

KIC 004736074

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})
004736074-01	OBS	No	628.184372	236.179585	134.5	4.650	9.7	6.9	0.65	4932	1.06	0.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004736074-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

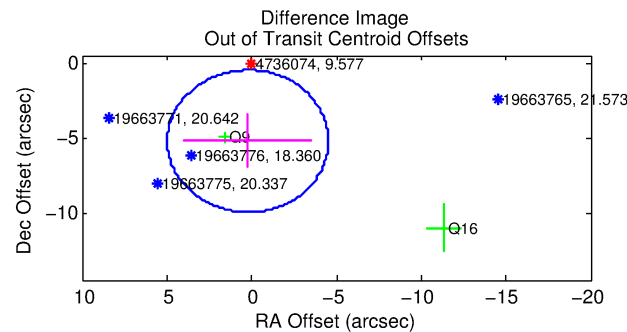
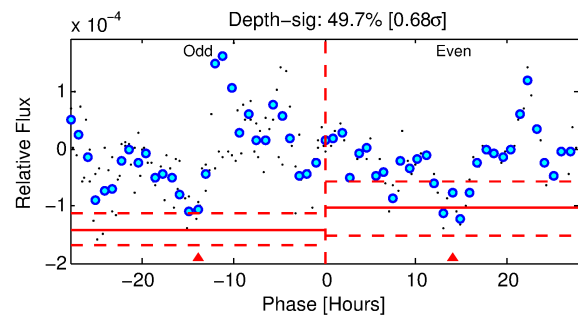
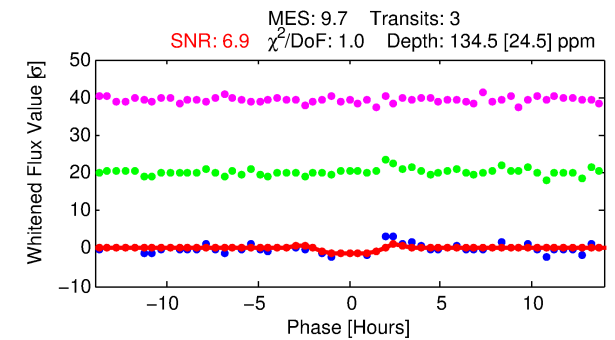
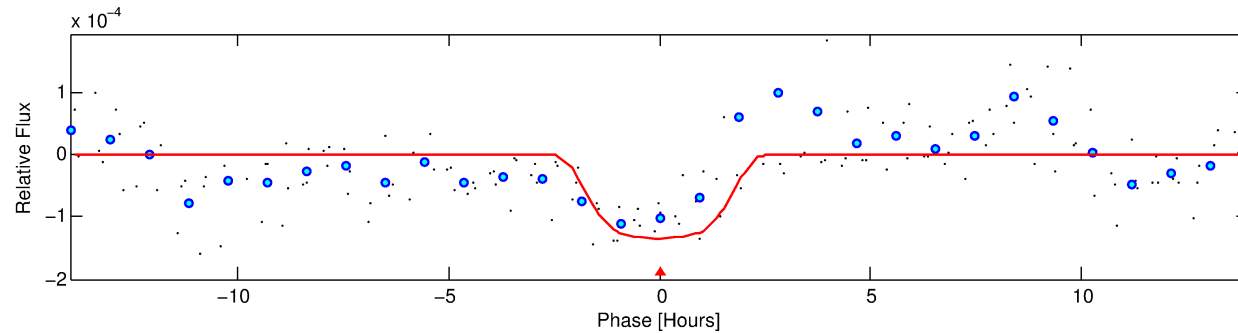
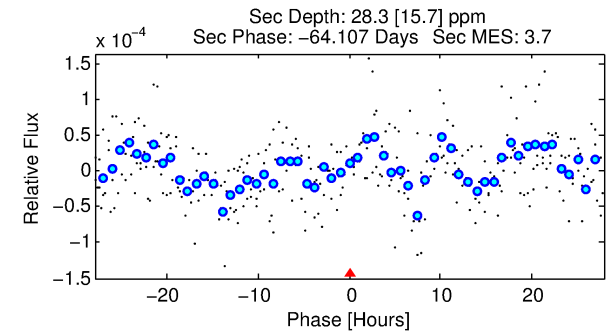
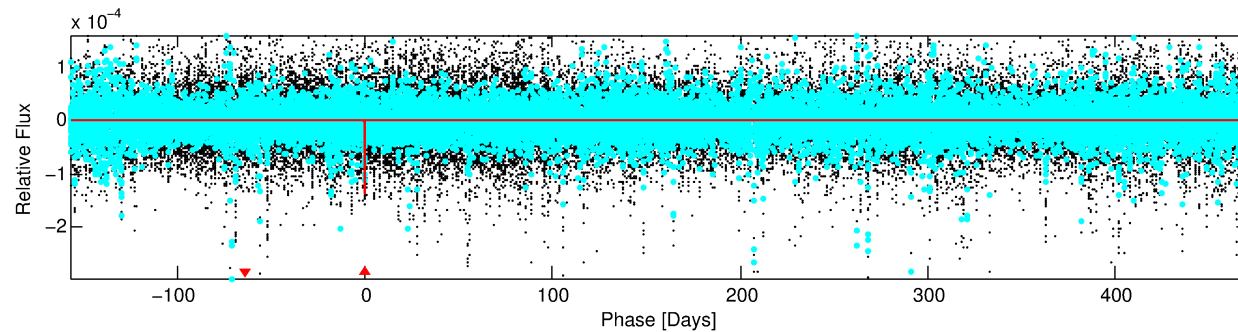
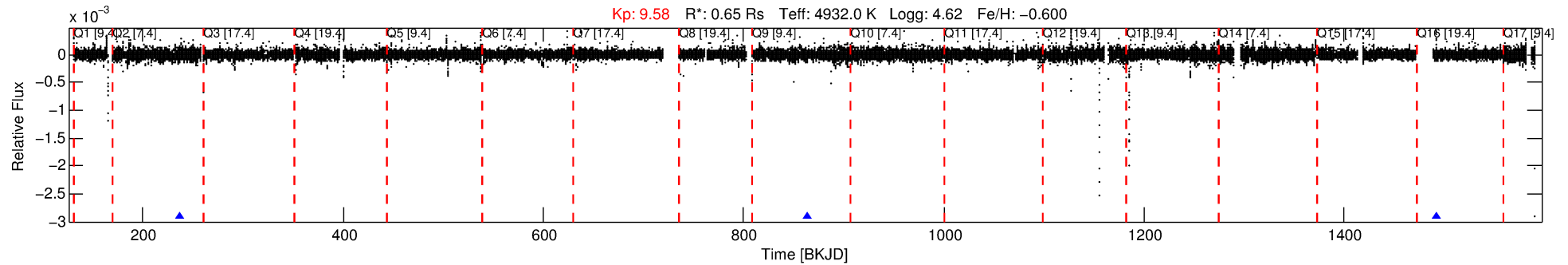
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004736074-01

No Significant Match Found

DV One-Page Summary

KIC: 4736074 Candidate: 1 of 1 Period: 628.184 d



DV Fit Results:

Period = 628.18437 [0.00728] d
Epoch = 236.1796 [0.0106] BKJD
Rp/R* = 0.0151 [0.0016]
a/R* = 281.06 [51.05]
b = 0.98 [0.01]
Seff = 0.15 [0.02]
Teq = 157 [6] K
Rp = 1.06 [0.15] Re
a = 1.2351 [0.0983] AU
Ag = 21016.46 [12705.54] [1.65σ]
Teffp = 2932 [444] K [6.25σ]

