

KIC 007377200

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})
007377200-01	OBS	7836.01	471.658527	421.639554	503.6	4.151	7.2	7.9	1.65	6061	4.86	2.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007377200-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—MOD_NONUNIQ_ALT

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

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

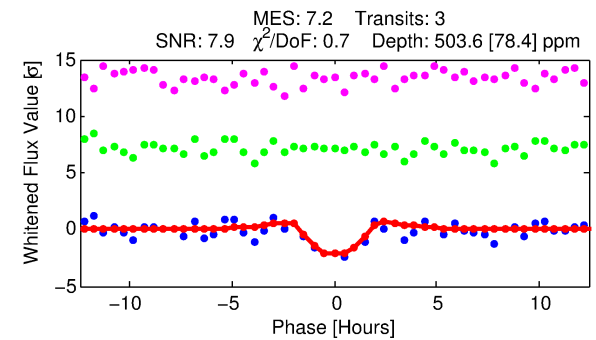
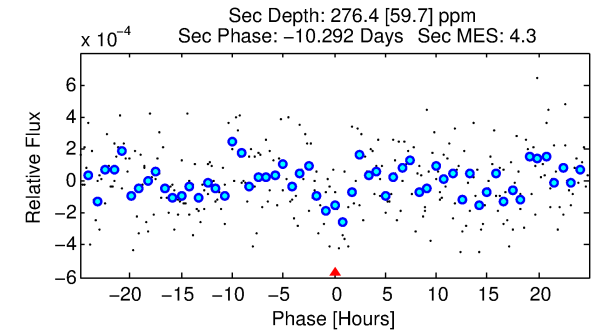
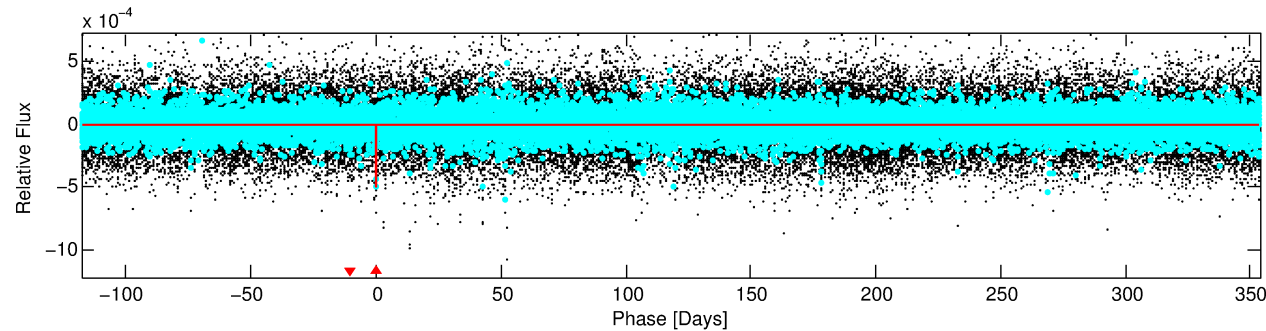
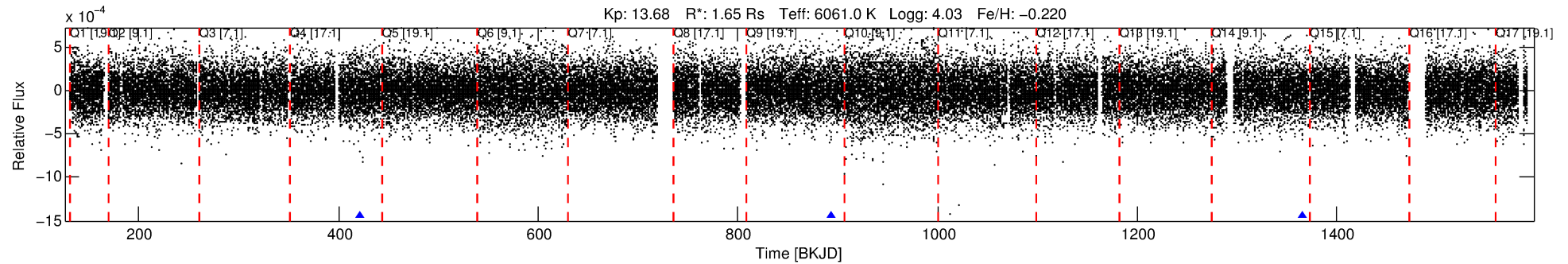
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007377200-01

No Significant Match Found

DV One-Page Summary

KIC: 7377200 Candidate: 1 of 1 Period: 471.659 d

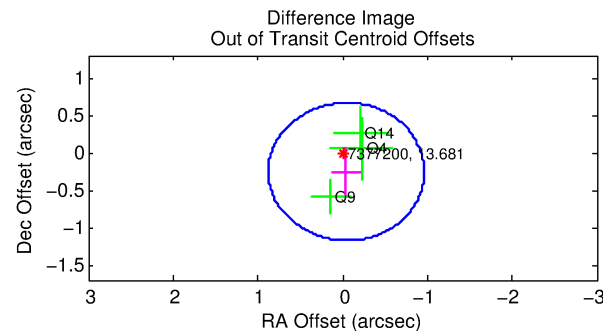
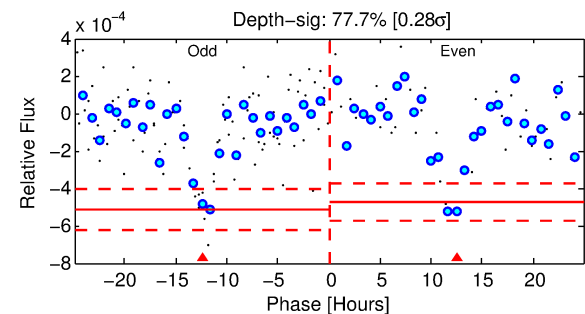
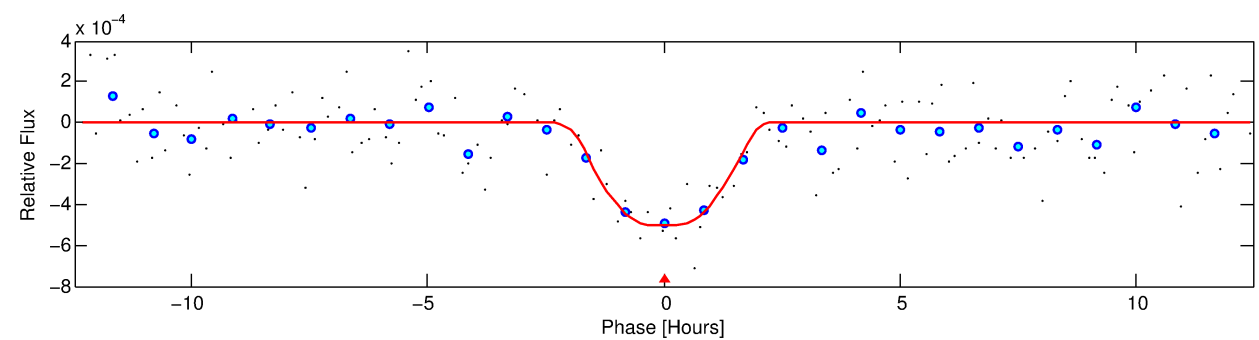


DV Fit Results:

Period = 471.65853 [0.00568] d
Epoch = 421.6396 [0.0083] BKJD
Rp/R* = 0.0269 [0.0030]
a/R* = 293.53 [62.83]
b = 0.97 [0.02]
Seff = 2.27 [1.43]
Teq = 313 [49] K
Rp = 4.86 [1.96] Re
a = 1.2077 [0.4600] AU
Ag = 9392.14 [6470.58] [1.45σ]
Teffp = 4761 [399] K [11.05σ]

DV Diagnostic Results:

