

KIC 010275805

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})
010275805-01	OBS	2782.01	112.645360	183.001785	1620.8	7.105	21.6	17.8	0.99	5895	6.58	4.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010275805-01	OBS	FP	0.00	0	1	1	0	DEEP_V_SHAPED—CENT_RESOLVED_OFFSET

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 010275805-01

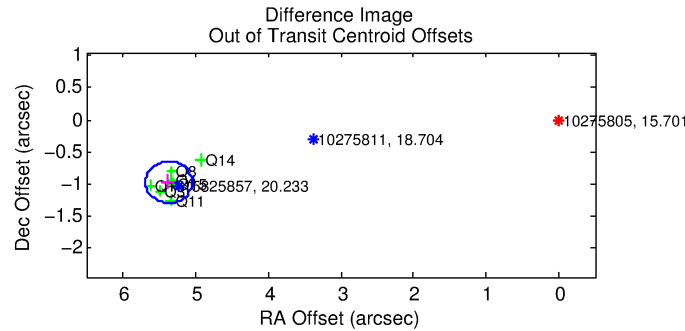
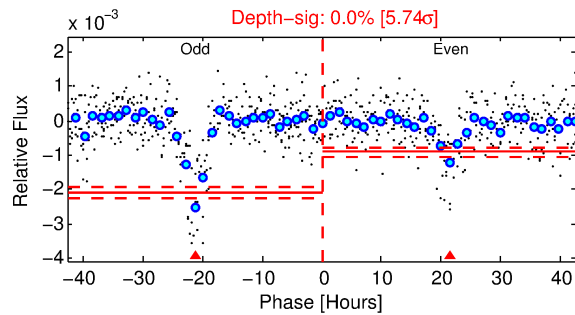
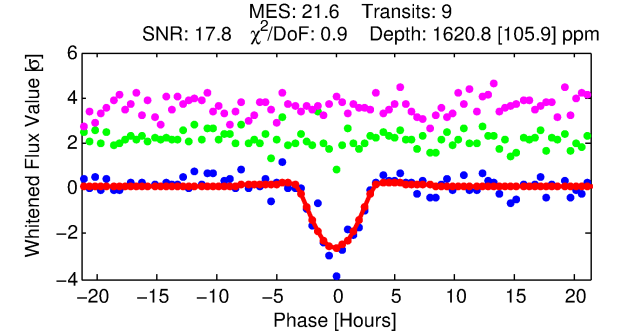
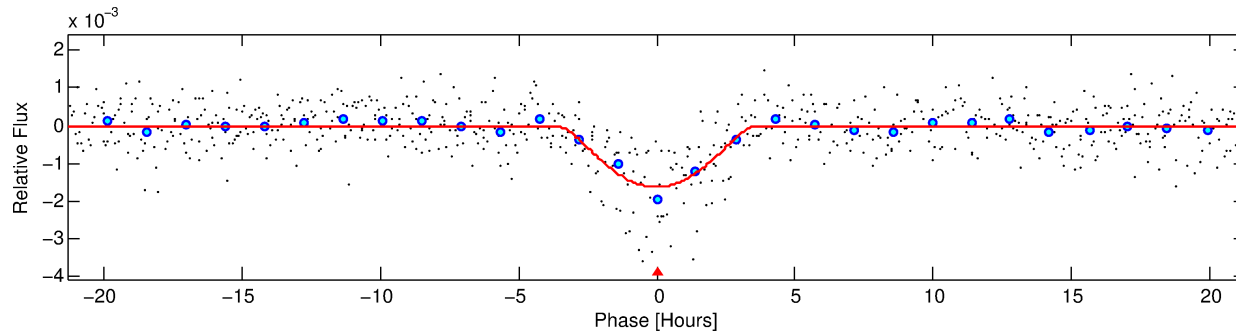
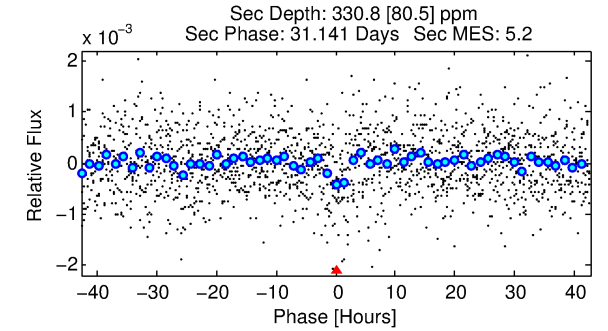
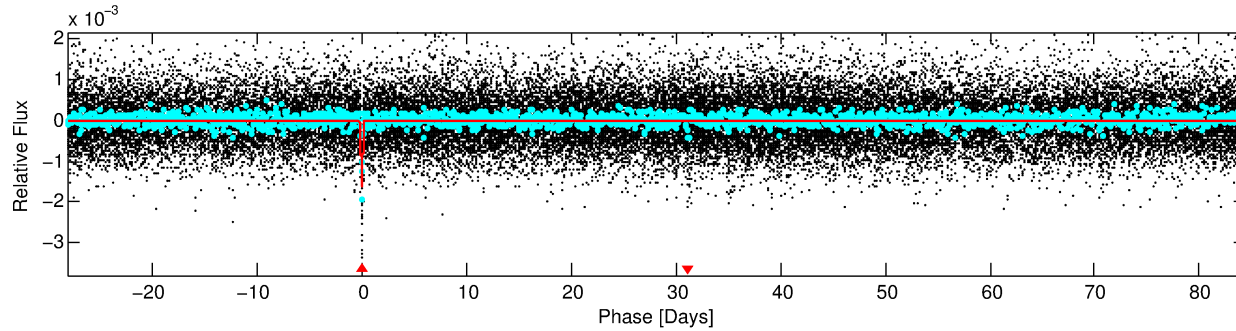
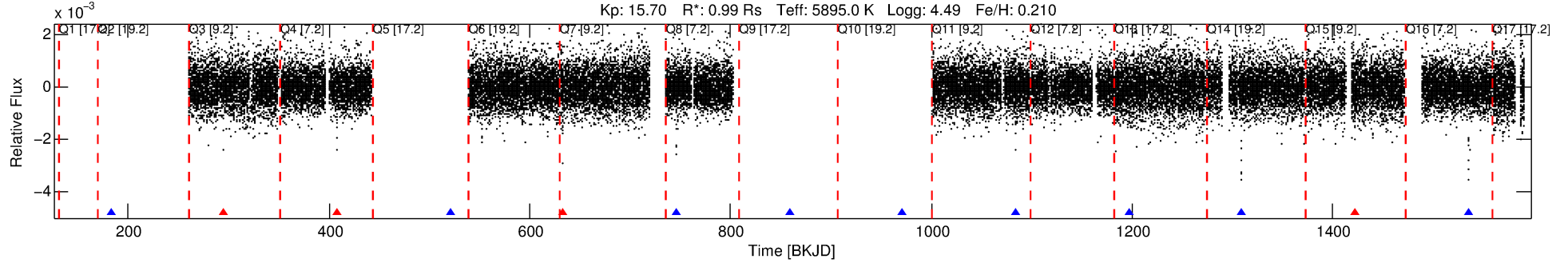
No Significant Match Found

DV One-Page Summary

KIC: 10275805 Candidate: 1 of 1 Period: 112.645 d

KOI: K02782.01 Corr: 0.978

Kp: 15.70 R*: 0.99 Rs Teff: 5895.0 K Logg: 4.49 Fe/H: 0.210



DV Fit Results:

Period = 112.64536 [0.00116] d
Epoch = 183.0018 [0.0088] BKJD
Rp/R* = 0.0609 [0.0734]
a/R* = 47.92 [17.11]
b = 0.98 [0.12]
Seff = 4.77 [2.03]
Teq = 377 [40] K
Rp = 6.59 [8.20] Re
a = 0.4719 [0.1266] AU
Ag = 934.63 [2295.09] [0.41σ]
Teffp = 3222 [1955] K [1.45σ]

