

KIC 004245742

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})
004245742-01	OBS	No	604.740642	243.076137	128.9	11.278	10.4	10.3	1.17	6061	1.49	0.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004245742-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

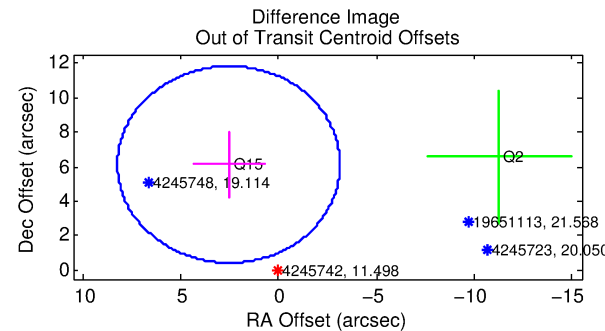
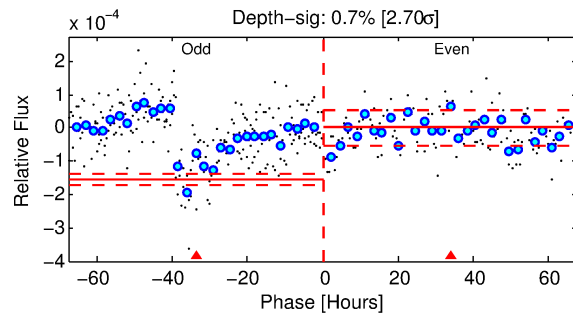
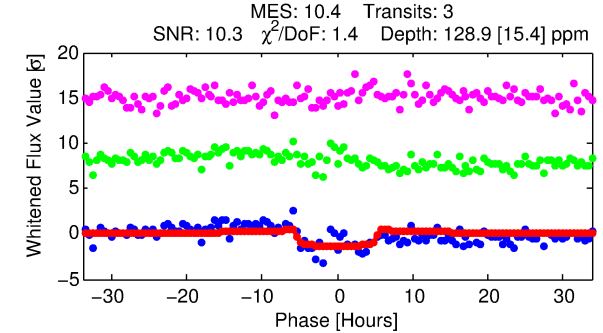
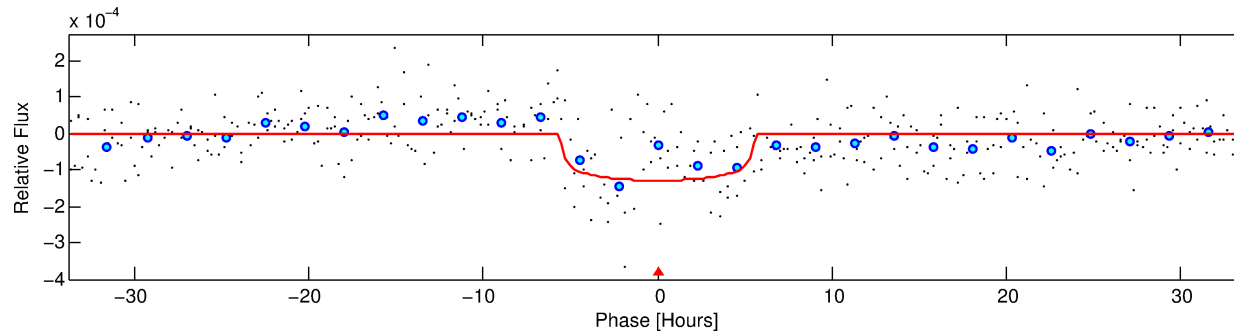
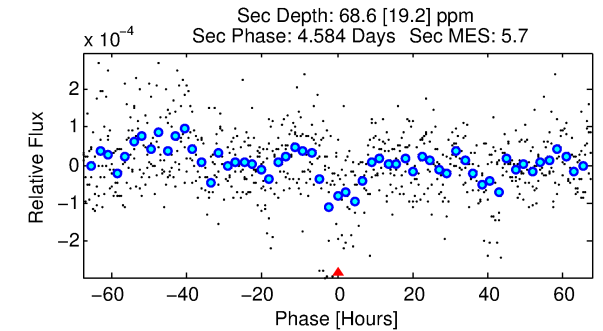
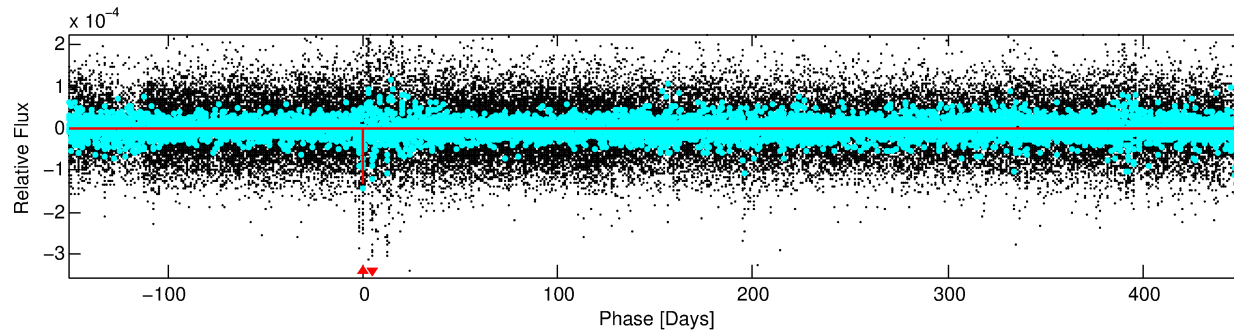
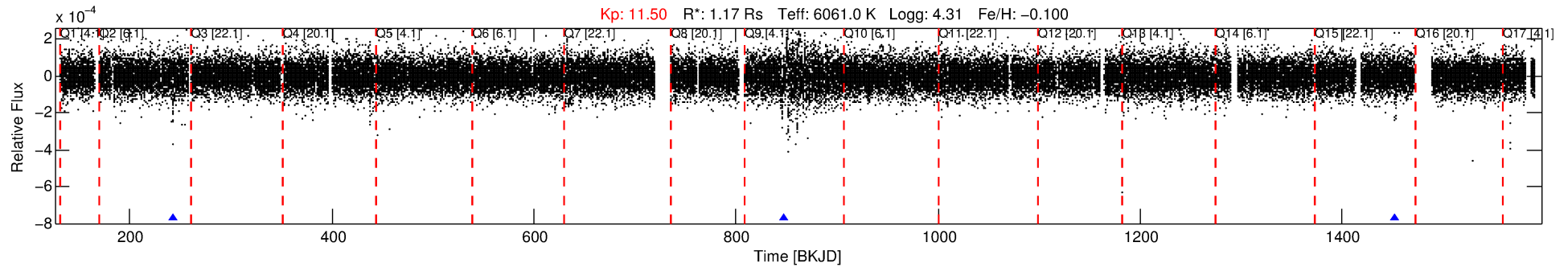
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004245742-01

No Significant Match Found

DV One-Page Summary

KIC: 4245742 Candidate: 1 of 1 Period: 604.741 d



DV Fit Results:

Period = 604.74064 [0.00985] d
Epoch = 243.0761 [0.0129] BKJD
Rp/R* = 0.0117 [0.0034]
a/R* = 236.74 [345.78]
b = 0.83 [0.55]
Seff = 0.83 [0.26]
Teq = 243 [19] K
Rp = 1.49 [0.54] Re
a = 1.4097 [0.2519] AU
Ag = 33878.26 [23794.07] [1.42σ]
Teffp = 5103 [864] K [5.62σ]

