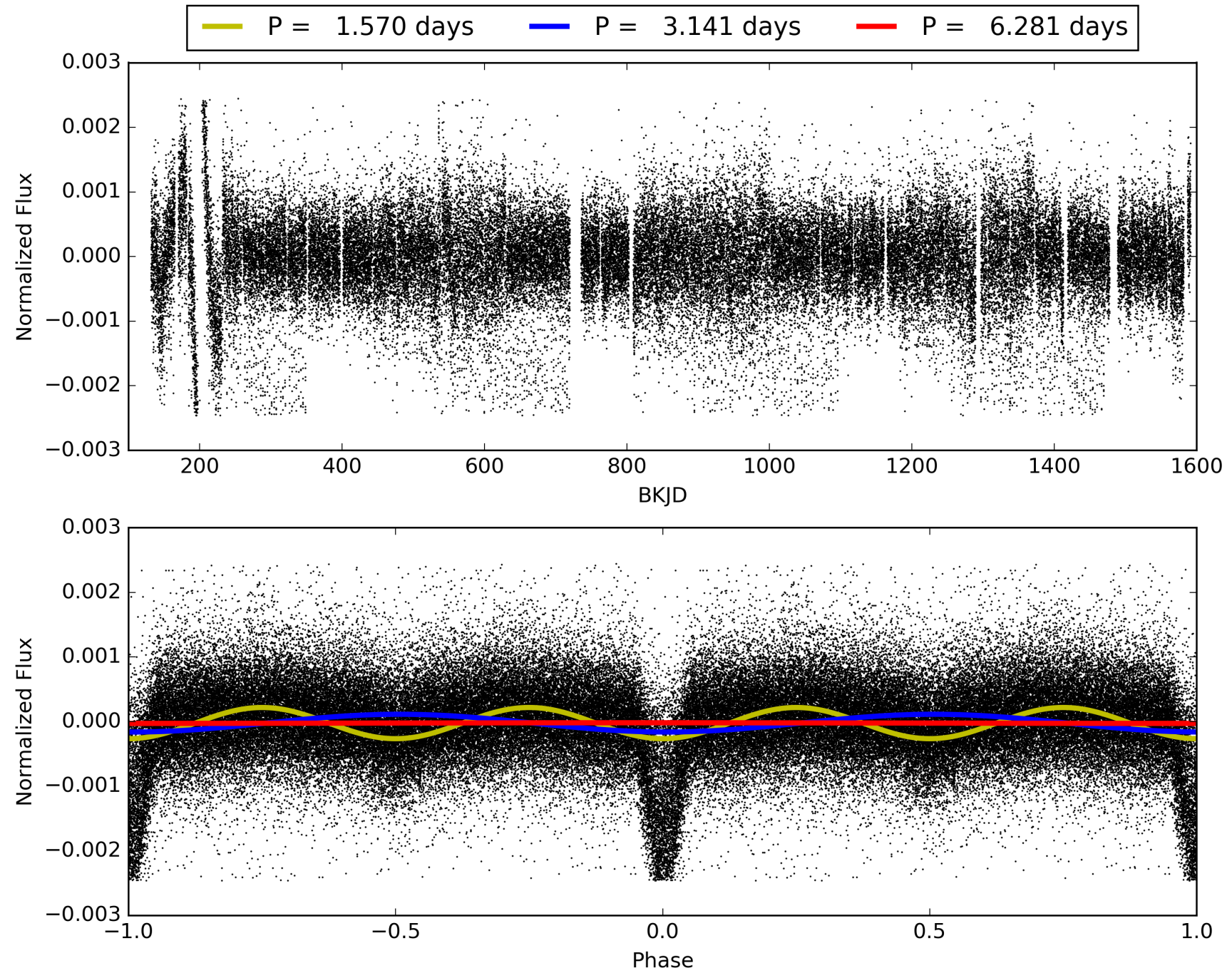
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [410/410]
GhostDiagnostic-chr: -0.2627
Centroid-sig: 0.0%
Centroid-so: N/A
OotOffset-rm: 8.067 arcsec [56.53σ]
KicOffset-rm: 8.023 arcsec [86.63σ]
OotOffset-st: 4/4/0/5 [13]
KicOffset-st: 4/4/0/5 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007661409-01, PDC Light Curves

