

KIC 007953701

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})
007953701-01	OBS	No	374.200094	260.108062	2058.1	17.633	9.4	7.7	0.77	4921	3.37	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007953701-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH

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.

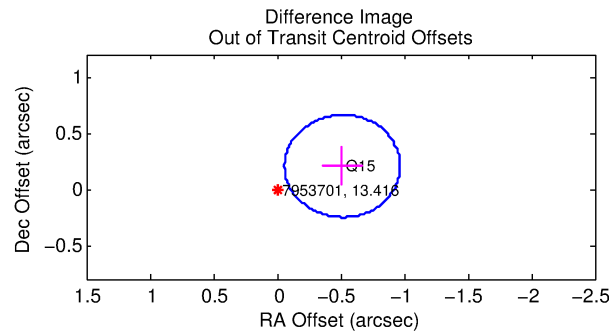
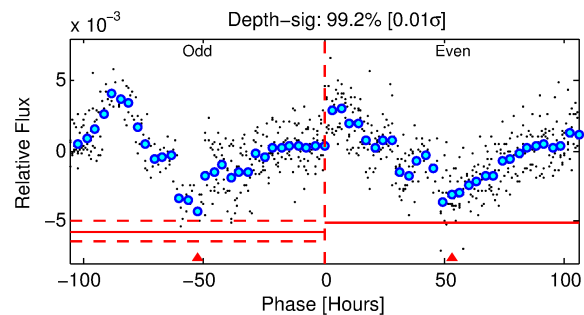
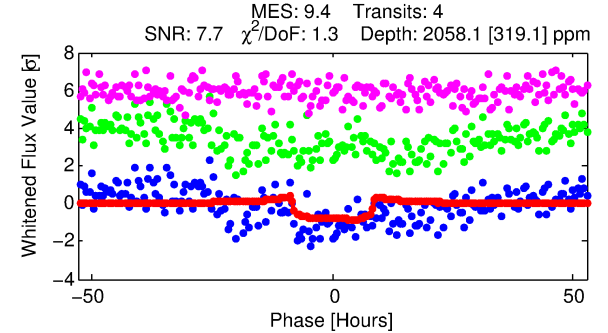
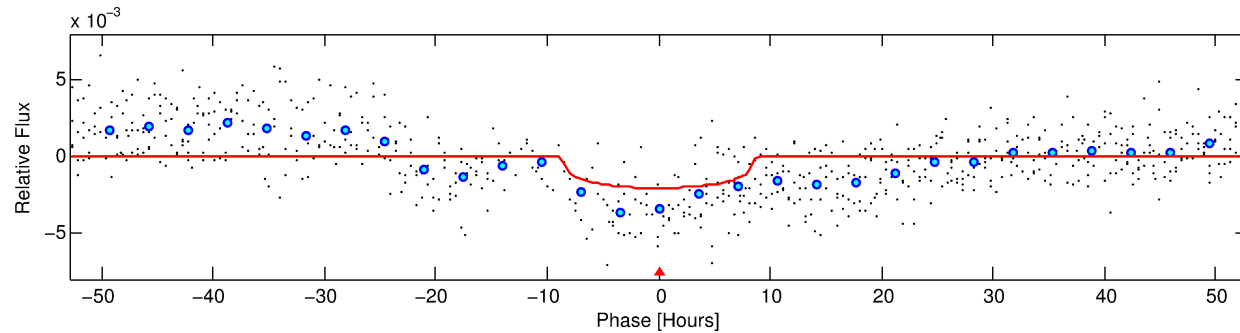
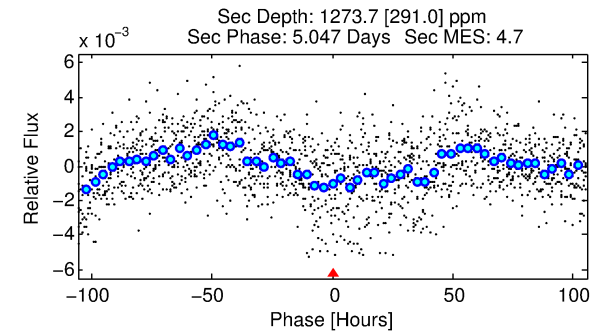
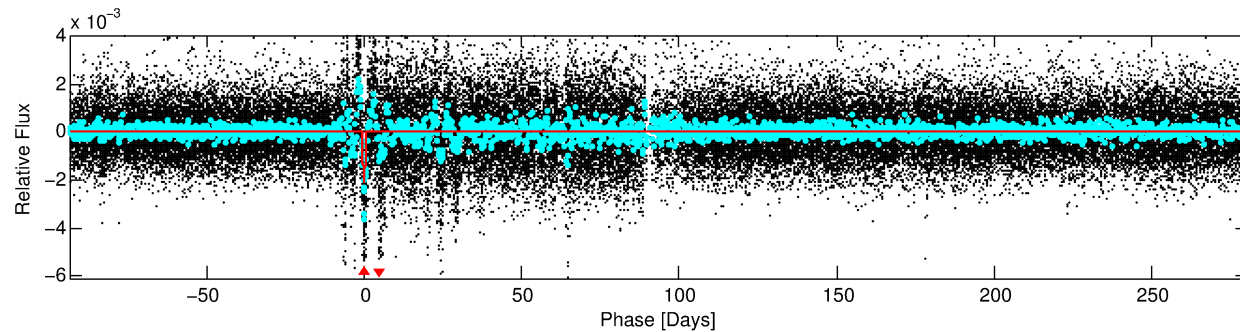
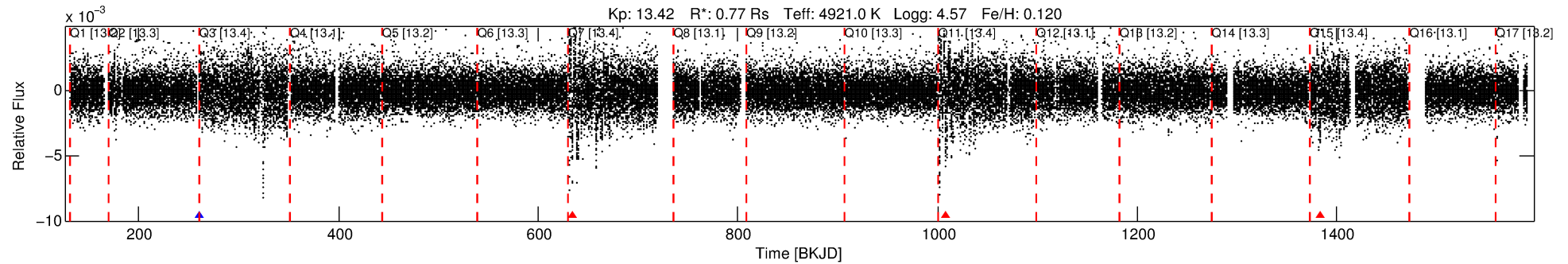
Ephemeris Match Information For 007953701-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007953701-01	7953701	007677313-01	7677313	1:1	2024.4	1	509	15.52	13.42	0.47	Col-Anomaly	1	1.84	3.20

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7953701 Candidate: 1 of 1 Period: 374.200 d



DV Fit Results:

Period = 374.20009 [0.01709] d
Epoch = 260.1081 [0.0383] BKJD
Rp/R* = 0.0401 [0.0272]
a/R* = 167.43 [365.30]
b = 0.12 [17.52]
Seff = 0.35 [0.06]
Teq = 196 [8] K
Rp = 3.37 [2.31] Re
a = 0.9443 [0.0693] AU
Ag = 54961.01 [75890.53] [0.72σ]
Teffp = 4641 [1606] K [2.77σ]

