

KIC 008612180

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})
008612180-01	OBS	No	256.372814	138.041685	9.4	13.181	9.4	2.7	48.66	4109	18.68	694.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008612180-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED

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

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

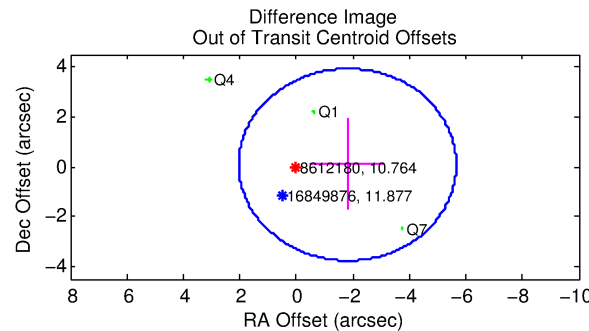
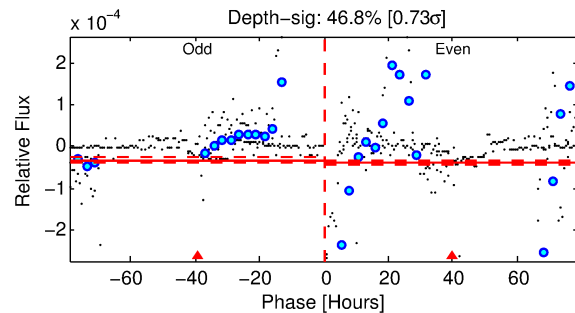
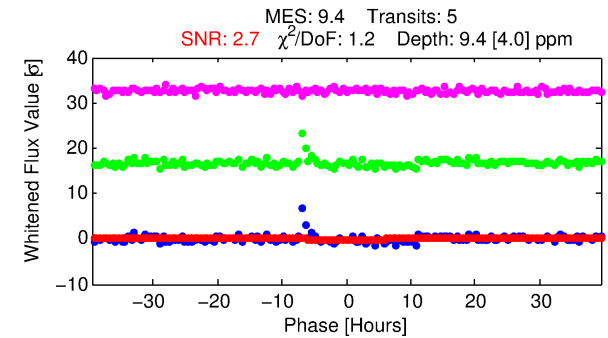
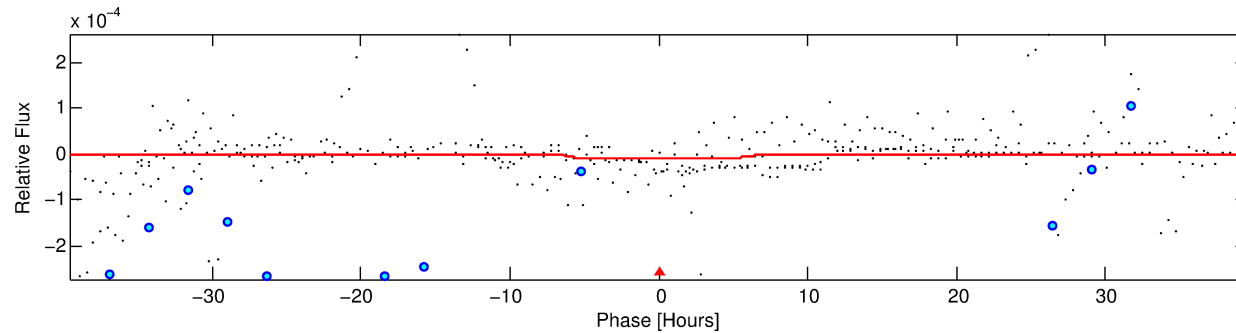
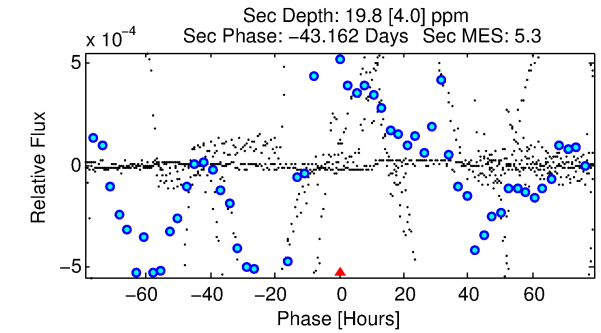
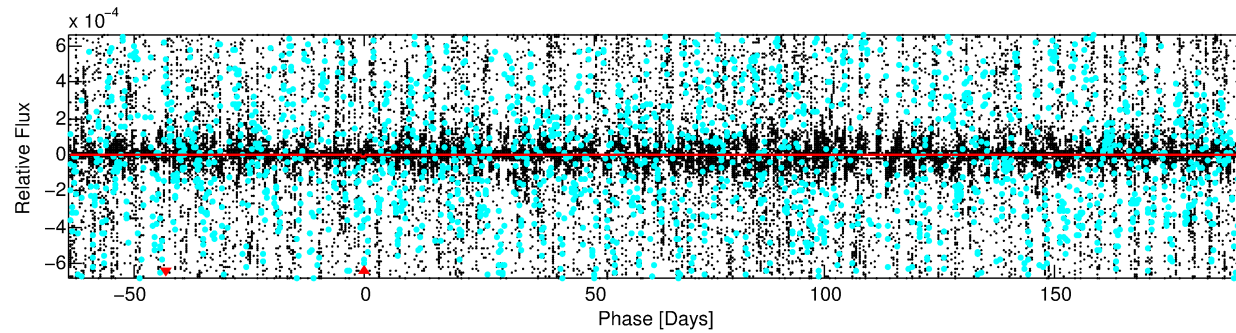
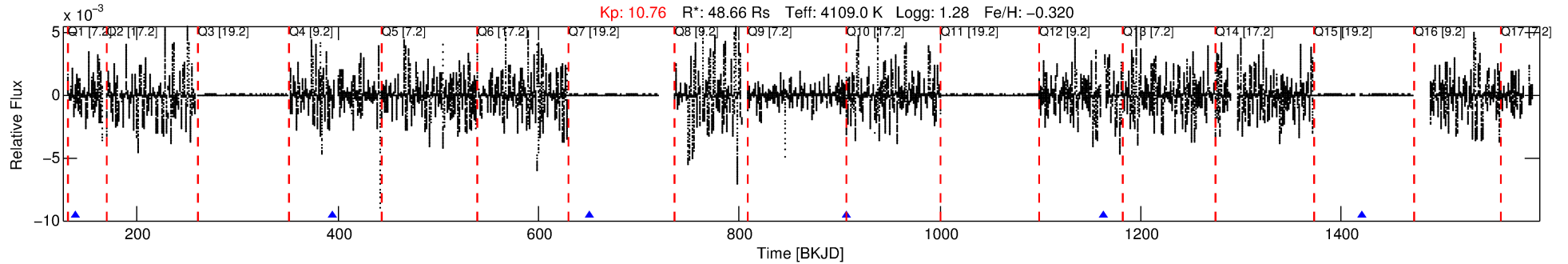
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008612180-01

No Significant Match Found

DV One-Page Summary

KIC: 8612180 Candidate: 1 of 1 Period: 256.373 d



DV Fit Results:

Period = 256.37281 [0.01679] d
Epoch = 138.0417 [0.0621] BKJD
Rp/R* = 0.0035 [0.0024]
a/R* = 66.16 [155.04]
b = 0.90 [0.50]
Seff = 694.14 [122.52]
Teq = 1309 [58] K
Rp = 18.68 [13.27] Re
a = 0.9334 [0.1241] AU
Ag = 27.25 [37.81] [0.69 σ]
Teffp = 4624 [1601] K [2.07 σ]

