

KIC 012068524

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})
012068524-01	OBS	No	367.494780	172.853174	1194.4	29.842	9.5	14.1	1.17	6481	5.65	1.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012068524-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

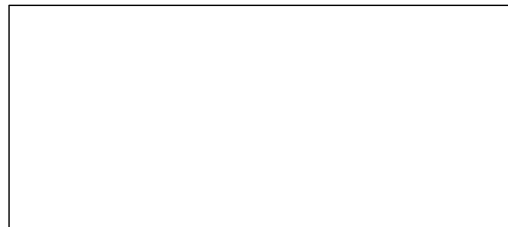
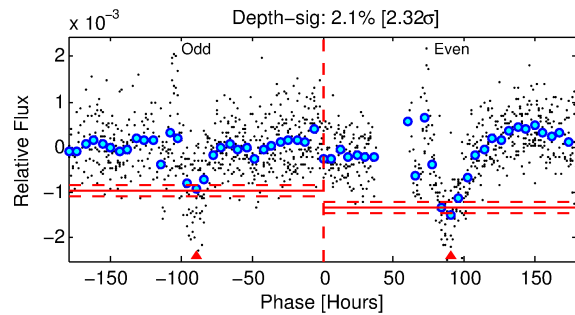
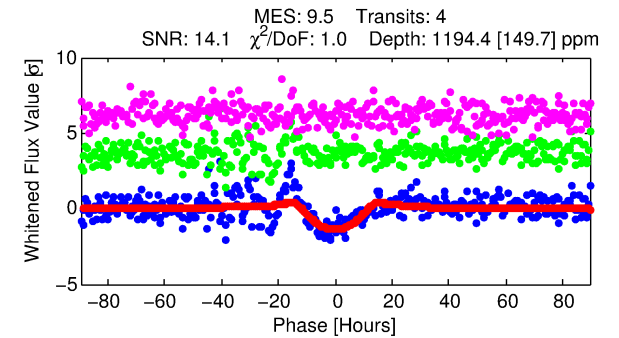
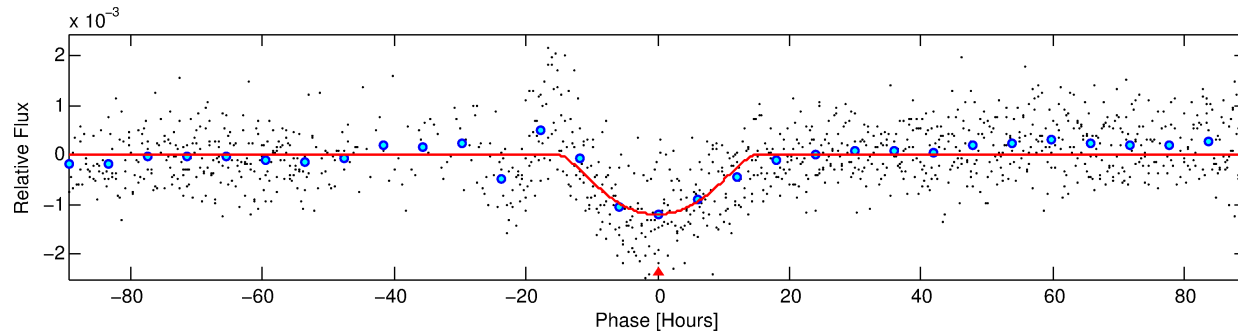
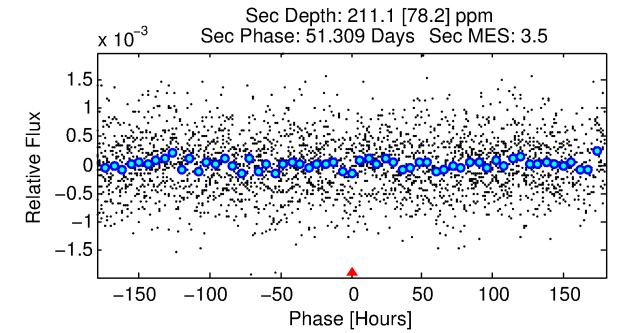
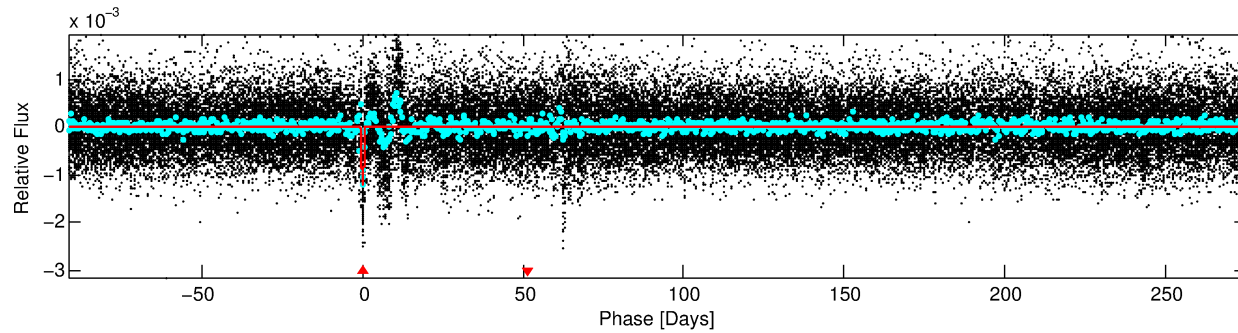
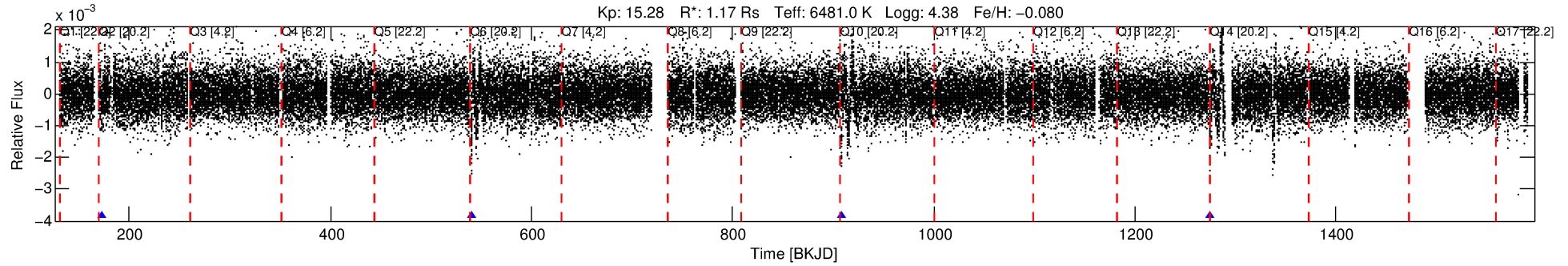
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012068524-01

