

KIC 005907931

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})
005907931-01	OBS	No	401.220293	429.451799	1522.5	3.389	7.2	7.1	0.79	5098	3.57	0.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005907931-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

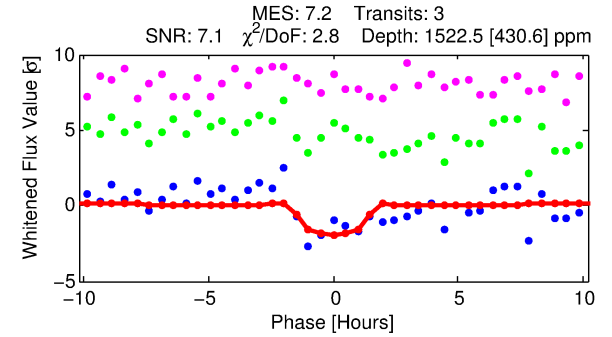
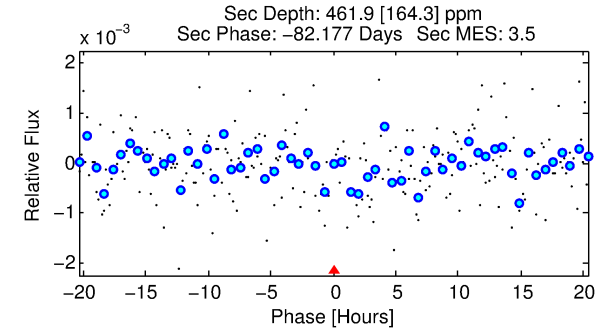
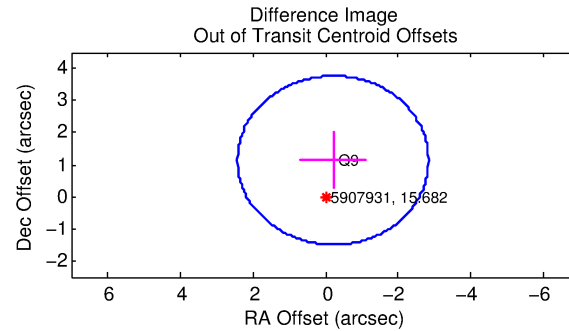
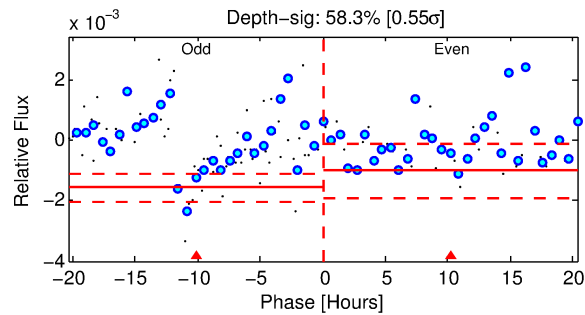
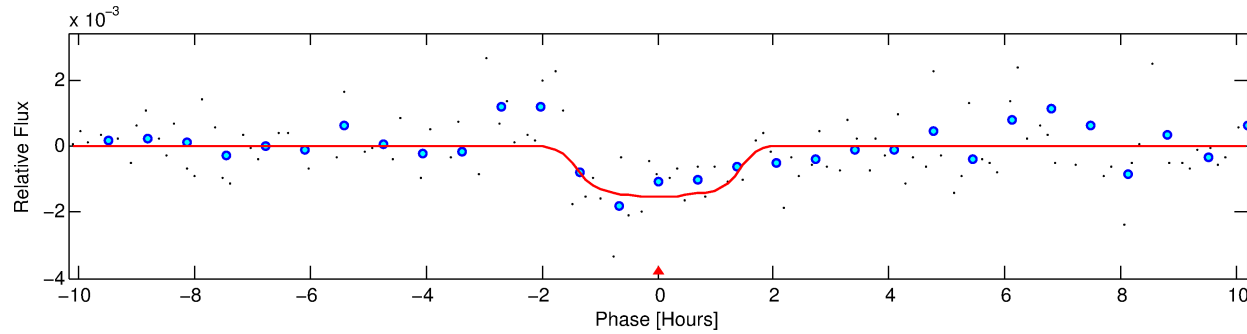
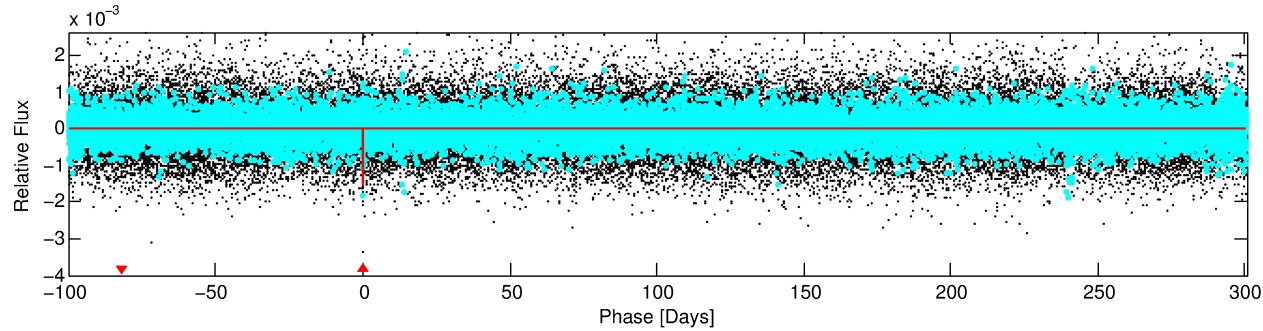
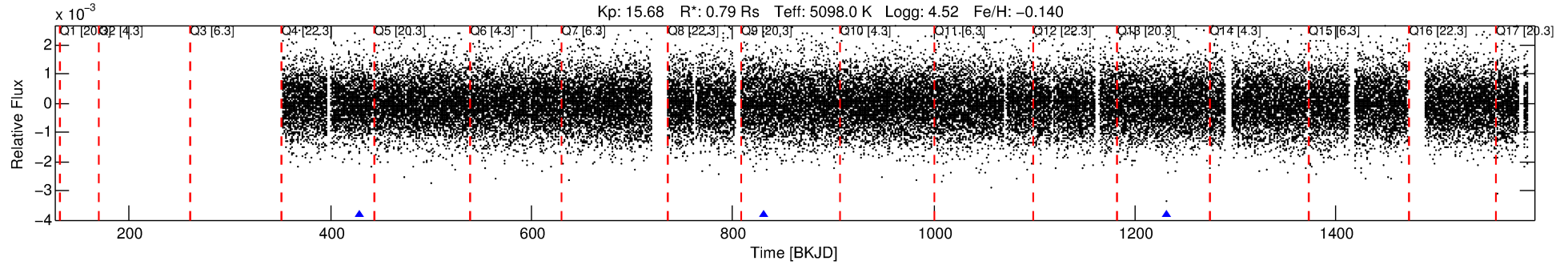
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005907931-01

No Significant Match Found

DV One-Page Summary

KIC: 5907931 Candidate: 1 of 1 Period: 401.220 d



DV Fit Results:

Period = 401.22029 [0.01312] d
Epoch = 429.4518 [0.0153] BKJD
Rp/R* = 0.0415 [0.0302]
a/R* = 539.78 [1416.18]
b = 0.85 [0.86]
Seff = 0.40 [0.08]
Teq = 203 [11] K
Rp = 3.57 [2.62] Re
a = 0.9652 [0.0971] AU
Ag = 18618.20 [28028.49] [0.66 σ]
Teffp = 3668 [1379] K [2.51 σ]

