

KIC 005391407

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})
005391407-01	OBS	8254.01	0.638717	131.730007	30473.5	2.431	479.7	440.5	1.18	6424	26.31	8728.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005391407-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—DEEP_V_SHAPED—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.

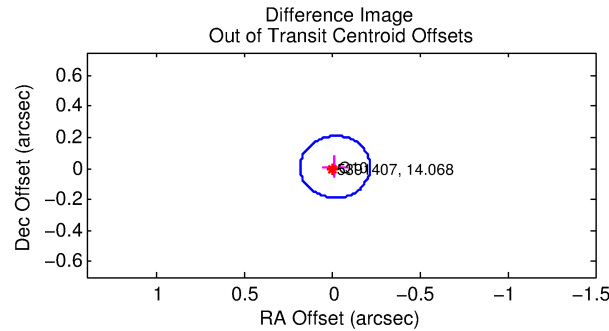
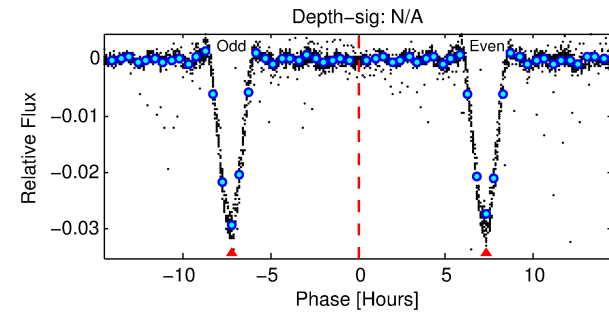
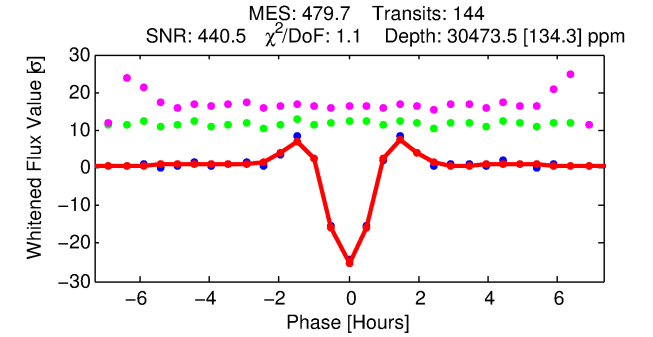
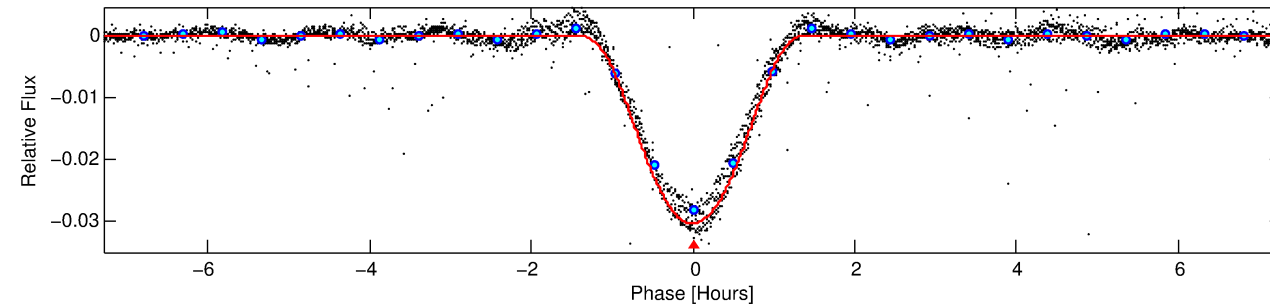
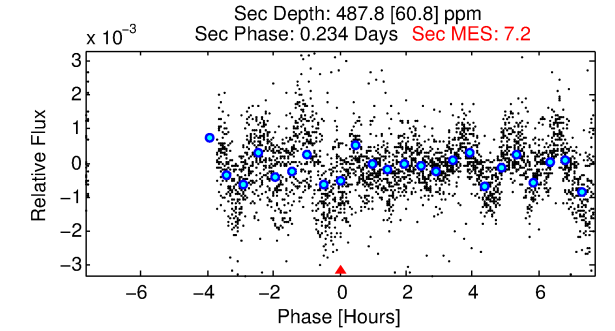
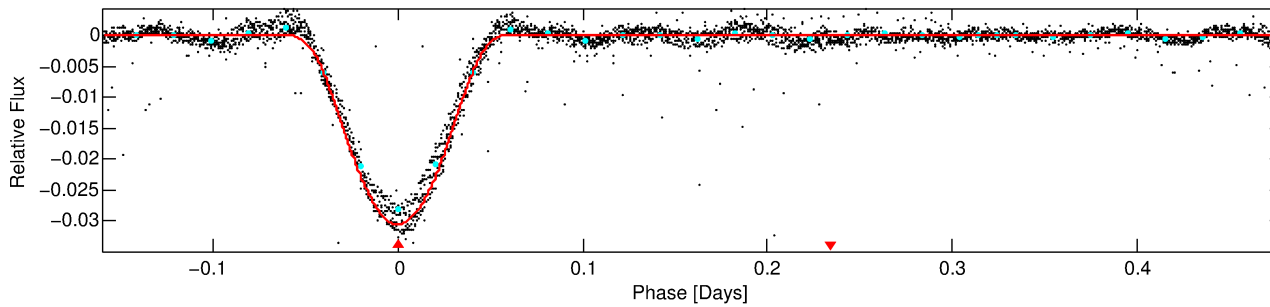
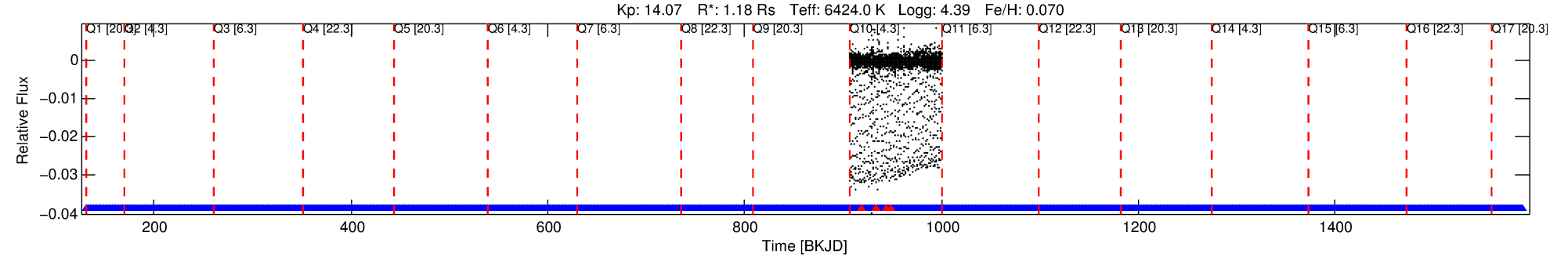
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005391407-01

No Significant Match Found

DV One-Page Summary

KIC: 5391407 Candidate: 1 of 1 Period: 0.639 d



DV Fit Results:

Period = 0.63872 [0.00000] d
Epoch = 131.7300 [0.0001] BKJD
Rp/R* = 0.2043 [0.0070]
a/R* = 1.93 [0.01]
b = 0.88 [0.01]
Seff = 8728.90 [3876.28]
Teq = 2465 [274] K
Rp = 26.31 [9.34] Re
a = 0.0156 [0.0046] AU
Ag = 0.09 [0.04] [-21.79σ]
Teffp = 2112 [110] K [-1.20σ]

