

KIC 010742131

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})
010742131-01	OBS	No	218.888913	297.407257	263.5	6.366	7.2	2.8	1.07	6392	1.92	3.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010742131-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

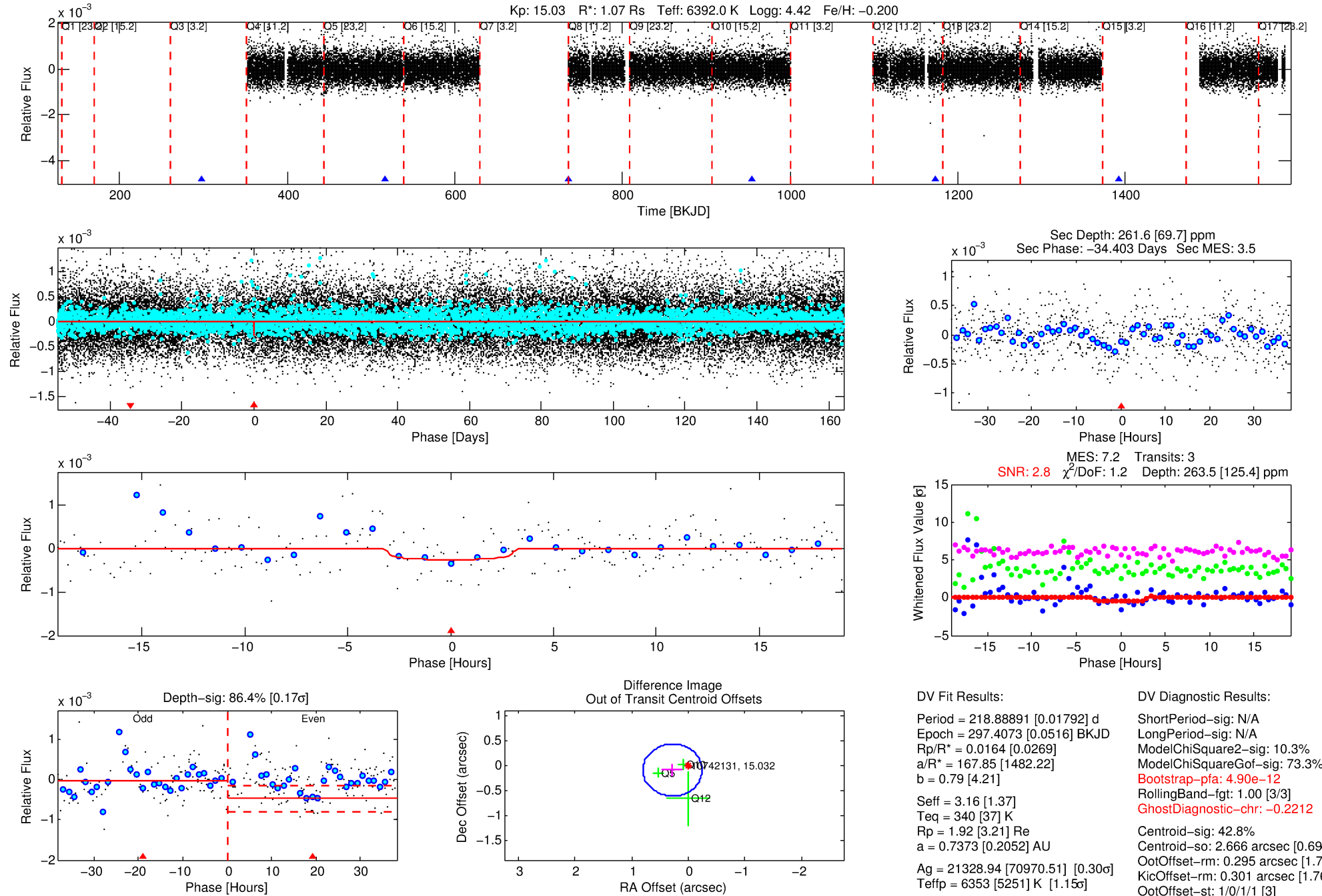
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010742131-01

No Significant Match Found

DV One-Page Summary

KIC: 10742131 Candidate: 1 of 1 Period: 218.889 d



DV Fit Results:

Period = 218.88891 [0.01792] d
Epoch = 297.4073 [0.0516] BKJD
Rp/R* = 0.0164 [0.0269]
a/R* = 167.85 [1482.22]
b = 0.79 [4.21]
Seff = 3.16 [1.37]
Teff = 340 [37] K
Rp = 1.92 [3.21] Re
a = 0.7373 [0.2052] AU
Ag = 21328.94 [70970.51] [0.30 σ]
Teffp = 6353 [5251] K [1.15 σ]

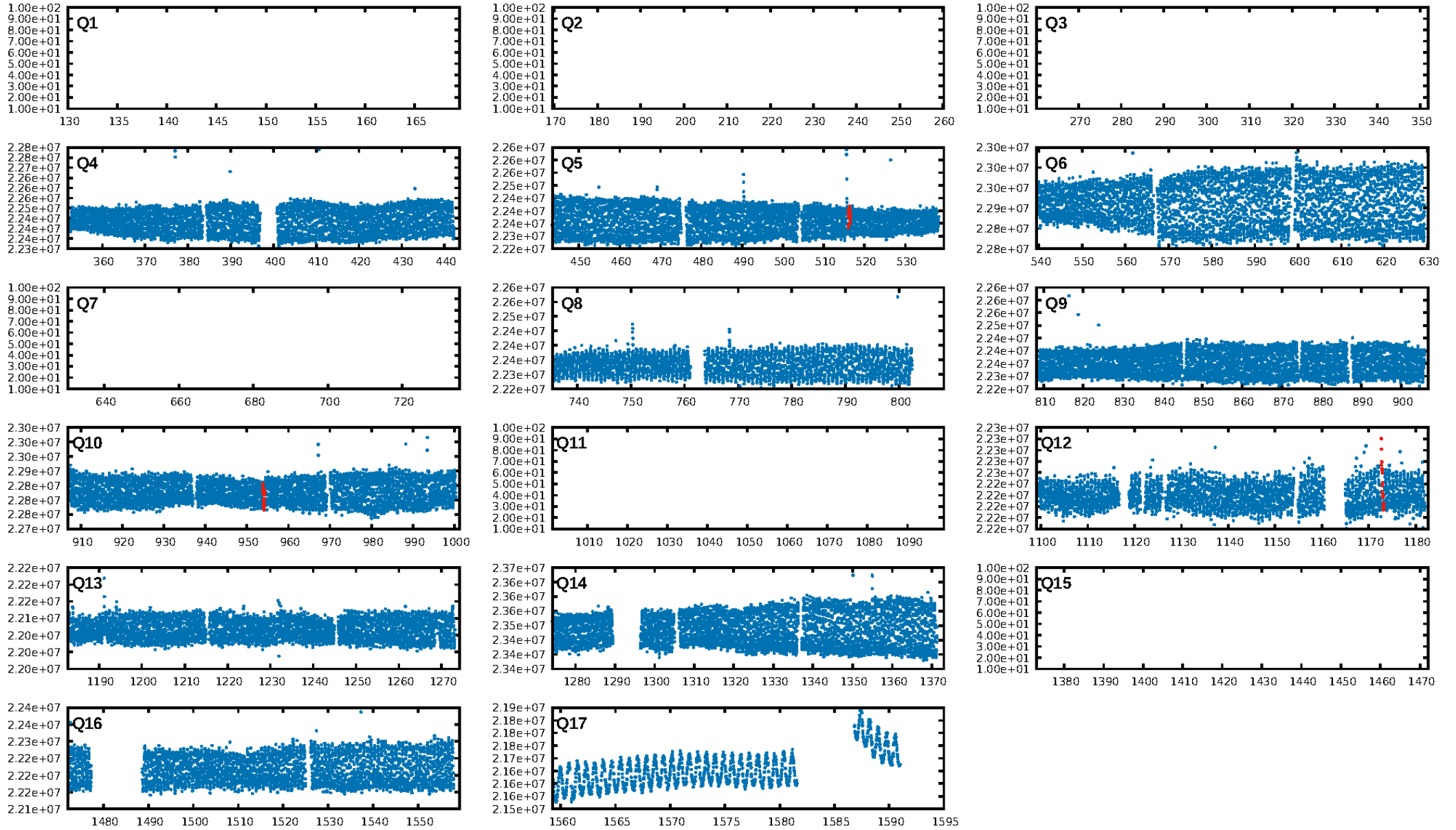
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.3%
ModelChiSquareGof-sig: 73.3%
Bootstrap-pfa: 4.90e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.2212
Centroid-sig: 42.8%
Centroid-so: 2.666 arcsec [0.69 σ]
OotOffset-rm: 0.295 arcsec [1.70 σ]
KicOffset-rm: 0.301 arcsec [1.76 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

