

KIC 006871612

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})
006871612-01	OBS	No	563.858776	139.425059	421.0	34.854	8.2	3.9	0.99	5755	2.13	0.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006871612-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—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.

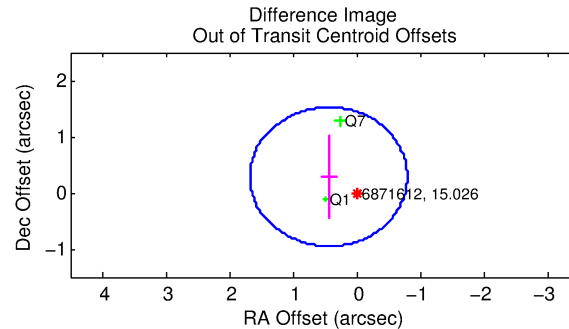
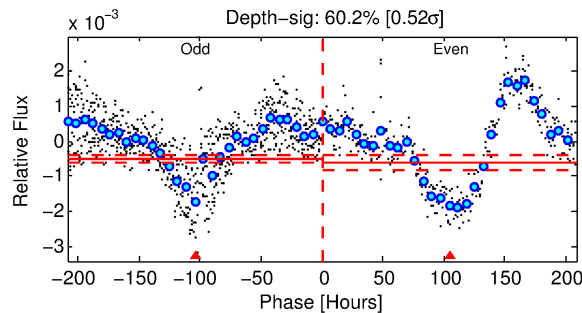
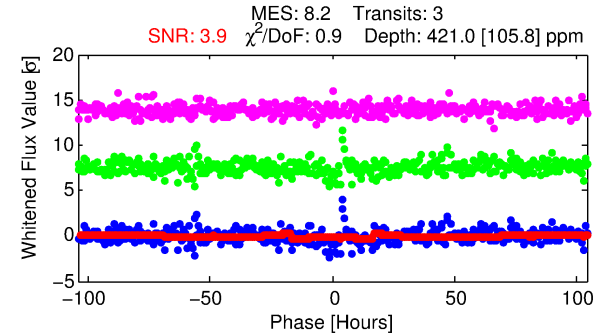
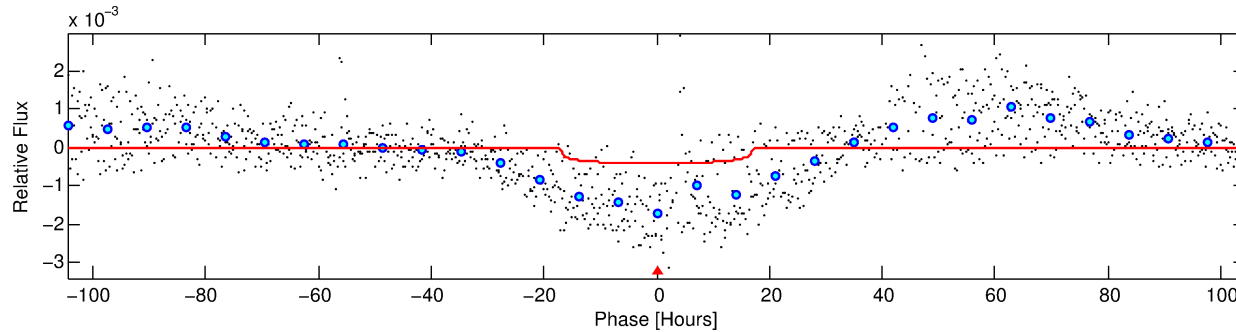
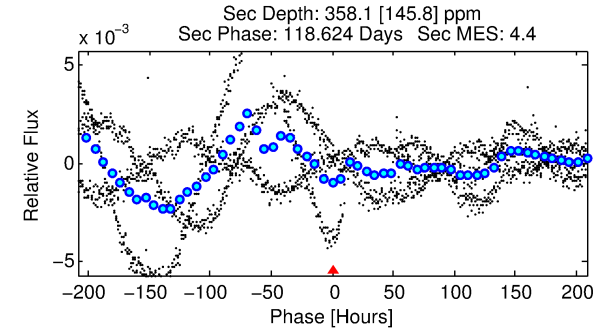
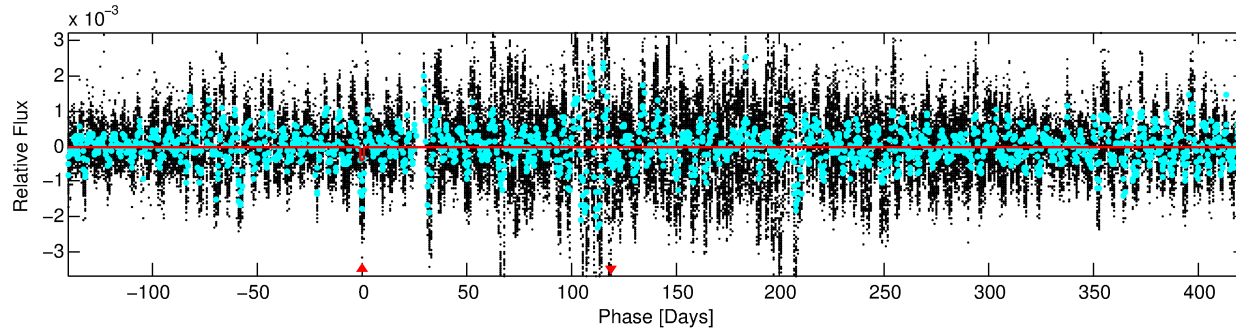
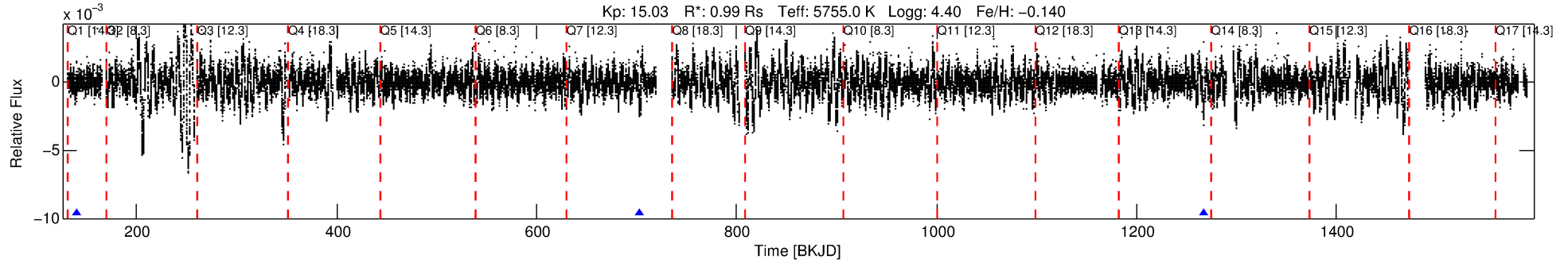
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006871612-01

No Significant Match Found

DV One-Page Summary

KIC: 6871612 Candidate: 1 of 1 Period: 563.859 d



DV Fit Results:

Period = 563.85878 [0.02630] d
Epoch = 139.4251 [0.0344] BKJD
Rp/R* = 0.0196 [0.0050]
a/R* = 100.23 [95.02]
b = 0.62 [0.95]
Seff = 0.58 [0.21]
Teq = 222 [20] K
Rp = 2.13 [0.80] Re
a = 1.2935 [0.3019] AU
Ag = 72733.45 [53314.92] [1.36σ]
Teffp = 5648 [932] K [5.82σ]