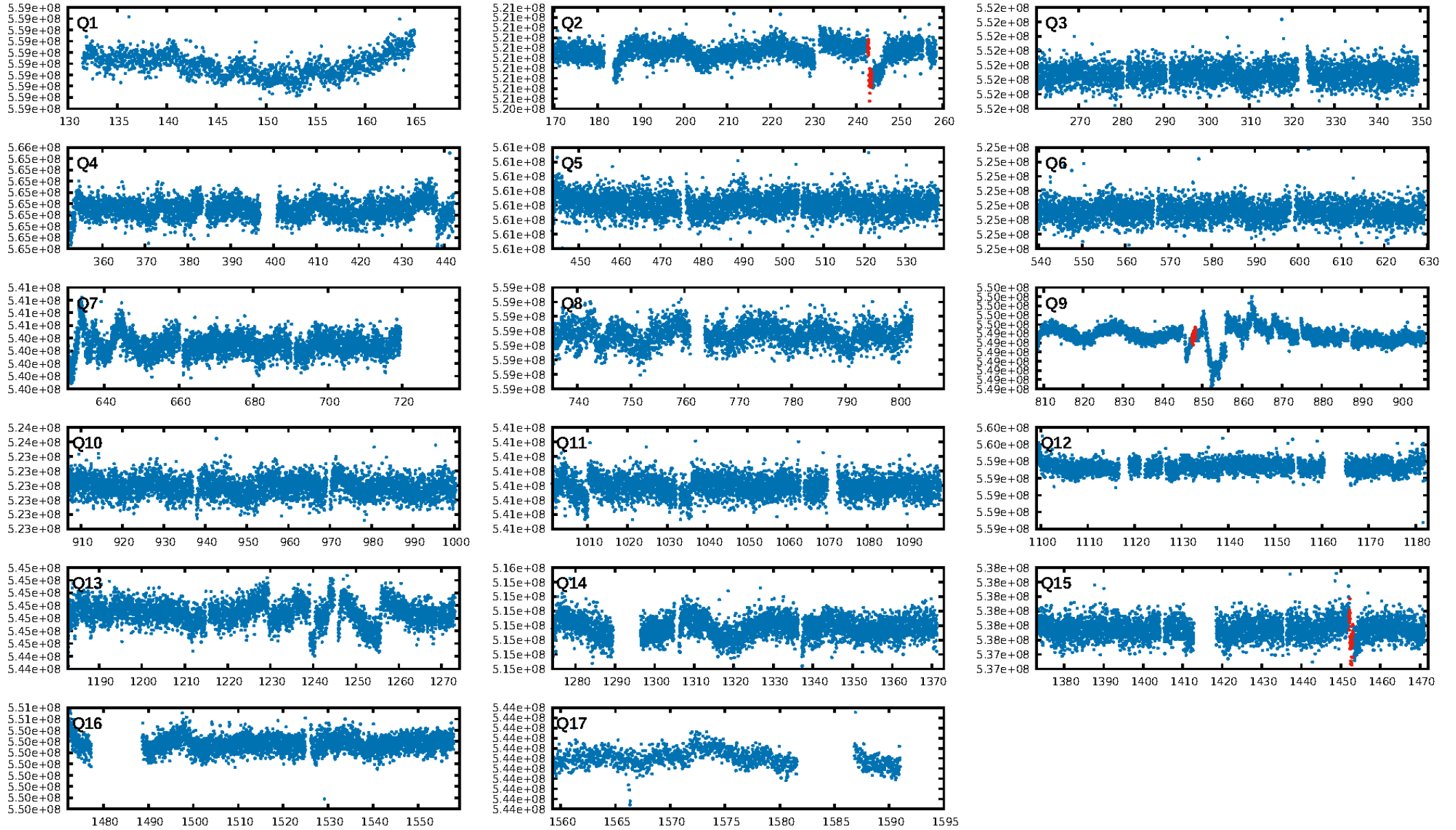
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 27.4%
Bootstrap-pfa: 5.84e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -10.38
Centroid-sig: 0.8%
Centroid-so: 2.498 arcsec [2.03σ]
OotOffset-rm: 6.627 arcsec [3.49σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 6.370 arcsec [2.85σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

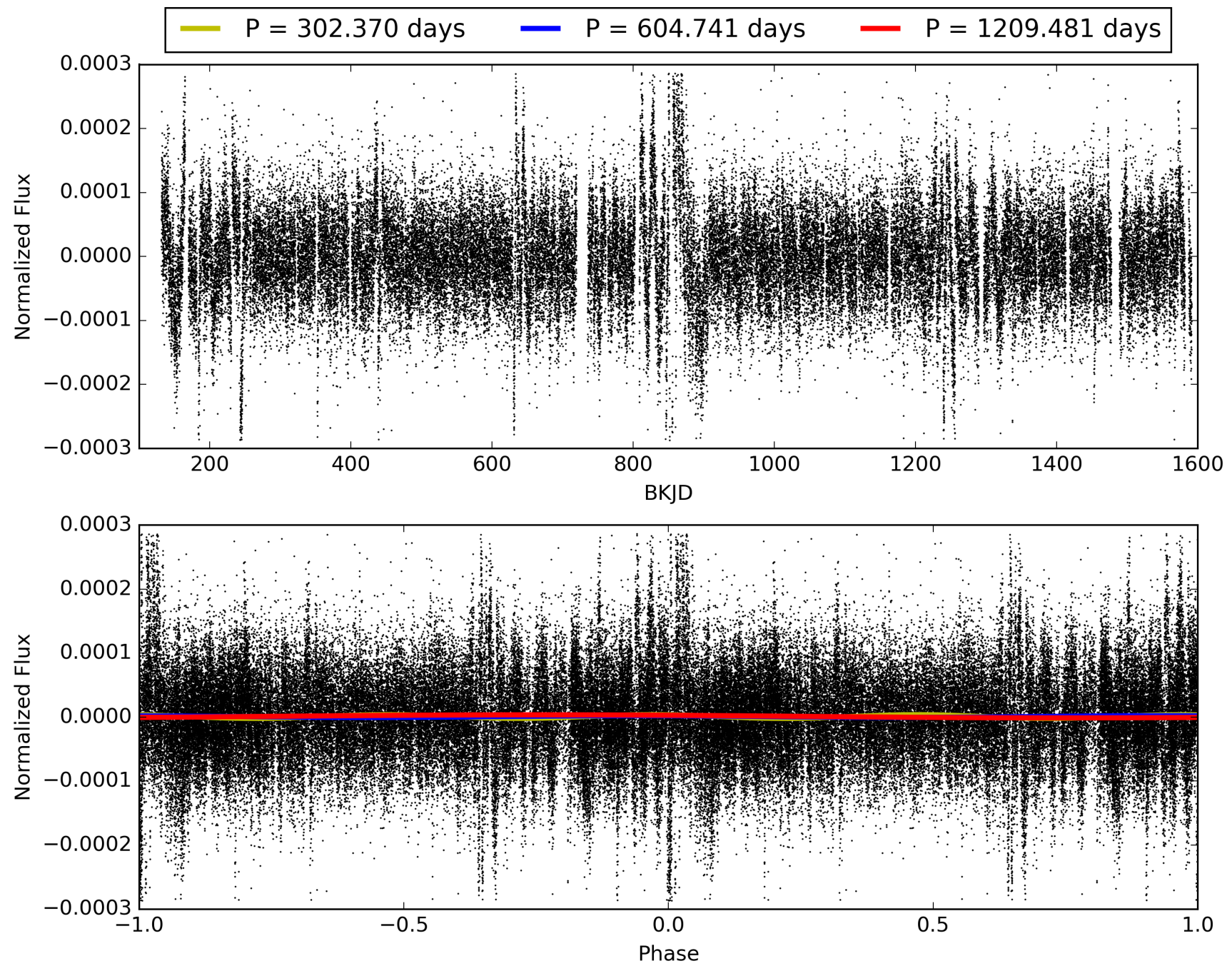
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:49:37 Z

