

KIC 009513168

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})
009513168-01	OBS	7182.01	6.853754	136.546769	678.0	3.201	7.5	7.5	0.68	4199	2.55	33.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009513168-01	OBS	PC	0.99	0	0	0	0	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.

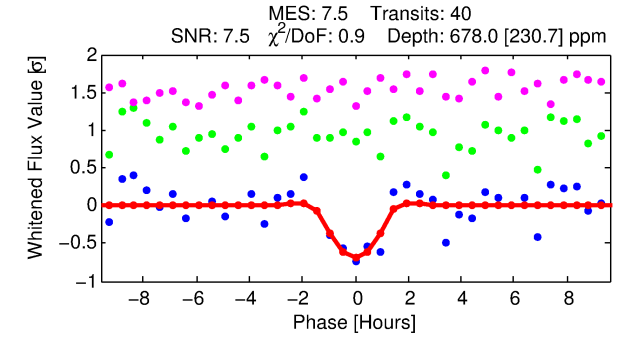
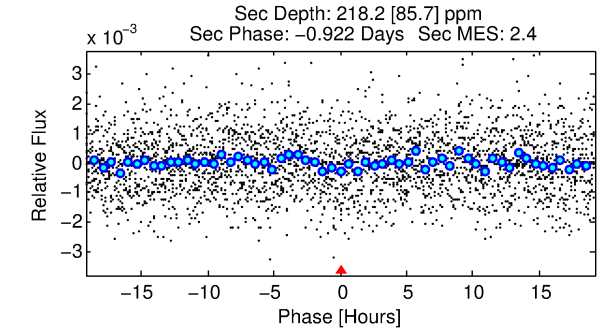
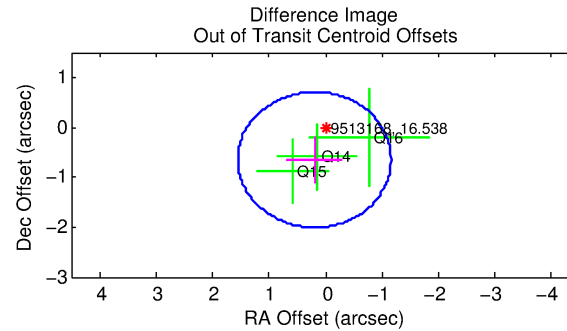
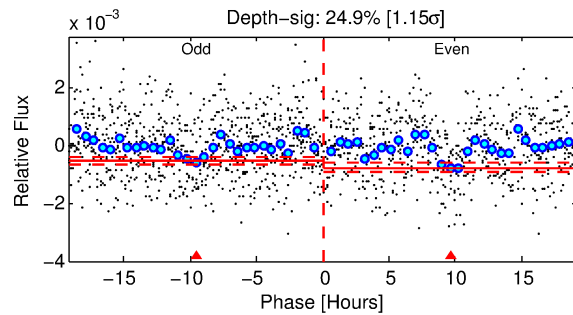
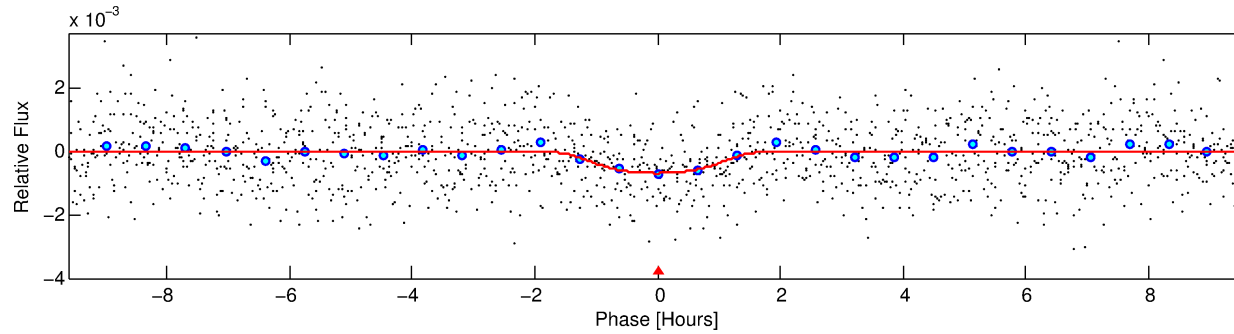
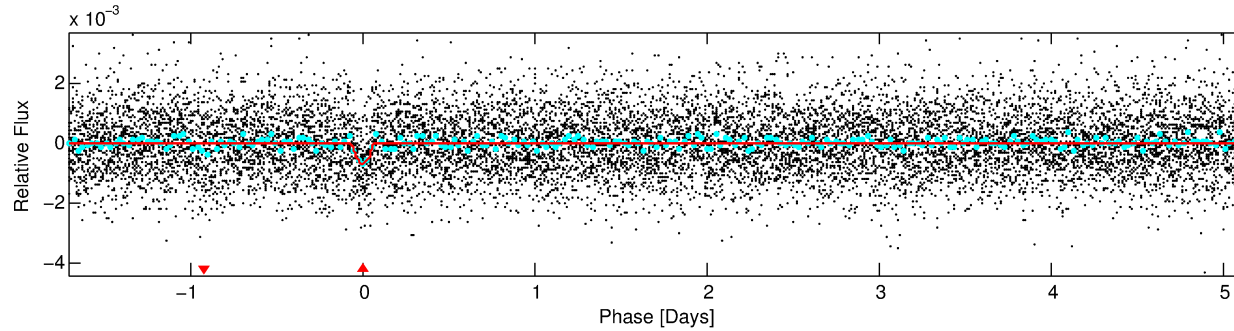
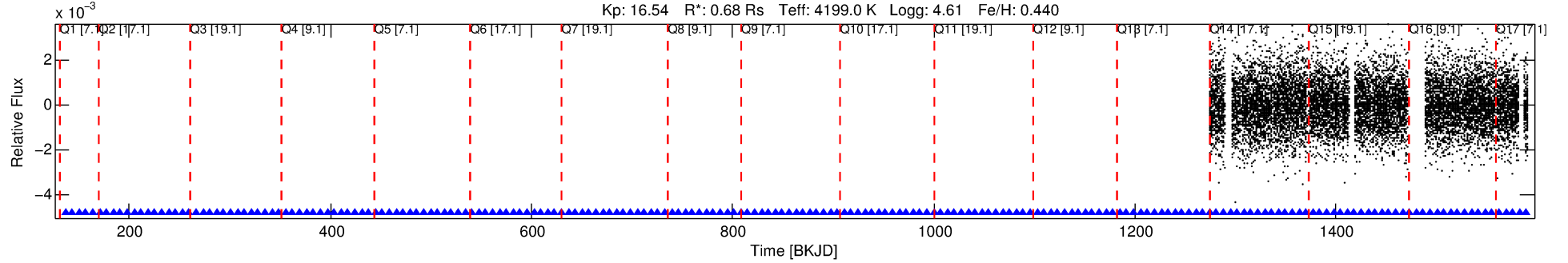
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009513168-01

No Significant Match Found

DV One-Page Summary

KIC: 9513168 Candidate: 1 of 1 Period: 6.854 d
KOI: K07182.01 Corr: 0.881



DV Fit Results:

Period = 6.85375 [0.00014] d
Epoch = 136.5468 [0.0247] BKJD
Rp/R* = 0.0341 [0.0120]
a/R* = 6.12 [3.19]
b = 0.97 [0.05]
Seff = 33.34 [5.91]
Teq = 613 [27] K
Rp = 2.55 [0.92] Re
a = 0.0625 [0.0040] AU
Ag = 72.28 [58.58] [1.22 σ]
Teffp = 2762 [566] K [3.79 σ]