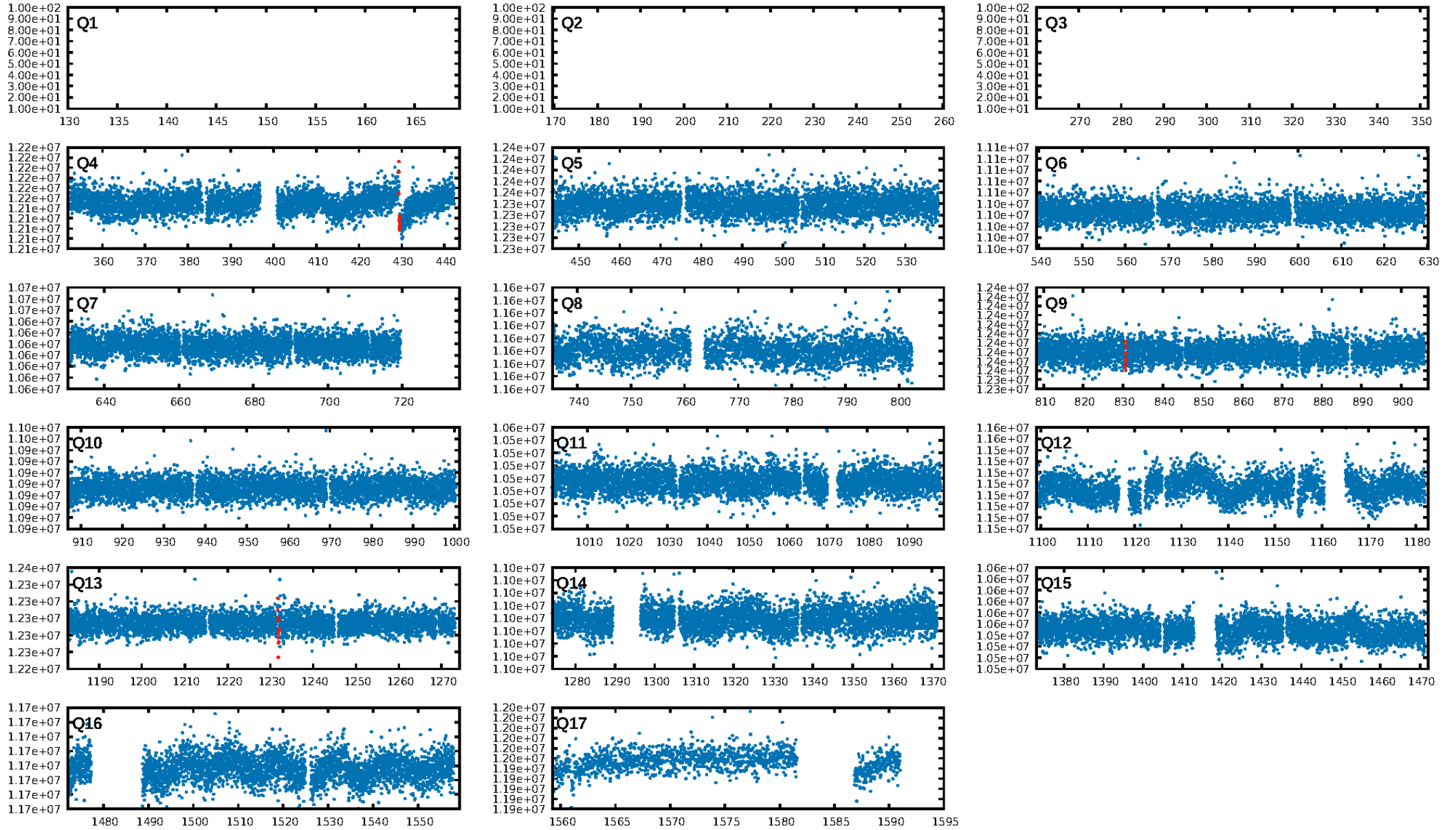
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 39.2%
ModelChiSquareGof-sig: 51.1%
Bootstrap-pfa: 4.46e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.713
Centroid-sig: 1.2%
Centroid-so: 1.743 arcsec [0.89 σ]
OotOffset-rm: 1.153 arcsec [1.31 σ]
KicOffset-rm: 0.961 arcsec [1.56 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

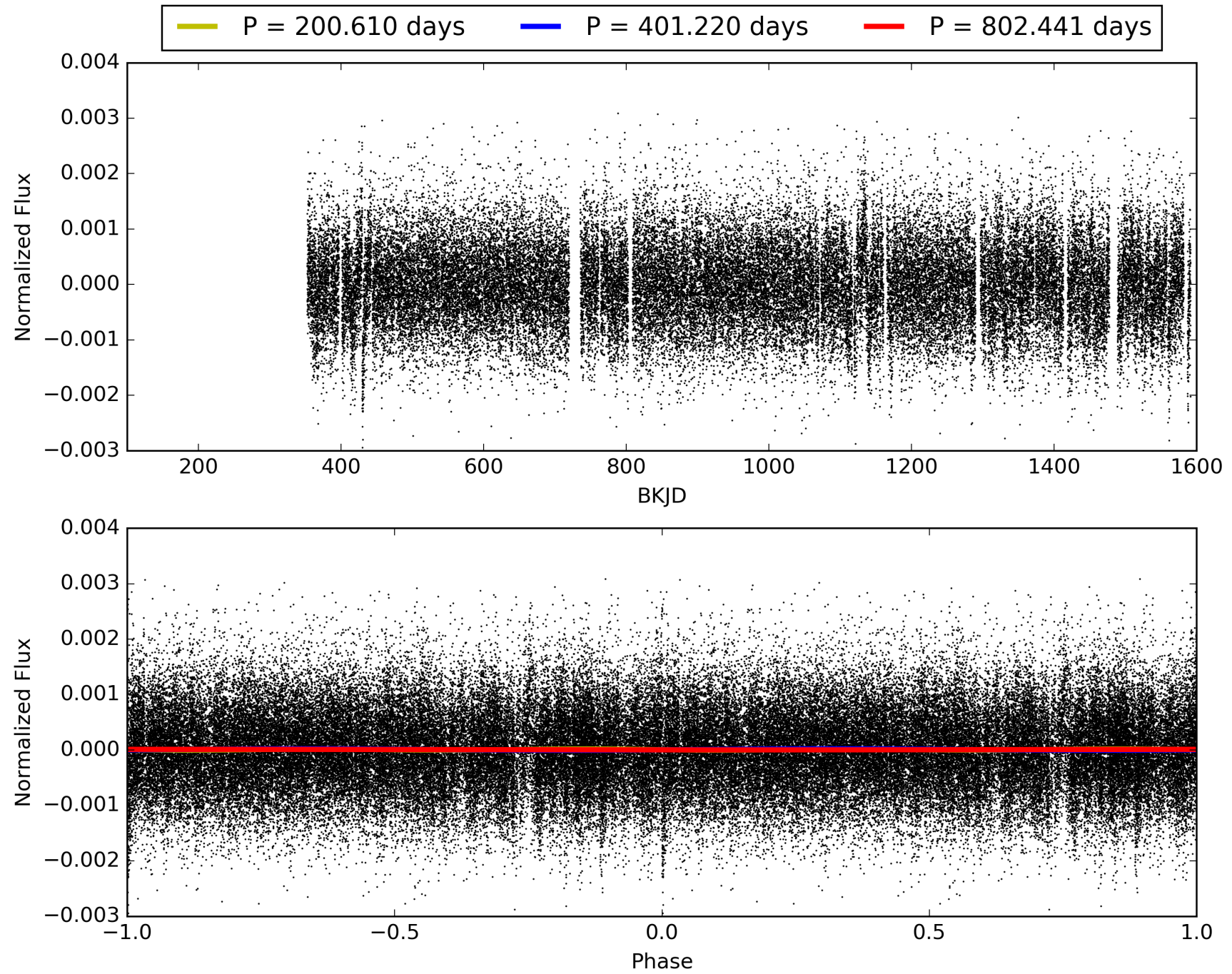
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:17:11 Z