No Significant Match Found

DV One-Page Summary

KIC: 12068524 Candidate: 1 of 1 Period: 367.495 d



DV Fit Results:

Period = 367.49478 [0.02050] d
Epoch = 172.8532 [0.0348] BKJD
Rp/R* = 0.0442 [0.0191]
a/R* = 35.67 [7.54]
b = 0.97 [0.04]
Seff = 1.91 [0.77]
Teq = 300 [30] K
Rp = 5.65 [3.08] Re
a = 1.0655 [0.2881] AU
Ag = 4130.05 [4187.98] [0.99σ]
Teffp = 3715 [882] K [3.87σ]

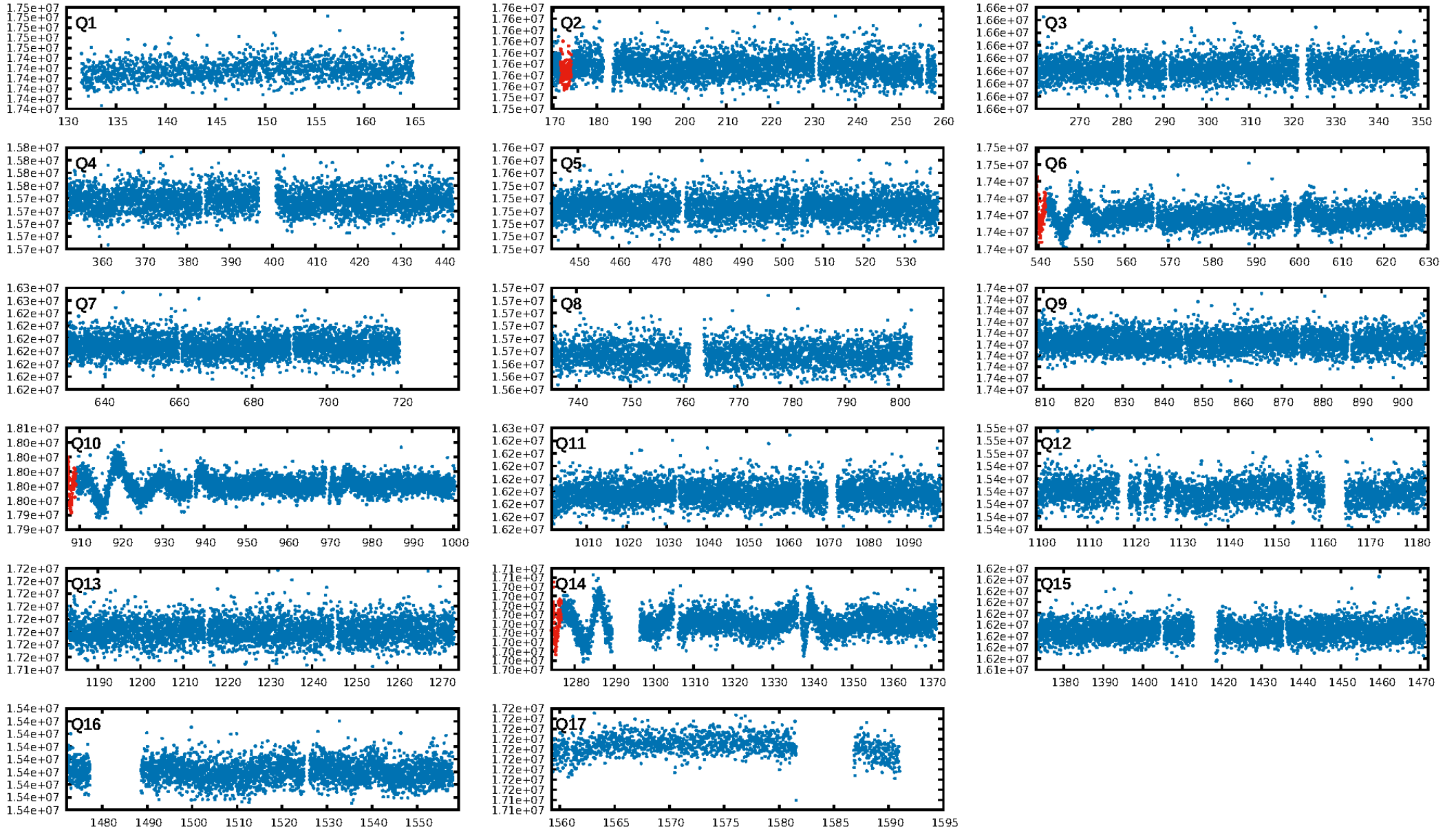
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.73e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -2.926
Centroid-sig: 0.7%
Centroid-so: 2.707 arcsec [2.22σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

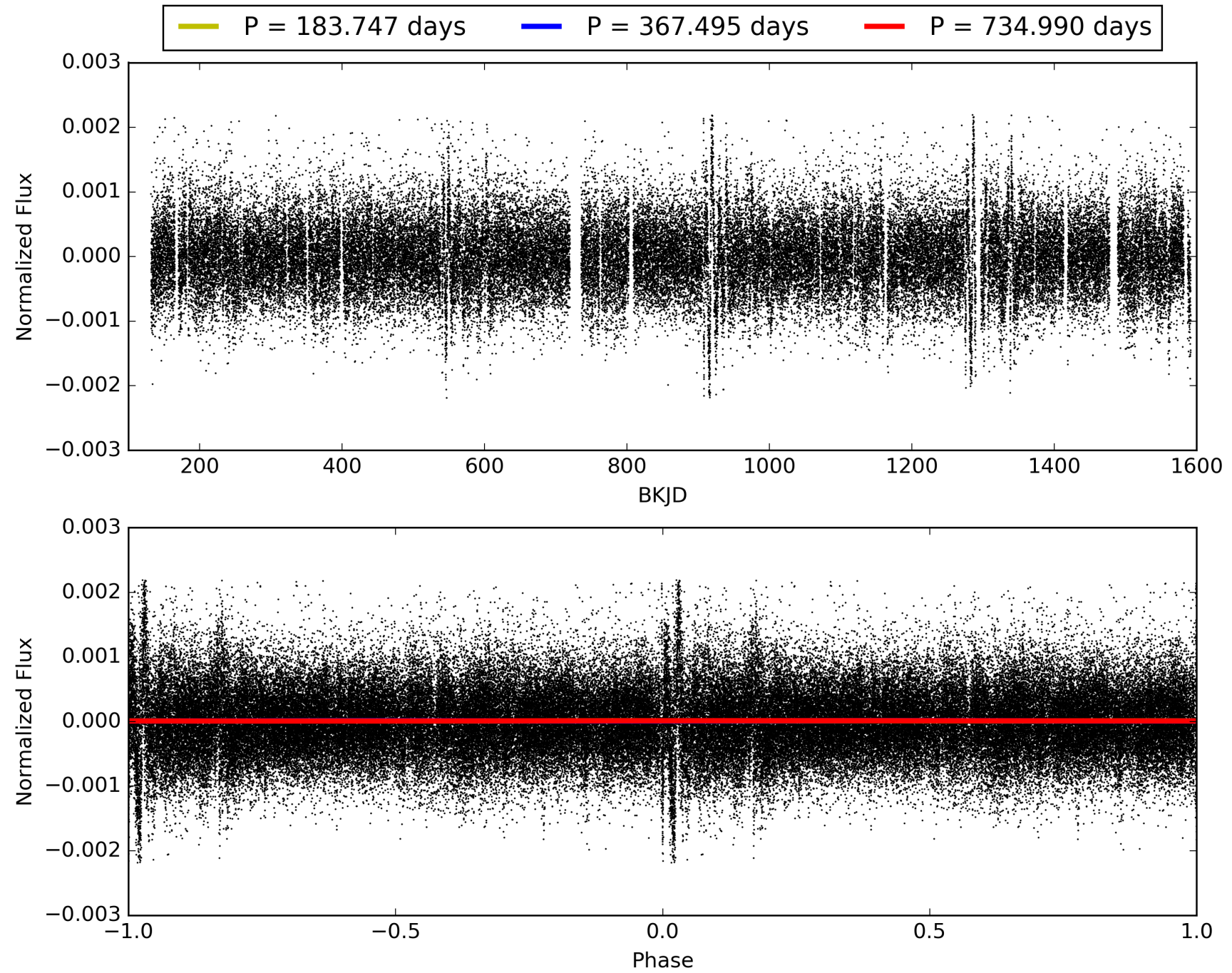
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:33:35 Z

