

KIC 005770231

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})
005770231-02	OBS	No	478.531649	172.777029	938.7	27.580	7.3	8.0	0.85	5364	2.99	0.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005770231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—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.

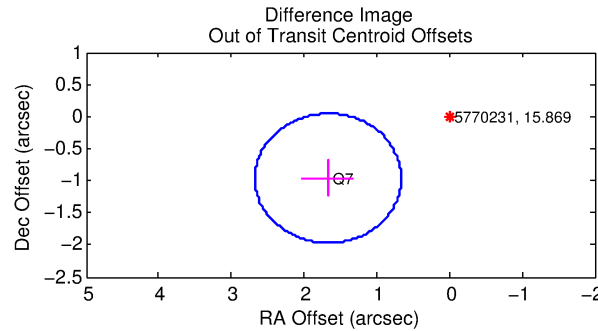
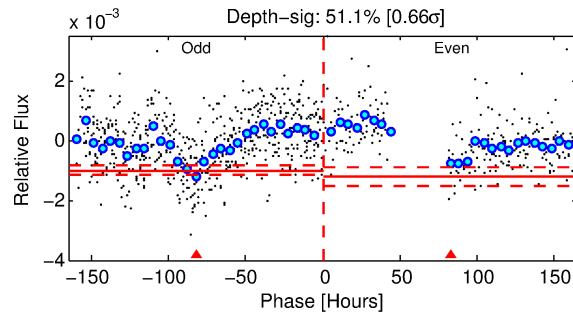
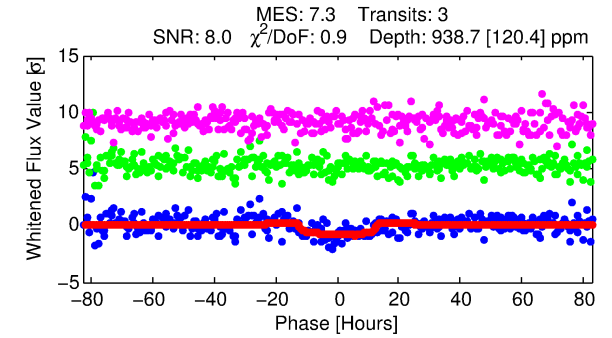
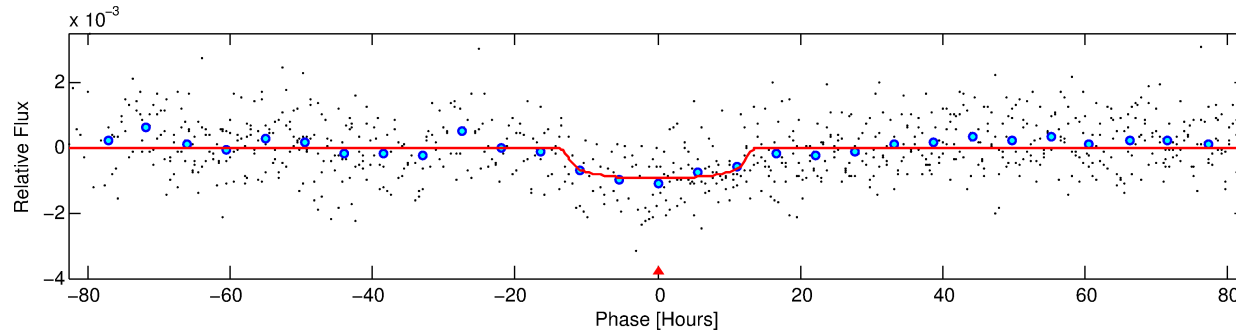
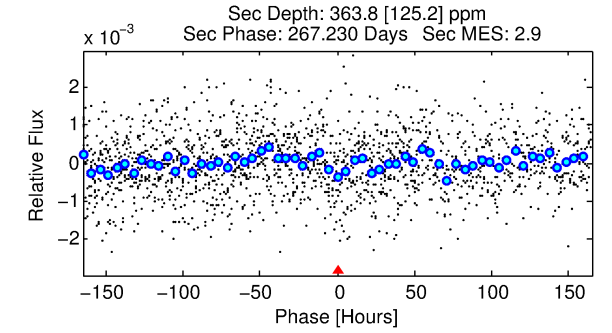
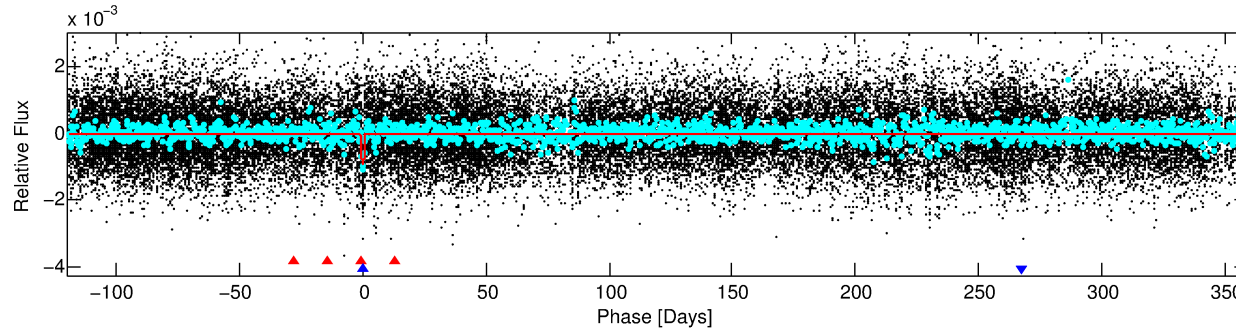
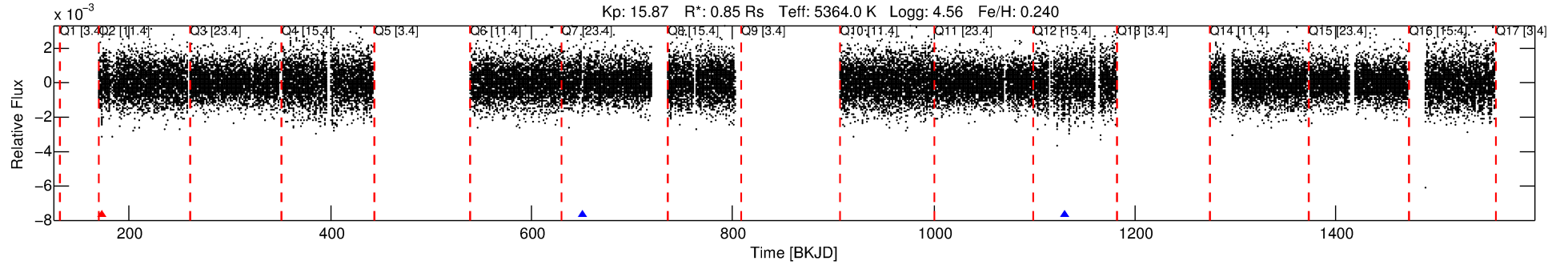
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005770231-02

No Significant Match Found

DV One-Page Summary

KIC: 5770231 Candidate: 2 of 2 Period: 478.532 d



DV Fit Results:

Period = 478.53165 [0.03355] d
Epoch = 172.7770 [0.0408] BKJD
Rp/R* = 0.0320 [0.0056]
a/R* = 80.66 [49.86]
b = 0.83 [0.23]
Seff = 0.39 [0.11]
Teq = 201 [14] K
Rp = 2.99 [0.77] Re
a = 1.1811 [0.1928] AU
Ag = 31320.67 [17120.97] [1.83σ]
Teffp = 4141 [521] K [7.55σ]