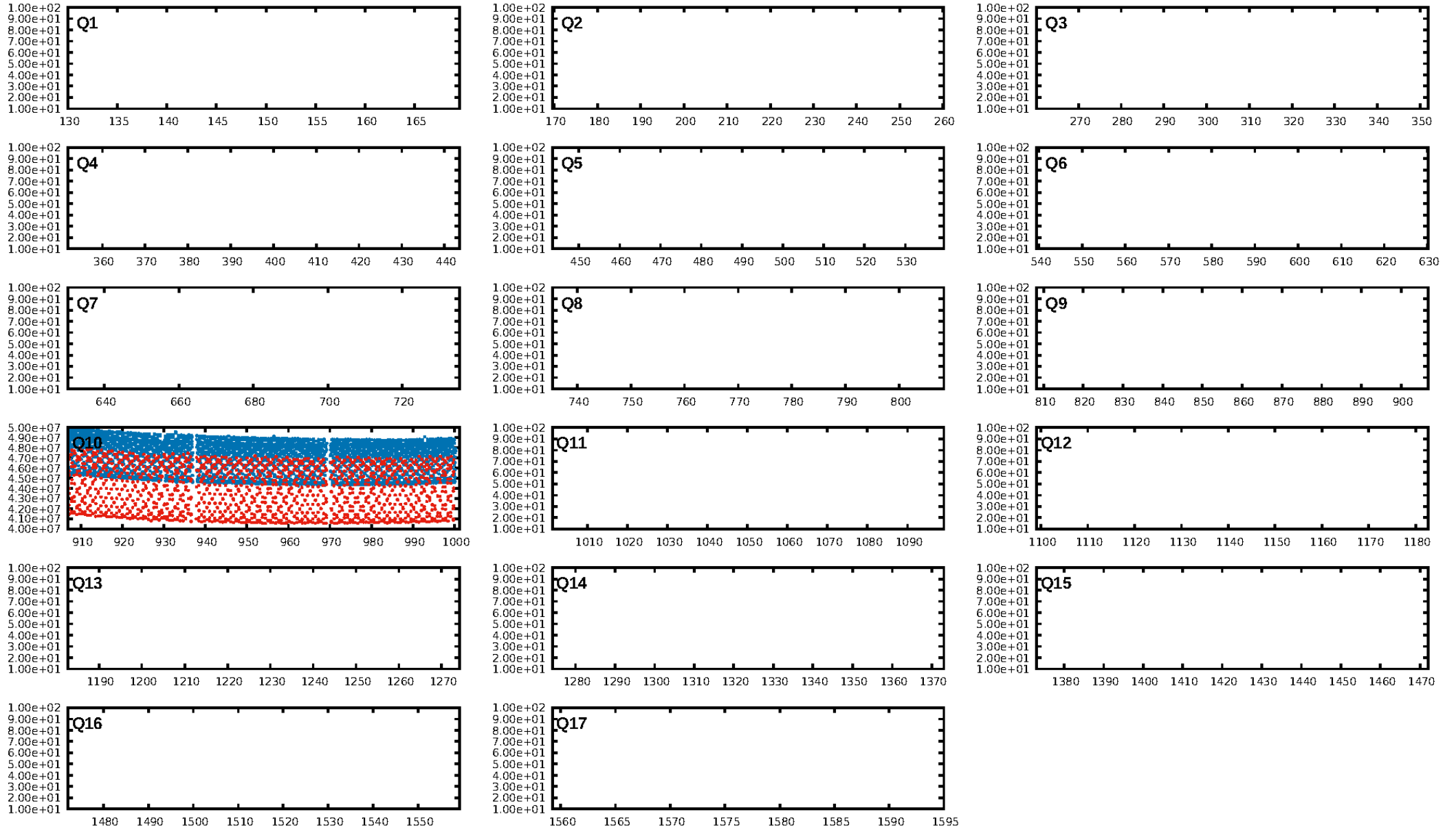
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [140/144]
GhostDiagnostic-chr: 2.519
Centroid-sig: 3.0%
Centroid-so: 0.848 arcsec [106.66σ]
OotOffset-rm: 0.019 arcsec [0.29σ]
KicOffset-rm: 0.018 arcsec [0.27σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

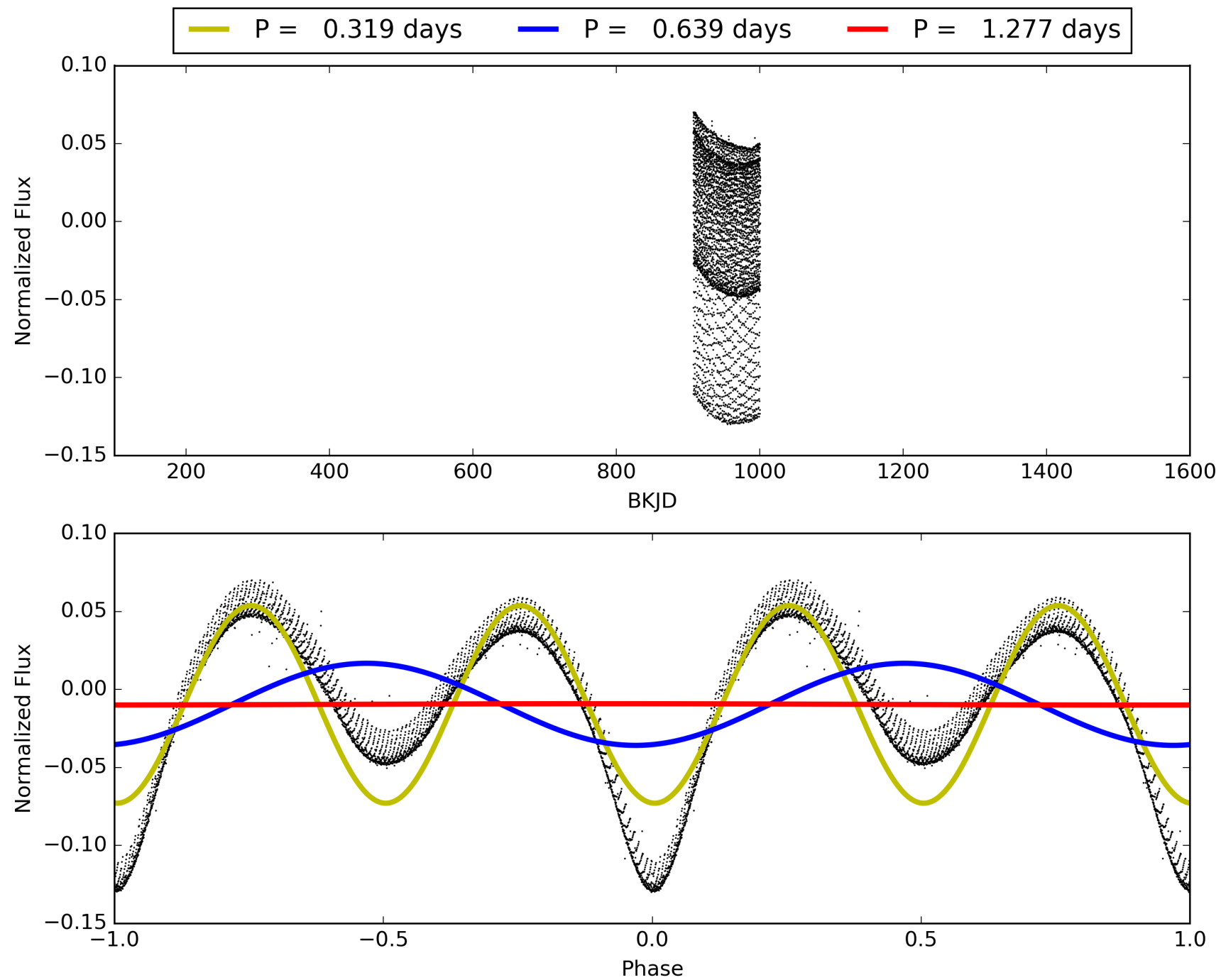
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:12:09 Z