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

TCE 012068524-01, PDC Light Curves

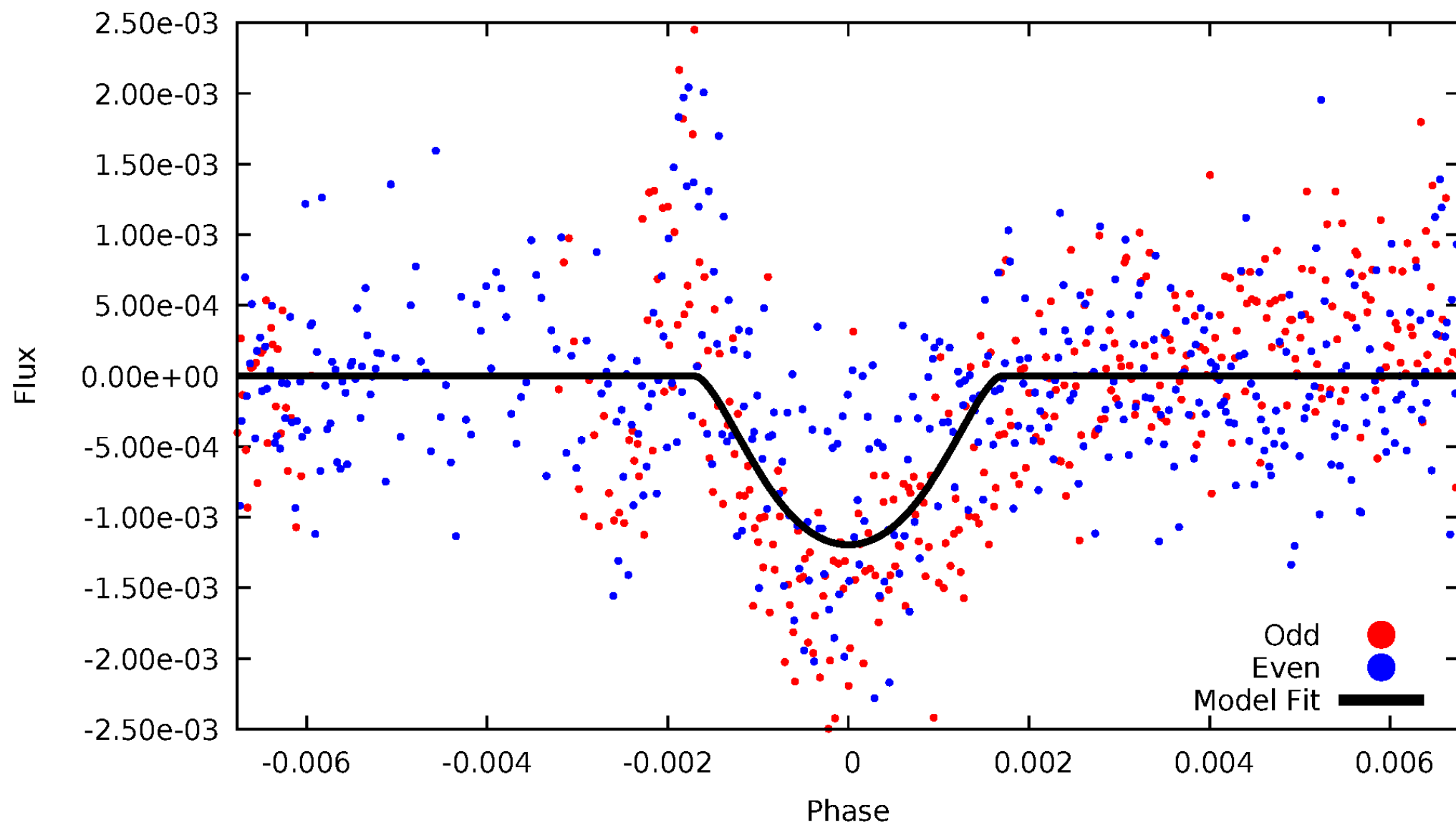


TCE 012068524-01



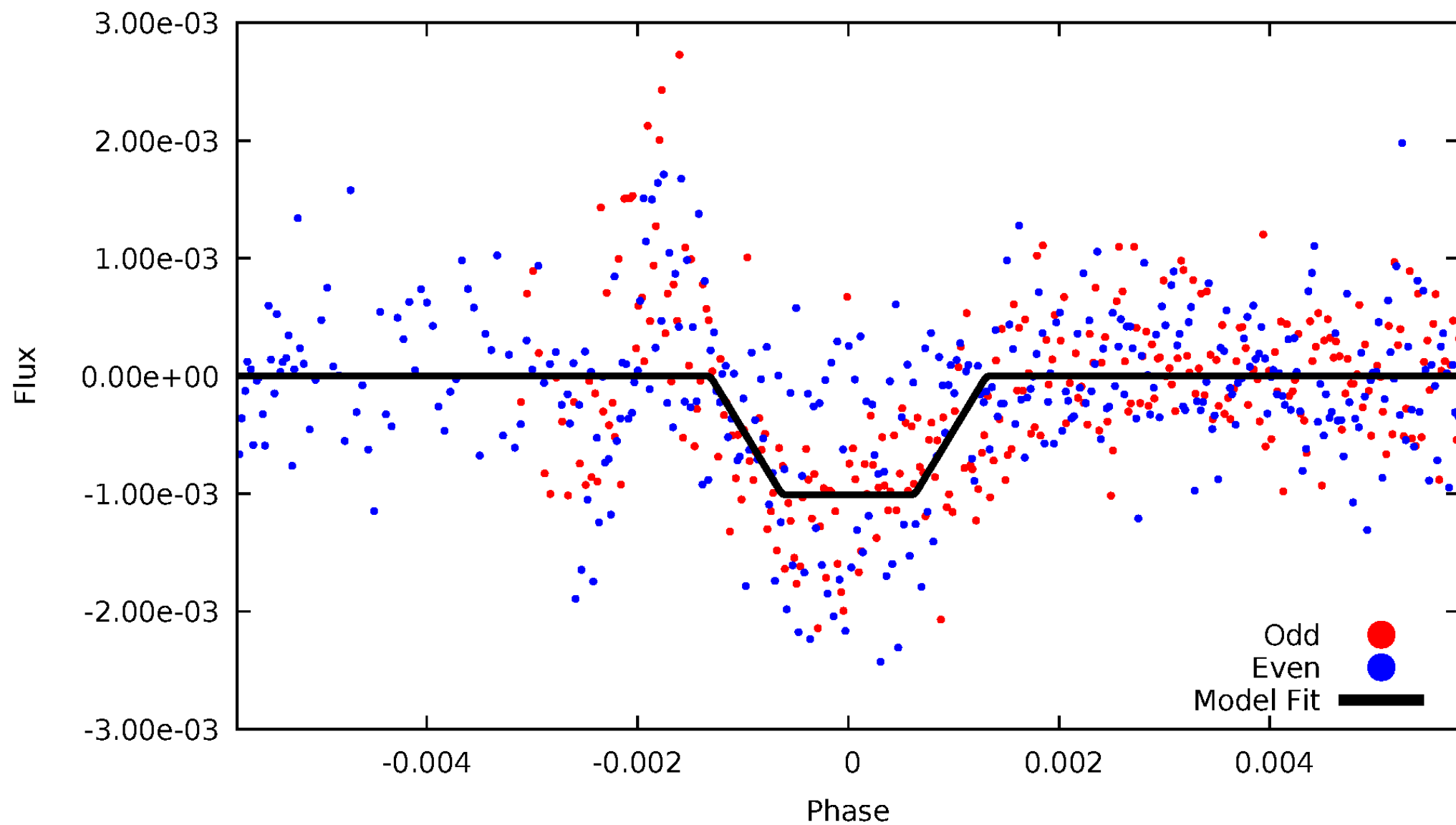
DV Odd/Even