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

TCE 004245742-01, PDC Light Curves

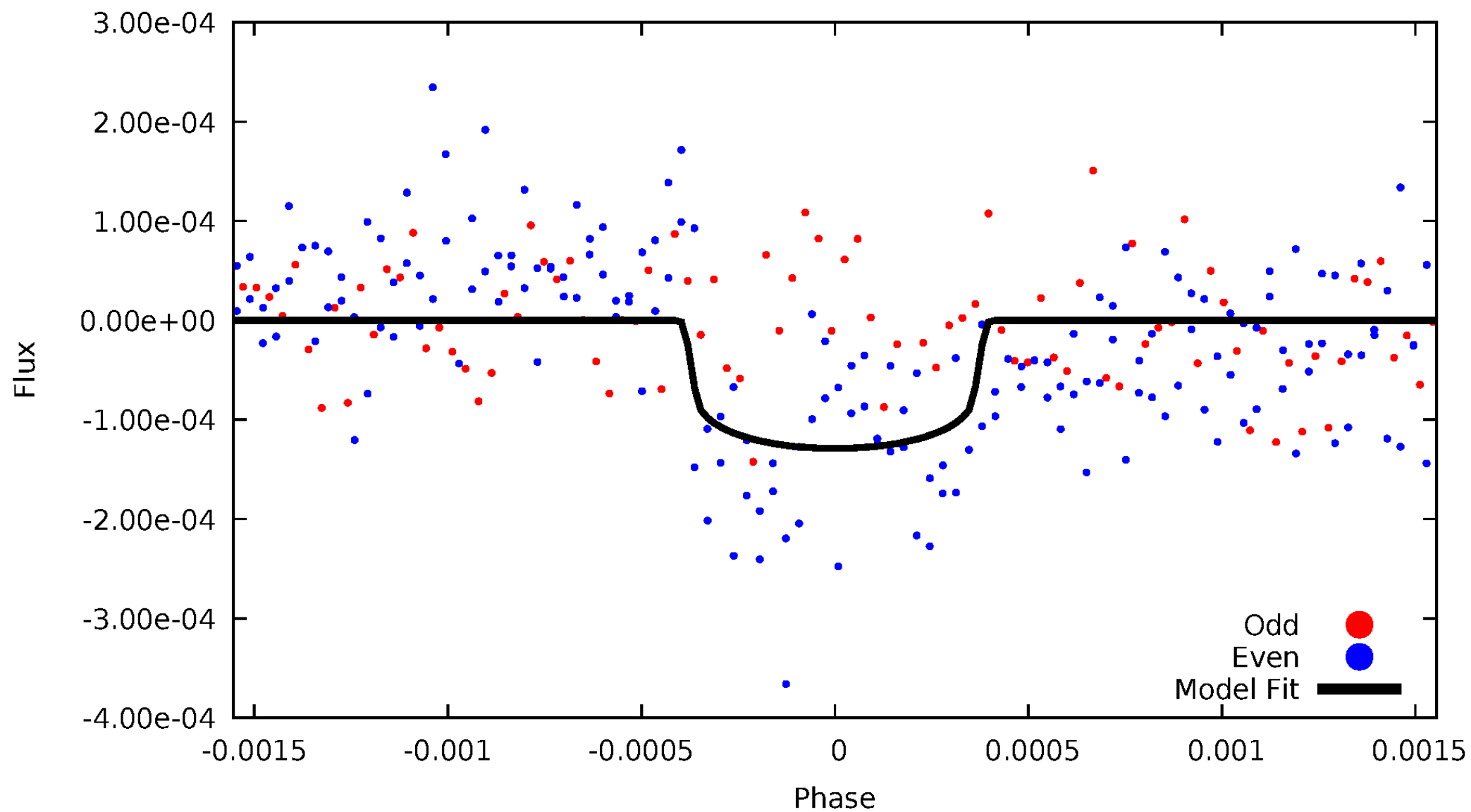


TCE 004245742-01



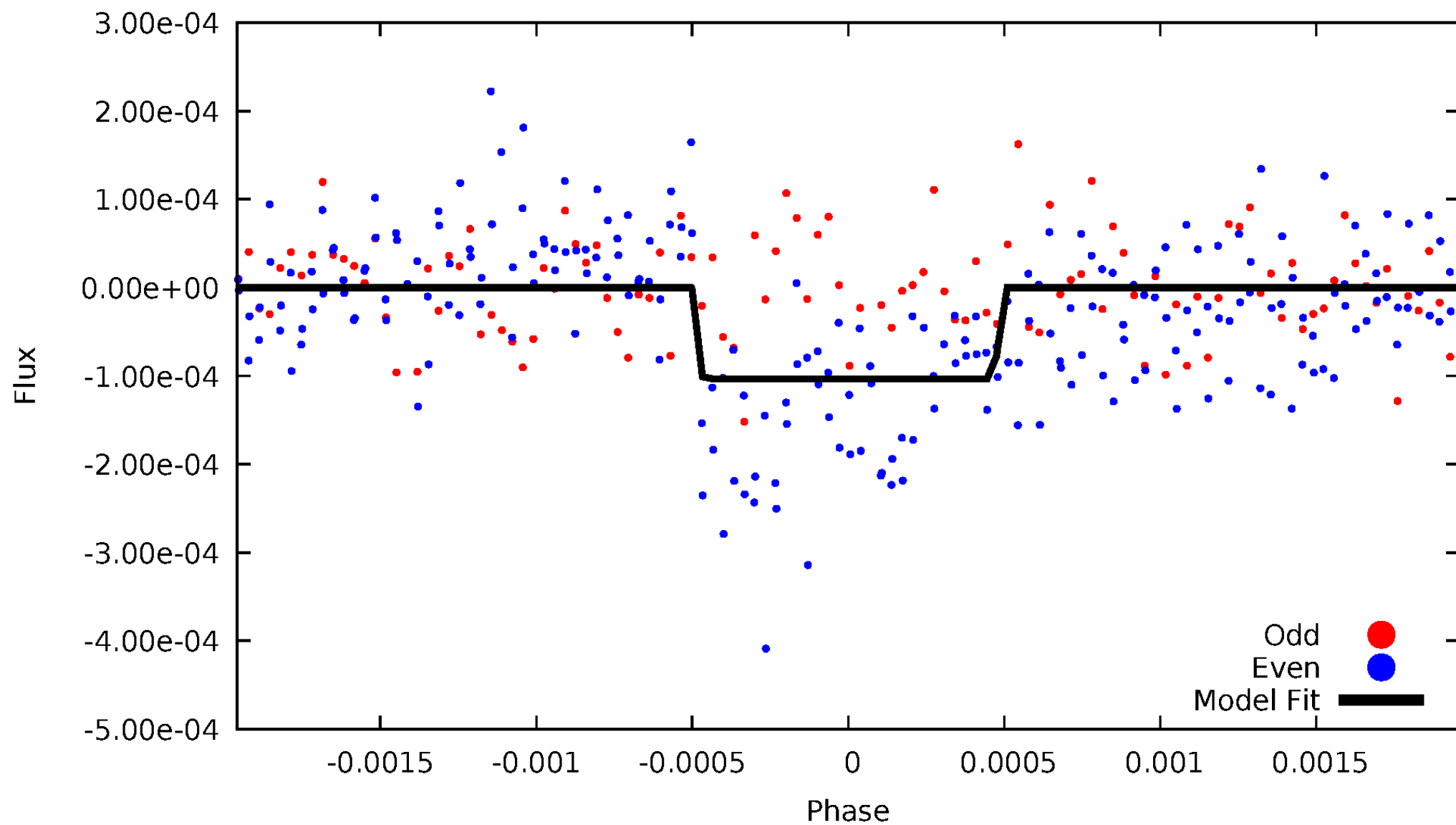
DV Odd/Even

TCE 004245742-01



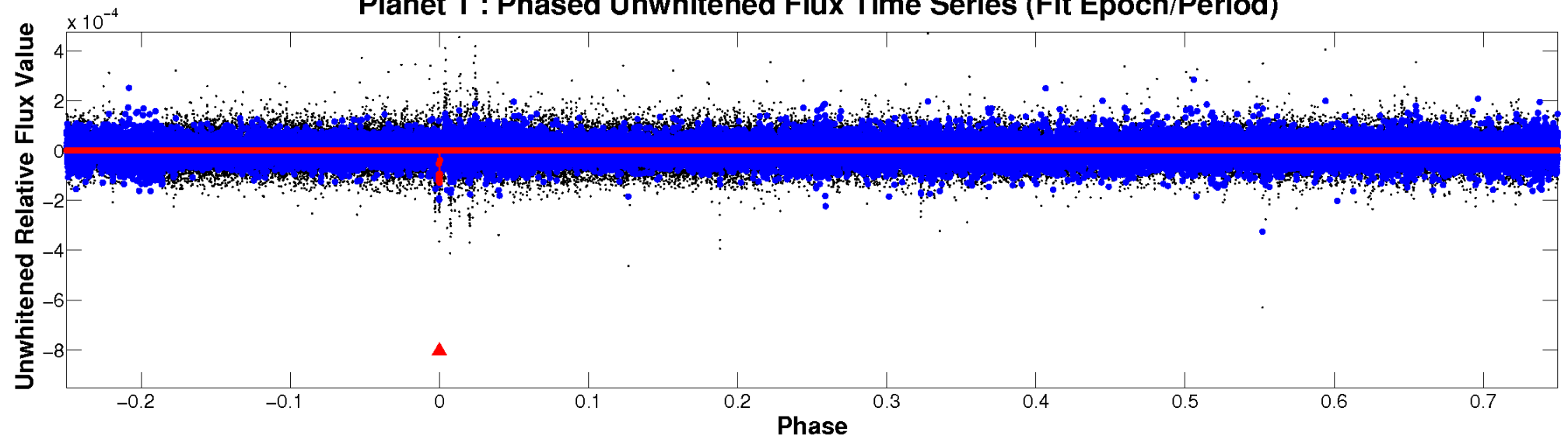
ALT Odd/Even

