

KIC 008430540

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})
008430540-01	OBS	No	470.271403	387.890800	253.1	17.059	8.0	7.6	1.00	5910	1.75	0.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008430540-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

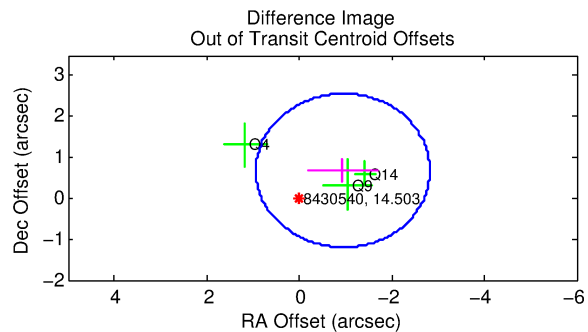
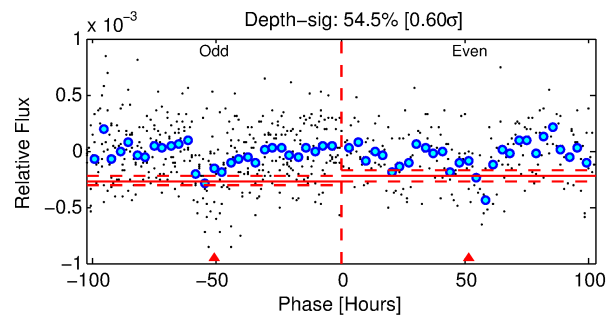
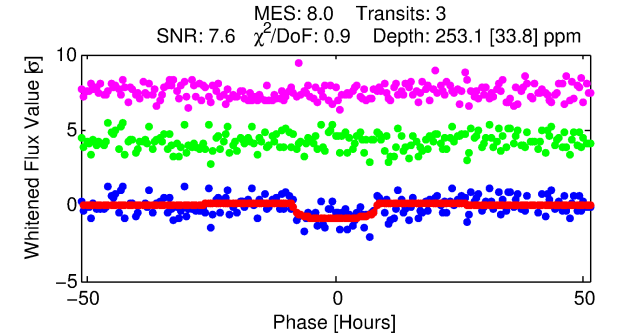
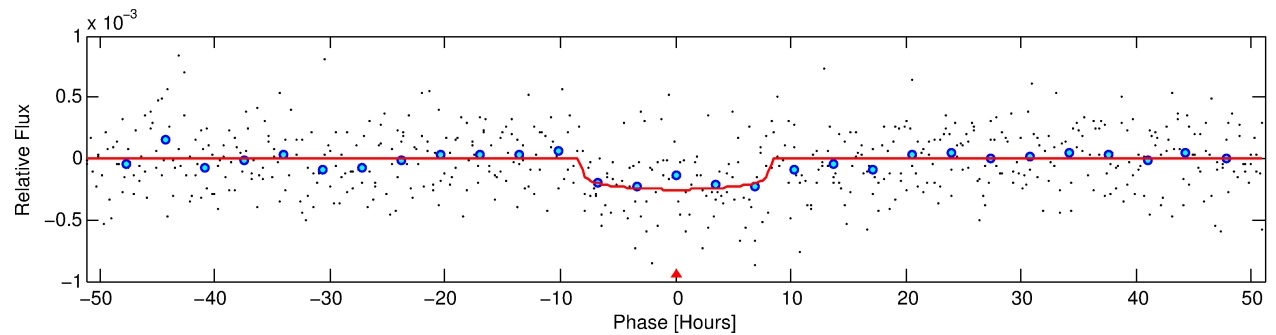
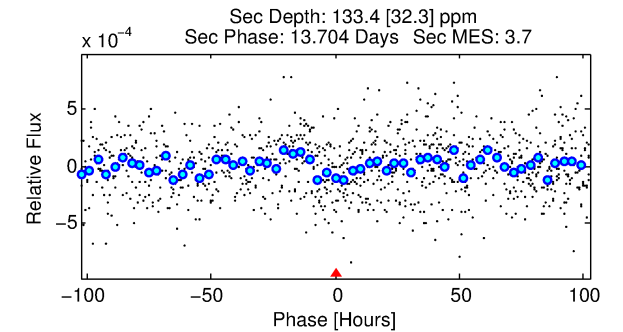
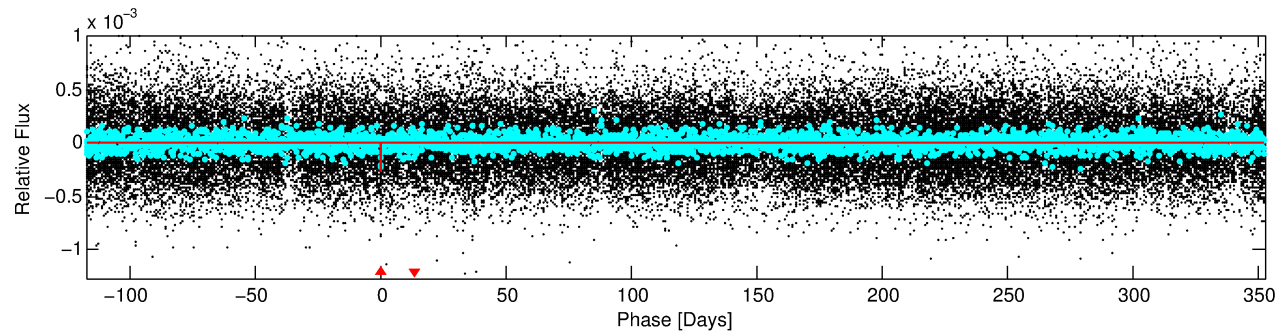
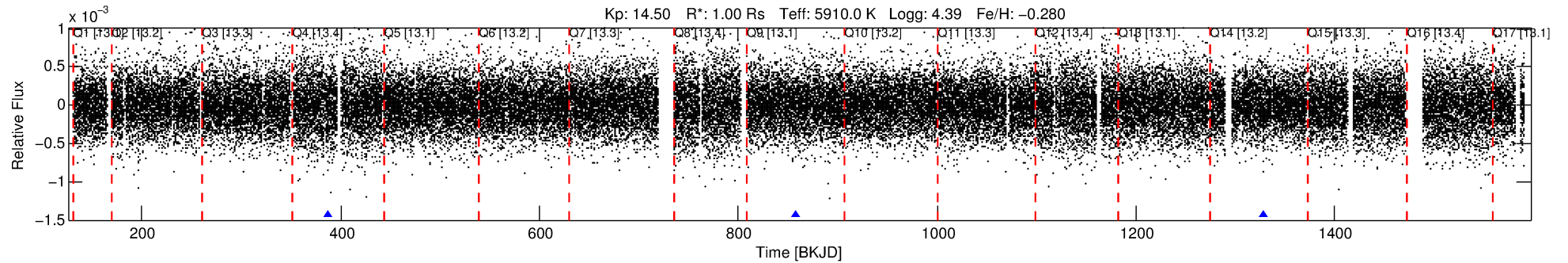
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008430540-01

No Significant Match Found

DV One-Page Summary

KIC: 8430540 Candidate: 1 of 1 Period: 470.271 d



DV Fit Results:

Period = 470.27140 [0.02223] d
Epoch = 387.8908 [0.0308] BKJD
Rp/R* = 0.0160 [0.0052]
a/R* = 137.30 [213.10]
b = 0.78 [0.79]
Seff = 0.83 [0.30]
Teff = 244 [22] K
Rp = 1.75 [0.75] Re
a = 1.1476 [0.2686] AU
Ag = 31525.85 [24365.99] [1.29σ]
Teffp = 5022 [884] K [5.41σ]

