

KIC 011820346

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})
011820346-01	OBS	No	367.288053	172.745456	1513.1	16.923	7.8	13.5	0.82	5520	4.14	0.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011820346-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

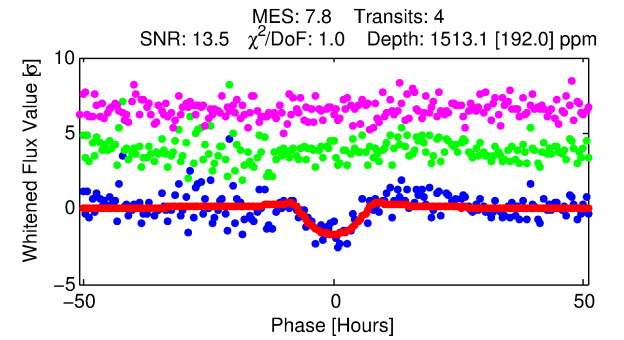
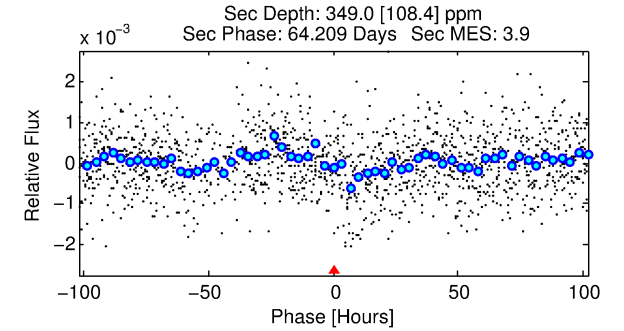
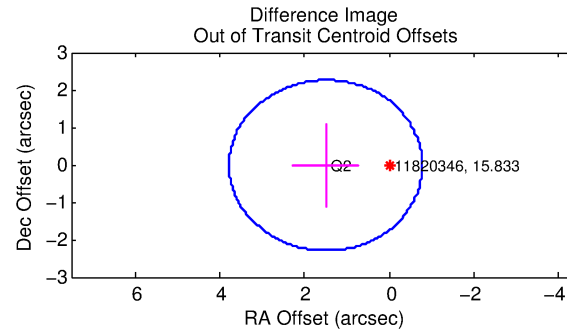
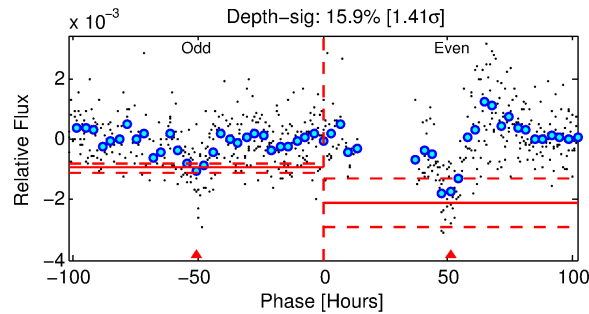
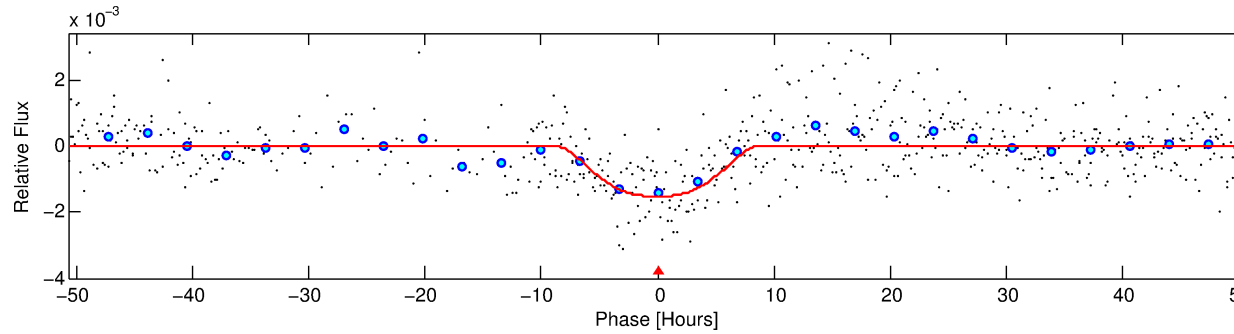
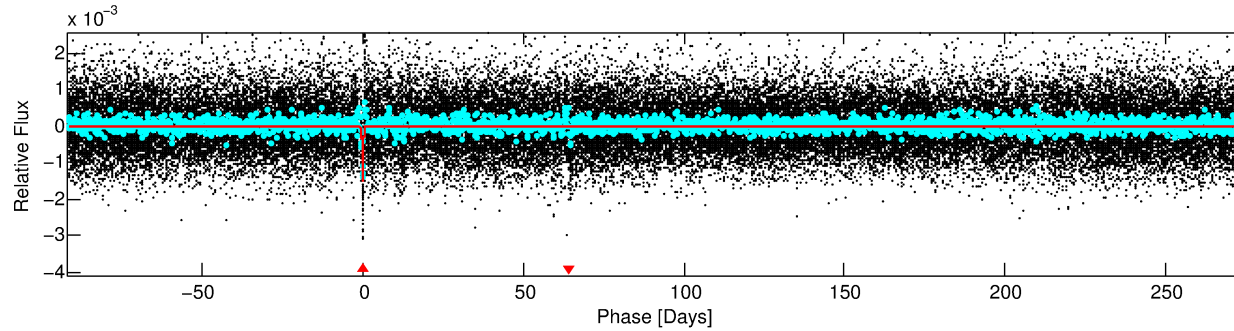
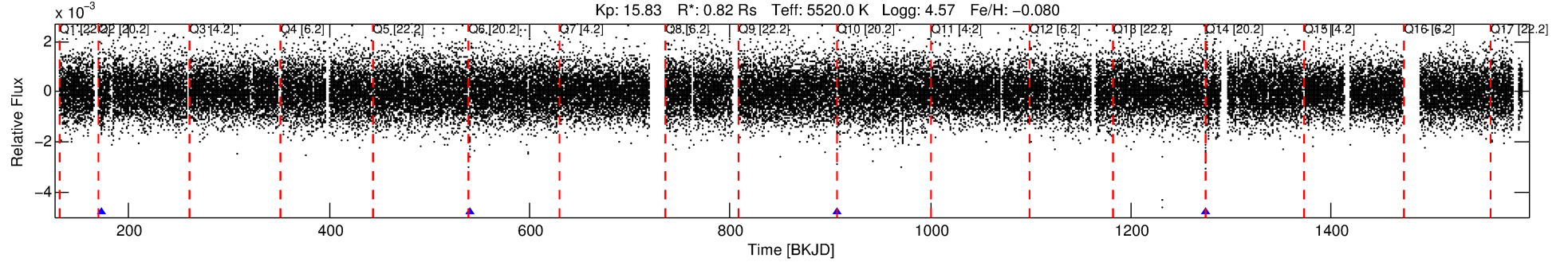
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011820346-01

No Significant Match Found

DV One-Page Summary

KIC: 11820346 Candidate: 1 of 1 Period: 367.288 d



DV Fit Results:

Period = 367.28805 [0.01309] d
Epoch = 172.7455 [0.0233] BKJD
Rp/R* = 0.0463 [0.0048]
a/R* = 71.81 [10.17]
b = 0.95 [0.02]
Seff = 0.59 [0.18]
Teq = 223 [17] K
Rp = 4.14 [1.04] Re
a = 0.9732 [0.1879] AU
Ag = 10626.93 [4956.21] [2.14 σ]
Teffp = 3505 [343] K [9.55 σ]

