

KIC 010864656

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})
010864656-01	OBS	1299.01	52.500919	171.520950	918.1	14.894	57.7	60.3	4.16	4976	12.42	103.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010864656-01	OBS	PC	0.98	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.

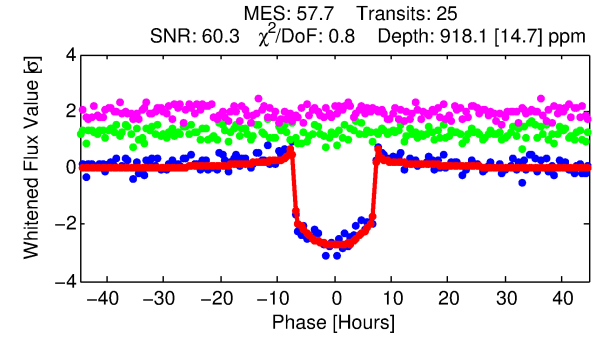
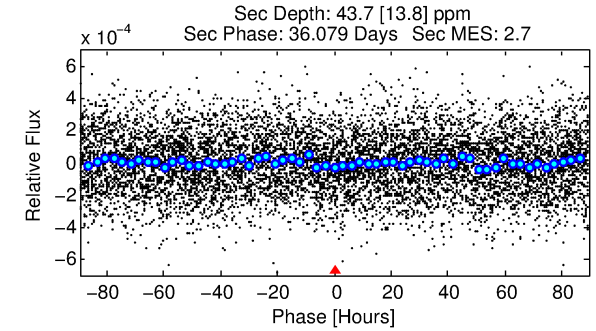
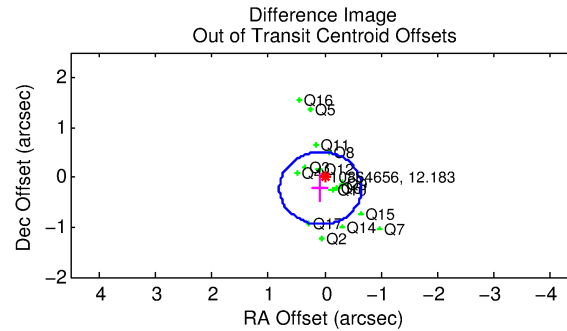
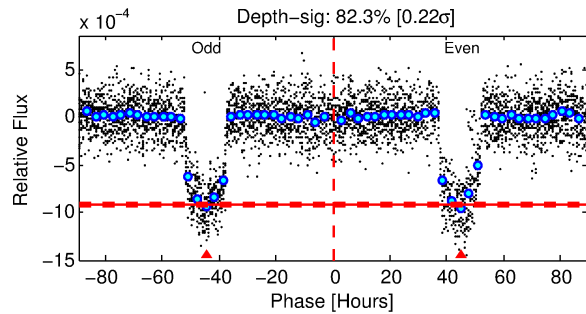
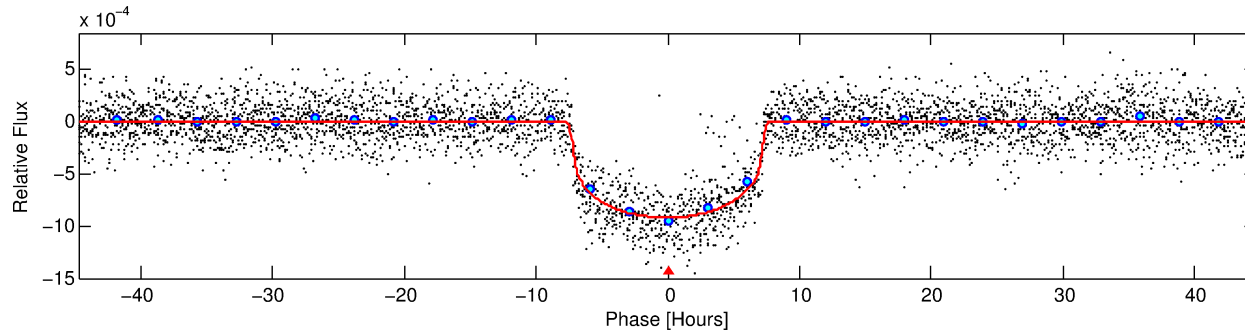
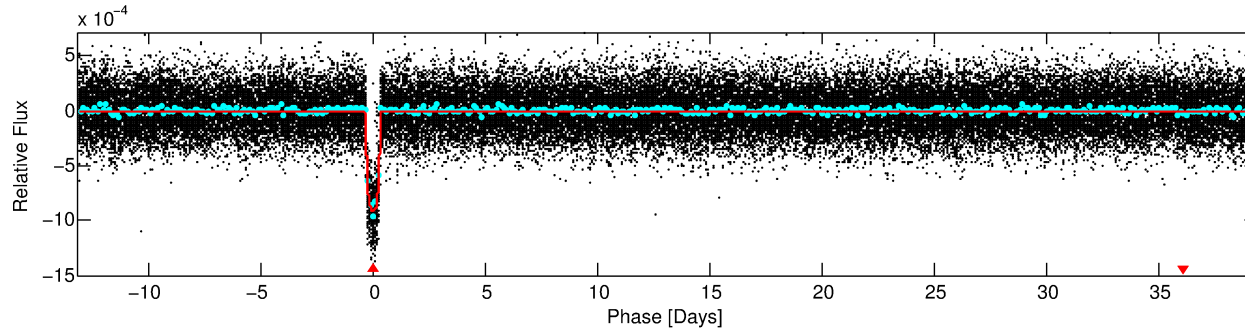
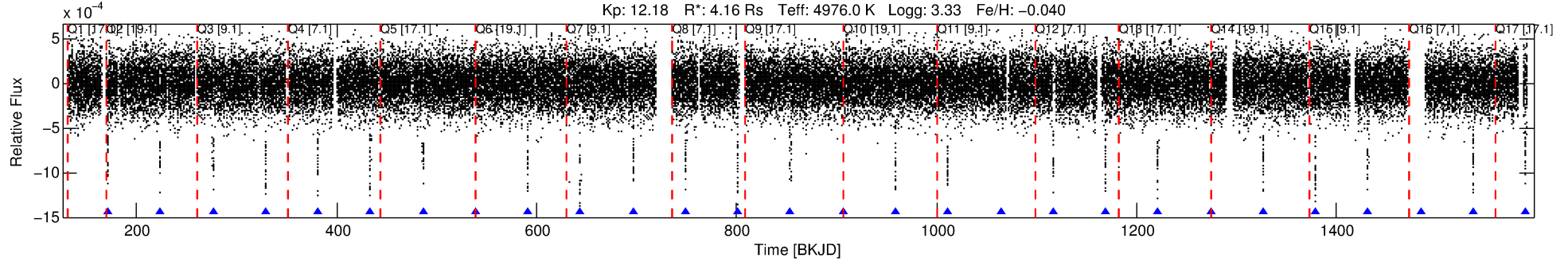
Ephemeris Match Information For 010864656-01

No Significant Match Found

DV One-Page Summary

KIC: 10864656 Candidate: 1 of 1 Period: 52.501 d
KOI: K01299.01 Name: Kepler-432b Corr: 0.998

Kp: 12.18 R*: 4.16 Rs Teff: 4976.0 K Logg: 3.33 Fe/H: -0.040



DV Fit Results:

Period = 52.50092 [0.00015] d
Epoch = 171.5209 [0.0024] BKJD
Rp/R* = 0.0274 [0.0022]
a/R* = 25.99 [7.14]
b = 0.35 [0.69]
Seff = 103.13 [10.57]
Teq = 813 [21] K
Rp = 12.42 [1.83] Re
a = 0.3034 [0.0250] AU
Ag = 14.33 [5.21] [2.56σ]
Teffp = 2445 [219] K [7.41σ]