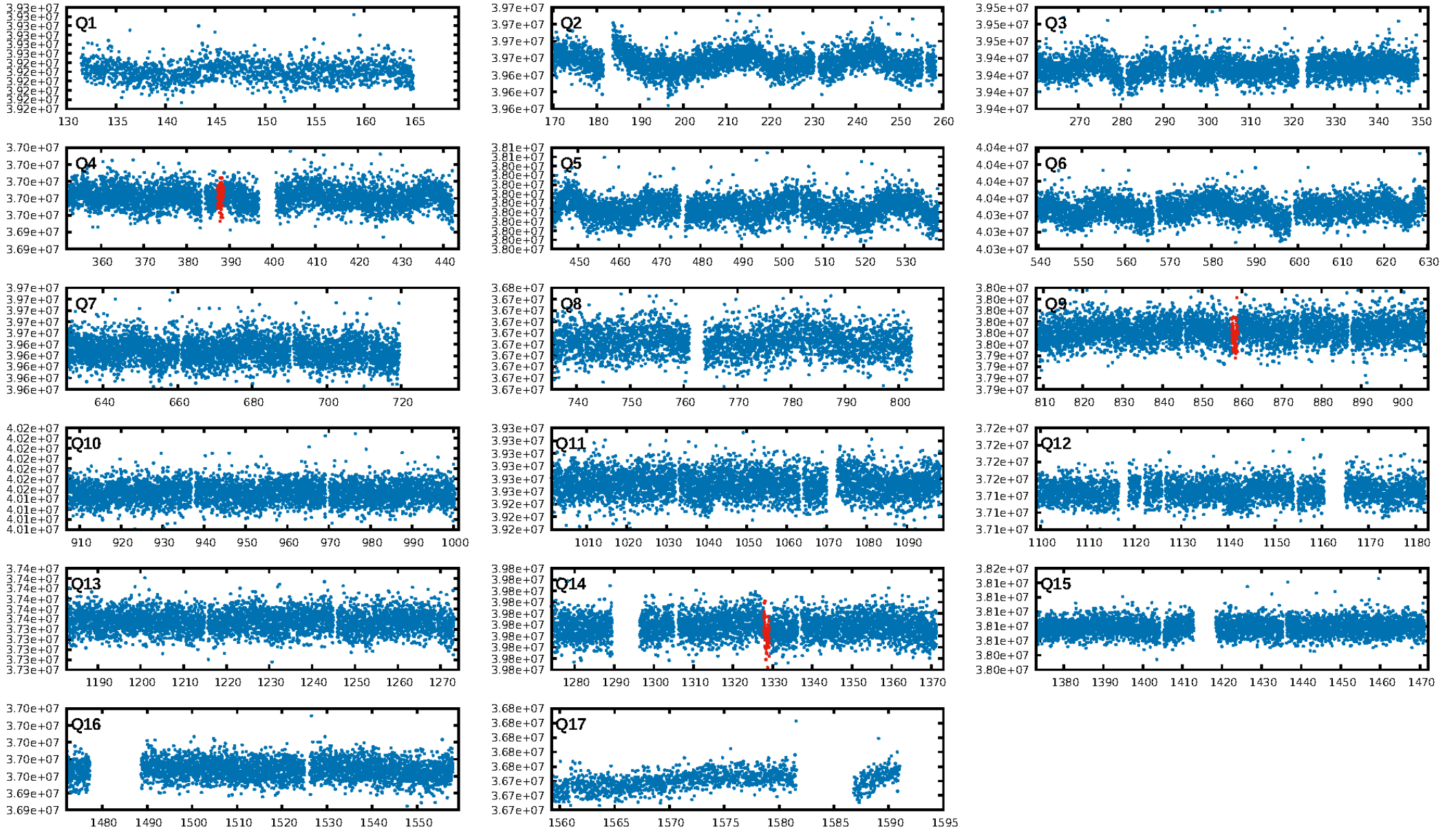
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 20.1%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 1.20e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 13.43
Centroid-sig: 0.0%
Centroid-so: 3.708 arcsec [1.98σ]
OotOffset-rm: 1.163 arcsec [1.86σ]
KicOffset-rm: 1.039 arcsec [1.51σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

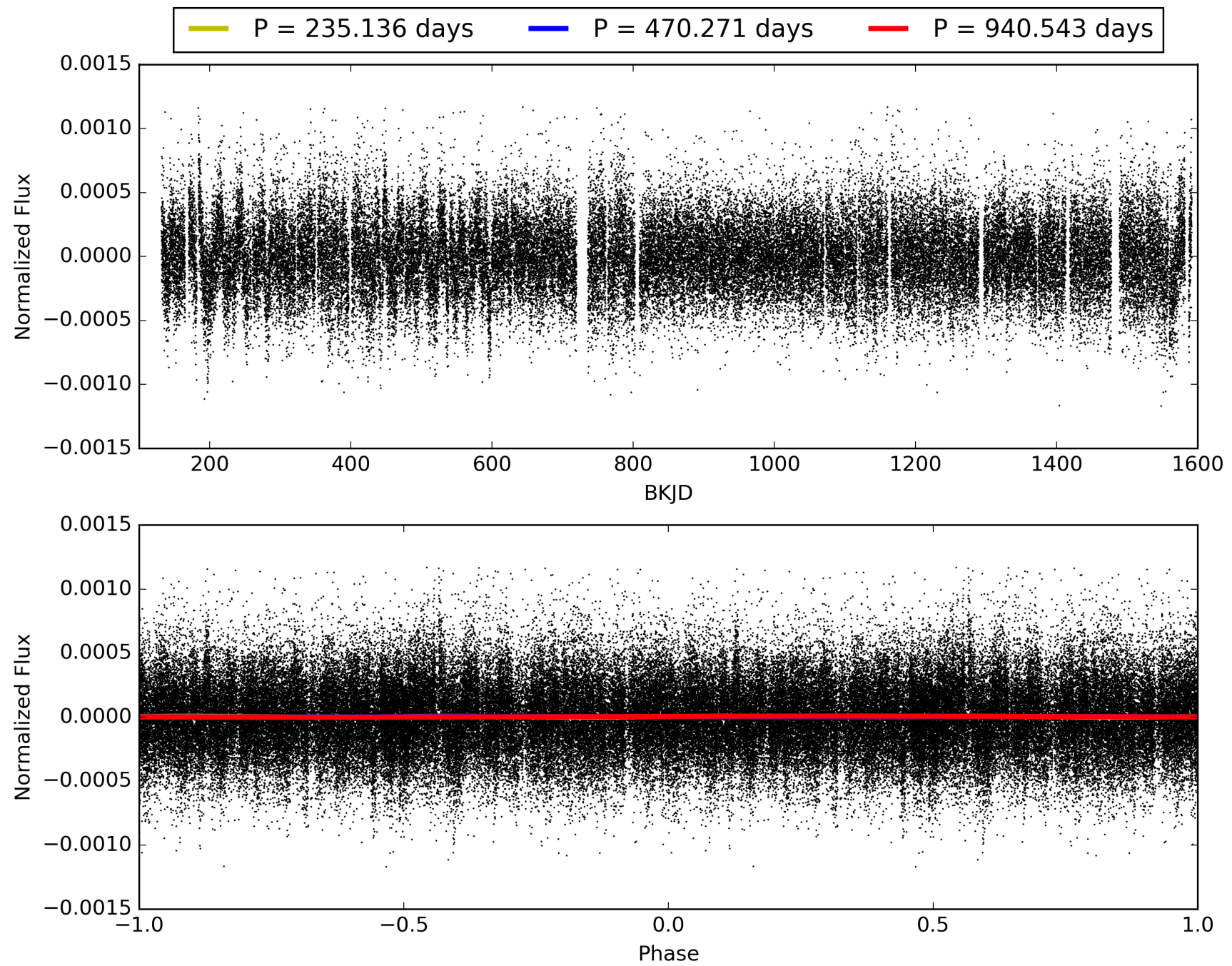
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:54:22 Z

