

KIC 010610702

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})
010610702-01	OBS	No	270.836921	250.884819	547.4	5.022	9.2	6.2	0.72	5831	1.75	0.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010610702-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

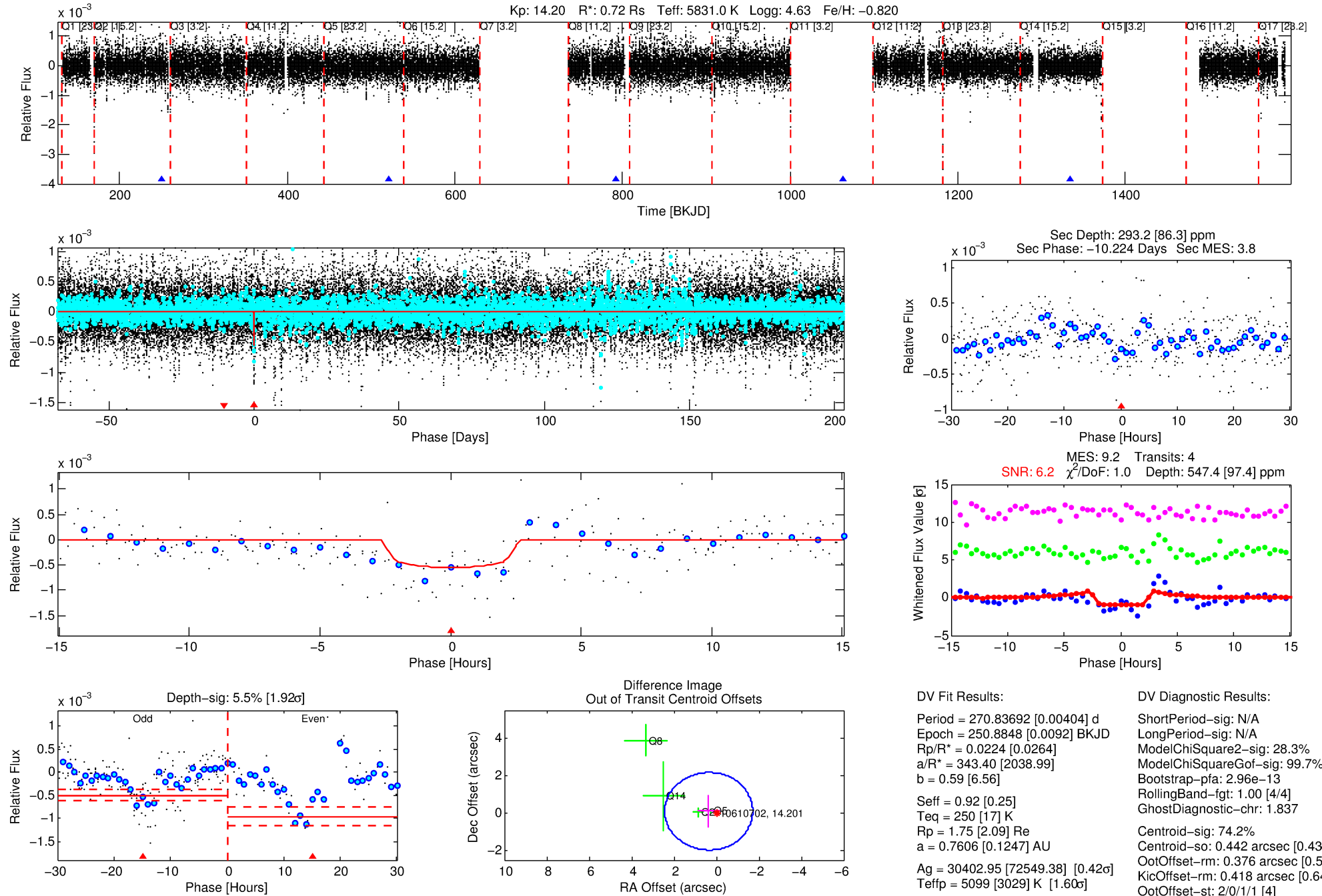
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010610702-01

No Significant Match Found

DV One-Page Summary

KIC: 10610702 Candidate: 1 of 1 Period: 270.837 d



DV Fit Results:

Period = 270.83692 [0.00404] d
Epoch = 250.8848 [0.0092] BKJD
Rp/R* = 0.0224 [0.0264]
a/R* = 343.40 [2038.99]
b = 0.59 [6.56]
Seff = 0.92 [0.25]
Teq = 250 [17] K
Rp = 1.75 [2.09] Re
a = 0.7606 [0.1247] AU
Ag = 30402.95 [72549.38] [0.42 σ]
Teffp = 5099 [3029] K [1.60 σ]

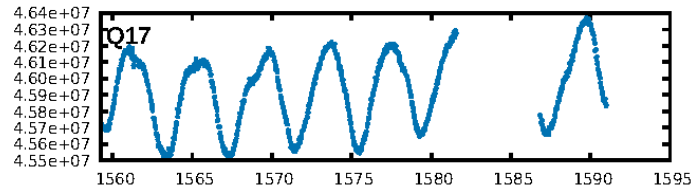
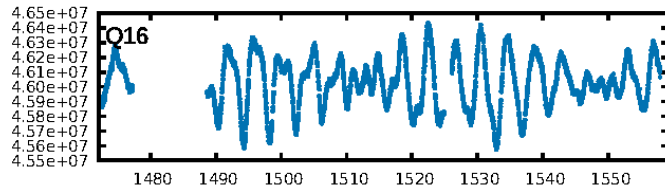
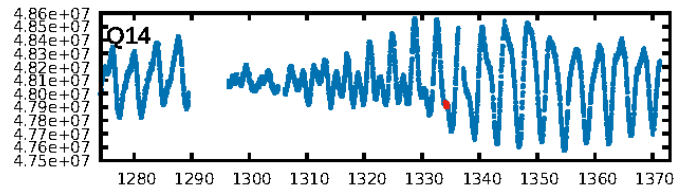
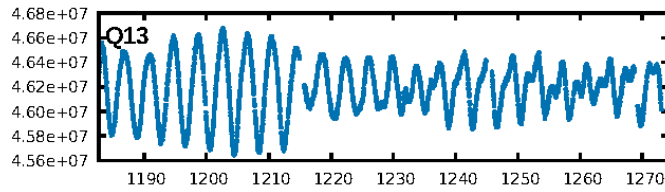
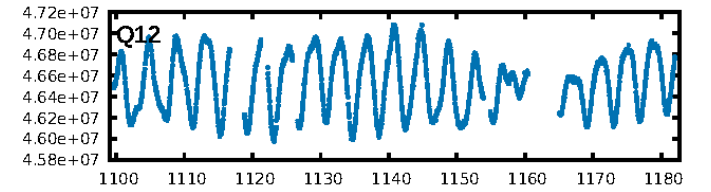
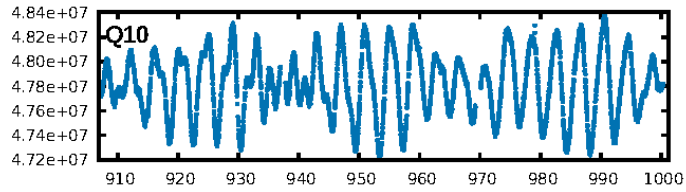
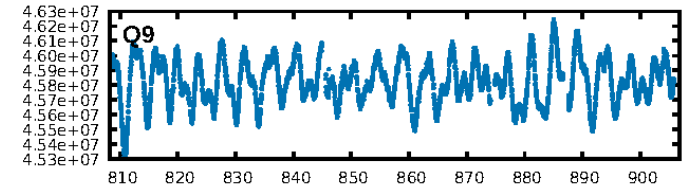
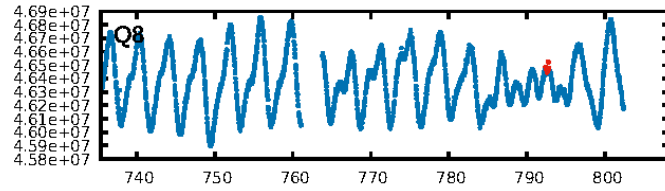
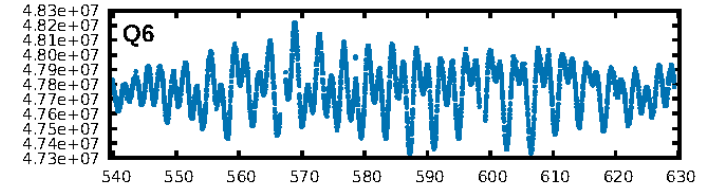
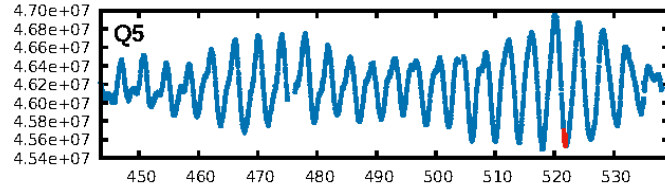
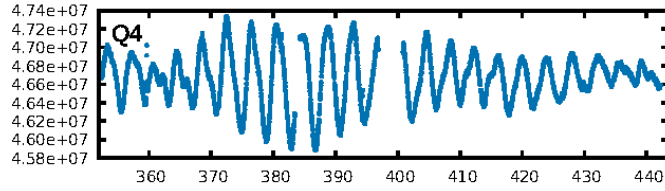
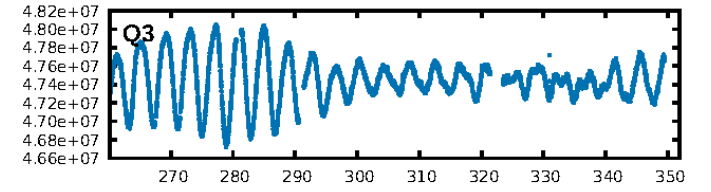
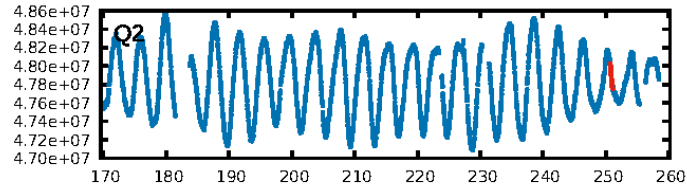
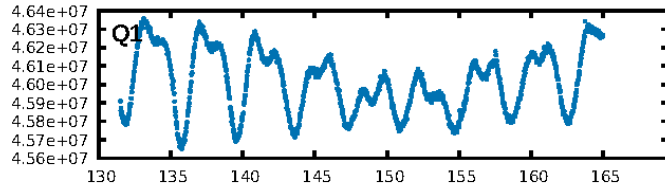
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 28.3%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 2.96e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.837
Centroid-sig: 74.2%
Centroid-so: 0.442 arcsec [0.43 σ]
OotOffset-rm: 0.376 arcsec [0.54 σ]
KicOffset-rm: 0.418 arcsec [0.64 σ]
OotOffset-st: 2/0/1/1 [4]
KicOffset-st: 2/0/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

