

KIC 012068928

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})
012068928-01	OBS	No	351.785304	406.825207	678.7	1.746	7.2	5.8	1.05	6161	3.22	1.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012068928-01	OBS	FP	0.07	1	0	0	0	MOD_NONUNIQ_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.

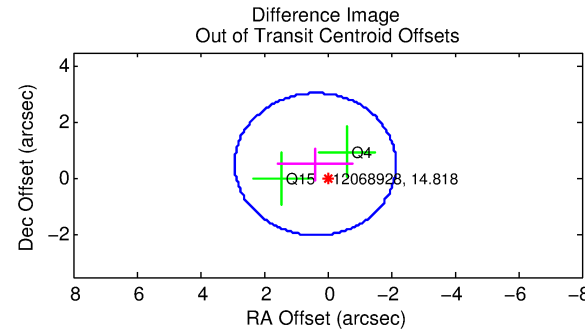
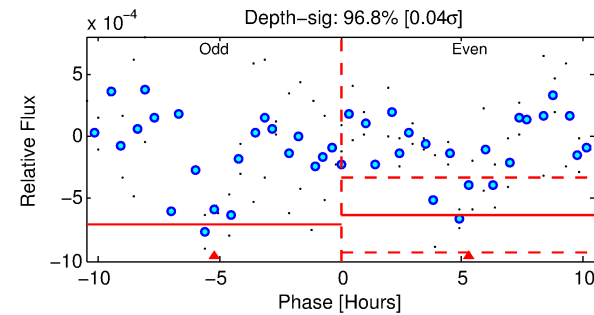
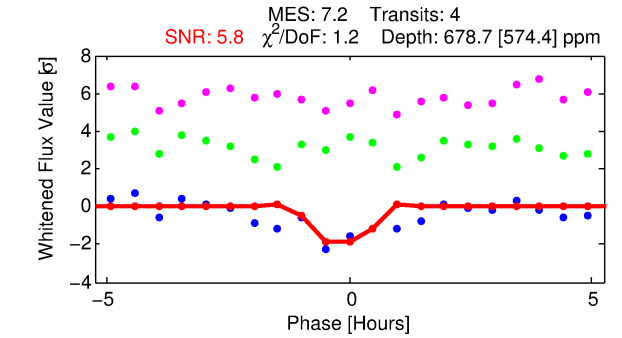
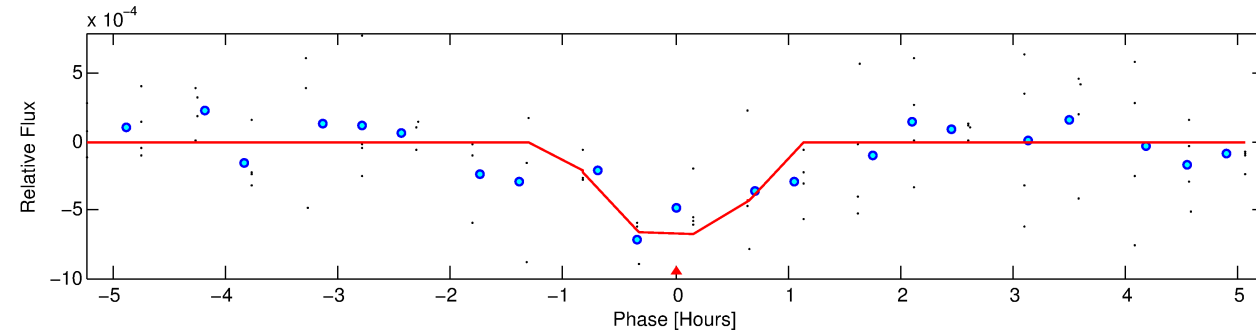
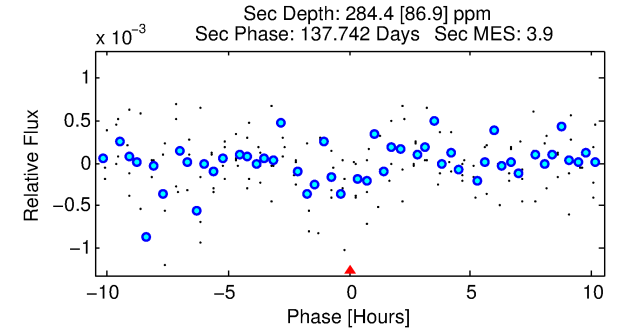
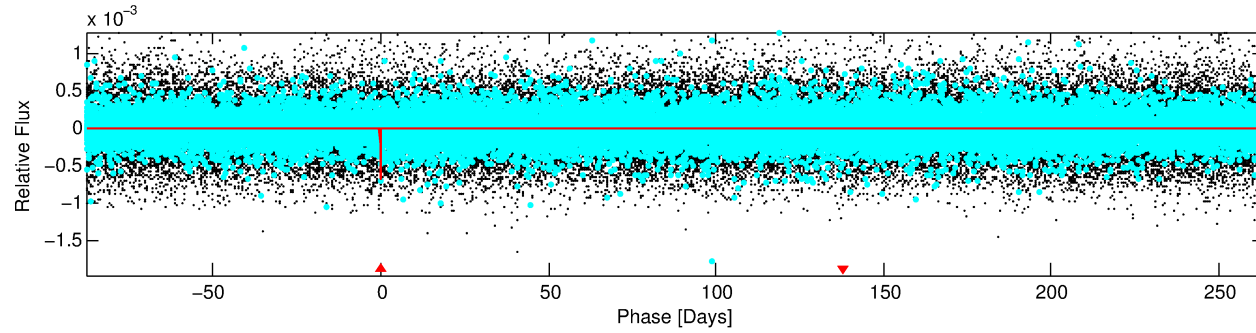
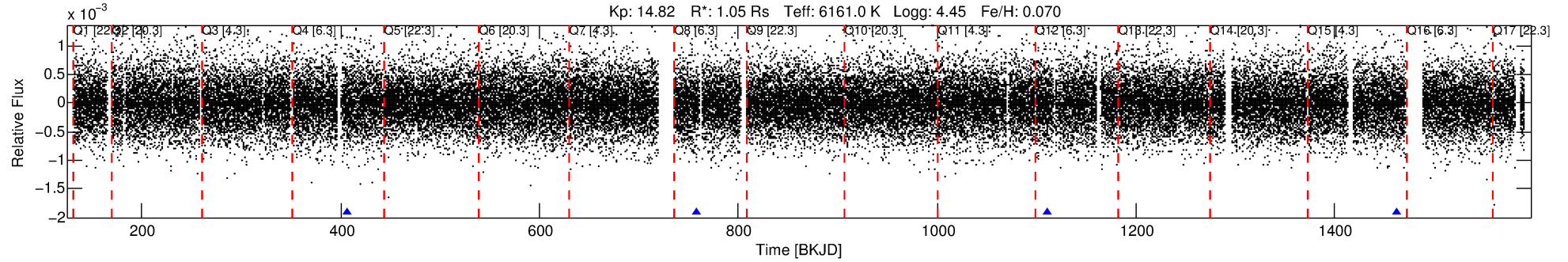
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012068928-01

