

KIC 008684730

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})
008684730-01	OBS	0319.01	46.150940	176.628861	1807.2	6.383	221.1	208.5	1.96	5877	9.98	57.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008684730-01	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.

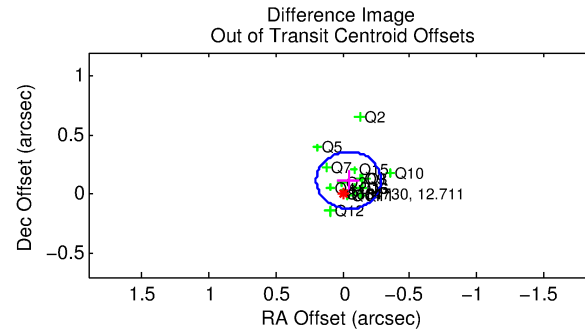
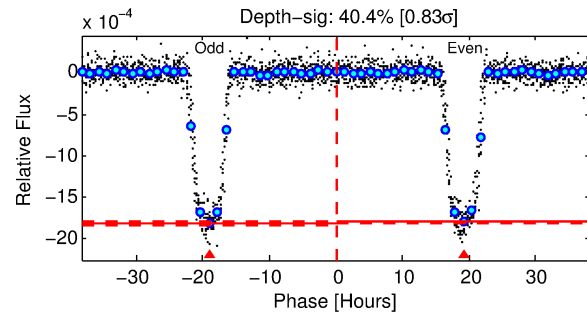
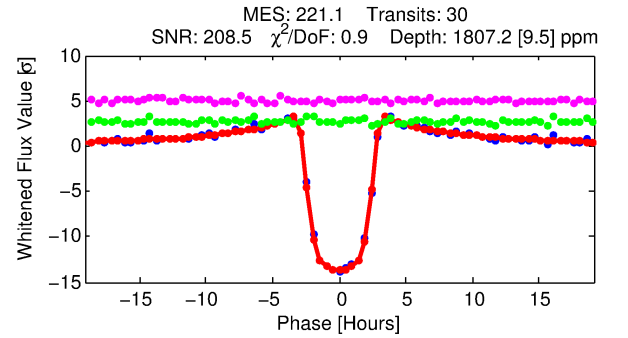
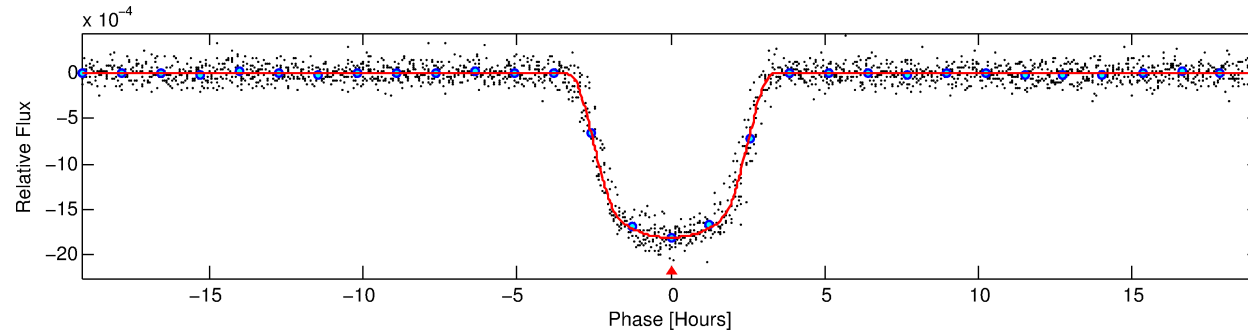
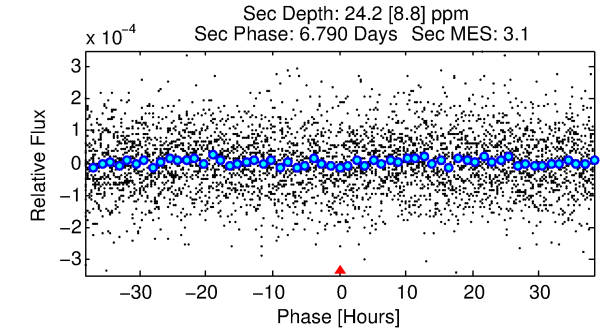
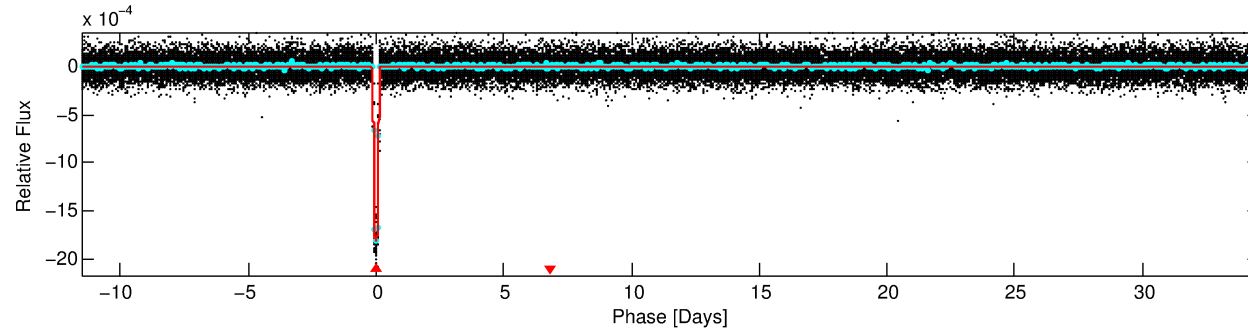
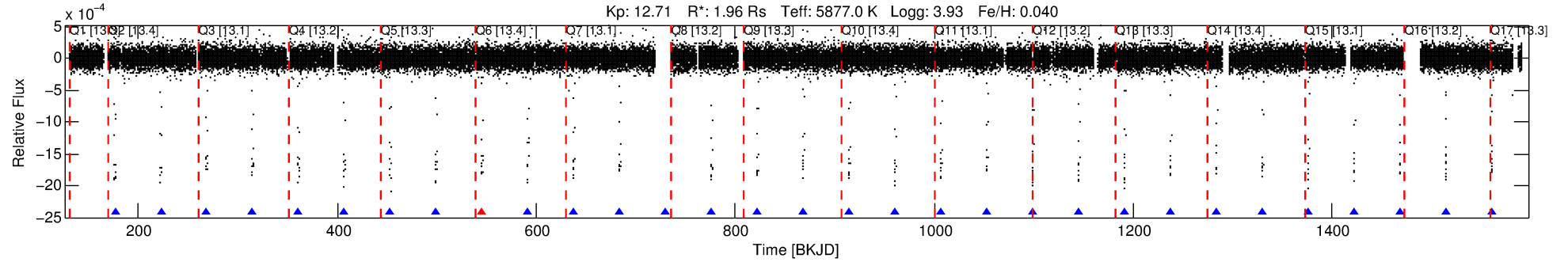
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008684730-01

