

KIC 009084728

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})
009084728-01	OBS	No	604.596589	283.234736	80.5	13.983	7.5	6.1	1.25	5887	1.32	0.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009084728-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

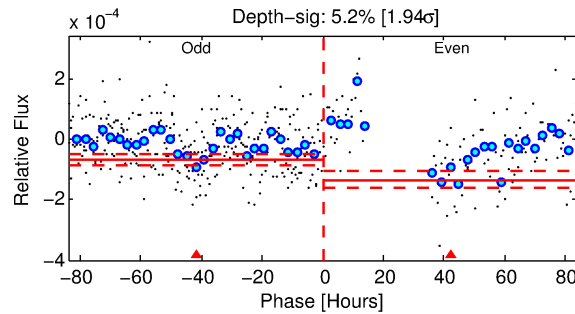
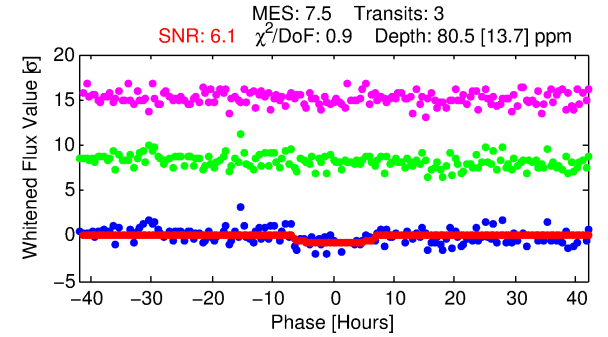
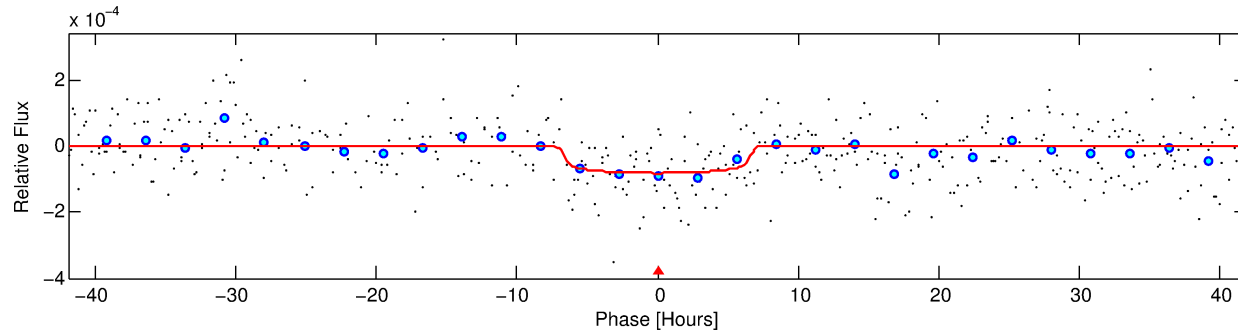
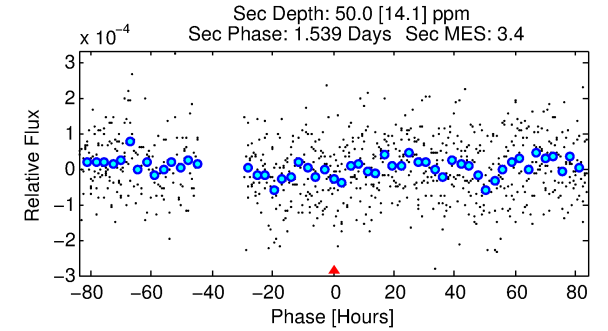
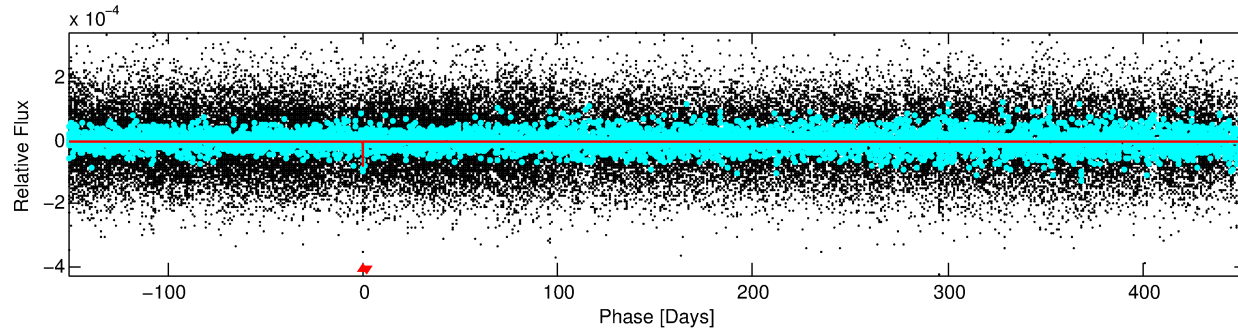
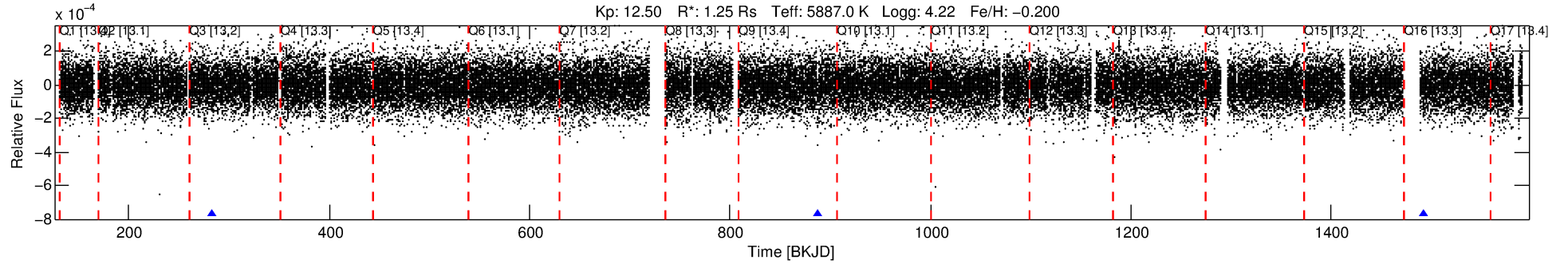
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009084728-01

No Significant Match Found

DV One-Page Summary

KIC: 9084728 Candidate: 1 of 1 Period: 604.597 d



DV Fit Results:

Period = 604.59659 [0.02198] d
Epoch = 283.2347 [0.0300] BKJD
Rp/R* = 0.0097 [0.0030]
a/R* = 151.71 [224.64]
b = 0.90 [0.32]
Seff = 0.89 [0.33]
Teq = 248 [23] K
Rp = 1.32 [0.49] Re
a = 1.3696 [0.2973] AU
Ag = 29563.41 [22434.05] [1.32σ]
Teffp = 5024 [854] K [5.59σ]