TCE 004245742-01

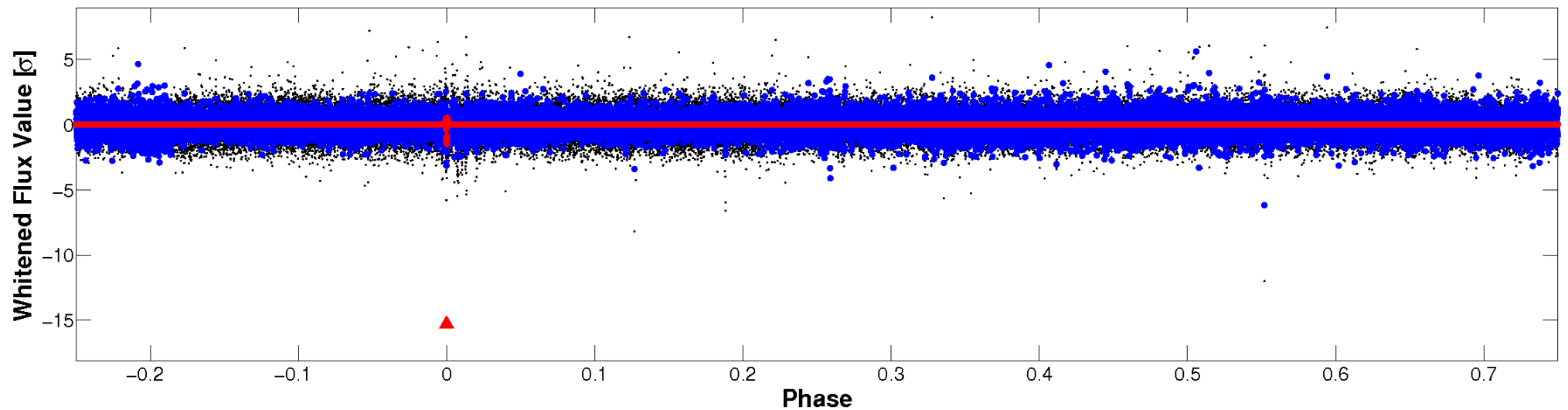


Non-Whitened Vs. Whitened Light Curve

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

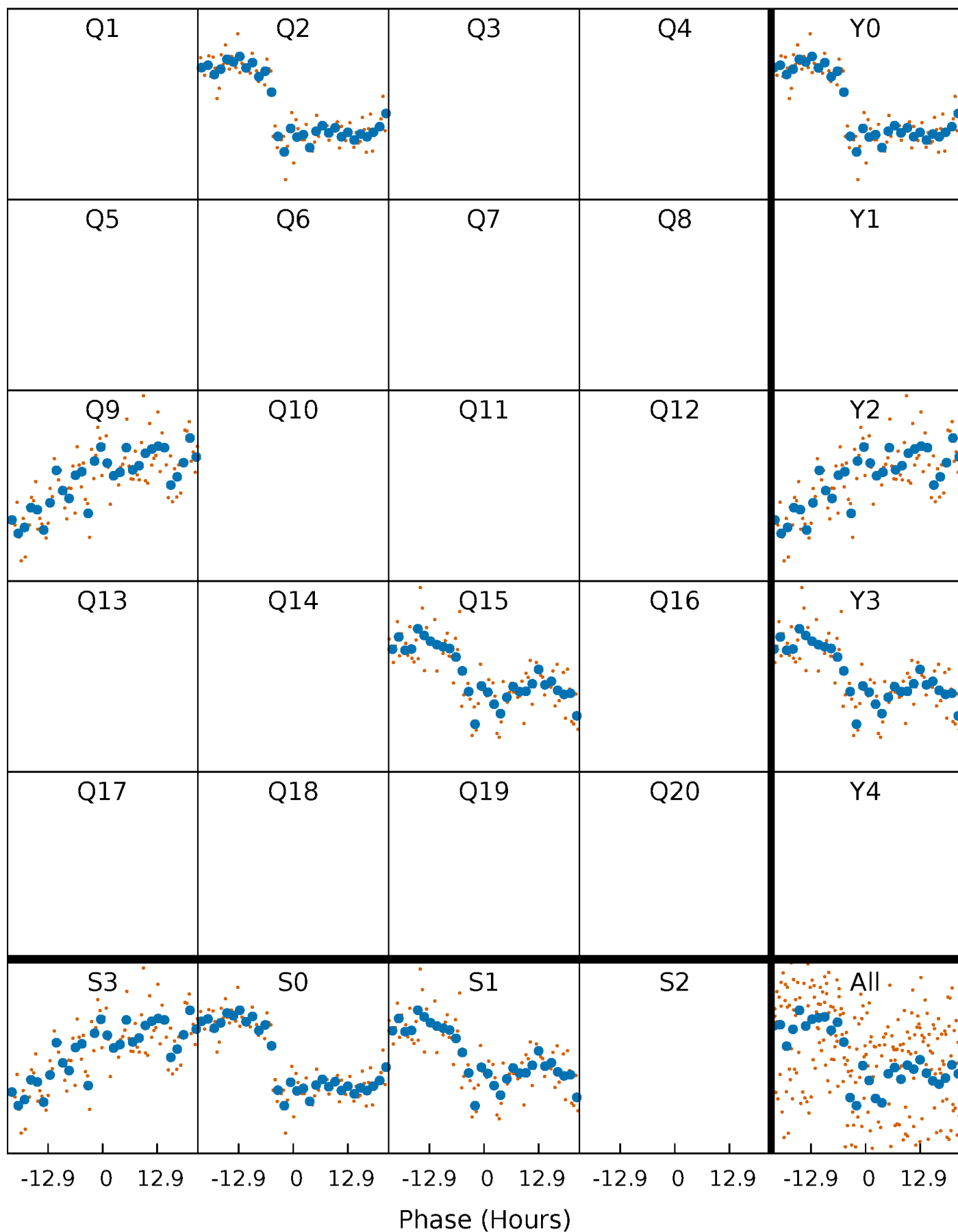


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



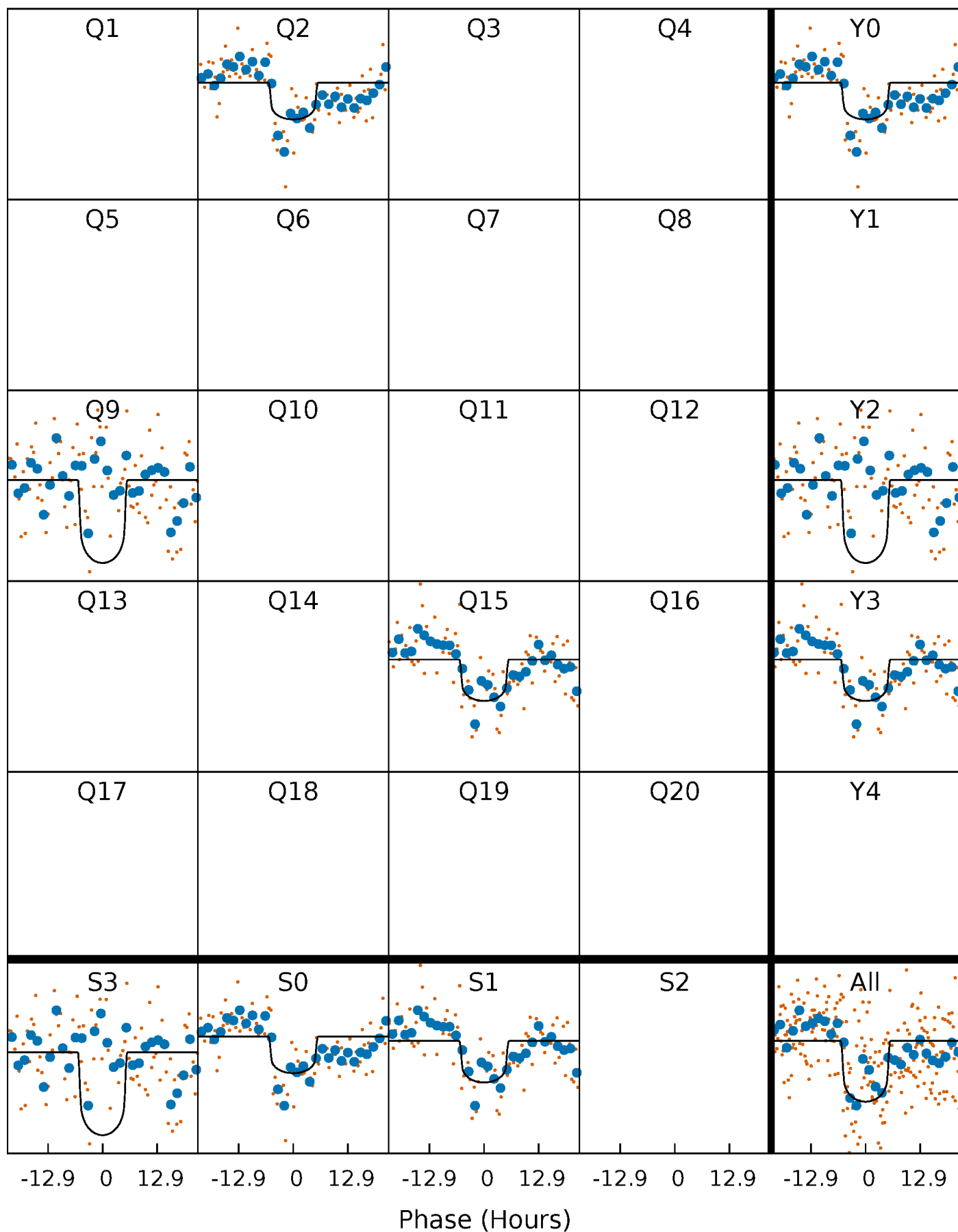