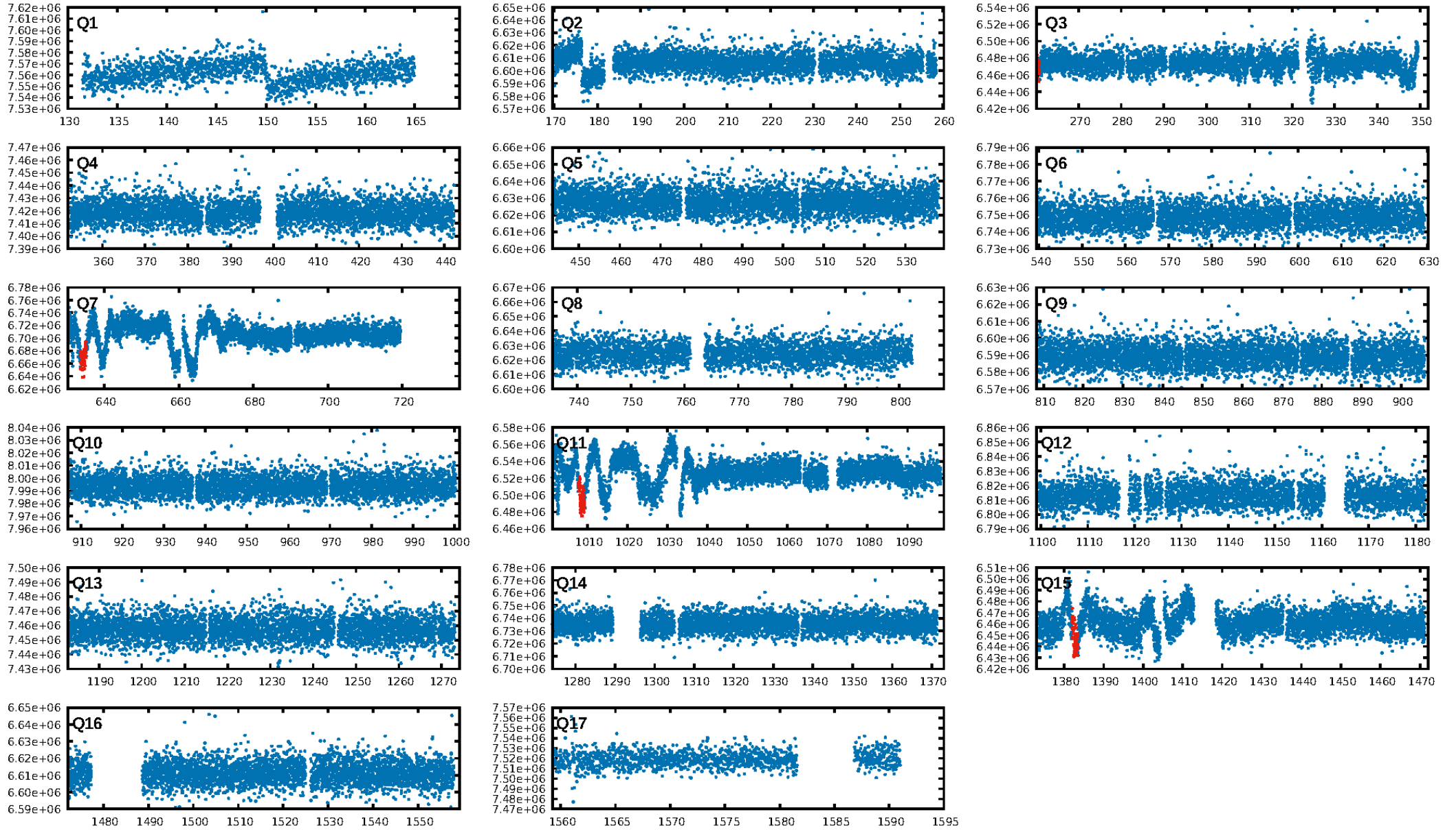
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 9.91e-11
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: -15.67
Centroid-sig: 2.0%
Centroid-so: 4.274 arcsec [2.27σ]
OotOffset-rm: 0.552 arcsec [3.64σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-rm: 0.988 arcsec [6.63σ]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

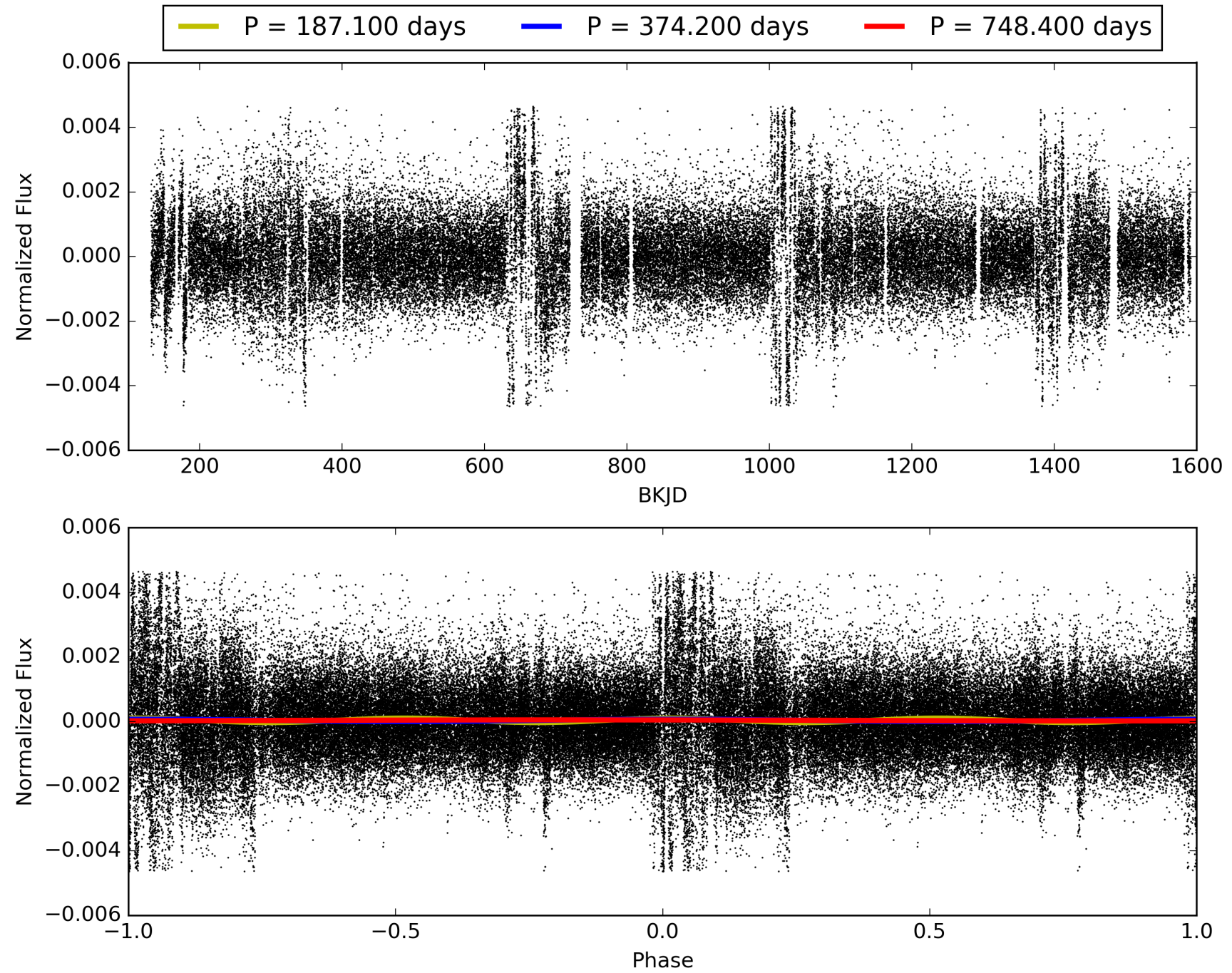
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:47:15 Z

