

KIC 009953572

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})
009953572-01	OBS	No	364.106856	157.822781	884.0	24.548	8.4	7.4	0.87	5649	2.71	0.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009953572-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

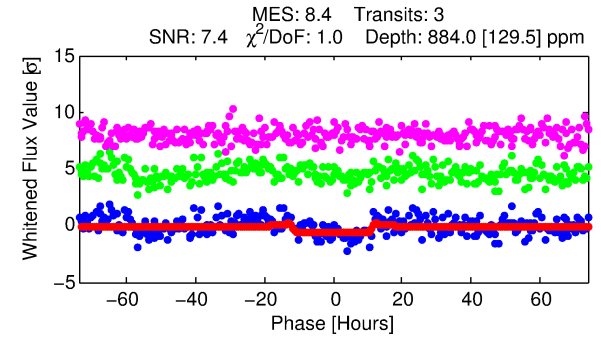
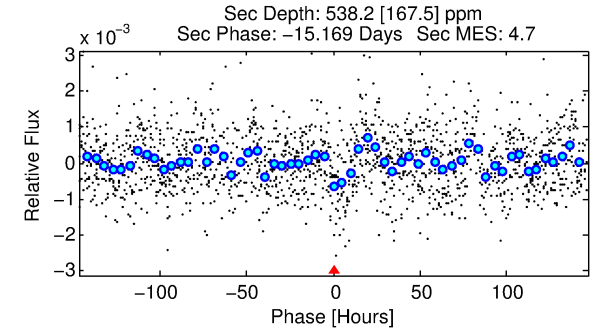
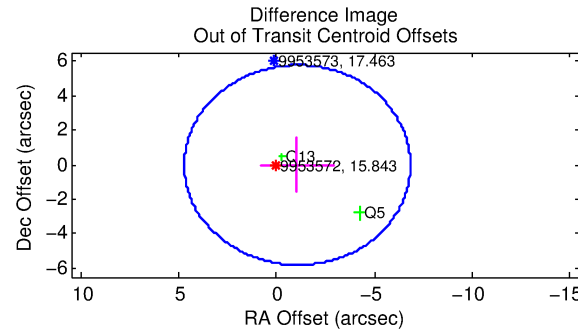
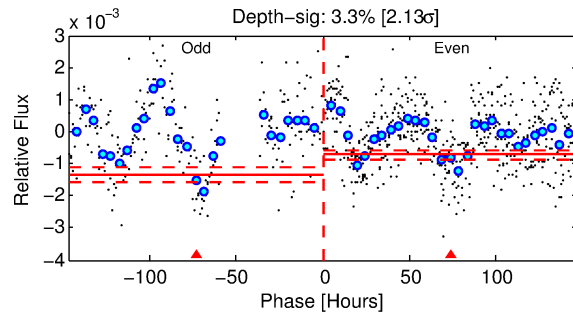
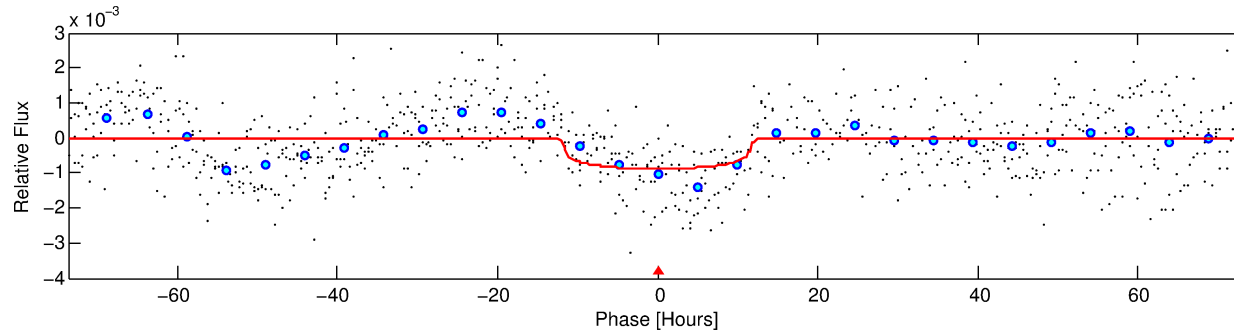
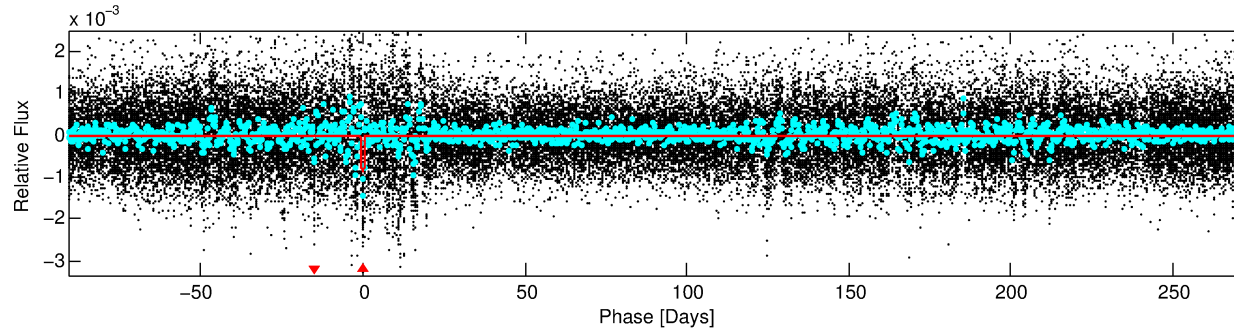
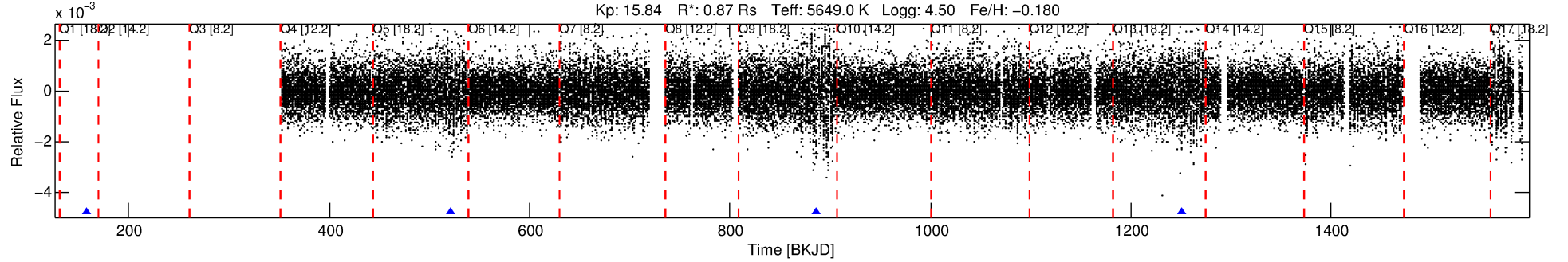
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009953572-01

No Significant Match Found

DV One-Page Summary

KIC: 9953572 Candidate: 1 of 1 Period: 364.107 d



DV Fit Results:

Period = 364.10686 [0.02313] d
Epoch = 157.8228 [0.0495] BKJD
Rp/R* = 0.0284 [0.0074]
a/R* = 93.18 [99.37]
b = 0.62 [1.08]
Seff = 0.76 [0.26]
Teq = 238 [20] K
Rp = 2.71 [1.00] Re
a = 0.9576 [0.2081] AU
Ag = 36991.36 [25182.06] [1.47 σ]
Teffp = 5102 [790] K [6.15 σ]