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

TCE 008430540-01, PDC Light Curves

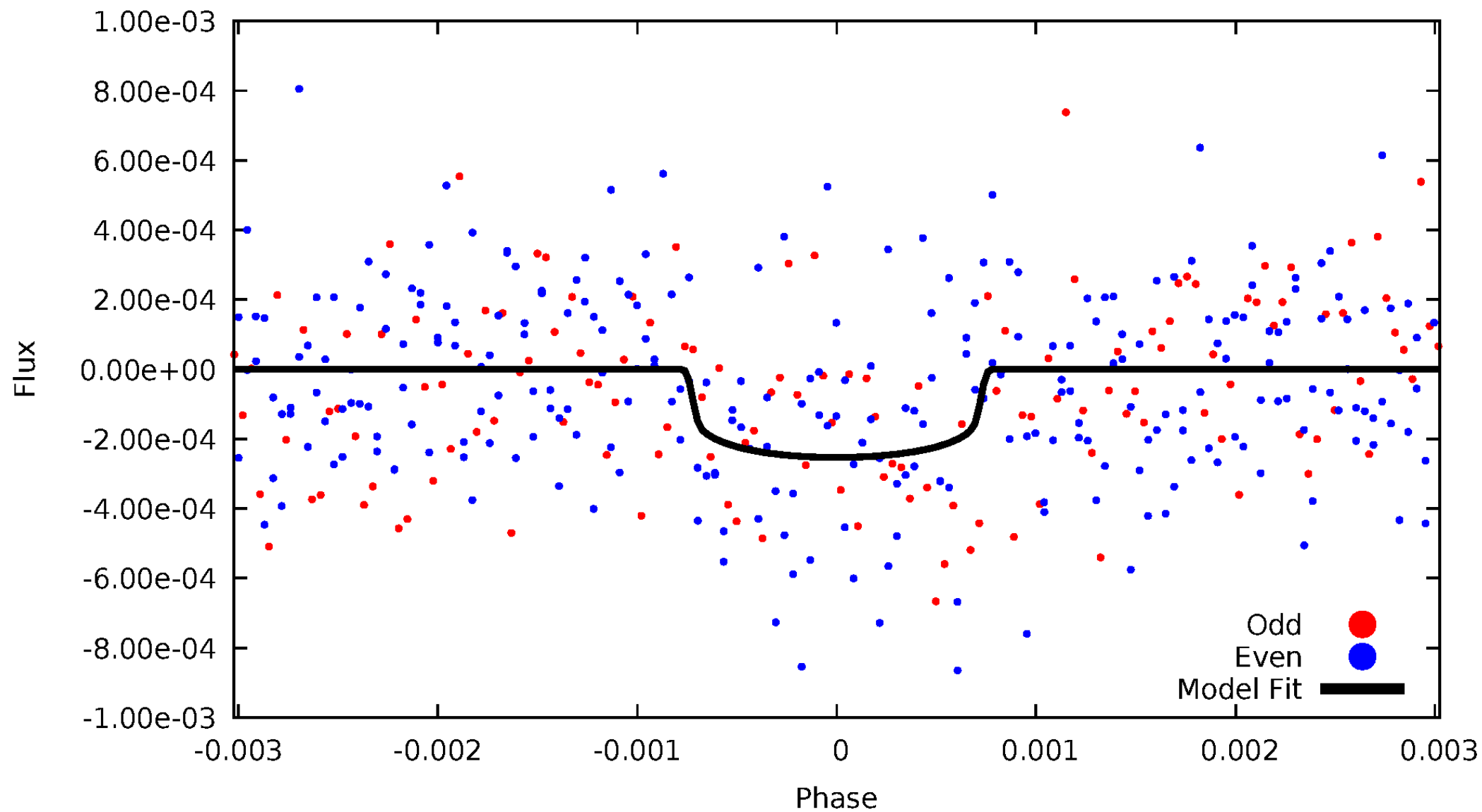


TCE 008430540-01



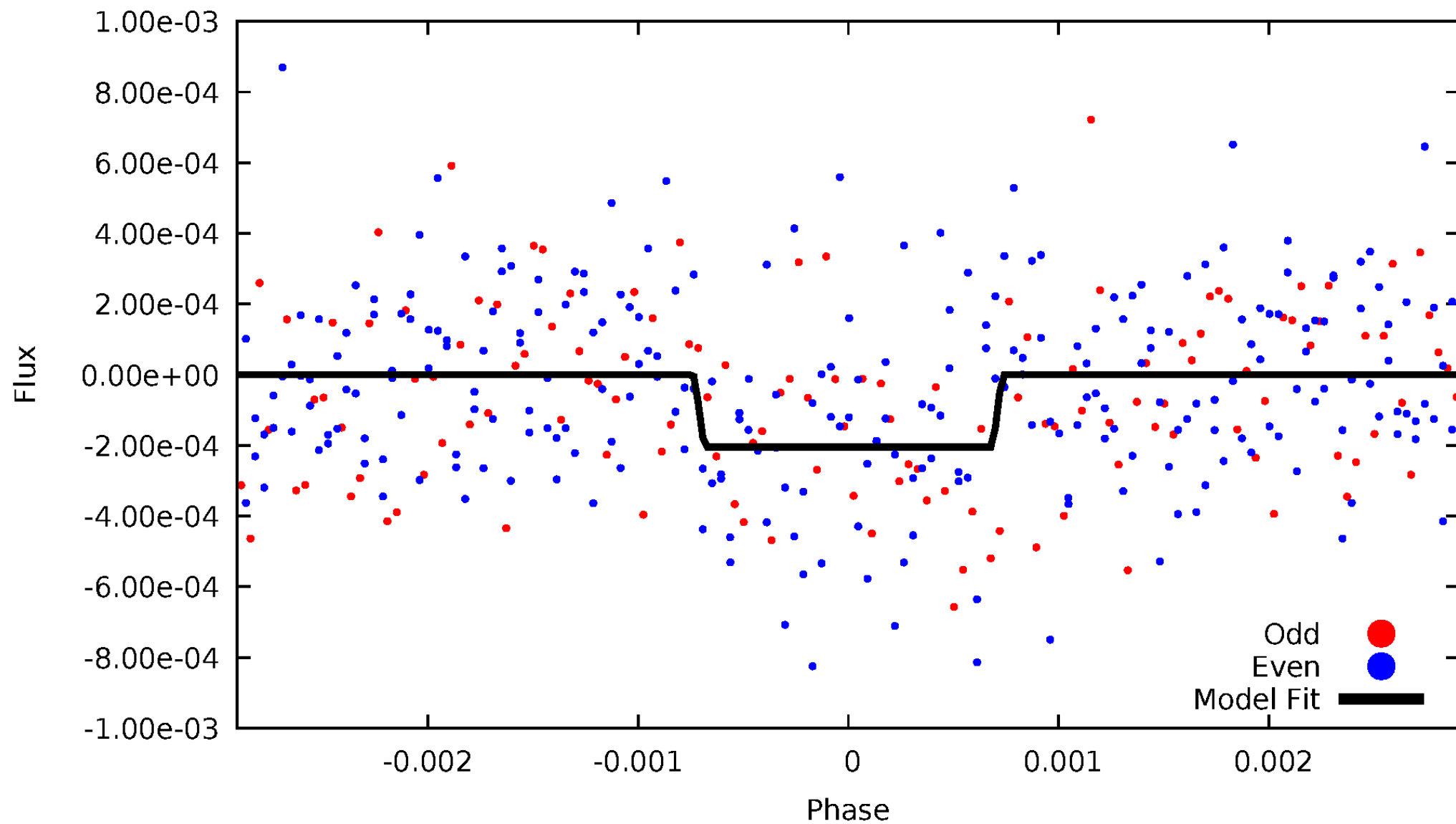
DV Odd/Even

TCE 008430540-01



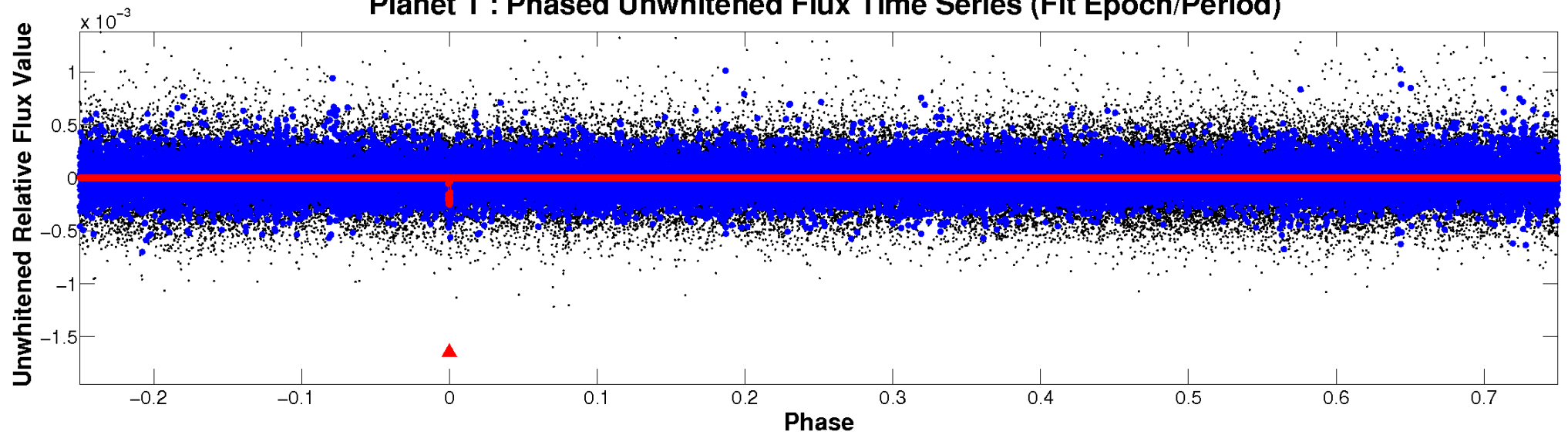
ALT Odd/Even

