

KIC 003862353

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})
003862353-01	OBS	No	1.996941	132.502706	145.4	9.025	7.6	7.3	2.68	10974	3.69	47822.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003862353-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS

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

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

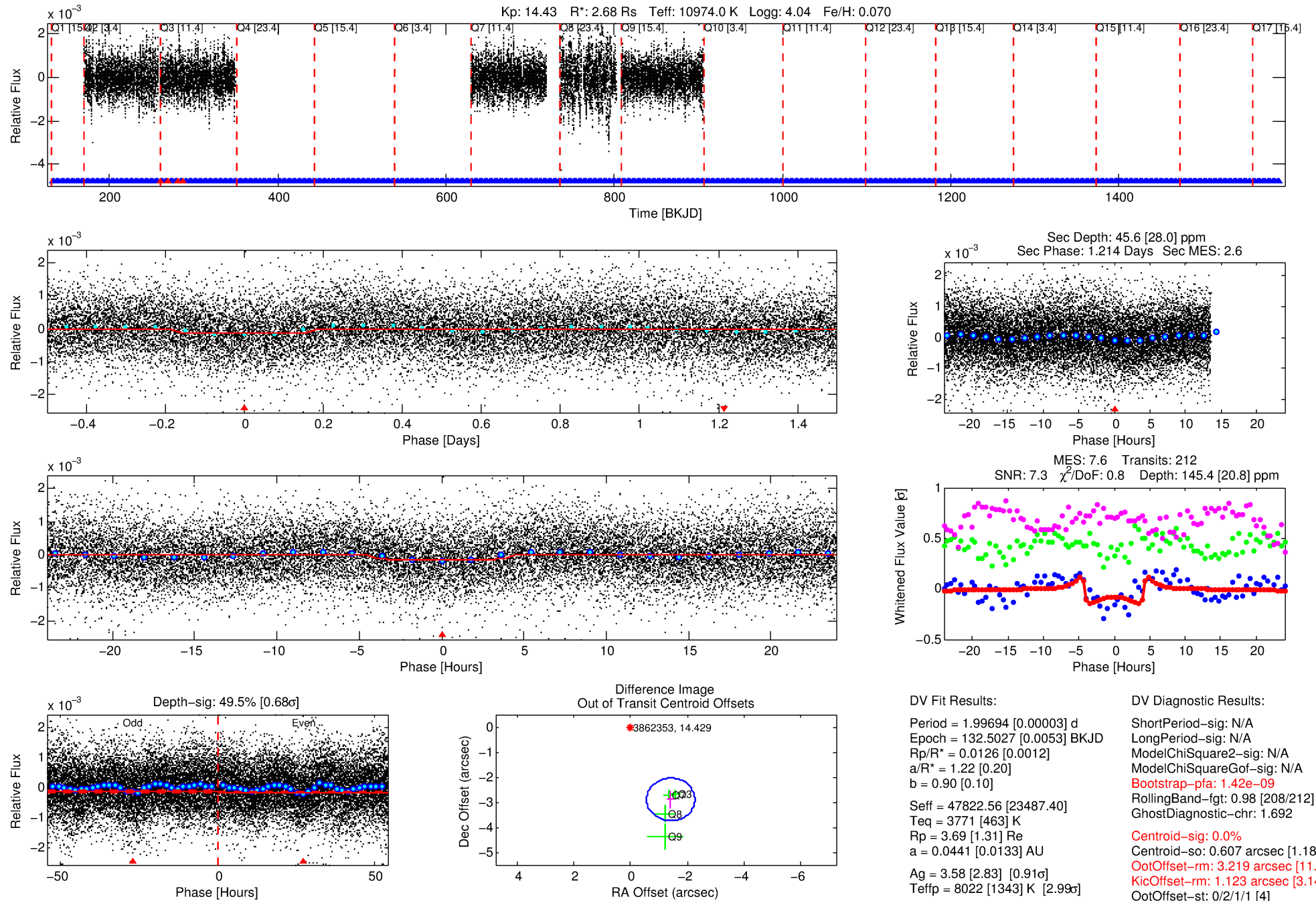
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003862353-01

No Significant Match Found

DV One-Page Summary

KIC: 3862353 Candidate: 1 of 1 Period: 1.997 d



DV Fit Results:

Period = 1.99694 [0.00003] d
Epoch = 132.5027 [0.0053] BKJD
Rp/R* = 0.0126 [0.0012]
a/R* = 1.22 [0.20]
b = 0.90 [0.10]
Seff = 47822.56 [23487.40]
Teq = 3771 [463] K
Rp = 3.69 [1.31] Re
a = 0.0441 [0.0133] AU
Ag = 3.58 [2.83] [0.91 σ]
Teff = 8022 [1343] K [2.99 σ]

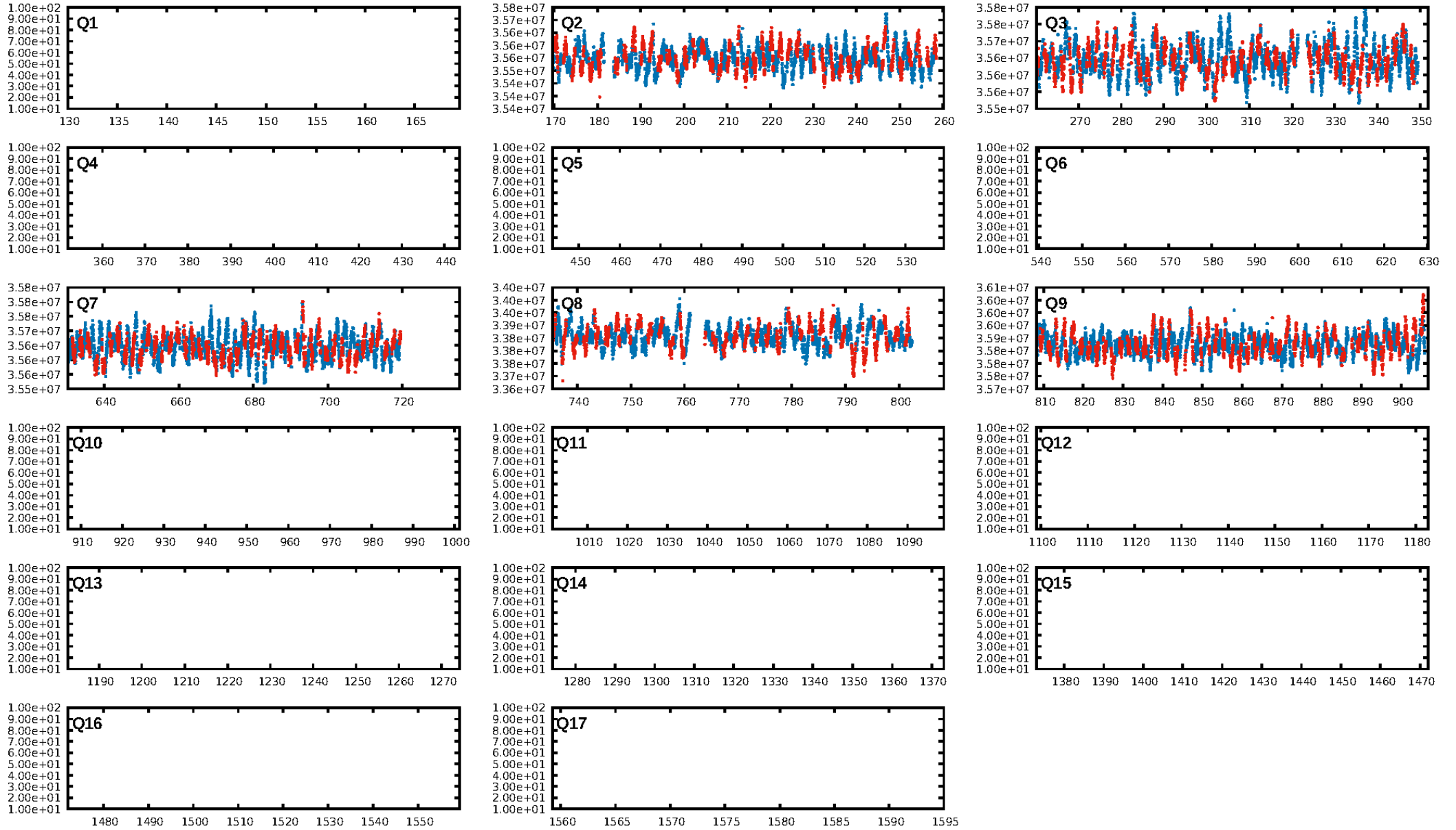
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.42e-09
RollingBand-fgt: 0.98 [208/212]
GhostDiagnostic-chr: 1.692
Centroid-sig: 0.0%
Centroid-so: 0.607 arcsec [1.18 σ]
OotOffset-rm: 3.219 arcsec [11.35 σ]
KicOffset-rm: 1.123 arcsec [3.14 σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [5/5]

