

KIC 007816473

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})
007816473-01	OBS	No	41.864998	133.115335	391.3	11.444	8.2	5.3	0.98	6211	2.07	22.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007816473-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—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.

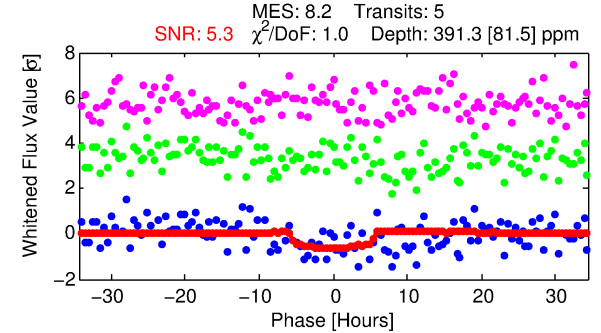
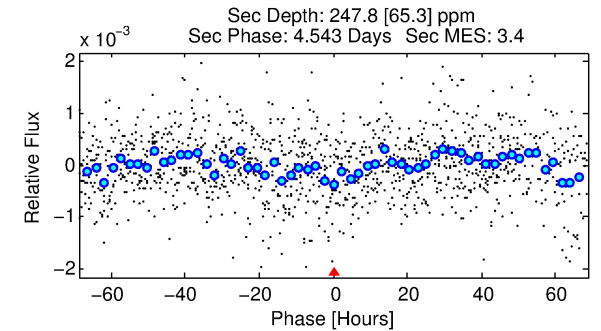
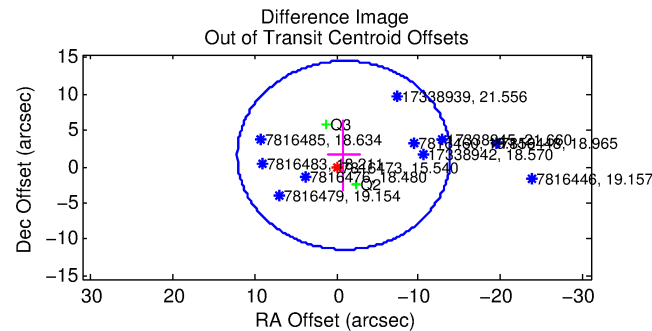
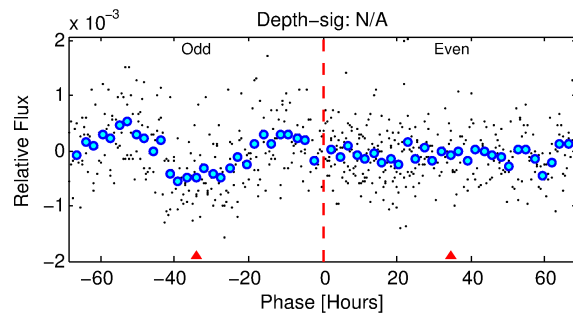
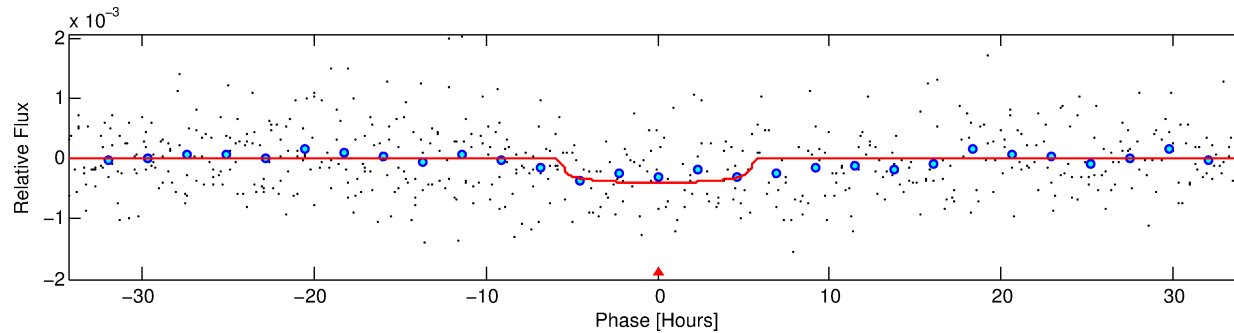
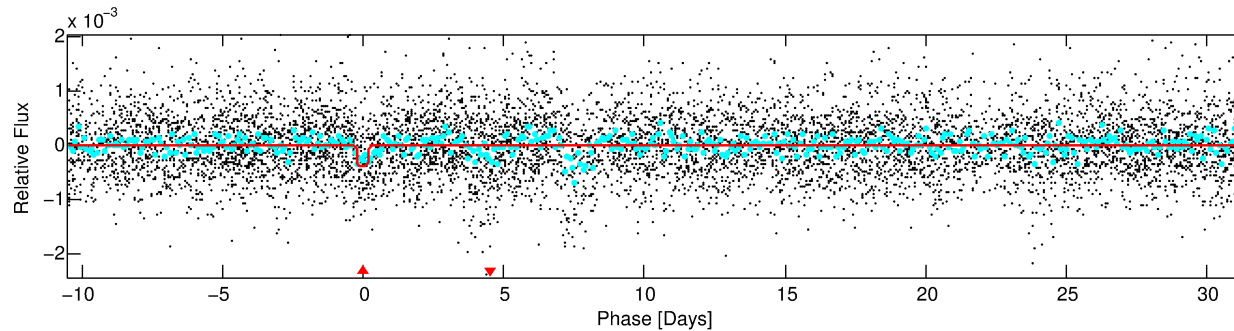
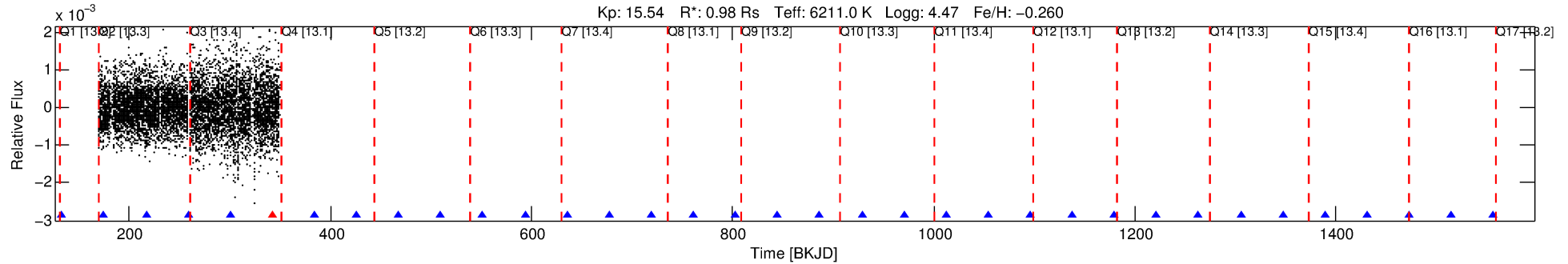
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007816473-01

No Significant Match Found

DV One-Page Summary

KIC: 7816473 Candidate: 1 of 1 Period: 41.865 d



DV Fit Results:

Period = 41.86500 [0.01215] d
Epoch = 133.1153 [0.0368] BKJD
Rp/R* = 0.0194 [0.0133]
a/R* = 20.54 [71.92]
b = 0.71 [2.50]
Seff = 22.25 [9.67]
Teq = 554 [60] K
Rp = 2.07 [1.57] Re
a = 0.2389 [0.0672] AU
Ag = 1819.37 [2639.80] [0.69σ]
Teffp = 5592 [1956] K [2.57σ]