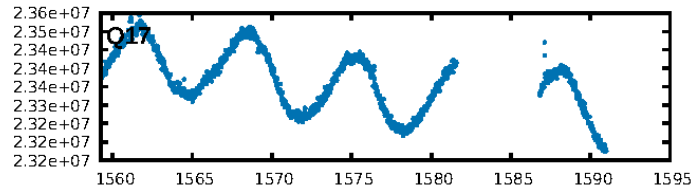
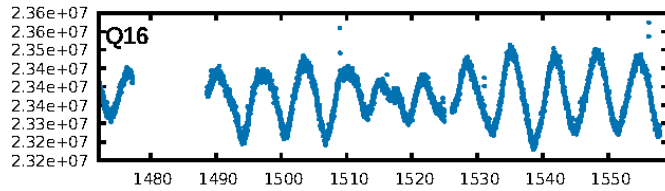
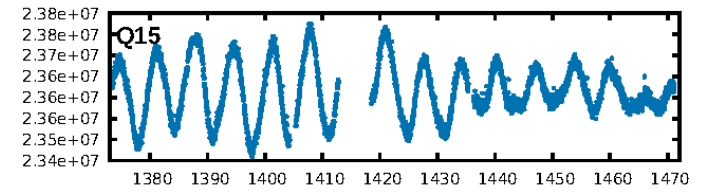
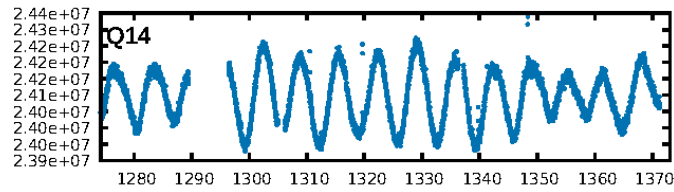
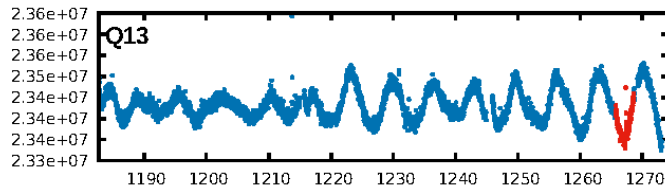
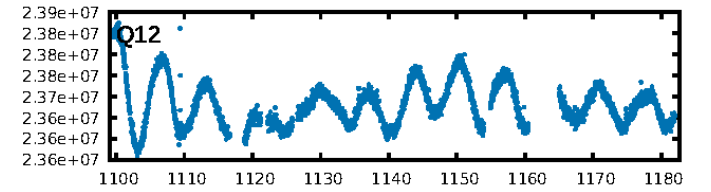
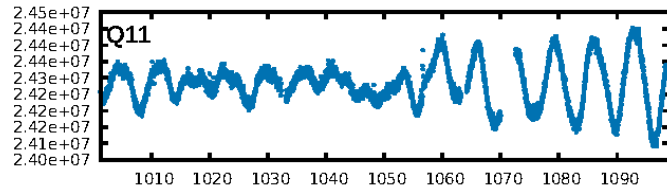
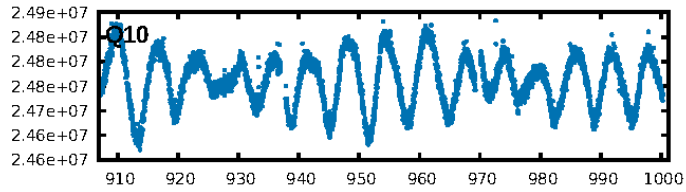
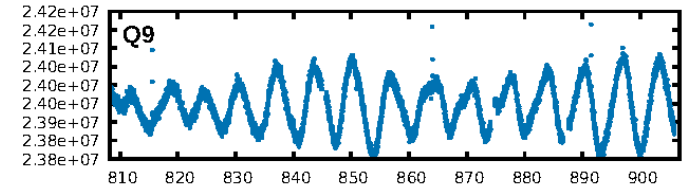
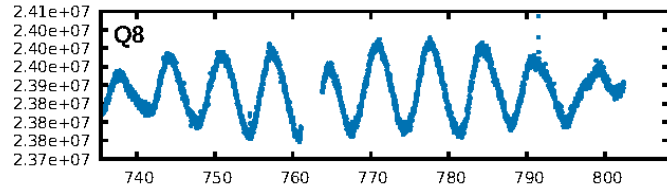
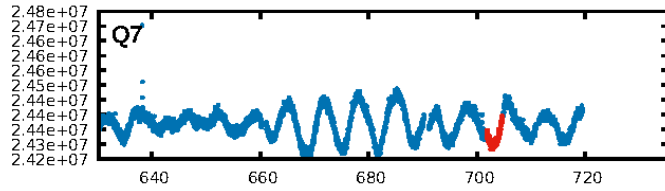
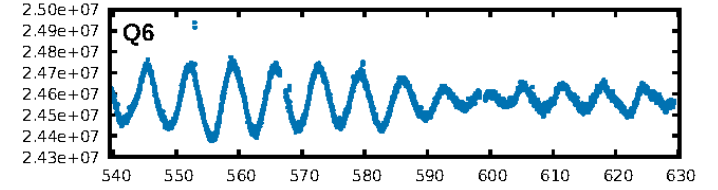
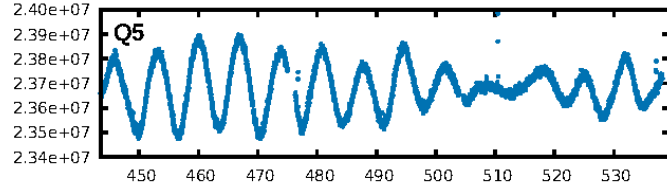
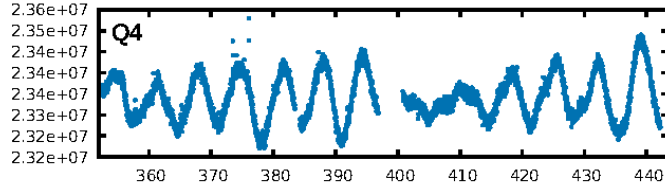
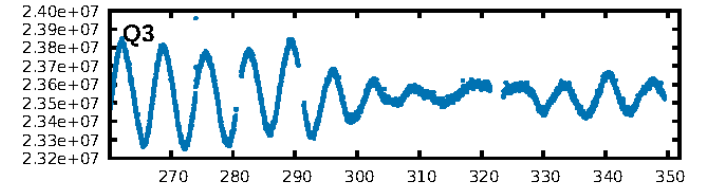
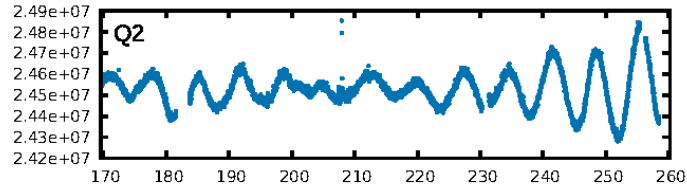
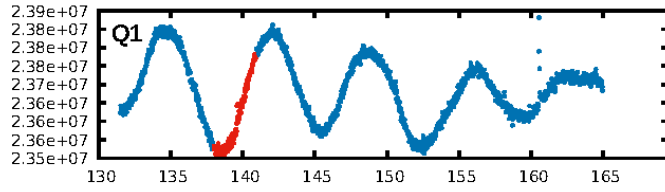
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.57e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.7548
Centroid-sig: 67.0%
Centroid-so: 0.603 arcsec [0.52σ]
OotOffset-rm: 0.521 arcsec [1.26σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 0.365 arcsec [0.93σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

