

KIC 009391817

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 _⊕)
009391817-01	OBS	5663.01	140.882644	243.166260	153.1	11.022	12.0	12.0	1.21	5960	1.65	5.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009391817-01	OBS	PC	0.96	0	0	0	0	NO_COMMENT

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.

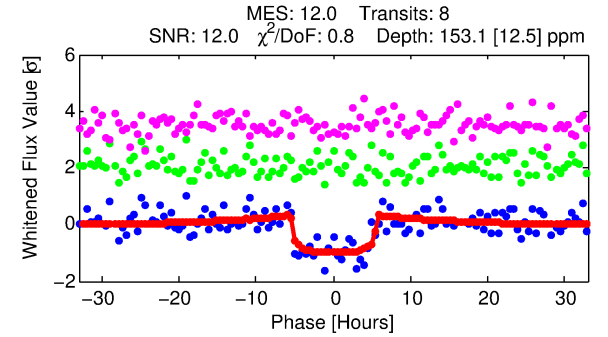
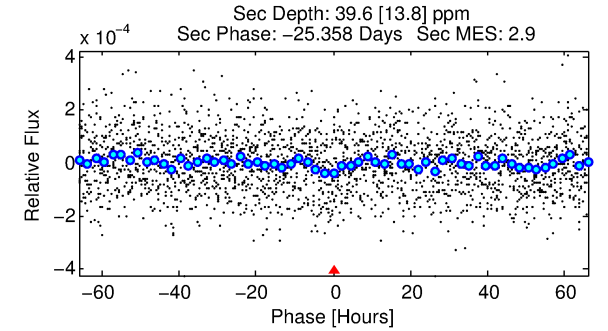
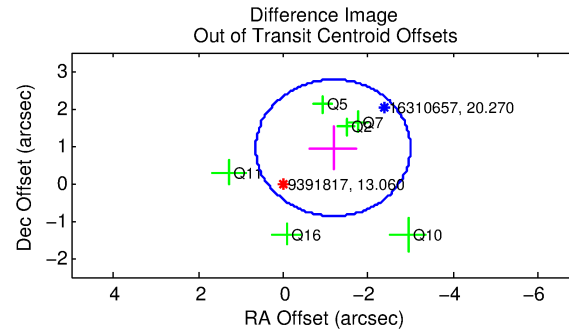
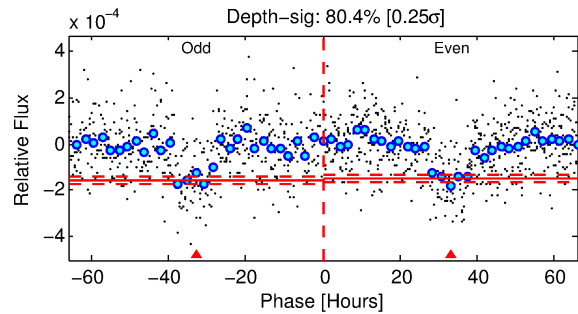
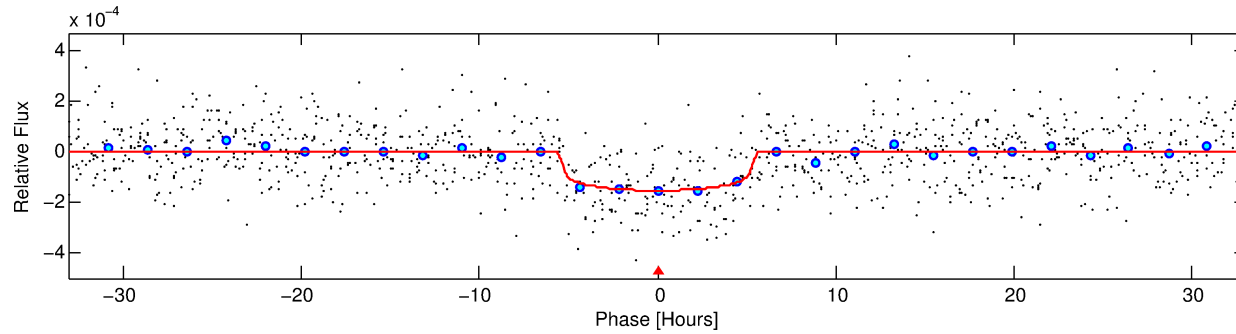
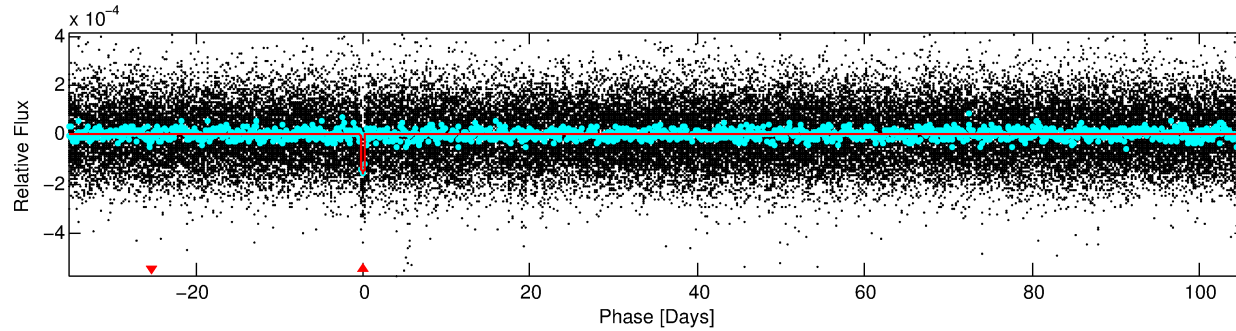
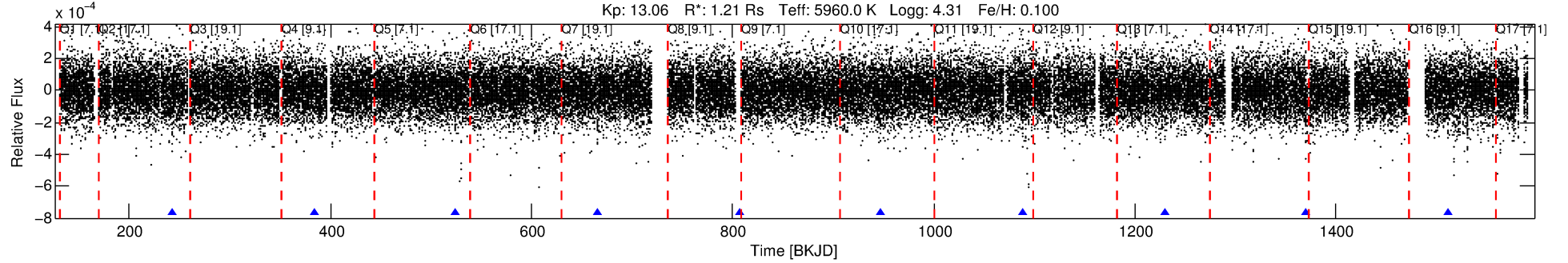
Ephemeris Match Information For 009391817-01

No Significant Match Found

DV One-Page Summary

KIC: 9391817 Candidate: 1 of 1 Period: 140.883 d

KOI: K05663.01 Corr: 0.950



DV Fit Results:

Period = 140.88264 [0.00199] d
Epoch = 243.1663 [0.0117] BKJD
Rp/R* = 0.0124 [0.0033]
a/R* = 63.40 [78.37]
b = 0.78 [0.64]
Seff = 5.61 [1.31]
Teq = 392 [23] K
Rp = 1.65 [0.53] Re
a = 0.5447 [0.0827] AU
Ag = 2385.58 [1611.80] [1.48 σ]
Teffp = 4240 [677] K [5.68 σ]