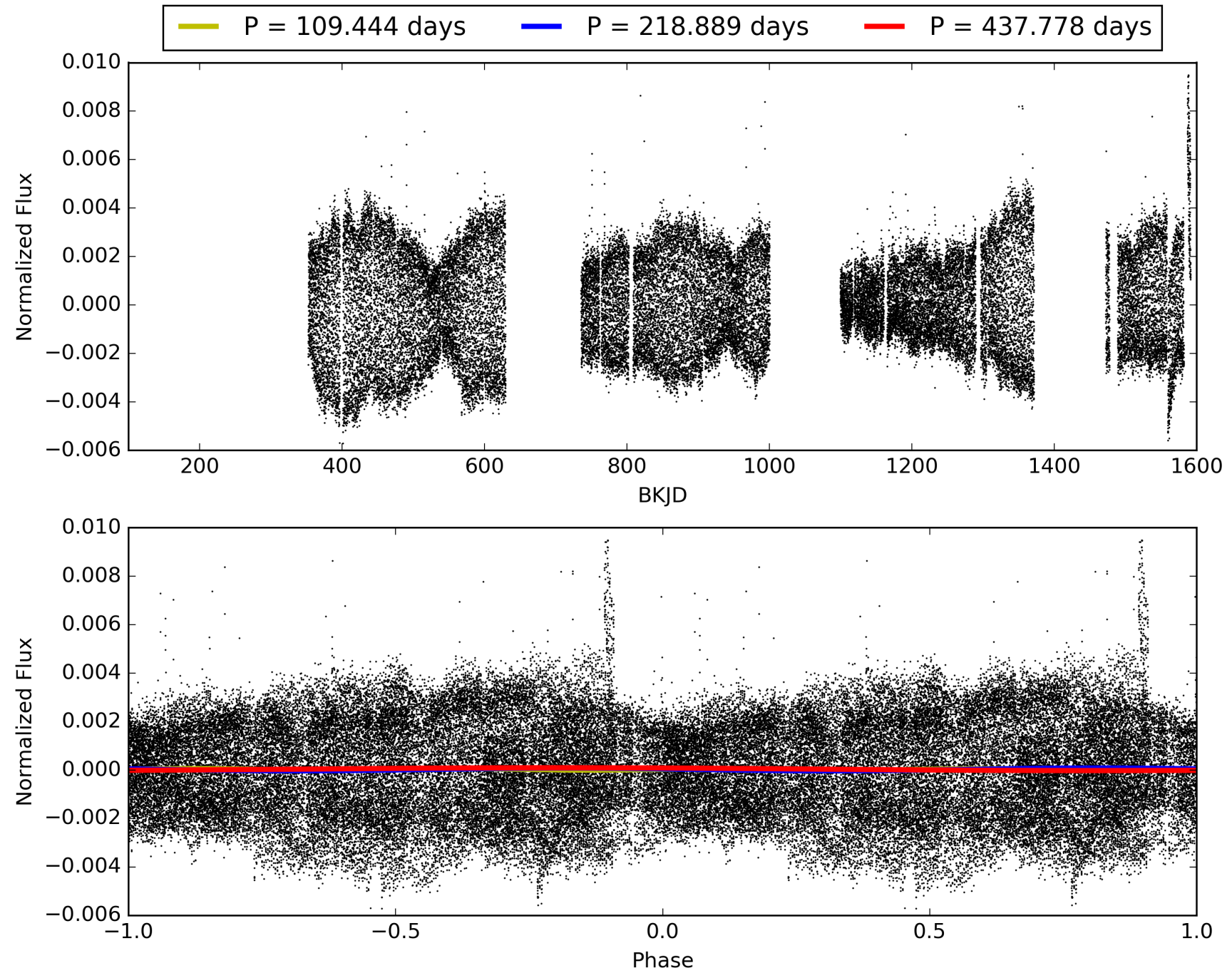
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:14:25 Z