No Significant Match Found

DV One-Page Summary

KIC: 8684730 Candidate: 1 of 1 Period: 46.151 d
KOI: K00319.01 Corr: 0.993



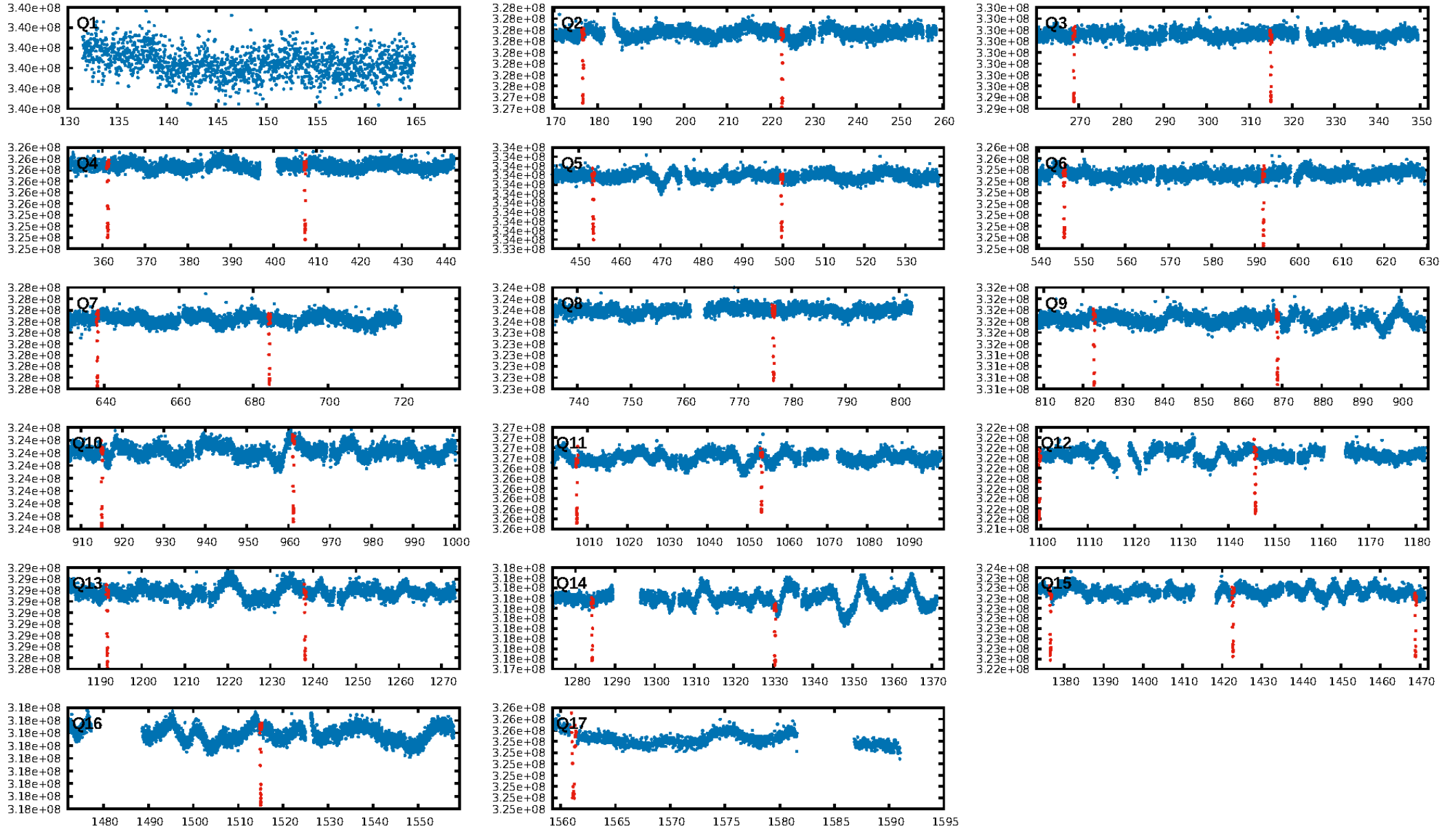
DV Fit Results:

Period = 46.15094 [0.00003] d
Epoch = 176.6289 [0.0006] BKJD
Rp/R* = 0.0466 [0.0002]
a/R* = 28.87 [0.39]
b = 0.91 [0.00]
Seff = 57.88 [4.67]
Teq = 703 [14] K
Rp = 9.98 [0.73] Re
a = 0.2667 [0.0134] AU
Ag = 9.50 [3.50] [2.43 σ]
Teffp = 1909 [176] K [6.82 σ]

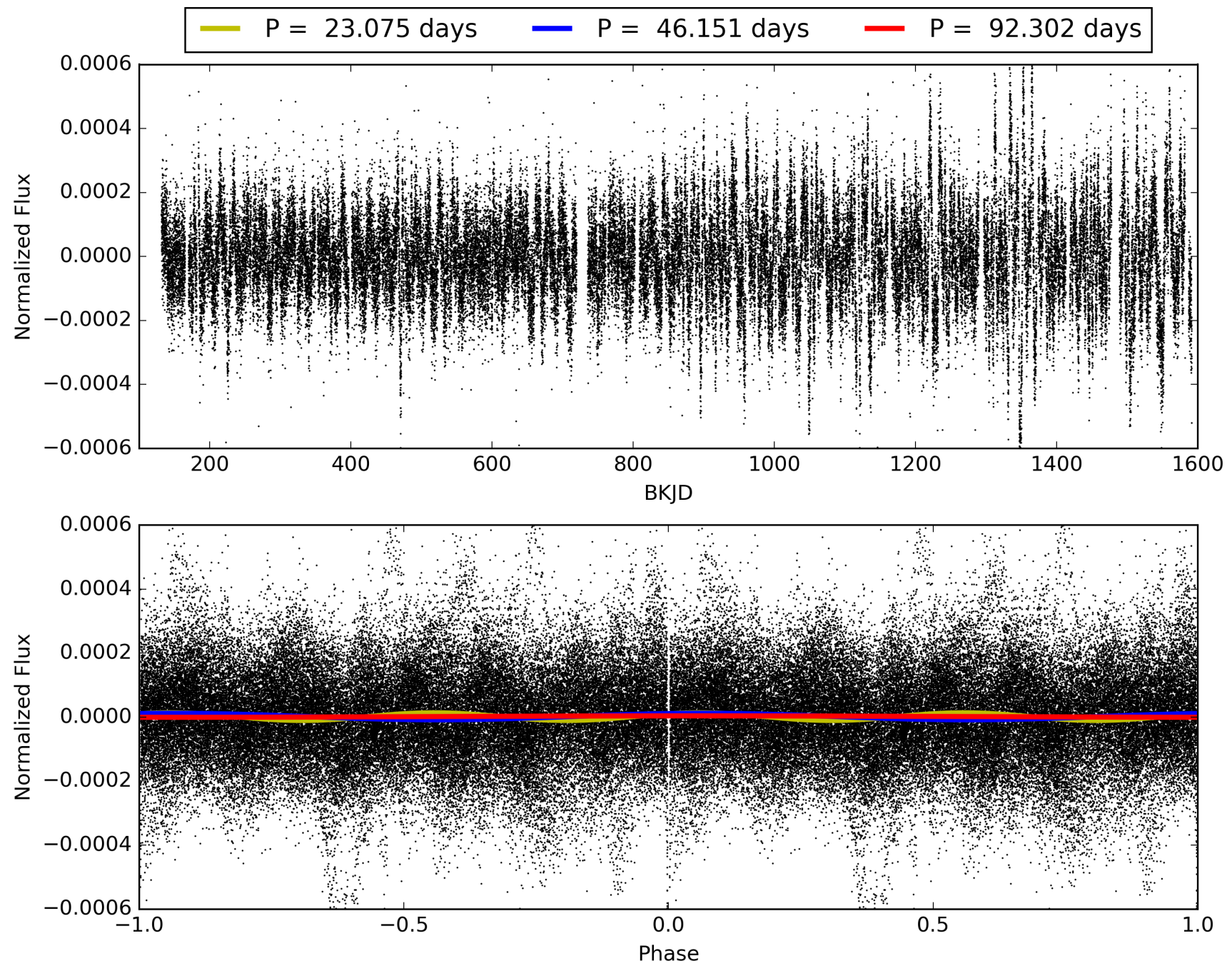
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 30.1%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [28/29]
GhostDiagnostic-chr: 12.15
Centroid-sig: 0.2%
Centroid-so: 0.046 arcsec [1.06 σ]
OotOffset-rm: 0.125 arcsec [1.55 σ]
KicOffset-rm: 0.208 arcsec [2.51 σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 008684730-01, PDC Light Curves