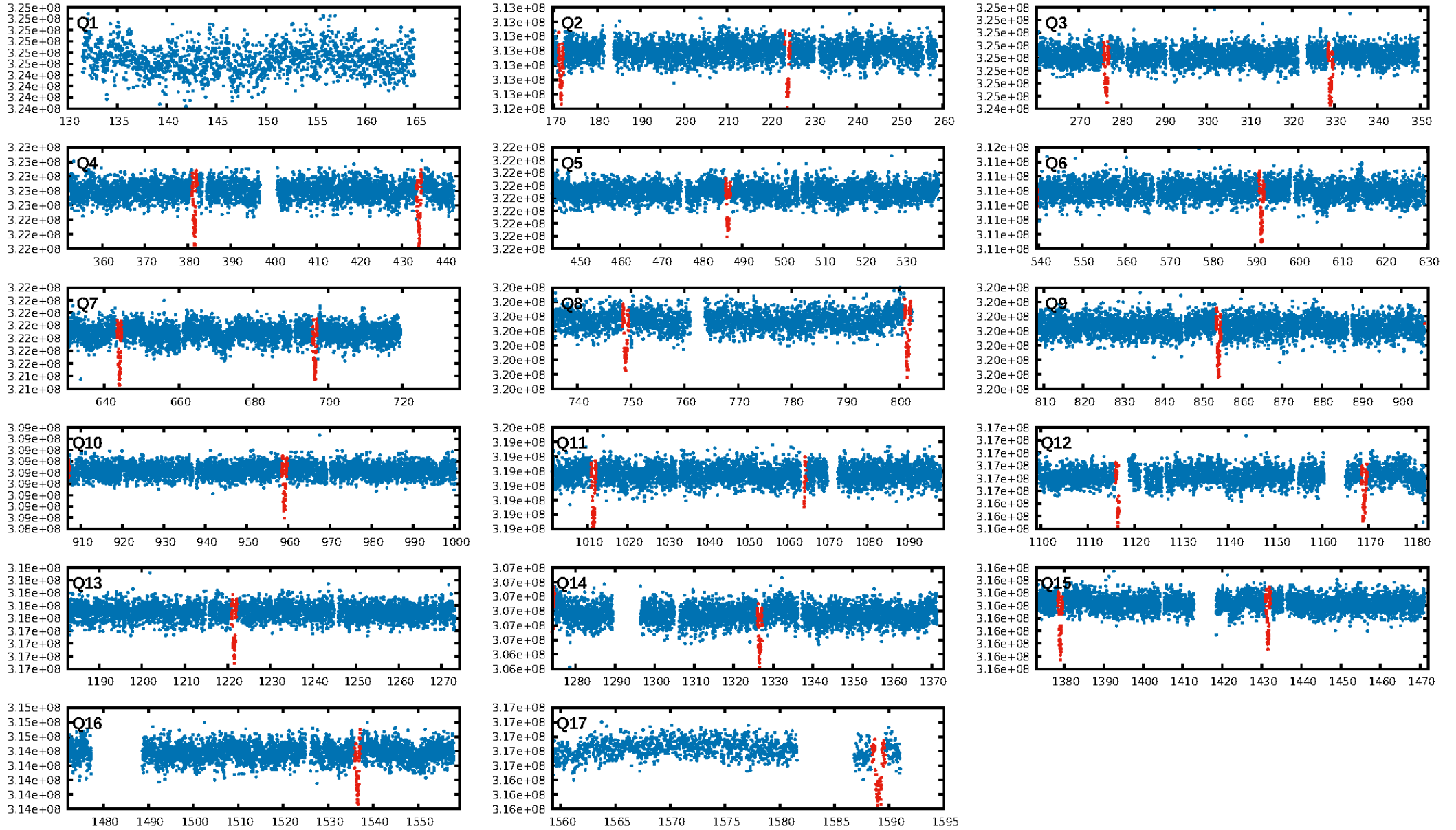
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [24/24]
GhostDiagnostic-chr: 2.792
Centroid-sig: 0.0%
Centroid-so: 0.055 arcsec [1.23σ]
OotOffset-rm: 0.235 arcsec [0.97σ]
KicOffset-rm: 0.139 arcsec [0.67σ]
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]

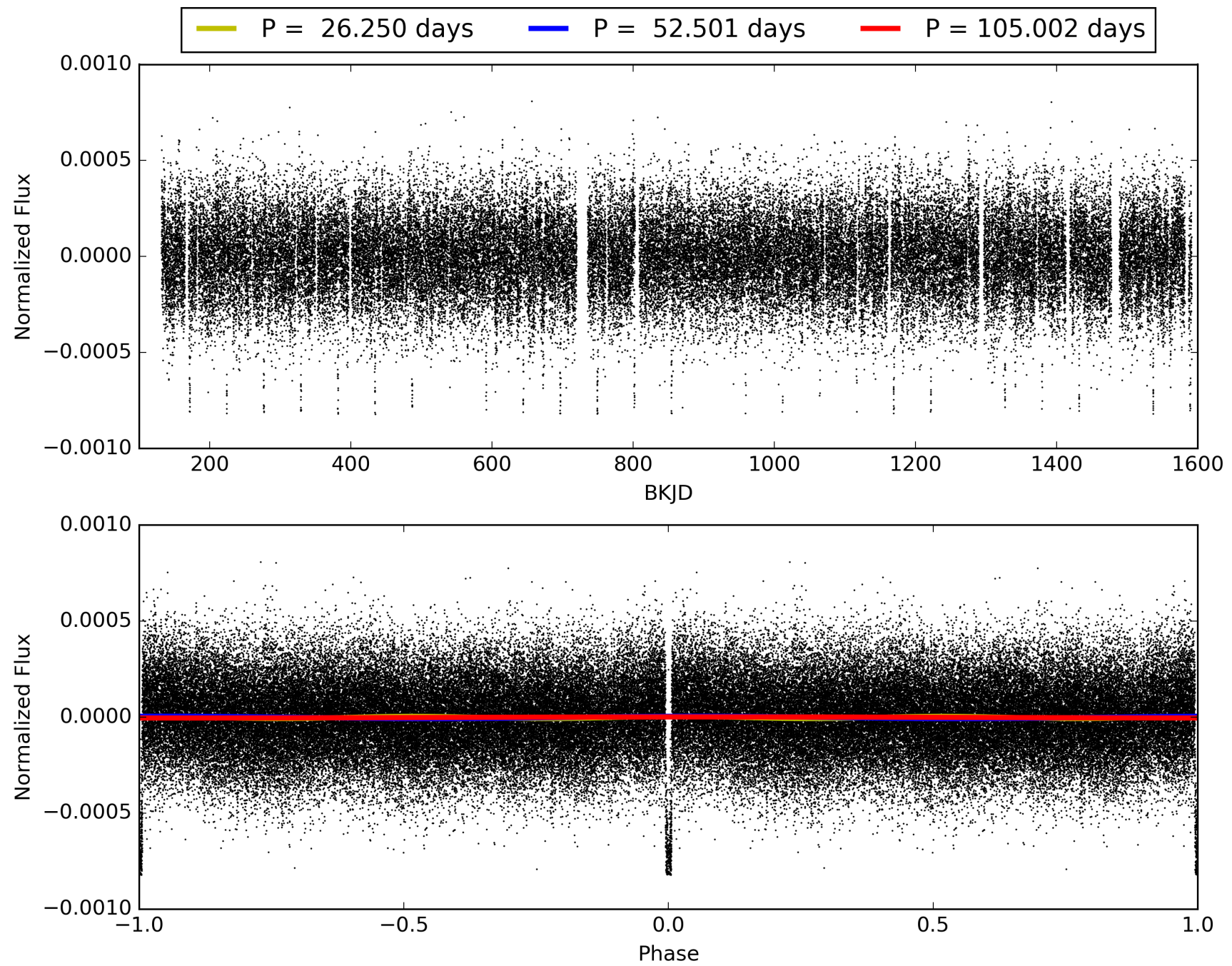
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:08:56 Z