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

TCE 010742131-01, PDC Light Curves

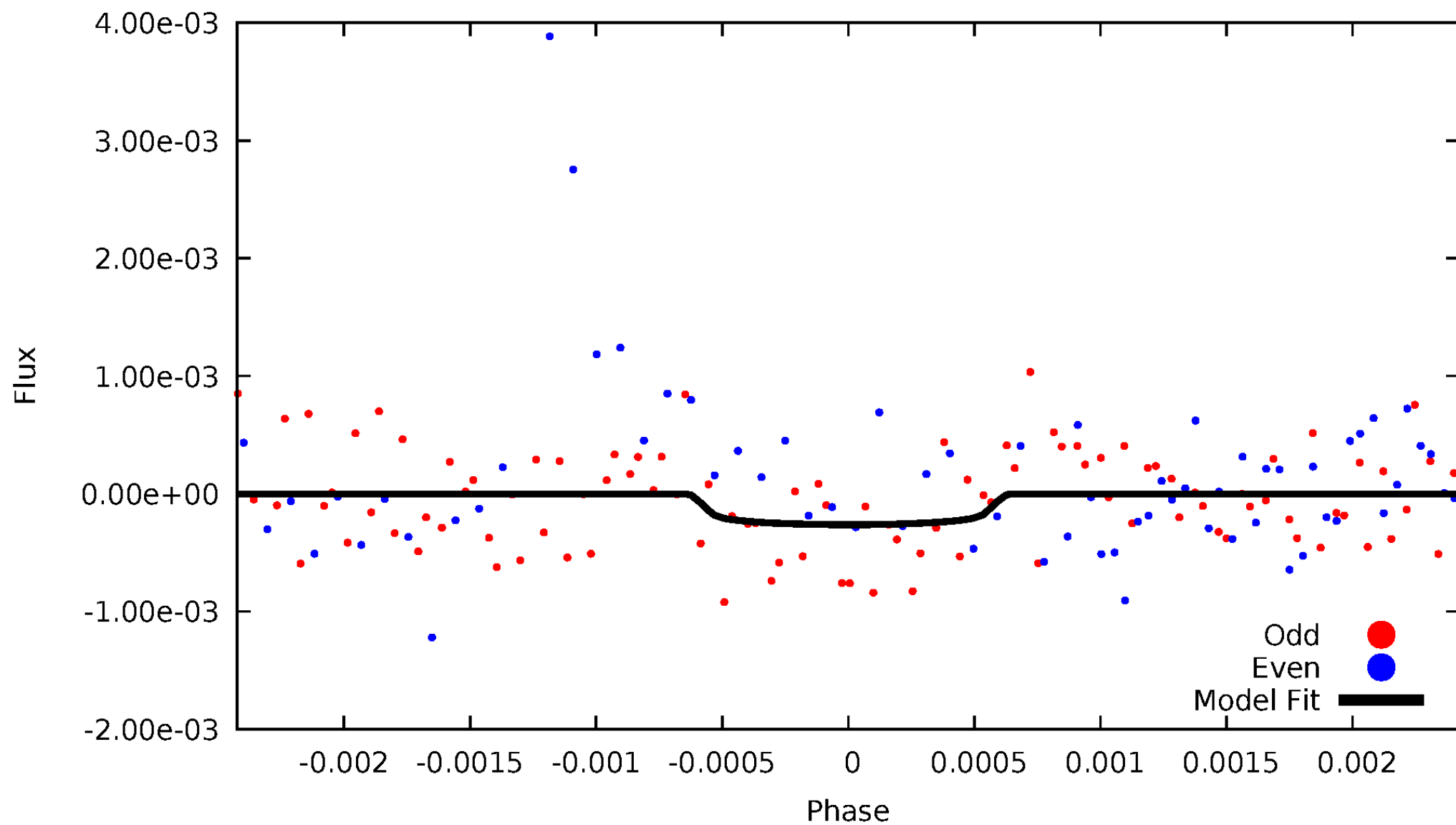


TCE 010742131-01



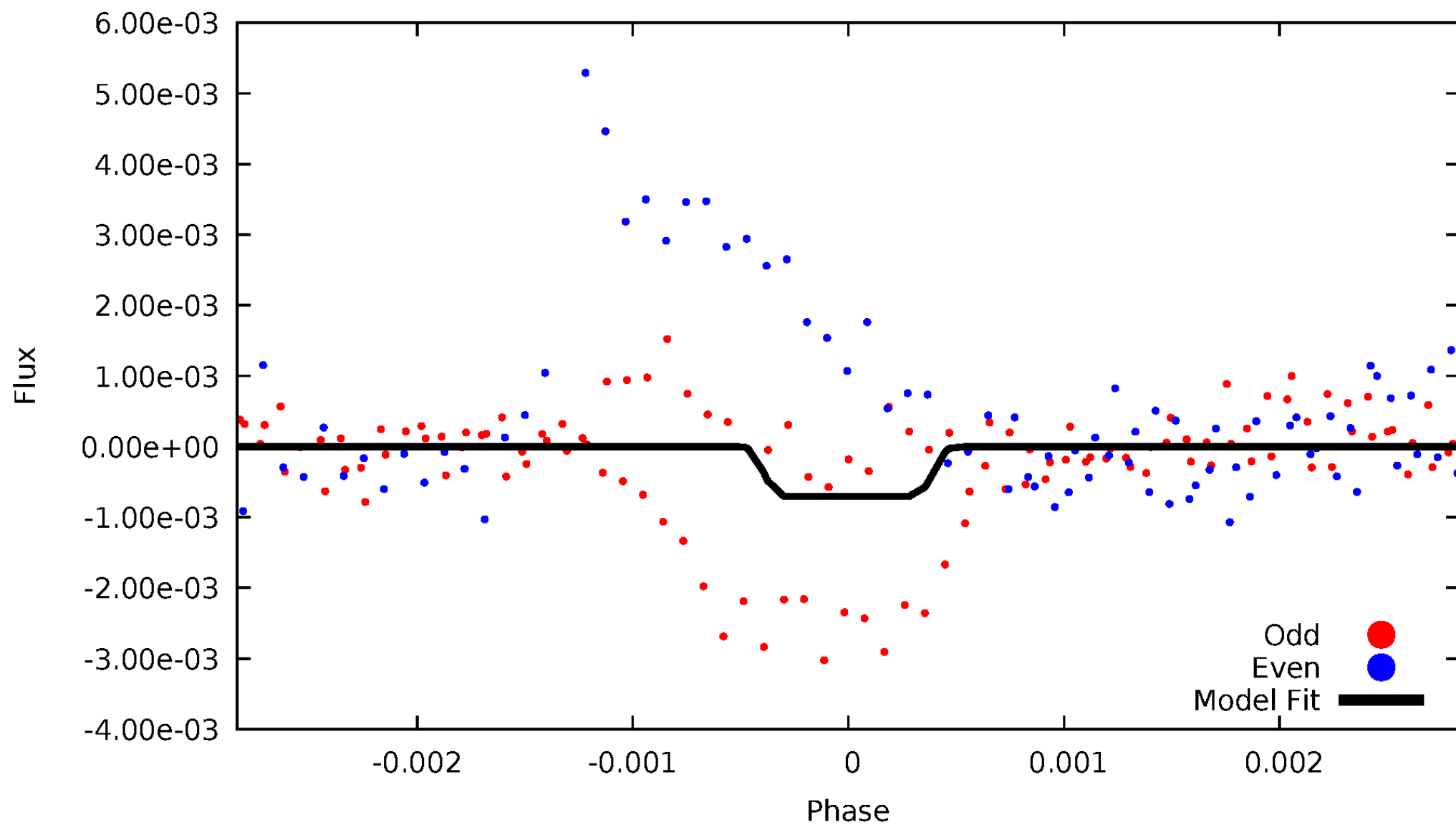
DV Odd/Even

TCE 010742131-01



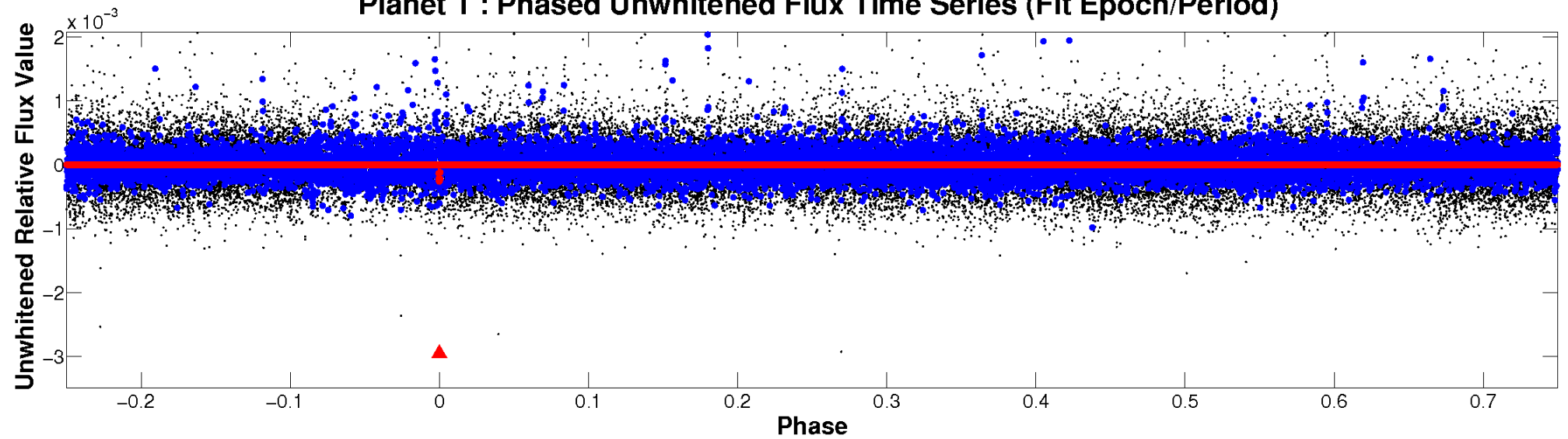
ALT Odd/Even