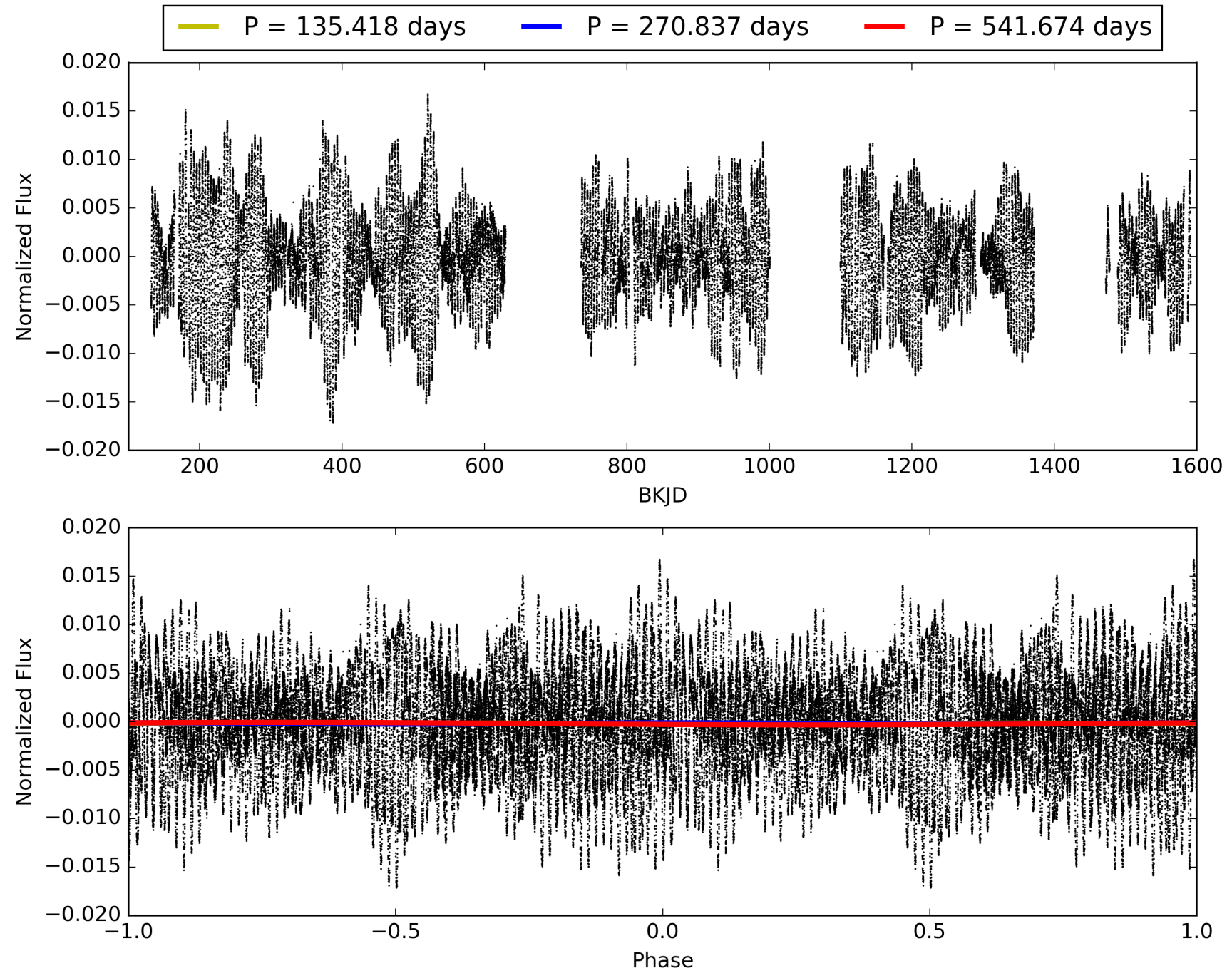
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:43:02 Z