No Significant Match Found

DV One-Page Summary

KIC: 12068928 Candidate: 1 of 1 Period: 351.785 d



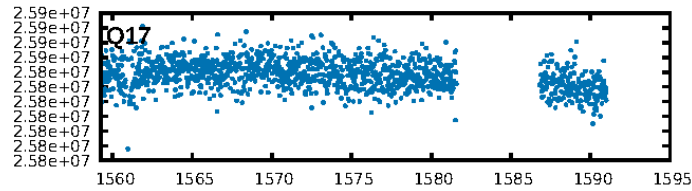
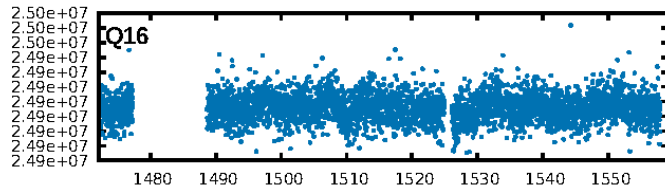
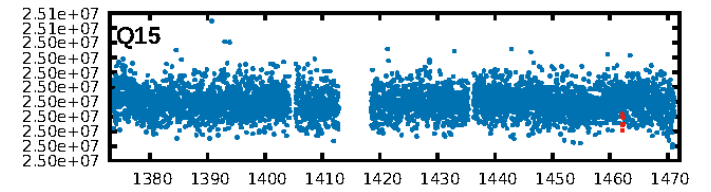
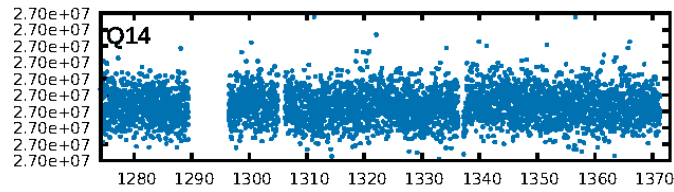
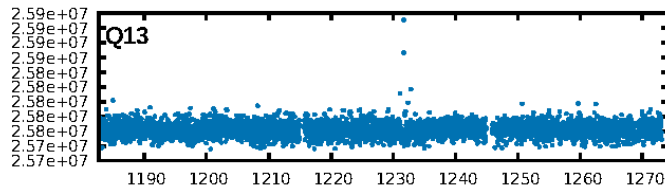
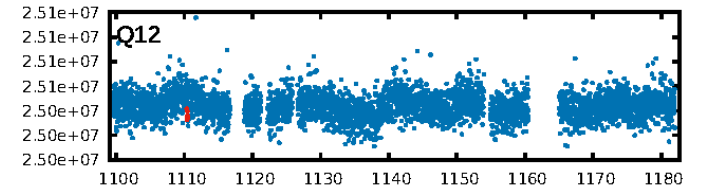
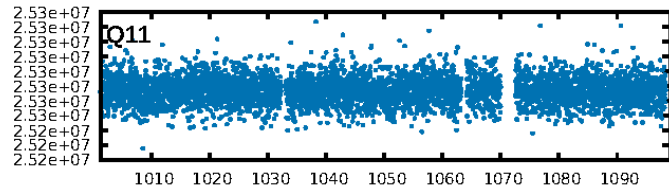
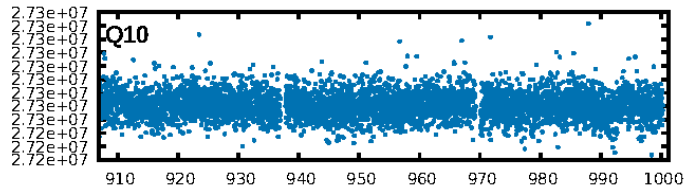
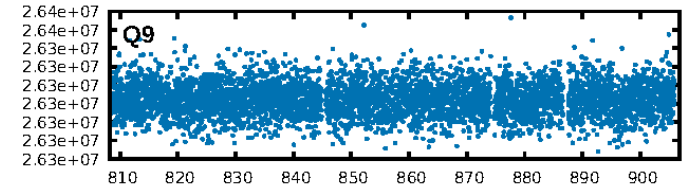
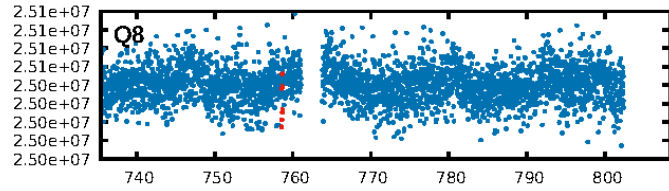
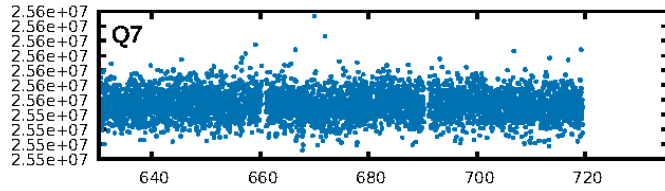
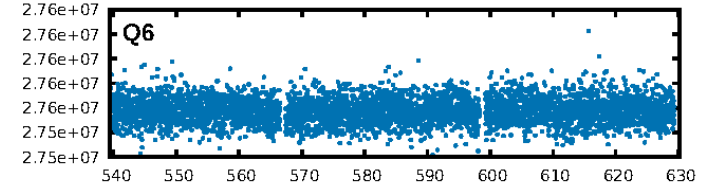
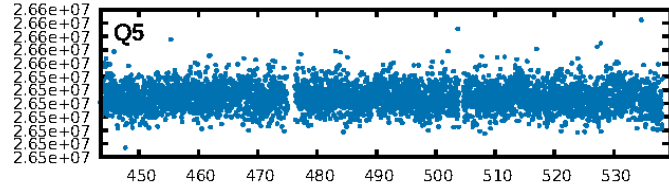
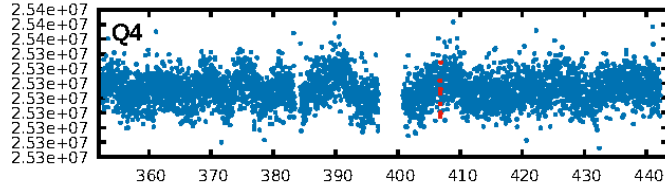
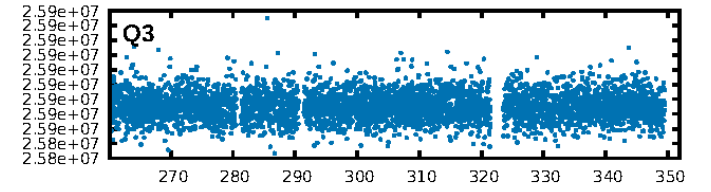
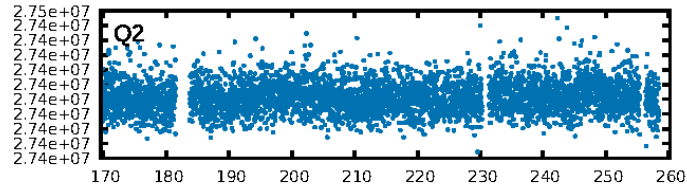
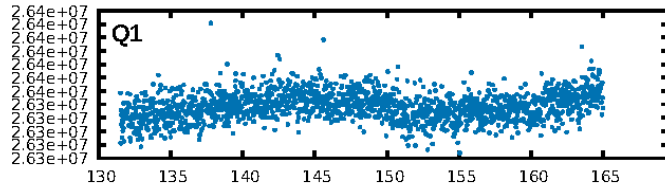
DV Fit Results:

Period = 351.78530 [0.00451] d
Epoch = 406.8252 [0.0100] BKJD
Rp/R* = 0.0280 [0.3874]
a/R* = 800.59 [56338.04]
b = 0.89 [17.32]
Seff = 1.37 [0.56]
Teff = 276 [28] K
Rp = 3.22 [44.53] Re
a = 1.0221 [0.2739] AU
Ag = 15757.90 [435669.81] [0.04 σ]
Teffp = 4779 [33029] K [0.14 σ]