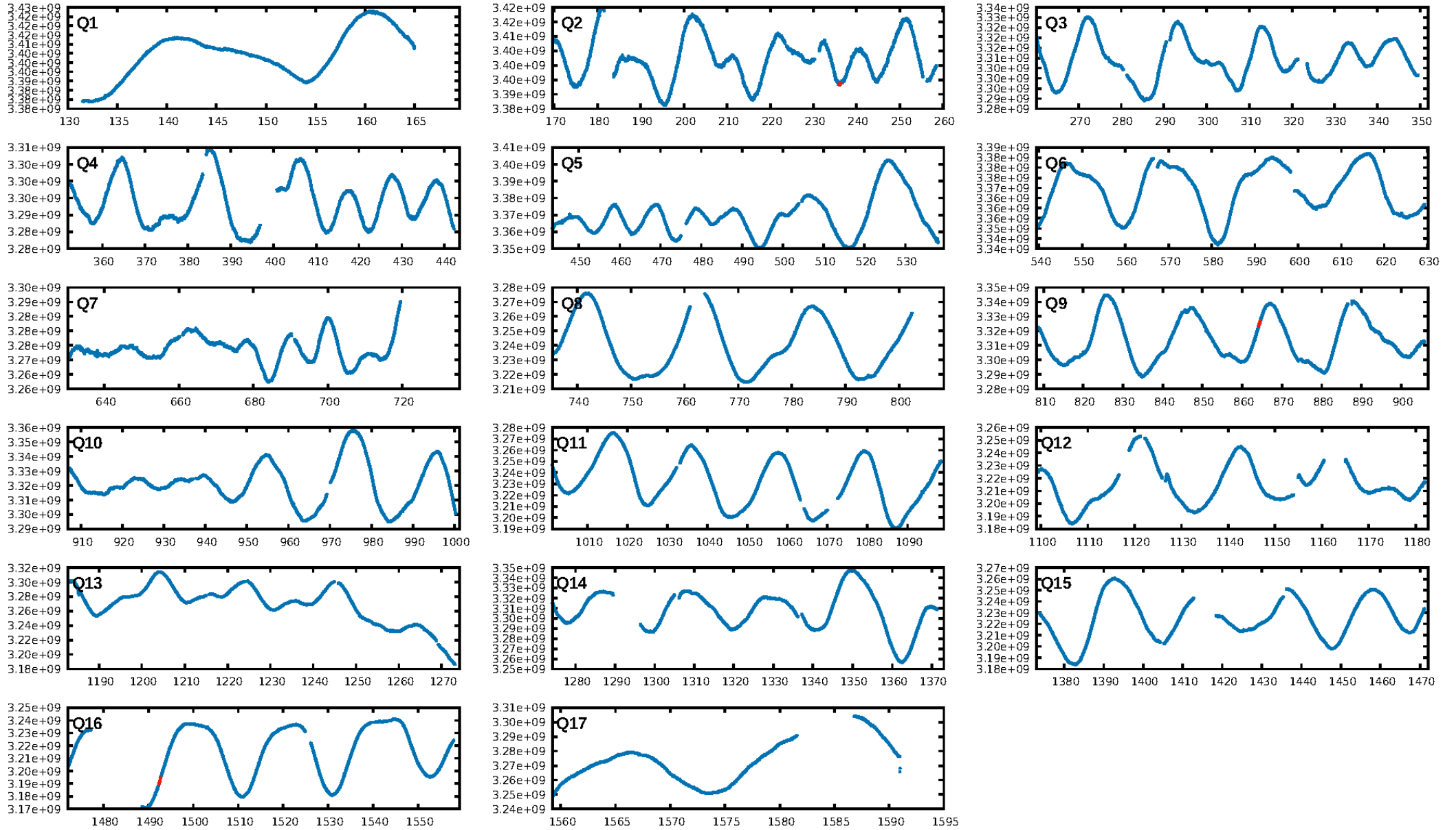
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 55.8%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 3.02e-06
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 3.2%
Centroid-so: 4.541 arcsec [1.78σ]
OotOffset-rm: 5.238 arcsec [3.31σ]
KicOffset-rm: 7.812 arcsec [1.95σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

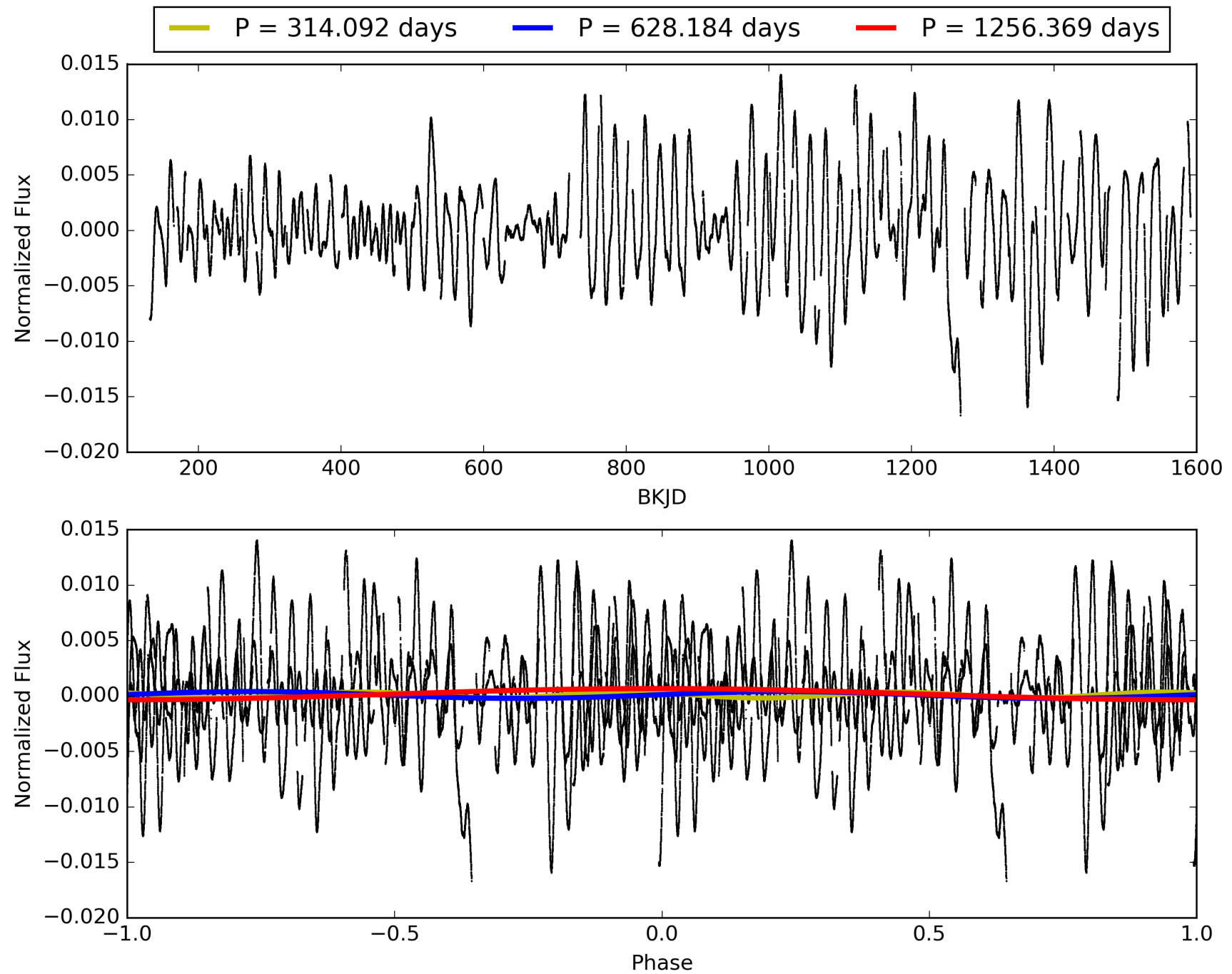
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:37:34 Z

