

KIC 008625408

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})
008625408-01	OBS	7073.01	279.006065	246.691016	288.9	20.049	11.8	11.1	1.27	6072	4.05	2.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008625408-01	OBS	PC	0.95	0	0	0	0	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.

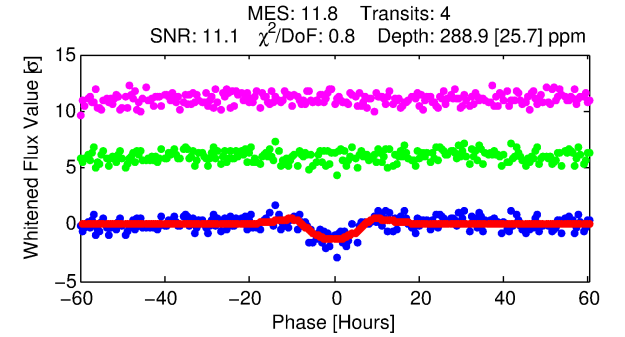
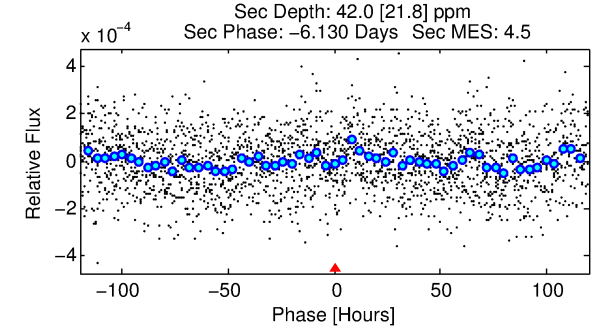
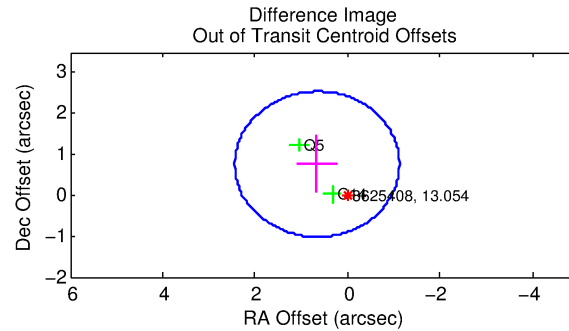
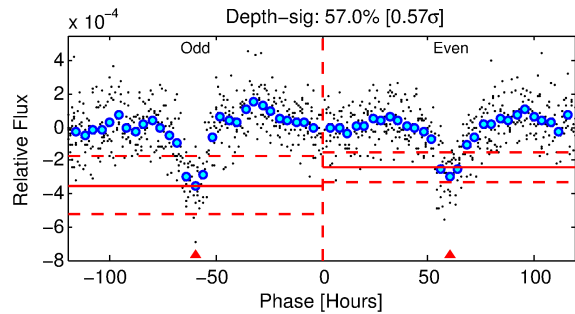
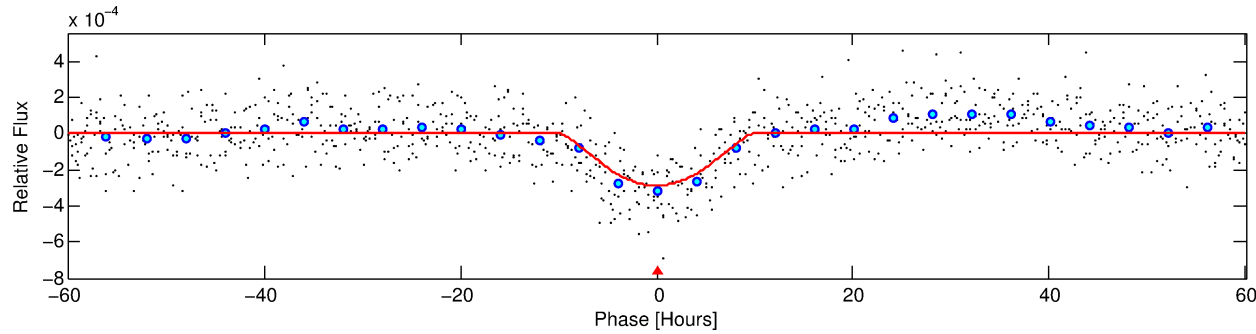
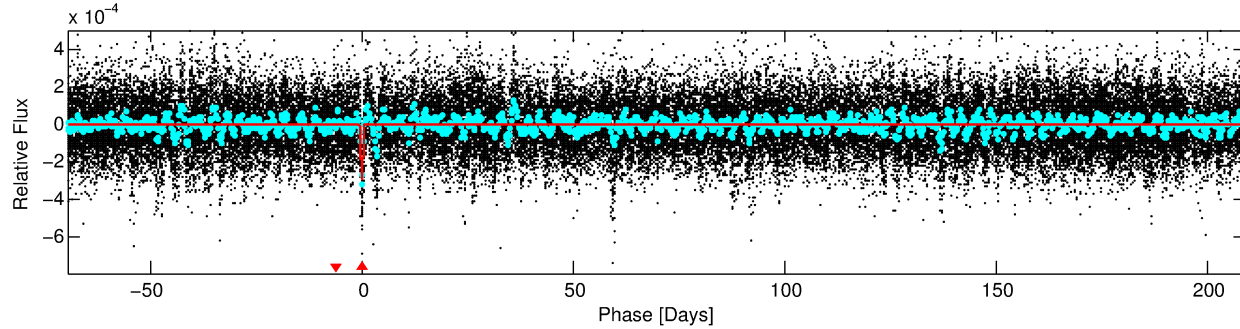
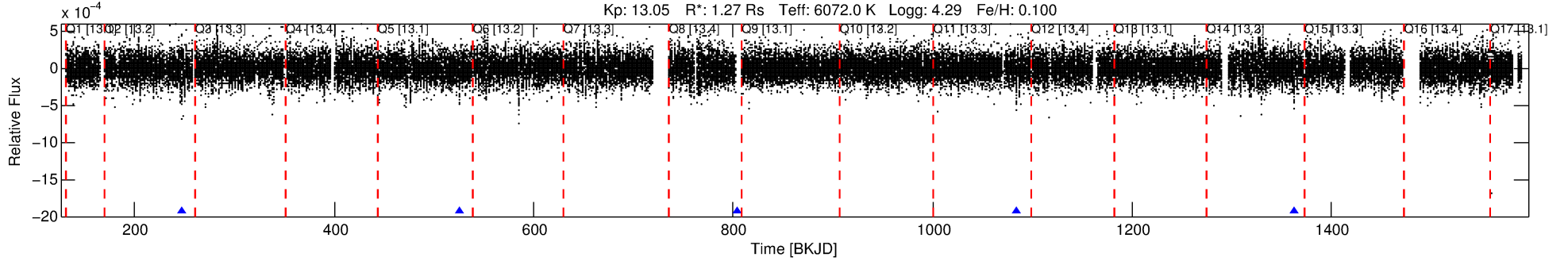
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008625408-01

No Significant Match Found

DV One-Page Summary

KIC: 8625408 Candidate: 1 of 1 Period: 279.006 d
KOI: K07073.01 Corr: 0.889



DV Fit Results:

Period = 279.00607 [0.01032] d
Epoch = 246.6910 [0.0262] BKJD
Rp/R* = 0.0291 [0.0428]
a/R* = 27.22 [11.45]
b = 1.00 [0.07]
Seff = 2.59 [0.61]
Teq = 323 [19] K
Rp = 4.05 [5.99] Re
a = 0.8730 [0.1327] AU
Ag = 1075.54 [3220.51] [0.33 σ]
Teffp = 2864 [2138] K [1.19 σ]