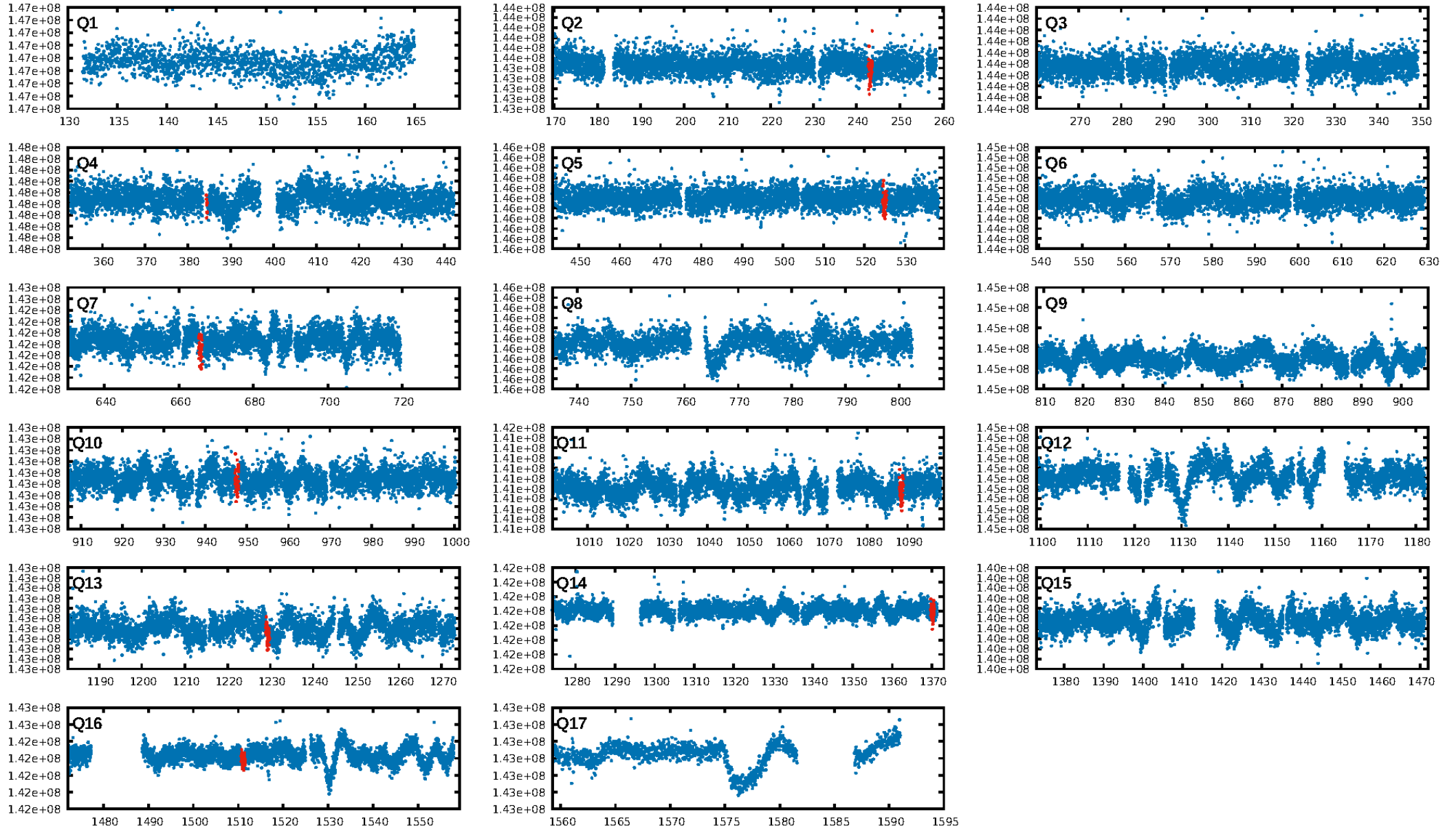
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 66.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.61e-27
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 6.738
Centroid-sig: 63.3%
Centroid-so: 0.588 arcsec [0.73 σ]
OotOffset-rm: 1.512 arcsec [2.49 σ]
KicOffset-rm: 1.490 arcsec [2.55 σ]
OotOffset-st: 2/2/1/1 [6]
KicOffset-st: 2/2/1/1 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

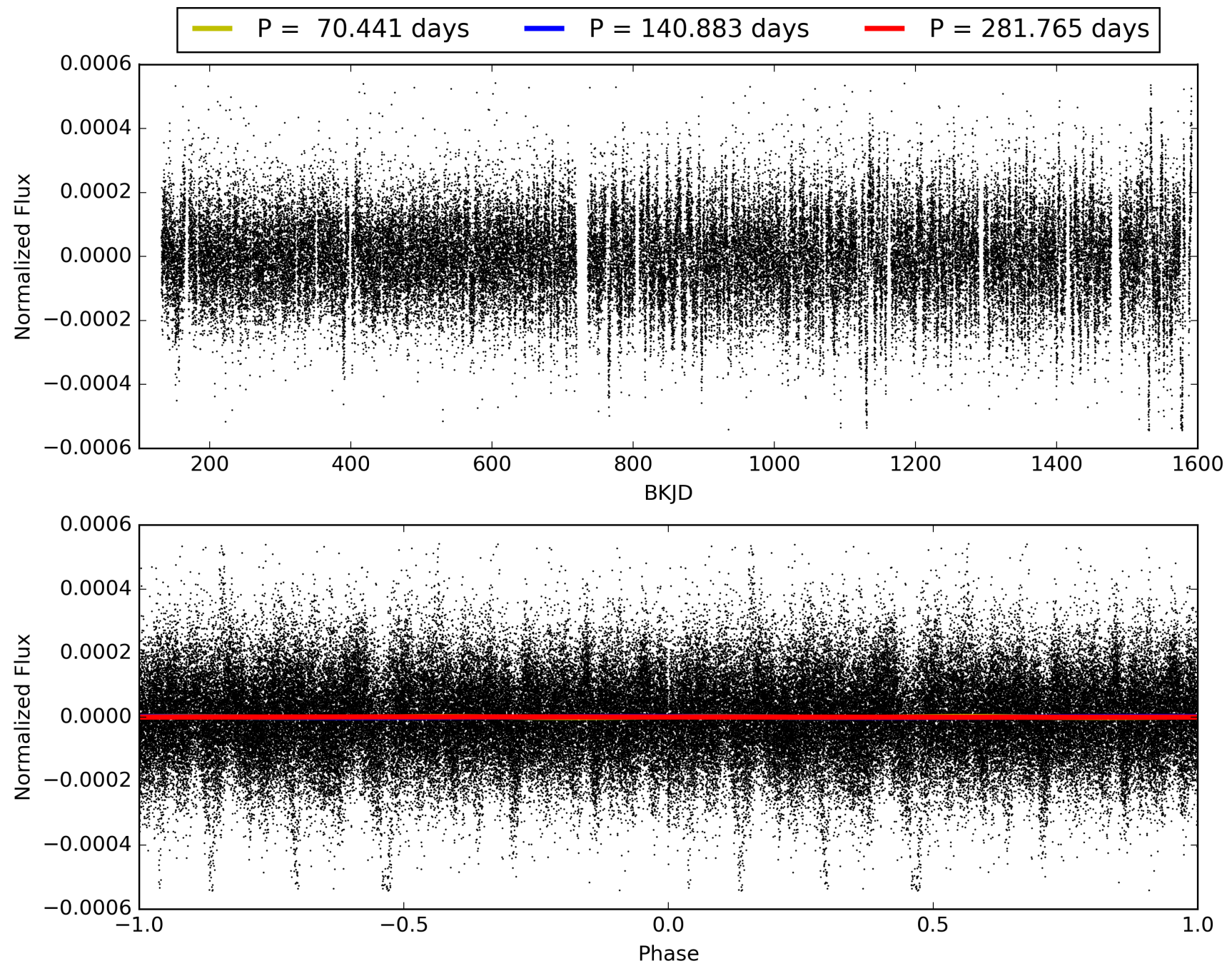
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:43:56 Z

