

KIC 010731071

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})
010731071-01	OBS	No	371.442200	151.759937	1728.7	31.892	8.7	9.5	0.99	6031	7.52	1.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010731071-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

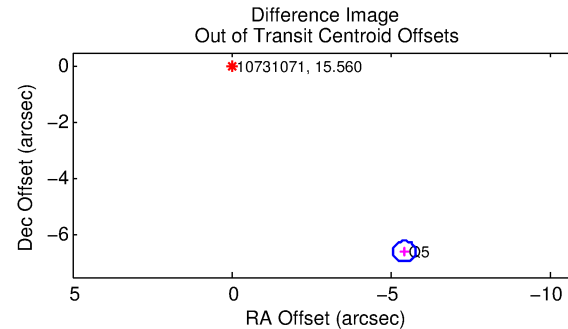
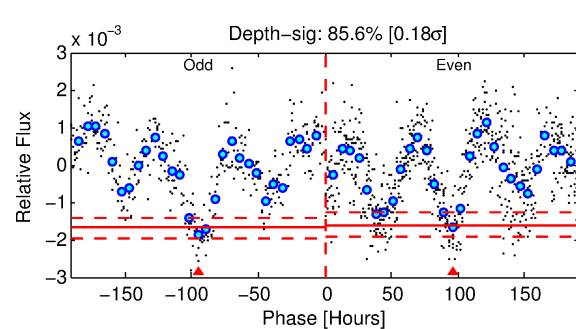
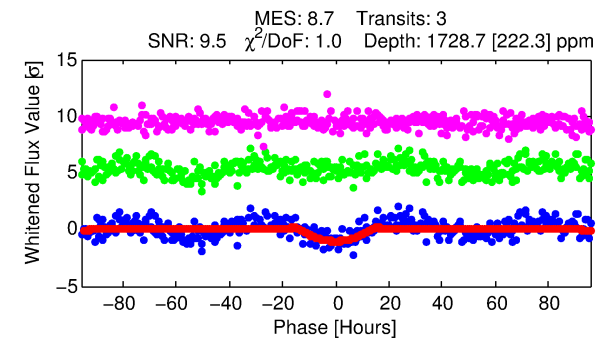
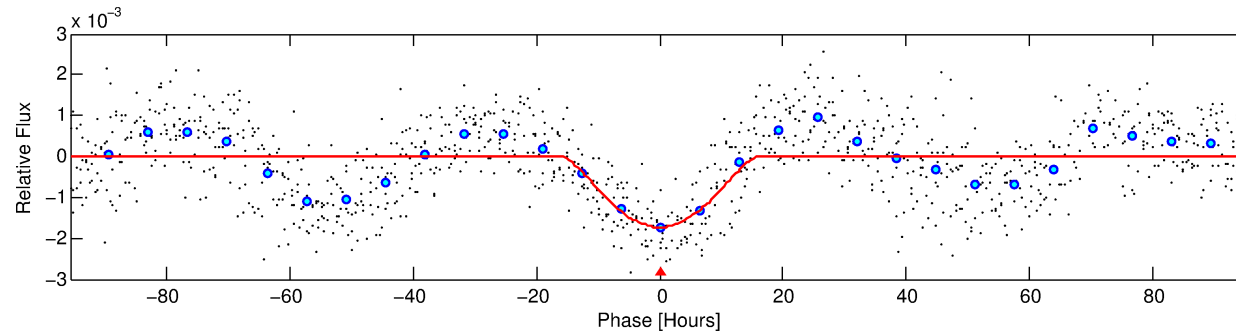
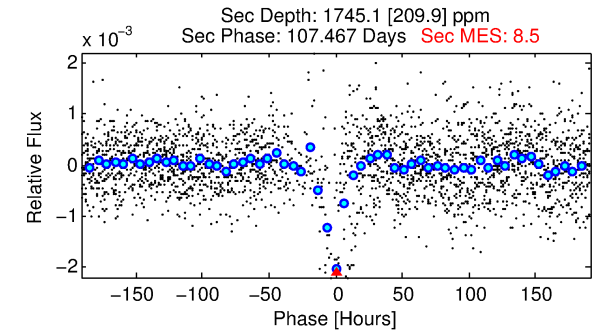
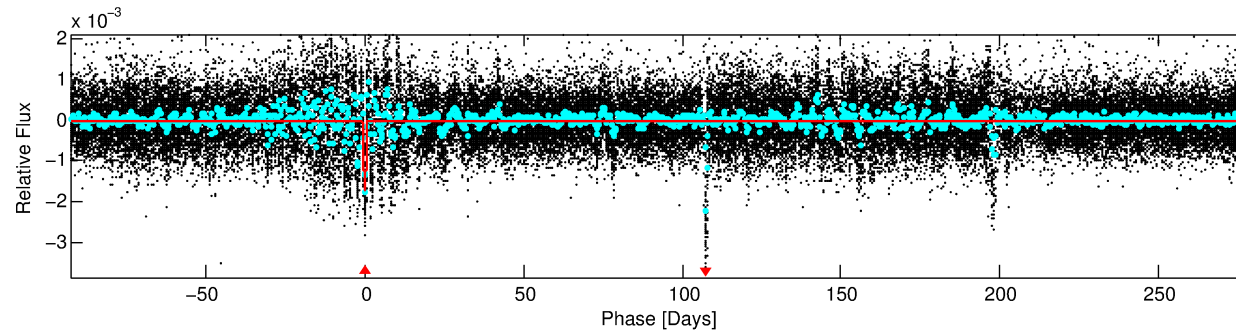
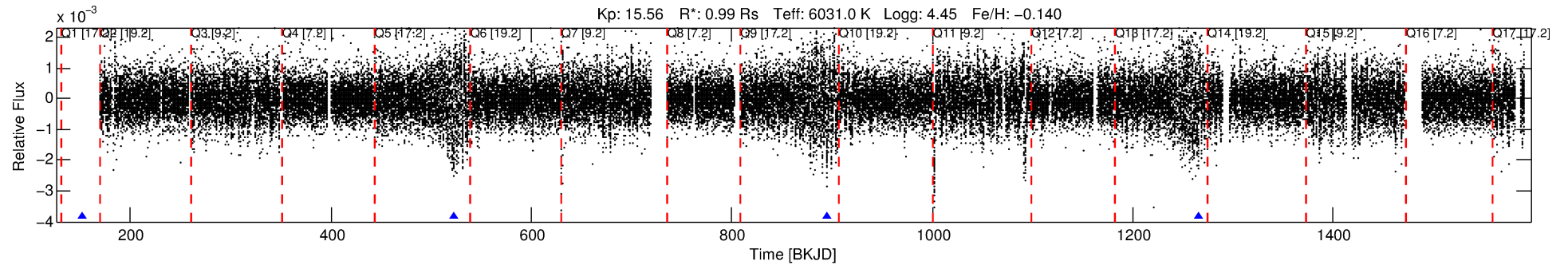
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010731071-01

No Significant Match Found

DV One-Page Summary

KIC: 10731071 Candidate: 1 of 1 Period: 371.442 d



DV Fit Results:

Period = 371.44220 [0.04434] d
Epoch = 151.7599 [0.0894] BKJD
Rp/R* = 0.0695 [0.1504]
a/R* = 34.59 [16.84]
b = 1.00 [0.23]
Seff = 1.13 [0.46]
Teq = 263 [27] K
Rp = 7.52 [16.46] Re
a = 1.0154 [0.2685] AU
Ag = 17483.00 [76003.17] [0.23σ]
Teff = 4675 [5064] K [0.87σ]