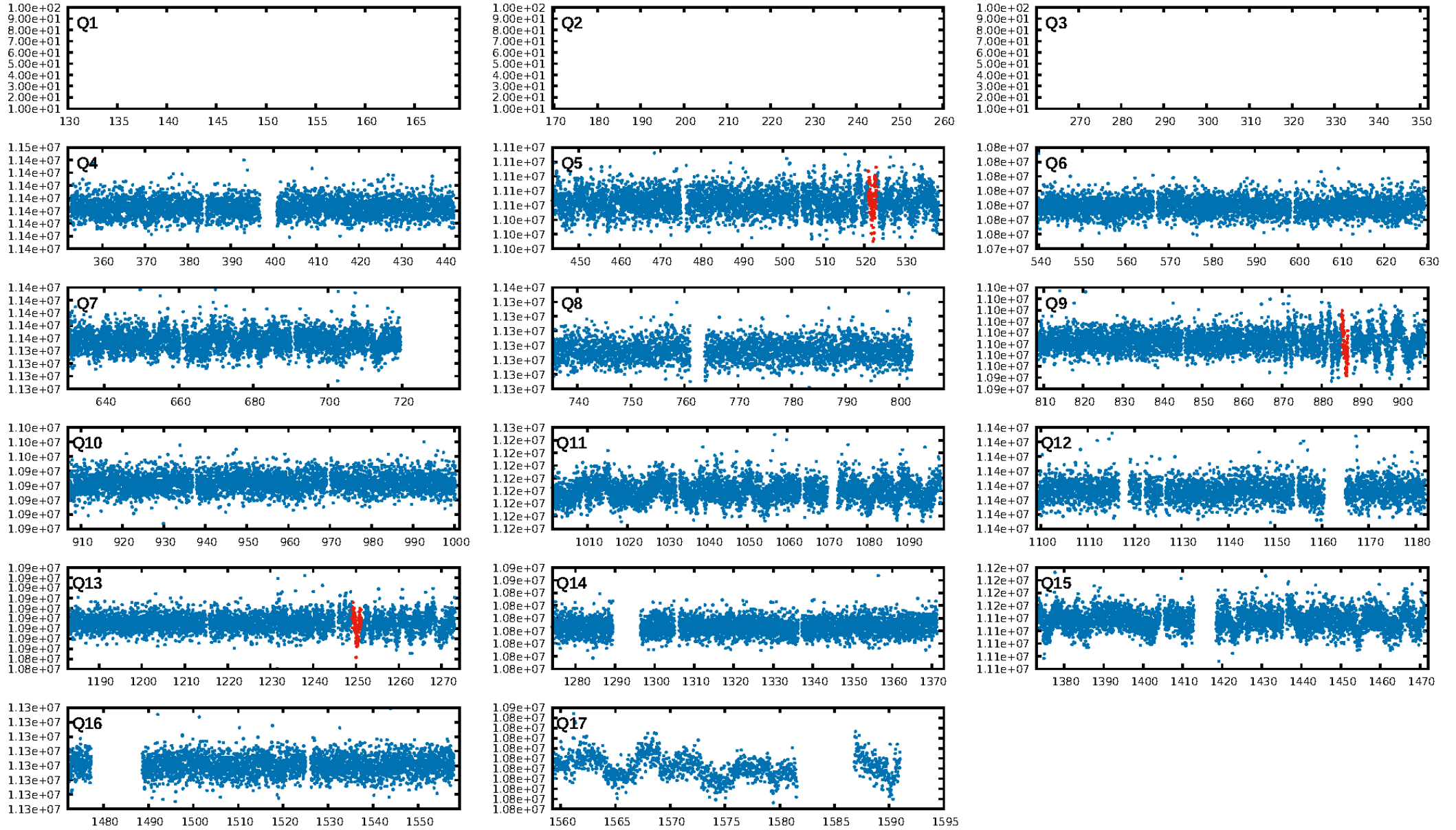
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.81e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.075
Centroid-sig: 1.3%
Centroid-so: 6.611 arcsec [1.97 σ]
OotOffset-rm: 1.066 arcsec [0.55 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 1.154 arcsec [0.64 σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

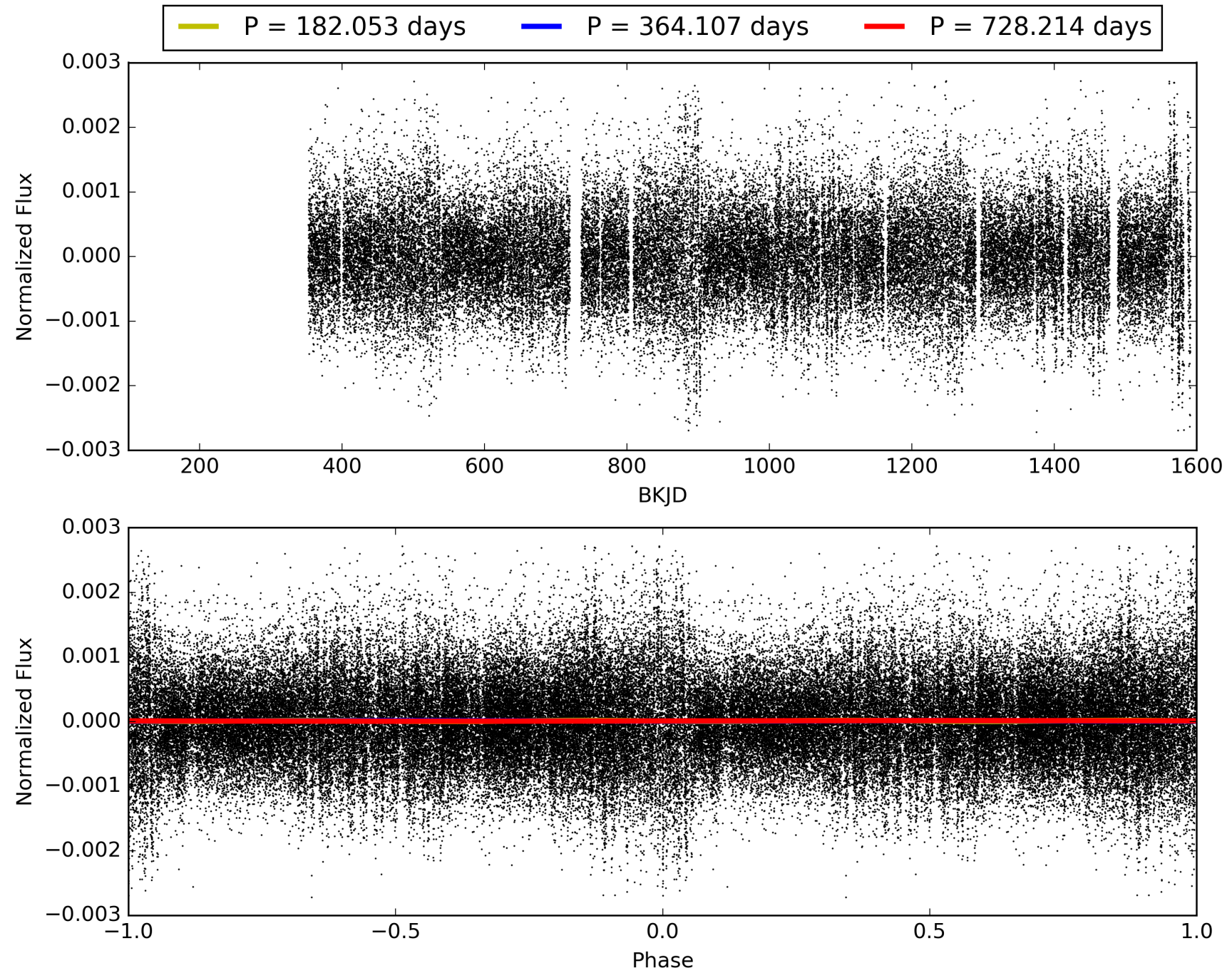
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:32:00 Z