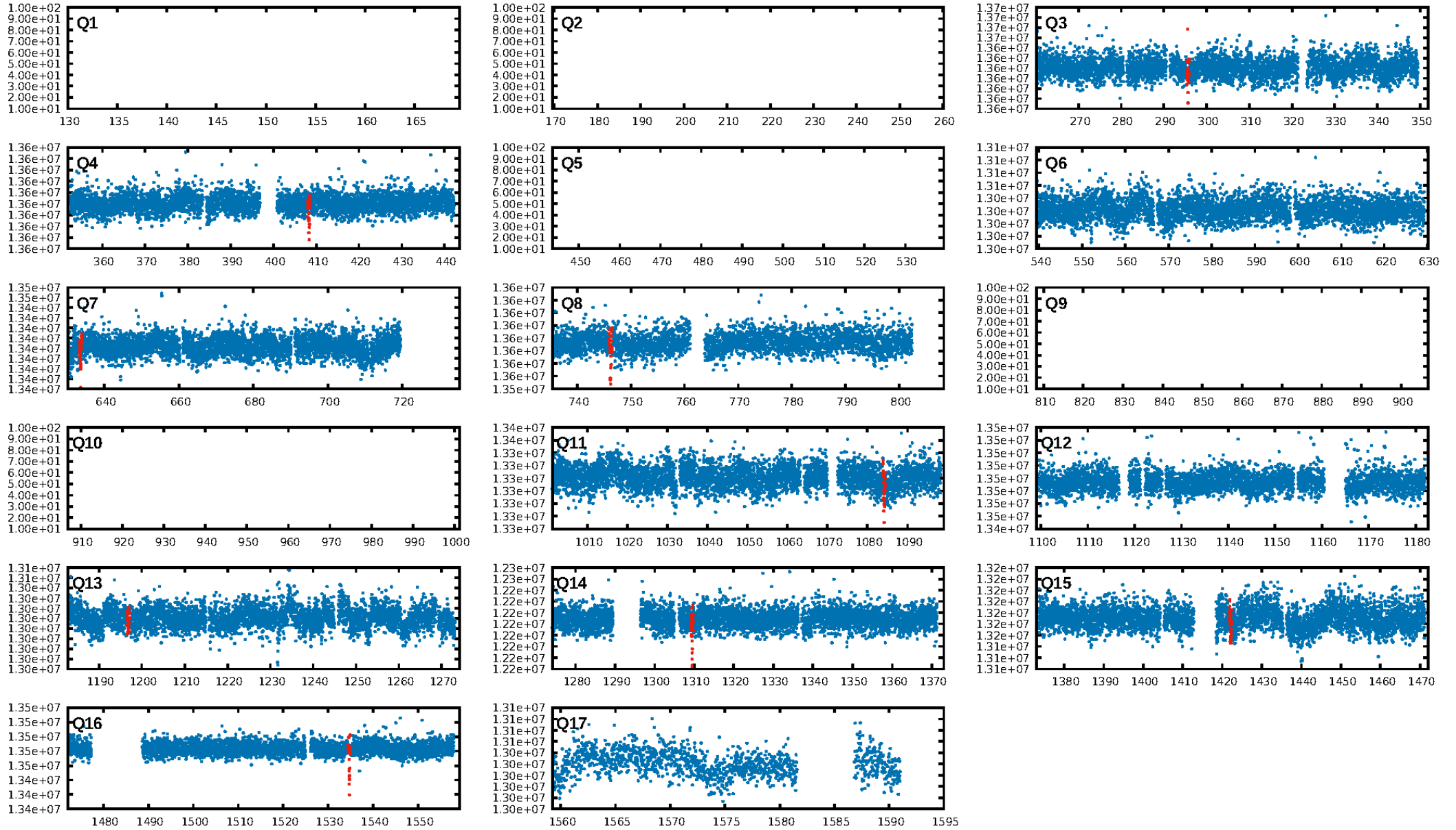
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 98.2%
Bootstrap-pfa: 8.08e-92
RollingBand-fgt: 0.56 [5/9]
GhostDiagnostic-chr: -0.2626
Centroid-sig: 0.0%
Centroid-so: 20.501 arcsec [22.57σ]
OotOffset-rm: 5.456 arcsec [50.70σ]
KicOffset-rm: 5.339 arcsec [54.91σ]
OotOffset-st: 1/3/3/0 [7]
KicOffset-st: 1/3/3/0 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

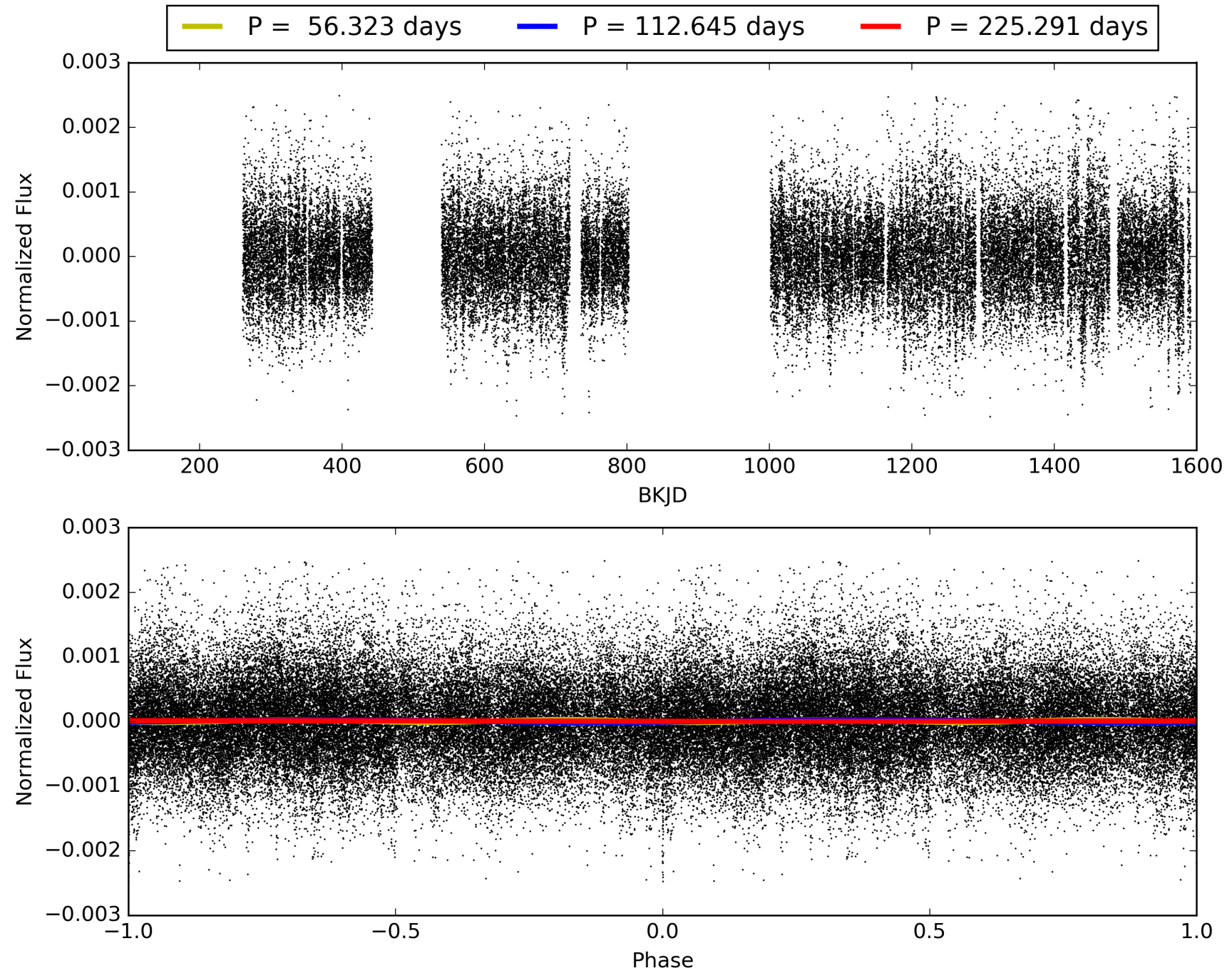
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:46:25 Z