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

TCE 005391407-01, PDC Light Curves

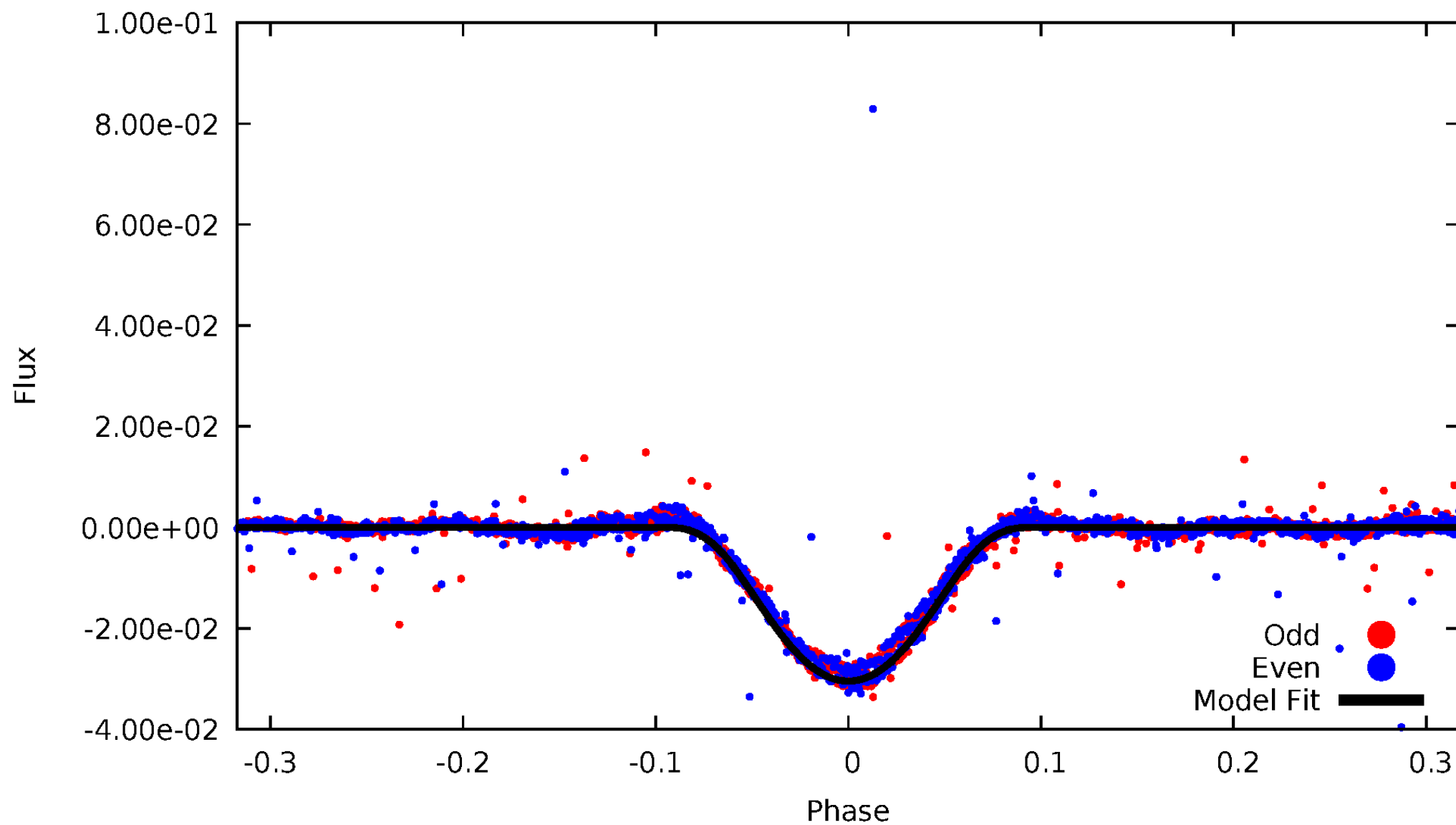


TCE 005391407-01



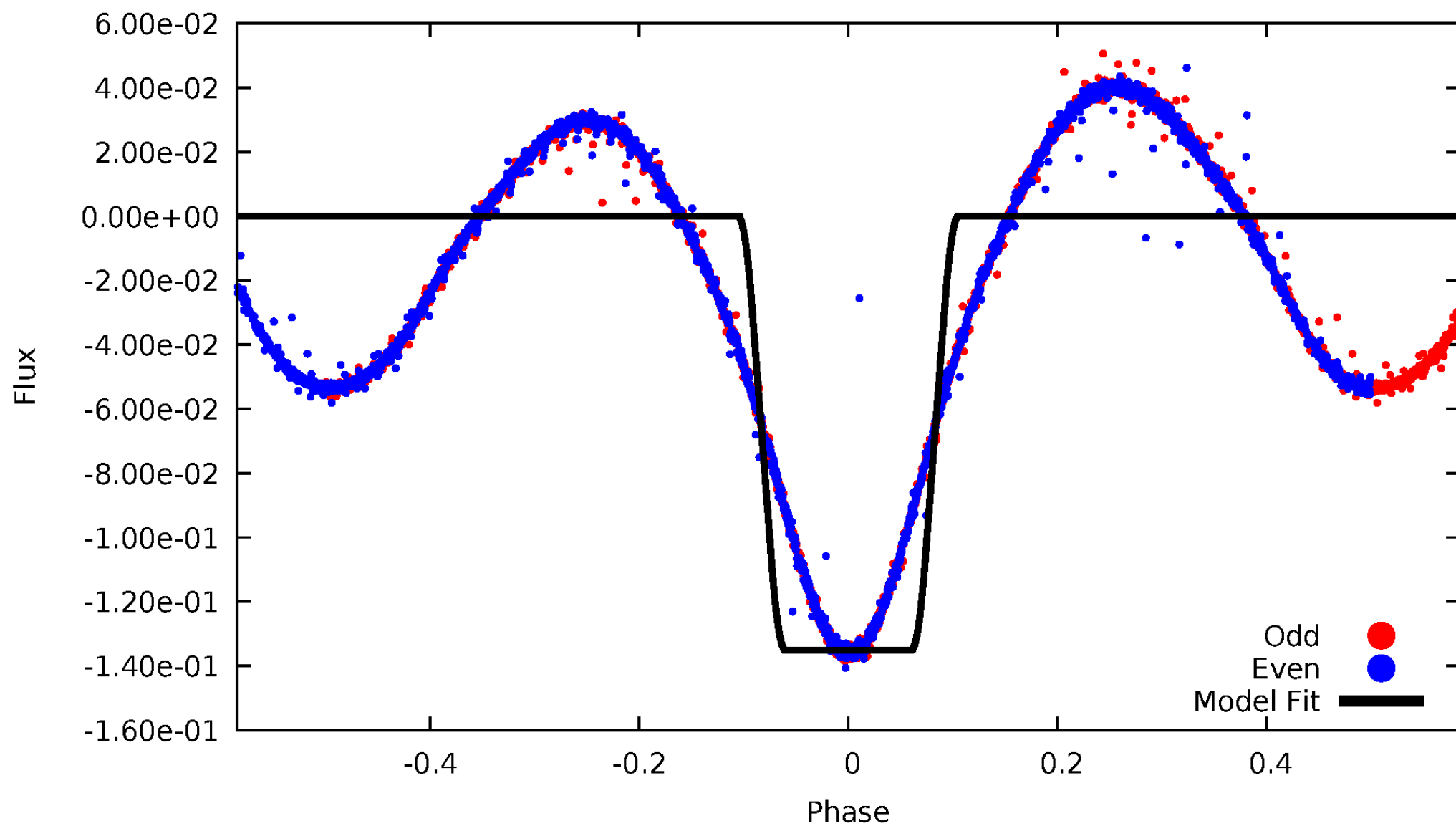
DV Odd/Even

TCE 005391407-01



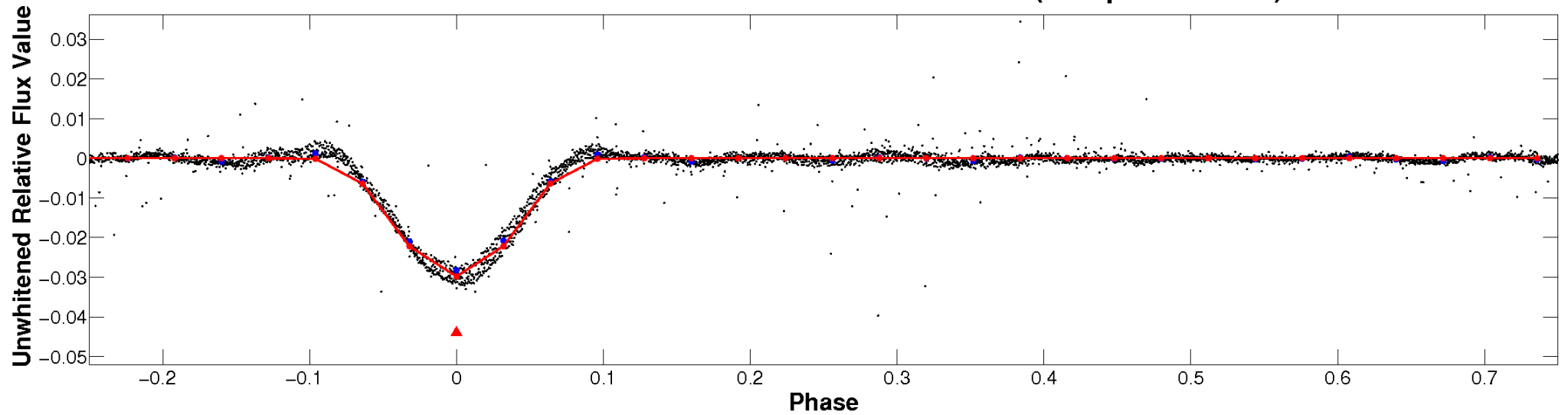
ALT Odd/Even