PDC Quarter-Phased Transit Curves

TCE 004245742-01 P=604.740642 Days $T_0=243.076137$ (BKJD)



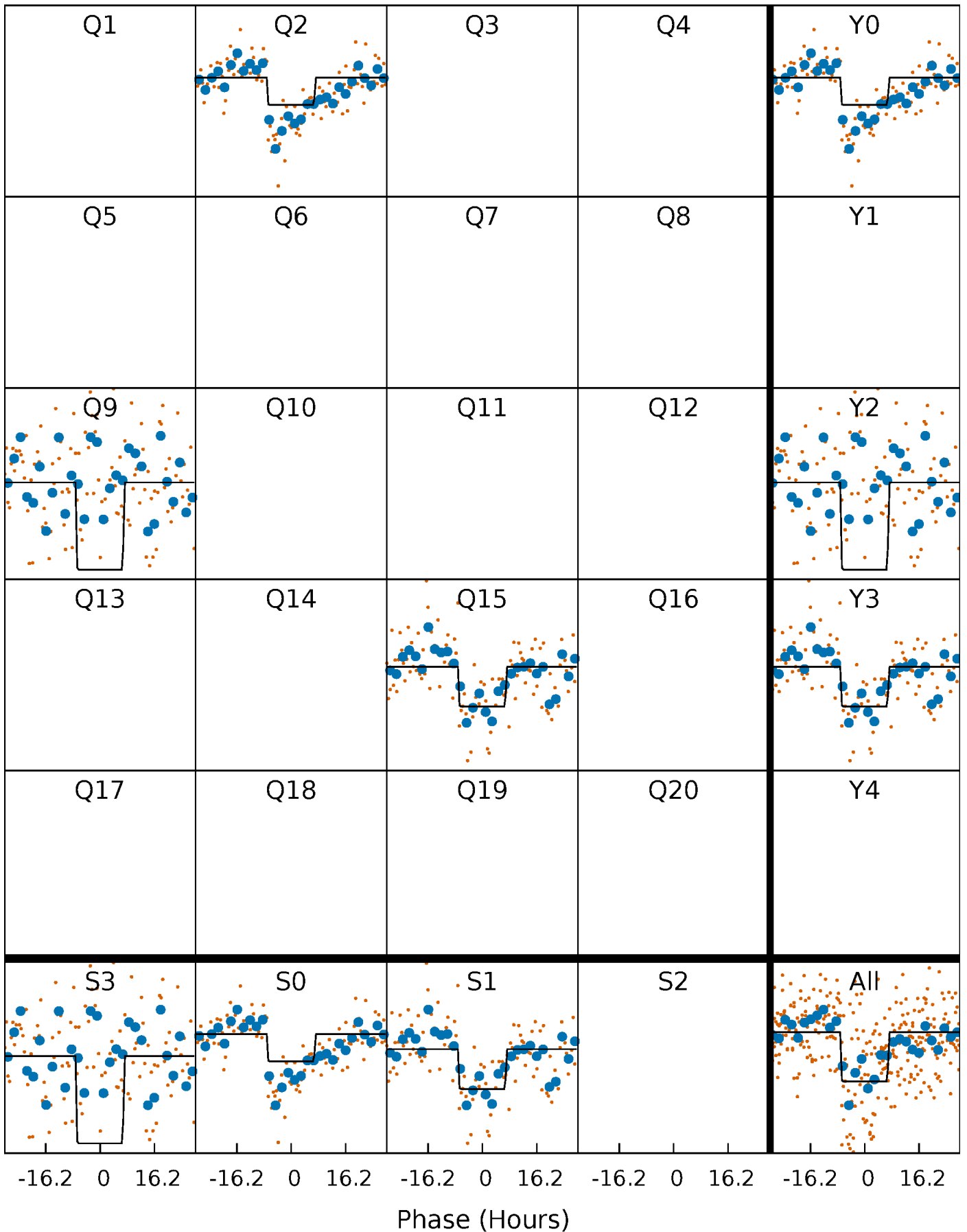
DV Quarter-Phased Transit Curves

TCE 004245742-01 P=604.740642 Days $T_0=243.076137$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