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

TCE 010610702-01, PDC Light Curves

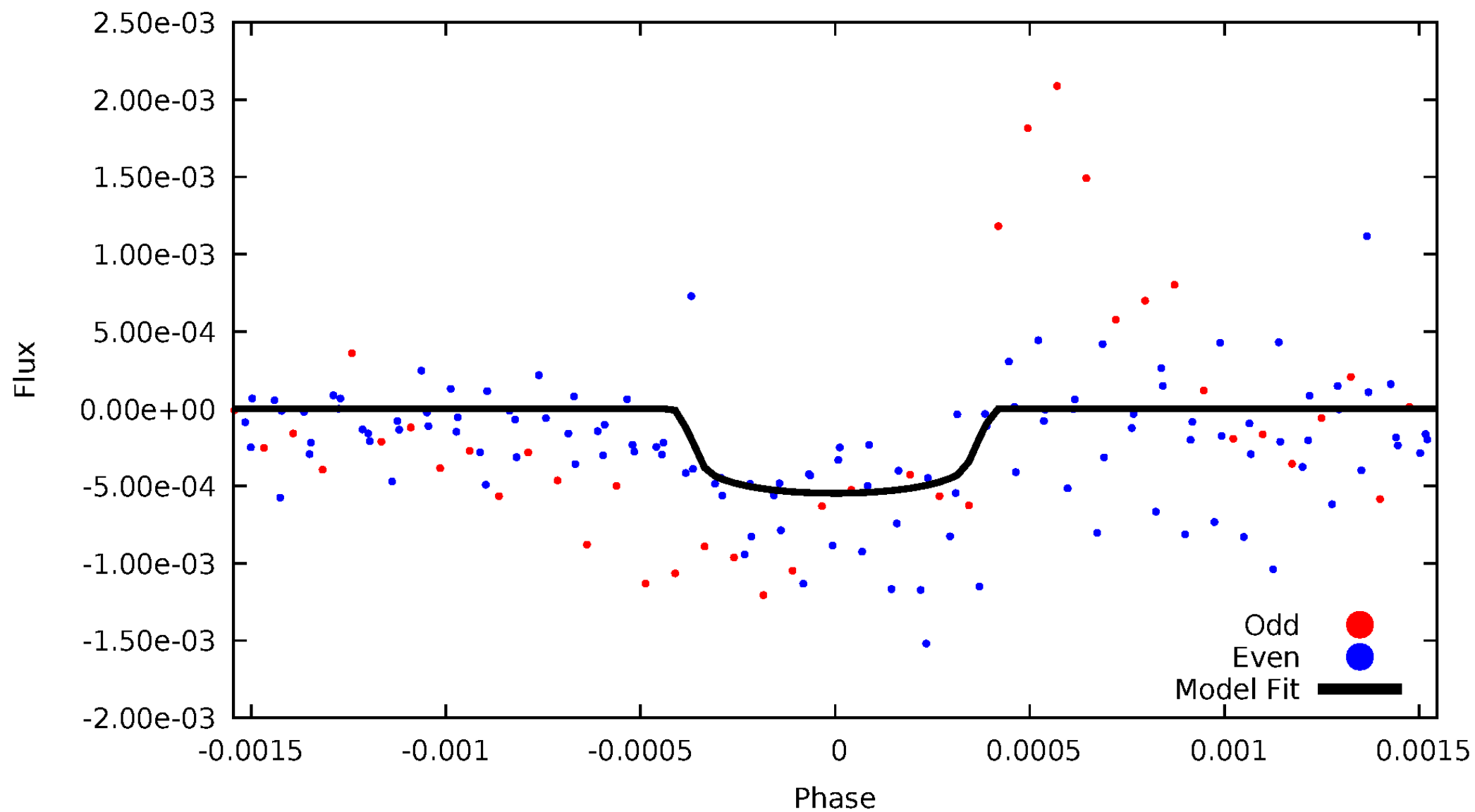


TCE 010610702-01



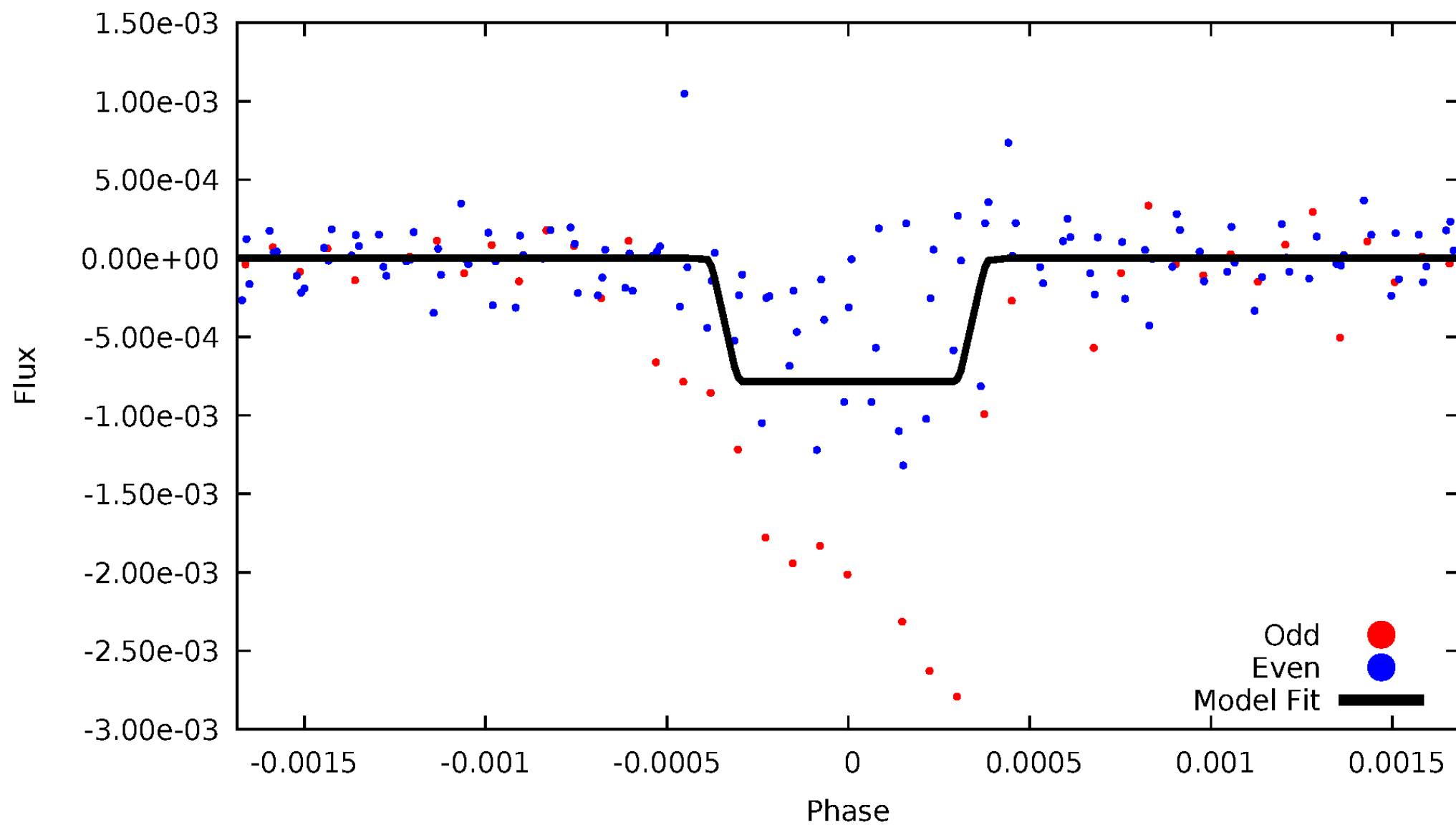
DV Odd/Even

TCE 010610702-01



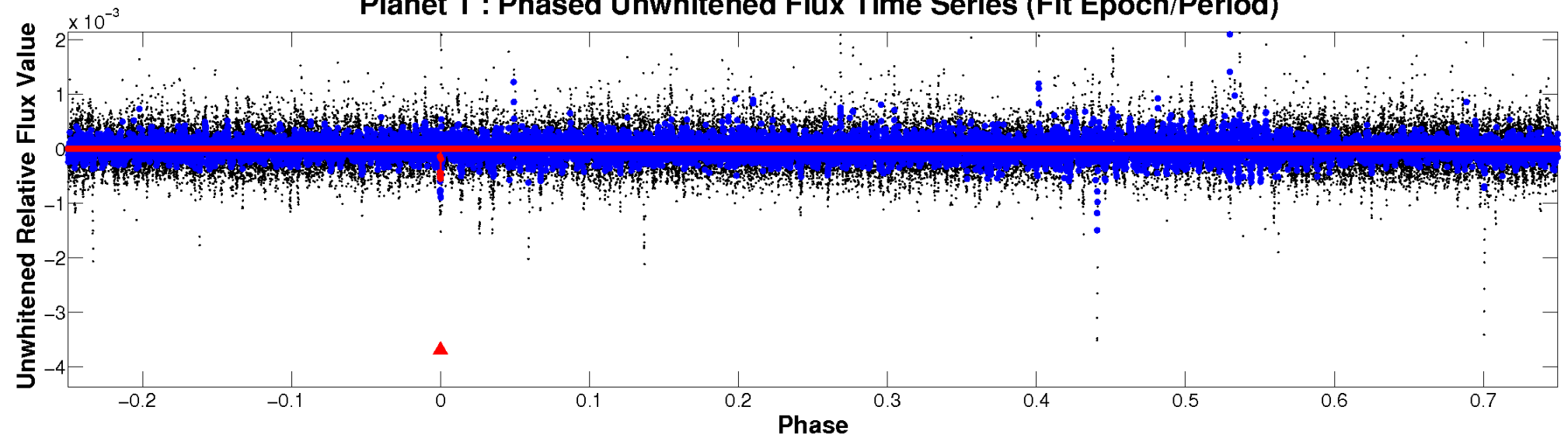
ALT Odd/Even

TCE 010610702-01

