

KIC 012735830

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})
012735830-01	OBS	3311.01	31.827588	134.597749	550.0	2.049	14.0	16.6	1.95	4774	7.02	47.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012735830-01	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.

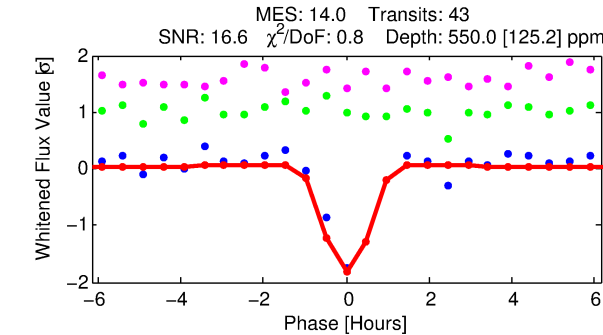
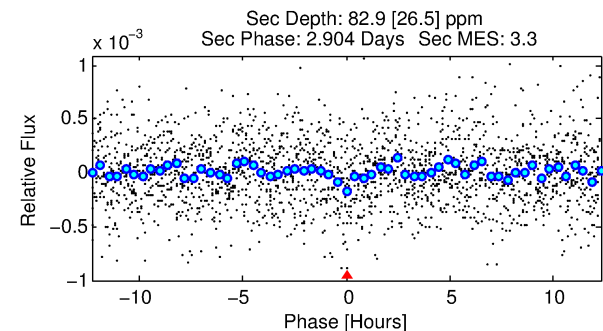
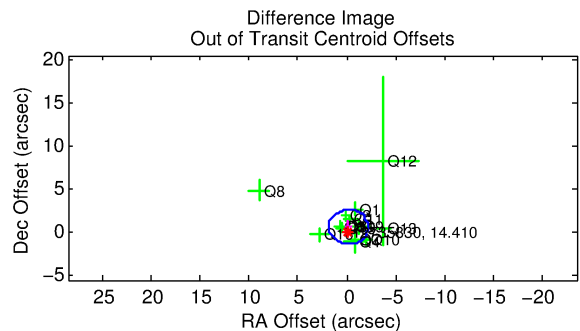
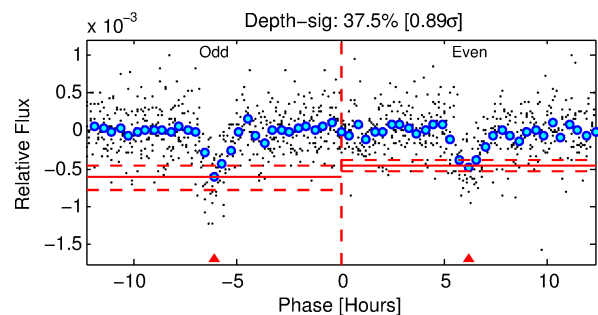
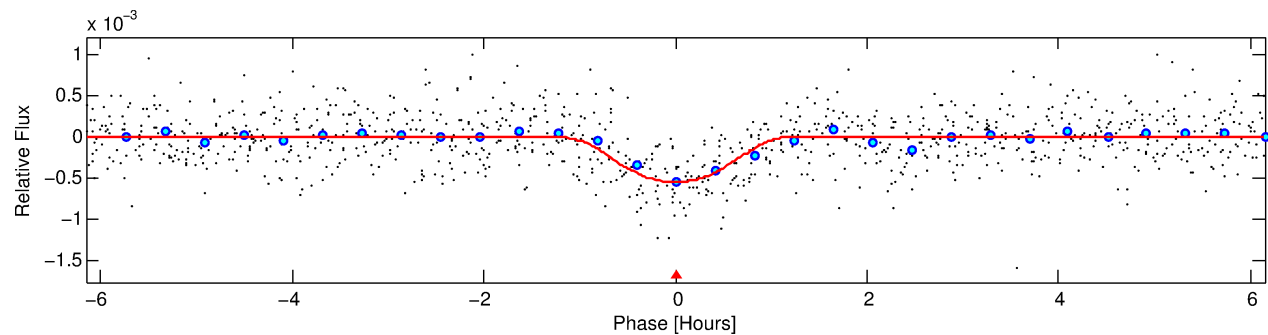
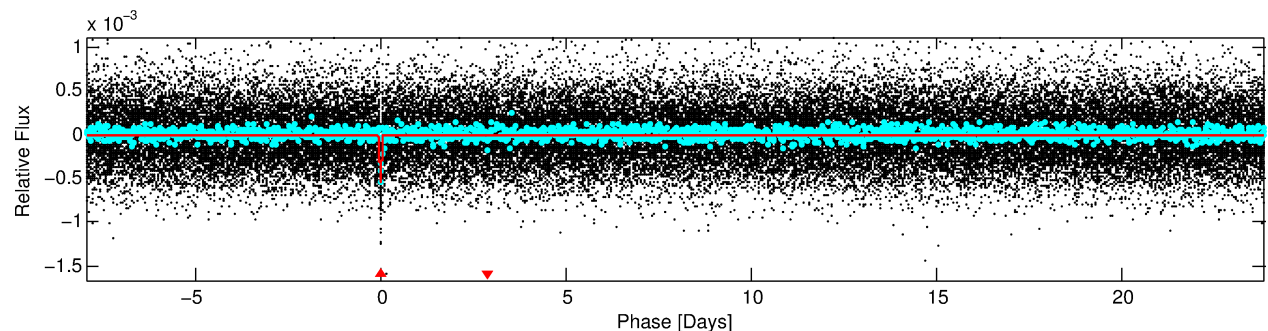
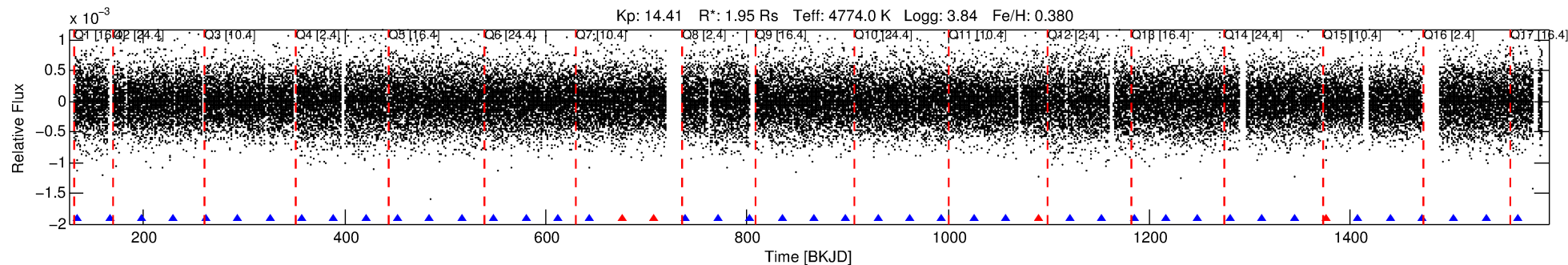
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012735830-01

No Significant Match Found

DV One-Page Summary

KIC: 12735830 Candidate: 1 of 1 Period: 31.828 d
KOI: K03311.01 Corr: 0.879



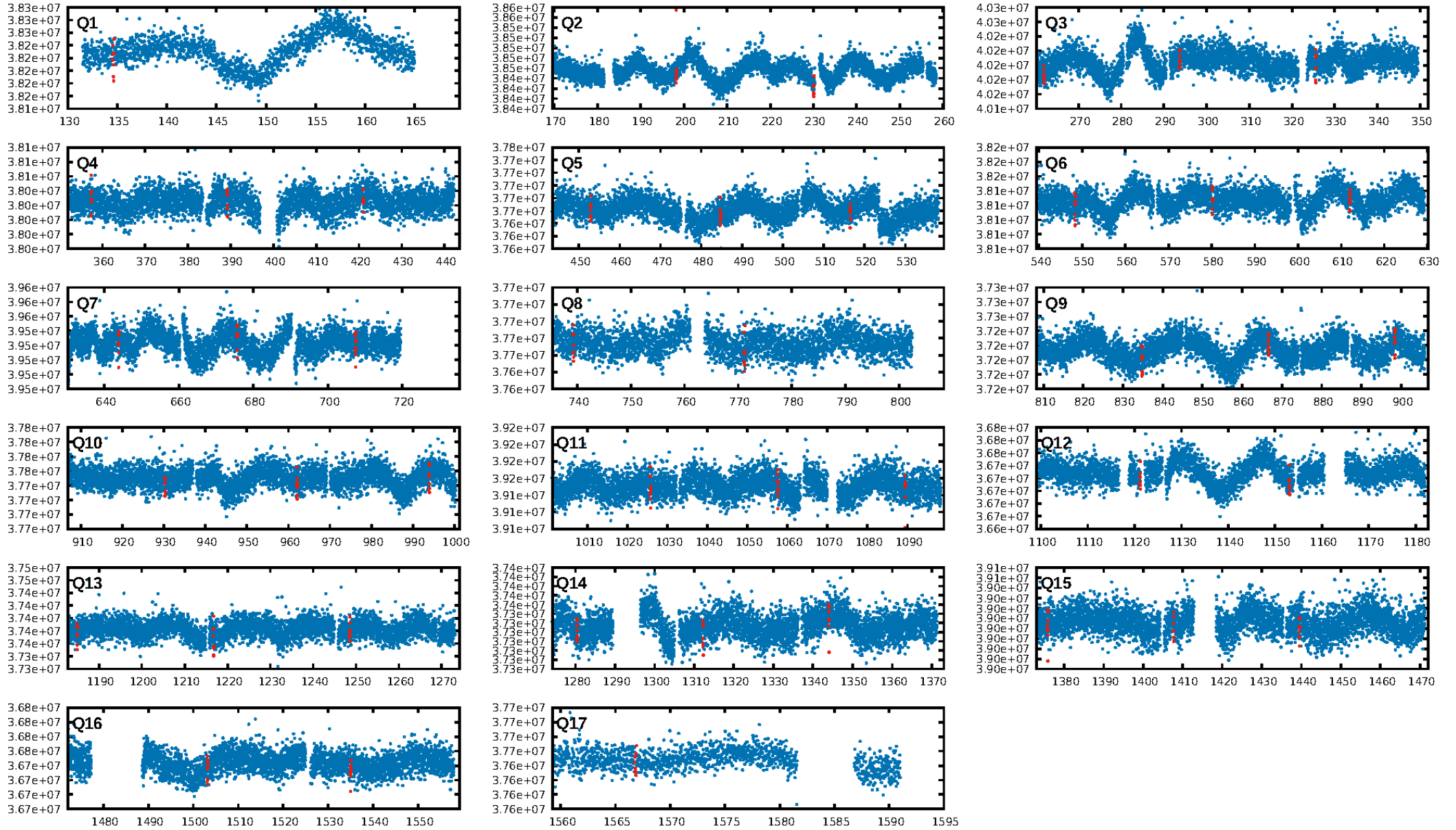
DV Fit Results:

