

KIC 008256044

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})
008256044-01	OBS	3652.01	16.371884	140.020025	65202.2	3.458	811.6	593.0	1.42	5642	52.33	118.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008256044-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—CENT_KIC_POS

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.

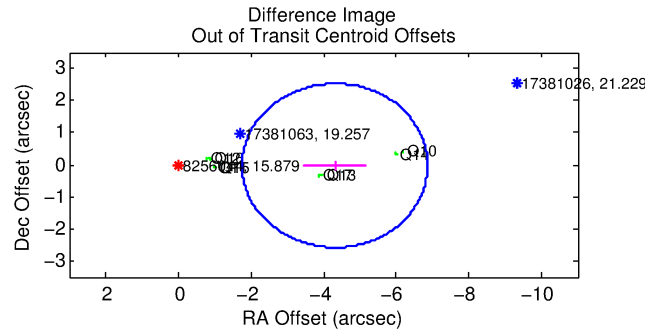
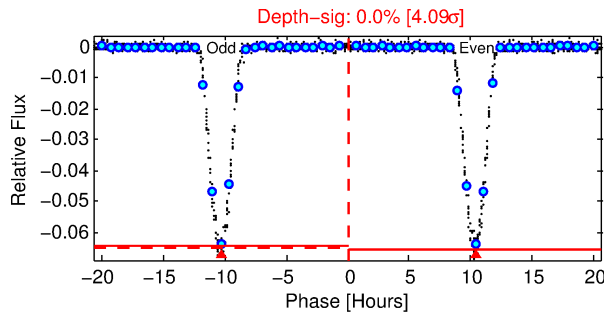
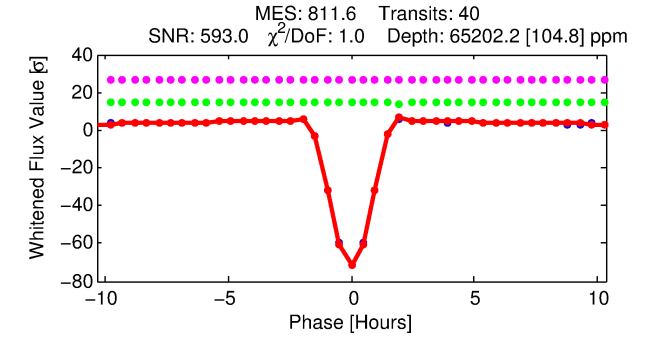
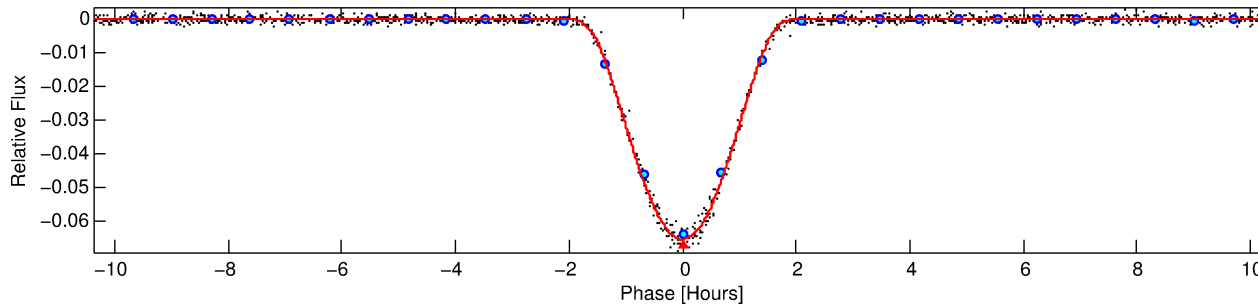
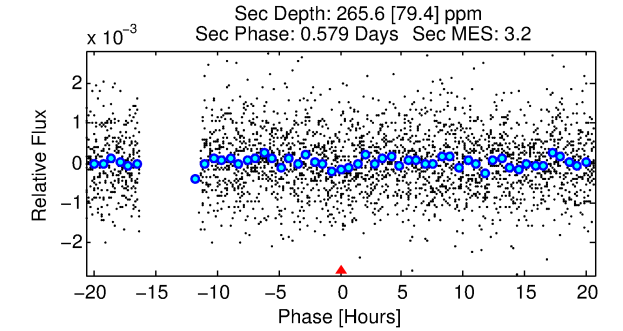
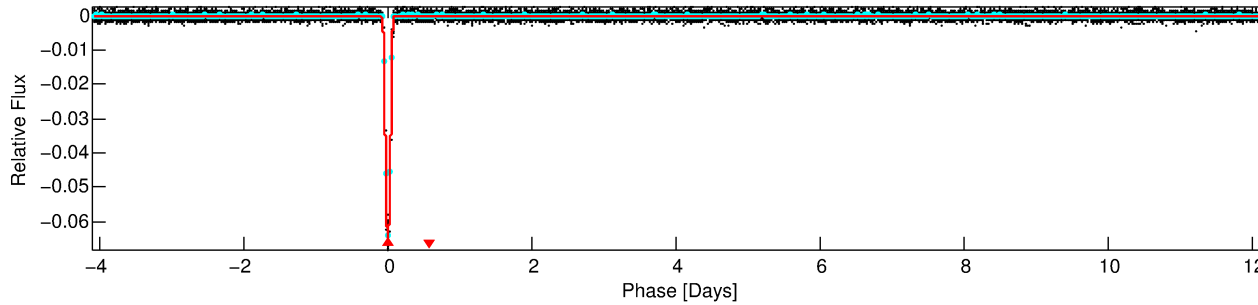
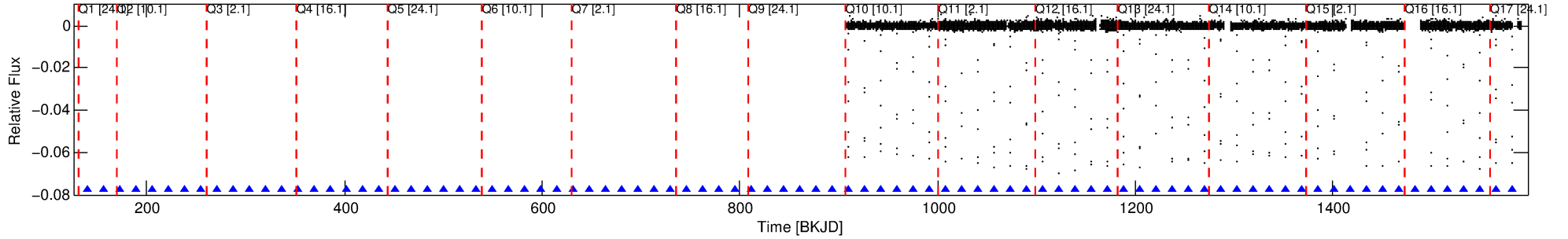
Ephemeris Match Information For 008256044-01

