

KIC 008868364

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})
008868364-01	OBS	3541.01	421.428474	262.288918	96818.7	8.602	2353.9	2584.9	1.71	6235	54.23	2.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008868364-01	OBS	PC	0.45	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.

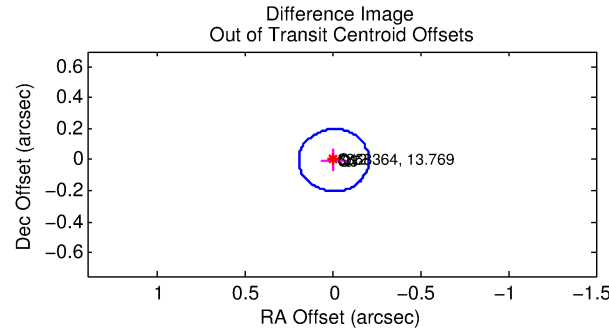
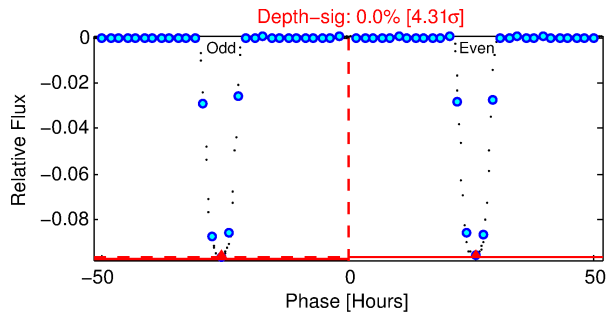
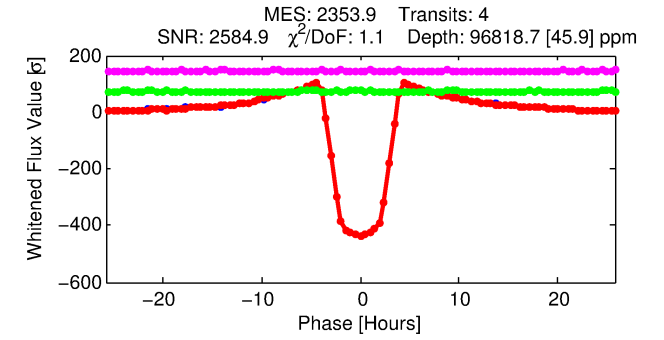
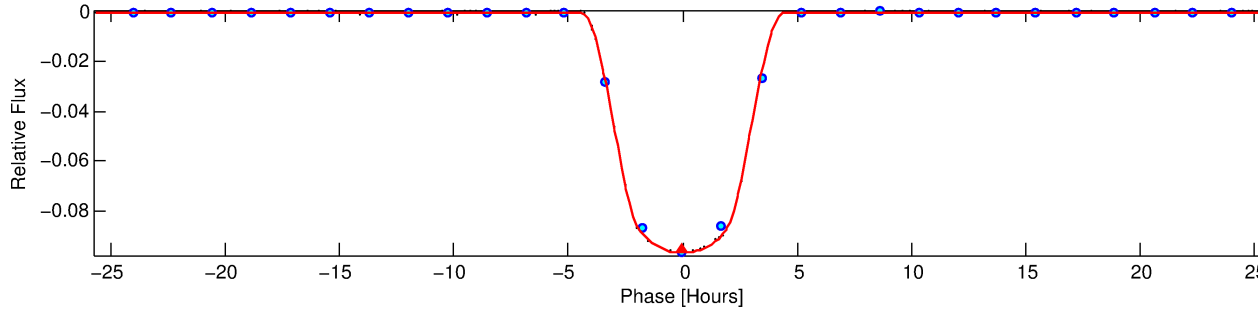
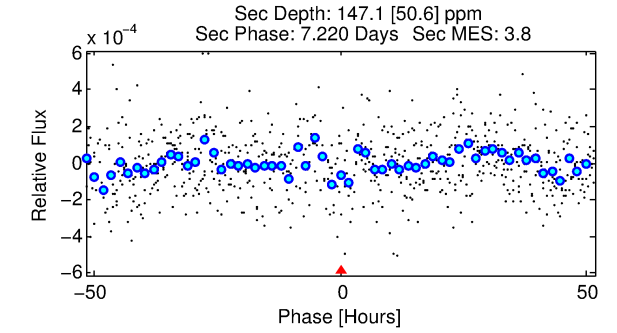
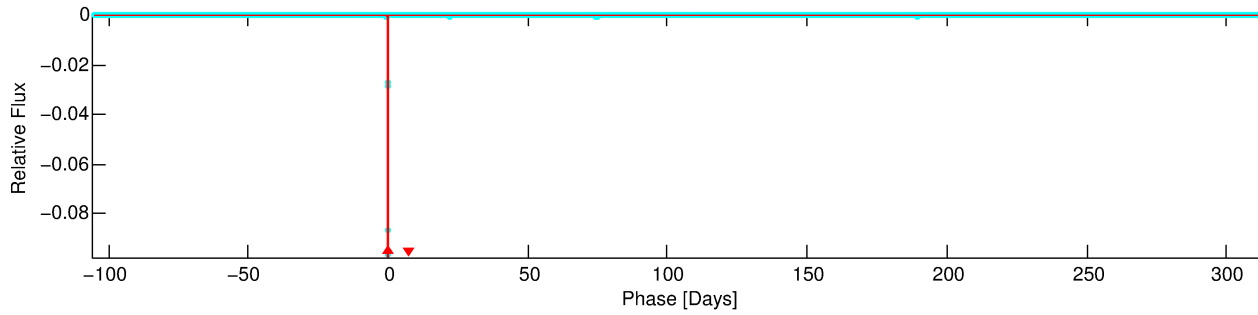
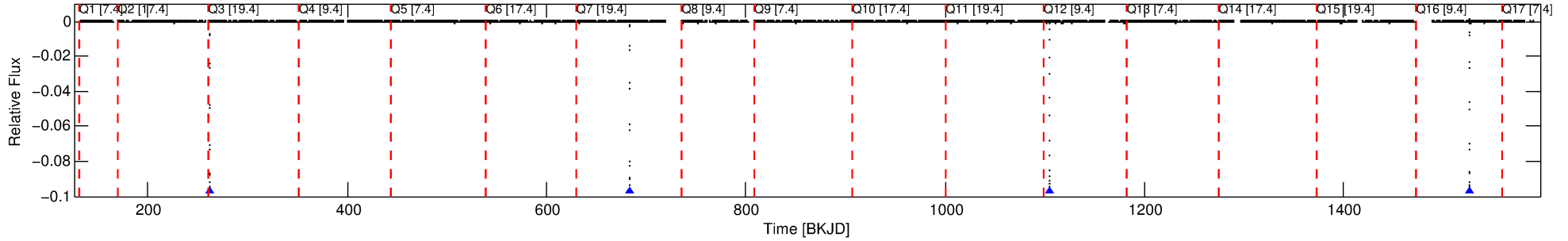
Ephemeris Match Information For 008868364-01