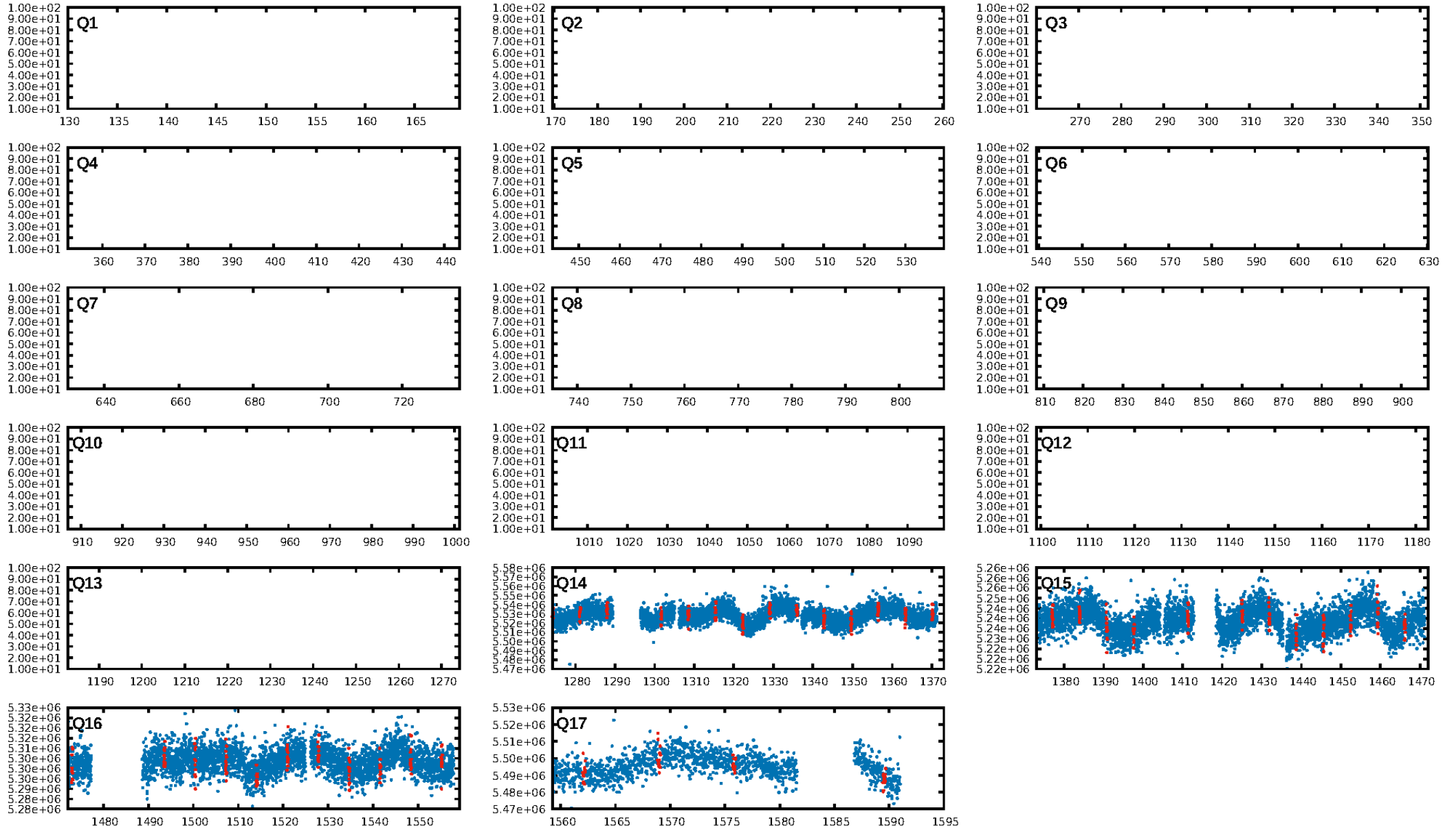
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.10e-14
RollingBand-fgt: 1.00 [36/36]
GhostDiagnostic-chr: 53.97
Centroid-sig: 39.5%
Centroid-so: 1.949 arcsec [0.86 σ]
OotOffset-rm: 0.682 arcsec [1.51 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.322 arcsec [0.68 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

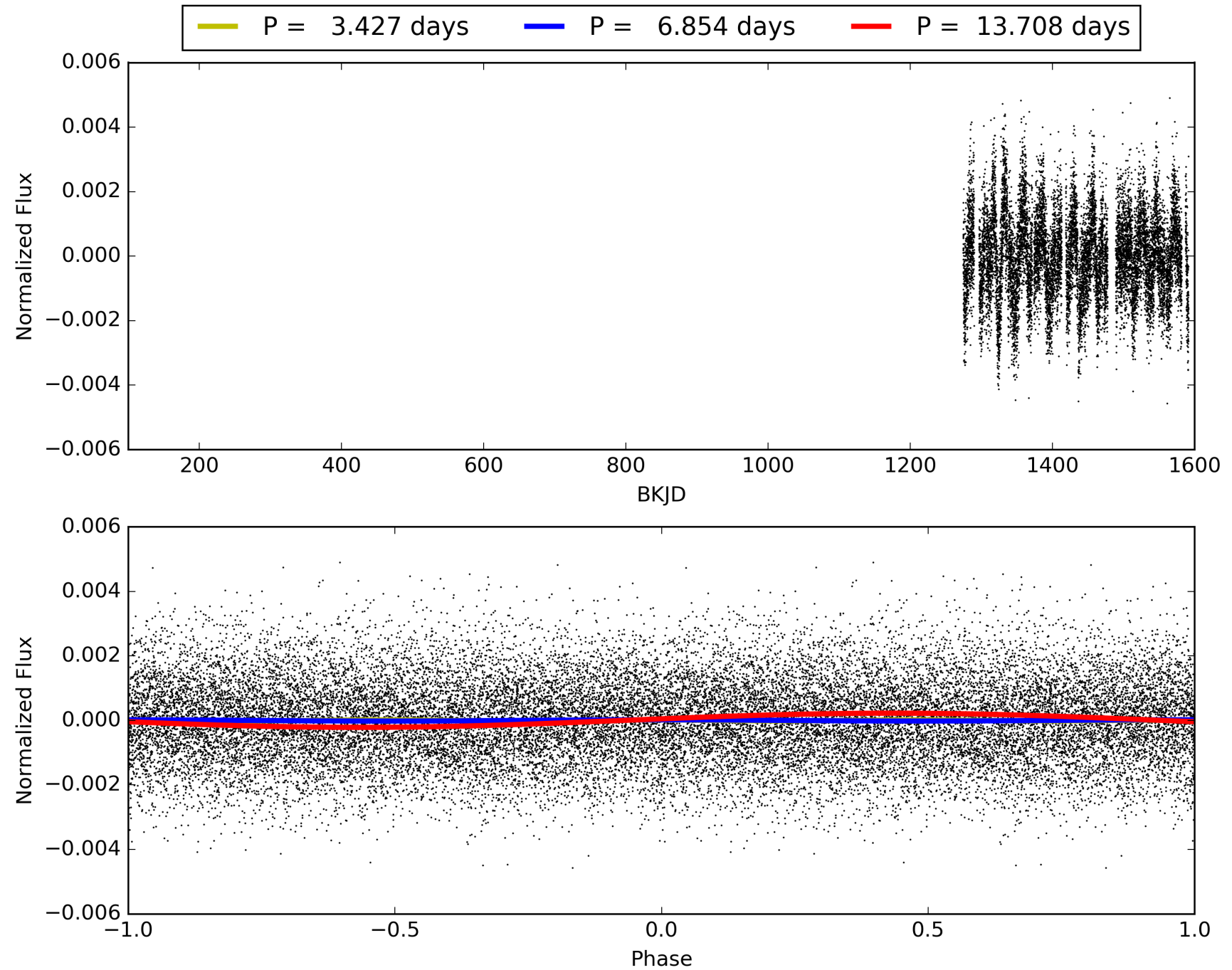
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:00:48 Z