No Significant Match Found

DV One-Page Summary

KIC: 8256044 Candidate: 1 of 1 Period: 16.372 d
KOI: K03652.01 Corr: 0.999

Kp: 15.88 R*: 1.42 Rs Teff: 5642.0 K Logg: 4.11 Fe/H: -0.020



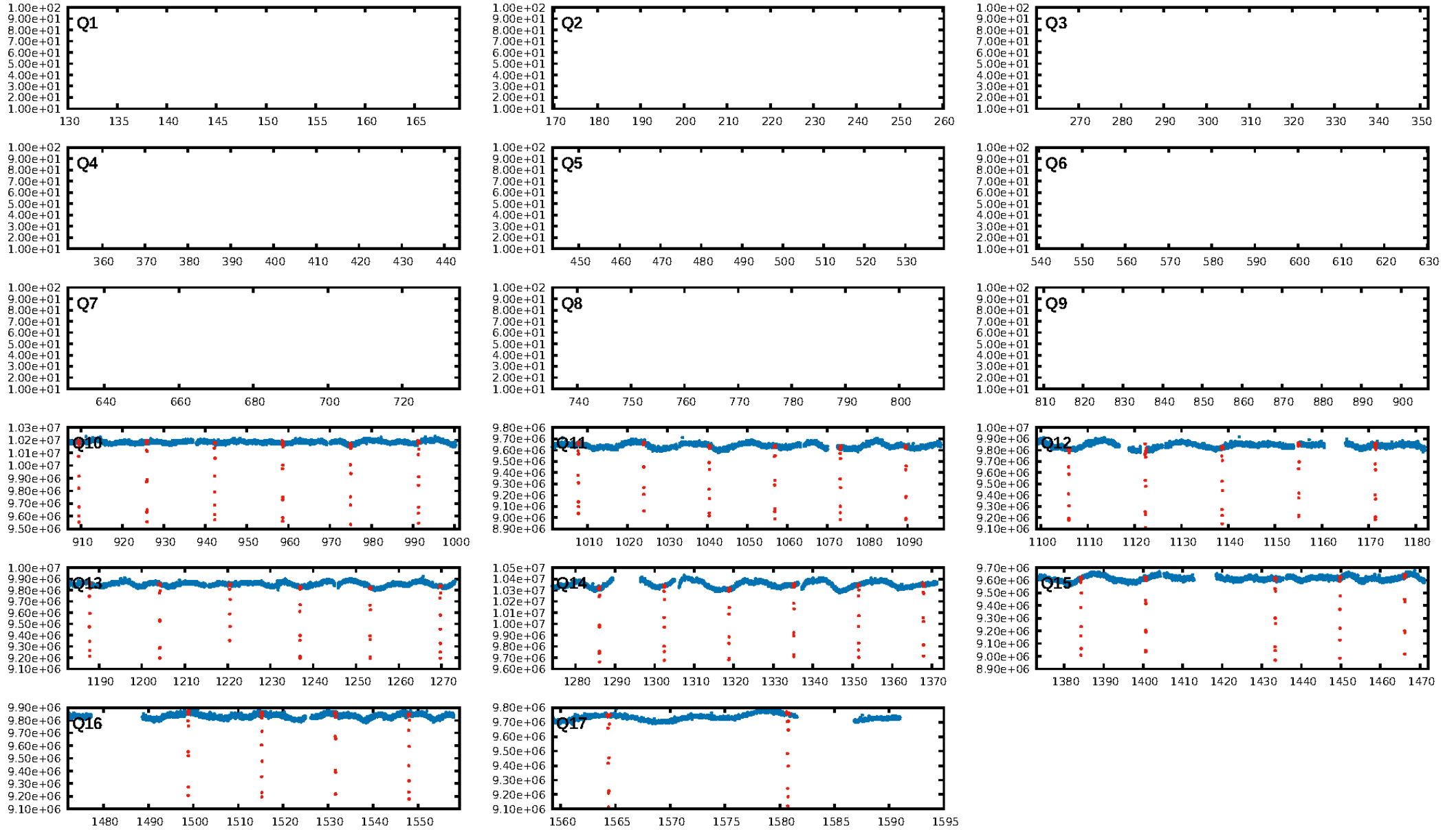
DV Fit Results:

Period = 16.37188 [0.00000] d
Epoch = 140.0200 [0.0003] BKJD
Rp/R* = 0.3389 [0.0255]
a/R* = 35.62 [0.14]
b = 0.91 [0.04]
Seff = 118.12 [72.31]
Teq = 841 [129] K
Rp = 52.33 [19.16] Re
a = 0.1241 [0.0451] AU
Ag = 0.82 [0.56] [-0.32σ]
Teffp = 1237 [111] K [2.33σ]

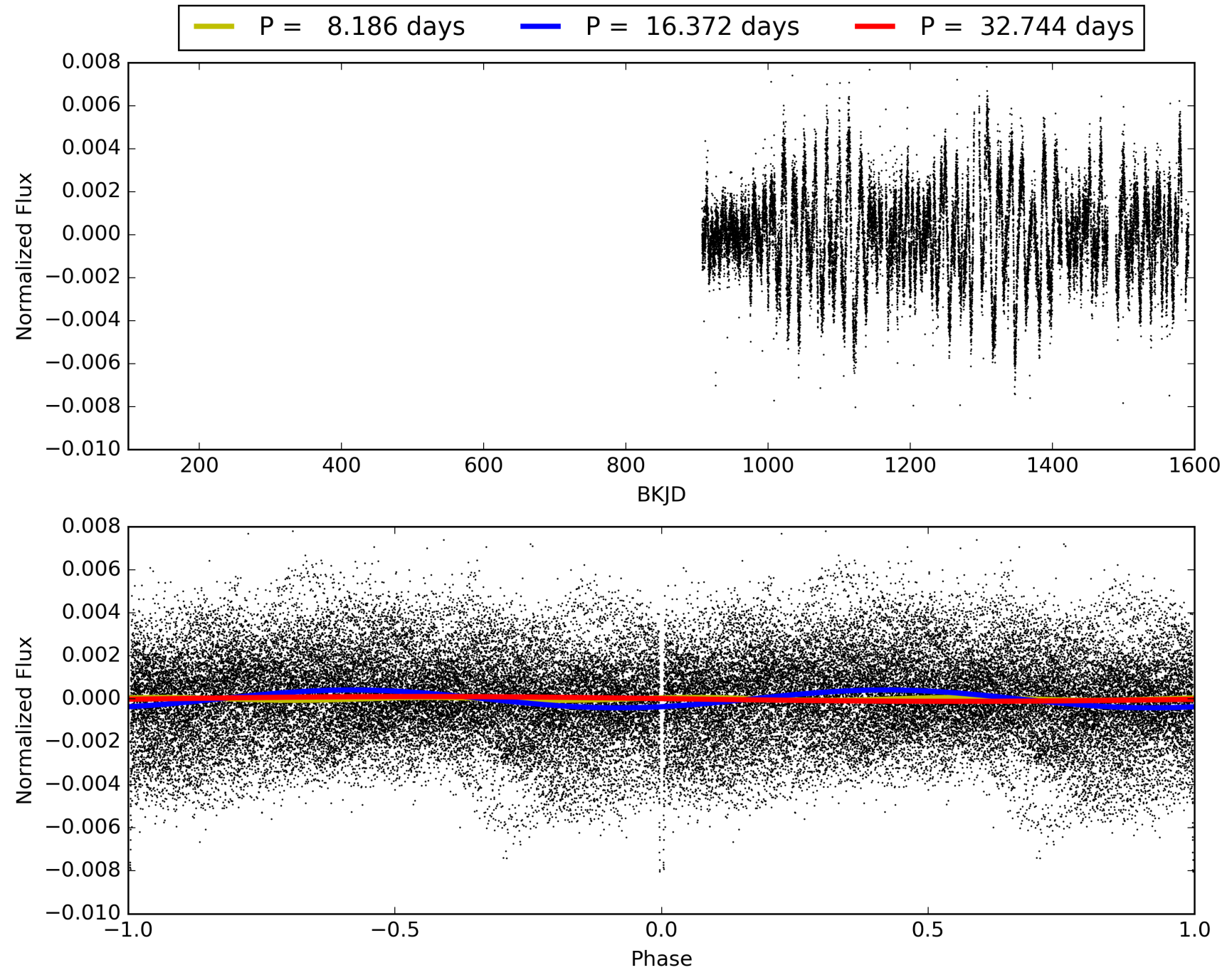
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [38/38]
GhostDiagnostic-chr: 2.754
Centroid-sig: 0.0%
Centroid-so: 1.268 arcsec [94.43σ]
OotOffset-rm: 4.311 arcsec [5.06σ]
KicOffset-rm: 0.107 arcsec [1.43σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 008256044-01, PDC Light Curves