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

TCE 009391817-01, PDC Light Curves

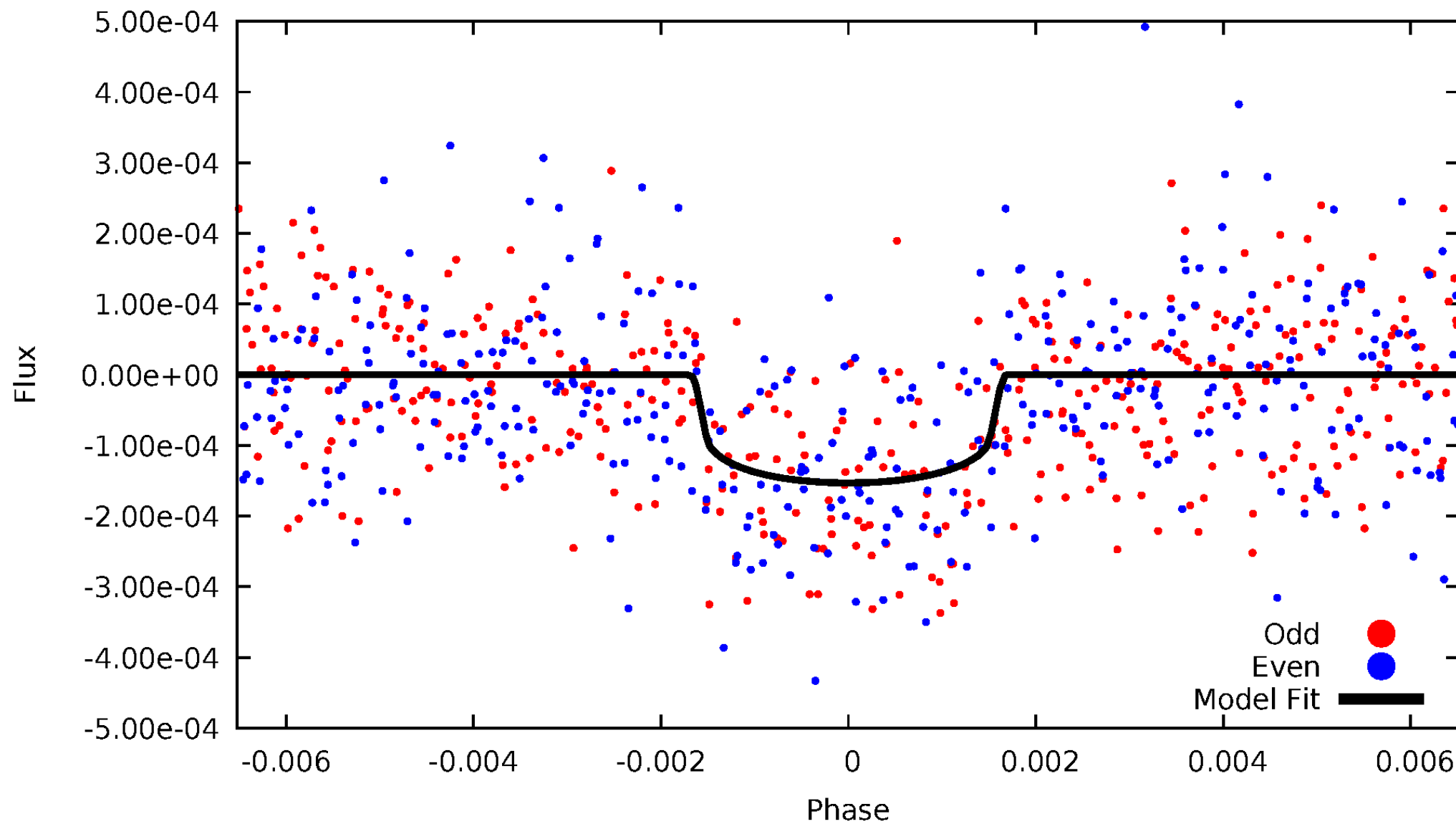


TCE 009391817-01



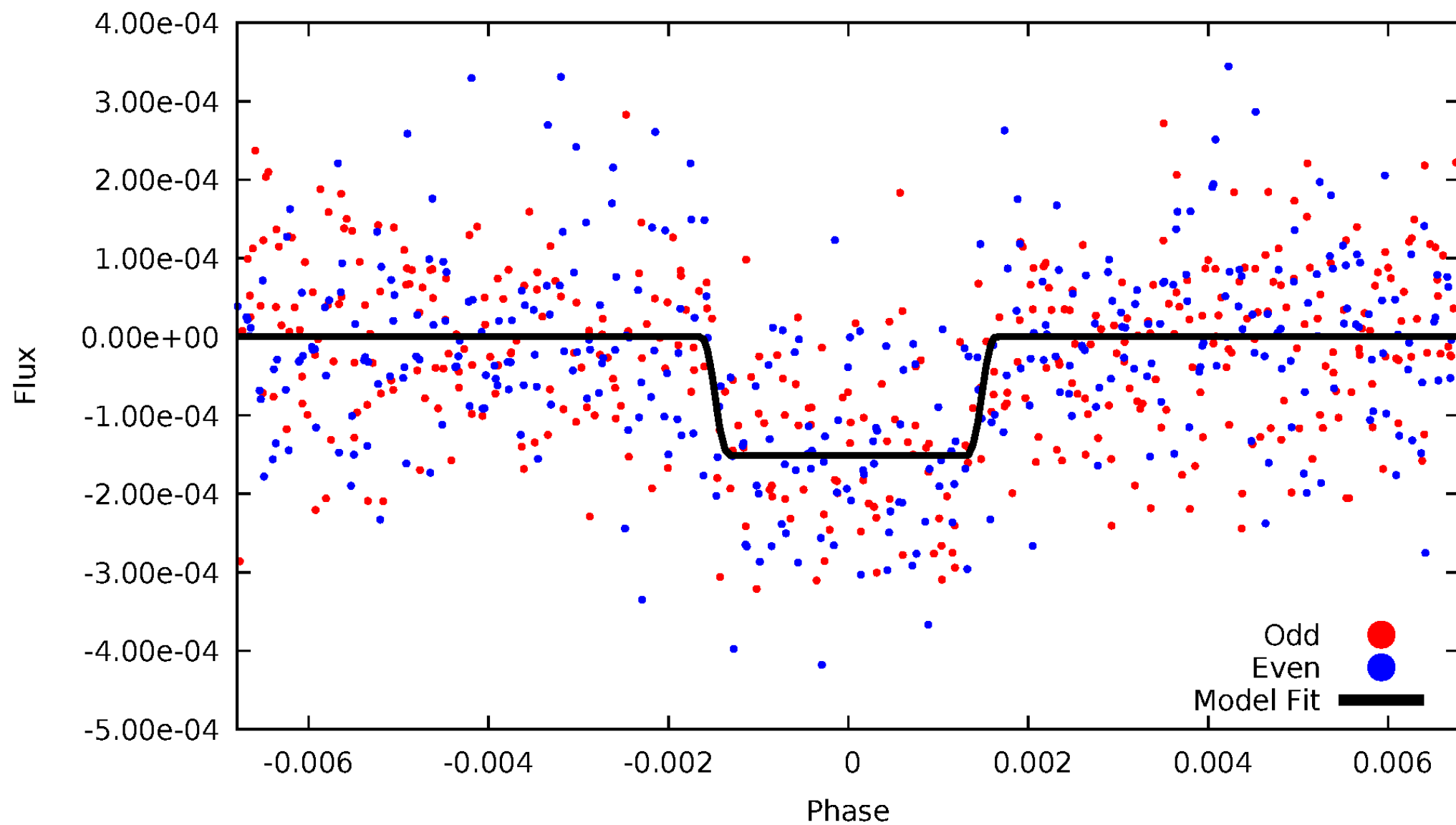
DV Odd/Even

TCE 009391817-01



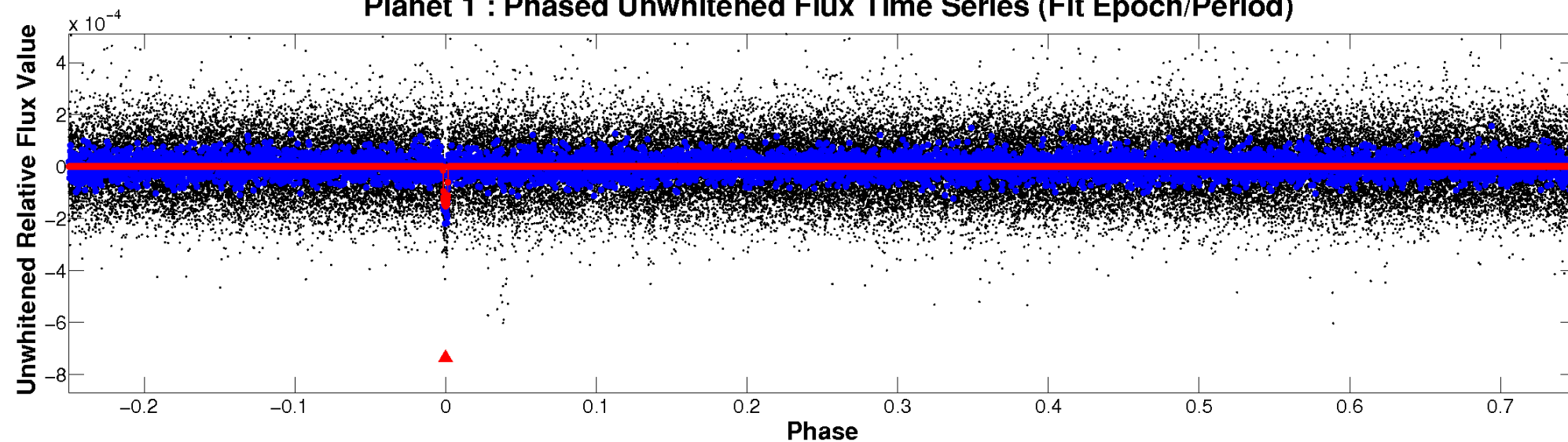
ALT Odd/Even

TCE 009391817-01

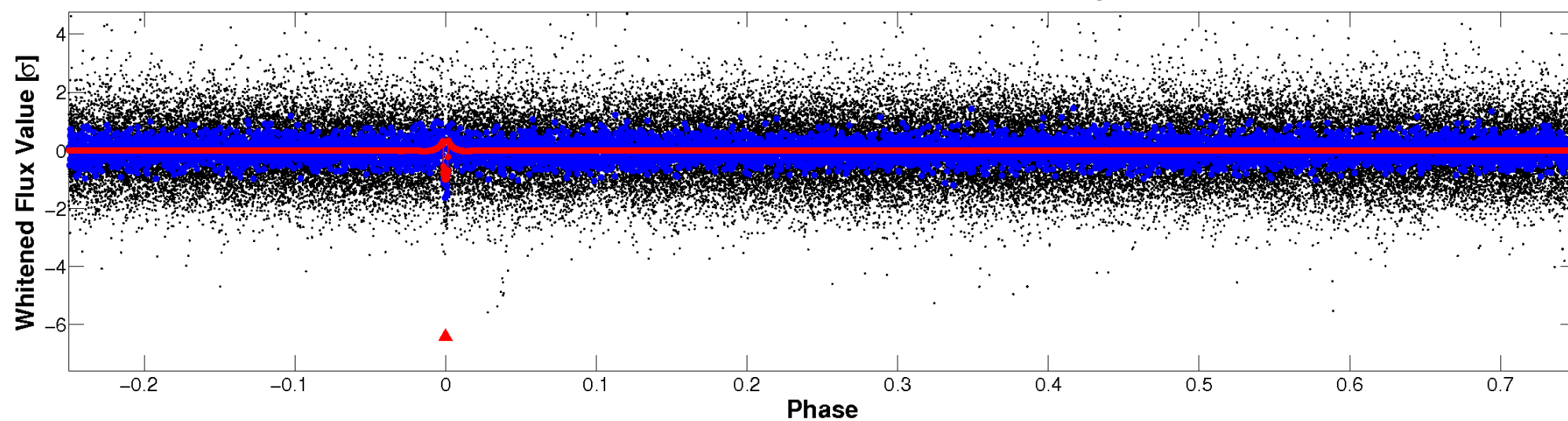


Non-Whitened Vs. Whitened Light Curve

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

