

KIC 007815609

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})
007815609-01	OBS	No	191.058258	247.300497	415.5	9.210	9.1	5.9	2.72	7206	6.27	32.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007815609-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS

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

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

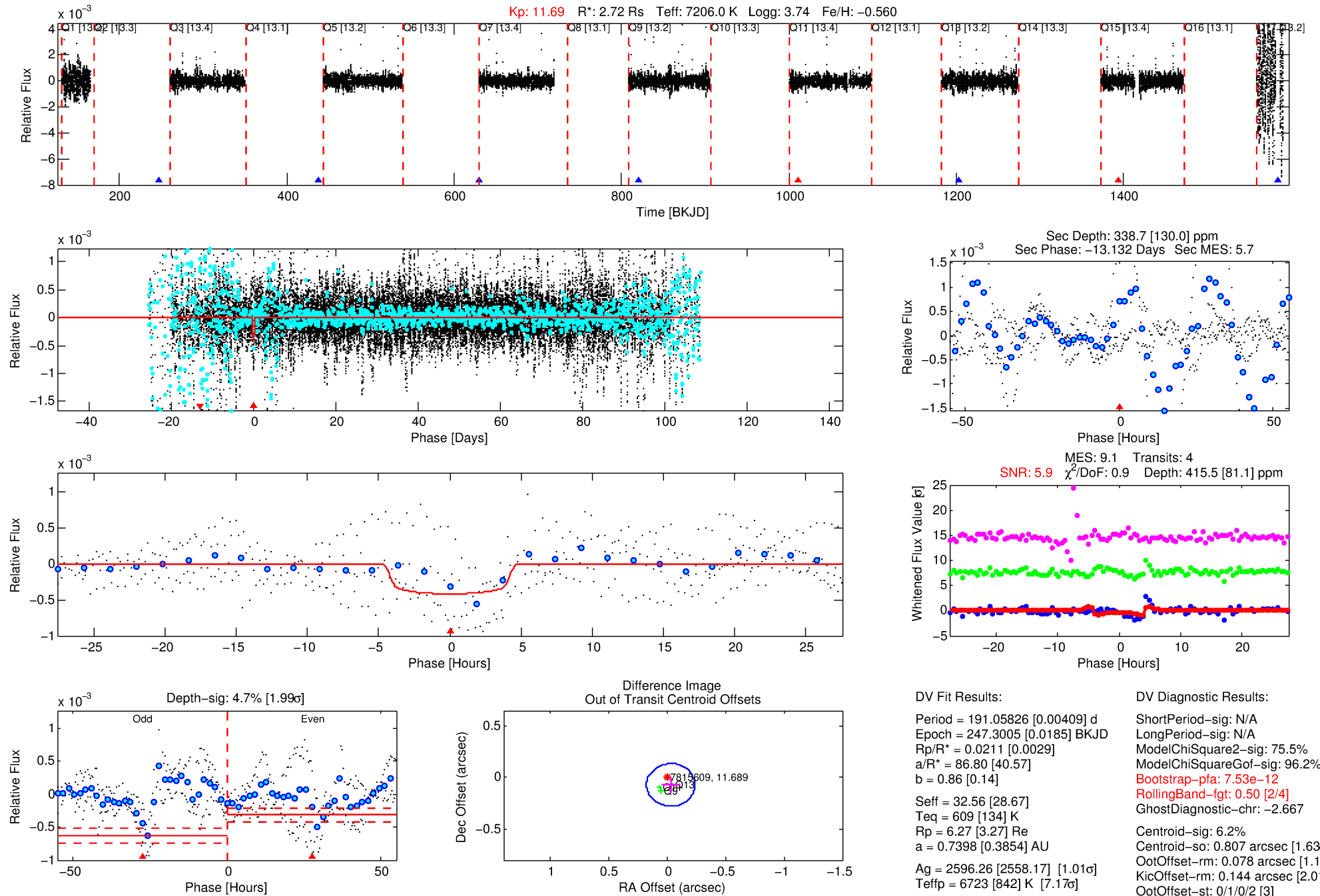
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007815609-01

No Significant Match Found

DV One-Page Summary

KIC: 7815609 Candidate: 1 of 1 Period: 191.058 d



DV Fit Results:

Period = 191.05826 [0.00409] d
Epoch = 247.3005 [0.0185] BKJD
Rp/R* = 0.0211 [0.0029]
a/R* = 86.80 [40.57]
b = 0.86 [0.14]
Seff = 32.56 [28.67]
Teq = 609 [134] K
Rp = 6.27 [3.27] Re
a = 0.7398 [0.3854] AU
Ag = 2596.26 [2558.17] [1.01 σ]
Teffp = 6723 [842] K [7.17 σ]

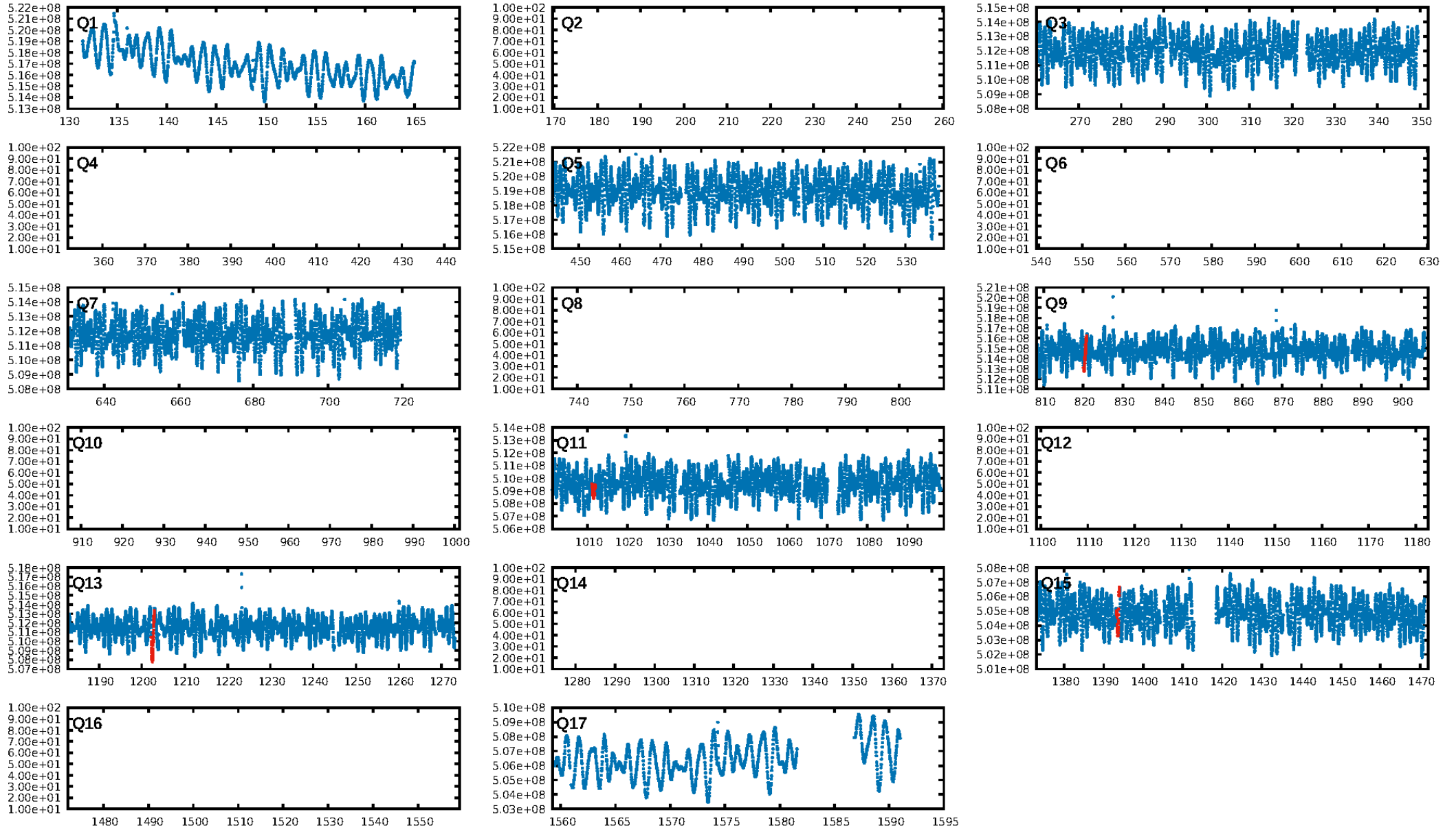
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.5%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: 7.53e-12
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: -2.667
Centroid-sig: 6.2%
Centroid-so: 0.807 arcsec [1.63 σ]
OotOffset-rm: 0.078 arcsec [1.13 σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-rm: 0.144 arcsec [2.01 σ]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