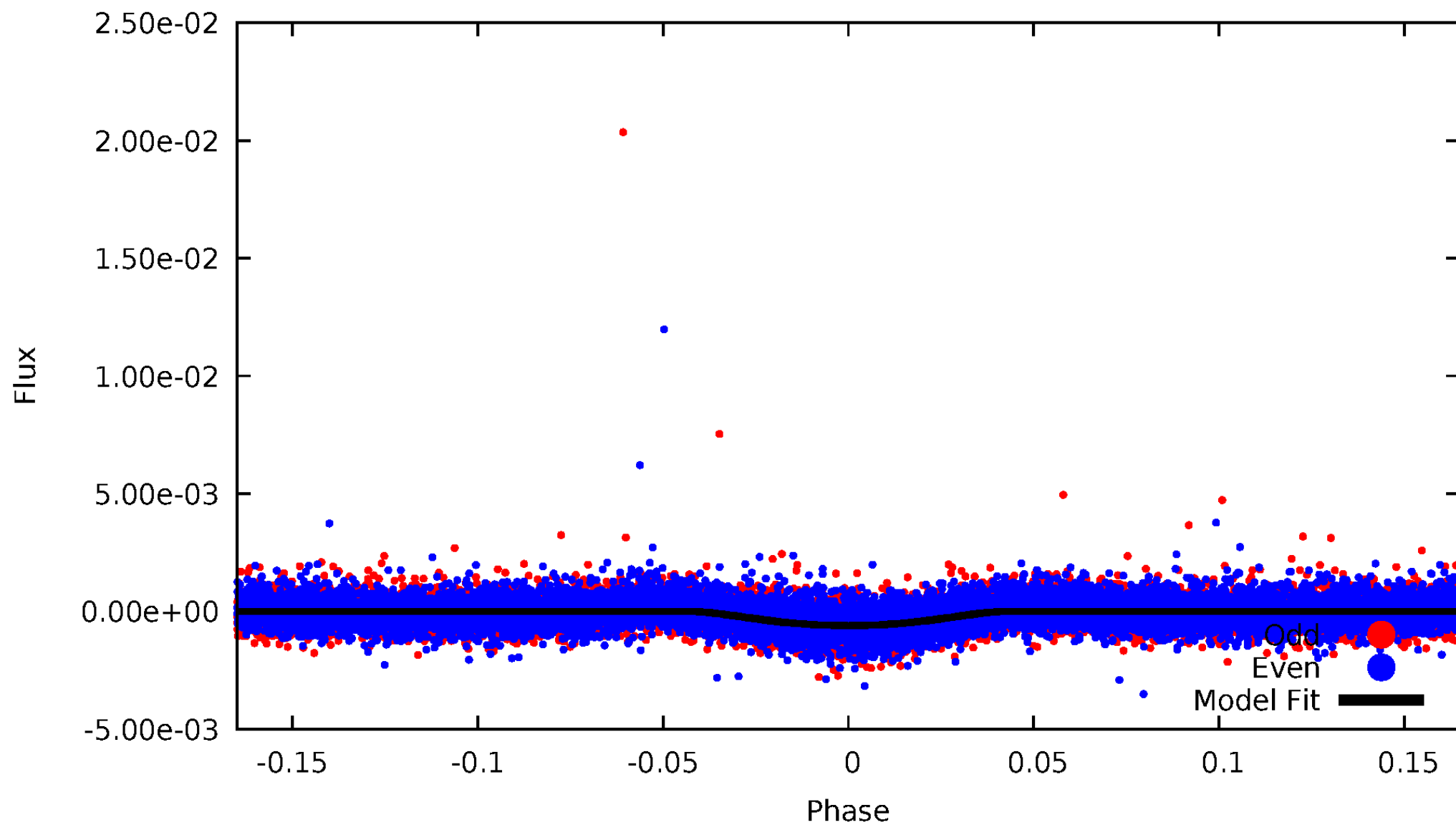


TCE 007661409-01



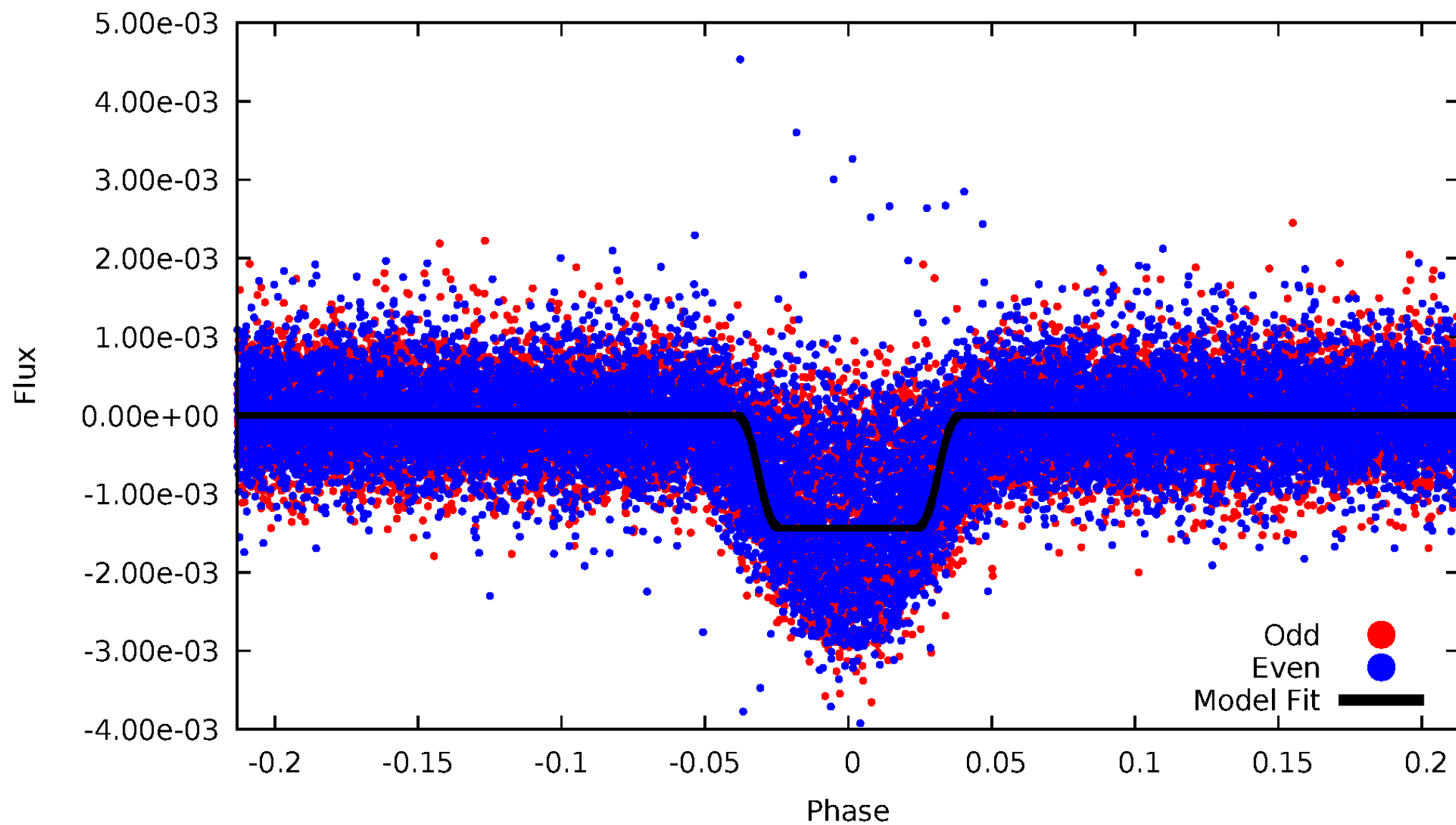
DV Odd/Even

TCE 007661409-01



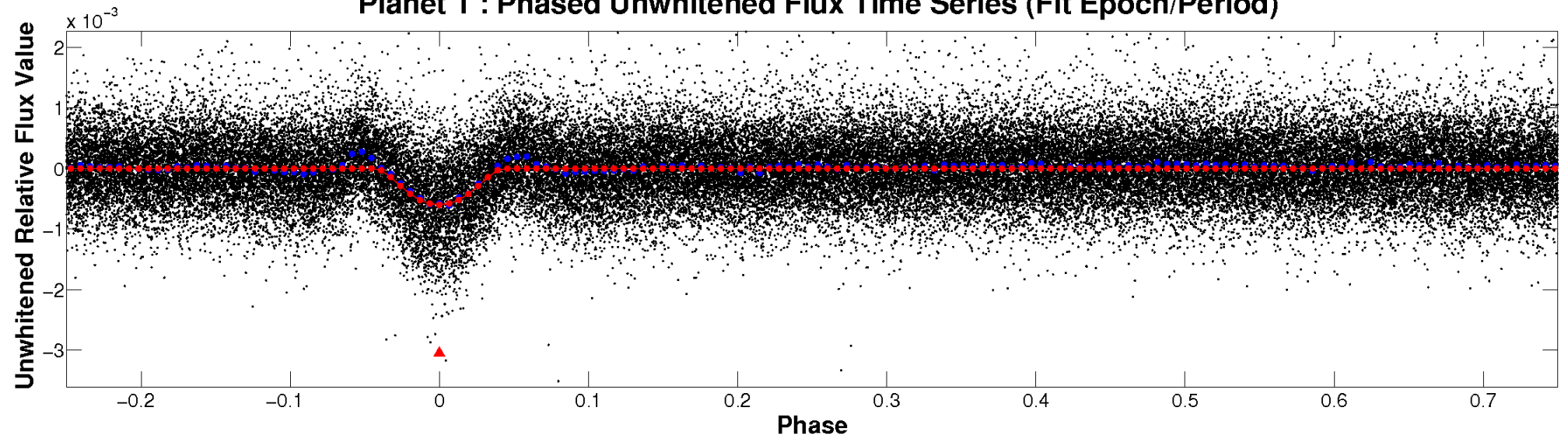
ALT Odd/Even

TCE 007661409-01

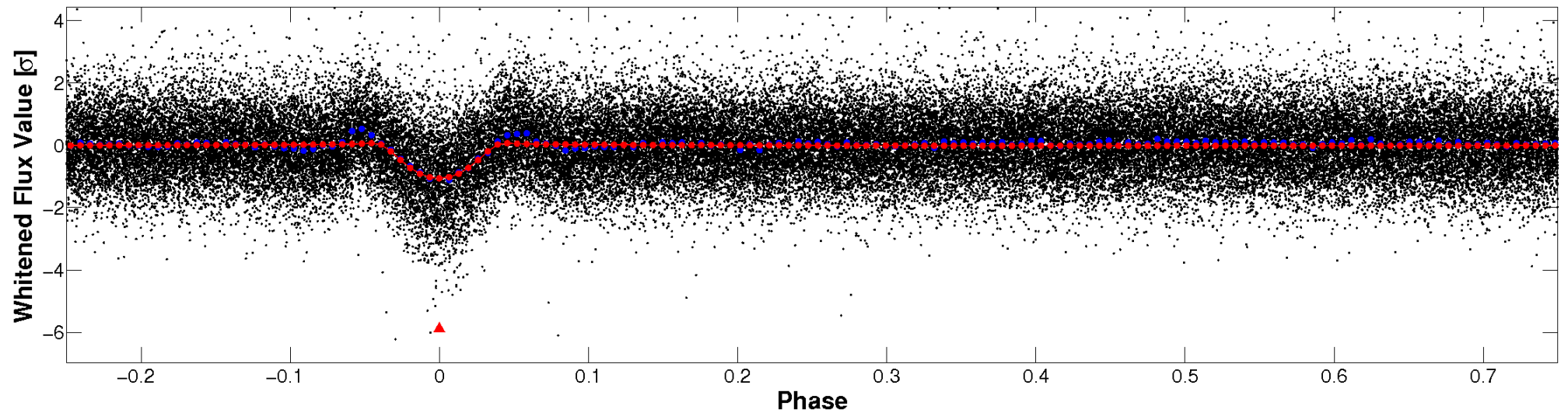


Non-Whitened Vs. Whitened Light Curve