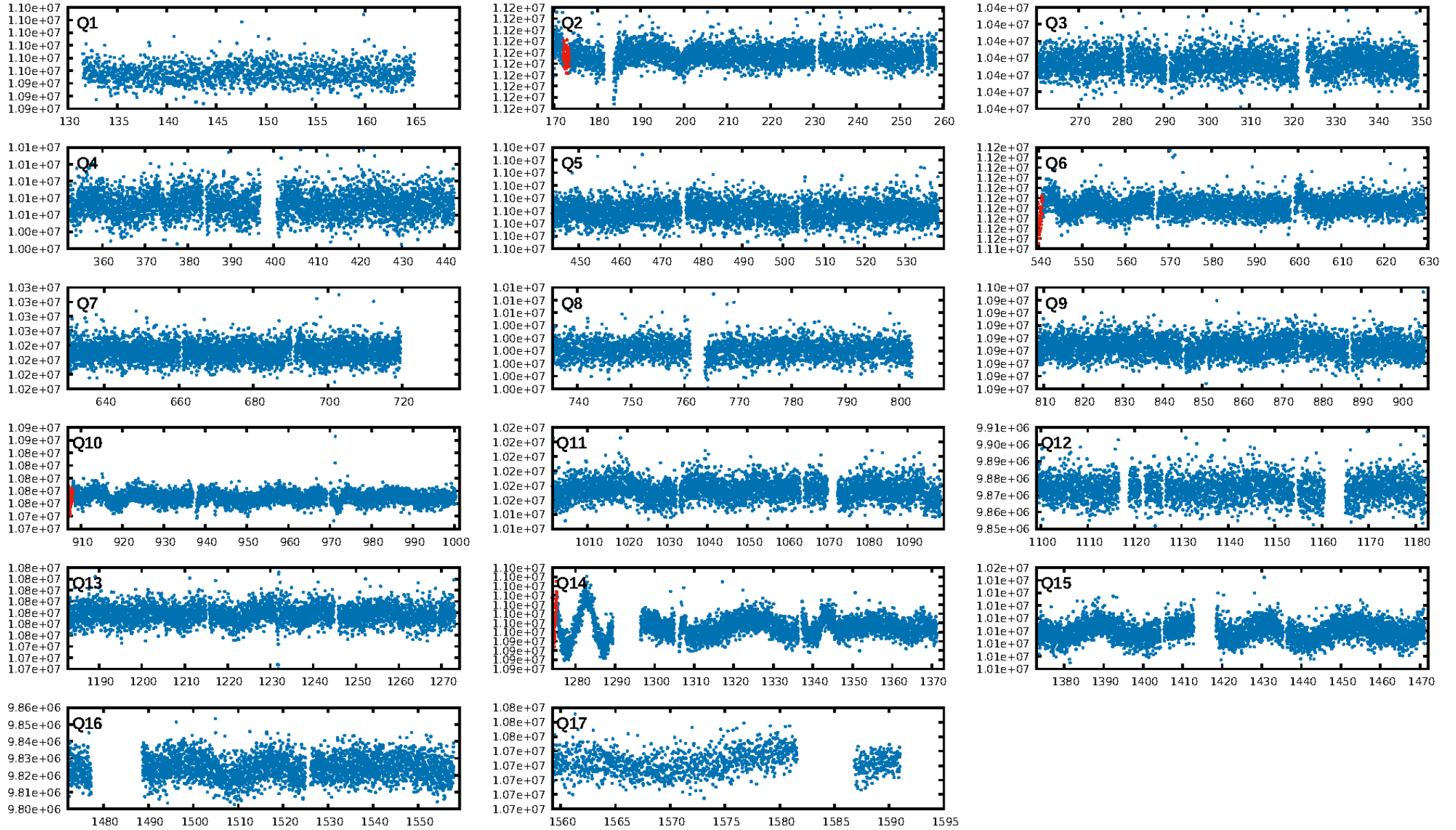
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.18e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -2.721
Centroid-sig: 3.9%
Centroid-so: 2.595 arcsec [1.67 σ]
OotOffset-rm: 1.492 arcsec [1.96 σ]
KicOffset-rm: 1.445 arcsec [1.90 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

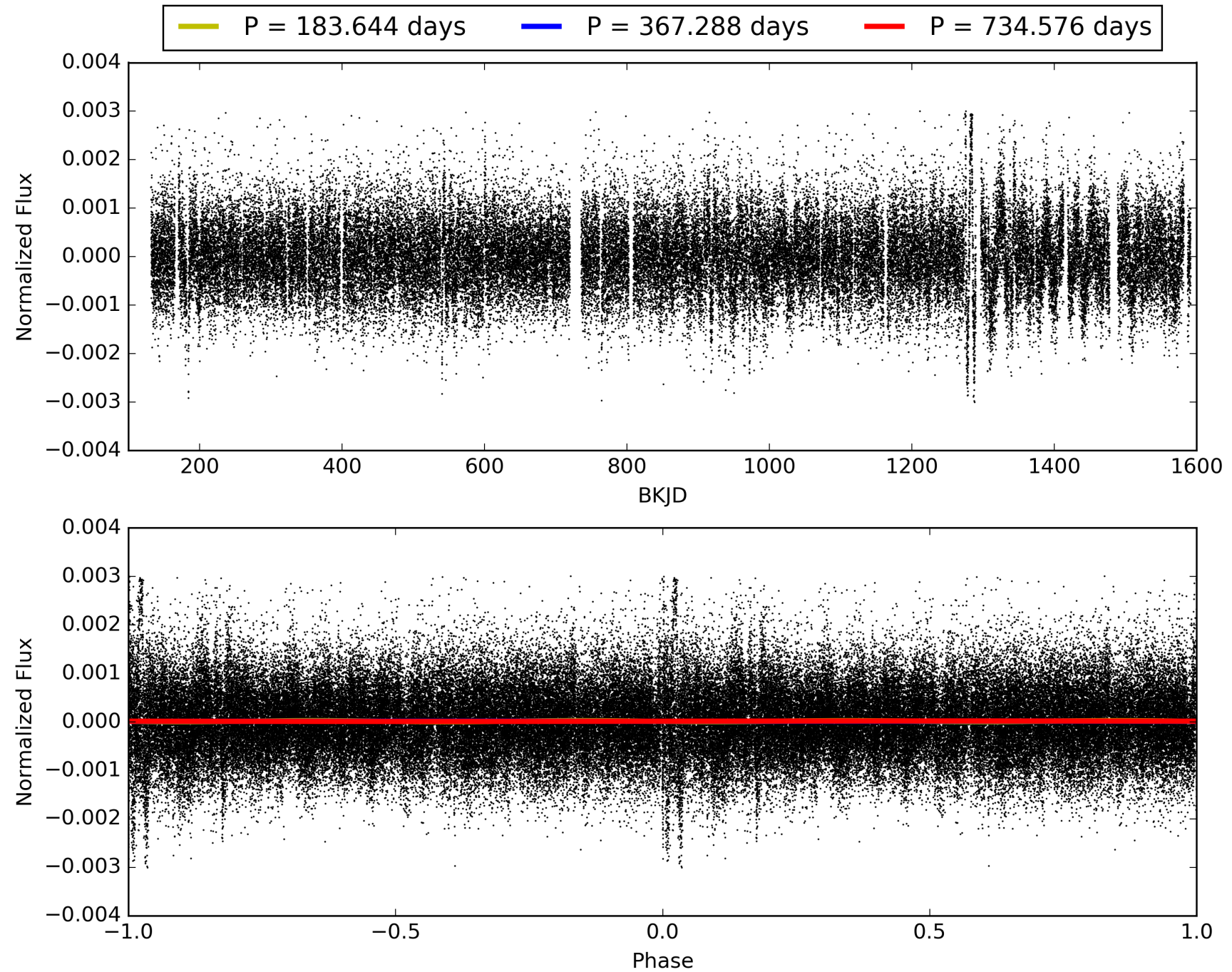
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:57:31 Z

