

KIC 004044005

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})
004044005-01	OBS	0969.01	17.512016	139.258531	4459.0	1.841	471.6	480.8	1.13	6224	13.30	98.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004044005-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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

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

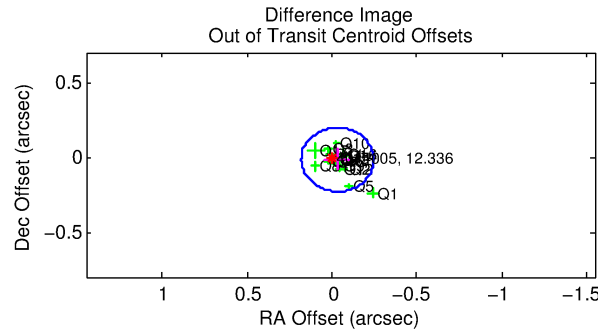
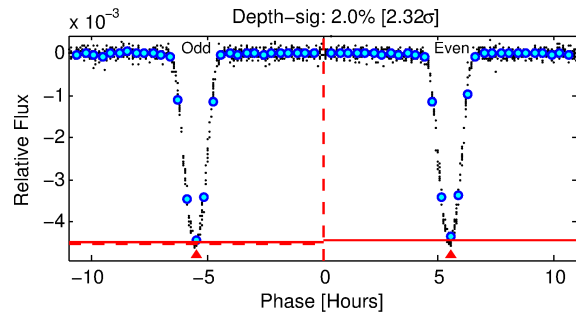
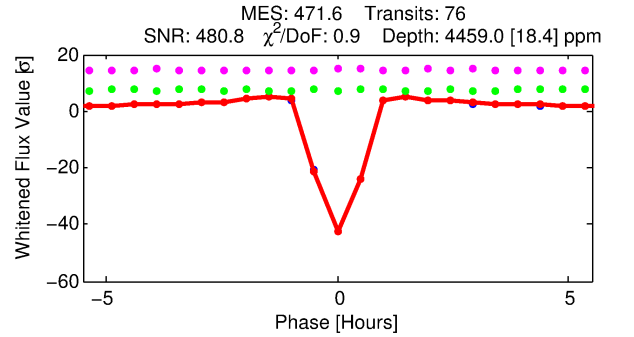
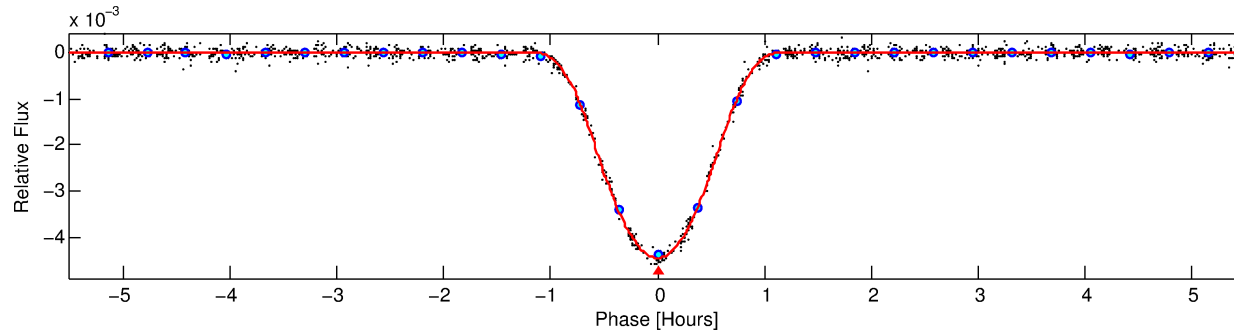
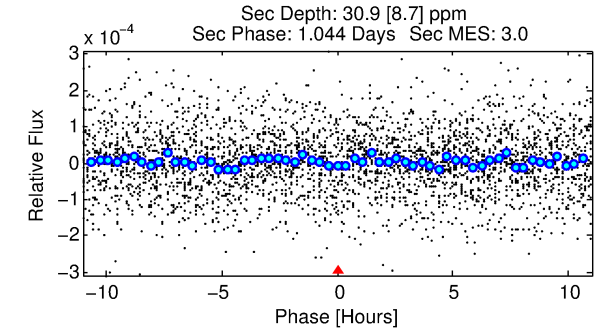
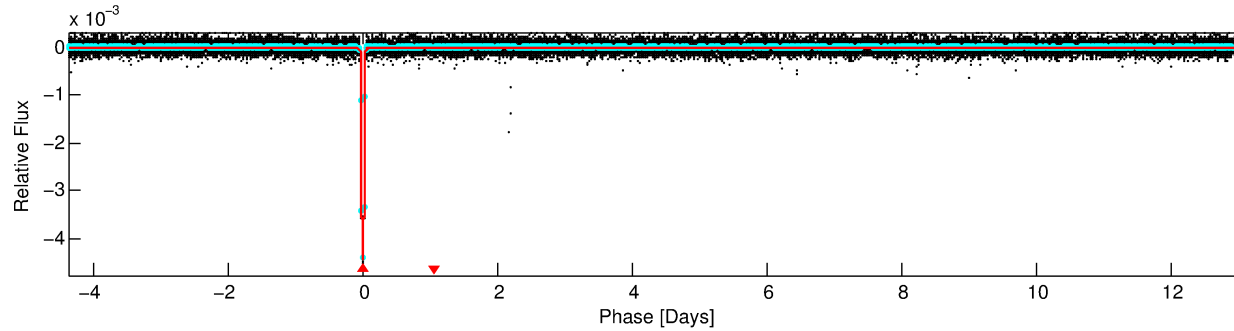
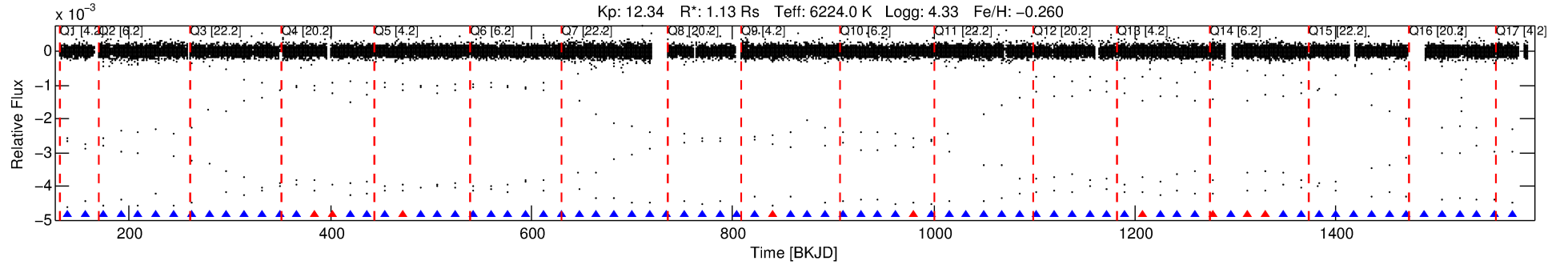
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004044005-01

No Significant Match Found

DV One-Page Summary

KIC: 4044005 Candidate: 1 of 1 Period: 17.512 d
KOI: K00969.01 Corr: 0.995



DV Fit Results:

Period = 17.51202 [0.00000] d
Epoch = 139.2585 [0.0001] BKJD
Rp/R* = 0.1077 [0.0129]
a/R* = 35.81 [0.90]
b = 0.99 [0.02]
Seff = 98.92 [38.83]
Teq = 804 [79] K
Rp = 13.30 [4.44] Re
a = 0.1320 [0.0336] AU
Ag = 1.68 [0.87] [0.78σ]
Teffp = 1415 [142] K [3.76σ]