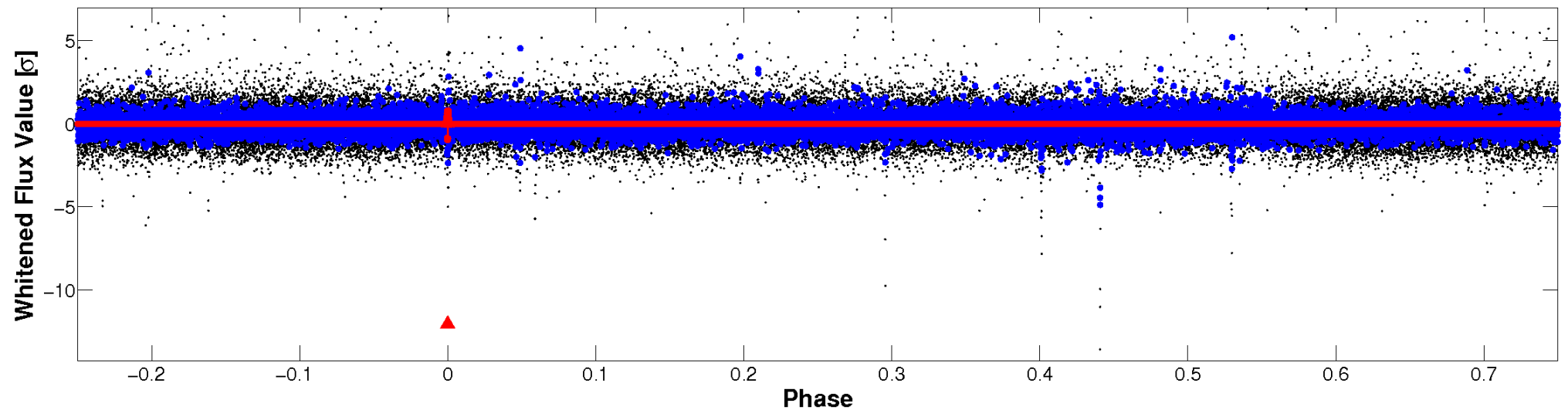


Non-Whitened Vs. Whitened Light Curve

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

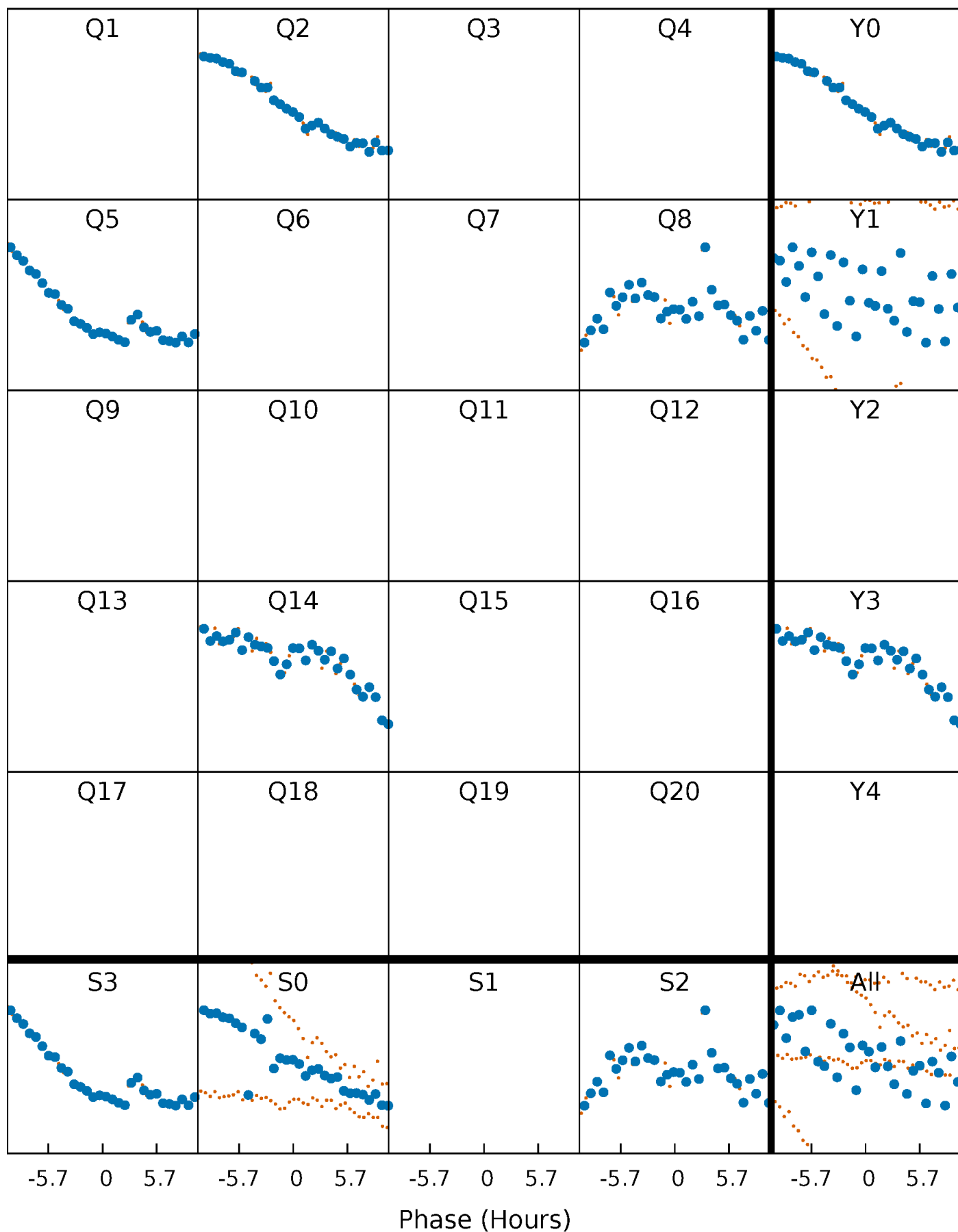


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



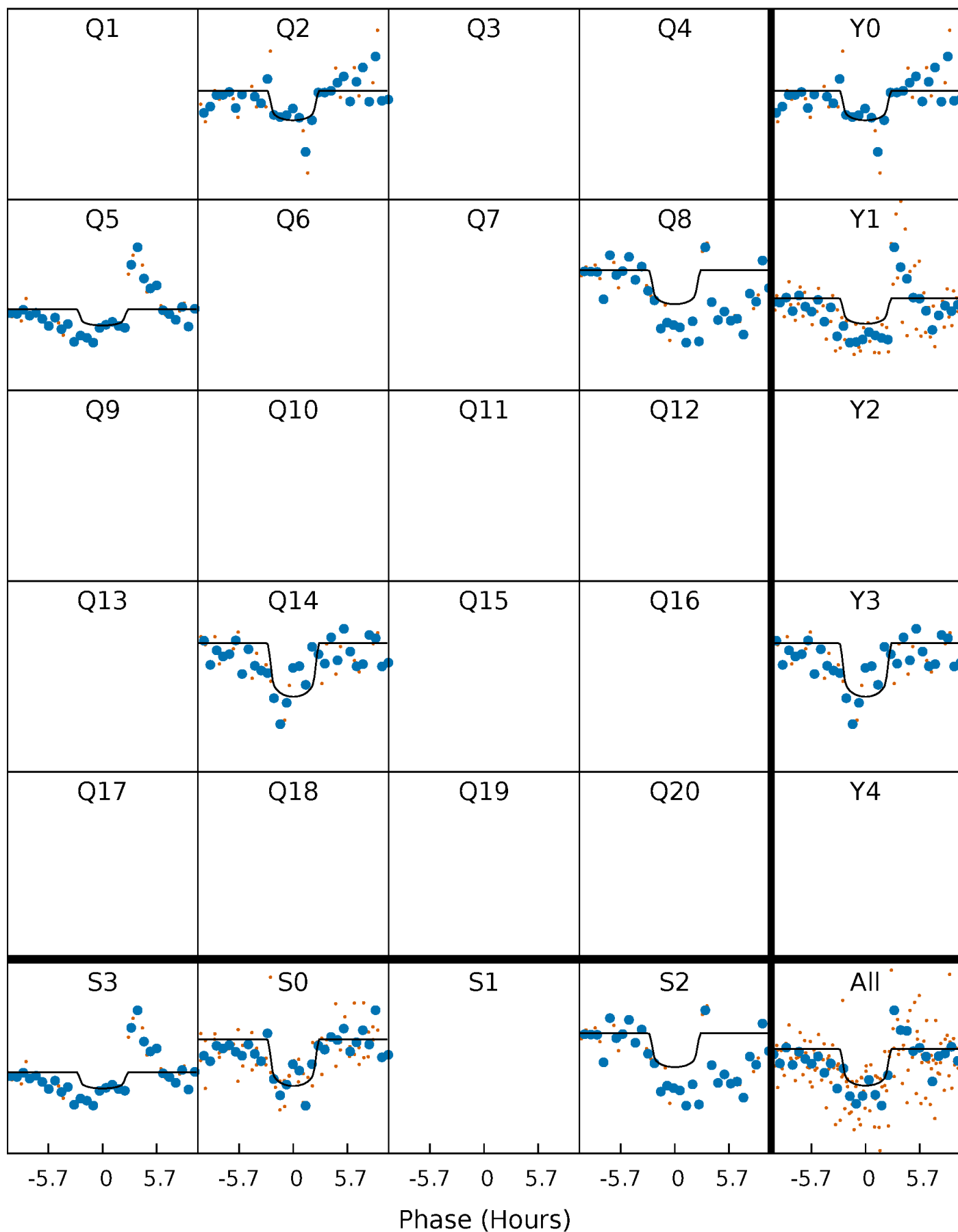
PDC Quarter-Phased Transit Curves