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

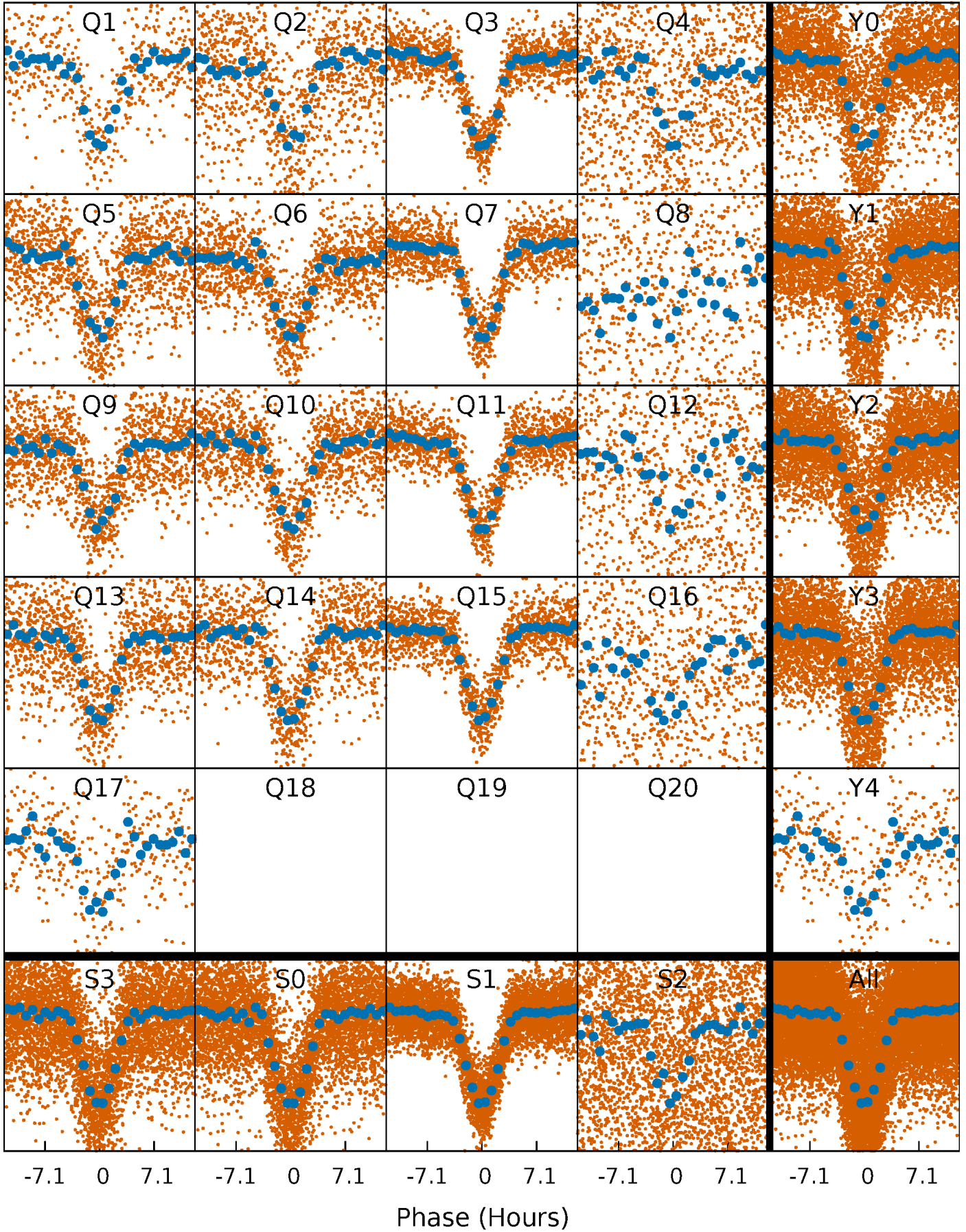


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



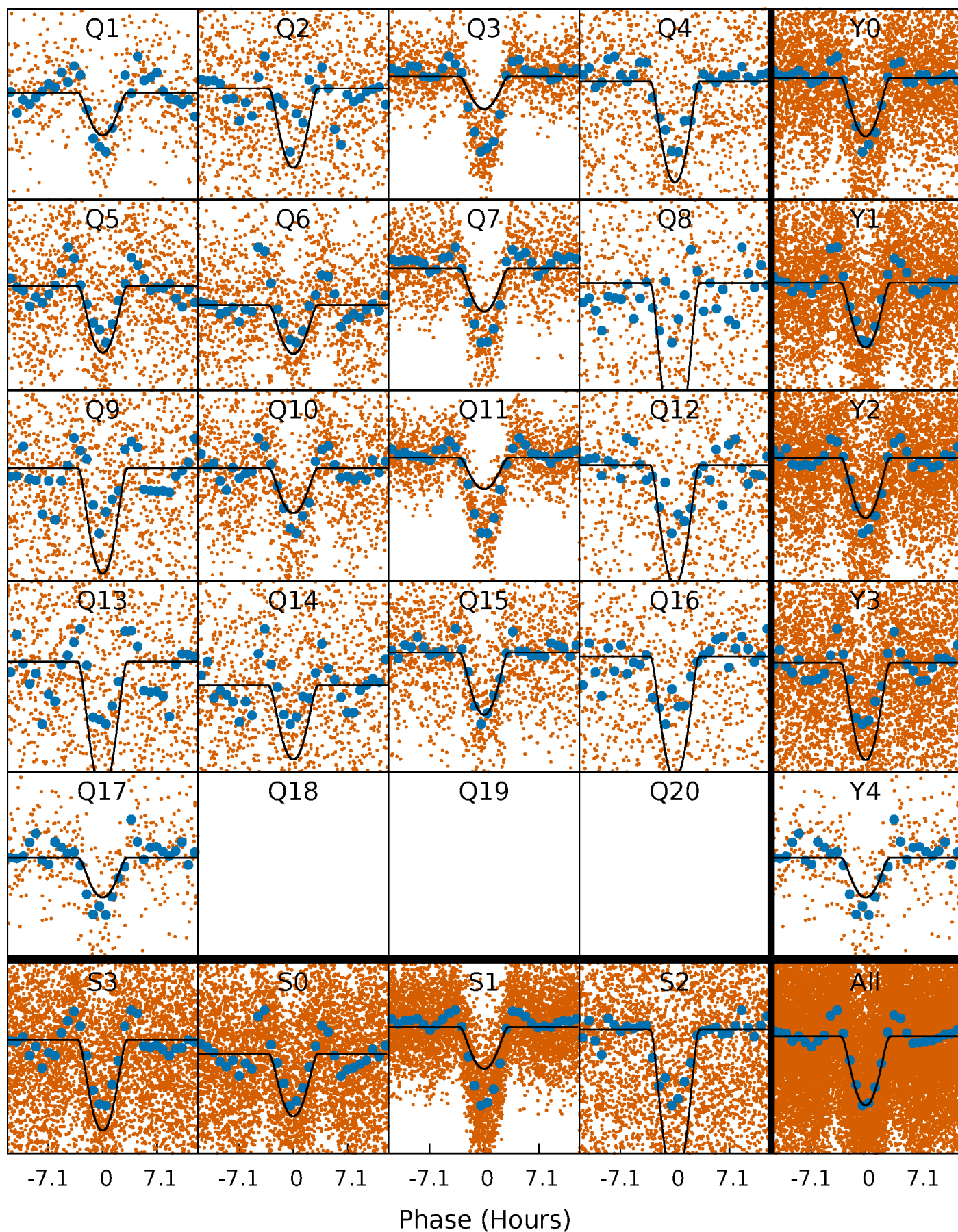
PDC Quarter-Phased Transit Curves

TCE 007661409-01 P= 3.140521 Days $T_0=134.498194$ (BKJD)