TCE 012068524-01



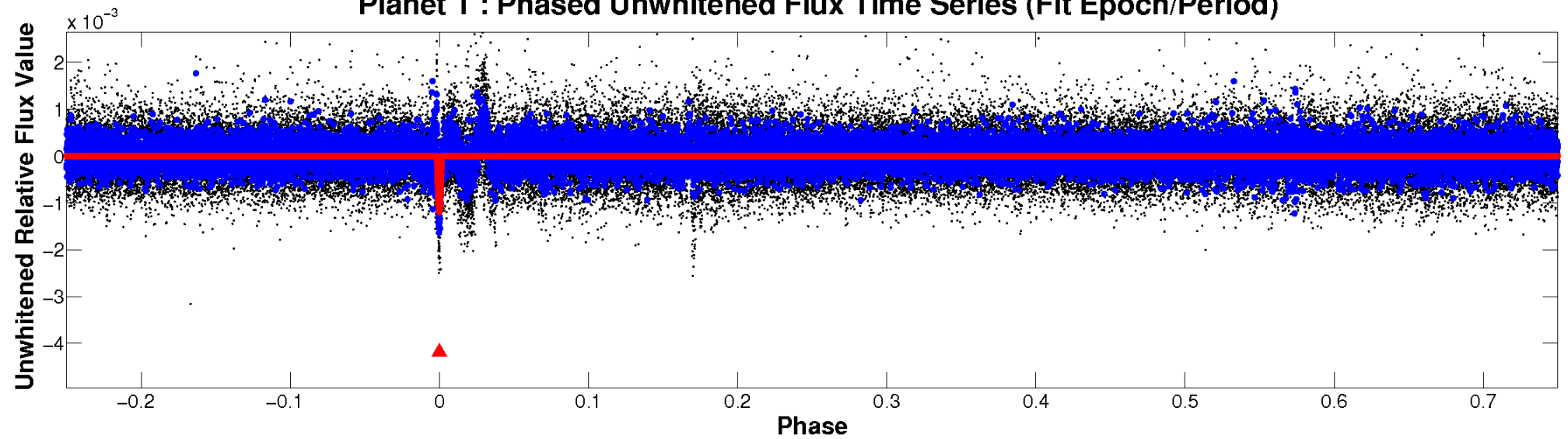
ALT Odd/Even

TCE 012068524-01

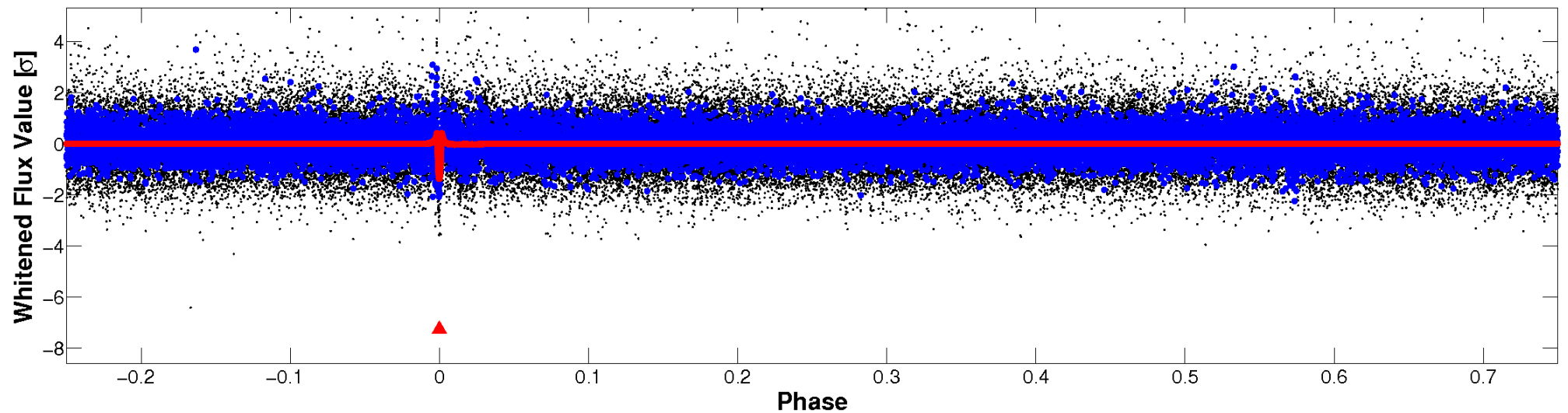


Non-Whitened Vs. Whitened Light Curve

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