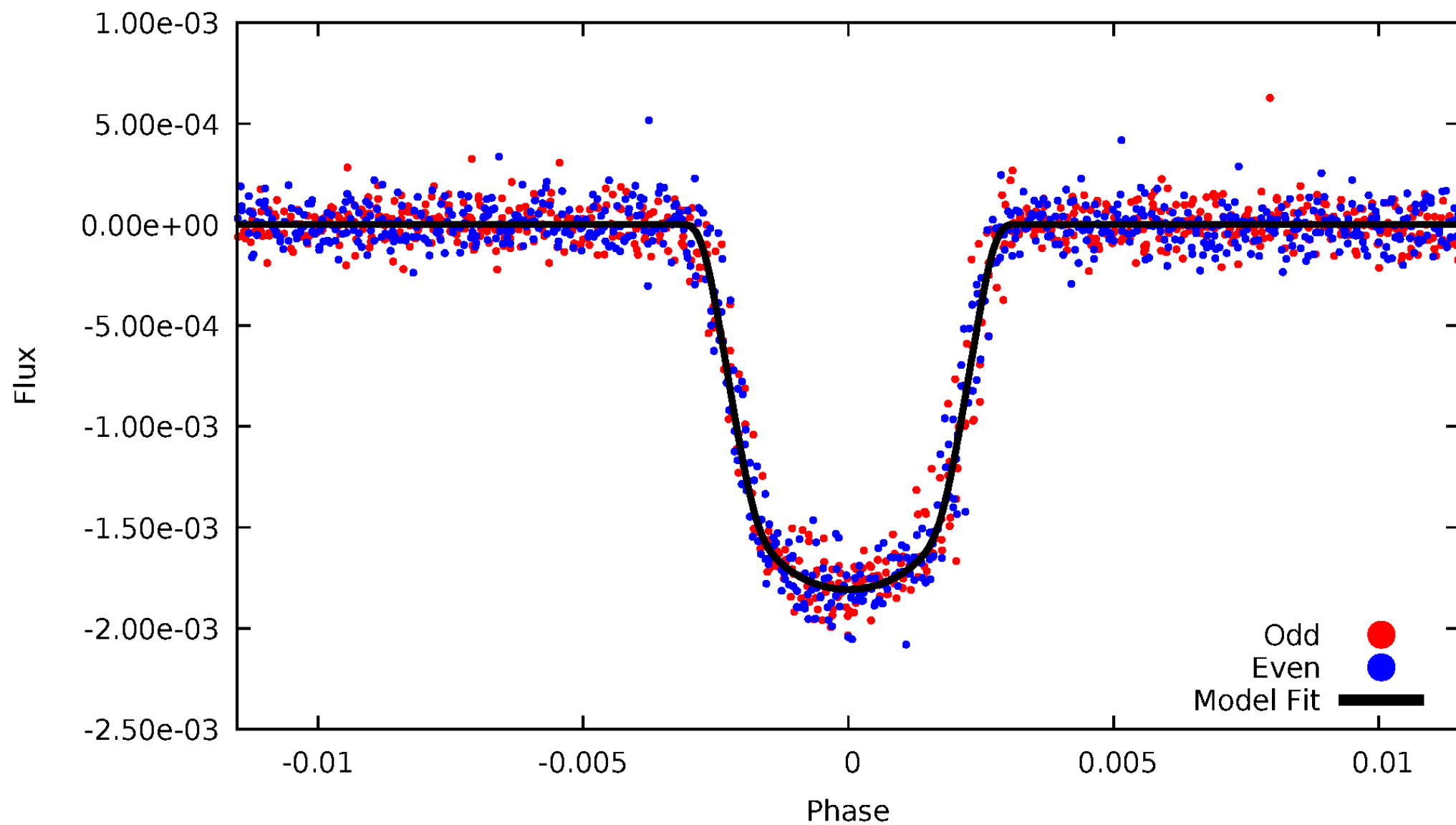


TCE 008684730-01



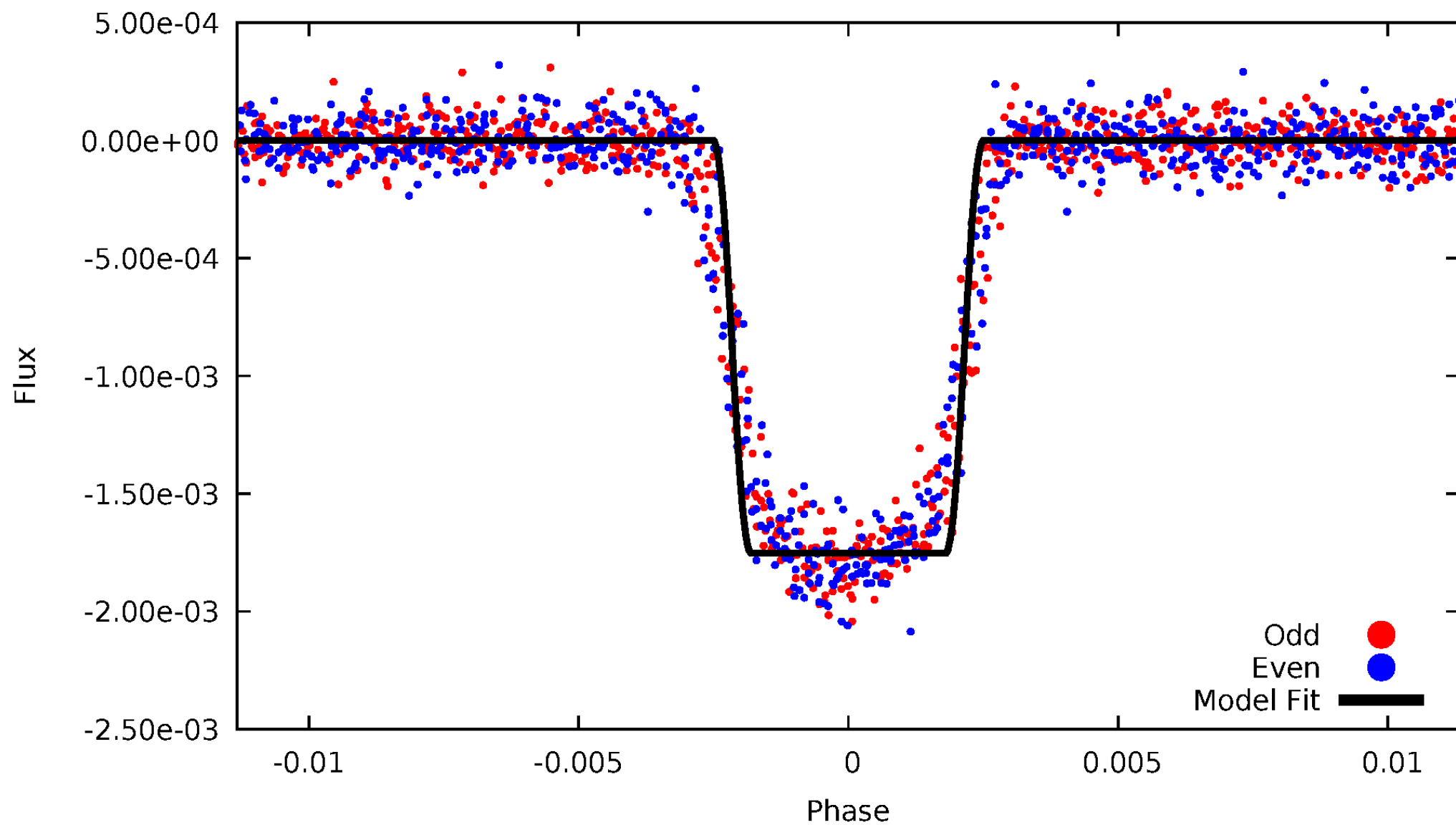
DV Odd/Even

TCE 008684730-01

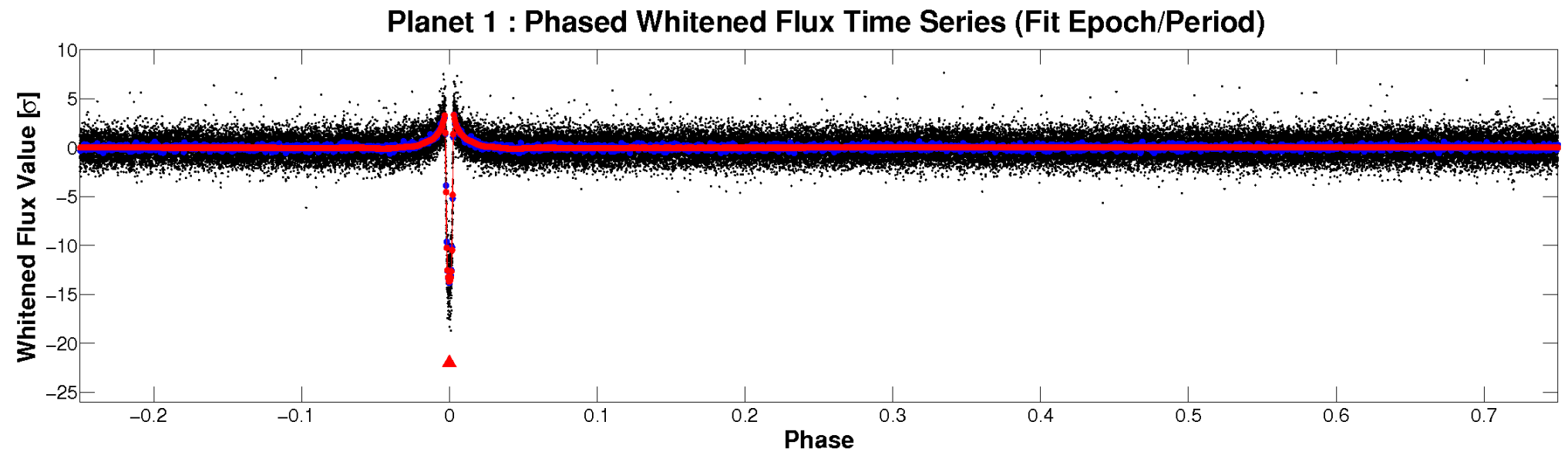
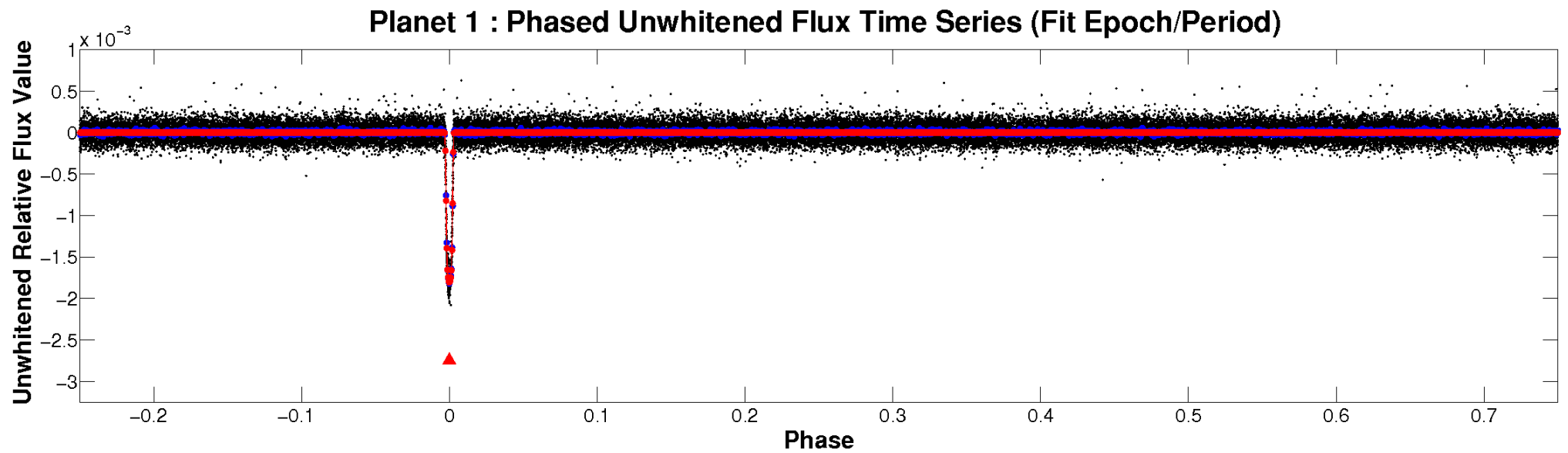