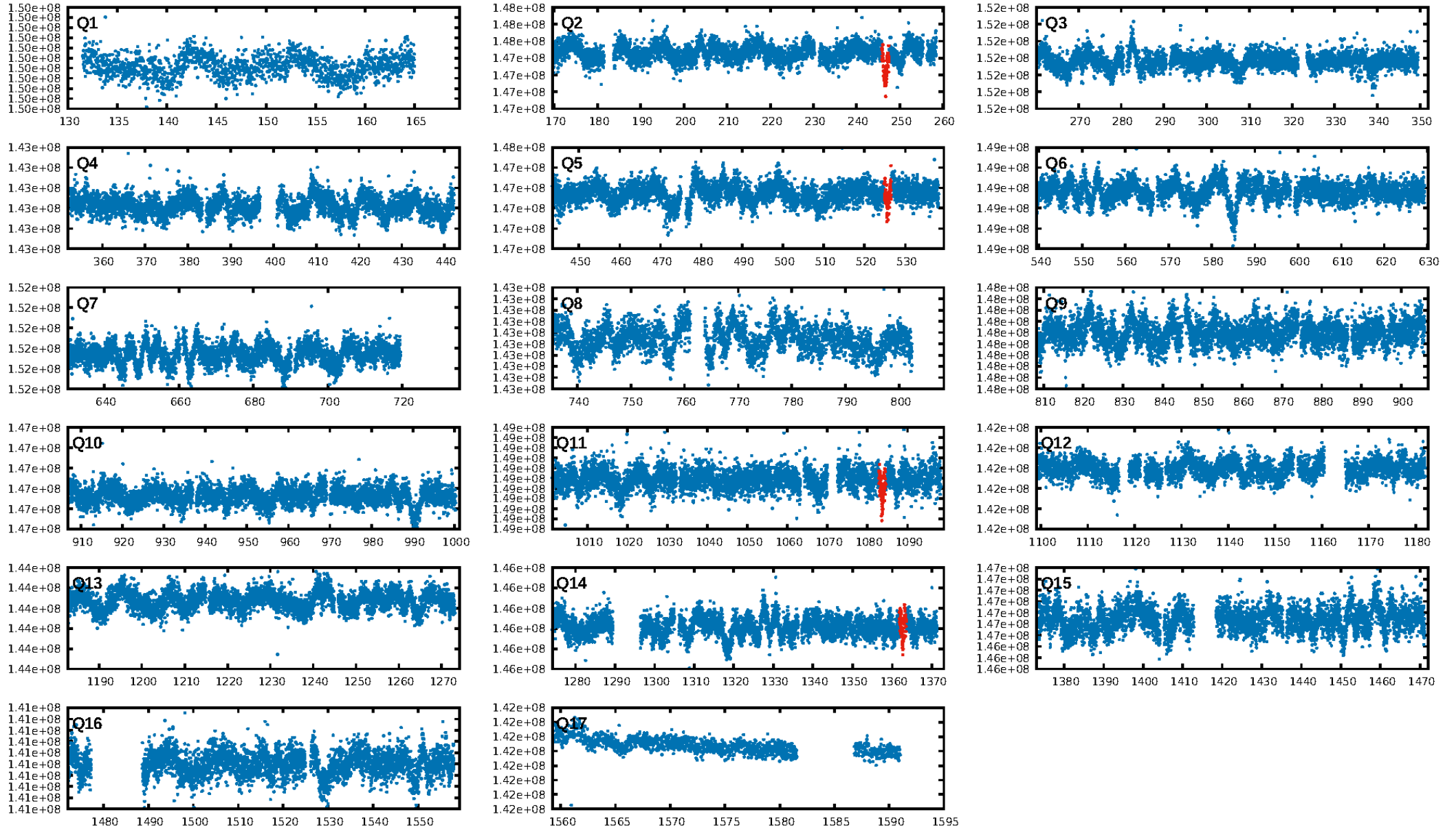
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 43.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.38e-29
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.024
Centroid-sig: 40.1%
Centroid-so: 0.422 arcsec [0.64 σ]
OotOffset-rm: 1.008 arcsec [1.70 σ]
KicOffset-rm: 0.880 arcsec [1.45 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

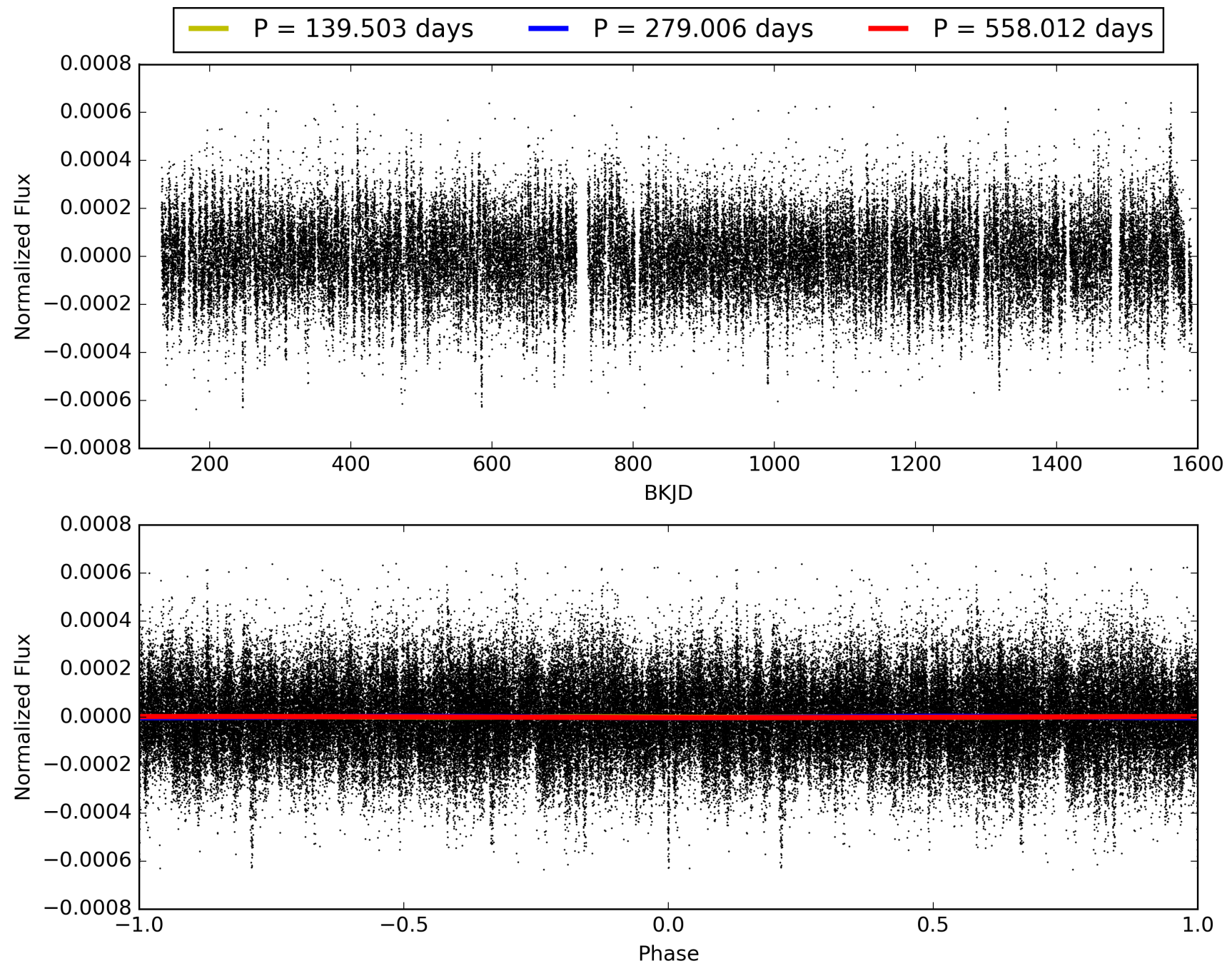
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:35:39 Z