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

TCE 009513168-01, PDC Light Curves

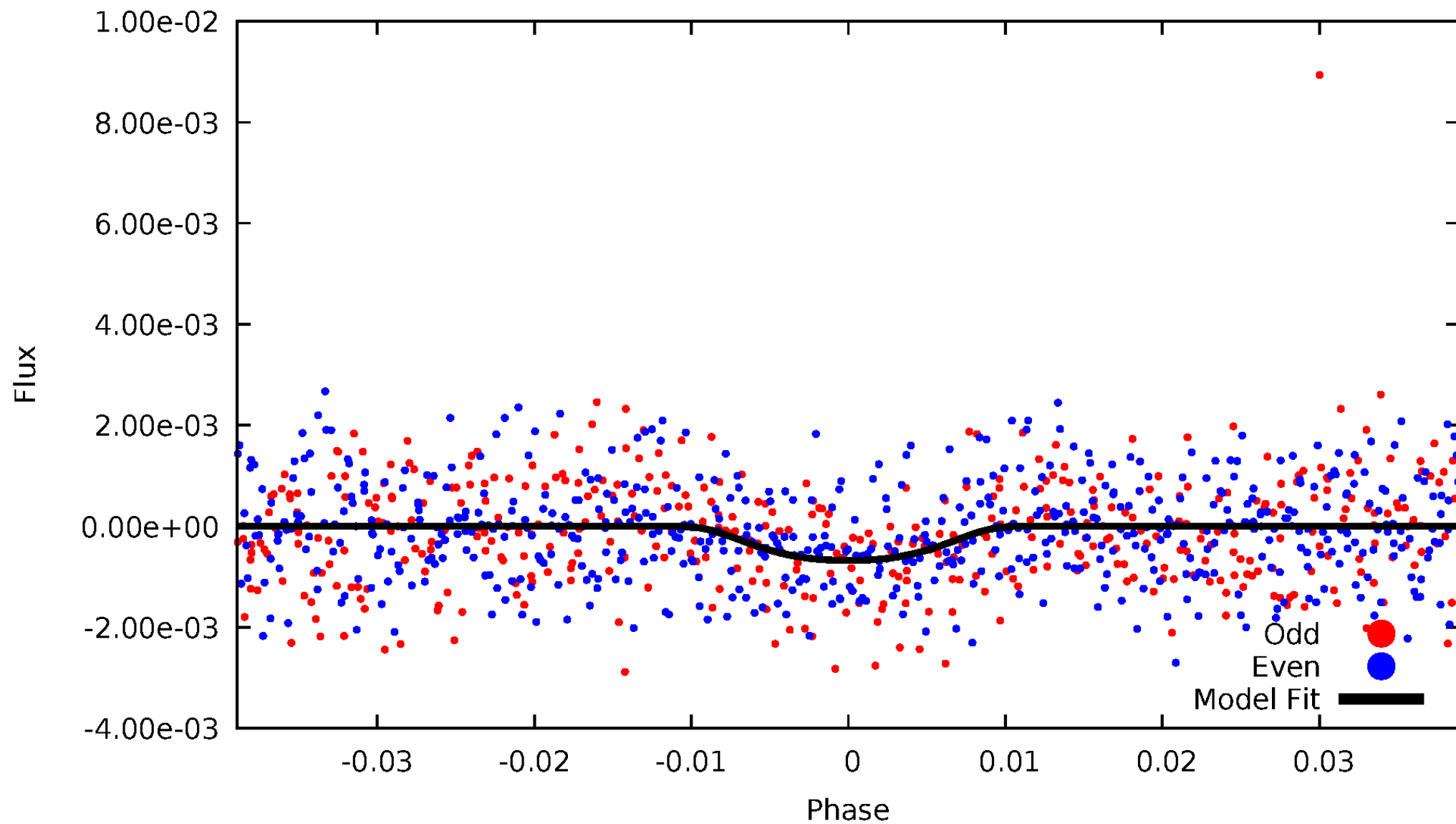


TCE 009513168-01



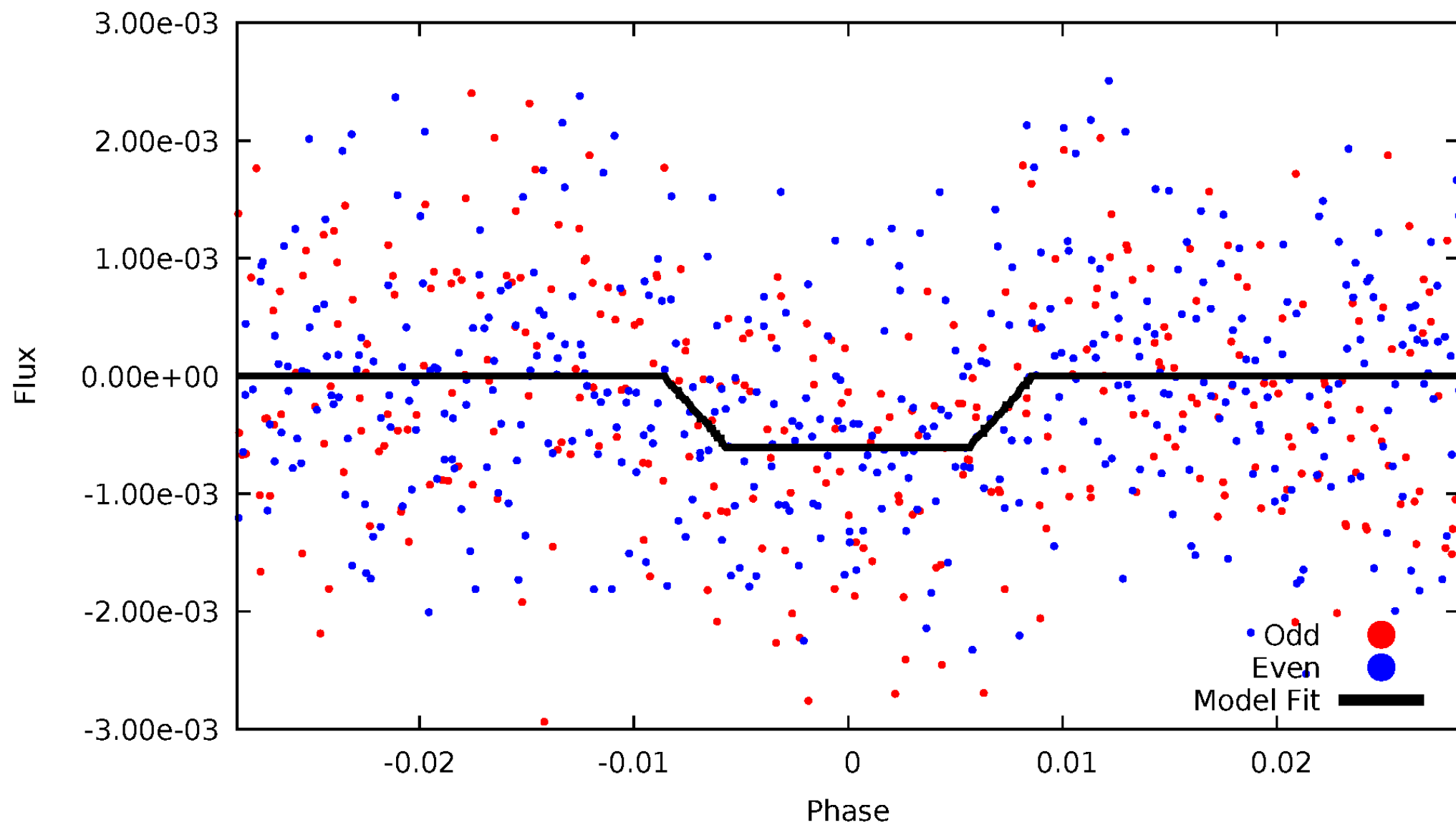
DV Odd/Even

TCE 009513168-01

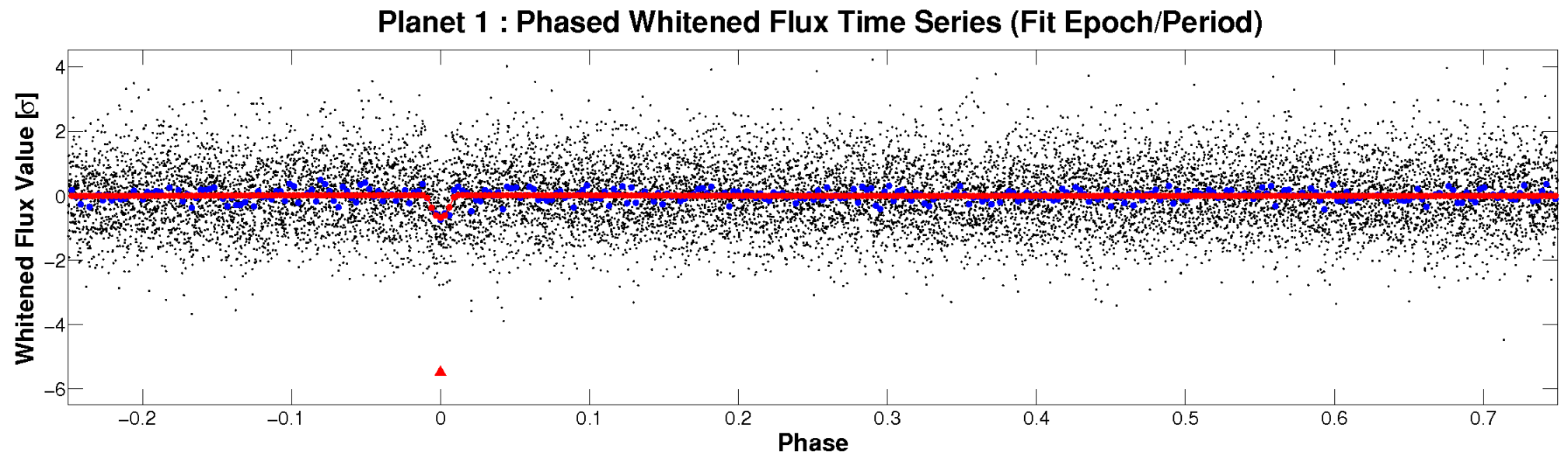
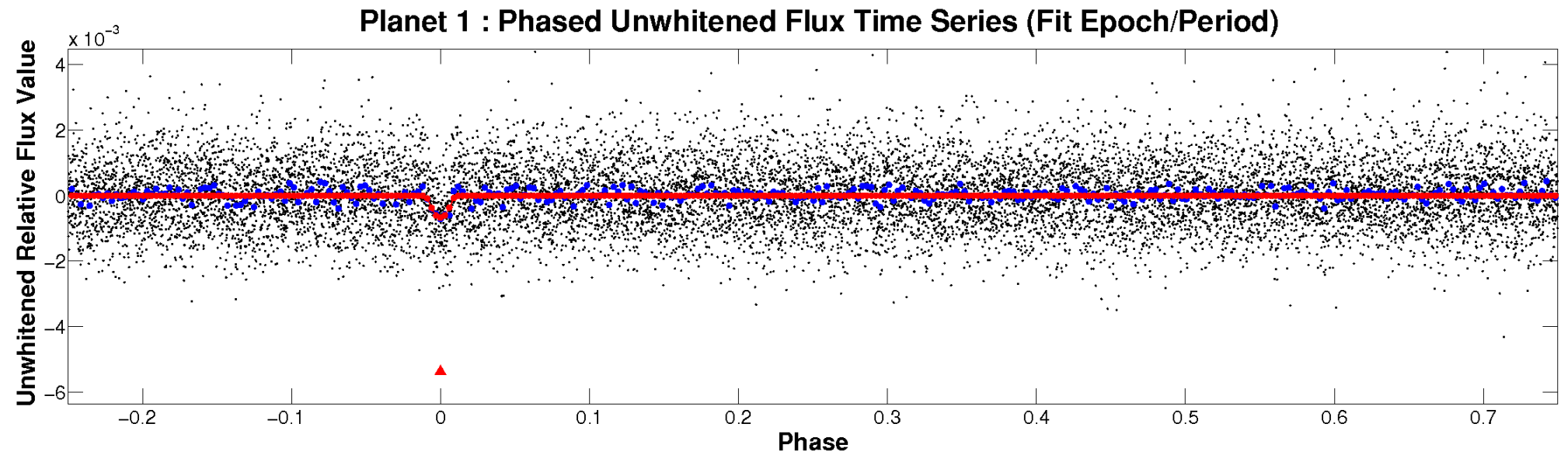