No Significant Match Found

DV One-Page Summary

KIC: 8868364 Candidate: 1 of 1 Period: 421.428 d
KOI: K03541.01 Corr: 0.964

Kp: 13.77 R*: 1.71 Rs Teff: 6235.0 K Logg: 4.03 Fe/H: -0.140



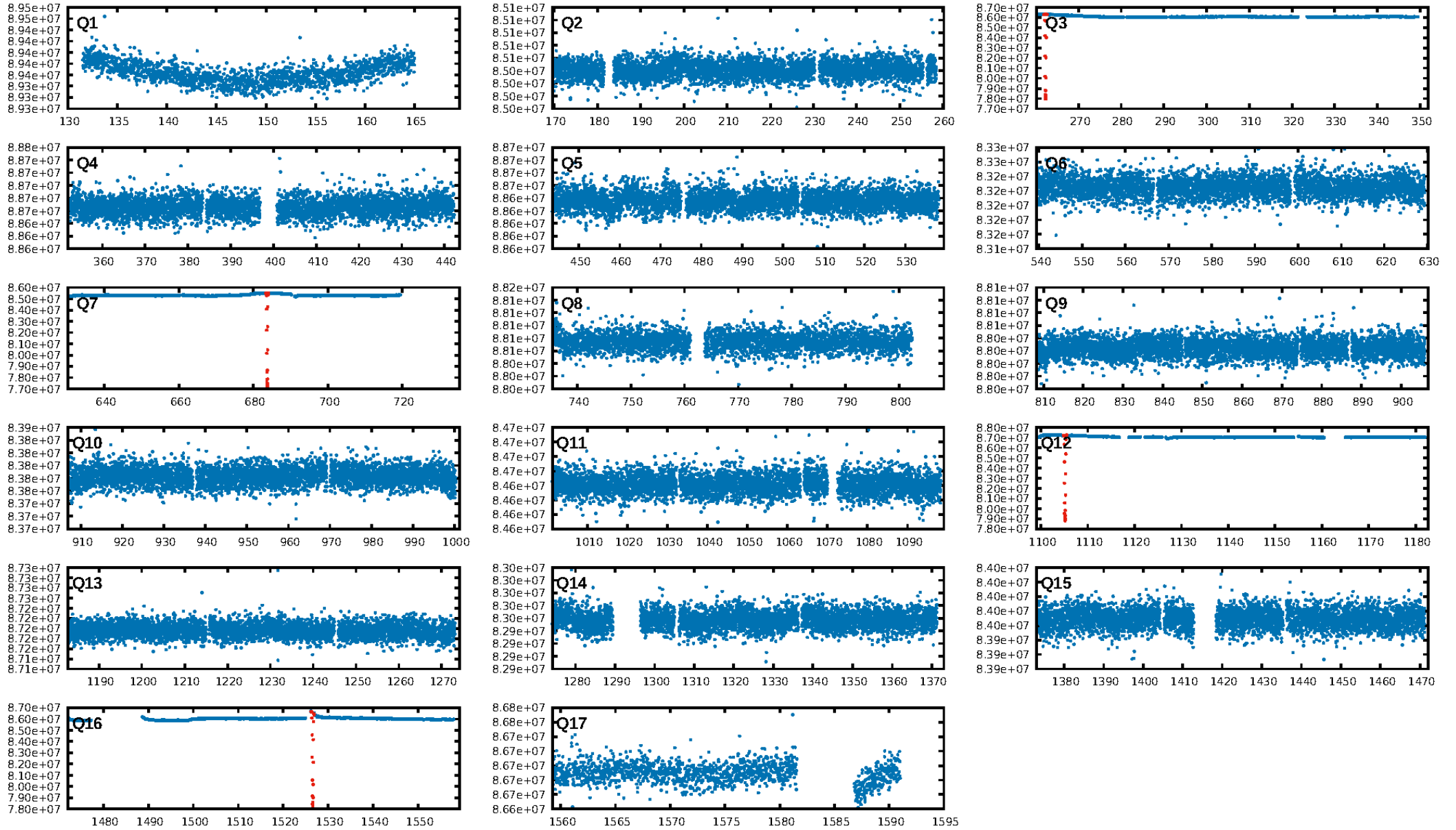
DV Fit Results:

Period = 421.42847 [0.00003] d
Epoch = 262.2889 [0.0001] BKJD
Rp/R* = 0.2910 [0.0001]
a/R* = 463.95 [0.45]
b = 0.36 [0.00]
Seff = 2.97 [1.74]
Teq = 335 [49] K
Rp = 54.23 [18.61] Re
a = 1.1530 [0.3975] AU
Ag = 36.57 [24.17] [1.47σ]
Teffp = 1273 [120] K [7.22σ]

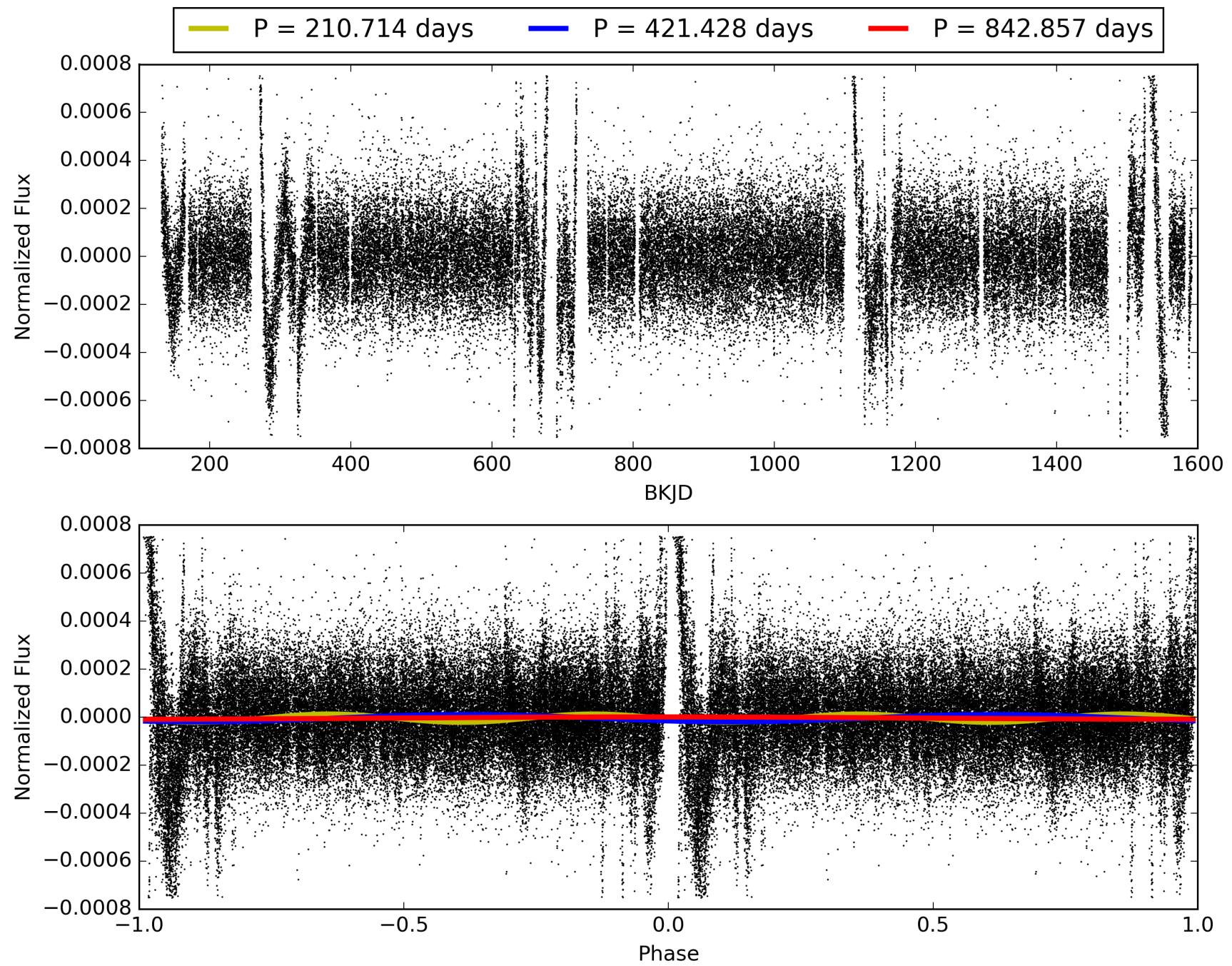
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 19.59
Centroid-sig: 0.0%
Centroid-so: 0.083 arcsec [25.00σ]
OotOffset-rm: 0.007 arcsec [0.10σ]
KicOffset-rm: 0.121 arcsec [1.71σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008868364-01, PDC Light Curves