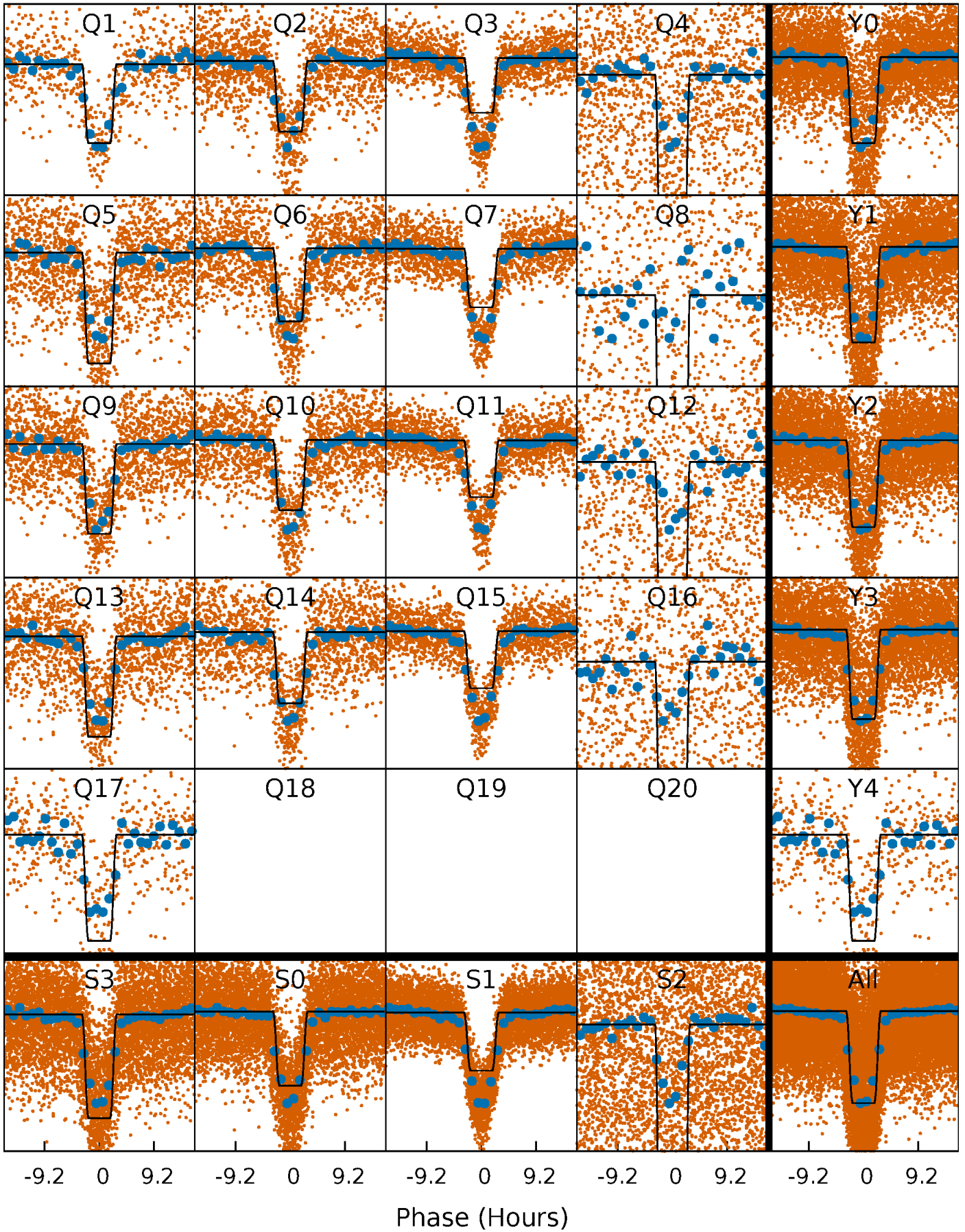
DV Quarter-Phased Transit Curves

TCE 007661409-01 P= 3.140521 Days $T_0=134.498194$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

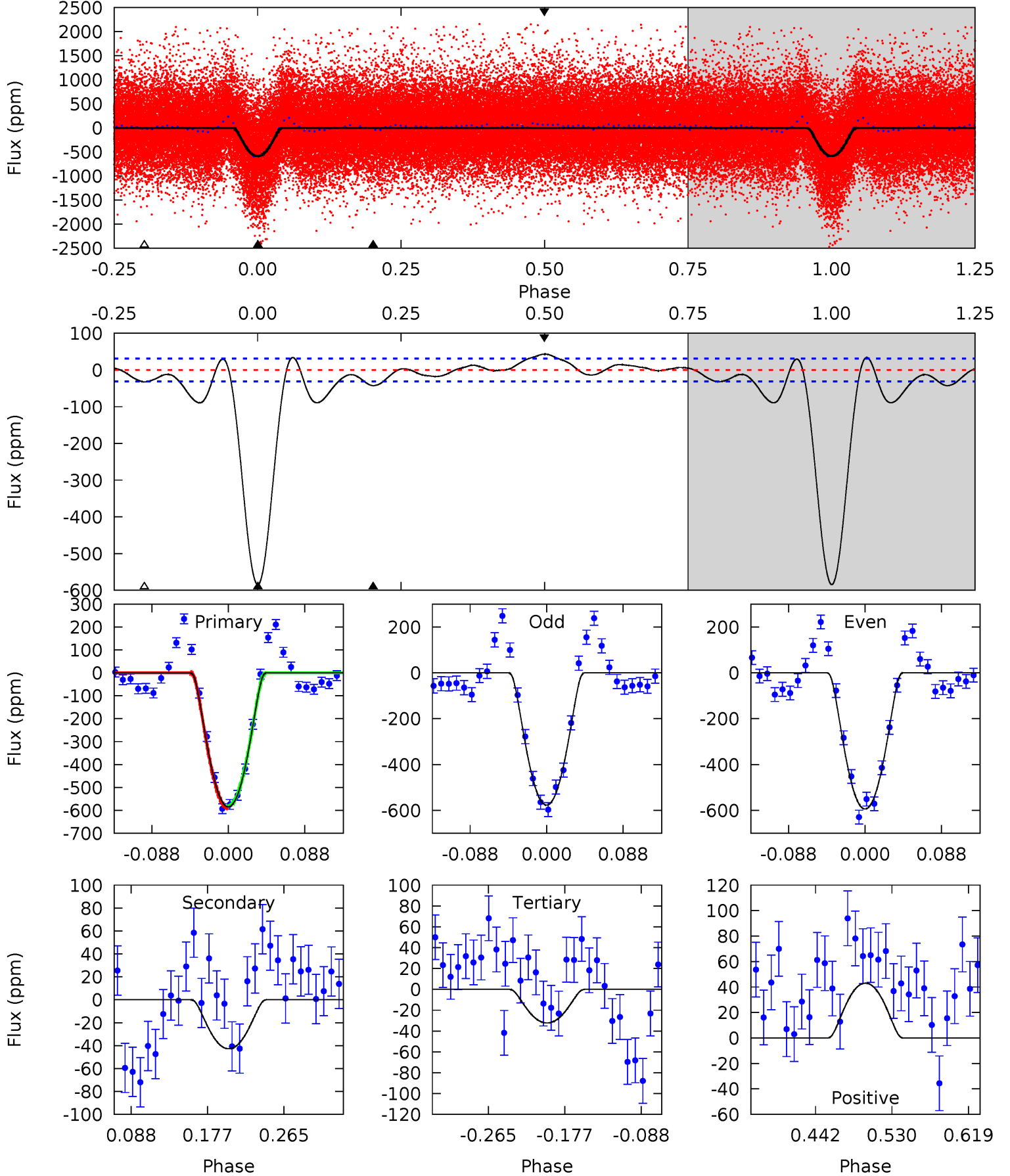
TCE 007661409-01 P= 3.140509 Days $T_0=134.502179$ (BKJD)