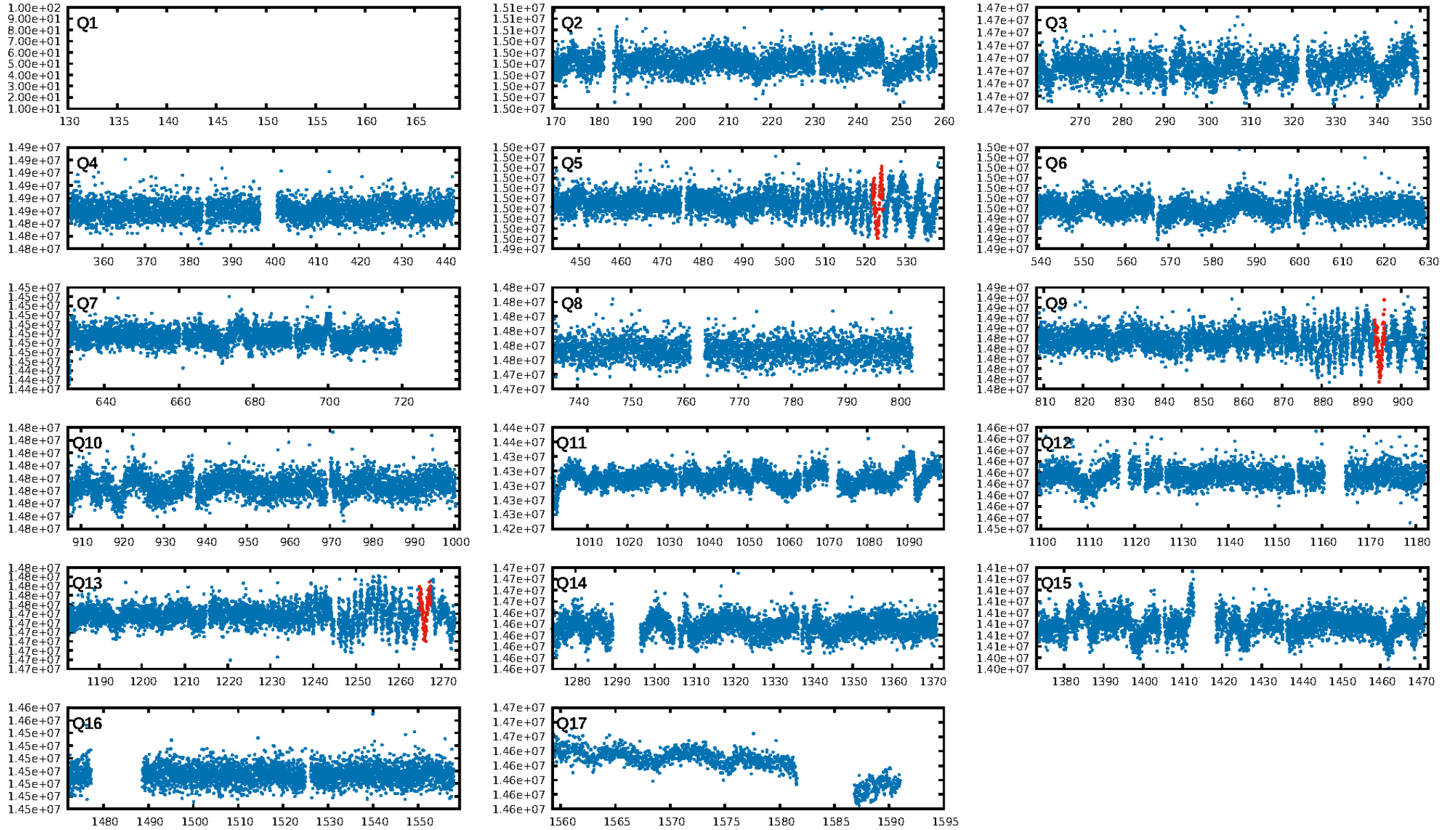
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 51.9%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 9.18e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.696
Centroid-sig: 4.6%
Centroid-so: 3.131 arcsec [1.41σ]
OotOffset-rm: 8.538 arcsec [69.96σ]
KicOffset-rm: 8.401 arcsec [68.83σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

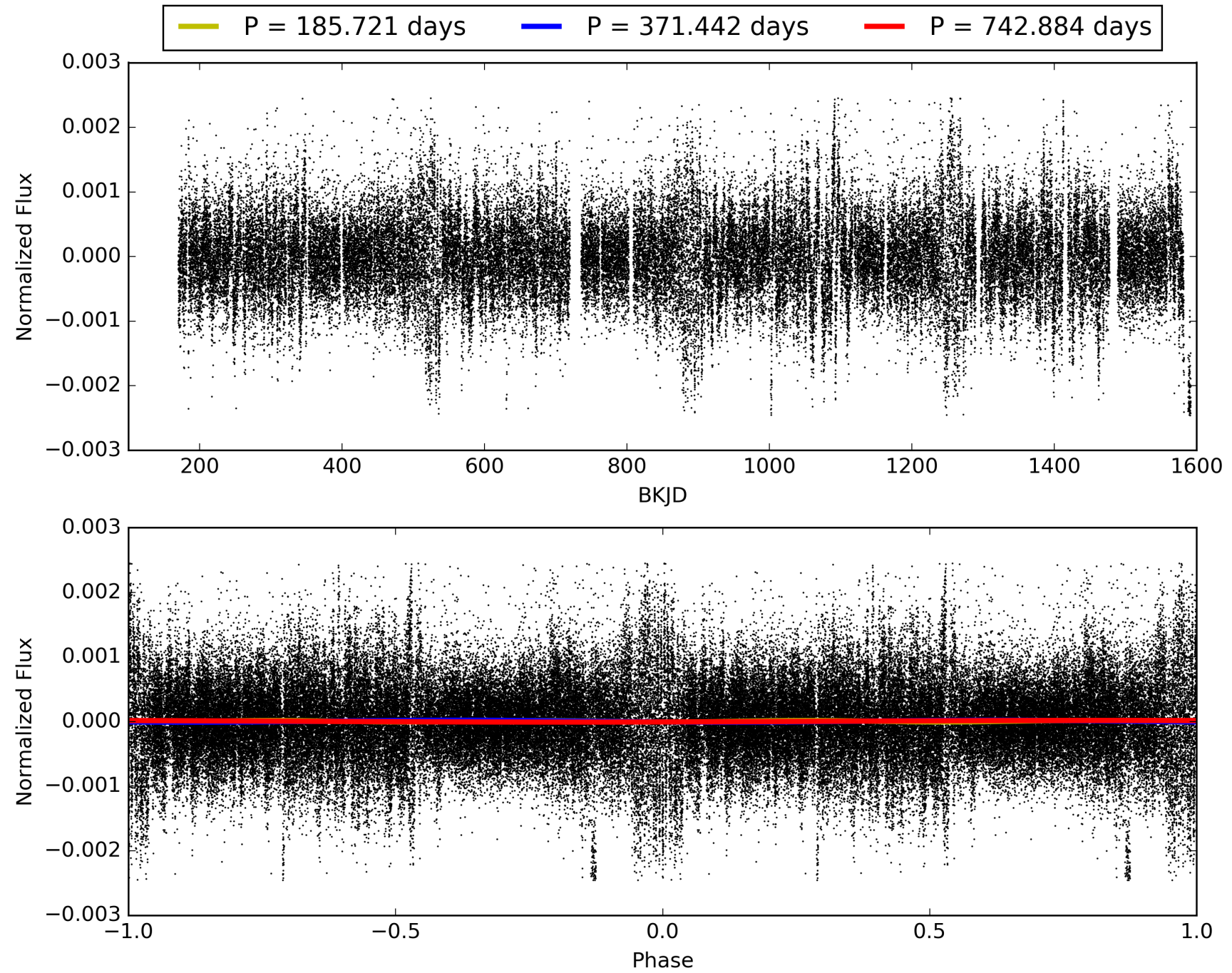
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:44:45 Z

