

KIC 010731529

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})
010731529-01	OBS	No	413.645726	367.212119	383.9	4.667	8.5	7.9	1.08	6068	2.59	1.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010731529-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

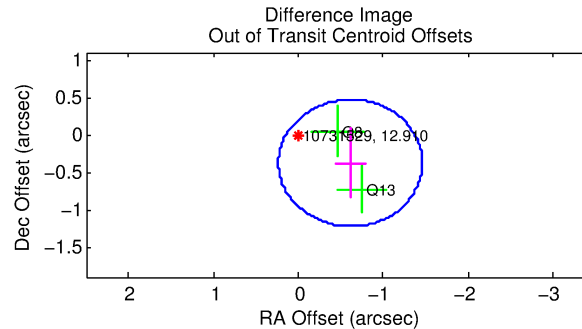
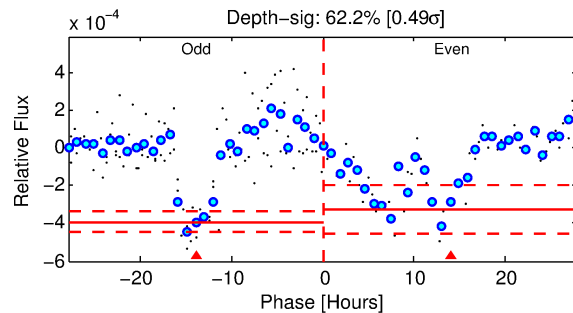
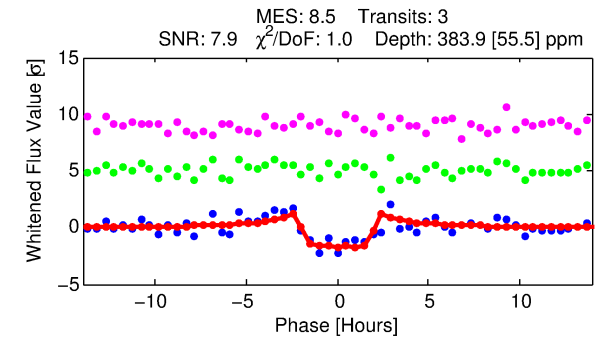
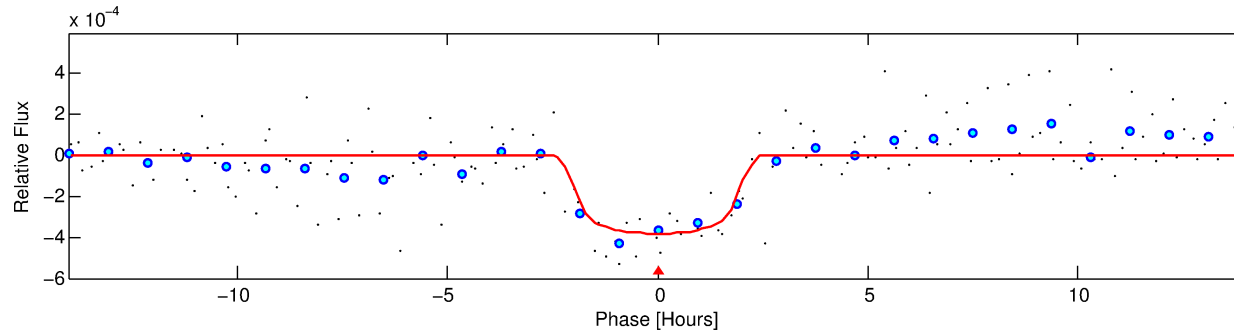
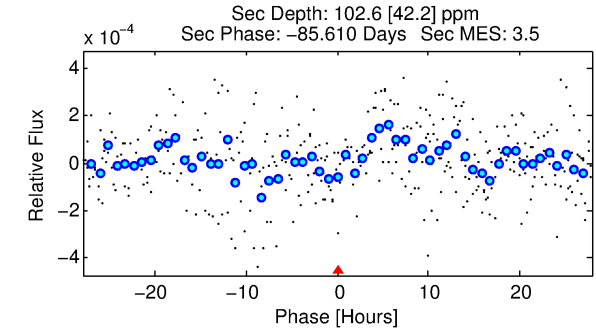
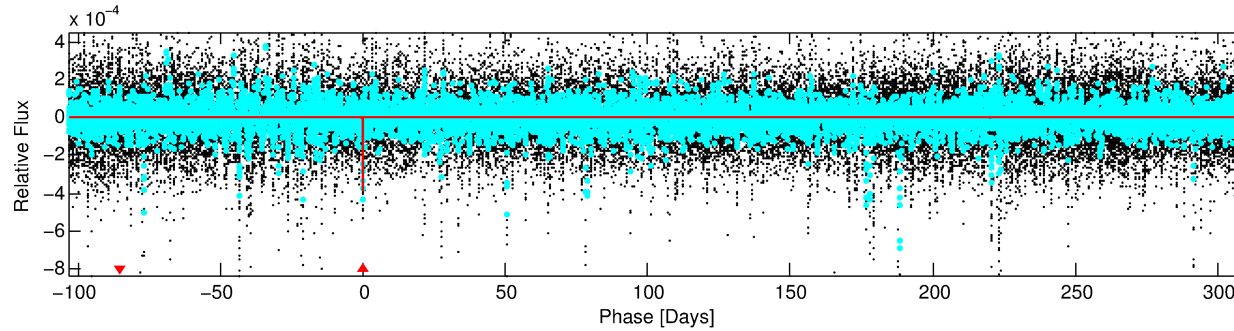
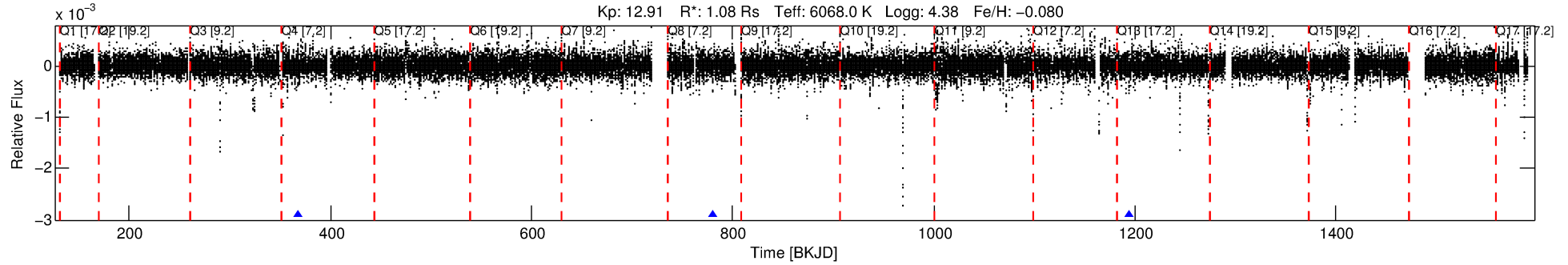
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010731529-01

No Significant Match Found

DV One-Page Summary

KIC: 10731529 Candidate: 1 of 1 Period: 413.646 d



DV Fit Results:

Period = 413.64573 [0.00447] d
Epoch = 367.2121 [0.0065] BKJD
Rp/R* = 0.0220 [0.0027]
a/R* = 281.05 [120.66]
b = 0.93 [0.06]
Seff = 1.18 [0.45]
Teq = 266 [25] K
Rp = 2.59 [0.84] Re
a = 1.0968 [0.2747] AU
Ag = 10151.71 [6073.67] [1.67σ]
Teffp = 4121 [510] K [7.55σ]

