

KIC 007180745

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})
007180745-01	OBS	No	508.702400	406.471383	144.7	11.870	7.6	7.7	1.20	6385	1.66	1.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007180745-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—INCONSISTENT_TRANS—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.

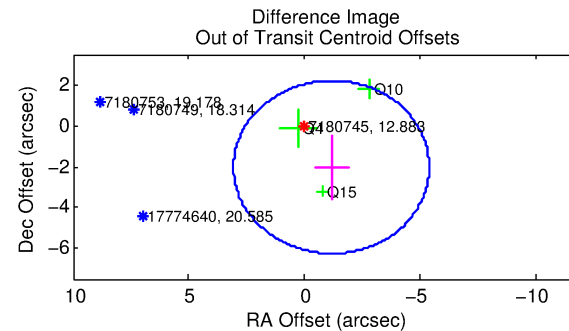
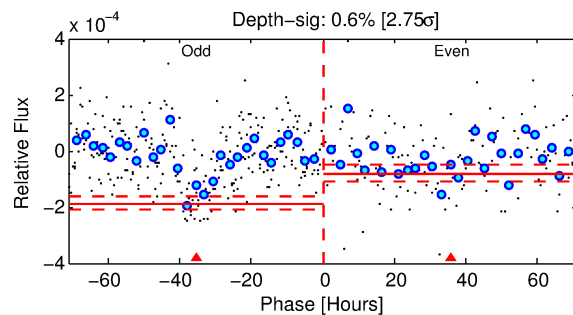
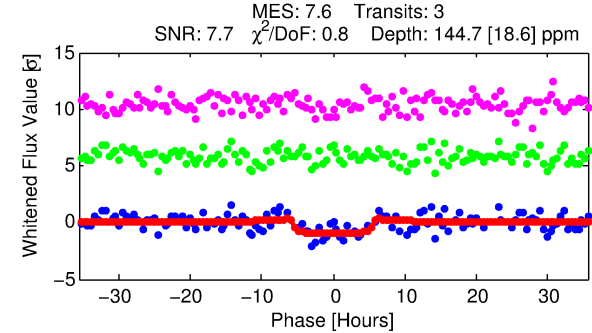
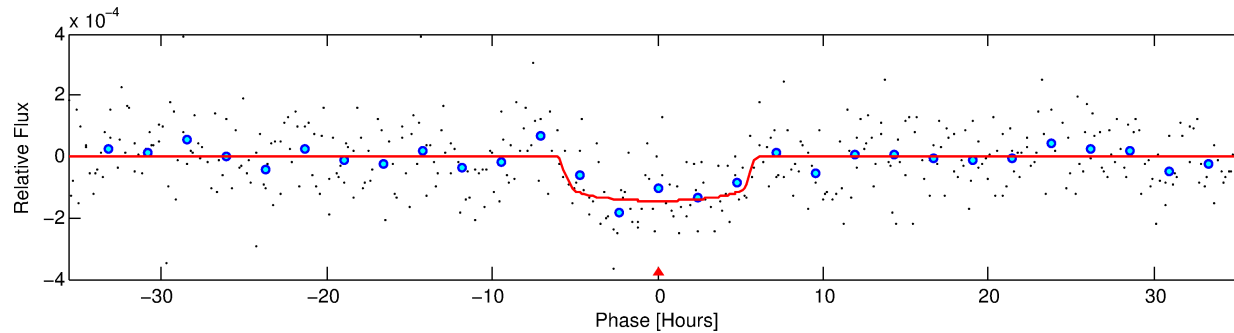
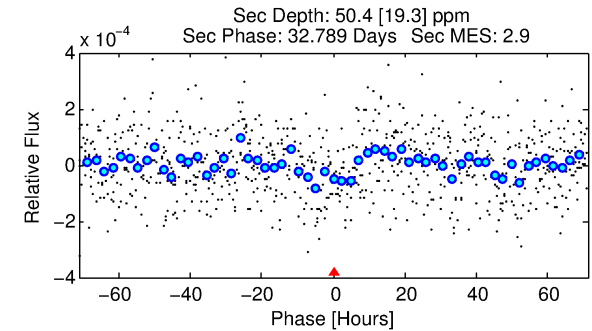
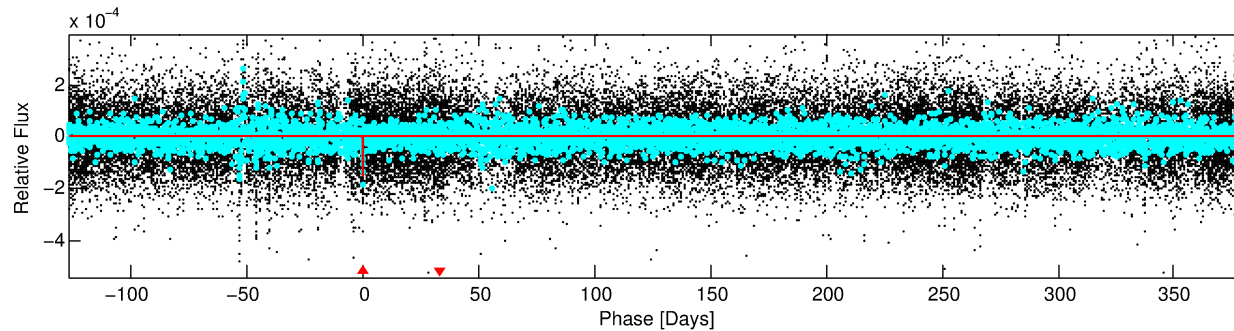
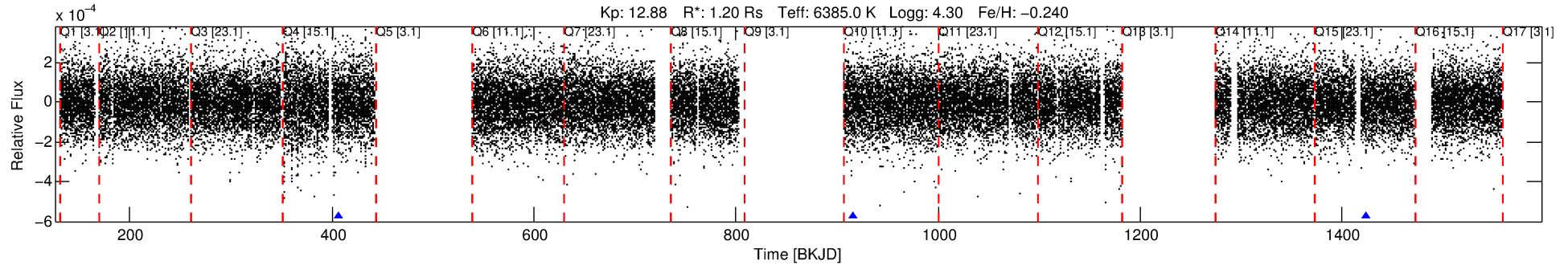
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007180745-01

No Significant Match Found

DV One-Page Summary

KIC: 7180745 Candidate: 1 of 1 Period: 508.702 d



DV Fit Results:

Period = 508.70240 [0.01259] d
Epoch = 406.4714 [0.0168] BKJD
Rp/R* = 0.0127 [0.0026]
a/R* = 166.55 [182.52]
b = 0.88 [0.29]
Seff = 1.34 [0.39]
Teq = 274 [20] K
Rp = 1.66 [0.50] Re
a = 1.2701 [0.2329] AU
Ag = 16206.07 [10137.71] [1.60σ]
Teffp = 4782 [693] K [6.50σ]