ALT Odd/Even

TCE 009513168-01

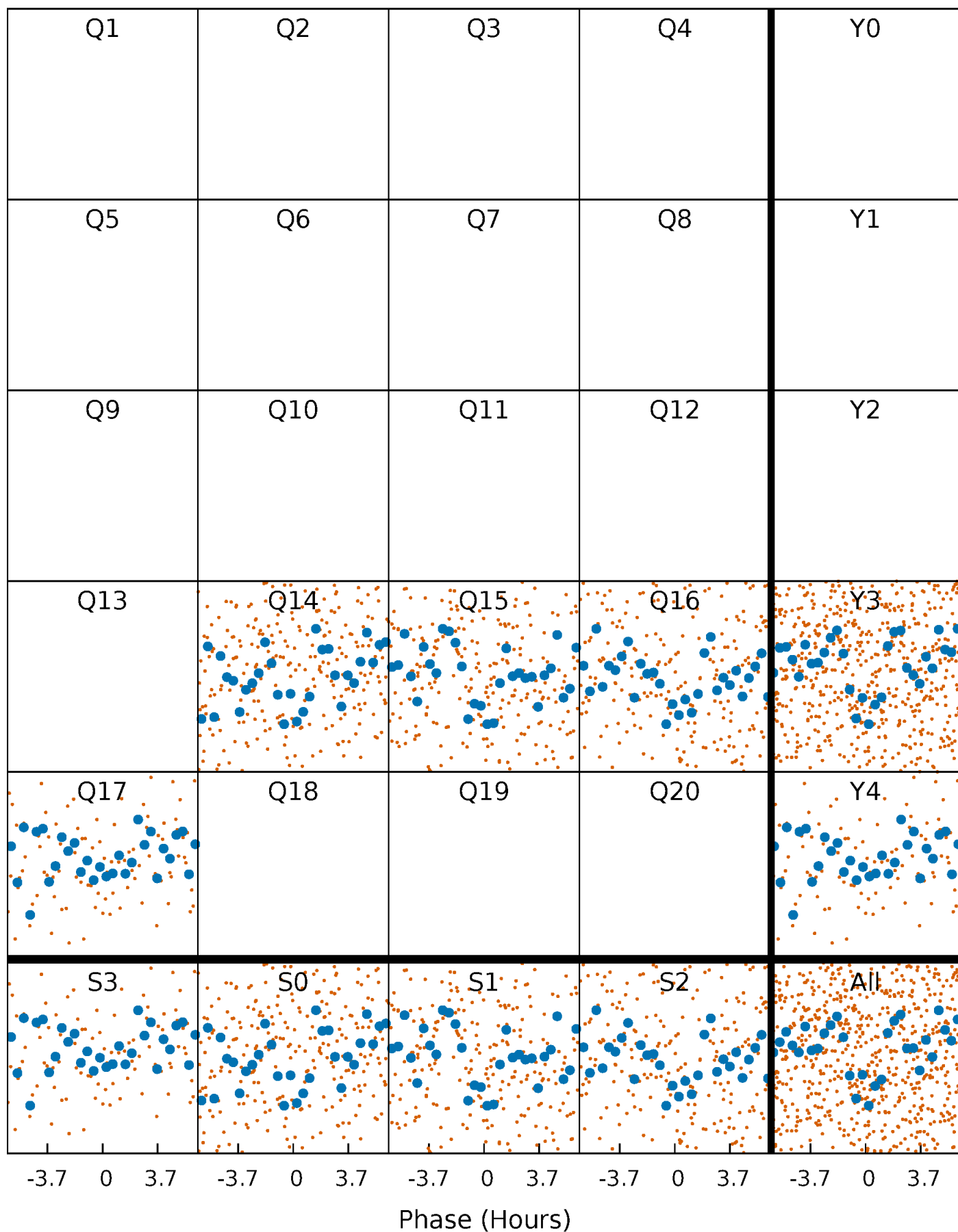


Non-Whitened Vs. Whitened Light Curve



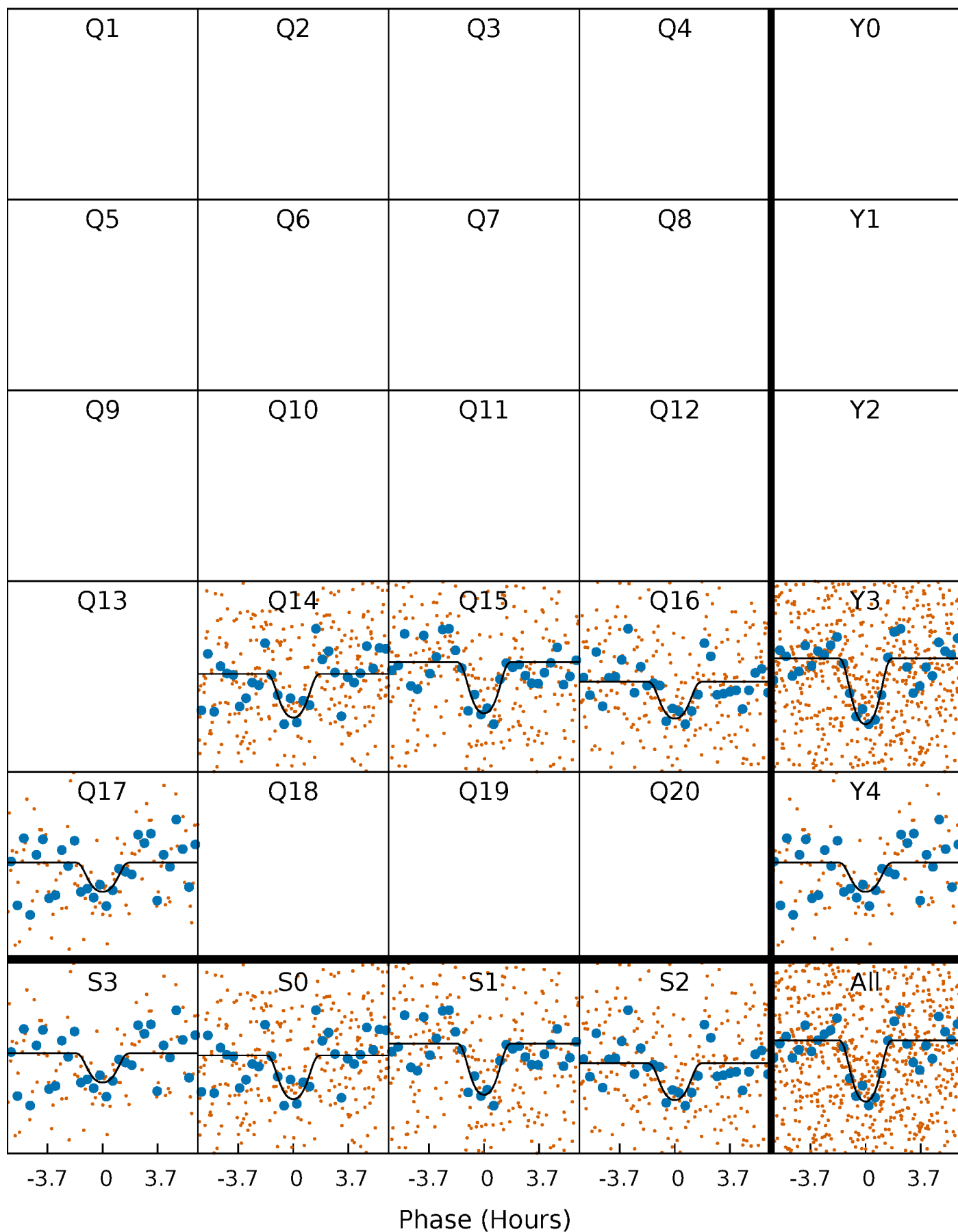
PDC Quarter-Phased Transit Curves

TCE 009513168-01 P= 6.853754 Days $T_0=136.546769$ (BKJD)