ALT Odd/Even

TCE 008684730-01

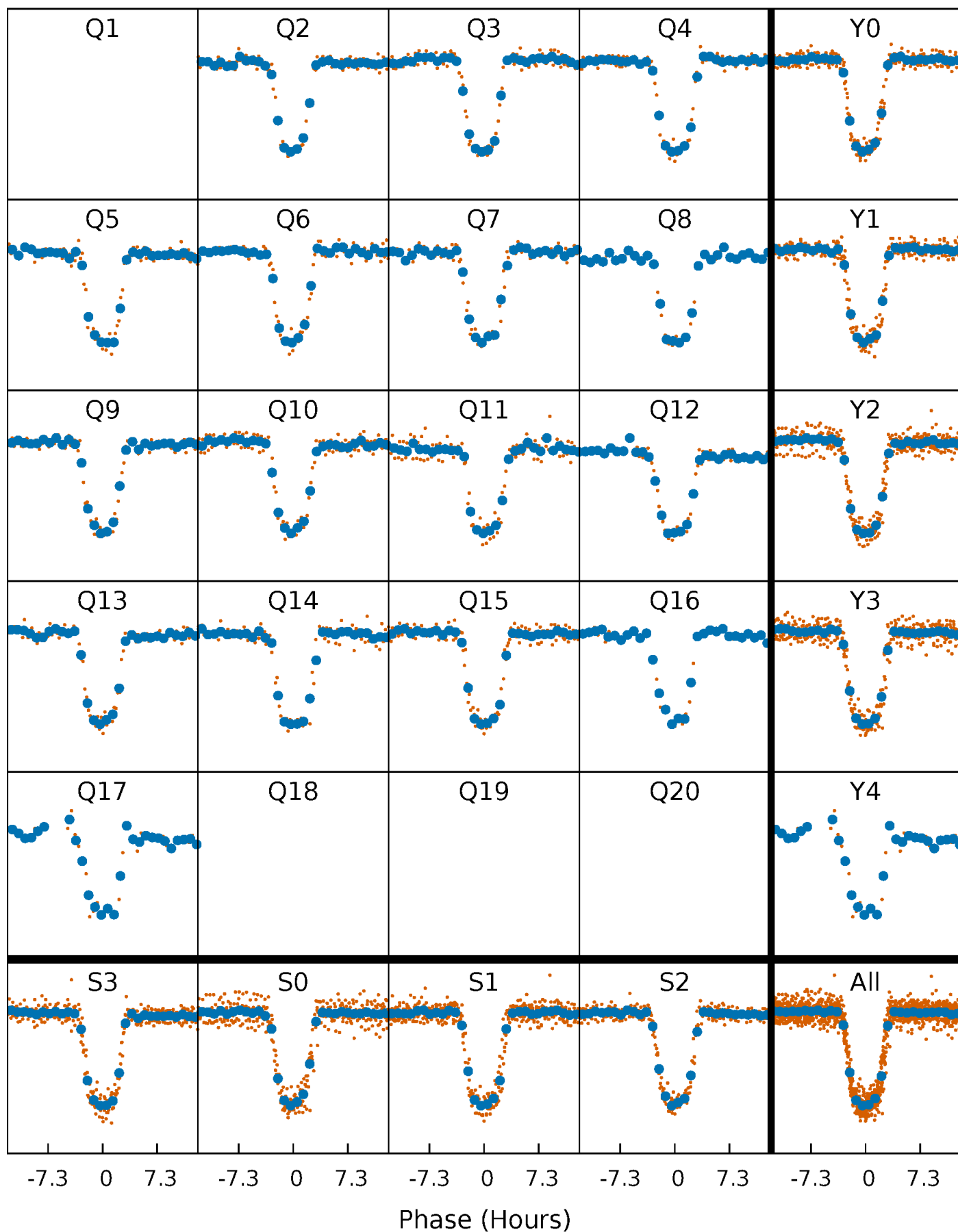


Non-Whitened Vs. Whitened Light Curve



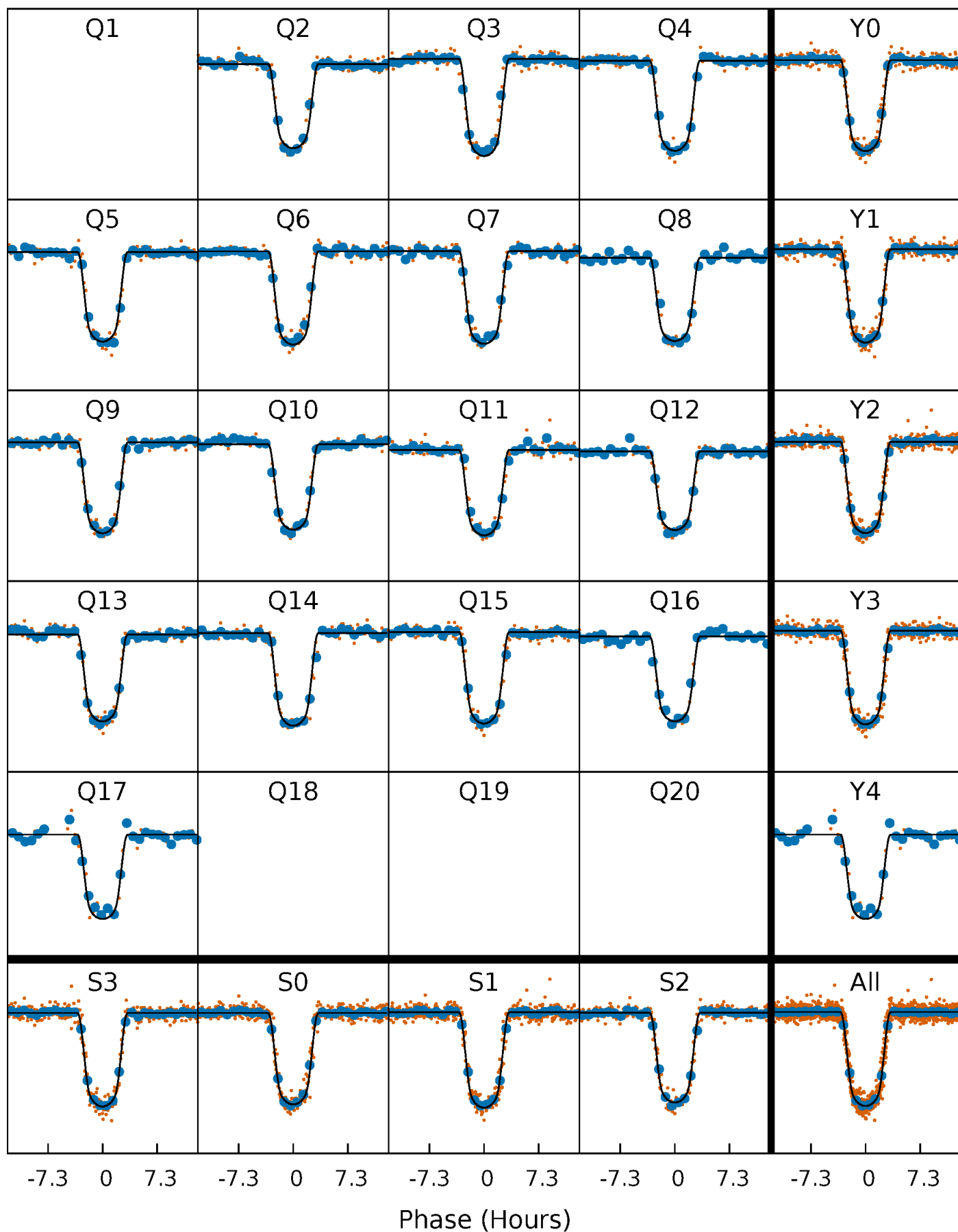
PDC Quarter-Phased Transit Curves

TCE 008684730-01 P= 46.150940 Days $T_0=176.628861$ (BKJD)