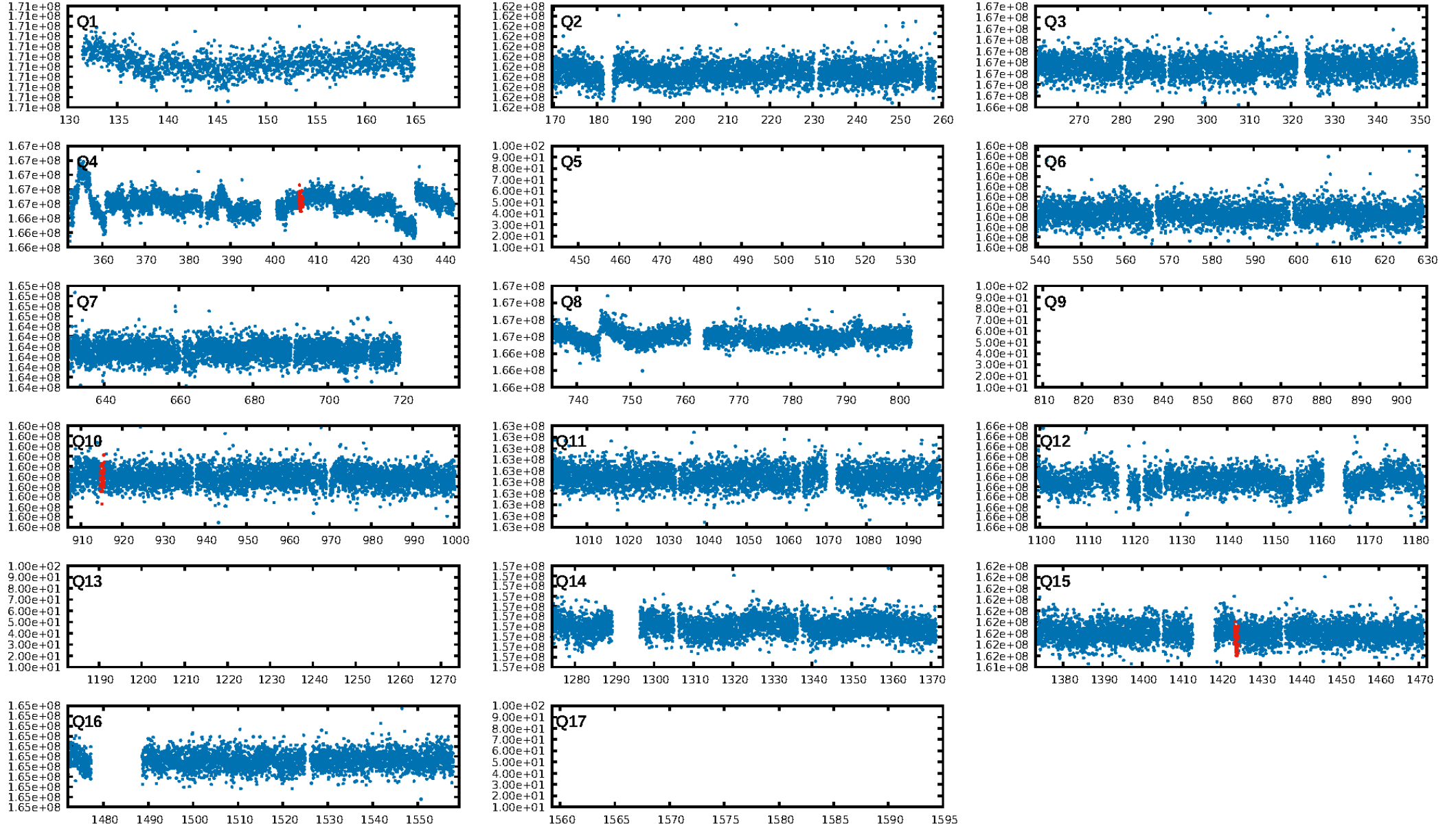
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.99e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -6.88
Centroid-sig: 17.3%
Centroid-so: 1.092 arcsec [0.73σ]
OotOffset-rm: 2.337 arcsec [1.66σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 1.980 arcsec [1.43σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

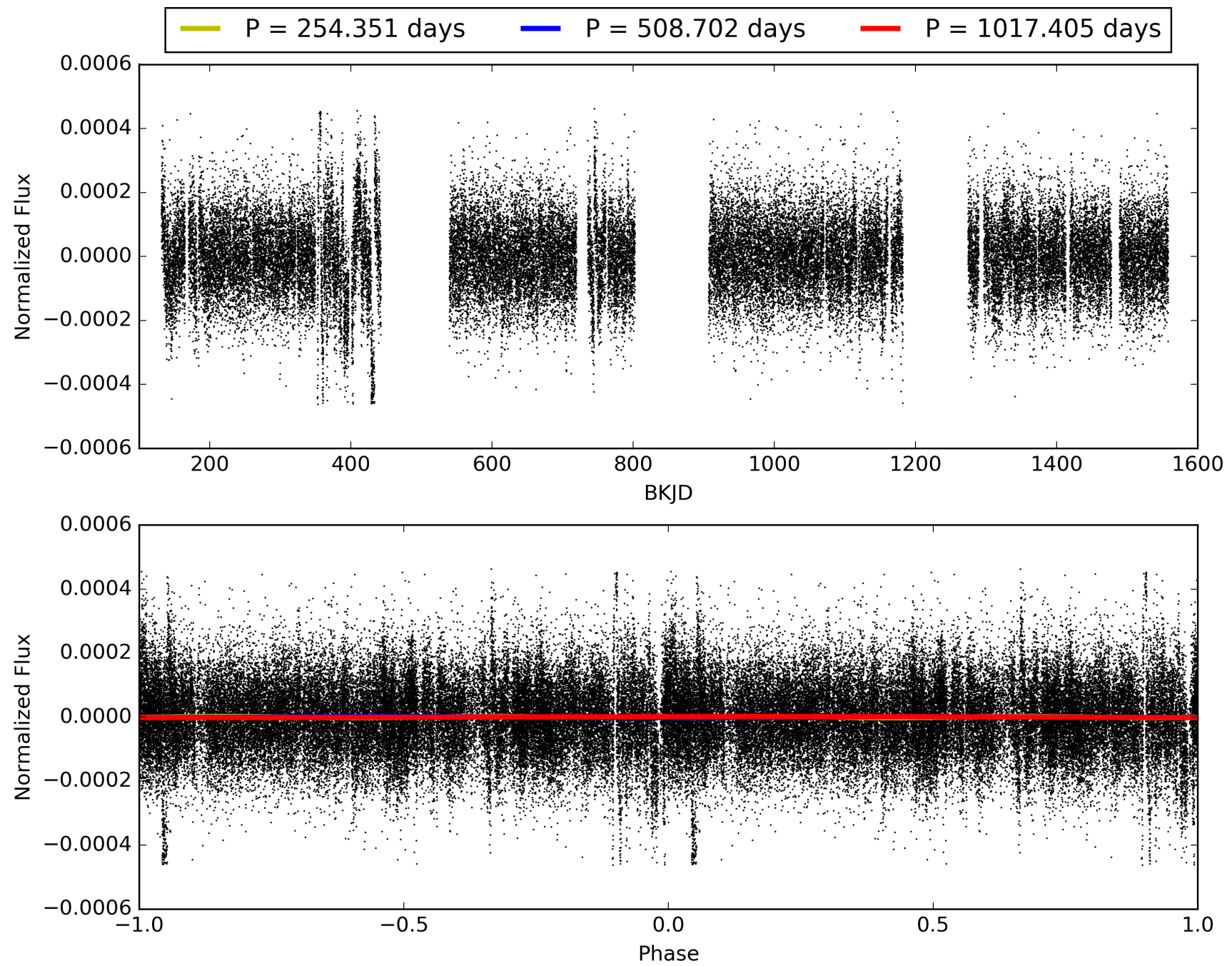
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:47:25 Z