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

TCE 010275805-01, PDC Light Curves

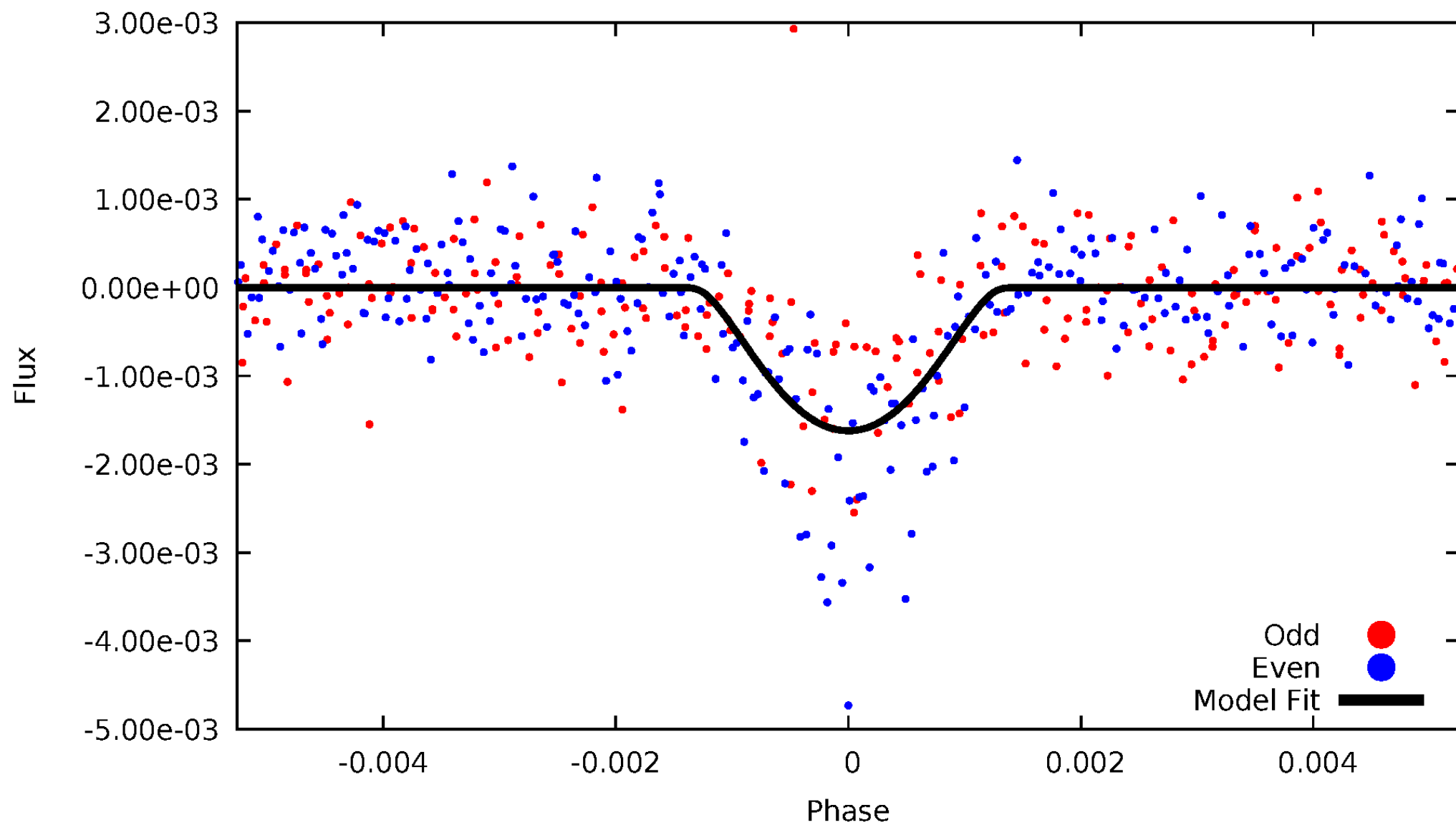


TCE 010275805-01



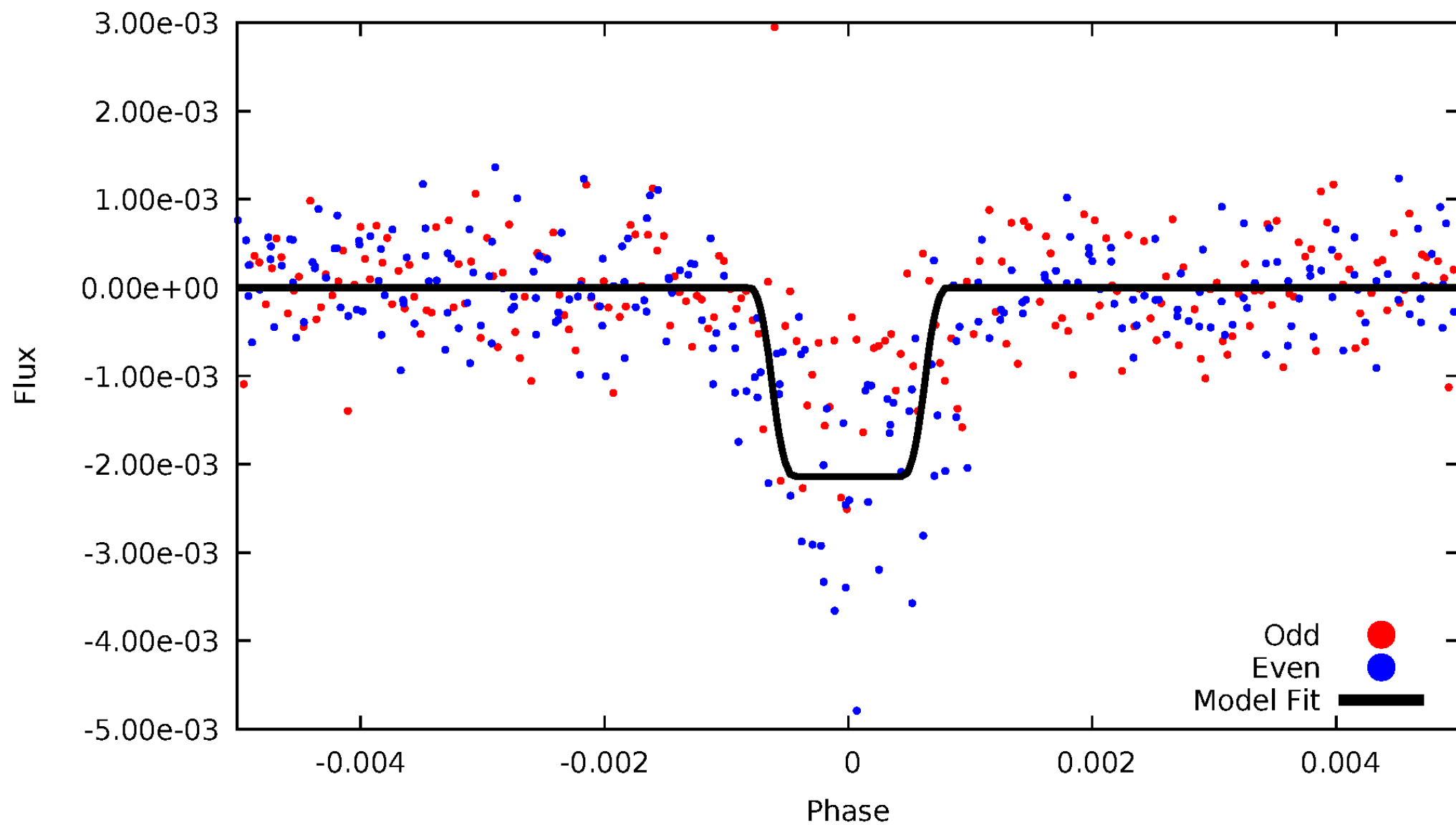
DV Odd/Even

TCE 010275805-01



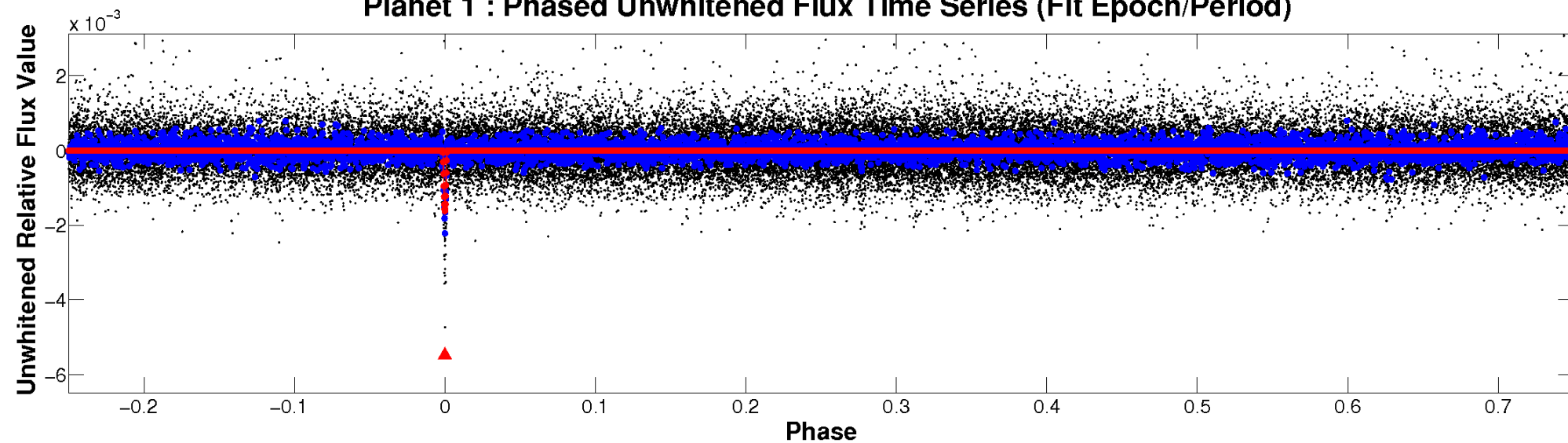
ALT Odd/Even

TCE 010275805-01

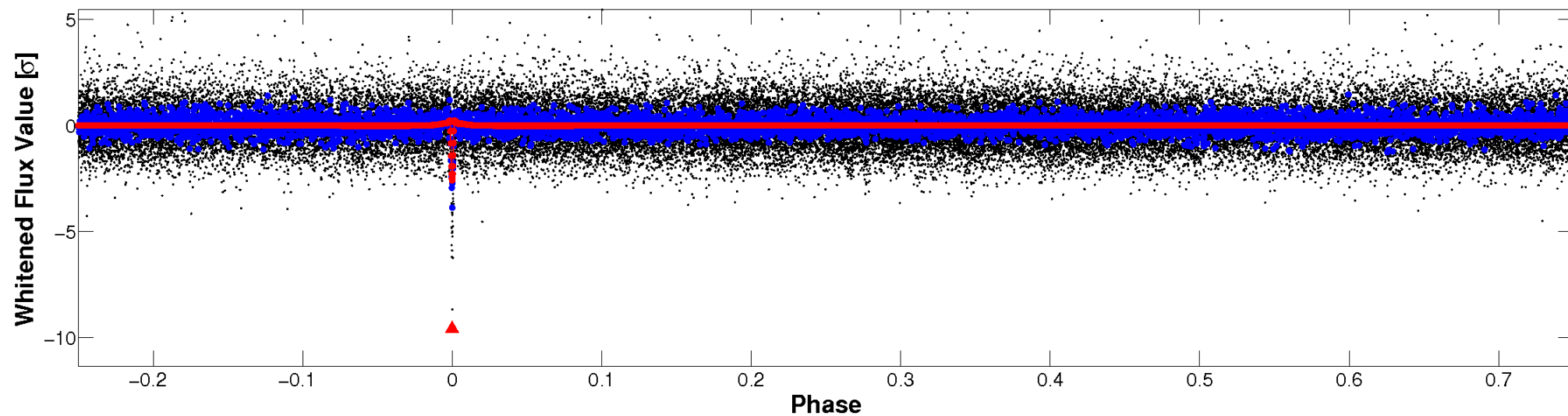