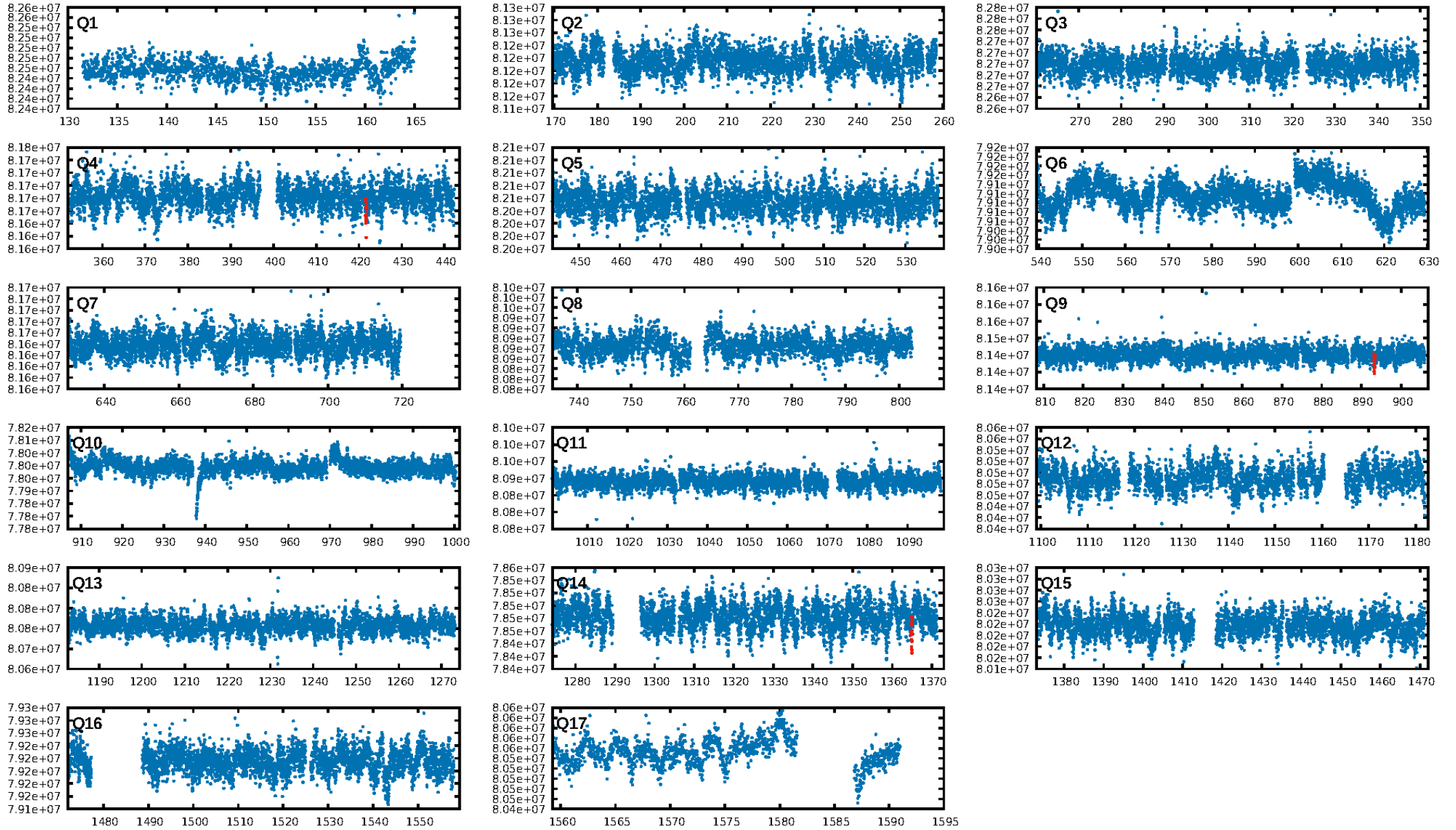
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.59e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 11.68
Centroid-sig: 36.9%
Centroid-so: 0.933 arcsec [0.86σ]
OotOffset-rm: 0.258 arcsec [0.84σ]
KicOffset-rm: 0.402 arcsec [1.17σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]



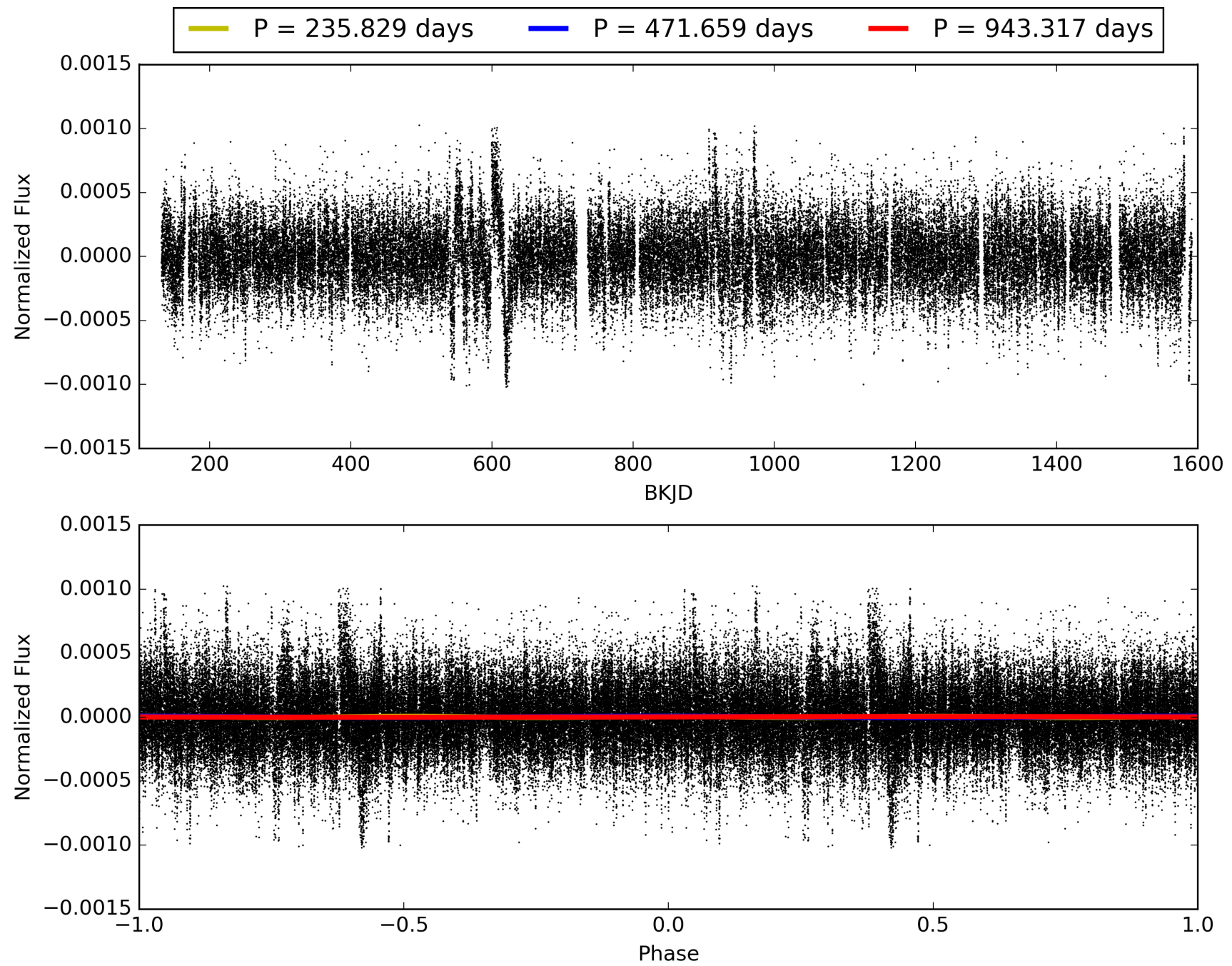
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:33:08 Z

