

KIC 004566632

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})
004566632-01	OBS	No	241.514650	210.354205	1002.2	7.148	8.7	8.6	1.13	6363	3.86	2.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004566632-01	OBS	FP	0.00	1	0	1	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

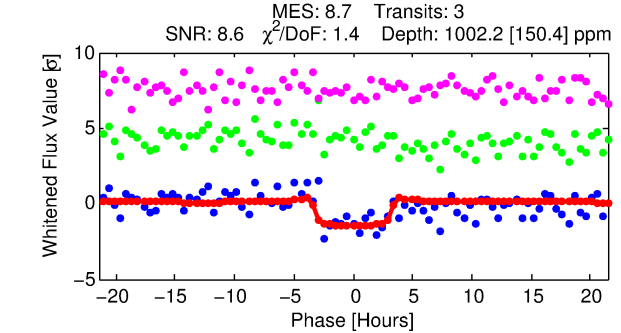
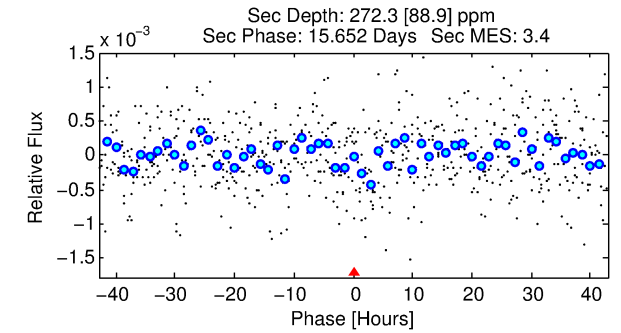
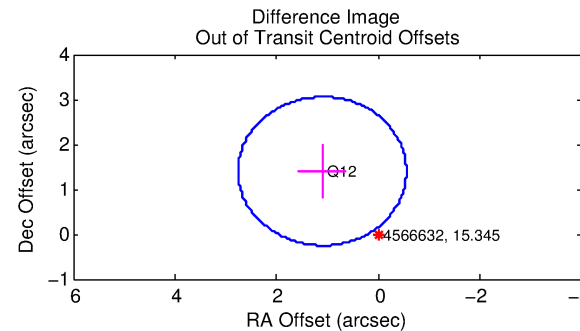
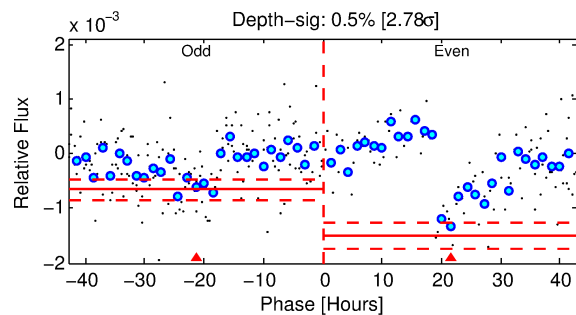
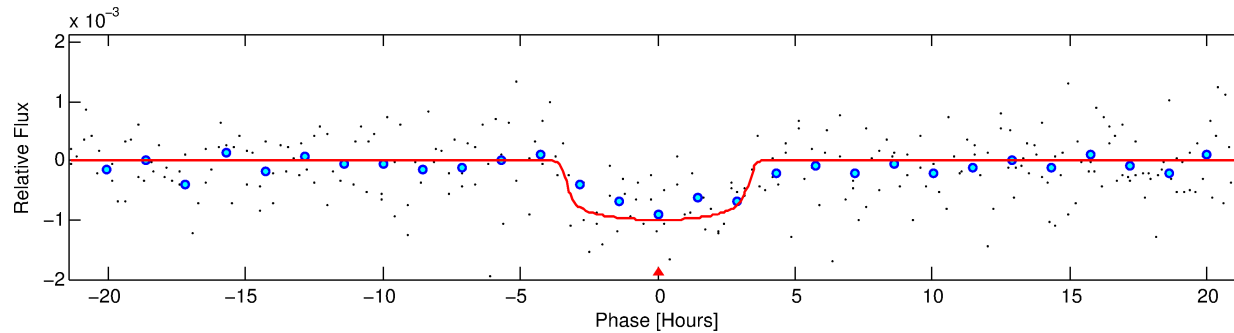
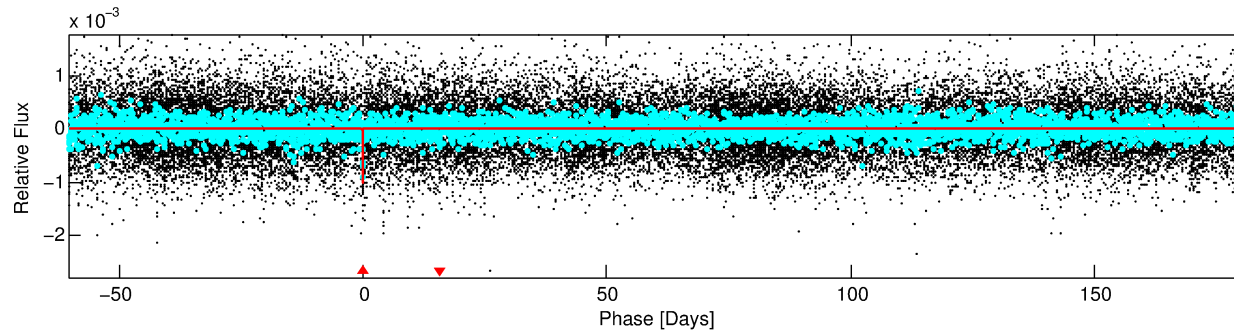
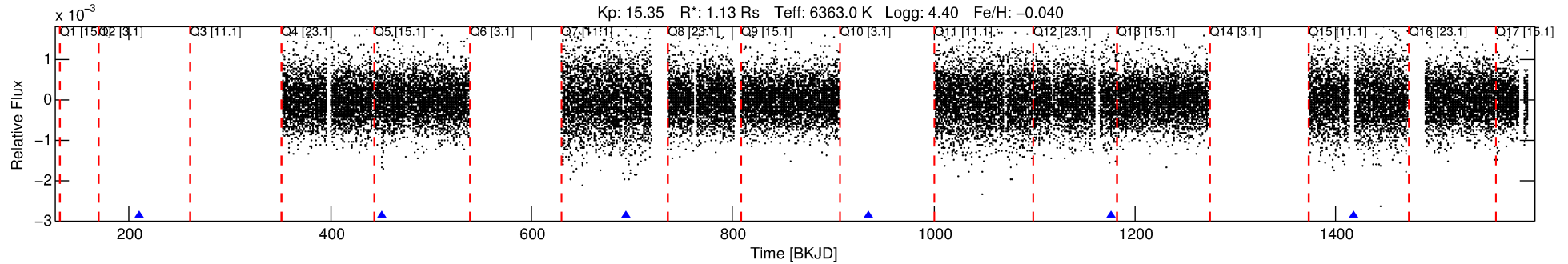
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004566632-01

No Significant Match Found

DV One-Page Summary

KIC: 4566632 Candidate: 1 of 1 Period: 241.515 d



DV Fit Results:

Period = 241.51465 [0.00597] d
Epoch = 210.3542 [0.0159] BKJD
Rp/R* = 0.0313 [0.0111]
a/R* = 188.30 [336.12]
b = 0.73 [1.15]
Seff = 2.94 [1.22]
Teq = 334 [35] K
Rp = 3.86 [1.86] Re
a = 0.7998 [0.2162] AU
Ag = 6428.65 [5597.22] [1.15σ]
Teffp = 4621 [919] K [4.66σ]