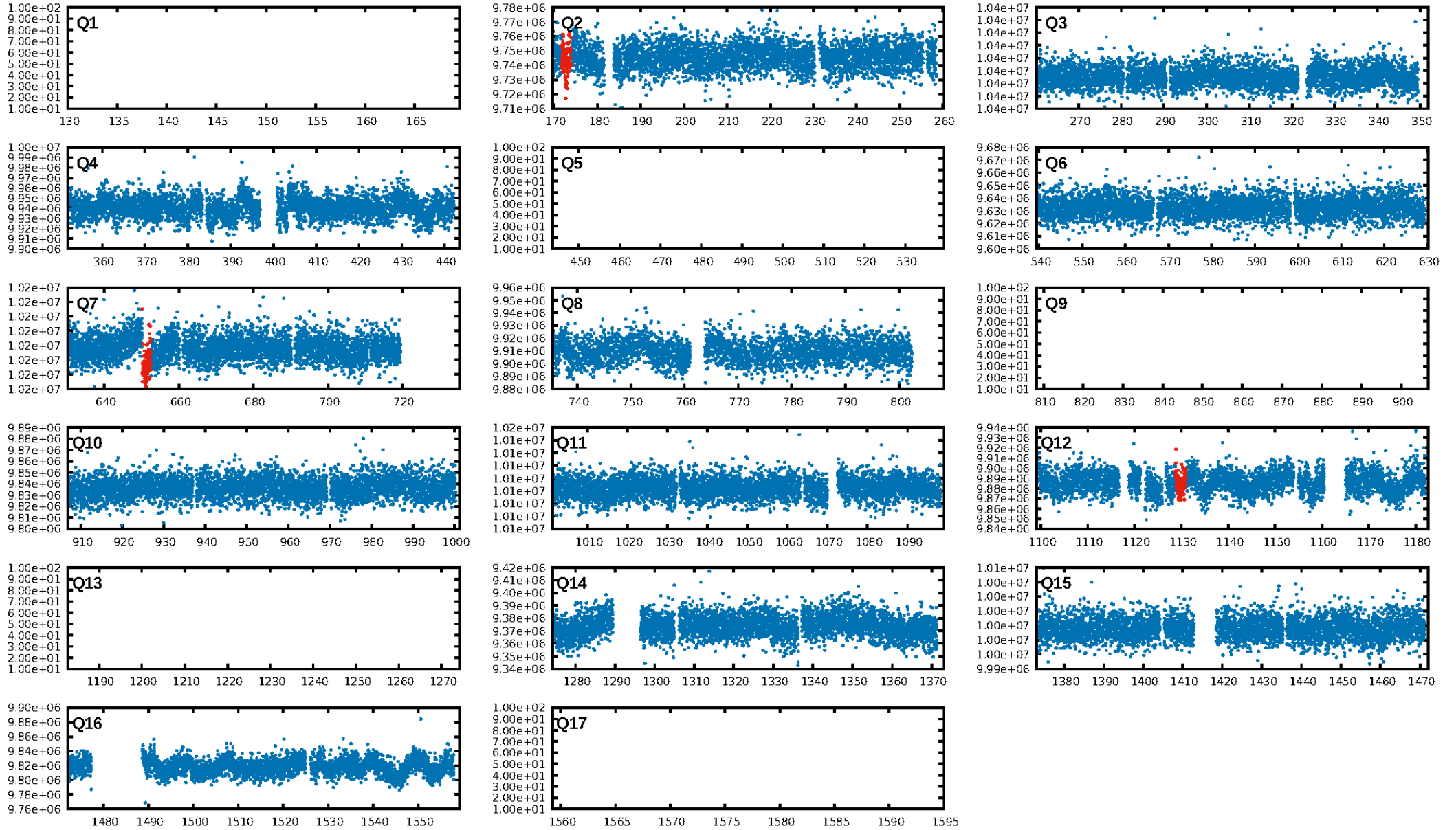
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.74σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.28e-11
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -2.488
Centroid-sig: 0.0%
Centroid-so: 4.179 arcsec [3.17σ]
OotOffset-rm: 1.929 arcsec [5.75σ]
KicOffset-rm: 2.022 arcsec [6.09σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.50 [1/2]

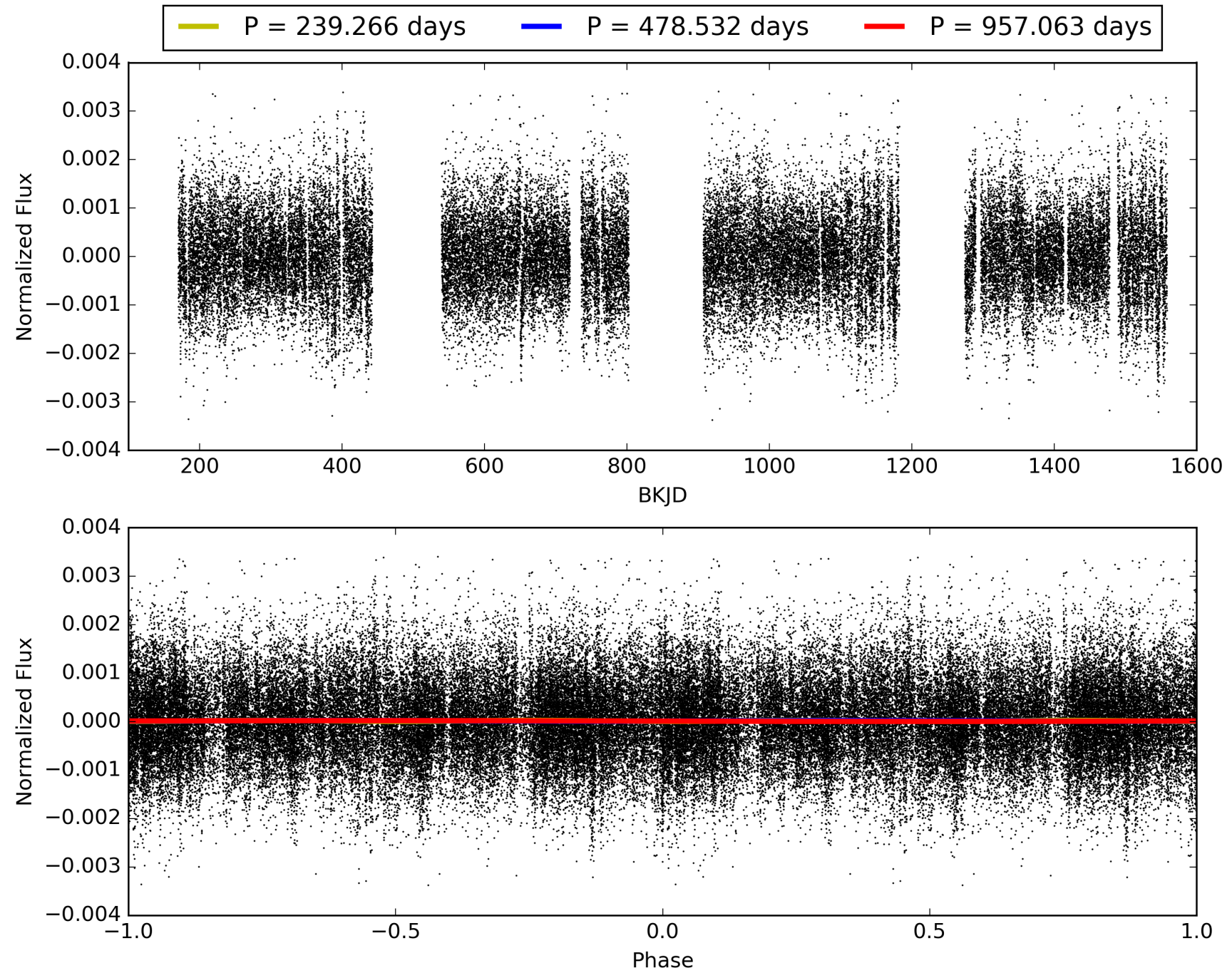
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:03:44 Z

