

KIC 008429014

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})
008429014-01	OBS	7885.01	9.728502	140.729888	229.0	4.997	10.8	12.3	1.35	6881	3.99	380.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008429014-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

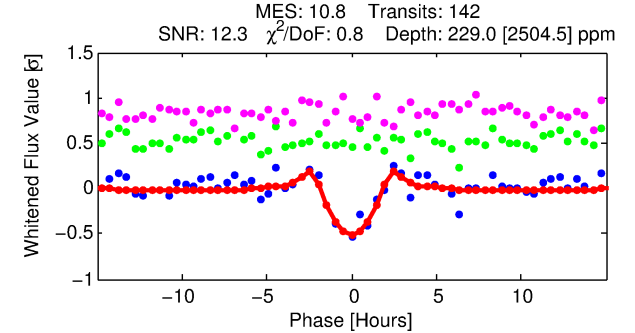
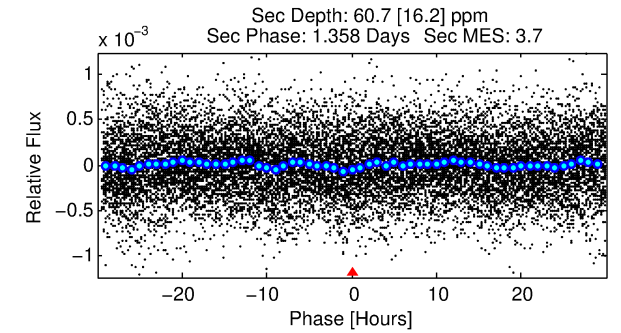
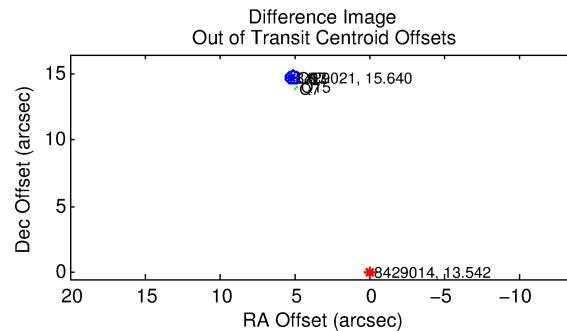
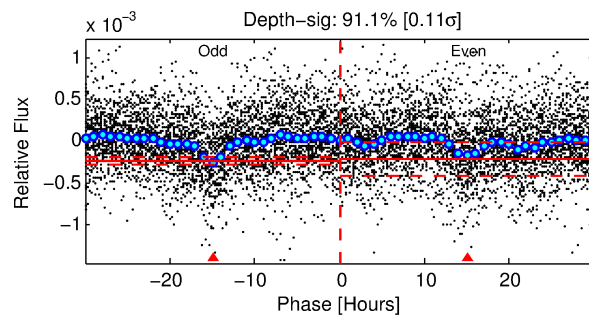
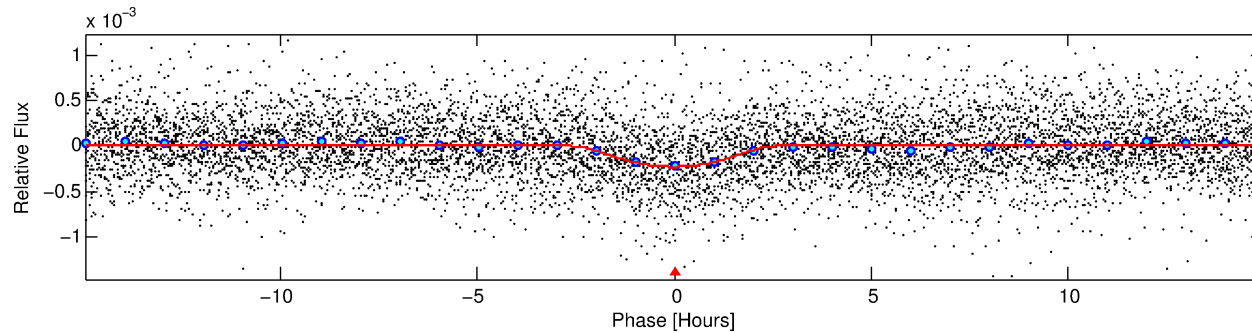
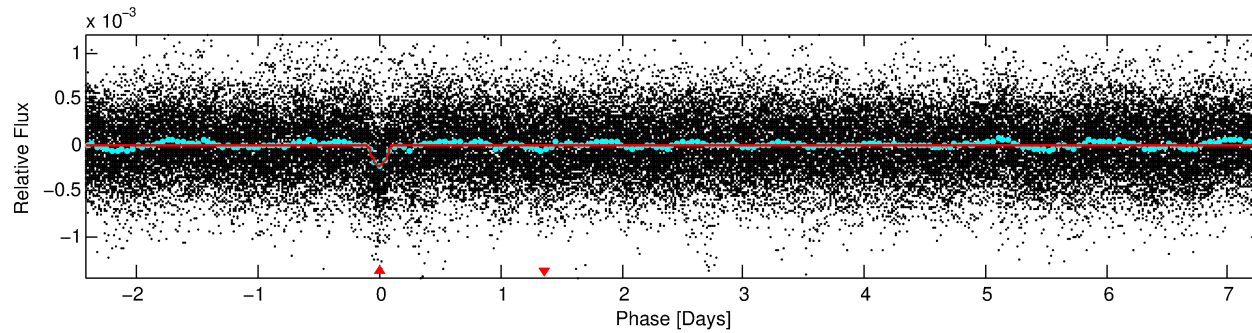
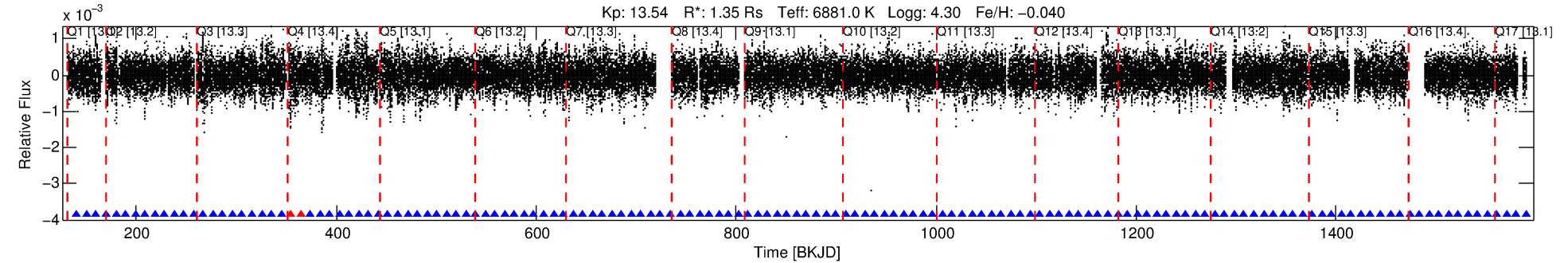
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008429014-01

No Significant Match Found

DV One-Page Summary

KIC: 8429014 Candidate: 1 of 1 Period: 9.729 d



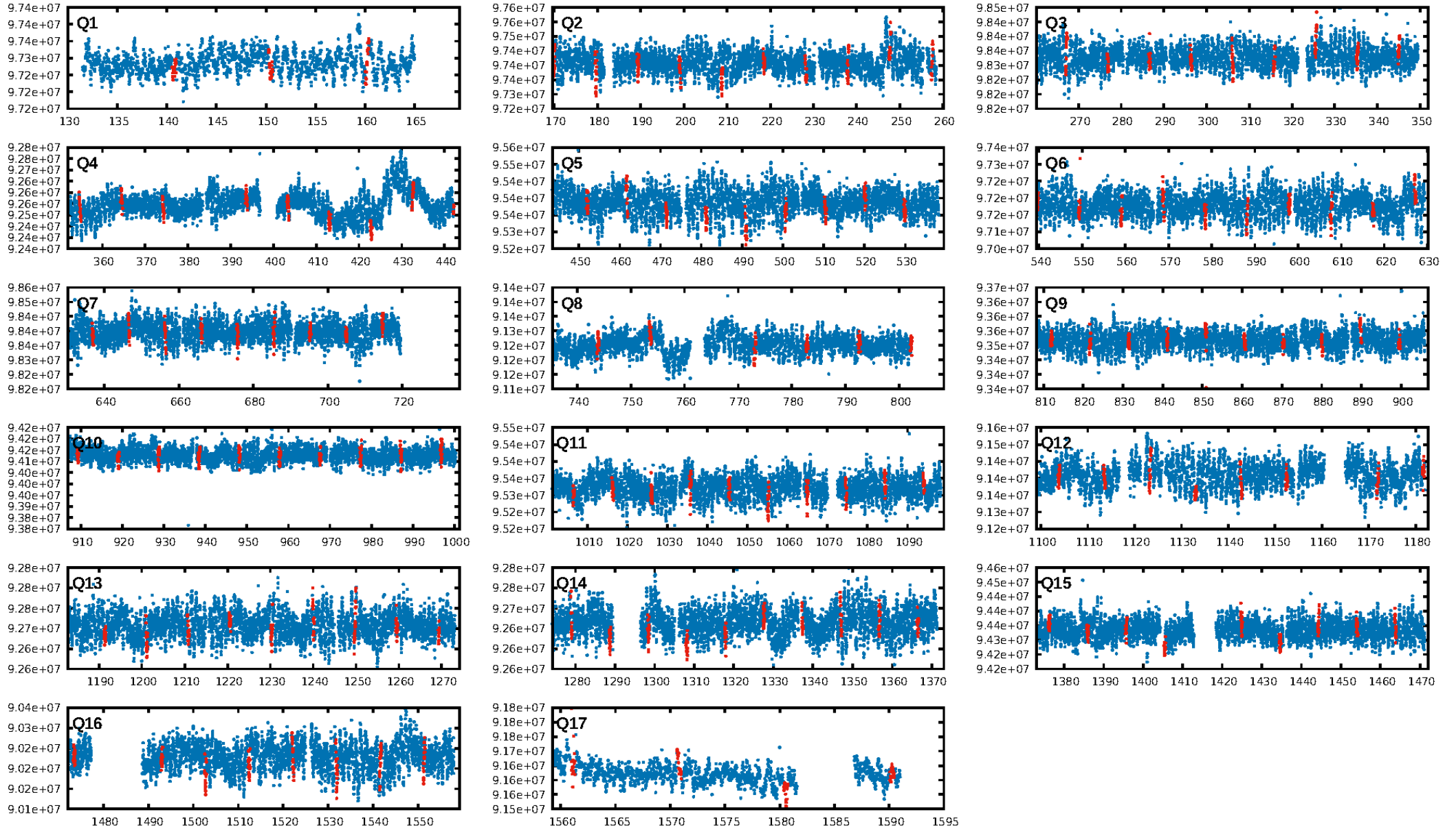
DV Fit Results:

Period = 9.72850 [0.00008] d
Epoch = 140.7299 [0.0064] BKJD
Rp/R* = 0.0271 [0.0333]
a/R* = 3.63 [1.10]
b = 1.00 [0.16]
Seff = 380.66 [168.34]
Teq = 1126 [125] K
Rp = 3.99 [5.13] Re
a = 0.0981 [0.0292] AU
Ag = 20.15 [50.57] [0.38 σ]
Teffp = 3689 [2288] K [1.12 σ]

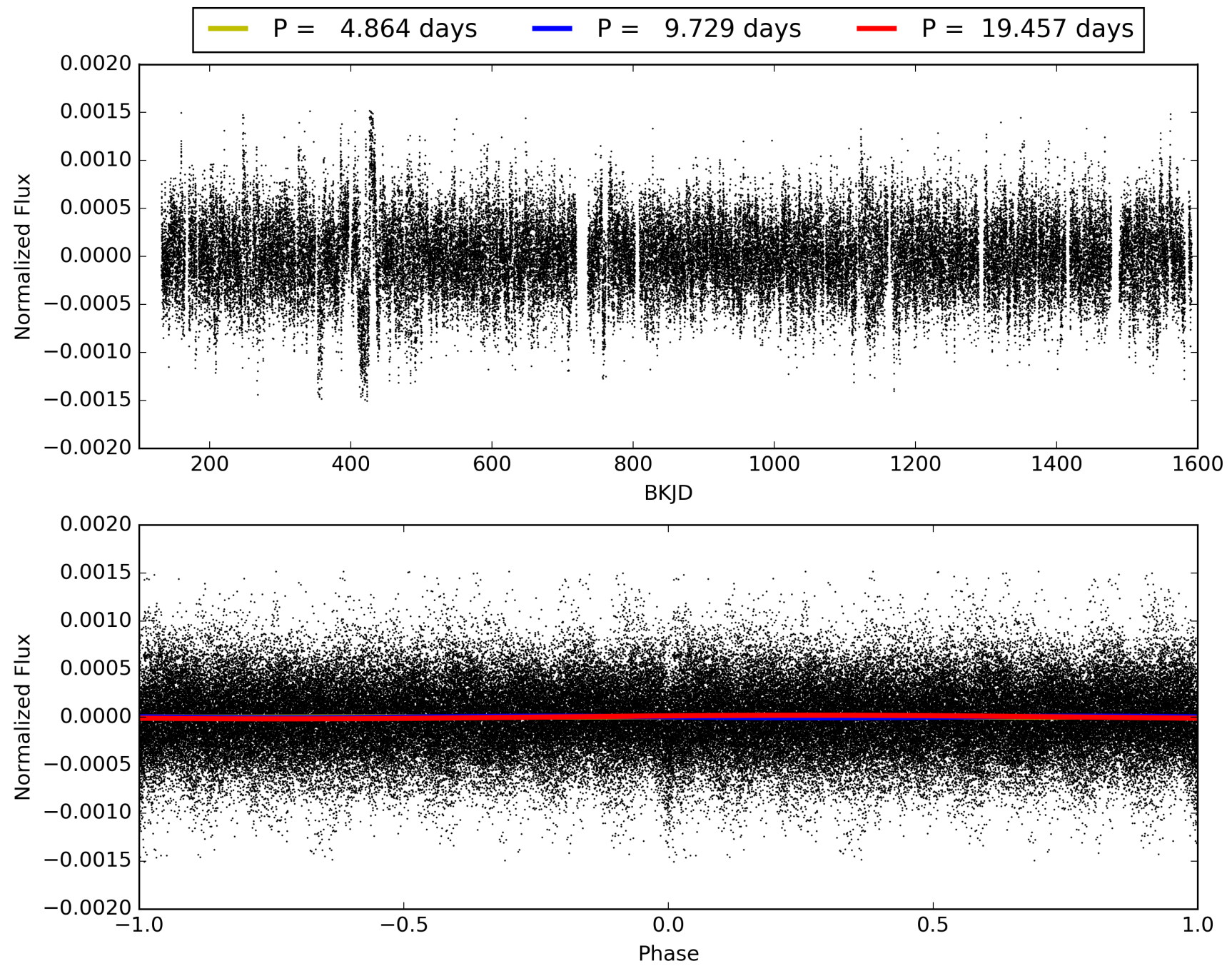
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 49.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.72e-24
RollingBand-fgt: 0.99 [133/135]
GhostDiagnostic-chr: -0.2407
Centroid-sig: 0.0%
Centroid-so: 47.719 arcsec [113.28 σ]
OotOffset-rm: 15.598 arcsec [95.04 σ]
KicOffset-rm: 15.594 arcsec [91.94 σ]
OotOffset-st: 0/2/0/5 [7]
KicOffset-st: 0/2/0/5 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008429014-01, PDC Light Curves