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

TCE 007377200-01, PDC Light Curves

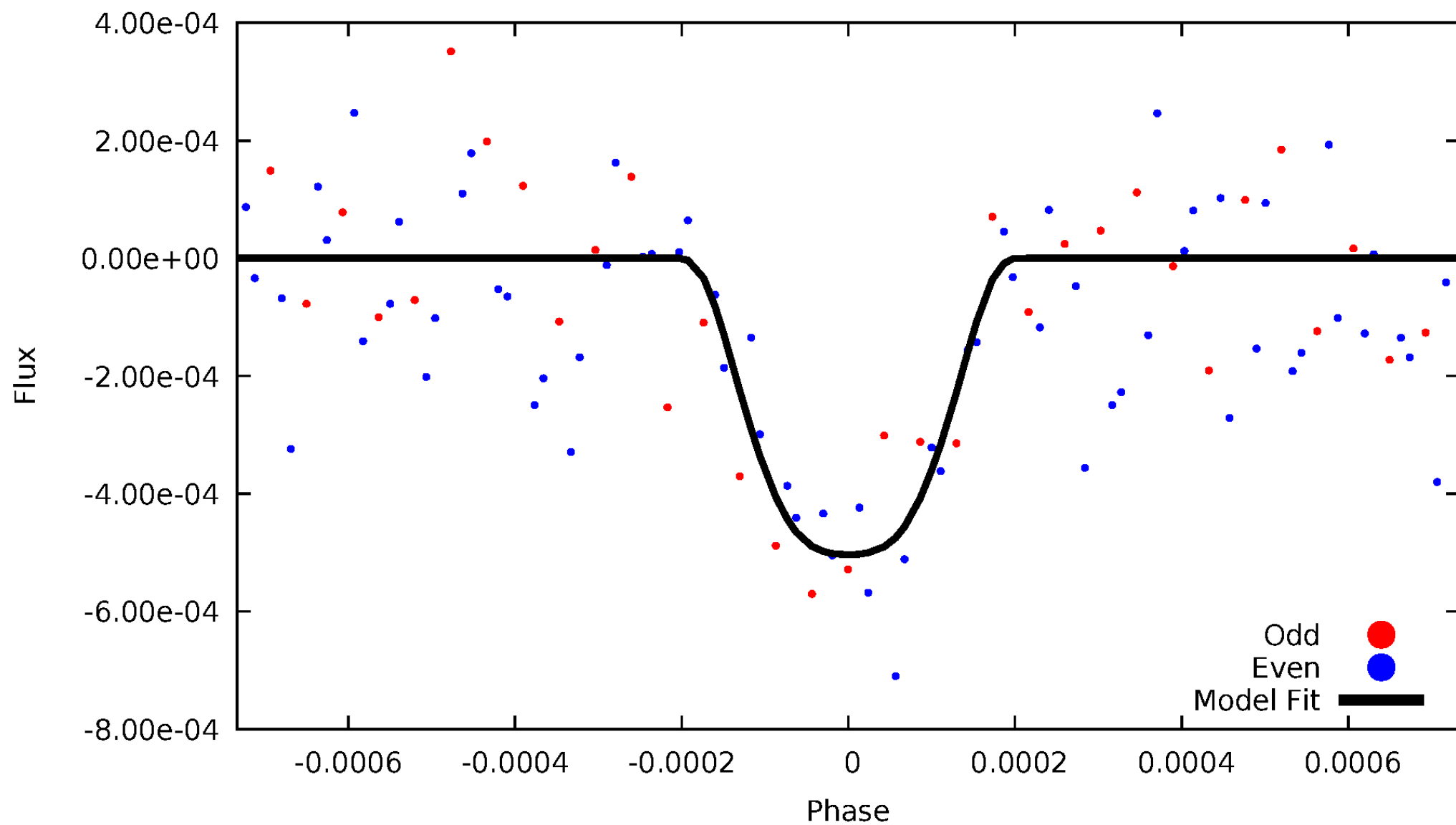


TCE 007377200-01



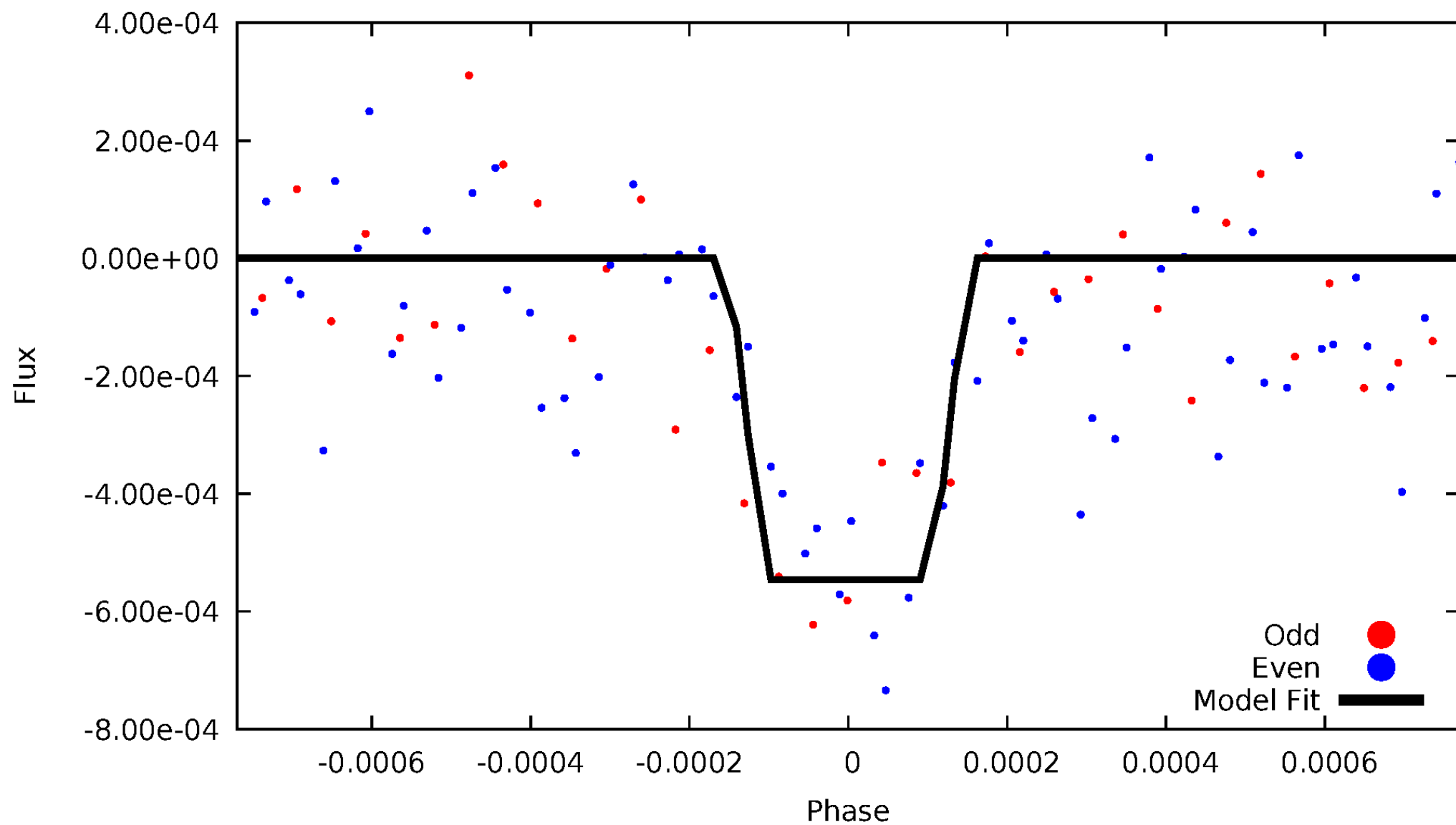
DV Odd/Even

TCE 007377200-01



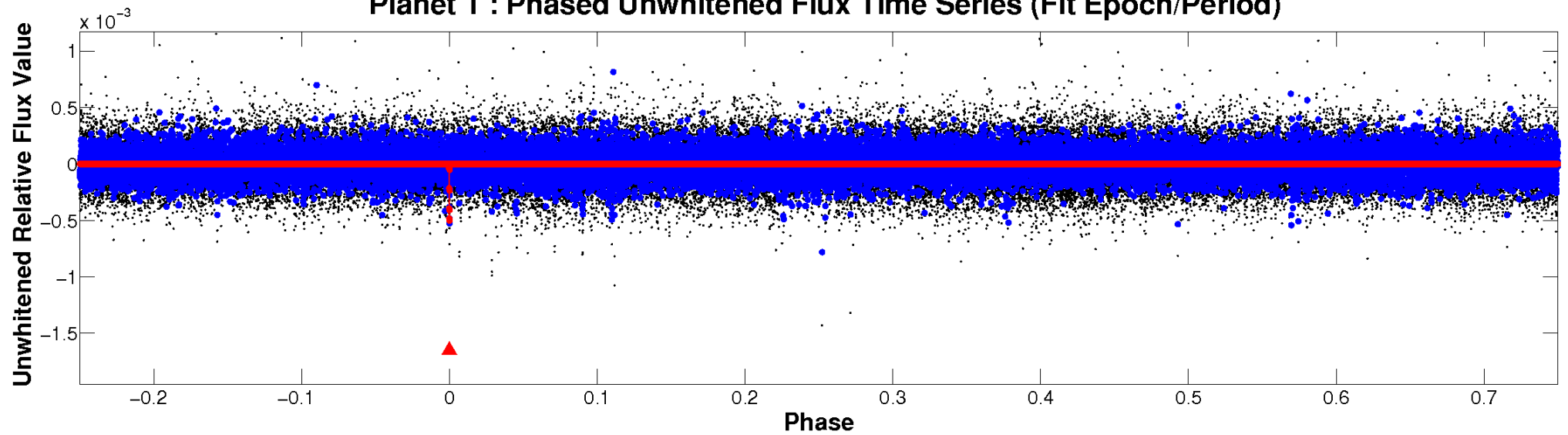
ALT Odd/Even