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

TCE 010864656-01, PDC Light Curves

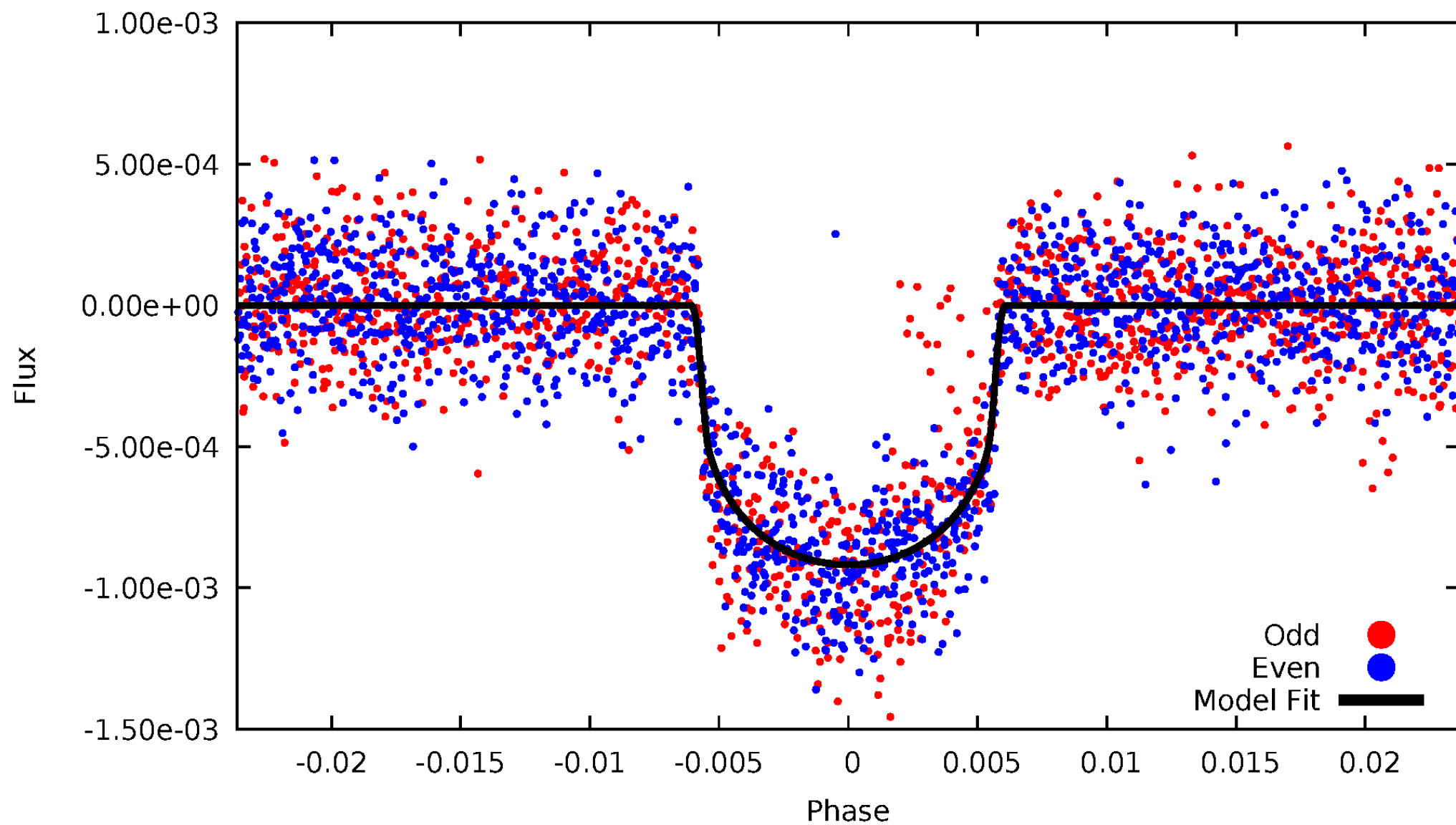


TCE 010864656-01



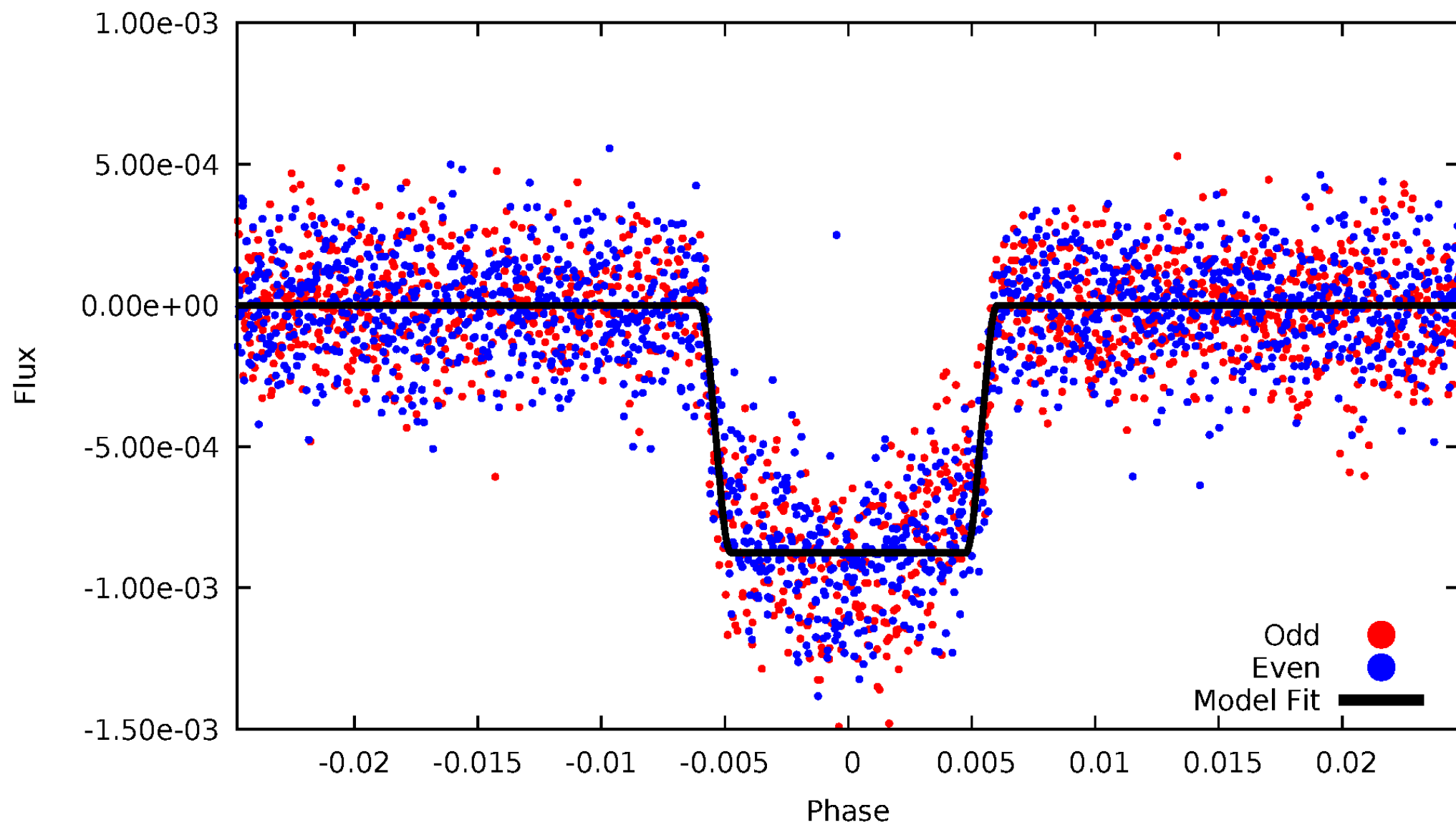
DV Odd/Even

TCE 010864656-01

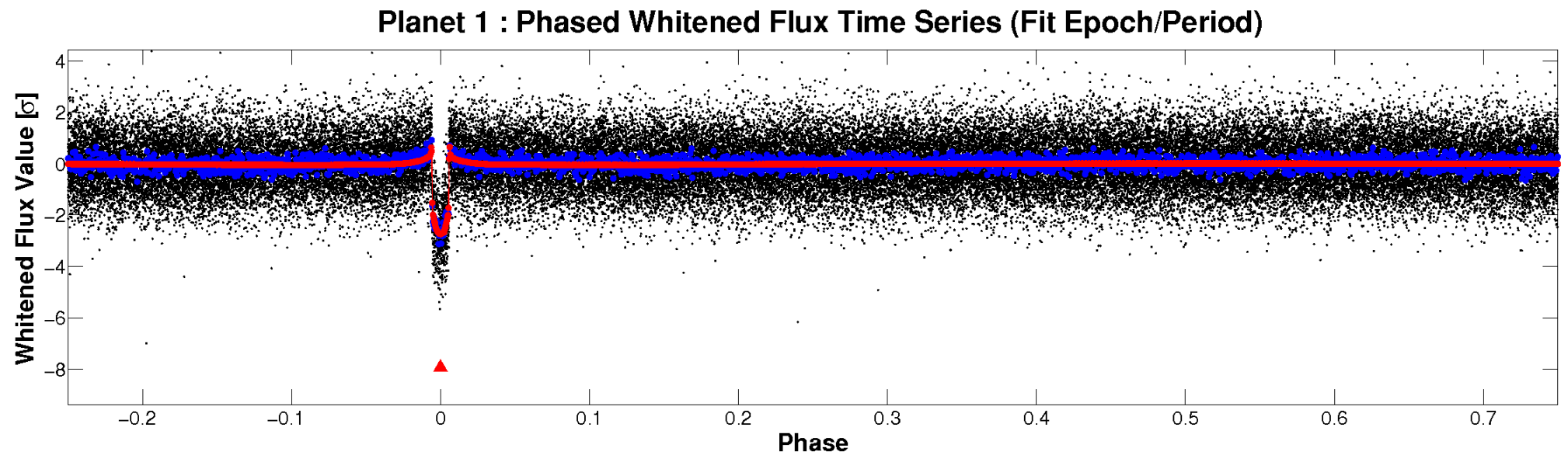
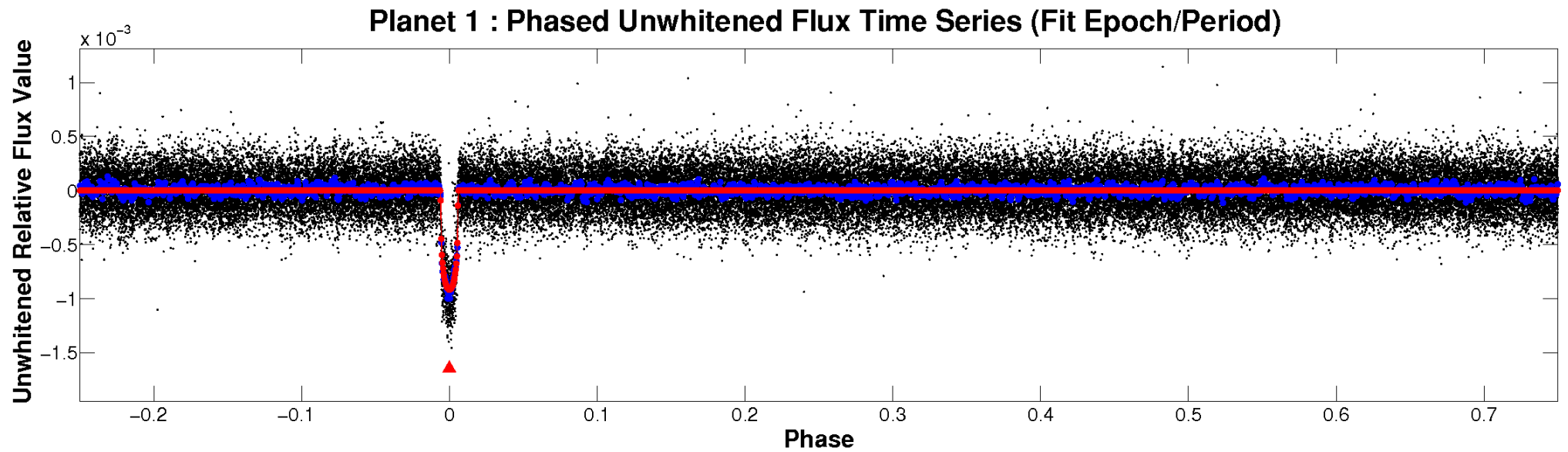