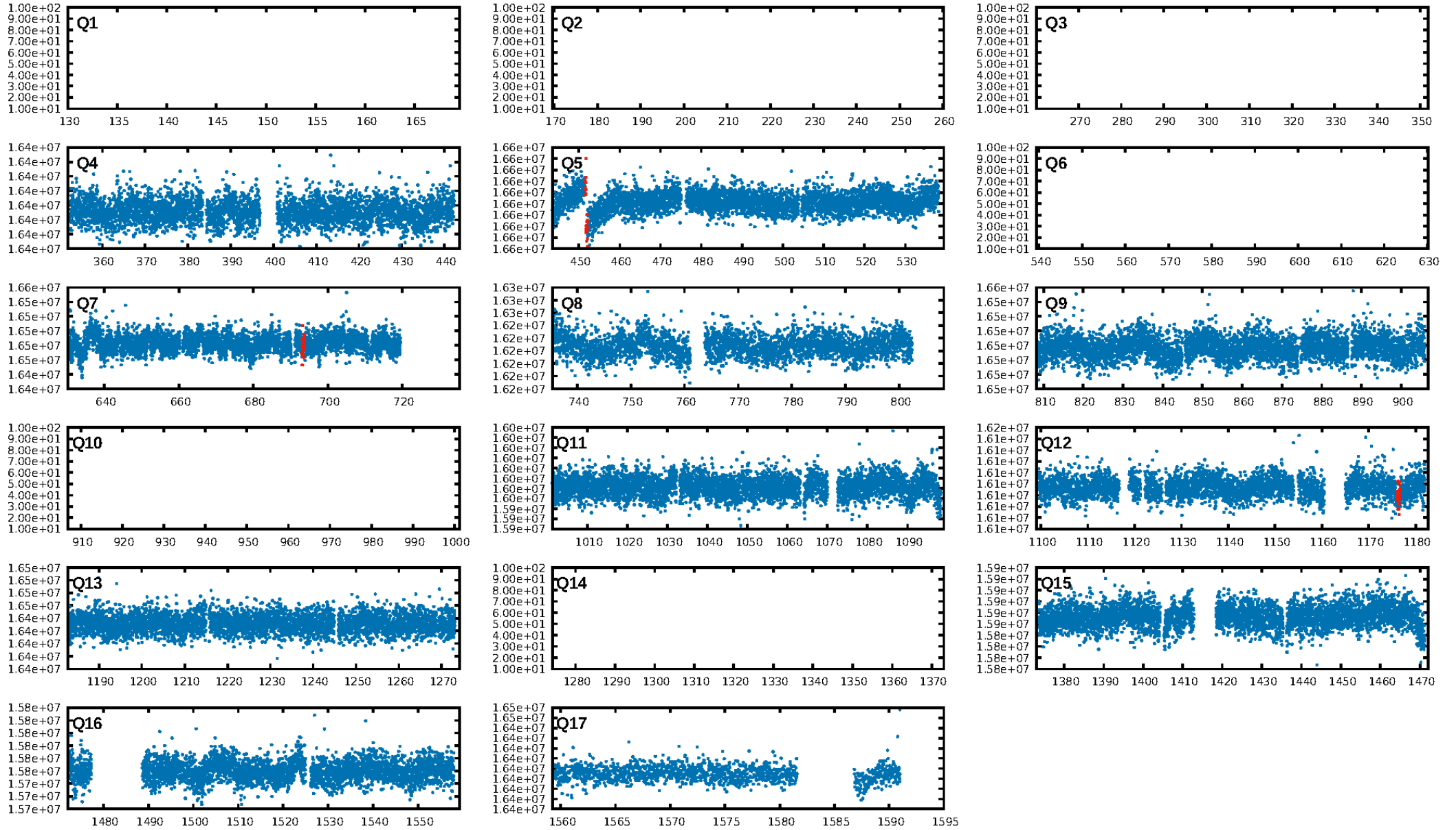
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 94.7%
Bootstrap-pfa: 1.62e-19
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.1355
Centroid-sig: 74.9%
Centroid-so: 4.310 arcsec [4.07σ]
OotOffset-rm: 1.780 arcsec [3.23σ]
KicOffset-rm: 4.076 arcsec [7.48σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

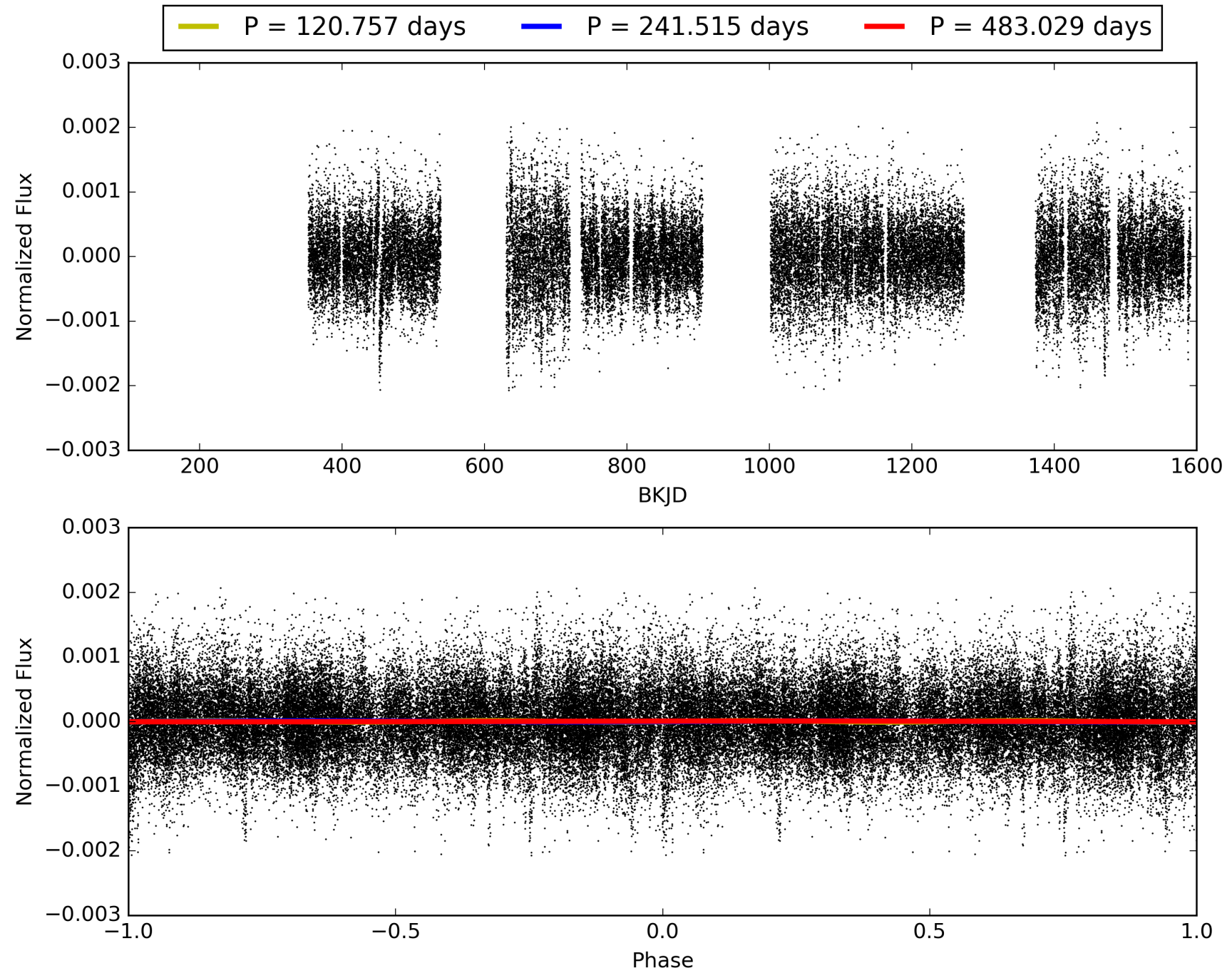
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:45:14 Z