Non-Whitened Vs. Whitened Light Curve

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

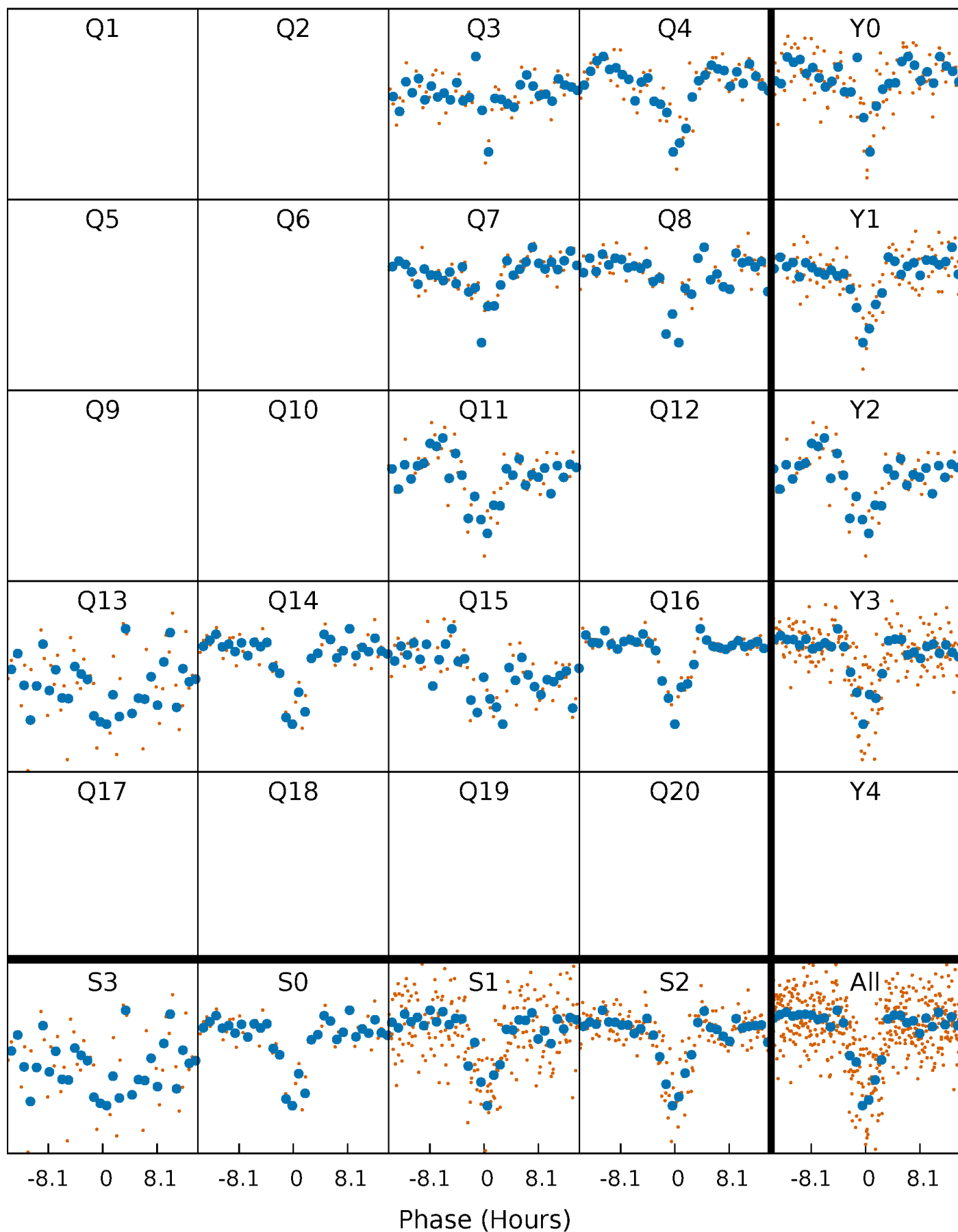


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



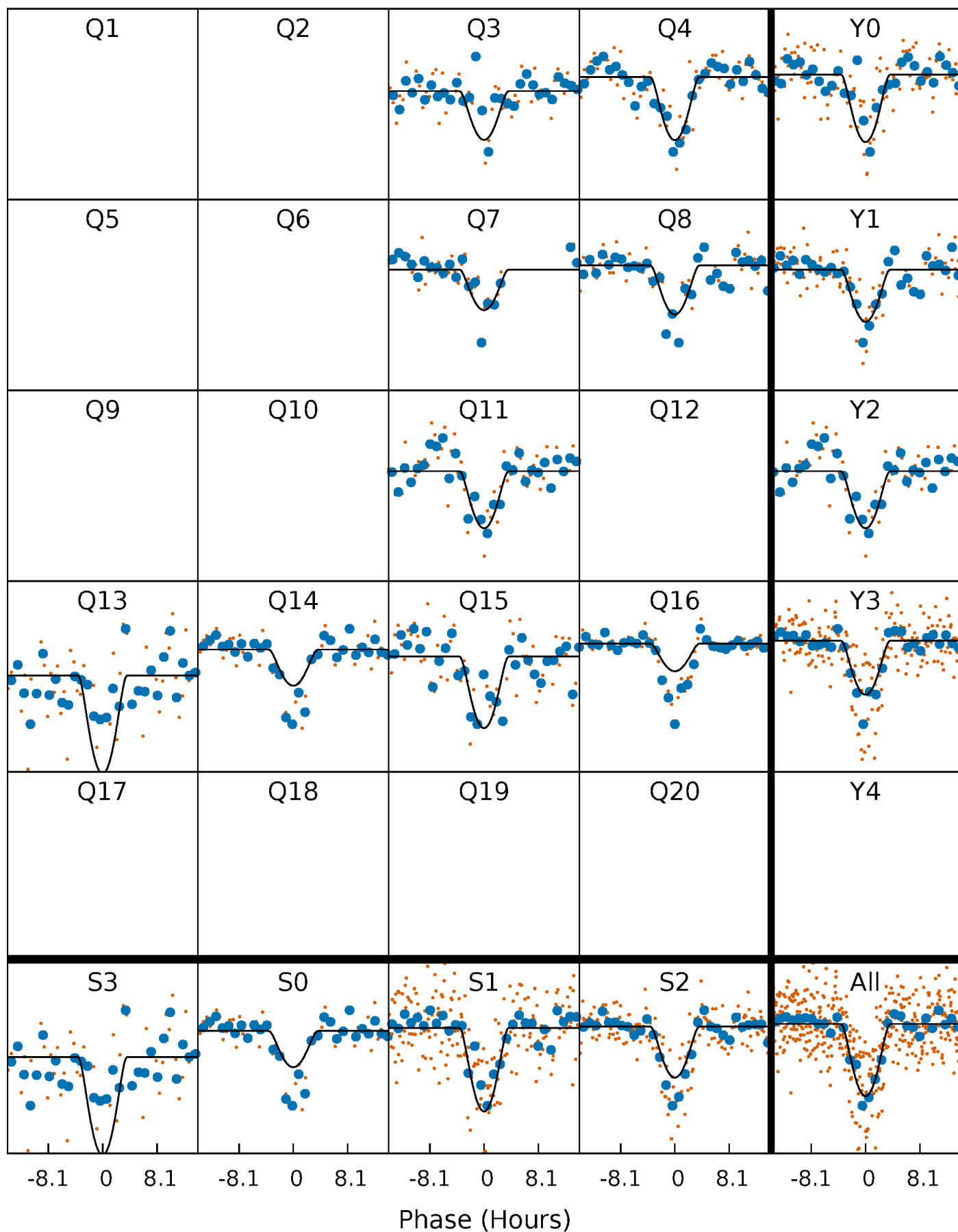
PDC Quarter-Phased Transit Curves

TCE 010275805-01 P=112.645360 Days $T_0=183.001785$ (BKJD)