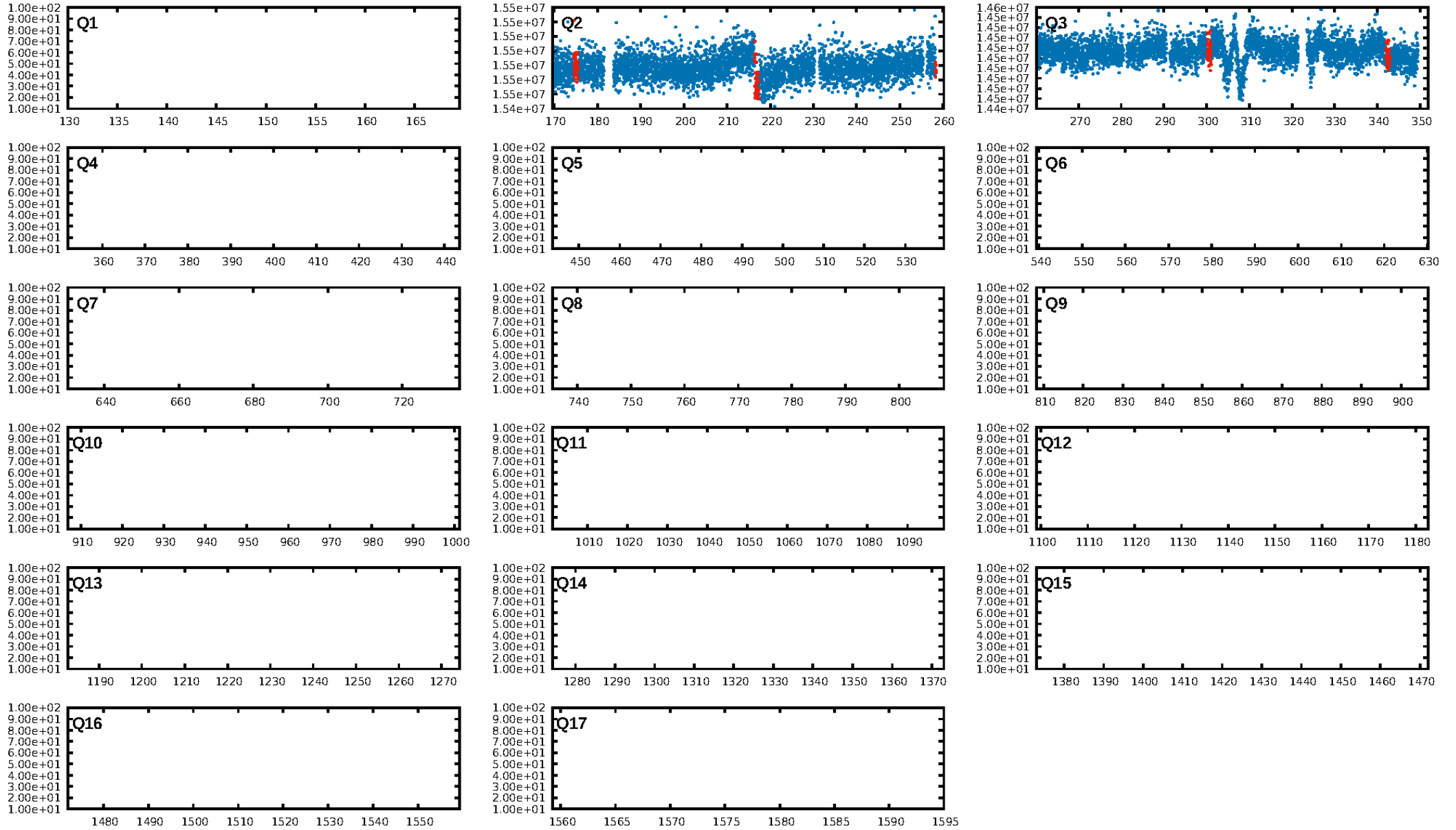
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.70e-11
RollingBand-fgt: 0.80 [4/5]
GhostDiagnostic-chr: 1.873
Centroid-sig: 53.1%
Centroid-so: 1.613 arcsec [0.60σ]
OotOffset-rm: 1.807 arcsec [0.42σ]
KicOffset-rm: 1.851 arcsec [0.42σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

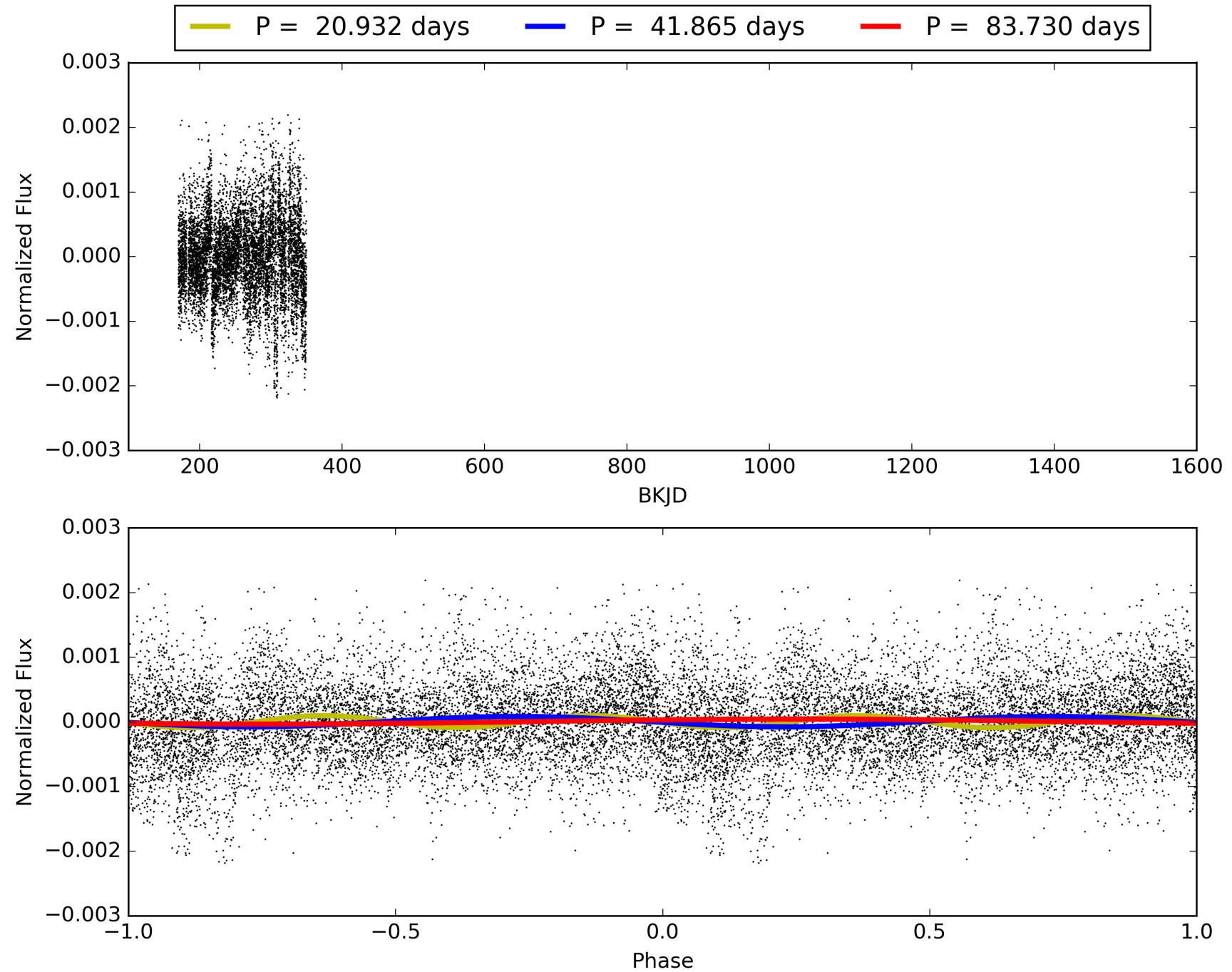
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:44:35 Z

