

KIC 003222471

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})
003222471-01	OBS	No	437.186207	235.771101	4000.6	25.693	66.7	32.0	0.64	5061	7.76	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003222471-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

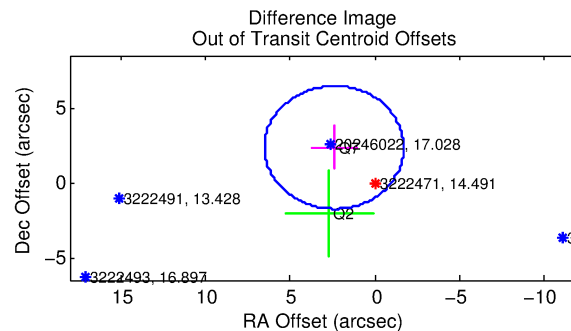
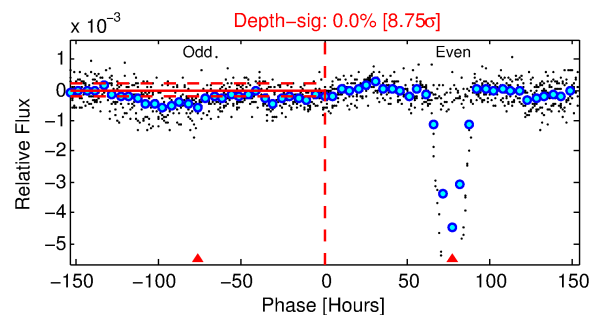
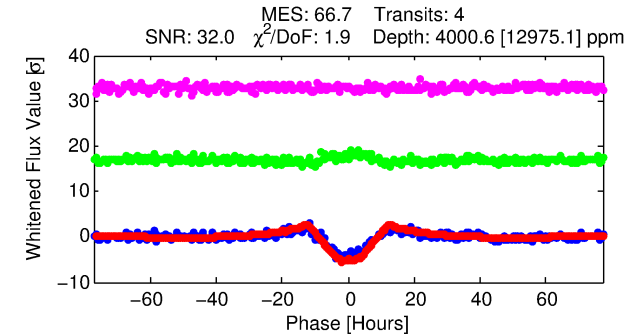
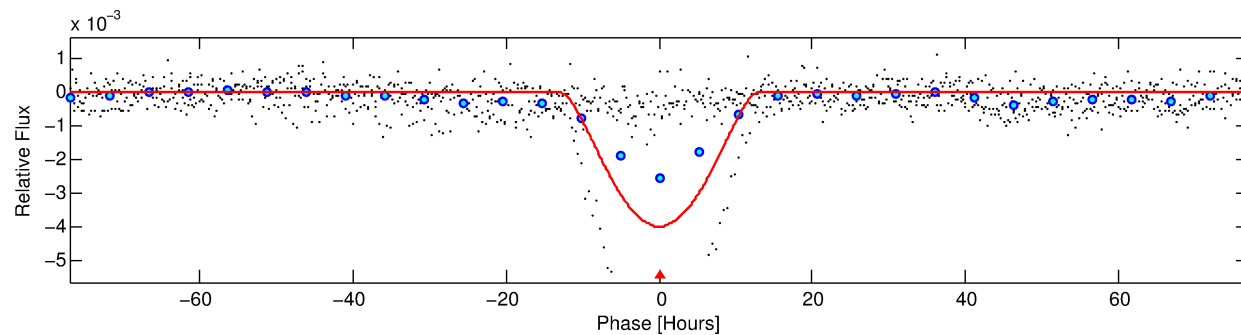
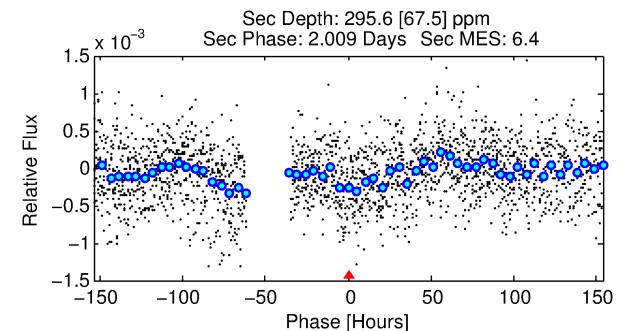
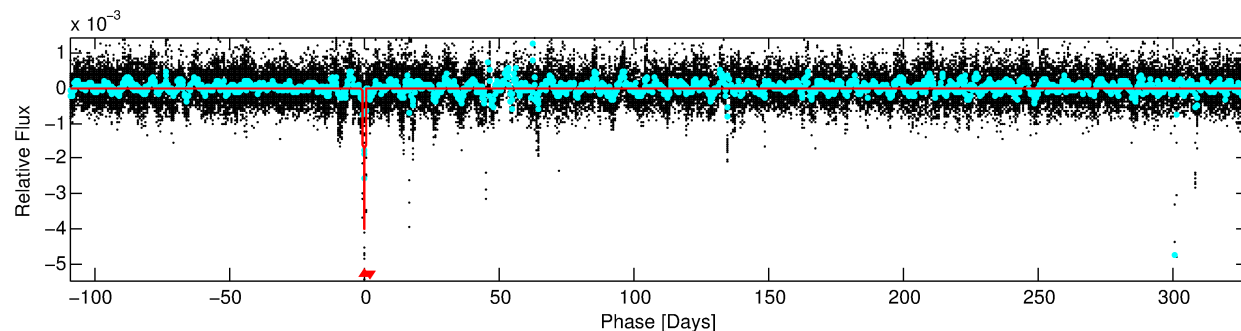
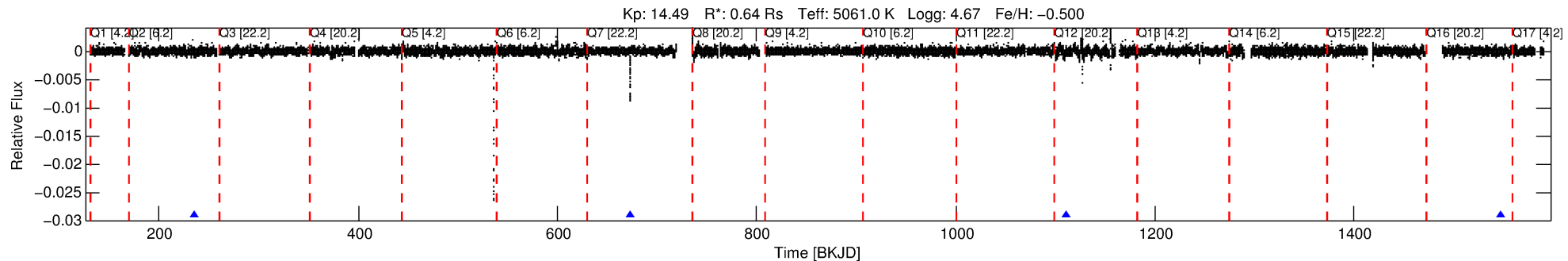
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003222471-01

No Significant Match Found

DV One-Page Summary

KIC: 3222471 Candidate: 1 of 1 Period: 437.186 d



DV Fit Results:

Period = 437.18621 [0.00669] d
Epoch = 235.7711 [0.0089] BKJD
Rp/R* = 0.1104 [0.0889]
a/R* = 62.77 [9.21]
b = 1.00 [0.11]
Seff = 0.24 [0.04]
Teq = 179 [8] K
Rp = 7.76 [6.32] Re
a = 1.0055 [0.1031] AU
Ag = 2729.94 [4454.87] [0.61σ]
Teff = 1997 [814] K [2.23σ]