DV Model-Shift Uniqueness Test

007661409-01, P = 3.140521 Days, E = 131.357673 Days

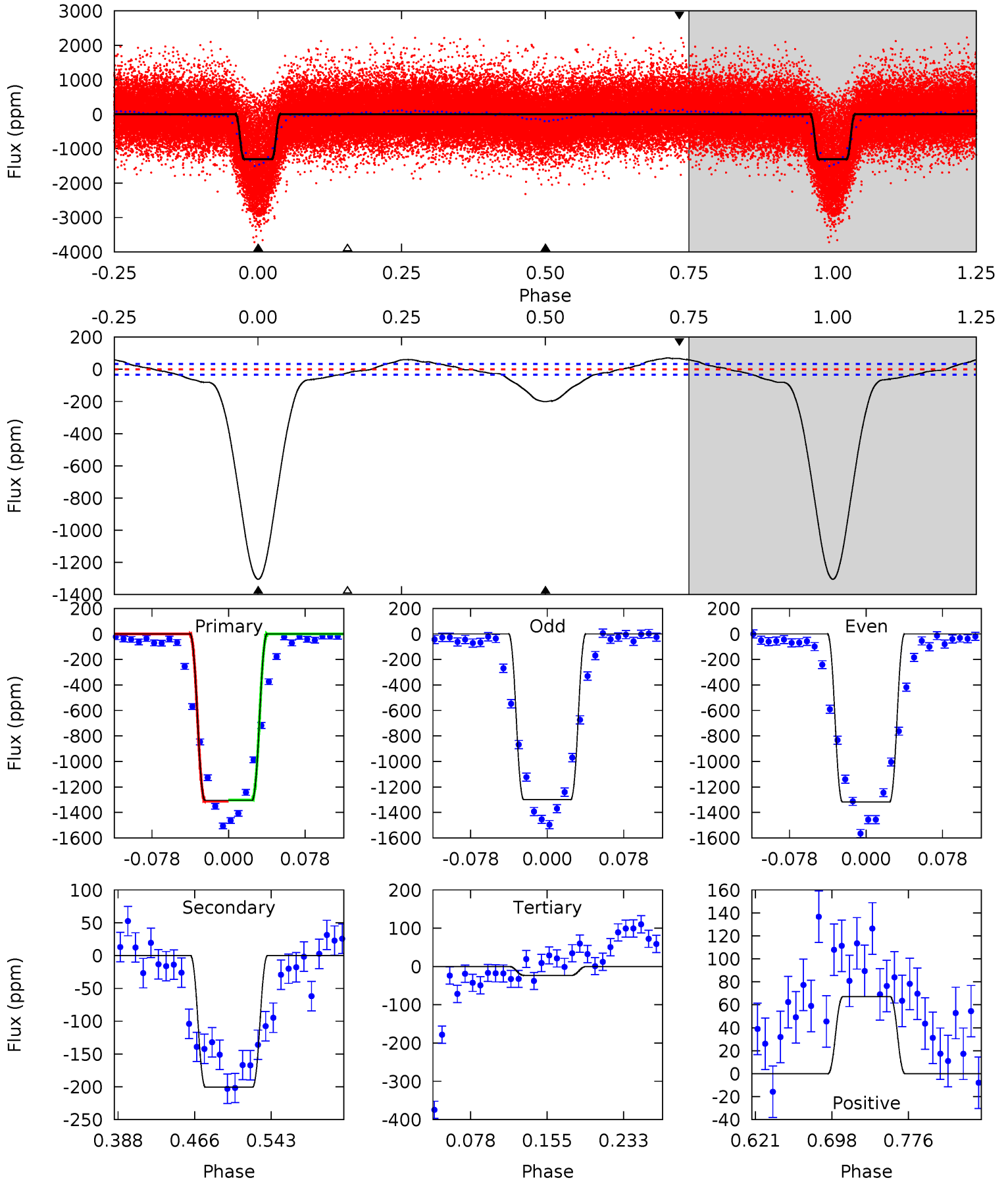
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
86.4	6.32	4.77	6.36	4.59	1.70	4.43	81.6	80.0	1.55	-0.04	1.26	1.27	0.07	0.86



Alt Model-Shift Uniqueness Test

007661409-01, P = 3.140509 Days, E = 131.361670 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
182.0	28.0	3.28	9.37	4.62	1.76	5.82	178.7	172.6	24.7	18.6	1.40	0.91	0.05	0.60



Stellar Parameters For KIC 007661409

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6108^{+183}_{-183}	$4.443^{+0.084}_{-0.196}$	$-0.340^{+0.300}_{-0.300}$	$0.974^{+0.293}_{-0.125}$	$0.959^{+0.128}_{-0.115}$	$1.463^{+0.530}_{-0.750}$
	+3%/-3%	+2%/-4%	+88%/-88%	+30%/-13%	+13%/-12%	+36%/-51%
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 007661409-01 / KOI 0957.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-43 ± 7	$3.76^{+1.17}_{-0.91}$	1854^{+137}_{-100}	3181^{+340}_{-263}	$2.814^{+2.066}_{-1.198}$
Alt.	-201 ± 7	$4.18^{+1.11}_{-0.99}$	1848^{+129}_{-89}	4017^{+426}_{-310}	11^{+7}_{-4}