TCE 010742131-01

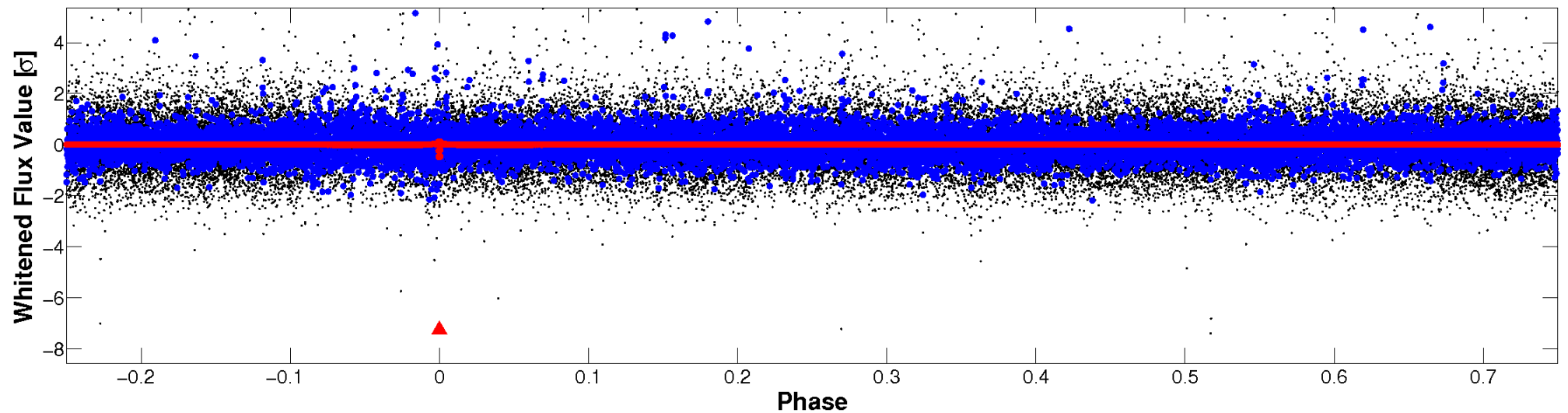


Non-Whitened Vs. Whitened Light Curve

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

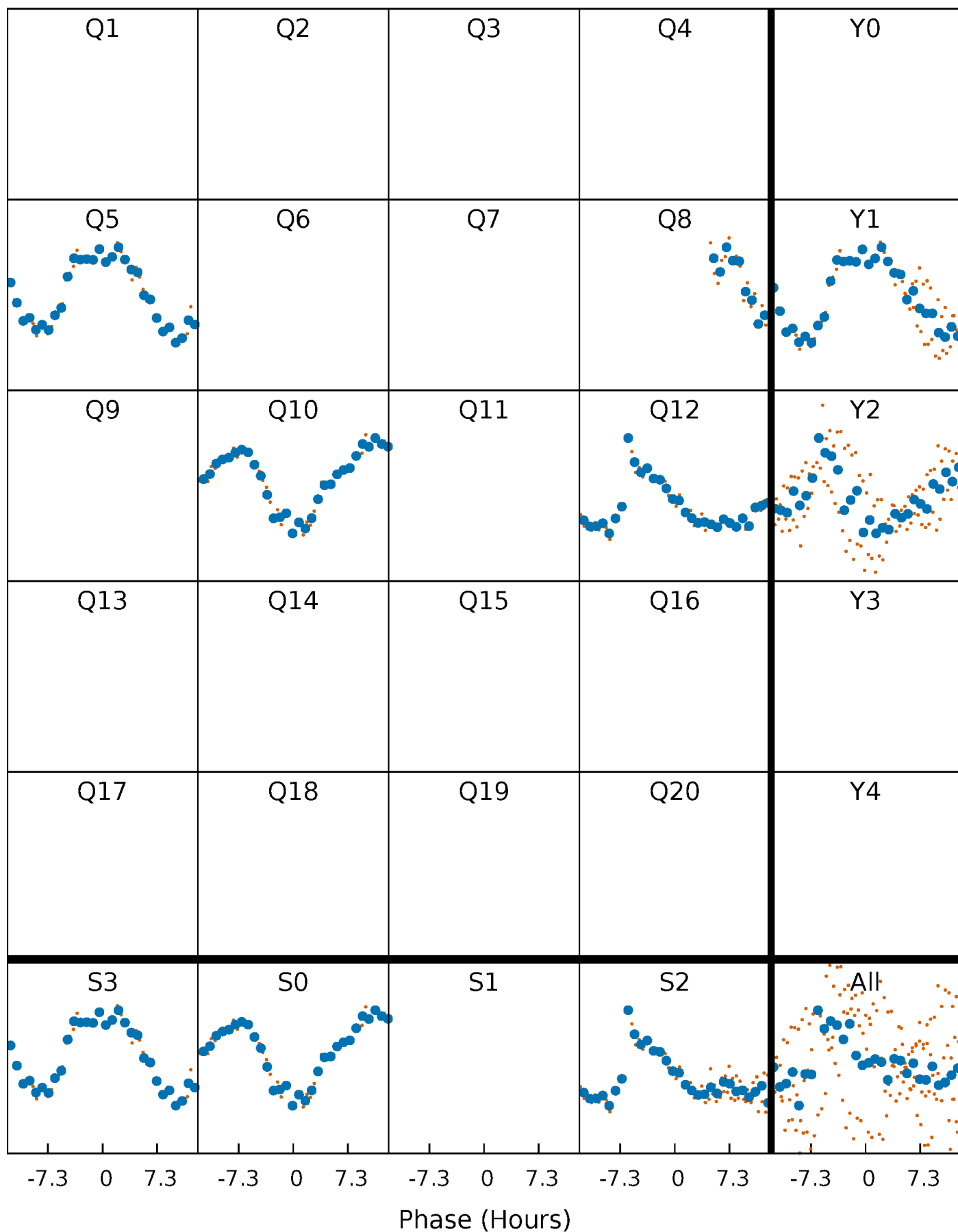


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



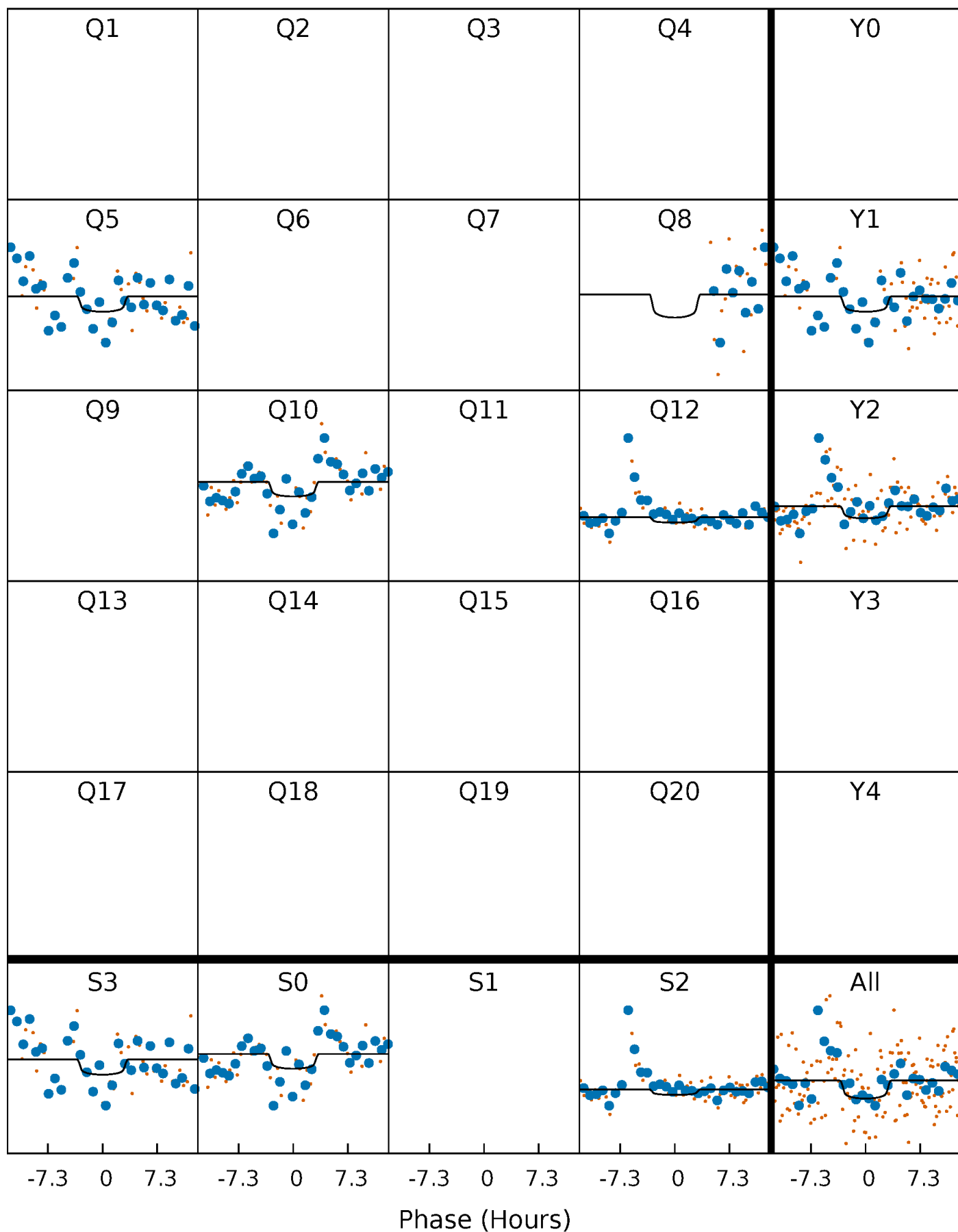