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

TCE 004566632-01, PDC Light Curves

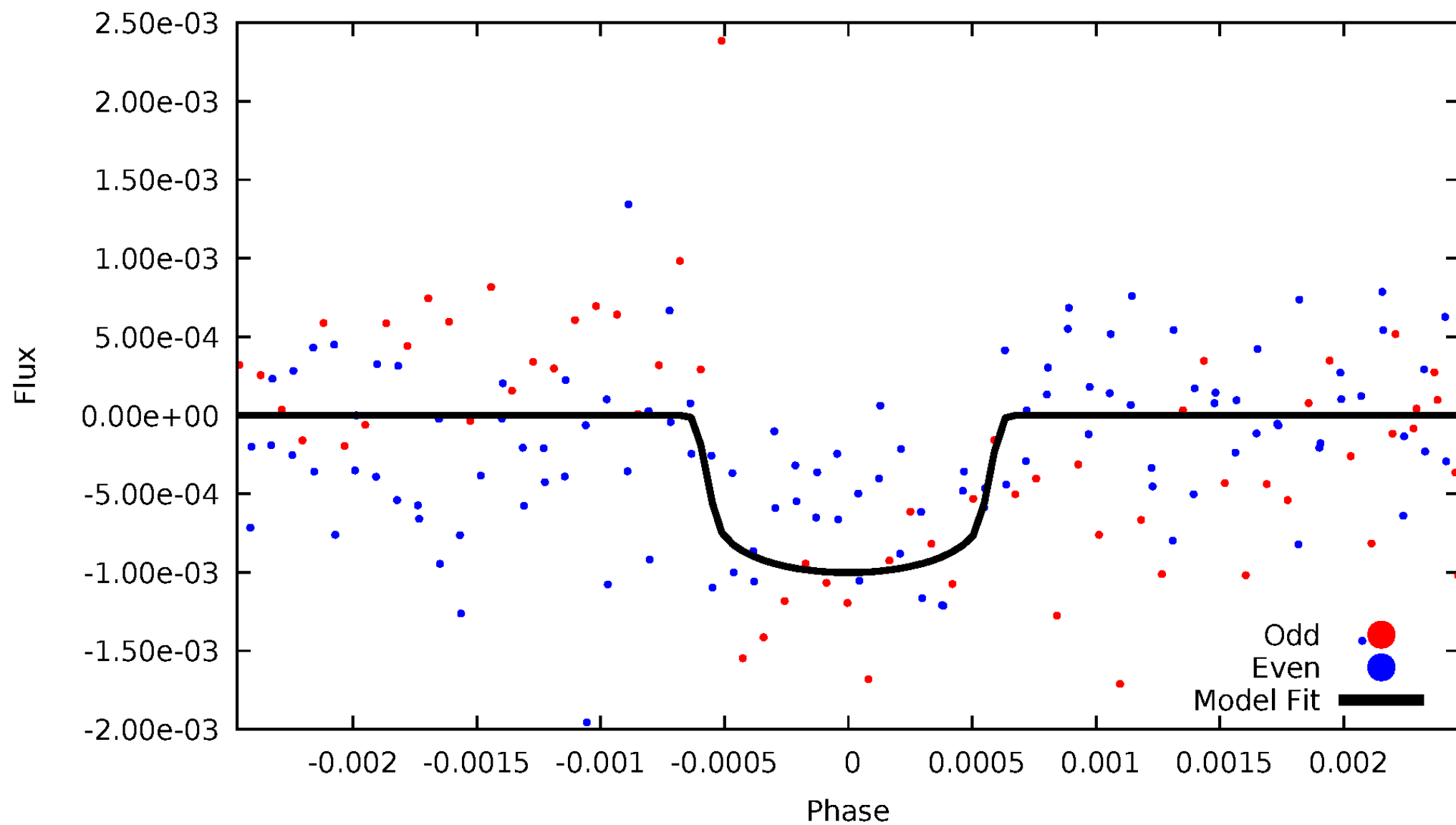


TCE 004566632-01



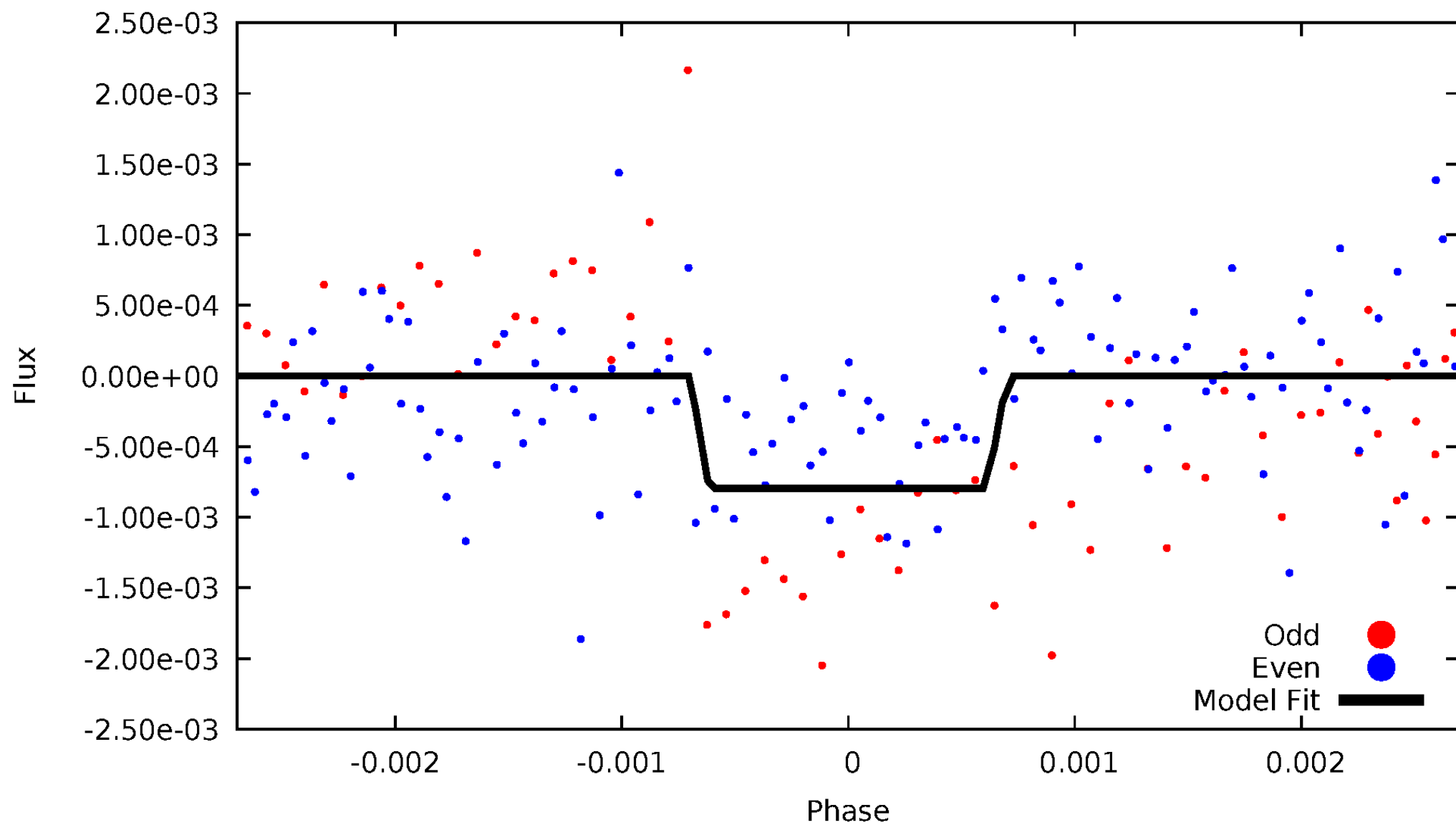
DV Odd/Even

TCE 004566632-01



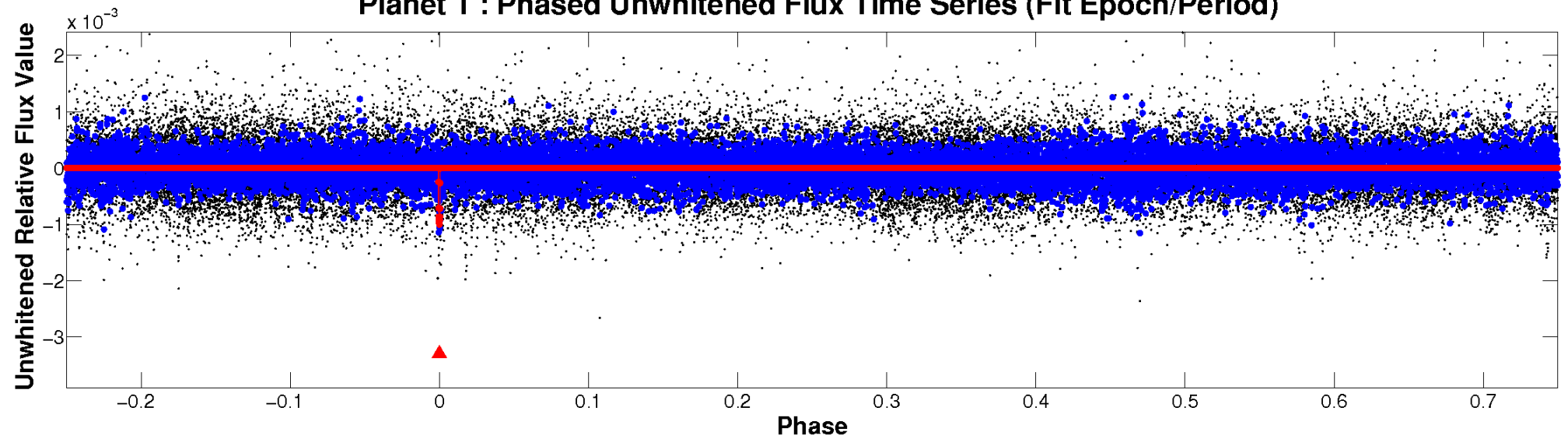
ALT Odd/Even

TCE 004566632-01