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

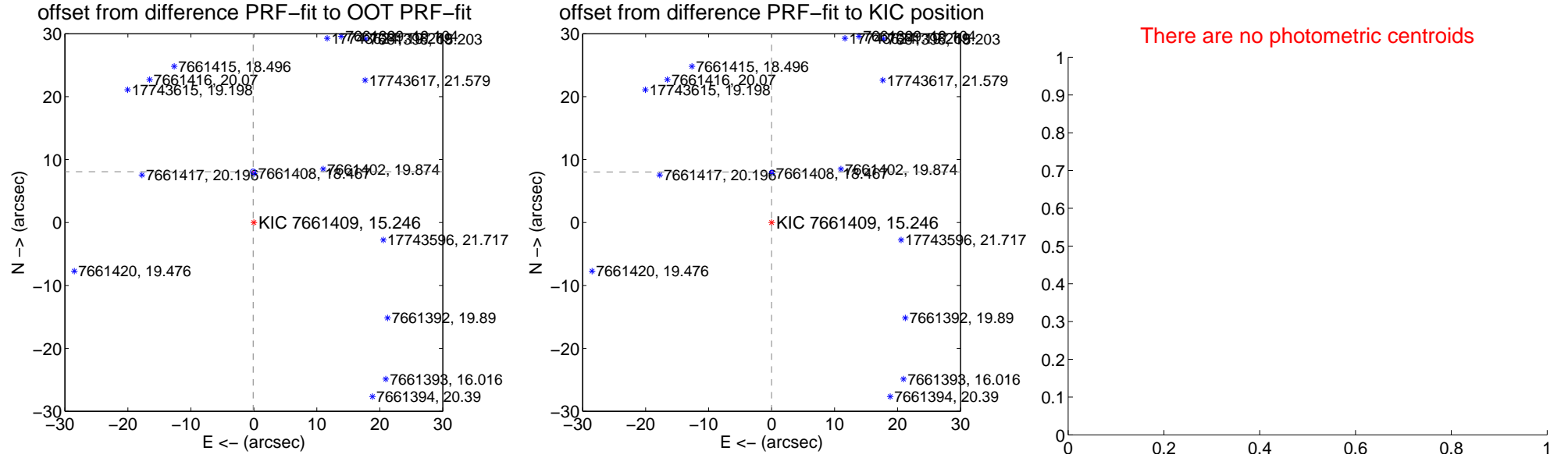
DV Centroid Data

Supplemental centroid analysis for 007661409-01. Kepler magnitude: 15.25. Transit SNR 50.05

There are 13 quarters with good PRF difference image offsets

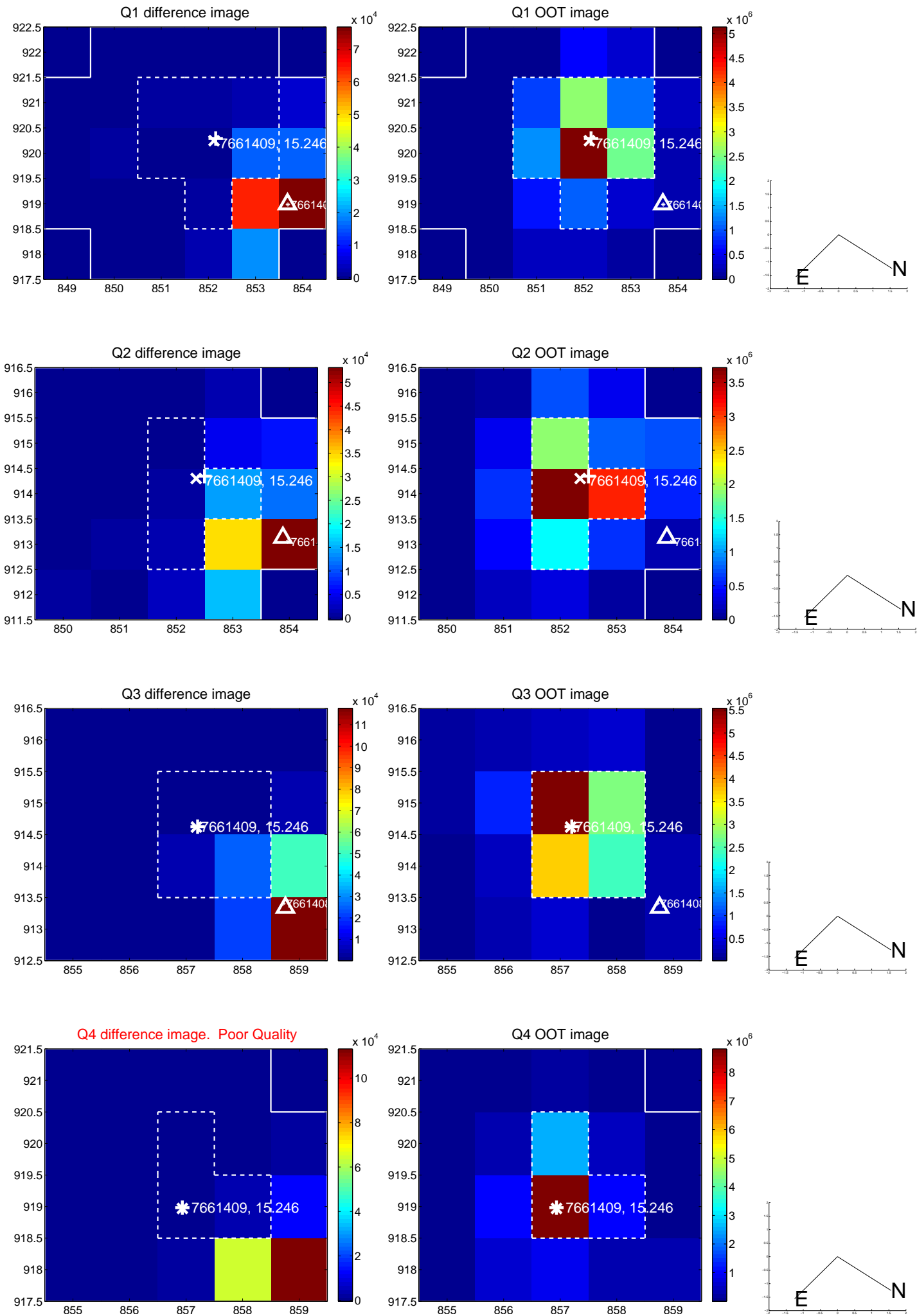
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.067 \pm 0.143	56.53	0.108 \pm 0.075	8.067 \pm 0.143
PRF-fit source offset from KIC position	8.023 \pm 0.093	86.63	0.007 \pm 0.071	8.023 \pm 0.093
photometric centroid source offset	—	—	—	—

