

KIC 010028127

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})
010028127-01	OBS	8193.01	367.949140	416.203376	1397.2	3.736	8.6	9.6	0.85	5570	3.54	0.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010028127-01	OBS	PC	0.52	0	0	0	0	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.

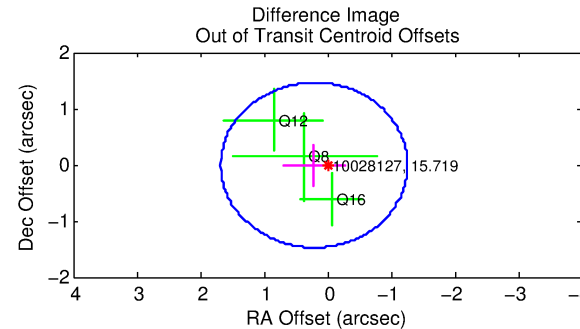
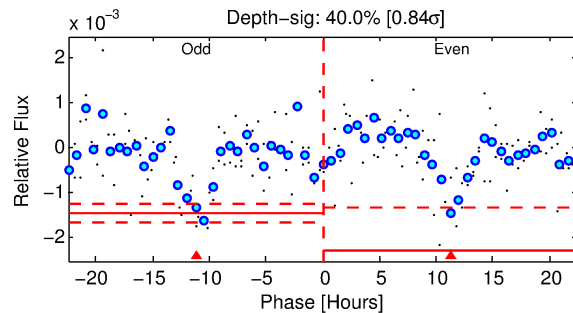
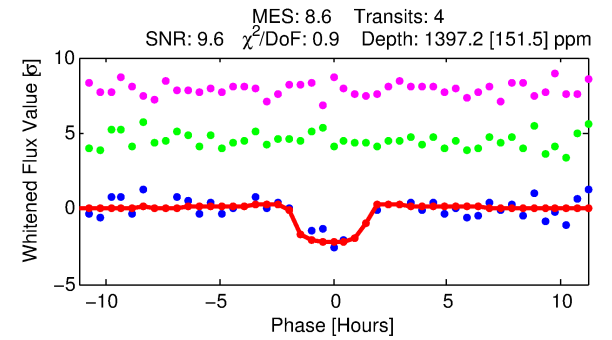
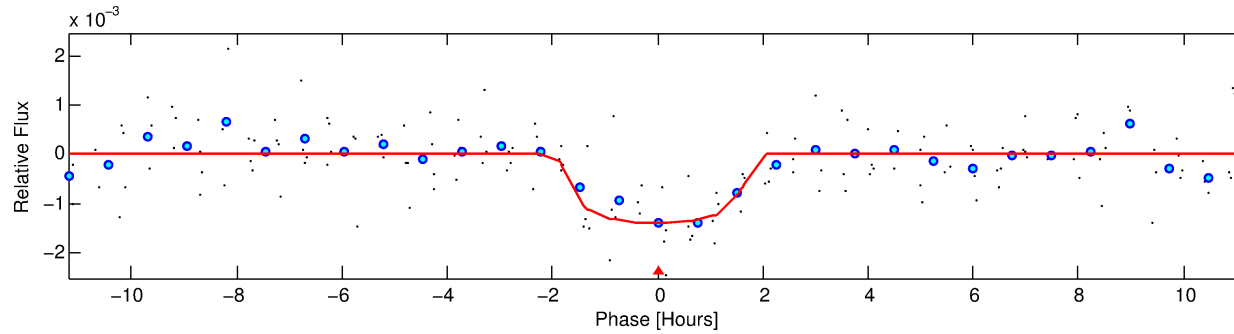
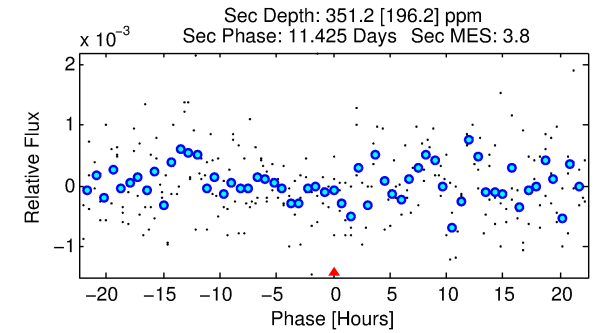
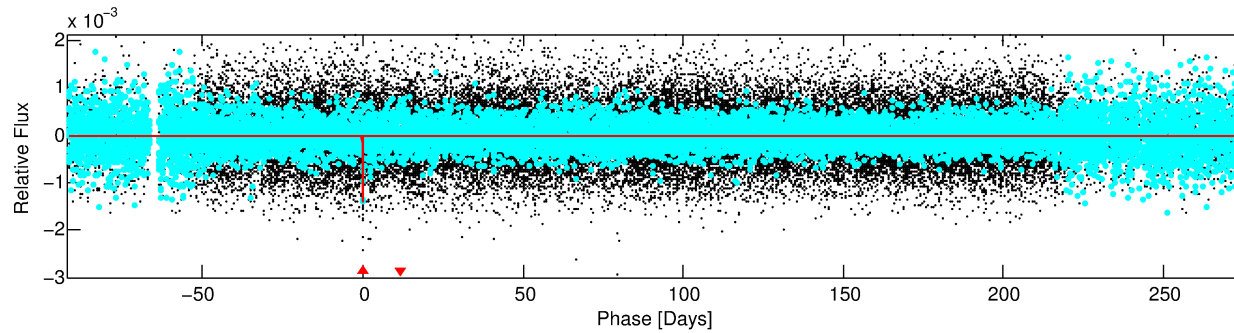
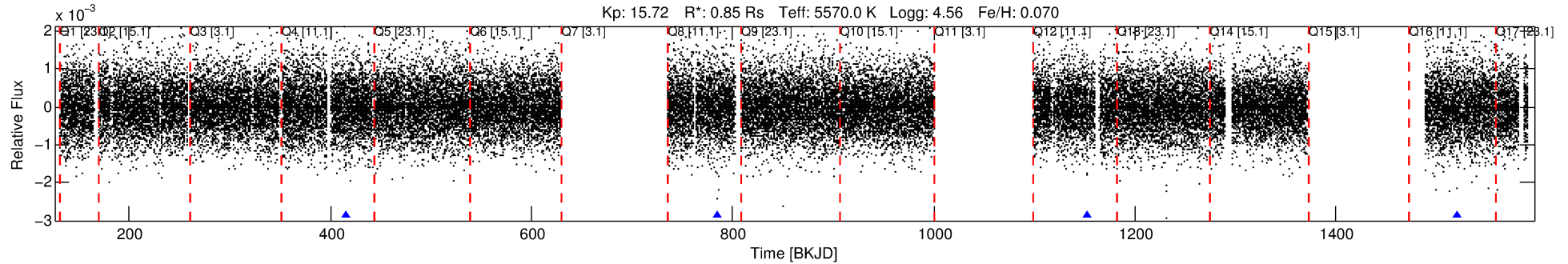
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010028127-01

No Significant Match Found

DV One-Page Summary

KIC: 10028127 Candidate: 1 of 1 Period: 367.949 d



DV Fit Results:

Period = 367.94914 [0.00370] d
Epoch = 416.2034 [0.0066] BKJD
Rp/R* = 0.0379 [0.0229]
a/R* = 508.12 [1238.52]
b = 0.79 [1.20]
Seff = 0.64 [0.21]
Teq = 228 [19] K
Rp = 3.54 [2.31] Re
a = 0.9951 [0.2065] AU
Ag = 15283.79 [20903.89] [0.73σ]
Teffp = 3916 [1310] K [2.81σ]