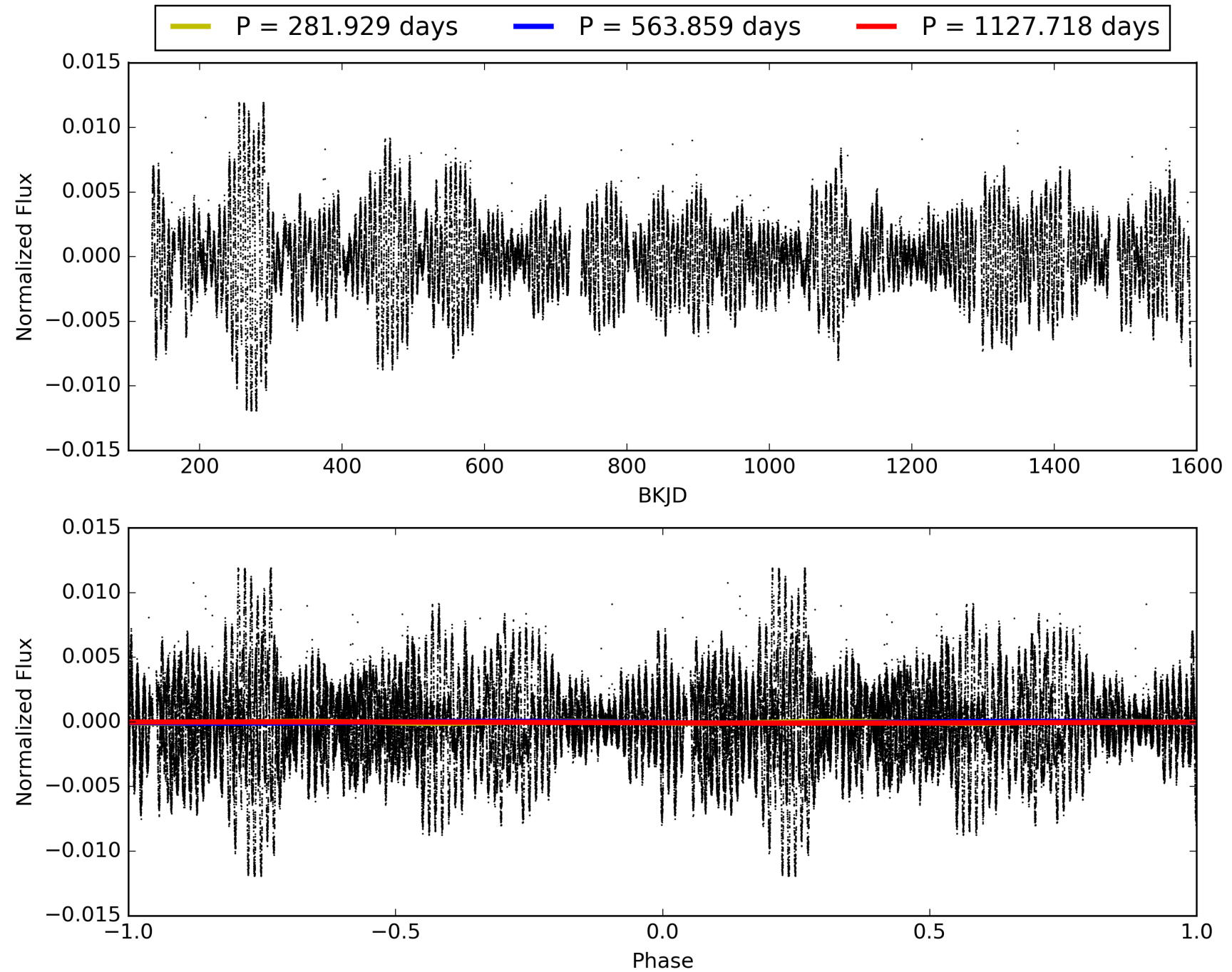
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:24:49 Z