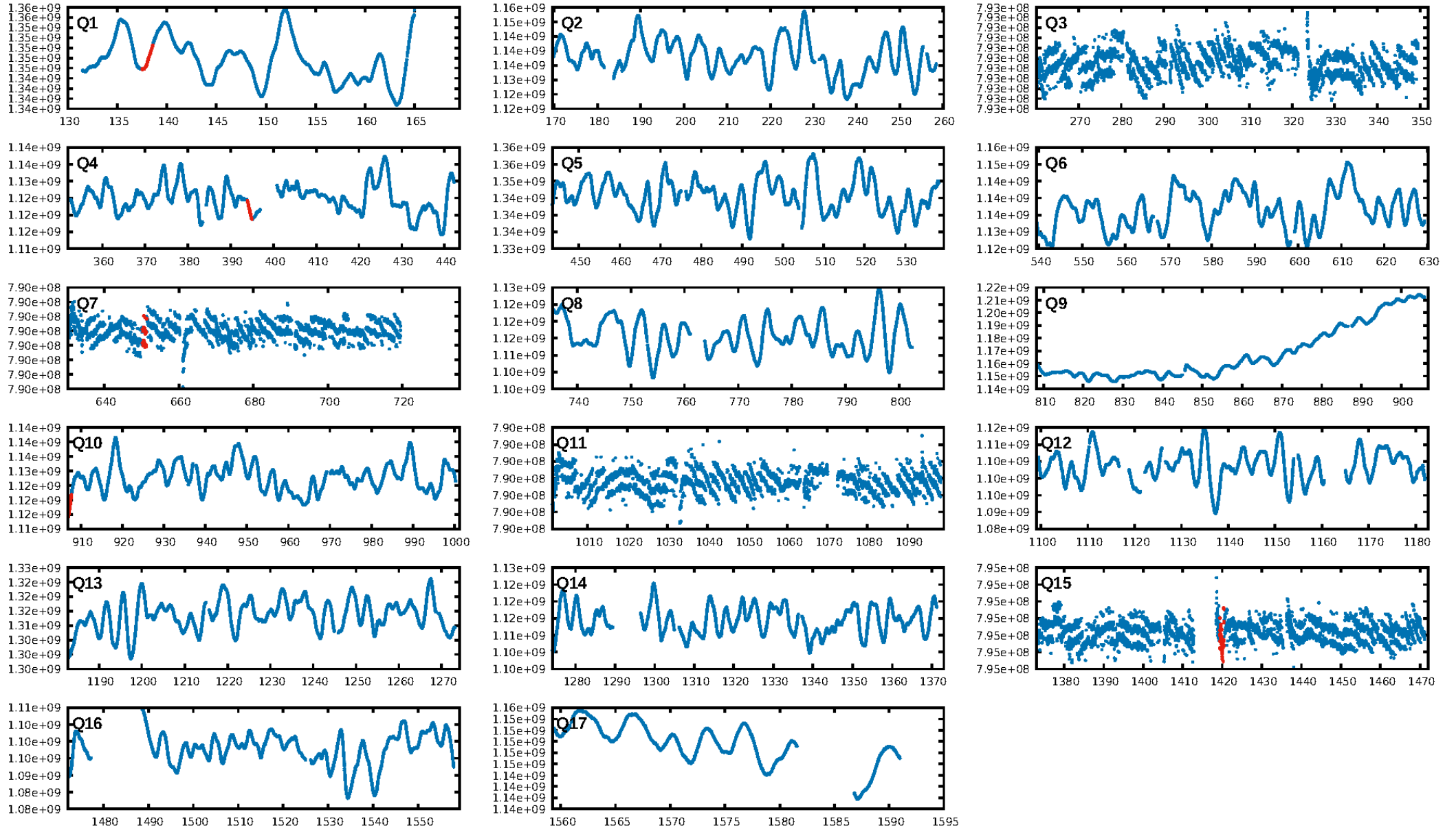
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.4%
ModelChiSquareGof-sig: 71.7%
Bootstrap-pfa: 8.55e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.5636
Centroid-sig: 77.9%
Centroid-so: 8.656 arcsec [0.36 σ]
OotOffset-rm: 1.811 arcsec [1.41 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 1.449 arcsec [1.24 σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

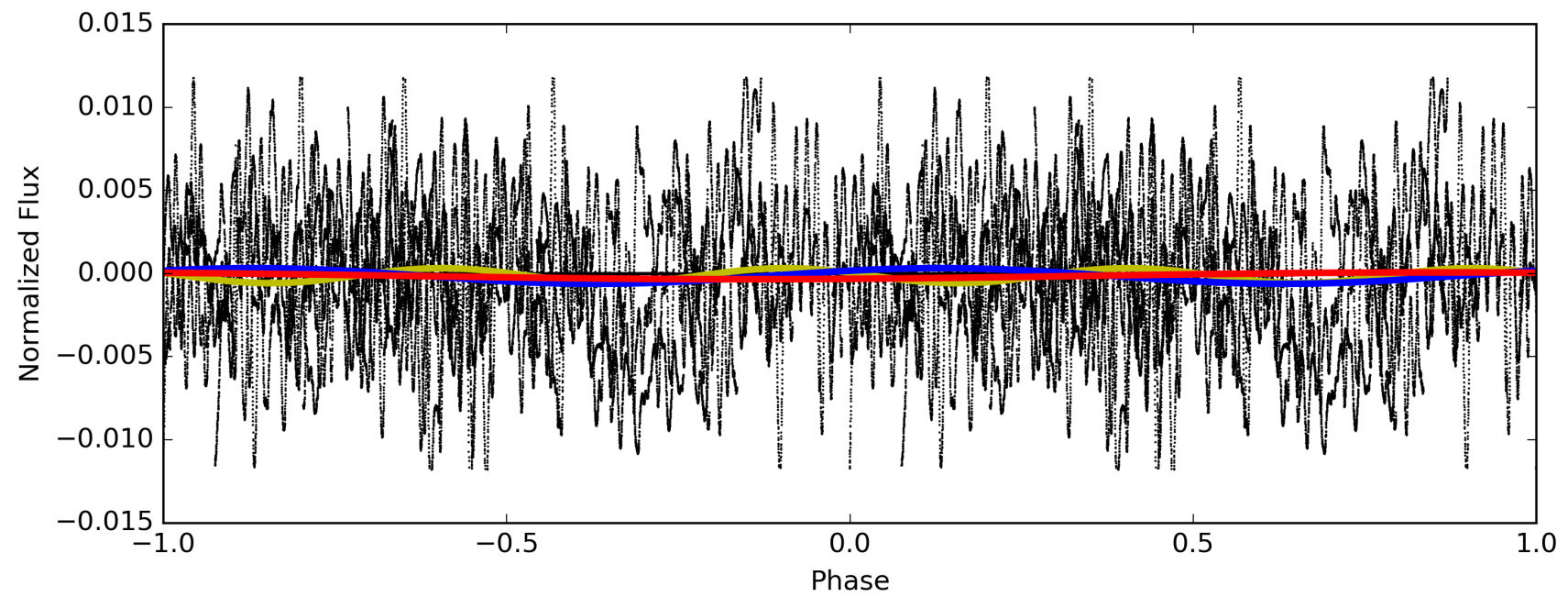
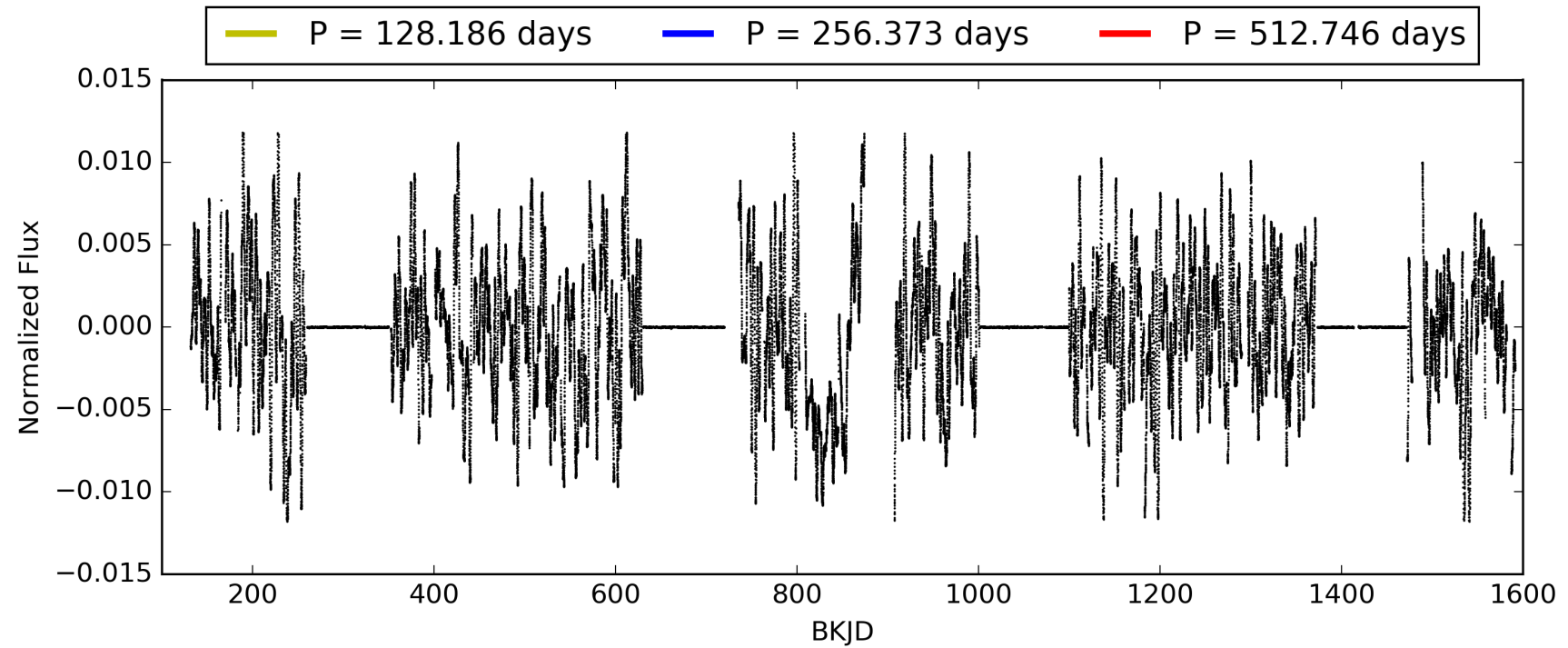
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:17:49 Z