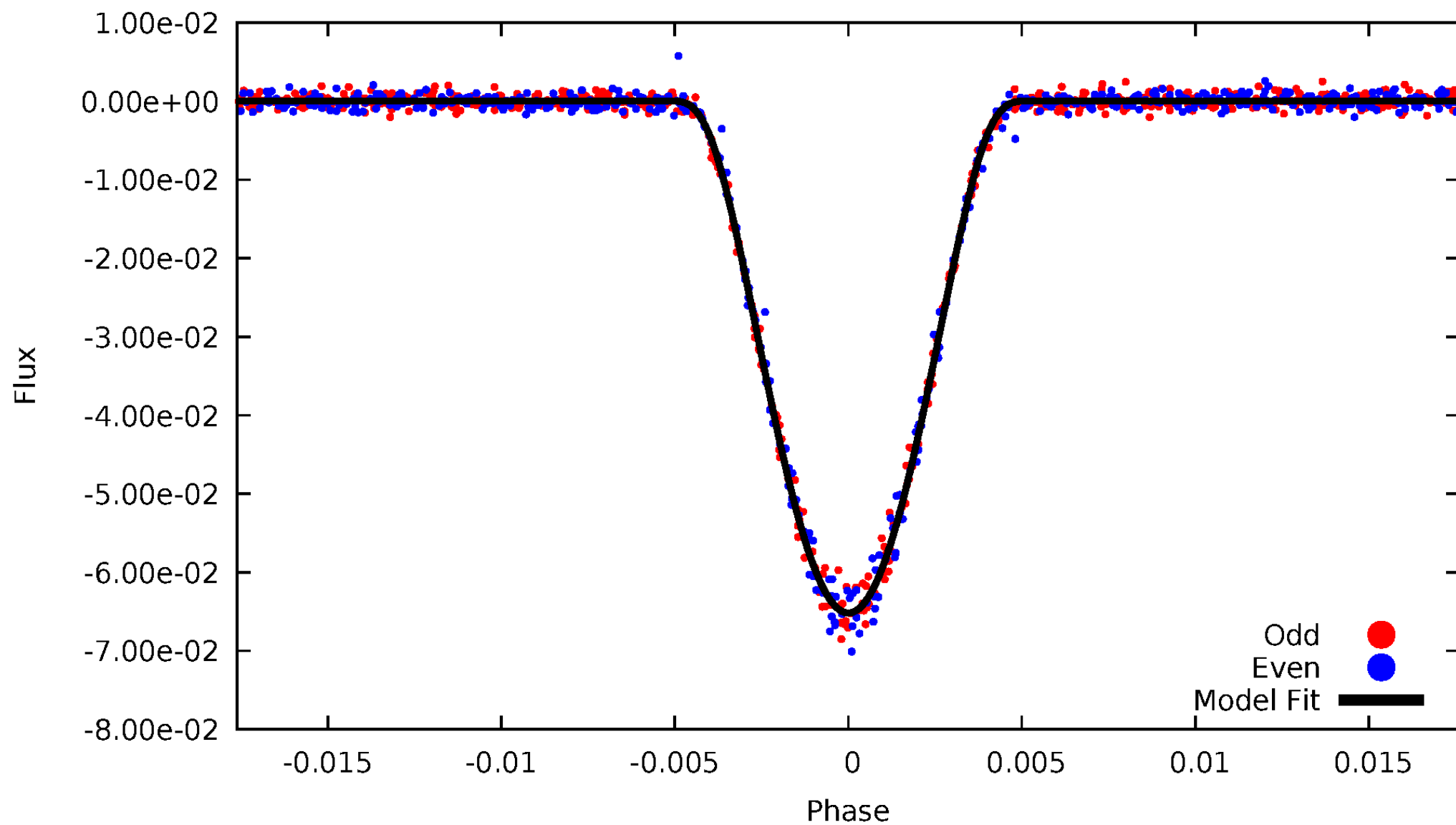


TCE 008256044-01



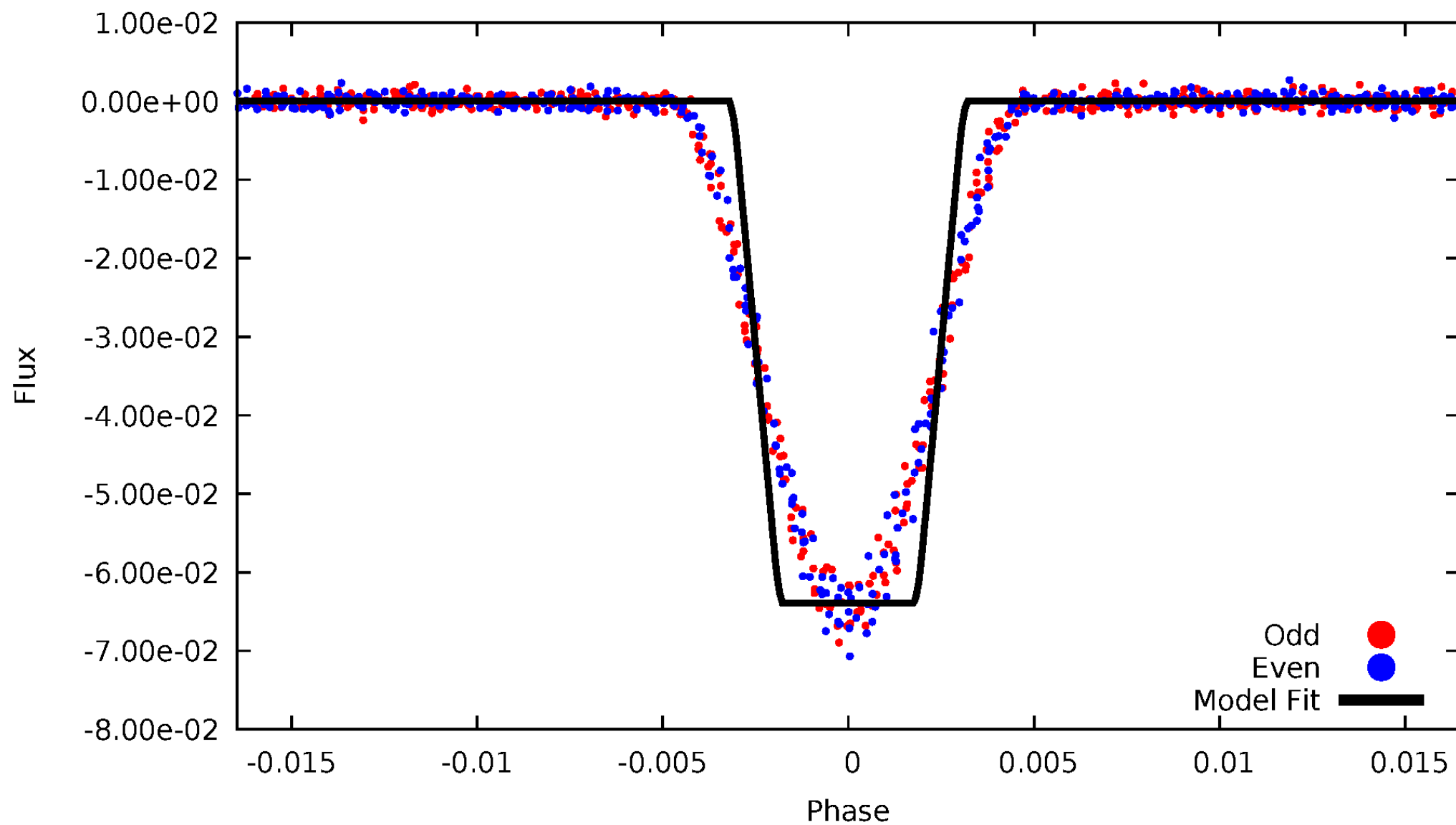
DV Odd/Even

TCE 008256044-01



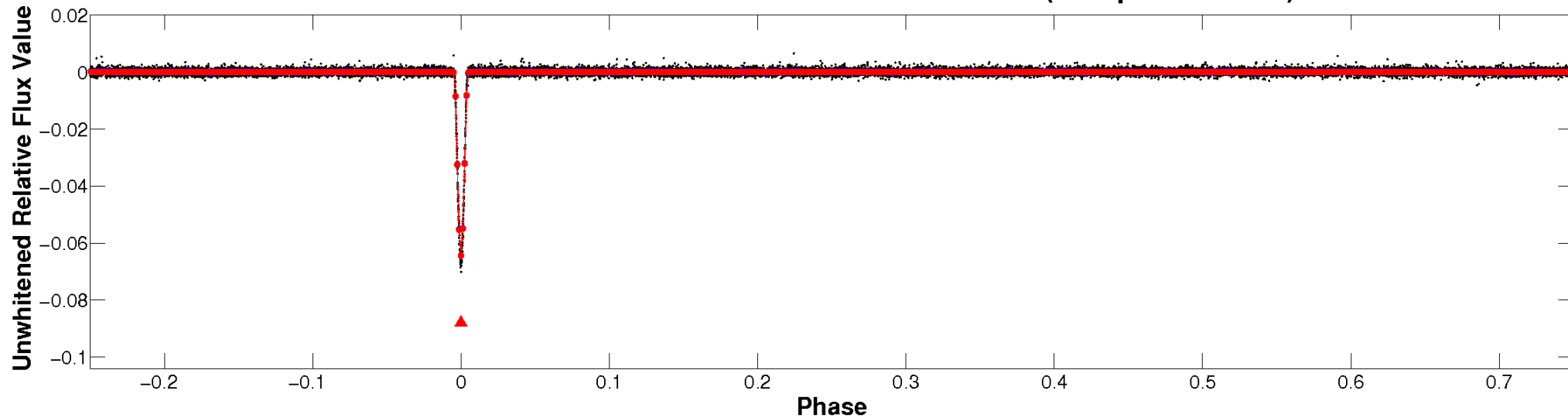
ALT Odd/Even

TCE 008256044-01

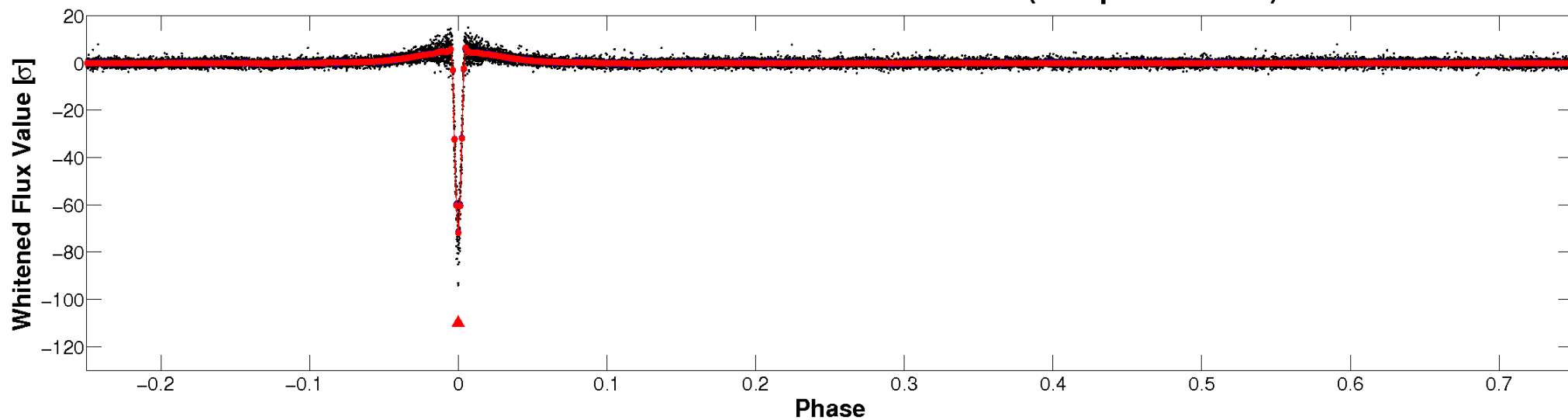