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

TCE 005770231-02, PDC Light Curves

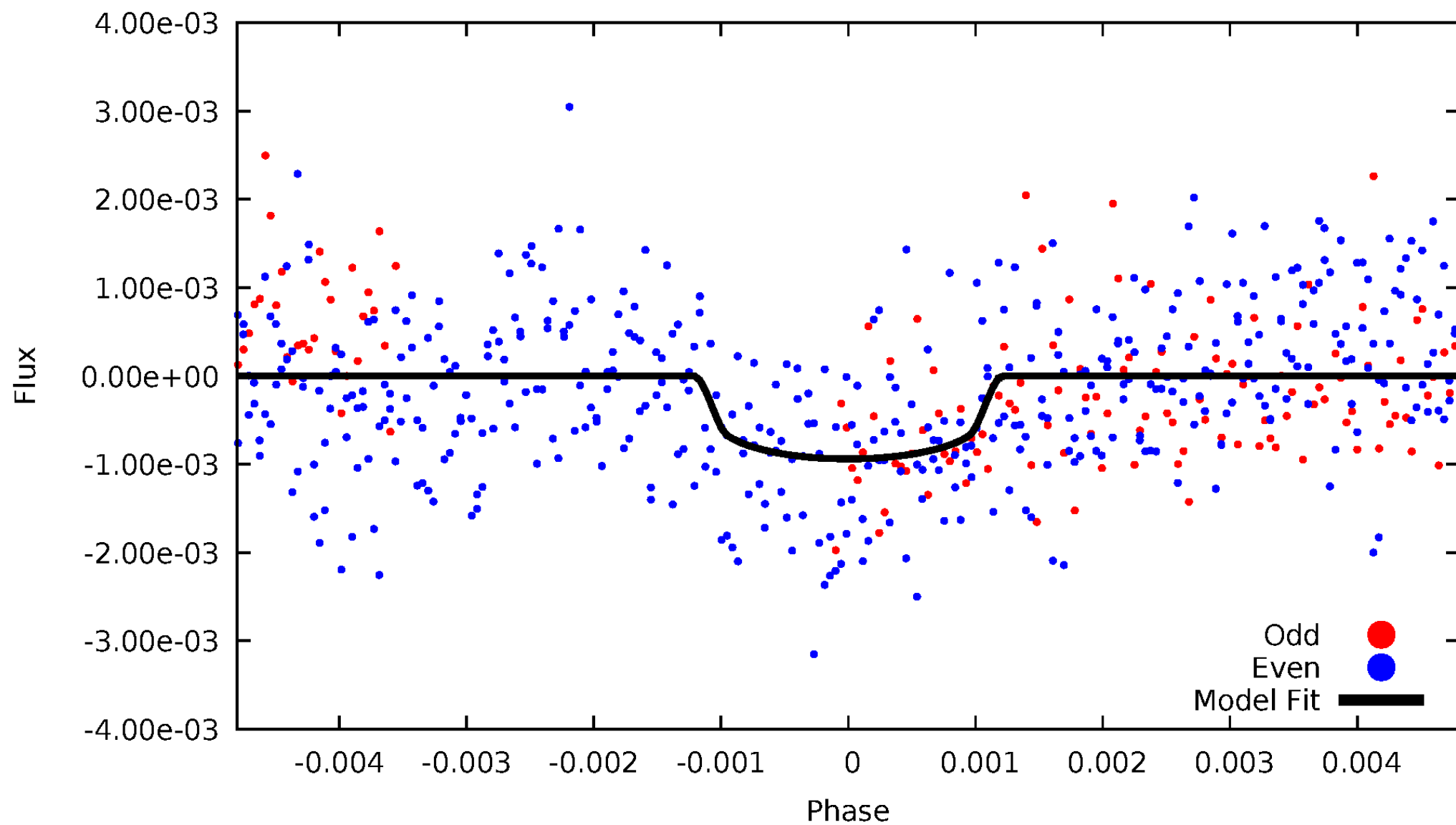


TCE 005770231-02



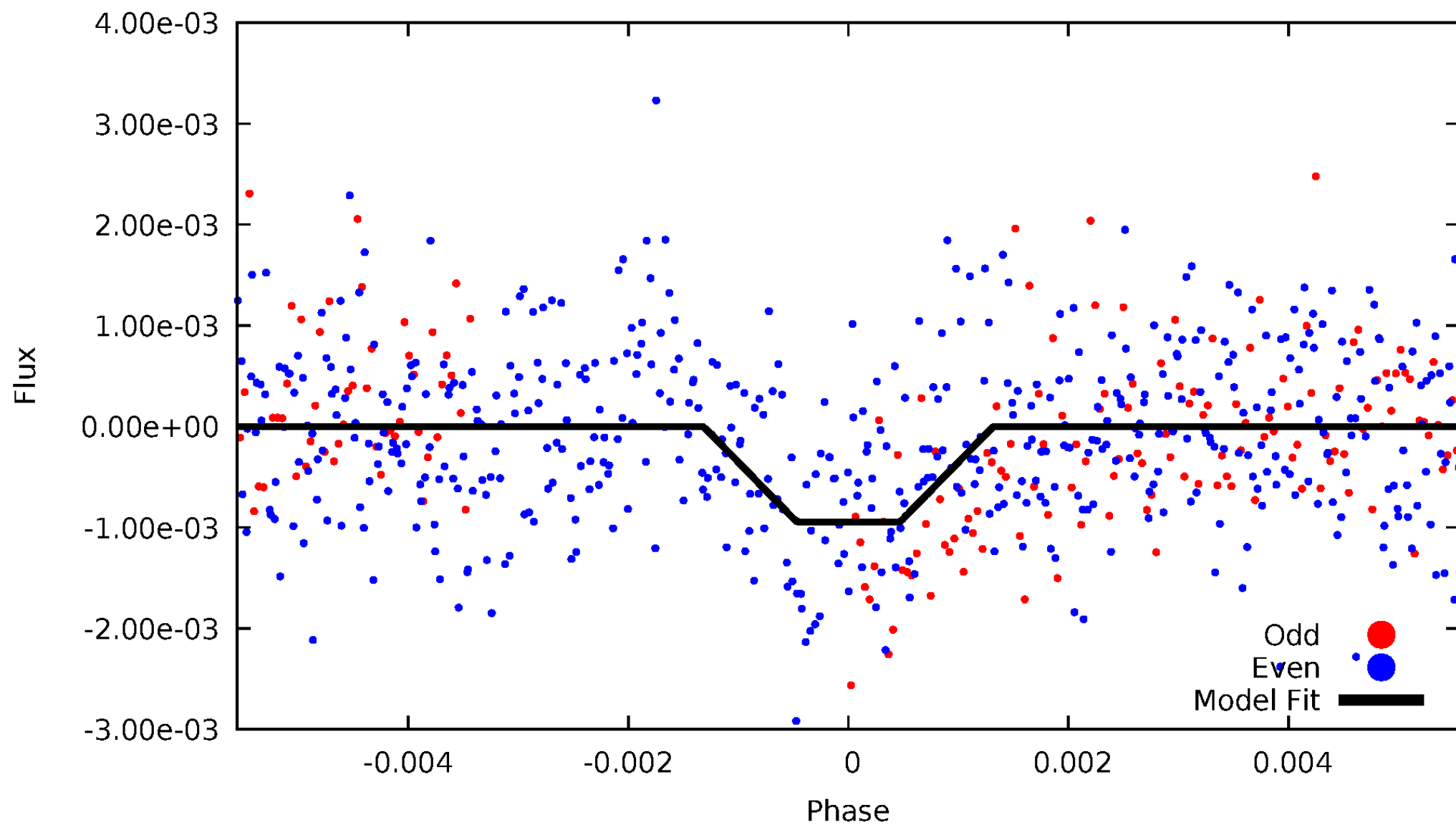
DV Odd/Even

TCE 005770231-02



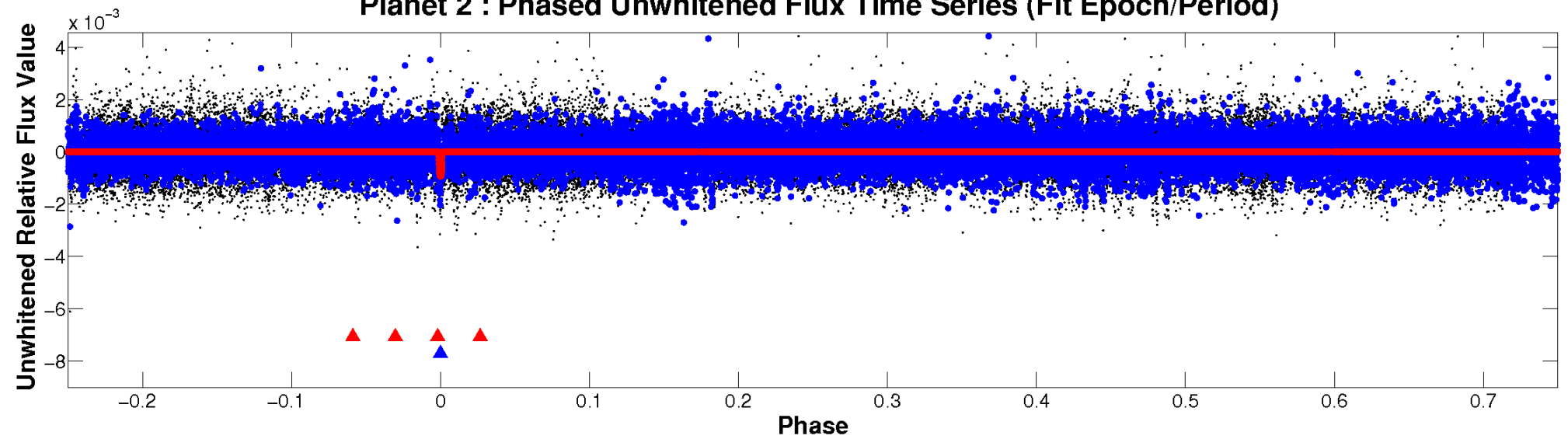