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

TCE 010731071-01, PDC Light Curves

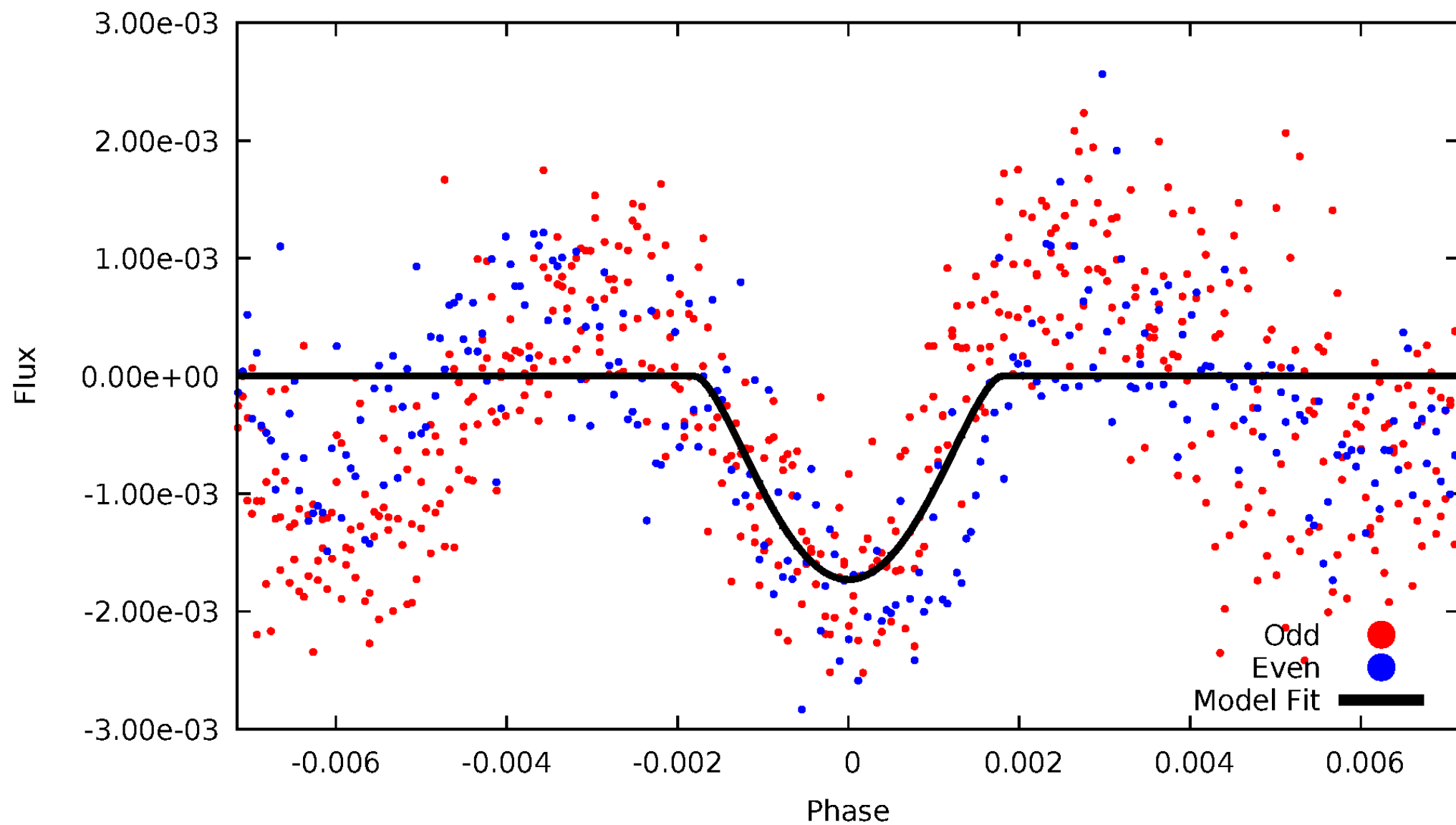


TCE 010731071-01



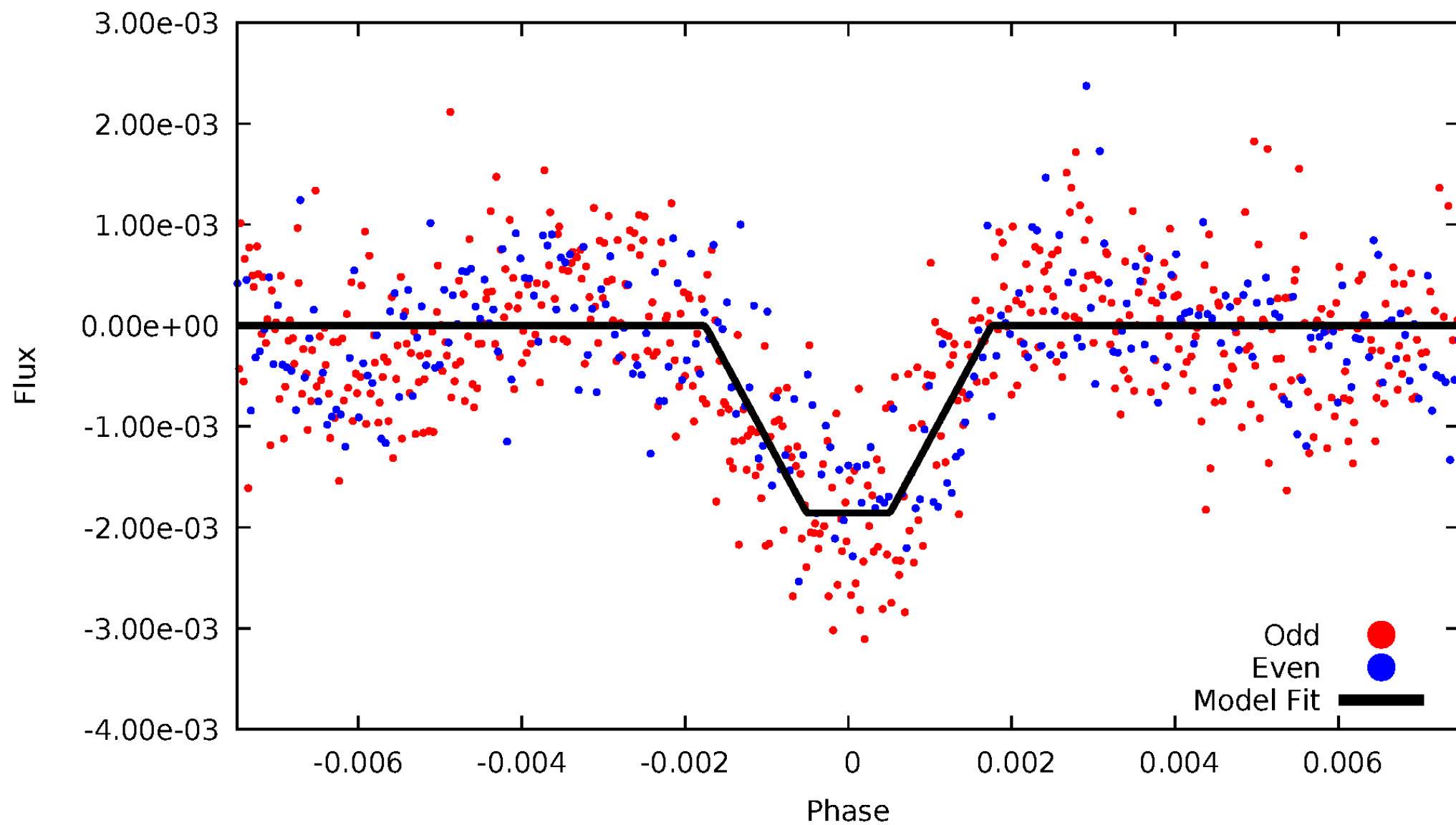
DV Odd/Even

TCE 010731071-01



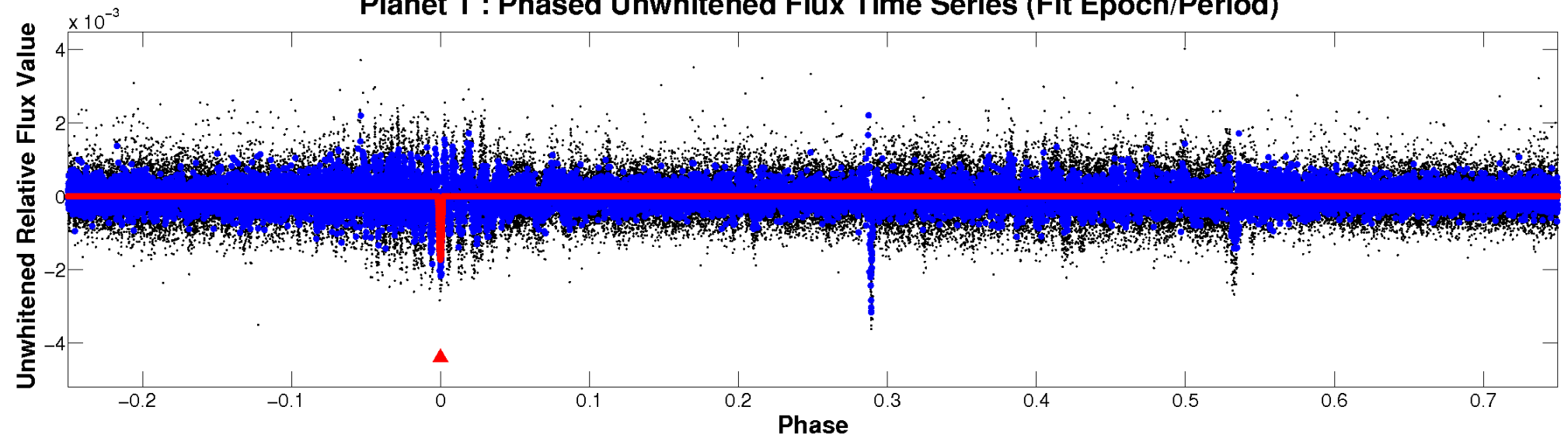
ALT Odd/Even

TCE 010731071-01

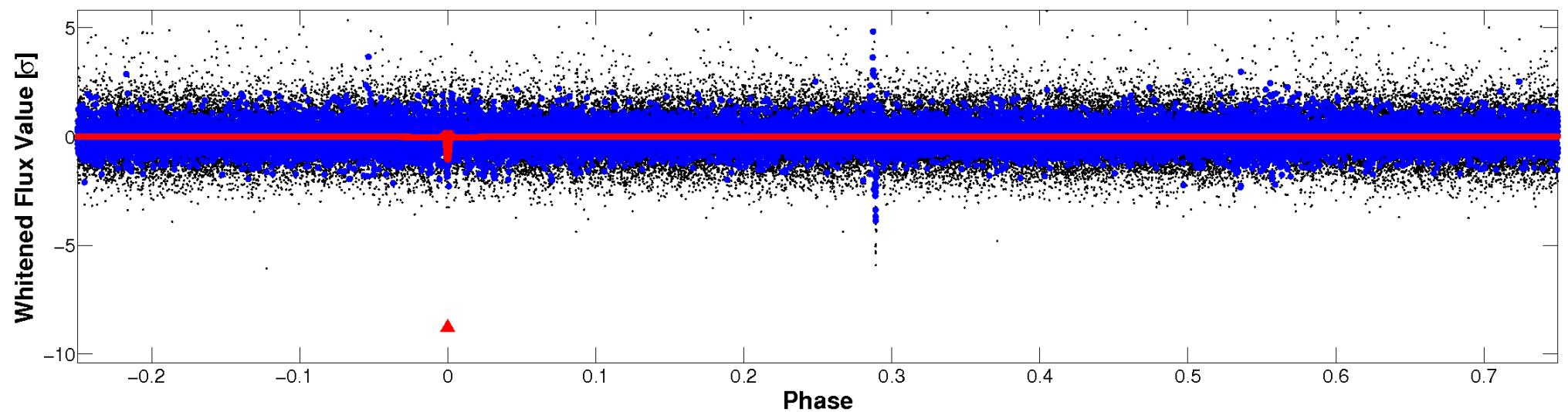