TCE 008430540-01

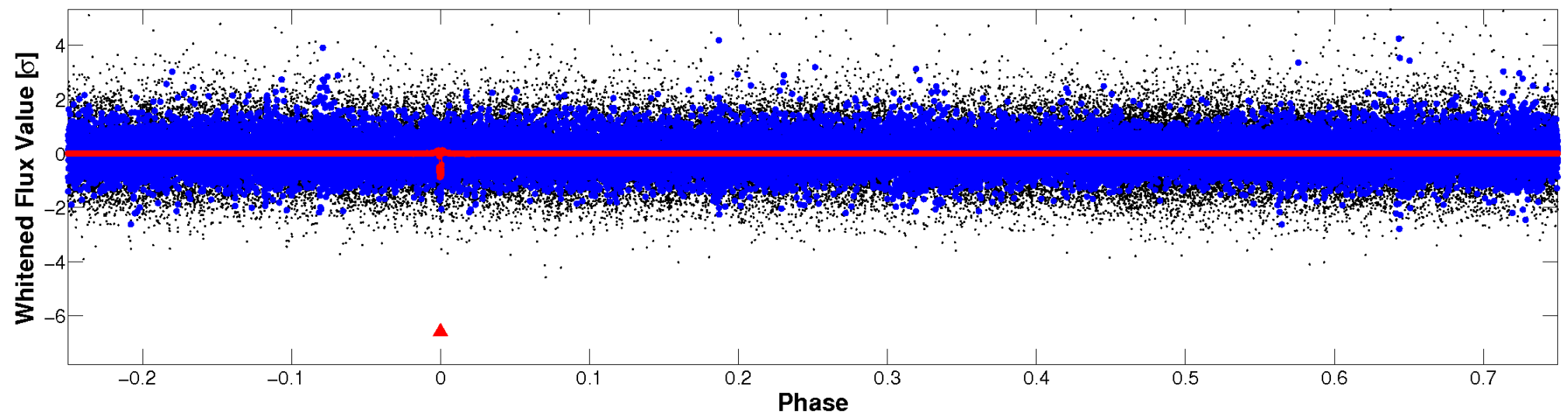


Non-Whitened Vs. Whitened Light Curve

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

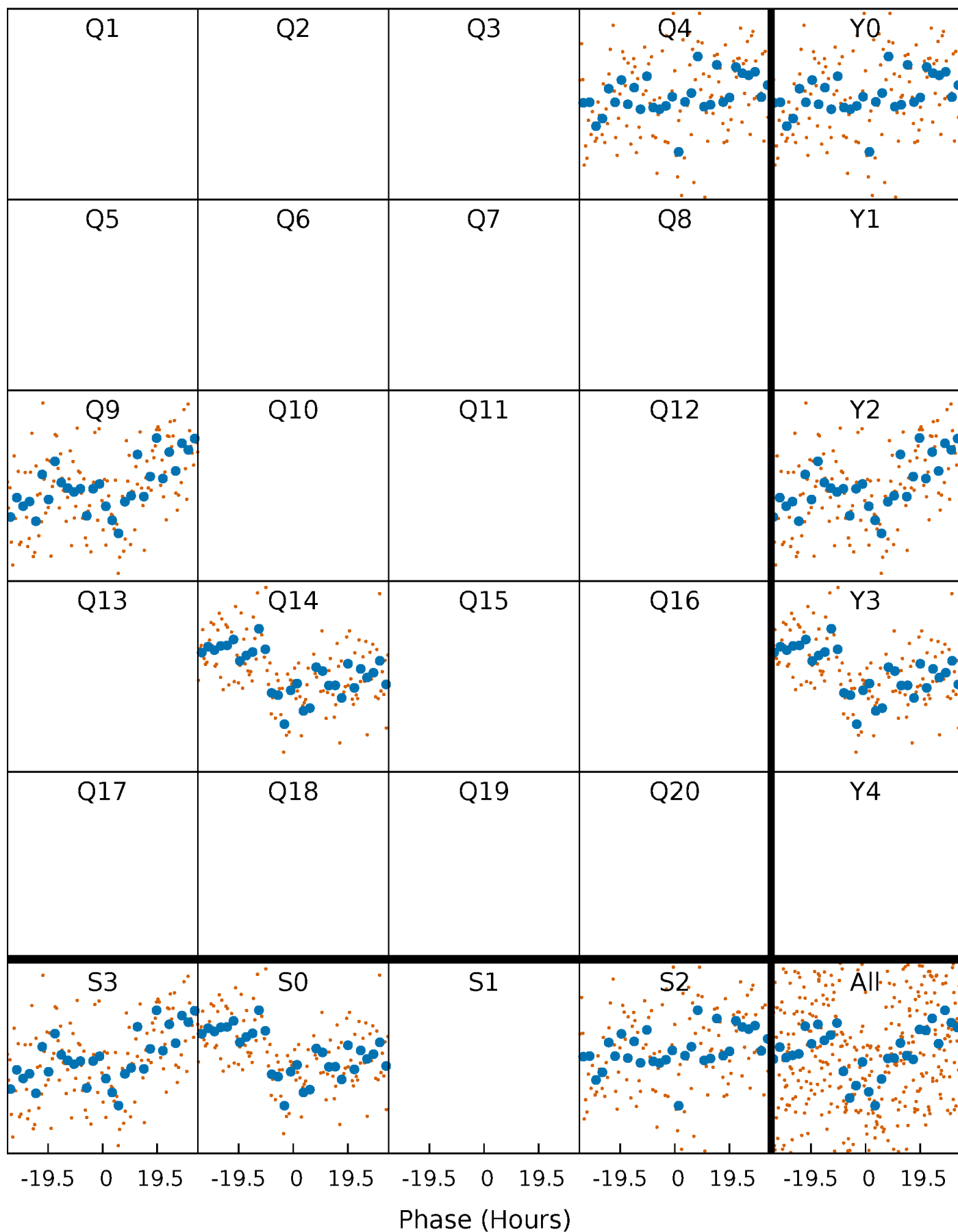


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



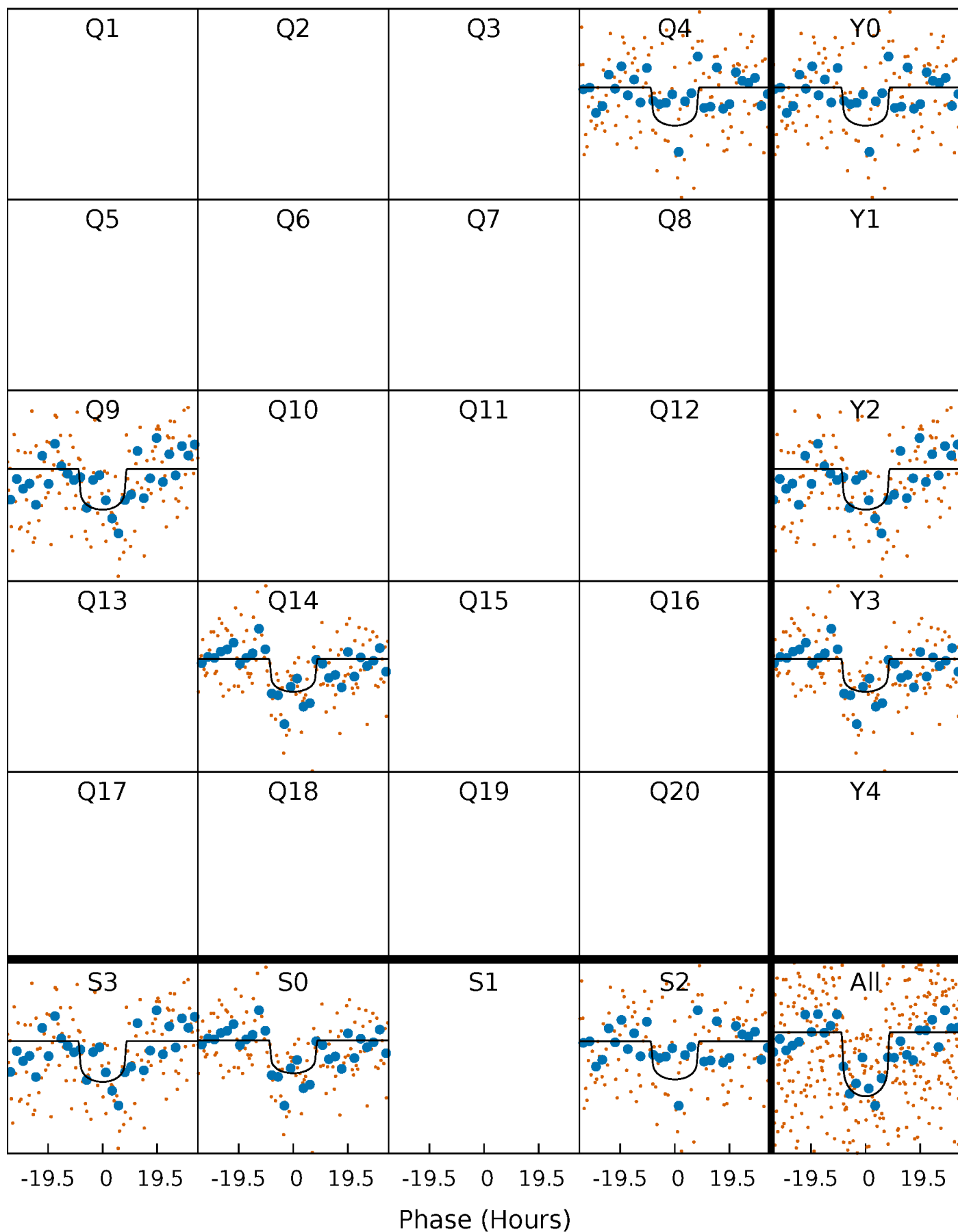