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

TCE 009953572-01, PDC Light Curves

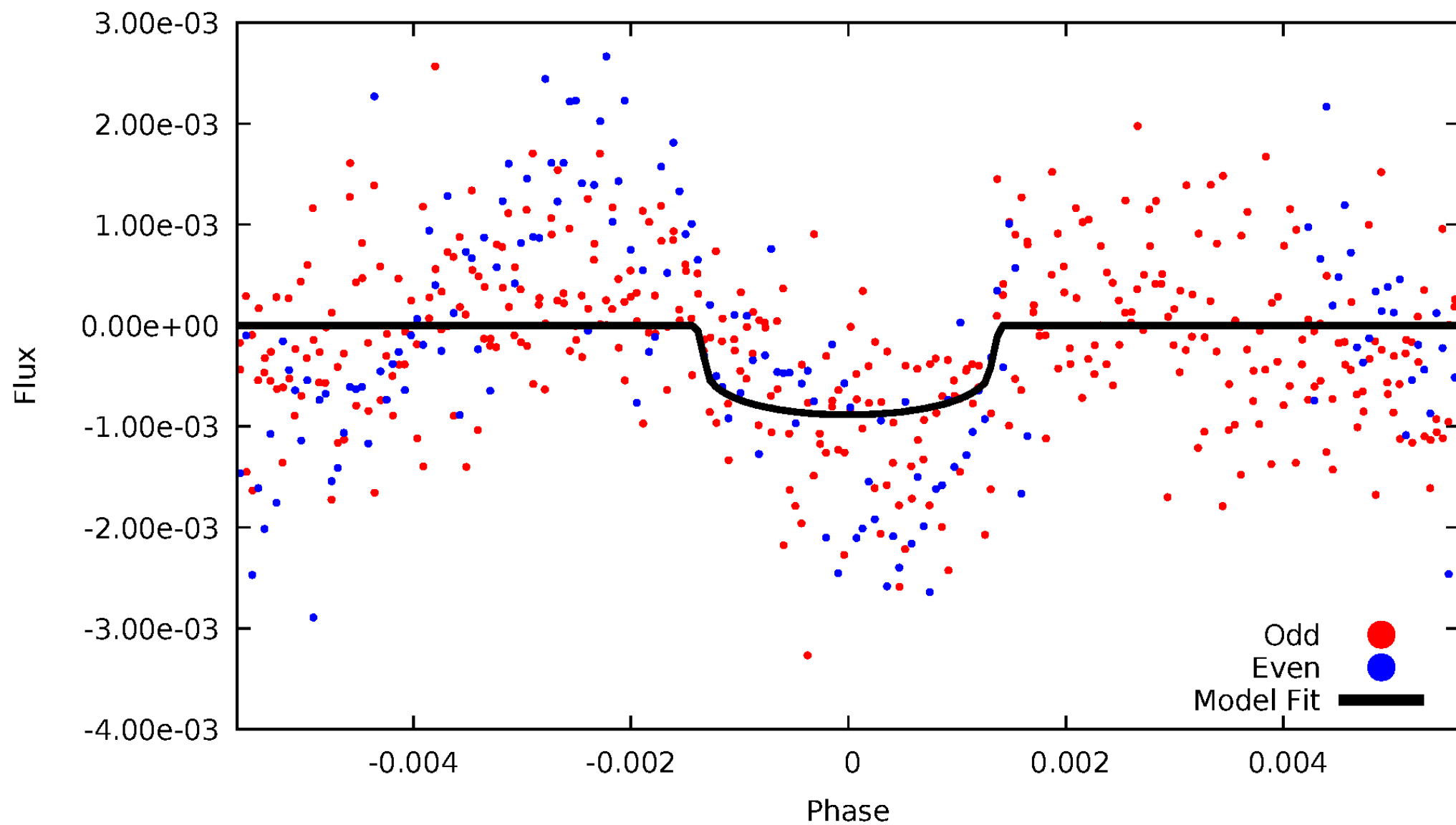


TCE 009953572-01



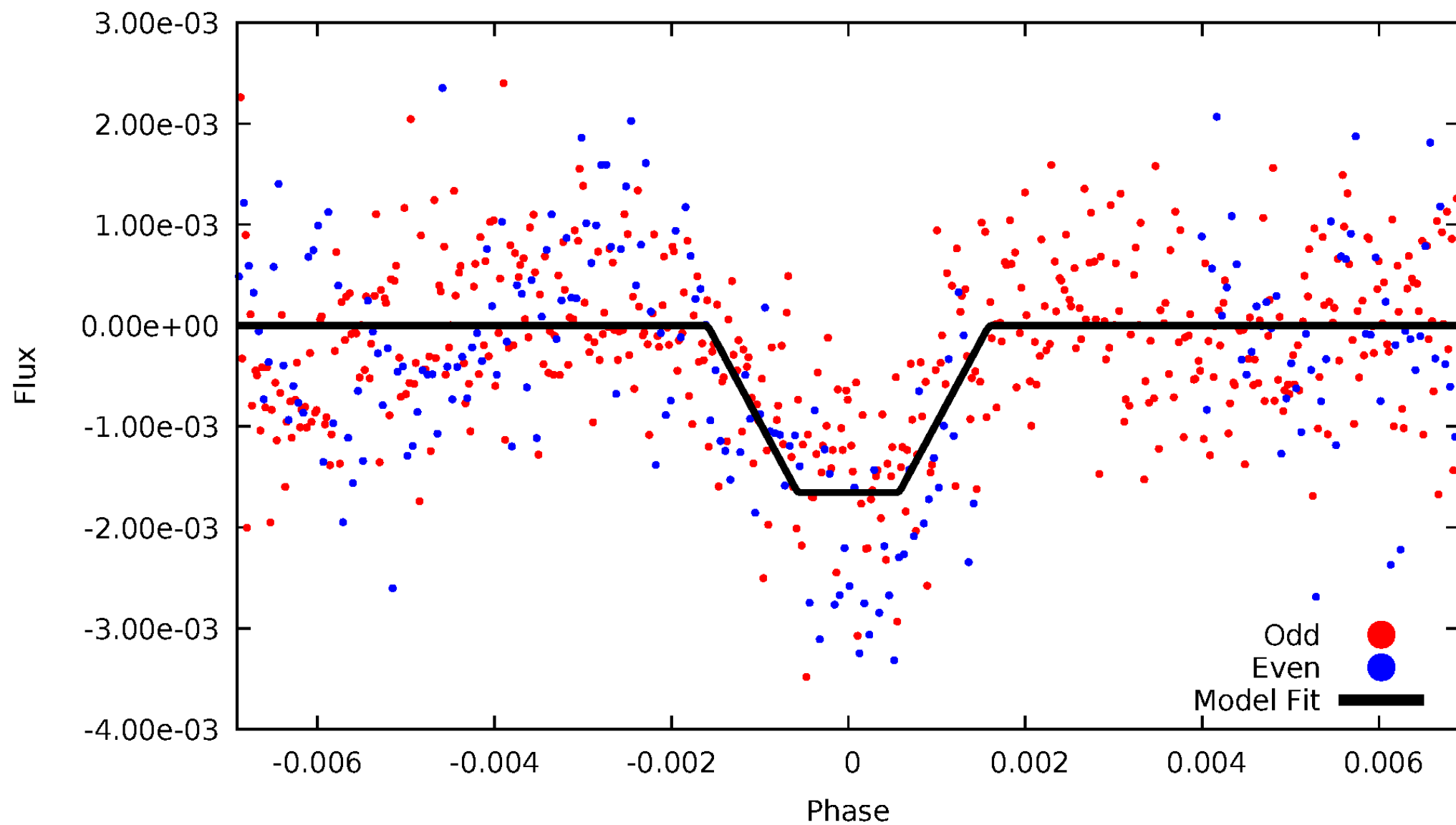
DV Odd/Even

TCE 009953572-01



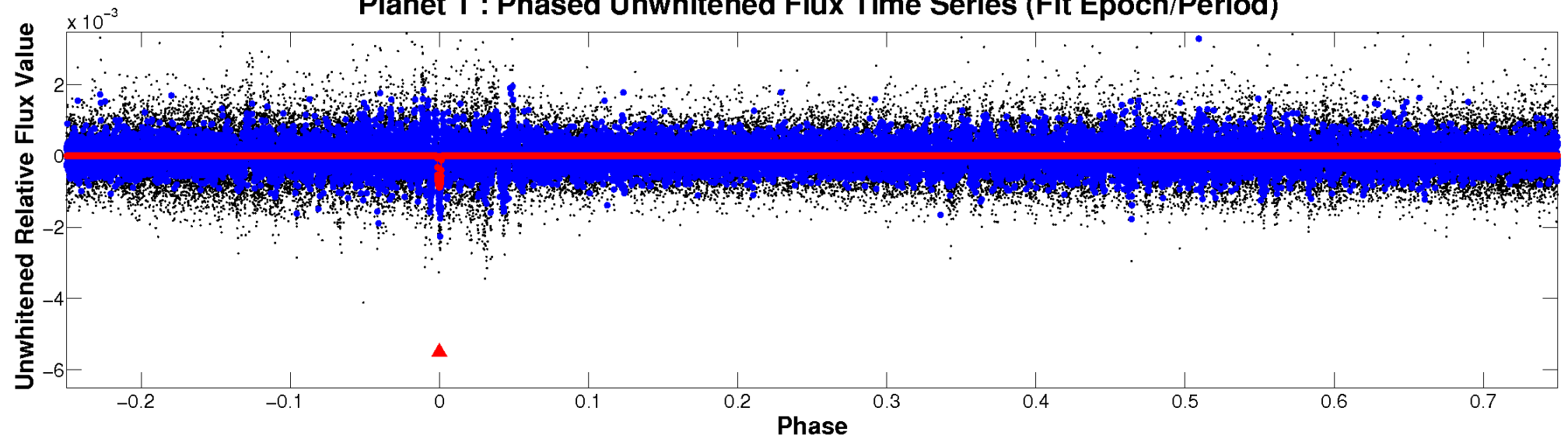
ALT Odd/Even

TCE 009953572-01