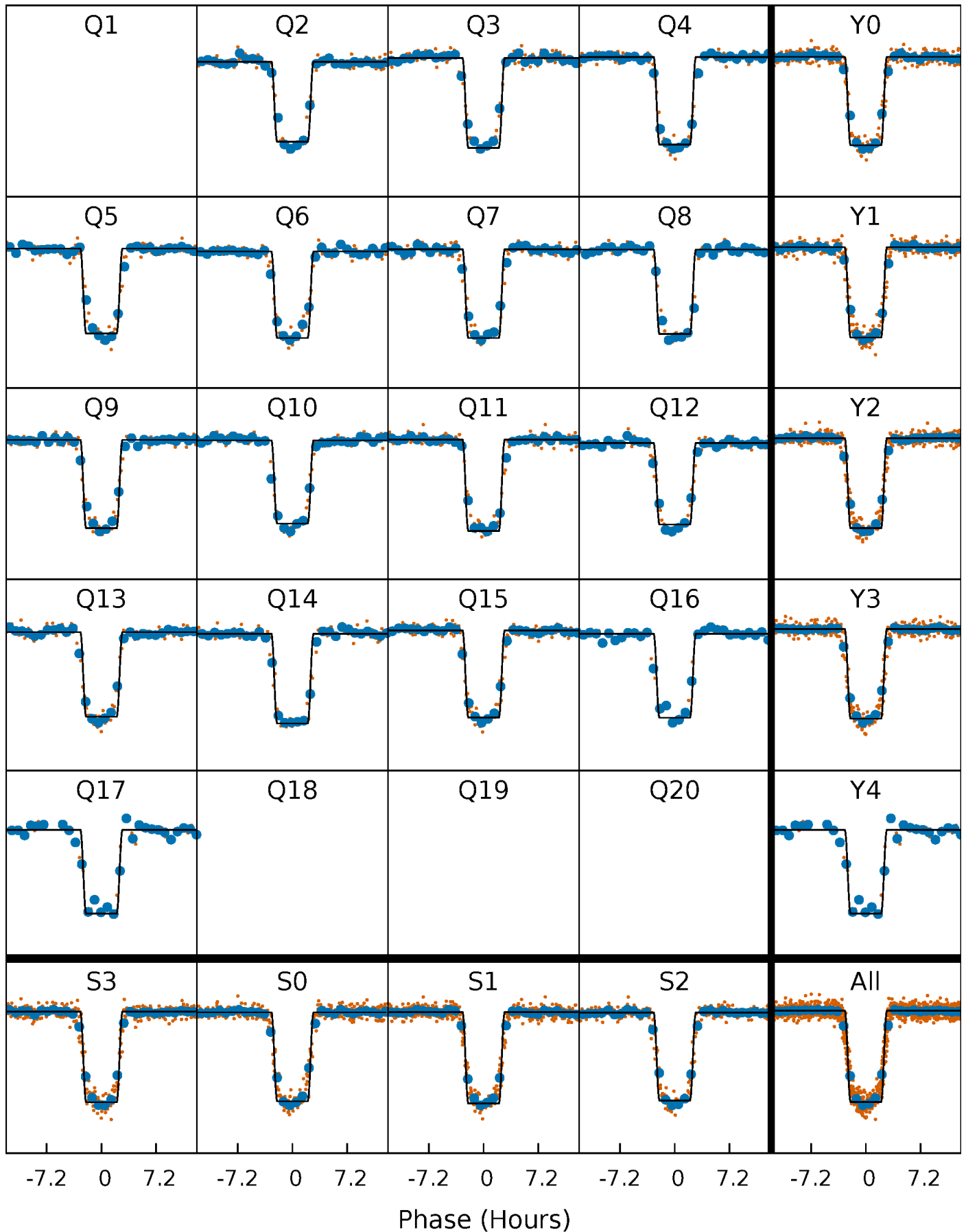
DV Quarter-Phased Transit Curves

TCE 008684730-01 P= 46.150940 Days $T_0=176.628861$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

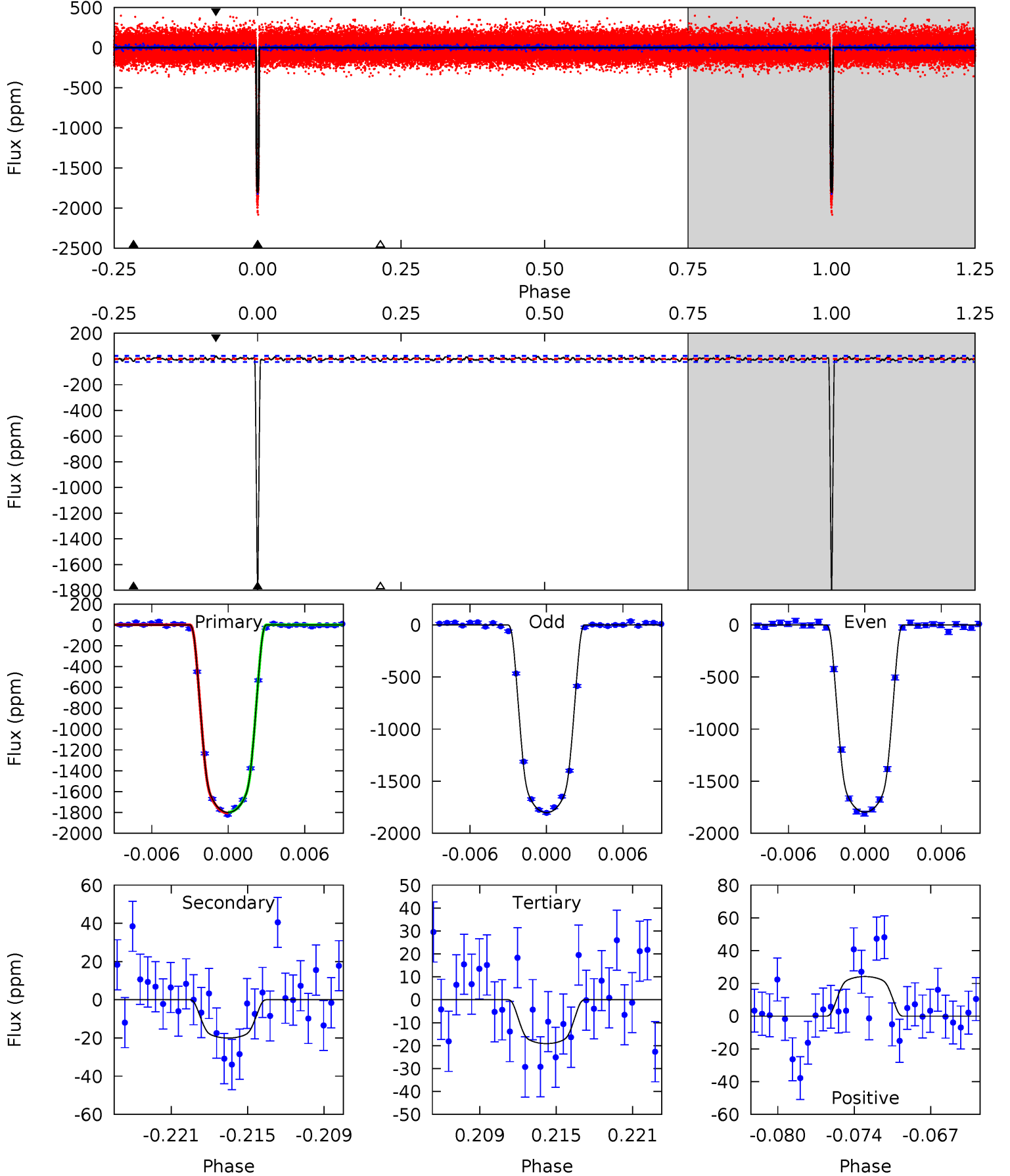
TCE 008684730-01 P= 46.151361 Days $T_0=176.623404$ (BKJD)