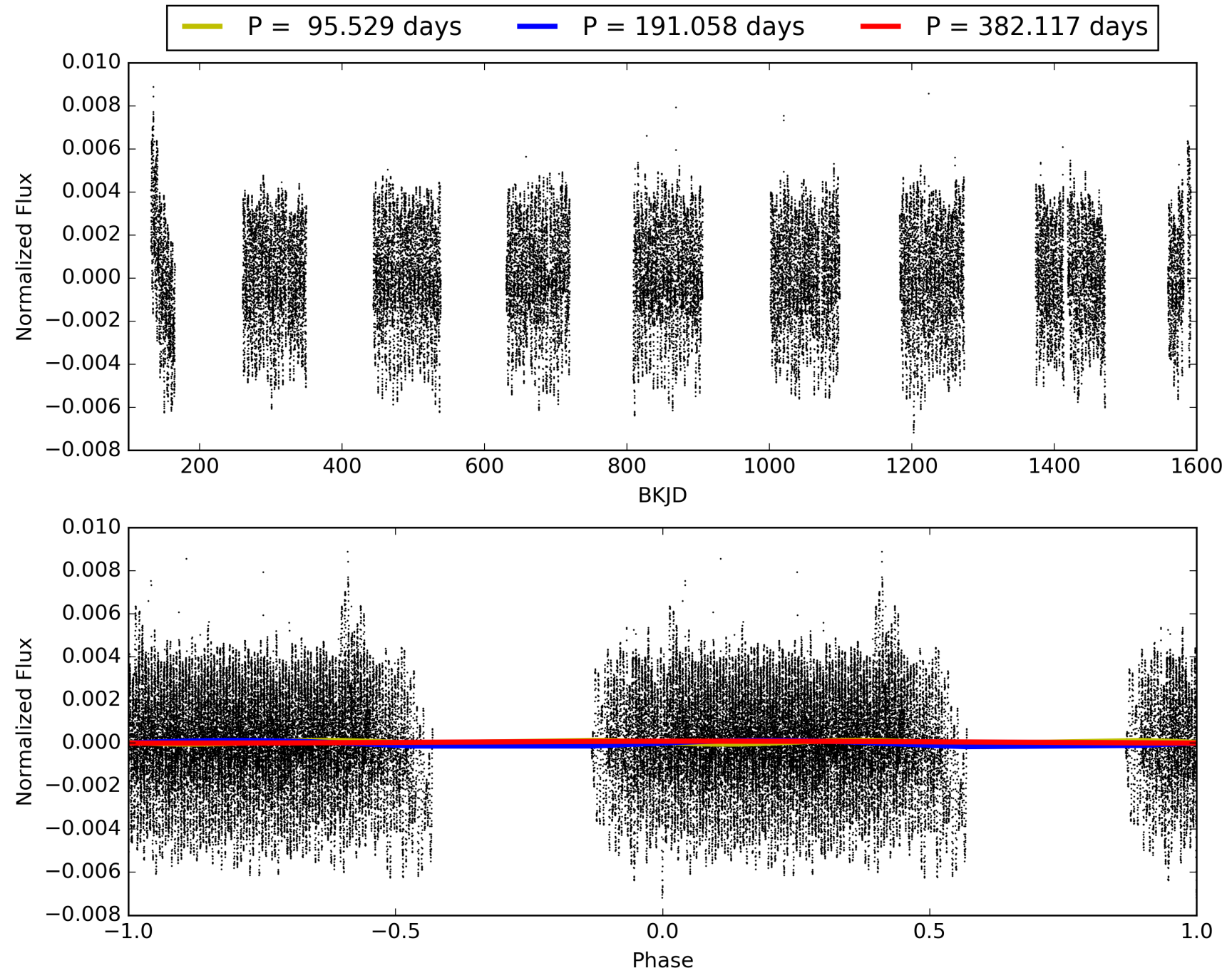
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:35:24 Z

