

KIC 007516474

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})
007516474-01	OBS	No	417.870424	472.533403	658.2	6.136	7.2	7.3	0.77	5387	2.05	0.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007516474-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—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.

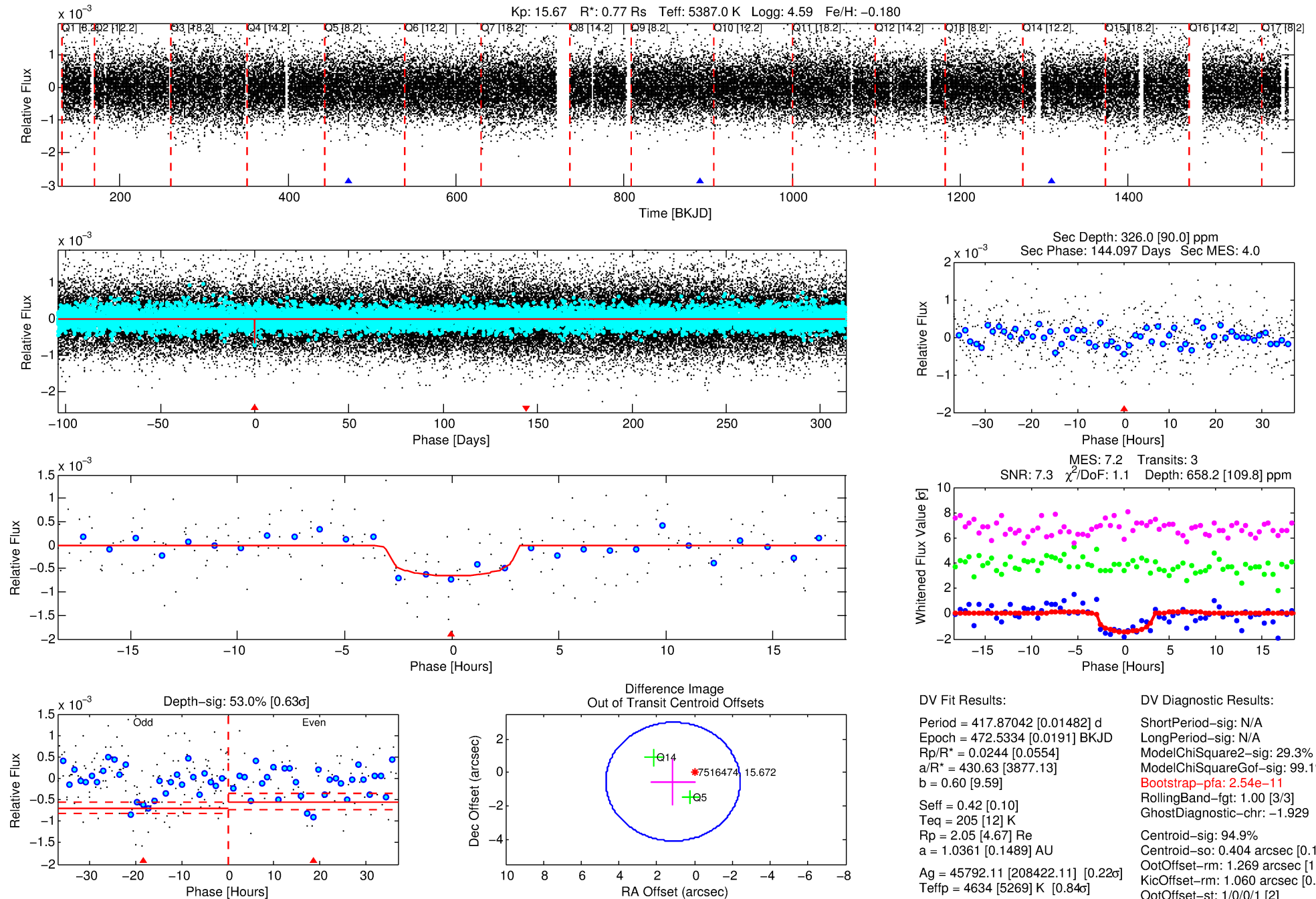
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007516474-01

No Significant Match Found

DV One-Page Summary

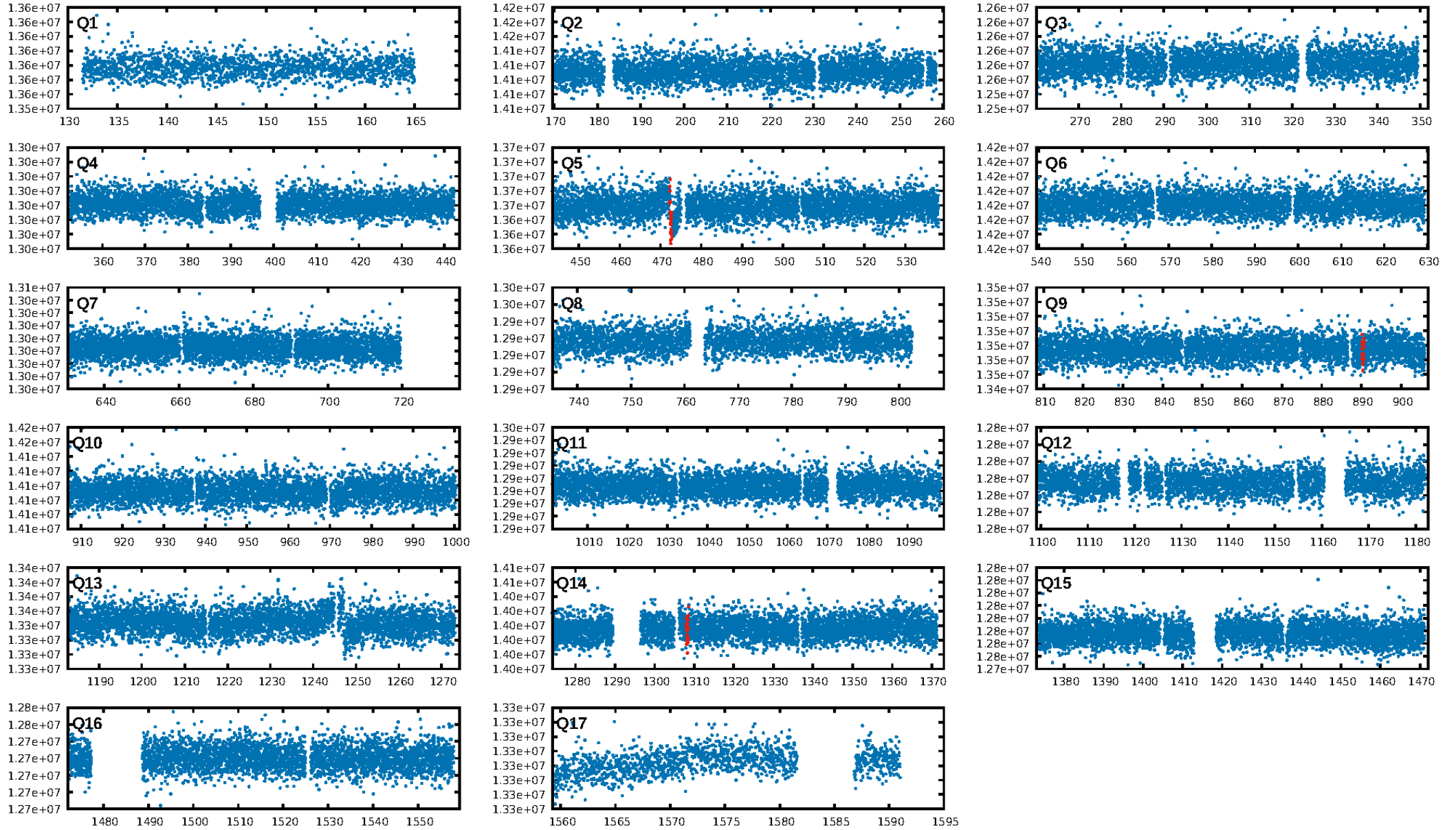
KIC: 7516474 Candidate: 1 of 1 Period: 417.870 d