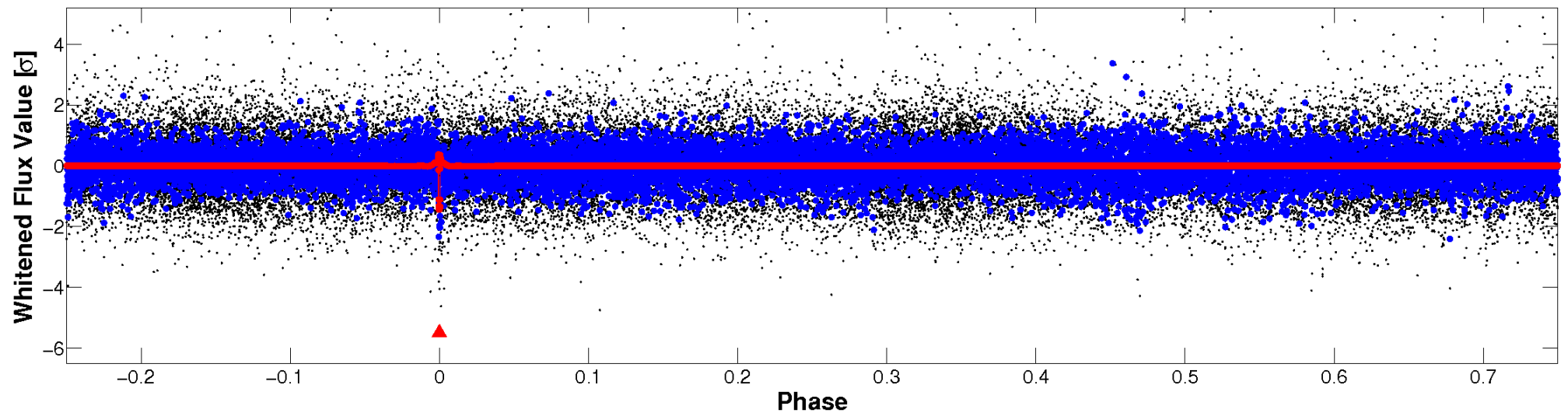


Non-Whitened Vs. Whitened Light Curve

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

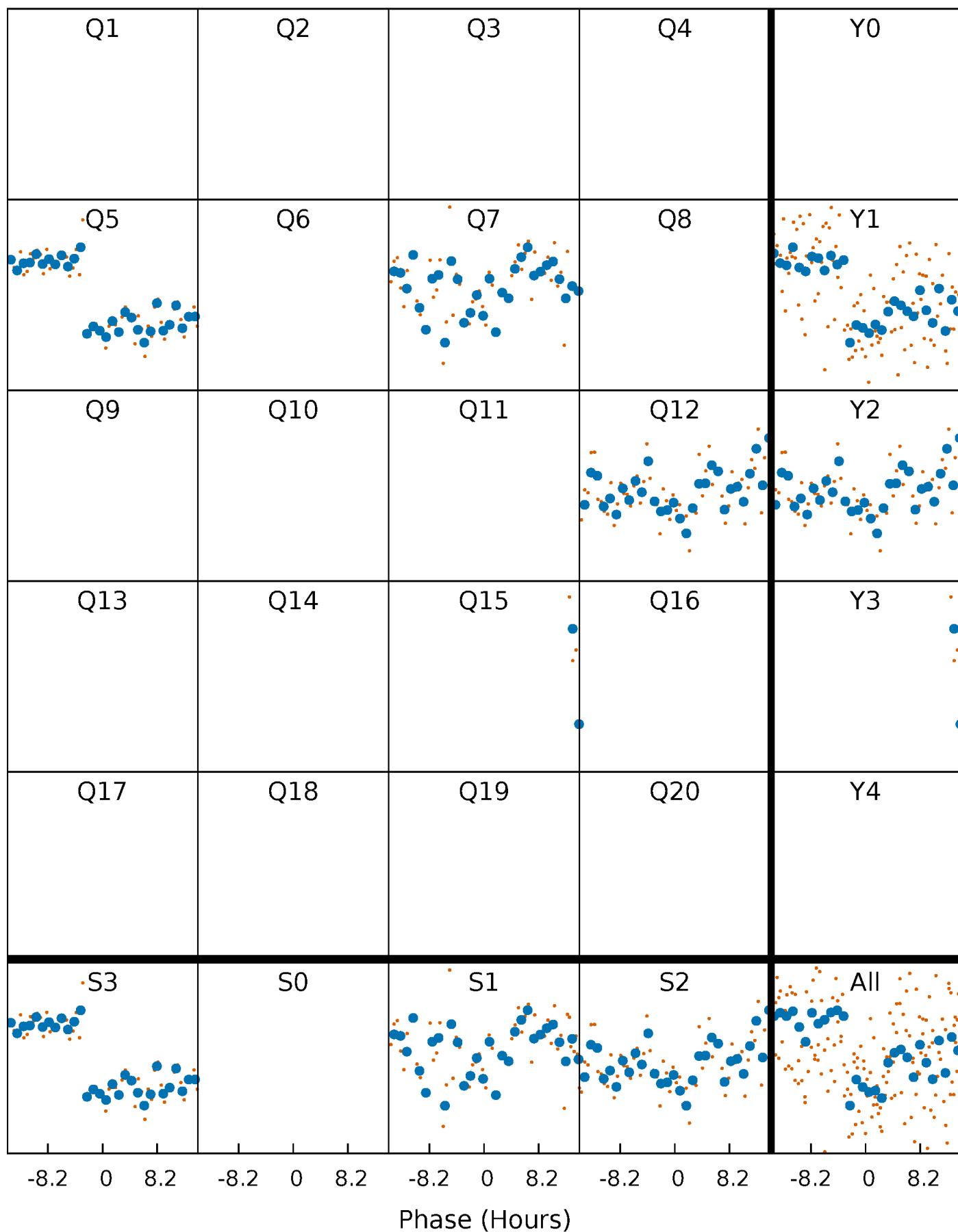


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



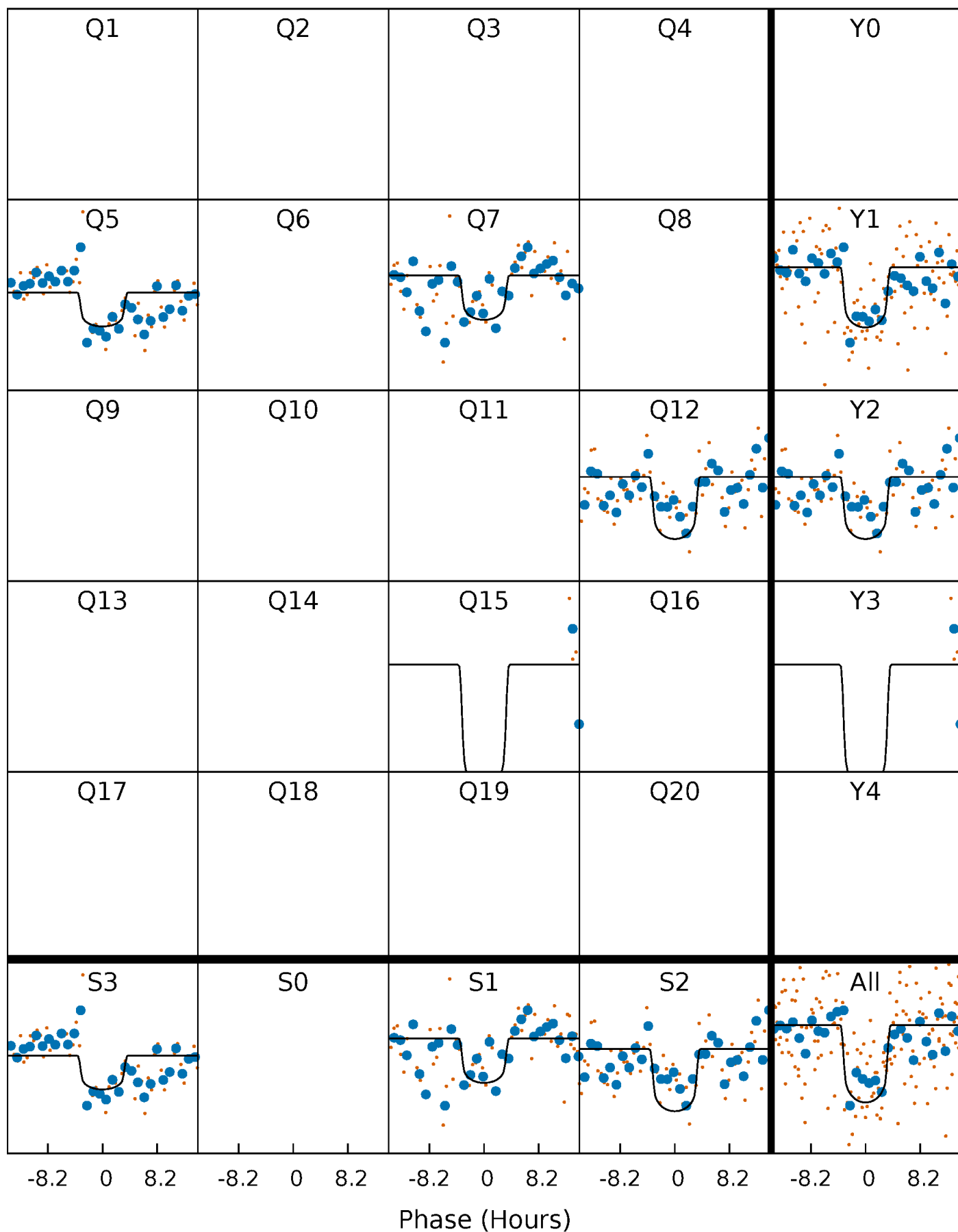
PDC Quarter-Phased Transit Curves