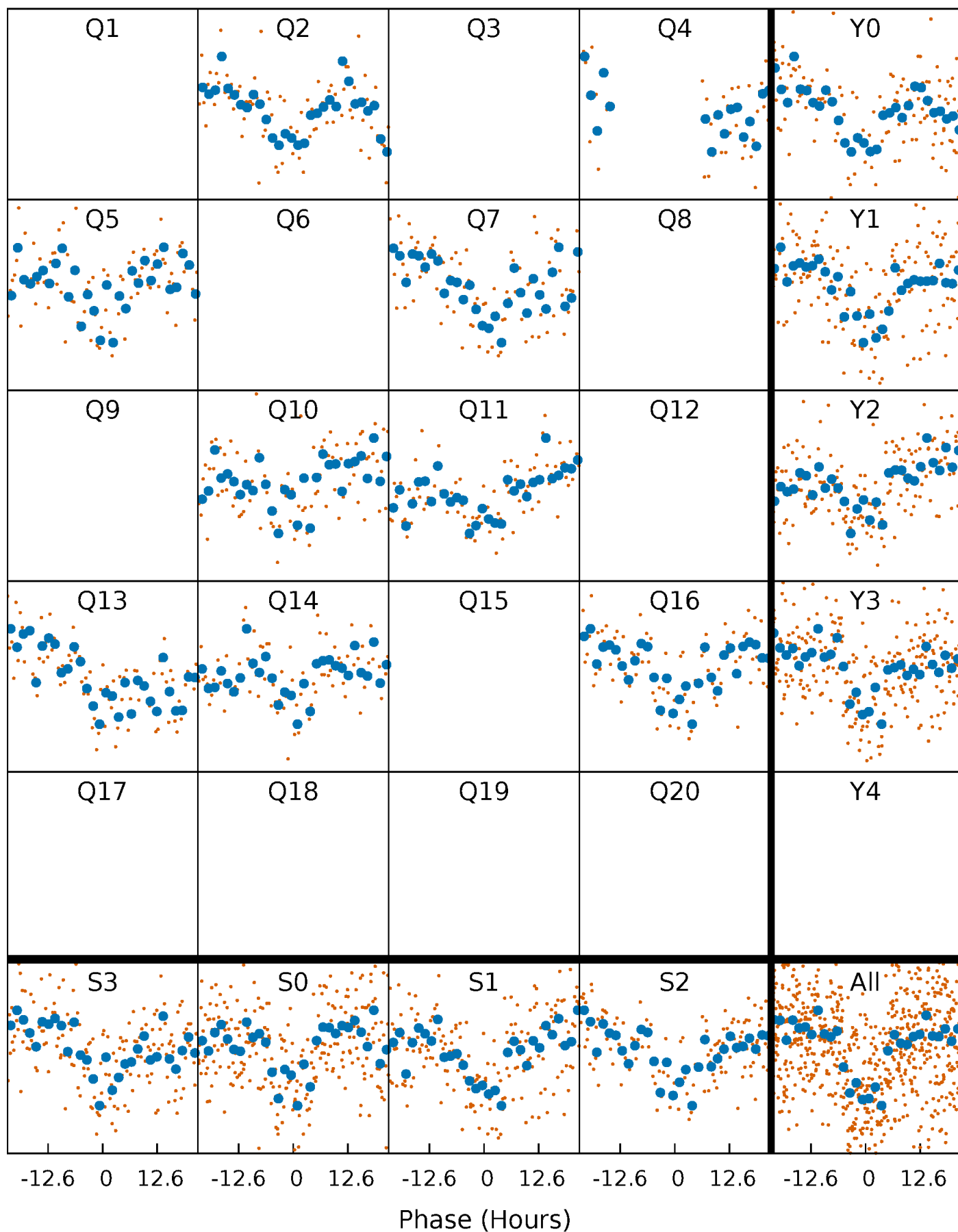


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



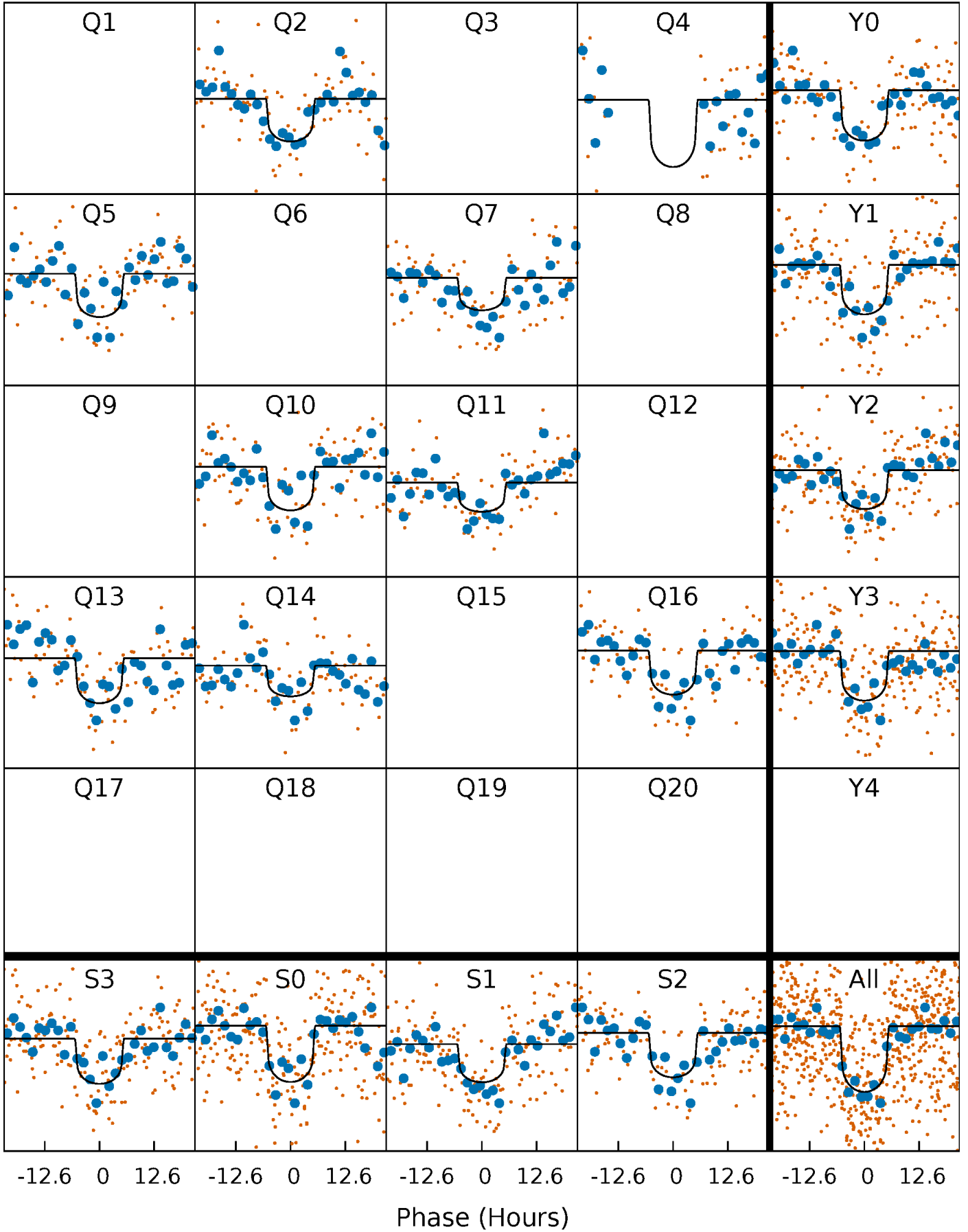
PDC Quarter-Phased Transit Curves

TCE 009391817-01 P=140.882644 Days $T_0=243.166260$ (BKJD)



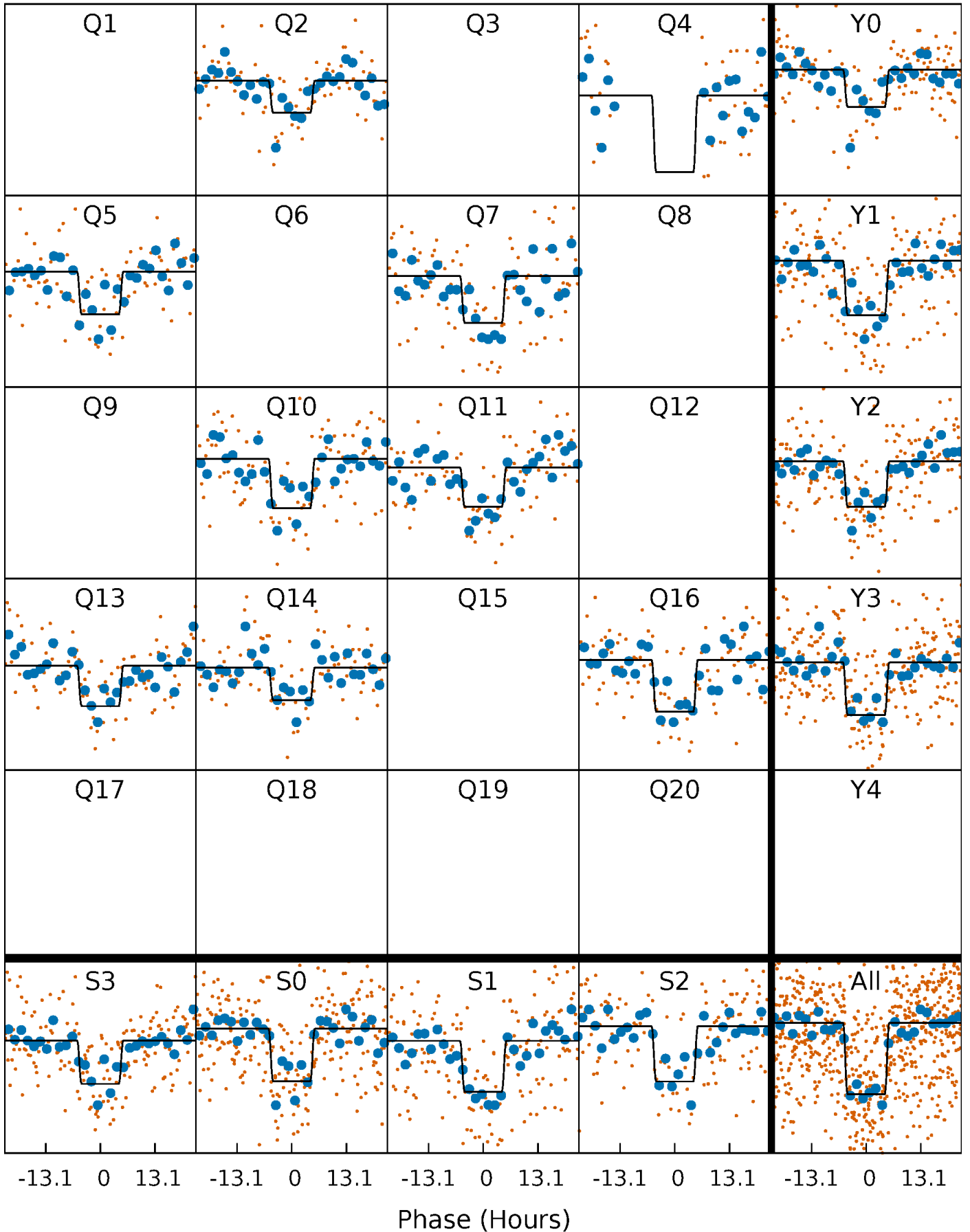
DV Quarter-Phased Transit Curves

TCE 009391817-01 $P=140.882644$ Days $T_0=243.166260$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