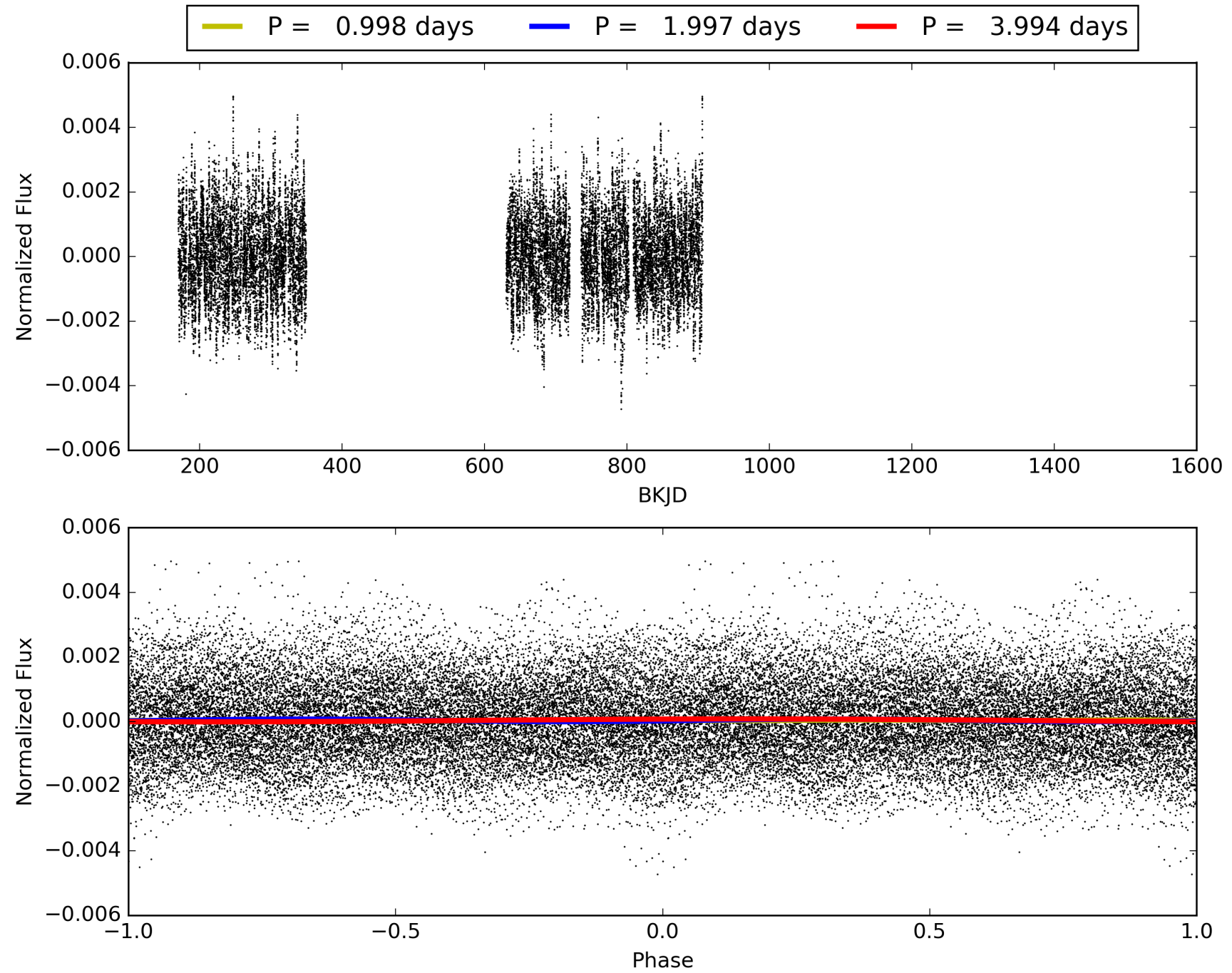
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:49:56 Z