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

TCE 011820346-01, PDC Light Curves

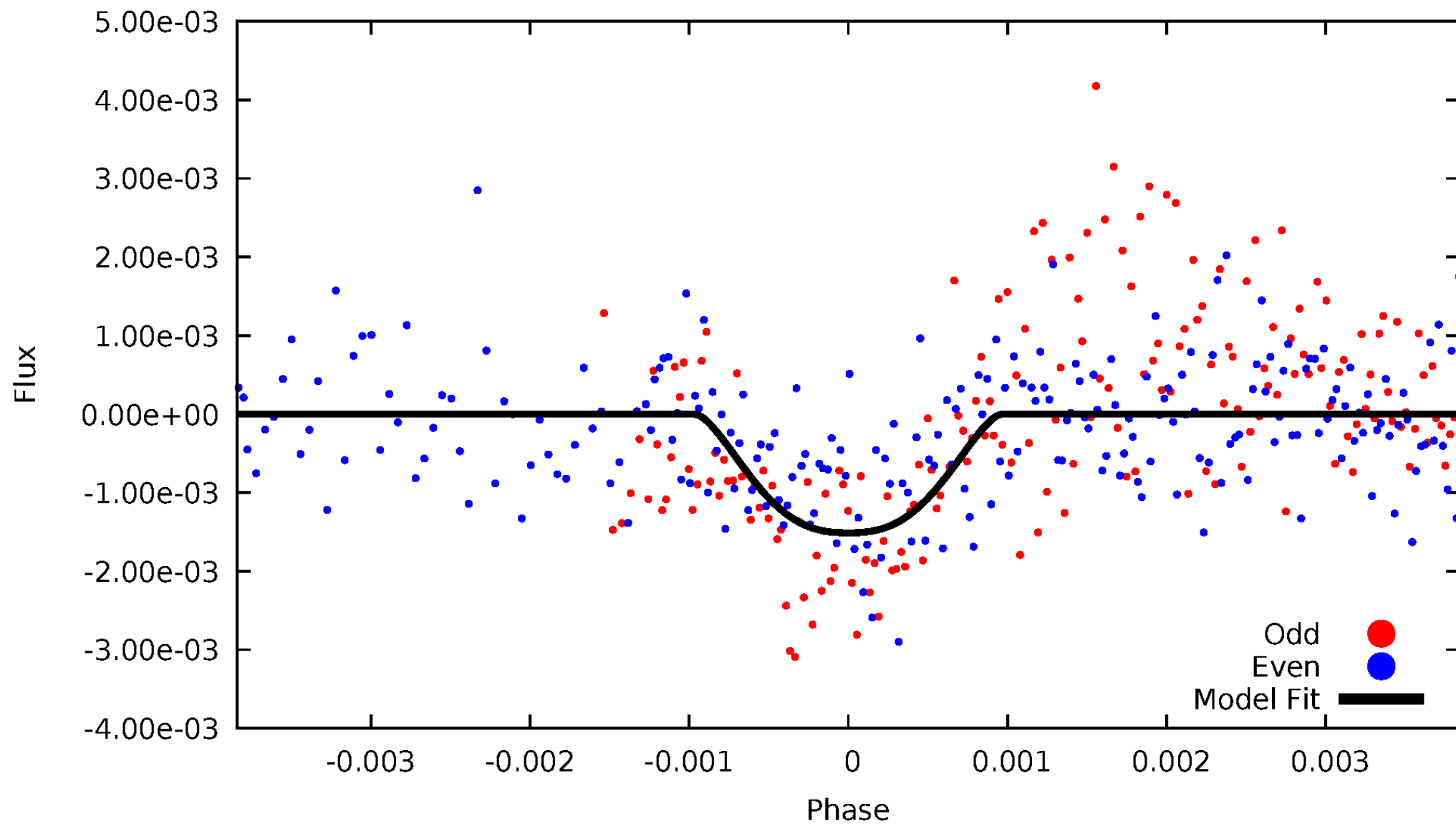


TCE 011820346-01



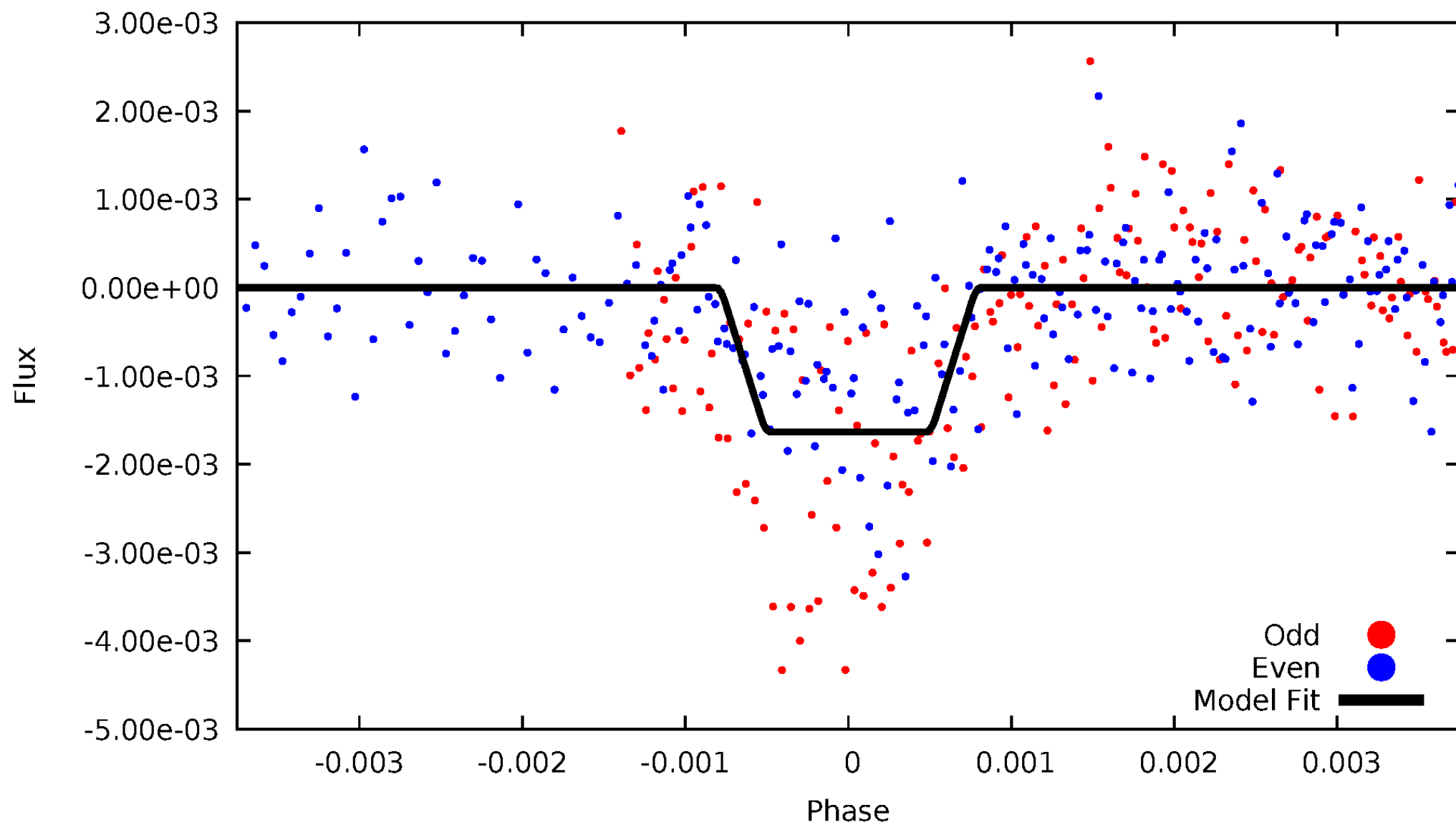
DV Odd/Even

TCE 011820346-01



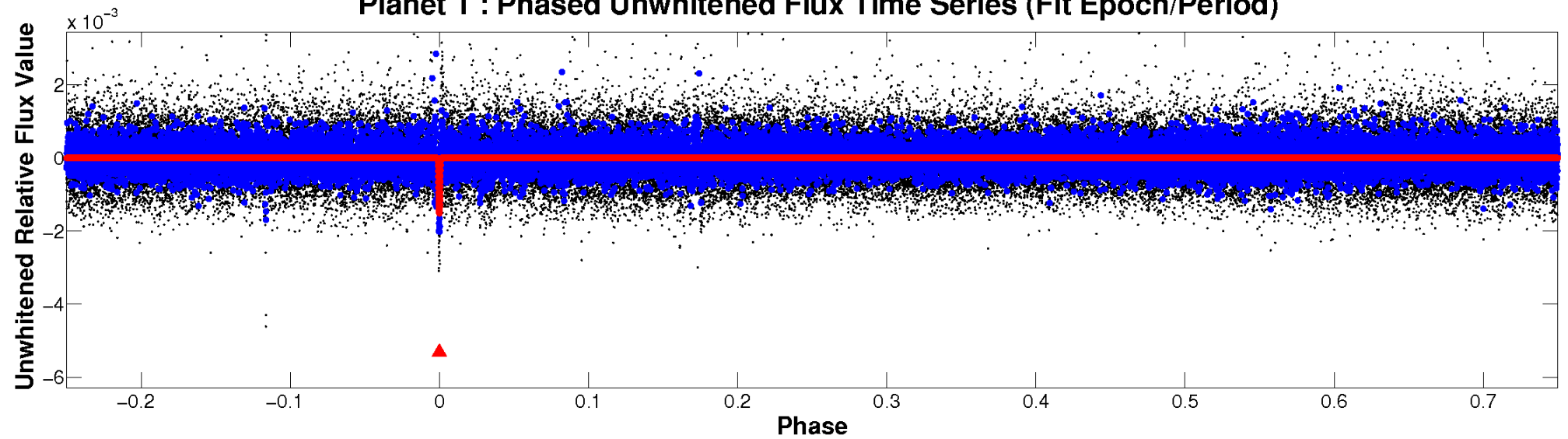
ALT Odd/Even