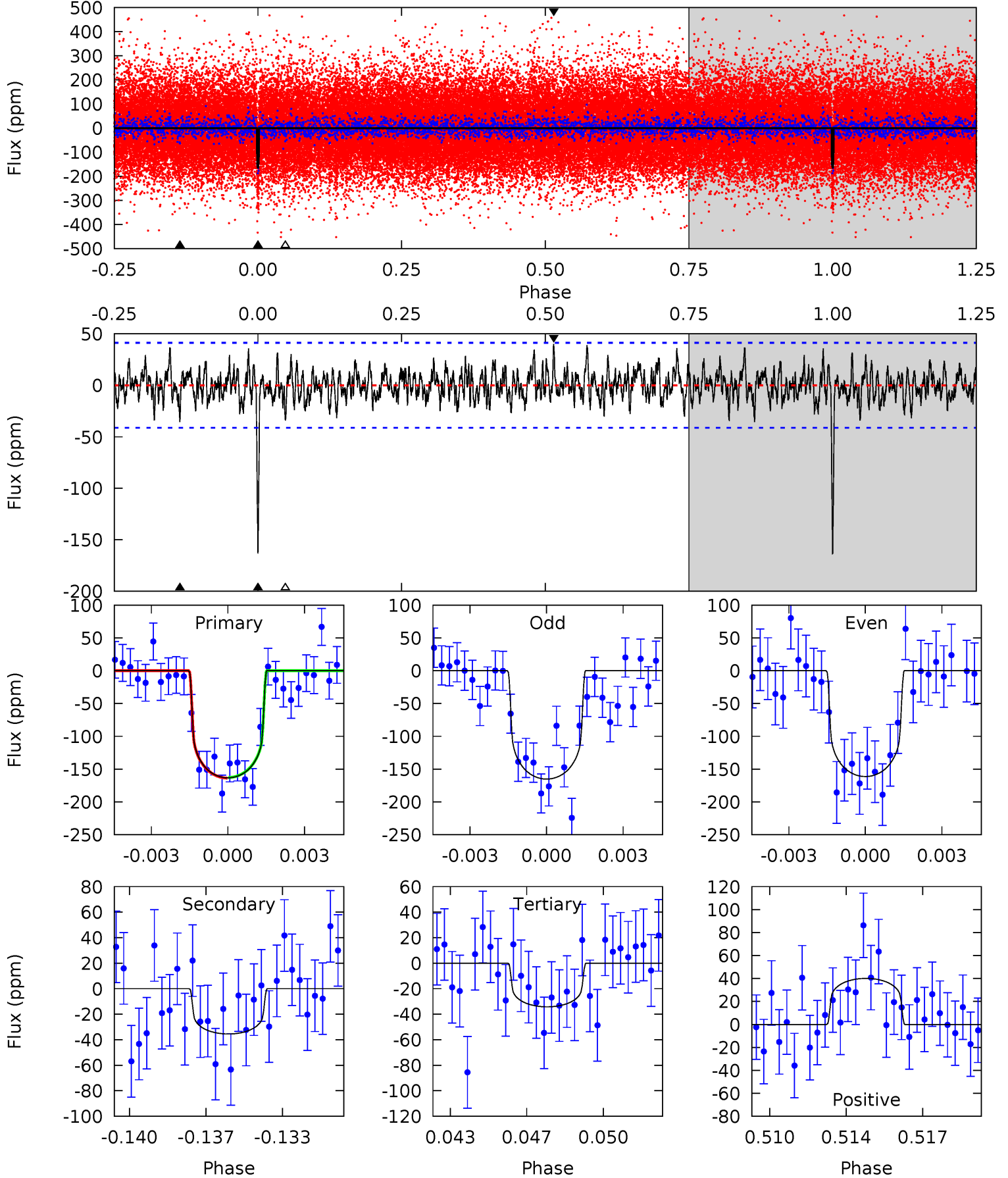
TCE 009391817-01 P=140.882585 Days $T_0=243.158363$ (BKJD)



DV Model-Shift Uniqueness Test

009391817-01, P = 140.882644 Days, E = 102.283616 Days

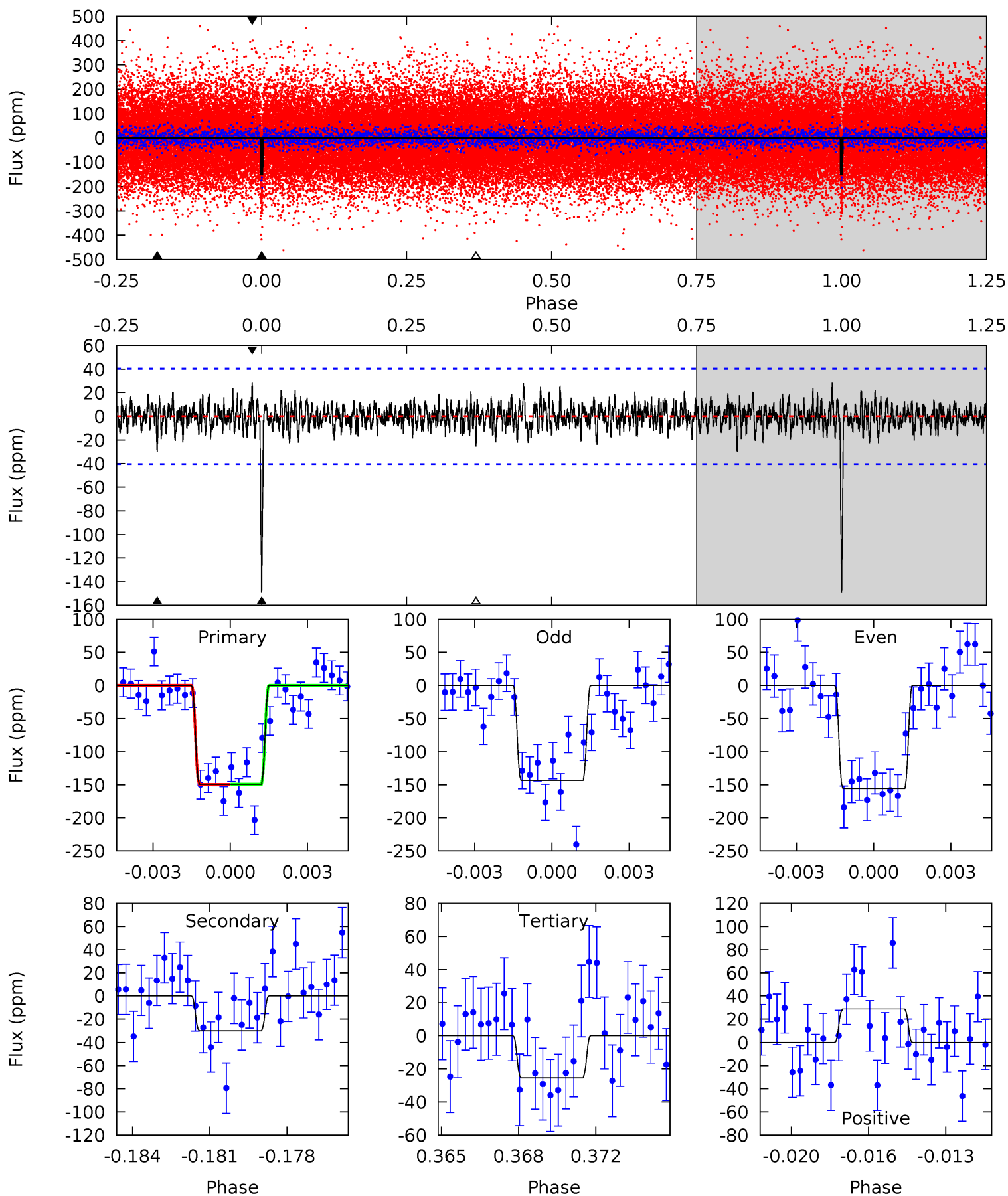
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	4.50	4.33	5.08	5.23	2.93	1.49	16.4	15.6	0.16	-0.58	0.25	1.00	0.20	0.06



Alt Model-Shift Uniqueness Test

009391817-01, P = 140.882585 Days, E = 102.275778 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	3.89	3.30	3.73	5.24	2.94	1.01	16.1	15.6	0.59	0.16	0.79	1.04	0.16	0.03