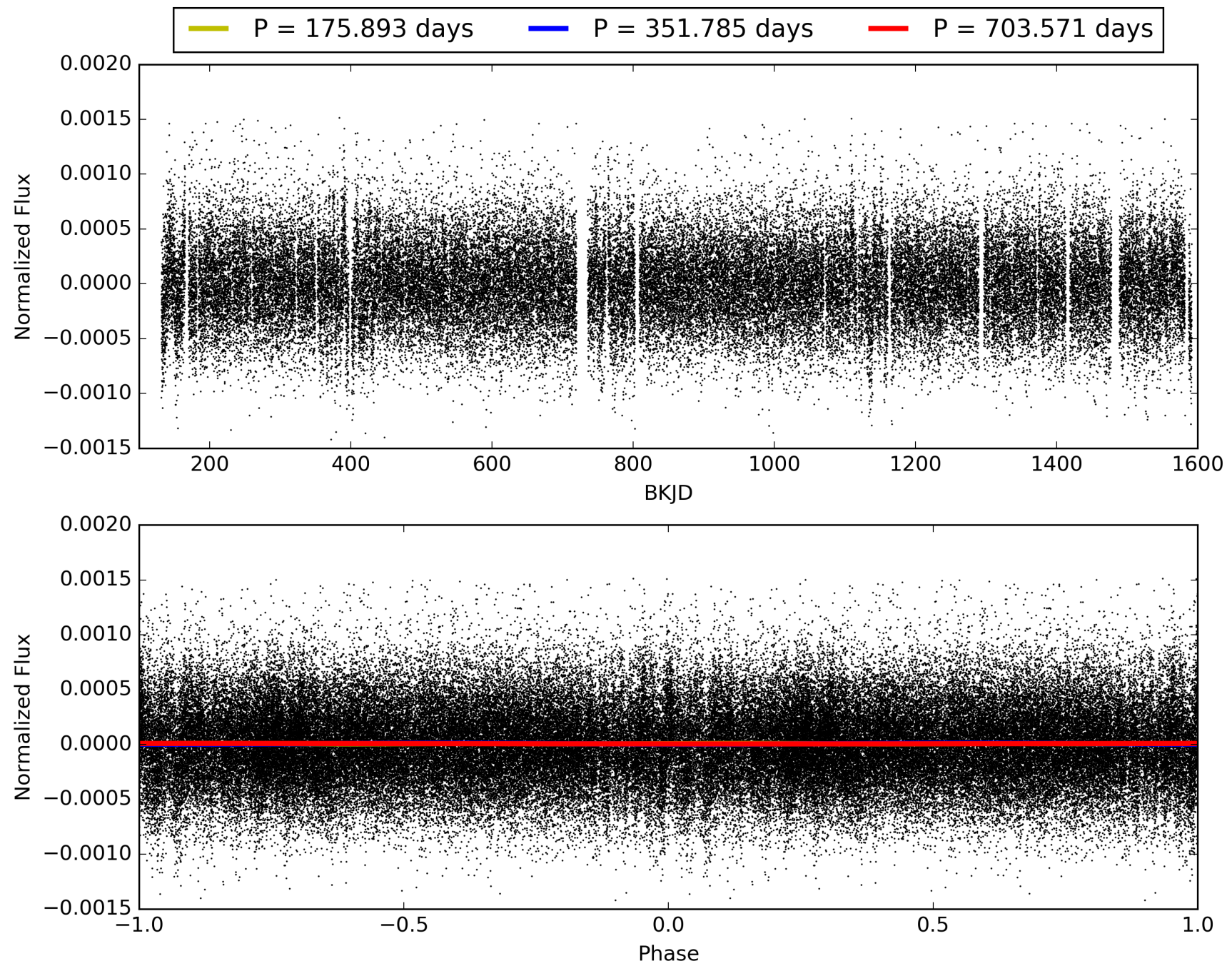
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.3%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 2.03e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.968
Centroid-sig: 64.2%
Centroid-so: 1.764 arcsec [0.74 σ]
OotOffset-rm: 0.636 arcsec [0.75 σ]
KicOffset-rm: 0.398 arcsec [0.47 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 012068928-01, PDC Light Curves