PDC Quarter-Phased Transit Curves

TCE 008430540-01 P=470.271403 Days $T_0=387.890800$ (BKJD)



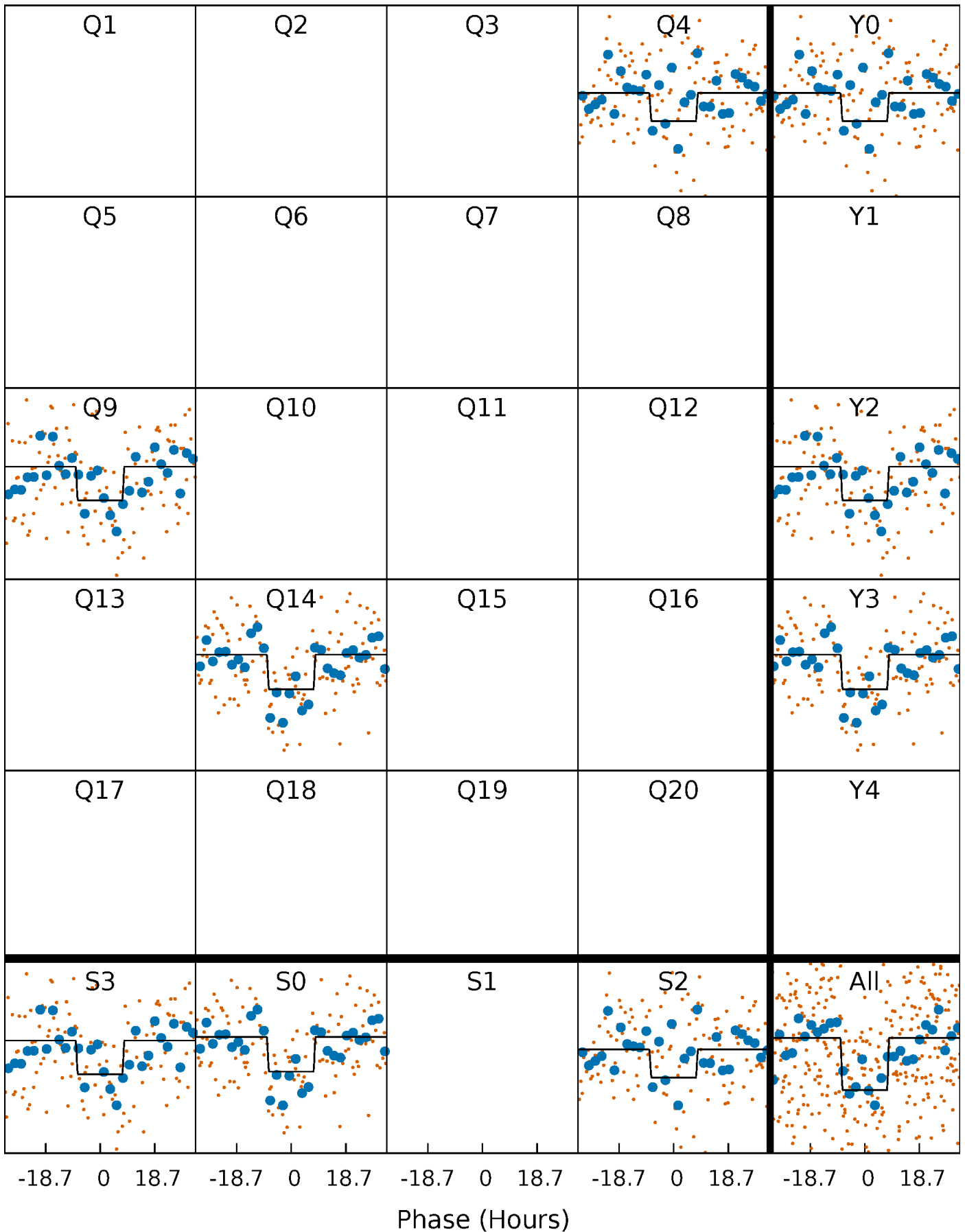
DV Quarter-Phased Transit Curves

TCE 008430540-01 P=470.271403 Days $T_0=387.890800$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