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

TCE 006871612-01, PDC Light Curves

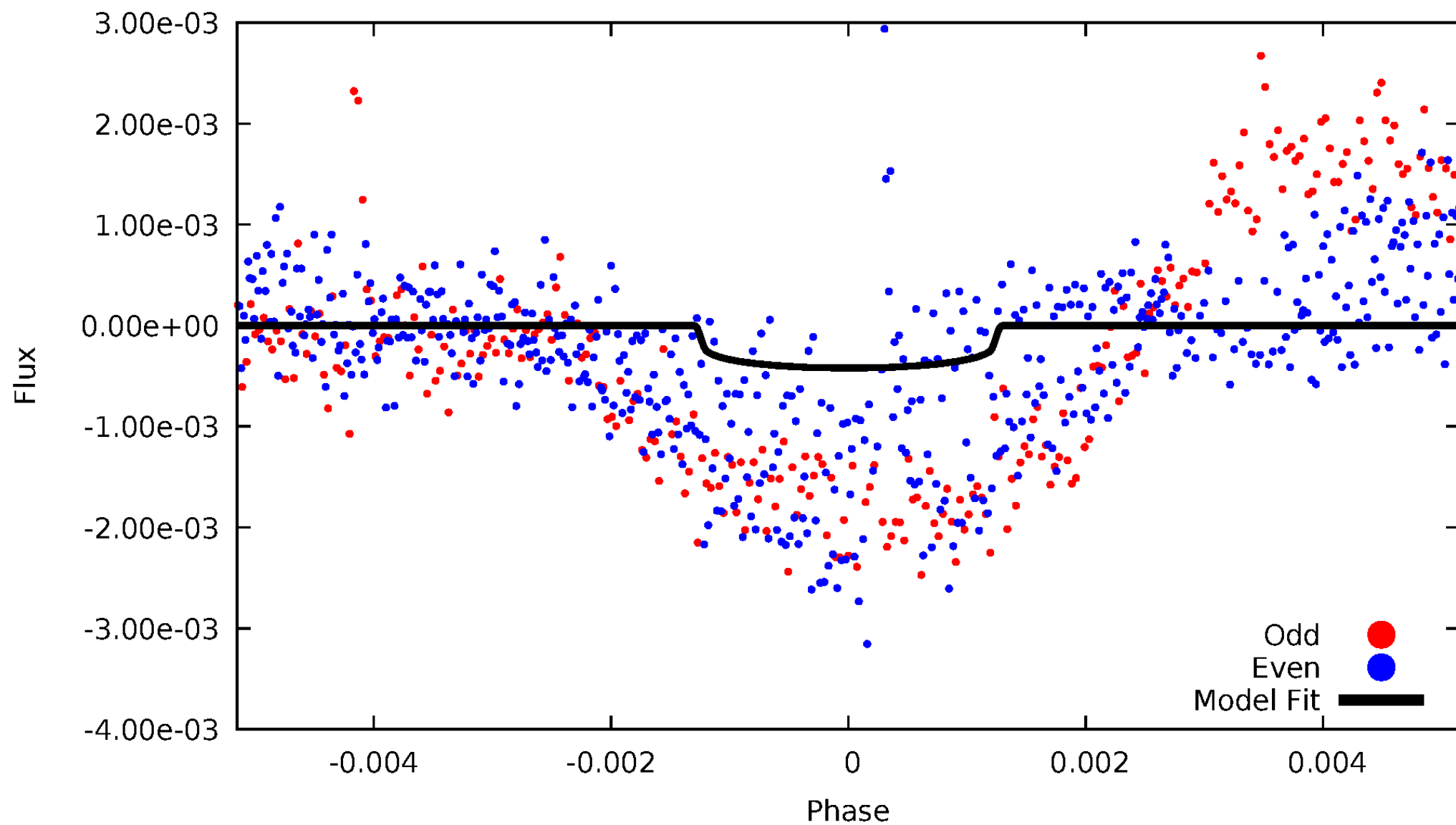


TCE 006871612-01



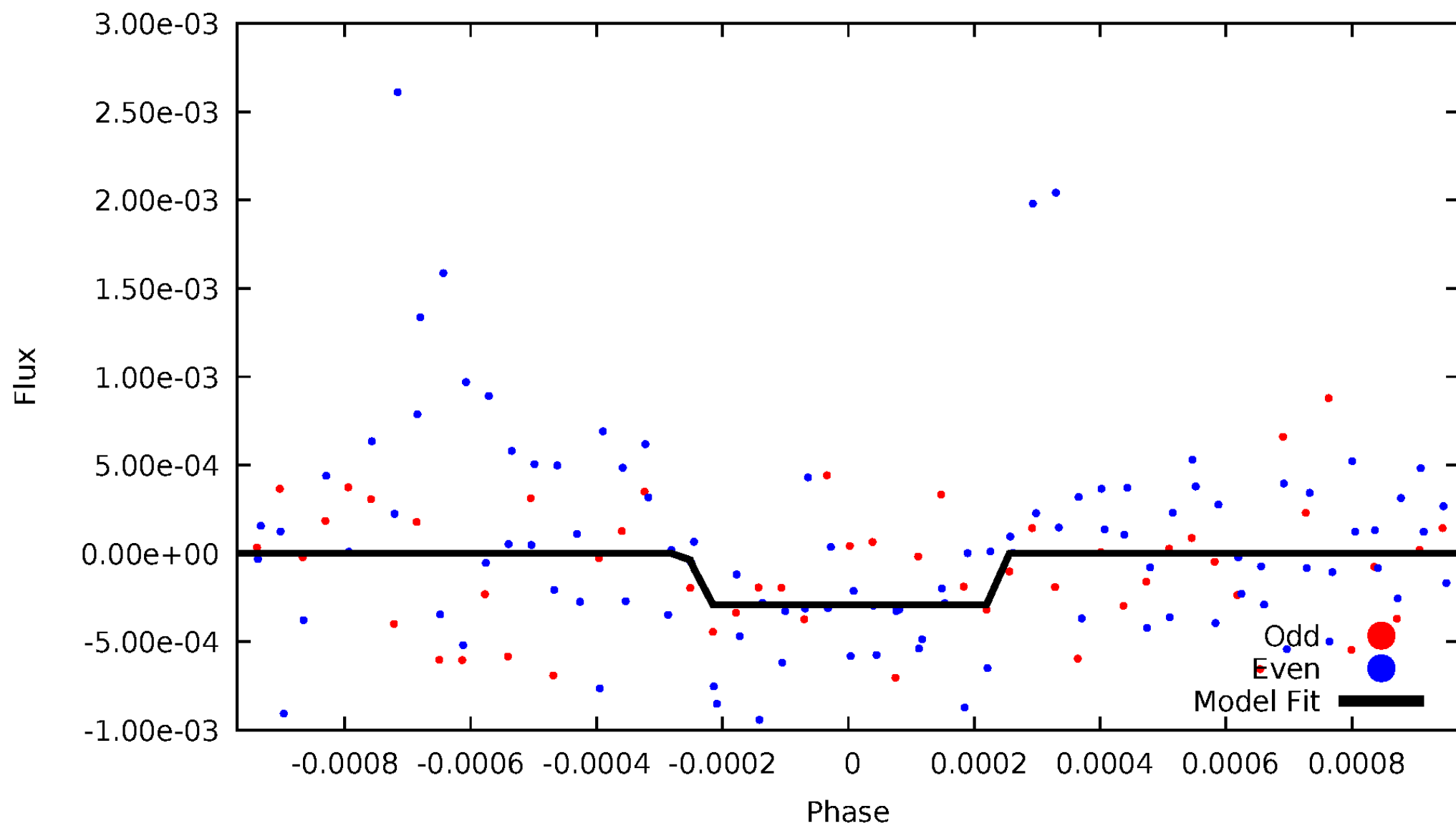
DV Odd/Even

TCE 006871612-01

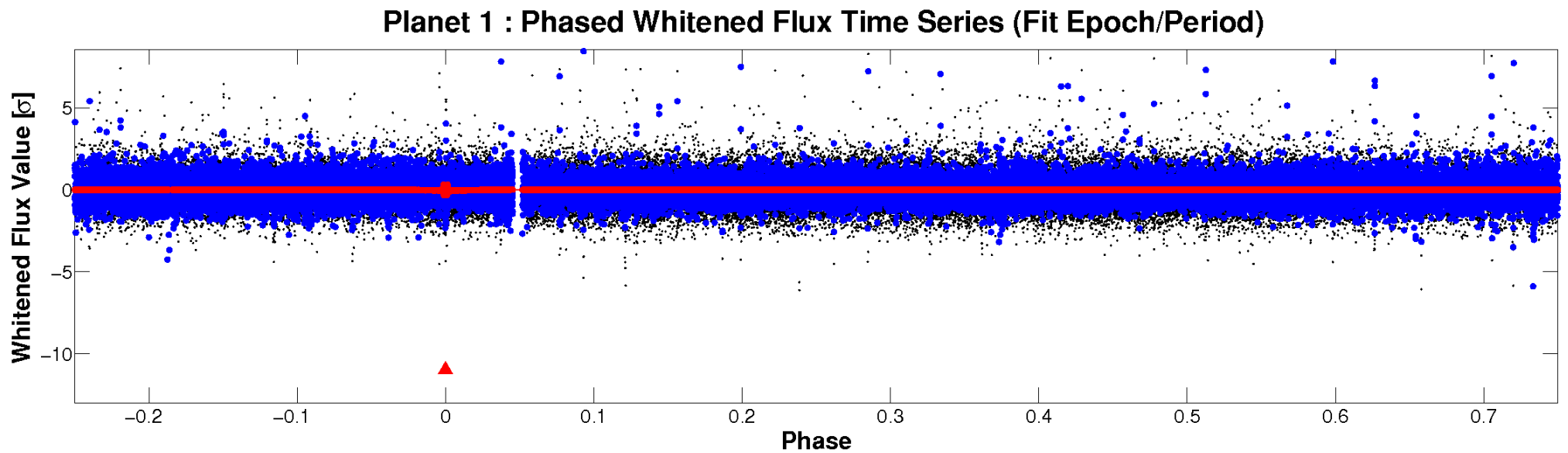
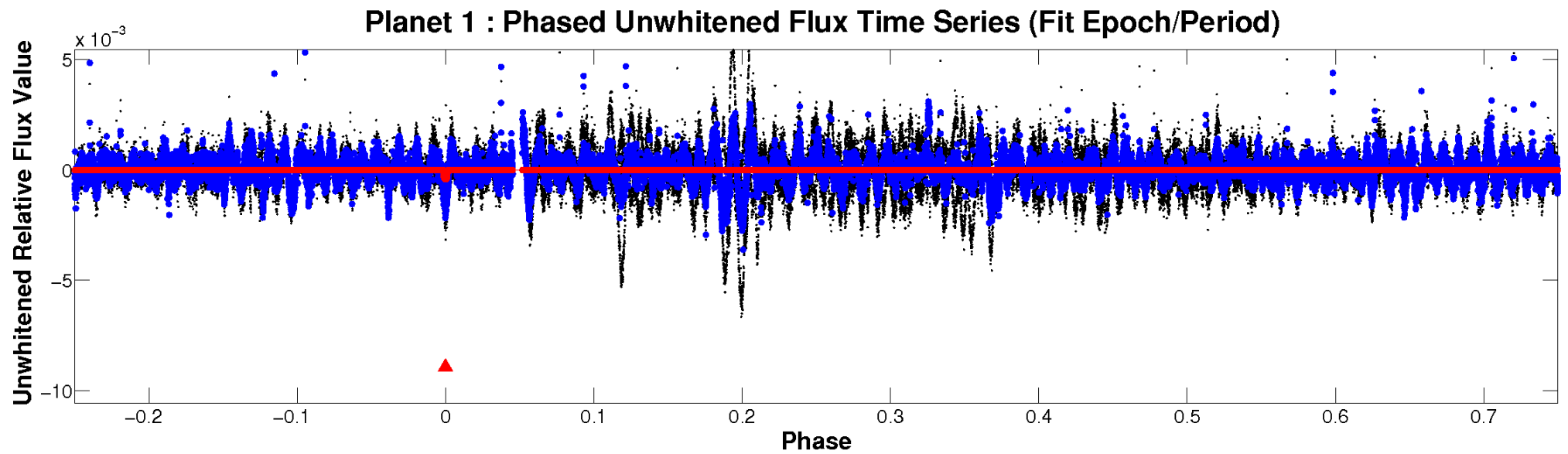