TCE 005391407-01

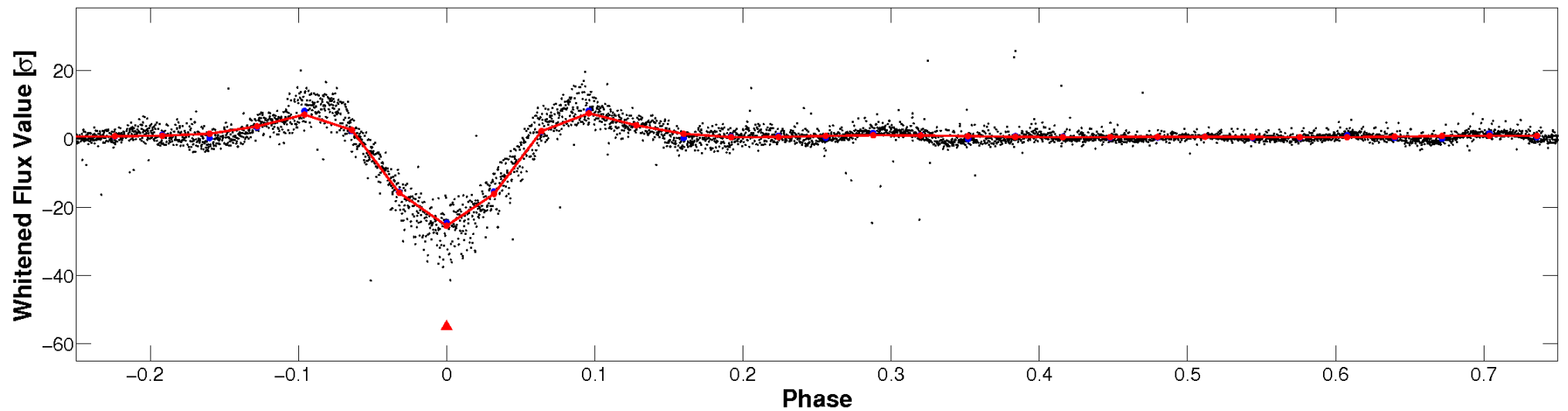


Non-Whitened Vs. Whitened Light Curve

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

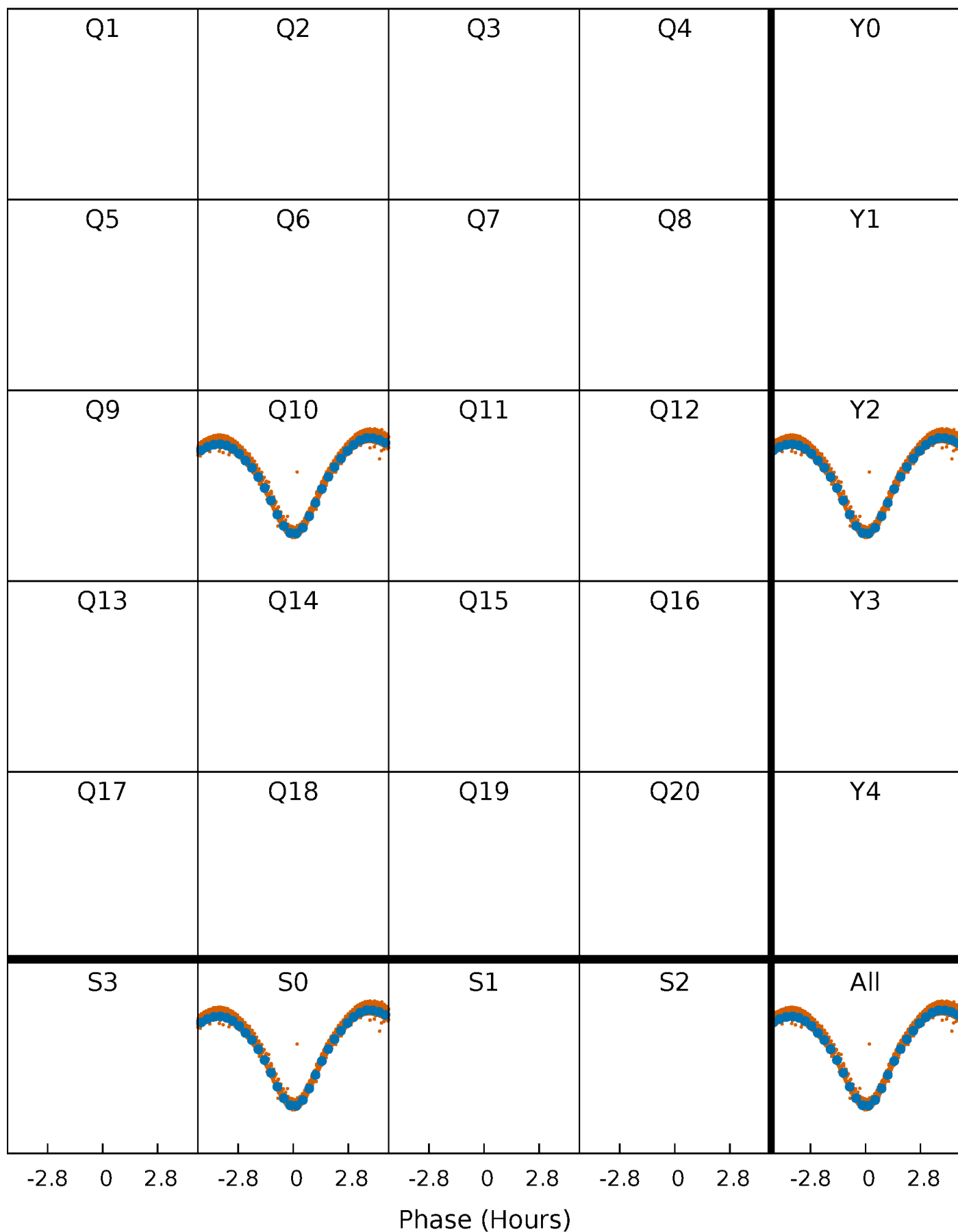


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



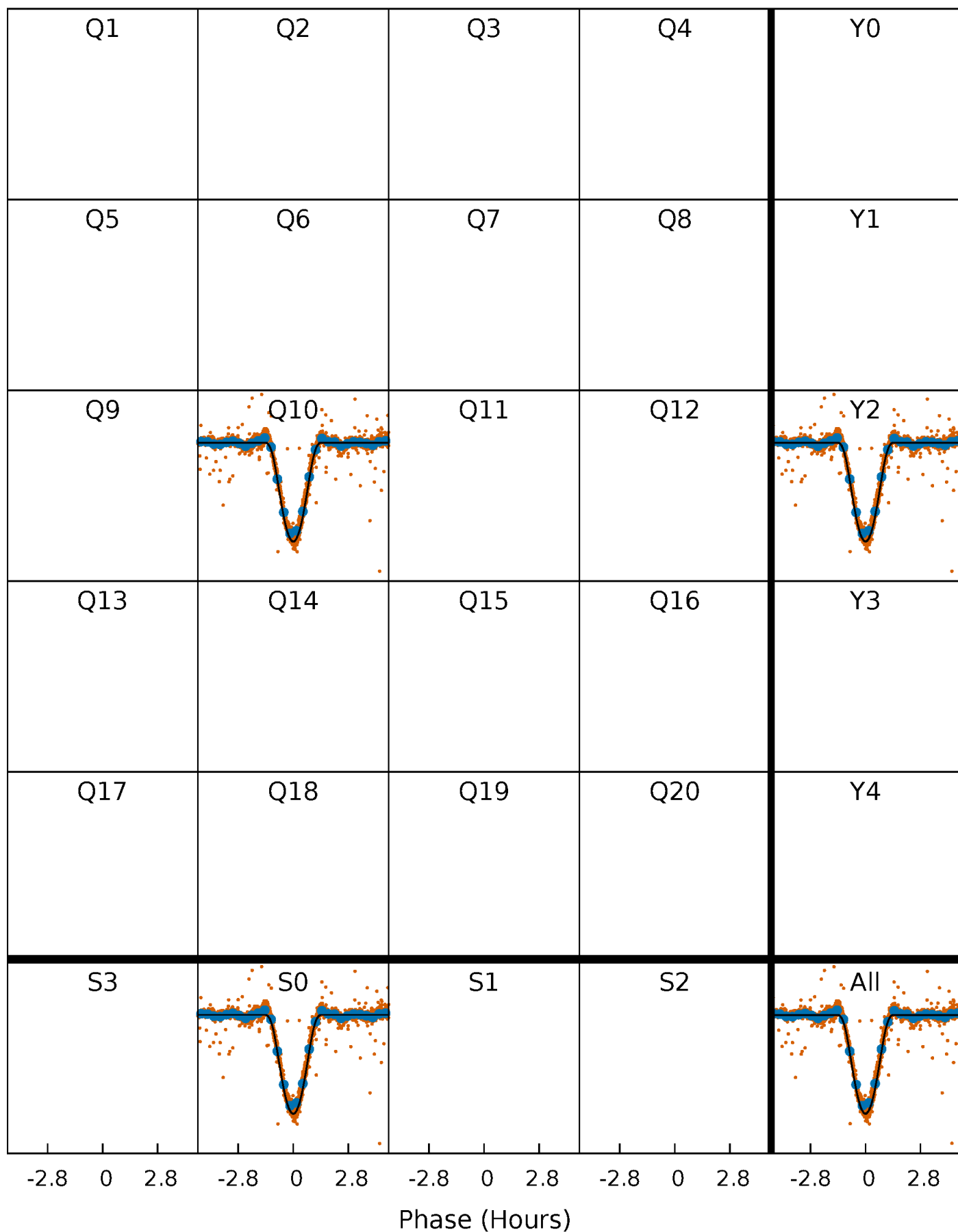