TCE 007377200-01

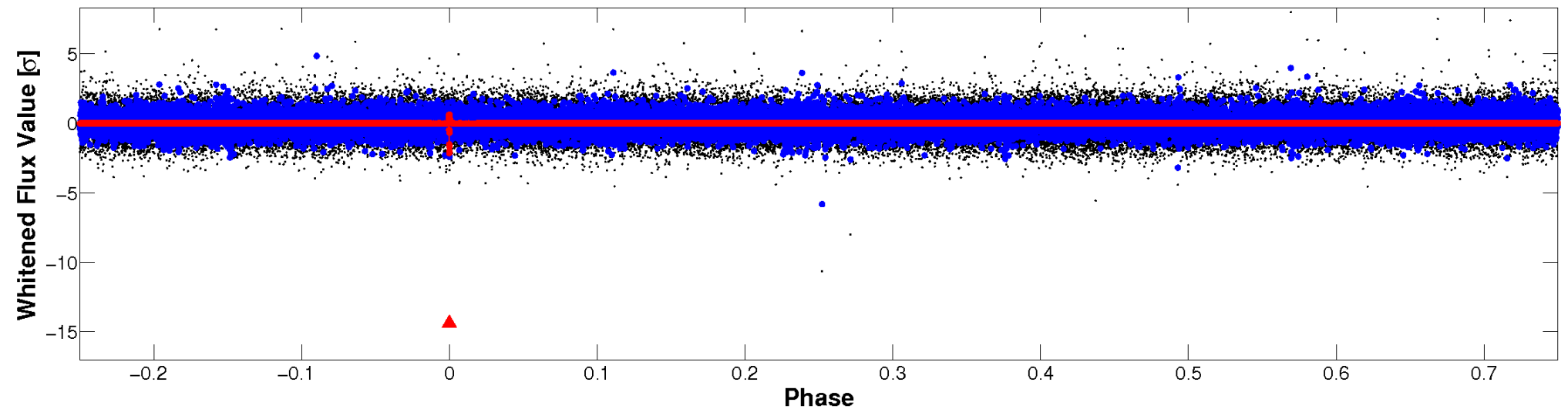


Non-Whitened Vs. Whitened Light Curve

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

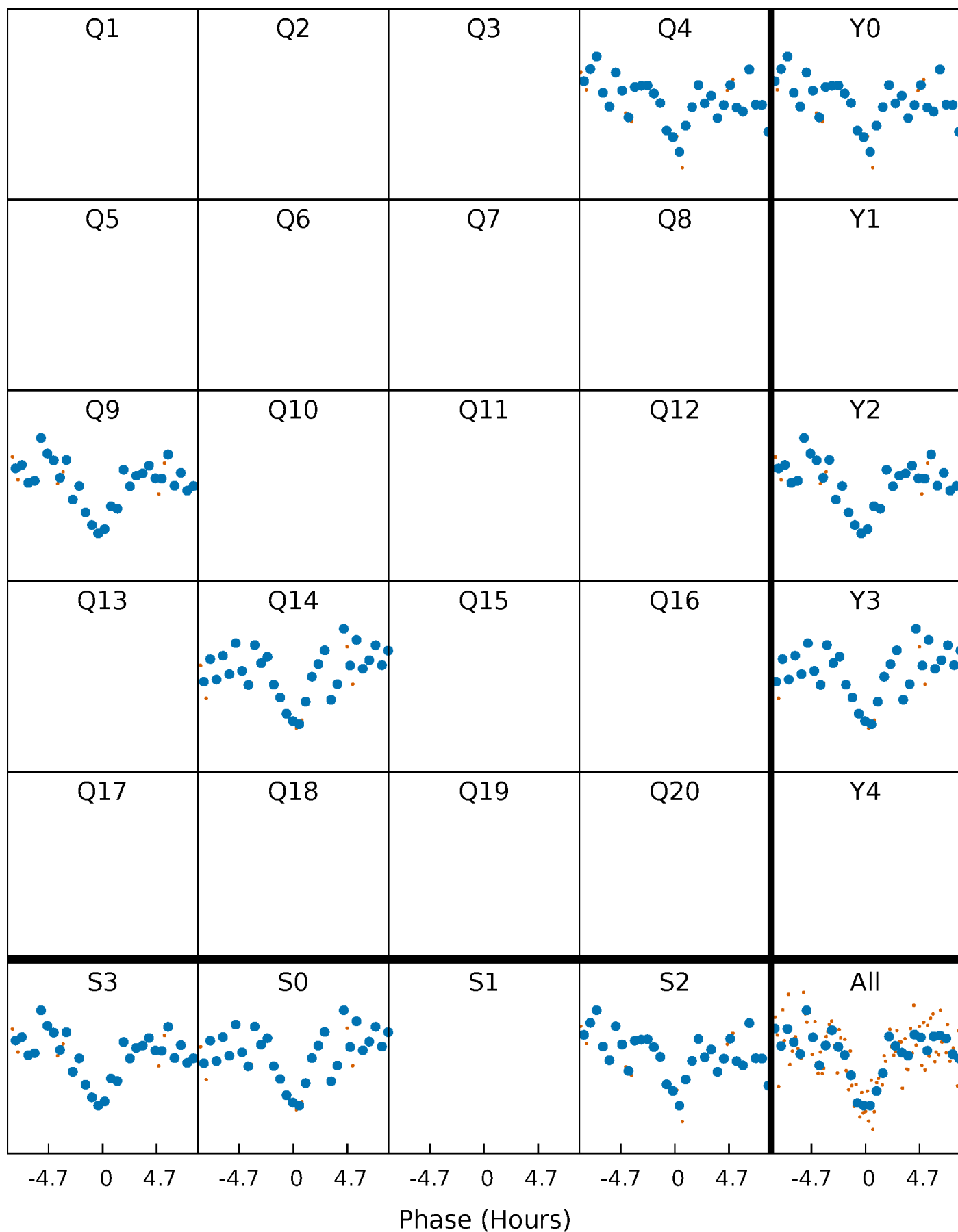


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



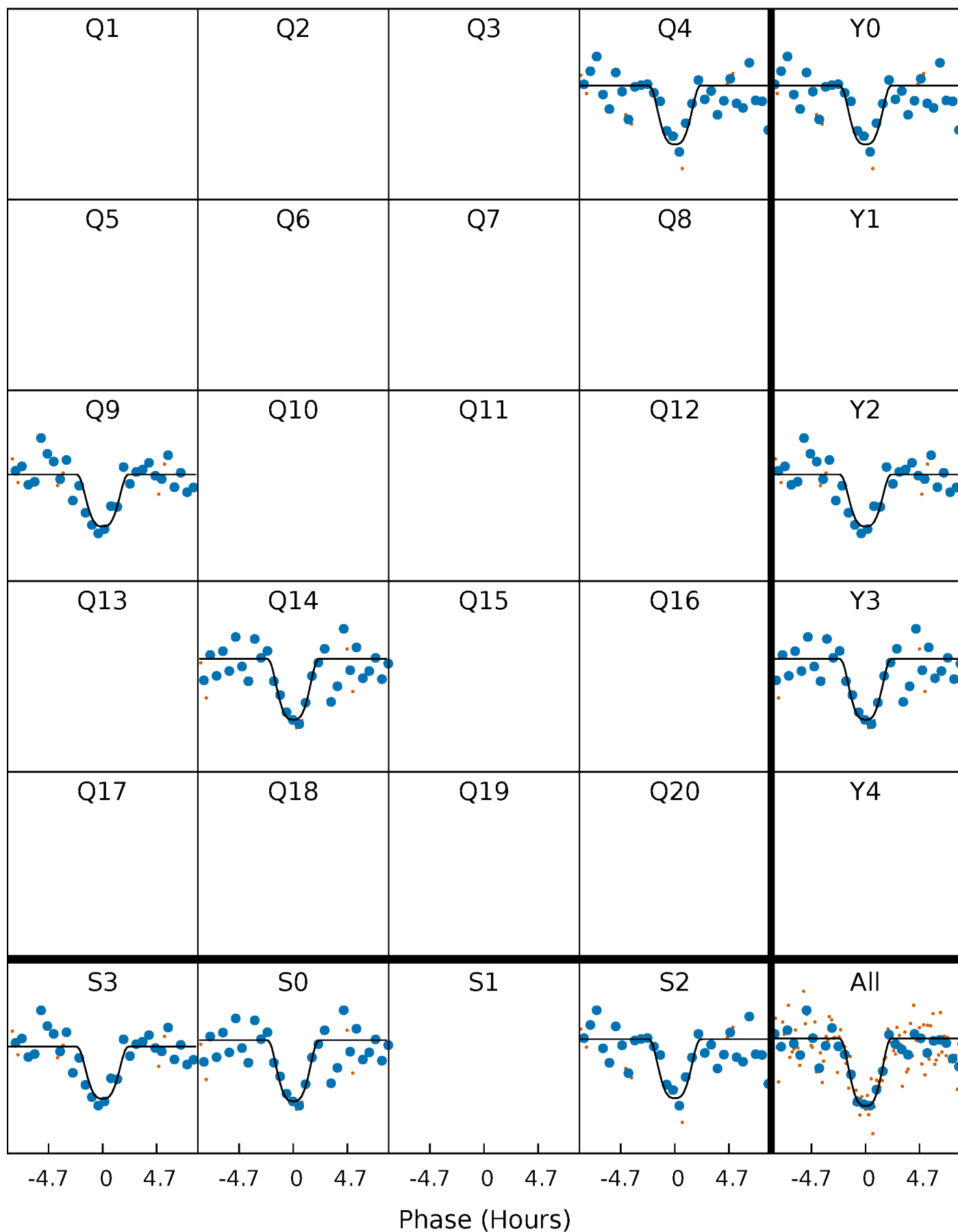