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

TCE 003862353-01, PDC Light Curves

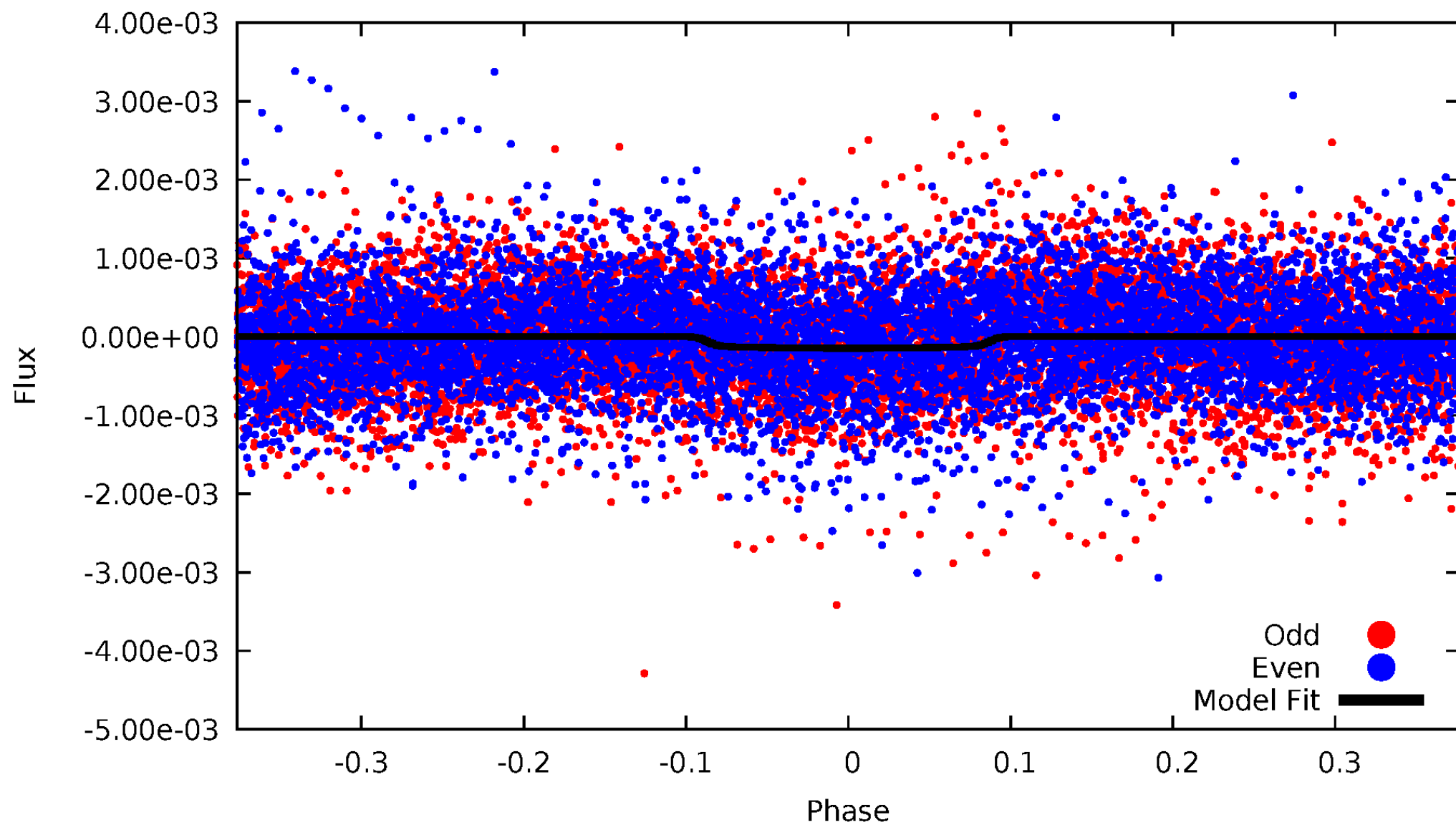


TCE 003862353-01



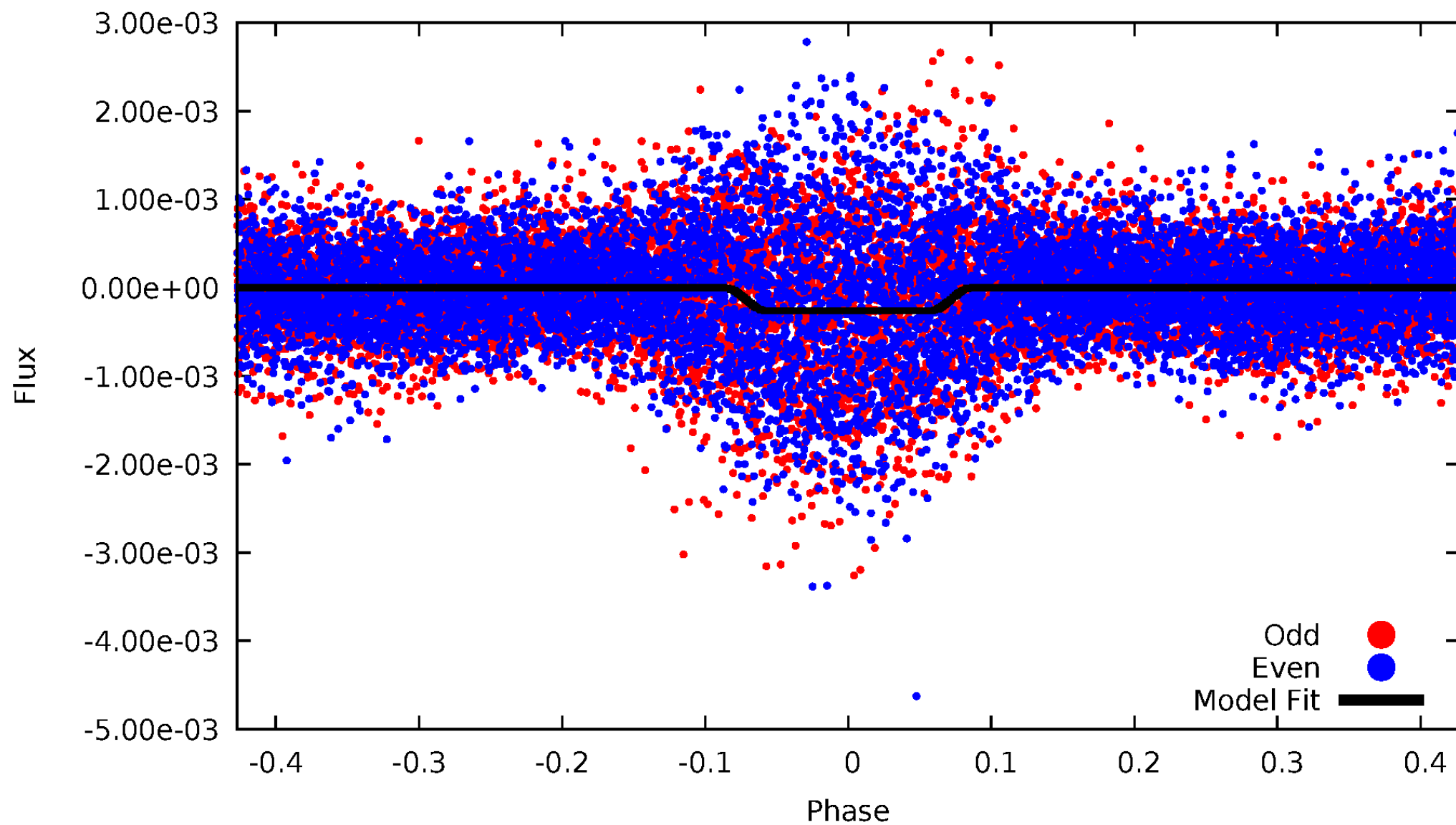
DV Odd/Even

TCE 003862353-01



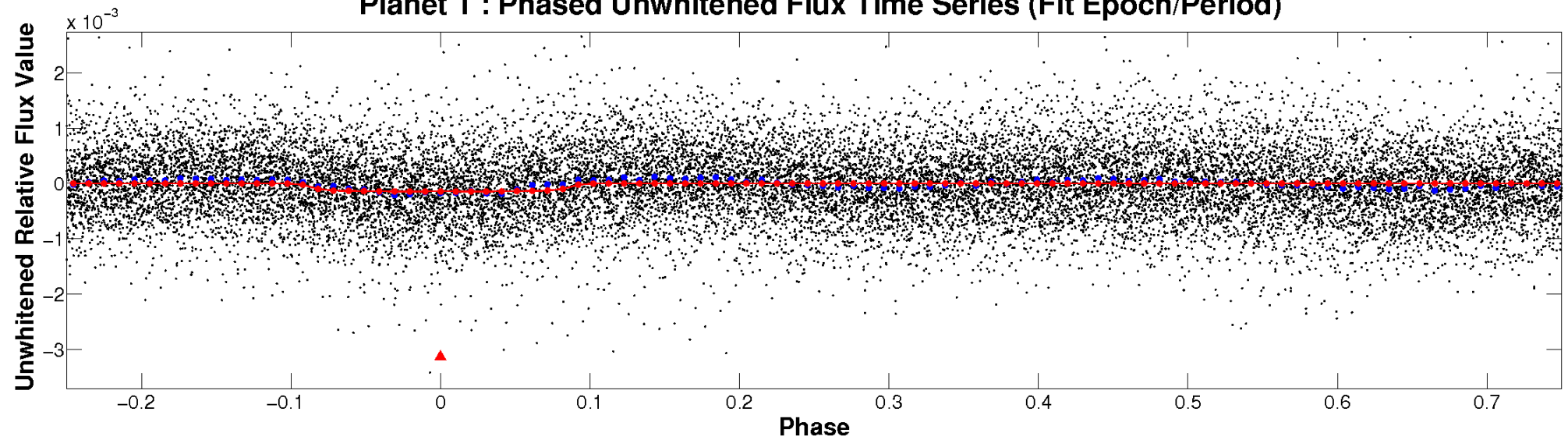
ALT Odd/Even

TCE 003862353-01

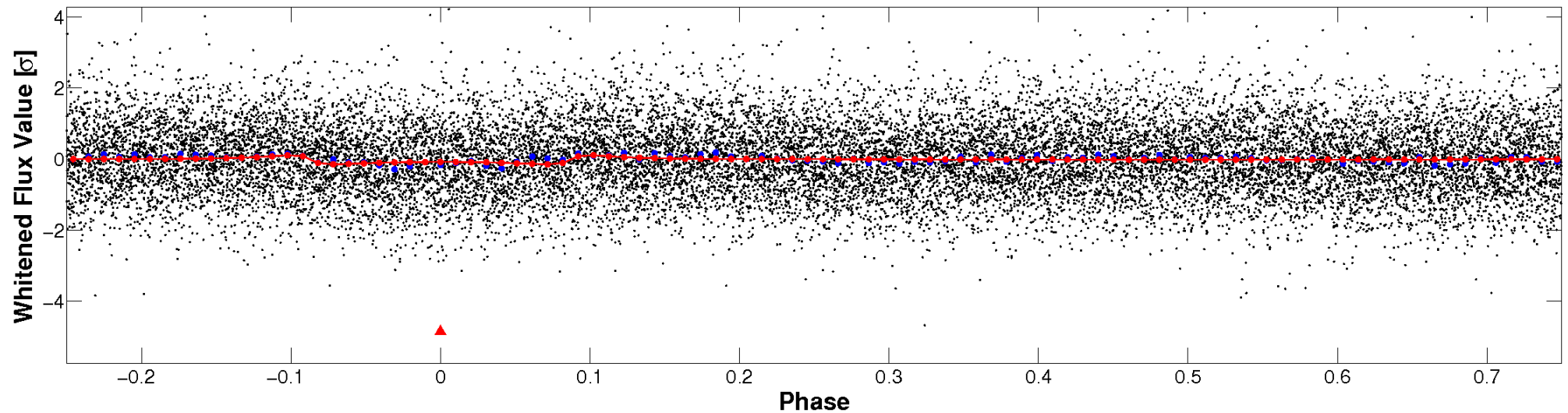


Non-Whitened Vs. Whitened Light Curve

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