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

TCE 008612180-01, PDC Light Curves

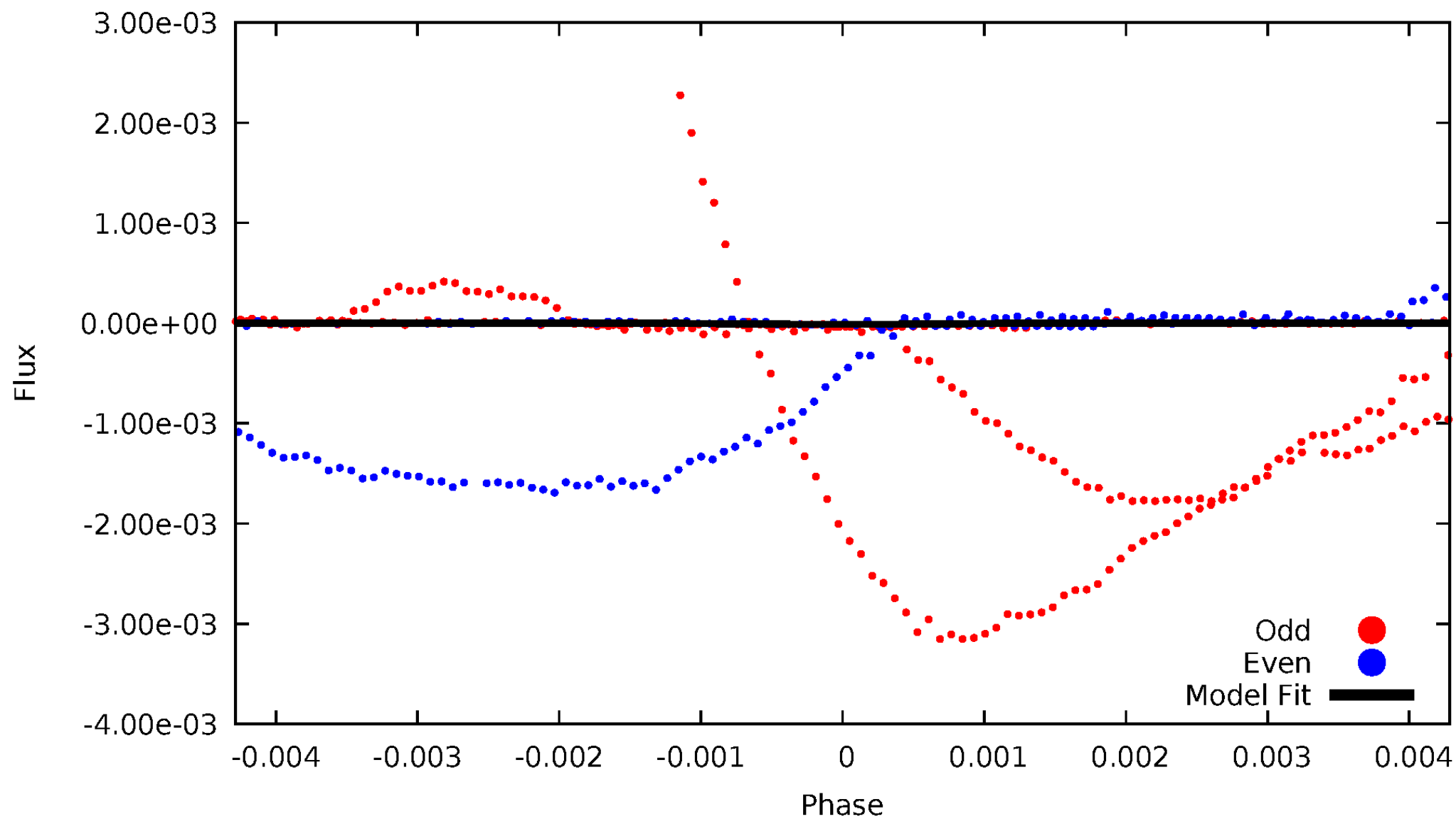


TCE 008612180-01



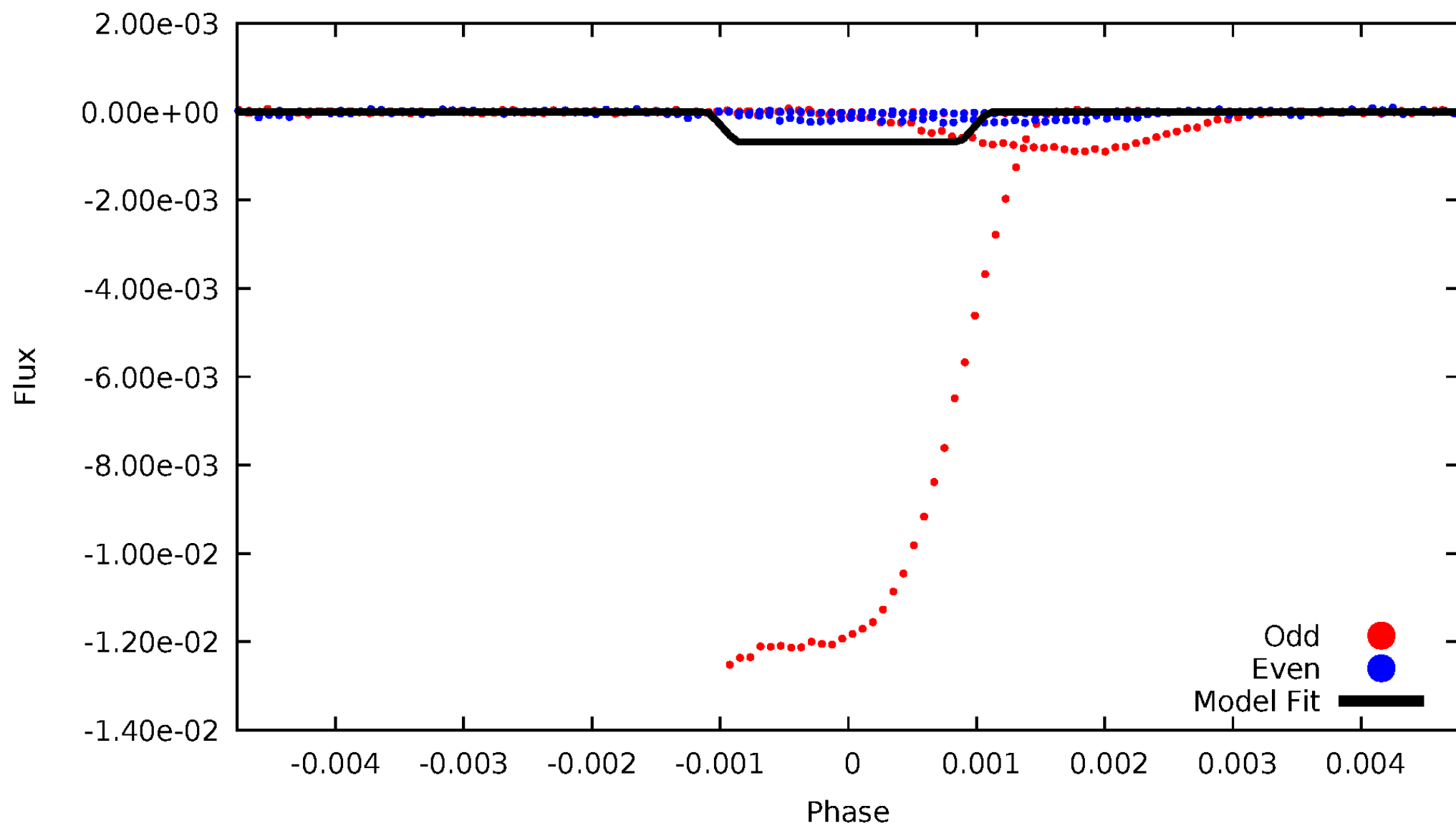
DV Odd/Even

TCE 008612180-01



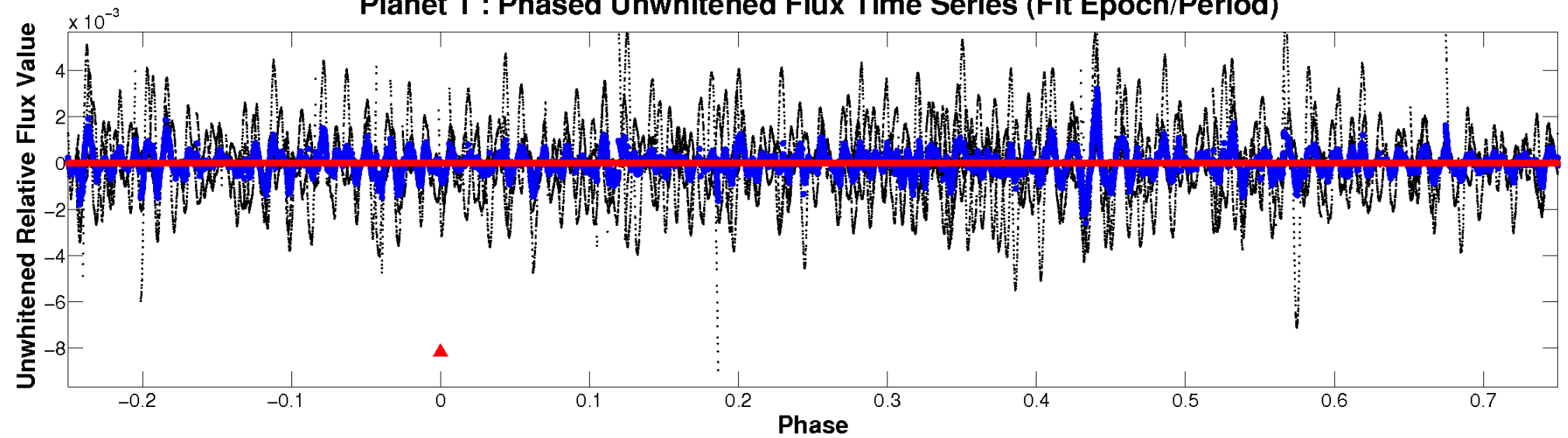
ALT Odd/Even

TCE 008612180-01