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

TCE 007180745-01, PDC Light Curves

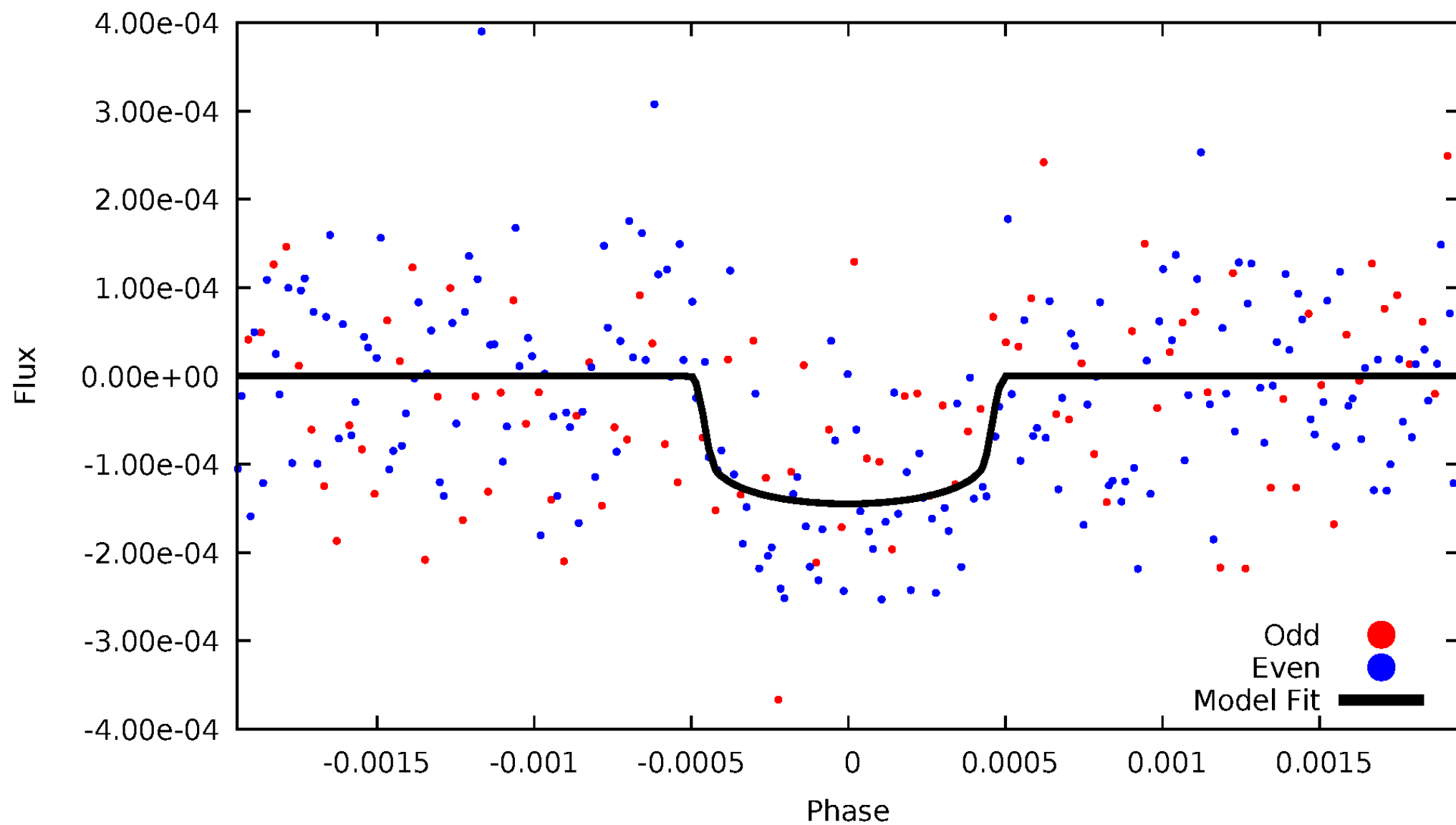


TCE 007180745-01



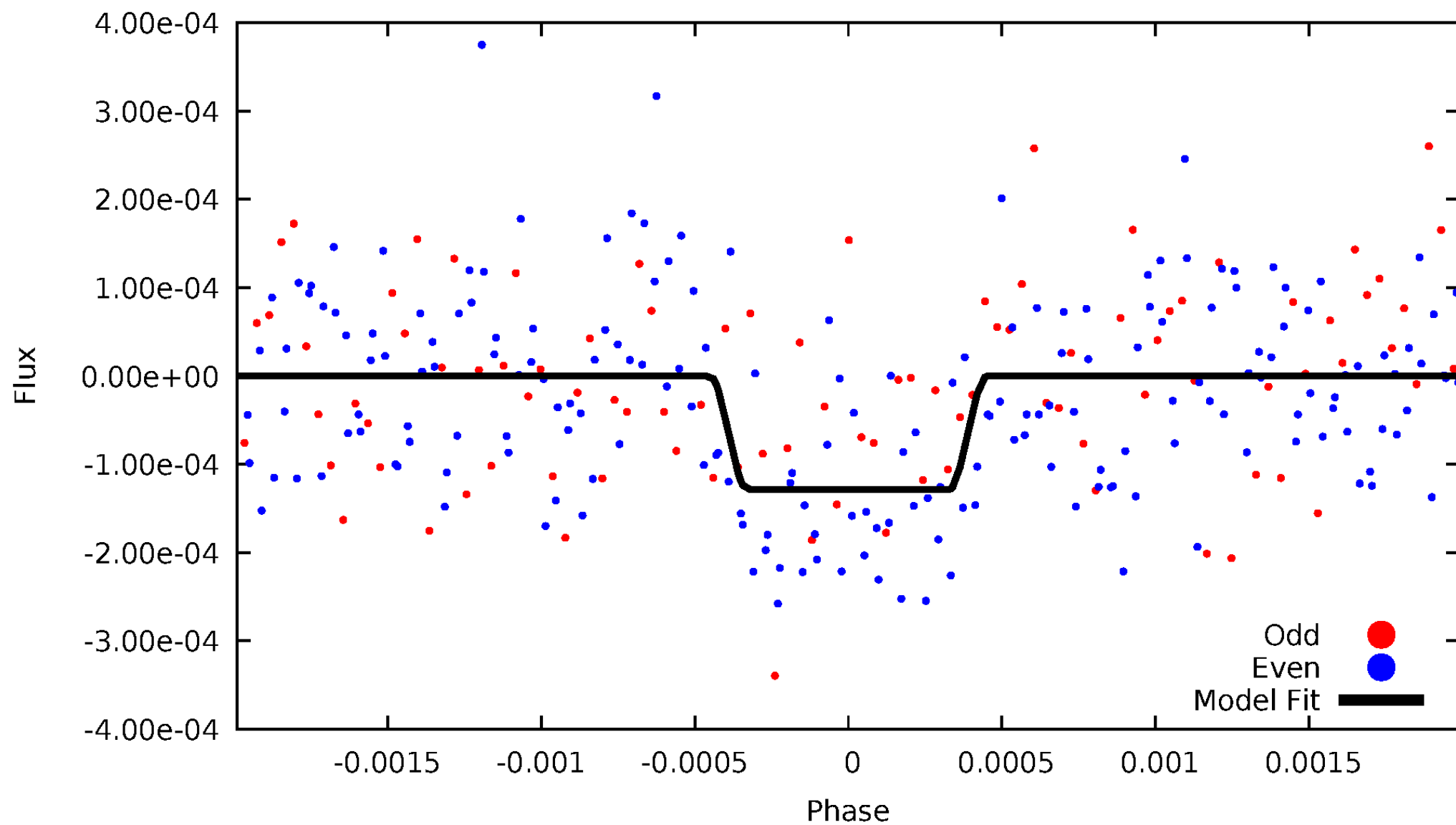
DV Odd/Even

TCE 007180745-01



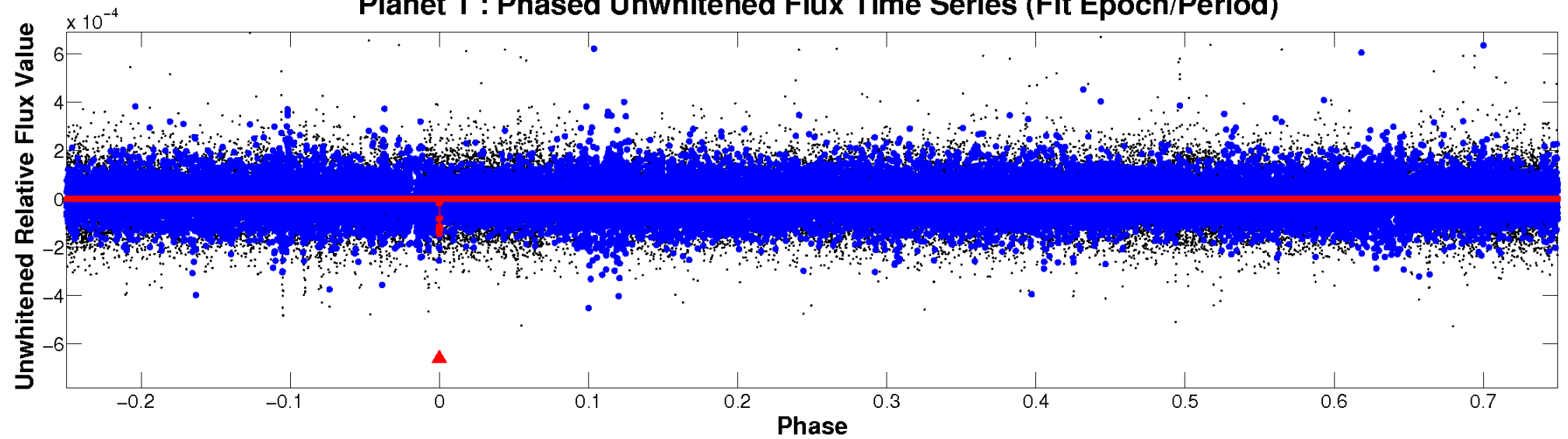
ALT Odd/Even

TCE 007180745-01