Period = 31.82759 [0.00012] d
Epoch = 134.5977 [0.0033] BKJD
Rp/R* = 0.0329 [0.0223]
a/R* = 39.98 [15.84]
b = 0.98 [0.05]
Seff = 47.28 [59.17]
Teff = 669 [209] K
Rp = 7.02 [6.52] Re
a = 0.1939 [0.1402] AU
Ag = 34.75 [65.01] [0.52 σ]
Teffp = 2510 [877] K [2.04 σ]

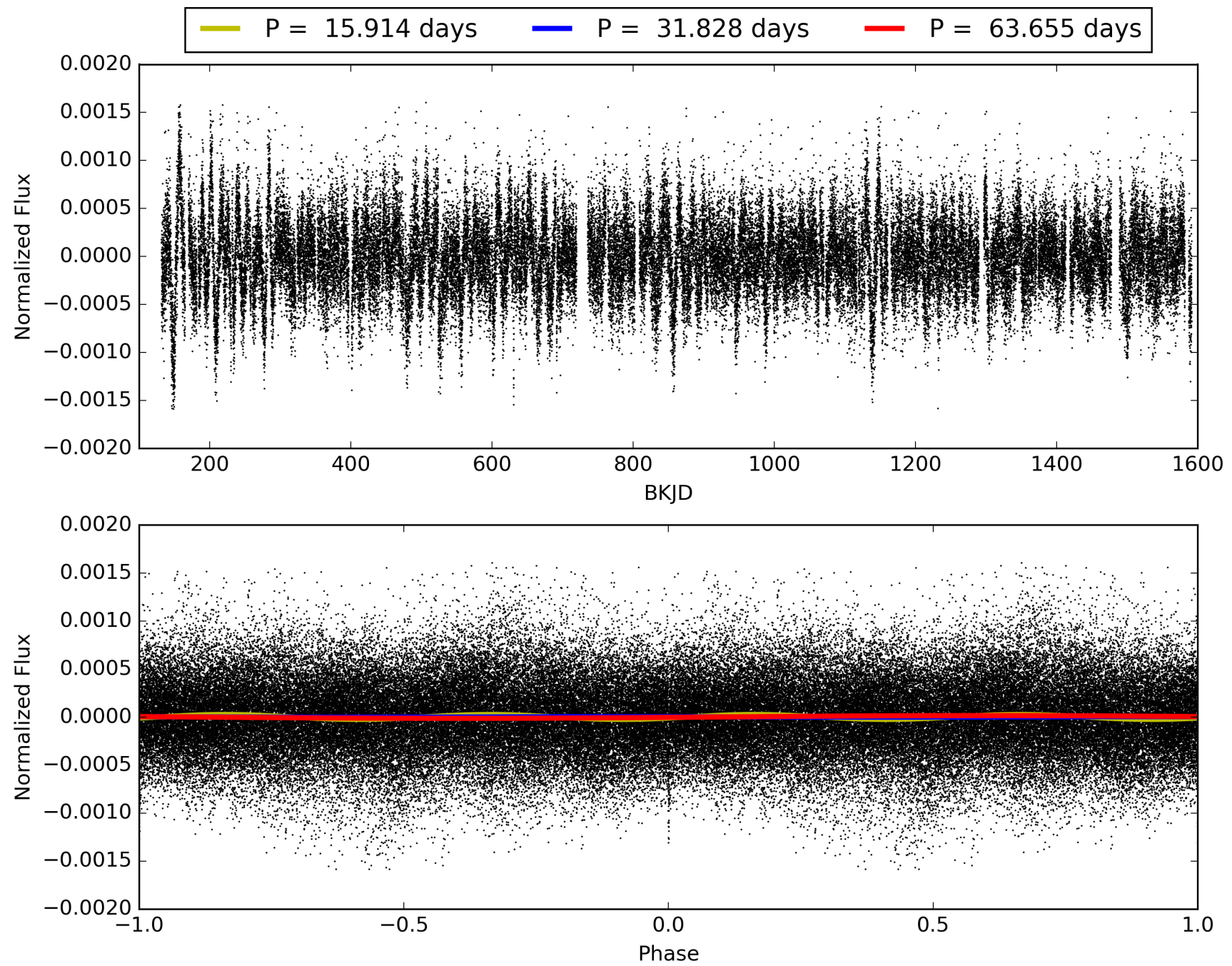
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.17e-44
RollingBand-fgt: 0.90 [37/41]
GhostDiagnostic-chr: 6.246
Centroid-sig: 0.1%
Centroid-so: 1.130 arcsec [1.30 σ]
OotOffset-rm: 0.667 arcsec [1.00 σ]
KicOffset-rm: 0.824 arcsec [1.22 σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012735830-01, PDC Light Curves