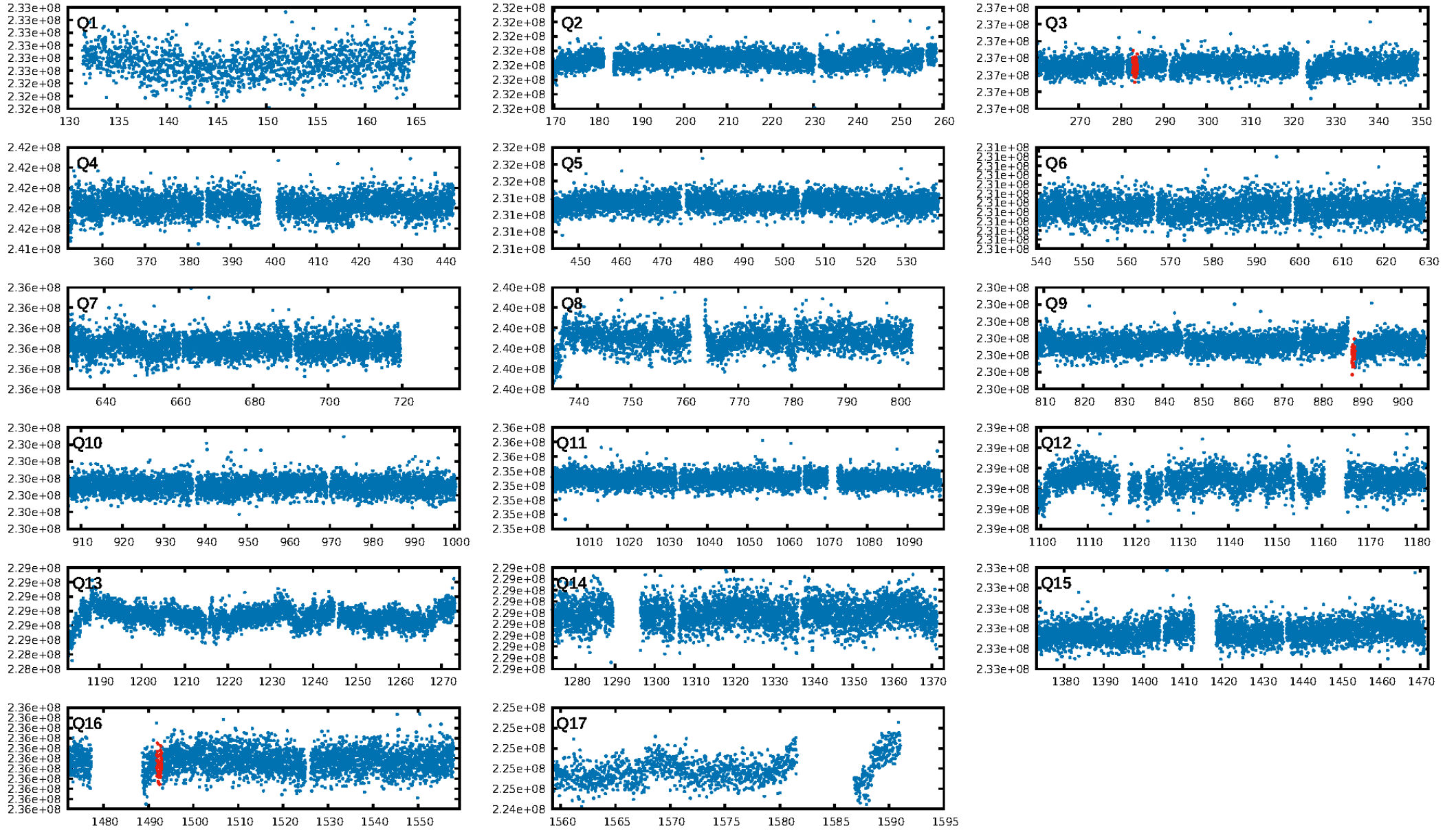
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.3%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 4.25e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.539
Centroid-sig: 4.8%
Centroid-so: 3.698 arcsec [1.49σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

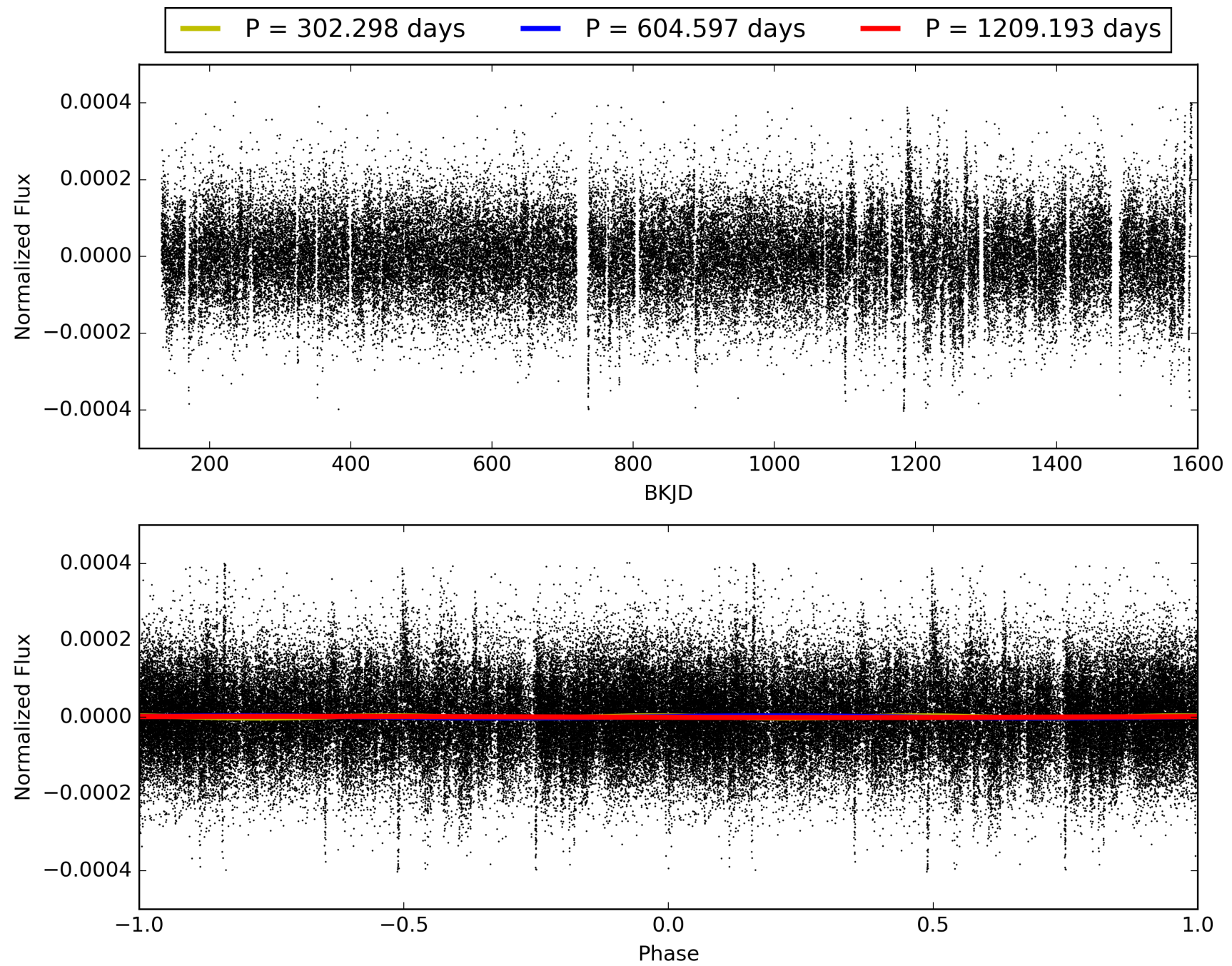
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:59:14 Z