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

TCE 007816473-01, PDC Light Curves

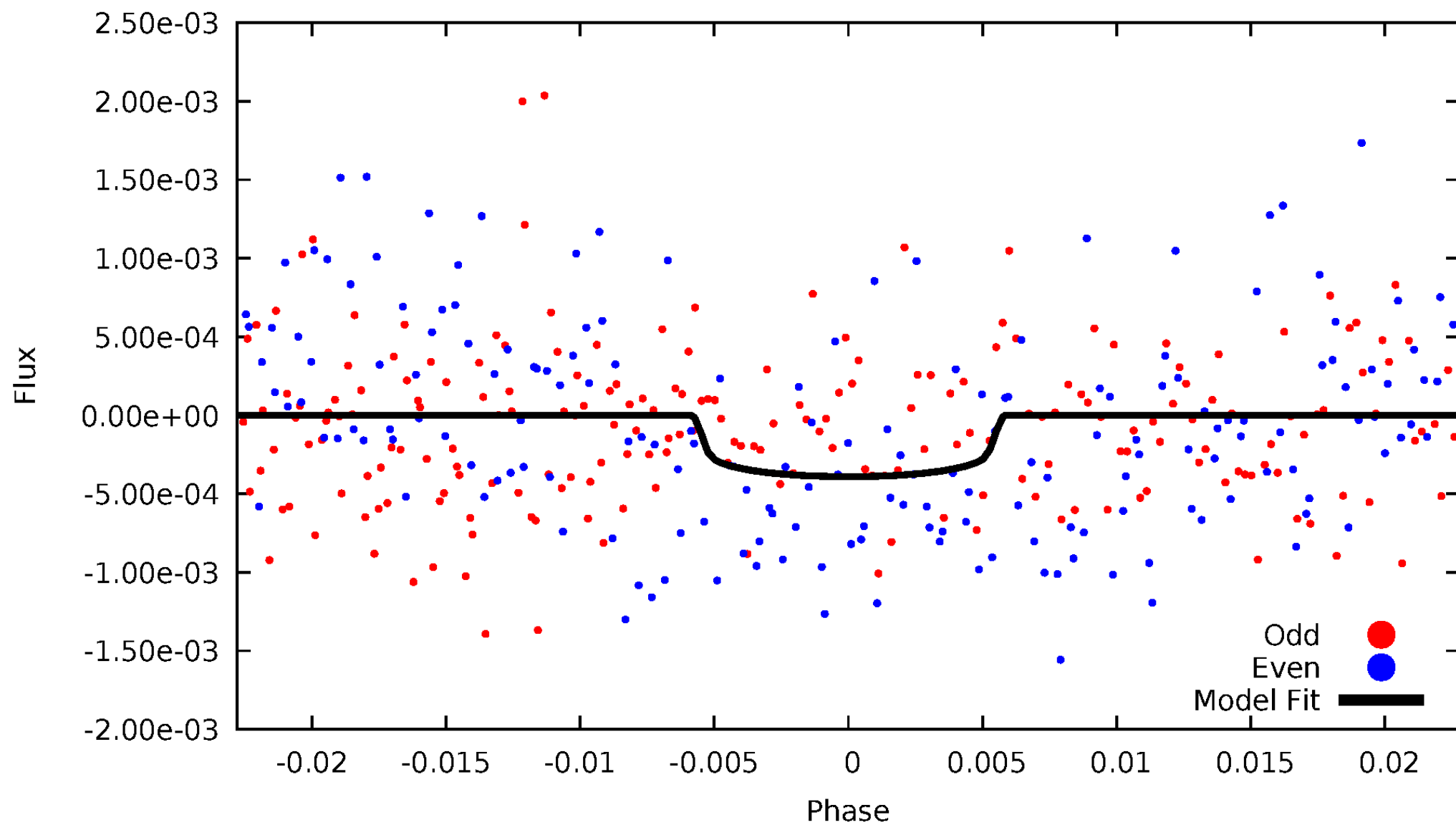


TCE 007816473-01