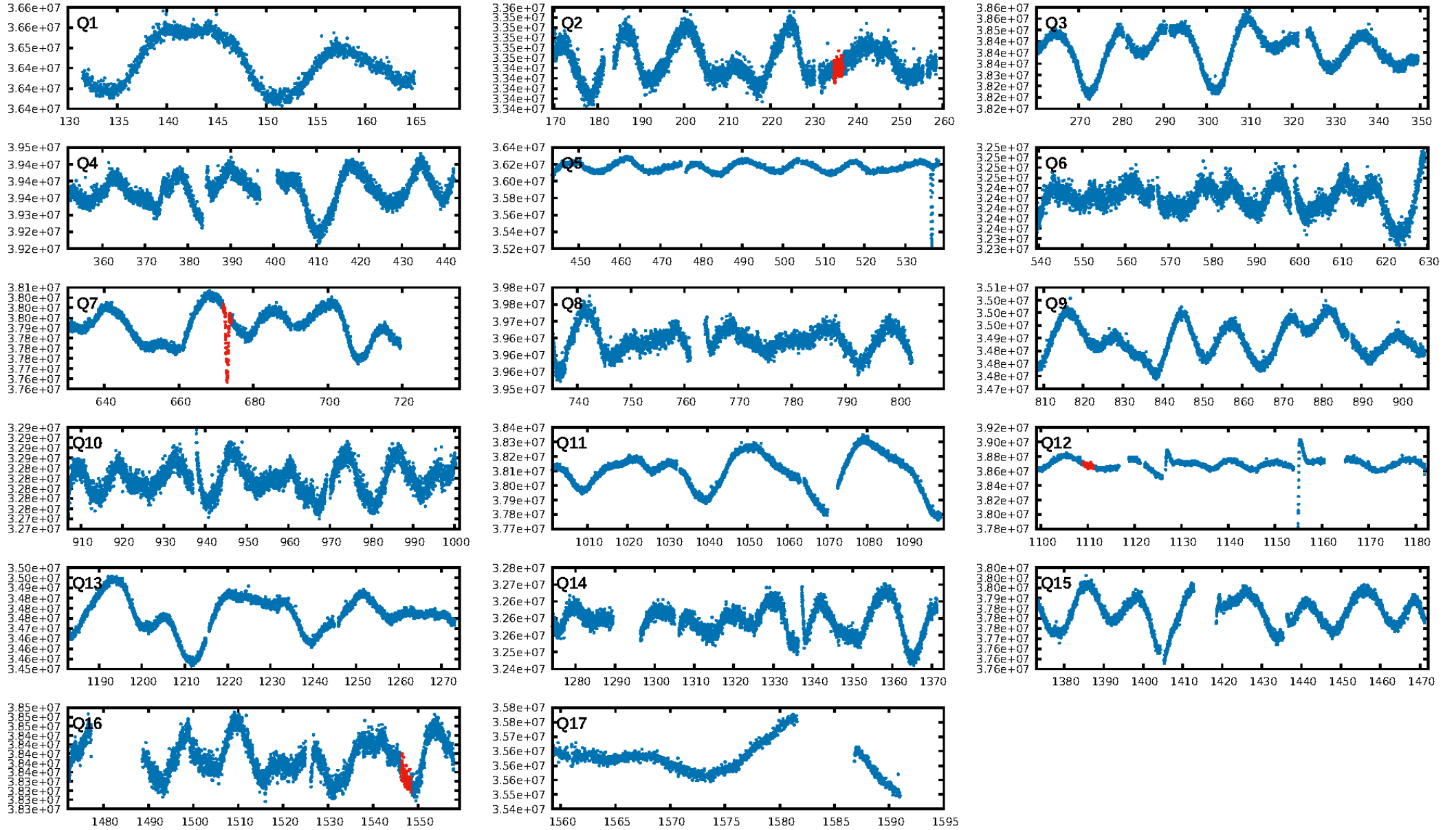
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 1.3%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.447
Centroid-sig: 19.0%
Centroid-so: 1.251 arcsec [5.11σ]
OotOffset-rm: 3.365 arcsec [2.46σ]
KicOffset-rm: 3.571 arcsec [2.62σ]
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]

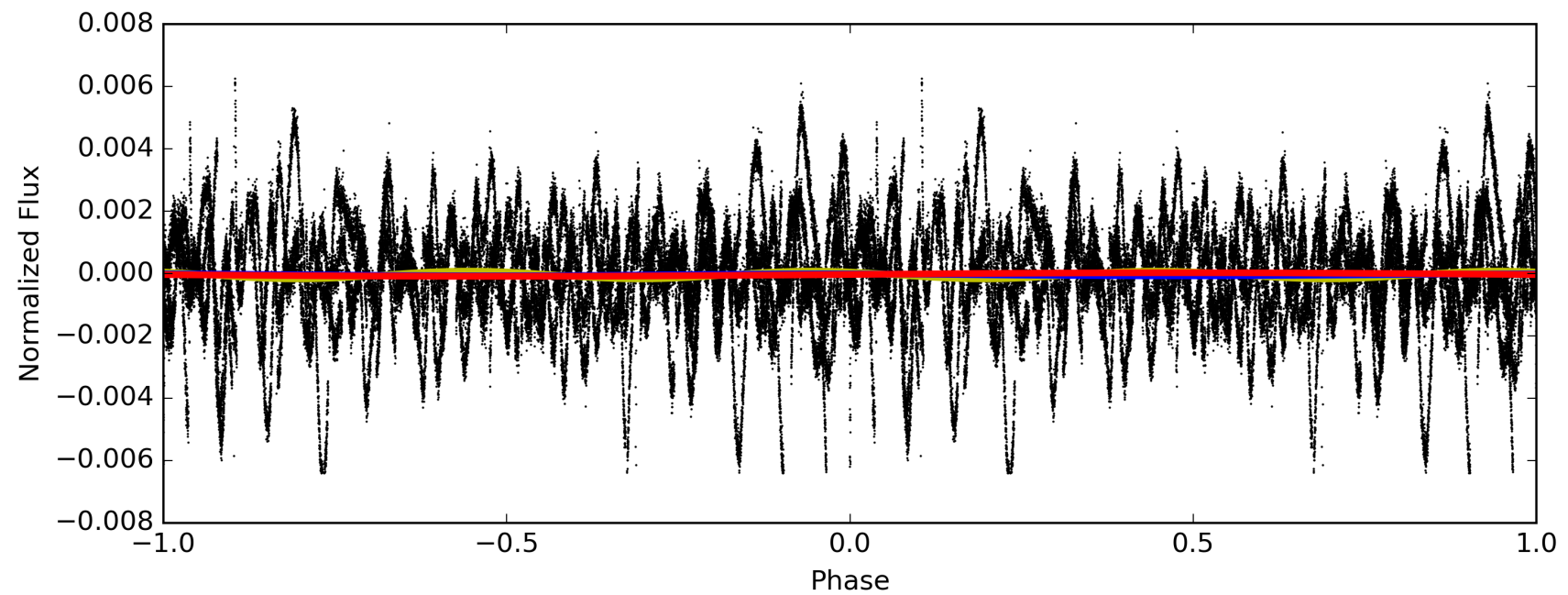
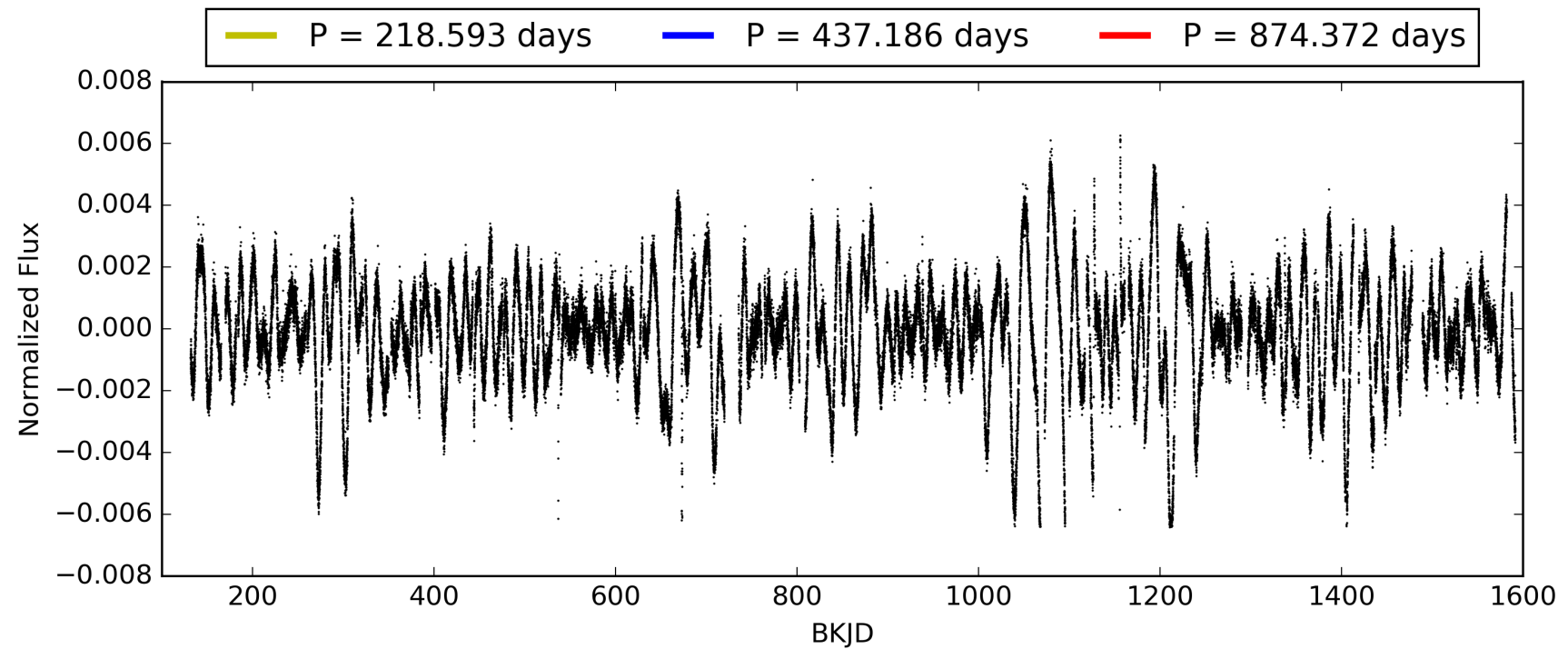
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:57:34 Z