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

TCE 005907931-01, PDC Light Curves

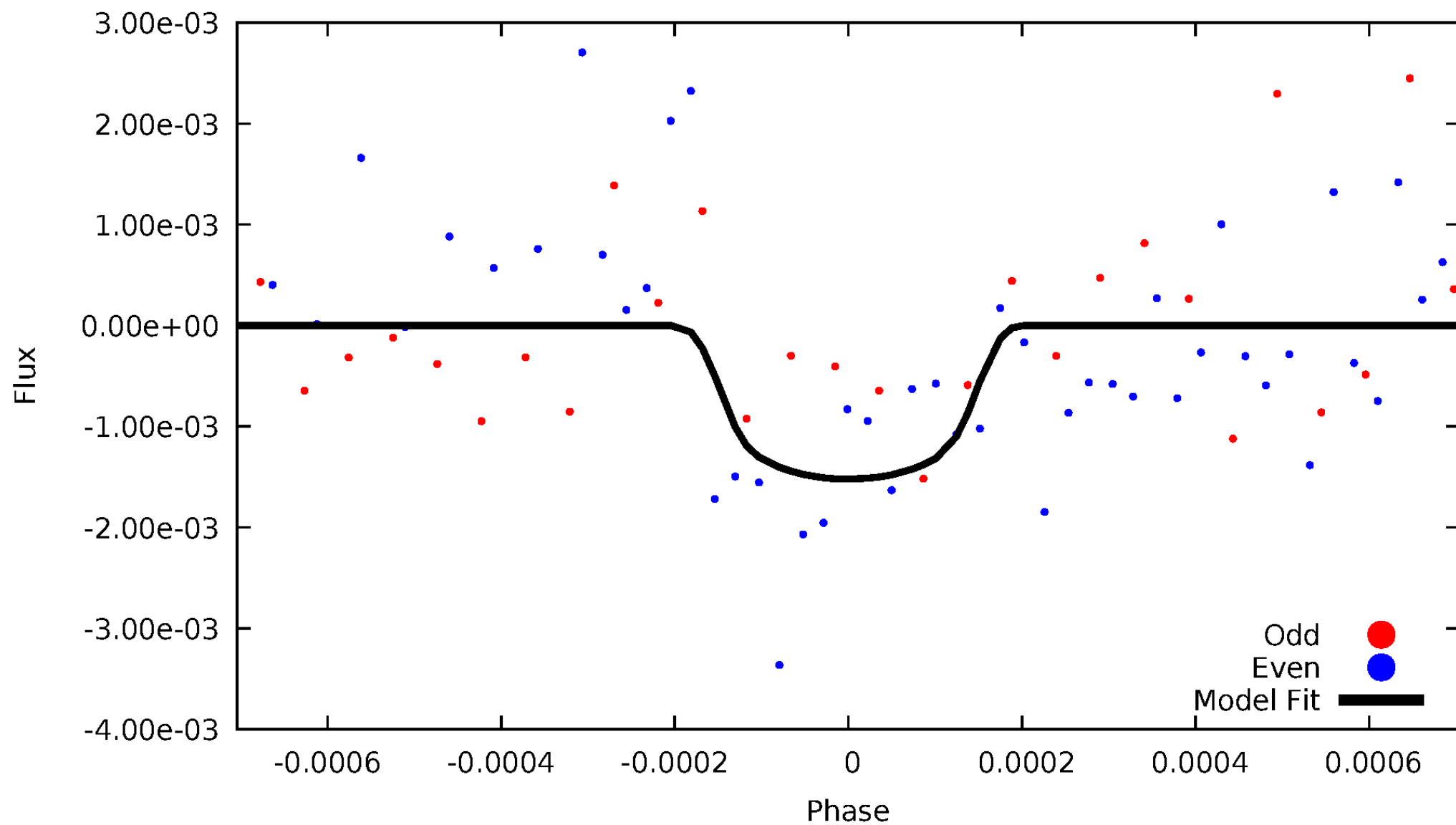


TCE 005907931-01



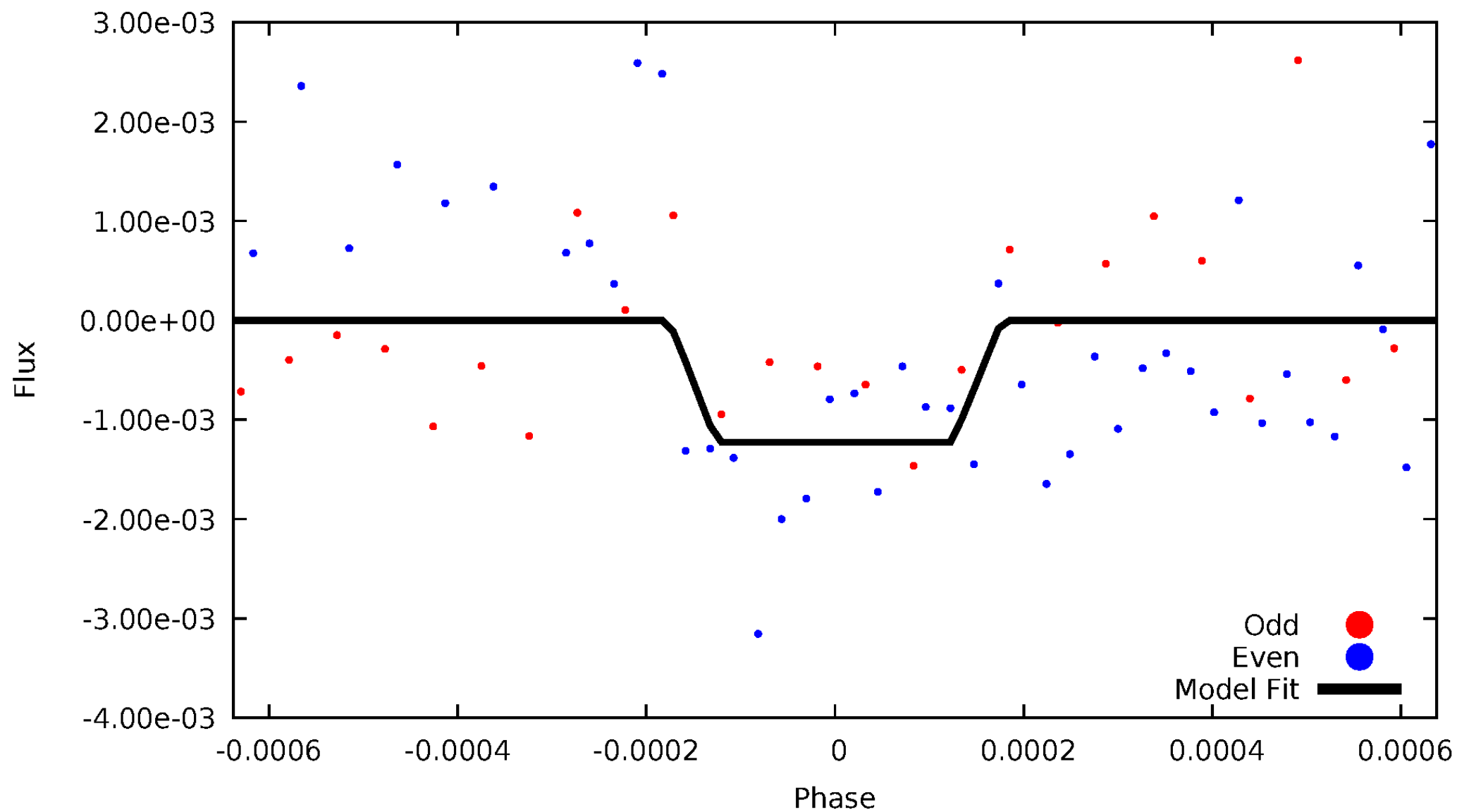
DV Odd/Even

TCE 005907931-01



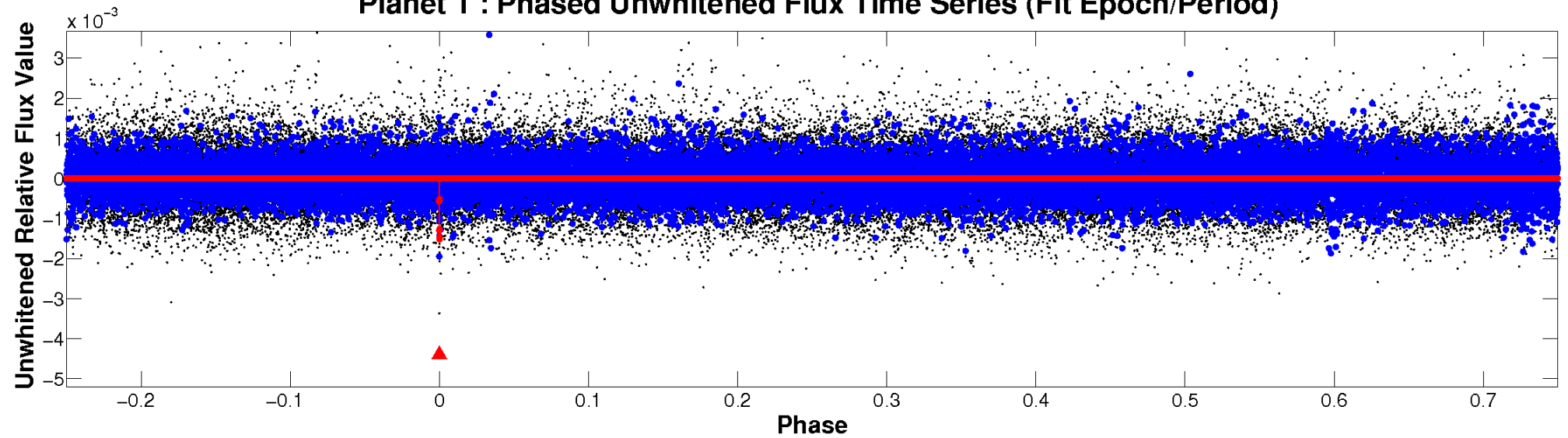
ALT Odd/Even