TCE 010610702-01 P=270.836921 Days $T_0=250.884819$ (BKJD)



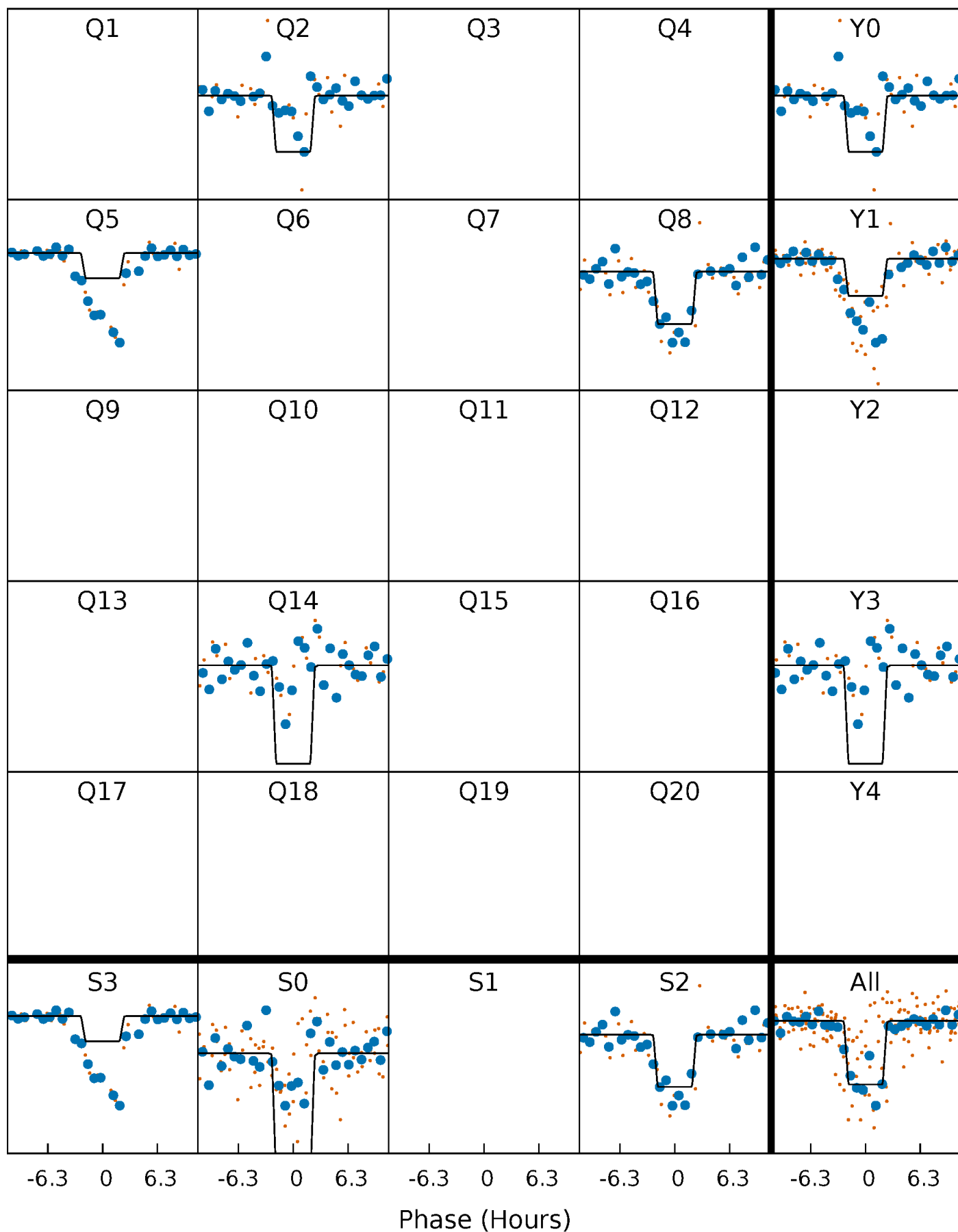
DV Quarter-Phased Transit Curves

TCE 010610702-01 P=270.836921 Days $T_0=250.884819$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

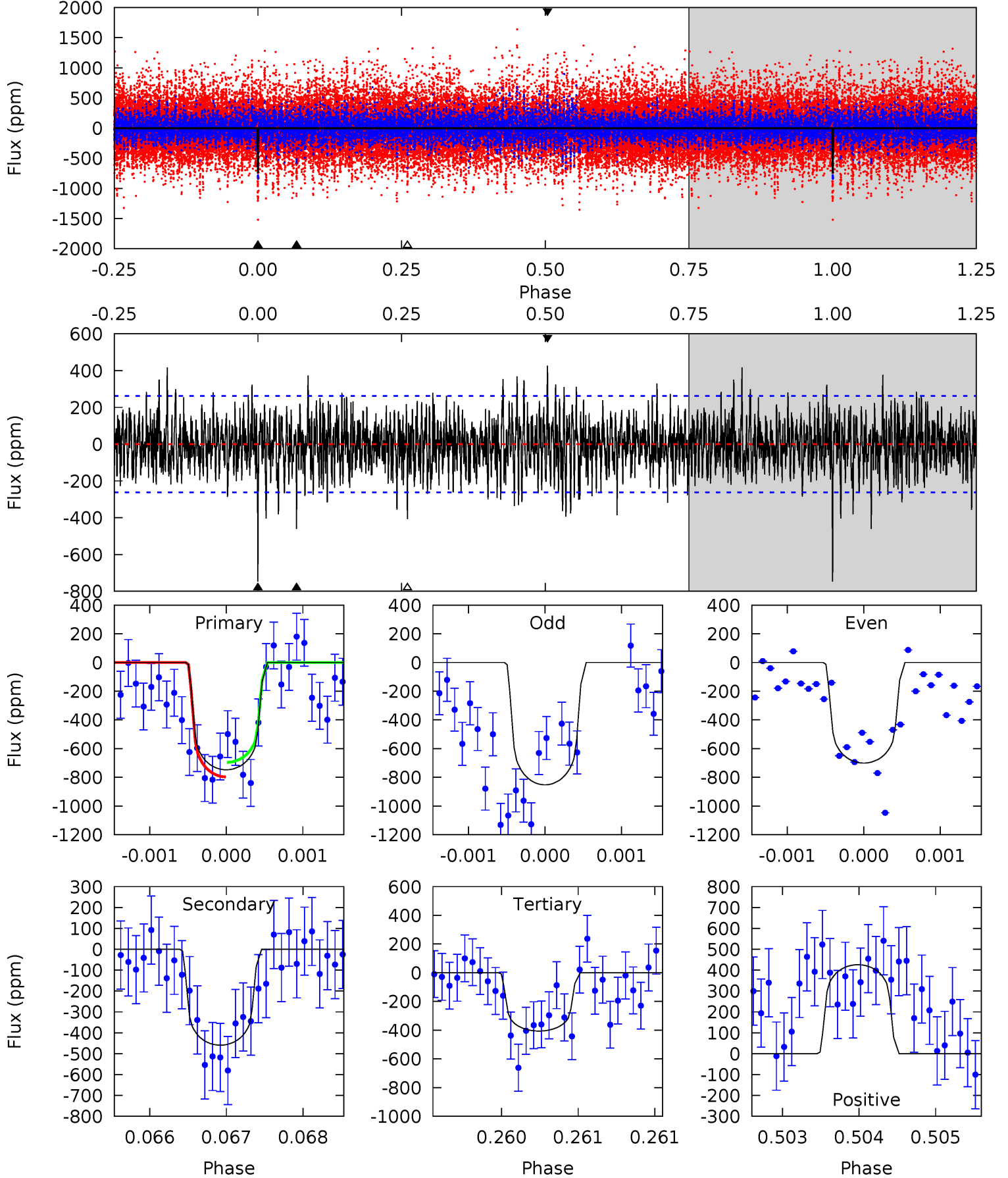
TCE 010610702-01 P=270.826404 Days $T_0=250.907253$ (BKJD)