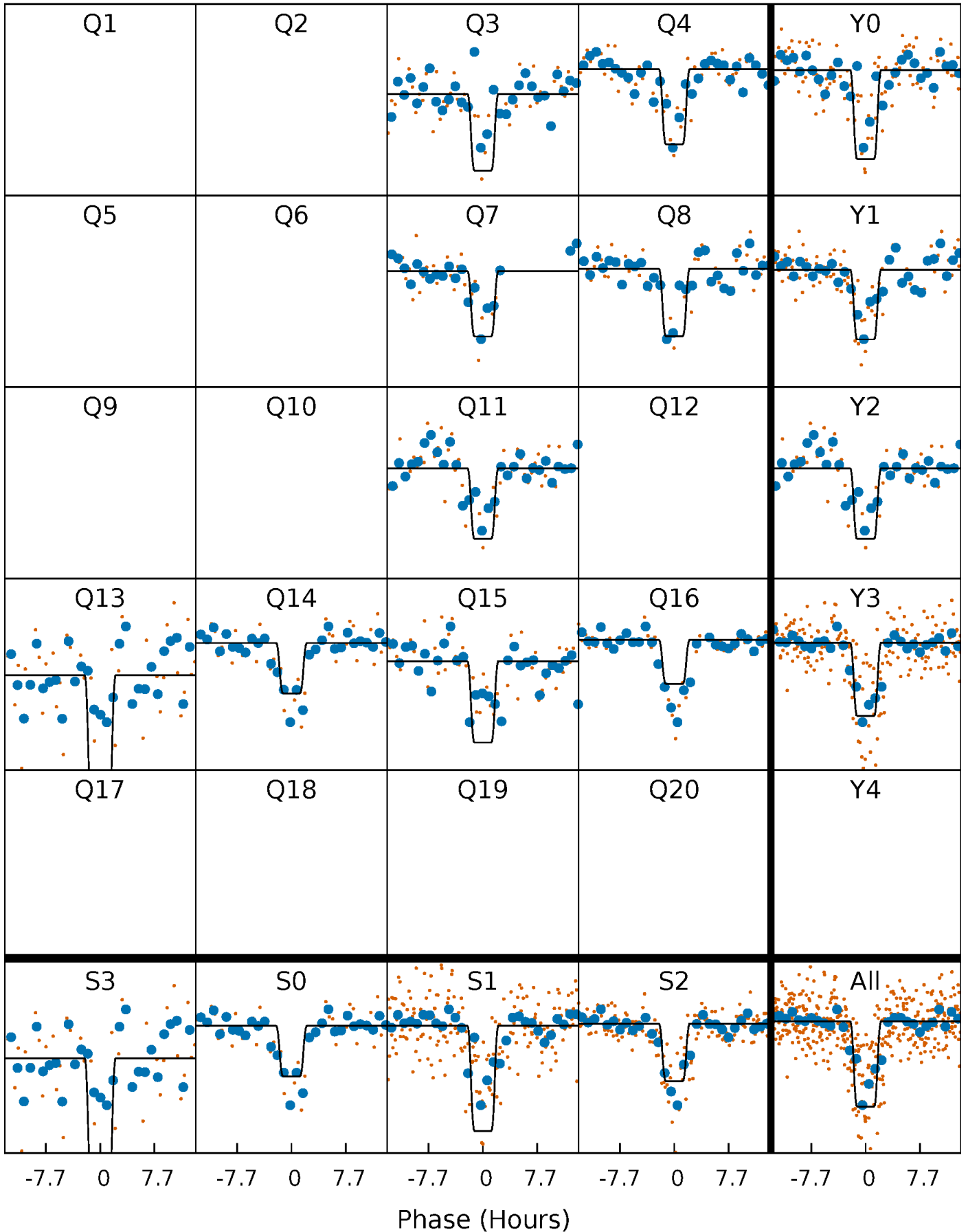
DV Quarter-Phased Transit Curves

TCE 010275805-01 P=112.645360 Days $T_0=183.001785$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

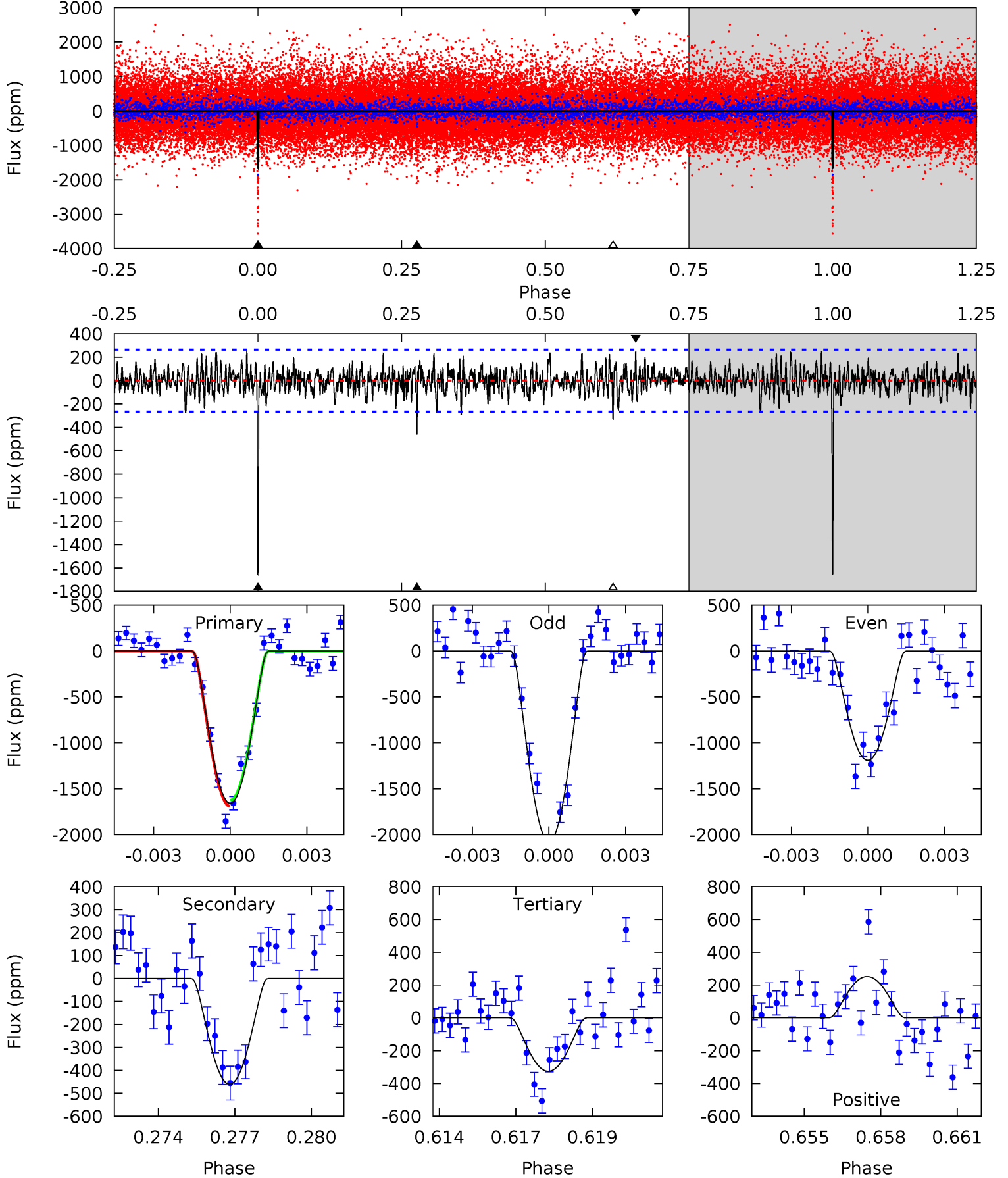
TCE 010275805-01 P=112.643265 Days $T_0=183.019109$ (BKJD)



