

KIC 010214328

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
010214328-01	OBS	7296.01	659.397172	254.216915	170.4	23.809	7.8	5.7	1.84	6917	2.69	2.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010214328-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—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 010214328-01

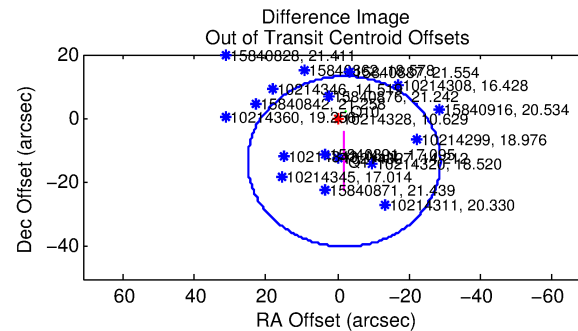
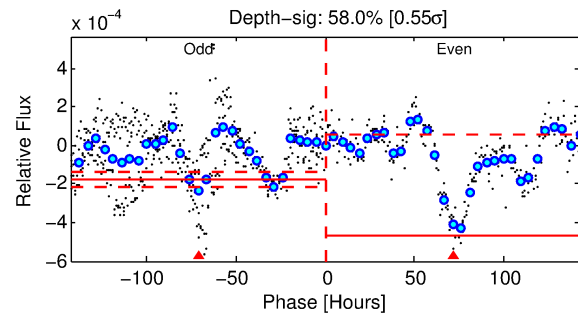
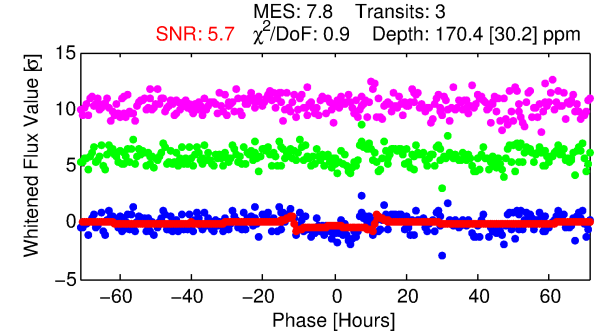
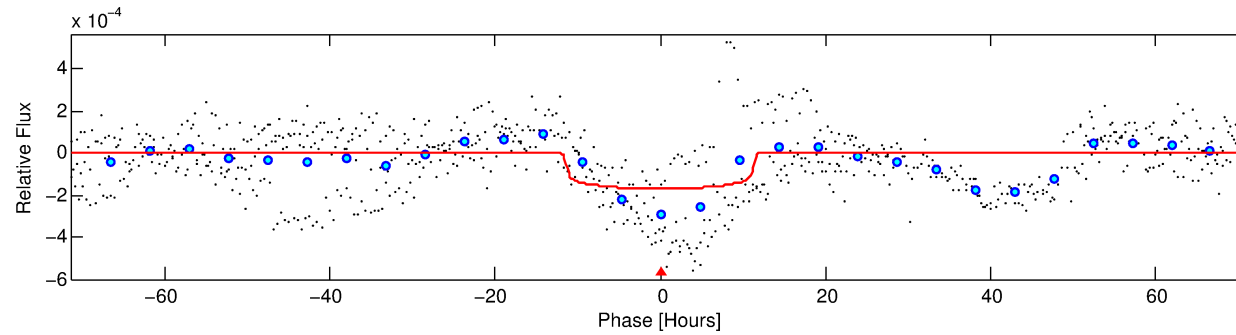
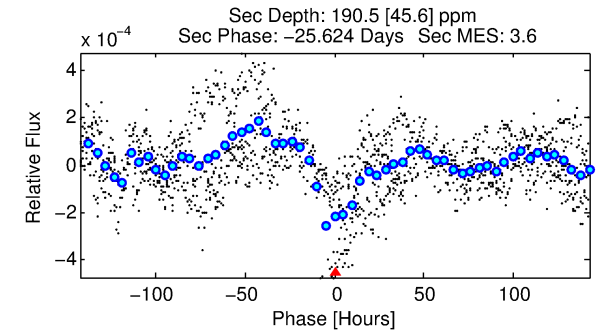
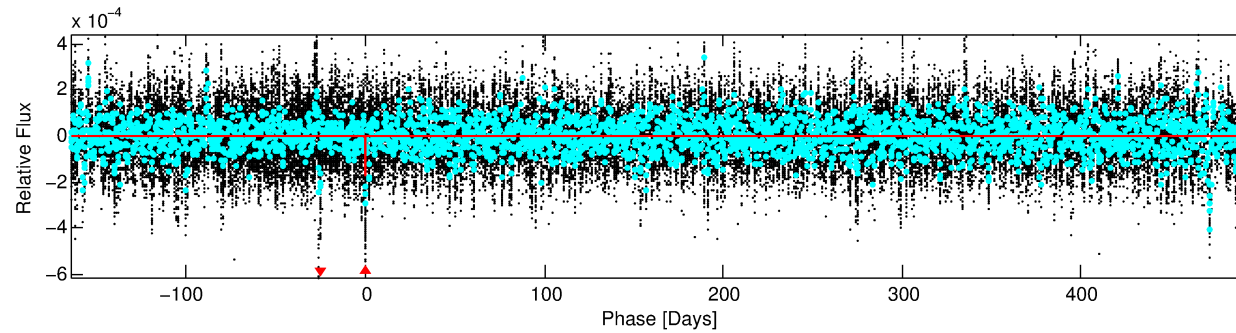
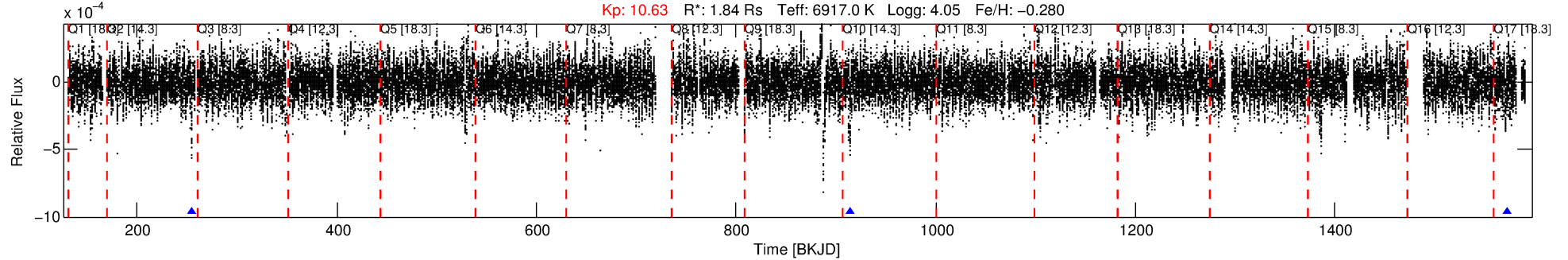
No Significant Match Found

DV One-Page Summary

KIC: 10214328 Candidate: 1 of 1 Period: 659.397 d

KOI: K07296.01 Corr: 0.869

Kp: 10.63 R*: 1.84 Rs Teff: 6917.0 K Logg: 4.05 Fe/H: -0.280



DV Fit Results:

Period = 659.39717 [0.00973] d
Epoch = 254.2169 [0.0132] BKJD
Rp/R* = 0.0134 [0.0014]
a/R* = 120.77 [33.91]
b = 0.84 [0.10]
Seff = 2.54 [0.18]
Teq = 322 [6] K
Rp = 2.69 [0.34] Re
a = 1.6515 [0.0777] AU
Ag = 39635.14 [12919.88] [3.07σ]
Teffp = 7021 [571] K [11.73σ]