PDC Quarter-Phased Transit Curves

TCE 010742131-01 P=218.888913 Days $T_0=297.407257$ (BKJD)



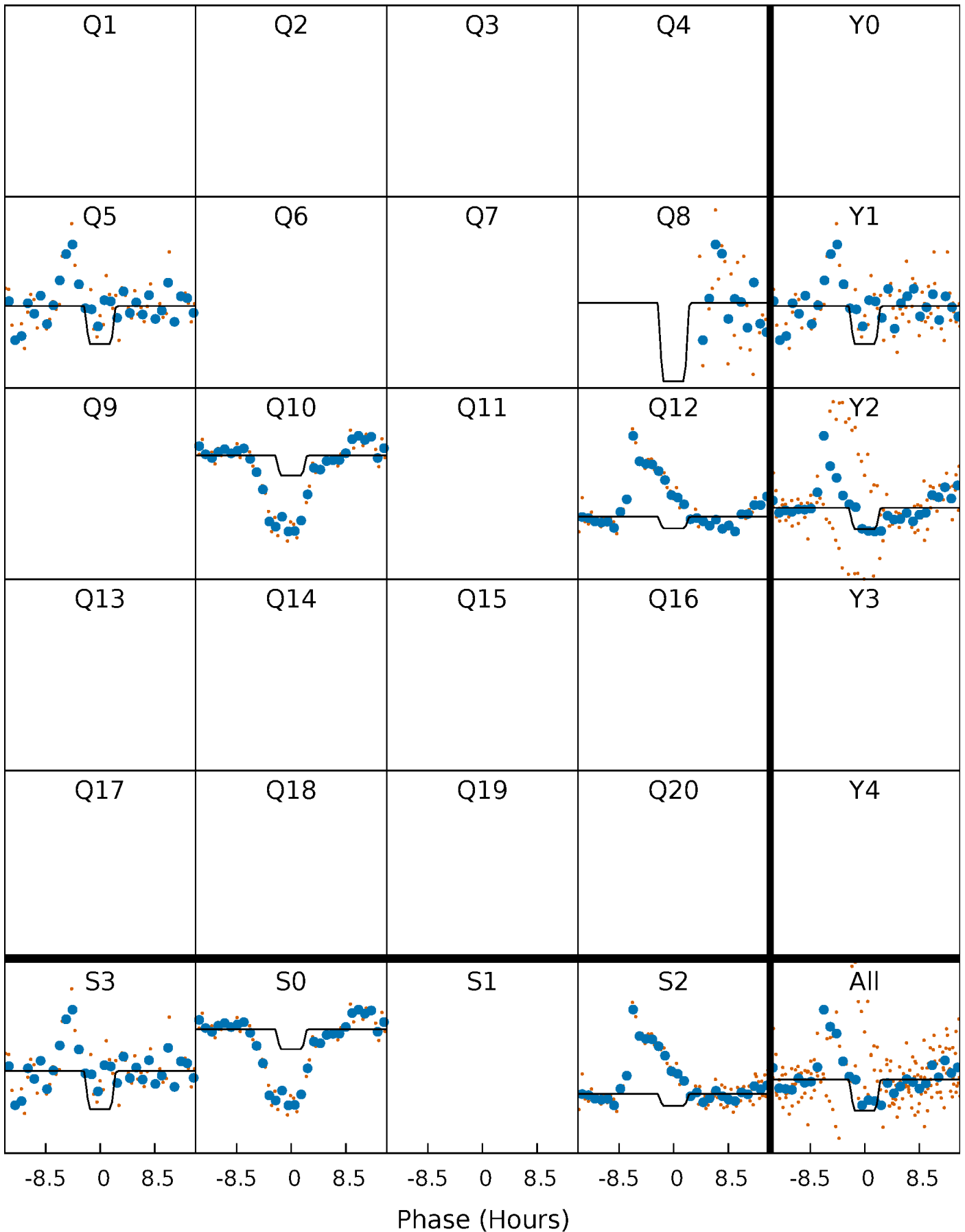
DV Quarter-Phased Transit Curves

TCE 010742131-01 P=218.888913 Days $T_0=297.407257$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