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

TCE 007815609-01, PDC Light Curves

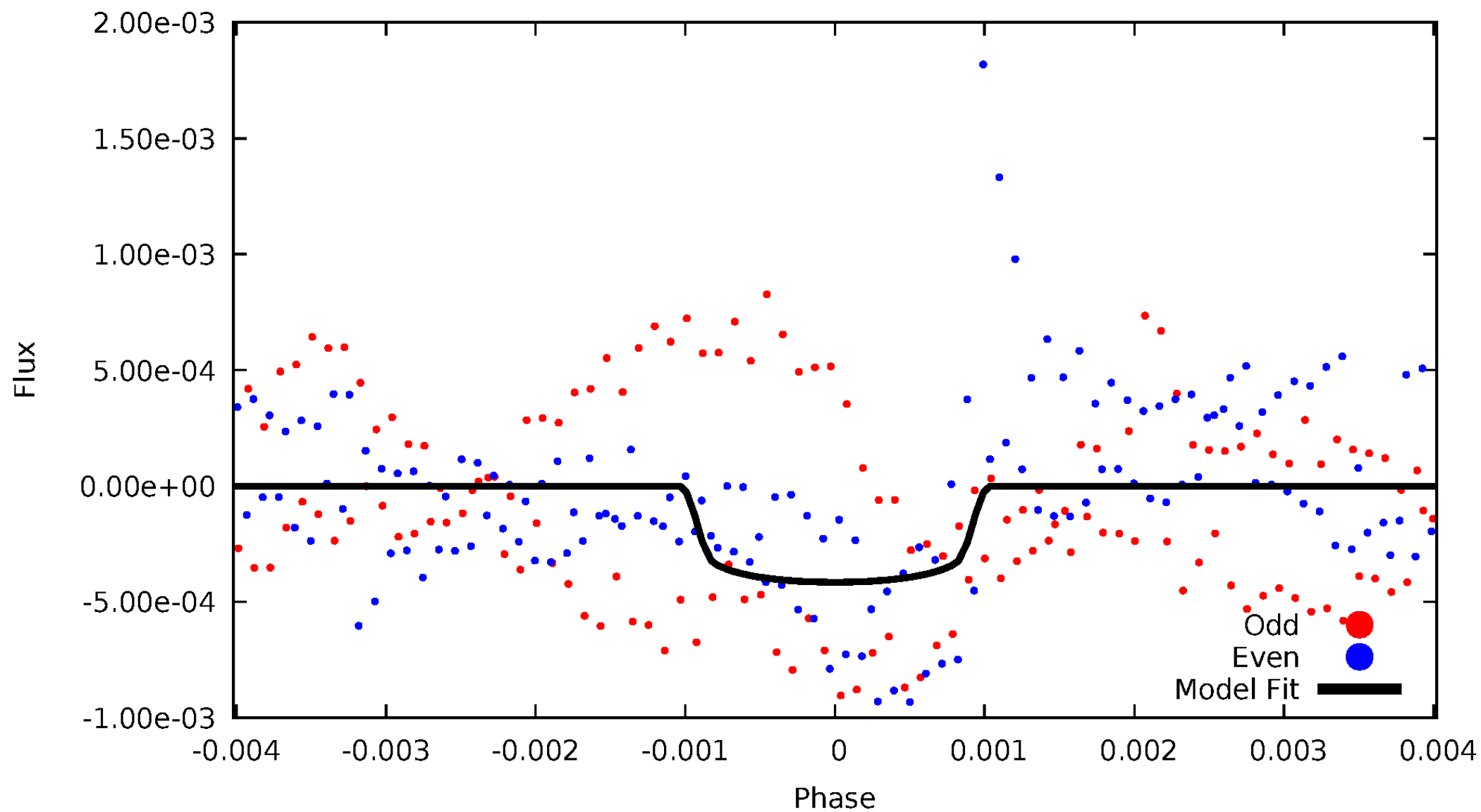


TCE 007815609-01