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

TCE 009084728-01, PDC Light Curves

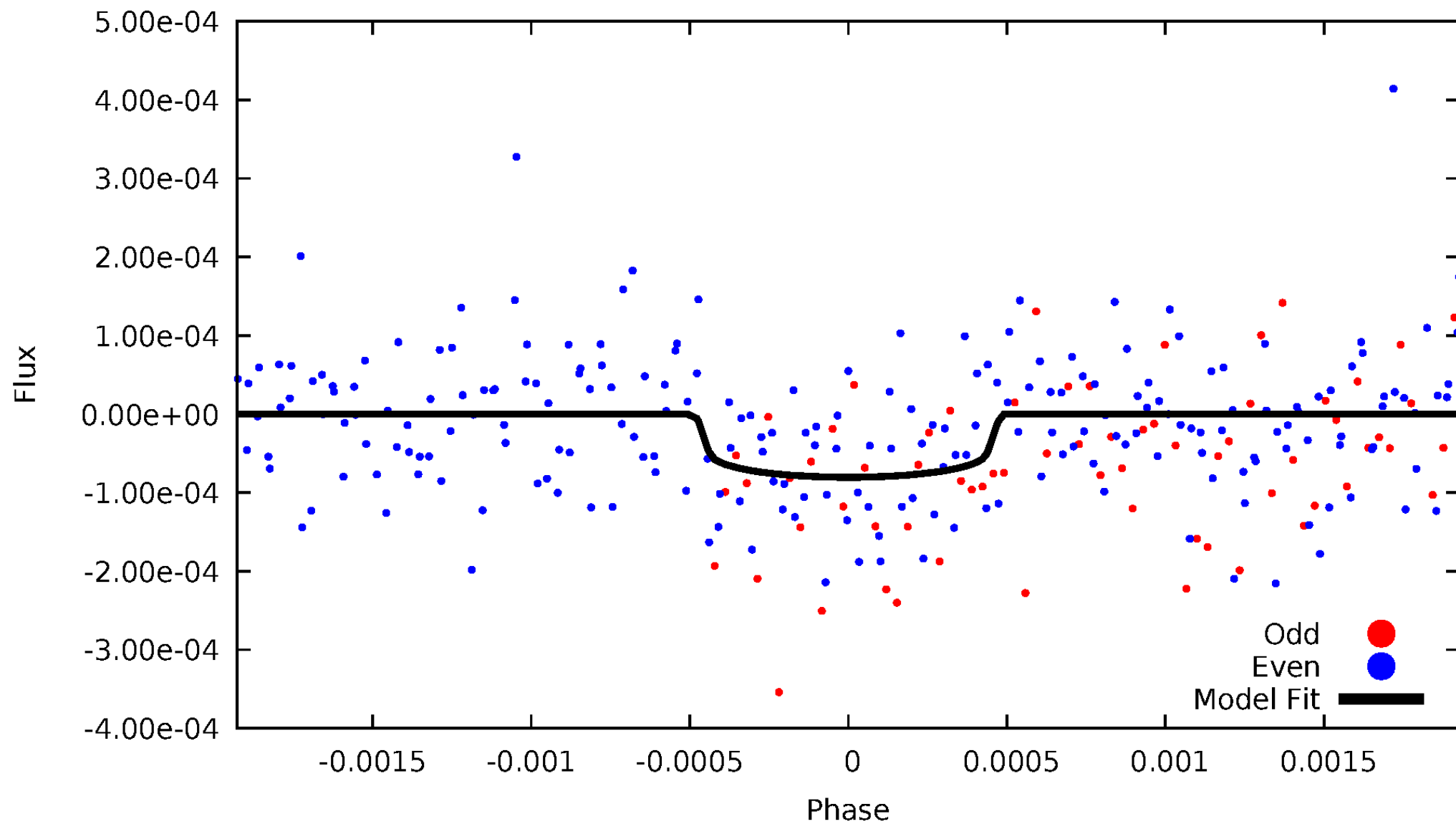


TCE 009084728-01



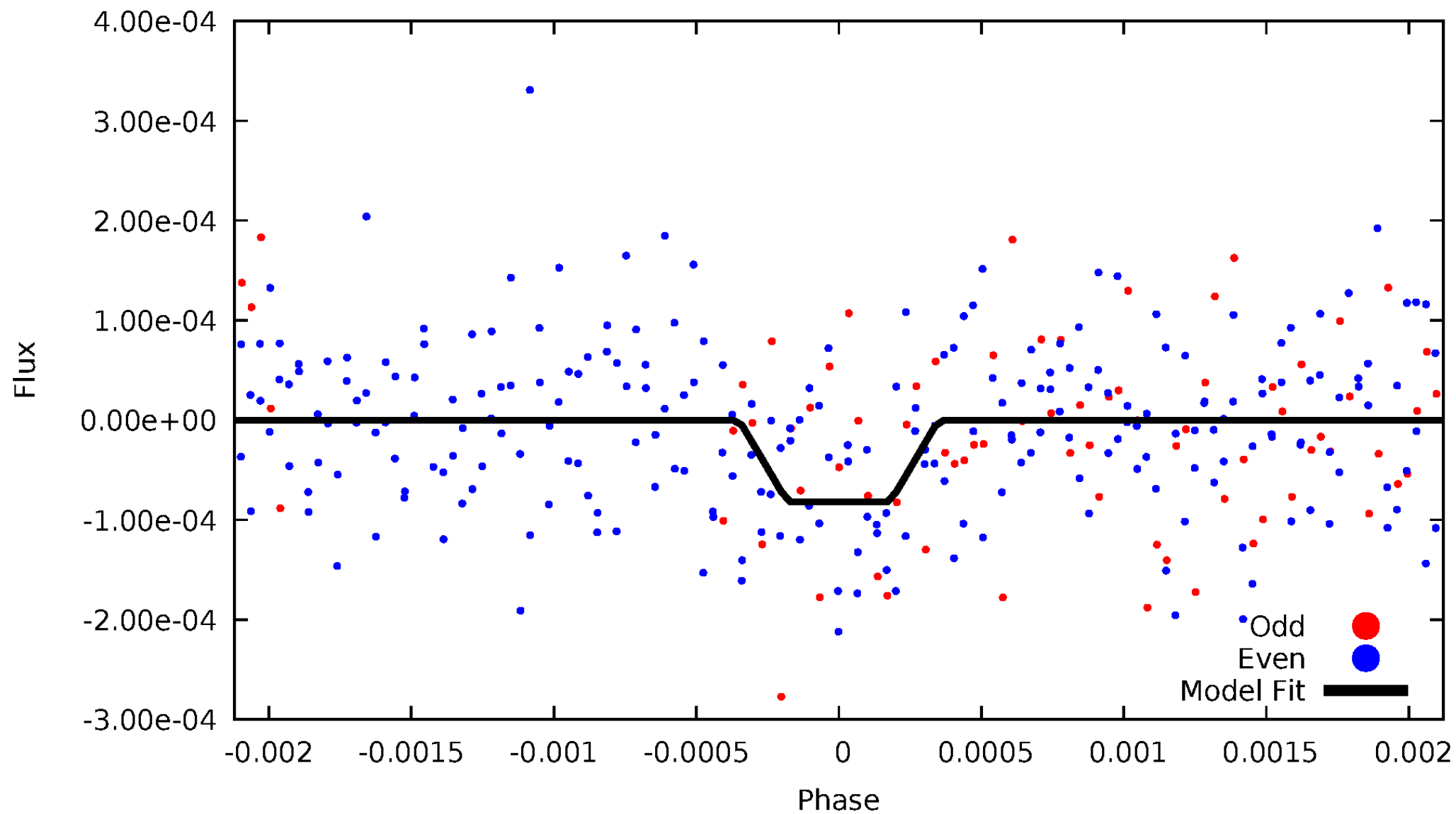
DV Odd/Even

TCE 009084728-01



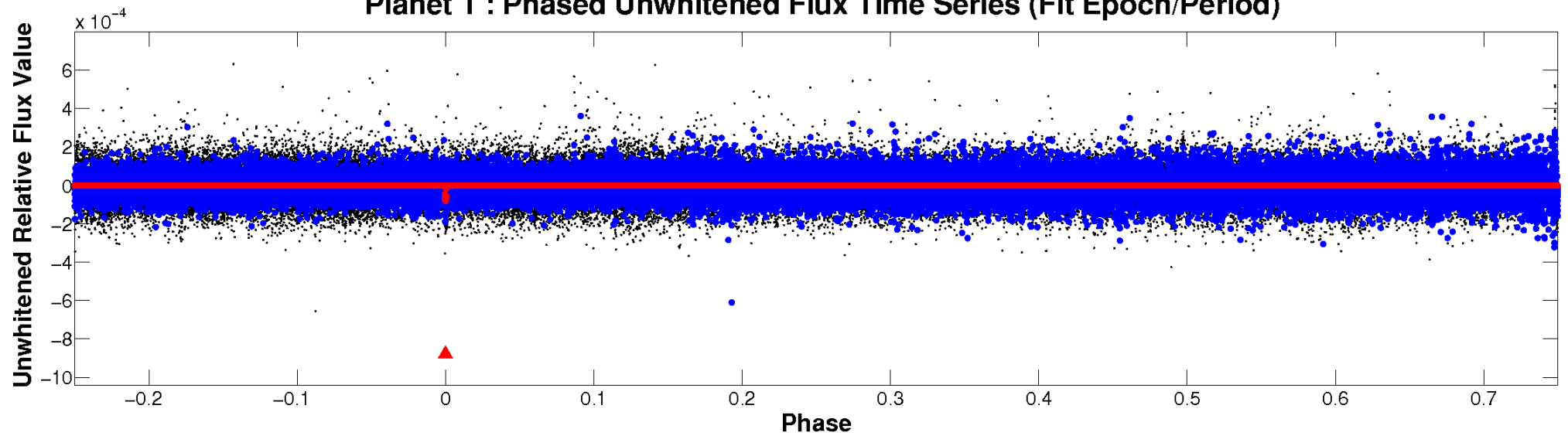