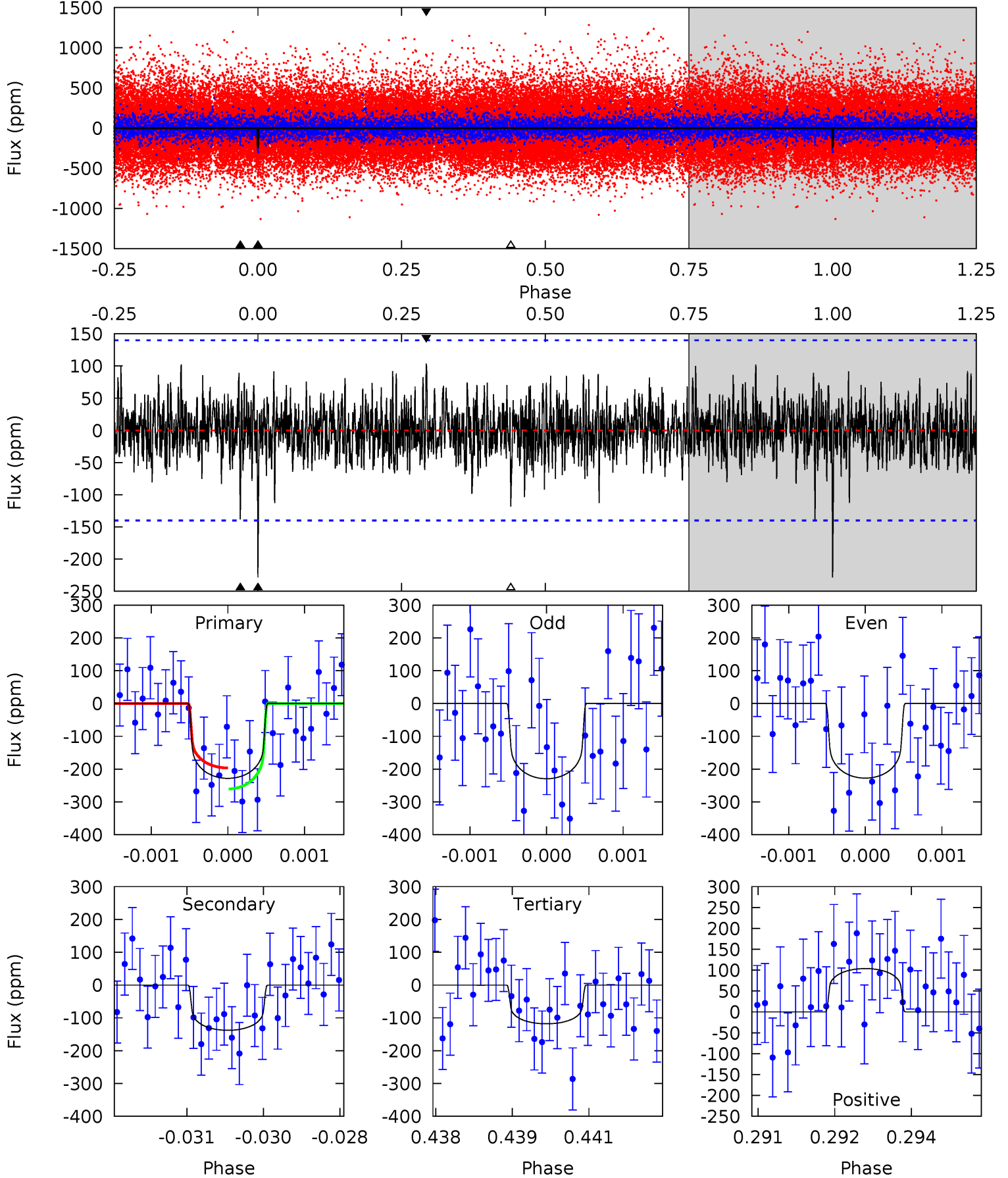
TCE 008430540-01 P=470.271572 Days $T_0=387.887989$ (BKJD)



DV Model-Shift Uniqueness Test

008430540-01, P = 470.271403 Days, E = 387.890800 Days

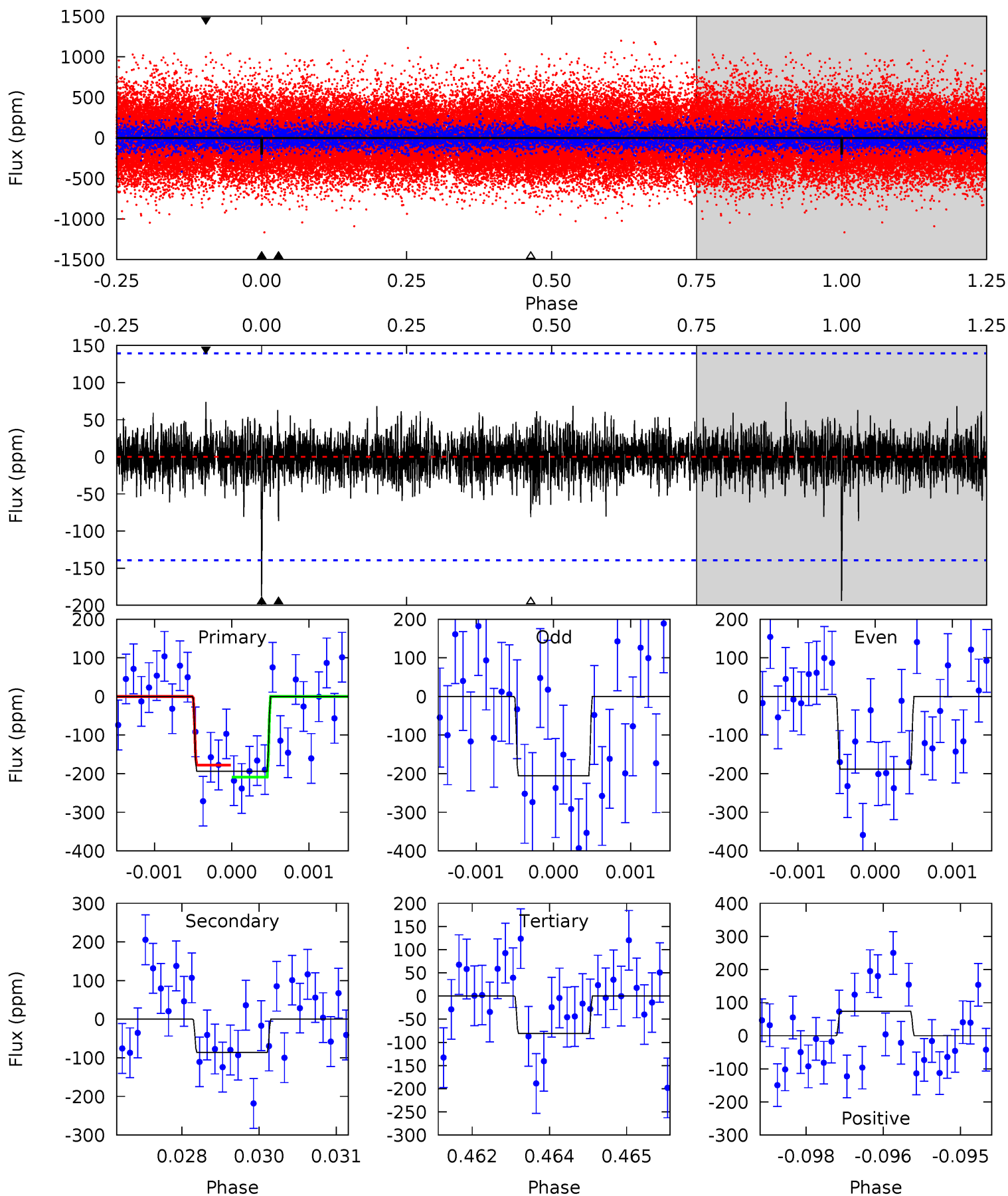
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.77	5.30	4.54	3.99	5.38	3.17	1.18	4.23	4.78	0.76	1.31	0.03	0.99	0.31	1.24



