

KIC 008037131

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})
008037131-01	OBS	No	357.315493	475.360945	247.2	19.448	7.2	8.4	0.95	6170	1.63	1.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008037131-01	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—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.

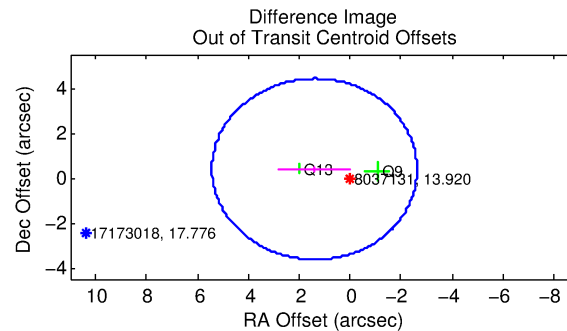
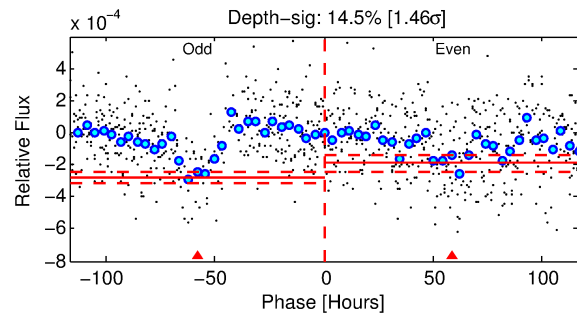
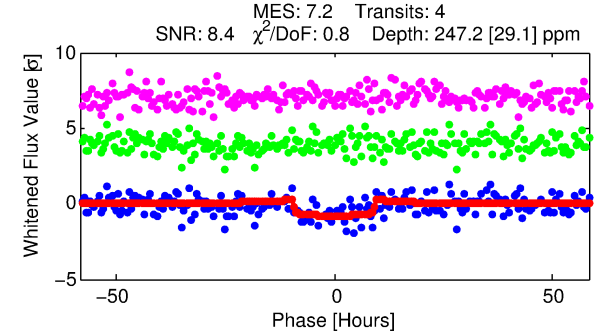
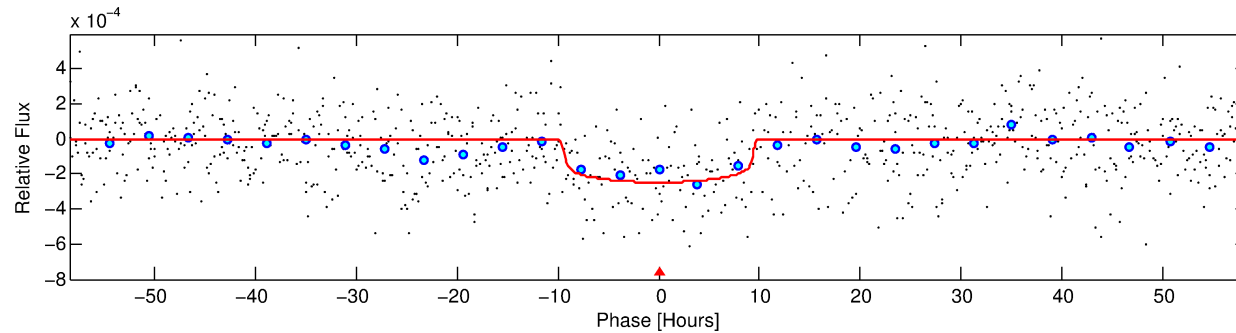
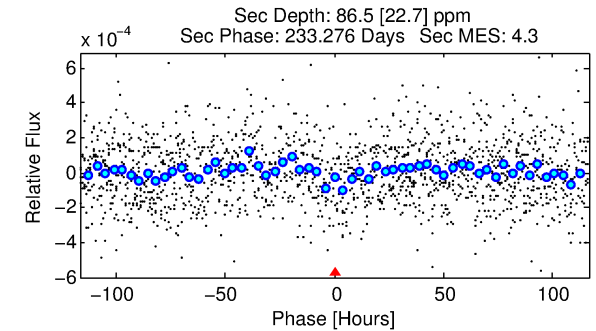
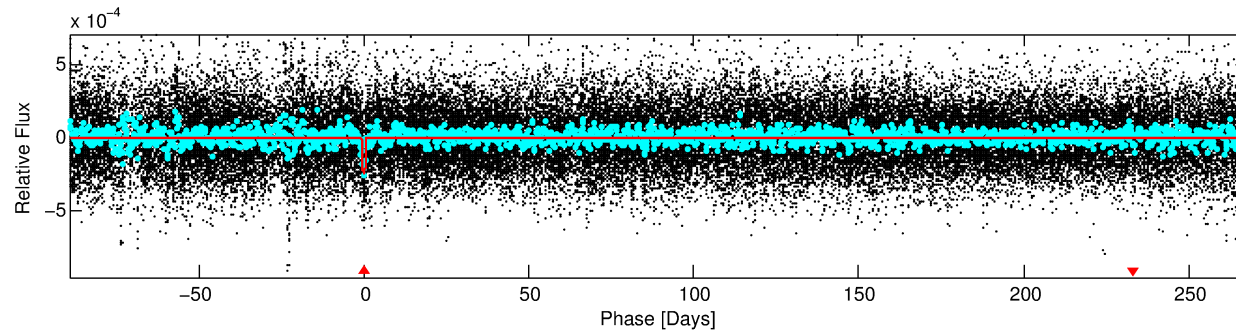
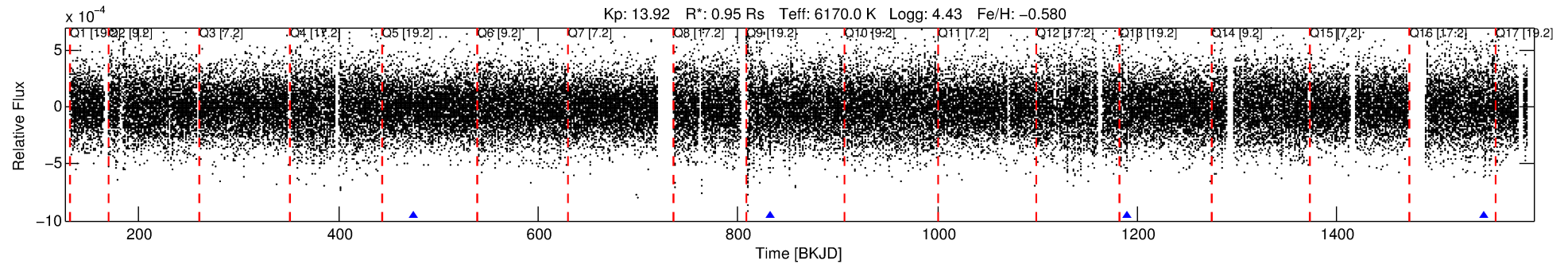
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008037131-01

No Significant Match Found

DV One-Page Summary

KIC: 8037131 Candidate: 1 of 1 Period: 357.315 d



DV Fit Results:

Period = 357.31549 [0.01132] d
Epoch = 475.3609 [0.0224] BKJD
Rp/R* = 0.0156 [0.0027]
a/R* = 96.08 [82.80]
b = 0.75 [0.51]
Seff = 1.31 [0.46]
Teq = 273 [24] K
Rp = 1.63 [0.53] Re
a = 0.9508 [0.2184] AU
Ag = 16235.27 [8907.95] [1.82σ]
Teffp = 4758 [538] K [8.33σ]