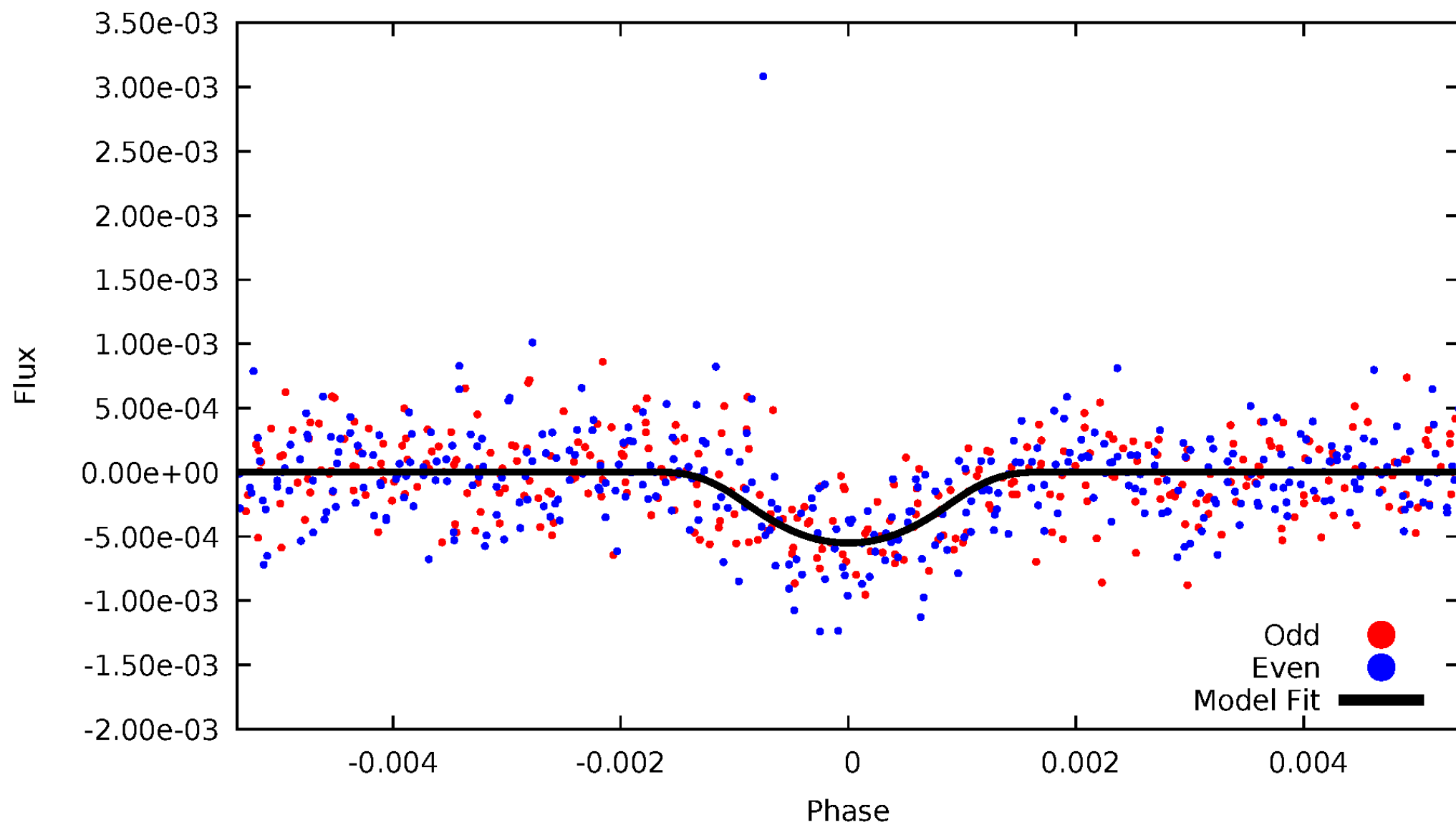


TCE 012735830-01



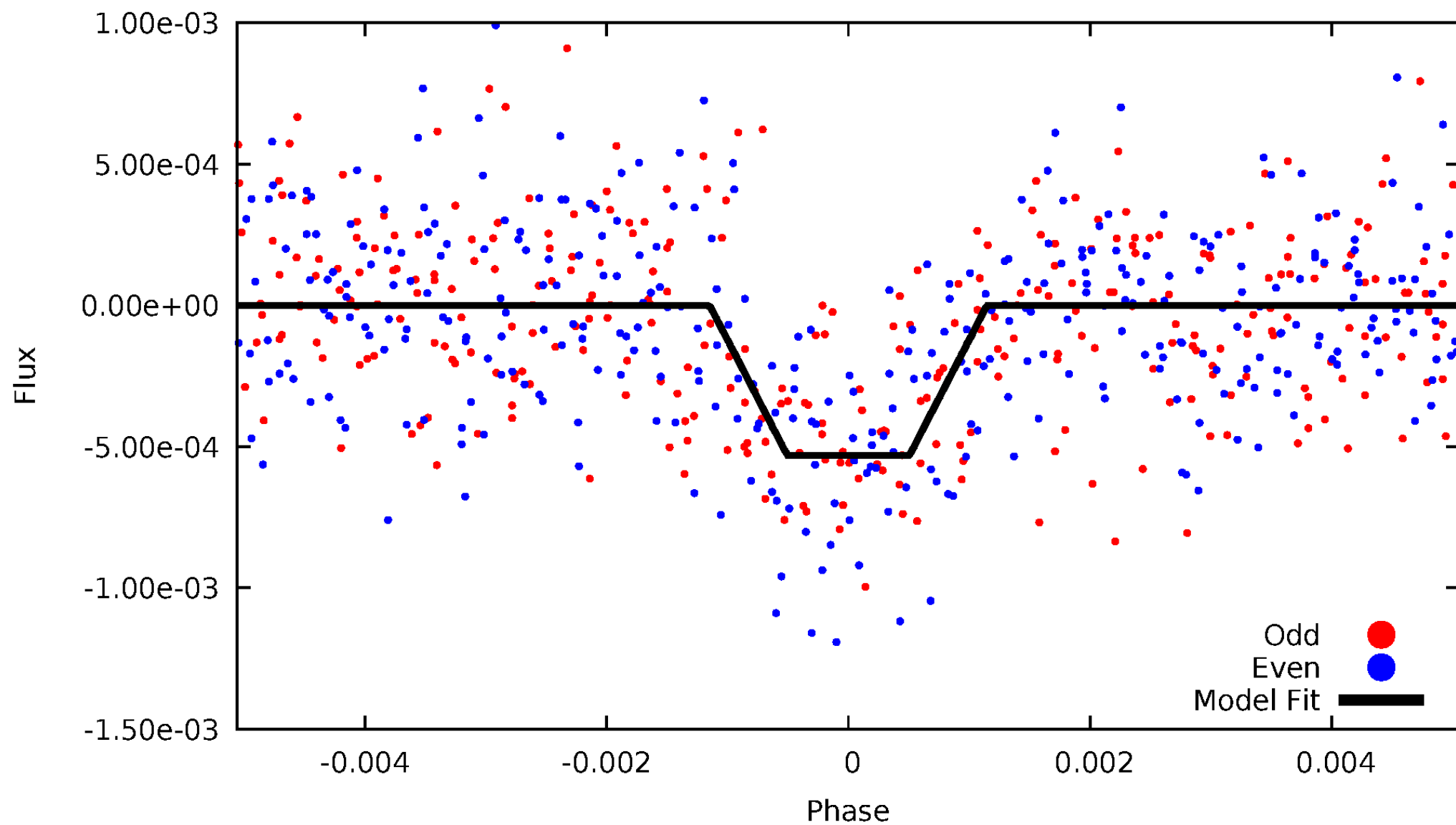
DV Odd/Even

TCE 012735830-01



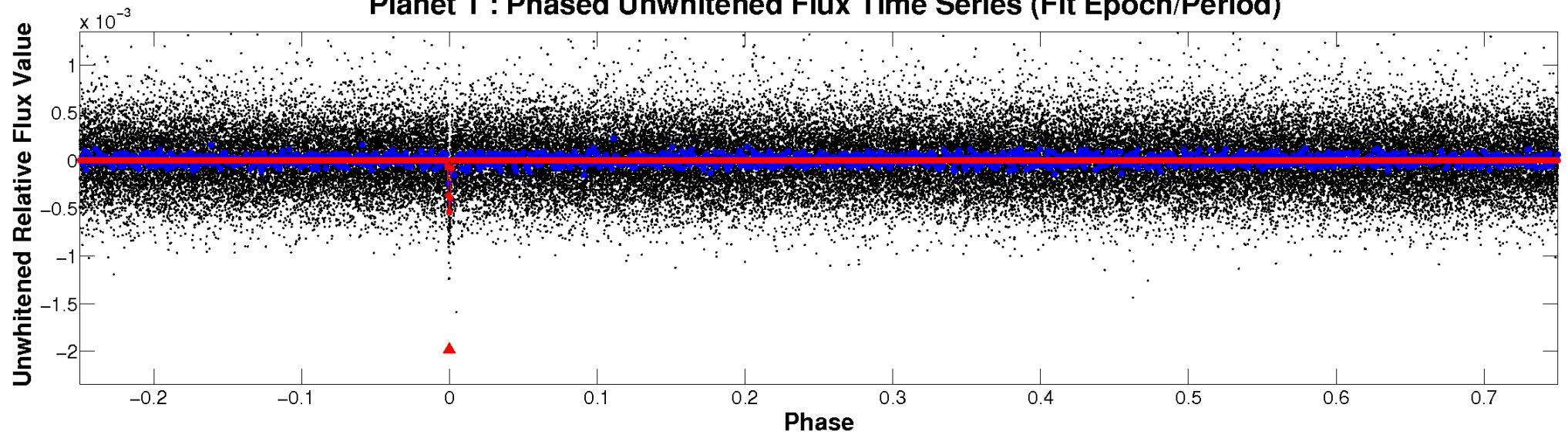
ALT Odd/Even

TCE 012735830-01

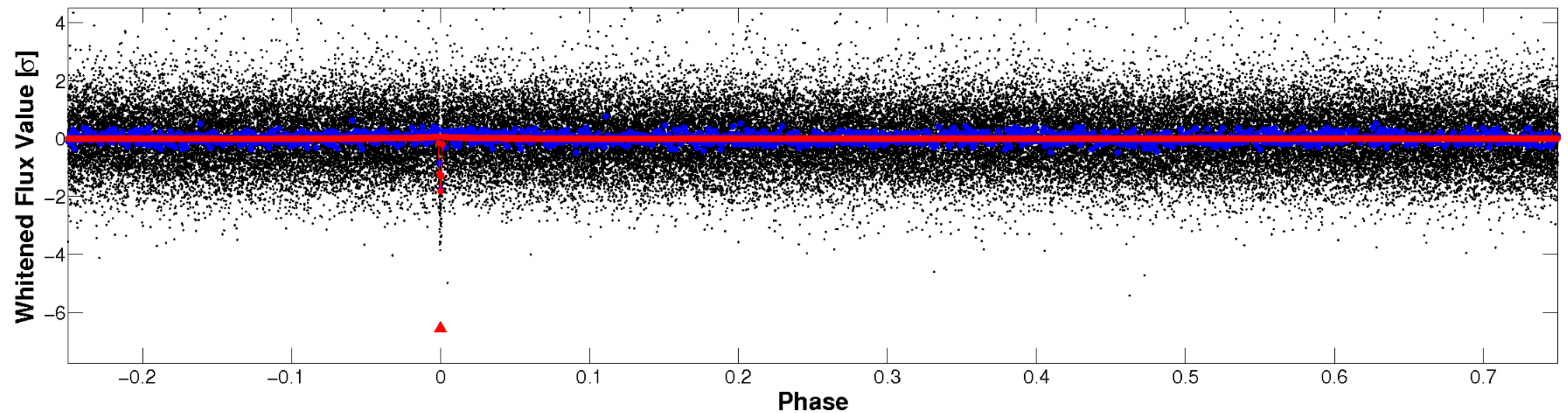


Non-Whitened Vs. Whitened Light Curve