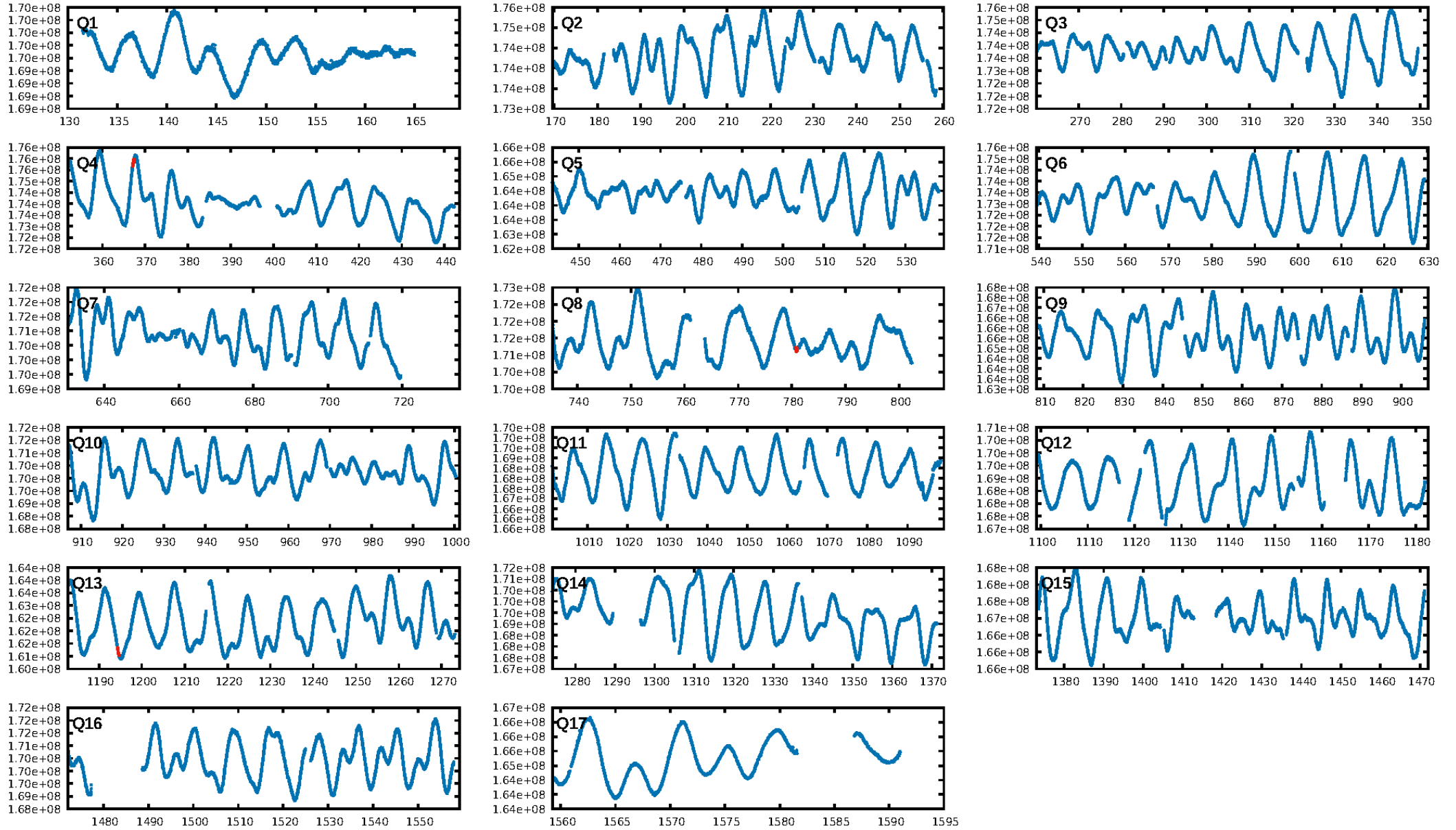
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.5%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 1.52e-07
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.4589
Centroid-sig: 0.2%
Centroid-so: 1.498 arcsec [2.17σ]
OotOffset-rm: 0.723 arcsec [2.56σ]
KicOffset-rm: 0.632 arcsec [2.80σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

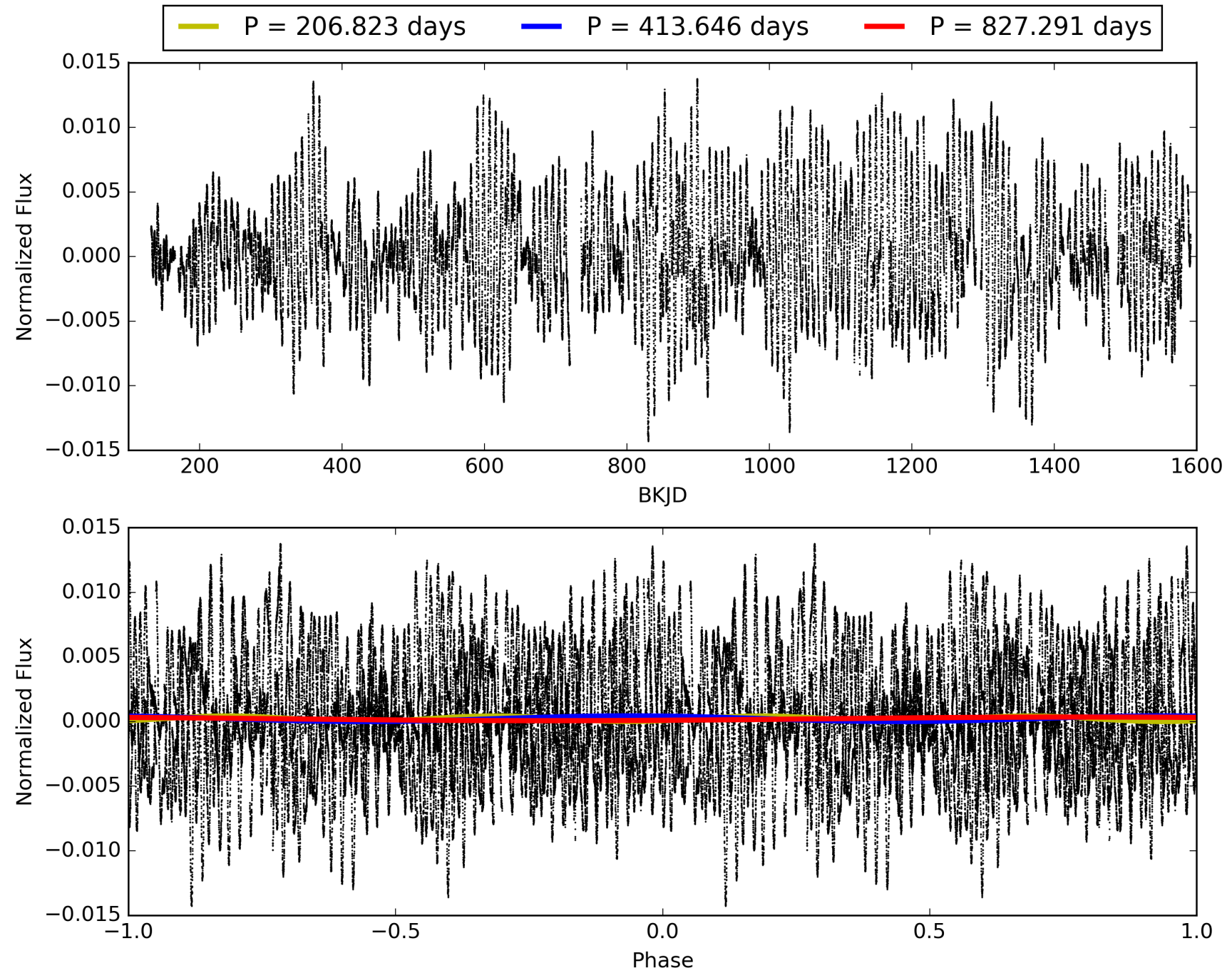
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:33:09 Z