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



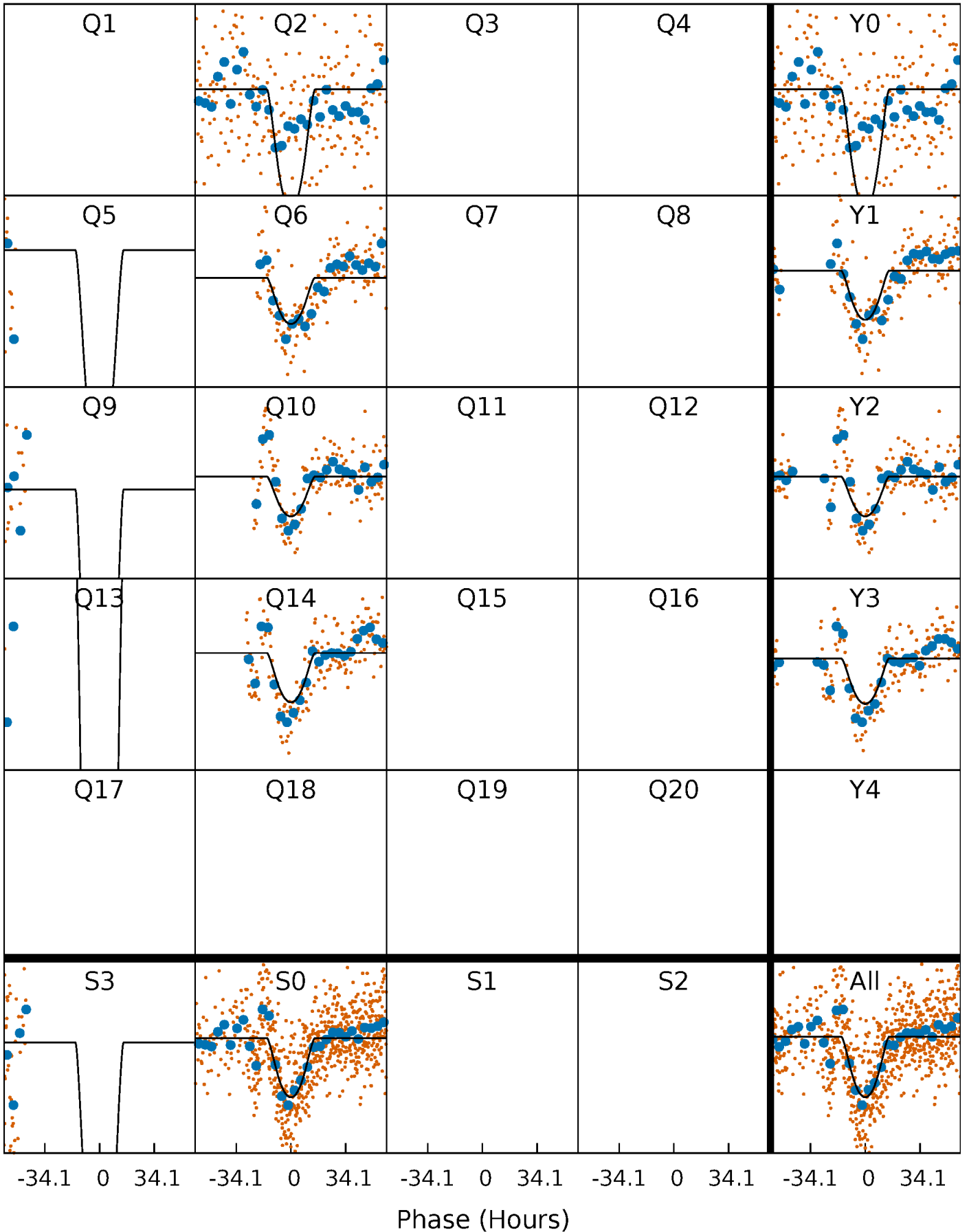
PDC Quarter-Phased Transit Curves

TCE 012068524-01 P=367.494780 Days $T_0=172.853174$ (BKJD)