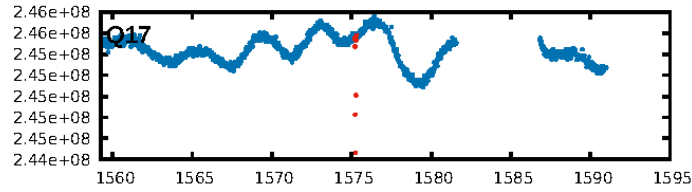
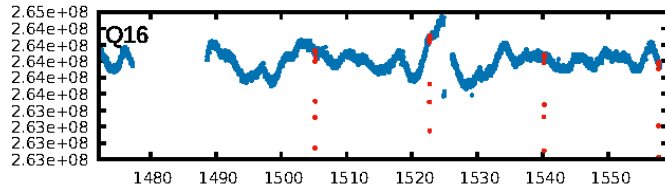
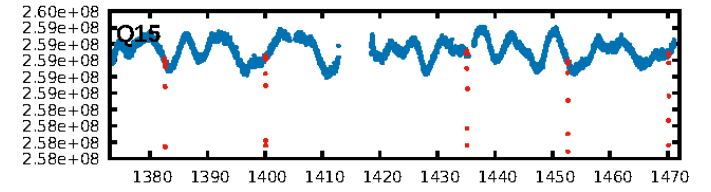
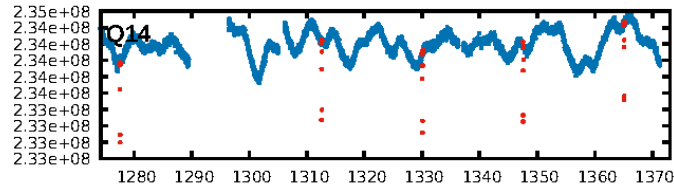
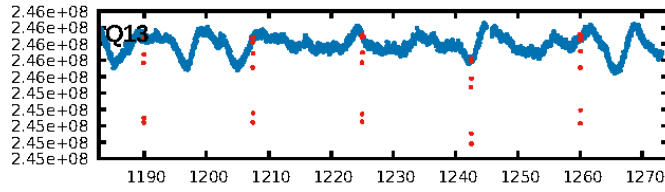
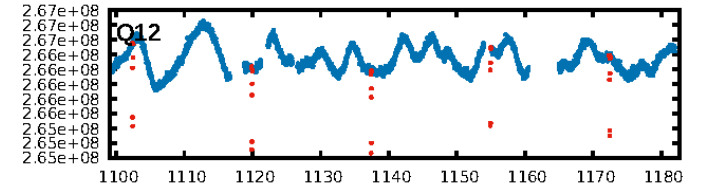
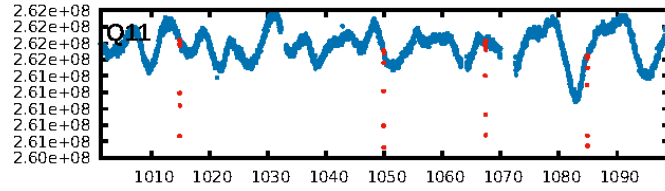
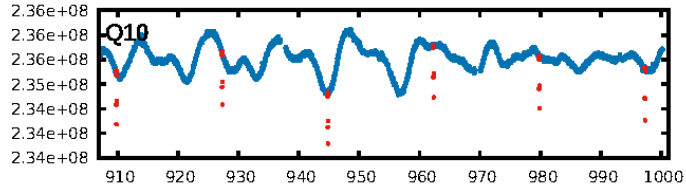
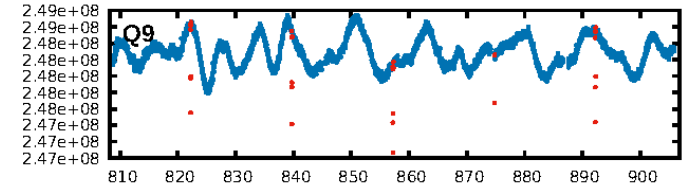
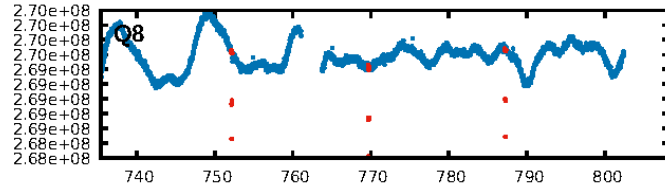
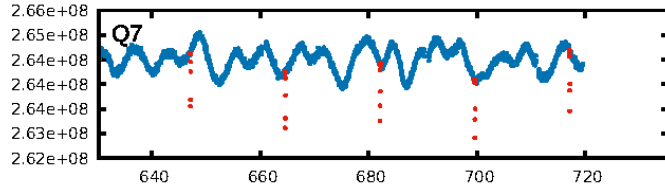
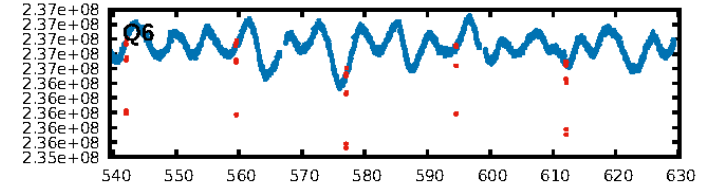
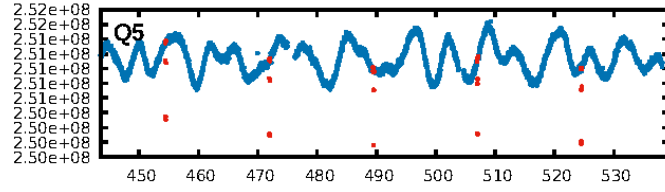
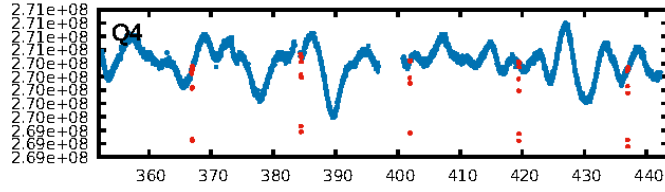
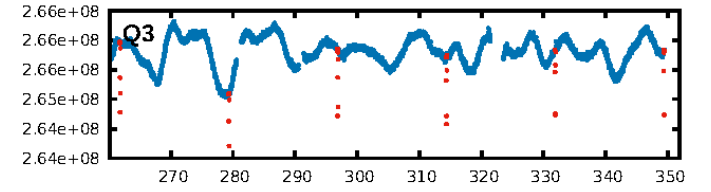
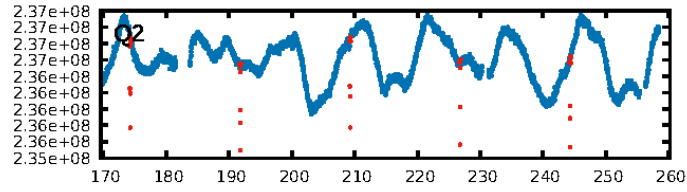
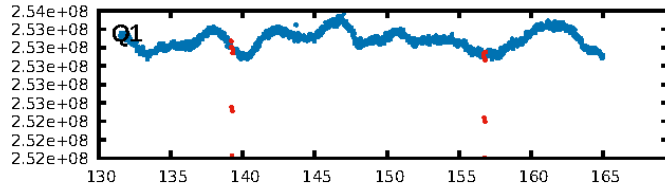
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.88 [64/73]
GhostDiagnostic-chr: 6.756
Centroid-sig: 1.9%
Centroid-so: 0.067 arcsec [2.73σ]
OotOffset-rm: 0.035 arcsec [0.49σ]
KicOffset-rm: 0.038 arcsec [0.53σ]
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]

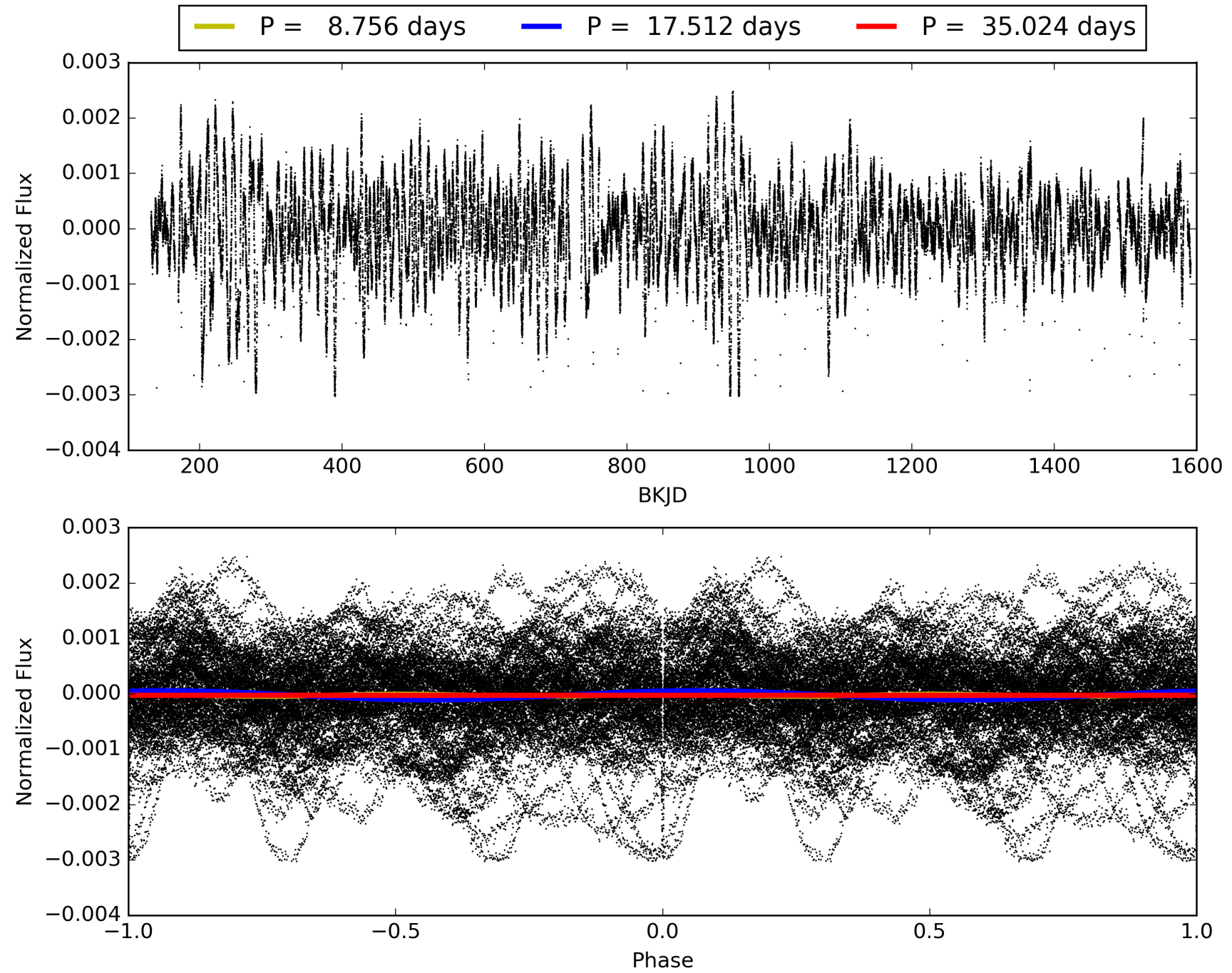
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:09:39 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004044005-01, PDC Light Curves