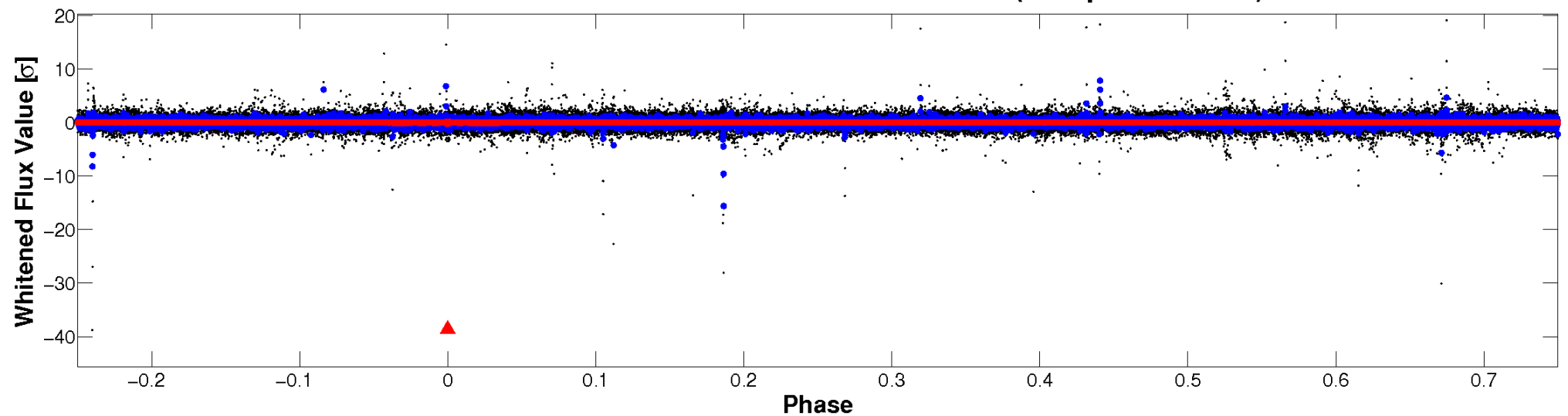


Non-Whitened Vs. Whitened Light Curve

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

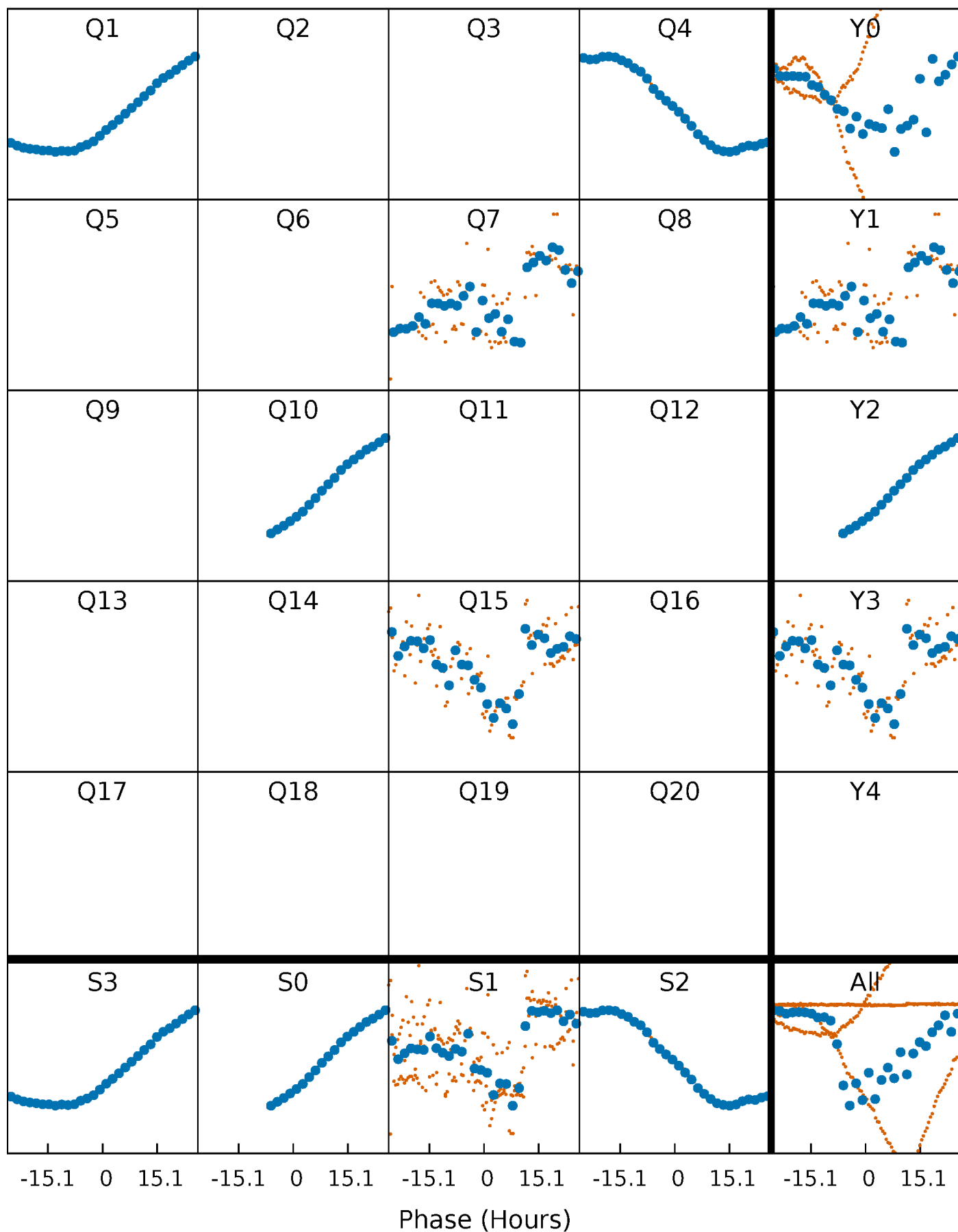


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



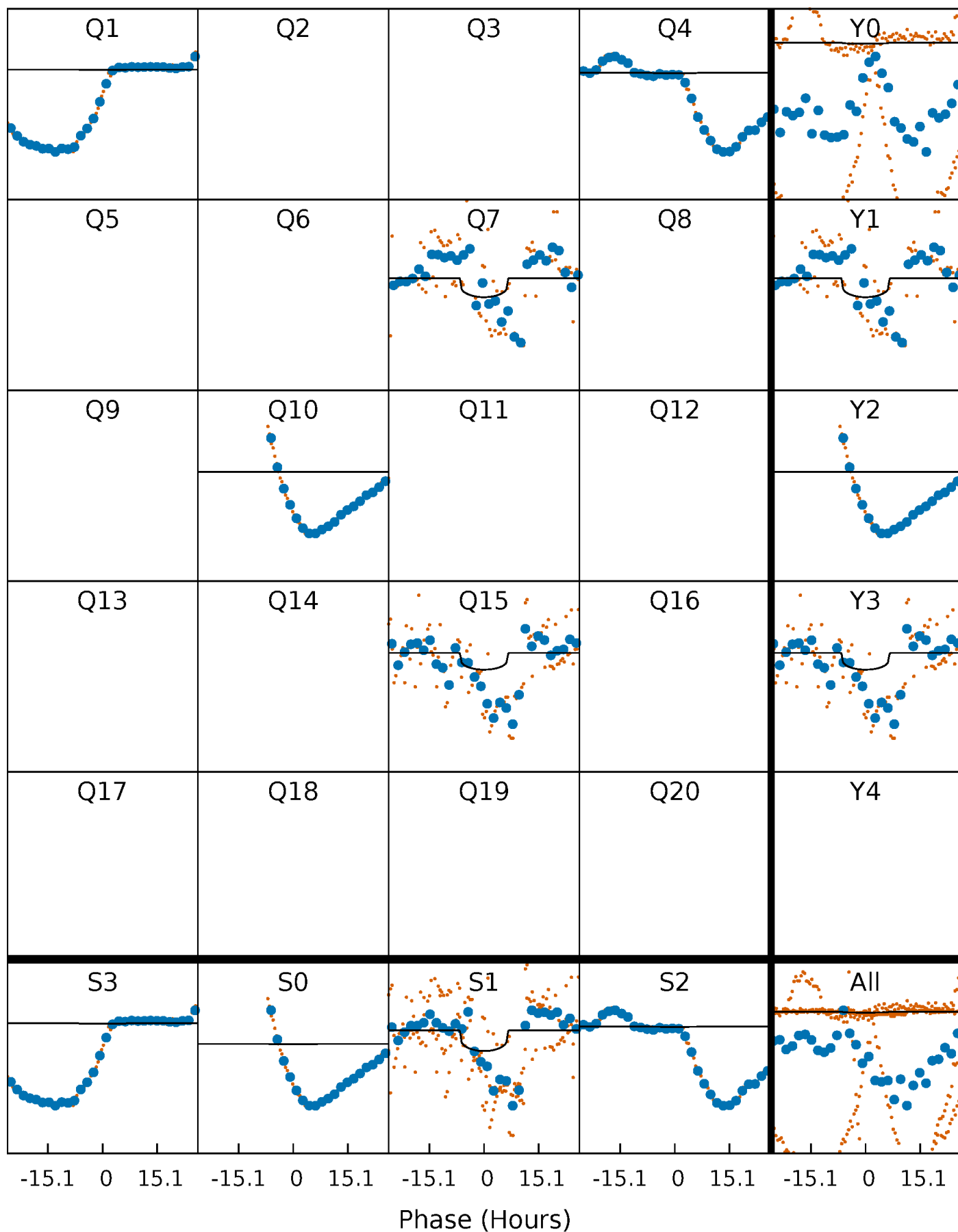
PDC Quarter-Phased Transit Curves