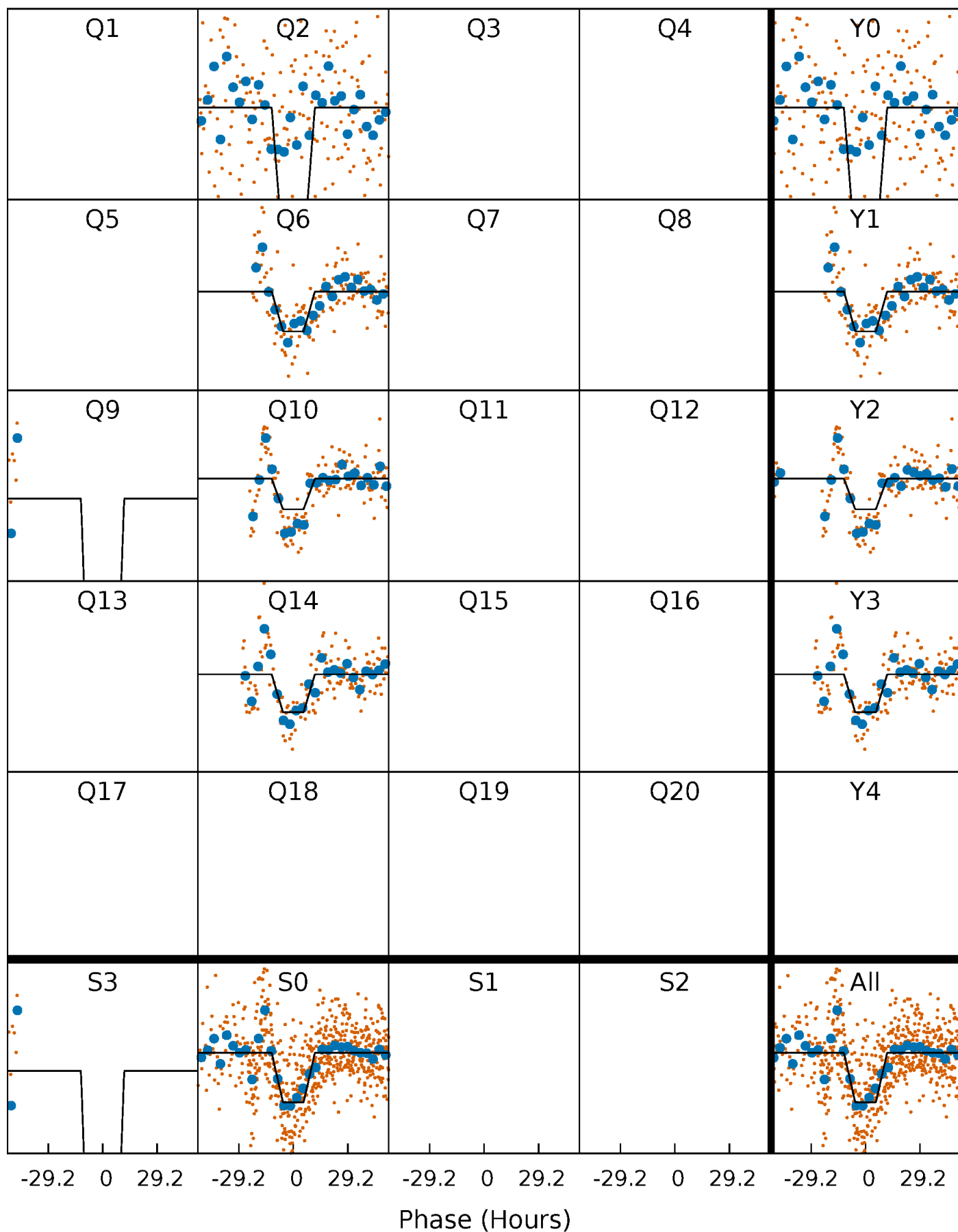
DV Quarter-Phased Transit Curves

TCE 012068524-01 P=367.494780 Days $T_0=172.853174$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

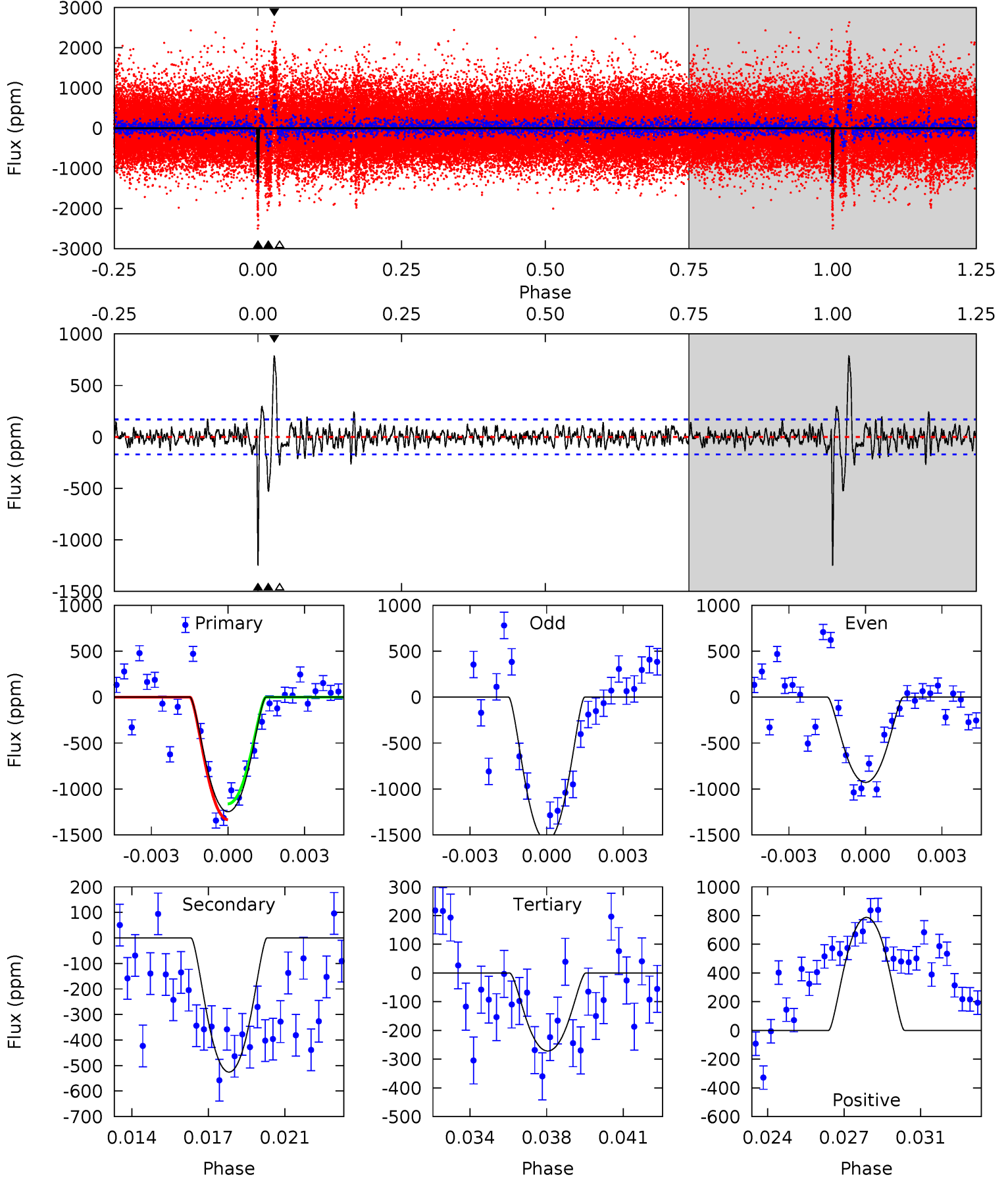
TCE 012068524-01 P=367.463521 Days $T_0=172.909544$ (BKJD)