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

TCE 007953701-01, PDC Light Curves

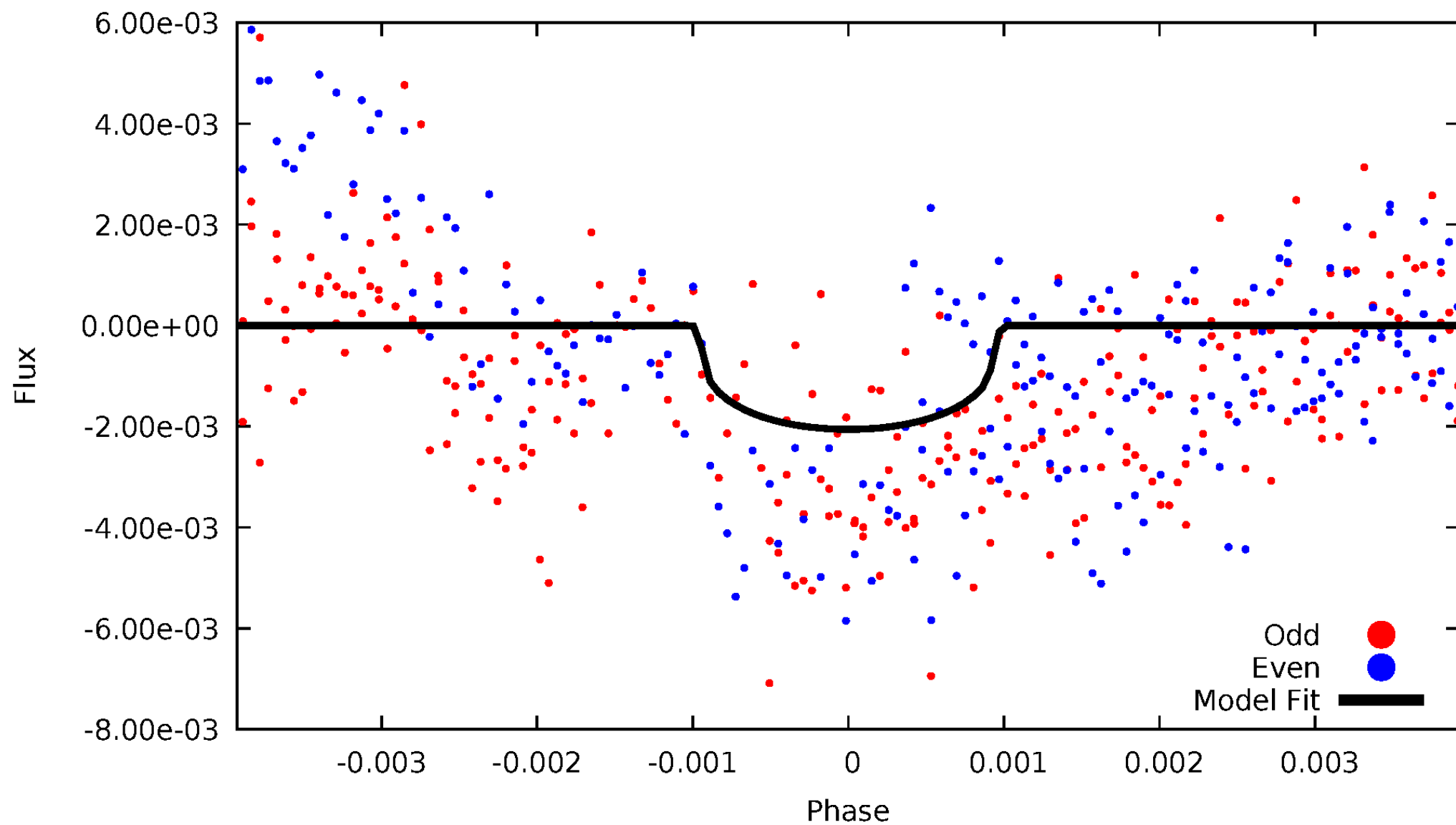


TCE 007953701-01