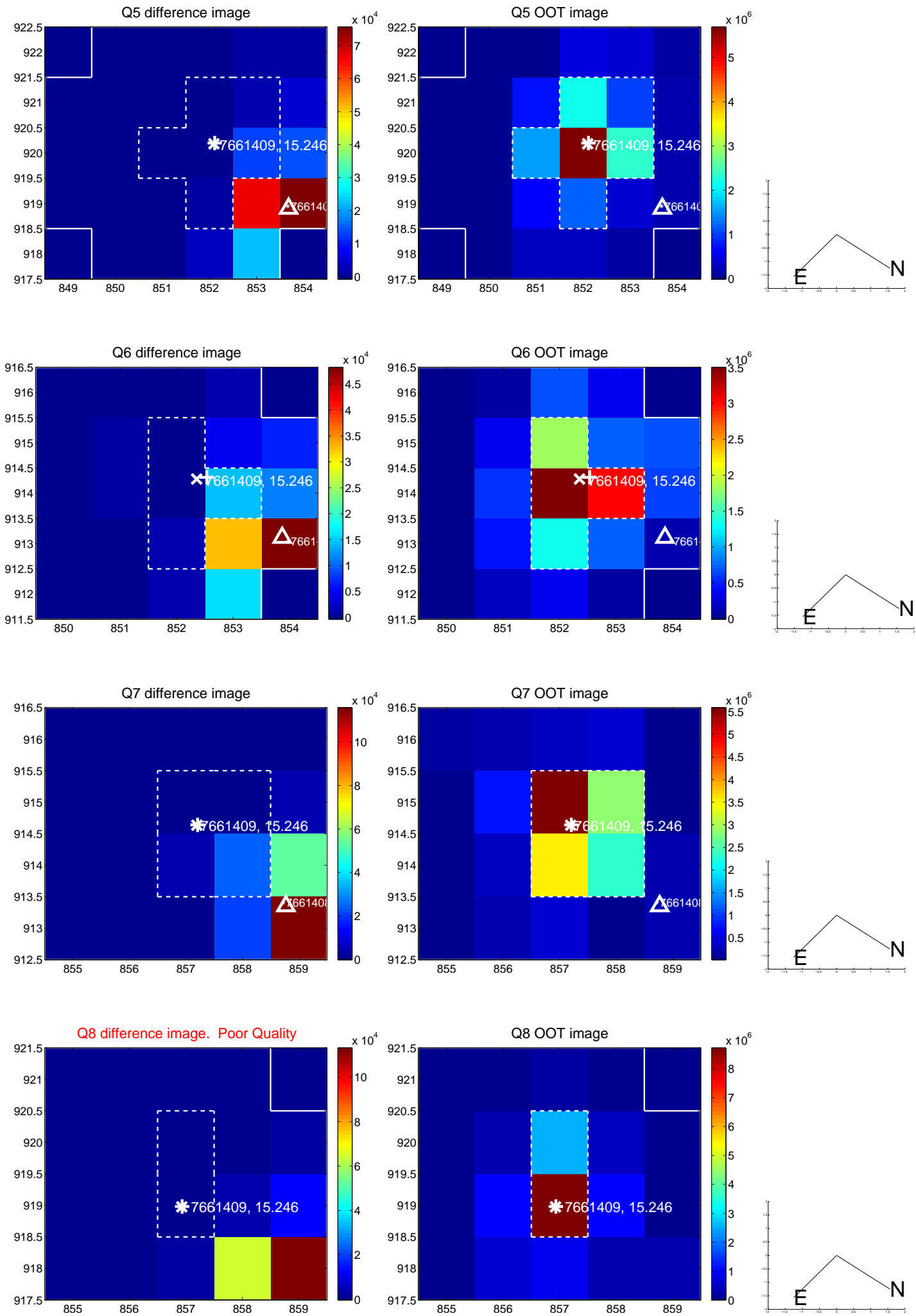


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

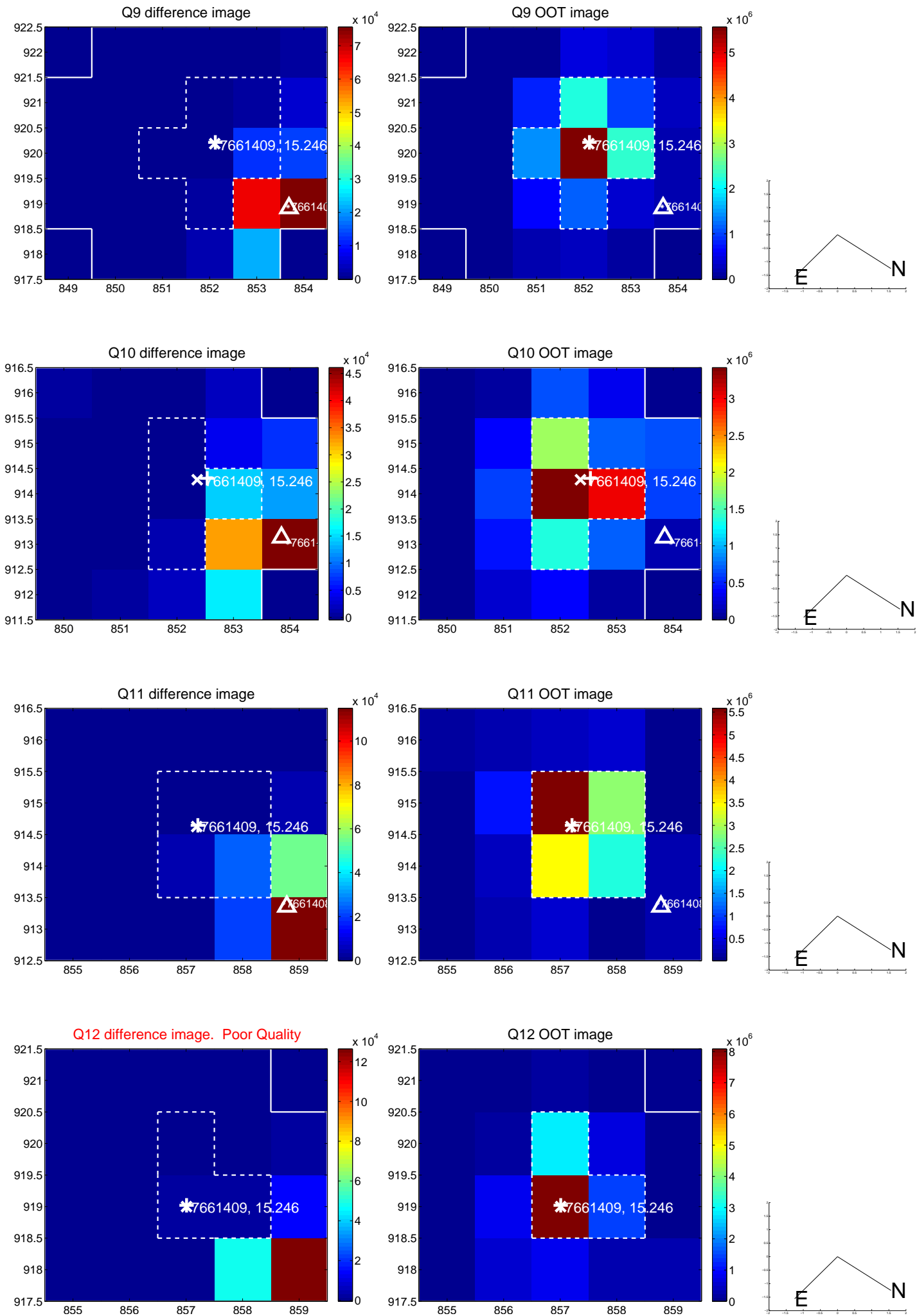
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



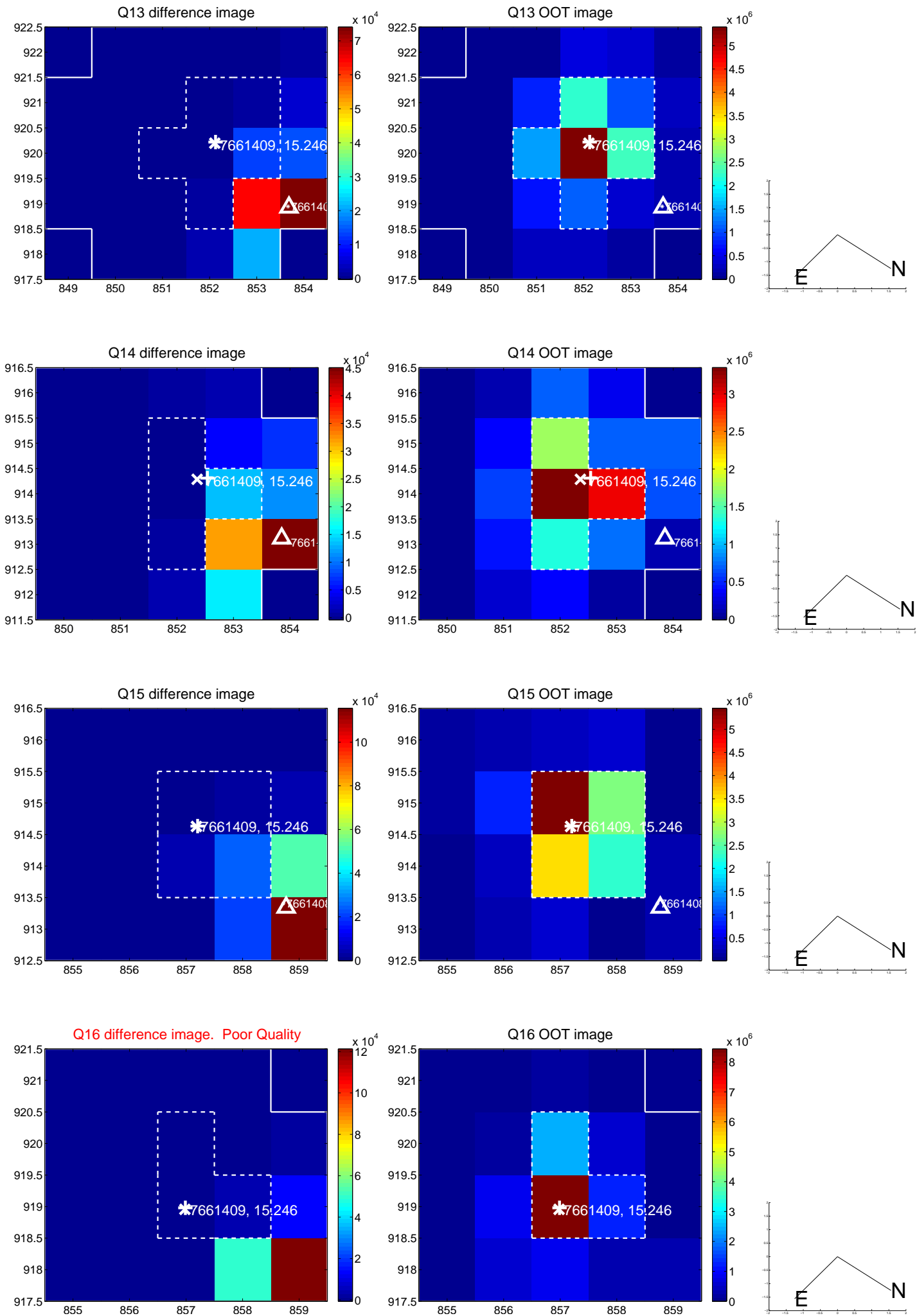
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