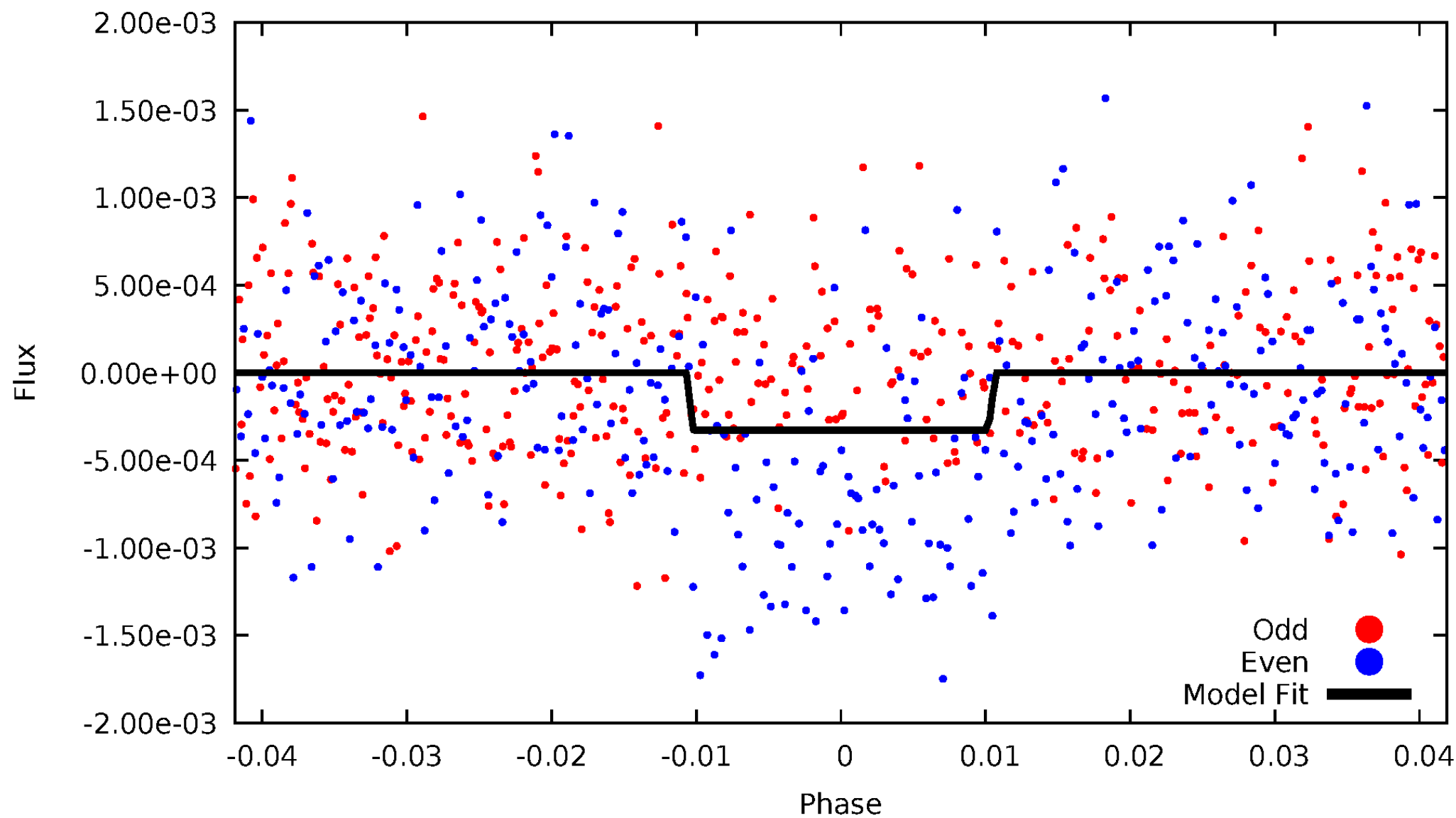
DV Odd/Even

TCE 007816473-01

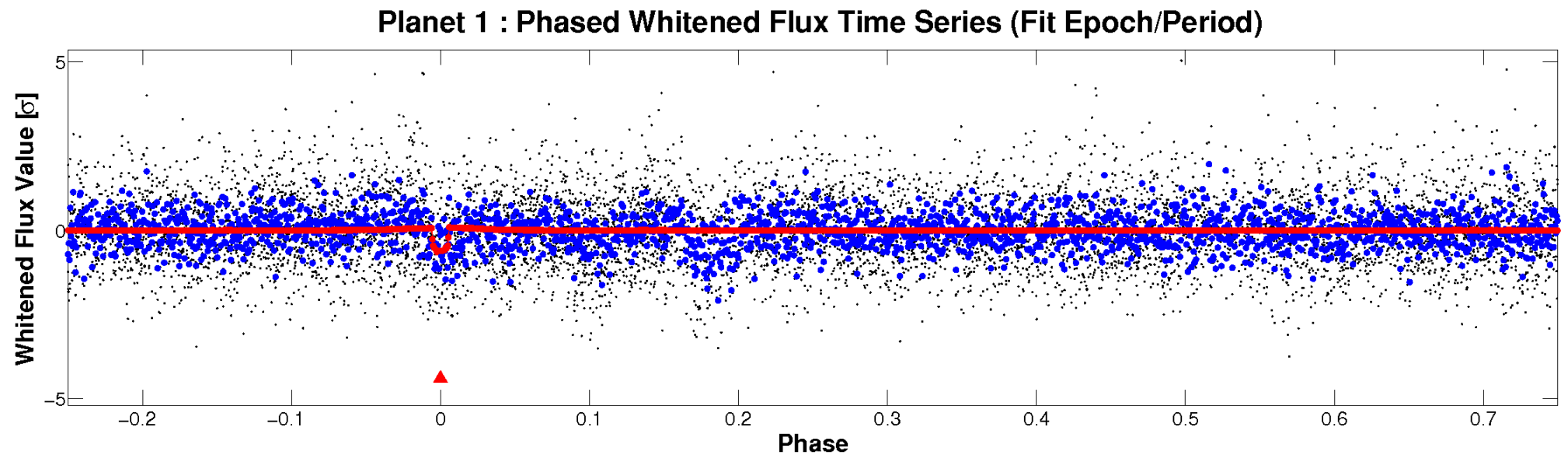
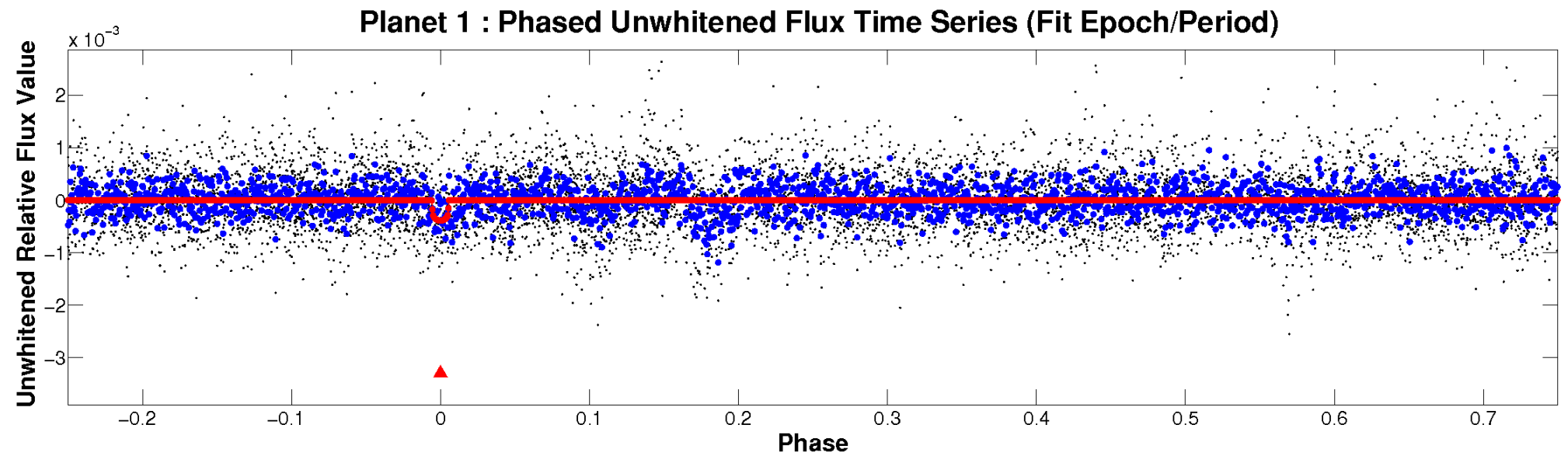