TCE 005907931-01

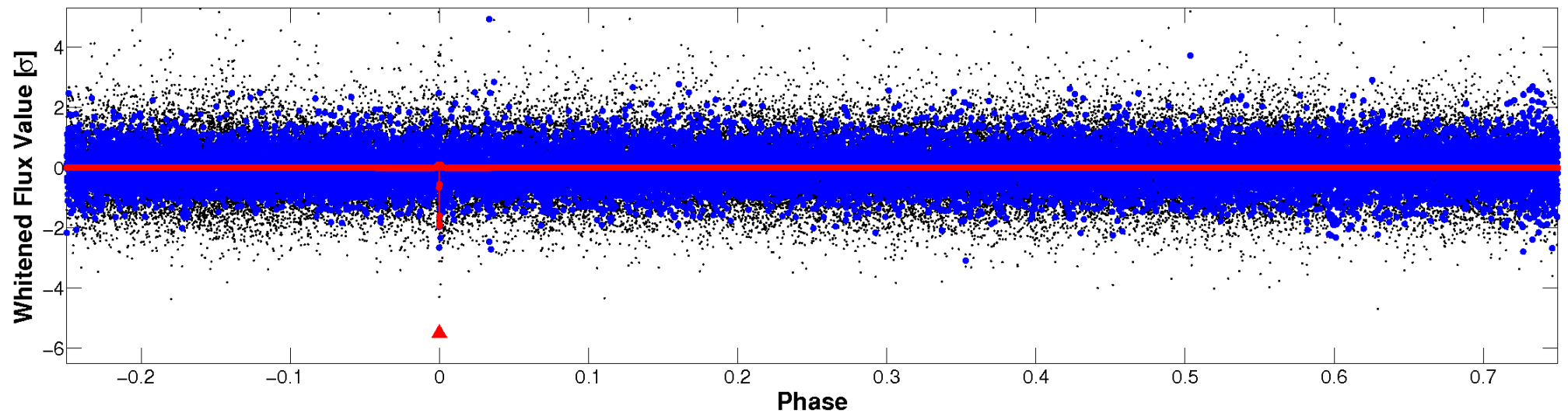


Non-Whitened Vs. Whitened Light Curve

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

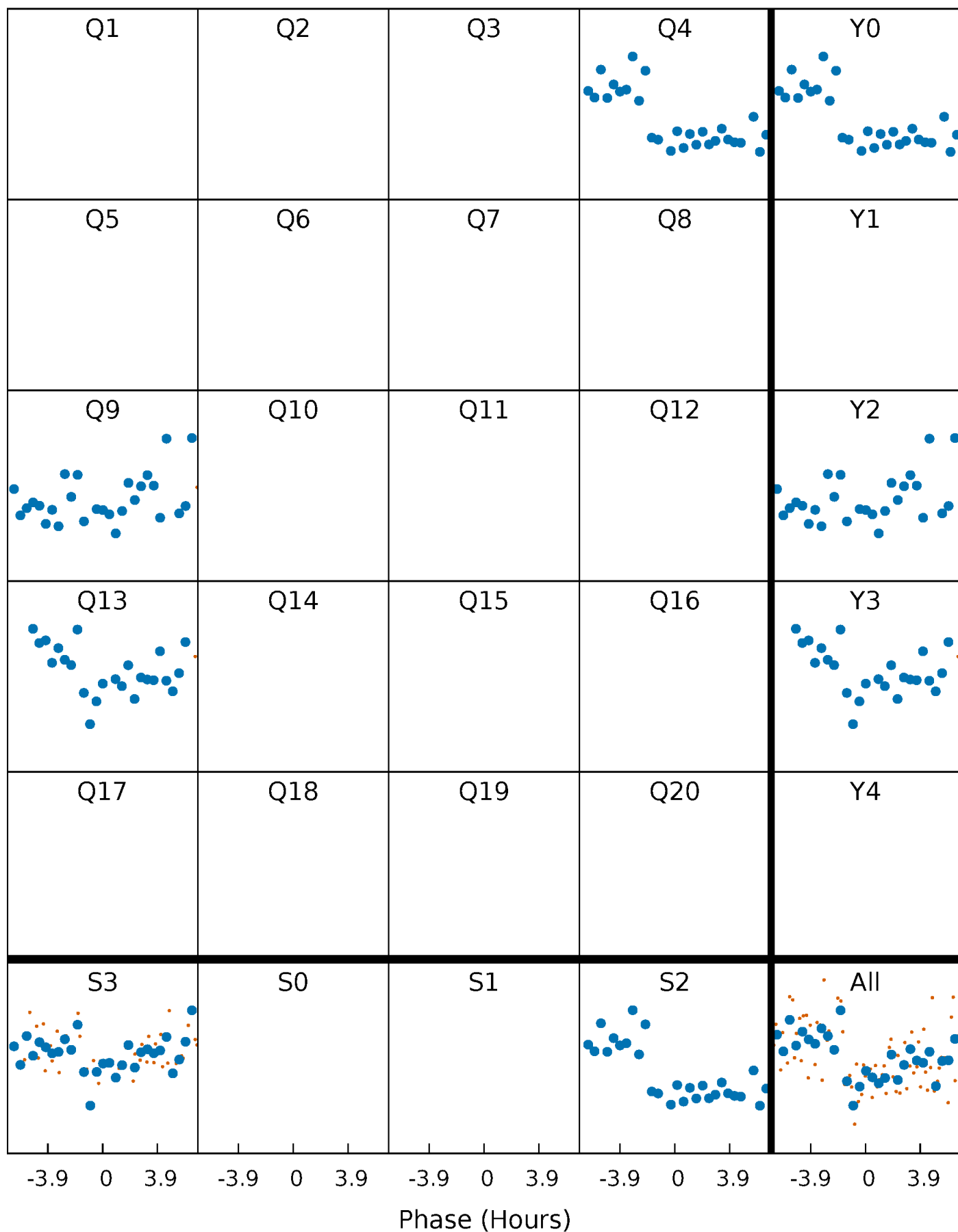


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



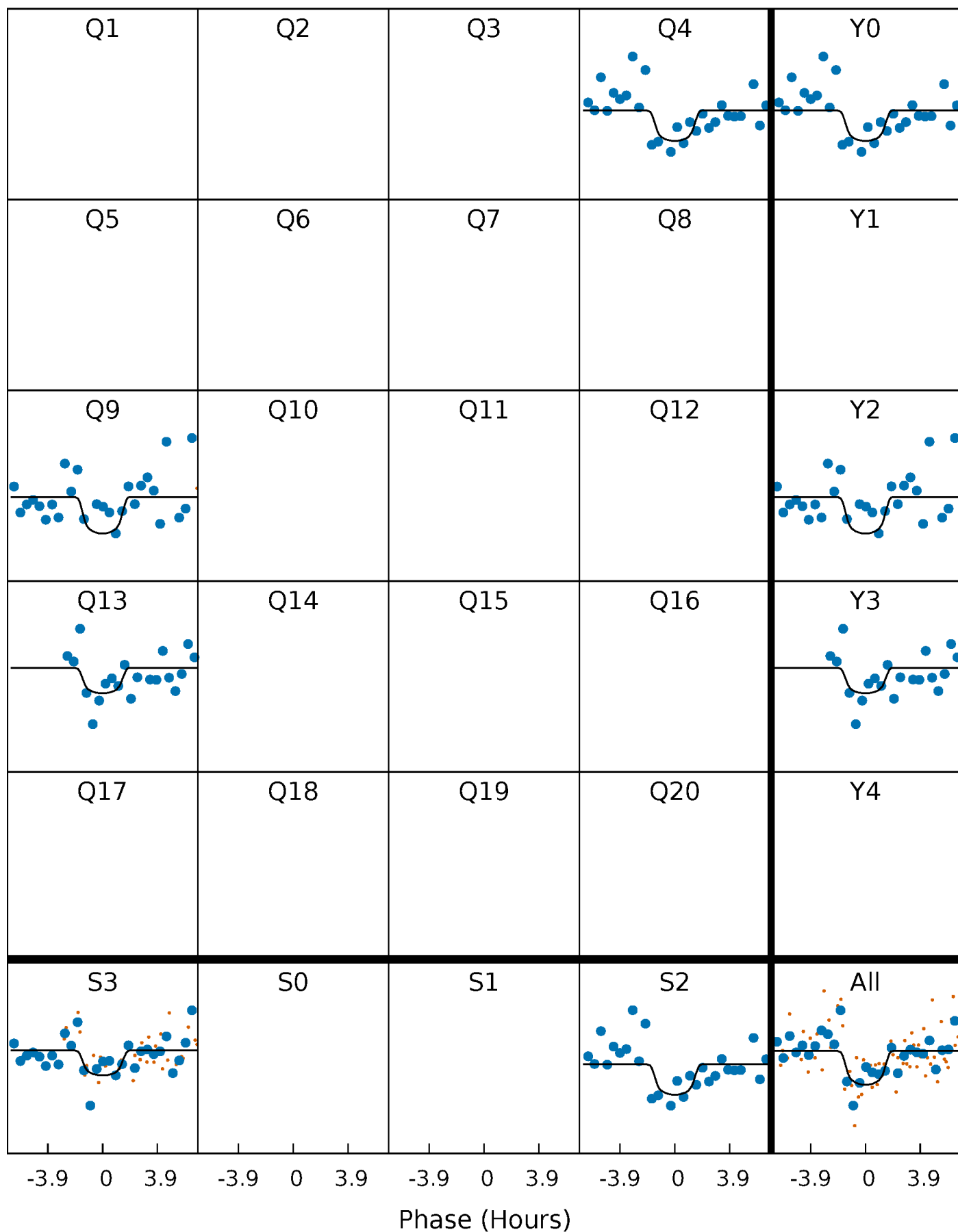