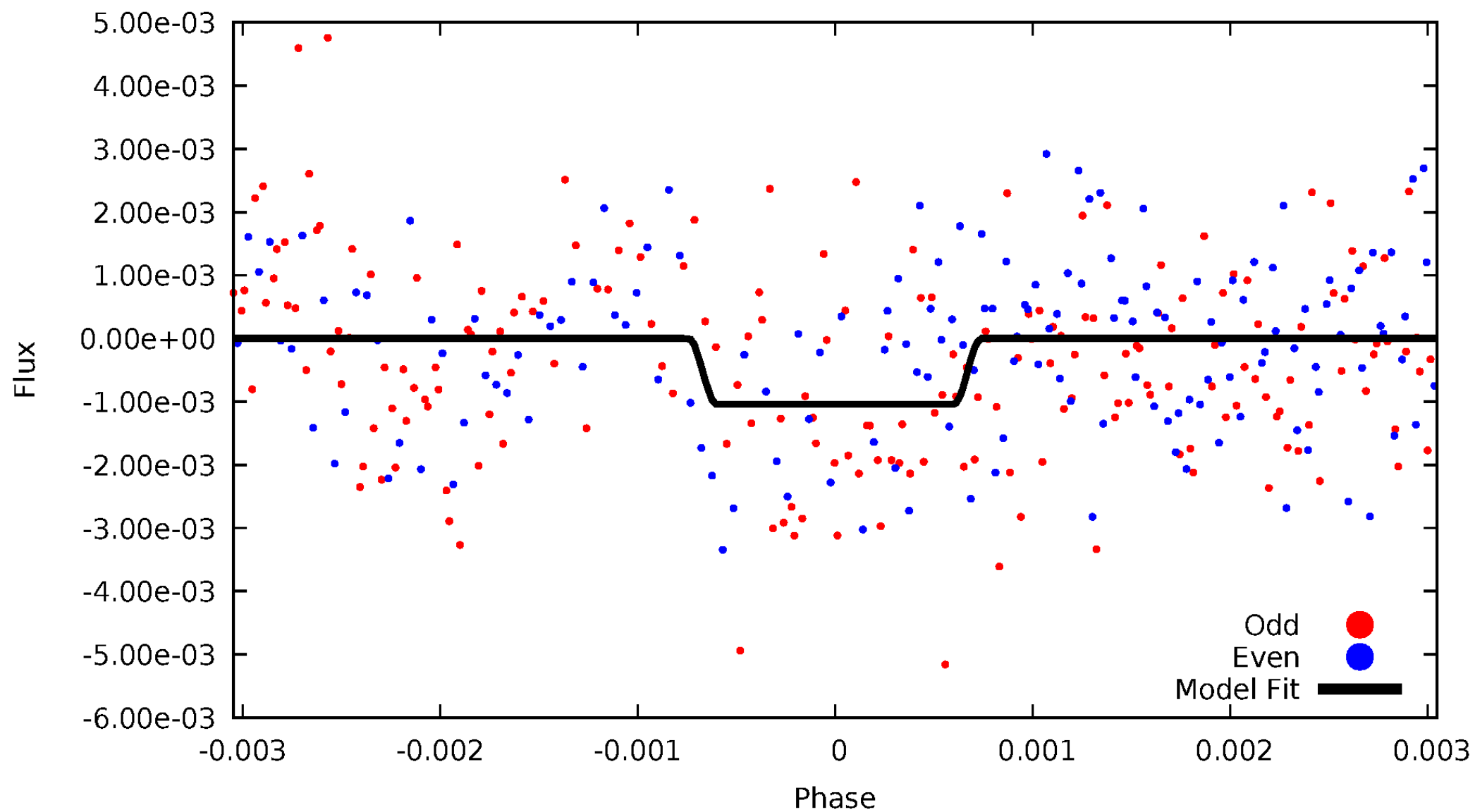
DV Odd/Even

TCE 007953701-01

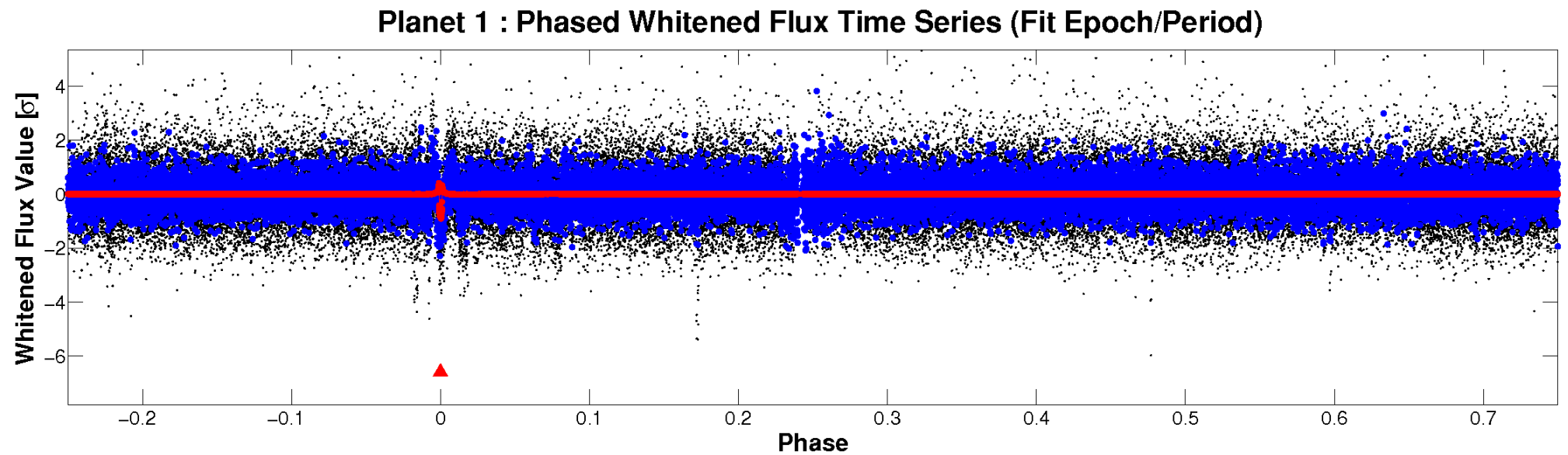
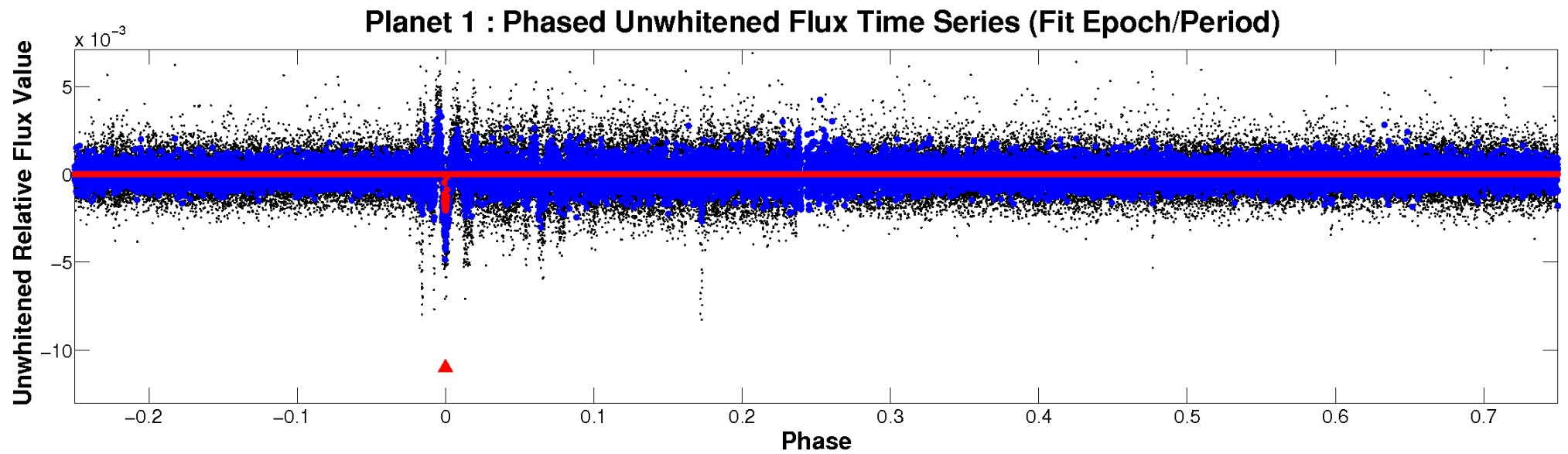