TCE 011820346-01

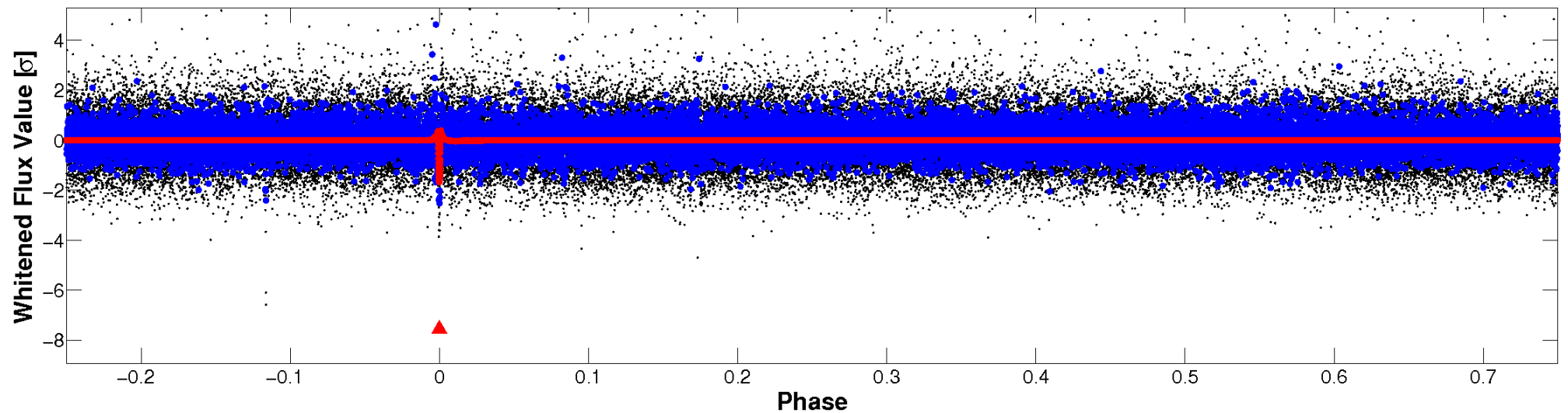


Non-Whitened Vs. Whitened Light Curve

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

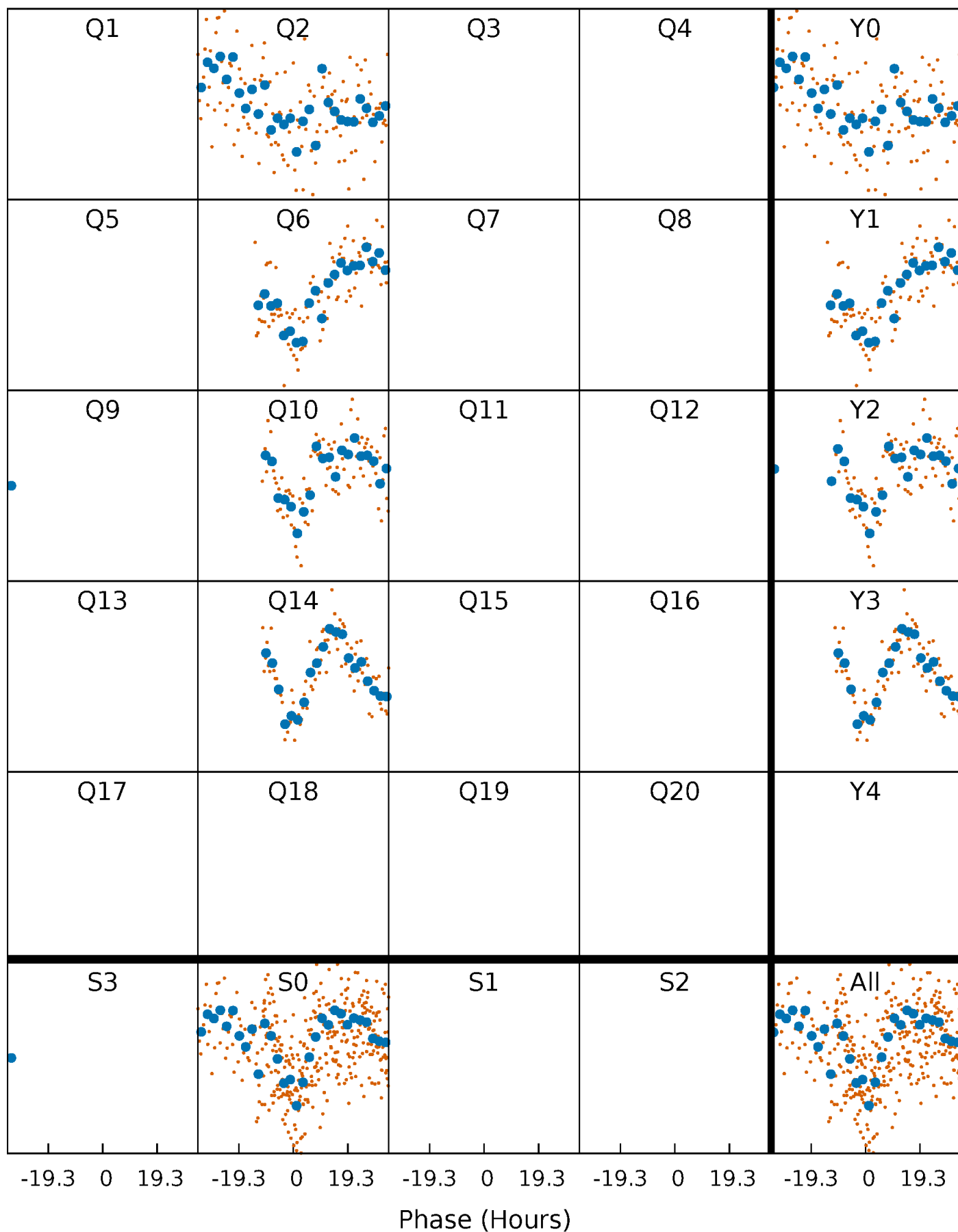


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



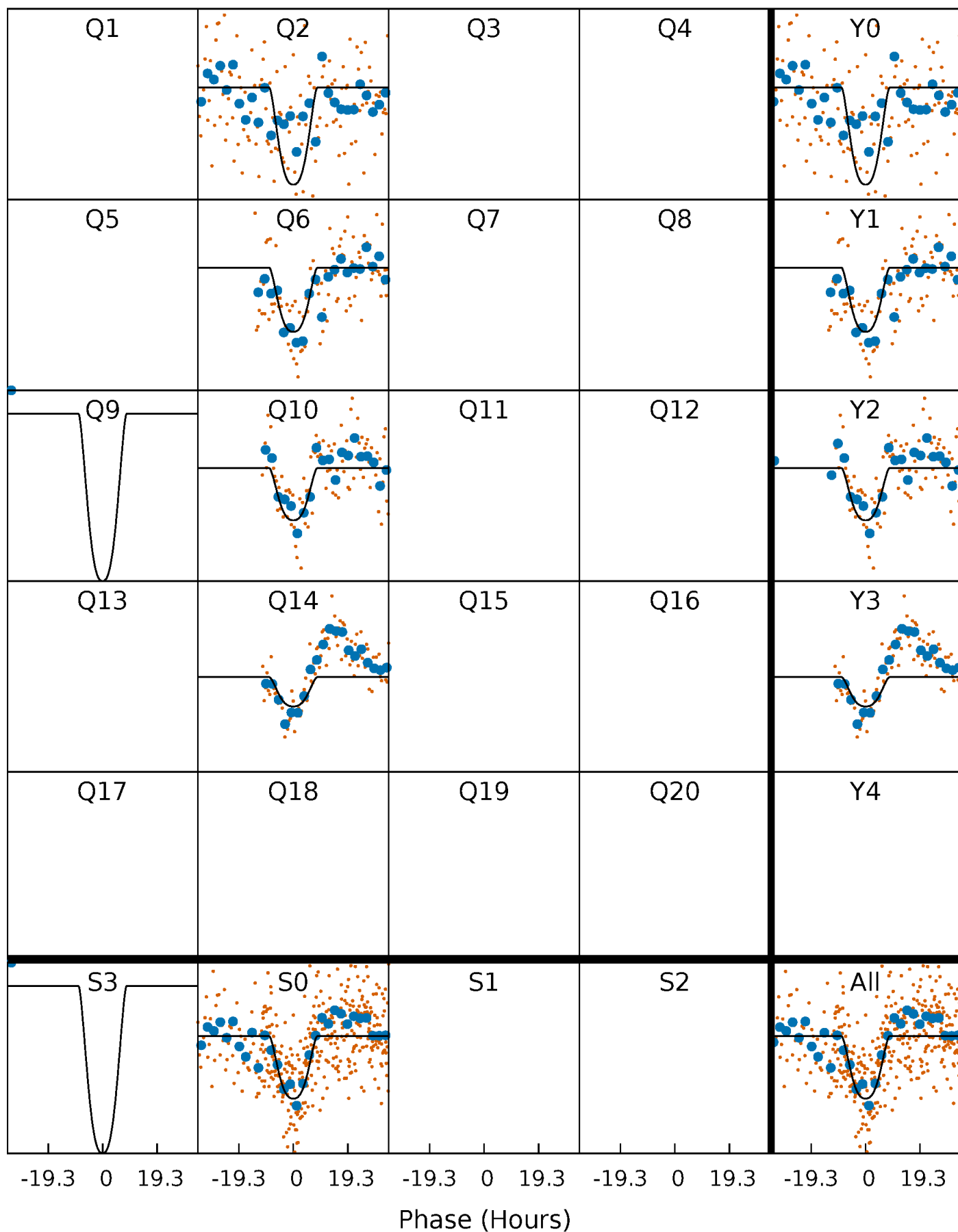