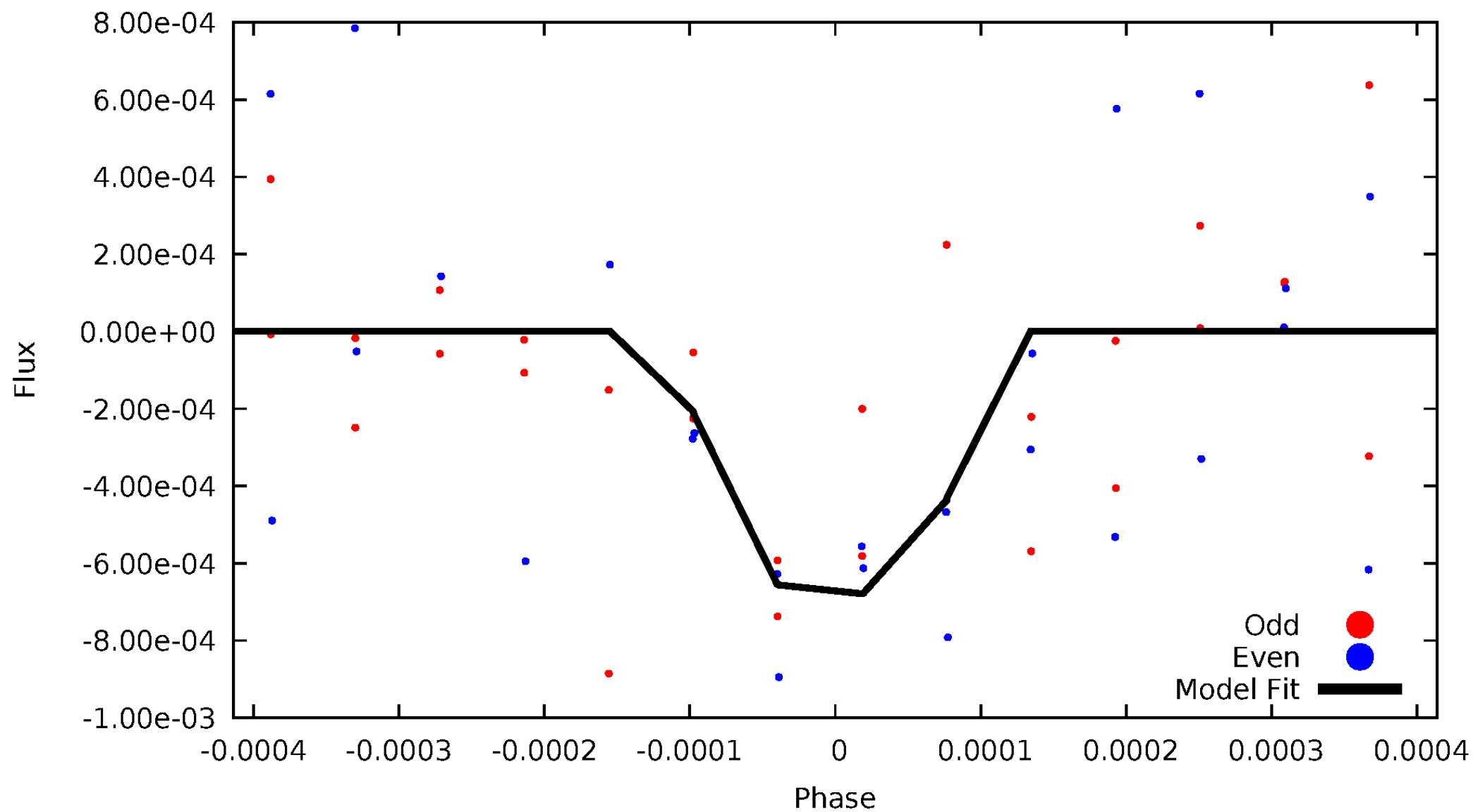


TCE 012068928-01



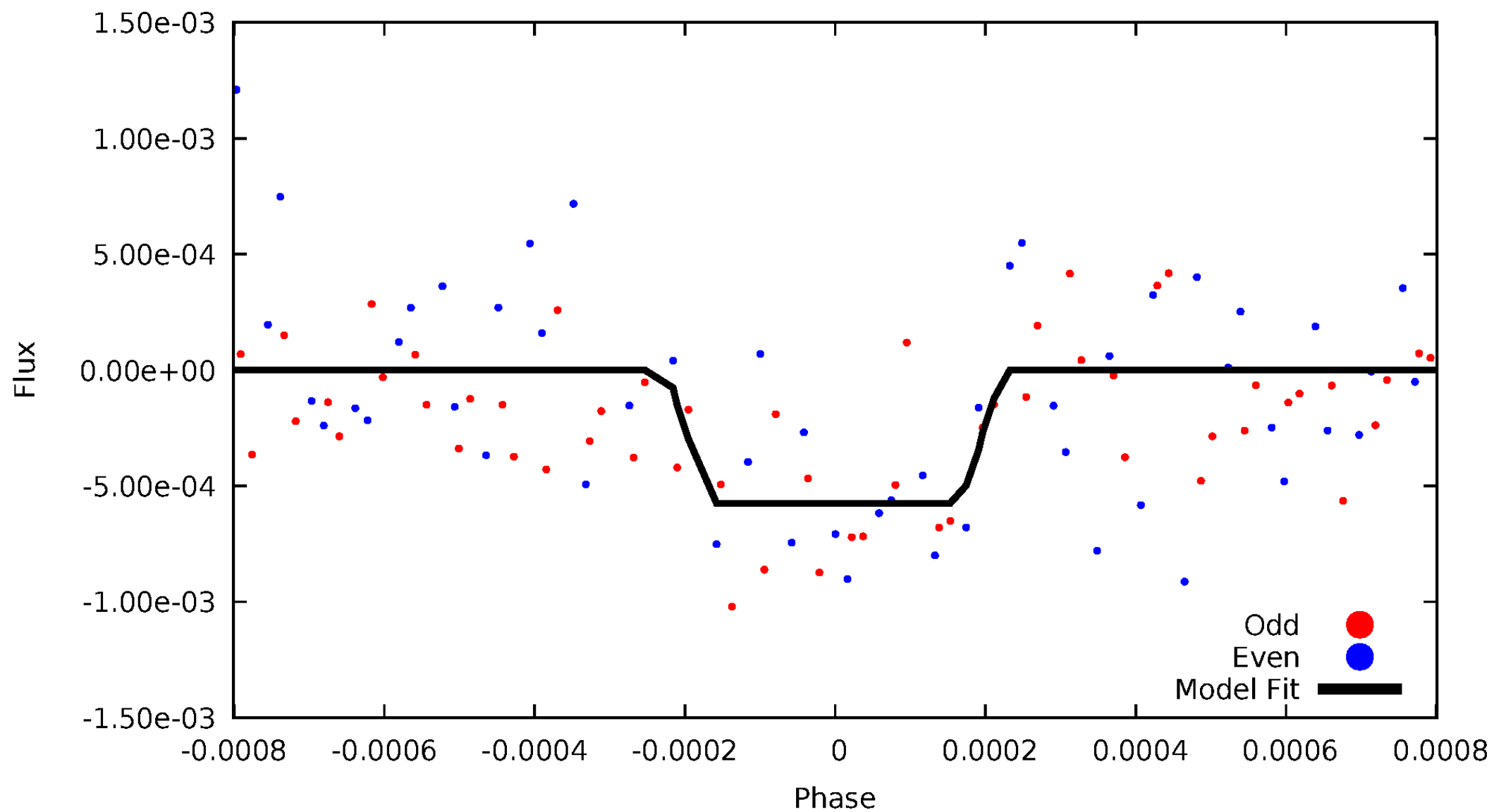
DV Odd/Even

TCE 012068928-01

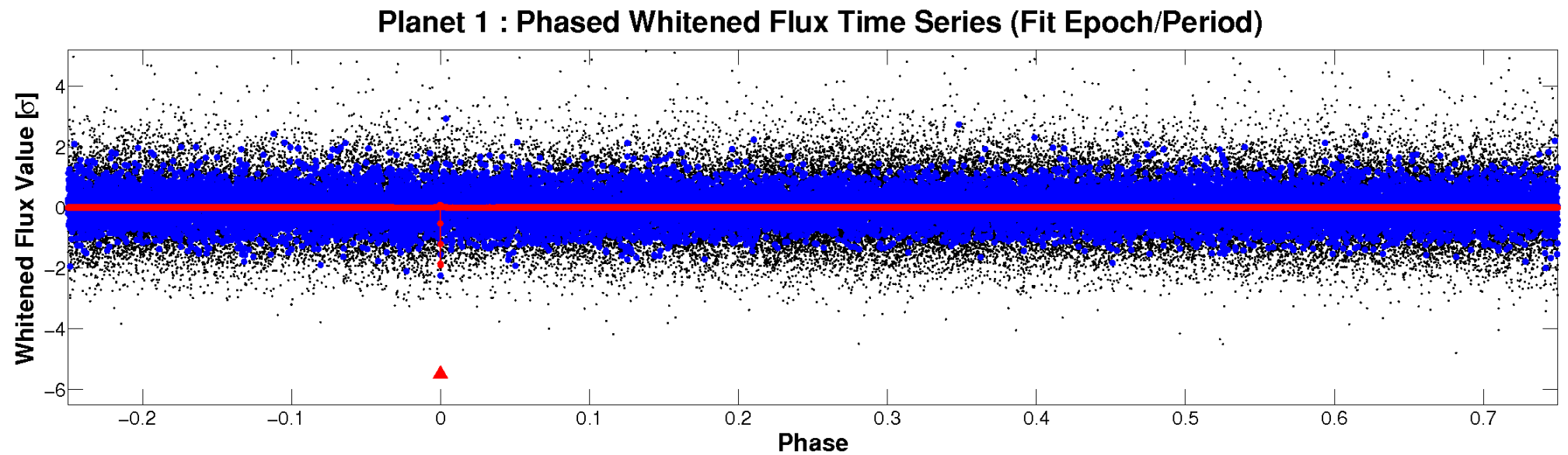
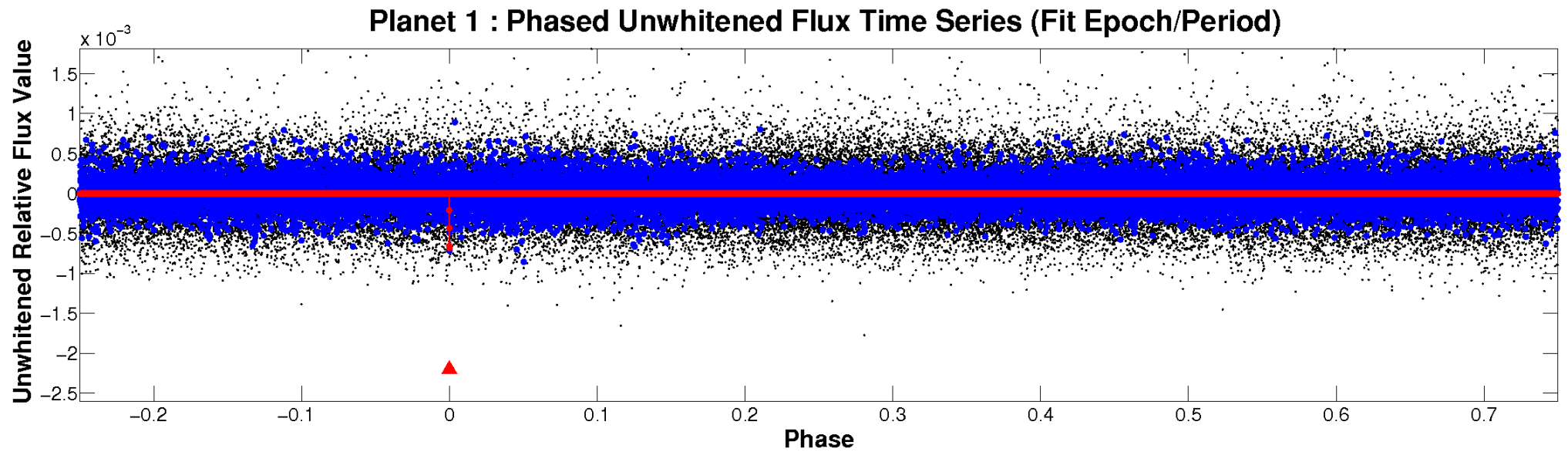