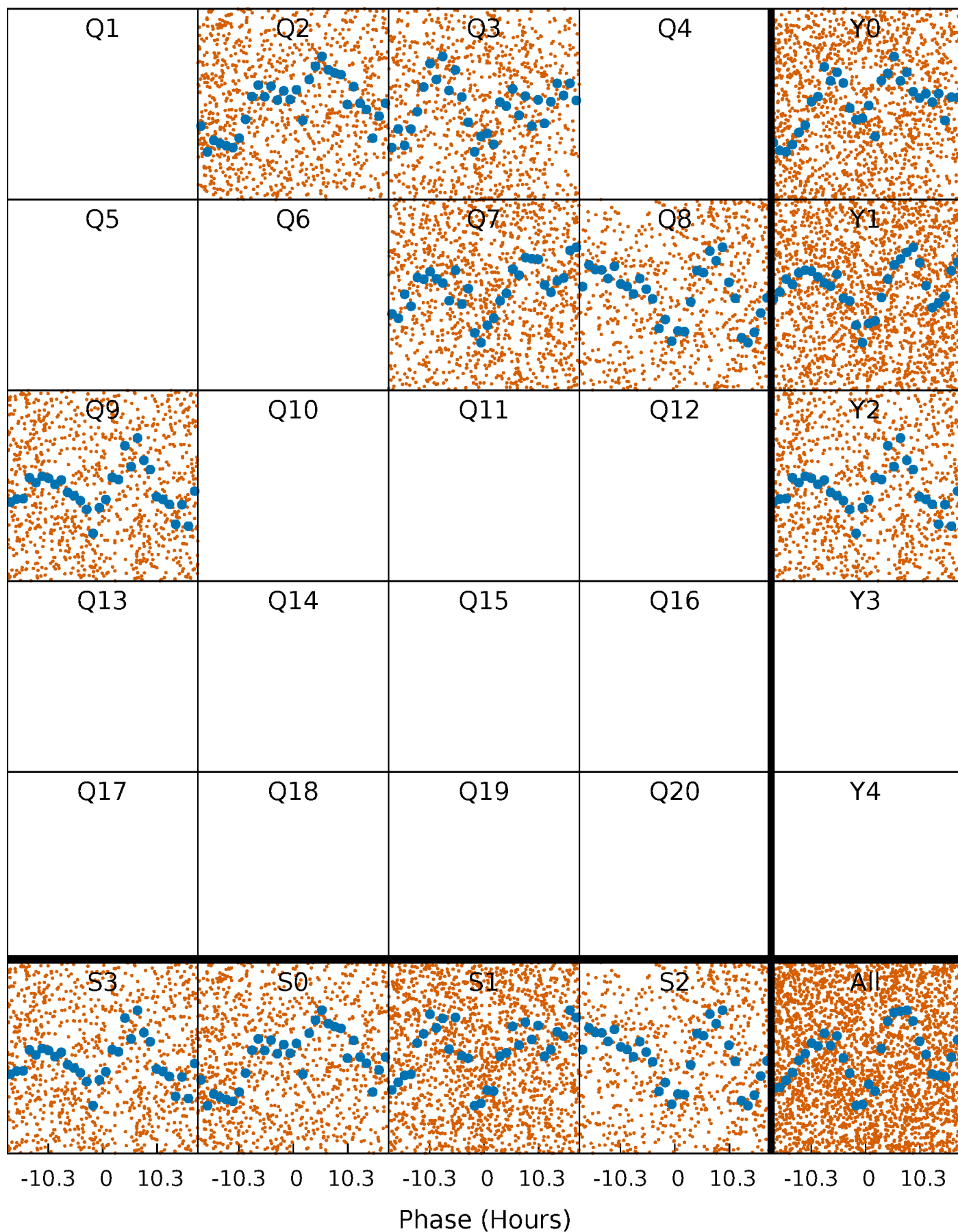


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



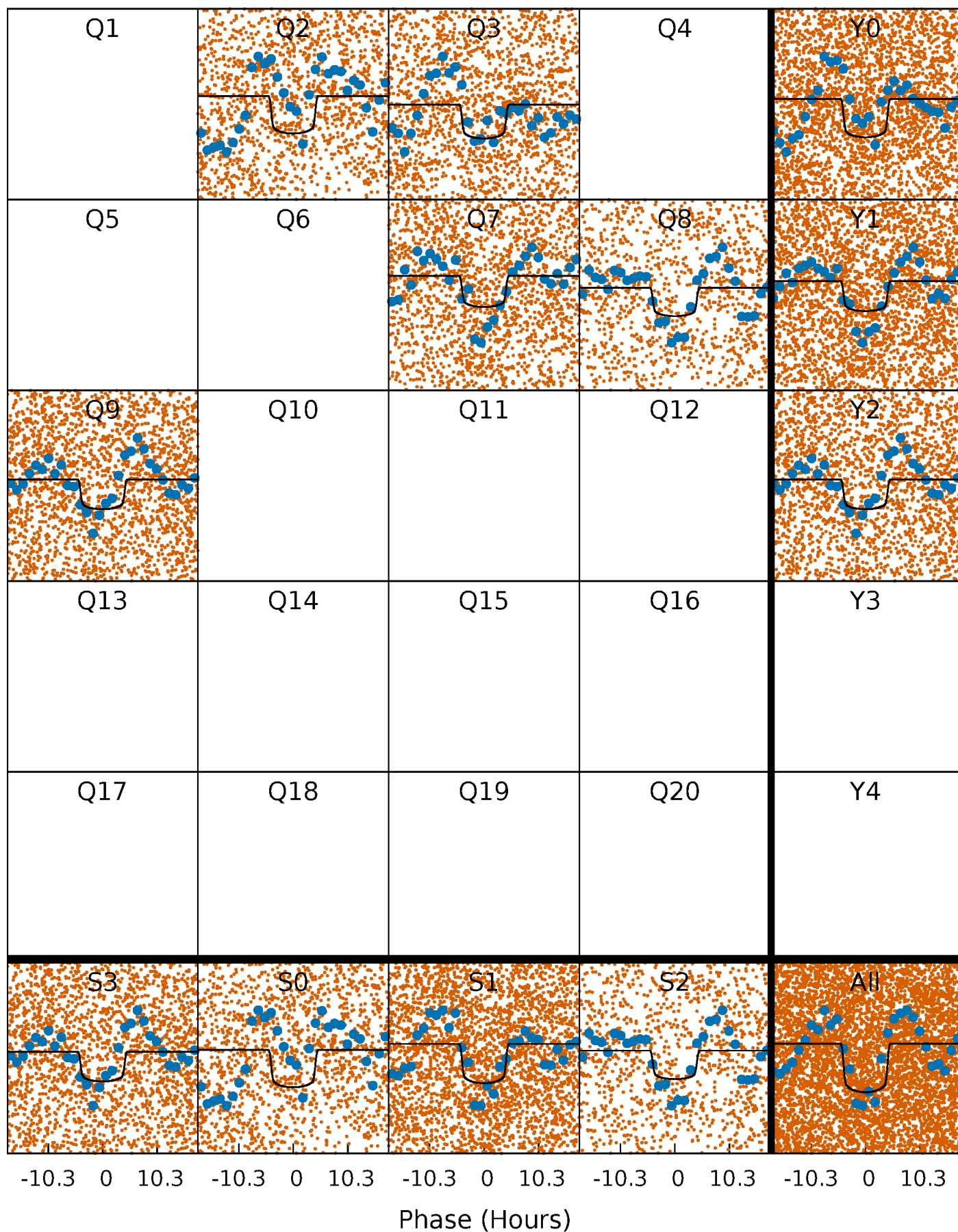
PDC Quarter-Phased Transit Curves

TCE 003862353-01 P= 1.996941 Days $T_0=132.502706$ (BKJD)



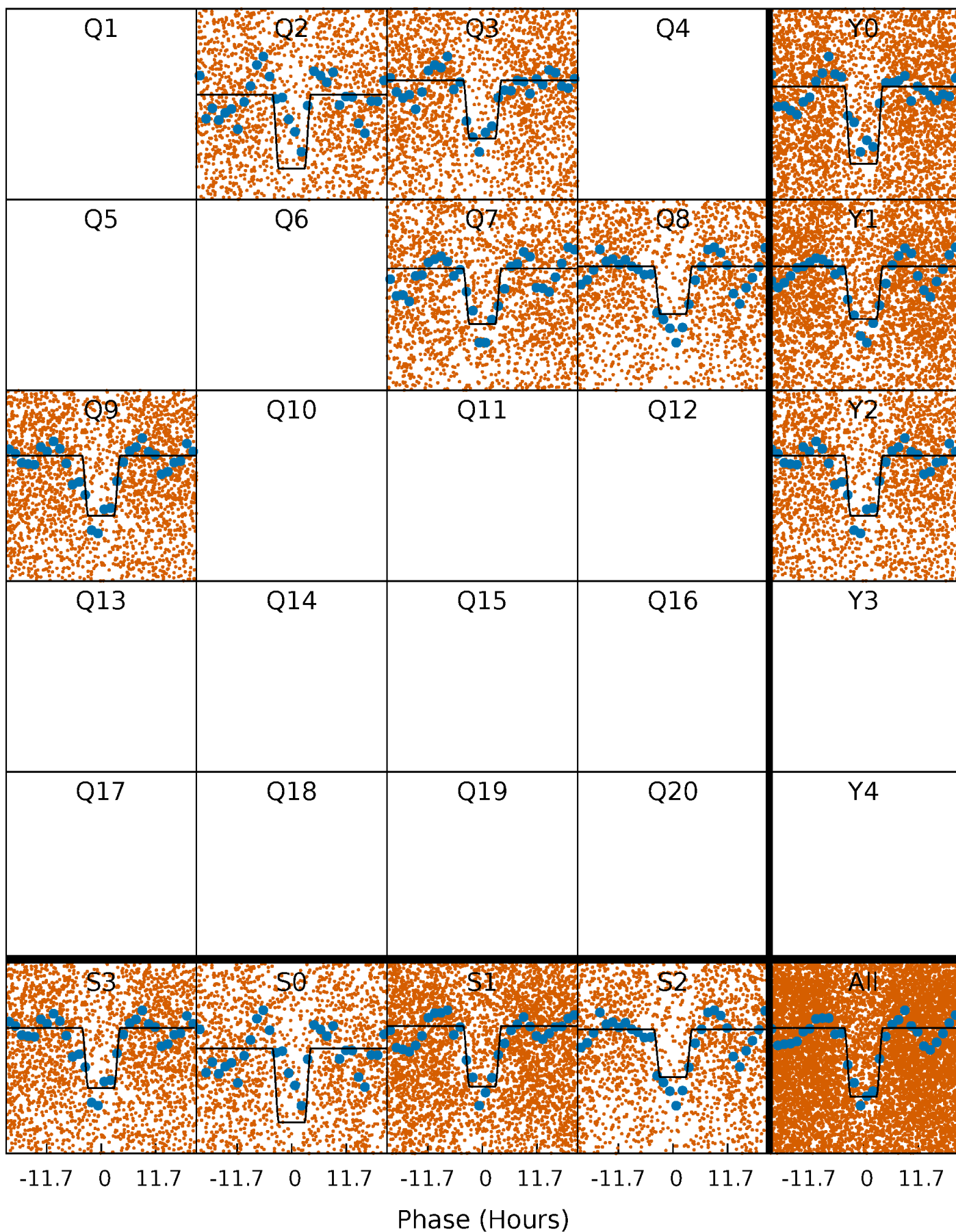
DV Quarter-Phased Transit Curves

TCE 003862353-01 P= 1.996941 Days $T_0=132.502706$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