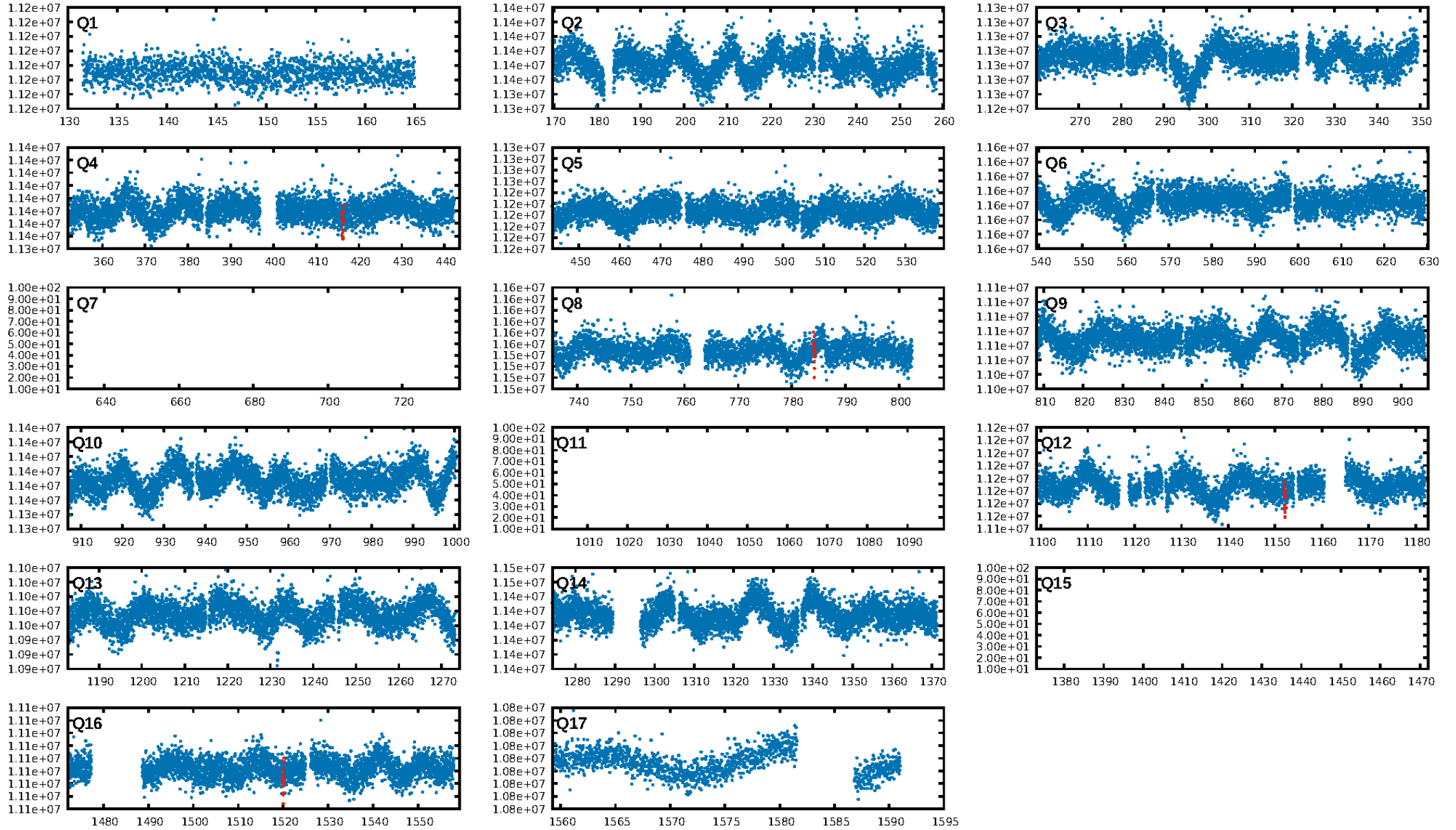
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.7%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.74e-16
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -12.26
Centroid-sig: 87.7%
Centroid-so: 1.104 arcsec [0.79σ]
OotOffset-rm: 0.211 arcsec [0.43σ]
KicOffset-rm: 0.315 arcsec [0.65σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [4/4]

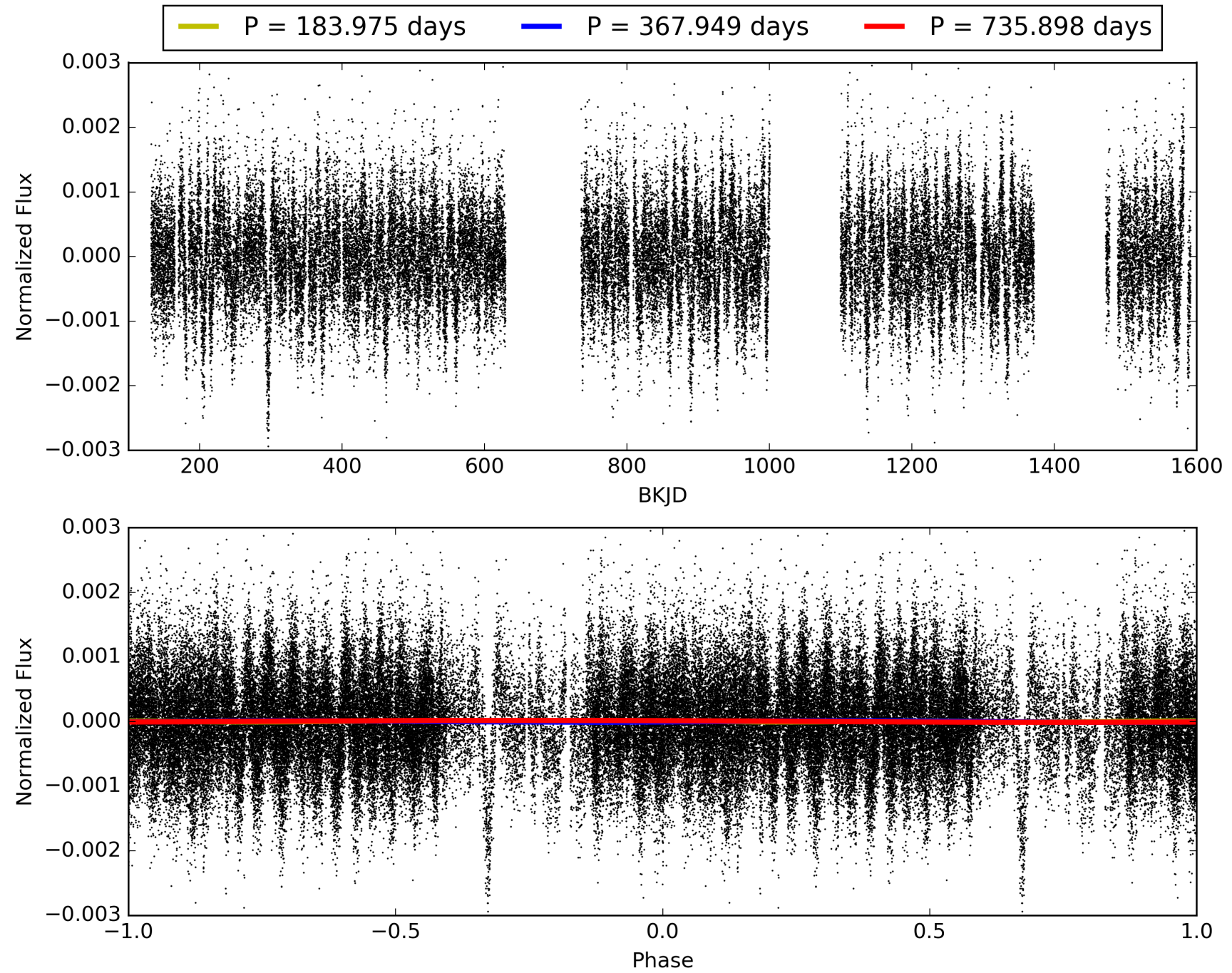
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:20:07 Z