ALT Odd/Even

TCE 009084728-01

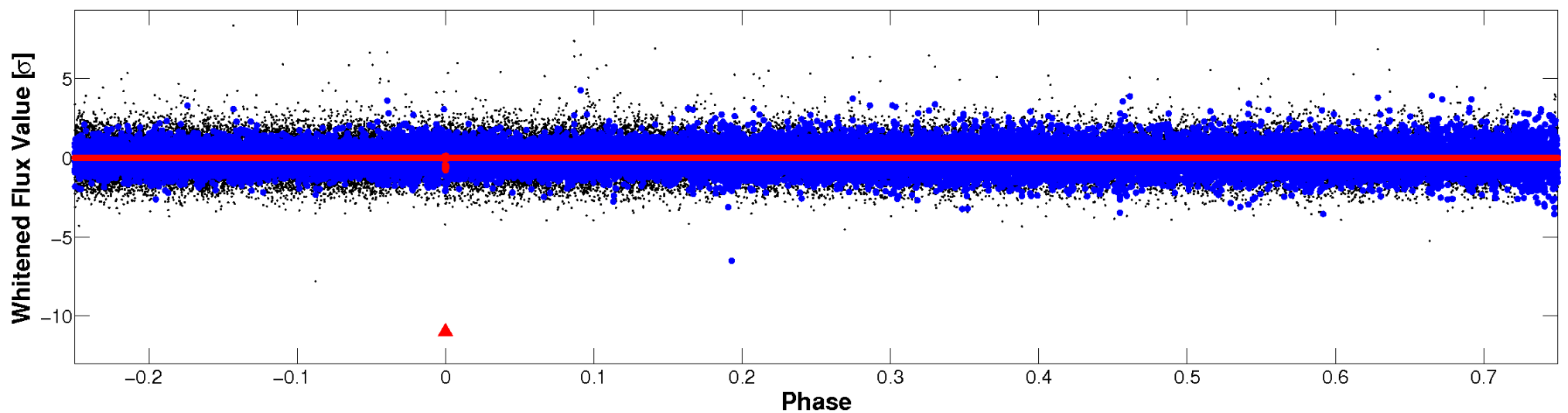


Non-Whitened Vs. Whitened Light Curve

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

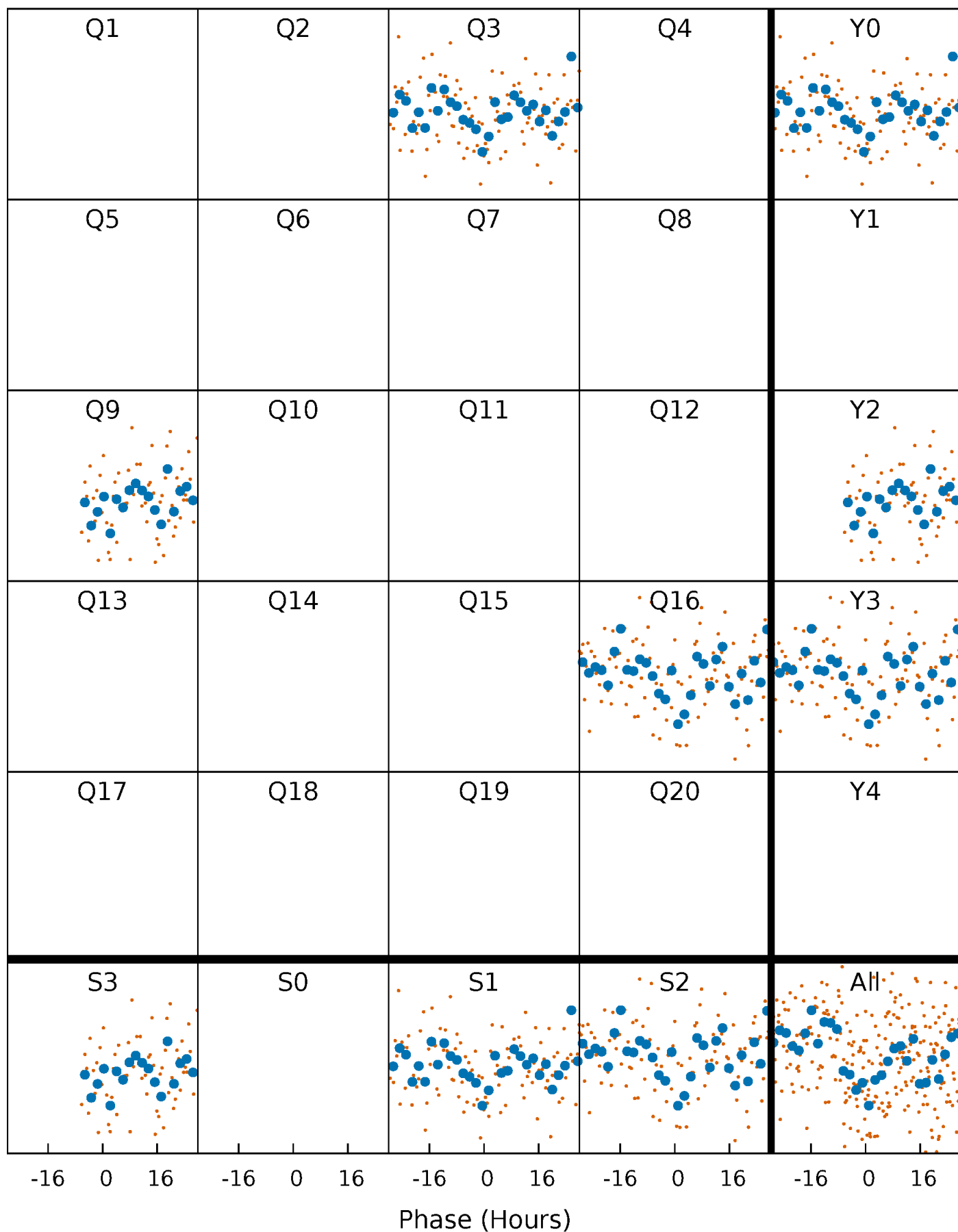