Non-Whitened Vs. Whitened Light Curve

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

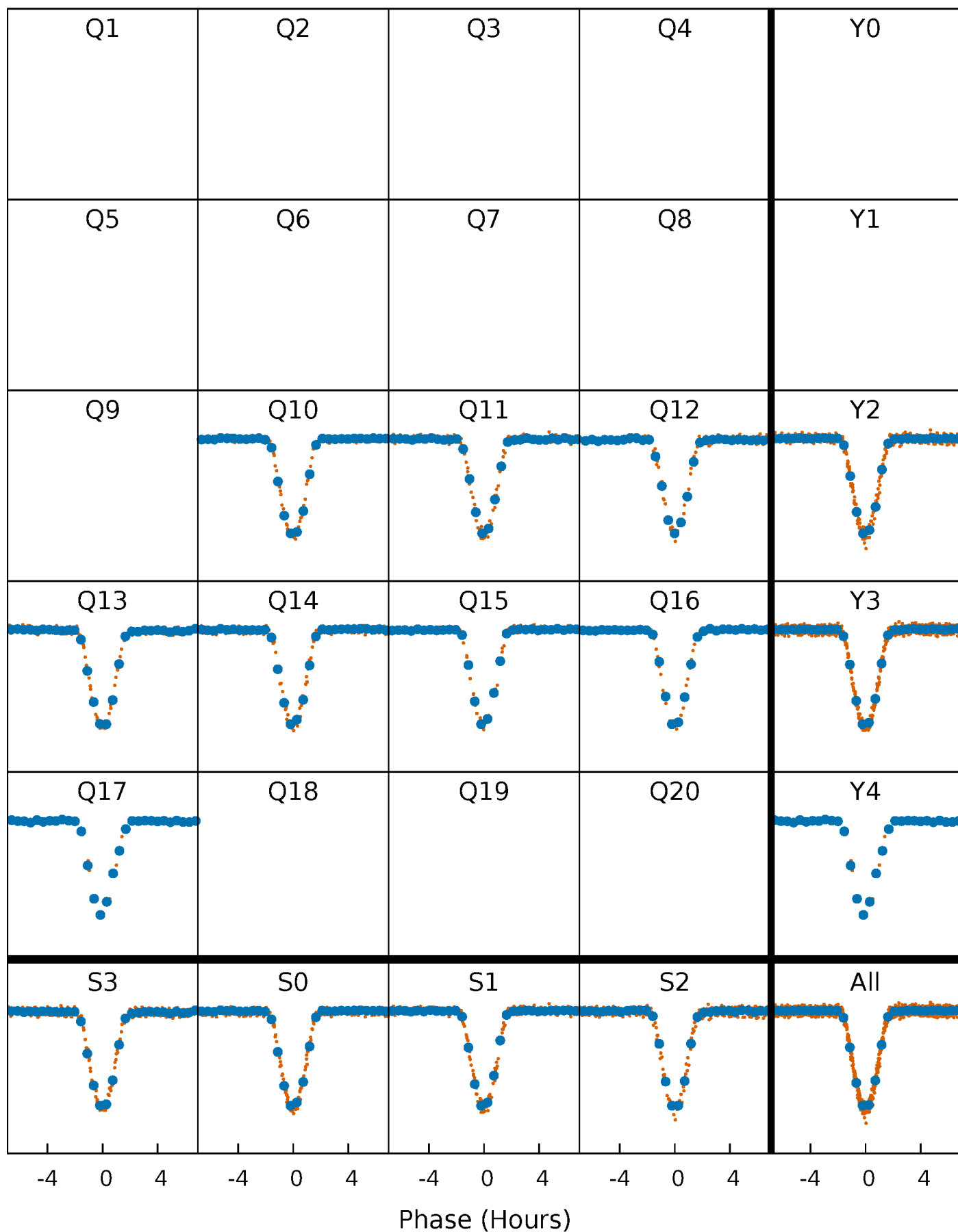


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



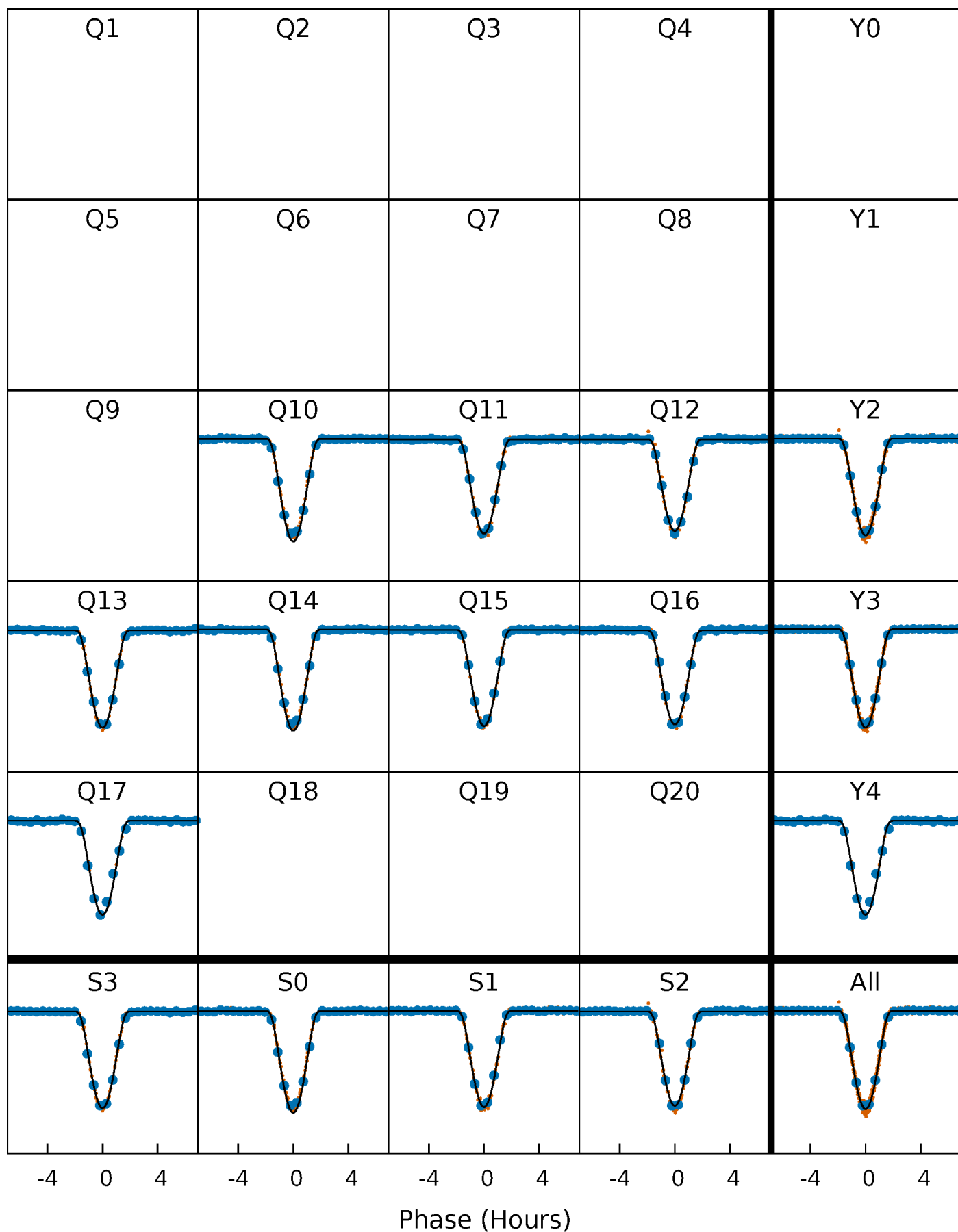
PDC Quarter-Phased Transit Curves