TCE 008612180-01 P=256.372814 Days $T_0=138.041685$ (BKJD)



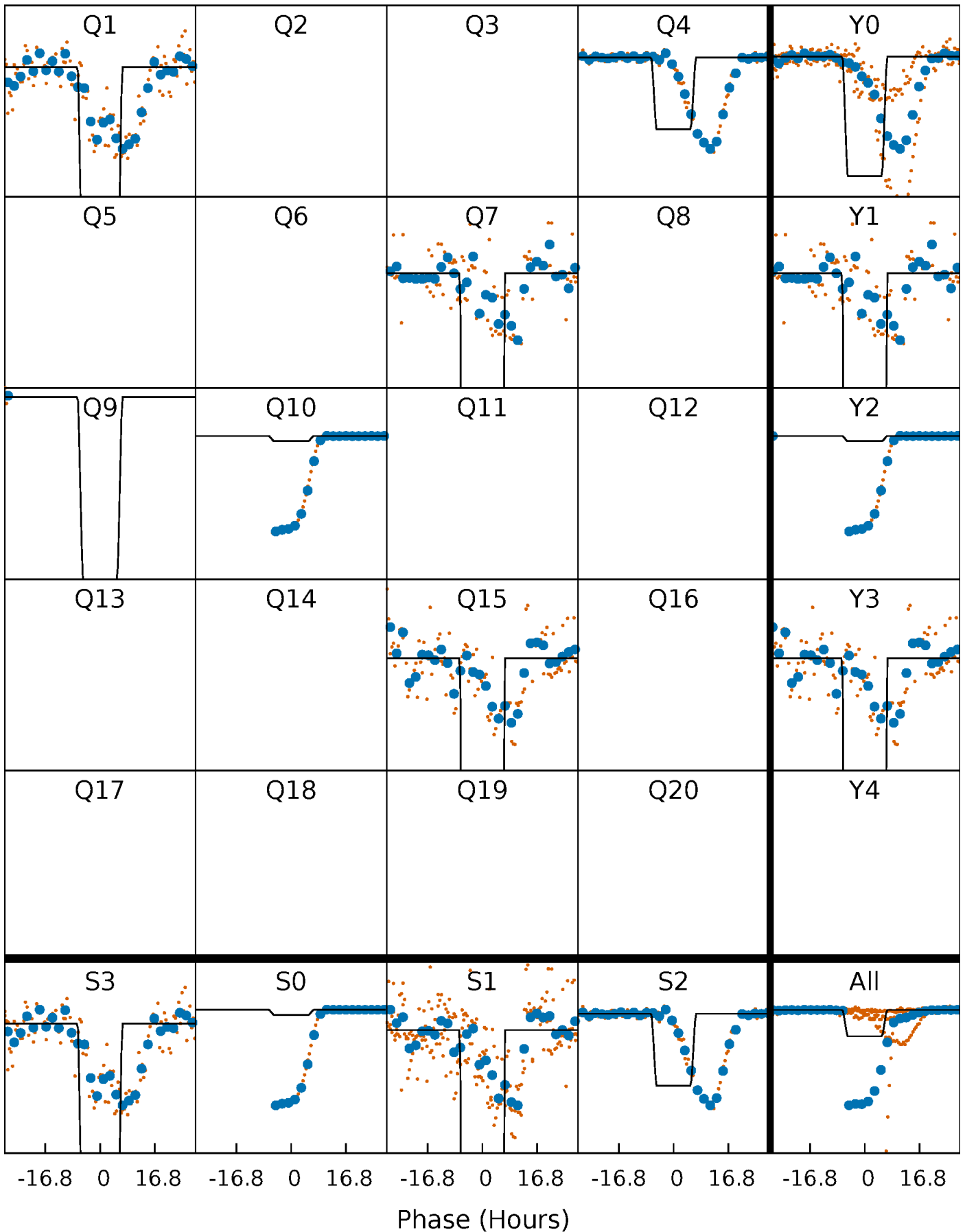
DV Quarter-Phased Transit Curves

TCE 008612180-01 P=256.372814 Days $T_0=138.041685$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

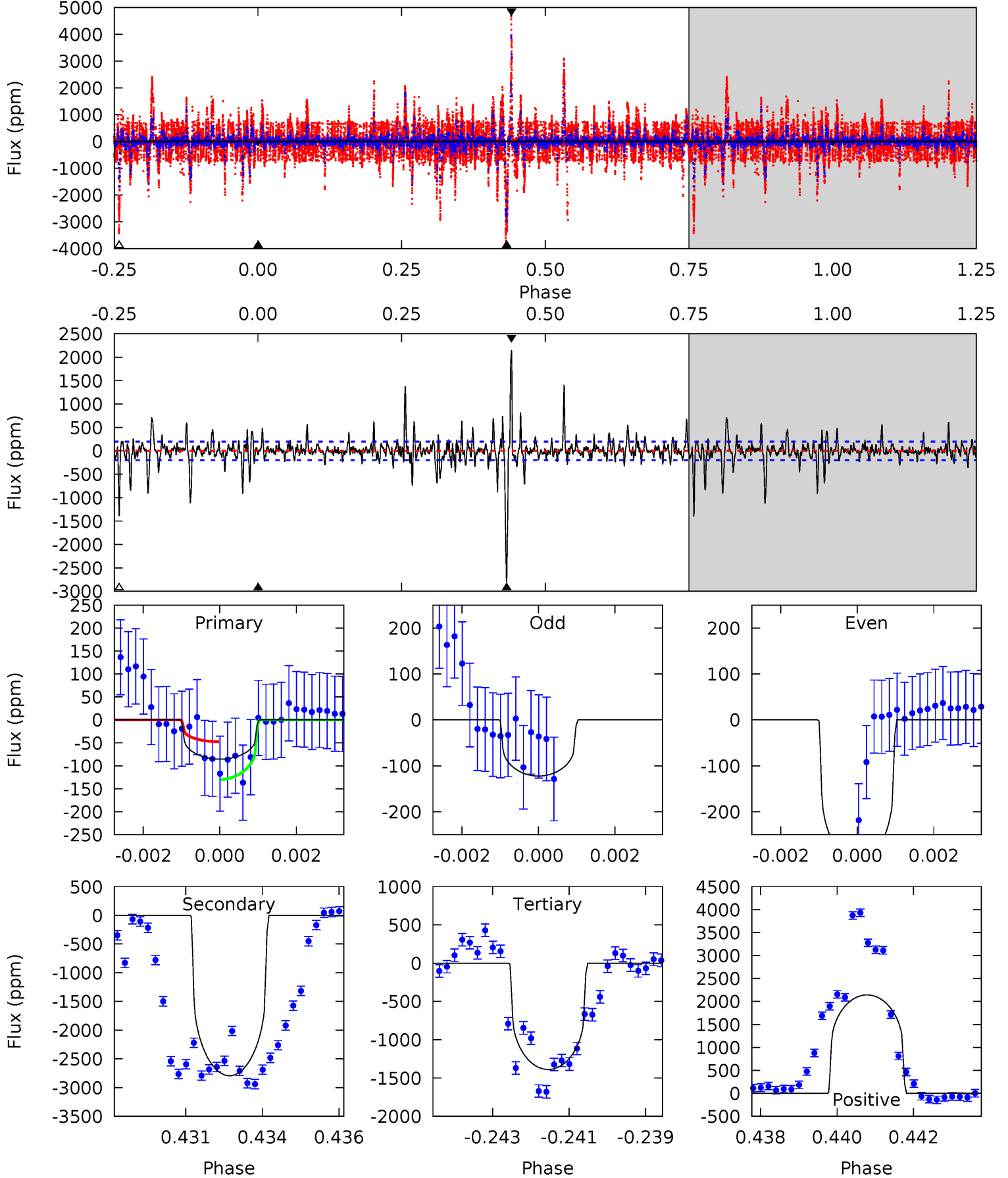
TCE 008612180-01 P=256.359444 Days $T_0=138.025224$ (BKJD)