Non-Whitened Vs. Whitened Light Curve

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

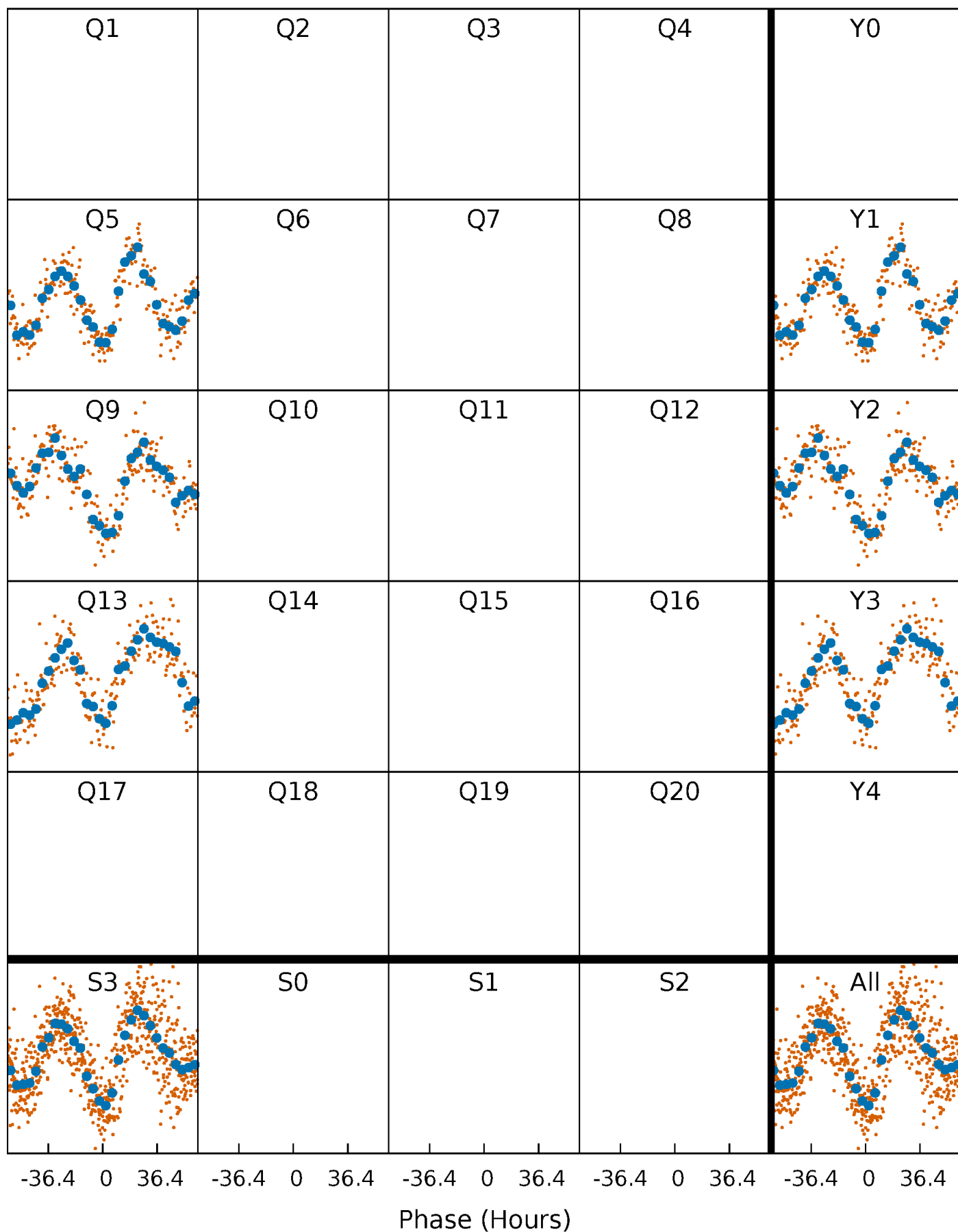


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



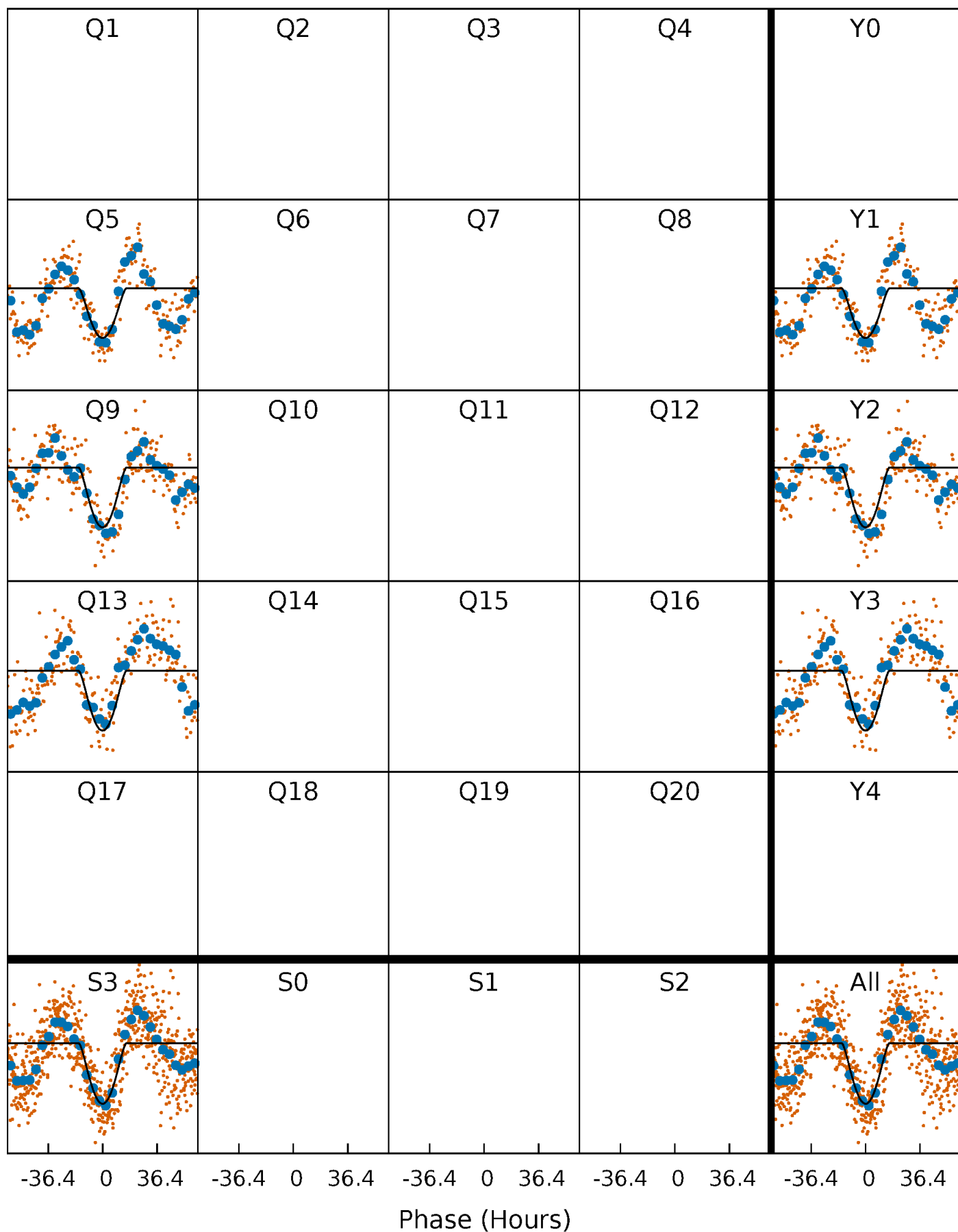
PDC Quarter-Phased Transit Curves

TCE 010731071-01 P=371.442200 Days $T_0=151.759937$ (BKJD)