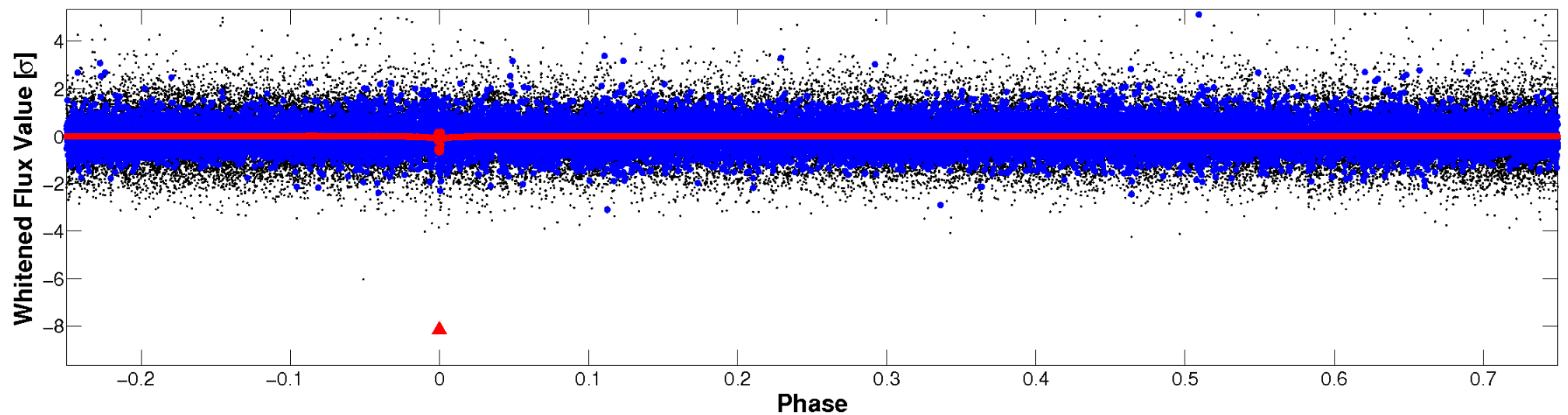


Non-Whitened Vs. Whitened Light Curve

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

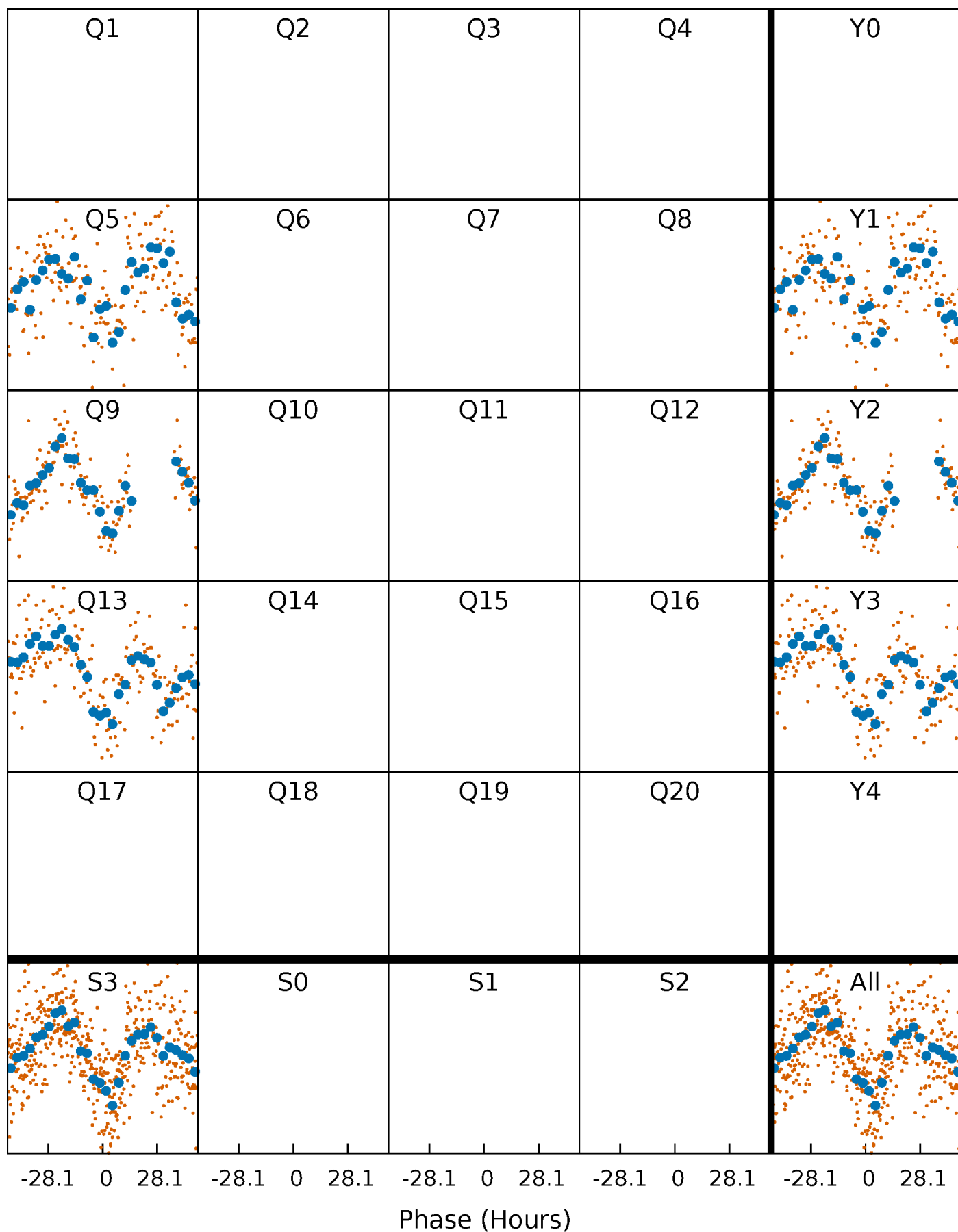


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



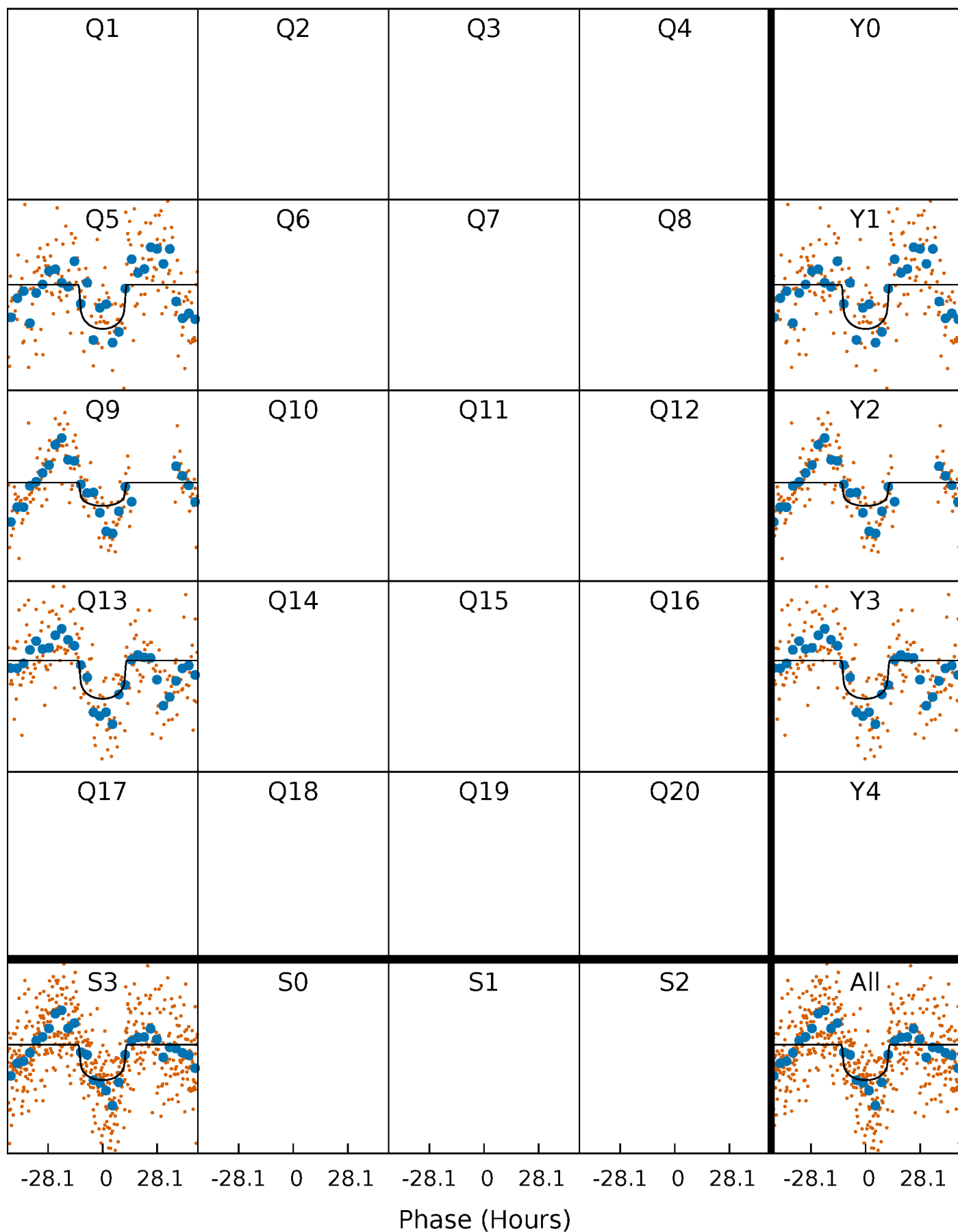
PDC Quarter-Phased Transit Curves