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

TCE 010028127-01, PDC Light Curves

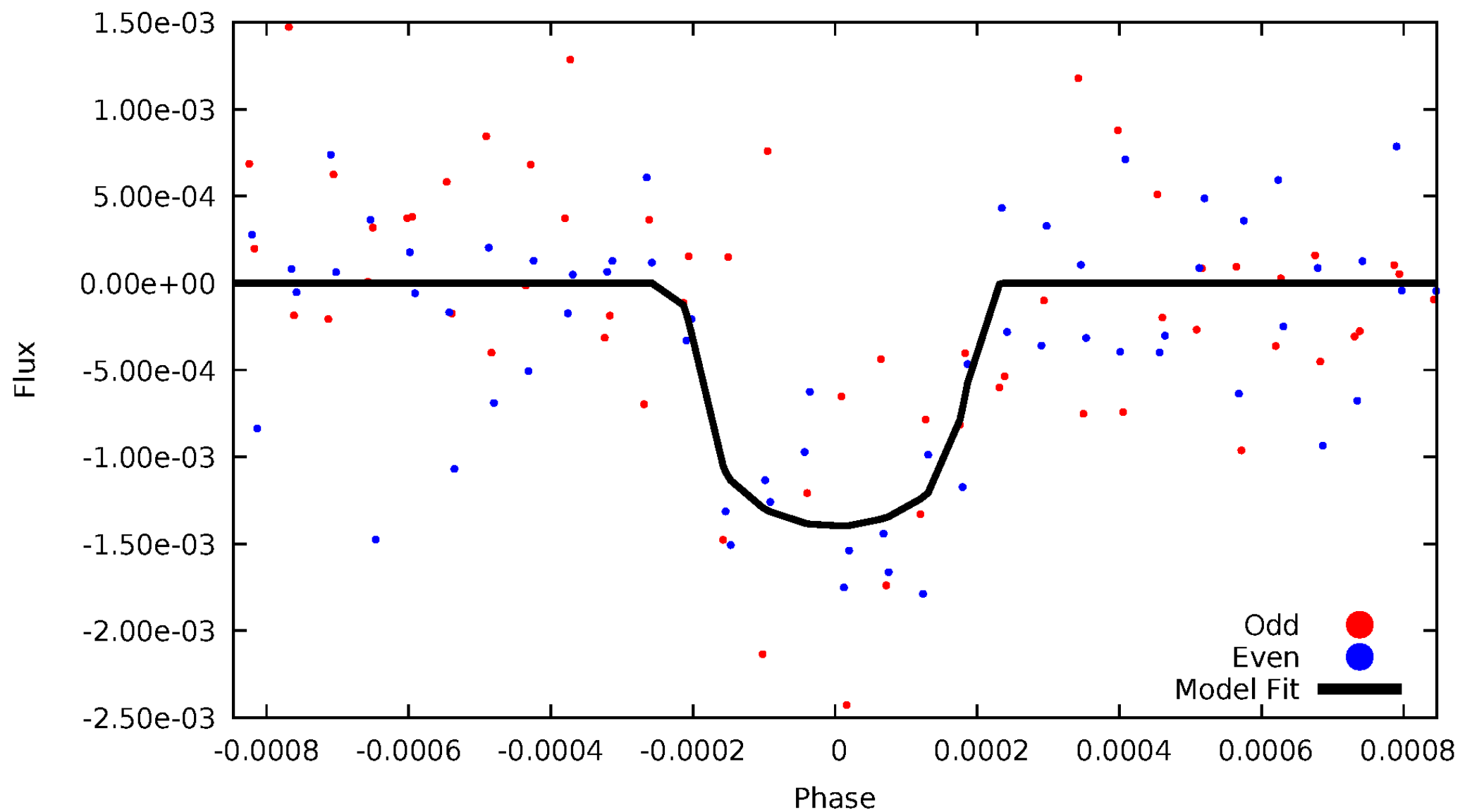


TCE 010028127-01



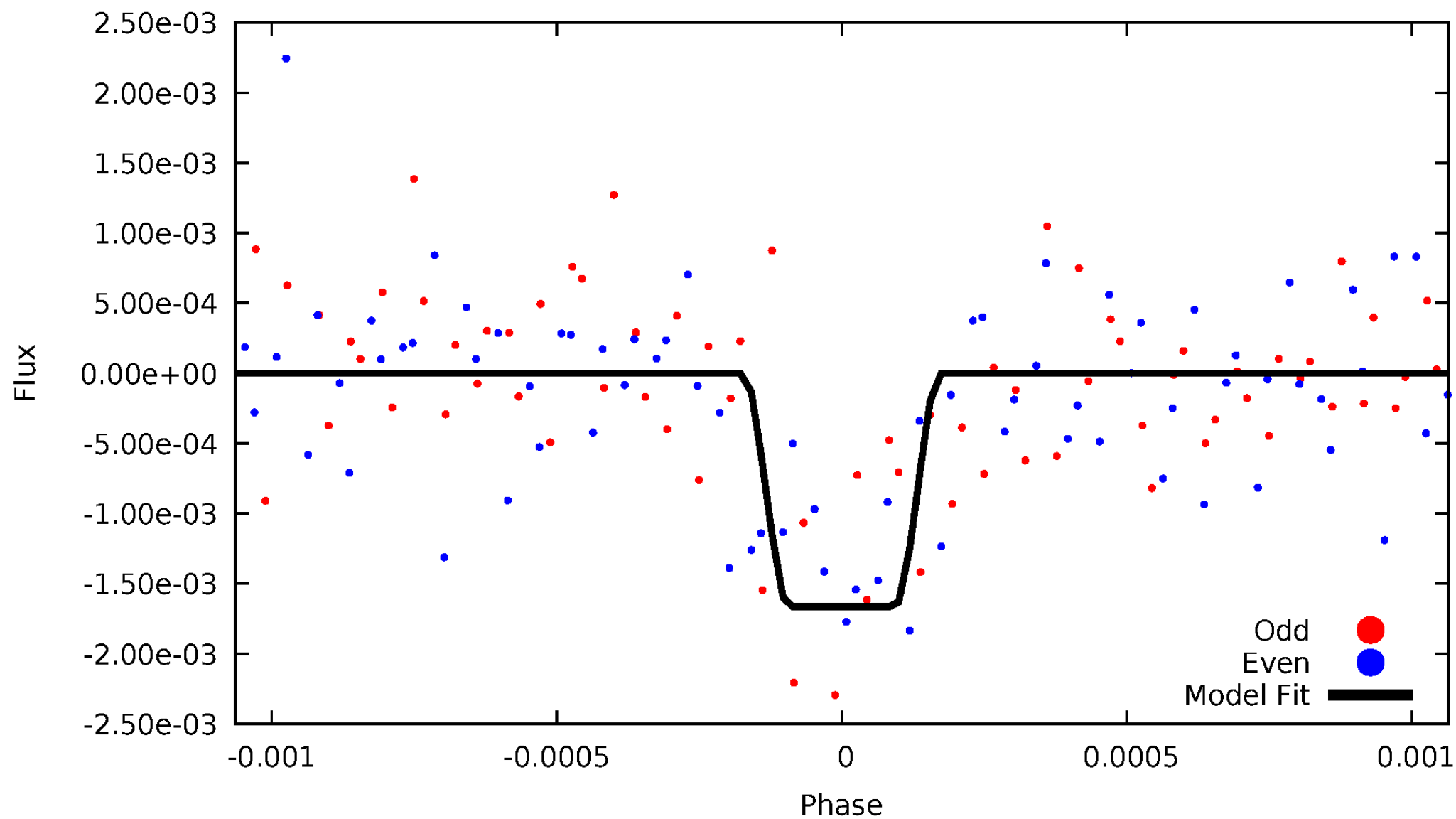
DV Odd/Even

TCE 010028127-01



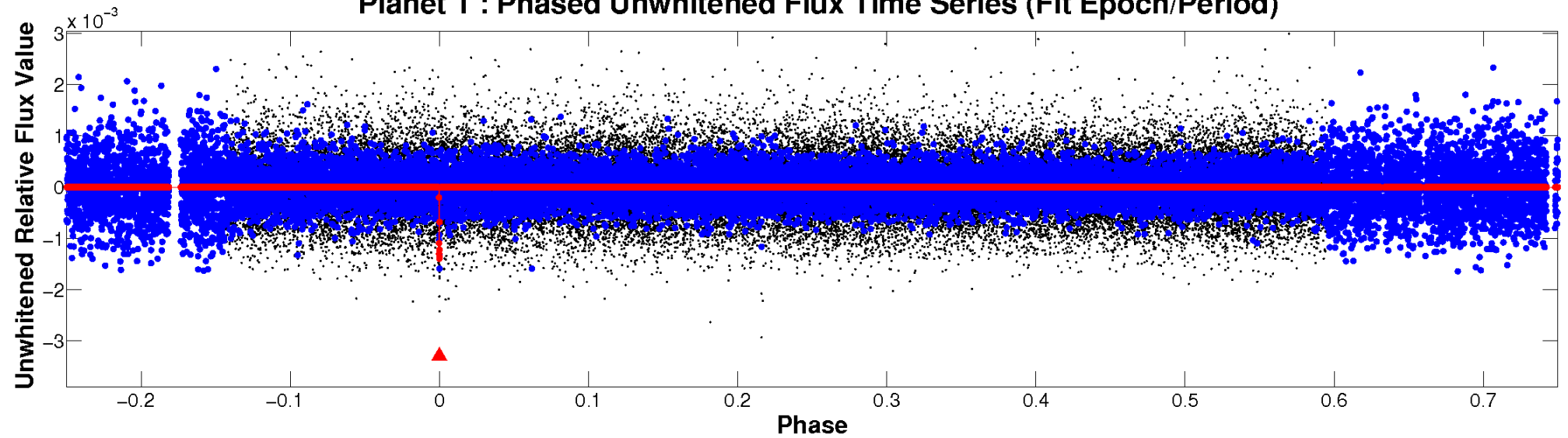
ALT Odd/Even

TCE 010028127-01

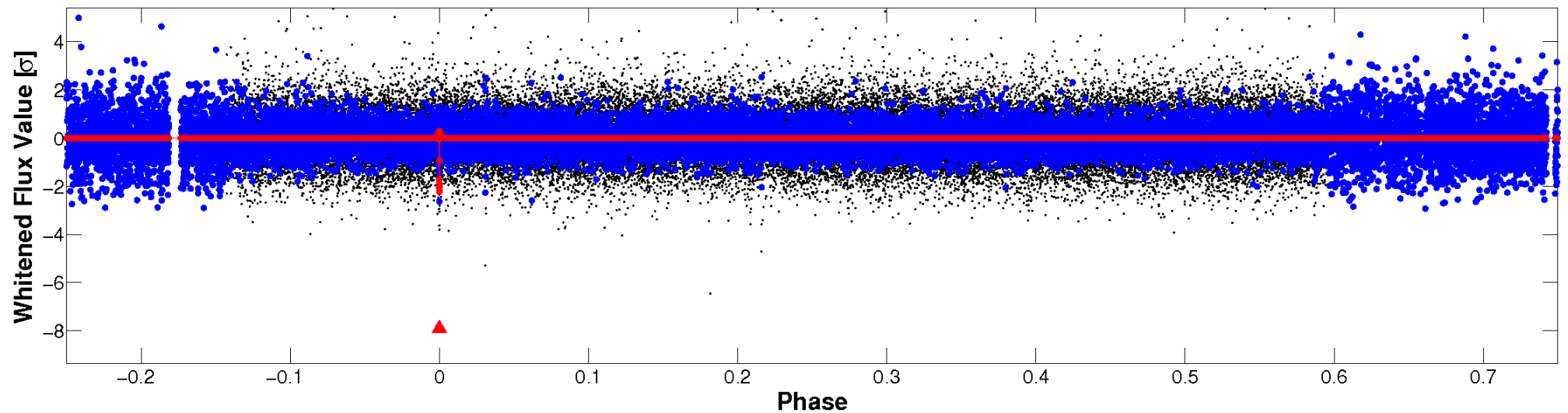