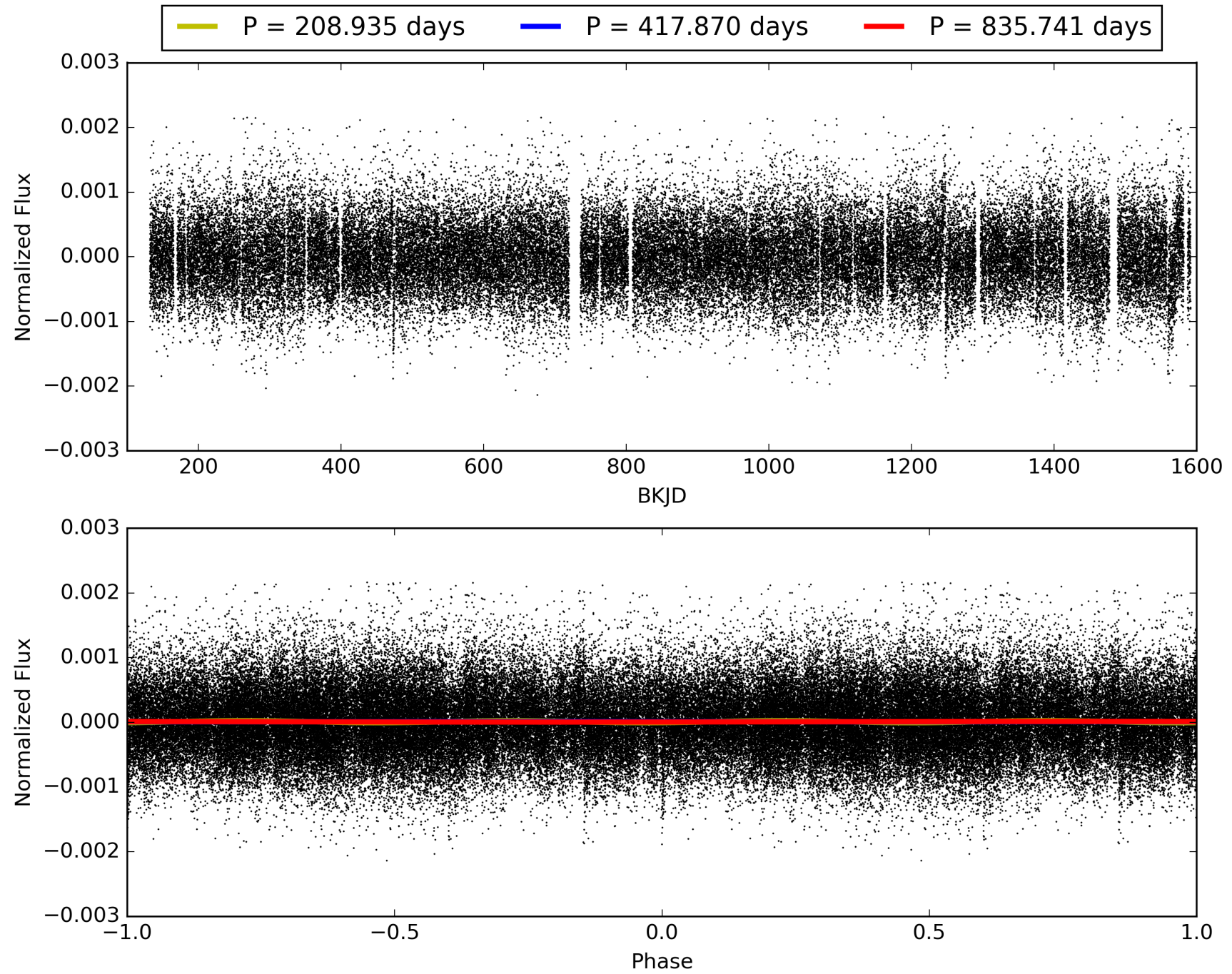
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:03:02 Z