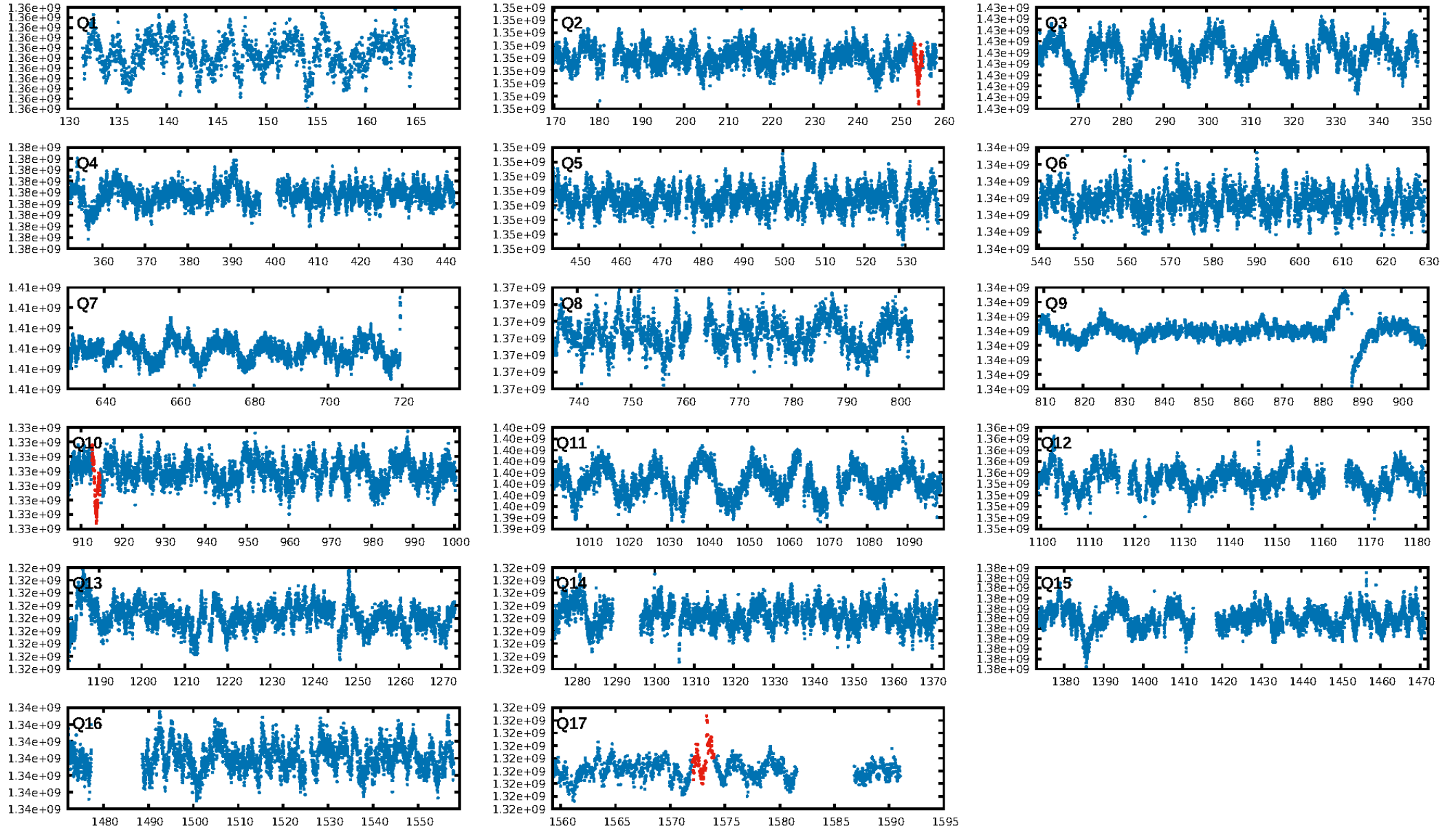
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 83.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.07e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.8675
Centroid-sig: 14.1%
Centroid-so: 2.584 arcsec [0.74σ]
OotOffset-rm: 13.480 arcsec [1.50σ]
KicOffset-rm: 12.663 arcsec [3.26σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

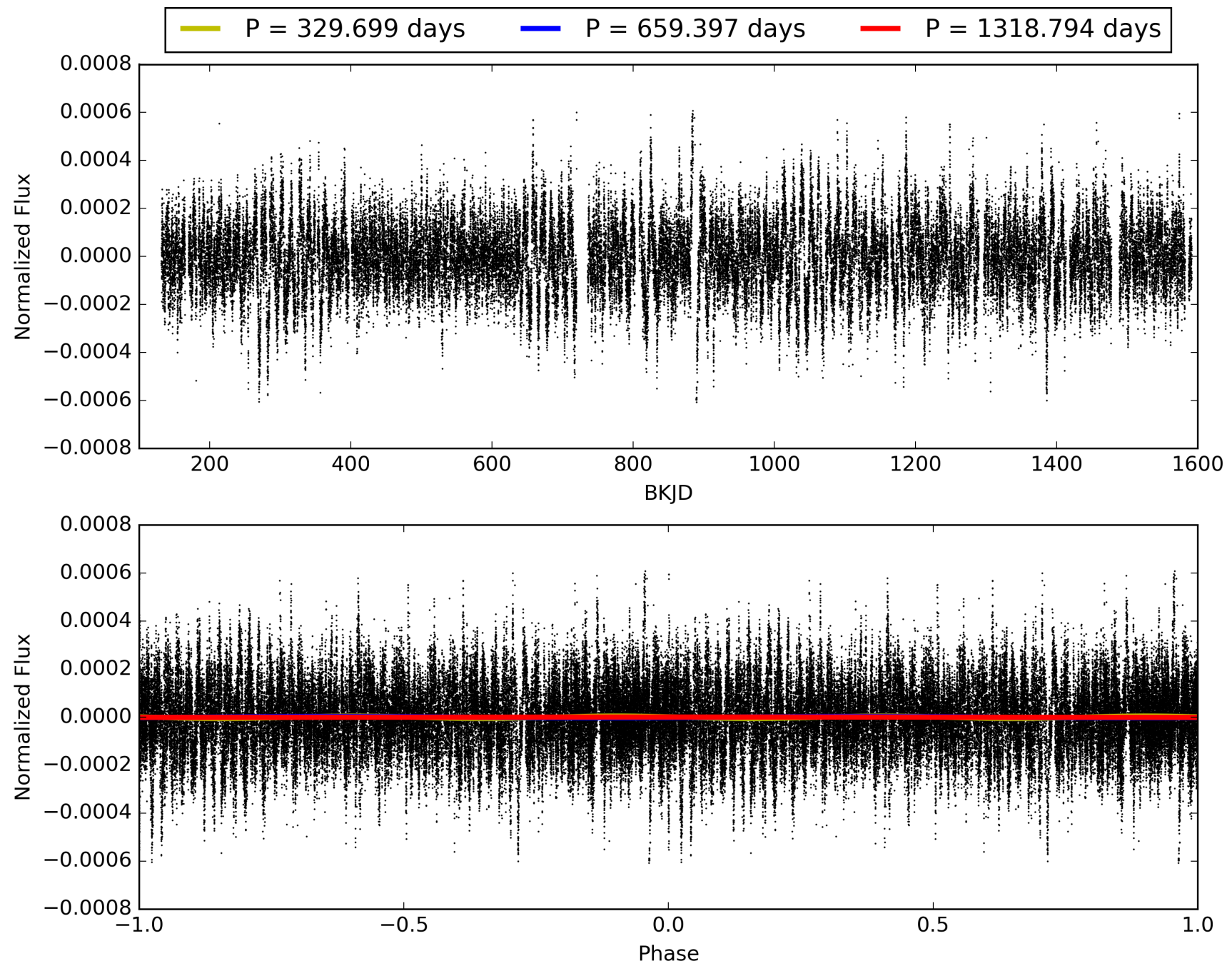
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:20:52 Z