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

TCE 004736074-01, PDC Light Curves

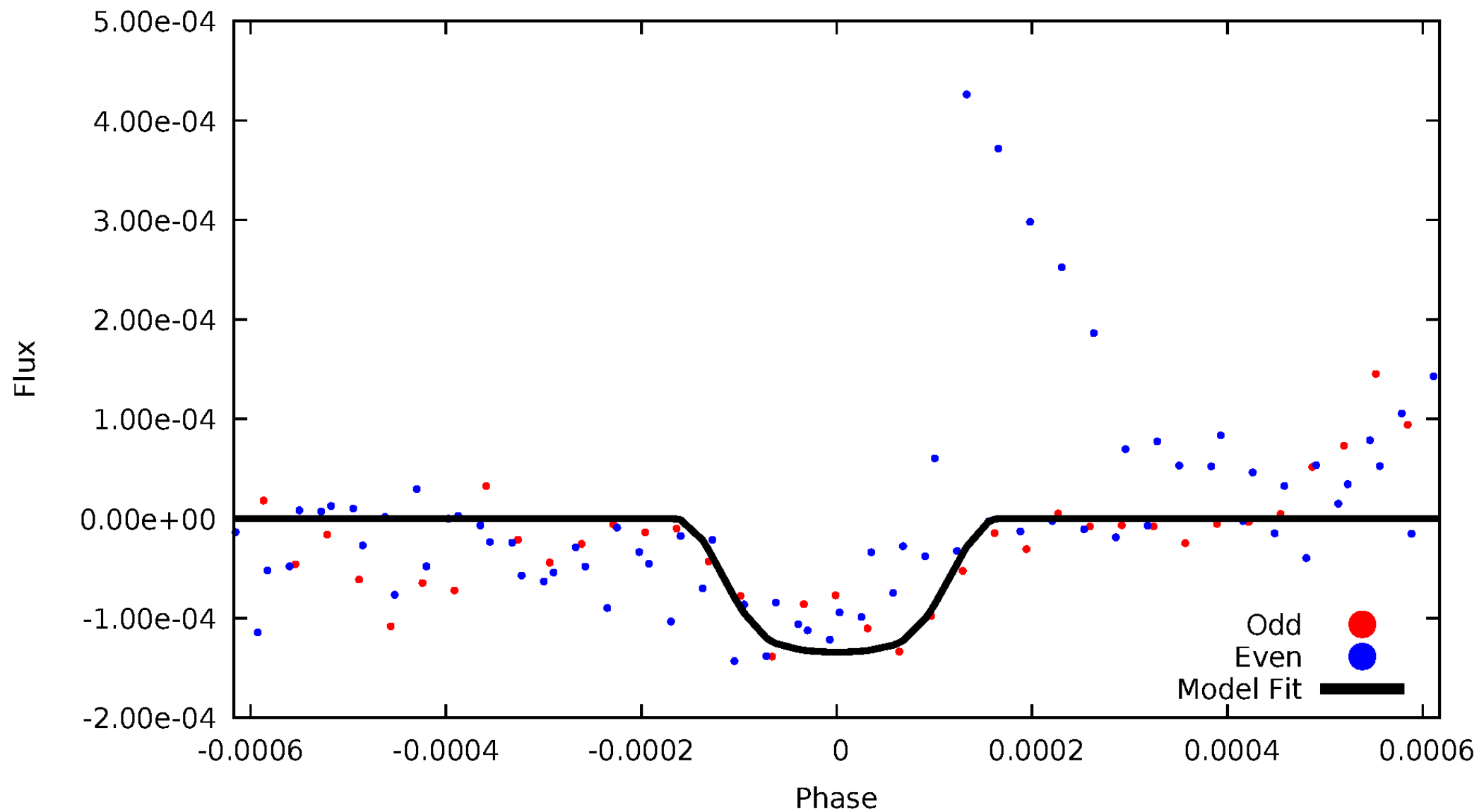


TCE 004736074-01



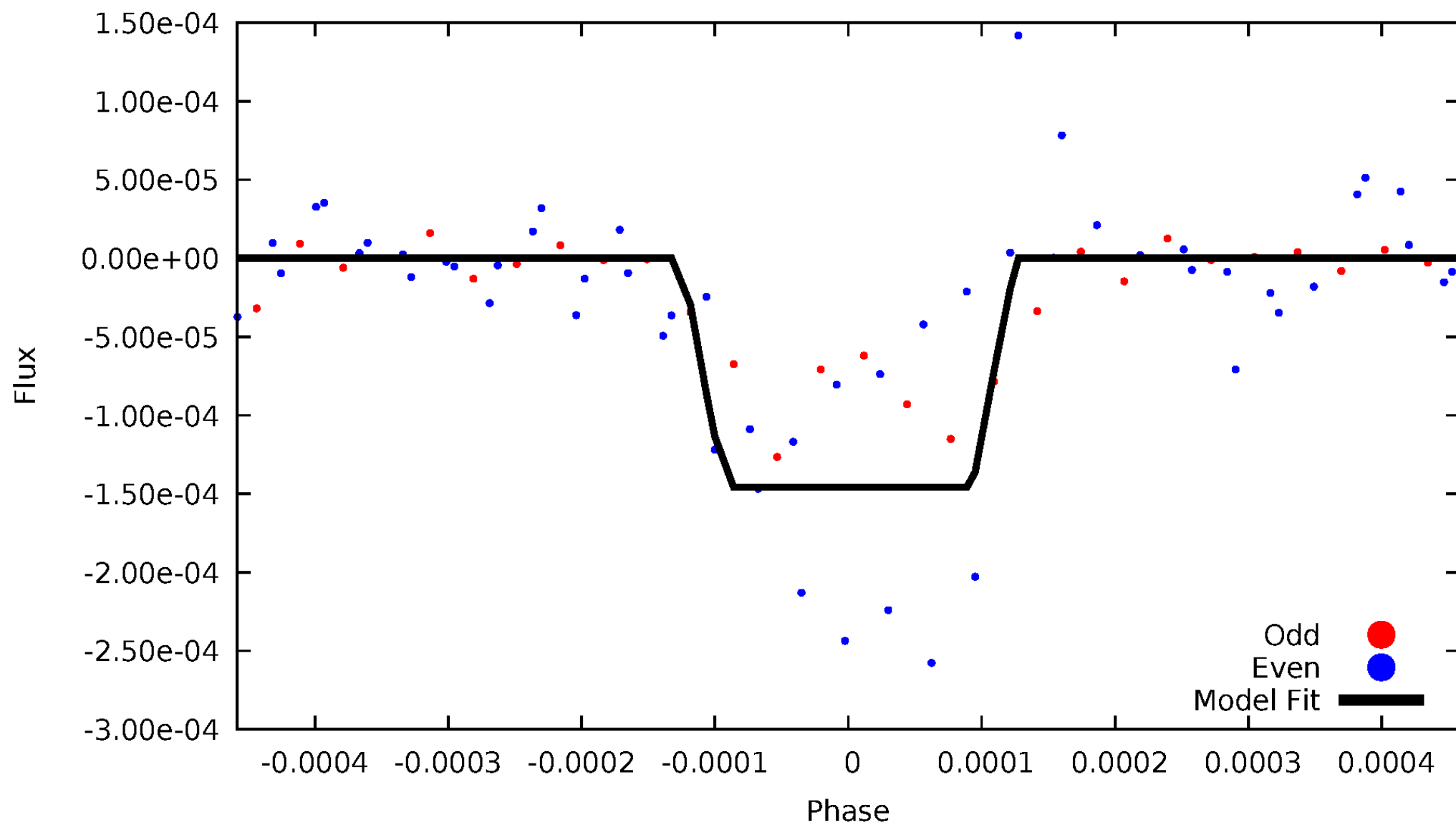
DV Odd/Even

TCE 004736074-01



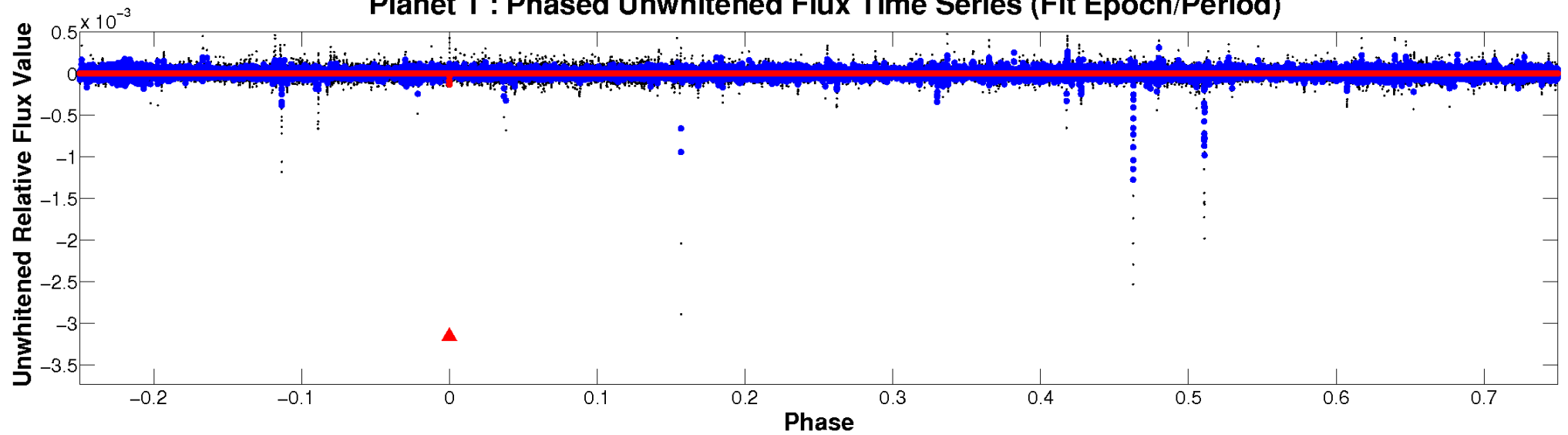
ALT Odd/Even

TCE 004736074-01

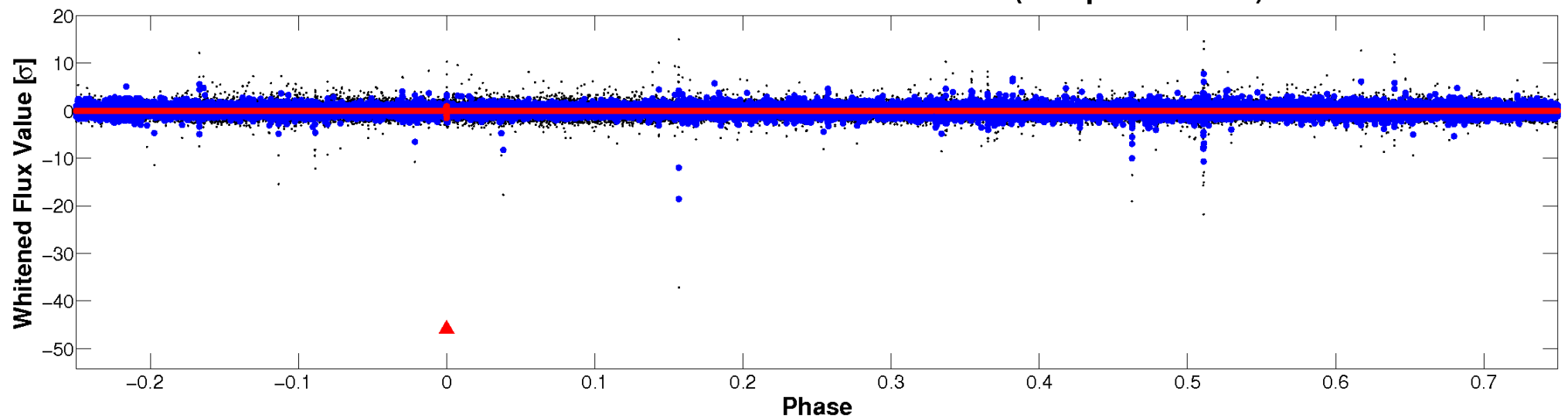