TCE 004566632-01 P=241.514650 Days $T_0=210.354205$ (BKJD)



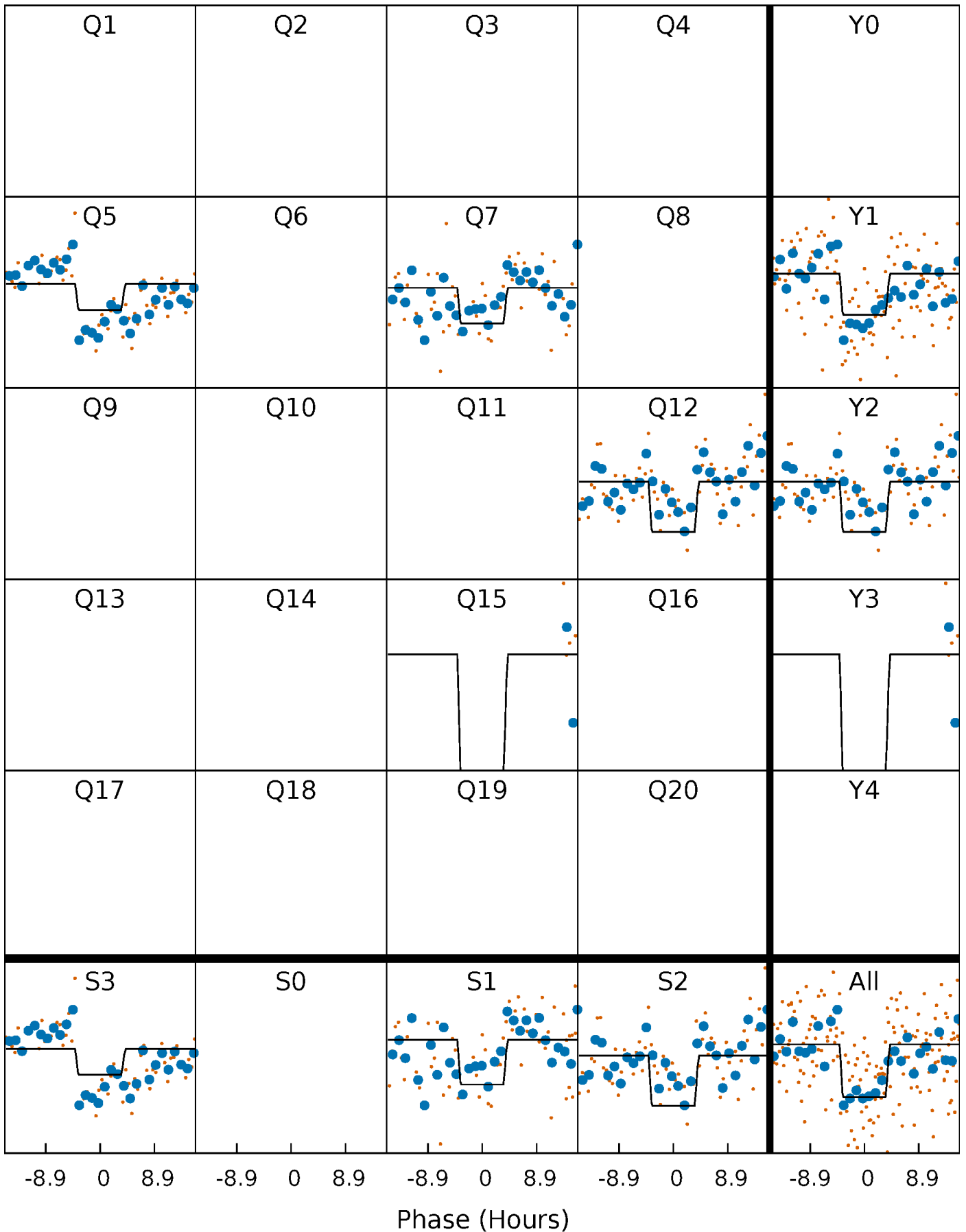
DV Quarter-Phased Transit Curves

TCE 004566632-01 P=241.514650 Days $T_0=210.354205$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

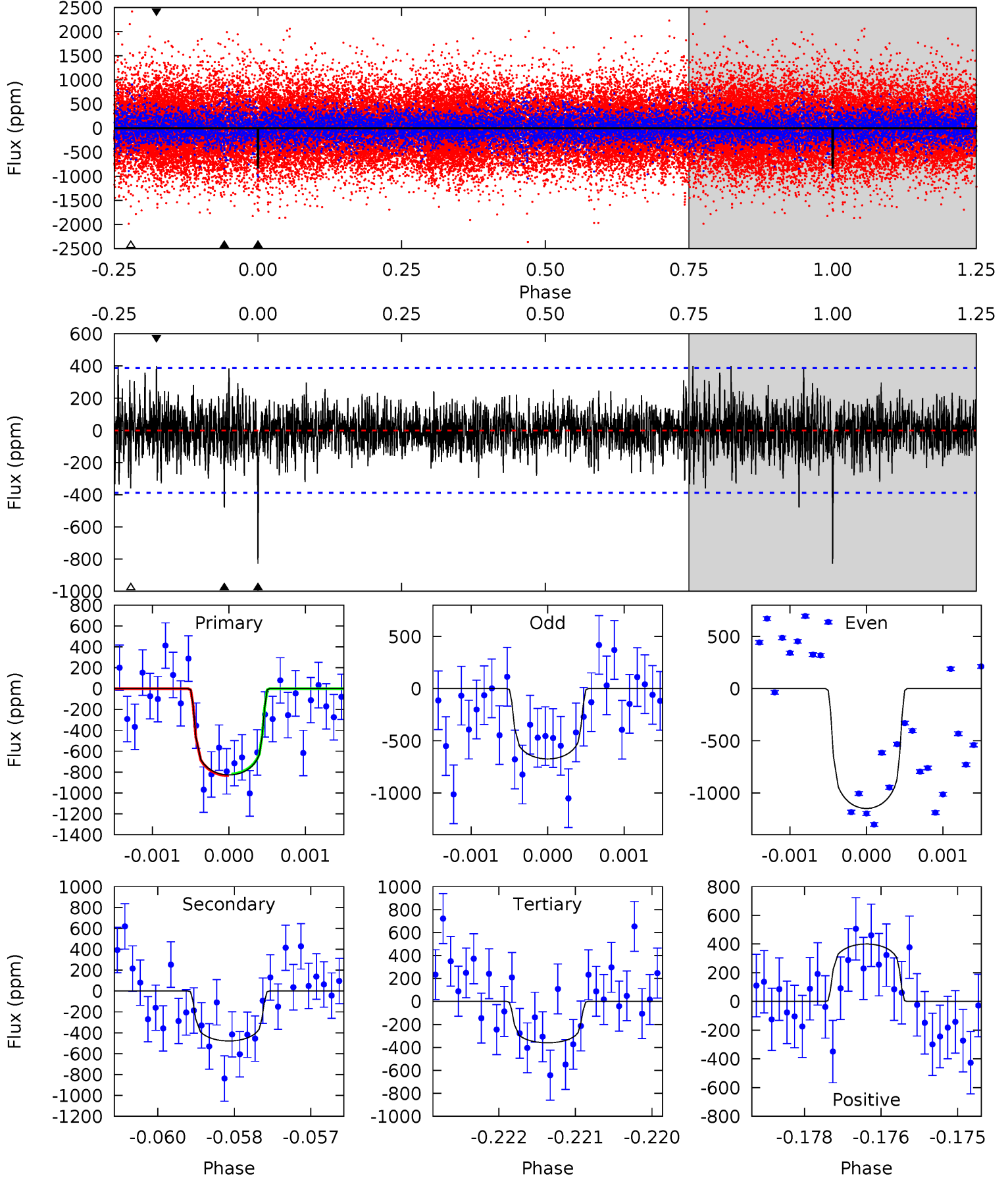
TCE 004566632-01 P=241.497434 Days $T_0=210.419096$ (BKJD)