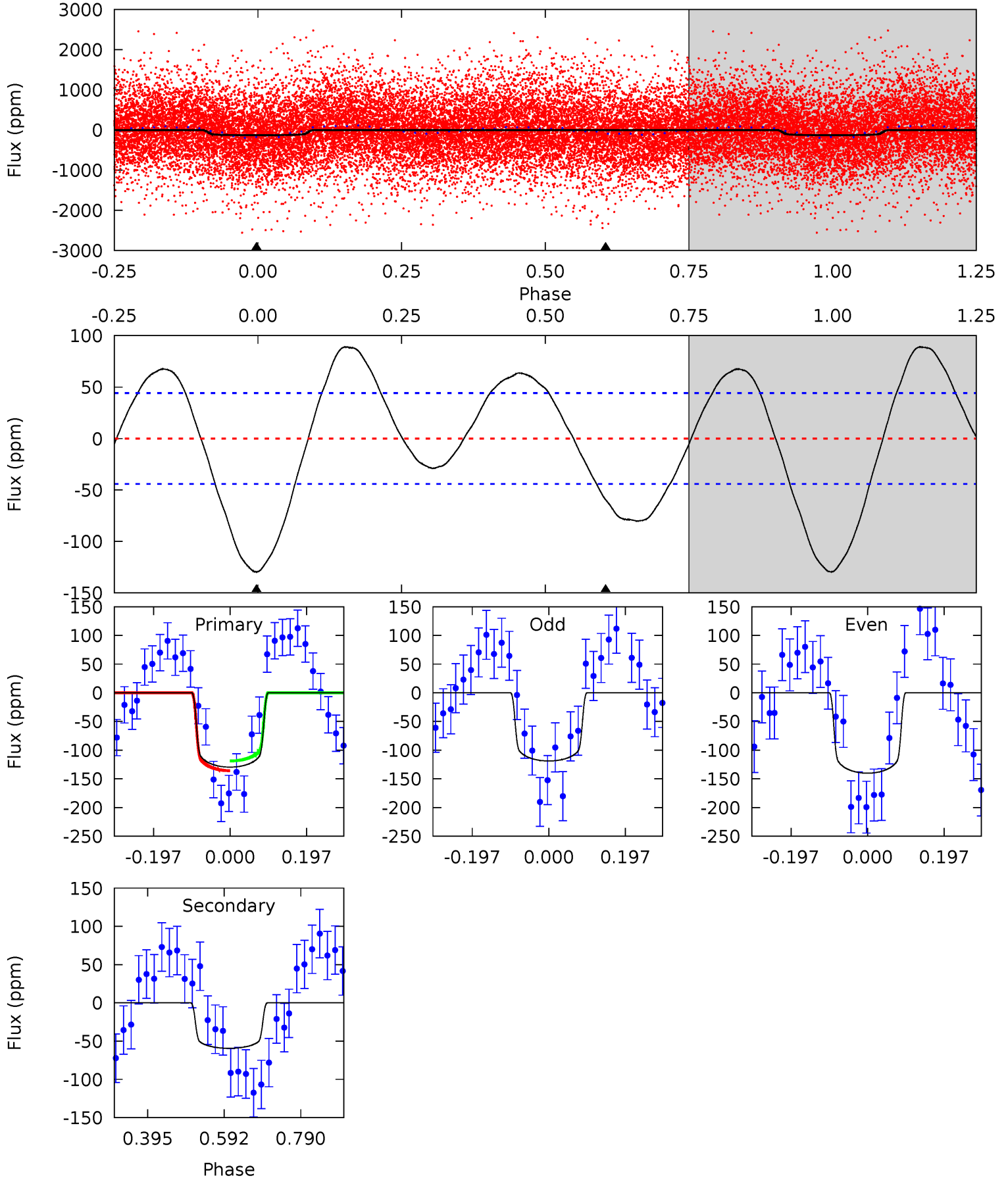
TCE 003862353-01 P= 1.996902 Days $T_0=132.493193$ (BKJD)



DV Model-Shift Uniqueness Test

003862353-01, P = 1.996941 Days, E = 132.502706 Days

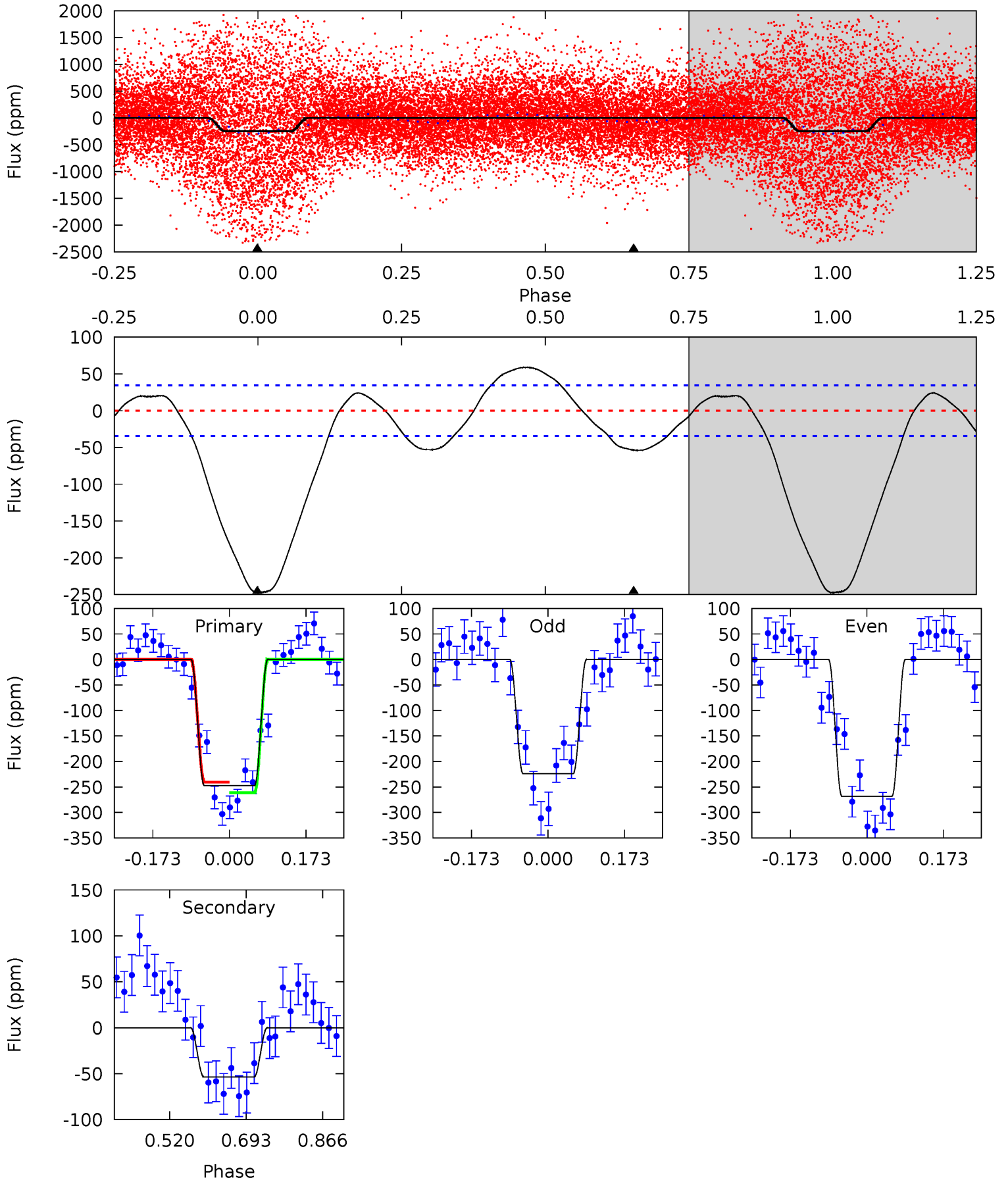
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	5.93	0	0	4.42	1.29	2.77	13.0	13.0	5.93	5.93	1.06	1.23	0.41	0.88