DV Model-Shift Uniqueness Test

010275805-01, P = 112.645360 Days, E = 183.001785 Days

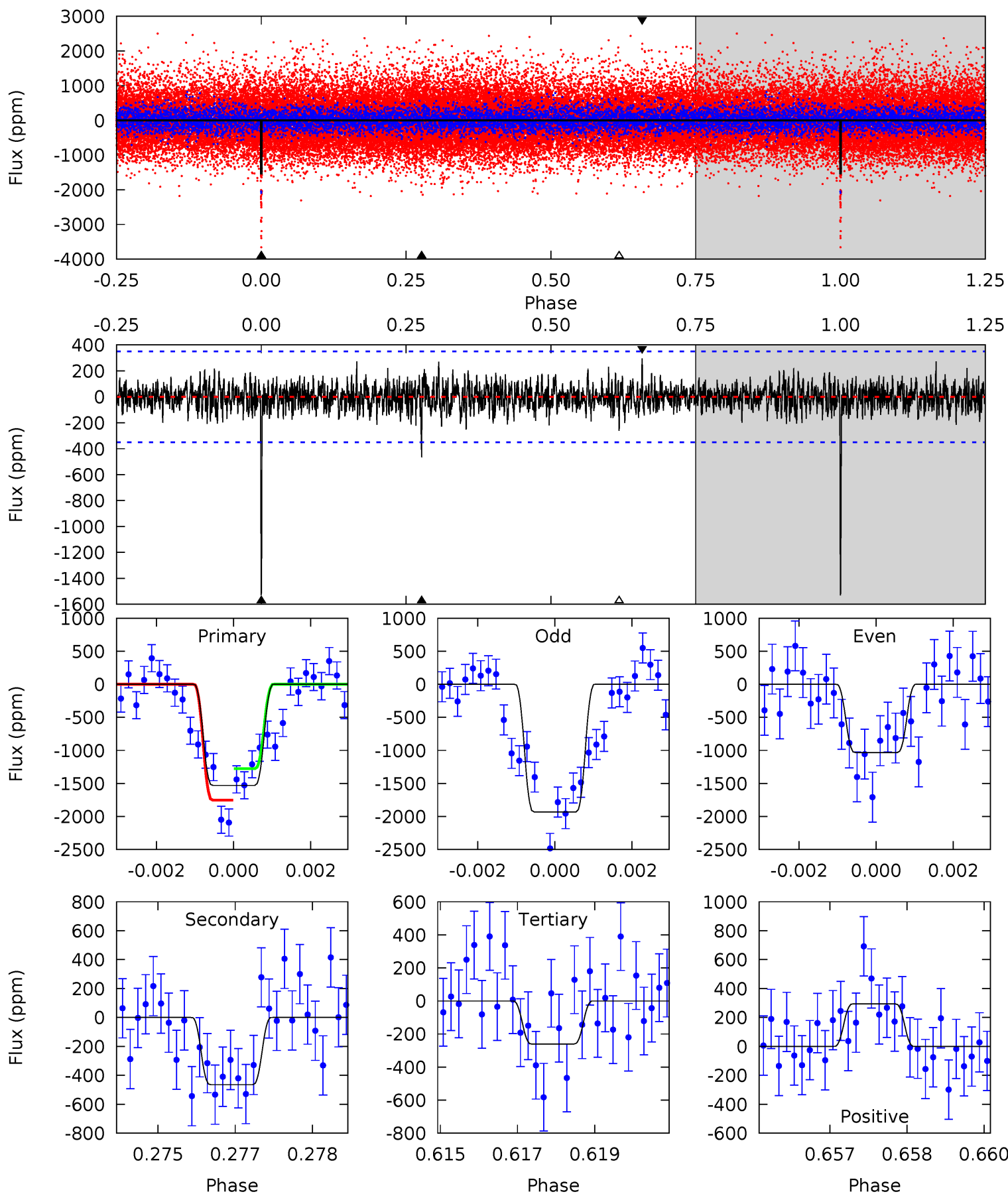
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.0	9.15	6.48	5.01	5.27	3.00	1.65	26.5	28.0	2.67	4.14	8.74	1.13	0.13	0.65



Alt Model-Shift Uniqueness Test

010275805-01, P = 112.643265 Days, E = 183.019109 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	7.13	4.00	4.52	5.37	3.16	1.17	19.5	19.0	3.13	2.61	6.82	1.10	0.16	3.65



Stellar Parameters For KIC 010275805

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5895^{+182}_{-223}	$4.489^{+0.039}_{-0.221}$	$0.210^{+0.200}_{-0.300}$	$0.991^{+0.309}_{-0.096}$	$1.105^{+0.122}_{-0.150}$	$1.597^{+0.335}_{-0.847}$
	+3%/-4%	+1%/-5%	+95%/-143%	+31%/-10%	+11%/-14%	+21%/-53%
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 010275805-01 / KOI 2782.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-460 ± 50	$8.45^{+8.38}_{-5.57}$	538^{+42}_{-26}	3614^{+1770}_{-659}	775^{+5799}_{-574}
Alt.	-465 ± 65	$8.43^{+7.11}_{-5.93}$	539^{+43}_{-27}	3665^{+2142}_{-659}	812^{+8060}_{-584}

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 $A_{obs} \gg 1.0$

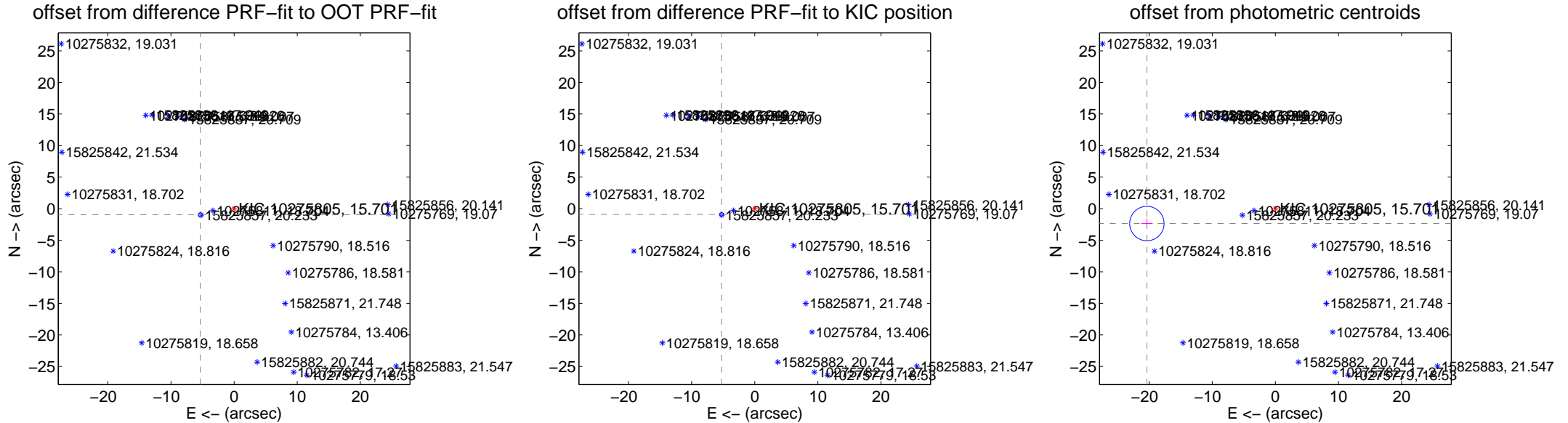
DV Centroid Data

Supplemental centroid analysis for 010275805-01. Kepler magnitude: 15.70. Transit SNR 17.77