PDC Quarter-Phased Transit Curves

TCE 007377200-01 P=471.658527 Days $T_0=421.639554$ (BKJD)



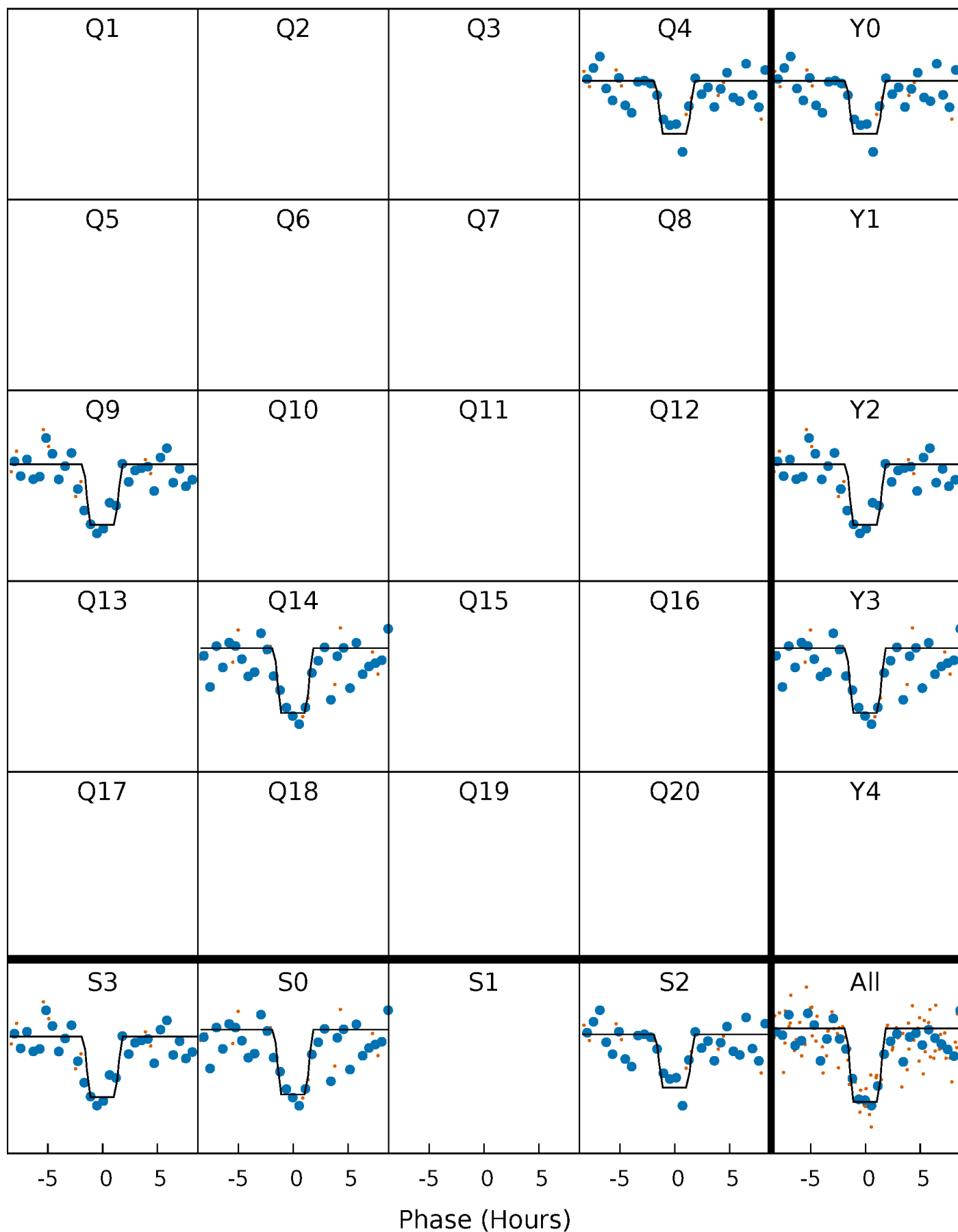
DV Quarter-Phased Transit Curves

TCE 007377200-01 P=471.658527 Days $T_0=421.639554$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