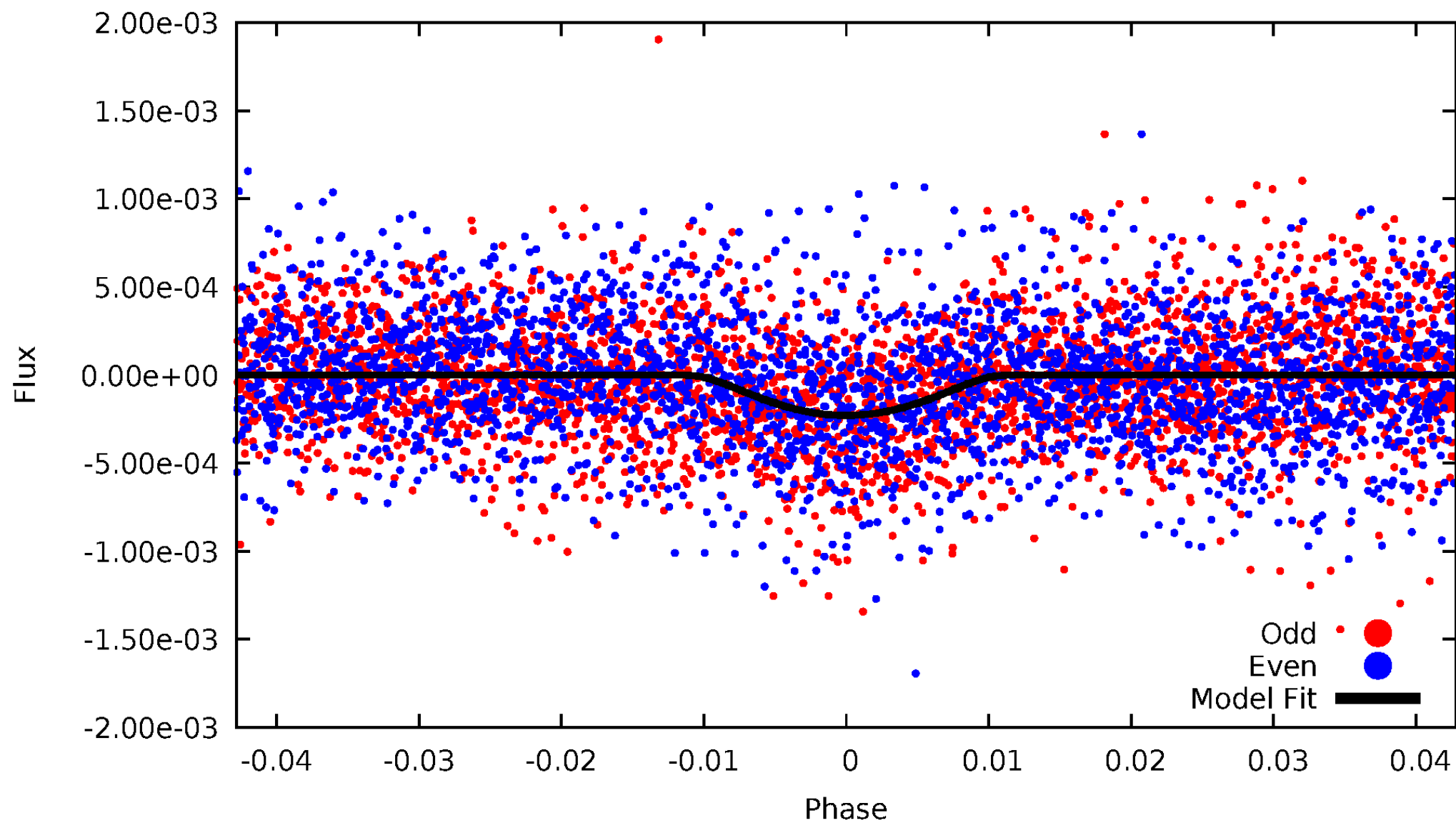


TCE 008429014-01



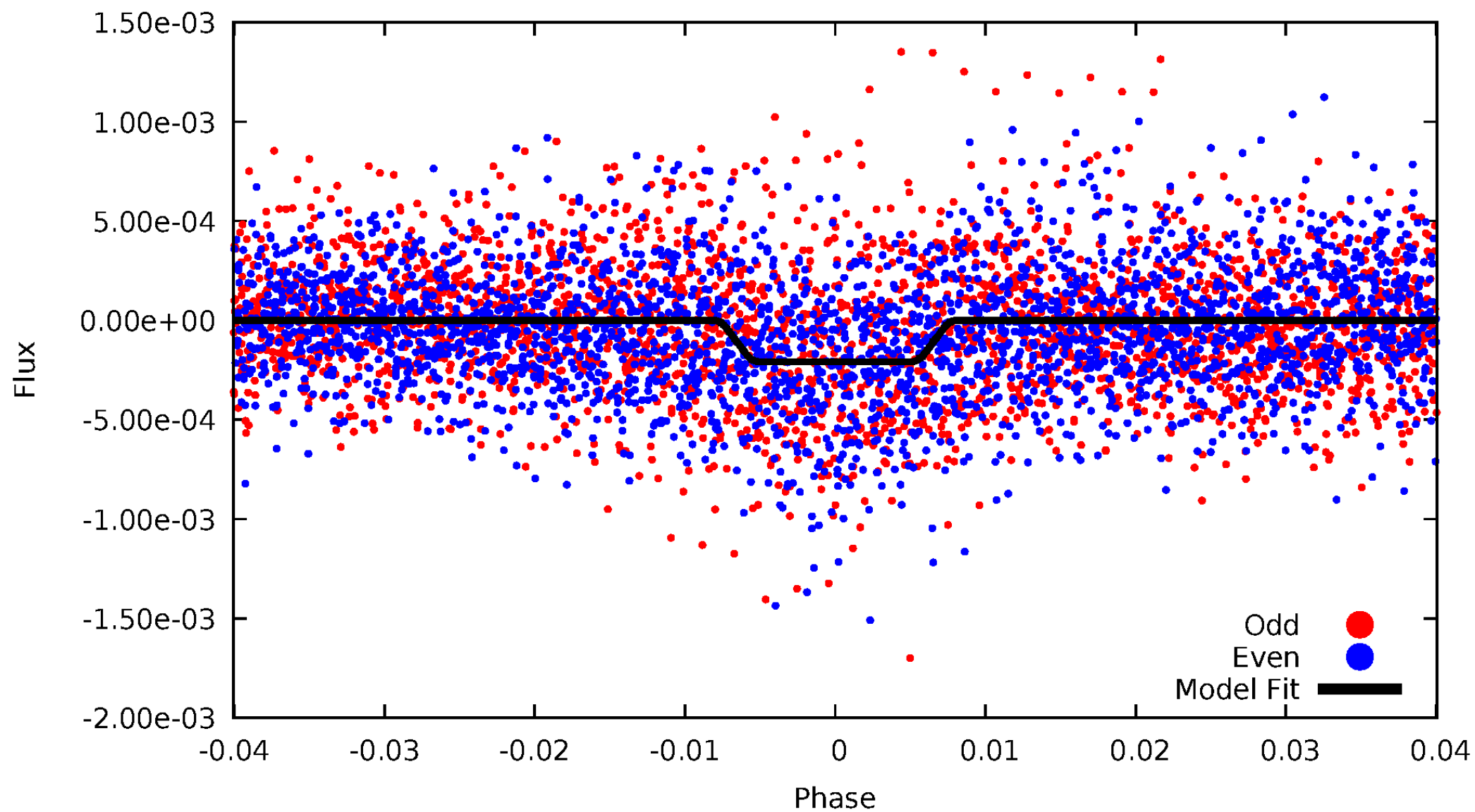
DV Odd/Even

TCE 008429014-01

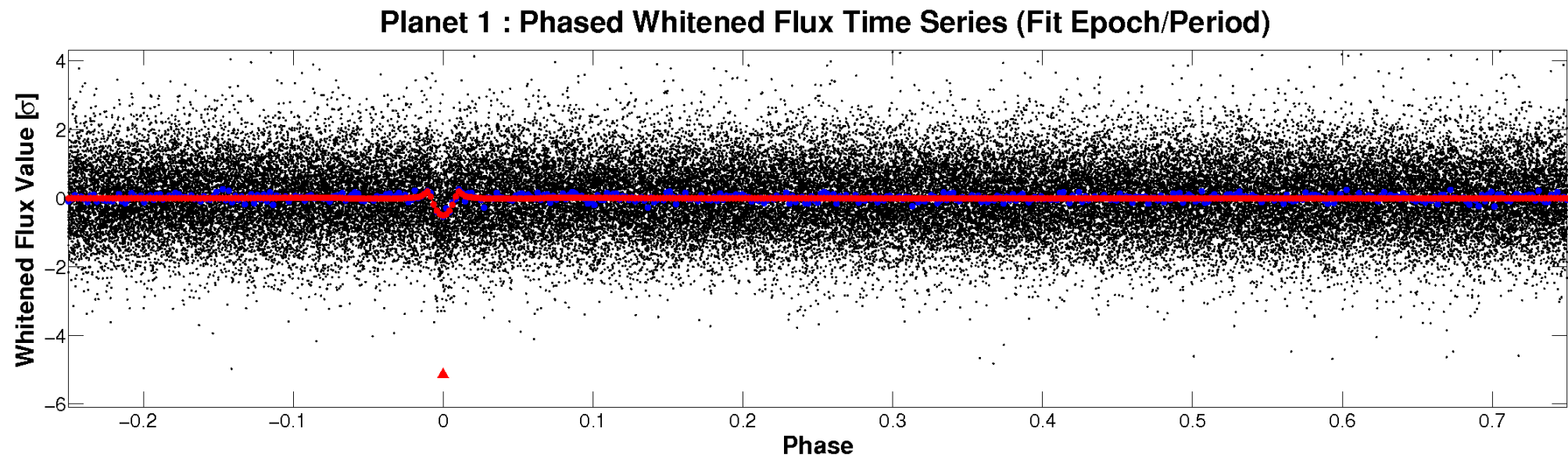
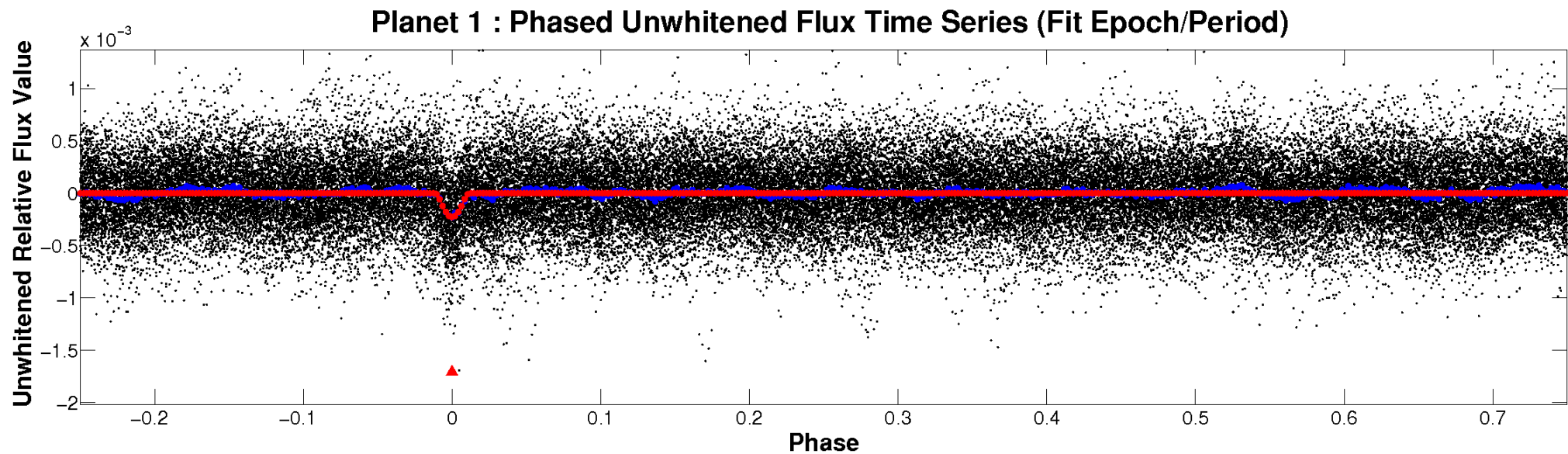