PDC Quarter-Phased Transit Curves

TCE 005391407-01 P= 0.638717 Days $T_0=131.730007$ (BKJD)



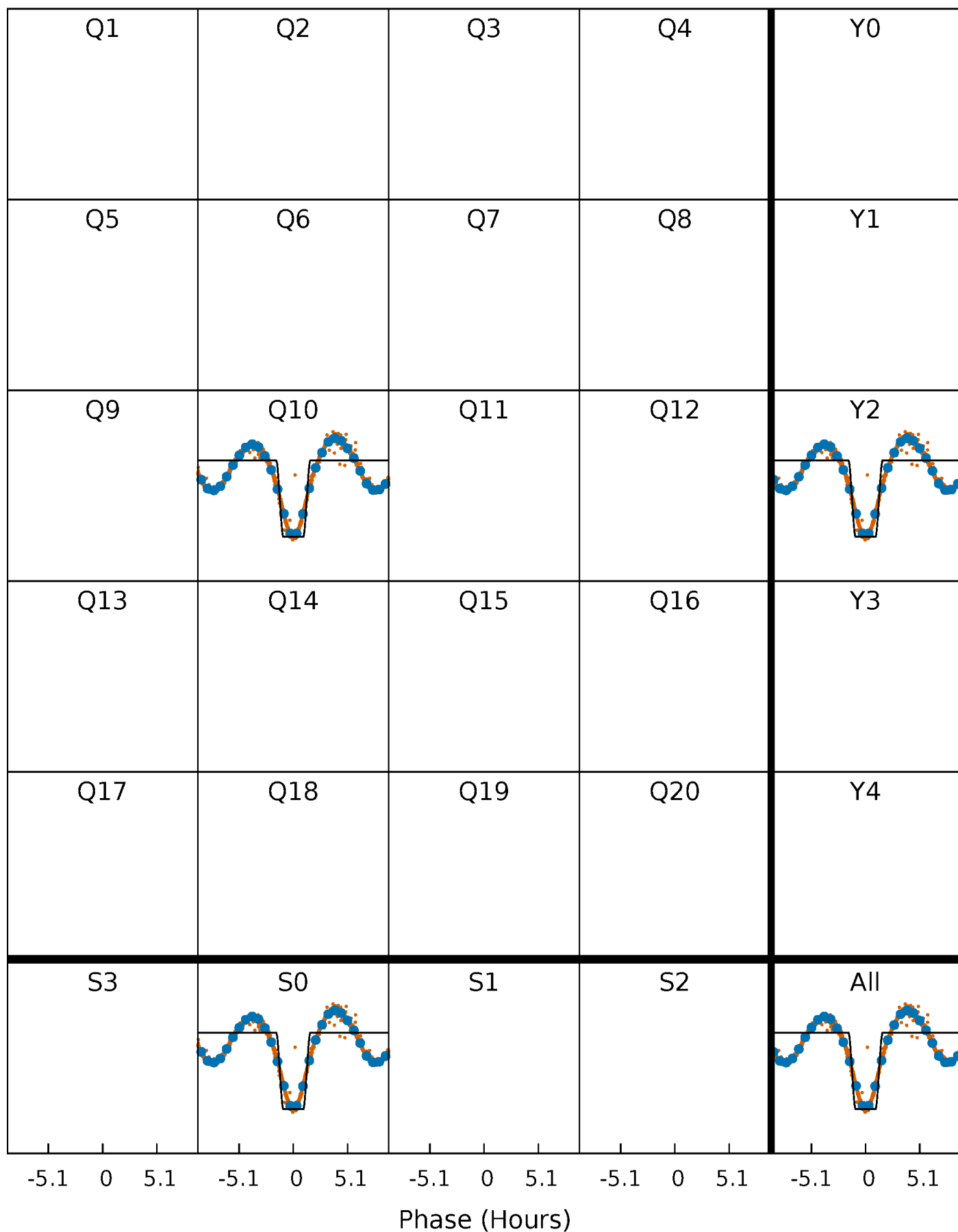
DV Quarter-Phased Transit Curves

TCE 005391407-01 P= 0.638717 Days $T_0=131.730007$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