PDC Quarter-Phased Transit Curves

TCE 005907931-01 P=401.220293 Days $T_0=429.451799$ (BKJD)



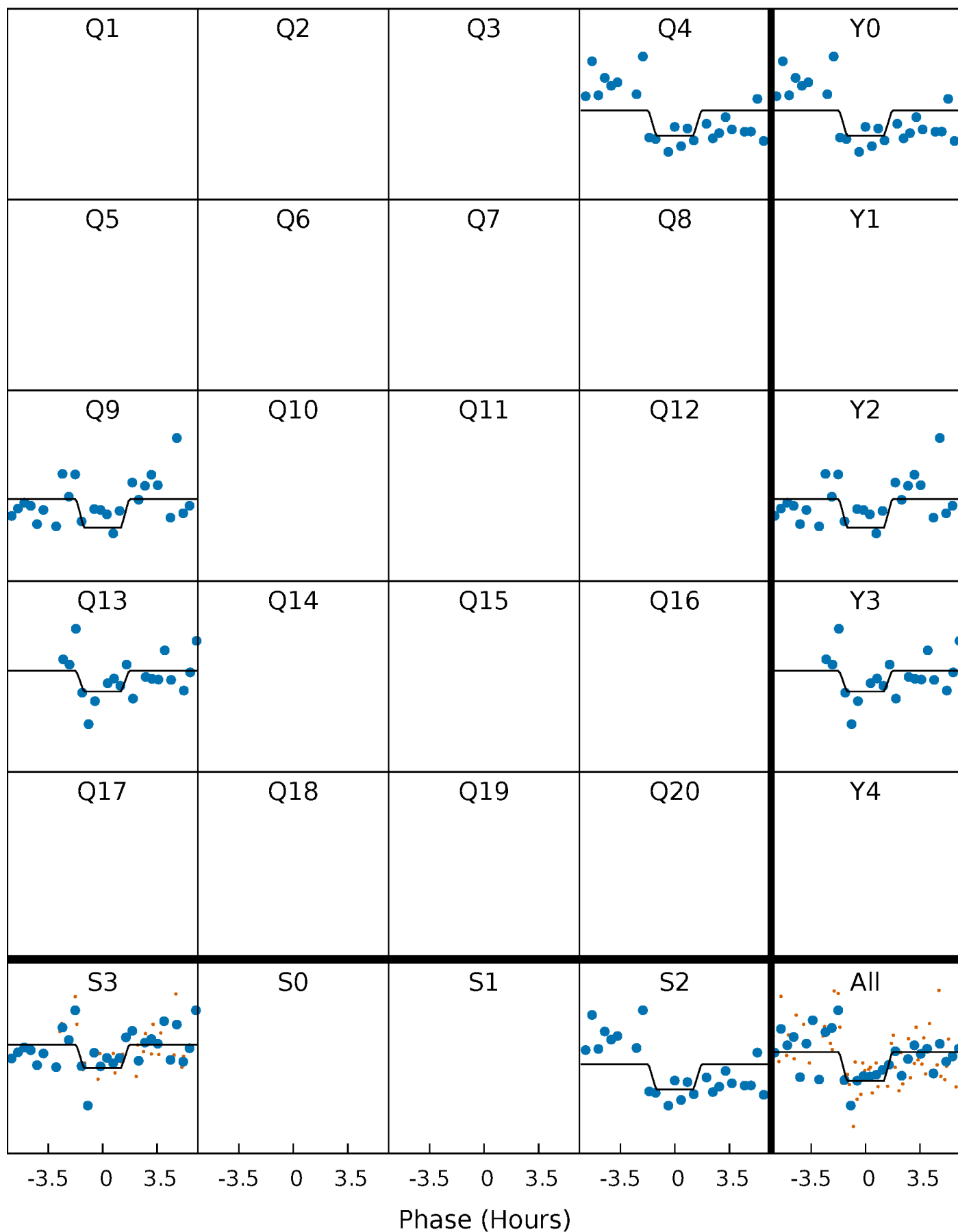
DV Quarter-Phased Transit Curves

TCE 005907931-01 P=401.220293 Days $T_0=429.451799$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