DV Model-Shift Uniqueness Test

008684730-01, $P = 46.150940$ Days, $E = 130.477921$ Days

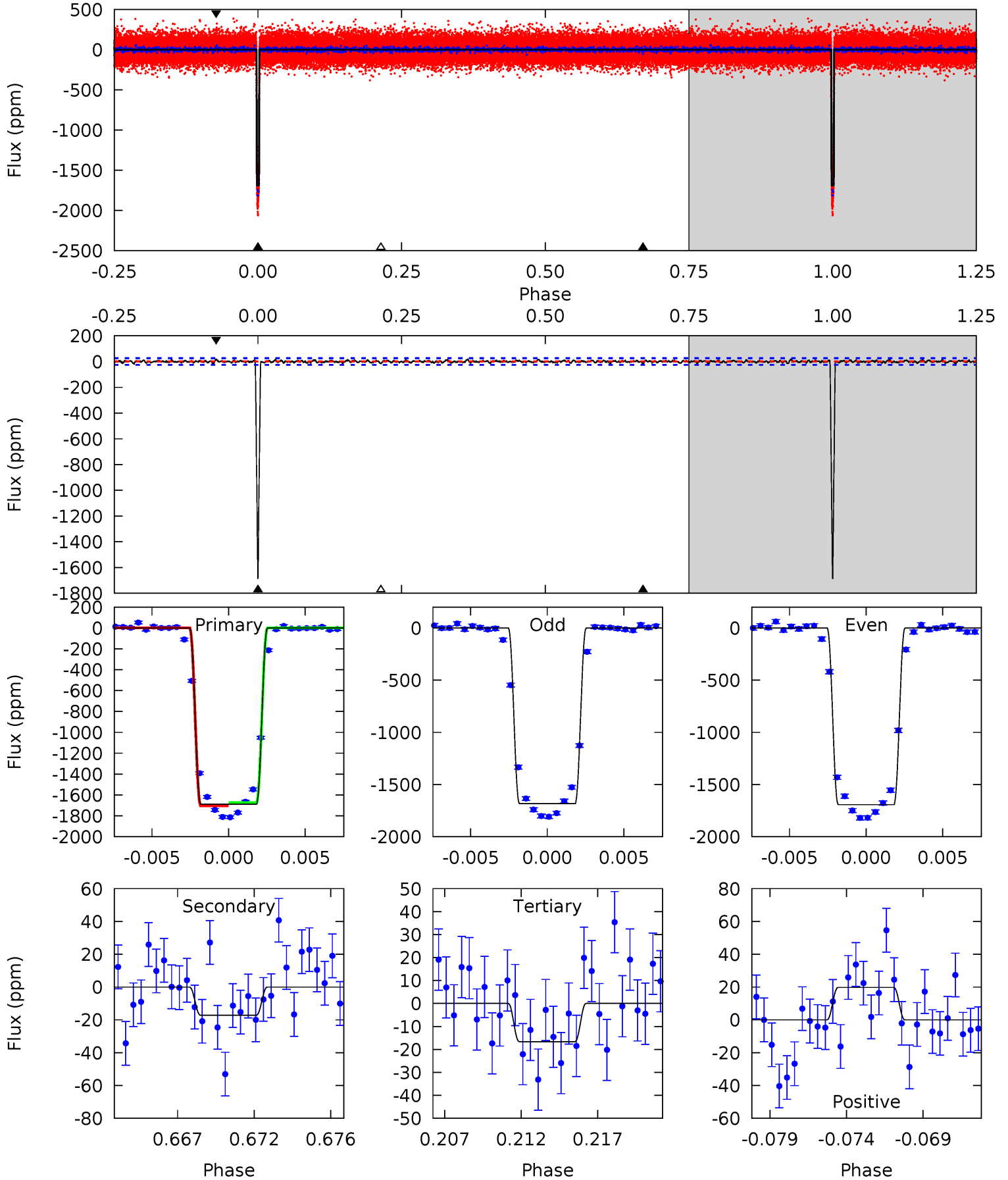
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
395.2	4.40	4.20	5.30	5.12	2.74	1.45	391.0	389.9	0.20	-0.90	0.61	1.00	0.01	0.88



Alt Model-Shift Uniqueness Test

008684730-01, P = 46.151361 Days, E = 130.472043 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
334.4	3.41	3.30	3.92	5.16	2.81	1.05	331.1	330.5	0.12	-0.50	1.01	1.00	0.01	3.04



Stellar Parameters For KIC 008684730

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5877^{+88}_{-79}	$3.927^{+0.015}_{-0.013}$	$0.040^{+0.200}_{-0.150}$	$1.963^{+0.144}_{-0.077}$	$1.187^{+0.207}_{-0.069}$	$0.221^{+0.015}_{-0.017}$
	+1%/-1%	+0%/-0%	+500%/-375%	+7%/-4%	+17%/-6%	+7%/-8%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 008684730-01 / KOI 0319.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 5	$9.93^{+0.48}_{-0.23}$	984^{+15}_{-17}	2619^{+77}_{-101}	$7.926^{+1.775}_{-2.075}$
Alt.	-17 ± 5	$8.90^{+0.35}_{-0.21}$	983^{+15}_{-15}	2639^{+95}_{-119}	$8.386^{+2.428}_{-2.442}$

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

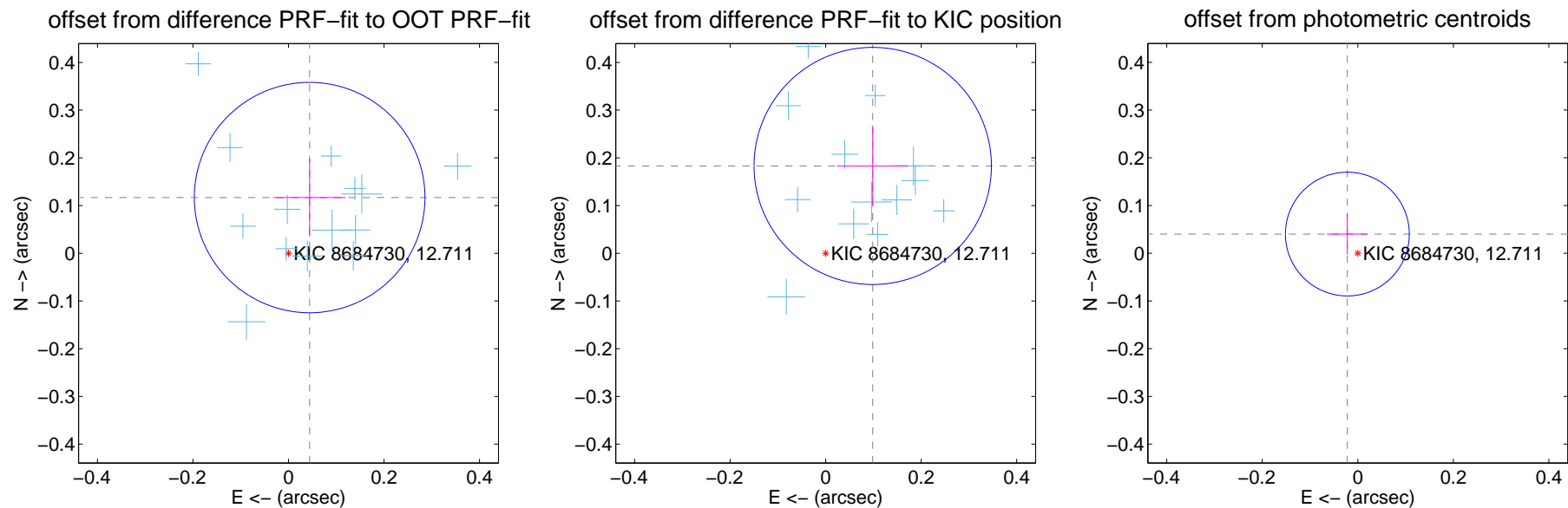
DV Centroid Data

Supplemental centroid analysis for 008684730-01. Kepler magnitude: 12.71. Transit SNR 208.46