ALT Odd/Even

TCE 007953701-01

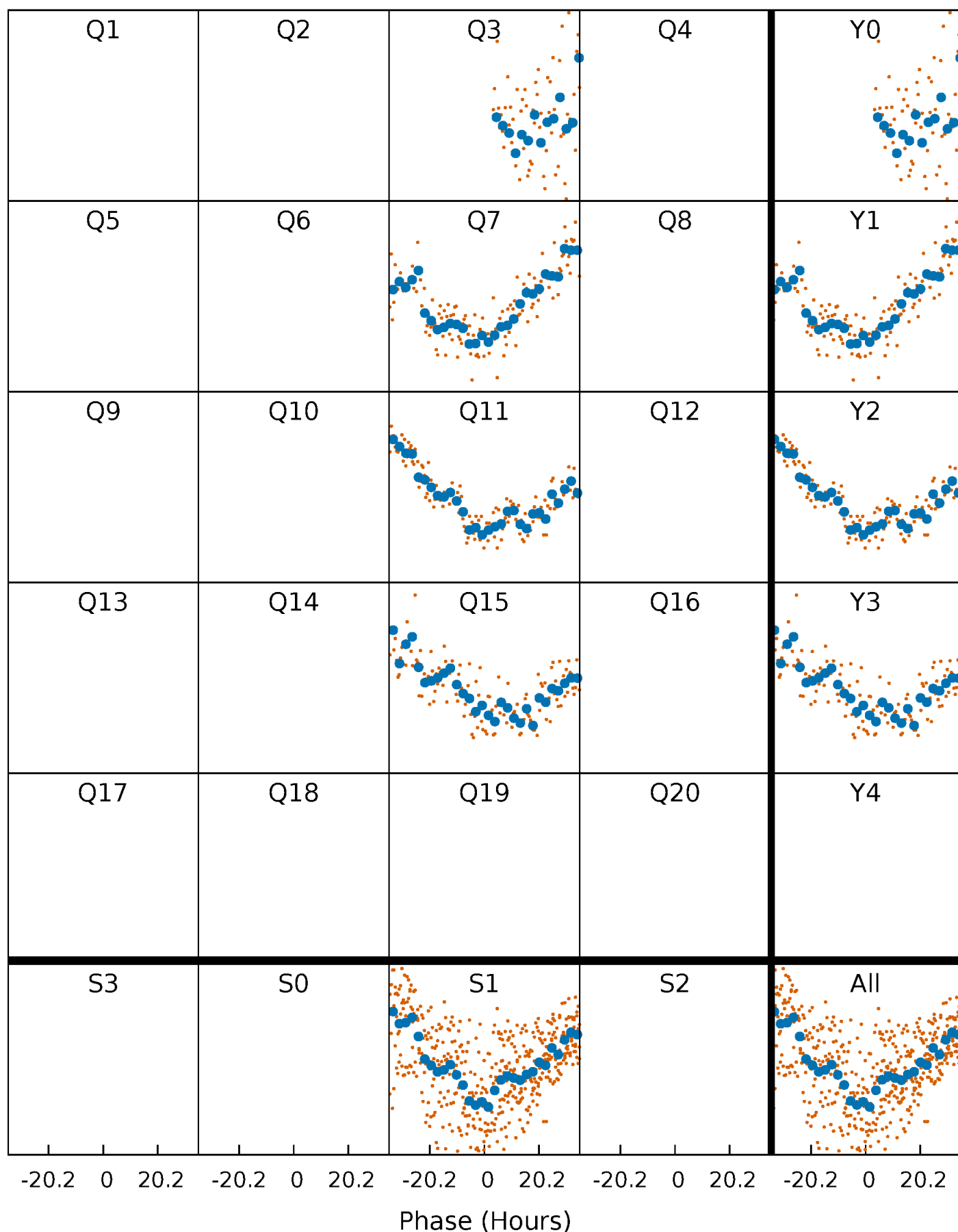


Non-Whitened Vs. Whitened Light Curve



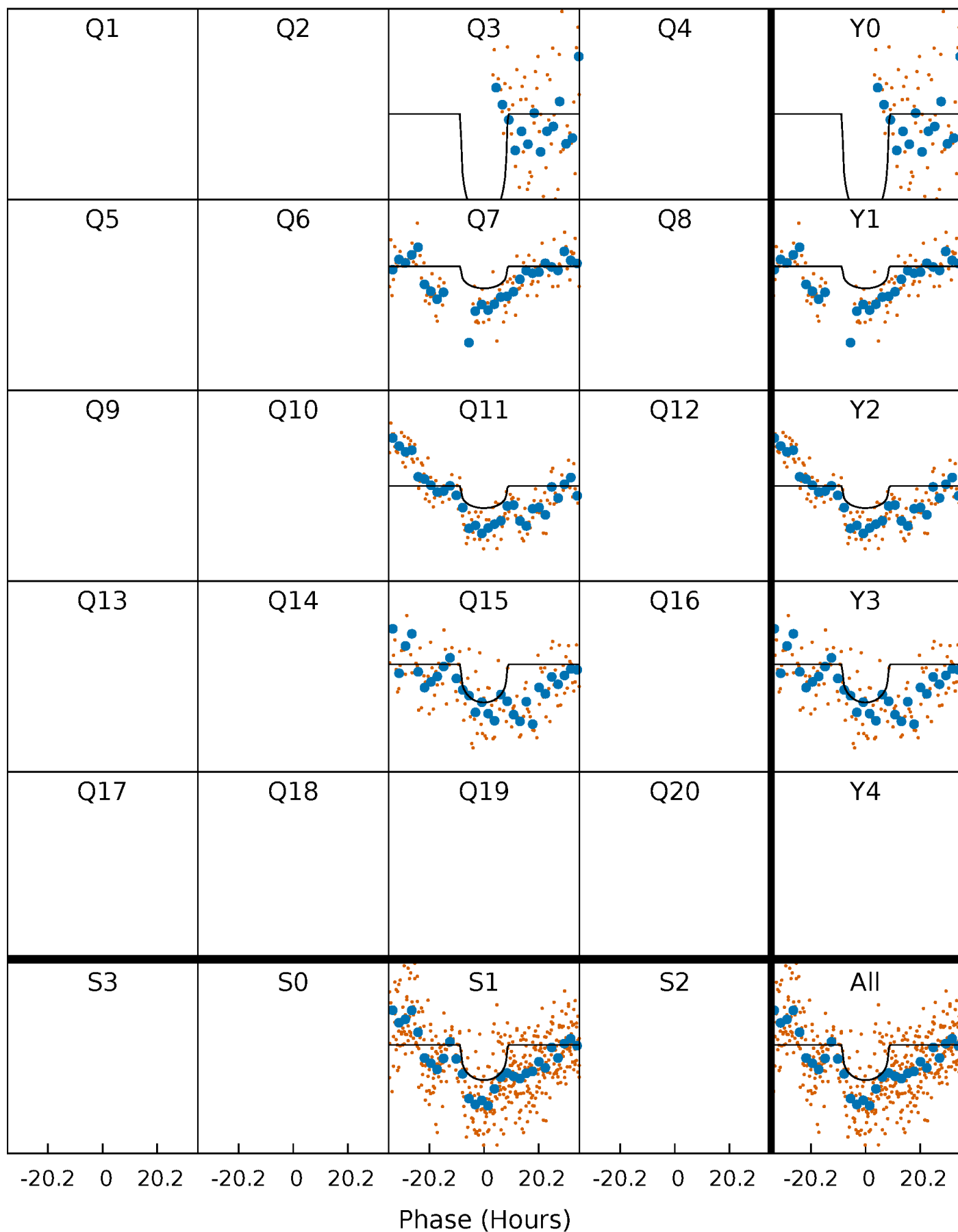
PDC Quarter-Phased Transit Curves

TCE 007953701-01 P=374.200094 Days $T_0=260.108062$ (BKJD)



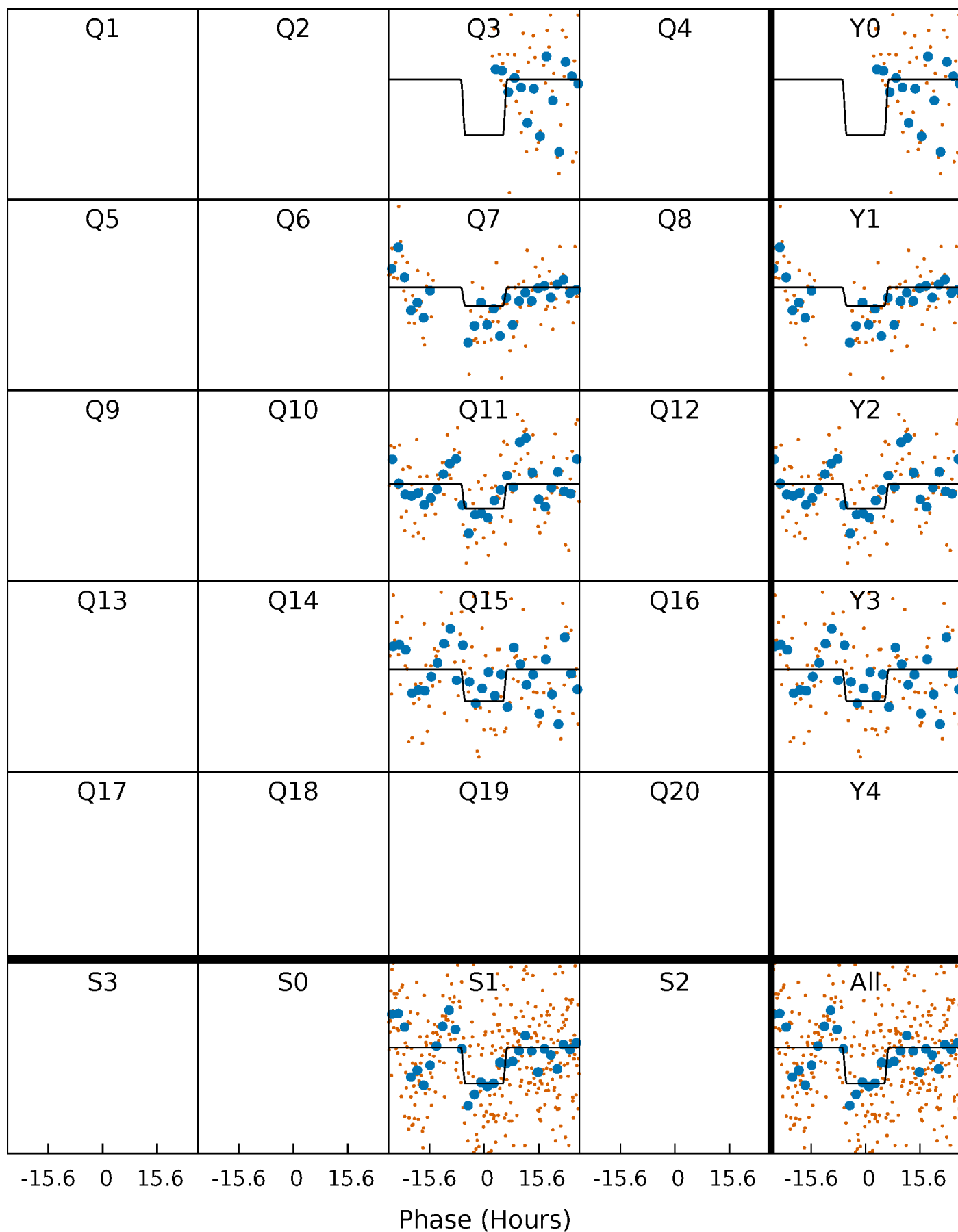
DV Quarter-Phased Transit Curves

TCE 007953701-01 $P=374.200094$ Days $T_0=260.108062$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