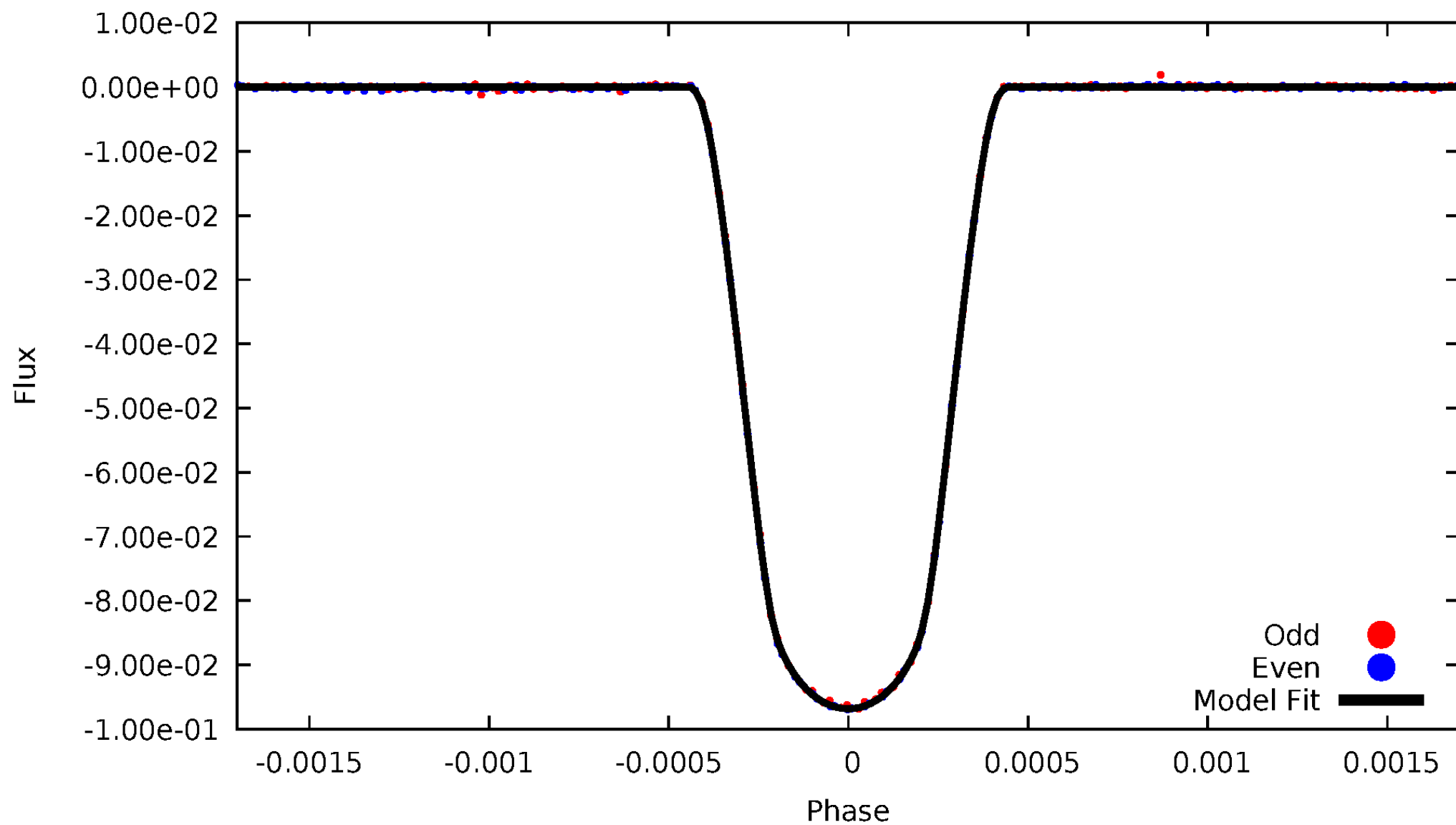


TCE 008868364-01



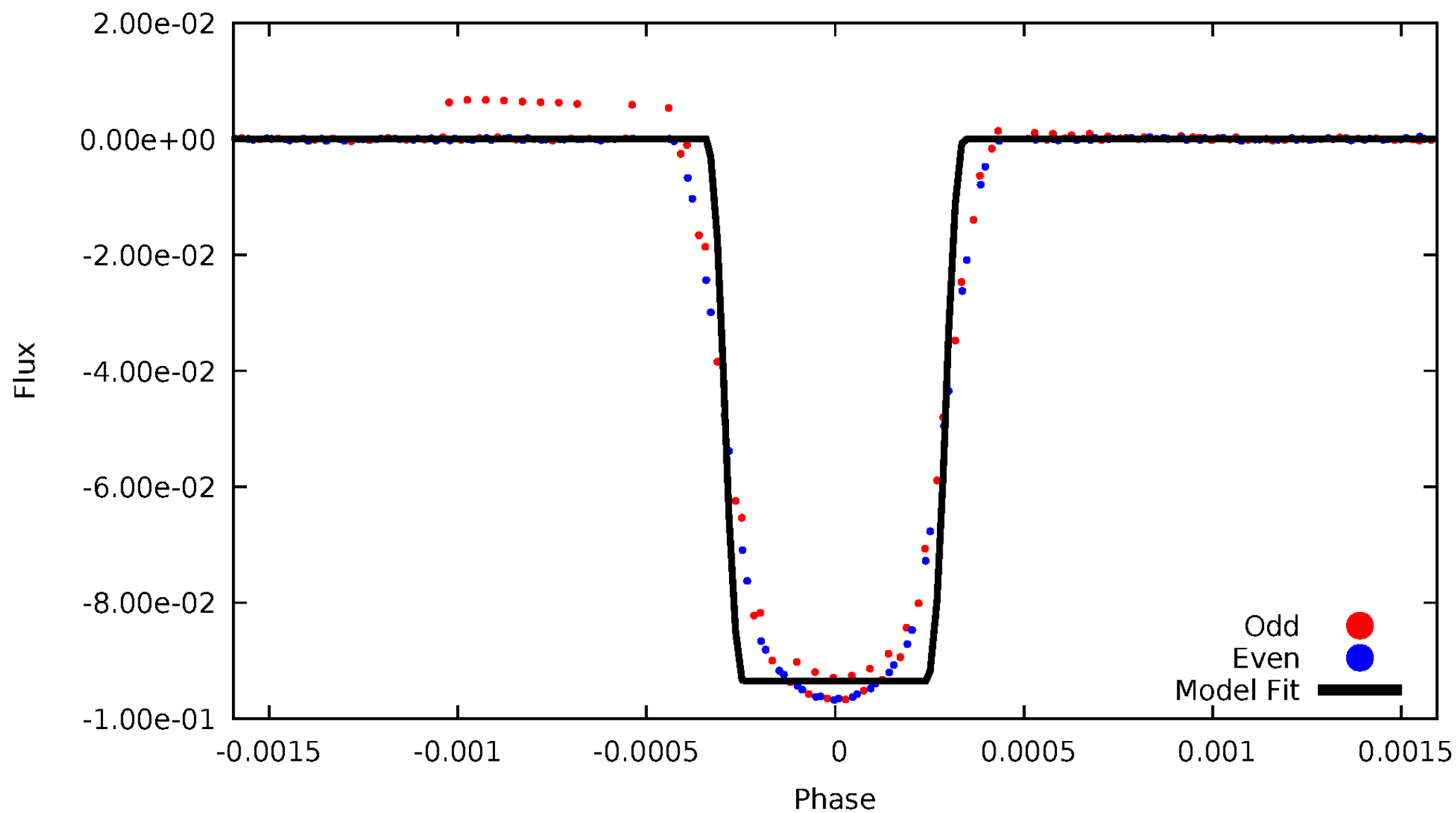
DV Odd/Even

TCE 008868364-01



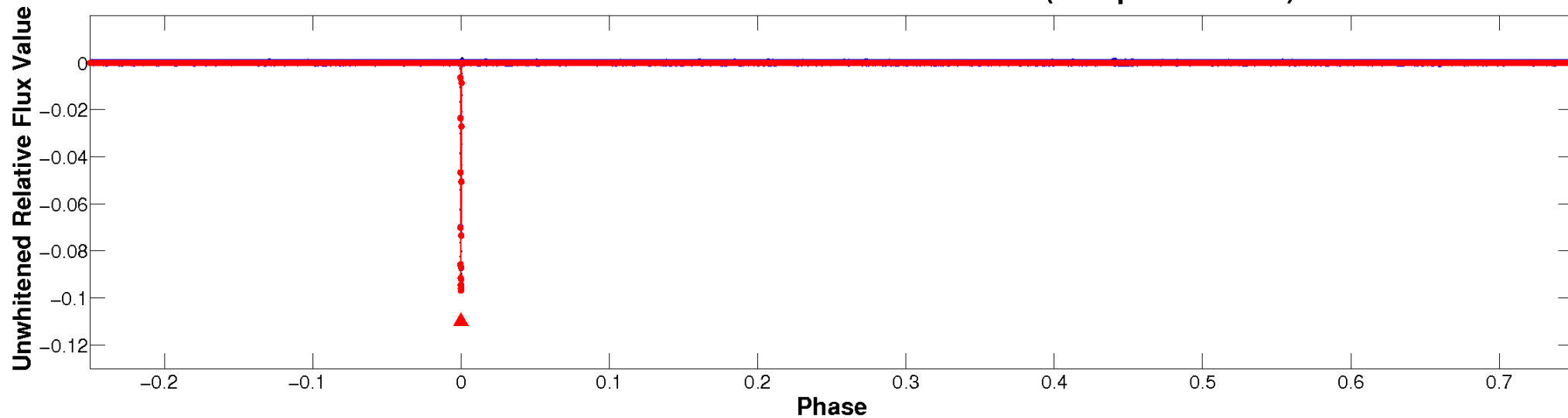
ALT Odd/Even

TCE 008868364-01

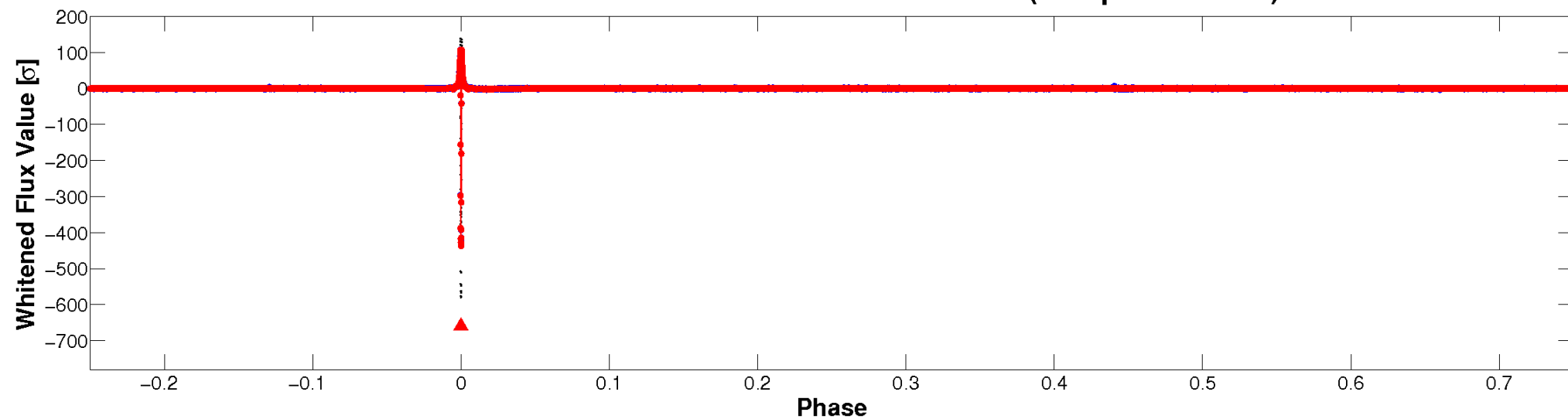


Non-Whitened Vs. Whitened Light Curve