ALT Odd/Even

TCE 010864656-01

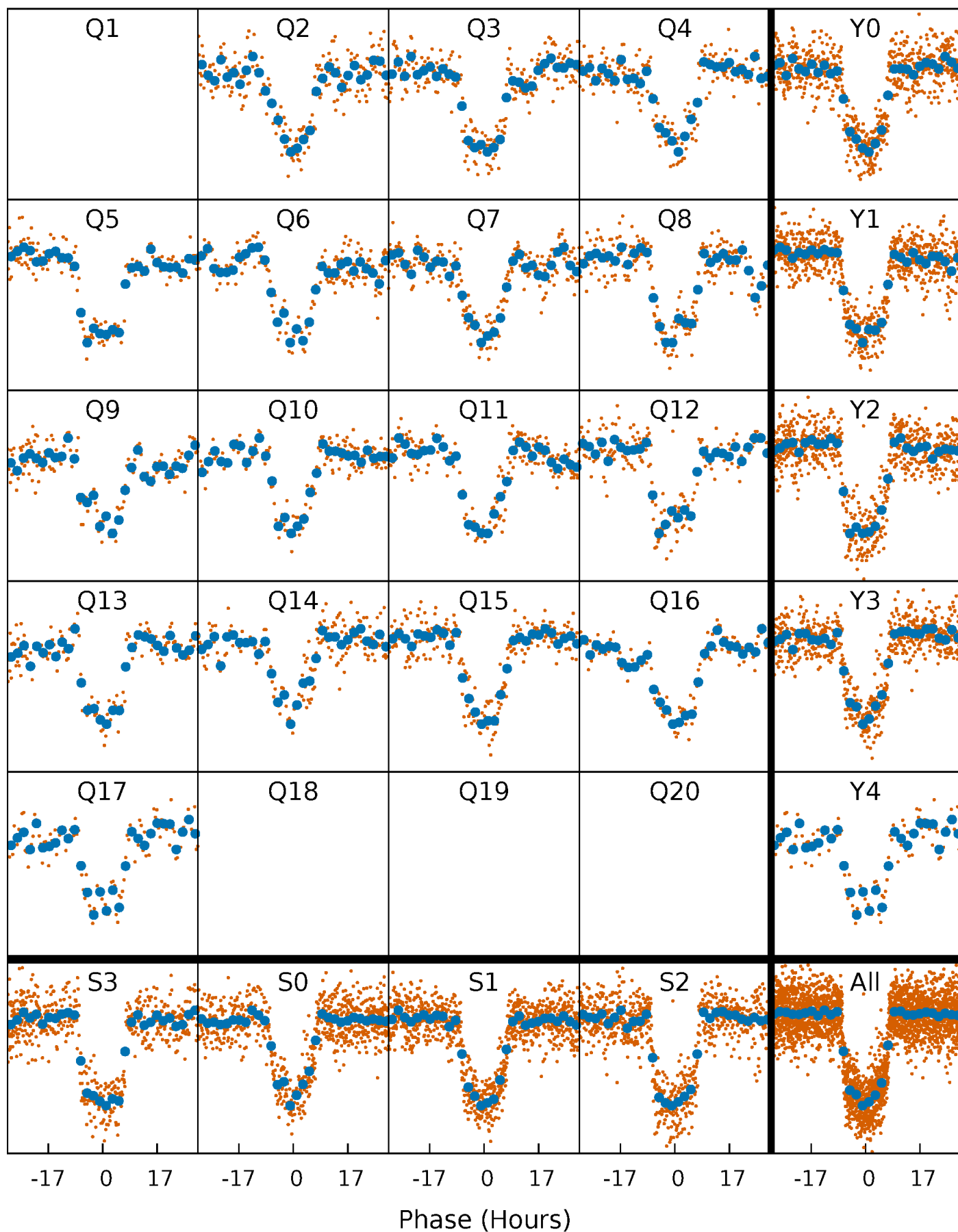


Non-Whitened Vs. Whitened Light Curve



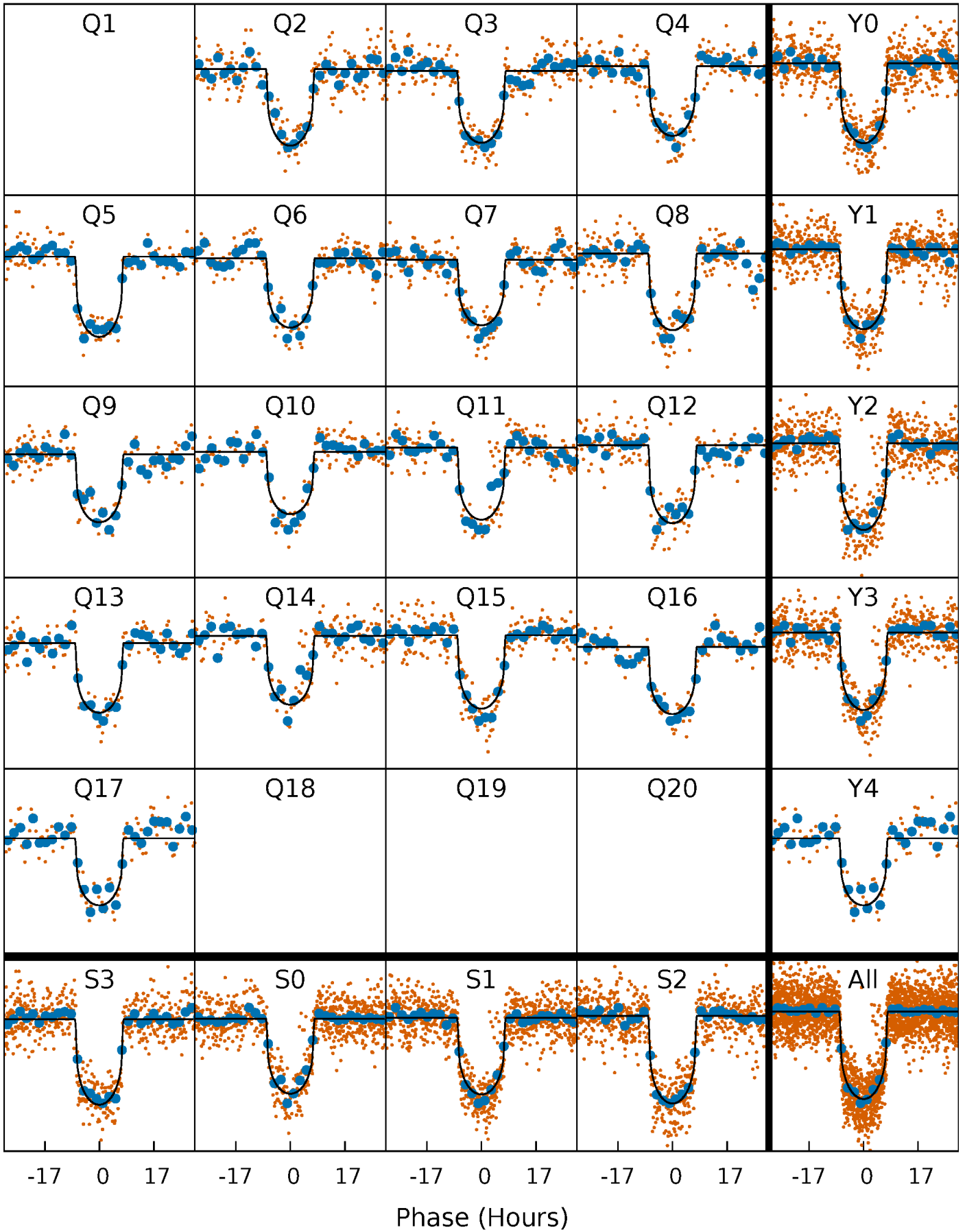
PDC Quarter-Phased Transit Curves

TCE 010864656-01 P= 52.500919 Days $T_0=171.520950$ (BKJD)