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

TCE 010731529-01, PDC Light Curves

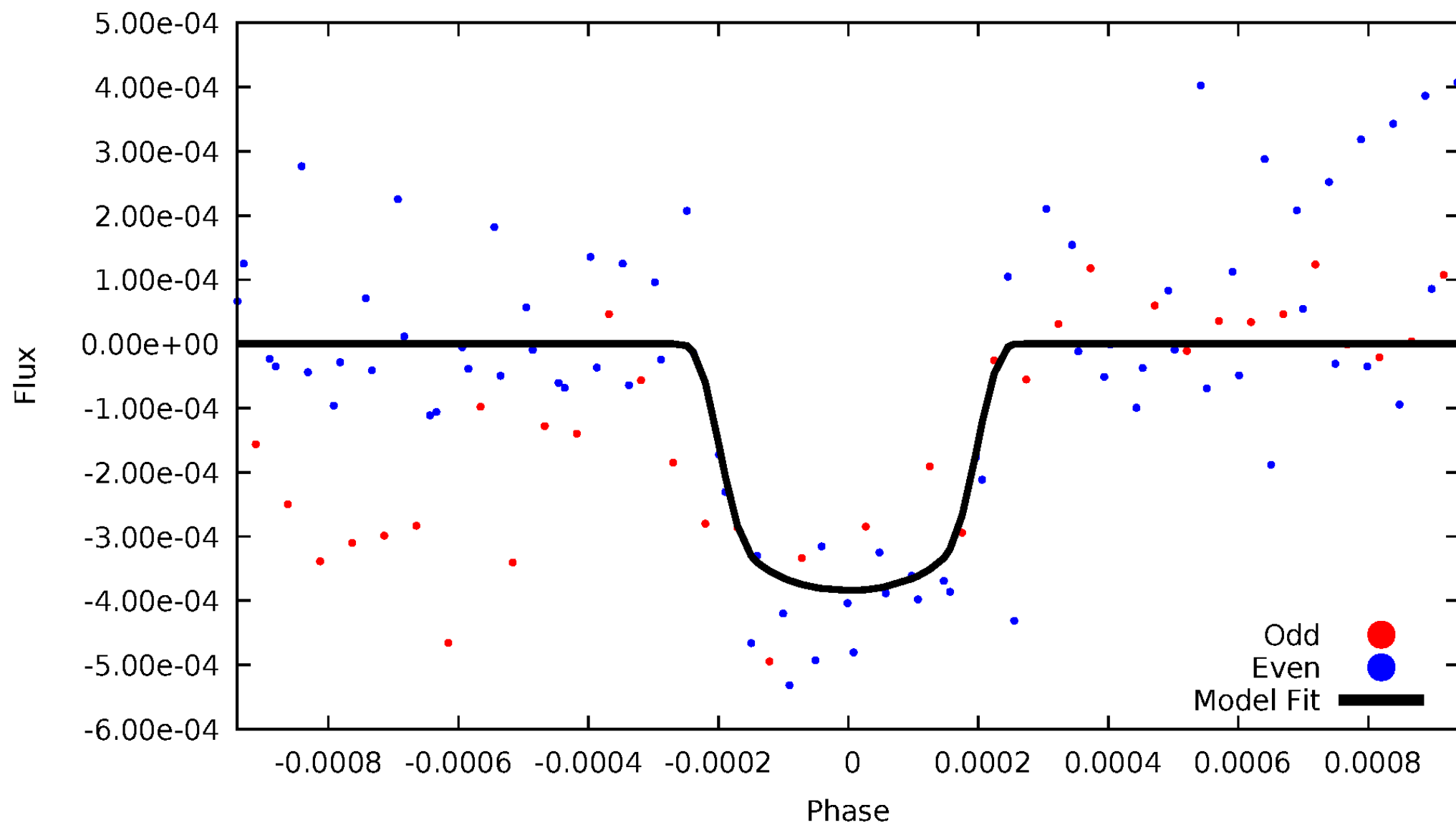


TCE 010731529-01



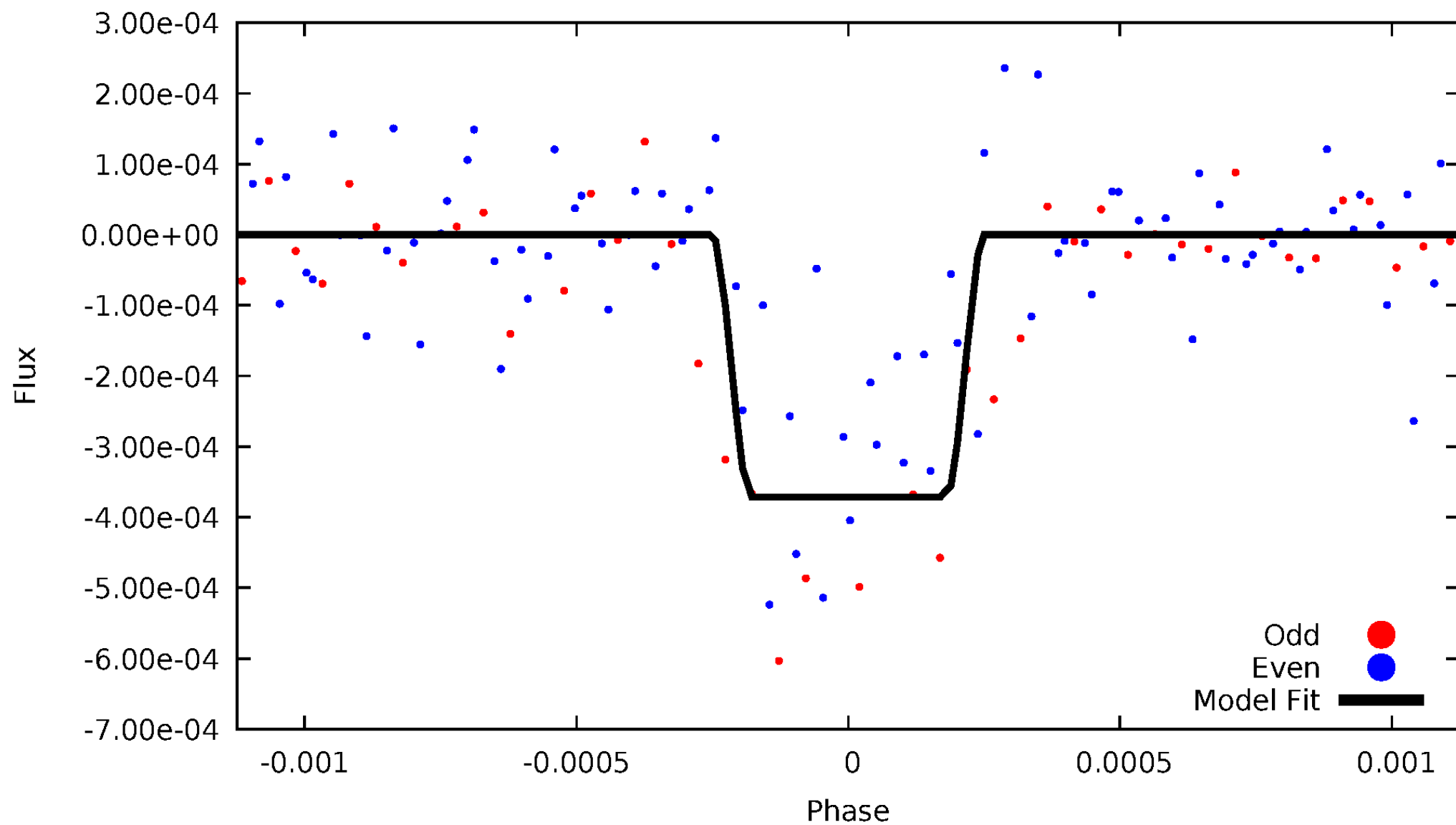
DV Odd/Even

TCE 010731529-01



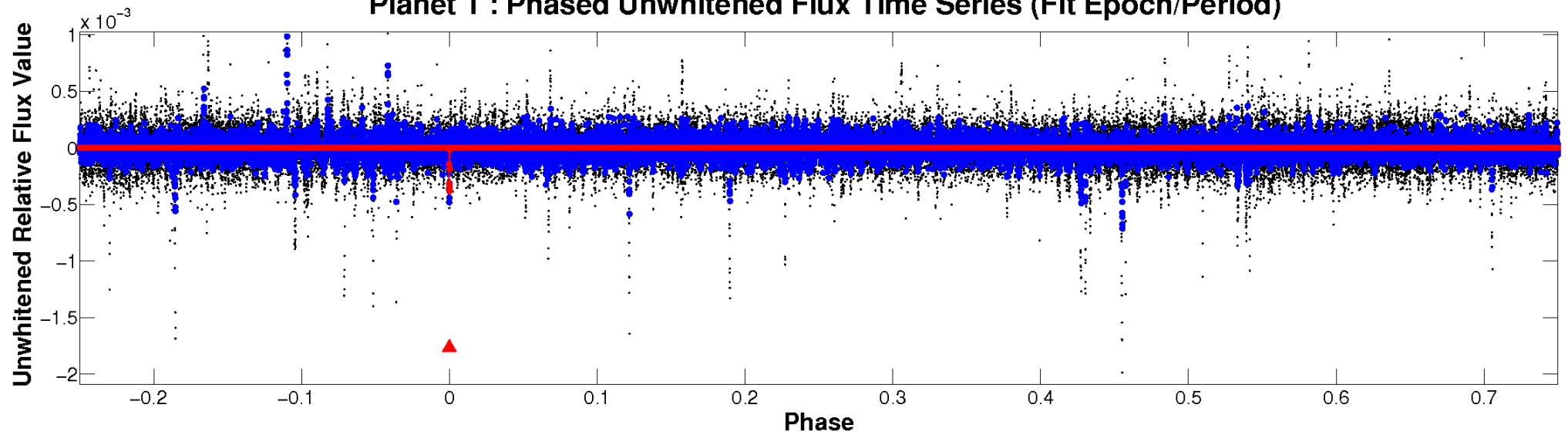
ALT Odd/Even