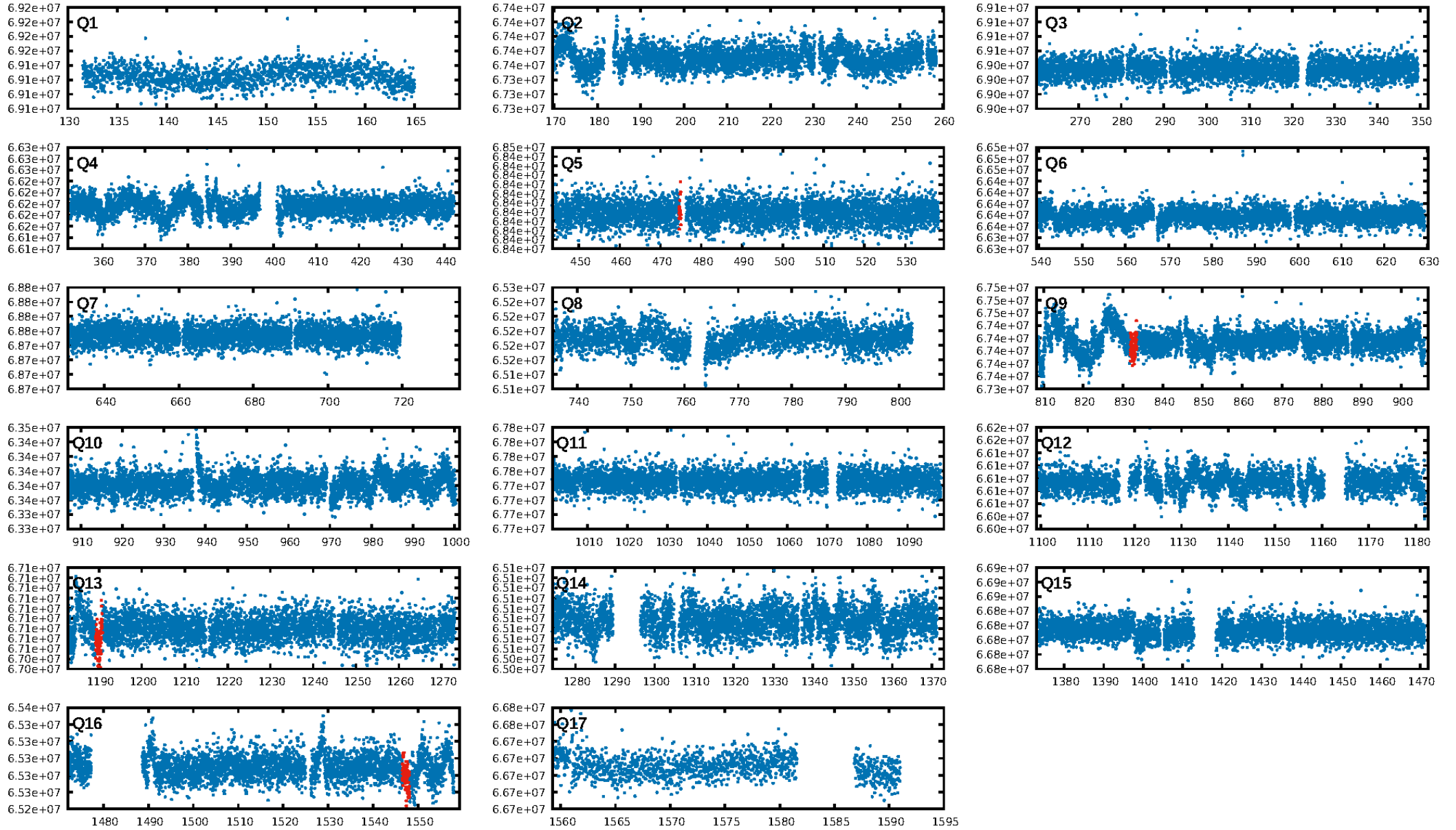
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 52.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.06e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 8.503
Centroid-sig: 34.1%
Centroid-so: 1.316 arcsec [1.10σ]
OotOffset-rm: 1.446 arcsec [1.08σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 1.598 arcsec [1.26σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

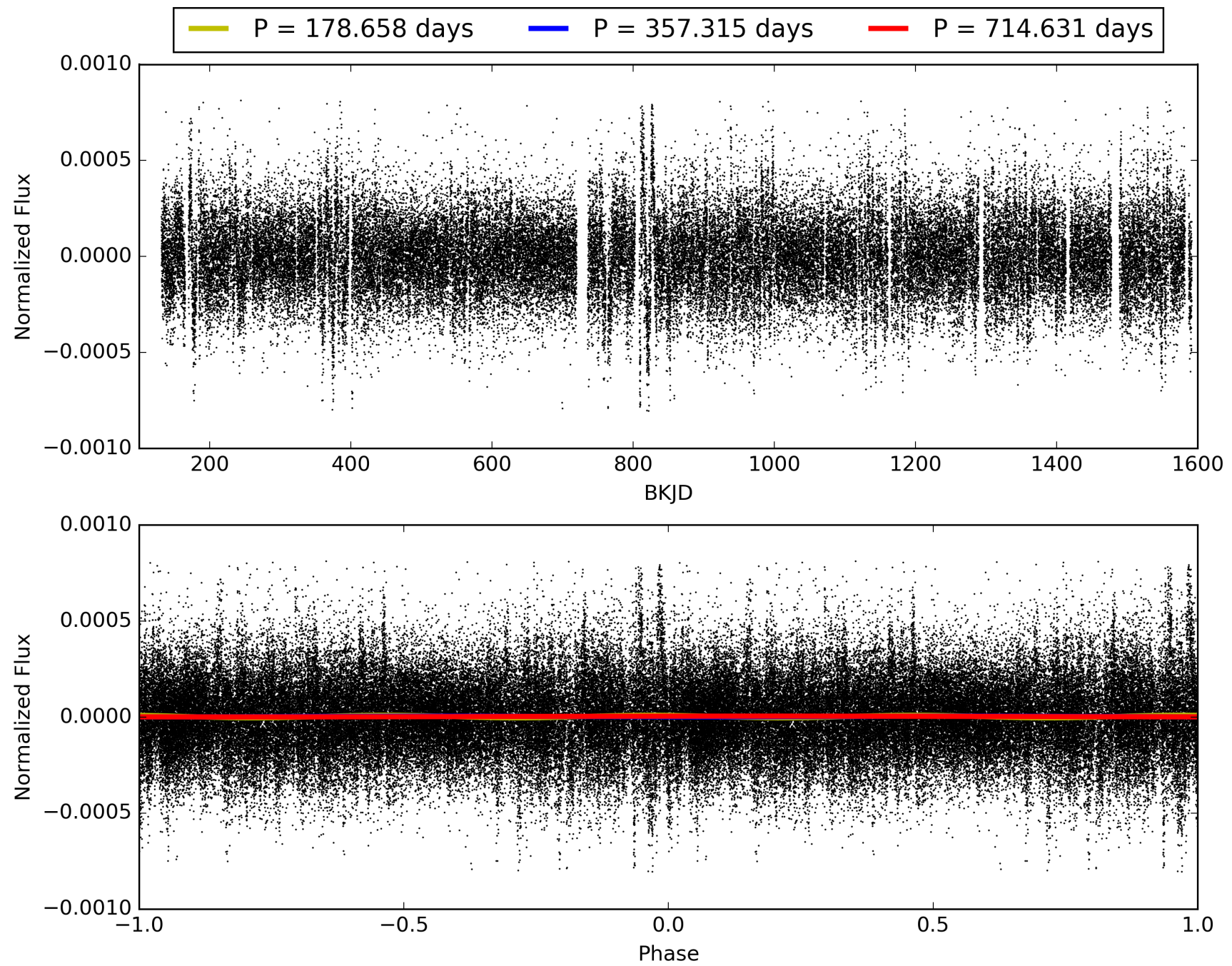
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:55:23 Z