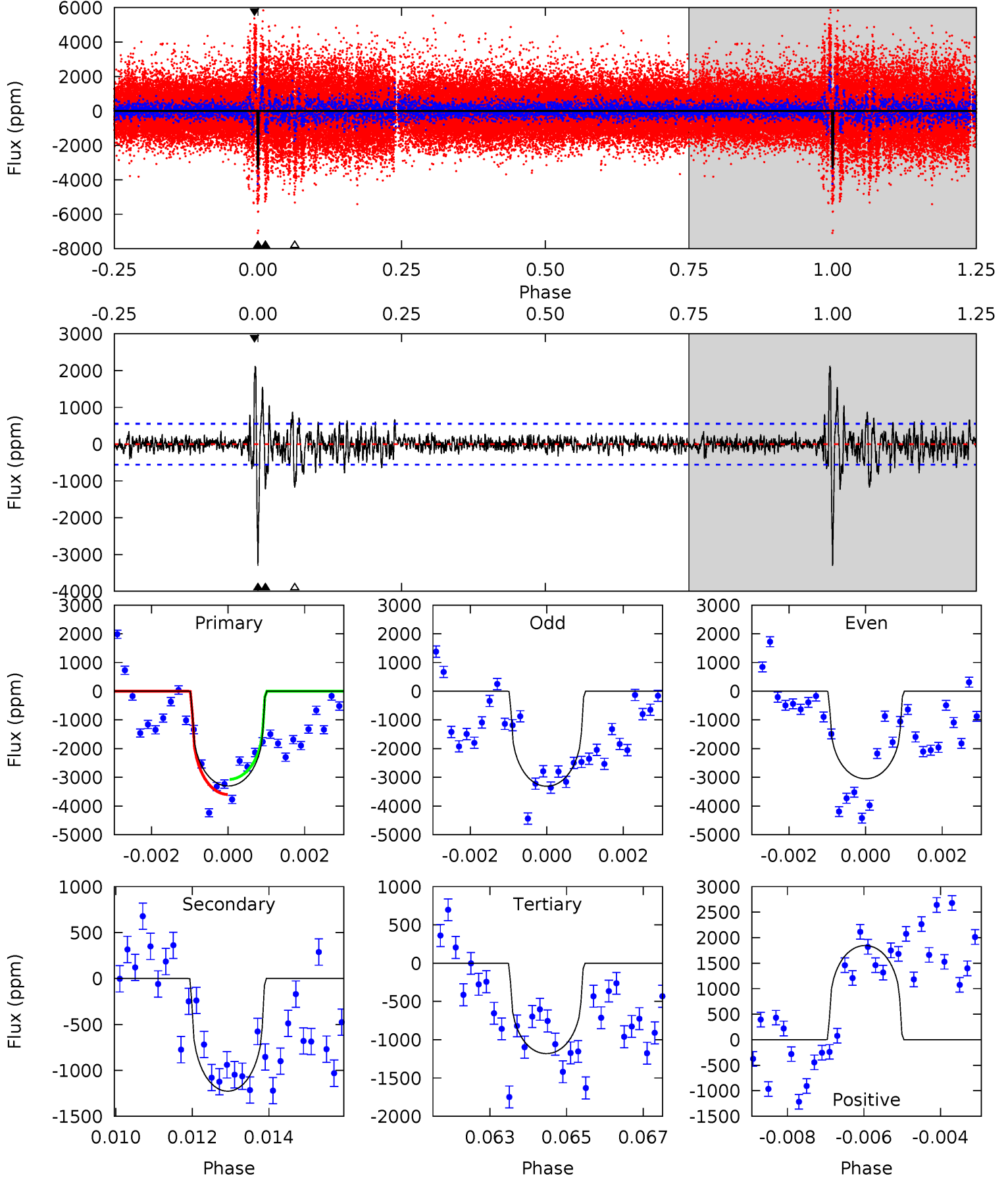
TCE 007953701-01 P=374.152106 Days $T_0=260.145969$ (BKJD)



DV Model-Shift Uniqueness Test

007953701-01, P = 374.200094 Days, E = 260.108062 Days

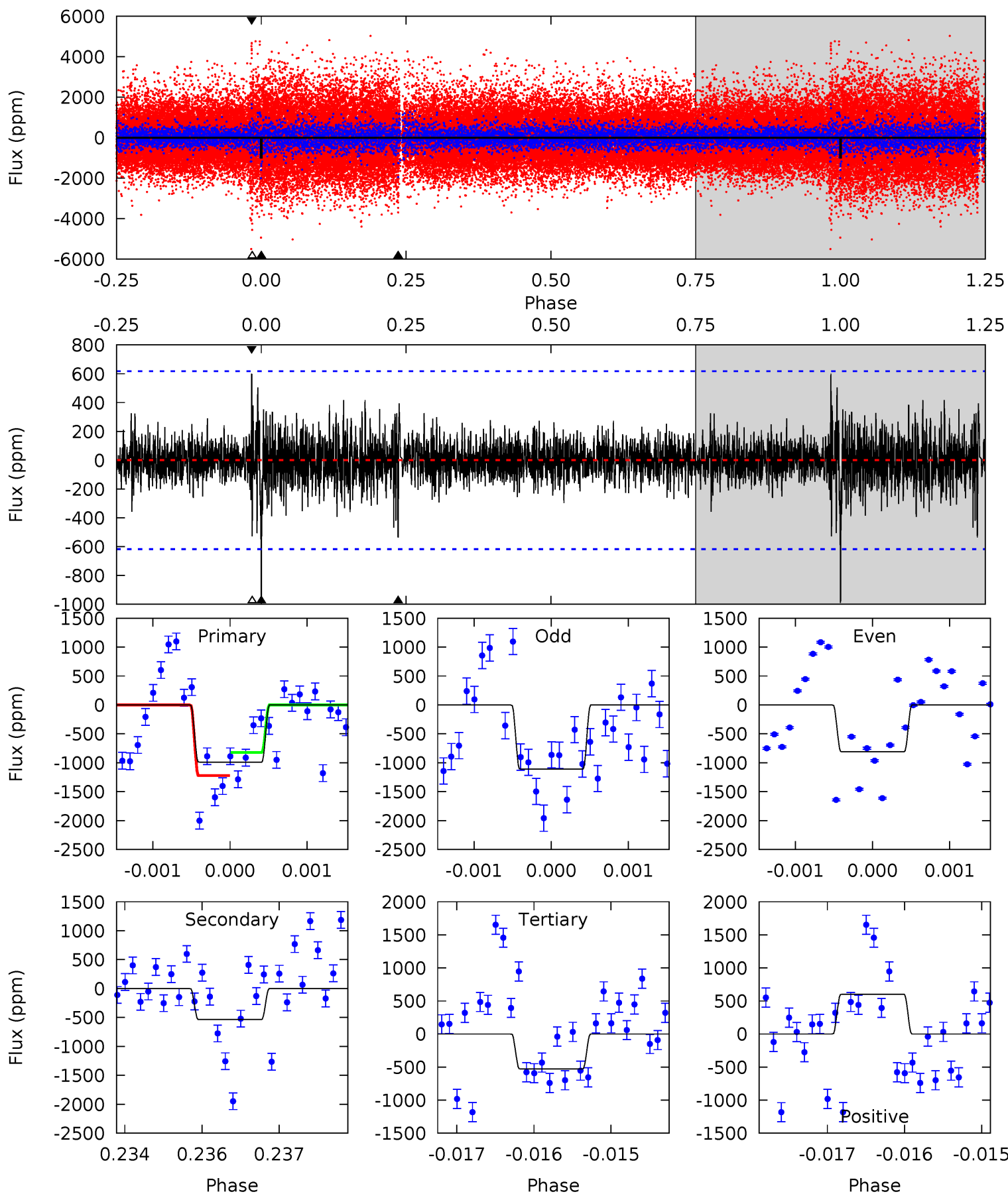
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.7	11.8	11.3	17.7	5.33	3.09	2.29	20.4	14.0	0.44	-5.94	1.24	0.79	0.39	2.50



Alt Model-Shift Uniqueness Test

007953701-01, P = 374.152106 Days, E = 260.145969 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.62	4.67	4.60	5.23	5.38	3.18	0.93	4.02	3.39	0.07	-0.56	1.28	1.00	0.38	1.75