Stellar Parameters For KIC 009391817

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5960^{+77}_{-83}	$4.306^{+0.103}_{-0.126}$	$0.100^{+0.150}_{-0.150}$	$1.213^{+0.213}_{-0.160}$	$1.087^{+0.078}_{-0.078}$	$0.858^{+0.389}_{-0.292}$
	+1%/-1%	+2%/-3%	+150%/-150%	+18%/-13%	+7%/-7%	+45%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009391817-01 / KOI 5663.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-35 ± 8	$1.64^{+0.49}_{-0.49}$	548^{+27}_{-22}	4356^{+658}_{-420}	2123^{+2281}_{-955}
Alt.	-30 ± 8	$1.66^{+0.51}_{-0.44}$	551^{+26}_{-23}	4175^{+638}_{-381}	1682^{+1725}_{-716}

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 $A_{obs} \gg 1.0$

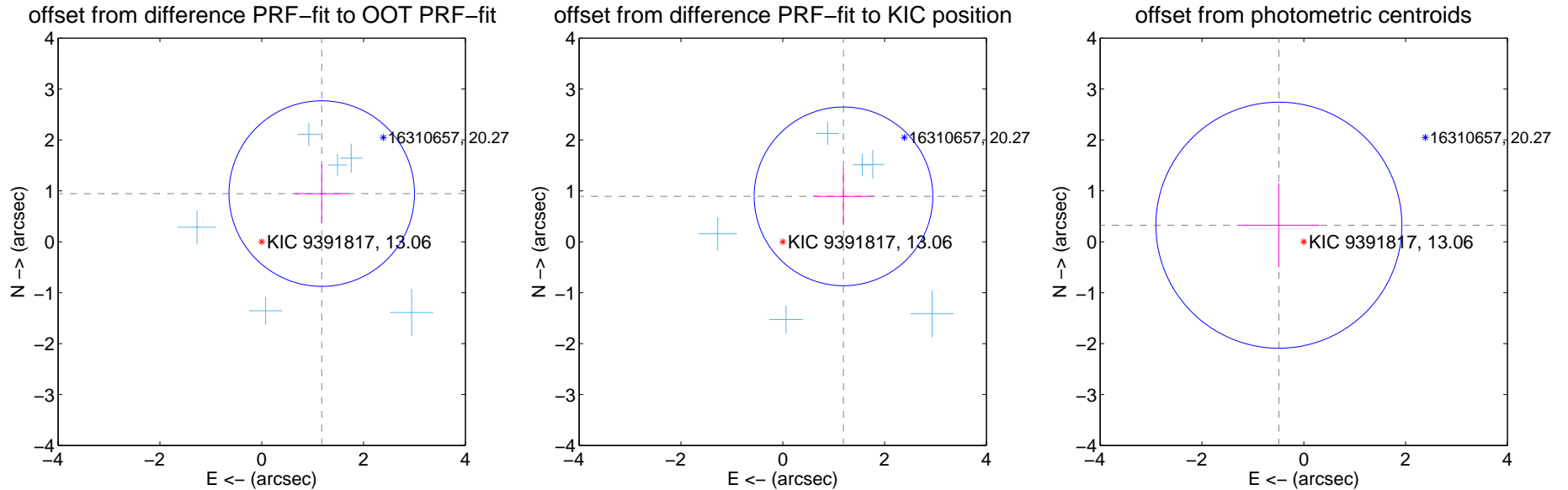
DV Centroid Data

Supplemental centroid analysis for 009391817-01. Kepler magnitude: 13.06. Transit SNR 12.05

There are 6 quarters with good PRF difference image offsets

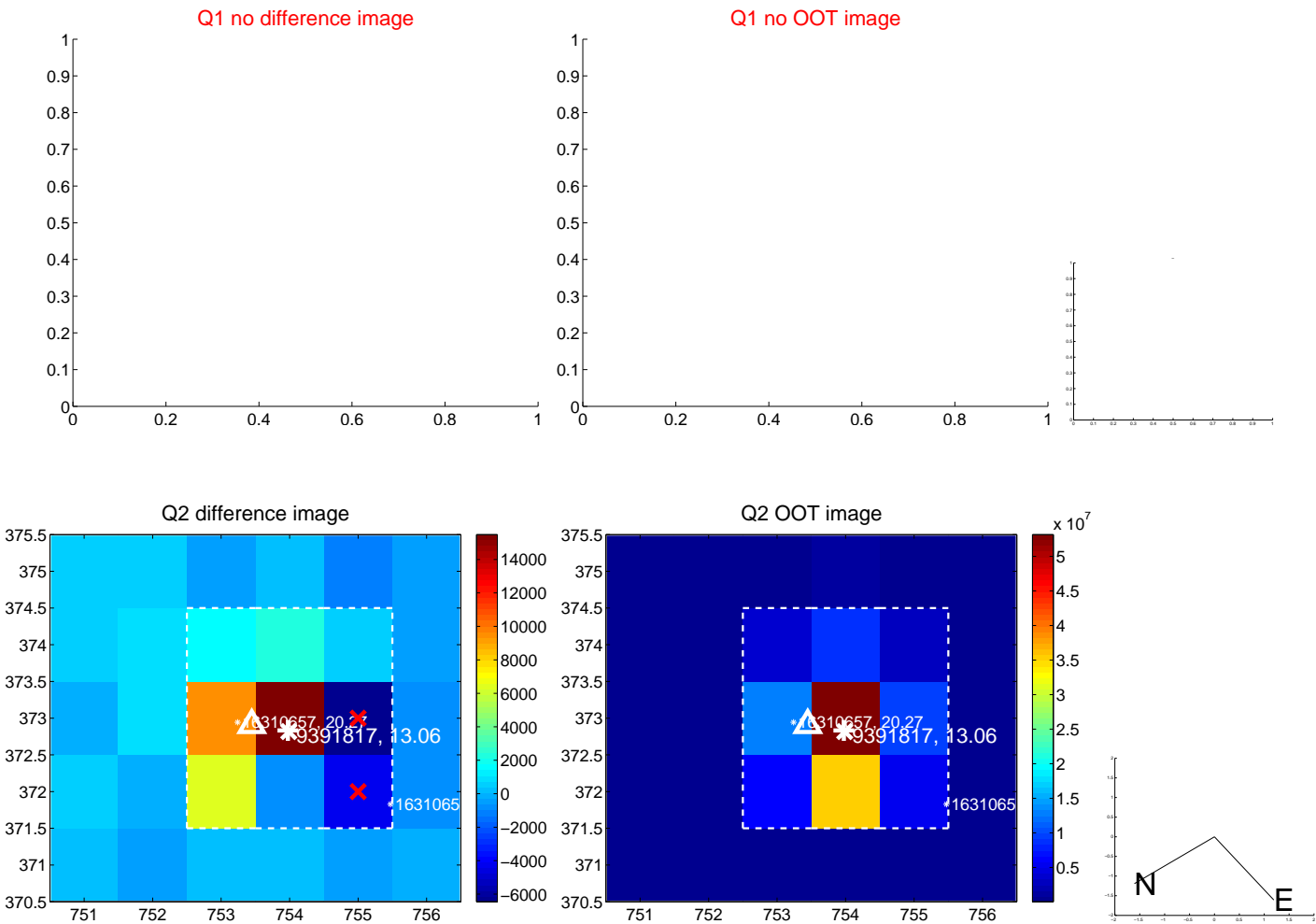
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.512 ± 0.607	2.49	-1.179 ± 0.533	0.947 ± 0.577
PRF-fit source offset from KIC position	1.490 ± 0.585	2.55	-1.193 ± 0.582	0.892 ± 0.560
photometric centroid source offset	0.59 ± 0.81	0.73	0.49 ± 0.80	0.33 ± 0.83