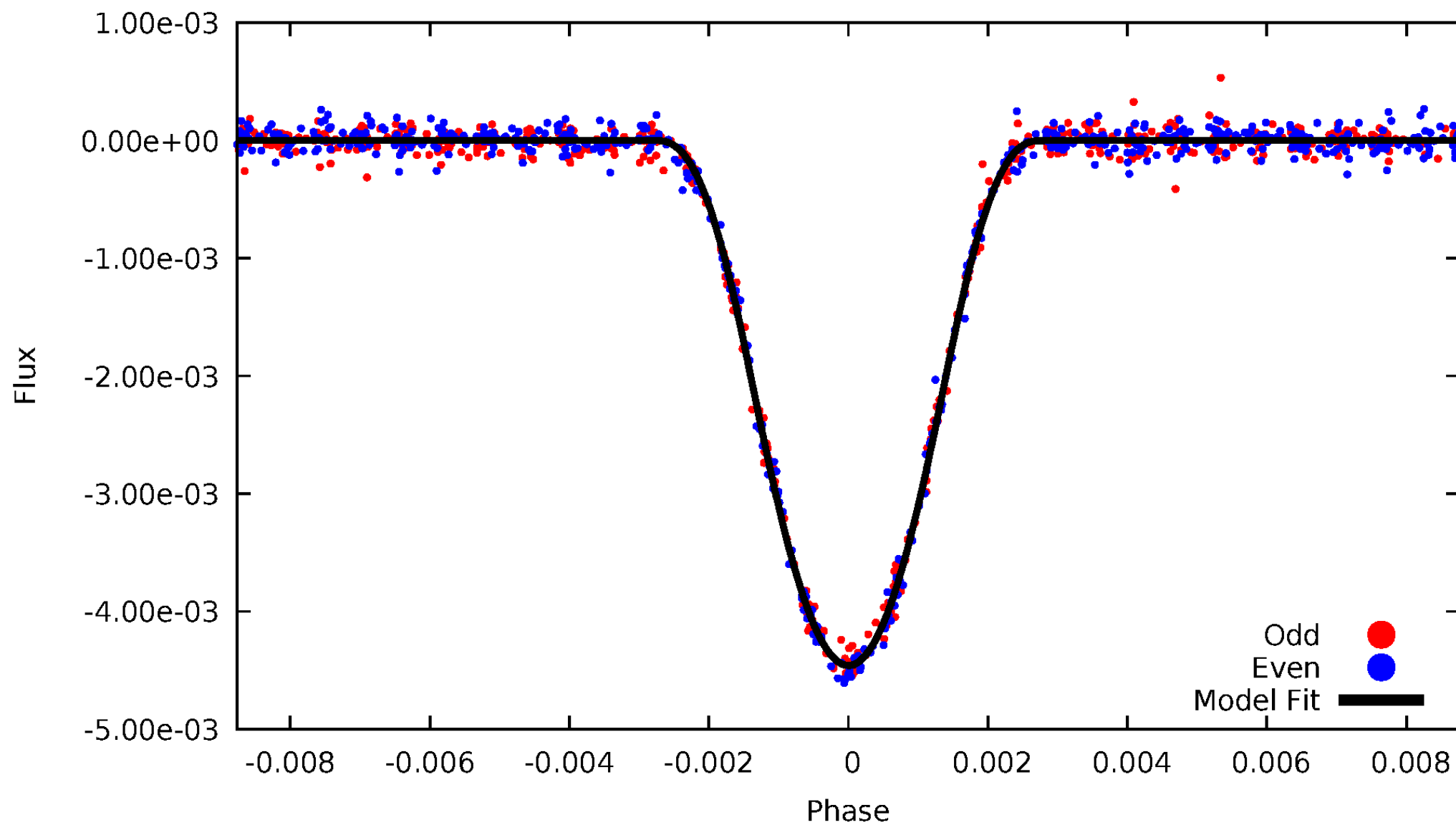


TCE 004044005-01



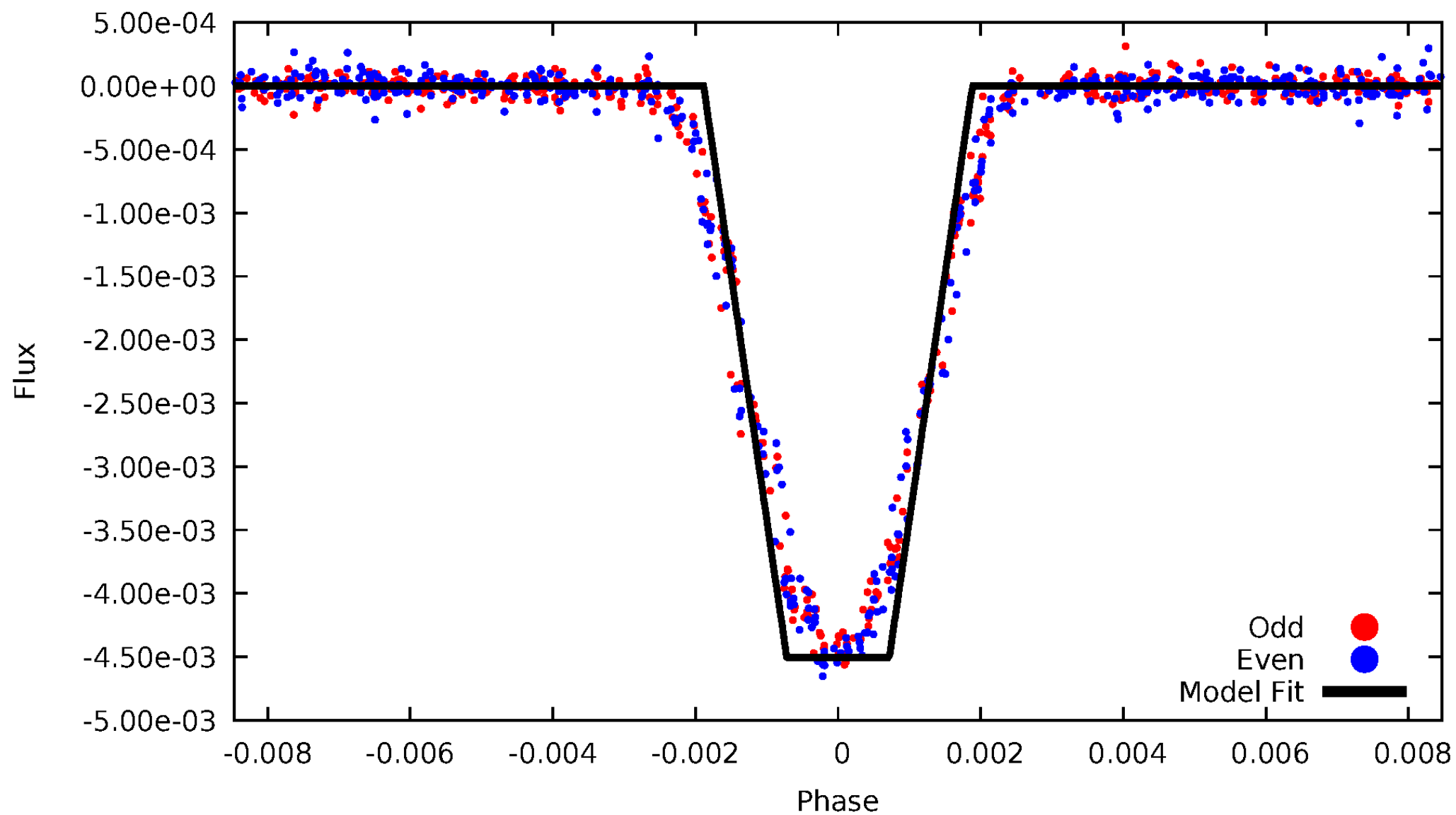
DV Odd/Even

TCE 004044005-01



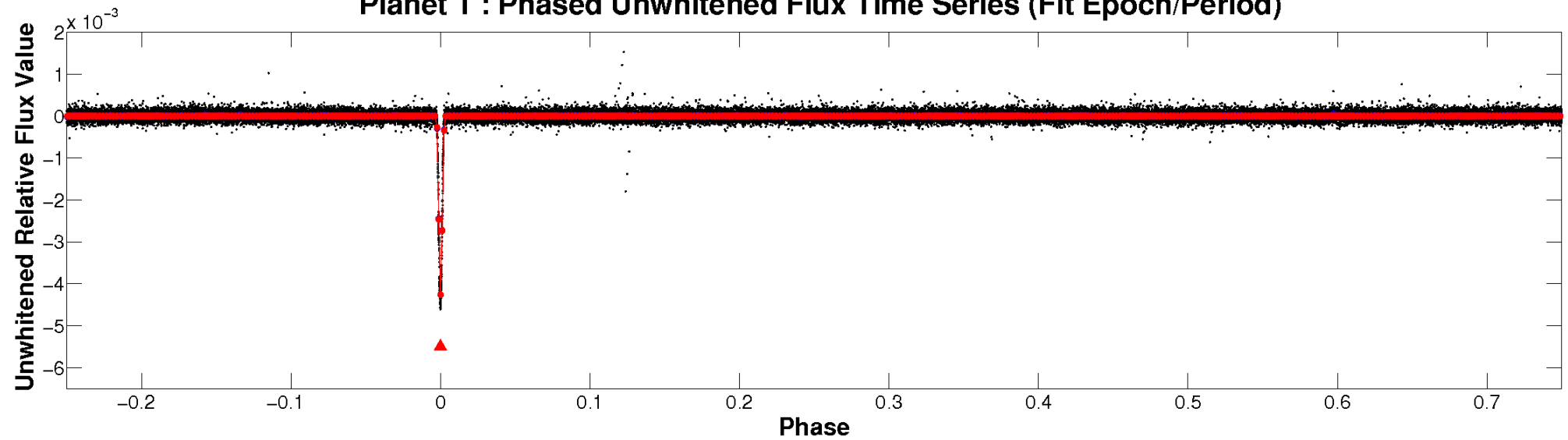
ALT Odd/Even

TCE 004044005-01

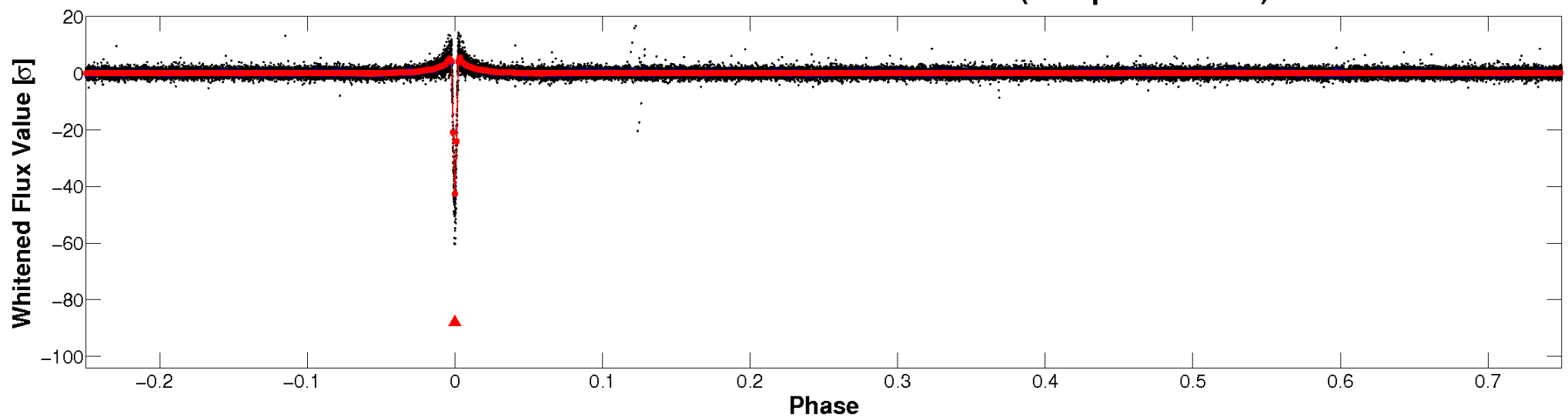


Non-Whitened Vs. Whitened Light Curve