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

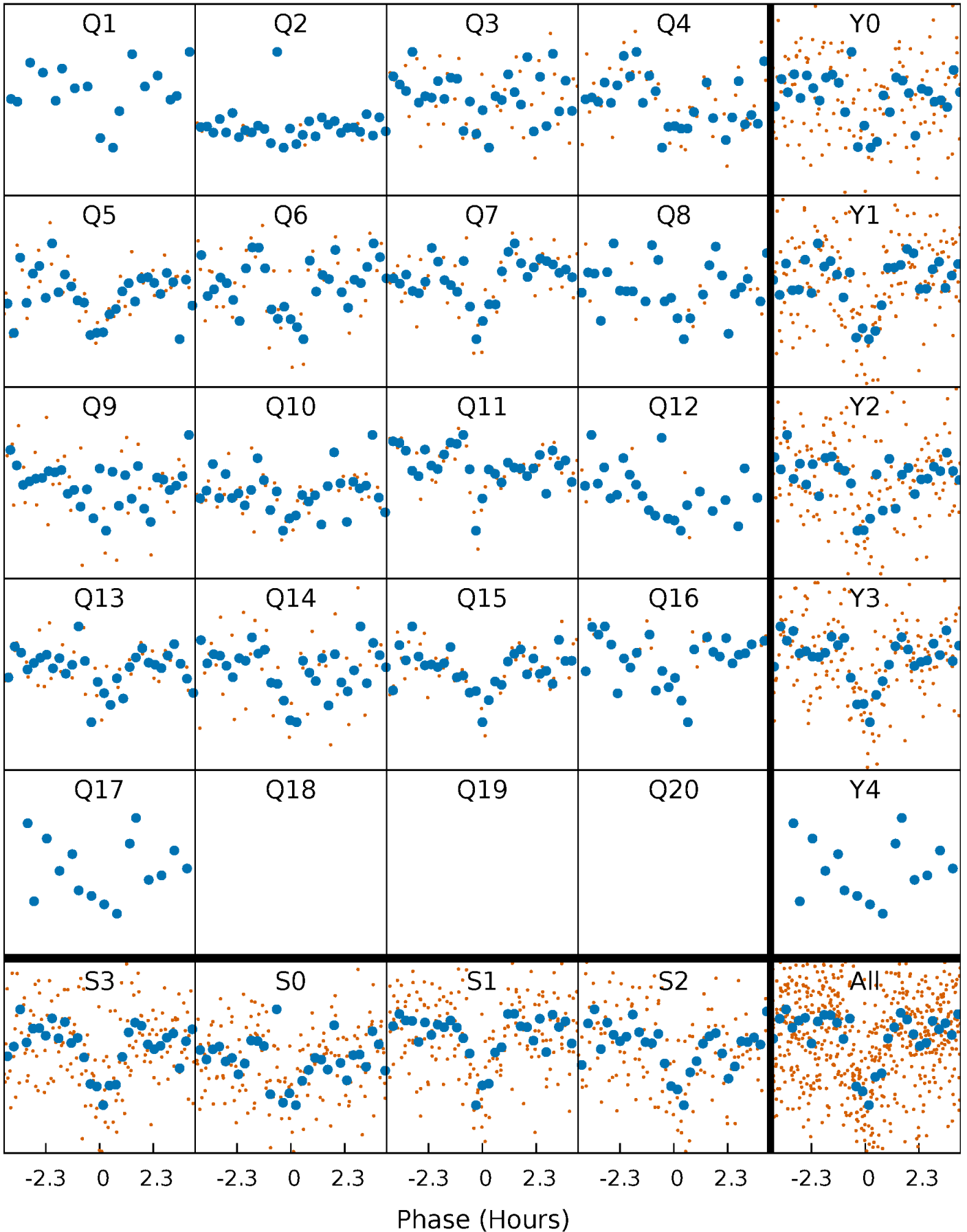


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



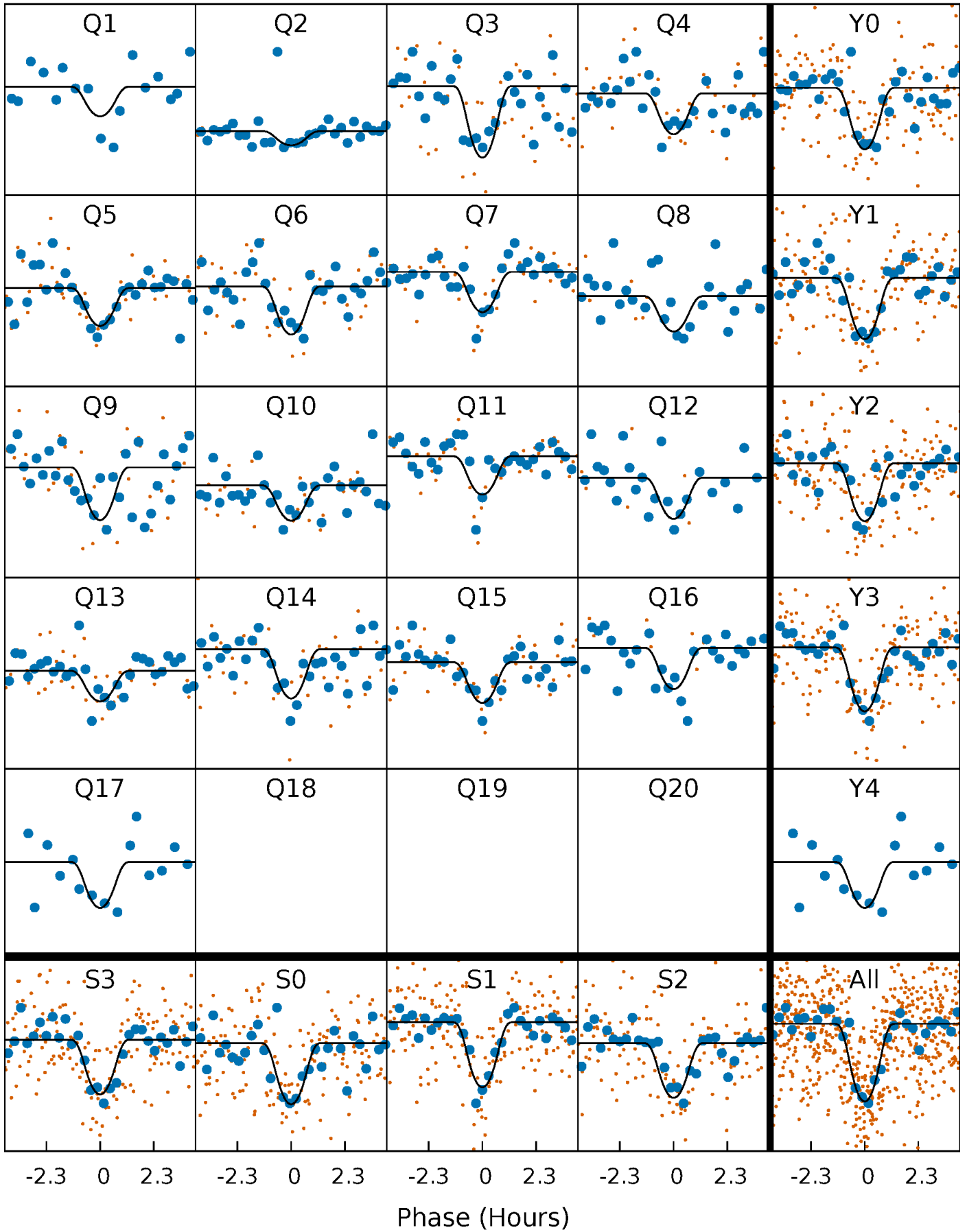
PDC Quarter-Phased Transit Curves

TCE 012735830-01 P= 31.827588 Days $T_0=134.597749$ (BKJD)