There are 7 quarters with good PRF difference image offsets

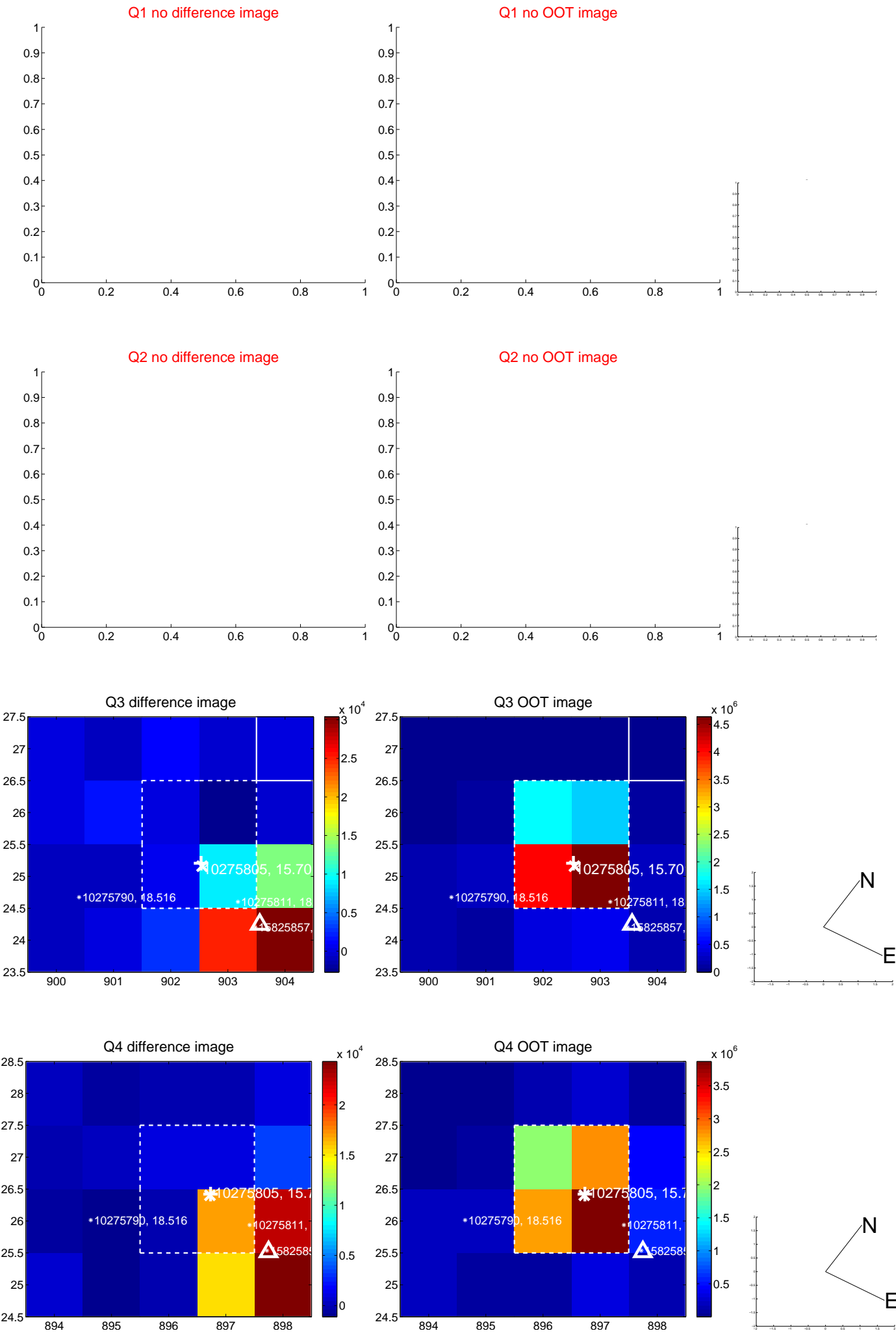
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.456 \pm 0.108	50.70	5.368 \pm 0.100	-0.976 \pm 0.101
PRF-fit source offset from KIC position	5.339 \pm 0.097	54.91	5.262 \pm 0.092	-0.905 \pm 0.100
photometric centroid source offset	20.50 \pm 0.91	22.57	20.37 \pm 0.91	-2.36 \pm 0.81

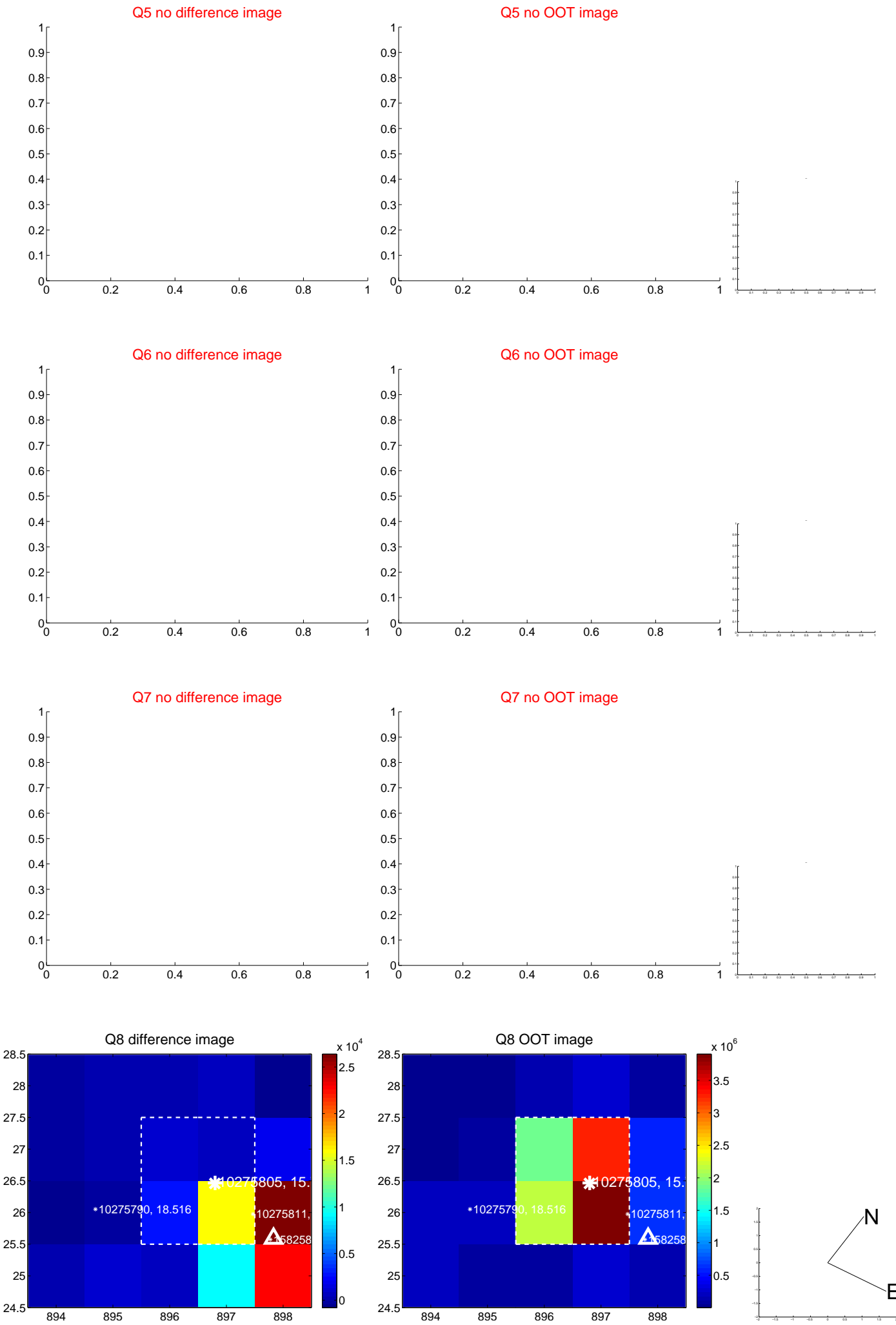


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

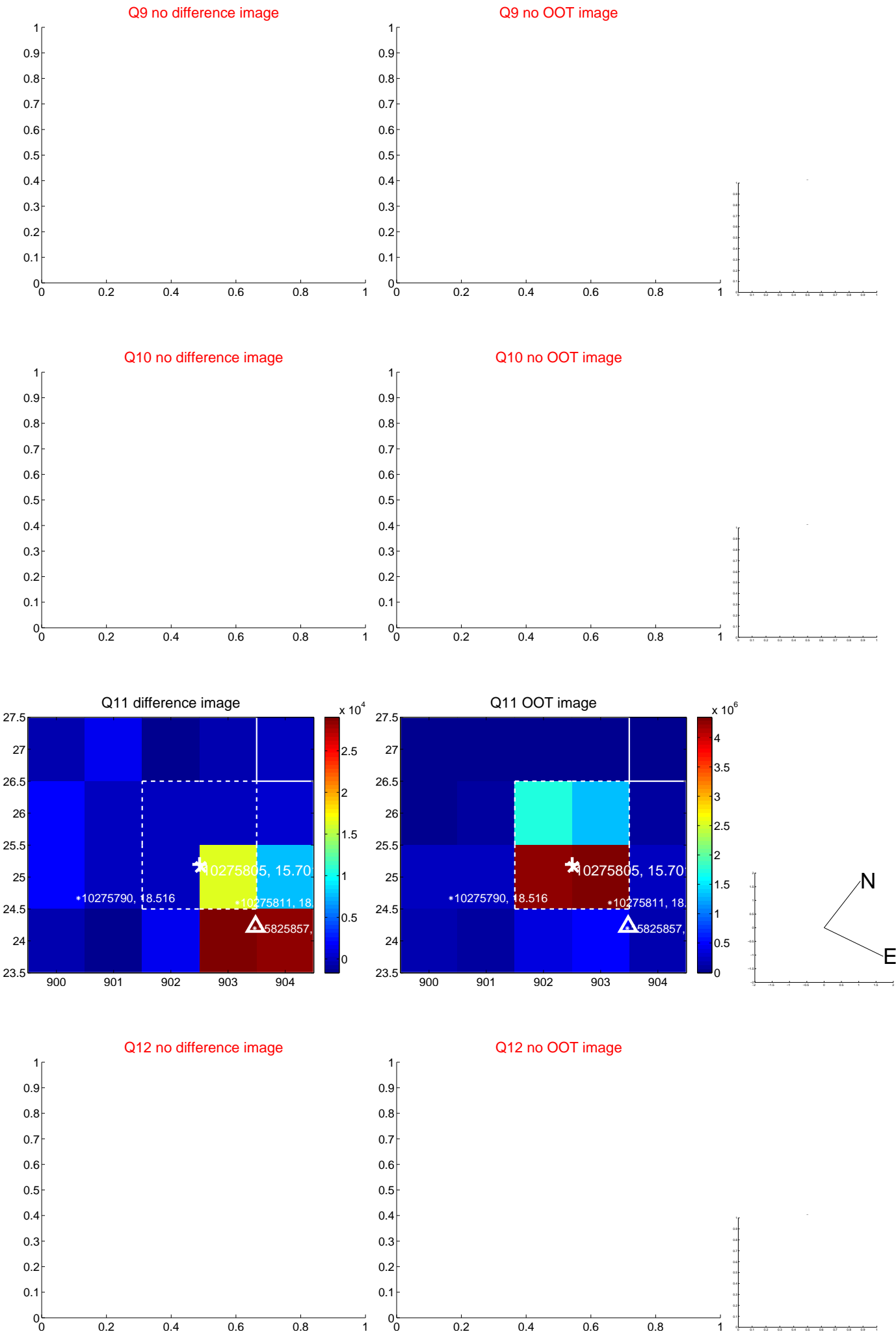
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