Non-Whitened Vs. Whitened Light Curve

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

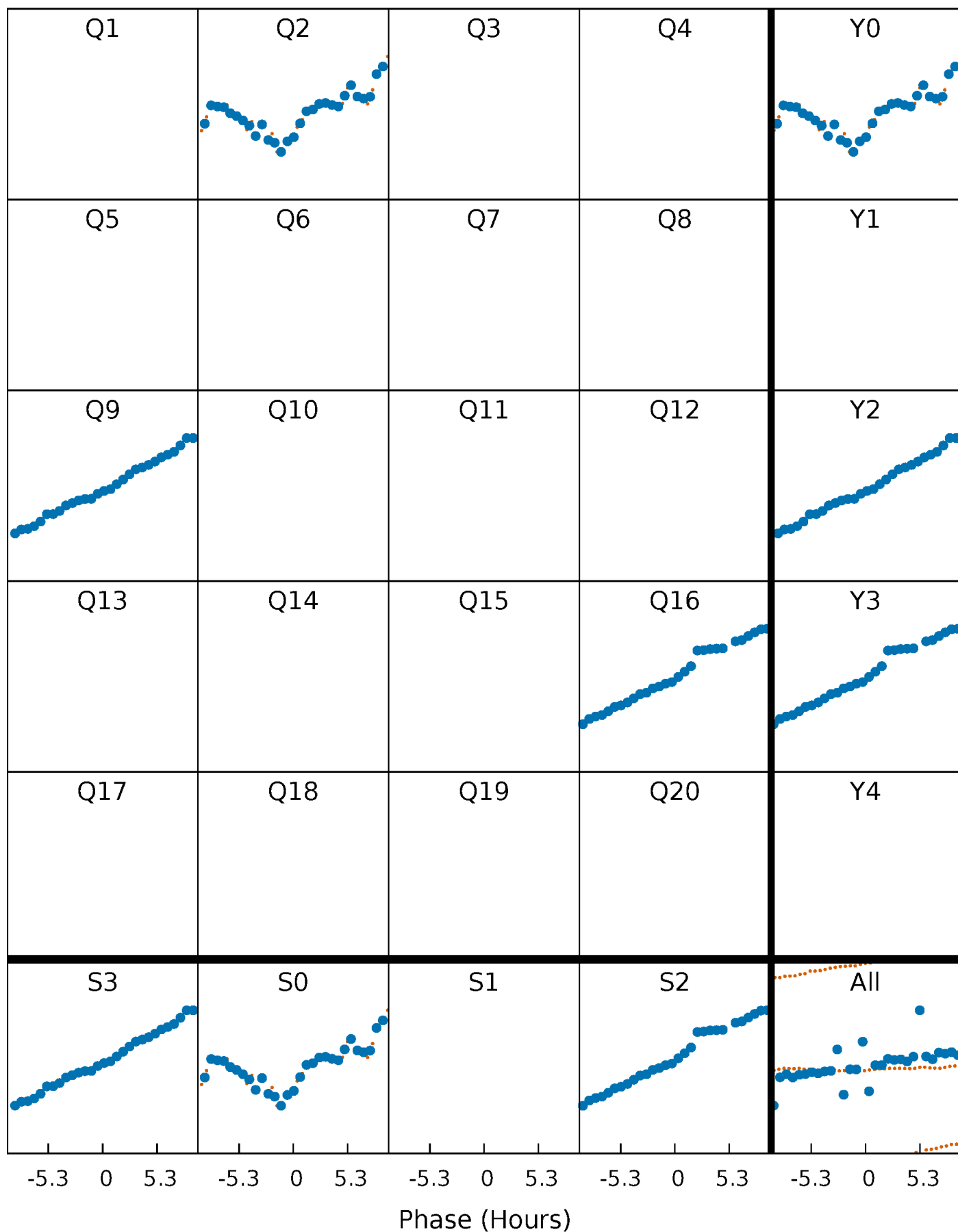


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



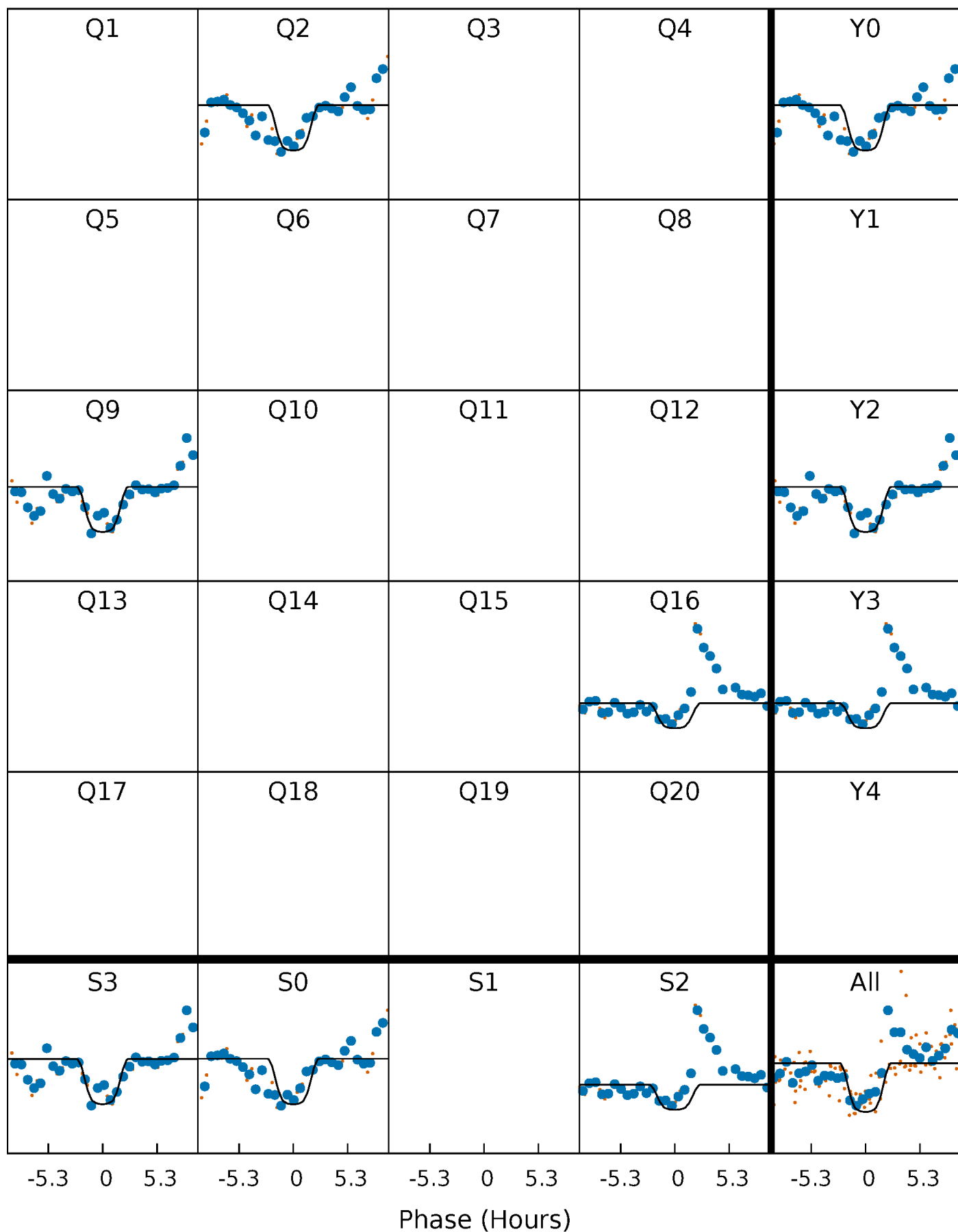
PDC Quarter-Phased Transit Curves

TCE 004736074-01 P=628.184372 Days $T_0=236.179585$ (BKJD)