ALT Odd/Even

TCE 008429014-01

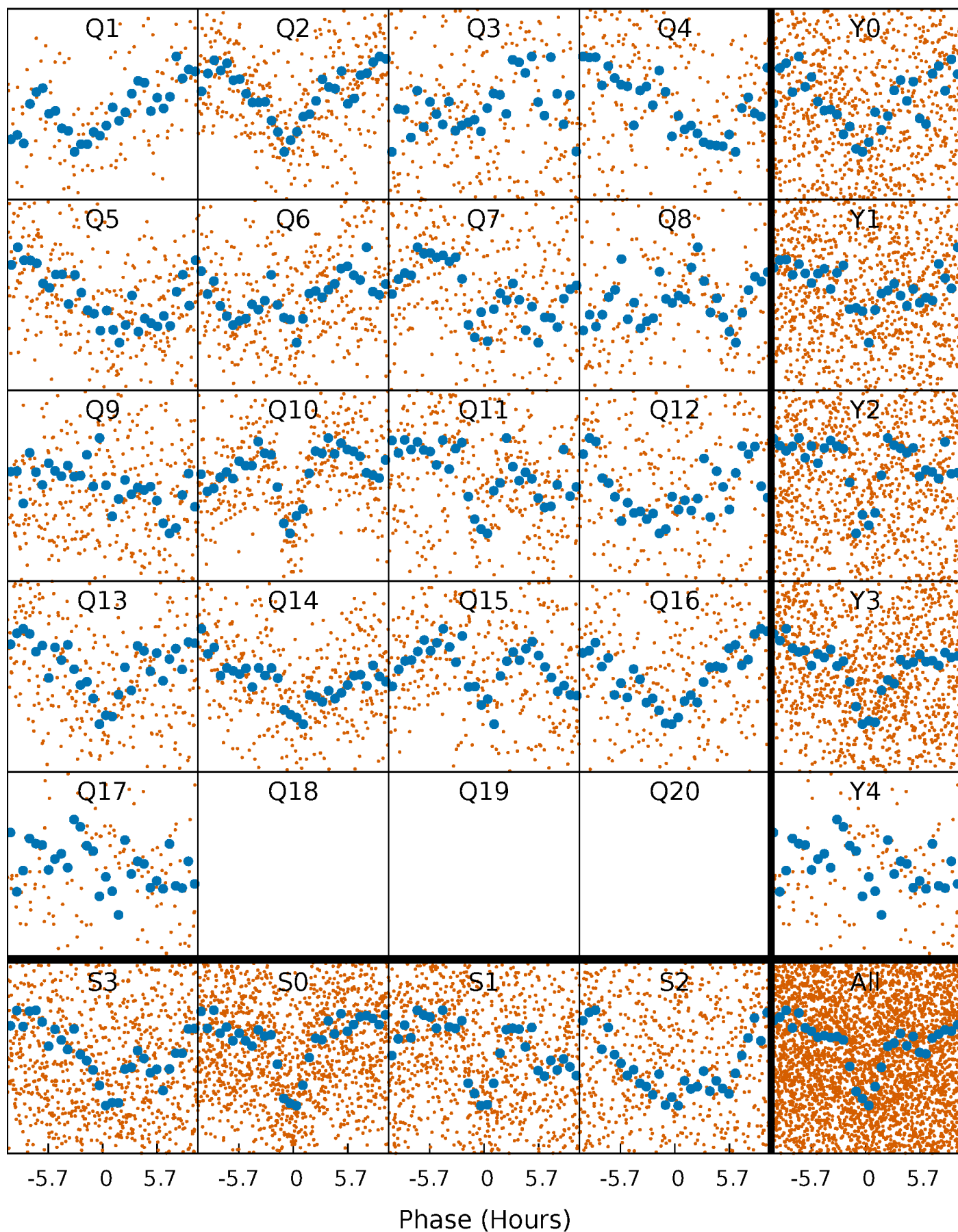


Non-Whitened Vs. Whitened Light Curve



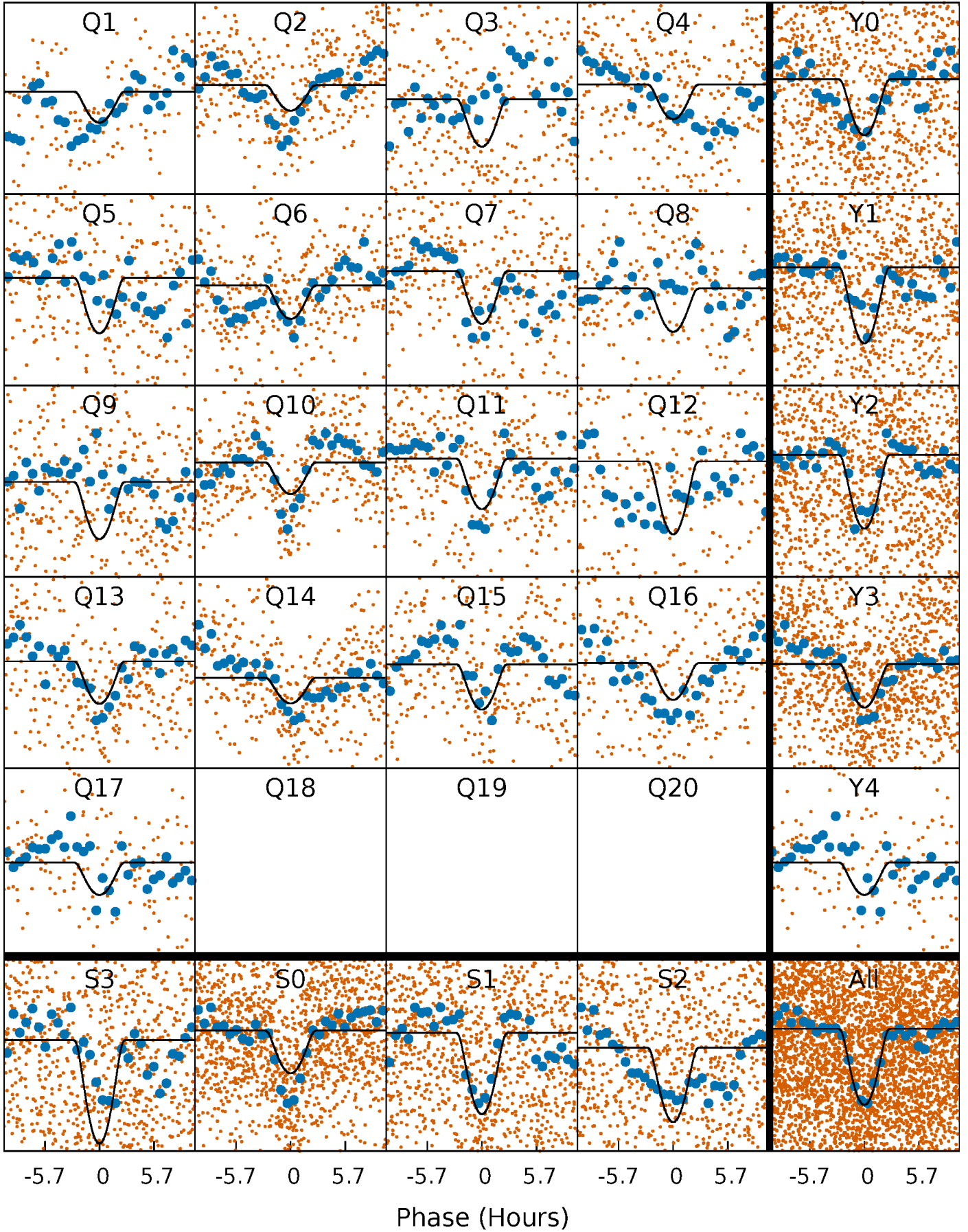
PDC Quarter-Phased Transit Curves

TCE 008429014-01 P= 9.728502 Days $T_0=140.729888$ (BKJD)