ALT Odd/Even

TCE 012068928-01

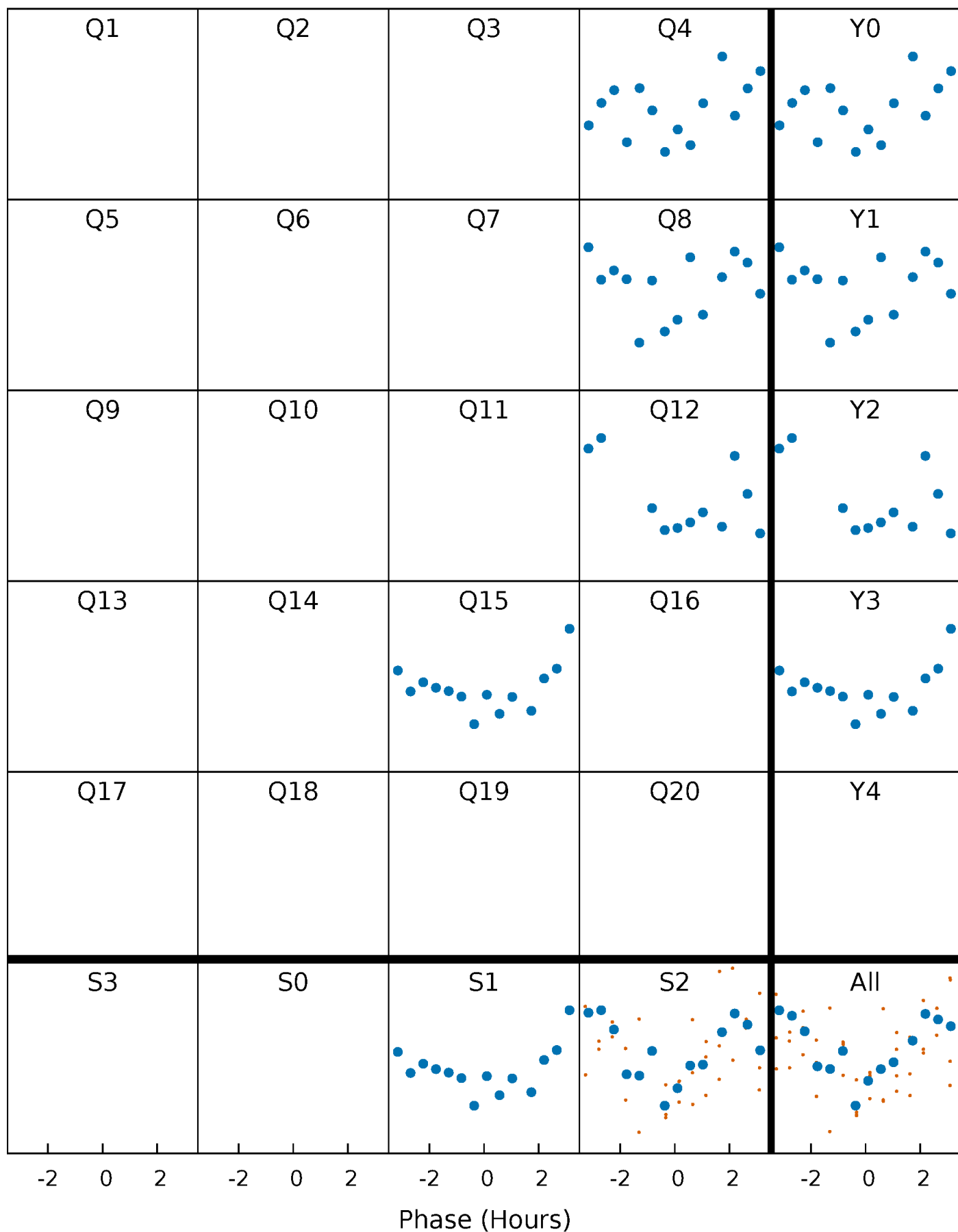


Non-Whitened Vs. Whitened Light Curve



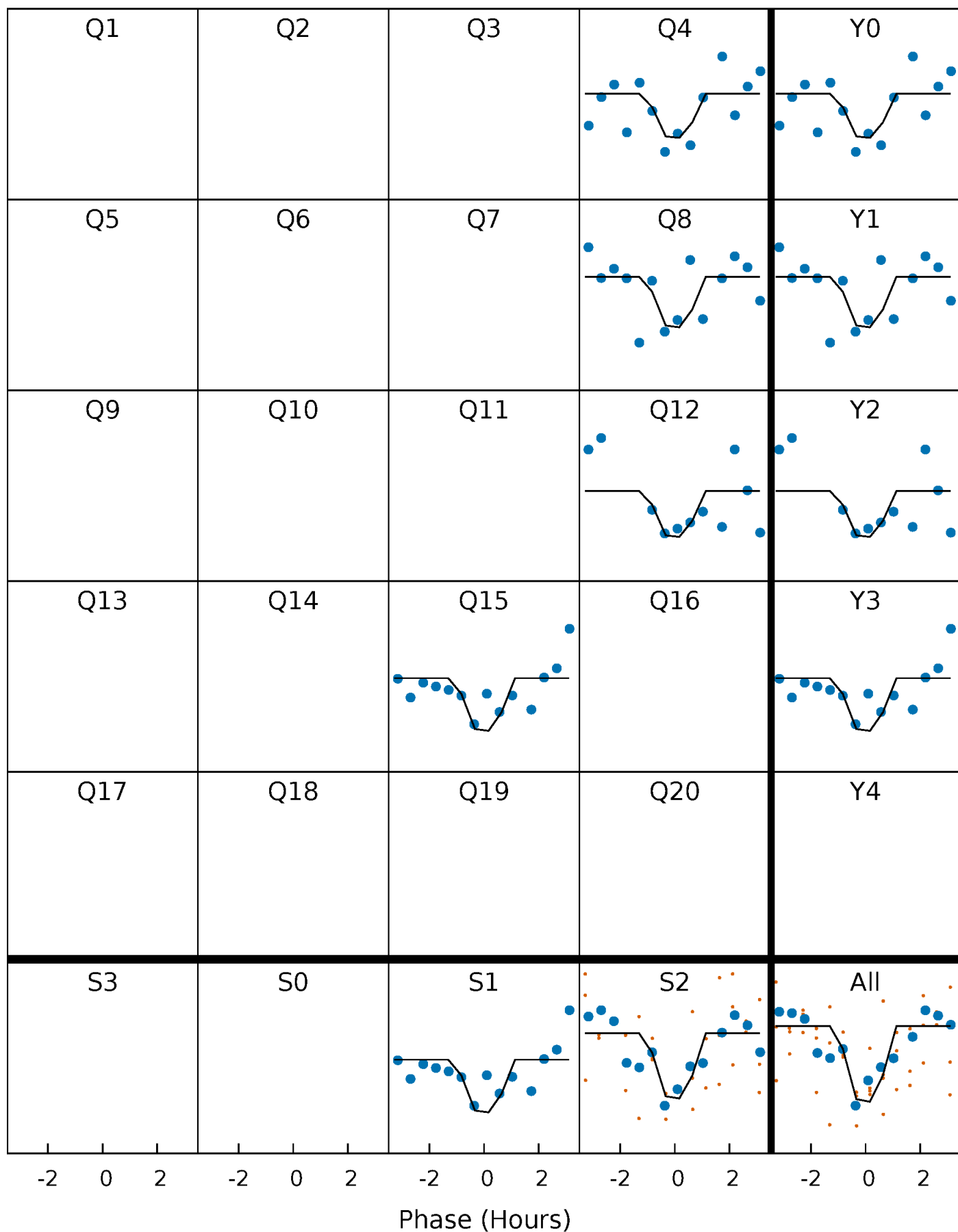
PDC Quarter-Phased Transit Curves

TCE 012068928-01 P=351.785304 Days $T_0=406.825207$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012068928-01 P=351.785304 Days $T_0=406.825207$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

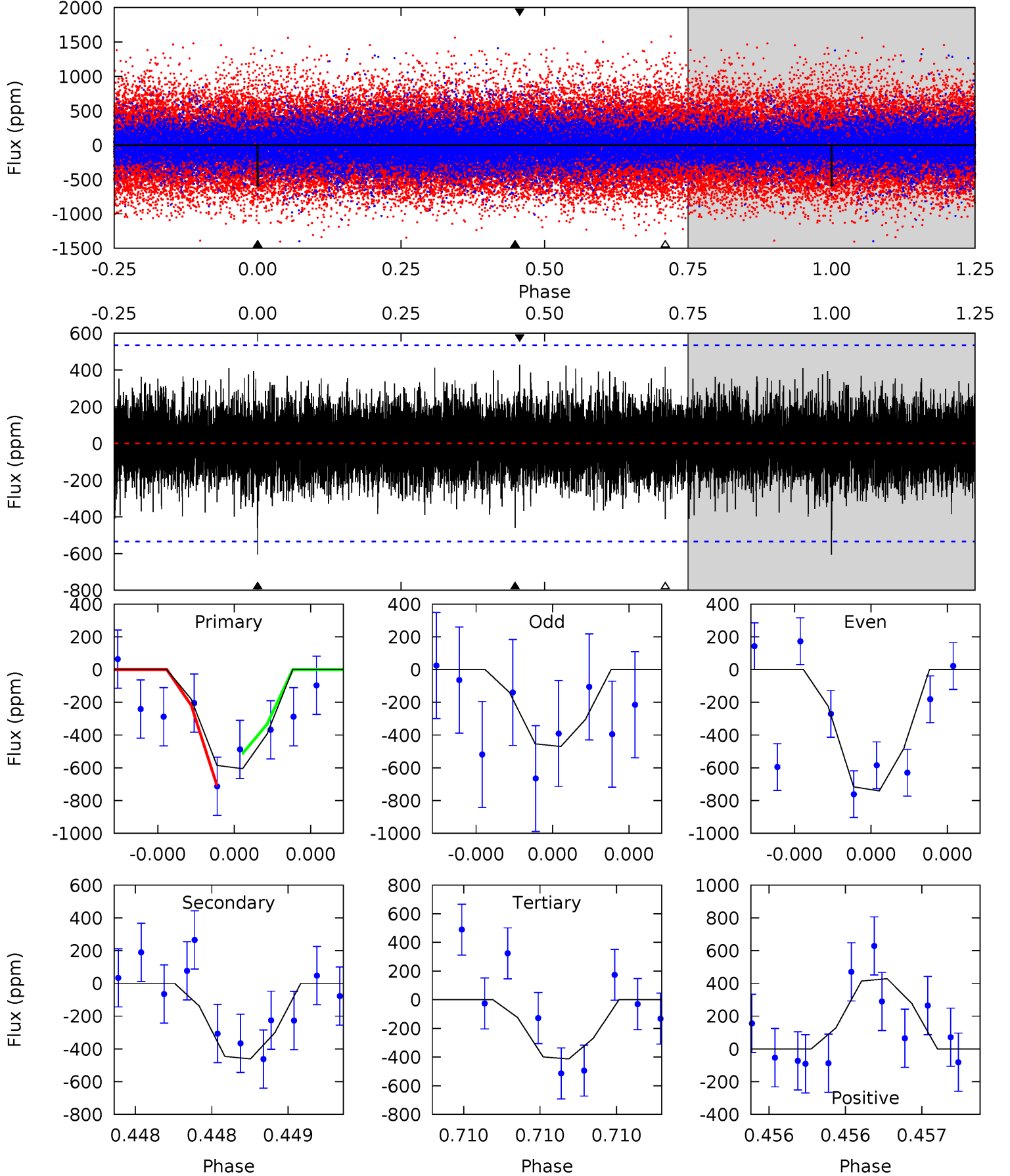
TCE 012068928-01 P=351.798184 Days $T_0=406.805773$ (BKJD)