TCE 009953572-01 P=364.106856 Days $T_0=157.822781$ (BKJD)



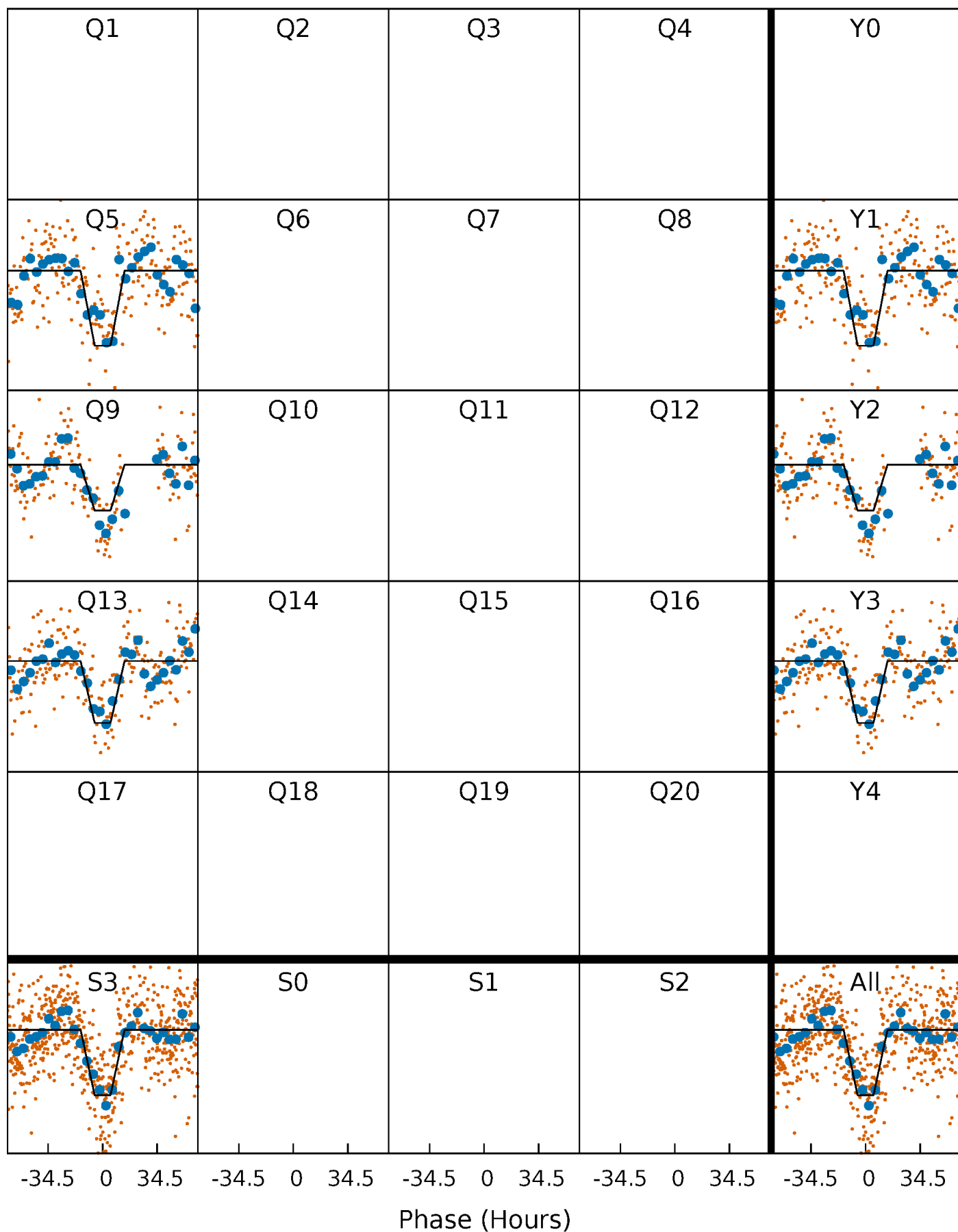
DV Quarter-Phased Transit Curves

TCE 009953572-01 $P=364.106856$ Days $T_0=157.822781$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

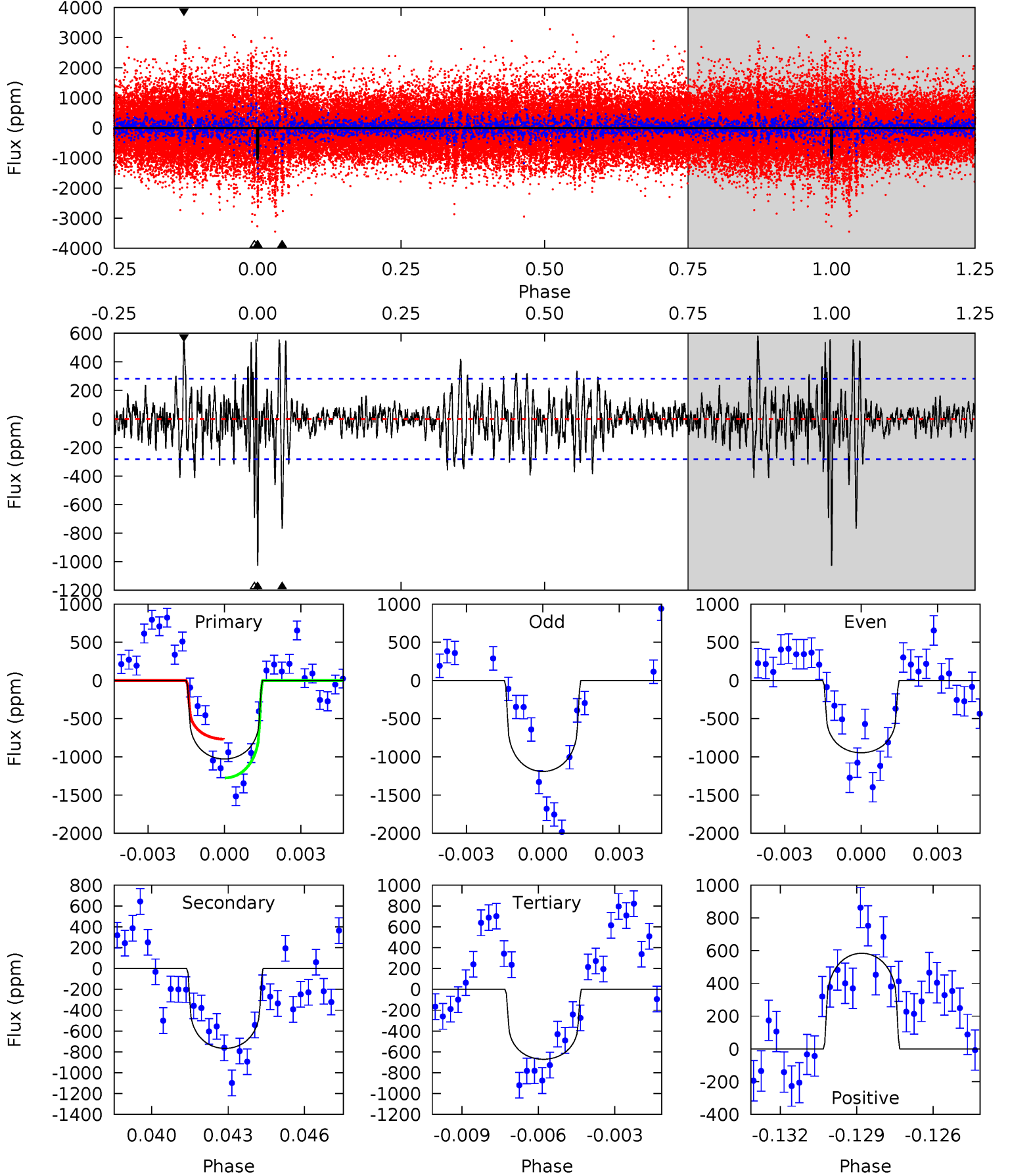
TCE 009953572-01 P=364.057927 Days $T_0=158.004881$ (BKJD)