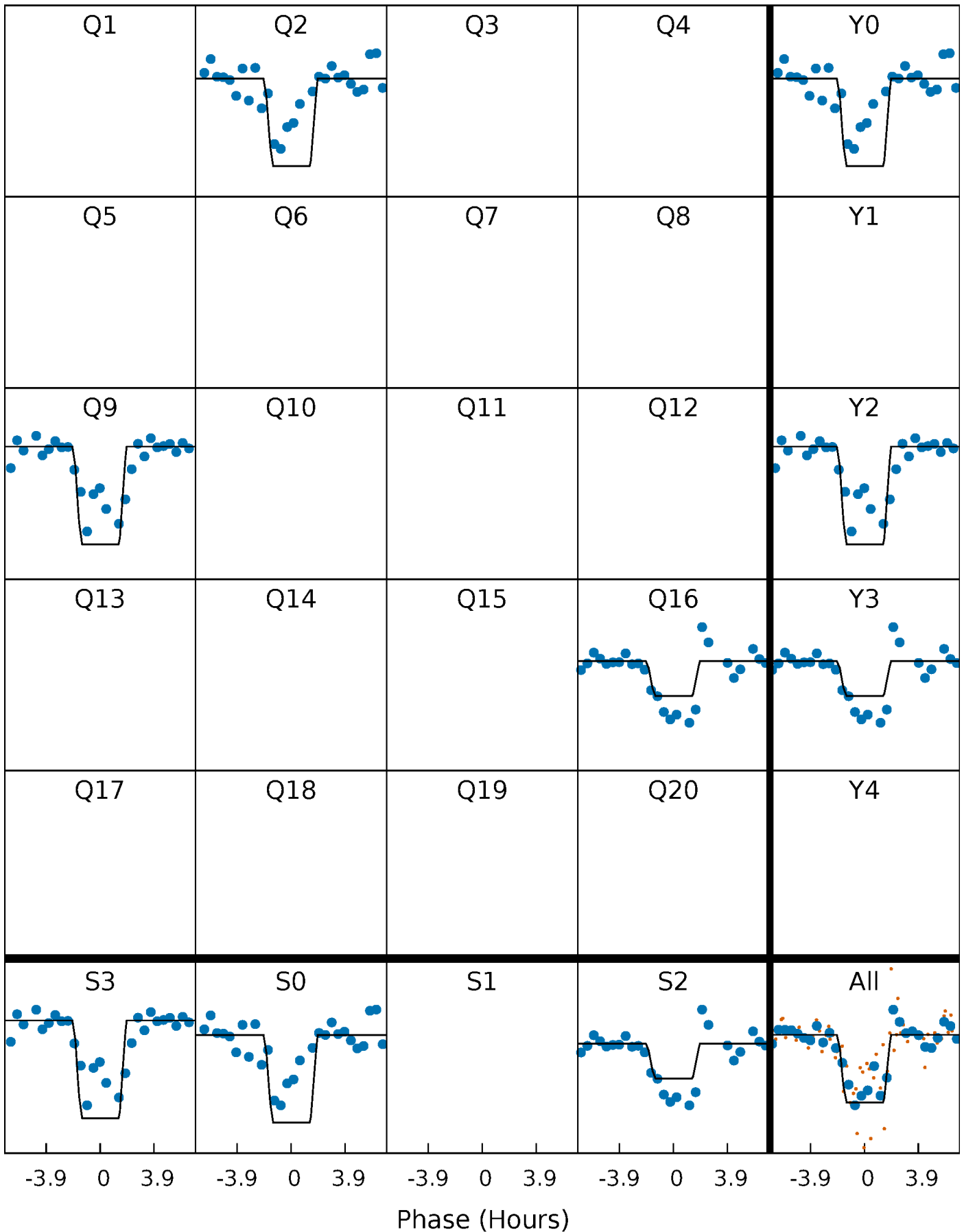
DV Quarter-Phased Transit Curves

TCE 004736074-01 P=628.184372 Days $T_0=236.179585$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

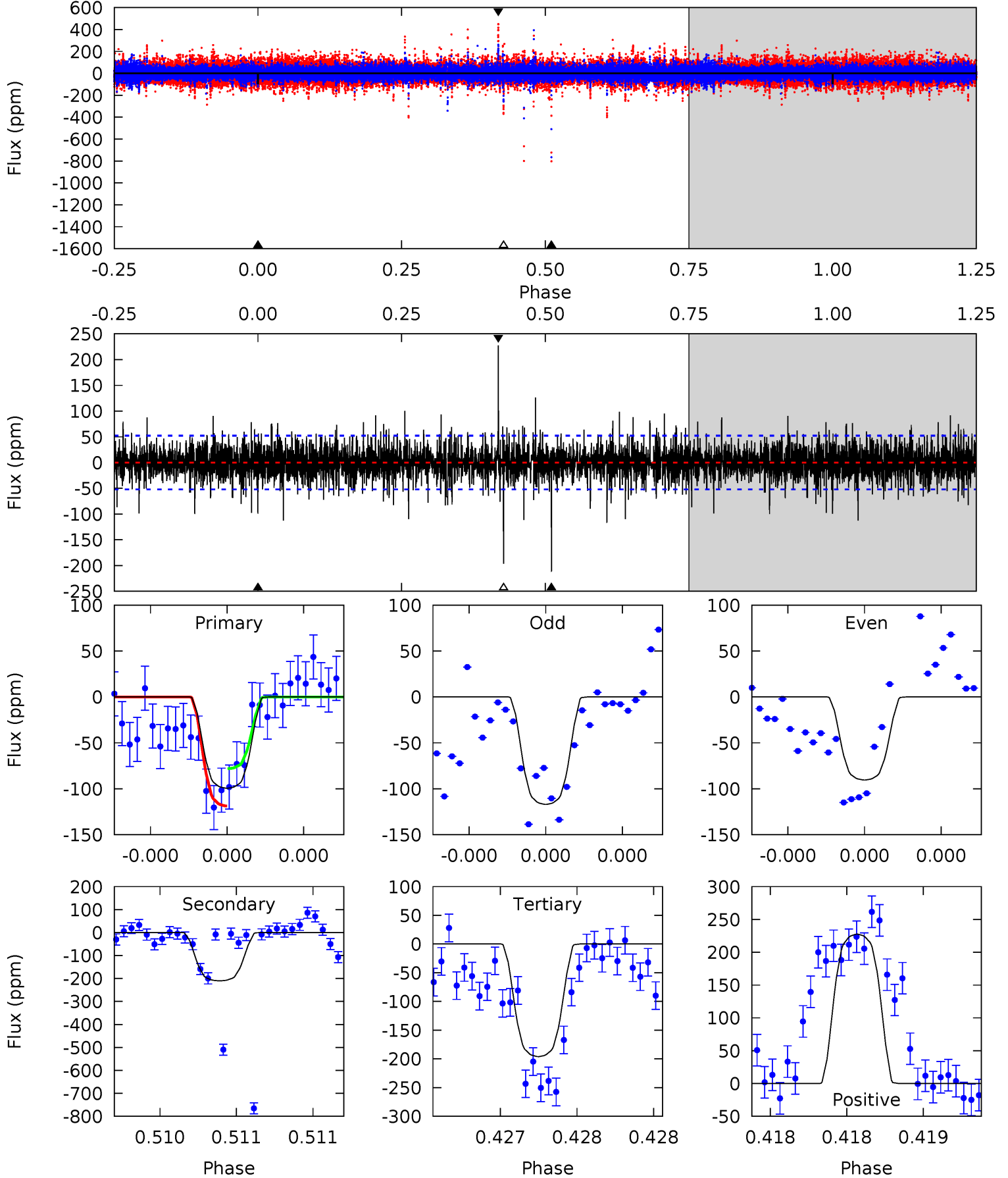
TCE 004736074-01 P=628.195746 Days $T_0=236.160270$ (BKJD)