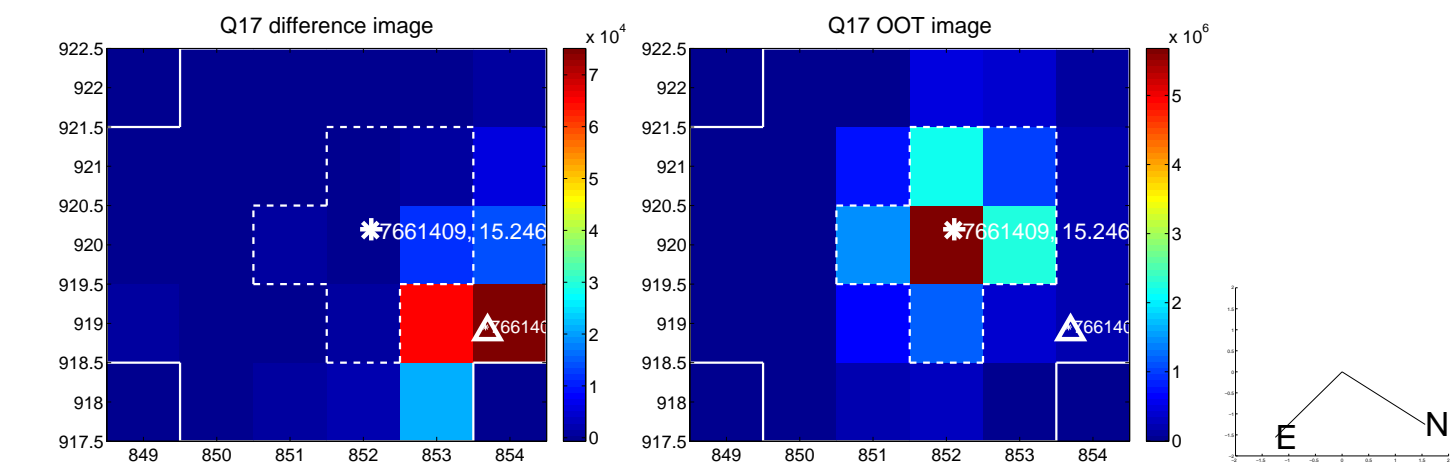
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



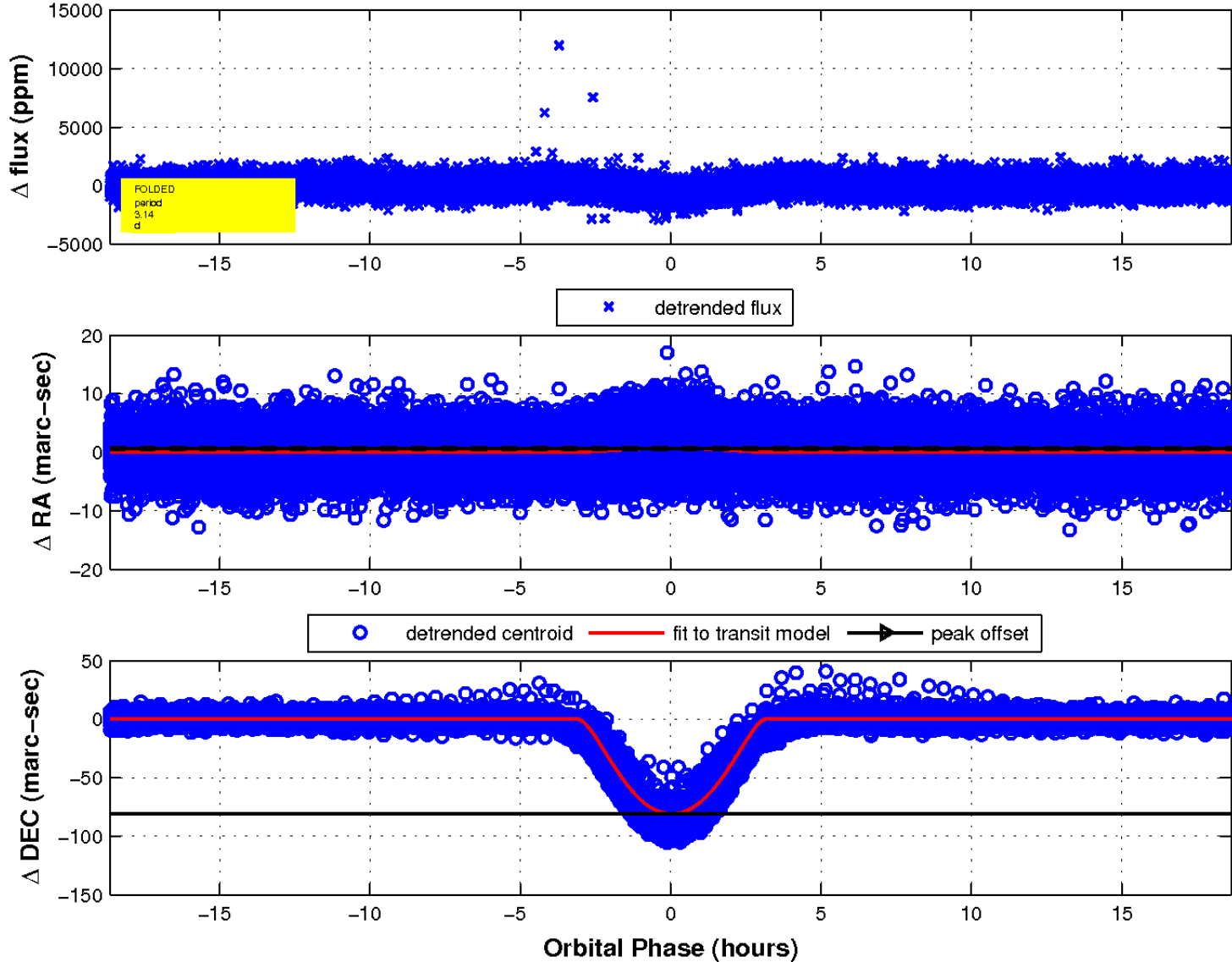
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