PDC Quarter-Phased Transit Curves

TCE 011820346-01 P=367.288053 Days $T_0=172.745456$ (BKJD)



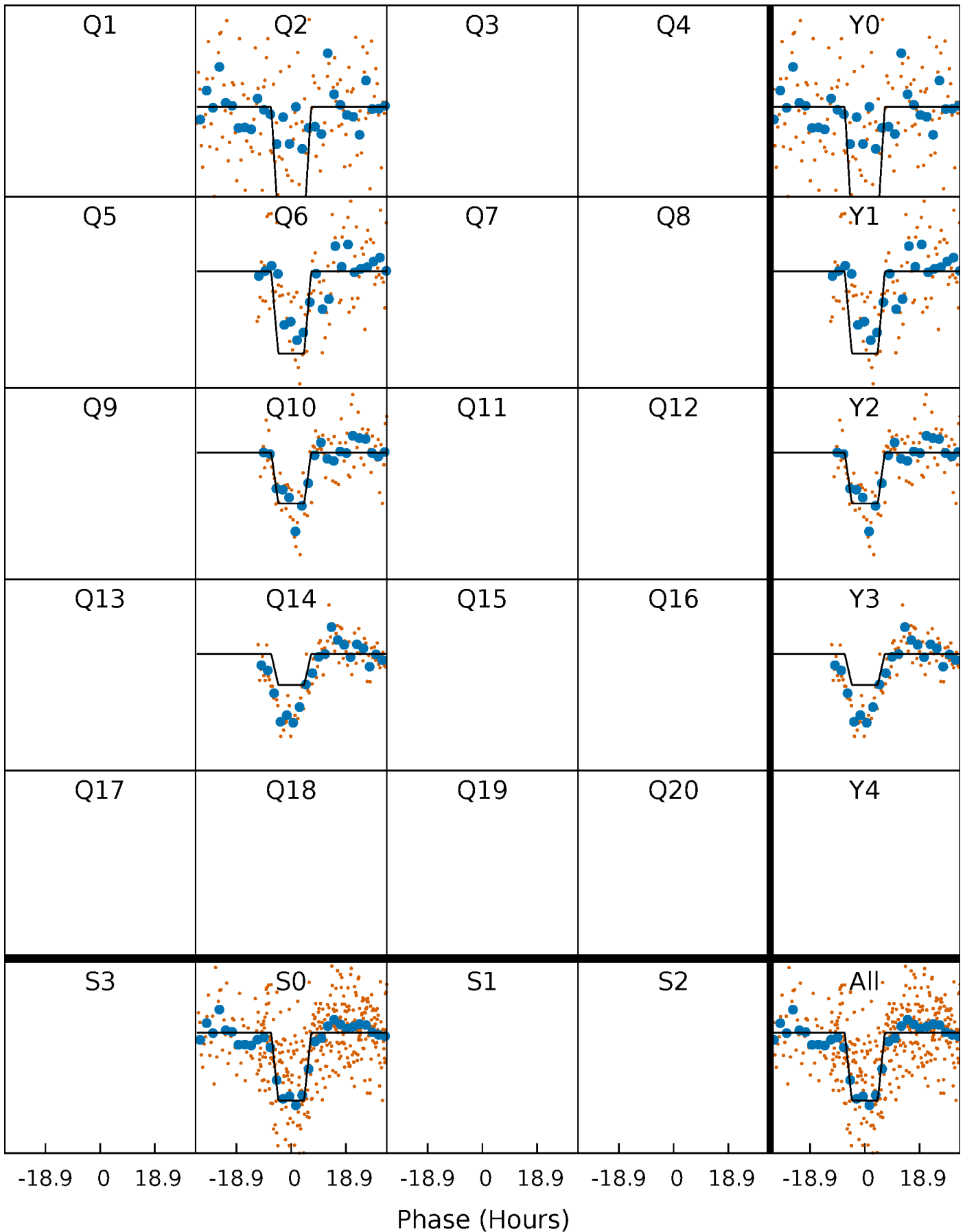
DV Quarter-Phased Transit Curves

TCE 011820346-01 P=367.288053 Days $T_0=172.745456$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