DV Model-Shift Uniqueness Test

004736074-01, P = 628.184372 Days, E = 236.179585 Days

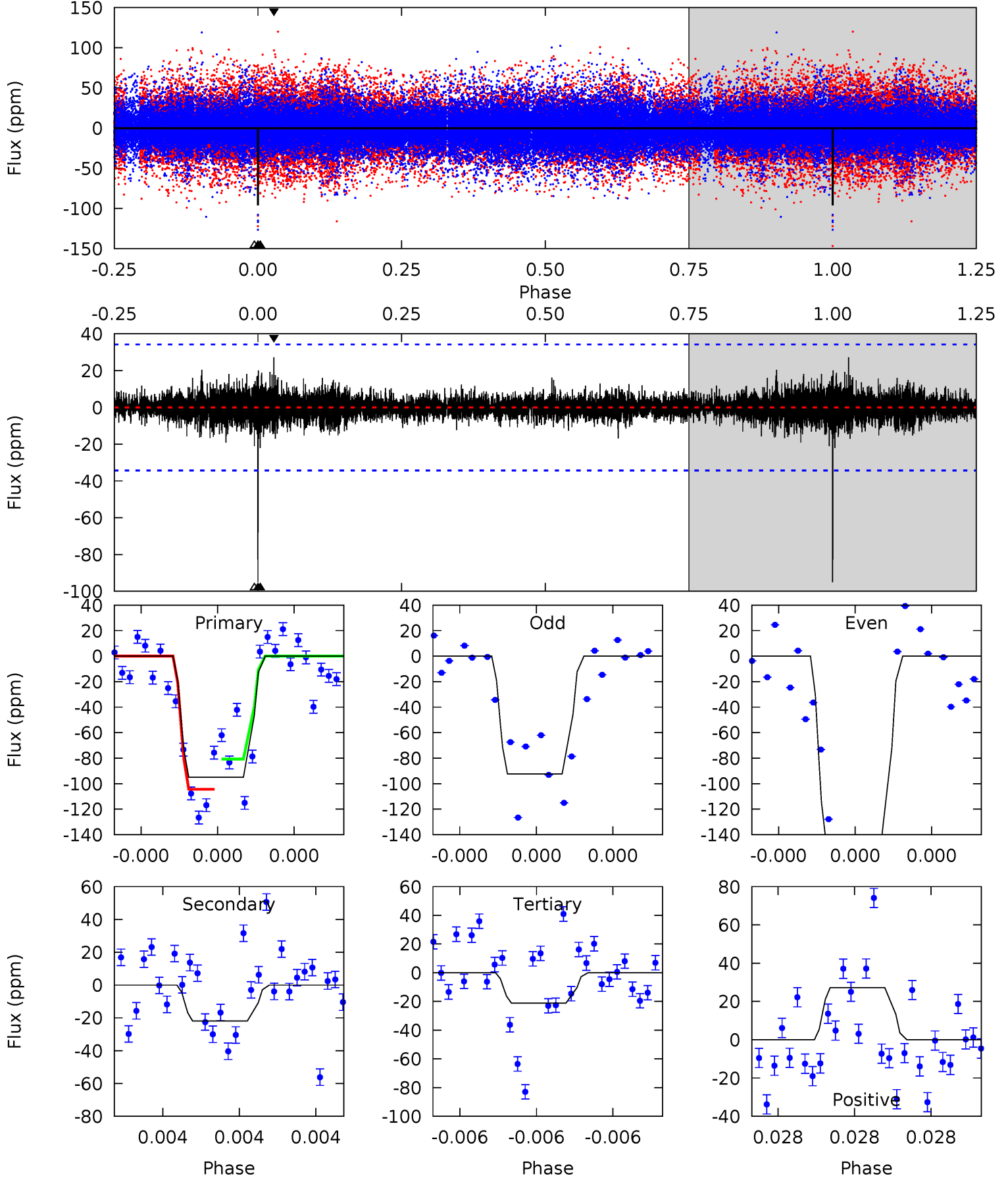
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	22.7	21.2	24.6	5.64	3.58	2.45	-10.5	-13.9	1.54	-1.86	1.35	0.82	0.52	2.21



Alt Model-Shift Uniqueness Test

004736074-01, P = 628.195746 Days, E = 236.160270 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	3.66	3.51	4.53	5.71	3.69	0.63	12.3	11.3	0.14	-0.88	5.23	1.36	0.22	0



Stellar Parameters For KIC 004736074

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4932^{+147}_{-147}	$4.620^{+0.060}_{-0.035}$	$-0.600^{+0.300}_{-0.300}$	$0.647^{+0.063}_{-0.057}$	$0.636^{+0.076}_{-0.035}$	$3.310^{+0.800}_{-0.538}$
	+3%/-3%	+1%/-1%	+50%/-50%	+10%/-9%	+12%/-6%	+24%/-16%
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 004736074-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-210 ± 9	$1.06^{+0.13}_{-0.13}$	219^{+8}_{-8}	4850^{+278}_{-246}	159336^{+43610}_{-31588}
Alt.	-22 ± 6	$0.85^{+0.12}_{-0.12}$	220^{+7}_{-9}	3488^{+255}_{-225}	25633^{+12351}_{-8701}

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 $A_{obs} \gg 1.0$

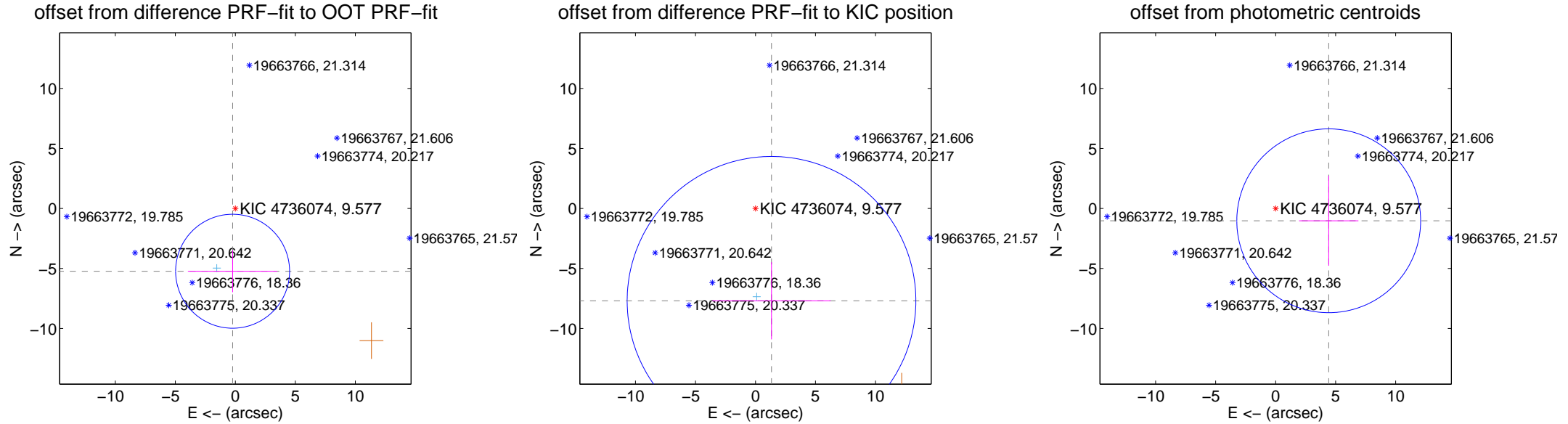
DV Centroid Data

Supplemental centroid analysis for 004736074-01. **Kepler magnitude: 9.58.** Transit SNR 6.90