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

TCE 008625408-01, PDC Light Curves

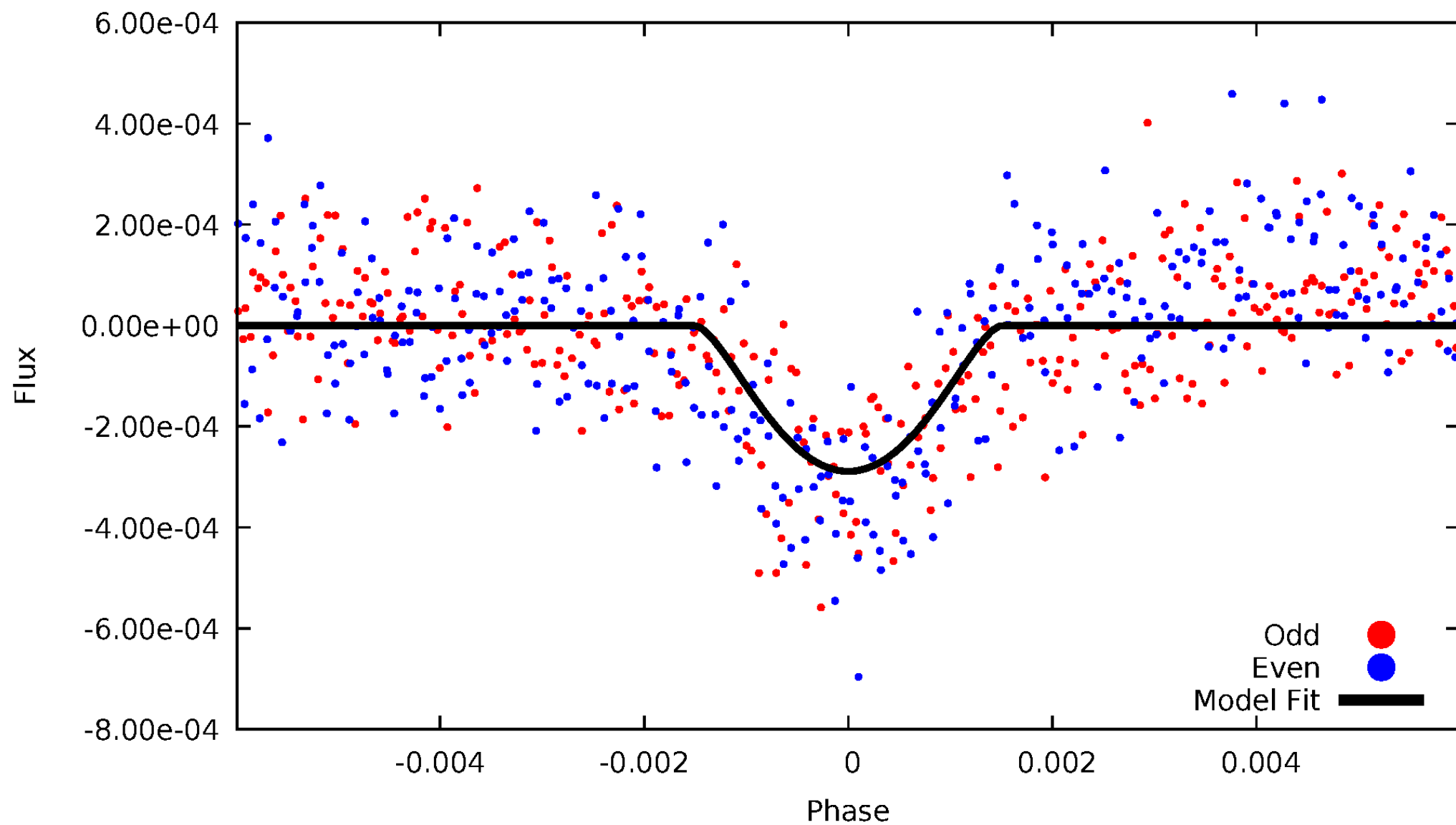


TCE 008625408-01



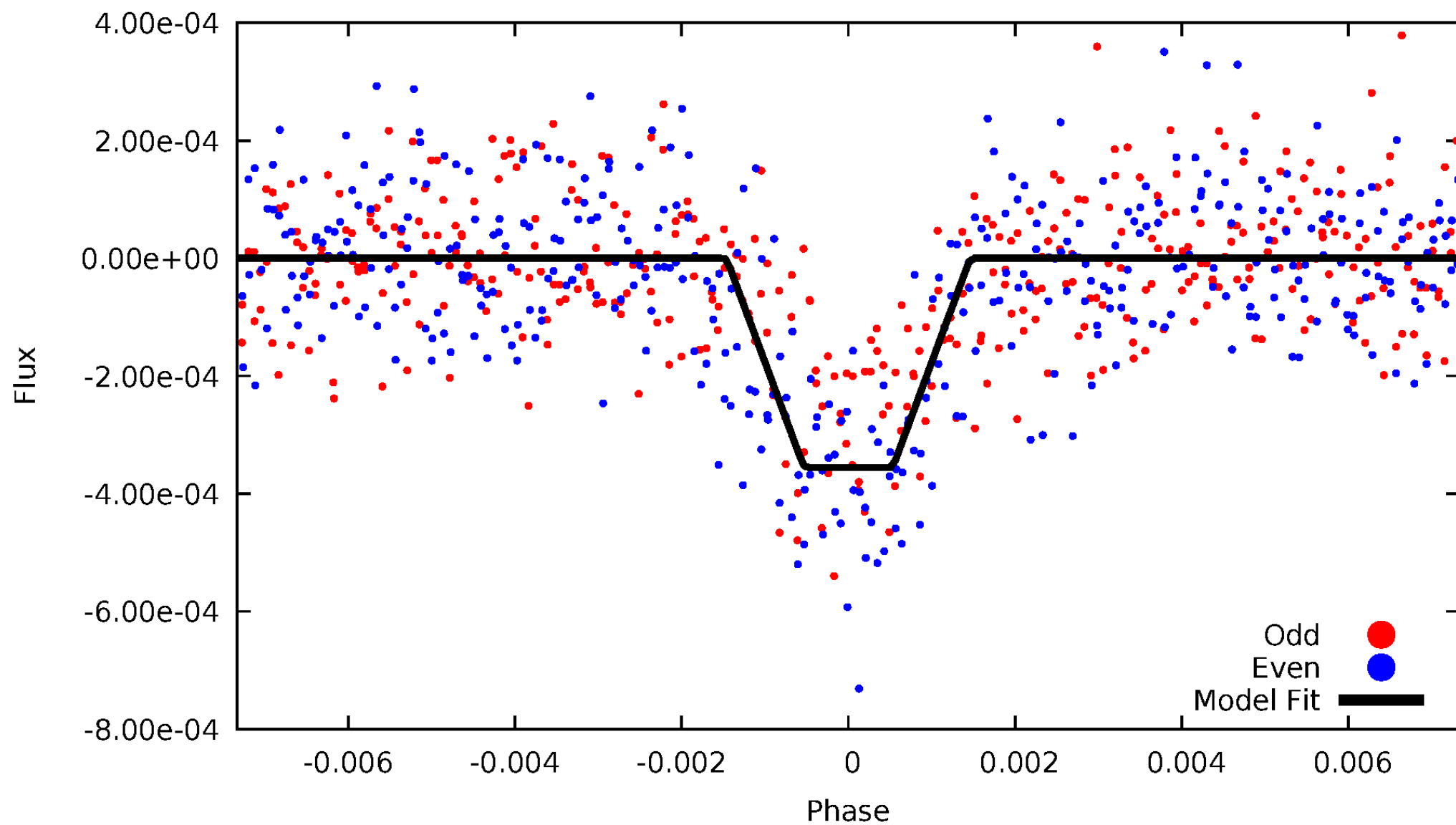
DV Odd/Even

TCE 008625408-01



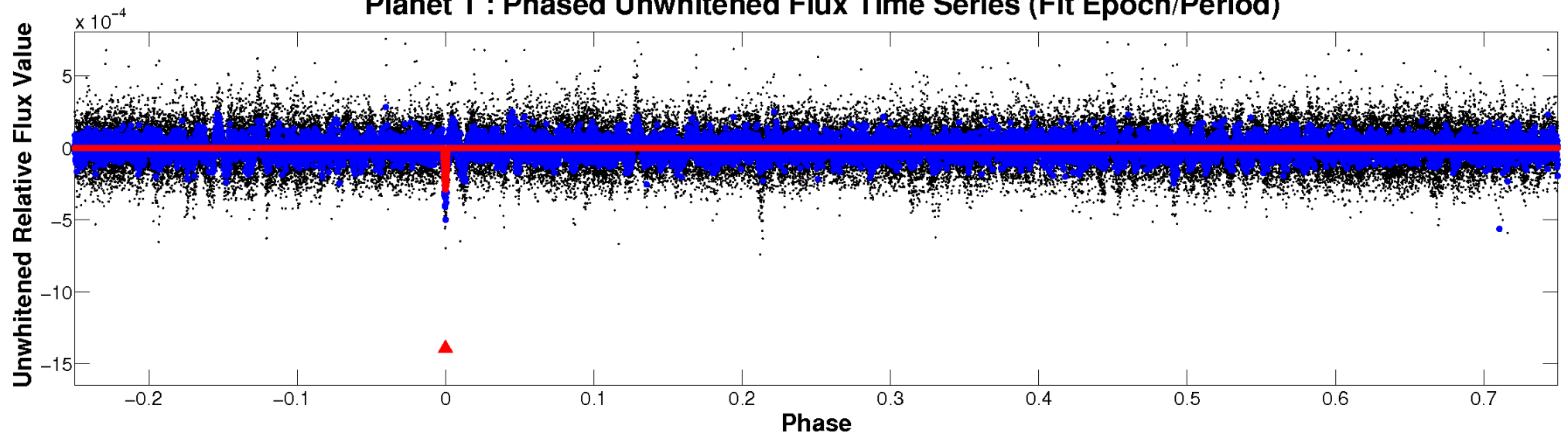
ALT Odd/Even

TCE 008625408-01