Alt Model-Shift Uniqueness Test

003862353-01, P = 1.996902 Days, E = 132.493193 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.1	6.95	0	0	4.45	1.36	5.00	32.1	32.1	6.95	6.95	2.84	1.21	0.19	1.36



Stellar Parameters For KIC 003862353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.387}_{-0.098}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+184%/-47%
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 003862353-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-59 ± 10	$3.56^{+0.80}_{-0.69}$	5211^{+451}_{-479}	7576^{+736}_{-643}	$4.713^{+2.594}_{-1.562}$
Alt.	-54 ± 8	$4.63^{+0.86}_{-0.89}$	5217^{+435}_{-451}	6342^{+446}_{-386}	$2.631^{+1.214}_{-0.825}$

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 $A_{obs} \gg 1.0$

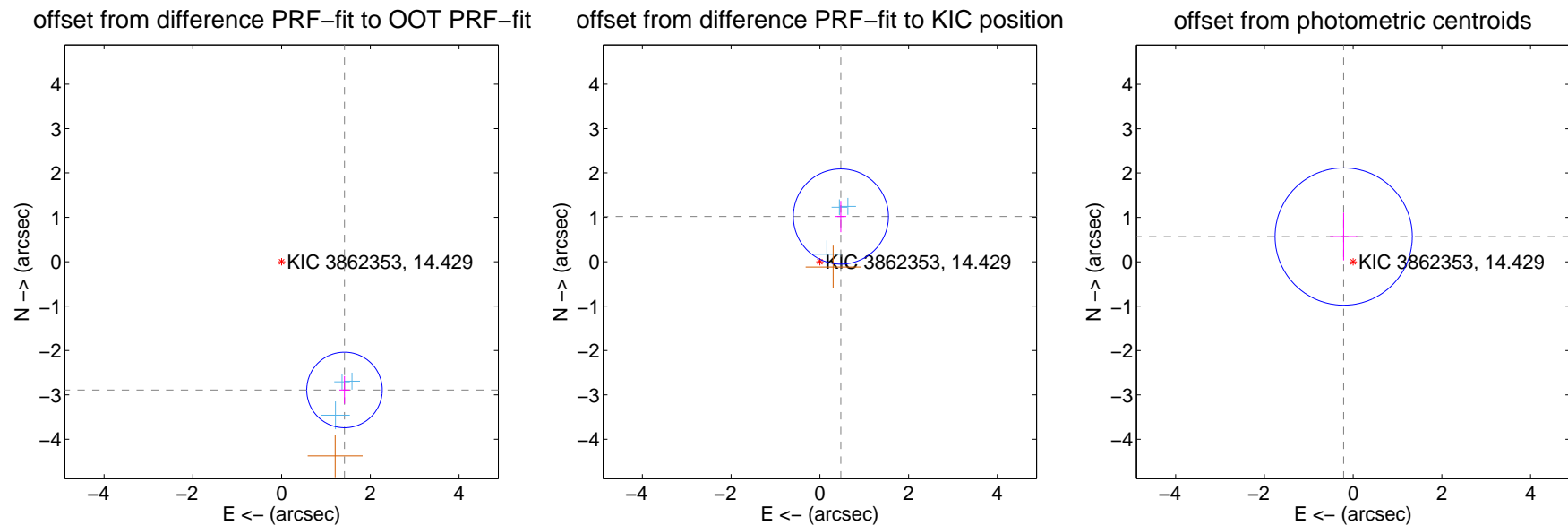
DV Centroid Data

Supplemental centroid analysis for 003862353-01. Kepler magnitude: 14.43. Transit SNR 7.27

There are 3 quarters with good PRF difference image offsets

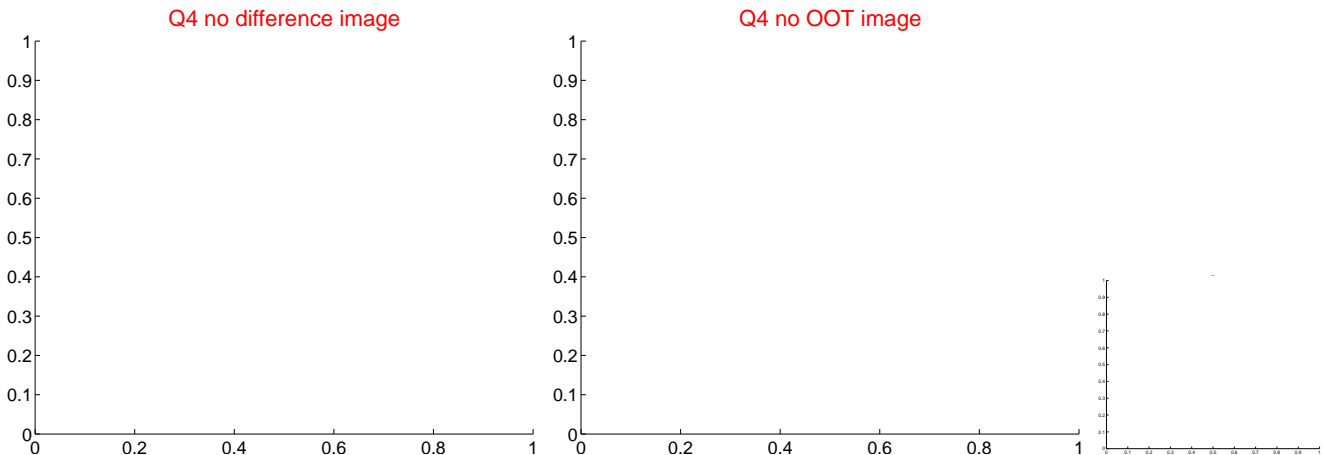
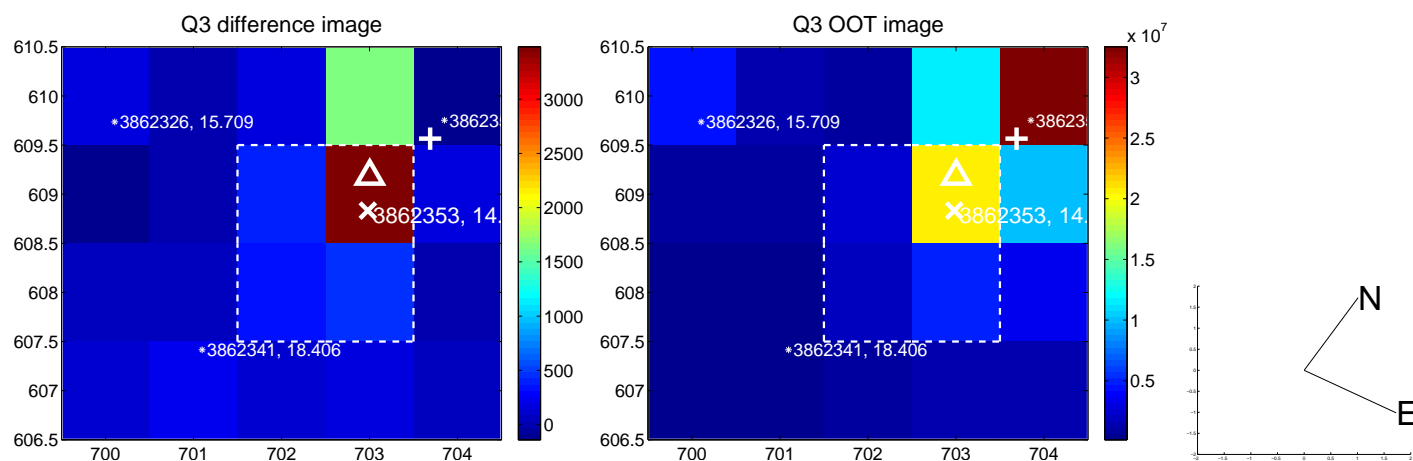
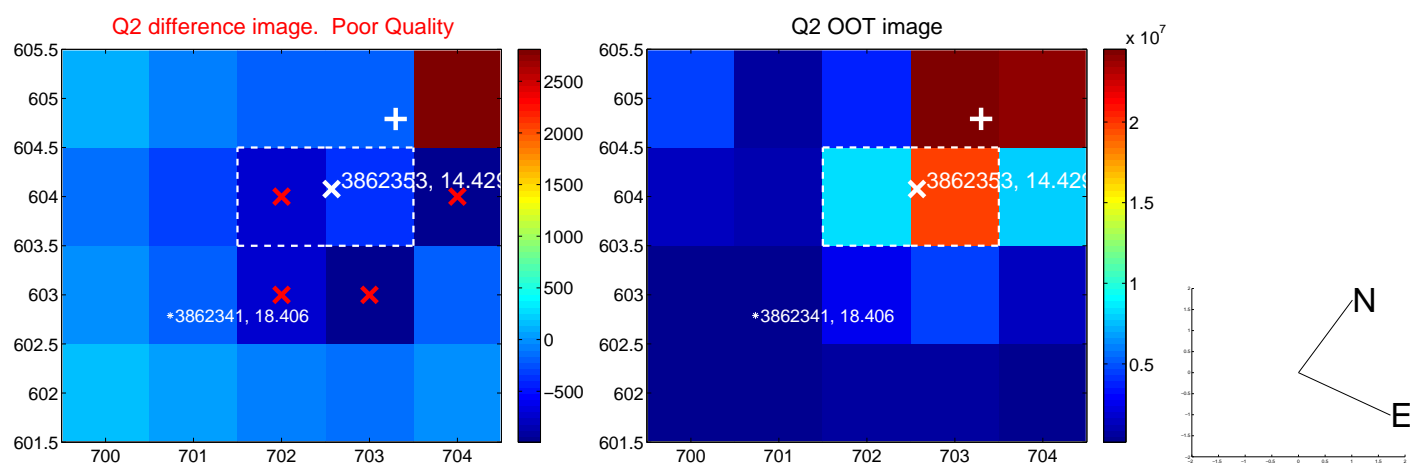
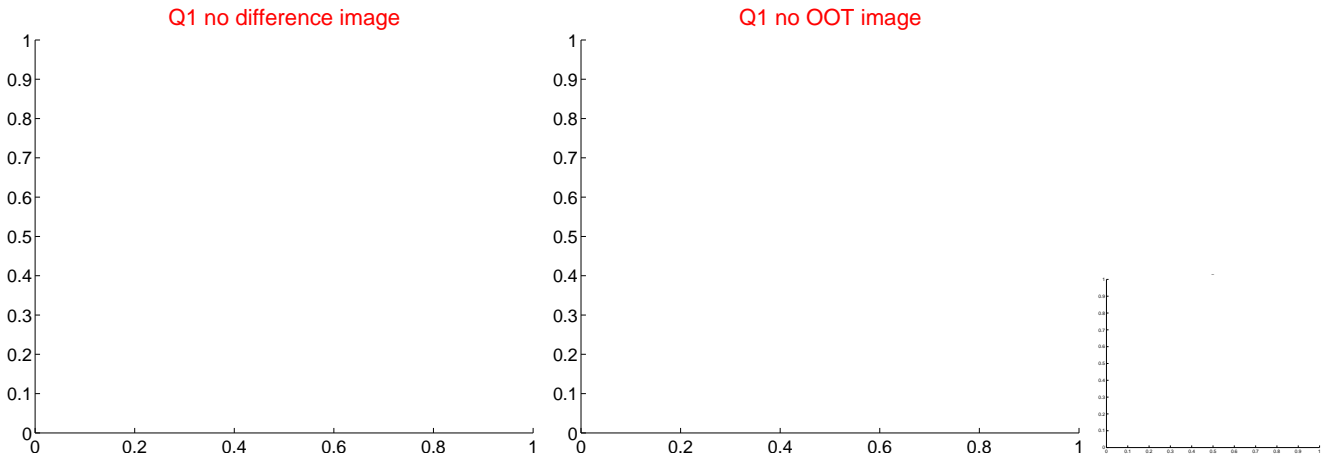
The OOT PRF centroid is offset from the target star catalog position by about 4.35 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.219 ± 0.284	11.35	-1.418 ± 0.117	-2.890 ± 0.311
PRF-fit source offset from KIC position	1.123 ± 0.357	3.14	-0.474 ± 0.122	1.018 ± 0.352
photometric centroid source offset	0.61 ± 0.52	1.18	0.21 ± 0.31	0.57 ± 0.54