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

TCE 003222471-01, PDC Light Curves

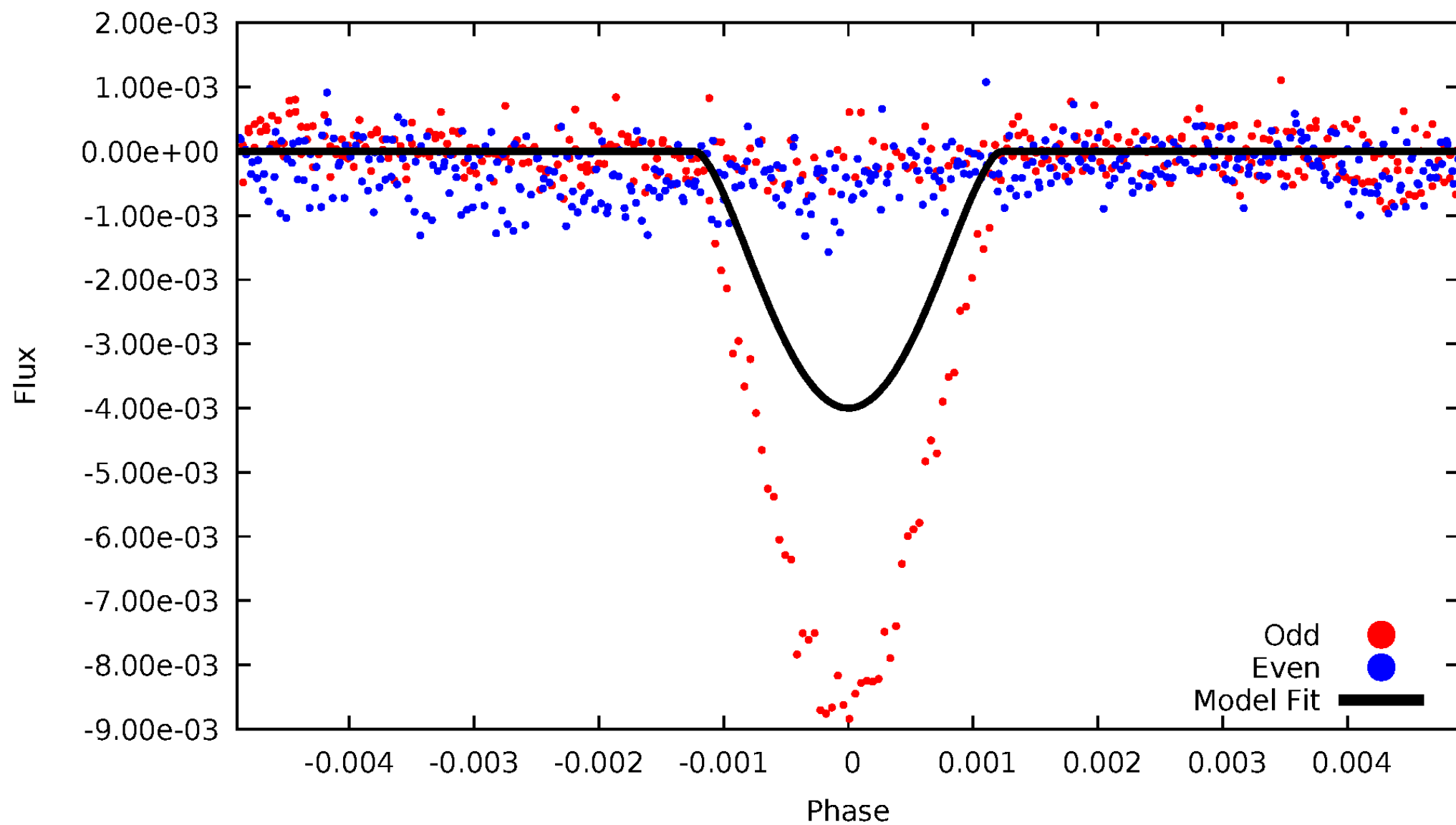


TCE 003222471-01



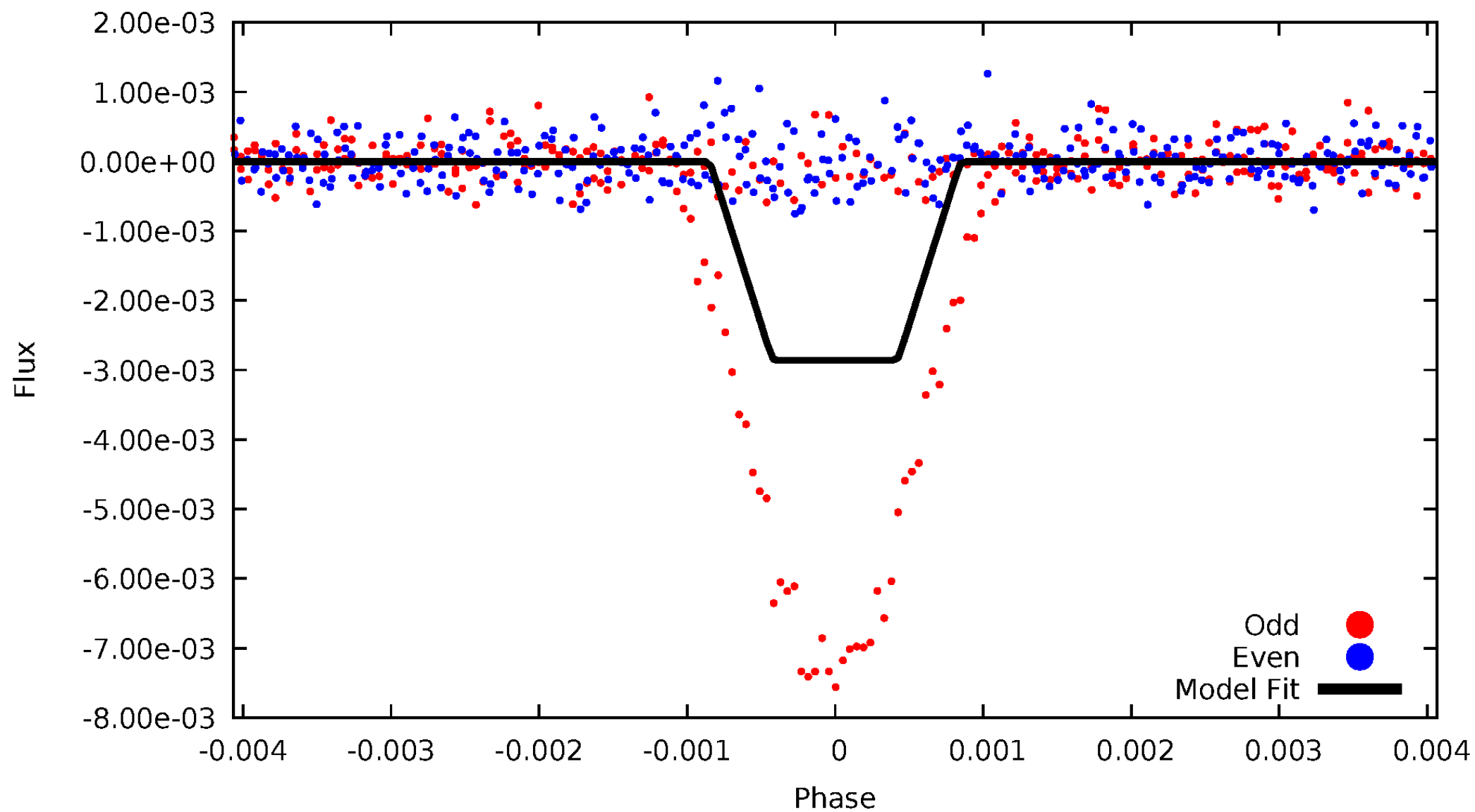
DV Odd/Even

TCE 003222471-01