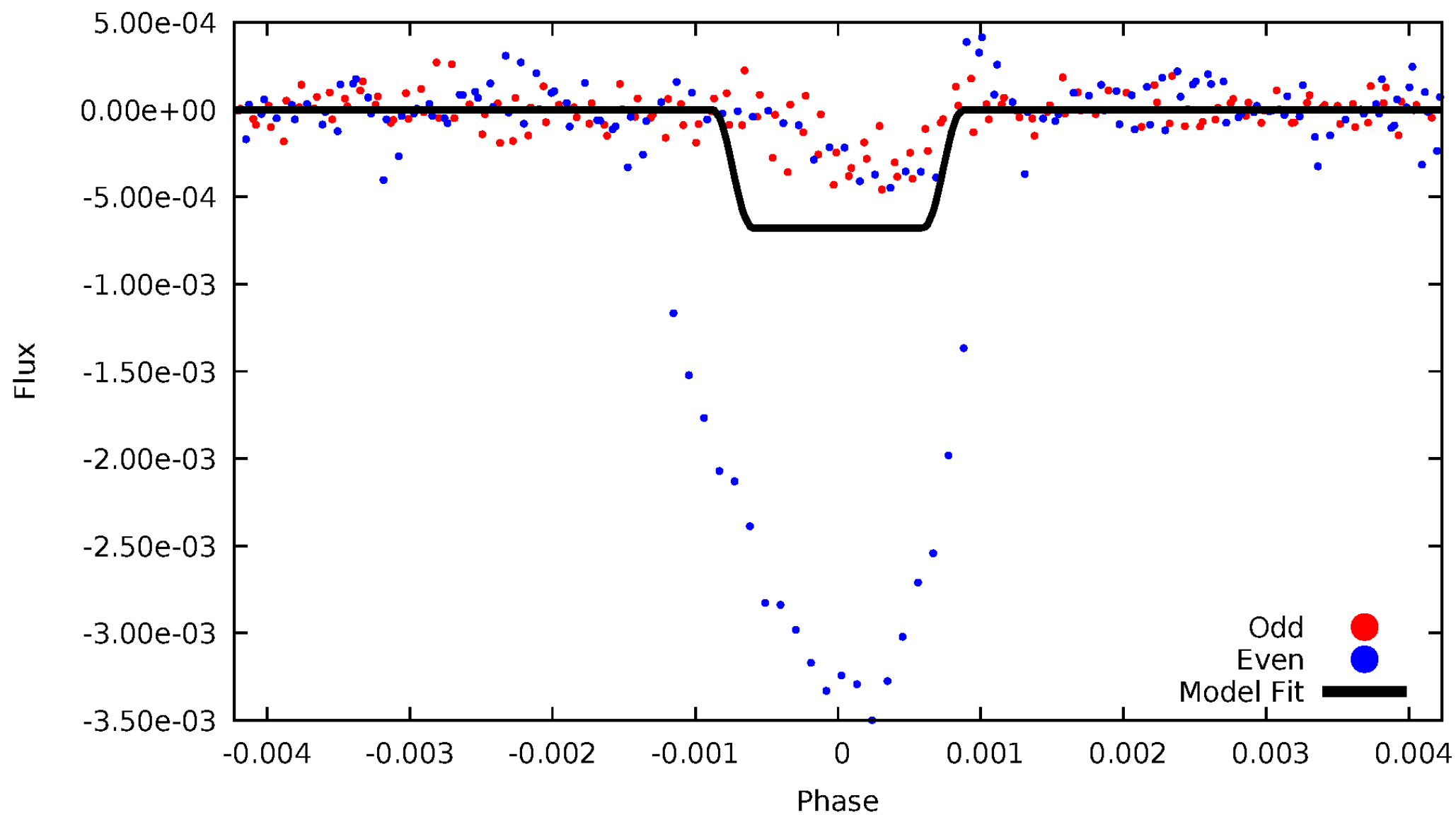
DV Odd/Even

TCE 007815609-01

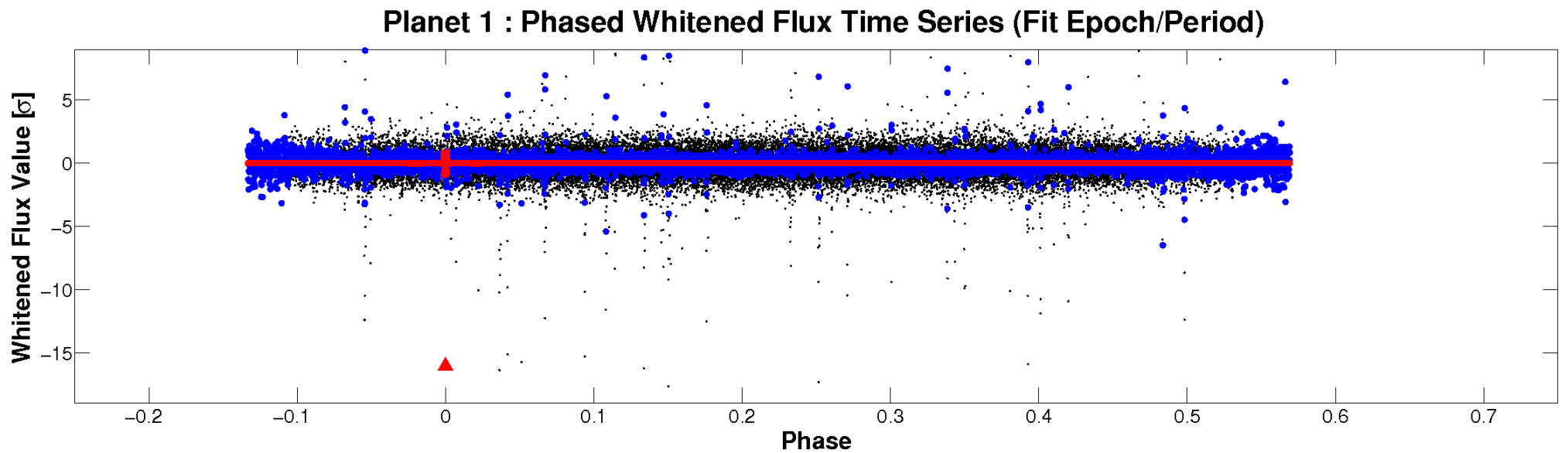
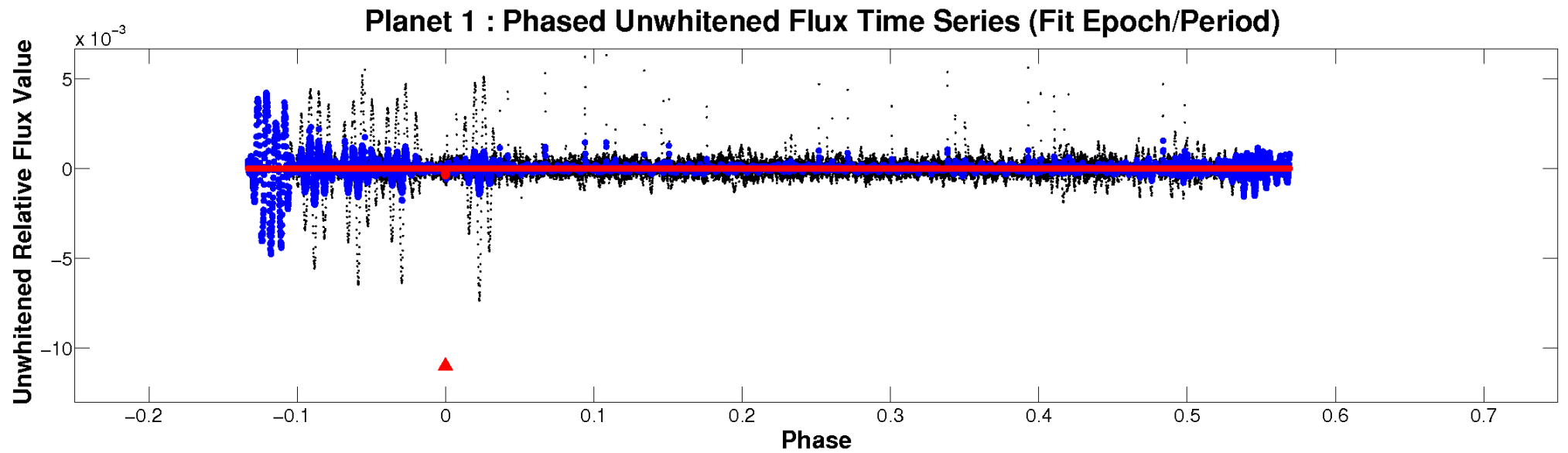