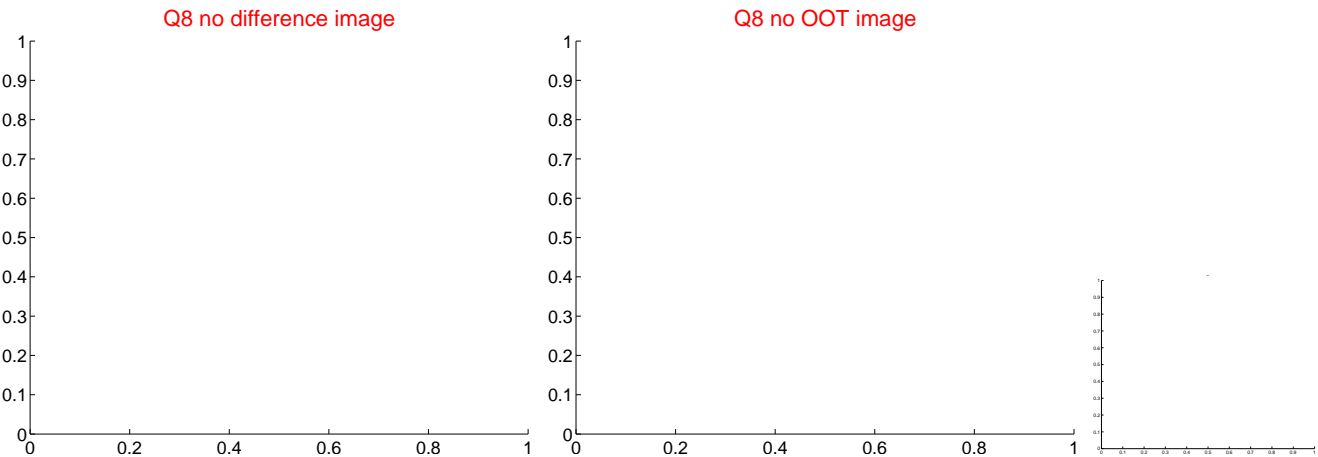
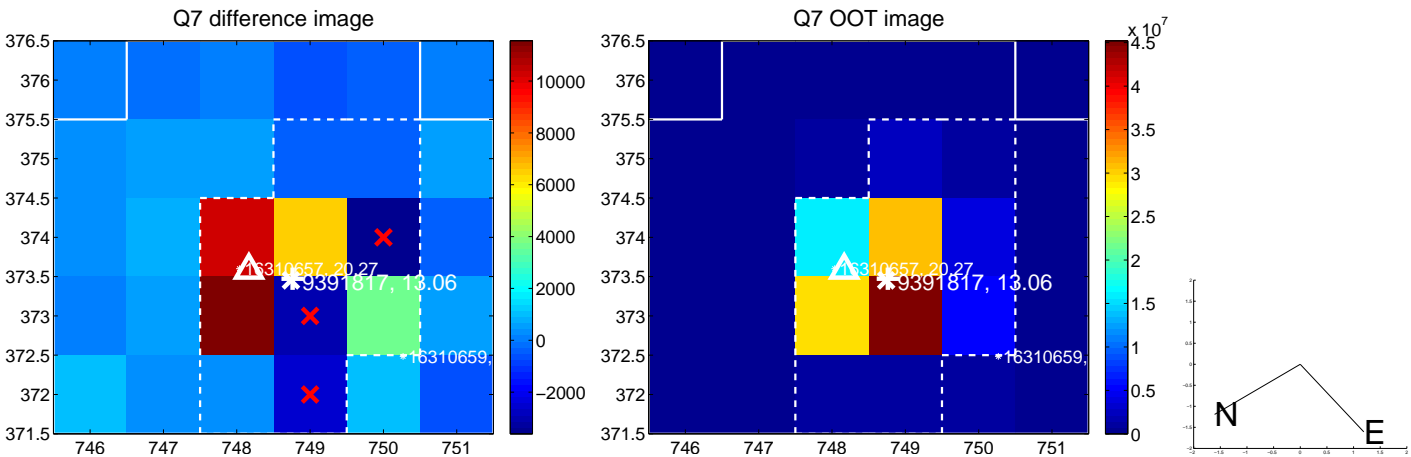
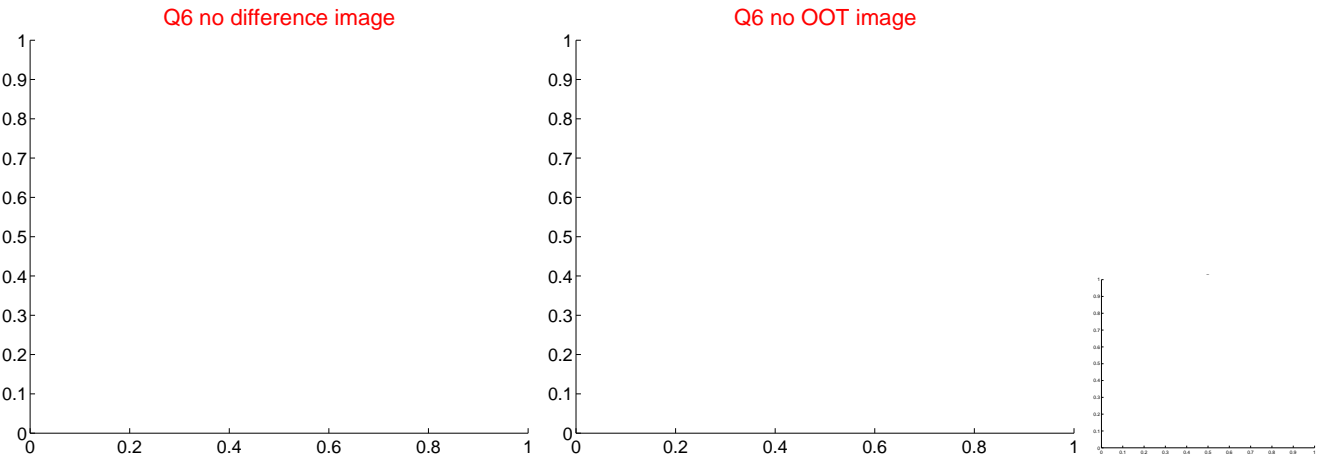
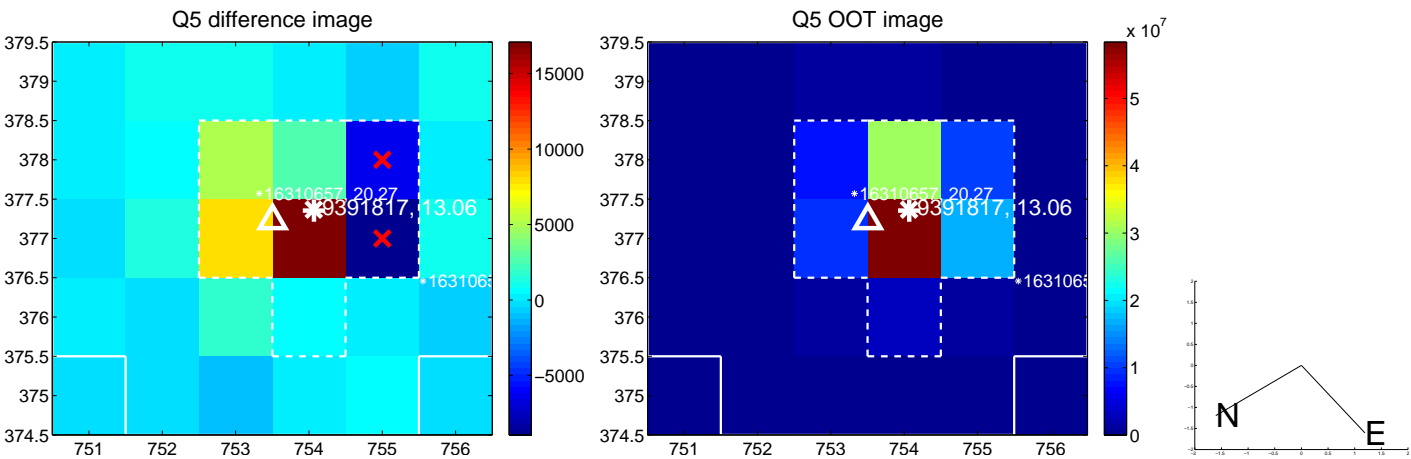


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

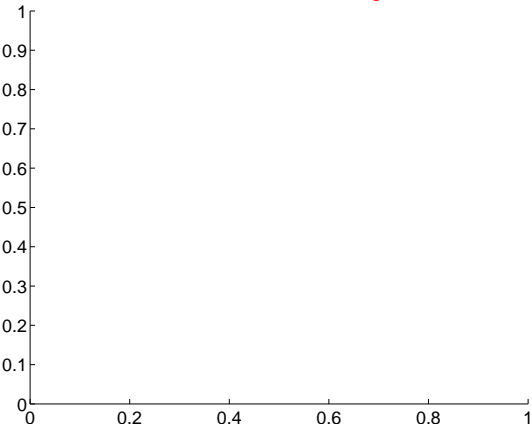


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

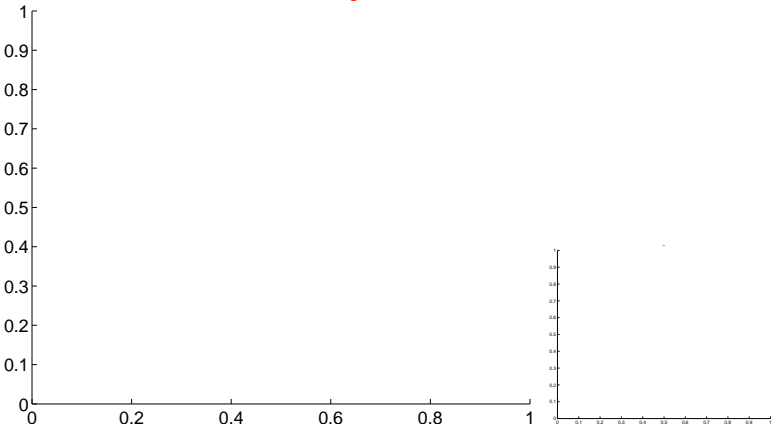


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

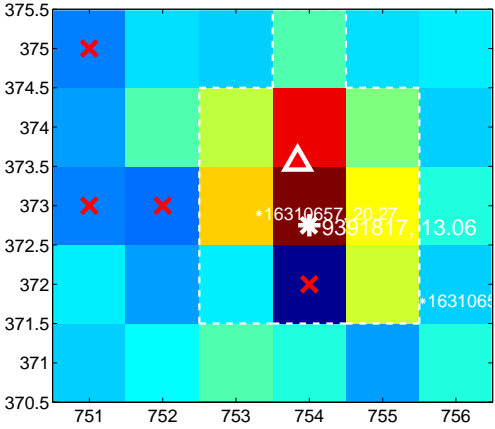
Q9 no difference image



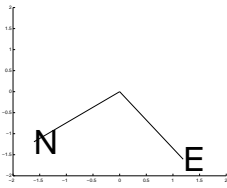
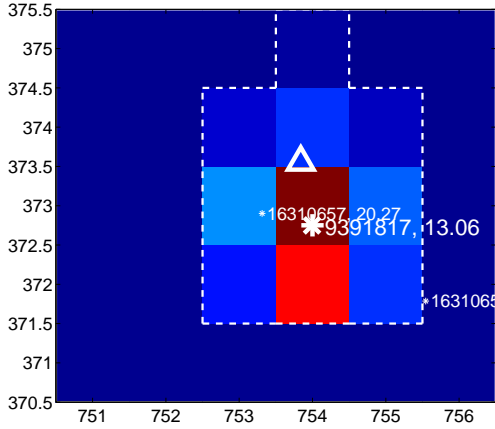
Q9 no OOT image