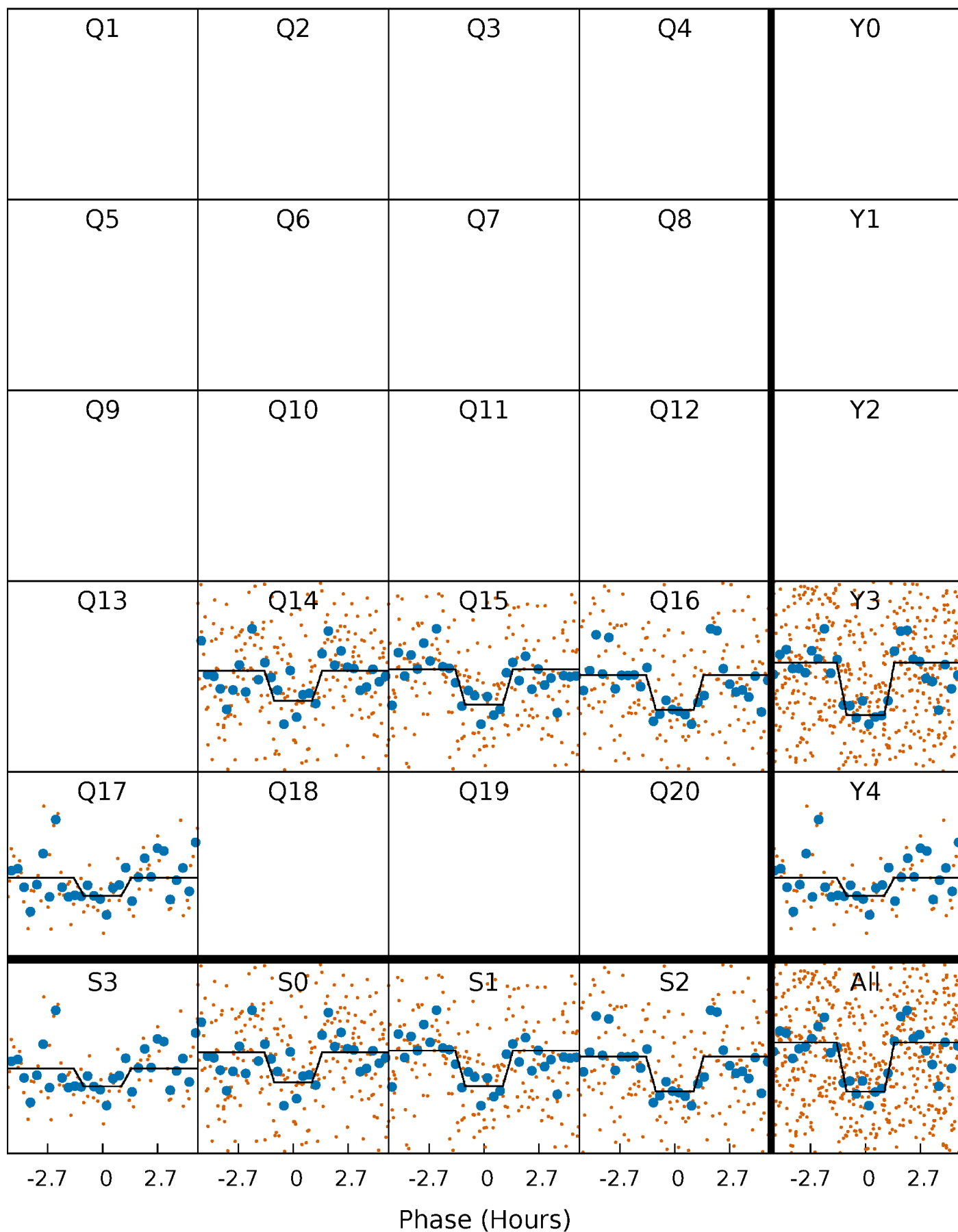
DV Quarter-Phased Transit Curves

TCE 009513168-01 P= 6.853754 Days $T_0=136.546769$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

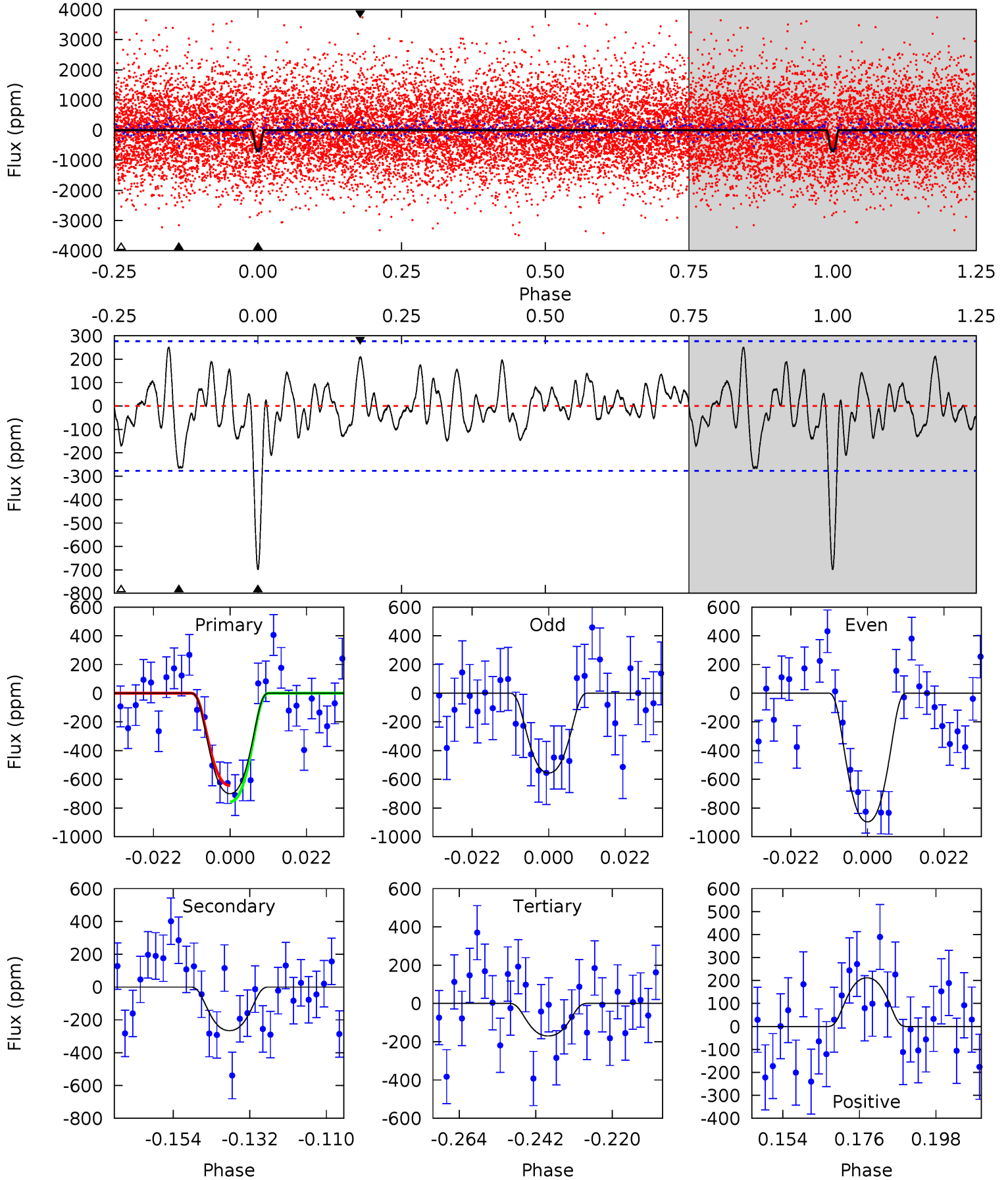
TCE 009513168-01 P= 6.854118 Days $T_0=136.481419$ (BKJD)