Non-Whitened Vs. Whitened Light Curve

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

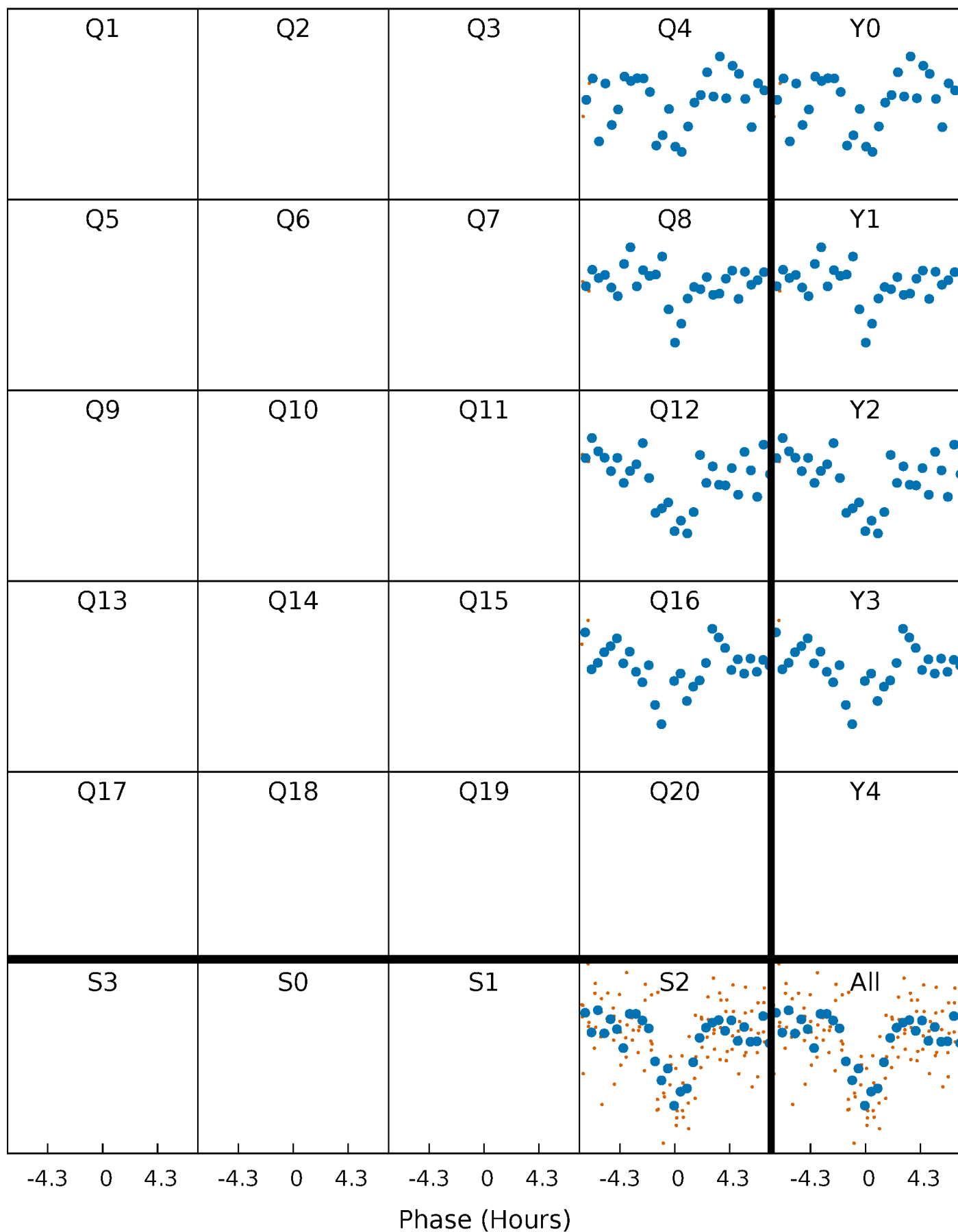


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



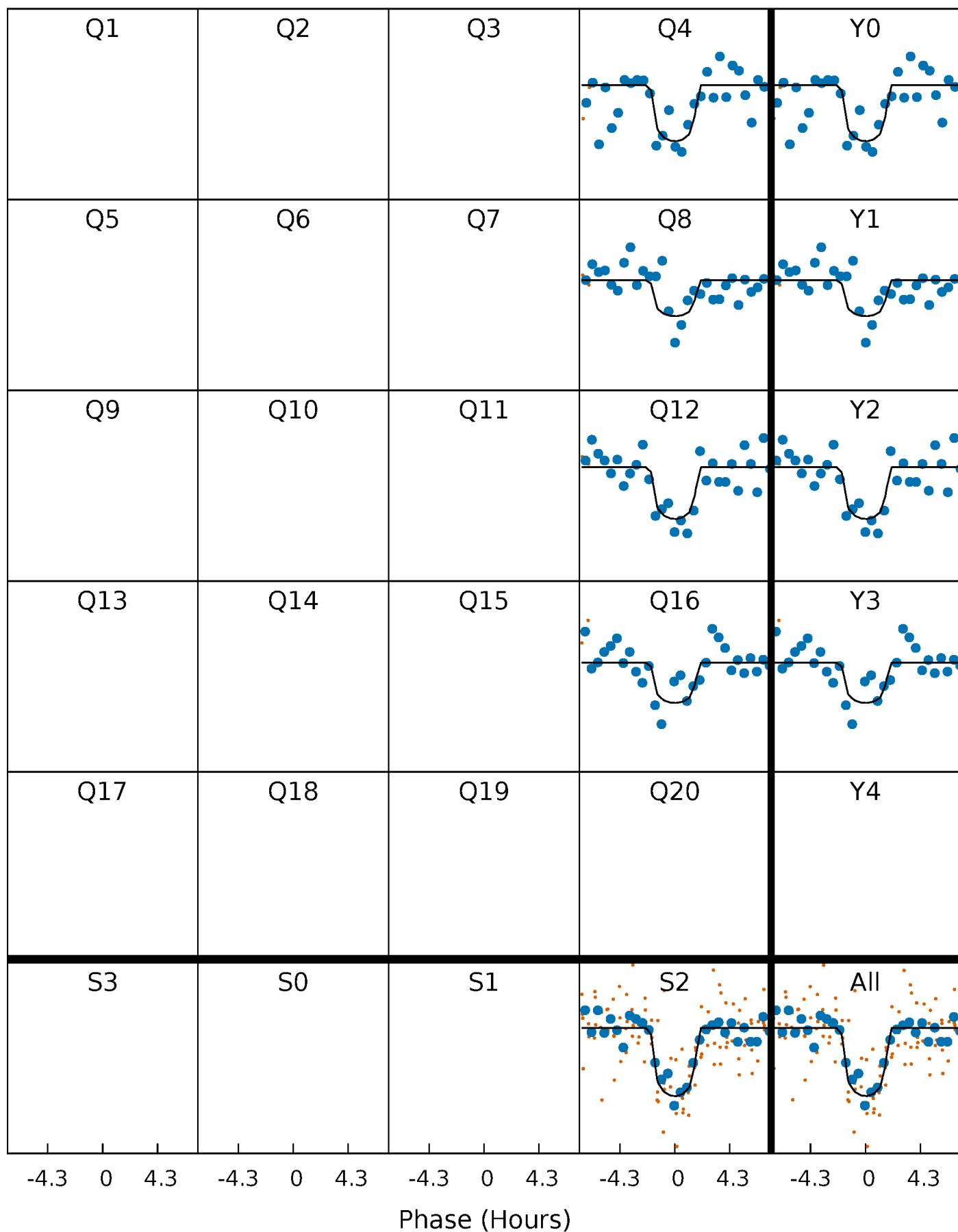
PDC Quarter-Phased Transit Curves

TCE 010028127-01 P=367.949140 Days $T_0=416.203376$ (BKJD)