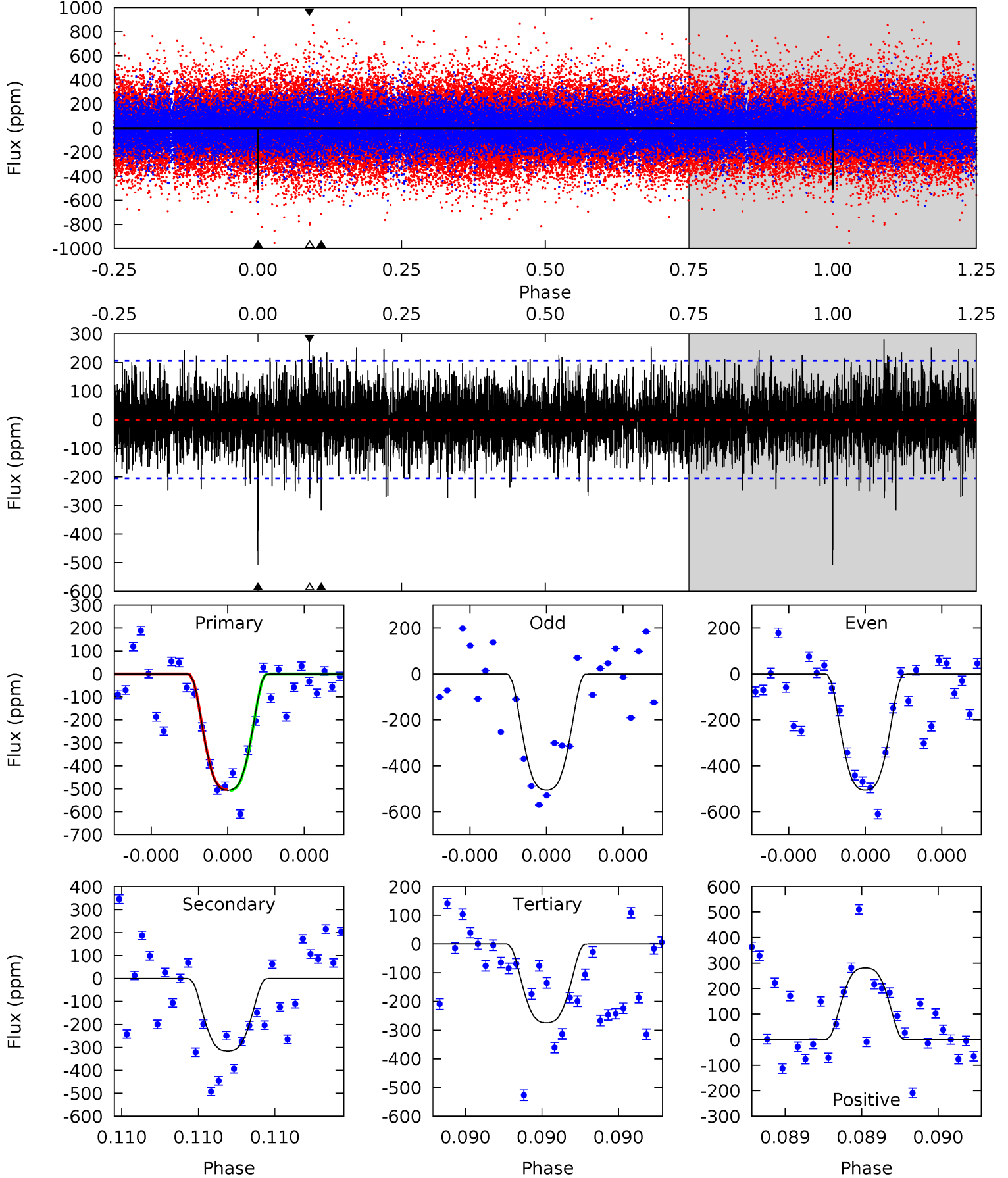
TCE 007377200-01 P=471.654243 Days $T_0=421.644127$ (BKJD)



DV Model-Shift Uniqueness Test

007377200-01, P = 471.658527 Days, E = 421.639554 Days

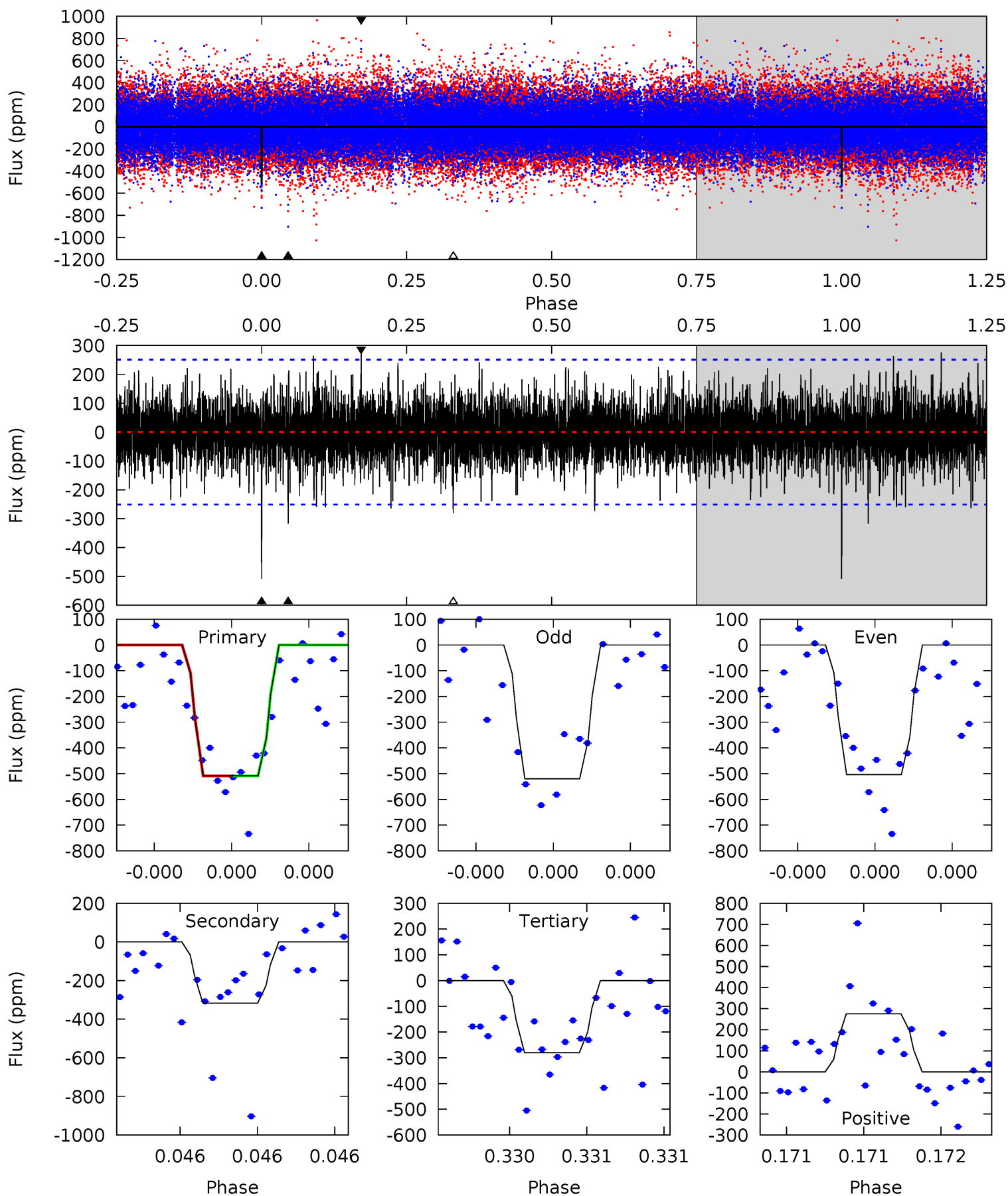
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	8.64	7.50	7.70	5.62	3.55	1.97	6.35	6.15	1.14	0.94	0.00	1.00	0.36	0.05



Alt Model-Shift Uniqueness Test

007377200-01, P = 471.654243 Days, E = 421.644127 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.17	6.34	6.23	5.68	3.65	1.52	5.17	5.28	0.83	0.94	0.18	0.98	0.35	0.00



Stellar Parameters For KIC 007377200

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+181}_{-199}	$4.025^{+0.364}_{-0.156}$	$-0.220^{+0.300}_{-0.300}$	$1.653^{+0.428}_{-0.642}$	$1.056^{+0.160}_{-0.160}$	$0.330^{+0.913}_{-0.142}$
	+3%/-3%	+9%/-4%	+136%/-136%	+26%/-39%	+15%/-15%	+277%/-43%
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 007377200-01 / KOI 7836.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-316 ± 37	$4.64^{+1.05}_{-0.99}$	429^{+37}_{-47}	4988^{+335}_{-286}	11591^{+7331}_{-3771}
Alt.	-317 ± 44	$4.06^{+0.91}_{-0.94}$	431^{+34}_{-49}	5335^{+411}_{-363}	15102^{+11596}_{-4939}