TCE 008256044-01 P= 16.371884 Days $T_0=140.020025$ (BKJD)



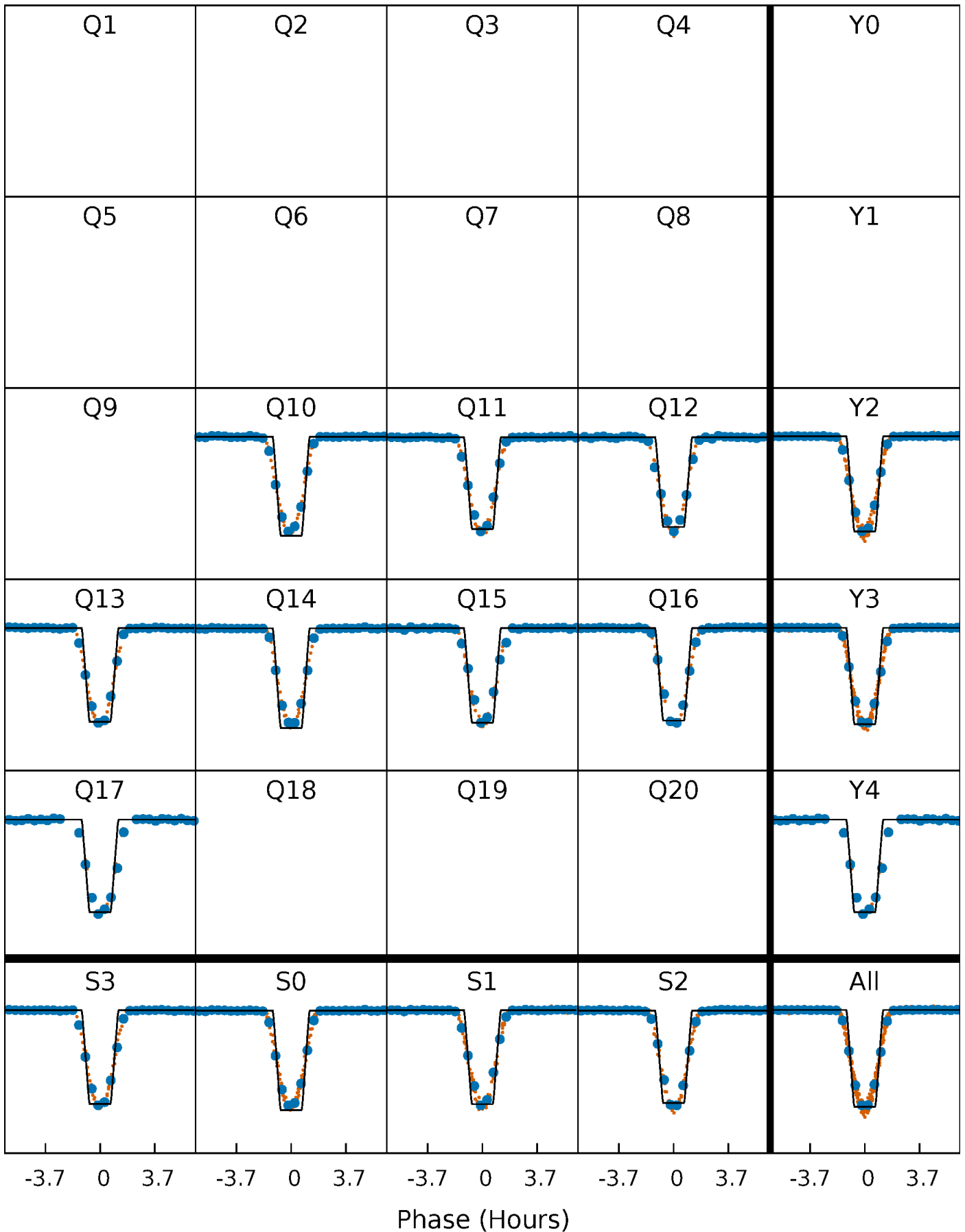
DV Quarter-Phased Transit Curves

TCE 008256044-01 P= 16.371884 Days $T_0=140.020025$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