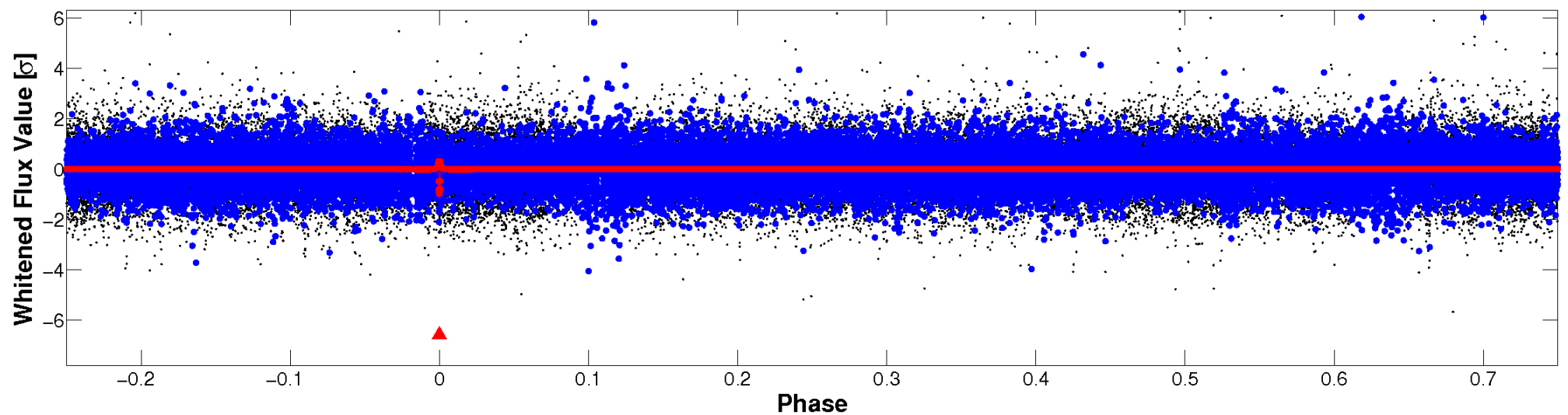


Non-Whitened Vs. Whitened Light Curve

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

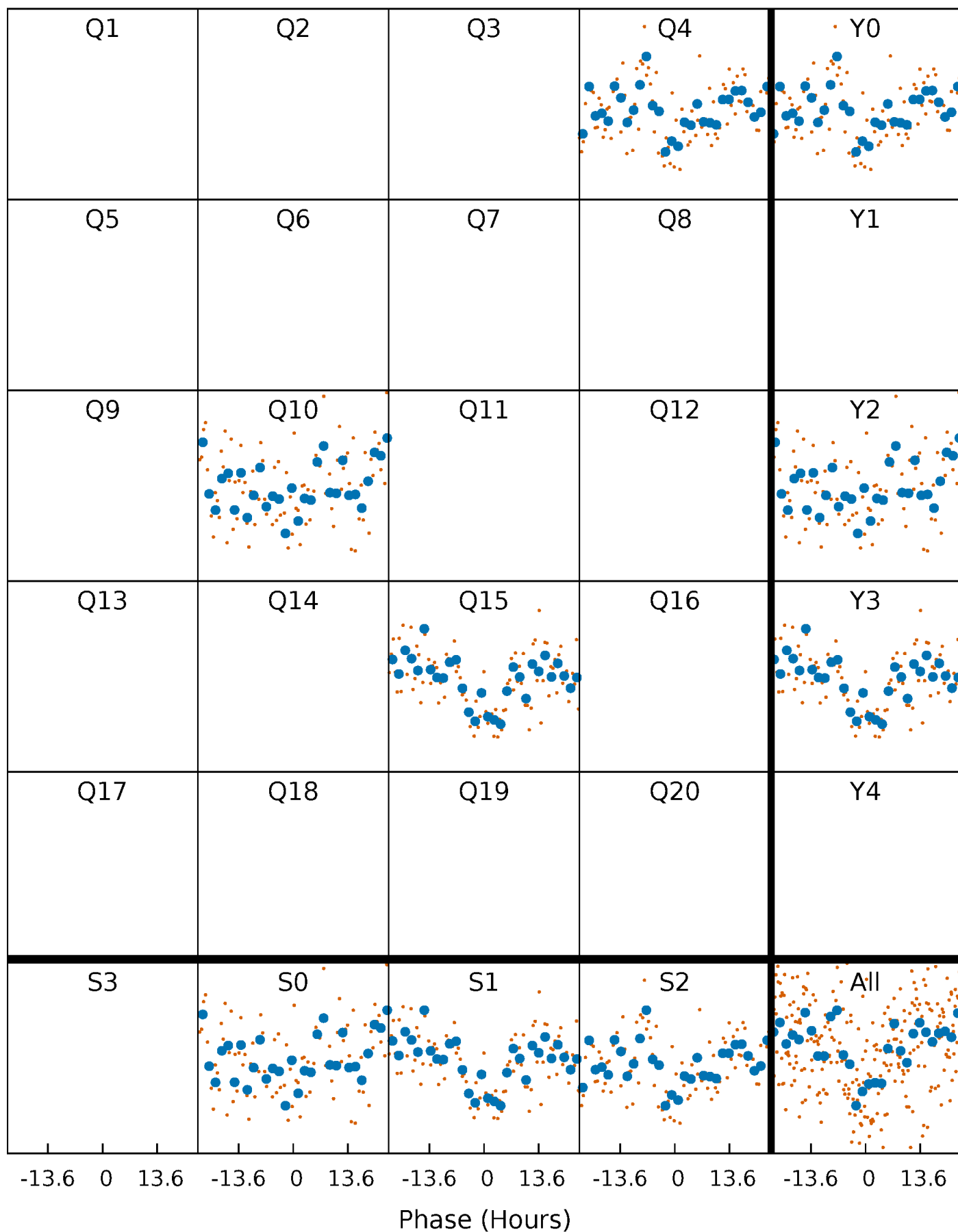


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



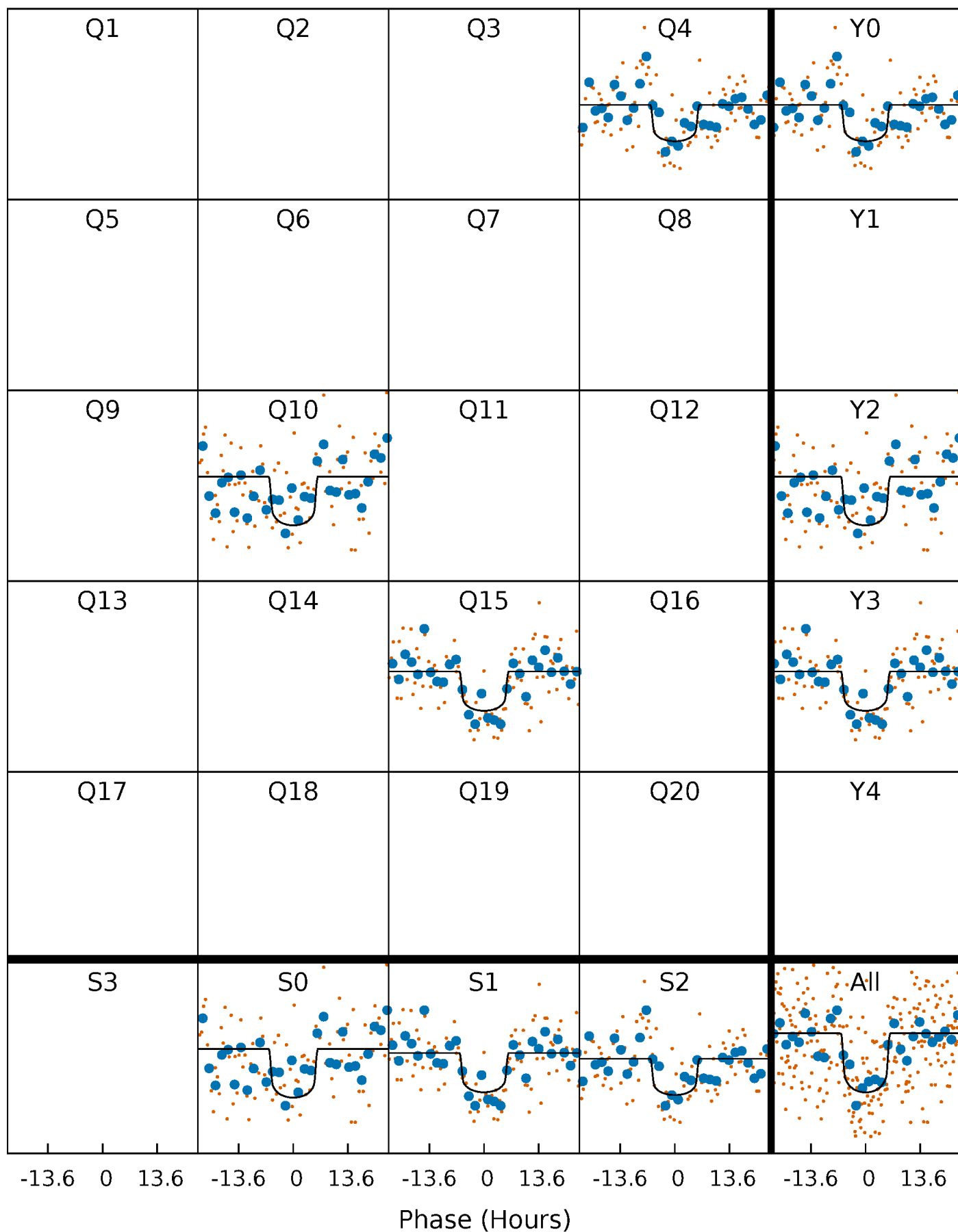
PDC Quarter-Phased Transit Curves