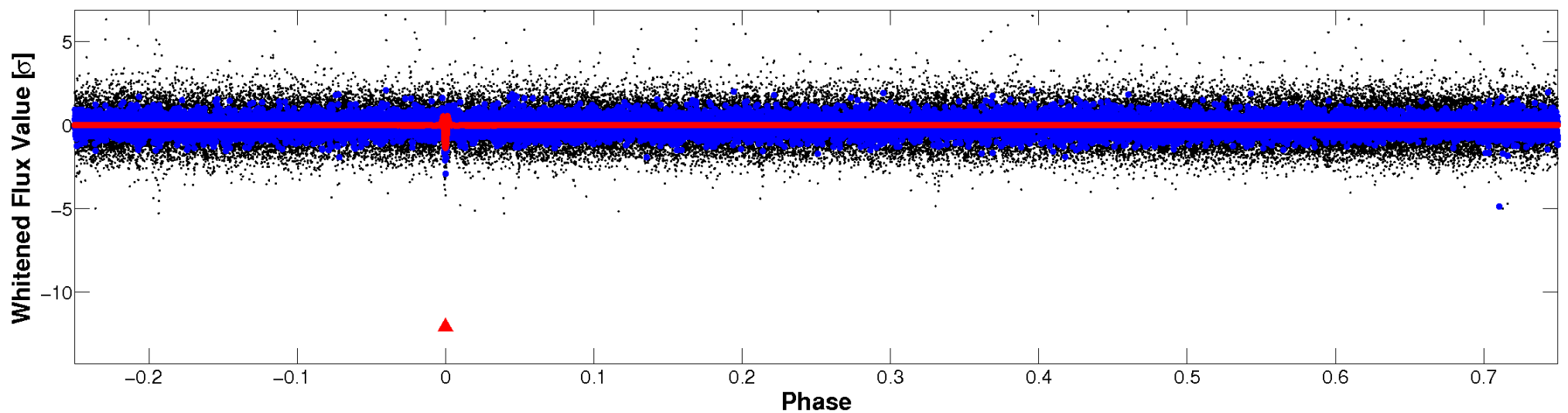


Non-Whitened Vs. Whitened Light Curve

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

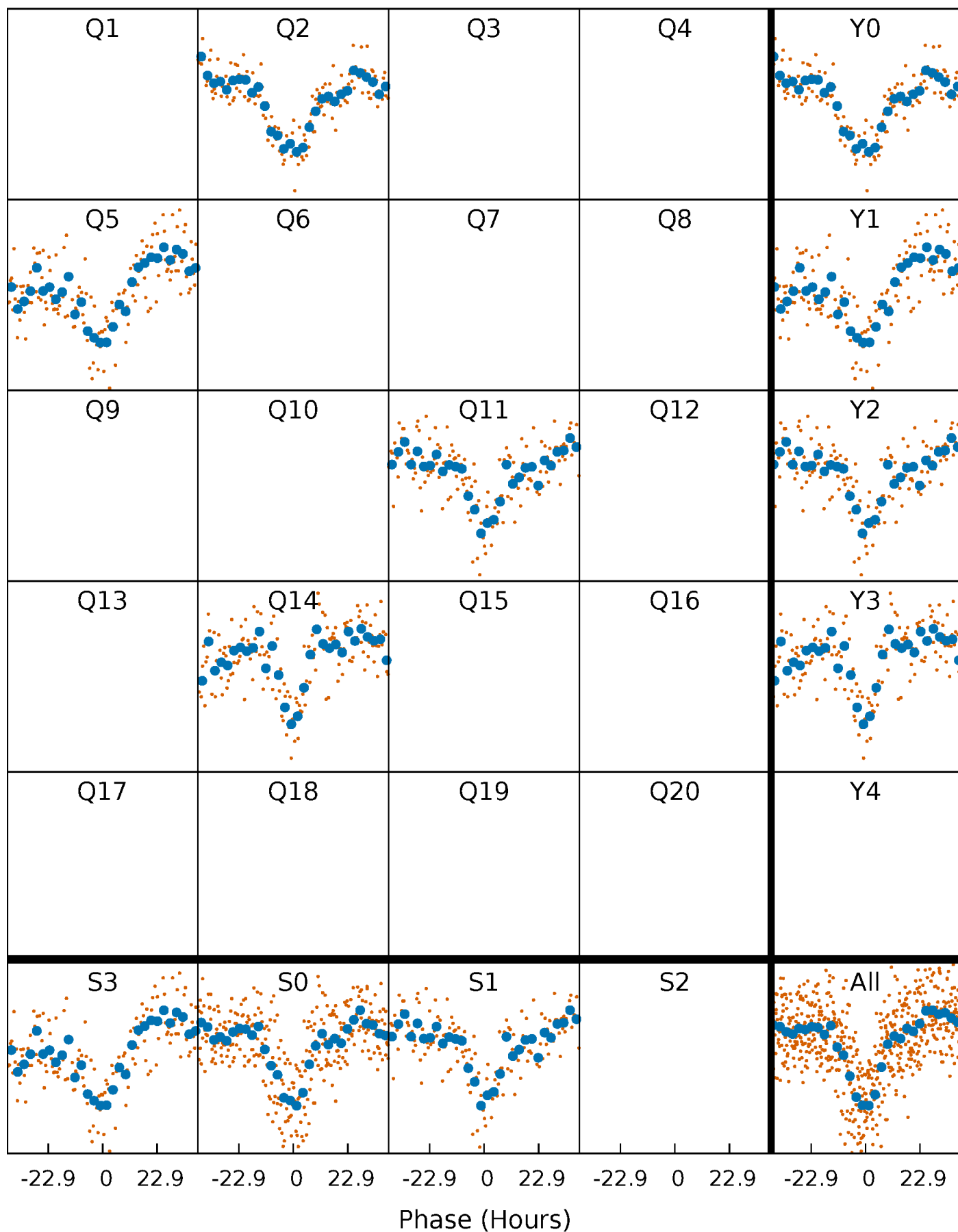


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



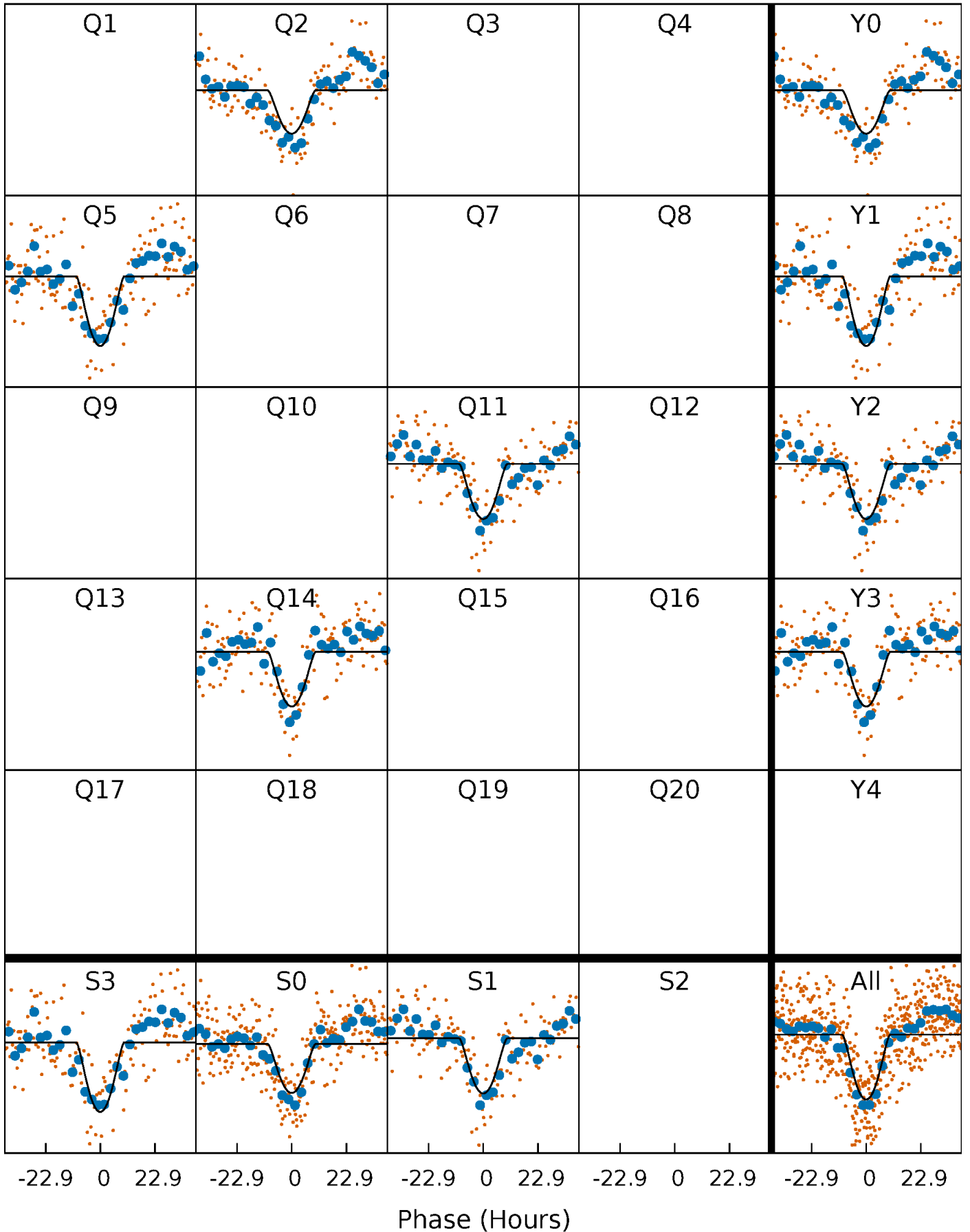
PDC Quarter-Phased Transit Curves