DV Model-Shift Uniqueness Test

010610702-01, P = 270.836921 Days, E = 250.884819 Days

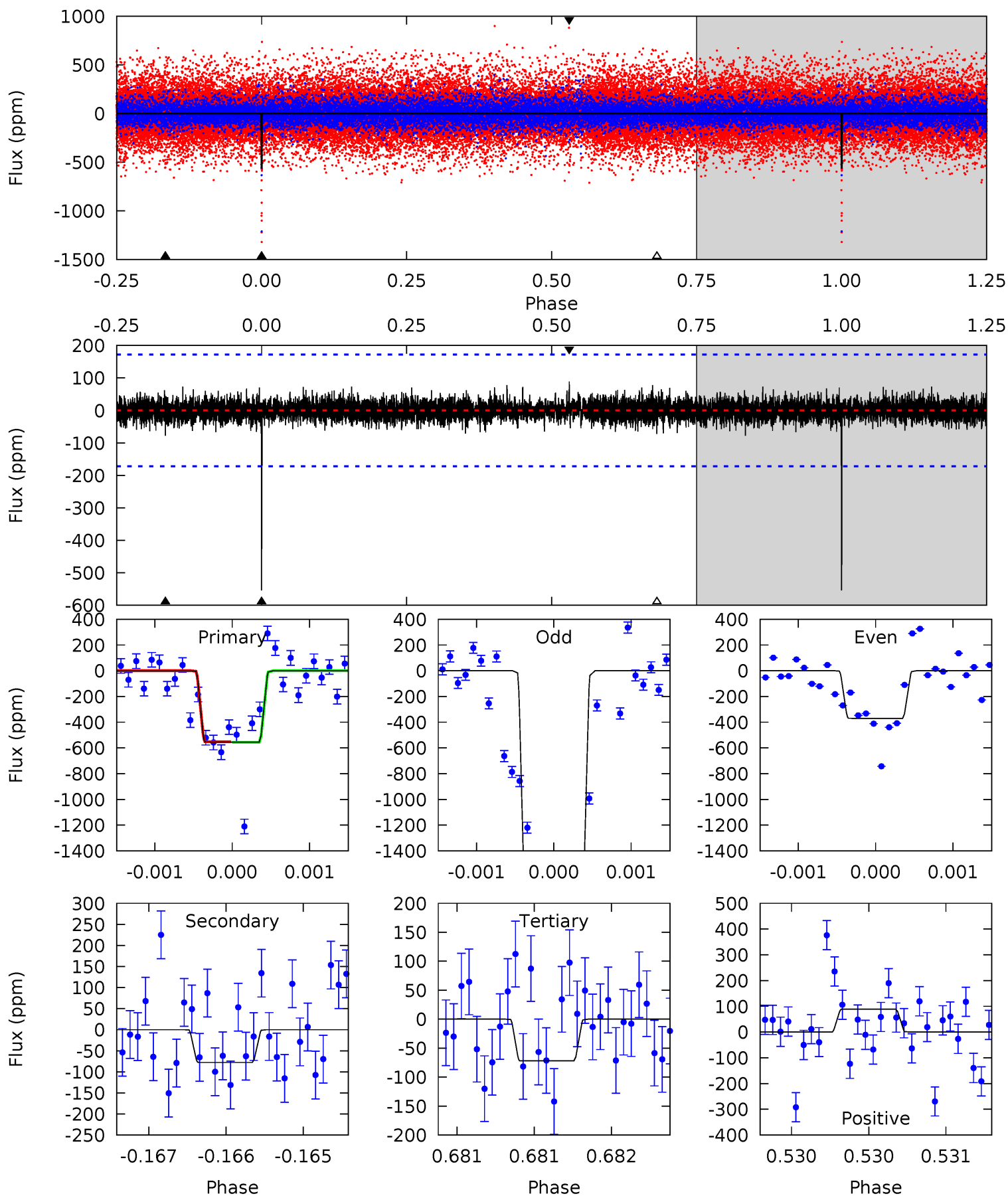
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	9.60	8.49	8.90	5.48	3.34	2.33	7.13	6.72	1.11	0.70	1.37	1.02	0.36	1.06



Alt Model-Shift Uniqueness Test

010610702-01, P = 270.826404 Days, E = 250.907253 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	2.48	2.29	2.83	5.48	3.34	0.60	15.4	14.8	0.18	-0.36	27.6	1.37	0.14	0



Stellar Parameters For KIC 010610702

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5831^{+157}_{-157}	$4.630^{+0.032}_{-0.136}$	$-0.820^{+0.300}_{-0.300}$	$0.717^{+0.136}_{-0.045}$	$0.807^{+0.063}_{-0.077}$	$3.080^{+0.406}_{-1.142}$
	+3%/-3%	+1%/-3%	+37%/-37%	+19%/-6%	+8%/-10%	+13%/-37%
Source	PHO1	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 010610702-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-459 ± 48	$2.27^{+2.09}_{-1.39}$	353^{+18}_{-12}	5145^{+3342}_{-1153}	$28079^{+160906}_{-20486}$
Alt.	-78 ± 31	$2.63^{+2.07}_{-1.67}$	354^{+17}_{-13}	3508^{+1551}_{-619}	3613^{+22134}_{-2678}

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 $A_{obs} \gg 1.0$

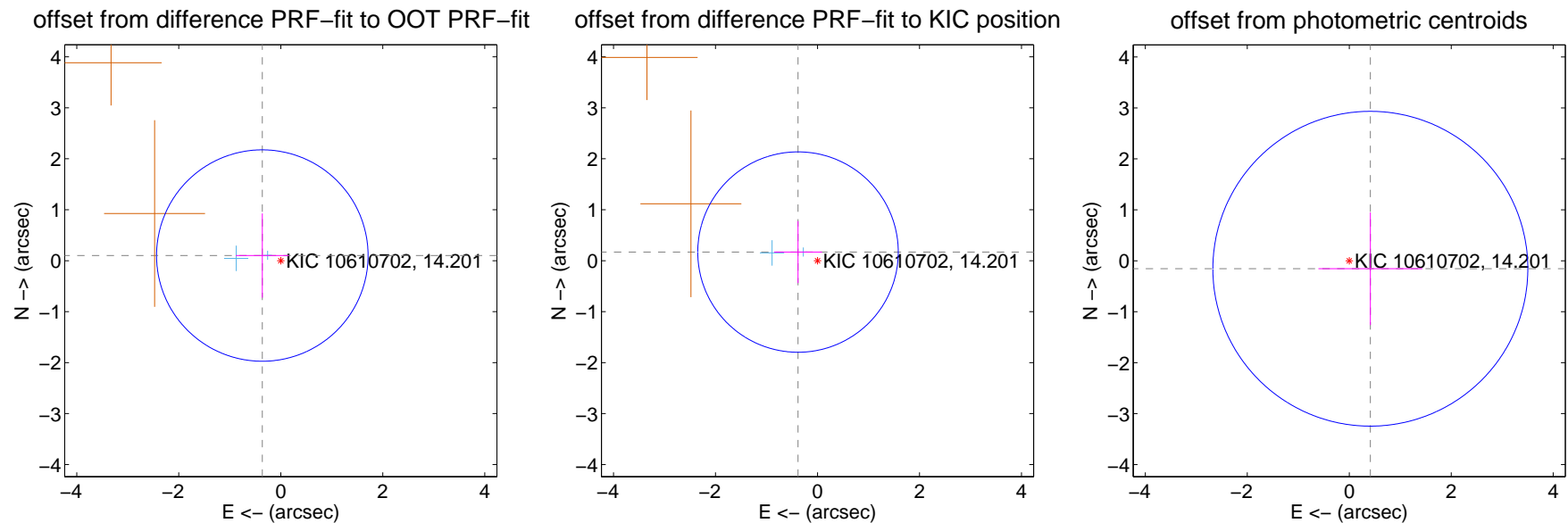
DV Centroid Data

Supplemental centroid analysis for 010610702-01. Kepler magnitude: 14.20. Transit SNR 6.20