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

TCE 008037131-01, PDC Light Curves

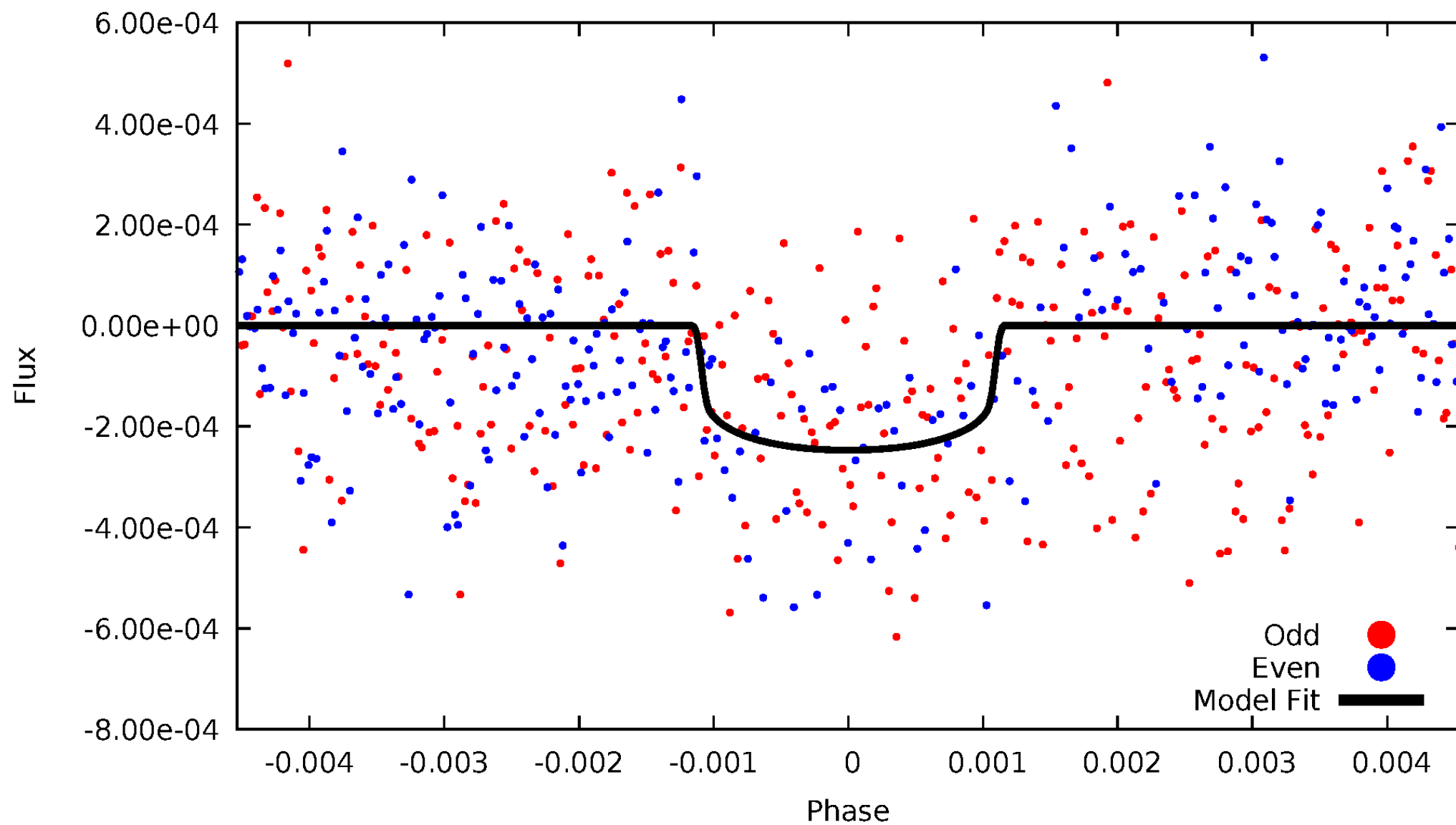


TCE 008037131-01