DV Model-Shift Uniqueness Test

012068928-01, P = 351.785304 Days, E = 55.039903 Days

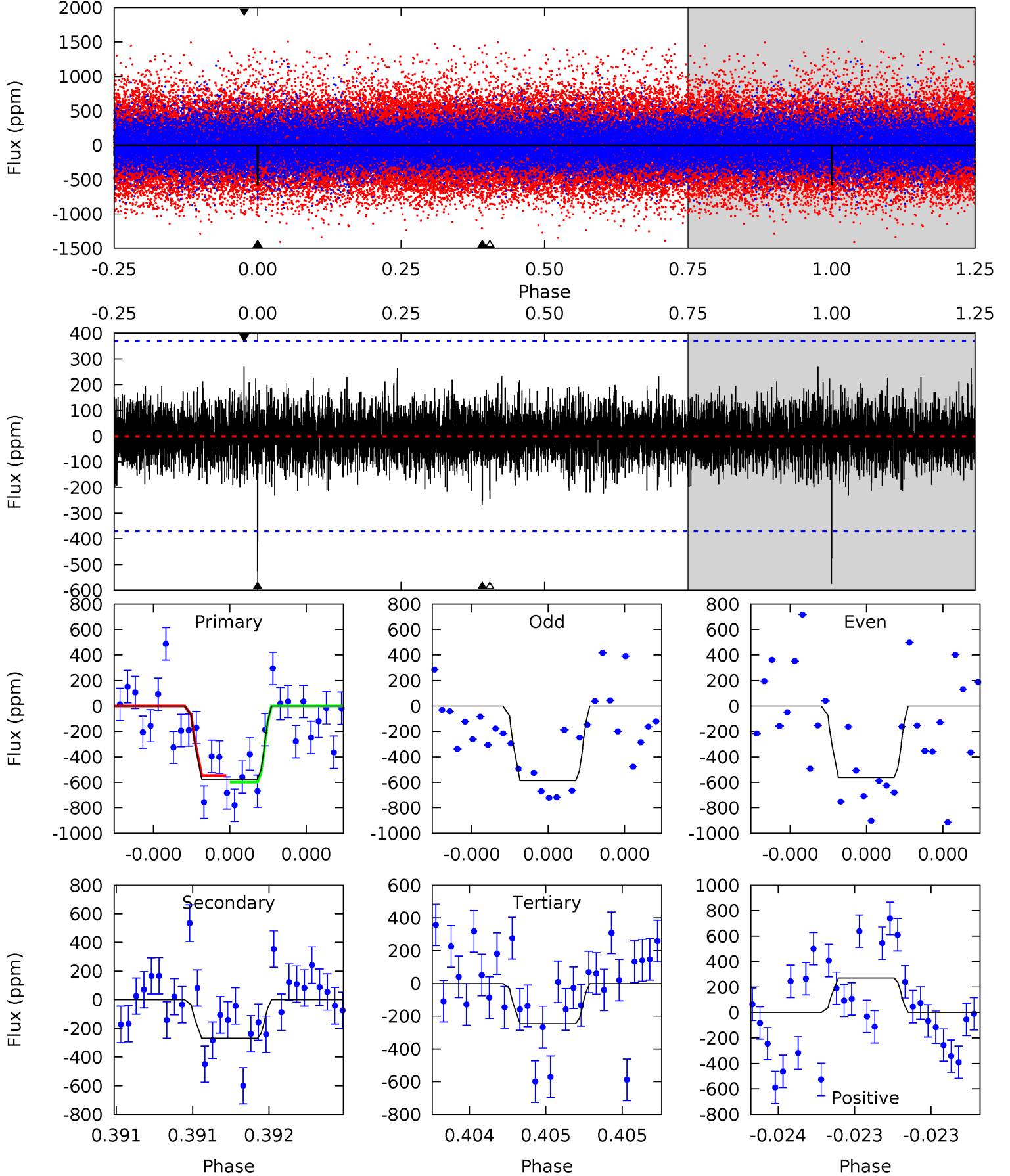
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.52	4.97	4.45	4.61	5.75	3.75	1.16	2.07	1.90	0.52	0.35	1.45	1.09	0.41	1.05



Alt Model-Shift Uniqueness Test

012068928-01, $P = 351.798184$ Days, $E = 55.007589$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.70	4.06	3.71	4.11	5.60	3.52	1.00	4.99	4.59	0.36	-0.05	0.19	1.00	0.32	0.41



Stellar Parameters For KIC 012068928

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6161^{+172}_{-215}	$4.454^{+0.052}_{-0.208}$	$0.070^{+0.250}_{-0.350}$	$1.053^{+0.340}_{-0.113}$	$1.150^{+0.138}_{-0.153}$	$1.388^{+0.382}_{-0.714}$
	+3%/-3%	+1%/-5%	+357%/-500%	+32%/-11%	+12%/-13%	+28%/-51%
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 012068928-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-461 ± 93	$34.24^{+37.15}_{-24.68}$	393^{+30}_{-20}	2552^{+1017}_{-407}	229^{+2527}_{-179}
Alt.	-269 ± 66	$32.15^{+39.20}_{-24.00}$	394^{+30}_{-18}	2410^{+1050}_{-379}	145^{+1937}_{-114}

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

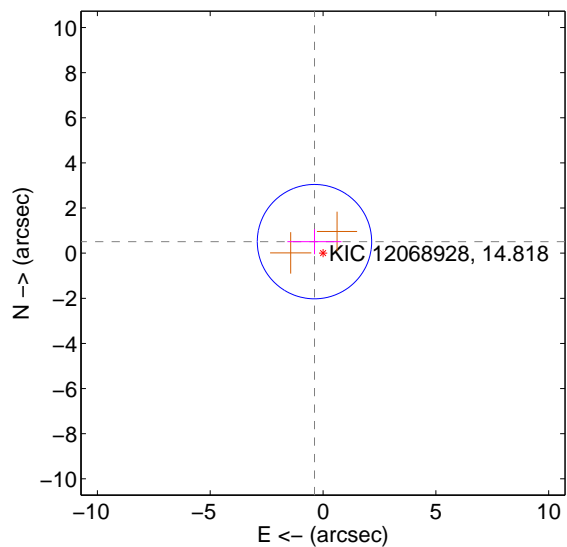
Supplemental centroid analysis for 012068928-01. Kepler magnitude: 14.82. Transit SNR 5.82