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

TCE 007516474-01, PDC Light Curves

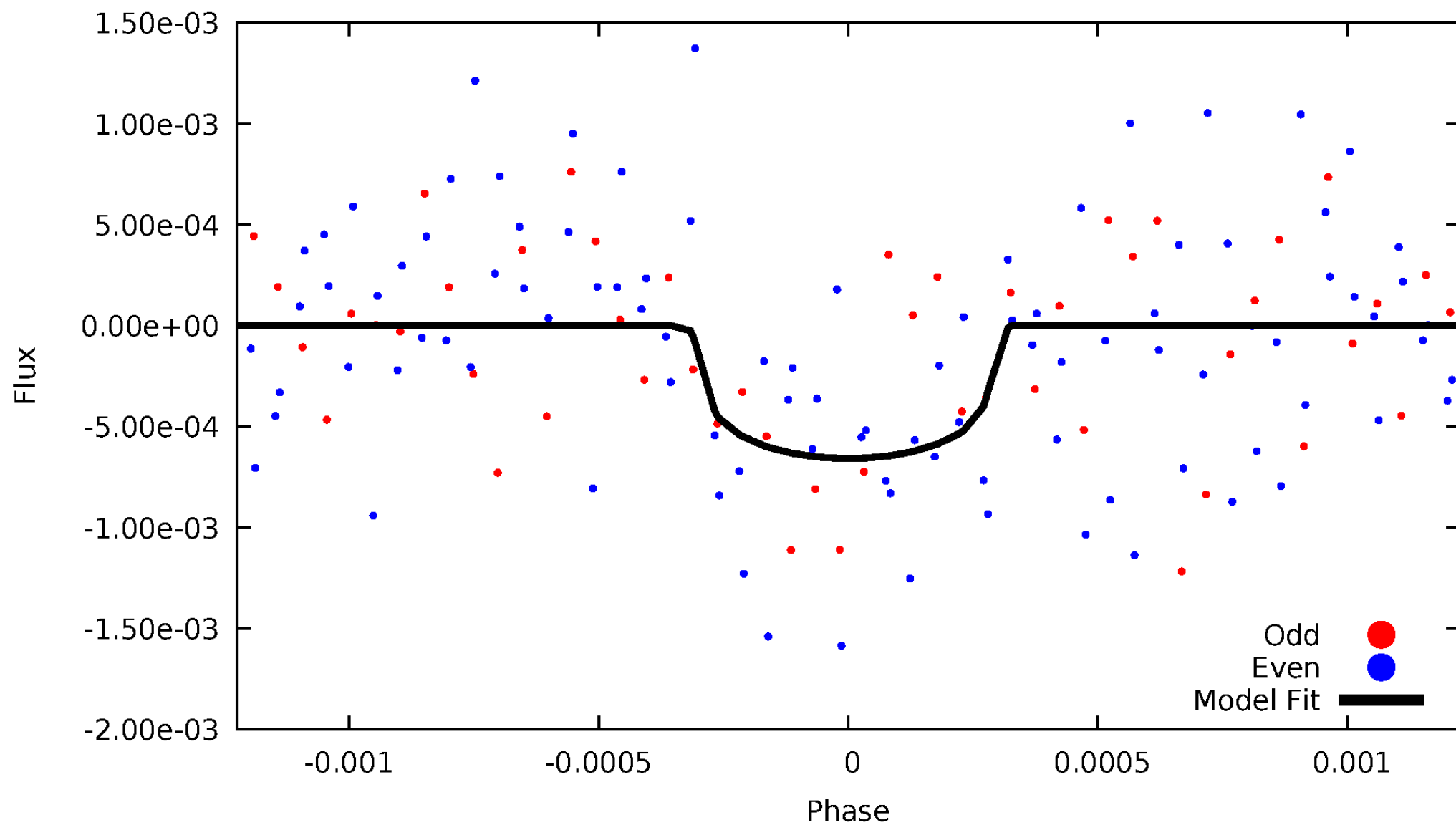


TCE 007516474-01



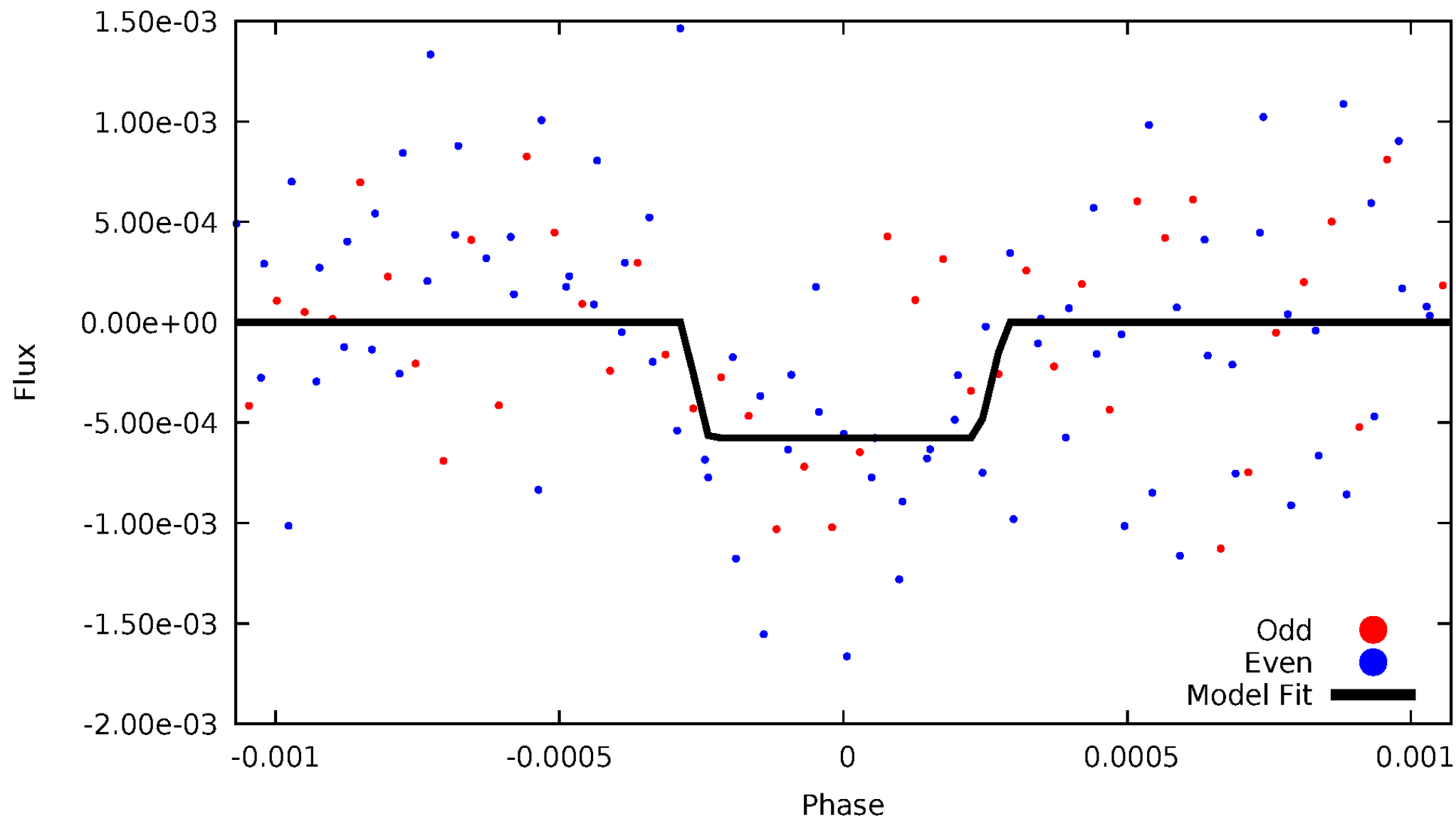
DV Odd/Even

TCE 007516474-01

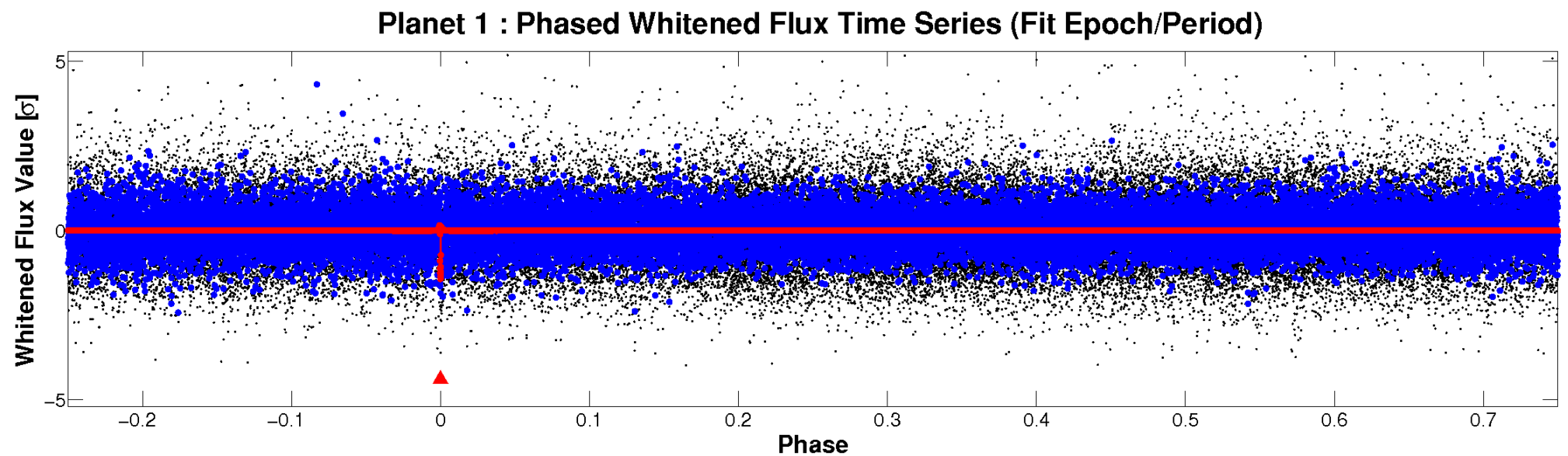
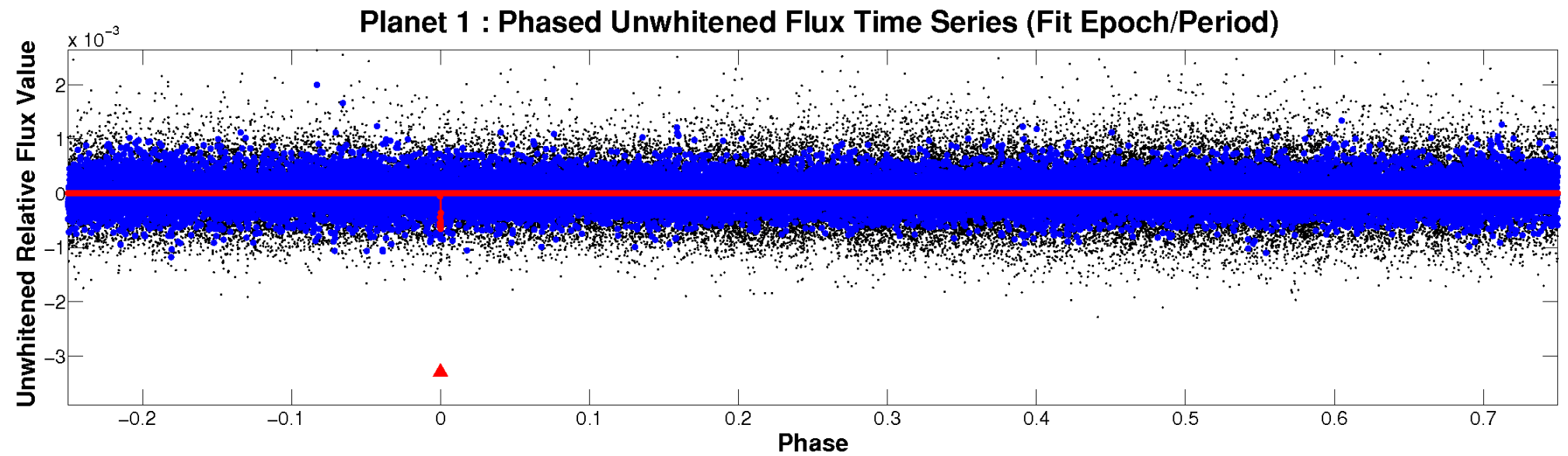