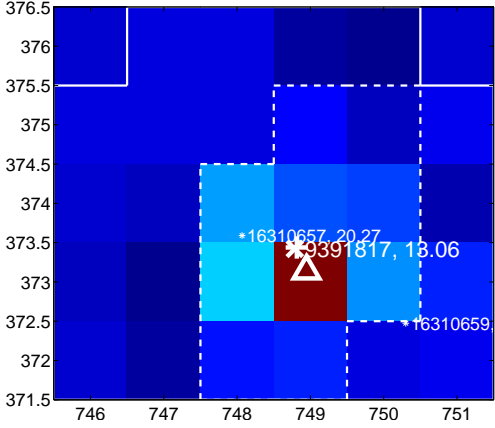
Q10 difference image



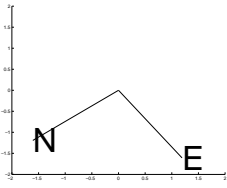
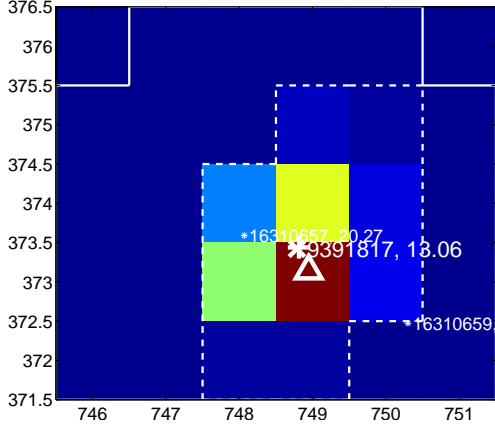
Q10 OOT image



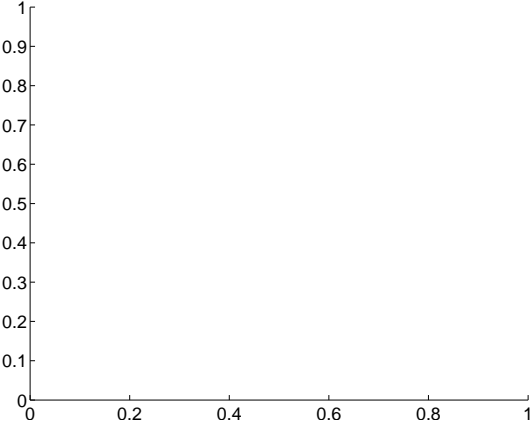
Q11 difference image



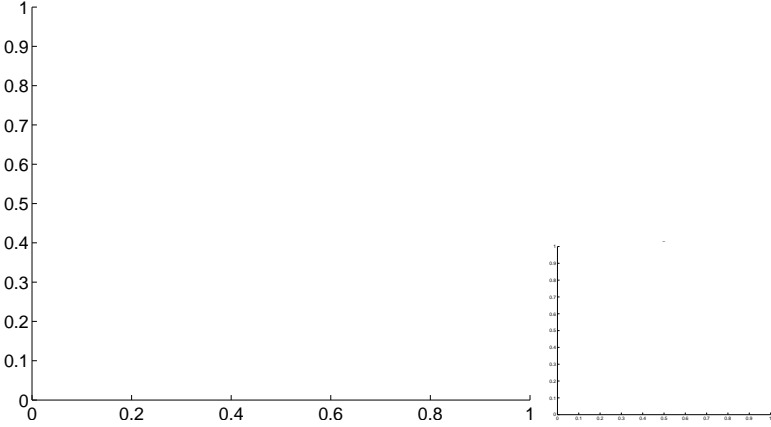
Q11 OOT image



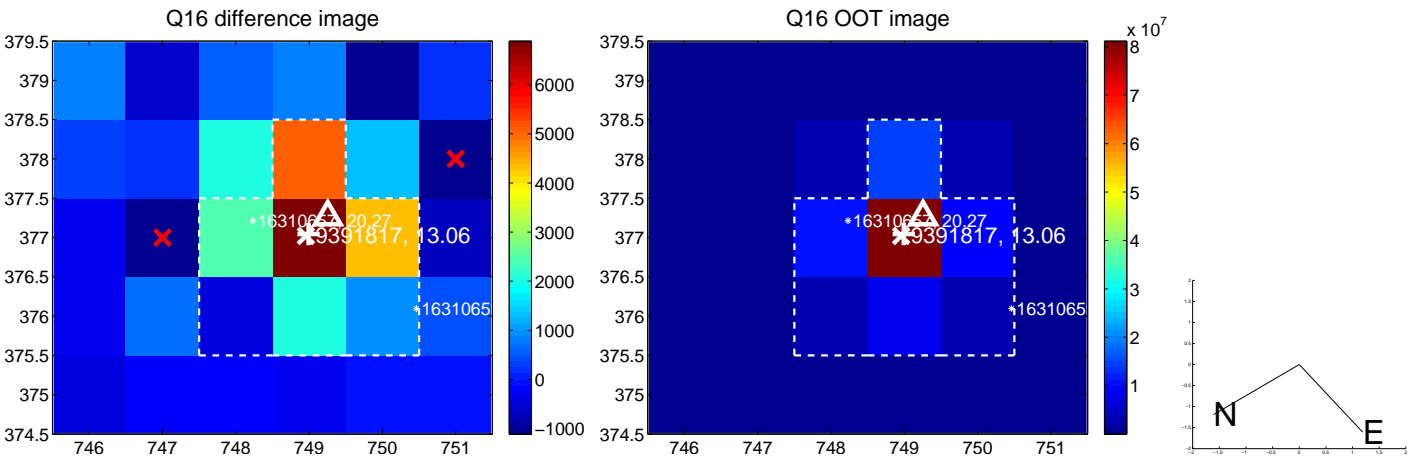
Q12 no difference image



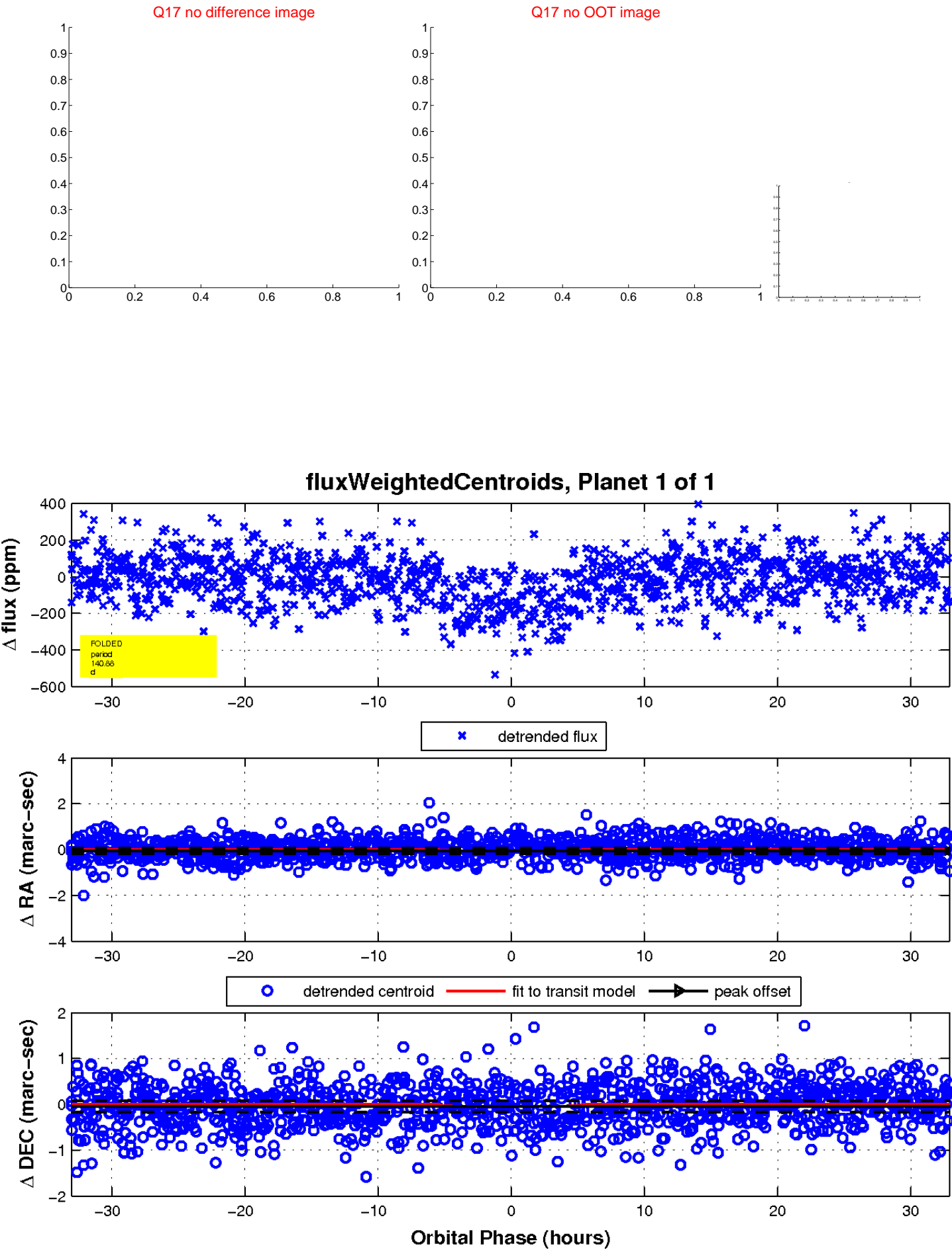
Q12 no OOT image



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