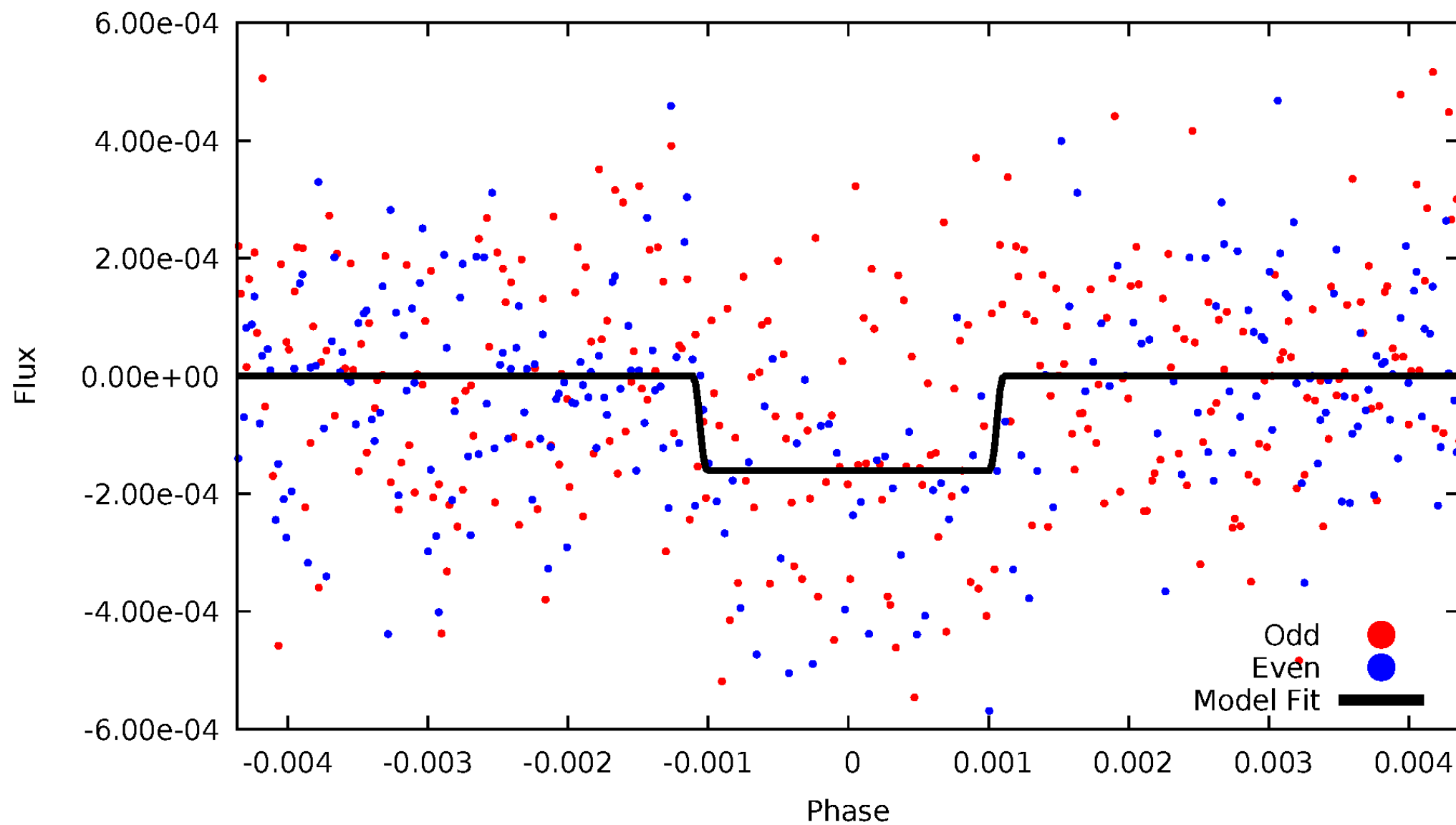
DV Odd/Even

TCE 008037131-01

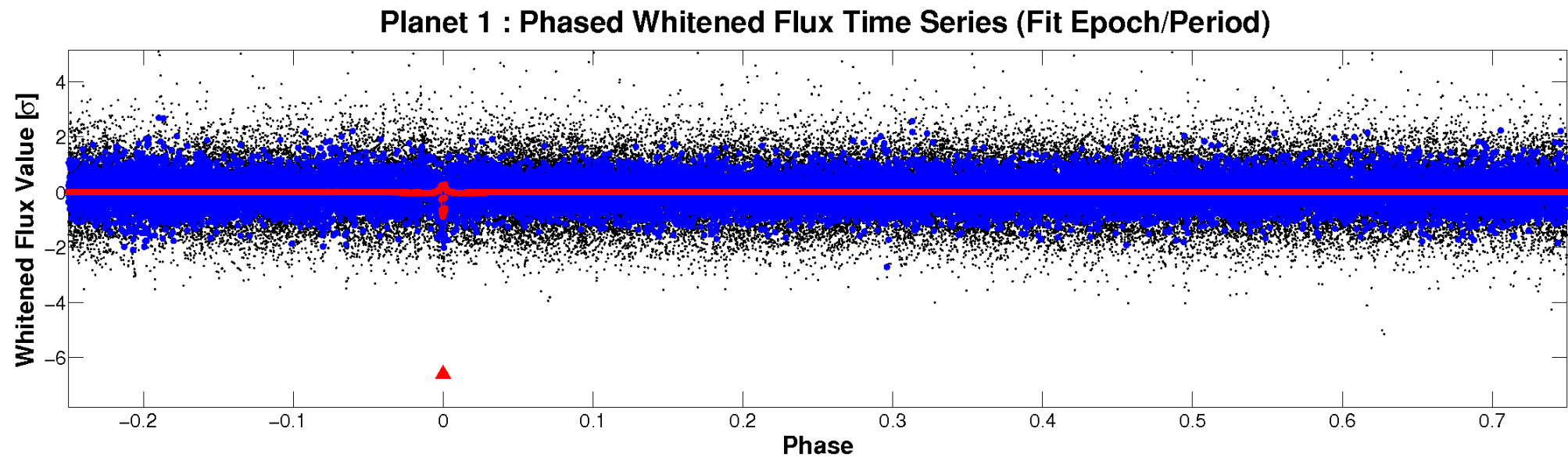
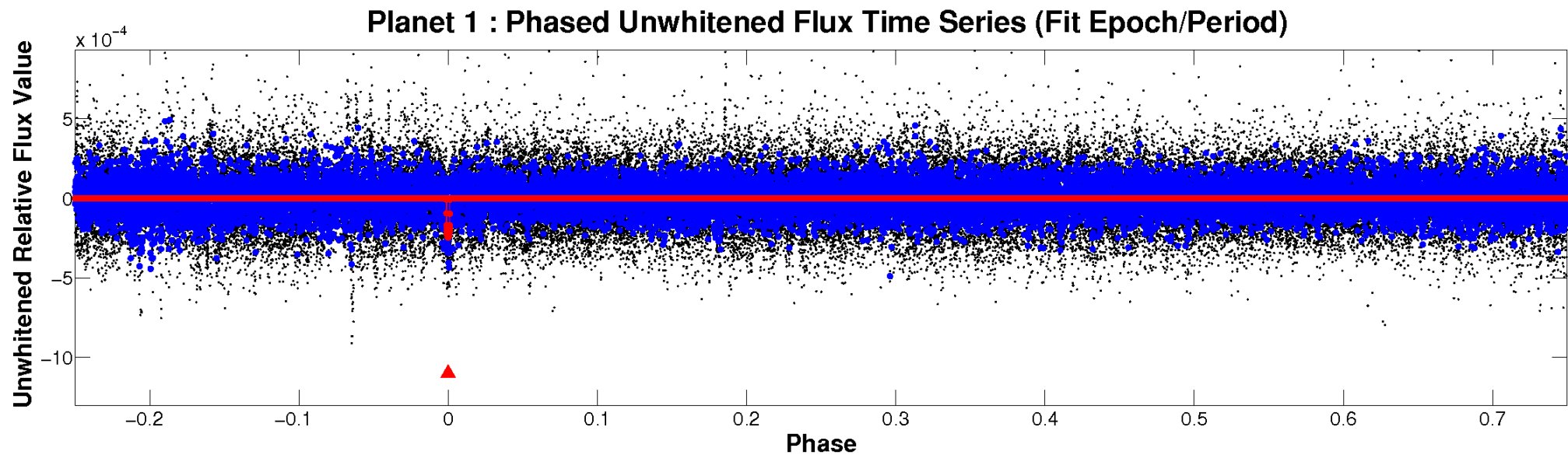