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

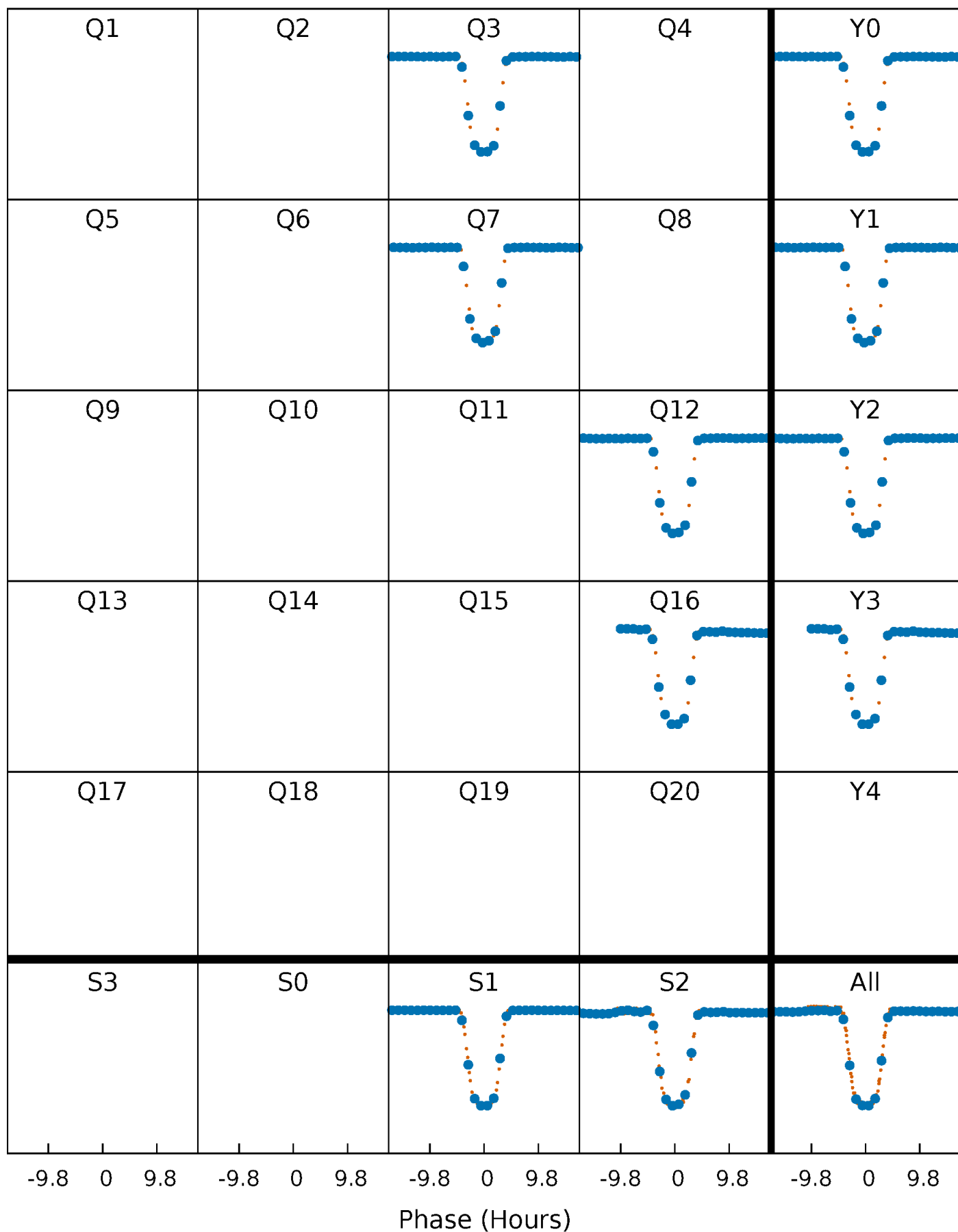


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



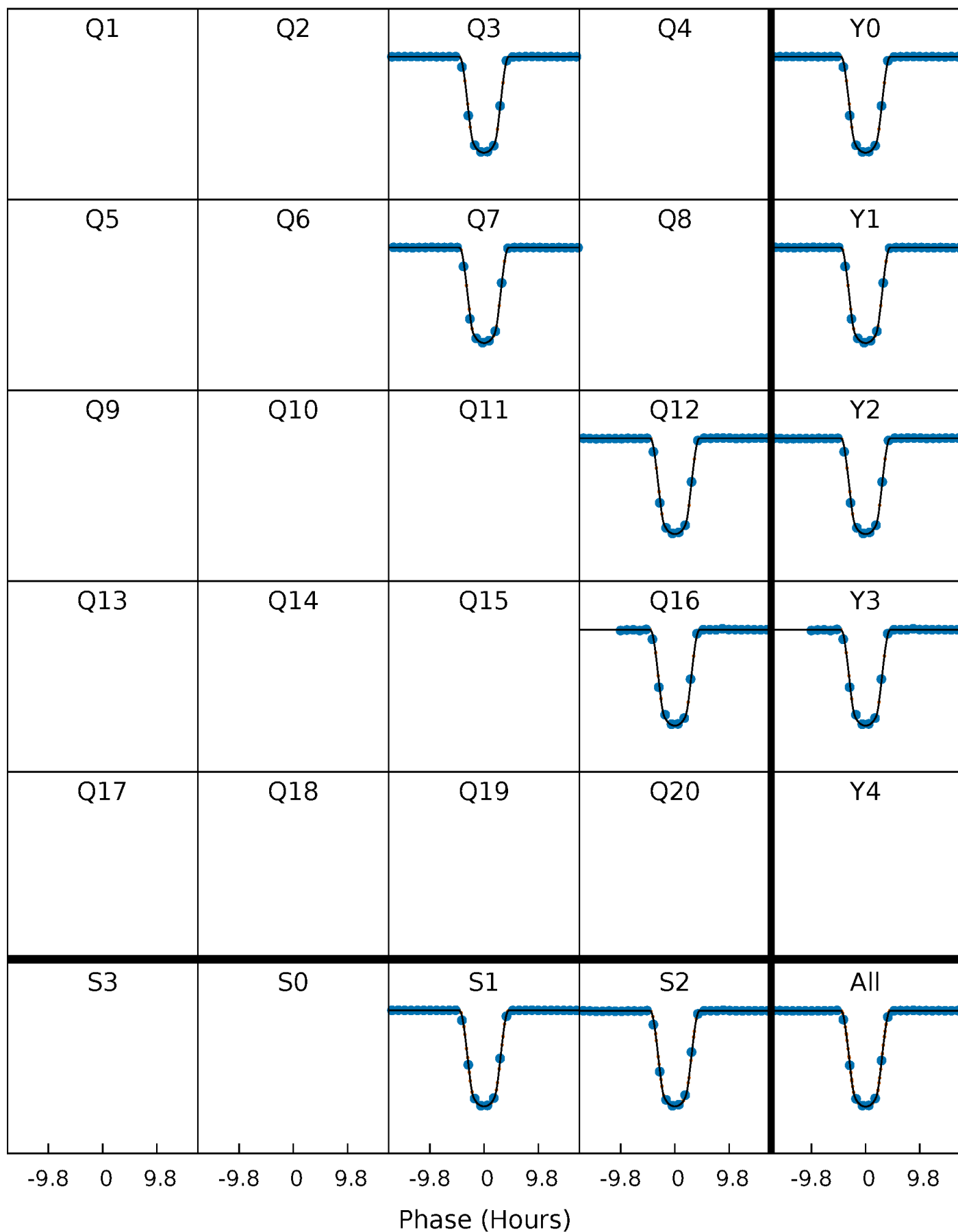
PDC Quarter-Phased Transit Curves

TCE 008868364-01 P=421.428473 Days $T_0=262.288918$ (BKJD)