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009084728-01 P=604.596589 Days $T_0=283.234736$ (BKJD)



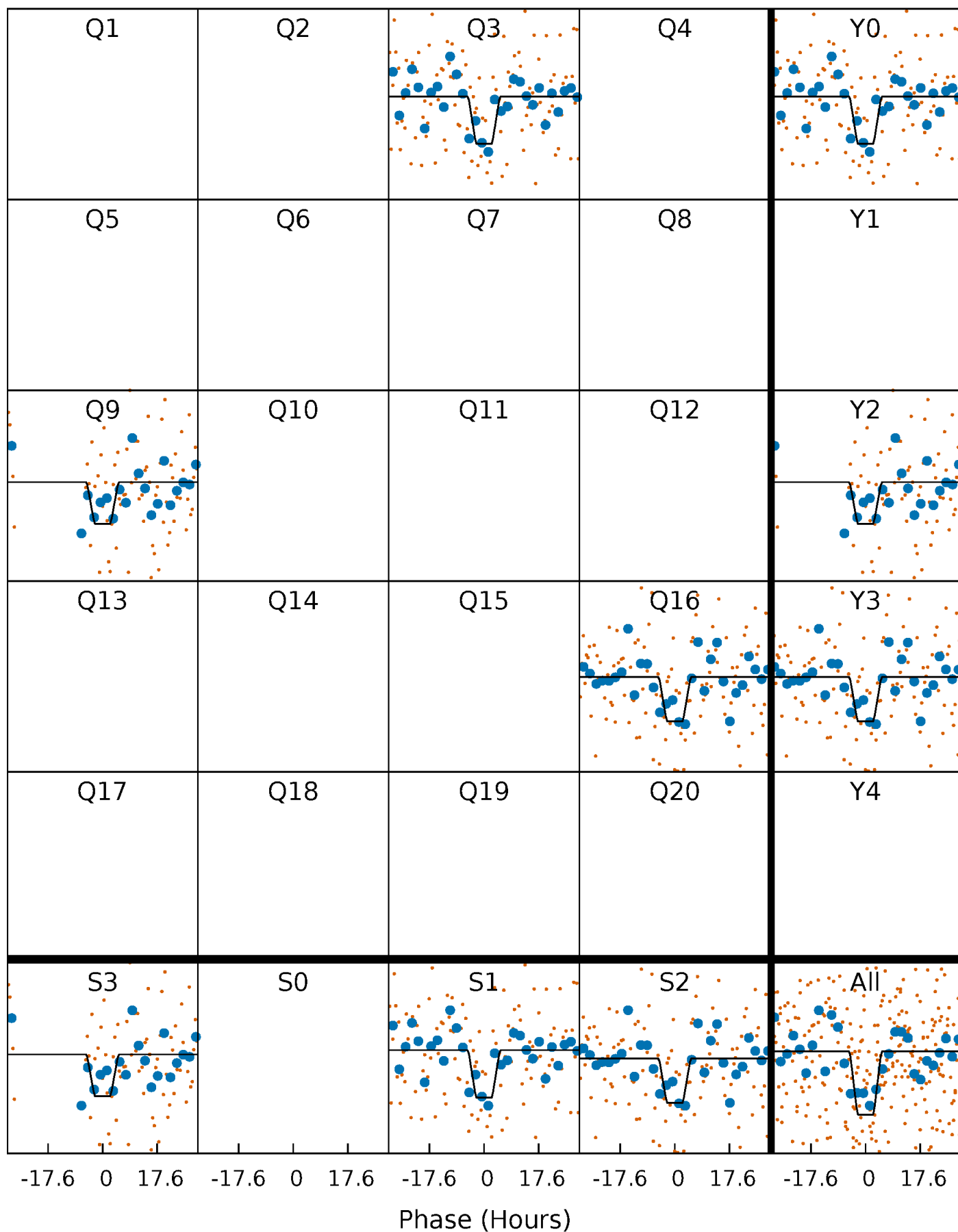
DV Quarter-Phased Transit Curves

TCE 009084728-01 $P=604.596589$ Days $T_0=283.234736$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