There are 15 quarters with good PRF difference image offsets

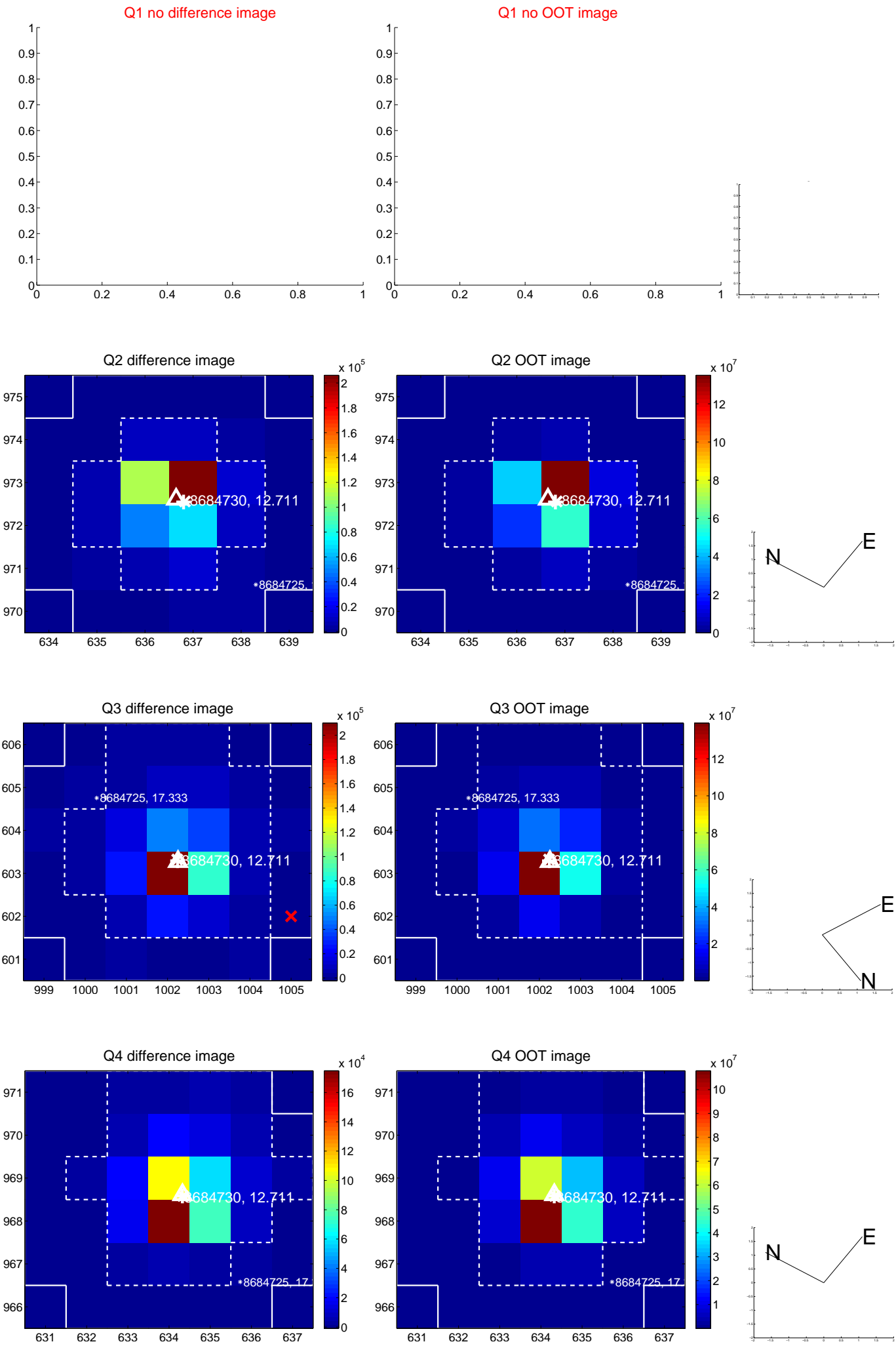
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.125 ± 0.080	1.55	-0.044 ± 0.076	0.117 ± 0.081
PRF-fit source offset from KIC position	0.208 ± 0.083	2.51	-0.099 ± 0.074	0.183 ± 0.084
photometric centroid source offset	0.05 ± 0.04	1.06	0.02 ± 0.04	0.04 ± 0.04

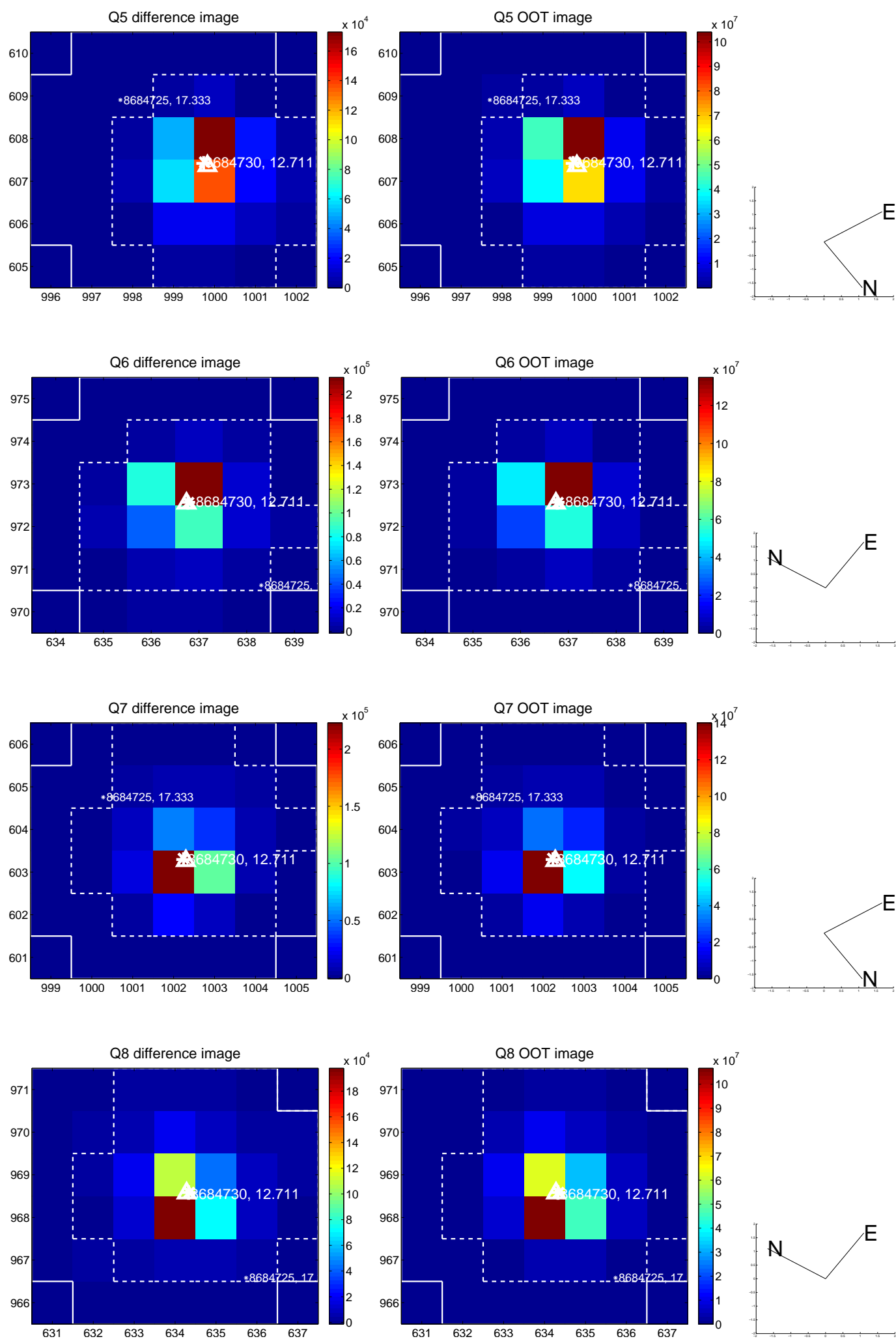


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

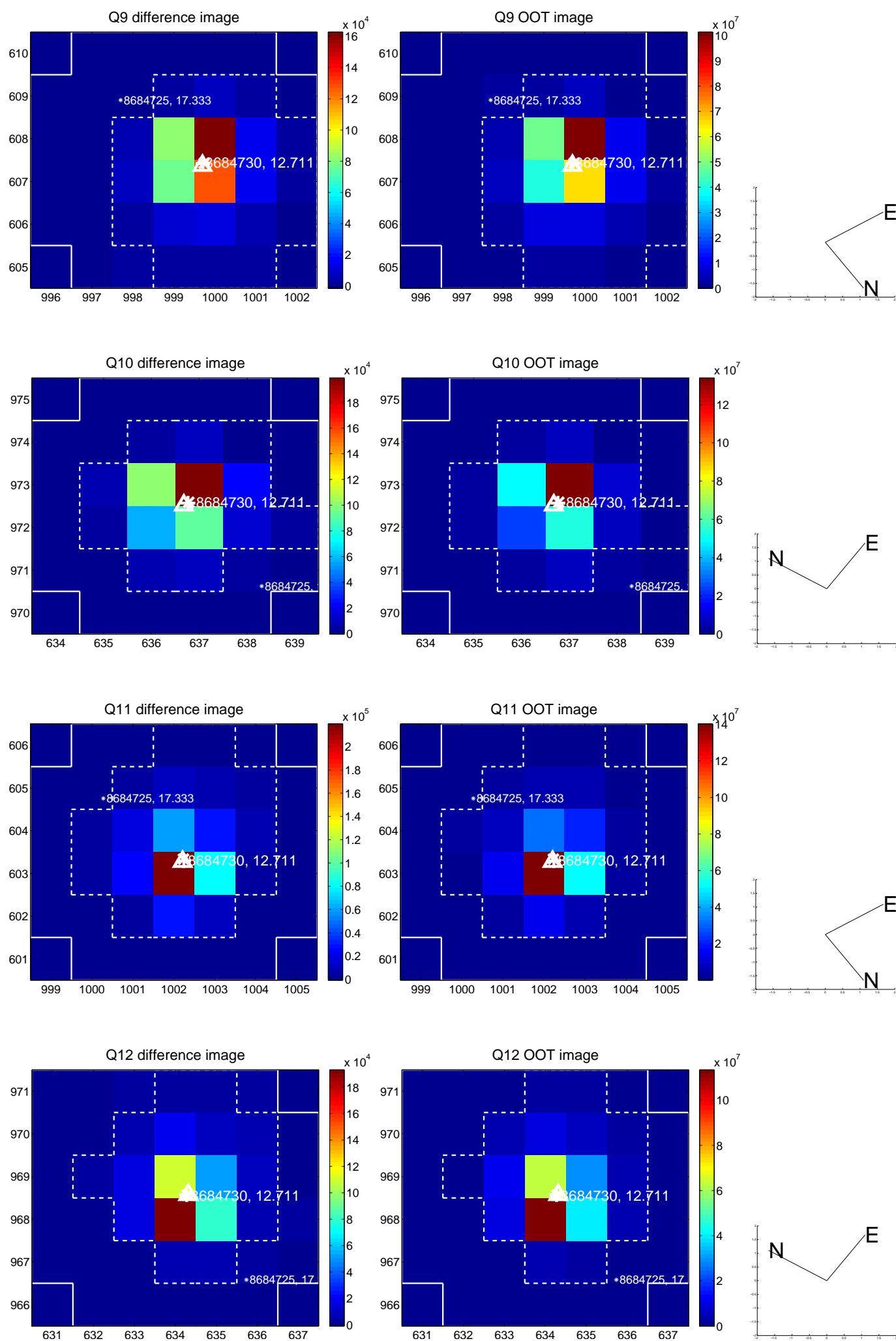
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