ALT Odd/Even

TCE 007816473-01

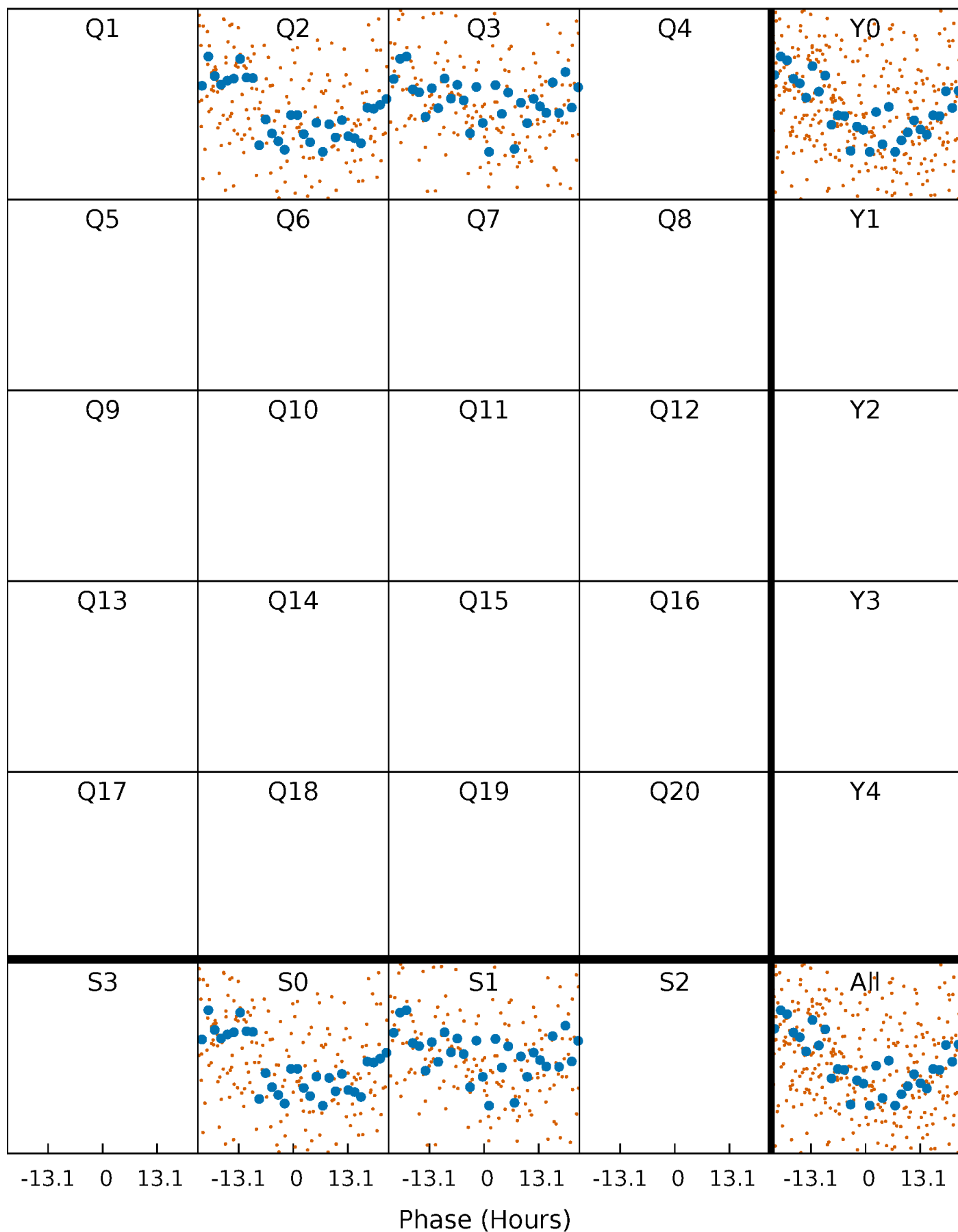


Non-Whitened Vs. Whitened Light Curve



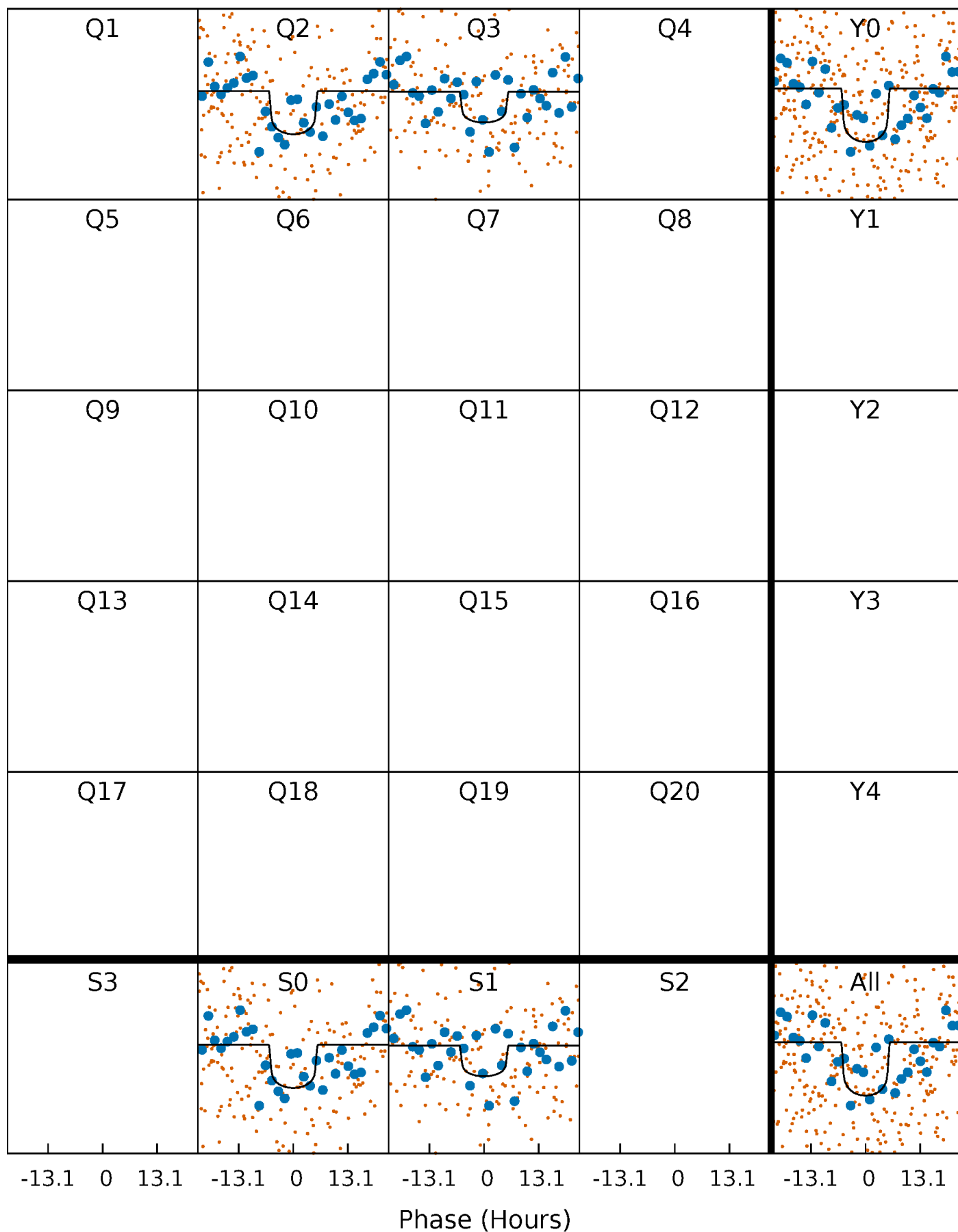
PDC Quarter-Phased Transit Curves

TCE 007816473-01 P= 41.864998 Days $T_0=133.115335$ (BKJD)