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

TCE 010214328-01, PDC Light Curves

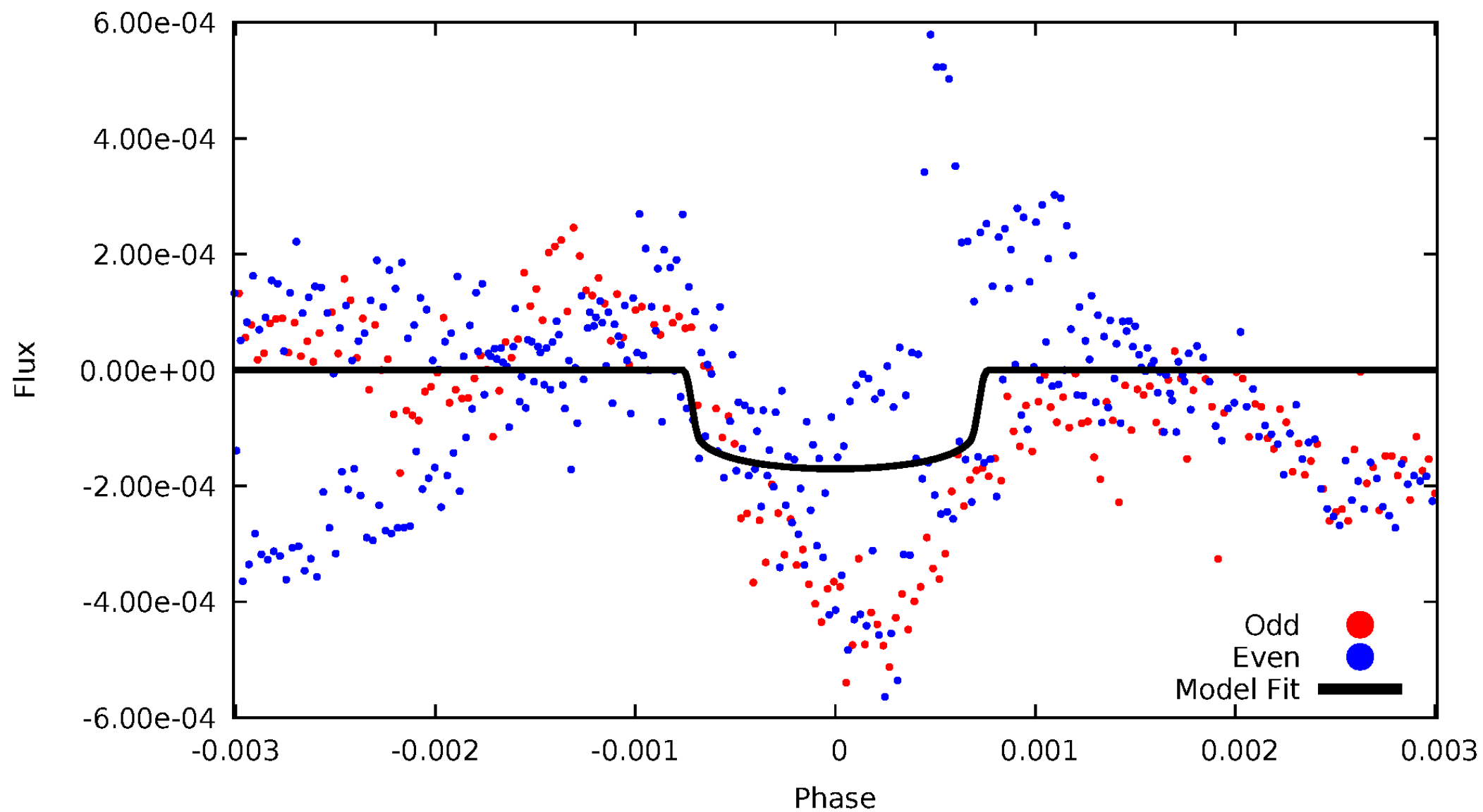


TCE 010214328-01