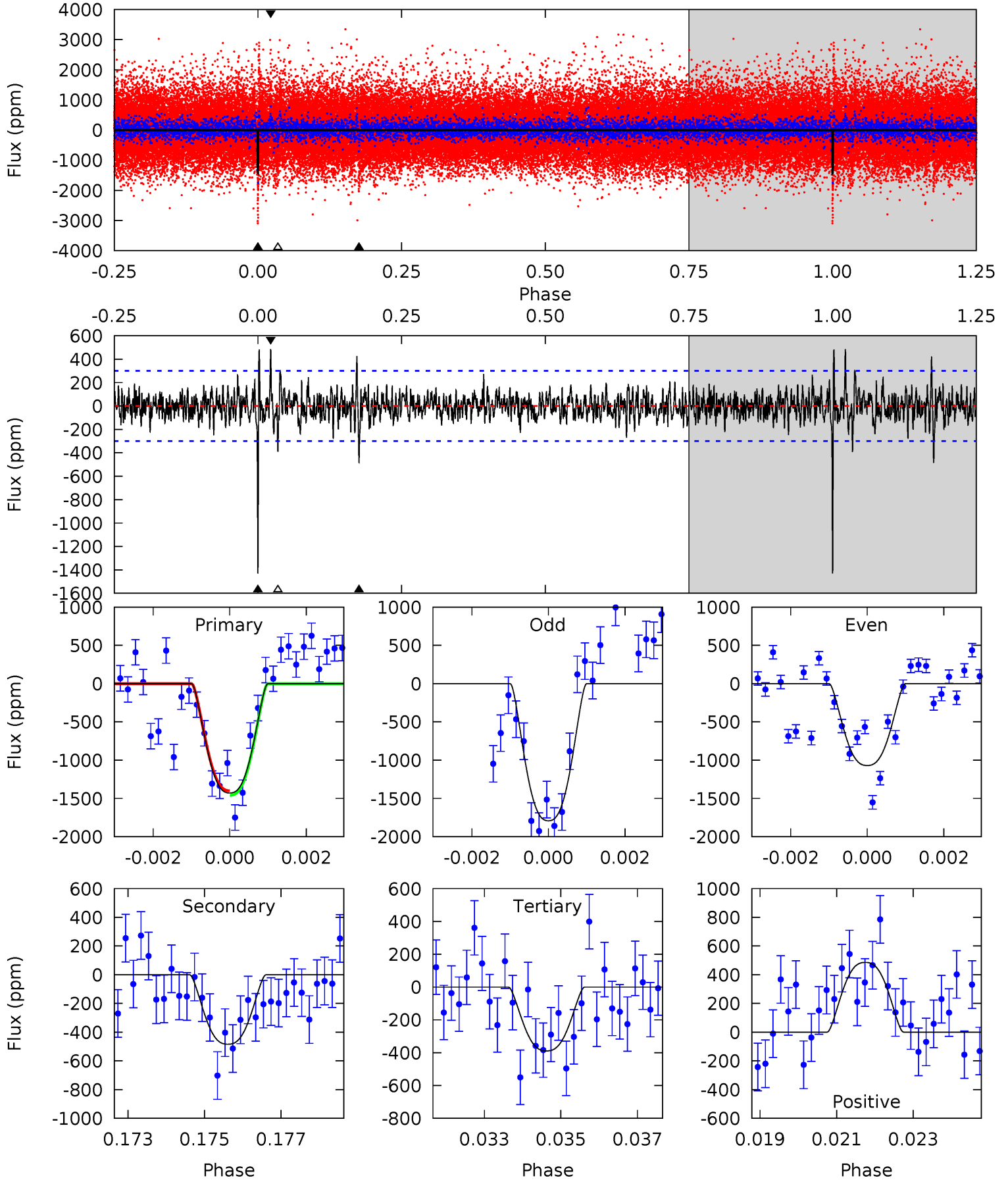
TCE 011820346-01 P=367.327297 Days $T_0=172.654236$ (BKJD)



DV Model-Shift Uniqueness Test

011820346-01, P = 367.288053 Days, E = 172.745456 Days

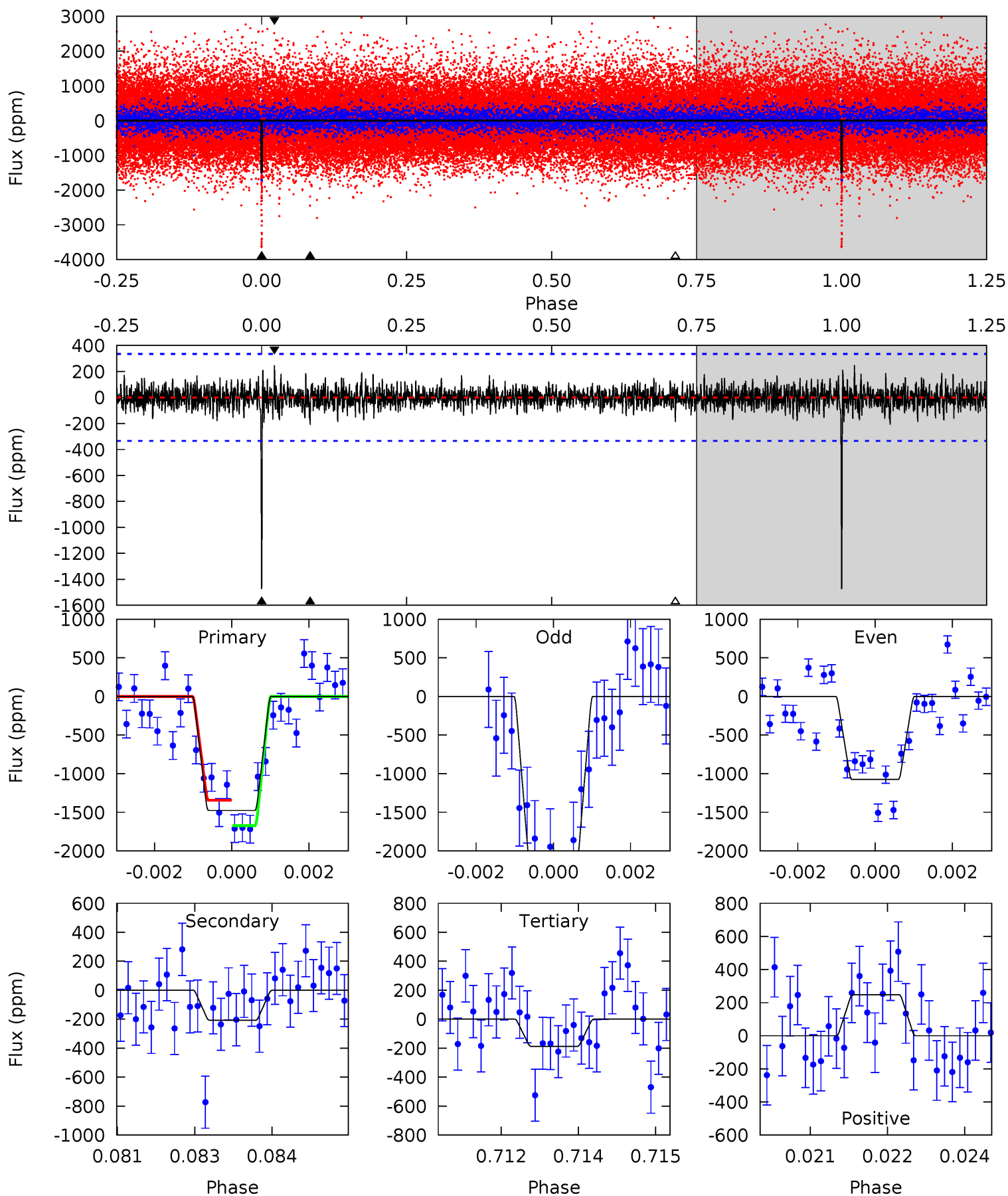
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.4	8.60	6.91	8.63	5.33	3.10	1.55	18.5	16.8	1.69	-0.03	6.44	0.92	0.25	0.53



Alt Model-Shift Uniqueness Test

011820346-01, P = 367.327297 Days, E = 172.654236 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.7	3.32	3.01	3.97	5.37	3.16	0.90	20.7	19.7	0.31	-0.65	8.62	1.16	0.14	2.65