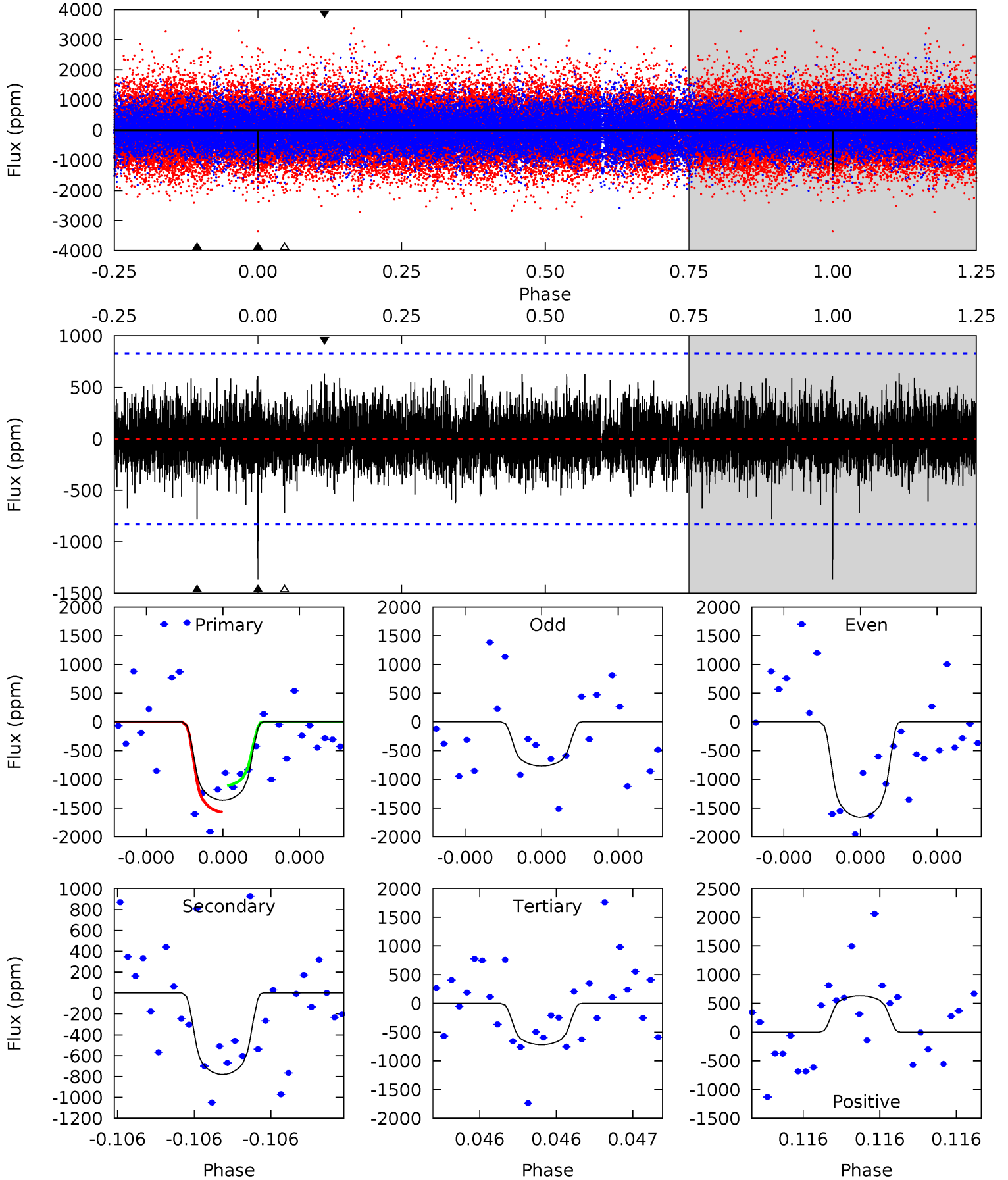
TCE 005907931-01 P=401.219762 Days $T_0=429.453590$ (BKJD)



DV Model-Shift Uniqueness Test

005907931-01, P = 401.220293 Days, E = 28.231506 Days

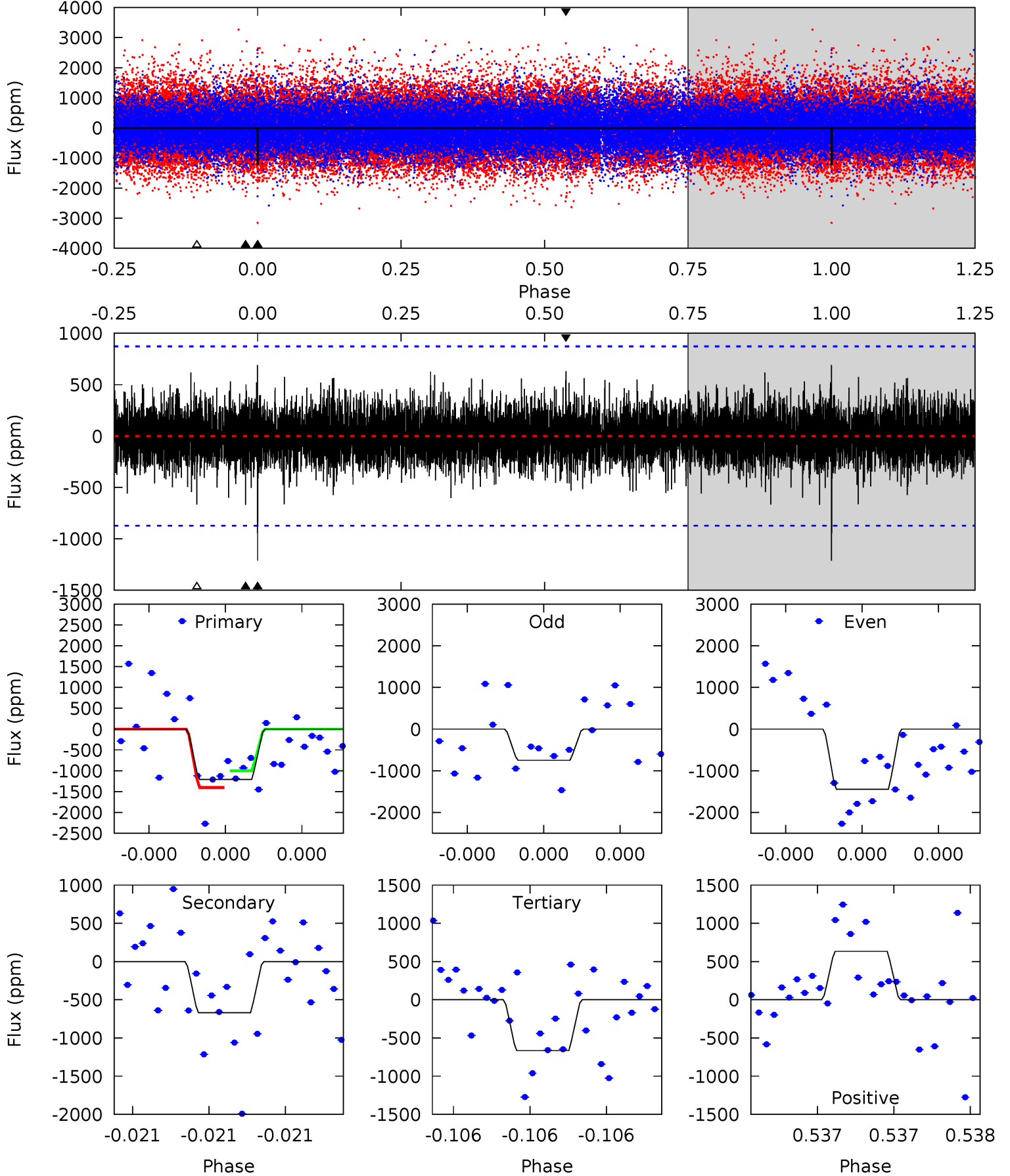
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.24	5.29	4.87	4.29	5.62	3.55	1.21	4.37	4.95	0.41	0.99	2.95	0.87	0.32	1.55