ALT Odd/Even

TCE 007815609-01

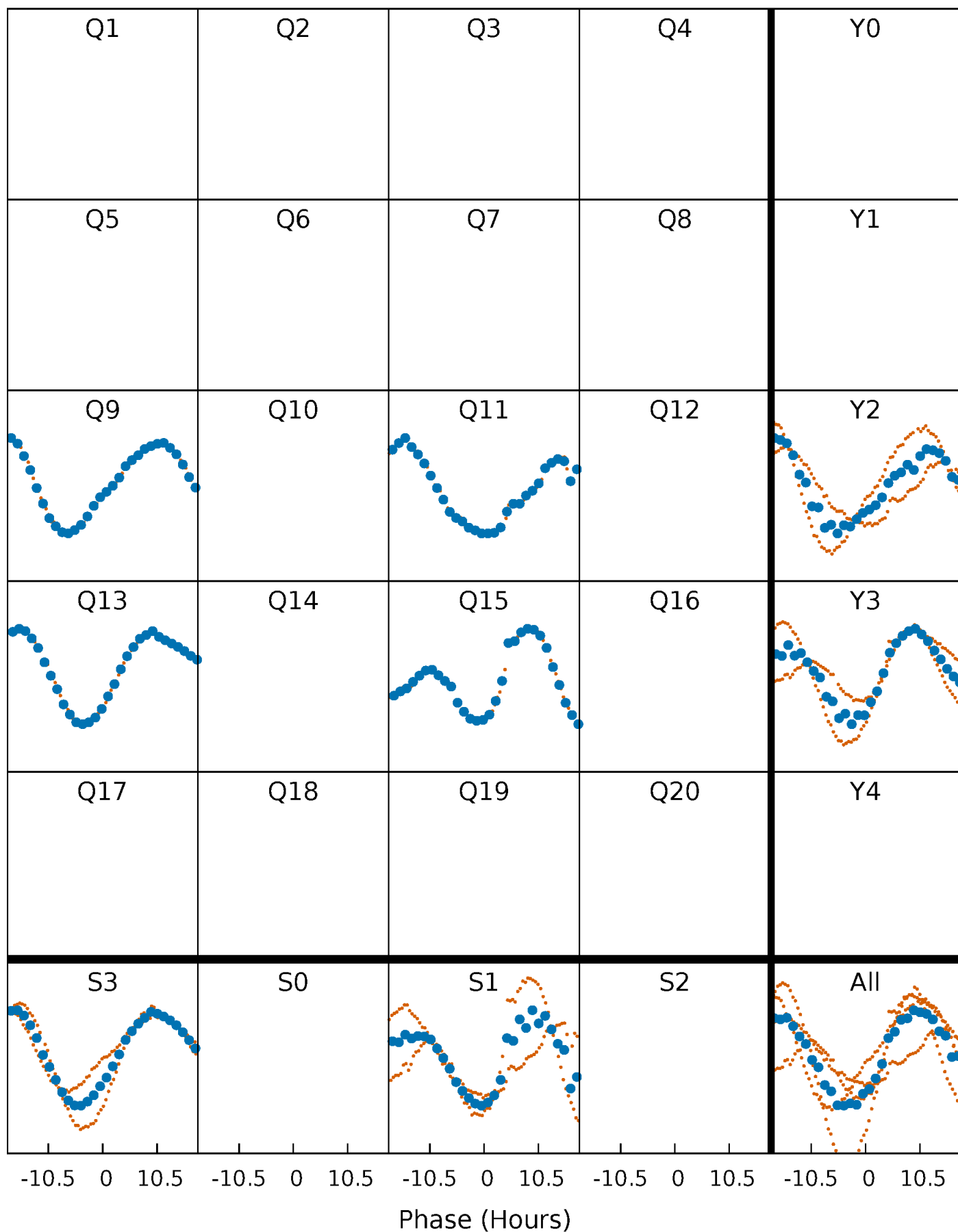


Non-Whitened Vs. Whitened Light Curve



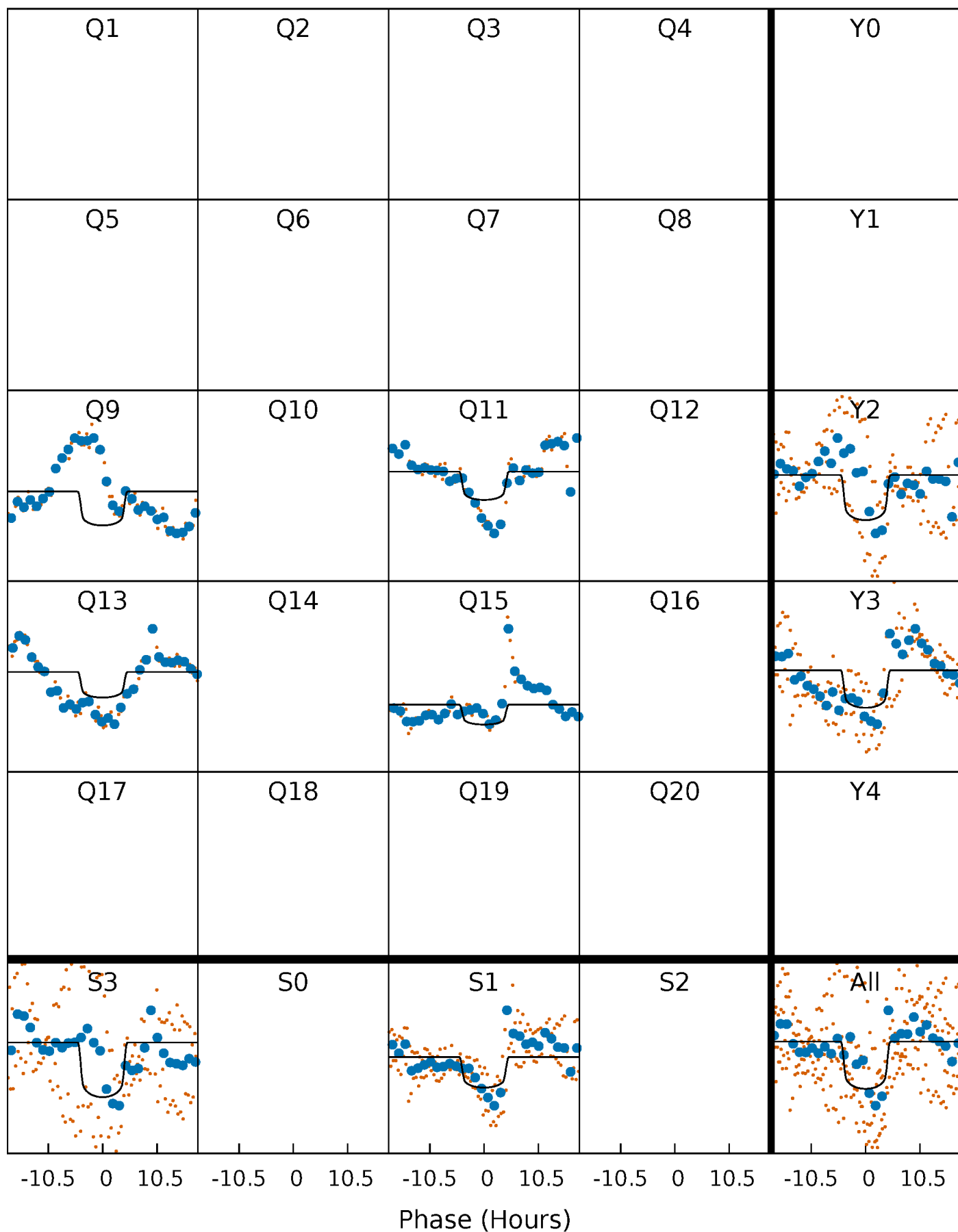
PDC Quarter-Phased Transit Curves

TCE 007815609-01 P=191.058258 Days $T_0=247.300497$ (BKJD)



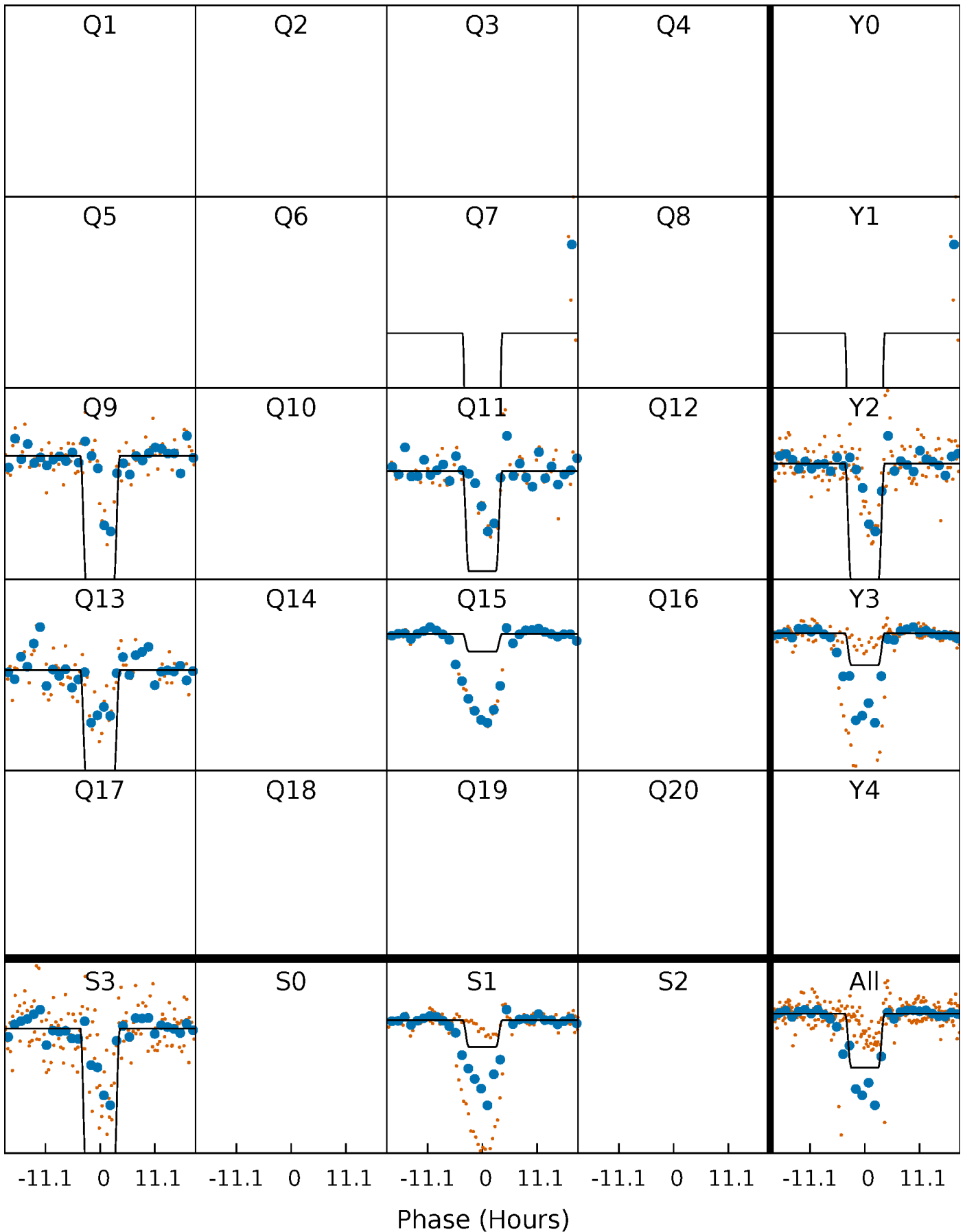
DV Quarter-Phased Transit Curves

TCE 007815609-01 P=191.058258 Days $T_0=247.300497$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