DV Model-Shift Uniqueness Test

012068524-01, P = 367.494780 Days, E = 172.853174 Days

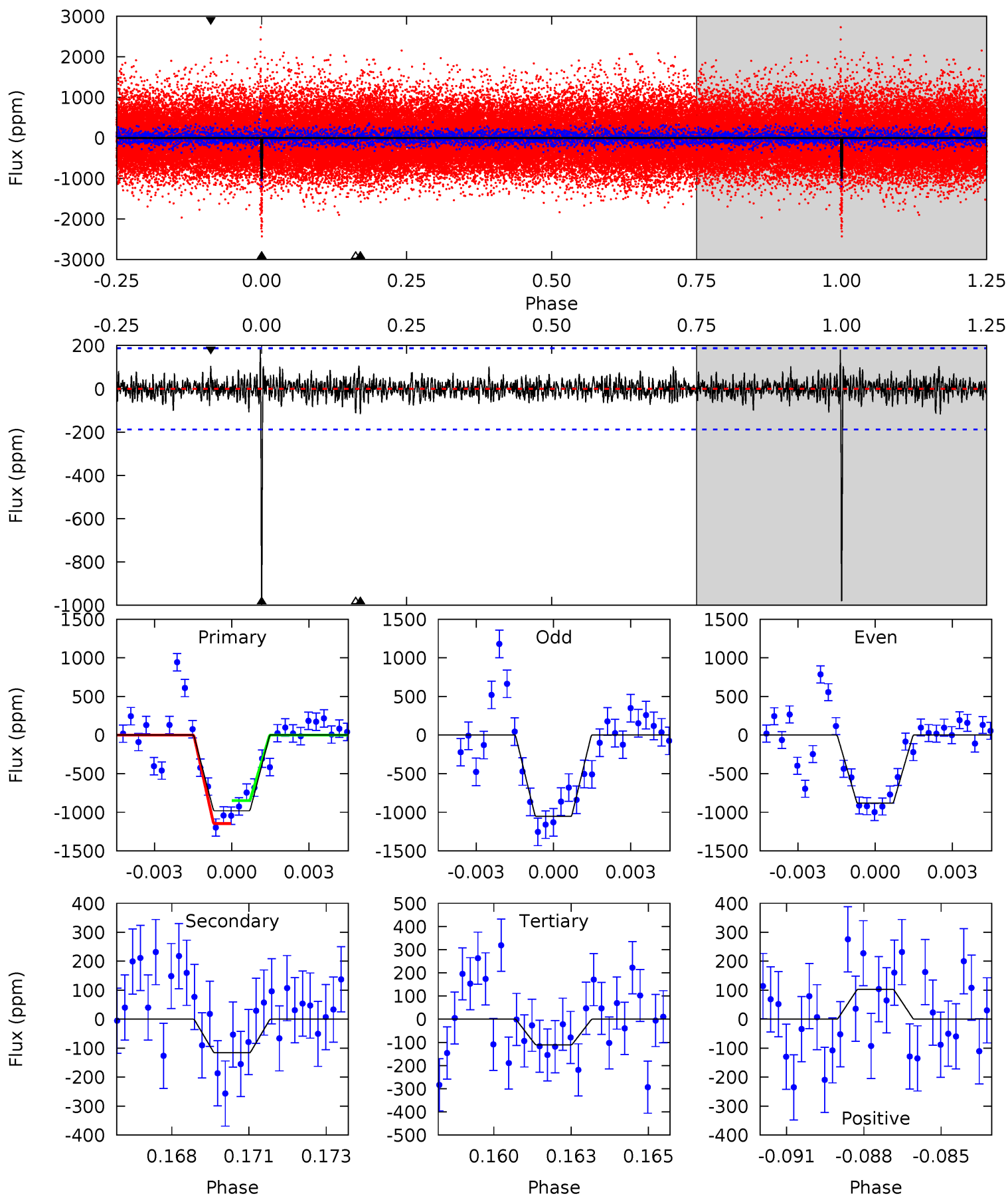
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.4	16.2	8.36	24.2	5.23	2.93	2.57	30.0	14.2	7.82	-8.05	9.81	0.88	0.39	2.65



Alt Model-Shift Uniqueness Test

012068524-01, P = 367.463521 Days, E = 172.909544 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.6	3.26	3.11	2.89	5.27	3.00	0.85	24.5	24.7	0.15	0.37	2.43	0.91	0.16	0



Stellar Parameters For KIC 012068524

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6481^{+157}_{-224}	$4.378^{+0.067}_{-0.202}$	$-0.080^{+0.250}_{-0.300}$	$1.171^{+0.389}_{-0.130}$	$1.194^{+0.169}_{-0.169}$	$1.046^{+0.304}_{-0.562}$
	+2%/-3%	+2%/-5%	+312%/-375%	+33%/-11%	+14%/-14%	+29%/-54%
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 012068524-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-526 ± 32	$5.82^{+2.95}_{-2.48}$	424^{+29}_{-21}	4775^{+1326}_{-637}	9543^{+18867}_{-5300}
Alt.	-116 ± 36	$4.34^{+2.78}_{-2.18}$	426^{+32}_{-21}	3974^{+1210}_{-567}	3607^{+11379}_{-2268}

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

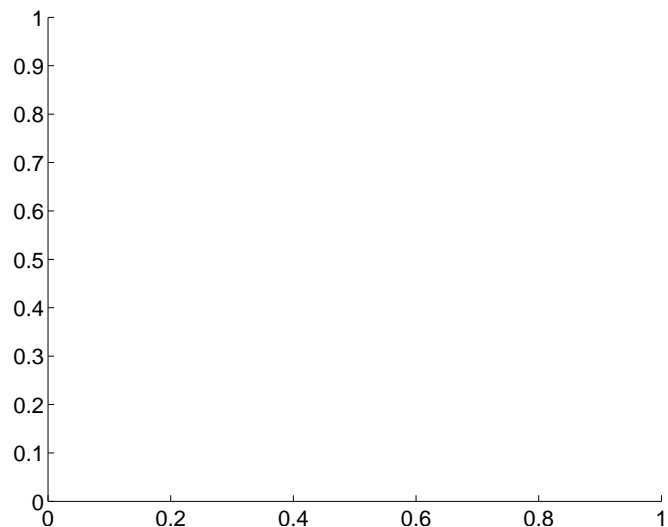
Supplemental centroid analysis for 012068524-01. Kepler magnitude: 15.29. Transit SNR 14.06

There are 0 quarters with good PRF difference image offsets

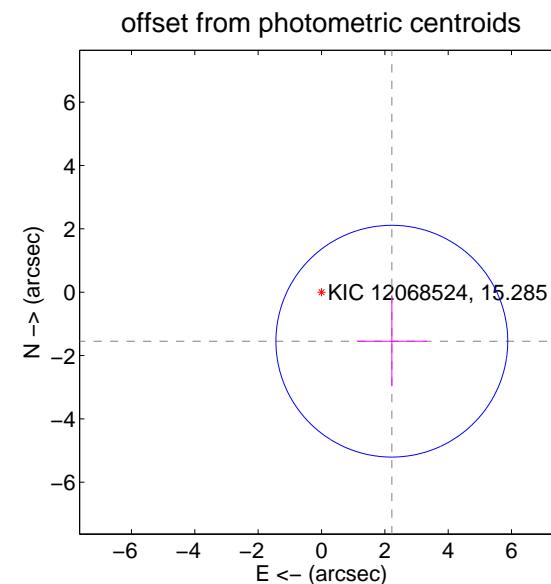
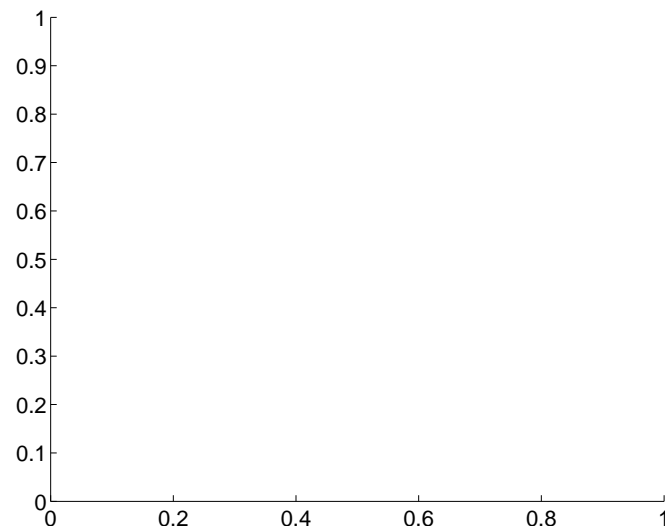
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.71 ± 1.22	2.22	-2.22 ± 1.11	-1.55 ± 1.43

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.