ALT Odd/Even

TCE 006871612-01

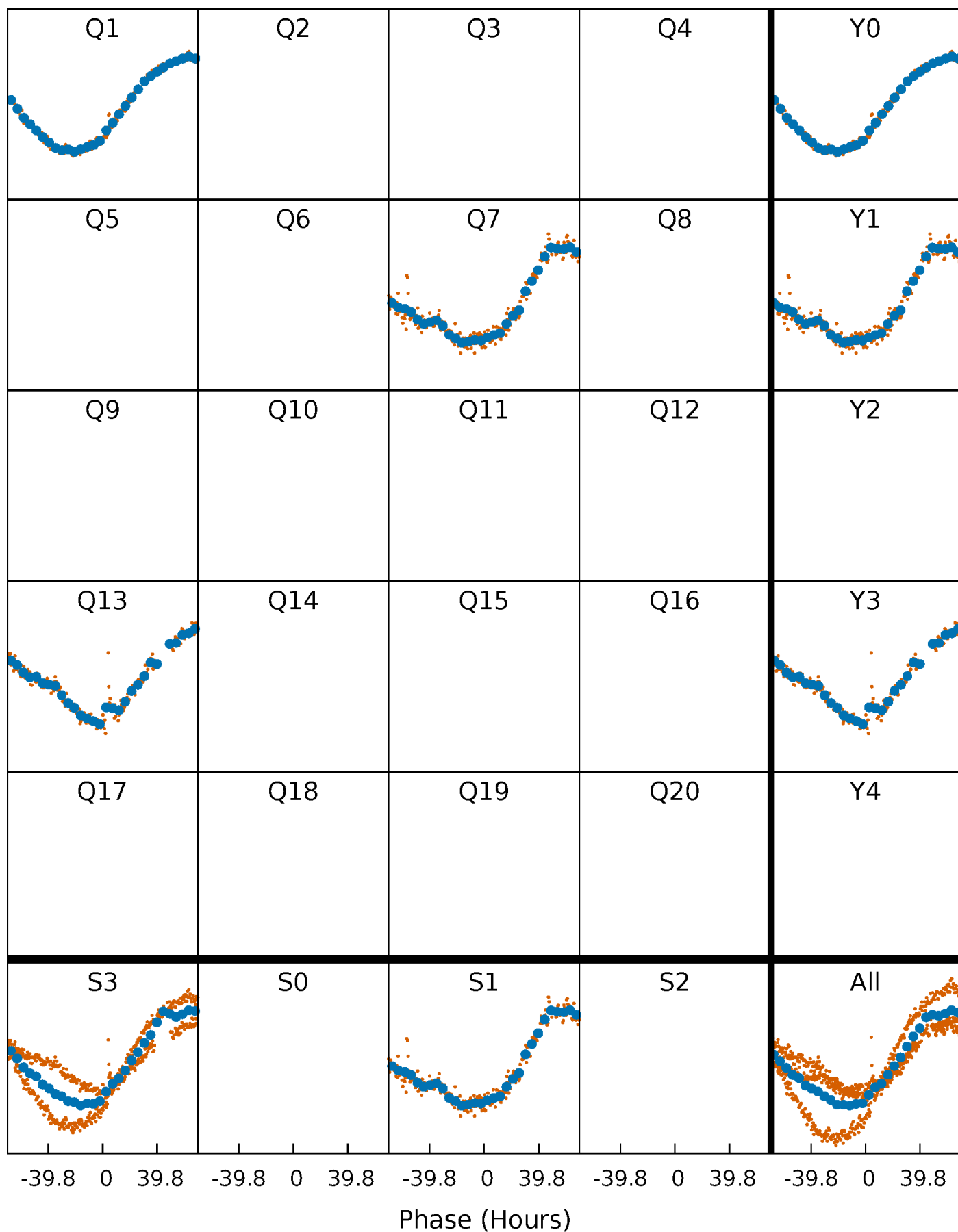


Non-Whitened Vs. Whitened Light Curve



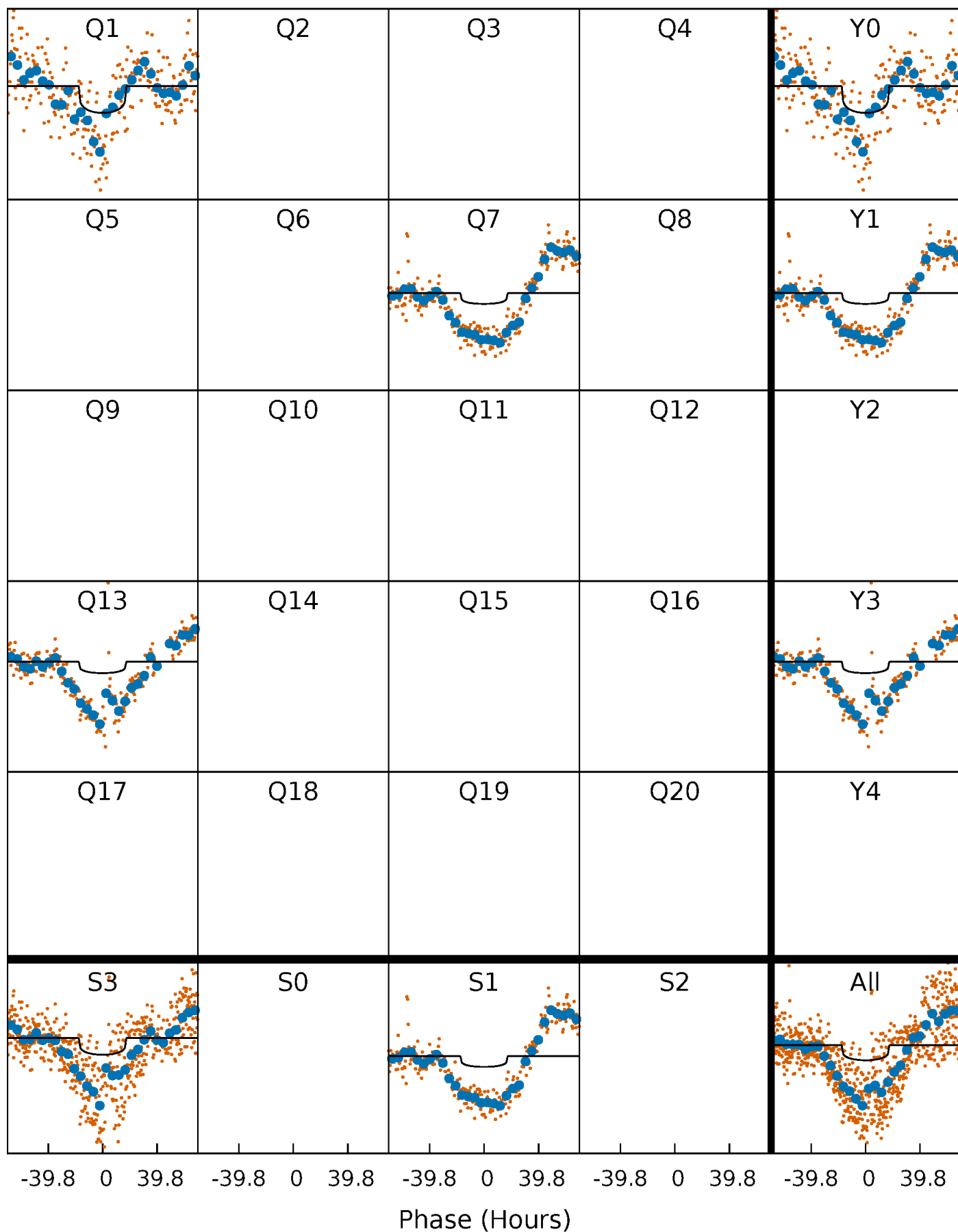
PDC Quarter-Phased Transit Curves

TCE 006871612-01 $P=563.858776$ Days $T_0=139.425059$ (BKJD)