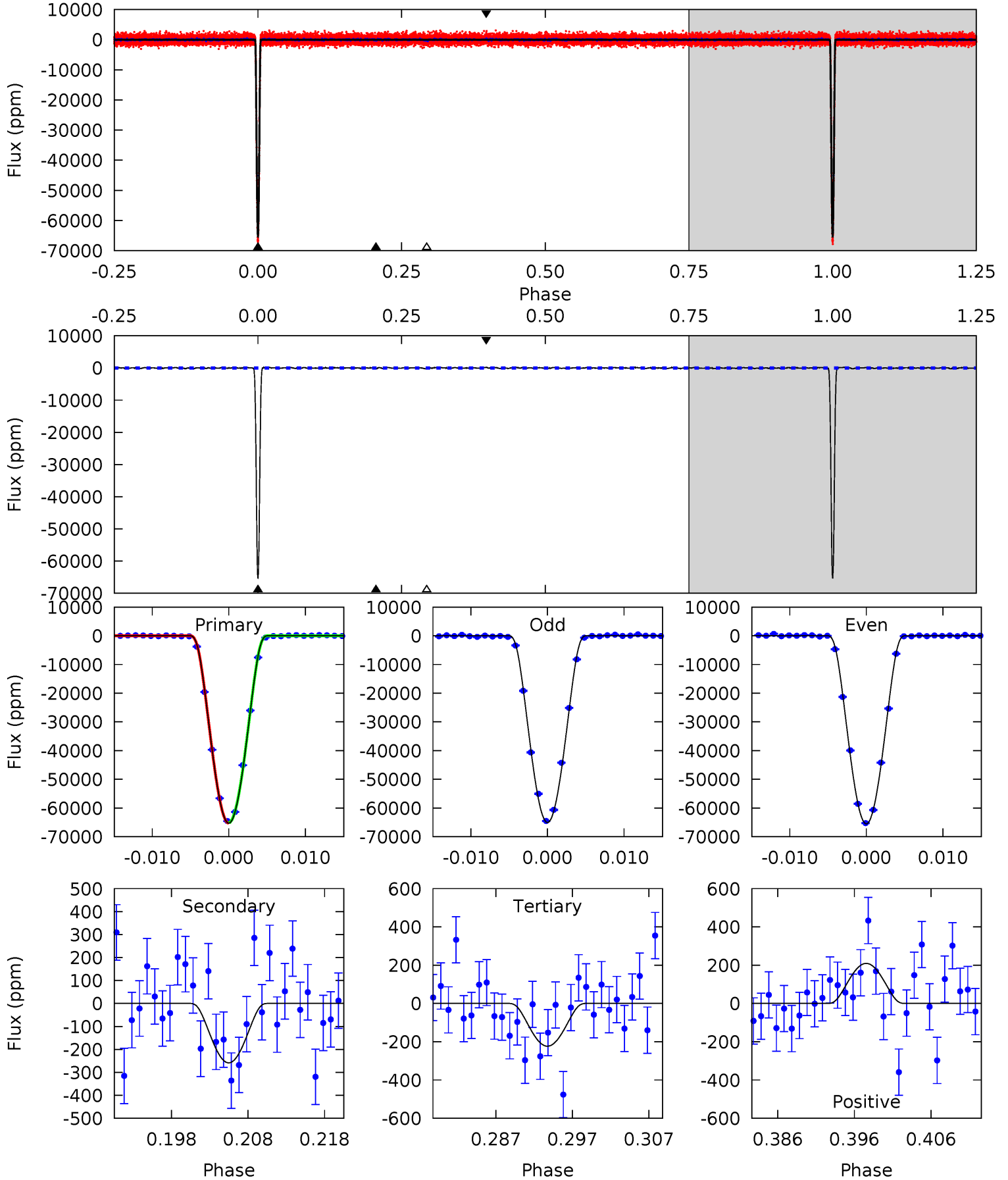
TCE 008256044-01 P= 16.371736 Days $T_0=140.029891$ (BKJD)



DV Model-Shift Uniqueness Test

008256044-01, P = 16.371884 Days, E = 140.020025 Days

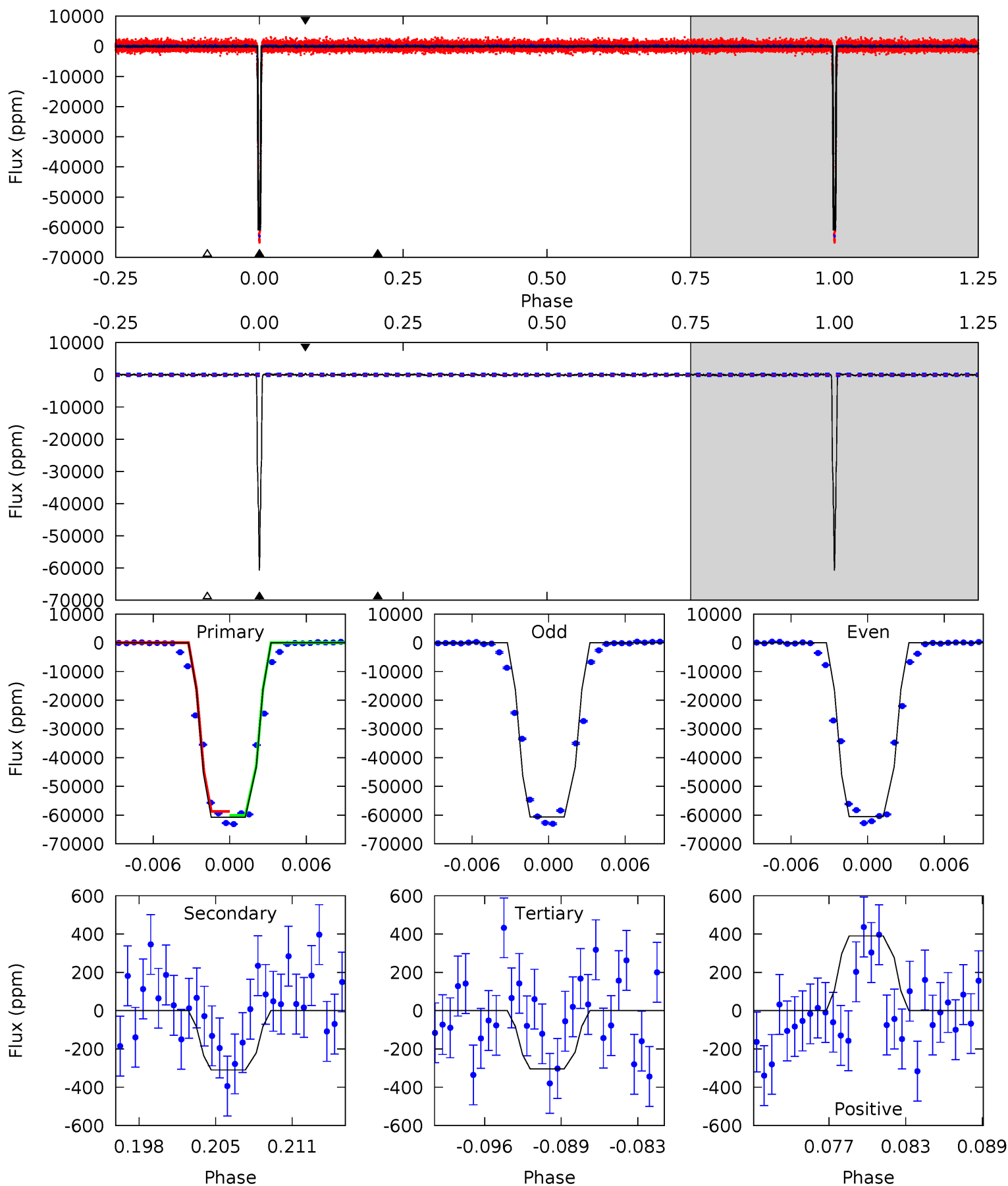
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1439	5.70	4.92	4.61	5.03	2.58	1.68	1434	1435	0.78	1.09	5.00	1.00	0.00	2.14



Alt Model-Shift Uniqueness Test

008256044-01, P = 16.371736 Days, E = 140.029891 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
736.0	3.75	3.68	4.72	5.11	2.73	1.13	732.3	731.2	0.07	-0.97	0.79	1.00	0.01	7.86



Stellar Parameters For KIC 008256044

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5642^{+186}_{-169}	$4.114^{+0.357}_{-0.153}$	$-0.020^{+0.300}_{-0.250}$	$1.415^{+0.380}_{-0.507}$	$0.950^{+0.125}_{-0.102}$	$0.472^{+1.094}_{-0.228}$
	+3%/-3%	+9%/-4%	+1500%/-1250%	+27%/-36%	+13%/-11%	+232%/-48%
Source	KIC0	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 008256044-01 / KOI 3652.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-259 ± 45	$50.21^{+9.63}_{-9.51}$	1154^{+94}_{-116}	2082^{+87}_{-106}	$0.870^{+0.500}_{-0.287}$
Alt.	-310 ± 83	$37.95^{+6.90}_{-8.28}$	1162^{+86}_{-129}	2335^{+112}_{-128}	$1.839^{+1.321}_{-0.682}$

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

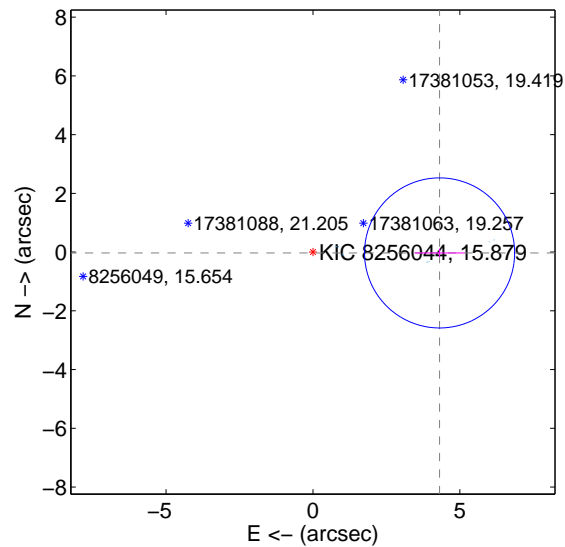
Supplemental centroid analysis for 008256044-01. Kepler magnitude: 15.88. Transit SNR 593.00