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

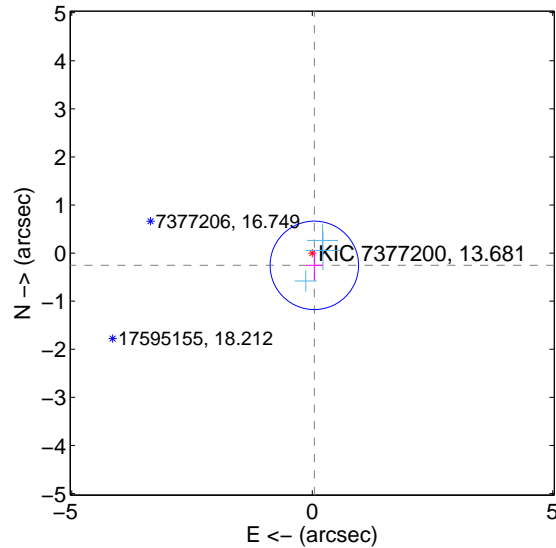
Supplemental centroid analysis for 007377200-01. Kepler magnitude: 13.68. Transit SNR 7.95

There are 3 quarters with good PRF difference image offsets

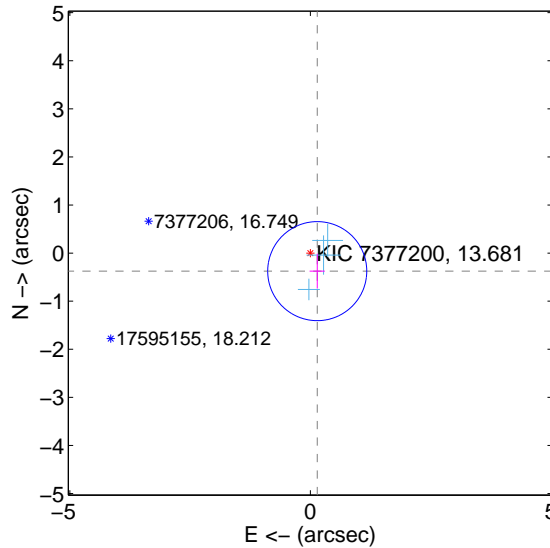
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.258 ± 0.306	0.84	-0.043 ± 0.169	-0.255 ± 0.310
PRF-fit source offset from KIC position	0.402 ± 0.343	1.17	-0.143 ± 0.158	-0.375 ± 0.362
photometric centroid source offset	0.93 ± 1.09	0.86	0.41 ± 1.00	-0.84 ± 1.11

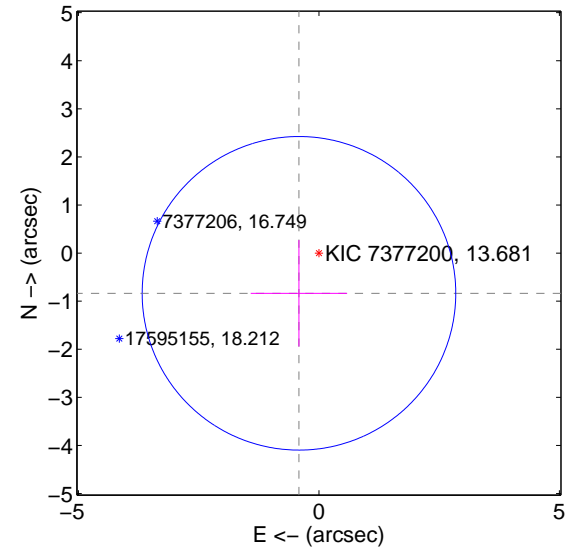
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



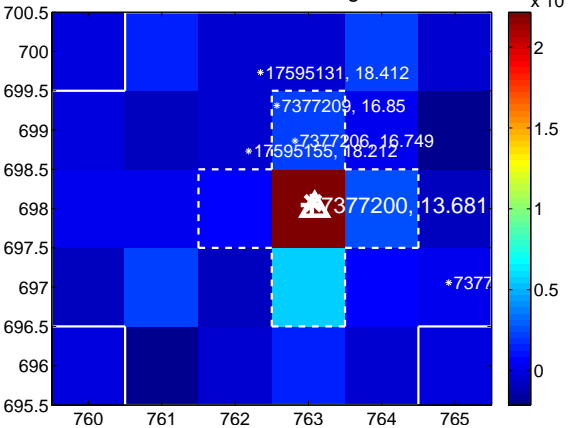
Q3 no difference image



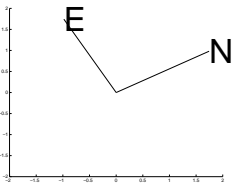
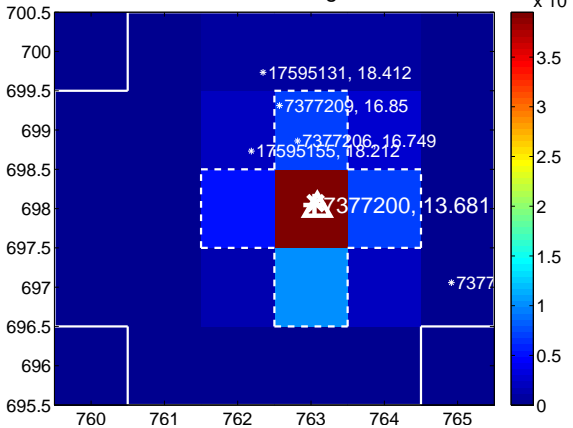
Q3 no OOT image



Q4 difference image



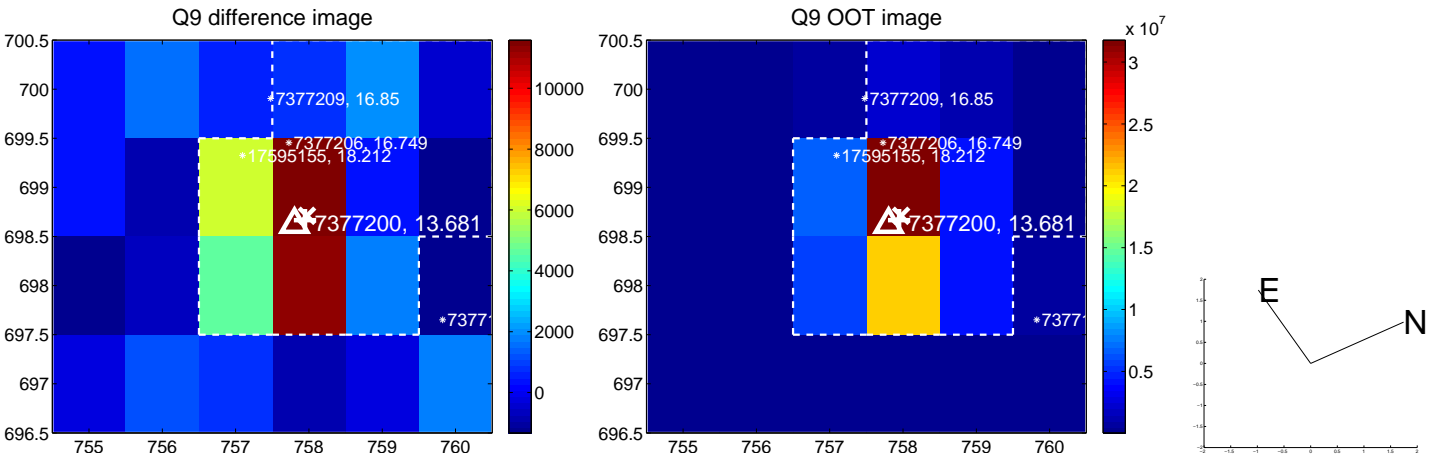
Q4 OOT image



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.