DV Model-Shift Uniqueness Test

009513168-01, P = 6.853754 Days, E = 136.546769 Days

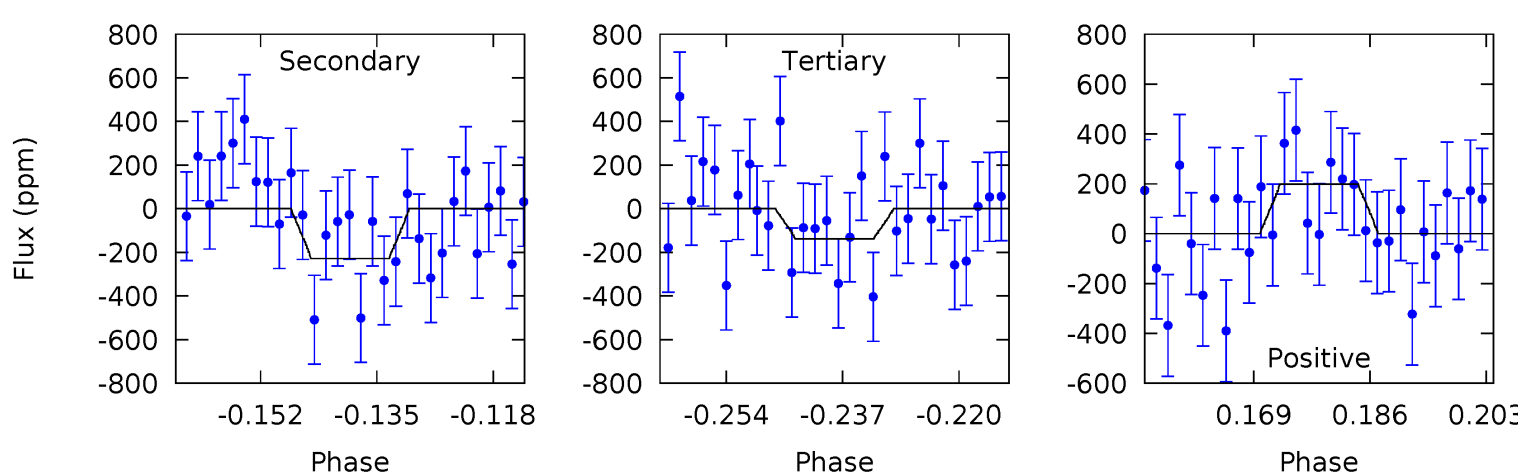
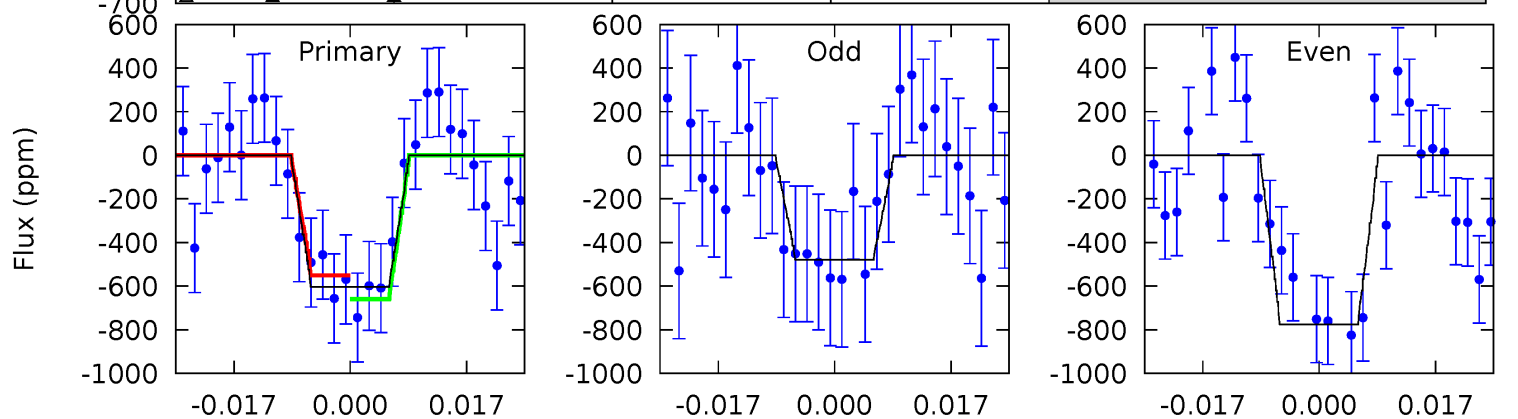
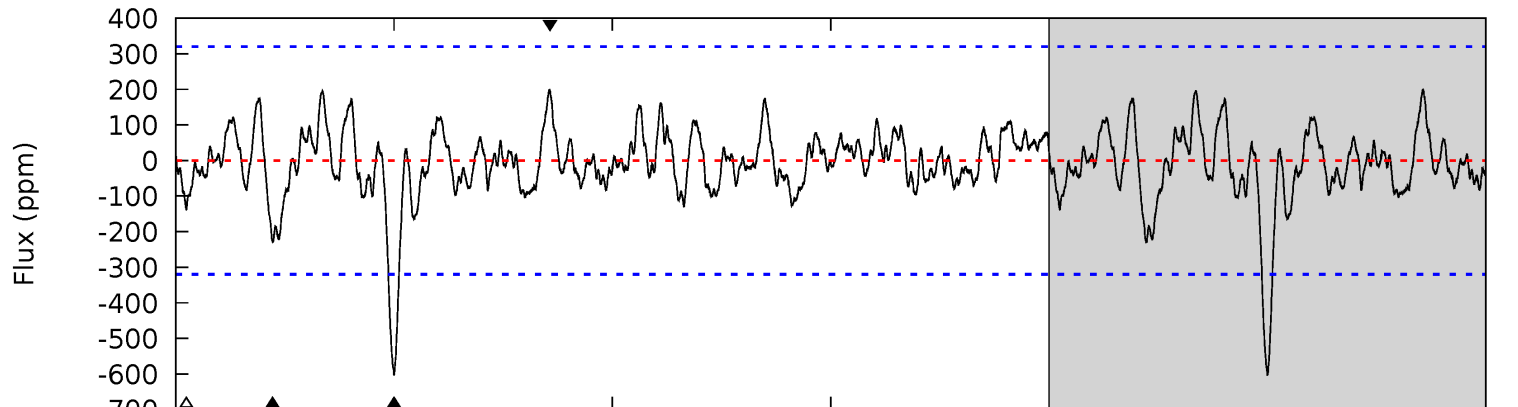
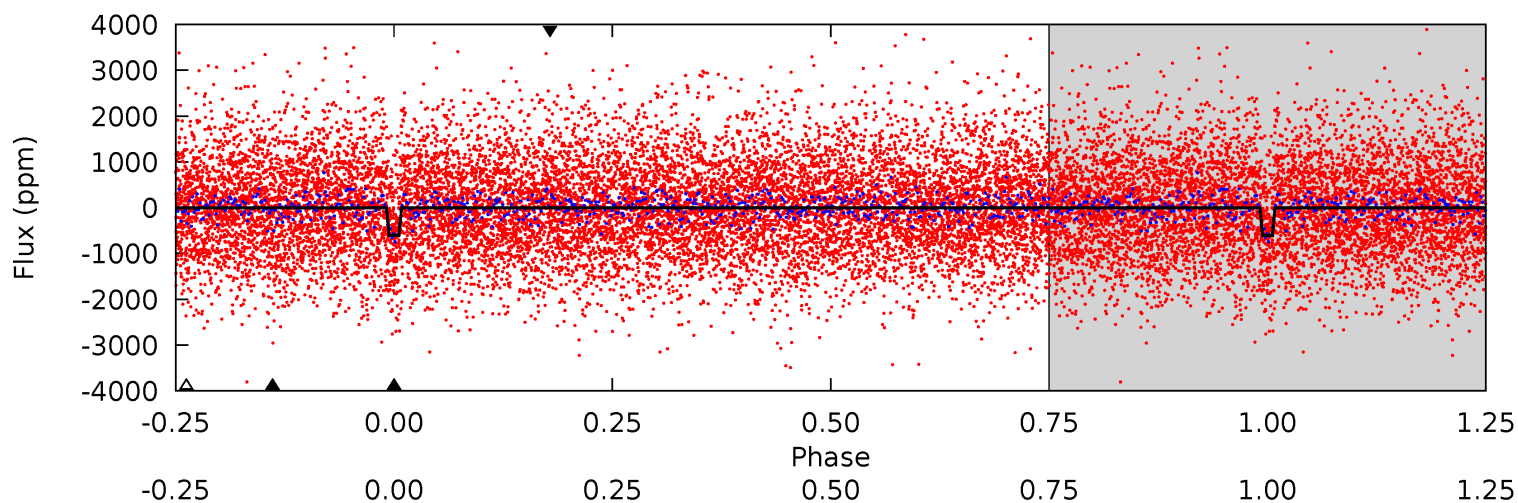
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	4.67	2.99	3.72	4.87	2.29	1.35	9.32	8.59	1.68	0.95	2.97	1.03	0.26	1.00