ALT Odd/Even

TCE 008037131-01

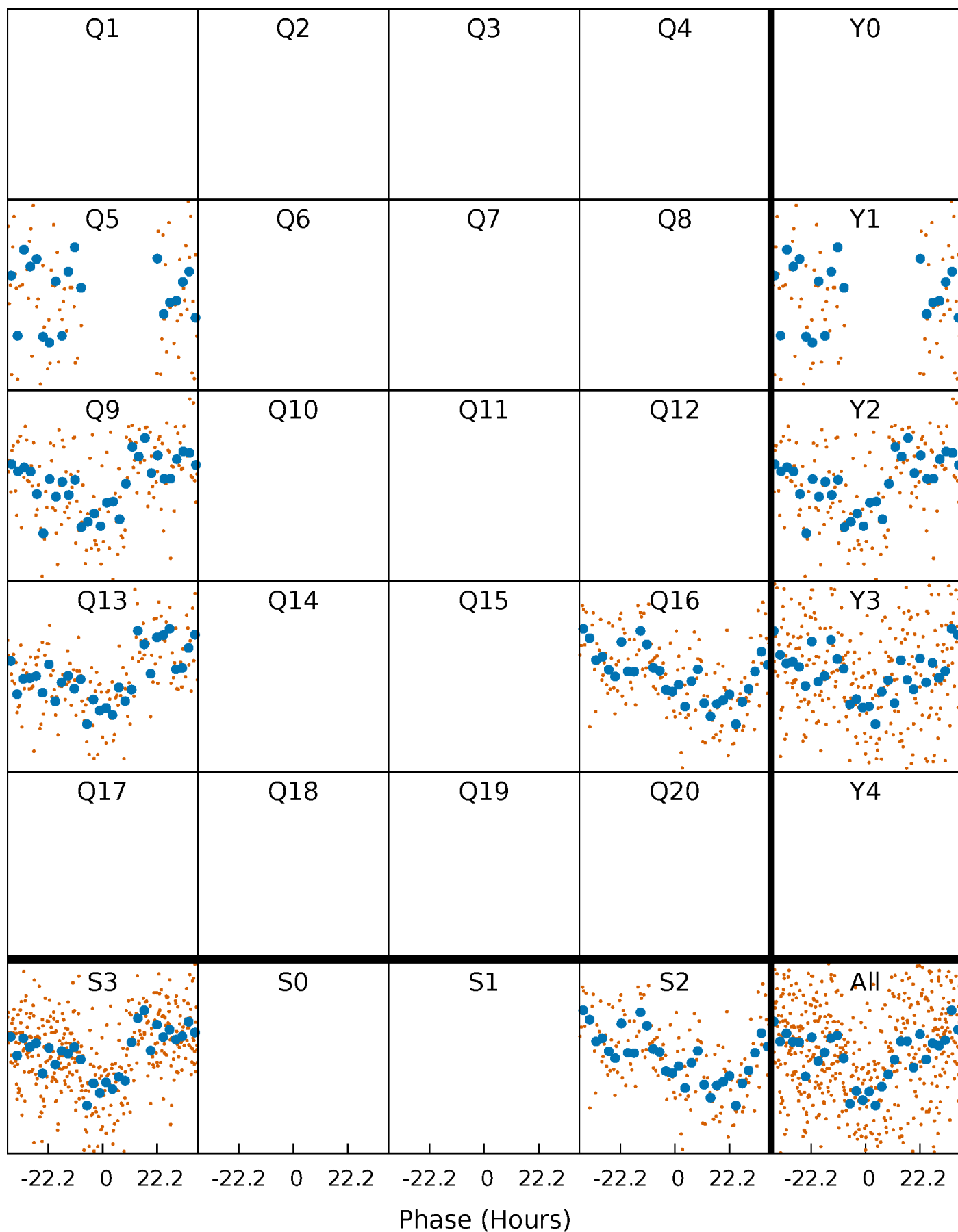


Non-Whitened Vs. Whitened Light Curve



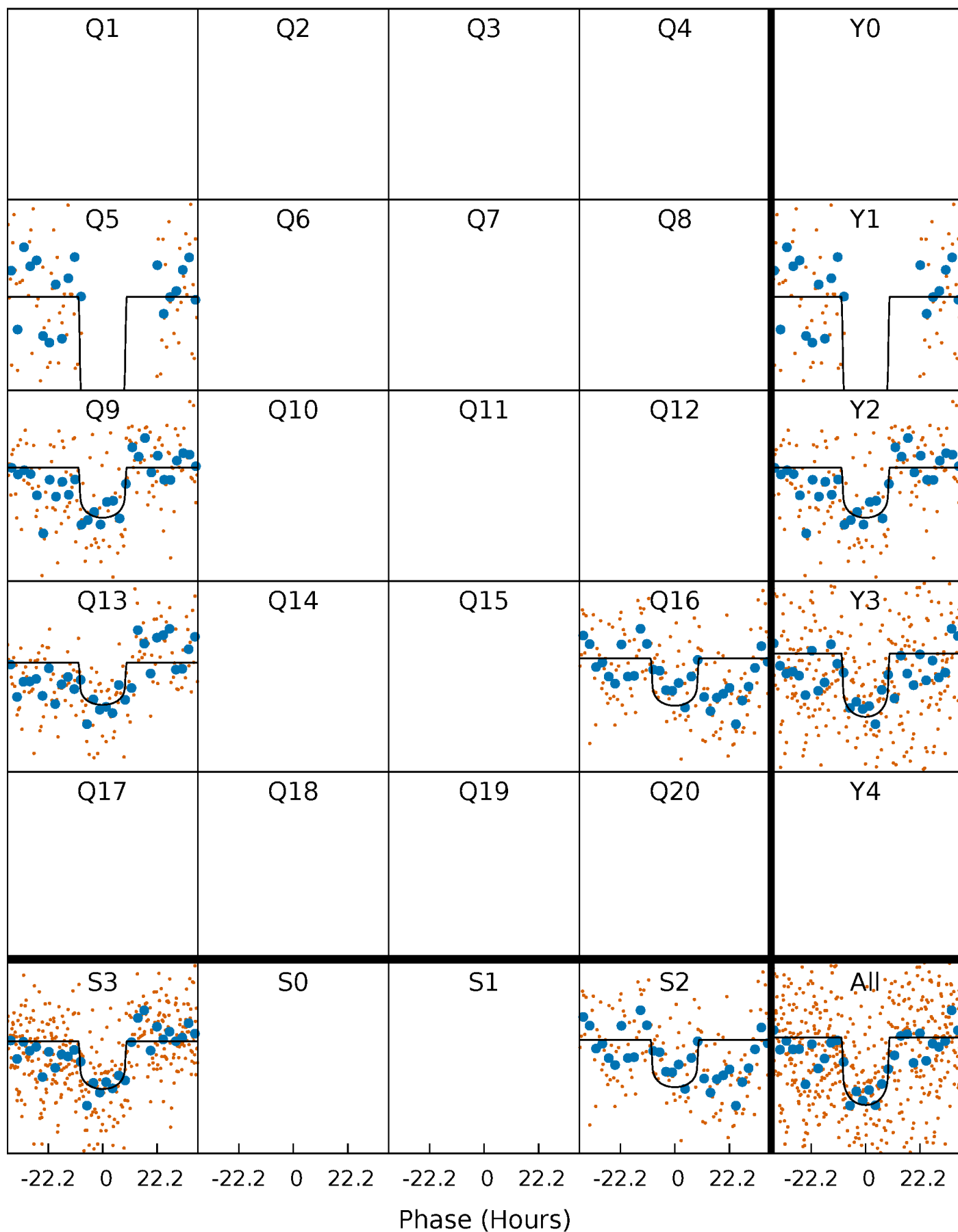
PDC Quarter-Phased Transit Curves

TCE 008037131-01 P=357.315493 Days $T_0=475.360945$ (BKJD)