DV Model-Shift Uniqueness Test

008612180-01, P = 256.372814 Days, E = 138.041685 Days

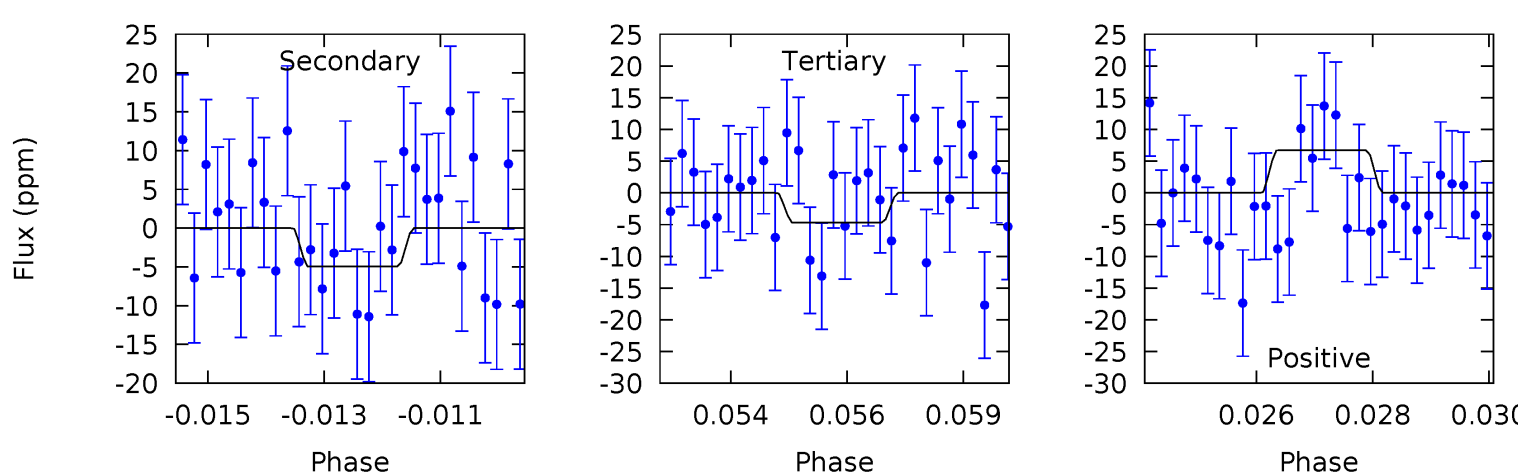
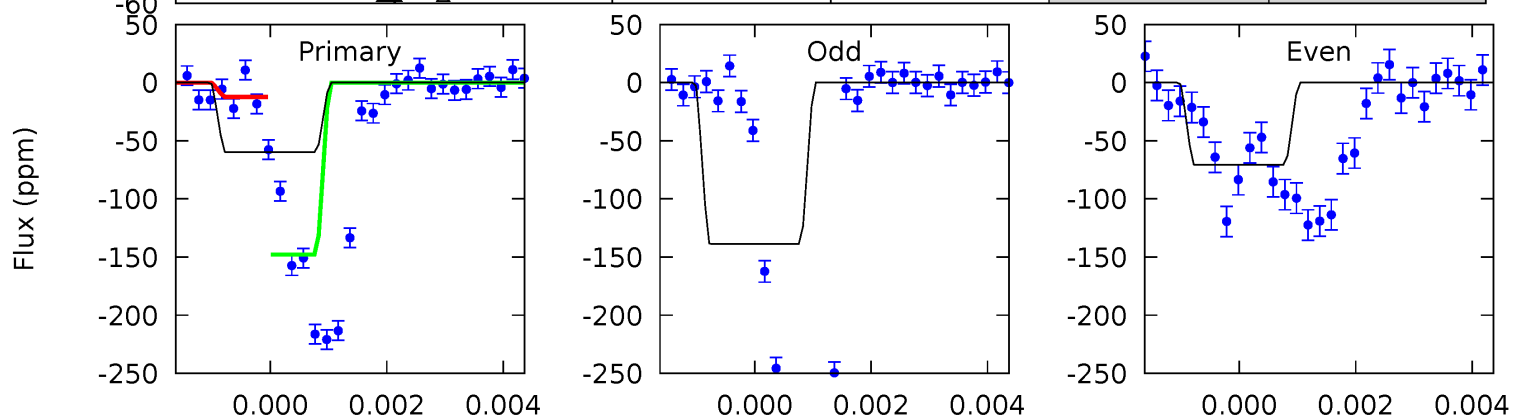
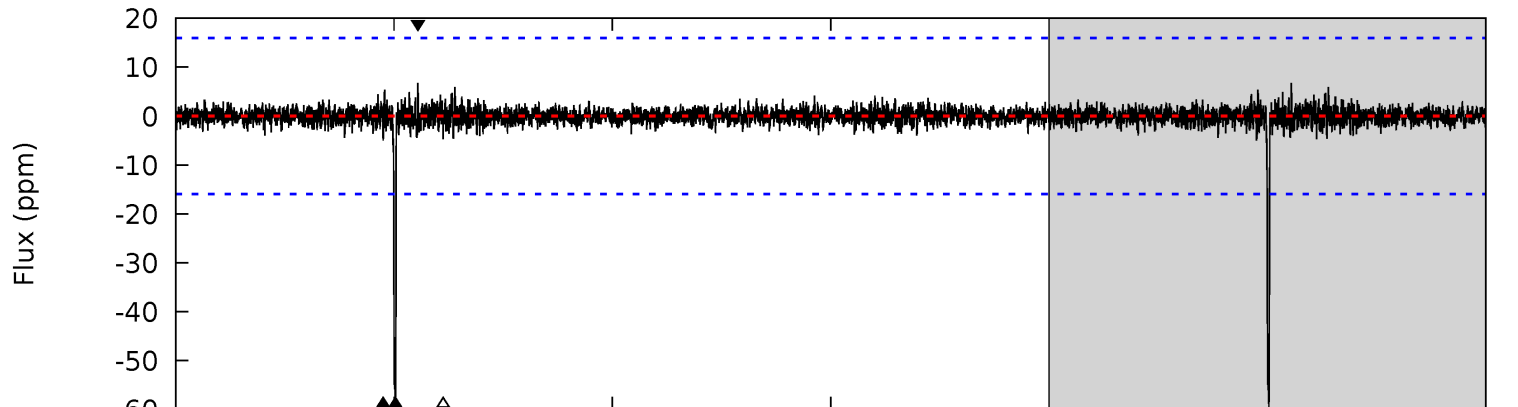
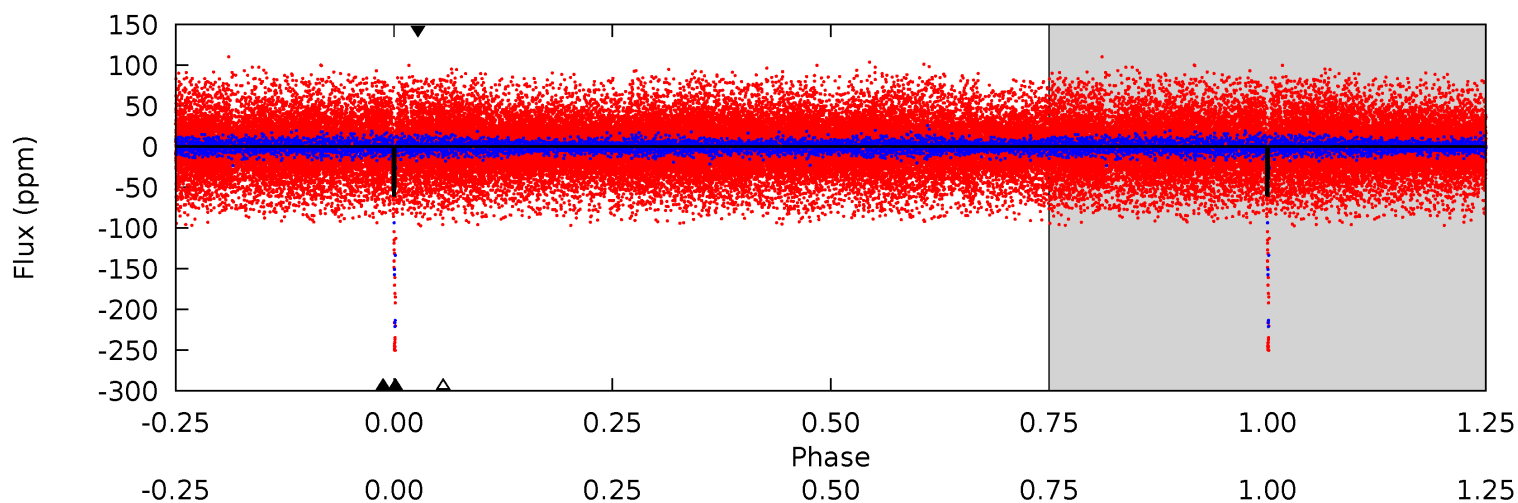
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.28	74.4	37.0	57.1	5.31	3.06	5.99	-34.7	-54.8	37.4	17.4	1.30	2.52	0.43	1.10