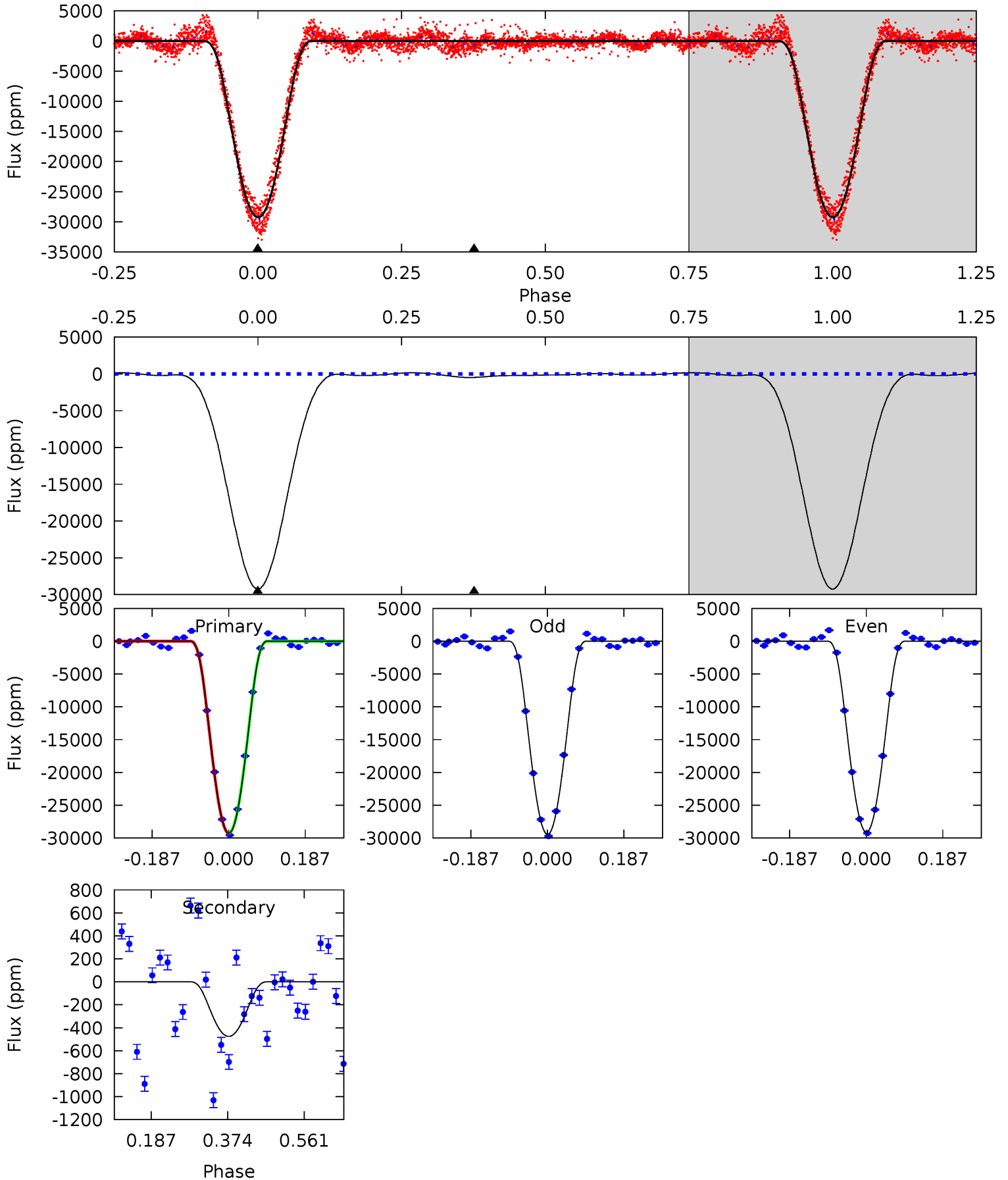
TCE 005391407-01 $P = 0.638696$ Days $T_0 = 131.758342$ (BKJD)



DV Model-Shift Uniqueness Test

005391407-01, P = 0.638717 Days, E = 131.730007 Days

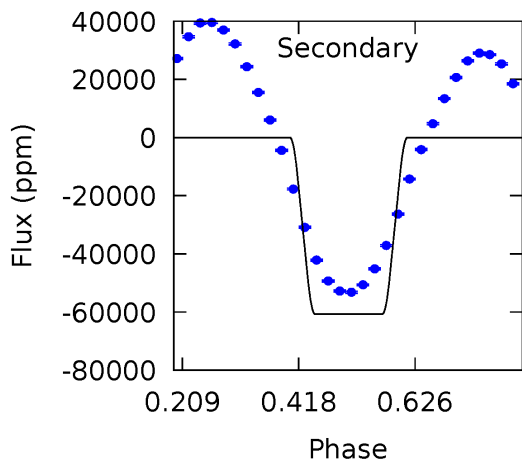
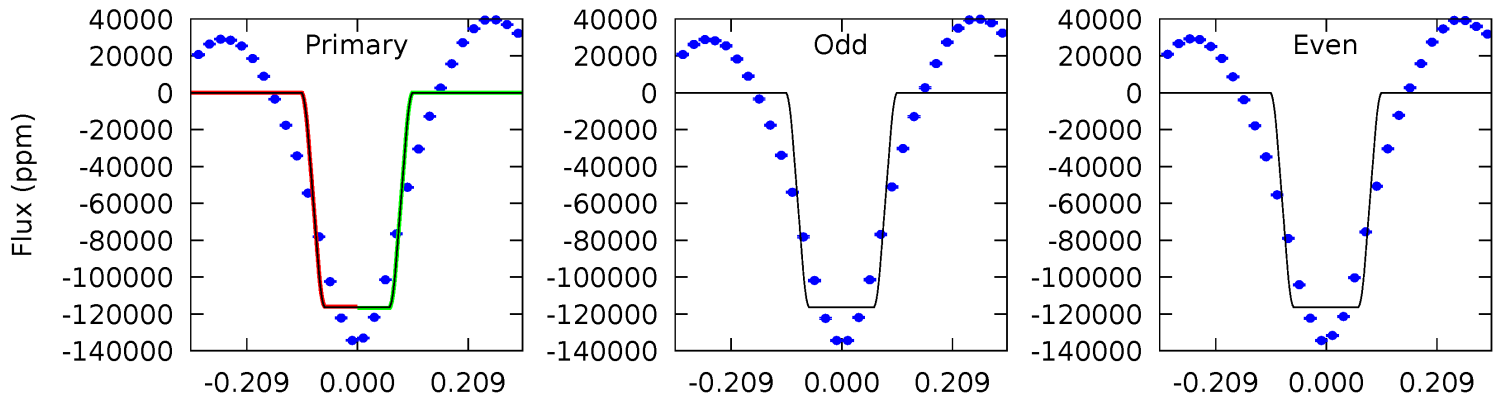
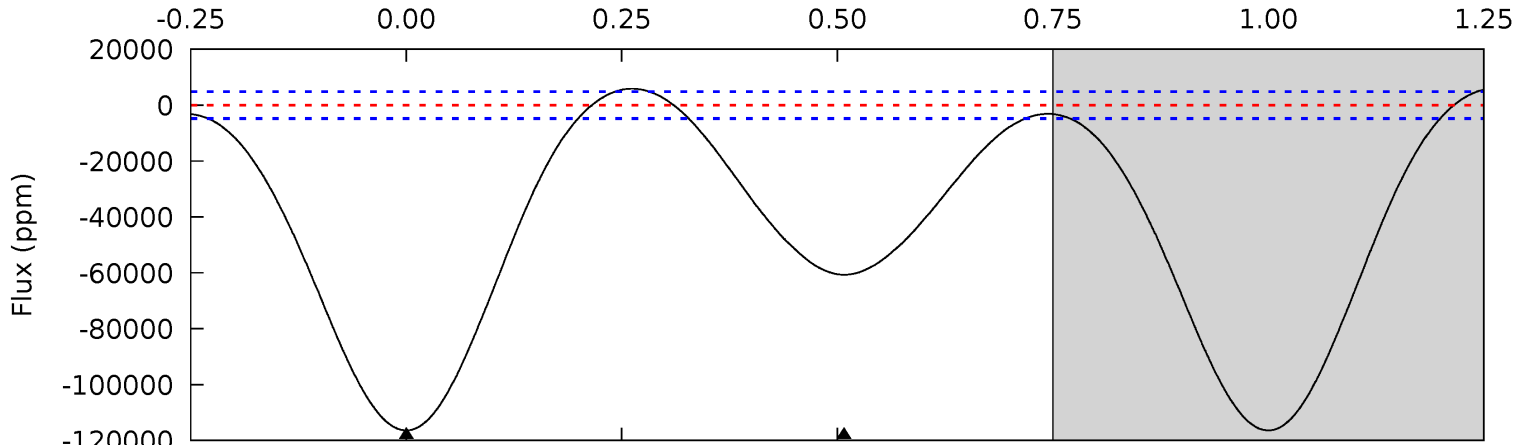
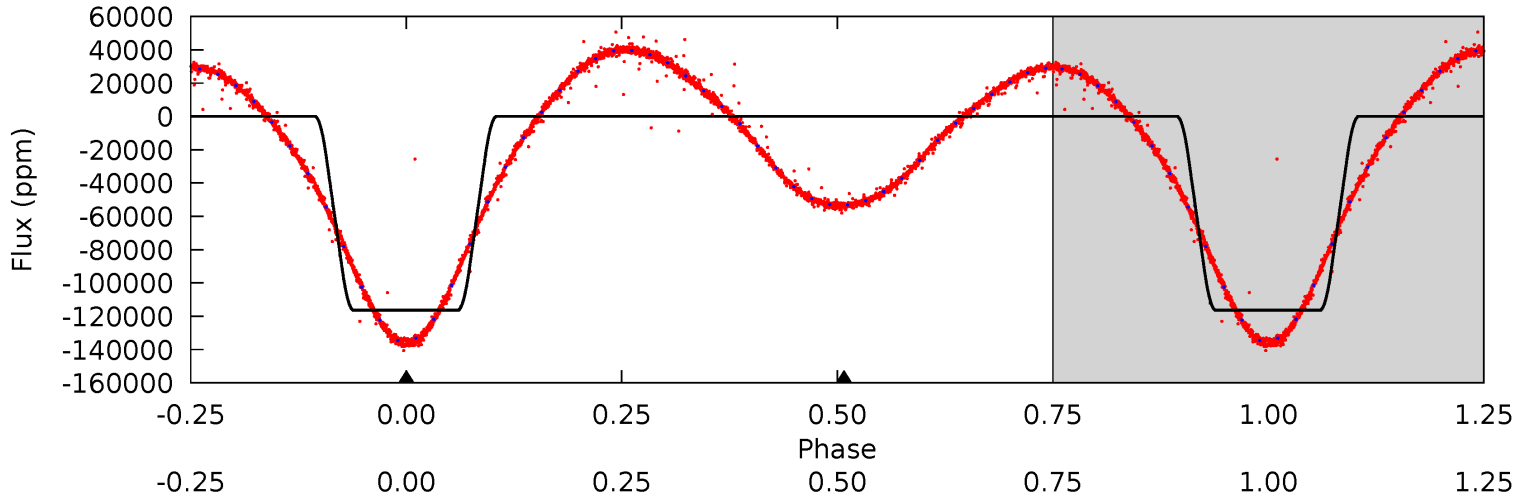
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1122	18.2	0	0	4.43	1.32	3.85	1122	1122	18.2	18.2	6.82	0.96	0.01	0.94