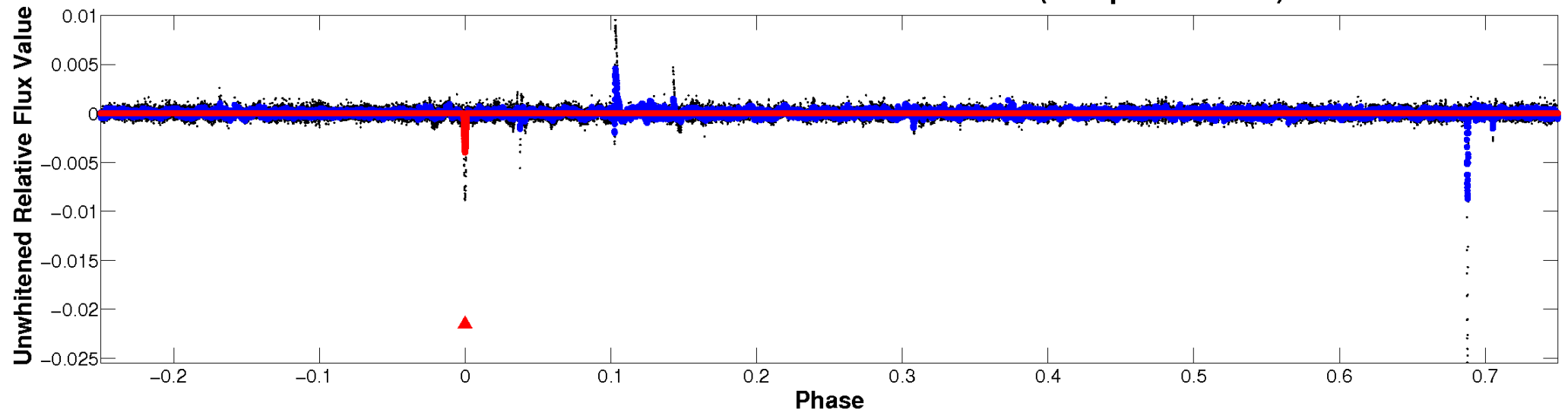
ALT Odd/Even

TCE 003222471-01

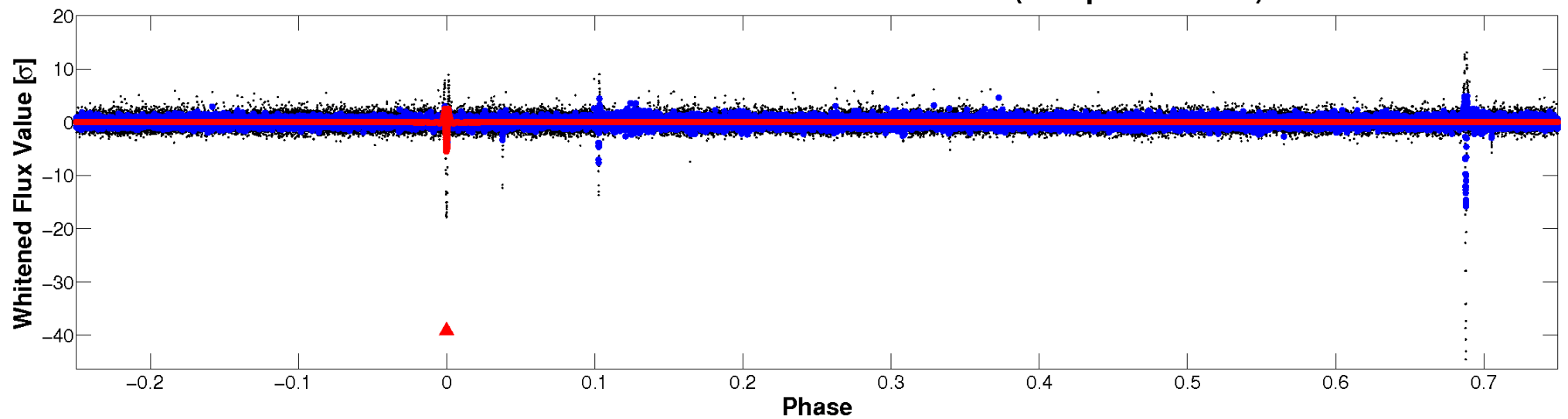


Non-Whitened Vs. Whitened Light Curve

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