ALT Odd/Even

TCE 007516474-01

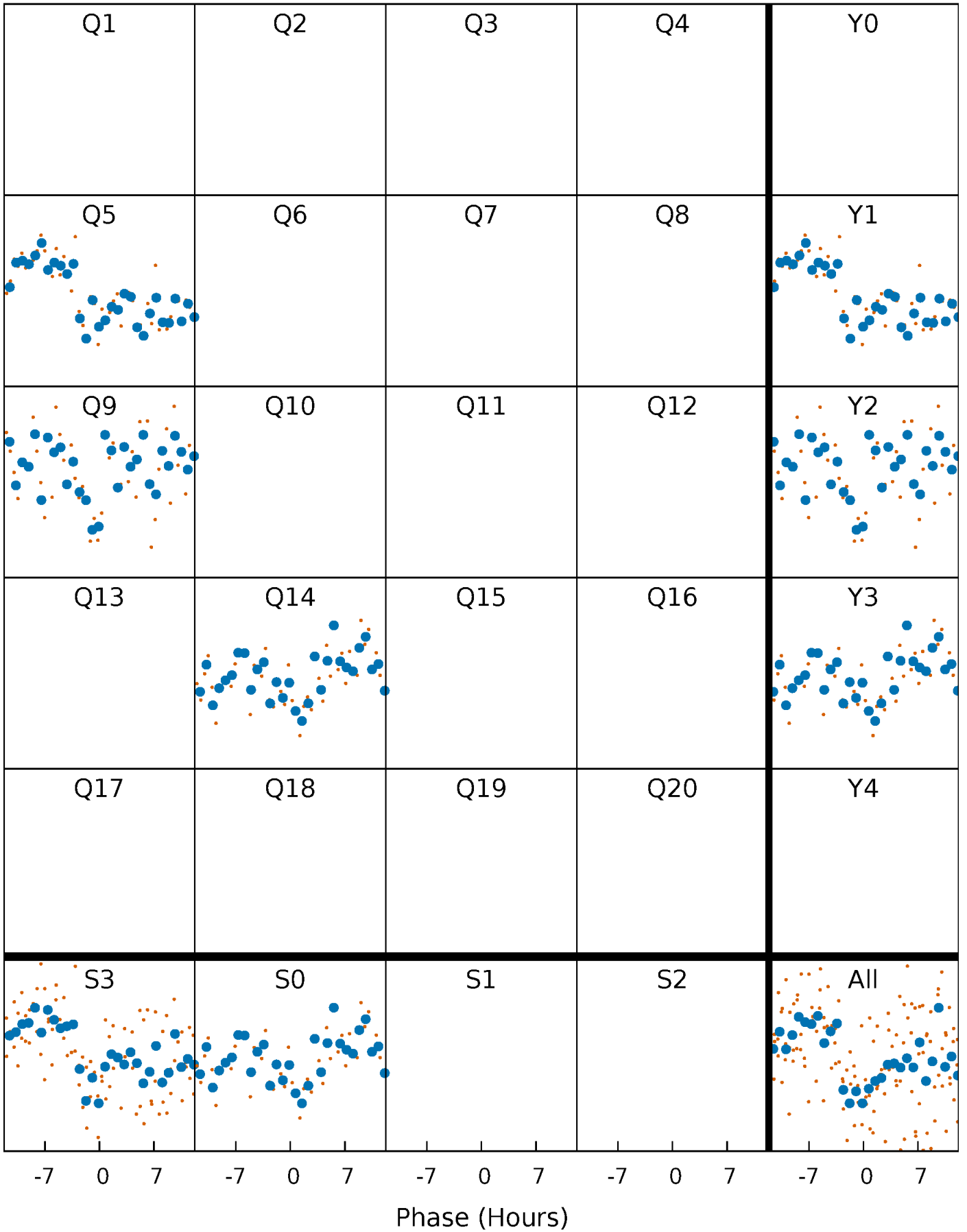


Non-Whitened Vs. Whitened Light Curve



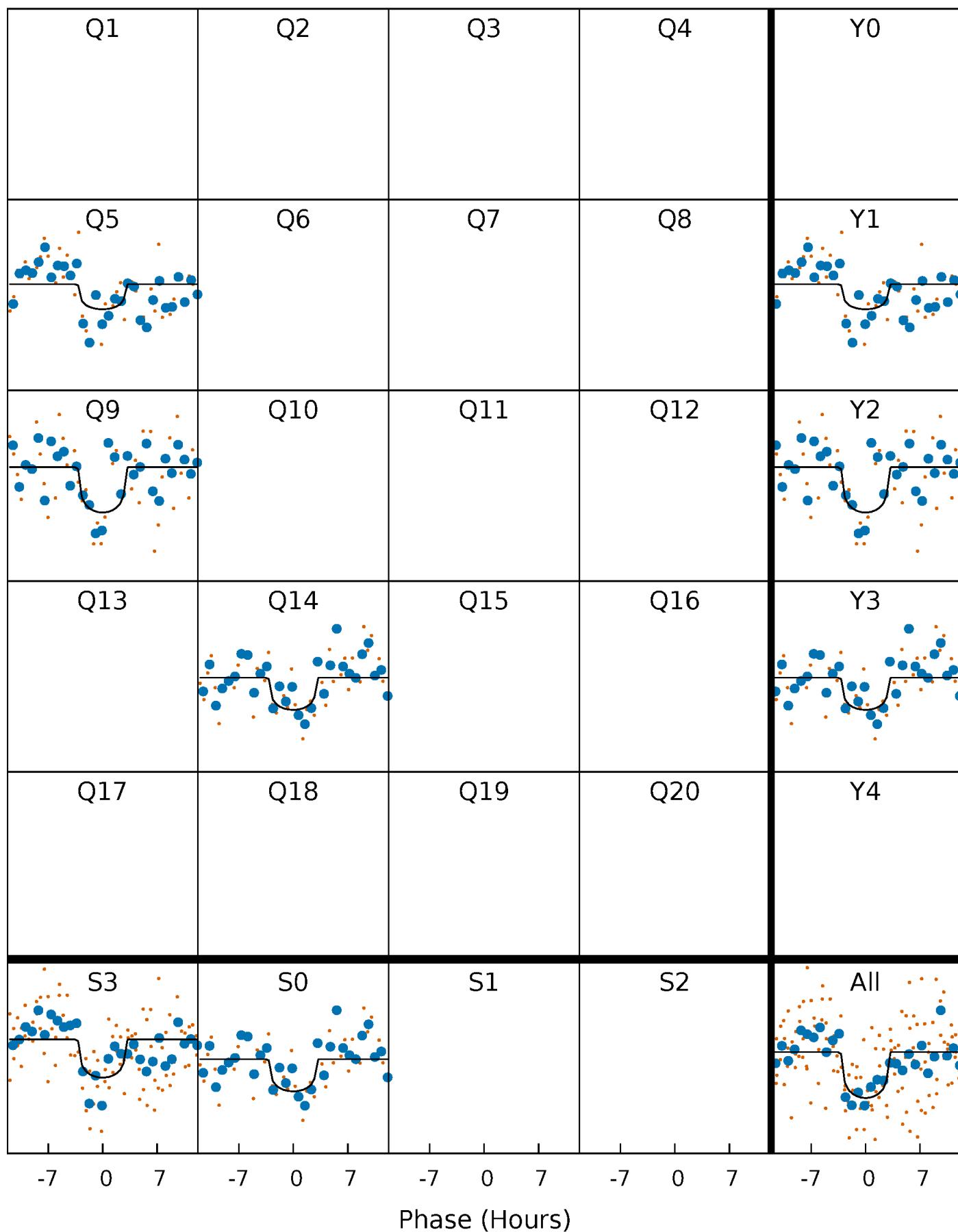
PDC Quarter-Phased Transit Curves

TCE 007516474-01 P=417.870424 Days $T_0=472.533404$ (BKJD)