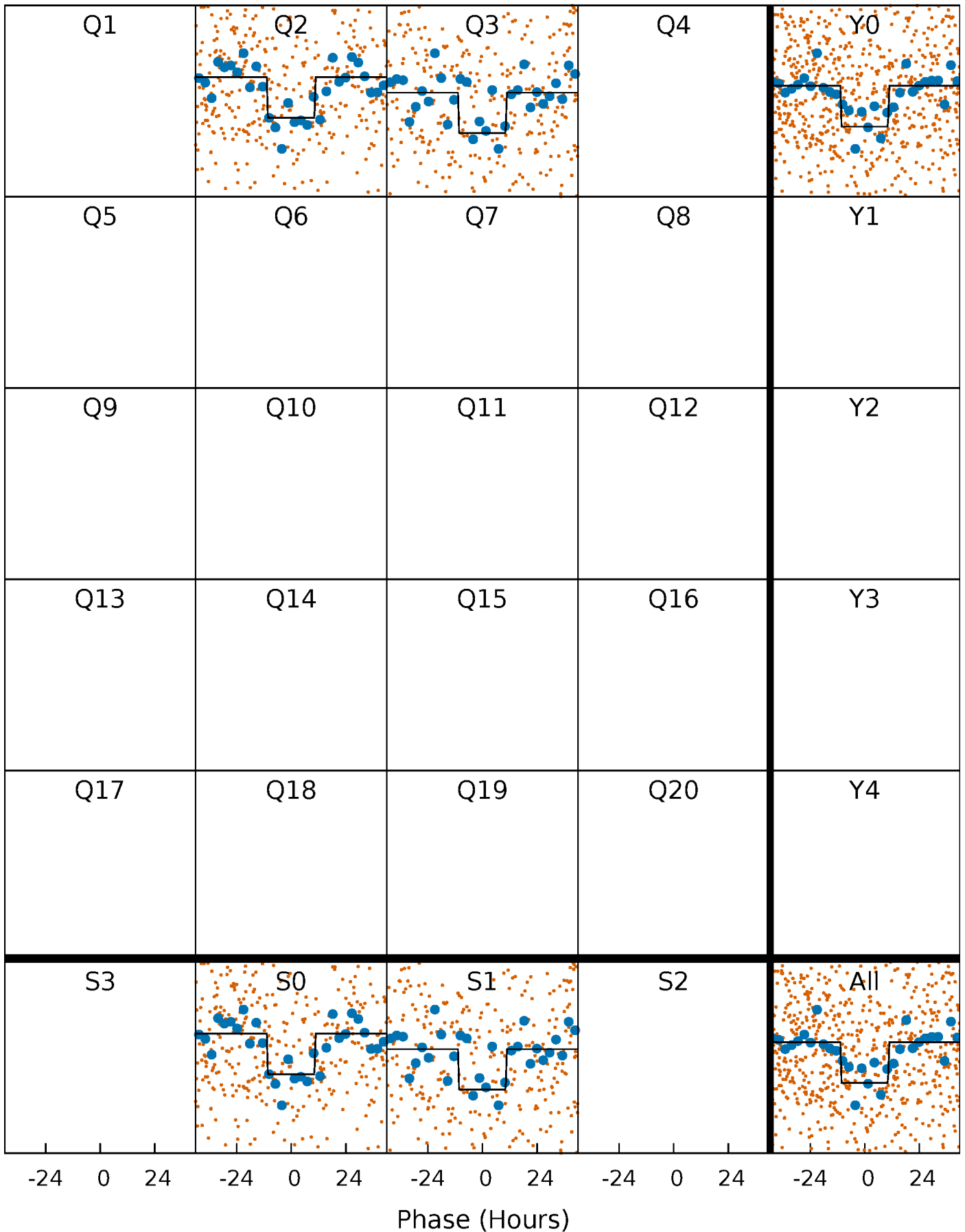
DV Quarter-Phased Transit Curves

TCE 007816473-01 P= 41.864998 Days $T_0=133.115335$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

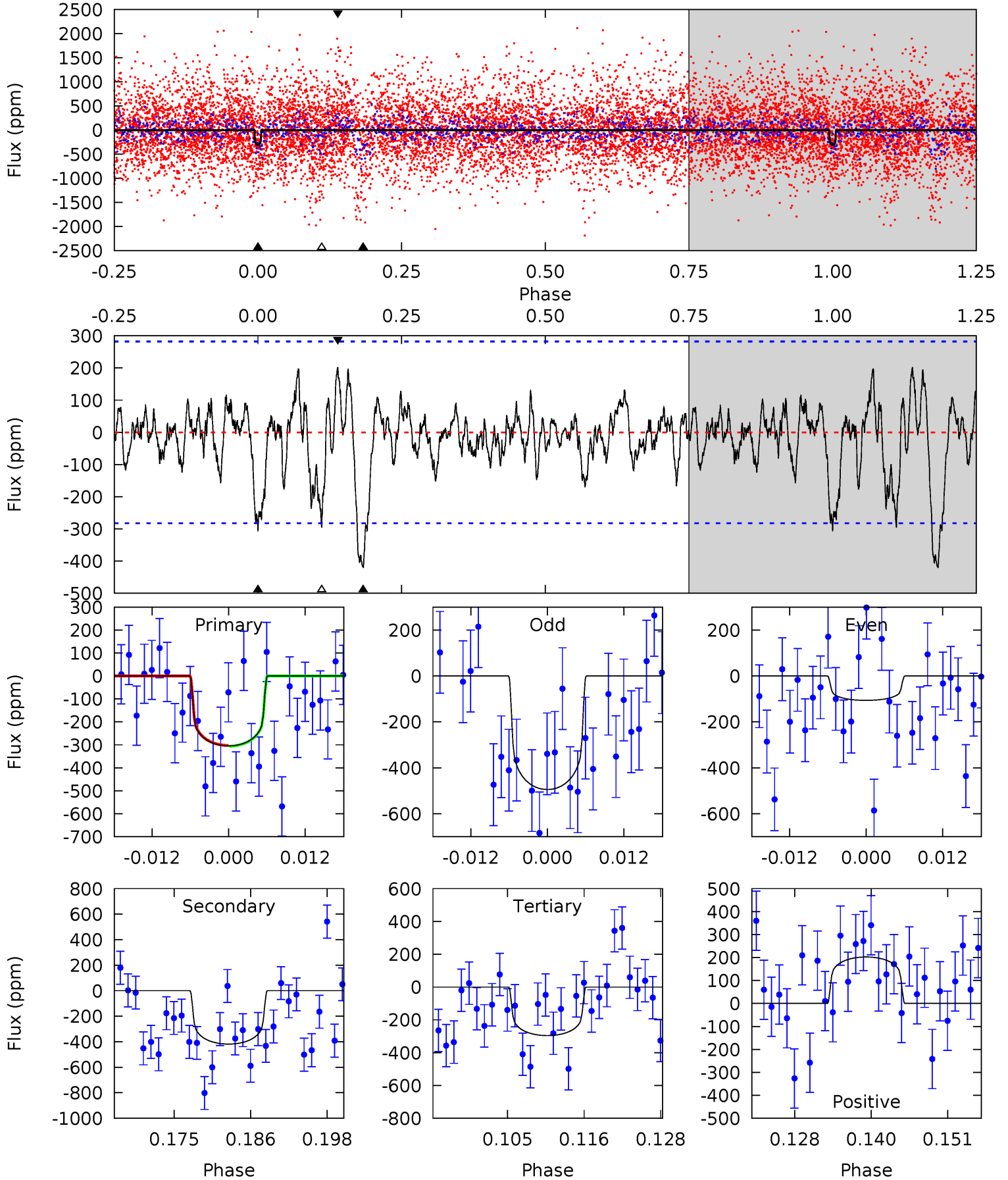
TCE 007816473-01 P= 41.853136 Days $T_0=133.198485$ (BKJD)



DV Model-Shift Uniqueness Test

007816473-01, P = 41.864998 Days, E = 133.115335 Days

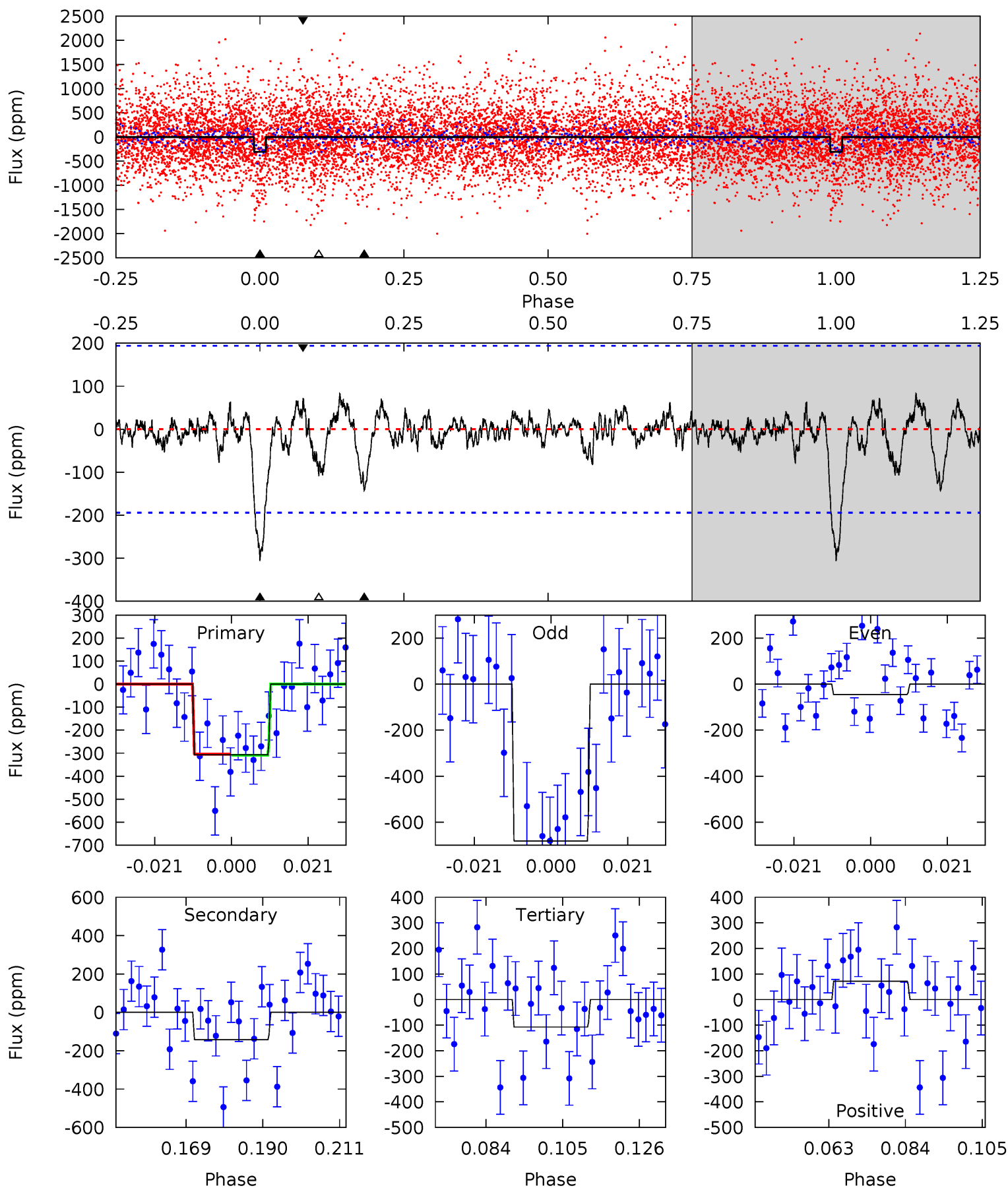
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.39	7.41	5.24	3.58	5.00	2.52	1.30	0.15	1.80	2.17	3.83	3.43	1.08	0.33	0.03