There are 0 quarters with good PRF difference image offsets

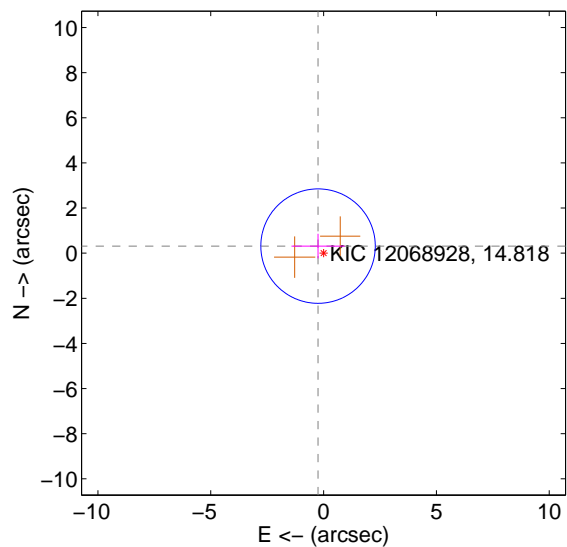
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.636 ± 0.845	0.75	0.379 ± 1.201	0.511 ± 0.559
PRF-fit source offset from KIC position	0.398 ± 0.845	0.47	0.245 ± 1.180	0.313 ± 0.546
photometric centroid source offset	1.76 ± 2.39	0.74	1.54 ± 2.39	0.85 ± 2.38

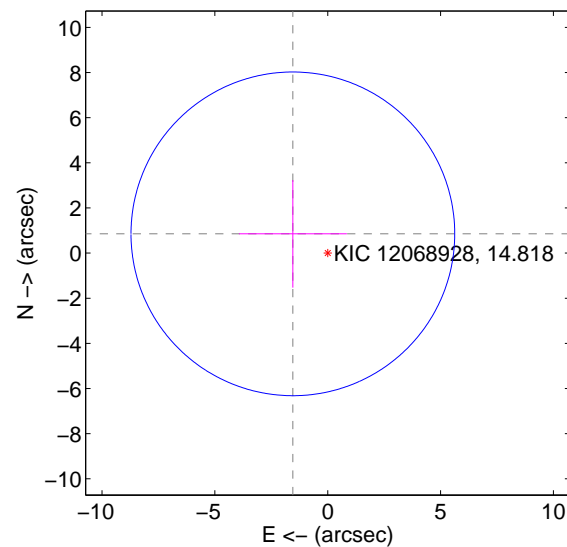
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

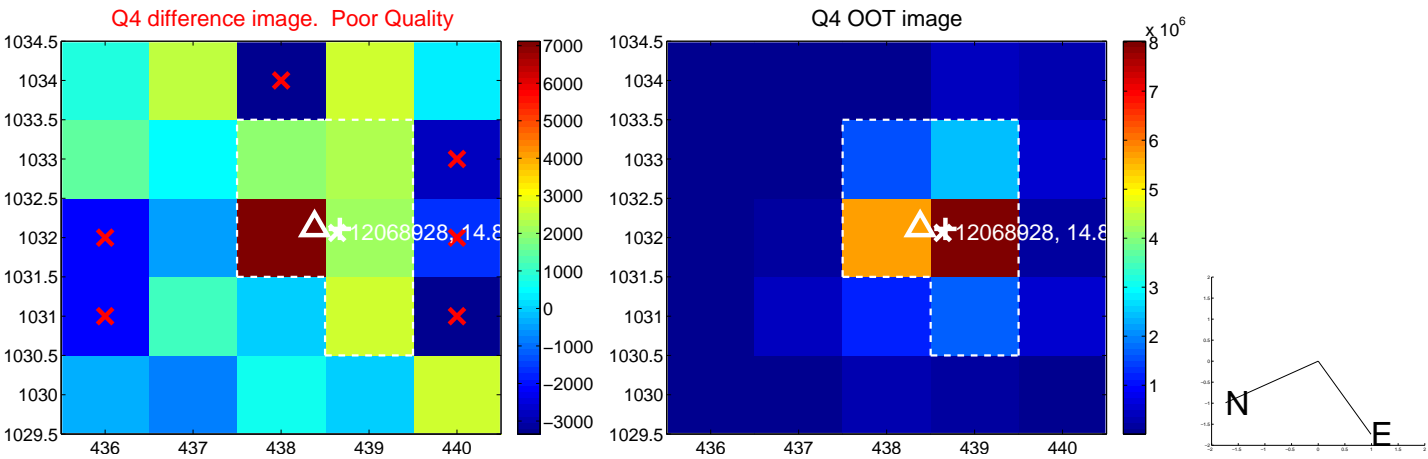


offset from photometric centroids

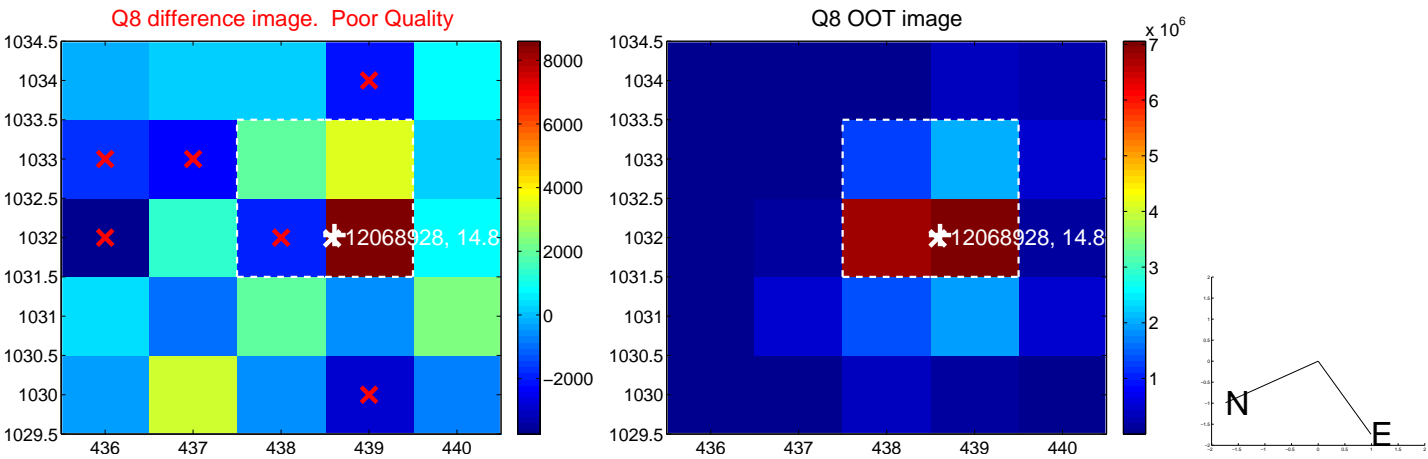
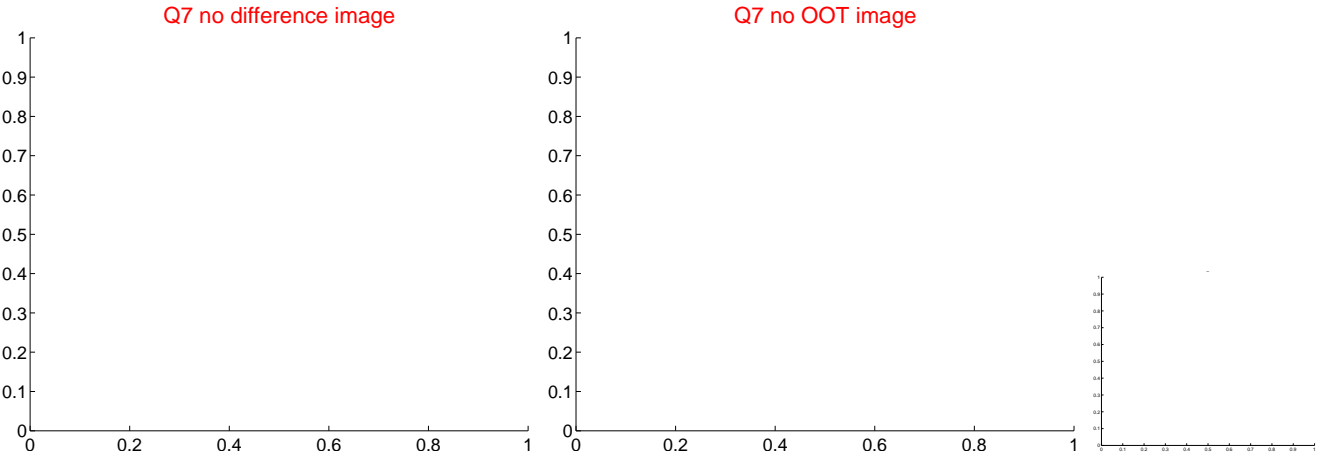
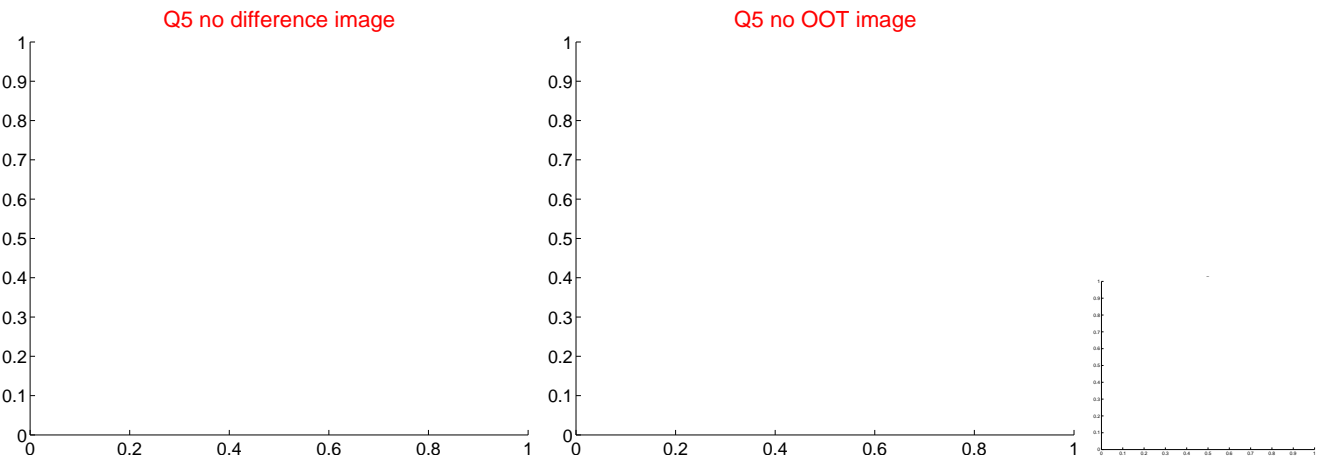