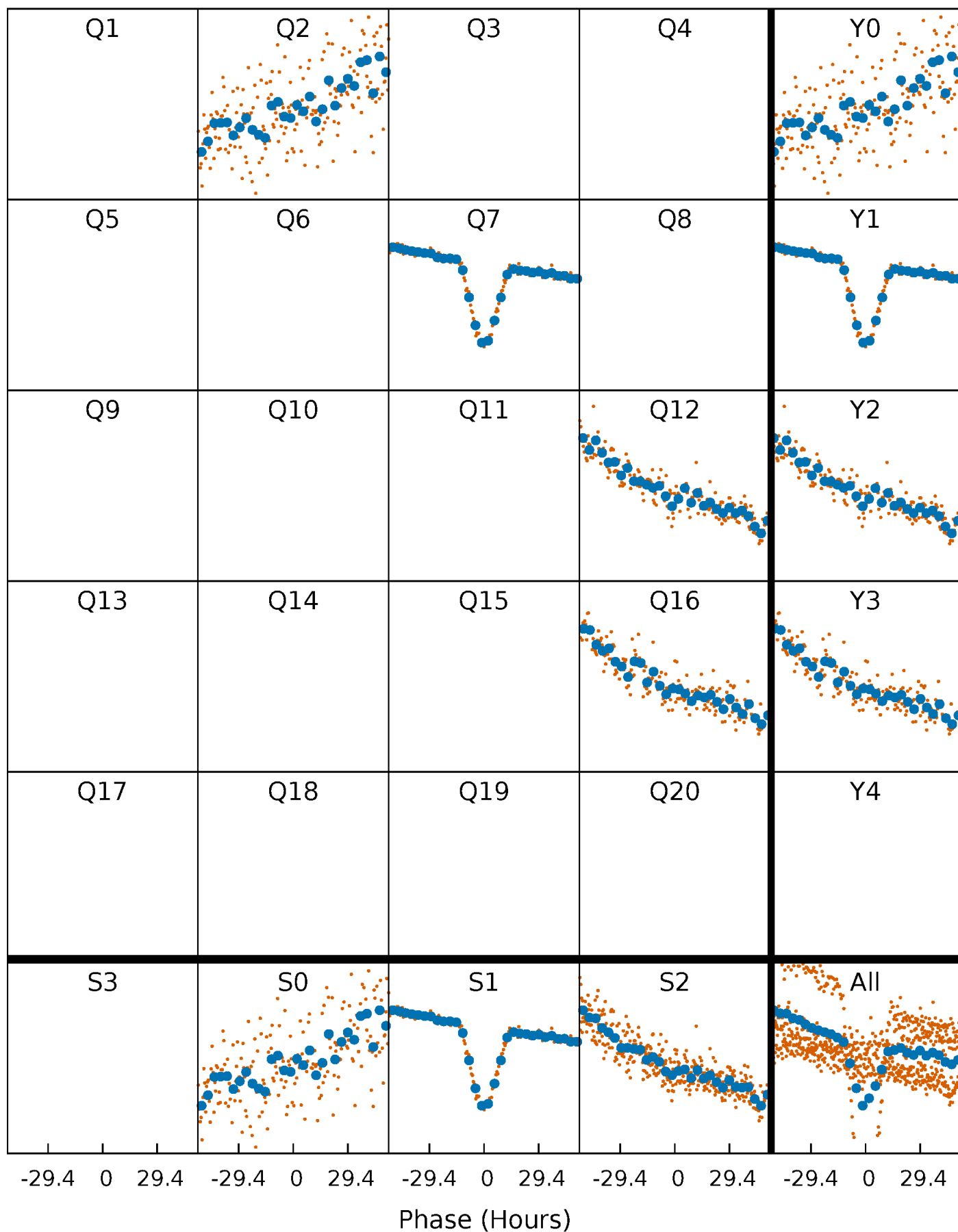


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



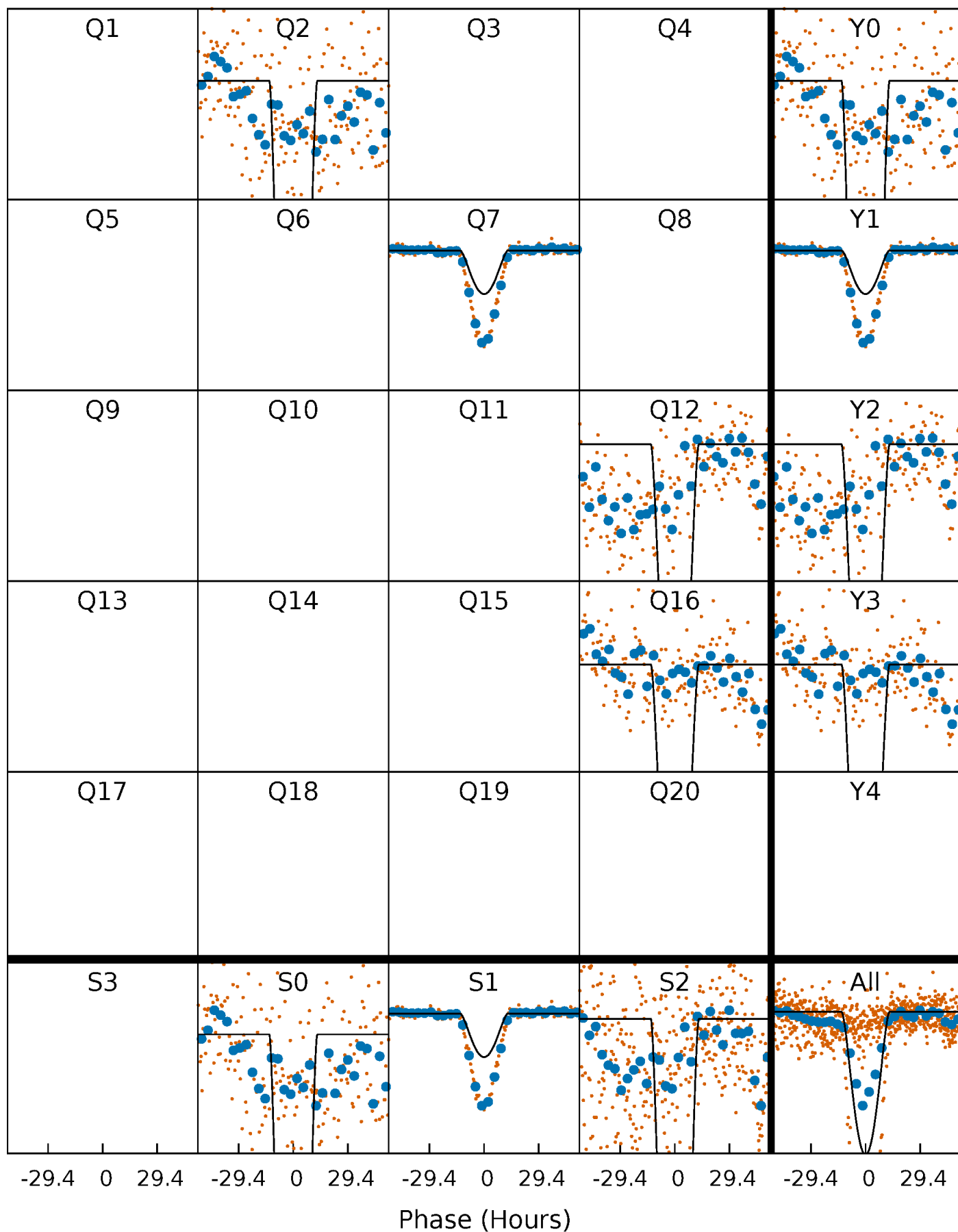
PDC Quarter-Phased Transit Curves

TCE 003222471-01 P=437.186207 Days $T_0=235.771100$ (BKJD)