ALT Odd/Even

TCE 005770231-02

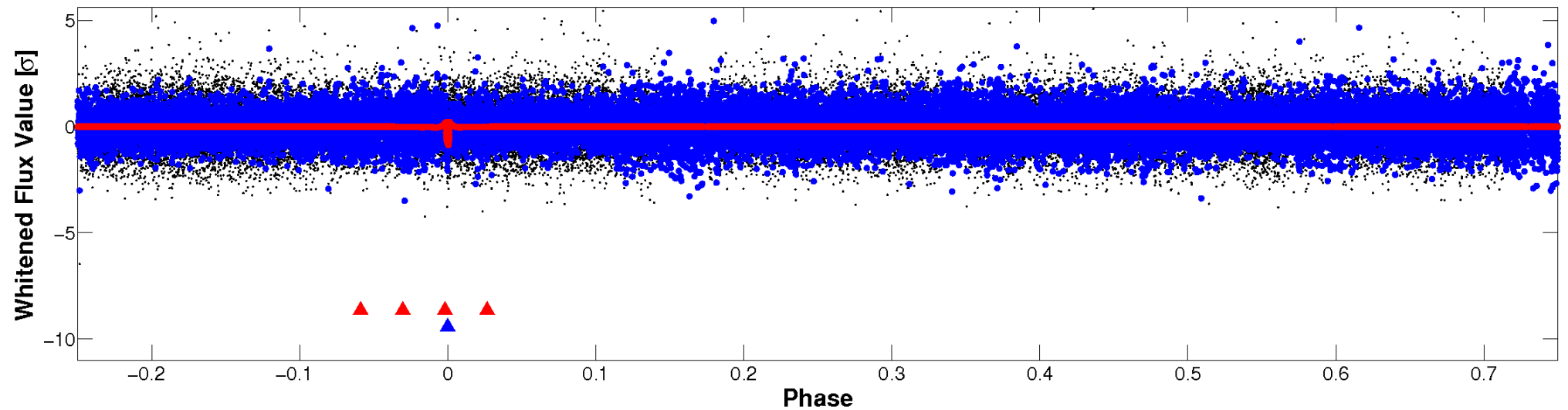


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

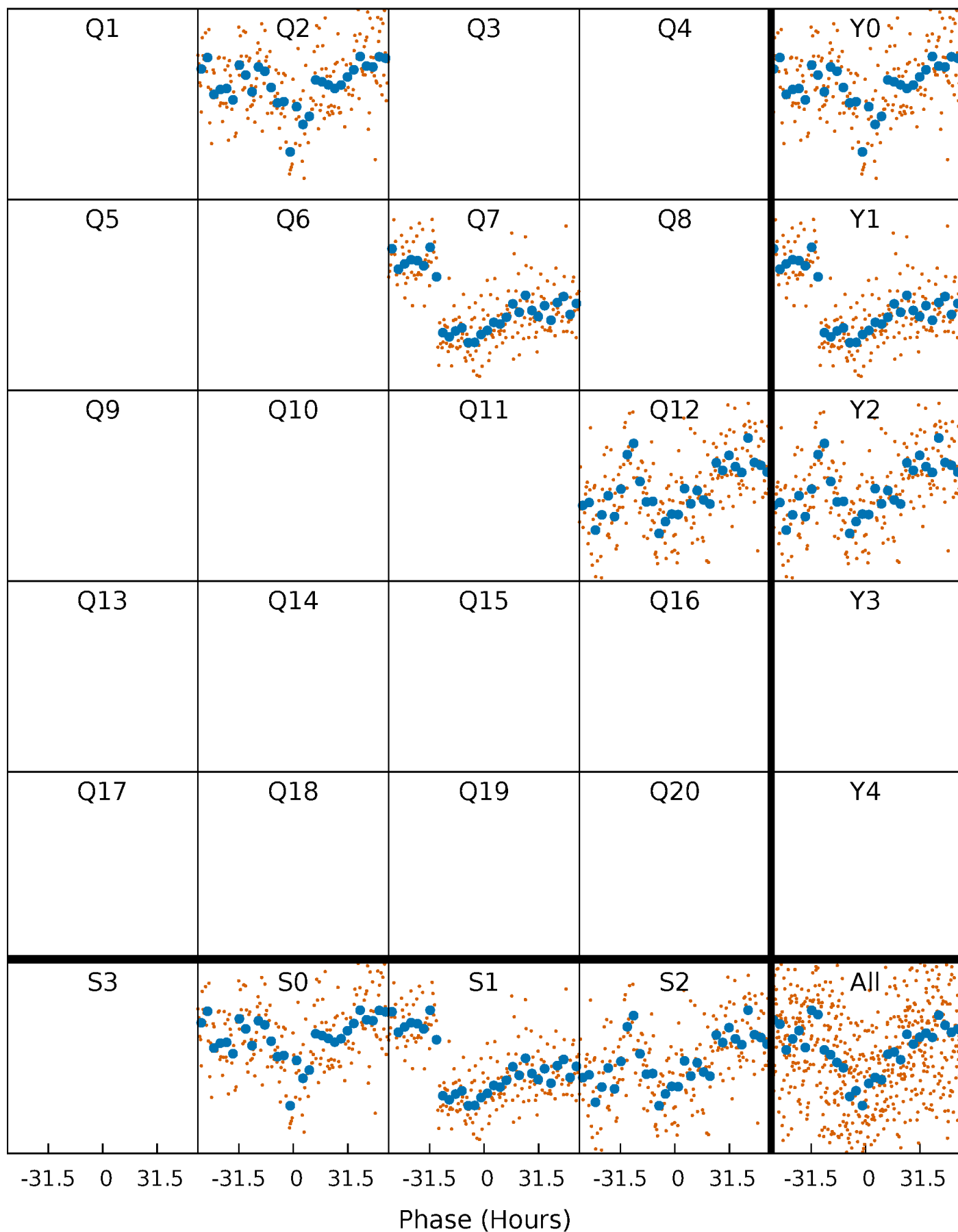


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



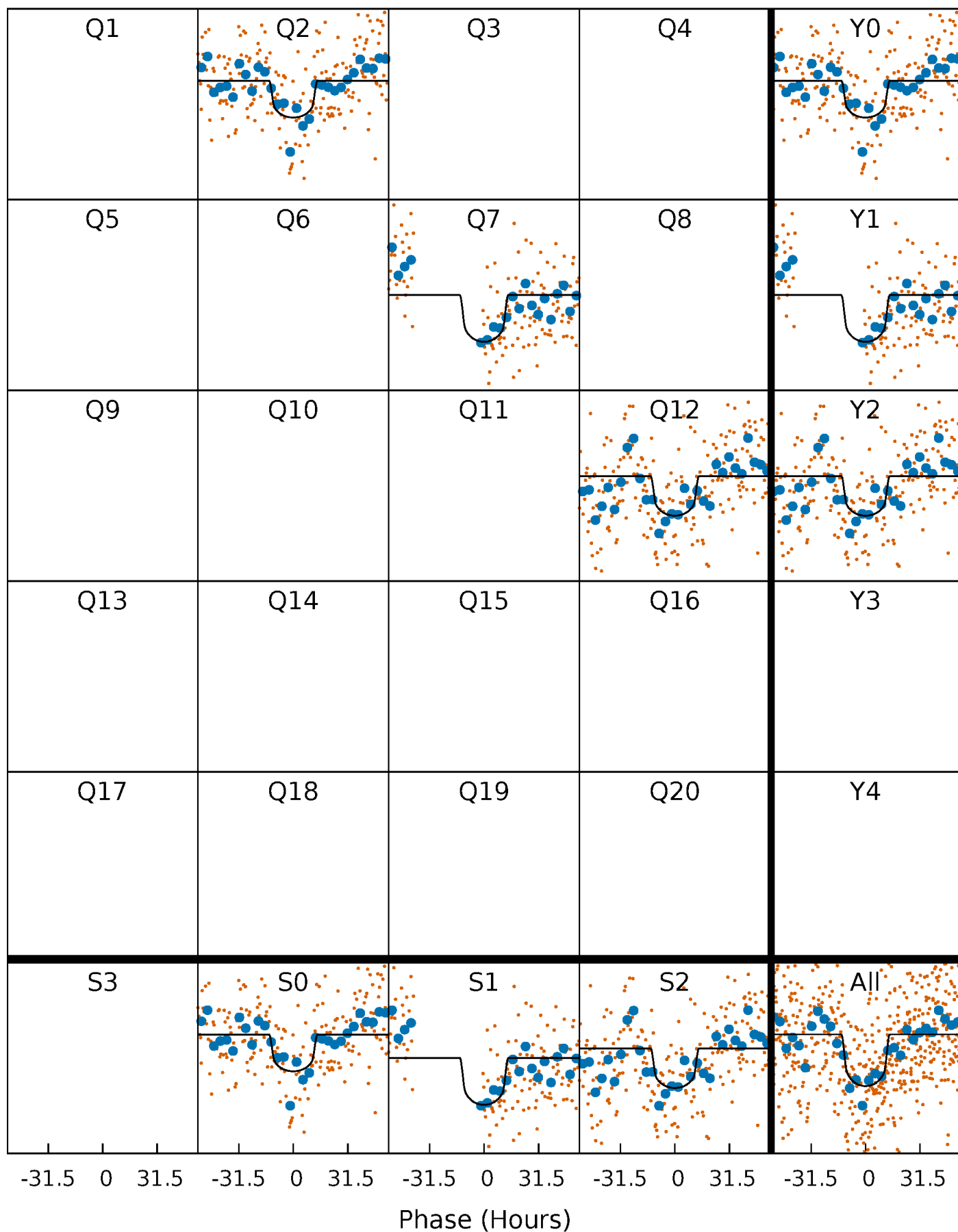