Alt Model-Shift Uniqueness Test

009513168-01, P = 6.854118 Days, E = 136.481419 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.29	3.51	2.13	3.06	4.92	2.39	1.03	7.16	6.24	1.38	0.45	2.27	0.95	0.25	0.84



Stellar Parameters For KIC 009513168

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4199^{+146}_{-161}	$4.609^{+0.046}_{-0.018}$	$0.440^{+0.050}_{-0.300}$	$0.684^{+0.023}_{-0.055}$	$0.694^{+0.034}_{-0.055}$	$3.049^{+0.682}_{-0.222}$
	+3%/-4%	+1%/-0%	+11%/-68%	+3%/-8%	+5%/-8%	+22%/-7%
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 009513168-01 / KOI 7182.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-266 ± 57	$2.58^{+0.86}_{-0.86}$	851^{+32}_{-36}	3258^{+480}_{-306}	86^{+112}_{-40}
Alt.	-228 ± 65	$1.85^{+0.89}_{-0.84}$	850^{+32}_{-35}	3536^{+812}_{-440}	141^{+321}_{-80}

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

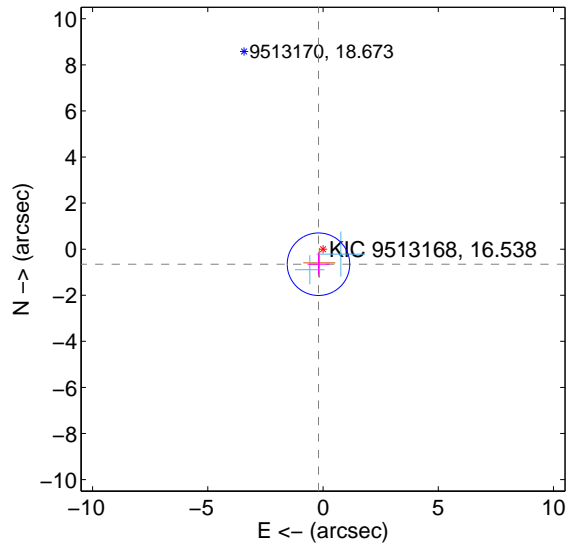
Supplemental centroid analysis for 009513168-01. Kepler magnitude: 16.54. Transit SNR 7.54

There are 2 quarters with good PRF difference image offsets

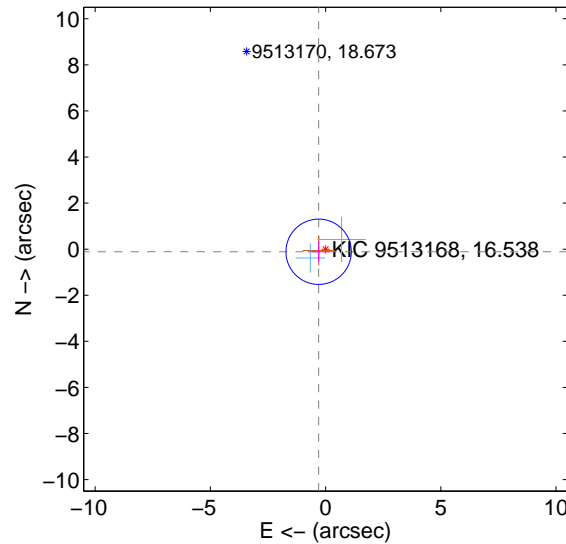
The direct PRF centroid is offset from the target star catalog position by about 0.64 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.682 ± 0.452	1.51	0.197 ± 0.476	-0.653 ± 0.450
PRF-fit source offset from KIC position	0.322 ± 0.473	0.68	0.302 ± 0.476	-0.112 ± 0.450
photometric centroid source offset	1.95 ± 2.27	0.86	1.90 ± 2.28	-0.45 ± 2.08

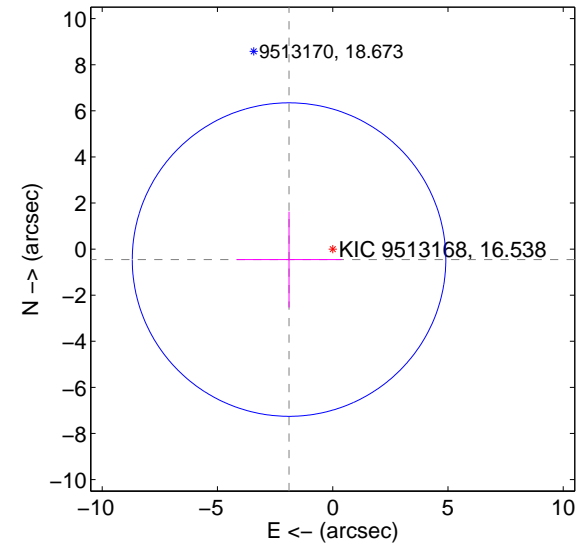
offset from difference PRF-fit to OOT PRF-fit



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.