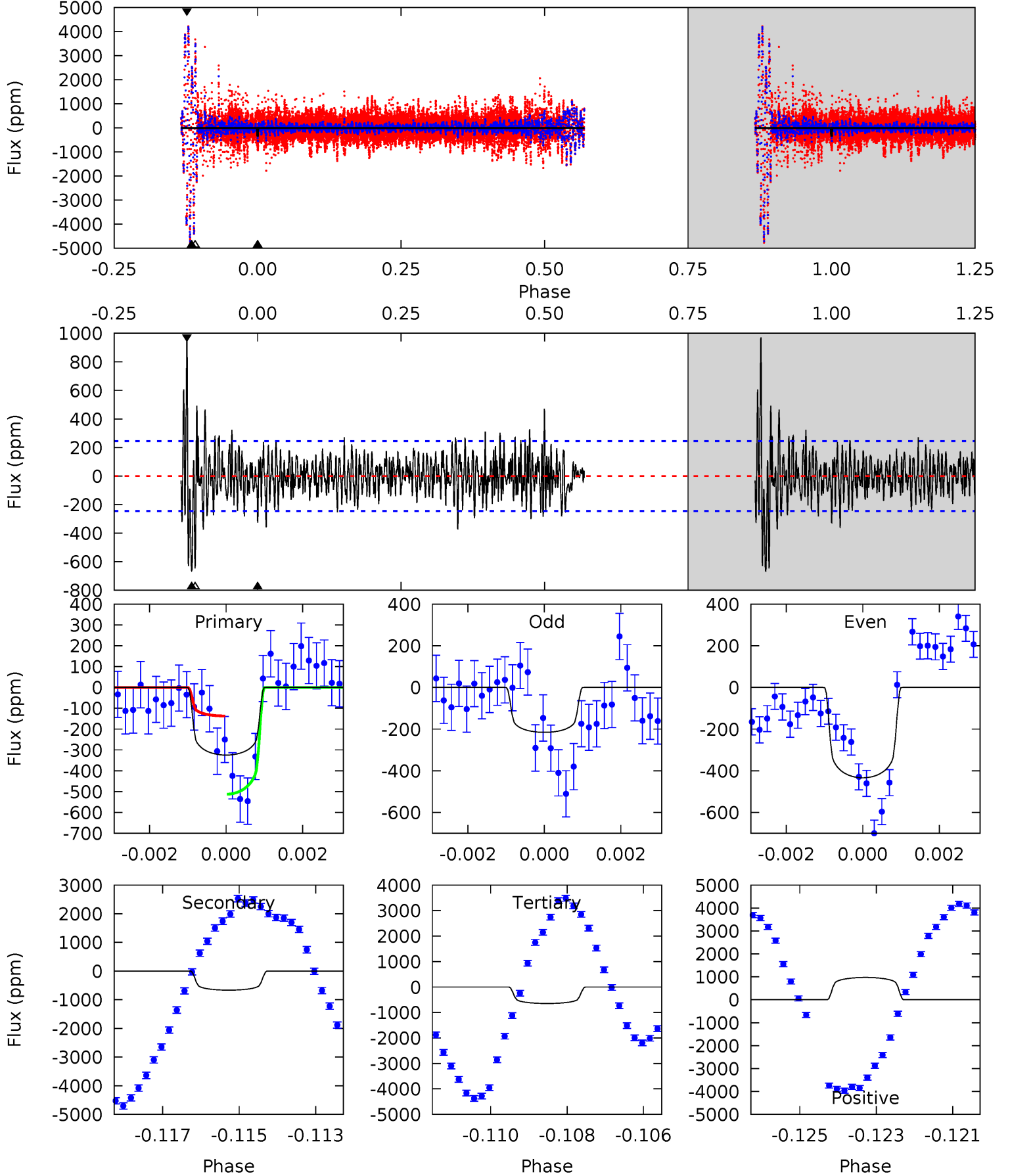
TCE 007815609-01 P=191.045734 Days $T_0=247.376236$ (BKJD)



DV Model-Shift Uniqueness Test

007815609-01, P = 191.058258 Days, E = 56.242239 Days

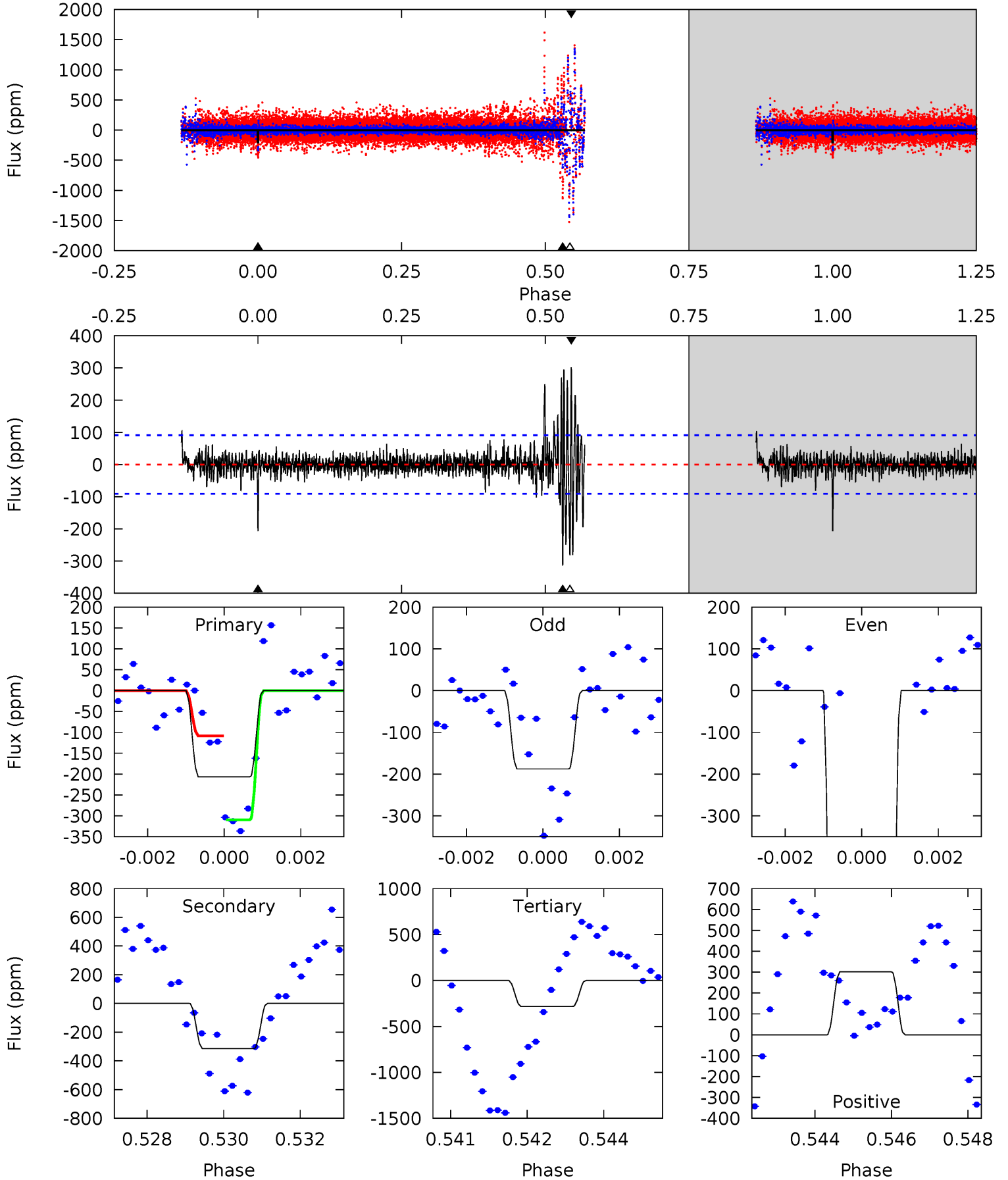
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.07	14.5	14.1	21.1	5.32	3.08	2.50	-7.01	-14.1	0.40	-6.66	2.01	0.75	0.59	3.05



Alt Model-Shift Uniqueness Test

007815609-01, P = 191.045734 Days, E = 56.330502 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	18.5	16.7	17.8	5.35	3.13	1.67	-4.46	-5.60	1.86	0.73	39.7	4.00	0.49	4.70



Stellar Parameters For KIC 007815609

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7206^{+200}_{-300}	$3.740^{+0.519}_{-0.092}$	$-0.560^{+0.300}_{-0.300}$	$2.716^{+0.456}_{-1.368}$	$1.477^{+0.188}_{-0.348}$	$0.104^{+0.588}_{-0.029}$
	+3%/-4%	+14%/-2%	+54%/-54%	+17%/-50%	+13%/-24%	+567%/-28%
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 007815609-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-665 ± 46	$5.76^{+1.47}_{-1.59}$	818^{+65}_{-111}	7997^{+1026}_{-700}	6226^{+4606}_{-2317}
Alt.	-314 ± 17	$7.10^{+1.55}_{-2.01}$	816^{+63}_{-118}	5860^{+387}_{-356}	1896^{+1617}_{-590}