PDC Quarter-Phased Transit Curves

TCE 005770231-02 P=478.531649 Days $T_0=172.777029$ (BKJD)



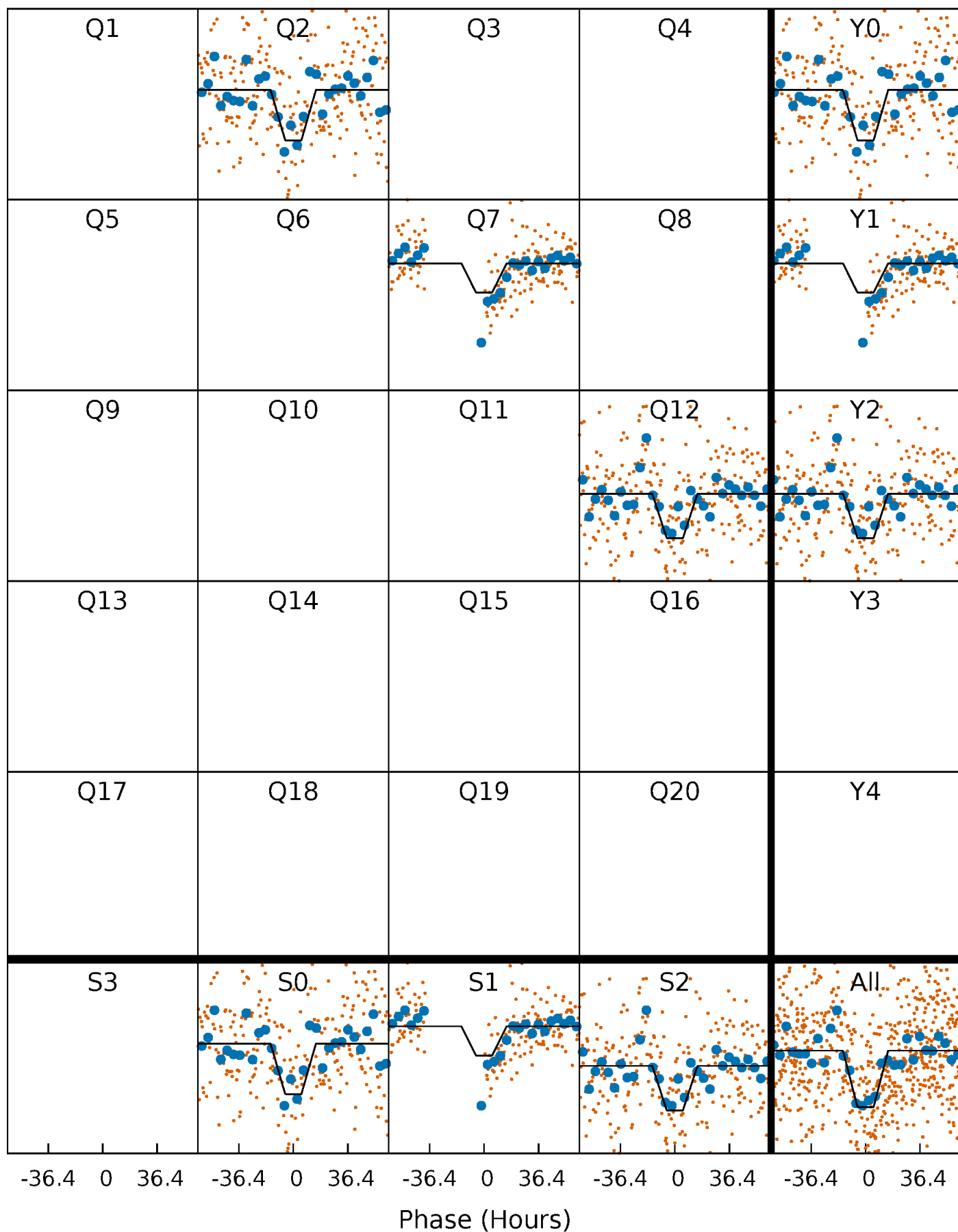
DV Quarter-Phased Transit Curves

TCE 005770231-02 P=478.531649 Days $T_0=172.777029$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