TCE 008625408-01 $P=279.006065$ Days $T_0=246.691016$ (BKJD)



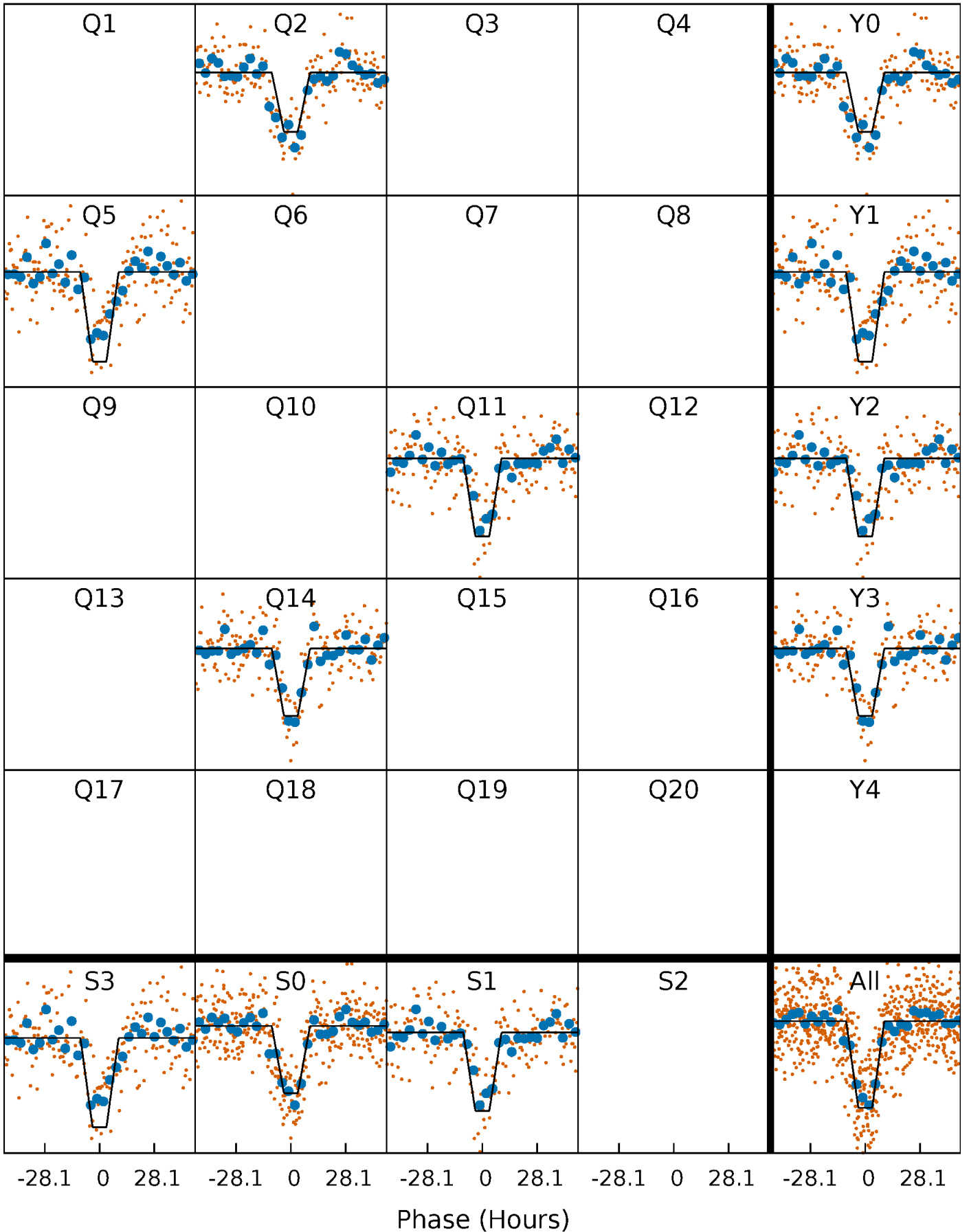
DV Quarter-Phased Transit Curves

TCE 008625408-01 $P=279.006065$ Days $T_0=246.691016$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

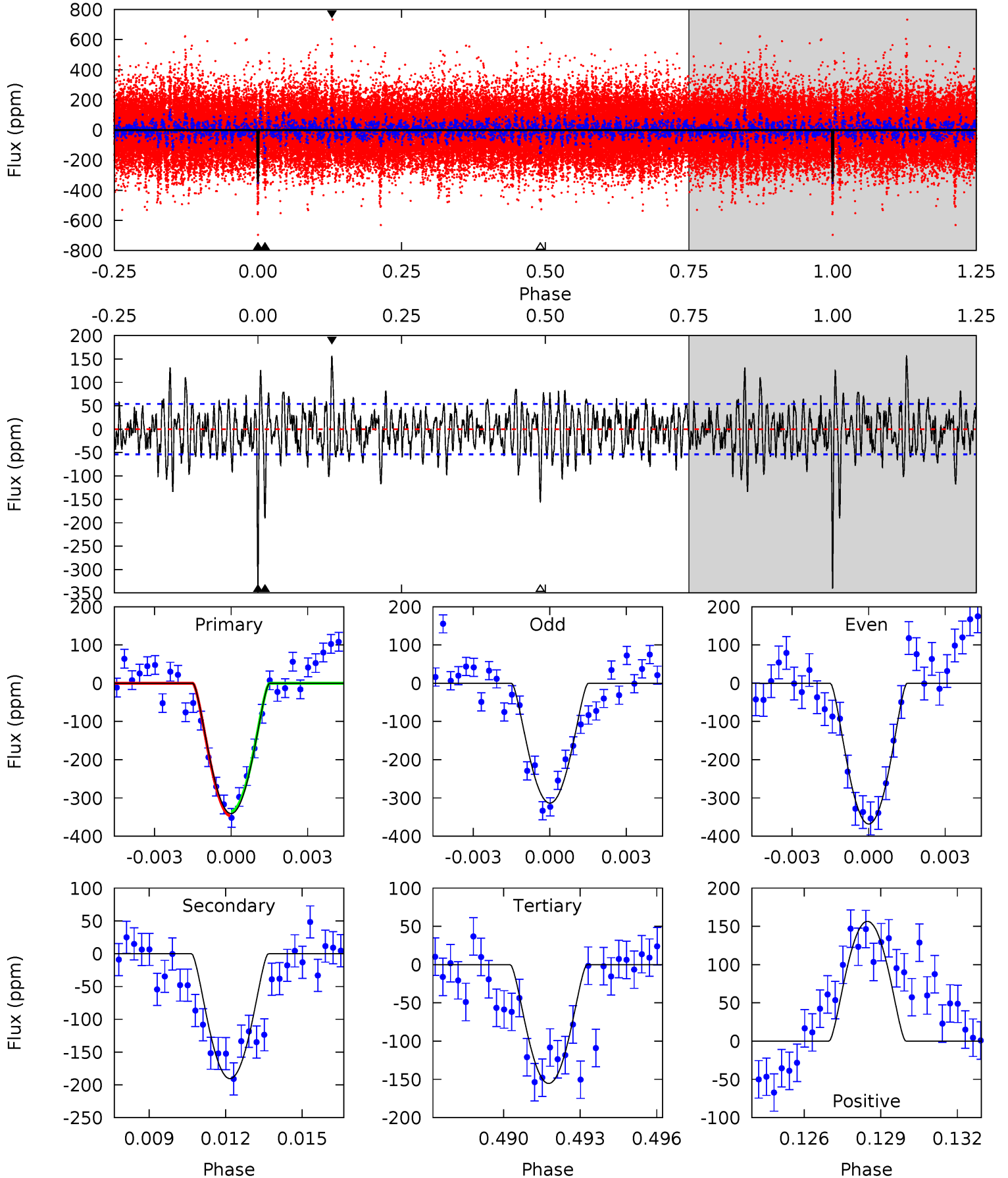
TCE 008625408-01 P=278.999828 Days $T_0=246.682885$ (BKJD)