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

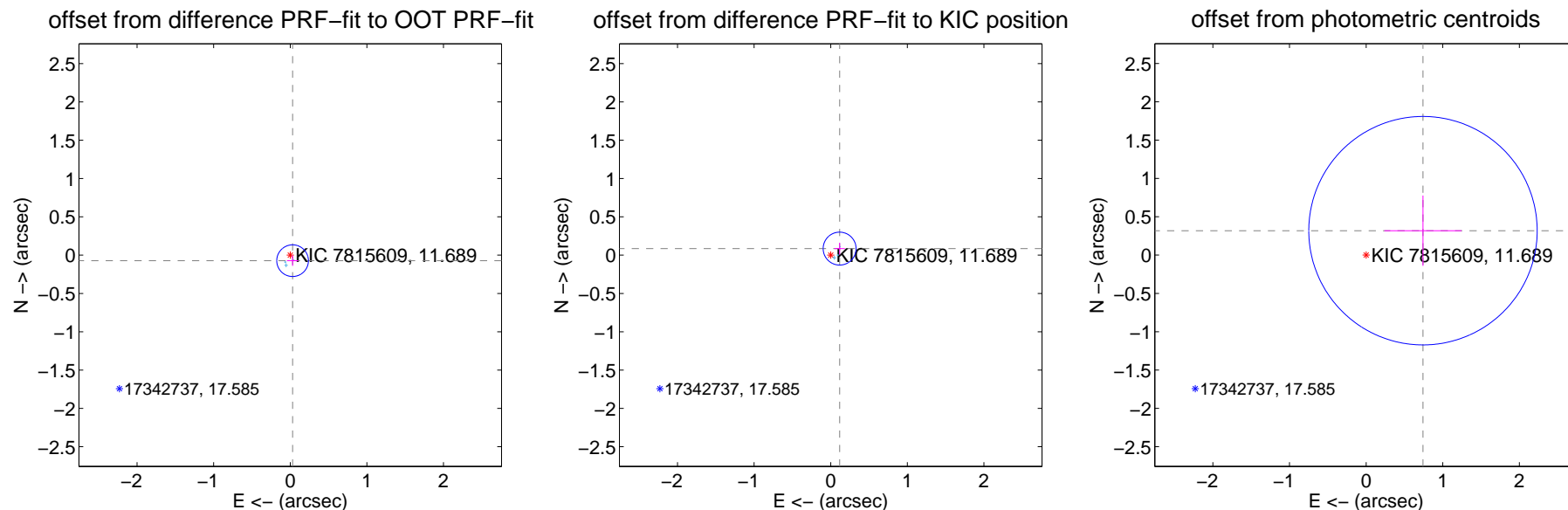
DV Centroid Data

Supplemental centroid analysis for 007815609-01. **Kepler magnitude: 11.69.** Transit SNR 5.90

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.069	1.13	-0.030 ± 0.074	-0.072 ± 0.068
PRF-fit source offset from KIC position	0.144 ± 0.072	2.01	-0.116 ± 0.068	0.085 ± 0.078
photometric centroid source offset	0.81 ± 0.50	1.63	-0.74 ± 0.50	0.32 ± 0.46



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.

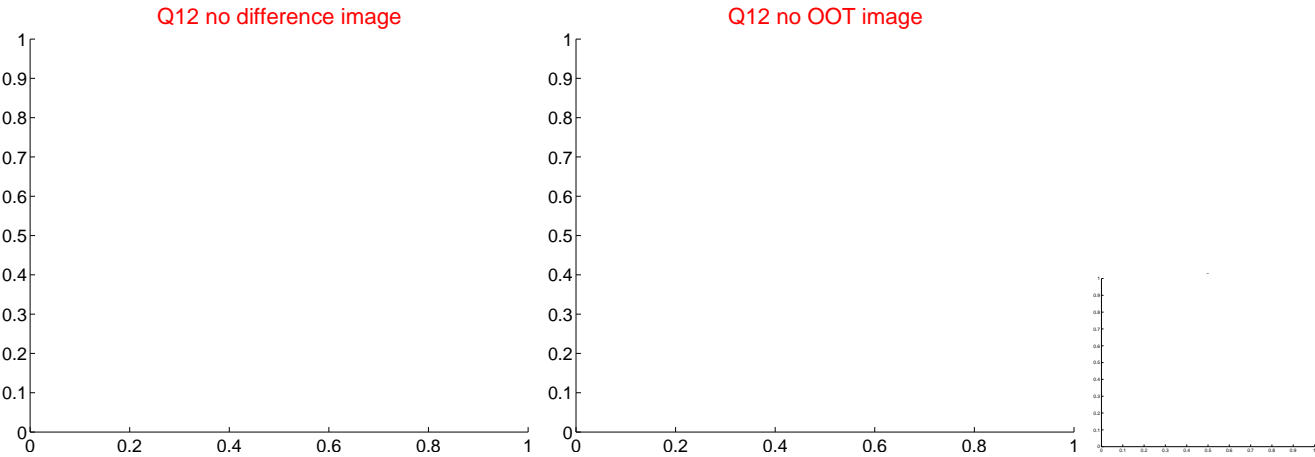
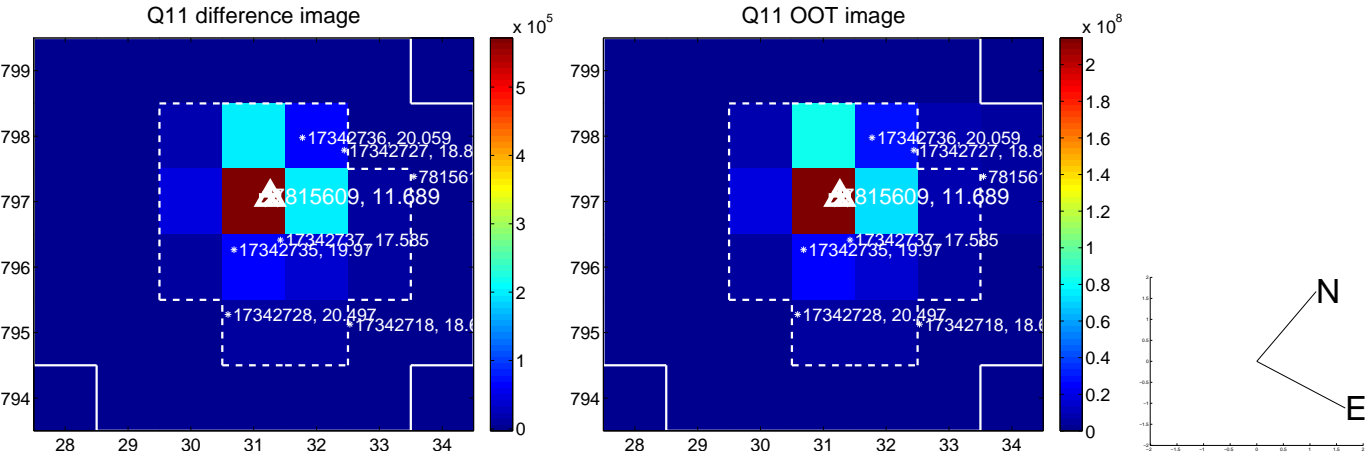
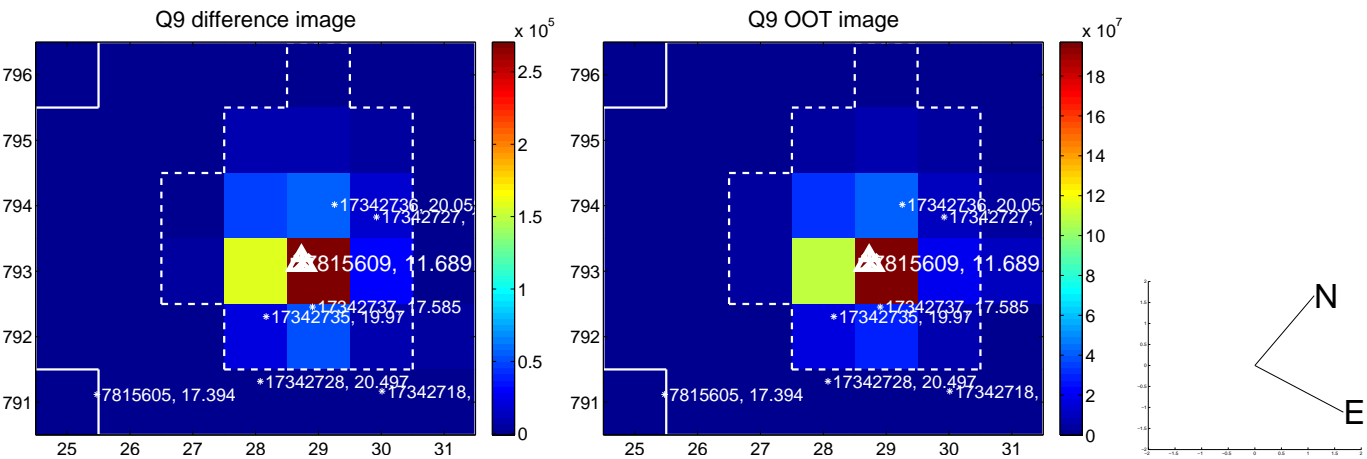
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