Stellar Parameters For KIC 011820346

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5520^{+149}_{-166}	$4.572^{+0.036}_{-0.153}$	$-0.080^{+0.300}_{-0.300}$	$0.818^{+0.188}_{-0.063}$	$0.917^{+0.083}_{-0.102}$	$2.358^{+0.456}_{-0.967}$
	+3%/-3%	+1%/-3%	+375%/-375%	+23%/-8%	+9%/-11%	+19%/-41%
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 011820346-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-484 ± 56	$4.24^{+0.63}_{-0.53}$	318^{+15}_{-13}	4085^{+216}_{-190}	13650^{+4634}_{-3408}
Alt.	-207 ± 62	$3.74^{+0.58}_{-0.53}$	317^{+18}_{-13}	3684^{+256}_{-247}	7559^{+3658}_{-2707}

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

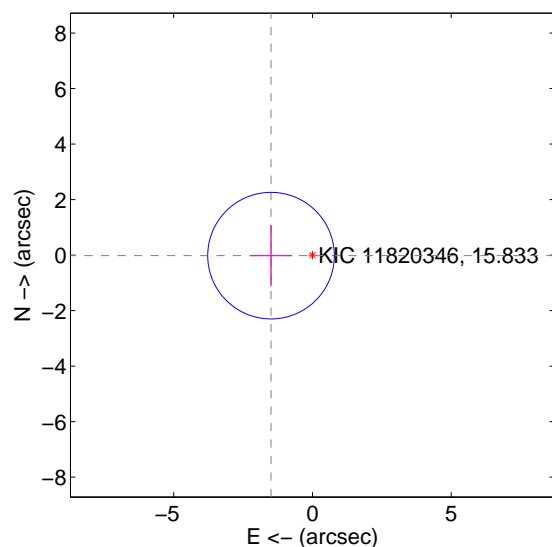
Supplemental centroid analysis for 011820346-01. Kepler magnitude: 15.83. Transit SNR 13.48

There are 0 quarters with good PRF difference image offsets

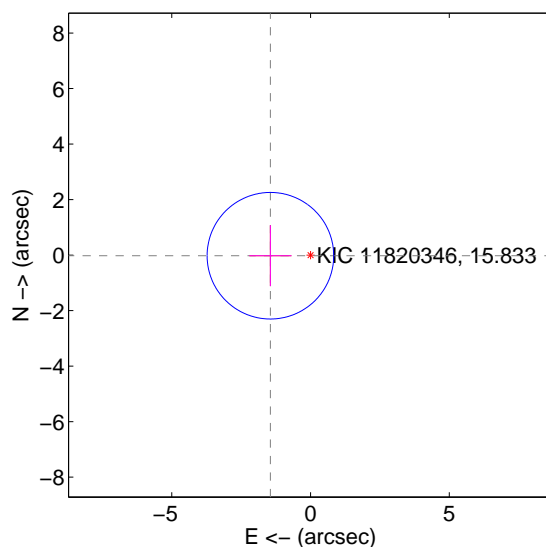
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.492 ± 0.760	1.96	1.492 ± 0.760	-0.020 ± 1.096
PRF-fit source offset from KIC position	1.445 ± 0.760	1.90	1.445 ± 0.760	-0.023 ± 1.096
photometric centroid source offset	2.60 ± 1.56	1.67	-1.30 ± 1.25	2.25 ± 1.65

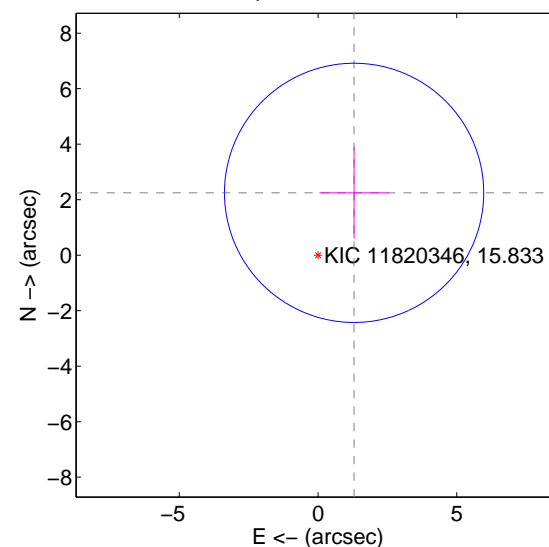
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