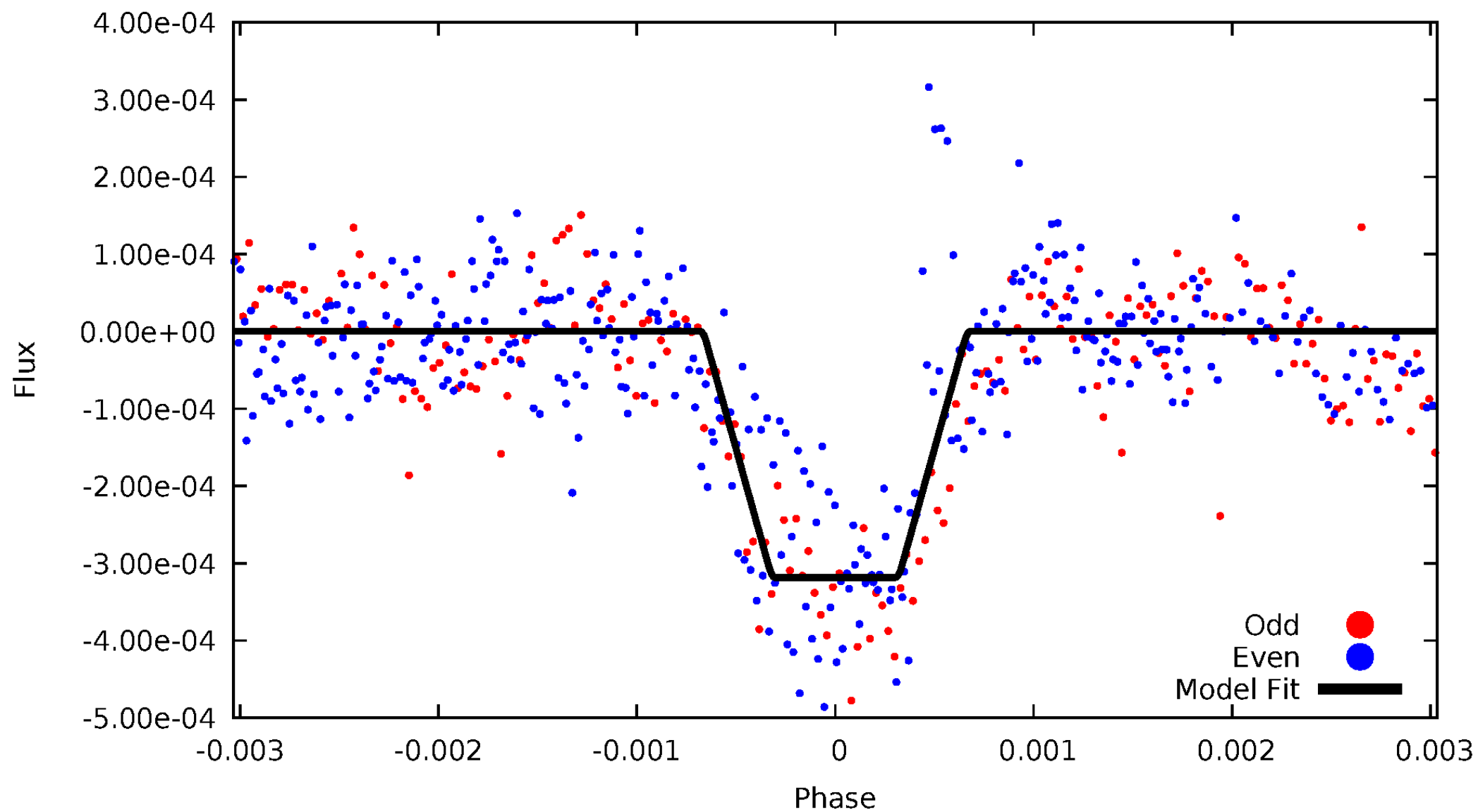
DV Odd/Even

TCE 010214328-01

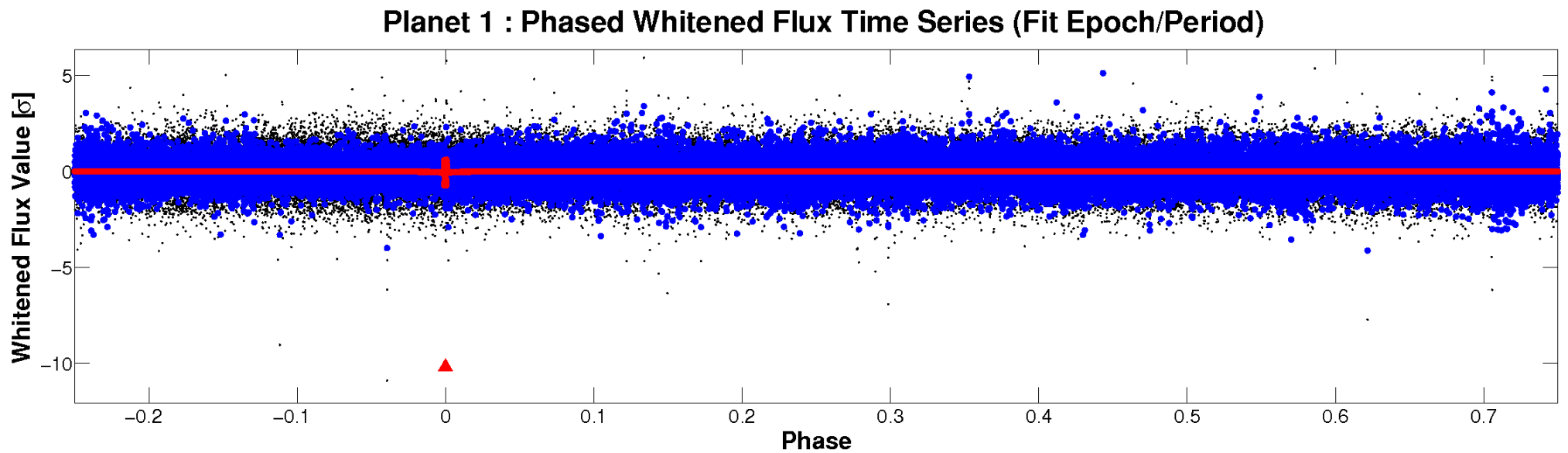
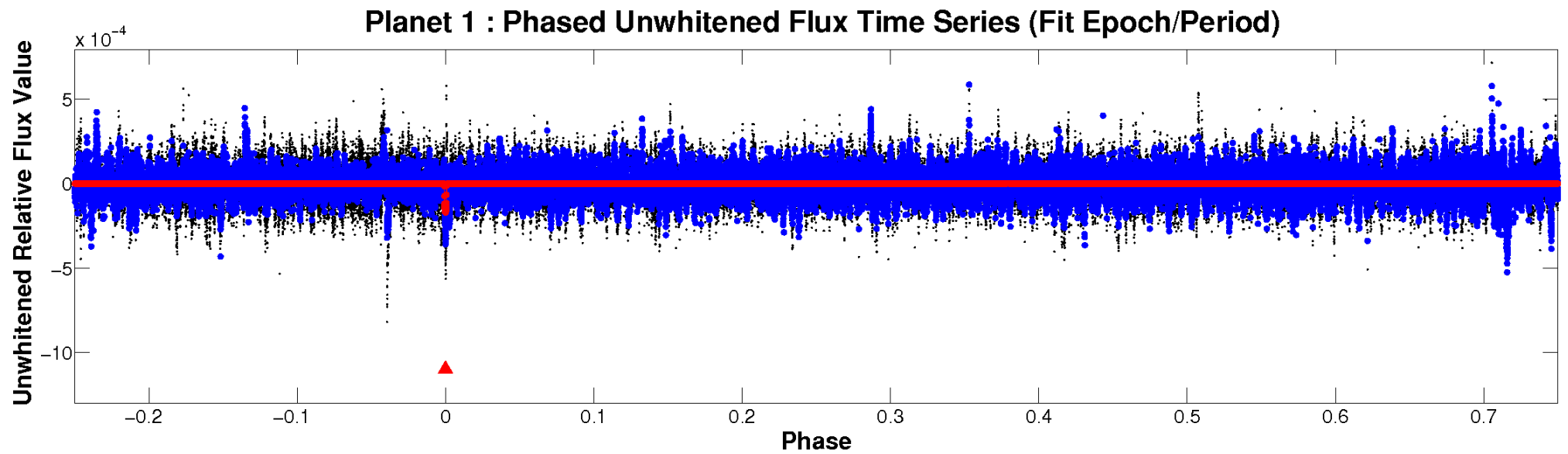