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

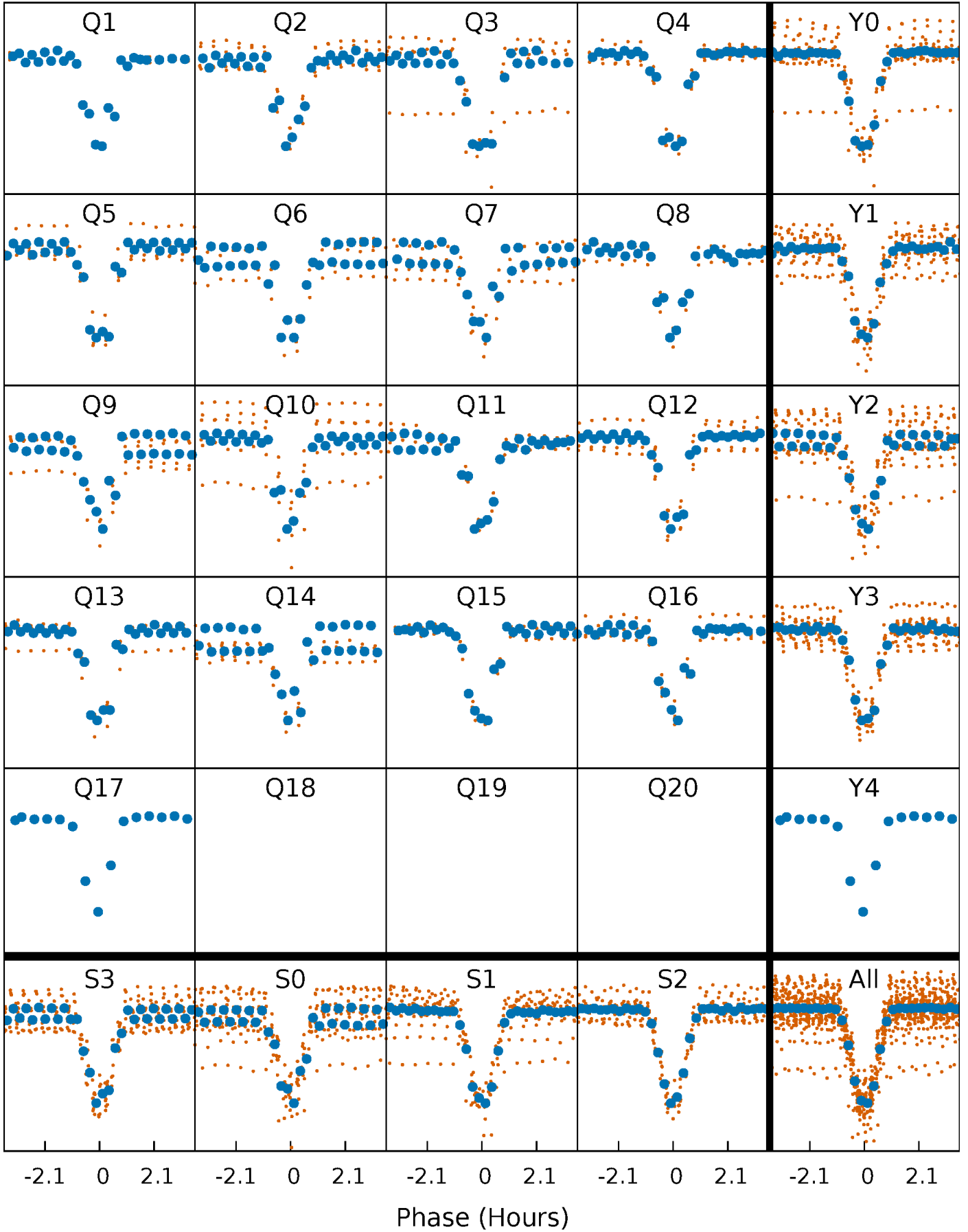


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



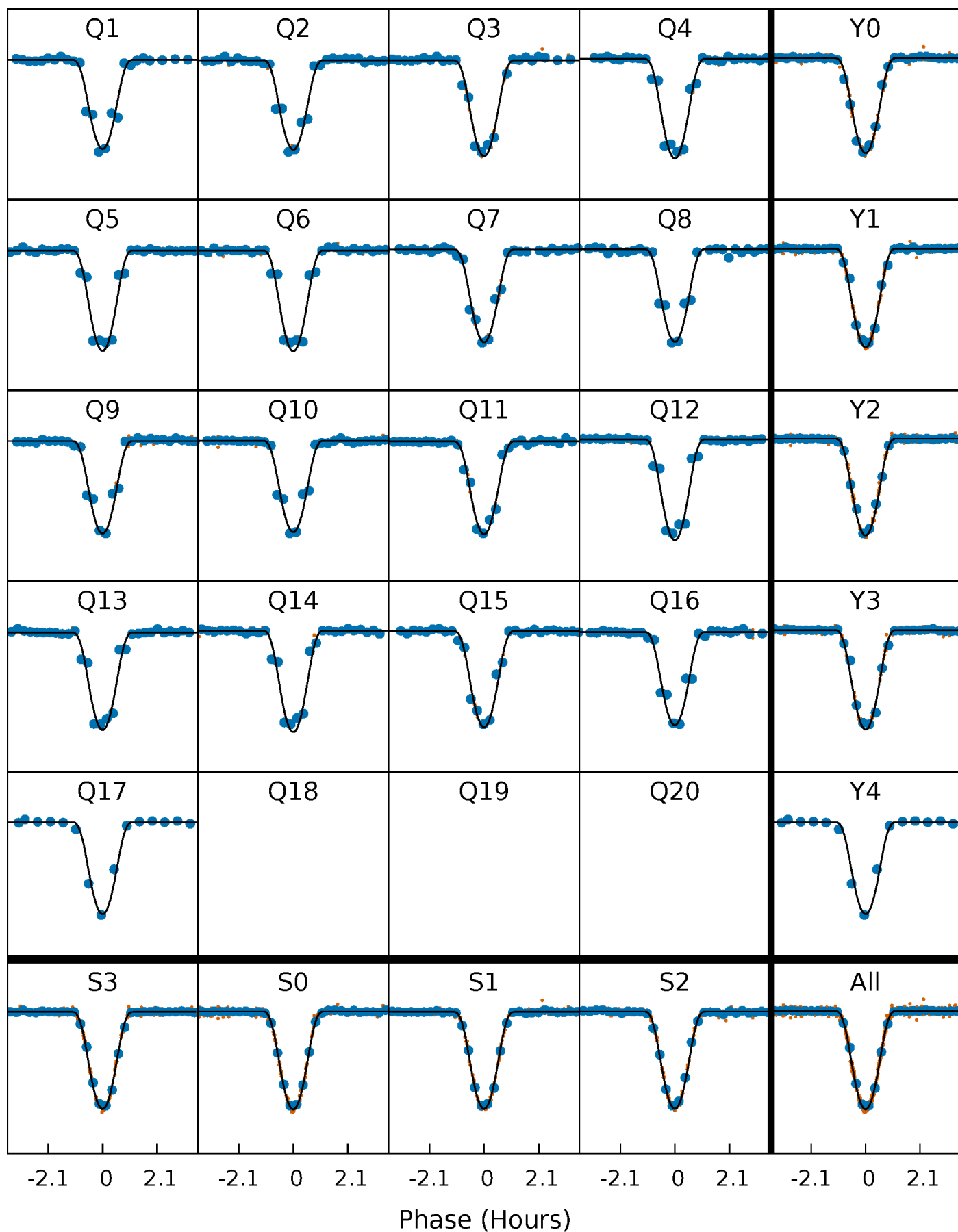
PDC Quarter-Phased Transit Curves

TCE 004044005-01 P= 17.512016 Days $T_0=139.258531$ (BKJD)