TCE 010731529-01

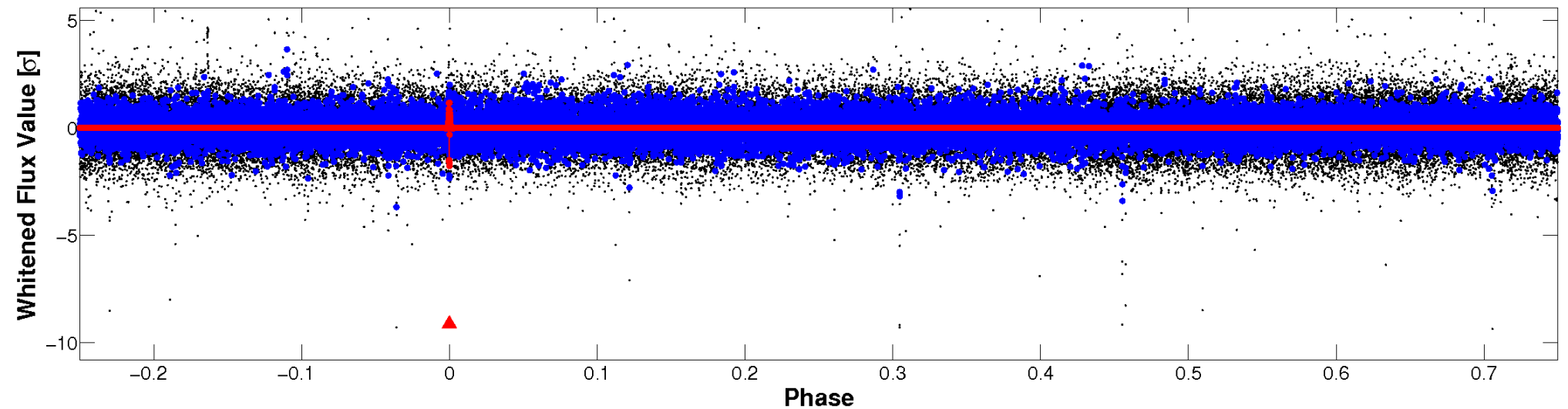


Non-Whitened Vs. Whitened Light Curve

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

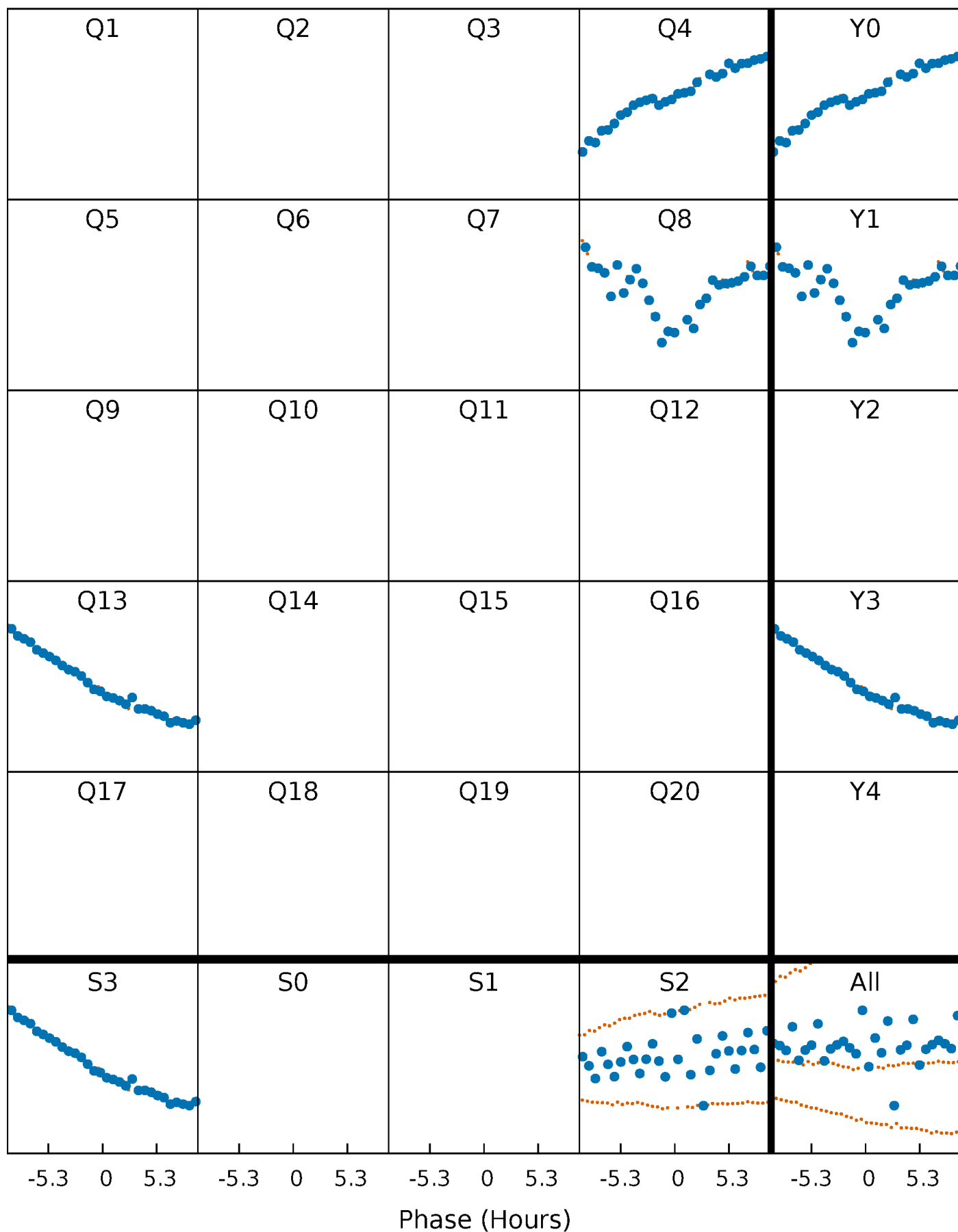


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



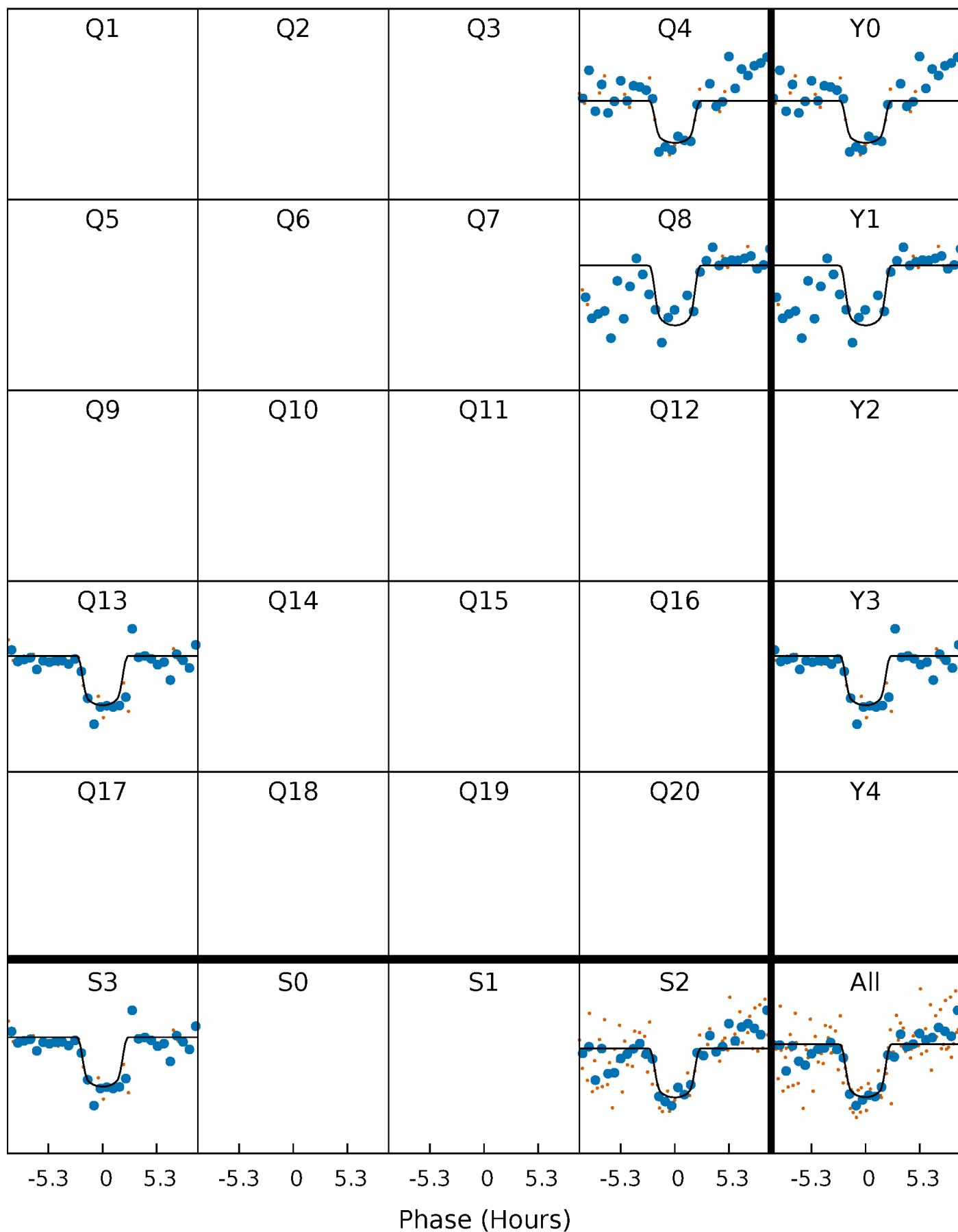