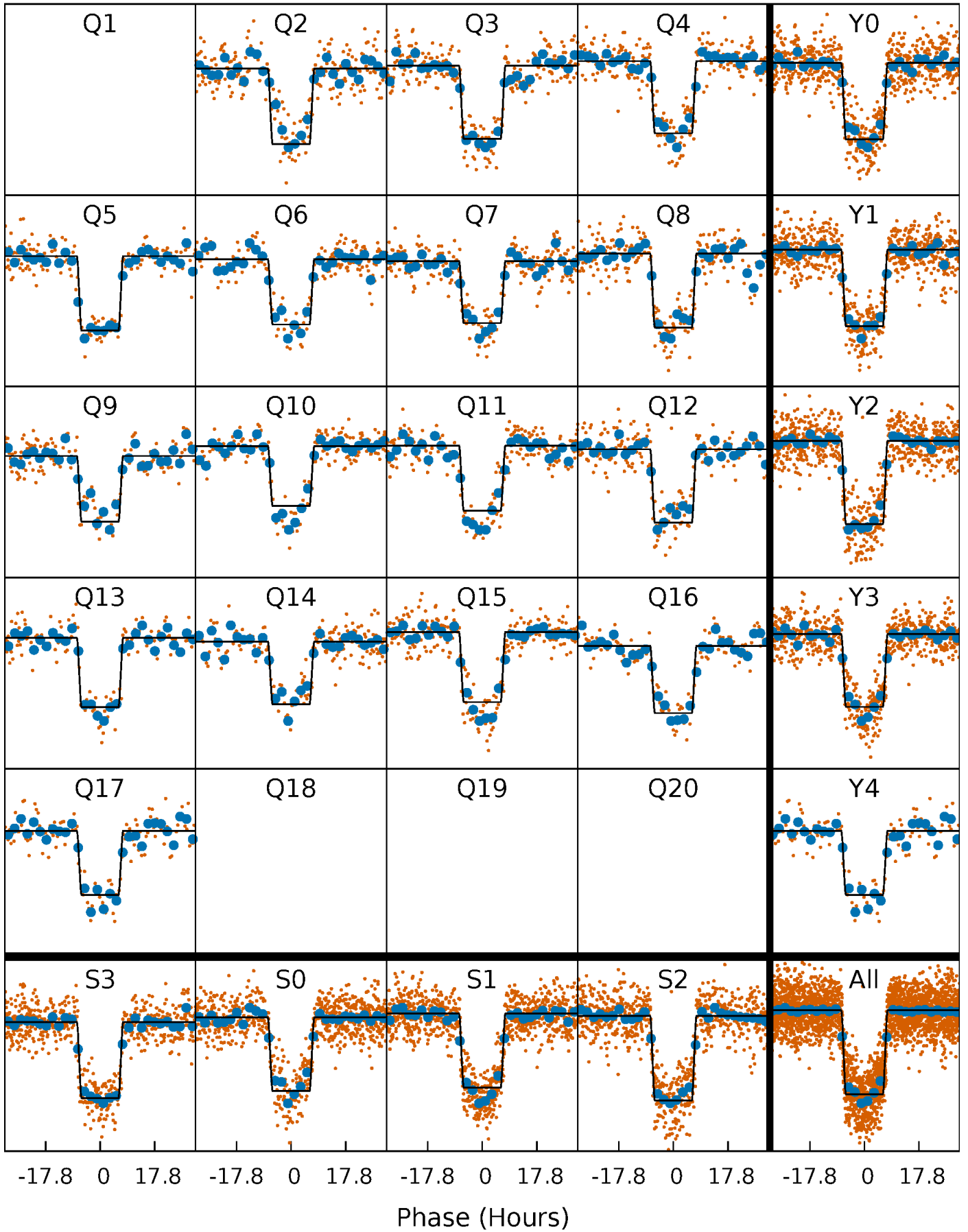
DV Quarter-Phased Transit Curves

TCE 010864656-01 P= 52.500919 Days $T_0=171.520950$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

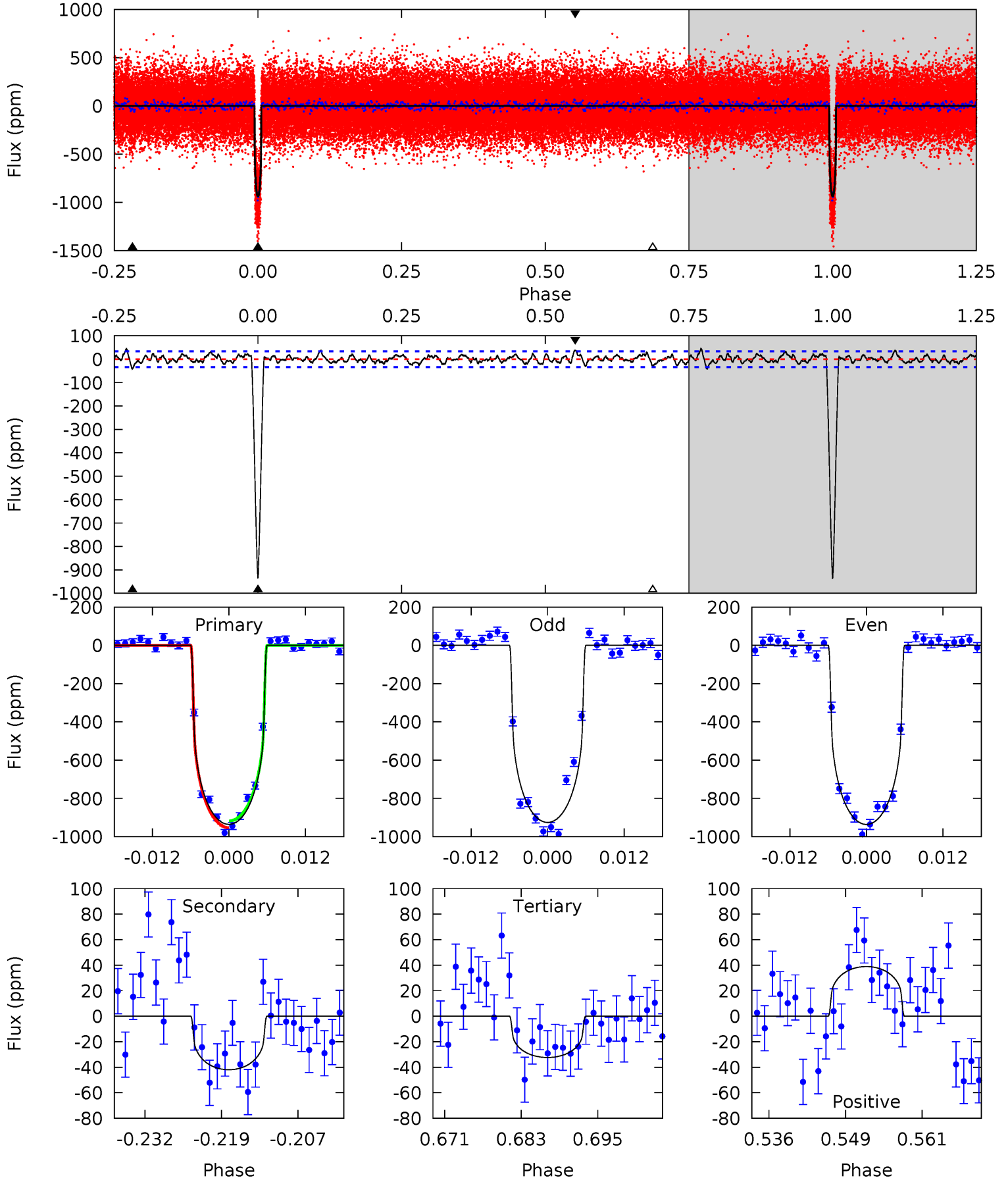
TCE 010864656-01 P= 52.500929 Days $T_0=171.519625$ (BKJD)