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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

Q13 no difference image



Q13 no OOT image



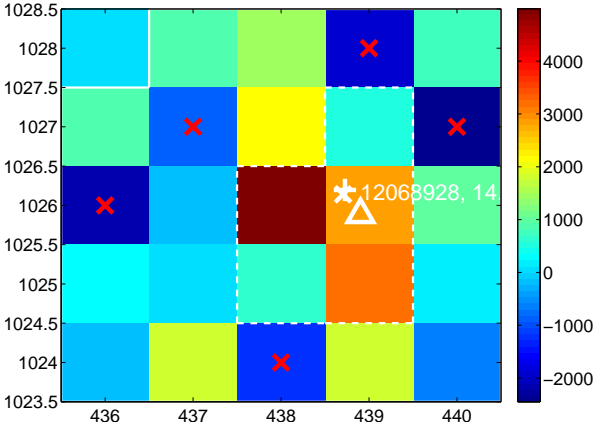
Q14 no difference image



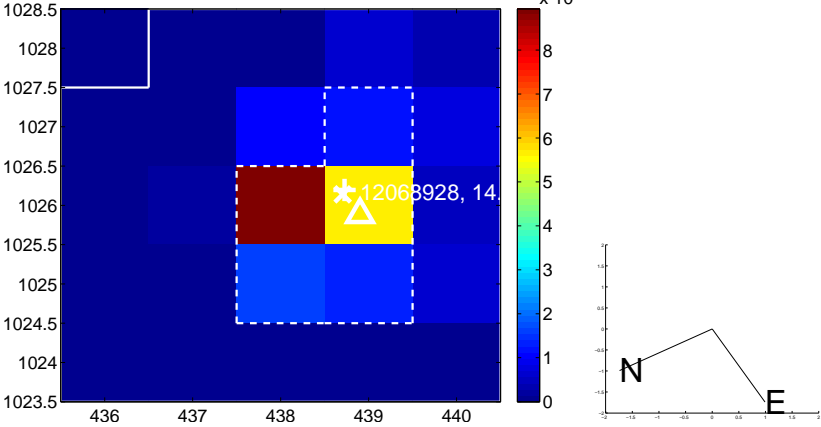
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



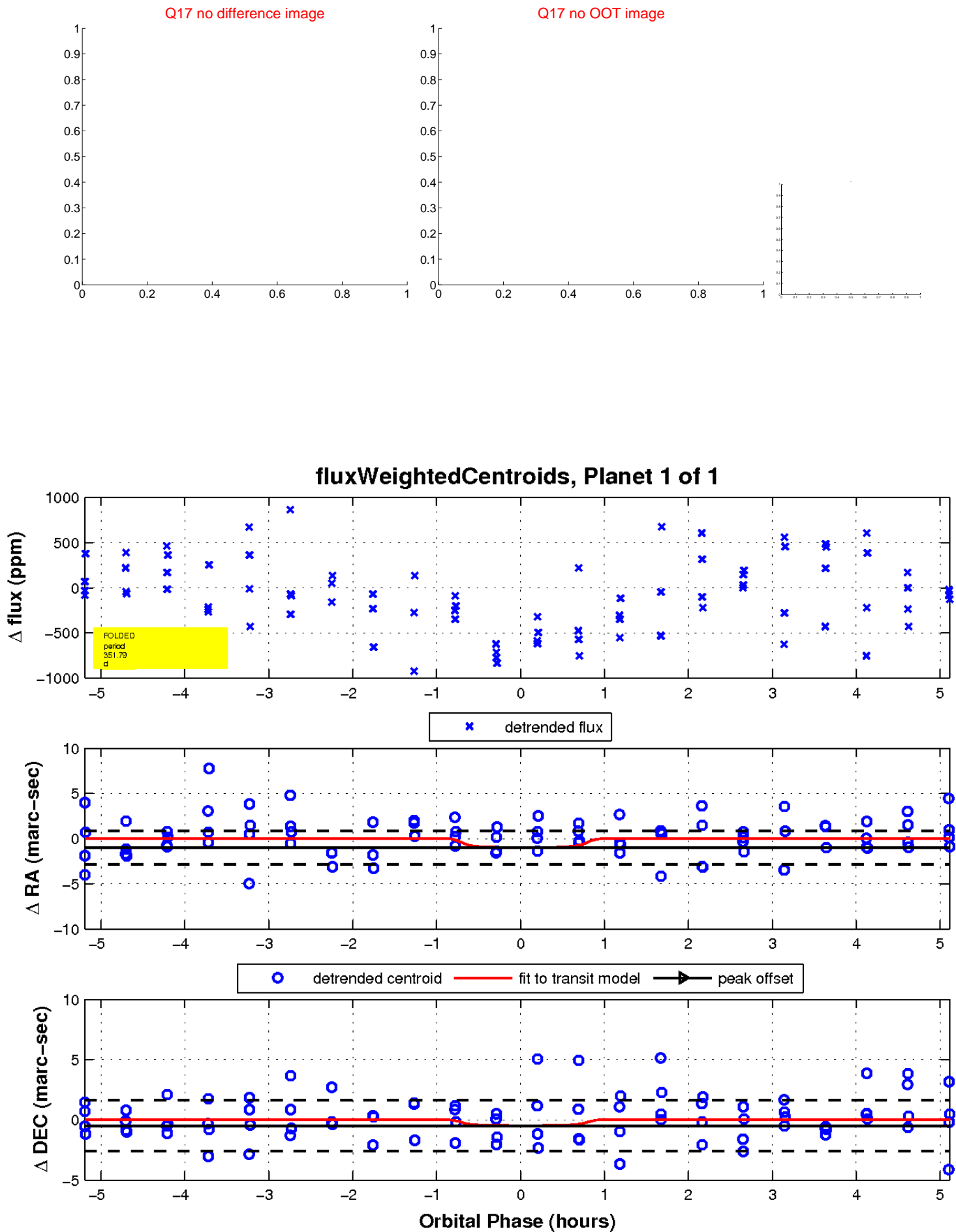
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