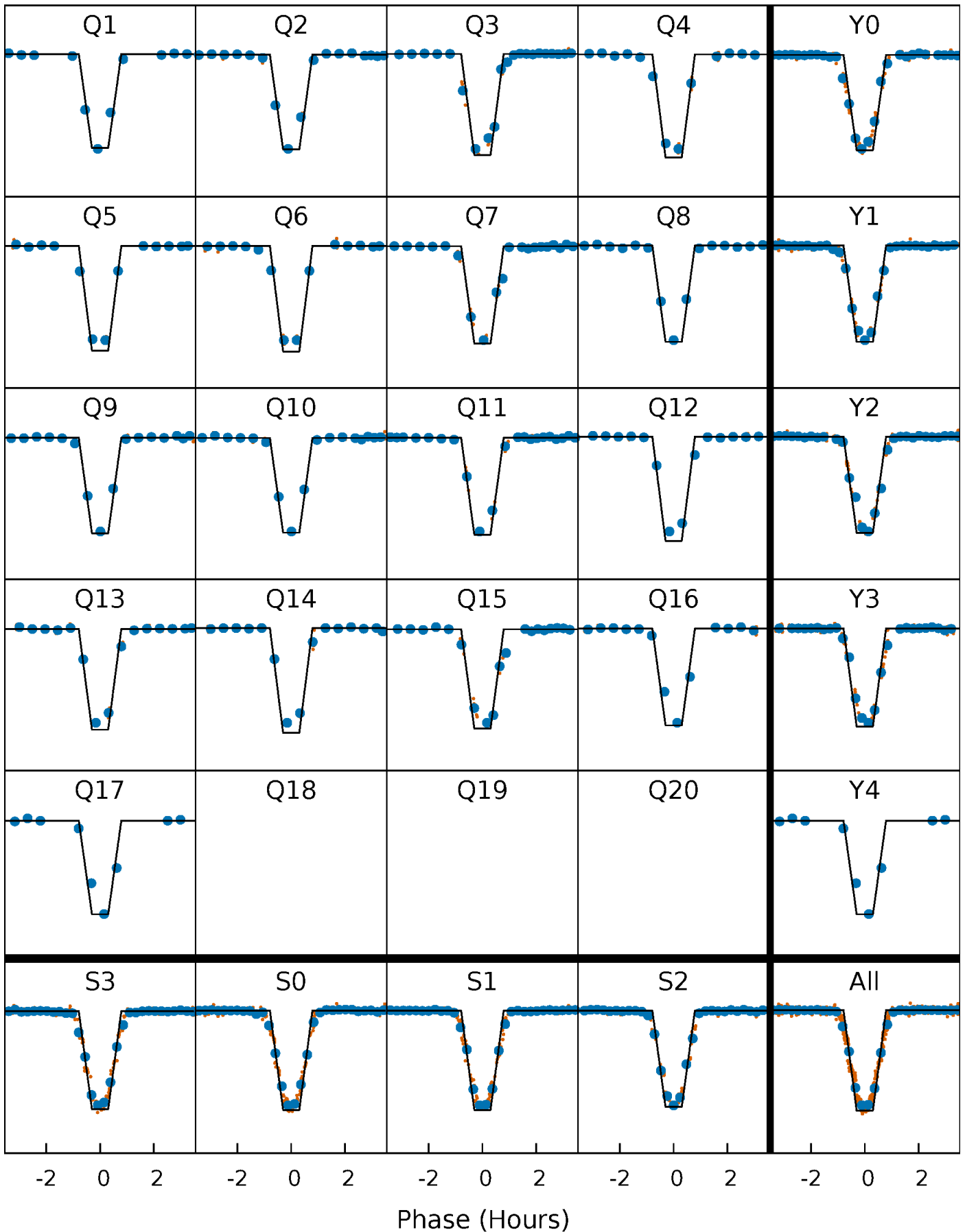
DV Quarter-Phased Transit Curves

TCE 004044005-01 P= 17.512016 Days $T_0=139.258531$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

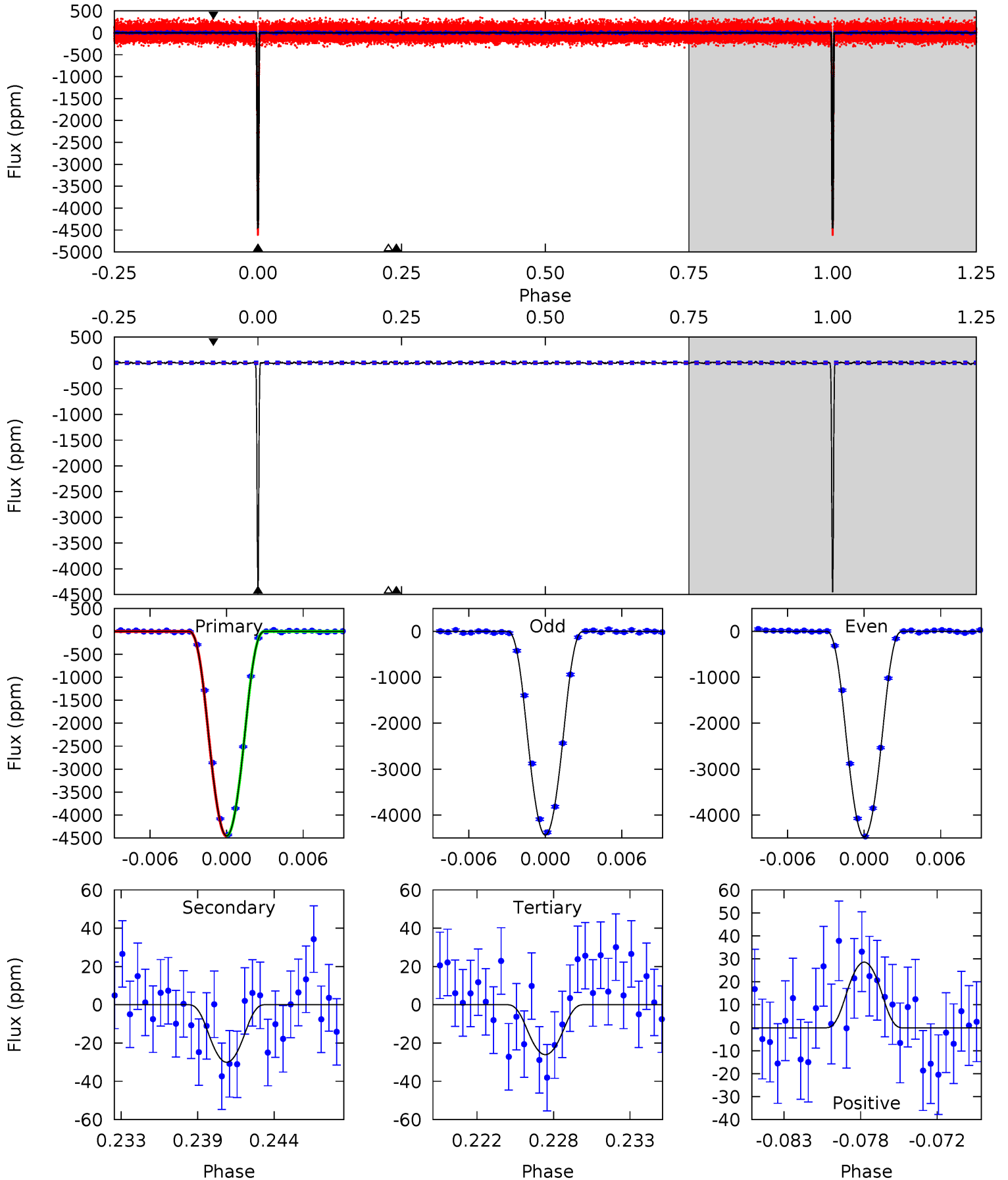
TCE 004044005-01 P= 17.511945 Days $T_0=139.261275$ (BKJD)