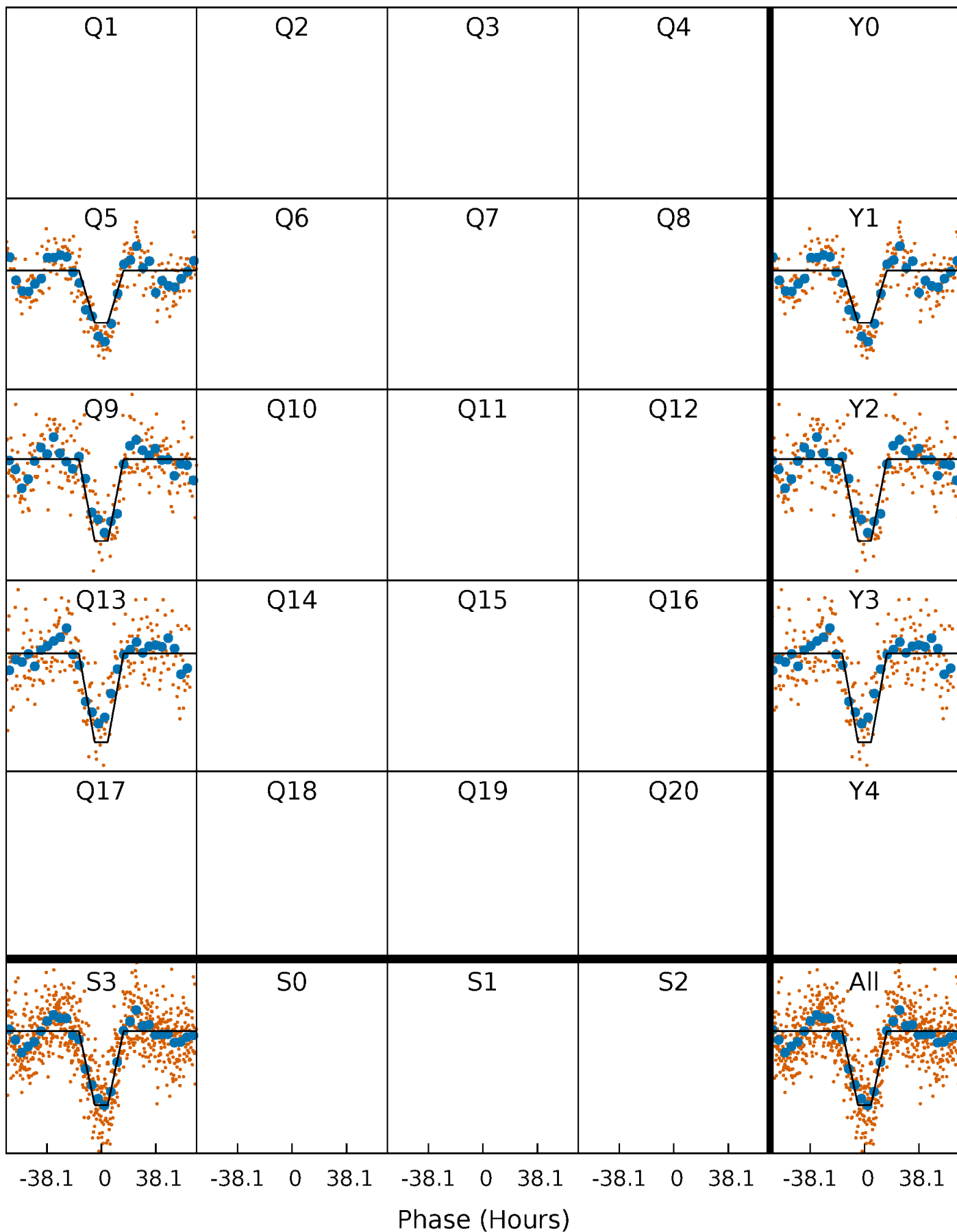
DV Quarter-Phased Transit Curves

TCE 010731071-01 $P=371.442200$ Days $T_0=151.759937$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

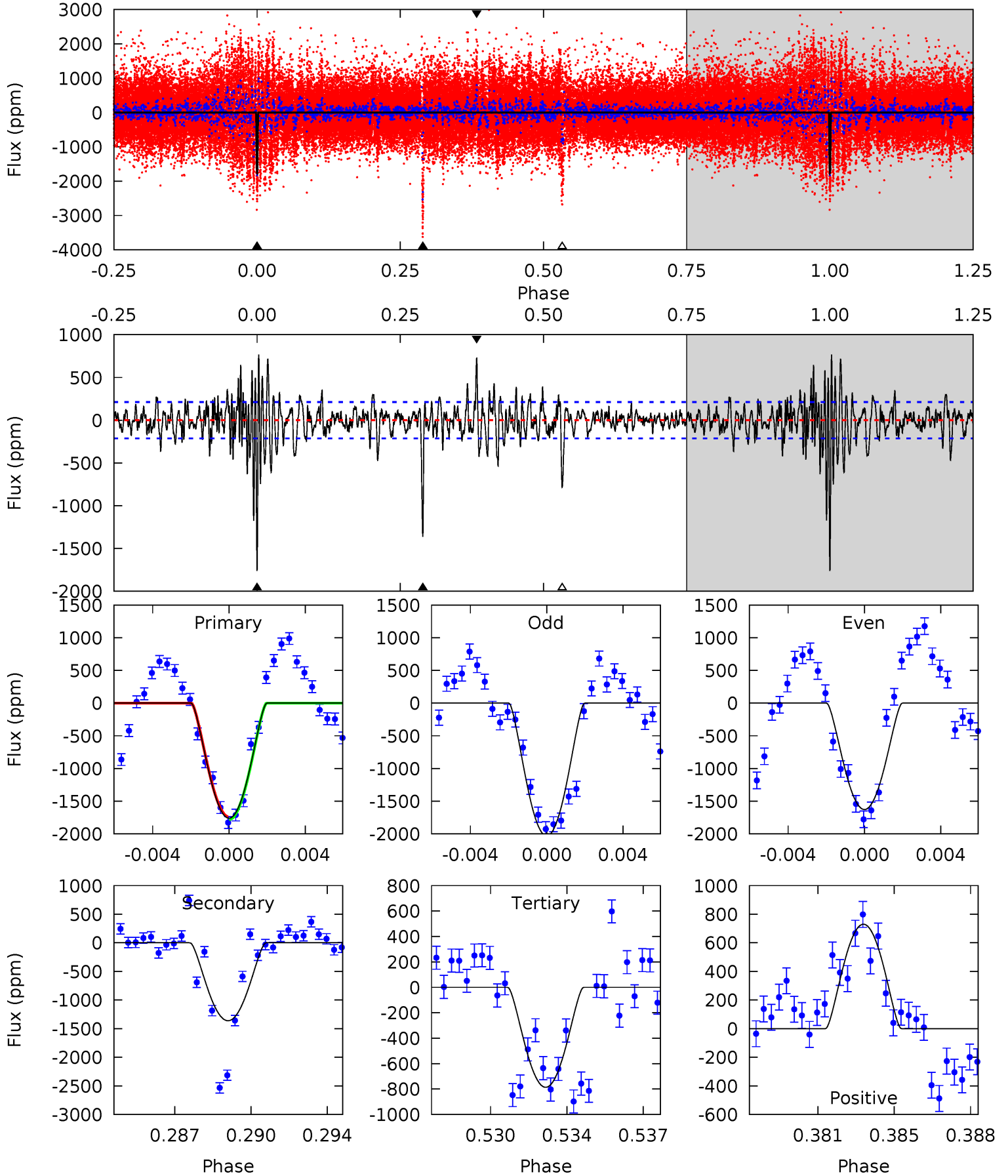
TCE 010731071-01 P=371.475310 Days $T_0=151.716532$ (BKJD)