DV Model-Shift Uniqueness Test

009953572-01, P = 364.106856 Days, E = 157.822781 Days

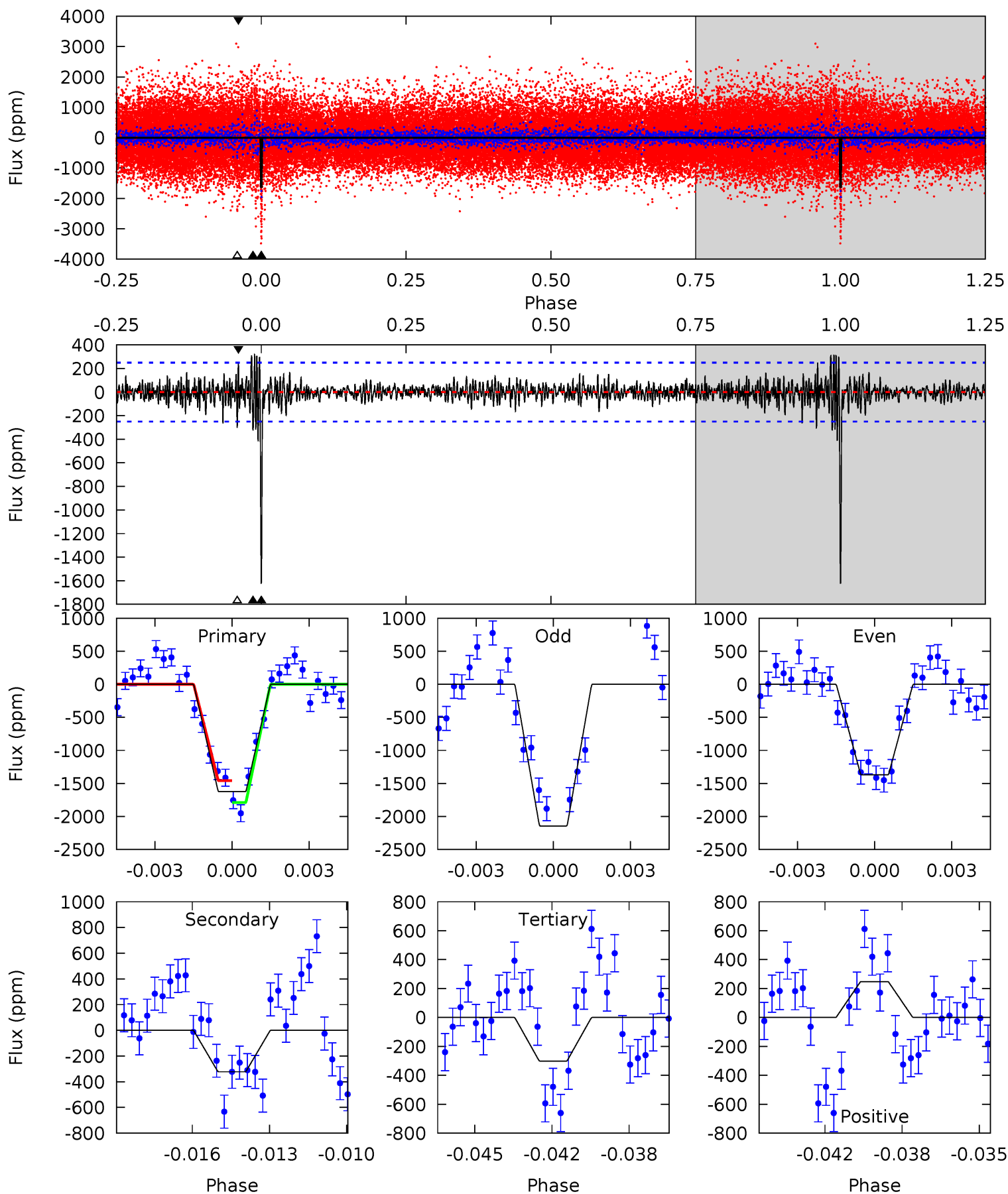
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	14.3	12.5	10.9	5.26	2.98	2.38	6.64	8.27	1.78	3.41	2.12	0.91	0.36	4.75



Alt Model-Shift Uniqueness Test

009953572-01, P = 364.057927 Days, E = 158.004881 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.1	6.76	6.31	5.20	5.24	2.95	1.23	27.8	28.9	0.45	1.56	7.53	1.12	0.16	3.48



Stellar Parameters For KIC 009953572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5649^{+186}_{-186}	$4.502^{+0.072}_{-0.168}$	$-0.180^{+0.300}_{-0.300}$	$0.873^{+0.229}_{-0.098}$	$0.883^{+0.104}_{-0.085}$	$1.871^{+0.582}_{-0.878}$
	+3%/-3%	+2%/-4%	+167%/-167%	+26%/-11%	+12%/-10%	+31%/-47%
Source	KIC0	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 009953572-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-767 ± 54	$2.80^{+0.75}_{-0.77}$	336^{+23}_{-16}	5559^{+906}_{-511}	48826^{+44110}_{-18278}
Alt.	-323 ± 48	$4.02^{+0.85}_{-0.80}$	337^{+22}_{-16}	4036^{+337}_{-264}	9978^{+6070}_{-3465}

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 $A_{obs} \gg 1.0$

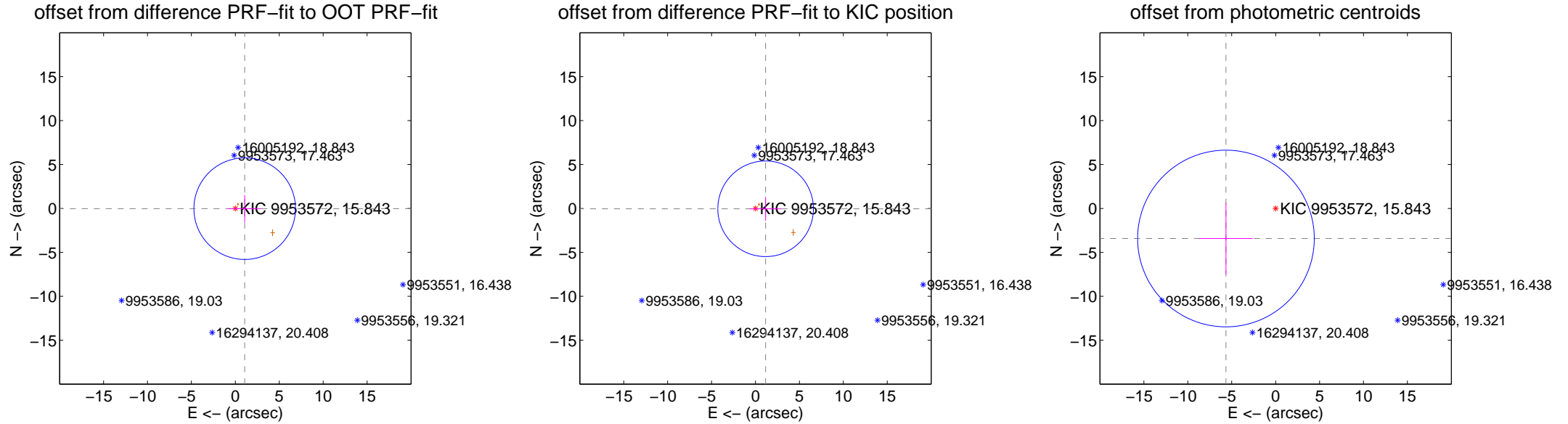
DV Centroid Data

Supplemental centroid analysis for 009953572-01. Kepler magnitude: 15.84. Transit SNR 7.42