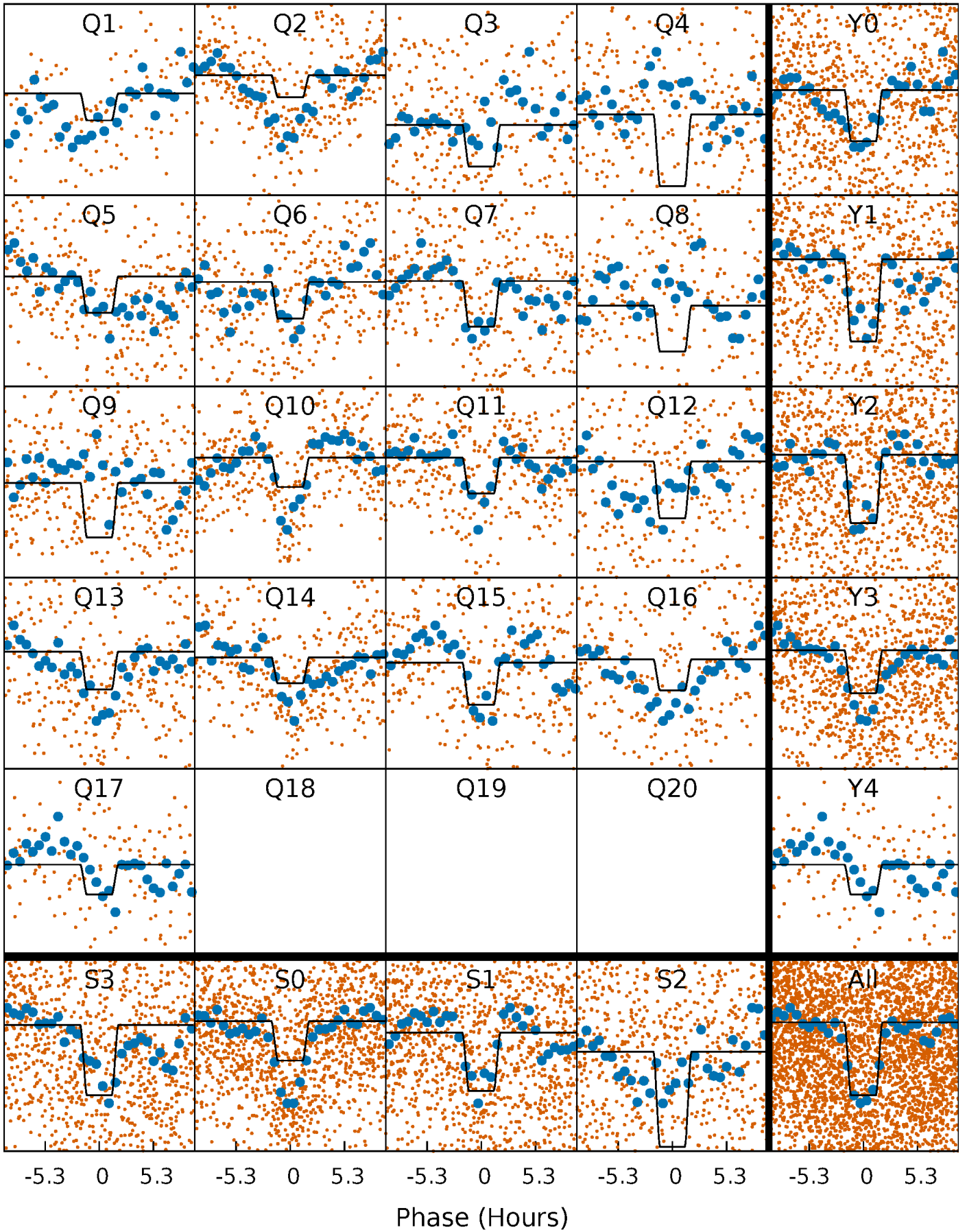
DV Quarter-Phased Transit Curves

TCE 008429014-01 P= 9.728502 Days $T_0=140.729888$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

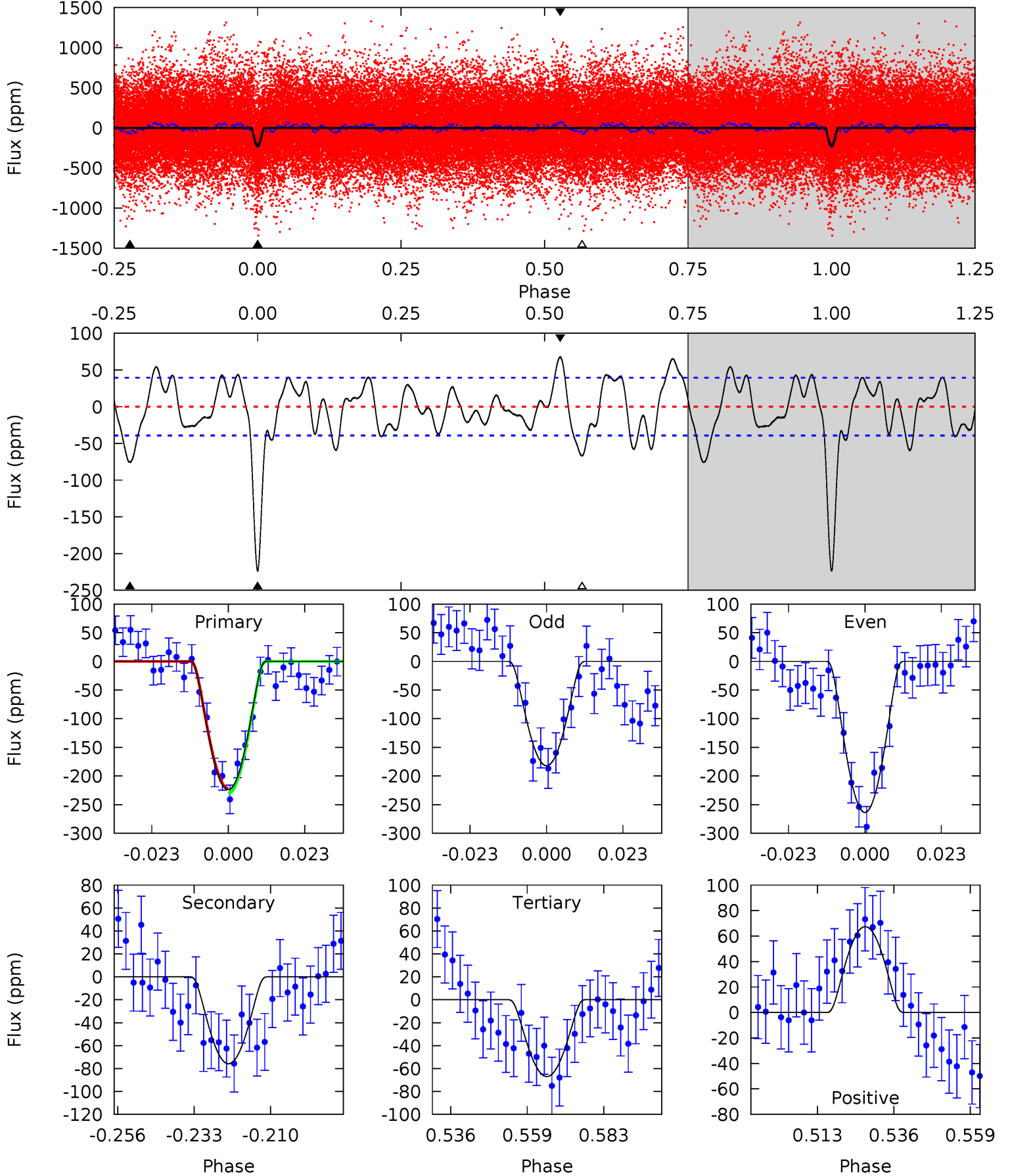
TCE 008429014-01 P= 9.728647 Days $T_0=140.718186$ (BKJD)