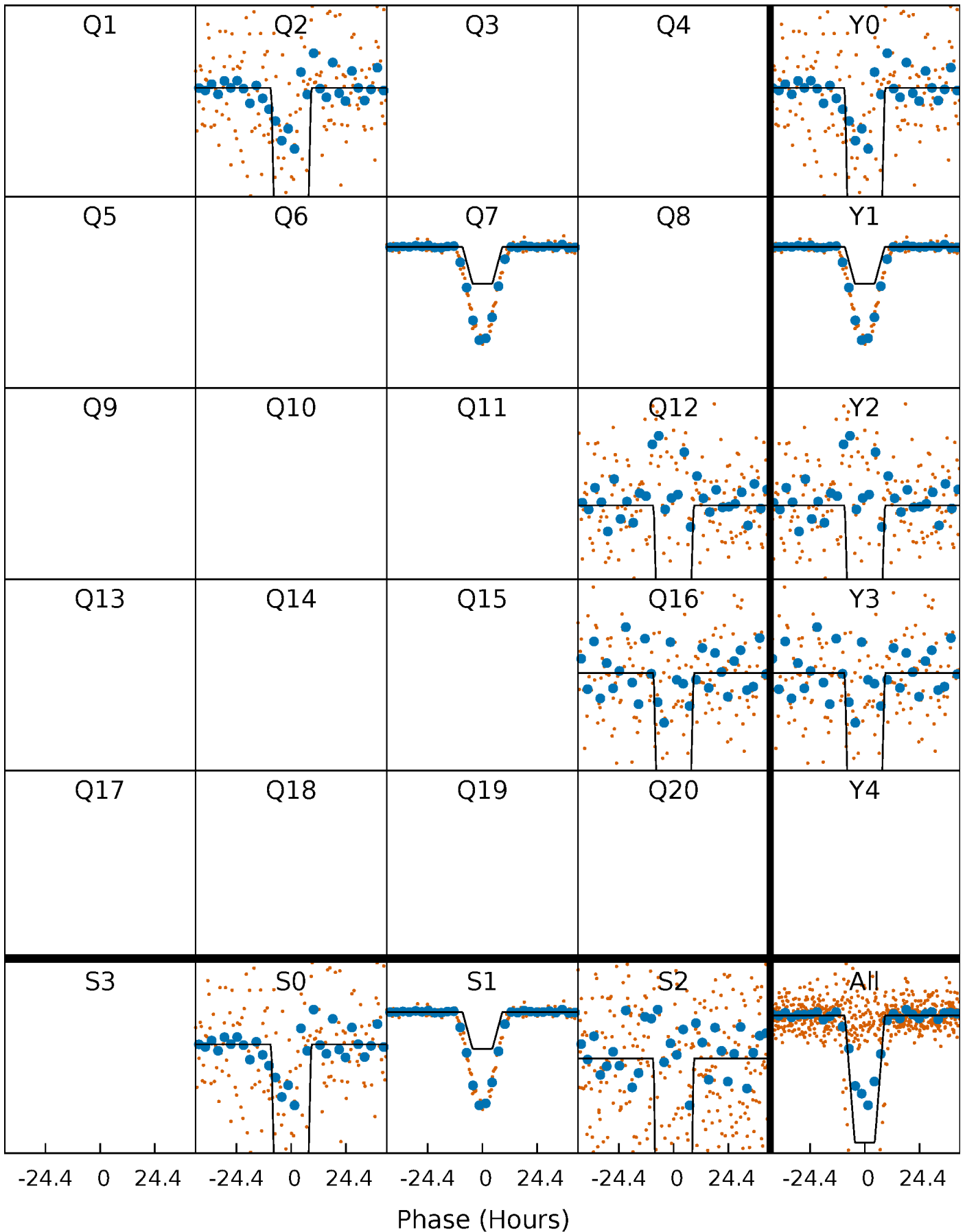
DV Quarter-Phased Transit Curves

TCE 003222471-01 P=437.186207 Days $T_0=235.771100$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

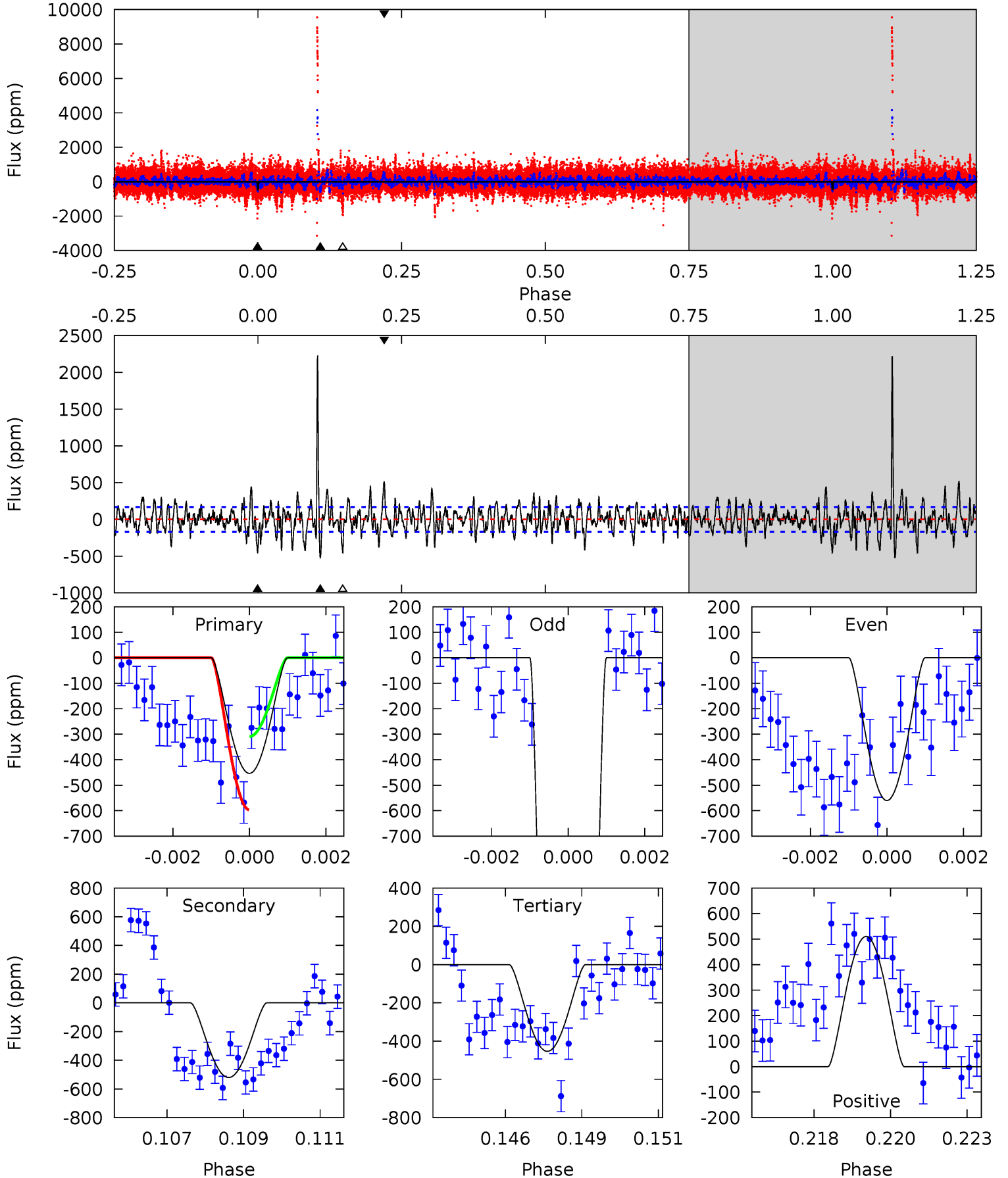
TCE 003222471-01 P=437.216883 Days $T_0=235.742185$ (BKJD)