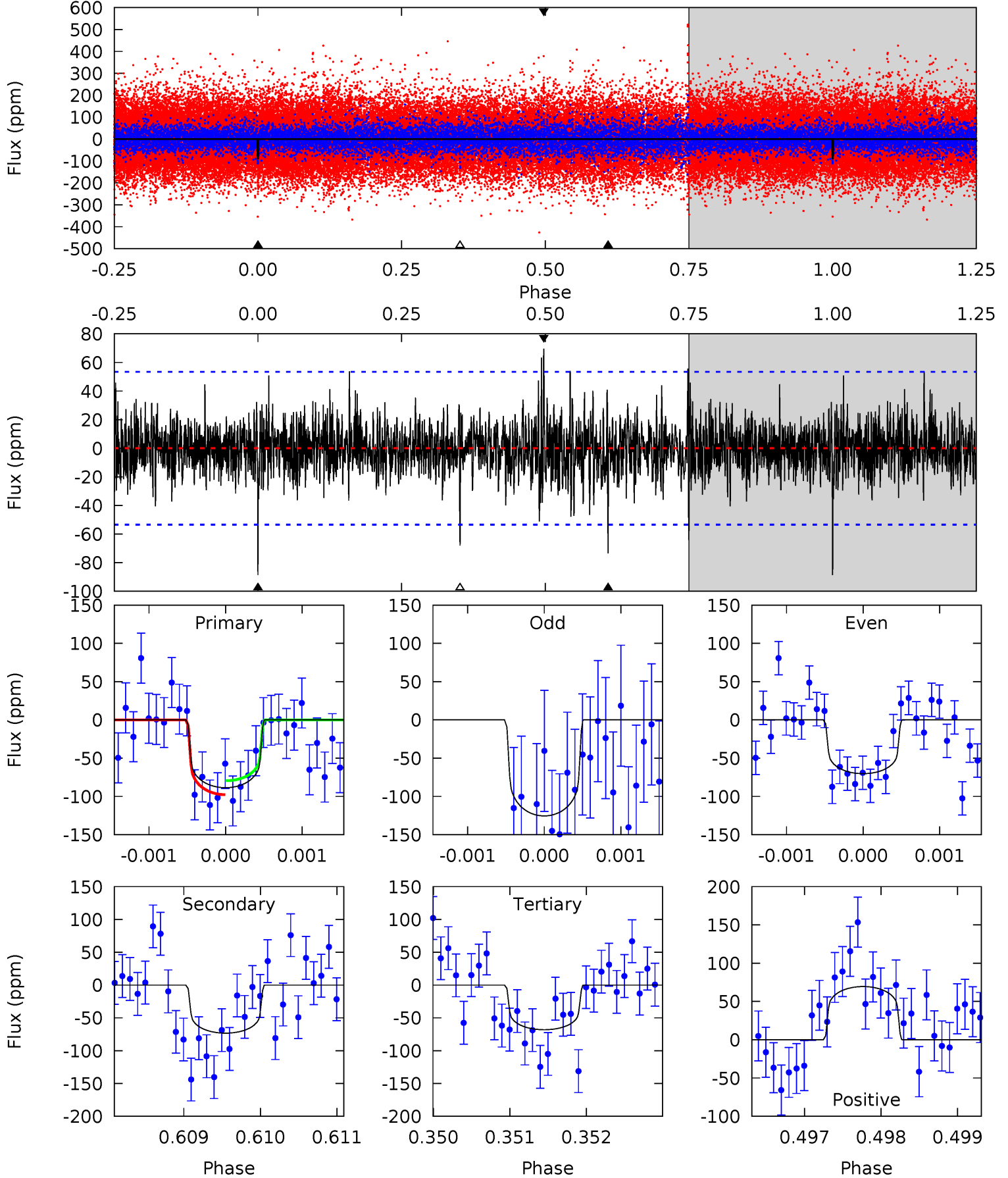
TCE 009084728-01 P=604.629040 Days $T_0=283.192053$ (BKJD)



DV Model-Shift Uniqueness Test

009084728-01, P = 604.596589 Days, E = 283.234736 Days

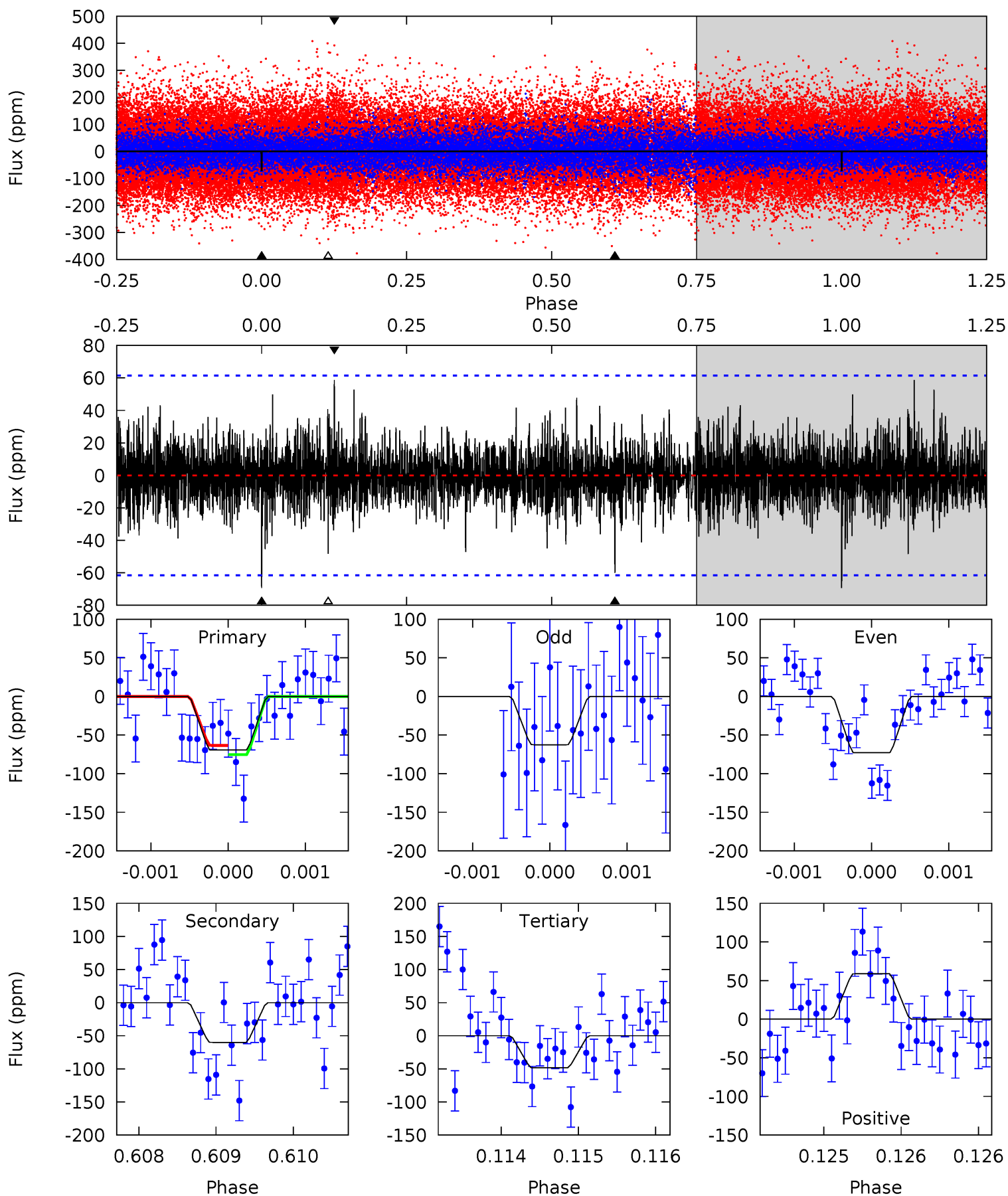
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	7.48	6.94	7.09	5.46	3.30	1.42	2.09	1.95	0.53	0.39	2.66	1.11	0.44	0.93



Alt Model-Shift Uniqueness Test

009084728-01, P = 604.629040 Days, E = 283.192053 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.21	5.38	4.33	5.27	5.51	3.39	1.14	1.88	0.95	1.05	0.11	0.43	0.99	0.46	0.54



Stellar Parameters For KIC 009084728

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5887^{+140}_{-158}	$4.218^{+0.210}_{-0.140}$	$-0.200^{+0.300}_{-0.250}$	$1.247^{+0.272}_{-0.272}$	$0.938^{+0.133}_{-0.100}$	$0.680^{+0.751}_{-0.269}$
	+2%/-3%	+5%/-3%	+150%/-125%	+22%/-22%	+14%/-11%	+110%/-39%
Source	PHO1	FLK73	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 009084728-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-73 ± 10	$1.29^{+0.48}_{-0.41}$	343^{+22}_{-22}	5553^{+1157}_{-678}	46735^{+51742}_{-21773}
Alt.	-60 ± 11	$1.23^{+0.44}_{-0.42}$	343^{+20}_{-22}	5427^{+1176}_{-636}	41344^{+50367}_{-19478}