There are 2 quarters with good PRF difference image offsets

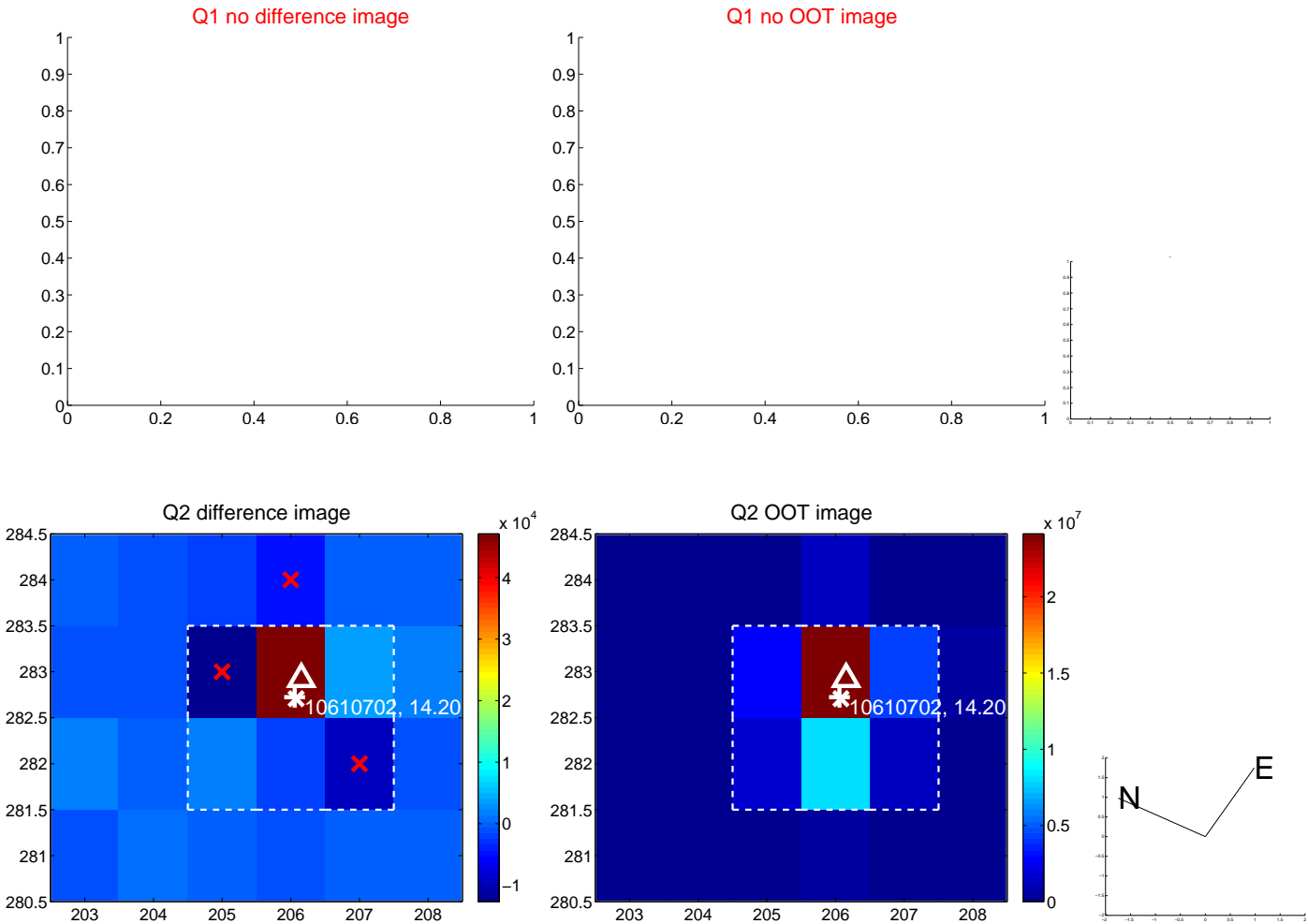
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.376 ± 0.691	0.54	0.362 ± 0.519	0.101 ± 0.827
PRF-fit source offset from KIC position	0.418 ± 0.655	0.64	0.382 ± 0.469	0.170 ± 0.608
photometric centroid source offset	0.44 ± 1.03	0.43	-0.41 ± 1.02	-0.16 ± 1.10

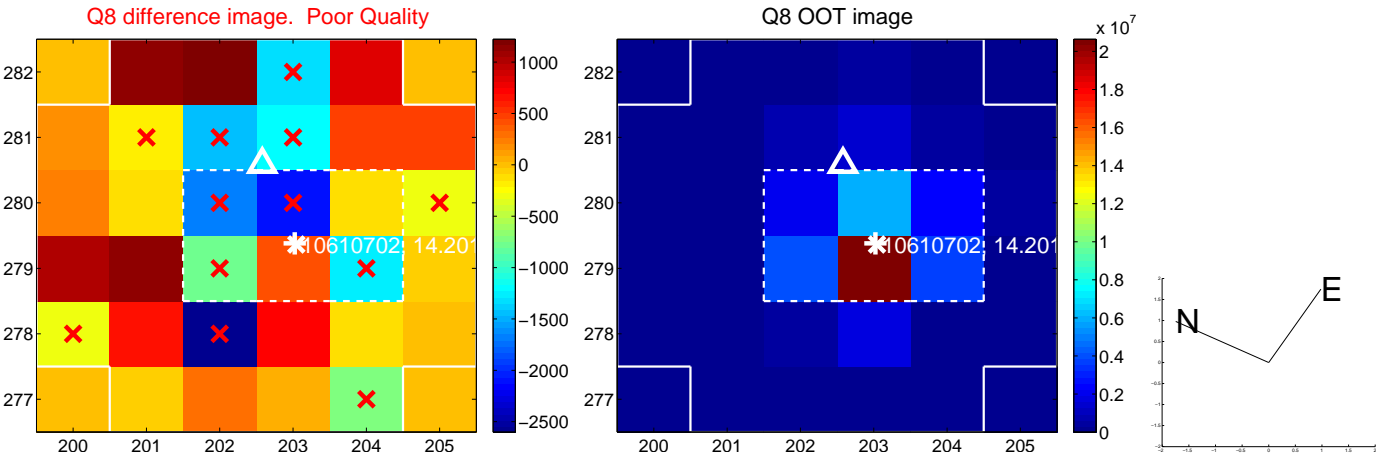
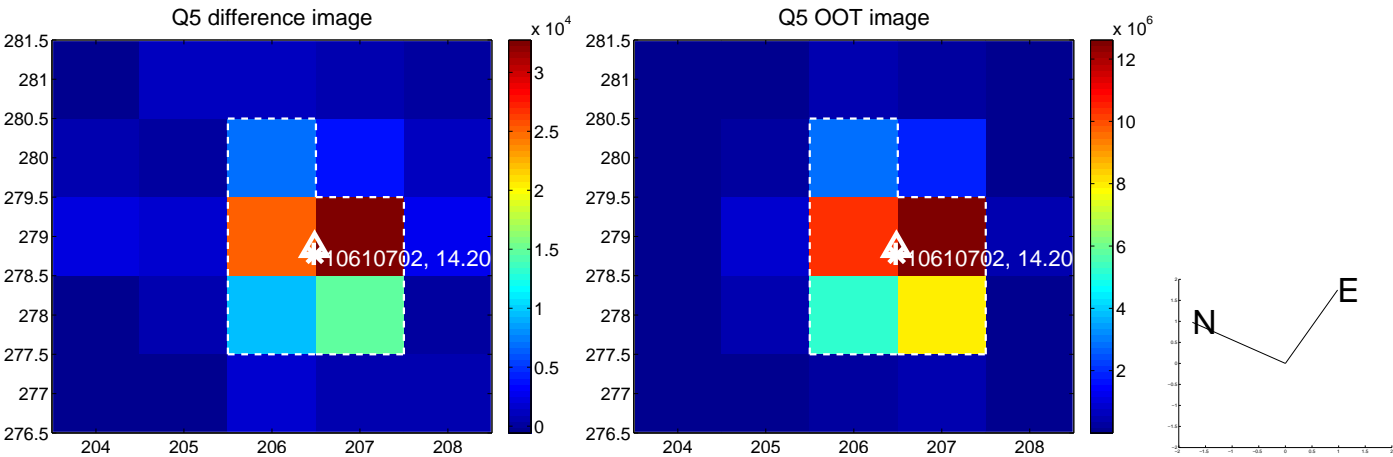