DV Model-Shift Uniqueness Test

010864656-01, P = 52.500919 Days, E = 119.020031 Days

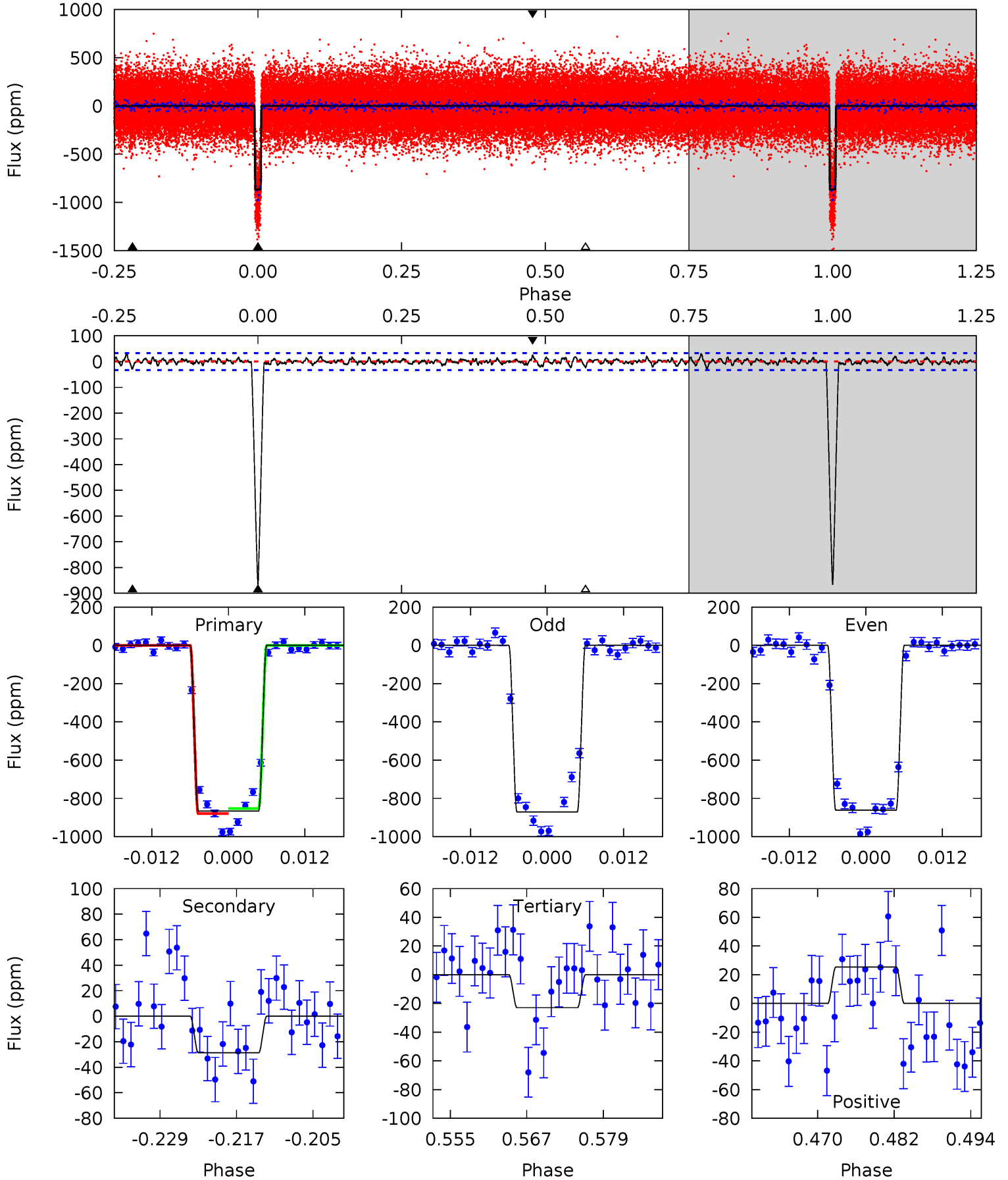
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
137.9	6.18	4.77	5.74	4.99	2.51	1.84	133.1	132.1	1.41	0.44	0.77	0.96	0.05	2.58



Alt Model-Shift Uniqueness Test

010864656-01, P = 52.500929 Days, E = 119.018696 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
131.6	4.36	3.49	3.85	4.99	2.51	1.10	128.1	127.8	0.87	0.51	0.67	1.00	0.03	2.05



Stellar Parameters For KIC 010864656

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4976^{+54}_{-74}	$3.331^{+0.008}_{-0.009}$	$-0.040^{+0.100}_{-0.150}$	$4.157^{+0.205}_{-0.513}$	$1.352^{+0.135}_{-0.314}$	$0.027^{+0.004}_{-0.001}$
	+1%/-1%	+0%/-0%	+250%/-375%	+5%/-12%	+10%/-23%	+14%/-5%
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 010864656-01 / KOI 1299.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-42 ± 7	$12.50^{+1.16}_{-1.19}$	1136^{+16}_{-19}	3017^{+106}_{-102}	14^{+4}_{-3}
Alt.	-29 ± 7	$13.56^{+1.06}_{-1.35}$	1135^{+17}_{-19}	2788^{+109}_{-102}	$7.819^{+2.433}_{-1.839}$

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

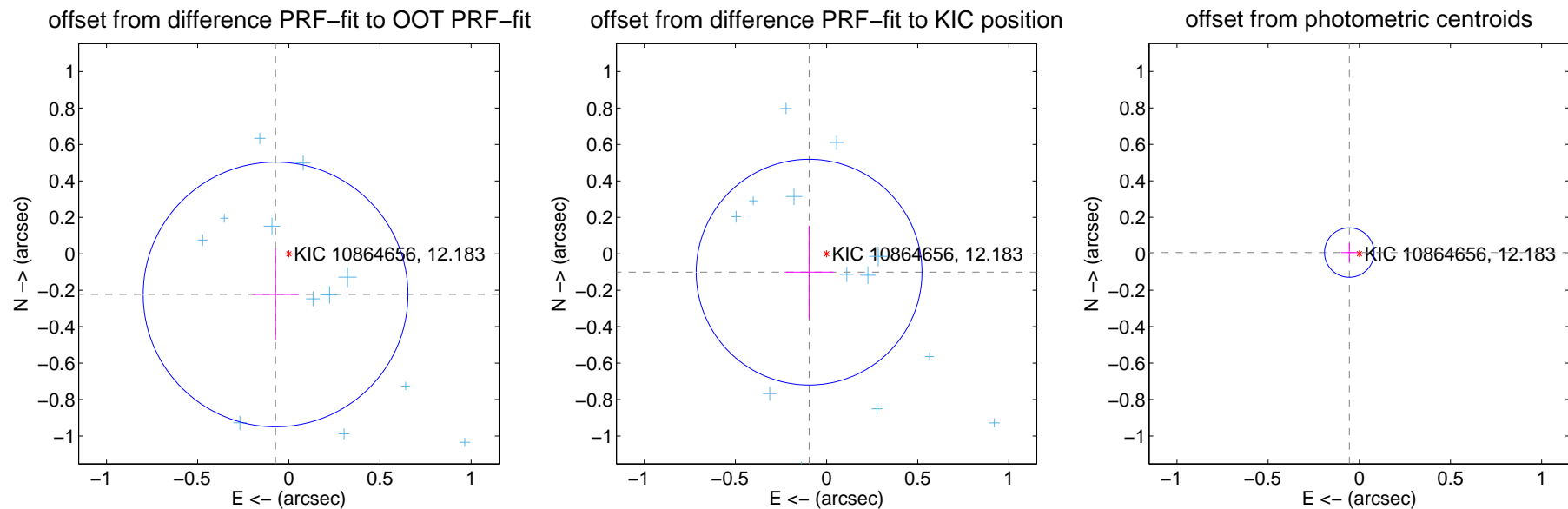
DV Centroid Data

Supplemental centroid analysis for 010864656-01. Kepler magnitude: 12.18. Transit SNR 60.33

There are 15 quarters with good PRF difference image offsets

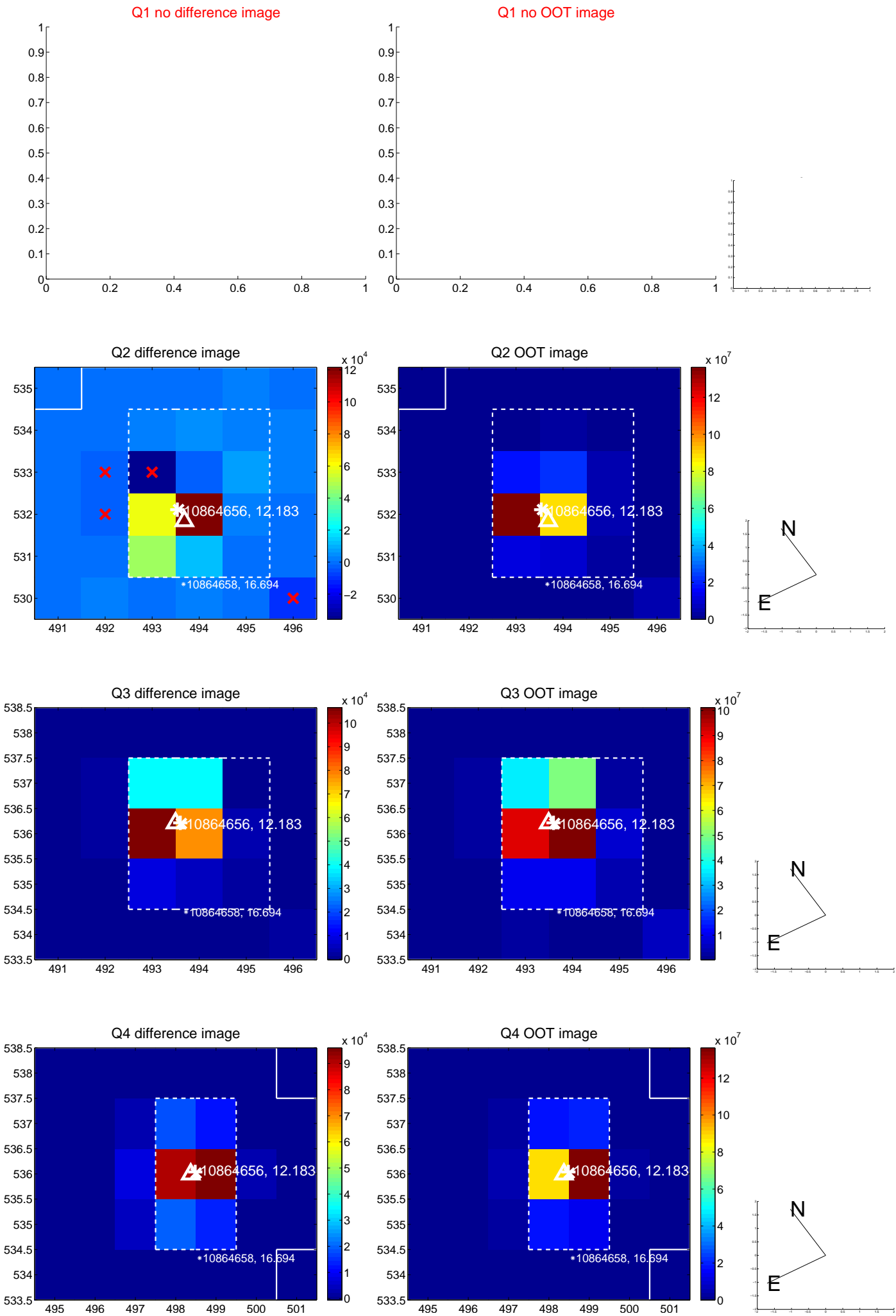
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.235 ± 0.242	0.97	0.073 ± 0.127	-0.223 ± 0.251
PRF-fit source offset from KIC position	0.139 ± 0.206	0.67	0.096 ± 0.134	-0.101 ± 0.255
photometric centroid source offset	0.06 ± 0.05	1.23	0.06 ± 0.05	0.01 ± 0.05