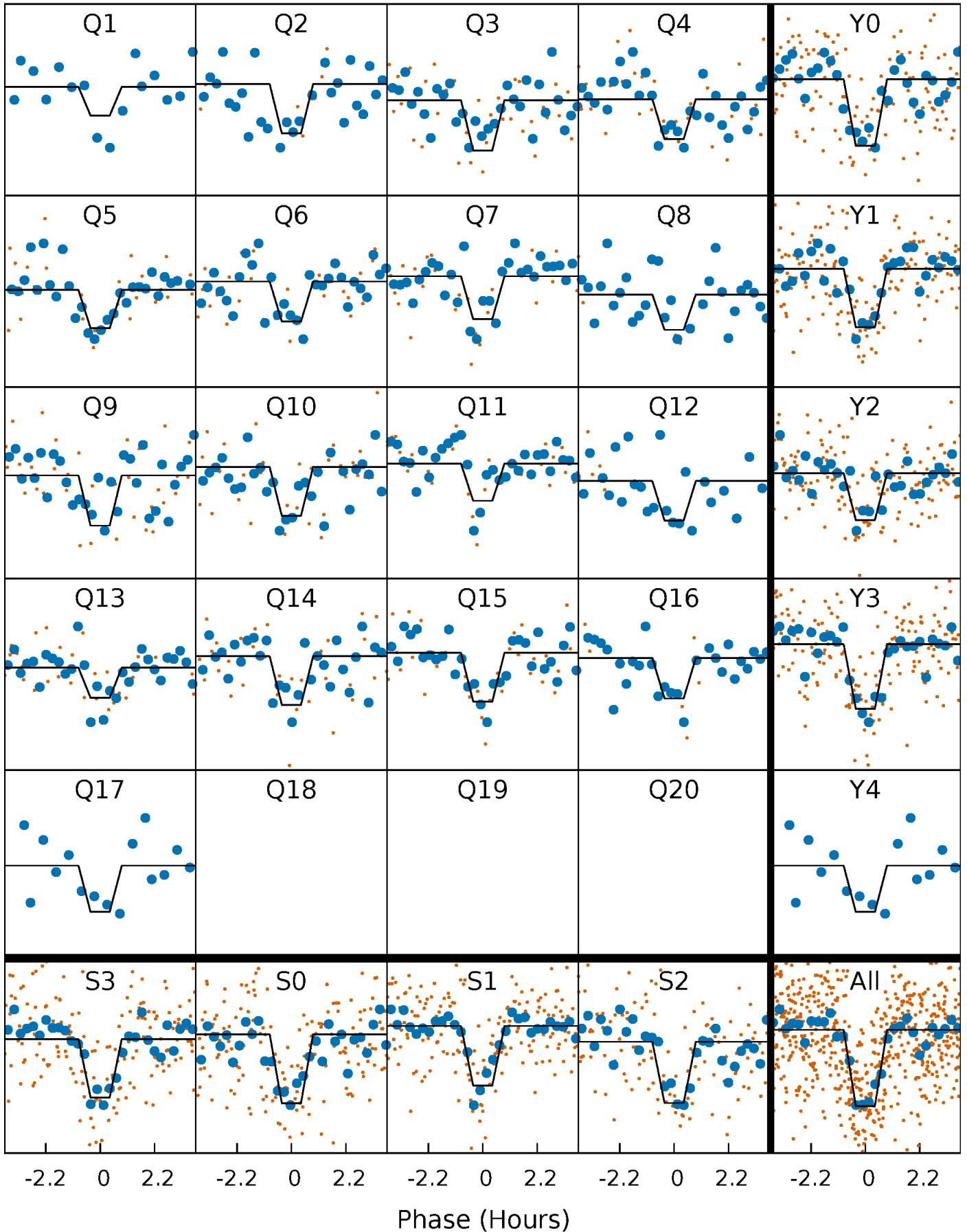
DV Quarter-Phased Transit Curves

TCE 012735830-01 P= 31.827588 Days $T_0=134.597749$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

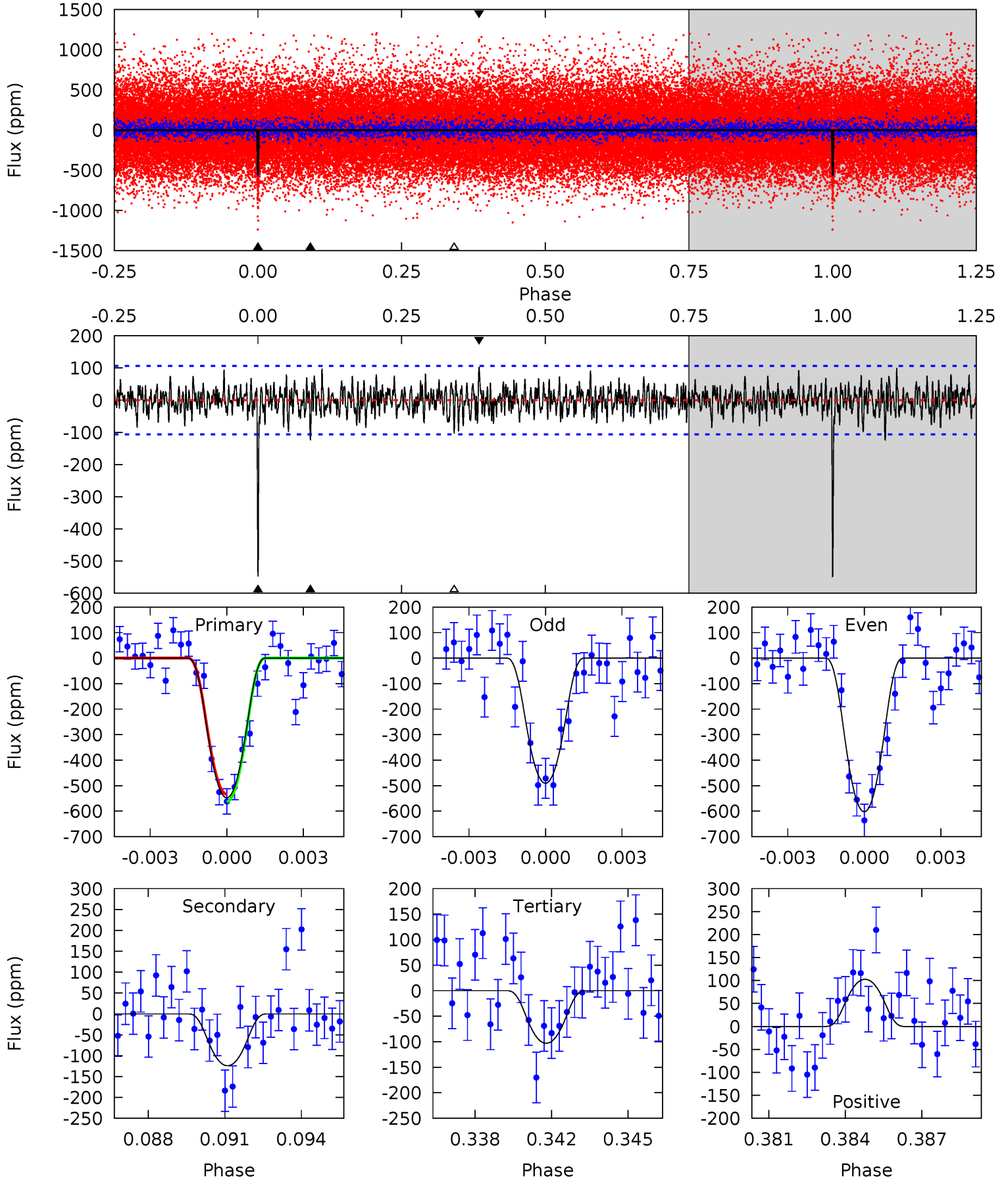
TCE 012735830-01 P= 31.827423 Days $T_0=134.604363$ (BKJD)



DV Model-Shift Uniqueness Test

012735830-01, P = 31.827588 Days, E = 102.770161 Days

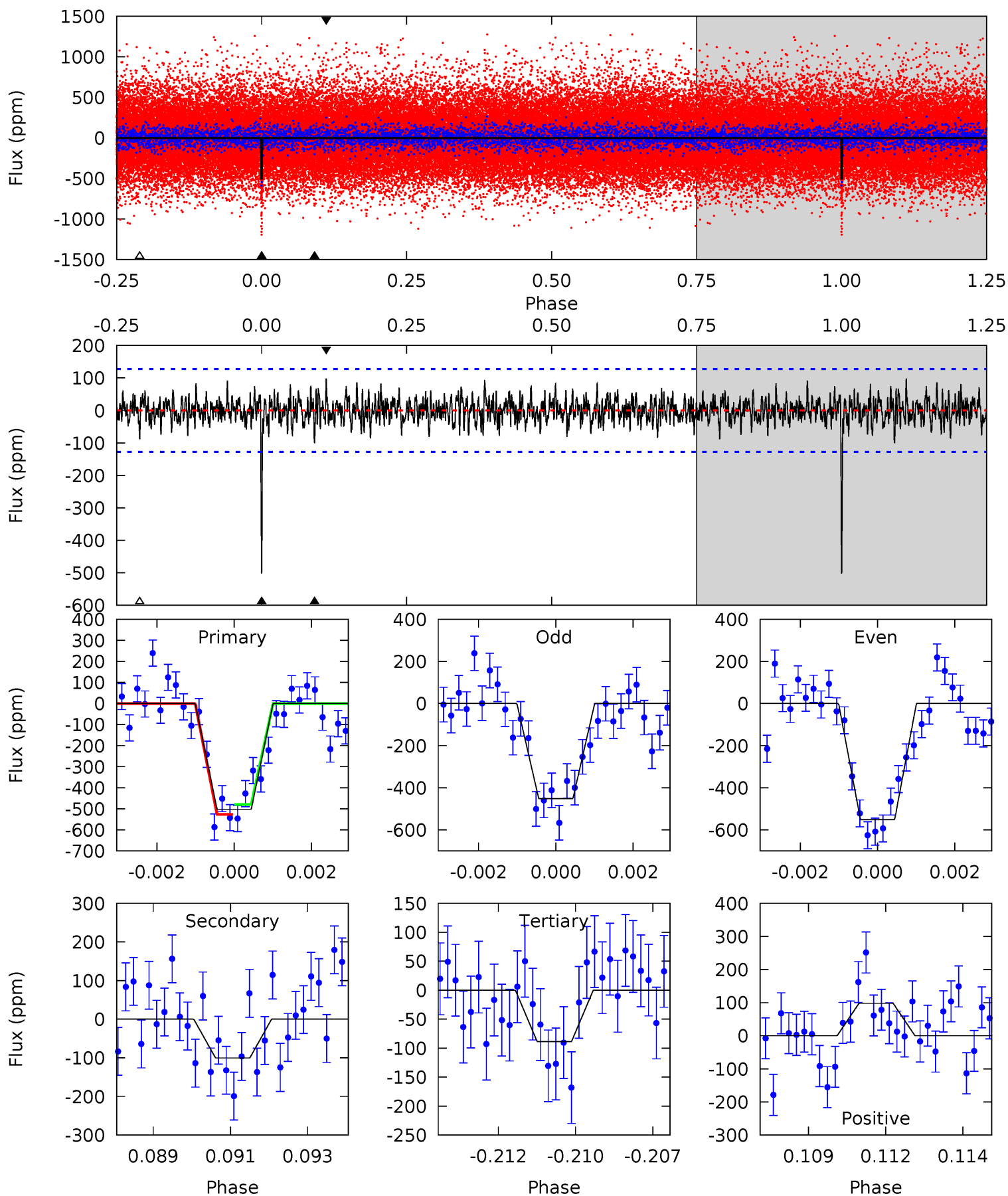
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.0	6.12	5.08	5.06	5.24	2.94	1.54	21.9	21.9	1.04	1.06	2.76	0.88	0.16	0.71