Alt Model-Shift Uniqueness Test

008612180-01, P = 256.359444 Days, E = 138.025224 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	1.65	1.56	2.23	5.31	3.07	0.38	18.4	17.7	0.09	-0.58	12.5	14.6	0.10	0



Stellar Parameters For KIC 008612180

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4109^{+92}_{-112}	$1.281^{+0.030}_{-0.030}$	$-0.320^{+0.200}_{-0.250}$	$48.658^{+2.389}_{-9.557}$	$1.651^{+0.141}_{-0.562}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+2%/-2%	+62%/-78%	+5%/-20%	+9%/-34%	+27%/-9%
Source	PHO54	AST54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008612180-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2793 ± 38	$19.18^{+12.89}_{-11.41}$	1832^{+43}_{-57}	23945^{+69618}_{-9760}	3670^{+19156}_{-2345}
Alt.	-5 ± 3	$138.52^{+14.74}_{-15.09}$	1828^{+54}_{-58}	-2179^{+141}_{-97}	$0.119^{+0.083}_{-0.075}$

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

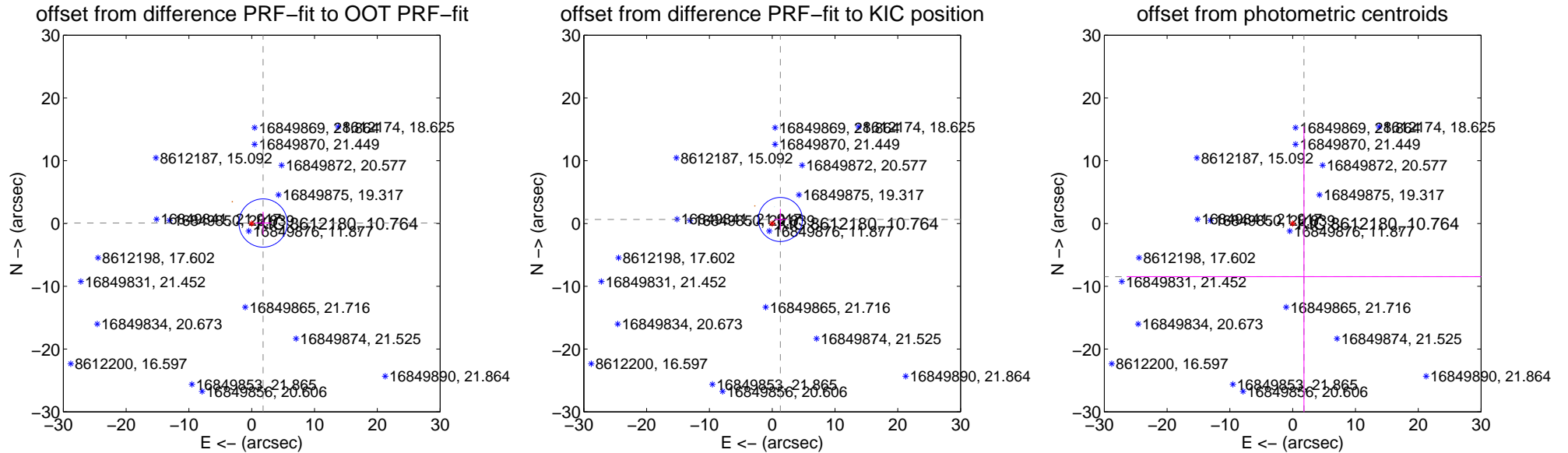
DV Centroid Data

Supplemental centroid analysis for 008612180-01. **Kepler magnitude: 10.76.** Transit SNR 2.74

There are 1 quarters with good PRF difference image offsets

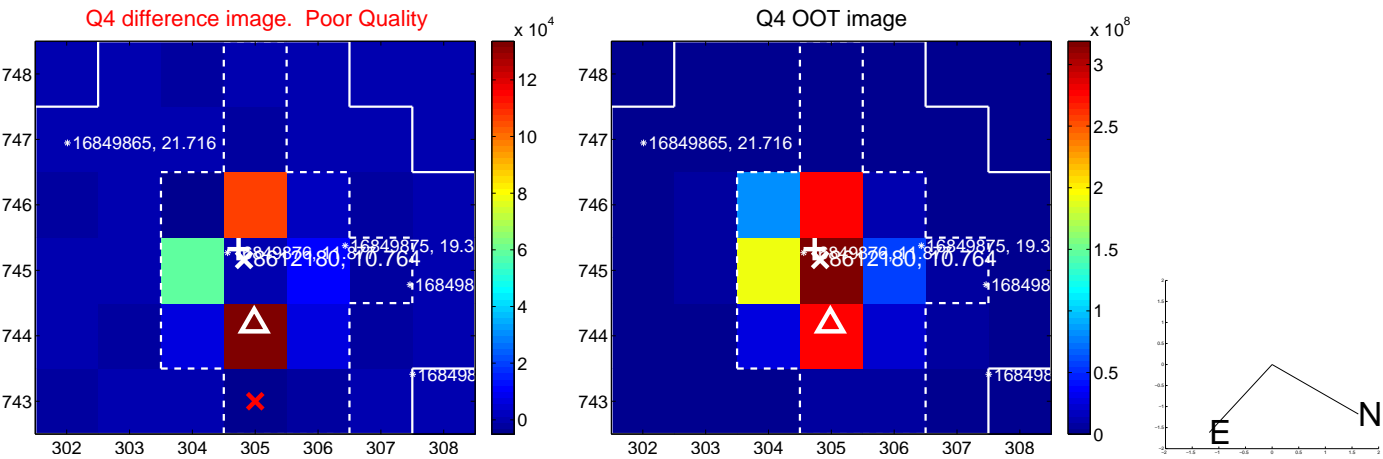
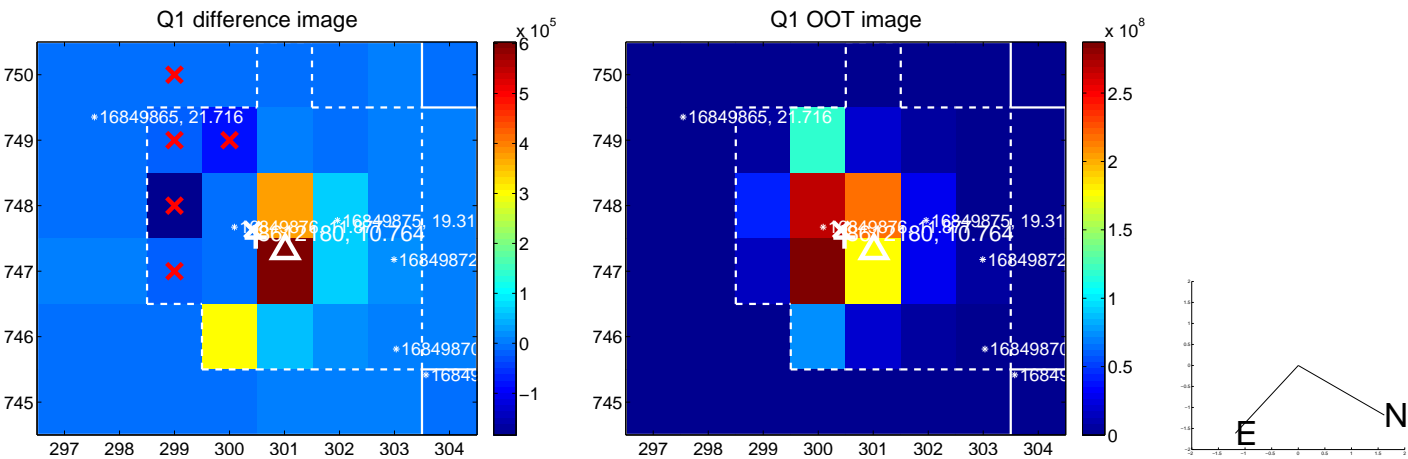
The direct PRF centroid is offset from the target star catalog position by about 1.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.811 ± 1.282	1.41	-1.810 ± 1.281	0.079 ± 1.801
PRF-fit source offset from KIC position	1.449 ± 1.170	1.24	-1.299 ± 1.007	0.643 ± 1.681
photometric centroid source offset	8.66 ± 24.08	0.36	-1.80 ± 28.24	-8.47 ± 23.87