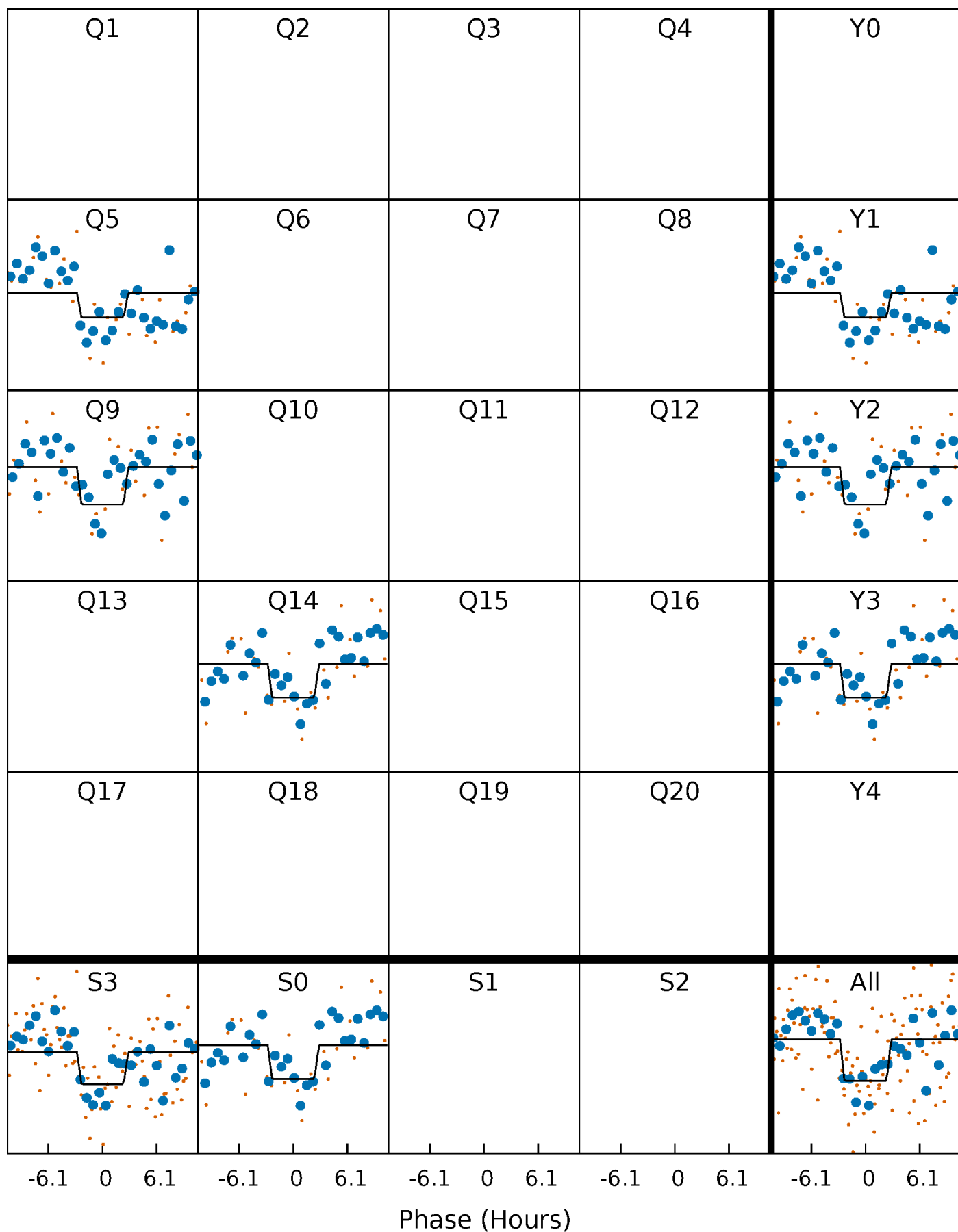
DV Quarter-Phased Transit Curves

TCE 007516474-01 P=417.870424 Days $T_0=472.533404$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

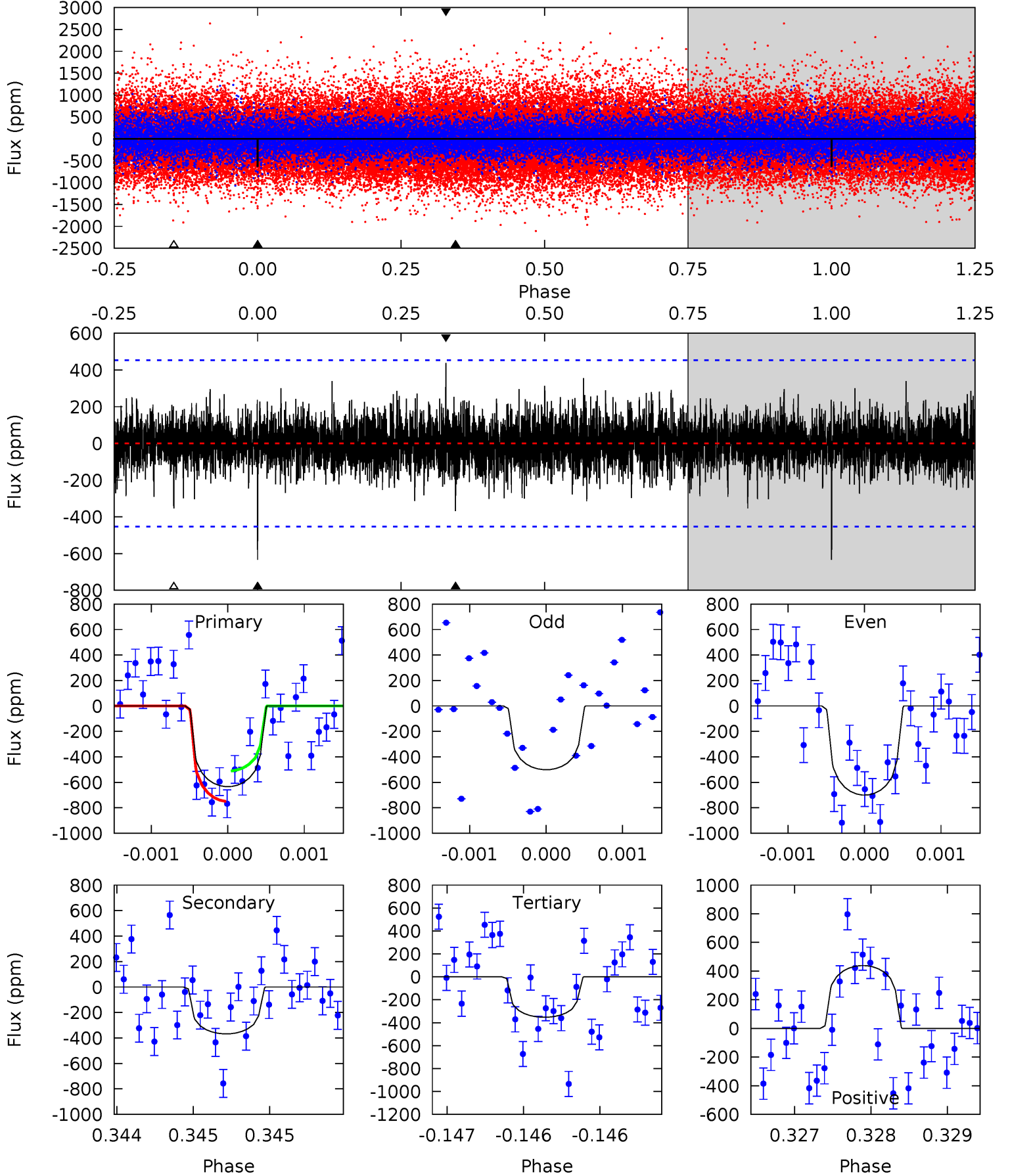
TCE 007516474-01 P=417.879924 Days $T_0=472.525054$ (BKJD)



DV Model-Shift Uniqueness Test

007516474-01, $P = 417.870424$ Days, $E = 54.662980$ Days

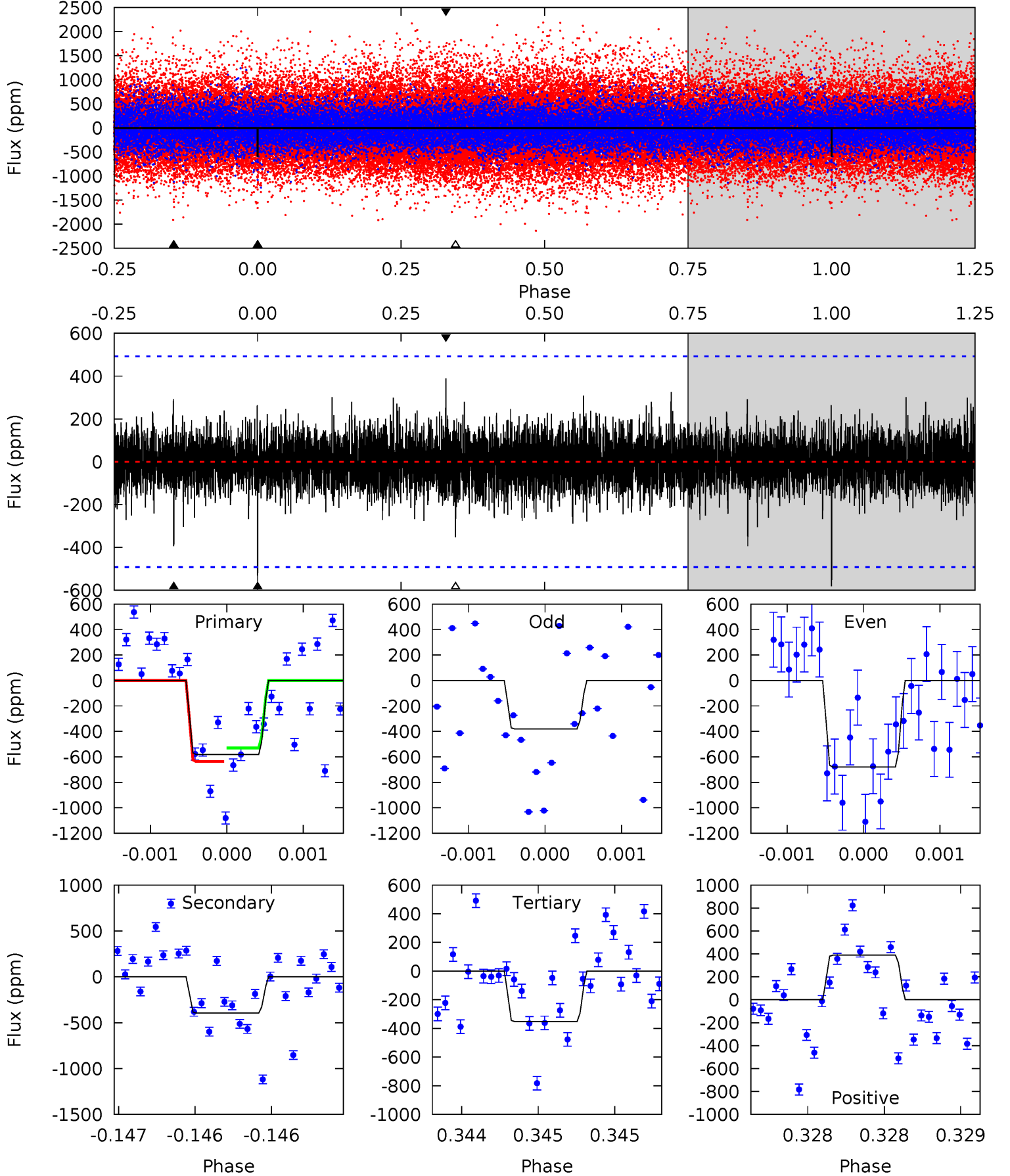
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.74	4.49	4.31	5.36	5.53	3.42	1.11	3.43	2.38	0.18	-0.86	1.13	1.04	0.41	1.46