Alt Model-Shift Uniqueness Test

012735830-01, $P = 31.827423$ Days, $E = 102.776940$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	4.17	3.69	4.06	5.30	3.05	1.26	17.2	16.8	0.48	0.11	2.08	0.93	0.16	0.98



Stellar Parameters For KIC 012735830

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4774^{+57}_{-114}	$3.838^{+0.765}_{-0.128}$	$0.380^{+0.050}_{-0.150}$	$1.954^{+0.309}_{-1.238}$	$0.959^{+0.075}_{-0.188}$	$0.181^{+2.342}_{-0.068}$
	+1%/-2%	+20%/-3%	+13%/-39%	+16%/-63%	+8%/-20%	+1294%/-38%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 012735830-01 / KOI 3311.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-124 ± 20	$6.56^{+4.67}_{-4.06}$	914^{+57}_{-151}	3197^{+1050}_{-420}	57^{+359}_{-38}
Alt.	-100 ± 24	$4.94^{+4.81}_{-2.91}$	912^{+65}_{-149}	3338^{+1233}_{-514}	82^{+435}_{-61}

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

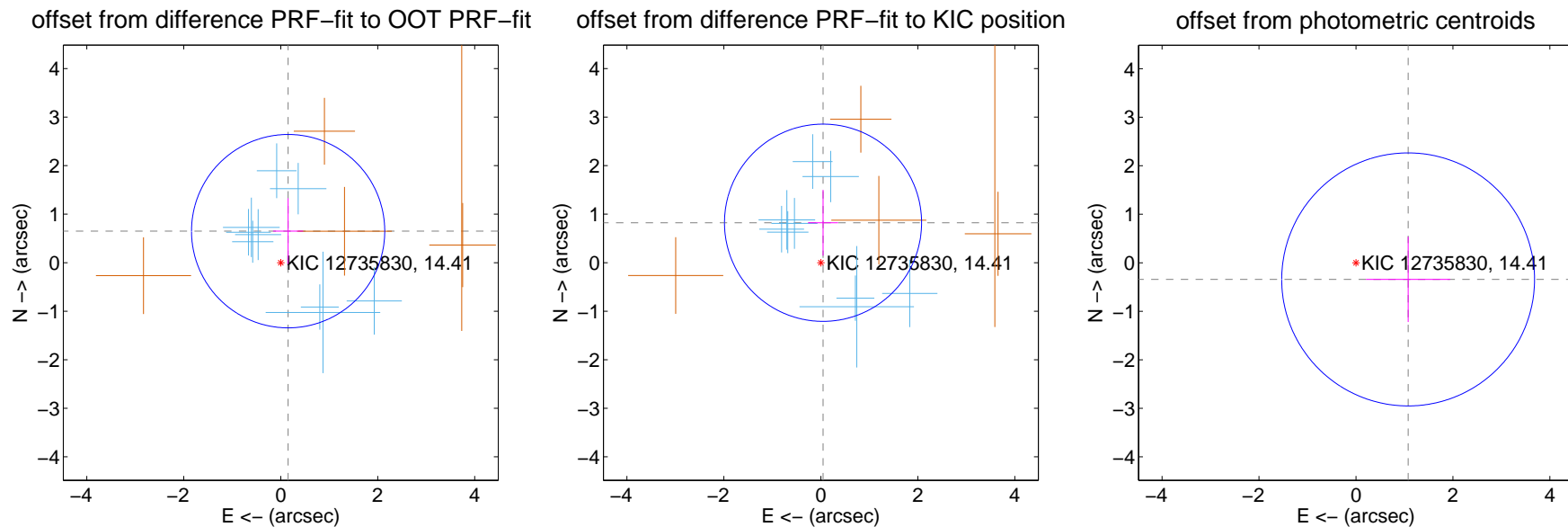
DV Centroid Data

Supplemental centroid analysis for 012735830-01. Kepler magnitude: 14.41. Transit SNR 16.65

There are 9 quarters with good PRF difference image offsets

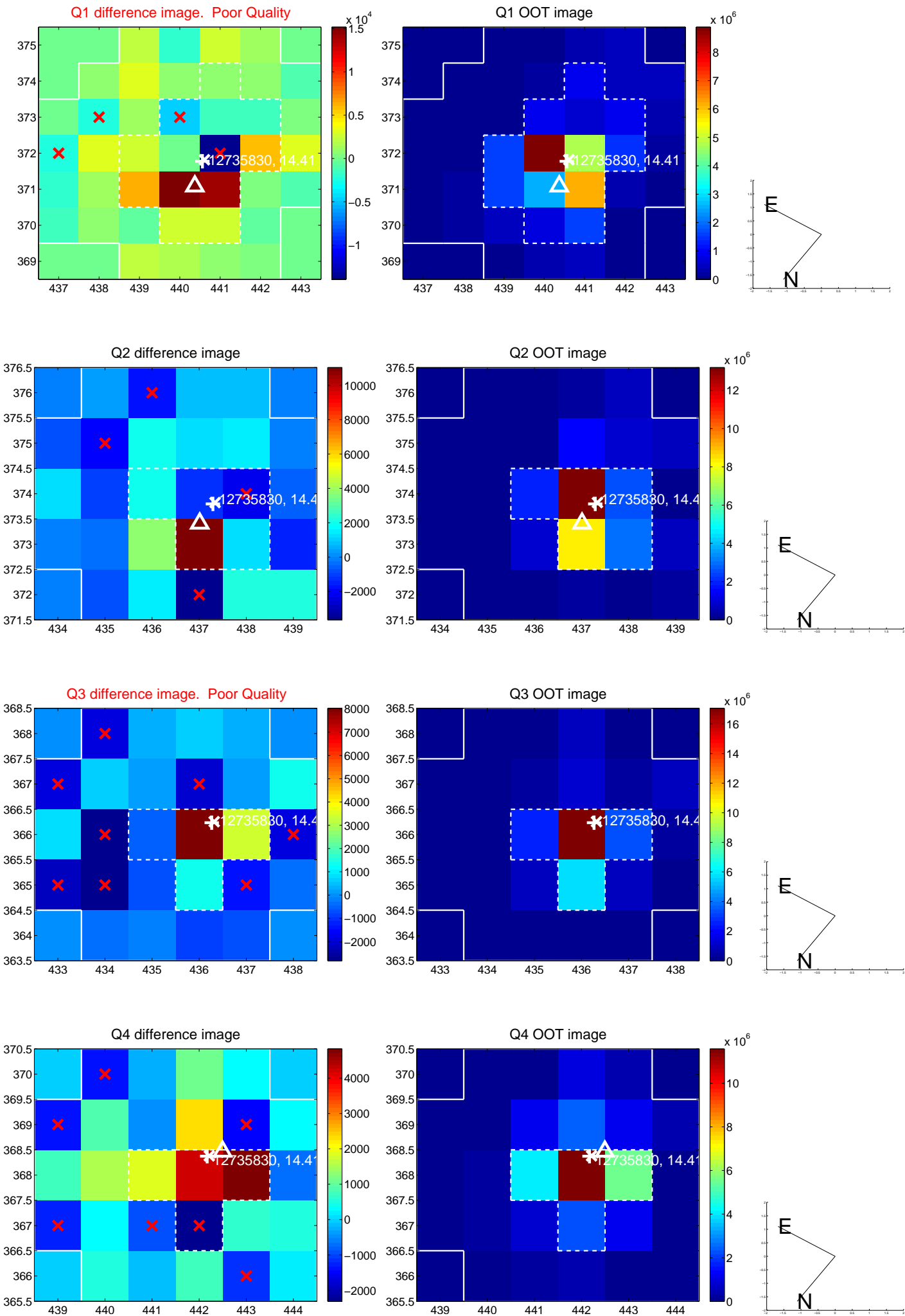
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.667 ± 0.664	1.00	-0.152 ± 0.310	0.650 ± 0.678
PRF-fit source offset from KIC position	0.824 ± 0.677	1.22	-0.045 ± 0.310	0.823 ± 0.678
photometric centroid source offset	1.13 ± 0.87	1.30	-1.08 ± 0.87	-0.34 ± 0.88