PDC Quarter-Phased Transit Curves

TCE 010731529-01 P=413.645726 Days $T_0=367.212119$ (BKJD)



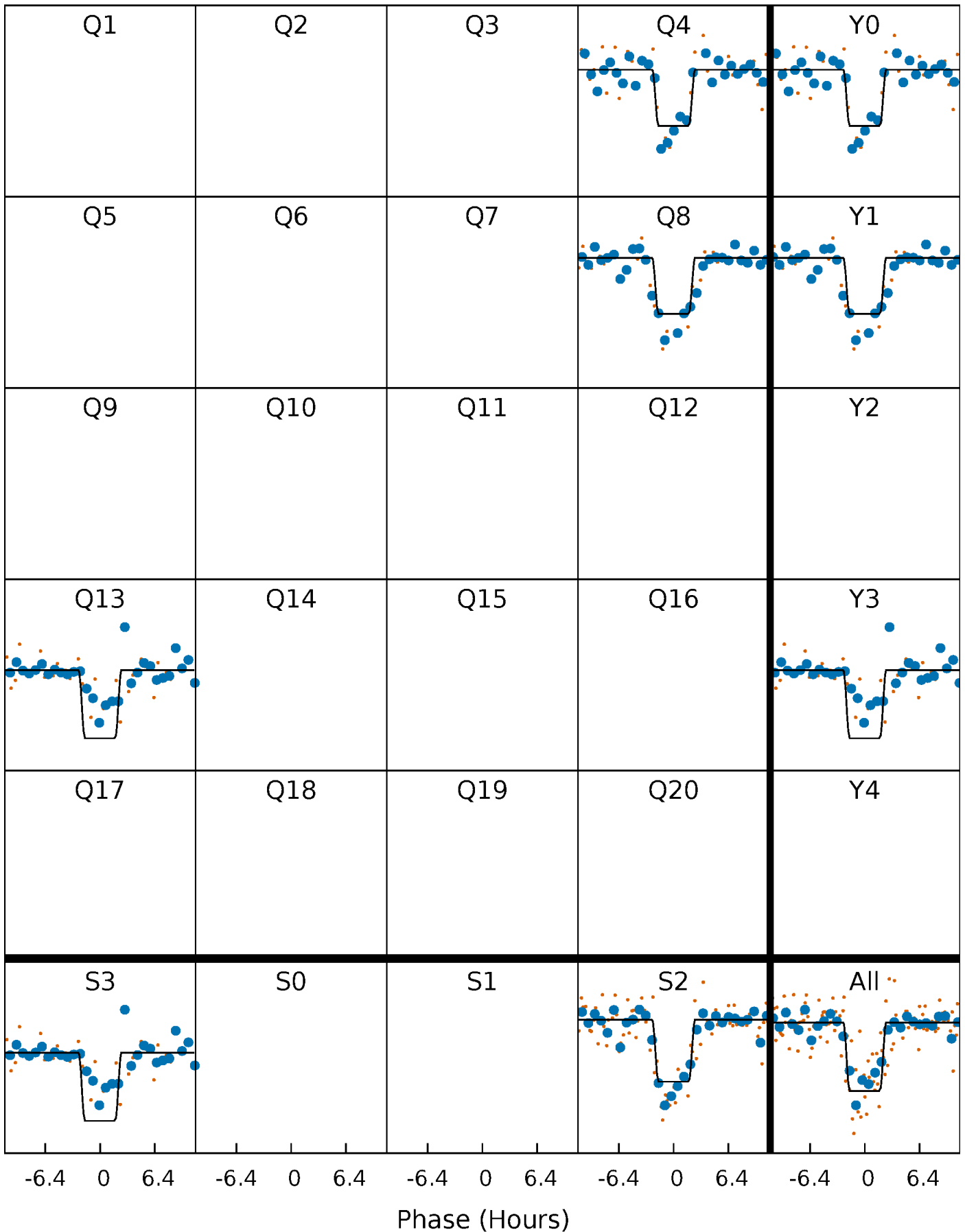
DV Quarter-Phased Transit Curves

TCE 010731529-01 P=413.645726 Days $T_0=367.212119$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