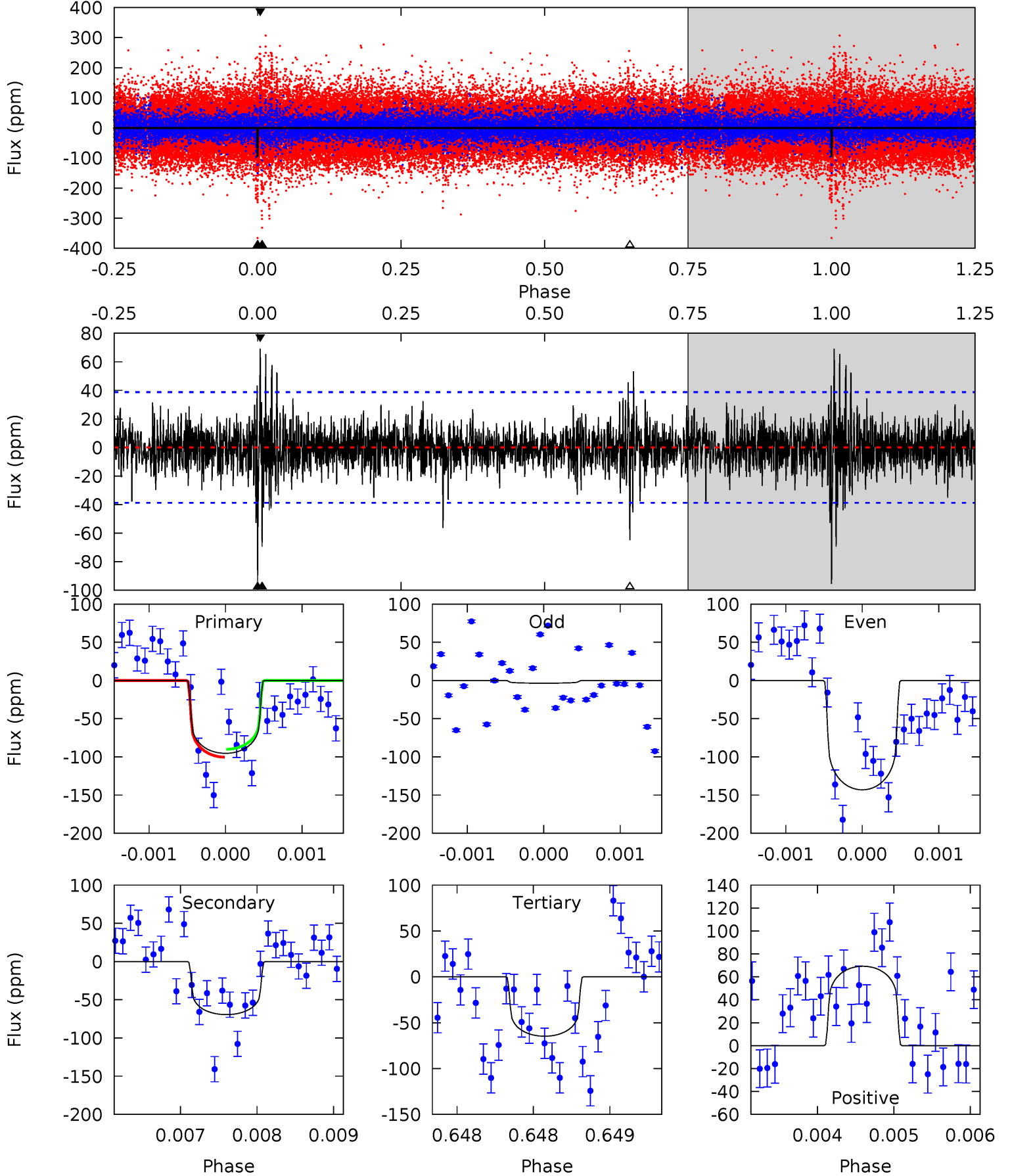
TCE 004245742-01 P=604.731208 Days $T_0=243.159717$ (BKJD)



DV Model-Shift Uniqueness Test

004245742-01, P = 604.740642 Days, E = 243.076137 Days

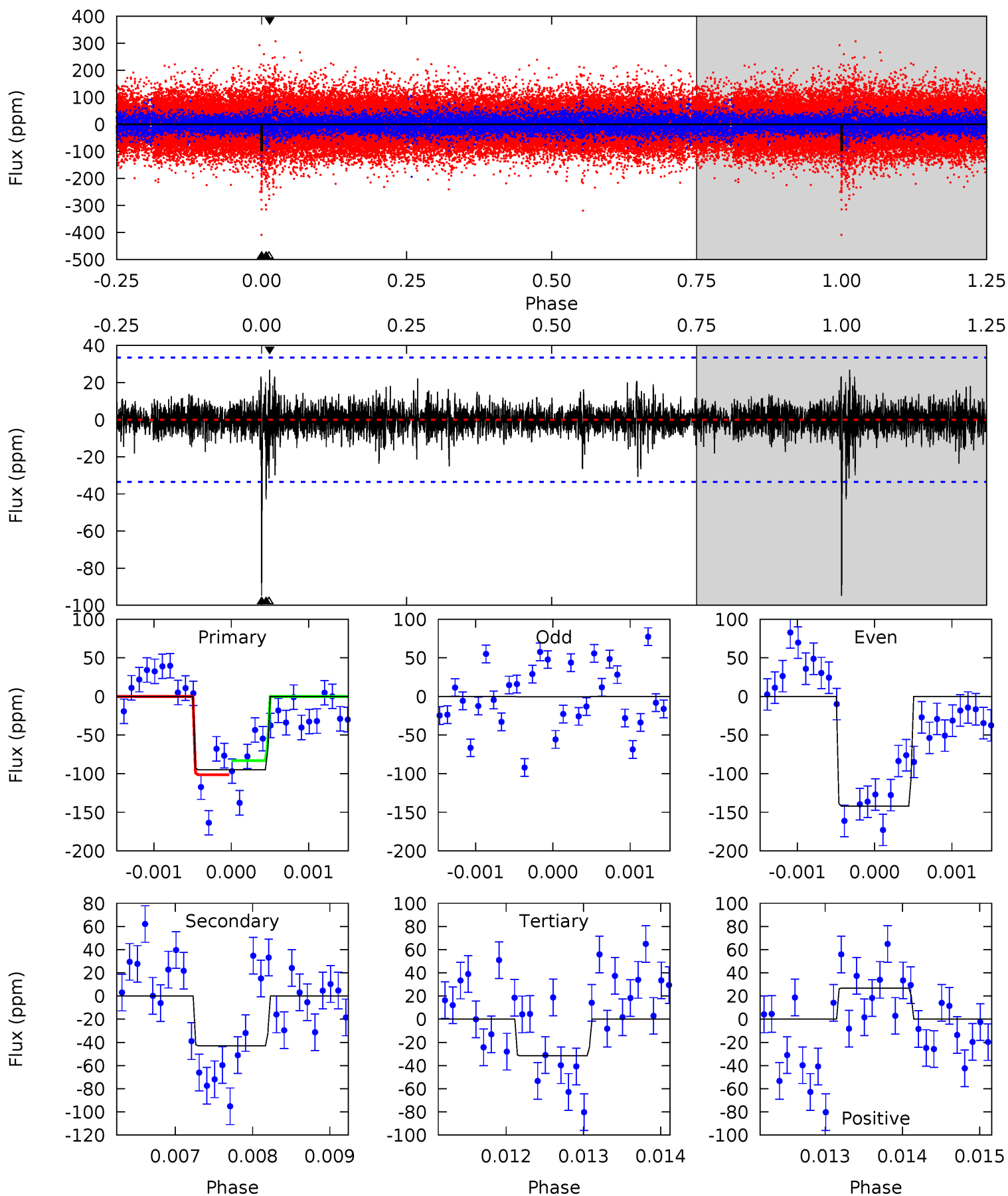
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	9.83	9.17	9.80	5.49	3.35	1.64	4.33	3.70	0.66	0.03	9.19	0.75	0.42	0.72



Alt Model-Shift Uniqueness Test

004245742-01, P = 604.731208 Days, E = 243.159717 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	6.98	5.13	4.36	5.45	3.29	0.88	10.3	11.1	1.85	2.62	10.8	0.90	0.22	1.48



Stellar Parameters For KIC 004245742

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+220}_{-270}	$4.313^{+0.140}_{-0.140}$	$-0.100^{+0.250}_{-0.300}$	$1.167^{+0.250}_{-0.205}$	$1.019^{+0.153}_{-0.125}$	$0.903^{+0.600}_{-0.361}$
	+4%/-4%	+3%/-3%	+250%/-300%	+21%/-18%	+15%/-12%	+66%/-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 004245742-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-69 ± 7	$1.52^{+0.50}_{-0.46}$	339^{+22}_{-21}	5139^{+903}_{-590}	33116^{+34089}_{-14038}
Alt.	-43 ± 6	$1.29^{+0.48}_{-0.43}$	340^{+21}_{-21}	4941^{+954}_{-547}	28073^{+35348}_{-13346}