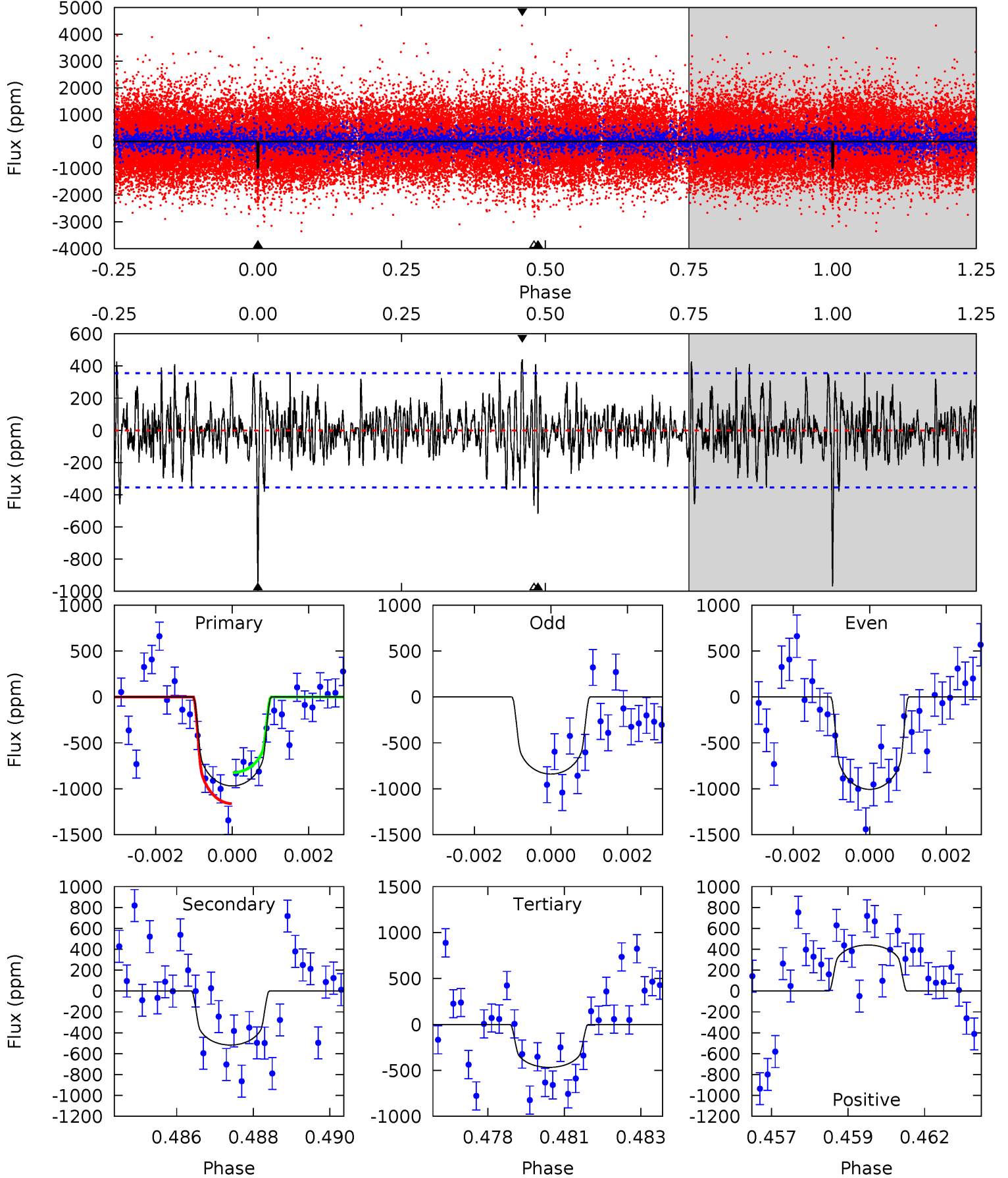
TCE 005770231-02 P=478.376884 Days $T_0=172.873624$ (BKJD)



DV Model-Shift Uniqueness Test

005770231-02, P = 478.531649 Days, E = 172.777029 Days

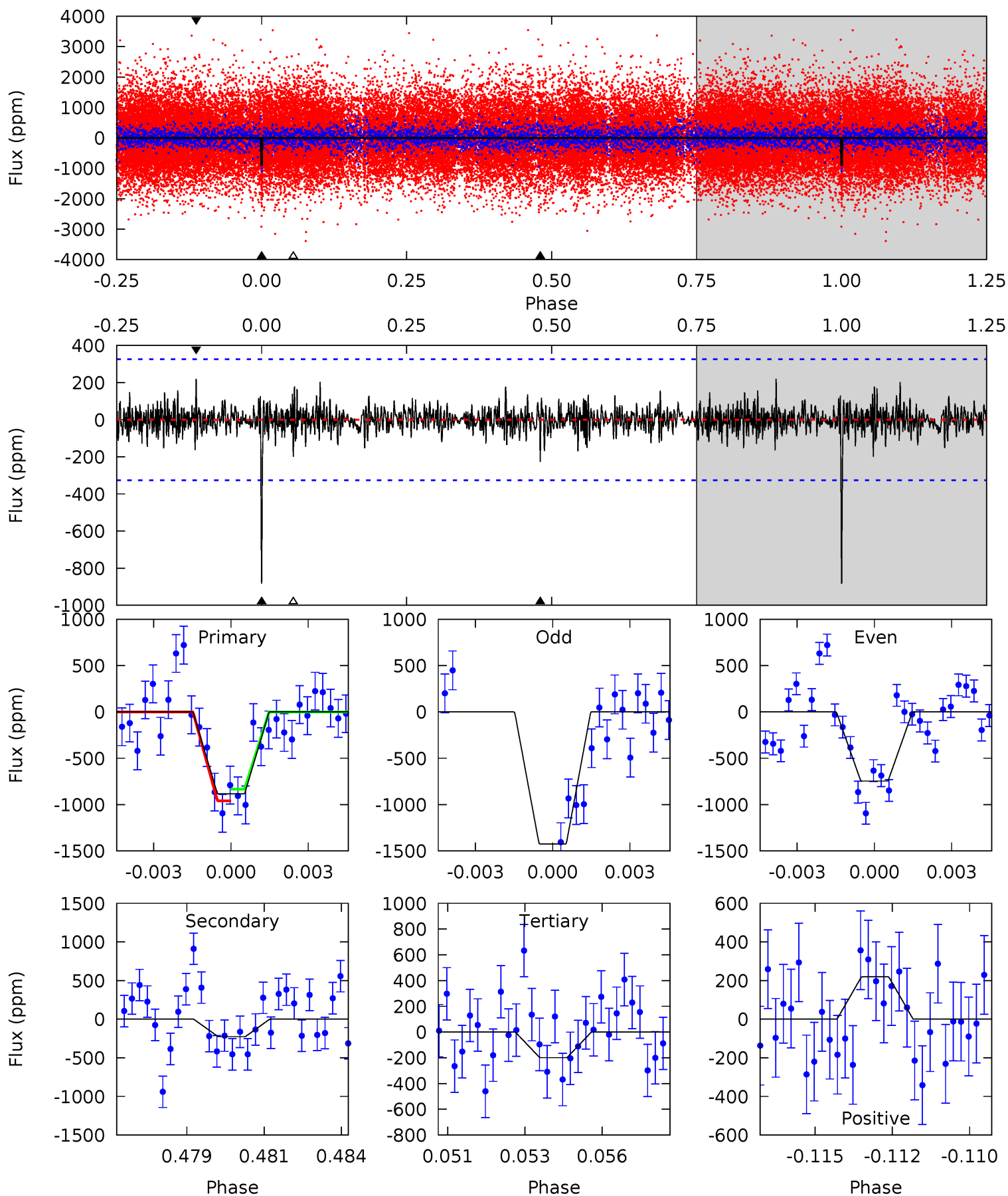
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	7.71	6.97	6.56	5.29	3.04	1.83	7.47	7.87	0.74	1.15	1.03	1.01	0.31	2.48