Alt Model-Shift Uniqueness Test

007516474-01, P = 417.879924 Days, E = 54.645130 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.57	4.45	3.98	4.39	5.56	3.46	0.93	2.59	2.18	0.47	0.06	1.58	1.01	0.40	0.60



Stellar Parameters For KIC 007516474

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5387^{+159}_{-159}	$4.594^{+0.037}_{-0.112}$	$-0.180^{+0.300}_{-0.300}$	$0.770^{+0.133}_{-0.061}$	$0.857^{+0.078}_{-0.096}$	$2.641^{+0.505}_{-0.939}$
	+3%/-3%	+1%/-2%	+167%/-167%	+17%/-8%	+9%/-11%	+19%/-36%
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 007516474-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-368 ± 82	$4.20^{+3.87}_{-2.86}$	290^{+14}_{-11}	3763^{+2165}_{-727}	$12297^{+109008}_{-9160}$
Alt.	-394 ± 88	$4.17^{+3.83}_{-2.86}$	290^{+13}_{-11}	3797^{+2384}_{-710}	$12448^{+118583}_{-9069}$

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

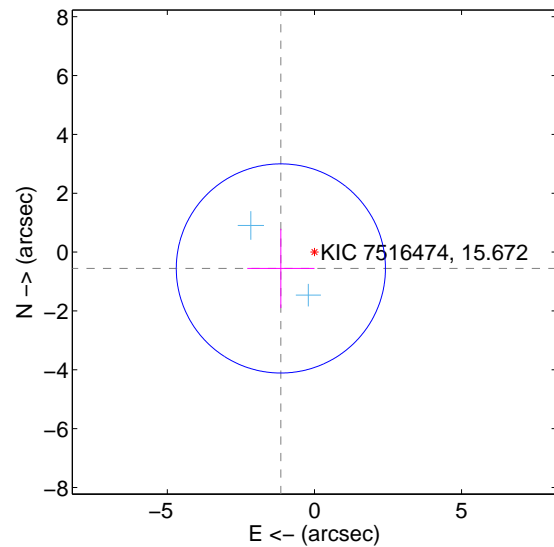
Supplemental centroid analysis for 007516474-01. Kepler magnitude: 15.67. Transit SNR 7.26

There are 2 quarters with good PRF difference image offsets

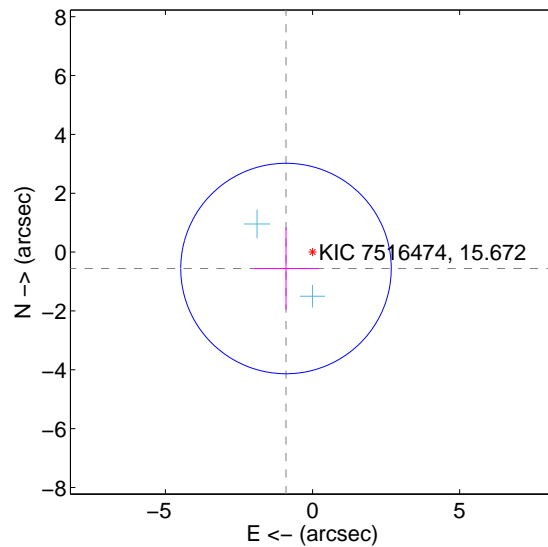
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.269 ± 1.185	1.07	1.141 ± 1.143	-0.556 ± 1.348
PRF-fit source offset from KIC position	1.060 ± 1.192	0.89	0.901 ± 1.103	-0.558 ± 1.398
photometric centroid source offset	0.40 ± 2.15	0.19	-0.31 ± 2.12	-0.26 ± 2.20

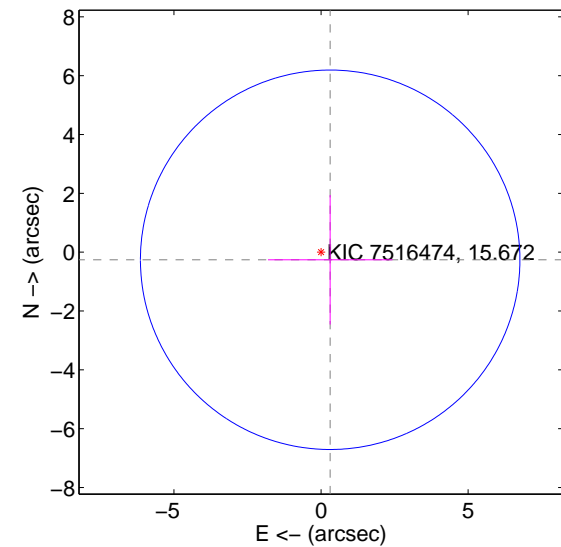
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

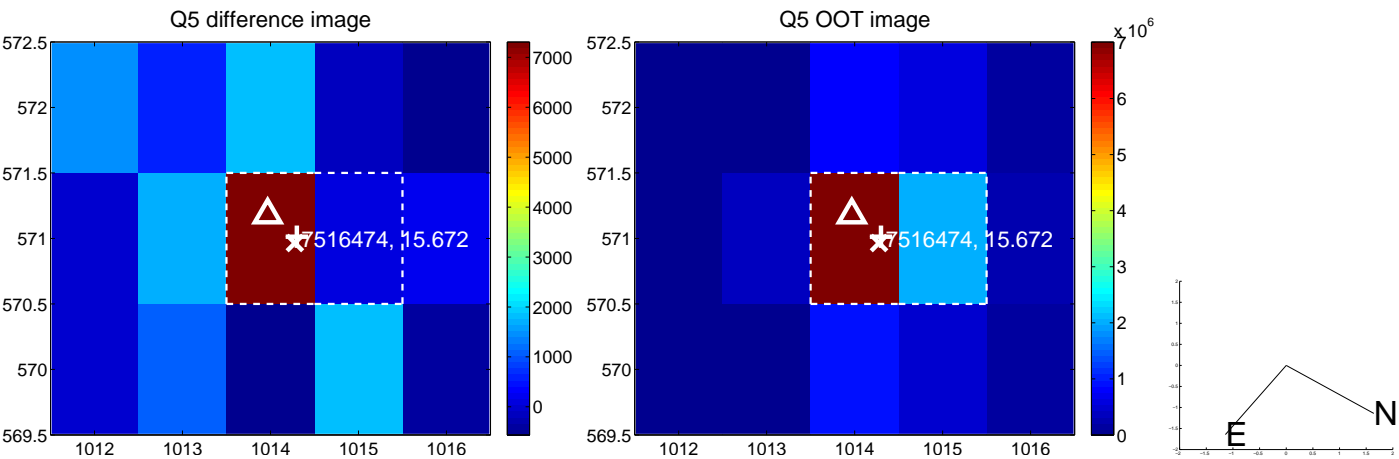


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

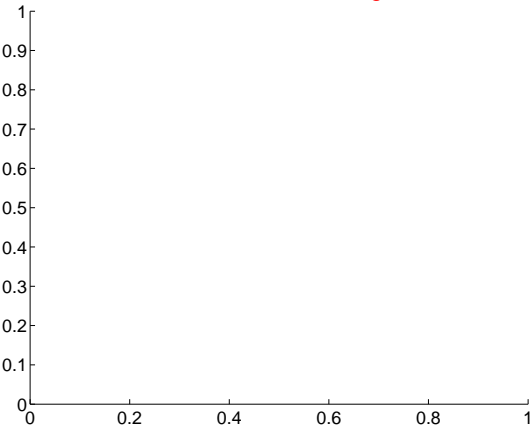
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