Alt Model-Shift Uniqueness Test

007816473-01, P = 41.853136 Days, E = 133.198485 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.71	3.57	2.70	1.82	4.88	2.31	0.73	5.01	5.89	0.87	1.76	7.97	1.25	0.21	0.05



Stellar Parameters For KIC 007816473

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6211^{+188}_{-225}	$4.475^{+0.056}_{-0.224}$	$-0.260^{+0.250}_{-0.300}$	$0.976^{+0.326}_{-0.102}$	$1.037^{+0.144}_{-0.144}$	$1.571^{+0.461}_{-0.889}$
	+3%/-4%	+1%/-5%	+96%/-115%	+33%/-10%	+14%/-14%	+29%/-57%
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 007816473-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-419 ± 57	$2.44^{+1.46}_{-1.30}$	791^{+61}_{-40}	6021^{+3297}_{-1123}	2126^{+7833}_{-1272}
Alt.	-142 ± 40	$2.28^{+1.38}_{-1.33}$	791^{+61}_{-43}	4818^{+2534}_{-855}	812^{+3911}_{-514}

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 $A_{obs} \gg 1.0$

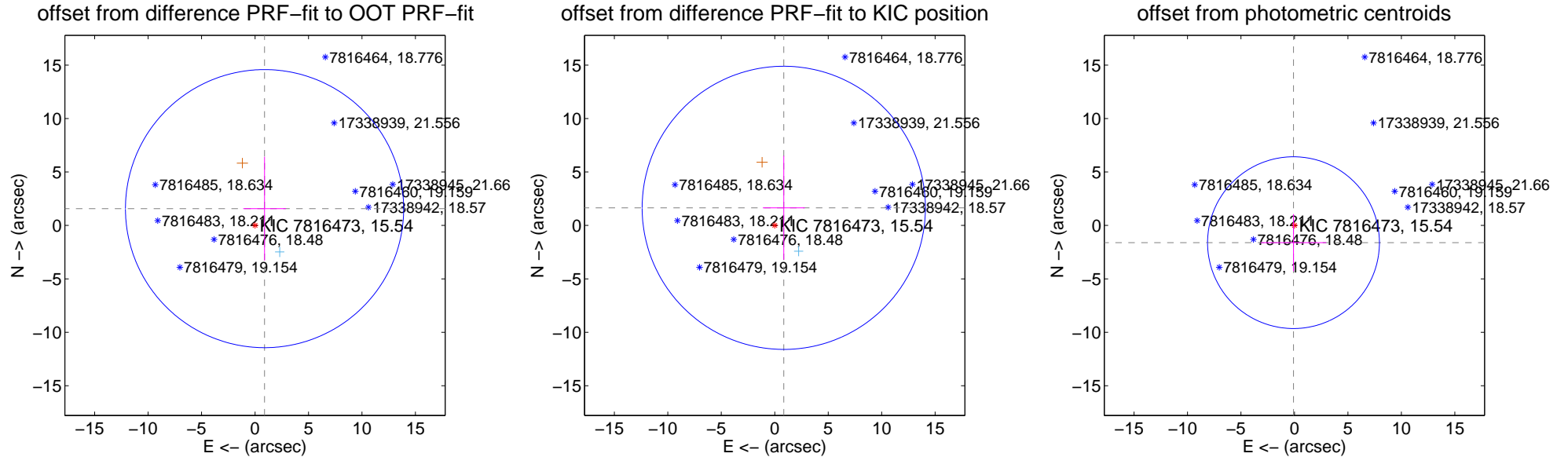
DV Centroid Data

Supplemental centroid analysis for 007816473-01. Kepler magnitude: 15.54. Transit SNR 5.26

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.807 ± 4.336	0.42	-0.891 ± 2.001	1.572 ± 4.853
PRF-fit source offset from KIC position	1.851 ± 4.415	0.42	-0.845 ± 1.961	1.647 ± 4.858
photometric centroid source offset	1.61 ± 2.68	0.60	0.09 ± 3.06	-1.61 ± 2.68



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.

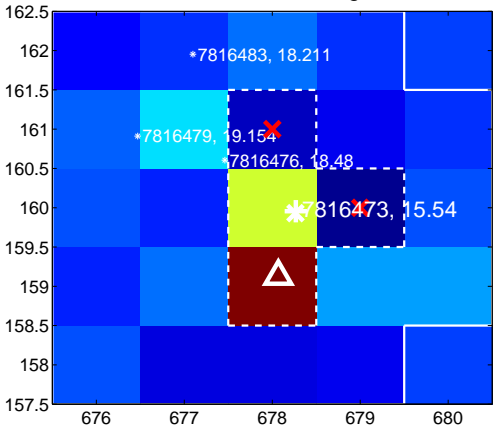
Q1 no difference image



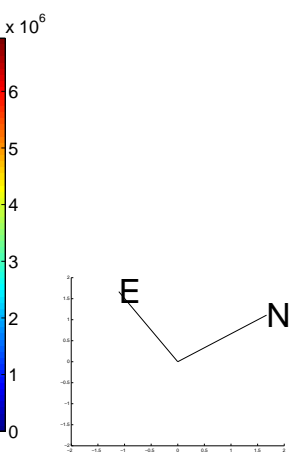
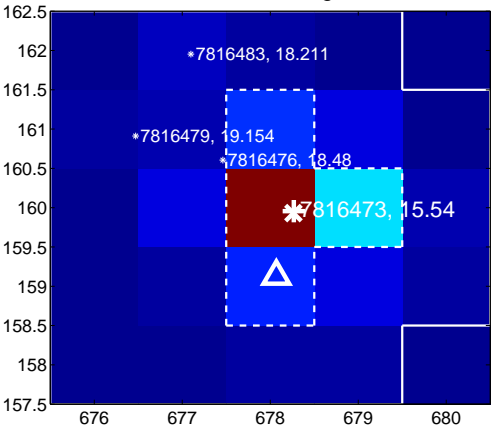
Q1 no OOT image