There are 8 quarters with good PRF difference image offsets

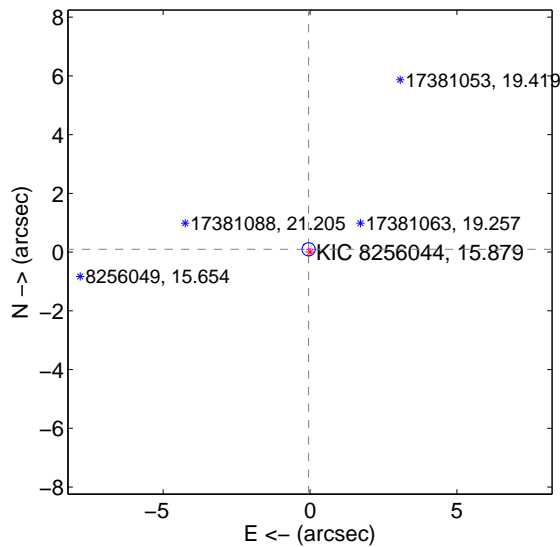
The OOT PRF centroid is offset from the target star catalog position by about 3.85 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.311 ± 0.851	5.06	-4.311 ± 0.851	-0.028 ± 0.141
PRF-fit source offset from KIC position	0.107 ± 0.075	1.43	0.048 ± 0.079	0.095 ± 0.074
photometric centroid source offset	1.27 ± 0.01	94.43	1.23 ± 0.01	-0.30 ± 0.01

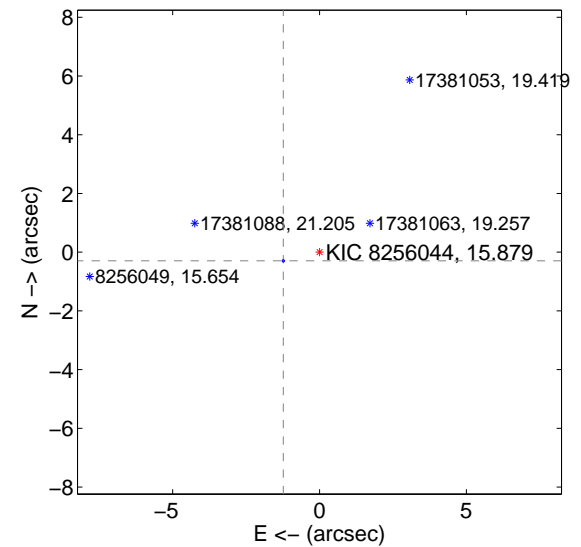
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

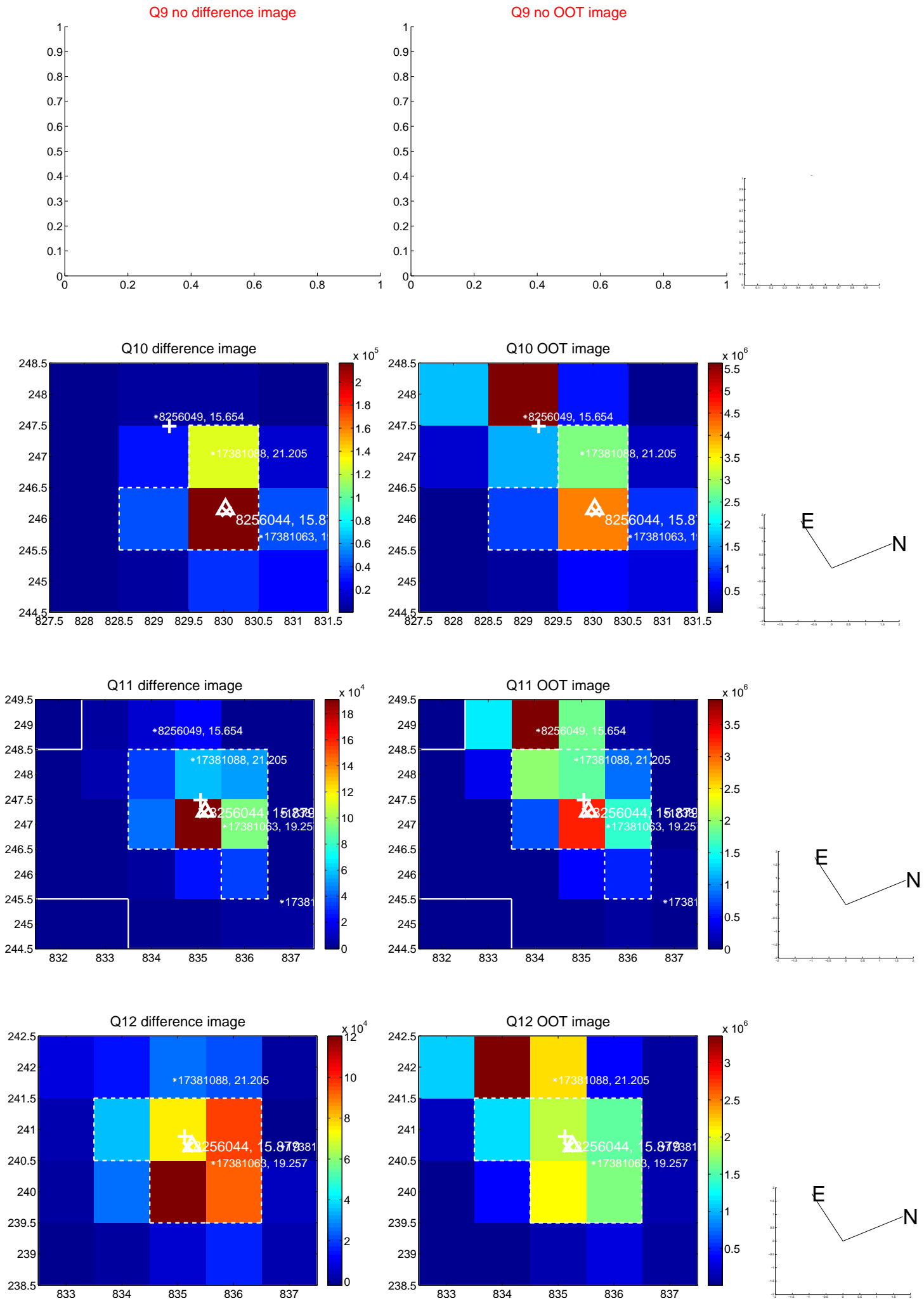
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