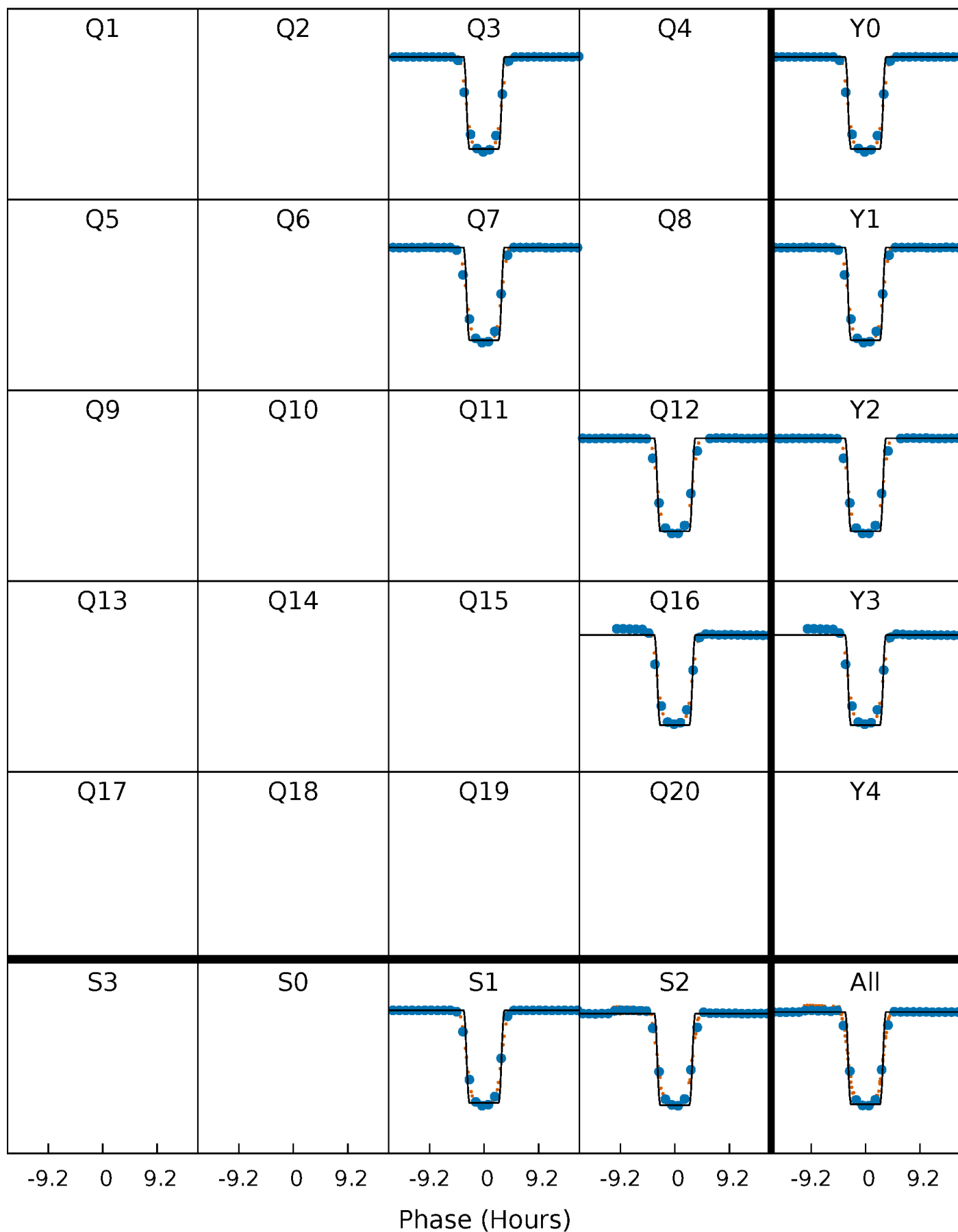
DV Quarter-Phased Transit Curves

TCE 008868364-01 P=421.428473 Days $T_0=262.288918$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

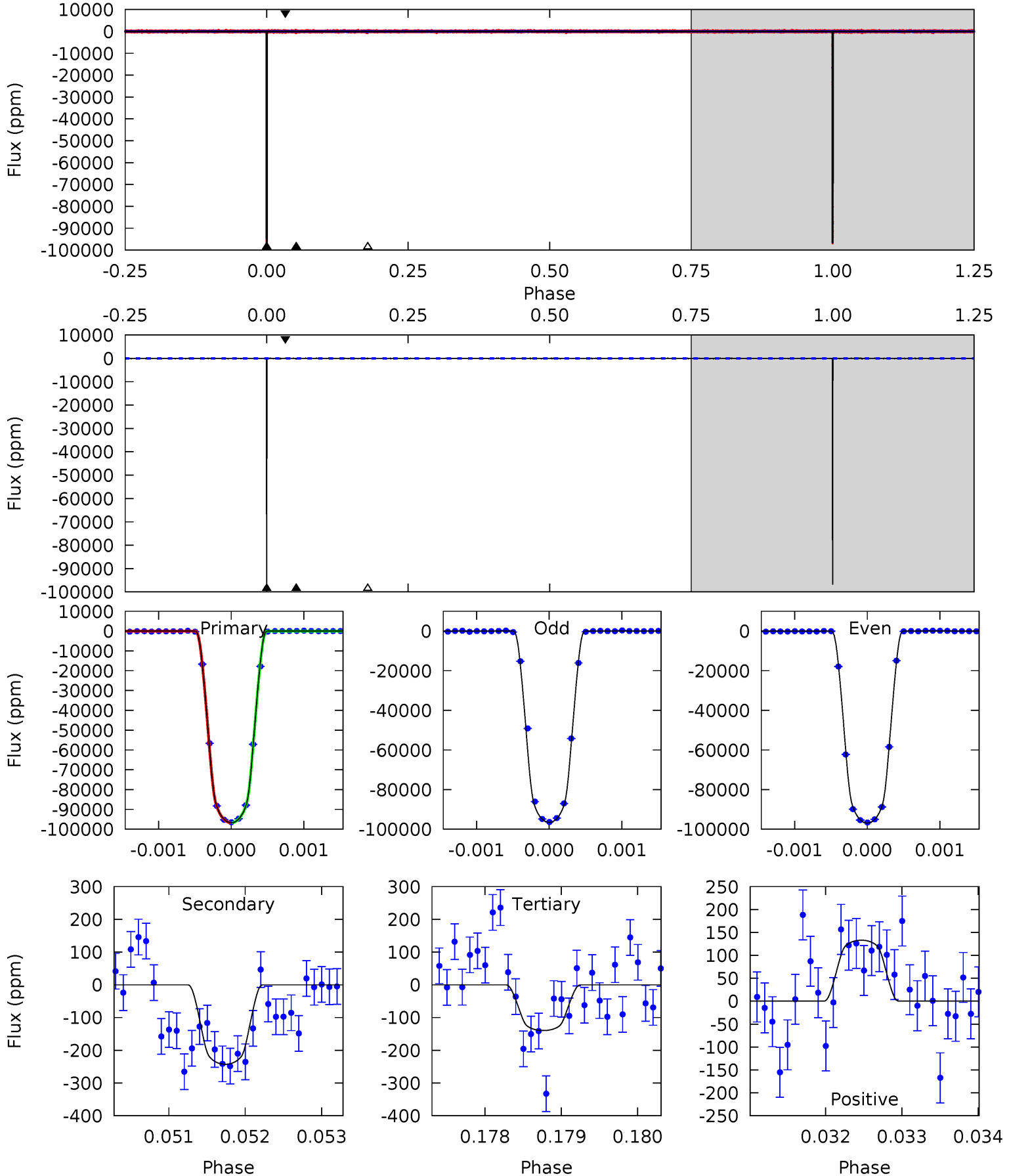
TCE 008868364-01 P=421.428553 Days $T_0=262.289109$ (BKJD)