Alt Model-Shift Uniqueness Test

005391407-01, P = 0.638696 Days, E = 131.758342 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
106.2	55.3	0	0	4.41	1.26	4.16	106.2	106.2	55.3	55.3	0.05	1.00	0.05	0.36



Stellar Parameters For KIC 005391407

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6424^{+179}_{-246}	$4.388^{+0.070}_{-0.224}$	$0.070^{+0.250}_{-0.350}$	$1.180^{+0.417}_{-0.139}$	$1.242^{+0.180}_{-0.198}$	$1.065^{+0.331}_{-0.593}$
	+3%/-4%	+2%/-5%	+357%/-500%	+35%/-12%	+14%/-16%	+31%/-56%
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 005391407-01 / KOI 8254.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-475 ± 26	$26.74^{+4.86}_{-2.44}$	3500^{+257}_{-186}	-3219^{+128}_{-188}	$0.085^{+0.018}_{-0.020}$
Alt.	-60673 ± 1097	$48.29^{+9.57}_{-4.49}$	3509^{+312}_{-196}	5256^{+142}_{-176}	$3.583^{+0.684}_{-0.989}$

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

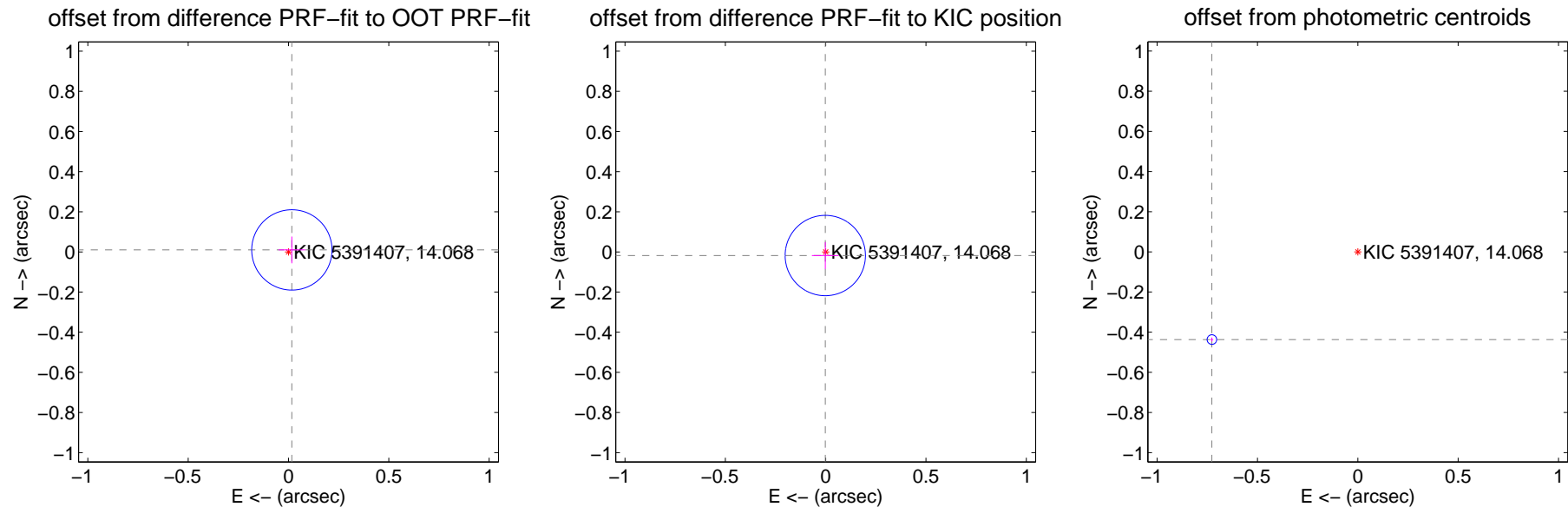
DV Centroid Data

Supplemental centroid analysis for 005391407-01. Kepler magnitude: 14.07. Transit SNR 440.54

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.019 ± 0.067	0.29	-0.017 ± 0.067	0.010 ± 0.067
PRF-fit source offset from KIC position	0.018 ± 0.067	0.27	0.002 ± 0.067	-0.018 ± 0.067
photometric centroid source offset	0.85 ± 0.01	106.66	0.73 ± 0.01	-0.44 ± 0.01



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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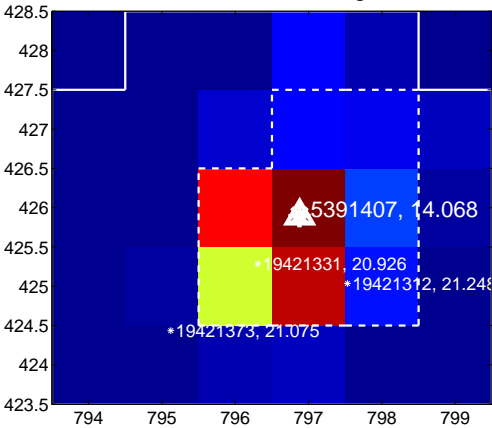
Q9 no difference image



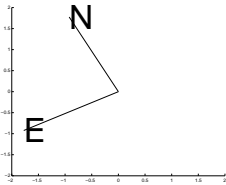
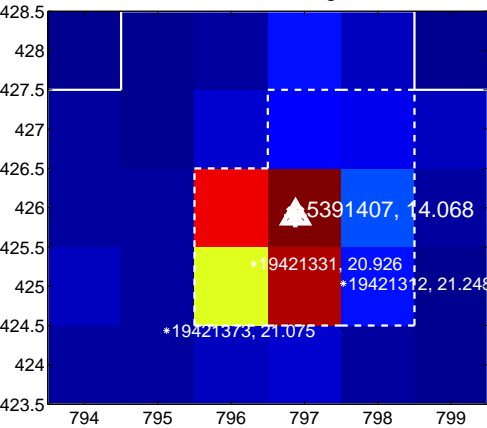
Q9 no OOT image