DV Model-Shift Uniqueness Test

004044005-01, P = 17.512016 Days, E = 121.746515 Days

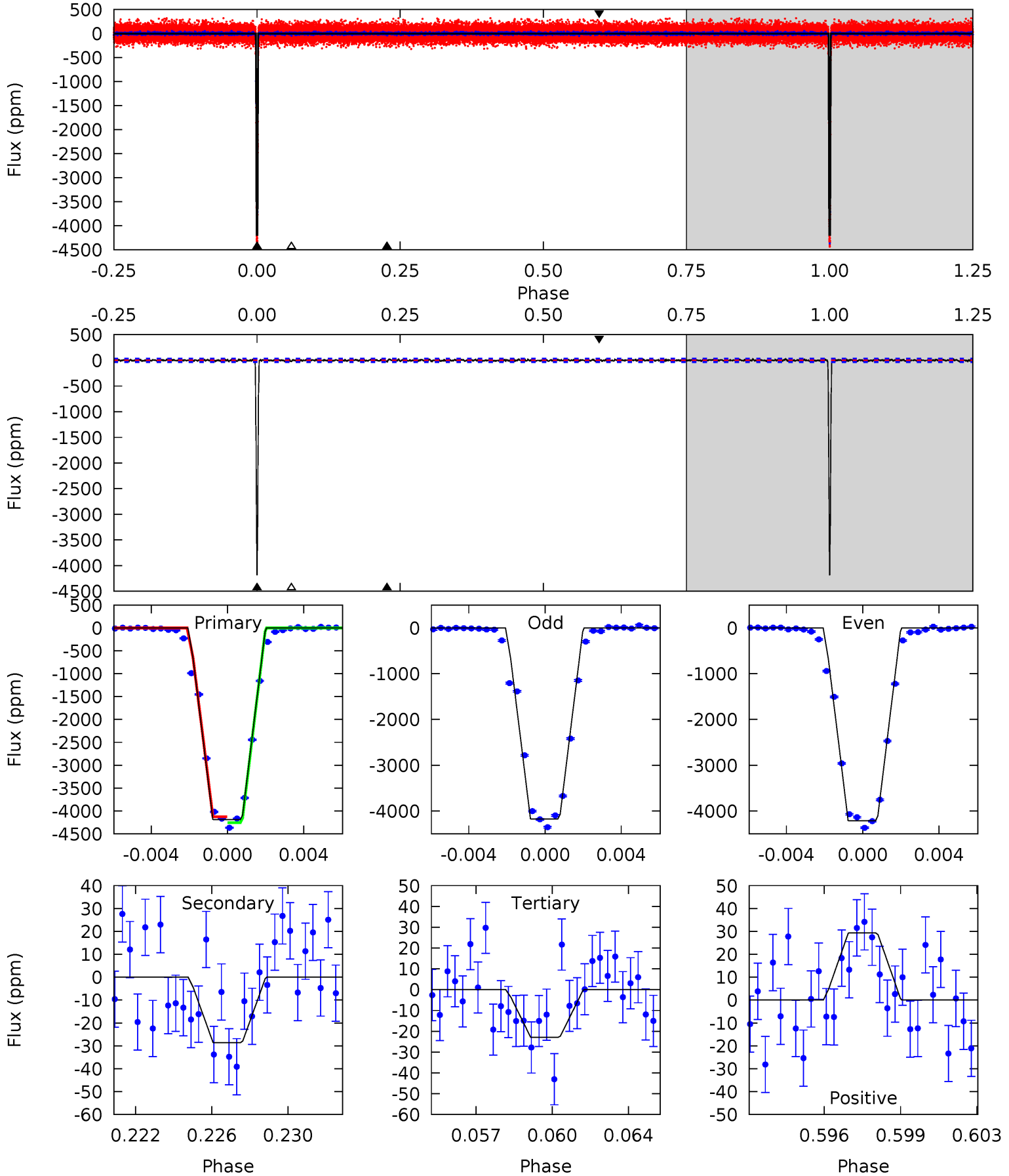
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
946.0	6.38	5.53	6.06	5.14	2.77	1.75	940.5	939.9	0.84	0.32	3.80	1.00	0.01	0.76



Alt Model-Shift Uniqueness Test

004044005-01, P = 17.511945 Days, E = 121.749330 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
665.9	4.55	3.64	4.66	5.21	2.90	1.25	662.3	661.3	0.91	-0.11	3.09	1.01	0.01	0



Stellar Parameters For KIC 004044005

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6224^{+197}_{-241}	$4.330^{+0.144}_{-0.192}$	$-0.260^{+0.250}_{-0.300}$	$1.132^{+0.353}_{-0.190}$	$0.998^{+0.173}_{-0.115}$	$0.968^{+0.593}_{-0.495}$
	+3%/-4%	+3%/-4%	+96%/-115%	+31%/-17%	+17%/-12%	+61%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004044005-01 / KOI 0969.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-30 ± 5	$13.38^{+2.75}_{-2.23}$	1126^{+86}_{-79}	2263^{+102}_{-96}	$1.612^{+0.700}_{-0.499}$
Alt.	-29 ± 6	$8.36^{+2.28}_{-1.94}$	1127^{+84}_{-72}	2549^{+182}_{-156}	$3.881^{+2.933}_{-1.636}$

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 $A_{obs} \gg 1.0$

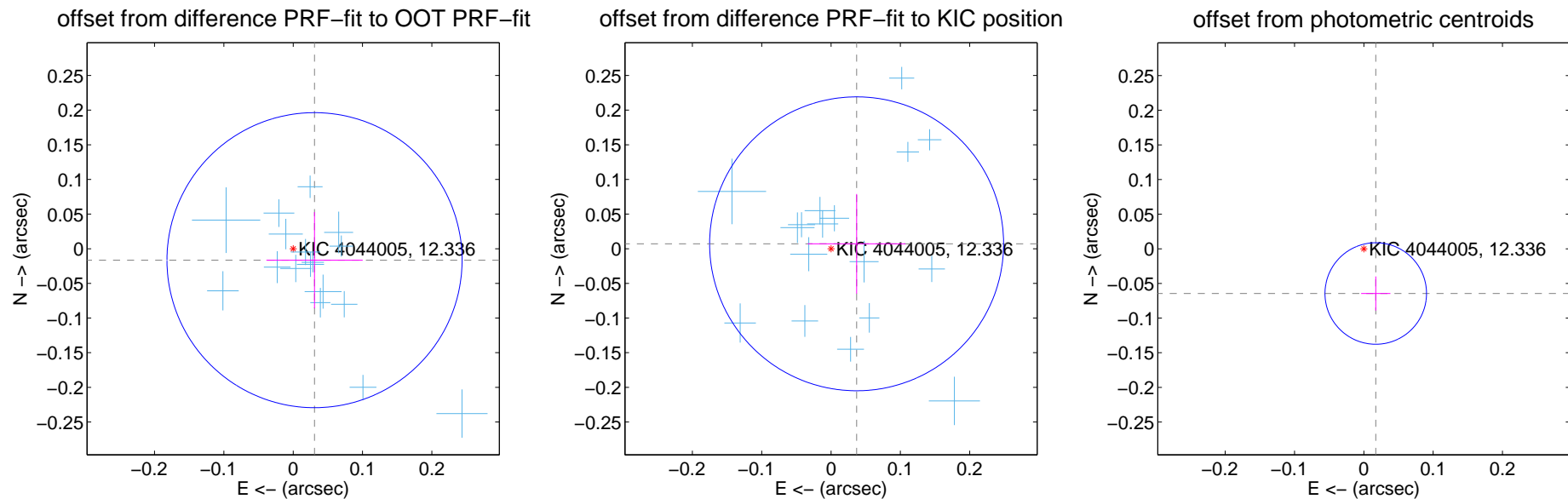
DV Centroid Data

Supplemental centroid analysis for 004044005-01. Kepler magnitude: 12.34. Transit SNR 480.84

There are 17 quarters with good PRF difference image offsets

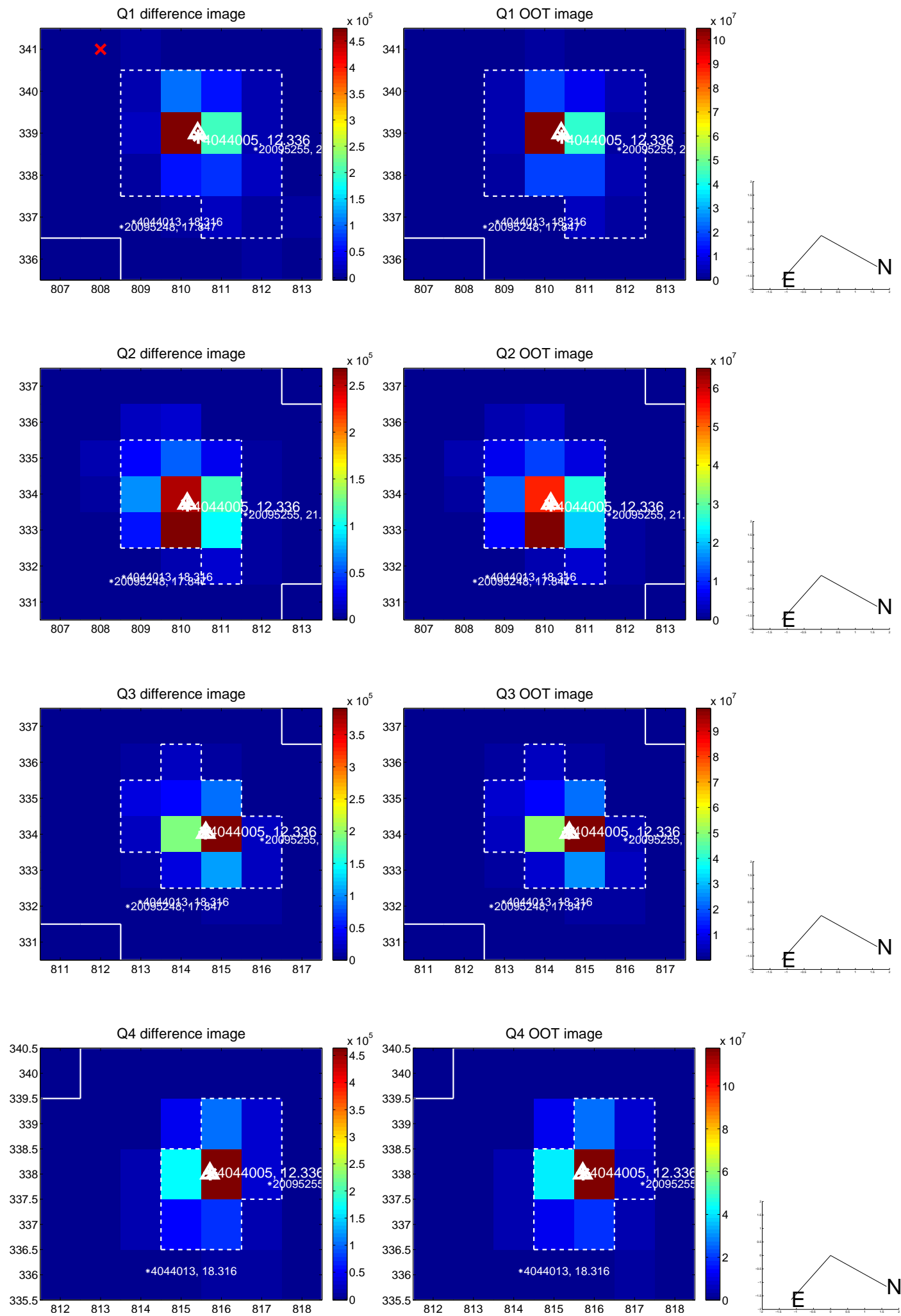
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.035 ± 0.071	0.49	-0.031 ± 0.069	-0.017 ± 0.069
PRF-fit source offset from KIC position	0.038 ± 0.071	0.53	-0.037 ± 0.070	0.007 ± 0.072
photometric centroid source offset	0.07 ± 0.02	2.73	-0.02 ± 0.02	-0.06 ± 0.02