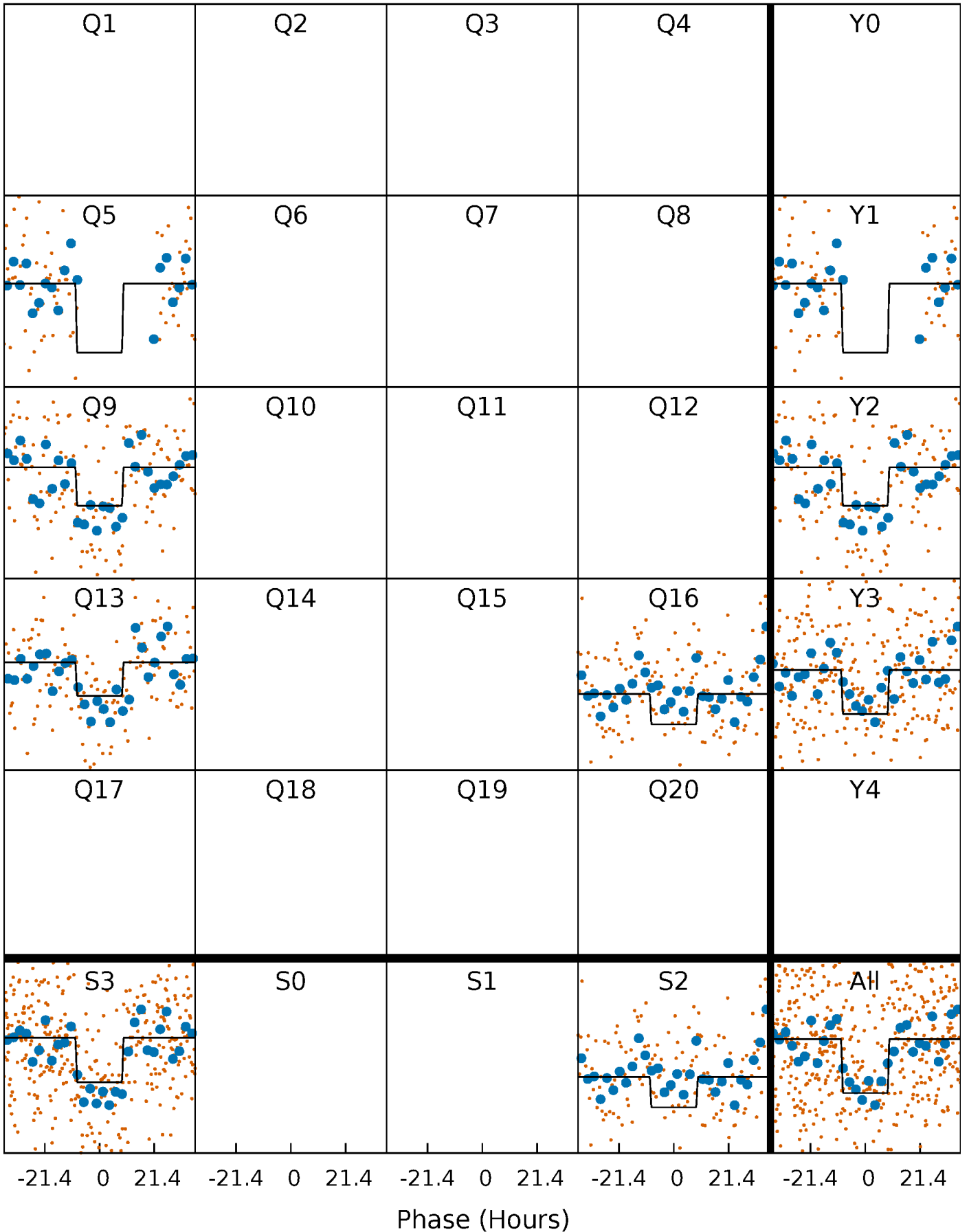
DV Quarter-Phased Transit Curves

TCE 008037131-01 P=357.315493 Days $T_0=475.360945$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

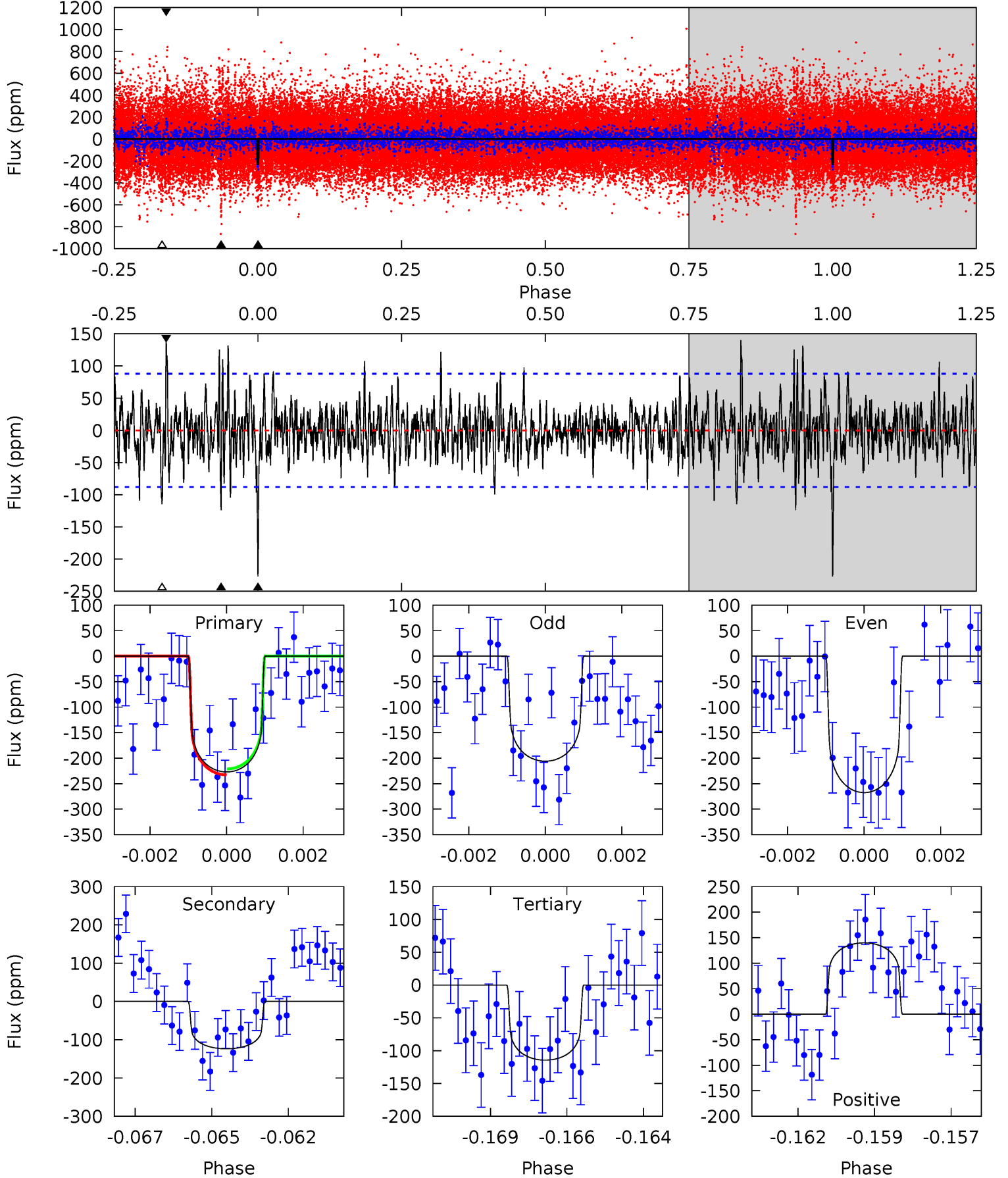
TCE 008037131-01 P=357.314852 Days $T_0=475.369820$ (BKJD)