TCE 007180745-01 P=508.702400 Days $T_0=406.471384$ (BKJD)



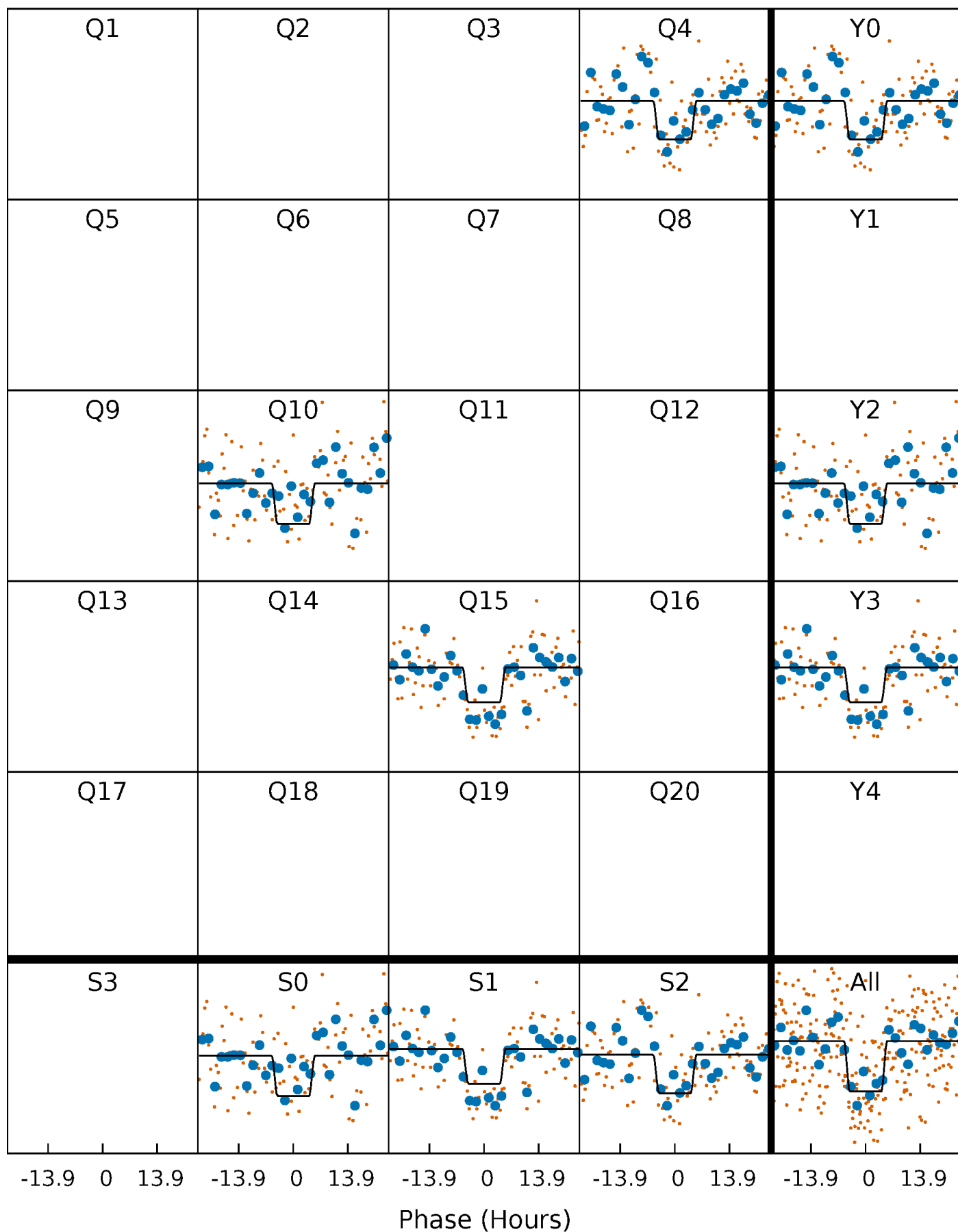
DV Quarter-Phased Transit Curves

TCE 007180745-01 P=508.702400 Days $T_0=406.471384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

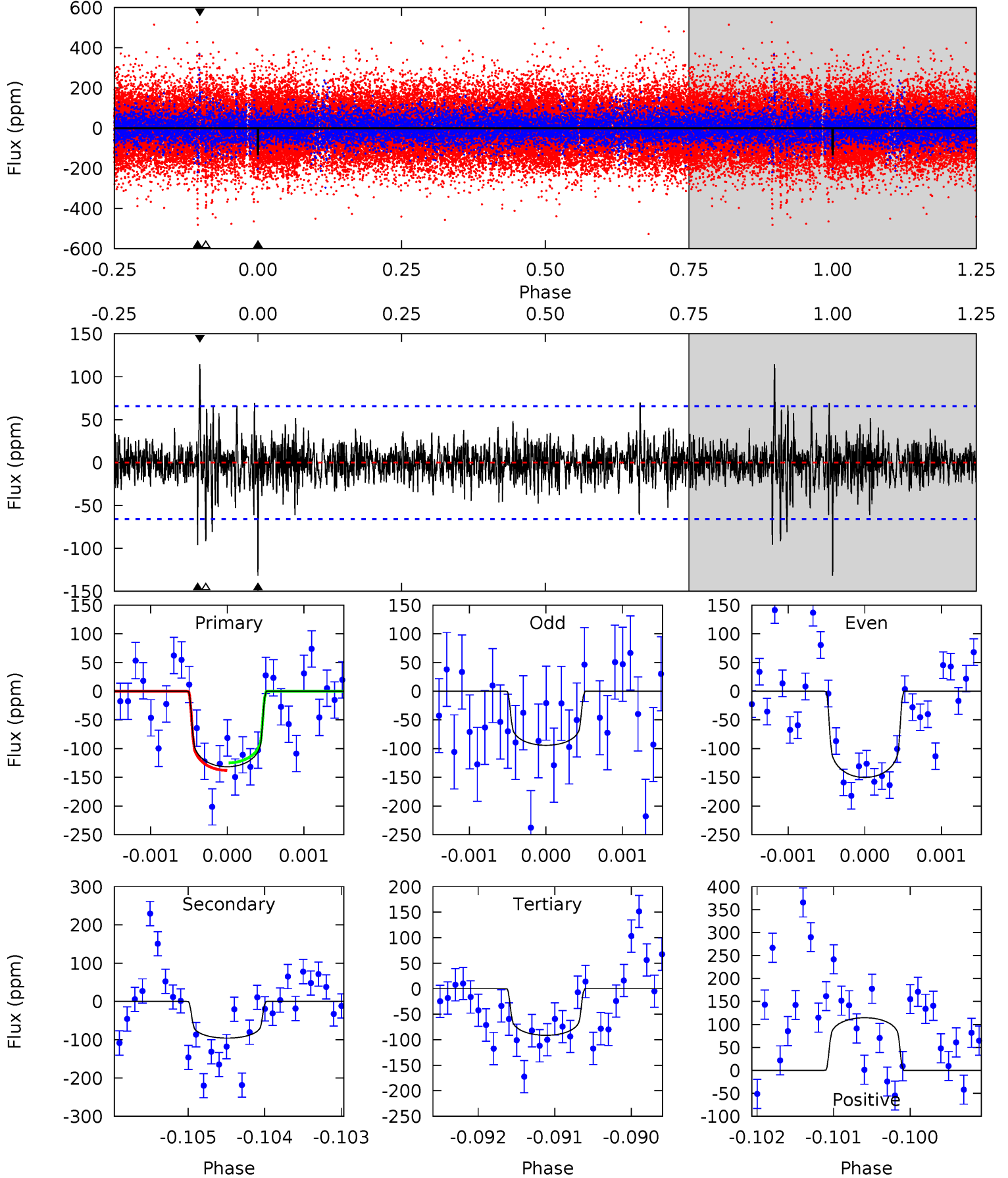
TCE 007180745-01 P=508.707099 Days $T_0=406.475206$ (BKJD)