DV Model-Shift Uniqueness Test

008429014-01, P = 9.728502 Days, E = 131.001386 Days

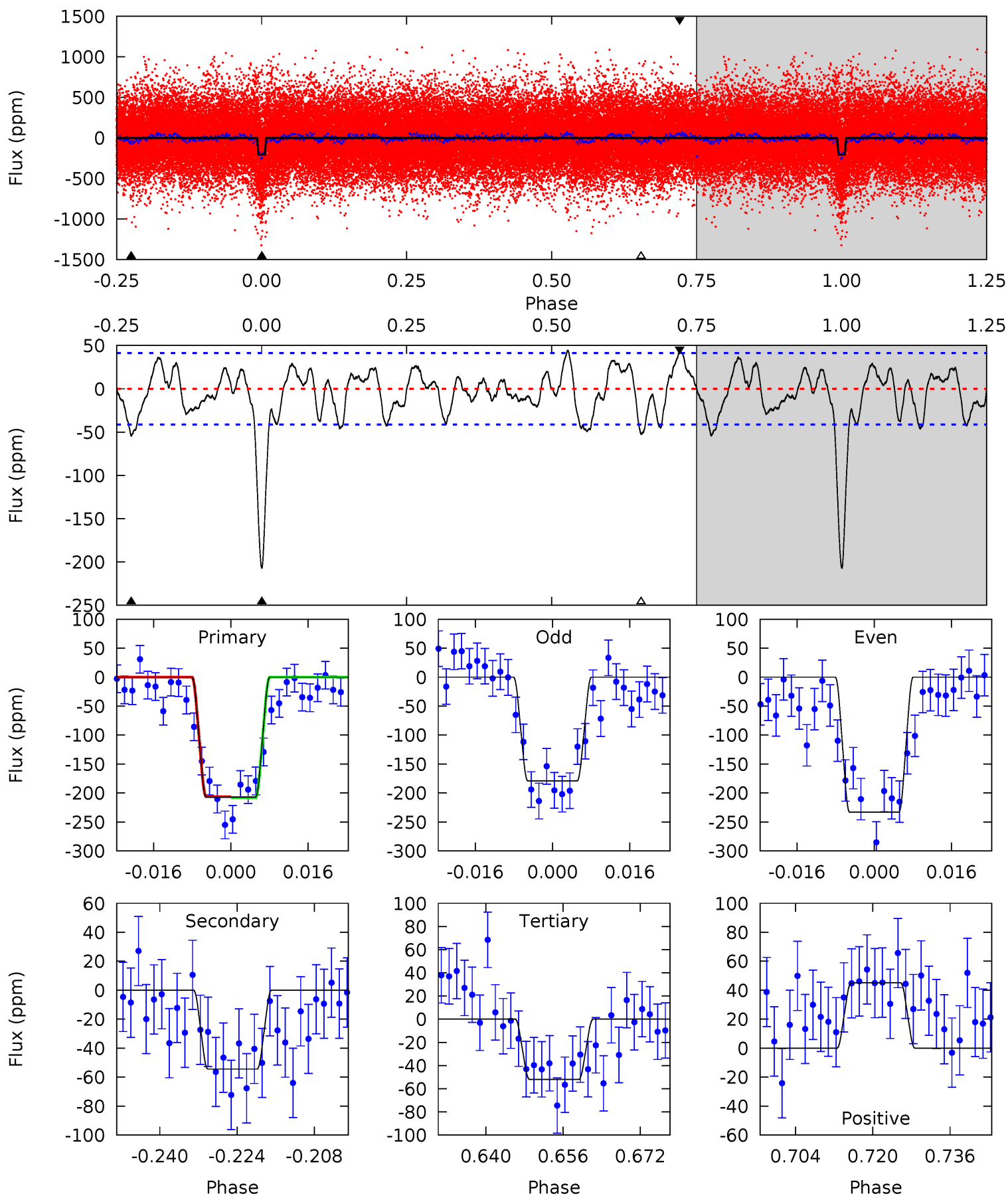
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.6	9.35	8.26	8.32	4.86	2.27	3.65	19.4	19.3	1.09	1.04	5.04	1.05	0.23	0.51



Alt Model-Shift Uniqueness Test

008429014-01, P = 9.728647 Days, E = 130.989539 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	6.52	6.22	5.40	4.94	2.41	2.57	18.6	19.4	0.29	1.11	3.24	1.00	0.18	0.09



Stellar Parameters For KIC 008429014

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6881^{+168}_{-265}	$4.301^{+0.072}_{-0.217}$	$-0.040^{+0.250}_{-0.350}$	$1.351^{+0.500}_{-0.167}$	$1.340^{+0.219}_{-0.179}$	$0.765^{+0.242}_{-0.429}$
	+2%/-4%	+2%/-5%	+625%/-875%	+37%/-12%	+16%/-13%	+32%/-56%
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 008429014-01 / KOI 7885.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-76 ± 8	$5.36^{+4.77}_{-3.45}$	1599^{+129}_{-87}	3788^{+1843}_{-706}	14^{+95}_{-10}
Alt.	-54 ± 8	$4.35^{+4.61}_{-3.00}$	1604^{+120}_{-93}	3835^{+2376}_{-786}	15^{+126}_{-11}

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

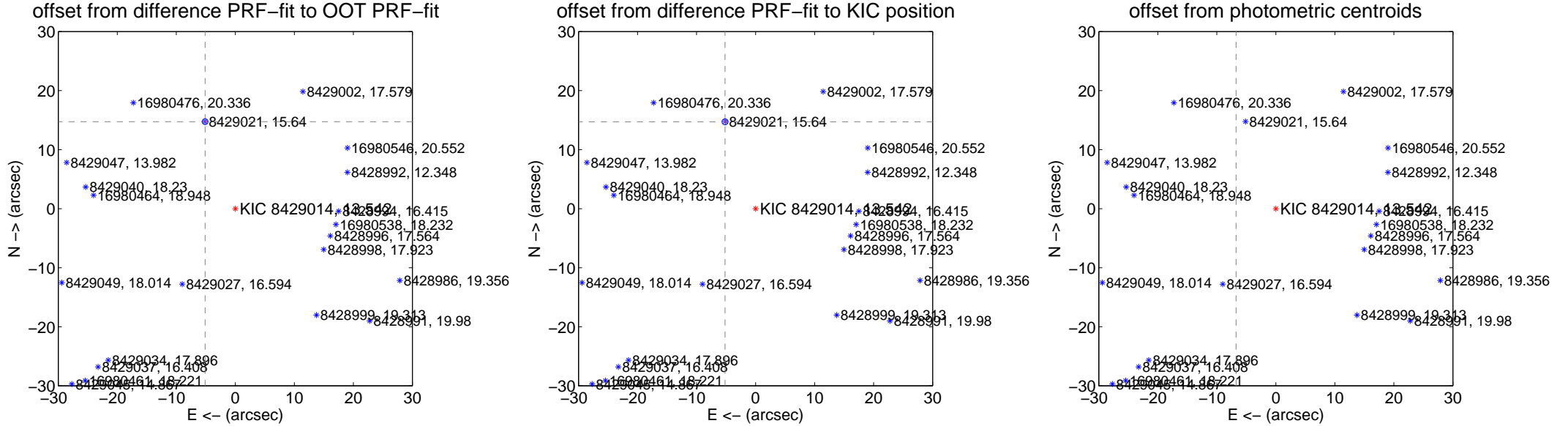
DV Centroid Data

Supplemental centroid analysis for 008429014-01. Kepler magnitude: 13.54. Transit SNR 12.33

There are 7 quarters with good PRF difference image offsets

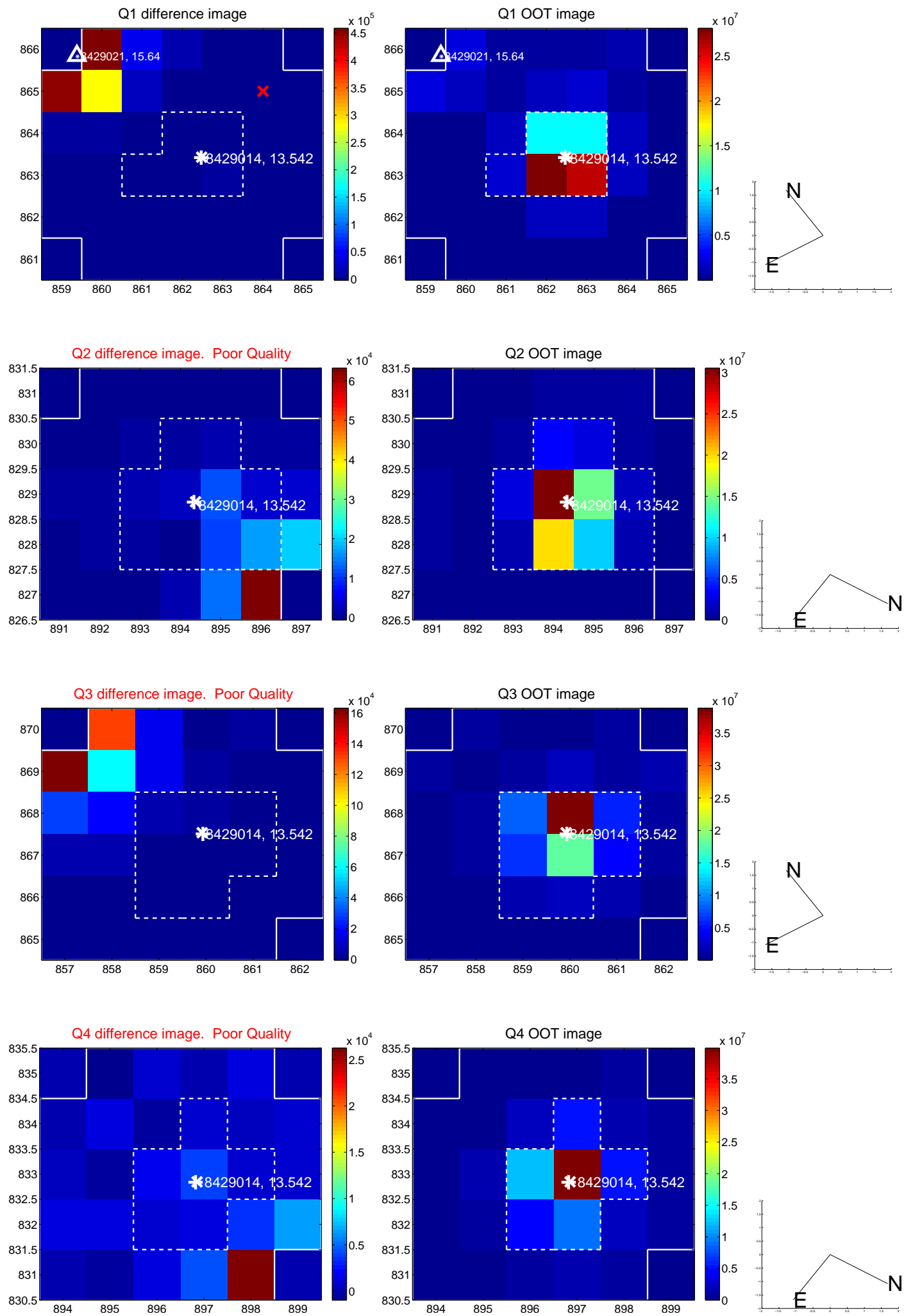
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	15.598 ± 0.164	95.04	5.119 ± 0.080	14.734 ± 0.158
PRF-fit source offset from KIC position	15.594 ± 0.170	91.94	5.178 ± 0.080	14.709 ± 0.164
photometric centroid source offset	47.72 ± 0.42	113.28	6.74 ± 0.42	47.24 ± 0.42