DV Model-Shift Uniqueness Test

008037131-01, $P = 357.315493$ Days, $E = 118.045452$ Days

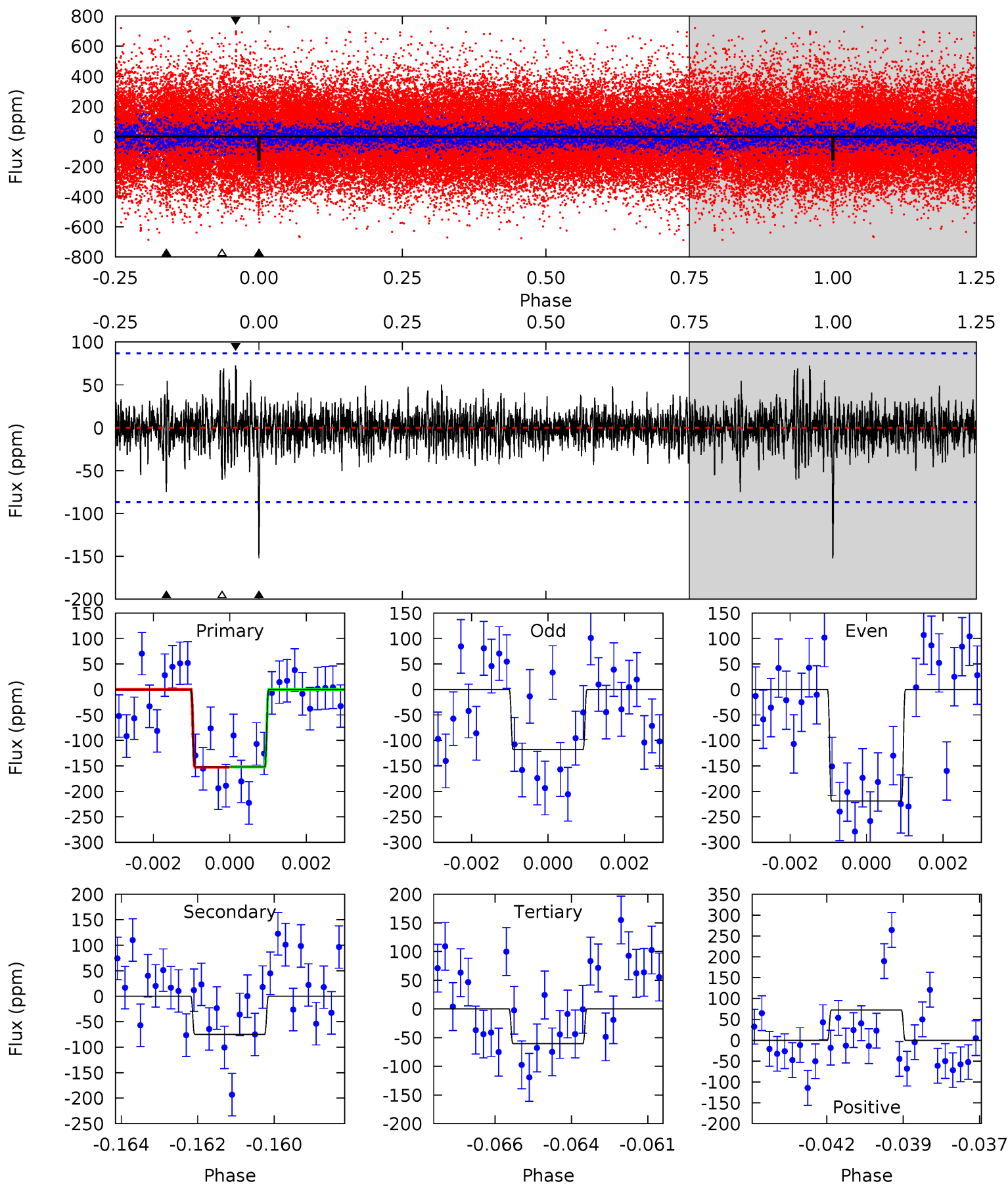
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	7.46	6.91	8.44	5.30	3.05	1.88	6.79	5.26	0.56	-0.97	1.78	0.99	0.38	0.35



Alt Model-Shift Uniqueness Test

008037131-01, P = 357.314852 Days, E = 118.054968 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.31	4.58	3.71	4.45	5.31	3.06	0.95	5.60	4.86	0.87	0.13	2.94	0.88	0.32	0.03



Stellar Parameters For KIC 008037131

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6170^{+167}_{-186}	$4.432^{+0.098}_{-0.182}$	$-0.580^{+0.300}_{-0.300}$	$0.954^{+0.261}_{-0.130}$	$0.898^{+0.116}_{-0.084}$	$1.457^{+0.636}_{-0.713}$
	+3%/-3%	+2%/-4%	+52%/-52%	+27%/-14%	+13%/-9%	+44%/-49%
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 008037131-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-124 ± 17	$1.67^{+0.36}_{-0.30}$	384^{+26}_{-19}	5241^{+481}_{-380}	21784^{+11713}_{-7156}
Alt.	-75 ± 16	$1.35^{+0.36}_{-0.32}$	384^{+26}_{-21}	5128^{+734}_{-471}	19799^{+17006}_{-7882}

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 $A_{obs} \gg 1.0$

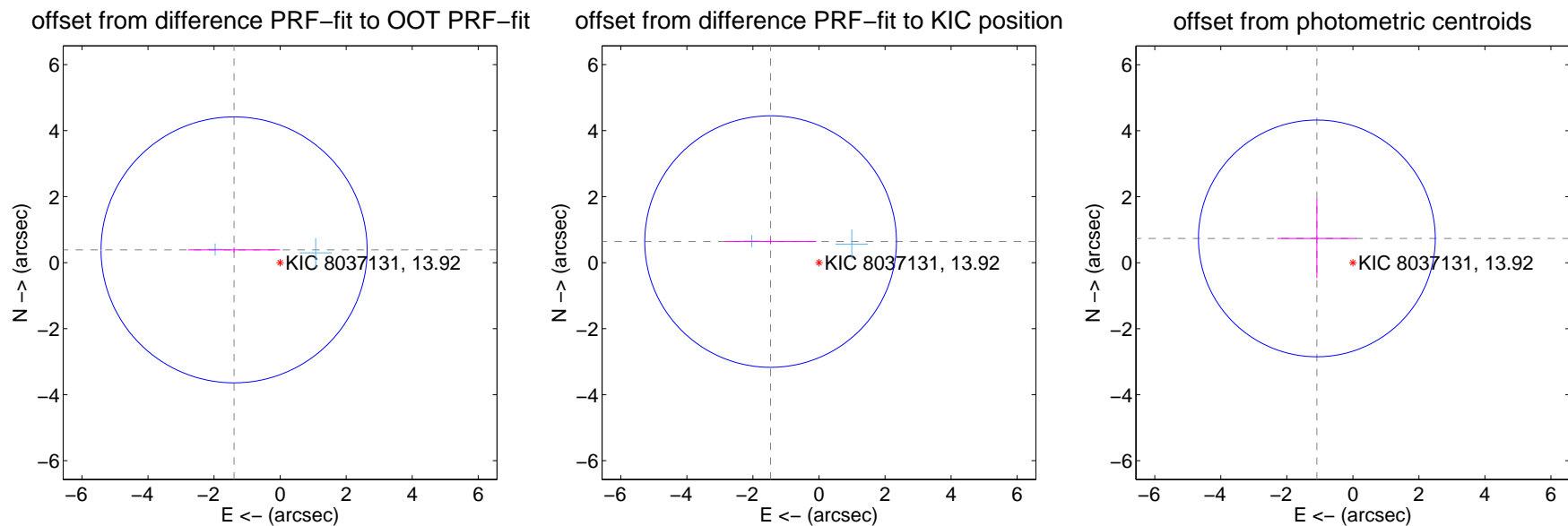
DV Centroid Data

Supplemental centroid analysis for 008037131-01. Kepler magnitude: 13.92. Transit SNR 8.41

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.446 ± 1.343	1.08	1.394 ± 1.394	0.387 ± 0.079
PRF-fit source offset from KIC position	1.598 ± 1.270	1.26	1.465 ± 1.386	0.639 ± 0.076
photometric centroid source offset	1.32 ± 1.20	1.10	1.09 ± 1.19	0.74 ± 1.21



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.