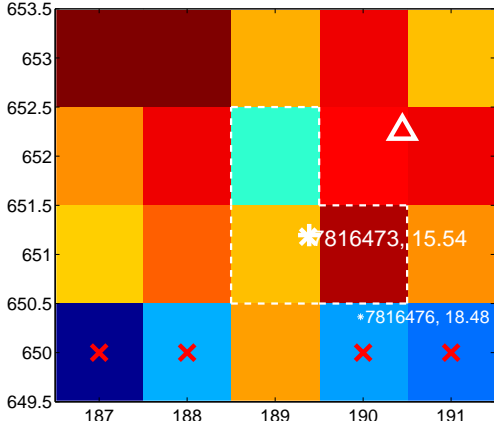
Q2 difference image



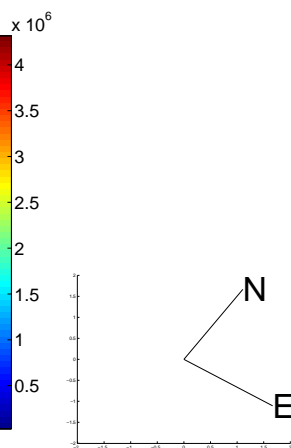
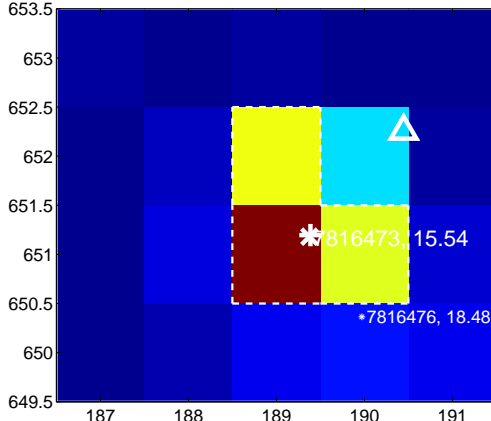
Q2 OOT image



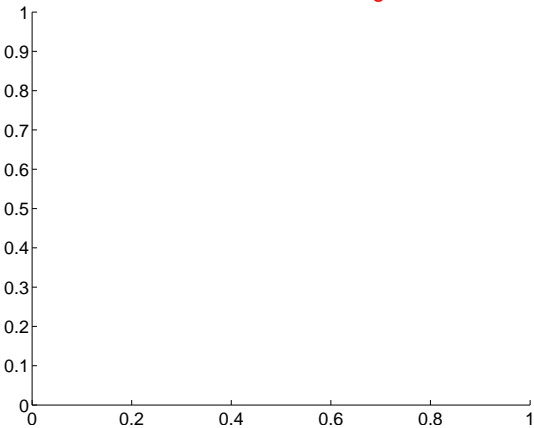
Q3 difference image. Poor Quality



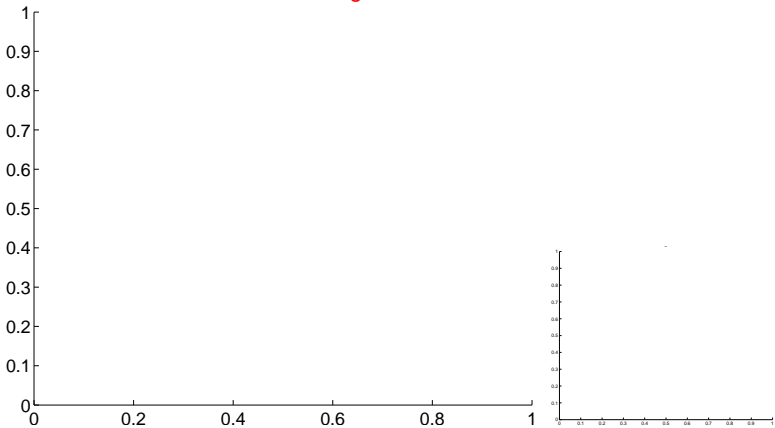
Q3 OOT image



Q4 no difference image



Q4 no OOT image



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



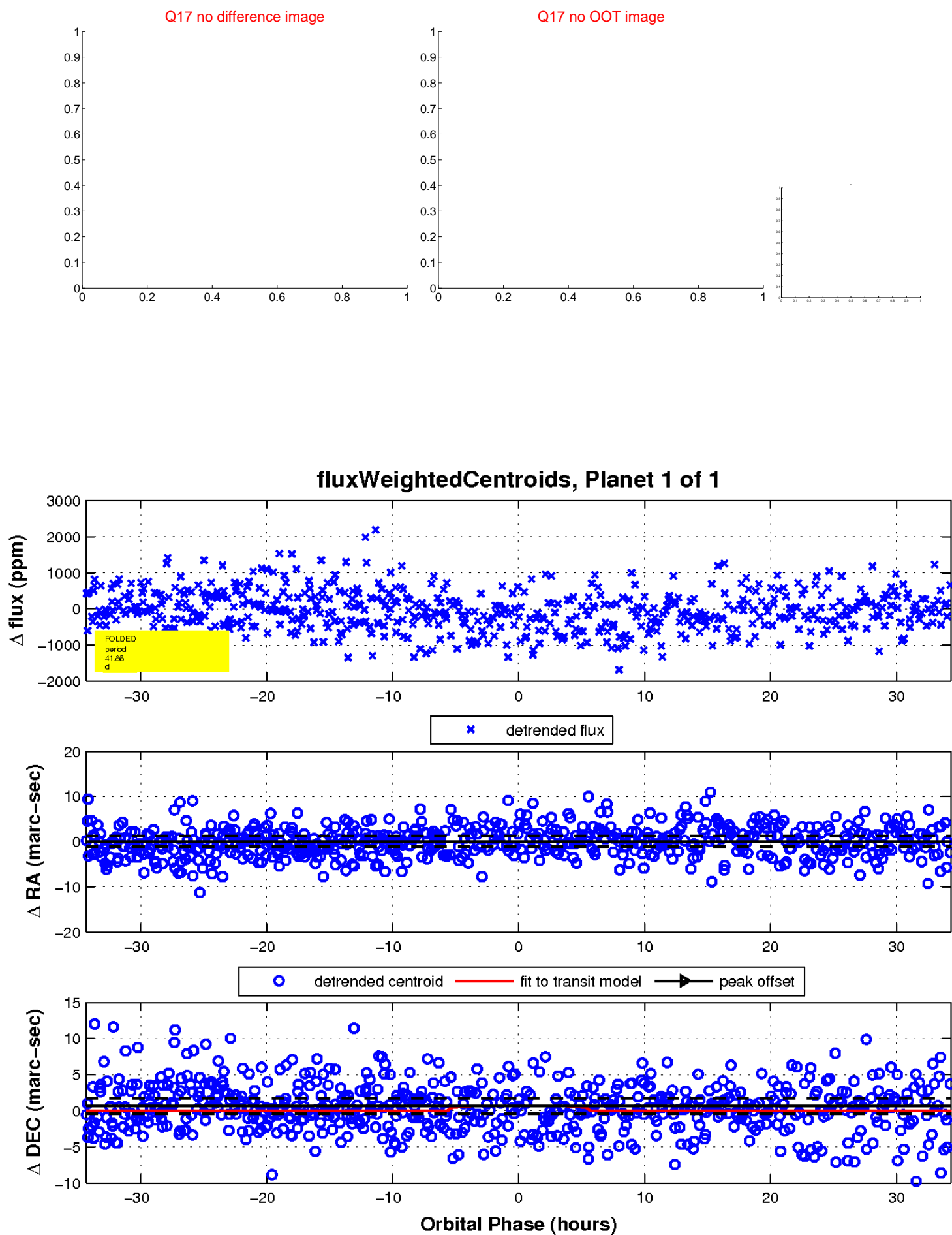
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