DV Model-Shift Uniqueness Test

008625408-01, P = 279.006065 Days, E = 246.691016 Days

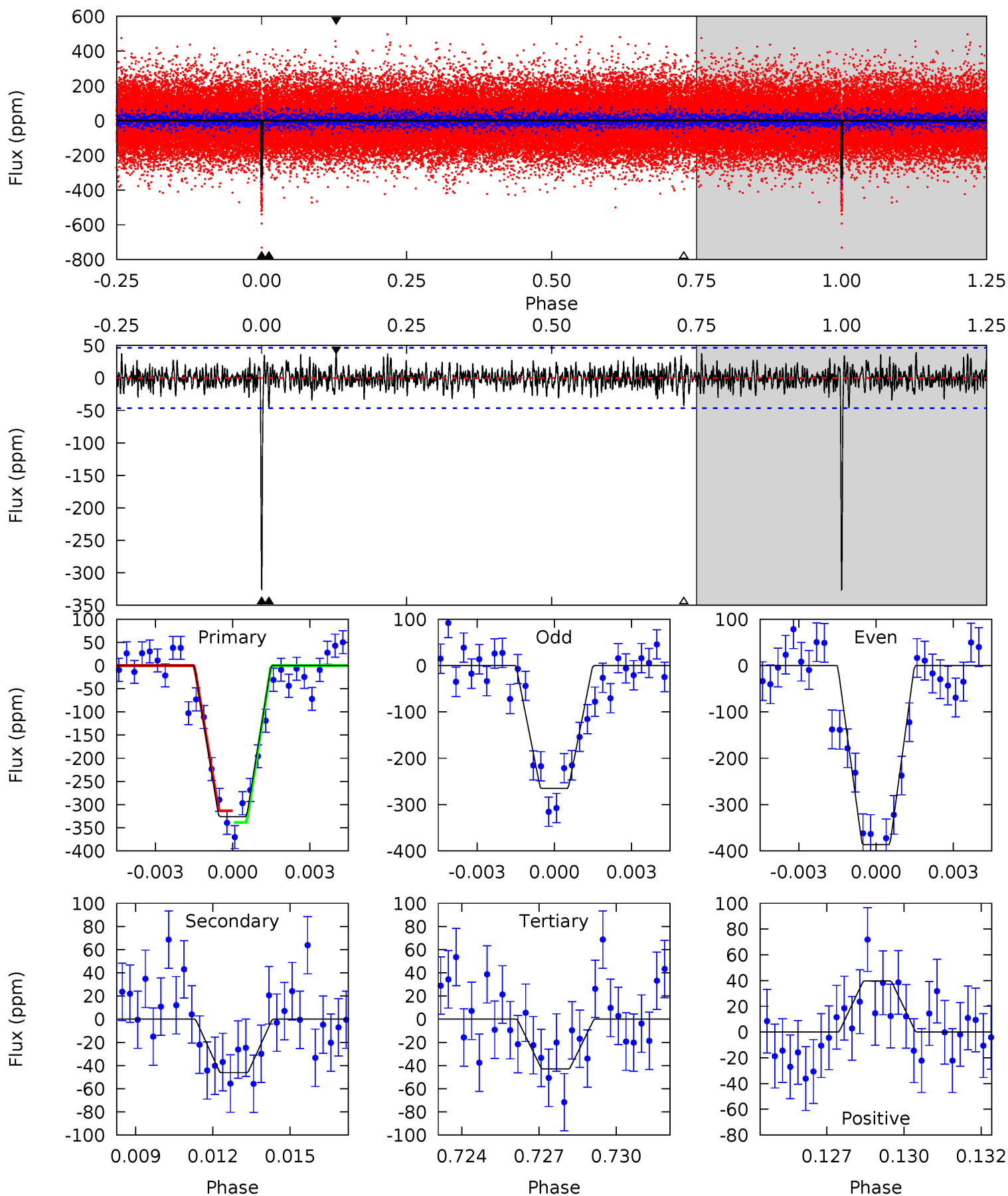
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.2	18.6	15.2	15.3	5.25	2.97	3.82	18.1	18.0	3.43	3.31	2.67	1.04	0.31	0.59



Alt Model-Shift Uniqueness Test

008625408-01, P = 278.999828 Days, E = 246.682885 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.9	5.23	4.87	4.50	5.26	2.97	1.27	32.0	32.4	0.36	0.73	6.85	1.05	0.11	1.43



Stellar Parameters For KIC 008625408

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6072^{+81}_{-90}	$4.285^{+0.103}_{-0.126}$	$0.100^{+0.150}_{-0.150}$	$1.273^{+0.224}_{-0.163}$	$1.139^{+0.081}_{-0.089}$	$0.778^{+0.354}_{-0.287}$
	+1%/-1%	+2%/-3%	+150%/-150%	+18%/-13%	+7%/-8%	+46%/-37%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008625408-01 / KOI 7073.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-191 ± 10	$5.63^{+5.68}_{-3.93}$	453^{+21}_{-17}	3902^{+2513}_{-762}	2527^{+24723}_{-1901}
Alt.	-46 ± 9	$5.20^{+4.77}_{-3.49}$	453^{+21}_{-19}	3192^{+1483}_{-529}	747^{+5856}_{-555}

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

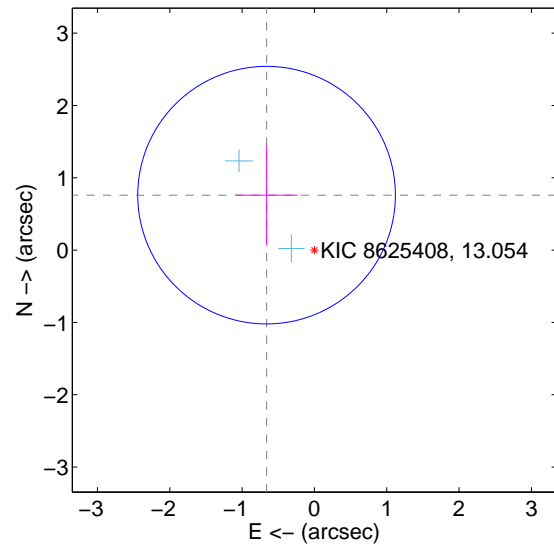
Supplemental centroid analysis for 008625408-01. Kepler magnitude: 13.05. Transit SNR 11.10