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 $A_{\text{obs}} \gg 1.0$

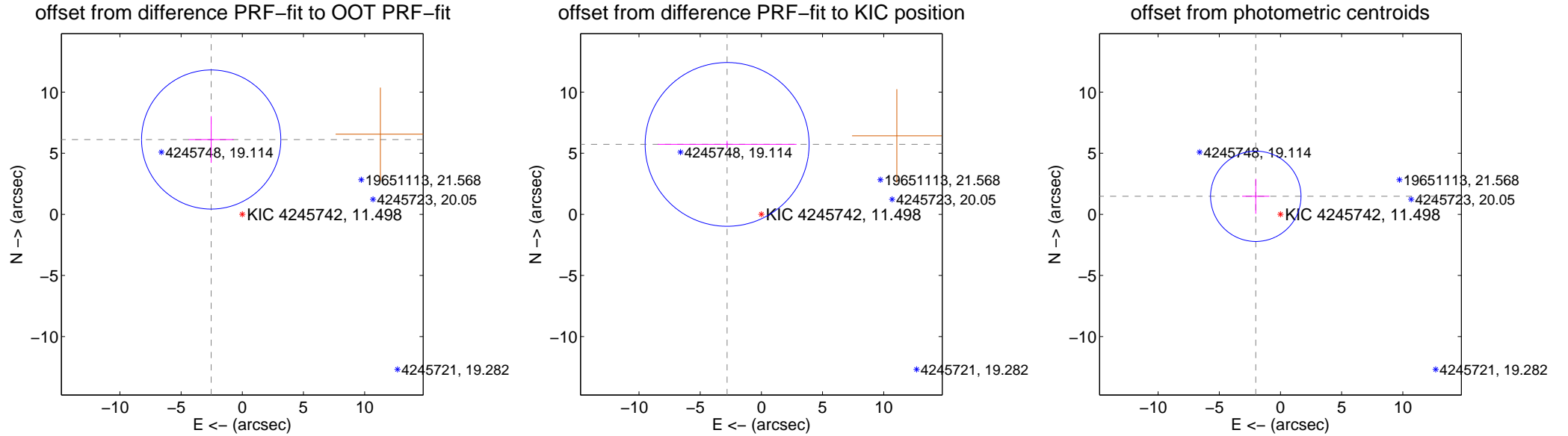
DV Centroid Data

Supplemental centroid analysis for 004245742-01. **Kepler magnitude: 11.50.** Transit SNR 10.33

There are 1 quarters with good PRF difference image offsets

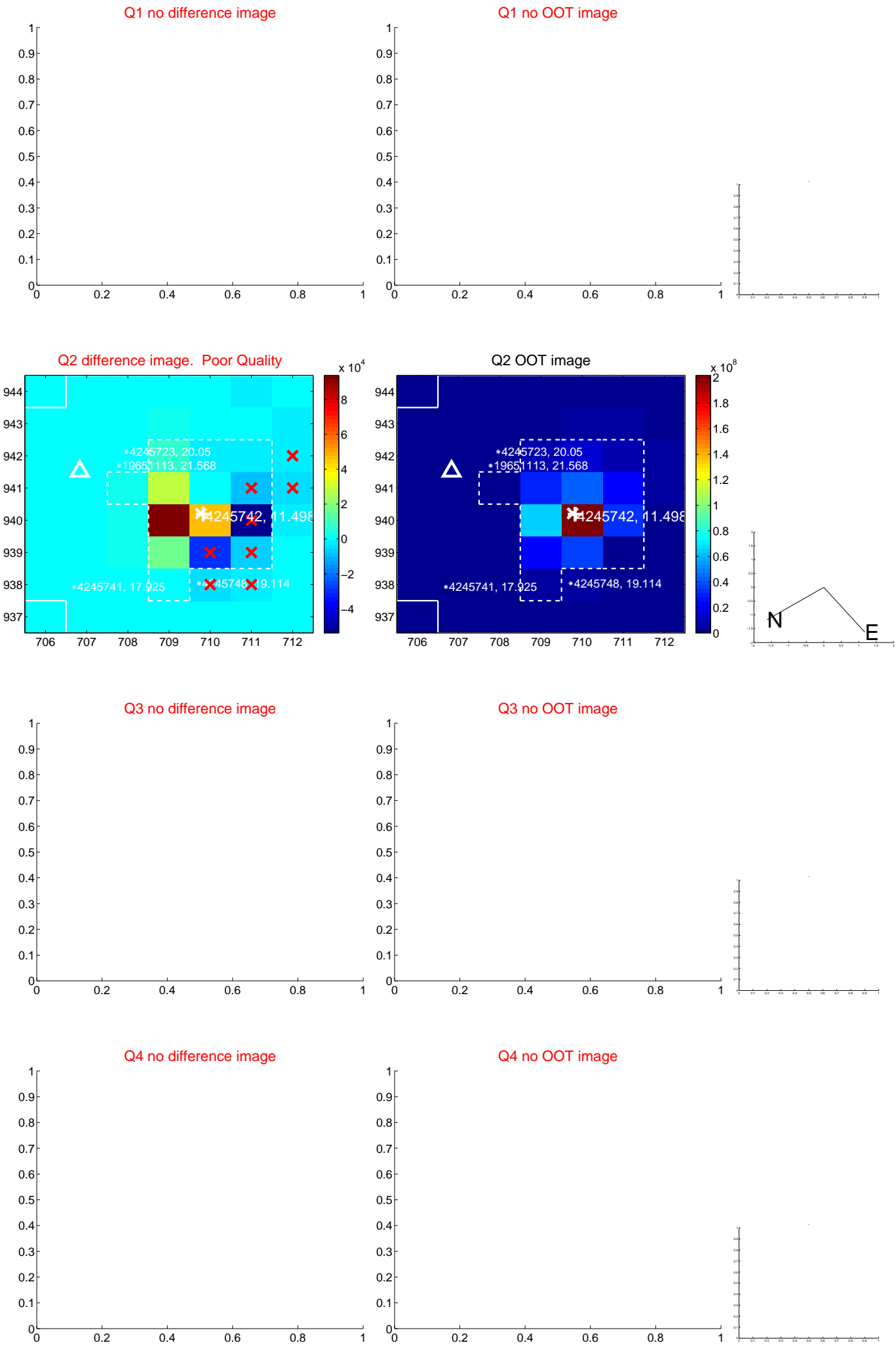
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.627 ± 1.897	3.49	2.542 ± 1.833	6.121 ± 1.907
PRF-fit source offset from KIC position	6.370 ± 2.233	2.85	2.799 ± 5.669	5.722 ± 0.296
photometric centroid source offset	2.50 ± 1.23	2.03	2.02 ± 1.11	1.48 ± 1.43



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.

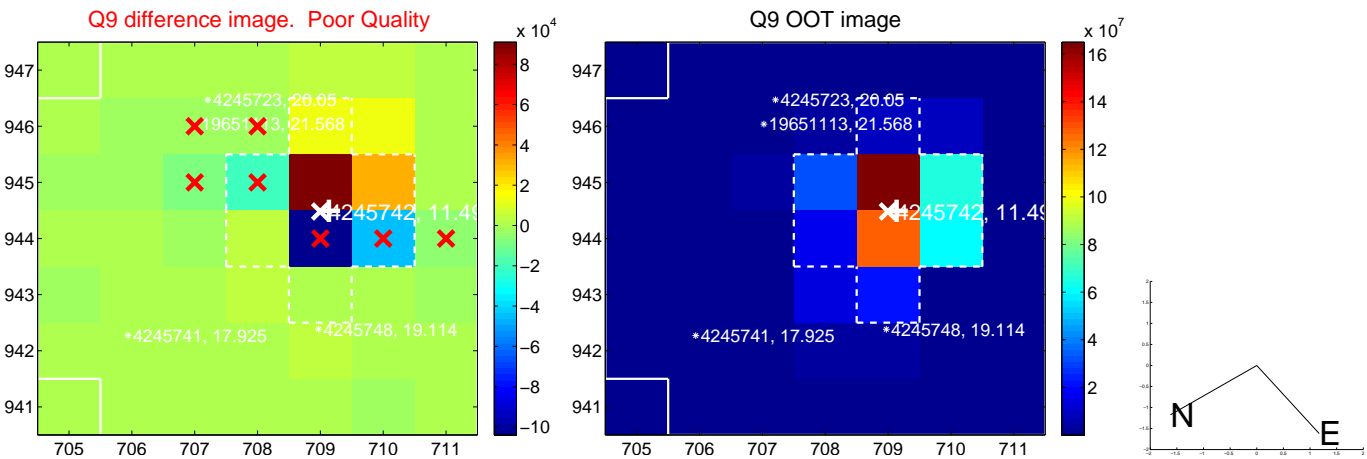
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