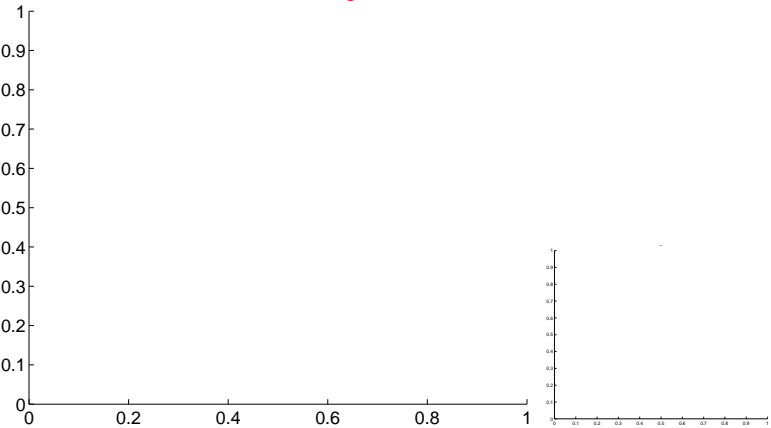
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



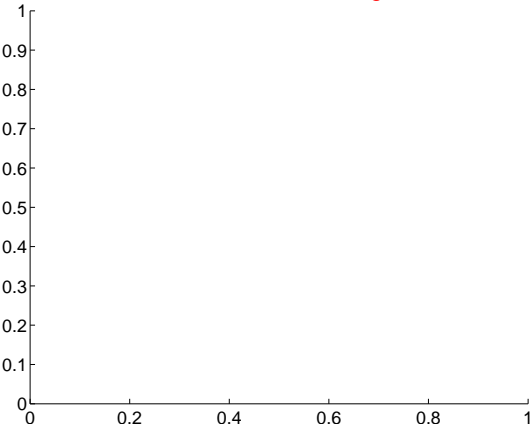
Q6 no difference image



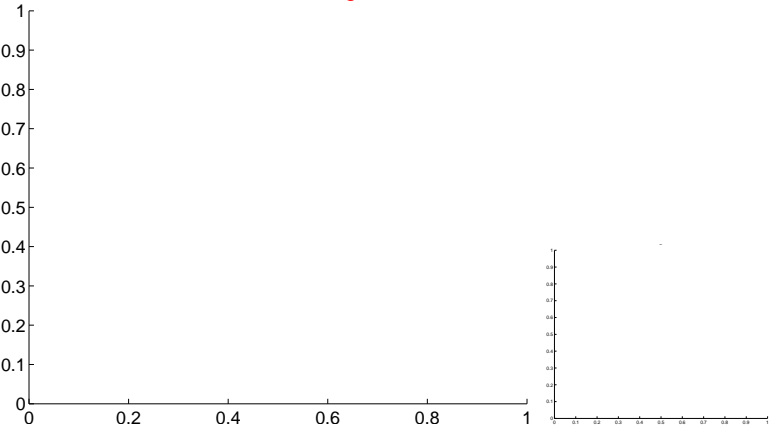
Q6 no OOT image



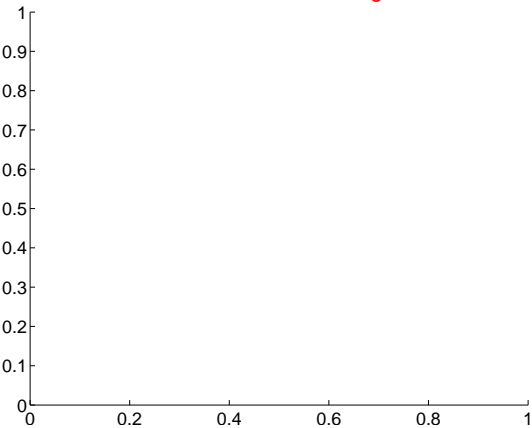
Q7 no difference image



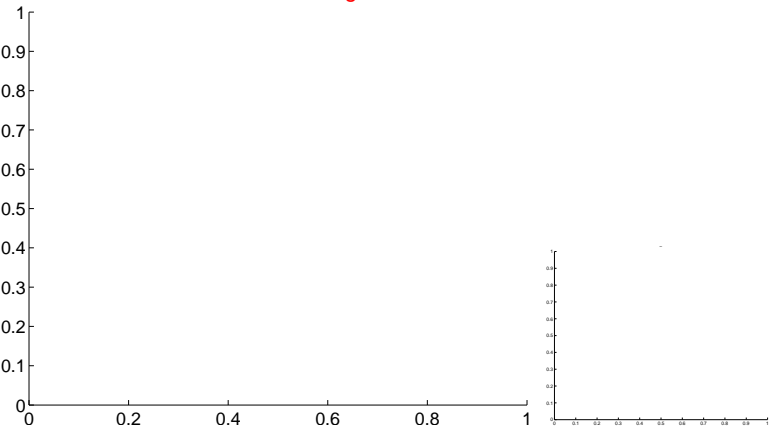
Q7 no OOT image



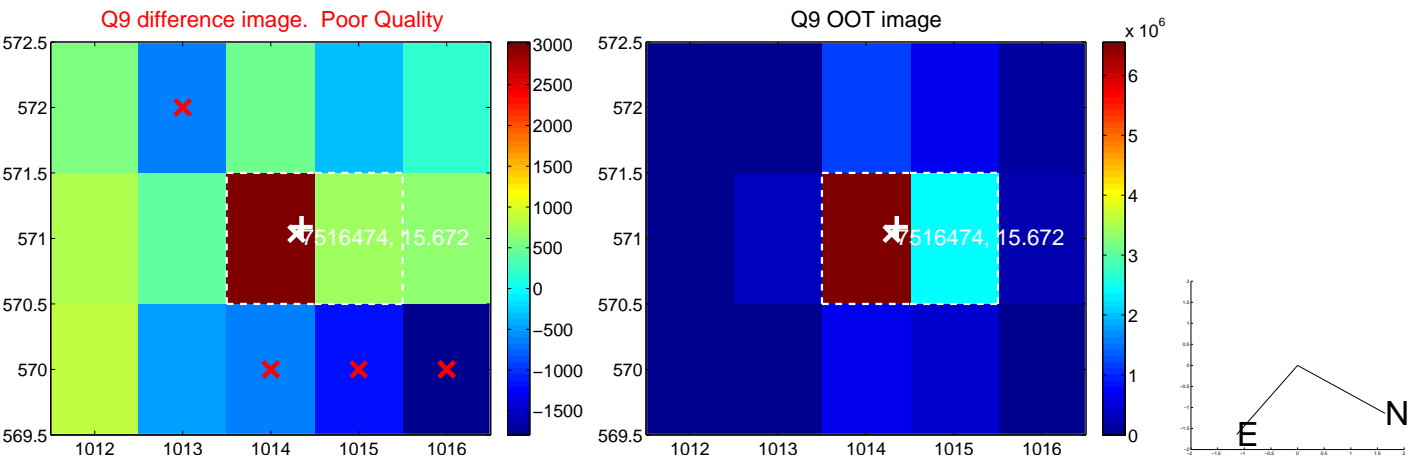
Q8 no difference image



Q8 no OOT image



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

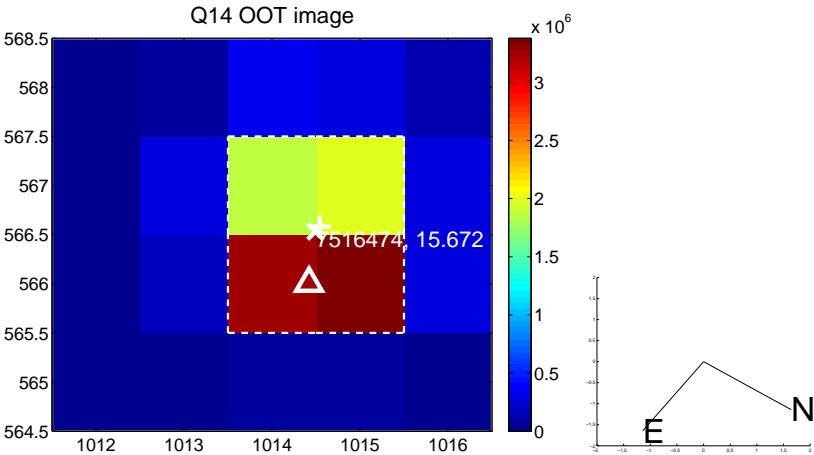
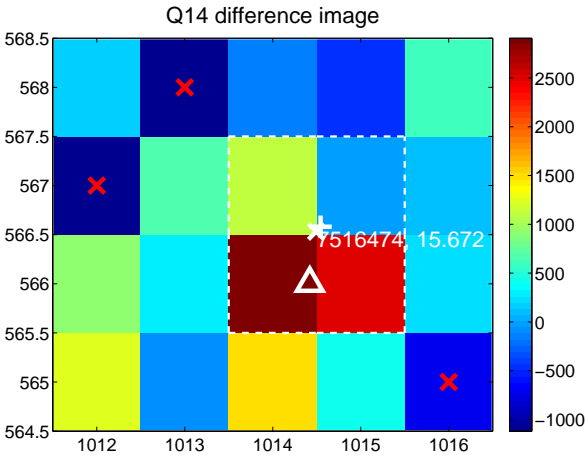