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.066 ± 1.927	0.55	-1.066 ± 1.892	-0.024 ± 1.557
PRF-fit source offset from KIC position	1.154 ± 1.814	0.64	-1.153 ± 1.814	-0.039 ± 1.354
photometric centroid source offset	6.61 ± 3.35	1.97	5.66 ± 3.05	-3.42 ± 4.06

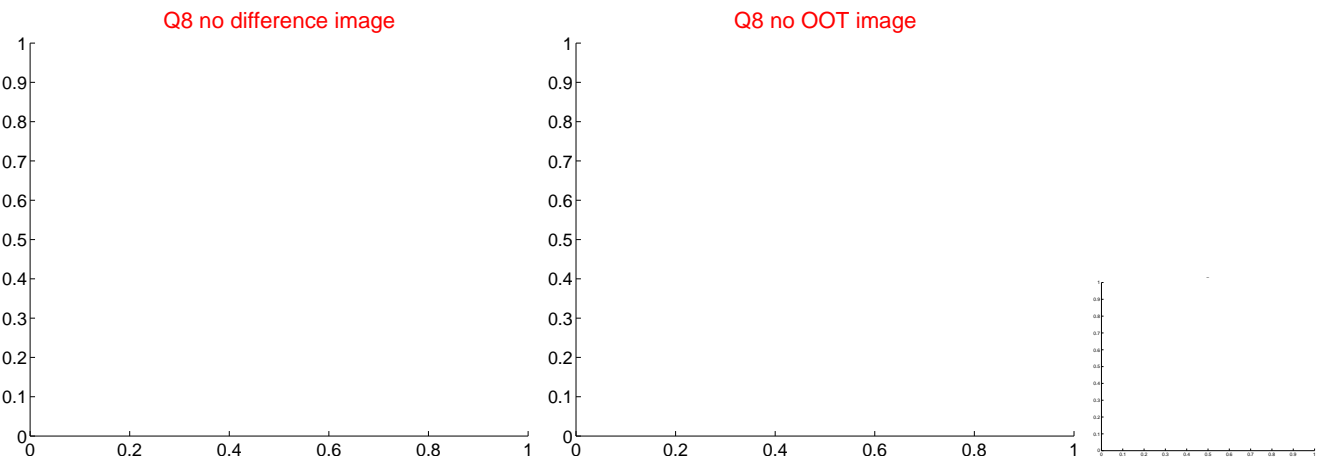
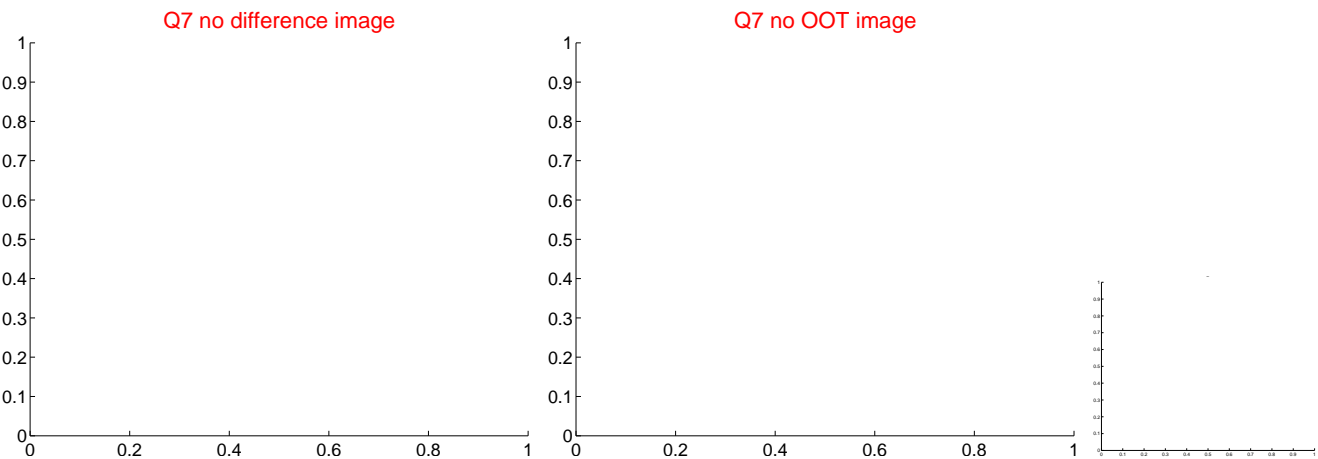
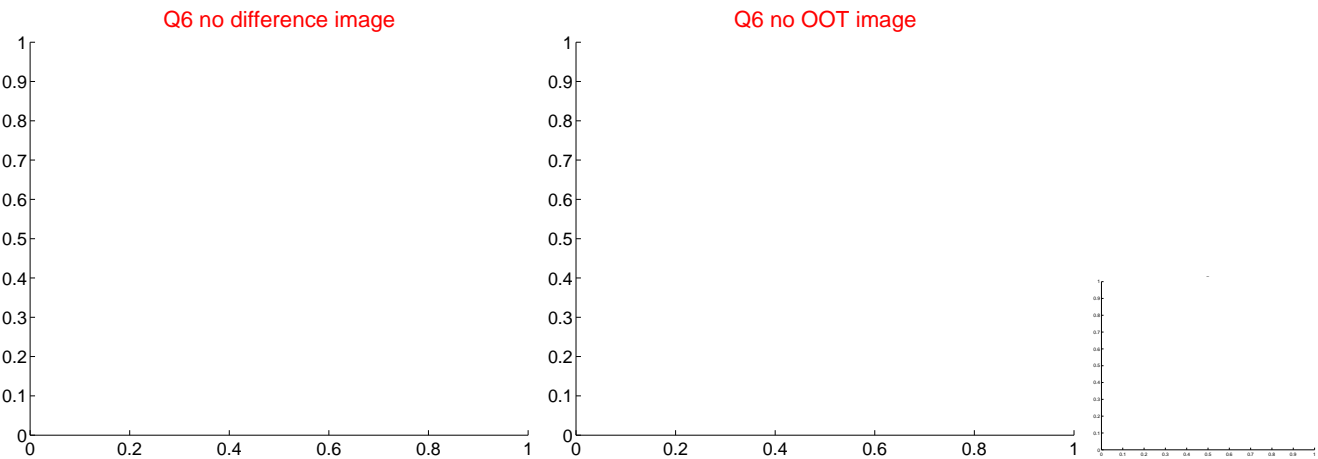
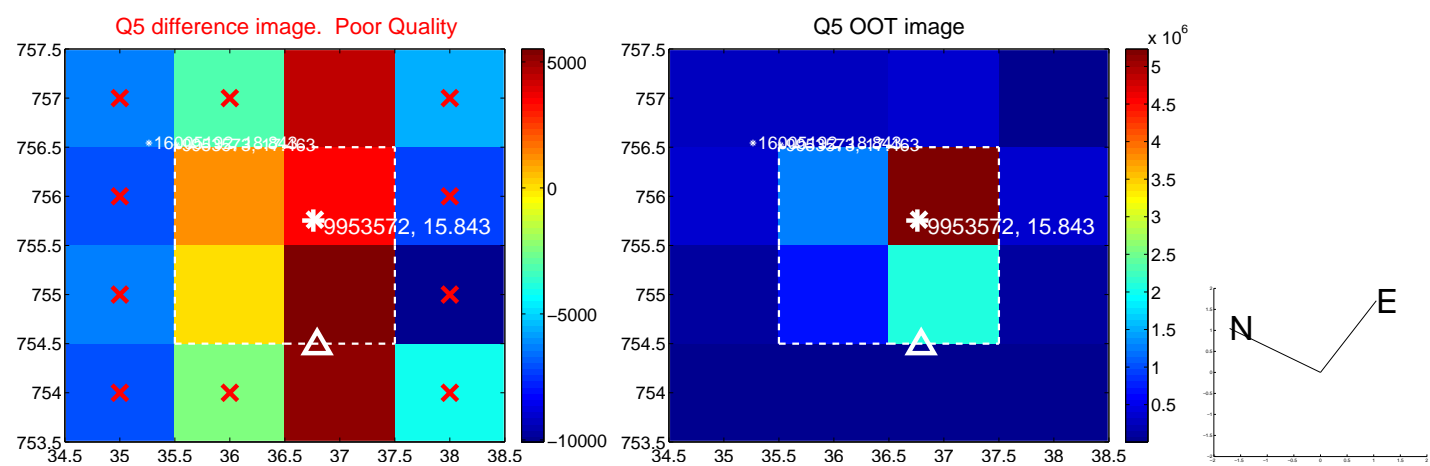