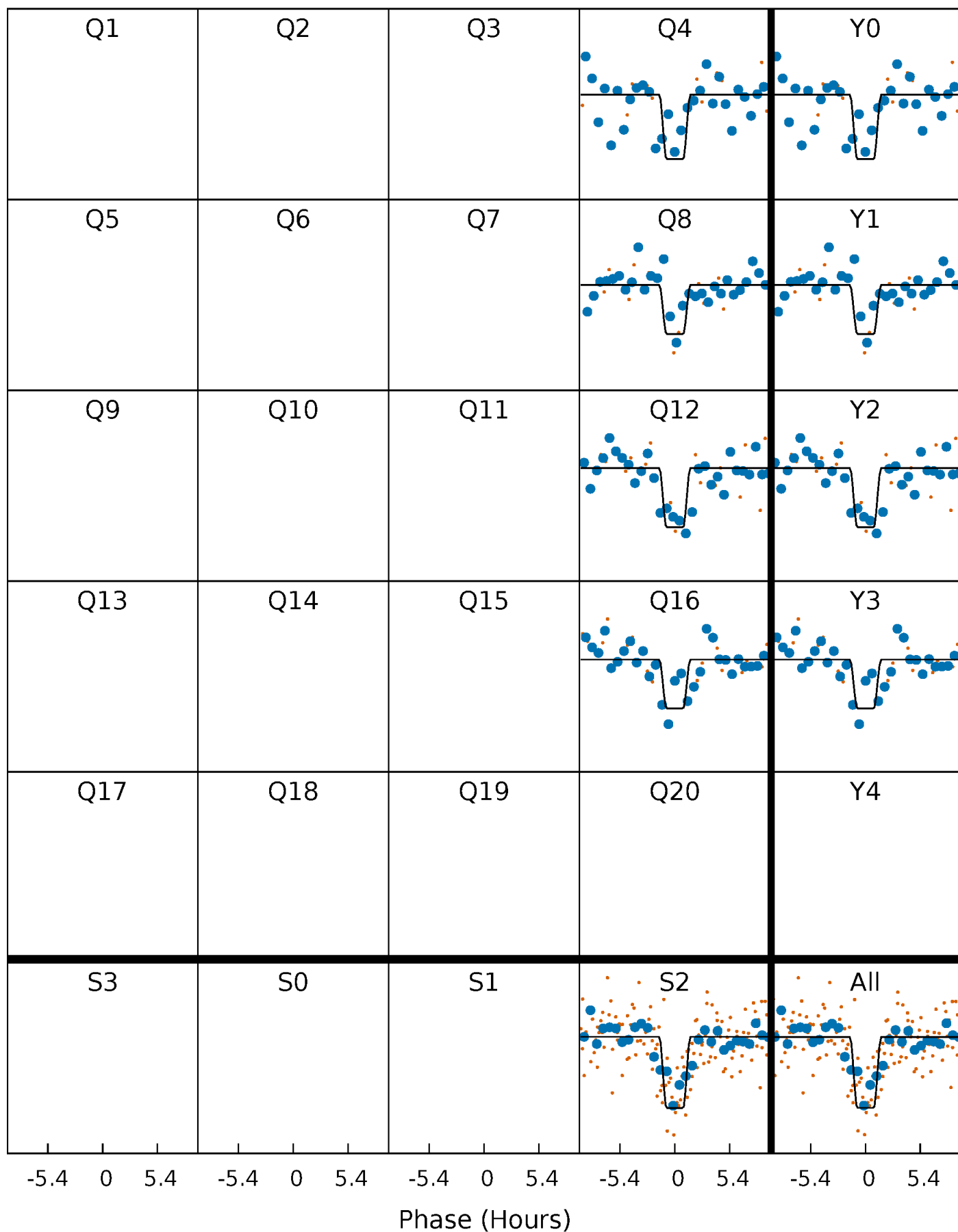
DV Quarter-Phased Transit Curves

TCE 010028127-01 P=367.949140 Days $T_0=416.203376$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

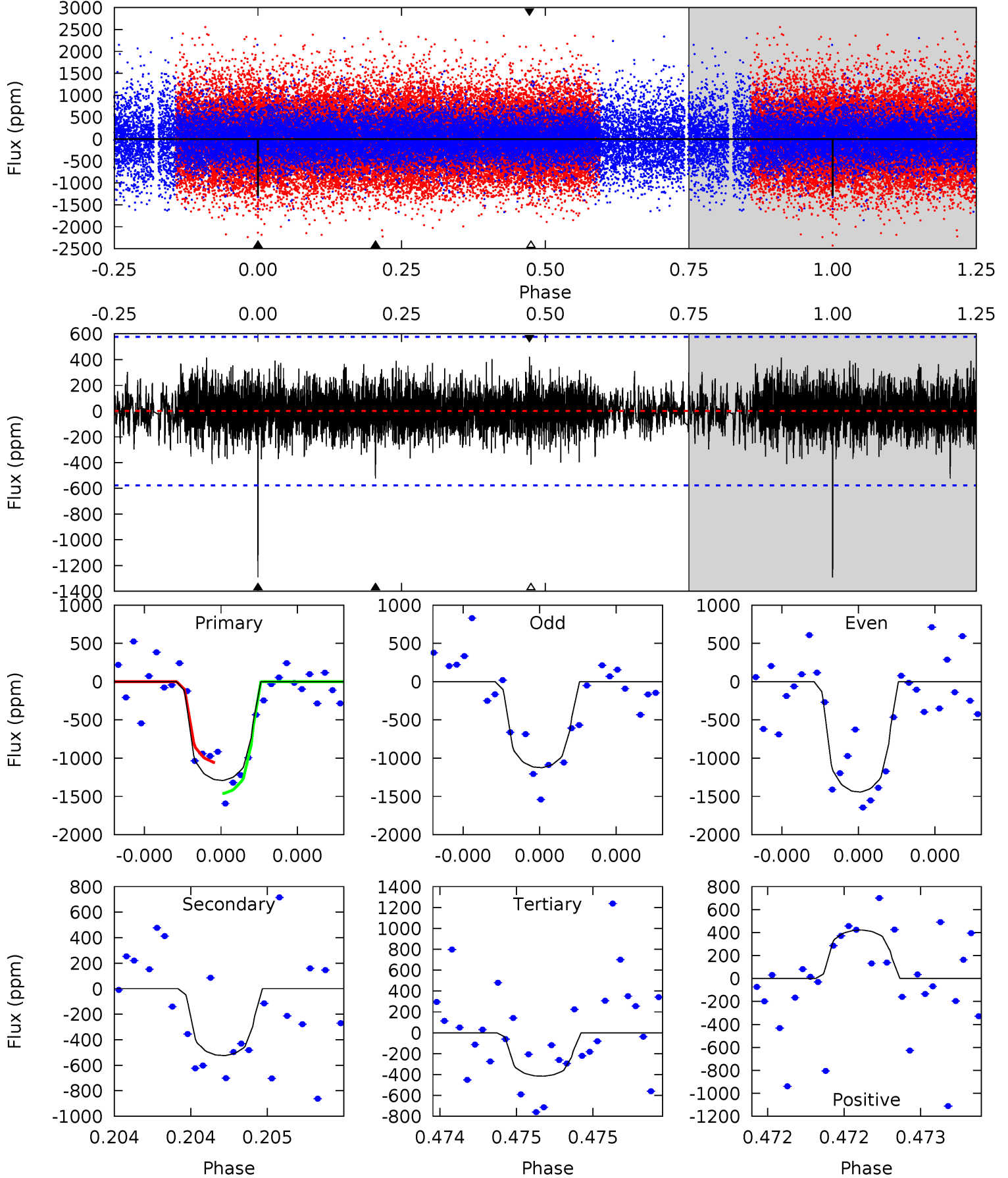
TCE 010028127-01 P=367.940688 Days $T_0=416.221968$ (BKJD)