Stellar Parameters For KIC 007953701

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4921^{+169}_{-169}	$4.569^{+0.041}_{-0.054}$	$0.120^{+0.250}_{-0.300}$	$0.770^{+0.070}_{-0.063}$	$0.801^{+0.062}_{-0.069}$	$2.474^{+0.480}_{-0.483}$
	+3%/-3%	+1%/-1%	+208%/-250%	+9%/-8%	+8%/-9%	+19%/-20%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007953701-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1227 ± 104	$3.62^{+2.27}_{-2.05}$	275^{+11}_{-10}	4519^{+2048}_{-732}	$45718^{+186400}_{-28886}$
Alt.	-536 ± 115	$3.07^{+2.12}_{-1.86}$	274^{+11}_{-10}	4109^{+2017}_{-684}	$27677^{+153652}_{-18344}$

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

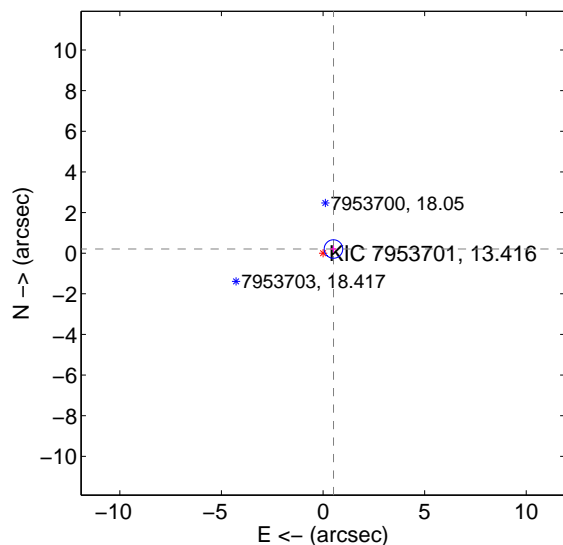
Supplemental centroid analysis for 007953701-01. Kepler magnitude: 13.42. Transit SNR 7.69

There are 0 quarters with good PRF difference image offsets

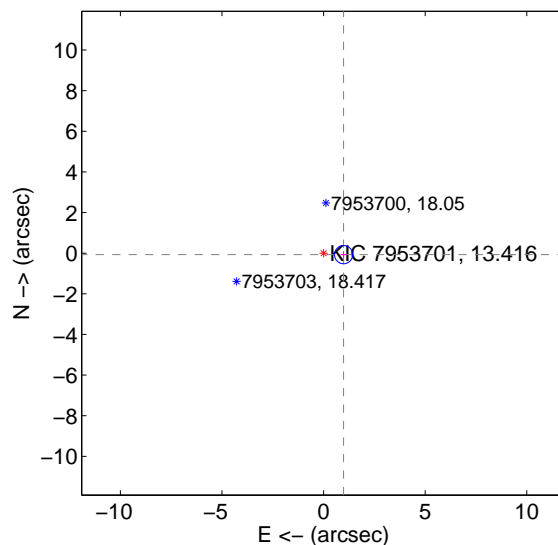
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.552 ± 0.152	3.64	-0.513 ± 0.149	0.204 ± 0.168
PRF-fit source offset from KIC position	0.988 ± 0.149	6.63	-0.985 ± 0.149	-0.073 ± 0.168
photometric centroid source offset	4.27 ± 1.88	2.27	-4.03 ± 1.83	-1.43 ± 2.26

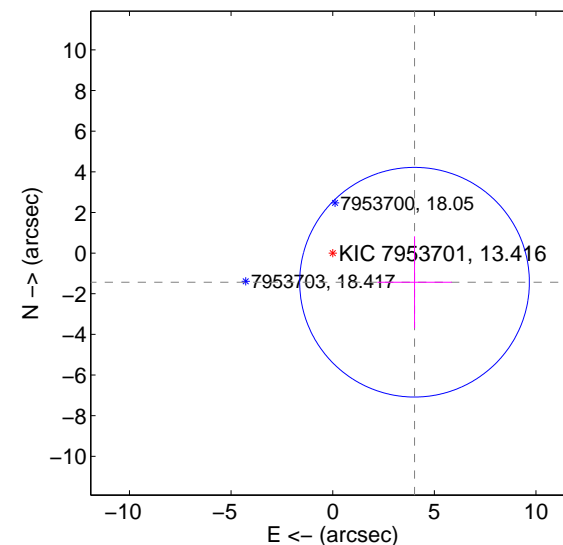
offset from difference PRF-fit to OOT PRF-fit



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.