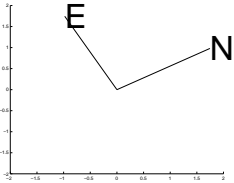
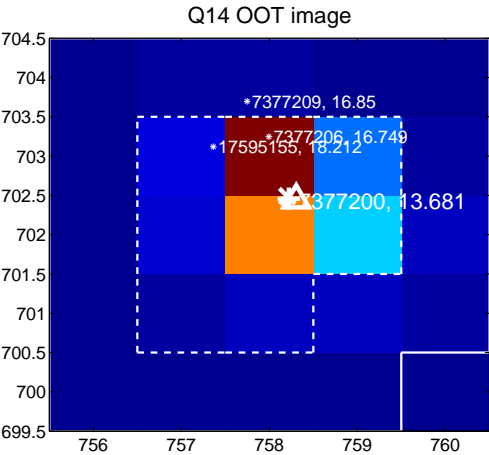
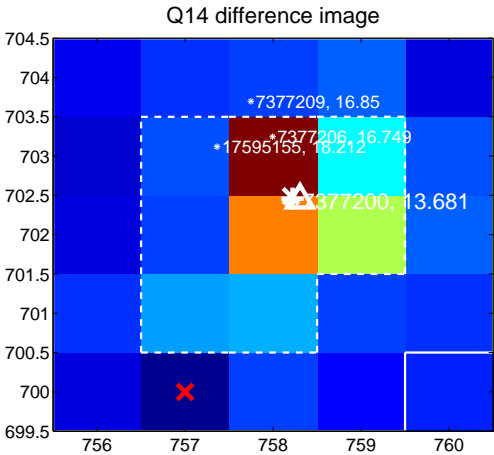


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

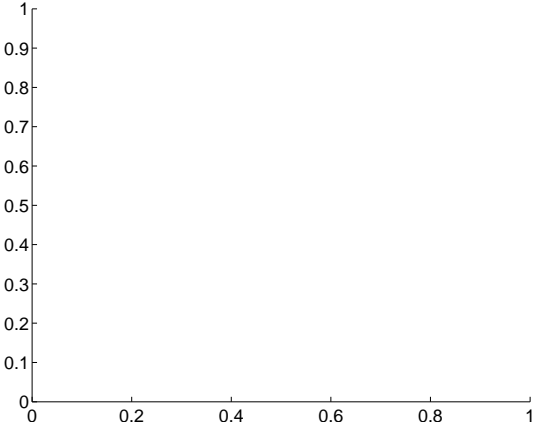
Q13 no difference image



Q13 no OOT image



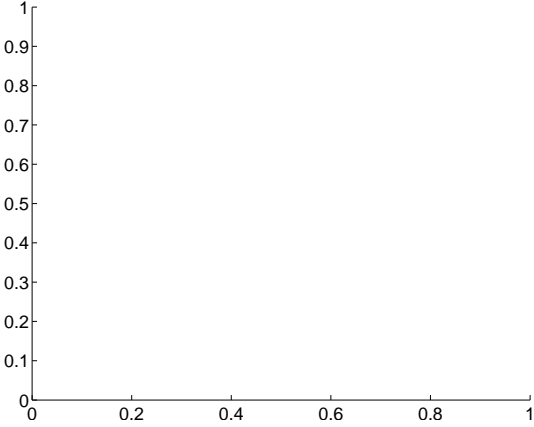
Q15 no difference image



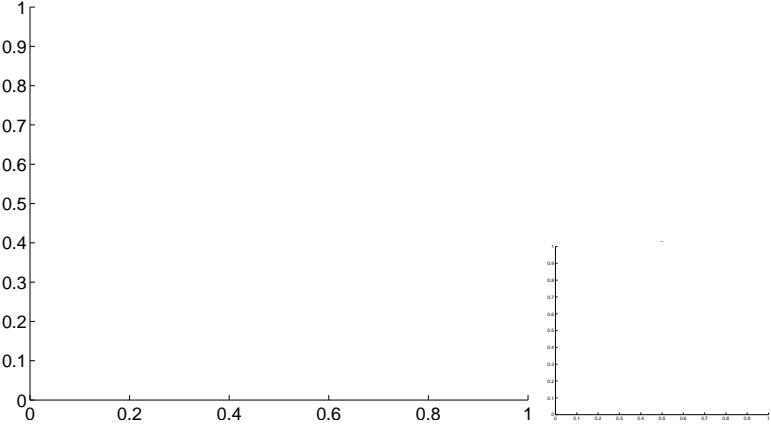
Q15 no OOT image



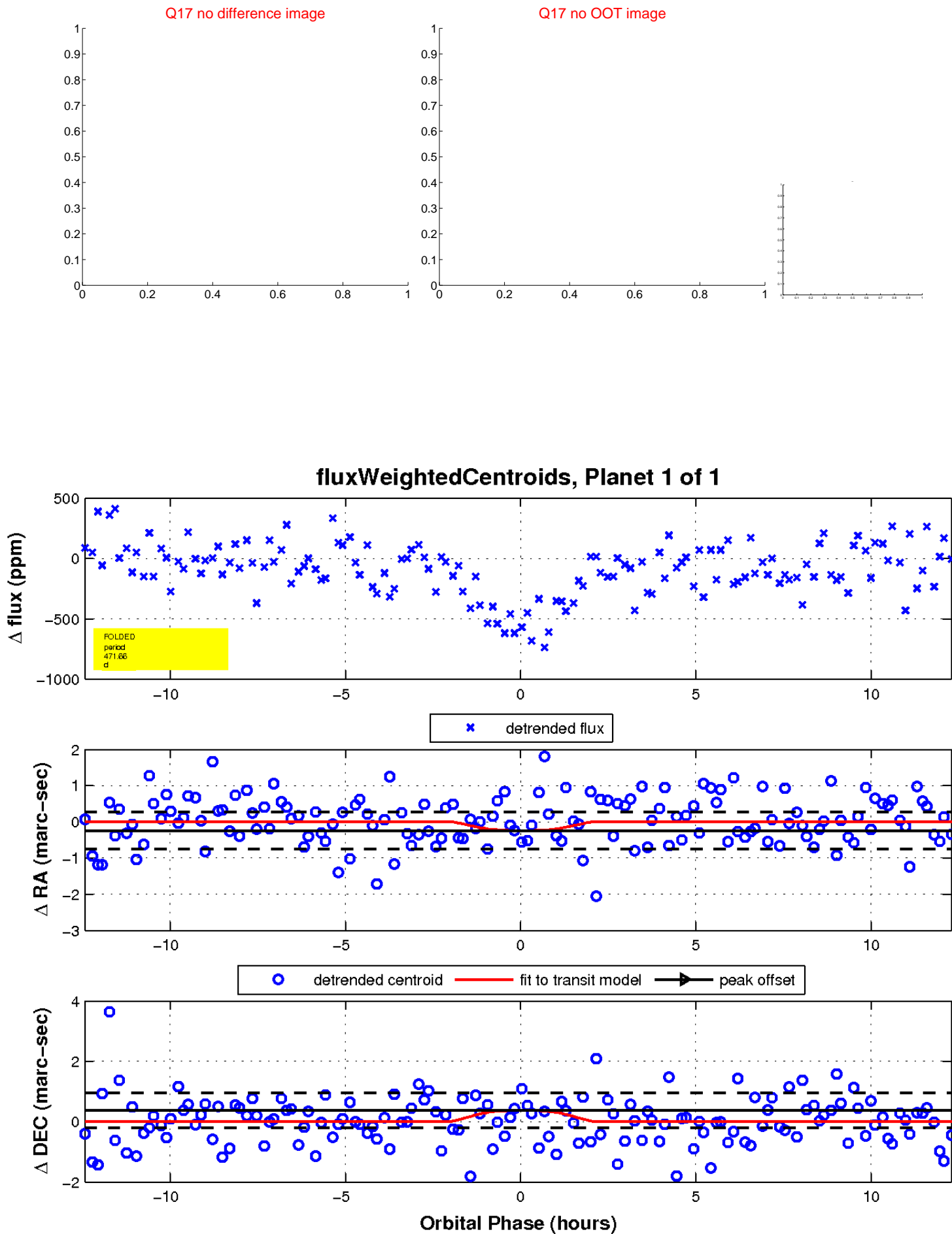
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