There are 2 quarters with good PRF difference image offsets

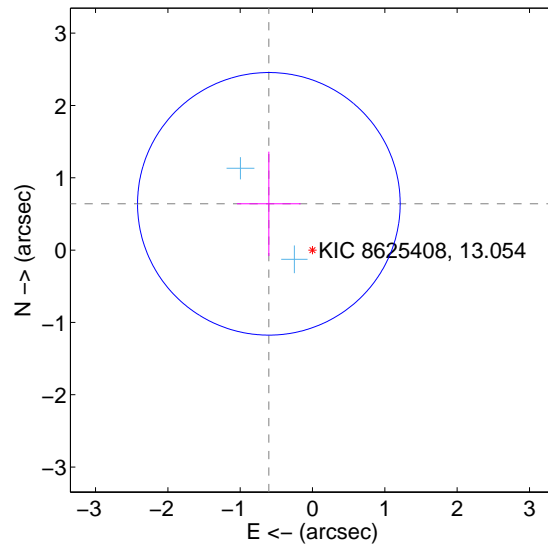
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.008 ± 0.594	1.70	0.662 ± 0.428	0.760 ± 0.694
PRF-fit source offset from KIC position	0.880 ± 0.605	1.45	0.604 ± 0.440	0.640 ± 0.721
photometric centroid source offset	0.42 ± 0.66	0.64	0.36 ± 0.65	0.23 ± 0.69

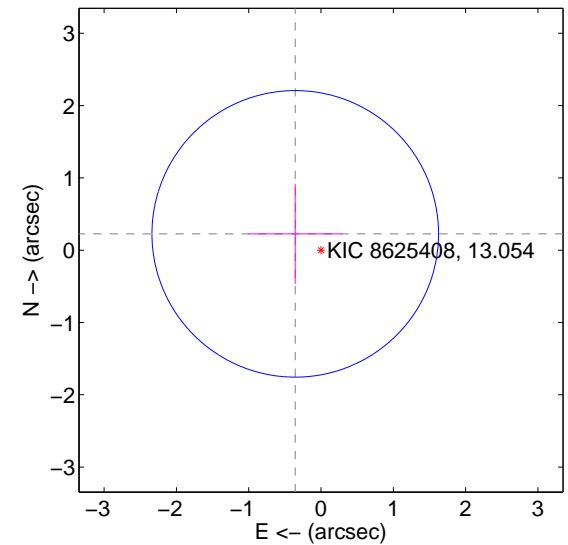
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

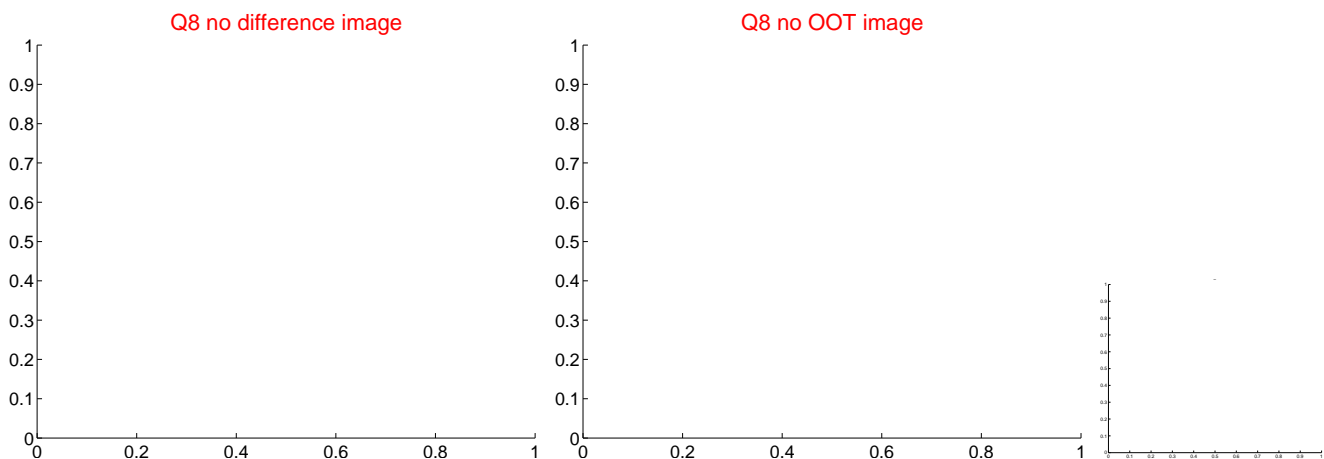
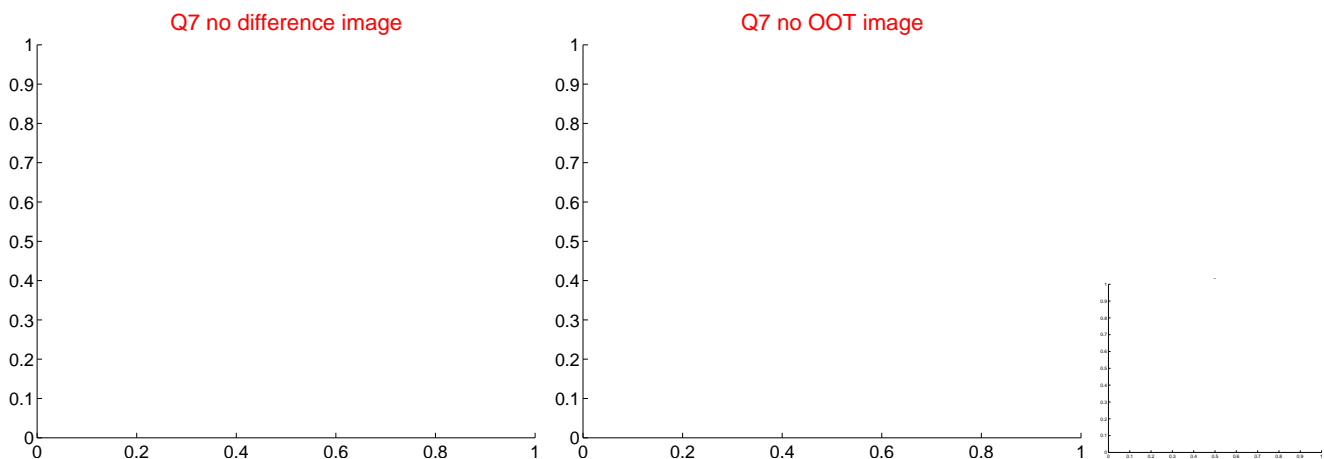
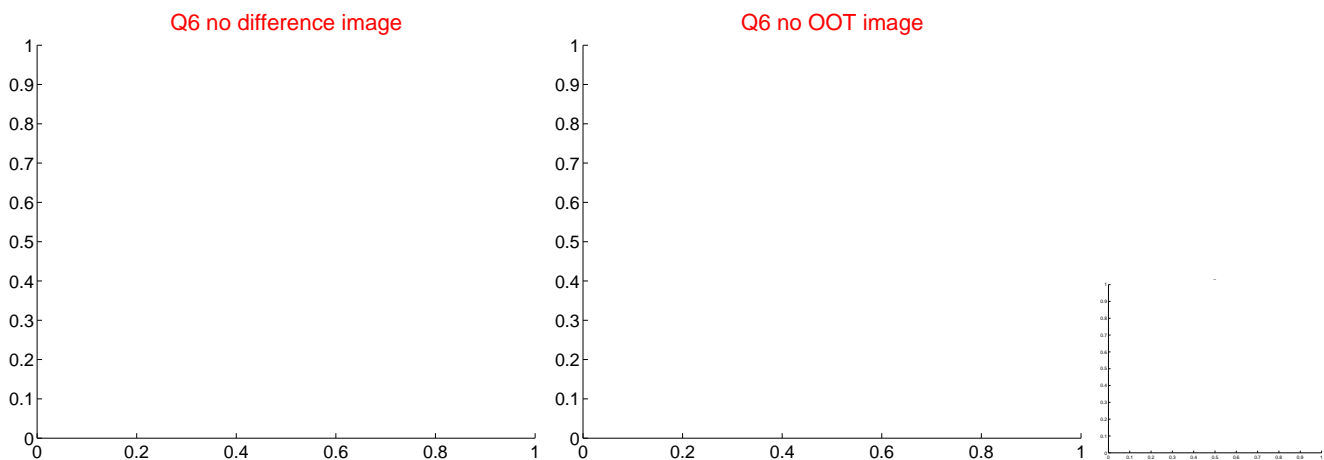
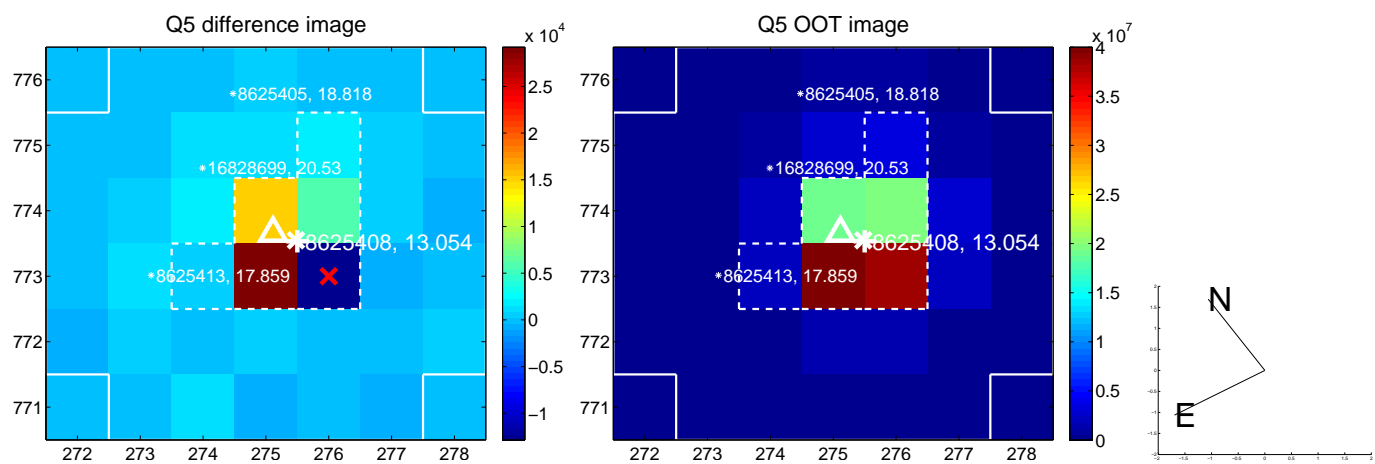