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



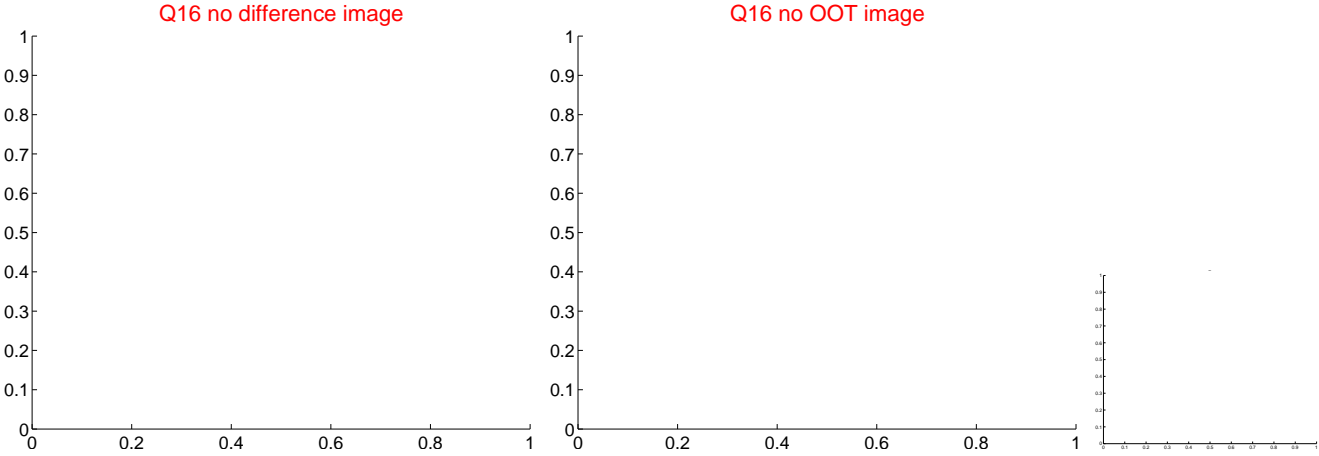
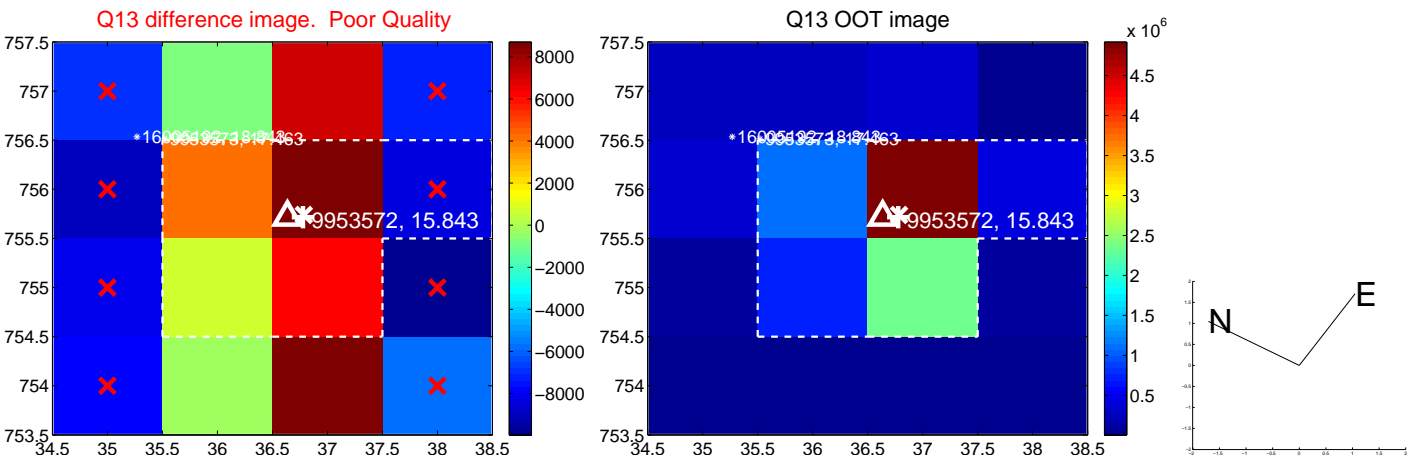
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



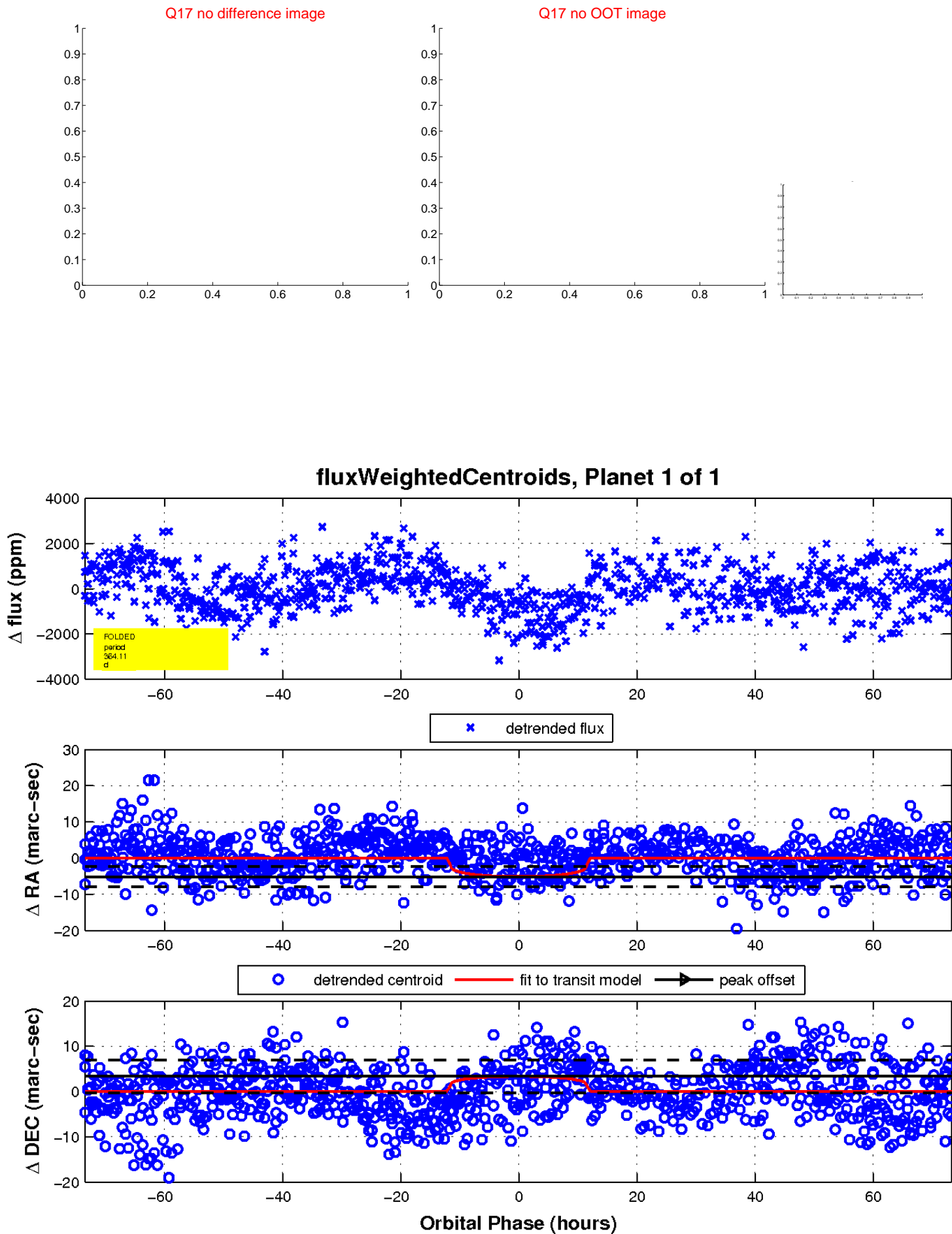
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