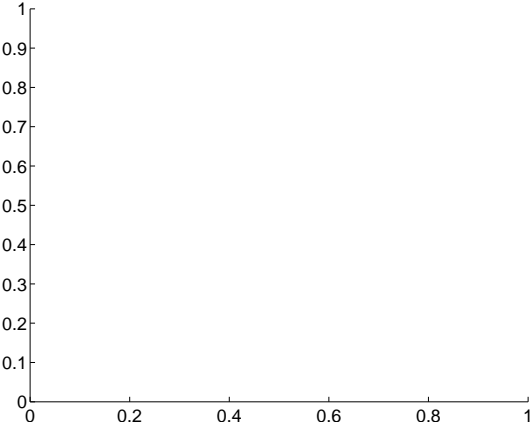
Q10 difference image



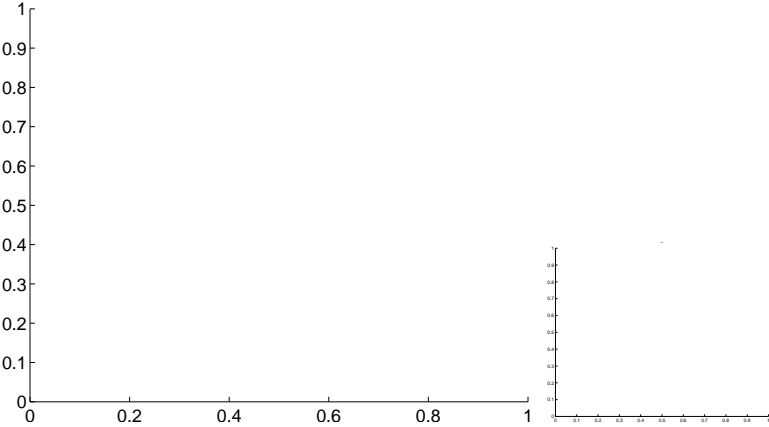
Q10 OOT image



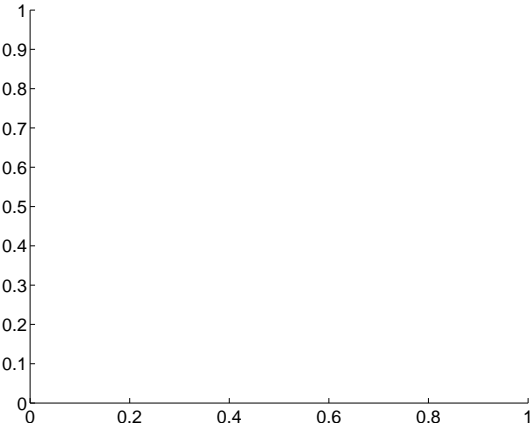
Q11 no difference image



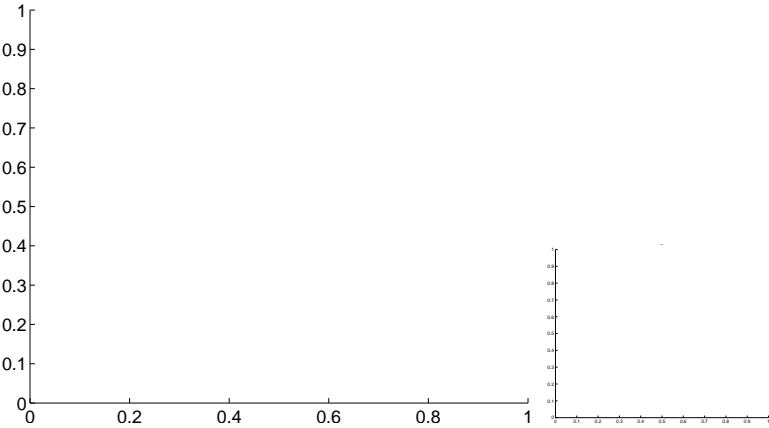
Q11 no OOT image



Q12 no difference image



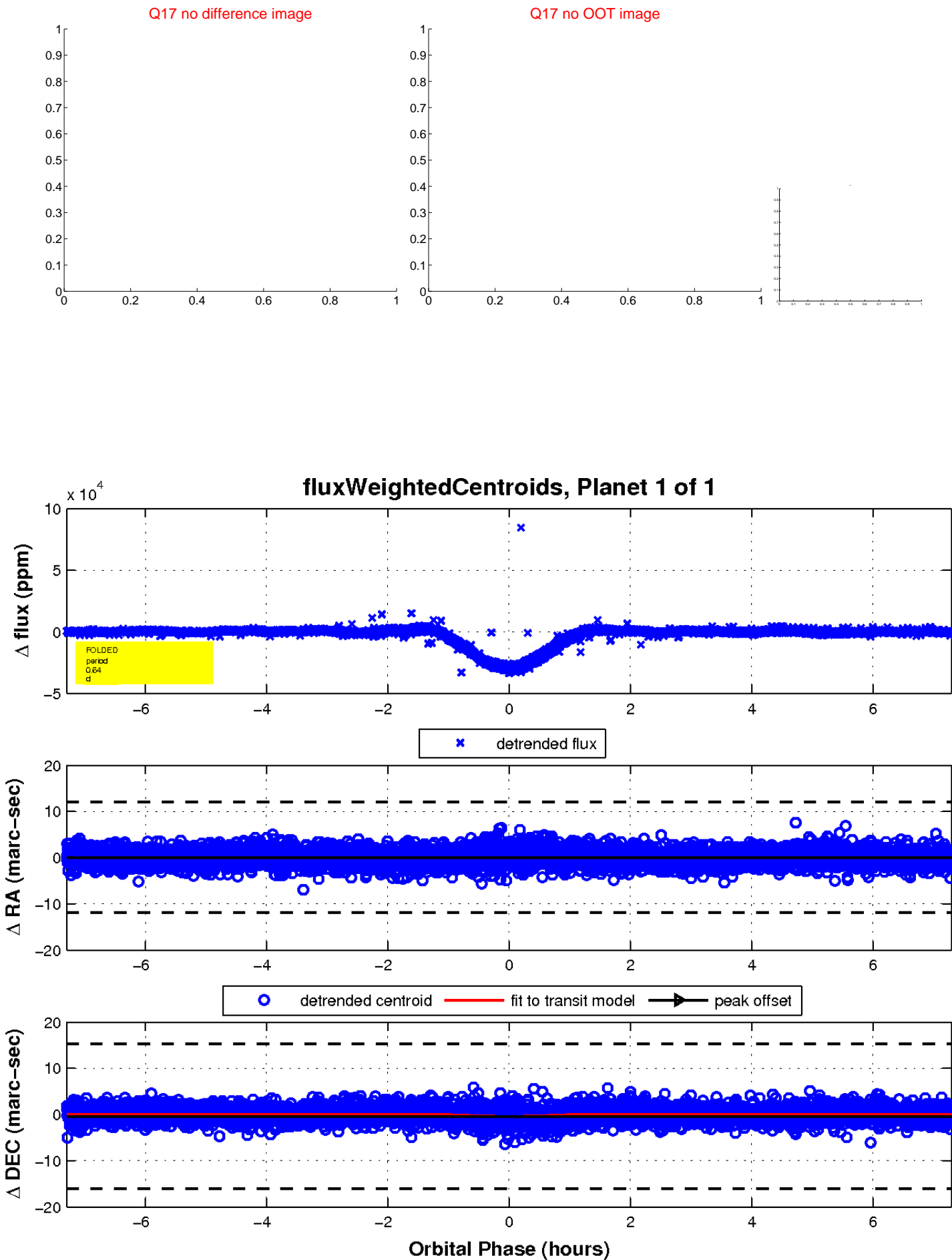
Q12 no OOT image



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

Declination