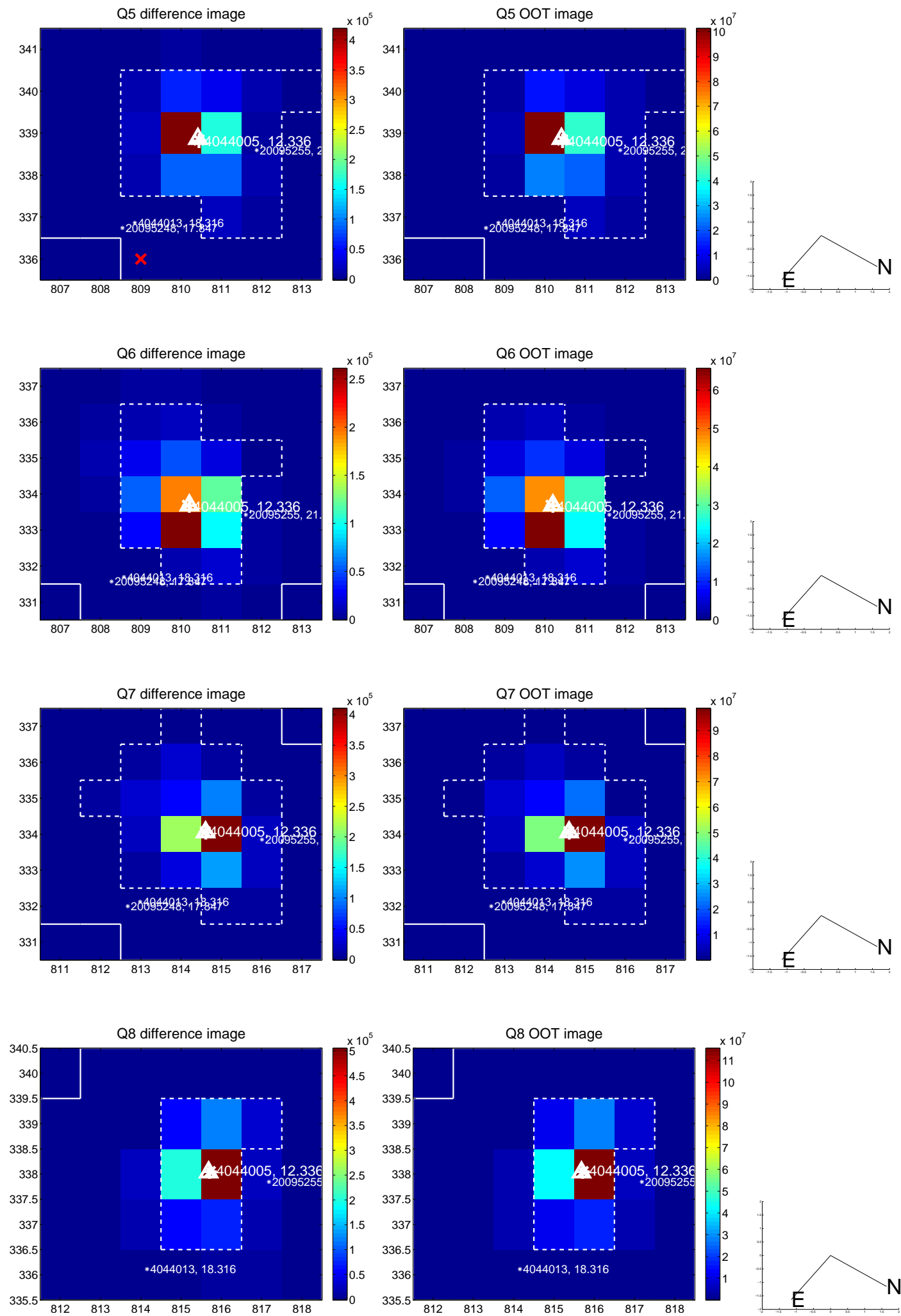


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

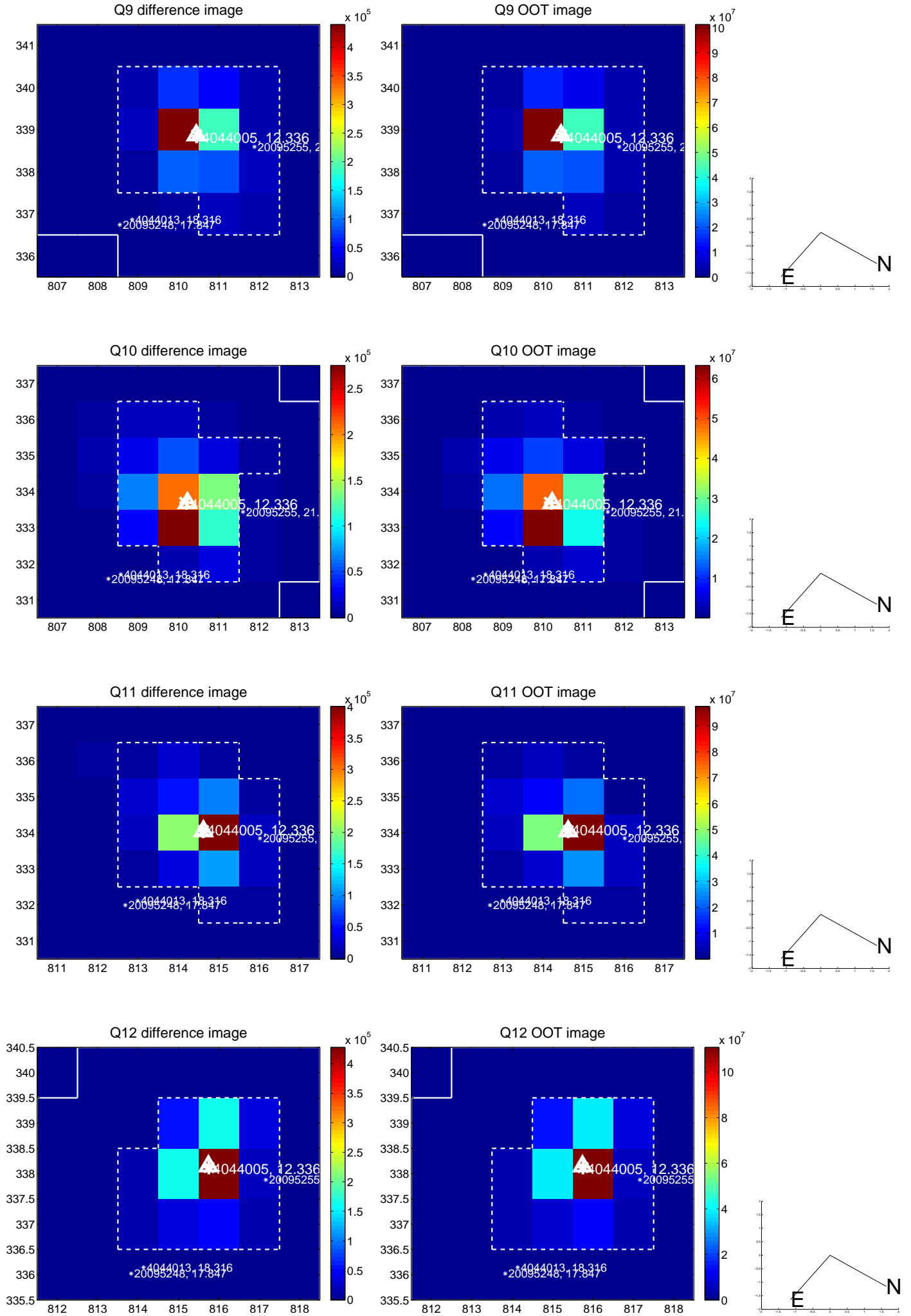
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