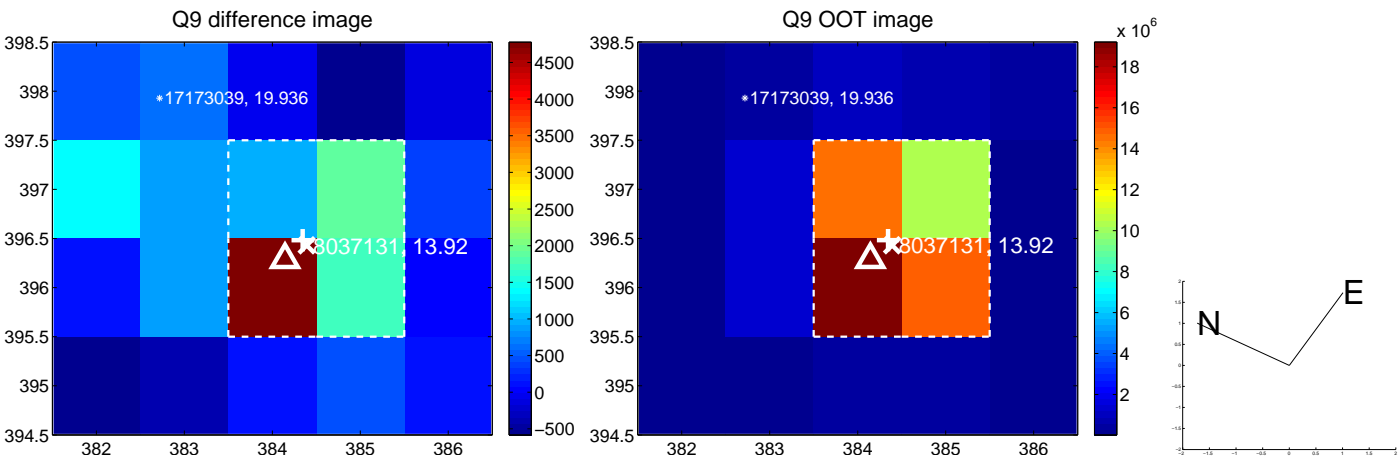
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



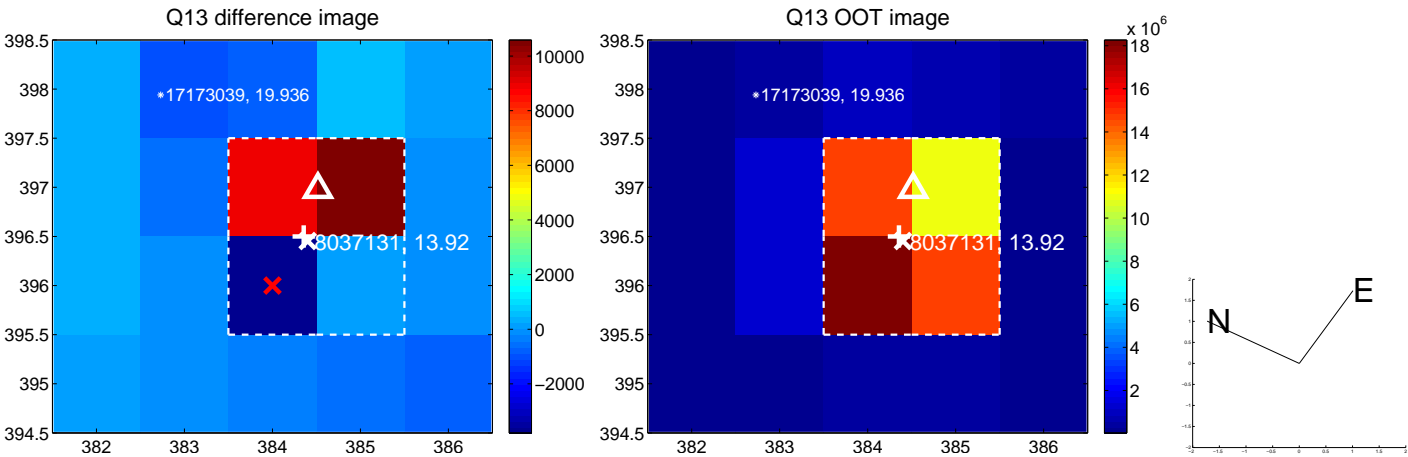
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



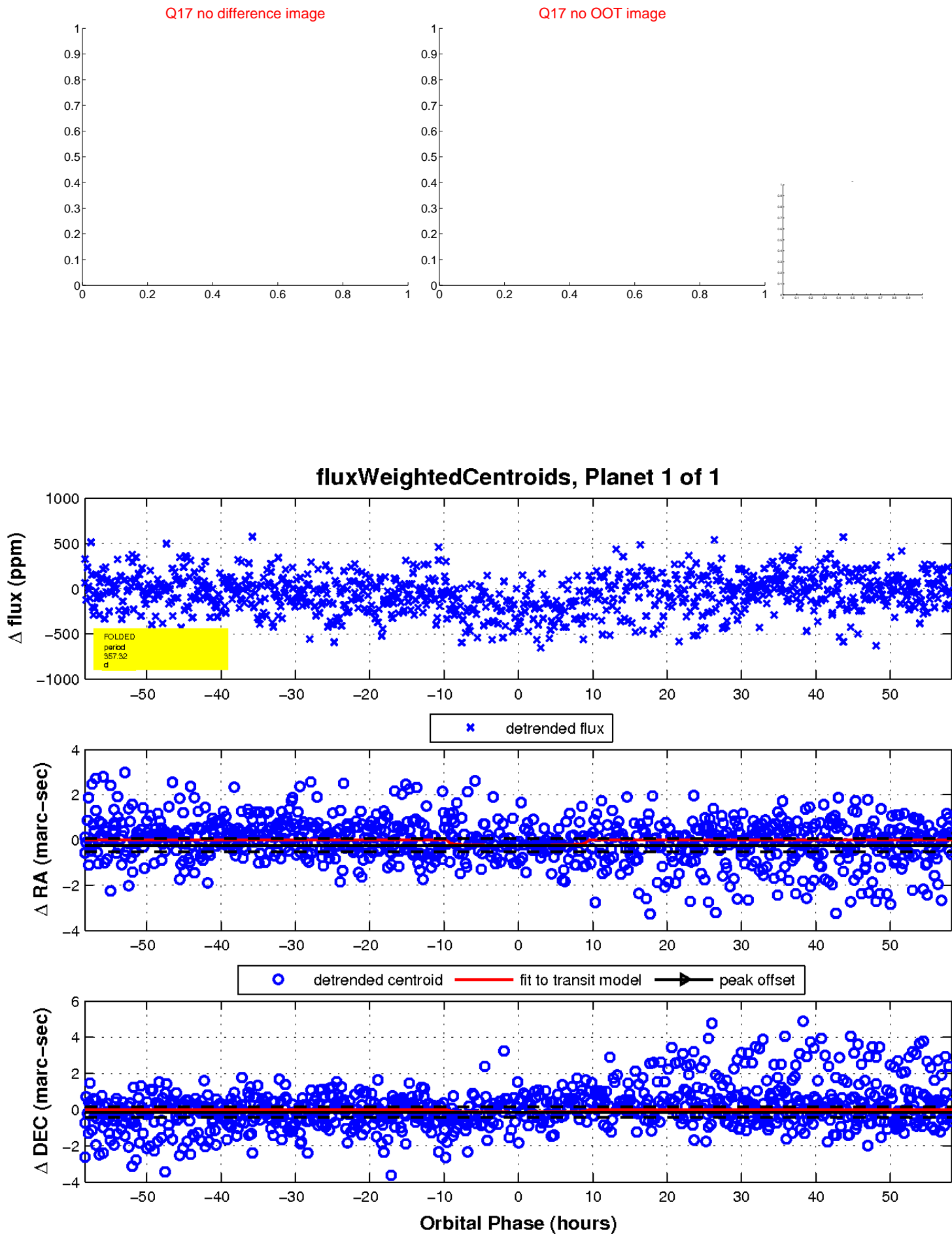
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