DV Model-Shift Uniqueness Test

004566632-01, P = 241.514650 Days, E = 210.354205 Days

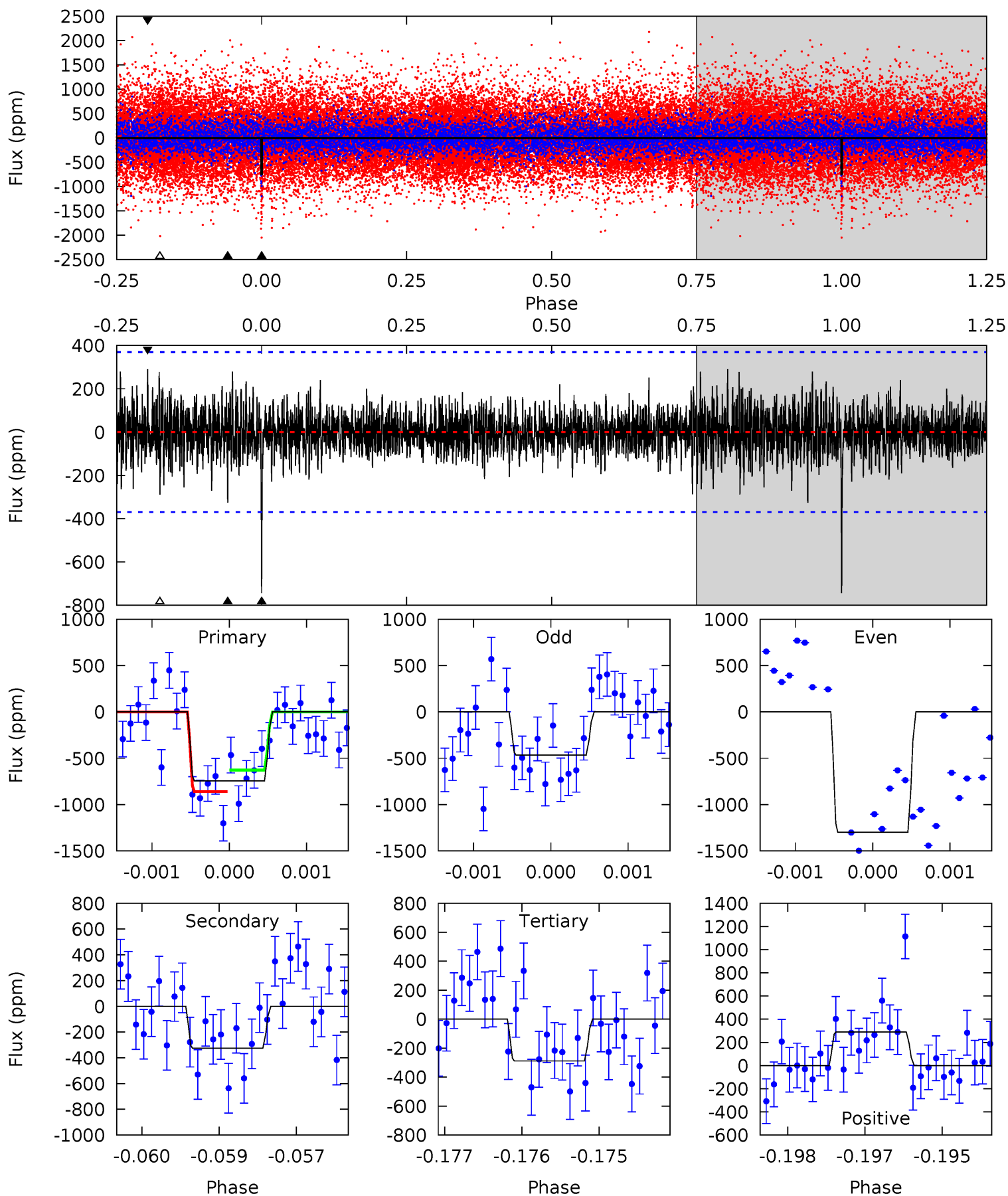
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	6.68	5.03	5.59	5.41	3.22	1.37	6.52	5.96	1.65	1.09	3.13	1.01	0.33	0.11



Alt Model-Shift Uniqueness Test

004566632-01, P = 241.497434 Days, E = 210.419096 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	4.78	4.22	4.25	5.40	3.22	1.10	6.66	6.63	0.56	0.52	5.73	1.29	0.28	1.70



Stellar Parameters For KIC 004566632

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6363^{+179}_{-246}	$4.399^{+0.065}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$1.131^{+0.370}_{-0.148}$	$1.170^{+0.169}_{-0.152}$	$1.139^{+0.333}_{-0.615}$
	+3%/-4%	+1%/-5%	+625%/-750%	+33%/-13%	+14%/-13%	+29%/-54%
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 004566632-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-478 ± 72	$4.09^{+1.50}_{-1.48}$	474^{+34}_{-24}	5291^{+1257}_{-653}	9881^{+14670}_{-4764}
Alt.	-326 ± 68	$3.54^{+1.60}_{-1.38}$	477^{+34}_{-28}	5174^{+1474}_{-688}	8696^{+16395}_{-4567}

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

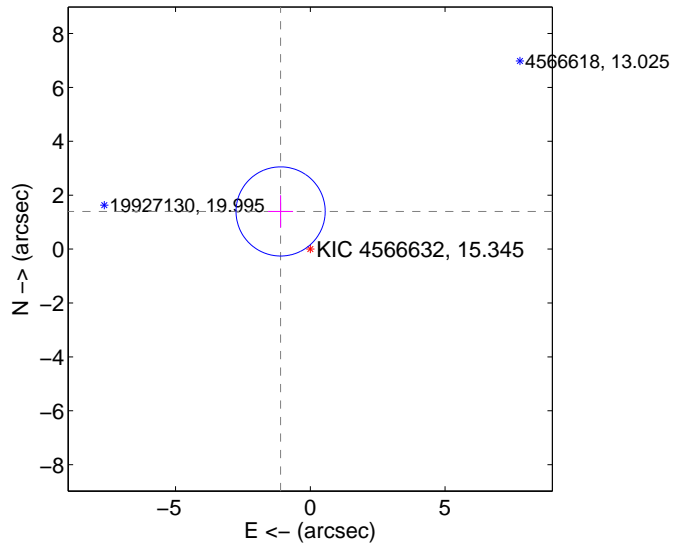
Supplemental centroid analysis for 004566632-01. Kepler magnitude: 15.35. Transit SNR 8.62