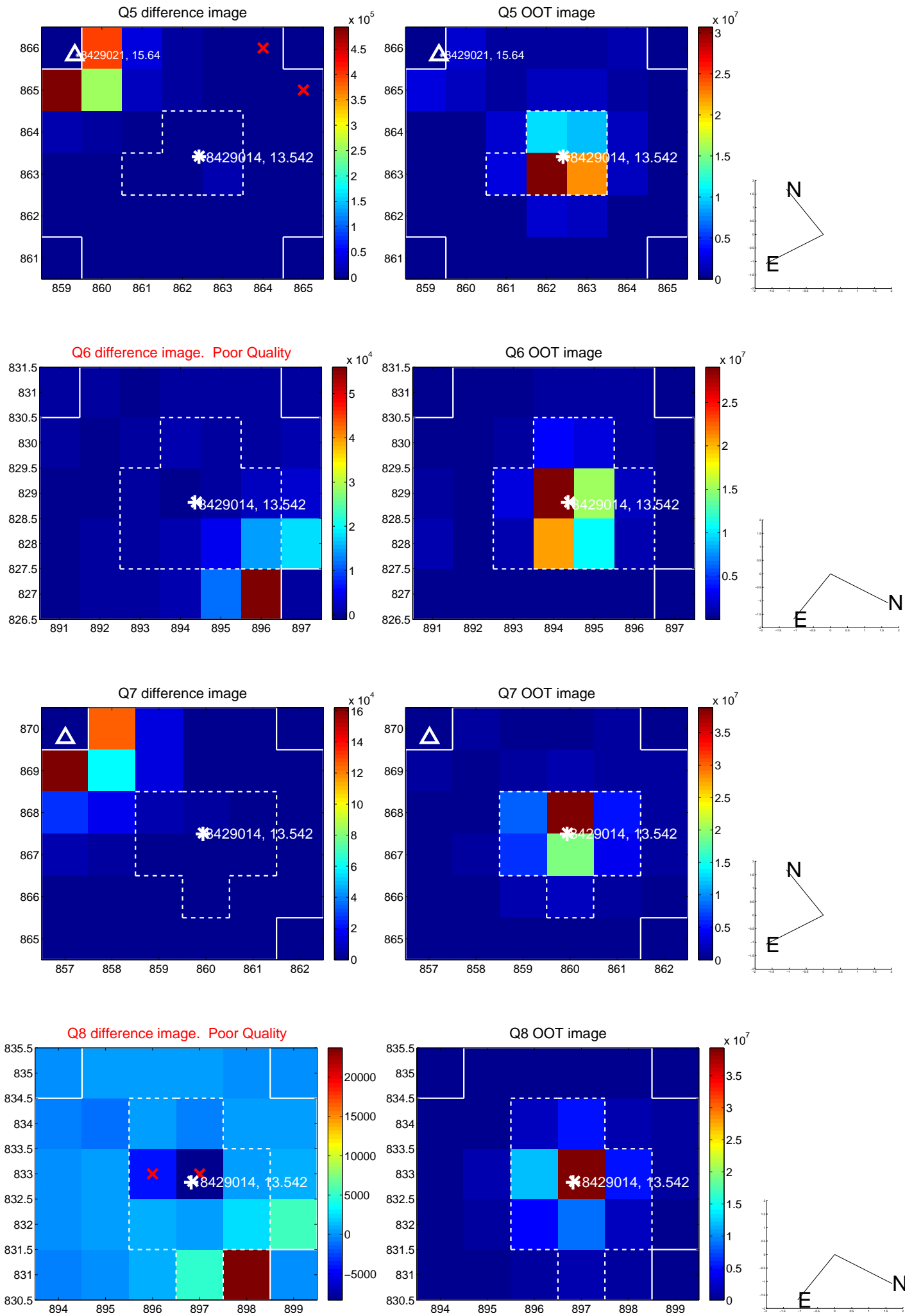


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

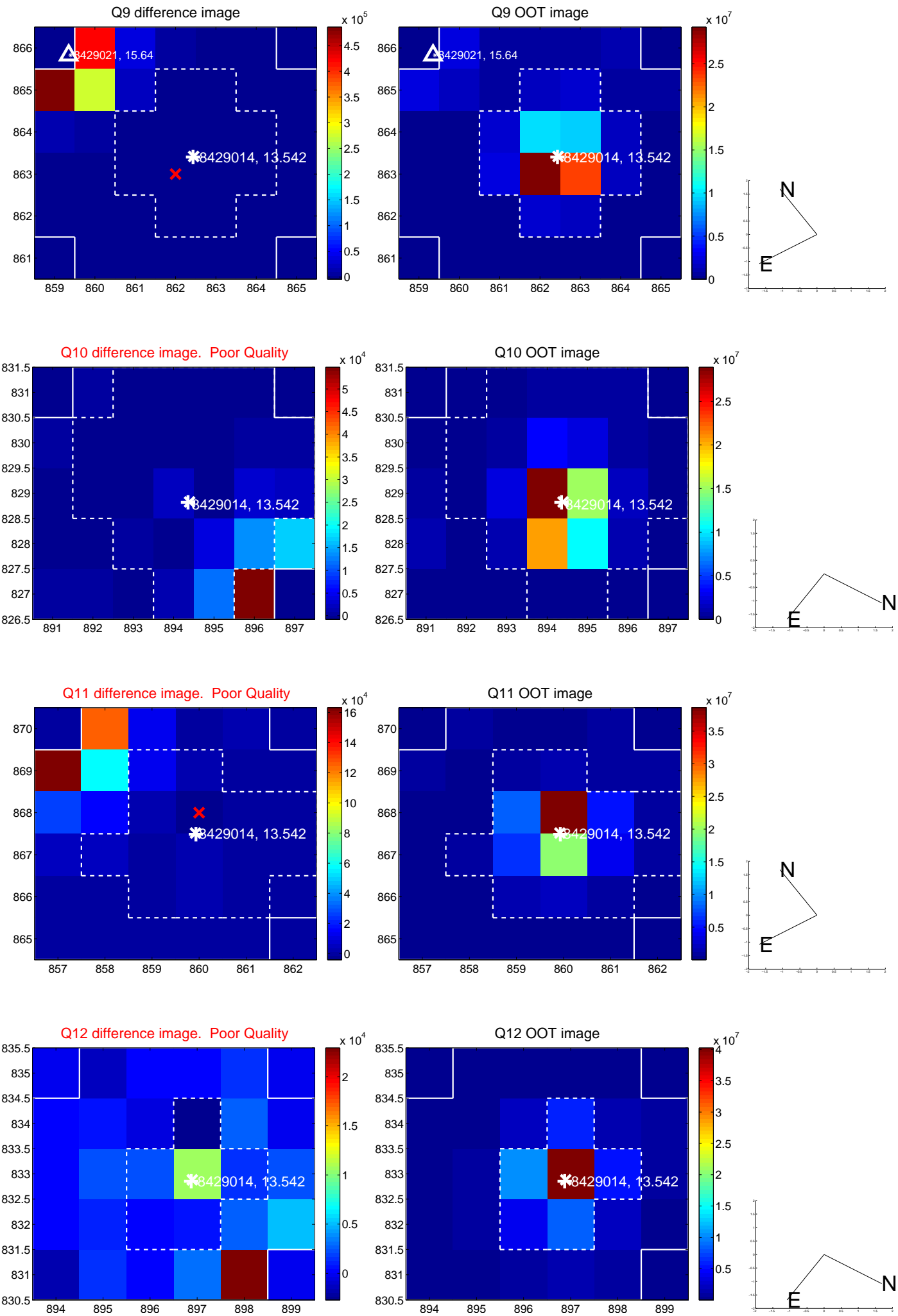
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