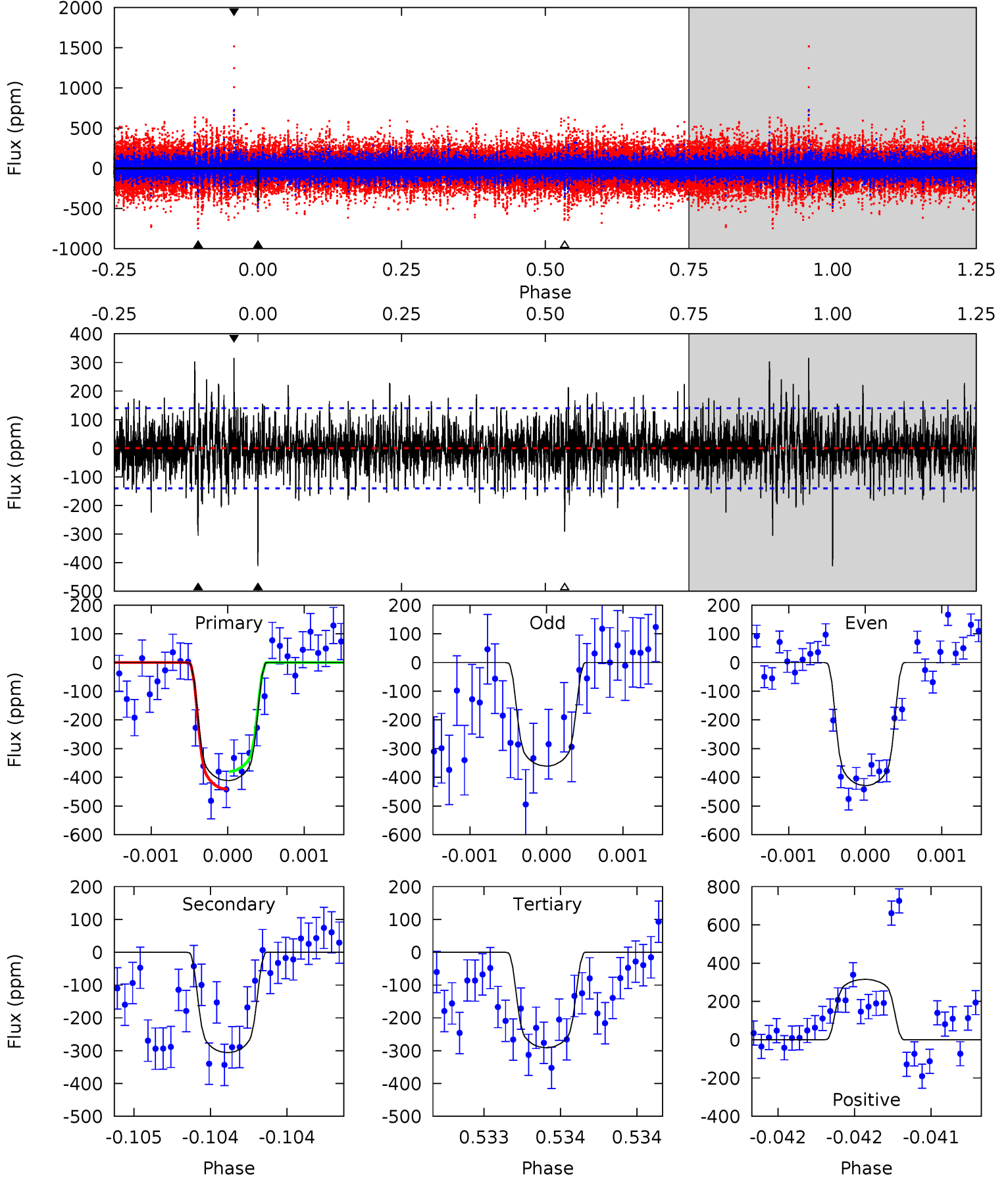
TCE 010731529-01 P=413.650177 Days $T_0=367.210290$ (BKJD)



DV Model-Shift Uniqueness Test

010731529-01, P = 413.645726 Days, E = 367.212119 Days

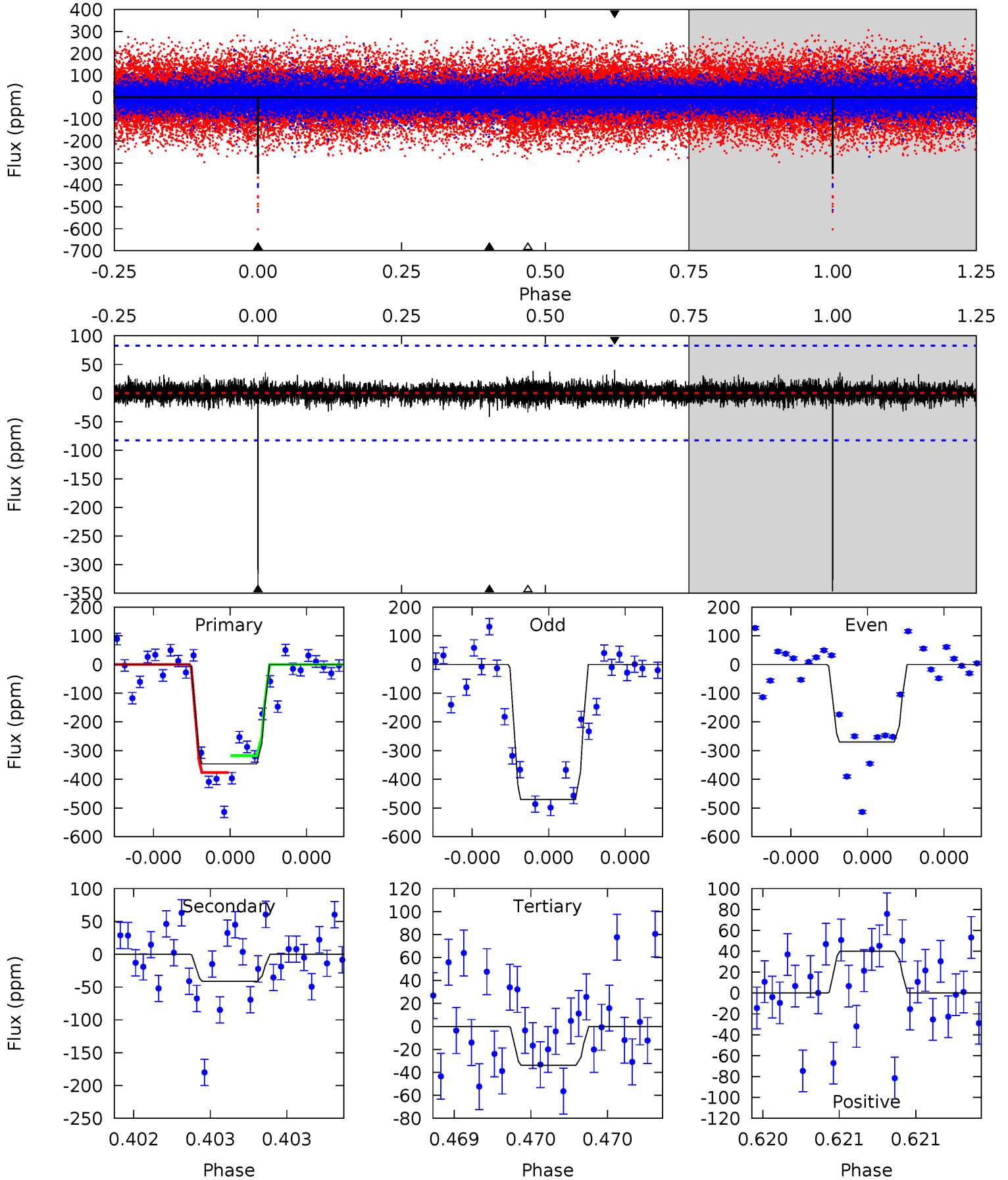
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	12.2	11.6	12.6	5.57	3.48	2.28	4.79	3.82	0.59	-0.39	1.15	0.96	0.43	1.22



Alt Model-Shift Uniqueness Test

010731529-01, P = 413.650177 Days, E = 367.210290 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	2.79	2.28	2.70	5.58	3.49	0.54	21.1	20.7	0.51	0.10	6.75	0.89	0.10	1.99



Stellar Parameters For KIC 010731529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6068^{+162}_{-198}	$4.384^{+0.105}_{-0.195}$	$-0.080^{+0.250}_{-0.300}$	$1.079^{+0.325}_{-0.150}$	$1.025^{+0.153}_{-0.126}$	$1.149^{+0.541}_{-0.581}$
	+3%/-3%	+2%/-4%	+312%/-375%	+30%/-14%	+15%/-12%	+47%/-51%
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 010731529-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-306 ± 25	$2.63^{+0.48}_{-0.43}$	374^{+26}_{-21}	5425^{+379}_{-301}	28822^{+12000}_{-8171}
Alt.	-41 ± 15	$2.34^{+0.47}_{-0.43}$	374^{+26}_{-21}	3850^{+326}_{-327}	4779^{+3396}_{-1998}