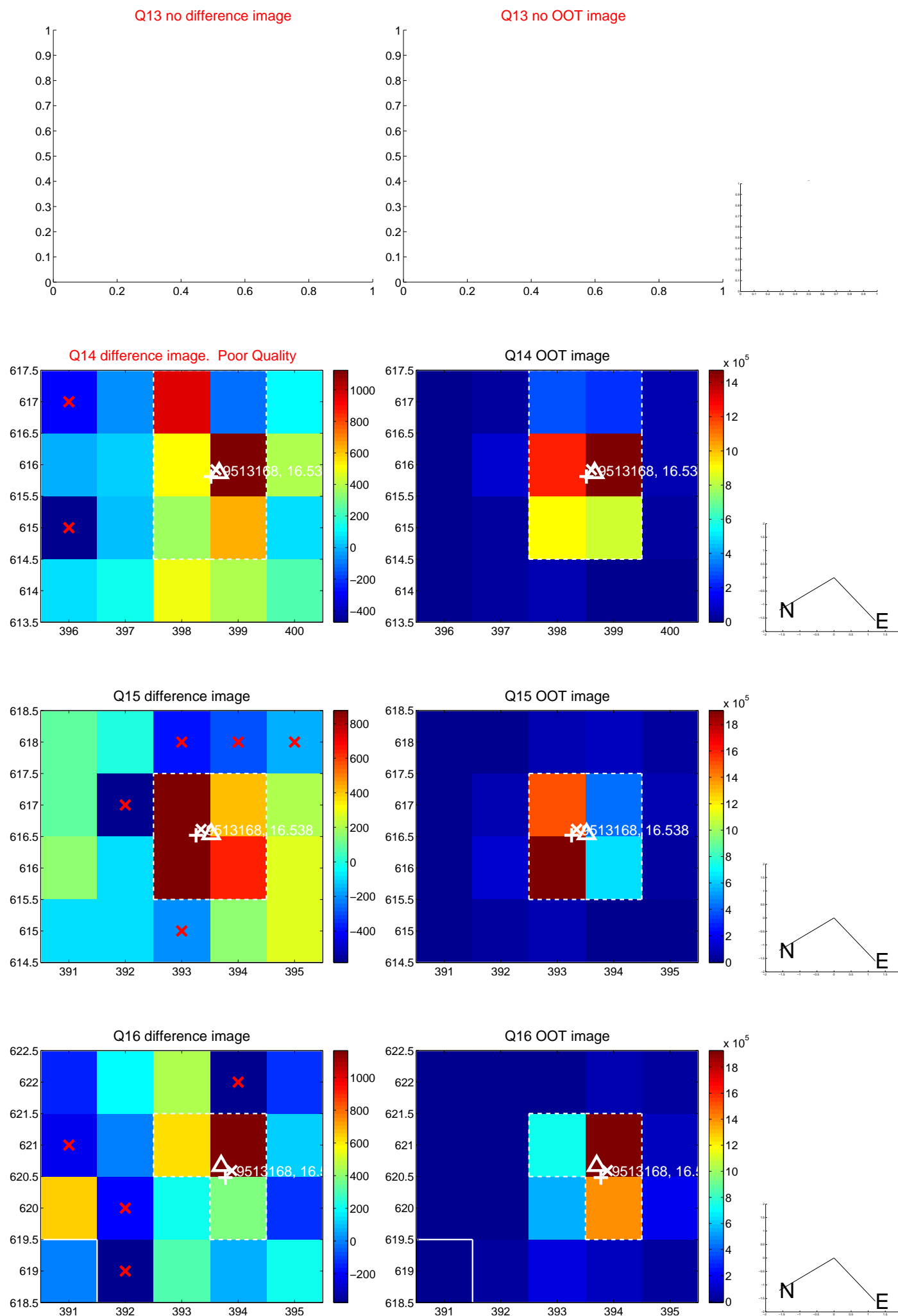
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



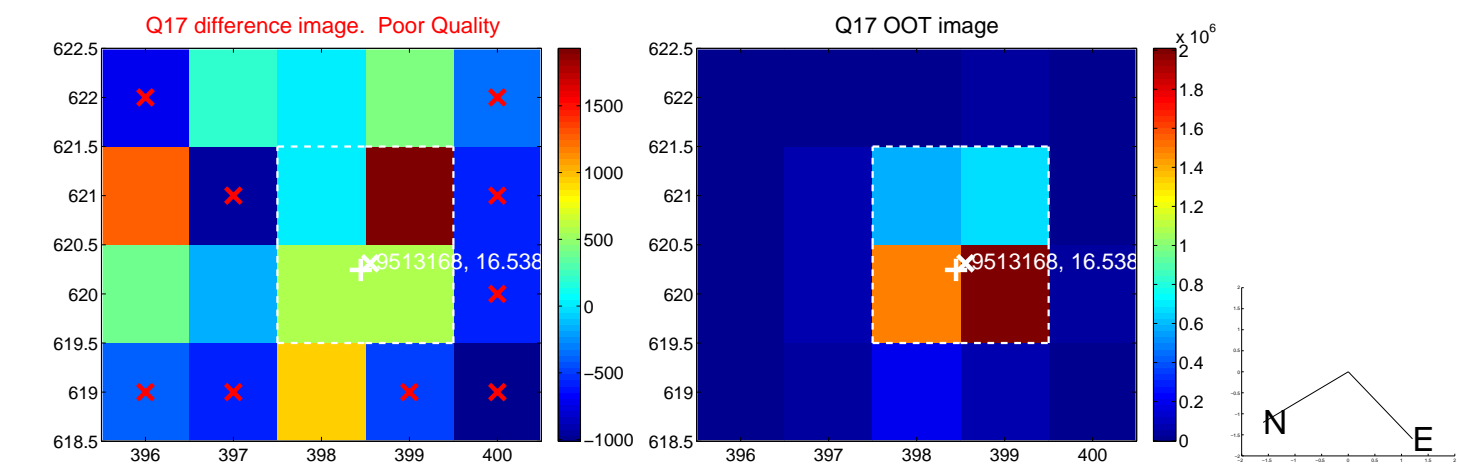
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



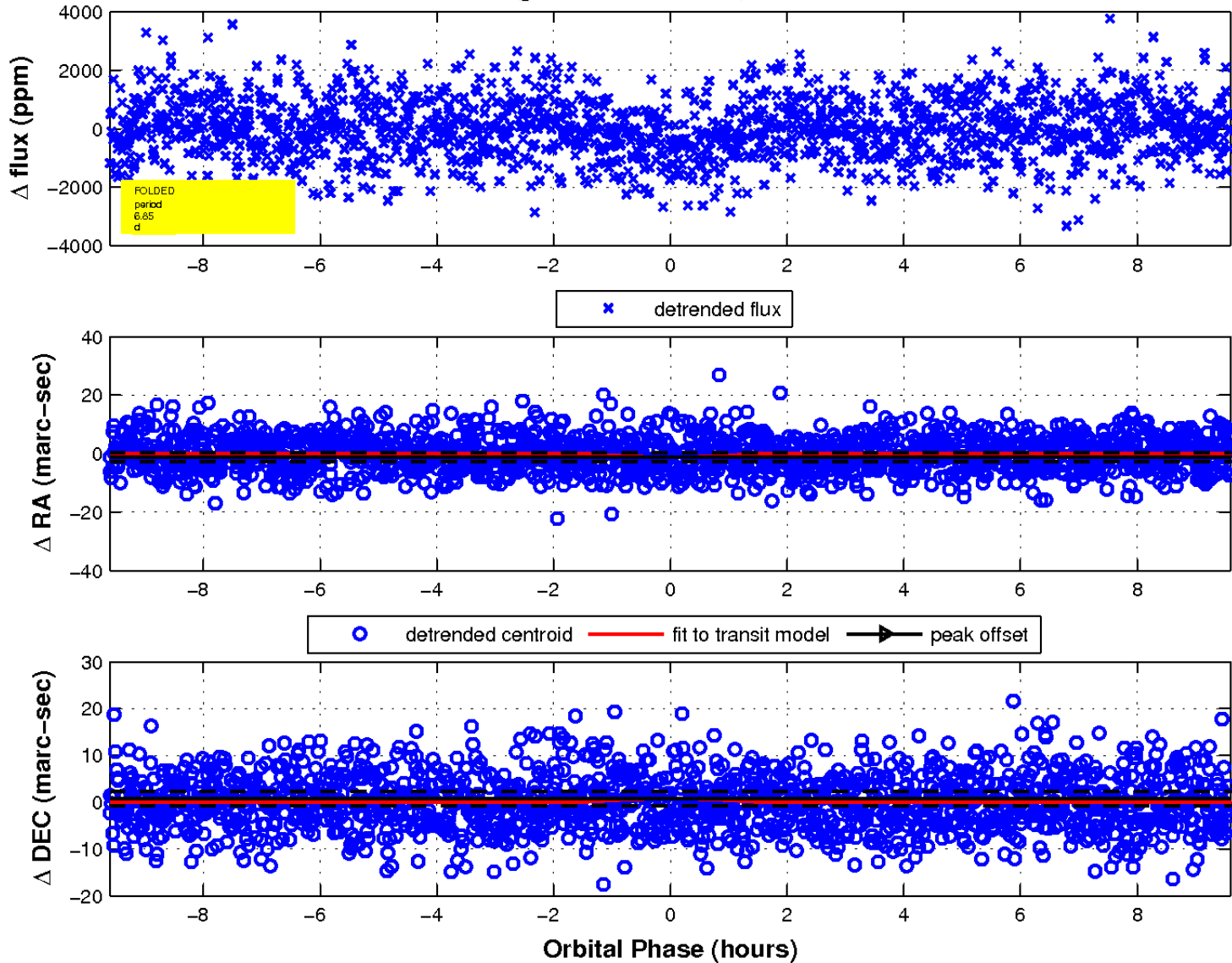
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