DV Model-Shift Uniqueness Test

003222471-01, P = 437.186207 Days, E = 235.771100 Days

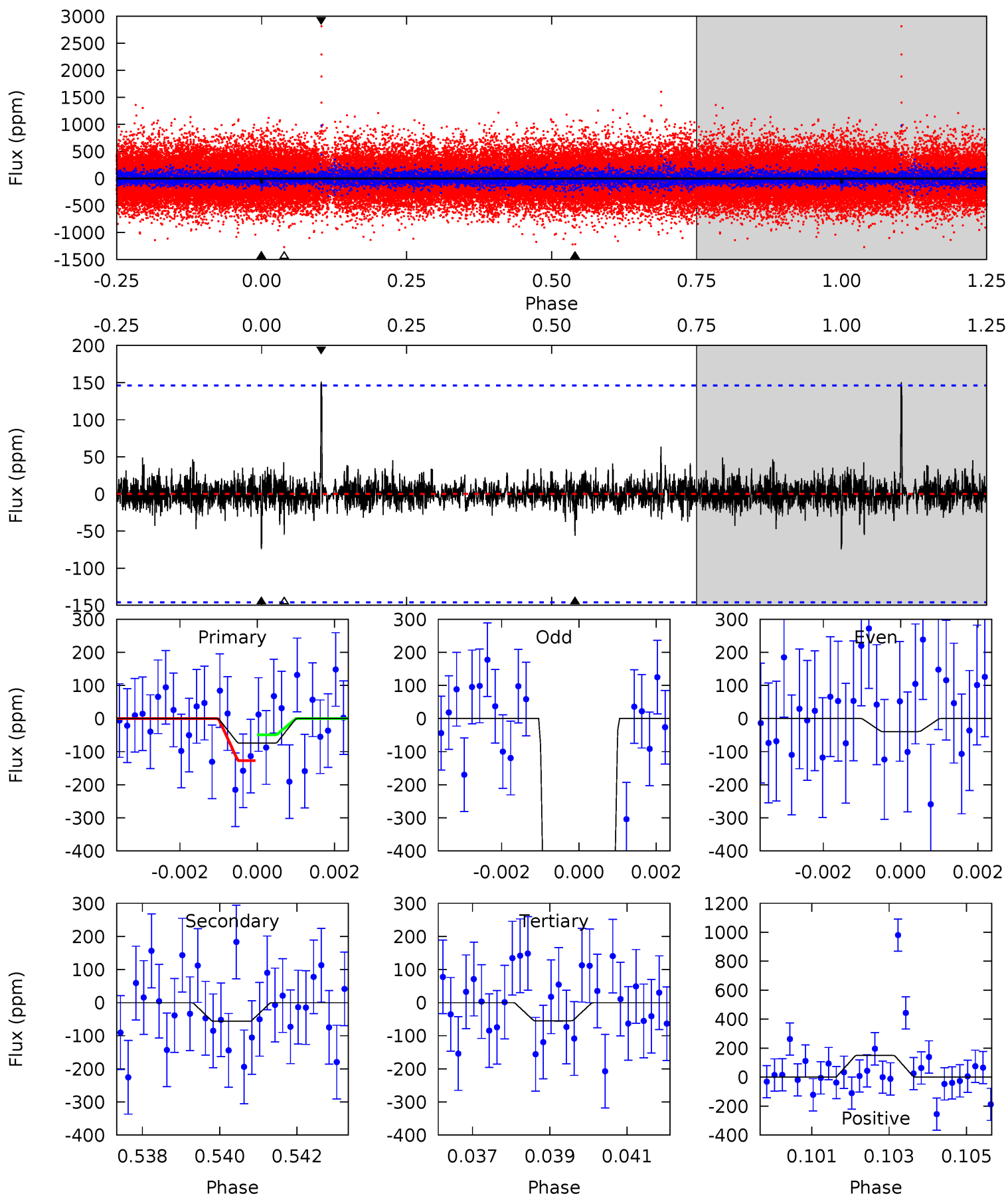
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	16.4	14.3	16.0	5.29	3.03	4.98	0.01	-1.79	2.10	0.31	69.4	4.40	0.81	4.50



Alt Model-Shift Uniqueness Test

003222471-01, P = 437.216883 Days, E = 235.742185 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.73	2.07	2.01	5.51	5.36	3.14	0.46	0.72	-2.78	0.06	-3.44	70.7	10.5	0.67	1.43



Stellar Parameters For KIC 003222471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5061^{+136}_{-151}	$4.671^{+0.030}_{-0.075}$	$-0.500^{+0.300}_{-0.300}$	$0.644^{+0.082}_{-0.041}$	$0.714^{+0.068}_{-0.068}$	$3.768^{+0.496}_{-0.944}$
	+3%/-3%	+1%/-2%	+60%/-60%	+13%/-6%	+10%/-10%	+13%/-25%
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 003222471-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-520 ± 32	$8.68^{+5.97}_{-5.32}$	252^{+9}_{-9}	2879^{+972}_{-379}	3720^{+21636}_{-2395}
Alt.	-56 ± 27	$5.96^{+5.44}_{-4.06}$	251^{+9}_{-9}	2365^{+819}_{-380}	804^{+7144}_{-634}

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

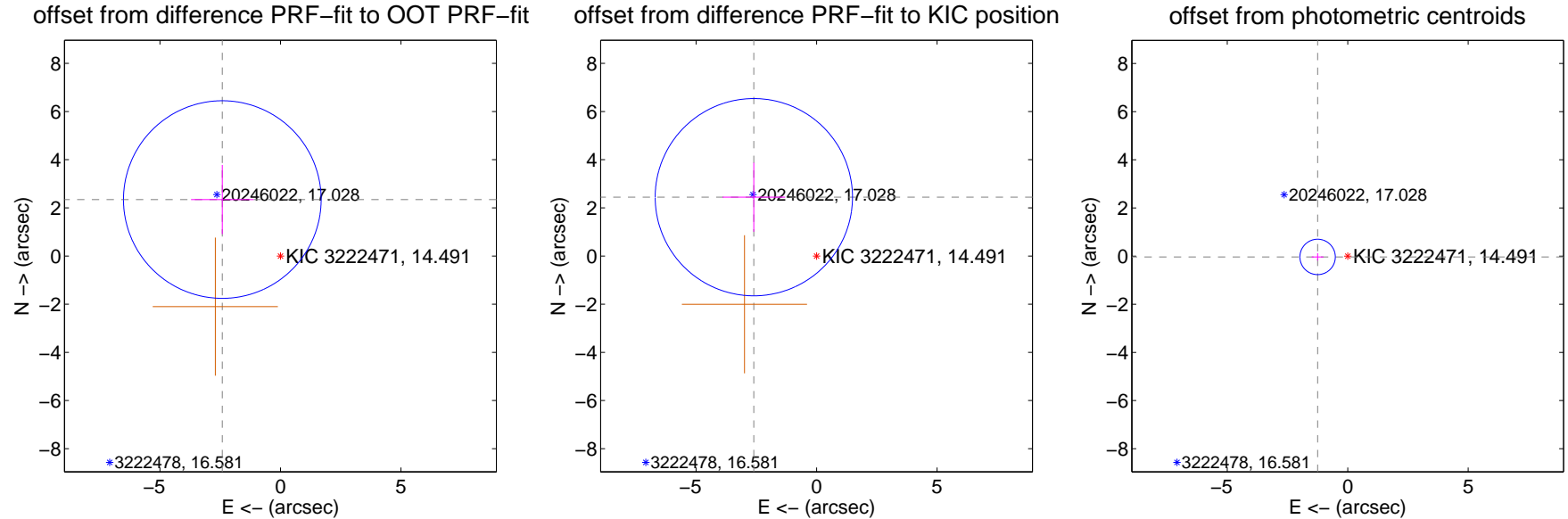
DV Centroid Data

Supplemental centroid analysis for 003222471-01. Kepler magnitude: 14.49. Transit SNR 32.01

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.365 ± 1.367	2.46	2.413 ± 1.301	2.345 ± 1.435
PRF-fit source offset from KIC position	3.571 ± 1.365	2.62	2.604 ± 1.301	2.443 ± 1.435
photometric centroid source offset	1.25 ± 0.25	5.11	1.25 ± 0.25	-0.03 ± 0.15



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.