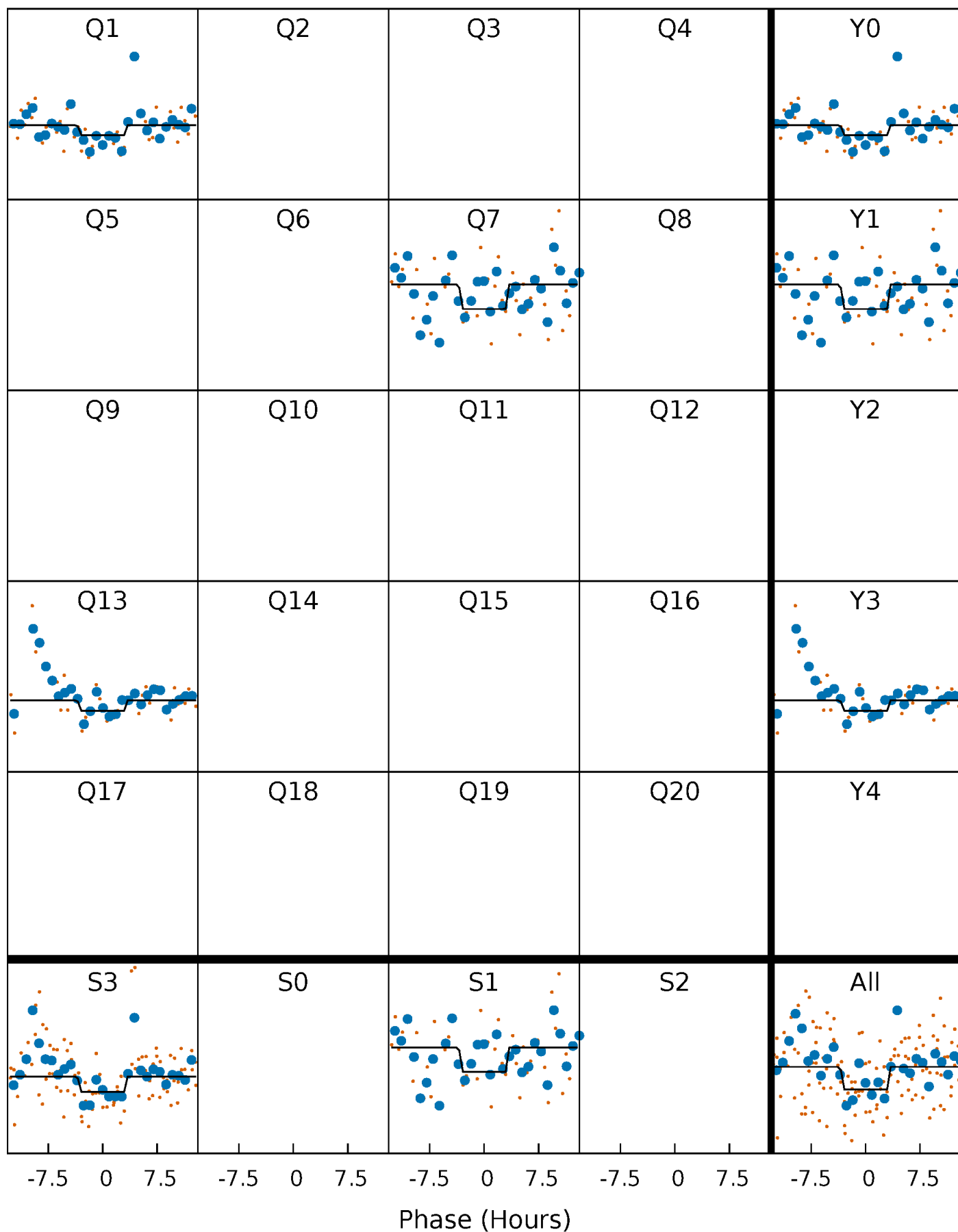
DV Quarter-Phased Transit Curves

TCE 006871612-01 P=563.858776 Days $T_0=139.425059$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

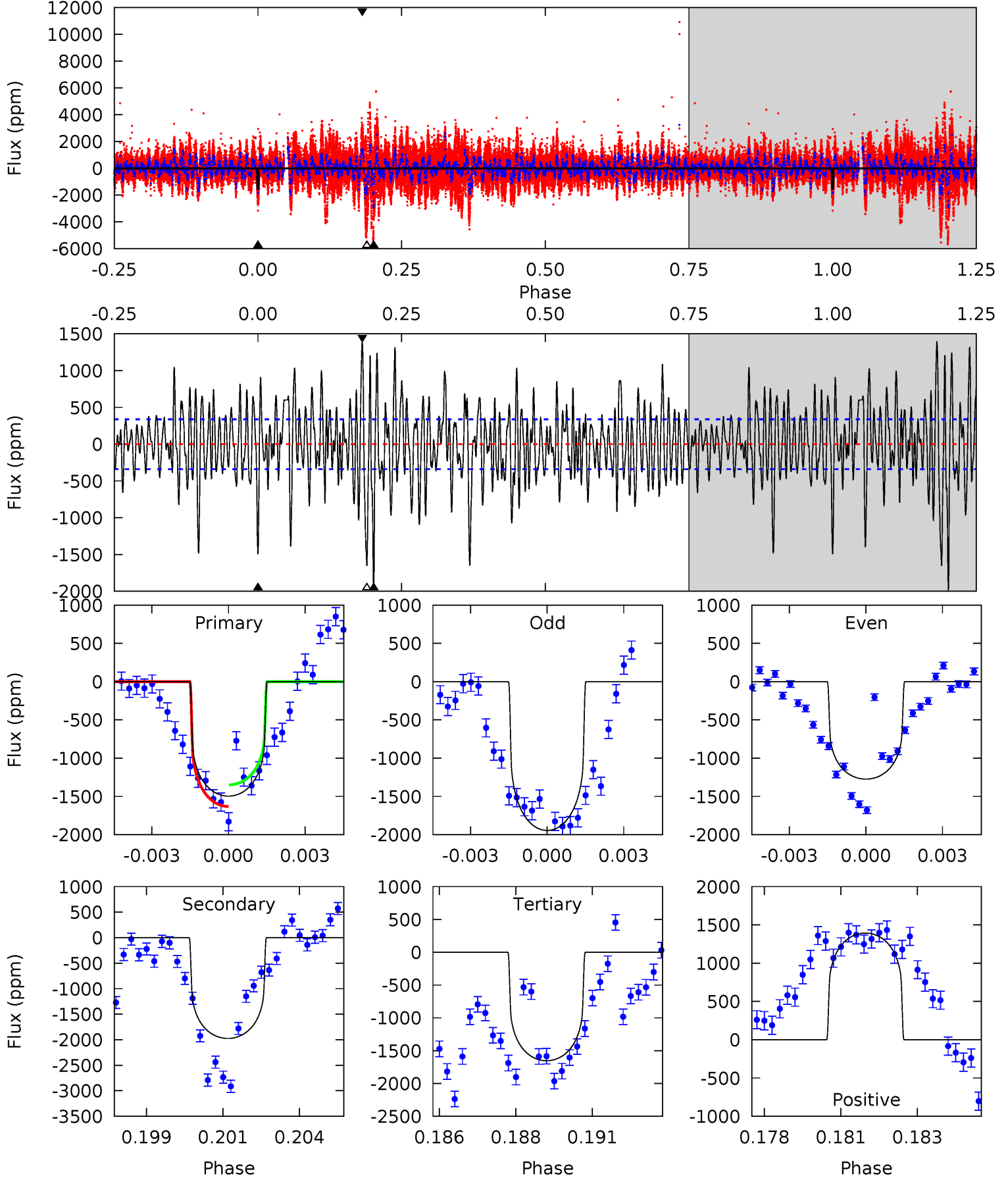
TCE 006871612-01 P=564.150158 Days $T_0=139.438756$ (BKJD)