DV Model-Shift Uniqueness Test

010731071-01, P = 371.442200 Days, E = 151.759937 Days

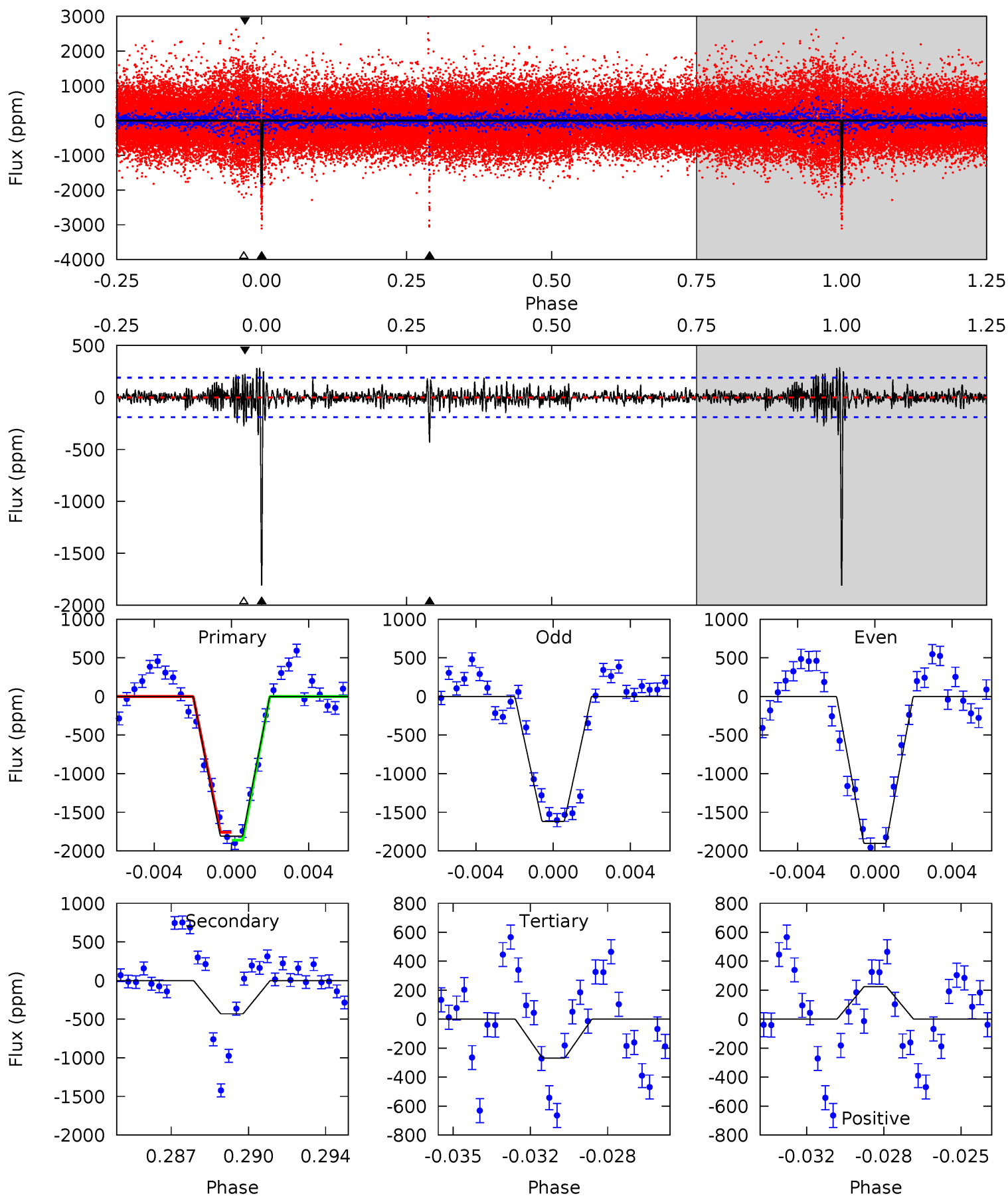
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.2	33.4	19.3	17.9	5.22	2.91	4.01	23.9	25.3	14.1	15.5	4.70	0.96	0.30	0.50



Alt Model-Shift Uniqueness Test

010731071-01, P = 371.475310 Days, E = 151.716532 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.5	11.8	7.37	6.17	5.22	2.92	1.39	42.1	43.3	4.44	5.64	3.68	1.12	0.14	1.42



Stellar Parameters For KIC 010731071

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6031^{+179}_{-215}	$4.450^{+0.070}_{-0.210}$	$-0.140^{+0.300}_{-0.300}$	$0.992^{+0.312}_{-0.111}$	$1.012^{+0.144}_{-0.131}$	$1.459^{+0.522}_{-0.782}$
	+3%/-4%	+2%/-5%	+214%/-214%	+31%/-11%	+14%/-13%	+36%/-54%
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 010731071-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1361±41	$15.83^{+13.53}_{-10.38}$	374^{+28}_{-19}	3576^{+1697}_{-604}	3025^{+22163}_{-2152}
Alt.	-431±37	$13.29^{+13.36}_{-8.95}$	373^{+27}_{-19}	3169^{+1440}_{-556}	1419^{+11963}_{-1083}

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

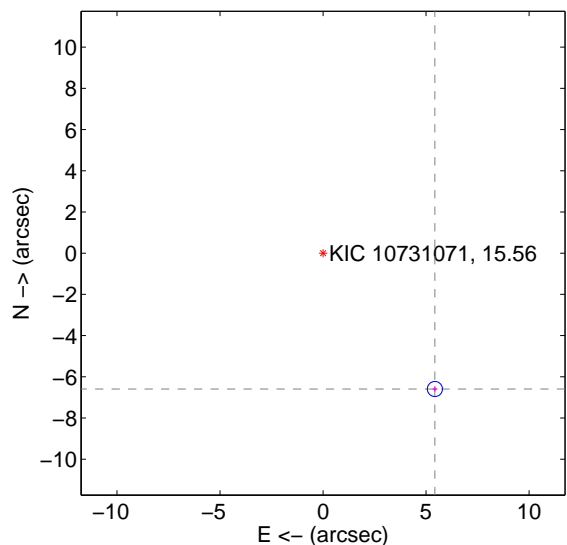
Supplemental centroid analysis for 010731071-01. Kepler magnitude: 15.56. Transit SNR 9.53

There are 0 quarters with good PRF difference image offsets

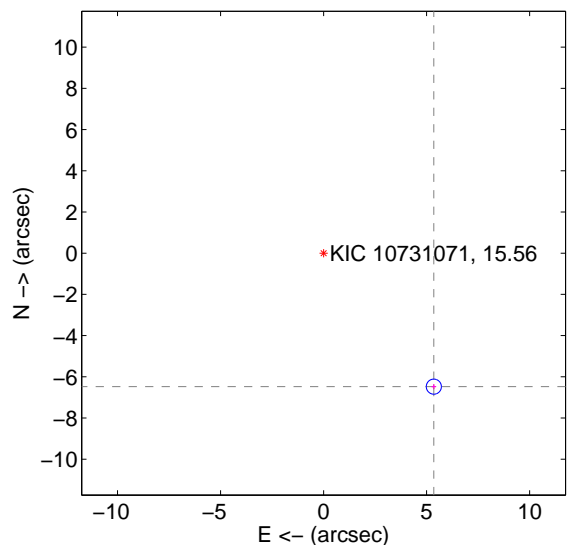
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.538 ± 0.122	69.96	-5.427 ± 0.117	-6.592 ± 0.125
PRF-fit source offset from KIC position	8.401 ± 0.122	68.83	-5.350 ± 0.117	-6.477 ± 0.125
photometric centroid source offset	3.13 ± 2.22	1.41	2.16 ± 2.65	-2.27 ± 1.74

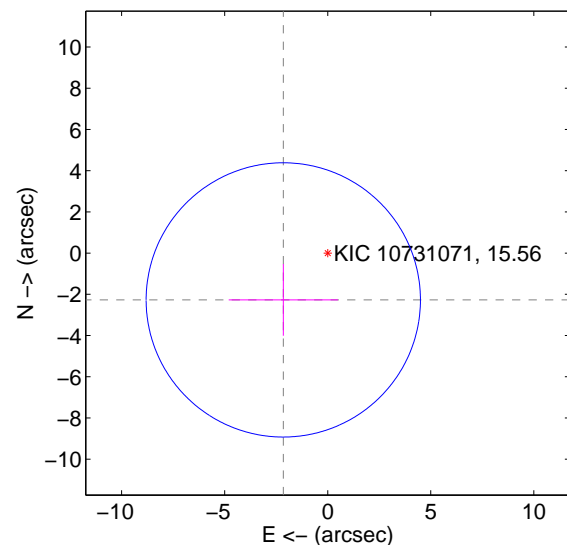
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