DV Model-Shift Uniqueness Test

010028127-01, $P = 367.949140$ Days, $E = 48.254236$ Days

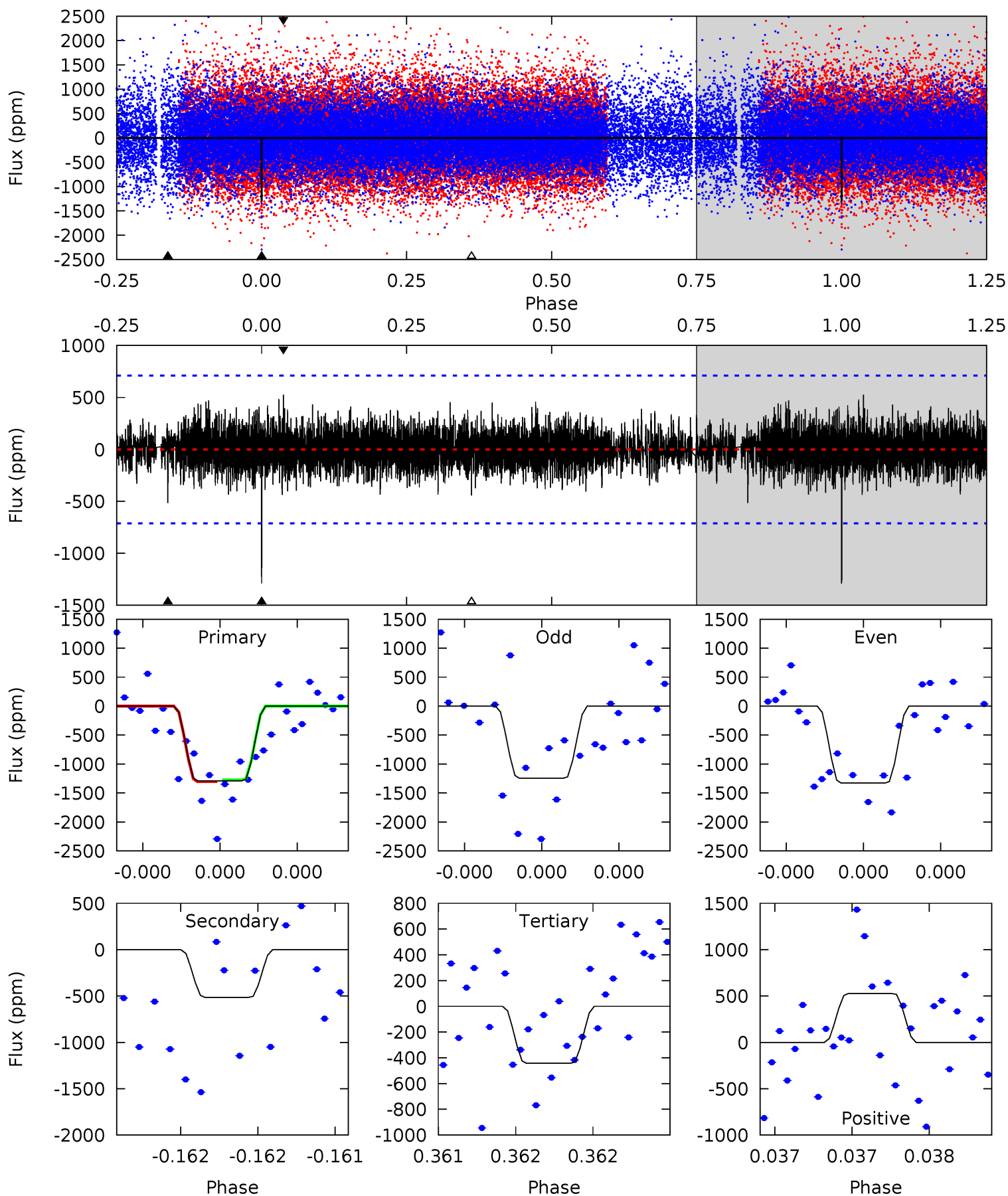
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	5.08	4.03	4.09	5.59	3.51	1.13	8.49	8.43	1.05	0.99	1.55	0.98	0.25	1.94



Alt Model-Shift Uniqueness Test

010028127-01, P = 367.940688 Days, E = 48.281280 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	4.10	3.52	4.20	5.66	3.62	1.04	6.75	6.08	0.57	-0.10	0.34	1.02	0.29	0.12



Stellar Parameters For KIC 010028127

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5570^{+150}_{-166}	$4.561^{+0.030}_{-0.170}$	$0.070^{+0.250}_{-0.300}$	$0.855^{+0.207}_{-0.069}$	$0.971^{+0.075}_{-0.113}$	$2.185^{+0.343}_{-0.963}$
	+3%/-3%	+1%/-4%	+357%/-429%	+24%/-8%	+8%/-12%	+16%/-44%
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 010028127-01 / KOI 8193.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-524±103	$3.84^{+2.24}_{-2.09}$	324^{+19}_{-13}	4413^{+1775}_{-679}	18728^{+71605}_{-11499}
Alt.	-514±125	$4.19^{+2.16}_{-2.12}$	326^{+18}_{-15}	4264^{+1550}_{-589}	15865^{+50565}_{-9423}

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

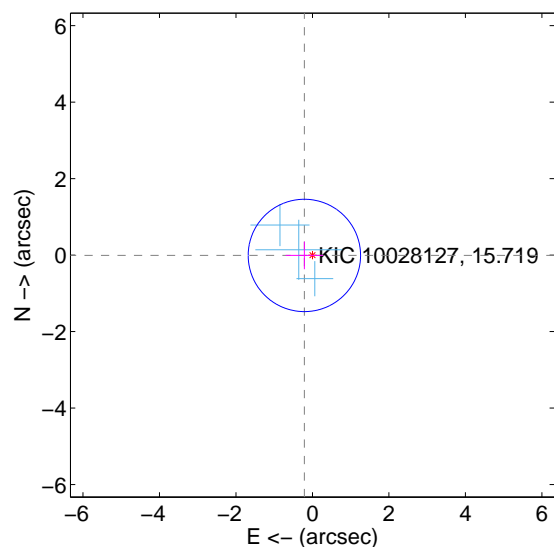
Supplemental centroid analysis for 010028127-01. Kepler magnitude: 15.72. Transit SNR 9.61

There are 3 quarters with good PRF difference image offsets

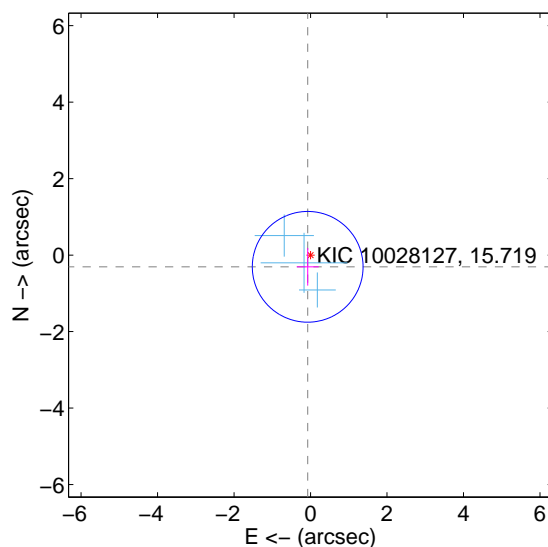
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.211 ± 0.490	0.43	0.211 ± 0.490	-0.009 ± 0.361
PRF-fit source offset from KIC position	0.315 ± 0.483	0.65	0.074 ± 0.287	-0.307 ± 0.492
photometric centroid source offset	1.10 ± 1.39	0.79	-1.04 ± 1.40	-0.38 ± 1.33