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

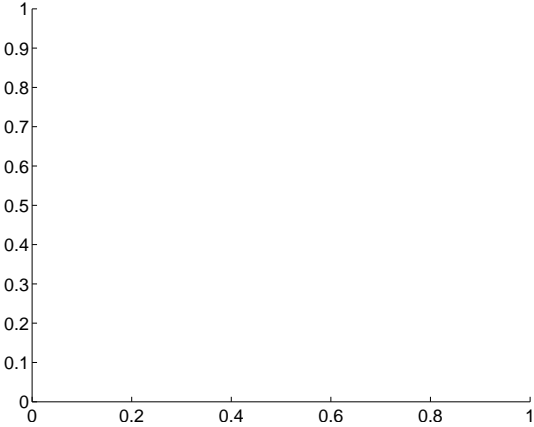
Q13 no difference image



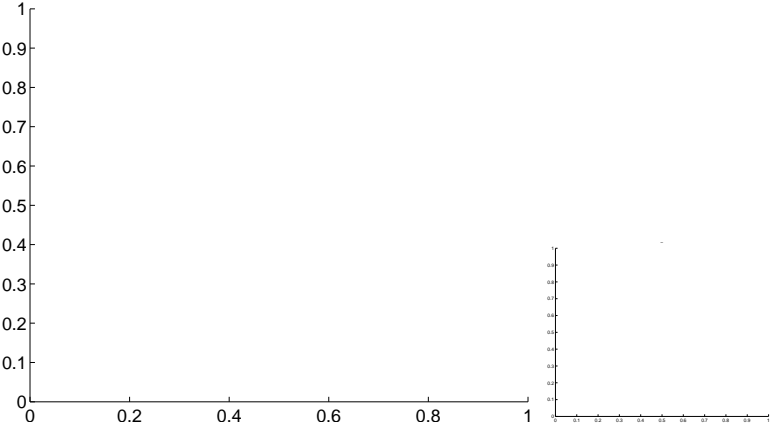
Q13 no OOT image



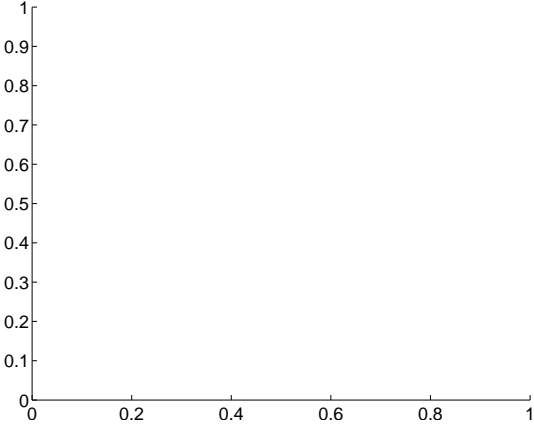
Q15 no difference image



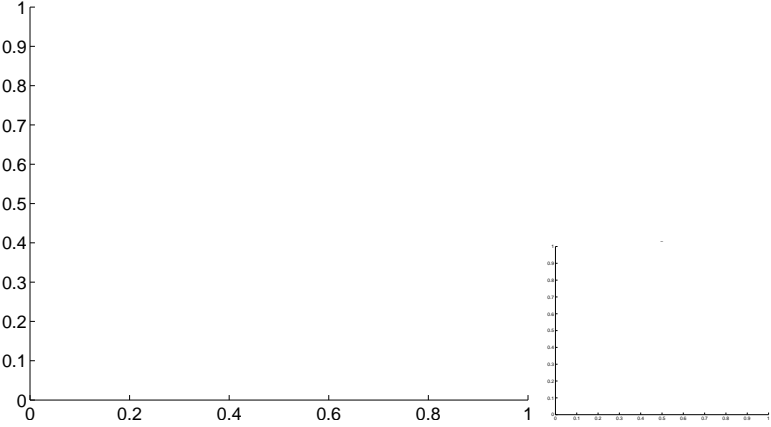
Q15 no OOT image



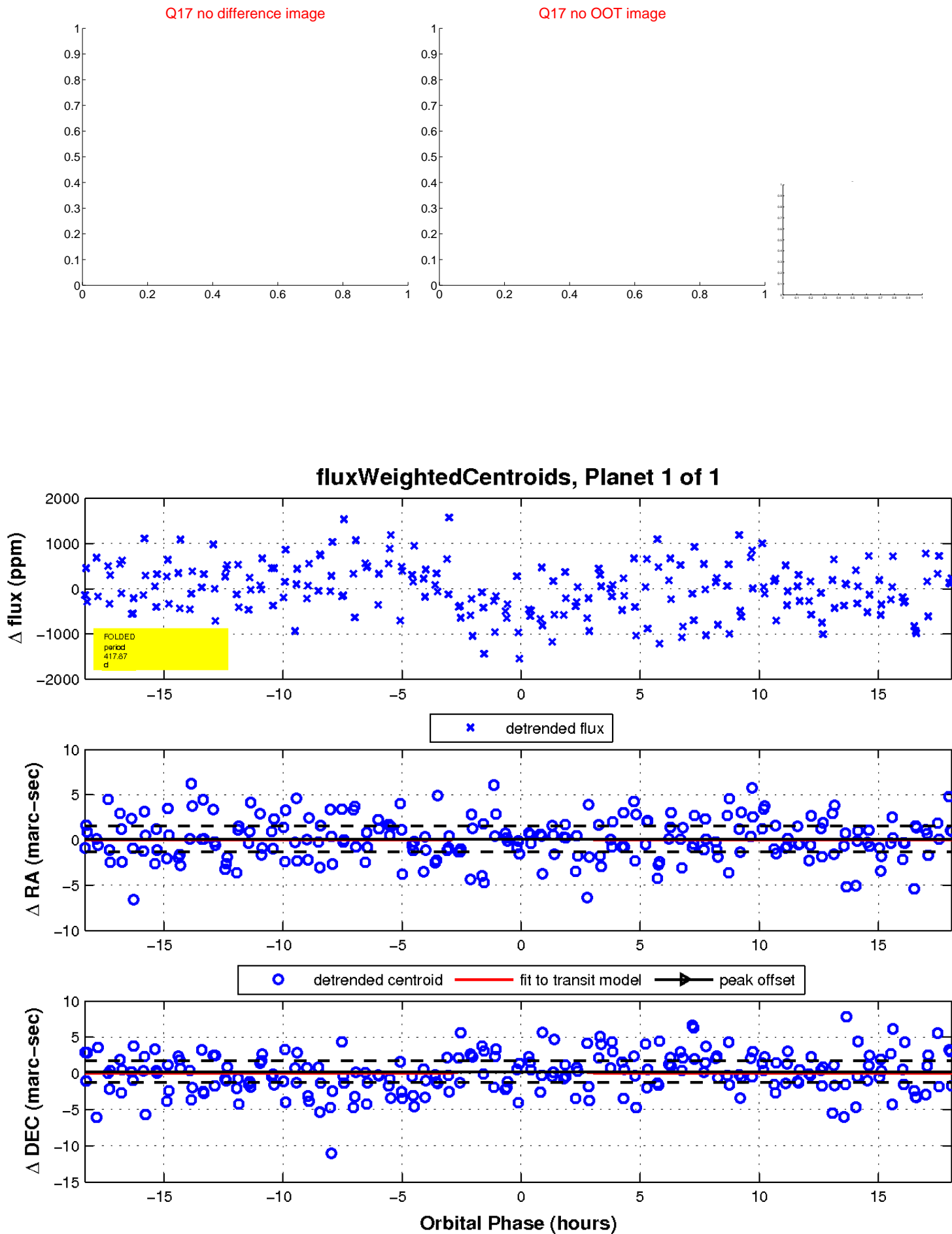
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