DV Model-Shift Uniqueness Test

008868364-01, P = 421.428473 Days, E = 262.288918 Days

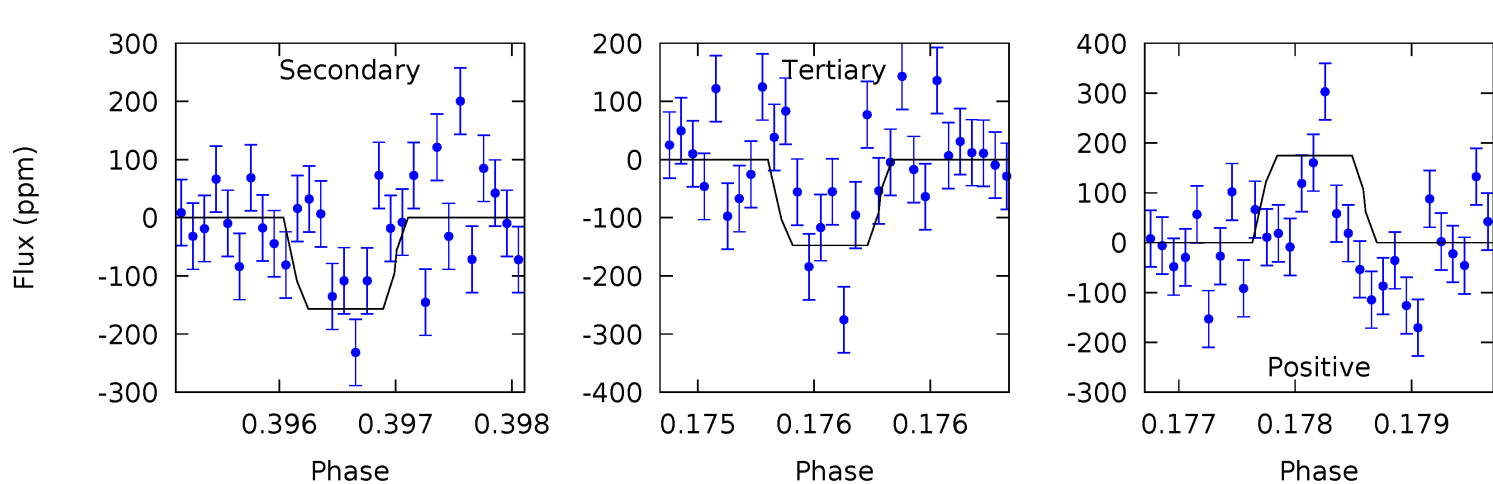
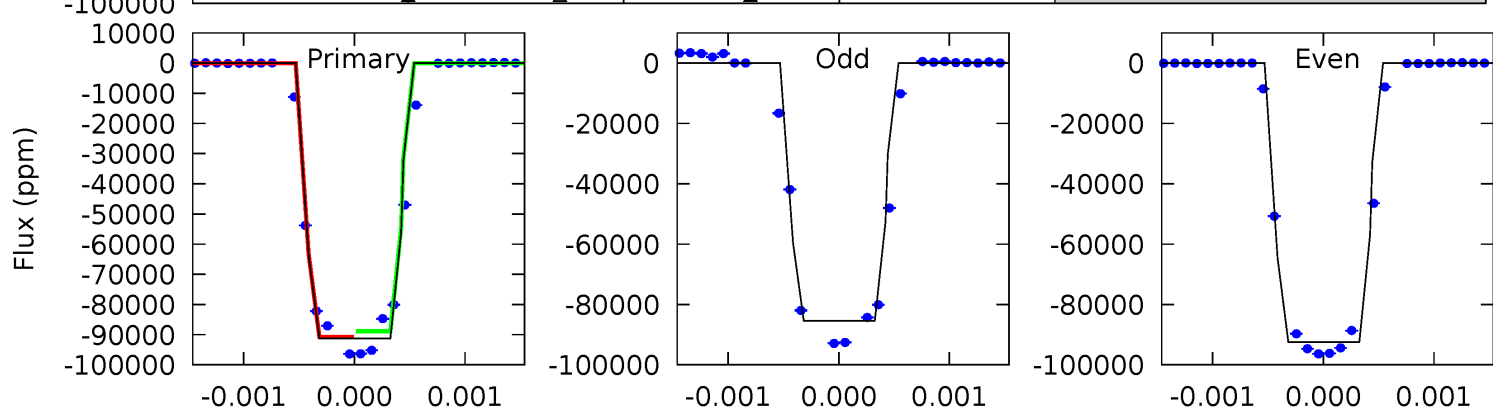
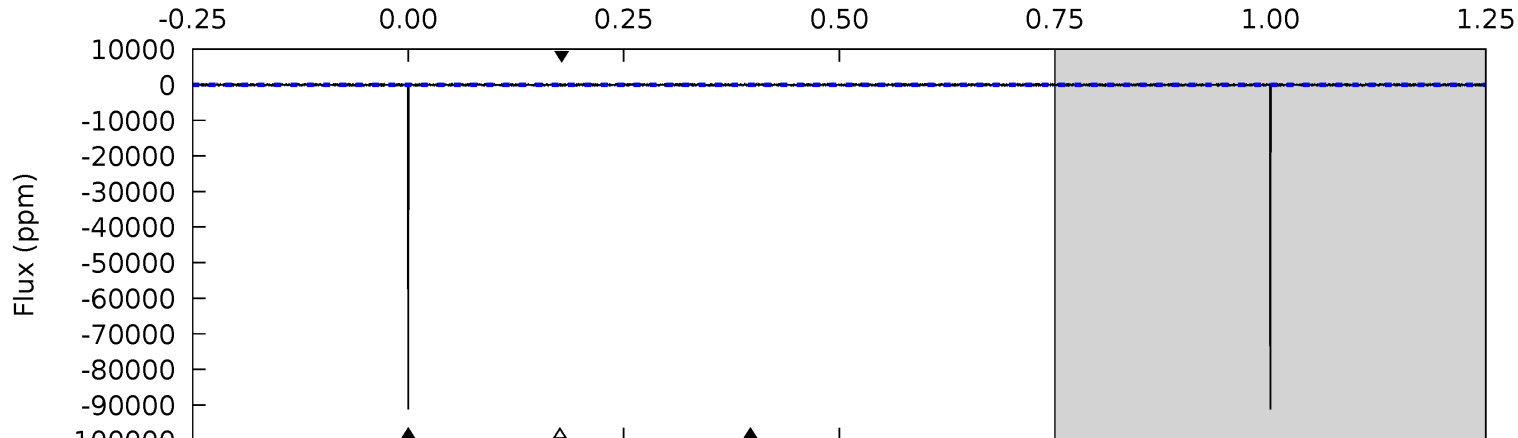
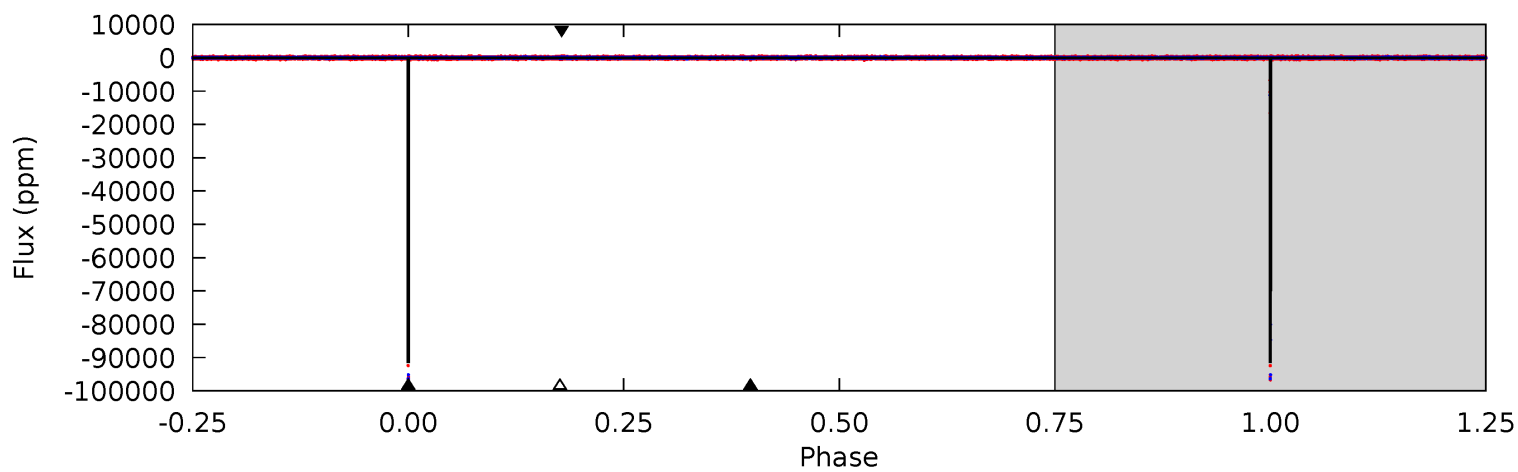
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5382	13.5	7.77	7.40	5.47	3.32	1.57	5374	5375	5.73	6.10	9.29	1.00	0.00	2.01



Alt Model-Shift Uniqueness Test

008868364-01, P = 421.428553 Days, E = 262.289109 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2671	4.59	4.32	5.12	5.52	3.40	1.08	2667	2666	0.27	-0.53	102.9	0.99	0.00	25.4



Stellar Parameters For KIC 008868364

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6235^{+199}_{-243}	$4.034^{+0.336}_{-0.144}$	$-0.140^{+0.250}_{-0.300}$	$1.708^{+0.480}_{-0.586}$	$1.152^{+0.194}_{-0.177}$	$0.325^{+0.778}_{-0.148}$
	+3%/-4%	+8%/-4%	+179%/-214%	+28%/-34%	+17%/-15%	+239%/-46%
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 008868364-01 / KOI 3541.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-243 ± 18	$52.77^{+8.41}_{-9.61}$	457^{+39}_{-44}	2348^{+41}_{-48}	65^{+32}_{-16}
Alt.	-157 ± 34	$55.96^{+8.58}_{-10.70}$	457^{+36}_{-44}	2204^{+61}_{-70}	38^{+20}_{-11}