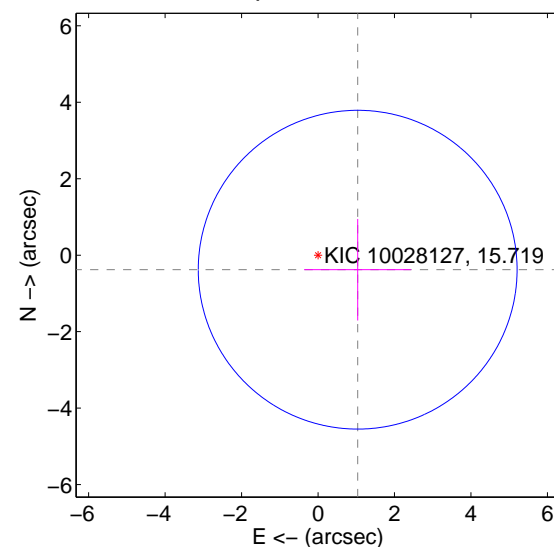
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

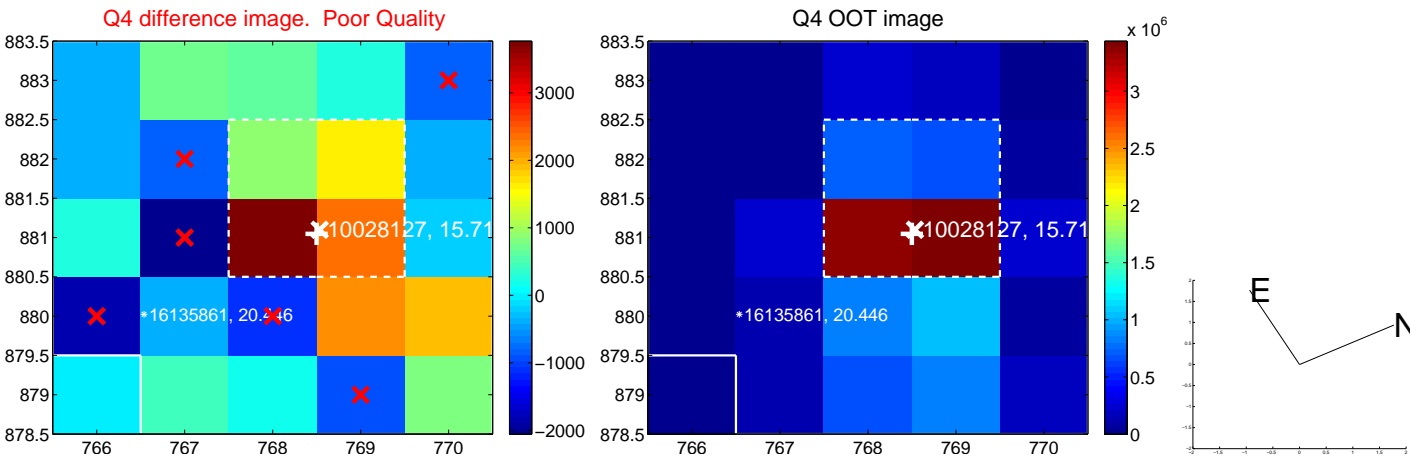


offset from photometric centroids

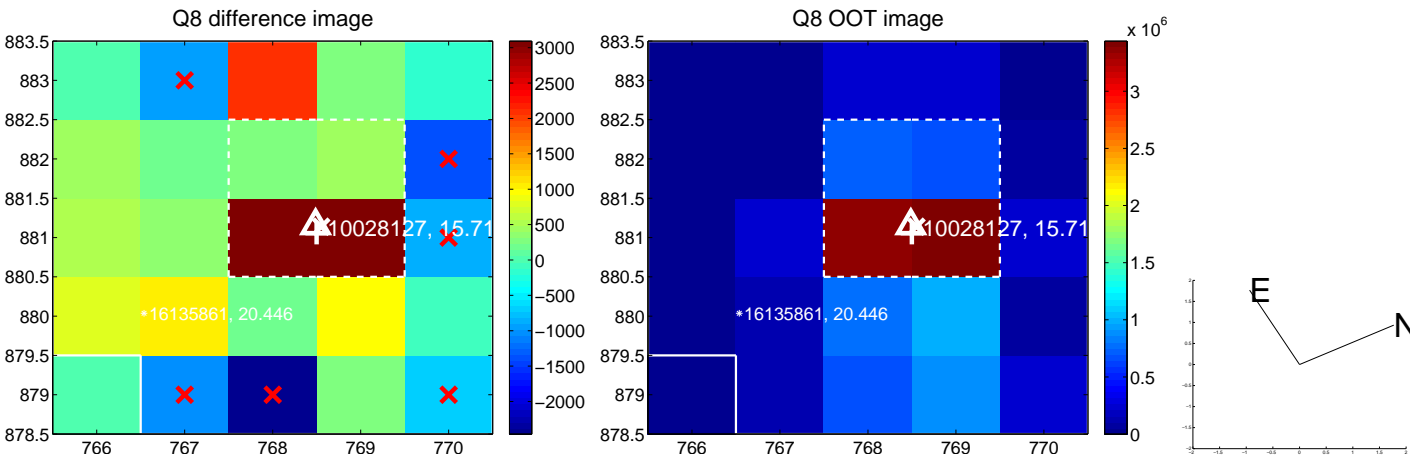


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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.

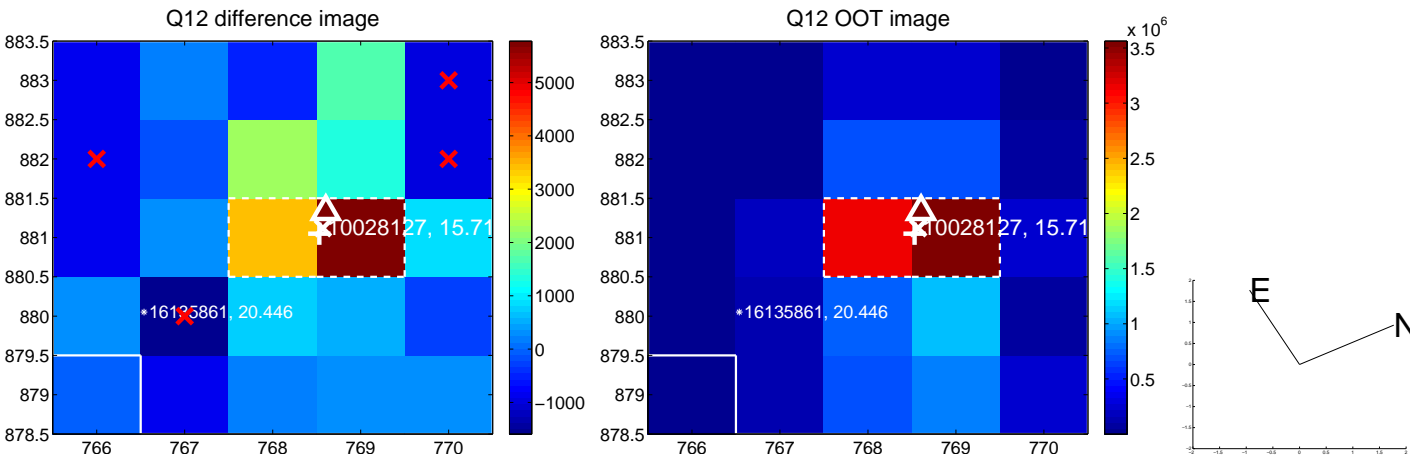
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