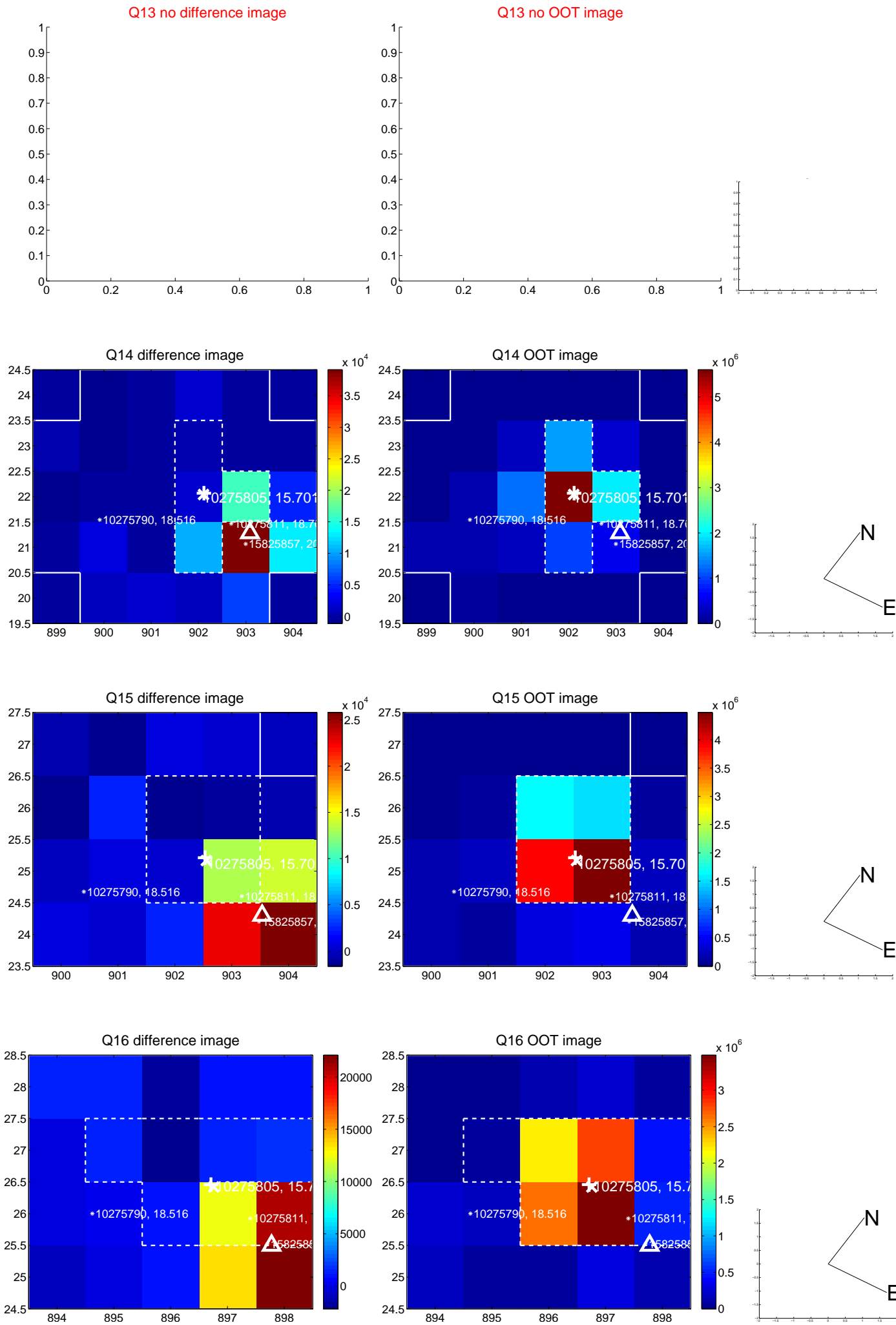
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



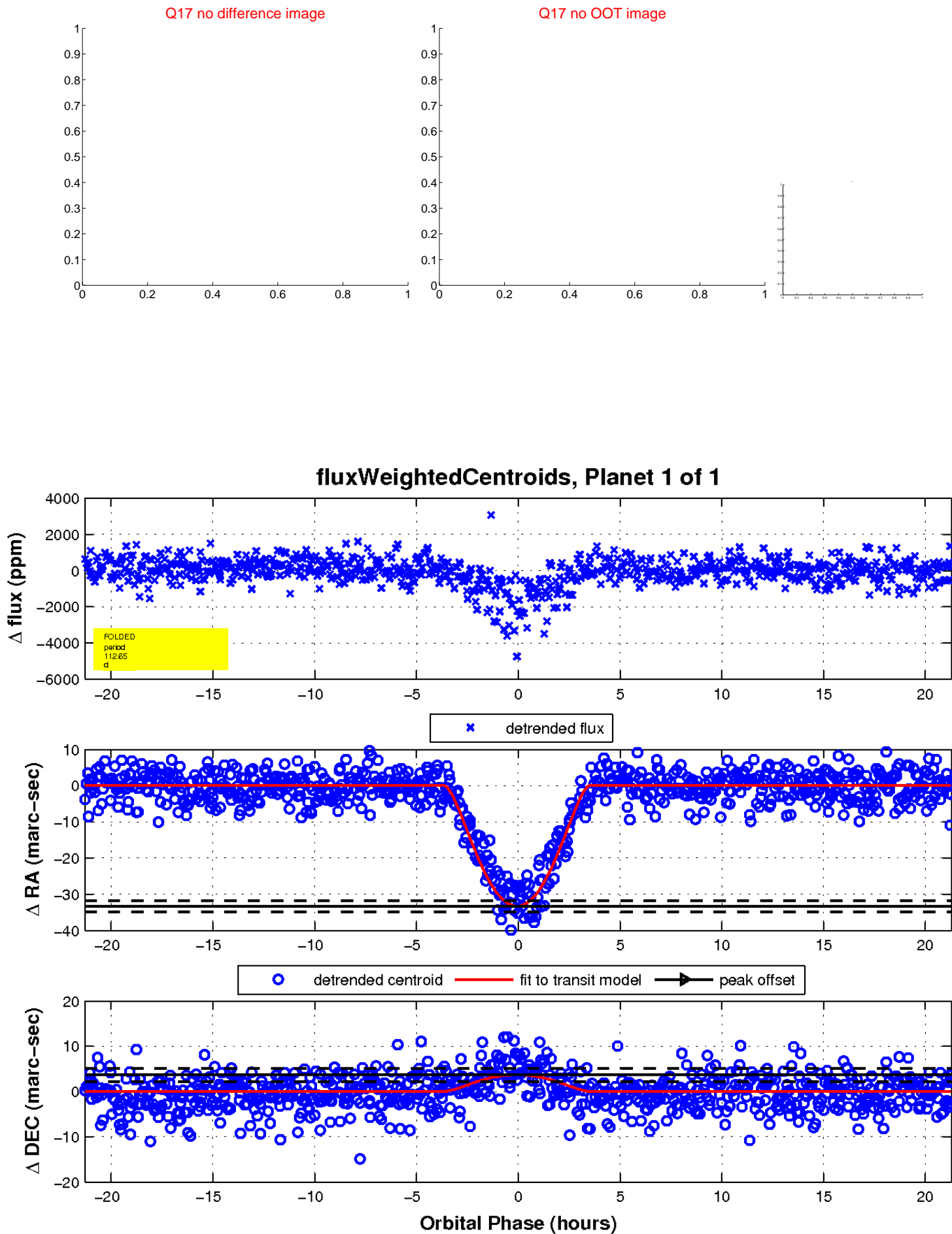
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