DV Model-Shift Uniqueness Test

007180745-01, P = 508.702400 Days, E = 406.471384 Days

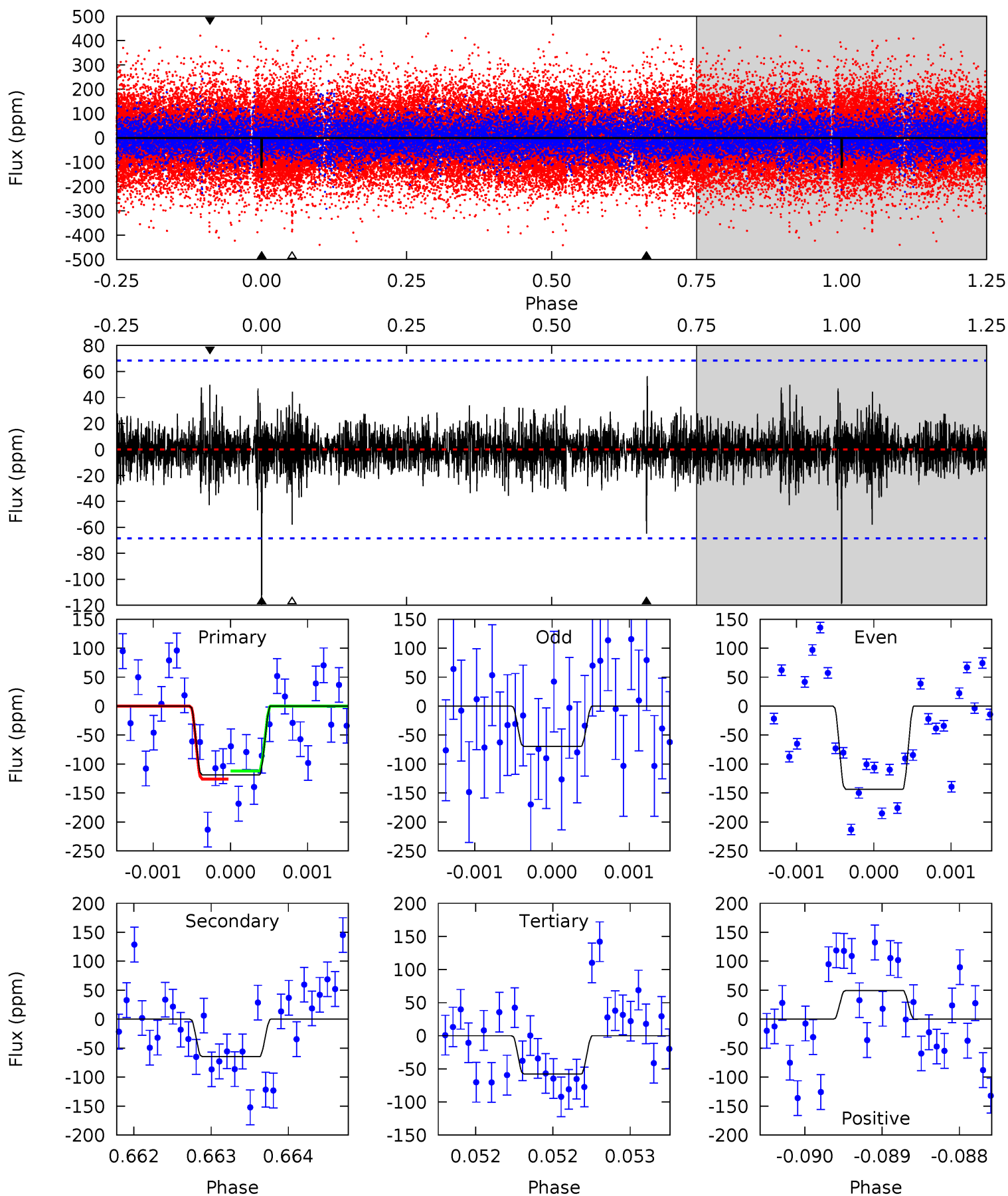
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	7.94	7.58	9.51	5.45	3.29	1.36	3.34	1.41	0.37	-1.56	2.21	1.04	0.47	0.54



Alt Model-Shift Uniqueness Test

007180745-01, P = 508.707099 Days, E = 406.475206 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.51	5.18	4.62	3.97	5.48	3.33	0.88	4.88	5.54	0.56	1.22	2.80	1.13	0.32	0.56



Stellar Parameters For KIC 007180745

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6385^{+155}_{-194}	$4.301^{+0.117}_{-0.143}$	$-0.240^{+0.250}_{-0.300}$	$1.203^{+0.265}_{-0.177}$	$1.052^{+0.152}_{-0.111}$	$0.851^{+0.441}_{-0.341}$
	+2%/-3%	+3%/-3%	+104%/-125%	+22%/-15%	+14%/-11%	+52%/-40%
Source	PHO1	FLK73	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 007180745-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-96 ± 12	$1.70^{+0.43}_{-0.39}$	383^{+22}_{-19}	5580^{+710}_{-527}	29428^{+20319}_{-10812}
Alt.	-65 ± 13	$1.51^{+0.41}_{-0.37}$	384^{+22}_{-20}	5334^{+829}_{-511}	24699^{+20494}_{-10272}

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

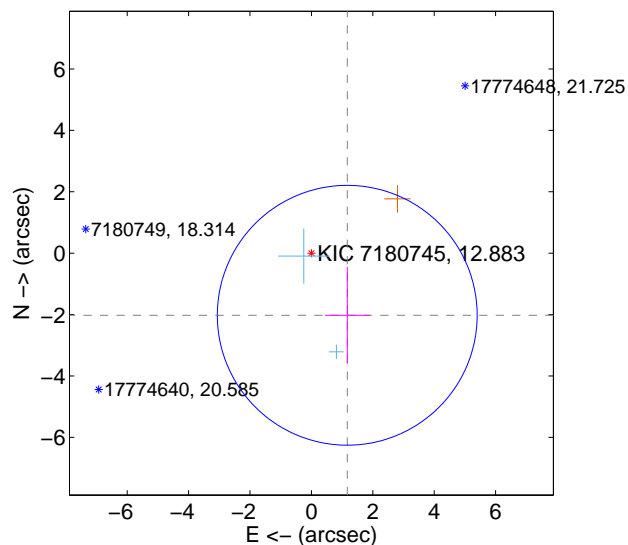
Supplemental centroid analysis for 007180745-01. Kepler magnitude: 12.88. Transit SNR 7.73