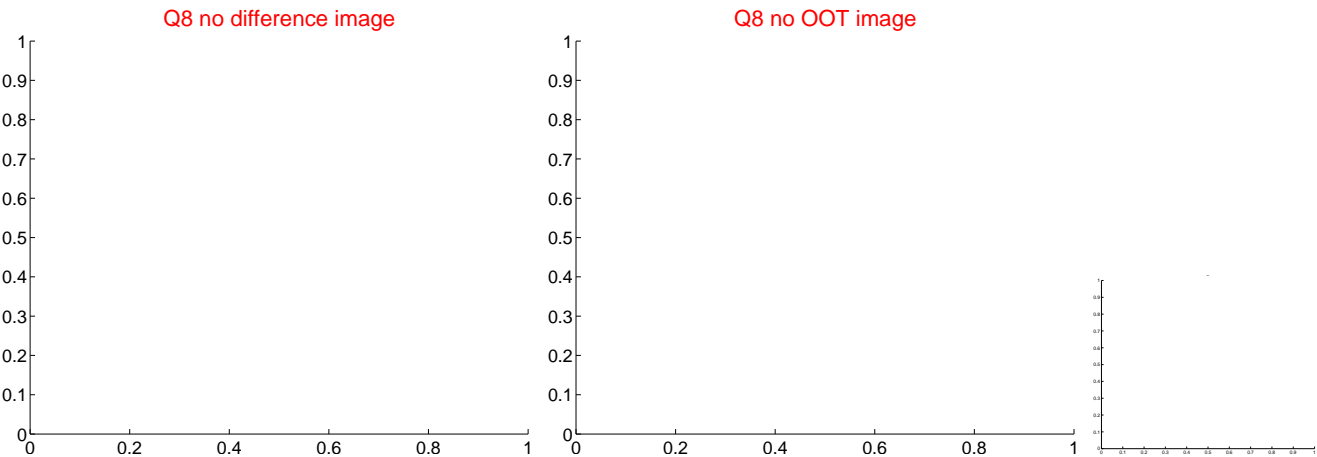
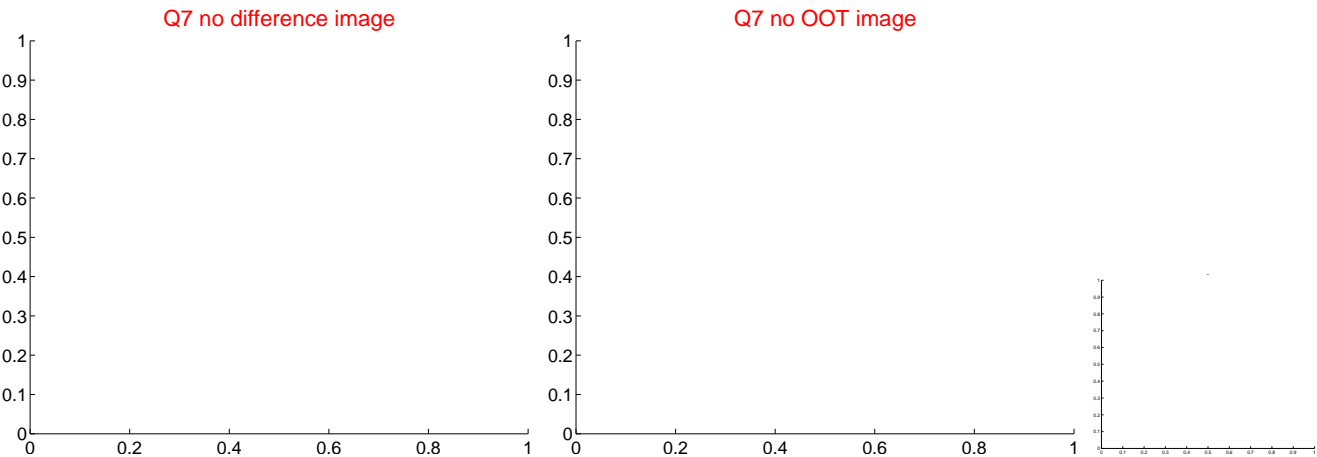
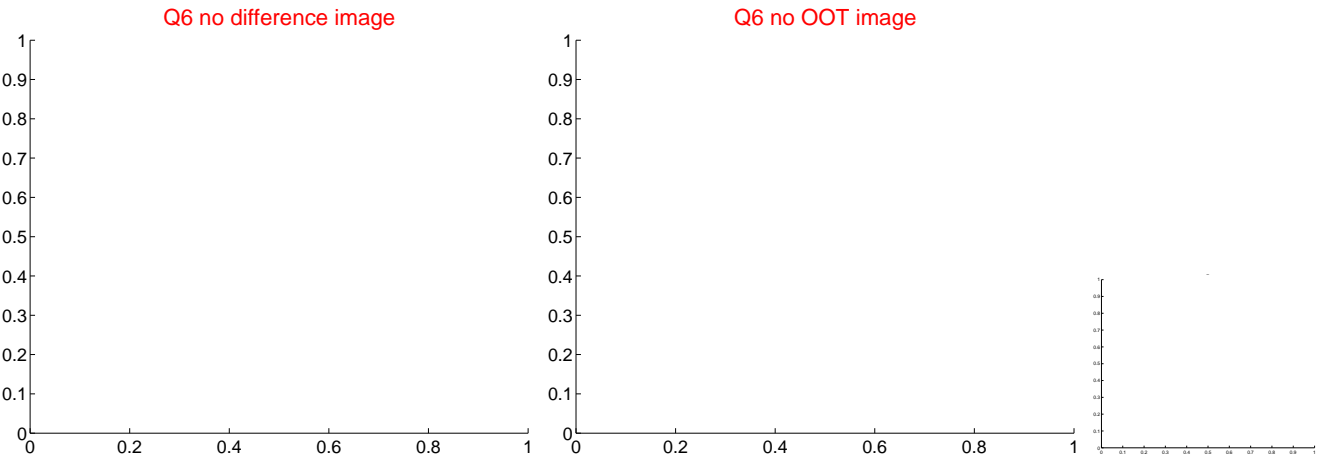
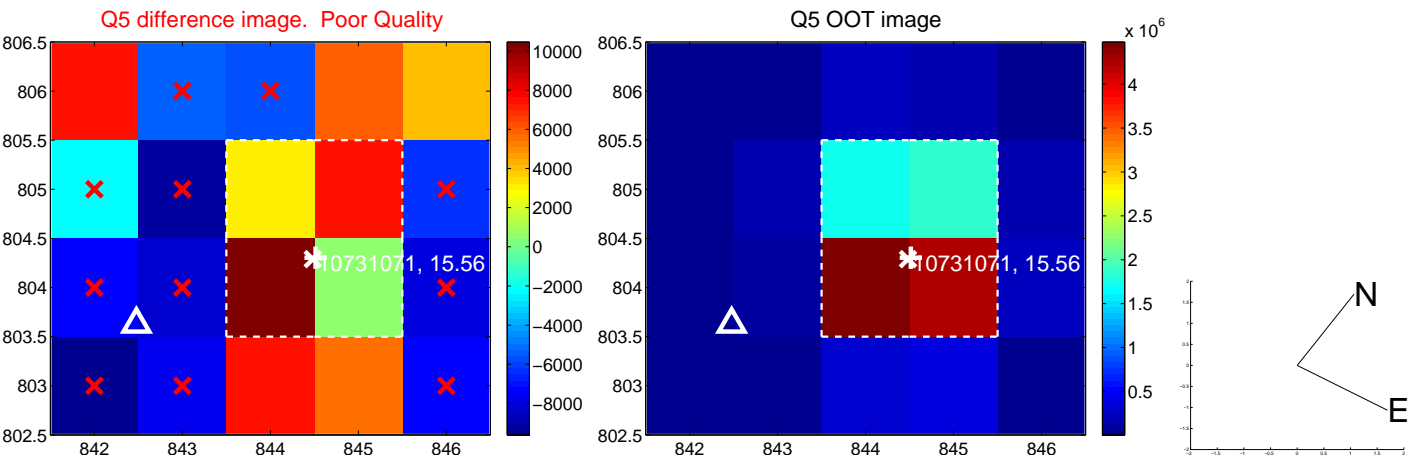