There are 1 quarters with good PRF difference image offsets

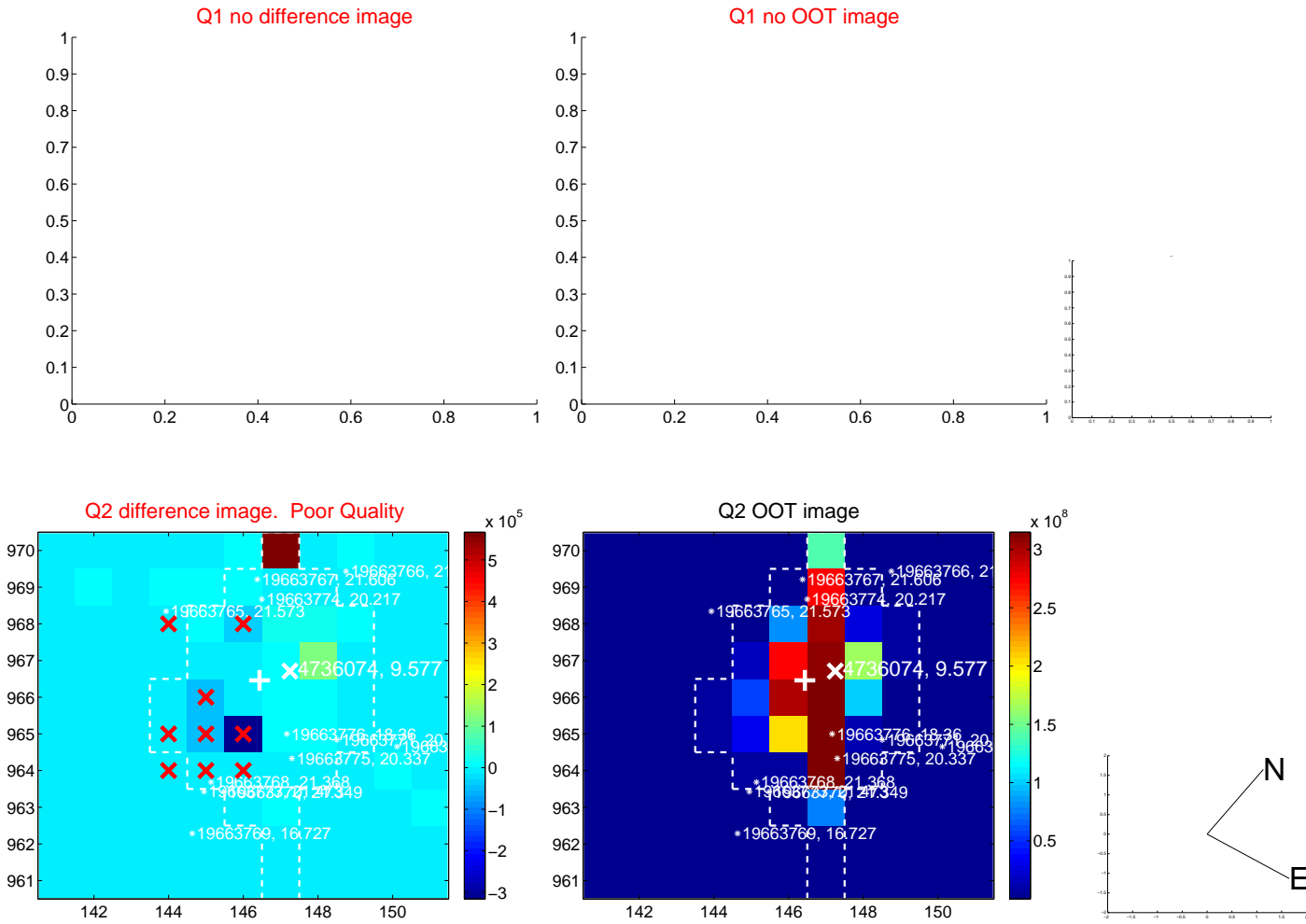
The OOT PRF centroid is offset from the target star catalog position by about 4.29 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.238 ± 1.583	3.31	0.228 ± 3.722	-5.233 ± 1.746
PRF-fit source offset from KIC position	7.812 ± 4.010	1.95	-1.336 ± 4.934	-7.697 ± 3.214
photometric centroid source offset	4.54 ± 2.55	1.78	-4.42 ± 2.47	-1.03 ± 3.75



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.

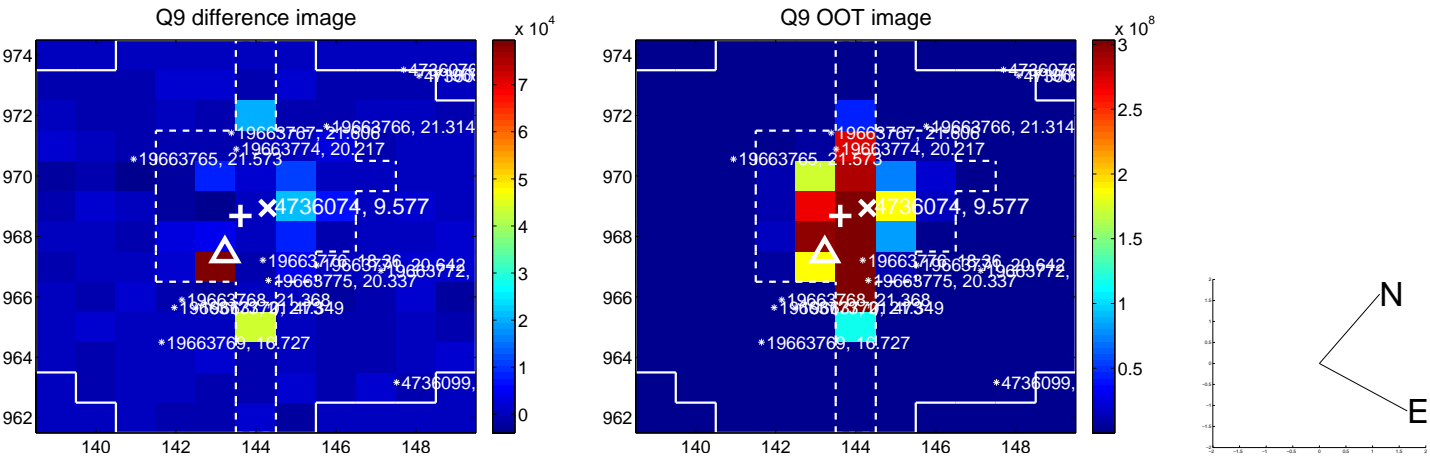
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