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 $A_{\text{obs}} \gg 1.0$

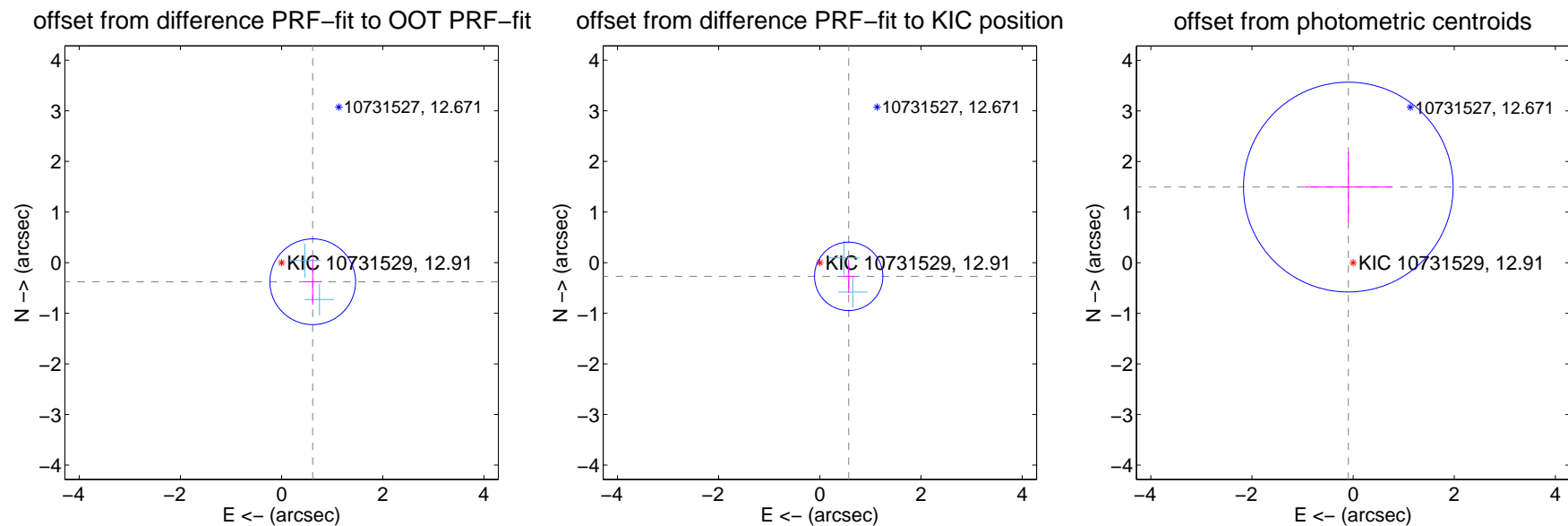
DV Centroid Data

Supplemental centroid analysis for 010731529-01. Kepler magnitude: 12.91. Transit SNR 7.92

There are 2 quarters with good PRF difference image offsets

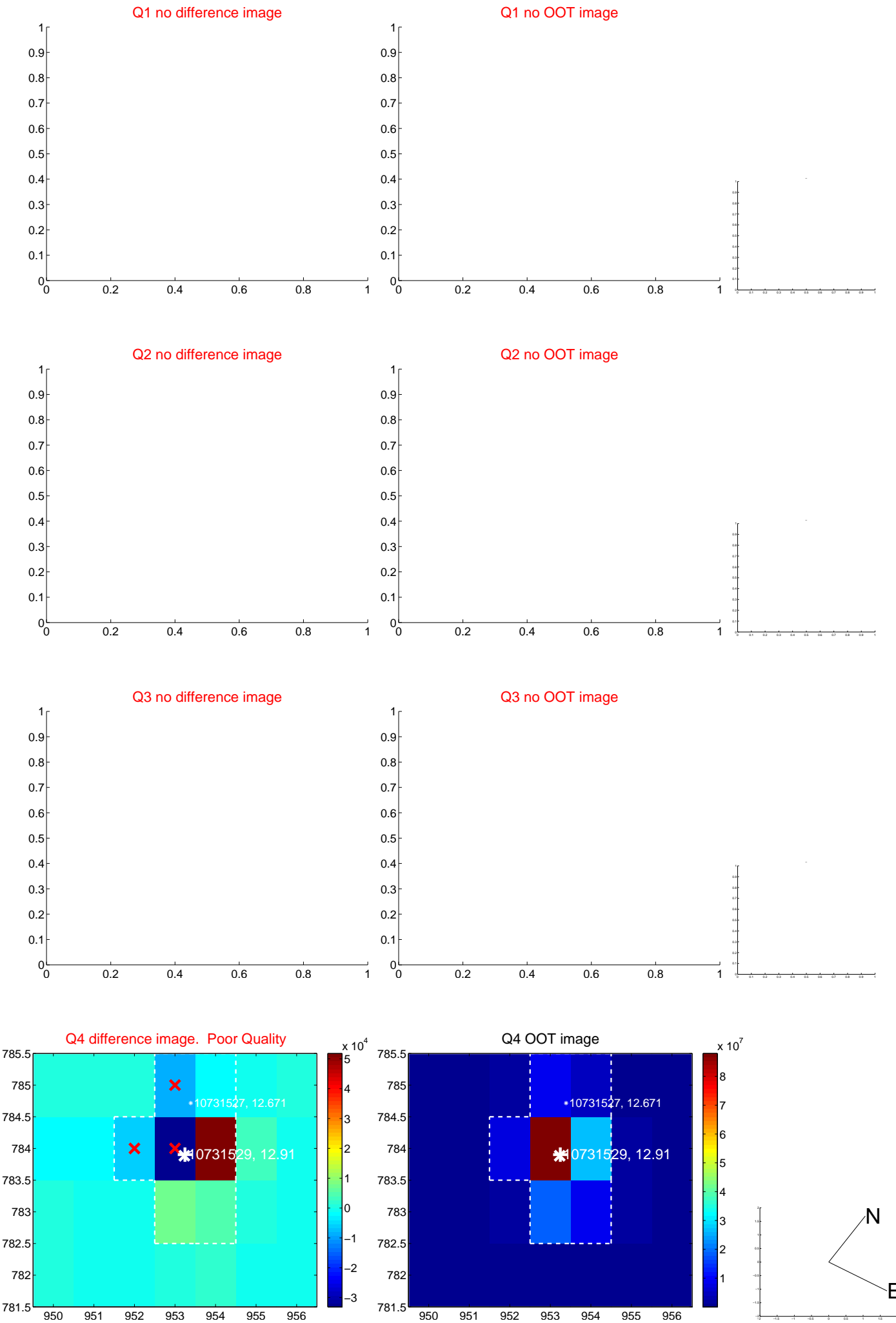
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.723 ± 0.282	2.56	-0.616 ± 0.180	-0.378 ± 0.454
PRF-fit source offset from KIC position	0.632 ± 0.225	2.80	-0.571 ± 0.108	-0.271 ± 0.330
photometric centroid source offset	1.50 ± 0.69	2.17	0.10 ± 0.87	1.50 ± 0.69