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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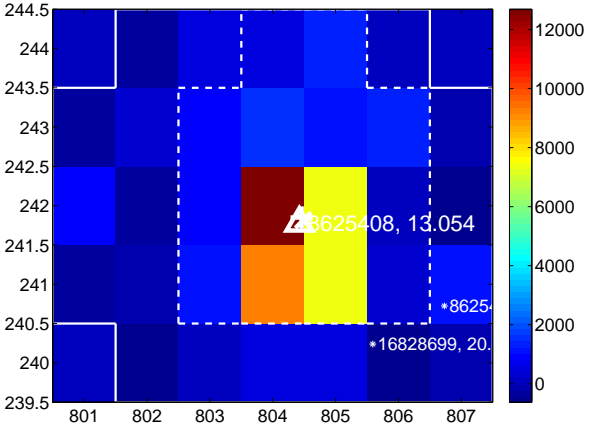
Q13 no difference image



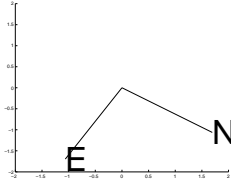
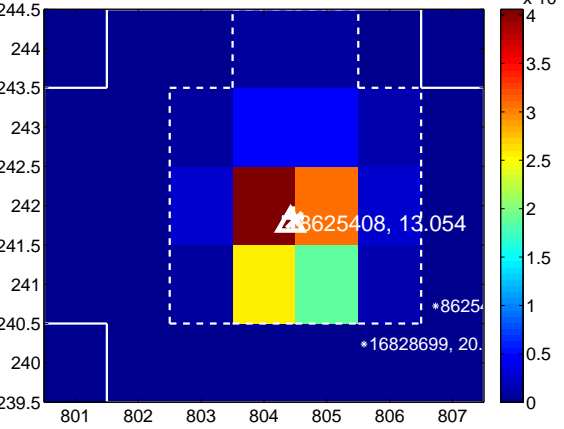
Q13 no OOT image



Q14 difference image



Q14 OOT image



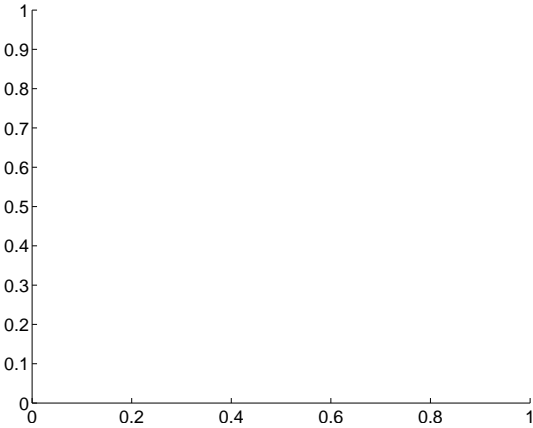
Q15 no difference image



Q15 no OOT image



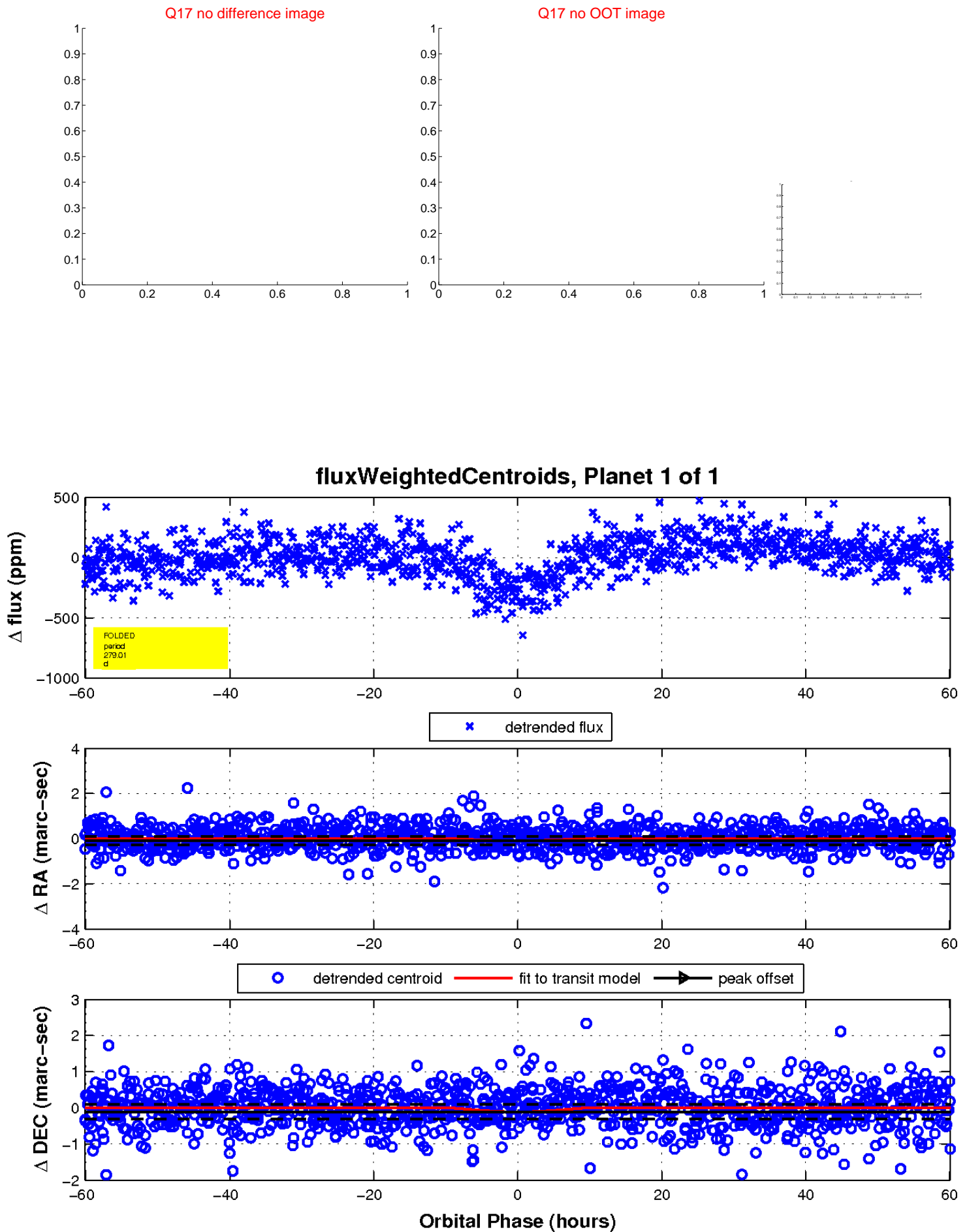
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