ALT Odd/Even

TCE 010214328-01

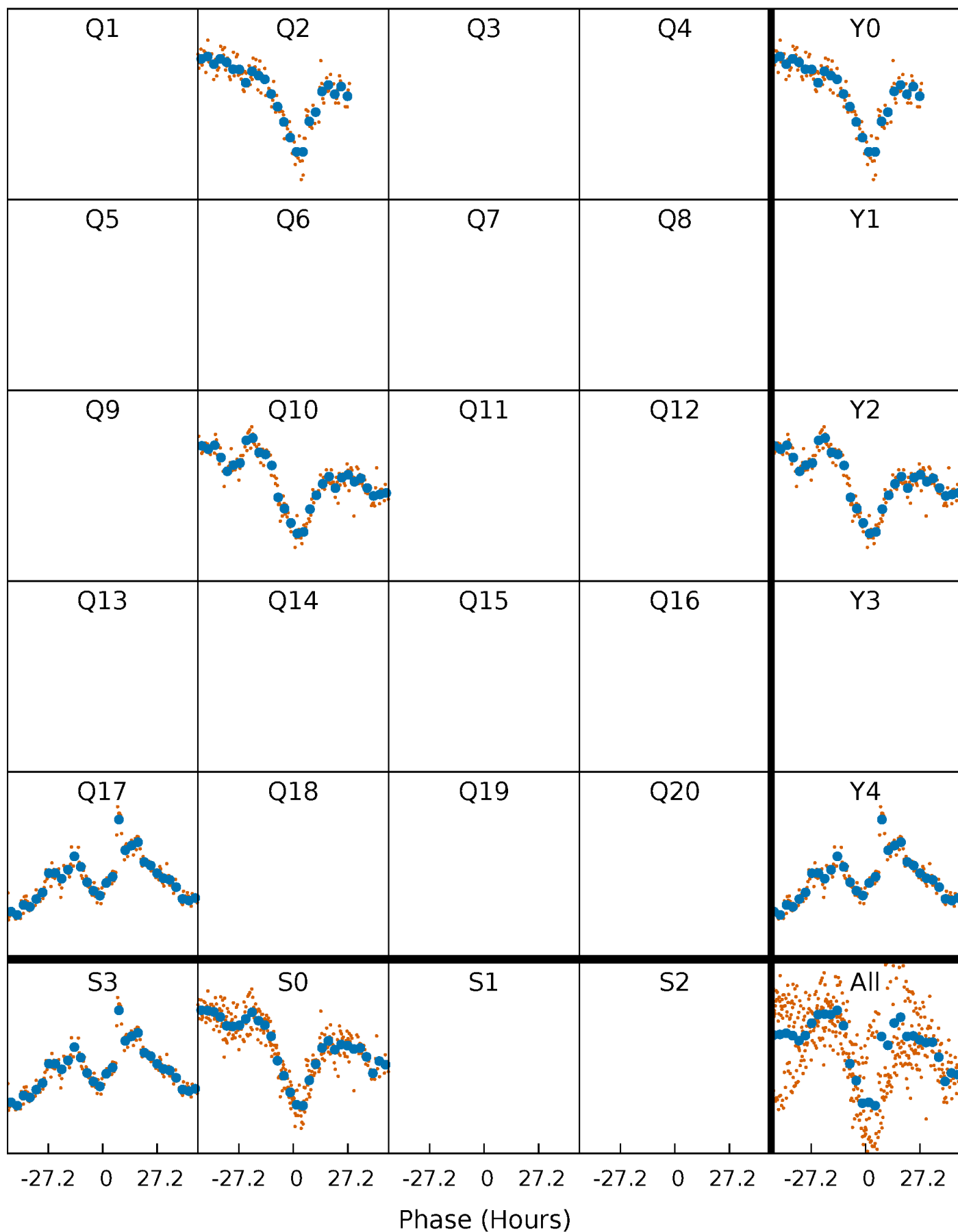


Non-Whitened Vs. Whitened Light Curve



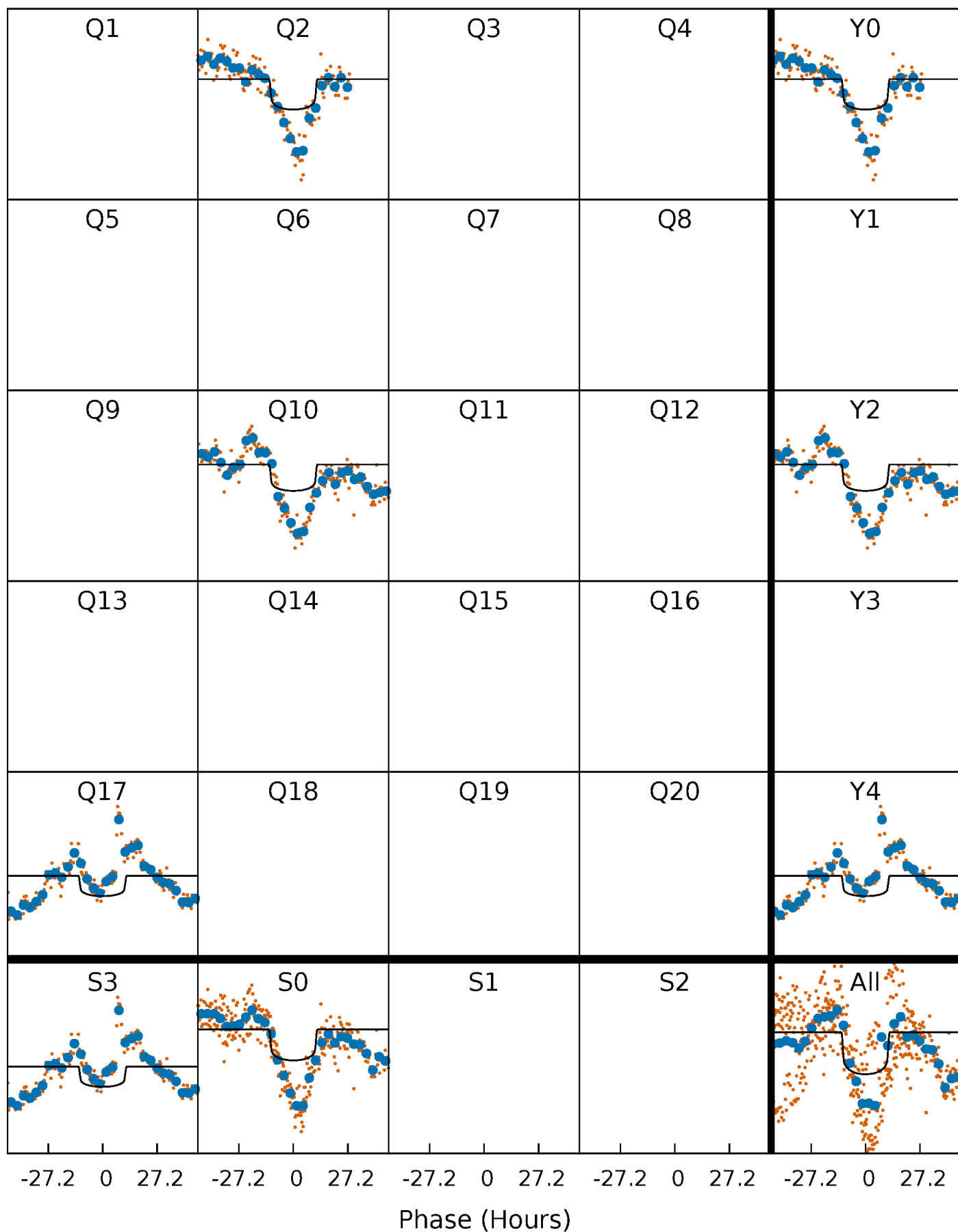
PDC Quarter-Phased Transit Curves

TCE 010214328-01 P=659.397172 Days $T_0=254.216915$ (BKJD)



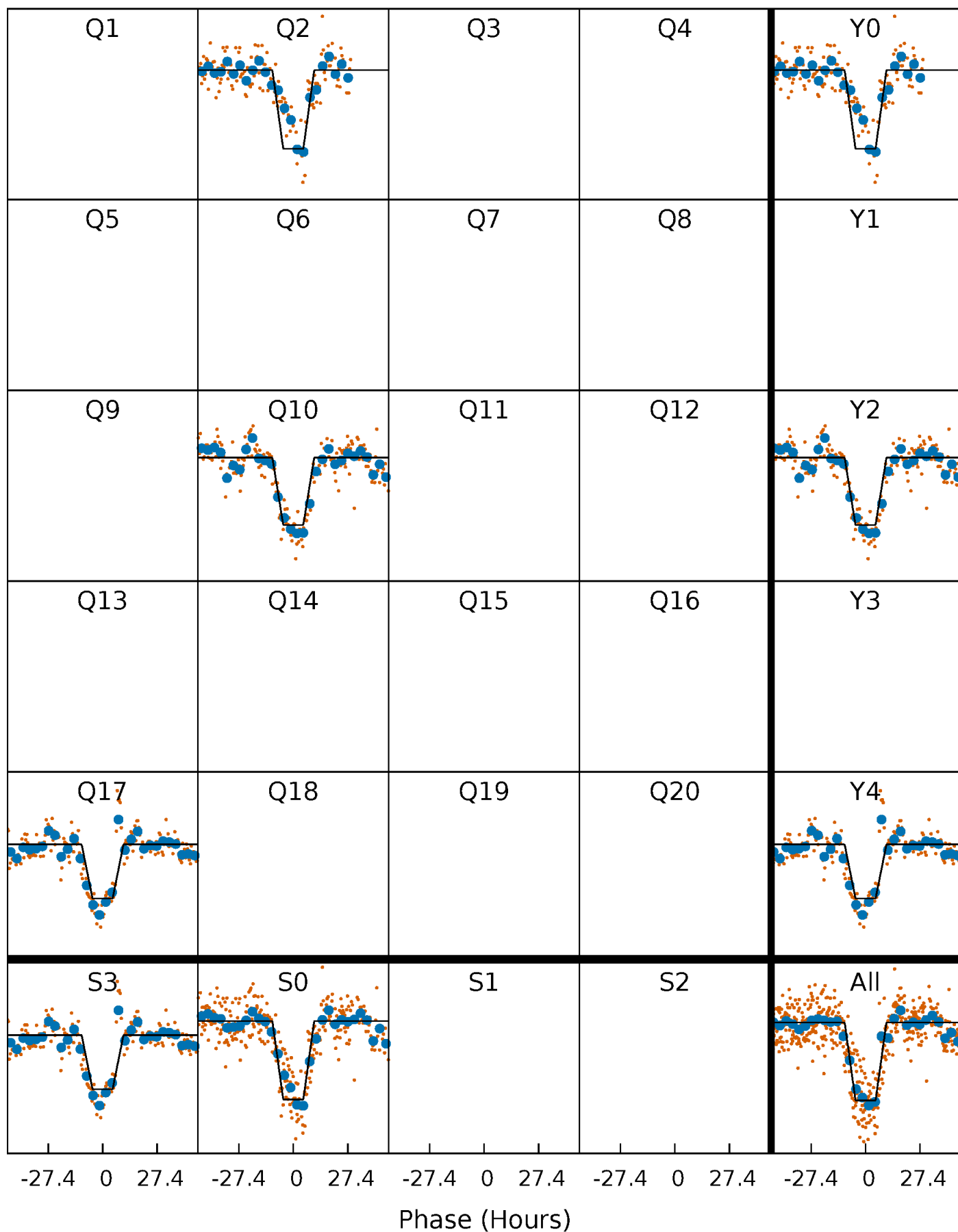
DV Quarter-Phased Transit Curves

TCE 010214328-01 P=659.397172 Days $T_0=254.216915$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