Alt Model-Shift Uniqueness Test

005770231-02, P = 478.376884 Days, E = 172.873624 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	3.65	3.21	3.55	5.27	3.00	0.81	11.1	10.7	0.44	0.10	4.45	1.17	0.20	1.00



Stellar Parameters For KIC 005770231

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5364^{+160}_{-160}	$4.556^{+0.034}_{-0.136}$	$0.240^{+0.200}_{-0.250}$	$0.855^{+0.161}_{-0.064}$	$0.959^{+0.055}_{-0.095}$	$2.159^{+0.364}_{-0.849}$
	+3%/-3%	+1%/-3%	+83%/-104%	+19%/-7%	+6%/-10%	+17%/-39%
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 005770231-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-517 ± 67	$3.09^{+0.54}_{-0.53}$	286^{+15}_{-12}	4645^{+400}_{-318}	40836^{+20298}_{-12208}
Alt.	-226 ± 62	$2.98^{+0.64}_{-0.56}$	286^{+15}_{-11}	4011^{+391}_{-318}	19340^{+11376}_{-7534}

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 $A_{obs} \gg 1.0$

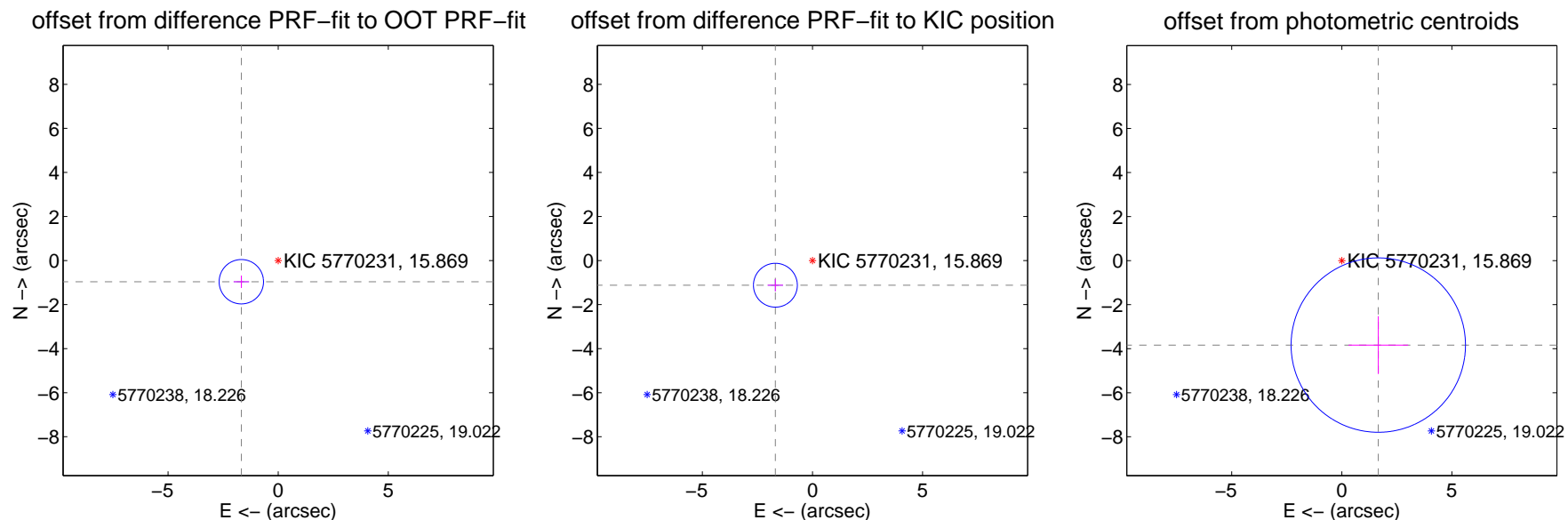
DV Centroid Data

Supplemental centroid analysis for 005770231-02. Kepler magnitude: 15.87. Transit SNR 8.01

There are 1 quarters with good PRF difference image offsets

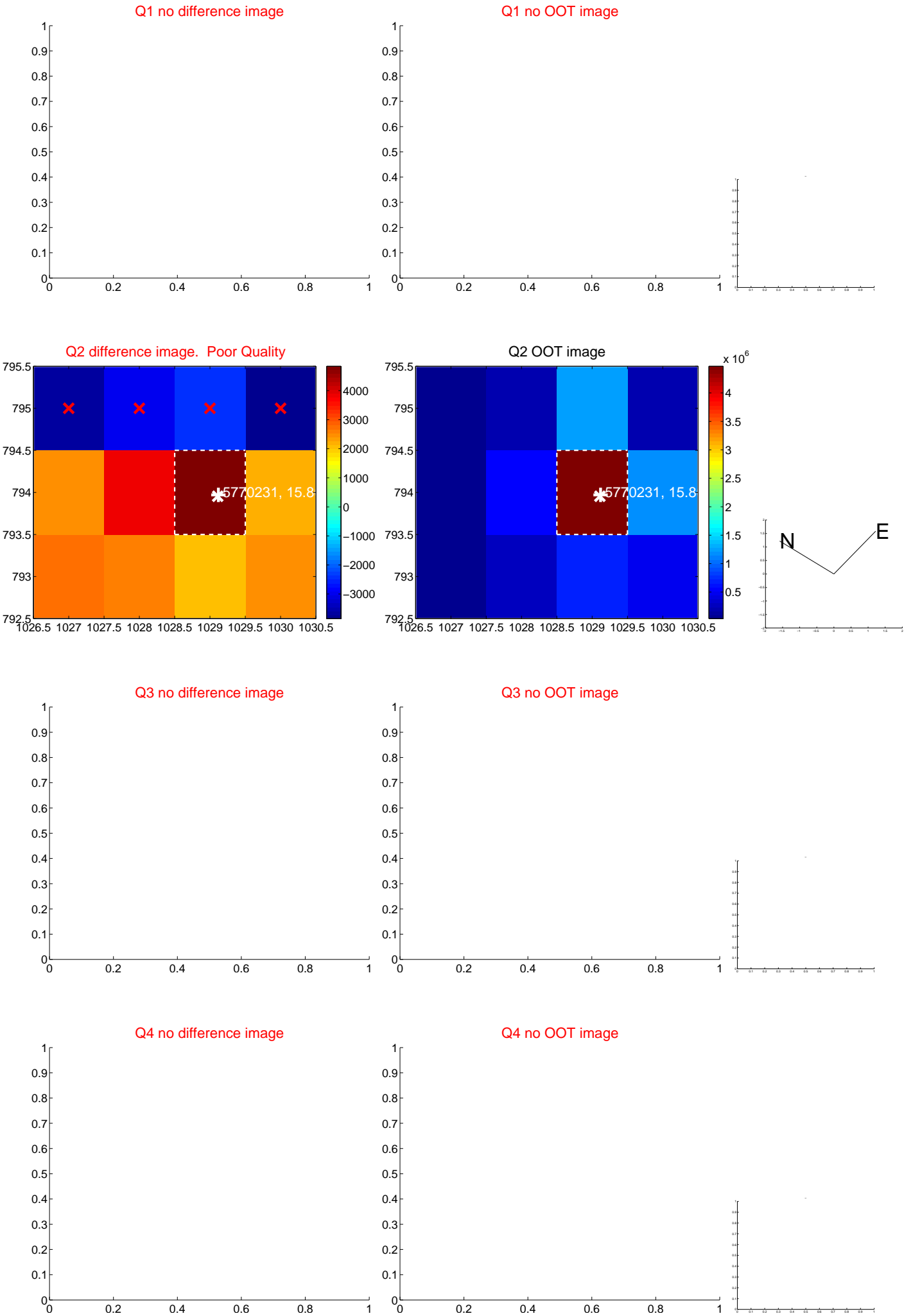
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.929 ± 0.336	5.75	1.672 ± 0.352	-0.962 ± 0.282
PRF-fit source offset from KIC position	2.022 ± 0.332	6.09	1.683 ± 0.352	-1.121 ± 0.282
photometric centroid source offset	4.18 ± 1.32	3.17	-1.66 ± 1.36	-3.84 ± 1.31