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

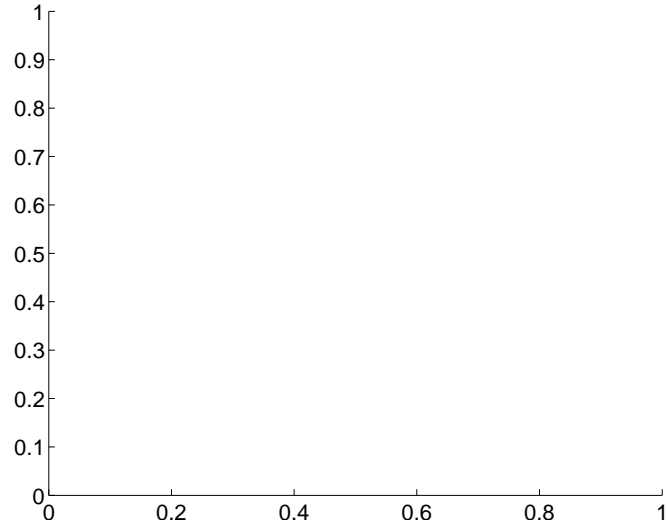
Supplemental centroid analysis for 009084728-01. Kepler magnitude: 12.50. Transit SNR 6.11

There are 0 quarters with good PRF difference image offsets

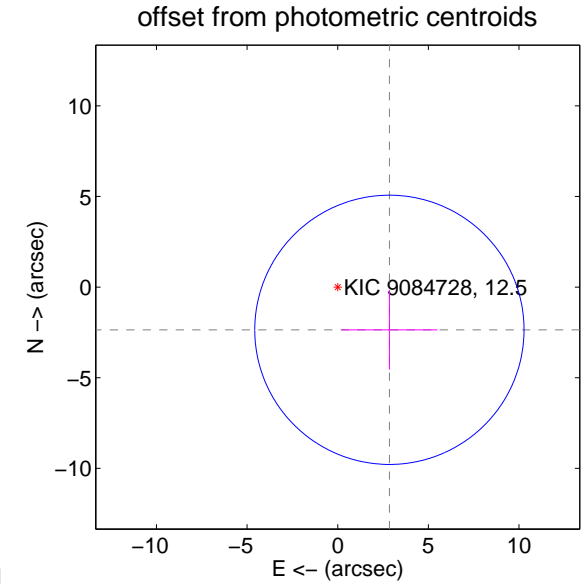
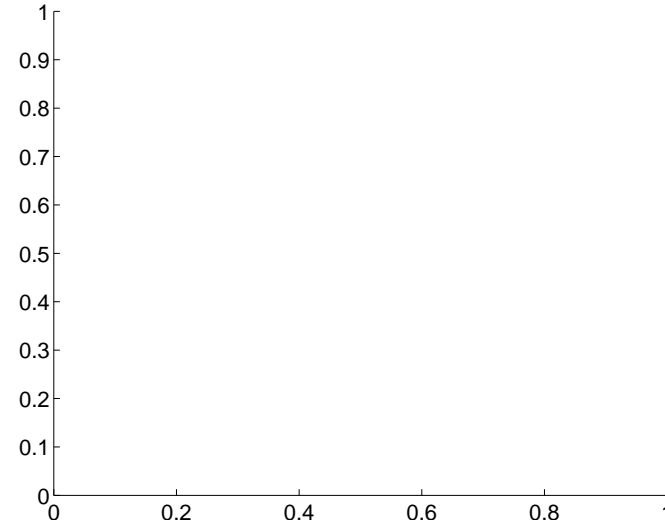
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	3.70 ± 2.48	1.49	-2.85 ± 2.65	-2.36 ± 2.20

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



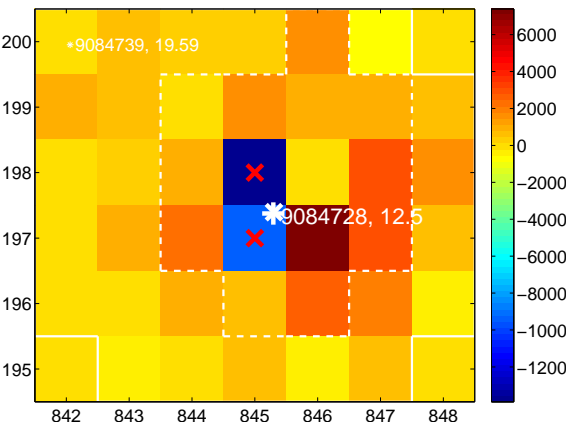
Q2 no difference image



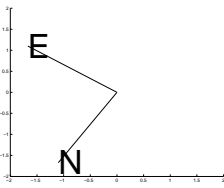
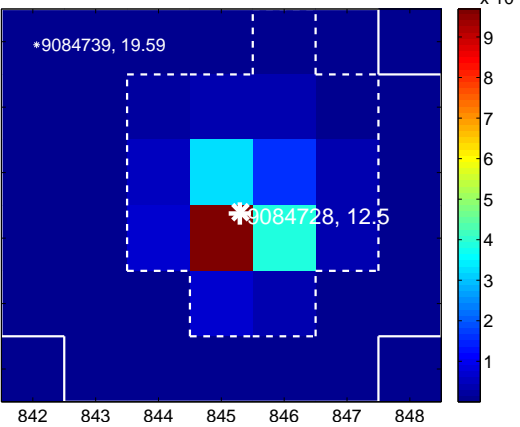
Q2 no OOT image



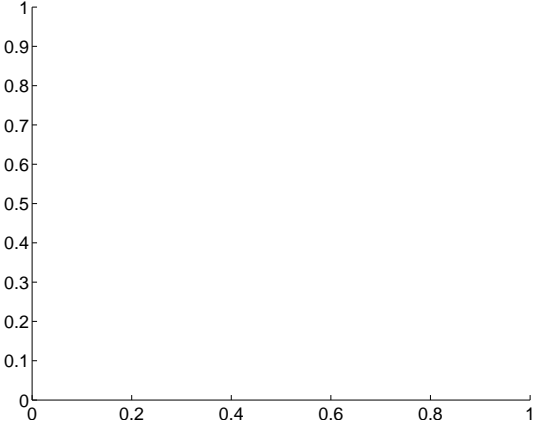
Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image