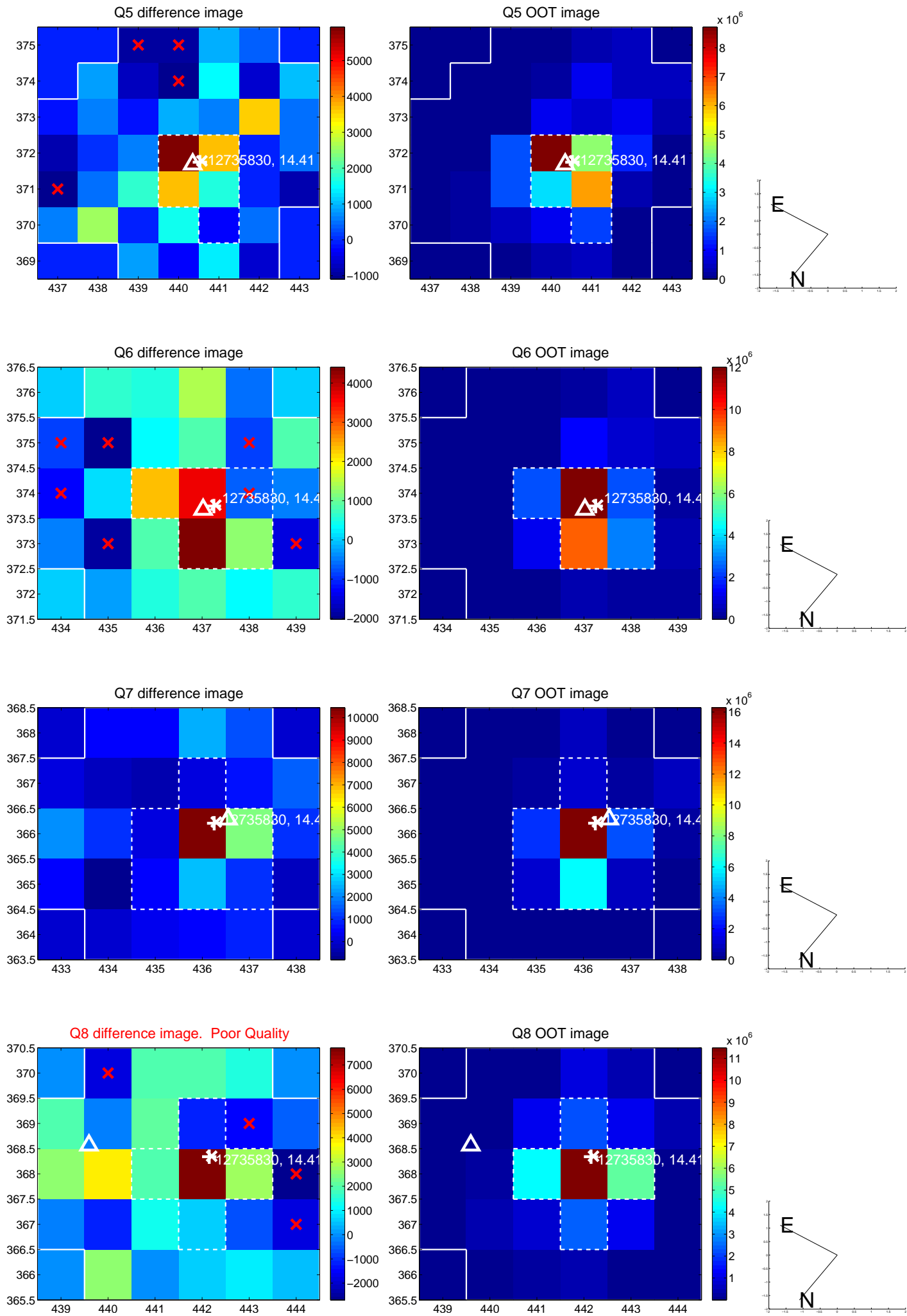


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

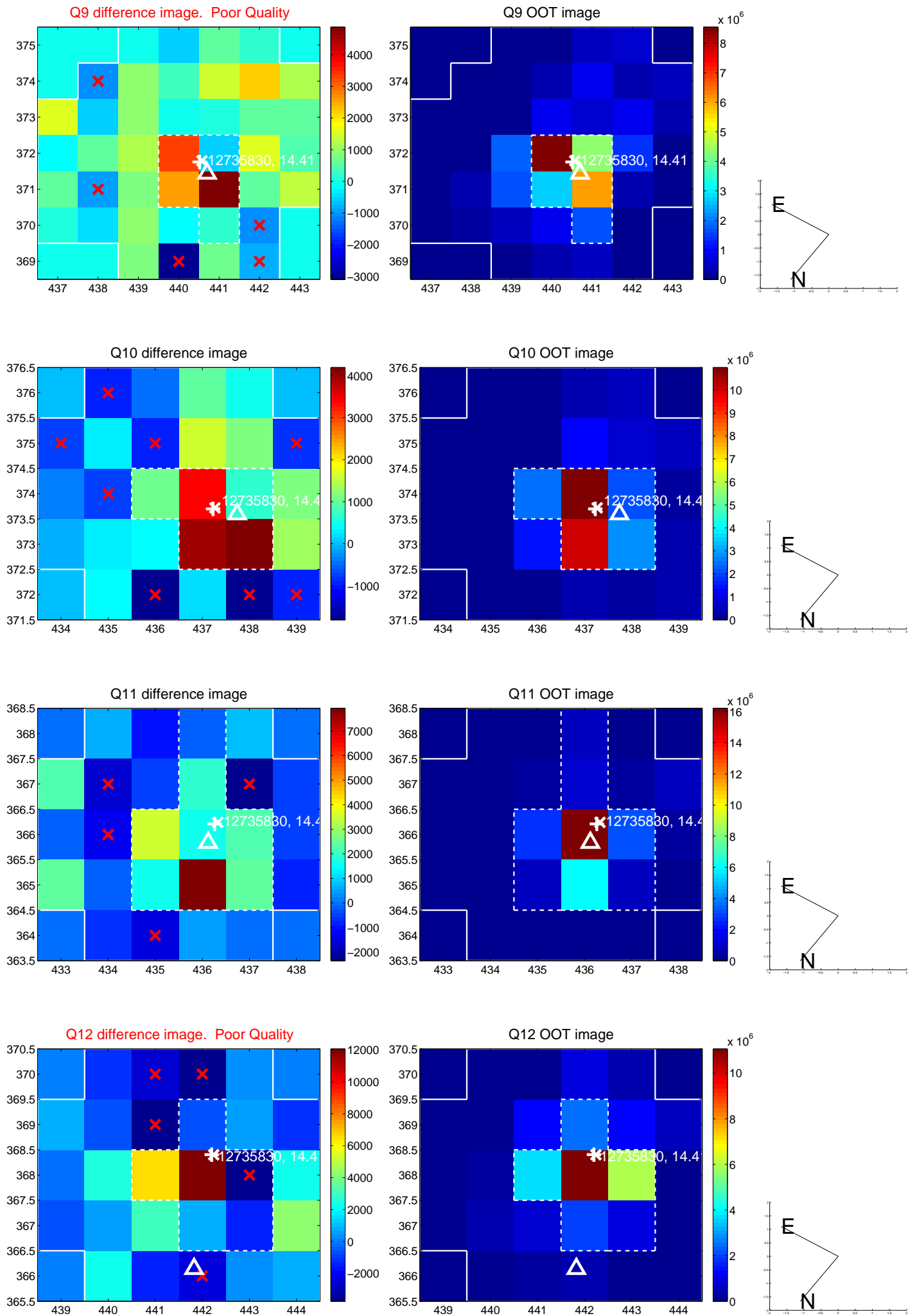
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