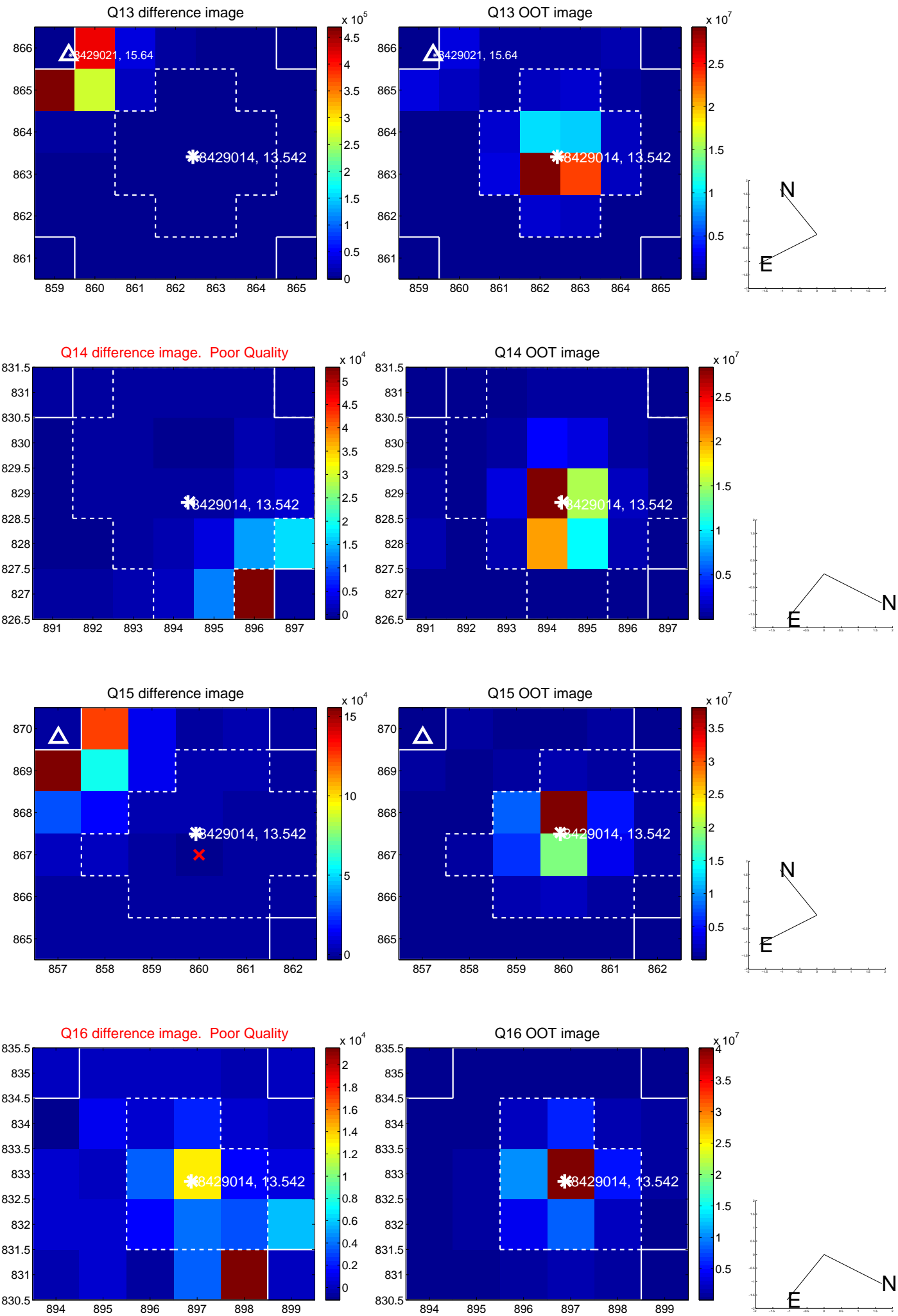
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



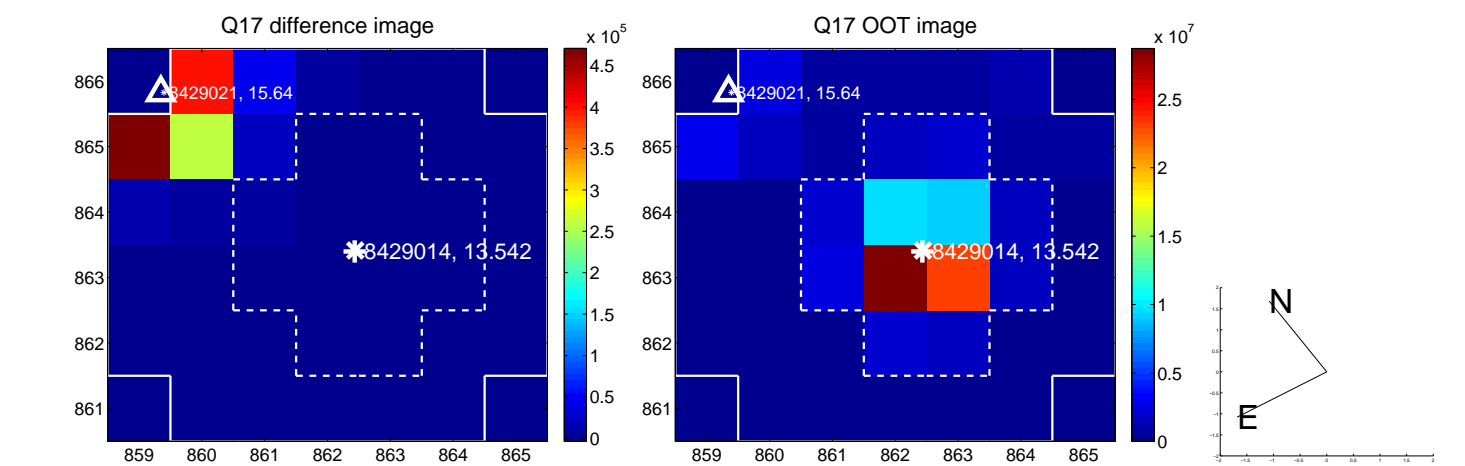
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



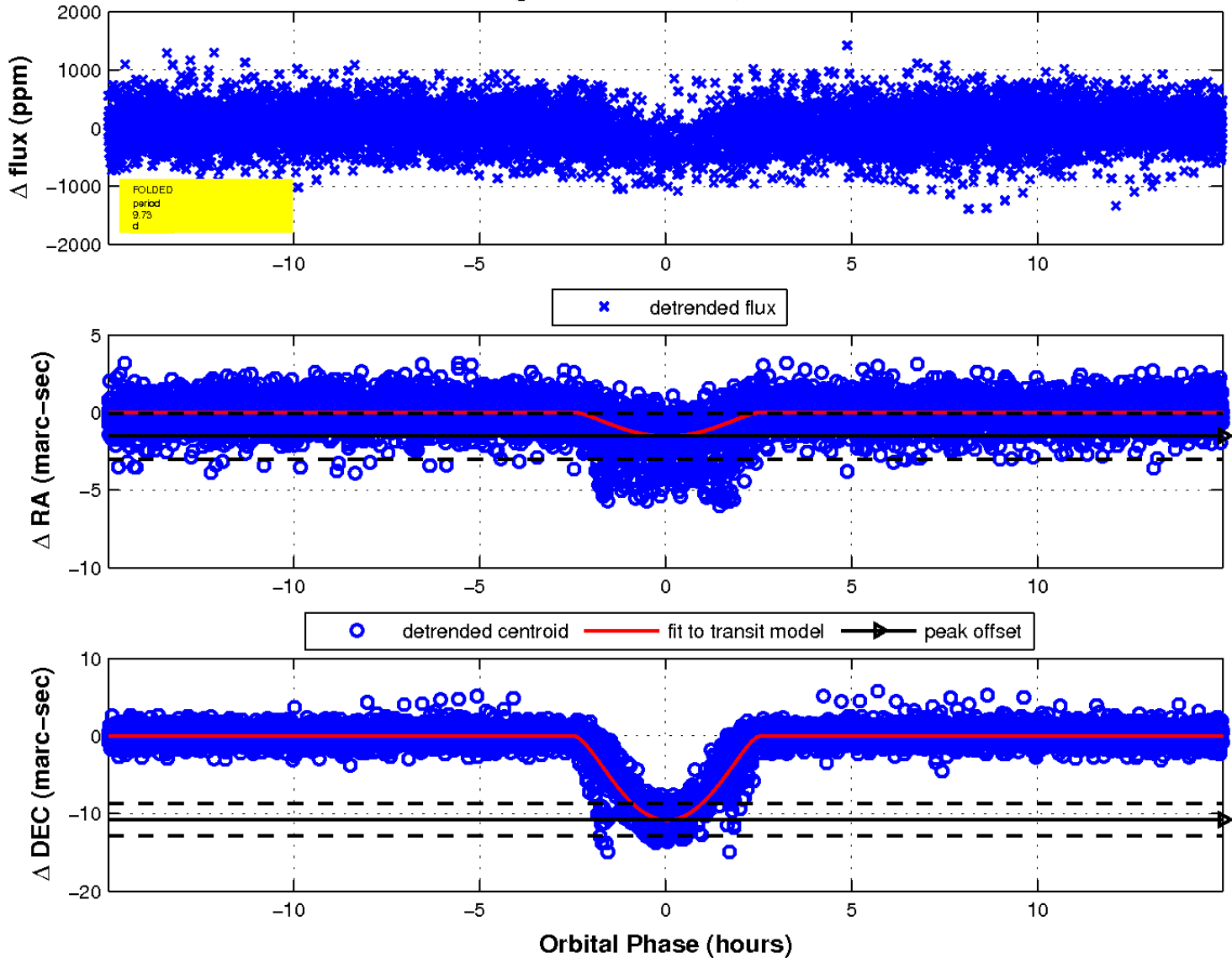
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