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.

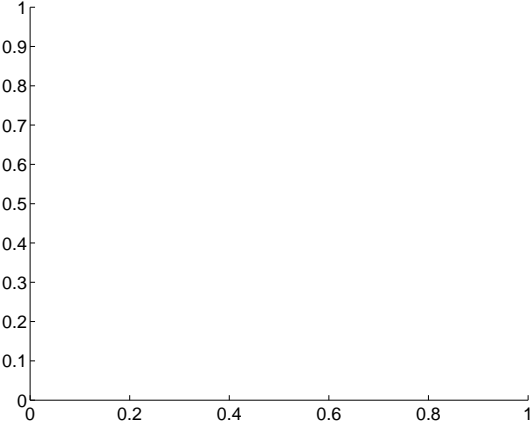
Q5 no difference image



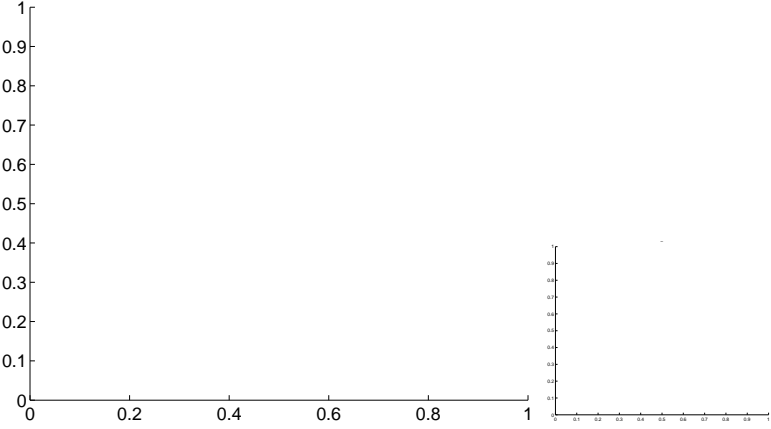
Q5 no OOT image



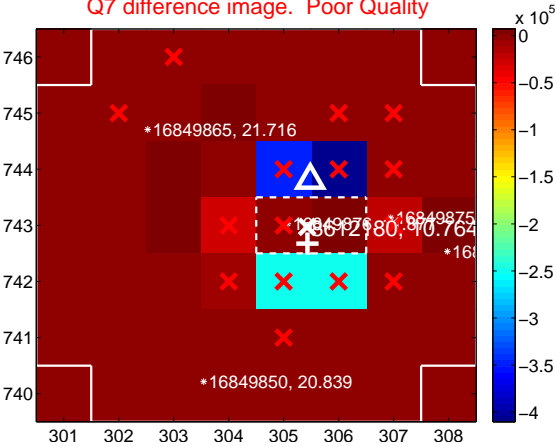
Q6 no difference image



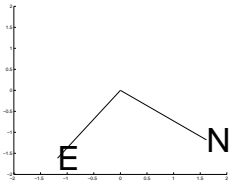
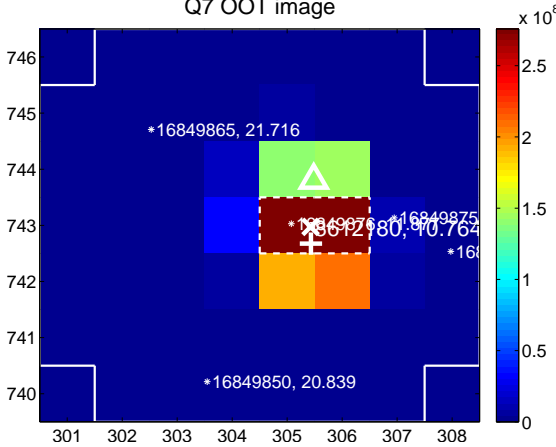
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



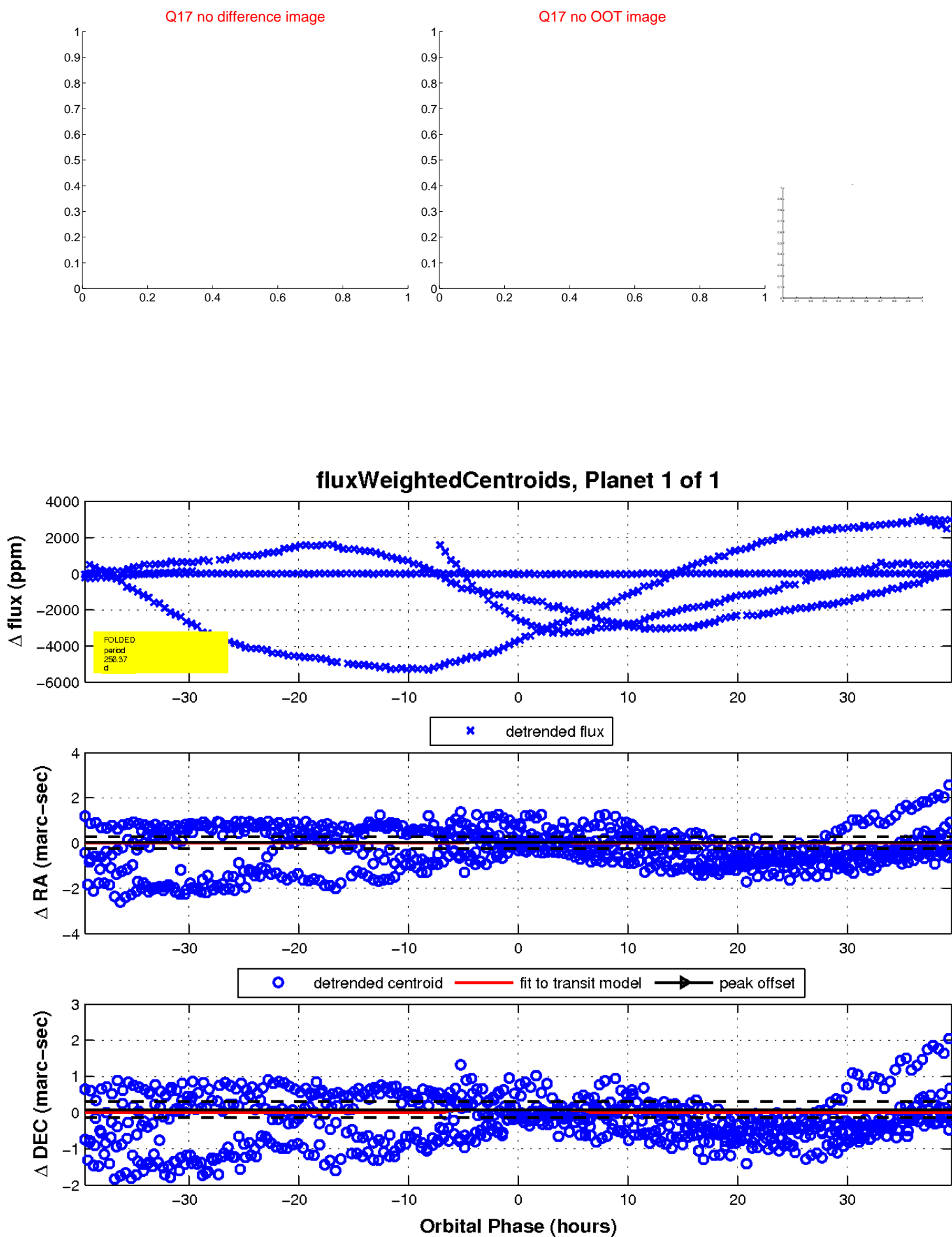
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