Alt Model-Shift Uniqueness Test

005907931-01, P = 401.219762 Days, E = 28.233828 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.82	4.32	4.29	4.09	5.63	3.57	1.07	3.53	3.73	0.03	0.23	2.06	0.86	0.36	1.29



Stellar Parameters For KIC 005907931

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5098^{+179}_{-179}	$4.518^{+0.088}_{-0.072}$	$-0.140^{+0.300}_{-0.300}$	$0.787^{+0.088}_{-0.088}$	$0.746^{+0.106}_{-0.057}$	$2.154^{+0.811}_{-0.497}$
	+4%/-4%	+2%/-2%	+214%/-214%	+11%/-11%	+14%/-8%	+38%/-23%
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 005907931-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-781 ± 148	$3.87^{+2.54}_{-2.04}$	284^{+13}_{-13}	4205^{+1530}_{-702}	26404^{+88231}_{-17032}
Alt.	-669 ± 155	$3.28^{+2.54}_{-1.79}$	283^{+12}_{-13}	4325^{+1921}_{-777}	$31376^{+134383}_{-20981}$

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

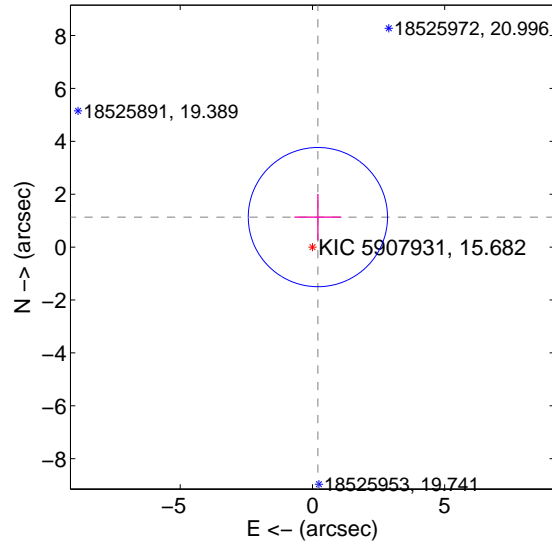
Supplemental centroid analysis for 005907931-01. Kepler magnitude: 15.68. Transit SNR 7.14

There are 1 quarters with good PRF difference image offsets

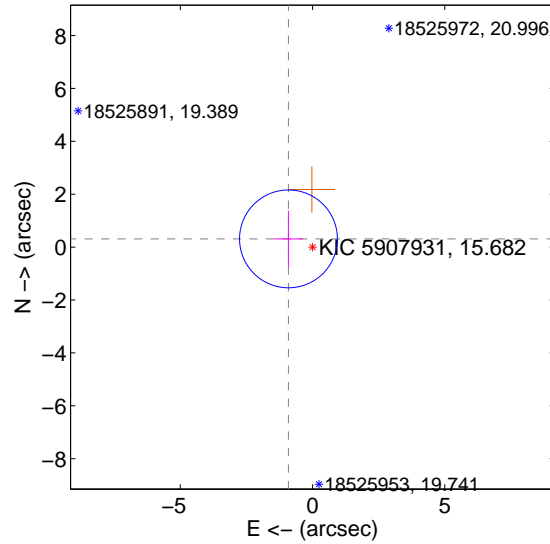
The direct PRF centroid is offset from the target star catalog position by about 1.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.153 ± 0.877	1.31	-0.206 ± 0.885	1.134 ± 0.877
PRF-fit source offset from KIC position	0.961 ± 0.616	1.56	0.909 ± 0.542	0.311 ± 1.058
photometric centroid source offset	1.74 ± 1.96	0.89	1.13 ± 1.59	-1.33 ± 2.19

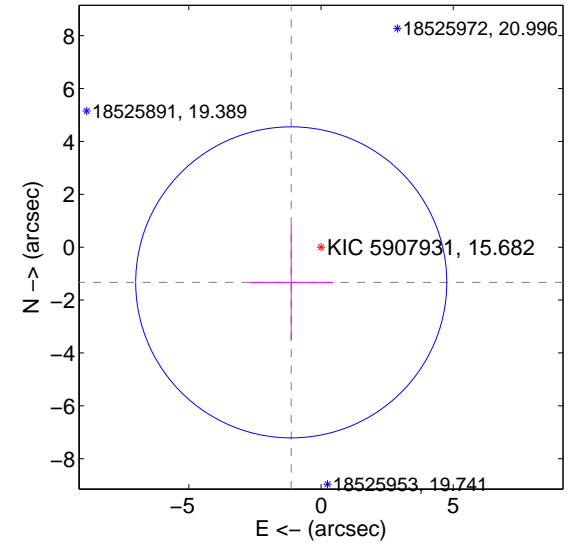
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