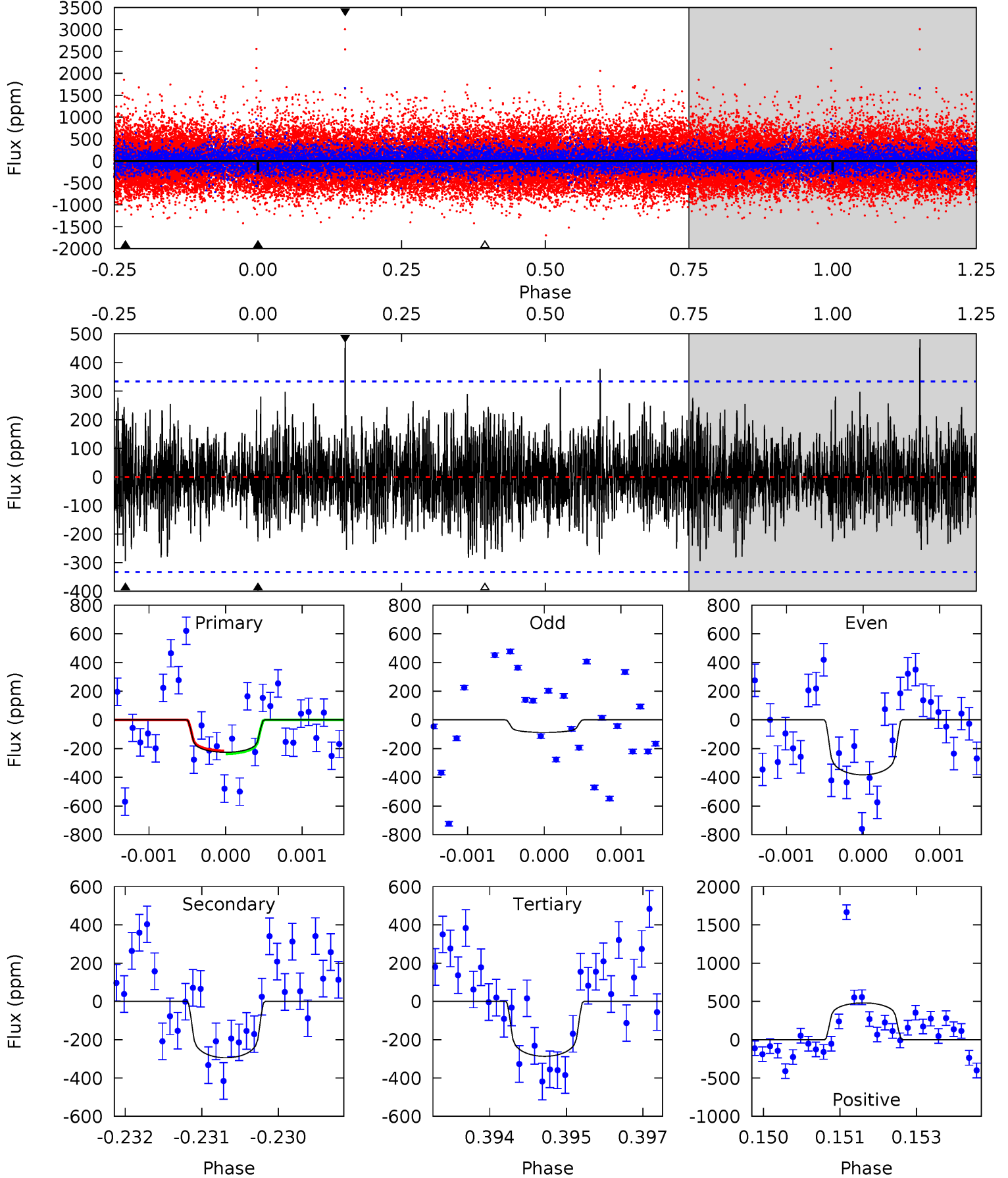
TCE 010742131-01 P=218.877484 Days $T_0=297.460573$ (BKJD)



DV Model-Shift Uniqueness Test

010742131-01, P = 218.888913 Days, E = 297.407257 Days

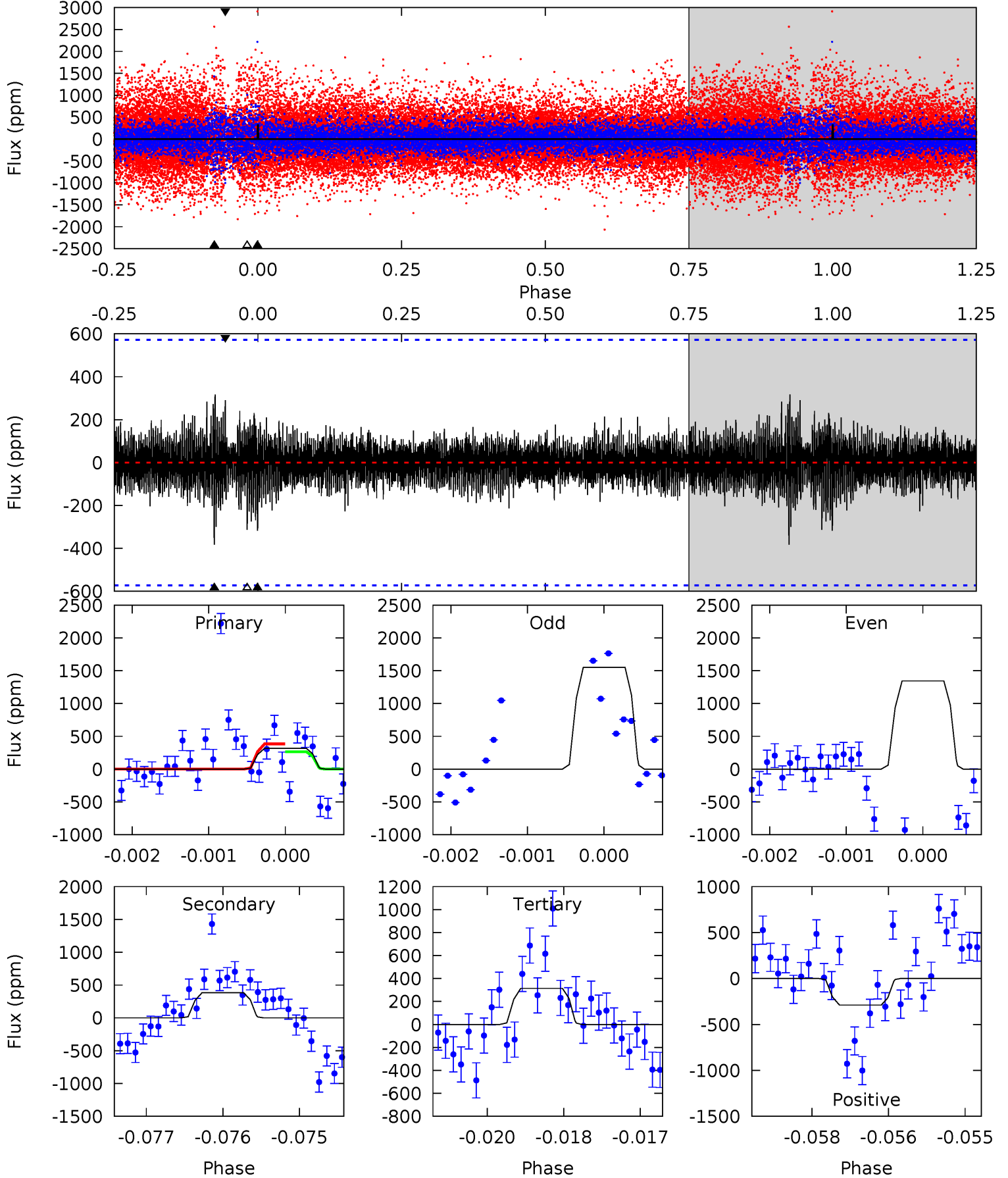
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.66	4.77	4.65	7.80	5.41	3.22	1.54	-0.99	-4.14	0.12	-3.03	2.21	0.66	0.62	0.16