DV Model-Shift Uniqueness Test

006871612-01, P = 563.858776 Days, E = 139.425059 Days

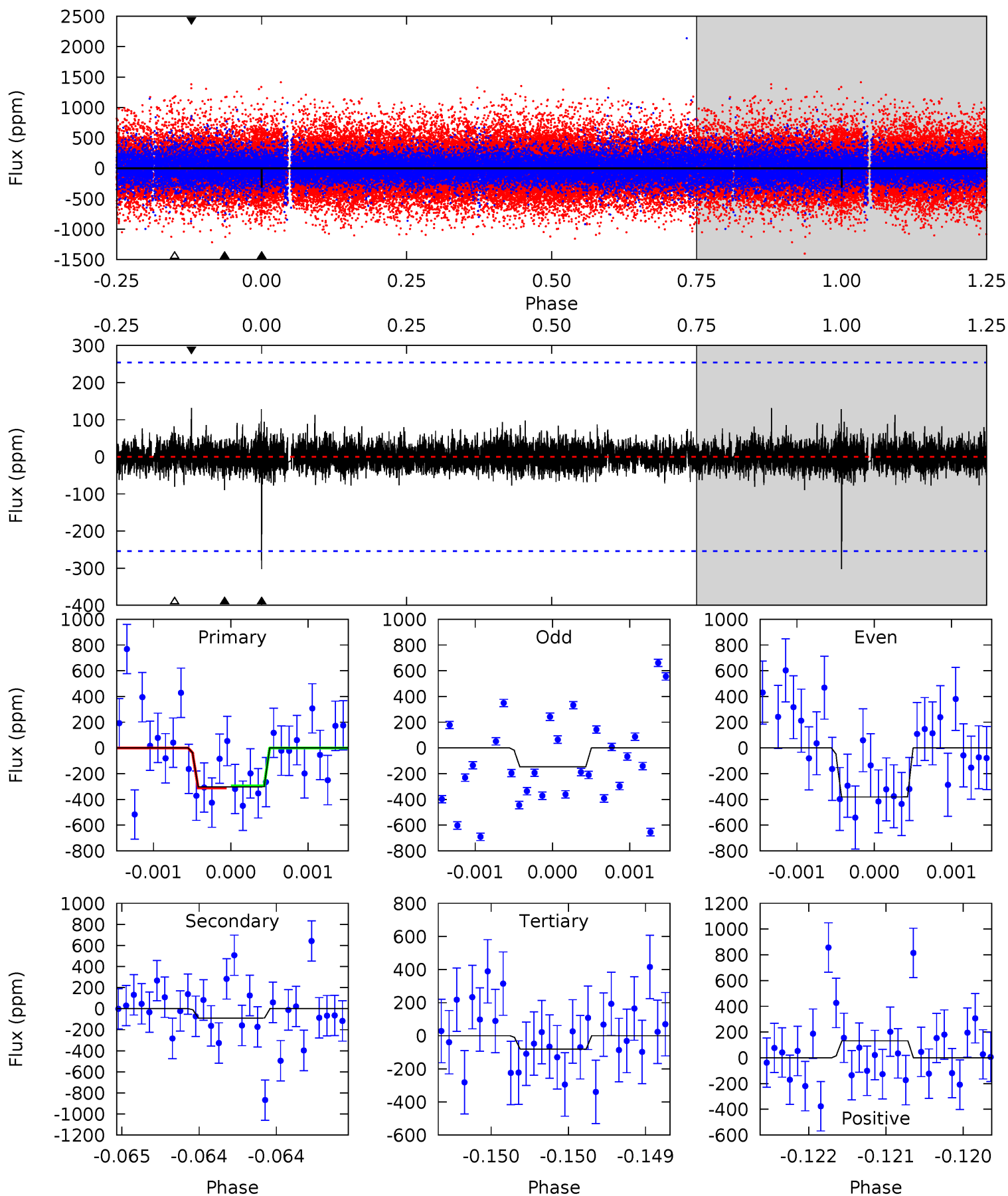
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	30.8	25.8	21.7	5.28	3.01	6.91	-2.45	1.60	5.02	9.06	4.86	0.78	0.41	2.23



Alt Model-Shift Uniqueness Test

006871612-01, P = 564.150158 Days, E = 139.438756 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.62	1.96	1.77	2.89	5.57	3.48	0.47	4.85	3.73	0.19	-0.93	2.44	1.17	0.30	0.16



Stellar Parameters For KIC 006871612

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5755^{+155}_{-172}	$4.402^{+0.124}_{-0.186}$	$-0.140^{+0.300}_{-0.300}$	$0.993^{+0.275}_{-0.148}$	$0.909^{+0.123}_{-0.089}$	$1.305^{+0.723}_{-0.630}$
	+3%/-3%	+3%/-4%	+214%/-214%	+28%/-15%	+14%/-10%	+55%/-48%
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 006871612-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1975 ± 64	$2.14^{+0.64}_{-0.56}$	311^{+24}_{-17}	9168^{+2199}_{-1277}	$404091^{+326057}_{-165864}$
Alt.	-89 ± 46	$1.84^{+0.58}_{-0.57}$	311^{+22}_{-17}	4441^{+811}_{-624}	22571^{+30839}_{-13159}

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

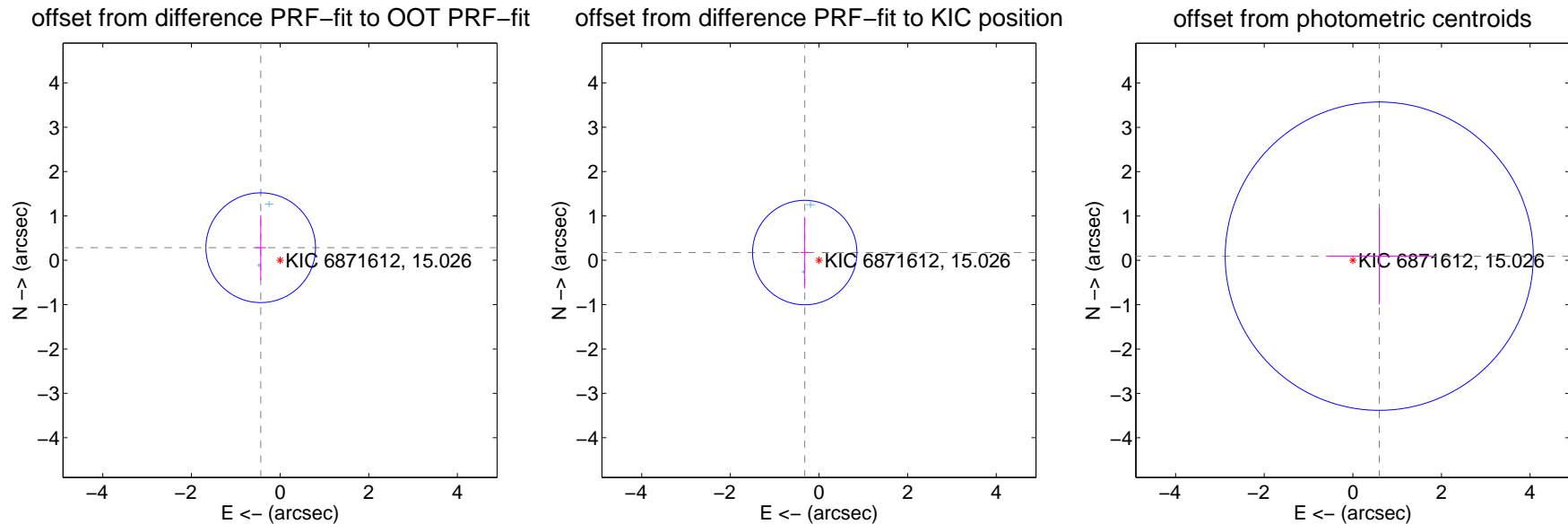
DV Centroid Data

Supplemental centroid analysis for 006871612-01. Kepler magnitude: 15.03. Transit SNR 3.89

There are 2 quarters with good PRF difference image offsets

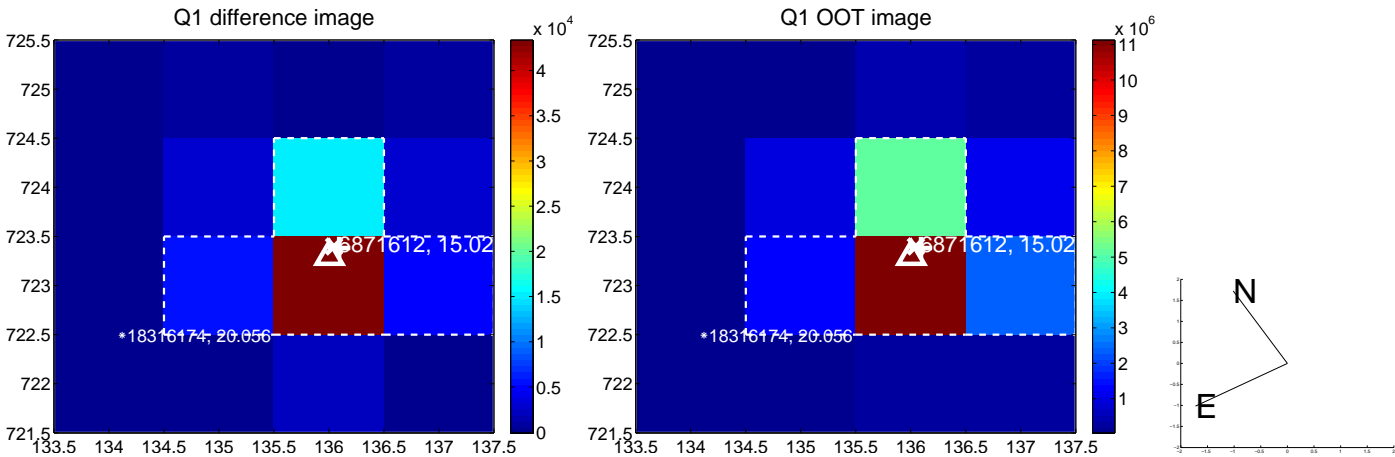
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.521 ± 0.412	1.26	0.438 ± 0.119	0.284 ± 0.735
PRF-fit source offset from KIC position	0.365 ± 0.392	0.93	0.321 ± 0.095	0.174 ± 0.805
photometric centroid source offset	0.60 ± 1.16	0.52	-0.60 ± 1.16	0.09 ± 1.08



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.