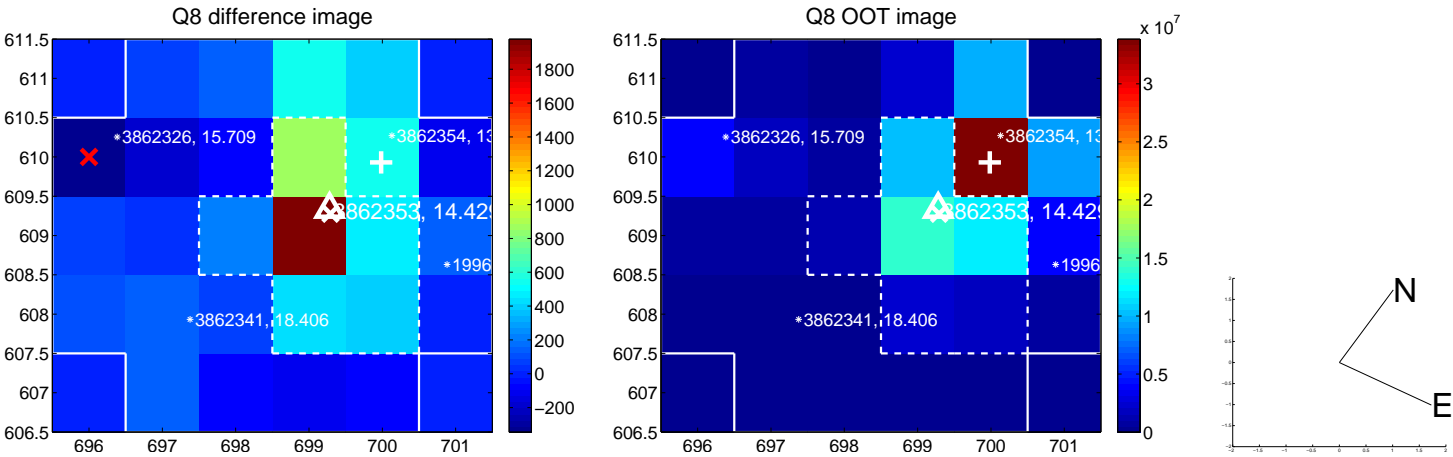
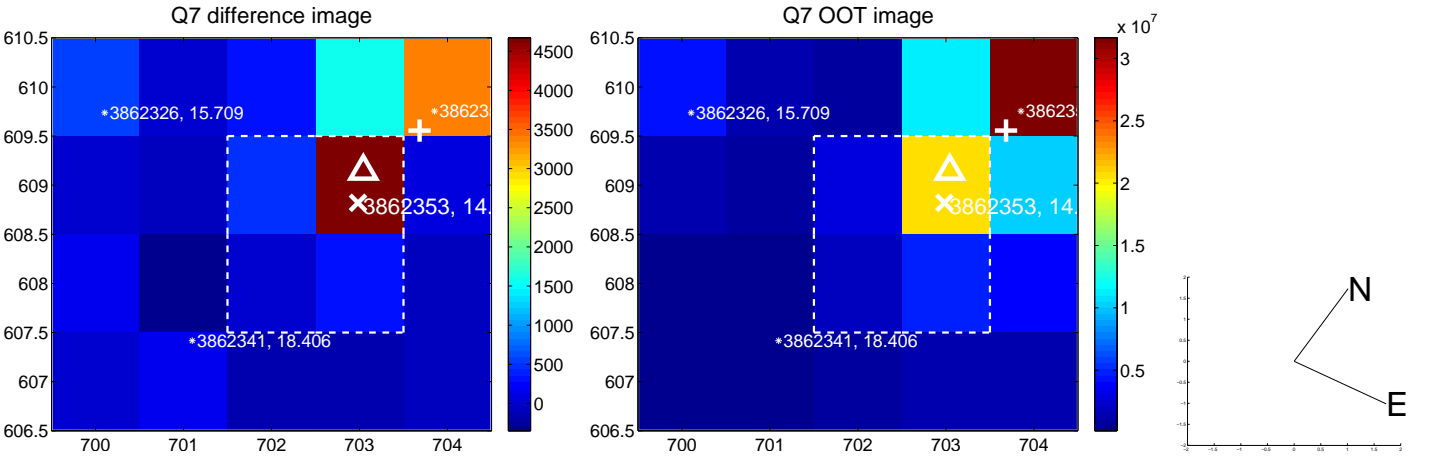
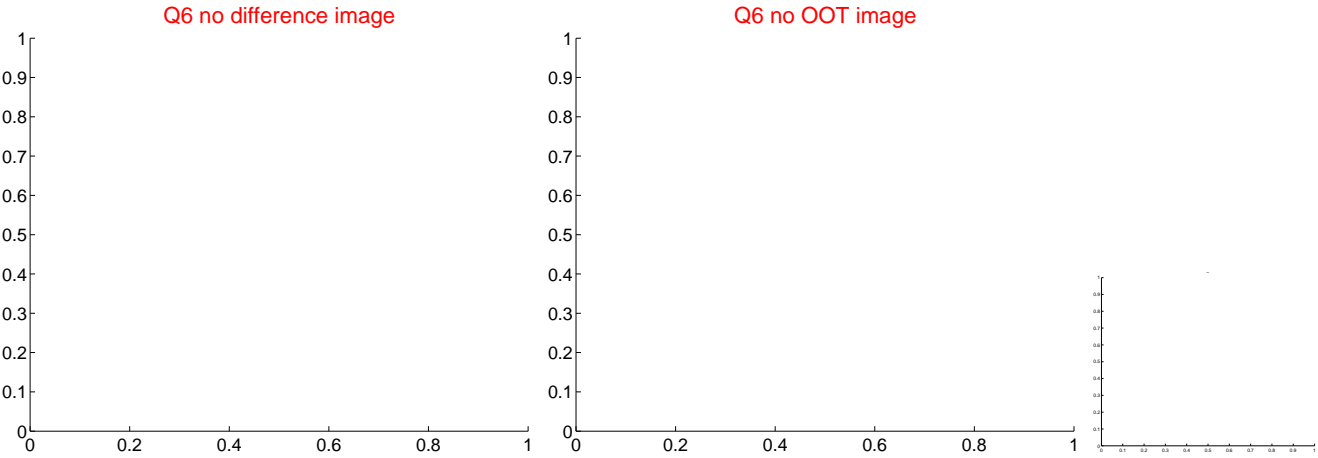
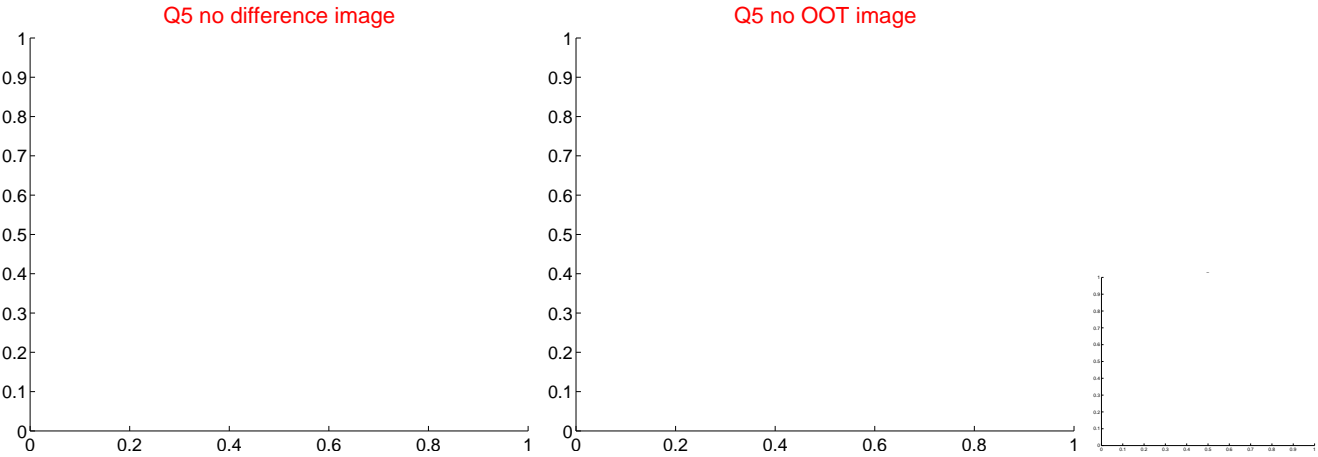