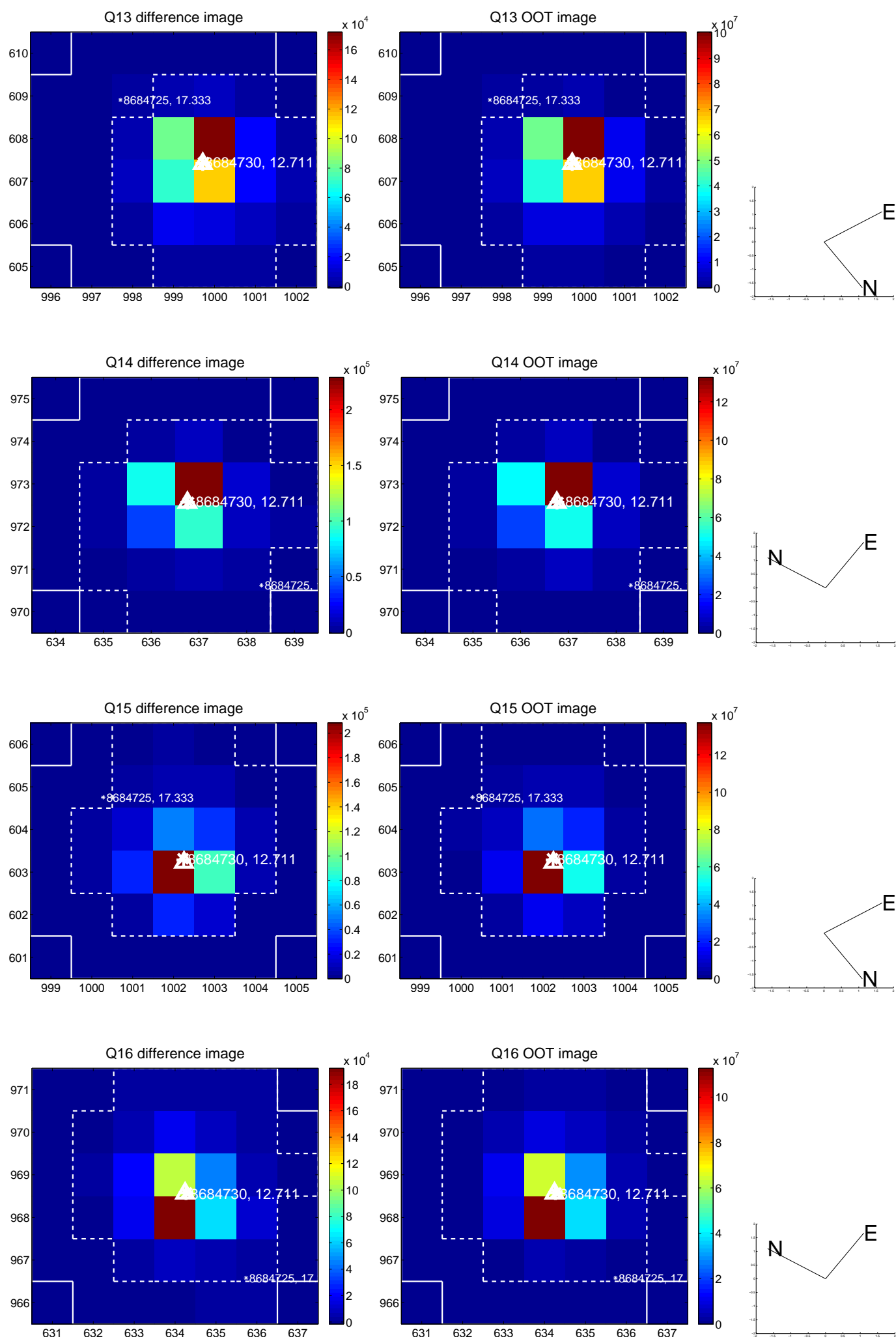
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



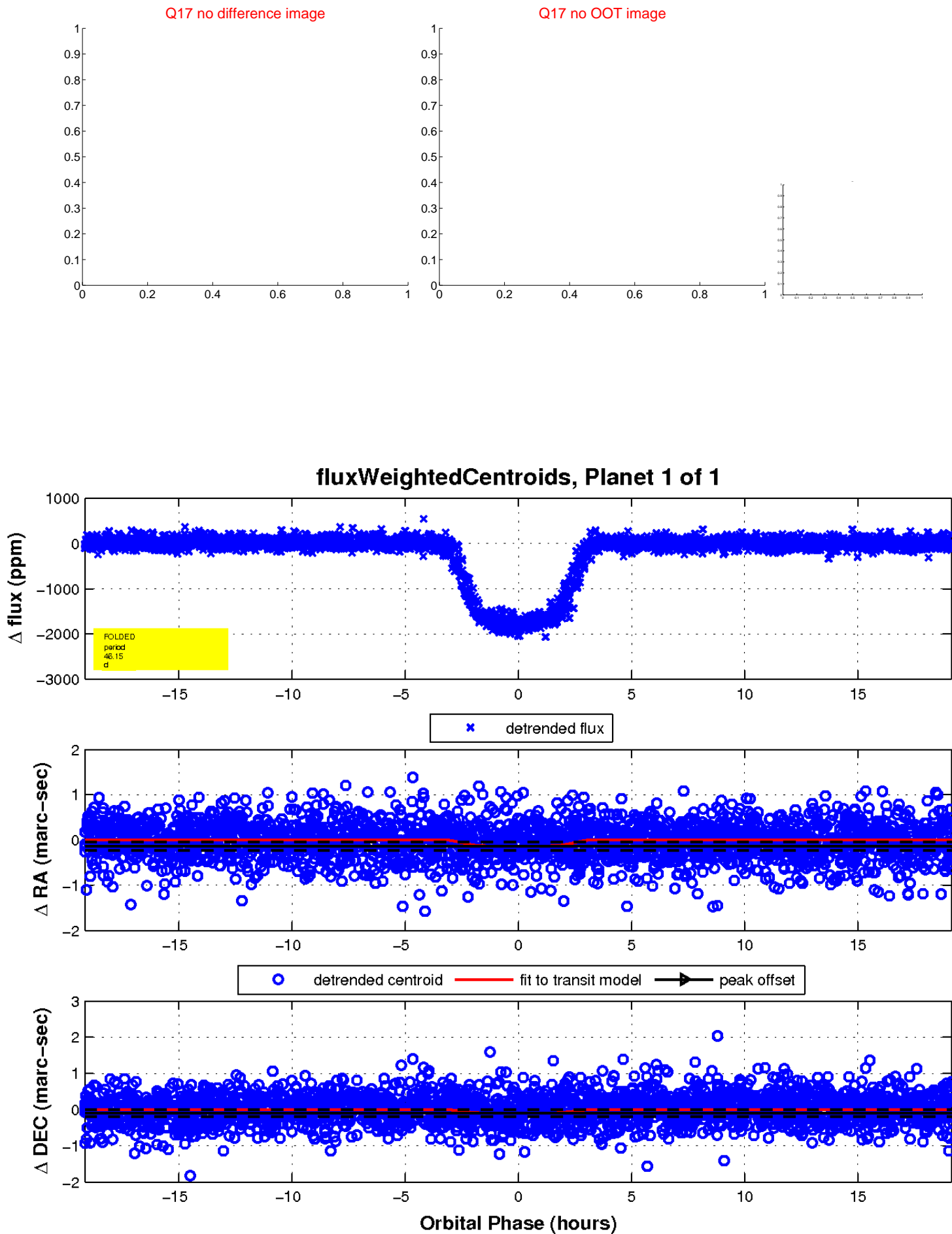
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