Alt Model-Shift Uniqueness Test

008430540-01, $P = 470.271572$ Days, $E = 387.887989$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.49	3.33	3.13	2.85	5.38	3.18	0.75	4.36	4.64	0.20	0.48	0.32	0.94	0.28	0.59



Stellar Parameters For KIC 008430540

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5910^{+158}_{-175}	$4.395^{+0.124}_{-0.186}$	$-0.280^{+0.300}_{-0.300}$	$1.003^{+0.279}_{-0.150}$	$0.911^{+0.129}_{-0.097}$	$1.272^{+0.741}_{-0.632}$
	+3%/-3%	+3%/-4%	+107%/-107%	+28%/-15%	+14%/-11%	+58%/-50%
Source	PHO1	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 008430540-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-138 ± 26	$1.76^{+0.62}_{-0.61}$	342^{+22}_{-19}	5126^{+1089}_{-594}	31755^{+41901}_{-15067}
Alt.	-86 ± 26	$1.59^{+0.61}_{-0.58}$	341^{+26}_{-19}	4856^{+1206}_{-639}	24988^{+40618}_{-13023}

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 $A_{obs} \gg 1.0$

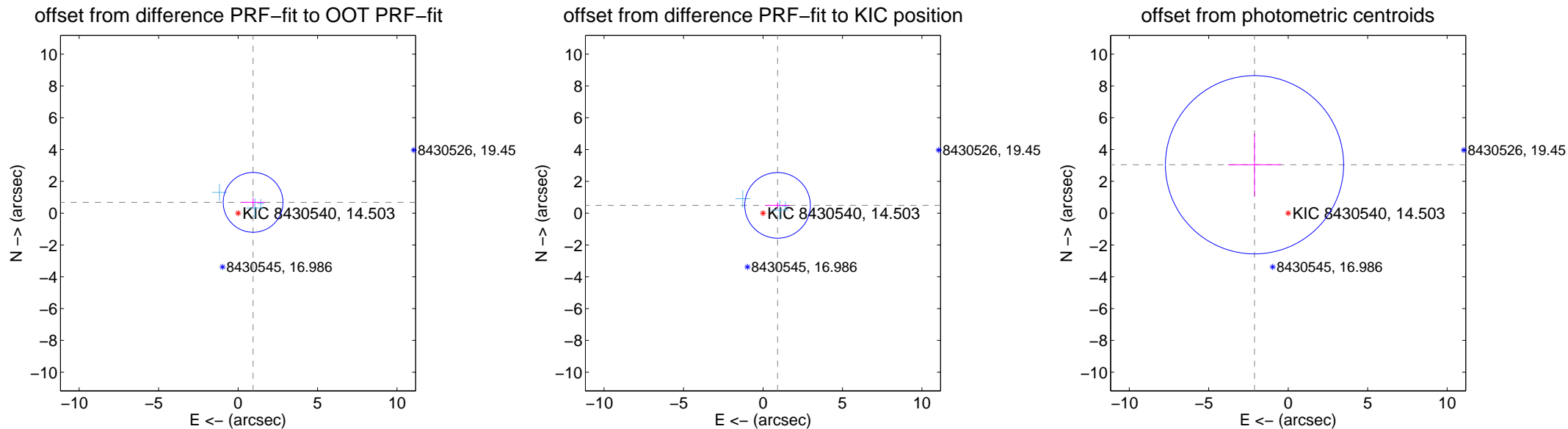
DV Centroid Data

Supplemental centroid analysis for 008430540-01. Kepler magnitude: 14.50. Transit SNR 7.65

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.163 ± 0.627	1.86	-0.945 ± 0.748	0.679 ± 0.266
PRF-fit source offset from KIC position	1.039 ± 0.688	1.51	-0.916 ± 0.774	0.490 ± 0.185
photometric centroid source offset	3.71 ± 1.87	1.98	2.12 ± 1.66	3.04 ± 1.96



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



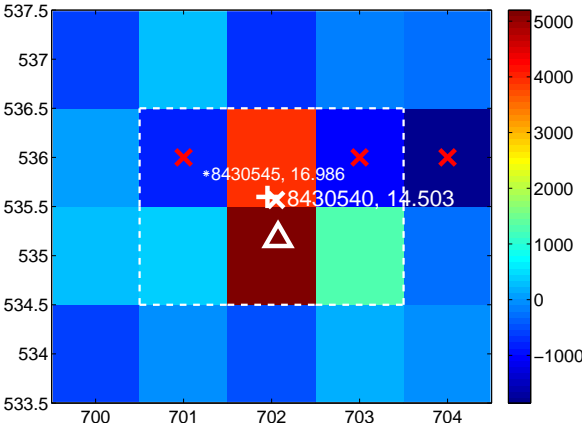
Q3 no difference image



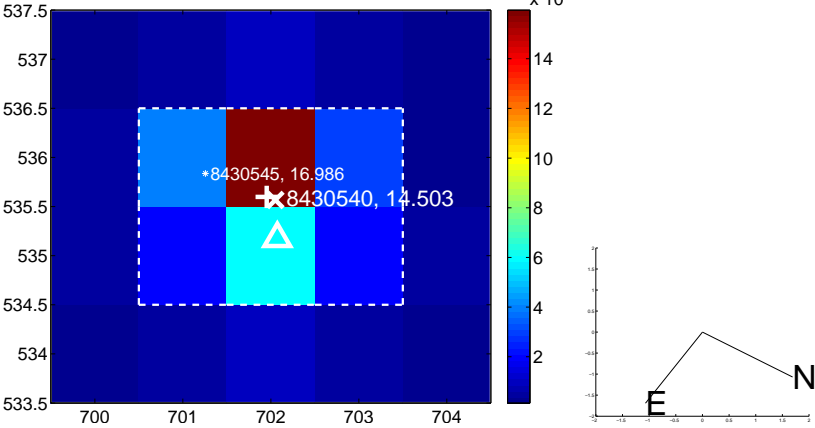
Q3 no OOT image



Q4 difference image



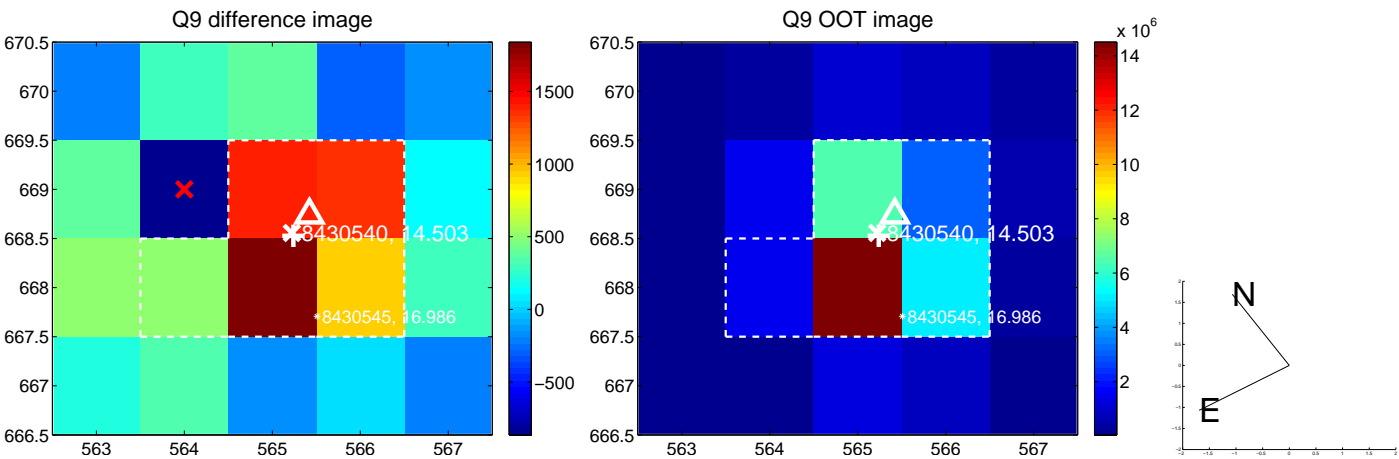
Q4 OOT image



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.