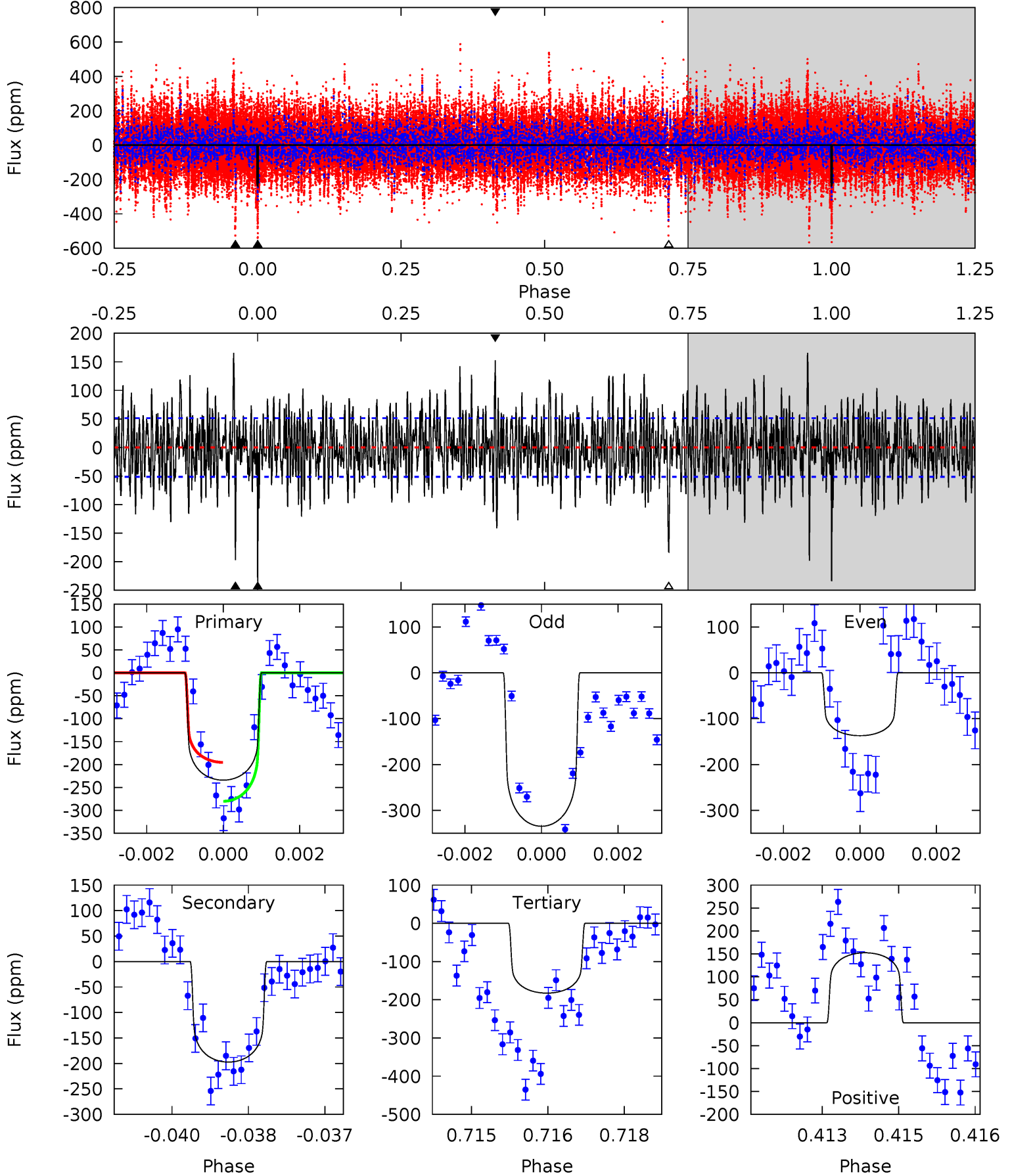
TCE 010214328-01 P=659.418226 Days $T_0=254.178187$ (BKJD)



DV Model-Shift Uniqueness Test

010214328-01, P = 659.397172 Days, E = 254.216915 Days

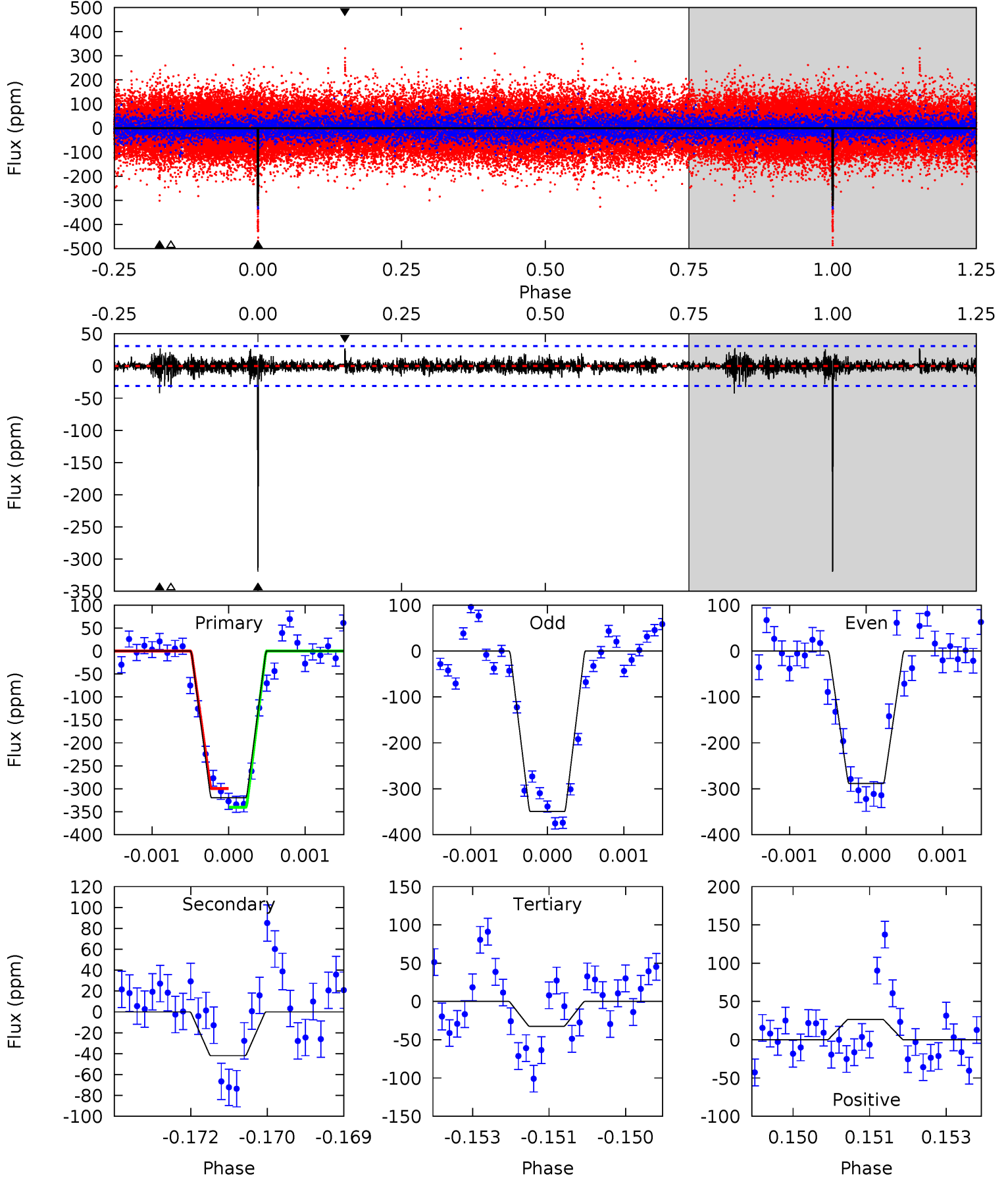
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	20.7	19.1	16.0	5.38	3.17	4.81	5.38	8.55	1.53	4.70	10.0	0.68	0.41	4.43



Alt Model-Shift Uniqueness Test

010214328-01, P = 659.418226 Days, E = 254.178187 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.7	7.32	5.65	4.63	5.40	3.20	1.03	50.1	51.1	1.67	2.70	5.22	0.94	0.08	3.54



Stellar Parameters For KIC 010214328

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6917^{+83}_{-83}	$4.050^{+0.018}_{-0.018}$	$-0.280^{+0.400}_{-0.200}$	$1.837^{+0.124}_{-0.124}$	$1.383^{+0.192}_{-0.175}$	$0.315^{+0.030}_{-0.028}$
	+1%/-1%	+0%/-0%	+143%/-71%	+7%/-7%	+14%/-13%	+10%/-9%
Source	PHO10	AST10	PHO10	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010214328-01 / KOI 7296.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-197 ± 10	$2.69^{+0.30}_{-0.32}$	450^{+8}_{-7}	7128^{+482}_{-429}	41277^{+10477}_{-7891}
Alt.	-42 ± 6	$3.58^{+0.33}_{-0.33}$	450^{+7}_{-7}	4367^{+163}_{-177}	4950^{+1067}_{-994}