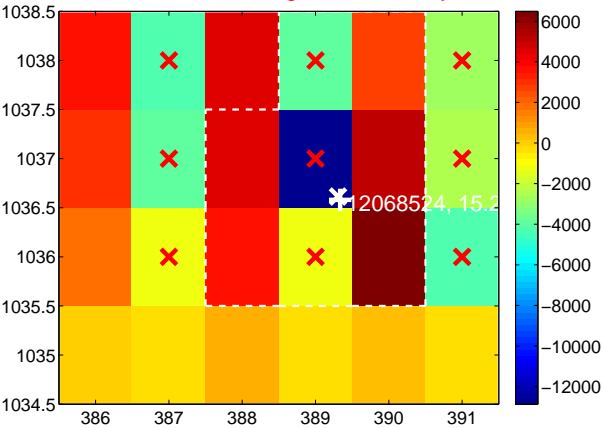
Q1 no difference image



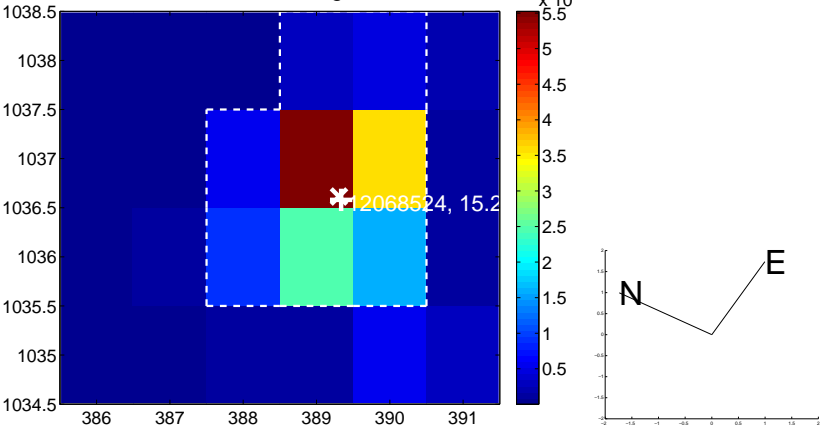
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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



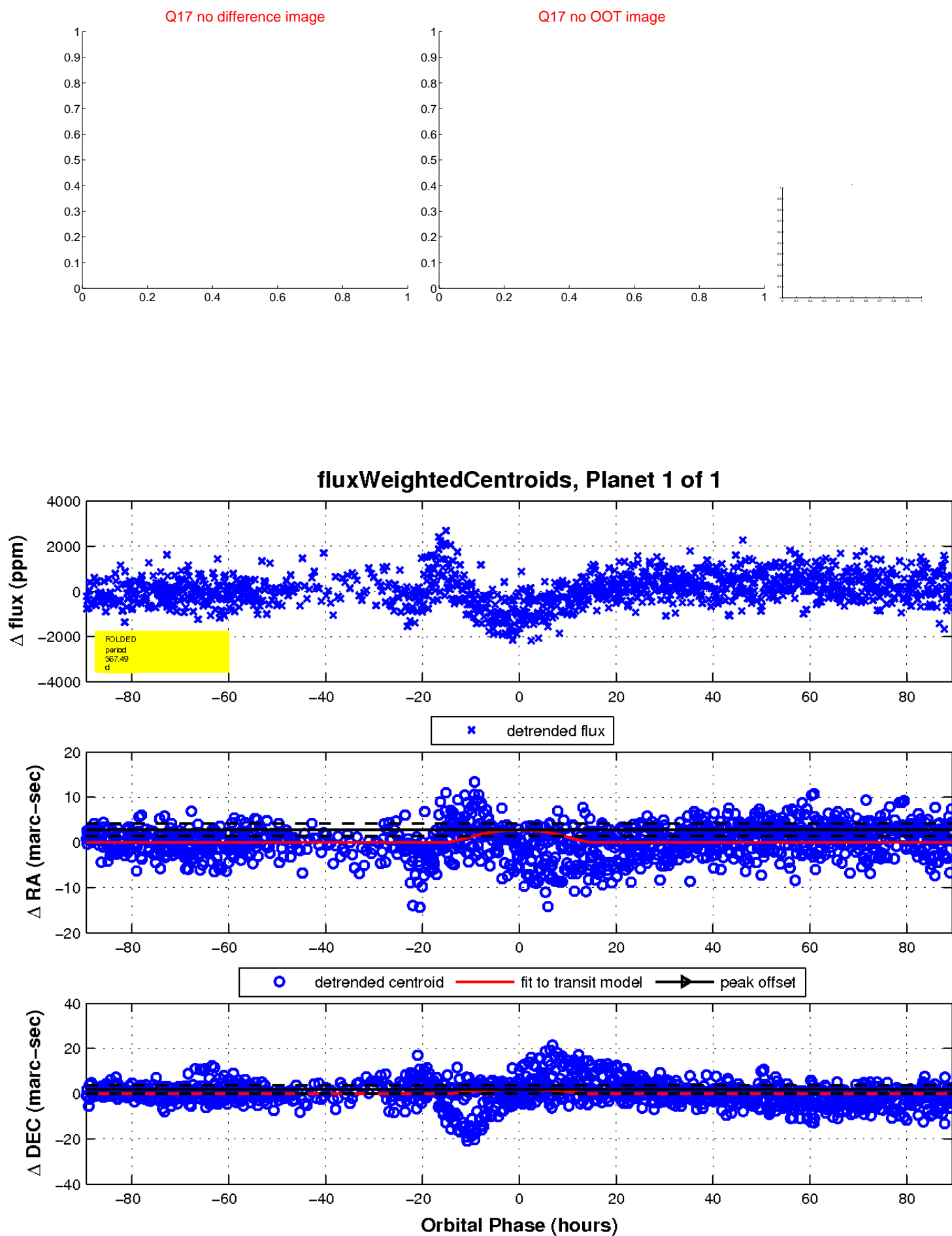
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