There are 1 quarters with good PRF difference image offsets

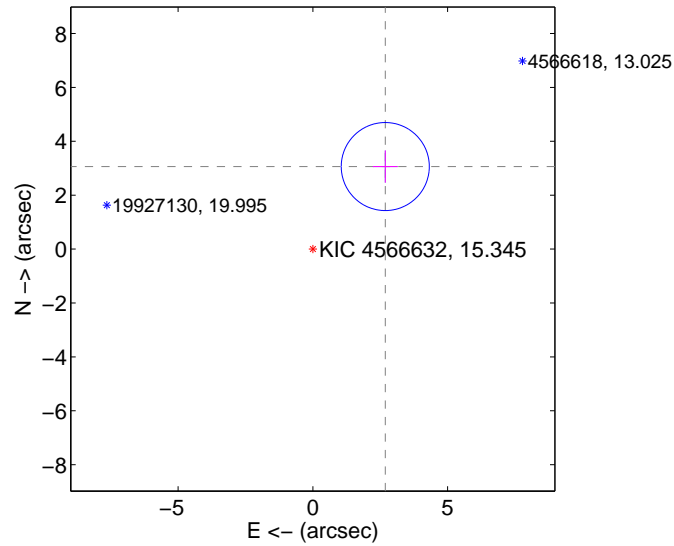
The OOT PRF centroid is offset from the target star catalog position by about 4.14 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.780 ± 0.551	3.23	1.102 ± 0.464	1.398 ± 0.600
PRF-fit source offset from KIC position	4.076 ± 0.545	7.48	-2.688 ± 0.464	3.064 ± 0.600
photometric centroid source offset	4.31 ± 1.06	4.07	-3.20 ± 1.20	2.89 ± 0.85

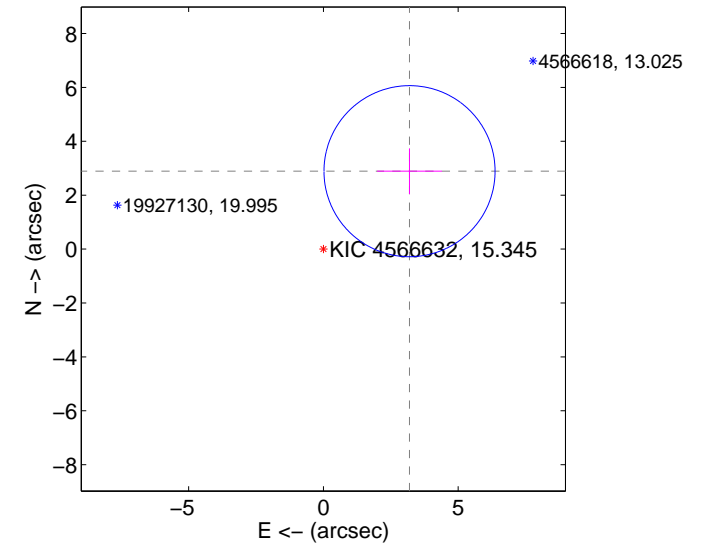
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

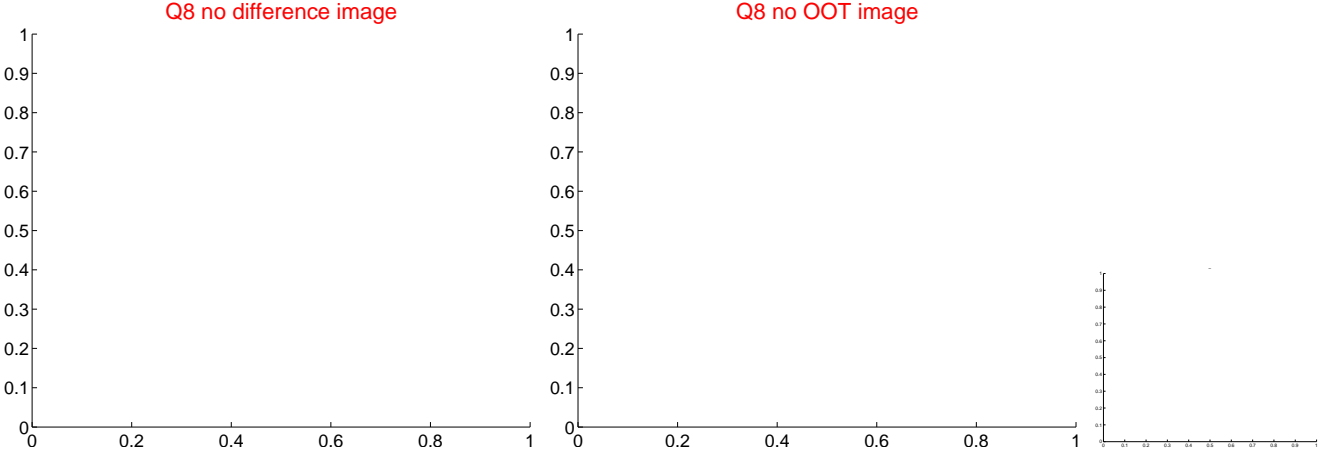
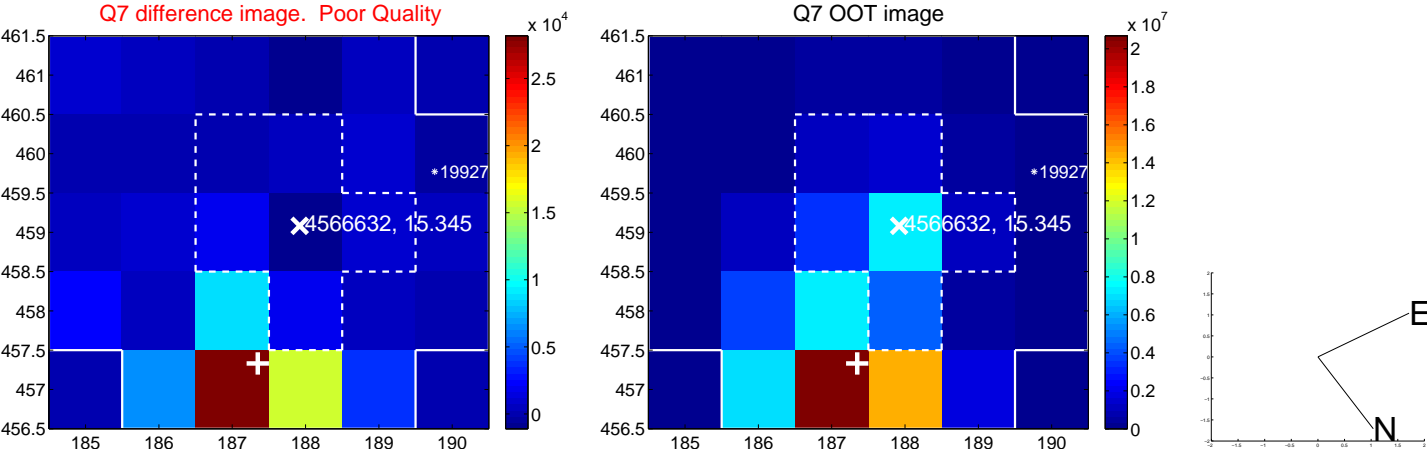
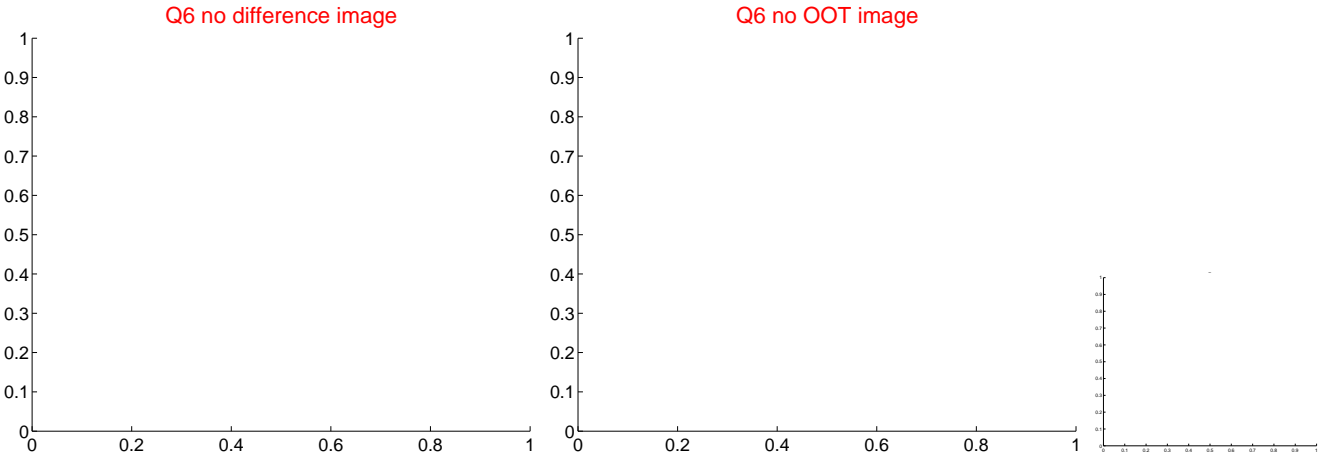
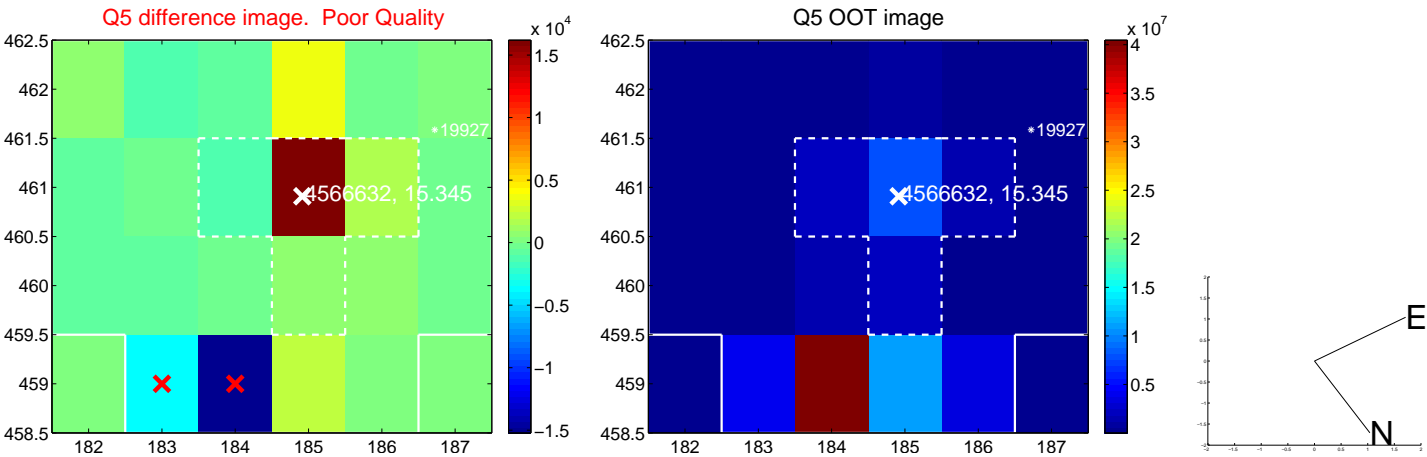