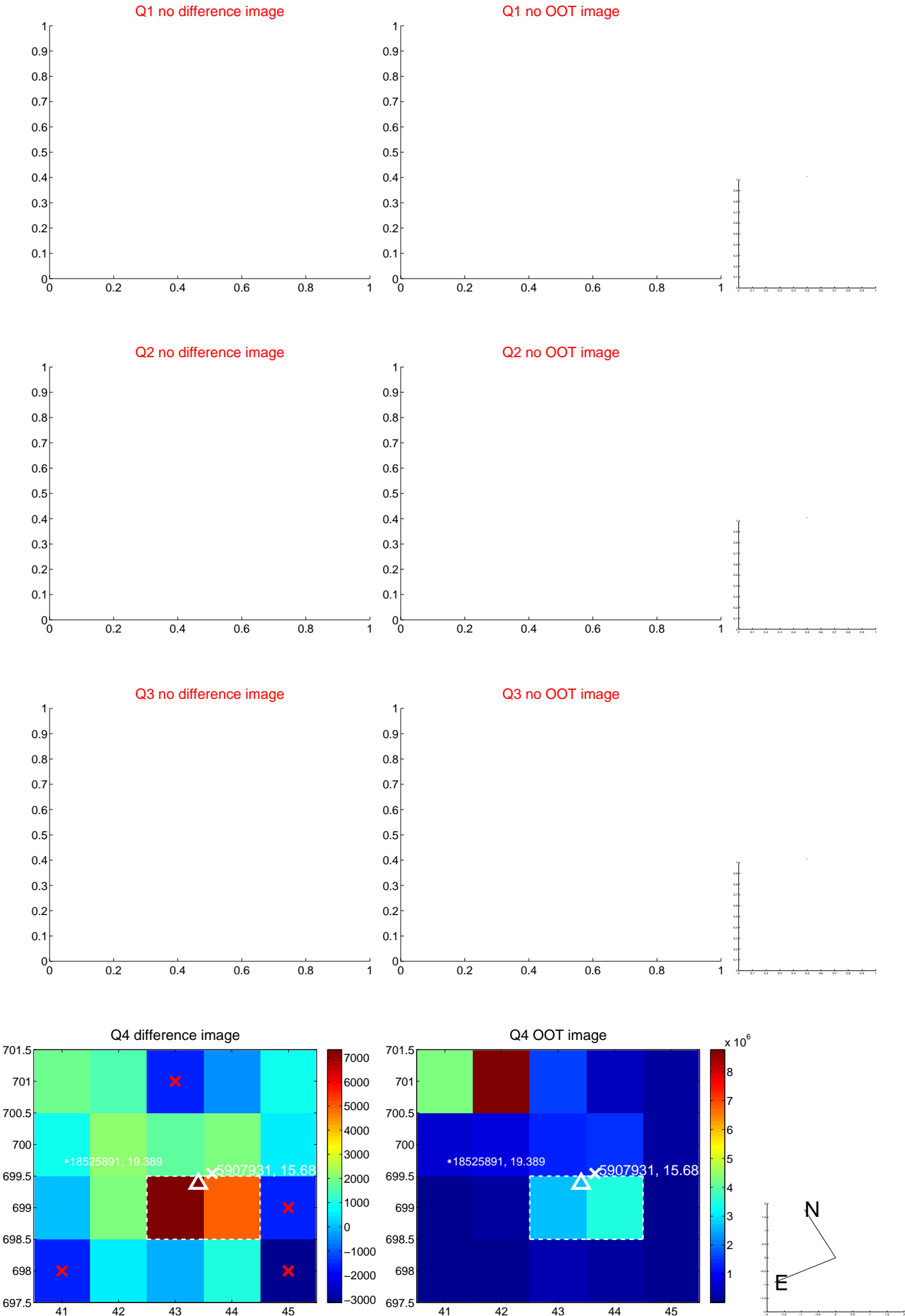


offset from photometric centroids



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.

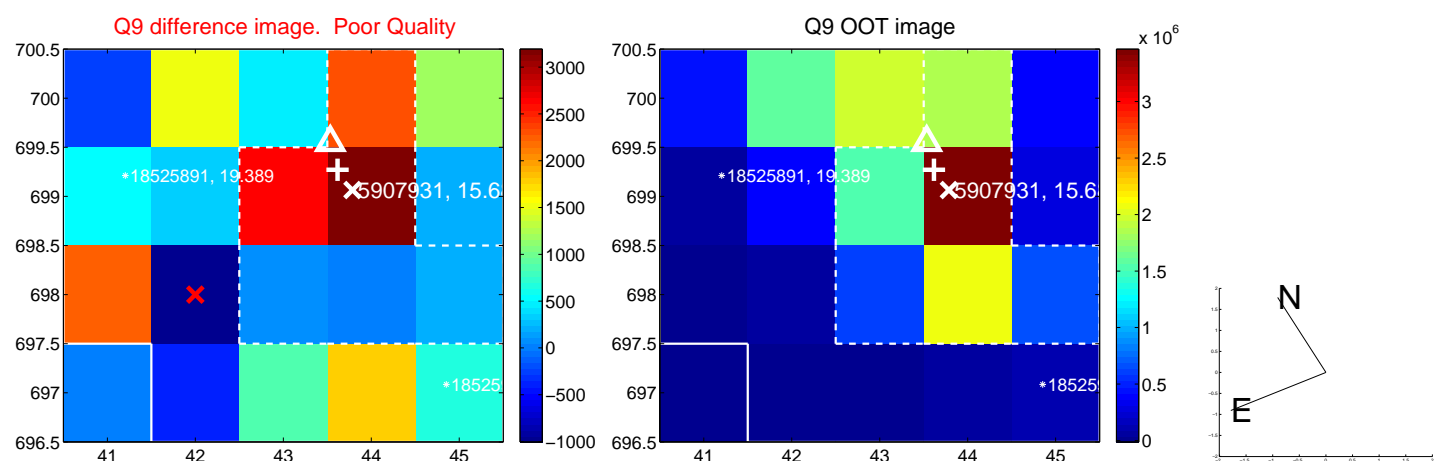
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



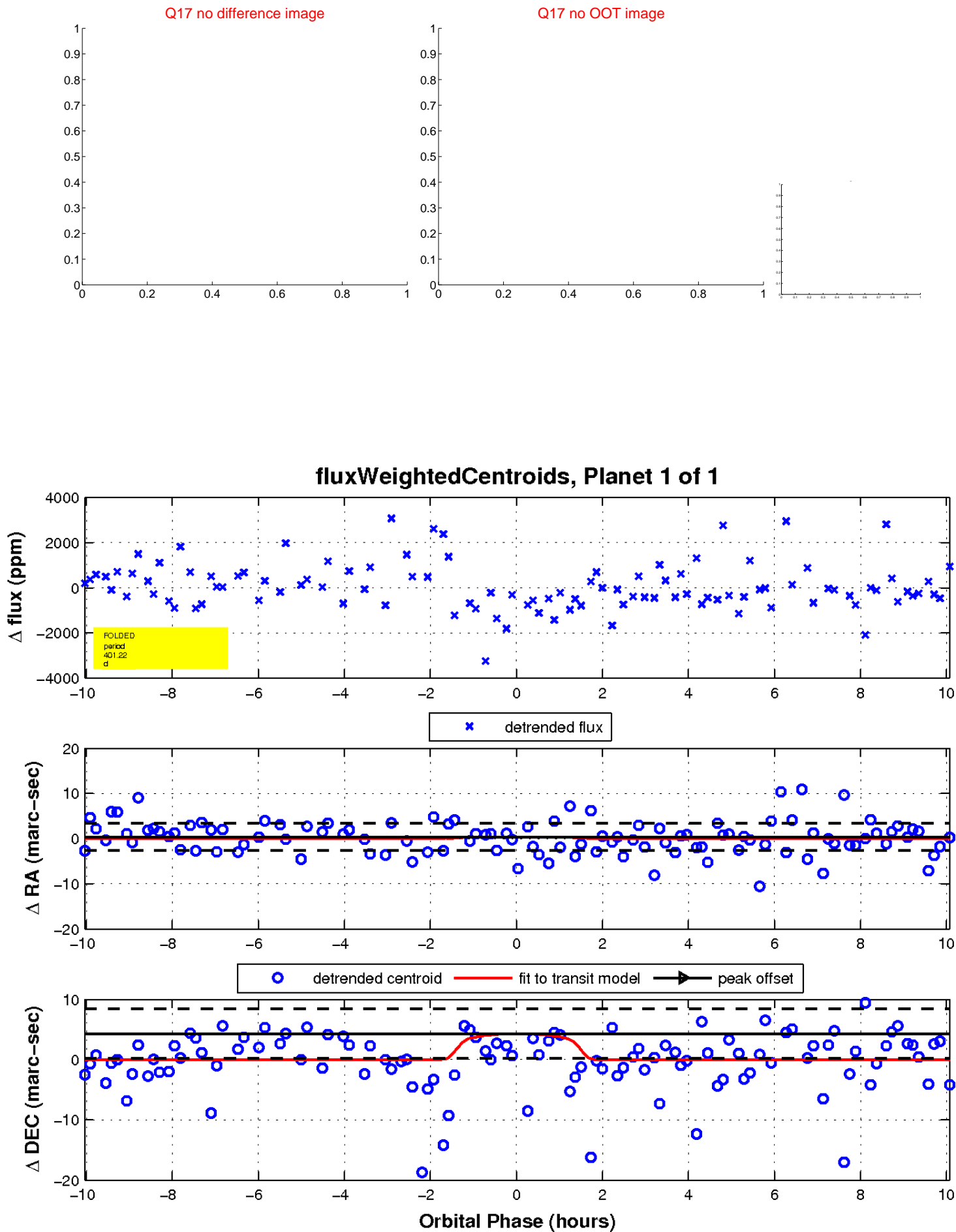
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