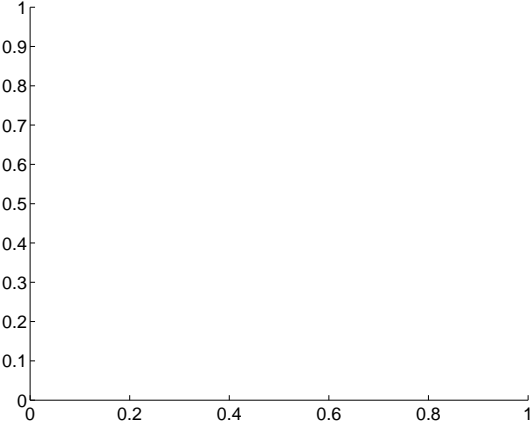
Q5 no difference image



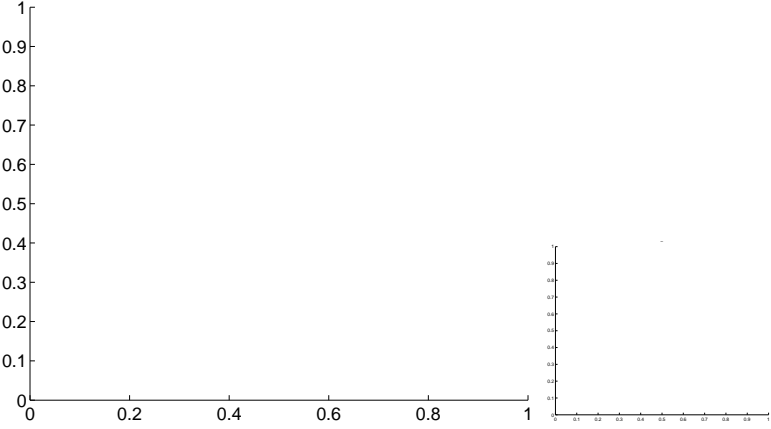
Q5 no OOT image



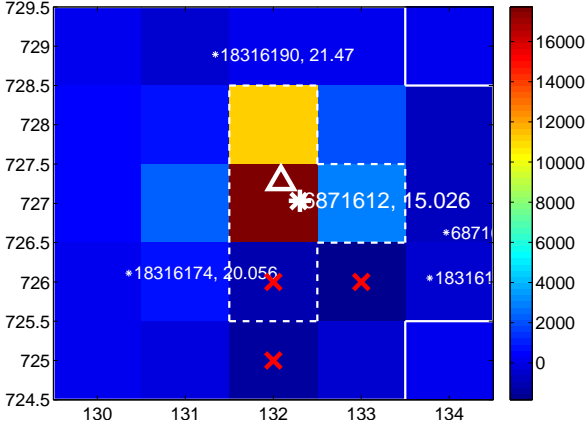
Q6 no difference image



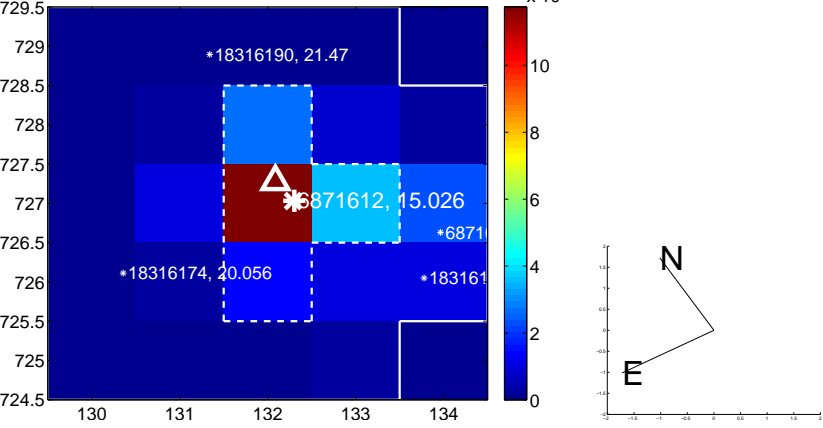
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



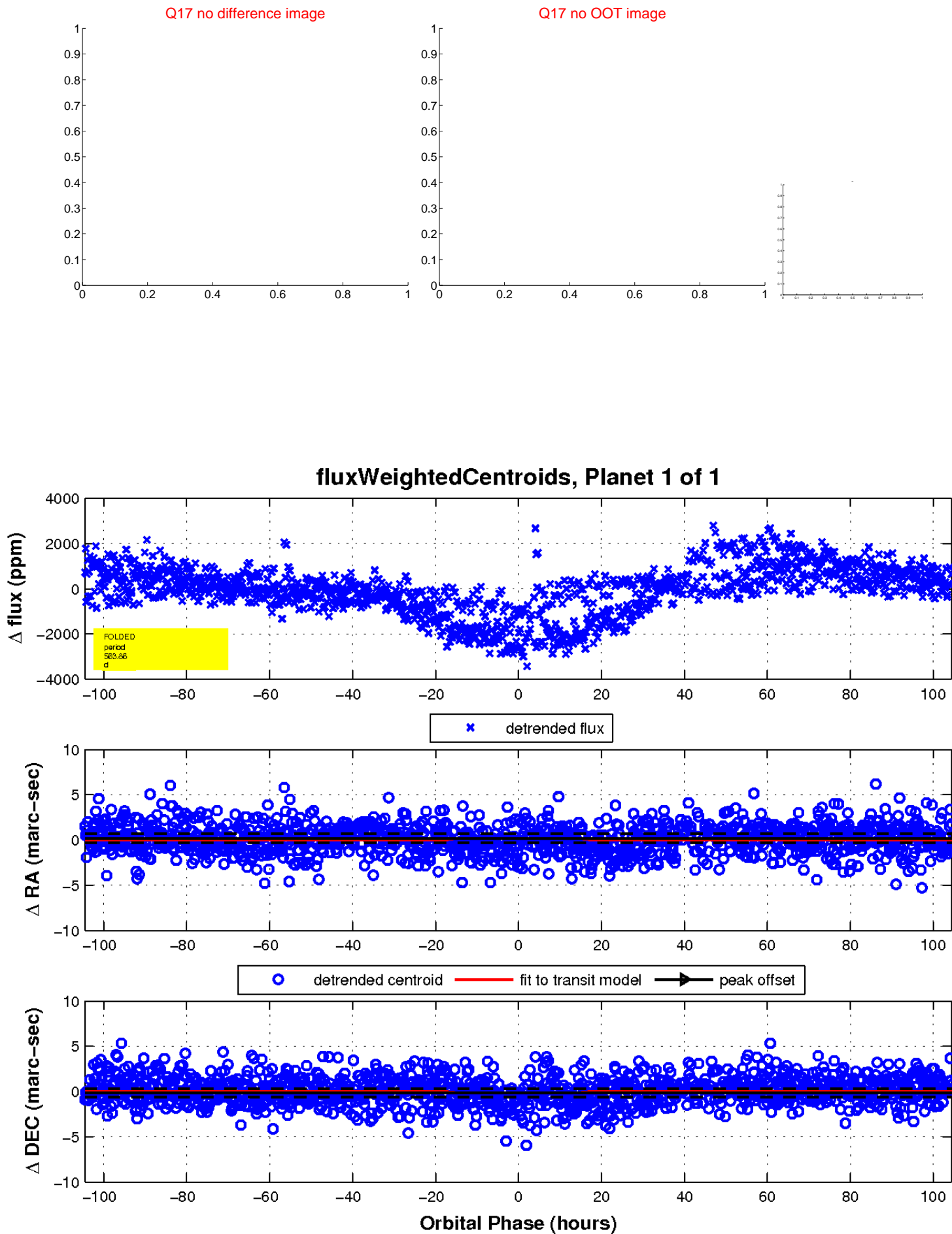
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