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

Q9 no difference image



Q9 no OOT image



Q10 no difference image



Q10 no OOT image



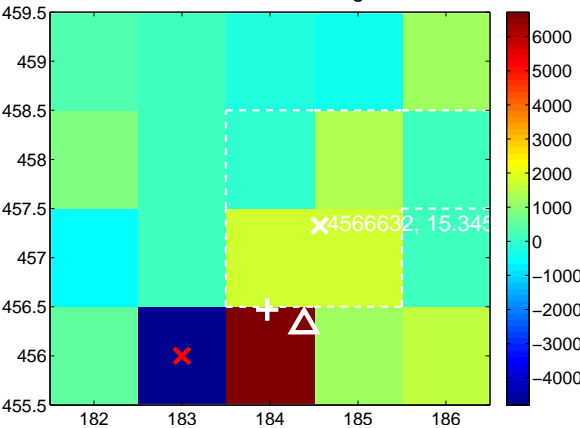
Q11 no difference image



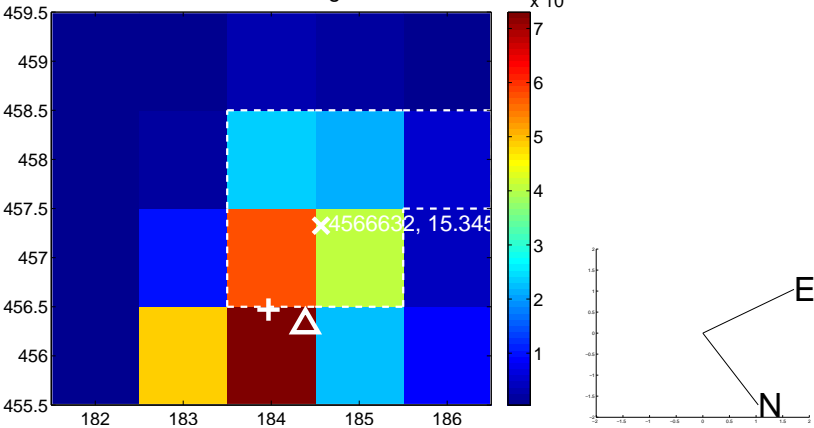
Q11 no OOT image



Q12 difference image



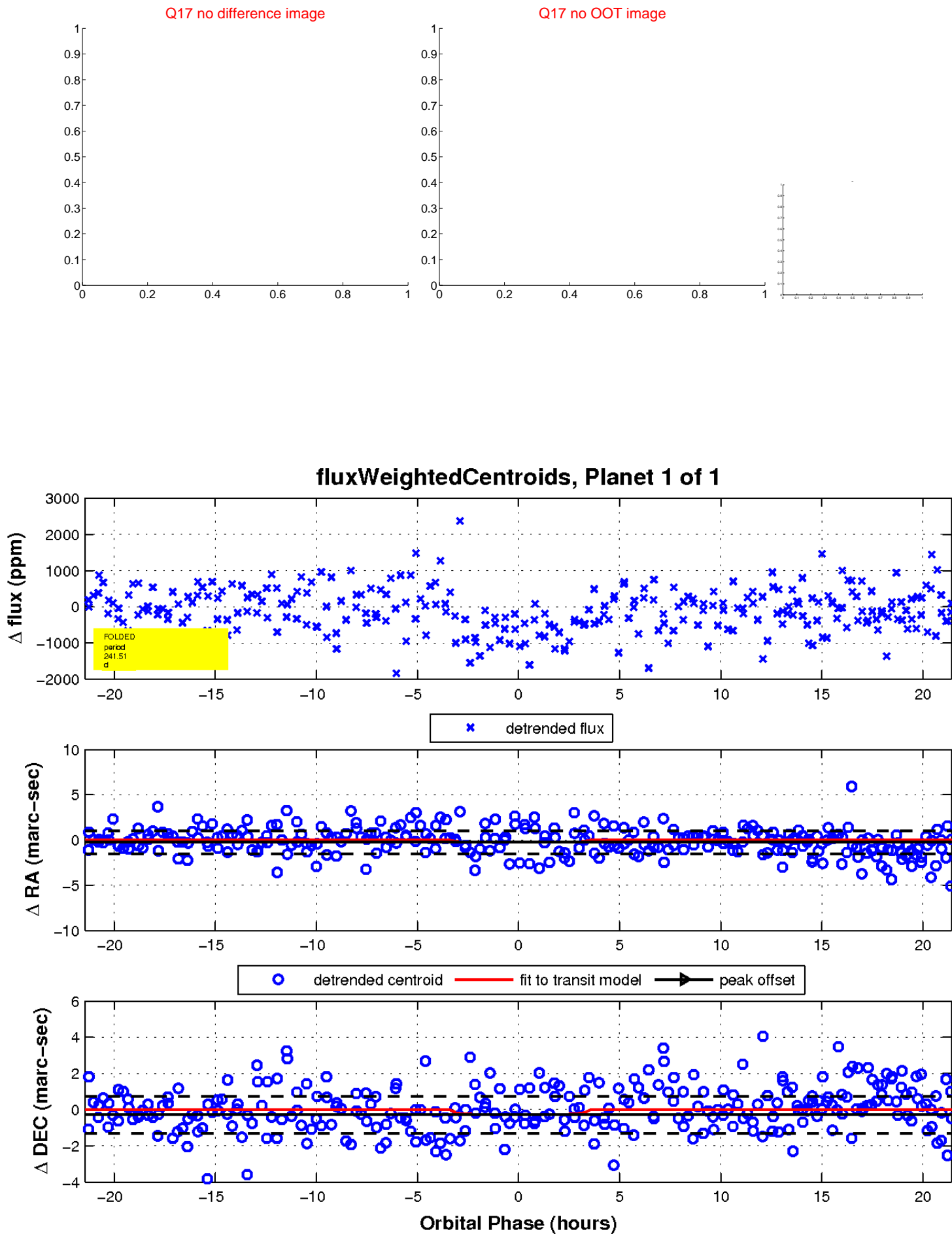
Q12 OOT image



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