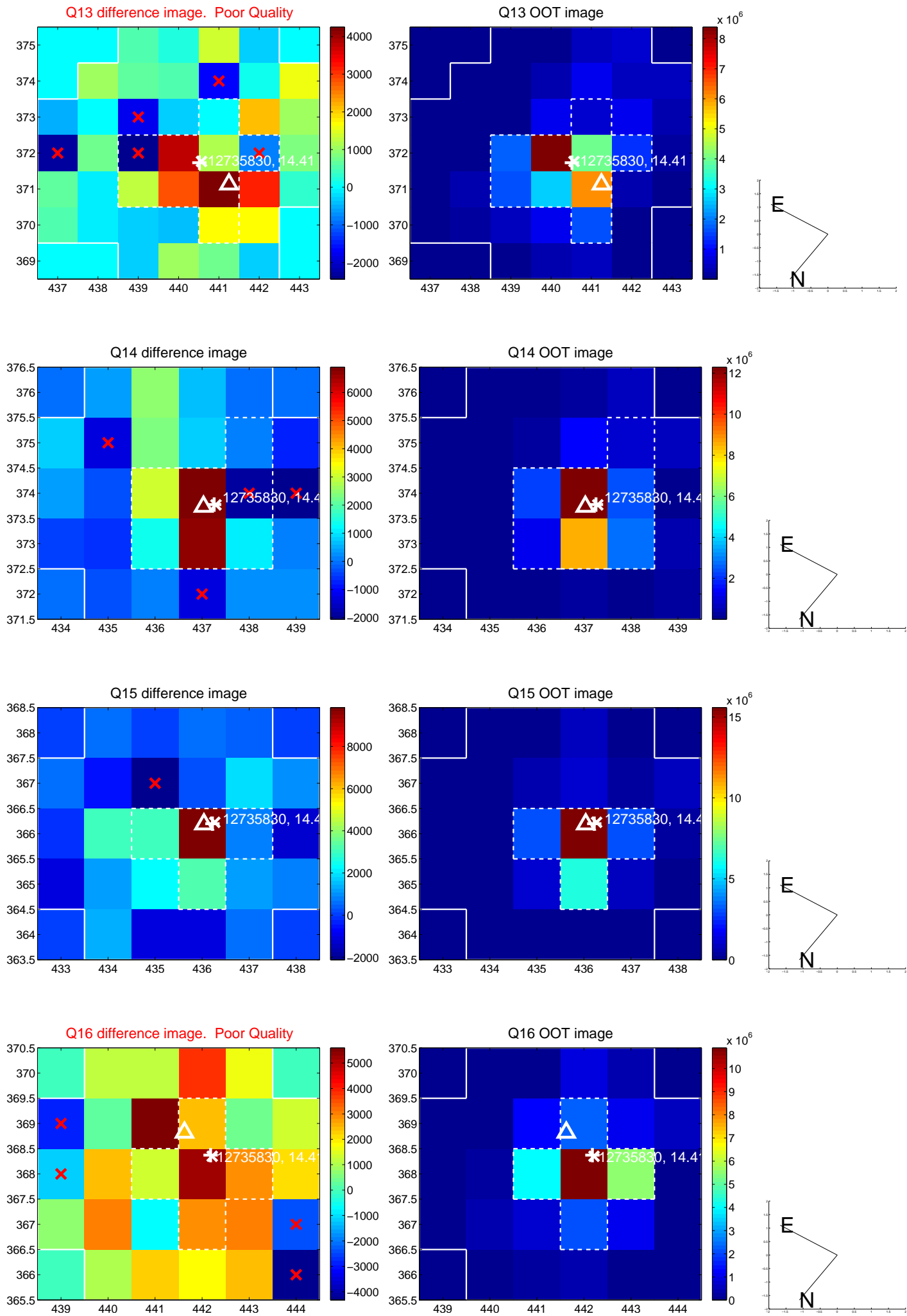
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



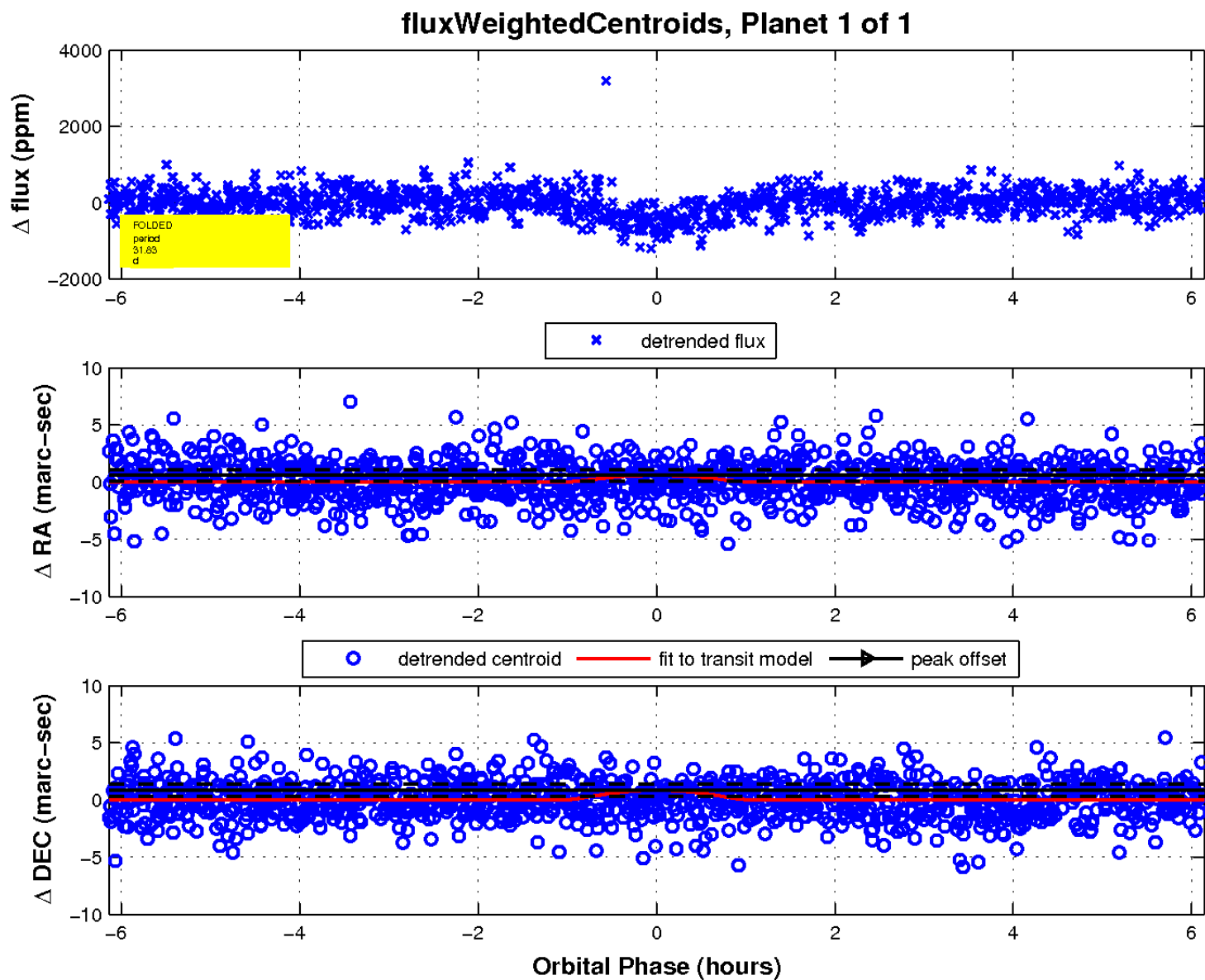
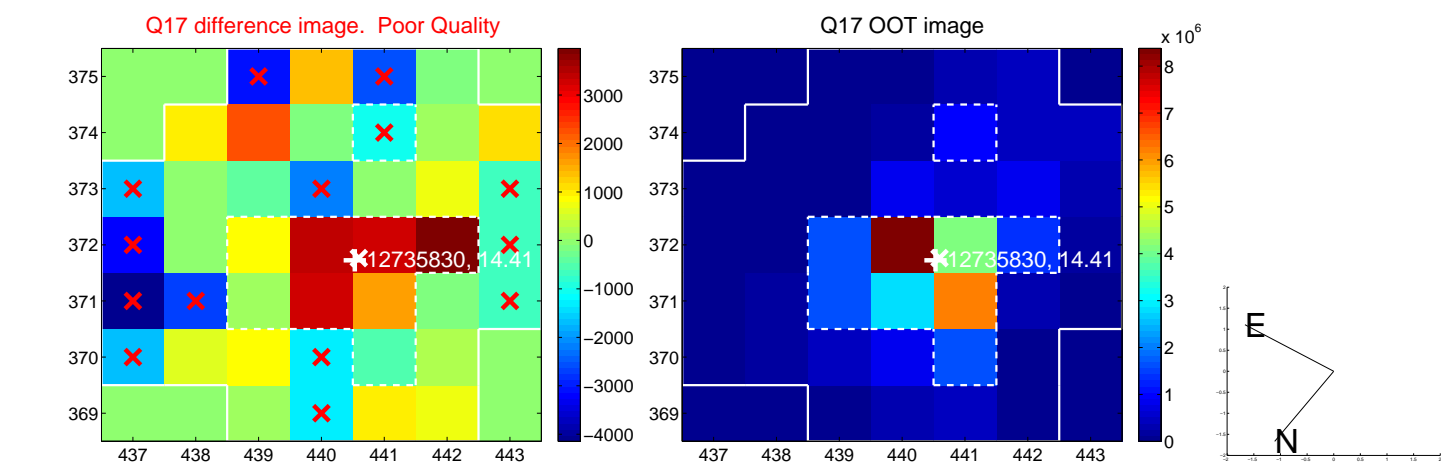
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