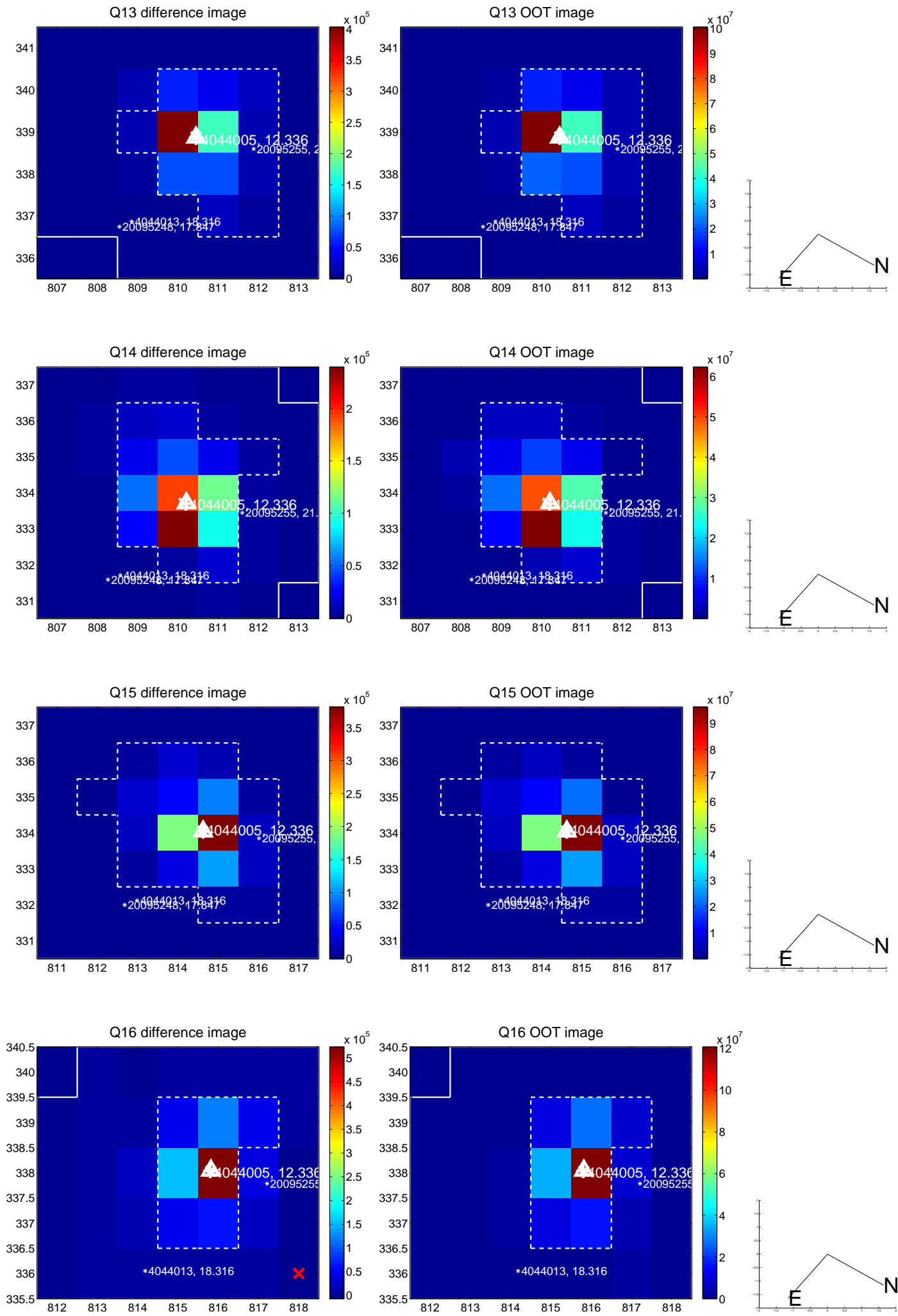
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



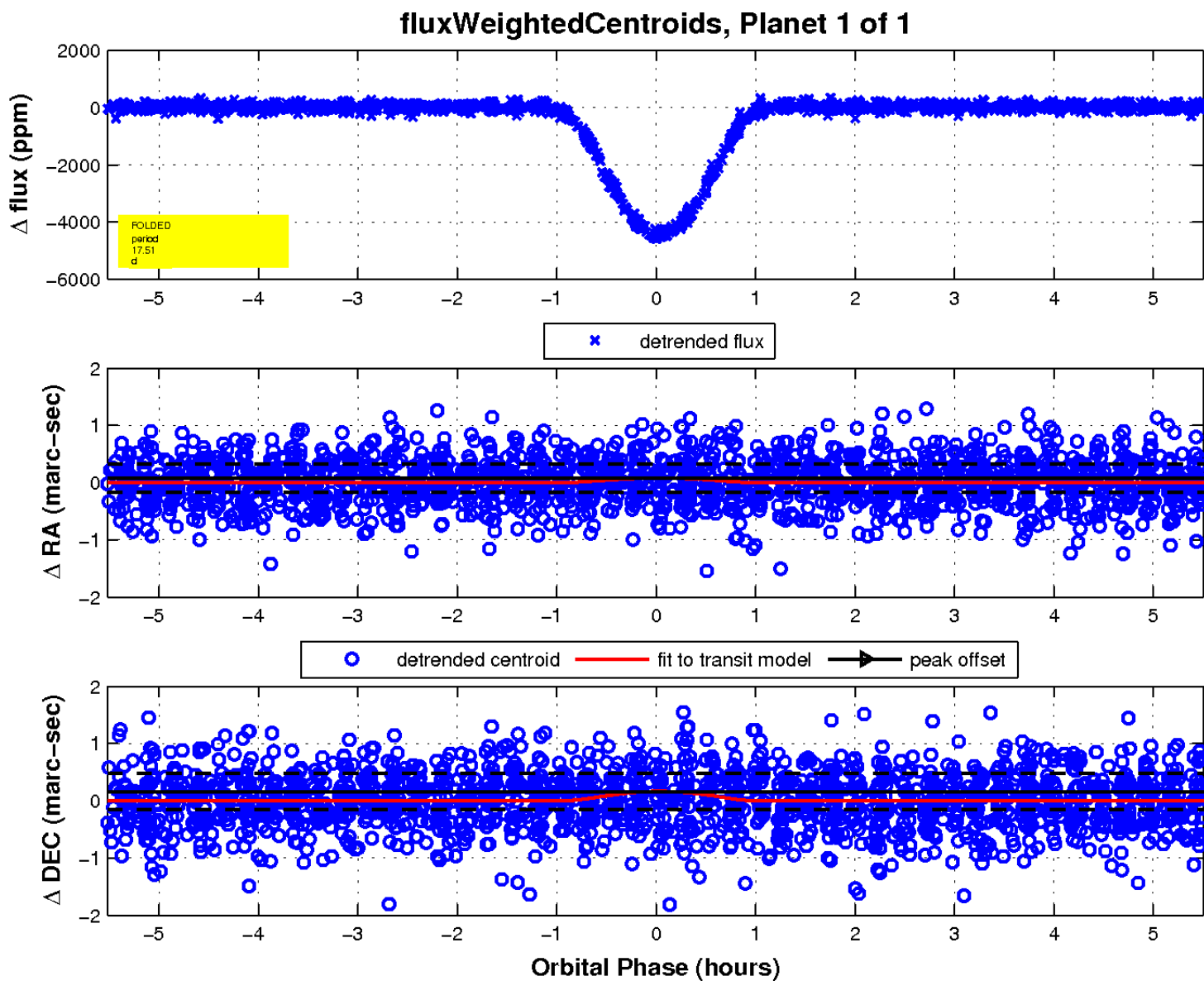
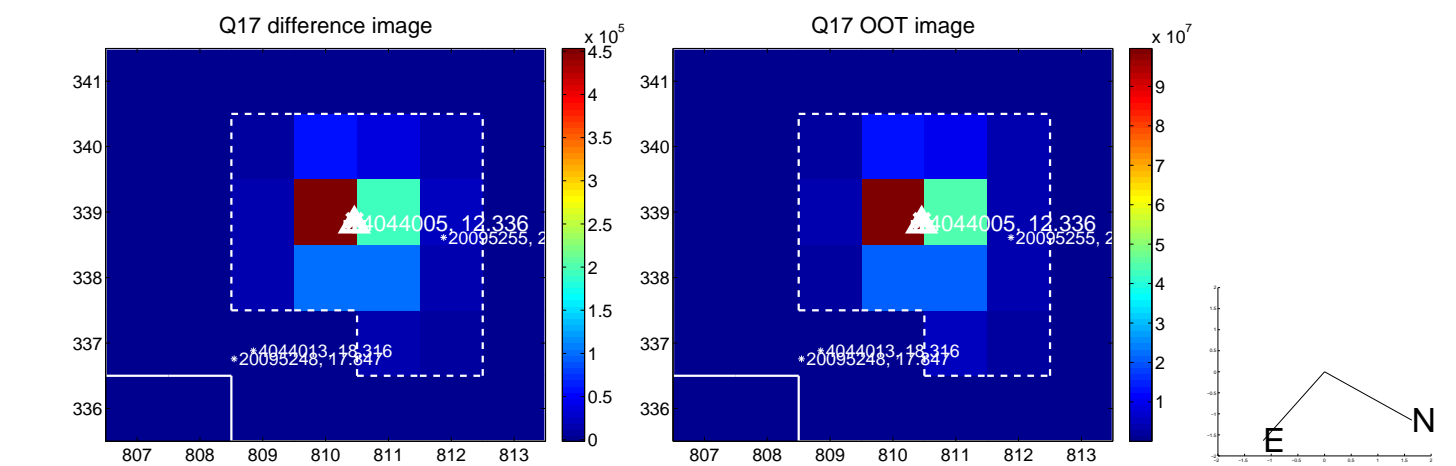
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