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 $A_{\text{obs}} \gg 1.0$

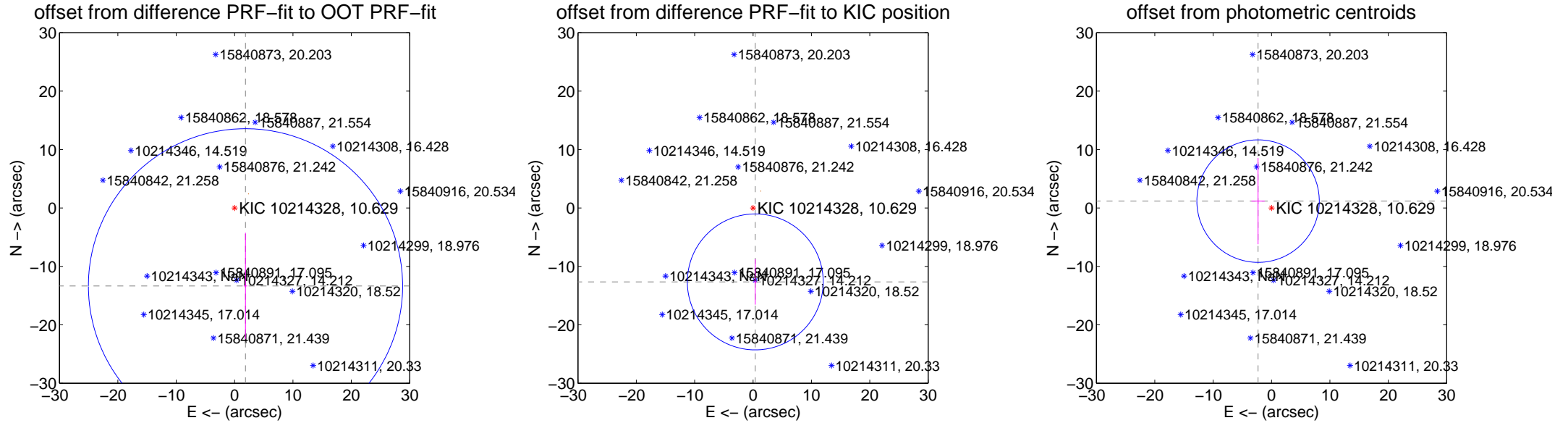
DV Centroid Data

Supplemental centroid analysis for 010214328-01. **Kepler magnitude: 10.63.** Transit SNR 5.68

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.64 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	13.480 ± 8.971	1.50	-1.872 ± 0.299	-13.350 ± 9.100
PRF-fit source offset from KIC position	12.663 ± 3.878	3.26	-0.381 ± 0.241	-12.657 ± 3.887
photometric centroid source offset	2.58 ± 3.49	0.74	2.30 ± 1.14	1.17 ± 7.38



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.

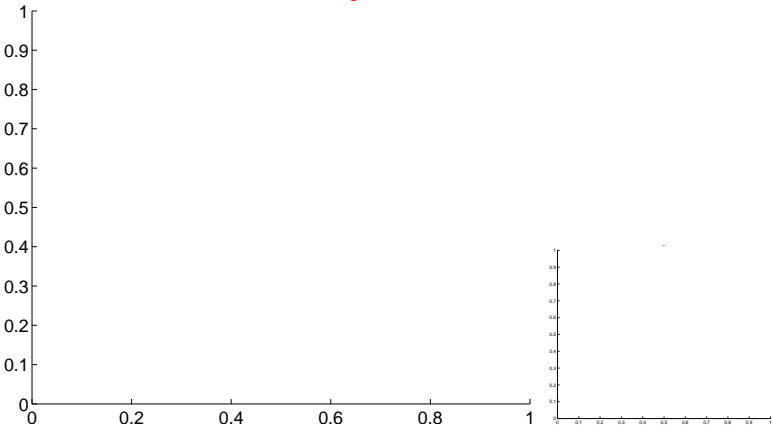


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

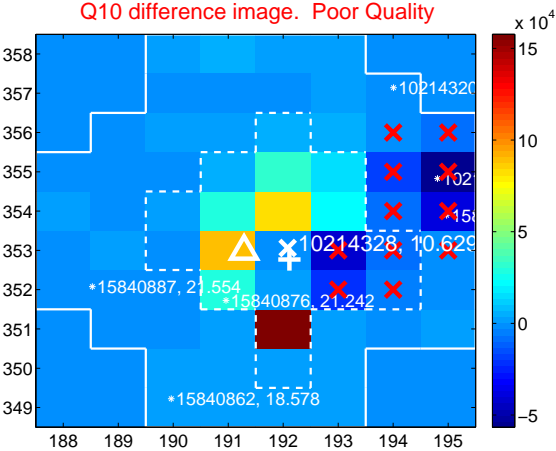
Q9 no difference image



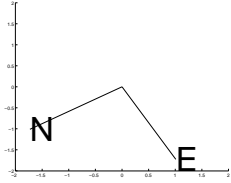
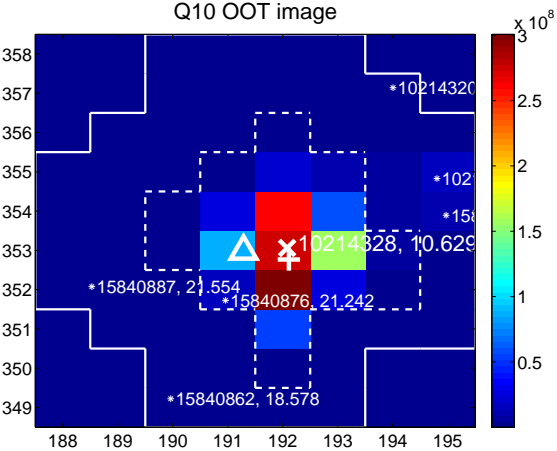
Q9 no OOT image