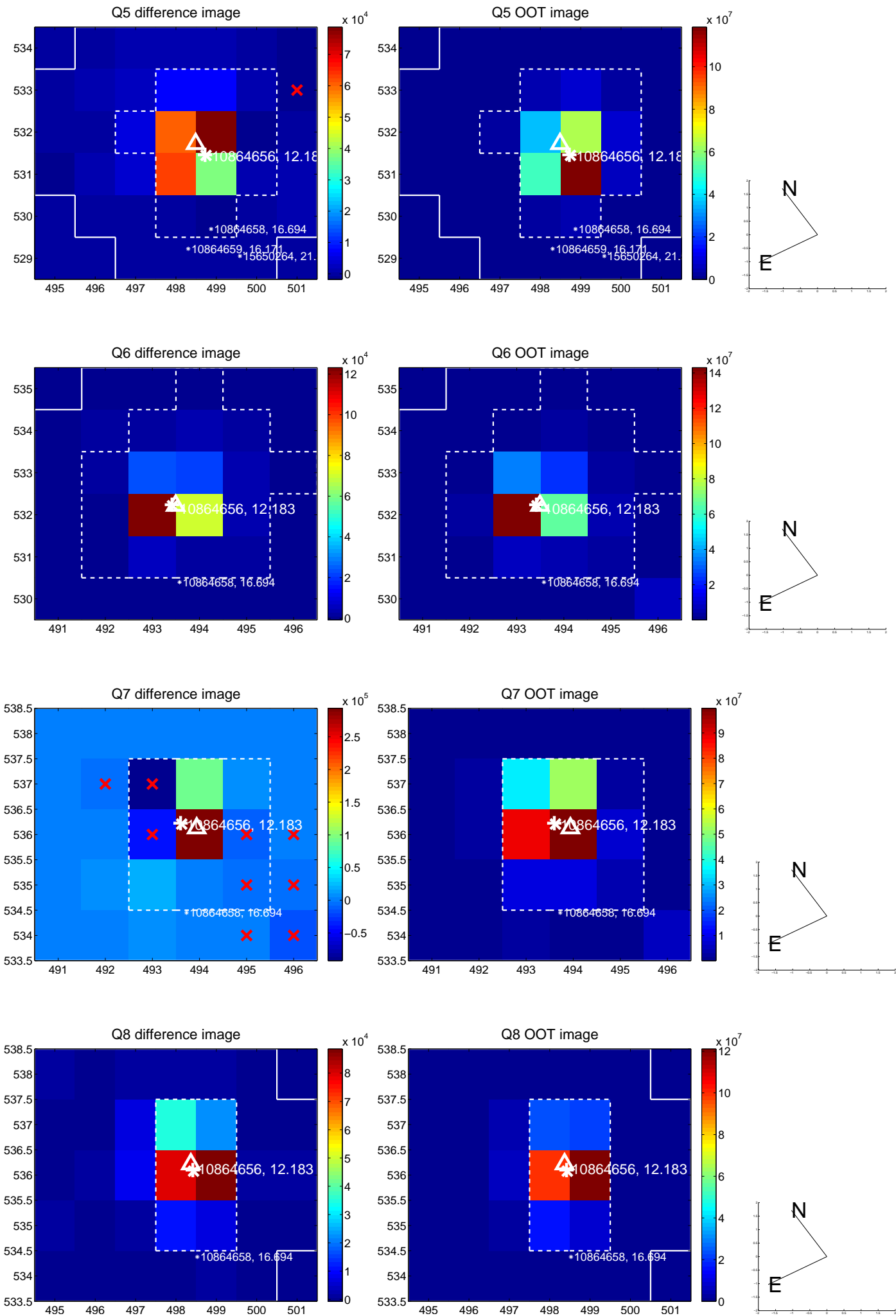


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

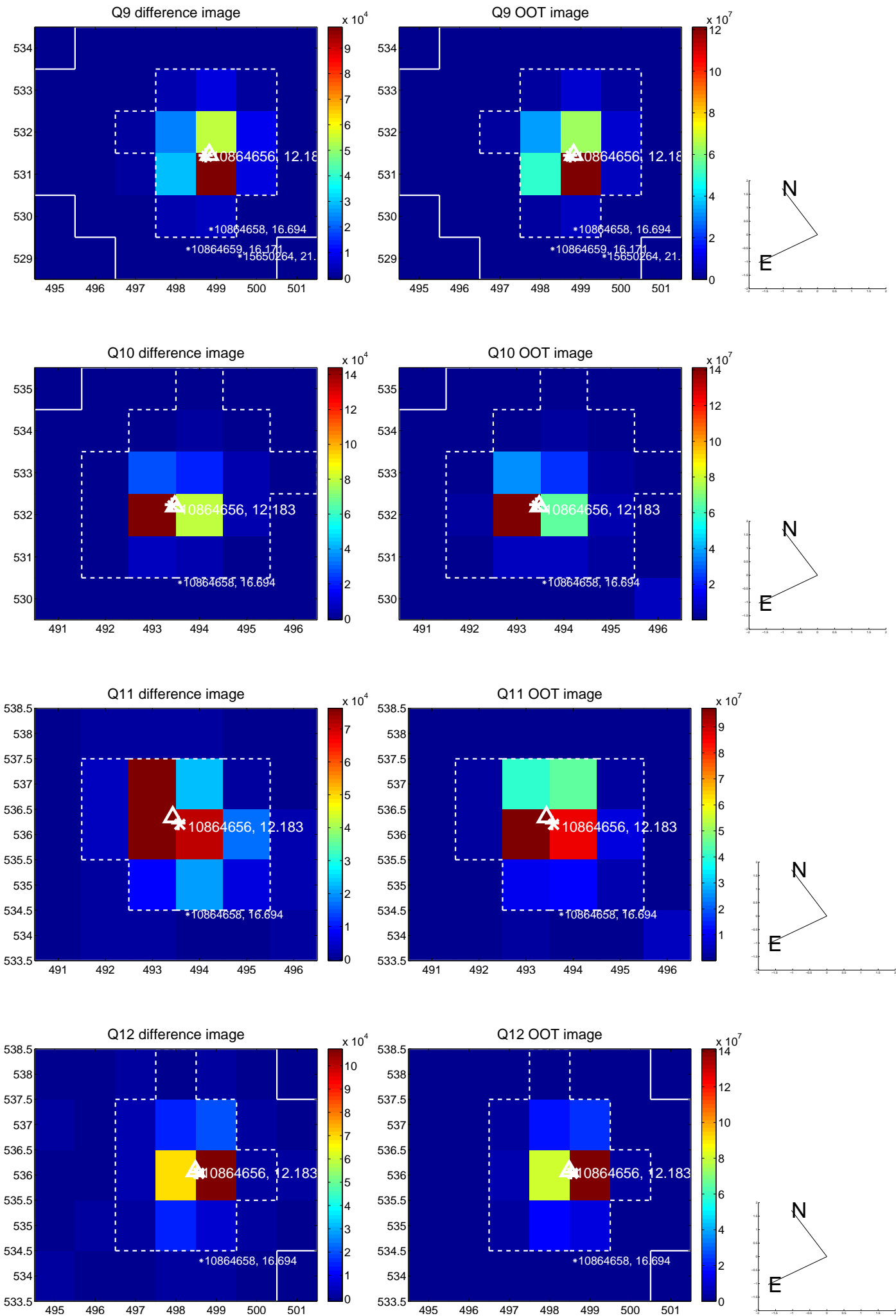
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