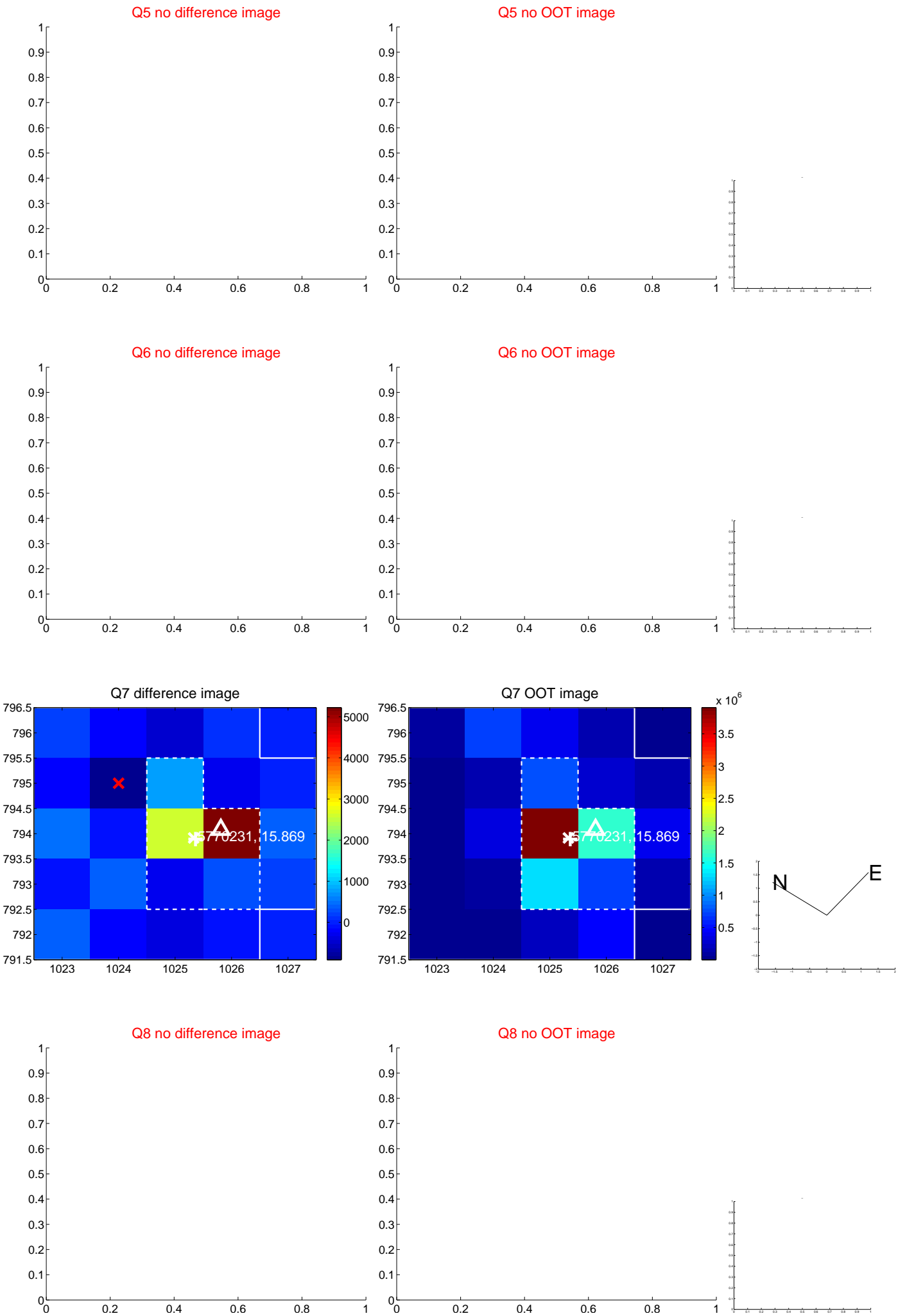


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



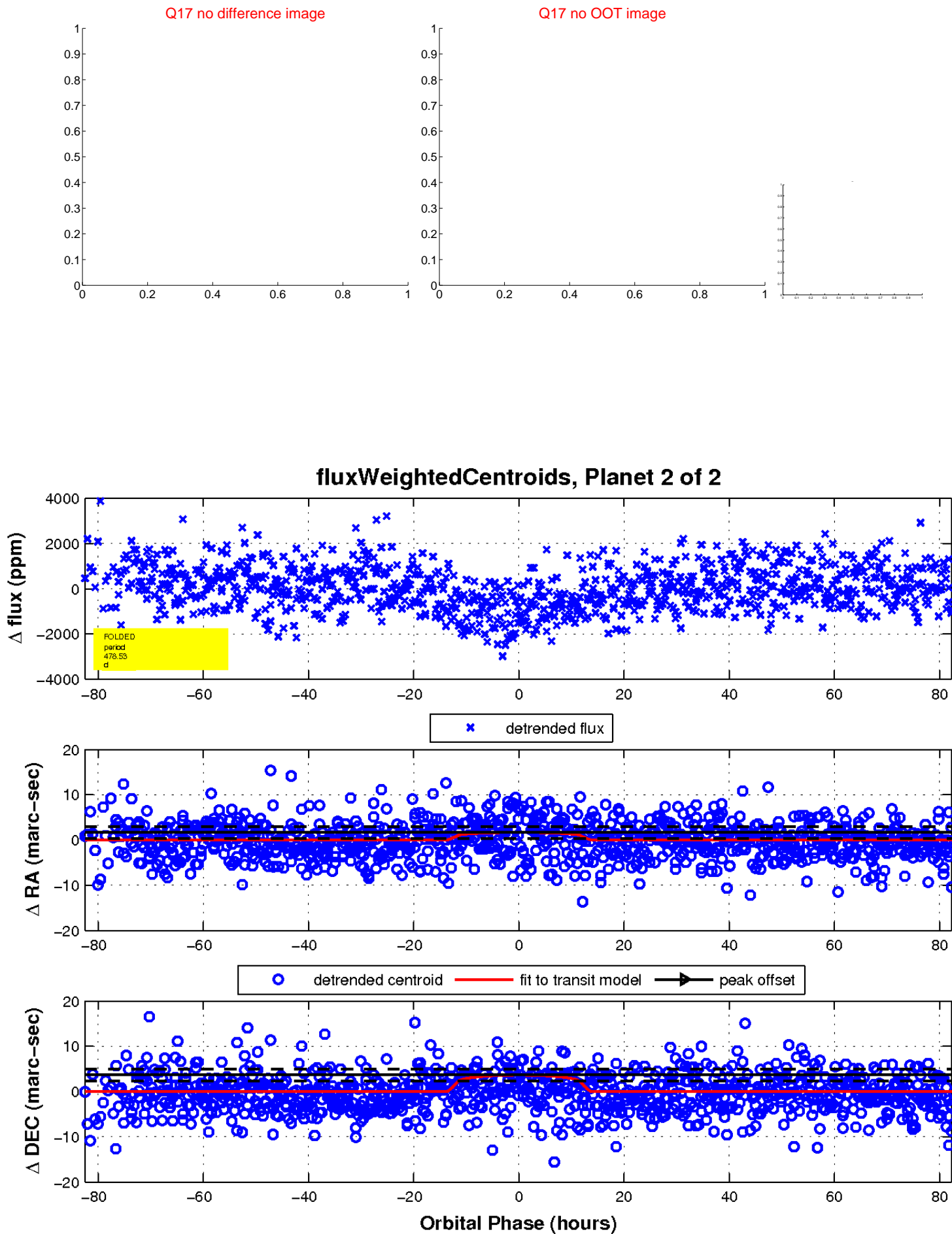
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