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

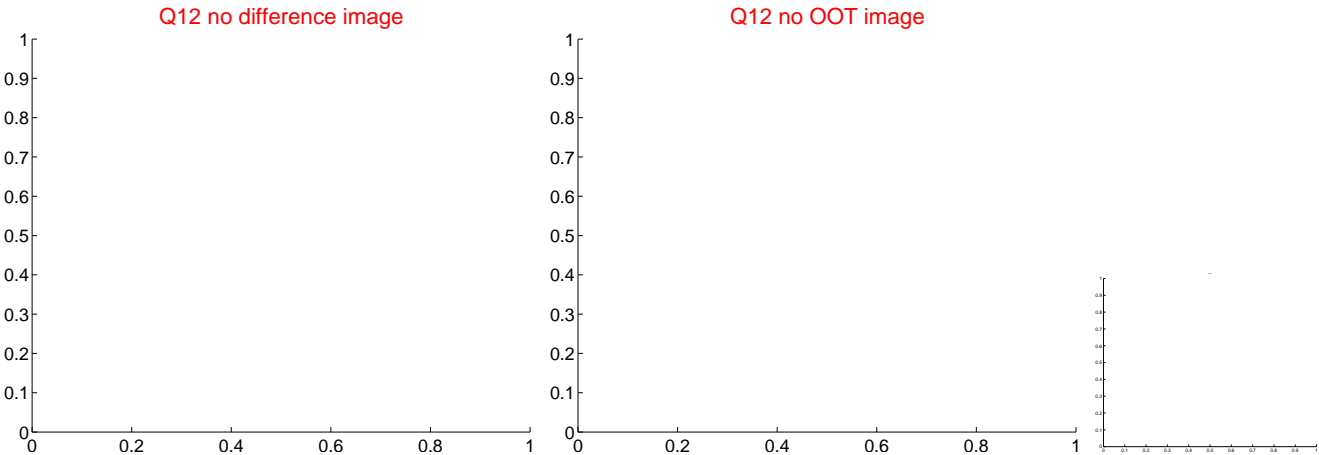
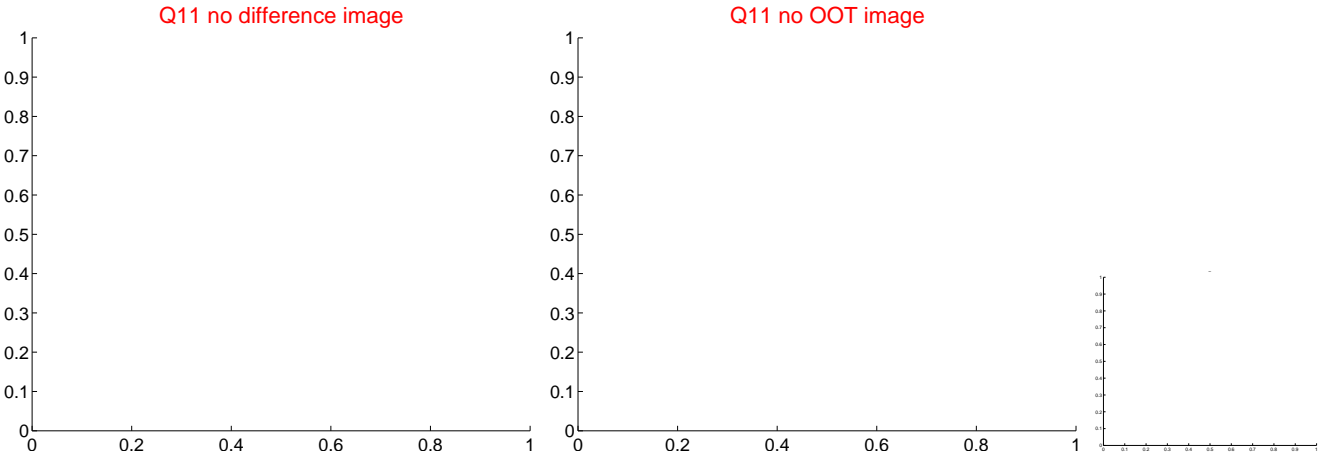
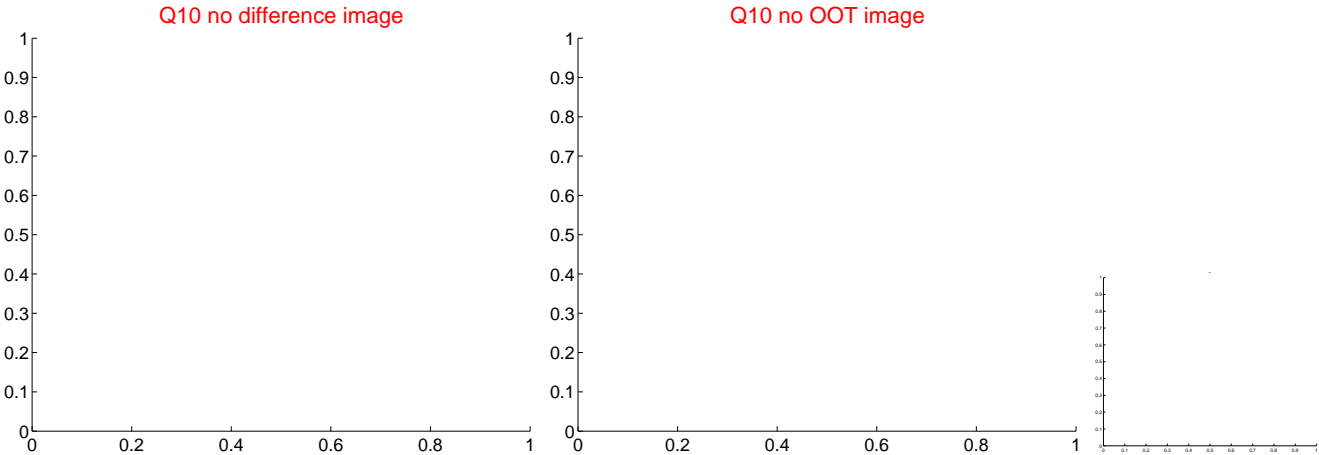
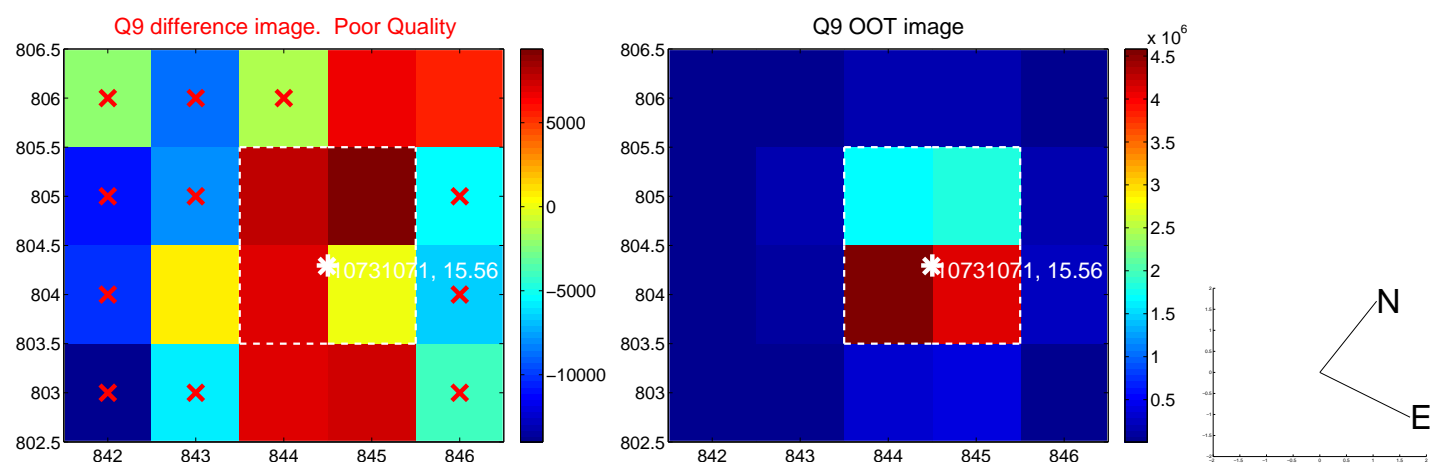
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



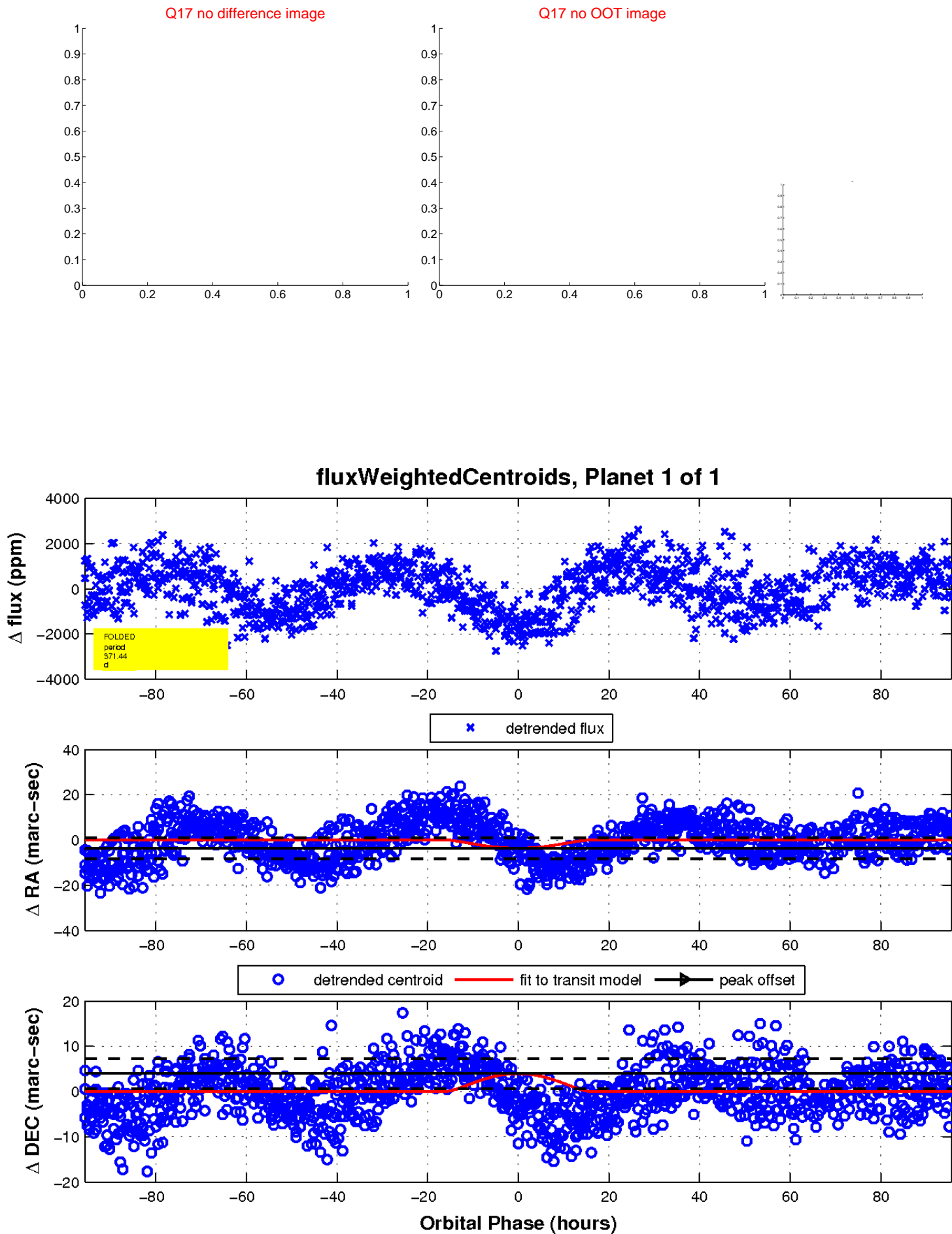
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