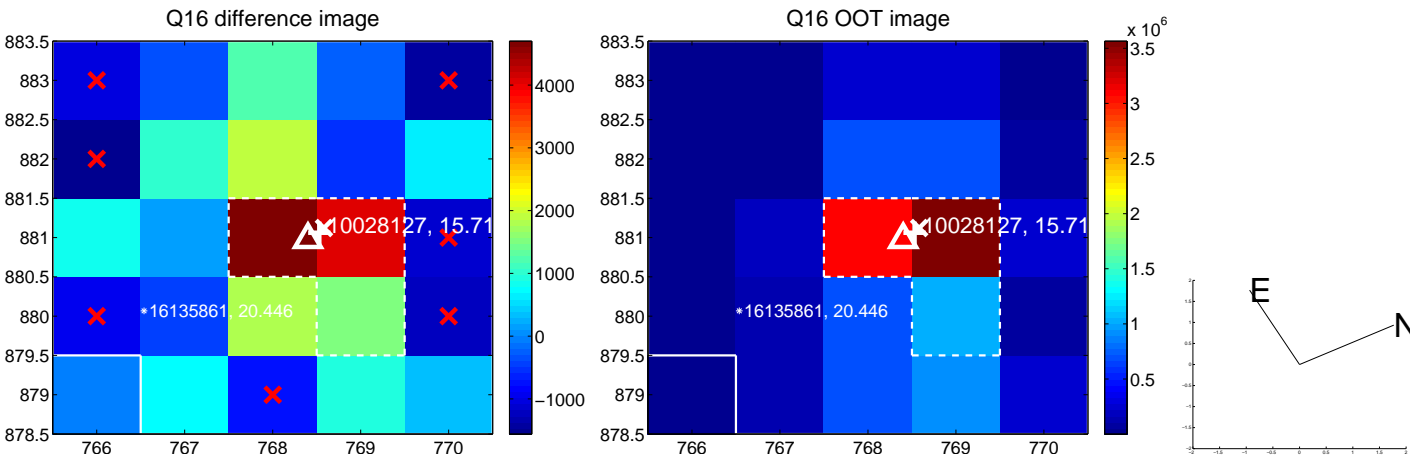
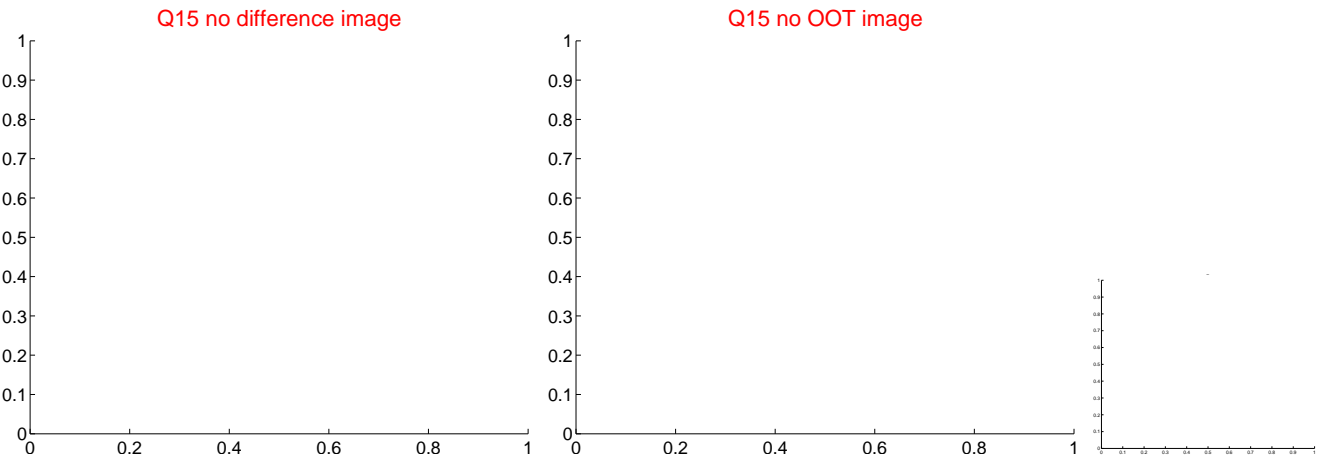
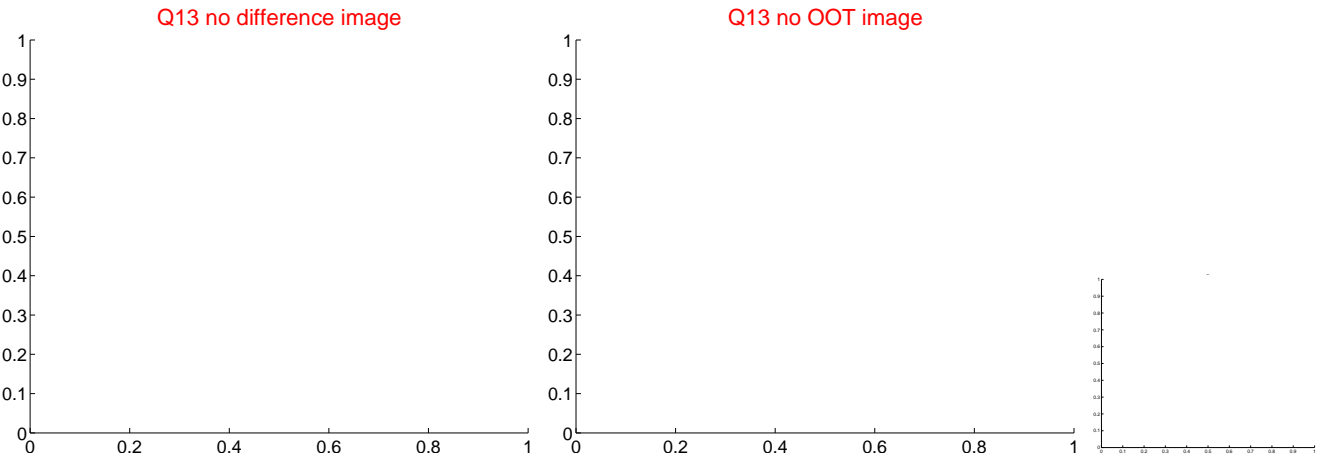
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



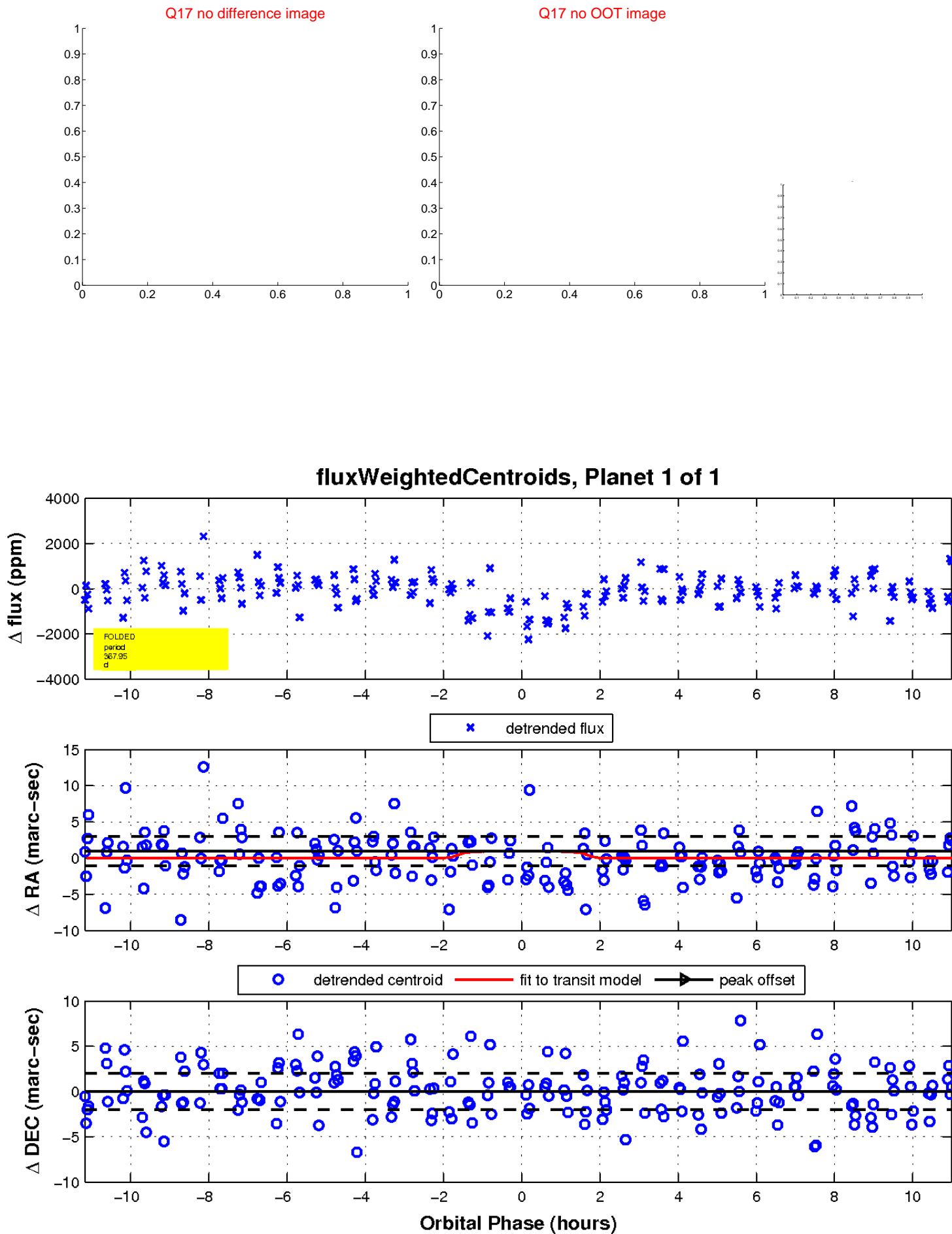
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

Declination