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



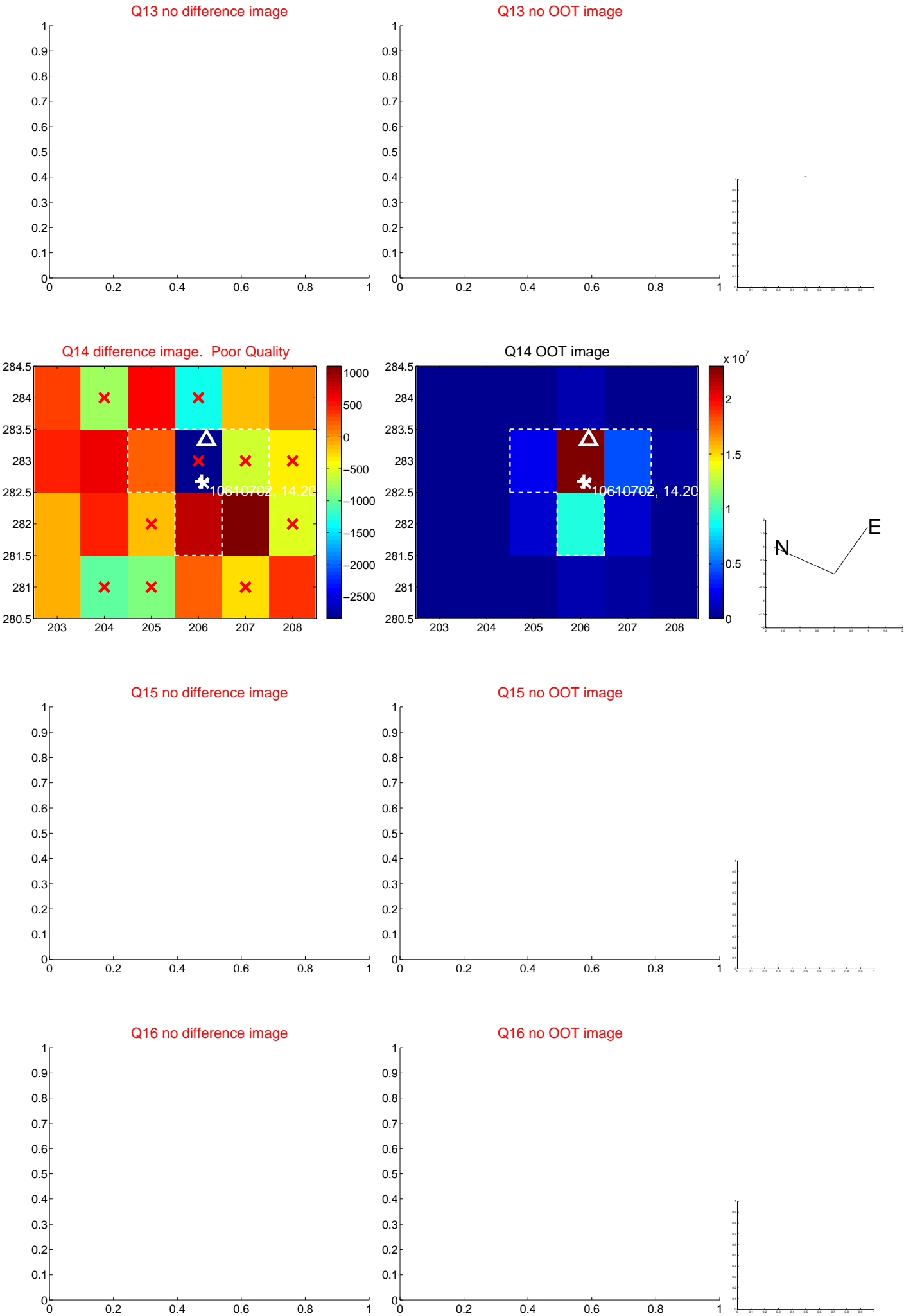
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



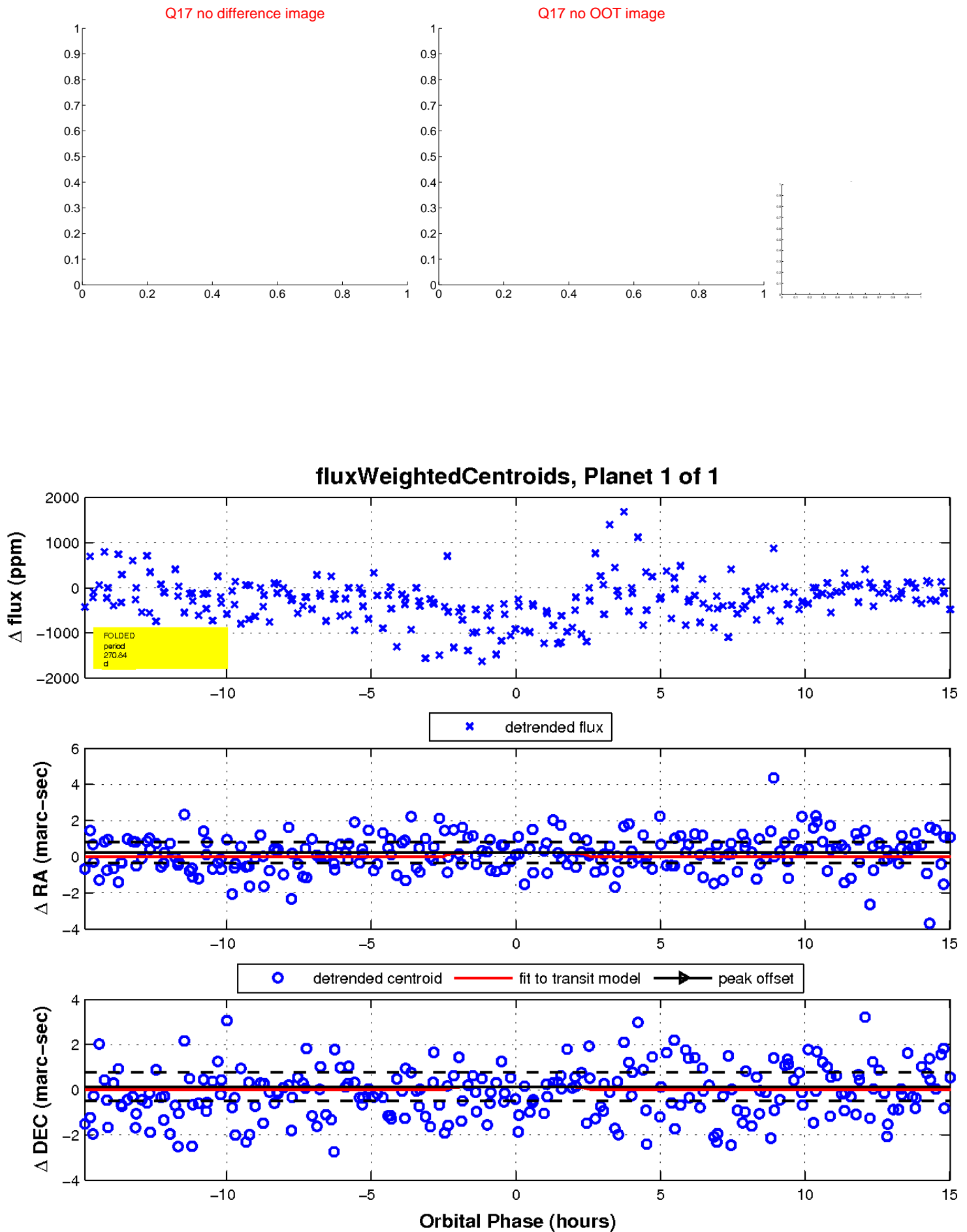
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