Alt Model-Shift Uniqueness Test

010742131-01, P = 218.877484 Days, E = 297.460573 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.02	3.64	2.98	2.76	5.45	3.28	0.63	0.04	0.26	0.66	0.88	1.19	5.99	0.45	0.54



Stellar Parameters For KIC 010742131

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6392^{+176}_{-242}	$4.425^{+0.070}_{-0.224}$	$-0.200^{+0.250}_{-0.300}$	$1.072^{+0.352}_{-0.126}$	$1.116^{+0.164}_{-0.164}$	$1.274^{+0.381}_{-0.689}$
	+3%/-4%	+2%/-5%	+125%/-150%	+33%/-12%	+15%/-15%	+30%/-54%
Source	KIC0	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 010742131-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-294 ± 62	$2.87^{+3.02}_{-1.94}$	484^{+38}_{-26}	5466^{+5081}_{-1387}	10425^{+86339}_{-8044}
Alt.	-382 ± 105	$3.98^{+3.29}_{-2.63}$	482^{+35}_{-27}	4932^{+3707}_{-991}	6691^{+54898}_{-4736}

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 $A_{obs} \gg 1.0$

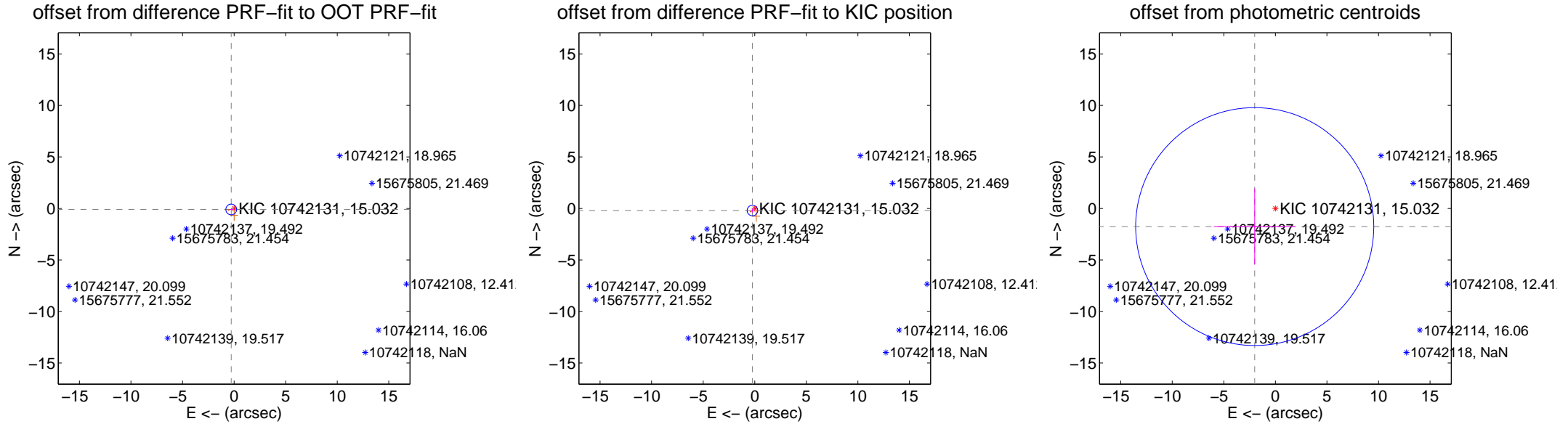
DV Centroid Data

Supplemental centroid analysis for 010742131-01. Kepler magnitude: 15.03. Transit SNR 2.77

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.295 ± 0.174	1.70	0.278 ± 0.181	-0.100 ± 0.107
PRF-fit source offset from KIC position	0.301 ± 0.171	1.76	0.223 ± 0.149	-0.201 ± 0.194
photometric centroid source offset	2.67 ± 3.85	0.69	2.00 ± 3.96	-1.76 ± 3.69

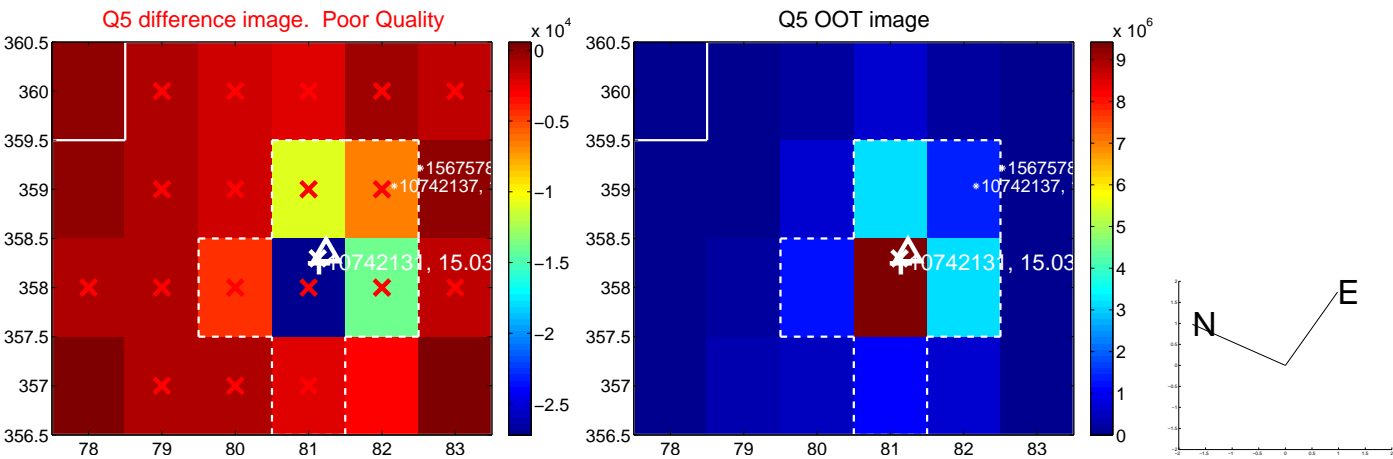


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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