There are 2 quarters with good PRF difference image offsets

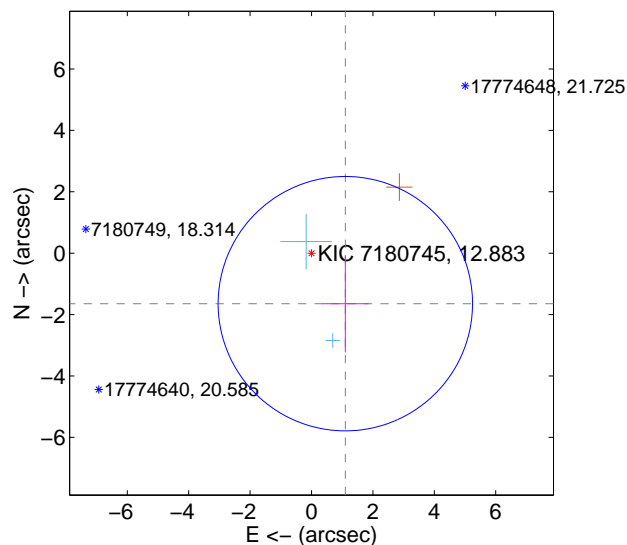
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.337 ± 1.411	1.66	-1.168 ± 0.727	-2.024 ± 1.574
PRF-fit source offset from KIC position	1.980 ± 1.381	1.43	-1.102 ± 0.757	-1.645 ± 1.583
photometric centroid source offset	1.09 ± 1.50	0.73	0.05 ± 1.54	-1.09 ± 1.50

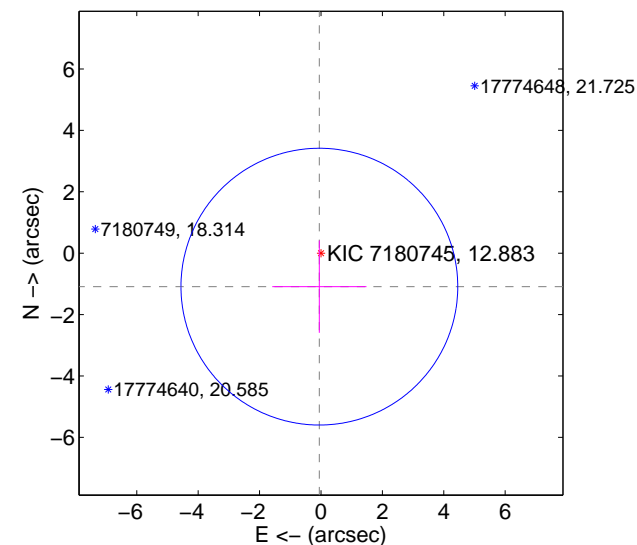
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

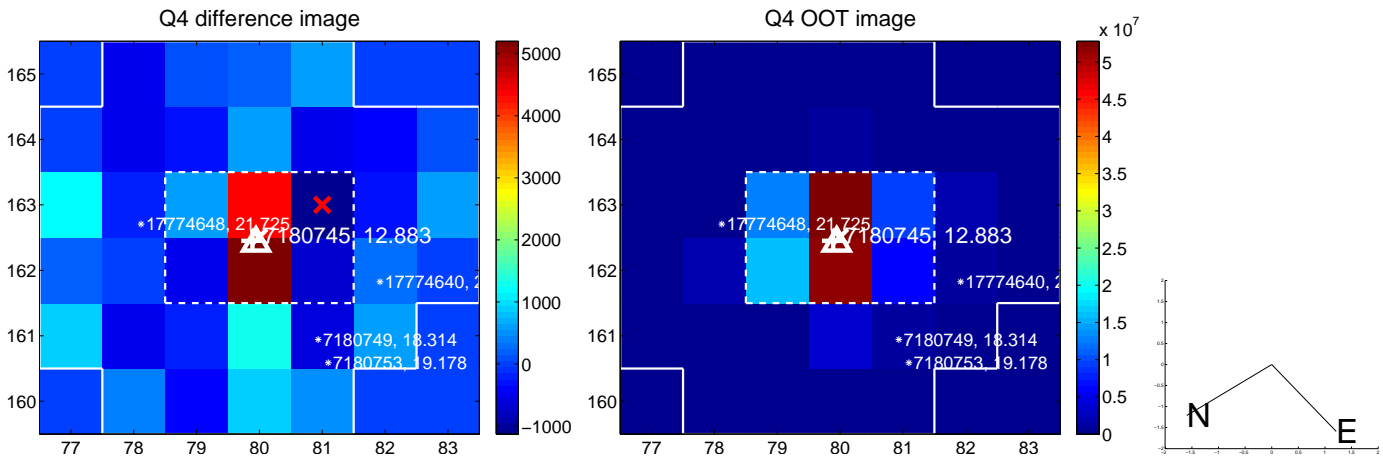


offset from photometric centroids



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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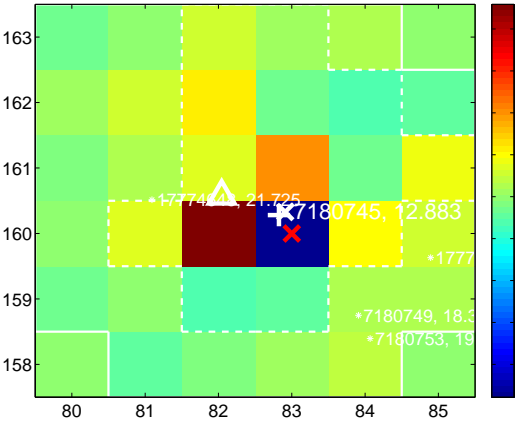
Q9 no difference image



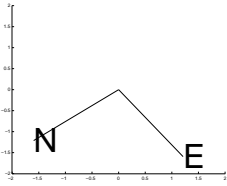
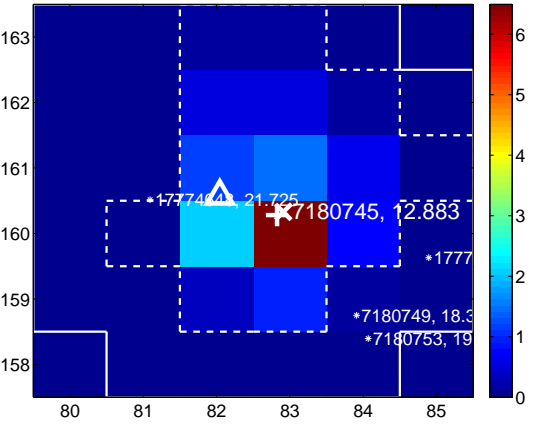
Q9 no OOT image



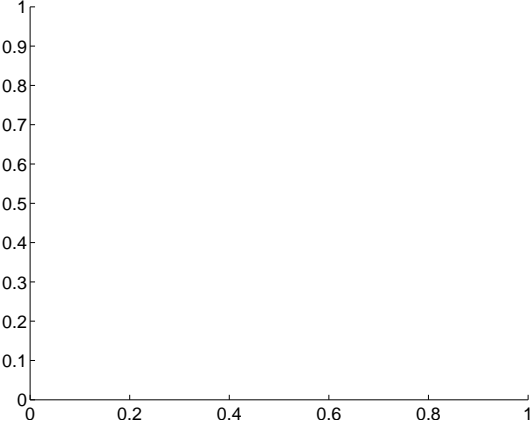
Q10 difference image. Poor Quality



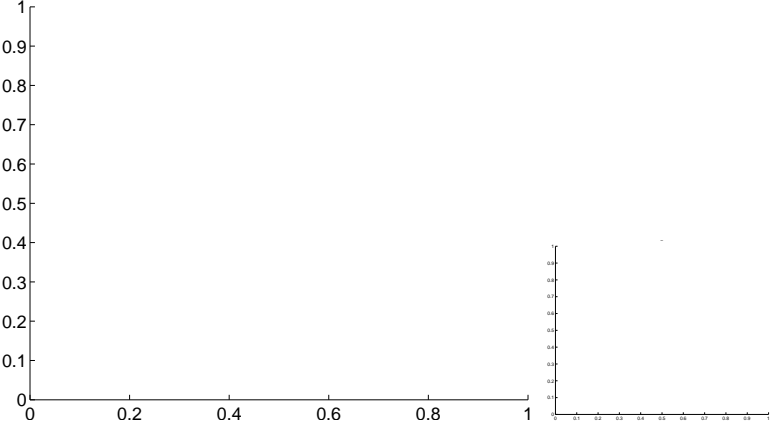
Q10 OOT image



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.