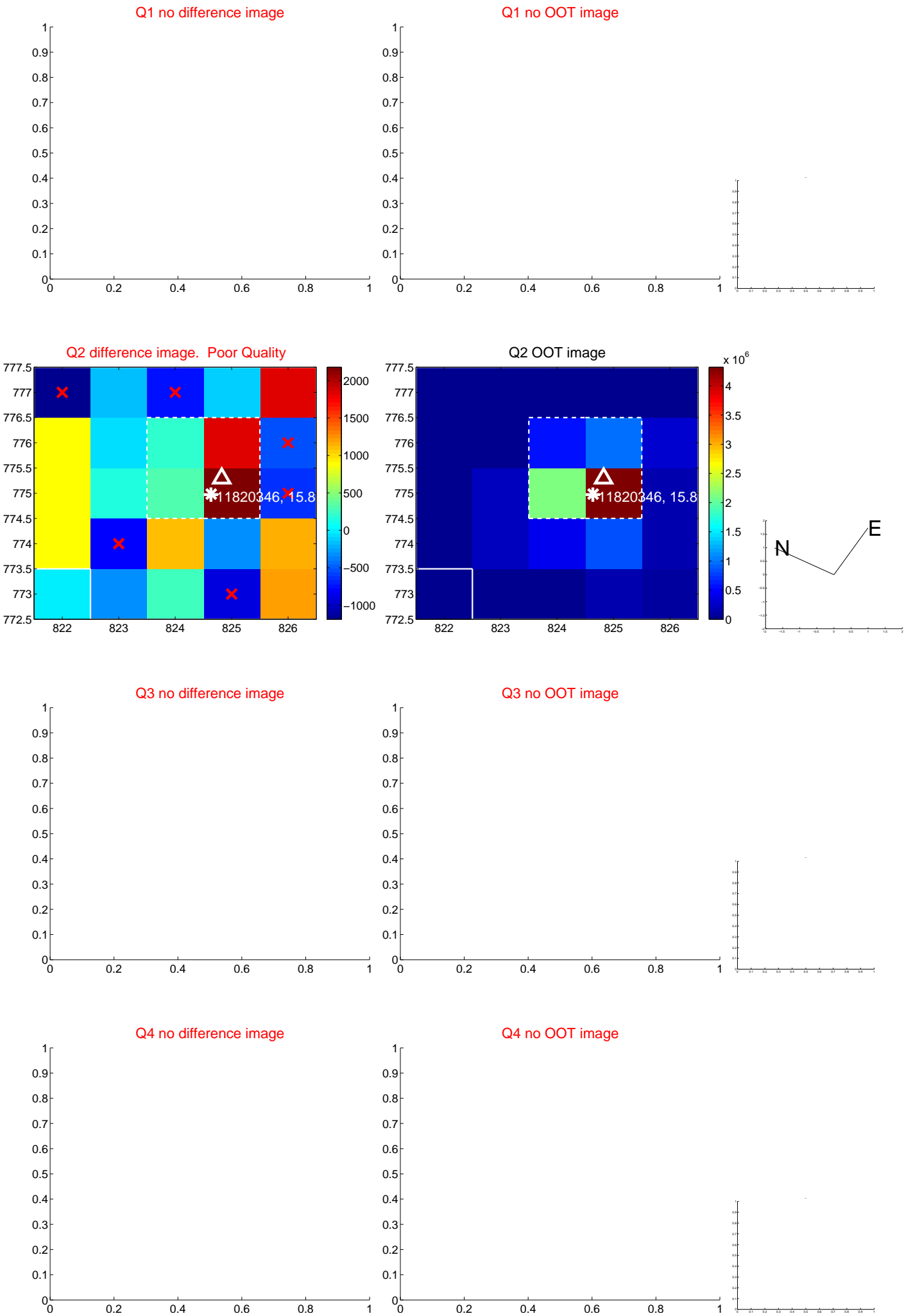


offset from photometric centroids

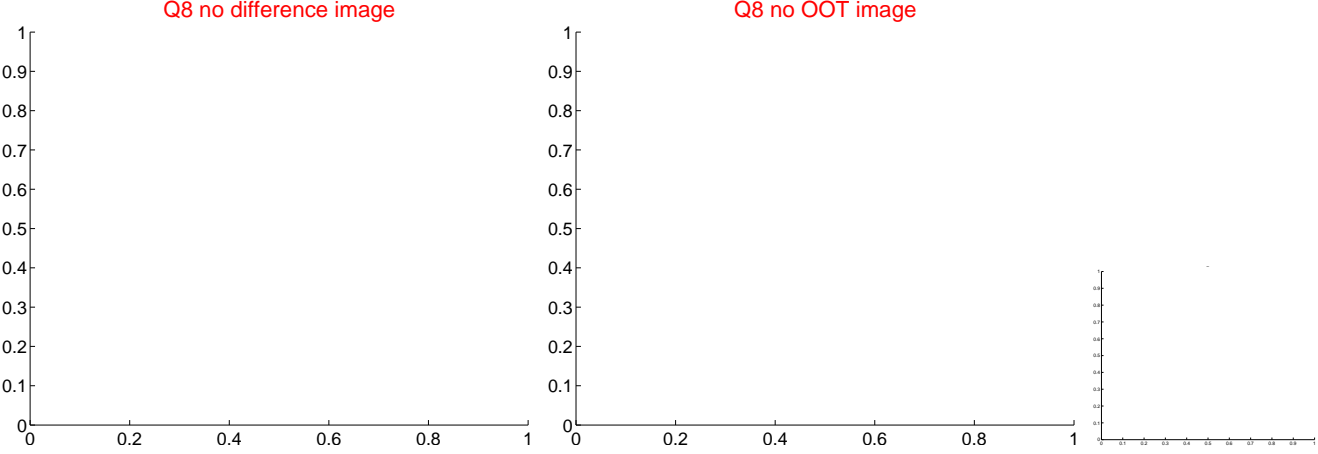
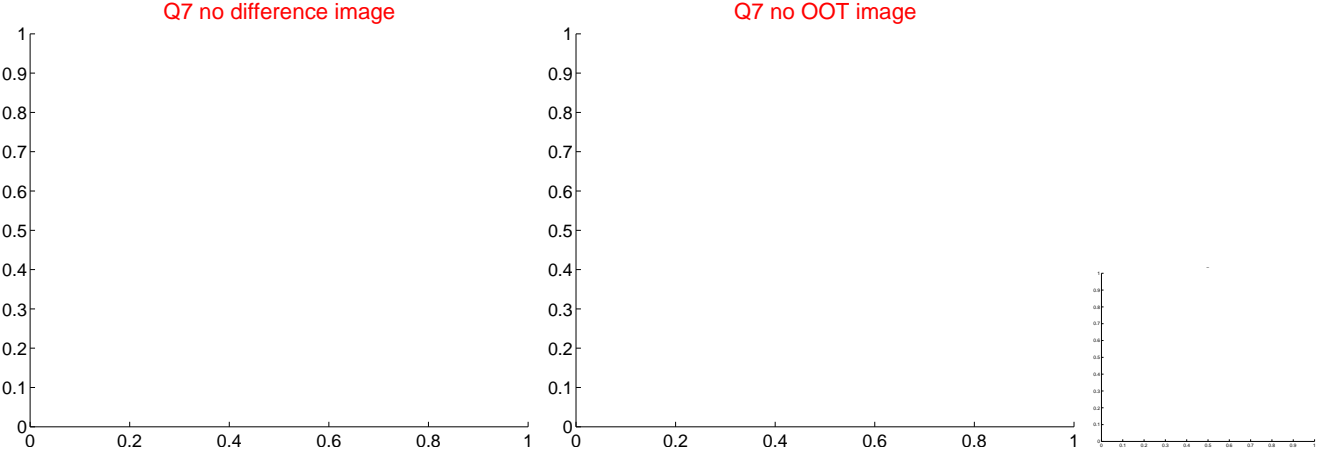


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



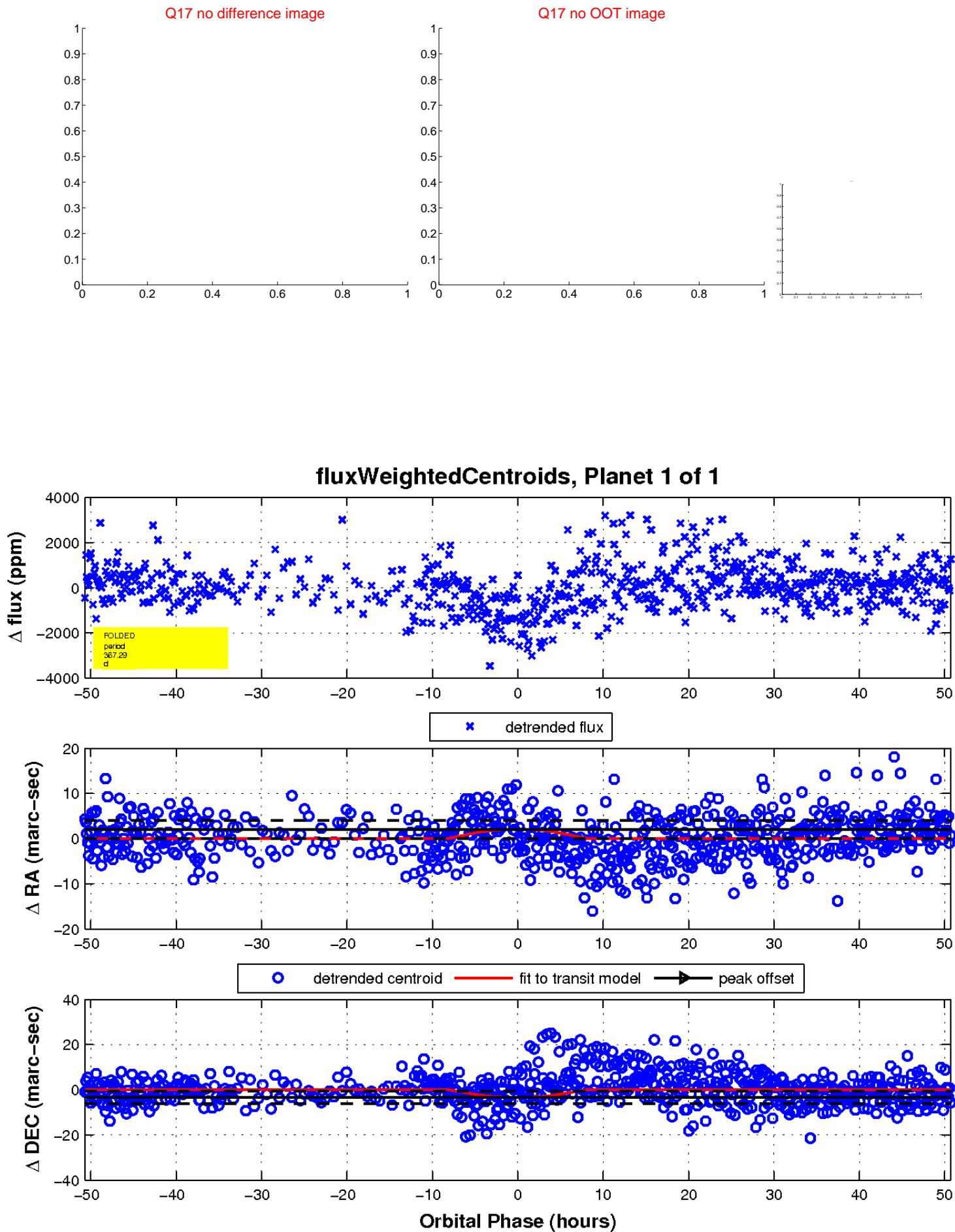
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