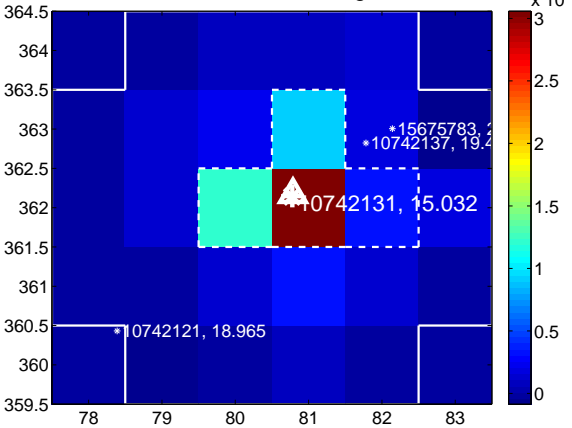
Q9 no difference image



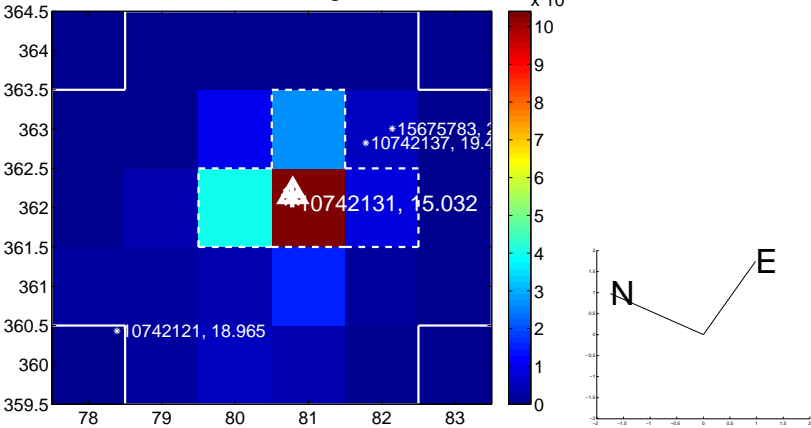
Q9 no OOT image



Q10 difference image



Q10 OOT image



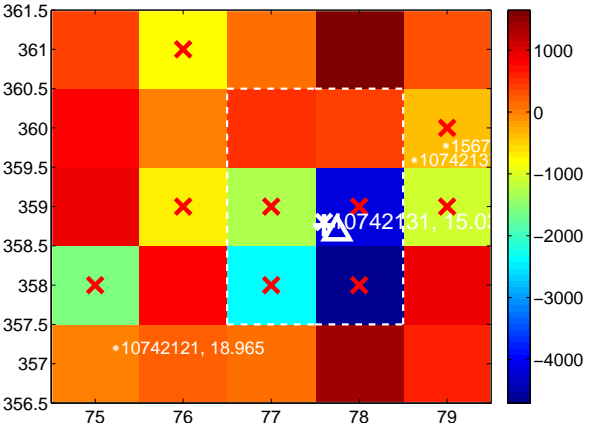
Q11 no difference image



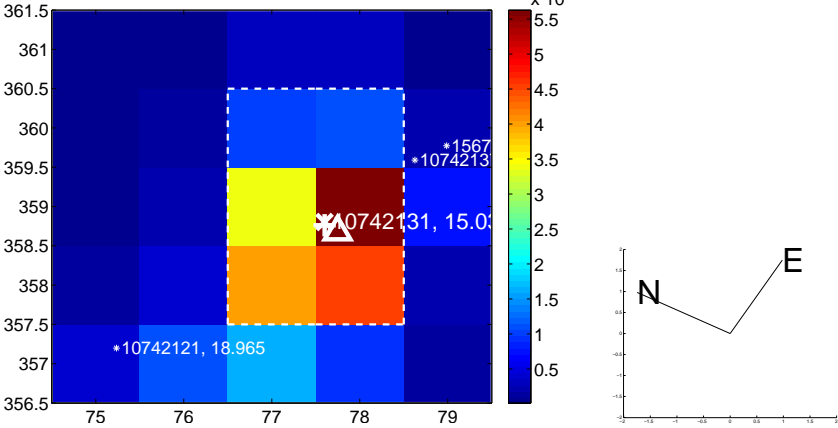
Q11 no OOT image



Q12 difference image. Poor Quality



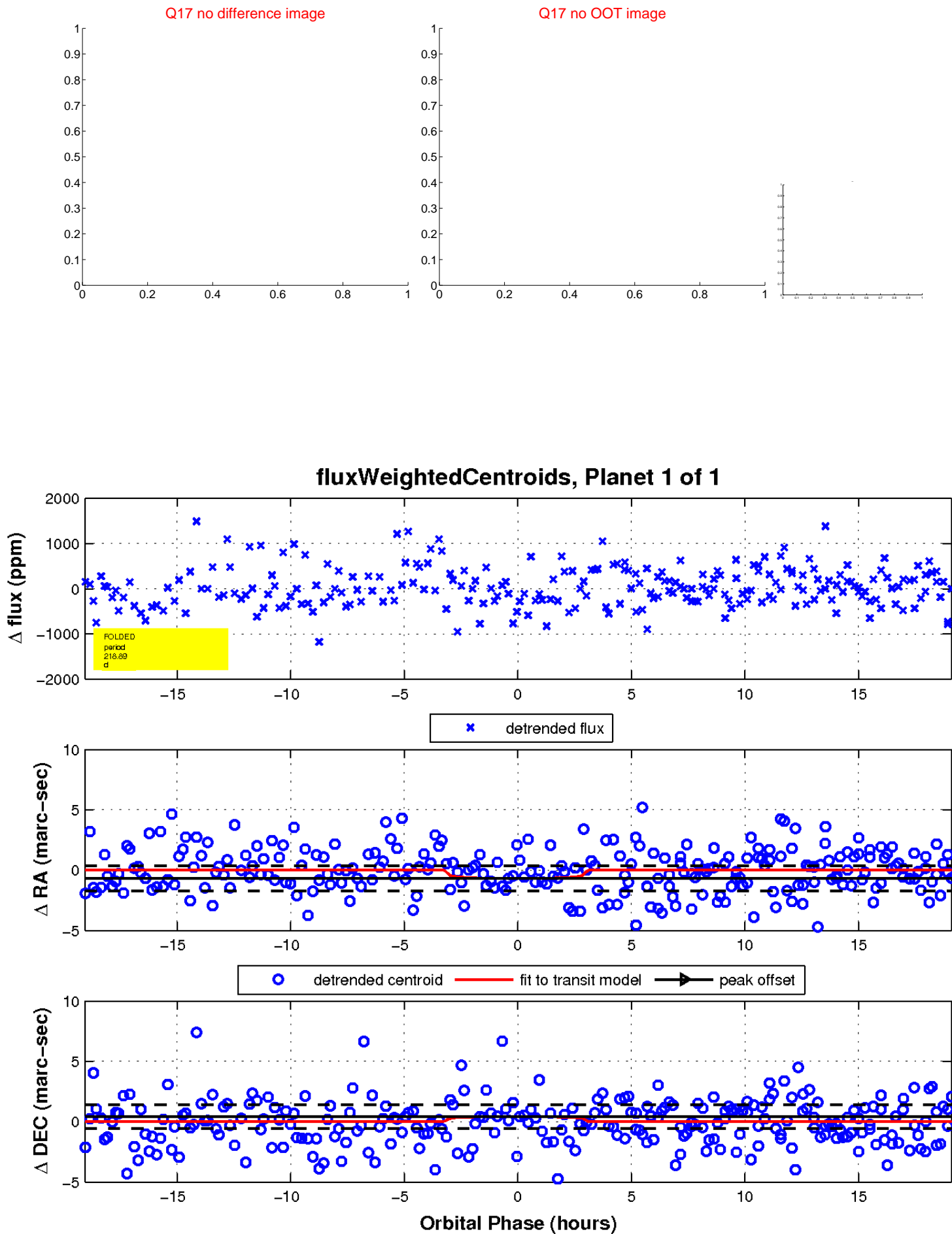
Q12 OOT image



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.



UKIRT Image

Declination