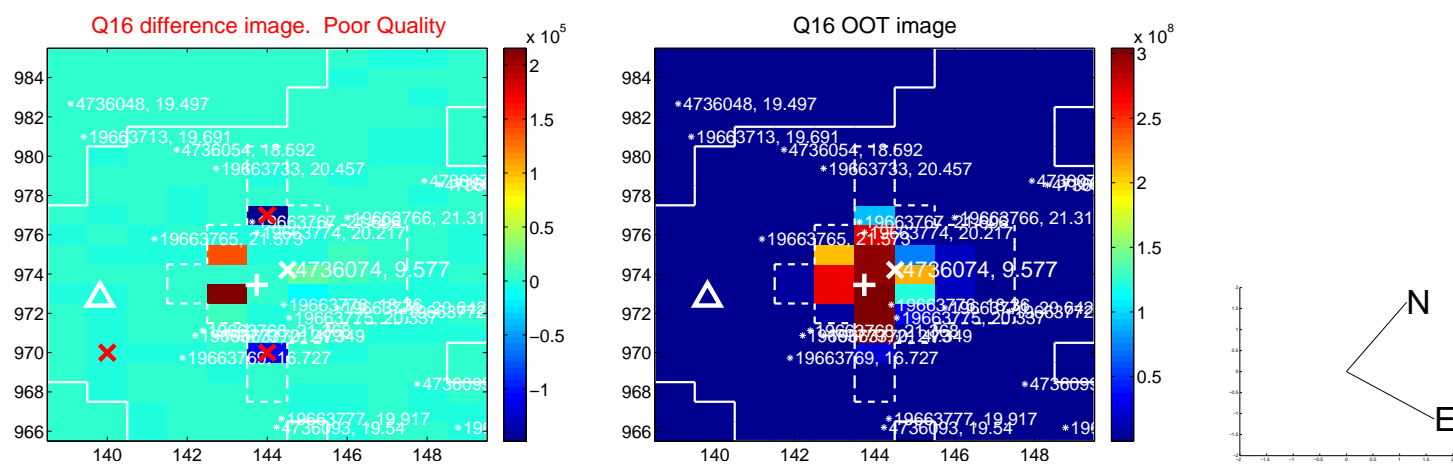
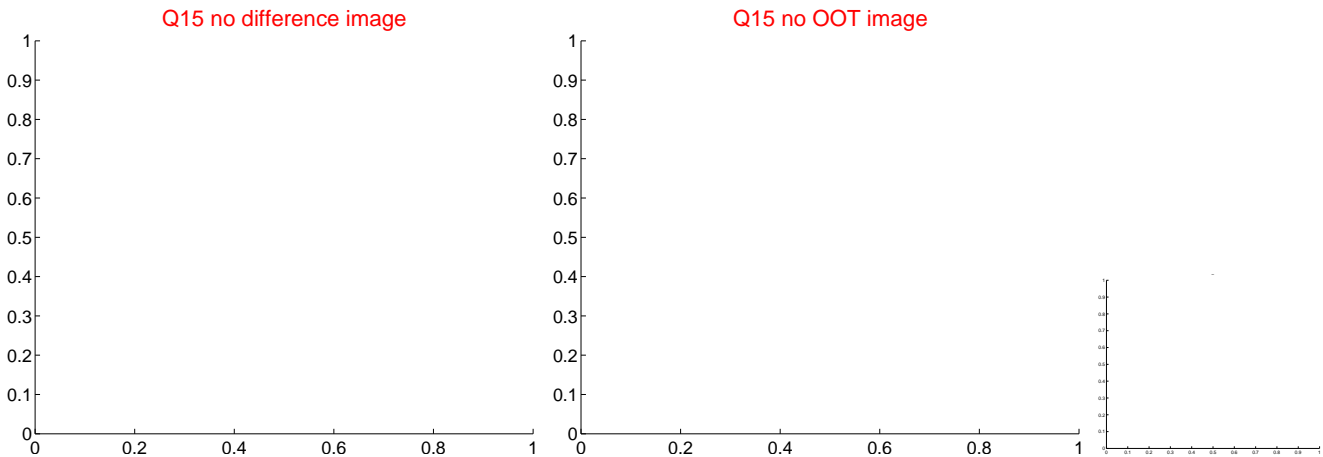
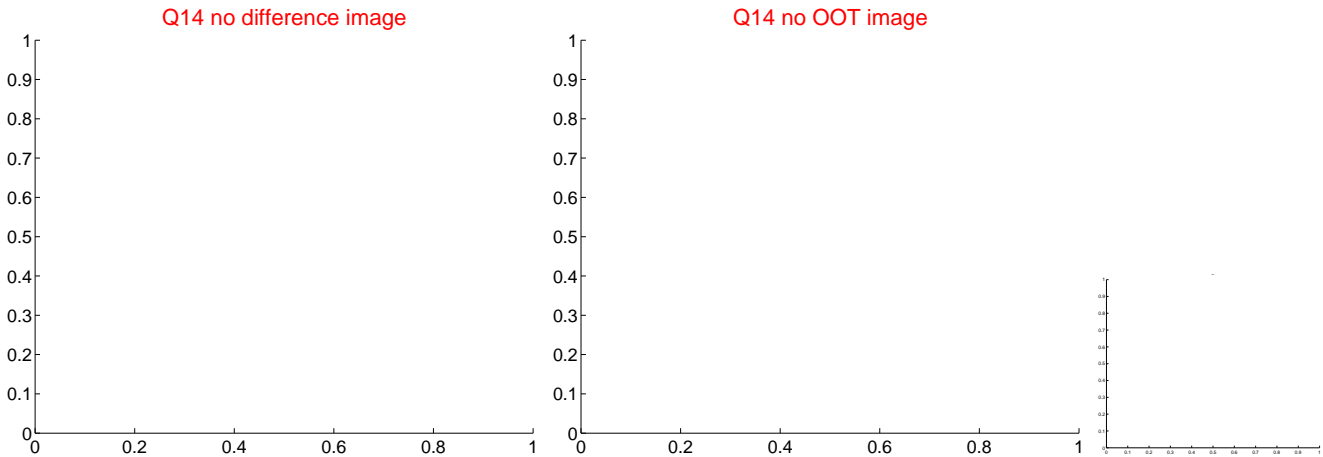
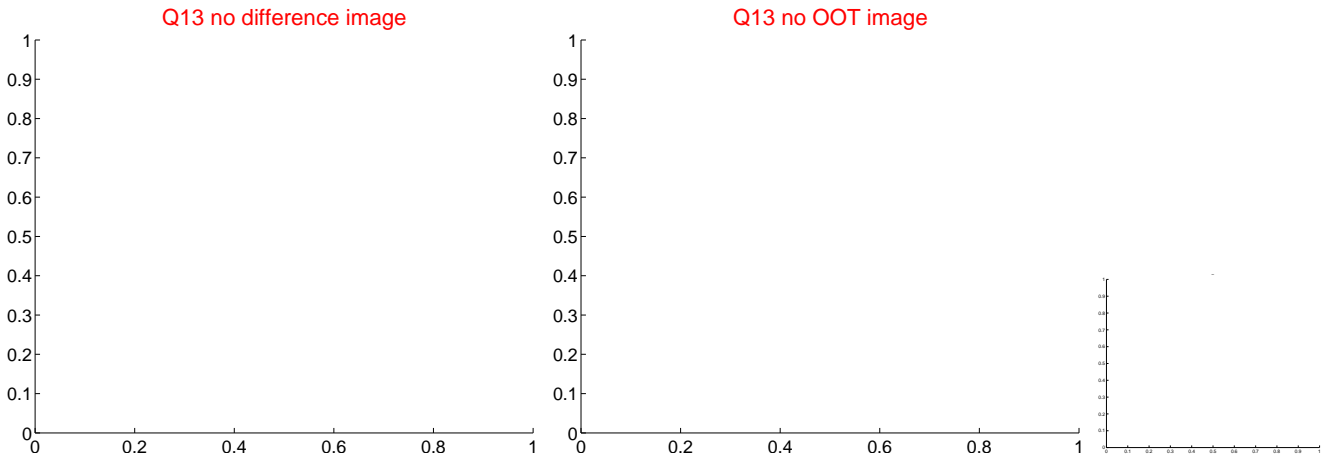
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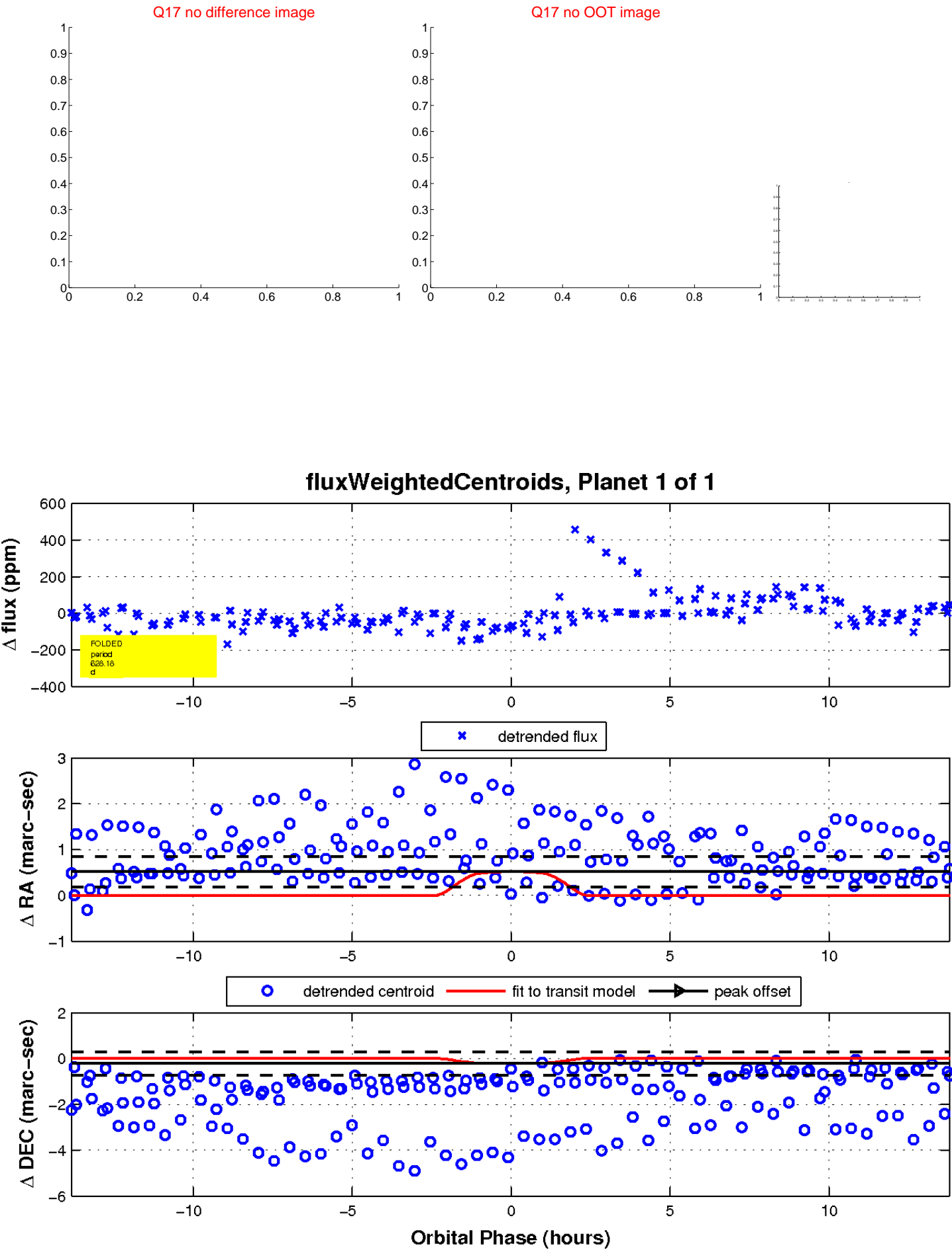
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