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

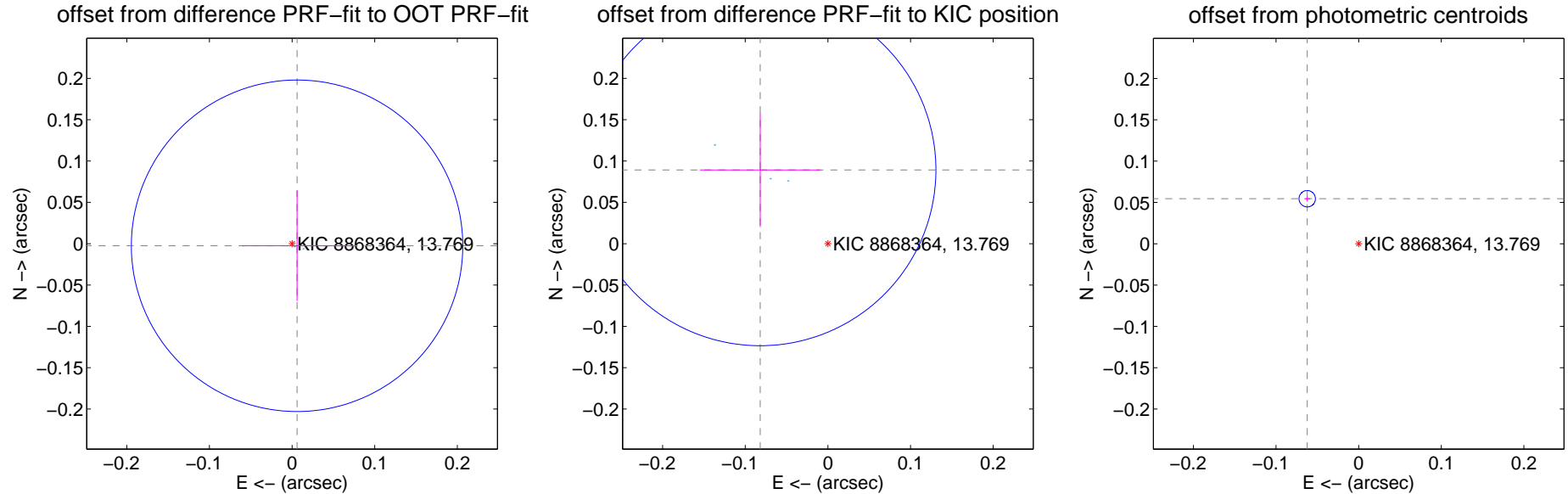
DV Centroid Data

Supplemental centroid analysis for 008868364-01. Kepler magnitude: 13.77. Transit SNR 2584.89

There are 3 quarters with good PRF difference image offsets

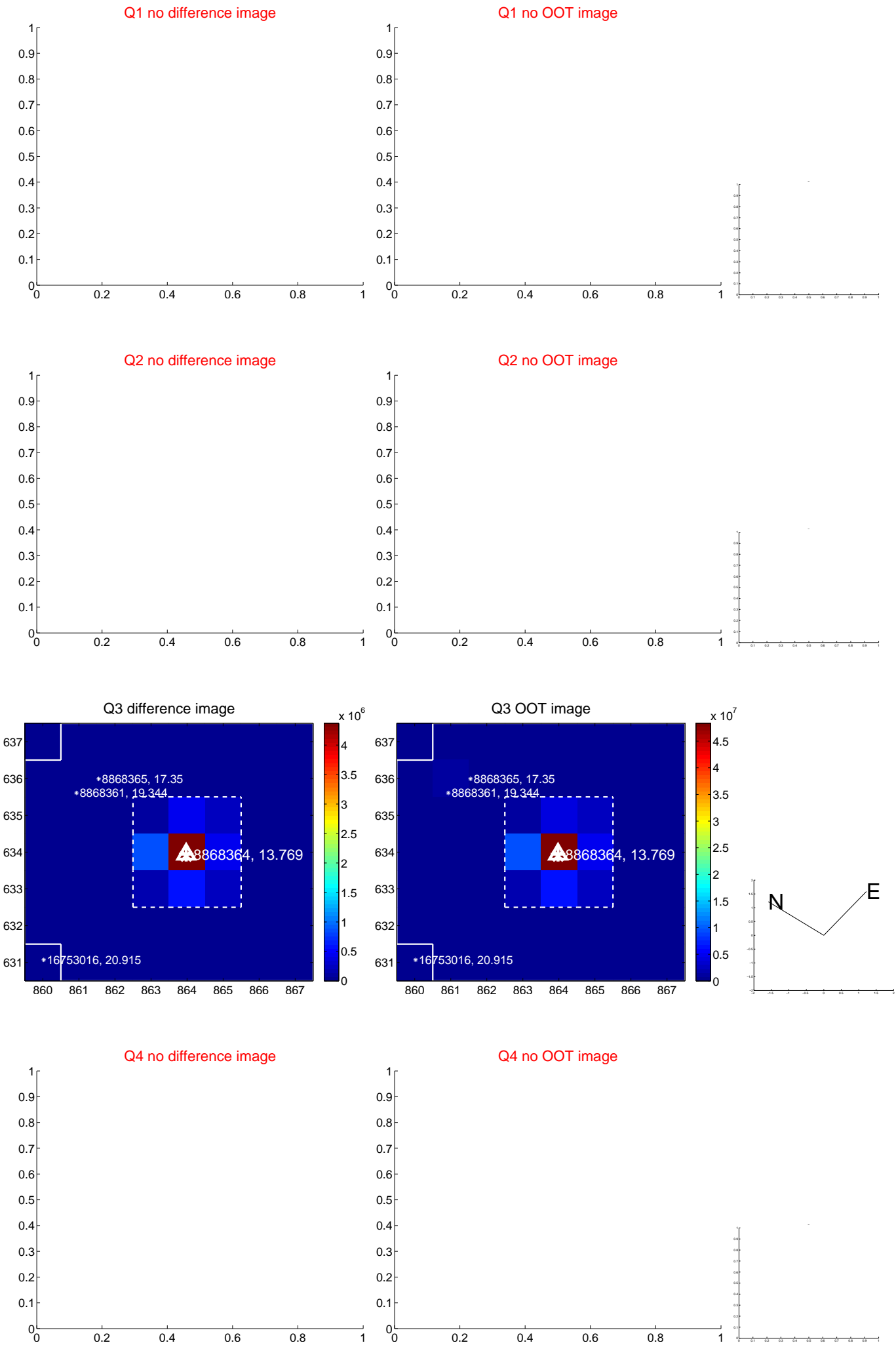
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.007 ± 0.067	0.10	-0.006 ± 0.067	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.121 ± 0.071	1.71	0.082 ± 0.073	0.089 ± 0.069
photometric centroid source offset	0.08 ± 0.00	25.00	0.06 ± 0.00	0.05 ± 0.00