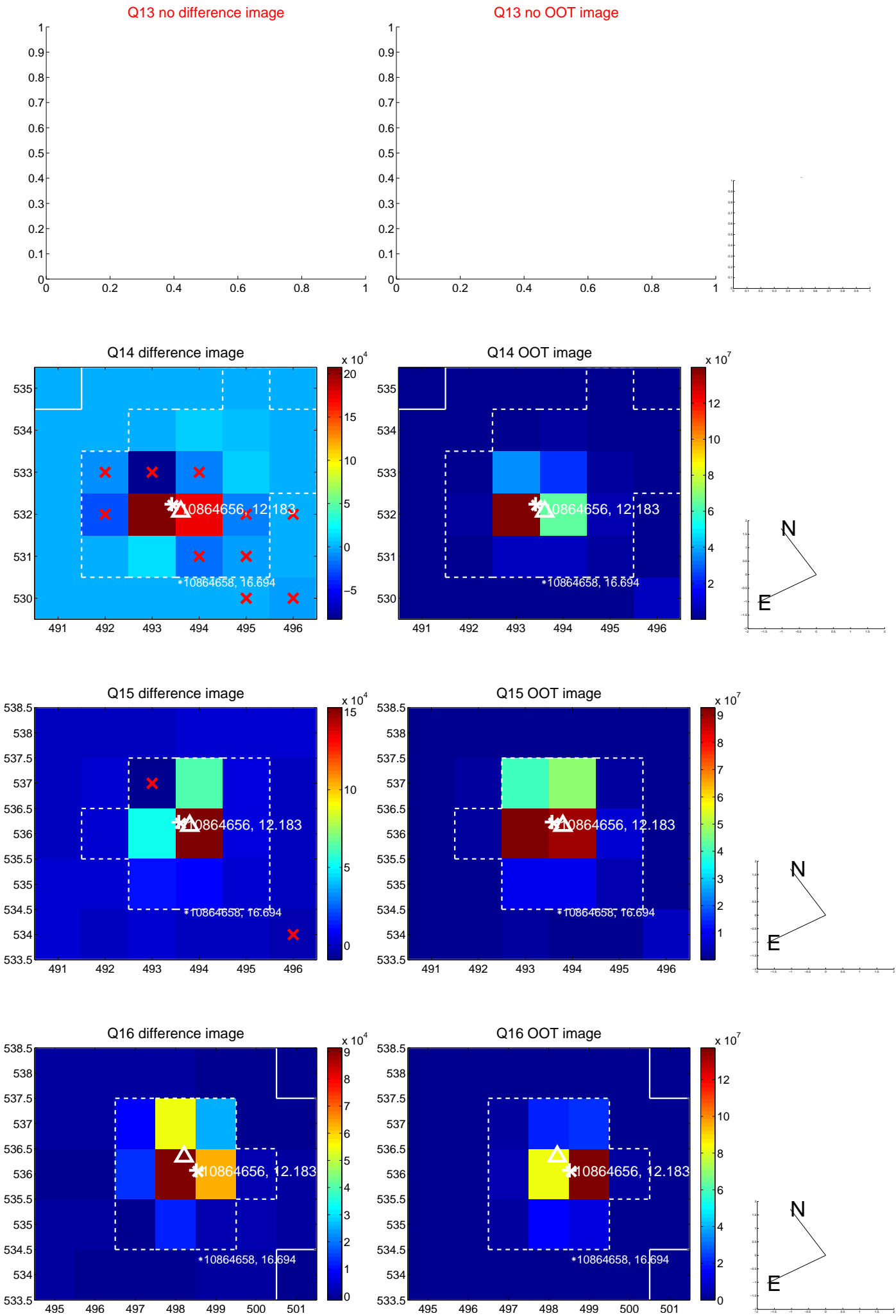
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



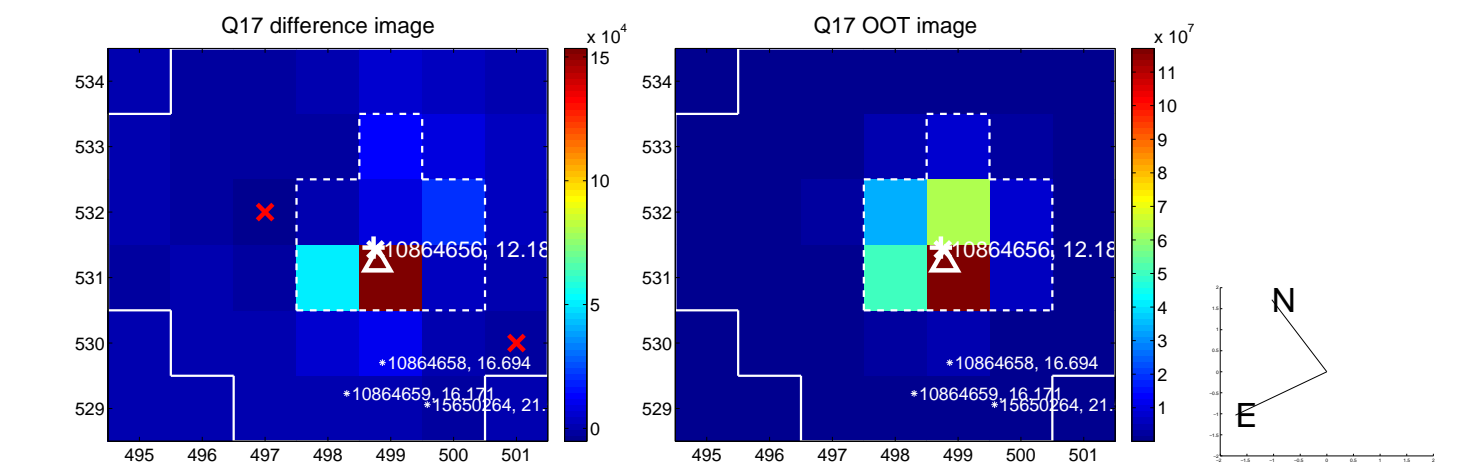
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



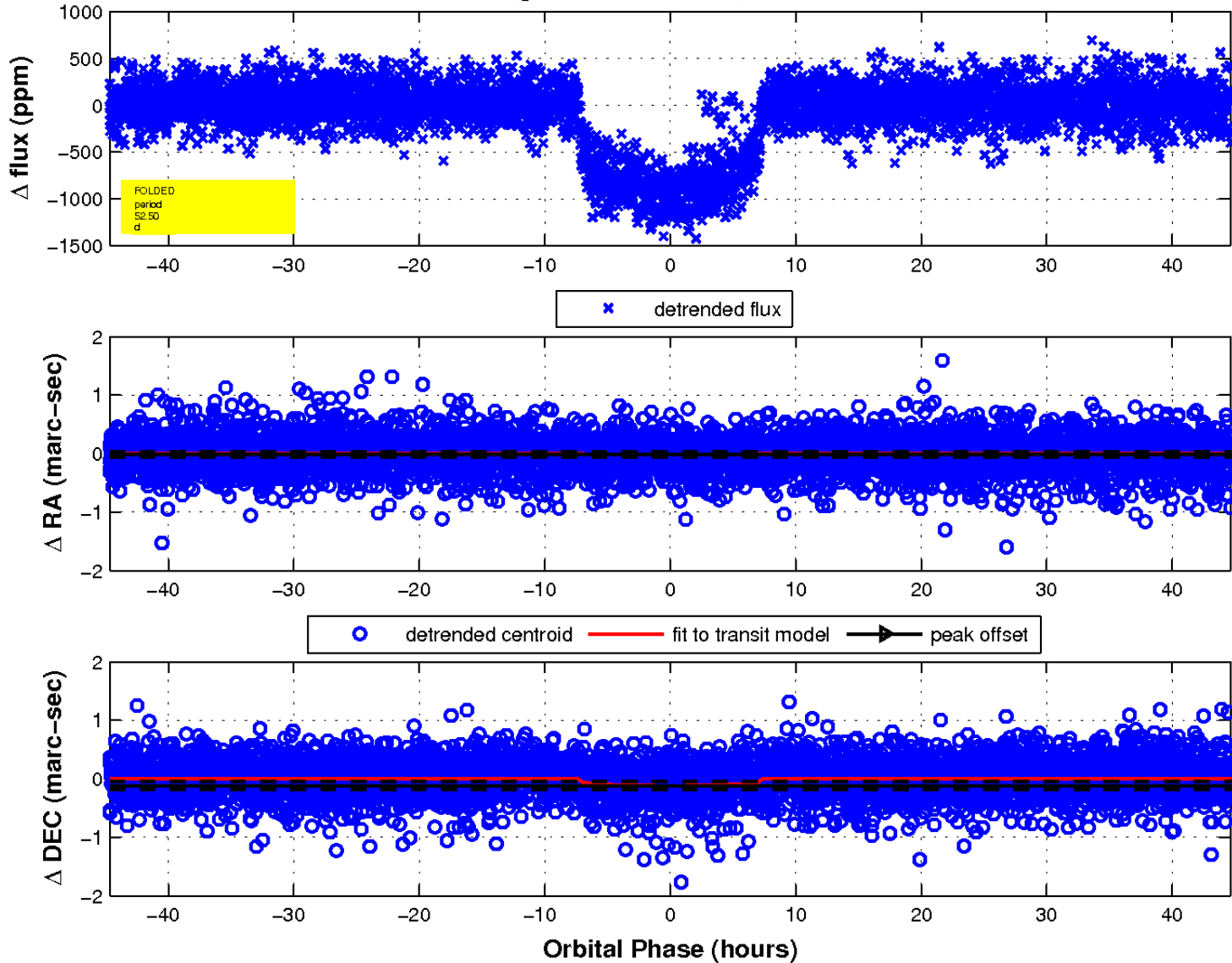
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