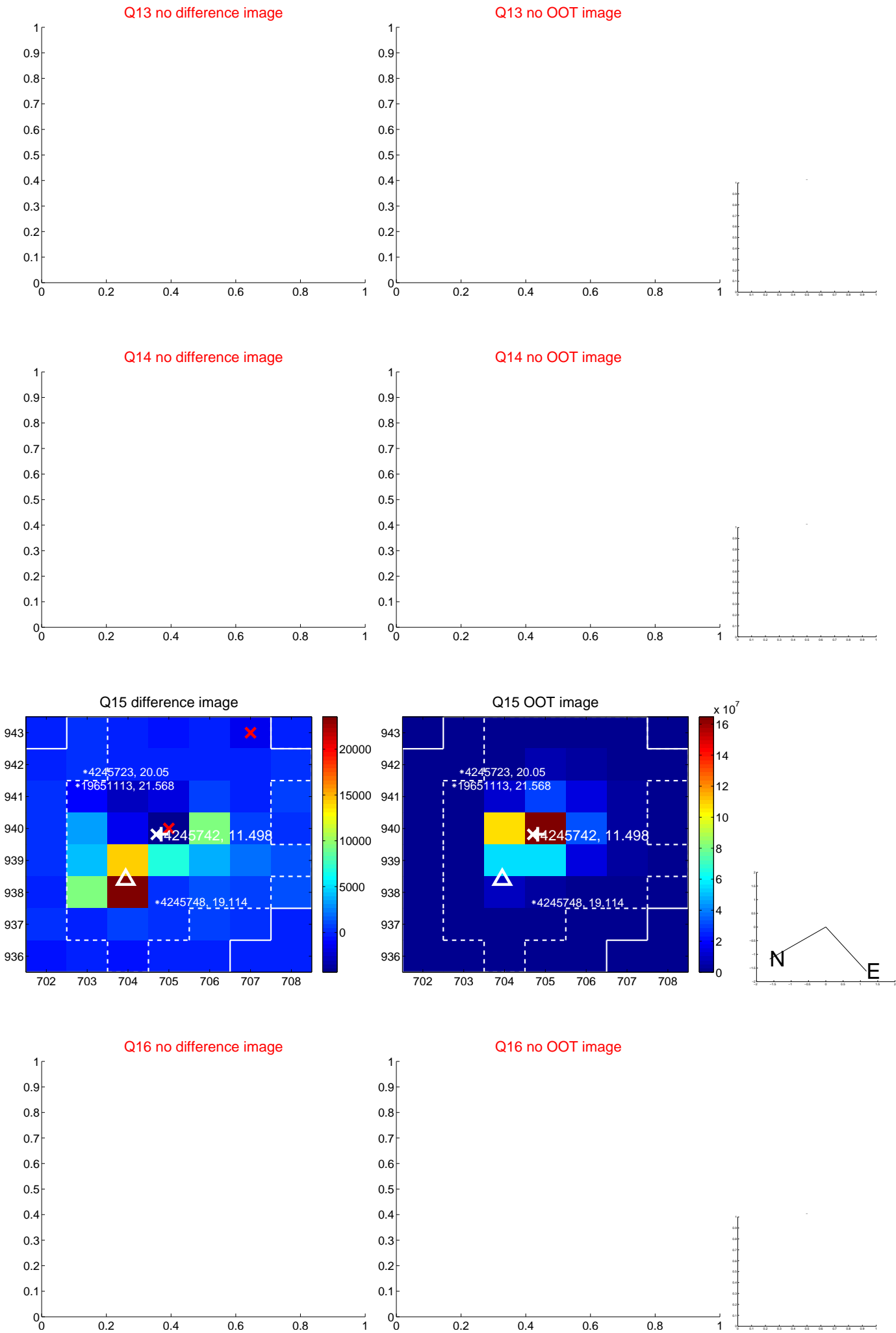
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



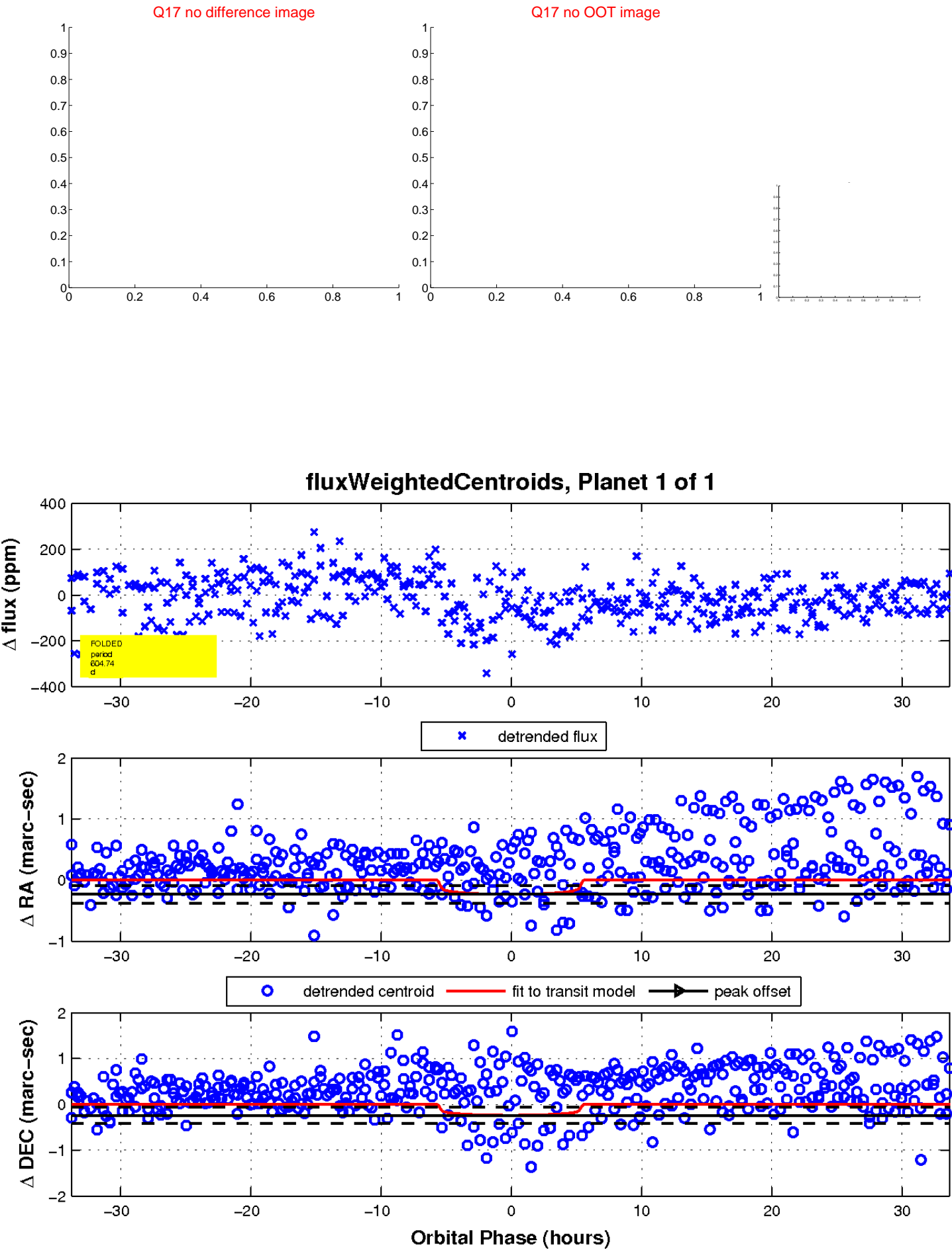
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