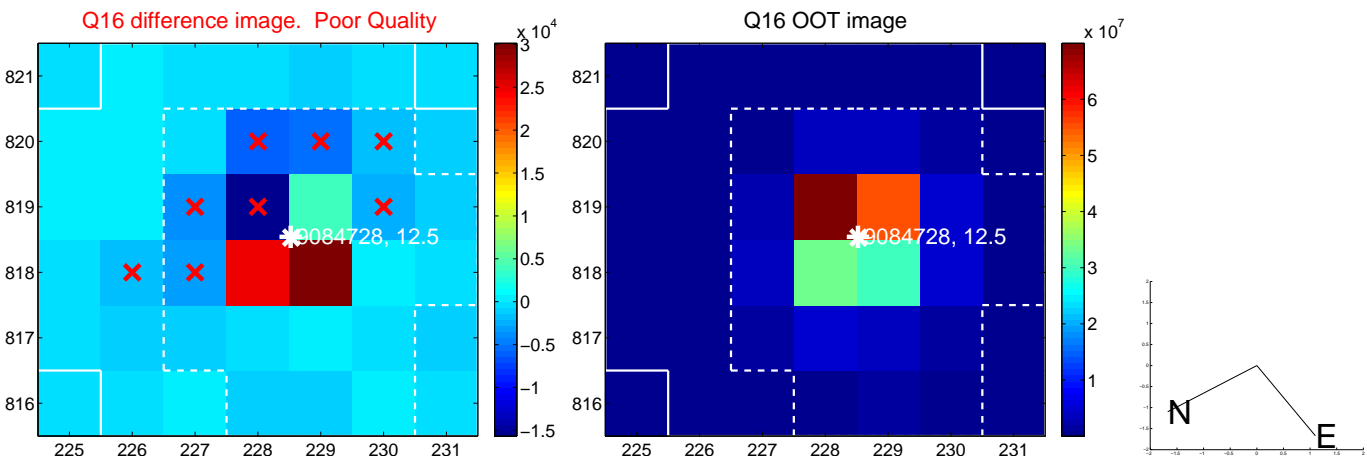
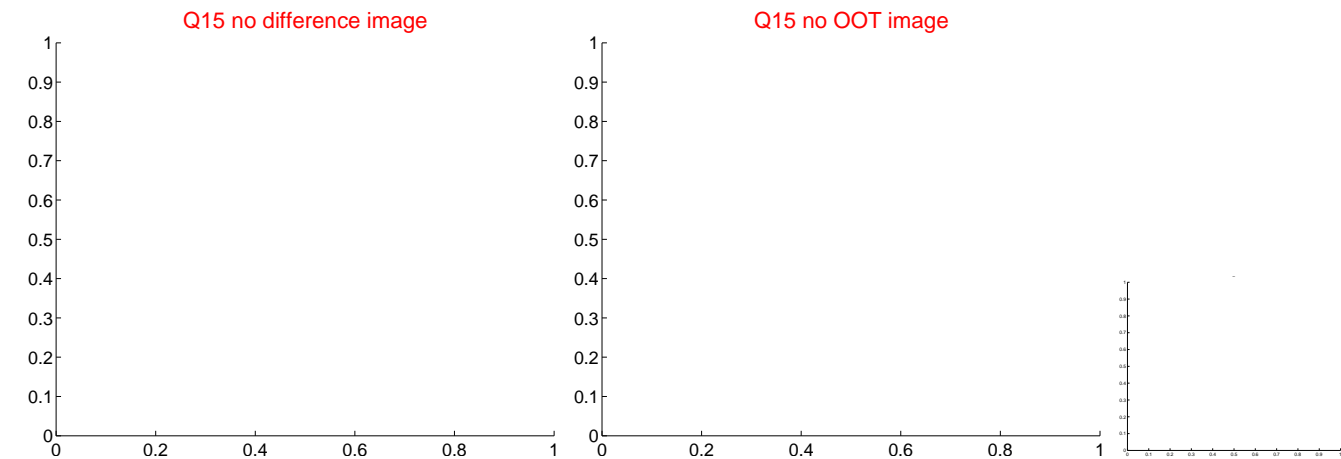
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



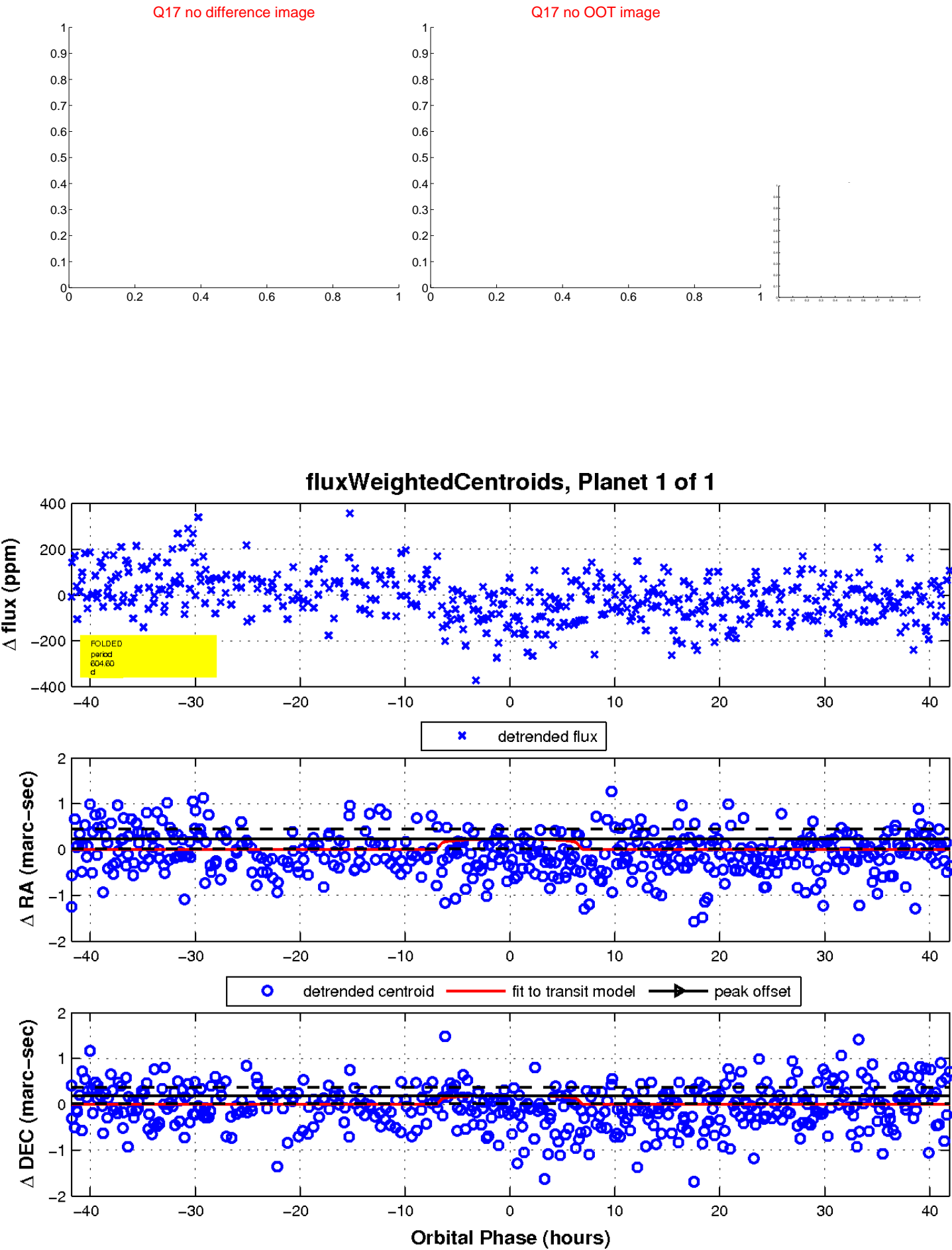
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