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

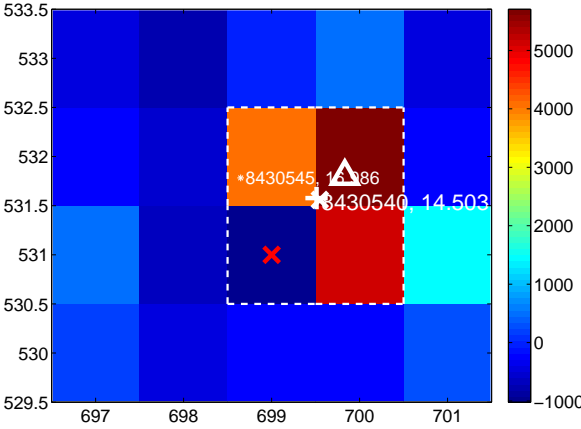
Q13 no difference image



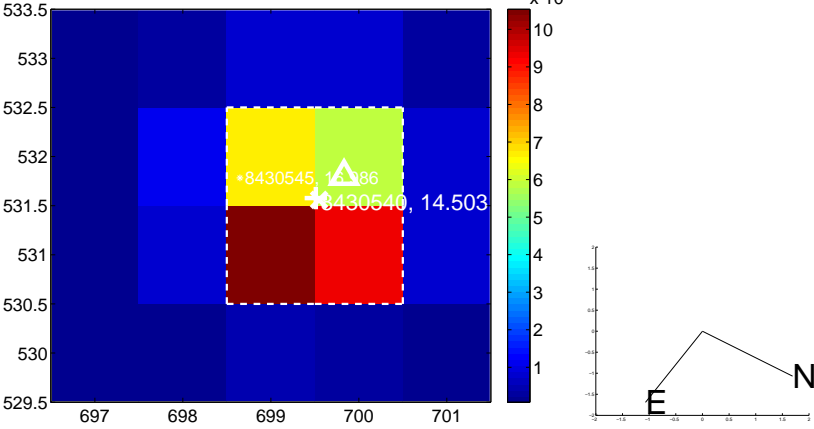
Q13 no OOT image



Q14 difference image



Q14 OOT image



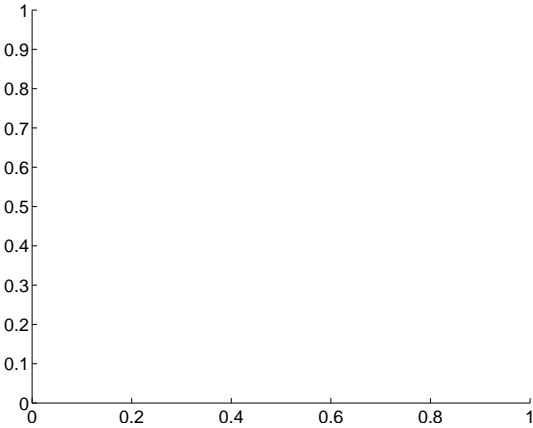
Q15 no difference image



Q15 no OOT image



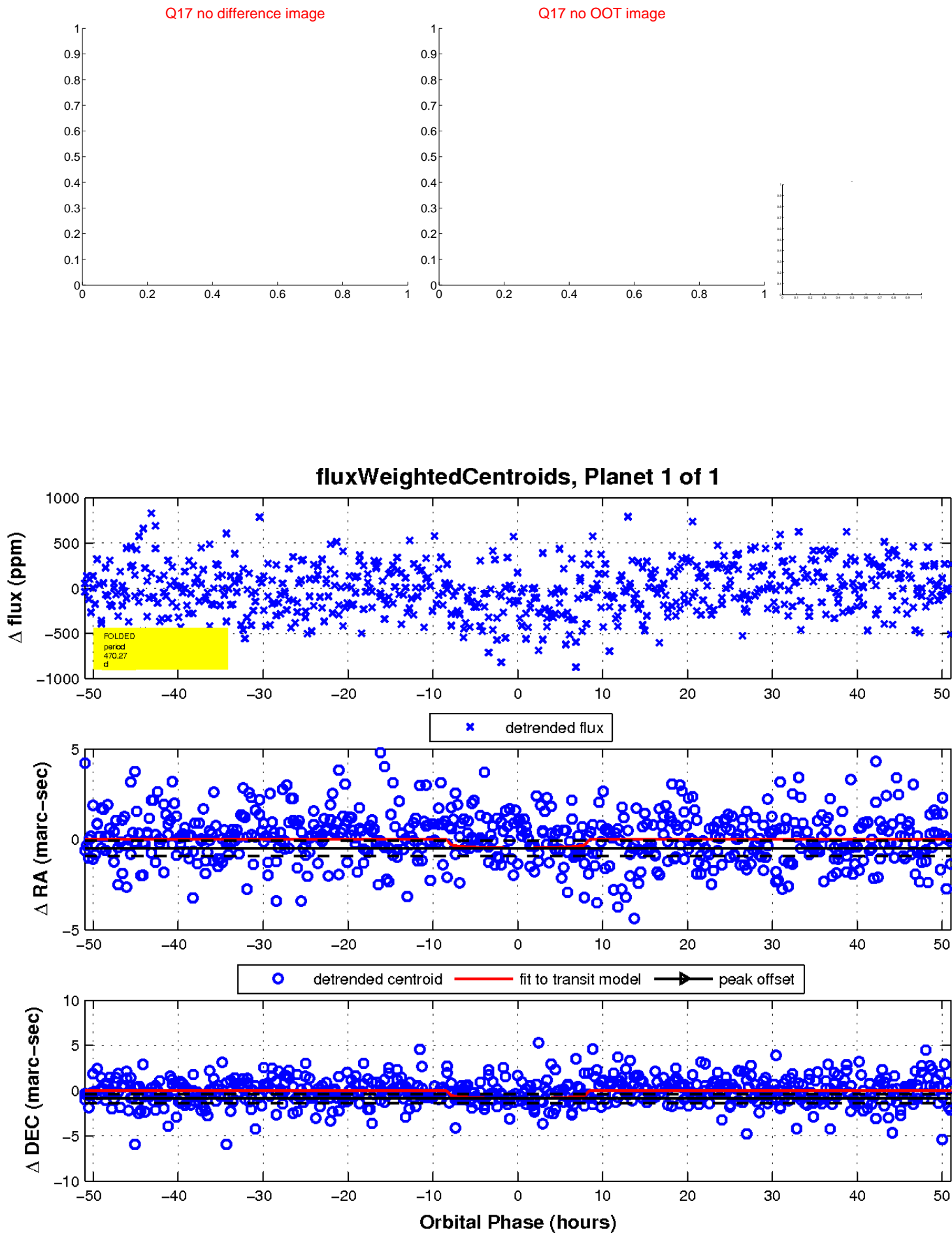
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