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

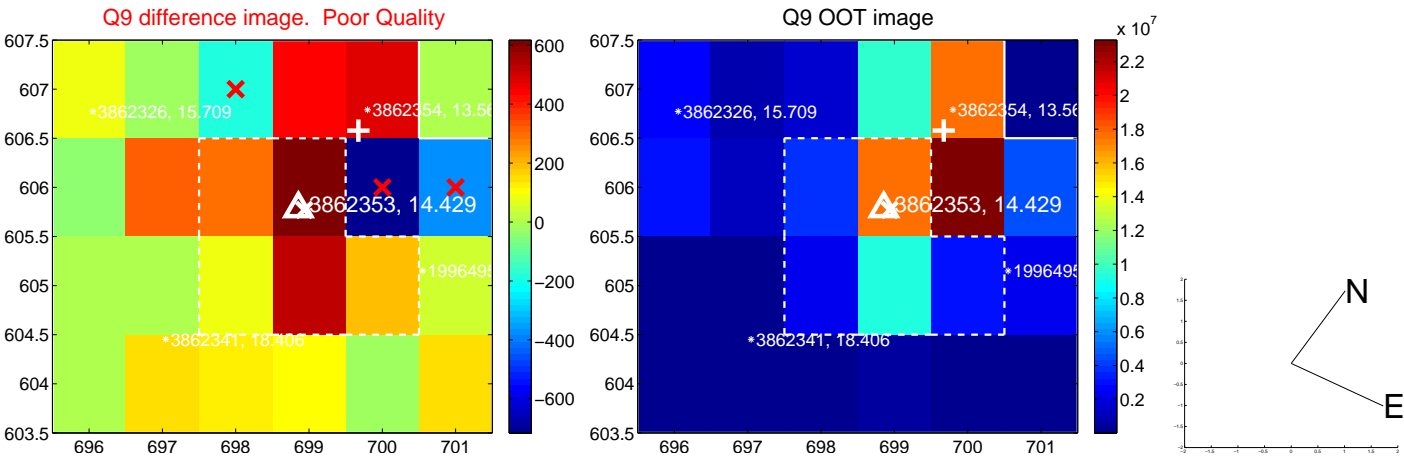
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



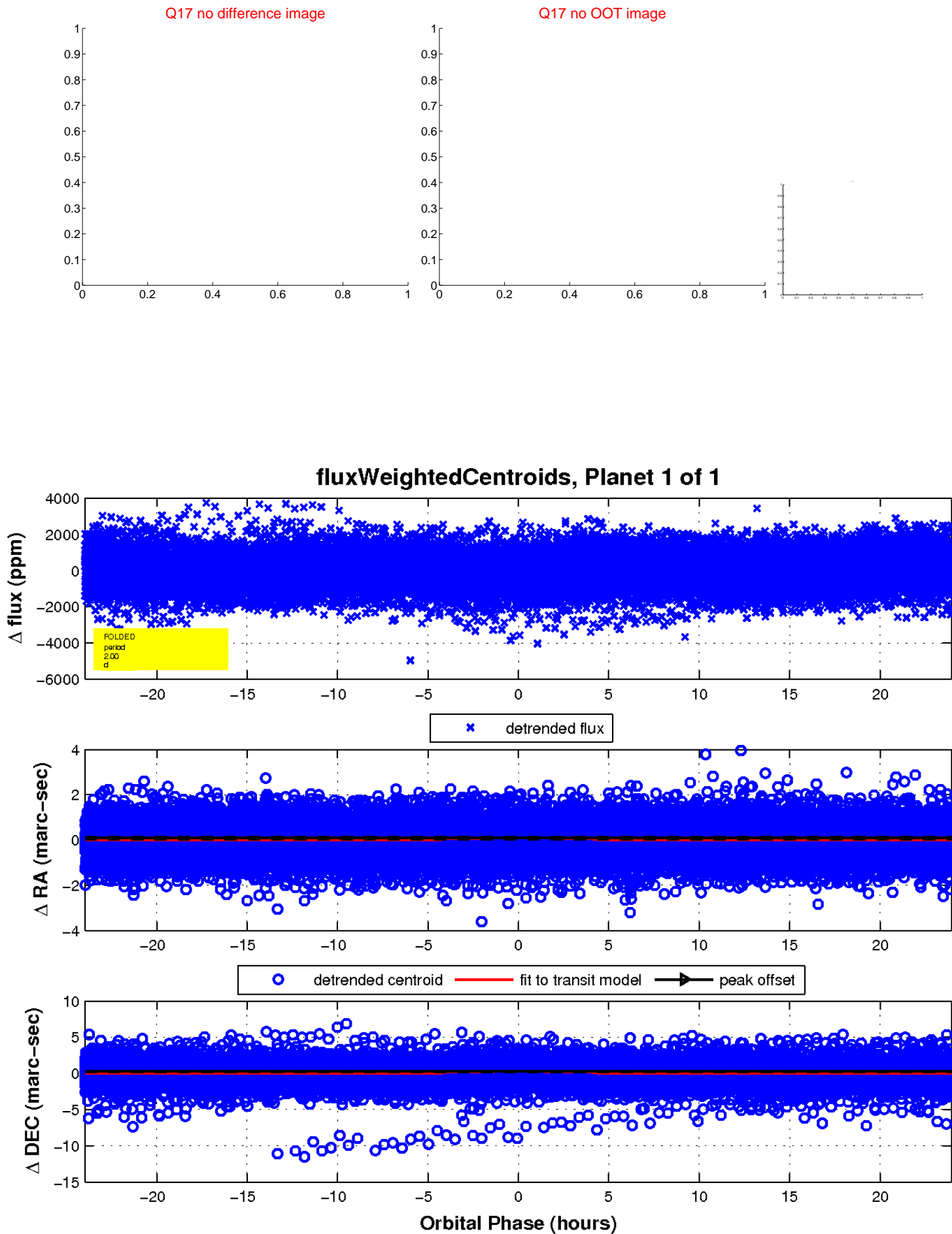
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