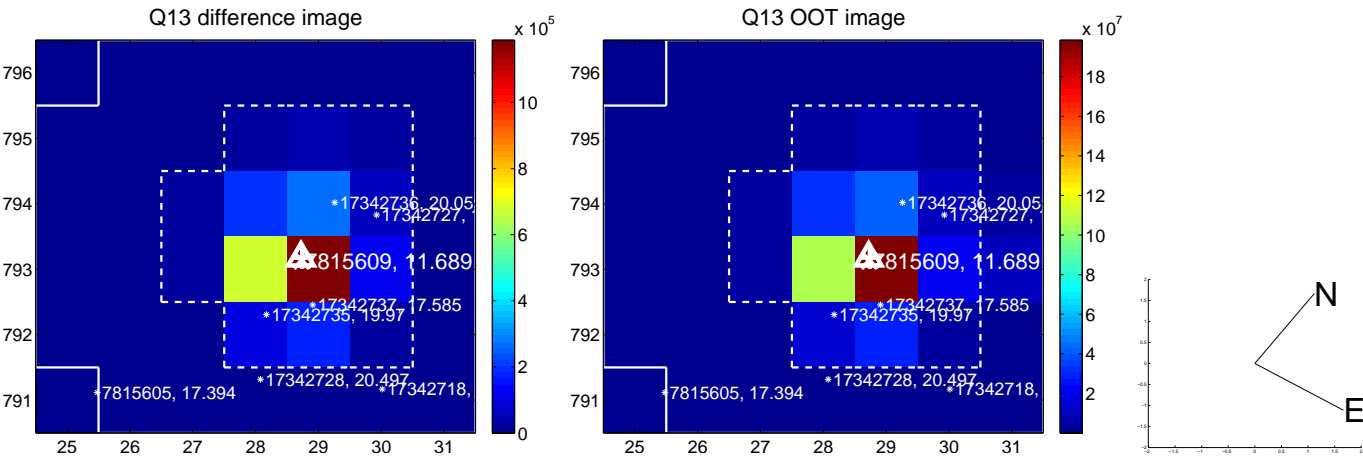
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



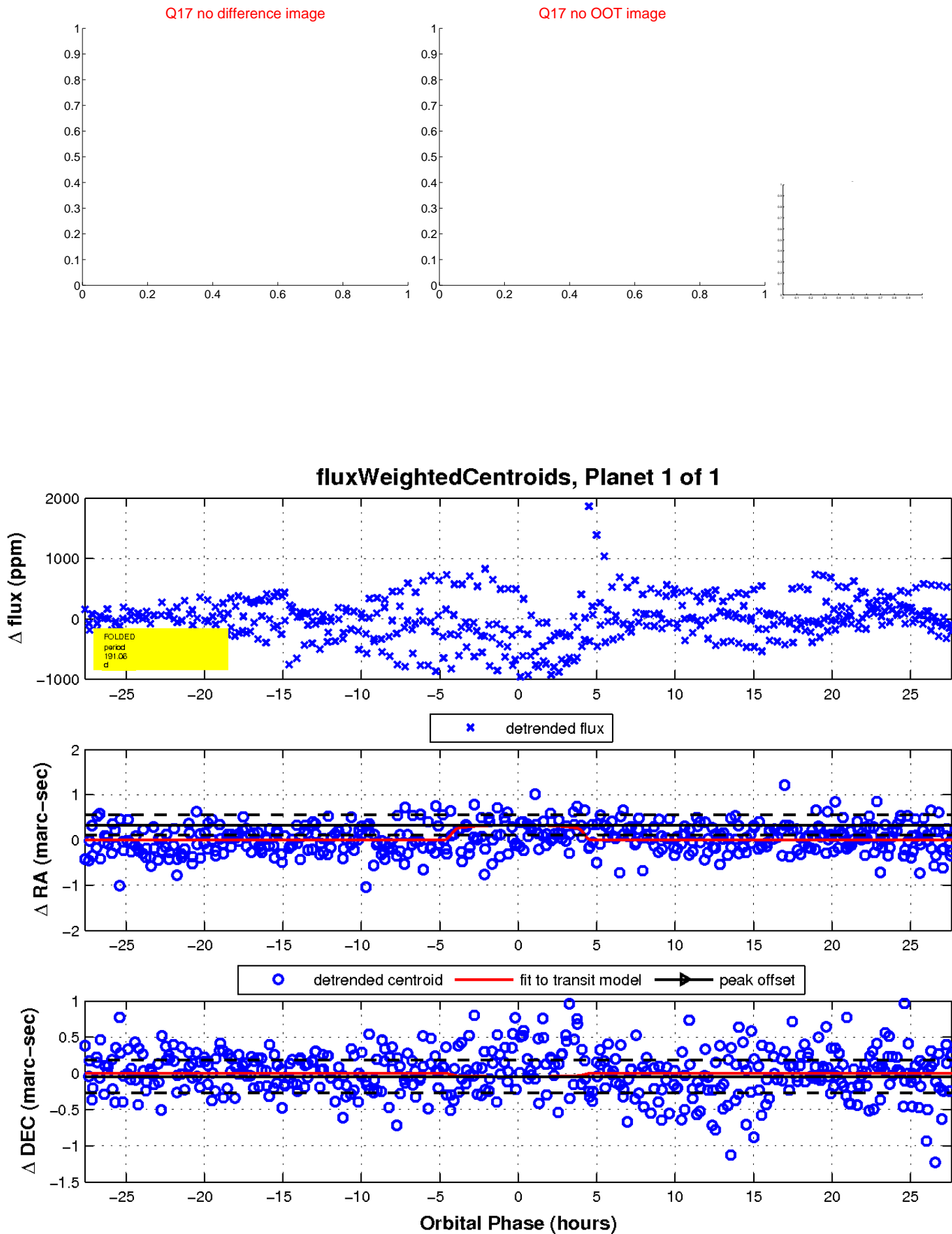
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