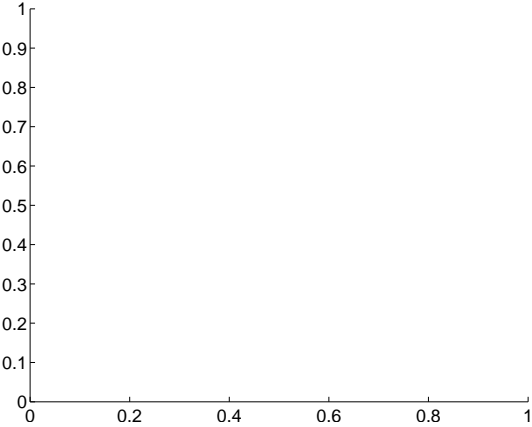
Q10 difference image. Poor Quality



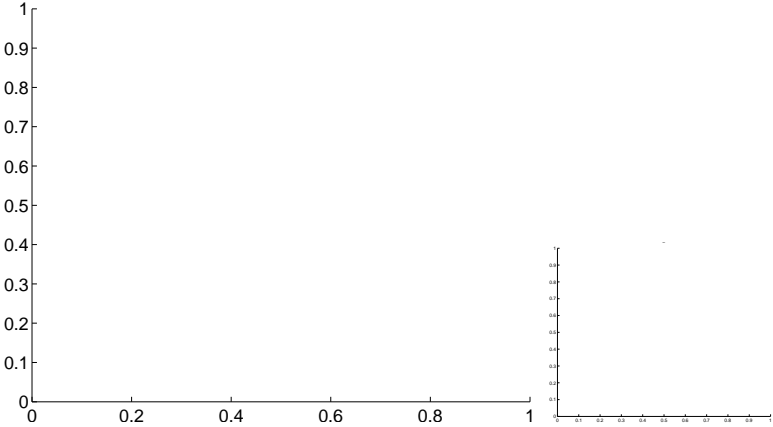
Q10 OOT image



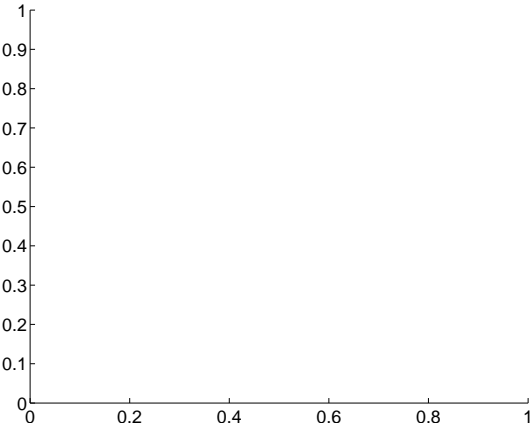
Q11 no difference image



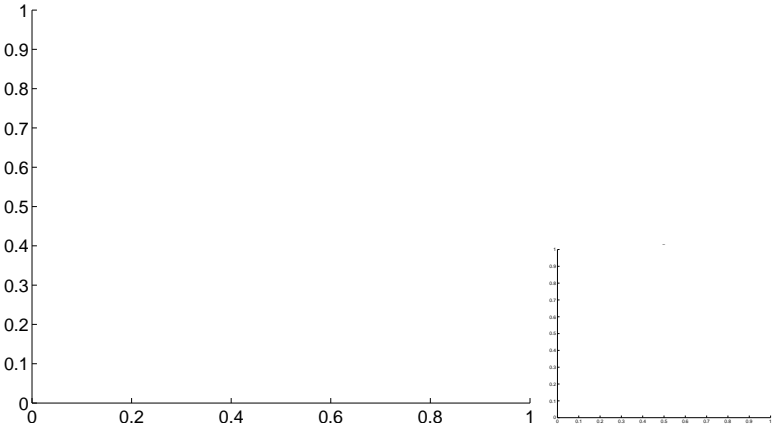
Q11 no OOT image



Q12 no difference image



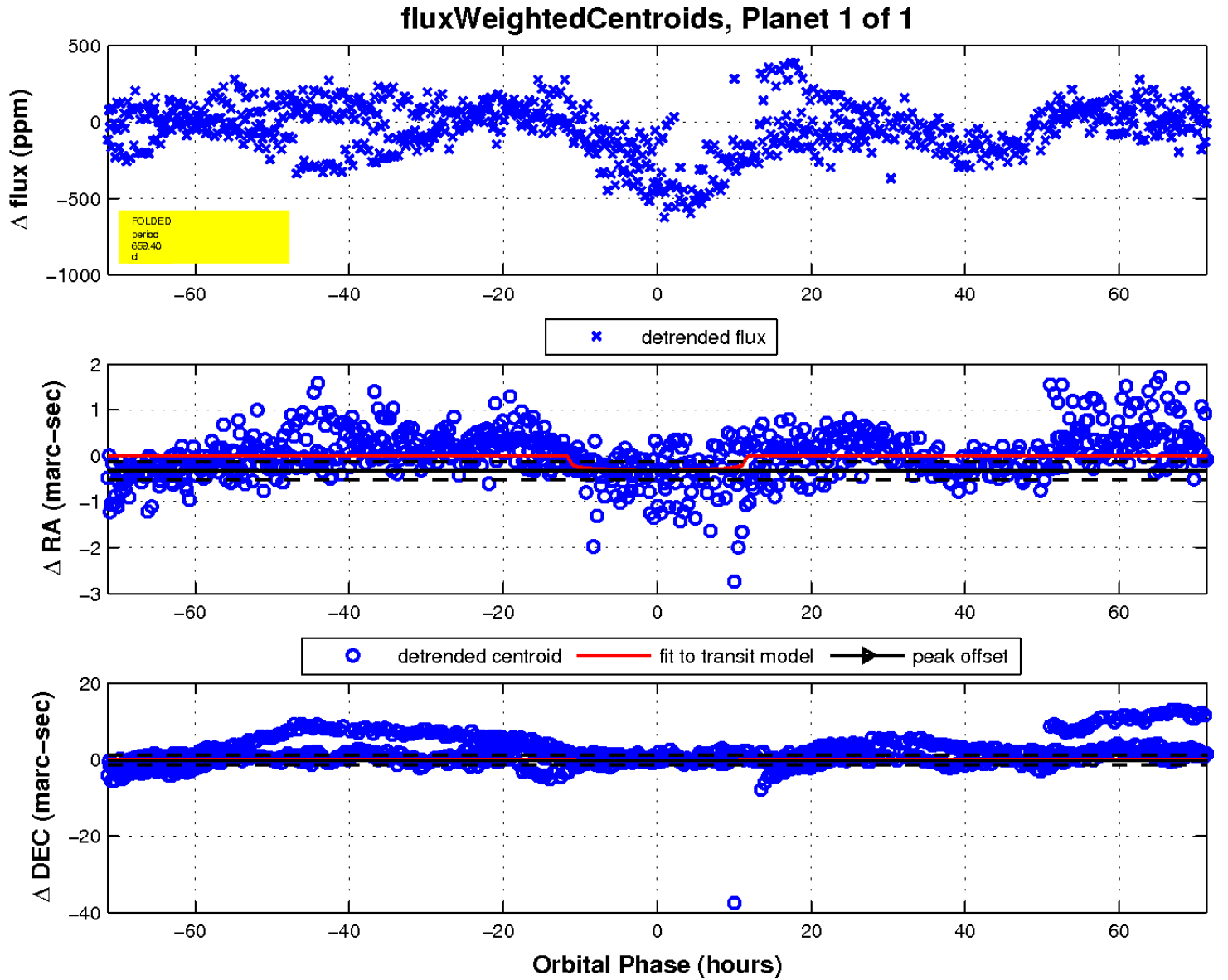
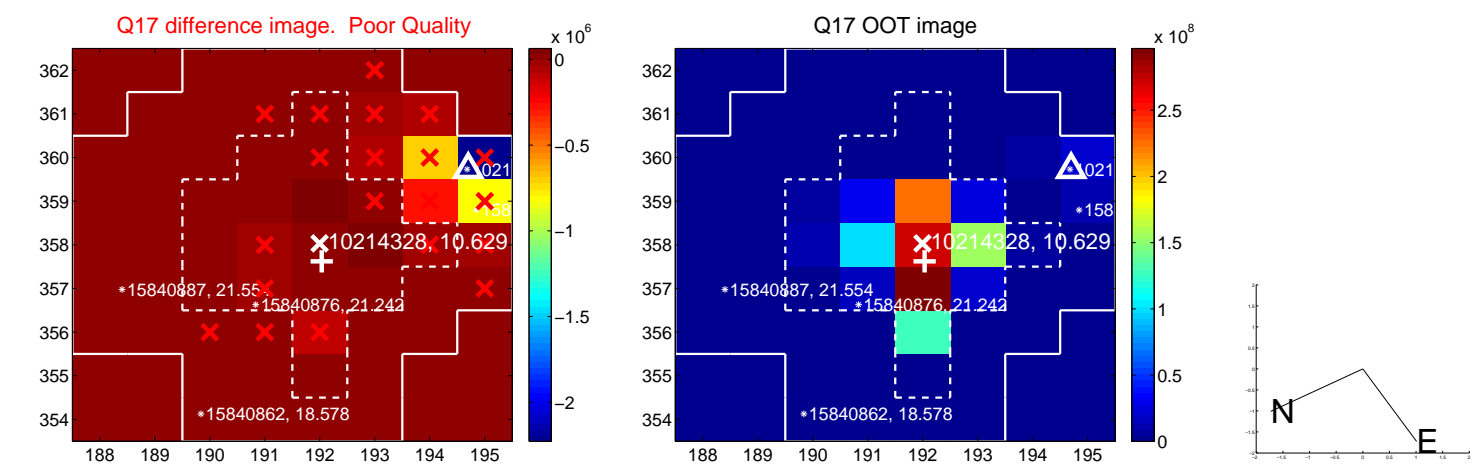
Q12 no OOT image



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.



UKIRT Image