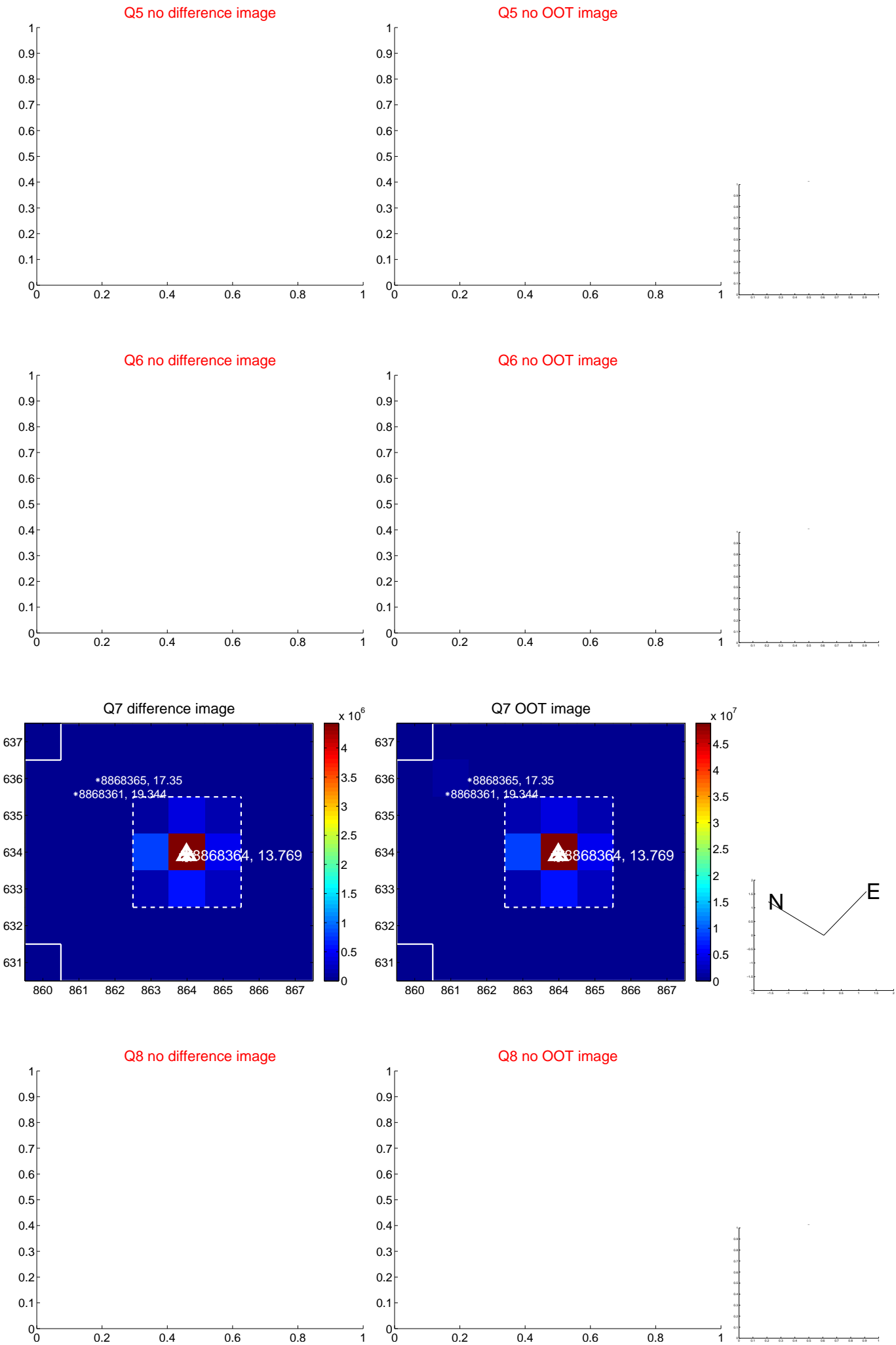


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

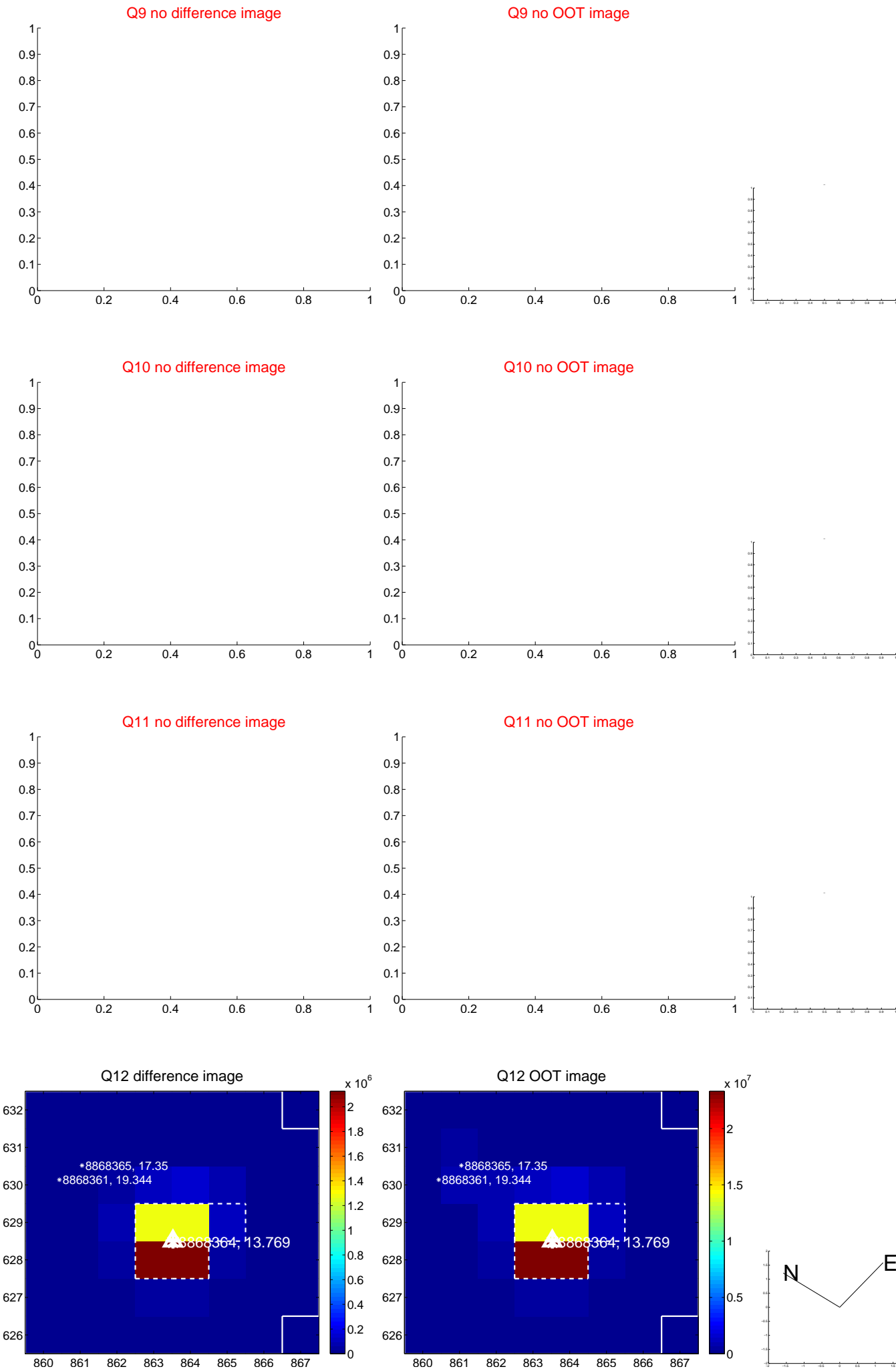
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



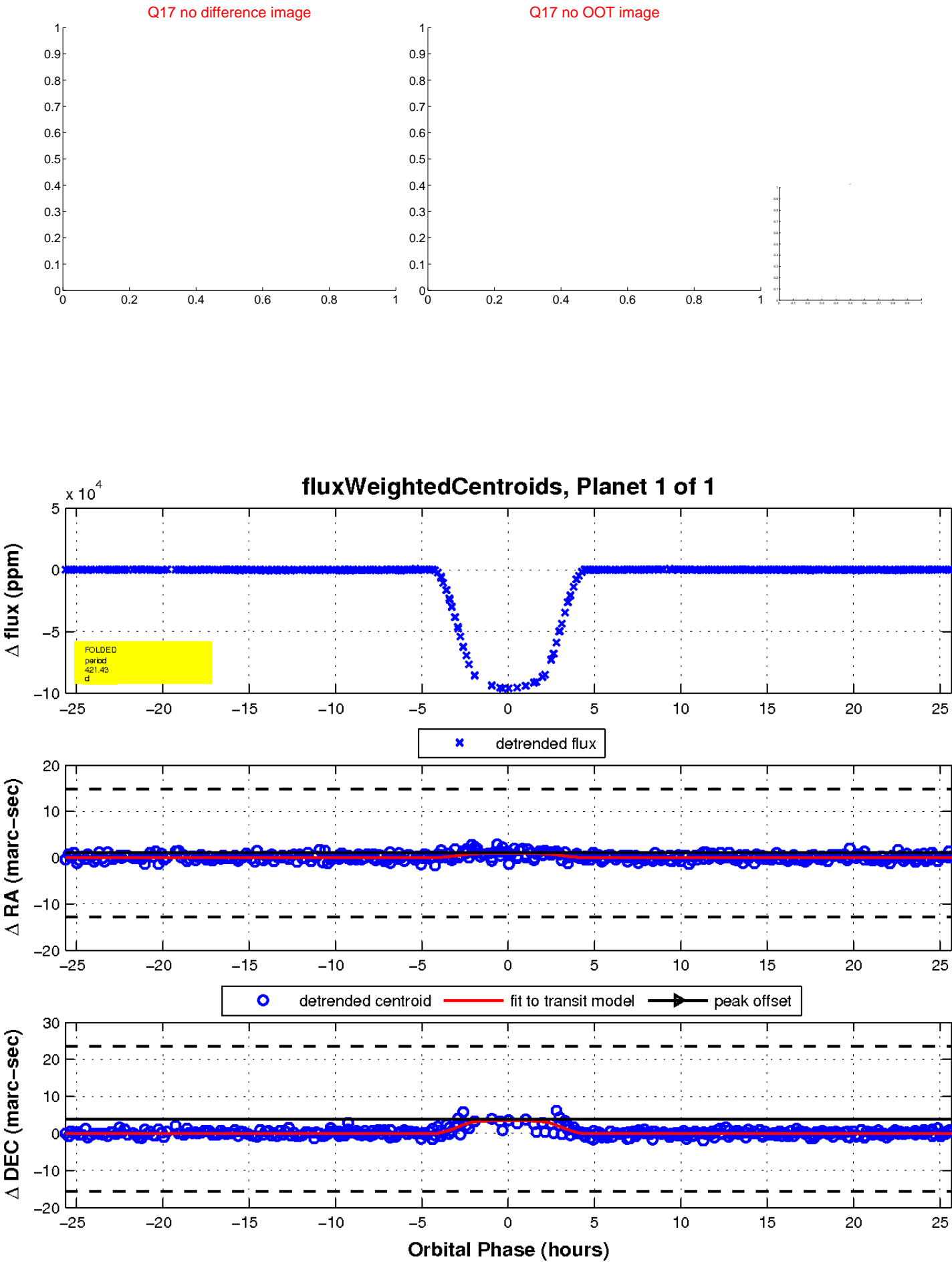
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UKIRT Image

Declination