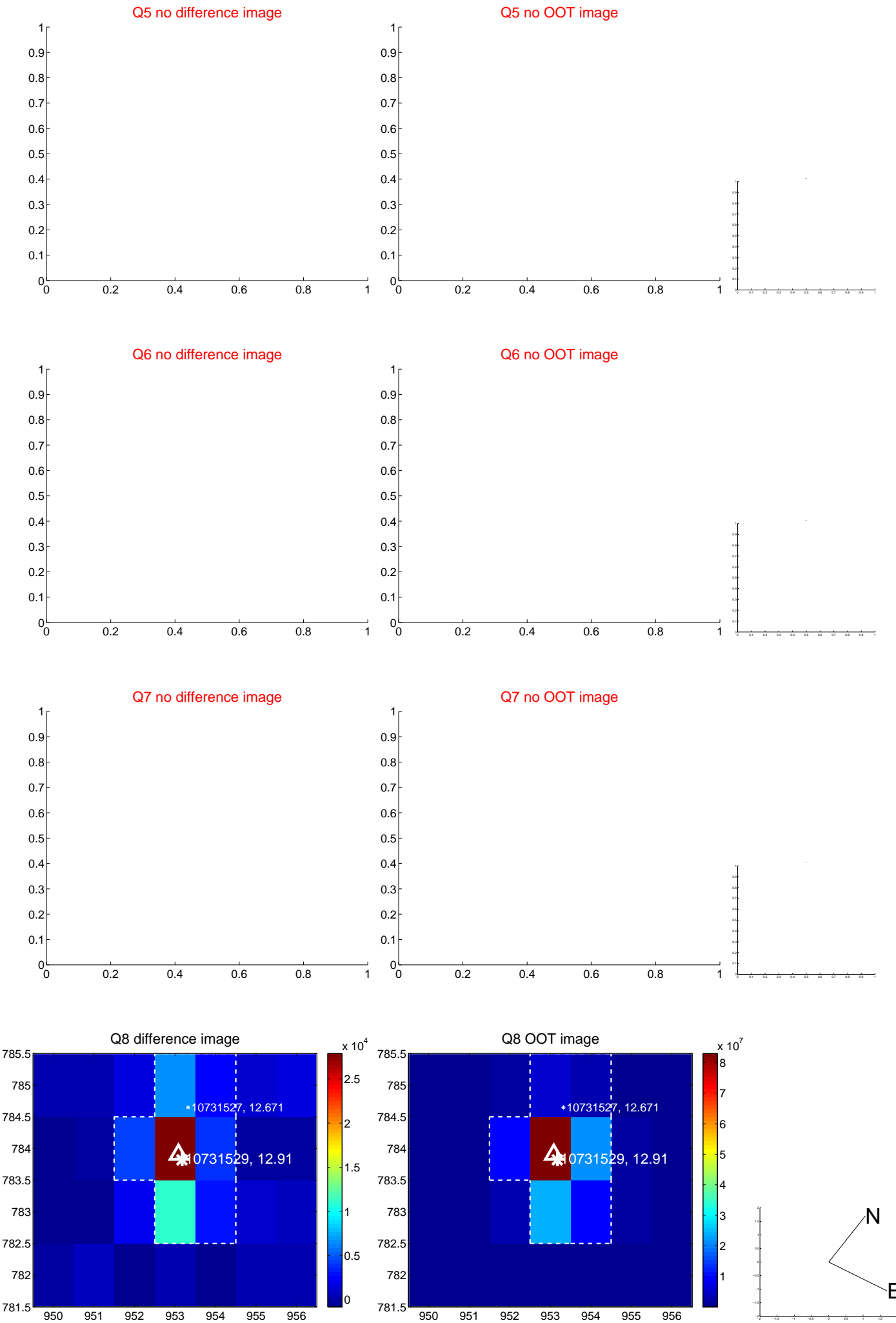


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



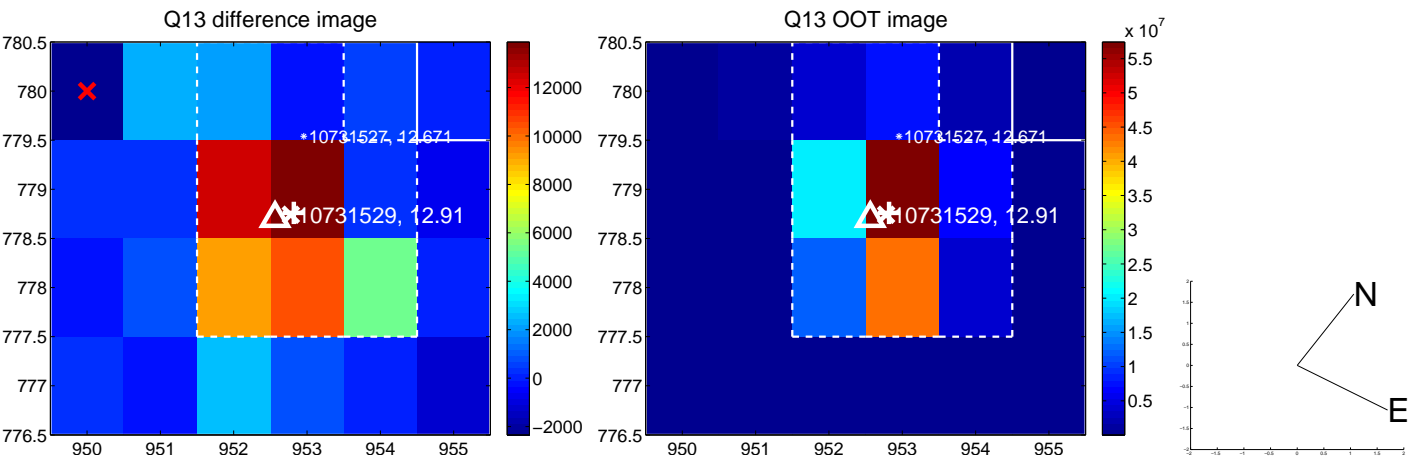
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



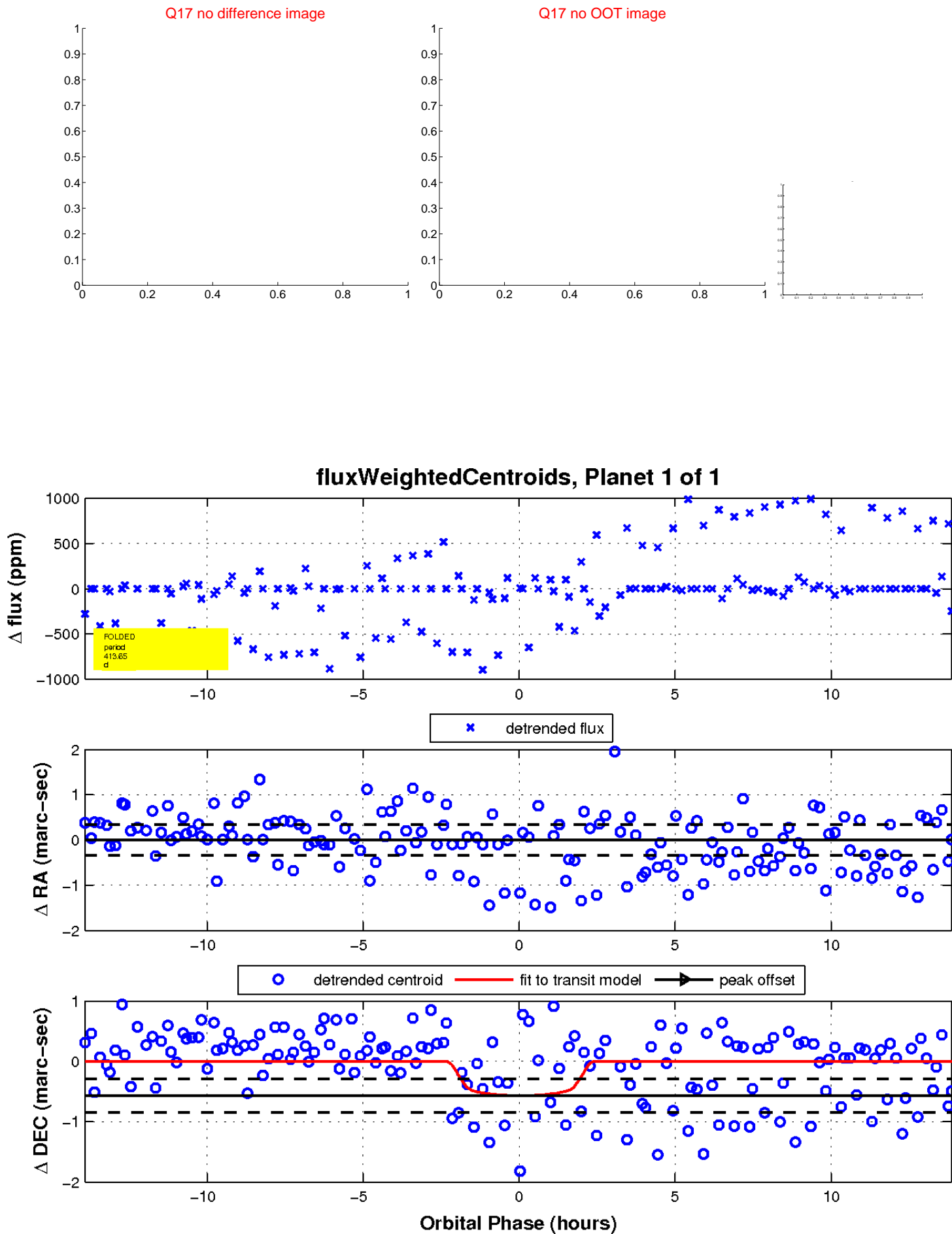
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