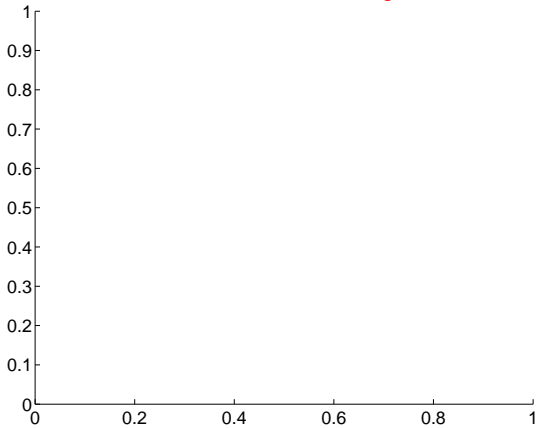
Q13 no difference image



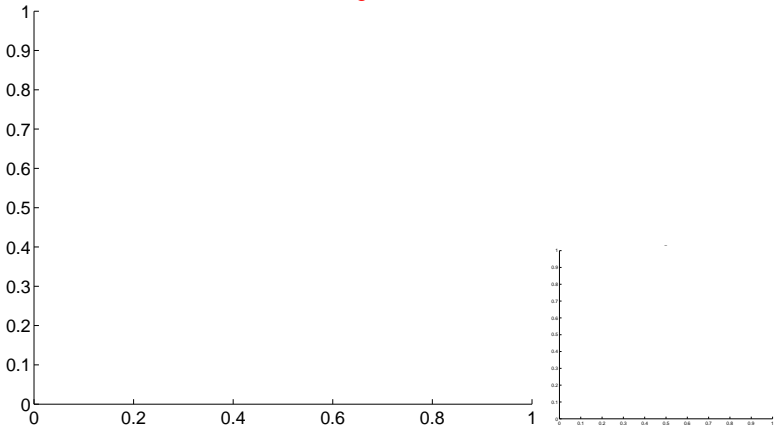
Q13 no OOT image



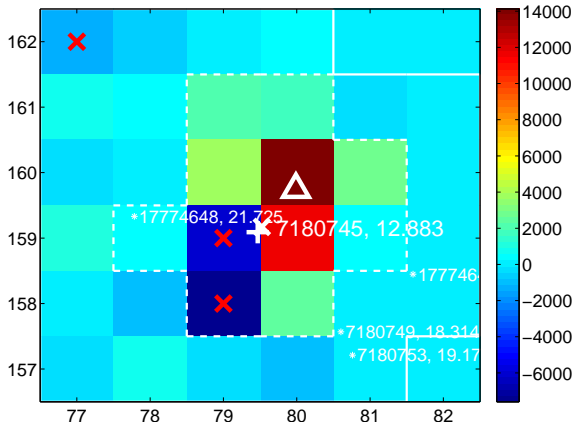
Q14 no difference image



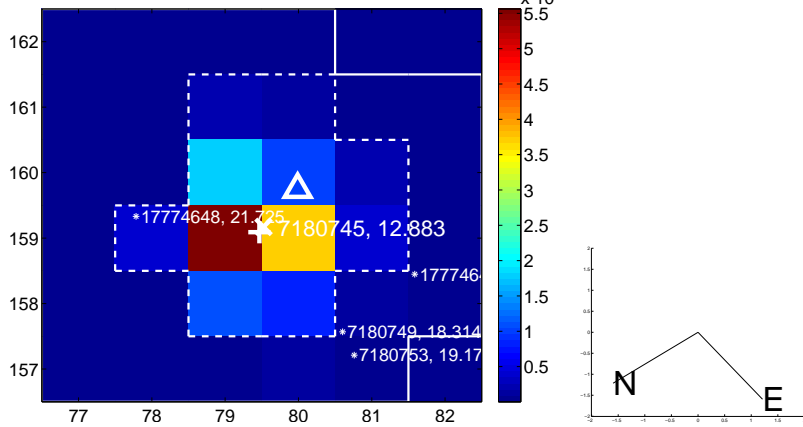
Q14 no OOT image



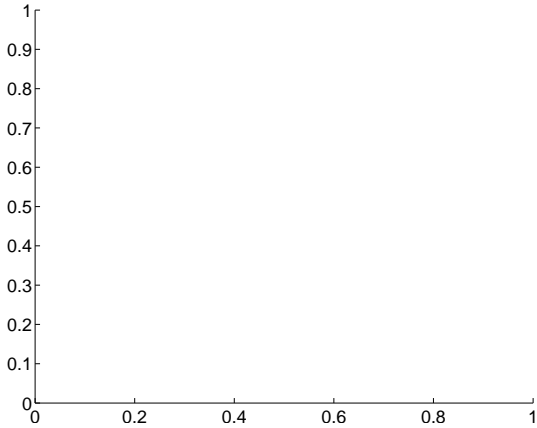
Q15 difference image



Q15 OOT image



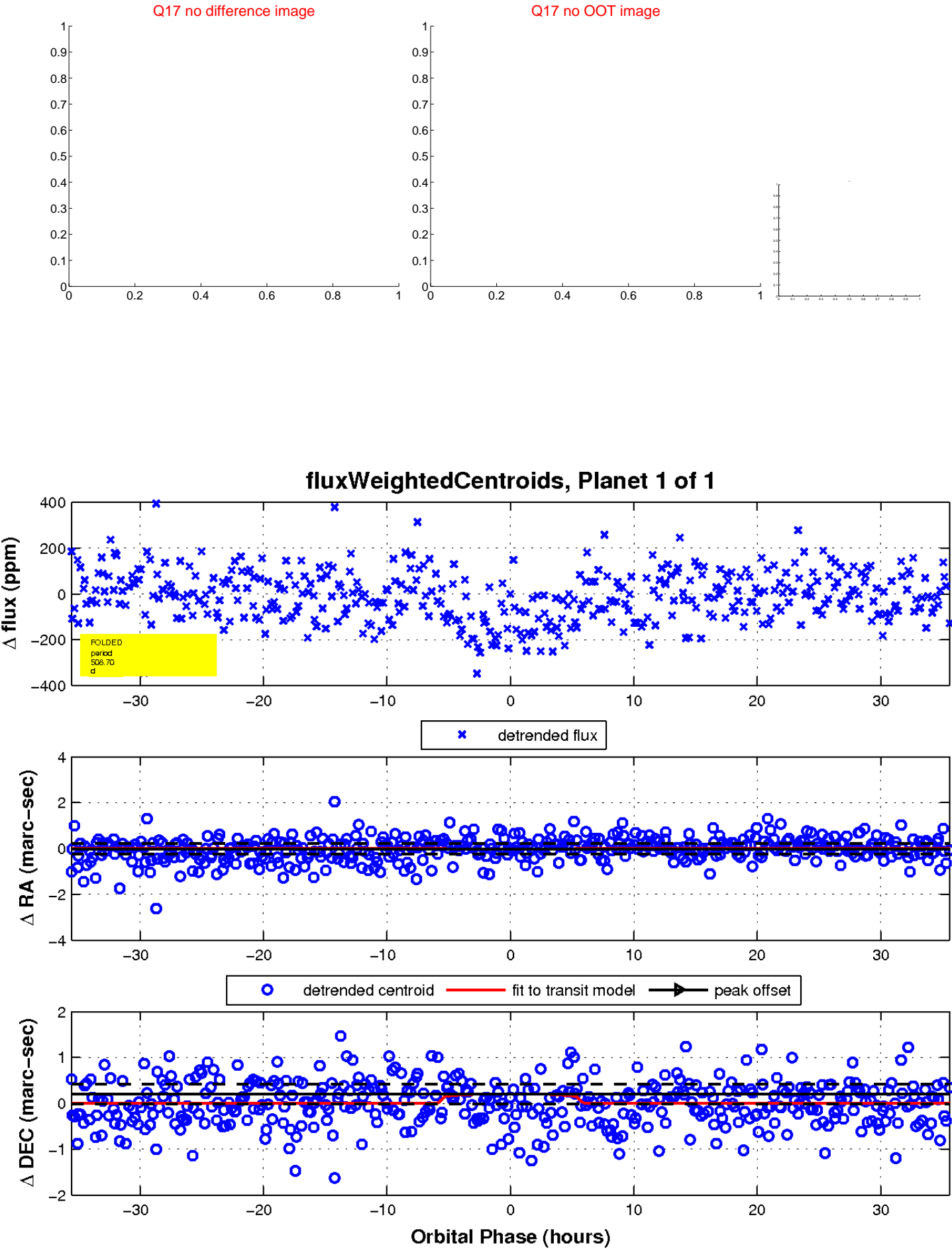
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