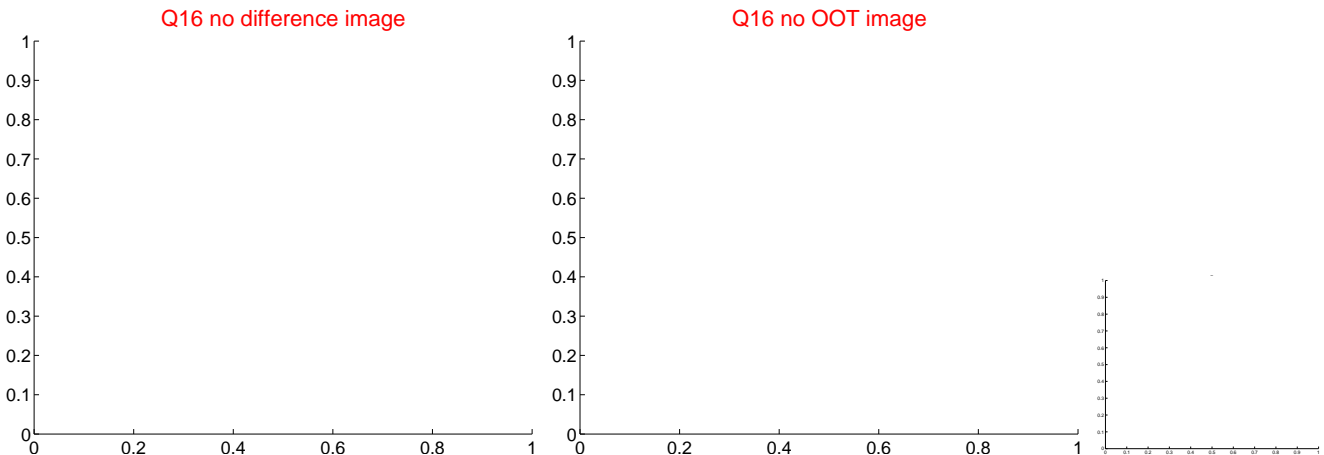
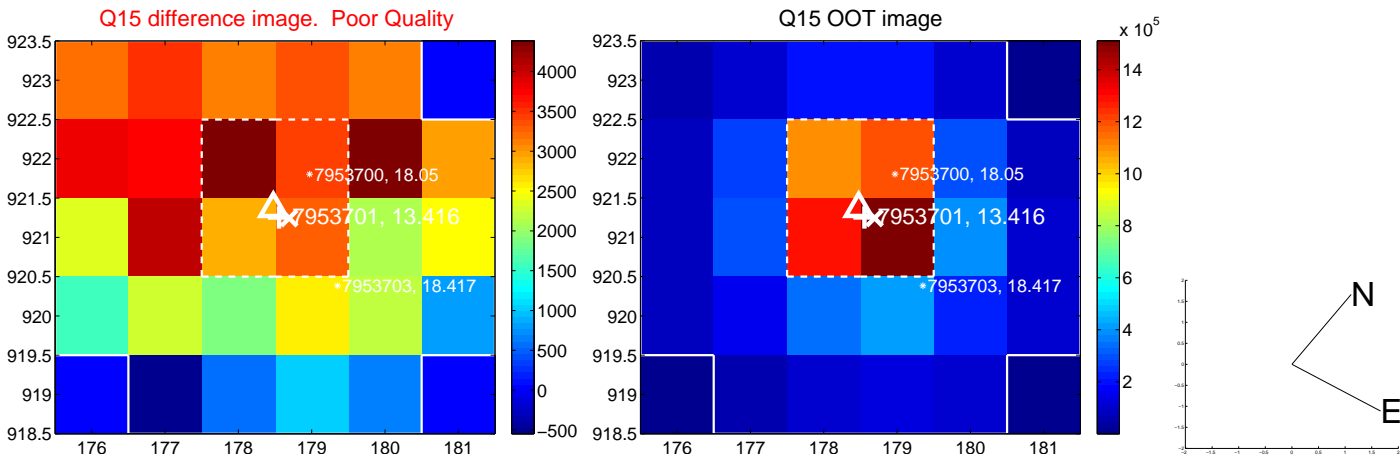
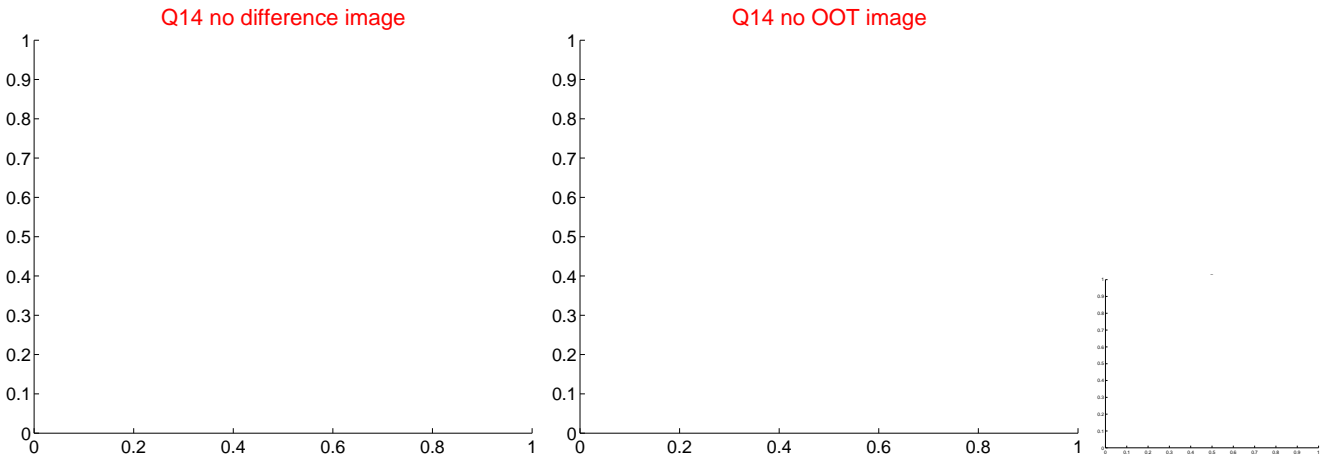
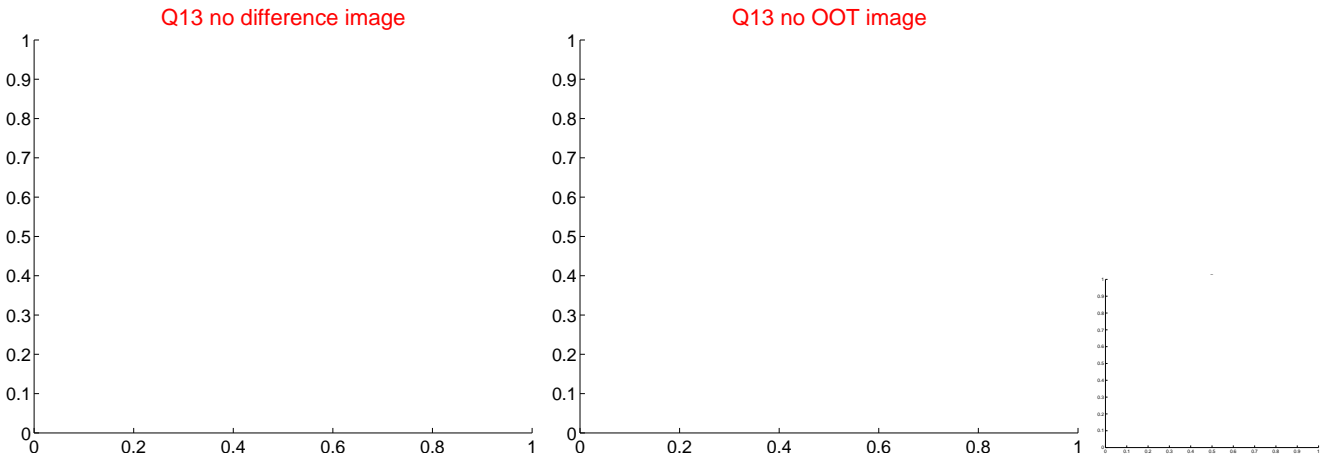
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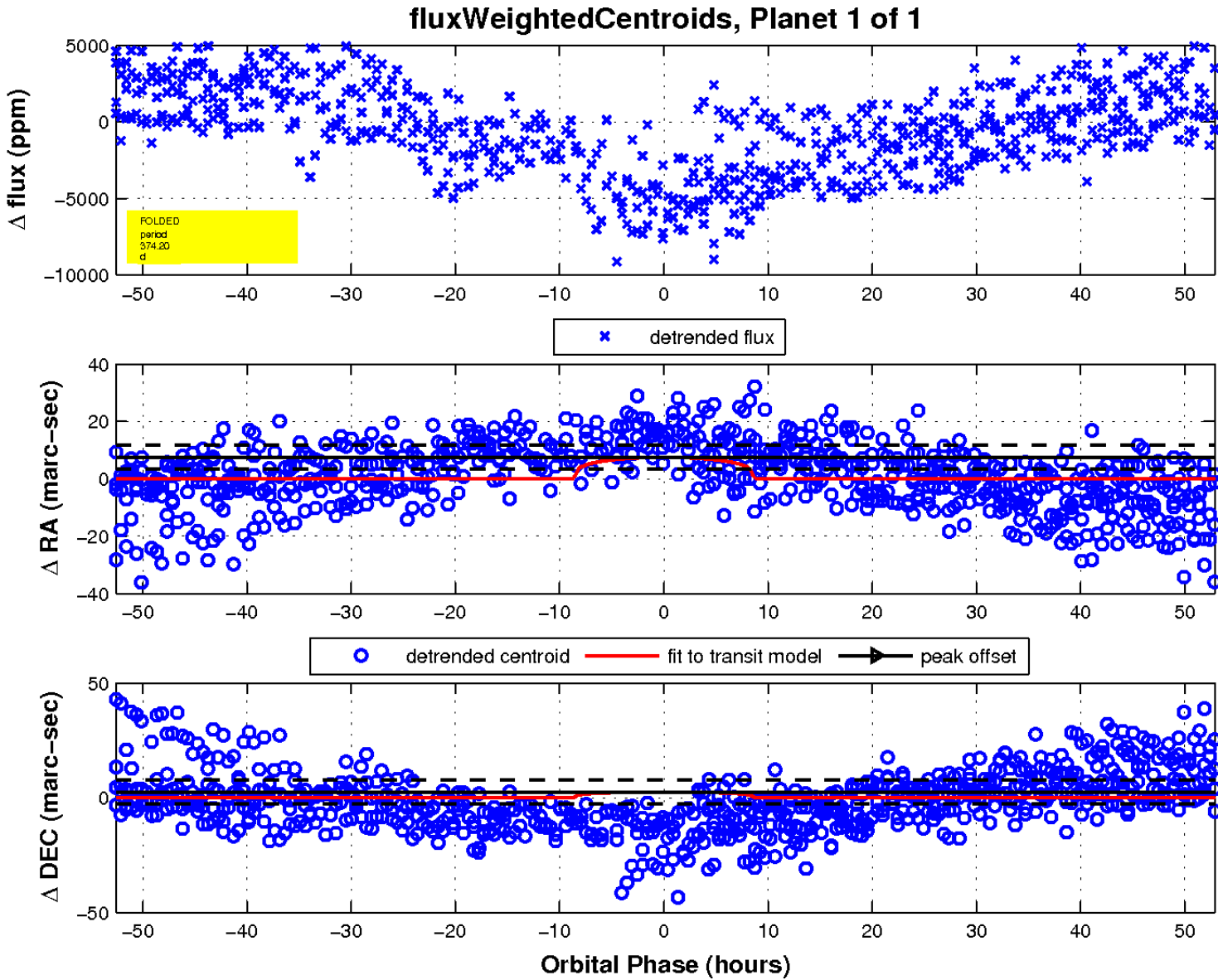
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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Q17 no difference image

Q17 no OOT image



UKIRT Image

Declination