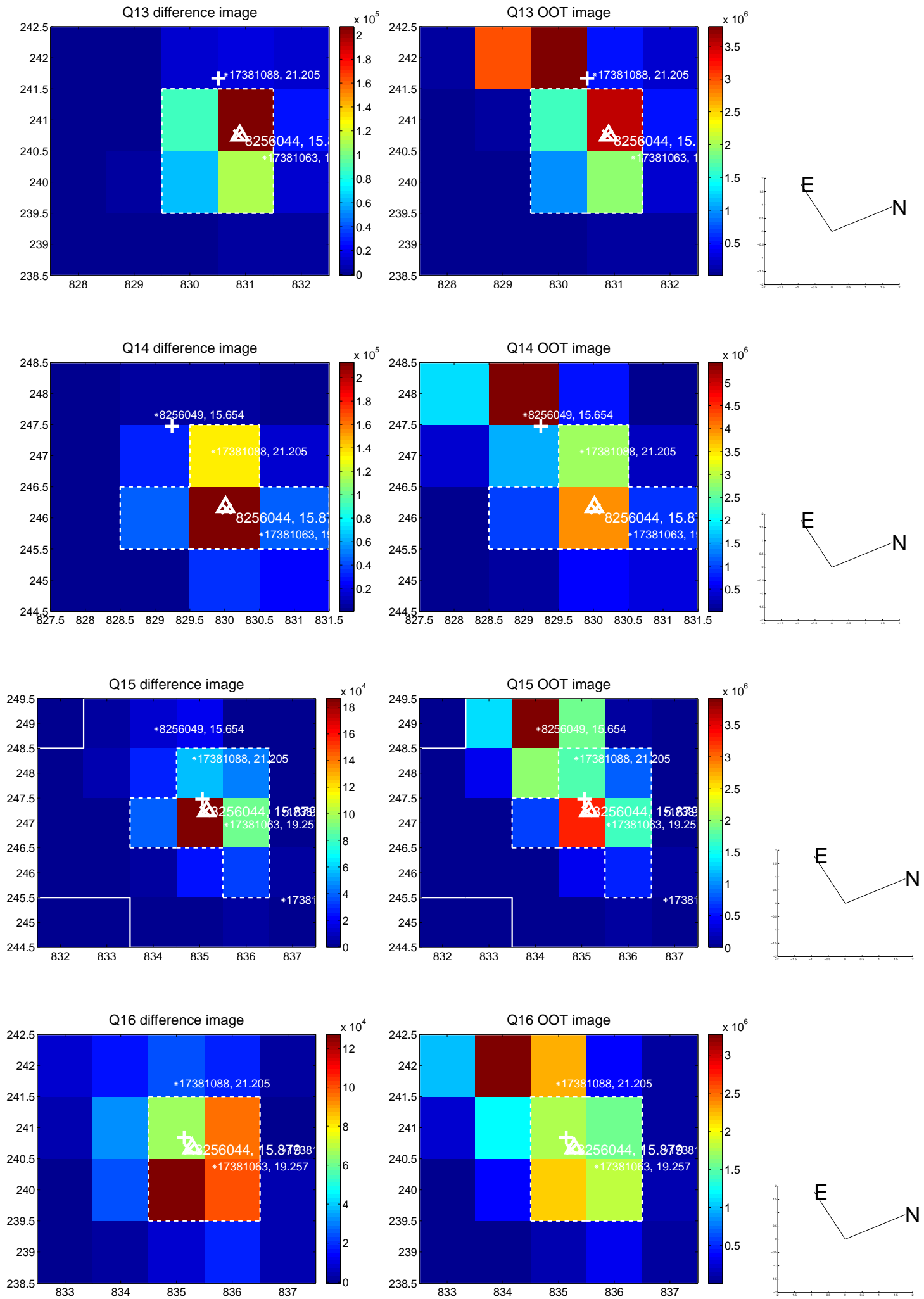
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



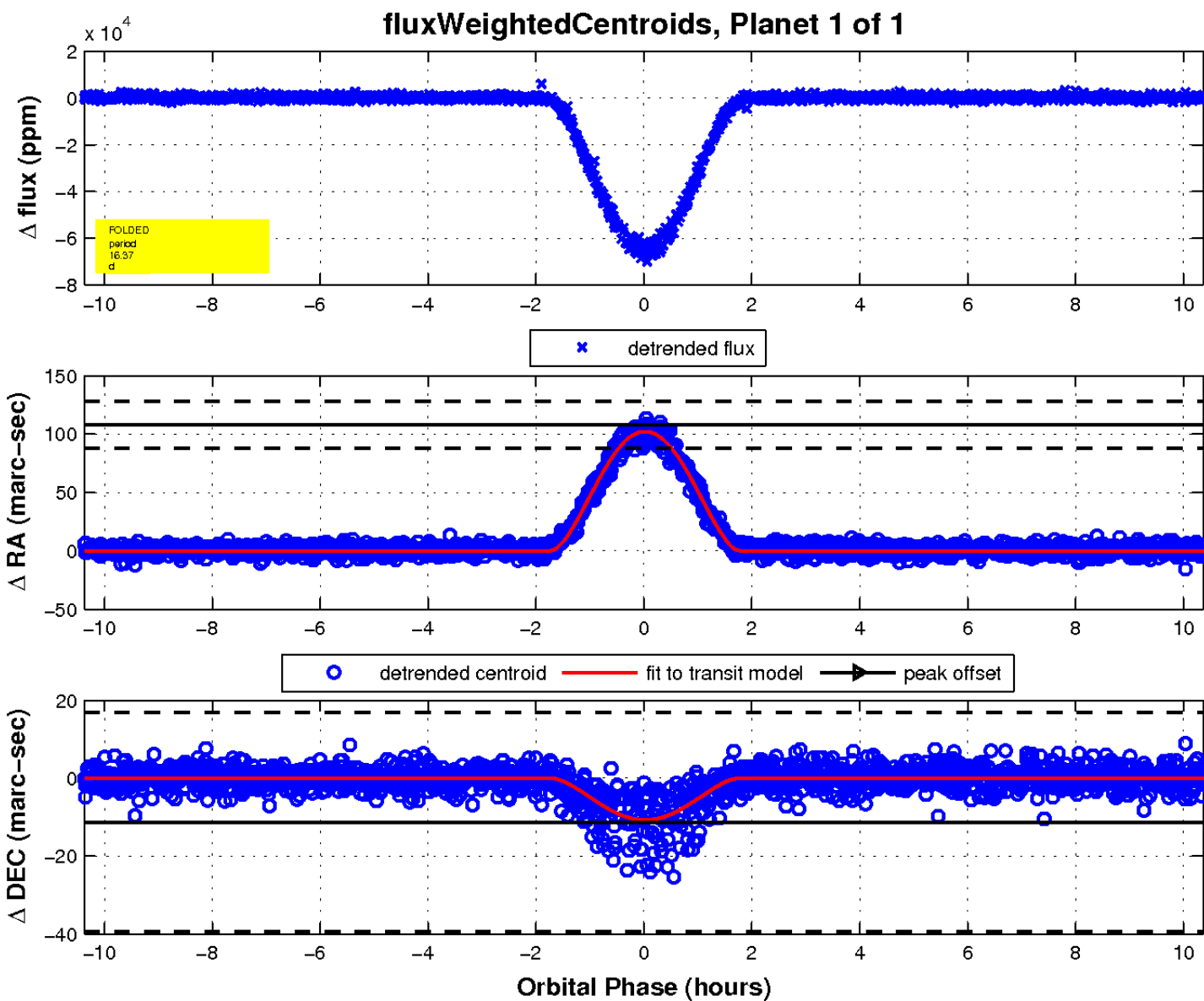
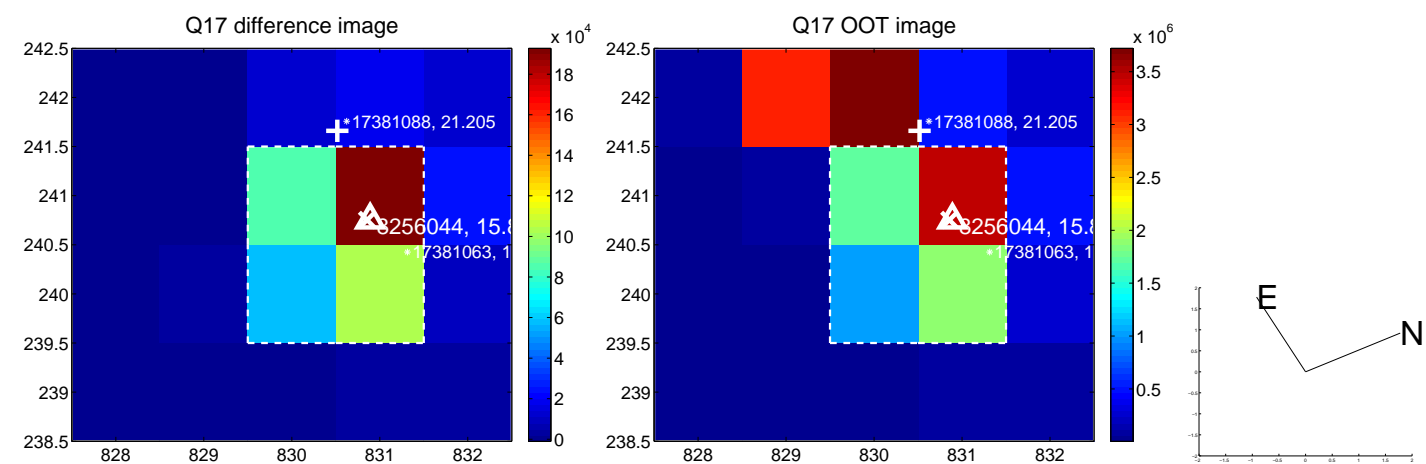
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