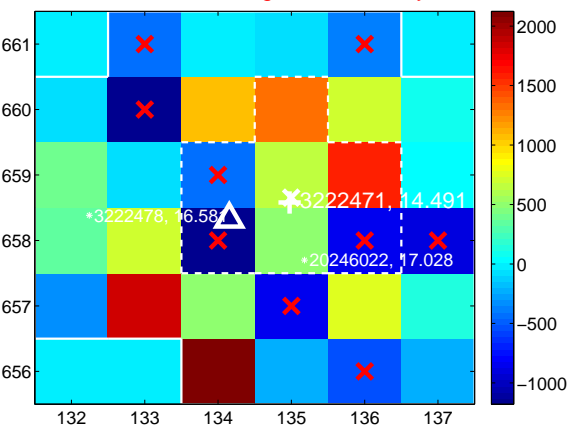
Q1 no difference image



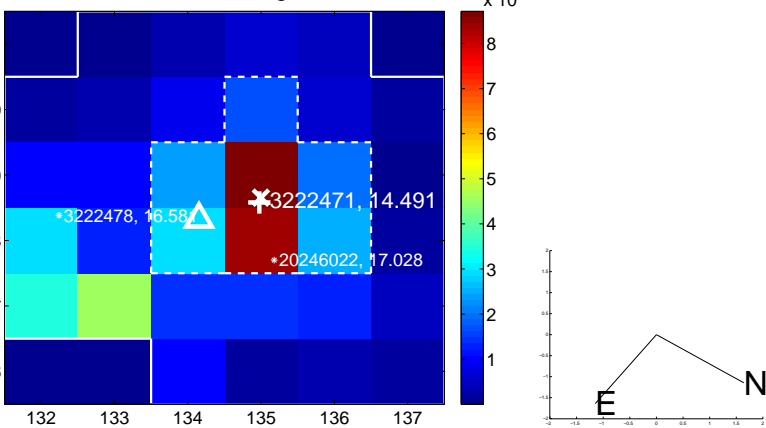
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no 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.

Q5 no difference image



Q5 no OOT image



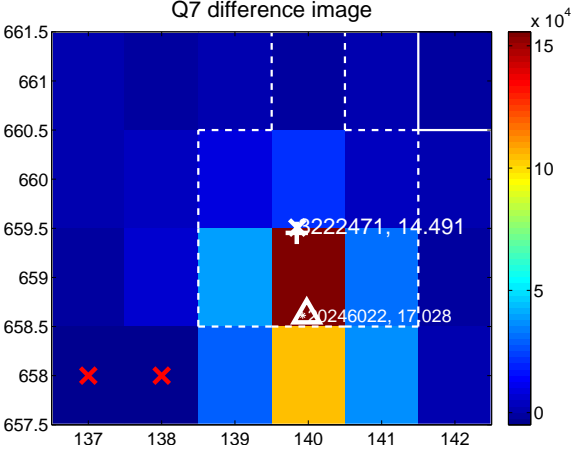
Q6 no difference image



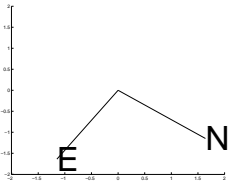
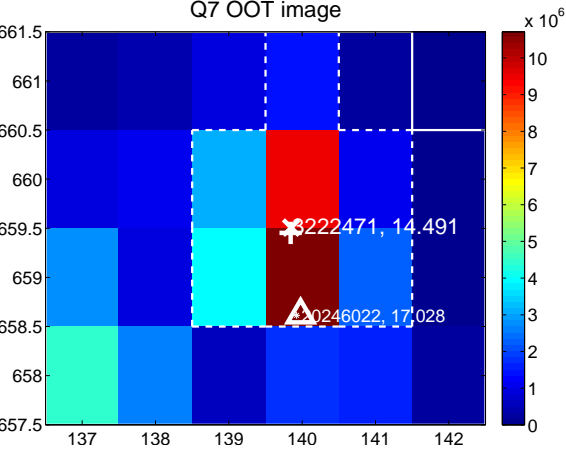
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



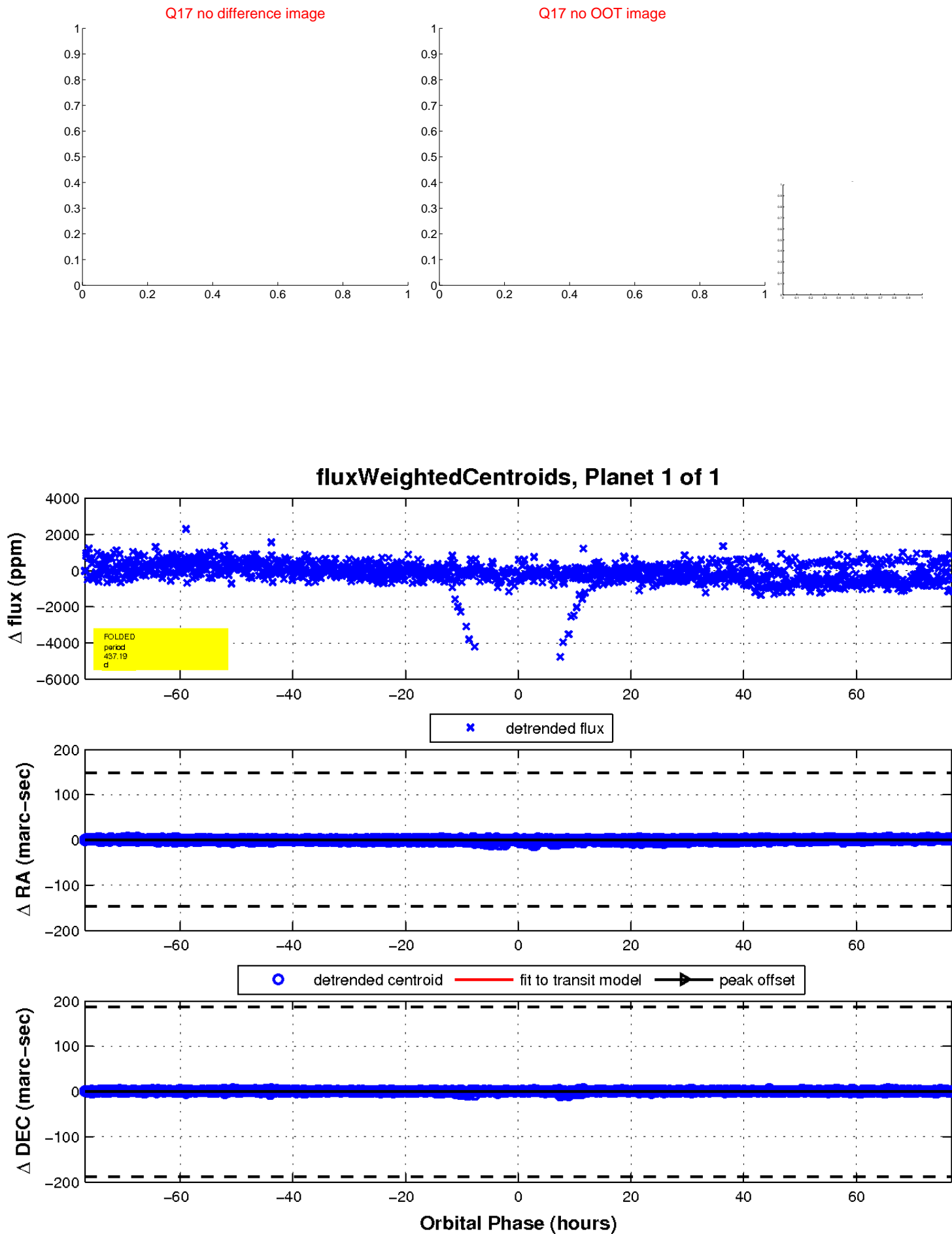
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

